PART NO. TO18J-E-00

HITACHI

Technical Manual

Operational Principle

EX

1200-6

Hydraulic Excavator

Service Manual consists of the following separate Part No.

Technical Manual (Operational Principle)	: Vol. No.TO18J-E
Technical Manual (Troubleshooting)	: Vol. No.TT18J-E
Workshop Manual	: Vol. No.W18J-E

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Engine Protection Control

Purpose: Start when ECM detects a malfunction, and reduces the pump flow rate and the pump driving torque so that the engine load is reduced and the breakage is prevented.

Operation:

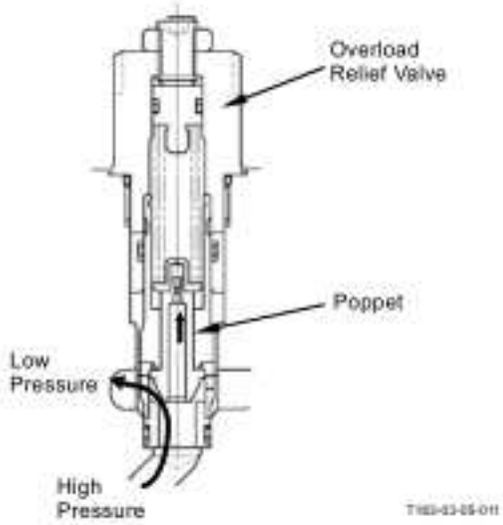
1. When ECM receives the malfunction below from each sensor, ECM sends the malfunction signals to MC (sub) through the CAN communication.
   - Coolant temperature: High
   - Intake manifold temperature: High
   - Engine oil pressure: Low
   - Coolant level: Low
2. When MC (sub) receives the malfunction signals, MC (sub) sends the request signal to reduce the pump driving torque to MC (main) through the CAN communication.
3. When MC (main) receives the signals, MC (main) sends the signals to reduce the pump driving torque to the pumps 1, 2, and 3 control solenoid valves.
4. Therefore, the pump displacement angle is reduced. The pump flow rate and the driving torque are reduced so that the pump load is decreased.
5. At the same time, the monitor unit receives the display command signal of the alarm mark from MC (main) and MC (sub). The monitor unit displays the alarm mark on the monitor.
6. In addition, MC (sub) turns the buzzer output ON and sounds the buzzer.

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Overload Relief Valve

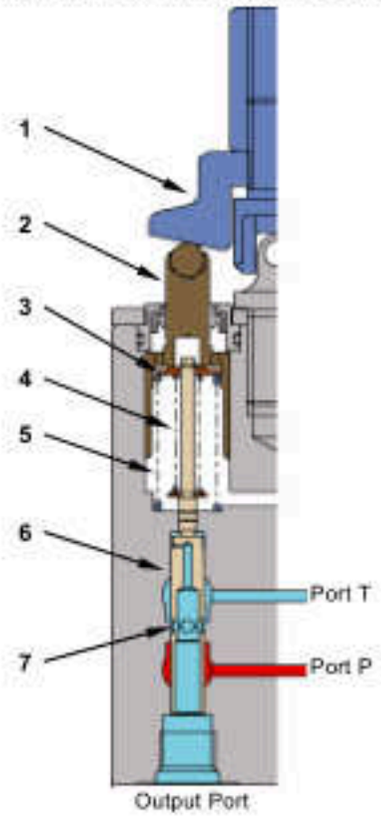
Circuit Protection:

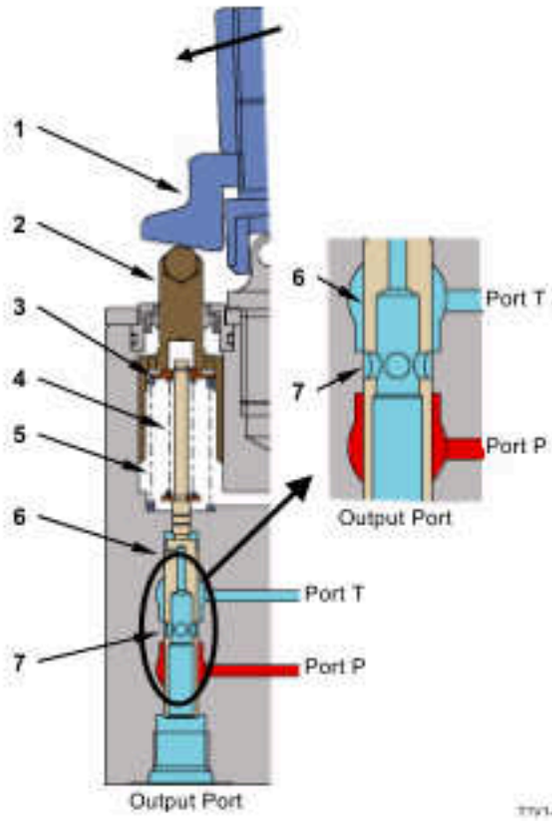
1. When the circuit pressure increases over the set pressure of the overload relief valve, the poppet is opened and high pressure oil is relieved to the low-pressure side, so that the travel motor is protected from being overloaded.
2. In addition, the overload relief valve reduces the shock loads developed due to inertia force when stopping the travel motor.



