

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft Actuator Solenoid Circuit Open – Bank 1	P0010	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft System Performance – Bank 1	P0011	Detects a VVT system error by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Intake cam Bank 1) Cam Position Error > 5.00 deg. (CamPosErrorLimlc1)	DTC's are NOT active: P0010, IntakeCamSensorTFTKO CrankSensorTFTKO CrankIntakeCamCorrelati onFA.	System Voltage > 11.00 Volts, Engine is running VVT is enabled Desired cam position > 0 Power Take Off (PTO) not active Both Desired & Measured cam positions cannot be < 5.00 (CamPosErrorLimlc1) or have both > 20.00 deg. (PerfMaxlc1) . Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeIc1)	100.00 failures out of 300.00 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft Actuator Solenoid Circuit Open – Bank 1	P0013	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples 250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft System Performance – Bank 1	P0014	Detects a VVT system error by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Exhaust cam Bank 1) Cam Position Error > 5.00 deg. (CamPosErrorLimEc1)	DTC's are NOT active: P0013, ExhaustCamSensorTFTKO CrankSensorTFTKO CrankExhaustCamCorrelationFA	System Voltage > 11.00 Volts, Engine is running VVT is enabled Desired cam position > 0 Power Take Off (PTO) not active Both Desired & Measured cam positions cannot be < 5.00 deg. (CamPosErrorLimEc1) or have both > (20.00) (PerfMaxEc1). Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeEc1)	100.00 failures out of 300.00 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

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Crankshaft - Sprocket Correlation Diagnostic	P0016, P0017, P0018 and P0019	On engines with an intermediate sprocket between the crankshaft and the camshafts, this diagnostic detects a timing misalignment between the crankshaft, sprocket and camshafts that will cause all 4 camshafts to be misaligned.	Bank 1 Cam Sensor A pulses more than -6.0 crank degrees before or 9.9 crank degrees after nominal position in one cam revolution + Bank 1 Cam Sensor B pulses more than -5.6 crank degrees before or 9.9 crank degrees after nominal position in one cam revolution + Bank 2 Cam Sensor A pulses more than -6.1 crank degrees before or 9.9 crank degrees after nominal position in one cam revolution + Bank 2 Cam Sensor B pulses more than -7.3 crank degrees before or 9.9 crank degrees after nominal position in one cam revolution	>= 8	Crankshaft and camshaft position signals are synchronized Engine is Spinning Cam phaser is in "parked" position No Active DTCs:	P0335, P0336 P0340, P0341 P0345, P0346 P0365, P0366 P0390, P0391	2 failures out of 3 tests. A failed test is 1 out of 10 samples. There is a delay after the first failed test to allow the camshaft position to return to the park position. This time is defined by the table "Cam Correlation Oil Temperature Threshold". One sample per cam rotation	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft Actuator Solenoid Circuit Open – Bank 2	P0020	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft System Performance – Bank 2	P0021	Detects a VVT system error by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Intake cam Bank 2) Cam Position Error > 5.00 deg. (CamPosErrorLimlc2)	DTC's are NOT active: P0020, IntakeCamSensorTFTKO CrankSensorTFTKO CrankIntakeCamCorrelationFA	System Voltage > 11.00 Volts, Engine is running VVT is enabled Desired cam position > 0 Power Take Off (PTO) not active Both Desired & Measured cam positions cannot be < 5.00 deg. (CamPosErrorLimlc2) or have both > (20.00) deg. (PerfMaxlc2) . Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeIc2)	100.00 failures out of 300.00 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft Actuator Solenoid Circuit Open – Bank 2	P0023	Detects a VVT system error by monitoring the circuit for electrical integrity	The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples 250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft System Performance – Bank 2	P0024	Detects a VVT system error by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Exhaust cam Bank 2) Cam Position Error > 5.00 deg. (CamPosErrorLimEc2)	DTC's are NOT active: P0023, ExhaustCamSensorTFTKO CrankSensorTFTKO CrankExhaustCamCorrelationFA	System Voltage > 11.00 volts, Volts, Engine is running VVT is enabled Desired cam position > 0 Power Take Off (PTO) not active Both Desired & Measured cam positions cannot be < 5.00 deg. (CamPosErrorLimEc2) or have both > (20.00) (PerfMaxEc2). Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeEc2)	100.00 failures out of 300.00 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank 1 Sensor 1	P0030	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates open circuit)	Open Circuit: ≥ 200 K Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0031 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank1 Sensor1	P0031	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates short- to-ground).	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0030 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank1 Sensor1	P0032	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage high during driver on state (indicates short to power).	Short to power: ≤ 0.5 Ω impedance between signal and controller power.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Bypass Valve Control Circuit	P0033	Detect Turbocharger Bypass Valve - Open Circuit	ECM detects that commanded and actual states of output driver do not match because the output is open circuit		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Bypass Valve Control Circuit Low	P0034	Detect Turbocharger Bypass Valve - Shorted to Ground	ECM detects that commanded and actual states of output driver do not match because the output is shorted to ground		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Bypass Valve Control Circuit High	P0035	Detect Turbocharger Bypass Valve - Shorted to Power	ECM detects that commanded and actual states of output driver do not match because the output is shorted to power		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= Volts 11.00 >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank 1 Sensor 2	P0036	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates open circuit).	Open Circuit: ≥ 200 K Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0037 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank1 Sensor2	P0037	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates short- to-ground).	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0036 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank1 Sensor2	P0038	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage high during driver on state (indicates short to power).	Short to power: ≤ 0.5 Ω impedance between signal and controller power.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank 2 Sensor 1	P0050	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates open circuit).	Open Circuit: ≥ 200 K Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0051 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank2 Sensor1	P0051	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates short- to-ground).	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0050 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank2 Sensor1	P0052	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage high during driver on state (indicates short to power).	Short to power: ≤ 0.5 Ω impedance between signal and controller power.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
HO2S Heater Resistance Bank 1 Sensor 1	P0053	Detects an oxygen sensor heater having an incorrect or out of range resistance value.	Heater Resistance outside of the expected range of	$7.2 < \Omega < 14.5$	No Active DTC's Coolant – IAT Engine Soak Time Coolant Temp Ignition Voltage Engine Run time	ECT_Sensor_FA P2610 IAT_SensorFA < 8.0 °C > 28,800 seconds -30.0 < °C < 45.0 < 32.0 volts < 0.08 seconds	Once per valid cold start	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
HO2S Heater Resistance Bank 1 Sensor 2) (For Dual Bank Exhaust Only	P0054	Detects an oxygen sensor heater having an incorrect or out of range resistance value.	Heater Resistance outside of the expected range of	$7.2 < \Omega < 14.5$	No Active DTC's Coolant – IAT Engine Soak Time Coolant Temp Ignition Voltage Engine Run time	ECT_Sensor_FA P2610 IAT_SensorFA < 8.0 °C > 28,800 seconds -30.0 < °C < 45.0 < 32.0 volts < 0.08 seconds	Once per valid cold start	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank 2 Sensor 2	P0056	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates open circuit).	Open Circuit: ≥ 200 K Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0057 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank2 Sensor2	P0057	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage low during driver off state (indicates short- to-ground).	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips Note: In certain controlle rs P0056 may also set

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Control Circuit Bank2 Sensor2	P0058	Diagnoses the Heater Output low side driver circuit for circuit faults.	Voltage high during driver on state (indicates short to power).	Short to power: ≤ 0.5 Ω impedance between signal and controller power.	Ignition Voltage Engine Speed	= Crank or Run > 11.0 volts > 400 RPM	20 failures out of 25 samples 250 ms / sample Continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
HO2S Heater Resistance Bank 2 Sensor 1	P0059	Detects an oxygen sensor heater having an incorrect or out of range resistance value.	Heater Resistance outside of the expected range of	$7.2 < \Omega < 14.5$	No Active DTC's Coolant – IAT Engine Soak Time Coolant Temp Ignition Voltage Engine Run time	ECT_Sensor_FA P2610 IAT_SensorFA < 8.0 °C > 28,800 seconds -30.0 < °C < 45.0 < 32.0 volts < 0.11 seconds	Once per valid cold start	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
HO2S Heater Resistance Bank 2 Sensor 2	P0060	Detects an oxygen sensor heater having an incorrect or out of range resistance value.	Heater Resistance outside of the expected range of	$7.2 < \Omega < 14.5$	No Active DTC's Coolant – IAT Engine Soak Time Coolant Temp Ignition Voltage Engine Run time	ECT_Sensor_FA P2610 IAT_SensorFA < 8.0 °C > 28,800 seconds -30.0 < °C < 45.0 < 32.0 volts < 0.11 seconds	Once per valid cold start	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
MAP / MAF / Throttle Position Correlation	P0068	Detect when MAP and MAF do not match estimated engine airflow as established by the TPS	<p>Difference between MAP and estimated MAP exceeds threshold (kPa), or P0651 (5 Volt Ref), or P0107 (MAP circuit low), or P0108 (MAP circuit high) have failed this key cycle, then MAP portion of diagnostic fails</p> <p>Absolute difference between MAF and estimated MAF exceed threshold (grams/sec), or P0102 (MAF circuit low), or P0103 (MAF circuit hi) have failed this key cycle, or maximum MAF versus RPM (Table) is greater than or equal to maximum MAF versus battery voltage, then MAF portion of diagnostic fails</p>	<p>Table, f(TPS). See supporting tables: Delta MAP Threshold f(TPS)</p> <p>Table, f(TPS). See supporting tables: Delta MAF Threshold f(TPS)</p> <p>Table, f(RPM). See supporting tables: Maximum MAF f (RPM)</p> <p>Table, f(Volts). See supporting tables: Maximum MAF f (Volts)</p>	Engine Speed	<p>> 800 RPM</p> <p>Run/Crank voltage > 6.41</p>	<p>Continuously fail MAP and MAF portions of diagnostic for 0.1875 s</p> <p>Continuous in MAIN processor</p>	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Internal Control Module SIDI High Pressure Pump min/max authority	P0089	This DTC Diagnoses pump control windup to its max or min authority	High Pressure Fuel Pump Delivery Angle High Pressure Fuel Pump Delivery Angle	$\geq 240^\circ$ Or $\leq 0^\circ$	Battery Voltage Low Side Fuel Pressure Engine Run Time Barometric Pressure Inlet Air Temp Fuel Temp Additional Enable Conditions: All must be true (High Pressure Pump is enabled and High Fuel pressure sensor ckt is Not (FA,FP or TFTKO) and High Pressure fuel pump ckt is Not (FA,FP or TFTKO) and Cam or Crank Sensor Not FA and IAT,IAT2,ECT Not FA and Low side Fuel Pump Relay ckt Not FA and Estimate fuel rail pressure is valid and Green Engine (In assembly plant) is not enabled and Not if low fuel condition	≥ 11 Volts > 0.275 MPa \geq KtFHPD_t_PumpCntrlEng RunThrsh (see supporting tables) Enabled when a code clear is not active or not exiting device control Engine is not cranking ≥ 70.0 KPA ≥ -10.0 degC $-10 \leq \text{Temp degC} \leq 100$	Windup High - 750 failures out of 938 samples Windup Low - 750 failures out of 938 Samples	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					and Low side Fuel Pump is on and Injector Flow Test is not active and Device control commanded pressure is false and Device control pump ckt enabled on is false and Engine movement detected is true andManufacturers enable counter is 0) Flex Fuel Sensor Not FA Ignition voltage out of correlation error(P1682) not active			

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
High Pressure Pump Control Solenoid Enable Low Side Open Circuit	P0090	The DTC Diagnoses the High Pressure Pump Control Solenoid Enable Low Side Circuit for circuit faults.	Voltage low during driver off state indicates open circuit	Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	Engine Speed Battery Voltage	>= 50 RPM >= 11 Volts Not in pump device control Enabled when a code clear is not active or not exiting device control	20 failures out of 40 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
High Pressure Pump Control Solenoid Enable Low Side Short to Ground	P0091	The DTC Diagnoses the High Pressure Pump Control Solenoid Enable Low Side Circuit for circuit faults.	Voltage low during driver off state indicates short-to-ground	Short to ground: ≤ 0.1 Amps between signal and controller ground	Engine Speed Battery Voltage	>= 50 RPM >= 11 Volts Not in pump device control Enabled when a code clear is not active or not exiting device control	20 failures out of 40 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
High Pressure Pump Cntrl Solenoid Enable Low Side Short to Power	P0092	The DTC Diagnoses the High Pressure Pump Control Solenoid Enable Low Side Circuit for circuit faults.	Voltage high during driver off state indicates short to power	Short to power: ≤ 1.1 or 15 Amps selectable thershold based on High pressure Pump .	Engine Speed Battery Voltage	>= 50 RPM >= 11 Volts Not in pump device control Enabled when a code clear is not active or not exiting device control	20 failures out of 40 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor 2 Circuit Performance (applications with humidity sensor, but no manifold temperature sensor)	P0096	Detects an IAT2 sensor that has stuck in range by comparing to IAT and engine coolant temperature at startup	ABS(Power Up IAT - Power Up IAT2) AND ABS(Power Up ECT – Power Up IAT2) >= ABS(Power Up ECT – Power Up IAT)	> 10 deg C	Time between current ignition cycle and the last time the engine was running Powertrain Relay Voltage for a time No Active DTCs:	> 28,800 seconds >= 11.00 Volts >= 0.9 seconds PowertrainRelayFault ECT_Sensor_Ckt_FA IAT_SensorCircuitFA HumTempSnsrCktFA	Executes once at the beginning of each ignition cycle if enable conditions are met	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Circuit 2 Low (applications with humidity)	P0097	Detects a continuous short to ground or open in the IAT 2 signal circuit	Raw IAT 2 Input	< 13 Hertz (~-60 deg C)	Powertrain Relay Voltage for a time No Active DTCs:	>= 11.00 Volts >= 0.9 seconds PowertrainRelayFault	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Circuit 2 High (applications with humidity)	P0098	Detects a continuous high frequency in the IAT 2 signal circuit	Raw IAT 2 Input	> 390 Hertz (~150 deg C)	Powertrain Relay Voltage for a time No Active DTCs:	>= 11.00 Volts >= 0.9 seconds PowertrainRelayFault	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

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Intake Air Temperature Sensor 2 Intermittent In-Range	P0099	Detects a noisy or erratic IAT 2 signal circuit or IAT 2 sensor	String Length Where: "String Length" = sum of "Diff" calculated over And where: "Diff" = ABS(current IAT 2 reading - IAT 2 reading from 100 milliseconds previous)	> 100.00 DegC 10 consecutive IAT 2 samples	Powertrain Relay Voltage for a time No Active DTCs:	>= 11.00 Volts >= 0.9 seconds PowertrainRelayFault	4 failures out of 5 samples Each sample takes 1.0 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger/ Supercharger Bypass Valve B Control Circuit If two parallel turbos are present.	P00C0	Detect Turbocharger Bypass Valve B - Open Circuit	ECM detects that commanded and actual states of output driver do not match because the output is open circuit		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50.00 failures out of 63.00 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger/ Supercharger Bypass Valve B Control Circuit Low If two parallel turbos are present.	P00C1	Detect Turbocharger Bypass Valve B - Shorted to Ground	ECM detects that commanded and actual states of output driver do not match because the output is shorted to ground		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50.00 failures out of 63.00 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger/ Supercharger Bypass Valve B Control Circuit High If two parallel turbos are present.	P00C2	Detect Turbocharger Bypass Valve B - Shorted to Power	ECM detects that commanded and actual states of output driver do not match because the output is shorted to power		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50.00 failures out of 63.00 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger/ Supercharger Bypass Valve B - Mechanical If two parallel turbochargers are present.	P00C4	Detect Stuck Closed Bypass Valve B	During accumulation time is high pass filtered accumulated air mass flow or boost pressure larger than thresholds Filter Frequency Filtered Air Mass Flow	0.30 Second < Accumulation time < 0.75 Second 7.20 Hz > 60.00 g/s	Diagnostic Enabled Engine Speed Pressure ratio over the compressor Relative Boost Pressure (Boost - Ambient) and Negative Transient in Manifold Air Pressure Bypass Valve Commanded Open No Active DTCs:	1 >= 1,500 rpm >KtBSTD_r_ExcvsBstPre sLim Enable condition kept true for 0.8 seconds extra See Tables in Supporting Tables Sheet IF (RelativeBoost < 5.0 kPa OR DerivativeMAP > 50.00 kPa/s) [FALSE] Else (RelativeBoost >= 15.0 kPa AND DerivativeMAP <= -150.00 kPa) [TRUE] > 6.0 percent Enable condition kept true for 0.50 seconds extra TC_BoostPresSnsrFAMA F_SensorFA BSTR_b_TurboByB_Ckt FA	2 Failed tests out of 3 Tests 1 sample every 25ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
High Pressure Start Diagnostic	P00C6	The DTC Diagnoses the high side fuel pressure during engine cranking.	The ECM detects that the fuel pressure is not rising or has fallen beyond acceptable limits during engine cranking	<p>Pressure Fall Test: High Side Fuel Rail Pressure <= Supporting Table KtFHPD_p_HPS_PressFallLoThrsh</p> <p>Pressure Rise Test: High Side Fuel Pressure < Supporting Table KtFHPC_p_HighPressStart</p>	<p>Low side feed fuel pressure</p> <p>Engine Run Time Run/Crank Voltage Engine Coolant</p> <p>For each engine start, only 1 diagnostic is performed. The pressure rise test will run if High side fuel pressure is less than KtFHPC_p_HighPressStart, otherwise, the pressure fall diagnostic will run The pressure fall runs when the engine is cranking.</p>	<p>>= 0 KPA</p> <p>< = 0 sec > 8 Volts -25 <= °C <= 85</p> <p>All must be true (High Pressure Pump is enabled and High Fuel pressure sensor ckt is Not (FA,FP or TFTKO) and High Pressure fuel pump ckt is Not (FA,FP or TFTKO) and Cam or Crank Sensor Not FA and IAT, IAT2 and ECT Not FA and Low side Fuel Pump Relay ckt Not FA and Estimate fuel rail pressure is valid and Green Engine (In assembly plant) is not enabled and Not if low fuel condition and Low side Fuel Pump is on and Injector Flow Test is not active and Device control commanded pressure is false and Device control pump ckt enabled on is false and Engine movement detected is true and Manufacturers enable</p>	<p>Pressure Fall Test: Injected cylinder events >= Supporting Table KtFHPD_Cnt_HPS_PressFallLoThrsh</p> <p>Pressure Rise Test: Time >= Supporting Table KtFHPC_t_HighPressStartTmout</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Barometric Pressure Inlet Air Temp	counter is 0) Flex Fuel Sensor Not FA Ignition voltage out of correlation error(P1682) not active >= 70.0 KPA >= -10.0 DegC		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Pressure Measurement System - Multiple Sensor Correlation (twin turbo)	P00C7	Detects an inconsistency between pressure sensors in the induction system in which a particular sensor cannot be identified as the failed sensor	<p>See table "P00C7 Twin Turbo Failure Matrix" for the malfunction criteria for this diagnostic.</p> <p>Certain failure combinations in this matrix will set other DTCs if the failures can be correlated to a single sensor.</p> <p>The definition of the column headings is as follows:</p> <p>"MAP & TCBP Diff" = Y if: ABS(Turbocharger Boost Pressure - Manifold Pressure)</p> <p>"MAP & Baro Diff" = Y if: ABS(Baro Pressure - Manifold Pressure)</p> <p>"MAP & Baro2 Diff" = Y if: ABS(Baro Pressure 2 - Manifold Pressure)</p> <p>"TCBP & Baro Diff" = Y if: ABS(Turbocharger Boost Pressure - Baro Pressure)</p> <p>"TCBP & Baro2 Diff" = Y if: ABS(Turbocharger Boost</p>	<p>> 10.0 kPa</p> <p>> 10.0 kPa</p> <p>> 10.0 kPa</p> <p>> 10.0 kPa</p>	<p>Time between current ignition cycle and the last time the engine was running</p> <p>Engine is not rotating</p> <p>Manifold Pressure Manifold Pressure Baro Pressure Baro Pressure Baro Pressure 2 Baro Pressure 2 Turbocharger Boost Pressure Turbocharger Boost Pressure</p> <p>No Active DTCs:</p> <p>No Pending DTCs:</p>	<p>> 10.0 seconds</p> <p>>= 50.0 kPa <= 115.0 kPa >= 50.0 kPa <= 115.0 kPa >= 50.0 kPa <= 115.0 kPa >= 50.0 kPa <= 115.0 kPa</p> <p>EngineModeNotRunTimer Error MAP_SnsrFA AAP_SnsrFA AAP2_SnsrFA AAP3_SnsrCktFA</p> <p>MAP_SensorCircuitFP AAP_SnsrCktFP AAP2_SnsrCktFP AAP3_SnsrCktFP</p>	<p>4 failures out of 5 samples</p> <p>1 sample every 12.5 msec</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Pressure - Baro Pressure 2) "Baro & Baro2 Diff" = Y if: ABS(Baro Pressure - Baro Pressure 2)	> 10.0 kPa > 10.0 kPa				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Press Regulator Solenoid Supply Voltage Control High Side Circuit Open	P00C8	The DTC Diagnoses the Fuel Press Regulator Solenoid Supply Voltage Control Circuit for circuit faults.	Voltage High during driver off state indicates open circuit	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Engine Speed Battery Voltage	>= 50 RPM >= 11 Volts Not in pump device control Enabled when a code clear is not active or not exiting device control	20 failures out of 40 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Press Regulator Solenoid Supply Voltage Control High Side Circuit Short to ground	P00C9	The DTC Diagnoses the Fuel Press Regulator Solenoid Supply Voltage Control Circuit for circuit faults.	Voltage low during driver on state indicates short to ground	Short to ground: ≤ 1.1 or 15 Amps selectable thershold based on High pressure Pump.	Engine Speed Battery Voltage	>= 50 RPM >= 11 Volts Not in pump device control Enabled when a code clear is not active or not exiting device control	20 failures out of 40 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Press Regulator Solenoid Supply Voltage Control High Side Circuit Short to power	P00CA	The DTC Diagnoses the Fuel Press Regulator Solenoid Supply Voltage Control Circuit for circuit faults.	Voltage high during driver off state indicates short to power	Short to Power: ≤ 0.1 Amps between signal and controller power	Engine Speed Battery Voltage	>= 50 RPM >= 11 Volts Not in pump device control Enabled when a code clear is not active or not exiting device control	20 failures out of 40 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.	
Intake Air Temperature Sensor 3 Circuit Performance (applications with humidity sensor and manifold temperature sensor)	P00E9	Detects an IAT3 sensor that has stuck in range by comparing to IAT and IAT2 at startup	ABS(Power Up IAT - Power Up IAT2)	<= 10 deg C	Time between current ignition cycle and the last time the engine was running	> 28,800 seconds	Executes once at the beginning of each ignition cycle if enable conditions are met	Type B, 2 Trips	
			AND						
			ABS(Power Up IAT - Power Up IAT3)	> 15 deg C	Powertrain Relay Voltage for a time	>= 11.00 Volts >= 0.9 seconds			
			AND		No Active DTCs:	PowertrainRelayFault ECT_Sensor_Ckt_FA IAT_SensorCircuitFA MnfdTempSensorCktFA HumTempSnsrCktFA			
			ABS(Power Up IAT2 - Power Up IAT3)	> 15 deg C					
			Power Up IAT is between Power Up IAT2 and Power Up IAT3		Time between current ignition cycle and the last time the engine was running	> 28,800 seconds	Executes once at the beginning of each ignition cycle if enable conditions are met		
			AND						
			ABS(Power Up IAT2 - Power Up IAT3)	> 15 Deg C	Powertrain Relay Voltage for a time	>= 11.00 Volts >= 0.9 seconds			
			AND		No Active DTCs:	PowertrainRelayFault ECT_Sensor_Ckt_FA IAT_SensorCircuitFA MnfdTempSensorCktFA HumTempSnsrCktFA			
			ABS(Power Up IAT - Power Up IAT3) > ABS(Power Up IAT - Power Up IAT2)						
			Power Up IAT2 is between Power Up IAT and Power Up IAT3		Time between current ignition cycle and the last time the engine was running	> 28,800 seconds	Executes once at the beginning of each ignition cycle if enable conditions are met		
			AND						
			ABS(Power Up IAT - Power Up IAT3)	> 15 deg C	Powertrain Relay Voltage for a time	>= 11.00 Volts >= 0.9 seconds			
			AND		No Active DTCs:	PowertrainRelayFault ECT_Sensor_Ckt_FA IAT_SensorCircuitFA MnfdTempSensorCktFA			
			ABS(Power Up IAT2 -						

