450
CRAWLER TRACTOR

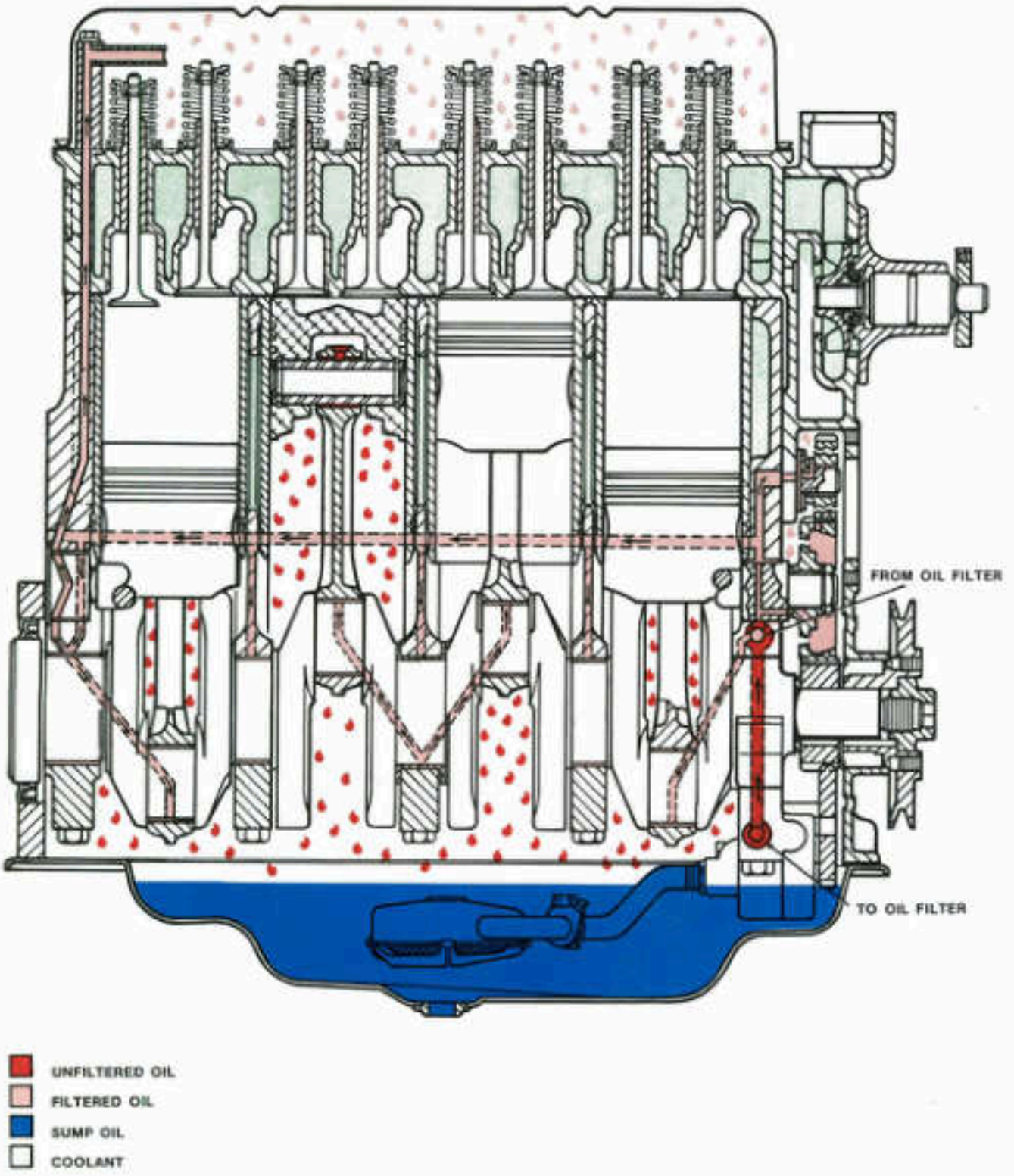
Service Manual

9-72334

MidWestTech | Case 450 Crawler Tractor Service Manual | Publication 9-72334

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ENGINE LUBRICATING OIL AND COOLANT SYSTEM



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OPERATION

Oil Flow, Spools in Neutral

With all spools in neutral, the oil flows through open center (1A) and directly back to the reservoir, Figure 3.

