

Last Modified: 7-13-2007		1.6 S
Service Category: Engine/Hybrid System	Section: Engine Control	
Model Year: 2008	Model: ES350	Doc ID: RM00000220300JX
Title: 2GR-FE ENGINE CONTROL SYSTEM: SFI SYSTEM: DIAGNOSTIC TROUBLE CODE CHART (2008 ES350)		






DIAGNOSTIC TROUBLE CODE CHART



HINT:










The parameters listed in the chart may not conform exactly to those read during the DTC check due to the type of instrument or other factors.

If a trouble code is displayed during the DTC check in the check mode, check the circuit for the code listed in the table below. For details of each code, refer to the "See page" column in the DTC chart.









SFI SYSTEM:







DTC CODE	DETECTION ITEM	SUSPECTED TROUBLE AREA	MIL	MEMORY	SEE PAGE
P0010	Camshaft Position "A" Actuator Circuit (Bank 1)	1. Open or short in Oil Control Valve (OCV) for intake camshaft (bank 1) circuit 2. OCV for intake camshaft (bank 1) 3. ECM	Comes on	DTC stored	
P0011	Camshaft Position "A" - Timing Over-Advanced or System Performance (Bank 1)	1. Valve timing 2. OCV for intake camshaft (bank 1) 3. OCV filter (bank 1) 4. Intake camshaft (bank 1) timing gear assembly 5. ECM	Comes on	DTC stored	
P0012	Camshaft Position "A" - Timing Over-Retarded (Bank 1)	1. Valve timing 2. OCV for intake camshaft (bank 2) 3. OCV filter (bank 2) 4. Intake camshaft (bank 2) timing gear assembly 5. ECM	Comes on	DTC stored	
P0013	Camshaft Position "B" Actuator Circuit / Open (Bank 1)	1. Open or short in Oil Control Valve (OCV) for exhaust camshaft (bank 1) circuit 2. OCV for exhaust camshaft (bank 1) 3. ECM	Comes on	DTC stored	
P0014	Camshaft Position "B" - Timing Over-Advanced or System Performance (Bank 1)	1. Valve timing 2. OCV for exhaust camshaft (bank 1) 3. OCV filter (bank 1) 4. Exhaust camshaft	Comes on	DTC stored	






		5. ECM			
P0015	Camshaft Position "B" - Timing Over-Retarded (Bank 1)	1. Valve timing 2. OCV for exhaust camshaft (bank 2) 3. OCV filter (bank 2) 4. Exhaust camshaft 5. ECM	Comes on	DTC stored	
P0016	Crankshaft Position - Camshaft Position Correlation (Bank 1 Sensor A)	1. Valve timing 2. Camshaft timing oil control valve for intake camshaft 3. Camshaft timing oil control valve filter 4. Intake camshaft timing gear assembly 5. ECM	Comes on	DTC stored	
P0017	Crankshaft Position - Camshaft Position Correlation (Bank 1 Sensor B)	1. Valve timing 2. Camshaft timing oil control valve for exhaust camshaft 3. Camshaft timing oil control valve filter 4. Exhaust camshaft timing gear assembly 5. ECM	Comes on	DTC stored	
P0018	Crankshaft Position - Camshaft Position Correlation (Bank 2 Sensor A)	Same as DTC P0016	Comes on	DTC stored	
P0019	Crankshaft Position - Camshaft Position Correlation (Bank 2 Sensor B)	Same as DTC P0017	Comes on	DTC stored	
P0020	Camshaft Position "A" Actuator Circuit (Bank 2)	1. Open or short in Oil Control Valve (OCV) for intake camshaft (bank 2) circuit 2. OCV for intake camshaft (bank 2) 3. ECM	Comes on	DTC stored	
P0021	Camshaft Position "A" - Timing Over-Advanced or System Performance (Bank 2)	Same as DTC P0011	Comes on	DTC stored	
P0022	Camshaft Position "A" - Timing Over-Retarded (Bank 2)	Same as DTC P0012	Comes on	DTC stored	
P0023	Camshaft Position "B" Actuator Circuit / Open (Bank 2)	1. Open or short in Oil Control Valve (OCV) for exhaust camshaft (bank 2) circuit 2. OCV for exhaust camshaft (bank 2) 3. ECM	Comes on	DTC stored	
P0024	Camshaft Position "B" - Timing Over-Advanced or System Performance (Bank 2)	Same as DTC P0014	Comes on	DTC stored	






