Automated Steering Hydraulic Installation Kit

P/N: ED-NHCR

Fits New Holland Combine Models:

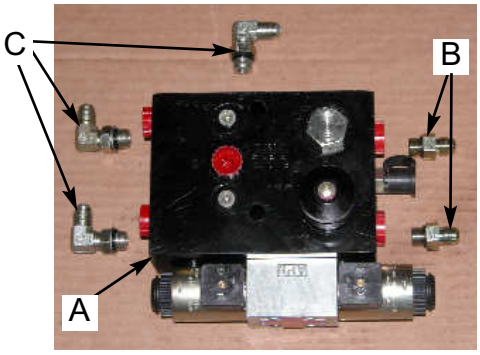
CR940	***CX840***
CR960	***CX860***
CR970	***CX880***

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 New Holland combines listed above. Please read this manual thoroughly before beginning the installation.

Combine Preparation

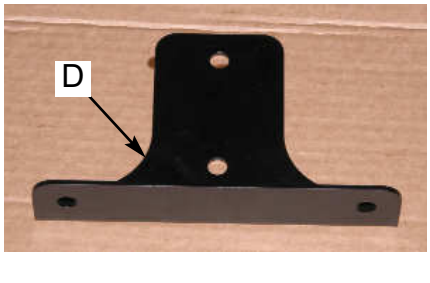
Before attempting to install hydraulics, park the combine on a clean level floor with adequate clearance to work all around.

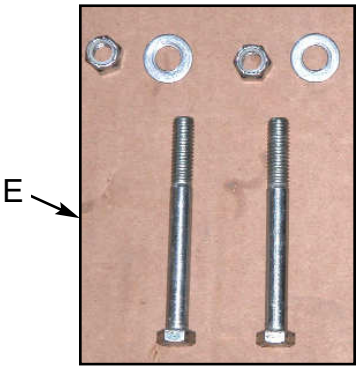


Kit Contents

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

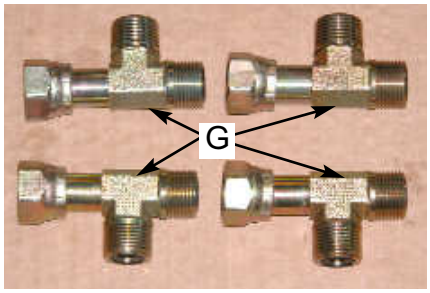
REF	P/N	QTY	DESCRIPTION
A	760-0003	1	Assy, Hyd. Valve Block - LS
	Bag #1 of 4 includes B & C		
B	760-2056	2	Adapter, Hyd. - #6maleJIC x #6maleORB
C	760-2058	3	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
D	640-0041	1	Hyd. Block Mnt-NH CR/CX Combines
	Bag #2 of 4 includes E		
E	675-2005	2	Bolt - 3/8NC x 3-1/4" Gr5, ZP
	678-1054	2	Washer, Narrow Flat - 3/4"OD x 13/32”ID x 1/16”thk ZP
	676-1035	2	Nut, NyLock - 3/8NC ZP

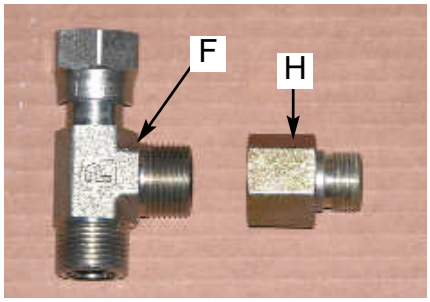


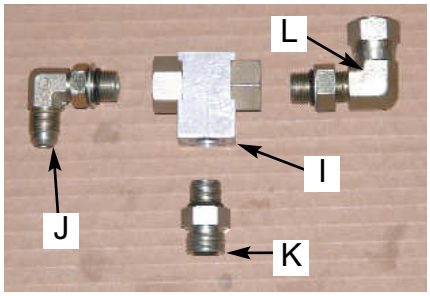


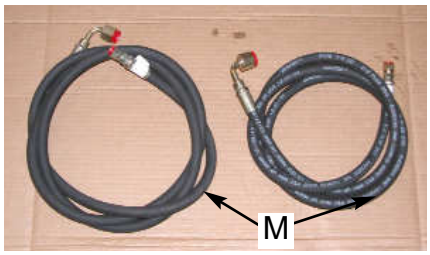
Kit Contents (cont.)

