

FIELDPILOT[®]

USER MANUAL

Assisted Steering Hydraulic Installation Manual for
Vehicle Kit Number 91-02336

Fits Only AGCO Gleaner A75/6 & A85/6, Massey Ferguson
9x95 or Challenger 670/B & 680B



A Subsidiary of  Spraying Systems Co.[®]

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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.

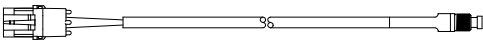

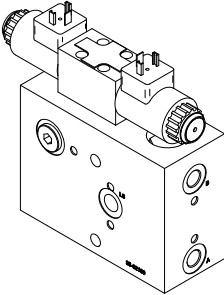
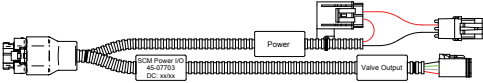
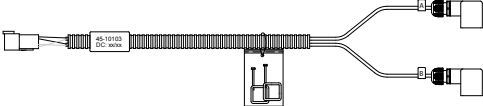
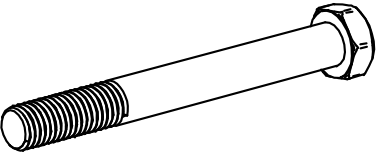

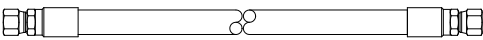
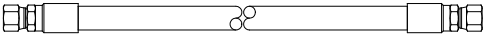
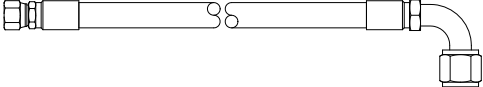


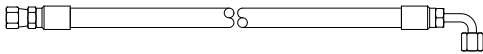
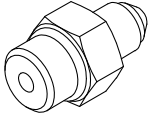
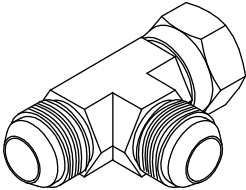
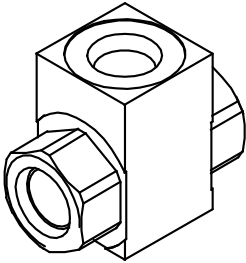
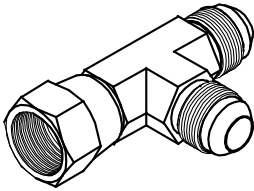
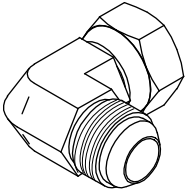
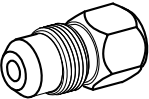
WARNING: PINCH POINT HAZARD! To prevent serious injury or death, avoid unsafe practice while manually operating hydraulic steering circuits. Keep others away and stay clear of mechanical steering linkages.

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, Flat - 3/8" SST	2
C	35-02188	Valve, FieldPilot PWM, CC, LS, 3.2GPM.....	1
D	45-07703	Harness, SCM	1
E	45-10103	Harness, Valve.....	1
F	60-04087	Bolt, Hex- 3/8-16 x 3-3/4" SST.....	2
G	60-07027	Nut, NyLock 3/8-16, SST	2
H	68-01033	Hose, Hyd. - 3/8" x 14", #6FJIC Both Ends	1
I	68-01100	Hose, Hyd. - 3/8" x 18", #6FJIC x #6FJIC.....	2
J	68-01258	Hose, Hyd. - 1/2" x 132", #8FJIC x #12FJIC 90°	1
K	68-01259	Hose, Hyd. - 1/4" x 132", #4FJIC x #4FJIC 90°	1
L	68-02010	Adapter, Hyd. - #4MJIC x #6MORB.....	3
M	68-02011	Adapter, Hyd. Run Tee - #12 JIC.....	1
N	68-02012	Shuttle TEE - #6FORB.....	1
O	68-02022	Adapter, Hyd. Run Tee - #6 JIC	3
P	68-02051	Adapter, Hyd. 90° - #12MJIC x #12FJIC.....	1
Q	68-02058	Adapter, Hyd. - #4FJIC x #6MJIC	1
R	68-02066	Adapter, Hyd. - #6MORB x #6FJIC.....	1
S	68-02078	Adapter, Hyd. 90° - #6MJIC x #6FJIC.....	2
T	68-02080	Adapter, Hyd. 90° - #6MJIC x #6MORB.....	3
U	68-02090	Adapter, Hyd. 90° - #8MJIC x #6MORB.....	1
V	68-02184	Adapter, Hyd. 90° - #4MJIC x #4FJIC.....	2
W	90-50013	Cable Tie Kit, 15	1
X	91-07011	Steering Wheel Switch Kit	1
Z	98-05224	Installation Manual AGCO GLNR A75/6,A85/6, MF 9X95, CHNGR 670/B,680B ...	1