P0025	Camshaft Position "B" - Timing Over-Retarded (Bank 2)	Same as DTC P0015	Comes on	DTC stored	
P0031	Oxygen (A/F) Sensor Heater Control Circuit Low (Bank 1 Sensor 1)	<ol style="list-style-type: none"> 1. Open in Air-Fuel Ratio (A/F) sensor heater circuit (bank 1 sensor 1) 2. A/F sensor heater (bank 1 sensor 1) 3. A/F sensor heater relay 4. ECM 	Comes on	DTC stored	
P0032	Oxygen (A/F) Sensor Heater Control Circuit High (Bank 1 Sensor 1)	<ol style="list-style-type: none"> 1. Short in A/F sensor heater circuit (bank 1 sensor 1) 2. A/F sensor heater (bank 1 sensor 1) 3. A/F sensor heater relay 4. ECM 	Comes on	DTC stored	
P0037	Oxygen Sensor Heater Control Circuit Low (Bank 1 Sensor 2)	<ol style="list-style-type: none"> 1. Open in Heated Oxygen (HO2) sensor heater circuit 2. HO2 sensor heater (bank 1 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM 	Comes on	DTC stored	
P0038	Oxygen Sensor Heater Control Circuit High (Bank 1 Sensor 2)	<ol style="list-style-type: none"> 1. Short in HO2 sensor heater circuit 2. HO2 sensor heater (bank 1 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM 	Comes on	DTC stored	
P0051	Oxygen (A/F) Sensor Heater Control Circuit Low (Bank 2 Sensor 1)	<ol style="list-style-type: none"> 1. Open in A/F sensor heater circuit (bank 2 sensor 1) 2. A/F sensor heater (bank 2 sensor 1) 3. A/F sensor heater relay 4. ECM 	Comes on	DTC stored	
P0052	Oxygen (A/F) Sensor Heater Control Circuit High (Bank 2 Sensor 1)	<ol style="list-style-type: none"> 1. Short in A/F sensor heater circuit (bank 2 sensor 1) 2. A/F sensor heater (bank 2 sensor 1) 3. A/F sensor heater relay 4. ECM 	Comes on	DTC stored	
P0057	Oxygen Sensor Heater Control Circuit Low (Bank 2 Sensor 2)	<ol style="list-style-type: none"> 1. Open in HO2 sensor heater circuit 2. HO2 sensor heater (bank 2 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM 	Comes on	DTC stored	
P0058	Oxygen Sensor Heater Control	<ol style="list-style-type: none"> 1. Short in HO2 sensor heater 	Comes on	DTC	












	Circuit High (Bank 2 Sensor 2)	circuit 2. HO2 sensor heater (bank 2 sensor 2) 3. Engine room junction block (EFI relay) 4. ECM		stored	
P0101	Mass Air Flow Circuit Range / Performance Problem	MAF meter	Comes on	DTC stored	
P0102	Mass or Volume Air Flow Circuit Low Input	1. Open in MAF meter circuit 2. Short in MAF meter circuit 3. MAF meter 4. ECM	Comes on	DTC stored	
P0103	Mass or Volume Air Flow Circuit High Input	1. Short in MAF meter circuit (+B circuit) 2. MAF meter 3. ECM	Comes on	DTC stored	
P0110	Intake Air Temperature Circuit Malfunction	1. Open or short in Intake Air Temperature (IAT) sensor circuit 2. IAT sensor (built into Mass Air Flow [MAF] meter) 3. ECM	Comes on	DTC stored	
P0111	Intake Air Temperature Sensor Gradient Too High	MAF meter	Comes on	DTC stored	
P0112	Intake Air Temperature Circuit Low Input	1. Short in IAT sensor circuit 2. IAT sensor (built into MAF meter) 3. ECM	Comes on	DTC stored	
P0113	Intake Air Temperature Circuit High Input	1. Open in IAT sensor circuit 2. IAT sensor (built into MAF meter) 3. ECM	Comes on	DTC stored	
P0115	Engine Coolant Temperature Circuit Malfunction	1. Open or short in Engine Coolant Temperature (ECT) sensor circuit 2. ECT sensor 3. ECM	Comes on	DTC stored	
P0116	Engine Coolant Temperature Circuit Range / Performance Problem	1. Thermostat 2. ECT sensor	Comes on	DTC stored	
P0117	Engine Coolant Temperature Circuit Low Input	1. Short in ECT sensor circuit 2. ECT sensor 3. ECM	Comes on	DTC stored	
P0118	Engine Coolant Temperature Circuit High Input	1. Open in ECT sensor circuit 2. ECT sensor 3. ECM	Comes on	DTC stored	
P011B	Engine Coolant Temperature / Intake Air Temperature	1. IAT sensor 2. ECT sensor	Comes on	DTC stored	