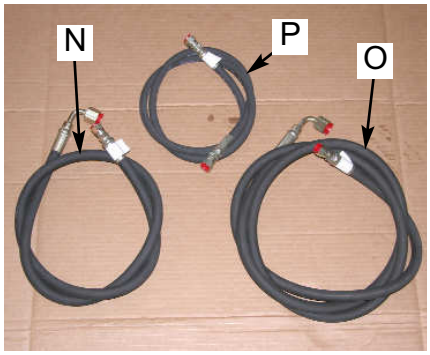
REF	P/N	QTY	DESCRIPTION
	Bag #3 of 4 includes F, G, & H		
F	760-2004	1	Adapter, Hyd. Run Tee - #10 ORFF
G	760-2069	4	Adapter, Hyd. Run Tee - #8 ORFF
H	760-2001	1	Adapter, Hyd. - #10femORFF x #8maleORFF
	Bag #4 of 4 includes I, J, K, & L		
I	760-0002	1	Hyd. Load Shuttle - #6femORB
J	760-2058	1	Adapter, Hyd. 90 Elbow - #6maleJIC x #6maleORB
K	760-2048	1	Adapter, Hyd. - #6maleORFF x #6maleORB
L	760-2040	1	Adapter, Hyd. 90 Elbow - #6maleORB x #6femORFswiv
M	760-1085	2	Hose, Hyd. - 3/8" x 86", #6femJICswiv x #8femORFswiv90EL
N	760-1023	1	Hose, Hyd. - 3/8" x 58", #6femJICswiv x #8femORFswiv90EL
O	760-1021	1	Hose, Hyd. - 3/8" x 75", #6femJICswiv x #8femORFswiv90EL
P	760-1067	1	Hose, Hyd. - 1/4" x 60", #6femJICswivel both ends
Q	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 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. (Figure 3.1)

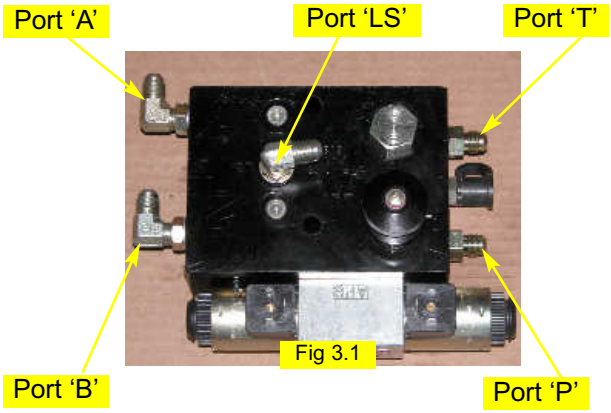


Fig 3.1

2. Install Mounting Bracket:

Locate the outer ladder adjustment bolts, below the entrance step, on the left side of the combine. (Figure 3.2) Remove the two ladder adjustment bolts and install the hydraulic mounting bracket **(D)**, inside the ladder support, using the existing bolts as shown. (Figure 3.3)

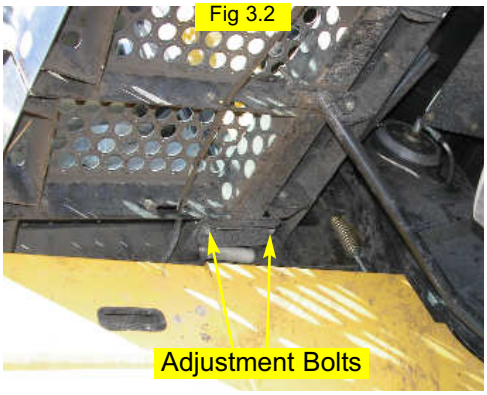


Fig 3.2

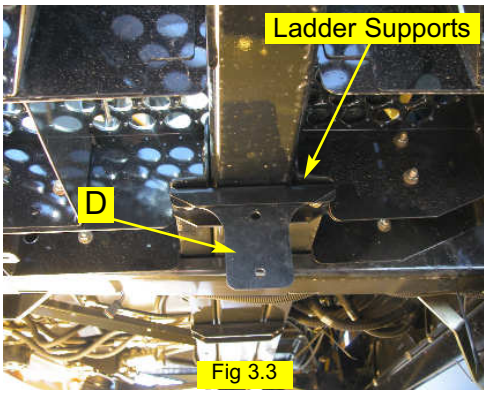


Fig 3.3

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)

