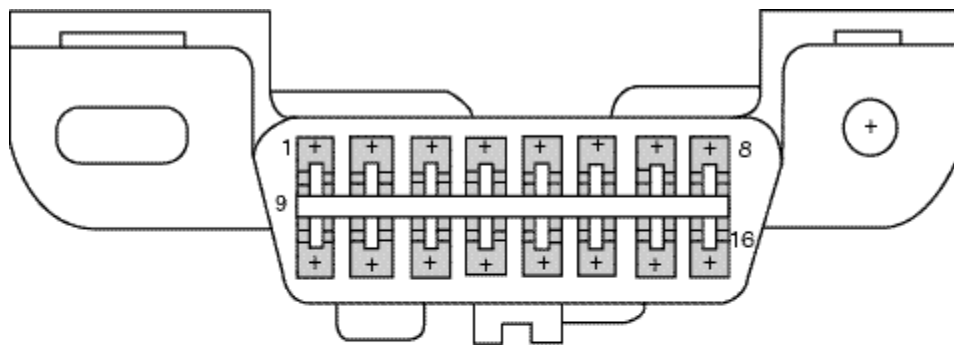


OBD2 Connector Location and Powertrain Trouble Code Listings (GM)

All cars and light trucks built for sale in the United States after 1996 are required to be OBD-II compliant.

An OBD-II compliant vehicle can use any of the five communication protocols: J1850 PWM, J1850 VPW, ISO9141-2, ISO14230-4 (also known as Keyword Protocol 2000), and more recently, ISO15765-4/SAE J2480. US car manufacturers were not allowed to use CAN until model year 2003.

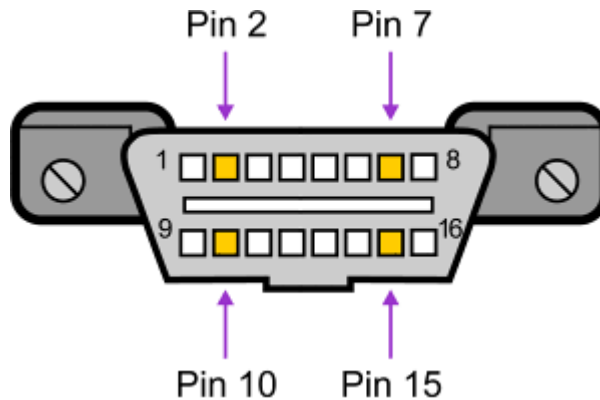
Location - DLC "shall be located in the passenger or driver's compartment in the area bounded by the driver's end of the instrument panel to 300 mm (~1 ft) beyond the vehicle centerline, attached to the instrument panel and easy to access from the driver's seat. The preferred location is between the steering column and the vehicle centerline."



- | | |
|------------------------------|--|
| 1-Discretionary | 9-Discretionary |
| 2-Busline+ of SAE J1850 | 10-Busline- of SAEJ1850 |
| 3-Discretionary | 11-Discretionary |
| 4-Chassis ground | 12-Discretionary |
| 5-Signal ground | 13-Discretionary |
| 6-CAN high line of SAE J2284 | 14-CAN low line of SAE J2284 |
| 7-K line of ISO 9141-2 | 15-L line of SAE 9141-2 |
| 8-Discretionary | 16-Unswitched vehicle battery positive |

(courtesy of SAE)

As a general rule, you can determine which protocol your vehicle is using by looking at the pinout of the DLC:



For Non-CAN, typically all you would need is...

- Pin 2 is the Data line
- Pin 4 and 5 must be grounded
- Pin 16 is vehicle battery positive.

The following table explains how to determine the protocol:

Pin 2	Pin 6	Pin 7	Pin 10	Pin 14	Pin 15	Standard
Must Have			Must Have			J1850 PWM
Must Have						J1850 VPW
		Must Have			May Have*	ISO9141/14230
	Must Have			Must Have		ISO15765 (CAN)

*Pin 15 (also called the "L-line") is optional in newer vehicles that use the ISO9141-2 or ISO14230-4 protocols.

In addition to pins 2, 7, 10, and 15, the connector should have pins 4 (Chassis Ground), 5 (Signal Ground), and 16 (Battery Positive). This means that:

PWM	The connector must have pins 2, 4, 5, 10, and 16
VPW	The connector must have pins 2, 4, 5, and 16, but not 10.
ISO	The connector must have pins 4, 5, 7, and 16. Pin 15 may or may not be present.
CAN	The connector must have pins 4, 5, 6, 14, and 16.

And lastly, you may find this info helpful:

A DTC is made up of 5 digits. The chart below shows the composition of a DTC. With this information you can easily determine what system to trouble shoot without knowing the exact description of the code.

		X	X	X	X	X	
B	Body	-----+			---	Fault	(00 to 99)
C	Chassis	-----+					
P	Powertrain	----+					
U	Network	-----+		+	-----	1	Fuel & Air Metering
				+	-----	2	Fuel & Air Metering (Injector)
				+	-----	3	Ignition System or Misfire
0	SAE	-----+	+	+	-----	4	Auxiliary Emission Controls
1	MFG	-----+	+	+	-----	5	Vehicle Speed & Idle Control System
				+	-----	6	Computer Output Circuit
				+	-----	7	Transmission
				+	-----	8	Transmission
				+	-----	9	Reserved
				+	-----	0	Reserved

With Oxygen sensor related codes and "V8" engines; BANK 1 is always on the side of the engine with the number 1 cylinder, and BANK 2 is always on the side of the engine where the number 2 cylinder is located. So Bank 1 is driver side, Sensor 1 is front (closest to engine) and Sensor 2 is after the catalytic converter. (B1S1 or B1S2)

P0016	Crankshaft Position Camshaft Position Correlation Bank 1 Sensor A
P0030	Heated Oxygen Sensor (HO2S) Heater Control Circuit Bank 1 Sensor 1
P0031	Heated Oxygen Sensor (HO2S) Heater Circuit Low Voltage Bank 1 Sensor 1
P0032	Heated Oxygen Sensor (HO2S) Heater Circuit High Voltage Bank 1 Sensor 1
P0036	Heated Oxygen Sensor (HO2S) Heater Control Circuit Bank 1 Sensor 2

P0037	Heated Oxygen Sensor (HO2S) Heater Circuit Low Voltage Bank 1 Sensor 2
P0038	Heated Oxygen Sensor (HO2S) Heater Circuit High Voltage Bank 1 Sensor 2
P0050	Heated Oxygen Sensor (HO2S) Heater Circuit Bank 2 Sensor 1
P0051	Heated Oxygen Sensor (HO2S) Heater Circuit Low Voltage Bank 2 Sensor 1
P0052	Heated Oxygen Sensor (HO2S) Heater Circuit High Voltage Bank 2 Sensor 1
P0053	HO2S Heater Resistance Bank 1 Sensor 1 (PCM)
P0054	HO2S Heater Resistance Bank 1 Sensor 2 (PCM)
P0056	Heated Oxygen Sensor (HO2S) Heater Circuit Bank 2 Sensor 2
P0057	Heated Oxygen Sensor (HO2S) Heater Circuit Low Voltage Bank 2 Sensor 2
P0058	Heated Oxygen Sensor (HO2S) Heater Circuit High Voltage Bank 2 Sensor 2
P0068	Throttle Body Airflow Performance (PCM)
P0100	MAF Sensor Circuit Insufficient Activity
P0101	Mass Air Flow (MAF) Sensor Performance
P0102	Mass Air Flow (MAF) Sensor Circuit Low Frequency
P0103	Mass Air Flow (MAF) Sensor Circuit High Frequency
P0104	Mass Air Flow Circuit Intermittent
P0105	MAP Sensor Circuit Insufficient Activity
P0106	Manifold Absolute Pressure (MAP) System Performance
P0107	Manifold Absolute Pressure (MAP) Sensor Circuit Low Voltage
P0108	Manifold Absolute Pressure (MAP) Sensor Circuit High Voltage
P0109	Manifold Absolute Pressure Circuit Intermittent
P0110	Intake Air Temperature (IAT) Sensor Circuit
P0111	Intake Air Temperature (IAT) Sensor Performance
P0112	Intake Air Temperature (IAT) Sensor Circuit Low Voltage
P0113	Intake Air Temperature (IAT) Sensor Circuit High Voltage
P0114	Intake Air Temperature Circuit Intermittent
P0115	Engine Coolant Temperature (ECT) Sensor Circuit
P0116	Engine Coolant Temperature (ECT) Sensor Performance
P0117	Engine Coolant Temperature (ECT) Sensor Circuit Low Voltage
P0118	Engine Coolant Temperature (ECT) Sensor Circuit High Voltage
P0119	Engine Coolant Temperature Circuit Intermittent
P0120	TP System Performance
P0121	TP Sensor Circuit Insufficient Activity
P0122	Throttle Position (TP) Sensor Circuit Low Voltage
P0123	Throttle Position (TP) Sensor Circuit High Voltage
P0124	Throttle Position Sensor 1 Circuit Intermittent
P0125	Engine Coolant Temperature (ECT) Insufficient for Closed Loop Fuel Control
P0126	Insufficient ECT for Stable Operation
P0128	Coolant Thermostat Below Thermostat Regulating Temperature
P0130	Heated Oxygen Sensor (HO2S) Circuit Closed Loop (CL) Performance Bank 1 Sensor 1
P0131	Heated Oxygen Sensor (HO2S) Circuit Low Voltage Bank 1 Sensor 1
P0132	Heated Oxygen Sensor (HO2S) Circuit High Voltage Bank 1 Sensor 1
P0133	Heated Oxygen Sensor (HO2S) Slow Response Bank 1 Sensor 1
P0134	Heated Oxygen Sensor (HO2S) Circuit Insufficient Activity Bank 1 Sensor 1
P0135	Heated Oxygen Sensor (HO2S) Heater Performance Bank 1 Sensor 1
P0136	Heated Oxygen Sensor (HO2S) Circuit Bank 1 Sensor 2
P0137	Heated Oxygen Sensor (HO2S) Circuit Low Voltage Bank 1 Sensor 2
P0138	Heated Oxygen Sensor (HO2S) Circuit High Voltage Bank 1 Sensor 2
P0139	Heated Oxygen Sensor (HO2S) Slow Response Bank 1 Sensor 2

