

Throttle Position Sensor Range/Performance Monitor Description

MONITOR SUMMARY

Contact type

The throttle position sensor is equipped with 2 measuring elements: one is for engine control (VTA) and the other is for malfunction detection (VTA2). These elements vary their resistance according to how much the throttle valve is open. The ECM applies a regulated reference voltage to the throttle position sensor “+” terminal and calculates the angle of the throttle valve based on the voltages present at the throttle position sensor “signal” terminals. When the throttle valve is near the fully closed position, the output voltages of these elements are low. When it is near the fully open position, the output voltages are high.

The ECM compares the output voltages of these 2 elements. If the ECM detects that the voltage difference between them is out of the specified range, the ECM interprets this as a malfunction in the throttle position sensor and sets a DTC.

Non-contact type (Some 2003 and later models)

The throttle position sensor is equipped with 2 measuring elements: one is for engine control (VTA) and the other is for malfunction detection (VTA2). Each of these elements contains a “Hall-effect” element and a magnet. The magnet rotates with the movement of the throttle shaft. As the magnet approaches the Hall element, the resistance of the element changes and this changes the signal voltage detected by the ECM. The ECM detects how much the throttle valve is open, based on the voltage supplied from the Hall-effect element. When the throttle valve is near the fully closed position, the output voltages of these elements are low. When it is near the fully open position, the output voltages are high.

The ECM compares the output voltages of these 2 elements. If the ECM detects that the voltage difference between them is out of the specified range, the ECM interprets this as a malfunction in the throttle position sensor and sets a DTC.

RELATED DTC

Previous code:

Related DTCs	P0121	Throttle position sensor malfunction
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Extended code:

Related DTCs	P0121	Throttle position sensor malfunction
	P2135	VTA and VTA2 voltage misalignment

MODEL YEAR CHART

Model Year	See Page
1998 to 2004	Ce-39