	Correlation	3. ECM			
P0120	Throttle / Pedal Position Sensor / Switch "A" Circuit Malfunction	1. Throttle Position (TP) sensor (built into throttle body) 2. ECM	Comes on	DTC stored	
P0121	Throttle / Pedal Position Sensor / Switch "A" Circuit Range / Performance Problem	TP sensor (built into throttle body)	Comes on	DTC stored	
P0122	Throttle / Pedal Position Sensor / Switch "A" Circuit Low Input	1. TP sensor (built into throttle body) 2. Short in VTA1 circuit 3. Open in VC circuit 4. ECM	Comes on	DTC stored	
P0123	Throttle / Pedal Position Sensor / Switch "A" Circuit High Input	1. TP sensor (built into throttle body) 2. Open in VTA1 circuit 3. Open in E2 circuit 4. Short between VC and VTA1 circuits 5. ECM	Comes on	DTC stored	
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control	1. ECT sensor 2. Cooling system 3. Thermostat	Comes on	DTC stored	
P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)	1. Thermostat 2. Cooling system 3. ECT sensor 4. ECM	Comes on	DTC stored	
P0136	Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 2)	1. Open or short in HO2 sensor (bank 1 sensor 2) circuit 2. HO2 sensor (bank 1 sensor 2) 3. HO2 sensor heater (bank 1 sensor 2) 4. A/F sensor (bank 1 sensor 1) 5. Engine room junction block (EFI relay) 6. Gas leakage from exhaust system	Comes on	DTC stored	
P0137	Oxygen Sensor Circuit Low Voltage (Bank 1 Sensor 2)	1. Open in HO2 sensor (bank 1 sensor 2) circuit 2. HO2 sensor (bank 1 sensor 2) 3. HO2 sensor heater (bank 1 sensor 2) 4. Engine room junction block (EFI relay) 5. Gas leakage from exhaust	Comes on	DTC stored	






		system			
P0138	Oxygen Sensor Circuit High Voltage (Bank 1 Sensor 2)	<ol style="list-style-type: none"> 1. Short in HO2 sensor (bank 1 sensor 2) circuit 2. HO2 sensor (bank 1 sensor 2) 3. ECM internal circuit malfunction 4. Air fuel ratio (A/F) sensor (bank 1 sensor 1) 	Comes on	DTC stored	
P0139	Oxygen Sensor Circuit Slow Response (Bank 1 Sensor 2)	<ol style="list-style-type: none"> 1. Short in HO2 sensor (bank 1 sensor 2) 2. HO2 sensor (bank 1 sensor 2) 3. ECM internal circuit malfunction 4. A/F sensor (bank 1 sensor 1) 	Comes on	DTC stored	
P0141	Oxygen Sensor Heater Circuit Malfunction (Bank 1 Sensor 2)	<ol style="list-style-type: none"> 1. HO2 sensor 2. ECM 	Comes on	DTC stored	
P0156	Oxygen Sensor Circuit Malfunction (Bank 2 Sensor 2)	<ol style="list-style-type: none"> 1. Open or short in HO2 sensor (bank 2 sensor 2) circuit 2. HO2 sensor (bank 2 sensor 2) 3. HO2 sensor heater (bank 2 sensor 2) 4. A/F sensor (bank 2 sensor 1) 5. Engine room junction block (EFI relay) 6. Gas leakage from exhaust system 	Comes on	DTC stored	
P0157	Oxygen Sensor Circuit Low Voltage (Bank 2 Sensor 2)	<ol style="list-style-type: none"> 1. Open in HO2 sensor (bank 2 sensor 2) circuit 2. HO2 sensor (bank 2 sensor 2) 3. HO2 sensor heater (bank 2 sensor 2) 4. Engine room junction block (EFI relay) 5. Gas leakage from exhaust system 	Comes on	DTC stored	
P0158	Oxygen Sensor Circuit High Voltage (Bank 2 Sensor 2)	<ol style="list-style-type: none"> 1. Short in HO2 sensor (bank 2 sensor 2) circuit 2. HO2 sensor (bank 2 sensor 2) 3. ECM internal circuit malfunction 4. Air fuel ratio (A/F) sensor (bank 2 sensor 1) 	Comes on	DTC stored	