Item	Part #	Description	Illustration
A	32-04040	Switch, Engage/Disengage, Momentary	
B	350-0037	Washer, Flat - 3/8" SST	
C	35-02188	Valve, FieldPilot PWM, CC, LS, 3.2GPM	
D	45-07703	Harness, SCM	
E	45-10103	Harness, Valve	
F	60-04087	Bolt, Hex- 3/8-16 x 3-3/4" SST	
G	60-07027	Nut, NyLock 3/8-16, SST	
H	68-01033	Hose, Hyd. - 3/8" x 14", #6FJIC Both Ends	
I	68-01100	Hose, Hyd. - 3/8" x 18", #6FJIC x #6FJIC	
J	68-01258	Hose, Hyd. - 1/2" x 132", #8FJIC x #12FJIC 90°	

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N	68-02012	Shuttle TEE - #6FORB	
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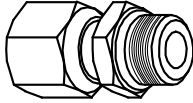
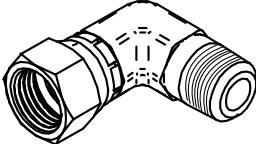
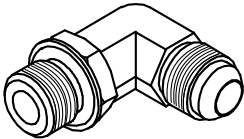
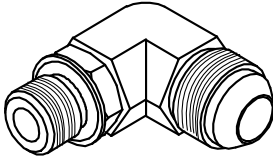
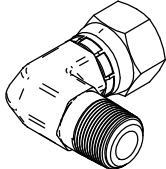
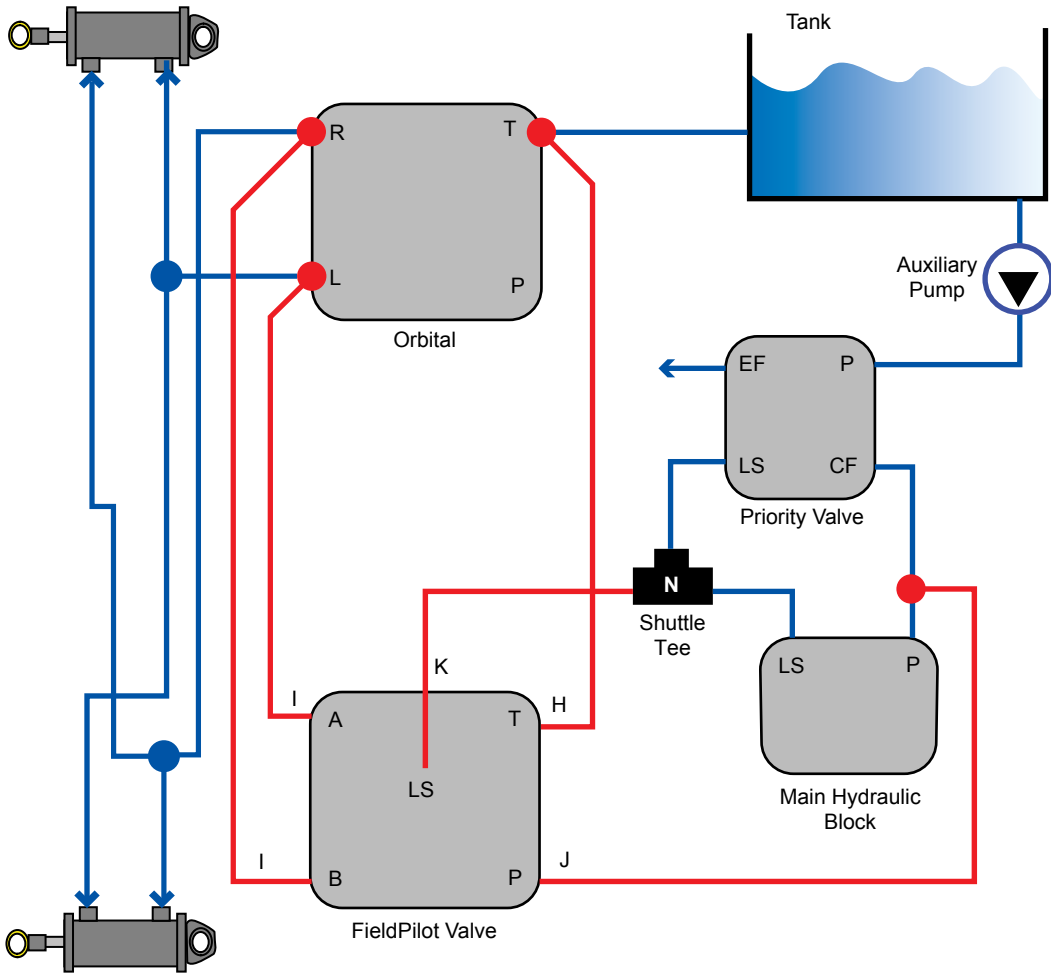
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R	68-02066	Adapter, Hyd. - #6MORB x #6FJIC	
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V	68-02184	Adapter, Hyd. 90° - #4MJIC x #4FJIC	
W	90-50013	Cable Tie Kit, 15	
X	91-07011	Steering Wheel Switch Kit	
Z	98-05224	Installation Manual AGCO GLNR A75/6,A85/6, MF 9X95, CHNGR 670/B,680B	

