

DIAGNOSTIC TROUBLE CODE CHART

HINT:

The parameters listed in the chart are for reference only.

Factors such as instrument type may cause readings to differ slightly from stated values.

If any DTCs are displayed during a check mode DTC check, check the circuit for the DTCs listed in the table below. For details of each DTC, refer to the page indicated.

SFI SYSTEM:

DTC Code	Detection Item	Trouble Areas	MIL	Memory	See page
P0010	Camshaft Position "A" Actuator Circuit (Bank 1)	1. Open or short in Oil Control Valve (OCV) circuit 2. OCV 3. ECM	Comes on	DTC Stored	ES-45
P0011	Camshaft Position "A" - Timing Over-Advanced or System Performance (Bank 1)	1. Valve timing 2. OCV 3. OCV filter 4. VVT (Variable Valve Timing) controller 5. ECM	Comes on	DTC Stored	ES-49
P0012	Camshaft Position "A" - Timing Over-Retarded (Bank 1)	Same as DTC P0011	Comes on	DTC Stored	ES-49
P0016	Crankshaft Position - Camshaft Position Correlation (Bank 1 Sensor A)	1. Mechanical system (Timing chain has jumped tooth or chain stretched) 2. ECM	Comes on	DTC Stored	ES-59
P0031	Oxygen Sensor Heater Control Circuit Low (Bank 1 Sensor 1)	1. Open in Air-Fuel Ratio (A/F) sensor heater circuit 2. A/F sensor heater 3. EFI relay 4. ECM	Comes on	DTC Stored	ES-61
P0032	Oxygen Sensor Heater Control Circuit High (Bank 1 Sensor 1)	1. Short in A/F sensor heater circuit 2. A/F sensor heater 3. EFI relay 4. ECM	Comes on	DTC Stored	ES-61
P0037	Oxygen Sensor Heater Control Circuit Low (Bank 1 Sensor 2)	1. Open in Heated Oxygen (HO2) sensor circuit 2. HO2 sensor heater 3. EFI relay 4. ECM	Comes on	DTC Stored	ES-66
P0038	Oxygen Sensor Heater Control Circuit High (Bank 1 Sensor 2)	1. Short in HO2 sensor heater circuit 2. HO2 sensor heater 3. EFI relay 4. ECM	Comes on	DTC Stored	ES-66
P0100	Mass or Volume Air Flow Circuit	1. Open or short in Mass Air Flow (MAF) meter circuit 2. MAF meter 3. ECM	Comes on	DTC Stored	ES-71
P0101	Mass or Volume Air Flow Circuit Range / Performance Problem	MAF meter	Comes on	DTC Stored	ES-78
P0102	Mass or Volume Air Flow Circuit Low Input	1. Open in MAF meter circuit 2. MAF meter 3. ECM	Comes on	DTC Stored	ES-71
P0103	Mass or Volume Air Flow Circuit High Input	1. Short in MAF meter circuit 2. MAF meter 3. ECM	Comes on	DTC Stored	ES-71
P0110	Intake Air Temperature Circuit	1. Open or short in Intake Air Temperature (IAT) sensor circuit 2. IAT sensor (built into Mass Air Flow [MAF] meter) 3. ECM	Comes on	DTC Stored	ES-81