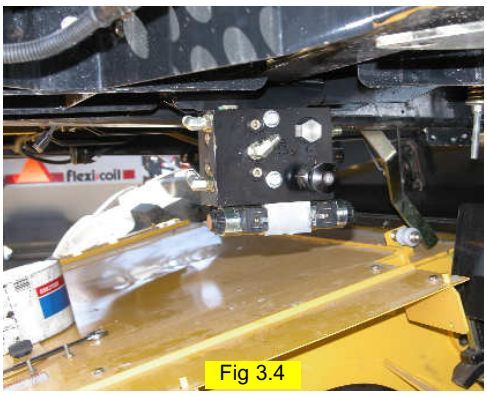


Fig 3.4

4. Install Pressure and Tank Fittings:

Pressure for the hydraulic control block will be provided by the hydraulic valve on the left side of the feeder house. (Figure 4.1) Remove the pressure line and install the run-tee **(G)**. Reattach the hose to the end of the run-tee. (Figure 4.3)

The New Holland CX combines will need the larger run-tee **(F)** installed ahead of the quick coupler, and the reducer fitting **(H)** installed on the branch of the run-tee to allow for the hydraulic hose connection. (Figure 4.2)

Locate the steering orbital and hoses under the cab. Install the run-tee **(G)** where the rubber tank line from the orbital joins the steel line under the cab. This run-tee connection will provide a tank return for the hydraulic control block. (Figure 4.4 and 4.5)

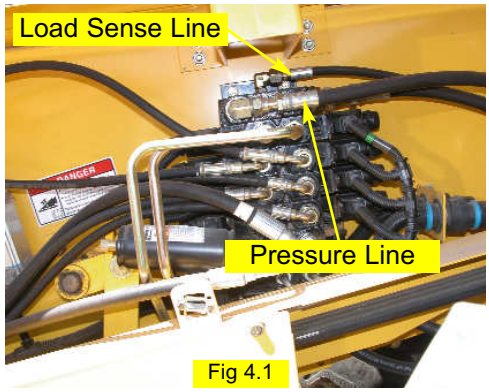


Fig 4.1

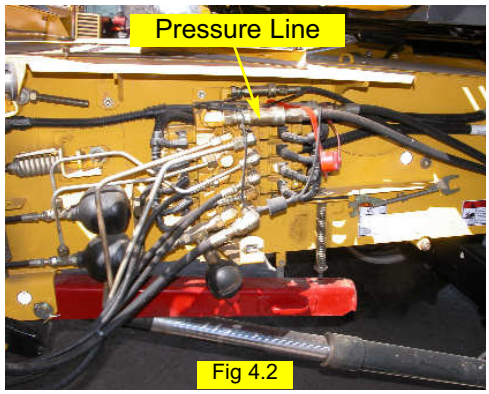


Fig 4.2

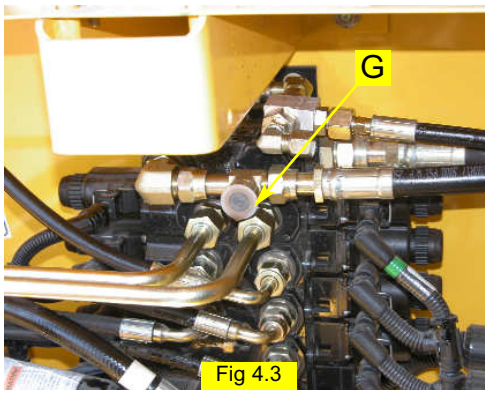


Fig 4.3

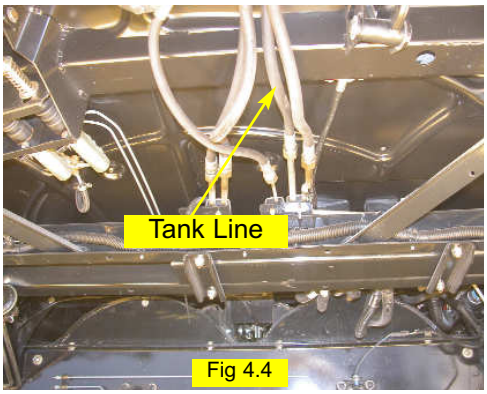


Fig 4.4

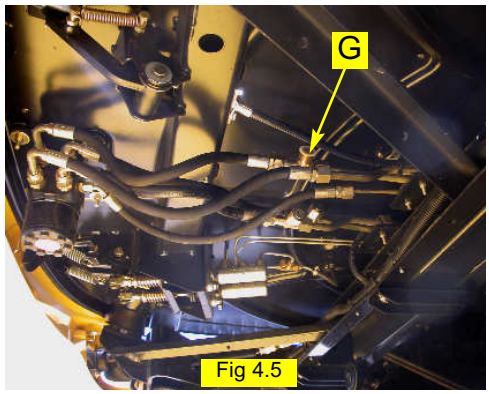


Fig 4.5

5. Install Load Sense Shuttle:

Pre-assemble the load sense shuttle **(I)** with adapter fittings **(J)**, **(K),** and **(L)** as shown. (Figure 5.1)

