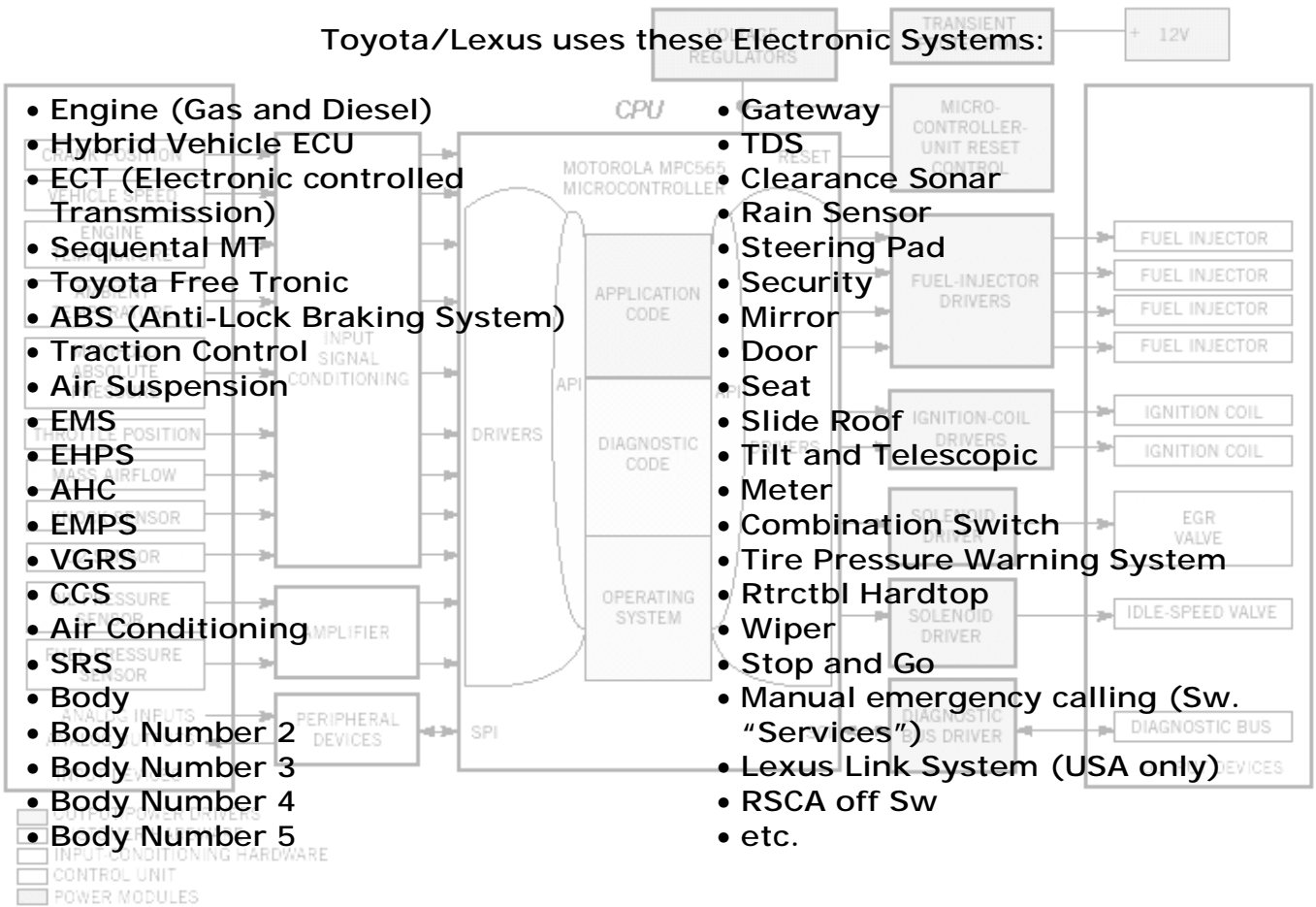


Toyota/Lexus uses these Electronic Systems:



All cars and light trucks built for sale in the United States after 1996 are required to be OBD-II compliant. The European Union adopted (directive 98/69/EC) a similar law in 2001 for gasoline-powered vehicles, and in 2003 for cars with diesel engines.

SAE J2012 (Diagnostic Trouble Codes¹) defines a set of diagnostic trouble codes (DTCs) where industry uniformity has been achieved. DTCs consist of an alpha character followed by four characters.

Pxxxx is reserved for powertrain DTCs

Bxxxx is reserved for body DTCs

Cxxxx is reserved for chassis DTCs

Uxxxx is reserved for network DTCs (UART the body electronics like door and roof control, air conditioning, and lightning, as well as for the entertainment control).

The second character designates whether the DTCs and a generic SAE DTC or a manufacturer-specific DTC.

Powertrain codes	Body codes
P0xxx - Generic	B0xxx - Generic
P1xxx - Manufacturer-specific	B1xxx - Manufacturer-specific
P2xxx - Generic	B2xxx - Manufacturer-specific
P30xx-P33xx - Manufacturer-specific	B3xxx - Generic
P34xx-P39xx - Generic	
Chassis codes	Network Communication codes
C0xxx - Generic	U0xxx - Generic
C1xxx - Manufacturer-specific	U1xxx - Manufacturer-specific
C2xxx - Manufacturer-specific	U2xxx - Manufacturer-specific
C3xxx - Generic	U3xxx - Generic

The remaining characters designate the system associated with the fault. The characters are hex and can range from 0 - F.

The third digit defines the specific system or sub-system within the car where the problem is located:

Third digit / System or sub-system

¹ Note: *Not all trouble codes are used on all models*

- 1 Fuel and Air Metering
- 2 Fuel and Air Metering (injector circuit malfunction only)
- 3 Ignition System or Misfire
- 4 Auxiliary Emission Control System
- 5 Vehicle Speed Control and Idle Control System
- 6 Computer Output Circuits
- 7 Transmissions
- 8 Transmissions
- 9 Control Modules, input and output signals

Note. Standardized Electronic Format of Service Information (J2008). Beginning January 1, 2002, manufacturers shall make available at a fair and reasonable price, all 2002 and newer model year vehicle emission-related diagnosis and repair information provided to the manufacturer's franchised dealers (e.g., service manuals, technical service bulletins, etc.) in the electronic format specified in SAE Recommended Practice J2008 Draft Technical Report, "Recommended Organization of Service Information" (J2008), October, 1998, November, 1995. The information shall be made available within 30 days of its availability to franchised dealers.

