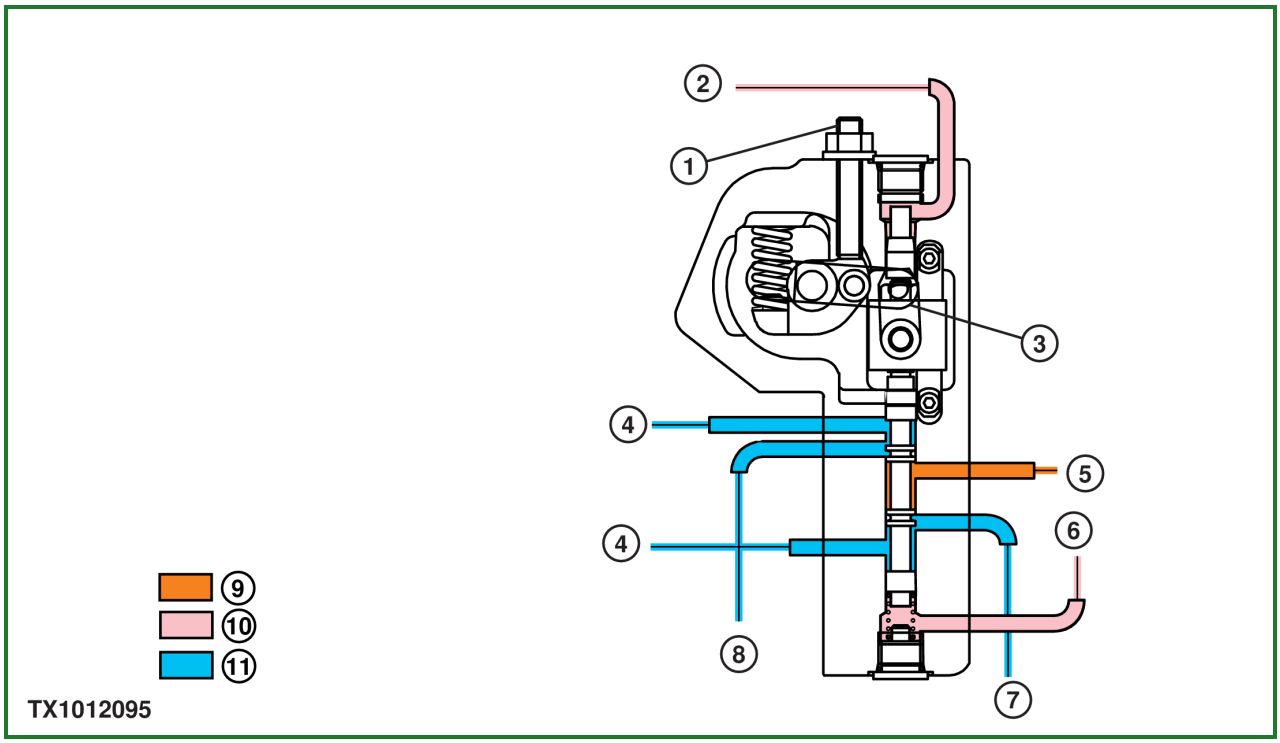
Pump Displacement Control Valve (PDCV) Operation



TX1012095-UN: Pump Displacement Control Valve (PDCV) — Neutral

LEGEND:

1 - Null Adjustment Screw

2 - Control Pressure From (PCP)

3 - Connects To Pump Swashplate Feed Back Linkage

4 - Return

5 - Charge Pressure Inlet

6 - Control Pressure From (PCP)

7 - To Pump Servo

8 - To Pump Servo

9 - Charge Pressure

10 - Low Control Pressure

11 - Return Oil

The major components in the pump displacement control valve are: valve spool with centering spring, feedback linkage to the pump swash plate and a null adjusting screw.

The PDCV is supplied with charge pressure and a differential control pressure from the Pressure Control Pilot (PCP). It produces a servo pressure at two output ports which directs the pump servo piston.

In a neutral condition with zero differential control pressure, the valve spool is centered by the feedback linkage and the centering spring. Charge pressure is blocked at the spool center and both output ports are connected to case.

When the FNR is moved out of neutral, a given differential control pressure will shift the spool against the centering spring. Charge oil is now directed to the servo piston that swashes the pump. As the swash plate moves, the feedback linkage causes a movement on the centering spring opposite to that of the differential control pressure. The spool moves back toward neutral to a point where a given servo pressure is maintained to the servo piston. This provides control of the pump swash plate relative to differential control pressure.

The null adjust screw through the feedback linkage adjusts the centering position of the spool. The adjustment is made so that with no current signal to the PCP the valve spool is exactly centered. Charge pressure is blocked

and both output ports are connected to case.

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