CASE

PROFESSIONAL PARTNER

TROUBLE SHOOTING MANUAL

6HK1 - 6WG1
TIER III ENGINES

87528730 NA

Issued 03-2006

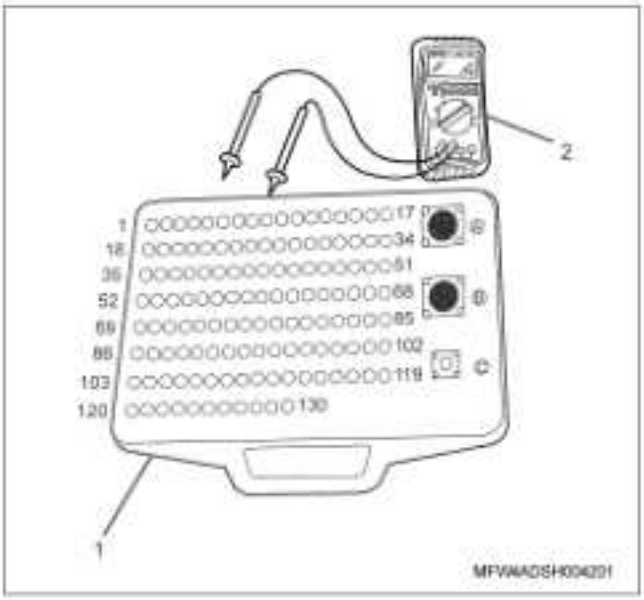
MidWestTech | Case 6HK1-6WG1 Tier 3 Engine Service Manual | Publication 87528730

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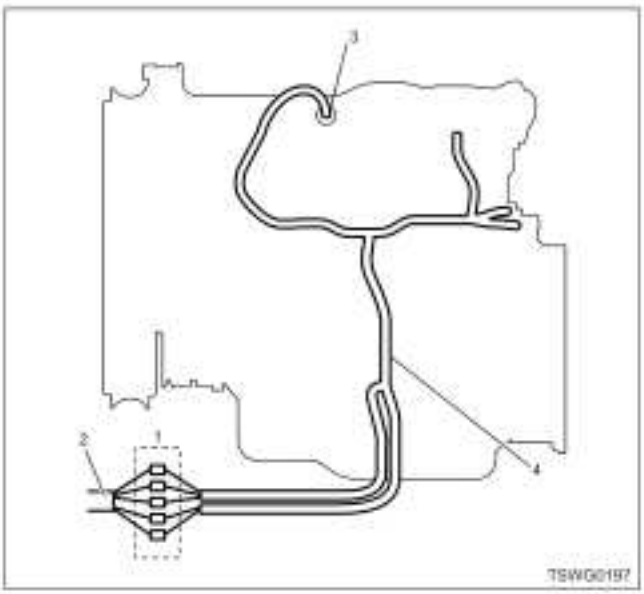
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1. Breaker box
2. Circuit tester

Step	Item to be checked	Inspection method	Measuring condition	Terminal No.	Normal value	Abnormal value
6	Short circuit to other signal circuit	Voltage measurement	Disconnect the sensor connector. Key switch "ON"	82 - Ground 90 - Ground	0V	1V or more

On-board check of sensors



1. Coupling connector between engine — the machine
2. Main harness
3. Sensor connector
4. Engine harness

1. Disconnect the coupling connector, and check the sensor from engine harness connector.
2. Disconnect the connector from sensor, and short the wiring of sensor connector.
3. Check the harness from coupling connector for open circuit.
   - If both steps 1 and 2 are faulty, repair the harness. Check from step 1 again.
   - If only step 1 is faulty, replace the sensor.

