Service Manual

VMT160 VMT260 Tier 2 and Tier 4

Section 1 - General Information

Section 2 - Care and Safety

Section 3 - Maintenance

Section C - Electrics

Section E - Hydraulics

Section H - Steering

Section K - Engine

Section L - Vibration



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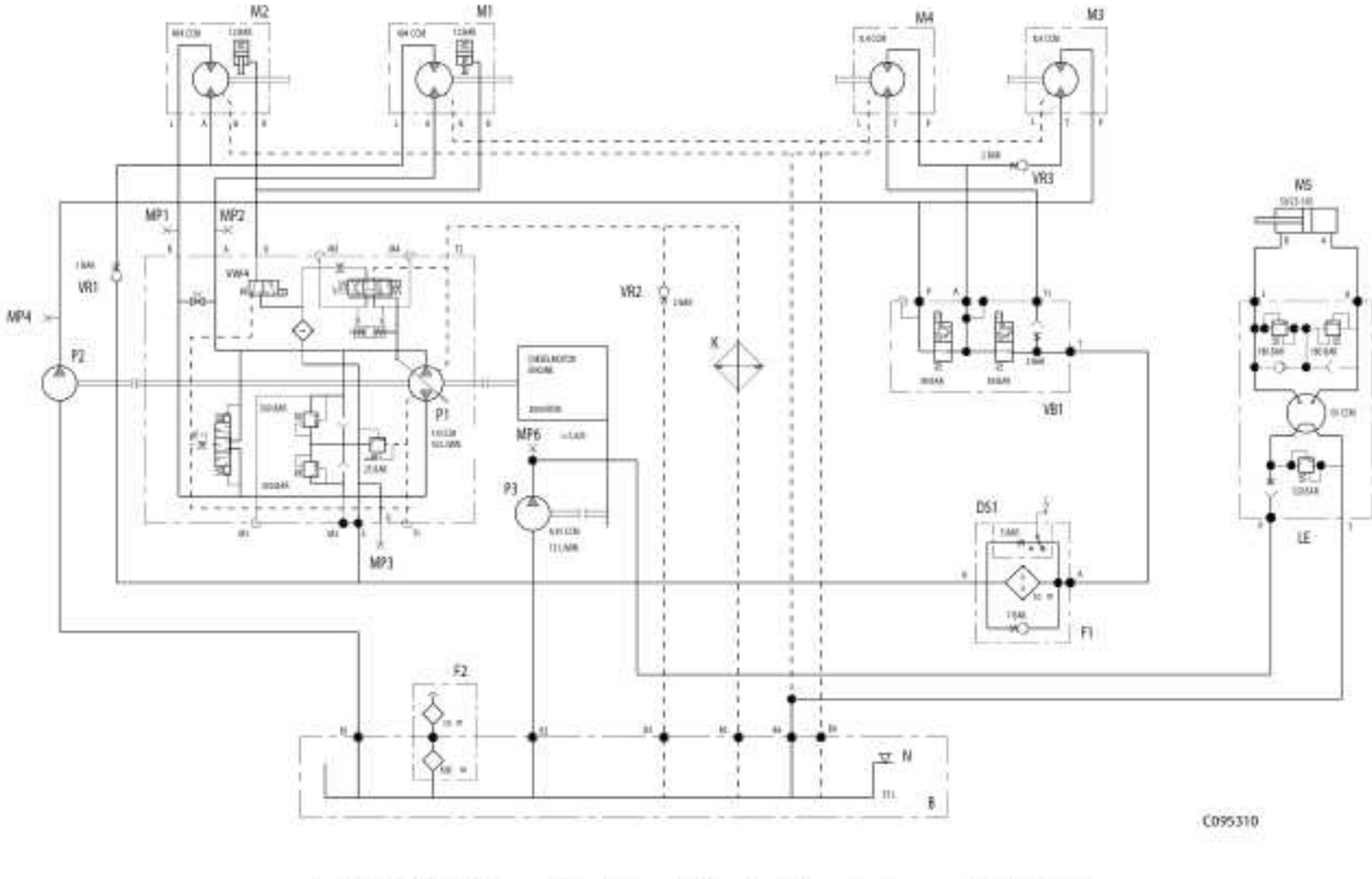
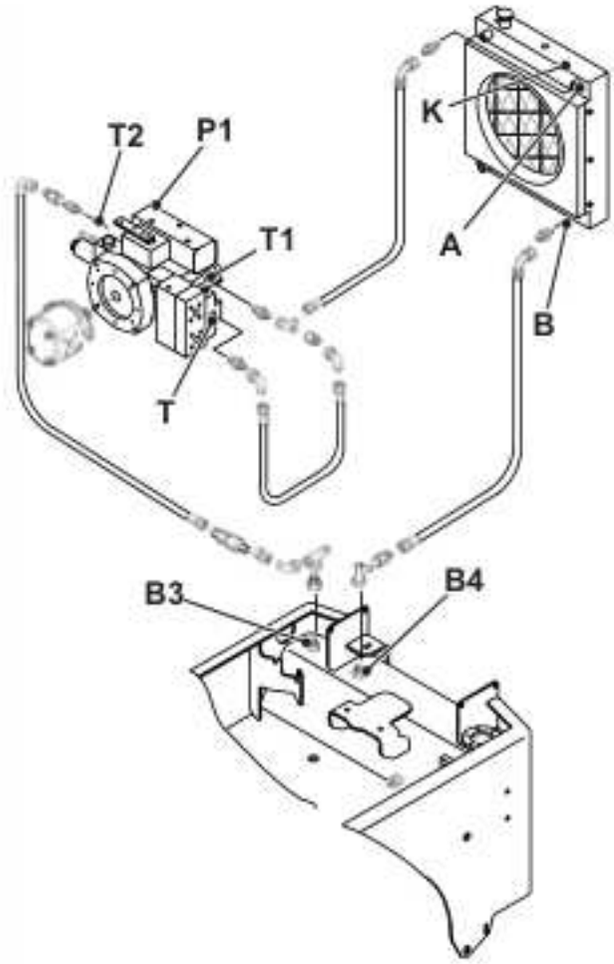