P0140	Heated Oxygen Sensor (HO2S) Circuit Insufficient Activity Bank 1 Sensor 2
P0141	Heated Oxygen Sensor (HO2S) Heater Performance Bank 1 Sensor 2
P0142	Heated Oxygen Sensor (HO2S) Circuit Bank 1 Sensor 3
P0143	Heated Oxygen Sensor (HO2S) Circuit Low Voltage Bank 1 Sensor 3
P0144	Heated Oxygen Sensor (HO2S) Circuit High Voltage Bank 1 Sensor 3
P0145	Heated Oxygen Sensor (HO2S) Circuit Bank 1 Sensor 2 Slow Response
P0146	Heated Oxygen Sensor (HO2S) Circuit Insufficient Activity Bank 1 Sensor 3
P0147	Heated Oxygen Sensor (HO2S) Heater Performance Bank 1 Sensor 3
P0150	Heated Oxygen Sensor (HO2S) Circuit Closed Loop (CL) Performance Bank 2 Sensor 1
P0151	Heated Oxygen Sensor (HO2S) Circuit Low Voltage Bank 2 Sensor 1
P0152	Heated Oxygen Sensor (HO2S) Circuit High Voltage Bank 2 Sensor 1
P0153	Heated Oxygen Sensor (HO2S) Slow Response Bank 2 Sensor 1
P0154	Heated Oxygen Sensor (HO2S) Circuit Insufficient Activity Bank 2 Sensor 1
P0155	Heated Oxygen Sensor (HO2S) Heater Performance Bank 2 Sensor 1
P0156	Heated Oxygen Sensor (HO2S) Circuit Bank 2 Sensor 2
P0157	Heated Oxygen Sensor (HO2S) Circuit Low Voltage Bank 2 Sensor 2
P0158	Heated Oxygen Sensor (HO2S) Circuit High Voltage Bank 2 Sensor 2
P0159	Heated Oxygen Sensor (HO2S) Slow Response Bank 2 Sensor 2
P0160	Heated Oxygen Sensor (HO2S) Circuit Insufficient Activity Bank 2 Sensor 2
P0161	Heated Oxygen Sensor (HO2S) Heater Performance Bank 2 Sensor 2
P0162	Heated Oxygen Sensor (HO2S) Circuit Bank 2 Sensor 3
P0163	Heated Oxygen Sensor (HO2S) Circuit Bank 2 Sensor 3 Low Voltage
P0164	Heated Oxygen Sensor (HO2S) Circuit Bank 2 Sensor 3 High Voltage
P0165	Heated Oxygen Sensor (HO2S) Circuit Bank 2 Sensor 3 Slow Response
P0166	Heated Oxygen Sensor (HO2S) Circuit Bank 2 Sensor 3 No Activity Detected
P0167	Heated Oxygen Sensor (HO2S) Heater Circuit Bank 2 Sensor 3
P0169	Fuel Composition Sensor
P0170	Fuel Trim Bank 1
P0171	Fuel Trim System Lean Bank 1
P0172	Fuel Trim System Rich Bank 1
P0173	Fuel Trim Bank 2
P0174	Fuel Trim System Lean Bank 2
P0175	Fuel Trim System Rich Bank 2
P0176	Fuel Composition Sensor Circuit
P0177	Fuel Composition Sensor Circuit Performance
P0178	Fuel Composition Sensor Circuit Low Voltage
P0179	Fuel Composition Sensor Circuit High Voltage
P0180	Fuel Temperature Sensor 1 Circuit
P0181	Fuel Temp. Sensor 1 Circuit Performance
P0182	Fuel Temperature Sensor Circuit Low Voltage
P0183	Fuel Temperature Sensor Circuit High Voltage
P0184	Fuel Temperature Sensor 1 Circuit Intermittent
P0185	Fuel Temperature Sensor 2 Circuit
P0186	Fuel Temp. Sensor 2 Circuit Performance
P0187	Fuel Temperature Sensor 2 Circuit Low Voltage
P0188	Fuel Temperature Sensor 2 Circuit High Voltage
P0189	Fuel Temperature Sensor 2 Circuit Intermittent
P0190	Fuel Rail Pressure Sensor Circuit
P0191	Fuel Rail Pressure Sensor Circuit Performance

P0192	Fuel Rail Pressure Sensor Circuit Low Voltage
P0193	Fuel Rail Pressure Sensor Circuit High Voltage
P0194	Fuel Rail Pressure Sensor Circuit Intermittent
P0195	Engine Oil Temperature Sensor
P0196	Engine Oil Temperature Sensor Performance
P0197	Engine Oil Temperature Sensor Low Voltage
P0198	Engine Oil Temperature Sensor High Voltage
P0199	Engine Oil Temperature Sensor Intermittent
P0200	Injector Control Circuit
P0201	Injector 1 Control Circuit
P0202	Injector 2 Control Circuit
P0203	Injector 3 Control Circuit
P0204	Injector 4 Control Circuit
P0205	Injector 5 Control Circuit
P0206	Injector 6 Control Circuit
P0207	Injector 7 Control Circuit
P0208	Injector 8 Control Circuit
P0209	Injector 9 Control Circuit
P0210	Injector 10 Control Circuit
P0211	Injector 11 Control Circuit
P0212	Injector 12 Control Circuit
P0213	Cold Start Injector 1
P0214	Cold Start Injector 2
P0215	Engine Shutoff Control Circuit
P0216	Injection Timing Control Circuit
P0217	Engine Overtemp Condition
P0218	Transmission Fluid Overtemperature
P0219	Engine Overspeed Condition
P0220	APP Sensor 2 Circuit
P0221	APP (Throttle Position) Sensor 2 Circuit Performance
P0222	APP (Throttle Position) Sensor 2 Circuit Low Voltage
P0223	APP (Throttle Position) Sensor 2 Circuit High Voltage
P0224	Throttle Position Sensor 2 Intermittent
P0225	APP Sensor 3 Circuit
P0226	APP Sensor 3 Circuit Performance
P0227	APP Sensor 3 Circuit Low Voltage
P0228	APP Sensor 3 Circuit High Voltage
P0229	Throttle Position Sensor 3 Intermittent
P0230	Fuel Pump Relay Control Circuit
P0231	Fuel Pump Feedback Circuit Low Voltage
P0232	Fuel Pump Feedback Circuit High Voltage
P0233	Fuel Pump Secondary Circuit Intermittent
P0234	Turbocharger Engine Overboost Condition
P0235	Turbocharger Boost Sensor 1 Circuit
P0236	Turbocharger Boost System
P0237	Turbocharger Boost Sensor Circuit Low Voltage
P0238	Turbocharger Boost Sensor Circuit High Voltage
P0239	Turbocharger Boost Sensor 2 Circuit
P0240	Turbocharger Boost Sensor 2 Performance