Locate the combine load sense line on the top of the feeder house hydraulic valve.(Figure 5.2) Disconnect the hose from the valve block and install the prepared load sense shuttle **(I)** as shown. (Figure 5.3) Reconnect the combine load sense hose to the center position of the load sense shuttle containing fitting **(K)**. (Figure 5.3 and 5.4)

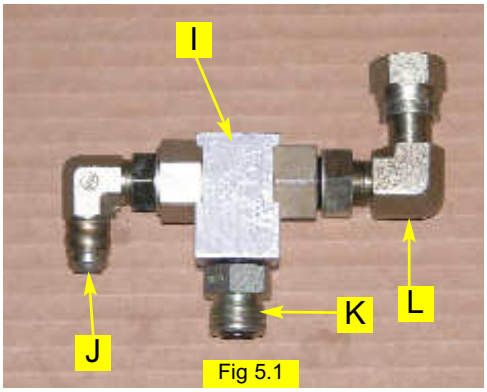


Fig 5.1

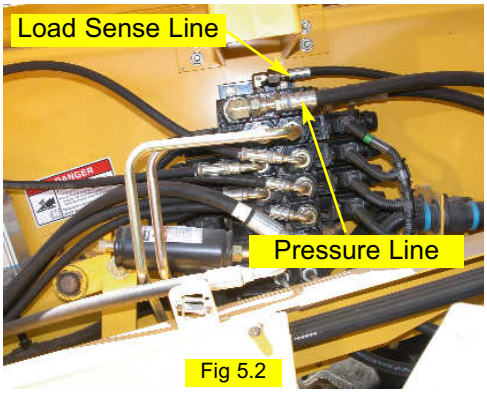


Fig 5.2

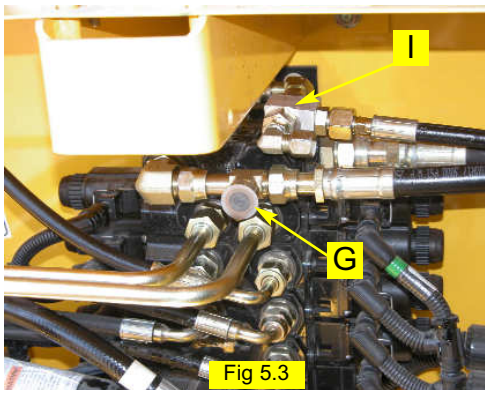


Fig 5.3

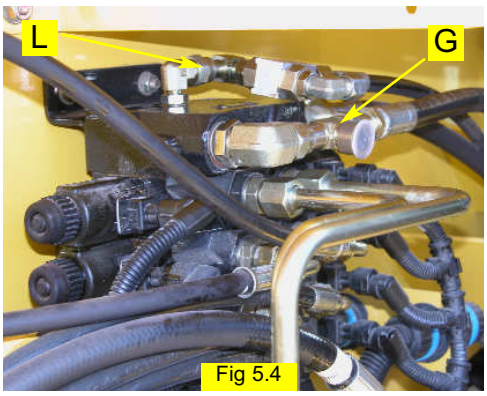


Fig 5.4

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

Route the pressure hose **(N)** from the run-tee **(G)** installed at the feeder house hydraulic valve to the **P** port of the hydraulic control block. (Figure 5.5 and 6.2) The hose should be routed to the back of the feeder house then up to the hydraulic control block.

