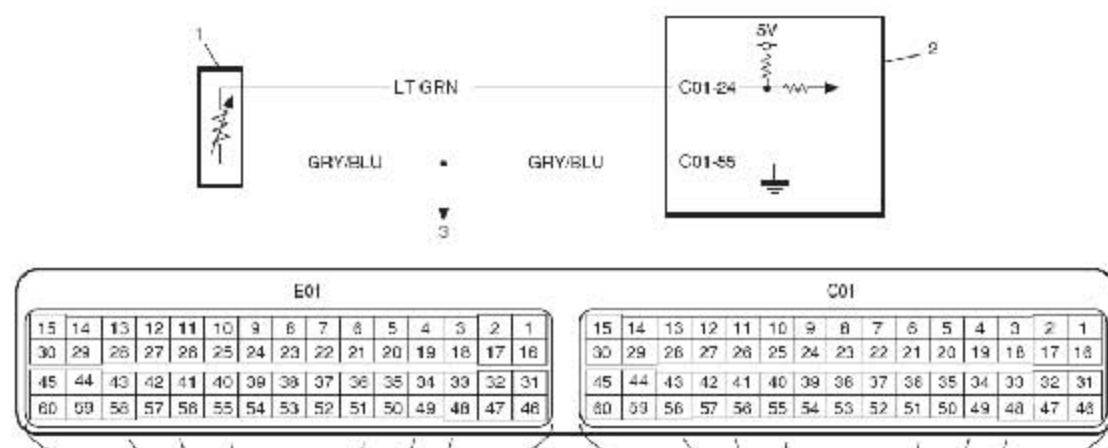


P0116 Engine Coolant Temperature Circuit Range / Performance

Wiring Diagram



1. ECT sensor

2. ECM

3. To other sensors

DTC Detecting Condition and Trouble Area

DTC detecting condition	Trouble area
ECT sensor values is less than temperature at A/F feedback start while engine is running under more than specified engine load (more than 1000 rpm) for specified time (depending on ECT at engine start (ex. 5 min at -10 °C, -4 °F)) continuously from engine start. (2 driving cycle detecting logic)	<ul style="list-style-type: none"> •ECT sensor • ECT sensor circuit • Thermostat •ECM

DTC Confirmation Procedure

- 1) With ignition switch turned OFF, connect scan tool.
- 2) Turn ON ignition switch, clear DTC.
- 3) Start engine.
- 4) Drive vehicle at 40 mph (60 km/h) or higher for 20 min. or more.
- 5) Stop vehicle.
- 6) Check DTC and pending DTC.

DTC Troubleshooting

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	DTC check 1) With ignition switch turned OFF, install scan tool to DLC. 2) Turn ON ignition switch and check DTC with scan tool. Is DTC P0118 displayed?	Go to "DTC P0118: Engine Coolant Temperature Circuit High".	Go to Step 3.
3	Engine coolant temp. check 1) Turn ON ignition switch and check engine coolant temp. displayed on scan tool. 2) Warm up engine to normal operating temp. and check engine coolant temp. displayed on scan tool. Does engine coolant temp. vary more than 1 °C (1 °F) and rise higher than 70 °C (158 °F)?	Intermittent trouble. Check for intermittent referring to "Intermittent and Poor Connection Inspection in Section 00".	Go to Step 4.
4	Thermostat check Is there a symptom due to thermostat remaining open (it takes a long time before vehicle heater becomes effective or before engine is warmed to normal operating temp., etc.)?	Check thermostat referring to "Thermostat Inspection in Section 1F".	Go to Step 5.

Step	Action	Yes	No
5	<p>Wire harness check</p> <p>1) Disconnect ECT sensor connector with ignition switch turned OFF.</p> <p>2) Check for proper connection to ECT sensor connector at "GRY/BLU" and "LT GRN" wire terminals.</p> <p>3) If OK, then with ignition switch ON, measure voltage between "LT GRN" wire terminal of ECT sensor connector and vehicle body ground.</p> <p>I5RW0A110024-01</p> <p>Is measured voltage applied to "LT GRN" wire terminal about 4 – 6 V?</p>	Go to Step 9.	Go to Step 6.
6	<p>ECM voltage check</p> <p>1) Turn OFF ignition switch.</p> <p>2) Remove ECM from its bracket with ECM connectors connected.</p> <p>3) Check for proper connection of ECM connector at "C01-24" terminal.</p> <p>4) If OK, then turn ON ignition switch, measure voltage between "C01-24" terminal of ECM connector and vehicle body ground.</p> <p>Is voltage about 4 – 6 V?</p>	<p>"LT GRN" wire is open circuit.</p> <p>If wire and connection are OK, go to Step 7.</p>	Go to Step 7.
7	<p>Wire circuit check</p> <p>1) Disconnect connectors from ECM with ignition switch turned OFF.</p> <p>2) Turn ignition switch to ON position.</p> <p>3) Measure voltage between "LT GRN" wire terminal of ECT sensor connector and body ground.</p> <p>Is voltage about 0 V?</p>	Go to Step 8.	<p>"LT GRN" wire is shorted to other circuit.</p> <p>If wire is OK, substitute a known-good ECM and recheck.</p>

Step	Action	Yes	No
8	Wire circuit check 1) Measure resistance between "C01-24" terminal of ECM connector and "LT GRN" wire terminal of ECT sensor connector with ignition switch turned OFF. Is resistance below 5 Ω ?	Go to Step 9.	"LT GRN" wire is high resistance circuit.
9	Ground circuit check 1) Connect connectors to ECM. 2) Check for proper connection of ECT sensor connector at "GRY/BLU" wire terminal. 3) Measure resistance between "GRY/BLU" wire terminal of ECT sensor connector and vehicle body ground. Is resistance below 5 Ω ?	Go to Step 11.	Go to Step 10.
10	Ground circuit check 1) Remove ECM from its bracket with ECM connectors connected. 2) Measure resistance between "C01-55" terminal of ECM connector and vehicle body ground. Is resistance below 5 Ω ?	"GRY/BLU" wire is high resistance circuit. Poor "C01-55" connection.	Faulty ECM ground circuit. If circuit is OK, substitute a known-good ECM and recheck.
11	ECT sensor 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.