


FIELDPILOT[®]

INSTALLATION MANUAL

Assisted Steering Hydraulic Installation Manual for
Vehicle Kit Number 91-02335
Fits Only Case SPX 3150/3185



A Subsidiary of  Spraying Systems Co.[®]

FIELDPILOT®

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Safety Information

TeeJet Technologies is not responsible for damage or physical harm caused by failure to adhere to the following safety requirements.

As the operator of the vehicle, you are responsible for its safe operation.

The FieldPilot is not designed to replace the vehicle's operator.

Do not leave a vehicle while the FieldPilot is engaged.

Be sure that the area around the vehicle is clear of people and obstacles before and during engagement.

The FieldPilot is designed to support and improve efficiency while working in the field. The driver has full responsibility for the quality and work related results.

Disengage FieldPilot before operating on public roads or when not in use to prevent loss of vehicle control.

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.

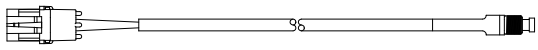

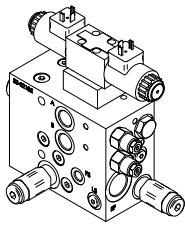
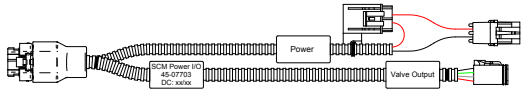
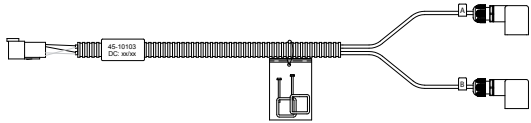
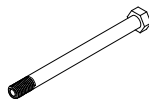

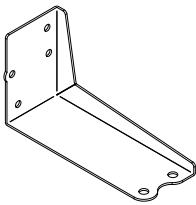
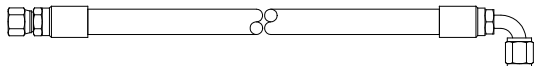
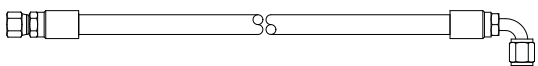


WARNING: PINCH POINT HAZARD! To prevent serious injury or death, avoid unsafe practice while manually operating hydraulic steering circuits. Keep others away and stay clear of mechanical steering linkages.

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	35-02183	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	65-05169	Bracket, Hydraulic. Block.....	1
I	68-01102	Hose, Hydraulic - 3/8" x 22", #6FJIC x #6FJIC 90°	1
J	68-01166	Hose, Hydraulic - 1/4" x 32" #4FJIC x #4FJIC 90°	2
K	68-01186	Hose, Hydraulic - 1/2" x 70", #8FJIC x #8MJIC	1
L	68-01187	Hose, Hydraulic - 1/2" x 85", #8FJIC x #8FJIC 90°	1
M	68-02008	Adapter, Hydraulic Run Tee - #4 JIC.....	2
N	68-02022	Adapter, Hydraulic Run Tee - #6 JIC.....	1
O	68-02082	Adapter, Hydraulic - #6MJIC x #8MORB	1
P	68-02092	Adapter, Hydraulic 45° - #8MJIC x #8FJIC	1
Q	68-02093	Adapter, Hydraulic 90° - #8MJIC x #8FJIC	2
R	68-02122	Adapter, Hydraulic - #8MJIC x #12MORB	2
S	68-02175	Adapter, Hydraulic - #4MJIC x #8MORB	2
T	90-50013	Cable Tie Kit, 15	1
U	91-07011	Steering Wheel Switch Kit	1
V	98-05154	Installation Manual, FieldPilot Case SPX 3150/3185	1

