

Automated Steering Hydraulic Installation Kit

P/N: ED-AC1254-A

Fits Ag-Chem RoGator Model

1254

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 Ag-Chem RoGator model 1254 sprayer. Please read this manual thoroughly before beginning the installation.






Machine Preparation










Before attempting to install automated steering, park the machine 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	PHOTOGRAPH
A	760-0007	1	Assy, Hyd. Valve Block - OC/HF Low Range	
Bag #1 of 3 includes B, C & D				
B	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB	
C	760-2008	1	Adapter, Hyd. - #10maleJIC x #12maleORB	

Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION	PHOTOGRAPH
D	760-2009	1	Adapter, Hyd. 90 Elbow - #10maleJIC x #12maleORB	
E	640-0013	1	Bracket, Hyd. Block Mnt	
Bag #2 of 3 includes F				
F	675-2006	2	Bolt, 3/8NC x 3-3/4 Gr5 ZP	
	678-1054	2	Washer, Narrow Flat 3/8" ZP	
	676-1035	2	Nut, NyLock-3/8NC ZP	
Bag #3 of 3 includes G, H & I				
G	760-2077	1	Adapter, Hyd. Run Tee - #8 JIC	
H	760-2054	2	Adapter, Hyd. Run Tee - #6 JIC	
I	760-2078	1	Adapter, Hyd. 90 Elbow - #8maleJIC x #8femJICswiv	
J	760-1213	1	Hose, Hyd. - 1/2" x 14", #10femJICswiv x #8maleJIC	
K	760-1212	1	Hose, Hyd. - 1/2" x 21", #8femJICswiv x #10femJICswiv 90EL	
L	760-1037	1	Hose, Hyd. - 3/8" x 46", #6femJICswiv x #8femJICswiv 90EL	

Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION	PHOTOGRAPH
M	760-1036	2	Hose, Hyd. - 1/4" x 34", #6femJICswiv x #6femJICswiv 90EL	
N	051-0143	1	Cable, Valve Interface - 15 ft.	
O	677-2001	20	Tie Strap, 11" Heavy Duty	Not Shown
P	710-0053	1	Kit, Steering Wheel Switch	Not Shown

WARNINGS



ATTENTION:

READ this entire installation guide **before** beginning installation. Failure to comply with warnings in this guide can result in personal injury or damage to equipment, and will void all warranties.



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.



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.

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 Automated Steering Block:

Make sure the Automated Steering Block is clean and dust free. Remove the plastic plugs and install elbow adapters (**B**) in the **A**, **B**, and **T** ports. Install elbow adapter (**C**) in the **P** port and the straight adapter (**D**) in the **EF** port. (Figure 1.)

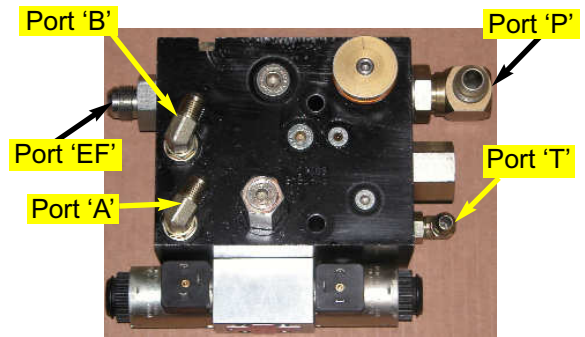


Figure 1. Automated Steering Block.

2. Install Mounting Bracket:

- a. Locate the three bolts on the left side of the machine frame behind the front axle. (Figure 2a.)

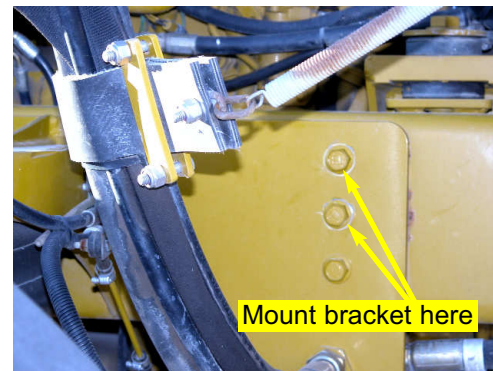


Figure 2a. Tractor mounting bracket location.