P0241	Turbocharger Boost Sensor 2 Circuit Low Voltage
P0242	Turbocharger Boost Sensor 2 Circuit High Voltage
P0243	Turbocharger Wastegate Solenoid 1
P0244	Turbocharger Wastegate Solenoid 1 Performance
P0245	Turbocharger Wastegate Solenoid 1 Low Voltage
P0246	Turbocharger Wastegate Solenoid 1 High Voltage
P0247	Turbocharger Wastegate Solenoid 2
P0248	Turbocharger Wastegate Solenoid 2 Performance
P0249	Turbocharger Wastegate Solenoid 2 Low Voltage
P0250	Turbocharger Wastegate Solenoid 2 High Voltage
P0251	Injection Pump Fuel Metering Control "A" Malfunction (Cam/Rotor/Injector)
P0252	Injection Pump Fuel Metering Control "A" Range/Performance (Cam/Rotor/Injector)
P0253	Injection Pump Fuel Metering Control "A" Low (Cam/Rotor/Injector)
P0254	Injection Pump Fuel Metering Control "A" High (Cam/Rotor/Injector)
P0255	Injection Pump Fuel Metering Control "A" Intermittent (Cam/Rotor/Injector)
P0256	Injection Pump Fuel Metering Control "B" Malfunction (Cam/Rotor/Injector)
P0257	Injection Pump Fuel Metering Control "B" Range/Performance (Cam/Rotor/Injector)
P0258	Injection Pump Fuel Metering Control "B" Low (Cam/Rotor/Injector)
P0259	Injection Pump Fuel Metering Control "B" High (Cam/Rotor/Injector)
P0260	Injection Pump Fuel Metering Control "B" Intermittent (Cam/Rotor/Injector)
P0261	Cylinder 1 Injector Circuit Low
P0262	Cylinder 1 Injector Circuit High
P0263	Cylinder 1 Contribution/Balance Fault
P0264	Cylinder 2 Injector Circuit Low
P0265	Cylinder 2 Injector Circuit High
P0266	Cylinder 2 Contribution/Balance Fault
P0267	Cylinder 3 Injector Circuit Low
P0268	Cylinder 3 Injector Circuit High
P0269	Cylinder 3 Contribution/Balance Fault
P0270	Cylinder 4 Injector Circuit Low
P0271	Cylinder 4 Injector Circuit High
P0272	Cylinder 4 Contribution/Balance Fault
P0273	Cylinder 5 Injector Circuit Low
P0274	Cylinder 5 Injector Circuit High
P0275	Cylinder 5 Contribution/Balance Fault
P0276	Cylinder 6 Injector Circuit Low
P0277	Cylinder 6 Injector Circuit High
P0278	Cylinder 6 Contribution/Balance Fault
P0279	Cylinder 7 Injector Circuit Low
P0280	Cylinder 7 Injector Circuit High
P0281	Cylinder 7 Contribution/Balance Fault
P0282	Cylinder 8 Injector Circuit Low
P0283	Cylinder 8 Injector Circuit High
P0284	Cylinder 8 Contribution/Balance Fault
P0285	Cylinder 9 Injector Circuit Low
P0286	Cylinder 9 Injector Circuit High
P0287	Cylinder 9 Contribution/Balance Fault
P0288	Cylinder 10 Injector Circuit Low
P0289	Cylinder 10 Injector Circuit High

P0290	Cylinder 10 Contribution/Balance Fault
P0291	Cylinder 11 Injector Circuit Low
P0292	Cylinder 11 Injector Circuit High
P0293	Cylinder 11 Contribution/Balance Fault
P0294	Cylinder 12 Injector Circuit Low
P0295	Cylinder 12 Injector Circuit High
P0296	Cylinder 12 Contribution/Range Fault
P0300	Engine Misfire Detected
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
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
P0313	Misfire Detected With Low Fuel Level
P0315	Crankshaft position (CKP) system variation values are not stored in the PCM memory
P0318	Rough Road Sensor Circuit
P0320	Ignition/Distributor Engine Speed Input Circuit Malfunction
P0321	Ignition/Distributor Engine Speed Input Circuit Range/Performance
P0322	IC Module 4X Reference Circuit No Frequency
P0323	Ignition/Distributor Engine Speed Input Circuit Intermittent
P0324	Knock Sensor (KS) Module Performance
P0325	PCM Knock Sensor Circuit
P0326	Knock Sensor Circuit Excessive Spark Retard
P0327	Knock Sensor Circuit Low Voltage
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor)
P0329	Knock Sensor 1 Circuit Intermittent (Bank 1 or Single Sensor)
P0330	Knock Sensor (KS) Circuit Bank 2
P0331	Knock Sensor 2 Circuit Range/Performance (Bank 2)
P0332	Knock Sensor 2 Circuit Low Input (Bank 2)
P0333	Knock Sensor 2 Circuit High Input (Bank 2)
P0334	Knock Sensor 2 Circuit Intermittent (Bank 2)
P0335	CKP Sensor A Circuit Performance
P0336	Crankshaft Position (CKP) Sensor A Performance
P0337	Crankshaft Position (CKP) Sensor Circuit Low Duty Cycle
P0338	Crankshaft Position (CKP) Sensor Circuit High Duty Cycle
P0339	Crankshaft Position (CKP) Sensor Circuit Intermittent
P0340	Camshaft Position (CMP) Sensor Circuit
P0341	Camshaft Position (CMP) Sensor Performance
P0342	Camshaft Position Sensor Circuit Low Input
P0343	Camshaft Position Sensor Circuit High Input
P0344	Camshaft Position Sensor Circuit Intermittent
P0350	Ignition Coil Primary/Secondary Circuit Malfunction

P0351	Ignition Coil 1 Control Circuit
P0352	Ignition Coil 2 Control Circuit
P0353	Ignition Coil 3 Control Circuit
P0354	Ignition Coil 4 Control Circuit
P0355	Ignition Coil 5 Control Circuit
P0356	Ignition Coil 6 Control Circuit
P0357	Ignition Coil 7 Control Circuit
P0358	Ignition Coil 8 Control Circuit
P0359	Ignition Coil I Primary/Secondary Circuit Malfunction
P0360	Ignition Coil J Primary/Secondary Circuit Malfunction
P0361	Ignition Coil K Primary/Secondary Circuit Malfunction
P0362	Ignition Coil L Primary/Secondary Circuit Malfunction
P0370	Timing Reference High Resolution Signal A Malfunction
P0371	IC 24X Reference Circuit Too Many Pulses
P0372	IC 24X Reference Circuit Missing Pulses
P0373	Timing Reference High Resolution Signal A Intermittent/Erratic Pulses
P0374	Timing Reference High Resolution Signal A No Pulses
P0375	Timing Reference High Resolution Signal B Malfunction
P0376	Timing Reference High Resolution Signal B Too Many Pulses
P0377	Timing Reference High Resolution Signal B Too Few Pulses
P0378	Timing Reference High Resolution Signal B Intermittent/Erratic Pulses
P0379	Timing Reference High Resolution Signal B No Pulses
P0380	Glow Plug/Heater Circuit "A" Malfunction
P0381	Glow Plug/Heater Indicator Circuit Malfunction
P0382	Exhaust Gas Recirculation Flow Malfunction
P0385	Crankshaft Position (CKP) Sensor B Circuit
P0386	Crankshaft Position (CKP) Sensor B Performance
P0387	Crankshaft Position Sensor B Circuit Low Input
P0388	Crankshaft Position Sensor B Circuit High Input
P0389	Crankshaft Position Sensor B Circuit Intermittent
P0400	Exhaust Gas Recirculation Flow Malfunction
P0401	Exhaust Gas Recirculation (EGR) Flow Insufficient
P0402	Exhaust Gas Recirculation Flow Excessive Detected
P0403	Exhaust Gas Recirculation (EGR) Solenoid Control Circuit
P0404	Exhaust Gas Recirculation (EGR) Open Position Performance
P0405	Exhaust Gas Recirculation (EGR) Position Sensor Circuit Low Voltage
P0406	Exhaust Gas Recirculation Sensor A Circuit High
P0407	Exhaust Gas Recirculation Sensor B Circuit Low
P0408	Exhaust Gas Recirculation Sensor B Circuit High
P0410	Secondary Air Injection (AIR) System
P0411	Secondary Air Injection (AIR) System
P0412	Secondary Air Injection (AIR) Solenoid Relay Control Circuit Bank 1
P0413	Secondary Air Injection System Switching Valve A Circuit Open
P0414	Secondary Air Injection System Switching Valve A Circuit Shorted
P0415	Secondary Air Injection System Switching Valve B Circuit Malfunction
P0416	Secondary Air Injection System Switching Valve B Circuit Open
P0417	Secondary Air Injection System Switching Valve B Circuit Shorted
P0418	Secondary Air Injection (AIR) Pump Relay Control Circuit Bank 1
P0419	Secondary Air Injection (AIR) Pump Relay Control Circuit Bank 2