Note. Courtesy regulations on June 8, 2001 (66 FR 30830) "...OEMs must make full text emissions-related service information available via the World Wide Web². Second, that OEMs must provide equipment and tool companies with information that allows them to develop pass-through reprogramming tools. Third, OEMs must make available enhanced diagnostic information to equipment and tool manufacturers and to make available OEM-specific diagnostic tools for sale...".

Testifying on behalf of the Alliance of Automobile Manufacturers, Greg Dana, Vice President for Environmental Affairs stated, "Historically, about 75* percent of vehicle service and repairs are performed in non-dealer shops. The auto industry views these non-dealer shops as their partners in providing service to their mutual customers, the driving public. Automakers are required by law to provide all information to diagnose and repair engine, transmission, fuel, and emission control systems."

Note. CAN ISO 11898 (Controller Area Network) is the newest computer protocol in the automotive industry and is mandatory on all cars by 2008.

The CAN protocol has been integrated into the OBD-II spec by the International Standards Organization (ISO) committee and has been accepted as the standard diagnostic protocol by manufacturers. In addition, the California Air Resources Board (CARB) has embraced CAN and made it mandatory for all vehicles. Manufacturers can begin implementing CAN in 2003 and must be CAN compliant by 2008 model year. The CAN standard is also a mandatory part of each new state emissions inspection and maintenance program and will be retrofitted into the established programs.

Note. In most newer computer systems, fault codes are stored in a "nonvolatile" memory that is not lost if the battery is disconnected. The codes remain intact until they are cleared using a scan tool (which few motorists own). What's more, disconnecting the battery or computer's power supply can have undesirable consequences because it causes the loss of the engine computer's "learned" memory - the adjustments that are made over time to compensate for engine wear and driving habits. On some vehicles where the computer also regulates the electronic transmission, the computer may have to be put through a special learning procedure to relearn the proper operation of the transmission if power has been lost!

Another issue that is related to OBD II is that of reprogramming vehicle computers. Most late-model computers have some type of flash PROM memories that can be reprogrammed if MAINT REQD, VGRS

² Industry estimates indicate that independent technicians perform up to 80% of all vehicle service and repairs (These conclusions are confirmed by statistics issued from the Motor and Equipment Manufacturers Association (Automotive Industry Status Report, 1999. EPA Air Docket A-2000-49, item II-F-05)

CodeNo.	Description
B0100	Short In D Squib Circuit / 13
B0101	Open in Driver-Side Air Bag Module Squib Circuit /14
B0102 ³	Short in D Squib Circuit (to Ground) / 11
B0103	Short in D Squib Circuit (to B+) / 12
B0105	Short in P Side Air Bag Squib Circuit / 53
B0106	Open In P Side Air Bag Squib Circuit / 54
B0107	Short In P Side Air Bag Squib Circuit (to Ground) / 51
B0108	Short In P Side Air Bag Squib Circuit (to B+) / 52
B0110	Short In Side Squib (RH) Circuit / 43
B0111	Open In Side Squib (RH) Circuit / 44
B0111	Cab Side Airbag Circuit (Range/Performance) Malfunction (⁴ AV.'99)
B0112	Short In Side Air Bag Module Squib (RH) Circuit (to Ground) / 41
B0113	Short In Side Squib (RH) Circuit (to B+) / 42
B0115	Short in Side Air Bag Module Squib (LH) Circuit / 47
B0116	Open In Side Air Bag Module Squib (LH) Circuit / 48
B0117	Short In Side Squib (LH) Circuit (to Ground) / 45
B0118	Short In Side Air Bag Module Squib (LH) Circuit (to B+) / 46
B0121	Seat Belt Buckle Swith, RH malfunction / 26
B0122	Seat Belt Buckle Swith, RH malfunction / 26
B0126	Seat Belt Buckle Swith, LH malfunction / 27
B0127	Seat Belt Buckle Swith, LH malfunction / 27
B0130	Short in P-Side Seat Belt Pretensioner Squib (RH) Circuit / 63
B0131	Open in P-Side Seat Belt Pretensioner Squib (RH) Circuit / 64
B0132	Short in P-Side Seat Belt Pretensioner Squib (RH) Circuit (to Ground) / 61
B0133	Short in P-Side Seat Belt Pretensioner Squib (RH) Circuit (to B+) / 62
B0135	Short in D-Side Seat Belt Pretensioner Squib (LH) Circuit / 73
B0136	Open in D-Side Seat Belt Pretensioner Squib (LH) Circuit / 74
B0137	Short in D-Side Seat Belt Pretensioner Squib (LH) Circuit (to Ground) / 71
B0138	Short in D-Side Seat Belt Pretensioner Squib (LH) Circuit (to B+) / 72
B1100	Airbag Sensor Assembly Malfunction (Progr. Avens) / 31 соотвт
B1135	SRS Control Module - poor multi-plug connection / 24
B1140	Side Airbag Sensor Assembly (RH) Malfunction / 32
B1141	Side Airbag Sensor Assembly (LH) Malfunction / 33
B1142	Door Side Airbag Sensor (RH) Malfunction
B1143	Door Side Airbag Sensor (RH) Malfunction
B1144	Door Side Airbag Sensor (LH) Malfunction
B1145	Door Side Airbag Sensor (LH) Malfunction
B1146	Side Crach Sensor, RH B post Malfunction / 32
B1147	Side Crach Sensor, LH B post Malfunction / 33
B1148	Front Crach Sensor, RH Malfunction / 36
B1149	Front Crach Sensor, LH Malfunction / 37
B1153	Seat Position Sensor malfunction / 25
B1154	Side Crach Sensor, Rear RH in C posts / 38
B1155	Side Crach Sensor, Rear LH in C posts / 39
B1156	Front Airbag (Front crach) Sensor (RH) Malfunction / 15
B1157	Front Airbag (Front crach) Sensor (RH) Malfunction / 15
B1158	Front Airbag (Front crach) Sensor (LH) Malfunction / 16
B1159	Front Airbag Sensor (LH) Malfunction / 16
B1160	Inflatable curtain RH short circuit / 83
B1161	Inflatable curtain RH open circuit / 84
B1162	Inflatable curtain RH short circuit to Earth / 81
B1163	Inflatable curtain RH short circuit to Positive / 82
B1165	Inflatable curtain LH short circuit / 87
B1166	Inflatable curtain LH open circuit / 88
B1167	Inflatable curtain LH short circuit to Earth / 85
B1168	Inflatable curtain LH short circuit to Positive / 86
B1180	Driver's Air Bag, Stage 2 - short circuit / 17
B1181	Driver's Air Bag, Stage 2 - open circuit / 18
B1182	Driver's Air Bag, Stage 2 - - short circuit to Earth / 19
B1183	Driver's Air Bag, Stage 2 - short circuit tp Positive / 22