- b. Loosen the top two bolts and install the Automated Steering Block mounting bracket (**E**). Tighten the frame bolts to secure the mounting bracket. (Figure 2b.)

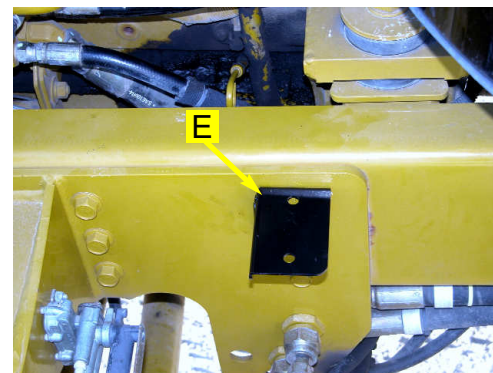


Figure 2b. Automated Steering Block mounting bracket (installed).

- c. Install the Automated Steering Block, as prepared in step 1, to the mounting bracket using the mounting hardware (**F**). Tighten the mounting bolts securely. (Figure 2c.)

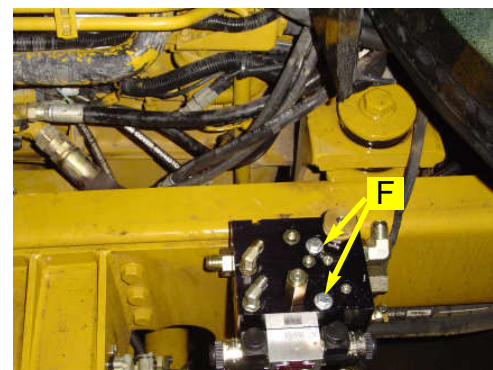


Figure 2c. Automated Steering Block (installed).

3. Locate the Pressure, Tank, and Excess Flow fittings/locations:

a. Locate the hydraulic pump on the left side of the engine. Pressure for the Automated Steering Block will be taken from the excess flow port on the pump. Excess flow from the Automated Steering Block will be relieved to the hose originally attached to the excess flow port of the pump. (Figure 3a.)

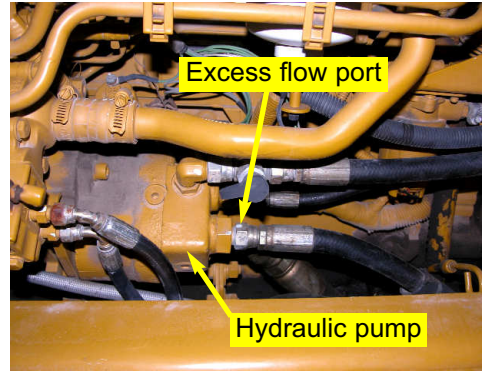


Figure 3a. Excess flow port and hydraulic pump.

b. Locate the steering orbital under the cab. The tank return for the Automated Steering Block will be relieved to the T port on the steering orbital. (Figure 3b.)

- b1. Locate the port stamped **T** on the top right side of the steering orbital. (Figure 3b.)
- b2. Remove the hose, install the provided run-tee (**G**), and reattach the hose to the end of the run-tee. (Figure 3c.)

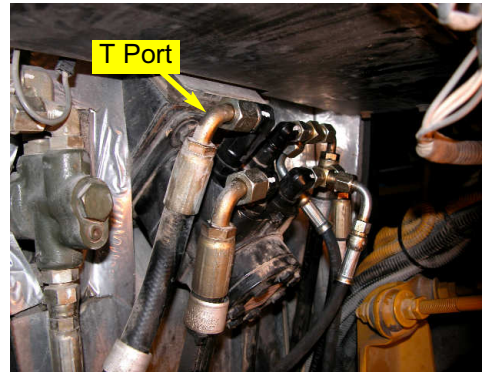


Figure 3b. Automated Steering system T Port.

NOTE: Leave the run-tee fittings (**G**) loose to allow for alignment when attaching hoses. (Figure 3c.)