Item	Part #	Description	Illustration
A	32-04040	Switch, Engage/Disengage, Momentary	
B	350-0037	Washer, Flat - 3/8" SST	
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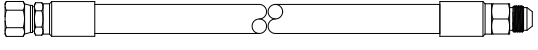
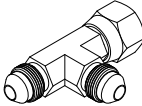
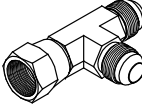
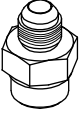
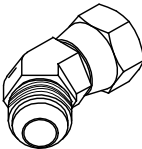
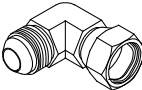
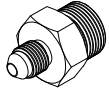
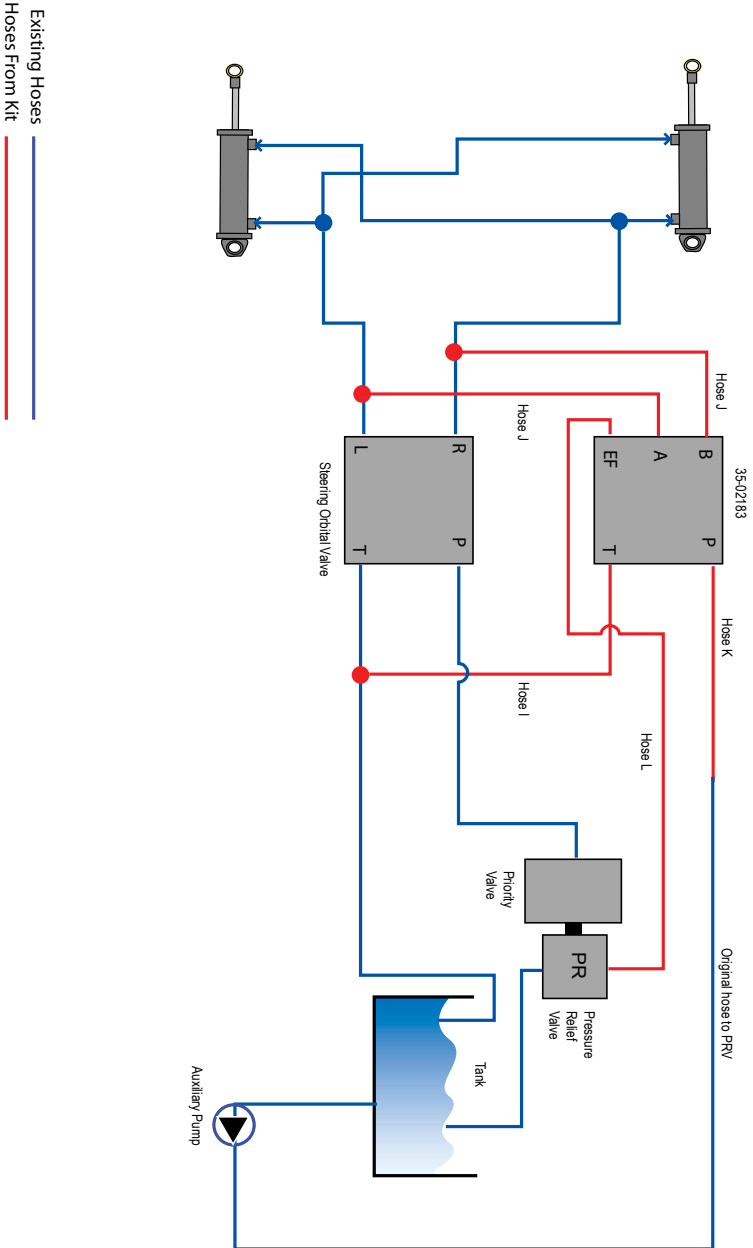
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V	98-05154	Installation Manual, FieldPilot Case SPX 3150/3185	

Figure 1-1: Hydraulic Diagram



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 directly underneath the cab at the steering orbital
- Most hydraulic connections will be made at the orbital and can be best accessed from beneath the cab. Pressure will come from the hydraulic pump at the pressure relief valve and excess flow will return to the pressure relief valve.
- The GPS antenna will mount on the cab
- The cables will enter the bottom-right-rear of the cab