P0159	Oxygen Sensor Circuit Slow Response (Bank 2 Sensor 2)	<ol style="list-style-type: none"> 1. Short in HO2 sensor (bank 2 sensor 2) 2. HO2 sensor (bank 2 sensor 2) 3. ECM internal circuit malfunction 4. A/F sensor (bank2 sensor1) 	Comes on	DTC stored	
P0161	Oxygen Sensor Heater Circuit Malfunction (Bank 2 Sensor 2)	<ol style="list-style-type: none"> 1. HO2 sensor 2. ECM 	Comes on	DTC stored	
P0171	System Too Lean (Bank 1)	<ol style="list-style-type: none"> 1. Air induction system 2. Injector blockage 3. MAF meter 4. ECT sensor 5. Fuel pressure 6. Gas leakage from exhaust system 7. Open or short in A/F sensor (bank 1 sensor 1) circuit 8. A/F sensor (bank 1 sensor 1) 9. A/F sensor heater (bank 1 sensor 1) 10. A/F sensor heater relay 11. A/F sensor heater and A/F sensor heater relay circuits 12. PCV valve and hose 13. PCV hose connections 14. ECM 	Comes on	DTC stored	
P0172	System Too Rich (Bank 1)	<ol style="list-style-type: none"> 1. Injector leakage or blockage 2. MAF meter 3. ECT sensor 4. Ignition system 5. Fuel pressure 6. Gas leakage from exhaust system 7. Open or short in A/F sensor (bank 1 sensor 1) circuit 8. A/F sensor (bank 1 sensor 1) 9. A/F sensor heater (bank 1 sensor 1) 10. A/F sensor heater relay 11. A/F sensor heater and A/F sensor heater relay circuits 12. ECM 	Comes on	DTC stored	
P0174	System Too Lean (Bank 2)	<ol style="list-style-type: none"> 1. Air induction system 2. Injector blockage 3. MAF meter 4. ECT sensor 	Comes on	DTC stored	











		<ul style="list-style-type: none"> 5. Fuel pressure 6. Gas leakage from exhaust system 7. Open or short in A/F sensor (bank 2 sensor 1) circuit 8. A/F sensor (bank 2 sensor 1) 9. A/F sensor heater (bank 2 sensor 1) 10. A/F sensor heater relay 11. A/F sensor heater and A/F sensor heater relay circuits 12. PCV valve and hose 13. PCV hose connections 14. ECM 			
P0175	System Too Rich (Bank 2)	<ul style="list-style-type: none"> 1. Injector leakage or blockage 2. MAF meter 3. ECT sensor 4. Ignition system 5. Fuel pressure 6. Gas leakage from exhaust system 7. Open or short in A/F sensor (bank 2 sensor 1) circuit 8. A/F sensor (bank 2 sensor 1) 9. A/F sensor heater (bank 2 sensor 1) 10. A/F sensor heater relay 11. A/F sensor heater and A/F sensor heater relay circuits 12. ECM 	Comes on	DTC stored	
P0220	Throttle / Pedal Position Sensor / Switch "B" Circuit	<ul style="list-style-type: none"> 1. TP sensor (built into throttle body) 2. ECM 	Comes on	DTC stored	
P0222	Throttle / Pedal Position Sensor / Switch "B" Circuit Low Input	<ul style="list-style-type: none"> 1. TP sensor (built into throttle body) 2. Short in VTA2 circuit 3. Open in VC circuit 4. ECM 	Comes on	DTC stored	
P0223	Throttle / Pedal Position Sensor / Switch "B" Circuit High Input	<ul style="list-style-type: none"> 1. TP sensor (built into throttle body) 2. Open in VTA2 circuit 3. Open in E2 circuit 4. Short between VC and VTA2 circuits 5. ECM 	Comes on	DTC stored	
P0300	Random / Multiple Cylinder Misfire Detected	<ul style="list-style-type: none"> 1. Open or short in engine wire harness 	Comes on or flashes	DTC stored	














		<ol style="list-style-type: none"> 2. Connector connections 3. Vacuum hose connection 4. Ignition system 5. Injector 6. Fuel pressure 7. Mass Air Flow (MAF) meter 8. Engine Coolant Temperature (ECT) sensor 9. Compression pressure 10. Valve clearance 11. Valve timing 12. PCV valve and hose 13. PCV hose connections 14. Air induction system 15. ECM 			
P0301	Cylinder 1 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC stored	
P0302	Cylinder 2 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC stored	
P0303	Cylinder 3 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC stored	
P0304	Cylinder 4 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC stored	
P0305	Cylinder 5 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC stored	
P0306	Cylinder 6 Misfire Detected	Same as DTC P0300	Comes on or flashes	DTC stored	
P0327	Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor)	<ol style="list-style-type: none"> 1. Short in knock sensor 1 circuit 2. Knock sensor 1 3. ECM 	Comes on	DTC stored	
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor)	<ol style="list-style-type: none"> 1. Open in knock sensor 1 circuit 2. Knock sensor 1 3. ECM 	Comes on	DTC stored	
P0332	Knock Sensor 2 Circuit Low Input (Bank 2)	<ol style="list-style-type: none"> 1. Short in knock sensor 2 circuit 2. Knock sensor 2 3. ECM 	Comes on	DTC stored	
P0333	Knock Sensor 2 Circuit High Input (Bank 2)	<ol style="list-style-type: none"> 1. Open in knock sensor 2 circuit 2. Knock sensor 2 3. ECM 	Comes on	DTC stored	
P0335	Crankshaft Position Sensor "A" Circuit	<ol style="list-style-type: none"> 1. Open or short in Crankshaft Position Sensor (CKP) circuit 2. CKP sensor 3. CKP sensor plate 	Comes on	DTC stored	