Oil Flow - Spool Actuated

In Figure 4 a spool is moved into the valve which:

a. Blocks the open center passage. With open center blocked, all oil from the pump flows through the parallel passage.

b. As pressure in the parallel passage increases, the check poppets open, permitting oil to flow to the A port. From the A port, oil is directed to the cylinders causing the cylinders to move.

c. Simultaneously, the B port is opened to the return passage, allowing oil displaced from the closed end of the cylinders to return to the reservoir.

When the spool is returned to neutral, oil is locked between the control valve and cylinders, preventing further movement.

To cause opposite movement, the spool is moved out of the valve body and oil flow is reversed.

Main Relief Valve

The main relief valve is located at the inlet of the control valve. The valve poppet protrudes into the open center passage as illustrated in Figure 5.

The main relief valve is pilot operated. This means a spear shaped pilot plunger

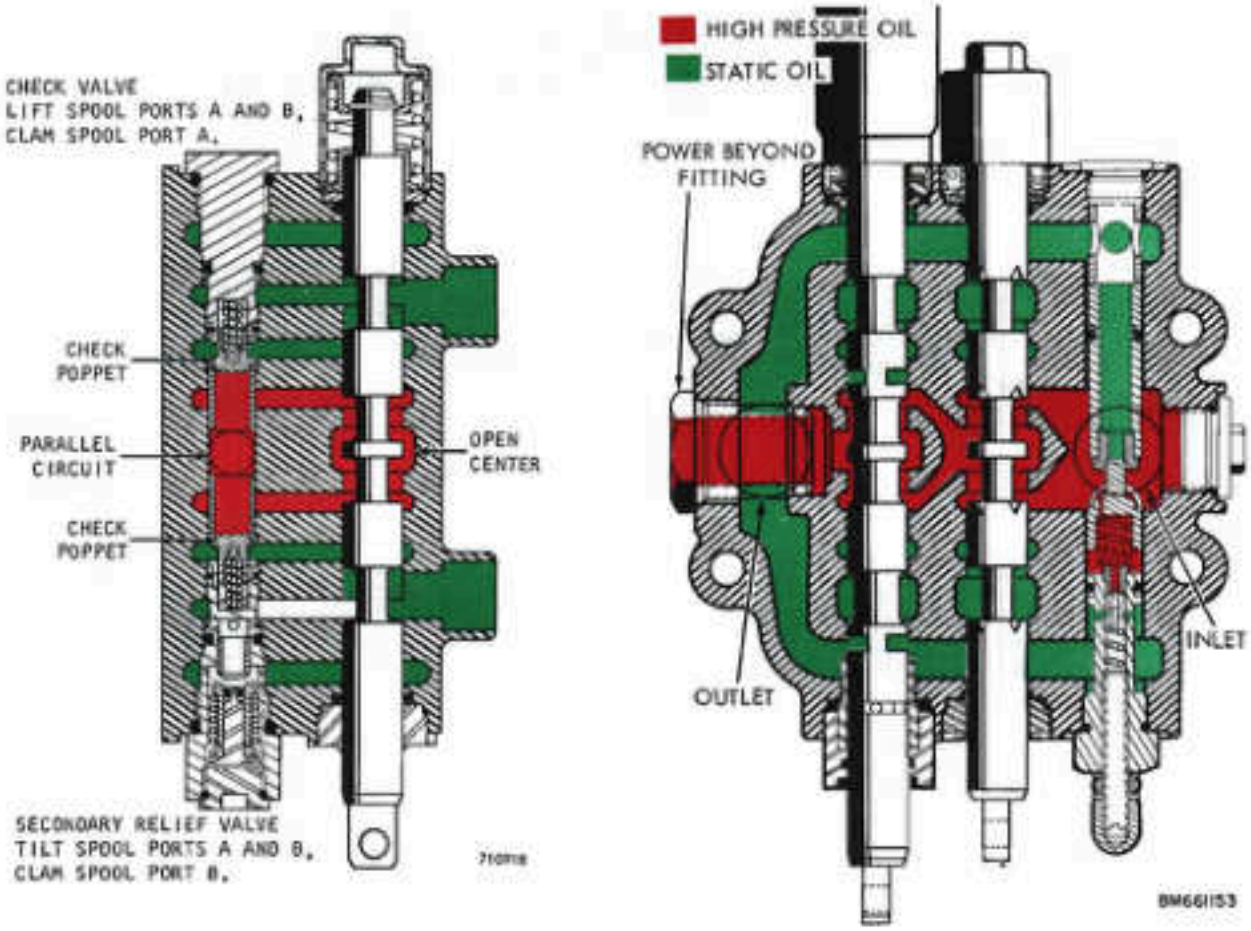


Figure 3 - Oil Flow - Spools in Neutral

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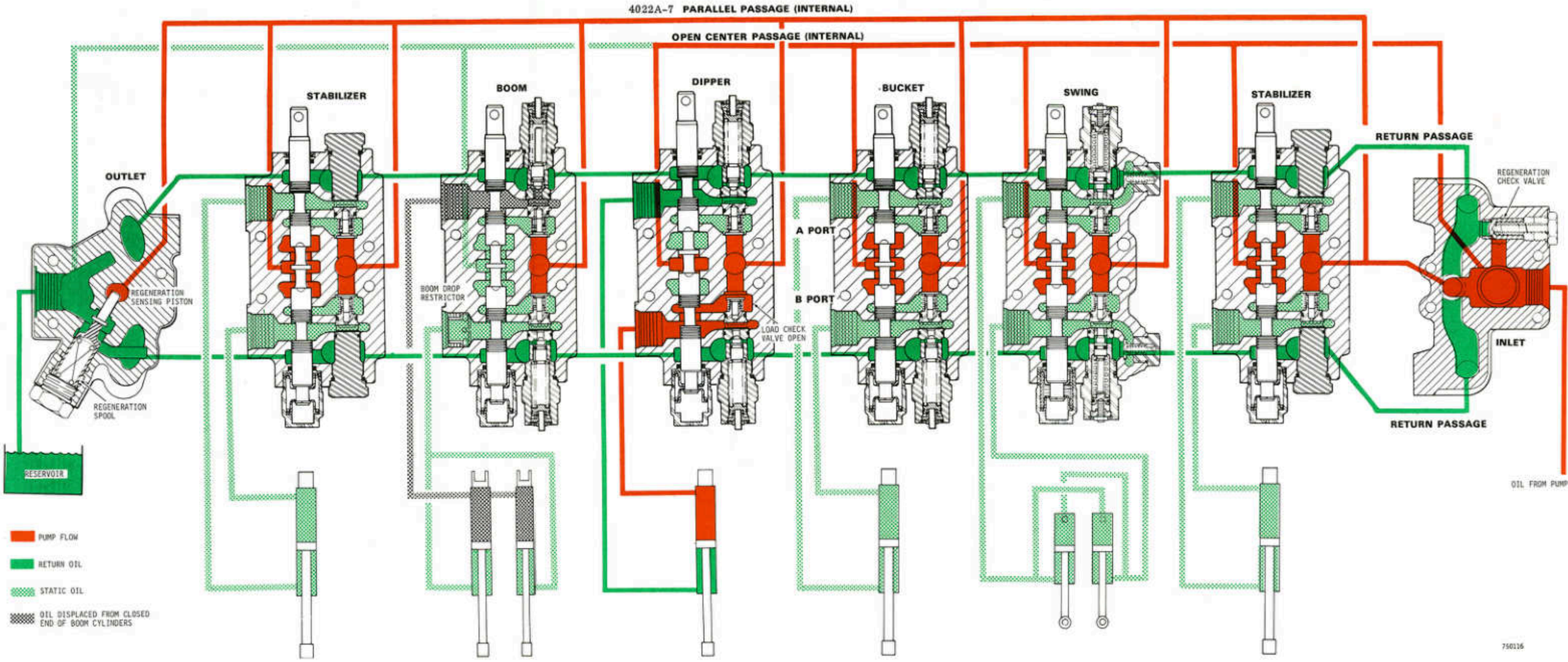


Figure 4

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