Automated Steering Hydraulic Installation Kit

P/N: ED-MF6400

Fits AGCO Tractor Models:

Massey Ferguson

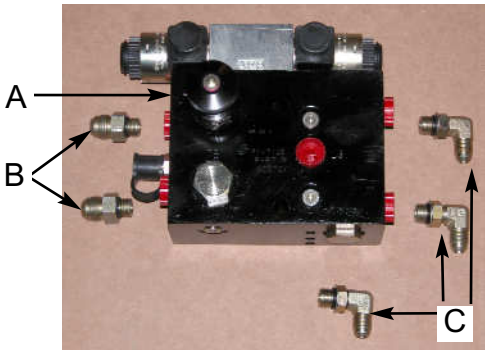
6465	6485	RT100	RT120
6475	6490	RT135	RT150
6480	6495		

Challenger

MT525B	MT555B
MT535B	MT565B
MT545B	

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 ACGO tractor models listed above. Please read this manual thoroughly before beginning the installation.



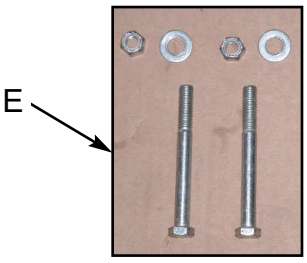
Tractor Preparation

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

Kit Contents

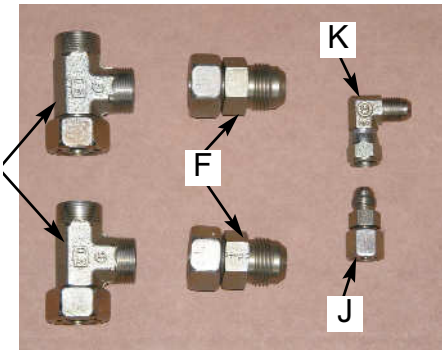
Unpack the installation kit and identify the required parts as shown.

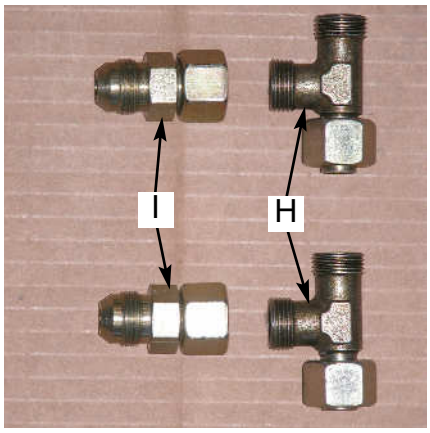
REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
	Bag #1 of 3 includes B & C		
B	760-2073	2	Adapter, Hyd. - #8maleJIC x #6maleORB
C	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
D	640-0015	1	Hyd. Block Mnt, JD4700/SPX4410
	Bag #2 of 3 includes E		
E	675-2005	2	Bolt - 3/8NC x 3-1/4" Gr5, ZP
	678-1054	2	Washer, Narrow Flat - 3/4”OD x 13/32”ID x 1/16thk ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP

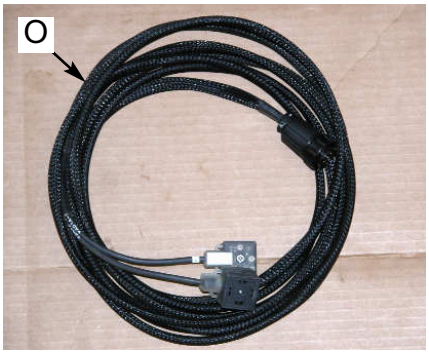


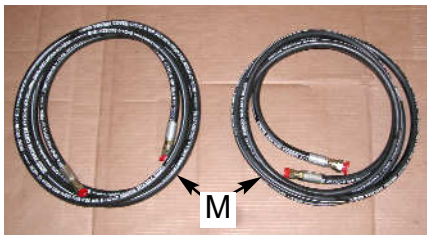
Kit Contents (cont.)

