

5.40 DTC P0120, P0121, P0122, P0123, P0220, P1121, P1122, P1516 or P2135 – Throttle Position Sensor Circuit

DTC Description

This diagnostic procedure supports the following DTCs:

- DTC P0120 – Throttle Position Sensor 1 Circuit Range / Performance
- DTC P0121 – Throttle Position Sensor Circuit Insufficient Activity
- DTC P0122 – Throttle Position Circuit Low Voltage
- DTC P0123 – Throttle Position Circuit High Voltage
- DTC P0220 – Throttle Position Sensor 2 Circuit Range / Performance
- DTC P1121 – Throttle Position Sensor Circuit Intermittent High
- DTC P1122 – Throttle Position Sensor Circuit Intermittent Low
- DTC P1516 – Throttle Actuator Control Module Throttle Actuator Position Performance
- DTC P2135 – Throttle Position Sensor 1-2 Correlation

Circuit Description

The TACM applies 5 V to each Throttle Position Sensor (TPS) through a 5 V reference and a ground through a low reference circuit. Each TPS signal circuit provides the TACM with a signal voltage that is proportional to the throttle plate movement. The TP sensor signal voltage is below one V when the throttle plate is in the closed position and increases to above 4 V when the throttle plate is moved to wide-open throttle.

The TACM monitors and compares the TP sensor 1 signal voltage to the TP sensor signal voltage 2. In addition, the TACM compares the TP sensor signal to the MAF sensor signal to determine a calculated TP sensor signal.

A Throttle Position Sensor DTC will set if the TACM detects an unacceptable difference between TP sensor 1 and TP sensor 2 signals, an unacceptable difference from the calculated TP sensor signal or that either TPS is outside a predetermined range.

NOTE

Although the TACM performs the diagnostic evaluation for the TAC system, the DTC is set in the PCM. Refer to [Section 6C3-1 Powertrain Management – GEN III V8 – General Information](#) for further information on the TAC system operation.

Additional Information

- Refer to [Section 6C3-1 Powertrain Management – GEN III V8 – General Information](#) for details of the TAC system operation.
- The PCM defaults to a reduced power mode if there is a fault condition in the TP sensor circuits for the entire ignition cycle, even if the fault condition is corrected.
- Since fault condition in a wiring connector may trigger DTCs, always test the connectors related to this diagnostic procedure for shorted terminals or poor wiring connection before replacing any component. Refer to [Section 12P Wiring Diagrams](#) for information on electrical fault diagnosis.
- Refer to [2 Wiring Diagram and Connector Chart](#) to aid in diagnosis.
- For intermittent fault conditions, refer to [4.2 Intermittent Fault Conditions](#).