2090, 2290

Tractors

SERVICE MANUAL

8-20012

CASE IH AGRICULTURE

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Electrical System

Bulb and Lamp Replacement:

Instrument Cluster Warning Bulbs	No. 168
Instrument Cluster Illumination Bulbs	No. 194
Dome Light Bulb	No. 93
Console Light Bulb	No. 194
Flasher Light Bulbs	No. 1156
Headlight Lamps	No. 4652
Front and Rear Flood Lights	No. H7606
Tail Light Bulbs	No. 168

Fuse and Circuit Breaker Replacement:

Headlight High Beam	20 Ampere
Headlight Low Beam	15 Ampere
Tail Light	15 Ampere
Instrument Panel Lights	5.0 Ampere
Key Switch	15 Ampere
Front Flood Lights (Optional)	15 Ampere
Rear Flood Lights (Optional)	20 Ampere
Front and Rear Flood Lights (Relay-Optional)	30 Ampere
Console Light	1.0 Ampere
Dome Light	1.0 Ampere
Cigarette Lighter	15 Ampere
Blower	15 Ampere
Wipers	6.0 Ampere

Tractor Brakes

Type	Hydraulic, Power Assistance, Self-Adjusting, Several Plate Wet Type Differential Brakes.

Power Shift Transmission

Type	Three Speed, Power Shift, Compound Planetary with Hydraulically Actuated Clutches and a Four Speed Gear Section.
Gear Selection	12 Speeds Forward and Three Speeds Reverse
Shift Control	Hydraulic Power Shift Controlled by a Mechanical Shifter actuated by levers on the console.
Oil Cooler	Transmission, Hydraulic, Steering and Brake Oil

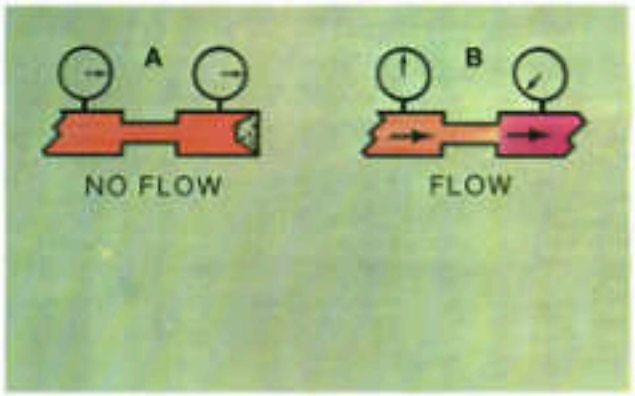
Mechanical Transmission (If Equipped)

Type	Two Speed Range Gear with a Four Speed Gear Section
Gear Selection	Eight Speeds Forward and Four Speeds Reverse
Shift Control	Mechanical Shifter Actuated by levers on the console

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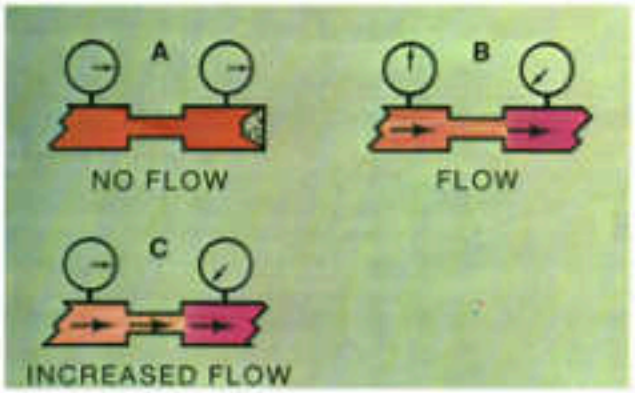
Now, let's remove the cork so we can have oil flow.

Because there is flow through the restriction, the gauges indicate different pressures. There is a pressure drop across the restriction. This is basically what happens when you move the remote spool.



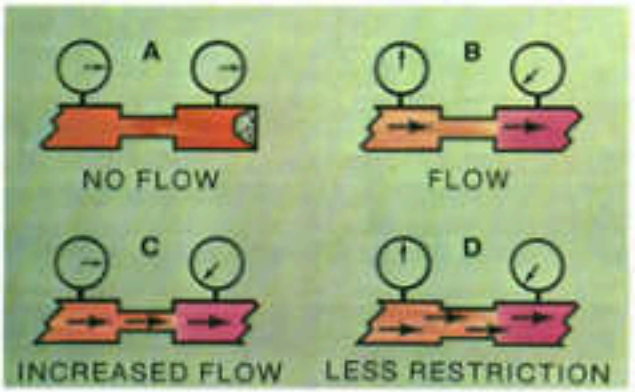
Now let's look at this same restriction, but we will increase the amount of flow through the oil line.