NOTE: Plastic caps placed on the open ends of the fittings will prevent excessive leakage prior to hose installation. (Figure 3c.)

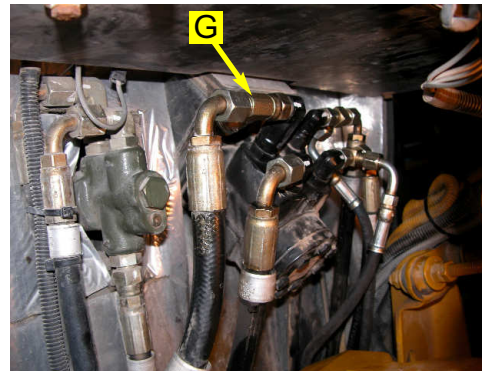


Figure 3c. Run-tee fittings.

4. Install Pressure, Tank, & Excess Flow Hoses:

- a. Route the provided tank hose (**L**) from the run-tee installed at the **T** (tank) port of the steering orbital to the **T** (tank) port of the Automated Steering Block. The hose end with the larger JIC elbow will attach to the branch of the run-tee. (Figure 4a.)

NOTE: The hose should be routed behind the engine and down to the Automated Steering Block. (Figure 4c.)

- b. Disconnect the hose from the excess flow port of the hydraulic pump and set it aside. (Figure 4b.)
- c. Attach the provided pressure hose (**K**) between the excess flow port on the pump and the **P** (pressure) port on the Automated Steering Block. The hose end with the elbow should attach at the Automated Steering Block. (Figure 4c.)

- d. Install the provided excess flow hose (**J**) at the **EF** (excess flow) port of the Automated Steering Block. Using the provided elbow adapter (**I**), connect the male end of the excess flow hose (**J**) to the hose removed from the hydraulic pump. (Figure 4c.)

NOTE: Make sure all hoses are routed properly and free from entanglement. Use heavy tie straps (included) as needed. Securely tighten all hydraulic hose fittings and adapters.



Figure 4a. Tank hose.

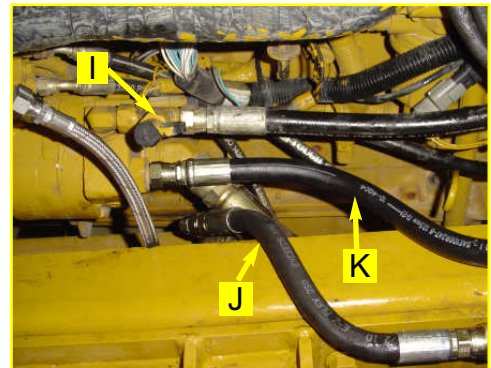


Figure 4b. Disconnect hose from excess flow port.

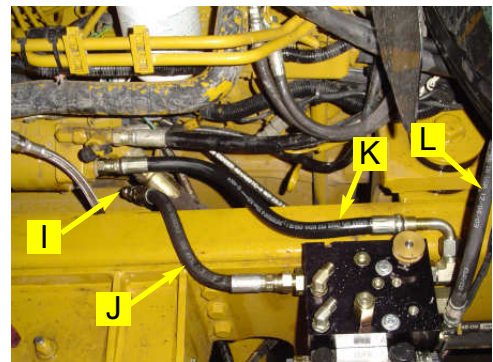


Figure 4c. Hydraulic hoses connected to Automated Steering Block.

5. Install Steering Output Fittings:

- a. Locate the steering output lines on the left side of the steering orbital. The ports on the orbital will be stamped **R** and **L** on the casting. (Figure 5a.)

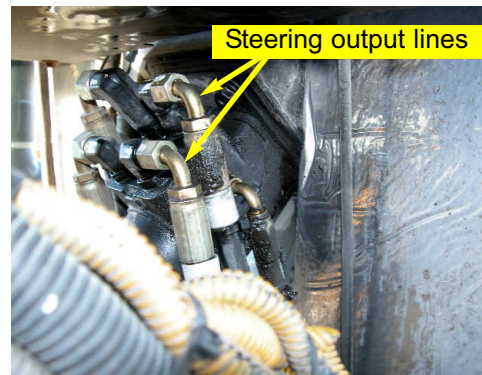


Figure 5a. Steering output lines.