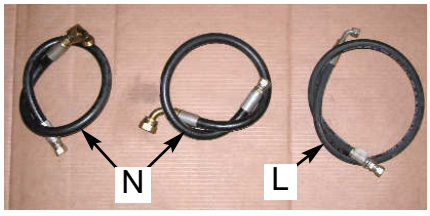
REF	P/N	QTY	DESCRIPTION
	Bag #3 of 3 includes F, G, H, I, J, & K		
F	760-2021	2	Adapter, Hyd. - #12mJIC x #18L EO
G	760-2028	2	Adapter, Hyd. Run Tee - #18L EO
H	760-2013	2	Adapter, Hyd. Run Tee - #12L EO
I	760-2072	2	Adapter, Hyd. - #8mJIC x #12L EO
J	760-2051	1	Adapter, Hyd. - #6mJIC x #10L EO
K	760-2055	1	Adapter, Hyd. - #6mJIC x #6femJICswiv90EL
L	760-1063	1	Hose, Hyd. - 1/4" x 39", #6femJICswiv x #6femJICswiv90EL
M	760-1167	2	Hose, Hyd. - 3/8x158”, #6fJS x #8fJS
N	760-1168	2	Hose, Hyd. - 1/2x34”, #8fJS x #12fJS90
O	051-0144	1	Cable, 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.

INSTALLATION

1. Prepare Hydraulic Control Block:

Make sure the hydraulic control block is clean and dust free. Remove the plastic plugs and install the elbow adapters **(C)** in the **LS**, **A,** and **B** ports. Install the straight adapters **(B)** in the **P** and **T** ports of the hydraulic control block. (Figure 3.1)

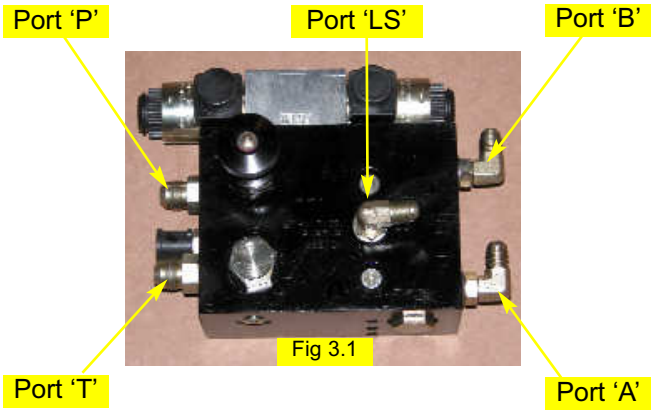


Fig 3.1

2. Install Mounting Bracket:

Locate the two bolts on top of the hydraulic valve stack at the rear of the tractor. (Figure 3.2) Remove the bolts and install the bracket **(D)** using the original bolts as shown. (Figure 3.3)

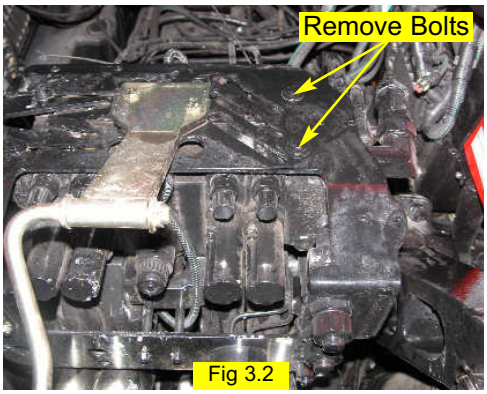


Fig 3.2

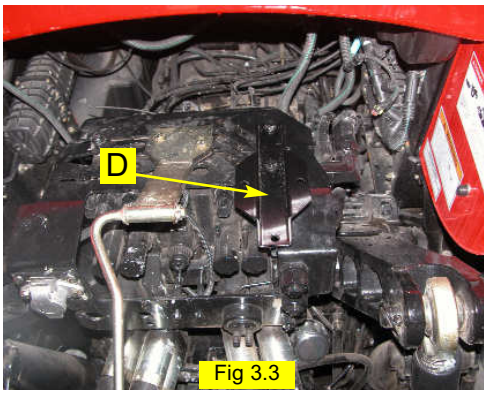


Fig 3.3

3. Install Hydraulic Control Block:

Using the provided hardware in group **(E)**, mount the hydraulic control block to the bracket as shown. (Figure 3.4)

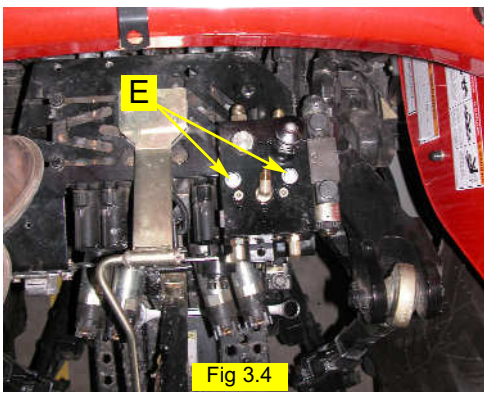


Fig 3.4

4. Install Pressure and Tank Fittings:

Locate the three capped ports near the valve stack at the rear of the tractor. These ports will provide the pressure, tank, and load sense connections for the hydraulic control block. (Figure 4.1)