³ e.g. on a '00 Toyota Celica GT-S, Avensis D-4D '03

⁴ I read on this Vehicles

B1185	Passenger Air Bag Stage 2 short circuit / 57
B1186	Passenger Air Bag Stage 2 open circuit / 58
B1187	Passenger Air Bag Stage 2 short circuit to Earth / 55
B1188	Passenger Air Bag Stage 2 short circuit to Positive / 56
B1211 ⁵	No Communication Between Driver's Door ECU & Body ECU/11
B1212	No Communication Between Passenger's Front Door ECU & Body ECU / 12
B1214	Door System Bus Communication Circuit is Shorted To Battery Voltage / 14
B1215	Door System Bus Communication Circuit is Shorted To Ground / 15
B1216	No Communication Between Right Rear Door ECU & Body ECU / 16
B1217	No Communication Between Left Rear Door ECU & Body ECU / 17
B1221	Power Window Master Switch Circuit / 21
B1222	Driver's Door Lock Control Switch Circuit / 22
B1223	Passenger's Front Window Switch Circuit / 23
B1224	Passenger's Door Lock Control Switch Circuit / 24
B1225	Right Rear Window Switch Circuit / 25
B1226	Left Rear Window Switch Circuit / 26
B1231	Driver's Jam Protection Limit Switch Circuit / 31
B1232	Driver's Jam Protection Pulse Switch Circuit / 32
B1233	Passenger's Front Jam Protection Limit Switch Circuit / 33
B1234	Passenger's Front Jam Protection Pulse Switch Circuit / 34
B1235	Right Rear Jam Protection Limit Switch Circuit / 35
B1236	Right Rear Jam Protection Pulse Switch Circuit / 36
B1237	Left Rear Jam Protection Limit Switch Circuit / 37
B1238	Left Rear Jam Protection Pulse Switch Circuit / 38
B1241	Body ECU Switch Circuit Diagnosis ONE OF MONITORED SWITCHES HAS ABNORMAL OUTPUT / 41
B1242	Wireless Door Lock Tuner Circuit Malfunction (WIRELESS DOOR LOCK RECEIVER) / 42
B1243	GSW TERMINAL CIRCUIT MALFUNCTION / 43
B1244	Light Sensor Circuit Malfunction / 44
B1251	MIRROR CONTROL SWITCH / 51
B1256	Instrument Control Panel Circuit Diagnosis / 56
B1261	No Communication Between ECM & Body ECU / 61
B1269	THEFT DETERRENT ECU COMMUNICATION STOPPED / 69
B1272	No Communication between Power Seat ECU (W/Memory) & Body ECU (POWER SEAT ECU COMMUNICATION STOPPED) / 72
B1273	No Communication Between Sun Roof Control ECU & Body ECU / 73
B1275	No Communication Between Accessory Bus Buffer & Body ECU / 75
B1276	No Communication Between Combination Meter ECU & Body ECU
B1277	No Communication Between Instrument Control Panel & Body ECU
B1300	Engine Coolant Temperature Sensor for Hydraulic Cooling Fan Circuit Malfunction
B1305	Solenoid for Hydraulic Cooling Fan Circuit Malfunction
B1421 ⁶	Solar Sensor Circuit (Passenger Side) (Progr., RX3)
B1423	Open in pressure Sensor Circuit / Abnormal refrigerant Pressure (Progr, RX3)
B1424	Solar Sensor Circuit (Driver Side) (Progr.)
B2785	Ignition Switch ON Malfunction / 99
B2786	Ignition Switch OFF Malfunction / 99
B2790	Key Unlock Warning Switch ON Malfunction
B2791	Key Unlock Warning Switch Off Malfunction / 99
B2793	B2793
B2794	B2794
B2795	Unmatched Key Code ⁷ / 99
B2796	No Communication in Immobiliser System ⁸ / 99
B2797	Communication Malfunction No.1 / 99
B2798	Communication Malfunction No.2 / 99
B2799	Engine Immobiliser System Malfunction ⁹
C0200	FR Whell Speed Sensor Malfunction (Cald,Cam, RX3, Cel.)
C0205	FL Whell Speed Sensor Malfunction (Cald, Cel.)
C0210	RR Whell Speed Sensor Malfunction (Cald,Cam, Cel.)

⁵ MULTIPLEX CONTROL SYSTEM (RX, AV)

⁶ A/C SYSTEM

⁷ TSB EL002-99 Troubleshooting Immobilizer DTC B2795

⁸ TSB EL003-99 Troubleshooting Immobilizer DTC B2796

⁹ REGISTER THE IMMOBILIZER TO THE ENGINE ECU WITH THE KEY ON BUT ENGINE NOT RUNNING SHORT TERMINALS Tc & CG IN THE DLC CONNECTOR. LEAVE IT LIKE THIS FOR 30 MIN. (LS430)

