2007-2008 ENGINE PERFORMANCE Fuel and Emissions Systems - Element

DTC TROUBLESHOOTING INDEX

DTC TROUBLESHOOTING CHART

| DTC (MIL indication | Two Drive Cycle | | |
|---------------------|-----------------|---|-----|
| (1) | Detection | Detection Item | MIL |
| P0010 (56) | | Variable Valve Timing Control (VTC) Oil Control Solenoid Valve Malfunction | ON |
| P0011 (56) | 0 | Variable Valve Timing Control (VTC) System Malfunction | ON |
| P0101 (50) | 0 | Mass Air Flow (MAF) Sensor Circuit Range/Performance Problem | ON |
| P0102 (50) | | Mass Air Flow (MAF) Sensor Circuit Low Voltage | ON |
| P0103 (50) | | Mass Air Flow (MAF) Sensor Circuit High Voltage | ON |
| P0107 (3) | | Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage | ON |
| P0108 (3) | | Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage | ON |
| P0111 (10) | О | Intake Air Temperature (IAT) Sensor Circuit Range/Performance Problem | ON |
| P0112 (10) | | Intake Air Temperature (IAT) Sensor Circuit Low Voltage | ON |
| P0113 (10) | | Intake Air Temperature (IAT) Sensor Circuit High Voltage | ON |
| P0116 (86) | 0 | Engine Coolant Temperature (ECT) Sensor 1 Circuit Range/Performance Problem | ON |
| P0117 (6) | | Engine Coolant Temperature (ECT) Sensor | ON |

| | | 1 Circuit Low Voltage | |
|--------------------------|---|--|----|
| P0118 (6) | | Engine Coolant Temperature (ECT) Sensor 1 Circuit High Voltage | ON |
| P0122 (7) | | Throttle Position (TP) Sensor A Circuit Low Voltage | ON |
| <u>P0123</u> (7) | | Throttle Position (TP) Sensor A Circuit High Voltage | ON |
| <u>P0125</u> (86) | 0 | Engine Coolant Temperature (ECT) Sensor 1 Malfunction/Slow Response | ON |
| P0128 (87) | 0 | Cooling System Malfunction | ON |
| P0133 (61) | O | Air Fuel Ratio (A/F) Sensor (Sensor 1) Malfunction/Slow Response | ON |
| <u>P0134</u> (41) | 0 | Air Fuel Ratio (A/F) Sensor (Sensor 1) Heater System Malfunction | ON |
| P0135 (41) | | Air Fuel Ratio (A/F) Sensor (Sensor 1) Heater Circuit Malfunction | ON |
| P0137 (63) | O | Secondary Heated Oxygen Sensor (Secondary HO2S (Sensor 2)) Circuit Low Voltage | ON |
| P0138 (63) | 0 | Secondary Heated Oxygen Sensor (Secondary HO2S (Sensor 2)) Circuit High Voltage | ON |
| <u>P0139</u> (63) | 0 | Secondary Heated Oxygen Sensor (Secondary HO2S (Sensor 2)) Slow Response | ON |
| P0141 (65) | | Secondary Heated Oxygen Sensor (Secondary HO2S (Sensor 2)) Heater Circuit Malfunction | ON |
| <u>P0171</u> (45) | 0 | Fuel System Too Lean | ON |
| <u>P0172</u> (45) | 0 | Fuel System Too Rich | ON |
| <u>P0222</u> (7) | | Throttle Position (TP) Sensor B Circuit Low | ON |

| 1 | | Voltage | |
|---|---|--|----|
| <u>P0223</u> (7) | | Throttle Position (TP) Sensor B Circuit High Voltage | ON |
| P0300 (75) any combination of the following P0301 (71) P0302 (72) P0303 (73) P0304 (74) | O | Random Misfire Detected | ON |
| <u>P0301</u> (71) | 0 | No. 1 Cylinder Misfire Detected | ON |
| <u>P0302</u> (72) | 0 | No. 2 Cylinder Misfire Detected | ON |
| <u>P0303</u> (73) | 0 | No. 3 Cylinder Misfire Detected | ON |
| <u>P0304</u> (74) | 0 | No. 4 Cylinder Misfire Detected | ON |
| <u>P0325</u> (23) | | Knock Sensor Circuit Malfunction | ON |
| <u>P0335</u> (4) | | Crankshaft Position (CKP) Sensor No Signal | ON |
| <u>P0339</u> (4) | | Crankshaft Position (CKP) Sensor Circuit Intermittent Interruption | ON |
| <u>P0340</u> (57) | | Camshaft Position (CMP) Sensor A No Signal | ON |
| P0341 (57) | | Camshaft Position (CMP) Sensor A and Crankshaft Position (CKP) Sensor Incorrect Phase Detected | ON |
| <u>P0344</u> (57) | | Camshaft Position (CMP) Sensor A Intermittent Interruption | ON |
| <u>P0365</u> (8) | | Camshaft Position (CMP) Sensor B No Signal | ON |
| P0369 (8) | | Camshaft Position (CMP) Sensor B Circuit Intermittent Interruption | ON |
| <u>P0420</u> (67) | 0 | Catalyst System Efficiency Below Threshold | ON |
| <u>P0443</u> (92) | | Evaporative Emission (EVAP) Canister Purge Valve Circuit Malfunction | ON |