Install the load sense hose **(P)** between the open end **(J)** of the load sense shuttle and the **LS** port of the hydraulic control block. Route the hose with the hydraulic pressure hose to the hydraulic control block. (Figure 5.5 and 6.2)

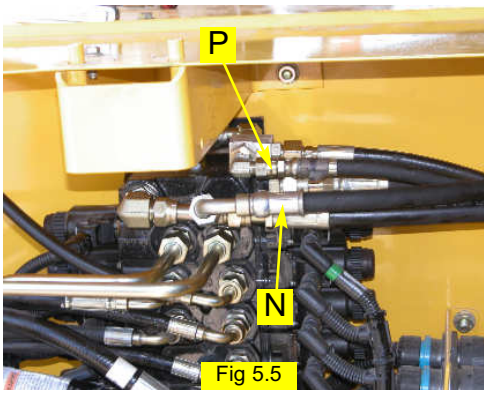


Fig 5.5

6. Install Pressure, Tank, and Load Sense Hoses: (Continued)

Connect the tank hose **(O)** between the **T** port of the hydraulic control block and the run-tee **(G)** installed in step **5** near the steering orbital. (Figure 6.1) Route the hose back to the front of the rotor housing then over to the hydraulic control block as shown. (Figure 6.2)

Use heavy tie straps, provided, to secure the hoses to other machine plumbing to prevent entanglement.

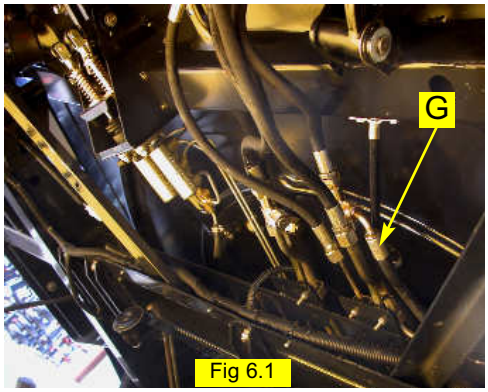


Fig 6.1

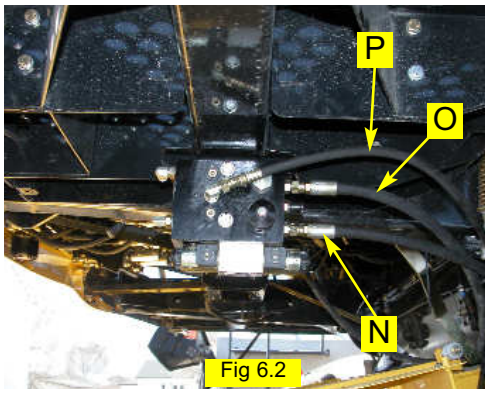


Fig 6.2

7. Install Steering Output Fittings:

Install run-tee fittings **(G)** where the steering lines from the orbital connect to the steel lines under the cab. (Figure 6.3 and 6.4) 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.

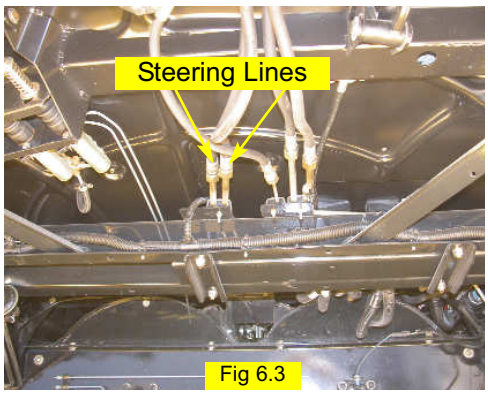


Fig 6.3

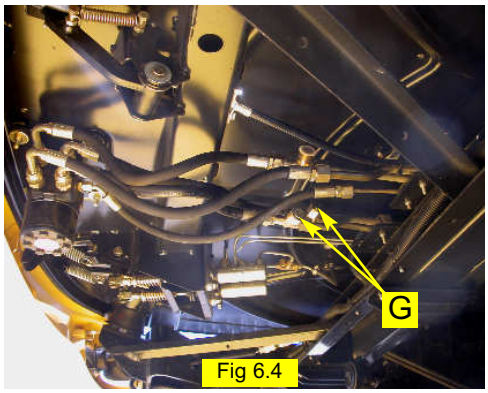


Fig 6.4

8. Install Steering Output Hoses:

Connect the steering hoses **(M)** to the run-tee fittings installed in step **7** and the **A** and **B** ports of the hydraulic control block. (Figure 7.1and 7.2)

Route the steering hoses **(M)** from the hydraulic block, back to the front of the rotor housing and forward to the run-tees. (Figure 7.2) The hoses should be routed with the tank line installed in step **6**. Secure the hoses with the heavy tie straps (provided). (Figure 7.3)