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!

Overview of the Machine

- The FieldPilot valve will mount underneath the cab.
- The Tank and Steering lines will tee in at the orbital.
- The Pressure and LS lines will tee in at the main hydraulic block located on the right side of the machine.
- The GPS should mount at the front edge of the cab.

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

Figure 1-2: Overview of the Machine



GPS

FieldPilot Valve

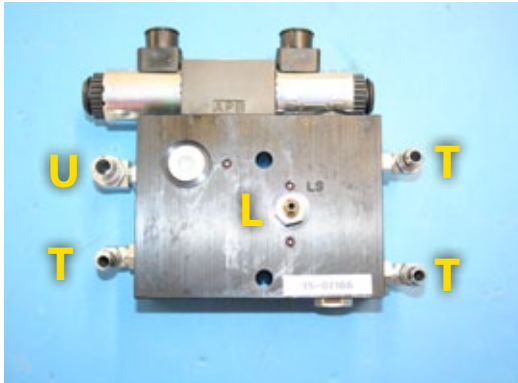


Hydraulic Block and P & LS Connections

1. PREPARE THE FIELDPILOT VALVE

Install adapters **(T)** in the A, B, & T ports of the FieldPilot valve, Install adapter **(U)** in the P port of the FieldPilot valve. Then install adapter **(L)** in the LS port of the FieldPilot valve.