| P0451 (91) | О | Fuel Tank Pressure (FTP) Sensor Circuit Range/Performance Problem | ON |
|--------------------------|---|--|-----|
| P0452 (91) | 0 | Fuel Tank Pressure (FTP) Sensor Circuit Low Voltage | ON |
| P0453 (91) | 0 | Fuel Tank Pressure (FTP) Sensor Circuit High Voltage | ON |
| P0455 (90) | 0 | Evaporative Emission (EVAP) System Large Leak Detected | ON |
| P0456 (90) | 0 | Evaporative Emission (EVAP) System Very Small Leak Detected | ON |
| P0457 (90) | | Evaporative Emission (EVAP) System Leak Detected/Fuel Fill Cap Loose or Missing | OFF |
| P0461 (121) | | Fuel Level Sensor (Fuel Gauge Sending Unit) Range/Performance Problem | OFF |
| P0462 (121) | | Fuel Level Sensor (Fuel Gauge Sending Unit) Circuit Low Voltage | OFF |
| P0463 (121) | | Fuel Level Sensor (Fuel Gauge Sending Unit) Circuit High Voltage | OFF |
| <u>P0496</u> (92) | 0 | Evaporative Emission (EVAP) System High Purge Flow Detected | ON |
| <u>P0497</u> (90) | 0 | Evaporative Emission (EVAP) System Low Purge Flow Detected | ON |
| P0498 (117) | | Evaporative Emission (EVAP) Canister Vent Shut Valve Circuit Low Voltage | ON |
| P0499 (117) | | Evaporative Emission (EVAP) Canister Vent Shut Valve Circuit High Voltage | ON |
| <u>P0506</u> (14) | О | Idle Control System RPM | ON |

| 1 | | Lower Than Expected | |
|-----------------------------------|---|---|-----|
| P0507 (14) | 0 | Idle Control System RPM Higher Than Expected | ON |
| <u>P050A</u> (167) | 0 | Cold Start Idle Air Control System Performance Problem | ON |
| <u>P050B</u> (167) | O | Cold Start Ignition Timing Control System Performance Problem | ON |
| P0562 (34) | | Charging System Low Voltage | OFF |
| P0563 (34) | | Engine Control Module (ECM)/Powertrain Control Module (PCM) Power Source Circuit Unexpected Voltage | OFF |
| P0602 (196) | | Engine Control Module (ECM)/Powertrain Control Module (PCM) Programming Error | ON |
| P0603 (131) | | Engine Control Module (ECM)/Powertrain Control Module (PCM) Internal Control Module Keep Alive Memory (KAM) Error | ON |
| P0606 (0) | | Engine Control Module (ECM)/Powertrain Control Module (PCM) Processor Malfunction | ON |
| P0630 (139) | | VIN Not Programmed or Mismatch | ON |
| <u>P0685</u> (135) | O | Engine Control Module (ECM)/Powertrain Control Module (PCM) Power Control Circuit Internal Circuit Malfunction | ON |
| P0720 (122) ⁽²⁾ | | Output Shaft (Countershaft) Speed Sensor Circuit Malfunction | ON |
| P1009 (56) | | Variable Valve Timing Control (VTC) Advance Malfunction | ON |
| P1109 (13) | | Barometric Pressure (BARO) Sensor Circuit | ON |

| | | Out of Range High | |
|---------------------------|---|---|-----|
| <u>P1116</u> (86) | 0 | Engine Coolant Temperature (ECT) Sensor 1 Performance Problem | ON |
| <u>P1128</u> (5) | 0 | Manifold Absolute Pressure (MAP) Sensor Signal Lower Than Expected | ON |
| <u>P1129</u> (5) | O | Manifold Absolute Pressure (MAP) Sensor Signal Higher Than Expected | ON |
| <u>P1157</u> (48) | | Air Fuel Ratio (A/F) Sensor (Sensor 1) Circuit Malfunction | ON |
| <u>P1172</u> (61) | 0 | Air Fuel Ratio (A/F) Sensor (Sensor 1) Circuit Out of Range High | ON |
| <u>P1297</u> (20) | | Electrical Load Detector (ELD) Circuit Low Voltage | OFF |
| <u>P1298</u> (20) | | Electrical Load Detector (ELD) Circuit High Voltage | OFF |
| P1454 (91) | O | Fuel Tank Pressure (FTP) Sensor Range/Performance Problem | ON |
| <u>P145C</u> (90) | 0 | Evaporative Emission (EVAP) System Purge Flow Malfunction | ON |
| P1549 (34) | | Charging System High Voltage | OFF |
| <u>P1683</u> (40) | | Throttle Valve Default Position Spring Performance Problem | ON |
| <u>P1684</u> (40) | | Throttle Valve Return Spring Performance Problem | ON |
| <u>P16BB</u> (116) | | Alternator B Terminal Circuit Low Voltage | OFF |
| <u>P16BC</u> (116) | | Alternator FR Terminal Circuit/IGP Circuit Low Voltage | OFF |
| <u>P2101</u> (40) | | Throttle Actuator System Malfunction | ON |

