


FIELDPILOT[®]

USER MANUAL

Assisted Steering Hydraulic Installation Manual for
Vehicle Kit Number 91-02292

Fits Only John Deere 6500 and 6700 Hi-Cycle



A Subsidiary of  Spraying Systems Co.[®]

FIELDPILOT®

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PREPARATION

1. Before beginning the installation, thoroughly clean the vehicle to remove dirt and contaminants that might get into the hydraulic circuit.
2. Park the vehicle on a clean, level floor with adequate clearance to work around.
3. Do not attempt to loosen any hydraulic fittings while the engine is running.
4. Allow the motor and the hydraulics to cool until it is no more than warm to the touch before proceeding.
5. Prior to loosening any hydraulic fittings, be sure to have the appropriate plugs and caps available in order to limit loss of hydraulic fluid from the open fittings.



PREVENT HYDRAULIC SYSTEM CONTAMINATION. It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing them. 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.

IMPORTANT!

TO AVOID EXCESS LEAKAGE, DO NOT TURN THE STEERING WHEEL WHILE THE FITTINGS ON THE MANUAL STEERING VALVE ARE DISCONNECTED.



WARNING: HOT, HIGH PRESSURE FLUID HAZARD. Hydraulic oil may be hot and under extreme pressure. To prevent serious injury or death, relieve system pressure and allow the system 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.

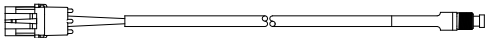

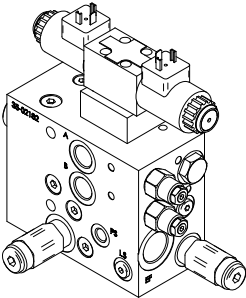
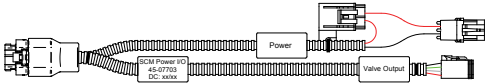
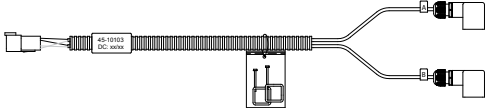
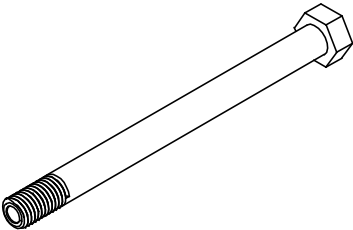



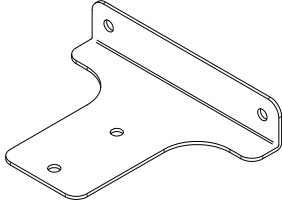
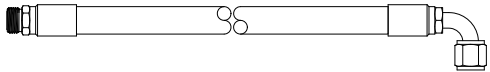
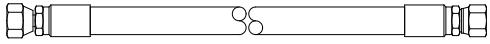
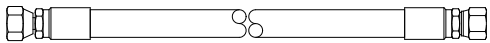
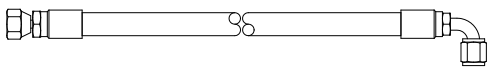
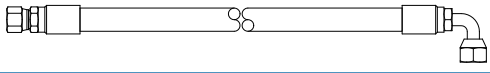
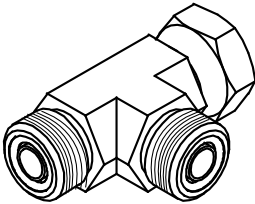
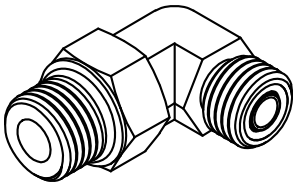
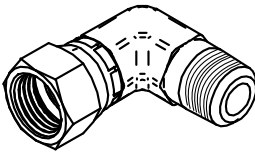
WARNING: PINCH POINT HAZARD! To prevent serious injury or death, avoid unsafe practice while manually operating hydraulic steering circuits. Keep others away and stay clear of mechanical steering linkages.

