Automated Steering Hydraulic Installation Kit

P/N: ED-C1688

Fits Case IH Combine Models:

1666
1688

Overview

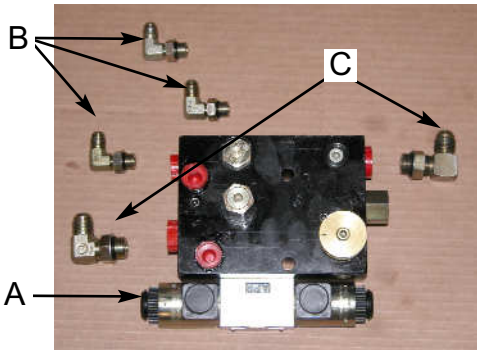
A series of equipment-specific hydraulic installation kits has been developed to work in conjunction with your automated steering system. This kit contains the necessary components and instructions to install automated steering hydraulics on the Case IH 1688 and 1666 combines. Please read this manual thoroughly before beginning the installation.

Machine Preparation

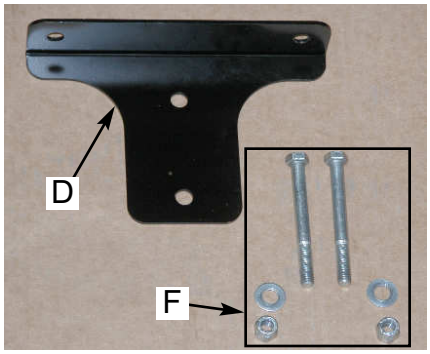
Before attempting to install hydraulics, park the combine on a clean level floor with adequate clearance to work all around.

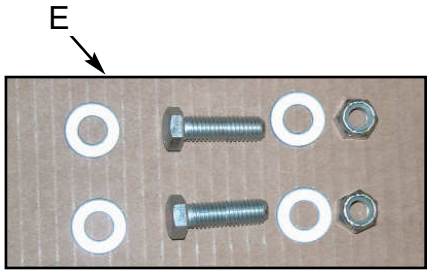
Kit Contents

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



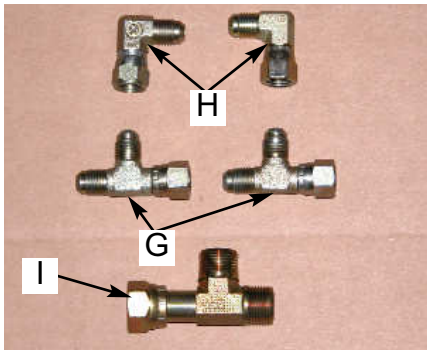
REF	P/N	QTY	DESCRIPTION
A	760-0005	1	Assy, Hyd. Valve Block - OC
	Bag #1 of 3 includes B & C		
B	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
C	760-2080	2	Adapter, Hyd. 90 Elbow - #8maleJIC x #8maleORB
D	640-0027	1	Hyd. Block Mount - CaseIH 2388/2366
	Bag #2 of 3 includes E & F		
E	675-2004	2	Bolt, 3/8NC x 1-1/4 Gr5 ZP
	678-1054	4	Washer, Narrow Flat - 3/4"OD x 13/32”ID x 1/16”thk ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP
F	675-2005	2	Bolt - 3/8NC x 3-1/4" Gr5, ZP
	678-1054	2	Washer, Narrow Flat - 3/8" ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP

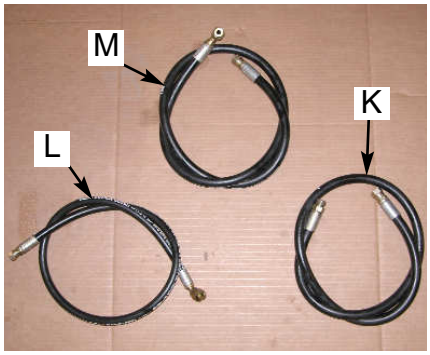


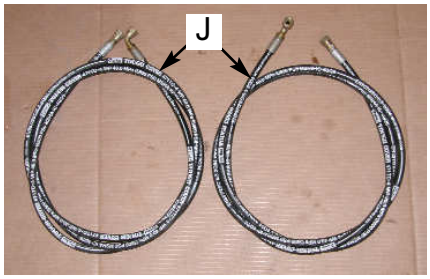


Kit Contents (cont.)