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Power Up IAT3) > ABS(Power Up IAT2 - Power Up IAT)			HumTempSnsrCktFA		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Circuit 3 Low (applications with manifold temperature and humidity)	P00EA	Detects a continuous short to ground in the IAT 3 signal circuit or the IAT 3 sensor	Raw IAT 3 Input	< 58 Ohms (~150 deg C)	Engine Run Time	> 0.00 seconds	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Circuit 3 High (applications with manifold temperature and humidity)	P00EB	Detects a continuous open circuit in the IAT 3 signal circuit or the IAT 3 sensor	Raw IAT 3 Input	> 153,665 Ohms (~-60 deg C)	Engine Run Time	> 0.00 seconds	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor 3 Intermittent In-Range	P00EC	Detects a noisy or erratic IAT 3 signal circuit or IAT 3 sensor	String Length Where: "String Length" = sum of "Diff" calculated over And where: "Diff" = ABS(current IAT 3 reading - IAT 3 reading from 100 milliseconds previous)	> 80.00 DegC 10 consecutive IAT 3 samples	Continuous		4 failures out of 5 samples Each sample takes 1.0 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Humidity Sensor Circuit Low	P00F4	Detects a continuous short to power in the Humidity Sensor circuit	Humidity Duty Cycle	<= 5.0 %	Powertrain Relay Voltage for a time No Active DTCs:	>= 11.00 Volts >= 0.9 seconds PowertrainRelayFault	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Humidity Sensor Circuit High	P00F5	Detects a continuous open or short to low in the Humidity Sensor circuit	Humidity Duty Cycle	>= 95.0 %	Powertrain Relay Voltage for a time No Active DTCs:	>= 11.00 Volts >= 0.9 seconds PowertrainRelayFault	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Humidity Sensor Circuit Intermittent	P00F6	Detects a noisy or erratic humidity sensor input	String Length Where: "String Length" = sum of "Diff" calculated over And where: "Diff" = ABS(current Humidity reading - Humidity reading from 100 milliseconds previous)	> 80 % 10 consecutive Humidity samples	Powertrain Relay Voltage for a time No Active DTCs:	>= 11.00 Volts >= 0.9 seconds PowertrainRelayFault	4 failures out of 5 samples Each sample takes 1.00 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Mass Air Flow System Performance (twin turbo)	P0101	Determines if the MAF sensor is stuck within the normal operating range	See table " Turbocharger Intake Flow Rationality Diagnostic Failure Matrix " for combinations of model failures that can set this DTC. MAF1 model fails when ABS(Measured MAF1 Flow – Modeled MAF1 Flow) Filtered MAP1 model fails when ABS(Measured MAP – MAP Model 1) Filtered MAP2 model fails when ABS(Measured MAP – MAP Model 2) Filtered MAP3 model fails when ABS(Measured MAP – MAP Model 3) Filtered TIAP1 model fails when ABS(Measured TIAP – TIAP Model 1) Filtered TPS model fails when Filtered Throttle Model Error TIAP Correlation model fails when High Engine Air Flow is TRUE AND Measured TIAP - measured MAP - offset as a function of	> 25.0 grams/sec > 25.0 kPa > 25.0 kPa > 25.0 kPa > 30.0 kPa > 350 kPa*(g/s)	Engine Speed Engine Speed Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Minimum total weight factor (all factors multiplied together)	>= 425 RPM <= 6,500 RPM > -7 Deg C < 126 Deg C > -20 Deg C < 125 Deg C >= 0.50 Modeled MAF1 Model Error multiplied by MAF1 Residual Weight Factor based on RPM and MAF1 Residual Weight Factor based on MAF Est MAP Model 1 Error multiplied by MAP1 Residual Weight Factor based on RPM MAP Model 2 Error multiplied by MAP2 Residual Weight Factor based on RPM MAP Model 3 Error multiplied by MAP3 Residual Weight Factor based on RPM TIAP Model 1 Error multiplied by TIAP Residual Weight Factor based on RPM Filtered Throttle Model Error multiplied by TPS Residual Weight Factor	Continuous Calculation are performed every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>engine speed See table "TIAP-MAP Correlation Offset"</p> <p>OR</p> <p>Low Engine Air Flow is TRUE AND Measured TIAP - measured Baro - offset as a function of engine speed See table "TIAP-Baro Correlation Offset"</p> <p>TIAP Correlation is valid when High Engine Air Flow has been TRUE for a period of time OR Low Engine Air Flow has been TRUE for a period of time</p> <p>High Engine Air Flow is TRUE when Mass Air Flow</p> <p>AND Manifold Pressure</p>	<p>> 30.0 kPa</p> <p>> 30.0 kPa</p> <p>> 1.5 seconds</p> <p>> 1.5 seconds</p> <p>> a threshold in gm/sec as a function of engine speed See table "TIAP-MAP Correlation Min Air Flow"</p> <p>> a threshold in kPa as a function of engine speed See table "TIAP-MAP Correlation Min MAP"</p>	<p>No Active DTCs:</p> <p>No Pending DTCs:</p>	<p>based on RPM</p> <p>See Residual Weight Factor tables.</p> <p>MAP_SensorCircuitFA EGRValvePerformance_F A MAF_SensorCircuitFA CrankSensor_FA ECT_Sensor_FA IAT_SensorFA MnfdTempSensorFA TC_BoostPresSnrCktFA AmbientAirDefault</p> <p>EGRValve_FP ECT_Sensor_Ckt_FP IAT_SensorCircuitFP MnfdTempSensorCktFP</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			AND Filtered Mass Air Flow - Mass Air Flow Low Engine Air Flow is TRUE when Mass Air Flow AND Manifold Pressure AND Mass Air Flow - Filtered Mass Air Flow	< 2.0 gm/sec < a threshold in gm/sec as a function of engine speed See table " TIAP-Baro Correlation Max Air Flow " < a threshold in kPa as a function of engine speed See table " TIAP-Baro Correlation Max MAP " < 2.0 gm/sec				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Mass Air Flow Sensor Circuit Low Frequency	P0102	Detects a continuous short to low or a open in either the signal circuit or the MAF sensor	MAF Output	<= 400 Hertz (~ 0.49 gm/sec)	Engine Run Time Engine Speed Ignition Voltage Above criteria present for a period of time	> 0.0 seconds >= 300 RPM >= 10.0 Volts >= 1.0 seconds	300 failures out of 375 samples 1 sample every cylinder firing event	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Mass Air Flow Sensor Circuit High Frequency	P0103	Detects a high frequency output from the MAF sensor	MAF Output	>= 14,500 Hertz (~ 458.4 gm/sec)	Engine Run Time Engine Speed Ignition Voltage Above criteria present for a period of time	> 0.0 seconds >= 300 RPM >= 10.0 Volts >= 1.0 seconds	300 failures out of 375 samples 1 sample every cylinder firing event	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Manifold Absolute Pressure Sensor Performance (twin turbo)	P0106	Determines if the MAP sensor is stuck within the normal operating range	See table " Turbocharger Intake Flow Rationality Diagnostic Failure Matrix " for combinations of model failures that can set this DTC. MAF1 model fails when ABS(Measured MAF1 Flow – Modeled MAF1 Flow) Filtered MAF2 model fails when ABS(Measured MAF2 Flow – Modeled MAF2 Flow) Filtered MAP1 model fails when ABS(Measured MAP – MAP Model 1) Filtered MAP2 model fails when ABS(Measured MAP – MAP Model 2) Filtered MAP3 model fails when ABS(Measured MAP – MAP Model 3) Filtered TIAP1 model fails when ABS(Measured TIAP – TIAP Model 1) Filtered TPS model fails when Filtered Throttle Model Error TIAP Correlation model fails when High Engine Air Flow is TRUE	> 25.0 grams/sec > 25.0 grams/sec > 25.0 kPa > 25.0 kPa > 25.0 kPa > 30.0 kPa > 350 kPa*(g/s)	Engine Speed Engine Speed Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Minimum total weight factor (all factors multiplied together)	>= 425 RPM <= 6,500 RPM > -7 Deg C < 126 Deg C > -20 Deg C < 125 Deg C >= 0.50 Modeled MAF1 Model Error multiplied by MAF1 Residual Weight Factor based on RPM and MAF1 Residual Weight Factor based on MAF Est Modeled MAF2 Model Error multiplied by MAF2 Residual Weight Factor based on RPM and MAF2 Residual Weight Factor based on MAF Est MAP Model 1 Error multiplied by MAP1 Residual Weight Factor based on RPM MAP Model 2 Error multiplied by MAP2 Residual Weight Factor based on RPM MAP Model 3 Error multiplied by MAP3 Residual Weight Factor based on RPM TIAP Model 1 Error	Continuous Calculation are performed every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>AND Measured TIAP - measured MAP - offset as a function of engine speed See table "TIAP-MAP Correlation Offset"</p> <p>OR</p> <p>Low Engine Air Flow is TRUE AND Measured TIAP - measured Baro - offset as a function of engine speed See table "TIAP-Baro Correlation Offset"</p> <p>TIAP Correlation is valid when</p> <p>High Engine Air Flow has been TRUE for a period of time OR Low Engine Air Flow has been TRUE for a period of time</p> <p>High Engine Air Flow is TRUE when Mass Air Flow</p> <p>AND Manifold Pressure</p>	<p>> 30.0 kPa</p> <p>> 30.0 kPa</p> <p>> 1.5 seconds</p> <p>> 1.5 seconds</p> <p>> a threshold in gm/sec as a function of engine speed See table "TIAP-MAP Correlation Min Air Flow"</p> <p>> a threshold in kPa as a function of</p>	<p>No Active DTCs:</p> <p>No Pending DTCs:</p>	<p>multiplied by TIAP Residual Weight Factor based on RPM</p> <p>Filtered Throttle Model Error multiplied by TPS Residual Weight Factor based on RPM</p> <p>See Residual Weight Factor tables.</p> <p>MAP_SensorCircuitFA EGRValvePerformance_F A MAF_SensorCircuitFA CrankSensor_FA ECT_Sensor_FA IAT_SensorFA MnfdTempSensorFA TC_BoostPresSnsrCktFA AmbientAirDefault</p> <p>EGRValve_FP ECT_Sensor_Ckt_FP IAT_SensorCircuitFP MnfdTempSensorCktFP</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			AND Filtered Mass Air Flow - Mass Air Flow	engine speed See table " TIAP-MAP Correlation Min MAP " < 2.0 gm/sec				
			Low Engine Air Flow is TRUE when Mass Air Flow	< a threshold in gm/sec as a function of engine speed See table " TIAP-Baro Correlation Max Air Flow "				
			AND Manifold Pressure	< a threshold in kPa as a function of engine speed See table " TIAP-Baro Correlation Max MAP "				
			AND Mass Air Flow - Filtered Mass Air Flow	< 2.0 gm/sec				
			Manifold Pressure OR Manifold Pressure	< 50.0 kPa > 115.0 kPa	Time between current ignition cycle and the last time the engine was running	> 10.0 seconds	4 failures out of 5 samples 1 sample every 12.5 msec	
			OR ABS(Manifold Pressure - Turbocharger Boost Pressure) AND ABS(Manifold Pressure - Baro Pressure) AND ABS(Manifold Pressure - Baro Pressure 2) AND	> 10.0 kPa > 10.0 kPa > 10.0 kPa	Engine is not rotating No Active DTCs:	EngineModeNotRunTimer Error MAP_SensorCircuitFA AAP_SnsrCktFA AAP2_SnsrCktFA AAP3_SnsrCktFA		
					No Pending DTCs:	MAP_SensorCircuitFP AAP_SnsrCktFP		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			ABS(Turbocharger Boost Pressure - Baro Pressure) AND ABS(Turbocharger Boost Pressure - Baro Pressure 2) AND ABS(Baro Pressure - Baro Pressure2)	<= 10.0 kPa <= 10.0 kPa <= 10.0 kPa		AAP2_SnsrCktFP AAP3_SnsrCktFP		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Manifold Absolute Pressure Sensor Circuit Low	P0107	Detects a continuous short to low or open in either the signal circuit or the MAP sensor.	MAP Voltage	< 3.3% of 5 Volt Range (This is equal to 0.17 Volts or 0.0 kPa)	Continuous		320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Manifold Absolute Pressure Sensor Circuit High	P0108	Detects an open sensor ground or continuous short to high in either the signal circuit or the MAP sensor.	MAP Voltage	> 84.0 % of 5 Volt Range (This is equal to 4.20 Volts, or 363.0 kPa)	Continuous		320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Mass or Volume Air Flow B Circuit Range/ Performance	P010B	Determines if the MAF sensor B is stuck within the normal operating range	See table " Turbocharger Intake Flow Rationality Diagnostic Failure Matrix " for combinations of model failures that can set this DTC. MAF2 model fails when ABS(Measured MAF2 Flow – Modeled MAF2 Flow) Filtered MAP1 model fails when ABS(Measured MAP – MAP Model 1) Filtered MAP2 model fails when ABS(Measured MAP – MAP Model 2) Filtered MAP3 model fails when ABS(Measured MAP – MAP Model 3) Filtered TIAP1 model fails when ABS(Measured TIAP – TIAP Model 1) Filtered TPS model fails when Filtered Throttle Model Error TIAP Correlation model fails when High Engine Air Flow is TRUE AND Measured TIAP - measured MAP - offset as a function of	> 25.0 grams/sec > 25.0 kPa > 25.0 kPa > 25.0 kPa > 30.0 kPa > 350 kPa*(g/s)	Engine Speed Engine Speed Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Minimum total weight factor (all factors multiplied together)	>= 425 RPM <= 6,500 RPM > -7 Deg C < 126 Deg C > -20 Deg C < 125 Deg C >= 0.50 Modeled MAF2 Model Error multiplied by MAF2 Residual Weight Factor based on RPM and MAF2 Residual Weight Factor based on MAF Est MAP Model 1 Error multiplied by MAP1 Residual Weight Factor based on RPM MAP Model 2 Error multiplied by MAP2 Residual Weight Factor based on RPM MAP Model 3 Error multiplied by MAP3 Residual Weight Factor based on RPM TIAP Model 1 Error multiplied by TIAP Residual Weight Factor based on RPM Filtered Throttle Model Error multiplied by TPS Residual Weight Factor	Continuous Calculation are performed every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>engine speed See table "TIAP-MAP Correlation Offset"</p> <p>OR</p> <p>Low Engine Air Flow is TRUE AND Measured TIAP - measured Baro - offset as a function of engine speed See table "TIAP-Baro Correlation Offset"</p> <p>TIAP Correlation is valid when High Engine Air Flow has been TRUE for a period of time OR Low Engine Air Flow has been TRUE for a period of time</p> <p>High Engine Air Flow is TRUE when Mass Air Flow</p> <p>AND Manifold Pressure</p>	<p>> 30.0 kPa</p> <p>> 30.0 kPa</p> <p>> 1.5 seconds</p> <p>> 1.5 seconds</p> <p>> a threshold in gm/sec as a function of engine speed See table "TIAP-MAP Correlation Min Air Flow"</p> <p>> a threshold in kPa as a function of engine speed See table "TIAP-MAP Correlation Min MAP"</p>	<p>No Active DTCs:</p> <p>No Pending DTCs:</p>	<p>based on RPM</p> <p>See Residual Weight Factor tables.</p> <p>MAP_SensorCircuitFA EGRValvePerformance_F A MAF_SensorCircuitFA CrankSensor_FA ECT_Sensor_FA IAT_SensorFA MnfdTempSensorFA TC_BoostPresSnsrCktFA AmbientAirDefault</p> <p>EGRValve_FP ECT_Sensor_Ckt_FP IAT_SensorCircuitFP MnfdTempSensorCktFP</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			AND Filtered Mass Air Flow - Mass Air Flow Low Engine Air Flow is TRUE when Mass Air Flow AND Manifold Pressure AND Mass Air Flow - Filtered Mass Air Flow	< 2.0 gm/sec < a threshold in gm/sec as a function of engine speed See table " TIAP-Baro Correlation Max Air Flow " < a threshold in kPa as a function of engine speed See table " TIAP-Baro Correlation Max MAP " < 2.0 gm/sec				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Mass Air Flow B Sensor Circuit Low Frequency	P010C	Detects a continuous short to low or a open in either the signal circuit or the MAF sensor B	MAF B Output	<= 400 Hertz (~ 0.42 gm/sec)	Engine Run Time Engine Speed Ignition Voltage Above criteria present for a period of time	> 0.0 seconds >= 300 RPM >= 10.0 Volts >= 1.0 seconds	300 failures out of 375 samples 1 sample every cylinder firing event	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Mass Air Flow B Sensor Circuit High Frequency	P010D	Detects a high frequency output from the MAF sensor B	MAF B Output	>= 14,500 Hertz (~ 418.4 gm/sec)	Engine Run Time Engine Speed Ignition Voltage Above criteria present for a period of time	> 0.0 seconds >= 300 RPM >= 10.0 Volts >= 1.0 seconds	300 failures out of 375 samples 1 sample every cylinder firing event	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Circuit Performance (applications with humidity sensor, but no manifold temperature sensor)	P0111	Detects an IAT sensor that has stuck in range by comparing to IAT2 and engine coolant temperature at startup	ABS(Power Up IAT - Power Up IAT2) AND ABS(Power Up ECT – Power Up IAT) > ABS(Power Up ECT – Power Up IAT2)	> 10 deg C	Time between current ignition cycle and the last time the engine was running Powertrain Relay Voltage for a time No Active DTCs:	> 28,800 seconds >= 11.00 Volts >= 0.9 seconds PowertrainRelayFault ECT_Sensor_Ckt_FA IAT_SensorCircuitFA HumTempSnsrCktFA	Executes once at the beginning of each ignition cycle if enable conditions are met	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Circuit Low	P0112	Detects a continuous short to ground in the IAT signal circuit or the IAT sensor	Raw IAT Input	< 58 Ohms (~150 deg C)	Engine Run Time	> 0.00 seconds	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Circuit High	P0113	Detects a continuous open circuit in the IAT signal circuit or the IAT sensor	Raw IAT Input	> 142,438 Ohms (~-60 deg C)	Engine Run Time	> 0.00 seconds	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor Intermittent In-Range	P0114	Detects a noisy or erratic IAT signal circuit or IAT sensor	String Length Where: "String Length" = sum of "Diff" calculated over And where: "Diff" = ABS(current IAT reading - IAT reading from 100 milliseconds previous)	> 80.00 DegC 10 consecutive IAT samples	Continuous		4 failures out of 5 samples Each sample takes 1.0 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Engine Coolant Temperature (ECT) Sensor Performance	P0116	This DTC detects ECT temp sensor stuck in mid range.	<p>A failure will be reported if any of the following (1-3) occur after the following soak conditions, Engine off time > 28,800 seconds Propulsion system off time > 0 seconds</p> <p>1) ECT at power up > IAT at power up by an IAT based table lookup value (fast fail).</p> <p>2) ECT at power up > IAT at power up by 15.0 Deg C and a block heater has not been detected.</p> <p>3) ECT at power up > IAT at power up by 15.0 Deg C and the time spent cranking the engine without starting is greater than 10.0 seconds with the LowFuelConditionDiag</p>	<p>See the table named: P0116_Fail if power up ECT exceeds IAT by these values in the Supporting tables section</p> <p>= False</p>	<p>No Active DTC's</p> <p>Non-volatile memory initialization</p> <p>Test complete this trip Test aborted this trip IAT LowFuelCondition Diag</p> <p>===== Block Heater detection is enabled when either of the following occurs:</p> <p>1) ECT at power up > IAT at power up by</p> <p>2) Cranking time</p> <p>===== Block Heater is detected and diagnostic is aborted when 1) or 2) occurs:</p> <p>1a) Vehicle drive time</p> <p>1b) Vehicle speed</p> <p>1c) Additional Vehicle drive time is provided to 1a when Vehicle speed is below 1b as follows:</p> <p>1d) IAT drops from power up IAT</p>	<p>VehicleSpeedSensor_FA IAT_SensorFA ECT_Sensor_Ckt_FA IgnitionOffTimeValid</p> <p>= Not occurred</p> <p>= False = False ≥ -7 °C</p> <p>= False</p> <p>===== > 15.0 °C</p> <p>< 10.0 seconds</p> <p>===== > 400 seconds</p> <p>> 14.9 MPH</p> <p>0.50 times the seconds with vehicle speed below 1b</p> <p>≥ 5.3 °C</p>	<p>1 failure</p> <p>500 msec/ sample</p> <p>Once per valid cold start</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					2a) ECT drops from power up ECT 2b) Engine run time ===== Diagnostic is aborted when 3) or 4) occurs: 3) Engine run time with vehicle speed below 1b 4) Minimum IAT during test	$\geq 5^{\circ}\text{C}$ Within ≤ 60 seconds ===== > 1800 seconds $\leq -7^{\circ}\text{C}$		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Engine Coolant Temp Sensor Circuit Low	P0117	Circuit Continuity This DTC detects a short to ground in the ECT signal circuit or the ECT sensor.	ECT Resistance (@ 150°C)	< 46 Ohms			5 failures out of 6 samples 1 sec/ sample Continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Engine Coolant Temp Sensor Circuit High	P0118	Circuit Continuity This DTC detects a short to high or open in the ECT signal circuit or the ECT sensor.	ECT Resistance (@ -60°C)	> 419,000 Ohms	Engine run time OR IAT min	> 10.0 seconds ≥ -7.0 °C	5 failures out of 6 samples 1 sec/ sample Continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Engine Coolant Temperature (ECT) Sensor Circuit Intermittent	P0119	Circuit Continuity This DTC detects large step changes in the ECT signal circuit or the ECT sensor. Allowable high and low limits are calculated for the next sample based on the previous sample.	ECT temperature step change: 1) positive step change is greater than calculated high limit OR 2) negative step change is lower than calculated low limit. The calculated high and low limits for the next reading use the following calibrations: 1) Sensor time constant 2) Sensor low limit 3) Sensor high limit *****Generic Example***** If the last ECT reading was 90 Deg C, the Time constant was calibrated at 10 seconds, the low limit was calibrated to -80 Deg C and the high limit was calibrated to 200 Deg C the caluculated limits are 101 Deg C and 73 Deg C. The next reading (after the 90 Deg C reading) must be between 73 Deg C and 101 Deg C to be valid.	10.0 seconds -65.0 Deg C 200.0 Deg C	No Active DTC's	ECT_Sensor_Ckt_FP	3 failures out of 4 samples 1 sec/ sample Continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Throttle Position Sensor Performance (twin turbo)	P0121	Determines if the Throttle Position Sensor input is stuck within the normal operating range	See table " Turbocharger Intake Flow Rationality Diagnostic Failure Matrix " for combinations of model failures that can set this DTC. MAF1 model fails when ABS(Measured MAF1 Flow – Modeled MAF1 Flow) Filtered MAF2 model fails when ABS(Measured MAF2 Flow – Modeled MAF2 Flow) Filtered MAP1 model fails when ABS(Measured MAP – MAP Model 1) Filtered MAP2 model fails when ABS(Measured MAP – MAP Model 2) Filtered MAP3 model fails when ABS(Measured MAP – MAP Model 3) Filtered TIAP1 model fails when ABS(Measured TIAP – TIAP Model 1) Filtered TPS model fails when Filtered Throttle Model Error TIAP Correlation model fails when High Engine Air Flow is	> 25.0 grams/sec > 25.0 grams/sec > 25.0 kPa > 25.0 kPa > 25.0 kPa > 30.0 kPa > 350 kPa*(g/s)	Engine Speed Engine Speed Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Minimum total weight factor (all factors multiplied together)	>= 425 RPM <= 6,500 RPM > -7 Deg C < 126 Deg C > -20 Deg C < 125 Deg C >= 0.50 Modeled MAF1 Model Error multiplied by MAF1 Residual Weight Factor based on RPM and MAF1 Residual Weight Factor based on MAF Est Modeled MAF2 Model Error multiplied by MAF2 Residual Weight Factor based on RPM and MAF2 Residual Weight Factor based on MAF Est MAP Model 1 Error multiplied by MAP1 Residual Weight Factor based on RPM MAP Model 2 Error multiplied by MAP2 Residual Weight Factor based on RPM MAP Model 3 Error multiplied by MAP3 Residual Weight Factor based on RPM	Continuous Calculation are performed every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>TRUE AND Measured TIAP - measured MAP - offset as a function of engine speed See table "TIAP-MAP Correlation Offset"</p> <p>OR</p> <p>Low Engine Air Flow is TRUE AND Measured TIAP - measured Baro - offset as a function of engine speed See table "TIAP-Baro Correlation Offset"</p> <p>TIAP Correlation is valid when High Engine Air Flow has been TRUE for a period of time OR Low Engine Air Flow has been TRUE for a period of time</p> <p>High Engine Air Flow is TRUE when Mass Air Flow</p> <p>AND Manifold Pressure</p>	<p>> 30.0 kPa</p> <p>> 30.0 kPa</p> <p>> 1.5 seconds</p> <p>> 1.5 seconds</p> <p>> a threshold in gm sec as a function of engine speed See table "TIAP-MAP Correlation Min Air Flow"</p> <p>> a threshold in kPa as a function of engine speed See table "TIAP-MAP</p>	<p>No Active DTCs:</p> <p>No Pending DTCs:</p>	<p>TIAP Model 1 Error multiplied by TIAP Residual Weight Factor based on RPM</p> <p>Filtered Throttle Model Error multiplied by TPS Residual Weight Factor based on RPM</p> <p>See Residual Weight Factor tables.</p> <p>MAP_SensorCircuitFA EGRValvePerformance_F A MAF_SensorCircuitFA CrankSensor_FA ECT_Sensor_FA IAT_SensorFA MnfdTempSensorFA TC_BoostPresSnsrCktFA AmbientAirDefault</p> <p>EGRValve_FP ECT_Sensor_Ckt_FP IAT_SensorCircuitFP MnfdTempSensorCktFP</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			AND Filtered Mass Air Flow - Mass Air Flow Low Engine Air Flow is TRUE when Mass Air Flow AND Manifold Pressure AND Mass Air Flow - Filtered Mass Air Flow	Correlation Min MAP" < 2.0 gm/sec < a threshold in gm sec as a function of engine speed See table "TIAP-Baro Correlation Max Air Flow" < a threshold in kPa as a function of engine speed See table "TIAP-Baro Correlation Max MAP"				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
TPS1 Circuit Low	P0122	Detects a continuous or intermittent short or open in TPS1 circuit	TPS1 Voltage <	0.3250		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P06A3)	79 / 159 counts; 57 counts continuous; 3.125 ms /count in the ECM main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
TPS1 Circuit High	P0123	Detects a continuous or intermittent short or open in TPS1 circuit	TPS1 Voltage >	4.750		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P06A3)	79 / 159 counts; 57 counts continuous; 3.125 ms /count in the ECM main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Engine Coolant Temperature Below Stat Regulating Temperature) (energy based "Deluxe" method	P0128	This DTC detects if the engine coolant temperature rises too slowly due to an ECT or Cooling system fault	<p>Energy is accumulated after the first combustion event using Range #1 or #2 below:</p> <p>Thermostat type is divided into normal (non-heated) and electrically heated.</p> <p>For this application the "type" cal (KeTHMG_b_TMS_ElectHstEquipped) = 0 If the type cal is equal to one, the application has an electrically heated t-stat, if equal to zero the the application has a non heated t-stat. See appropriate section below.</p> <p>***** Type cal above = 1 (Electrically heated t-stat) == == == == Range #1 (Primary) ECT reaches Commanded temperature minus 11 °C when Ambient min is ≤ 52 °C and > 10 °C. Note: Warm up target for range #1 will be at least 64 °C == == == == Range #2 (Alternate) ECT reaches Commanded temperature minus 31 °C when Ambient min is ≤ 10 °C and > -7 °C. Note: Warm up target for range #2 will be at least</p>	<p>See the two tables named: P0128_Maximum Accumulated Energy for Start-up ECT conditions - Primary and P0128_Maximum Accumulated Energy for Start-up ECT conditions - Alternate in the Supporting tables section.</p> <p>This diagnostic models the net energy into and out of the cooling</p>	<p>No Active DTC's</p> <p>Engine not run time (soaking time before current trip)</p> <p>Engine run time</p> <p>Fuel Condition</p> <p>Distance traveled</p> <p>***** If Engine RPM is continuously greater than for this time period</p> <p>The diagnostic test for this key cycle will abort *****</p> <p>***** If T-Stat Heater commanded duty cycle for this time period</p> <p>The diagnostic test for this</p>	<p>ECT_Sensor_Ckt_FA ECT_Sensor_Perf_FA VehicleSpeedSensor_FA OAT_PtEstFiltFA IAT_SensorCircuitFA MAF_SensorFA THMR_AWP_AuxPumpFA THMR_AHV_FA THMR_SWP_Control_FA THMR_SWP_NoFlow_FA THMR_SWP_FlowStuckOn_FA ETQR_IndTorqInaccurate</p> <p>≥ 1,800 seconds</p> <p>120 ≤ Eng Run Tme ≤ 1,450 seconds</p> <p>Ethanol ≤ 87 %</p> <p>≥ 2.40 km</p> <p>*****</p> <p>9,999 rpm 5.0 seconds</p> <p>*****</p> <p>*****</p> <p>> 20.0 % duty cycle > 5.0 seconds</p>	<p>1 failure to set DTC</p> <p>1 sec/ sample</p> <p>Once per ignition key cycle</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			55 °C ***** Type cal above = 0 (non - heated t-stat) == == == == Range #1 (Primary) ECT reaches 71 °C when Ambient min is ≤ 52 °C and > 10 °C. == == == == Range #2 (Alternate) ECT reaches 55 °C when Ambient min is ≤ 10 °C and > -7 °C. *****	system during the warm-up process. The five energy terms are: heat from combustion, heat from after-run, heat loss to enviroment, heat loss to cabin and heat loss to DFCO.	key cycle will abort ***** ECT at start run	***** -60 ≤ ECT ≤ 66 °C		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit Low Voltage Bank 1 Sensor 1	P0131	This DTC determines if the O2 sensor circuit is shorted to low.	Oxygen Sensor Signal	< 40.0 mVolts	No Active DTC's AIR intrusive test Fuel intrusive test Idle intrusive test EGR intrusive test System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Equivalence Ratio Air Per Cylinder Fuel Control State Closed Loop Active All Fuel Injectors for active Cylinders Fuel Condition Fuel State All of the above met for	TPS_ThrottleAuthorityDefaulted MAP_SensorFA AIR_System FA Ethanol Composition Sensor FA EvapPurgeSolenoidCircuit_FA EvapFlowDuringNonPurge_FA EvapVentSolenoidCircuit_FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnsrCkt_FA FuelInjectorCircuit_FA = Not active = Not active = Not active = Not active 10.0 < Volts = Not active = Not active = Not active = Not active = False 0.9805 < ratio < 1.0996 50 < mgram < 500 = Closed Loop = TRUE Enabled (On) Ethanol ≤ 87 % DFCO not active > 5.0 seconds	380 failures out of 475 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit High Voltage Bank 1 Sensor 1	P0132	This DTC determines if the O2 sensor circuit is shorted to high.	Oxygen Sensor Signal	> 1,050 mvolts	No Active DTC's System Voltage AFM Status Heater Warm-up delay Engine Run Time Engine Run Accum Low Fuel Condition Diag Learned Htr resistance Initial delay after Open Test Criteria met (cold start condition) Initial delay after Open Test Criteria met (not cold start condition) Equivalence Ratio All of the above met for	TPS_ThrottleAuthority Defaulted MAF_SensorFA MAP_SensorFA ExcessPurgePsbl_FA FuelInjectorCircuit_FA EthanolCompositionSens or_FA AIR System FA 10.0 < Volts = All Cylinders active = Complete > 5.0 seconds > 30.0 seconds = False = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") > 150.0 seconds when engine soak time > 28,800 seconds > 150.0 seconds when engine soak time ≤ 28,800 seconds 0.9805 ≤ ratio ≤ 1.0996 > 3.0 seconds	70 failures out of 88 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Slow Response Bank 1 Sensor 1) (For use with ESPD	P0133	This DTC determines if the O2 sensor response time is degraded.	Fault condition present when the average response time is calculated over the test time, and compared to the threshold. OR Slope Time L/R Switches OR Slope Time R/L Switches	Refer to P0133_O2S Slow Response Bank 1 Sensor 1 "Pass/Fail Threshold table" in the Supporting Tables tab < 3 < 3 The test averages the signal response time over 60.0 seconds when the signal is transitioning between 325 mvolts and 575 mvolts. An average rich to lean time and lean to rich time are each calculated separately.	No Active DTC's Bank 1 Sensor 1 DTC's not active System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Green O2S Condition	TPS_ThrottleAuthorityDefault MAP_SensorFA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault MAF_SensorFA EvapPurgeSolenoidCircuit_FA EvapFlowDuringNonPurge_FA EvapVentSolenoidCircuit_FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnrCkt_FA FuelInjectorCircuit_FA AIR System FA EthanolCompositionSensor_FA EngineMisfireDetected_FA P0131, P0132, P0134 10.0 < Volts = Not active = Not active = Not active = Not active = Not active = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S1, B2S1 (if applicable)	Sample time is 60 seconds Frequency: Once per trip	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					O2 Heater on for Learned Htr resistance Engine Coolant IAT Engine run Accum Time since any AFM status change Time since Purge On to Off change Time since Purge Off to On change Engine airflow Engine speed Fuel Condition Baro Air Per Cylinder Fuel Control State Closed Loop Active LTM fuel cell Transient Fuel Mass Baro Fuel Control State Fuel State Commanded Proportional Gain ===== All of the above met for	in Supporting Tables tab. ≥ 60 seconds = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") > 54 °C > -40 °C > 30 seconds > 0.0 seconds > 4.0 seconds > 4.0 seconds 15 ≤ grams/second ≤ 43 1,000 ≤ RPM ≤ 3,000 < 87 % Ethanol > 70 kpa ≥ 125 mGrams = Closed Loop = TRUE = Enabled ≤ 100.0 mgrams = Not Defaulted not = Power Enrichment DFCO not active ≥ 0.0 % ===== > 2.0 seconds		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Performance Bank 1 Sensor 1	P0135	This DTC determines if the O2 sensor heater is functioning properly by monitoring the current through the heater circuit.	Heater Current outside of the expected range of	0.3 < Amps < 1.2	No Active DTC's System Voltage Heater Warm-up delay O2S Heater device control B1S1 O2S Heater Duty Cycle All of the above met for	ECT_Sensor_FA 10.0 < Volts = Complete = Not active > zero > 120 seconds	8 failures out of 10 samples Frequency: 2 tests per trip 10 seconds delay between tests and 1 second execution rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit Low Voltage Bank 1 Sensor 2) (For Dual Bank Exhaust Only	P0137	This DTC determines if the O2 sensor circuit is shorted to low.	Oxygen Sensor Signal	< 50 mvolts	No Active DTC's AIR intrusive test Fuel intrusive test Idle intrusive test EGR intrusive test System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Equivalence Ratio Air Per Cylinder Fuel Control State Closed Loop Active All Fuel Injectors for active Cylinders Fuel Condition Fuel State All of the above met for	TPS_ThrottleAuthorityDef aultedMAP_SensorFAAIR System FAEthanol Composition Sensor FAEvapPurgeSolenoidCir cuit_FAEvapFlowDuringN onPurge_FAEvapVentSol enoidCircuit_FAEvapSmal lLeak_FAEvapEmissionSy stem_FAFuelTankPressur eSnsrCkt_FAFuelInjector Circuit_FA = Not active = Not active = Not active = Not active 10.0 < Volts = Not active = Not active = Not active = Not active = False 0.9805 ≤ ratio ≤ 1.0996 50 ≤ mgrams ≤ 500 = Closed Loop = TRUE Enabled (On) Ethanol <= 87 % DFCO not active > 5.0 seconds	430 failures out of 540 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit High Voltage Bank 1 Sensor 2) (For Dual Bank Exhaust Only	P0138	This DTC determines if the O2 sensor circuit is shorted to high.	Oxygen Sensor Signal	> 1,050 mvolts	No Active DTC's System Voltage AFM Status Heater Warm-up delay Engine Run Time Engine Run Accum Low Fuel Condition Diag Learned Htr resistance Initial delay after Open Test Criteria met (cold start condition) Initial delay after Open Test Criteria met (not cold start condition) Equivalence Ratio Fuel Control State All of the above met for	TPS_ThrottleAuthorityDef aulted MAF_SensorFA MAP_SensorFA ExcessPurgePsbl_FA FuelInjectorCircuit_FA EthanolCompositionSens or_FA AIR System_FA 10.0 < Volts = All Cylinders active = Complete > 5.0 seconds > 30.0 seconds = False = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") > 150.0 seconds when engine soak time > 28,800 seconds > 150.0 seconds when engine soak time ≤ 28,800 seconds 0.9805 ≤ ratio ≤ 1.0996 not = Power Enrichment > 3.0 seconds	100 failures out of 125 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Slow Response Rich to Lean Bank 1 Sensor 2	P013A	This DTC determines if the post catalyst O2 sensor has Slow Response in a predefined Rich to Lean voltages range during Rich to Lean transition. The diagnostic is an intrusive test which runs in a DFCO mode to achieve the required response.	The EWMA of the Post O2 sensor normalized integral value OR The Accumulated mass air flow monitored during the Slow Response Test (between the upper and lower voltage thresholds)	> 8.0 units > 20.0 grams (upper voltage threshold is 450 mvolts and lower voltage threshold is 150 mvolts)	No Active DTC's B1S2 DTC's Not Active this key cycle System Voltage Learned heater resistance ICAT MAT Burnoff delay Green O2S Condition Low Fuel Condition Diag Post fuel cell (Decel) Crankshaft Torque	TPS_ThrottleAuthorityDefault ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013B, P013E, P013F, P2270 or P2271 10.0 < Volts = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") = Not Valid = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 (if applicable) in Supporting Tables tab. = False = enabled < 100.0 Nm	Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_RapidResponseActive = TRUE, multiple tests per trip are allowed.	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					DTC's Passed ===== After above conditions are met: DFCO mode is continued (wo driver initiated pedal input).	P2270 (and P2272 if applicable) P013E (and P014A if applicable) =====		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Slow Response Lean to Rich Bank 1 Sensor 2	P013B	This DTC determines if the post catalyst O2 sensor has Slow Response in a predefined Lean to Rich voltages range during Lean to Rich transition. The diagnostic is an intrusive test which increases the delivered A/F ratio to achieve the required rich threshold.	The EWMA of the Post O2 sensor normalized integral value OR The Accumulated mass air flow monitored during the Slow Response Test (between the upper and lower voltage thresholds)	> 8.0 units > 75 grams (lower voltage threshold is 350 mvolts and upper voltage threshold is 600 mvolts)	No Active DTC's B1S2 DTC's Not Active this key cycle System Voltage Learned heater resistance ICAT MAT Burnoff delay Green O2S Condition Green Cat System Condition	TPS_ThrottleAuthorityDefault ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013A, P013E, P013F, P2270 or P2271 10.0 < Volts = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") = Not Valid = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 (if applicable) in Supporting Tables tab. = Not Valid, System is not valid until accumulated airflow is greater than	Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_RapidResponseActive = TRUE, multiple tests per trip are allowed.	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Low Fuel Condition Diag Post fuel cell</p> <p>DTC's Passed</p> <p>=====</p> <p>After above conditions are met: Fuel Enrich mode continued.</p> <p>=====</p> <p>During this test the following must stay TRUE or the test will abort: $0.96 \leq \text{Fuel EQR} \leq 1.08$</p>	<p>720,000 grams. Airflow accumulation is only enabled when estimated Cat temperature is above 600 Deg C. (Note: This feature is only enabled when the vehicle is new and cannot be enabled in service).</p> <p>= False = enabled</p> <p>P2270 (and P2272 if applicable) P013E (and P014A if applicable) P013A (and P013C if applicable) P2271 (and P2273 if applicable) P013F (and P014B if applicable)</p> <p>=====</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Slow Response Rich to Lean Bank 2 Sensor 2	P013C	This DTC determines if the post catalyst O2 sensor has Slow Response in a predefined Rich to Lean voltages range during Rich to Lean transition. The diagnostic is an intrusive test which runs in a DFCO mode to achieve the required response.	The EWMA of the Post O2 sensor normalized integral value OR The Accumulated mass air flow monitored during the Slow Response Test (between the upper and lower voltage thresholds)	> 8.0 units > 20.0 grams (upper voltage threshold is 450 mvolts and lower voltage threshold is 150 mvolts)	No Active DTC's B2S2 DTC's Not Active this key cycle System Voltage Learned heater resistance ICAT MAT Burnoff delay Green O2S Condition Low Fuel Condition Diag Post fuel cell (Decel)	TPS_ThrottleAuthorityDefault ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013D, P014A, P014B, P2272 or P2273 10.0 < Volts = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") = Not Valid = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 in Supporting Tables tab. = False = enabled	Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_RapidResponseActive = TRUE, multiple tests per trip are allowed.	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Crankshaft Torque DTC's Passed ===== After above conditions are met: DFCO mode is continued (wo driver initiated pedal input).	< 100.0 Nm P2270 (and P2272 if applicable) P013E (and P014A if applicable) =====		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Slow Response Lean to Rich Bank 2 Sensor 2	P013D	This DTC determines if the post catalyst O2 sensor has Slow Response in a predefined Lean to Rich voltages range during Lean to Rich transition. The diagnostic is an intrusive test which increases the delivered A/F ratio to achieve the required rich threshold.	The EWMA of the Post O2 sensor normalized integral value OR The Accumulated mass air flow monitored during the Slow Response Test (between the upper and lower voltage thresholds)	> 8.0 units > 75 grams (lower voltage threshold is 350 mvolts and upper voltage threshold is 600 mvolts)	No Active DTC's B2S2 DTC's Not Active this key cycle System Voltage Learned heater resistance ICAT MAT Burnoff delay Green O2S Condition Green Cat System Condition	TPS_ThrottleAuthorityDefault ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013C, P014A, P014B, P2272 or P2273 10.0 < Volts = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") = Not Valid = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 in Supporting Tables tab. = Not Valid, System is not valid until accumulated airflow is greater than	Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_RapidResponseActive = TRUE, multiple tests per trip are allowed.	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Low Fuel Condition Diag Post fuel cell</p> <p>DTC's Passed</p> <p>=====</p> <p>After above conditions are met: Fuel Enrich mode continued.</p> <p>=====</p> <p>During this test the following must stay TRUE or the test will abort: 0.96 ≤ Fuel EQR ≤ 1.08</p>	<p>720,000 grams. Airflow accumulation is only enabled when estimated Cat temperature is above 600 Deg C. (Note: This feature is only enabled when the vehicle is new and cannot be enabled in service).</p> <p>= False = enabled</p> <p>P2270 (and P2272 if applicable) P013E (and P014A if applicable) P013A (and P013C if applicable) P2271 (and P2273 if applicable) P013F (and P014B if applicable)</p> <p>=====</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Delayed Response Rich to Lean Bank 1 Sensor 2	P013E	This DTC determines if the post catalyst O2 sensor has an initial delayed response to an A/F change from Rich to Lean. The diagnostic is an intrusive test which runs in a DFCO mode to achieve the required response.	Post O2 sensor voltage AND The Accumulated mass air flow monitored during the Delayed Response Test under DFCO DFCO begins after: 1) Catalyst has been rich for a minimum of AND 2) Catalyst Rich Accumulation Air Flow is greater or equal to	> 450 mvolts > 40 grams > 2 secs > 3 grams	No Active DTC's B1S2 DTC's Not Active this key cycle System Voltage Learned heater resistance ICAT MAT Burnoff delay Green O2S Condition Low Fuel Condition Diag Post fuel cell (Decel)	TPS_ThrottleAuthorityDefault ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013A, P013B, P013F, P2270 or P2271 10.0 < Volts = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") = Not Valid = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 (if applicable) in Supporting Tables tab. = False = enabled	Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_RapidResponseActive = TRUE, multiple tests per trip are allowed.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Crankshaft Torque DTC's Passed Number of fueled cylinders ===== After above conditions are met: DFCO mode entered (wo driver initiated pedal input).	< 100.0 Nm P2270 (and P2272 if applicable) ≤ 5 cylinders =====		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Low Fuel Condition Diag Post fuel cell</p> <p>DTC's Passed</p> <p>Number of fueled cylinders =====</p> <p>After above conditions are met: Fuel Enrich mode entered. =====</p> <p>During this test the following must stay TRUE or the test will abort: 0.96 ≤ Fuel EQR ≤ 1.08</p>	<p>720,000 grams. Airflow accumulation is only enabled when estimated Cat temperature is above 600 Deg C. (Note: This feature is only enabled when the vehicle is new and cannot be enabled in service).</p> <p>= False = enabled</p> <p>P2270 (and P2272 if applicable) P013E (and P014A if applicable) P013A (and P013C if applicable) P2271 (and P2273 if applicable)</p> <p>≥ 1 cylinders =====</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Performance Bank 1 Sensor 2) (For Dual Bank Exhaust Only	P0141	This DTC determines if the O2 sensor heater is functioning properly by monitoring the current through the heater circuit.	Heater Current outside of the expected range of	0.3 > amps > 1.2	No Active DTC's System Voltage Heater Warm-up delay O2S Heater device control B1S1 O2S Heater Duty Cycle All of the above met for	ECT_Sensor_FA 10.0 < Volts = Complete = Not active > zero > 120 seconds	8 failures out of 10 samples Frequency: 2 tests per trip 10 seconds delay between tests and 1 second execution rate.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Delayed Response Rich to Lean Bank 2 Sensor 2	P014A	This DTC determines if the post catalyst O2 sensor has an initial delayed response to an A/F change from Rich to Lean. The diagnostic is an intrusive test which runs in a DFCO mode to achieve the required response.	<p>Post O2 sensor voltage</p> <p>AND</p> <p>The Accumulated mass air flow monitored during the Delayed Response Test under DFCO</p> <p>DFCO begins after: 1) Catalyst has been rich for a minimum of AND 2) Catalyst Rich Accumulation Air Flow is greater or equal to</p>	<p>> 450 mvolts</p> <p>> 40 grams</p> <p>> 2 secs</p> <p>> 3 grams</p>	<p>No Active DTC's</p> <p>B2S2 DTC's Not Active this key cycle</p> <p>System Voltage Learned heater resistance</p> <p>ICAT MAT Burnoff delay</p> <p>Green O2S Condition</p> <p>Low Fuel Condition Diag</p> <p>Post fuel cell (Decel)</p>	<p>TPS_ThrottleAuthorityDefault ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013C, P013D, P014B, P2272 or P2273</p> <p>10.0 < Volts = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's")</p> <p>= Not Valid</p> <p>= Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 in Supporting Tables tab.</p> <p>= False</p> <p>= enabled</p>	<p>Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_RapidResponseActive = TRUE, multiple tests per trip are allowed</p>	<p>Type B, 2 Trips</p>