		4. ECM			
P0339	Crankshaft Position Sensor "A" Circuit Intermittent	Same as DTC P0335	Does not come on	DTC stored	
P0340	Camshaft Position Sensor Circuit Malfunction	1. Open or short in VVT sensor for intake camshaft circuit 2. VVT sensor for intake camshaft 3. Camshaft timing gear for intake camshaft 4. Jumped tooth of timing chain for intake camshaft 5. ECM	Comes on	DTC stored	
P0342	Camshaft Position Sensor "A" Circuit Low Input (Bank 1 or Single Sensor)	Same as DTC P0340	Comes on	DTC stored	
P0343	Camshaft Position Sensor "A" Circuit High Input (Bank 1 or Single Sensor)	Same as DTC P0340	Comes on	DTC stored	
P0345	Camshaft Position Sensor "A" Circuit (Bank 2)	Same as DTC P0340	Comes on	DTC stored	
P0347	Camshaft Position Sensor "A" Circuit Low Input (Bank 2)	Same as DTC P0340	Comes on	DTC stored	
P0348	Camshaft Position Sensor "A" Circuit High Input (Bank 2)	Same as DTC P0340	Comes on	DTC stored	
P0351	Ignition Coil "A" Primary / Secondary Circuit	1. Ignition system 2. Open or short in IGF1 or IGT circuit (1 to 6) between ignition coil and ECM 3. No. 1 to No. 6 ignition coils 4. ECM	Comes on	DTC stored	
P0352	Ignition Coil "B" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC stored	
P0353	Ignition Coil "C" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC stored	
P0354	Ignition Coil "D" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC stored	
P0355	Ignition Coil "E" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC stored	
P0356	Ignition Coil "F" Primary / Secondary Circuit	Same as DTC P0351	Comes on	DTC stored	
P0365	Camshaft Position Sensor "B" Circuit (Bank 1)	1. Open or short in VVT sensor for exhaust camshaft circuit 2. VVT sensor for exhaust camshaft 3. Exhaust camshaft	Comes on	DTC stored	









		<ul style="list-style-type: none"> 4. Jumped tooth of timing chain 5. ECM 			
P0367	Camshaft Position Sensor "B" Circuit Low Input (Bank 1)	<ul style="list-style-type: none"> 1. Open or short in VVT sensor for exhaust camshaft circuit 2. VVT sensor for exhaust camshaft 3. Exhaust camshaft 4. Jumped tooth of timing chain 5. ECM 	Comes on	DTC stored	
P0368	Camshaft Position Sensor "B" Circuit High Input (Bank 1)	<ul style="list-style-type: none"> 1. Open or short in VVT sensor for exhaust camshaft circuit 2. VVT sensor for exhaust camshaft 3. Exhaust camshaft 4. Jumped tooth of timing chain 5. ECM 	Comes on	DTC stored	
P0390	Camshaft Position Sensor "B" Circuit (Bank 2)	<ul style="list-style-type: none"> 1. Open or short in VVT sensor for exhaust camshaft circuit 2. VVT sensor for exhaust camshaft 3. Exhaust camshaft 4. Jumped tooth of timing chain 5. ECM 	Comes on	DTC stored	
P0392	Camshaft Position Sensor "B" Circuit Low Input (Bank 2)	<ul style="list-style-type: none"> 1. Open or short in VVT sensor for exhaust camshaft circuit 2. VVT sensor for exhaust camshaft 3. Exhaust camshaft 4. Jumped tooth of timing chain 5. ECM 	Comes on	DTC stored	
P0393	Camshaft Position Sensor "B" Circuit High Input (Bank 2)	<ul style="list-style-type: none"> 1. Open or short in VVT sensor for exhaust camshaft circuit 2. VVT sensor for exhaust camshaft 3. Exhaust camshaft 4. Jumped tooth of timing chain 5. ECM 	Comes on	DTC stored	
P0420	Catalyst System Efficiency Below Threshold (Bank 1)	<ul style="list-style-type: none"> 1. Gas leakage from exhaust system 	Comes on	DTC stored	













