

Automated Steering Hydraulic Installation Kit

P/N: ED-AP05AS

Fits Apache Sprayer Models:

AS850 AS710
 AS1000 AS1010
 AS1200 AS1210



Overview

A series of equipment-specific hydraulic installation 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 Apache sprayer models listed above. Please read this manual thoroughly before beginning the installation.

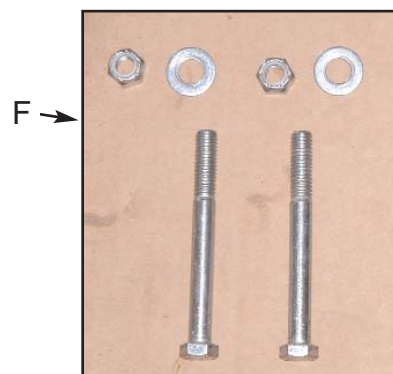
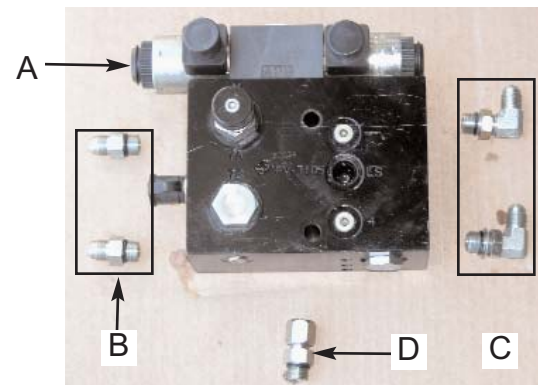
Machine Preparation

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

Kit Contents

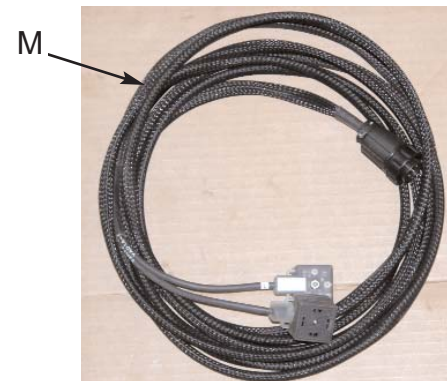
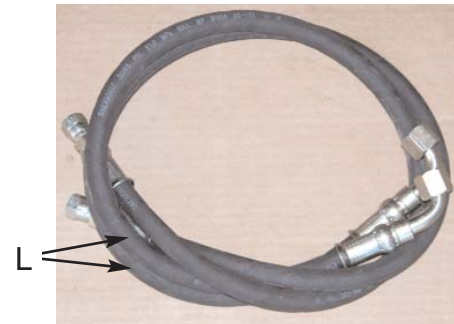
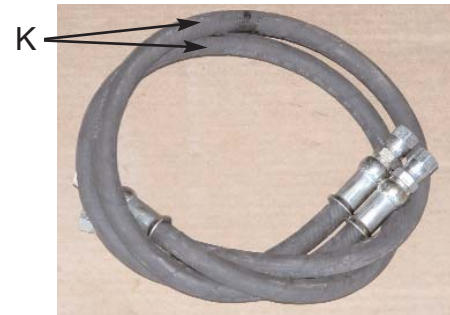
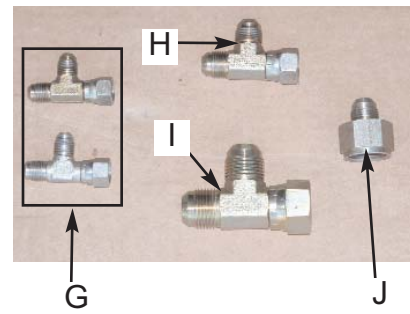
Unpack the installation kit and identify the required parts as shown.

REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
Bag #1 of 3 includes B, C, & D			
B	760-2056	2	Adapter, Hyd. - #6maleJIC x #6maleORB
C	760-2058	2	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
D	760-2045	1	Adapter, Hyd. Plug - #6maleORB
Bag #2 of 3 includes F			
E	640-0005	1	Hyd. Block Mnt, CMX/AP780
Bag #3 of 3 includes F			
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



Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
Bag #3 of 3 includes G, H, I, & J			
G	760-2054	2	Adapter, Hyd. Run Tee - #6 JIC
H	760-2077	1	Adapter, Hyd. Run Tee - #8 JIC
I	760-2016	1	Adapter, Hyd. Run Tee - #12 JIC
J	760-2012	1	Adapter, Hyd. - #12femJIC x #8maleJIC
K	760-1038	2	Hose, Hyd. - 1/4" x 40", #6femJICswiv Both Ends
L	760-1099	2	Hose, Hyd. - 3/8" x 66", #6femJICswiv x #8femJICswiv90EL
M	051-0144	1	Cable, Valve Interface - 10 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.

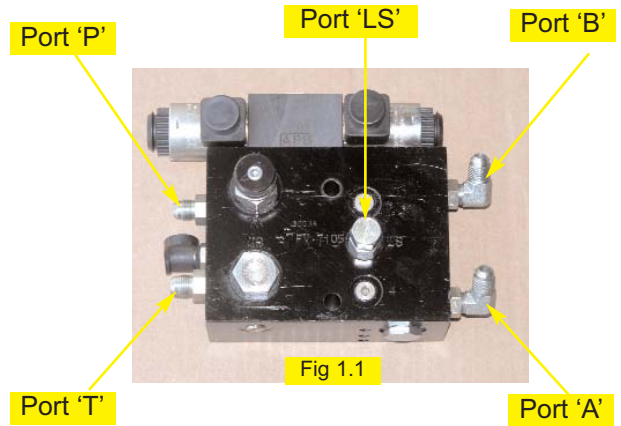
IMPORTANT:

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.

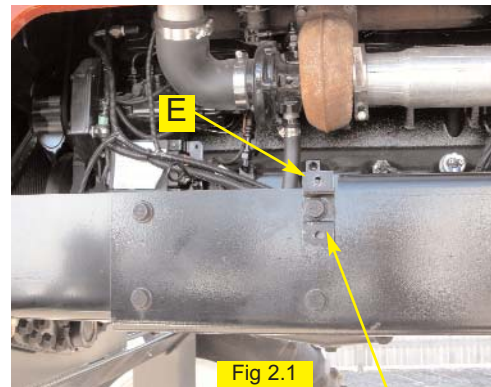
1. Prepare Hydraulic Control Block:

Make sure the hydraulic control block is clean and dust free. Remove the plastic plugs and install the straight adapter fittings (**B**) in the **P** and **T** ports. Install elbow adapter fittings (**C**) into the **A** and **B** ports, and install the ORB plug (**D**) into the **LS** port of the hydraulic control block. (Figure 1.1)



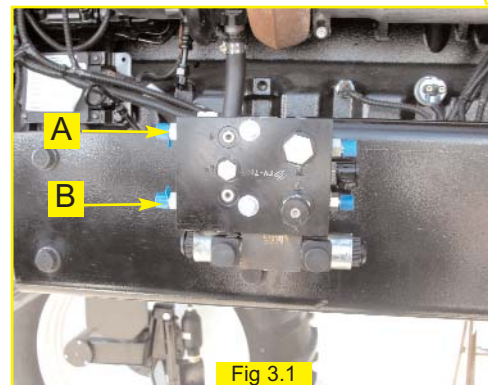
2. Install Mounting Bracket:

Install the hydraulic block mounting bracket (**E**) on the left side of the sprayer frame using the existing bolt as shown. (Figure 2.1)