Fig 2. VMT160 With Comer Drive Pump - Hydraulic Schematic Diagram 332/N1371-1

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Flushing Circuit

Note: *Refer also to the hydraulic circuit diagram ⇨ VMT 260 Flushing Circuit (E-36).*



The flushing valve is incorporated within the closed loop hydrostatic drive circuit.

The flushing valve senses which side of the drive circuit is at high pressure. It will move across to connect the low pressure side of the circuit to the flushing pressure relief valve.

The flushing valve operates constantly, thereby allowing some of the oil in the low pressure side of the drive circuit to continually vent back to tank. The volume of oil returning to tank is fixed by the restrictor orifice.

The oil losses from the low pressure side of the transmission circuit are made up by flow from the charge pump via the anti cavitation valves in the transmission pump. In this way, the hot oil in the transmission circuit is continually being replenished, and prevents the hydrostatic transmission overheating.

The direction of travel will determine which side of the flushing valve is at high pressure or low pressure.

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the gear block assembly is installed with the same orientation as before disassembly.

11 Clean the mating surfaces.

Remove any excess lubrication and grease from the mating surfaces of the motor body. Ensure that these surfaces are dry and free of contamination before moving on to the next step.

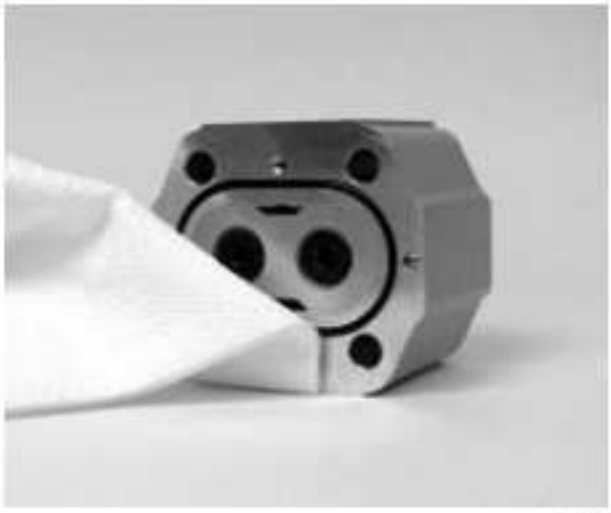


Fig 22.