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Crankshaft Torque DTC's Passed Number of fueled cylinders ===== After above conditions are met: DFCO mode entered (wo driver initiated pedal input).	< 100.0 Nm P2270 (and P2272 if applicable) ≤ 5 cylinders =====		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Delayed Response Lean to Rich Bank 2 Sensor 2	P014B	This DTC determines if the post catalyst O2 sensor has an initial delayed response to an A/F change from Lean to Rich. The diagnostic is an intrusive test which increases the delivered A/F ratio to achieve the required rich threshold.	<p>Post O2 sensor</p> <p>AND</p> <p>The Accumulated mass air flow monitored during the Delayed Response Test</p>	<p>< 350 mvolts</p> <p>> 150 grams.</p>	<p>No Active DTC's</p> <p>B2S2 DTC's Not Active this key cycle</p> <p>System Voltage Learned heater resistance</p> <p>ICAT MAT Burnoff delay</p> <p>Green O2S Condition</p> <p>Green Cat System Condition</p>	<p>TPS_ThrottleAuthorityDefault ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR System FAFuelInjectorCircuit_FAFuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013C, P013D, P014A, P2272 or P2273</p> <p>10.0 < Volts = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's")</p> <p>= Not Valid</p> <p>= Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 in Supporting Tables tab.</p> <p>= Not Valid, System is not valid until accumulated airflow is greater than</p>	<p>Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_RapidResponseActive = TRUE, multiple tests per trip are allowed</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Low Fuel Condition Diag Post fuel cell</p> <p>DTC's Passed</p> <p>Number of fueled cylinders =====</p> <p>After above conditions are met: Fuel Enrich mode entered. =====</p> <p>During this test the following must stay TRUE or the test will abort: 0.96 ≤ Fuel EQR ≤ 1.08</p>	<p>720,000 grams. Airflow accumulation is only enabled when estimated Cat temperature is above 600 Deg C. (Note: This feature is only enabled when the vehicle is new and cannot be enabled in service).</p> <p>= False = enabled</p> <p>P2270 (and P2272 if applicable) P013E (and P014A if applicable) P013A (and P013C if applicable) P2271 (and P2273 if applicable)</p> <p>≥ 1 cylinders =====</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit Low Voltage Bank 2 Sensor 1	P0151	This DTC determines if the O2 sensor circuit is shorted to low.	Oxygen Sensor Signal	< 40 mvolts	No Active DTC's AIR intrusive test Fuel intrusive test Idle intrusive test EGR intrusive test System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Equivalence Ratio Air Per Cylinder Fuel Control State Closed Loop Active All Fuel Injectors for active Cylinders Fuel Condition Fuel State All of the above met for	TPS_ThrottleAuthority DefaultedMAP_SensorFA AIR System FA Ethanol Composition Sensor FA EvapPurgeSolenoidCircuit _FA EvapFlowDuringNonPurg e_FA EvapVentSolenoidCircuit_ FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnsrCkt _FA FuelInjectorCircuit_FA = Not active = Not active = Not active = Not active 10.0 < Volts = Not active = Not active = Not active = Not active = False 0.9805 ≤ equiv. ratio ≤ 1.0996 50 ≤ APC ≤ 500 mgrams = Closed Loop = TRUE Enabled (On) ≤ 87 % Ethanol DFCO not active > 5.0 seconds	380 failures out of 475 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit High Voltage Bank 2 Sensor 1	P0152	This DTC determines if the O2 sensor circuit is shorted to high.	Oxygen Sensor Signal	> 1,050 mvolts	No Active DTC's System Voltage AFM Status Heater Warm-up delay Engine Run Time Engine Run Accum Low Fuel Condition Diag Learned Htr resistance Initial delay after Open Test Criteria met (cold start condition) Initial delay after Open Test Criteria met (not cold start condition) Equivalence Ratio Fuel Control State All of the above met for	TPS_ThrottleAuthorityDef aulted MAF_SensorFA MAP_SensorFA ExcessPurgePsbl_FA FuelInjectorCircuit_FA EthanolCompositionSens or_FA AIR System_FA 10.0 < Volts = All Cylinders active = Complete > 5.0 seconds > 30.0 seconds = False = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") > 210.0 seconds when engine soak time > 28,800 seconds > 210.0 seconds when engine soak time ≤ 28,800 seconds 0.9805 ≤ ratio ≤ 1.0996 not = Power Enrichment > 3 seconds	70 failures out of 88 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.	
O2S Slow Response Bank 2 Sensor 1) (For use with ESPD	P0153	This DTC determines if the O2 sensor response time is degraded.	<p>Fault condition present when the average response time is calculated over the test time, and compared to the threshold.</p> <p>OR</p> <p>Slope Time L/R Switches</p> <p>OR</p> <p>Slope Time R/L Switches</p>	<p>< 3</p> <p>< 3</p>	<p>Refer to P0153_O2S Slow Response Bank 2 Sensor 1 "Pass/Fail Threshold table" in the Supporting Tables tab</p> <p>The test averages the signal response time over 60.0 seconds when the signal is transitioning between 325 mvolts and 575 mvolts. An average rich to lean time and lean to rich time are each calculated separately.</p>	<p>No Active DTC's</p> <p>Bank 2 Sensor 1 DTC's not active</p> <p>System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Green O2S Condition</p>	<p>TPS_ThrottleAuthorityDefault MAP_SensorFA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault MAF_SensorFA EvapPurgeSolenoidCircuit_FA EvapFlowDuringNonPurge_FA EvapVentSolenoidCircuit_FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnrCkt_FA FuelInjectorCircuit_FA AIR System FA EthanolCompositionSensor_FA EngineMisfireDetected_FA</p> <p>= P0151, P0152 or P0154</p> <p>10.0 < Volts = Not active = Not active = Not active = Not active = Not active = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S1, B2S1 in Supporting</p>	<p>Sample time is 60 seconds</p> <p>Frequency: Once per trip</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					O2 Heater on for Learned Htr resistance Engine Coolant IAT Engine run Accum Time since any AFM status change Time since Purge On to Off change Time since Purge Off to On change Engine airflow Engine speed Fuel Condition Baro Air Per Cylinder Fuel Control State Closed Loop Active LTM fuel cell Transient Fuel Mass Baro Fuel Control State Fuel State Commanded Proportional Gain ===== All of the above met for	Tables tab. ≥ 60 seconds = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") > 54 °C > -40 °C > 30 seconds > 0.0 seconds > 4.0 seconds > 4.0 seconds 15 ≤ grams/second ≤ 43 1,000 ≤ RPM ≤ 3,000 < 87 % Ethanol > 70 kpa ≥ 125 mGrams = Closed Loop = TRUE = Enabled ≤ 100.0 mgrams = Not Defaulted not = Power Enrichment DFCO not active ≥ 0.0 % ===== > 2.0 seconds		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Performance Bank 2 Sensor 1	P0155	This DTC determines if the O2 sensor heater is functioning properly by monitoring the current through the heater circuit.	Heater Current outside of the expected range of	0.3 > amps > 1.2	No Active DTC's System Voltage Heater Warm-up delay O2S Heater device control B1S1 O2S Heater Duty Cycle All of the above met for	ECT_Sensor_FA 10.0 < Volts = Complete = Not active > zero > 120 seconds	8 failures out of 10 samples Frequency: 2 tests per trip 10 seconds delay between tests and 1 second execution rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit Low Voltage Bank 2 Sensor 2	P0157	This DTC determines if the O2 sensor circuit is shorted to low.	Oxygen Sensor Signal	< 50 mvolts	No Active DTC's AIR intrusive test Fuel intrusive test Idle intrusive test EGR intrusive test System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Equivalence Ratio Air Per Cylinder Fuel Control State Closed Loop Active All Fuel Injectors for active Cylinders Fuel Condition Fuel State All of the above met for	TPS_ThrottleAuthorityDef aulted MAP_SensorFA AIR_System FA Ethanol Composition Sensor FA EvapPurgeSolenoidCircuit _FA EvapFlowDuringNonPurg e_FA EvapVentSolenoidCircuit_ FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnsrCkt _FA FuelInjectorCircuit_FA = Not active = Not active = Not active = Not active 10.0 < Volts = Not active = Not active = Not active = Not active = False 0.9805 ≤ ratio ≤ 1.0996 50 ≤ mgrams ≤ 500 = Closed Loop = TRUE Enabled (On) ≤ 87 % Ethanol DFCO not active > 5.0 seconds	430 failures out of 540 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Circuit High Voltage Bank 2 Sensor 2	P0158	This DTC determines if the O2 sensor circuit is shorted to high.	Oxygen Sensor Signal	> 1,050 mvolts	No Active DTC's System Voltage AFM Status Heater Warm-up delay Engine Run Time Engine Run Accum Low Fuel Condition Diag Learned Htr resistance Initial delay after Open Test Criteria met (cold start condition) Initial delay after Open Test Criteria met (not cold start condition) Equivalence Ratio Fuel Control State All of the above met for	TPS_ThrottleAuthorityDef aulted MAF_SensorFA MAP_SensorFA ExcessPurgePsbl_FA FuelInjectorCircuit_FA EthanolCompositionSens or_FA AIR System_FA 10.0 < Volts = All Cylinders active = Complete > 5.0 seconds > 30.0 seconds = False = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") > 210.0 seconds when engine soak time > 28,800 seconds > 210.0 seconds when engine soak time ≤ 28,800 seconds 0.9805 ≤ ratio ≤ 1.0996 not = Power Enrichment > 3 seconds	100 failures out of 125 samples Frequency: Continuous in 100 milli - second loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Delayed Response Rich to Lean Bank 1 Sensor 1	P015A	This DTC determines if the pre catalyst O2 sensor has an initial delayed response to an A/F change from Rich to Lean. The diagnostic is an intrusive test which runs in a DFCO mode to achieve the required response.	<p>The EWMA of the Pre O2 sensor normalized R2L time delay value</p> <p>OR</p> <p>[The Accumulated time monitored during the R2L Delayed Response Test (Gross failure).</p> <p>AND</p> <p>Pre O2 sensor voltage is</p>	<p>> 0.7 EWMA (sec)</p> <p>≥ 1.5 Seconds</p> <p>> 550 mvolts</p>	<p>No Active DTC's</p> <p>System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Green O2S Condition</p>	<p>TPS_ThrottleAuthorityDefault MAP_SensorFA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault MAF_SensorFA EvapPurgeSolenoidCircuit_FA EvapFlowDuringNonPurge_FA EvapVentSolenoidCircuit_FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnrCkt_FA FuelInjectorCircuit_FA AIR_System FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EthanolCompositionSensor_FA EngineMisfireDetected_FA P0131, P0132, P0134</p> <p>10.0 < Volts = Not active = Not active = Not active = Not active = False</p> <p>= Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for</p>	<p>Frequency: Once per trip Note: if NaESPD_b_Fast InitResplsActive = TRUE for the given Fuel Bank OR NaESPD_b_RapidResponselsActive = TRUE, multiple tests per trip are allowed</p>	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>O2 Heater (pre sensor) on for Learned Htr resistance</p> <p>Engine Coolant IAT Engine run Accum</p> <p>Engine Speed to initially enable test Engine Speed range to keep test enabled (after initially enabled)</p> <p>Engine Airflow Vehicle Speed to initially enable test Vehicle Speed range to keep test enabled (after initially enabled)</p> <p>Closed loop integral Closed Loop Active Evap Ethanol Post fuel cell</p> <p>EGR Intrusive diagnostic All post sensor heater delays O2S Heater (post sensor) on Time Predicted Catalyst temp Fuel State</p>	<p>the following locations: B1S1, B2S1 (if applicable) in Supporting Tables tab.</p> <p>≥ 60 seconds = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's")</p> <p>> 54 °C > -40 °C > 30 seconds</p> <p>1,150 ≤ RPM ≤ 2,500</p> <p>1,100 ≤ RPM ≤ 2,550</p> <p>3 ≤ gps ≤ 11</p> <p>42.3 ≤ MPH ≤ 80.2</p> <p>38.5 ≤ MPH ≤ 82.0</p> <p>0.87 ≤ C/L Int ≤ 1.07 = TRUE not in control of purge not in estimate mode = enabled</p> <p>= not active</p> <p>= not active</p> <p>≥ 60.0 sec 500 ≤ °C ≤ 980 = DFCO possible</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>=====</p> <p>All of the above met for at least 3.0 seconds, and then the Force Cat Rich intrusive stage is requested.</p> <p>=====</p> <p>Pre O2S voltage B1S1 at end of Cat Rich stage Fuel State Number of fueled cylinders</p> <p>=====</p> <p>After above conditions are met: DFCO Mode is entered (wo driver initiated pedal input).</p>	<p>=====</p> <p>≥ 680 mvolts = DFCO active ≤ 5 cylinders</p> <p>=====</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Delayed Response Lean to Rich Bank 1 Sensor 1	P015B	This DTC determines if the pre catalyst O2 sensor has an initial delayed response to an A/F change from Lean to Rich. The diagnostic is an intrusive test which runs in an enriched fuel mode to achieve the required response.	<p>The EWMA of the Pre O2 sensor normalized L2R time delay value</p> <p>OR</p> <p>[The Accumulated time monitored during the L2R Delayed Response Test (Gross failure).</p> <p>AND</p> <p>Pre O2 sensor voltage is</p> <p>OR</p> <p>At end of Cat Rich stage the Pre O2 sensor output is</p>	<p>> 0.7 EWMA (sec)</p> <p>≥ 2.0 Seconds</p> <p>< 325 mvolts</p> <p>< 680 mvolts</p>	<p>No Active DTC's</p> <p>System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Green O2S Condition</p>	<p>TPS_ThrottleAuthorityDefault MAP_SensorFA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault MAF_SensorFA EvapPurgeSolenoidCircuit_FA EvapFlowDuringNonPurge_FA EvapVentSolenoidCircuit_FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnrCkt_FA FuelInjectorCircuit_FA AIR_System FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EthanolCompositionSensor_FA EngineMisfireDetected_FA P0131, P0132, P0134</p> <p>10.0 < Volts = Not active = Not active = Not active = Not active = False</p> <p>= Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for</p>	<p>Frequency: Once per trip Note: if NaESPD_b_Fast InitResplsActive = TRUE for the given Fuel Bank OR NaESPD_b_RapidResponsesActive = TRUE, multiple tests per trip are allowed</p>	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>O2 Heater (pre sensor) on for for Learned Htr resistance</p> <p>Engine Coolant IAT Engine run Accum</p> <p>Engine Speed to initially enable test Engine Speed range to keep test enabled (after initially enabled)</p> <p>Engine Airflow Vehicle Speed to initially enable test Vehicle Speed range to keep test enabled (after initially enabled)</p> <p>Closed loop integral Closed Loop Active Evap Ethanol Post fuel cell EGR Intrusive diagnostic All post sensor heater delays O2S Heater (post sensor) on Time</p> <p>Predicted Catalyst temp</p>	<p>the following locations: B1S1, B2S1 (if applicable) in Supporting Tables tab.</p> <p>≥ 60 seconds = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's")</p> <p>> 54 °C > -40 °C > 30 seconds</p> <p>1,150 ≤ RPM ≤ 2,500</p> <p>1,100 ≤ RPM ≤ 2,550</p> <p>3 ≤ gps ≤ 11</p> <p>42.3 ≤ MPH ≤ 80.2</p> <p>38.5 ≤ MPH ≤ 82.0</p> <p>0.87 ≤ C/L Int ≤ 1.07 = TRUE not in control of purge not in estimate mode = enabled = not active = not active</p> <p>≥ 60.0 sec</p> <p>500 ≤ °C ≤ 980</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Fuel State Number of fueled cylinders ===== When above conditions are met: Fuel Enrich mode is entered. ===== During this test: Engine Airflow must stay between: and the delta Engine Airflow over 12.5msec must be :	= DFCO inhibit ≥ 1 cylinders ===== ===== 0 ≤ gps ≤ 11 ≤ 0.8 gps		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Delayed Response Rich to Lean Bank 2 Sensor 1	P015C	This DTC determines if the pre catalyst O2 sensor has an initial delayed response to an A/F change from Rich to Lean. The diagnostic is an intrusive test which runs in a DFCO mode to achieve the required response.	The EWMA of the Pre O2 sensor normalized R2L time delay value OR [The Accumulated time monitored during the R2L Delayed Response Test (Gross failure). AND Pre O2 sensor voltage is above]	> 0.7 EWMA (sec) ≥ 1.5 Seconds > 550 mvolts	No Active DTC's System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Green O2S Condition	TPS_ThrottleAuthorityDefault MAP_SensorFA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault MAF_SensorFA EvapPurgeSolenoidCircuit_FA EvapFlowDuringNonPurge_FA EvapVentSolenoidCircuit_FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnrCkt_FA FuelInjectorCircuit_FA AIR_System FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EthanolCompositionSensor_FA EngineMisfireDetected_FA P0131, P0132, P0134 10.0 < Volts = Not active = Not active = Not active = Not active = False = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for	Frequency: Once per trip Note: if NaESPD_b_FastInitResplsActive = TRUE for the given Fuel Bank OR NaESPD_b_RapidResponselsActive = TRUE, multiple tests per trip are allowed	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>O2 Heater (pre sensor) on for Learned Htr resistance</p> <p>Engine Coolant IAT</p> <p>Engine run Accum</p> <p>Engine Speed to initially enable test</p> <p>Engine Speed range to keep test enabled (after initially enabled)</p> <p>Engine Airflow</p> <p>Vehicle Speed to initially enable test</p> <p>Vehicle Speed range to keep test enabled (after initially enabled)</p> <p>Closed loop integral Closed Loop Active</p> <p>Evap Ethanol Post fuel cell</p> <p>EGR Intrusive diagnostic All post sensor heater delays</p> <p>O2S Heater (post sensor) on Time</p> <p>Predicted Catalyst temp</p>	<p>the following locations: B1S1, B2S1 in Supporting Tables tab.</p> <p>≥ 60 seconds = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's")</p> <p>> 54 °C > -40 °C > 30 seconds</p> <p>1,150 ≤ RPM ≤ 2,500</p> <p>1,100 ≤ RPM ≤ 2,550</p> <p>3 ≤ gps ≤ 11</p> <p>42.3 ≤ MPH ≤ 80.2</p> <p>38.5 ≤ MPH ≤ 82.0</p> <p>0.87 ≤ C/L Int ≤ 1.07 = TRUE</p> <p>not in control of purge not in estimate mode = enabled</p> <p>= not active</p> <p>= not active</p> <p>≥ 60.0 sec</p> <p>500 ≤ °C ≤ 980</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Fuel State ===== All of the above met for at least 3.0 seconds, and then the Force Cat Rich intrusive stage is requested. ===== Pre O2S voltage B1S1 at end of Cat Rich stage Fuel State Number of fueled cylinders ===== After above conditions are met: DFCO Mode is entered (wo driver initiated pedal input).	= DFCO possible ===== ===== ≥ 680 mvolts = DFCO active ≤ 5 cylinders =====		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Delayed Response Lean to Rich Bank 2 Sensor 1	P015D	This DTC determines if the pre catalyst O2 sensor has an initial delayed response to an A/F change from Lean to Rich. The diagnostic is an intrusive test which runs in an enriched fuel mode to achieve the required response.	<p>The EWMA of the Pre O2 sensor normalized L2R time delay value</p> <p>OR</p> <p>[The Accumulated time monitored during the L2R Delayed Response Test (Gross failure).</p> <p>AND</p> <p>Pre O2 sensor voltage is below]</p> <p>OR</p> <p>At end of Cat Rich stage the Pre O2 sensor output is</p>	<p>> 0.7 EWMA (sec)</p> <p>≥ 2.0 Seconds</p> <p>< 325 mvolts</p> <p>< 680 mvolts</p>	<p>No Active DTC's</p> <p>System Voltage EGR Device Control Idle Device Control Fuel Device Control AIR Device Control Low Fuel Condition Diag Green O2S Condition</p>	<p>TPS_ThrottleAuthorityDefault MAP_SensorFA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault MAF_SensorFA EvapPurgeSolenoidCircuit_FA EvapFlowDuringNonPurge_FA EvapVentSolenoidCircuit_FA EvapSmallLeak_FA EvapEmissionSystem_FA FuelTankPressureSnrCkt_FA FuelInjectorCircuit_FA AIR_System FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EthanolCompositionSensor_FA EngineMisfireDetected_FA P0131, P0132, P0134</p> <p>10.0 < Volts = Not active = Not active = Not active = Not active = False</p> <p>= Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for</p>	<p>Frequency: Once per trip Note: if NaESPD_b_Fast InitResplsActive = TRUE for the given Fuel Bank OR NaESPD_b_RapidResponsesActive = TRUE, multiple tests per trip are allowed</p>	Type A, 1 Trips EWMA

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					O2 Heater (pre sensor) on for Learned Htr resistance Engine Coolant IAT Engine run Accum Engine Speed to initially enable test Engine Speed range to keep test enabled (after initially enabled) Engine Airflow Vehicle Speed to initially enable test Vehicle Speed range to keep test enabled (after initially enabled) Closed loop integral Closed Loop Active Evap Ethanol Post fuel cell EGR Intrusive diagnostic All post sensor heater delays O2S Heater (post sensor) on Time Predicted Catalyst temp Fuel State	the following locations: B1S1, B2S1 in Supporting Tables tab. ≥ 60 seconds = Valid (the heater resistance has learned since NVM reset, see enable conditions for "HO2S Heater Resistance DTC's") > 54 °C > -40 °C > 30 seconds 1,150 ≤ RPM ≤ 2,500 1,100 ≤ RPM ≤ 2,550 3 ≤ gps ≤ 11 42.3 ≤ MPH ≤ 80.2 38.5 ≤ MPH ≤ 82.0 0.87 ≤ C/L Int ≤ 1.07 = TRUE not in control of purge not in estimate mode = enabled = not active = not active ≥ 60.0 sec 500 ≤ °C ≤ 980 = DFCO inhibit		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Number of fueled cylinders ===== When above conditions are met: Fuel Enrich mode is entered. ===== During this test: Engine Airflow must stay between: and the delta Engine Airflow over 12.5msec must be :	≥ 1 cylinders ===== $0 \leq \text{gps} \leq 11$ ≤ 0.8 gps		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2S Heater Performance Bank 2 Sensor 2	P0161	This DTC determines if the O2 sensor heater is functioning properly by monitoring the current through the heater circuit.	Heater Current outside of the expected range of	0.3 > amps > 1.2	No Active DTC's System Voltage Heater Warm-up delay O2S Heater device control B1S1 O2S Heater Duty Cycle All of the above met for	ECT_Sensor_FA 10.0 < Volts = Complete = Not active > zero > 120 seconds	8 failures out of 10 samples Frequency: 2 tests per trip 10 seconds delay between tests and 1 second execution rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Device Control EVAP Diag. No active DTC:	Not Active "tank pull down" Not Active IAC_SystemRPM_FA MAP_SensorFA MAF_SensorFA MAF_SensorTFTKO AIR_System FA EvapExcessPrgePsbl_FA Ethanol Comp Snsr FA FuelInjectorCkt_FA EngMisfireDetected_FA EGRValvePerf_FA EGRValveCkt_FA MAP_EngVacuumStatus AmbPresDfltStatus TC_BoostPresSnsrFA O2Snsr_B1_Snsr_1_FA		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel System Too Rich Bank 1	P0172	<p>Determines if the fuel control system is in a rich condition, based on the filtered long-term fuel trim metric.</p> <p>There are two methods to determine a Rich fault. They are Passive and Intrusive. A Passive Test decision can be made up until the time that purge is first enabled. From that point forward, rich faults can only be detected by turning purge off intrusively.</p> <p>Intrusive Test: If the filtered Purge Long Term Fuel Trim metric > 0.750 , the test passes without intrusively checking the filtered Non-Purge Long Term Fuel Trim metric. However if the filtered Purge Long Term Fuel Trim metric is <= 0.750 , purge is ramped off to determine if excess purge vapor is the cause of the rich condition.</p> <p>Performing intrusive tests too frequently may also affect EVAP and EPAIII emissions,</p>	<p>Passive Test: The filtered Non-Purge Long Term Fuel Trim metric</p> <p>AND</p> <p>The filtered Short Term Fuel Trim metric (Note: any value above 1.05 effectively nullifies the short-term fuel trim criteria)</p> <p>Intrusive Test: For 3 out of 5 intrusive segments, the filtered Purge Long Term Fuel Trim metric</p> <p>AND</p> <p>The filtered Non-Purge Long Term Fuel Trim metric</p> <p>AND</p> <p>The filtered Short Term Fuel Trim metric (Note: any value above 1.05 effectively nullifies the short-term fuel trim criteria)</p> <p>Segment Def'n: Segments can last up to 45 seconds and are separated by the lesser of 12 seconds of purge-on time or enough time to</p>	<p><= 0.740</p> <p><= 1.996</p> <p><= 0.750</p> <p><= 0.740</p> <p><= 1.996</p>		<p>Secondary Parameters and Enable Conditions are identical to those for P0171, with the exception that fuel level is not considered.</p>	<p>Frequency: 100 ms Continuous Loop</p>	<p>Type B, 2 Trips</p>

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		and the execution frequency of other diagnostics.	purge 11 grams of vapor. A maximum of 5 completed segments or 30 attempts are allowed for each intrusive test. After an intrusive test report is completed, another intrusive test cannot occur for 300 seconds to allow sufficient time to purge excess vapors from the canister. During this period, fuel trim will pass if the filtered Purge Long Term Fuel Trim metric > 0.750 for at least 200 seconds, indicating that the canister has been purged.					

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel System Too Lean Bank 2	P0174	Determines if the fuel control system is in a lean condition, based on the filtered long-term and short-term fuel trim.	The filtered long-term fuel trim metric AND The filtered short-term fuel trim metric (Note: any value below 0.95 effectively nullifies the short-term fuel trim criteria)	>= 1.380 => 0.100	Engine speed BARO Coolant Temp MAP Inlet Air Temp MAF Fuel Level Long Term Fuel Trim data accumulation: Sometimes, certain Long-Term Fuel Trim Cells are not utilized for control and/or diagnosis Closed Loop Long Term FT EGR Diag. Catalyst Diag. Post O2 Diag. Device Control	400 <rpm< 6,600 > 70 kPa -20 <°C< 150 5 <kPa< 255 -20 <°C< 150 0.5 <g/s< 510.0 > 10 % or if fuel sender is faulty the diagnostic will bypass the fuel level criteria. Long Term Fuel Trim data must accumulate on each trip, with at least 20.0 seconds of data in the current fuel trim cell before a pass or fail decision can be made. (Please see " Long-Term Fuel Trim Cell Usage " in Supporting Tables for a list of cells utilized for diagnosis) Enabled Enabled (Please see " Closed Loop Enable Criteria " and " Long Term FT Enable Criteria " in Supporting Tables.) Intrusive Test Not Active Intrusive Test Not Active Intrusive Test Not Active Not Active	Frequency: 100 ms Continuous Loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					EVAP Diag. No active DTC:	"tank pull down" Not Active IAC_SystemRPM_FA MAP_SensorFA MAF_SensorFA MAF_SensorTFTKO AIR_System FA EvapExcessPrgePsbl_FA Ethanol Comp Snsr FA FuelInjectorCkt_FA EngMisfireDetected_FA EGRValvePerf_FA EGRValveCkt_FA MAP_EngVacuumStatus AmbPresDfltStatus TC_BoostPresSnsrFA O2Snsr_B2_Snsr_1_FA		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel System Too Rich Bank 2	P0175	<p>Determines if the fuel control system is in a rich condition, based on the filtered long-term fuel trim metric.</p> <p>There are two methods to determine a Rich fault. They are Passive and Intrusive. A Passive Test decision can be made up until the time that purge is first enabled. From that point forward, rich faults can only be detected by turning purge off intrusively.</p> <p>Intrusive Test: If the filtered Purge Long Term Fuel Trim metric > 0.750 , the test passes without intrusively checking the filtered Non-Purge Long Term Fuel Trim metric. However if the filtered Purge Long Term Fuel Trim metric is <= 0.750 , purge is ramped off to determine if excess purge vapor is the cause of the rich condition.</p> <p>Performing intrusive tests too frequently may also affect EVAP and EPAIII emissions,</p>	<p>Passive Test: The filtered Non-Purge Long Term Fuel Trim metric</p> <p>AND</p> <p>The filtered Short Term Fuel Trim metric (Note: any value above 1.05 effectively nullifies the short-term fuel trim criteria)</p> <p>Intrusive Test: For 3 out of 5 intrusive segments, the filtered Purge Long Term Fuel Trim metric</p> <p>AND</p> <p>The filtered Non-Purge Long Term Fuel Trim metric</p> <p>AND</p> <p>The filtered Short Term Fuel Trim metric (Note: any value above 1.05 effectively nullifies the short-term fuel trim criteria)</p> <p>Segment Def'n: Segments can last up to 45 seconds and are separated by the lesser of 12 seconds of purge-on time or enough time to</p>	<p><= 0.740</p> <p><= 1.996</p> <p><= 0.750</p> <p><= 0.740</p> <p><= 1.996</p>		<p>Secondary Parameters and Enable Conditions are identical to those for P0174, with the exception that fuel level is not considered.</p>	<p>Frequency: 100 ms Continuous Loop</p>	<p>Type B, 2 Trips</p>

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		and the execution frequency of other diagnostics.	<p>purge 11 grams of vapor.</p> <p>A maximum of 5 completed segments or 30 attempts are allowed for each intrusive test.</p> <p>After an intrusive test report is completed, another intrusive test cannot occur for 300 seconds to allow sufficient time to purge excess vapors from the canister. During this period, fuel trim will pass if the filtered Purge Long Term Fuel Trim metric > 0.750 for at least 200 seconds, indicating that the canister has been purged.</p>					

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
SIDI High Pressure Sensor Performance - Single Sensor	P0191	The DTC Diagnoses a skewed fuel rail sensor via a comparison of measured pressure and commanded/ modeled pressure	Idle test (Low Side Fuel Pressure - High Side Fuel Pressure)	SIDI High Pressure Sensor Performance Diagnostic Enabled and SIDI High Pressure Sensor Performance Idle Test Enabled <= -0.850 MPa OR >= 0.800 MPa	Vehicle Speed Pedal Position = 0 for Battery Voltage Low Pressure Fuel Pump Pressure Engine Run Time Delay counts after pump is turned off	Enabled when a code clear is not active or not exiting device control Engine is not cranking <= 0.62 MPH 1,000 Counts (12.5ms per count) >= 11 Volts >= 0.275 MPa >= KtFHPD_t_PumpCntrlEng RunThrsh (see supporting tables) Enabled when a code clear is not active or not exiting device control Engine is not cranking >= KtFHPD_Cnt_SnsPrfIdlePumpOffDly (see supporting tables)	Idle Test > = 240 counts (12.5ms per count)	Type A, 1 Trips
			High Drive Test (Relief Pressure - Measured high Pressure)	SIDI High Pressure Sensor Performance Diagnostic Enabled and	Engine Speed Desired High Side Pressure Vehicle Speed	1,200 <= RPM <= 2,400 5 <= MPa <= 7 >= 37 MPH		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
				SIDI High Pressure Sensor Performance High Drive Test Enabled <= -5.00 MPa	Accelerator Pedal Battery Voltage Low Pressure Fuel Pump Pressure Engine Run Time	>= 0 % >= 11 Volts >= 0.275 MPa >= KtFHPD_t_PumpCntrlEng RunThrsh(see supporting tables) Enabled when a code clear is not active or not exiting device control Engine is not cranking	counts (12.5ms per count)	
			----- Low Drive Test (Commanded high Pressure - Measured high Pressure) AND Modeled Injection Pressure	----- SIDI High Pressure Sensor Performance Diagnostic Enabled and SIDI High Pressure Sensor Performance Low Drive Test Enabled >= 3.000 MPa >= 3.00 MPa	----- Engine Speed Desired High Side Pressure Vehicle Speed Accelerator Pedal Battery Voltage Low Pressure Fuel Pump Pressure Engine Run Time	----- 1,200 <= RPM <= 2,400 5.00 <= MPa <= 7.00 >= 37 MPH >= 0 % >= 11 Volts >= 0.275 MPa >= KtFHPD_t_PumpCntrlEng RunThrsh(see supporting tables) Enabled when a code clear is not active or not	----- LoDrive Test >= 240 counts (12.5ms per count)	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>-----</p> <p>Sensor Stuck Test Measured High Pressure (max - min)</p>	<p>-----</p> <p>SIDI High Pressure Sensor Performance Diagnostic Enabled and SIDI High Pressure Sensor Performance Stuck Test Enabled <= 0.100 MPa</p>	<p>-----</p> <p>Engine Speed Vehicle Speed</p>	<p>-----</p> <p>exiting device control Engine is not cranking</p> <p>>= 2,000 RPM >= 18.64 MPH Enabled when a code clear is not active or not exiting device control Engine is not cranking Additional Enable Conditions: All must be true (High Pressure Pump is enabled and High Fuel pressure sensor ckt is Not (FA,FP or TFTKO) and High Pressure fuel pump ckt is Not (FA,FP or TFTKO) and Cam or Crank Sensor Not FA and IAT,IAT2,ECT Not FA and Low side Fuel Pump Relay ckt Not FA and Estimate fuel rail pressure is valid and Green Engine (In assembly plant) is not enabled and Not if low fuel condition and Low side Fuel Pump is on and Injector Flow Test is not active and Device control commanded pressure is false and Device control pump ckt enabled on is false and Engine movement detected is true and Manufacturers enable counter is 0)Flex Fuel Sensor Not FA Ignition voltage out of correlation error(P1682)</p>	<p>-----</p> <p>Stuck Test Engine Run Time >= KtFHPD_t_Pump CntrlEngRunThr sh (See Supporting Tables) or Accumulating engine crank time >= KtFHPD_t_SnsP rfStuckCrankTm out (See Supporting Tables)</p>	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Barometric Pressure Inlet Air Temp Fuel Temp	not active Fuel InjCkt Not (FA or TFTKO) EST Driver Not(FA) Misfire detected Not(FA) MAFR sensor Not (FA) MAPR sensor Not (FA) APSR Pedal sensor Not(FA) TPSR sensor Not (FA) VSPR speed sensor Not(FA) SystemRPM Not (FA) Manual Clutch not engaged or vehicle has automatic transmission All cylinder are fuel enabled and >= 70.0 KPA >= -10.0 DegC -10 <= Temp degC <= 100		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
High Pressure Sensor Out of Range Low	P0192	This DTC Diagnoses High Pressure Sensor Out of Range Low	High Pressure Fuel Sensor	SIDI High Pressure Sensor 1 Out of range Time Based Enabled or SIDI High Pressure Sensor 1 Out of range Engine Synchronous Enabled <= 5 % of 5Vref	Battery Voltage	>= 11 Volts Engine Running	Both Run Continuously Engine Synchronous Mode 800 failures out of 1,000 samples Time Based Mode 400 failures out of 500 samples 6.25 ms Sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
High Pressure Sensor Out of Range High	P0193	This DTC Diagnoses High Pressure Sensor Out of Range High	High Pressure Fuel Sensor	SIDI High Pressure Sensor 1 Out of range Time Based Enabled or SIDI High Pressure Sensor 1 Out of range Engine Synchronous Enabled >= 95 % of 5Vref	Battery Voltage	>= 11 Volts Engine Running	Both Run Continuously Engine Synchronous Mode 800 failures out of 1,000 samples Time Based Mode 400 failures out of 500 samples 6.25 ms Sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 1 Open Circuit - (SIDI)	P0201	This DTC Diagnoses Injector 1 enable low side driver circuit for circuit faults.	Low current through the low side driver during operation indicates open circuit	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Battery Voltage Engine Running	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 2 Open Circuit - (SIDI)	P0202	This DTC Diagnoses Injector 2 enable low side driver circuit for circuit faults.	Low current through the low side driver during operation indicates open circuit	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 3 Open Circuit - (SIDI)	P0203	This DTC Diagnoses Injector 3 enable low side driver circuit for circuit faults.	Low current through the low side driver during operation indicates open circuit	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Battery Voltage Engine Running	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 4 Open Circuit - (SIDI)	P0204	This DTC Diagnoses Injector 4 enable low side driver circuit for circuit faults.	Low current through the low side driver during operation indicates open circuit	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 5 Open Circuit - (SIDI)	P0205	This DTC Diagnoses Injector 5 enable low side driver circuit for circuit faults.	Low current through the low side driver during operation indicates open circuit	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Sec P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 6 Open Circuit - (SIDI)	P0206	This DTC Diagnoses Injector 6 enable low side driver circuit for circuit faults.	Low current through the low side driver during operation indicates open circuit	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
TPS2 Circuit Low	P0222	Detects a continuous or intermittent short or open in TPS2 circuit	TPS2 Voltage <	0.250		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P06A3)	79 / 159 counts; 57 counts continuous; 3.125 ms /count in the ECM main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
TPS2 Circuit High	P0223	Detects a continuous or intermittent short or open in TPS2 circuit	TPS2 Voltage >	4.590		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P06A3)	79 / 159 counts; 57 counts continuous; 3.125 ms /count in the ECM main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Engine Overboost Turbocharger with wastegate. Not supercharger with mechanical compressor	P0234	Detect Negative Boost Pressure Control Deviation	Desired Boost Pressure - Actual Boost Pressure	< (KtBSTD_p_CntrlDevNegLim - KtBSTD_p_CntrlDevAmbAirCorr) See Tables in Supporting Tables Sheet	Diagnostic Enabled Engine Speed Engine Speed Desired Boost Pressure Desired Boost Pressure Desired Boost Pressure Derivative Desired Boost Pressure Derivative Ambient Pressure Ambient Pressure Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Wait for steady state: No Active DTCs:	1 > 1,500 rpm < 6,500 rpm > 70.0 kPa < 245.0 kPa > -40.0 kPa/s < 50.0 kPa/s > 60.0 kPa < 120.0 kPa > -40.0 Deg C < 120.0 Deg C > -40.0 Deg C < 80.0 Deg C > KtBSTD_t_CntrlDevEnDelay See Table in Supporting Tables Sheet Desired Boost Pressure > BasicPressure AmbientAirDefault_Snr BSTR_b_PCA_CktFA BSTR_b_TurboBypassCktFA ECT_Sensor_FAIAT_Sen	18 failures out of 25 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					No Active DVCs:	sorFA BSTR_b_ExcsvBstTFTK O BSTR_b_PCA_CktTFTK O TC_BoostPresSnsrFA AnyCamPhaser_FA BSTR_b_PresCntrlTooLo TFTKO BSTR_b_PresCntrlTooHiT FTKO EnginePowerLimited BSTR_b_DVC_PCA_DC_ Actv BSTR_b_DVC_PCA_Pstn Actv BSTR_b_DVC_TurboCom prBypActv		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.	
Turbocharger Boost Pressure (TIAP) Sensor Performance (twin turbo)	P0236	Determines if the Turbocharger Boost (TIAP) Pressure Sensor input is stuck within the normal operating range	See table " Turbocharger Intake Flow Rationality Diagnostic Failure Matrix " for combinations of model failures that can set this DTC.		Engine Speed Engine Speed Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Minimum total weight factor (all factors multiplied together)	>= 425 RPM <= 6,500 RPM > -7 Deg C < 126 Deg C > -20 Deg C < 125 Deg C >= 0.50	Continuous Calculation are performed every 12.5 msec	Type B, 2 Trips	
			MAF1 model fails when ABS(Measured MAF1 Flow – Modeled MAF1 Flow) Filtered	> 25.0 grams/sec					Modeled MAF1 Model Error multiplied by MAF1 Residual Weight Factor based on RPM and MAF1 Residual Weight Factor based on MAF Est
			MAF2 model fails when ABS(Measured MAF2 Flow – Modeled MAF2 Flow) Filtered	> 25.0 grams/sec					Modeled MAF2 Model Error multiplied by MAF2 Residual Weight Factor based on RPM and MAF2 Residual Weight Factor based on MAF Est
			MAP1 model fails when ABS(Measured MAP – MAP Model 1) Filtered	> 25.0 kPa					MAP Model 1 Error multiplied by MAP1 Residual Weight Factor based on RPM
			MAP2 model fails when ABS(Measured MAP – MAP Model 2) Filtered	> 25.0 kPa					MAP Model 2 Error multiplied by MAP2 Residual Weight Factor based on RPM
			MAP3 model fails when ABS(Measured MAP – MAP Model 3) Filtered	> 25.0 kPa					MAP Model 3 Error multiplied by MAP3 Residual Weight Factor based on RPM
			TIAP1 model fails when ABS(Measured TIAP - TIAP Model 1) Filtered	> 30.0 kPa					TIAP Model 1 Error
			TPS model fails when Filtered Throttle Model Error	> 350 kPa*(g/s)					