3. Install Hydraulic Control Block:

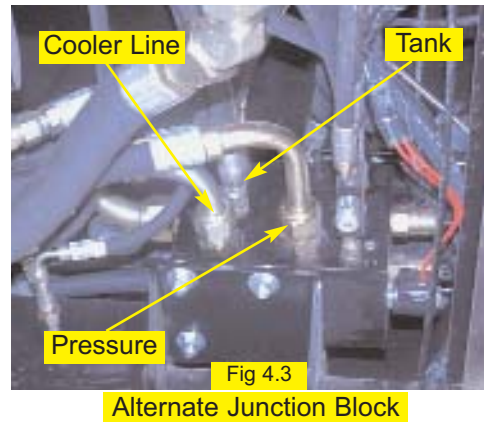
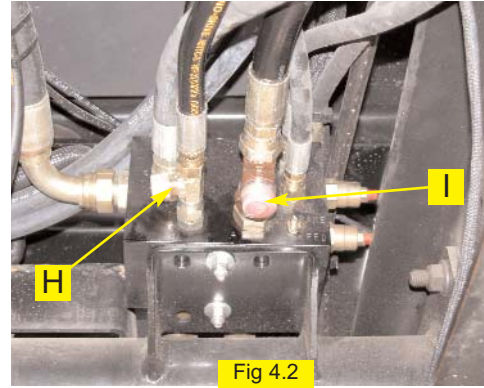
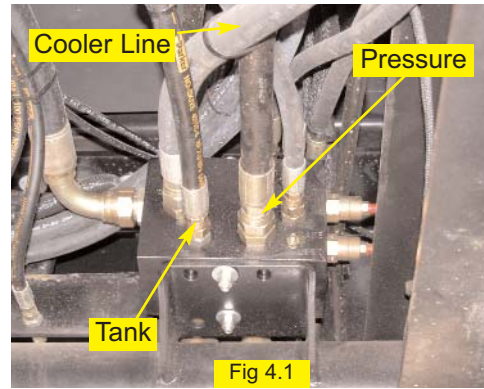
Install the hydraulic control block, as prepared in step 1, to the mounting bracket using the mounting hardware in group (**F**). Be sure the hydraulic control block is oriented with the **A** and **B** ports pointed toward the front of the machine, and tighten the mounting bolts securely. (Figure 3.1)



4. Install Pressure and Tank Fittings:

Locate the pressure and tank lines at the hydraulic junction block under the machine near the left side of the frame. (Figure 4.1) Install the run-tee fitting (I) into the large pressure line at the hydraulic junction block as shown. Install the run-tee fitting (H) into the smaller tank line at the hydraulic junction block as shown. (Figure 4.2) Use plastic caps to prevent excess leakage from the run-tees during installation.

Note: On some models the tank line may be located higher up on the hydraulic junction block. The tank line would be above the large cooler line on the left side of the block instead of below it. (Figure 4.3)