ES

DTC Code	Detection Item	Trouble Areas	MIL	Memory	See page
P0112	Intake Air Temperature Circuit Low Input	1. Short in IAT sensor circuit 2. IAT sensor (built into MAF meter) 3. ECM	Comes on	DTC Stored	ES-81
P0113	Intake Air Temperature Circuit High Input	1. Open in IAT sensor circuit 2. IAT sensor (built into MAF meter) 3. ECM	Comes on	DTC Stored	ES-81
P0115	Engine Coolant Temperature Circuit	1. Open or short in Engine Coolant Temperature (ECT) sensor circuit 2. ECT sensor 3. ECM	Comes on	DTC Stored	ES-87
P0116	Engine Coolant Temperature Circuit Range / Performance Problem	ECT sensor	Comes on	DTC Stored	ES-93
P0117	Engine Coolant Temperature Circuit Low Input	1. Short in ECT sensor circuit 2. ECT sensor 3. ECM	Comes on	DTC Stored	ES-87
P0118	Engine Coolant Temperature Circuit High Input	1. Open in ECT sensor circuit 2. ECT sensor 3. ECM	Comes on	DTC Stored	ES-87
P0120	Throttle / Pedal Position Sensor / Switch "A" Circuit	1. Throttle Position (TP) sensor (built into throttle body) 2. ECM	Comes on	DTC Stored	ES-96
P0121	Throttle / Pedal Position Sensor / Switch "A" Circuit Range / Performance Problem	TP sensor (built into throttle body)	Comes on	DTC Stored	ES-105
P0122	Throttle / Pedal Position Sensor / Switch "A" Circuit Low Input	1. TP sensor (built into throttle body) 2. Short in VTA1 circuit 3. Open in VC circuit 4. ECM	Comes on	DTC Stored	ES-96
P0123	Throttle / Pedal Position Sensor / Switch "A" Circuit High Input	1. TP sensor (built into throttle body) 2. Open in VTA1 circuit 3. Open in E2 circuit 4. Short between VC and VTA1 circuits 5. ECM	Comes on	DTC Stored	ES-96
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control	1. Cooling system 2. ECT sensor 3. Thermostat	Comes on	DTC Stored	ES-107
P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)	1. Thermostat 2. Cooling system 3. ECT sensor 4. ECM	Comes on	DTC Stored	ES-110
P0136	Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 2)	1. Open or short in Heated Oxygen (HO2) sensor (sensor 2) circuit 2. HO2 sensor (sensor 2) 3. HO2 sensor heater (sensor 2) 4. A/F sensor (sensor 1) 5. A/F sensor heater (sensor 1) 6. EFI relay 7. Gas leakage from exhaust system	Comes on	DTC Stored	ES-113
P0137	Oxygen Sensor Circuit Low Voltage (Bank 1 Sensor 2)	1. Open in HO2 sensor (sensor 2) circuit 2. HO2 sensor (sensor 2) 3. HO2 sensor heater (sensor 2) 4. EFI relay 5. Gas leakage from exhaust system	Comes on	DTC Stored	ES-113
P0138	Oxygen Sensor Circuit High Voltage (Bank 1 Sensor 2)	1. Short in HO2 sensor (sensor 2) circuit 2. Short in HO2 sensor (sensor 2) 3. ECM internal circuit malfunction	Comes on	DTC Stored	ES-113

ES

DTC Code	Detection Item	Trouble Areas	MIL	Memory	See page
P0171	System Too Lean (Bank 1)	1. Air induction system 2. Injector blockage 3. Mass Air Flow (MAF) meter 4. Engine Coolant Temperature (ECT) sensor 5. Fuel pressure 6. Gas leakage from exhaust system 7. Open or short in A/F sensor (sensor 1) circuit 8. A/F sensor (sensor 1) 9. A/F sensor heater (sensor 1) 10. EFI relay 11. A/F sensor heater and EFI relay circuits 12. PCV hose connections 13. PCV valve and hose 14. ECM	Comes on	DTC Stored	ES-137
P0172	System Too Rich (Bank 1)	1. Injector leakage or blockage 2. MAF meter 3. ECT sensor 4. Ignition system 5. Fuel pressure 6. Gas leakage from exhaust system 7. Open or short in A/F sensor (sensor 1) circuit 8. A/F sensor (sensor 1) 9. A/F sensor heater (sensor 1) 10. EFI relay 11. A/F sensor heater and EFI relay circuits 12. ECM	Comes on	DTC Stored	ES-137
P0220	Throttle / Pedal Position Sensor / Switch "B" Circuit	1. Throttle Position (TP) sensor (built into throttle body) 2. ECM	Comes on	DTC Stored	ES-96
P0222	Throttle / Pedal Position Sensor / Switch "B" Circuit Low Input	1. TP sensor (built into throttle body) 2. Short in VTA2 circuit 3. Open in VC circuit 4. ECM	Comes on	DTC Stored	ES-96
P0223	Throttle / Pedal Position Sensor / Switch "B" Circuit High Input	TP sensor (built into throttle body) 1. Open in VTA2 circuit 2. Open in E2 circuit 3. Short between VC and VTA2 circuits 4. ECM	Comes on	DTC Stored	ES-96
P0300	Random / Multiple Cylinder Misfire Detected	1. Open or short in engine wire harness 2. Connector connections 3. Vacuum hose connections 4. Ignition system 5. Injector 6. Fuel pressure 7. Mass Air Flow (MAF) meter 8. Engine Coolant Temperature (ECT) sensor 9. Compression pressure 10. Valve clearance 11. Valve timing 12. PCV hose connections 13. PCV hose 14. ECM	Comes on or flashes	DTC Stored	ES-156
P0301	Cylinder 1 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC Stored	ES-156
P0302	Cylinder 2 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC Stored	ES-156
P0303	Cylinder 3 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC Stored	ES-156