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

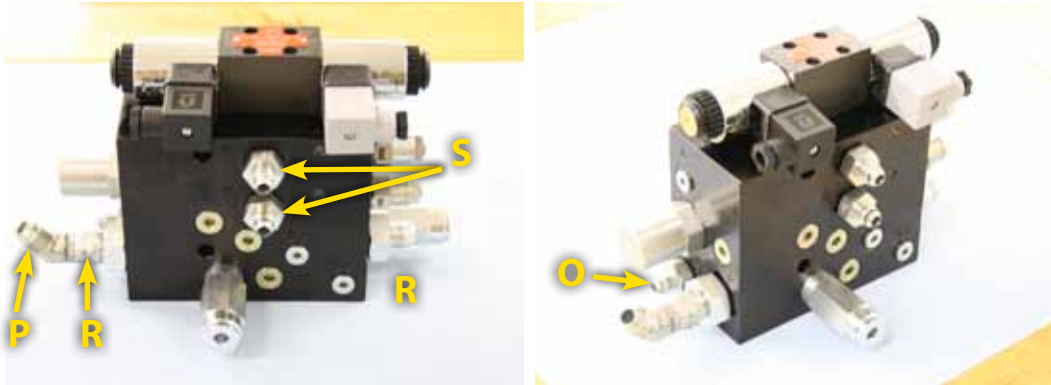
Figure 1-3: Overview of the Machine



1. PREPARE THE FIELDPILOT VALVE

Install fitting **(S)** in the A and B ports of the FieldPilot Valve **(C)**. Install fitting **(O)** in the T port. Install fitting **(R)** in the P port. Install fitting **(R)** in the EF port. Attach fitting **(P)** to fitting **(R)** in the P Port.

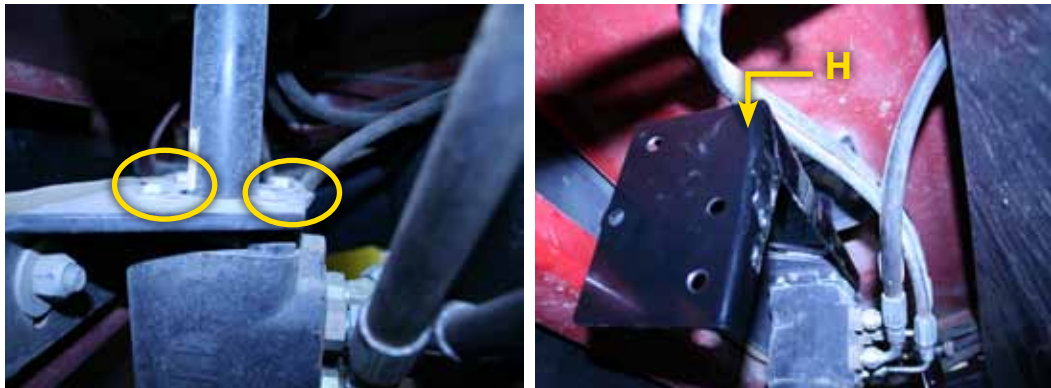
Figure 1-4: Preparing the FieldPilot Valve



2. INSTALL THE FIELDPILOT VALVE BRACKET

Remove the two bolts on the left side of the orbital and then using the same bolts attach bracket **(H)** to the orbital bracket.

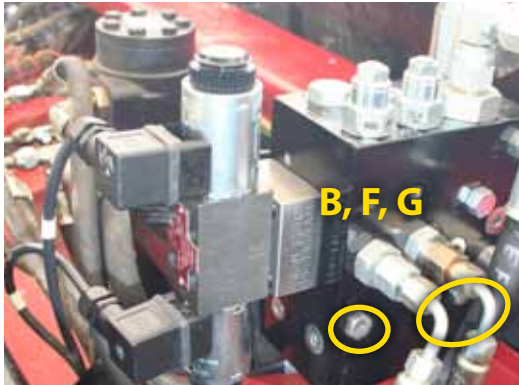
Figure 1-5: Installing the FieldPilot Valve Bracket



3. INSTALL THE FIELDPILOT VALVE

Using items **(B, F, and G)**, mount the FieldPilot Valve to the bracket. The P port should be facing up.

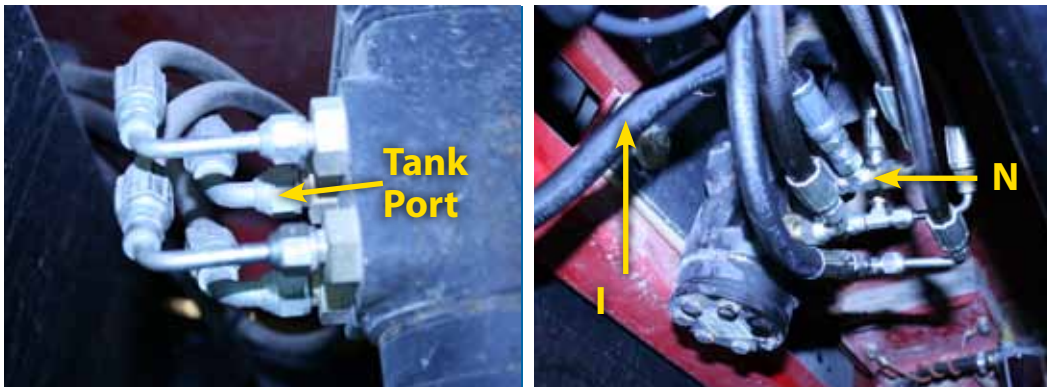
Figure 1-6: Installing the FieldPilot Valve