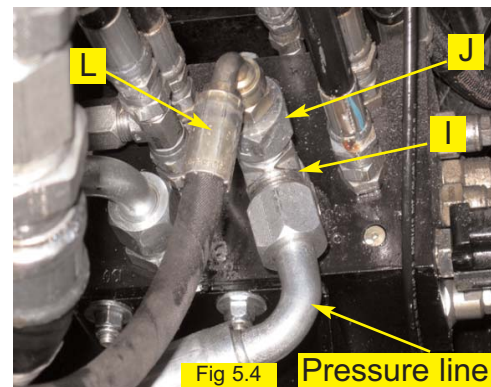
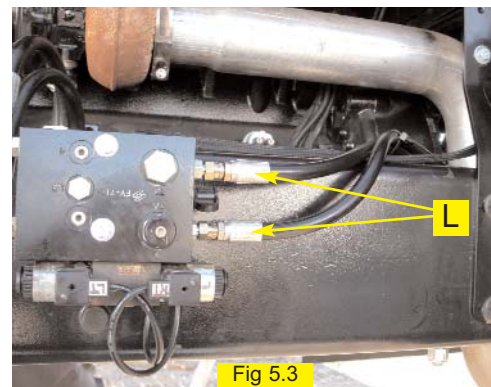
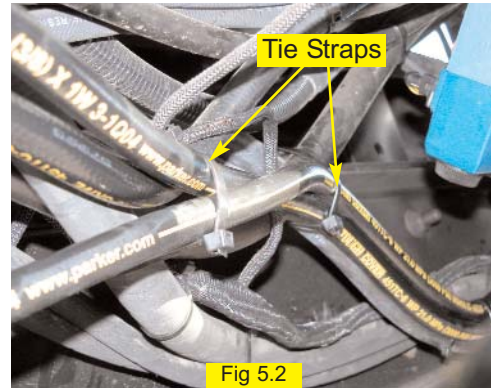
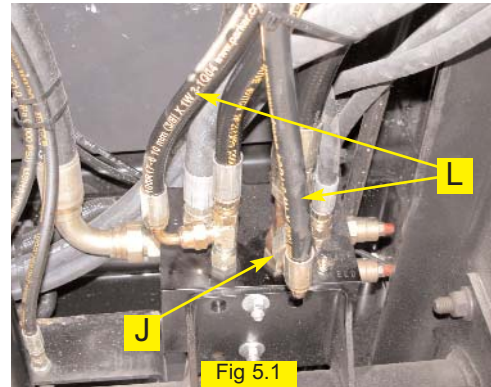


5. Install Steering Output Hoses:

Install the pressure and tank hoses (**L**) between the run-tees installed in step 4 and the **P** (pressure) and **T** (tank) ports of the hydraulic control block respectively. (Figure 5.1) Use the reducer fitting (**J**) to install the pressure hose to the large run-tee (**I**) at the hydraulic junction block. (Figure 5.1 and 5.3)

The hoses should be routed inside the sprayer frame along with other hydraulic plumbing. (Figure 5.2) Make sure all hoses are routed properly and free from entanglement. Use heavy tie straps (included) as needed.

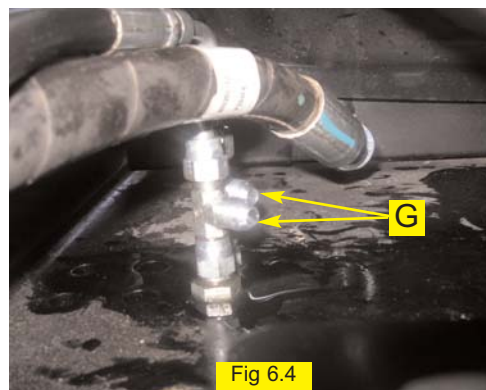
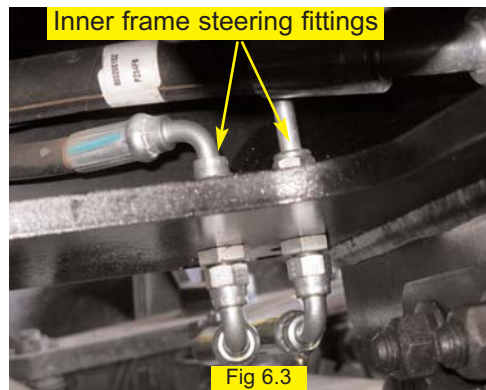
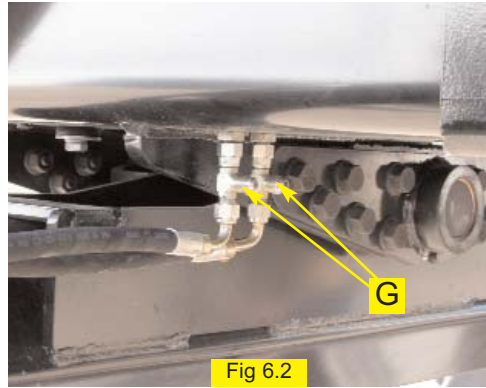
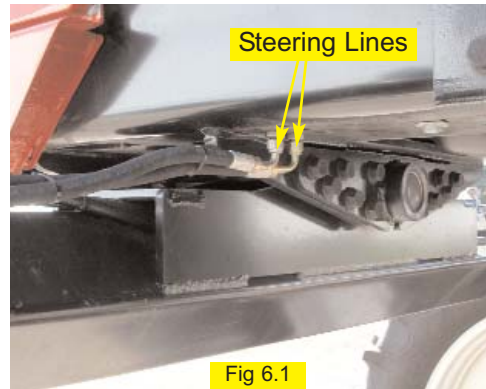
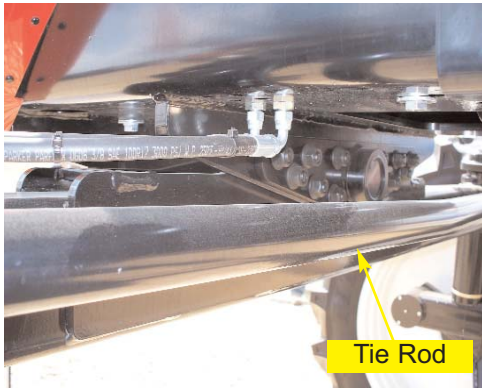
Note: On some models the pressure line at the hydraulic junction block will need to be routed to the branch of run-tee fitting (**I**). Loosen the fitting on the opposite end of the pressure line if needed. Use the reducer fitting (**J**) to install the pressure hose (**L**) on the end of the run-tee fitting (**I**). (Figure 5.4)