		<ol style="list-style-type: none"> 2. A/F sensor (bank 1 sensor 1) 3. HO2 sensor (bank 1 sensor 2) 4. Exhaust manifold (Three-Way Catalytic Converter [TWC]) 			
P0430	Catalyst System Efficiency Below Threshold (Bank 2)	<ol style="list-style-type: none"> 1. Gas leakage from exhaust system 2. A/F sensor (bank 2 sensor 1) 3. HO2 sensor (bank 2 sensor 2) 4. Exhaust manifold (Three-Way Catalytic Converter [TWC]) 	Comes on	DTC stored	
P043E	Evaporative Emission System Reference Orifice Clog Up	<ol style="list-style-type: none"> 1. Pump module 2. Connector/wire harness (Pump module - ECM) 3. ECM 	Comes on	DTC stored	
P043F	Evaporative Emission System Reference Orifice High Flow	<ol style="list-style-type: none"> 1. Pump module 2. Connector/wire harness (Pump module - ECM) 3. ECM 	Comes on	DTC stored	
P0441	Evaporative Emission Control System Incorrect Purge Flow	<ol style="list-style-type: none"> 1. EVAP VSV 2. Connector/wire harness (EVAP VSV - ECM) 3. ECM 4. Pump module 5. Leakage from EVAP system 6. Leakage from EVAP line (EVAP VSV - Intake manifold) 	Comes on	DTC stored	
P0451	Evaporative Emission Control System Pressure Sensor Range / Performance	<ol style="list-style-type: none"> 1. Pump module 2. Connector/wire harness (between pump module and ECM) 3. ECM 	Comes on	DTC stored	
P0452	Evaporative Emission Control System Pressure Sensor / Switch Low Input	<ol style="list-style-type: none"> 1. Pump module 2. Connector/wire harness (between pump module and ECM) 3. ECM 	Comes on	DTC stored	
P0453	Evaporative Emission Control System Pressure Sensor / Switch High Input	<ol style="list-style-type: none"> 1. Pump module 2. Connector/wire harness (between pump module and ECM) 3. ECM 	Comes on	DTC stored	
P0455	Evaporative Emission Control System Leak Detected (Gross	<ol style="list-style-type: none"> 1. Fuel tank cap (loose) 2. Leakage from EVAP line 	Comes on	DTC stored	

	Leak)	(Canister - Fuel tank) 3. Leakage from EVAP line (EVAP VSV - Canister) 4. Pump module 5. Leakage from fuel tank 6. Leakage from canister			
P0456	Evaporative Emission Control System Leak Detected (Very Small Leak)	Same as DTC P0455	Comes on	DTC stored	
P0500	Vehicle Speed Sensor "A"	1. Vehicle speed sensor 2. Vehicle speed sensor signal circuit 3. Combination meter 4. ECM 5. Skid control ECU	Comes on	DTC stored	
P0504	Brake Switch "A" / "B" Correlation	1. Short in stop light switch signal circuit 2. Stop light switch 3. ECM	Does not come on	DTC stored	
P0505	Idle Control System Malfunction	1. ETCS (Electronic Throttle Control System) 2. Air induction system 3. PCV hose connection 4. ECM	Comes on	DTC stored	
P050A	Cold Start Idle Air Control System Performance	1. Throttle body assembly 2. MAF meter 3. Air induction system 4. PCV hose connections 5. VVT system 6. Air cleaner filter element 7. ECM	Comes on	DTC stored	
P050B	Cold Start Ignition Timing Performance	1. Throttle body assembly 2. MAF meter 3. Intake system 4. PCV hose connections 5. VVT system 6. Air cleaner filter element 7. ECM	Comes on	DTC stored	
P0560	System Voltage	1. Open in back-up power source circuit 2. ECM	Comes on	DTC stored	
P0604	Internal Control Module Random Access Memory (RAM) Error	ECM	Comes on	DTC stored	
P0606	ECM / PCM Processor	ECM	Comes on (except when there is a malfunction in the ECM internal circuit)	DTC stored	
P0607	Control Module Performance	1. Exhaust gas leak	Comes on (except when	DTC	