ES

DTC Code	Detection Item	Trouble Areas	MIL	Memory	See page
P0304	Cylinder 4 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC Stored	ES-156
P0325	Knock Sensor 1 Circuit	1. Open or short in knock sensor circuit 2. Knock sensor 3. ECM	Comes on	DTC Stored	ES-169
P0327	Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor)	1. Open in knock sensor circuit 2. Knock sensor 3. ECM	Comes on	DTC Stored	ES-169
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor)	1. Short in knock sensor circuit 2. Knock sensor 3. ECM	Comes on	DTC Stored	ES-169
P0335	Crankshaft Position Sensor "A" Circuit	1. Open or short in Crankshaft Position (CKP) sensor circuit 2. CKP sensor 3. Sensor plate (CKP sensor plate No. 1) 4. ECM	Comes on	DTC Stored	ES-173
P0339	Crankshaft Position Sensor "A" Circuit Intermittent	Same as DTC P0335	Does not come on	DTC Stored	ES-173
P0340	Camshaft Position Sensor "A" Circuit (Bank 1 or Single Sensor)	1. Open or short in Camshaft Position (CMP) sensor circuit 2. CMP sensor 3. Camshaft 4. Timing chain has jumped tooth 5. ECM	Comes on	DTC Stored	ES-178
P0341	Camshaft Position Sensor "A" Circuit Range / Performance (Bank 1 or Single Sensor)	Same as DTC P0340	Comes on	Comes on	ES-178
P0351	Ignition Coil "A" Primary / Secondary Circuit	1. Ignition system 2. Open or short in IGF or IGT circuit (1 to 4) between ignition coil with igniter and ECM 3. No. 1 to No. 4 ignition coil with igniters 4. ECM	Comes on	DTC Stored	ES-183
P0352	Ignition Coil "B" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC Stored	ES-183
P0353	Ignition Coil "C" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC Stored	ES-183
P0354	Ignition Coil "D" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC Stored	ES-183
P0420	Catalyst System Efficiency Below Threshold (Bank 1)	1. Gas leakage from exhaust system 2. A/F sensor (sensor 1) 3. Heated Oxygen (HO2) sensor (sensor 2) 4. Front exhaust pipe (Three-Way Catalytic Converter (TWC))	Comes on	DTC Stored	ES-192
P043E	Evaporative Emission System Reference Orifice Clog Up	1. Pump module 2. Leakage from EVAP system 3. Connector/Wire harness 4. ECM	Comes on	DTC Stored	ES-200
P043F	Evaporative Emission System Reference Orifice High Flow	1. Pump module 2. Leakage from EVAP system 3. Connector/Wire harness 4. ECM	Comes on	DTC Stored	ES-200
P0441	Evaporative Emission Control System Incorrect Purge Flow	1. Purge valve 2. Connector/Wire harness (between purge valve and ECM) 3. Leakage from EVAP line (between purge valve and intake manifold) 4. ECM	Comes on	DTC Stored	ES-206
P0450	Evaporative Emission Control System Pressure Sensor / Switch	1. Pump module (including pressure sensor) 2. ECM	Comes on	DTC Stored	ES-213