KIT CONTENTS

Unpack the installation kit and identify the required parts.

Item	Part Number	Description	Quantity
A	32-04040	Switch, Engage/Disengage.....	1
B	350-0037	Washer, Narrow Flat - 3/8", SST.....	2
C	35-02183	Valve, FieldPilot PWM, 1.1GPM, OC.....	1
D	45-07703	Harness, SCM.....	1
E	45-10103	Harness, Valve.....	1
F	60-04089	Bolt, Hex, 3/8-16 x 3-3/4" SST.....	2
G	60-07027	Nut, NyLock 3/8-16, SST.....	2
H	65-05155	Bracket, FieldPilot Valve Mount.....	1
I	68-01236	Hose, Hyd - 1/2" x 70", #8MORF X #8FJIC 90°.....	1
J	68-01237	Hose, Hyd - 1/2" x 78", #8FORF X #8FJIC.....	1
K	68-01238	Hose, Hyd - 1/2" x 45", #8FORF X #8FJIC.....	1
L	68-01239	Hose, Hyd - 3/8" x 83", #6FORF X #6FJIC 90°.....	1
M	68-01240	Hose, Hyd - 3/8" x 192", #6FJIC X #6FORF 90°.....	2
N	68-02071	Adapter, Hyd. Run Tee - #6 ORF.....	3
O	68-02075	Adapter, Hyd. 90° - #6MORF x #8MORB.....	1
P	68-02078	Adapter, Hyd. 90° - #6MJIC x #6FJIC.....	2
Q	68-02082	Adapter, Hyd. - #6MJIC x #8MORB.....	3
R	68-02093	Adapter, Hyd. 90° - #8MJIC x #8FJIC.....	1
S	68-02122	Adapter, Hyd. - #8MJIC x #12MORB.....	2
T	90-50013	Cable Tie Kit, 15.....	2
U	91-07011	Steering Wheel Switch Kit.....	1
V	98-05214	Installation Manual, FP JD 6500, 6700 Hi-Cycle.....	1

