

# Automated Steering Hydraulic Installation Kit

P/N: ED-H2100

Fits Hagie Sprayer Model:  
2100



## Overview

A series of equipment specific hydraulic installation kits have 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 Hagie 2100 sprayer. Please read this manual thoroughly before beginning the installation.

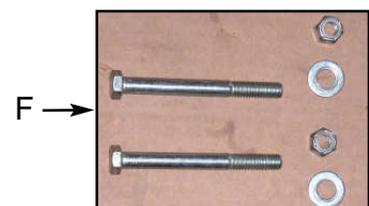
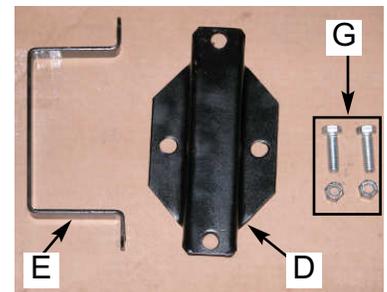
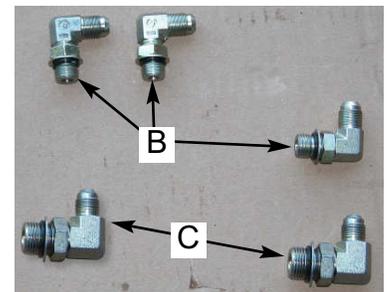
## Sprayer Preparation

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

## Kit Contents

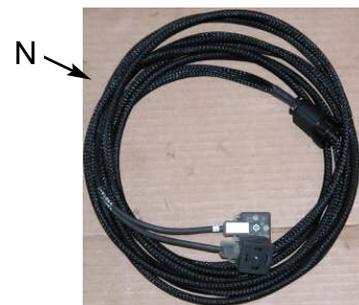
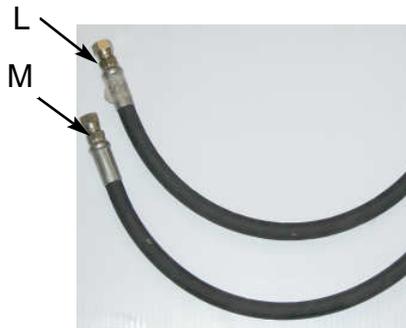
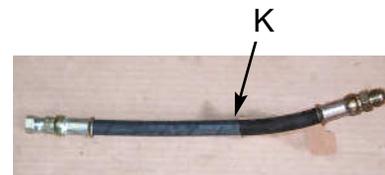
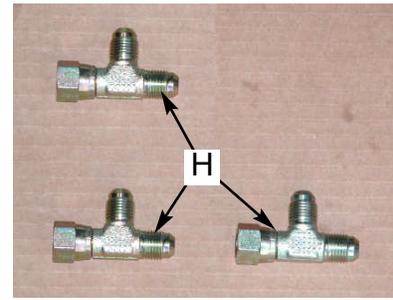
Unpack the installation kit and identify the required parts as shown.

REF	P/N	QTY	DESCRIPTION
A	760-0005	1	Assy, Hyd. Valve Block - OC
<b>Bag #1 of 3 includes B &amp; C</b>			
B	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
C	760-2061	2	Adapter, Hyd. 90 Elbow - #6maleJIC x #8maleORB
D	640-0011	1	Hyd. Block Mnt
E	640-0026	1	Hyd. Block Mnt - Hammer Strap,
<b>Bag #2 of 3 includes F &amp; G</b>			
F	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
G	675-2007	2	Bolt, 3/8NC x 3/4" Gr5 ZP
	676-1035	2	Nut, NyLock - 3/8NC Z



## Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
<b>Bag #3 of 3 includes H</b>			
H	760-2054	3	Adapter, Hyd. Run Tee - #6 JIC
I	760-1090	1	Hose, Hyd. - 1/4" x 104", #6femJICswiv x #6femJICswiv 90EL
J	760-1091	1	Hose, Hyd. - 1/4" x 190", #6femJICswiv x #6femJICswiv 90EL
K	760-1092	1	Hose, Hyd. - 3/8" x 10", #6maleJIC x #6femJICswivel
L	760-1062	1	Hose, Hyd. - 3/8" x 40", #6femJICswiv x #6femJICswiv90EL
M	760-1002	1	Hose, Hyd. - 3/8" x 36", #6femJICswiv Both Ends
N	051-0143	1	Cable, Interface - 15 ft.
	677-2001	20	Tie Strap, 11" Heavy Duty, Not Shown
	710-0053	1	Kit, Steering Wheel Switch, Not Shown