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			measured MAP - offset as a function of engine speed See table " TIAP-MAP Correlation Offset " OR Low Engine Air Flow is TRUE AND Measured TIAP - measured Baro - offset as a function of engine speed See table " TIAP-Baro Correlation Offset " TIAP Correlation is valid when High Engine Air Flow has been TRUE for a period of time OR Low Engine Air Flow has been TRUE for a period of time High Engine Air Flow is TRUE when Mass Air Flow AND Manifold Pressure	> 30.0 kPa > 30.0 kPa > 1.5 seconds > 1.5 seconds > a threshold in gm/sec as a function of engine speed See table " TIAP-MAP Correlation Min Air Flow " > a threshold in kPa as a function of engine speed See table	No Active DTCs: No Pending DTCs:	multiplied by TIAP Residual Weight Factor based on RPM Filtered Throttle Model Error multiplied by TPS Residual Weight Factor based on RPM See Residual Weight Factor tables. MAP_SensorCircuitFA EGRValvePerformance_F A MAF_SensorCircuitFA CrankSensor_FA ECT_Sensor_FA IAT_SensorFA MnfTempSensorFA TC_BoostPresSnsrCktFA AmbientAirDefault EGRValve_FP ECT_Sensor_Ckt_FP IAT_SensorCircuitFP MnfTempSensorCktFP		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			AND Filtered Mass Air Flow - Mass Air Flow	< 2.0 gm/sec				
			Low Engine Air Flow is TRUE when Mass Air Flow	< a threshold in gm/ sec as a function of engine speed See table "TIAP-Baro Correlation Max Air Flow"				
			AND Manifold Pressure	< a threshold in kPa as a function of engine speed See table "TIAP-Baro Correlation Max MAP"				
			AND Mass Air Flow - Filtered Mass Air Flow	< 2.0 gm/sec				
			Turbocharger Boost Pressure OR Turbocharger Bosst Pressure	< 50.0 kPa > 115.0 kPa	Time between current ignition cycle and the last time the engine was running Engine is not rotating	> 10.0 seconds	4 failures out of 5 samples 1 sample every 12.5 msec	
			OR ABS(Manifold Pressure - Turbocharger Boost Pressure) AND ABS(Manifold Pressure - Baro Pressure) AND	> 10.0 kPa <= 10.0 kPa	No Active DTCs: No Pending DTCs:	EngineModeNotRunTimer Error MAP_SensorCircuitFA AAP_SnsrCktFA AAP2_SnsrCktFA AAP3_SnsrCktFA MAP_SensorCircuitFP		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			ABS(Manifold Pressure - Baro Pressure 2) AND ABS(Turbocharger Boost Pressure - Baro Pressure) AND ABS(Turbocharger Boost Pressure - Baro Pressure 2) AND ABS(Baro Pressure - Baro Pressure2)	<= 10.0 kPa > 10.0 kPa > 10.0 kPa <= 10.0 kPa		AAP_SnsrCktFP AAP2_SnsrCktFP AAP3_SnsrCktFP		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Boost Pressure Sensor Circuit Low	P0237	Detects a continuous short to low or open in either the signal circuit or the turbocharger boost pressure sensor.	Turbocharger Boost Pressure Voltage	< 14.4 % of 5 Volt Range (This is equal to 0.72 Volts, or 50.0 kPa)	Engine Run Time	> 0.00 seconds	320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Boost Pressure Sensor Circuit High	P0238	Detects an open sensor ground or continuous short to high in either the signal circuit or the turbocharger boost pressure sensor.	Turbocharger Boost Pressure Voltage	> 84.0 % of 5 Volt Range (This is equal to 4.20 Volts, or 363.0 kPa)	Engine Run Time	> 0.00 seconds	320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Intercooler Coolant Pump Control Circuit If Intercooler pump are present	P023A	Detect Intercooler Pump - Open Circuit	ECM detects that commanded and actual states of output driver do not match because the output is open circuit		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	20 failures out of 100 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Intercooler Coolant Pump Control Circuit Low If Intercooler pump are present	P023B	Detect Intercooler Pump - Shorted to Ground	ECM detects that commanded and actual states of output driver do not match because the output is shorted to ground		Diagnostic Enabled EnabledPowertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	20 failures out of 100 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Intercooler Coolant Pump Control Circuit High If Intercooler pump are present	P023C	Detect Intercooler Pump - Shorted to Power	ECM detects that commanded and actual states of output driver do not match because the output is shorted to power		Diagnostic Enabled Powertrain relay voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	20 failures out of 100 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Wastegate / Supercharger Boost Solenoid A Control Circuit	P0243	Detect Turbocharger Boost Solenoid -Open Circuit	ECM detects that commanded and actual states of output driver do not match because the output is open circuit		Diagnostic Enabled Powertrain relay voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Wastegate / Supercharger Boost Solenoid A Control Circuit Low	P0245	Detect Turbocharger Boost Solenoid - Shorted to ground	ECM detects that commanded and actual states of output driver do not match because the output is shorted to ground		Diagnostic Enabled Powertrain relay voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Wastegate / Supercharger Boost Solenoid A Control Circuit High	P0246	Detect Turbocharger Boost Solenoid - Shorted to Power	ECM detects that commanded and actual states of output driver do not match because the output is shorted to power		Diagnostic Enabled Powertrain relay voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Wastegate / Supercharger Boost Solenoid B Control Circuit If two parallel turbos are present.	P0247	Detect Turbocharger Boost Solenoid B - Open Circuit	ECM detects that commanded and actual states of output driver do not match because the output is open circuit		Diagnostic Enabled Powertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Wastegate / Supercharger Boost Solenoid B Control Circuit Low If two parallel turbos are present.	P0249	Detect Turbocharger Boost Solenoid B - Shorted to ground	ECM detects that commanded and actual states of output driver do not match because the output is shorted to ground		Diagnostic Enabled Powertrain relay voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger Wastegate / Supercharger Boost Solenoid B Control Circuit High If two parallel turbos are present.	P0250	Detect Turbocharger Boost Solenoid B - Shorted to Power	ECM detects that commanded and actual states of output driver do not match because the output is shorted to power		Diagnostic Enabled Powertrain relay Voltage Ignition run crank voltage Engine is not cranking	1 >= 11.00 Volts >= 5.00 Volts	50 failures out of 63 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 1 Low side circuit shorted to ground (SIDI)	P0261	This DTC Diagnoses Injector 1 enable low side driver circuit for circuit faults.	Voltage low across low side drive during off state indicates short-to-ground	Short to ground: ≤ 1 volt between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 1 Low side circuit shorted to power (SIDI)	P0262	This DTC Diagnoses Injector 1 enable low side driver circuit for circuit faults.	Voltage High across low side driver during On state indicates short to power	Short to power: 25 amp >= through low side driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 2 Low side circuit shorted to ground (SIDI)	P0264	This DTC Diagnoses Injector 2 enable low side driver circuit for circuit faults.	Voltage low across low side drive during off state indicates short-to-ground	Short to ground: ≤ 1 volt between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 2 Low side circuit shorted to power (SIDI)	P0265	This DTC Diagnoses Injector 2 enable low side driver circuit for circuit faults.	Voltage High across low side driver during On state indicates short to power	Short to power: 25 amp >= through low side driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 3 Low side circuit shorted to ground (SIDI)	P0267	This DTC Diagnoses Injector 3 enable low side driver circuit for circuit faults.	Voltage low across low side drive during off state indicates short-to-ground	Short to ground: ≤ 1 volt between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 3 Low side circuit shorted to power (SIDI)	P0268	This DTC Diagnoses Injector 3 enable low side driver circuit for circuit faults.	Voltage High across low side driver during On state indicates short to power	Short to power: 25 amp >= through low side driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbocharger or Supercharger with Intercooler	P026A	Charging Intercooler Efficiency	High Manifold Temperature OR Lengthy boost limiting due to elevated manifold temperature	> 110.00 > 10,000.00	Diagnostic Enabled Pump Enabled Engine Run Time Coolant Temp No active DTCS:	1.00 Pump enable is dynamic >= 60.00 seconds >= -10.00 deg Celsius ECTR_b_ECT_SnsrFA EITR_b_MnfdTempSnsrFA	5.00 failures out of 10.00 samples. 1 sample every 100 ms	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 4 Low side circuit shorted to ground (SIDI)	P0270	This DTC Diagnoses Injector 4 enable low side driver circuit for circuit faults.	Voltage low across low side drive during off state indicates short-to-ground	Short to ground: ≤ 1 volt between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 4 Low side circuit shorted to power (SIDI)	P0271	This DTC Diagnoses Injector 4 enable low side driver circuit for circuit faults.	Voltage High across low side driver during On state indicates short to power	Short to power: 25 amp >= through low side driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 5 Low side circuit shorted to ground (SIDI)	P0273	This DTC Diagnoses Injector 5 enable low side driver circuit for circuit faults.	Voltage low across low side drive during off state indicates short-to-ground	Short to ground: ≤ 1 volt between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 5 Low side circuit shorted to power (SIDI)	P0274	This DTC Diagnoses Injector 5 enable low side driver circuit for circuit faults.	Voltage High across low side driver during On state indicates short to power	Short to power: 25 amp >= through low side driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 6 Low side circuit shorted to ground (SIDI)	P0276	This DTC Diagnoses Injector 6 enable low side driver circuit for circuit faults.	Voltage low across low side drive during off state indicates short-to-ground	Short to ground: ≤ 1 volt between signal and controller ground	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 6 Low side circuit shorted to power (SIDI)	P0277	This DTC Diagnoses Injector 6 enable low side driver circuit for circuit faults.	Voltage High across low side driver during On state indicates short to power	Short to power: 25 amp >= through low side driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Engine Underboost Turbocharger with wastegate. Not supercharger with mechanical compressor	P0299	Detect Positive Boost Pressure Control Deviation	Desired Boost Pressure - Actual Boost Pressure	> (KtBSTD_p_CntrlDevPosLim + KtBSTD_p_CntrlDevAmbAirCorr) See Tables in Supporting Tables Sheet	Diagnostic Enabled Engine Speed Engine Speed Desired Boost Pressure Desired Boost Pressure Desired Boost Pressure Derivative Desired Boost Pressure Derivative Ambient Pressure Ambient Pressure Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Wait for steady state: No Active DTCs:	1 > 1,500 rpm < 6,500 rpm > 70.0 kPa < 245.0 kPa > -40.0 kPa/s < 50.0 kPa/s > 60.0 kPa < 120.0 kPa > -40.0 Deg C < 120.0 Deg C > -40.0 Deg C < 80.0 Deg C > KtBSTD_t_CntrlDevEnable See Table in Supporting Tables Sheet Desired Boost Pressure > Basic Pressure AmbientAirDefault_Snr BSTR_b_PCA_CktFA BSTR_b_TurboBypassCktFA ECT_Sensor_FA	18 failures out of 25 samples 1 sample every 100ms	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					No Active DVCs:	IAT_SensorFA BSTR_b_ExcsvBstTFTK O BSTR_b_PCA_CktTFTK O TC_BoostPresSnsrFA AnyCamPhaser_FA BSTR_b_PresCntrlTooLo TFTKO BSTR_b_PresCntrlTooHiT FTKO EnginePowerLimited BSTR_b_DVC_PCA_DC_ Actv BSTR_b_DVC_PCA_Pstn Actv BSTR_b_DVC_TurboCom prBypActv		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Random Misfire Detected	P0300	These DTC's will determine if a random or a cylinder specific misfire is occurring by monitoring various terms derived from crankshaft velocity. The rate of misfire over an interval is compared to both emissions and catalyst damaging thresholds. The pattern of crankshaft acceleration after the misfire is checked to differentiate between real misfire and other sources of crank shaft noise.	Crankshaft Deceleration Value(s) vs. Engine Speed and Engine load		Engine Run Time	> 2 crankshaft revolution	Emission Exceedence = any (5) failed 200 rev blocks out of (16) 200 rev block tests Failure reported for (1) Exceedence in 1st (16) 200 rev block tests, or (4) Exceedences thereafter. OR when Early Termination Reporting = Enabled and engine rev > 1,000 revs and < 3,200 revs at end of trip any Catalyst Exceedence = (1) 200 rev block as data supports for catalyst damage.	Type B, 2 Trips (Mil Flashes with Catalyst damage level of Misfire)
Cylinder 1 Misfire Detected	P0301		The equation used to calculate deceleration value is tailored to specific vehicle operating conditions.		Engine Coolant Temp Or If ECT at startup Then ECT	-7 °C < ECT < 127 °C < -7 °C 21 °C < ECT < 127 °C		
Cylinder 2 Misfire Detected	P0302		The selection of the equation used is based on the 1st single cylinder continuous misfire threshold tables encountered that are not max of range. If all tables are max of range at a given speed/load, that speed load region is an Undetectable region see Algorithm Description Document for additional details.		System Voltage + Throttle delta - Throttle delta	9.00 < volts < 32.00 < 60.00 % per 25 ms < 90.00 % per 25 ms		
Cylinder 3 Misfire Detected	P0303							
Cylinder 4 Misfire Detected	P0304							
Cylinder 5 Misfire Detected	P0305			- see details of thresholds on Supporting Tables Tab (P0300 Section)	Early Termination option: (used on plug ins that may not have enough engine run time at end of trip for normal interval to complete.)	Not Enabled		
Cylinder 6 Misfire Detected	P0306							
			SINGLE CYLINDER CONTINUOUS MISFIRE((Medres_Decel Medres_Jerk	> IdleSCD_Decel AND > IdleSCD_Jerk)				
			OR (Medres_Decel Medres_Jerk	>SCD_Decel AND > SCD_Jerk)				
			OR (Lores_Decel Lores_Jerk	>IdleCyl_Decel AND > IdleCyl_Jerk)				
			OR (Lores_Decel Lores_Jerk	>CylModeDecel AND > CylModeJerk)				
			OR RevBalanceTime	>RevMode_Decel				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Other patterns of misfire use adjustments to the single cylinder continuous misfire threshold tables:				Catalyst Failure reported with (1 or 3) Exceedences in FTP, or (1) Exceedence outside FTP. Continuous	
			RANDOM MISFIRE Use random misfire thresholds If no misfire for	> 3 Engine Cycles				
			(Medres_Decel AND Medres_Jerk)	> IdleSCD_Decel * Random_SCD_Decel > IdleSCD_Jerk * Random_SCD_Jerk				
			OR (Medres_Decel AND Medres_Jerk)	> SCD_Decel * Random_SCD_Decel > SCD_Jerk * Random_SCD_Jerk				
			OR (Lores_Decel AND Lores_Jerk)	> IdleCyl_Decel * RandomCylModDecel > IdleCyl_Jerk * RandomCylModeJerk				
			OR (Lores_Decel AND Lores_Jerk)	> CylModeDecel * RandomCylModDecel > CylModeJerk * RandomCylModeJerk				
			OR RevBalanceTime	> RevMode_Decel * RandomRevModDecl				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			PAIRED CYLINDER MISFIRE If a cylinder & it's pair are above PAIR thresholds (Medres_Decel AND Medres_Jerk) OR (Medres_Decel AND Medres_Jerk) OR (Lores_Decel AND Lores_Jerk) OR (Lores_Decel AND Lores_Jerk) OR (Revmode Active AND (within one engine cycle: 2nd largest Lores_Decel) AND Above TRUE for)	> IdleSCD_Decel * Pair_SCD_Decel > IdleSCD_Jerk * Pair_SCD_Jerk > SCD_Decel * Pair_SCD_Decel > SCD_Jerk * Pair_SCD_Jerk > IdleCyl_Decel * PairCylModeDecel > IdleCyl_Jerk * PairCylModeJerk > CylModeDecel * PairCylModeDecel > CylModeJerk * PairCylModeJerk > CylModeDecel * PairCylModeDecel > 40 engine cycles out of 100 engine cycles				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			BANK MISFIRE Cylinders above Bank Thresholds (Medres_Decel AND Medres_Jerk) OR (Medres_Decel AND Medres_Jerk) OR (Lores_Decel AND Lores_Jerk) OR (Lores_Decel AND Lores_Jerk)	>= 3 cylinders > IdleSCD_Decel * Bank_SCD_Decel > IdleSCD_Jerk * Bank_SCD_Jerk > SCD_Decel * Bank_SCD_Decel > SCD_Jerk * Bank_SCD_Jerk > IdleCyl_Decel * BankCylModeDecel > IdleCyl_Jerk * BankCylModeJerk > CylModeDecel * BankCylModeDecel > CylModeJerk * BankCylModeJerk				
			CONSECUTIVE CYLINDER MISFIRE 1st cylinder uses single cyl continuous misfire thresholds; 2nd Cylinder uses: (Medres_Decel	> IdleSCD_Decel * ConsecSCD_Decel				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>AND Medres_Jerk)</p> <p>OR (Medres_Decel</p> <p>AND Medres_Jerk)</p> <p>OR (Lores_Decel</p> <p>AND Lores_Jerk)</p> <p>OR (Lores_Decel</p> <p>AND Lores_Jerk)</p> <p>CYLINDER DEACTIVATION MODE (Active Fuel Managment)</p> <p>AFM: SINGLE CYLINDER CONTINUOUS MISFIRE (CylAfterDeacCyl_Decel</p> <p>AND CylAfterDeacCyl_Jerk)</p> <p>OR</p>	<p>> IdleSCD_Jerk * ConsecSCD_Jerk</p> <p>> SCD_Decel * ConsecSCD_Decel</p> <p>> SCD_Jerk * ConsecSCD_Jerk</p> <p>> IdleCyl_Decel * ConsecCylModDecel</p> <p>> IdleCyl_Jerk * ConsecCylModeJerk</p> <p>> CylModeDecel * ConsecCylModDecel</p> <p>> CylModeJerk * ConsecCylModeJerk</p> <p>> CylModeDecel * ClyAfterAFM_Decel</p> <p>> CylModeJerk * CylAfterAFM_Jerk</p> <p>> CylModeDecel *</p>				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			(CylBeforeDeacCylDecel AND CylBeforeDeacCyl_Jerk)	CylBeforeAFM_Decel > CylModeJerk * ClyBeforeAFM_Jerk				
		AFM: RANDOM MISFIRE Use random misfire thresholds If no misfire for	(CylAfterDeacCyl_Decel AND CylAfterDeacCyl_Jerk)	> 3 Engine Cycles > CylModeDecel * ClyAfterAFM_Decel * RandomAFM_Decl > CylModeJerk * CylAfterAFM_Jerk * RandomAFM_Jerk				
			(CylBeforeDeacCylDecel AND CylBeforeDeacCyl_Jerk)	> CylModeDecel * ClyAfterAFM_Decel * RandomAFM_Decl > CylModeJerk * CylAfterAFM_Jerk * RandomAFM_Jerk				
				- see details on Supporting Tables Tab (P0300 Section)				
		Misfire Percent Emission Failure Threshold		≥ 2.08 % P0300				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>Misfire Percent Catalyst Damage</p> <p>When engine speed and load are less than the FTP calcs (3) catalyst damage exceedences are allowed.</p>	<p>> Catalyst_Damage_Misfire_Percentage in Supporting Tables whenever secondary conditions are met.</p> <p>≤ 0 FTP rpm AND ≤ 0 FTP % load</p> <p>disable conditions:</p>	<p>(at low speed/loads, one cylinder may not cause cat damage)</p> <p>Engine Speed Engine Load Misfire counts</p> <p>Engine Speed</p> <p>No active DTCs:</p>	<p>> 1,500 rpm AND > 30 % load AND < 180 counts on one cylinder</p> <p>400 < rpm < ((Engine Over Speed Limit) - 150</p> <p>Engine speed limit is a function of inputs like Gear and temperature</p> <p>see EngineOverSpeedLimit in supporting tables</p> <p>TPS_FA EnginePowerLimited MAF_SensorTFTKO MAP_SensorTFTKO IAT_SensorTFTKO ECT_Sensor_Ckt_TFTKO 5VoltReferenceB_FA CrankSensorTFTKO CrankSensorFA</p>	<p>4 cycle delay</p> <p>4 cycle delay</p>	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
						CamLctnIntFA CamLctnExhFA CamSensorAnyLctnTFTK O AnyCamPhaser_FA AnyCamPhaser_TFTKO AmbPresDfstdStatus		
					P0315 & engine speed	> 1,000 rpm	4 cycle delay	
					Fuel Level Low	LowFuelConditionDiagnostic	500 cycle delay	
					Cam and Crank Sensors	in sync with each other	4 cycle delay	
					Misfire requests TCC unlock	Not honored because Transmission in hot mode or POPD intrusive diagnostic running	4 cycle delay	
					Fuel System Status	≠ Fuel Cut	4 cycle delay	
					Active FuelManagement	Transition in progress	7 cycle delay	
					Undetectable engine speed and engine load region	Undetectable region from Malfunction Criteria	4 cycle delay	
					Abusive Engine Over Speed	> 8,192 rpm	0 cycle delay	
					Below zero torque (except CARB approved 3000 rpm to redline triangle.)	< ZeroTorqueEngLoad in Supporting Tables	4 cycle delay	
					Below zero torque: TPS Vehicle Speed	≤ 1 % > 19 mph	4 cycle delay	
					EGR Intrusive test	Active	0 cycle delay	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Manual Trans</p> <p>Accel Pedal Position AND Automatic transmission shift</p> <p>After Fuel resumes on Automatic shift containing Fuel Cut</p> <p>DRIVELINE RING FILTER After a low level misfire, another misfire may not be detectable until driveline ringing ceases. If no ringing seen, stop filter early. Filter Driveline ring: Stop filter early:</p> <p>ABNORMAL ENGINE SPEED OSCILLATION: (checks each "misfire" candidate in 100 engine Cycle test to see if it looks like some disturbance like rough road (abnormal).)</p> <p>Used Off Idle, and while not shifting, TPS Engine Speed Veh Speed Auto Transmission</p>	<p>Clutch shift</p> <p>> 95.00 %</p> <p>> "Ring Filter" # of engine cycles after misfire in Supporting Tables</p> <p>> "Number of Normals" # of engine cycles after misfire in Supporting Tables tab</p> <p>> 3 % > 900 rpm > 3 mph not shifting</p>	<p>4 cycle delay</p> <p>7 cycle delay</p> <p>2 Cylinder delay</p>	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>individual candidate deemed abnormal if number of consecutive decelerating cylinders after "misfire": (Number of decels can vary with misfire detection equation)</p> <p>Consecutive decels while in SCD Mode Cyl Mode Rev Mode</p> <p>At the end of 100 engine cycle test, the ratio of abnormal/candidate is checked to confirm if real misfire is present within the 100 engine cycles.</p> <p>abnormal candidates/ total candidates</p> <p>MISFIRE CRANKSHAFT PATTERN RECOGNITION checks each "misfire" candidate in 100 engine Cycle test to see if overall crankshaft pattern looks like real misfire (recognized), or some disturbance like rough road (unrecognized).</p>	<p>> Abnormal SCD Mode > Abnormal Cyl Mode > Abnormal Rev Mode in Supporting Tables</p> <p>> 0.50 ratio</p>	<p>discard 100 engine cycle test</p>	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>At the end of 100 engine cycle test, the ratio of unrecog/recognized is checked to confirm if real misfire is present within the 100 engine cycles. Typically used for checking a single misfire per engine cycle but can support some other patterns on some packages</p> <p>Pattern Recog Enabled:</p> <p>Pattern Recog Enabled during Cylinder Deac</p> <p>Pattern Recog Enabled consecutive cyl patrn</p> <p>Engine Speed Veh Speed</p> <p>The 1st check for "recognized" is the 1st fired cylinder after the misfire candidate should both accelerate and jerk an amount based acceleration and jerk of Single Cylinder Misfire thresholds in effect at that speed and load.</p> <p>(CylAfter_Accel AND CylAfter_Jerk)</p>	<p>Enabled</p> <p>Not Enabled</p> <p>Enabled</p> <p>700 < rpm < 6,500 > 0.6 mph</p> <p>> Misfire_decel * 1st_FireAftrMisfr_Acel</p> <p>> Misfire_Jerk * 1st_FireAftrMisfr_Jerk</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Additionally, the crankshaft is checked again a small calibratable number of cylinders later to see if the disturbance is still large like rough road, or has calmed down like real misfire. The size of disturbance is compared to a multiplier times the ddt_jerk value used to detect misfire at that speed and load. If there is repetitive misfire on consecutive engine cycles, the expected snap is adjusted due to the higher expected disturbance.</p> <p>Num of Cylinders after misfire to start check of crankshaft snap</p> <p>"misfire" recognized if: Crankshaft snap after: isolated "misfire"</p> <p>repetative "misfire"</p> <p>At the end of 100 engine cycle test, the ratio of unrecog/recognized is checked to confirm if real misfire is present.</p> <p>Ratio of Unrecog/Recog</p>	<p>2 Cylinders</p> <p>< Misfire_Jerk * SnapDecayAfterMisfire</p> <p>< Misfire_Jerk * SnapDecayAfterMisfire * RepetSnapDecayAdjst in Supporting Tables</p> <p>> 1.80</p>	<p>discard 100 engine cycle test</p>	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					: NON-CRANKSHAFT BASED ROUGH ROAD: Rough Road Source IF Rough Road Source = WheelSpeedInECM ABS/TCS Wheel speed noise VSES IF Rough Road Source = "FromABS" ABS/TCS RoughRoad VSES IF Rough Road Source = "TOSS" TOSS dispersion AND No Active DTCs	Disabled TOSS active > WSSRoughRoadThres active active detected active > TOSSRoughRoadThres in supporting tables Transmission Output Shaft Angular Velocity Validity TransmissionEngagedStat e_FA (Auto Trans only) Clutch Sensor FA (Manual Trans only)	discard 100 engine cycle test discard 100 engine cycle test discard 100 engine cycle test 4 cycle delay	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Crankshaft Position System Variation Not Learned	P0315	Monitor for valid crankshaft error compensation factors	Sum of Compensation factors. Each Cylinder pair shares one compensation factor. A perfect factor would be 1.0000. Unlearned factors are defaulted out of range so the sum of factors would be out of range.	≥ 3.0040 OR ≤ 2.9960	OBD Manufacturer Enable Counter	MEC = 0	0.50 seconds Frequency Continuous100 msec	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.	
Knock Sensor (KS) Performance Per Cylinder	P0324	This diagnostic checks for knock sensor performance out of the normal expected range on a per cylinder basis due to: 1. Excessive knock or 2. Abnormal engine noise or 3. Flat signal	Common Enable Criteria (Applies to all 3 parts of the performance diag)		Diagnostic Enabled? Engine Run Time Engine Speed Engine Air Flow ECT IAT	Yes ≥ 2.0 seconds ≤ 8,500 RPM ≥ 0 mg/cylinder and ≤ 2,000 mg/cylinder ≥ -40 deg's C ≥ -40 deg's C	First Order Lag Filters with Weight Coefficients	Type B, 2 Trips	
			Specific Enable Criteria and Thresholds for 3 individual parts of the performance diag: -----						
			1. Excessive Knock Diag: Filtered Knock Intensity VaKNKD_k_PerfCylKnock IntFilt (where 'Knock Intensity' = 0 with no knock; and > 0 & proportional to knock magnitude with knock) -----	> 3.00 (no units)	Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per key cycle)	≥ 400 RPM ≥ 134 Revs			Excessive Knk Weight Coefficient = 0.0300 Updated each engine event
2. Abnormal Noise Diag: Filtered FFT Intensity (where 'FFT Intensity' = Non-knocking, background noise)	< AbnormalNoise_Threshold (see Supporting Tables)	Individual Cylinders enabled for Abnormal Noise Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per key	See AbnormalNoise_CylsEnabled (Supporting Tables) ≥ 8,500 RPM ≥ 200 Revs	Abn Noise Weight Coefficient = 0.0200 Updated each engine event					

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>-----</p> <p>3. Flat Signal Diag: Filtered Signal Delta (Current FFT Intensity - Ave_Intensity_No-Knock)</p> <p>VaKNKD_k_PerfCylFlatFil tInt</p>	<p>-----</p> <p>< 0.008 (no units)</p> <p>-----</p>	<p>cycle)</p> <p>-----</p> <p>Engine Speed</p> <p>Cumulative Number of Engine Revs Above Min Eng Speed (per keycycle)</p>	<p>-----</p> <p>≥ 8,500 RPM</p> <p>≥ 400 Revs</p>	<p>-----</p> <p>Flat Signal Weight Coefficient = 0.010</p> <p>Updated each engine event</p>	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Circuit Bank 1	P0325	<p>This diagnostic checks for an open in the knock sensor circuit.</p> <p>There are two possible methods used:</p> <ol style="list-style-type: none"> 1. 20 kHz 2. Normal Noise <p>See Supporting Tables for method definition: P0325_P0330_OpenMethod</p> <p>Typical implementations:</p> <ol style="list-style-type: none"> A. Use 20 kHz method at all RPM (used when acceptable separation achieved at all RPM) or B. Use 20 kHz method at low/medium RPM and Normal Noise at high RPM 	Filtered FFT Output	<p>> OpenCktThrshMin and < OpenCktThrshMax</p> <p>See Supporting Tables</p> <p>Thresholds for OpenMethod = 20 kHz: OpenCktThrshMin (20 kHz) & OpenCktThrshMax (20 kHz)</p> <p>Thresholds for OpenMethod = NormalNoise: OpenCktThrshMin (Normal Noise) & OpenCktThrshMax (Normal Noise)</p>	<p>Diagnostic Enabled?</p> <p>Engine Run Time</p> <p>Engine Speed</p> <p>Cumulative Number of Engine Revs (per key cycle) within min/max Engine Speed enable (above)</p> <p>Engine Air Flow</p> <p>ECT</p> <p>IAT</p>	<p>Yes</p> <p>≥ 2.0 seconds</p> <p>≥ 400 RPM and ≤ 8,500 RPM</p> <p>≥ 133 revs</p> <p>≥ 50 mg/cylinder and ≤ 2,000 mg/cylinder</p> <p>≥ -40 deg's C</p> <p>≥ -40 deg's C</p>	<p>First Order Lag Filter with Weight Coefficient</p> <p>Weight Coefficient = 0.0100</p> <p>Updated each engine event</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Performance Bank 1	P0326	This diagnostic checks for knock sensor performance out of the normal expected range, on a per sensor basis, due to 1. Excessive knock or 2. Abnormal engine noise or 3. Flat signal	Common Enable Criteria (Applies to all 3 parts of the performance diag)		Diagnostic Enabled? Engine Run Time Engine Speed Engine Air Flow ECT IAT	Yes ≥ 2.0 seconds ≤ 8,500 RPM ≥ 0 mg/cylinder and ≤ 2,000 mg/cylinder ≥ -40 deg's C ≥ -40 deg's C		Type B, 2 Trips
			Specific Enable Criteria and Thresholds for 3 individual parts of the performance diag: -----				First Order Lag Filters with Weight Coefficients	
			1. Excessive Knock Diag: Filtered Knock Intensity (where 'Knock Intensity' = 0 with no knock; and > 0 & proportional to knock magnitude with knock)	> 3.00 (no units)	Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per key cycle)	≥ 400 RPM ≥ 133 Revs	Excessive Knk Weight Coefficient = 0.0100 Updated each engine event	
2. Abnormal Noise Diag: Filtered FFT Intensity: (where 'FFT Intensity' = Non-knocking, background noise)	< AbnormalNoise_Threshold (see Supporting Tables)	Individual Cylinders enabled for Abnormal Noise Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per key	See AbnormalNoise_CylsEnabled (Supporting Tables) ≥ 2,500 RPM ≥ 445 Revs	Abnormal Noise Weight Coefficient = 0.0030 Updated each engine event				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			----- 3. Flat Signal Diag: Filtered Signal Delta (Current FFT Intensity - Ave_Intensity_No-Knock)	----- < 0.008 (no units)	cycle) ----- Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per keycycle)	----- ≥ 8,500 RPM ≥ 133 Revs	----- Flat Signal Weight Coefficient = 0.010 Updated each engine event	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Circuit Low Bank 1	P0327	This diagnostic checks for an out of range low knock sensor signal	Sensor Input or Return Signal Line	< 8.0 Percent (of 5 V reference)	Diagnostic Enabled? Engine Speed	Yes > 0 RPM and < 8,500 RPM	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Circuit High Bank 1	P0328	This diagnostic checks for an out of range high knock sensor signal	Sensor Input or Return Signal Line	> 39.0 Percent (of 5 Volt Reference)	Diagnostic Enabled? Engine Speed	Yes > 0 RPM and < 8,500 RPM	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Circuit Bank 2	P0330	<p>This diagnostic checks for an open in the knock sensor circuit</p> <p>There are two possible methods used:</p> <ol style="list-style-type: none"> 20 kHz Normal Noise <p>See Supporting Tables for method definition: P0325_P0330_OpenMethod</p> <p>Typical implementations:</p> <ol style="list-style-type: none"> Use 20 kHz method at all RPM (used when acceptable separation achieved at all RPM) or Use 20 kHz method at low/medium RPM and Normal Noise at high RPM 	Filtered FFT Output	<p>> OpenCktThrshMin and < OpenCktThrshMax</p> <p>See Supporting Tables</p> <p>Thresholds for OpenMethod = 20 kHz: OpenCktThrshMin (20 kHz) & OpenCktThrshMax (20 kHz)</p> <p>Thresholds for OpenMethod = NormalNoise: OpenCktThrshMin (Normal Noise) & OpenCktThrshMax (Normal Noise)</p>	<p>Diagnostic Enabled?</p> <p>Engine Run Time</p> <p>Engine Speed</p> <p>Cumulative Number of Engine Revs (per key cycle) within min/max Engine Speed enable (above)</p> <p>Engine Air Flow</p> <p>ECT</p> <p>IAT</p>	<p>Yes</p> <p>≥ 2.0 seconds</p> <p>≥ 400 RPM and ≤ 8,500 RPM</p> <p>67 revs</p> <p>≥ 50 mg/cylinder and ≤ 2,000 mg/cylinder</p> <p>≥ -40 deg's C</p> <p>≥ -40 deg's C</p>	<p>First Order Lag Filter with Weight Coefficient</p> <p>Weight Coefficient = 0.0100</p> <p>Updated each engine event</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Performance Bank 2	P0331	This diagnostic checks for knock sensor performance out of the normal expected range, on a per sensor basis, due to 1. Excessive knock or 2. Abnormal engine noise on a per bank basis or 3. Flat signal	Common Enable Criteria (Applies to all 3 parts of the performance diag)		Diagnostic Enabled? Engine Run Time Engine Speed Engine Air Flow ECT IAT	Yes ≥ 2.0 seconds ≤ 8,500 RPM ≥ 0 mg/cylinder and ≤ 2,000 mg/cylinder ≥ -40 deg's C ≥ -40 deg's C		Type B, 2 Trips
			Specific Enable Criteria and Thresholds for 3 individual parts of the performance diag: -----				First Order Lag Filters with Weight Coefficients	
			1. Excessive Knock Diag: Filtered Knock Intensity (where 'Knock Intensity' = 0 with no knock; and > 0 & proportional to knock magnitude with knock) -----	> 3.00 (no units)	Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per key cycle)	≥ 400 RPM ≥ 133 Revs	Excessive knk Weight Coefficient = 0.0100 Updated each engine event	
2. Abnormal Noise Diag: Filtered FFT Intensity: (where 'FFT Intensity' = Non-knocking, background noise)	< AbnormalNoise_Threshold (see Supporting Tables)	Individual Cylinders enabled for Abnormal Noise Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per key cycle)	See AbnormalNoise_CylsEnabled (Supporting Tables) ≥ 2,500 RPM ≥ 445 Revs	Abnormal Noise Weight Coefficient = 0.0030 Updated each engine event				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			----- 3. Flat Signal Diag: Filtered Signal Delta (Current FFT Intensity - Ave_Intensity_No-Knock)	----- < 0.008 (no units)	----- Engine Speed Cumulative Number of Engine Revs Above Min Eng Speed (per keycycle)	----- ≥ 8,500 RPM ≥ 133 Revs	----- Flat Signal Weight Coefficient = 0.010 Updated each engine event	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Circuit Low Bank 2	P0332	This diagnostic checks for an out of range low knock sensor signal	Sensor Input or Return Signal Line	< 8.0 Percent (of 5 Volt Reference)	Diagnostic Enabled? Engine Speed	Yes > 0 RPM and < 8,500 RPM	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Knock Sensor (KS) Circuit High Bank 2	P0333	This diagnostic checks for an out of range high knock sensor signal	Sensor Input or Return Signal Line	> 39.00 Percent (of 5 Volt Reference)	Diagnostic Enabled? Engine Speed	Yes > 0 RPM and < 8,500 RPM	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Crankshaft Position (CKP) Sensor A Circuit	P0335	Determines if a fault exists with the crank position sensor signal	Time since last crankshaft position sensor pulse received	>= 4.0 seconds	Starter engaged AND (cam pulses being received OR (DTC P0101 AND DTC P0102 AND DTC P0103 AND Engine Air Flow	= FALSE = FALSE = FALSE > 3.0 grams/second))	Continuous every 100 msec	Type B, 2 Trips
			No crankshaft pulses received	>= 0.1 seconds	Engine is Running Starter is not engaged	Continuous every 12.5 msec		
			No crankshaft pulses received		Engine is Running OR Starter is engaged No DTC Active:	P0365 P0366	2 failures out of 10 samples One sample per engine revolution	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Crankshaft Position (CKP) Sensor A Performance	P0336	Determines if a performance fault exists with the crank position sensor signal	Time in which 10 or more crank re-synchronizations occur	< 10.0 seconds	Engine Air Flow Cam-based engine speed No DTC Active:	>= 3.0 grams/second > 450 RPM P0335	Continuous every 250 msec	Type B, 2 Trips
			No crankshaft synchronization gap found	>= 0.4 seconds	Engine is Running Starter is not engaged		Continuous every 12.5 msec	
			Time since starter engaged without detecting crankshaft synchronization gap	>= 1.5 seconds	Starter engaged AND (cam pulses being received OR (DTC P0101 AND DTC P0102 AND DTC P0103 AND Engine Air Flow	= FALSE = FALSE = FALSE > 3.0 grams/second))	Continuous every 100 msec	
			Crank pulses received in one engine revolution OR Crank pulses received in one engine revolution	< 51 > 65	Engine is Running OR Starter is engaged No DTC Active:	P0365 P0366	8 failures out of 10 samples One sample per engine revolution	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Circuit Bank 1 Sensor A	P0340	Determines if a fault exists with the cam position bank 1 sensor A signal	Time since last camshaft position sensor pulse received	>= 5.5 seconds	Starter engaged AND (cam pulses being received OR (DTC P0101 AND DTC P0102 AND DTC P0103 AND Engine Air Flow	= FALSE = FALSE = FALSE > 3.0 grams/second))	Continuous every 100 msec	Type B, 2 Trips
			OR Time that starter has been engaged without a camshaft sensor pulse	>= 4.0 seconds				
			Fewer than 4 camshaft pulses received in a time	> 3.0 seconds	Engine is running Starter is not engaged		Continuous every 100 msec	
			No camshaft pulses received during first 12 MEDRES events (There are 12 MEDRES events per engine cycle		Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensor_FA	Continuous every MEDRES event	
		The number of camshaft pulses received during 100 engine cycles	= 0	Crankshaft is synchronized No DTC Active:	CrankSensor_FA	8 failures out of 10 samples Continuous every engine cycle		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Performance Bank 1 Sensor A	P0341	Determines if a performance fault exists with the cam position bank 1 sensor A signal	The number of camshaft pulses received during first 12 MEDRES events is OR (There are 12 MEDRES events per engine cycle)	< 4 OR > 6	Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensorFA	Continuous every MEDRES event	Type B, 2 Trips
			The number of camshaft pulses received during 100 engine cycles OR	< 398 OR > 402	Crankshaft is synchronized No DTC Active:	CrankSensorFA	8 failures out of 10 samples Continuous every engine cycle	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Circuit Bank 2 Sensor A	P0345	Determines if a fault exists with the cam position bank 2 sensor A signal	Time since last camshaft position sensor pulse received	>= 5.5 seconds	Starter engaged AND (cam pulses being received OR (DTC P0101 AND DTC P0102 AND DTC P0103 AND Engine Air Flow	= FALSE = FALSE = FALSE > 3.0 grams/second))	Continuous every 100 msec	Type B, 2 Trips
			OR Time that starter has been engaged without a camshaft sensor pulse	>= 4.0 seconds				
			Fewer than 4 camshaft pulses received in a time	> 3.0 seconds	Engine is running Starter is not engaged		Continuous every 100 msec	
			No camshaft pulses received during first 12 MEDRES events (There are 12 MEDRES events per engine cycle		Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensor_FA	Continuous every MEDRES event	
		The number of camshaft pulses received during 100 engine cycles	= 0	Crankshaft is synchronized No DTC Active:	CrankSensor_FA	8 failures out of 10 samples Continuous every engine cycle		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Performance Bank 2 Sensor A	P0346	Determines if a performance fault exists with the cam position bank 2 sensor A signal	The number of camshaft pulses received during first 12 MEDRES events is OR (There are 12 MEDRES events per engine cycle)	< 4 > 6	Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensorFA	Continuous every MEDRES event	Type B, 2 Trips
			The number of camshaft pulses received during 100 engine cycles OR	< 398 > 402	Crankshaft is synchronized No DTC Active:	CrankSensorFA	8 failures out of 10 samples Continuous every engine cycle	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #1 CIRCUIT	P0351	Diagnoses Cylinder #1 Ignition Control (EST) output driver circuit for an Open Circuit fault.	High impedance during driver high state (indicates open circuit)	$\geq 30 \text{ k}\Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #2 CIRCUIT	P0352	Diagnoses Cylinder #2 Ignition Control (EST) output driver circuit for an Open Circuit fault.	High impedance during driver high state (indicates open circuit)	≥ 30 k Ω impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #3 CIRCUIT	P0353	Diagnoses Cylinder #3 Ignition Control (EST) output driver circuit for an Open Circuit fault.	High impedance during driver high state (indicates open circuit)	$\geq 30 \text{ k}\Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #4 CIRCUIT	P0354	Diagnoses Cylinder #4 Ignition Control (EST) output driver circuit for an Open Circuit fault.	High impedance during driver high state (indicates open circuit)	$\geq 30 \text{ k}\Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #5 CIRCUIT	P0355	Diagnoses Cylinder #5 Ignition Control (EST) output driver circuit for an Open Circuit fault.	High impedance during driver high state (indicates open circuit)	$\geq 30 \text{ k}\Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #6 CIRCUIT	P0356	Diagnoses Cylinder #6 Ignition Control (EST) output driver circuit for an Open Circuit fault.	High impedance during driver high state (indicates open circuit)	$\geq 30 \text{ k}\Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Circuit Bank 1 Sensor B	P0365	Determines if a fault exists with the cam position bank 1 sensor B signal	Time since last camshaft position sensor pulse received	>= 5.5 seconds	Starter engaged AND (cam pulses being received OR (DTC P0101 AND DTC P0102 AND DTC P0103 AND Engine Air Flow	= FALSE = FALSE = FALSE > 3.0 grams/second))	Continuous every 100 msec	Type B, 2 Trips
			OR Time that starter has been engaged without a camshaft sensor pulse	>= 4.0 seconds				
			Fewer than 4 camshaft pulses received in a time	> 3.0 seconds	Engine is running Starter is not engaged		Continuous every 100 msec	
			No camshaft pulses received during first 12 MEDRES events (There are 12 MEDRES events per engine cycle		Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensor_FA	Continuous every MEDRES event	
The number of camshaft pulses received during 100 engine cycles	= 0	Crankshaft is synchronized No DTC Active:	CrankSensor_FA	8 failures out of 10 samples Continuous every engine cycle				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Performance Bank 1 Sensor B	P0366	Determines if a performance fault exists with the cam position bank 1 sensor B signal	The number of camshaft pulses received during first 12 MEDRES events is OR (There are 12 MEDRES events per engine cycle)	< 4 OR > 6	Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensorFA	Continuous every MEDRES event	Type B, 2 Trips
			The number of camshaft pulses received during 100 engine cycles OR	< 398 OR > 402	Crankshaft is synchronized No DTC Active:	CrankSensorFA	8 failures out of 10 samples Continuous every engine cycle	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Circuit Bank 2 Sensor B	P0390	Determines if a fault exists with the cam position bank 2 sensor B signal	Time since last camshaft position sensor pulse received	>= 5.5 seconds	Starter engaged AND (cam pulses being received OR (DTC P0101 AND DTC P0102 AND DTC P0103 AND Engine Air Flow	= FALSE = FALSE = FALSE > 3.0 grams/second))	Continuous every 100 msec	Type B, 2 Trips
			OR Time that starter has been engaged without a camshaft sensor pulse	>= 4.0 seconds				
			Fewer than 4 camshaft pulses received in a time	> 3.0 seconds	Engine is running Starter is not engaged		Continuous every 100 msec	
			No camshaft pulses received during first 12 MEDRES events (There are 12 MEDRES events per engine cycle		Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensor_FA	Continuous every MEDRES event	
		The number of camshaft pulses received during 100 engine cycles	= 0	Crankshaft is synchronized No DTC Active:	CrankSensor_FA	8 failures out of 10 samples Continuous every engine cycle		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Camshaft Position (CMP) Sensor Performance Bank 2 Sensor B	P0391	Determines if a performance fault exists with the cam position bank 2 sensor B signal	The number of camshaft pulses received during first 12 MEDRES events is OR (There are 12 MEDRES events per engine cycle)	< 4 > 6	Crankshaft is synchronized Starter must be engaged to enable the diagnostic, but the diagnostic will not disable when the starter is disengaged No DTC Active:	CrankSensorFA	Continuous every MEDRES event	Type B, 2 Trips
			The number of camshaft pulses received during 100 engine cycles OR	< 398 > 402	Crankshaft is synchronized No DTC Active:	CrankSensorFA	8 failures out of 10 samples Continuous every engine cycle	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Catalyst System Low Efficiency Bank 1	P0420	<p>NOTE: The information below applies to applications that use the Decel Catalyst Monitor Algorithm</p> <p>Oxygen StorageThe catalyst washcoat contains Cerium Oxide. Cerium Oxide reacts with NO and O2 during lean A/F excursions to store the excess oxygen (I.e. Cerium Oxidation). During rich A/F excursions, Cerium Oxide reacts with CO and H2 to release this stored oxygen (I.e. Cerium Reduction). This is referred to as the Oxygen Storage Capacity, or OSC. CatMon's strategy is to "measure" the OSC of the catalyst through forced Rich (intrusive rich) and Lean (decel fuel cutoff) A/F excursions</p> <p>Normalized Ratio OSC Value Calculation Information and Definitions = 1. Raw OSC Calculation = (post cat O2 Resp time - pre cat O2 Resp time) 2. BestFailing OSC value from a calibration</p>	Normalized Ratio OSC Value (EWMA filtered)	< 0.35	<p>All enable criteria associated with P0420 can be found under P2270 - (O2 Sensor Signal Stuck Lean Bank 1 Sensor 2)</p> <p>Rapid Step Response (RSR) feature will initiate multiple tests:</p> <p>If the difference between current EWMA value and the current OSC Normalized Ratio value is</p> <p>and the current OSC Normalized Ratio value is</p> <p>Maximum number of RSR tests to detect failure when RSR is enabled.</p> <p>General Enable Criteria</p> <p>In addition to the p-codes listed under P2270, the following DTC's shall also not be set:</p>	<p>> 0.50</p> <p>< 0.10</p> <p>6</p> <p>O2S_Bank_1_Sensor_1_FA O2S_Bank_1_Sensor_2_FA O2S_Bank_2_Sensor_1_FA O2S_Bank_2_Sensor_2_FA</p>	<p>1 test attempted per valid decel period</p> <p>Minimum of 1 test per trip</p> <p>Maximum of 4 tests per trip</p> <p>Frequency: Fueling Related : 12.5 ms</p> <p>OSC Measurements: 100 ms</p> <p>Temp Prediction: 12.5ms</p>	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		<p>table (based on temp and exhaust gas flow) 3. WorstPassing OSC value (based on temp and exhaust gas flow)</p> <p>Normalized Ratio Calculation = (1-2) / (3-2)</p> <p>A Normalized Ratio of 1 essentially represents a good part and a ratio of 0 essentially represents a very bad part.</p> <p>Refer to the P0420_WorstPassing OSCTableB1 and P0420_BestFailingOSCTableB1 in Supporting Tables tab for details</p> <p>The Catalyst Monitoring Test is completed during a decel fuel cutoff event. This fuel cutoff event occurs following a rich intrusive fueling event initiated by the O2 Sensor Signal Stuck Lean Bank 1 Sensor 2 test (P2270). Several conditions must be met in order to execute this test.</p> <p>These conditions and their related values are listed in the "Secondary</p>						

