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| DTC | P0116 | ENGINE COOLANT TEMP. CIRCUIT RANGE/PERFORMANCE PROBLEM |
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| DTC | P0125 | INSUFFICIENT COOLANT TEMPERATURE FOR CLOSED LOOP FUEL CONTROL |
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CIRCUIT DESCRIPTION

Refer to DTC P0115 on page 05-45 .

| DTC No. | DTC Detection Condition | Trouble Area |
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| P0116 | When THW $\geq 35^{\circ}\text{C}$ (95°F) and $< 60^{\circ}\text{C}$ (140°F), and THA $\geq -6.7^{\circ}\text{C}$ (20°F), and when starting engine, conditions (a) and (b) continue: (2 trip detection logic) (a) Vehicle speed is changing (Not stable) (b) THW change is lower than 3°C (37.4°F) from THW since when starting engine | <ul style="list-style-type: none"> • Cooling system • Engine coolant temperature sensor |
| | In case that reading value of engine coolant temp. sensor will not change more than 1°C (33.8°F) even after repeating 6 trips (detection logic) of adjusting speed pattern with THW more than 60°C (140°F) when engine starts. | |
| P0125 | If THW or THA $< -6.7^{\circ}\text{C}$ (20°F) at engine start, 20 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic) | |
| | If THW and THA $\geq -6.7^{\circ}\text{C}$ (20°F) and $< 10^{\circ}\text{C}$ (50°F) at engine start, 5 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic) | |
| | If THW and THA $\geq 10^{\circ}\text{C}$ (50°F) at engine start, 2 min. or more after starting engine, engine coolant temp. sensor value is 20°C (68°F) or less (2 trip detection logic) | |

INSPECTION PROCEDURE

HINT:

- If DTCs "P0115, P0116, P0117, P0118 and P0125" are output simultaneously, engine coolant temperature sensor circuit may be open or short. Perform the troubleshooting of DTC "P0115, P0117 or P0118" first.
- Read freeze frame data using the hand-held tester or the OBD II scan tool, as freeze frame data records the engine conditions when a malfunction is detected. When troubleshooting, it is useful for determining whether the vehicle was running or stopped, the engine was warmed up or not, the air-fuel ratio was lean or rich, etc. at the time of the malfunction.

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| 1 | CHECK OTHER DTC OUTPUT(BESIDES DTC P0116 AND/OR P0125) |
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(a) Read the DTC using the hand-held tester or the OBD II scan tool.

Result:

| Display (DTC output) | Proceed to |
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| Only "P0116 and/or P0125" are output | A |
| "P0116 or P0125" and other DTCs are output | B |

HINT:

If any other codes besides "P0116 and/or P0125" are output, perform the troubleshoot on that DTC before.

B**GO TO RELEVANT DTC CHART**
(See page [05-18](#))**A****2** **INSPECT THERMOSTAT** (See page [16-3](#))**NG****REPLACE THERMOSTAT** (See page [16-9](#))**OK****REPLACE ENGINE COOLANT TEMPERATURE SENSOR**