

<b>DTC</b>	<b>P0116</b>	<b>Engine Coolant Temp. Circuit Range/Performance Problem</b>
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## CIRCUIT DESCRIPTION

Refer to Engine Coolant Temp. Circuit Malfunction on page [DI-181](#).

DTC No.	DTC Detecting Condition	Trouble Area
P0116	When the engine starts, the water temp. is $-7^{\circ}\text{C}$ ( $20^{\circ}\text{F}$ ) or less. And, 20 min. or more after the engine starts, the engine coolant temp. sensor value is $20^{\circ}\text{C}$ ( $68^{\circ}\text{F}$ ) or less (2 trip detection logic)	<ul style="list-style-type: none"> <li>• Engine coolant temp. sensor</li> <li>• Cooling system</li> </ul>
	When the engine starts, the water temp. is between $-7^{\circ}\text{C}$ ( $20^{\circ}\text{F}$ ) and $10^{\circ}\text{C}$ ( $50^{\circ}\text{F}$ ). And, 5 min. or more after the engine starts, the engine coolant temp. sensor value is $20^{\circ}\text{C}$ ( $68^{\circ}\text{F}$ ) or less (2 trip detection logic)	

## WIRING DIAGRAM

Refer to Engine Coolant Temp. Circuit Malfunction on page [DI-181](#).

## INSPECTION PROCEDURE

HINT:

If DTCs "P0115" (Engine Coolant Temp. Circuit Malfunction) and "P0116" (Engine Coolant Temp. Circuit Range/Performance) are output simultaneously, engine coolant temp. sensor circuit may be open. Perform troubleshooting of DTC P0115 first.

<b>1</b>	<b>Are there any other codes (besides DTC P0116) being output?</b>
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**YES**

**Go to relevant DTC chart.**

**NO**

<b>2</b>	<b>Check thermostat (See page CO-13).</b>
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**NG**

**Replace thermostat.**

**OK**

**Replace engine coolant temp. sensor.**