

P0117 Engine Coolant Temperature Circuit Low

Wiring Diagram

Refer to "DTC P0116: Engine Coolant Temperature Circuit Range / Performance".

DTC Detecting Condition and Trouble Area

DTC detecting condition	Trouble area
Voltage of ECT sensor output is less than specified value with engine running. (High engine coolant temperature (low voltage / low resistance)) (1 driving cycle detection logic)	<ul style="list-style-type: none"> • ECT sensor circuit • ECT sensor • ECM

DTC Confirmation Procedure

- 1) With ignition switch turned OFF, connect scan tool.
- 2) Turn ON ignition switch and clear DTC using scan tool.
- 3) Start engine and run it for 10 sec. or more.
- 4) Check DTC and pending DTC.

Step	Action	Yes	No
1	Was "Engine and Emission Control System Check" performed?	Go to Step 2.	Go to "Engine and Emission Control System Check".
2	ECT sensor and its circuit check 1) Connect scan tool with ignition switch turned OFF. 2) Turn ON ignition switch. 3) Check engine coolant temp. displayed on scan tool. Is 119 °C (246 °F) indicated?	Go to Step 3.	Intermittent trouble. Check for intermittent referring to "Intermittent and Poor Connection Inspection in Section 00".

Step	Action	Yes	No
3	ECM voltage check 1) Disconnect connector from ECT sensor with ignition switch turned OFF. 2) Check for proper connection to ECT sensor at "LT GRN" and "GRY/BLU" wire terminals. 3) If OK, then turn ON ignition switch, measure voltage between "LT GRN" wire terminal of ECT sensor connector and vehicle body ground. Is voltage about 4 – 6 V?	Go to Step 6.	Go to Step 4.
4	ECT sensor short circuit check 1) Disconnect connectors from ECM with ignition switch turned OFF. 2) Measure resistance between "LT GRN" wire terminal of ECT sensor connector and vehicle body ground. Is resistance infinity?	Go to Step 5.	"LT GRN" wire is shorted to ground circuit. If wire is OK, substitute a known-good ECM and recheck.
5	ECT sensor short circuit check 1) Turn ON ignition switch. 2) Measure voltage between "LT GRN" wire terminal of ECT sensor connector and vehicle body ground. Is voltage about 0 V?	Go to Step 6.	"LT GRN" wire is shorted to other circuit. If wire is OK, substitute a known-good ECM and recheck.
6	ECT sensor for performance check 1) Check ECT sensor according to "Engine Coolant Temperature (ECT) Sensor Inspection in Section 1C". Is it in good condition?	Substitute a known-good ECM and recheck.	Replace ECT sensor.