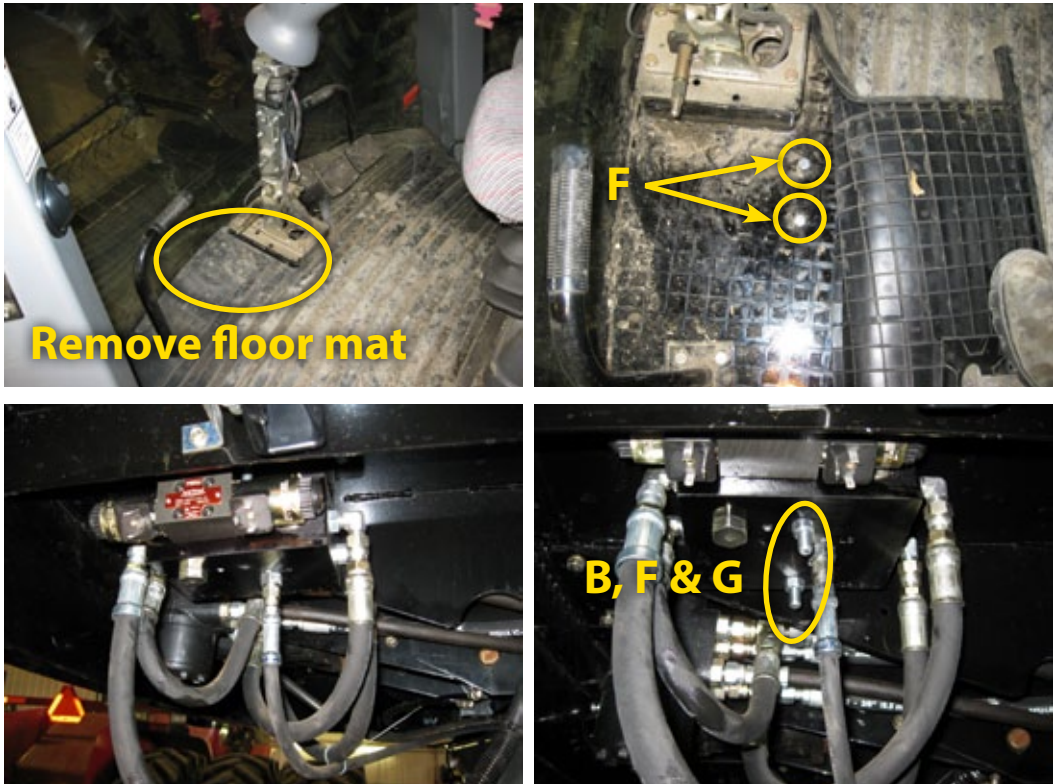
Figure 1-3: Prepare the FieldPilot Valve



2. MOUNT THE FIELDPILOT VALVE

The FieldPilot valve will mount to the bottom side of the floor of the cab. Use the FieldPilot valve to mark the location for drilling the two 7/16" mounting holes. The distance between the holes should be 2.9". Once the holes are drilled use parts **(B, F, & G)** to mount the FieldPilot valve. The valve will mount with the solenoids facing the left side of the machine and the P & T ports facing forward.

Figure 1-4: Mount the FieldPilot Valve

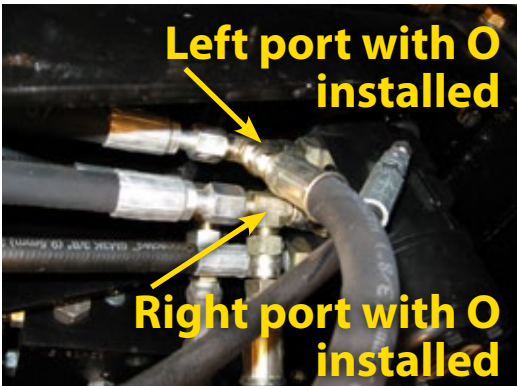
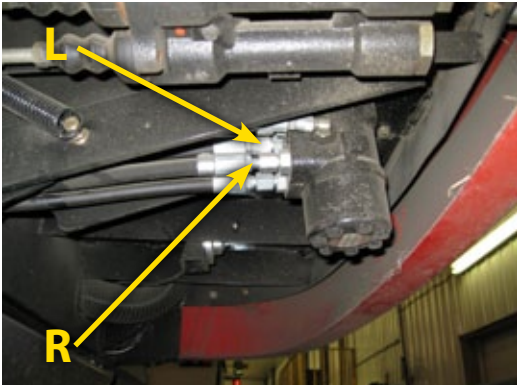


**View from left side
looking to the right side**

3. PREPARE THE ORBITAL

Disconnect the Tank, Left, & Right hoses from the orbital and install run tees (O) on the orbital. Connect the original hoses the runs of the appropriate tee.