Item	Part #	Description	Illustration
A	32-04040	Switch, Engage/Disengage, Momentary	
B	350-0037	Washer, Narrow Flat - 3/8", SST	
C	35-02183	Valve, FieldPilot PWM, 1.1GPM, OC	
D	45-07703	Harness, SCM	
E	45-10103	Harness, Valve	
F	60-04089	Bolt, Hex, 3/8-16 x 3-3/4" SST	
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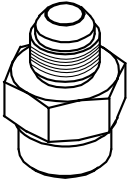
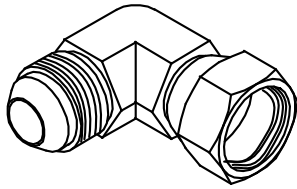
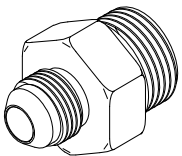
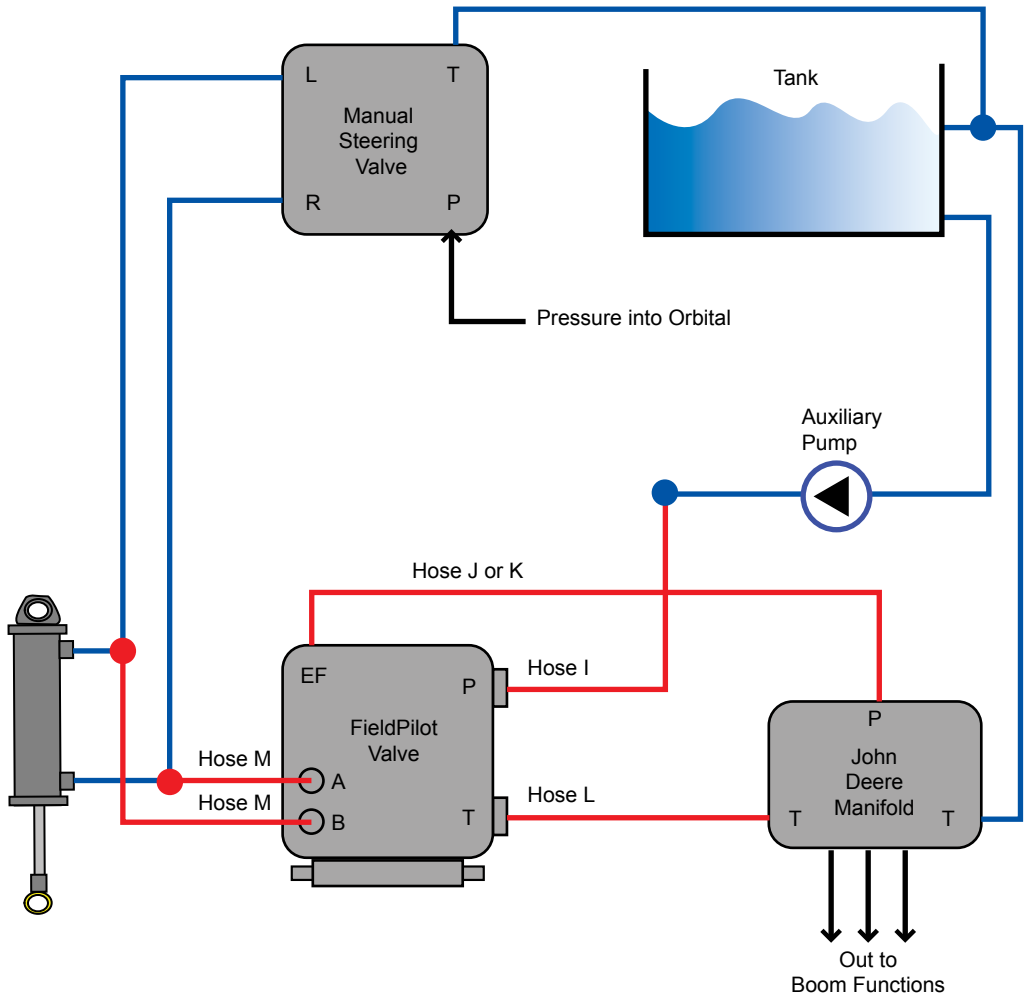
Item	Part #	Description	Illustration
Q	68-02082	Adapter, Hyd. - #6MJIC x #8MORB	
R	68-02093	Adapter, Hyd. 90° - #8MJIC x #8FJIC	
S	68-02122	Adapter, Hyd. - #8MJIC x #12MORB	
T	90-50013	Cable Tie Kit, 15	
U	91-07011	Steering Wheel Switch Kit	
V	98-05214	Installation Manual, FP JD 6500, 6700 Hi-Cycle	

Figure 1-1: Hydraulic Diagram



Existing Hoses _____

Hoses From Kit _____

INSTALLATION



If there are questions concerning the installation of the FieldPilot system on this vehicle, or due to the changes in component specifications the parts supplied in the kit are not exactly as presented in this document, please contact your dealer or TeeJet Customer service representative for clarification before installation. TeeJet Technologies is not responsible for misuse or incorrect installation of the system.

NOTE: BE VERY CAREFUL TO ABSOLUTELY SECURE ALL CABLES AND HOSES SO THAT THEY DON'T INTERFERE WITH THE MANY MOVING PARTS OF THE MACHINE!

NOTE: All references to left and right are stated as if the user is seated in the driver's seat.

1. PREPARE THE FIELDPILOT VALVE

Install adapters **(S)** in the P and EF ports of the FieldPilot valve **(C)**. Attach adapter **(R)** onto adapter **(S)** in the P port. Install adapters **(Q)** in the A, B, and T ports. Then attach adapter **(P)** onto adapters **(Q)** in the A & B ports.