You will notice that the pressure in the first gauge has increased, but the pressure in the second gauge has stayed the same. This means that the pressure drop across the restriction has increased and was caused strictly by an increase in flow.

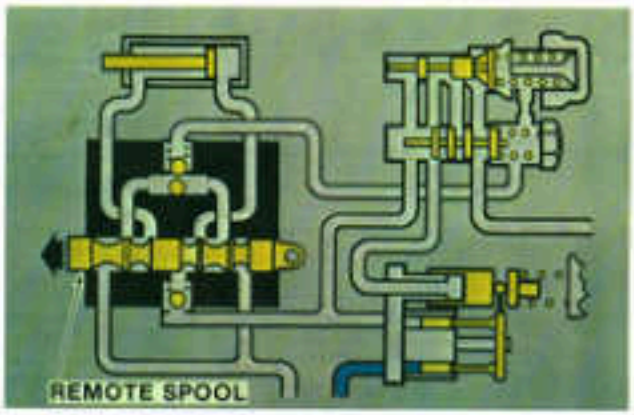


Our final example will be to open up the restriction -similar to opening a remote spool farther.

You will notice that with the same flow as in the previous example, there is less pressure drop across the restriction. The pressure in the first gauge has gone down and pressure in the second gauge has remained the same.

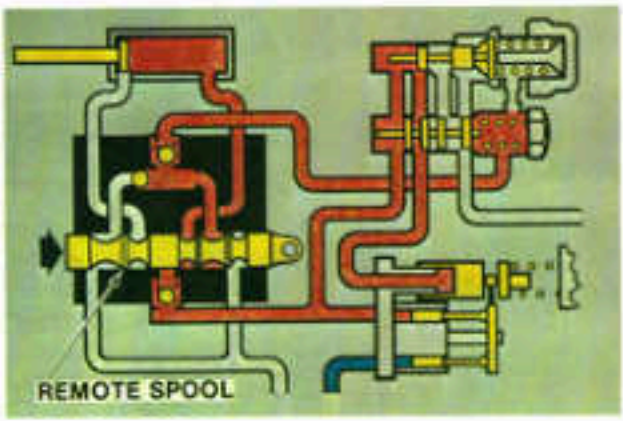


Now that we understand how the relationship between flow and the size of the restriction affects pressure drop across a restriction, let's see what happens when we move the remote spool farther to the left.

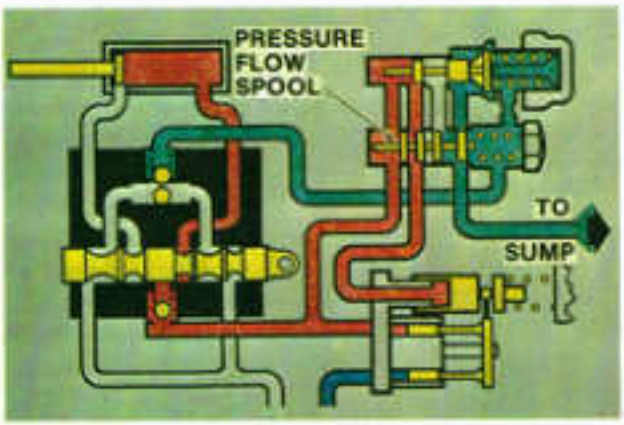


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Here, the spool in the remote valve has been returned to neutral.



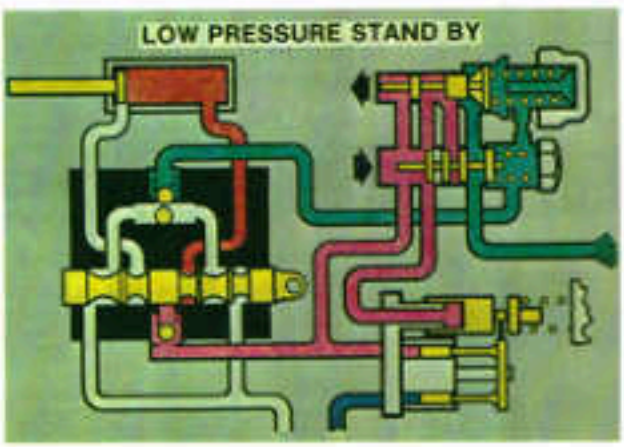
The pressure that was directed to the right end of the pressure-flow compensator spool is now drained back through the orifice into sump. When the pressure acting against the pressure flow compensator spool reaches two-hundred-and-fifty PSI, the spool moves to the right against spring tension.



As the compensator spool moves to the right, it uncovers a passage so that the pressure, which has been created in the pump discharge cavity, is channeled to the cam plate control piston.