The top port is the pressure port, the second port is the tank return, and the small port is the load sense port. Install the provided run-tees **(G)** to the pressure and tank ports and reinstall the caps to the ends of the run-tees. Install the adapter fittings **(F)** onto the branches of the run-tees to allow for hose installation. Install the adapter fittings **(J** and **K)** to the load sense port as shown. (Figure 4.2)

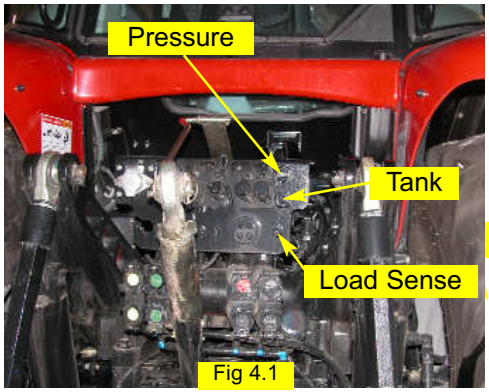


Fig 4.1

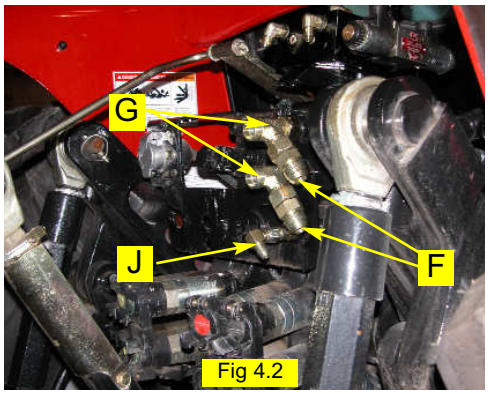


Fig 4.2

5. Install Pressure, Tank, and Load Sense Hoses:

Route the pressure and tank hoses **(N)** from the respective ports on the tractor to the **P** and **T** ports on the hydraulic control block. (Figure 4.3) The pressure port should be connected to the **P** port and the tank port should be connected to the hydraulic **T** port. (Figure 4.4)

Install the load sense hose **(L)** between the tractor load sense port and the **LS** port of the hydraulic control block. (Figure 4.3 and 4.5)

Route all hoses, free from entanglement, and secure with heavy tie straps (provided).

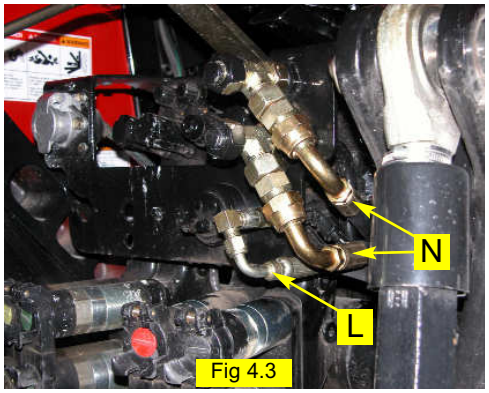


Fig 4.3


Fig 4.4

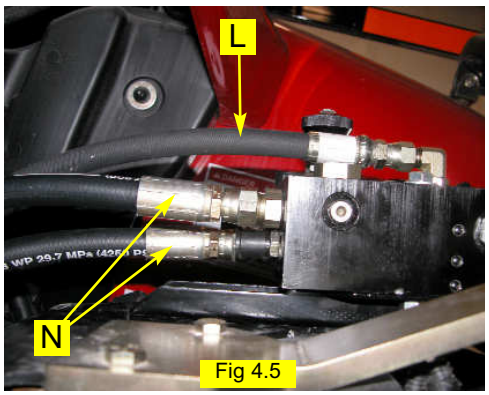


Fig 4.5

6. Install Steering Output Fittings:

Locate the tractor steering lines at the steering cylinder on the front axle. (Figure 5.1) Install run-tee fittings **(H)** provided where the steering lines connect to the cylinder as shown. Install the adapter fittings **(I)** to the branches of the run-tees to allow for hose installation. (Figure 5.3 and 5.4) Leave run-tee fittings 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.

