

## 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.<br>(See page) | Detection Item                                                              | Trouble Area                                                                                                                                                                                                                                                                                                                           | MIL*1 | Memory |
|-----------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|
| P0100<br>(DI-25)      | 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<br>(DI-29)      | Mass Air Flow Circuit Range/Performance Problem                             | <ul style="list-style-type: none"> <li>• Mass air flow meter</li> </ul>                                                                                                                                                                                                                                                                | ○     | ○      |
| P0110<br>(DI-30)      | 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<br>(DI-34)      | 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<br>(DI-38)      | 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<br>(DI-40)      | 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<br>(DI-45)      | Throttle/Pedal Position Sensor/Switch "A" Circuit Range/Performance Problem | <ul style="list-style-type: none"> <li>• Throttle position sensor</li> </ul>                                                                                                                                                                                                                                                           | ○     | ○      |
| P0125<br>(DI-46)      | 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> <li>• PCV piping</li> </ul> | ○     | ○      |
| P0128<br>(DI-51)      | Thermostat Malfunction                                                      | <ul style="list-style-type: none"> <li>• Thermostat</li> <li>• Cooling system</li> <li>• Engine coolant temp. sensor</li> <li>• ECM</li> </ul>                                                                                                                                                                                         | ○     | ○      |
| P0130<br>(DI-52)      | 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<br>(DI-56) | 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<br>(DI-59) | 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<br>(DI-61) | 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>                                                                                                                                                                                                                                                                                     | ○ | ○ |
| P0141<br>(DI-59) | Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 2) | • Same as DTC No. P0135                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |
| P0150<br>(DI-52) | Oxygen Sensor Circuit Malfunction (Bank 2 Sensor 1)        | • Same as DTC No. P0130                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |
| P0153<br>(DI-56) | Oxygen Sensor Circuit Slow Response (Bank 2 Sensor 1)      | • Same as DTC No. P0133                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |
| P0155<br>(DI-59) | Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 1) | • Same as DTC No. P0135                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |
| P0156<br>(DI-61) | Oxygen Sensor Circuit Malfunction (Bank 2 Sensor 2)        | • Same as DTC No. P0136                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |
| P0161<br>(DI-59) | Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 2) | • Same as DTC No. P0135                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |
| P0171<br>(DI-63) | System too Lean (Fuel Trim)                                | <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, 2 sensor 1) circuit</li> <li>• Heated oxygen sensor (bank 1, 2 sensor 1)</li> <li>• ECM</li> <li>• PCV piping</li> </ul> | ○ | ○ |
| P0172<br>(DI-63) | System too Rich (Fuel Trim)                                | <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, 2 sensor 1) circuit</li> <li>• Heated oxygen sensor (bank 1, 2 sensor 1)</li> <li>• ECM</li> </ul>                      | ○ | ○ |
| P0174<br>(DI-63) | System too lean (Fuel Trim) (Bank 2)                       | • Same as DTC No. P0171                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |
| P0175<br>(DI-63) | System too Rich (Fuel Trim) (Bank 2)                       | • Same as DTC No. P0172                                                                                                                                                                                                                                                                                                                                                                                               | ○ | ○ |

## DIAGNOSTICS - ENGINE

|                  |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
|------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---|
| P0300<br>(DI-68) | 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> <li>• PCV piping</li> </ul> | ○*2 | ○ |
| P0301<br>(DI-68) | Cylinder 1 Misfire Detected                         |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
| P0302<br>(DI-68) | Cylinder 2 Misfire Detected                         |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
| P0303<br>(DI-68) | Cylinder 3 Misfire Detected                         |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
| P0304<br>(DI-68) | Cylinder 4 Misfire Detected                         |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
| P0305<br>(DI-68) | Cylinder 5 Misfire Detected                         |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
| P0306<br>(DI-68) | Cylinder 6 Misfire Detected                         |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
| P0307<br>(DI-68) | Cylinder 7 Misfire Detected                         |                                                                                                                                                                                                                                                                                                                                                                                                                          |     |   |
| P0308<br>(DI-68) | Cylinder 8 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> <li>• PCV piping</li> </ul> | ○*2 | ○ |
| P0325<br>(DI-74) | Knock Sensor 1 Circuit Malfunction (Bank 1)         | <ul style="list-style-type: none"> <li>• Open or short in knock sensor 1 circuit</li> <li>• Knock sensor 1 (looseness)</li> <li>• ECM</li> </ul>                                                                                                                                                                                                                                                                         | ○   | ○ |
| P0330<br>(DI-74) | Knock Sensor 2 Circuit Malfunction (Bank 2)         | <ul style="list-style-type: none"> <li>• Open or short in knock sensor 2 circuit</li> <li>• Knock sensor 2 (looseness)</li> <li>• ECM</li> </ul>                                                                                                                                                                                                                                                                         | ○   | ○ |
| P0335<br>(DI-78) | 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>• Signal plate (Timing belt guide)</li> <li>• ECM</li> </ul>                                                                                                                                                                                                                 | ○   | ○ |
| P0340<br>(DI-80) | 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>• LH camshaft timing pulley</li> <li>• ECM</li> </ul>                                                                                                                                                                                                                            | ○   | ○ |
| P0420<br>(DI-82) | 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 convertor</li> </ul>                                                                                                                                                                                                                                                               | ○   | ○ |
| P0430<br>(DI-82) | Catalyst System Efficiency Below Threshold (Bank 2) | <ul style="list-style-type: none"> <li>• Same as DTC No. P0420</li> </ul>                                                                                                                                                                                                                                                                                                                                                | ○   | ○ |