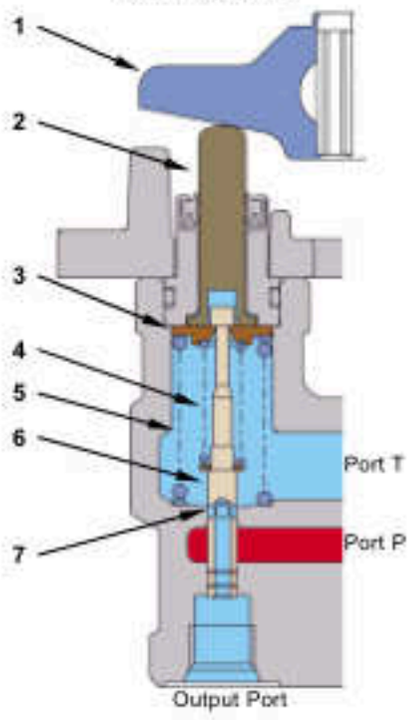
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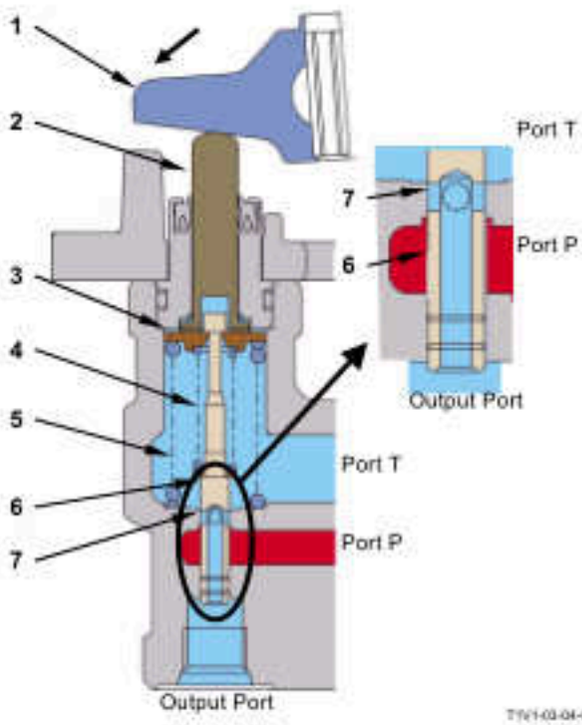
Front Attachment / Swing Pilot Valve