C0215	LR Speed Sensor Circuit (Cel.)
C0226	ABS Actuator Solenoid Circuit (Cel.) or ABS Solenoid Valve Circuit (MR)
C0236	ABS Actuator Solenoid Circuit (MR, Cel.)
C0237	Speed Sensor Circuit (Cel.)
C0238	Speed Sensor Circuit (Cel.)
C0239	Speed Sensor Circuit (Cel.)
C0246	ABS Actuator Solenoid Circuit (MR, Cel.)
C0256	ABS Actuator Solenoid Circuit (MR, Cel.)
C0273	ABS Motor Relay Circuit (MR, Cel.)
C0274	ABS Motor Relay Circuit (MR, Cel.)
C0278	ABS Motor Relay Circuit (MR, Cel.)
C0279	ABS Motor Relay Circuit (MR, Cel.)
C0274	Water Pump Motor Relay Circuit Voltage to High (?)(Cam.)
C0278	Solenoid Relay Circuit Voltage to Low (Cam.)
C0279	Solenoid Relay Circuit Voltage to High (Cam.)
C0371	VSC Sensor Signal or Circuit malfunction
C1200	Brake Boost Sensor Circuit Malfunction / 98
C1201	Brake Boost Sensor Circuit Range/Performance (!?)
C1201	Engine Control System Malfunction (VCS lamp ON-RX3) or ECM/TCM malfunction / 51
C1203	ECM/TRC communication Circuit malfunction / 53 (RX, LC)
C1207	Starter Signal block malfunction / 37 (?)
C1208	Steering Position Sensor Signal or Circuit malfunction / 72
C1210	No learned (adaptation) VSC Sensor/36
C1223	Malfunction in ABS Control System (RX3) / 43
C1224	NEO Signal Circuit Open or Short / 44
C1231	Steering Angle Sensor Signal or Circuit malfunction (Progr.)
C1232	Accel. Sensor Signal or Circuit malfunction/32
C1233	VSC Sensor Circuit Open or Short/33 or Yaw Sensor Circuit Open or Short (Progr., RX3)
C1234	VSC Sensor Signal Out of Range (malfunction) / 34
C1235	Speed Sensor Rotor / Right Front (Cel.)
C1236	Speed Sensor Rotor / Left Front (Cel.)
C1336	No learned (adaptacion) VSC Sensor/39?
C1238	Speed Sensor Circuit (MR), Speed Sensor Rotor / Right Rear (Cel.)
C1239	Speed Sensor Circuit (MR), Speed Sensor Rotor / Left Rear (Cel.)
C1340	Block Diff. Circuit malfunction/47?
C1241	IG Power Source Circuit (MR, Cel.)
C1244	Deceleration Sensor Circuit Open or Short (Progr.)
C1249	Brake Light Switch Circuit Malfunction (Cam., MR)
C1251	ABS Pump Motor Lock (MR, Cel.)
C1271	Low Output Voltage of Right Front Speed Sensor (MR) / 71
C1272	Low Output Voltage of Left Front Speed Sensor (MR) / 72
C1273	Low Output Voltage of Right Rear Speed Sensor (MR) / 73
C1274	Low Output Voltage of Left Rear Speed Sensor (MR) / 74
C1275	Abnormal Change in Input Voltage of Right Front Speed Sensor (MR) / 75
C1276	Abnormal Change in Input Voltage of Left Front Speed Sensor (MR) / 76
C1277	Abnormal Change in Input Voltage of Right Rear Speed Sensor (MR) / 77
C1278	Abnormal Change in Input Voltage of Left Rear Speed Sensor (MR) / 78
C1511 -	Torque Sensor Circuit Malfunction (11 / 14)
C1514	
C1515	Calibration of torque sensor zero point Not Performed / 15 ¹⁰
C1516	Calibration of torque sensor zero point Not completed / 16
C1521 ¹¹	Power Steering Motor Malfunction / 21 ¹² (MR2, Pri)
C1522	Power Steering Motor Malfunction / 22 (MR2, Pri)
C1523	Power Steering Motor Malfunction / 23 (MR2, Pri)
C1531 -	Power Steering ECU Malfunction / (31-33) (MR2, Pri)

¹⁰ DTC from the PS warning light.

¹¹ Available Reading and Clearing Diagnostic Trouble Codes Without Scan Tool by using DLC No.3

¹² Read the DTC and Input Signal Check (Test Mode) from the P/S warning light on the combination meter. For example (courtesy Mr. Serally from Mauritius Island), for Toyota Corolla NZE121 (VIN: JTDDBT23E90)

Code 15 - Calibration of torque sensor zero point not performed.

Code 32 - EMPS ECU malfunction

Code 33 - EMPS ECU malfunction

Code 54 - EMPS relay circuit malfunction

C1533
C1539 Power Steering ECU Malfunction / 39 (MR2)
C1541 – Speed sensor Malfunction / (41- 43) (Pri)
C1543
C1571 IG power source circuit malfunction / 51 (Pri)
C1552 PIG Power Source Drop Voltage Malfunction / 52 (MR2, Pri)
C1553 When Resetting Voltage, Vehicle Is Being Driven / 53 (MR2, Pri)
C1554 EMPS relay circuit malfunction / 54 (Pri)
C1555 EMPS ECU malfunction / 55 (Pri)
C1556 P/S warning light circuit / 56 (Pri)
C1557 Memory of overheat prevention control / 57 (Pri)
C1558 Memory of voltage drop at motor power supply / 58 (Pri)
C1559 Memory of continuous control under high load / 59 (Pri)
C1571 Speed sensor malfunction (Test mode) /(71 / 72)
/ C1572
C1572 Speed Sensor Signal Malfunction / 72 (MR2)
C1743 ¹³
C1782 Stop Switch Circuit Malfunction (LX47)
C1783 Door Courtesy Switch Circuit Malfunction (LX47)
C1786 Hight Control Switch Circuit Malfunction (LX47)
C1787 EMS Switch Circuit Malfunction (LX47)
C1788 Height Control OFF Switch Circuit Malfunction (LX47)
C1794 RH Front Weel Speed Sensor Circuit malfunction (LX47)
C1795 LH Front Weel Speed Sensor Circuit malfunction (LX47)
C2111 Tire pressure sensor ID1 operation stop / 11 ¹⁴
C2112 Tire pressure sensor ID2 operation stop / 12
C2113 Tire pressure sensor ID3 operation stop / 13
C2114 Tire pressure sensor ID4 operation stop / 14
C2115 Tire pressure sensor ID5 operation stop
C2121 Tire pressure sensor ID1 not received
C2122 Tire pressure sensor ID2 not received
C2123 Tire pressure sensor ID3 not received
C2124 Tire pressure sensor ID4 not received
C2125 Tire pressure sensor ID5 not received
C2141 A malfunction in the tire pressure sensor registered to ID1
C2142 A malfunction in the tire pressure sensor registered to ID2
C2143 A malfunction in the tire pressure sensor registered to ID3
C2144 A malfunction in the tire pressure sensor registered to ID4
C2145 A malfunction in the tire pressure sensor registered to ID5
C2165 Abnormal temperature inside ID1 tire
C2166 Abnormal temperature inside ID2 tire
C2167 Abnormal temperature inside ID3 tire
C2168 Abnormal temperature inside ID4 tire
C2169 Abnormal temperature inside ID5 tire
C2171 Tire pressure sensor ID not registered
C2176 Tire pressure monitor receiver is error
C2181 Tire pressure sensor ID1 not received (test diagnosis)
C2182 Tire pressure sensor ID2 not received (test diagnosis)
C2183 Tire pressure sensor ID3 not received (test diagnosis)
C2184 Tire pressure sensor ID4 not received (test diagnosis)
C2185 Tire pressure sensor ID5 not received (test diagnosis)
C2191 Vehicle speed signal error (test diagnosis)
P0010 Camshaft Position "A" – Actuator Circuit (Bank 1) – Cor `04
P0011 Camshaft Position "A" – Timing Over-Advanced or System performance (Bank 1) – Cor `04
P0012 Camshaft Position "A" – Timing Over-Retarded (Bank 1) – Cor `04
P0016 Crankshaft Position-Camshaft Position Correlacion (Bank 1 Sensor A) – Cor `04
P0031 Oxygen Sensor Heater Control Circuit Low (Bank 1 Sensor 1) – Cor `04
P0032 Oxygen Sensor Heater Control Circuit High (Bank 1 Sensor 1) – Cor `04
P0100 Mass or Volume Air Flow Circuit Malfunction / 31