Figure 1-2: Prepare the FieldPilot Valve



2. INSTALL THE FIELDPILOT VALVE BRACKET

The valve bracket will mount on the left side on the rear of the vehicle on the railing. Remove the two bolts as shown and install bracket **(H)** using the original bolts.

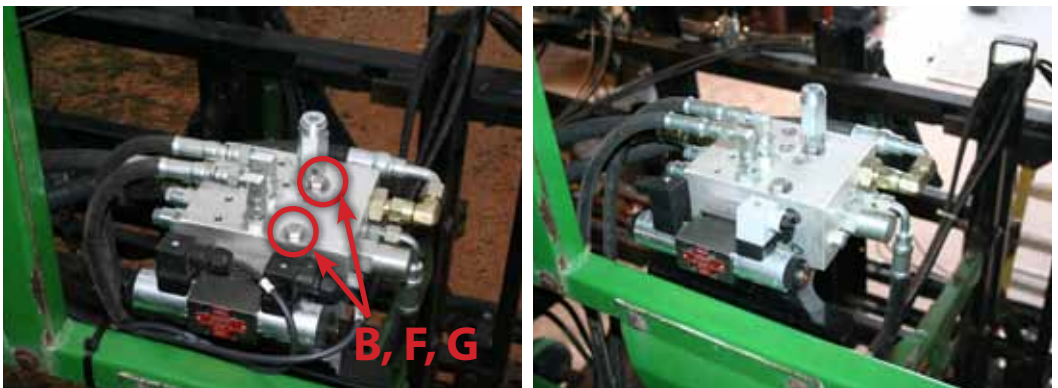
Figure 1-3: Install Mounting Bracket for FieldPilot Valve



3. MOUNT THE FIELDPILOT VALVE

Mount the FieldPilot Valve to the bracket using parts **(B, F, & G)**. Mount it so that the P and T ports are facing left and the EF port is facing right.

