

## DIAGNOSTIC TROUBLE CODE CHART

### HINT:

Parameters listed in the chart may not be exactly the same as your reading due to the type of instrument or other factors.

If a malfunction code is displayed during the DTC check in check mode, check the circuit for the codes listed in the table below. For details of each code, turn to the page referred to under the "See page " for the respective "DTC No." in the DTC chart.

### SAE CONTROLLED:

DTC No.	Detection Item	Trouble Area	MIL*	Memory
P0100 (DI-23)	Mass Air Flow Circuit Malfunction	<ul style="list-style-type: none"> <li>• Open or short in mass air flow meter circuit</li> <li>• Mass air flow meter</li> <li>• ECM</li> </ul>	○	○
P0101 (DI-27)	Mass Air Flow Circuit Range/Performance Problem	<ul style="list-style-type: none"> <li>• Mass air flow meter</li> </ul>	○	○
P0110 (DI-28)	Intake Air Temp. Circuit Malfunction	<ul style="list-style-type: none"> <li>• Open or short in intake air temp. sensor circuit</li> <li>• Intake air temp. sensor (built into mass air flow meter)</li> <li>• ECM</li> </ul>	○	○
P0115 (DI-32)	Engine Coolant Temp. Circuit Malfunction	<ul style="list-style-type: none"> <li>• Open or short in engine coolant temp. sensor circuit</li> <li>• Engine coolant temp. sensor</li> <li>• ECM</li> </ul>	○	○
P0116 (DI-36)	Engine Coolant Temp. Circuit Range/Performance Problem	<ul style="list-style-type: none"> <li>• Cooling system</li> <li>• Engine coolant temp. sensor</li> </ul>	○	○
P0120 (DI-37)	Throttle/Pedal Position Sensor/Switch "A" Circuit Malfunction	<ul style="list-style-type: none"> <li>• Open or short in throttle position sensor circuit</li> <li>• Throttle position sensor</li> <li>• ECM</li> </ul>	○	○
P0121 (DI-41)	Throttle/Pedal Position Sensor/Switch "A" Circuit Range/Performance Problem	<ul style="list-style-type: none"> <li>• Throttle position sensor</li> </ul>	○	○
P0125 (DI-42)	Insufficient Coolant Temp. for Closed Loop Fuel Control	<ul style="list-style-type: none"> <li>• Open or short in heated oxygen sensor (bank 1, 2 sensor 1) circuit</li> <li>• Heated oxygen sensor (bank 1, 2 sensor 1)</li> <li>• Air induction system</li> <li>• Fuel pressure</li> <li>• Injector</li> <li>• Gas leakage on exhaust system</li> <li>• ECM</li> </ul>	○	○
P0130 (DI-47)	Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 1)	<ul style="list-style-type: none"> <li>• Open or short in heated oxygen sensor circuit</li> <li>• Heated oxygen sensor</li> <li>• Air induction system</li> <li>• Fuel pressure</li> <li>• Injector</li> <li>• ECM</li> </ul>	○	○
P0133 (DI-51)	Oxygen Sensor Circuit Slow Response (Bank 1 Sensor 1)	<ul style="list-style-type: none"> <li>• Open or short in heated oxygen sensor circuit</li> <li>• Heated oxygen sensor</li> <li>• Air induction system</li> <li>• Fuel pressure</li> <li>• Injector</li> <li>• ECM</li> </ul>	○	○
P0135 (DI-54)	Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)	<ul style="list-style-type: none"> <li>• Open or short in heater circuit of heated oxygen sensor</li> <li>• Heated oxygen sensor heater</li> <li>• ECM</li> </ul>	○	○
P0136 (DI-56)	Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 2)	<ul style="list-style-type: none"> <li>• Open or short in heated oxygen sensor circuit</li> <li>• Heated oxygen sensor</li> </ul>	○	○