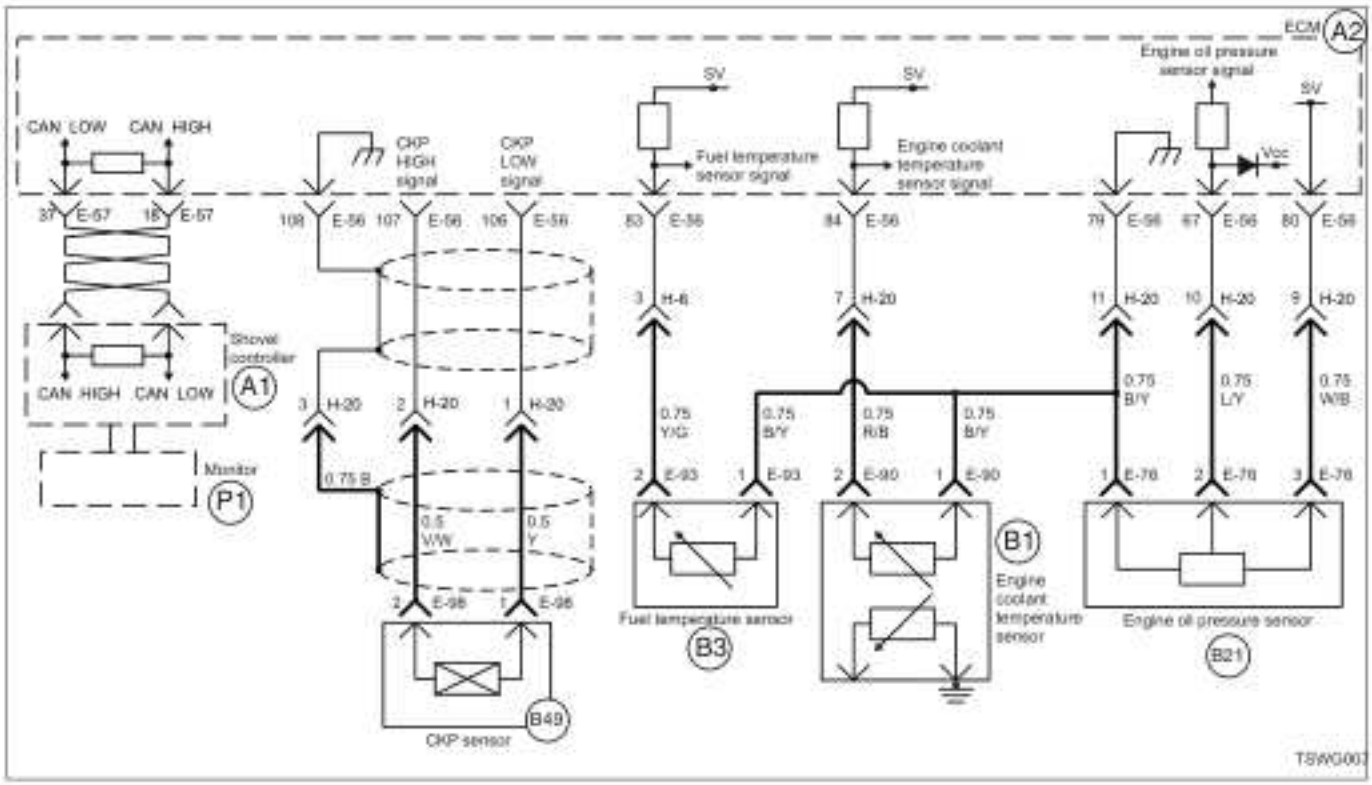
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Step	Action	Value	YES	NO
9	Check if other Error Code is detected. Is other Error Code detected?	—	Go to each Error Code diagnosis.	Verify repair.
10	Is Error Code 0612 detected?	—	Go to Step 2.	Go to Step 8.

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Error Code: 1173

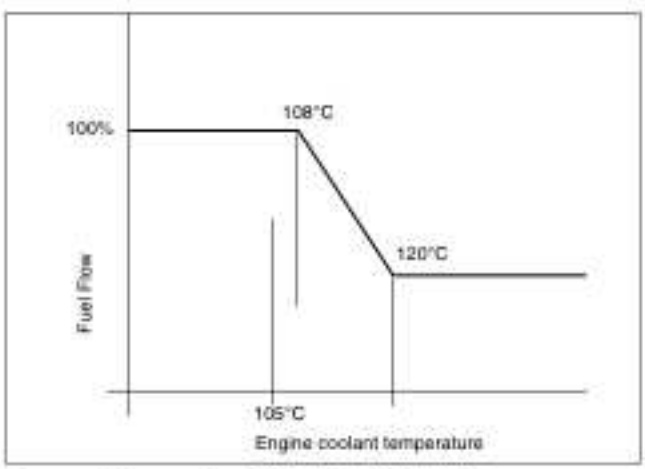
Overheat



Description of circuit

The engine coolant temperature (ECT) sensor is installed in the thermostat housing. The ETC sensor is the thermistor-type sensor, and the value of resistance and output voltage change according to the engine coolant temperature. As the engine coolant temperature increases, the resistance becomes small, and the voltage lowers. The ECM detects the engine coolant temperature based on the signal from the ECT sensor to perform various controls.

The ECM sets the Error Code when it judges that the engine coolant temperature exceed certain level based on the signal from the ECT sensor.



Main trouble symptom

- Output lowering

Fuel flow is regulated during overheat when the temperature exceeds 108°C.

Back-up mode

- When temperature gets 105°C or more

Preconditions when Error Code is set

- Key switch input voltage is 16V (18V for 6HK1) or more.
- Error Code 1630, 1633, 0117, or 0118 is not detected.
- Engine under operation

Error Code set condition

- Engine coolant temperature is more than 120°C for 5 seconds or more.

Action taken when Error Code is set

- When temperature gets 105°C or more "OVERHEAT" is displayed.

"OVERHEAT" is displayed.

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