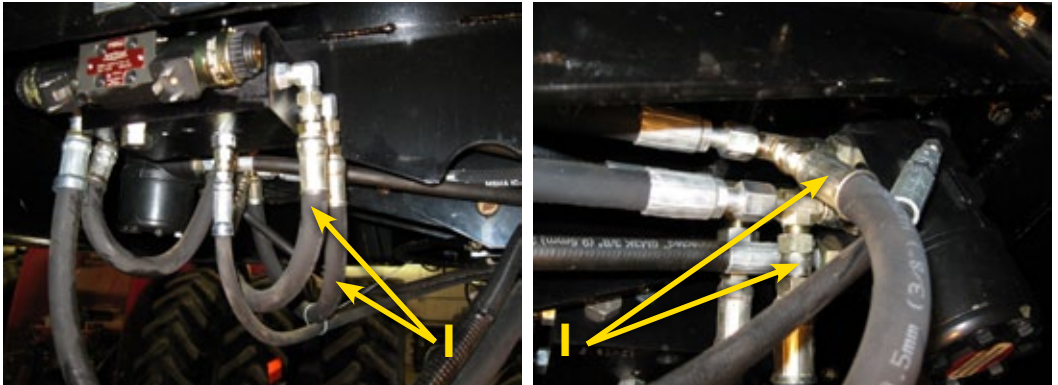
Figure 1-5: Prepare the Orbital



4. INSTALL THE STEERING HOSES

Connect hoses (I) from the A & B ports of the FieldPilot valve to the branches of run tees (O) on the L & R ports of the orbital.

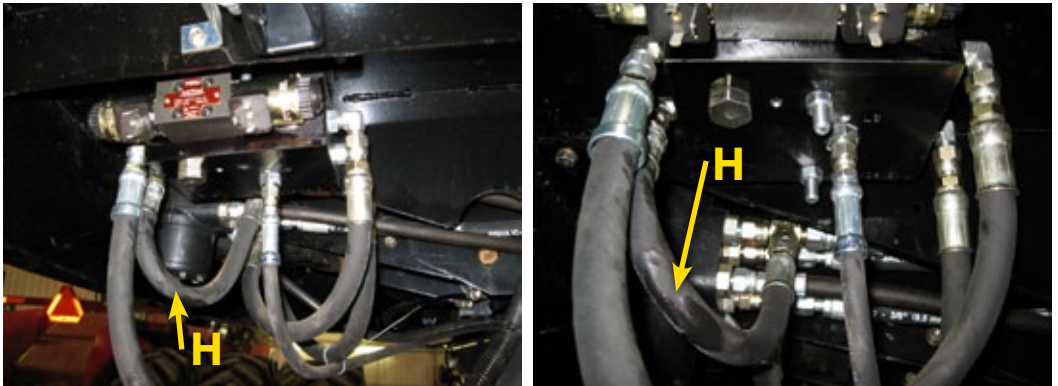
Figure 1-6: Install the Steering Hoses



5. INSTALL THE TANK HOSE

Connect hose (H) from the T port of the FieldPilot valve to the T port of the Orbital.