¹³ SU002-03 "Suspension - Active Height Control 'OFF' Lamp/DTC C1743"

¹⁴ pg006i01.pdf TSB PG006-01 ('02 SC 430 and Activation Procedure) DTC No. indicated by flashing of the tire pressure warning light

P0101	Mass Air Flow Circuit Range/Performance Problem
P0102	Mass Air Flow Circuit Malfunction (Low Input – Cor `04)
P0103	Mass Air Flow Circuit Malfunction (High Input – Cor `04)
P0105	Manifold Absolute Pressure/Barometric Pressure Circuit Malfunction / 31
P0106	Manifold Absolute Pressure Circuit Problem / 31
P0110	Intake Air Temperature (IAT) Circuit Malfunction / 24
P0112	Intake Air Temperature (IAT) Circuit Low Input – Cor `04
P0113	Intake Air Temperature (IAT) Circuit High Input – Cor `04
P0115	Engine Coolant Temperature Circuit Malfunction / 22
P0116	Engine Coolant Temperature Circuit Range/Performance Problem (after Engine Operates at Least 20 Minutes, Engine Coolant Temp. Sensor Value is 86°F aka 30°C or less)
P0117	Engine Coolant Temperature Circuit Low Input
P0118	Engine Coolant Temperature Circuit High Input
P0120	Throttle/Pedal Position Sensor/Switch "A" Circuit Malfunction / 41
P0121	Throttle/Pedal Position Sensor/Switch "A" Circuit Range/Performance Problem / 41
P0122	Throttle/Pedal Position Sensor/Switch "A" Circuit Low Input – Cor `04
P0123	Throttle/Pedal Position Sensor/Switch "A" Circuit High Input – Cor `04
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control
P0128	Thermostat Malfunction (Coolant Temperature below Thermostat Regulating Temperature)
P0130	O2 Sensor Circuit Malfunction (Bank 1 Sensor 1) / 21
P0133	O2 Sensor Circuit Slow Response (Bank 1 Sensor 1)
P0134	Oxygen Sensor Circuit no activity Detected (Bank 1 Sensor 1) – Cor `04
P0135	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 1) /21
P0136	O2 Sensor Circuit Malfunction (Bank 1 Sensor 2) / 27
P0139	O2 Sensor Circuit Slow Response (Bank 1 Sensor 2)
P0141	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)
P0142	O2 Sensor Circuit Malfunction (Bank 1 Sensor 3)
P0147	O2 Sensor Heater Circuit Malfunction (Bank 1 Sensor 3)
P0150	O2 Sensor Circuit Malfunction (Bank 2 Sensor 1) / 28
P0153	O2 Sensor Circuit Slow Response (Bank 2 Sensor 1)
P0155	O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 1) or Oxygen Sensor Heater Current is Less than 0.25 amp, or Exceeds 2 amps or Voltage Drop for the Heater Exceeds 5 Volts (Cam.)
P0156	O2 Sensor Circuit Malfunction (Bank 2 Sensor 2)
P0159	O2 Sensor Circuit Slow Response (Bank 2 Sensor 2)
P0161	O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 2) / 28
P0162	O2 Sensor Circuit Malfunction (Bank 2 Sensor 3)
P0167	O2 Sensor Heater Circuit Malfunction (Bank 2 Sensor 3)
P0170	Fuel Trim Malfunction
P0171	System too Lean (Fuel Trim) (tens cars) / 25
P0172	System too Rich (Fuel Trim) / 26
P0174	System too Lean (A/F Lean Malfunction, Bank2) / 25
P0175	System too Rich (Bank2) 26
P0176	Fuel Composition Sensor Circuit Malfunction
P0180	Fuel Temperature Sensor "A" Circuit Malfunction
P0190	Fuel Rail Pressure Sensor Circuit Malfunction / 49
P0191	Fuel Rail Pressure Sensor ¹⁵ Circuit Range/Performance (Vist.) / 49
P0200	
P0201	Cylinder No. 1 Misfires Continuously
P0202	Cylinder No. 2 Misfires Continuously
P0203	Cylinder No. 3 Misfires Continuously
P0204	Cylinder No. 4 Misfires Continuously
P0205	Cylinder No. 5 Misfires Continuously
P0206	Cylinder No. 6 Misfires Continuously
P0300 ¹⁶	Random/Multiple Cylinder Misfire Detected or Misfiring Of Multiple Cylinders During Same 200-1000 Engine Revolutions
P0301	Cylinder 1 Misfire Detected
P0302	Cylinder 2 Misfire Detected
P0303	Cylinder 3 Misfire Detected
P0304	Cylinder 4 Misfire Detected
P0305	Cylinder 5 Misfire Detected
P0306	Cylinder 6 Misfire Detected