**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.

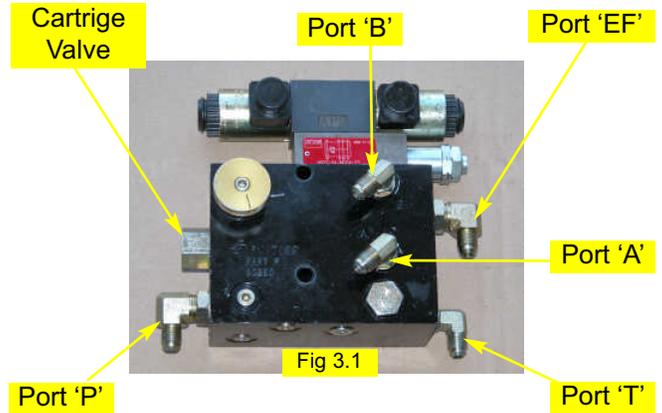
**IMPORTANT:** **PREVENT HYDRAULIC SYSTEM CONTAMINATION.** It is essential to thoroughly clean hydraulic system fittings and hose connections prior to disconnecting or removing. Use a spray cleaner such as 'Brake Clean' to prevent hydraulic system contamination. Note that o-rings used on ORB and ORFF 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 Hydraulic Control Block:

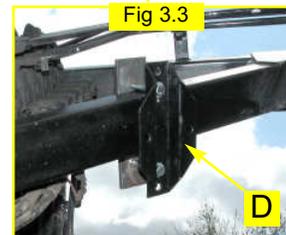
Make sure the hydraulic block is clean and dust free. Install elbows (**B**) into the **T**, **A**, and **B** ports of the hydraulic control block. Install elbow-fitting (**C**) into the **P** and **EF** ports of the hydraulic control block. (Figure 3.1)

*Note:* To install the elbow fitting (**C**) into the **P** port of the hydraulic block, the cartridge valve must be removed from the end of the block. Remove the cartridge, install the elbow, and reinstall the cartridge.



## 2. Mount Hydraulic Control Block:

Install the hydraulic mounting bracket (**D**), using hardware group (**G**), to the left angle brace on the boom near the hydraulic boom function block. (Figure 3.2 and 3.3) Using the provided mounting hardware in group (**F**) attach the prepared hydraulic control block to the mounting bracket in the orientation shown. (Figure 3.4)



### 3. Install Pressure, Tank, and Excess Flow Fittings and Note Connection Locations:

The hydraulic control block will receive pressure from the supply line connected to the boom hydraulic block. Excess flow from the hydraulic control block will be supplied to the boom hydraulic block. Hydraulic oil will be returned to tank from the hydraulic control block to the return line connected to the boom hydraulic block. These three ports are labeled **P**, **EF**, and **T** respectively on the hydraulic control block. (Figure 4.1)

Remove the tank line from the boom hydraulic block and install the provided runtee (**H**). (Figure 4.2) Reattach the tank line to the end of the run-tee. Use plastic caps to prevent excess leakage.

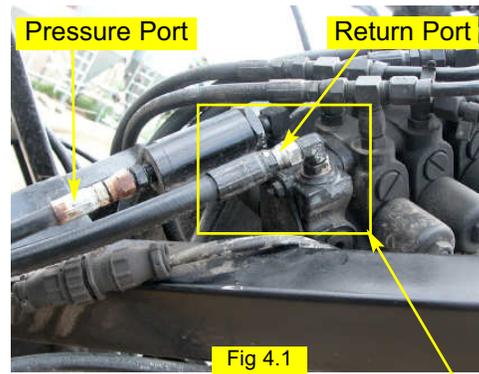


Fig 4.1

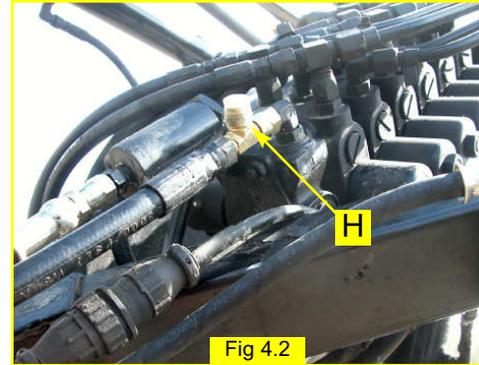


Fig 4.2

### 4. Install Pressure, Tank, and Excess Flow Hoses:

Disconnect the pressure supply line from the boom hydraulic block. Connect the provided pressure hose (**K**) between the **P** port of the hydraulic control block and the pressure supply line. (Figure 4.3) Install the provided excess flow hose (**M**) between the **EF** port of the hydraulic control block and pressure port of the boom hydraulic block. (Figure 4.4)