- b. Install the provided run-tee fittings (**H**) onto both steering output ports of the steering orbital and reattach the steering hoses to the ends of the respective run-tee fittings. (Figure 5b.)

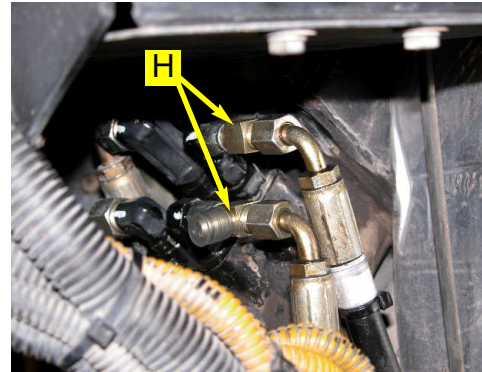


Figure 5b. Run-tee fitting.

NOTE:

Leave the run-tee fittings (**H**) loose to allow for alignment when attaching hoses.

Plastic caps placed on the open ends of the fittings will prevent excessive leakage prior to hose installation.

6. Install Steering Output Hoses:

- a. Route the provided steering output hoses (**M**) from the **A** and **B** ports of the Automated Steering Block to the run-tee fittings (**H**) on the steering orbital. The hose end with the elbow will attach to the branch of the run tee. (Figure 6a. and 6b.)

NOTE:

Make sure all hoses are routed properly and free from entanglement. Use heavy tie straps (included) as needed. Securely tighten all hydraulic hose fittings and adapters.

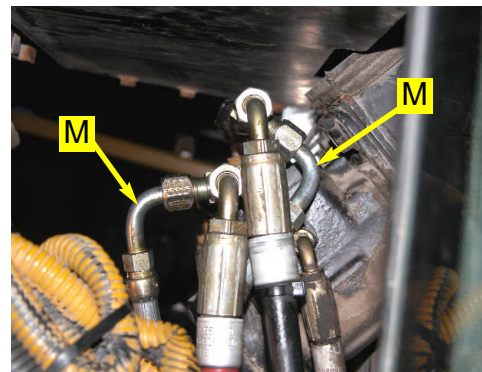


Figure 6a. Steering output hoses.

- b. Tighten all hoses and fittings.

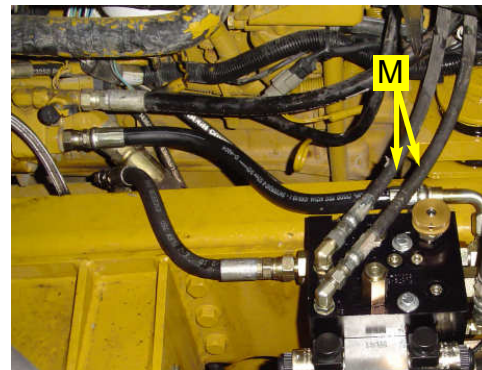


Figure 6b. Hoses routed properly.

7. Install the Valve Control:

- a. Remove the shield from the right side of the cab and route the Automated Steering valve cable (N) into the cab. (Figure 7a.)
- b. Route the DIN connectors underneath the cab and over the Automated Steering Block. (Figure 7b.)
- c. Connect DIN connectors to Automated Steering Block.

NOTE: Remove enough slack out of the cable to prevent entanglement with moving machine parts. Use tie straps as needed. (Figure 7c. and Figure 7d.)

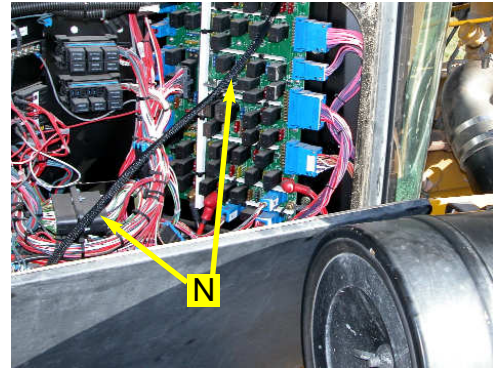


Figure 7a. Valve cable on side of cab.