¹⁵ 49¹⁶ For Prius TSB EG007-01

P0307	Cylinder 7 Misfire Detected
P0308	Cylinder 8 Misfire Detected
P0309	Cylinder 9 Misfire Detected
P0310	Cylinder 10 Misfire Detected
P0311	Cylinder 11 Misfire Detected
P0312	Cylinder 12 Misfire Detected
P0325	Knock Sensor 1 Circuit Malfunction / 52 (Bank 1 or Single Sensor on Cor '04)
P0327	Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor) - Cor '04)
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor) - Cor '04)
P0330	Knock Sensor 2 Circuit Malfunction (Bank 2) / 55
P0335	Crankshaft Position Sensor "A" Circuit Malfunction / 12 or 13 (?)
P0336	Crankshaft Position Sensor "A" Circuit Range/Performance or Deviation in Crankshaft & Camshaft Position Sensor Signals (Cam.)
P0339	Crankshaft Position Sensor "A" Circuit Intermittet - Cor '04
P0340	Camshaft Position Sensor Circuit Malfunction (Mar.,Cam. Cor '04) / 12
P0341	Camshaft Position Sensor Circuit Range/Performance (Bank 1 or Single Sensor) - Cor '04
P0351	Ignition Coil "A" Primary/Secondary Circuit - Cor '04
P0352	Ignition Coil "B" Primary/Secondary Circuit - Cor '04
P0353	Ignition Coil "C" Primary/Secondary Circuit - Cor '04
P0354	Ignition Coil "D" Primary/Secondary Circuit - Cor '04
P0385	Crankshaft Position Sensor "B" Circuit Malfunction
P0400	Exhaust Gas Recirculation Flow Malfunction
P0401	Exhaust Gas Recirculation Flow Insufficient Detected With Engine Warm & Driven at 50 MPH for 3-5 Minutes, EGR Gas Sensor Value does Not Exceed Ambient Air Temperature By 72°F aka 40°C (Cam.) / 71
P0402	Exhaust Gas Recirculation Flow Excessive Detected
P0403	Exhaust Gas Recirculation Circuit Malfunction / 71
P0410	Secondary Air Infection System Malfunction
P0411	Secondary Air Injection System Incorrect Flow Detected.
P0412	Secondary Air Infection System Switching Valve "A" Circuit Malfunction
P0420 ¹⁷	Catalyst System Efficiency Below Threshold (Bank 1) - With Engine Warm & Driven at 20-50 MPH for 5 Minutes, Heated Oxygen Sensors Have Same Wave Patterns (Cam.)
P0430	Catalyst System Efficiency Below Threshold (Bank 2)
P0440 ¹⁸	Evaporative Emission Control System Malfunction
P0441 ⁷	Evaporative Emission Control System Incorrect Purge Flow
P0442	Evaporative Emission Control System Leak Detected (Small Leak)
P0443	Evaporative Emission Control System Purge Control Valve Circuit Malfunction
P0446 ⁷	Evaporative Emission Control System Vent Control Malfunction
P0450	Evaporative Emission Control System Pressure Sensor Malfunction
P0451	Evaporative Emission Control System Pressure Sensor Range/Performance
P0452	Evaporative Emission Control System Pressure Sensor Low Input - Cor '04
P0453	Evaporative Emission Control System Pressure Sensor High Input - Cor '04
P0456	Evaporative Emission Control System Leak Detected (Very Small Leak)
P0500	Vehicle Speed Sensor Malfunction / 42 (Sensor "A" on Cor '04)
P0505	Idle Control System Malfunction or Idle Speed Varies Greatly from ECM Target Speed
P0510	Closed Throttle Position Switch Malfunction
P0511	Idle Air Control Circuit - Cor '04
P0550	Power Steering Pressure Sensor Circuit Malfunction or Closed Throttle Position Switch Does Not Turn On when Vehicle is Driven
P0560	System Voltage - Cor '04
P0605	Internal Control Module Read Only Memory (ROM) Error
P0606	ECM/PCM Processor
P0617	Starter Relay Circuit High - Cor '04
P0705	Transmission Range Sensor Circuit Malfunction (PRNDL Input) - Cor '04
P0710	Transmission Fluid Temperature Sensor Circuit malfunction
P0711	Transmission Fluid Temperature Sensor Circuit Range / Performance
P0715	Input/Turbine Speed Sensor Circuit Malfunction (Mar.)
P0724	Brake Switch "B" Circuit High - Cor '04
P0725	Engine Speed Input Circuit Malfunction

¹⁷ TSB EG008-01 (MIL "ON" P0420, P0430, Models: '01 RAV4)

¹⁸ TSB EG013-02 (MIL "ON" P0440, P0441 & P0446", Models: '98 - '99 Camry & Solara, Part No. 90910-12271)

TSB EG008-02 (MIL "ON" P0442, P0440, Models: '02 RAV4)

P0740	ECT ECU Malfunction
P0741	Torque Converter Clutch Solenoid Performance (Shift Solenoid Valve SL) - Cor '04
P0750	Shift Solenoid "A" (SL1) Malfunction or Shift Solenoid A/B Malfunction
P0751	Shift Solenoid "A" performance (Shift Solenoid Valve S1) - Cor '04
P0753	Shift Solenoid "A" (SL1) Electrical Malfunction
P0755	Shift Solenoid "B" (SL2) Malfunction or During Normal Driving, Gear Required By ECM Does Not Match Actual Gear (Cam.)
P0756	Shift Solenoid "B" performance (Shift Solenoid Valve S2) - Cor '04
P0758	Shift Solenoid "B" (SL2) Electrical Malfunction
P0760	Shift Solenoid "C" Malfunction
P0763	Shift Solenoid "C" Electrical
P0765	Shift Solenoid "D" (S4 or Shift Solenoid Valve No. 4) Malfunction
P0768	Shift Solenoid "D" (S4 or Shift Solenoid Valve No. 4) Electrical
P0770	Shift Solenoid "E" (Lock-Up Solenoid, also called SL solenoid) Malfunction
P0773	Shift Solenoid "E" (Lock-Up Solenoid) Electrical Circuit Malfunction
P0850	Park/Neutral Switch Input Circuit - Cor '04
P0973	Shift Solenoid "A" control Circuit Low (Shift Solenoid Valve S1) - Cor '04
P0974	Shift Solenoid "A" control Circuit High (Shift Solenoid Valve S1) - Cor '04
P0976	Shift Solenoid "B" control Circuit Low (Shift Solenoid Valve S2) - Cor '04
P0977	Shift Solenoid "B" control Circuit High (Shift Solenoid Valve S2) - Cor '04
P1100	Atmospheric Pressure Sensor Malfunction
P1101	Atmospheric Pressure Sensor Circuit Range / Performance
P1105	Combustion Pressure Sensor Malfunction
P1120 ¹⁹	Accelerator Pedal Position Sensor Circuit Malfunction / 19
P1121	Accelerator Pedal Position Sensor Range/Performance Problem / 19
P1125	Throttle Control Motor Circuit Malfunction / 89
P1126	Magnetic Clutch Circuit Malfunction / 89
P1127	ETCS Actuator Power Source Circuit Malfunction / 89
P1128	Throttle Control Motor Lock Malfunction / 89
P1129	Electric Throttle Control System Malfunction / 89
P1130	A/F Sensor Circuit Range/Performance Malfunction (Bank 1 Sensor 1)
P1133 ²⁰	A/F Sensor Circuit Response Malfunction (Bank 1 Sensor 1)
P1135	A/F Sensor Heater Circuit Malfunction (Bank 1 Sensor 1)
P1136	A/F Sensor Circuit Malfunction (Bank 1 Sensor 2)
P1139	A/F Sensor Circuit Slow Response (Bank 1 Sensor 2)
P1141	A/F Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)
P1150	A/F Sensor Circuit Range/Performance Malfunction (Bank 2 Sensor 1)
P1153	A/F Sensor Circuit Response Malfunction (Bank 2 Sensor 1)
P1155	A/F Sensor Heater Circuit Malfunction (Bank 2 Sensor 1)
P1156	A/F Sensor Circuit Malfunction (Bank 2 Sensor 2)
P1159	A/F Sensor Circuit Slow Response (Bank 2 Sensor 2)
P1161	A/F Sensor Heater Circuit Malfunction (Bank 2 Sensor 2)
P1180	CNG Pressure Sensor Circuit Malfunction
P1185	CNG Temperature Sensor Circuit Malfunction
P1190	Fuel Pressure Regulator Malfunction
P1200	Fuel Pump Relay/ECU Circuit Malfunction
P1205	Electric Air Pump Circuit Malfunction.
P1210	Injector Control Pressure Above Expected Level / 92
P1215	EDU Circuit Malfunction (Ath.) / 97
P1220	Timer Control Circuit Malfunction
P1221	Venturi Control Circuit Malfunction
P1225	Spill Control Circuit Malfunction
P1230	Venturi Position Sensor Malfunction
P1235	High Pressure Fuel Pump Circuit Malfunction or "Fuel Pump Control Out Of Range" / 78
P1240	Fuel Shutoff Valve Circuit for Delivery Pipe Malfunction
P1245	Fuel Shutoff Valve Circuit for Pressure Regulator Malfunction
P1300	Igniter Circuit Malfunction / 14
P1305	Igniter No. 2 Circuit Malfunction / 15
P1310	Igniter No. 3 Circuit Malfunction / 15
P1315	Igniter No. 4 Circuit Malfunction
P1320	Igniter No. 5 Circuit Malfunction