Figure 1-4: Mount the FieldPilot Valve

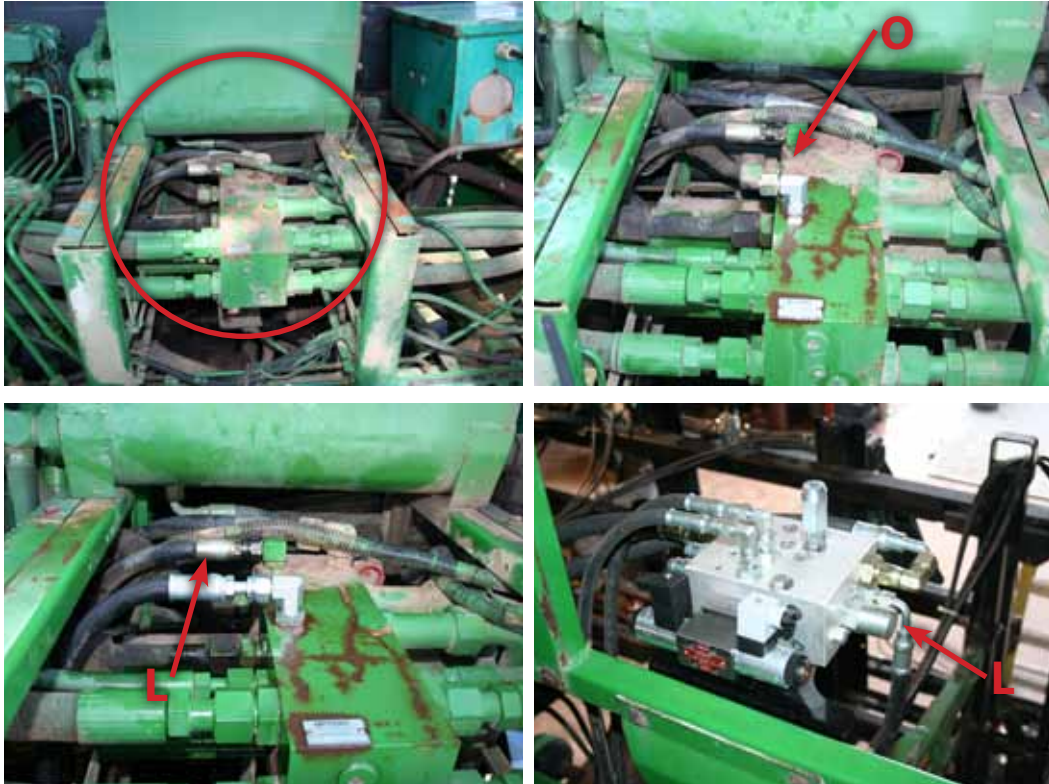


4. INSTALL TANK HOSE AND ADAPTER

John Deere 6500

Locate the hydraulic manifold as shown. It is located behind the cab, under the catwalk. Remove the plug labeled R4 and install adapter (O). Then connect hose (L) from this adapter (O) to the T port of the FieldPilot valve.

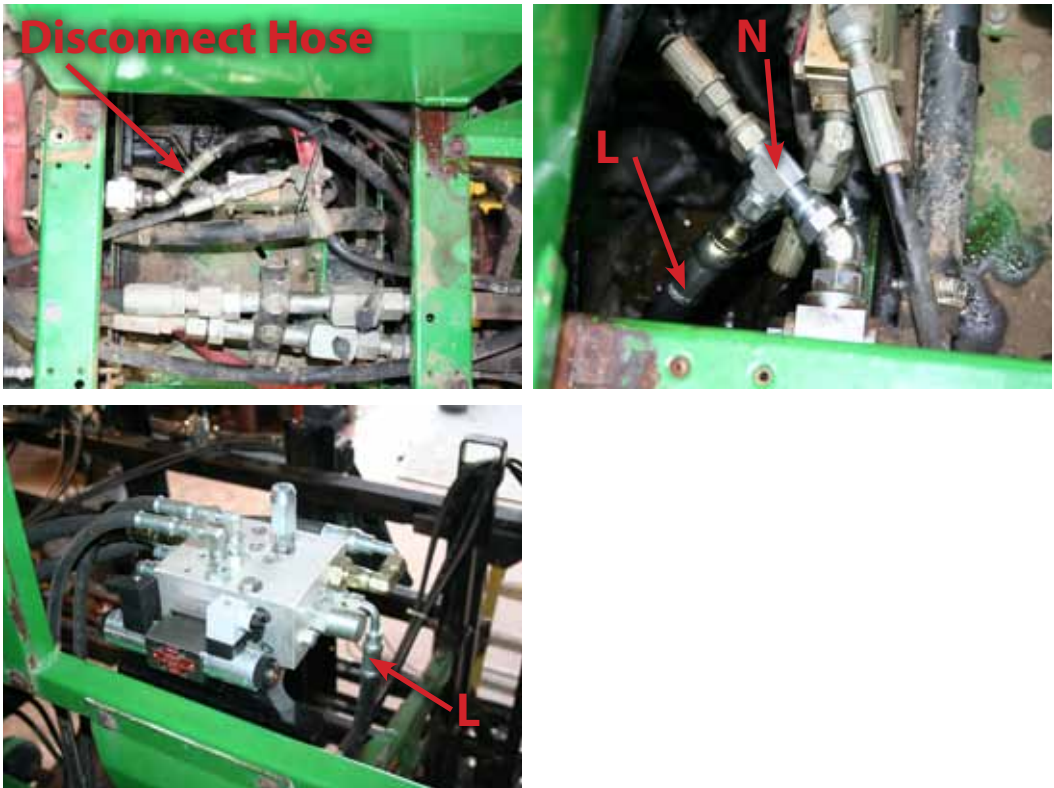
Figure 1-5: Install Tank Hose and Adapter



John Deere 6700

Locate the tank hose as shown. It is located behind the cab, under the catwalk. Disconnect the indicated hose and install run tee (N). Reconnect original hose to run of the tee. Then connect hose (L) from the branch of the run tee to the T port of the FieldPilot valve.

