



Service Manual

M70D	36/48v	A1EC4 - 60200 - 80199
	72/80v	A1EC4 - 80200 - 99999
M80D	36/48v	A1EC4 - 60200 - 80199
	72/80v	A1EC4 - 80200 - 99999
M100D	36/48v	A1EC4 - 60200 - 80199
	72/80v	A1EC4 - 80200 - 99999
M120D	36/48v	A1EC5 - 60200 - 80199
	72/80v	A1EC5 - 80200 - 99999

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Thermal Switch

Contacts open at 81 to 89°C (178 to 192°F)
Contacts close at 69 to 77°C (156 to 170°F)

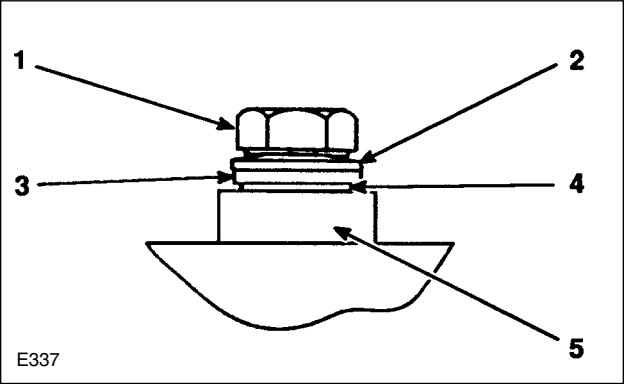
Contactor Tip Clearance (Gap)

Line, lift, bypass, regen no adjustment
Direction (forward and reverse) 2.62+ .08 mm
(.103+ .003 in)

Fuses

Key 10A
Line
 (72/80 V) 675V
 (36/48) 750A
Horn (if equipped) 3A
Drive shunt field 10A
Pump shunt field 10A

Head Capacitor

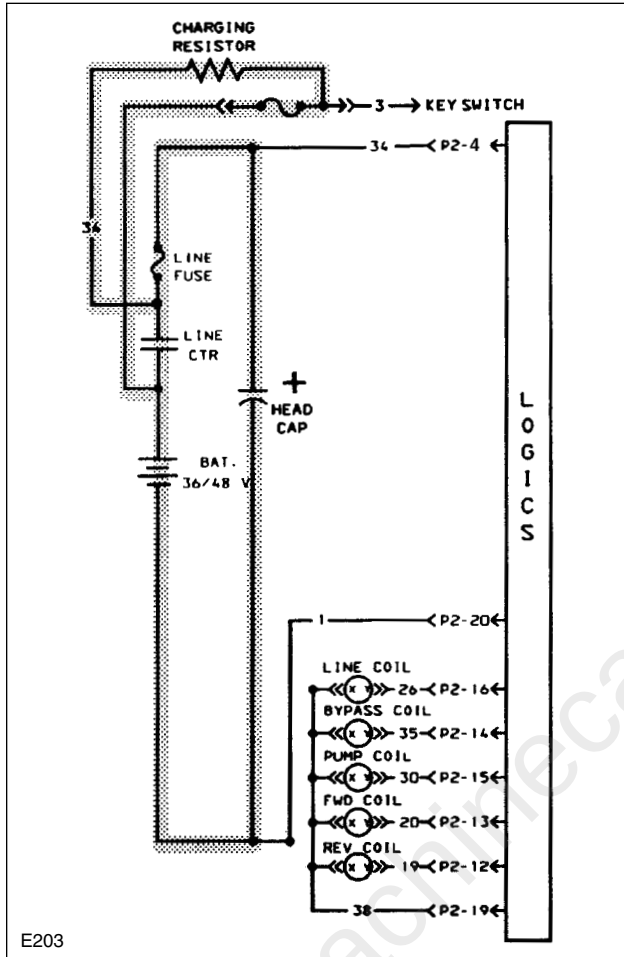


NOTE: Proper torque and assembly of capacitor hardware is critical. Avoid disassembly unless capacitor has to be replaced.

(1) Tighten capacitor terminal bolt to a torque of 4.5 to 5.5 N·m (40 to 50 lb in)
(2) Spring washer 8T2229.
(3) Ring terminal of wire assembly.
(4) Lockwasher 8C3398.
(5) Head capacitor terminal.

With the line contactor tips closed, the logics continues its checks for any "Run Time" faults. If no faults are detected, the display will indicate the battery charge level, the power steering system operates, the pump and drive power circuits receive battery voltage and the logics receives battery voltage on wire #34 at P2-4.

Capacitor Charging Circuit



Capacitor Charging Circuit (Typical Example)

A charging resistor is used to maintain voltage on the head capacitor whenever the battery is connected and the line contactor is open. This voltage reduces arcing of the line contactor tips during line contactor activation. The charging resistor is installed parallel with the line contactor tips. Current flows from battery positive through the key fuse, charging resistor, line fuse and the positive heat sink into battery negative. This circuit will maintain a voltage across the head capacitor above approximately 20 volts.

Hydraulic Pump Motor Circuit

Only one hydraulic pump motor is used for all power steering, lift, tilt, and auxiliary hydraulic functions. To activate the pump circuit, the seat switch, key switch and line contactor must be closed first as explained in the topic, Actuation Circuit. The power steering, lift, tilt, and auxiliary circuits are explained as follows:

Power Steering Circuit

The power steering (PS) circuit has two speeds (PS idle and PS in use) independent of the lifting speeds.

NOTE: Shaded lines on the circuit diagrams indicate current flow. Other circuits can be activated at the same time, but each one is shown separately to illustrate current flow in each individual circuit.

Full Version Available

Caterpillar M80D Forklift Service and Schematic Manual (SENB8470)

Caterpillar M80D forklift service manual, covers hydraulics, mast, power train, wiring, and engine service data. Downloadable PDF format.

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