REF	P/N	QTY	DESCRIPTION
	Bag #3 of 3 includes G, H, & I		
G	760-2054	2	Adapter, Hyd. Run Tee - #6 JIC
H	760-2055	2	Adapter, Hyd. 90 Elbow - #6maleJIC x #6femJIC
I	760-2069	1	Adapter, Hyd. Run Tee - #8 ORFF
J	760-1082	2	Hose, Hyd. - 1/4" x 116", #6femJICswiv x #6femJICswiv90EL
K	760-1161	1	Hose, Hyd. - 1/2x32, #8fJS x #8mORFF
L	760-1024	1	Hose, Hyd. - 3/8" x 52", #6femJICswiv x #8femORFFswiv90EL
M	760-1162	1	Hose, Hyd. - 1/2x41, #8fJS x #8fORFS90
N	051-0144	1	Cable, Hyd. 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 **(B)** in the **T**, **A** and **B** ports. Install the larger elbows **(C)** in the **P** and **EF** ports of the hydraulic control block. (Figure 3.1)

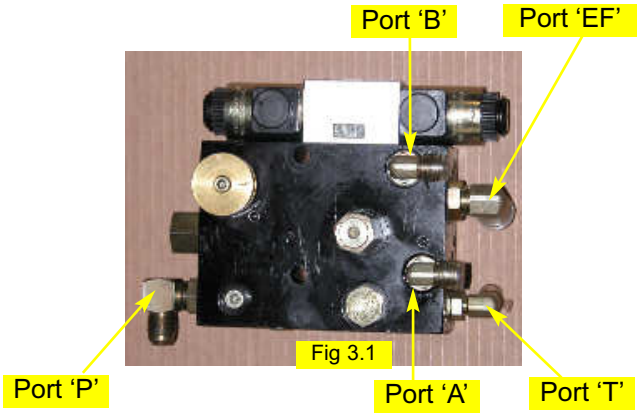


Fig 3.1

2. Mount Hydraulic Control Block:

Install the hydraulic block mounting bracket **(D)** to the support member under the left side of the cab using the existing holes and the hardware provided in group **(E)**. (Figure 3.2 and 3.3)

Use the provided mounting hardware in group **(F)** to attach the prepared hydraulic control block to the mounting bracket in the orientation shown. (Figure 3.4)