P0420	Catalyst System Low Efficiency
P0421	Warm Up Catalyst Efficiency Below Threshold (Bank 1)
P0422	Catalyst System Low Efficiency Bank 1
P0423	Heated Catalyst Efficiency Below Threshold (Bank 1)
P0424	Heated Catalyst Temperature Below Threshold (Bank 1)
P0430	Catalyst System Low Efficiency Bank 2
P0431	Warm Up Catalyst Efficiency Below Threshold (Bank 2)
P0432	Catalyst System Low Efficiency Bank 2
P0433	Heated Catalyst Efficiency Below Threshold (Bank 2)
P0434	Heated Catalyst Temperature Below Threshold (Bank 2)
P0440	Evaporative Emission (EVAP) System
P0441	Evaporative Emission Control System Incorrect Purge Flow
P0442	Evaporative Emission (EVAP) System Small Leak Detected
P0443	EVAP Purge Solenoid Valve 1 Control Circuit
P0444	Evaporative Emission Control System Purge Control Valve Circuit Open
P0445	Evaporative Emission Control System Purge Control Valve Circuit Shorted
P0446	EVAP Vent Solenoid Valve Control System
P0447	Evaporative Emission Control System Vent Control Circuit Open
P0448	Evaporative Emission Control System Vent Control Circuit Shorted
P0449	Evaporative Emission (EVAP) Vent Solenoid Control Circuit
P0450	Fuel Tank Pressure Sensor Circuit
P0451	Evaporative Emission Control System Pressure Sensor Range/Performance
P0452	Fuel Tank Pressure Sensor Circuit Low Voltage
P0453	Fuel Tank Pressure Sensor Circuit High Voltage
P0454	Evaporative Emission Control System Pressure Sensor Intermittent
P0455	Evaporative Emission (EVAP) System Leak Detected
P0460	Fuel Level Sensor Circuit
P0461	Fuel Level Sensor Performance
P0462	Fuel Level Sensor Circuit Low Voltage
P0463	Fuel Level Sensor Circuit High Voltage
P0464	Fuel Level Sensor Circuit Intermittent
P0465	Purge Flow Sensor Circuit Malfunction
P0466	Purge Flow Sensor Circuit Range/Performance
P0467	Purge Flow Sensor Circuit Low Input
P0468	Purge Flow Sensor Circuit High Input
P0469	Purge Flow Sensor Circuit Intermittent
P0470	Exhaust Pressure Sensor Malfunction
P0471	Exhaust Pressure Sensor Range/Performance
P0472	Exhaust Pressure Sensor Low
P0473	Exhaust Pressure Sensor High
P0474	Exhaust Pressure Sensor Intermittent
P0475	Exhaust Pressure Control Valve Malfunction
P0476	Exhaust Pressure Control Valve Range/Performance
P0477	Exhaust Pressure Control Valve Low
P0478	Exhaust Pressure Control Valve High
P0479	Exhaust Pressure Control Valve Intermittent
P0480	Cooling Fan Relay 1 Control Circuit
P0481	Cooling Fan Relay 2 Control Circuit
P0482	Cooling Fan 3 Control Circuit Malfunction

P0483	Cooling Fan Rationality Check Malfunction
P0484	Cooling Fan Circuit Over Current
P0485	Cooling Fan Power/Ground Circuit Malfunction
P0496	Evaporative Emission (EVAP) System Flow During Non-Purge
P0500	Vehicle Speed Sensor (VSS) Circuit
P0501	Vehicle Speed Sensor Range/Performance
P0502	Vehicle Speed Sensor (VSS) Circuit Low Input
P0503	Vehicle Speed Sensor (VSS) Circuit Intermittent
P0505	Idle Control System Malfunction
P0506	Idle Speed Low
P0507	Idle Speed High
P0510	Closed Throttle Position Switch Malfunction
P0512	Start Switch Circuit
P0520	Engine Oil Pressure Sensor/Switch Circuit Malfunction
P0521	Engine Oil Pressure Sensor/Switch Circuit Range/Performance
P0522	Engine Oil Pressure Sensor/Switch Circuit Low Voltage
P0523	Engine Oil Pressure Sensor/Switch Circuit High Voltage
P0526	Cooling Fan Speed Sensor Circuit
P0530	A/C Refrigerant Pressure Sensor Circuit Malfunction
P0531	A/C Refrigerant Pressure Sensor Circuit Range/Performance
P0532	Air Conditioning (A/C) Refrigerant Pressure Sensor Circuit Low Voltage
P0533	Air Conditioning (A/C) Refrigerant Pressure Sensor Circuit High Voltage
P0534	Air Conditioner Refrigerant Charge Loss
P0550	Power Steering Pressure (PSP) Switch Circuit
P0551	Power Steering Pressure Sensor Circuit Range/Performance
P0552	Power Steering Pressure Sensor Circuit Low Input
P0553	Power Steering Pressure Sensor Circuit High Input
P0554	Power Steering Pressure Sensor Circuit Intermittent
P0560	System Voltage
P0561	System Voltage Unstable
P0562	System Voltage Low (TCM)
P0563	System Voltage High (TCM)
P0564	Cruise Control Multi- Function Switch Circuit (PCM)
P0565	Cruise Control On Signal Malfunction
P0566	Cruise Control Off Signal Malfunction
P0567	Cruise Control Resume Signal Malfunction
P0568	Cruise Control Set Signal Malfunction
P0569	Cruise Control Coast Signal Malfunction
P0570	Cruise Control Accel Signal Malfunction
P0571	Cruise Control Brake Switch Circuit
P0573	Cruise Control/Brake Switch A Circuit High
P0574	Vehicle Speed Too High - above 110 mph - Cruise Control Disabled
P0575	Cruise Control Related Malfunction
P0576	Cruise Control Related Malfunction
P0576	Cruise Control Related Malfunction
P0578	Cruise Control Related Malfunction
P0579	Cruise Control Related Malfunction
P0580	Cruise Control Related Malfunction
P0600	Serial Communication Link Malfunction

P0601	Control Module Read Only Memory (ROM)
P0602	Control Module Not Programmed
P0603	Control Module Long Term Memory Reset
P0604	Control Module Random Access Memory (RAM)
P0605	Control Module Programming Read Only Memory (ROM)
P0606	Control Module Internal Performance
P0607	ECU Malfunction
P0608	Control Module VSS Output "A" Malfunction
P0609	Control Module VSS Output "B" Malfunction
P0610	Control Module Vehicle Options Incorrect
P0615	Starter Relay Control Circuit
P0616	Starter Relay Control Circuit Low Voltage
P0617	Starter Relay Control Circuit High Voltage
P0620	Generator Control Circuit Malfunction
P0621	Generator L - Terminal Circuit
P0622	Generator F - Terminal Circuit
P0625	Generator F - Terminal Circuit Low Voltage
P0626	Generator F - Terminal Circuit High Voltage
P0628	Fuel Pump Relay Control Circuit Low Voltage
P0629	Fuel Pump Relay Control Circuit High Voltage
P0638	Throttle Actuator Control (TAC) Command Performance
P0641	PCM voltage out of tolerance condition on the 5- volt reference circuit
P0645	Air Conditioning (A/C) Clutch Relay Control Circuit
P0646	Air Conditioning (A/C) Clutch Relay Control Circuit
P0647	Air Conditioning (A/C) Clutch Relay Control Circuit
P0650	Malfunction Indicator Lamp (MIL) Control Circuit
P0651	PCM voltage out of tolerance condition on the 5- volt reference circuit
P0654	Engine RPM Output Circuit Malfunction
P0655	Engine Hot Lamp Output Control Circuit Malfunction
P0656	Fuel Level Output Circuit Malfunction
P0660	Intake Manifold Tuning (IMT) Valve Solenoid Control Circuit
P0661	Intake Manifold Tuning (IMT) Valve Solenoid Control Circuit Low Voltage
P0662	Intake Manifold Tuning (IMT) Valve Solenoid Control Circuit High Voltage
P0685	Engine Controls Ignition Relay Control Circuit (PCM)
P0691	Cooling Fan Relay Control Circuit Low Voltage
P0693	Cooling Fan Relay Control Circuit Low Voltage
P0692	Cooling Fan Relay Control Circuit High Voltage
P0694	Cooling Fan Relay Control Circuit High Voltage
P0700	Transmission Control System Malfunction
P0701	Transmission Control System Range/Performance
P0702	Transmission Control System Electrical
P0703	Brake Switch Circuit Malfunction
P0704	Clutch Switch Input Circuit Malfunction
P0705	Trans Range Switch Circuit
P0706	Trans Range Switch Performance
P0707	Transmission Range Sensor Circuit Low Input
P0708	Transmission Range Sensor Circuit High Input
P0709	Transmission Range Sensor Circuit Intermittent
P0710	Transmission Fluid Temperature Sensor Circuit Malfunction