		2. HO2 sensor 3. ECM	there is a malfunction in the cruise control switch circuit)	stored	
P060A	Internal Control Module Monitoring Processor Performance	ECM	Comes on	DTC stored	
P060D	Internal Control Module Accelerator Pedal Position Performance	ECM	Comes on	DTC stored	
P060E	Internal Control Module Throttle Position Performance	ECM	Comes on	DTC stored	
P0617	Starter Relay Circuit High	1. Park/Neutral Position (PNP) switch 2. Starter relay circuit 3. Cranking holding function circuit 4. Engine switch 5. ECM	Comes on	DTC stored	
P0630	VIN not Programmed or Mismatch - ECM / PCM	ECM	Comes on	DTC stored	
P0657	Actuator Supply Voltage Circuit / Open	ECM	Comes on	DTC stored	
P0705	Transmission Range Sensor Circuit Malfunction (PRNDL Input)	1. Short in park/neutral position switch circuit 2. Park/neutral position switch 3. ECM	Comes on	DTC stored	
P0724	Brake Switch "B" Circuit High	1. Short in stop light switch signal circuit 2. Stop light switch 3. ECM	Comes on	DTC stored	
P1607	Cruise Control Input Processor	ECM	Comes on	DTC stored	
P2102	Throttle Actuator Control Motor Circuit Low	1. Open in throttle actuator circuit 2. Throttle actuator 3. ECM	Comes on	DTC stored	
P2103	Throttle Actuator Control Motor Circuit High	1. Short in throttle actuator circuit 2. Throttle actuator 3. Throttle valve 4. Throttle body assembly 5. ECM	Comes on	DTC stored	
P2111	Throttle Actuator Control System - Stuck Open	1. Throttle actuator 2. Throttle body 3. Throttle valve	Comes on	DTC stored	
P2112	Throttle Actuator Control System - Stuck Closed	Same as DTC P2111	Comes on	DTC stored	

P2118	Throttle Actuator Control Motor Current Range / Performance	1. Open in ETCS power source circuit 2. ETCS fuse 3. ECM	Comes on	DTC stored	
P2119	Throttle Actuator Control Throttle Body Range / Performance	1. ETCS 2. ECM	Comes on	DTC stored	
P2120	Throttle / Pedal Position Sensor / Switch "D" Circuit	1. Accelerator Pedal Position (APP) sensor 2. ECM	Comes on	DTC stored	
P2121	Throttle / Pedal Position Sensor / Switch "D" Circuit Range / Performance	1. Accelerator Pedal Position (APP) sensor 2. ECM	Comes on	DTC stored	
P2122	Throttle / Pedal Position Sensor / Switch "D" Circuit Low Input	1. Accelerator Pedal Position (APP) sensor 2. Open in VCP1 circuit 3. Open or ground short in VPA circuit 4. ECM	Comes on	DTC stored	
P2123	Throttle / Pedal Position Sensor / Switch "D" Circuit High Input	1. Accelerator Pedal Position (APP) sensor 2. Open in EPA circuit 3. ECM	Comes on	DTC stored	
P2125	Throttle / Pedal Position Sensor / Switch "E" Circuit	1. Accelerator Pedal Position (APP) sensor 2. ECM	Comes on	DTC stored	
P2127	Throttle / Pedal Position Sensor / Switch "E" Circuit Low Input	1. Accelerator Pedal Position (APP) sensor 2. Open in VCP2 circuit 3. Open or ground short in VPA2 circuit 4. ECM	Comes on	DTC stored	
P2128	Throttle / Pedal Position Sensor / Switch "E" Circuit High Input	1. Accelerator Pedal Position (APP) sensor 2. Open in EPA2 circuit 3. ECM	Comes on	DTC stored	
P2135	Throttle / Pedal Position Sensor / Switch "A" / "B" Voltage Correlation	1. Short between VTA1 and VTA2 circuits 2. TP sensor (built into throttle body) 3. ECM	Comes on	DTC stored	
P2138	Throttle / Pedal Position Sensor / Switch "D" / "E" Voltage Correlation	1. Short between VPA and VPA2 circuits 2. APP sensor 3. ECM	Comes on	DTC stored	
P2195	Oxygen (A/F) Sensor Signal Stuck Lean (Bank 1 Sensor 1)	1. Open or short in A/F sensor (bank 1 sensor 1) circuit 2. A/F sensor (bank 1 sensor	Comes on	DTC stored	