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		Parameters" and "Enable Conditions" section of this document for P2270 (O2 Sensor Signal Stuck Lean Bank 1 Sensor 2)						

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Catalyst System Low Efficiency Bank 2	P0430	<p>Note: The information below applies to applications that use the Decel Catalyst Monitor Algorithm</p> <p>Oxygen StorageThe catalyst washcoat contains Cerium Oxide. Cerium Oxide reacts with NO and O2 during lean A/F excursions to store the excess oxygen (I.e. Cerium Oxidation). During rich A/F excursions, Cerium Oxide reacts with CO and H2 to release this stored oxygen (I.e. Cerium Reduction). This is referred to as the Oxygen Storage Capacity, or OSC. CatMon's strategy is to "measure" the OSC of the catalyst through forced Rich (intrusive rich) and Lean (decel fuel cutoff) A/F excursions</p> <p>Normalized Ratio OSC Value Calculation Information and Definitions = 1. Raw OSC Calculation = (post cat O2 Resp time - pre cat O2 Resp time) 2. BestFailing OSC value from a calibration</p>	Normalized Ratio OSC Value (EWMA filtered)	< 0.35	<p>All enable criteria associated with P0430 can be found under P2272 - (O2 Sensor Signal Stuck Lean Bank 2 Sensor 2)</p> <p>Rapid Step Response (RSR) feature will initiate multiple tests:</p> <p>If the difference between current EWMA value and the current OSC Normalized Ratio value is</p> <p>and the current OSC Normalized Ratio value is</p> <p>Maximum number of RSR tests to detect failure when RSR is enabled.</p> <p>General Enable Criteria</p> <p>In addition to the p-codes listed under P2272, the following DTC's shall also not be set:</p>	<p>> 0.52</p> <p>< 0.10</p> <p>6</p> <p>O2S_Bank_1_Sensor_1_FA O2S_Bank_1_Sensor_2_FA O2S_Bank_2_Sensor_1_FA O2S_Bank_2_Sensor_2_FA</p>	<p>1 test attempted per valid decel period</p> <p>Minimum of 1 test per trip</p> <p>Maximum of 4 tests per trip</p> <p>Frequency: Fueling Related : 12.5 ms</p> <p>OSC Measurements: 100 ms</p> <p>Temp Prediction: 12.5ms</p>	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		<p>table (based on temp and exhaust gas flow) 3. WorstPassing OSC value (based on temp and exhaust gas flow)</p> <p>Normalized Ratio Calculation = (1-2) / (3-2)</p> <p>A Normalized Ratio of 1 essentially represents a good part and a ratio of 0 essentially represents a very bad part.</p> <p>Refer to the P0430_WorstPassing OSCTableB2 and P0430_BestFailingOSCTableB2 in Supporting Tables tab for details</p> <p>The Catalyst Monitoring Test is completed during a decel fuel cutoff event. This fuel cutoff event occurs following a rich intrusive fueling event initiated by the O2 Sensor Signal Stuck Lean Bank 2 Sensor 2 test (P2272). Several conditions must be met in order to execute this test.</p> <p>These conditions and their related values are listed in the "Secondary</p>						

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		Parameters" and "Enable Conditions" section of this document for P2272 (O2 Sensor Signal Stuck Lean Bank 2 Sensor 2)						

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission (EVAP) System Small Leak Detected (No ELCP - Conventional EVAP Diagnostic with EAT using IAT Sensor)	P0442	This DTC will detect a small leak ($\geq 0.020''$) in the EVAP system between the fuel fill cap and the purge solenoid. On some applications a small leak is defined as $\geq 0.025''$, $0.030''$, or $0.150''$. The engine off natural vacuum method (EONV) is used. EONV is an evaporative system leak detection diagnostic that runs when the vehicle is shut off when enable conditions are met. Prior to sealing the system and performing the diagnostic, the fuel volatility is analyzed. In an open system (Canister Vent Solenoid [CVS] open) high volatility fuel creates enough flow to generate a measurable pressure differential relative to atmospheric. After the volatility check, the vent solenoid will close. After the vent is closed, typically a build up of pressure from the hot soak begins (phase-1). The pressure typically will peak and then begin to decrease as the fuel cools. When	The total delta from peak pressure to peak vacuum during the test is normalized against a calibration pressure threshold table that is based upon fuel level and ambient temperature. (Please see P0442: EONV Pressure Threshold (Pascals) Table in Supporting Tables). The normalized value is calculated by the following equation: $1 - (\text{peak pressure} - \text{peak vacuum}) / \text{pressure threshold}$. The normalized value is entered into EWMA (with 0= perfect pass and 1= perfect fail). When EWMA is the DTC light is illuminated. The DTC light can be turned off if the EWMA is and stays below the EWMA fail threshold for 3 additional consecutive trips.	> 0.57 (EWMA Fail Threshold), ≤ 0.35 (EWMA Re-Pass Threshold)	Fuel Level Drive Time Drive length ECT Baro Distance since assembly plant Engine not run time before key off must be Time since last complete test if normalized result and EWMA is passing OR Time since last complete test if normalized result or EWMA is failing Estimated ambient temperature at end of drive Estimate of Ambient Air Temperature Valid ***** Conditions for Estimate of Ambient Air Temperature to be valid: 1. Cold Start	$10\% \leq \text{Percent} \leq 90\%$ ≥ 600 seconds ≥ 5.0 miles ≥ 63 °C ≥ 70 kPa ≥ 10.0 miles \leq refer to P0442: Engine Off Time Before Vehicle Off Maximum as a Function of Estimated Ambient Temperature Table in Supporting Tables. ≥ 17 hours ≥ 10 hours $0\text{ }^\circ\text{C} \leq \text{Temperature} \leq 34\text{ }^\circ\text{C}$ *****	Once per trip, during hot soak (up to 2,400 sec.). No more than 2 unsuccessful attempts between completed tests.	Type A, 1 Trips EWMA Average run length is 8 to 12 trips under normal conditions Run length is 3 to 6 trips after code clear or non-volatile reset

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		the pressure drops (-62.27) Pa from peak pressure, the vent is then opened for 60 seconds to normalize the system pressure. The vent is again closed to begin the vacuum portion of the test (phase-2). As the fuel temperature continues to fall, a vacuum will begin forming. The vacuum will continue until it reaches a vacuum peak. When the pressure rises 62.27 Pa from vacuum peak, the test then completes. If the key is turned on while the diagnostic test is in progress, the test will abort.			Startup delta deg C (ECT-IAT) OR 2. Short Soak and Previous EAT Valid Previous time since engine off OR 3. Less than a short soak and Previous EAT Not Valid Previous time since engine off AND Vehicle Speed AND Mass Air Flow Must expire Estimate of Ambient Temperature Valid Conditioning Time. P0442: Estimate of Ambient Temperature Valid Conditioning Time Table in Supporting Tables. OR 4. Not a Cold Start and greater than a Short Soak Previous time since engine off AND Vehicle Speed AND Mass Air Flow	≤ 8 °C ≤ 7,200 seconds ≤ 7,200 seconds ≥ 40 mph ≥ 8 g/sec ≥ 7,200 seconds ≥ 40 mph ≥ 8 g/sec		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Must expire maximum value in Estimate of Ambient Temperature Valid Conditioning Time. Please see P0442: Estimate of Ambient Temperature Valid Conditioning Time in Supporting Tables.</p> <p>*****</p> <p>1. High Fuel Volatility</p> <p>During the volatility phase, pressure in the fuel tank is integrated vs. volatility time. If the integrated pressure is then test aborts and unsuccessful attempts is incremented. This value equates to an average integrated fuel tank pressure > 1,245 Pa. Please see P0442: Volatility Time as a Function of Estimate of Ambient Temperature in Supporting Tables.</p> <p>OR</p> <p>2. Vacuum Refueling Detected</p> <p>See P0454 Fault Code for information on vacuum refueling algorithm.</p> <p>OR</p> <p>3. Fuel Level Refueling</p>	<p>*****</p> <p>< -5</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Detected</p> <p>See P0464 Fault Code for information on fuel level refueling.</p> <p>OR</p> <p>4. Vacuum Out of Range and No Refueling</p> <p>See P0451 Fault Code for information on vacuum sensor out of range and P0464 Fault Code for information on fuel level refueling.</p> <p>OR</p> <p>5. Vacuum Out of Range and Refueling Detected</p> <p>See P0451 Fault Code for information on vacuum sensor out of range and P0464 Fault Code for information on fuel level refueling.</p> <p>OR</p> <p>6. Vent Valve Override Failed</p> <p>Device control using an off-board tool to control the vent solenoid, cannot exceed during the EONV test</p> <p>OR</p> <p>7. Key up during EONV test</p>	0.50 seconds		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					No active DTCs:	MAF_SensorFA ECT_Sensor_FA IAT_SensorFA VehicleSpeedSensor_FA IgnitionOffTimeValid AmbientAirDefault P0443 P0446 P0449 P0452 P0453 P0455 P0496		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission (EVAP) Canister Purge Solenoid Valve Circuit (ODM) (No ELCP - Conventional EVAP Diagnostic - For 3 DTC Implementati on Only)	P0443	Diagnoses the canister purge solenoid low side driver circuit for circuit faults	Voltage low during driver off state (indicates open circuit)	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	PT Relay Voltage	Voltage ≥ 11.0 volts	20 failures out of 25 samples 250 ms / sample	Type B, 2 Trips Note: In certain controlle rs P0458 may also set (Caniste r Purge Solenoid Short to Ground)

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission (EVAP) Vent System Performance (No ELCP - Conventional EVAP Diagnostic)	P0446	This DTC will determine if a restriction is present in the vent solenoid, vent filler, vent hose or EVAP canister. This test runs with normal purge and vent valve is open.	Vent Restriction Prep Test: Vented Vacuum for OR Vented Vacuum for Vent Restriction Test: Tank Vacuum for before Purge Volume After setting the DTC for the first time, 2 liters of fuel must be consumed before setting the DTC for the second time.	< -623 Pa 60 seconds > 1,245 Pa 60 seconds > 2,989 Pa 5 seconds ≥ 6 liters	Fuel Level System Voltage Startup IAT Startup ECT BARO No active DTCs:	10 % ≤ Percent ≤ 90 % 11 volts ≤ Voltage ≤ 32 volts 4 °C ≤ Temperature ≤ 30 °C ≤ 35 °C ≥ 70 kPa MAP_SensorFA TPS_FA VehicleSpeedSensor_FA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault EnginePowerLimited P0443 P0449 P0452 P0453 P0454	Once per Cold Start Time is dependent on driving conditions Maximum time before test abort is 1,000 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission (EVAP) Vent Solenoid Control Circuit (ODM) (No ELCP - Conventional EVAP Diagnostic - For 3 DTC Implementation Only)	P0449	Diagnoses the vent solenoid low side driver circuit for circuit faults.	Voltage low during driver off state (indicates open circuit)	Open circuit: ≥ 200 K Ω impedance between signal and controller ground			20 failures out of 25 samples 250 ms / sample	Type B, 2 Trips Note: In certain controllers P0498 may also set (Vent Solenoid Short to Ground)

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Tank Pressure (FTP) Sensor Circuit Performance (No ELCP - Conventional EVAP Diagnostic)	P0451	The DTC will be set if the fuel tank vacuum sensor is out of range when it tries to re-zero prior to the phase-1 or phase-2 portions of the engine-off natural vacuum small leak test.	<p>The tank vacuum sensor voltage is compared to a window about the nominal sensor voltage offset (~1.5 volts)</p> <p>Upper voltage threshold (voltage addition above the nominal voltage)</p> <p>Lower voltage threshold (voltage subtraction below the nominal voltage)</p> <p>The difference between tank vacuum sensor voltage and the nominal offset voltage is then normalized against the appropriate threshold listed above to produce a ratio between 0.0 and 1.0. This normalized re-zero ratio is then filtered with a EWMA (with 0= perfect pass and 1=perfect fail).</p> <p>When EWMA is</p> <p>the DTC light is illuminated.</p> <p>The DTC light can be turned off if the EWMA is</p> <p>and stays below the EWMA fail threshold for 3 additional consecutive trips.</p>	<p>0.2 volts</p> <p>0.2 volts</p> <p>> 0.73 (EWMA Fail Threshold),</p> <p>≤ 0.40 (EWMA Re-Pass Threshold)</p>	This test will execute whenever the engine-off natural vacuum small leak test (P0442) executes		This test is executed during an engine-off natural vacuum small leak test. The number of times that it executes can range from zero to two per engine-off period. The length of the test is determined by the refueling rationality test, which can take up to 600 seconds to complete.	Type A, 1 Trips EWMA Average run length: 6 Run length is 2 trips after code clear or non-volatile reset

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Tank Pressure (FTP) Sensor Circuit Low Voltage (No ELCP - Conventional EVAP Diagnostic)	P0452	This DTC will detect a Fuel Tank Pressure (FTP) sensor signal that is too low out of range.	FTP sensor signal The normal operating range of the FTP sensor is 0.5 volts (~1245 Pa) to 4.5 volts (~3736 Pa).	< 0.15 volts (3.0 % of Vref or ~ 1,681 Pa)	Time delay after sensor power up for sensor warm-up is	0.10 seconds	640 failures out of 800 samples 12.5 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Tank Pressure (FTP) Sensor Circuit High Voltage (No ELCP - Conventional EVAP Diagnostic)	P0453	This DTC will detect a Fuel Tank Pressure (FTP) sensor signal that is too high out of range.	FTP sensor signal The normal operating range of the FTP sensor is 0.5 volts (~1245 Pa) to 4.5 volts (~ -3736 Pa).	> 4.85 volts (97% of Vref or ~ -4,172 Pa)	Time delay after sensor power up for sensor warm-up is	0.10 seconds	640 failures out of 800 samples 12.5 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Tank Pressure (FTP) Sensor Circuit Intermittent (No ELCP - Conventional EVAP Diagnostic)	P0454	This DTC will detect intermittent tank vacuum sensor signals that would have caused the engine-off natural vacuum small leak test to abort due to an apparent re-fueling event.	If an abrupt change in tank vacuum is detected the engine-off natural vacuum test is aborted due to an apparent refueling event. Subsequent to the abort, a refueling rationality test is executed to confirm that a refueling event occurred. If a refueling is confirmed, then the test sample is considered passing. Otherwise, the sample is considered failing indicating an intermittent signal problem. An abrupt change is defined as a change in vacuum: in the span of 1.0 seconds. But in 12.5 msec. A refueling event is confirmed if the fuel level has a persistent change of for 30 seconds during a 600 second refueling rationality test.	> 112 Pa < 249 Pa > 10 %	This test will execute whenever the engine-off natural vacuum small leak test (P0442) executes and the canister vent solenoid is closed		This test is executed during an engine-off natural vacuum small leak test. The test can only execute up to once per engine-off period. The length of the test is determined by the refueling rationality test, which can take up to 600 seconds to complete. The test will report a failure if 2 out of 3 samples are failures. 12.5 ms / sample	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission (EVAP) System Large Leak Detected (No ELCP - Conventional EVAP Diagnostic)	P0455	This DTC will detect a weak vacuum condition (large leak or purge blockage) in the EVAP system. Purge valve is controlled (to allow purge flow) and vent valve is commanded closed.	Purge volume while Tank vacuum After setting the DTC for the first time, 2 liters of fuel must be consumed before setting the DTC for the second time. Weak Vacuum Follow-up Test (fuel cap replacement test) Weak Vacuum Test failed. Passes if tank vacuum Note: Weak Vacuum Follow-up Test can only report a pass.	> 15 liters ≤ 2,740 Pa ≥ 3,487 Pa	Fuel Level System Voltage BARO Purge Flow No active DTCs: Cold Start Test If ECT > IAT, Startup temperature delta (ECT-IAT): Cold Test Timer Startup IAT Startup ECT Weak Vacuum Follow-up Test This test can run following a weak vacuum failure or on a hot restart.	10 % ≤ Percent ≤ 90 % 11 volts ≤ Voltage ≤ 32 volts ≥ 70 kPa ≥ 1.50 % MAP_SensorFA TPS_FA VehicleSpeedSensor_FA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault EnginePowerLimited P0443 P0449 P0452 P0453 P0454 ≤ 8 °C ≤ 1,000 seconds 4 °C ≤ Temperature ≤ 30 °C ≤ 35 °C	Once per cold start Time is dependent on driving conditions Maximum time before test abort is 1,000 seconds Weak Vacuum Follow-up Test With large leak detected, the follow-up test is limited to 0 seconds. Once the MIL is on, the follow-up test runs indefinitely.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission System Purge Control Valve Circuit Low (No ELCP - Conventional EVAP Diagnostic)	P0458	Diagnoses the canister purge solenoid low side driver circuit for circuit faults	Voltage low during driver off state (indicates short to ground)	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground	PT Relay Voltage	Voltage ≥ 11.0 volts	20 failures out of 25 samples 250 ms / sample	Type B, 2 Trips Note: In certain controlle rs P0443 may also set (Caniste r Purge Solenoid Open Circuit)

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission System Purge Control Valve Circuit High (No ELCP - Conventional EVAP Diagnostic)	P0459	Diagnoses the canister purge solenoid low side driver circuit for circuit faults	Voltage high during driver on state (indicates short to power)	Short to power: ≤ 0.5 Ω impedance between signal and controller power	PT Relay Voltage	Voltage ≥ 11.0 volts	20 failures out of 25 samples 250 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Level Sensor 1 Circuit Low Voltage	P0462	This DTC will detect a fuel sender stuck out of range low in the primary fuel tank.	Fuel level Sender % of 5V range	< 10%			100 failures out of 125 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Level Sensor 1 Circuit High Voltage	P0463	This DTC will detect a fuel sender stuck out of range high in the primary fuel tank.	Fuel level Sender % of 5V range	> 60 %			100 failures out of 125 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Level Sensor 1 Circuit Intermittent (No ELCP - Conventional EVAP Diagnostic)	P0464	This DTC will detect intermittent fuel level sensor signals that would have caused the engine-off natural vacuum small leak test to abort due to an apparent re-fueling event.	<p>If a change in fuel level is detected, the engine-off natural vacuum test is aborted due to an apparent refueling event. Subsequent to the abort, a refueling rationality test is executed to confirm that an actual refueling event occurred. If a refueling event is confirmed, then the test sample is considered passing. Otherwise, if a refueling event is not confirmed, then the test sample is considered failing which indicates an intermittent signal problem.</p> <p>An intermittent fuel level signal problem is defined as:</p> <p>The fuel level changes by and does not remain for 30 seconds during a 600 second refueling rationality test.</p>	> 10 % > 10 %	This test will execute whenever the engine-off natural vacuum small leak test (P0442) executes		<p>This test is executed during an engine-off natural vacuum small leak test. The test can only execute up to once per engine-off period. The length of the test is determined by the refueling rationality test, which can take up to 600 seconds to complete. The test will report a failure if 2 out of 3 samples are failures.</p> <p>100 ms / sample</p>	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cooling Fan 1 Relay Control Circuit Open (ODM) (Not used on EREV)	P0480	Diagnoses the cooling fan 1 relay control low side driver circuit for circuit faults	Voltage low during driver off state (indicates open circuit)	Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	Powertrain Relay Voltage	Voltage ≥ 11.00 volts	50 failures out of 63 samples 100 ms / sample	Type B, 2 Trips Note: In certain controllers P0691 may also set (Fan 1 Short to Ground).

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cooling Fan 2 Relay Control Circuit Open (ODM)	P0481	Diagnoses the cooling fan 2 relay control low side driver circuit for circuit faults	Voltage low during driver off state (indicates open circuit)	Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	Powertrain Relay Voltage	Voltage ≥ 11.00 volts	50 failures out of 63 samples 100 ms / sample	Type B, 2 Trips Note: In certain controllers P0693 may also set (Fan 2 Short to Ground)

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission (EVAP) System Flow During Non- Purge (No ELCP - Conventional EVAP Diagnostic)	P0496	This DTC will determine if the purge solenoid is leaking to engine manifold vacuum. This test will run with the purge valve closed and the vent valve closed.	Tank Vacuum for Test time	> 2,491 Pa 5 seconds ≤ refer to P0496: Purge Valve Leak Test Engine Vacuum Test Time (Cold Start) as a Function of Fuel Level Table in Supporting Tables.	Fuel Level System Voltage BARO Startup IAT Startup ECT Engine Off Time No active DTCs:	10 % ≤ Percent ≤ 90 % 11 volts ≤ Voltage ≤ 32 volts ≥ 70 kPa 4 °C ≤ Temperature ≤ 30 °C ≤ 35 °C ≥ 28,800.0 seconds MAP_SensorFA TPS_FA VehicleSpeedSensor_FA IAT_SensorFA ECT_Sensor_FA AmbientAirDefault EnginePowerLimited P0443 P0449 P0452 P0453 P0454	Once per cold start Cold start: max time is 1,000 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission System Vent Solenoid Control Circuit Low (No ELCP - Conventional EVAP Diagnostic)	P0498	Diagnoses the vent solenoid low side driver circuit for circuit faults.	Voltage low during driver off state (indicates short to ground)	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground			20 failures out of 25 samples 250 ms / sample	Type B, 2 Trips Note: In certain controlle rs P0449 may also set (Vent Solenoid Open Circuit)

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Evaporative Emission System Vent Solenoid Control Circuit High (No ELCP - Conventional EVAP Diagnostic)	P0499	Diagnoses the vent solenoid low side driver circuit for circuit faults. If the P0499 is active, an intrusive test is performed with the vent solenoid commanded closed for 15 seconds.	Voltage low during driver on state (indicates short to power)	Short to power: ≤ 0.5 Ω impedance between signal and controller power			20 failures out of 25 samples 250 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Low Engine Speed Idle System	P0506	This DTC will determine if a low idle exists	Filtered Engine Speed Error filter coefficient	> 94.00 rpm 0.00350	Baro Coolant Temp Engine run time Ignition voltage Time since gear change Time since a TCC mode change IAT Vehicle speed Commanded RPM delta Idle time For manual transmissions: Clutch Pedal Position or Clutch Pedal Position	> 70 kPa > KeSPDD_T_EnbIECT_Mi n (60 °C) and < KfECTI_T_EngCoolHotHi Thresh (126 °C) Must verify KfECTI_T_EngCoolHotLo Thresh (123) is less than KfECTI_T_EngCoolHotHi Thresh (126) ≥ 60 sec 255 ≥ volts ≥ 11 ≥ 3 sec > 3 sec > -20 °C ≤ 1.24 mph ≤ 25 rpm > 5 sec > 5.00 pct or < 5.00 pct	Diagnostic runs in every 12.5 ms loop Diagnostic reports pass or fail in 10 seconds once all enable conditions are met	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					No active DTCs	PTO not active Transfer Case not in 4WD LowState Off-vehicle device control (service bay control) must not be active. following conditions not TRUE: (VeTESR_e_EngSpdReqIntvType = CeTESR_e_EngSpdMinLimit AND VeTESR_e_EngSpdReqRespType = CeTESR_e_NoSuggestion) Clutch is not depressed TC_BoostPresSnsrFA ECT_Sensor_FA EnginePowerLimited EGRValveCircuit_FA EGRValvePerformance_FA IAT_SensorCircuitFA EvapFlowDuringNonPurge_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA FuelInjectorCircuit_FA MAF_SensorFA EngineMisfireDetected_FA IgnitionOutputDriver FA		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					All of the above met for Idle time	TPS_FA TPS_Performance_FA VehicleSpeedSensor_FA FuelLevelDataFault LowFuelConditionDiagnos tic Clutch Sensor FA AmbPresDfltStatus P2771 > 5 sec The diagnostic does not run during autostop as engine is shutdown during that time (occurs in a hybrid or 12v start stop vehicle)		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
High Engine Speed Idle System	P0507	This DTC will determine if a high idle exists	Filtered Engine Speed Error filter coefficient	< -188.00 rpm 0.00350	Baro Coolant Temp Engine run time Ignition voltage Time since gear change Time since a TCC mode change IAT Vehicle speed Commanded RPM delta For manual transmissions: Clutch Pedal Position or Clutch Pedal Position	> 70 kPa > KeSPDD_T_EnbIECT_Mi n (60 °C) and < KfECTI_T_EngCoolHotHi Thresh (126 °C) Must verify KfECTI_T_EngCoolHotLo Thresh (123) is less than KfECTI_T_EngCoolHotHi Thresh (126) ≥ 60 sec 255 ≥ volts ≥ 11 ≥ 3 sec > 3 sec > -20 °C ≤ 1.24 mph ≤ 25 rpm > 5.00 pct or < 5.00 pct	Diagnostic runs in every 12.5 ms loop Diagnostic reports pass or fail in 10 seconds once all enable conditions are met	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					No active DTCs	PTO not active Transfer Case not in 4WD LowState Off-vehicle device control (service bay control) must not be active. following conditions not TRUE: (VeTESR_e_EngSpdReqIntvType = CeTESR_e_EngSpdMinLimit AND VeTESR_e_EngSpdReqRespType = CeTESR_e_NoSuggestion) Clutch is not depressed TC_BoostPresSnrFA ECT_Sensor_FA EnginePowerLimited EGRValveCircuit_FA EGRValvePerformance_FA IAT_SensorCircuitFA EvapFlowDuringNonPurge_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA FuelInjectorCircuit_FA MAF_SensorFA EngineMisfireDetected_FA IgnitionOutputDriver_FA TPS_FA TPS_Performance_FA VehicleSpeedSensor_FA		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					All of the above met for Idle time	FuelLevelDataFaultLow FuelConditionDiagnostic Clutch SensorFA AmbPresDfltStatus P2771 > 5 sec The diagnostic does not run during autostop as engine is shutdown during that time (occurs in a hybrid or 12v start stop vehicle)		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cold Start Rough Idle	P050D	Monitors the combustion performance when the cold start emission reduction strategy is active by accumulating and determining the percentage of engine cycles that have less than complete combustion relative to the total number of engine cycles in which Dual Pulse is active.	Deceleration index vs. Engine Speed Vs Engine load Deceleration index calculation is tailored to specific vehicle. Tables used are 1st tables encountered that are not max of range. Undetectable region at a given speed/load point is where all tables are max of range point. see Algorithm Description Document for additional details. Incomplete combustion identified by P0300 threshold tables:	(>Idle SCD AND >Idle SCD ddt Tables) OR (>Idle Cyl Mode AND > Idle Cyl Mode ddt Tables)	Misfire Algorithm Enabled (Refer to P0300 for Enablement Requirements) OBD Manufacturer Enable Counter To enable the diagnostic, the Cold Start Emission Reduction Strategy Must Be Active per the following: Catalyst Temperature AND Engine Coolant AND Engine Coolant AND Barometric Pressure In addition, Dual Pulse Strategy Is Enabled and Active Per the following: Engine Speed Accel Position Engine Run Time For the engine speeds and loads in which Dual Pulse is active:	= 0 < 350.00 degC > -10.00 degC <= 56.00 degC >= 74.00 KPa >= 450.00 RPM <= 2,200.00 RPM <= 1.00 Pct < 20 seconds	Runs once per trip when the cold start emission reduction strategy is active and Dual Pulse is enabled and active. Frequency: 100ms Test completes after Dual Pulse is no longer active OR The first 500 engine cycles have been reached	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Dual Pulse Error induced misfires percentage</p> <p>Dual Pulse Error induced misfires percentage</p> <p>Engine Cycles</p> <p>The Cold Start Emission Reduction strategy must not be exiting. The strategy will exit per the following:</p> <p>Catalyst Temperature AND Engine Run Time</p> <p>OR</p> <p>Engine Run Time</p> <p>OR</p> <p>Barometric Pressure</p>	<p>>= catalyst damaging misfire</p> <p>< 90% of the maximum achievable catalyst damaging misfire.</p> <p>>= 50 < 501</p> <p>>= 900.00 degC AND >= 18.38 seconds</p> <p>></p> <p>CatalystLightOffExtendedEngineRunTimeExit</p> <p>This Extended Engine run time exit table is a function of percent ethanol and Catmons NormRatioEWMA. Refer to "Supporting Tables" for details.</p> <p>< 74.00 KPa</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Dual Pulse Strategy will exit per the following: Engine Speed > 2,400.00 RPM OR Accel Position > 2.00 Pct Engine Run Time >= 20 seconds Dual Pulse Strategy will also exit if the any of the "Additional Dual Pulse Enabling Criteria" is not satisfied: "Additional Dual Pulse Enabling Criteria": Green Engine Enrichment Not Enabled Misfire Converter Protection strategy Not being requested Engine Metal Overtemp strategy Not being requested Fuel control state Open Loop Output State Control Not being requested for fuel DOD Or DFCO Not Active Power Enrichment Not Active Dynamic Power Enrichment Not Active Piston Protection Not Active Hot Coolant Enrichment Not Active			

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Injector Flow Test General Enable DTC's Not Set:	Not Active AcceleratorPedalFailure ECT_Sensor_FA IAT_SensorCircuitFA MnfdTempSensorCktFA CrankSensorFaultActive FuelInjectorCircuit_FA MAF_SensorFA MAP_SensorFA AnyCamPhaser_TFTKO Clutch_Sensor_FA IAC_SystemRPM_FA IgnitionOutputDriver_FA TPS_FA VehicleSpeedSensor_FA FuelInjectorCircuit_TFTK O FHPR_b_FRP_SnsrCkt_F A FHPR_b_FRP_SnsrCkt_T FTKO FHPR_b_PumpCkt_FA FHPR_b_PumpCkt_TFTK O TransmissionEngagedStat e_FA EngineTorqueInaccurate FuelPumpRlyCktFA		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Mutil-Function Switch Circuit	P0564	Detect when cruise control multi-function switch circuit (analog) voltage is in an illegal range	Cruise Control analog circuit voltage must be in an "illegal range" or "between ranges" for greater than a calibratable period of time for cruise switch states that are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 0.500 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control On Switch Circuit	P0565		Cruise Control On switch remains applied for greater than a calibratable period of time for architecture where cruise switch states are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 20.00 seconds	MIL Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Resume Circuit	P0567	Detects a failure of the cruise resume switch in a continuously applied state	Cruise Control Resume switch remains applied for greater than a calibratable period of time for architecture where cruise switch states are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 89.000 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Set Circuit	P0568	Detects a failure of the cruise set switch in a continuously applied state	Cruise Control Set switch remains applied for greater than a calibratable period of time for architecture where cruise switch states are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 89.000 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Input Circuit	P0575	Detects rolling count or protection value errors in Cruise Control Switch Status serial data signal	If x of y rolling count / protection value faults occur, disable cruise for duration of fault		Cruise Control Switch Serial Data Error Diagnostic Enable	1.00	10 / 16 counts	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Brake Pedal Position Sensor Circuit Range/ Performance	P057B	This diagnostic monitors the Brake Pedal Position Sensor for a stuck in range failure	.		Brake Pedal Position Sensor Circuit Range / Performance Diagnostic Enable	1.00 ignition voltage > 10.00		MIL: Type A, 1 Trips
			Calculated EWMA value must be greater than calibratable threshold after calibratable number of tests have completed to report a "test passed" for P057B	EWMA value looked up in supporting table P057B KtBRKI_K_FastTestPointWeight as a function of calculated brake pedal position delta EWMA value is > 0.80	calculated brake pedal position delta sample counter > 50.00 for fast test OR calculated brake pedal position delta sample counter > 1,000.00 for slow test	calculated brake pedal position delta > 8.00 OR (for slow test) shift lever has been in park once this key cycle vehicle speed >= 5.00 accelerator pedal position < 5.00	total number of EWMA tests > 20.00	
			Calculated EWMA Value must be less than calibratable threshold after calibratable number of tests have completed to report a "test failed" for P057B. This test runs once per key cycle	EWMA value looked up in supporting table P057B KtBRKI_K_CmpltTestPointWeight as a function of calculated brake pedal position delta EWMA value is less than 0.40	no DTC's active (P057C, P057D)	shift lever has been in park once this key cycle vehicle speed >= 5.00 accelerator pedal position < 5.00	total number of EWMA tests > 2.00	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Brake Pedal Position Sensor Circuit Low	P057C	detects short to ground for brake pedal position sensor	If x of y samples are observed below failure threshold, default brake pedal position to zero percent.	5.00	Brake Pedal Position Sensore Low Voltage Diagnostic Enable	1.00	20 / 32.00 counts	MIL: Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Brake Pedal Position Sensor Circuit High	P057D	detects open circuit for brake pedal position sensor	If x of y samples are observed above failure threshold, default brake pedal position to zero percent and set DTC	95.00	Brake Pedal Position Sensore High Voltage Diagnostic Enable	1.00	20.00 / 32.00 counts	MIL: Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Multi-function Circuit Low Voltage	P0580	detects short to ground failure for cruise multi-function switch circuit	Cruise Control analog circuit voltage must be in an "Open Short To Ground" for greater than a calibratable period of time for cruise switch states that are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 2.00 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Multi-function Circuit High Voltage	P0581		Cruise Control analog circuit voltage must be in an "Short To Power" for greater than a calibratable period of time for cruise switch states that are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 2.00 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Multi-Function Input B Circuit	P0589	Detect when cruise control multi-function switch circuit B (analog) voltage is in an illegal range	Cruise Control analog circuit B voltage must be in an "illegal range" or "between ranges" for greater than a calibratable period of time for cruise switch states that are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 0.500 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Multi-Function Input B Circuit Low	P0592	detects short to ground failure for cruise multi-function switch circuit B	Cruise Control analog circuit B voltage must be in an "Open Short To Ground" for greater than a calibratable period of time for cruise switch states that are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 2.00 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Multi-Function Input B Circuit High	P0593		Cruise Control analog circuit B voltage must be in an "Short To Power" for greater than a calibratable period of time for cruise switch states that are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 2.00 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
ColdStrtA_C amPstnB1	P05CC	Detects a VVT system error during Cold Starts by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Intake cam Bank 1) Cam Position Error > 4.00 deg.	DTC's are NOT active: P0010, IntakeCamSensorTFTKO CrankSensorTFTKO CrankIntakeCamCorrelationFA.	System Voltage > 11.00 Volts, Engine is running VVT is enabled CSER is active Desired cam position > 0 Power Take Off (PTO) not active Both Desired & Measured cam positions cannot be < 4.00 or have both > 20.00 deg. (PerfMaxIc1). Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeIc1)	40 failures out of 100 samples 100 ms /sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
ColdStrtA_CamPstnB2	P05CD	Detects a VVT system error during Cold Starts by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Intake cam Bank 2) Cam Position Error > 4.00 deg.	DTC's are NOT active: P0010, IntakeCamSensorTFTKO CrankSensorTFTKO CrankIntakeCamCorrelationFA.	System Voltage > 11.00 Volts, Engine is running VVT is enabled CSER is active Desired cam position > 0 Power Take Off (PTO) not active Both Desired & Measured cam positions cannot be < 4.00 or have both > 20.00 deg. (PerfMaxIc2). Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeIc2)	40 failures out of 100 samples 100 ms /sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
ColdStrtB_C amPstnB1	P05CE	Detects a VVT system error during Cold Starts by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Exhaust cam Bank 1) Cam Position Error > 5.00 deg.	DTC's are NOT active: P0010, ExhaustCamSensorTFTKO CrankSensorTFTKO CrankExhaustCamCorrelationFA.	System Voltage > 11.00 Volts, Engine is running VVT is enabled CSER is active Desired cam position > 0 Power Take Off (PTO) not active Both Desired & Measured cam positions cannot be < 5.00 or have both > 20.00 deg. (PerfMaxEc1). Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeEc1)	40 failures out of 100 samples 100 ms /sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
ColdStrtB_CamPstnB2	P05CF	Detects a VVT system error during Cold Starts by comparing the desired and actual cam positions when VVT is activated	Camshaft position error [absolute value of (desired position - actual position)] is compared to thresholds to determine if excessive	(Exhaust cam Bank 2) Cam Position Error > 5.00 deg.	DTC's are NOT active: P0010, ExhaustCamSensorTFTKO, CrankSensorTFTKO, CrankExhaustCamCorrelationFA.	System Voltage > 11.00 Volts, Engine is running, VVT is enabled, CSER is active, Desired cam position > 0, Power Take Off (PTO) not active, Both Desired & Measured cam positions cannot be < 5.00 or have both > 20.00 deg. (PerfMaxEc2). Desired cam position cannot vary more than 4.50 Cam Deg for at least 1.00 sec. (StablePositionTimeEc2)	40 failures out of 100 samples 100 ms /sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Control Module Read Only Memory (ROM)	P0601	This DTC will be stored if the calibration check sum is incorrect or the flash memory detects an uncorrectable error via the Error Correcting Code.	The Primary Processor's calculated checksum does not match the stored checksum value. Covers all software and calibrations.	1 failure if the fault is detected during the first pass. 5 failures if the fault occurs after the first pass is complete.			Diagnostic runs continuously in the background.	Type A, 1 Trips
			The Primary Processor's Error Correcting Code hardware in the flash memory detects an error. Covers all software and calibrations.	254 failures detected via Error Correcting Code			Diagnostic runs continuously via the flash hardware.	
			The Primary Processor's calculated checksum does not match the stored checksum value for a selected subset of the calibrations.	2 consecutive failures detected or 5 total failures detected.			Diagnostic runs continuously. Will report a detected fault within 200 ms.	
			The Secondary Processor's calculated checksum does not match the stored checksum value. Covers all software and calibrations.	1 failure if the fault is detected during the first pass. 5 failures if the fault occurs after the first pass is complete.			Diagnostic runs continuously in the background.	
				In all cases, the failure count is cleared when controller shuts down				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Control Module Not Programmed	P0602	This DTC will be stored if the PCM is a service PCM that has not been programmed.	Output state invalid		PCM State	= crank or run PCM is identified through calibration as a Service PCM	Diagnostic runs at powerup and once per second continuously after that	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Control Module Long Term Memory Reset	P0603	Non-volatile memory checksum error at controller power-up	Checksum at power-up does not match checksum at power-down				Diagnostic runs at powerup Diagnostic reports a fault if 1 failure occurs	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
ECM RAM Failure	P0604	Indicates that the ECM has detected a RAM fault	Indicates that the primary processor is unable to correctly read data from or write data to system RAM. Detects data read does not match data written >=	254 counts			Will finish first memory scan within 30 seconds at all engine conditions - diagnostic runs continuously (background loop)	Type A, 1 Trips
			Indicates that the primary processor is unable to correctly read data from or write data to cached RAM. Detects data read does not match data written >=	254 counts			Will finish first memory scan within 30 seconds at all engine conditions - diagnostic runs continuously (background loop)	
			Indicates that the primary processor is unable to correctly read data from or write data to TPU RAM. Detects data read does not match data written >=	5 counts			Will finish first memory scan within 30 seconds at all engine conditions - diagnostic runs continuously (background loop)	
			Indicates that the primary processor detects a mismatch between the data and dual data is found during RAM updates. Detects a mismatch in data and dual data updates >	0.46666 s			When dual store updates occur.	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Indicates that the primary processor detects an illegal write attempt to protected RAM. Number of illegal writes are >	65,534 counts			Diagnostic runs continuously (background loop)	
			Indicates that the secondary processor is unable to correctly read data from or write data to system RAM. Detects data read does not match data written >=	5 counts			Will finish first memory scan within 30 seconds at all engine conditions - diagnostic runs continuously (background loop)	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Internal ECM Processor Integrity Fault	P0606	Indicates that the ECM has detected an internal processor integrity fault	Loss or invalid message of SPI communication from the Secondary Processor at initialization detected by the Primary Processor or loss or invalid message of SPI communication from the Secondary Processor after a valid message was received by the Primary Processor	Loss or invalid message at initialization detected or loss or invalid message after a valid message was received		Run/Crank voltage >= 6.41 or Run/Crank voltage >= 11.00 , else the failure will be reported for all conditions	In the primary processor, 159 / 399 counts intermittent or 39 counts continuous; 39 counts continuous @ initialization. 12.5 ms /count in the ECM main processor	Type A, 1 Trips
			Loss or invalid message of SPI communication from the Primary Processor at initialization detected by the Secondary Processor or loss or invalid message of SPI communication from the Primary Processor after a valid message was received by the Secondary Processor	Loss or invalid message at initialization detected or loss or invalid message after a valid message was received			In the secondary processor, 20 / 200 counts intermittent or 0.1875 s continuous; 0.4750 s continuous @ initialization. 12.5 ms /count in the ECM secondary processor	
			Checks for stack over or underflow in secondary processor by looking for corruption of known pattern at stack boundaries. Checks number of stack over/ under flow since last powerup reset >=	5		KeMEMD_b_StackLimitTestEnbl == 1 Value of KeMEMD_b_StackLimitTestEnbl is: 1 . (If 0, this test is disabled)	variable, depends on length of time to corrupt stack	
			MAIN processor is verified by responding to a seed sent from the secondary with a key response to secondary. Checks number of incorrect keys	2 incorrect seeds within 8 messages, 0.2000 seconds		ignition in Run or Crank	150 ms for one seed continually failing	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			received > or Secondary processor has not received a new within time limit					
			Time new seed not received exceeded			always running	0.450 seconds	
			MAIN processor receives seed in wrong order			always running	3 / 17 counts intermittent. 50 ms/count in the ECM main processor	
			2 fails in a row in the Secondary processor's ALU check			KePISD_b_ALU_TestEnbl d == 1 Value of KePISD_b_ALU_TestEnbl d is: 1. (If 0, this test is disabled)	25 ms	
			2 fails in a row in the Secondary processor's configuration register masks versus known good data			KePISD_b_ConfigRegTes tEnbl d == 1 Value of KePISD_b_ConfigRegTes tEnbl d is: 1. (If 0, this test is disabled)	12.5 to 25 ms	
			Secondary processor detects an error in the toggling of a hardware discrete line controlled by the MAIN processor: number of discrete changes > = or < = over time window(50ms)	7 17		KePISD_b_MainCPU_SO H_FltEnbl == 1 Value of KePISD_b_ConfigRegTes tEnbl d is: 0 . (If 0, this test is disabled) time from initialization >= 0.4875 seconds	50 ms	
			Software background task first pass time to complete exceeds			Run/Crank voltage > 6.41	360.000 seconds	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			2 fails in a row in the MAIN processor's ALU check			KePISD_b_ALU_TestEnbl == 1 Value of KePISD_b_ALU_TestEnbl is: 1. (If 0, this test is disabled)	25 ms	
			2 fails in a row in the MAIN processor's configuration register masks versus known good data			KePISD_b_ConfigRegTestEnbl == 1 Value of KePISD_b_ConfigRegTestEnbl is: 1. (If 0, this test is disabled)	12.5 to 25 ms	
			Checks number of stack over/under flow since last powerup reset >=	3		KeMEMD_b_StackLimitTestEnbl == 1 Value of KeMEMD_b_StackLimitTestEnbl is: 1. (If 0, this test is disabled)	variable, depends on length of time to corrupt stack	
			Voltage deviation >	0.4950		KePISD_b_A2D_CnvtrTestEnbl == 1 Value of KePISD_b_A2D_CnvtrTestEnbl is: 1. (If 0, this test is disabled)	5 / 10 counts or 0.150 seconds continuous; 50 ms/count in the ECM main processor	
			Checks for ECC (error correcting code) circuit test errors reported by the hardware for flash memory. Increments counter during controller initialization if ECC error occurred since last controller initialization. Counter >=	3 (results in MIL), 5 (results in MIL and remedial action)		KeMEMD_b_FlashECC_CktTestEnbl == 1 Value of KeMEMD_b_FlashECC_CktTestEnbl is: 1. (If 0, this test is disabled)	variable, depends on length of time to access flash with corrupted memory	
			Checks for ECC (error	3 (results in MIL),		KeMEMD_b_RAM_ECC_	variable,	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			correcting code) circuit test errors reported by the hardware for RAM memory circuit. Increments counter during controller initialization if ECC error occurred since last controller initialization. Counter >=	5 (results in MIL and remedial action)		CktTestEnbl == 1 Value of KeMEMD_b_RAM_ECC_CktTestEnbl is: 1. (If 0, this test is disabled)	depends on length of time to write flash to RAM variable, depends on length of time to write flash to RAM	
			MAIN processor DMA transfer from Flash to RAM has 1 failure			KePISD_b_DMA_XferTestEnbl == 1 Value of KePISD_b_DMA_XferTestEnbl is: 0. (If 0, this test is disabled)	variable, depends on length of time to write flash to RAM	
			Safety critical software is not executed in proper order.	>= 1 incorrect sequence.		Table, f(Loop Time). See supporting tables: Program Sequence Watch Enable f(Loop Time) (If 0, this Loop Time test is disabled)	Fail Table, f(Loop Time). See supporting tables: PSW Sequence Fail f(Loop Time) / Sample Table, f(Loop Time) See supporting tables: PSW Sequence Sample f(Loop Time) counts 50 ms/count in the ECM main processor	
			MAIN processor	Previous seed value		KePISD_b_SeedUpdKey	Table, f(Loop	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			determines a seed has not changed within a specified time period within the 50ms task.	equals current seed value.		StorFltEnbl == 1 Value of KePISD_b_SeedUpdKey StorFltEnbl is: 1. (If 0, this test is disabled)	Time). See supporting tables: Last Seed Timeout f (Loop Time)	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Relay Control Circuit Low Voltage	P0628	Diagnoses the fuel pump relay control high side driver circuit for circuit faults	Voltage low during driver on state (indicates short to ground)	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground	Run/Crank Voltage Engine Speed	Voltage ≥ 11 volts ≥ 0 RPM	8 failures out of 10 samples 250 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Internal Control Module Fuel Injector Control Performance	P062B	This DTC Diagnoses the internal fuel injector control module circuit for circuit faults.	Internal ECU Boost Voltage OR Internal ECU Boost Voltage OR Driver Status OR Driver Status	>= 90 Volts = Not Ready = Uninitialized	Battery Voltage	>= 8 or >= 11 Enabled when a code clear is not active or not exiting device control Engine is not cranking Powertrain Relay Voltage within range	High Voltage - 160 failures out of 200 samples Low Voltage - 160 failures out of 200 samples Driver Status Not Ready- 160 failures out of 200 samples Driver Status Uninitialized - Uninitialized state for >= 100 counts All at 12.5ms per sample	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Control Module EEPROM Error	P062F	Indicates that the NVM Error flag has not been cleared	The next write to NVM will not succeed or the assembly calibration integrity check failed.		Ignition State	= unlock/accessory, run, or crank	1 test failure Diagnostic runs once at powerup	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
VIN Not Programmed or Mismatched - Engine Control Module (ECM)	P0630	This DTC checks that the VIN is correctly written	At least one of the programmed VIN digits	= 00 or FF	OBD Manufacturer Enable Counter	= 0	250 ms / test Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
5 Volt Reference #1 Circuit	P0641	Detects a continuous or intermittent short on the 5 volt reference circuit #1	ECM Vref1 < or ECM Vref1 > or the difference between ECM filtered Vref1 and Vref1 >	4.875 5.125 0.0495		Run/Crank voltage > 6.41	19 / 39 counts or 0.1875 sec continuous; 12.5 ms/count in main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Malfunction Indicator Lamp (MIL) Control Circuit (ODM) Open	P0650	Diagnoses the malfunction indicator lamp control low side driver circuit for circuit faults.	Voltage low during driver off state (indicates open circuit)	Open circuit: ≥ 200 K Ω impedance between signal and controller ground	Run/Crank Voltage Remote Vehicle Start is not active	Voltage ≥ 11 volts	50 failures out of 63 samples 50 ms / sample	Type B, No MIL NO MIL Note: In certain controllers P263A may also set (MIL Control Short to Ground)