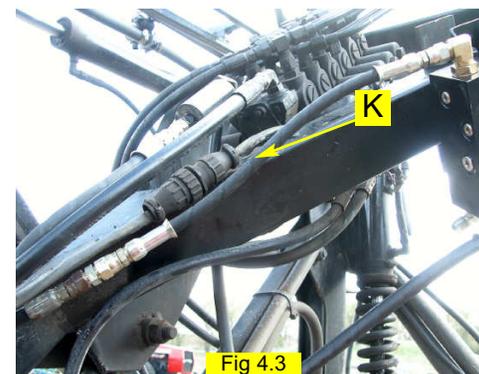


Fig 4.3

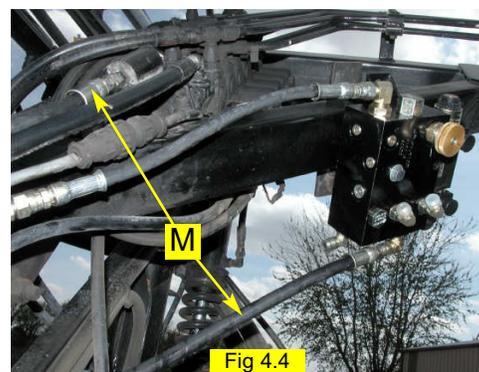
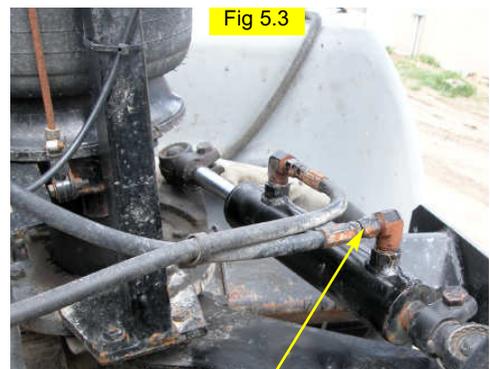
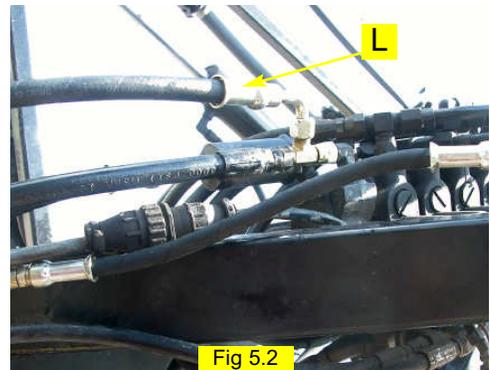
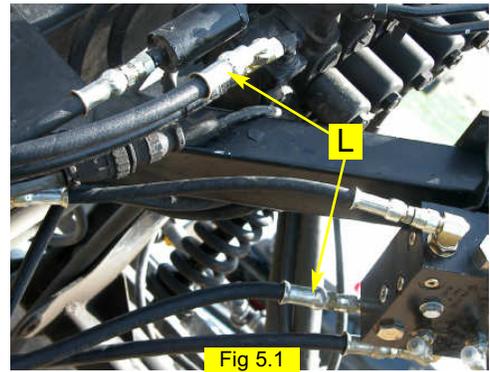


Fig 4.4

#### 4. Install Pressure, Tank, and Excess Flow Hoses (Cont.):

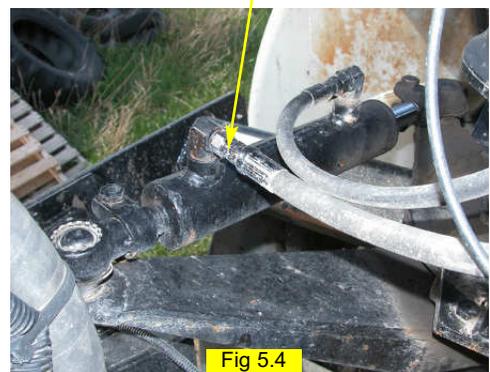
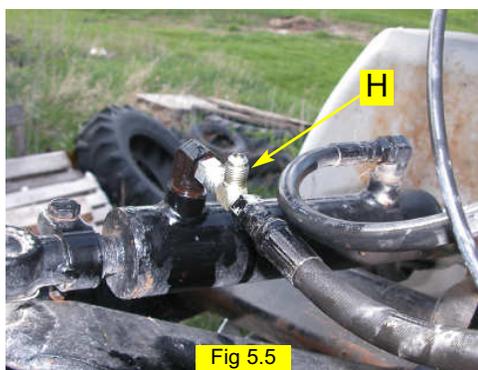
Connect the hydraulic tank hose (L) between the T port of the hydraulic control block and the branch of the run-tee installed at the boom hydraulic block in step 3. (Figure 5.1 and 5.2)