DTC Code	Detection Item	Trouble Areas	MIL	Memory	See page
P0451	Evaporative Emission Control System Pressure Sensor Range / Performance	1. Pump module (including pressure sensor) 2. Connector/Wire harness 3. ECM	Comes on	DTC Stored	ES-213
P0452	Evaporative Emission Control System Pressure Sensor / Switch Low Input	1. Pump module (including pressure sensor) 2. Connector/Wire harness 3. ECM	Comes on	DTC Stored	ES-213
P0453	Evaporative Emission Control System Pressure Sensor / Switch High Input	1. Pump module (including pressure sensor) 2. Connector/Wire harness 3. ECM	Comes on	DTC Stored	ES-213
P0455	Evaporative Emission Control System Leak Detected (Gross Leak)	1. Fuel tank cap (loose) 2. Leakage from EVAP line (between canister and fuel tank) 3. Leakage from EVAP line (between purge valve and canister) 4. Pump module 5. Leakage from fuel tank 6. Leakage from canister	Comes on	DTC Stored	ES-222
P0456	Evaporative Emission Control System Leak Detected (Very Small Leak)	Same as DTC P0455	Comes on	DTC Stored	ES-222
P0500	Vehicle Speed Sensor "A"	1. Open or short in speed sensor circuit 2. Vehicle speed sensor 3. Combination meter 4. ECM 5. Skid control ECU	Comes on	DTC Stored	ES-227
P0504	Brake Switch "A" / "B" Correlation	1. Short in stop light switch signal circuit 2. STOP fuse 3. Stop light switch 4. ECM	Does not come on	DTC Stored	ES-231
P0505	Idle Control System Malfunction	1. ETCS (Electronic Throttle Control System) 2. Air induction system 3. PCV hose connections 4. ECM	Comes on	DTC Stored	ES-238
P0560	System Voltage	1. Open in back up power source circuit 2. EFI fuse 3. ECM	Comes on	DTC Stored	ES-241
P0601	Internal Control Module Memory Check Sum Error	ECM	Comes on	DTC Stored	ES-245
P0604	Internal Control Module Random Access Memory (RAM) Error	ECM	Comes on	DTC Stored	ES-247
P0606	ECM / PCM Processor	1. Exhaust gas leak 2. HO2 sensor 3. ECM	Comes on	DTC Stored	ES-249
P0607	Control Module Performance	ECM	Comes on	DTC Stored	ES-252
P0617	Starter Relay Circuit High	1. Park/Neutral Position (PNP) switch (A/T) 2. Clutch start switch (M/T) 3. Starter relay circuit 4. Ignition switch 5. ECM	Comes on	DTC Stored	ES-254
P0630	VIN not Programmed or Mismatch - ECM / PCM	ECM	Comes on	DTC Stored	ES-261
P0657	Actuator Supply Voltage Circuit / Open	ECM	Comes on	DTC Stored	ES-263
P2102	Throttle Actuator Control Motor Circuit Low	1. Open in throttle actuator circuit 2. Throttle actuator 3. ECM	Comes on	DTC Stored	ES-265