P0711	TFT Sensor Circuit Range/Performance
P0712	Transmission Fluid Temperature (TFT) Sensor Circuit Low Input
P0713	Transmission Fluid Temperature (TFT) Sensor Circuit High Input
P0714	Transmission Fluid Temperature Sensor Circuit Intermittent
P0715	Input/Turbine Speed Sensor Circuit Malfunction
P0716	Input Speed Sensor Circuit Intermittent
P0717	Input Speed Sensor Circuit Low Input
P0718	Input/Turbine Speed Sensor Circuit Intermittent
P0719	Brake Switch Circuit Low Input
P0720	Output Speed Sensor Circuit Malfunction
P0721	Output Speed Sensor Range/Performance
P0722	Output Speed Sensor Circuit Low Input
P0723	Output Speed Sensor Intermittent
P0724	Brake Switch Circuit High Input
P0725	Engine Speed Input Circuit
P0726	Engine Speed Input Circuit Range/Performance
P0727	Engine Speed Circuit No Signal
P0728	Engine Speed Input Circuit Intermittent
P0730	Incorrect Gear Ratio
P0731	Incorrect 1st Gear Ratio
P0732	Incorrect 2nd Gear Ratio
P0733	Incorrect 3rd Gear Ratio
P0734	Incorrect 4th Gear Ratio
P0735	Gear 5 Incorrect ratio
P0736	Reverse incorrect gear ratio
P0740	TCC Enable Solenoid Circuit Electrical
P0741	TCC System Stuck Off
P0742	TCC System Stuck On
P0743	TCC Enable Solenoid Circuit Electrical
P0744	Torque Converter Clutch Circuit Intermittent
P0745	Pressure Control Solenoid Malfunction
P0746	Pressure Control Solenoid Performance or Stuck Off
P0747	Pressure Control Solenoid Stuck On
P0748	Pressure Control Solenoid Circuit Electrical
P0749	Pressure Control Solenoid Intermittent
P0750	Shift Solenoid A Malfunction
P0751	1-2 Shift Solenoid Valve Performance - No First or Fourth Gear
P0752	1-2 Shift Solenoid Valve Performance - No Second or Third Gear
P0753	1-2 Shift Solenoid Circuit Electrical
P0754	Shift Solenoid A Intermittent
P0755	Shift Solenoid B Malfunction
P0756	2-3 Shift Solenoid Valve Performance - No First or Second Gear
P0757	2-3 Shift Solenoid Valve Performance - No Third or Fourth Gear
P0758	2-3 Shift Solenoid Circuit Electrical
P0759	Shift Solenoid B Intermittent
P0760	Shift Solenoid C Malfunction
P0761	Shift Solenoid C Performance or Stuck Off
P0762	Shift Solenoid C Stuck On
P0763	Shift Solenoid C Electrical

P0764	Shift Solenoid C Intermittent
P0765	Shift Solenoid D Malfunction
P0766	Shift Solenoid D Performance or Stuck Off
P0767	Shift Solenoid D Stuck On
P0768	Shift Solenoid D Electrical
P0769	Shift Solenoid D Intermittent
P0770	Shift Solenoid E Malfunction
P0771	Shift Solenoid E Performance or Stuck Off
P0772	Shift Solenoid E Stuck On
P0773	Shift Solenoid E Electrical
P0774	Shift Solenoid E Intermittent
P0780	Shift Malfunction
P0781	1-2 Shift Malfunction
P0782	2-3 Shift Malfunction
P0783	3-4 Shift Malfunction
P0784	4-5 Shift Malfunction
P0785	3-2 Shift Solenoid Circuit Electrical
P0786	Shift/Timing Solenoid Range/Performance
P0787	Shift/Timing Solenoid Low
P0788	Shift/Timing Solenoid High
P0789	Shift/Timing Solenoid Intermittent
P0790	Normal/Performance Switch Circuit Malfunction
P0801	Reverse Inhibit Control Circuit Malfunction
P0803	1-4 Upshift (Skip Shift) Solenoid Control Circuit Malfunction
P0804	1-4 Upshift (Skip Shift) Lamp Control Circuit Malfunction
P0850	Park/Neutral Position (PNP) Switch Circuit
P0856	Powertrain Indicated Traction Control Malfunction
P0894	Transmission Component Slipping
P0897	PCM detects a calculated transmission fluid life of 10 percent or less
P0962	Line Pressure Control (PC) Solenoid Control Circuit Low Voltage (TCM)
P0963	Line Pressure Control (PC) Solenoid Control Circuit High Voltage (TCM)
P0966	Clutch Pressure Control (PC) Solenoid Control Circuit Low Voltage (TCM)
P0967	Clutch Pressure Control (PC) Solenoid Control Circuit High Voltage (TCM)
P0970	Shift Pressure control (PC) Solenoid Control Circuit Low Voltage (TCM)
P0971	Shift Pressure Control (PC) Solenoid Control High Voltage (TCM)
P0973	PCM detects an open or short to ground in the 1-2 SS valve circuit
P0974	PCM detects a continuous short to voltage in the 1-2 SS valve circuit
P0976	PCM detects a continuous open or short to ground in the 2-3 SS valve circuit
P0977	PCM detects a continuous short to voltage in the 2-3 SS valve circuit
P0979	Shift Solenoid (SS) 3 Control Circuit Low Voltage (TCM)
P0980	Shift Solenoid (SS) 3 Control Circuit High Voltage (TCM)
P0982	Shift Solenoid (SS) 4 Control Circuit High Voltage (TCM)
P0983	Shift Solenoid (SS) 4 Control Circuit High Voltage (TCM)
P0985	Shift Solenoid (SS) 5 Control Circuit Low Voltage (TCM)
P0986	Shift Solenoid (SS) 5 Control Circuit High Voltage (TCM)
P1031	Heated Oxygen Sensor (HO2S) Heater Current Monitor Control Circuit Banks 1 and 2 Sensor 1
P1032	Heated Oxygen Sensor (HO2S) Heater Warm Up Control Circuit Banks 1 and 2 Sensor 1
P1101	Actual measured airflow from MAF, MAP, EGR, and TP is not within range of the calculated airflow