#### 5. Install Steering Output Fittings:

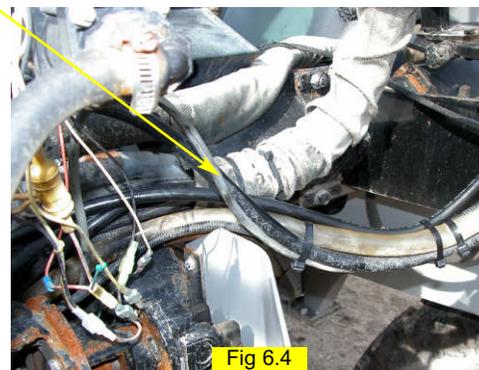
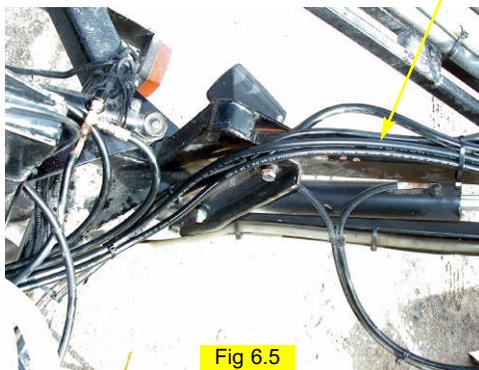
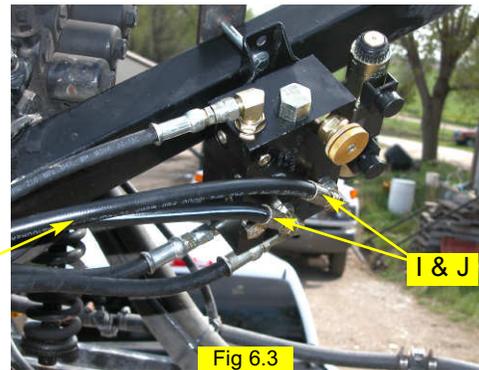
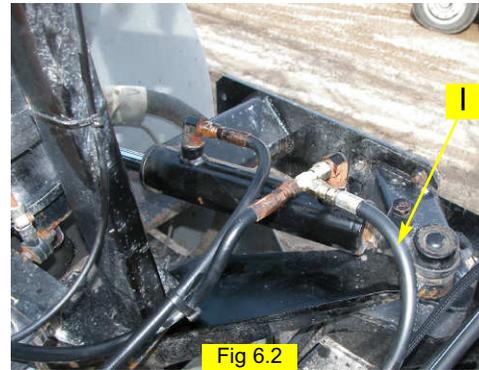
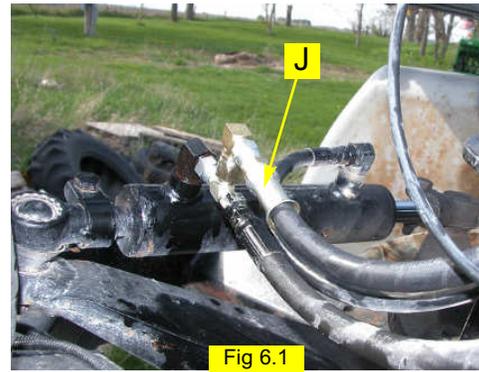
Locate the steering cylinders on the ends of the front axle. Install the provided run-tee fittings (H) to the blind end of each steering cylinder as shown. (Figures 5.3 - 5.5) Use plastic caps to prevent excess leakage from the open runtees.