¹⁹ For Prius TSB EG018-02

²⁰ TSB EG012-01 (MIL "ON" P1133, Models: '98-'00 RAV4)

P1325	Igniter No. 6 Circuit Malfunction
P1330	Igniter No. 7 Circuit Malfunction
P1335	Crankshaft Position Sensor (CKP) Circuit Malfunction (During engine running) (Vist., Cam.) / 13
P1340	Igniter No. 8 Circuit Malfunction (1998-2000 Land Cruiser & 2000 Tundra)
P1345	VVT (Variable Valve Timing) Sensor/Camshaft Position Sensor Circ. Malfunction (Bank1)
P1346	VVT (Variable Valve Timing) Sensor/Camshaft Position Sensor Circuit Range/Performance Problem (Bank 1) / 18
P1349 ²¹	VVT (Variable Valve Timing) System Malfunction (Bank 1) ²² / 59
P1350	VVT (Variable Valve Timing) Sensor/Camshaft Position Sensor Circ. Malfunction (Bank2)
P1351	VVT (Variable Valve Timing) Sensor/Camshaft Position Sensor Circuit Range/Performance Problem (Bank 2)
P1354	VVT (Variable Valve Timing) System Malfunction (Bank 2)
P1357	Exhaust VVT Sensor/Camshaft Position Sensor Circuit Malfunction (Bank 1)
P1358	Exhaust VVT Sensor/Camshaft Position Sensor Circuit Malfunction (Bank 2)
P1360	Exhaust VVT Sensor/Camshaft Position Sensor Circuit Malfunction (Bank 1)
P1365	Exhaust VVT Sensor/Camshaft Position Sensor Circuit Malfunction (Bank 2)
P1400	Sub Throttle Position Sensor Circuit Malfunction
P1401	Sub Throttle Position Sensor Circuit Range/Performance Problem
P1405	Turbo Pressure Sensor Circuit Malfunction
P1406	Turbo Pressure Sensor Circuit Range/Performance Problem
P1410	EGR Valve Position Sensor Circuit Malfunction
P1411	EGR Valve Position Sensor Circuit Range/Performance Problem
P1415	Air Pump Circuit Malfunction/ (AIR) System Bank 1 / 58
P1416	Port Air Circuit Malfunction/ (AIR) System Bank 2 / 58
P1420	Intake Constrictor CTRL Circuit Open or Short
P1430	Vacuum Sensor for HC Adsorber and Catalyst (HCAC) System Circuit Malfunction (HV)
P1431	Vacuum Sensor for HC Adsorber and Catalyst (HCAC) System Circuit Range/Performance Problem
P1436 ²³	Toyota-HCAC-System By-Pass Valve Impromevent-Open Malfunction (Pri)
P1437	Toyota-HCAC-System By-Pass Valve Close Malfunction
P1437	Vacuum Line Malfunction (HV)
P1455	Vapor Reducing Fuel Tank System Malfunction
P1455	Vapor Reducing Fuel Tank System Leak Detected (Small Leak) (HV)
P1500	Starter Signal Circuit Malfunction
P1505	Switch Signal Malfunction
P1510	Boost Pressure Control Malfunction
P1511	Boost Pressure Low Malfunction
P1512	Boost Pressure High Malfunction
P1515	Inter Cooler System Malfunction
P1520	Stop Light Switch Circuit Malfunction (A/T)
P1525	Resolver Circuit Malfunction
P1565	Cruise Control Main Switch Circuit Malfunction
P1566	Input Signal Circuit Abnormal or Cruise Control Main Switch Circuit Fault
P1600	ECM BATT Malfunction
P1605	Knock Control CPU Malfunction
P1610	Combustion Control CPU Malfunction
P1620	ECT1 Signal Circuit Malfunction
P1625	ESA1 Signal Circuit Malfunction
P1626	ESA2 Signal Circuit Malfunction
P1627	ESA3 Signal Circuit Malfunction
P1630	Traction Control System Malfunction
P1633	ECM Malfunction (ETCS Circuit) or Electronic Throttle Control System (ETCS) Circuit ECM Malfunction
P1636	HV ECU Malfunction
P1637	E(G?)STP signal Malfunction (ESTP Signal Malfunction - Pri)
P1645	Body ECU Malfunction
P1650	Fuel Pressure Up VSV Circuit Malfunction
P1651	VSV For ACIS Circuit Malfunction
P1652	IACV Control Circuit Malfunction
P1653	SCV Circuit Malfunction / 58
P1654	Idle Up VSV Circuit Malfunction

²¹ TSB EG009-03 ('02 Ech)

²² TSB EG007-03 M.I.L. "ON" DTC P1349 - VVTI ACTUATOR (Cam.)