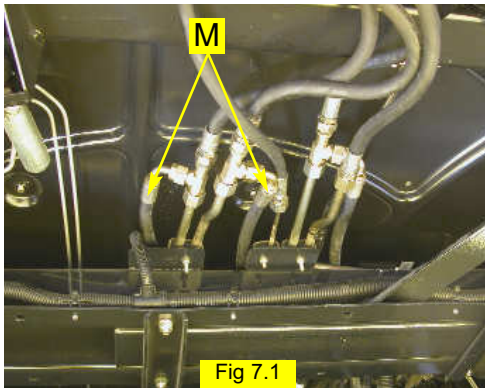


Fig 7.1

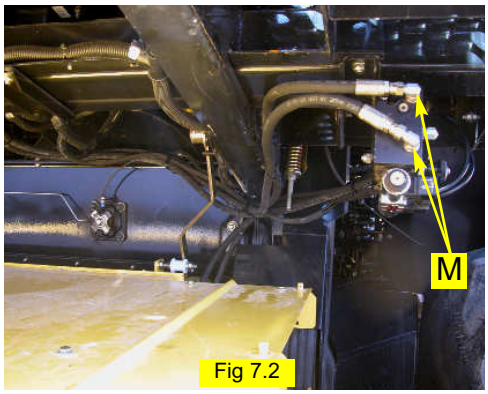


Fig 7.2


Fig 7.3

9. Install the Valve Control Cable:

Route the valve control cable **(Q)** from the hydraulic control block, under the cab, and through the right side window. (Figure 8.1, 8.2, and 8.3) Attach the DIN connectors to the hydraulic control block as shown.

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

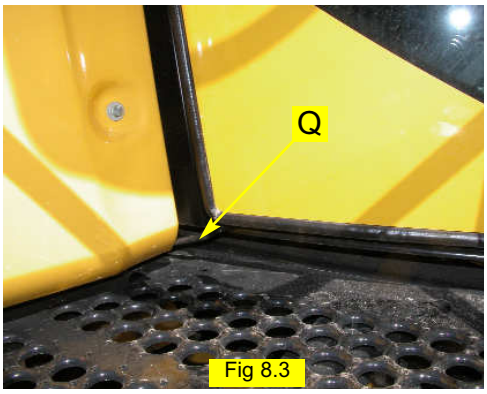


Fig 8.3

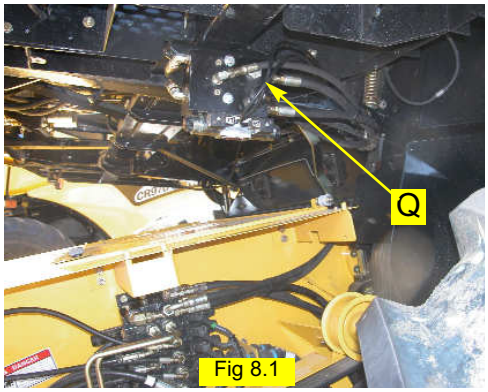


Fig 8.1

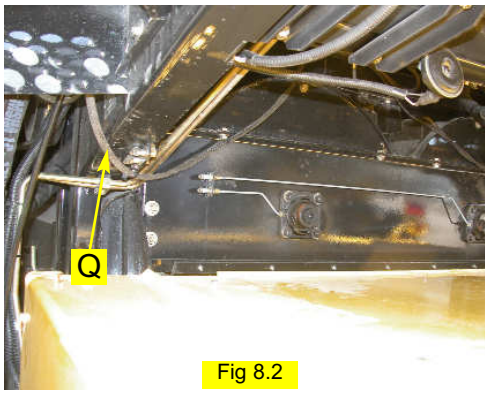


Fig 8.2

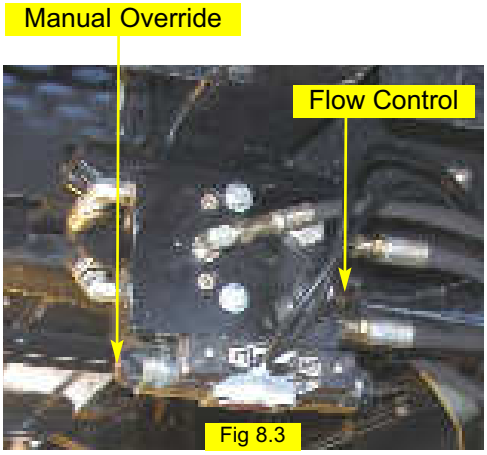


Fig 8.3

10. Verify Operation and Set Steering Control Rate:

Cleanup the installation area around the combine 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, 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 wheels all the way to one extreme. Count the number of seconds for the steering wheels to move all the way in the opposite direction while pressing the manual override of the other coil. (Figure 8.3)

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

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.*

11. 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.