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
5 Volt Reference #2 Circuit	P0651	Detects a continuous or intermittent short on the 5 volt reference circuit #2	ECM Vref2 < or ECM Vref2 > or the difference between ECM filtered Vref2 and Vref2 >	4.875 5.125 0.0495		Run/Crank voltage > 6.41	19 / 39 counts or 0.1875 sec continuous; 12.5 ms/count in main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Powertrain Relay Control (ODM) Open	P0685	Diagnoses the powertrain relay control low side driver circuit for circuit faults	Voltage low during driver off state (indicates open circuit)	Open Circuit: ≥ 200 K Ω ohms impedance between signal and controller ground	Run/Crank Voltage	Voltage ≥ 11 volts	8 failures out of 10 samples 250 ms / sample	Type B, 2 Trips Note: In certain controlle rs P0686 may also set (Powertr ain Relay Control Short to Ground).

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Powertrain Relay Control (ODM) Low	P0686	Diagnoses the powertrain relay control low side driver circuit for circuit faults	Voltage low during driver off state (indicates short- to-ground)	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground	Run/Crank Voltage	Voltage ≥ 11 volts	8 failures out of 10 samples 250 ms / sample	Type B, 2 Trips Note: In certain controlle rs P0685 may also set (Powertr ain Relay Control Open Circuit).

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Powertrain Relay Control (ODM) High	P0687	Diagnoses the powertrain relay control low side driver circuit for circuit faults	Voltage high during driver on state (indicates short to power)	Short to power: ≤ 0.5 Ω impedance between signal and controller power	Run/Crank Voltage	Voltage ≥ 11 volts	8 failures out of 10 samples 250 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Powertrain Relay Feedback Circuit High	P0690	This DTC is a check to determine if the Powertrain relay is functioning properly.	Powertrain Relay Voltage	>= 4.00 volts will increment the fail counter	Powertrain relay commanded "OFF" No active DTCs:	>= 2.00 seconds PowertrainRelayStateOn_ FA	50 failures out of 63 samples 100ms / Sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cooling Fan 1 Relay Control Circuit Low Voltage (ODM)	P0691	Diagnoses the cooling fan 1 relay control low side driver circuit for circuit faults	Voltage low during driver off state (indicates short-to-ground)	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground	Powertrain Relay Voltage	Voltage ≥ 11.00 volts	50 failures out of 63 samples 100 ms / sample	Type B, 2 Trips Note: In certain controlle rs P0480 may also set (Fan 1 Open Circuit).

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cooling Fan 1 Relay Control Circuit High Voltage (ODM)	P0692	Diagnoses the cooling fan 1 relay control low side driver circuit for circuit faults	Voltage high during driver on state (indicates short to power)	Short to power: ≤ 0.5 Ω impedance between signal and controller power	Powertrain Relay Voltage	Voltage ≥ 11.00 volts	50 failures out of 63 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cooling Fan 2 Relay Control Circuit Low Voltage (ODM)	P0693	Diagnoses cooling fan 2 relay control low side driver circuit for circuit faults	Voltage low during driver off state (indicates short- to-ground)	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground	Powertrain Relay Voltage	Voltage ≥ 11.00 volts	50 failures out of 63 samples 100 ms / sample	Type B, 2 Trips Note: In certain controlle rs P0481 may also set (Fan 2 Open Circuit).

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cooling Fan 2 Relay Control Circuit High Voltage (ODM)	P0694	Diagnoses the cooling fan 2 relay control low side driver circuit for circuit faults	Voltage high during driver on state (indicates short to power)	Short to power: ≤ 0.5 Ω impedance between signal and controller power	Powertrain Relay Voltage	Voltage ≥ 11.00 volts	50 failures out of 63 samples 100 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
5 Volt Reference #3 Circuit	P0697	Detects a continuous or intermittent short on the 5 volt reference circuit #3	ECM Vref3 < or ECM Vref3 > or the difference between ECM filtered Vref3 and Vref3 >	4.875 5.125 0.0495		Run/Crank voltage > 6.41	19 / 39 counts or 0.1875 sec continuous; 12.5 ms/count in main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Control Module (FPCM) Requested MIL Illumination	P069E	Monitors the FPCM MIL request line to determine when the FPCM has detected a MIL illuminating fault.	Fuel Pump Control Module Emissions-Related DTC set			Time since power-up \geq 3 seconds	Continuous	Type A, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
5 Volt Reference #4 Circuit	P06A3	Detects a continuous or intermittent short on the 5 volt reference circuit #4	ECM Vref4 < or ECM Vref4 > or the difference between ECM filtered Vref4 and Vref4 >	4.875 5.125 0.0495		Run/Crank voltage > 6.41	19 / 39 counts or 0.1875 sec continuous; 12.5 ms/count in main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Internal Control Module Knock Sensor Processor 1 Performance	P06B6	This diagnostic checks for a fault with the internal test circuit used only for the '20 kHz' method of the Open Circuit Diagnostic	FFT Diagnostic Output	> OpenTestCktThrshMin and < OpenTestCktThrshMax See Supporting Tables	Diagnostic Enabled? Engine Run Time Engine Speed Cumulative Number of Engine Revs (per key cycle) within min/max Engine Speed enable (above) Engine Air Flow	Yes ≥ 2.0 seconds > 400 RPM and < 7,200 RPM ≥ 200 Revs ≥ 50 mg/cylinder and ≤ 2,000 mg/cylinder	First Order Lag Filter with Weight Coefficient Weight Coefficient = 0.0200 Updated each engine event	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Internal Control Module Knock Sensor Processor 2 Performance	P06B7	This diagnostic checks for a fault with the internal test circuit used only for the '20 kHz' method of the Open Circuit Diagnostic	FFT Diagnostic Output	> OpenTestCktThrshMin and < OpenTestCktThrshMax See Supporting Tables	Diagnostic Enabled? Engine Run Time Engine Speed Cumulative Number of Engine Revs (per key cycle) within min/max Engine Speed enable (above) Engine Air Flow	Yes ≥ 2.0 seconds > 400 RPM and < 7,200 RPM ≥ 200 Revs ≥ 50 mg/cylinder and ≤ 2,000 mg/cylinder	First Order Lag Filter with Weight Coefficient Weight Coefficient = 0.0200 Updated each engine event	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Transmission Control Module (TCM) Requested MIL Illumination	P0700	Monitors the TCM MIL request line to determine when the TCM has detected a MIL illuminating fault.	Transmission Emissions-Related DTC set			Time since power-up ≥ 3 seconds	Continuous	Type A, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Inlet Airflow System Performance (twin turbo)	P1101	Determines if there are multiple air induction problems affecting airflow and/or manifold pressure.	See table " Turbocharger Intake Flow Rationality Diagnostic Failure Matrix " for combinations of model failures that can set this DTC. MAF1 model fails when ABS(Measured MAF1 Flow – Modeled MAF1 Flow) Filtered MAF2 model fails when ABS(Measured MAF2 Flow – Modeled MAF2 Flow) Filtered MAP1 model fails when ABS(Measured MAP – MAP Model 1) Filtered MAP2 model fails when ABS(Measured MAP – MAP Model 2) Filtered MAP3 model fails when ABS(Measured MAP – MAP Model 3) Filtered TIAP1 model fails when ABS(Measured TIAP – TIAP Model 1) Filtered TPS model fails when Filtered Throttle Model Error TIAP Correlation model fails when High Engine Air Flow is	> 25.0 grams/sec > 25.0 grams/sec > 25.0 kPa > 25.0 kPa > 25.0 kPa > 30.0 kPa > 350 kPa*(g/s)	Engine Speed Engine Speed Coolant Temp Coolant Temp Intake Air Temp Intake Air Temp Minimum total weight factor (all factors multiplied together)	>= 425 RPM <= 6,500 RPM > -7 Deg C < 126 Deg C > -20 Deg C < 125 Deg C >= 0.50 Modeled MAF1 Model Error multiplied by MAF1 Residual Weight Factor based on RPM and MAF1 Residual Weight Factor based on MAF Est Modeled MAF2 Model Error multiplied by MAF2 Residual Weight Factor based on RPM and MAF2 Residual Weight Factor based on MAF Est MAP Model 1 Error multiplied by MAP1 Residual Weight Factor based on RPM MAP Model 2 Error multiplied by MAP2 Residual Weight Factor based on RPM MAP Model 3 Error multiplied by MAP3 Residual Weight Factor based on RPM	Continuous Calculation are performed every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>TRUE AND Measured TIAP - measured MAP - offset as a function of engine speed See table "TIAP-MAP Correlation Offset"</p> <p>OR</p> <p>Low Engine Air Flow is TRUE AND Measured TIAP - measured Baro - offset as a function of engine speed See table "TIAP-Baro Correlation Offset"</p> <p>TIAP Correlation is valid when High Engine Air Flow has been TRUE for a period of time OR Low Engine Air Flow has been TRUE for a period of time</p> <p>High Engine Air Flow is TRUE when Mass Air Flow</p> <p>AND Manifold Pressure</p>	<p>> 30.0 kPa</p> <p>> 30.0 kPa</p> <p>> 1.5 seconds</p> <p>> 1.5 seconds</p> <p>> a threshold in gm sec as a function of engine speed See table "TIAP-MAP Correlation Min Air Flow"</p> <p>> a threshold in kPa as a function of engine speed</p>	<p>No Active DTCs:</p> <p>No Pending DTCs:</p>	<p>TIAP Model 1 Error multiplied by TIAP Residual Weight Factor based on RPM</p> <p>Filtered Throttle Model Error multiplied by TPS Residual Weight Factor based on RPM</p> <p>See Residual Weight Factor tables.</p> <p>MAP_SensorCircuitFA EGRValvePerformance_F A MAF_SensorCircuitFA CrankSensor_FA ECT_Sensor_FA IAT_SensorFA MnfdTempSensorFA TC_BoostPresSnsrCktFA AmbientAirDefault</p> <p>EGRValve_FP ECT_Sensor_Ckt_FP IAT_SensorCircuitFP MnfdTempSensorCktFP</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			AND Filtered Mass Air Flow - Mass Air Flow Low Engine Air Flow is TRUE when Mass Air Flow AND Manifold Pressure AND Mass Air Flow - Filtered Mass Air Flow	See table "TIAP-MAP Correlation Min MAP" < 2.0 gm/sec < a threshold in gm sec as a function of engine speed See table "TIAP-Baro Correlation Max Air Flow" < a threshold in kPa as a function of engine speed See table "TIAP-Baro Correlation Max MAP" < 2.0 gm/sec				

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 1 low side circuit shorted to high side circuit	P1248	This DTC Diagnoses Injector 1 enable low side driver shorted to high side driver circuit faults.	Voltage high across low side and High side drivers during on state indicates low side shorted to high side	Low side shorted to High Side: 25 amp \geq through low side driver	Battery Voltage Engine Run Time	\geq 11 Volts \geq 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 2 low side circuit shorted to high side circuit	P1249	This DTC Diagnoses Injector 2 enable low side driver shorted to high side driver circuit faults.	Voltage high across low side and High side drivers during on state indicates low side shorted to high side	Low side shorted to High Side: 25 amp \geq through low side driver	Battery Voltage Engine Run Time	≥ 11 Volts ≥ 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 3 low side circuit shorted to high side circuit	P124A	This DTC Diagnoses Injector 3 enable low side driver shorted to high side driver circuit faults.	Voltage high across low side and High side drivers during on state indicates low side shorted to high side	Low side shorted to High Side: 25 amp >= through low side driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 4 low side circuit shorted to high side circuit	P124B	This DTC Diagnoses Injector 4 enable low side driver shorted to high side driver circuit faults.	Voltage high across low side and High side drivers during on state indicates low side shorted to high side	Low side shorted to High Side: 25 amp \geq through low side driver	Battery Voltage Engine Run Time	≥ 11 Volts ≥ 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 5 low side circuit shorted to high side circuit	P124C	This DTC Diagnoses Injector 5 enable low side driver shorted to high side driver circuit faults.	Voltage high across low side and High side drivers during on state indicates low side shorted to high side	Low side shorted to High Side: 25 amp \geq through low side driver	Battery Voltage Engine Run Time	≥ 11 Volts ≥ 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 6 low side circuit shorted to high side circuit	P124D	This DTC Diagnoses Injector 6 enable low side driver shorted to high side driver circuit faults.	Voltage high across low side and High side drivers during on state indicates low side shorted to high side	Low side shorted to High Side: 25 amp \geq through low side driver	Battery Voltage Engine Run Time	≥ 11 Volts ≥ 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Engine Metal Over temperature Active	P1258	The objective of the algorithm is to protect the engine in the event of engine metal overtemperature, mainly due to loss of coolant	Engine Coolant For a period	>= 132 °C >= 2 seconds	Engine Run Time If feature was active and it set the coolant sensor fault then feature will be enabled on coolant sensor fault pending on the next trip.	>= 30 Seconds	Fault present for >= 0 seconds	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Ignition Coil Positive Voltage Circuit Group 1 * * SIDI ONLY * *	P135A	This diagnostic checks for voltage supply to the Ignition Coils (applicable only for SIDI applications)	Common Enable Criteria		Diagnostic Enabled?	Yes	50 Failures out of 63 Samples 6.25 msec rate	Type A, 1 Trips
			Ignition Module Supply Voltage.	< 2.5 Volts				
			Three possible power supply sources for Ignition Coils: Case 1: Battery Case 2: Ignition Run/ Crank Case 3: PT Relay	Ignition Coil Power Source = (see corresponding case specific enable criteria below)	PT Relay			
			Case Specific Enable Criteria	Case 1: Battery	Delay starting at Key-On	5 Engine Revs		
			Case 2: Ignition Run/ Crank	Ignition Run/Crank Voltage	> 11.0 volts			
			Case 3: PT Relay	PT Relay Voltage	> 11.0 volts			

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Ignition Coil Positive Voltage Circuit Group 2 * * SIDI ONLY * *	P135B	This diagnostic checks for voltage supply to the Ignition Coils (applicable only for SIDI applications)	Common Enable Criteria		Diagnostic Enabled?	Yes	50 Failures out of 63 Samples 6.25 msec rate	Type: Type A, 1 Trips
			Ignition Module Supply Voltage.	< 2.5 Volts				
			Three possible power supply sources for Ignitia Coils: Case 1: Battery Case 2: Ignition Run/ Crank Case 3: PT Relay	Ignition Coil Power Source = (see corresponding case specific enable criteria below)	PT Relay			
			Additional Case Specific Enable Criteria	Case 1: Battery	Delay starting at Key-On	5 Engine Revs		
			Case 2: Ignition Run/ Crank	Ignition Run/Crank Voltage	> 11.0 volts			
			Case 3: PT Relay	PT Relay Voltage	> 11.0 volts			

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cold Start Emissions Reduction System Fault	P1400	Model based test computes power from exhaust flow and thermal energy resulting from elevated idle speed and retarded spark advance. Detects if the cold start emission reduction system has failed resulting in the delivered power being out of range.	<p>Average desired accumulated exhaust power - Average actual accumulated exhaust power (too much energy delivered to catalyst)</p> <p>Average desired accumulated exhaust power - Average actual accumulated exhaust power (too little energy delivered to catalyst)</p> <p>(EWMA filtered)</p> <p>Average Power = output of P1400_EngineSpeedResidual_Table * output of P1400_SparkResidual_Table</p> <p>NOTE: Desired accumulated power would use the desired catalyst light off spark and desired engine speed and the actual accumulated power would use the final commanded spark and actual engine speed. Refer to the Supporting Tables for details</p>	<p>< -32.00 KJ/s (high RPM failure mode)</p> <p>> 5.00 KJ/s (low RPM failure mode)</p>	<p>To enable the diagnostic, the Cold Start Emission Reduction Strategy must be Active per the following:</p> <p>Catalyst Temperature AND Engine Coolant AND Engine Coolant AND Barometric Pressure</p> <p>The Cold Start Emission Reduction strategy must not be exiting. The strategy will exit per the following:</p> <p>Catalyst Temperature AND Engine Run Time</p> <p>OR</p> <p>Engine Run Time</p> <p>OR</p> <p>Barometric Pressure</p>	<p>< 350.00 degC AND > -10.00 degC AND <= 56.00 degC AND >= 74.00 KPa</p> <p>>= 900.00 degC AND >= 18.38 seconds</p> <p>> CatalystLightOffExtendedEngineRunTimeExit</p> <p>This Extended Engine run time exit is a function of percent ethanol and Catmons NormRatioEWMA. Refer to "Supporting Tables" for details.</p>	<p>Runs once per trip when the cold start emission reduction strategy is active</p> <p>Frequency: 100ms Loop</p> <p>Test completes after 10 seconds of accumulated qualified data.</p>	EWMA Based - Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>Other Enable Criteria:</p> <p>OBD Manufacturer Enable Counter</p> <p>Vehicle Speed</p> <p>Allow diagnostic to calculate residual in an off-idle state. If the value of the OffIdleEnable is equal to 1 then the "DriverOffAccelPedal" will not be checked. However, if the value of OffIdleEnable is 0 then driver must be off the accel pedal</p> <p>A change in throttle position (tip-in/tip-out) will initiate a delay in the calculation of the average qualified residual value. Therefore when the:</p> <p>Pedal Close Delay Timer</p> <p>the diagnostic will continue the calculation.</p> <p>A change in gear will initiate a delay in the calculation of the average qualified residual value to allow time for the actual</p>	<p>0</p> <p>< 1.24 MPH</p> <p>0</p> <p>(A value of 1 allows diagnostic to run and calculate the residual while off idle. A value of 0 requires calculation of the residual at idle)</p> <p>> 5.00 seconds</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>engine speed and actual final commanded spark to achieve their desired values. Therefore, when the:</p> <p>Gear Shift Delay Timer</p> <p>the diagnostic will continue the calculation</p> <p>For Manual Transmission vehicles:</p> <p>Clutch Pedal Position</p> <p>Clutch Pedal Position</p> <p>The diagnostic will delay calculation of the residual value and potentially weight the residual calculation differently based on engine run time. This is to ensure the diagnostic is operating in idle speed control as well as during the peak catalyst light off period.</p> <p>The time weighting factor must be :</p>	<p>> 2.00 seconds</p> <p>> 5.00 %</p> <p>< 5.00 %</p> <p>> 0 These are scalar values that are a function of engine run time. Refer to ColdStartDiagnosticDelayBasedOnEngineRunTime</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					General Enable: DTC's Not Set:	and the cal axis, ColdStartDiagnosticDelayBasedOnEngineRunTimeCalAxis in the "Supporting Tables" for details. AcceleratorPedalFailure ECT_Sensor_FA IAT_SensorCircuitFA MnfdTempSensorCktFP CrankSensorFaultActive FuelInjectorCircuit_FA MAF_SensorFA MAP_SensorFA EngineMisfireDetected_FA Clutch Sensor FA IAC_SystemRPM_FA IgnitionOutputDriver_FA TPS_FA VehicleSpeedSensor_FA 5VoltReferenceMAP_OOR_Flt TransmissionEngagedState_FA EngineTorqueInaccurate		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Transmission Engine Speed Request Circuit	P150C	Determines if engine speed request from the TCM is valid	Serial Communication rolling count value Transmission engine speed protection	+ 1 from previous \$19D message (PTEI3)	Diagnostic enable bit	1	Diagnostic runs in 12.5 ms loop	Type B, 2 Trips
				not equal to 2's complement of transmission engine speed request + Transmission alive rolling count	Engine run time	0.50 sec		
					# of Protect Errors	12 protect errors within the sample period 20		
					# of Alive Rolling Errors	6 rolling count errors out of 10 samples		
					No idle diagnostic 506/507 code	IAC_SystemRPM_FA		
					No Serial communication loss to TCM	(U0101)		
					Engine Running	= TRUE		
	Power mode	Run Crank Active						