Figure 1-6: Install Tank Hose and Adapter



5. INSTALL PRESSURE HOSE AND ADAPTER

John Deere 6500

Locate the hydraulic manifold as shown. Disconnect the hose indicated then connect hose (1) to the original pressure hose and route it to the P port of the FieldPilot valve.

Figure 1-7: Install Pressure Hose and Adapter



John Deere 6700

Locate the hydraulic manifold as shown. Disconnect the hose to P port as indicated then connect hose (I) to the original pressure hose and route it to the P port of the FieldPilot valve.

Figure 1-8: Install Pressure Hose and Adapter



6. INSTALL EF HOSE

John Deere 6500

From the open fitting from the previous step connect hose (J) and route it to the EF port of the FieldPilot valve.

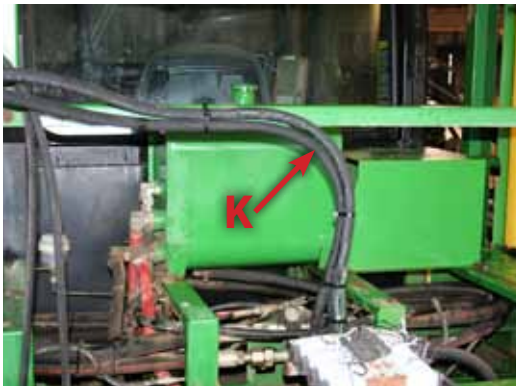
Figure 1-9: Install EF Hose



John Deere 6700

From the open fitting from the previous step connect hose (K) and route it to the EF port of the FieldPilot valve.