		<ol style="list-style-type: none"> 1) 3. A/F sensor heater (bank 1 sensor 1) 4. A/F sensor heater relay 5. A/F sensor heater and relay circuits 6. Air induction system 7. Injector 8. ECM 			
P2196	Oxygen (A/F) Sensor Signal Stuck Rich (Bank 1 Sensor 1)	Same as DTC P2195	Comes on	DTC stored	
P2197	Oxygen (A/F) Sensor Signal Stuck Lean (Bank 2 Sensor 1)	<ol style="list-style-type: none"> 1. Open or short in A/F sensor (bank 2 sensor 1) circuit 2. A/F sensor (bank 2 sensor 1) 3. A/F sensor heater (bank 2 sensor 1) 4. A/F sensor heater relay 5. A/F sensor heater and relay circuits 6. Air induction system 7. Injector 8. ECM 	Comes on	DTC stored	
P2198	Oxygen (A/F) Sensor Signal Stuck Rich (Bank 2 Sensor 1)	Same as DTC P2197	Comes on	DTC stored	
P2237	Oxygen (A/F) Sensor Pumping Current Circuit / Open (Bank 1 Sensor 1)	<ol style="list-style-type: none"> 1. Open or short in A/F sensor (bank 1 sensor 1) 2. A/F sensor (bank 1 sensor 1) 3. ECM 	Comes on	DTC stored	
P2238	Oxygen (A/F) Sensor Pumping Current Circuit Low (Bank 1 Sensor 1)	<ol style="list-style-type: none"> 1. Open or short in A/F sensor (bank 1 sensor 1) circuit 2. A/F sensor (bank 1 sensor 1) 3. A/F sensor heater 4. A/F sensor heater relay 5. A/F sensor heater and relay circuits 6. ECM 	Comes on	DTC stored	
P2239	Oxygen (A/F) Sensor Pumping Current Circuit High (Bank 1 Sensor 1)	Same as DTC P2238	Comes on	DTC stored	
P2240	Oxygen (A/F) Sensor Pumping Current Circuit / Open (Bank 2 Sensor 1)	<ol style="list-style-type: none"> 1. Open or short in A/F sensor (bank 2 sensor 1) 2. A/F sensor (bank 2 sensor 1) 3. ECM 	Comes on	DTC stored	
P2241	Oxygen (A/F) Sensor Pumping Current Circuit Low (Bank 2	<ol style="list-style-type: none"> 1. Open or short in A/F sensor (bank 2 sensor 1) circuit 	Comes on	DTC stored	

	Sensor 1)	2. A/F sensor (bank 2 sensor 1) 3. A/F sensor heater 4. A/F sensor heater relay 5. A/F sensor heater and relay circuits 6. ECM			
P2242	Oxygen (A/F) Sensor Pumping Current Circuit High (Bank 2 Sensor 1)	Same as DTC P2241	Comes on	DTC stored	
P2252	Oxygen (A/F) Sensor Reference Ground Circuit Low (Bank 1 Sensor 1)	Same as DTC P2238	Comes on	DTC stored	
P2253	Oxygen (A/F) Sensor Reference Ground Circuit High (Bank 1 Sensor 1)	Same as DTC P2238	Comes on	DTC stored	
P2255	Oxygen (A/F) Sensor Reference Ground Circuit Low (Bank 2 Sensor 1)	Same as DTC P2241	Comes on	DTC stored	
P2256	Oxygen (A/F) Sensor Reference Ground Circuit High (Bank 2 Sensor 1)	Same as DTC P2241	Comes on	DTC stored	
P2401	Evaporative Emission System Leak Detection Pump Control Circuit Low	1. Pump module 2. Connector/wire harness (Pump module - ECM) 3. ECM	Comes on	DTC stored	
P2402	Evaporative Emission System Leak Detection Pump Control Circuit High	1. Pump module 2. Connector/wire harness (Pump module - ECM) 3. ECM	Comes on	DTC stored	
P2419	Evaporative Emission System Switching Valve Control Circuit Low	1. Pump module 2. Connector/wire harness (Pump module - ECM) 3. ECM	Comes on	DTC stored	
P2420	Evaporative Emission System Switching Valve Control Circuit High	1. Pump module (0.02 inch orifice, vacuum pump, vent valve) 2. Connector/wire harness (Pump module - ECM) 3. ECM	Comes on	DTC stored	
P2610	ECM / PCM Internal Engine Off Timer Performance	ECM	Comes on	DTC stored	
P2A00	A/F Sensor Circuit Slow Response (Bank 1 Sensor 1)	1. Open or short in A/F sensor (bank 1 sensor 1) circuit 2. A/F sensor (bank1 sensor 1) 3. ECM	Comes on	DTC stored	
P2A03	A/F Sensor Circuit Slow	1. Open or short in A/F sensor	Comes on	DTC	

	Response (Bank 2 Sensor 1)	(bank 2 sensor 1) circuit 2. A/F sensor (bank 2 sensor 1) 3. ECM		stored	
U0101	Lost Communication with TCM	1. Open or short in TCM and ECM circuit 2. TCM 3. ECM	Comes on	DTC stored	