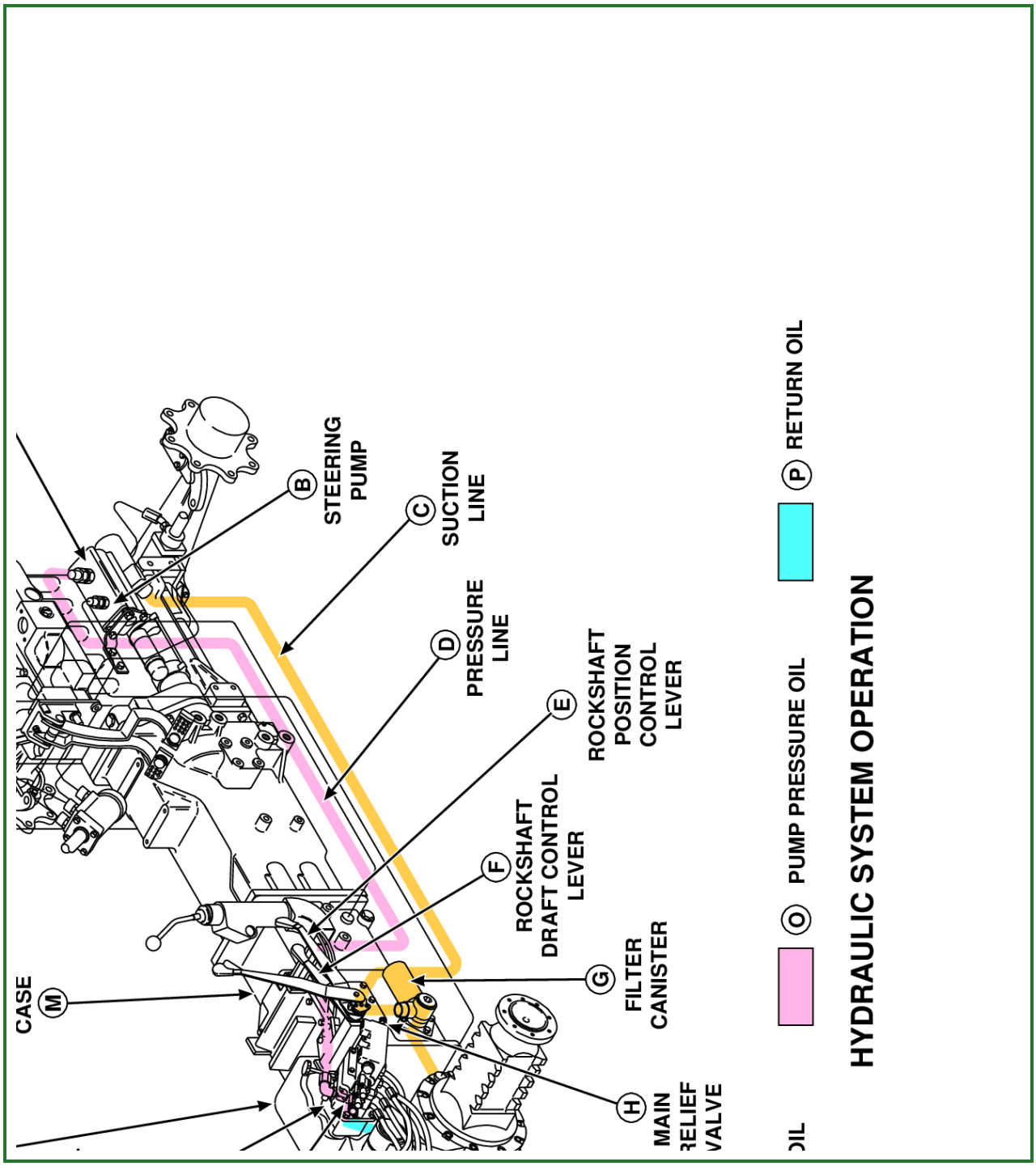
# Hydraulic System Operation




**LVC125AE-19: Slide LVC125AE**

**LEGEND:**

A - Hydraulic Pump

B - Steering Pump

C - Suction Line

D - Pressure Line

E - Rockshaft Position Control Lever

F - Rockshaft Draft Control Lever

G - Filter Canister

H - Main Relief Valve

I - Mesh Filter

J - Inlet Housing

K - Rockshaft Valve

L - Rockshaft Housing

M - Transmission Case

N - Suction Oil

O - Pump Pressure Oil

P - Return Oil

FUNCTION:
The hydraulic system provides:

- Filtered oil to the power steering system.
- Lubrication oil to the transmission.
- Hydraulic power to the rockshaft for hitch operation.
- Hydraulic power to the optional selective control valves.

MAJOR COMPONENTS:

- Hydraulic Pump
- Filter Canister
- Mesh Filter
- Reservoir (Transmission Case)
- Rockshaft
- Rockshaft Valve
- Pressure Lines
- Suction Line
- Rate-of-Drop Valve
- Rockshaft Control Levers

THEORY OF OPERATION:

The hydraulic system of 12-cc and 29-cc external-gear, constant-displacement pumps. The 12-cc pump (B) provides fluid power to the power steering system and to lubricate the transmission.

The 29-cc hydraulic pump (A) provides hydraulic power to the rockshaft (L) for hitch operation and to optional selective control valves, if equipped. The hitch is category 2/1 with draft sensing through the center link.

The hydraulic system uses an open-center design. This means that low pressure oil flows continuously through the valves and lines as long as the valves are in a neutral position. Because of this flow of oil there always must be a way for the oil to return to the reservoir.

The transmission case (M) of the tractor serves as a reservoir for the hydraulic oil. Proper level must be maintained for adequate transmission lubrication and oil supply to the hydraulic pumps (A and B).

The engine drives the hydraulic pump from the camshaft drive gear. As the hydraulic pump turns, a low-pressure area develops in the suction line (C). Oil then moves from the transmission case through mesh filter (I) and 25-micron filter canister (G), then on through suction line (C) to the inlet side of the hydraulic pumps.

Oil flows from the outlet side of the hydraulic pump, through pressure line (D) to inlet housing (J). A relief valve (H) limits hydraulic system pressure to a range of 18995-19685 kPa (190.1-196.9 bar) (2755-2855 psi). If the system encounters sufficient resistance to oil flow due to a heavy load or restriction, the relief valve opens allowing oil to return to the reservoir.

The inlet housing (J) also provides a mounting location for up to three optional, selective control valves. (See this group for selective control valve oil flow.)

Oil flows from the inlet housing to the rockshaft valve (K). A flow regulating valve controls the amount of oil flow to the rockshaft (L) so it will rise at a constant rate regardless of engine speed.