## DIAGNOSTICS – ENGINE

P0141 (DI-54)	Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)	• Same as DTC No. P0135	○	○
P0150 (DI-47)	Oxygen Sensor Circuit Malfunction (Bank 2 Sensor 1)	• Same as DTC No. P0130	○	○
P0153 (DI-51)	Oxygen Sensor Circuit Slow Response (Bank 2 Sensor 1)	• Same as DTC No. P0133	○	○
P0155 (DI-54)	Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 1)	• Same as DTC No. P0135	○	○
P0171 (DI-58)	System too Lean (Fuel Trim) (Bank 1)	<ul style="list-style-type: none"> <li>• Air induction system</li> <li>• Injector blockage</li> <li>• Mass air flow meter</li> <li>• Engine coolant temp. sensor</li> <li>• Fuel pressure</li> <li>• Gas leakage on exhaust system</li> <li>• Open or short in heated oxygen sensor (bank 1 sensor 1) circuit</li> <li>• Heated oxygen sensor (bank 1 sensor 1)</li> <li>• ECM</li> </ul>	○	○
P0172 (DI-58)	System too Rich (Fuel Trim) (Bank 1)	<ul style="list-style-type: none"> <li>• Injector leak, blockage</li> <li>• Mass air flow meter</li> <li>• Engine coolant temp. sensor</li> <li>• Ignition system</li> <li>• Fuel pressure</li> <li>• Gas leakage on exhaust system</li> <li>• Open or short in heated oxygen sensor (bank 1, sensor 1) circuit</li> <li>• Heated oxygen sensor (bank 1, sensor 1)</li> <li>• ECM</li> </ul>	○	○
P0174 (DI-58)	System too Lean (Fuel Trim) (Bank 2)	• Same as the DTC No. P0171	○	○
P0175 (DI-58)	System too Rich (Fuel Trim) (Bank 2)	• Same as the DTC No. P0172	○	○
P0300 (DI-63)	Random/Multiple Cylinder Misfire Detected	<ul style="list-style-type: none"> <li>• Open or short in engine wire</li> <li>• Connector connection</li> <li>• Vacuum hose connection</li> <li>• Ignition system</li> <li>• Injector</li> <li>• Fuel pressure</li> <li>• Mass air flow meter</li> <li>• Engine coolant temp. sensor</li> <li>• Compression pressure</li> <li>• Valve clearance</li> <li>• Valve timing</li> <li>• ECM</li> </ul>	○	○
P0301 (DI-63)	Cylinder 1 Misfire Detected			
P0302 (DI-63)	Cylinder 2 Misfire Detected			
P0303 (DI-63)	Cylinder 3 Misfire Detected			
P0304 (DI-63)	Cylinder 4 Misfire Detected			
P0325 (DI-68)	Knock Sensor 1 Circuit Malfunction (Bank 1)	<ul style="list-style-type: none"> <li>• Open or short in knock sensor circuit</li> <li>• Knock sensor (looseness)</li> <li>• ECM</li> </ul>	○	○
P0335 (DI-71)	Crankshaft Position Sensor "A" Circuit Malfunction	<ul style="list-style-type: none"> <li>• Open or short in crankshaft position sensor circuit</li> <li>• Crankshaft position sensor</li> <li>• Crank angle sensor plate</li> <li>• ECM</li> </ul>	○	○
P0340 (DI-73)	Camshaft Position Sensor Circuit Malfunction	<ul style="list-style-type: none"> <li>• Open or short in camshaft position sensor circuit</li> <li>• Camshaft position sensor</li> <li>• Intake Camshaft</li> <li>• ECM</li> </ul>	○	○