Install Runtees here



## 6. Install Steering Output Hoses:

Install the provided steering output hoses (**I** and **J**) between the run-tees at the steering cylinders and the **A** and **B** ports of the hydraulic control block. Hose (**I**) attaches to the left steering cylinder (Figure 6.1) and hose (**J**) attaches to the right steering cylinder (Figure 6.2). Attach hose ends equipped with 90-degree elbows to the branches of the run-tees for convenient hose routing. Hoses should be routed with other machine plumbing to allow for boom movement and suspension articulation. (Figures 6.3 - 6.5)

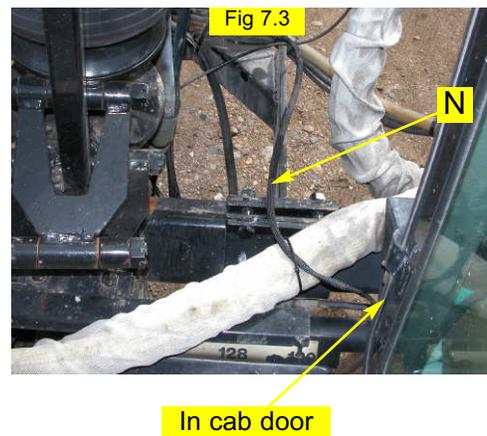
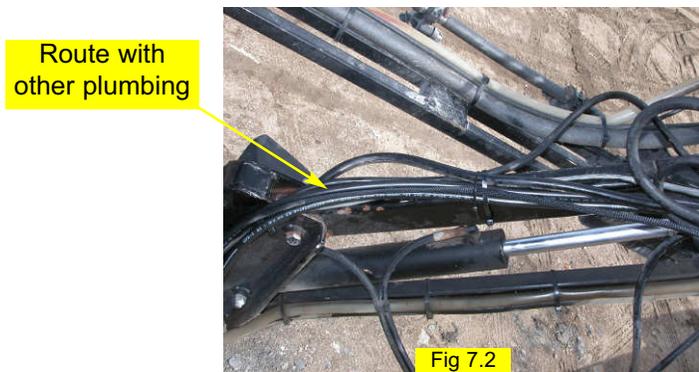
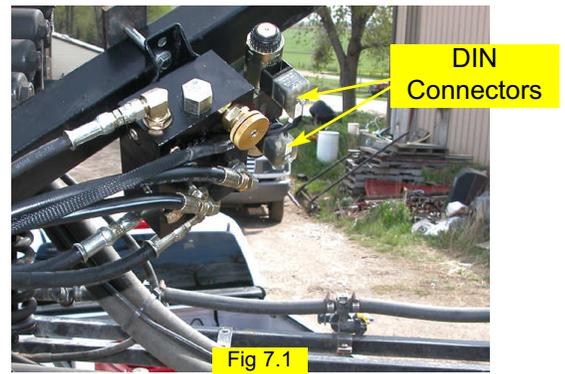


### 7. Install the Valve Control Cable:

Install the valve control cable (N) at the hydraulic block by attaching the DIN connectors to the coil. (Figure 7.1)

Route the cable with other machine plumbing down and into the cab through the door seal. (Figure 7.2 and 7.3)

Secure the cable leaving enough slack to allow for machine movements. Use provided tie straps as necessary.



## 9. Verify Operation and Set Steering Control Rate:

Cleanup the installation area around the sprayer and make certain that it is safe to operate. Start the sprayer and check hydraulic connections for any leaks. Rotate the steering wheel from one extreme to the other, and back.

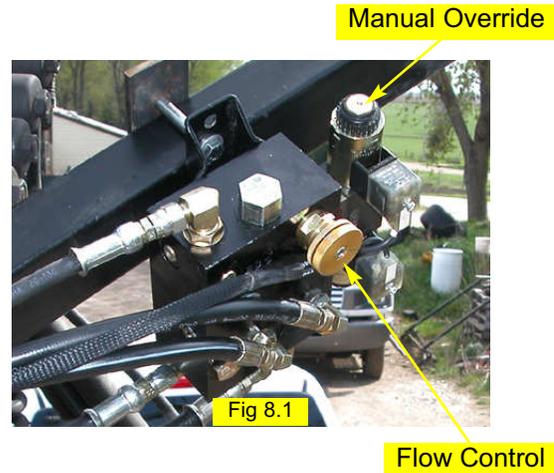
Adjust the hydraulic control oil flow control knob to a starting position of **3 turns** from completely closed. To adjust the knob, turn clockwise to reduce flow, counter-clockwise to increase flow. The knurled locking nut should be tightened against the cartridge face to maintain desired setting.

The coils on the control block have manual push button overrides. Push either manual override to move the sprayer steering all the way to one extreme. Count the number of seconds for the sprayer steering to move all the way in the opposite direction while pressing the manual override of the other coil. (Figure 8.1)

Adjust the hydraulic oil flow control knob to achieve an end to end steering cycle time of approximately **10 seconds**.

## 10. Complete Electronic Installation and Setup:

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



**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.



**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.