4. INSTALL TANK FITTINGS AND HOSE

Disconnect the tank hose from the orbital and install run tee fitting **(N)**. Reconnect original hose to the run of the tee. Connect hose **(I)** from the T port on the FieldPilot Valve to the run of the tee **(N)**.

Figure 1-7: Installing the Tank Fittings and Hose

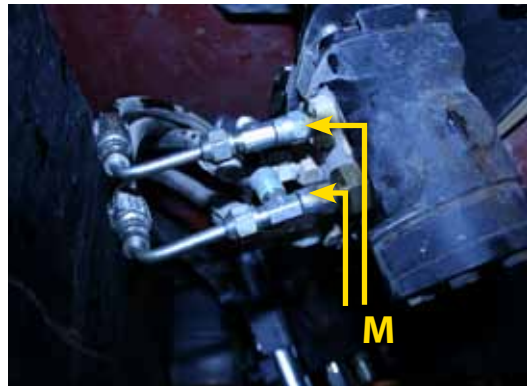
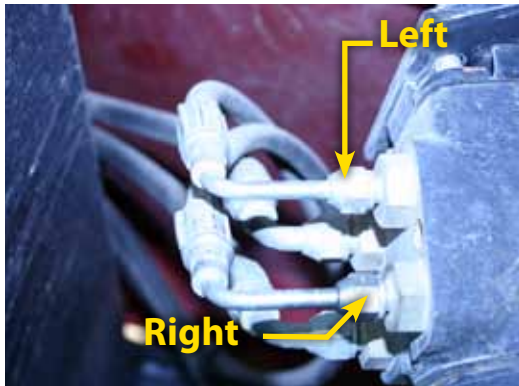




5. INSTALL STEERING FITTINGS AND HOSES

Disconnect the left and right steering hoses from the orbital and install run tee fittings (**M**). Reconnect the original hoses to the runs of the tees. Connect hoses (**J**) from the run of the tees to the A and B ports of the FieldPilot Valve.

Figure 1-8: Installing the Steering Fittings and Hoses



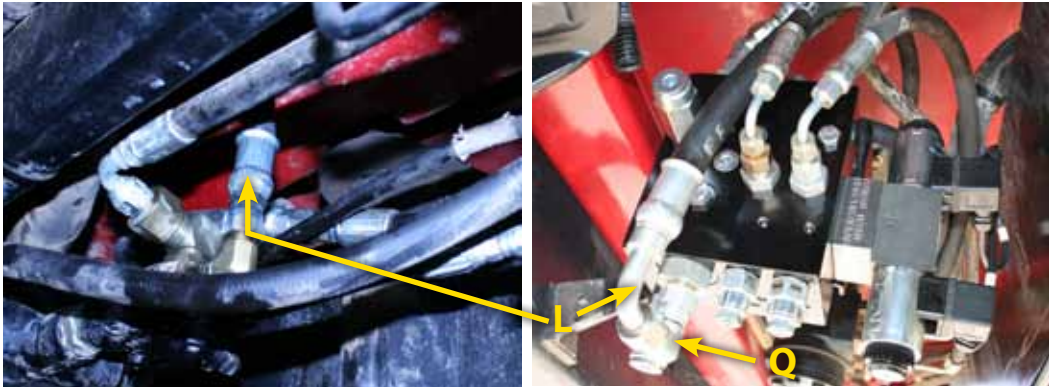


6. INSTALL EF FITTINGS AND HOSE

Locate the priority valve and relief valve underneath the machine near the middle. Disconnect the hose going into the relief valve from the pump. Install fittings (**Q**) on the fitting on the relief valve and on the EF port of the FieldPilot Valve. Connect hose (**L**) from the relief valve to the EF port on the FieldPilot Valve. The hose will route along the left side of the machine with other hoses.