12 Install the dowel pins **K**.



Fig 23.

Install four 5 mm dowel pins **K** into the proper cavities on both sides of the body ⇨ *Fig 23. (📄 L-22)*. Swab the pins with assembly grease or petroleum jelly to retain them during assembly.

Note: *Do not install dowel pins to the rear cover or flange, as one of them may drop inside the motor during assembly.*

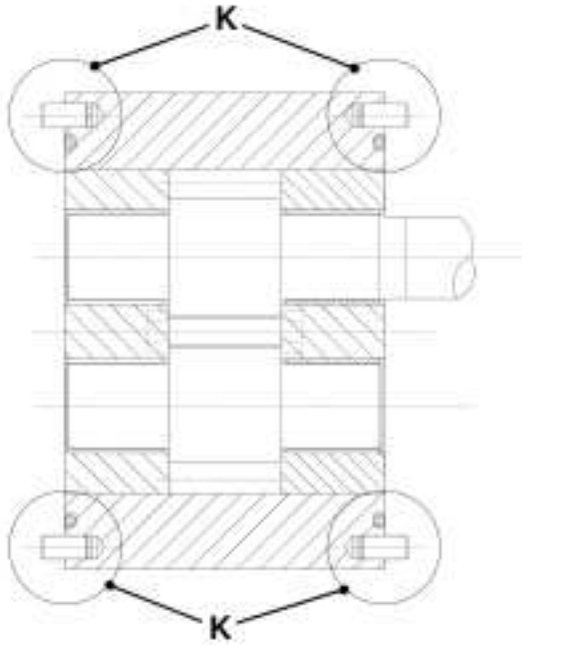


Fig 24.

13 Clean the mating surfaces.



Fig 25.

Remove any excess lubrication and grease from the mating surfaces of the front flange and rear cover.

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Drive System

Internal Leakage

All hydrostatic systems require charge pressure to function properly. This is because a hydrostatic system cannot operate at a negative pressure. The charge pump provides a positive pressure to the hydrostatic pump inlet. Hydrostatic systems are designed to leak a small amount of oil from the pumps and motors for lubrication of parts and cooling, and in some instances, leakage is strictly due to operating clearances while in others a flushing valve may be designed into the system. The greater the system pressure the higher the leakage rate. Fresh charge oil will make up for normal system losses including the oil discharged through the flushing valve.

When components fail, leakage under pressure increases tremendously and is noted by a drop in charge pressure (the charge pump is not capable of keeping up with the hydrostatic system leakage rate). The condition of a hydrostatic pump/motor circuit can be determined by a simple charge pressure test at maximum engine RPM and normal operating temperature. Under the previously mentioned conditions (RPM and temperature), compare the charge pressure readings with the hydrostatic system engaged at no load and maximum load. If these two charge pressure readings show a difference of more than 10%, between the loaded and no load conditions, the hydrostatic system has higher than desired leakage.

Remember, the failure of one component in a hydrostatic system can cause contamination throughout the entire system. Prior to installing the new or rebuilt components, the entire system must be disassembled and cleaned. This includes all pumps, motors, valves, coolers, hoses, and reservoirs.

Fault Finding Tables

⇨ *No travel drive (E-55)*

⇨ *Unit lacks power (E-55)*

⇨ *Machine moves when set in neutral or park (E-56)*

⇨ *Unit operating hot (E-56)*

⇨ *Pump leaks oil (E-56)*

⇨ *Hydraulic filter warning light illuminated when hydraulic oil is warm (E-56)*

⇨ *Hydraulic filter warning light illuminated when hydraulic oil is cold (E-57)*

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