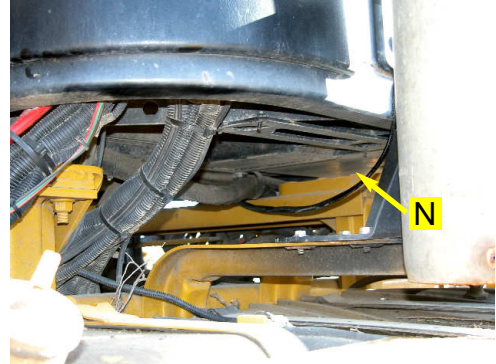


Figure 7b. Valve cable routed under the cab.

Valve cable routed with Automated Steering Hoses

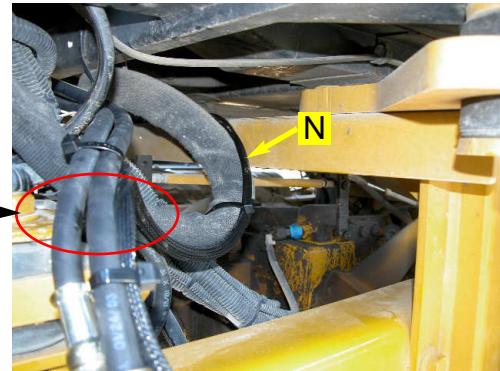


Figure 7c. Valve cable routed to with hoses.

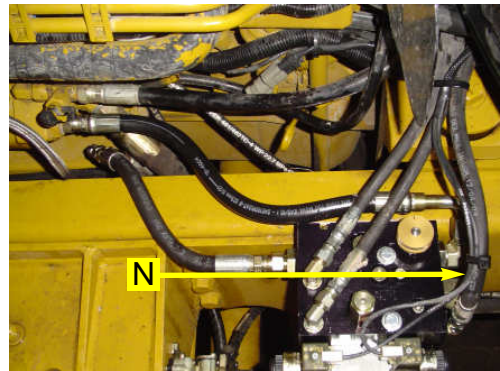


Figure 7d. Valve cable connected to Automated Steering Block.

8. Verify Operation and Set Steering Control Rate:

- a. Clean up the installation area around the machine and make certain that it is safe to operate.



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.

- b. Start the machine and check hydraulic connections for any leaks.
- c. Rotate the steering wheel from one extreme to the other, and back.
- d. Adjust the Automated Steering oil flow control knob to a starting position of **2 turns** from completely closed. To adjust the knob:
 - Turn clockwise to reduce flow
 - Turn counter-clockwise to increase flow.(Figure 9.)
- e. Tighten the knurled locking nut against the cartridge face to maintain the desired setting. (Figure 9.)
- f. Push either manual override to move the machine steering wheels all the way to one extreme.

NOTE:

The coils on the Automated Steering Block have manual push button overrides. 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.

- g. Count the number of seconds for the wheels to move all the way in the opposite direction while pressing the manual override of the other coil. (Figure 9.)
- h. Adjust the Automated Steering oil flow control knob to achieve an end-to-end steering cycle time of approximately **14 seconds**. (Figure 9.)

9. Complete Automated Steering Electronic Installation and Setup:

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

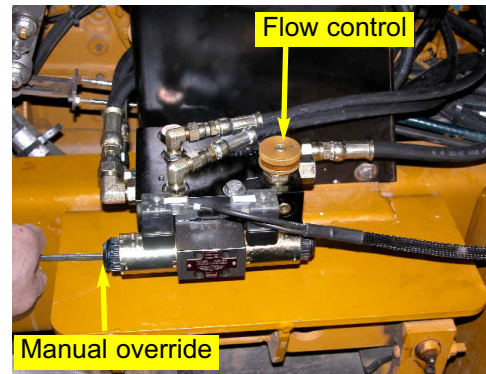


Figure 9. Manual override and flow control valve.