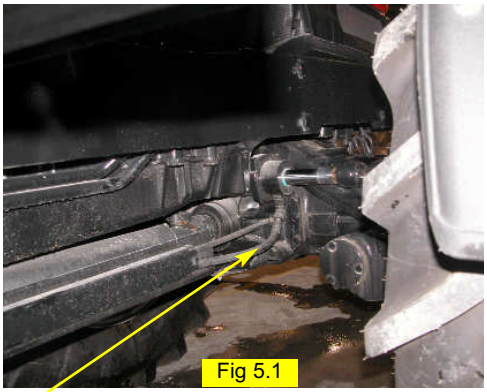


Fig 5.1

Steering Lines

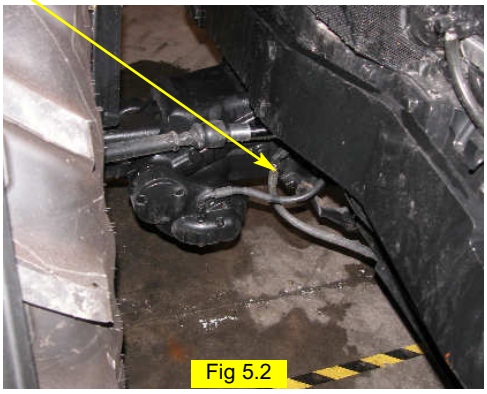


Fig 5.2

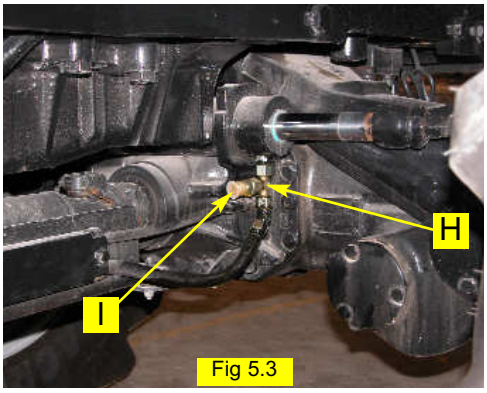


Fig 5.3

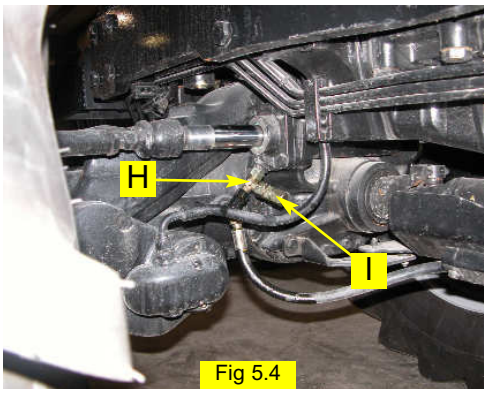


Fig 5.4

7. Install Steering Output Hoses:

Connect the ends of the steering output hoses **(M)** to the run-tee fittings installed in step **6**. (The hose ends with the larger JIC fittings connect to the run-tees. The hose ends with the smaller JIC fitting will connect to the hydraulic control block.) (Figure 6.1and 6.2)

Route the steering hoses back with the tractor steering lines then under the tractor cab and back to the hydraulic control block. (Figure 6.3 and 6.4) The hoses should be secured with heavy tie straps (provided) to other tractor plumbing. Connect the steering hoses to the **A** and **B** ports of the hydraulic control block as shown. (Figure 6.5)