6. Install Steering Output Fittings:

Locate the steering lines on the left side of the sprayer frame near the front axle. (Figure 6.1) Install run-tee fittings (G) where the steering lines are attached to the frame. (Figure 6.2) Use plastic caps to prevent excess leakage from the run-tees during installation.

Note: Models equipped with a tie rod will use a different location for the steering lines. Locate the two steering lines on the left side of the sprayer frame near the front axle. Directly above the fittings on the outer frame will be a set of fittings on the inner frame. Install run-tee fittings (G) where the two steering lines are attached to the inner frame. (Figure 6.1, 6.3 and 6.4)

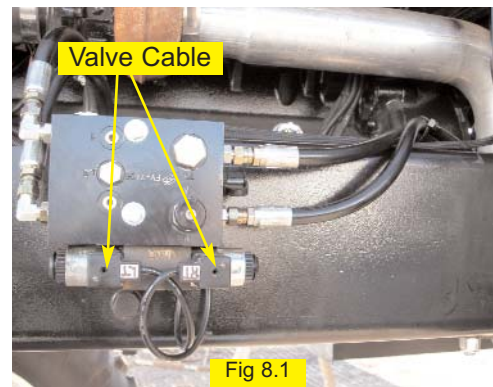
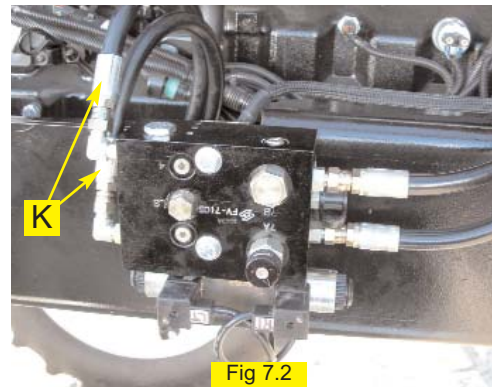
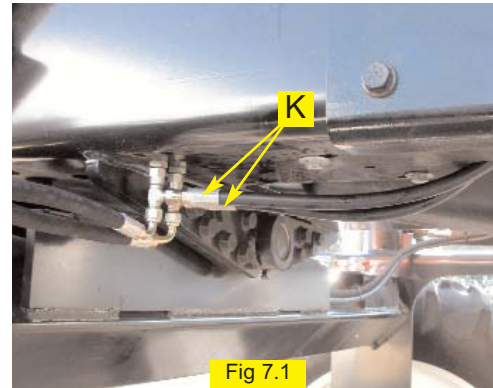
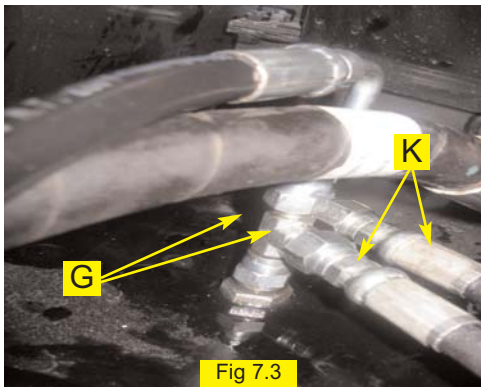