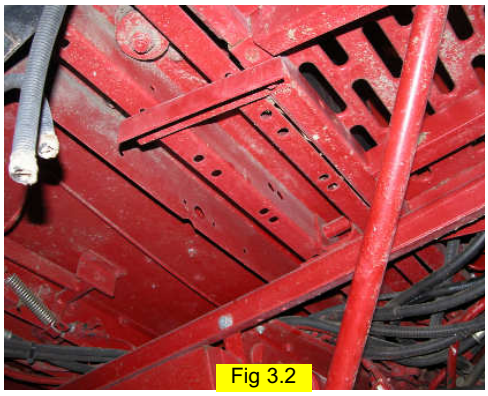


Fig 3.2

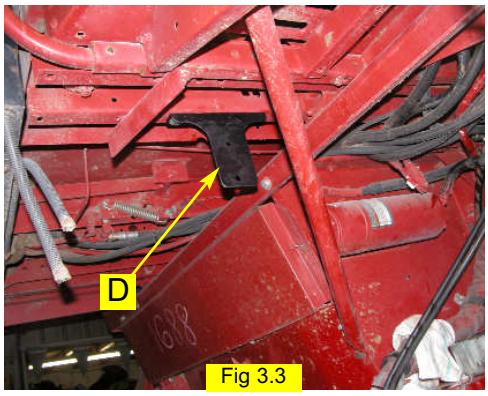


Fig 3.3

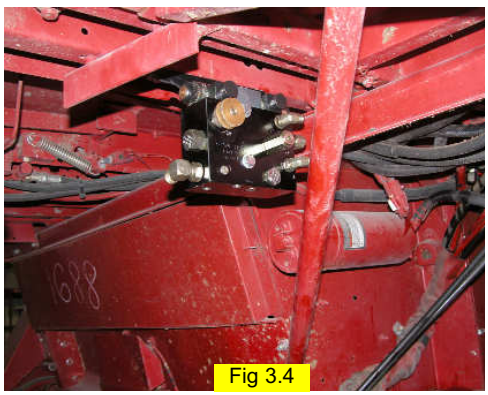


Fig 3.4

3. Pressure, Tank, and Excess Flow Connection Locations:

The hydraulic control block will receive pressure from the return flow from the combine steering orbital before it enters the clutch valve under the cab. Excess flow from the hydraulic control block will be connected to supply flow to the clutch valve. (Figure 4.1)

Tank flow from hydraulic control block will be returned to the return oil manifold on the left side of the machine as shown. (Figure 4.2) Install the provided run-tee **(I)** to the capped port on the return oil manifold and reinstall the cap to the end of the run-tee.

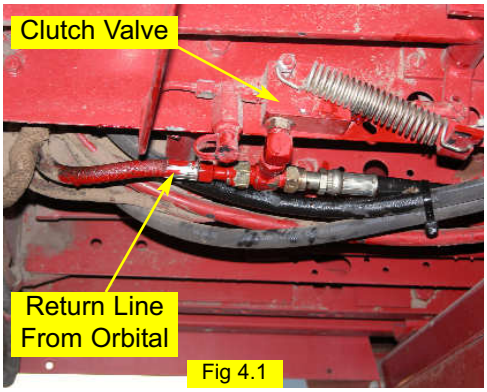


Fig 4.1

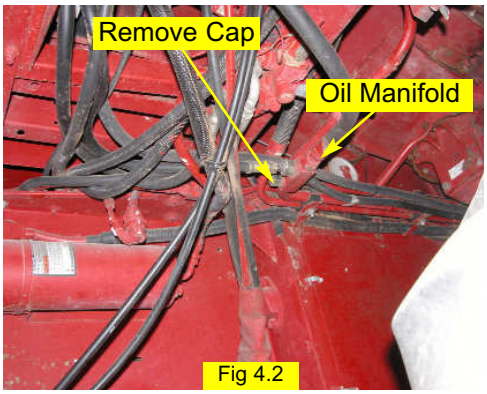


Fig 4.2

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

Install the provided tank hose **(L)** between the **T** port of the hydraulic control block and the branch of the run-tee **(I)** installed in step **3**. (Figure 4.3 and 5.1)

Remove the line from the front of the combine clutch valve and connect it to the hydraulic pressure hose **(K)**. Connect the pressure hose **(K)** to the **P** port of the hydraulic control block. Install the excess-flow hose **(M)** between the **EF** port of the hydraulic control block and the open port on the combine clutch valve. (Figure 4.4 and 5.1)

Use the heavy tie-straps provided to secure the hoses to the machine frame and away from moving parts. Tighten all hydraulic connections securely to prevent leaks. (Figure 5.2)