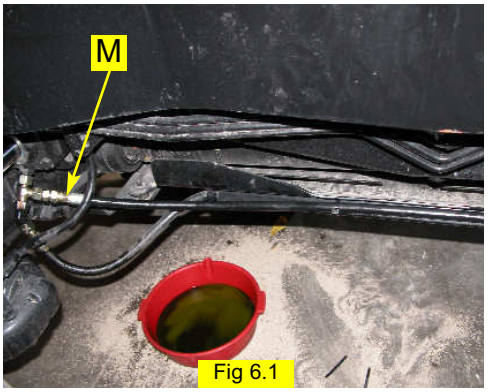


Fig 6.1

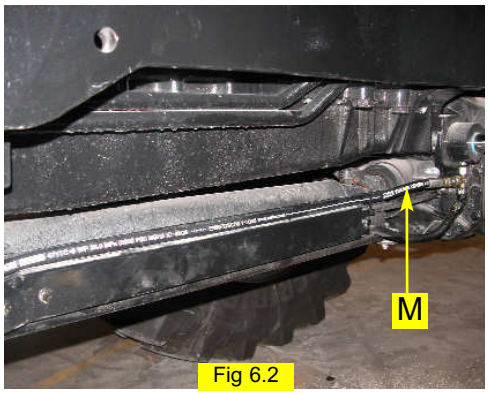


Fig 6.2

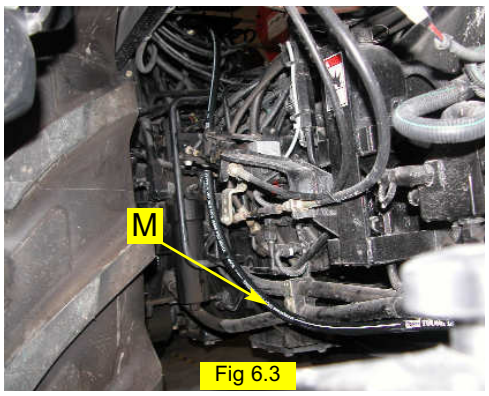


Fig 6.3

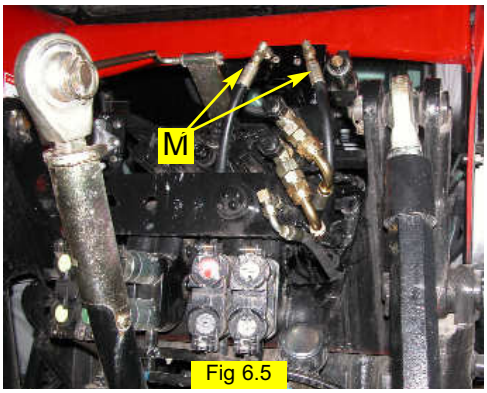


Fig 6.5

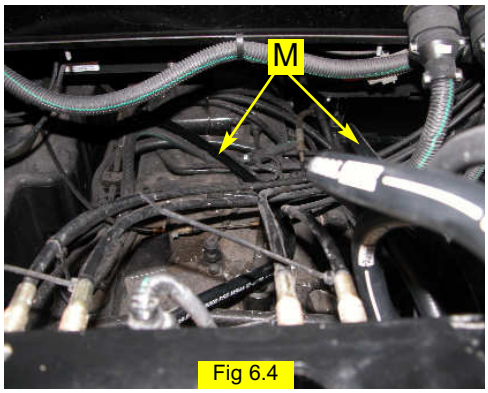


Fig 6.4

8. Install the Valve Control Cable:

Route the valve control cable **(O)** through the cable grommet in the tractor window seal. Route the DIN connectors down to the hydraulic control block and attach as shown. (Figure 7.1)

Remove enough slack out of the cable to prevent entanglement with tractor moving parts. Use tie straps as needed.

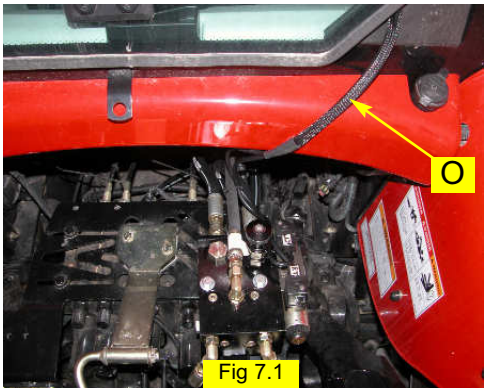


Fig 7.1

9. Verify Operation and Set Steering Control Rate:

Cleanup the installation area around the machine and make certain that it is safe to operate. Start the machine 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 1/2 turns** from completely closed. To adjust the knob, lift and turn clockwise to reduce flow, counterclockwise to increase flow.

The coils on the control block have manual push button overrides. Push either manual override to move the tractor wheels all the way to one extreme. Count the number of seconds for the tractor wheels to move all the way in the opposite direction while pressing the manual override of the other coil. (Figure 7.2)

Adjust the hydraulic oil flow control to achieve an end to end steering cycle time of approximately **16 seconds**.

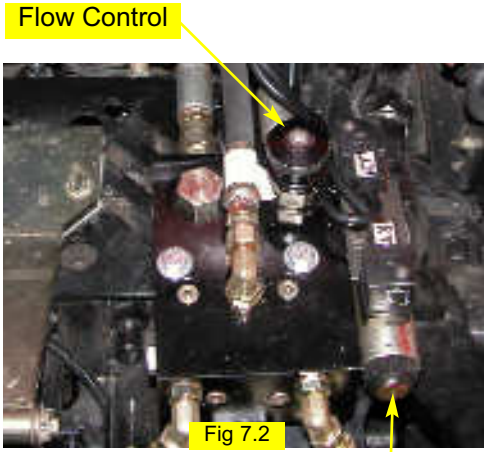


Fig 7.2

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.*

10. Complete Electronic Installation and Setup:

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

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.