7. Install Steering Output Hoses:

Install the steering hoses (**K**) to the branches of the run-tees installed in step **6** and to the **A** and **B** ports of the hydraulic control block. (Figure 7.1 and 7.2)

The hoses should be routed inside the sprayer frame. Secure hoses with heavy tie straps (included).

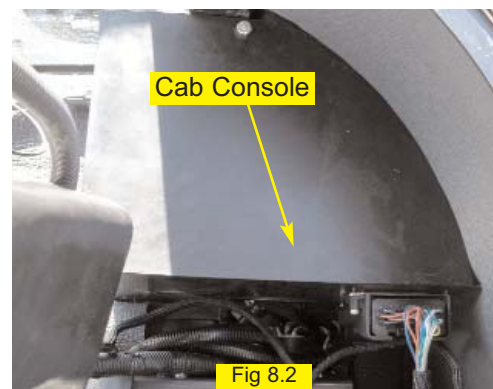
*Note: Models equipped with a tie rod will route steering hoses (**K**) from the **A** and **B** ports of the hydraulic control block to the branch of run-tee fittings (**G**) on the inner frame. (Figure 7.3)*



8. Install the Valve Control Cable:

Attach the hydraulic valve control cable to the hydraulic control block and route it back and under the sprayer cab. (Figure 8.1) The cable can be routed into the cab through a removable plate in the back right corner of the cab floor. The removable plate is located directly under the console in the back right corner of the cab. (Figure 8.2)

Be sure the cable is routed securely and free from entanglement. Use tie straps (included) as needed.



9. Verify Operation and Set Steering Control Rate:

Clean up 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.

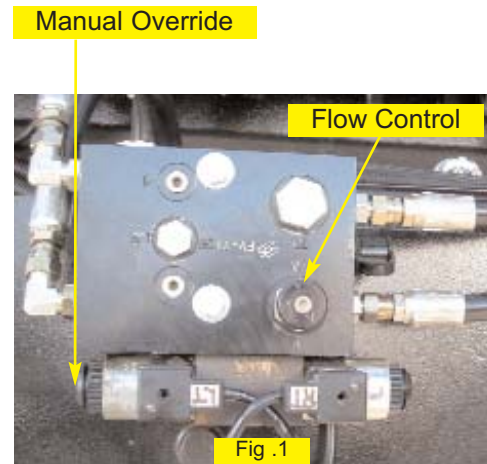
Adjust the hydraulic oil flow control knob to a starting position of **2 turns** from completely closed. To adjust the knob, lift and turn clockwise to reduce flow, counter-clockwise to increase flow.

The coils on the control block have manual push button overrides. Push either manual override to move the sprayer steering linkage all the way to one extreme. Count the number of seconds for the sprayer steering linkage to move all the way in the opposite direction while pressing the manual override of the other coil. (Figure 9.1)

Adjust the hydraulic oil flow control knob to achieve an end to end steering cycle time of approximately **14 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.