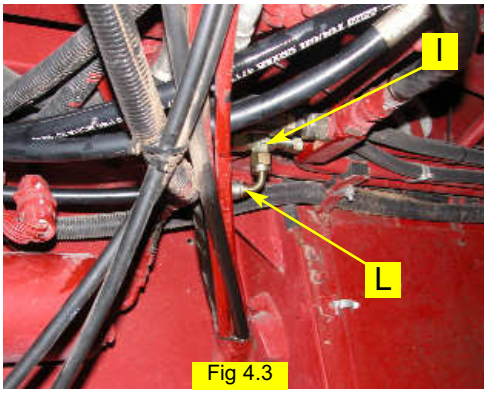


Fig 4.3

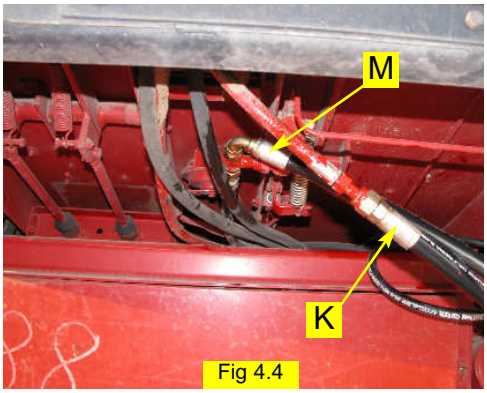


Fig 4.4

4. Continued ...

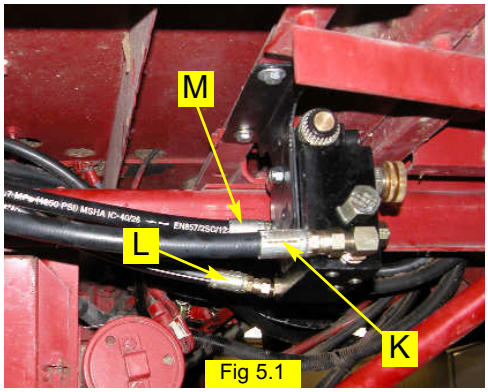


Fig 5.1


Fig 5.2

5. Install Steering Output Fittings:

Locate the steering lines on the left side of the machine inside the frame near the hydrostatic drive. (Figure 5.3 and 5.4) Install the provided run-tees **(G)** into the steering lines as shown. (Figure 5.5) Use plastic caps to prevent excess leakage from the open run-tee ports.


Fig 5.3

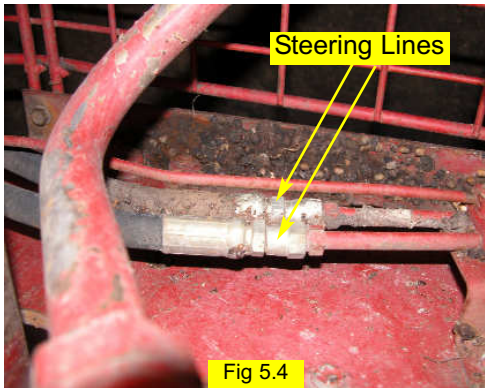


Fig 5.4

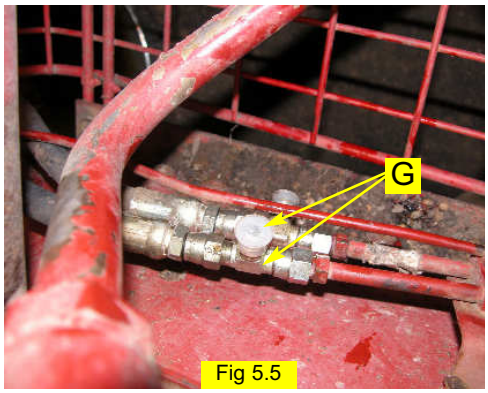


Fig 5.5

6. Install Steering Output Hoses:

Install the provided steering output hoses **(J)** between the run-tees **(G)** installed in step **5** and the **A** and **B** ports of the hydraulic control block. Attach hose ends equipped with 90-degree elbows to the hydraulic control block. Use the 90-degree adapters **(H)** to attach the straight hose ends to the branches of the run-tees. (Figure 6.1and 6.2) Route hoses with other machine plumbing as shown. Use the heavy tie-straps provided to secure the hoses away from moving parts. (Figure 6.3 and 6.4)