|                   |                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |   |
|-------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| P0440<br>(DI-85)  | Evaporative Emission Control System Malfunction                       | <ul style="list-style-type: none"> <li>• Hose or tube cracked, holed, damaged or loose seal</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</li> <li>• Fuel tank cracked, holed or damaged</li> <li>• Open or short in vapor pressure sensor circuit</li> <li>• Vapor pressure sensor</li> <li>• Charcoal canister cracked, holed or damaged</li> <li>• ECM</li> </ul> | ○ | ○ |
| P0441<br>(DI-91)  | Evaporative Emission Control System Incorrect Purge Flow              | <ul style="list-style-type: none"> <li>• Vacuum hose cracked, holed, blocked damaged or disconnected</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> </ul>                                                                                                                                                                                                                               | ○ | ○ |
| P0446<br>(DI-91)  | Evaporative Emission Control System Vent Control Malfunction          | <ul style="list-style-type: none"> <li>• VSV for EVAP</li> <li>• Open or short in VSV circuit for vapor pressure sensor</li> <li>• VSV for vapor pressure sensor</li> <li>• Charcoal canister cracked, holed or damaged</li> <li>• ECM</li> </ul>                                                                                                                                                                                                                                         | ○ | ○ |
| P0450<br>(DI-104) | 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<br>(DI-104) | Evaporative Emission Control System Pressure Sensor Range/Performance |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ○ | ○ |
| P0500<br>(DI-107) | Vehicle Speed Sensor Malfunction                                      | <ul style="list-style-type: none"> <li>• Combination meter</li> <li>• Open or short in vehicle speed sensor circuit</li> <li>• Vehicle speed sensor</li> <li>• ECM</li> </ul>                                                                                                                                                                                                                                                                                                             | ○ | ○ |
| P0505<br>(DI-109) | Idle Control System Malfunction                                       | <ul style="list-style-type: none"> <li>• Electric throttle control system</li> <li>• Air induction system</li> <li>• PCV piping</li> </ul>                                                                                                                                                                                                                                                                                                                                                | ○ | ○ |

\*1: MIL lights up.

\*2: MIL lights up or blinking.

**MANUFACTURER CONTROLLED**

| DTC No.<br>(See Page) | Detection Item                                              | Trouble Area                                                                                                                                                                                                               | MIL* | Memory |
|-----------------------|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|
| P1120<br>(DI-111)     | Accelerator Pedal Position Sensor Circuit Malfunction       | <ul style="list-style-type: none"> <li>• Open or short in accelerator pedal position sensor circuit</li> <li>• Accelerator pedal position sensor</li> <li>• ECM</li> </ul>                                                 | ○    | ○      |
| P1121<br>(DI-116)     | Accelerator Pedal Position Sensor Range/Performance Problem | <ul style="list-style-type: none"> <li>• Accelerator pedal position sensor</li> </ul>                                                                                                                                      | ○    | ○      |
| P1125<br>(DI-117)     | Throttle Control Motor Circuit Malfunction                  | <ul style="list-style-type: none"> <li>• Open or short in throttle control motor circuit</li> <li>• Throttle control motor</li> <li>• ECM</li> </ul>                                                                       | ○    | ○      |
| P1126<br>(DI-120)     | Magnetic Clutch Circuit Malfunction                         | <ul style="list-style-type: none"> <li>• Open or short in magnetic clutch circuit</li> <li>• Magnetic clutch</li> <li>• ECM</li> </ul>                                                                                     | ○    | ○      |
| P1127<br>(DI-123)     | ETCS Actuator Power Source Circuit Malfunction              | <ul style="list-style-type: none"> <li>• Open in ETCS power source circuit</li> <li>• ECM</li> </ul>                                                                                                                       | ○    | ○      |
| P1128<br>(DI-125)     | Throttle Control Motor Lock Malfunction                     | <ul style="list-style-type: none"> <li>• Throttle control motor</li> <li>• Throttle body assembly</li> </ul>                                                                                                               | ○    | ○      |
| P1129<br>(DI-126)     | Electric Throttle Control System Malfunction                | <ul style="list-style-type: none"> <li>• Electric throttle control system</li> <li>• ECM</li> </ul>                                                                                                                        | ○    | ○      |
| P1200<br>(DI-127)     | Fuel Pump Relay/ECU Circuit Malfunction                     | <ul style="list-style-type: none"> <li>• Open or short in fuel pump ECU</li> <li>• Fuel pump ECU</li> <li>• ECM power source circuit</li> <li>• Fuel pump</li> <li>• ECM</li> </ul>                                        | —    | ○      |
| P1300<br>(DI-132)     | Igniter Circuit Malfunction (No.1)                          | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF1 or 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<br>(DI-132)     | Igniter Circuit Malfunction (No.2)                          | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF2 or 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<br>(DI-132)     | Igniter Circuit Malfunction (No.3)                          | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF2 or 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<br>(DI-132)     | Igniter Circuit Malfunction (No.4)                          | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF1 or IGT4 circuit from No.4 ignition coil with igniter to ECM</li> <li>• No.4 ignition coil with igniter</li> <li>• ECM</li> </ul> | ○    | ○      |
| P1320<br>(DI-132)     | Igniter Circuit Malfunction (No.5)                          | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF2 or IGT5 circuit from No.5 ignition coil with igniter to ECM</li> <li>• No.5 ignition coil with igniter</li> <li>• ECM</li> </ul> | ○    | ○      |