The piston moves against its spring and causes the cam plate in the pump to stroke back to a near zero displacement angle.

We have returned to the low pressure standby position. The spool will modulate back and forth to maintain a constant two-hundred-fifty PSI in the discharge circuit of the pump.



Despite all of the ever-changing hydraulic demands on an agricultural tractor . . . . this system is constantly monitoring its own pressure, flow and load - and adjusting its performance accordingly . . . . for maximum efficiency.

As a result, you get faster response . . . . longer pump life . . . . more efficient usage of horsepower . . . . and greater fuel economy.

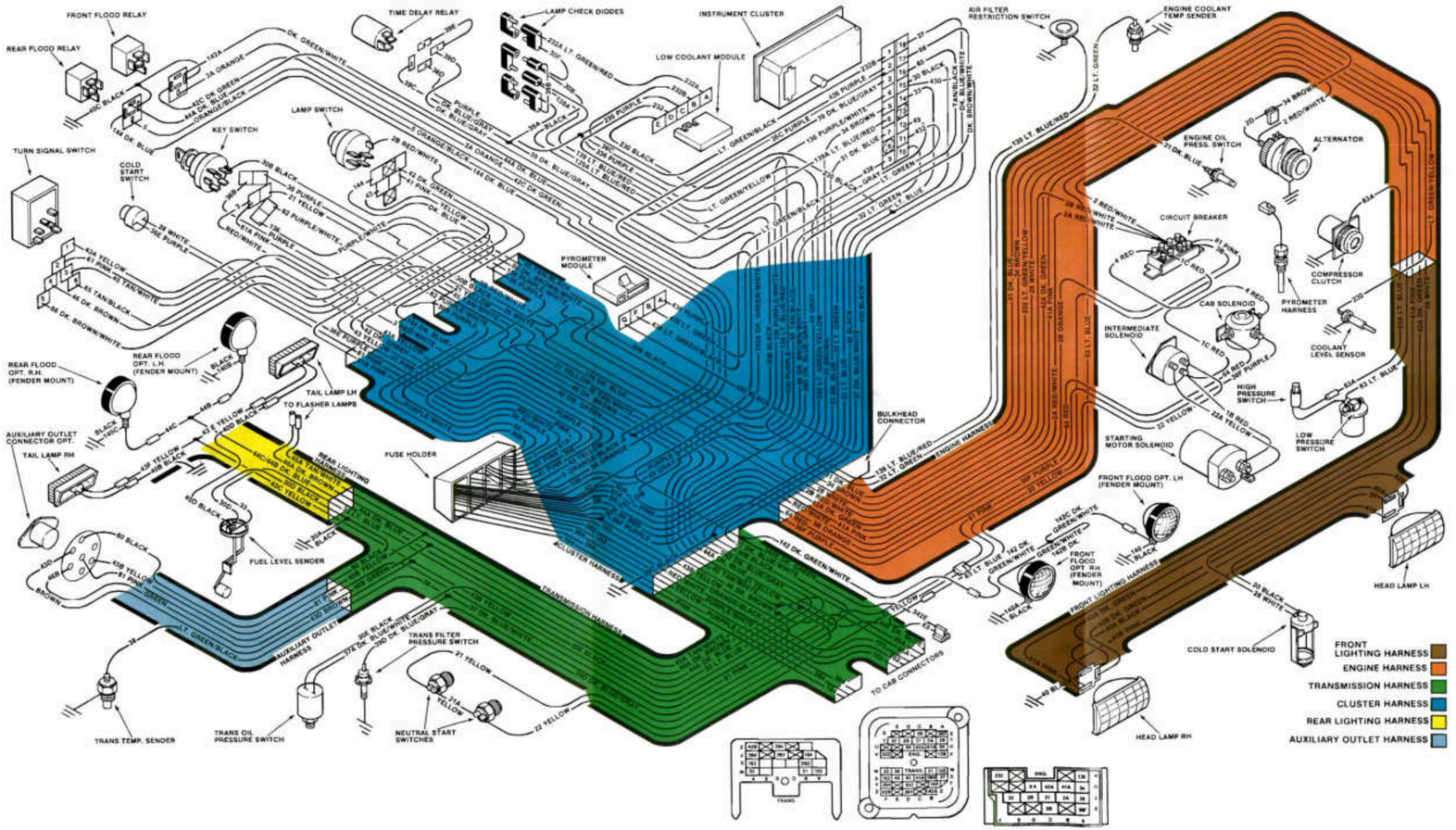
That's performance! . . . . That's the Case Con trol Hydraulic System.

NOTE: The J I Case Company reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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