Figure 1-9: Installing the EF Fittings and Hose

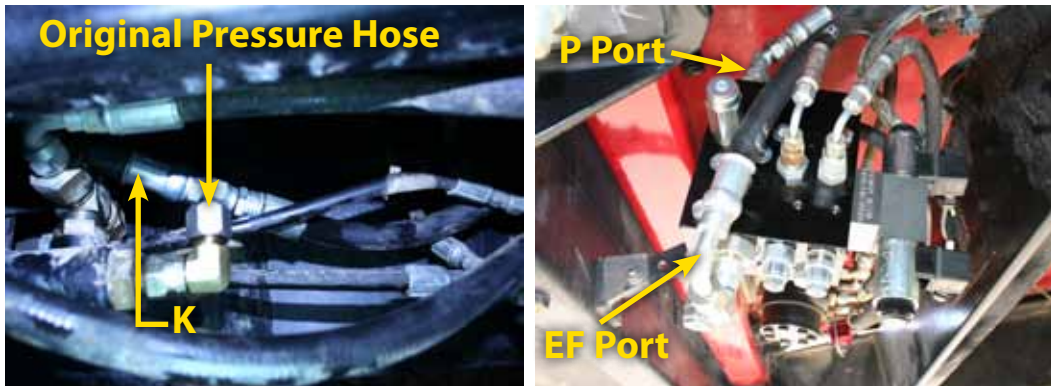




7. INSTALL PRESSURE HOSE

Locate the hose disconnected from the relief valve in Step 6. Connect hose (**K**) from that hose to the P port on the FieldPilot Valve. The hose will route the same as the EF hose.

Figure 1-10: Installing the Pressure Hose



8. INSTALL STEERING DISENGAGE SENSOR

Remove the shield that covers the steering shaft. Drill a hole in the shield near the bottom left corner as shown. Install bracket and sensor from kit (U) as shown. Glue 3 magnets to the shaft of the steering. Set the clearance between the sensor and magnets to 1/8" and rotate the steering wheel in both directions to be sure that the sensor does not contact the magnets or the shaft.

Figure 1-11: Installing the Steering Disengage Sensor





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.

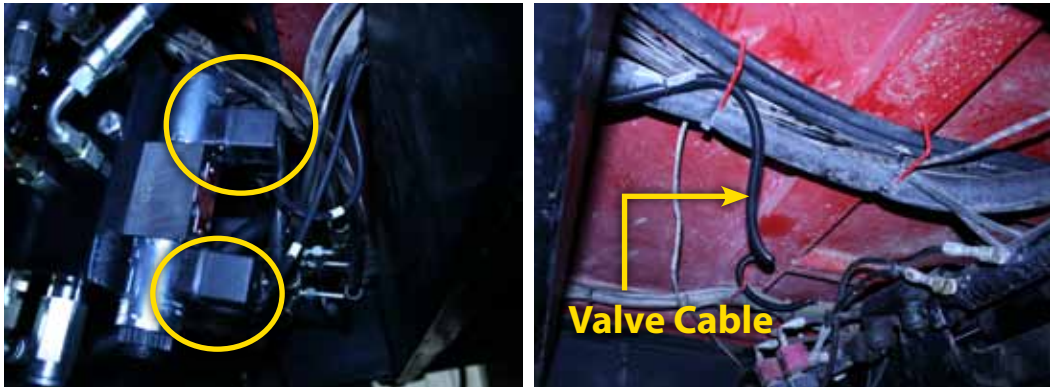
Figure 1-12: Installation of the Engage/Disengage Switch



9. INSTALL VALVE CONTROL CABLE

Connect cable (E) to the connectors on the FieldPilot Valve. Route the cable to the right rear of the cab where it will enter the cab through a plate on the floor. Secure the cable to ensure it will not become tangled in moving parts.

Figure 1-13: Installing the Valve Control Cable



10. 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 as far forward as possible on top of the cab on a metal surface of at least 4" square.

Figure 1-14: Recommended Electronics Installation



11. 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 6-8 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.


FIELDPILOT®

INSTALLATION 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 Case SPX 3150/3185. Please review this manual thoroughly before beginning the installation process.



1801 Business Park Drive
Springfield, Illinois 62703 USA
Tel: (217) 747-0235 • Fax: (217) 753-8426
www.teejet.com

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