P1105	Secondary Vacuum Sensor Circuit
P1106	Manifold Absolute Pressure (MAP) Sensor Circuit Intermittent High Voltage
P1107	Manifold Absolute Pressure (MAP) Sensor Circuit Intermittent Low Voltage
P1108	BARO to MAP Sensor Comparison Too High
P1109	Secondary Port Throttle System
P1111	Intake Air Temperature (IAT) Sensor Circuit Intermittent High Voltage
P1112	Intake Air Temperature (IAT) Sensor Circuit Intermittent Low Voltage
P1113	Intake Resonance Switchover Solenoid Control Circuit
P1114	Engine Coolant Temperature (ECT) Sensor Circuit Intermittent Low Voltage
P1115	Engine Coolant Temperature (ECT) Sensor Circuit Intermittent High Voltage
P1116	ECT Signal Unstable or Intermittent
P1117	Engine Coolant Temp. Signal Out- Of- Range Low
P1118	Engine Coolant Temp. Signal Out- Of- Range High
P1119	ECT Signal Out- Of-Range With TFT Sensor
P1120	Throttle Position (TP) Sensor 1 Circuit
P1121	Throttle Position (TP) Sensor Circuit Intermittent High Voltage
P1122	Throttle Position (TP) Sensor Circuit Intermittent Low Voltage
P1125	Accelerator Pedal Position (APP) System
P1130	Heated Oxygen Sensor (HO2S) Circuit Low Variance Bank 1 Sensor 1
P1131	Heated Oxygen Sensor (HO2S) Circuit Low Variance Bank 1 Sensor 2
P1132	Heated Oxygen Sensor (HO2S) Circuit Low Variance Bank 2 Sensor 1
P1133	Heated Oxygen Sensor (HO2S) Insufficient Switching Bank 1 Sensor 1
P1134	Heated Oxygen Sensor (HO2S) Transition Time Ratio Bank 1 Sensor 1
P1135	Heated Oxygen Sensor (HO2S) Lean Mean Bank 1 Sensor 1
P1136	Heated Oxygen Sensor (HO2S) Rich Mean Bank 1 Sensor 1
P1137	Heated Oxygen Sensor (HO2S) Bank 1 Sensor 2 Lean System or Low Voltage
P1138	Heated Oxygen Sensor (HO2S) Bank 1 Sensor 2 Rich or High Voltage
P1139	Heated Oxygen Sensor (HO2S) Insuff. Switching Bank 1 Sensor 2
P1140	Heated Oxygen Sensor (HO2S) Transition Time Ratio Bank 1 Sensor 2
P1141	Heated Oxygen Sensor (HO2S) Heater Control Circuit Bank 1 Sensor 2
P1143	Heated Oxygen Sensor (HO2S) Bank 1 Sensor 3 Lean System or Low Voltage
P1144	Heated Oxygen Sensor (HO2S) Bank 1 Sensor 3 Rich or High Voltage
P1145	Heated Oxygen Sensor (HO2S) Cross Counts Bank 1 Sensor 3
P1153	Heated Oxygen Sensor (HO2S) Insufficient Switching Bank 2 Sensor 1
P1154	Heated Oxygen Sensor (HO2S) Transition Time Ratio Bank 2 Sensor 1
P1155	Heated Oxygen Sensor (HO2S) Lean Mean Bank 2 Sensor 1
P1156	Heated Oxygen Sensor (HO2S) Rich Mean Bank 2 Sensor 1
P1157	Heated Oxygen Sensor (HO2S) Bank 2 Sensor 2 Lean System or Low Voltage
P1158	Heated Oxygen Sensor (HO2S) Bank 2 Sensor 2 Rich or High Voltage
P1159	Heated Oxygen Sensor (HO2S) Cross Counts Bank 2 Sensor 2
P1161	Heated Oxygen Sensor (HO2S) Heater Control Circuit Bank 2 Sensor 2
P1163	Heated Oxygen Sensor (HO2S) Bank 2 Sensor 3 Lean System or Low Voltage
P1164	Heated Oxygen Sensor (HO2S) Bank 2 Sensor 3 Rich or High Voltage
P1165	Heated Oxygen Sensor (HO2S) Cross Counts Bank 2 Sensor 3
P1170	Bank to Bank Fuel Trim Offset
P1171	Fuel System Lean During Acceleration
P1172	Fuel Transfer Pump Flow Insufficient
P1185	Engine Oil Temperature Circuit
P1186	EOT Circuit Performance

P1187	EOT Sensor Circuit Low Voltage
P1188	EOT Sensor Circuit High Voltage
P1189	Engine Oil Pressure (EOP) Switch Circuit
P1190	Engine Vacuum Leak
P1191	Intake Air Duct Air Leak
P1200	Injector Control Circuit
P1201	(Alt. Fuel) Gas Mass Sensor Circuit Range/Performance
P1202	(Alt. Fuel) Gas Mass Sensor Circuit Low Frequency
P1203	(Alt. Fuel) Gas Mass Sensor Circuit High Frequency
P1211	Mass Air Flow Circuit Intermittent High
P1212	Mass Air Flow Circuit Intermittent Low
P1214	Injection Pump Timing Offset
P1215	Ground Fault Detection Indicated
P1216	Fuel Solenoid Response Time Too Short
P1217	Fuel Solenoid Response Time Too Long
P1218	Injection Pump Calibration Circuit
P1219	Throttle Position Sensor Reference Voltage
P1220	Throttle Position (TP) Sensor 2 Circuit
P1221	Fuel Pump Secondary Circuit Low
P1222	Injector Control Circuit Intermittent
P1225	Injector Circuit Cylinder 2 Intermittent
P1228	Injector Circuit Cylinder 3 Intermittent
P1231	Injector Circuit Cylinder 4 Intermittent
P1234	Injector Circuit Cylinder 5 Intermittent
P1237	Injector Circuit Cylinder 6 Intermittent
P1240	Injector Circuit Cylinder 7 Intermittent
P1243	Injector Circuit Cylinder 8 Intermittent
P1245	Intake Plenum Switchover Valve
P1250	Early Fuel Evaporation Heater Circuit
P1257	Supercharger System Overboost
P1258	Engine Coolant Overtemperature - above 268°F - Protection Mode Active
P1260	Last Test Failed Failed SCC ENTER:More Info.
P1270	Accelerator Pedal Position Sensor A/D Converter Error
P1271	Accelerator Pedal Position (APP) Sensor 1-2 Correlation
P1272	Accelerator Pedal Position Sensor 2
P1273	"Accelerator Pedal Position Sensor 1
P1274	Injectors Wired Incorrectly
P1275	Accelerator Pedal Position (APP) Sensor 1 Circuit
P1276	Accelerator Pedal Position Sensor 1 Circuit Performance
P1277	Accelerator Pedal Position Sensor 1 Circuit Low Voltage
P1278	Accelerator Pedal Position Sensor 1 Circuit High Voltage
P1280	Accelerator Pedal Position (APP) Sensor 2 Circuit
P1281	Accelerator Pedal Position Sensor 2 Circuit Performance
P1282	Accelerator Pedal Position Sensor 2 Circuit Low Voltage
P1283	Accelerator Pedal Position Sensor 2 Circuit High Voltage
P1285	Accelerator Pedal Position Sensor 3 Circuit
P1286	Accelerator Pedal Position Sensor 3 Circuit Performance
P1287	Accelerator Pedal Position Sensor 3 Circuit Low Voltage
P1288	Accelerator Pedal Position Sensor 3 Circuit High Voltage

P1300	Ignitor Circuit
P1305	Ignition Coil 2 Primary Feedback Circuit
P1310	Ignition Coil 3 Primary Feedback Circuit
P1315	Ignition Coil 4 Primary Feedback Circuit
P1320	IC 4X Reference Circuit Intermittent
P1321	Electronic Ignition System Fault Line
P1322	EI System or Ignition Control Extra or Missing
P1323	IC 24X Reference Circuit Low Frequency
P1324	Crank RPM Too Low
P1335	CKP Circuit
P1336	Crankshaft Position (CKP) System Variation Not Learned
P1345	Crankshaft Position (CKP) - Camshaft Position (CMP) Correlation
P1346	Intake Camshaft Position [CMP] Sensor System Performance
P1350	Ignition Control System
P1351	Ignition Coil Control Circuit High Voltage
P1352	IC Output High/Pulse Detected when GND_Cyl. 2
P1353	IC Output High/Pulse Detected when GND_Cyl. 3
P1354	IC Output High/Pulse Detected when GND_Cyl. 4
P1355	IC Output High/Pulse Detected when GND_Cyl. 5
P1356	IC Output High/Pulse Detected when GND_Cyl. 6
P1357	IC Output High/Pulse Detected when GND_Cyl. 7
P1358	IC Output High/Pulse Detected when GND_Cyl. 8
P1359	Ignition Coil Group 1 Control Circuit
P1360	Ignition Coil Group 2 Control Circuit
P1361	Ignition Coil Control Circuit Low Voltage
P1362	IC Cylinder 2 Not Toggling After Enable
P1363	IC Cylinder 3 Not Toggling After Enable
P1364	IC Cylinder 4 Not Toggling After Enable
P1365	IC Cylinder 5 Not Toggling After Enable
P1366	IC Cylinder 6 Not Toggling After Enable
P1367	IC Cylinder 7 Not Toggling After Enable
P1368	IC Cylinder 8 Not Toggling After Enable
P1370	IC 4X Reference Circuit Too Many Pulses
P1371	IC 4X Reference Circuit Too Few Pulses
P1372	Crankshaft Position (CKP) Sensor A- B Correlation
P1374	3X Reference Circuit
P1375	IC 24X Reference Circuit High Voltage
P1376	Ignition Ground Circuit
P1377	IC Cam Pulse To 4X Reference Pulse
P1380	Misfire Detected - Rough Road Data Not Available
P1381	Misfire Detected - No Communication with Brake Control Module
P1390	Wheel Speed Sensor 1 - G - Sensor Circuit
P1391	Wheel Speed Sensor 1 - G - Sensor Circuit Performance
P1392	Wheel Speed Sensor 1 - G - Sensor Circuit Low Voltage
P1393	Wheel Speed Sensor 1 - G - Sensor Circuit High Voltage
P1394	Wheel Speed Sensor 1 - G - Sensor Circuit Intermittent
P1395	Wheel Speed Sensor 2 - G - Sensor Circuit
P1396	Wheel Speed Sensor 2 - G - Sensor Circuit Performance
P1397	Wheel Speed Sensor 2 - G - Sensor Circuit Low Voltage