²³ TSB EG015_02

P1655	Idle Purge VSV Circuit Malfunction
P1656	OCV (Oil Control Valve) Circuit Malfunction (Bank 1) / 39
P1657	Purge Cut VSV Circuit Malfunction
P1658	Waste Gate Valve Control Circuit Malfunction
P1659	Super Charger Control Circuit Malfunction
P1660	Air Bleed Control Circuit Malfunction
P1661	Exhaust Gas Control Valve Control Circuit Malfunction
P1662	Exhaust Bypass Valve Control Circuit Malfunction
P1663	OCV (Oil Control Valve) Circuit Malfunction (Bank 2)
P1666	Intake Air Control VSV No.2 Circuit Malfunction
P1667	TCV Circuit Malfunction
P1668	VSV for AICV Circuit Malfunction
P1690	OCV For VVTL Circuit Malfunction (Bank 1)
P1692	OCV For VVTL Open Malfunction (Bank 1)
P1693	OCV For VVTL Close Malfunction (Bank 1)
P1695	OCV For VVTL Circuit Malfunction (Bank 2)
P1697	OCV For VVTL Open Malfunction (Bank 2)
P1698	OCV For VVTL Close Malfunction (Bank 2)
P1700	Speed Sensor No.2 Malfunction
P1705	NC2 (Direct Clutch Speed Sensor) Revolution Sensor Circuit malfunction or Direct Clutch Speed Sensor Output is 300 RPM or less with Vehicle at 20 MPH or more & with Park/Neutral Position Switch Off
P1710	Steering Sensor Circuit Malfunction
P1715	Rear Wheel Sensor Circuit Malfunction
P1720	DC Clutch Forced Release Circuit Malfunction
P1725	NT Revolution Sensor or Input Turbine Speed Sensor Circuit Malfunction
P1730	NC Revolution Sensor Circuit Malfunction or Counter Gear Speed Sensor Circuit Fault
P1735	Right Front Speed Sensor Circuit Malfunction
P1740	Left Front Speed Sensor Circuit Malfunction
P1745	Transmission Fluid Temperature Sensor No.2 Circuit Malfunction
P1753	Shift Solenoid No.4 Circuit Malfunction
P1755	Linear Solenoid for Lock Up Ctrl Circ. Malfunction
P1760	Linear Solenoid for Line Pressure Control Circuit Malfunction or Shift Solenoid Valve SLT Fault or Linear Solenoid for Lock-Up Control Circuit Malfunction
P1765	Linear Solenoid ²⁴ for Accumulator Pressure Control Circuit Malfunction (Shift Solenoid Valve "SLN" malfunction) or with Engine Warm, Current Flow to Shift Solenoid Valve "SLN" is 0.2 Amp or less for One Second with Engine at 500 RPM or more, or with Park/Neutral Position Switch Off
P1770	Deferential Lock Solenoid No.1 Circuit Malfunction
P1775	Deferential Lock Solenoid No.2 Circuit Malfunction
P1780	Park/Neutral Position (PNP) Switch malfunction (A/T only)
P1782	Transfer L4 SW Circuit Malfunction
P1783	Transfer N SW Circuit Malfunction
P1785	Auto Clutch System Malfunction
P1790	ST Solenoid (Shift solenoid valve ST) Circuit Malfunction
P1793	Shift Solenoid ST Circuit Malfunction
P1800	Automatic Transmission Operation Circuit Malfunction
P1805	Communication (between EFI ECU and Transmission ECU) Circuit Malfunction
P1810	Communication for Torque Control Circuit Malfunction
P1820	NIN Sensor Circuit Malfunction
P1825	NOUT Sensor Circuit Malfunction
P1845	PTO Sensor Circuit Malfunction
P1885	SLS Circuit Malfunction
P1888	SLS Circuit Malfunction
P1890	SLC Circuit Malfunction
P1891	SLC Circuit Malfunction
P1895	DSU Circuit Malfunction
²⁵ P2102, 2103	
¹⁰ P2111, 2112	
¹⁰ P2119	
P2195	Oxygen Sensor Signal Stuck Lean (Bank 1 Sensor 1) – Cor '04

²⁴ on A-541E A 4th solenoid (SLN solenoid) is used to control hydraulic pressure acting on accumulator control valve to assist in smooth shifting.

²⁵ TSB FG002-03, EG012-02 (10001354-6134)

P2196	Oxygen Sensor Signal Stuck Rich (Bank 1 Sensor 1) - Cor '04
P2716	Pressure Control Solenoid "D" Electrical (Shift Solenoid Valve SLT) - Cor '04
P2769	Torque Converter Clutch Solenoid Circuit Low (Shift Solenoid Valve SL) - Cor '04
P2770	Torque Converter Clutch Solenoid Circuit High (Shift Solenoid Valve SL) - Cor '04
P3000	HV Battery Malfunction
P3001 ²⁶	Battery ECU malfunction
P3002	HV ECU communication malfunction
P3004	Power Cable Malfunction
P3005	High voltage fuse snapped [<i>sic</i>] ²⁷
P3006	Battery SOC are uneven ²⁸
P3009	Leak detected ²⁹ (Electric leak from high-voltage system)
P3010	Battery total resistance malfunction
P3011 to P3029	Battery block malfunction ³⁰
P3030	Battery voltage detective line snapped [<i>sic</i>] ³¹
P3060	Battery temperature sensor circuit malfunction
P3076	Abnormal air flow by battery cooling fan
P3077	Battery cooling fan motor circuit malfunction
P3100	HV ECU Malfunction
P3101	Engine System Malfunction
P3105	Battery ECU Communication Circuit Malfunction
P3106	ECM Communication Circuit Malfunction
P3107	Airbag ECU Communication Circuit Malfunction
P3108	A/C Amplifier Communication Circuit Malfunction
P3109 ³²	Brake ECU Communication Circuit Malfunction
P3110	IGCT relay is always closed
P3115 ³³	HV battery current sensor malfunction
P3115	System Main Relay Malfunction
P3120	HV Transaxle Malfunction
P3125 ³⁴	Converter & Inverter Assembly Malfunction
P3130	Inverter Cooling System Malfunction
P3135	Circuit Breaker Sensor Malfunction
P3140	Interlock Malfunction
P3145	Vehicle Speed Sensor Circuit Malfunction
P3190 ³⁵	Poor Engine Power (Pri)
P3191	Engine does not start (Pri)

Last modif. 1/15/05

NOTE.

²⁶ Hybrids Vehicles²⁷ Presumably P3005 would also be recorded if an attempt was made to start up with the service plug removed, as the high voltage fuse is physically located inside the plug.²⁸ P3006 - not too sure about this, but criterion appears to be maximum permitted difference between highest block voltage and lowest block voltage at any instant (not including transients) is 1.2 volts.²⁹ P3009 - "Leak detected", meaning a current leakage path the high voltage circuitry to the chassis has been detected. Trigger level not known, but the criterion for manual testing is insulation resistance not less than 10M ohms when tested at 500V DC.³⁰ The traction battery consists of 38 physical modules, each containing 6 cells. For the purposes of monitoring by the battery ECU, modules are paired into 19 "blocks". DTCs P3011 to P3029 appear to indicate the "malfunction" of a particular block, although what "malfunction" means is not clear.³¹ P3030 - presumably means open circuit of one of the twenty voltage sense lines which are connected to the cell string at the ends and between each block.³² TSB EG002_01³³ TSB EG009_01³⁴ TSB E021-02³⁵ TSB FG002-03, EG012-02 (10001354-6134)

Note: Not all trouble codes are used on all models