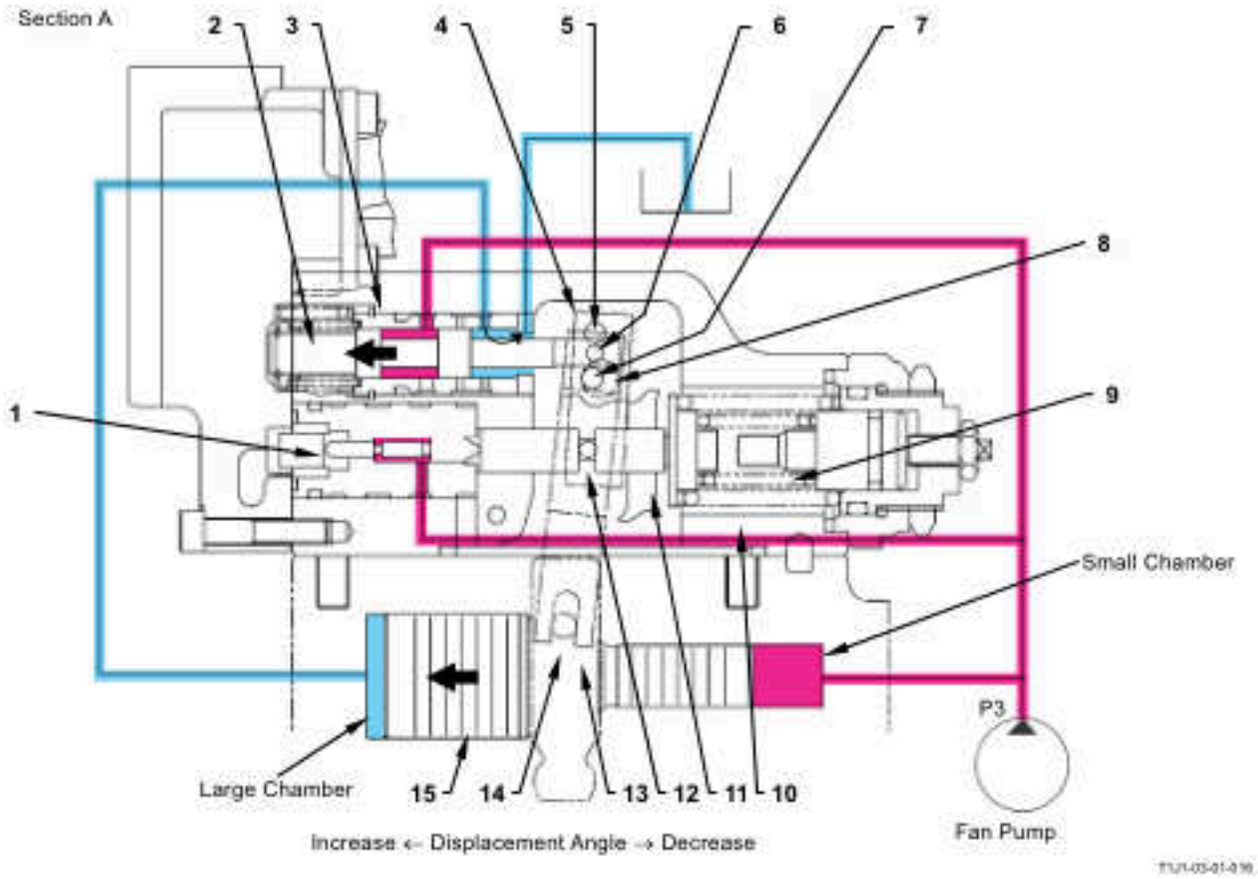
Travel Pilot Valve

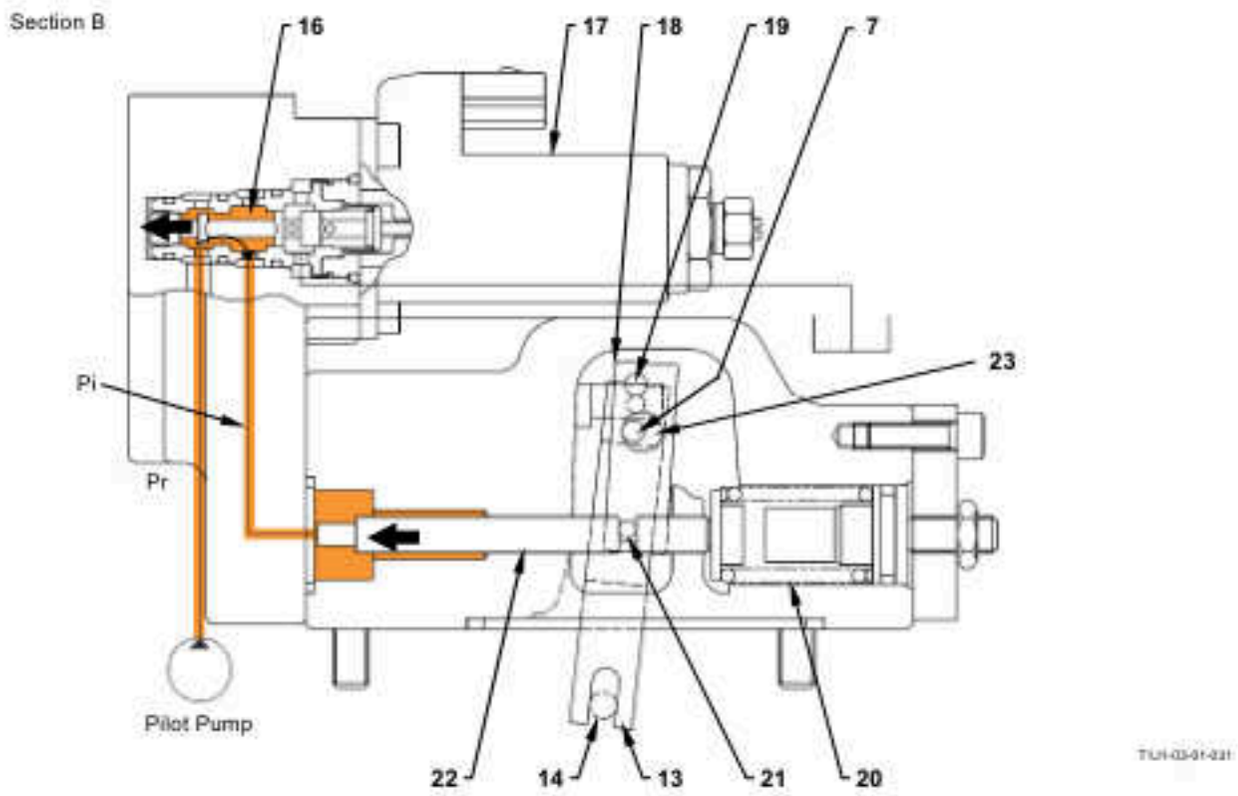




1 - Cam
2 - Pusher
3 - Spring Guide
4 - Balance Spring
5 - Return Spring
6 - Spool
7 - Hole

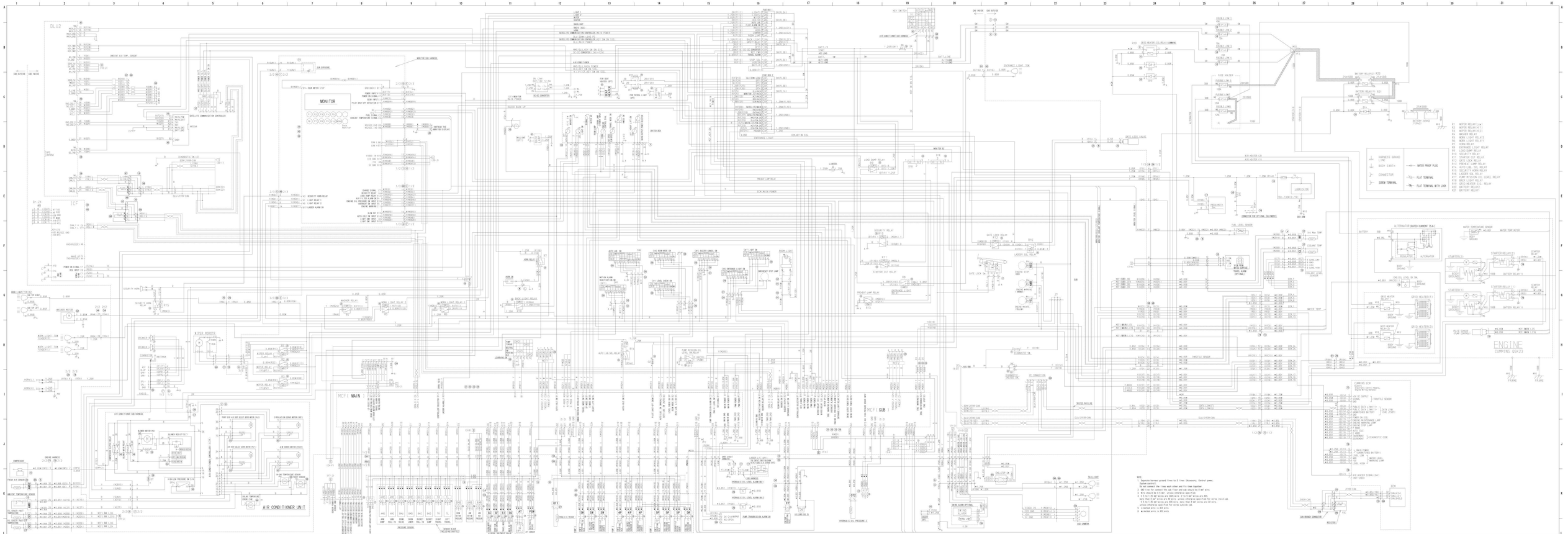
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EX1200-6 ELECTRICAL CIRCUIT DIAGRAM



NOTE
1. Separate harness ground lines to 2 lines (Accessory Control power, System control)
2. Bind the same color line lines each other and fix them together.
3. ⓐⓑ line for connect the cab floor and cab should be 8 AWG wire.
4. Wire should be 0.5 sqmm unless otherwise specified.
5. Wire size is 2.0 sqmm wires are 14 AWG wire, wire are AWG.
wire size 3 sqmm wires are 12 AWG, unless otherwise specified for wires insid cab.
0.5 to 1.25 sqmm wires are AWG wire, more than 2 sqmm wires are 10 wire,
unless otherwise specified for wires outside cab.
6. Unlabeled wire is AEX wire.
7. ⊕ marked wire is AEX wire.

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