P1398	Wheel Speed Sensor 2 - G - Sensor Circuit High Voltage
P1399	Wheel Speed Sensor 2 - G - Sensor Circuit Intermittent
P1403	Exhaust Gas Recirculation System Valve 1
P1404	Exhaust Gas Recirculation (EGR) Closed Position Performance
P1405	Exhaust Gas Recirculation System Valve 3
P1406	EGR Valve Pintle Position Circuit
P1407	EGR Air Intrusion in Exhaust Supply to EGR Valve
P1408	Intake Manifold Pressure Sensor Circuit
P1409	EGR Vacuum System Leak
P1410	Fuel Tank Pressure System
P1415	Secondary Air Injection (AIR) System Bank 1
P1416	Secondary Air Injection (AIR) System Bank 2
P1418	Secondary Air Injection System Relay A Control Circuit High
P1420	Intake Air Low Pressure Switch Circuit Low Voltage
P1421	Intake Air Low Pressure Switch Circuit High Voltage
P1423	Intake Air High Pressure Switch Circuit High Voltage
P1431	Fuel Level Sensor 2 Circuit Performance
P1432	Fuel Level Sensor 2 Circuit Low Voltage
P1433	Fuel Level Sensor 2 Circuit High Voltage
P1441	Evaporative Emission (EVAP) System Flow During Non- Purge
P1442	EVAP Vacuum Sw. High Voltage During Ign. On
P1450	Barometric Pressure Sensor Circuit
P1451	Barometric Press. Sensor Performance
P1460	Cooling Fan Control System
P1480	Cooling Fan 1 Control Circuit High
P1481	Cooling Fan Speed Sensor Circuit
P1482	Cooling Fan Speed Output Circuit
P1483	Engine Cooling System Performance
P1484	Cooling Fan System Performance
P1500	Starter Signal Circuit
P1501	Theft Deterrent System
P1501	Vehicle Speed Sensor Circuit Intermittent
P1502	Theft Deterrent Fuel Enable Signal Not Received
P1503	Theft Deterrent Fuel Enable Signal Not Correct
P1504	Vehicle Speed Output Circuit
P1508	Idle Speed Low - Idle Air Control (IAC) System Not Responding
P1509	Idle Speed High - Idle Air Control (IAC) System Not Responding
P1510	Throttle Control System Performance - Throttle Limitation Active
P1511	Throttle Control System - Backup System Performance
P1514	Airflow to TP Sensor Correlation High
P1515	Electronic Throttle System Throttle Position
P1516	Throttle Actuator Control (TAC) Module Throttle Actuator Position Performance
P1517	Electronic Throttle Module
P1518	Electronic Throttle Module to PCM Communication
P1519	Throttle Actuator Control (TAC) Module Internal Circuit
P1520	Transmission Range Switch Circuit
P1521	Transmission Engaged at High Throttle Angle
P1522	Park/Neutral to Drive/Reverse at High RPM
P1523	Throttle Closed Position Performance

P1524	Throttle Closed Position Performance
P1525	Throttle Body Service Required
P1526	Minimum Throttle Position Not Learned
P1527	Transmission Range to Pressure Switch Correlation
P1528	Governor
P1529	Heated Windshield Request Problem
P1530	Throttle Actuator Control (TAC) Module Internal Circuit
P1531	A/C Low Side Temperature Sensor Fault
P1532	A/C Evaporator Temp. Sens. Circuit Low Voltage
P1533	A/C Evaporator Temp. Sens. Circuit High Voltage
P1534	A/C High Side Temp. Sensor Low Voltage
P1535	A/C High Side Temperature Sensor Circuit
P1536	Engine Coolant Overtemperature - Air Conditioning (A/C) Disabled
P1537	A/C Request Circuit Low Voltage
P1538	A/C Request Circuit High Voltage
P1539	A/C Clutch Status Circuit High Voltage
P1540	Air Conditioning (A/C) Refrigerant Overpressure - Air Conditioning (A/C) Disabled
P1541	A/C High Side Over Temperature
P1542	A/C System High Pressure High Temperature
P1543	A/C System Performance
P1544	A/C Refrigerant Condition Very Low
P1545	Air Conditioning (A/C) Clutch Relay Control Circuit
P1546	A/C Clutch Status Circuit Low Voltage
P1547	A/C System Performance Degraded
P1548	A/C Recirculation Circuit
P1551	Throttle Valve Rest Position Not Reached During Learn
P1554	Cruise Control Feedback Circuit
P1555	Electronic Variable Orifice Output
P1558	Cruise Control Servo Indicates Low
P1559	Cruise Control Power Management Mode
P1560	Transaxle Not in Drive - Cruise Control Disabled
P1561	Cruise Vent Solenoid
P1562	Cruise Vacuum Solenoid
P1563	Cruise Vehicle Speed/Set Speed Difference Too High
P1564	Vehicle Acceleration Too High - Cruise Control Disabled
P1565	Cruise Servo Position Sensor
P1566	Engine RPM Too High - Cruise Control Disabled
P1567	Active Banking Control Active - Cruise Control Disabled
P1568	Cruise Servo Stroke Greater than Commanded in Cruise
P1569	Cruise Servo Stroke High While not in Cruise
P1570	Traction Control Active - Cruise Control Disabled
P1571	Traction Control Torque Request Circuit
P1572	ASR Active Circuit Low Too Long
P1573	PCM/EBTCM Serial Data Circuit
P1574	Stoplamp Switch Circuit
P1575	Extended Travel Brake Switch Circuit
P1576	BBV Sensor Circuit High Voltage
P1577	BBV Sensor Circuit Low Voltage
P1578	BBV Sensor Circuit Low Vacuum

P1579	P/N to D/R at High Throttle Angle - Power Reduction Mode Active
P1580	Cruise Move Circuit Low Voltage
P1581	Cruise Move Circuit High Voltage
P1582	Cruise Direction Circuit Low Voltage
P1583	Cruise Direction Circuit High Voltage
P1584	Cruise Control Disabled
P1585	Cruise Control Inhibit Output Circuit
P1586	Cruise Control Brake Switch 2 Circuit
P1587	Cruise Control Clutch Control Circuit Low
P1588	Cruise Control Clutch Control Circuit High
P1599	Engine Stall or Near Stall Detected
P1600	TCM Internal Watchdog Operation
P1601	Serial Comm. Problem With Device 1
P1602	Knock Sensor (KS) Module Performance
P1603	Loss of SDM Serial Data
P1604	Loss of IPC Serial Data
P1605	Loss of HVAC Serial Data
P1606	Serial Communication Problem With Device 6
P1607	Serial Communication Problem With Device 7
P1608	Serial Communication Problem With Device 8
P1609	Loss Of TCS Serial Data
P1610	Loss of PZM Serial Data
P1611	Loss of CVRTD Serial Data
P1612	Loss of IPM Serial Data
P1613	Loss of DIM Serial Data
P1614	Loss of RIM Serial Data
P1615	Loss of VTD Serial Data
P1617	Engine Oil Level Switch Circuit
P1619	Engine Oil Life Monitor Reset Circuit
P1620	Low Coolant Circuit
P1621	Control Module Long Term Memory Performance
P1622	Cylinder Select
P1623	Transmission Temp Pull - Up Resistor
P1624	Customer Snapshot Requested - Data Available
P1625	TCM System Reset
P1626	Theft Deterrent Fuel Enable Signal Not Received
P1627	A/D Performance
P1628	ECT Pull- Up Resistor
P1629	Theft Deterrent System - Cranking Signal
P1630	Theft Deterrent Learn Mode Active
P1631	Theft Deterrent Start Enable Signal Not Correct
P1632	Theft Deterrent Fuel Disable Signal Received
P1633	Ignition 0 Switch Circuit
P1634	Ignition 1 Switch Circuit
P1635	5 Volt Reference Circuit
P1636	PCM Stack Overrun
P1637	Generator L-Terminal Circuit
P1638	Generator F- Terminal Circuit
P1639	5 Volt Reference 2 Circuit