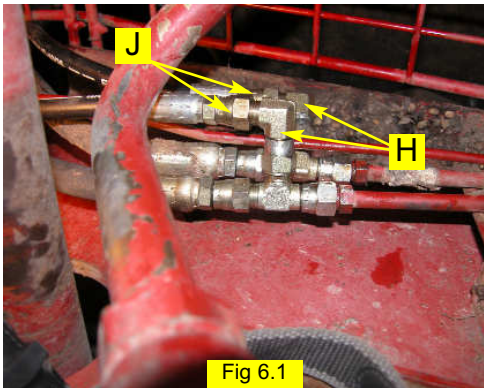


Fig 6.1

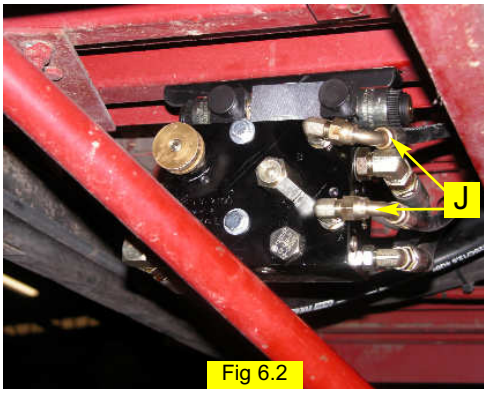


Fig 6.2

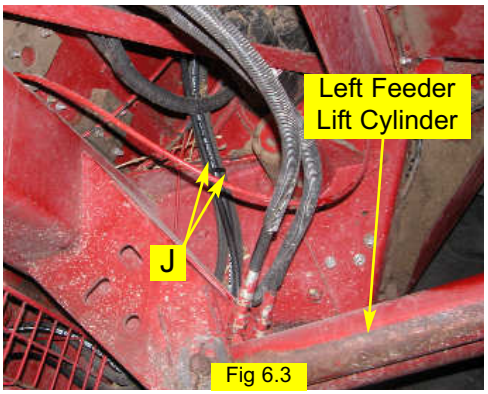


Fig 6.3

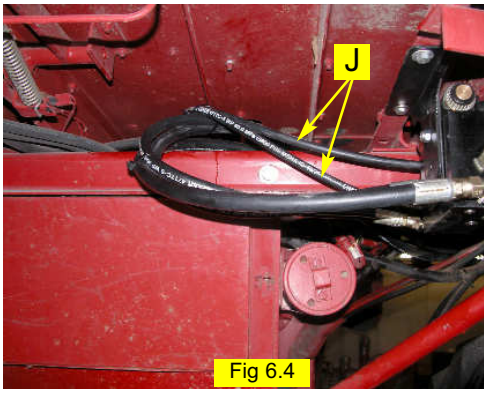


Fig 6.4

7. Install the Valve Control Cable:

Install the hydraulic valve control cable **(N)** at the hydraulic control block by attaching the DIN connectors to the coil. Route the cable into the cab through the door seal. Secure the cable using the provided tie straps as necessary. (Figure 7.1)

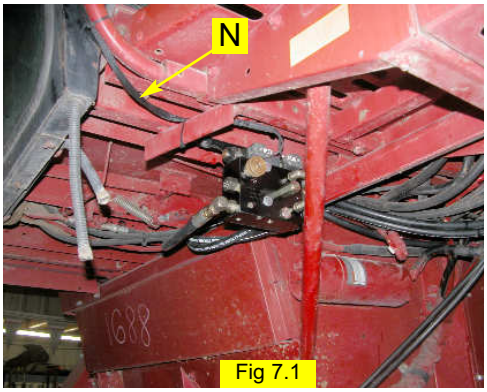


Fig 7.1

8. 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 combine 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, 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 tractor wheels all the way to one extreme. 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 7.2)

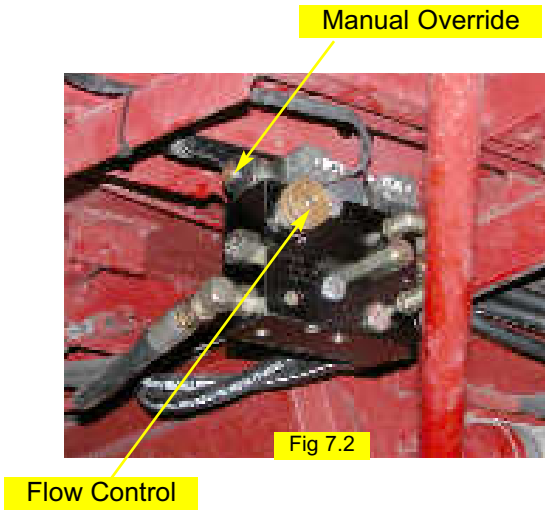


Fig 7.2

Adjust the hydraulic oil flow control to achieve an end to end steering cycle time of approximately **14 seconds**. Use the knurled locking nut to secure the final flow control setting.

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.*

9. Complete Electronic Installation and Setup:

Refer to the owner's manual supplied with 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.