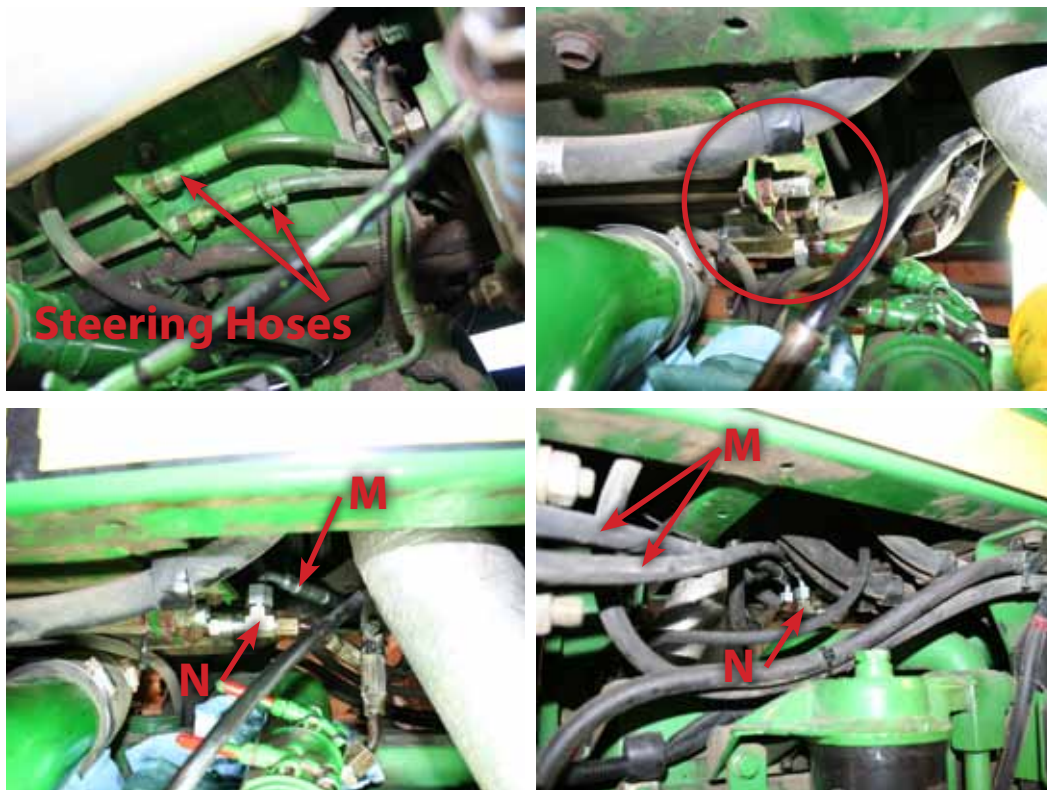
Figure 1-10: Install EF Hose



7. INSTALL STEERING HOSES AND ADAPTERS

Locate the steering hoses from the orbital that connect to steel directly above the engine. Label both hoses and disconnect them. Then install run tees (**N**) on both lines with the branch of the tees facing up. Reconnect the original steering hoses to the run of the tees (**N**). Next connect the steering hoses (**M**) to the branch of the tees and route them to the A & B ports of the FieldPilot valve. The hoses will exit the engine compartment on the right side and route along the right side of the machine. Just in front of the rear axle the hoses will cross over to the left side and route back and up to the FieldPilot valve.

Figure 1-11: Install Steering Hoses and Adapters





8. INSTALL STEERING DISENGAGE SWITCH (KIT 91-07011)

The steering disengage kit (**U**) is used to automatically disengage FieldPilot when the steering wheel is turned. The magnets mount on the steering shaft or other rotating part of the steering wheel and the sensor mounts so that there is a 1/8" clearance between the sensor and magnet.

Figure 1-12: Install Steering Disengage Switch (Kit 91-07011)



9. INSTALLATION OF ENGAGE/DISENGAGE SWITCH

Connect item (**A**) to the connector on the SCM harness labeled Remote Engage/Disengage. Install the push button in a location that is easily accessible during operation of the machine. This switch (**A**) is not required if the optional foot switch 32-04020 is used.

Figure 1-13: Engage/Disengage Switch



10. INSTALL VALVE CONTROL CABLE

The valve control cable (**E**) will connect to the solenoids on the FieldPilot valve. Route it into the cab. Use zip ties to secure it so that it doesn't interfere with any moving parts.

Figure 1-14: Install Valve Control Cable



11. RECOMMENDED ELECTRONICS INSTALLATION

The Steering Control Module (SCM) should be mounted securely to the floor of the cab as far forward in the cab as possible. The control console can be mounted to the operator's preference. The GPS antenna should be mounted near the nose of the vehicle on a metal surface of at least 4" square.

Figure 1-15: Recommended Electronics Installation



12. VERIFY OPERATION OF HYDRAULICS AND SET THE STEERING CONTROL RATE

Clean and pick up the area around the vehicle and make certain that it is safe to operate. Start the engine and check hydraulic connections for leaks. Rotate the steering wheel from one extreme to the other and back to center, check for leaks. While steering through the extremes of movement, check the cables and hoses for wear points and strain, adjust as necessary.

The final oil flow rate adjustment is accomplished through the Matrix console. The target lock to lock time is 6 seconds. The valve frequency is 110. Refer to the Matrix manual for further instructions.

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.



WARNING: PINCH POINT HAZARD! To prevent serious injury or death, avoid unsafe practice while manually operating hydraulic steering circuits. Keep others away and stay clear of mechanical steering linkages.

13. COMPLETE ELECTRONIC INSTALLATION

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


FIELDPILOT®

USER MANUAL

A series of equipment-specific hydraulic installation kits have been developed to work in conjunction with your assisted steering system. This kit contains the necessary components and instructions to install assisted steering hydraulics on the John Deere 6500 and 6700 Hi-Cycle. Please review this manual thoroughly before beginning the installation process.



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