P1640	Driver-1- Input High Voltage
P1641	Malfunction Indicator Lamp (MIL) Control Circuit
P1642	Vehicle Speed Output Circuit
P1643	Engine Speed Output Circuit
P1644	Traction Control Delivered Torque Output Circuit
P1645	Evaporative Emission (EVAP) Vent Solenoid Control Circuit
P1646	Evaporative Emission (EVAP) Vent Solenoid Control Circuit
P1647	Driver 1 Line 7
P1650	Control Module Output B Circuit
P1651	Fan 1 Relay Control Circuit
P1652	Powertrain Induced Chassis Pitch Output Circuit
P1653	Oil Level Lamp Control Circuit
P1654	Cruise Control Inhibit Output Circuit
P1655	EVAP Purge Solenoid Control Circuit
P1656	Driver 2 Line 6
P1657	1-4 Upshift Solenoid Control Circuit
P1658	Starter Enable Relay Control Circuit
P1660	Cooling Fan Control Circuits
P1661	MIL Control Circuit
P1662	Cruise Lamp Control Circuit
P1663	Oil Life Lamp Control Circuit
P1664	1-4 Upshift Lamp Control Circuit
P1665	Driver 3 Line 5
P1666	Driver 3 Line 6
P1667	Reverse Inhibit Solenoid Control Circuit
P1669	ABS Unit Expected
P1670	Driver 4
P1671	Driver 4 Line 1
P1672	Low Engine Oil Level Lamp Control Circuit
P1673	Engine Hot Lamp Control Circuit
P1674	Tachometer Control Circuit
P1675	EVAP Vent Solenoid Control Circuit
P1676	Driver 4 Line 6
P1677	Driver 4 Line 7
P1680	Driver 5 (ECU Malfunction)
P1681	Driver 5 Line 1
P1682	Driver 5 Line 2
P1683	Driver 5 Line 3
P1684	Driver 5 Line 4
P1685	Driver 5 Line 5
P1686	Driver 5 Line 6
P1687	Driver 5 Line 7
P1689	Delivered Torque Circuit Fault
P1690	ECM Loop Overrun
P1691	Coolant Gage Circuit Low Voltage
P1692	Coolant Gage Circuit High Voltage
P1693	Tachometer Circuit Low Voltage
P1694	Tachometer Circuit High Voltage
P1695	Remote Keyless Entry Circuit Low

P1696	Remote Keyless Entry Voltage High
P1700	Transmission Control Module (TCM) Requested MIL Illumination
P1701	Trans. MIL Request Circuit
P1705	P/N Signal Output Circuit
P1719	Incorrect Shifting Detected (TCM)
P1740	Torque Reduction Signal Circuit
P1743	TP Signal from ECM
P1760	TCM Supply Voltage Interrupted
P1779	Engine Torque Delivered to TCM Signal
P1780	Park/Neutral Position [PNP] Switch Circuit
P1781	Engine Torque Signal Circuit
P1790	Transmission Control Module Checksum
P1791	Transmission Control Module Loop
P1791	Throttle/Pedal Position Signal (2000+)
P1792	Transmission Control Module Reprogrammable Memory
P1792	ECM to TCM Engine Coolant Signal
P1793	Transmission Control Module Stack Overrun
P1793	Wheel Speed Signal (2000+)
P1795	CAN Bus - Throttle Body Position
P1800	TCM Power Relay Control Circuit
P1801	Performance Selector Switch Failure
P1804	Ground Control Relay
P1810	TFP Valve Position Switch Circuit
P1811	Maximum Adapt and Long Shift
P1812	Transmission Over Temperature Condition
P1813	Torque Control
P1814	Torque Converter Overstressed
P1815	Transmission Range Switch - Start In Wrong Range
P1816	TFP Valve Position Sw. - Park/Neu. With Drive Ratio
P1817	TFP Valve Position Sw. - Reverse With Drive Ratio
P1818	TFP Valve Position Sw. - Drive Without Drive Ratio
P1819	Internal Mode Switch - No Start\Wrong Range
P1820	Internal Mode Switch Circuit A Low
P1822	Internal Mode Switch Circuit B High
P1823	Internal Mode Switch Circuit P Low
P1825	Internal Mode Switch - Invalid Range
P1826	Internal Mode Switch Circuit C - High
P1831	Pressure Control (PC) Solenoid Power Circuit - Low Voltage
P1832	Pressure Control (PC)/Shift Lock Solenoid Control Circuit High Voltage
P1833	A/T Solenoids Power Circuit - Low Voltage
P1834	Torque Converter Clutch (TCC)/Shift Solenoid (SS) Control Circuit High Voltage
P1835	Kick-Down Switch Circuit
P1836	Kick-Down Switch Failed Open
P1837	Kick-Down Switch Failed Short
P1842	1-2 Shift Solenoid Circuit Low Voltage
P1843	1-2 Shift Solenoid Circuit High Voltage
P1844	Torque Reduction Signal Circuit Desired By TCM
P1845	2-3 Shift Solenoid Circuit Low Voltage
P1847	2-3 Shift Solenoid Circuit High Voltage

P1850	Brake Band Apply Solenoid Circuit
P1851	Brake Band Apply Solenoid Performance
P1852	Brake Band Apply Solenoid Low Voltage
P1853	Brake Band Apply Solenoid High Voltage
P1860	TCC PWM Solenoid Circuit Electrical
P1864	Torque Converter Clutch Circuit
P1865	4-5 Shift Solenoid (SS) Valve Control Circuit High Voltage
P1866	Torque Converter Clutch (TCC) Pulse Width Modulation (PWM) Solenoid Control Circuit Low Voltage
P1867	Torque Converter Clutch (TCC) Pulse Width Modulation (PWM) Solenoid Control Circuit High Voltage
P1868	Transmission Fluid Life
P1870	Transmission Component Slipping
P1871	Undefined Gear Ratio
P1873	TCC Stator Temp. Switch Circuit Low
P1874	TCC Stator Temp. Switch Circuit High
P1875	4WD Low Switch Circuit Electrical
P1884	TCC Enable/Shift Light Circuit
P1886	Shift Timing Solenoid
P1887	TCC Release Switch Circuit
P1890	ECM Data Input Circuit
P1890	Throttle Position Signal Input
P1891	Throttle Position Sensor PWM Signal Low
P1892	Throttle Position Sensor PWM Signal High
P1893	Engine Torque Signal Low Voltage
P1894	Engine Torque Signal High Voltage
P1895	TCM to ECM Torque Reduction Circuit
P2008	Intake Manifold Runner Control (IMRC) Solenoid Control Circuit
P2009	Intake Manifold Runner Control (IMRC) Solenoid Control Circuit Low Voltage
P2010	Intake Manifold Runner Control (IMRC) Solenoid Control Circuit High Voltage
P2066	Fuel Level Sensor 2 Performance
P2067	Fuel Level Sensor 2 Circuit Low Voltage
P2068	Fuel Level Sensor 2 Circuit High Voltage
P2096	Post Catalyst Fuel Trim System Low Limit
P2097	Post Catalyst Fuel Trim System High Limit
P2098	Post Catalyst Fuel Trim System Low Limit
P2099	Post Catalyst Fuel Trim System High Limit
P2100	Throttle Actuator Control (TAC) Motor Control Circuit
P2101	Control Module Throttle Actuator Position Performance
P2105	Throttle Actuator Control (TAC) System - Forced Engine Shutdown
P2107	Throttle Actuator Control (TAC) Module Internal Circuit
P2108	Throttle Actuator Control (TAC) Module Performance
P2119	Throttle Closed Position Performance
P2120	Accelerator Pedal Position (APP) Sensor 1 Circuit
P2121	Accelerator Pedal Position (APP) Sensor 1 Performance
P2122	Accelerator Pedal Position (APP) Sensor 1 Circuit Low Voltage
P2123	Accelerator Pedal Position (APP) Sensor 1 Circuit High Voltage
P2125	Accelerator Pedal Position (APP) Sensor 2 Circuit
P2127	Accelerator Pedal Position (APP) Sensor 2 Circuit Low Voltage

P2128	Accelerator Pedal Position (APP) Sensor 2 Circuit High Voltage
P2135	Throttle Position (TP) Sensor 1-2 Correlation
P2138	Accelerator Pedal Position (APP) Sensor 1-2 Correlation
P2176	Minimum Throttle Position Not Learned
P2500	Generator L-Terminal Circuit Low Voltage
P2501	Generator L-Terminal Circuit High Voltage
P2535	Ignition 1 Switch Circuit High Voltage (PCM)
P2610	ECU Malfunction
P2763	Short to voltage in the TCC Solenoid
P2764	Open or Short to ground in the TCC PWM solenoid valve circuit
P2A00	HO2S Circuit Closed Loop (CL) Performance Bank 1 Sensor 1 (PCM)
P2A01	HO2S Circuit Closed Loop (CL) Performance Bank 1 Sensor 2 (PCM)
P3000	Hacking AWH Data