|                   |                                                                        |                                                                                                                                                                                                                            |   |   |
|-------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| P1325<br>(DI-132) | Igniter Circuit Malfunction (No.6)                                     | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF1 or IGT6 circuit from No.6 ignition coil with igniter to ECM</li> <li>• No.6 ignition coil with igniter</li> <li>• ECM</li> </ul> | ○ | ○ |
| P1330<br>(DI-132) | Igniter Circuit Malfunction (No.7)                                     | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF1 or IGT7 circuit from No.7 ignition coil with igniter to ECM</li> <li>• No.7 ignition coil with igniter</li> <li>• ECM</li> </ul> | ○ | ○ |
| P1335<br>(DI-139) | Crankshaft Position Sensor Circuit Malfunction (During engine running) | <ul style="list-style-type: none"> <li>• Open or short in crankshaft position sensor circuit</li> <li>• Crankshaft position sensor</li> <li>• Crankshaft timing pulley</li> <li>• ECM</li> </ul>                           | – | ○ |
| P1340<br>(DI-132) | Igniter Circuit Malfunction (No.8)                                     | <ul style="list-style-type: none"> <li>• Ignition system</li> <li>• Open or short in IGF2 or IGT8 circuit from No.8 ignition coil with igniter to ECM</li> <li>• No.8 ignition coil with igniter</li> <li>• ECM</li> </ul> | ○ | ○ |
| P1520<br>(DI-140) | Stop Light Switch Signal Malfunction                                   | <ul style="list-style-type: none"> <li>• Short in stop light switch signal circuit</li> <li>• Stop light switch</li> <li>• ECM</li> </ul>                                                                                  | ○ | ○ |
| P1600<br>(DI-143) | ECM BATT Malfunction                                                   | <ul style="list-style-type: none"> <li>• Open in back up power source circuit</li> <li>• ECM</li> </ul>                                                                                                                    | ○ | ○ |
| P1633<br>(DI-145) | ECM Malfunction (ETCS Circuit)                                         | <ul style="list-style-type: none"> <li>• ECM</li> </ul>                                                                                                                                                                    | ○ | ○ |
| P1780<br>(DI-146) | Park/Neutral Position Switch Malfunction                               | <ul style="list-style-type: none"> <li>• Short in park/neutral position switch circuit</li> <li>• Park/neutral position switch</li> <li>• ECM</li> </ul>                                                                   | ○ | ○ |
| P1782<br>(DI-209) | Transfer L4 Switch Malfunction                                         | <ul style="list-style-type: none"> <li>• Short in transfer indicator switch (LOW switch) signal circuit</li> <li>• Indicator switch (LOW switch)</li> <li>• ECM</li> </ul>                                                 | ○ | ○ |
| P1783<br>(DI-212) | Transfer Neutral Switch Malfunction                                    | <ul style="list-style-type: none"> <li>• Short in transfer indicator switch (neutral switch) signal circuit</li> <li>• Indicator switch (neutral switch)</li> <li>• ECM</li> </ul>                                         | ○ | ○ |
| B2795<br>(DI-727) | Unmatch Key Code                                                       | <ul style="list-style-type: none"> <li>• Key</li> <li>• Unregistered key inserted before?</li> </ul>                                                                                                                       | – | ○ |
| B2796<br>(DI-728) | No Communication in Immobilizer System                                 | <ul style="list-style-type: none"> <li>• Key</li> <li>• Transponder key coil</li> <li>• Amplifier</li> <li>• Wire harness</li> <li>• ECM</li> </ul>                                                                        | – | ○ |
| B2797<br>(DI-730) | Communication Malfunction No.1                                         | <ul style="list-style-type: none"> <li>• Communication contests</li> <li>• Unregistered key inserted before?</li> </ul>                                                                                                    | – | ○ |
| B2798<br>(DI-732) | Communication Malfunction No.2                                         | <ul style="list-style-type: none"> <li>• Key</li> <li>• Transponder key coil</li> <li>• Amplifier</li> <li>• Wire harness</li> <li>• ECM</li> </ul>                                                                        | – | ○ |

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