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Steady State Actuation Fault	P1516	Detect an inability to maintain a steady state throttle position	The absolute difference between desired and indicated throttle position is >	2.00 percent		Run/Crank voltage > 6.41 Ignition voltage failure is false (P1682) TPS minimum learn is not active and Throttle is being Controlled Throttle is considered in a steadystate condition when the desired throttle position over a 12.5 ms period is < 0.25 percent for a settling time period > 4.00 s	0.49 ms	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Adaptive Cruise Control Signal Circuit	P1553	Detects rolling count or protection value errors in Adaptive Cruise Control Axle Torque Command serial data signal	If x of y rolling count / protection value faults occur, disable adaptive cruise control for duration of fault		Adaptive Cruise Control Command Serial Data Error Diagnostic Enable	1.00	10 / 16 counts	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Switch State Undertermined	P155A	Detects when cruise switch state cannot be determined, such as low voltage conditions	cruise switch state remains undetermined for greater than a calibratable time				fail continuously for greater than 0.5 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Set/ Coast Signal 2 Circuit	P155B	Detects a failure of the cruise set 2 switch in a continuously applied state	Cruise Control Set 2 switch remains applied for greater than a calibratable period of time for architecture where cruise switch states are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 89.000 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Cruise Control Resume/ Acceleration Signal 2 Circuit	P155C	Detects a failure of the cruise resume 2 switch in a continuously applied state	Cruise Control Resume 2 switch remains applied for greater than a calibratable period of time for architecture where cruise switch states are received over serial data		CAN cruise switch diagnostic enable in ECM	1.00	fail continuously for greater than 89.000 seconds	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Front Object Detection Control Module Torque Request Signal Message Counter Incorrect	P15F6	Detects rolling count or protection value errors in Collision Preparation System Axle Torque Command serial data signal	If x of y rolling count / protection value faults occur, disable collision preparation system for duration of fault		Front Object Detection Module Torque Request Serial Data Error Diagnostic Enable	1.00	4 / 10 counts	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Automatic Braking Engine Torque Request Signal Message Incorrect	P15F8	Detects rolling count or protection value errors Rear Virtual Bumper Axle Torque Command serial data signal	If x of y rolling count / protection value faults occur, disable rear virtual bumper or collision preparation system for duration of fault		Automatic Braking Engine Torque Request Serial Data Error Diagnostic Enable	1.00	4 / 10 counts	MIL: Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Internal Control Module SIDI High Pressure Pump current monitor	P163A	This DTC Diagnoses the current from the control area and compares it with calibrated thresholds to set current high and low flags	SIDI fuel pump High Current Test Current SIDI fuel pump Low Current Test Current	>= 3.00 Amps <= 0.10 Amps	Battery Voltage Low Side Fuel Pressure Engine Run Time Additional Enable Conditions: All must be true (High Pressure Pump is enabled and High Fuel pressure sensor ckt is Not (FA,FP or TFTKO) and High Pressure fuel pump ckt is Not (FA,FP or TFTKO) and Cam or Crank Sensor Not FA and IAT,IAT2,ECT Not FA and Low side Fuel Pump Relay ckt Not FA and Estimate fuel rail pressure is valid and Green Engine (In assembly plant) is not enabled and Not if low fuel condition and Low side Fuel Pump is on and Injector Flow Test is not active and Device control commanded pressure is false and Device control pump ckt enabled on is false and Engine movement	>= 11 Volts > 0.275 MPa >= KtFHPD_t_PumpCntrlEng RunThrsh (see supporting tables) Enabled when a code clear is not active or not exiting device control Engine is not cranking	Current High - 750 failures out of 938 samples Current Low - 750 failures out of 938 Samples	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					detected is true and Manufacturers enable counter is 0) Flex Fuel Sensor Not FA Ignition voltage out of correlation error(P1682) not active and Barometric Pressure Inlet Air Temp Fuel Temp	>= 70.0 KPA >= -10.0 degC -10 <= Temp degC <= 100		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Ignition Voltage Correlation	P1682	Detect a continuous or intermittent out of correlation between the Run/Crank Ignition Voltage & the Powertrain Relay Ignition Voltage	Run/Crank – PT Relay Ignition >	3.00 Volts		Powertrain commanded on AND (Run/Crank voltage > Table, f(IAT). See supporting tables: PT Relay Pull-in Run/Crank Voltage f(IAT) OR PT Relay Ignition voltage > 5.50) AND Run/Crank voltage > 5.50 .	240 / 480 counts or 0.1750 sec continuous; 12.5 ms/count in main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
TPS SENT Comm Circuit Low	P16A0	Detects a Low Circuit Fault in the TPS SENT Communication Circuit	Voltage for wave pulse is below state threshold as defined by SAE J2716 SENT Protocol	0.5 V		Run/Crank voltage > 6.41	79 / 159 counts; 57 counts continuous; 3.125 ms /count in the ECM main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
TPS SENT Comm Circuit High	P16A1	Detects a High Circuit Fault in the TPS SENT Communication Circuit	Voltage for wave pulse is above state threshold as defined by SAE J2716 SENT Protocol	4.1 V		Run/Crank voltage > 6.41	79 / 159 counts; 57 counts continuous; 3.125 ms /count in the ECM main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
TPS SENT Comm Circuit Performance	P16A2	Detects a Message Fault in the TPS SENT Communication Circuit	Message Pulse < Message Pulse > or Message Age Limit >= or Signal CRC fails	0.125977 ms 0.209991 ms 3.125 ms		Run/Crank voltage > 6.41	79 / 159 counts; 57 counts continuous; 3.125 ms /count in the ECM main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Internal Control Module Redundant Memory Performance	P16F3	<p>Detect Processor Calculation faults due to RAM corruptions, ALU failures and ROM failures</p> <p>For all of the following cases: If the individual diagnostic threshold is equal to 2048 ms, this individual case is not applicable. If any of the following cases are X out of Y diagnostics and the fail (x) is greater than the sample (Y), this individual case is also not applicable.</p>	Desired Throttle Area calculated does not equal its redundant calculation	N/A	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	Type A, 1 Trips
			Equivalence Ratio torque compensation exceeds threshold	-93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Absolute difference between Equivalence Ratio torque compensation and its dual store out of bounds given by threshold	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Absolute difference of Accessory torque and its redundant calculation is out of bounds given by threshold range	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Absolute difference of Filtered Air-per-cylinder and its redundant calculation is out of bounds given by threshold range	79.35 mg	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Absolute difference between the previous Final Advance and the current Final Advance not Adjusted for Equivalence Ratio is out of bounds given by threshold range	3.94 degrees		Engine speed >0rpm	Up/down timer 125 ms continuous, 0.5 down time multiplier	
			Torque Learn offset is out of bounds given by threshold range	High Threshold 0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
				Low Threshold 0.00 Nm			multiplier	
			One step ahead calculation of air-per-cylinder and two step ahead is greater than threshold	80.00 mg		Engine speed > 600 rpm	Up/down timer 454 ms continuous, 0.5 down time multiplier	
			Difference between Unmanaged Spark and PACS Spark is greater than threshold	3.93 degrees	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Commanded Predicted Engine Torque and its dual store do not match	N/A	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
							multiplier	
			Zero pedal axle torque is out of bounds given by threshold range	High Threshold 1,225.80 Nm Low Threshold -65,535.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Creep Coast Axle Torque is out of bounds given by threshold range	High Threshold 1,225.80 Nm Low Threshold -65,535.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Absolute difference of Friction torque and its redundant calculation is out of bounds given by threshold range	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
							multiplier	
			Arbitrated Air-Per-Cylinder filter coefficient is out of bounds given by threshold range	High Threshold 1.000 Low Threshold 0.074	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Launch spark is active but the launch spark redundant path indicates it should not be active	N/A		Engine speed < 6,800.00 or 7,000.00 rpm (hysteresis pair)	Up/down timer 154 ms continuous, 0.5 down time multiplier	
			Rate limited vehicle speed and its dual store do not equal	N/A		Time since first CAN message with vehicle speed >= 0.500 sec	10 / 20 counts; 25.0msec/count	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Preload Throttle Area and its dual store do not equal	N/A	Ignition State	Accessory, run or crank AFM apps only	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Commanded engine torque due to fast actuators and its dual store do not equal	N/A	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Commanded engine torque due to slow actuators and its dual store do not equal	N/A	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			TOS to wheel speed conversion factor is out of bounds given by threshold	High Threshold: 1.10	Ignition State	Accessory, run or crank	255 / 6 counts; 25.0msec/count	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			range	T/C Range Hi 0.10 T/C Range Lo Low Threshold: 1.10 T/C Range Hi 0.10 T/C Range Lo				
			Cylinders active greater than commanded	2 cylinders		Engine run flag = TRUE > 2.00s Number of cylinder events since engine run > 24 No fuel injector faults active	Up/down timer 154ms continuous, 0.5 down time multiplier	
			Transfer case neutral request from four wheel drive logic does not match	N/A	Ignition State	Accessory, run or crank	32 / 0 counts; 25.0msec/count	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			with operating conditions			Transfer case range valid and not over-riden FWD Apps only		
			Driver progression mode and its dual store do not equal	N/A	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Predicted torque for uncorrected zero pedal determination is greater than calculated limit.	Table, f(Engine, Oil Temp). See supporting tables + 93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Engine Predicted Request Without Motor is greater than its redundant calculation plus threshold	92.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Engine Immediate Request Without Motor is greater than its redundant calculation plus threshold	92.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Positive Torque Offset is greater than its redundant calculation plus threshold OR Positive Torque Offset is less than its redundant calculation minus threshold	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Commanded Predicted Engine Request is greater than its redundant calculation plus threshold	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, down time multiplier 0.5	
			Commanded Hybrid Predicted Crankshaft Request is greater than its redundant calculation plus threshold	4,096.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Commanded Hybrid	4.096.00	Ignition State	Accessory, run or crank	Up/down timer	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Immediate Crankshaft Request is less than its redundant calculation minus threshold	Nm			2,048 ms continuous, 0.5 down time multiplier	
			Regeneration Brake Assist is not within a specified range	Brake Regen Assist < 0 Nm or Brake Regen Assist > 0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Cylinder Spark Delta Correction exceeds the absolute difference as compared to Unadjusted Cylinder Spark Delta	3.93 degrees	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			1. Cylinder Torque Offset exceeds step size threshold OR 2. Sum of Cylinder Torque Offset exceeds sum threshold	1. 93.90 Nm 2. 93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Engine Capacity Minimum Immediate Without Motor is greater than its dual store plus threshold	96.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Engine Capacity Minimum Engine Off is greater than threshold	0 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Engine Capacity Minimum Engine Immediate Without Motor is greater than threshold	0 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Commanded Immediate Engine Request is greater than its redundant calculation plus threshold	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Engine Speed Lores Intake Firing (event based) calculation does not equal its redundant calculation	N/A		Engine speed greater than 0rpm	Up/down timer 154 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Engine Speed Lores Intake Firing timing (event based) calculation does not equal its redundant calculation	N/A		Engine speed greater than 0rpm	Up/down timer 154 ms continuous, 0.5 down time multiplier	
			Idle speed control calculated predicted minimum torque request exceeds calculated torque limit	Table, f(Oil Temp, RPM). See supporting tables: Speed Control External Load f(Oil Temp, RPM) + 93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Idle speed control calculated predicted minimum torque without reserves exceeds calculated torque limit	Table, f(Oil Temp, RPM). See supporting tables: Speed Control External Load f(Oil Temp, RPM) + 93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Difference between Driver Requested Immediate Torque primary path and its secondary exceeds threshold	1,225.80 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Driver Immediate Request is less than its redundant calculation minus threshold	1,225.80 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Commanded Immediate Request is greater than its redundant calculation plus threshold OR Commanded Immediate	1,225.80 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Request is less than its redundant calculation minus threshold					
			Commanded Immediate Response Type is set to Inactive	N/A	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Difference between Cruise Axle Torque Arbitrated Request and Cruise Axle Torque Request exceeds threshold	153.23 Nm		Cruise has been engaged for more than 4.00 seconds	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Desired engine torque request greater than	92.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 475	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			redundant calculation plus threshold				ms continuous, 0.5 down time multiplier	
			Engine min capacity above threshold	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 88 ms continuous, 0.5 down time multiplier	
			No fast unmanaged retarded spark above the applied spark plus the threshold	Table, f(RPM,APC). See supporting tables: Delta Spark Threshold f (RPM,APC)		Engine speed greater than 0rpm	Up/down timer 125 ms continuous, 0.5 down time multiplier	
			Absolute difference of adjustment factor based on temperature and its dual store above threshold	2.76 m/s	Ignition State	Accessory, run or crank	Up/down timer 121 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			1. Absolute difference of redundant calculated engine speed above threshold	200 RPM		Engine speed greater than 0 RPM	Up/down timer 154 ms continuous, 0.5 down time multiplier	
			After throttle blade pressure and its dual store do not match	N/A	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Speed Control's Predicted Torque Request and its dual store do not match	N/A	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Engine oil temperature and its dual store do not match	N/A	Ignition State	Accessory, run or crank	Up/down timer 288 ms continuous,	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
							0.5 down time multiplier	
			Desired throttle position greater than redundant calculation plus threshold	7.53 percent	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Absolute difference of the rate limited pre-throttle pressure and its redundant calculation greater than threshold	0.06 kpa	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Throttle desired torque above desired torque plus threshold	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Desired filtered throttle torque exceeds the higher of desired throttle torque or modeled throttle torque	93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Torque feedback proportional term is out of allowable range or its dual store copy does not match	High Threshold 46.95 Nm Low Threshold -46.95 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Torque feedback integral term magnitude or rate of change is out of allowable range or its dual store copy do not match	High Threshold 88.03 Nm Low Threshold	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
				-93.90 Nm Rate of change threshold 5.87 Nm/loop				
			Difference of Final Torque feedback proportional plus integral term and its redundant calculation is out of bounds given by threshold range	High Threshold 93.90 Nm Low Threshold - 93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Difference of torque desired throttle area and its redundant calculation is out of bounds given by threshold range	High Threshold 0.50 %	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
				Low Threshold -0.50 %			multiplier	
			Difference of torque model coefficients and its redundant calculation is out of bounds given by threshold range	High Threshold 0.0000500 Low Threshold - 0.0000500	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Difference of base friction torque and its redundant calculation is out of bounds given by threshold range	High Threshold 93.90 Nm Low Threshold - 93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Accessory drive friction torque is out of bounds given by threshold range	High Threshold 93.90 Nm Low Threshold 0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			AC friction torque is greater than commanded by AC control software or less than threshold limit	High Threshold 40.00 Nm Low Threshold 0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Difference of Oil temperature delta friction torque and its redundant calculation is out of bounds given by threshold range	High Threshold 93.90 Nm Low Threshold	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
				- 93.90 Nm				
			Generator friction torque is out of bounds given by threshold range	High Threshold 93.90 Nm Low Threshold 0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Supercharger friction torque is out of bounds given by threshold range	High Threshold 93.90 Nm Low Threshold 0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Filtered Torque error magnitude or its increase rate of change is out of allowable range or its dual store copy do not match	High Threshold 93.90 Nm Low Threshold -93.90 Nm Rate of change threshold 5.87 Nm/loop		Engine speed >0rpm MAF, MAP and Baro DTCs are false	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Torque error compensation is out of bounds given by threshold range	High Threshold 93.90 Nm Low Threshold 0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Delta Torque Baro compensation is out of bounds given by threshold range	High Threshold 11.89 Nm Low Threshold -4.85 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			1. Difference of reserve torque value and its redundant calculation exceed threshold OR 2. Reserve request does not agree with operating conditions or Difference of final predicted torque and its redundant calculation exceed threshold OR 3. Rate of change of reserve torque exceeds threshold, increasing direction only	1. 92.90 Nm 2. N/A 3. 92.90 Nm 4. 92.90 Nm	3. & 4.: Ignition State	1. & 2.: Torque reserve (condition when spark control greater than optimum to allow fast transitions for torque disturbances) > 93.90 Nm 3. & 4.: Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			OR 4. Reserve engine torque above allowable capacity threshold					
			Engine Vacuum and its dual store do not match	N/A	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Absolute difference of the calculated Intake Manifold Pressure during engine event versus during time event is greater than threshold	Table, f(Desired Engine Torque). See supporting tables: Delta MAP Threshold f(Desired Engine Torque)		Engine speed >0rpm	Up/down timer 154 ms continuous, 0.5 down time multiplier	
			Min. Axle Torque Capacity is greater than threshold	0.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Driver Predicted Request	1,225.80	Ignition State	Accessory, run or crank	Up/down timer	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			<p>is greater than its redundant calculation plus threshold</p> <p>OR</p> <p>Driver Predicted Request is less than its redundant calculation minus threshold</p>	Nm			475 ms continuous, 0.5 down time multiplier	
			Cold Delta Friction Torque and its dual store do not match	N/A	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Predicted torque for zero pedal determination is greater than calculated limit.	Table, f(Oil Temp, RPM). See supporting tables: Speed Control External Load f(Oil Temp, RPM) + 93.90 Nm	Ignition State	Accessory, run or crank	Up/down timer 175 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Commanded Predicted Axle Torque and its dual store do not match	1 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Steady State Estimated Engine Torque and its dual store are not equal	N/A		AFM not changing from Active to Inactive and preload torque not changing and one loop after React command Engine speed >0rpm	Up/down timer 1,988 ms continuous, 0.5 down time multiplier	
			Difference of Weighting factor for number of cylinders fueled and its redundant calculation is above threshold	0.26		Engine run flag = TRUE > 10.00 s	Up/down timer 175 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Difference of minimum spark advance limit and its redundant calculation is out of bounds given by threshold range	3.94 degrees	Ignition State	Accessory, run or crank	Up/down timer 154 ms continuous, 0.5 down time multiplier	
			Difference of commanded spark advance and adjusted delivered is out of bounds given by threshold range	3.94 degrees		Engine speed >0rpm	Up/down timer 125 ms continuous, 0.5 down time multiplier	
			Absolute difference between Estimated Engine Torque and its dual store are above a threshold	93.90 Nm		Engine speed >0rpm	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Absolute difference between Estimated Engine Torque without reductions due to torque	93.90 Nm		Engine speed >0rpm	Up/down timer 475 ms continuous, 0.5	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			control and its dual store are above a threshold				down time multiplier	
			Difference of desired spark advance for managed torque and its redundant calculation is out of bounds given by threshold range	3.94 degrees		Torque reserve (condition when spark control greater than optimum to allow fast transitions for torque disturbances) > 93.90 Nm	Up/down timer 454 ms continuous, 0.5 down time multiplier	
			Absolute difference of Engine Capacity Minimum Running Immediate Brake Torque Excluding Cylinder Sensitivity and its redundant calculation is out of bounds given by threshold range	93.90 Nm		Engine speed >0rpm	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			One step ahead calculation of air-per-cylinder greater than two	Threshold: Dynamically calculated based on current		Engine speed > 600 rpm	Up/down timer 454 ms continuous.	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			step ahead calculation by threshold for time	engine conditions Fault Pending Threshold: 100 ms			0.5 down time multiplier	
			Rate limited cruise axle torque request and its dual store do not match within a threshold	153.23 Nm	Ignition State	Accessory, run or crank	Up/down timer 163 ms continuous, 0.5 down time multiplier	
			1. Absolute difference of Calculated accelerator pedal position compensated for carpet learn and error conditions and its redundant calculation is out of bounds given by threshold range OR 2. Absolute difference of Calculated accelerator pedal position compensated for carpet learn and error conditions	1. 5.00 % 2. N/A 3. N/A	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			and its dual store do not equal OR 3. Absolute difference of Calculated accelerator pedal position and its dual store do not equal					
			Commanded axle torque is greater than its redundant calculation by threshold	1,225.80 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Commanded axle torque is less than its redundant calculation by threshold	1,838.70 Nm	Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Preload timer and its redundant calculation do	N/A	Ignition State	Accessory, run or crank	Up/down timer 2.048	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			not equal			AFM apps only	ms continuous, 0.5 down time multiplier	
			AC friction torque is greater than commanded by AC control software	40.00 Nm	Ignition State	Accessory, run or crank	Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Engine Speed Lores Intake Firing (time based) calculation does not equal its redundant calculation	N/A		Engine speed >0rpm	Up/down timer 175 ms continuous, 0.5 down time multiplier	
			Absolute difference of the calculated spark offset for equivalence ratio and its redundant cacluation is greater than a threshold	3.94 degrees		Engine speed >0rpm	Up/down timer 154 ms continuous, 0.5 down time multiplier	
			Transmission Torque	N/A		Run or Crank = TRUE >	16 / 32	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Request cacluations do not equal their dual stores			0.50 s	counts; 25.0msec/count	
			Absolute difference of the predicted motor torque ACS and its redundant cacluation is greater than a threshold	0.01 Nm			Up/down timer 2,048 ms continuous, 0.5 down time multiplier	
			Absolute difference of maximum throttle area and its redundant cacluation is greater than a threshold	15 mm2			Up/down timer 121 ms continuous, 0.5 down time multiplier	
			Absolute difference of Desired TIAP and its redundant cacluation is greater than a threshold	5.00 kPa			Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Pedal learns and their redundant calculation do not equal		Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
			Throttle learns and their redundant calculation do not equal		Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	
			Desired Throttle Position and its redundant calculation do not equal		Ignition State	Accessory, run or crank	Up/down timer 475 ms continuous, 0.5 down time multiplier	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft Actuator Solenoid Circuit Low- Bank 1	P2088	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match.	Short to ground: ≤ 0.5 Ω to a voltage source within the Vehicle Ground Voltage Range relative to PWRGND	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft Actuator Solenoid Circuit High – Bank 1	P2089	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft Actuator Solenoid Circuit Low – Bank 1	P2090	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match.	Short to ground: ≤ 0.5 Ω to a voltage source within the Vehicle Ground Voltage Range relative to PWRGND	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft Actuator Solenoid Circuit High – Bank 1	P2091	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft Actuator Solenoid Circuit Low– Bank 2	P2092	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match.	Short to ground: ≤ 0.5 Ω to a voltage source within the Vehicle Ground Voltage Range relative to PWRGND	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Camshaft Actuator Solenoid Circuit High- Bank 2	P2093	Diagnoses the VVT system high side driver circuit for circuit faults.	.The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft Actuator Solenoid Circuit Low – Bank 2	P2094	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match	Short to ground: ≤ 0.5 Ω to a voltage source within the Vehicle Ground Voltage Range relative to PWRGND	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Exhaust Camshaft Actuator Solenoid Circuit High – Bank 2	P2095	Diagnoses the VVT system high side driver circuit for circuit faults.	The ECM detects that voltage is high during driver off state (indicates short to power or open circuit)	Short to power: ≤ 0.5 Ω impedance between signal and controller power Open Circuit: ≥ 200 K Ω impedance between signal and controller ground	System supply voltage is within limits. Output driver is commanded on, Ignition switch is in crank or run position	> 11.00 Volts	20 failures out of 25 samples250 ms / sample, continuous	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Post Catalyst Fuel Trim System Low Limit Bank 1 (Too Rich)	P2096	Determines if the post catalyst O2 sensor based fuel control system has utilized all or most of its low limit authority, indicating a rich emissions/exhaust gas condition. Note: If the post catalyst O2 voltage is too rich, the post catalyst O2 integral offset control is decreased. This results in lean bias fuel control in an attempt to correct the rich condition. A perfectly balanced control system (no rich or lean bias required) is represented by an integral offset value of "0" and a post catalyst O2 sensor that is within its optimal operating range (neither rich nor lean). An integral offset value < 0 is indicative of the control system reacting to a rich post catalyst O2 sensor. If the failure is such that the control system utilizes all or most of its available authority, then P2096 will set.	Rich Fail counter High Vapor Feature: The diagnostic is at risk of reporting a false fail when excessively High Vapor (HV) conditions are present. This HV condition is indicated when the purge valve is open AND percent vapor is >= 22 % for >= 5.0 seconds. Diagnosis resumes if the purge valve is closed OR the percent vapor is <= 20 % for >= 5.0 seconds. This was done to minimize disabling the diagnostic for longer than necessary.	>= 800 counts per 1,000 sample counts Note: Counters increment at a rate of 10 per second when enable conditions are met. If the fail count threshold is reached, a fail is reported and the diagnostic will not report again until the next trip. If the sample count threshold is reached before a fail is reported, a pass is reported, the counters are reset to 0, and evaluation starts again.	The diagnostic is enabled during: Deceleration Idle Cruise Light Acceleration Heavy Acceleration Ambient Air Pressure Engine AirFlow Intake Manifold Pressure Induction Air Temperature Start-up Coolant Temp. PTO Intrusive diag. fuel control Long Term Secondary Fuel Trim Enabled (see "Long Term Secondary Fuel Trim Enable Criteria" in Supporting Tables) High Vapor Conditions No Fault Active for:	Yes Yes Yes Yes Yes >= 70 kPa >= 0.0 g/s <= 10,000.0 >= 10 kPa <= 255 >= -20 deg. C <= 150 >= -20 deg. C Not Active Not Active Not Present AmbientAirDefault AIR_System FA Ethanol Composition Sensor FA ECT_Sensor_FA EGRValveCircuit_FA EGRValvePerformance_FA IAT_SensorFA CamSensorAnyLocationFA EvapEmissionSystem_FA EvapFlowDuringNonPurge_FA FuelTankPressureSnrCkt_FA	Frequency: Continuous Monitoring in 100ms loop. Counters increment when enable conditions are met. When sample count threshold is reached or fail threshold is reached, counters are reset to 0 and start over.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.	
						EvapPurgeSolenoidCircuit _FA EvapSmallLeak_FA EvapVentSolenoidCircuit_ FA FuelInjectorCircuit_FA MAF_SensorFA MAF_SensorTFTKO MAP_SensorFA MAP_EngineVacuumStat us EngineMisfireDetected_F A A/F Imbalance Bank1 O2S_Bank_1_Sensor_1_ FA O2S_Bank_1_Sensor_2_ FA The above general enable conditions must be true for: Minimum accumulated counts in each cell required before counters will increment for that cell: Deceleration 10,000,000,272,564,200 Idle 10,000,000,272,564,200 Cruise 100 Light Acceleration 100 Heavy Acceleration 100 (Note: A value in any of the above operating "cells" that is an order of magnitude (or more) higher than other cells is an indication that the diagnostic is not capable of diagnosing in that cell). For the cells identified as	> 0.0 seconds		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					<p>enabled (i.e. those containing a "Yes" at the beginning of the Enable Conditions column), the fail counter will increment if the sample counter increments AND Post oxygen sensor control integral offset (in mV) is Deceleration Idle Cruise Light Acceleration Heavy Acceleration AND Post O2 Voltage is Deceleration Idle Cruise Light Acceleration Heavy Acceleration</p> <p>(Note: A value in any of the above operating "cells" that is greater than 900mV is an indication that the diagnostic is not capable of diagnosing in that cell).</p>	<p><= -150 (control min.= -160) -150 (control min.= -160) -710 (control min.= -720) -710 (control min.= -720) -710 (control min.= -720) > 764 mV 764 mV 720 mV 742 mV 742 mV</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Post Catalyst Fuel Trim System High Limit Bank 1 (Too Lean)	P2097	Determines if the post catalyst O2 sensor based fuel control system has utilized all or most of its high limit authority, indicating a lean emissions/exhaust gas condition. Note: If the post catalyst O2 voltage is too lean, the post catalyst O2 integral offset control is increased. This results in rich bias fuel control in an attempt to correct the lean condition. A perfectly balanced control system (no rich or lean bias required) is represented by an integral offset value of "0" and a post catalyst O2 sensor that is within its optimal operating range (neither rich nor lean). An integral offset value > 0 is indicative of the control system reacting to a lean post catalyst O2 sensor. If the failure is such that the control system utilizes all or most of its available authority, then P2097 will set.	Lean Fail counter High Vapor Feature: The diagnostic is at risk of reporting a false fail when excessively High Vapor (HV) conditions are present. This HV condition is indicated when the purge valve is open AND percent vapor is >= 22 % for >= 5.0 seconds. Diagnosis resumes if the purge valve is closed OR the percent vapor is <= 20 % for >= 5.0 seconds. This was done to minimize disabling the diagnostic for longer than necessary.	>= 800 counts per 1,000 sample counts Note: Counters increment at a rate of 10 per second when enable conditions are met. If the fail count threshold is reached, a fail is reported and the diagnostic will not report again until the next trip. If the sample count threshold is reached before a fail is reported, a pass is reported, the counters are reset to 0, and evaluation starts again.	Same as P2096 except for the following: For the cells identified as enabled (i.e. those containing a "Yes" at the beginning of the Enable Conditions for P2096), the fail counter will increment if the sample counter increments AND Post oxygen sensor control integral offset (in mV) is Deceleration Idle Cruise Light Acceleration Heavy Acceleration AND Post O2 Voltage is Deceleration Idle Cruise Light Acceleration Heavy Acceleration (Note: A value in any of the above operating "cells" that is less than 100mV is an indication that the diagnostic is not capable of diagnosing in that cell).	>= 150 (control max.= 160) 150 (control max.= 160) 582 (control max.= 592) 582 (control max.= 592) 582 (control max.= 592) < 600 mV 600 mV 589 mV 589 mV 589 mV	Frequency: Continuous Monitoring in 100ms loop. Counters increment when enable conditions are met. When sample count threshold is reached or fail threshold is reached, counters are reset to 0 and start over.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Post Catalyst Fuel Trim System Low Limit Bank 2 (Too Rich)	P2098	Determines if the post catalyst O2 sensor based fuel control system has reached it's low limit authority, indicating a rich emissions/exhaust gas condition. Note: If the post catalyst O2 voltage is too rich, the post catalyst O2 integral offset control is decreased. This results in lean bias fuel control in an attempt to correct the rich post O2 voltage. Determines if the post catalyst O2 sensor based fuel control system has utilized all or most of it's low limit authority, indicating a rich emissions/exhaust gas condition. Note: If the post catalyst O2 voltage is too rich, the post catalyst O2 integral offset control is decreased. This results in lean bias fuel control in an attempt to correct the rich condition. A perfectly balanced control system (no rich or lean bias required) is represented by an integral offset value of	Rich Fail counter High Vapor Feature: The diagnostic is at risk of reporting a false fail when excessively High Vapor (HV) conditions are present. This HV condition is indicated when the purge valve is open AND percent vapor is >= 22% for >= 5.0 seconds. Diagnosis resumes if the purge valve is closed OR the percent vapor is <= 20% for >= 5.0 seconds. This was done to minimize disabling the diagnostic for longer than necessary.	>= 800 counts per 1,000 sample counts Note: Counters increment at a rate of 10 per second when enable conditions are met. If the fail count threshold is reached, a fail is reported and the diagnostic will not report again until the next trip. If the sample count threshold is reached before a fail is reported, a pass is reported, the counters are reset to 0, and evaluation starts again.	Same as P2096 except for the following: Bank1 Fault Active criteria are replaced by the equivalent Bank2 Fault Active criteria. The diagnostic is enabled during: Deceleration Idle Cruise Light Acceleration Heavy Acceleration Minimum accumulated counts in each cell required before counters will increment for that cell: Deceleration Idle Cruise Light Acceleration Heavy Acceleration (Note: A value in any of the above operating "cells" that is an order of magnitude (or more) higher than other cells is an indication that the diagnostic is not capable of diagnosing in that cell). For the cells identified as enabled (i.e. those containing a "Yes" at the beginning of the Enable Conditions column), the fail counter will increment	Yes Yes Yes Yes Yes 10,000,000,272,564,200 10,000,000,272,564,200 100 100 100	Frequency: Continuous Monitoring in 100ms loop. Counters increment when enable conditions are met. When sample count threshold is reached or fail threshold is reached, counters are reset to 0 and start over.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
		<p>"0" and a post catalyst O2 sensor that is within it's optimal operating range (neither rich nor lean). An integral offset value < 0 is indicative of the control system reacting to a rich post catalyst O2 sensor. If the failure is such that the control system utilizes all or most of its available authority, then P2098 will set.</p>			<p>if the sample counter increments AND Post oxygen sensor control integral offset is Deceleration Idle Cruise Light Acceleration Heavy Acceleration AND Post O2 Voltage is Deceleration Idle Cruise Light Acceleration Heavy Acceleration</p> <p>(Note: A value in any of the above operating "cells" that is greater than 900mV is an indication that the diagnostic is not capable of diagnosing in that cell).</p>	<p><= -150 (control min.= -160) -150 (control min.= -160) -710 (control min.= -720) -710 (control min.= -720) -710 (control min.= -720)</p> <p>> 764 mV 764 mV 720 mV 742 mV 742 mV</p>		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Post Catalyst Fuel Trim System High Limit Bank 2 (Too Lean)	P2099	Determines if the post catalyst O2 sensor based fuel control system has utilized all or most of its high limit authority, indicating a lean emissions/exhaust gas condition. Note: If the post catalyst O2 voltage is too lean, the post catalyst O2 integral offset control is increased. This results in rich bias fuel control in an attempt to correct the lean condition. A perfectly balanced control system (no rich or lean bias required) is represented by an integral offset value of "0" and a post catalyst O2 sensor that is within its optimal operating range (neither rich nor lean). An integral offset value > 0 is indicative of the control system reacting to a lean post catalyst O2 sensor. If the failure is such that the control system utilizes all or most of its available authority, then P2099 will set.	Lean Fail counter High Vapor Feature: The diagnostic is at risk of reporting a false fail when excessively High Vapor (HV) conditions are present. This HV condition is indicated when the purge valve is open AND percent vapor is >= 22 % for >= 5.0 seconds. Diagnosis resumes if the purge valve is closed OR the percent vapor is <= 20 % for >= 5.0 seconds. This was done to minimize disabling the diagnostic for longer than necessary.	>= 800 counts per 1,000 sample counts Note: Counters increment at a rate of 10 per second when enable conditions are met. If the fail count threshold is reached, a fail is reported and the diagnostic will not report again until the next trip. If the sample count threshold is reached before a fail is reported, a pass is reported, the counters are reset to 0, and evaluation starts again.	Same as P2098 except for the following: Bank1 Fault Active criteria are replaced by the equivalent Bank2 Fault Active criteria. For the cells identified as enabled (i.e. those containing a "Yes" at the beginning of the Enable Conditions column for P2098), the fail counter will increment if the sample counter increments AND Post oxygen sensor control integral offset is Deceleration Idle Cruise Light Acceleration Heavy Acceleration AND Post O2 Voltage is Deceleration Idle Cruise Light Acceleration Heavy Acceleration (Note: A value in any of the above operating "cells" that is less than 100mV is an indication that the diagnostic is not capable of diagnosing in that cell).	>= 150 (control max.= 160) 150 (control max.= 160) 582 (control max.= 592) 582 (control max.= 592) 582 (control max.= 592) < 600 mV 600 mV 589 mV 589 mV 589 mV	Frequency: Continuous Monitoring in 100ms loop. Counters increment when enable conditions are met. When sample count threshold is reached or fail threshold is reached, counters are reset to 0 and start over.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Control Module Throttle Actuator Position Performance	P2101	1) Detect a throttle positioning error2) Throttle control is driving the throttle in the incorrect direction3) Throttle control exceeds the reduced power limit	Difference between measured throttle position and modeled throttle position >	7.53 percent	TPS minimum learn is not active and Throttle is being Controlled and (Engine Running or Ignition Voltage > or Ignition Voltage >)	Run/Crank voltage > 6.41 Ignition voltage failure is false (P1682)	15 counts; 12.5 ms/count in the primary processor	Type A, 1 Trips
			OR					
			Difference between modeled throttle position and measured throttle position >	7.53 percent	Ignition voltage failure is false (P1682)	TPS minimum learn is not active and Throttle is being Controlled AND ((Engine Running AND Ignition Voltage > 5.50) OR Ignition Voltage > 8.41)		
Throttle Position >	36.00 percent		Powertrain Relay voltage > 6.41 TPS minimum learn is active	11 counts; 12.5 ms/count in the primary processor				
			Throttle Position >	35.00 percent		Powertrain Relay voltage > 6.41 Reduced Power is True	11 counts; 12.5 ms/count in the primary processor	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Accelerator Pedal Position (APP) Sensor 1 Lo	P2122	Detect a continuous or intermittent short or open in the APP sensor #1 on Main processor	APP1 Voltage <	0.4625		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P06A3)	19 / 39 counts or 14 counts continuous; 12.5 ms/count in the main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Accelerator Pedal Position (APP) Sensor 1 Hi	P2123	Detect a continuous or intermittent short or open in the APP sensor #1 on Main processor	APP1 Voltage >	4.7500		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P06A3)	19 / 39 counts or 14 counts continuous; 12.5 ms/count in the main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Accelerator Pedal Position (APP) Sensor 2 Lo	P2127	Detect a continuous or intermittent short or open in the APP sensor #2 on Main processor	APP2 Voltage <	0.3250		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P0697)	19 / 39 counts or 14 counts continuous; 12.5 ms/count in the main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Accelerator Pedal Position (APP) Sensor 2 Hi	P2128	Detect a continuous or intermittent short or open in the APP sensor #2 on Main processor	APP2 Voltage >	2.6000		Run/Crank voltage > 6.41 No 5V reference error or fault for # 4 5V reference circuit (P0697)	19 / 39 counts or 14 counts continuous; 12.5 ms/count in the main processor	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Throttle Position (TP) Sensor 1-2 Correlation	P2135	Detects a continuous or intermittent correlation fault between TPS sensors #1 and #2 on Main processor	Difference between TPS1 displaced and TPS2 displaced >	6.797 % offset at min. throttle position with a linear threshold to 9.720 % at max. throttle position		Run/Crank voltage > 6.41 No TPS sensor faults (P0122, P0123, P0222, P0223) No 5V reference error or fault for # 4 5V reference circuit (P06A3)	79 / 159 counts or 58 counts continuous; 3.125 ms/count in the main processor	Type A, 1 Trips
			Difference between (normalized min TPS1) and (normalized min TPS2) >	5.000 % Vref		Run/Crank voltage > 6.41 No TPS sensor faults (P0122, P0123, P0222, P0223) No 5V reference error or fault for # 4 5V reference circuit (P06A3)	79 / 159 counts or 58 counts continuous; 3.125 ms/count in the main processor	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Accelerator Pedal Position (APP) Sensor 1-2 Correlation	P2138	Detects a continuous or intermittent correlation fault between APP sensors #1 and #2 on Main processor	Difference between APP1 displaced and APP2 displaced >	5.000 % offset at min. pedal position with a linear threshold to 10.001 % at max. pedal position		Run/Crank voltage > 6.41 No APP sensor faults (P2122, P2123,P2127, P2128) No 5V reference errors or faultst for # 3 & # 4 5V reference circuits (P06A3, P0697)	19 / 39 counts intermittent or 15 counts continuous, 12.5 ms/count in the main processor	Type A, 1 Trips
			Difference between (normalized min APP1) and (normalized min APP2) >	5.000 % Vref		Run/Crank voltage > 6.41 No APP sensor faults (P2122, P2123,P2127, P2128) No 5V reference errors or faultst for # 3 & # 4 5V reference circuits (P06A3, P0697)	19 / 39 counts intermittent or 15 counts continuous, 12.5 ms/count in the main processor	

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 1 high side circuit shorted to ground	P2147	This DTC Diagnoses Injector 1 high side driver circuit for circuit faults.	Voltage high across High Side Driver during On state indicates short to ground	Short to Ground: 25 amp >= through High Side Driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 1 high side circuit shorted to power	P2148	This DTC Diagnoses Injector 1 high side driver circuit for circuit faults.	Voltage low across High side drive during off state indicates short to power.	Short to Power: ≤ 1 volt between signal and controller power	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 2 high side circuit shorted to ground	P2150	This DTC Diagnoses Injector 2 high side driver circuit for circuit faults.	Voltage high across High Side Driver during On state indicates short to ground	Short to Ground: 25 amp \geq through High Side Driver	Battery Voltage Engine Run Time	\geq 11 Volts \geq 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 2 high side circuit shorted to power	P2151	This DTC Diagnoses Injector 2 high side driver circuit for circuit faults.	Voltage low across High side drive during off state indicates short to power.	Short to Power: ≤ 1 volt between signal and controller power	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 3 high side circuit shorted to ground	P2153	This DTC Diagnoses Injector 3 high side driver circuit for circuit faults.	Voltage high across High Side Driver during On state indicates short to ground	Short to Ground: 25 amp \geq through High Side Driver	Battery Voltage Engine Run Time	\geq 11 Volts \geq 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 3 high side circuit shorted to power	P2154	This DTC Diagnoses Injector 3 high side driver circuit for circuit faults.	Voltage low across High side drive during off state indicates short to power.	Short to Power: ≤ 1 volt between signal and controller power	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 4 high side circuit shorted to ground	P2156	This DTC Diagnoses Injector 4 high side driver circuit for circuit faults.	Voltage high across High Side Driver during On state indicates short to ground	Short to Ground: 25 amp >= through High Side Driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 4 high side circuit shorted to power	P2157	This DTC Diagnoses Injector 4 high side driver circuit for circuit faults.	Voltage low across High side drive during off state indicates short to power.	Short to Power: ≤ 1 volt between signal and controller power	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Vehicle Speed – Output Shaft Speed Correlation	P215B	Detect invalid vehicle speed source.	The absolute difference between wheel speed vehicle speed and TOS vehicle speed greater than > OR Secure vehicle speed source is unavailable	6.21 mph		Time since first CAN activity > 0.5000 s Secure vehicle speed source is TOS vehicle speed or wheel speed vehicle speed Trans engaged state is equal to engaged.	400 / 800 counts for wheel speed correlation or 400 / 800 counts for TOS correlation; 25ms/count	Type X, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 5 high side circuit shorted to ground	P216B	This DTC Diagnoses Injector 5 high side driver circuit for circuit faults.	Voltage high across High Side Driver during On state indicates short to ground	Short to Ground: 25 amp \geq through High Side Driver	Battery Voltage Engine Run Time	\geq 11 Volts \geq 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 5 high side circuit shorted to power	P216C	This DTC Diagnoses Injector 5 high side driver circuit for circuit faults.	Voltage low across High side drive during off state indicates short to power.	Short to Power: ≤ 1 volt between signal and controller power	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 6 high side circuit shorted to ground	P216E	This DTC Diagnoses Injector 6 high side driver circuit for circuit faults.	Voltage high across High Side Driver during On state indicates short to ground	Short to Ground: 25 amp >= through High Side Driver	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Injector 6 high side circuit shorted to power	P216F	This DTC Diagnoses Injector 6 high side driver circuit for circuit faults.	Voltage low across High side drive during off state indicates short to power.	Short to Power: ≤ 1 volt between signal and controller power	Battery Voltage Engine Run Time	>= 11 Volts >= 0 Seconds P062B not FA or TFTK	10 failures out of 20 samples 100 ms /sample Continuous	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Minimum Throttle Position Not Learned	P2176	TP sensors were not in the minimum learn window after multiple attempts to learn the minimum.	During TPS min learn on the Main processor, TPS Voltage > AND Number of learn attempts >	0.5740 10 counts		Run/Crank voltage > 6.41 TPS minimum learn is active No previous TPS min learn values stored in long term memory	2.0 secs	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Intake Air Temperature Sensor 1 / 2 Correlation	P2199	Detects a difference between the IAT and IAT2 sensors	ABS (IAT - IAT2)	> 55.0 deg C	Powertrain Relay Voltage for a time No Active DTCs:	>= 11.00 Volts >= 0.9 seconds PowertrainRelayFault	40 failures out of 50 samples 1 sample every 100 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure (BARO) Sensor Performance (twin turbo)	P2227	Compares baro sensor to the calculated baro estimate (part throttle calculation or unthrottled MAP)	Difference between baro sensor reading and estimated baro when distance since last estimated baro update	> 20.0 kPa ≤ 1.24 miles	No Active DTCs:	AmbPresSnsrCktFA ECT_Sensor_Ckt_FA IAT_SensorFA MAF_Snsr1_FA AfterThrottlePressureFA TPS_FA TPS_Performance_FA VehicleSpeedSensor_FA	320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips
			OR Difference between baro sensor reading and estimated baro when distance since last estimated baro update	> 25.0 kPa > 1.24 miles				
			Barometric Pressure OR Barometric Pressure	< 50.0 kPa > 115.0 kPa	Time between current ignition cycle and the last time the engine was running Engine is not rotating	> 10.0 seconds	4 failures out of 5 samples 1 sample every 12.5 msec	
			OR ABS(Manifold Pressure - Turbocharger Boost Pressure) AND ABS(Manifold Pressure - Baro Pressure) AND ABS(Manifold Pressure - Baro Pressure 2) AND ABS(Turbocharger Boost Pressure - Baro Pressure) AND ABS(Turbocharger Boost Pressure - Baro Pressure 2) AND ABS(Baro Pressure - Baro Pressure2)	≤ 10.0 kPa > 10.0 kPa ≤ 10.0 kPa > 10.0 kPa ≤ 10.0 kPa > 10.0 kPa	No Active DTCs: No Pending DTCs:	EngineModeNotRunTimer Error MAP_SensorCircuitFA AAP_SnsrCktFA AAP2_SnsrCktFA AAP3_SnsrCktFA MAP_SensorCircuitFP AAP_SnsrCktFP AAP2_SnsrCktFP AAP3_SnsrCktFP		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure (BARO) Sensor Circuit Low (boosted applications)	P2228	Detects a continuous short to low or open in either the signal circuit or the BARO sensor.	BARO Voltage	< 40.0 % of 5 Volt Range (2.0 Volts = 50.9 kPa)			320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure (BARO) Sensor Circuit High (boosted applications)	P2229	Detects an open sensor ground or continuous short to high in either the signal circuit or the BARO sensor.	BARO Voltage	> 90.0 % of 5 Volt Range (4.5 Volts = 115.0 kPa)			320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure Sensor B Circuit Range/ Performance	P222B	Compares baro sensor 2 to the calculated baro estimate	Difference between baro sensor 2 reading and estimated baro when distance since last estimated baro update	> 20.0 kPa <= 1.24 miles	No Active DTCs:	AmbPresSnsr2_CktFA ECT_Sensor_Ckt_FA IAT_SensorFA MAF_Snsr2_FA AfterThrottlePressureFA TPS_FA TPS_Performance_FA VehicleSpeedSensor_FA	320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips
			OR	Difference between baro sensor 2 reading and estimated baro when distance since last estimated baro update				
			Barometric Pressure 2 OR Barometric Pressure 2	< 50.0 kPa > 115.0 kPa	Time between current ignition cycle and the last time the engine was running Engine is not rotating	> 10.0 seconds	4 failures out of 5 samples 1 sample every 12.5 msec	
			OR		No Active DTCs:	EngineModeNotRunTimer Error		
			ABS(Manifold Pressure - Turbocharger Boost Pressure) AND ABS(Manifold Pressure - Baro Pressure) AND ABS(Manifold Pressure - Baro Pressure 2) AND ABS(Turbocharger Boost Pressure - Baro Pressure) AND ABS(Turbocharger Boost Pressure - Baro Pressure 2) AND ABS(Baro Pressure - Baro Pressure2)	<= 10.0 kPa <= 10.0 kPa > 10.0 kPa <= 10.0 kPa > 10.0 kPa > 10.0 kPa	No Pending DTCs:	MAP_SensorCircuitFA AAP_SnsrCktFA AAP2_SnsrCktFA AAP3_SnsrCktFA MAP_SensorCircuitFP AAP_SnsrCktFP AAP2_SnsrCktFP AAP3_SnsrCktFP		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure Sensor B Circuit Low	P222C	Detects a continuous short to low or open in either the signal circuit or the BARO sensor B.	BARO Voltage	< 40.0 % of 5 Volt Range (2.0 Volts = 50.9 kPa)			320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure Sensor B Circuit High	P222D	Detects an open sensor ground or continuous short to high in either the signal circuit or the BARO sensor B.	BARO Voltage	> 90.0 % of 5 Volt Range (4.5 Volts = 115.0 kPa)			320 failures out of 400 samples 1 sample every 12.5 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure Sensor B Circuit Intermittent/ Erratic	P222E	Detects a noisy or erratic barometric pressure B input	String Length Where: "String Length" = sum of "Diff" calculated over And where: "Diff" = ABS(current BARO 2 reading - BARO 2 reading from 12.5 milliseconds previous)	> 100 kPa 80 consecutive BARO 2 samples			4 failures out of 5 samples Each sample takes 1.00 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Barometric Pressure (BARO) Sensor Circuit Intermittent	P2230	Detects a noisy or erratic barometric pressure input	String Length Where: "String Length" = sum of "Diff" calculated over And where: "Diff" = ABS(current BARO reading - BARO reading from 12.5 milliseconds previous)	> 100 kPa 80 consecutive BARO samples			4 failures out of 5 samples Each sample takes 1.00 seconds	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Turbo/Super Charger Bypass Valve - Mechanical Turbocharger with wastegate. Not supercharger with mechanical compressor	P2261	Detect Stuck Closed Bypass Valve	Accumulation time is high pass filtered. Accumulated air mass flow or boost pressure larger then thresholds	0.30 Second < Accumulation time < 0.75 Second	Diagnostic Enabled Engine Speed Pressure ratio over the compressor Relative Boost Pressure (Boost - Ambient) and Negative Transient in Manifold Air Pressure	1 >= 1,500 rpm >KtBSTD_r_ExcsvBstPre sLim Enable condition kept true for 0.8 seconds extra See Tables in Supporting Tables Sheet IF (RelativeBoost < 5.0 kPa OR DerivativeMAP > 50.00 kPa/s) [FALSE] Else (RelativeBoost >= 15.0 kPa AND DerivativeMAP <= -150.00 kPa) [TRUE] > 6.0 percentEnable condition kept true for 0.50 seconds extra TC_BoostPresSnsrFA MAF_SensorFABSTR_b_ TurboBypassCktFA	2 Failed tests out of 3 Tests 1 sample every 25ms	Type B, 2 Trips
			Filter Frequency	7.20 Hz				
			Filtered Air Mass Flow	> 60.000 g/s				
			Filtered Boost Pressure	> 40.00 kPa				
					Bypass Valve Commanded Open			
					No Active DTCs:			