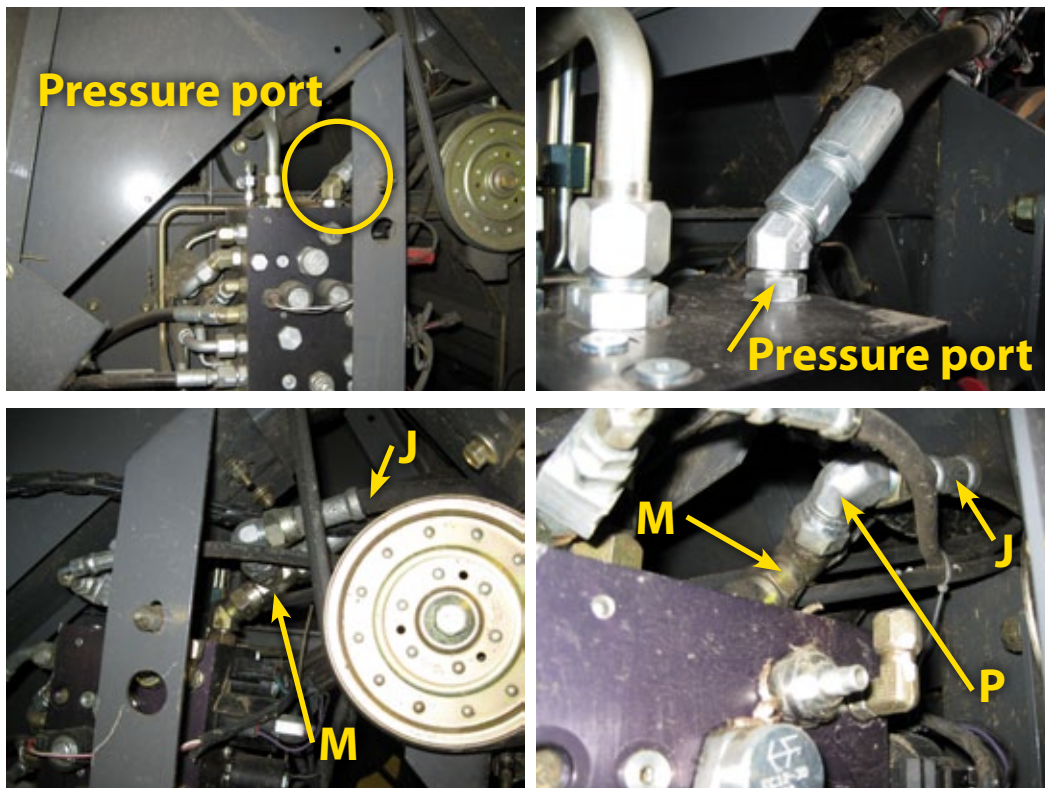
Figure 1-7: Install the Tank Hose



6. INSTALL THE PRESSURE HOSE AND ADAPTER

Locate the pressure port on the hydraulic block as indicated. Disconnect the machine's hose and install run tee (**M**). Reconnect the original hose to the run of the tee. Then connect and route hose (**J**) from the P port of the FieldPilot valve to the branch of the run tee (**M**). Adapter (**P**) can be used as needed to make your installation easier.

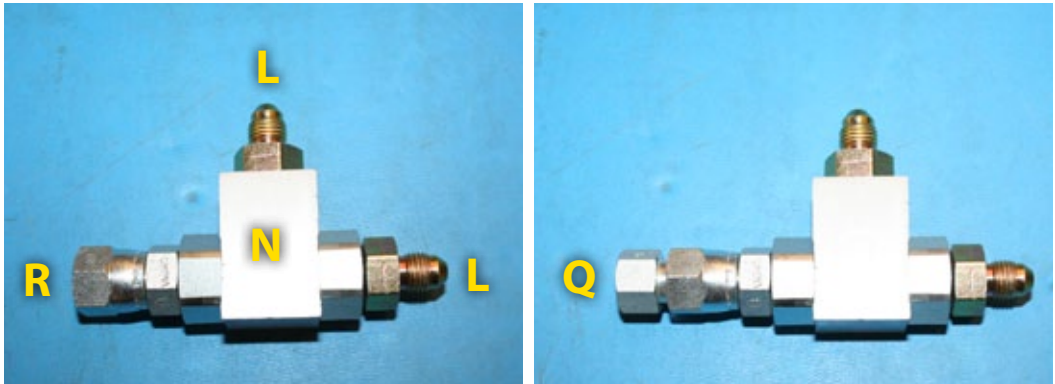
Figure 1-8: Install the Pressure Hose and Adapter



7. PREPARE THE SHUTTLE TEE

Install adapters **(L & R)** in the shuttle tee **(N)** as shown. Then install adapter **(Q)** onto adapter **(R)** as shown.

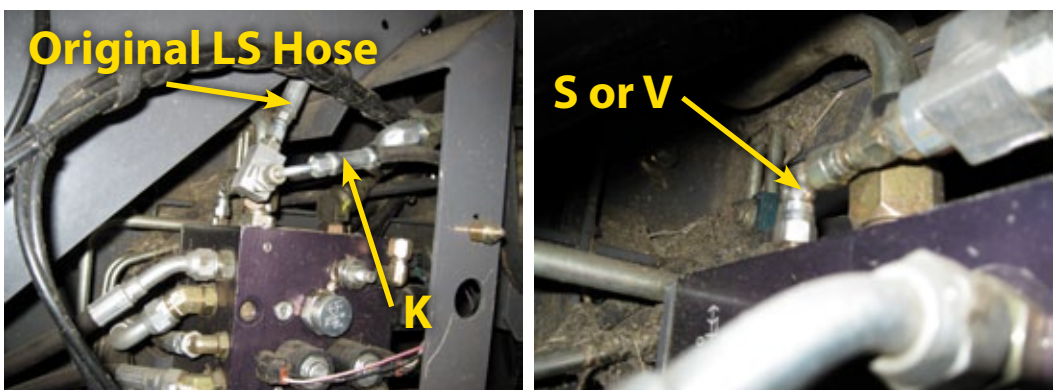
Figure 1-9: Prepare the Shuttle Tee



8. INSTALL THE SHUTTLE TEE & LOAD SENSE HOSE

Disconnect the machine's LS hose and install the prepared shuttle tee. Adapters **(S & V)** can be used as needed to orient the shuttle tee the best for your installation. Attach original LS hose to shuttle tee and then route and connect hose **(K)** from the LS port of the FieldPilot valve to the other side of the shuttle tee as shown.