| <u>P2108</u> (40) | | Throttle Actuator Control Module Problem | ON |
|---------------------------|---|---|----|
| P2118 (40) | | Throttle Actuator Current Range/Performance Problem | ON |
| <u>P2122</u> (37) | | Accelerator Pedal Position (APP) Sensor A (Throttle Position (TP) Sensor D) Circuit Low Voltage | ON |
| <u>P2123</u> (37) | | Accelerator Pedal Position (APP) Sensor A (Throttle Position (TP) Sensor D) Circuit High Voltage | ON |
| <u>P2127</u> (37) | | Accelerator Pedal Position (APP) Sensor B (Throttle Position (TP) Sensor E) Circuit Low Voltage | ON |
| <u>P2128</u> (37) | | Accelerator Pedal Position (APP) Sensor B (Throttle Position (TP) Sensor E) Circuit High Voltage | ON |
| <u>P2135</u> (7) | | Throttle Position (TP) Sensor A/B Voltage Incorrect Correlation | ON |
| <u>P2138</u> (37) | | Accelerator Pedal Position (APP) Sensor A/B (Throttle Position (TP) Sensor D/E) Incorrect Voltage Correlation | ON |
| <u>P2176</u> (40) | | Throttle Actuator Control System Idle Position Not Learned | ON |
| <u>P2183</u> (192) | 0 | Engine Coolant Temperature (ECT) Sensor 2 Range/Performance Problem | ON |
| <u>P2184</u> (192) | | Engine Coolant Temperature (ECT) Sensor 2 Circuit Low Voltage | ON |
| <u>P2185</u> (192) | | Engine Coolant Temperature (ECT) Sensor 2 Circuit High Voltage | ON |
| <u>P2195</u> (48) | 0 | Air Fuel Ratio (A/F) Sensor (Sensor 1) Signal Stuck Lean | ON |

| <u>P2227</u> (13) | О | Barometric Pressure (BARO) Sensor Range/Performance Problem | ON |
|--------------------------|---|---|----|
| <u>P2228</u> (13) | | Barometric Pressure (BARO) Sensor Circuit Low Voltage | ON |
| P2229 (13) | | Barometric Pressure (BARO) Sensor Circuit High Voltage | ON |
| P2238 (48) | | Air Fuel Ratio (A/F) Sensor (Sensor 1) AFS+ Circuit Low Voltage | ON |
| <u>P2252</u> (48) | | Air Fuel Ratio (A/F) Sensor (Sensor 1) AFS- Circuit Low Voltage | ON |
| P2270 (63) | O | Secondary Heated Oxygen Sensor (Secondary HO2S (Sensor 2)) Circuit Signal Stuck Lean | ON |
| P2271 (63) | О | Secondary Heated Oxygen Sensor (Secondary HO2S (Sensor 2)) Circuit Signal Stuck Rich | ON |
| P2422 (117) | O | Evaporative Emission (EVAP) Canister Vent Shut Valve Stuck Closed Malfunction | ON |
| <u>P2552</u> (40) | | Throttle Actuator Control Module Relay Malfunction | ON |
| P2610 (132) | | Engine Control Module (ECM)/Powertrain Control Module (PCM) Ignition Off Internal Timer Performance Problem | ON |
| P2646 (22) | | Rocker Arm Oil Pressure Switch Circuit Low Voltage | ON |
| P2647 (22) | | Rocker Arm Oil Pressure Switch Circuit High Voltage | ON |
| P2648 (21) | | Rocker Arm Oil Control Solenoid Circuit Low Voltage | ON |
| P2649 (21) | | Rocker Arm Oil Control | ON |

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| | | Solenoid Circuit High Voltage | |
|--------------------|---|---|-----|
| <u>P2A00</u> (61) | 0 | Air Fuel Ratio (A/F) Sensor (Sensor 1) Circuit Range/Performance Problem | ON |
| <u>U0028</u> (126) | | F-CAN Malfunction (BUS-OFF) | ON |
| <u>U0107</u> (30) | | Lost Communication With Throttle Actuator Control Module | ON |
| <u>U0122</u> (126) | | F-CAN Malfunction (Engine Control Module (ECM/Powertrain Control Module (PCM)-VSA modulator-control unit) | OFF |
| <u>U0155</u> (126) | | F-CAN Malfunction (Engine Control Module (ECM/Powertrain Control Module (PCM)-Gauge Control Module) | ON |

NOTE:

The above DTCs are indicated when the PGM-FI system is selected in the HDS. Some automatic transmission DTCs cause the MIL to come on. If the MIL is on and no DTCs are indicated in the PGM-FI system, select the A/T system, and check for automatic transmission DTCs.

- (1) These DTCs are indicated by a blinking MIL when the SCS line is jumped with the HDS.
- (2) M/T.