P0420 (DI-75)	Catalyst System Efficiency Below Threshold (Bank 1)	<ul style="list-style-type: none"> <li>• Gas leakage on exhaust system</li> <li>• Heated oxygen sensor</li> <li>• Three-way catalytic converter</li> </ul>	○	○
P0440 (DI-78)	Evaporative Emission Control System Malfunction	<ul style="list-style-type: none"> <li>• Hose or tube cracked, holed, damaged or loose seal ((3) in Fig.1)</li> <li>• Fuel tank cap incorrectly installed</li> <li>• Fuel tank cap cracked or damaged</li> <li>• Vacuum hose cracked, holed, blocked, damaged or disconnected ((1) or (2) in Fig. 1)</li> <li>• Fuel tank cracked, holed or damaged</li> <li>• Charcoal canister cracked, holed or damaged</li> <li>• Open or short in vapor pressure sensor circuit</li> <li>• Vapor pressure sensor</li> <li>• Fuel tank over fill check valve cracked or damaged</li> <li>• ECM</li> </ul>	○	○
P0441 (DI-84)	Evaporative Emission Control System Incorrect Purge Flow	<ul style="list-style-type: none"> <li>• Vacuum hose cracked, holed, blocked damaged or disconnected((1), (2), (3),(4),(5), (6), (7), (8), (9), (10) and (11) in Fig.1)</li> <li>• Fuel tank cap incorrectly installed</li> <li>• Fuel tank cap cracked or damaged</li> <li>• Open or short in vapor pressure sensor circuit</li> <li>• Vapor pressure sensor</li> <li>• Open or short in VSV circuit for EVAP</li> <li>• VSV for EVAP</li> <li>• Open or short in VSV circuit for pressure switching valve</li> <li>• VSV for pressure switching valve</li> <li>• Fuel tank cracked, holed or damaged</li> <li>• Charcoal canister cracked, holed or damaged</li> <li>• Fuel tank over fill check valve cracked or damaged</li> <li>• ECM</li> </ul>	○	○
P0446 (DI-84)	Evaporative Emission Control System Vent Control Malfunction	<ul style="list-style-type: none"> <li>• Same as DTC No. P0441</li> </ul>	○	○
P0450 (DI-101)	Evaporative Emission Control System Pressure Sensor Malfunction	<ul style="list-style-type: none"> <li>• Open or short in vapor pressure sensor circuit</li> <li>• Vapor pressure sensor</li> <li>• ECM</li> </ul>	○	○
P0451 (DI-101)	Evaporative Emission Control System Pressure Sensor Range/Performance			
P0500 (DI-103)	Vehicle Speed Sensor Malfunction	<ul style="list-style-type: none"> <li>• Combinationmeter</li> <li>• Open or short in vehicle speed sensor circuit</li> <li>• Vehicle speed sensor</li> <li>• ECM</li> </ul>	○	○
P0505 (DI-106)	Idle Control System Malfunction	<ul style="list-style-type: none"> <li>• Open or short in IAC valve circuit</li> <li>• IAC valve is stuck or closed</li> <li>• Open or short in A/C switch circuit</li> <li>• Air induction system</li> <li>• ECM</li> </ul>	○	○

\*: ○ ... MIL lights up

**MANUFACTURER CONTROLLED:**

DTC No. (See Page)	Detection Item	Trouble Area	MIL*	Memory
P1300 (DI-109)	Igniter Circuit Malfunction (No. 1)	<ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF and IGT1 circuit from No. 1 ignition coil with igniter to ECM</li> <li>• No. 1 ignition coil with igniter</li> <li>• ECM</li> </ul>	○	○
P1305 (DI-109)	Igniter Circuit Malfunction (No. 2)	<ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF and IGT2 circuit from No. 2 ignition coil with igniter to ECM</li> <li>• No. 2 ignition coil with igniter</li> <li>• ECM</li> </ul>	○	○
P1310 (DI-109)	Igniter Circuit Malfunction (No. 3)	<ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF and IGT3 circuit from No. 3 ignition coil with igniter to ECM</li> <li>• No. 3 ignition coil with igniter</li> <li>• ECM</li> </ul>	○	○
P1315 (DI-109)	Igniter Circuit Malfunction (No. 4)	<ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF and IGT4 circuit from No. 4 ignition coil with igniter to ECM</li> <li>• No. 4 ignition coil with igniter</li> <li>• ECM</li> </ul>	○	○
P1335 (DI-115)	Crankshaft Position Sensor Circuit Malfunction (During engine running)	<ul style="list-style-type: none"> <li>• Same as DTC No. P0335</li> </ul>	–	○
P1346 (DI-116)	VVT Sensor/Camshaft Position Sensor Circuit Range/Performance Problem (Bank 1)	<ul style="list-style-type: none"> <li>• Mechanical system (Jumping teeth of timing chain, chain stretched)</li> <li>• ECM</li> </ul>	○	○
P1349 (DI-117)	VVT System Malfunction (Bank 1)	<ul style="list-style-type: none"> <li>• Valve timing</li> <li>• OCV</li> <li>• VVT controller assembly</li> <li>• ECM</li> </ul>	○	○
P1600 (DI-123)	ECM BATT Malfunction	<ul style="list-style-type: none"> <li>• Open in back up power source circuit</li> <li>• ECM</li> </ul>	○	○
P1645 (DI-125)	Body ECU Malfunction	<ul style="list-style-type: none"> <li>• Body ECU</li> <li>• A/C ECU</li> <li>• Vane pump assembly with motor</li> <li>• ABS ECU</li> <li>• Combinationmeter</li> <li>• Air bag sensor assembly</li> <li>• Communication bus</li> </ul>	–	–
P1656 (DI-127)	OCV Circuit Malfunction (Bank 1)	<ul style="list-style-type: none"> <li>• Open or short in OCV circuit</li> <li>• OCV</li> <li>• ECM</li> </ul>	○	○

\*: ○ ... MIL lights up. – ... MIL does not light up.