Figure 1-10: Mount the FieldPilot Valve



9. INSTALL THE VALVE CONTROL CABLE

Connect the valve control cable (**E**) to the FieldPilot valve and route it into the cab.

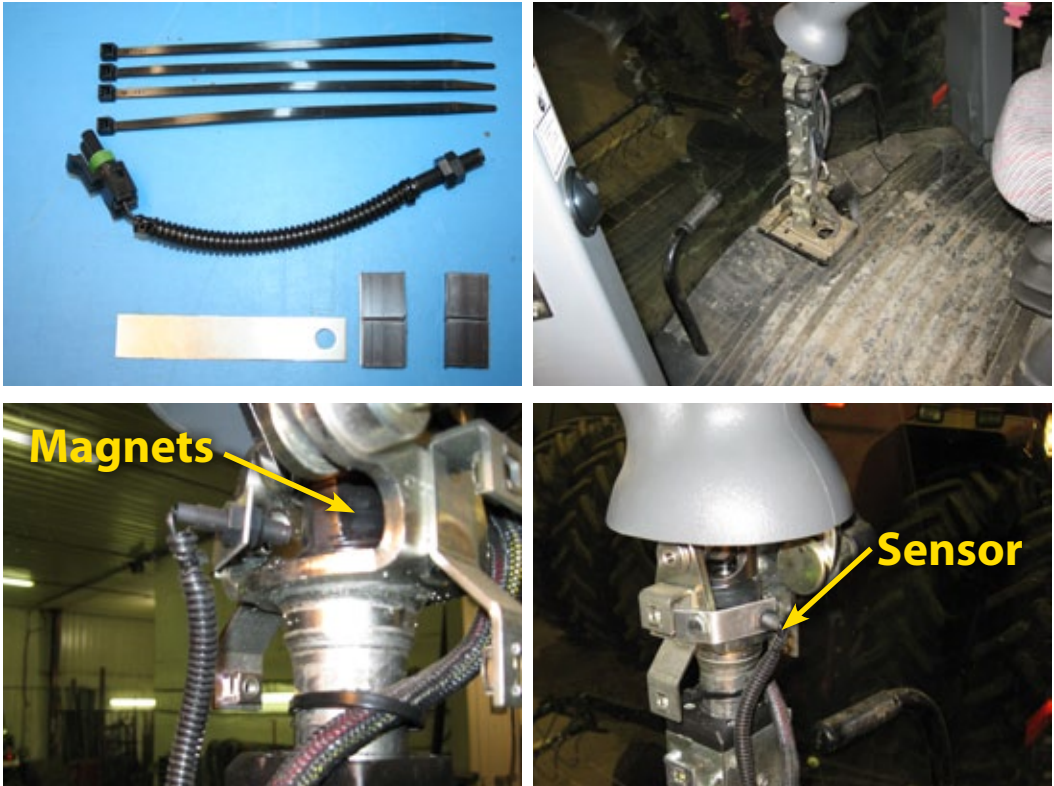
Figure 1-11: Install the Valve Control Cable



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

The steering disengage kit (X) is used to automatically disengage FieldPilot when the steering wheel is turned. The sensor must be mounted so that it has a 1/8" clearance from the magnets. Remove the shrouds around the steering base. Locate the steering shaft and attach 3 magnets to the shaft, then install the bracket and sensor as shown so that there is a clearance of 1/8" between the magnets and sensor. Route the cable and ensure it will not get tangled in any moving components. Connect the sensor to the SCM harness (D).

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



11. 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



12. 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 at the front edge of the cab on a metal surface of at least 4" square.

Figure 1-14: Recommended Electronics Installation



13. 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 8 seconds and 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.

14. 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 AGCO Gleaner A75/6 & A85/6, Massey Ferguson 9x95 or Challenger 670/B & 680B. Please review this manual thoroughly before beginning the installation process.



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