DTC Code	Detection Item	Trouble Areas	MIL	Memory	See page
P2103	Throttle Actuator Control Motor Circuit High	1. Short in throttle actuator circuit 2. Throttle actuator 3. Throttle valve 4. Throttle body 5. ECM	Comes on	DTC Stored	ES-265
P2111	Throttle Actuator Control System - Stuck Open	1. Throttle actuator 2. Throttle body 3. Throttle valve	Comes on	DTC Stored	ES-269
P2112	Throttle Actuator Control System - Stuck Closed	Same as DTC P2111	Comes on	DTC Stored	ES-269
P2118	Throttle Actuator Control Motor Current Range / Performance	1. Open in ETCS (Electronic Throttle Control System) power source circuit 2. ECM 3. ETCS fuse	Comes on	DTC Stored	ES-272
P2119	Throttle Actuator Control Throttle Body Range / Performance	1. ETCS 2. ECM	Comes on	DTC Stored	ES-277
P2120	Throttle / Pedal Position Sensor / Switch "D" Circuit	1. Accelerator Pedal Position (APP) sensor 2. ECM	Comes on	DTC Stored	ES-280
P2121	Throttle / Pedal Position Sensor / Switch "D" Circuit Range / Performance	1. APP sensor circuit 2. APP sensor 3. ECM	Comes on	DTC Stored	ES-290
P2122	Throttle / Pedal Position Sensor / Switch "D" Circuit Low Input	1. APP sensor 2. Open in VCP1 circuit 3. Open or ground short VPA circuit 4. ECM	Comes on	DTC Stored	ES-280
P2123	Throttle / Pedal Position Sensor / Switch "D" Circuit High Input	1. APP sensor 2. Open in EPA circuit 3. ECM	Comes on	DTC Stored	ES-280
P2125	Throttle / Pedal Position Sensor / Switch "E" Circuit	1. APP sensor 2. ECM	Comes on	DTC Stored	ES-280
P2127	Throttle / Pedal Position Sensor / Switch "E" Circuit Low Input	1. APP sensor 2. Open in VCP2 circuit 3. Open or ground short VPA2 circuit 4. ECM	Comes on	DTC Stored	ES-280
P2128	Throttle / Pedal Position Sensor / Switch "E" Circuit High Input	1. APP sensor 2. Open in EPA2 circuit 3. ECM	Comes on	DTC Stored	ES-280
P2135	Throttle / Pedal Position Sensor / Switch "A" / "B" Voltage Correlation	1. Short between VTA1 and VTA2 circuits 2. Throttle Position (TP) sensor (built into throttle body) 3. ECM	Comes on	DTC Stored	ES-96
P2138	Throttle / Pedal Position Sensor / Switch "D" / "E" Voltage Correlation	1. Short between VPA and VPA2 circuits 2. APP sensor 3. ECM	Comes on	DTC Stored	ES-280
P2195	Oxygen (A/F) Sensor Signal Stuck Lean (Bank 1 Sensor 1)	1. Open or short in A/F sensor (sensor 1) circuit 2. A/F sensor (sensor 1) 3. A/F sensor heater (sensor 1) 4. EFI relay 5. A/F sensor heater and EFI relay circuits 6. Air induction system 7. Fuel pressure 8. Injector 9. ECM	Comes on	DTC Stored	ES-293
P2196	Oxygen (A/F) Sensor Signal Stuck Rich (Bank 1 Sensor 1)	Same as DTC P2195	Comes on	DTC Stored	ES-293

ES

DTC Code	Detection Item	Trouble Areas	MIL	Memory	See page
P2238	Oxygen (A/F) Sensor Pumping Current Circuit Low (Bank 1 Sensor 1)	1. Open or short in A/F sensor circuit 2. A/F sensor 3. A/F sensor heater 4. EFI relay 5. A/F sensor heater and EFI relay circuits 6. ECM	Come on	DTC Stored	ES-307
P2239	Oxygen (A/F) Sensor Pumping Current Circuit High (Bank 1 Sensor 1)	Same as DTC P2238	Come on	DTC Stored	ES-307
P2252	Oxygen (A/F) Sensor Reference Ground Circuit Low (Bank 1 Sensor 1)	Same as DTC P2238	Comes on	DTC Stored	ES-307
P2253	Oxygen (A/F) Sensor Reference Ground Circuit High (Bank 1 Sensor 1)	Same as DTC P2238	Comes on	DTC Stored	ES-307
P2401	Evaporative Emission System Leak Detection Pump Control Circuit Low	1. Pump module 2. Connector/Wire harness (between pump module and ECM) 3. ECM	Comes on	DTC Stored	ES-313
P2402	Evaporative Emission System Leak Detection Pump Control Circuit High	1. Pump module 2. Connector/Wire harness (between pump module and ECM) 3. ECM	Comes on	DTC Stored	ES-313
P2419	Evaporative Emission System Switching Valve Control Circuit Low	1. Pump module 2. Connector/Wire harness (between pump module and ECM) 3. ECM	Comes on	DTC Stored	ES-319
P2420	Evaporative Emission System Switching Valve Control Circuit High	1. Pump module 2. Connector/Wire harness (between pump module and ECM) 3. ECM	Comes on	DTC Stored	ES-319
P2610	ECM / PCM Internal Engine Off Timer Performance	ECM	Comes on	DTC Stored	ES-325
P2A00	A/F Sensor Circuit Slow Response (Bank 1 Sensor 1)	1. Open or short in A/F sensor (sensor 1) circuit 2. A/F sensor (sensor 1) 3. A/F sensor heater (sensor 1) 4. EFI relay 5. A/F sensor heater and EFI relay circuits 6. Air induction system 7. Fuel pressure 8. Injector 9. PCV valve and hose 10. PCV hose connections 11. ECM	Comes on	DTC Stored	ES-328

HINT:

*1: Does not apply to Mexican models

*2: Indicates a malfunction related to the primary circuit