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Post fuel cell (Decel) Crankshaft Torque EGR Intrusive diagnostic All post sensor heater delays O2S Heater (post sensor) on Time Predicted Catalyst temp Fuel State ===== All of the above met for at least 0.0 seconds, and then check the following Engine Speed to initially enable test Engine Speed range to keep test enabled (after initially enabled) Vehicle Speed to initially enable test Vehicle Speed range to keep test enabled (after initially enabled) ===== All of the above met for at least 3.0 seconds, and then the Force Cat Rich intrusive stage is requested. ===== During Stuck Lean test the following must stay TRUE or the test will abort: Commanded Fuel Crankshaft Torque	= enabled < 100.0 Nm = not active = not active ≥ 60.0 sec 500 ≤ °C ≤ 980 = DFCS possible ===== 1,150 ≤ RPM ≤ 2,500 1,100 ≤ RPM ≤ 2,550 42.3 ≤ MPH ≤ 80.2 38.5 ≤ MPH ≤ 82.0 ===== 0.96 ≤ EQR ≤ 1.08 < 110.0 Nm		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Power Take Off EGR Intrusive diagnostic All post sensor heater delays O2S Heater (post sensor) on Time Predicted Catalyst temp Fuel State DTC's Passed ===== After above conditions are met: DFCO mode is continued (wo driver initiated pedal input).	= not active = not active = not active ≥ 60.0 sec 500 ≤ °C ≤ 980 DFCO possible = P2270 (and P2272 if applicable) = P013E (and P014A if applicable) = P013A (and P013C if applicable) =====		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Signal Stuck Lean Bank 2 Sensor 2	P2272	This DTC determines if the post catalyst O2 sensor is stuck in a normal lean voltage range and thereby can no longer be used for post oxygen sensor fuel control or for catalyst monitoring. The diagnostic is an intrusive test (during coast) which increases the delivered fuel to achieve the required rich threshold.	<p>Post O2 sensor signal</p> <p>AND</p> <p>The Accumulated mass air flow monitored during the Stuck Lean Voltage Test</p>	<p>< 800 mvolts</p> <p>> 68 grams.</p>	<p>No Active DTC's</p> <p>B2S2 DTC's Not Active this key cycle</p> <p>System Voltage ICAT MAT Burnoff delay</p> <p>Green O2S Condition</p> <p>Low Fuel Condition Diag Pedal position</p> <p>Engine Airflow</p> <p>Closed loop integral Closed Loop Active Evap Ethanol</p>	<p>TPS_ThrottleAuthorityDefaulted ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013C, P013D, P014A, P014B, P2272 or P2273</p> <p>10.0 < Volts = Not Valid</p> <p>= Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 in Supporting Tables tab.</p> <p>= False ≤ 100.0 %</p> <p>3 ≤ gps ≤ 11</p> <p>0.87 ≤ C/L Int ≤ 1.07 = TRUE not in control of purge not in estimate mode</p>	<p>Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_Rap idResponseActiv e = TRUE, multiple tests per trip are allowed.</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Post fuel cell (Decel) Crankshaft Torque EGR Intrusive diagnostic All post sensor heater delays O2S Heater (post sensor) on Time Predicted Catalyst temp Fuel State ===== All of the above met for at least 0.0 seconds, and then check the following Engine Speed to initially enable test Engine Speed range to keep test enabled (after initially enabled) Vehicle Speed to initially enable test Vehicle Speed range to keep test enabled (after initially enabled) ===== All of the above met for at least 3.0 seconds, and then the Force Cat Rich intrusive stage is requested. ===== During Stuck Lean test the following must stay TRUE or the test will abort: Commanded Fuel Crankshaft Torque	= enabled < 100.0 Nm = not active = not active ≥ 60.0 sec 500 ≤ °C ≤ 980 = DFCO possible ===== ===== 1,150 ≤ RPM ≤ 2,500 1,100 ≤ RPM ≤ 2,550 42.3 ≤ MPH ≤ 80.2 38.5 ≤ MPH ≤ 82.0 ===== ===== 0.96 ≤ EQR ≤ 1.08 < 110.0 Nm		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
O2 Sensor Signal Stuck Rich Bank 2 Sensor 2	P2273	This DTC determines if the post catalyst O2 sensor is stuck in a normal rich voltage range and thereby can no longer be used for post oxygen sensor fuel control or for catalyst monitoring. The diagnostic is an intrusive test which requests the DFCO mode to achieve the required lean threshold.	Post O2 sensor signal AND The Accumulated mass air flow monitored during the Stuck Rich Voltage Test	> 100 mvolts > 9.0 grams.	No Active DTC's B2S2 DTC's Not Active this key cycle System Voltage ICAT MAT Burnoff delay Green O2S Condition Low Fuel Condition Diag Engine Speed Engine Airflow Vehicle Speed Closed loop integral Closed Loop Active Evap Ethanol	TPS_ThrottleAuthorityDefaulted ECT_Sensor_FA IAT_SensorFA MAF_SensorFA MAP_SensorFA AIR_System FA FuelInjectorCircuit_FA FuelTrimSystemB1_FA FuelTrimSystemB2_FA EngineMisfireDetected_FA EthanolCompositionSensor_FA P013C, P013D, P014A, P014B or P2272 10.0 < Volts = Not Valid = Not Valid, See definition of Multiple DTC Use_Green Sensor Delay Criteria - Airflow and Multiple DTC Use_Green Sensor Delay Criteria - Limit for the following locations: B1S2, B2S2 in Supporting Tables tab. = False 1,150 ≤ RPM ≤ 2,500 3 ≤ gps ≤ 11 42.3 ≤ MPH ≤ 80.2 0.87 ≤ C/L Int ≤ 1.07 = TRUE not in control of purge not in estimate mode	Frequency: Once per trip Note: if NaPOPD_b_Res etFastRespFunc = FALSE for the given Fuel Bank OR NaPOPD_b_Rap idResponseActive = TRUE, multiple tests per trip are allowed.	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Power Take Off EGR Intrusive diagnostic All post sensor heater delays O2S Heater (post sensor) on Time Predicted Catalyst temp Fuel State DTC's Passed ===== After above conditions are met: DFCO mode is continued (wo driver initiated pedal input).	= not active = not active = not active ≥ 60.0 sec 500 ≤ °C ≤ 980 = DFCO possible = P2270 (and P2272 if applicable) = P013E (and P014A if applicable) = P013A (and P013C if applicable) =====		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
SIDI High Pressure Pump	P228C	This DTC Diagnoses the measured fuel rail pressure bias too low from desired fuel pressure.	Desired Pressure - Measure Pressure	>= 3.00 Mpa	Battery Voltage Low Side Fuel Pressure Engine Run Time Additional Enable Conditions: All must be true (High Pressure Pump is enabled and High Fuel pressure sensor ckt is Not (FA,FP or TFTKO) and High Pressure fuel pump ckt is Not (FA,FP or TFTKO) and Cam or Crank Sensor Not FA and IAT,IAT2,ECT Not FA and Low side Fuel Pump Relay ckt Not FA and Estimate fuel rail pressure is valid and Green Engine (In assembly plant) is not enabled and Not if low fuel condition and Low side Fuel Pump is on and Injector Flow Test is not active and Device control commanded pressure is false and Device control pump ckt enabled on is false and Engine movement	>= 11 Volts > 0.275 MPa >= KtFHPD_t_PumpCntrlEng RunThrsh (see supporting tables) Enabled when a code clear is not active or not exiting device control Engine is not cranking	Pressure Error - 750 0 failures out of 938 samples	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					detected is true and Manufacturers enable counter is 0) Flex Fuel Sensor Not FA Ignition voltage out of correlation error(P1682) not active Barometric Pressure Inlet Air Temp Fuel Temp	>= 70.0 KPA >= -10.0 degC -10 <=Temp degC <= 100		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
SIDI High Pressure Pump	P228D	This DTC Diagnoses the measured fuel rail pressure bias too high from desired fuel pressure	Desired Pressure - Measure Pressure	<= -3.00 Mpa	Battery Voltage Low Side Fuel Pressure Engine Run Time Additional Enable Conditions: All must be true (High Pressure Pump is enabled and High Fuel pressure sensor ckt is Not (FA,FP or TFTKO) and High Pressure fuel pump ckt is Not (FA,FP or TFTKO) and Cam or Crank Sensor Not FA and IAT,IAT2,ECT Not FA and Low side Fuel Pump Relay ckt Not FA and Estimate fuel rail pressure is valid and Green Engine (In assembly plant) is not enabled and Not if low fuel condition and Low side Fuel Pump is on and Injector Flow Test is not active and Device control commanded pressure is false and Device control pump ckt enabled on is false and	>= 11 Volts > 0.275 MPa >= KtFHPD_t_PumpCntrlEng RunThrsh (see supporting tables) Enabled when a code clear is not active or not exiting device control Engine is not cranking	Pressure Error - 750 failures out of 938 samples	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Engine movement detected is true andManufacturers enable counter is 0) Flex Fuel Sensor Not FA Ignition voltage out of correlation error(P1682) not active Barometric Pressure Inlet Air Temp Fuel Temp	>= 70.0 KPA >= -10.0 DegC -10 <= Temp degC <= 100		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #1 CIRCUIT LOW	P2300	Diagnoses Cylinder #1 Ignition Control (EST) output driver circuit for a Short to Ground fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage low during driver high state (indicates short-to-ground)	$\leq 100 \Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #1 CIRCUIT High	P2301	Diagnoses Cylinder #1 Ignition Control (EST) output driver circuit for a Short to Power fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage high during driver low state (indicates short- to-power)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #2 CIRCUIT Low	P2303	Diagnoses Cylinder #2 Ignition Control (EST) output driver circuit for a Short to Ground fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage low during driver high state (indicates short-to-ground)	$\leq 100 \Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #2 CIRCUIT High	P2304	Diagnoses Cylinder #2 Ignition Control (EST) output driver circuit for a Short to Power fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage high during driver low state (indicates short- to-power)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #3 CIRCUIT Low	P2306	Diagnoses Cylinder #3 Ignition Control (EST) output driver circuit for a Short to Ground fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage low during driver high state (indicates short-to-ground)	$\leq 100 \Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #3 CIRCUIT High	P2307	Diagnoses Cylinder #3 Ignition Control (EST) output driver circuit for a Short to Power fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage high during driver low state (indicates short- to-power)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #4 CIRCUIT Low	P2309	Diagnoses Cylinder #4 Ignition Control (EST) output driver circuit for a Short to Ground fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage low during driver high state (indicates short-to-ground)	$\leq 100 \Omega$ impedance between signal and controller ground	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #4 CIRCUIT High	P2310	Diagnoses Cylinder #4 Ignition Control (EST) output driver circuit for a Short to Power fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage high during driver low state (indicates short- to-power)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #5 CIRCUIT Low	P2312	Diagnoses Cylinder #5 Ignition Control (EST) output driver circuit for a Short to Ground fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage Low during driver high state (indicates short-to-ground)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #5 CIRCUIT High	P2313	Diagnoses Cylinder #5 Ignition Control (EST) output driver circuit for a Short to Power fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage high during driver low state (indicates short- to-power)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #6 CIRCUIT Low	P2315	Diagnoses Cylinder #6 Ignition Control (EST) output driver circuit for a Short to Ground fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage low during driver high state (indicates short-to-power)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
IGNITION CONTROL #6 CIRCUIT High	P2316	Diagnoses Cylinder #6 Ignition Control (EST) output driver circuit for a Short to Power fault	The ECM detects that the commanded state of the driver and the actual state of the control circuit do not match. Voltage high during driver low state (indicates short- to-power)	$\leq 100 \Omega$ impedance between signal and controller power	Engine running Ignition Voltage	> 5.00 Volts	50 Failures out of 63 Samples 100 msec rate	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Transmission Control Torque Request Circuit	P2544	Determines if the torque request from the TCM is valid	Protect error - Serial Communication message - (\$199 - PTEI3) OR Rolling count error - Serial Communication message (\$199 - PPEI3) rolling count value OR Range Error - Serial Communication message - (\$199 - PTEI3) TCM Requested Torque Increase OR Multi-transition error - Trans torque intervention type request change	Message <> two's complement of message Message <> previous message rolling count value + one > 515 Nm Requested torque intervention type toggles from not increasing request to increasing request	Diagnostic enabled/ disabled Power Mode Ignition Voltage Engine Running Run/Crank Active No Serial communication loss to TCM (U0101)	Enabled = Run > 6.41 volts = True > 0.50 Sec No loss of communication	>= 16 failures out of 20 samples. Performed on every received message >= 6 Rolling count errors out of 10 samples. Performed on every received message >= 6 range errors out of 10 samples. Performed on every received message >= 4 multi-transitions out of 5 samples. Performed every 200 msec	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Control Module Power Off Timer Performance	P262B	<p>This DTC determines if the hardware timer does not initialize or count properly. There are two tests to ensure proper functioning of the timer: Count Up Test (CUT) and Range Test (RaTe).</p> <p>Count Up Test (CUT): Verifies that the HWIO timer is counting up with the proper increment.</p> <p>Range Test (RaTe): When the run/crank is not active both the hardware and mirror timers are started. The timers are compared when module shutdown is initiated or run/crank becomes active.</p>	<p>Count Up Test: Time difference between the current read and the previous read of the timer</p> <p>Range Test: The variation of the HWIO timer and mirror timer is</p>	<p>> 1.50 seconds</p> <p>> 24.87 %.</p>			<p>Count Up Test: 4 failures out of 20 samples</p> <p>1 sec / sample</p> <p>Continuous while run/crank is not active and until controller shutdown is initiated.</p> <p>Range Test: Once per trip when controller shutdown is initiated or run/crank becomes active.</p>	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Malfunction Indicator Lamp (MIL) Control Circuit (ODM) Low	P263A	Diagnoses the malfunction indicator lamp control low side driver circuit for circuit faults.	Voltage low during driver off state (indicates short-to-ground)	Short to ground: ≤ 0.5 Ω impedance between signal and controller ground	Run/Crank Voltage Remote Vehicle Start is not active	Voltage ≥ 11 volts	50 failures out of 63 samples 50 ms / sample	Type B, No MIL NO MIL Note: In certain controllers P0650 may also set (MIL Control Open Circuit)

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Malfunction Indicator Lamp (MIL) Control Circuit (ODM) High	P263B	Diagnoses the malfunction indicator lamp control low side driver circuit for circuit faults.	Voltage high during driver on state (indicates short to power)	Short to power: ≤ 0.5 Ω impedance between signal and controller power	Run/Crank Voltage Remote Vehicle Start is not active	Voltage ≥ 11 volts	4 failures out of 5 samples 50 ms / sample	Type B, No MIL NO MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Control Module Communicati on Bus A Off	U0073	This DTC monitors for a BUS A off condition	Bus off failures exceeds before the sample time of is reached	5 counts (equivalent to 0.06 seconds) 0.56 seconds	General Enable Criteria: U0073 Normal CAN transmission on Bus A Device Control High Voltage Virtual Network Management Ignition Voltage Criteria: Ignition voltage Power Mode Off Cycle Enable Criteria: KeCAND_b_OffKeyCycle DiagEnbl Ignition Accessory Line and Battery Voltage General Enable Criteria and either Ignition Voltage Criteria or Off Cycle Enable Criteria met for > 3.0000 seconds CAN hardware is bus OFF for	Not Active on Current Key Cycle Enabled Not Active Not Active >= 11.00 or >= 6.41 = run = 0 (1 indicates enabled) = Active > 11.00 > 0.1125 seconds	Diagnostic runs in 12.5 ms loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Lost Communicati on With TCM	U0101	This DTC monitors for a loss of communication with the transmission control module	Message is not received from controller for		General Enable Criteria:		Diagnostic runs in 12.5 ms loop	Type B, 2 Trips
			Message \$0AB	≥ 10.0 seconds	U0073	Not Active on Current Key Cycle		
			Message \$0BD	≥ 10.0 seconds	Normal CAN transmission on Bus A	Enabled		
			Message \$0C7	≥ 10.0 seconds	Device Control	Not Active		
			Message \$0F9	≥ 10.0 seconds	High Voltage Virtual Network Management	Not Active		
			Message \$189	≥ 10.0 seconds	Ignition Voltage Criteria:			
			Message \$199	≥ 10.0 seconds	Ignition voltage	≥ 11.00 or ≥ 6.41		
			Message \$19D	≥ 10.0 seconds				
			Message \$1AF	≥ 10.0 seconds	Power Mode	= run		
			Message \$1BE	≥ 10.0 seconds	Off Cycle Enable Criteria:			
			Message \$1BF	≥ 10.0 seconds	KeCAND_b_OffKeyCycle DiagEnbl	= 0 (1 indicates enabled)		
			Message \$1F5	≥ 10.0 seconds	Ignition Accessory Line and Battery Voltage	= Active > 11.00		
			Message \$4C9	≥ 10.0 seconds	General Enable Criteria and either Ignition Voltage Criteria or Off Cycle Enable Criteria met for > 3.0000 seconds			
		Power Mode is in accessory or run or crank and High Voltage Virtual Network Management is						

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					not active for U0101 TCM	> 0.4000 seconds Not Active on Current Key Cycle is present on the bus		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Lost Communicati on With Cruise Control Module	U0104	This DTC monitors for a loss of communication with the Cruise Control Module.	Message is not received from controller for Message \$2CB Message \$2CD	 ≥ 10.0 seconds ≥ 10.0 seconds	General Enable Criteria: U0073 Normal CAN transmission on Bus A Device Control High Voltage Virtual Network Management Ignition Voltage Criteria: Ignition voltage Power Mode Off Cycle Enable Criteria: KeCAND_b_OffKeyCycle DiagEnbl Ignition Accessory Line and Battery Voltage General Enable Criteria and either Ignition Voltage Criteria or Off Cycle Enable Criteria met for > 3.0000 seconds Power Mode is in accessory or run or crank and High Voltage Virtual	Not Active on Current Key Cycle Enabled Not Active Not Active ≥= 11.00 or ≥= 6.41 = run = 0 (1 indicates enabled) = Active > 11.00	Diagnostic runs in 12.5 ms loop	Type C, No MIL

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Network Management is not active for U0104 Cruise Control Module	> 0.4000 seconds Not Active on Current Key Cycle is present on the bus		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Lost Communication With Fuel Pump Control Module	U0109	This DTC monitors for a loss of communication with the fuel pump control module	Message is not received from controller for Message \$1EB Message \$4D9	≥ 10.0 seconds ≥ 10.0 seconds	General Enable Criteria: U0073 Normal CAN transmission on Bus A Device Control High Voltage Virtual Network Management Ignition Voltage Criteria: Ignition voltage Power Mode Off Cycle Enable Criteria: KeCAND_b_OffKeyCycle DiagEnbl Ignition Accessory Line and Battery Voltage General Enable Criteria and either Ignition Voltage Criteria or Off Cycle Enable Criteria met for > 3.0000 seconds Power Mode is in accessory or run or crank and High Voltage Virtual Network Management is	Not Active on Current Key Cycle Enabled Not Active Not Active ≥ 11.00 or ≥ 6.41 = run = 0 (1 indicates enabled) = Active > 11.00	Diagnostic runs in 12.5 ms loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					not active for U0109 Fuel Pump Control Module	> 0.4000 seconds Not Active on Current Key Cycle is present on the bus		

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pressure Sensor "B" Circuit Range/ Performance	P018B	This DTC detects a fuel pressure sensor response stuck within the normal operating range using an intrusive test (see Notes)	Absolute value of fuel pressure change (as sensed during intrusive test)	<= 30 kPa	a) Diagnostic KeFRPD_b_FPSS_DiagEnbld b) Engine Run Time c) Engine Fuel Flow d) Fu Pump Control Enabled e) Fu Pump Control State f) Emissions Fuel Level Low g) Validity status VeFRPD_b_FPSS_DataIntegrityOK IF [1] FRP Circuit Low Fault Active (DTC P018C) [2] FRP Circuit High Fault Active (DTC P018D) [3] Fu Pump Circuit Low Fault Active (DTC P0231) [4] Fu Pump Circuit High Fault Active (DTC P0232) [5] Fu Pump Circuit Open Fault Active (DTC P023F) [6] Reference Voltage Fault Status (DTC P0641) [7] Fu Pump Control Module Driver Over-temperature Fault Active (DTC P1255) [8] Fu Pump Driver Mod	a) == TRUE b) >= 5 sec c) > calibration value KeFRPD_dm_StkPresMin FuelFlow (0.047 gram/ sec typical) d) == TRUE e) Normal OR Fu Pres Snsr Stk Ctrl (rationality) f) <> TRUE g) == TRUE IF [1] <> TRUE [2] <> TRUE [3] <> TRUE [4] <> TRUE [5] <> TRUE [6] <> Active This Key [7] <> TRUE [8] <> TRUE	1 sample / 12.5 millisec Intrusive Test Duration: Fu Flow -related (5 to 12 sec)	DTC Type A 1 trip

14 OBDG06B ECM Summary Tables (Initial DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					Ign Sw RunStart Pstn Ckt Low Fault Active (DTC P129D) [9] Fu Pump Driver Control Mod Enable Ckt Perf Fault Active(DTC P12A6)	[9] <> TRUE		

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pressure Sensor "B" Circuit Low	P018C	This DTC detects if the fuel pressure sensor circuit is shorted low	Fu Rail Pres sensor voltage	< 0.14 V	Ignition	Run or Crank	72 failures / 80 samples 1 sample/12.5 ms	DTC Type A 1 trip

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pressure Sensor "B" Circuit High	P018D	This DTC detects if the fuel pressure sensor circuit is shorted high	Fu Rail Pres sensor voltage	> 4.86 V	Ignition	Run or Crank	72 failures / 80 samples 1 sample/12.5 millisec	DTC Type A 1 trip

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Secondary Circuit Low	P0231	This DTC detects if the fuel pump control circuit is shorted to low	Fuel Pump Power Module Driver Circuit Ground Short enumeration	== Faulted (as reported by Fuel Pmp Pwr Mod)	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Diagnostic KeFRPR_b_FPPM_ DrvrGshtDiagEnbld c) Fuel Pump Control Enable command d) Fuel Pump Control Enable time e) System Voltage f) FPPM Driver Status Alive Rolling Count Sample Faulted g) Diagnostic feedback received h) Fuel Pump Power Module output current	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == TRUE d) >= calibration value KeFRPR_Cnt_FPPM_ GshtDlyThrsh (0-80 sample loops) e) 11v < System V > 32v f) <> TRUE g) == TRUE h) < 75A	64 failures / 80 samples 1 sample/12.5 millisec	DTC Type A 1 trip

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Secondary Circuit High	P0232	This DTC detects if the fuel pump control circuit is shorted to high	Voltage offset relative to low state level of duty cycle pulse measured at fuel pump circuit	> 4.0 V	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Diagnostic KeFRPR_b_FPPM_ DrvrPshtDiagEnbld c) Fuel Pump Control Enabled d) FPPM Arbitrated Fu Pmp Duty Cycle Rate of Change e) System voltage f) FPPM Driver Status Alive Rolling Count Sample Faulted g) Diagnostic feedback Received	a) == CeFRPR_e_ECM_ FPPM_Sys b) == TRUE c) == TRUE d] >= calibration value KeFRPR_cmp_FPPM_ PshtDC_ROC_Min e] 7v < System V > 32v f] <> TRUE g] == TRUE	64 failures / 80 samples 1 sample / 12.5 millisec	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Secondary Circuit Open	P023F	This DTC detects if the fuel pump control circuit is open	Fuel Pump Power Module Driver Circuit Open enumeration	== Faulted (as reported by Fuel Pmp Pwr Mod)	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Diagnostic KeFRPR_b_FPPM_ OpenCktDiagEnbld c) Arbitrated Fu Pmp Duty Cycle (%) d) Fuel Pump Control Enable Faulted e) FPPM Fu Pmp Driver Over-temperature Faulted f) FPPM Driver Status Alive Rolling Count Sample Faulted g) Diagnostic feedback received h) System Voltage	a) == CeFRPR_e_ECM_ FPPM_Sys b) == TRUE c) > calibration value KeFRPR_Pct_FPPM_ OpenCktDC_Thrsh (30% - 60%) d) <> TRUE e) <> TRUE f) <> TRUE g) == TRUE h) 7v < System V > 32v	40 test failures / 80 test samples; 1 sample/12.5ms	DTC Type A 1 trip

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Driver Over Temperature	P1255	To detect if an internal fuel pump driver over- temperature condition exists under normal operating conditions	Fuel Pump Driver Overtemperature enumeration	== Faulted (as reported by Fuel Pmp Pwr Mod)	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Diagnostic KeFRPR_b_FPPM_ OvertempDiagEnbld c] FPPM Driver Status Alive Rolling Count Sample Faulted d] Diagnostic feedback received e] System Voltage	a) == CeFRPR_e_ECM _FPPM_Sys b) == TRUE c] <> TRUE d] == TRUE e] 7V < System V < 32V	3 failures / 15 samples 1 sample / 12.5 millisec	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Driver Module-Ignition Switch Run/Start Position Circuit Low	P129D	To detect if the Run/Start position circuit voltage is short to low / open	FPPM Run_Crank Active status	<> ECM Run_Crank Active status	a) FPPM configuration KeFRPR_e_ChassisFuelPresSysType b) Diagnostic KeFRPR_b_FPPM_RunC rnkRatlEnbld c) FPPM Control Status Alive Rolling Count result d) Diagnostic feedback received e) System Voltage	a) == CeFRPR_e_ECM_FPPM_Sys b) == TRUE c) == Valid d) == TRUE e) >= 0.0 v	64 failures / 80 samples 1 sample / 12.5 millisec	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Driver Control Module Signal Message Counter Incorrect	P129E	To detect if the command message received as serial data from the engine control module is valid	FPPM Received Duty Cycle Rolling Count	== enumeration faulted	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Fault state determination enabled c) FPPM Received Duty Cycle Count result d) FPPM Diagnostic feedback received e) CAN communication f) System Voltage	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == Valid d) == TRUE e) == Valid f) 7v < Sys Voltage > 32v	64 failures / 80 samples 1 sample / 12.5 millisec	Type A, 1 Trips
			FPPM Received Duty Cycle Protection Value	== enumeration faulted	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Fault state determination enabled c) FPPM Received Duty Cycle Protection Value result d) FPPM Diagnostic feedback received e) CAN communication f) System Voltage	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == Valid d) == TRUE e) == Valid f) 7v < Sys Voltage > 32v	64 failures / 80 samples 1 sample / 12.5 millisec	

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Driver Control Module Enable Circuit Performance	P12A6	To detect a driver control circuit signal stuck in normal operating range	FPPM Fuel Control Enable Active boolean	<> Fuel Control Enable variable (ECM)	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Diagnostic KeFRPR_b_FPPM_FuelC ntrlEnblEnbld c) FPPM Control Data Rolling Count result d) Diagnostic feedback received e) System Voltage	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == Valid d) == TRUE e) >= 7 v	40 failures / 80 samples 1 sample / 12.5 millisec	Type A, 1 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Control Status Signal Message Counter Incorrect	P12A8	To detect if the control status message transmitted as serial data from the driver control module is valid	FPPM Control Status Alive Rolling Count	== enumeration faulted	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Fault state determination enabled c) FPPM Diagnostic feedback received	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == TRUE	64 failures / 80 samples 1 sample / 12.5 millisec	Type A, 1 Trips
			FPPM Power Consumption Alive Rolling Count	== enumeration faulted	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Fault state determination enabled c) FPPM Diagnostic feedback received	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == TRUE	64 failures / 80 samples 1 sample / 12.5 millisec	
			FPPM Driver Status Alive Rolling Count	== enumeration faulted	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Fault state determination enabled c) FPPM Diagnostic feedback received	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == TRUE	64 failures / 80 samples 1 sample / 12.5 millisec	
			FPPM Hardware Status Alive Rolling	== enumeration faulted	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Fault state determination enabled c) FPPM Diagnostic feedback received	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == TRUE	64 failures / 80 samples 1 sample / 12.5 millisec	

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Analog Mode Switch Circuit Low	P159F	This DTC will detect an analog mode switch input that is too low out of range.	Analog Mode Switch % of 5V range The normal operating range of the analog mode switch is: Switch depressed % of 5V range: Switch released % of 5V range:	< 24.3 % < 66.8 % ≥ 24.3 % < 94.1 % ≥ 72.8 %			200 failures out of 250 samples 25 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Analog Mode Switch Circuit High	P15A0	This DTC will detect an analog mode switch input that is too high out of range.	Analog Mode Switch % of 5V range The normal operating range of the analog mode switch is: Switch depressed % of 5V range: Switch released % of 5V range:	≥ 94.1 % < 66.8 % ≥ 24.3 % < 94.1 % ≥ 72.8 %			200 failures out of 250 samples 25 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Analog Mode Switch Performance	P15A1	This DTC will detect an analog mode switch input that is in an indeterminate range.	Fuel Saver Switch % of 5V is in an indeterminate range: The normal operating range of the fuel saver mode switch is: Switch depressed % of 5V range: Switch released % of 5V range:	$66.8\% \leq \% \text{ of } 5 \text{ volts} < 72.8\%$ $< 66.8\%$ $\geq 24.3\%$ $< 94.1\%$ $\geq 72.8\%$			200 failures out of 250 samples 25 ms / sample	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump "A" Low Flow / Performance	P2635	This DTC detects degradation in the performance of the SIDI electronically regulated fuel system	Filtered fuel rail pressure error	<= Low Threshold (tabulated function of desired fuel rail pressure and fuel flow rate -- 15% of requested Target Pressure) OR >= High Threshold (tabulated function of desired fuel rail pressure and fuel flow rate -- 15% of requested Target Pressure) (See Supporting Calibration Tables "P2635 Threshold High", "P2635 Threshold Low", "P2635 Threshold High Repass", "P2635 Threshold Low Repass", "P2635 Max Fuel Flow")	a) Fu Rail Pres Snsr Circuit Low Fault Active (DTC P018C) b) Fu Rail Pres Snsr Circuit High Fault Active (DTC P018D) c) Fu Rail Pres Snsr Perf Fault Active (DTC P018B) d) Fu Pump Circuit Low Fault Active (DTC P0231) e) Fu Pump Circuit High Fault Active (DTC P0232) f) Fu Pump Circuit Open Fault Active (DTC P023F) g) Reference Voltage Fault Status (DTC P0641) h) Fu Pump Driver Control Module Overtemperature Fault Active (DTC P1255) j) Barometric Pressure Signal Valid (PPEI \$4C1) k) Engine run time l) Emissions Fuel Level Low (PPEI \$3FB) m) Fu Pump Control Enabled	a) <> TRUE b) <> TRUE c) <> TRUE d) <> TRUE e) <> TRUE f) <> TRUE g) <> Active This Key h) <> TRUE j) == TRUE (for absolute fuel pressure sensor) k) >= 30 sec l) <> TRUE m) == TRUE	1 sample / 12.5 millisec	DTC Type B 2 trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					n] Fu Pump Control state p] System Voltage q] Fuel flow rate r] Fuel Pressure Control System	n] == Normal p] 11V< System V <32V q1] > 0.047 gram/sec AND q2] <= Max allowed fuel flow rate (function of desired pressure and system voltage)(typically 11-50 gram/sec) r1] Not responding to overperformance due to pressure buildup during Deceleration Fuel Cut Off OR r2] Not responding to a decreasing desired fuel pres commnad		

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Chassis Control Module 1 Requested MIL Illumination	P26C8	Monitors the Chassis Control Module 1 MIL request line to determine when the Chassis Control Module 1 has detected a MIL illuminating fault.	Chassis Control Module 1 Emissions-Related DTC set			Time since power-up ≥ 3 seconds	Continuous	Type X, No MIL

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Lost Communicati on With Chassis Control Module A	U012A	This DTC monitors for a loss of communication with the Chassis Control Module A.	Message is not received from controller for Message \$4DB	≥ 12.0 seconds	General Enable Criteria: U0073 Normal CAN transmission on Bus A Device Control High Voltage Virtual Network Management Ignition Voltage Criteria: Ignition voltage or >= 6.41 Power Mode Off Cycle Enable Criteria: KeCAND_b_OffKeyCycle DiagEnbl Ignition Accessory Line and Battery Voltage General Enable Criteria and either Ignition Voltage Criteria or Off Cycle Enable Criteria met for > 3.0000 seconds Power Mode is in accessory or run or crank and High Voltage Virtual Network Management is	Not Active on Current Key Cycle Enabled Not Active Not Active >= 11.00 = run = 0 (1 indicates enabled) = Active > 11.00	Diagnostic runs in 12.5 ms loop	Type X, No MIL

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					not active for U012A CHCM A	> 0.4000 seconds Not Active on Current Key Cycle is present on the bus		

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Lost Communicati on With Fuel Pump Driver Control Module	U18A2	This DTC monitors for a loss of communication with the Fuel Pump Driver Control Module on Bus B	Message is not received from controller for Message \$0D5 Message \$0D7	 ≥ 12.0 seconds ≥ 12.0 seconds	General Enable Criteria: U0074 Normal CAN transmission on Bus B Device Control High Voltage Virtual Network Management Ignition Voltage Criteria: Ignition voltage Power Mode Off Cycle Enable Criteria: KeCAND_b_OffKeyCycle DiagEnbl Ignition Accessory Line and Battery Voltage General Enable Criteria and either Ignition Voltage Criteria or Off Cycle Enable Criteria met for > 3.0000 seconds Power Mode is in accessory or run or crank and High Voltage Virtual Network Management is not active for	 Not Active on Current Key Cycle Enabled Not Active Not Active >= 11.00 or >= 6.41 = run = 0 (1 indicates enabled) =Active > 11.00 > 0.4000 seconds	Diagnostic runs in 12.5 ms loop	Type B, 2 Trips

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
					U18A2 Fuel Pump Driver Control Module	Not Active on Current Key Cycle is present on the bus		

14 OBDG06B ECM Summary Tables (Unique DTCs)

Component/ System	Fault Code	Monitor Description	Malfunction Criteria	Threshold Value	Secondary Parameters	Enable Conditions	Time Required	MIL Illum.
Fuel Pump Driver Control Module Lost Communication with ECM/PCM	U2616	To detect lost serial data communication from the power driver controller to the ECM	FPPM Received Serial Data Communication Status	== enumeration faulted	a) FPPM configuration KeFRPR_e_ChassisFuel PresSysType b) Fault state determination enabled c) Run_Crank status d) FPPM Control Status Alive Rolling Count result e) FPPM Diagnostic feedback received f) System Voltage	a) == CeFRPR_e_ECM_FPPM _Sys b) == TRUE c) == Active d) == Valid e) == TRUE f) 7v < Sys Voltage > 32v	64 failures / 80 samples 1 sample / 12.5 millisec	Type A, 1 Trips

Closed Loop Enable Clarification: Calibration values are in the Supporting Tables

Engine run time greater than
KtFSTA_t_ClosedLoopAutostart (HYBRID ONLY)
 AutoStart Coolant X1 X2 X3 X4 X5 X6 X7 X8 X9 X10 X11
 Close Loop Enable Time Y1 Y2 Y3 Y4 Y5 Y6 Y7 Y8 Y9 Y10 Y11
and
KtFSTA_t_ClosedLoopTime
 Start-Up Coolant X1 X2 X3 X4 X5 X6 X7 X8 X9 X10 X11
 Close Loop Enable Time Y1 Y2 Y3 Y4 Y5 Y6 Y7 Y8 Y9 Y10 Y11
and pre converter O2 sensor voltage less
than
KfFULC_U_O2_SensorReadyThresh
Lo
 Voltage < XXXXmilliVolts
for
KcFULC_O2_SensorReadyEvents
 Time (events * 12.5 milliseconds) > XXXXevents
and
COSC (Converter Oxygen Storage Control) not
enabled
and
Consumed AirFuel Ratio is stoichiometry i.e. not in component
protection
and
POPD or Catalyst Diagnostic not intrusive
and
Turbo Scavenging Mode not
enabled
and
All cylinders whose valves are active also have their injectors
enabled
and
O2S_Bank_1_TFTKO, O2S_Bank_2_TFTKO, FuelInjectorCircuit_FA and
CylinderDeacDriverTFTKO = False

Long Term FT Enable Criteria

Closed Loop Enable Clarification: Calibration values are in the Supporting Tables

Closed Loop Enable and
Coolant greater than
KfFCLL_T_AdaptiveLoCoolant

Coolant > XXXXCelcius

or less than

KfFCLL_T_AdaptiveHiCoolant

Coolant < XXXXCelcius

and

KtFCLL_p_AdaptiveLowMAP_Limit

Barometric Pressure	X1	X2	X3	X4	X5	X6	X7	X8	X9
Manifold Air Pressure	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9

and

TPS_ThrottleAuthorityDefaulted =

False

and

Flex Fuel Estimate Algorithm is not active

and

Excessive fuel vapors boiling off from the engine oil algorithm (BOFR) is not
enabled

and

Catalyst or EVAP large leak test not
intrusive

Secondary Fuel Trim Enable

Criteria

Closed Loop Enable and

KfFCLP_U_O2ReadyThrshLo

Voltage < XXXXmilliVolts

for

KcFCLP_Cnt_O2RdyCyclesThrsh

Time (events * 12.5 milliseconds) > XXXXevents

Long Term Secondary Fuel Trim

Enable Criteria

KtFCLP_t_PostIntglDisableTime

Closed Loop Enable Clarification: Calibration values are in the Supporting Tables

Start-Up Coolant	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
Post Integral Enable Time	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11

Plus
KtFCLP_t_PostIntglRampInTime

Start-Up Coolant	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
Post Integral Ramp In Time	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11

and
KeFCLP_T_IntegrationCatalystMax

Modeled Catalyst Temperature < XXXXCelcius

and
KeFCLP_T_IntegrationCatalystMin

Modeled Catalyst Temperature > XXXXCelcius

and
PO2S_Bank_1_Snsr_2_FA and
PO2S_Bank_2_Snsr_2_FA = False

and
(KeFCLP_Pct_CatAccuSlphrPostDsbl
Modeled converter sulfur percent < XXXX Percent

and
Post Integral < KaFCLP_U_SlphrintglOfst_Thrsh)

X axis: Post O2 Sensor
Y axis: Post O2 Mode
Z: Post Integral threshold

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

Description: Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

Notes: This table describes combinations of individual model failures that will set P0101, P0106, P010B, P0121, P0236 and P1101 on turbocharged applications.

y/x	1	2	3	4	5	6	7	8	9
1	MAF Model	MAP1 Model	MAP2 Model	MAP3 Model	TIAP1 Model	TPS Model	TIAP Correlation	TIAP Correlation	DTC Set
2	Failed	Failed	Failed	Failed	Failed	Failed	Failed	Valid	
3	F	F	F	F	F	F	F	F	No DTC
4	F	F	F	F	F	F	F	T	No DTC
5	F	F	F	F	F	F	T	F	No DTC
6	F	F	F	F	F	F	T	T	No DTC
7	F	F	F	F	F	T	F	F	No DTC
8	F	F	F	F	F	T	F	T	No DTC
9	F	F	F	F	F	T	T	F	No DTC
10	F	F	F	F	F	T	T	T	No DTC
11	F	F	F	F	T	F	F	F	No DTC
12	F	F	F	F	T	F	F	T	No DTC
13	F	F	F	F	T	F	T	F	No DTC
14	F	F	F	F	T	F	T	T	No DTC
15	F	F	F	F	T	T	F	F	P1101
16	F	F	F	F	T	T	F	T	P0121
17	F	F	F	F	T	T	T	F	P1101
18	F	F	F	F	T	T	T	T	P0236
19	F	F	F	T	F	F	F	F	P1101
20	F	F	F	T	F	F	F	T	P1101
21	F	F	F	T	F	F	T	F	P1101
22	F	F	F	T	F	F	T	T	P1101
23	F	F	F	T	F	T	F	F	P1101
24	F	F	F	T	F	T	F	T	P1101
25	F	F	F	T	F	T	T	F	P1101
26	F	F	F	T	F	T	T	T	P1101
27	F	F	F	T	T	F	F	F	P1101
28	F	F	F	T	T	F	F	T	P1101
29	F	F	F	T	T	F	T	F	P1101
30	F	F	F	T	T	F	T	T	P1101
31	F	F	F	T	T	T	F	F	P1101
32	F	F	F	T	T	T	F	T	P1101
33	F	F	F	T	T	T	T	F	P1101
34	F	F	F	T	T	T	T	T	P1101

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

35	F	F	T	F	F	F	F	F	P1101
36	F	F	T	F	F	F	F	T	P1101
37	F	F	T	F	F	F	T	F	P1101
38	F	F	T	F	F	F	T	T	P1101
39	F	F	T	F	F	T	F	F	P1101
40	F	F	T	F	F	T	F	T	P1101
41	F	F	T	F	F	T	T	F	P1101
42	F	F	T	F	F	T	T	T	P1101
43	F	F	T	F	T	F	F	F	P1101
44	F	F	T	F	T	F	F	T	P1101
45	F	F	T	F	T	F	T	F	P1101
46	F	F	T	F	T	F	T	T	P1101
47	F	F	T	F	T	T	F	F	P1101
48	F	F	T	F	T	T	F	T	P1101
49	F	F	T	F	T	T	T	F	P1101
50	F	F	T	F	T	T	T	T	P1101
51	F	F	T	T	F	F	F	F	P1101
52	F	F	T	T	F	F	F	T	P1101
53	F	F	T	T	F	F	T	F	P1101
54	F	F	T	T	F	F	T	T	P1101
55	F	F	T	T	F	T	F	F	P1101
56	F	F	T	T	F	T	F	T	P1101
57	F	F	T	T	F	T	T	F	P1101
58	F	F	T	T	F	T	T	T	P1101
59	F	F	T	T	T	F	F	F	No DTC
60	F	F	T	T	T	F	F	T	No DTC
61	F	F	T	T	T	F	T	F	No DTC
62	F	F	T	T	T	F	T	T	No DTC
63	F	F	T	T	T	T	F	F	P1101
64	F	F	T	T	T	T	F	T	P1101
65	F	F	T	T	T	T	T	F	P1101
66	F	F	T	T	T	T	T	T	P1101
67	F	T	F	F	F	F	F	F	P1101
68	F	T	F	F	F	F	F	T	P1101
69	F	T	F	F	F	F	T	F	P1101
70	F	T	F	F	F	F	T	T	P0236
71	F	T	F	F	F	T	F	F	P1101
72	F	T	F	F	F	T	F	T	P0121

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

73	F	T	F	F	F	T	T	F	P1101
74	F	T	F	F	F	T	T	T	P0236
75	F	T	F	F	T	F	F	F	P1101
76	F	T	F	F	T	F	F	T	P1101
77	F	T	F	F	T	F	T	F	P1101
78	F	T	F	F	T	F	T	T	P0236
79	F	T	F	F	T	T	F	F	P1101
80	F	T	F	F	T	T	F	T	P0121
81	F	T	F	F	T	T	T	F	P1101
82	F	T	F	F	T	T	T	T	P0236
83	F	T	F	T	F	F	F	F	P1101
84	F	T	F	T	F	F	F	T	P1101
85	F	T	F	T	F	F	T	F	P1101
86	F	T	F	T	F	F	T	T	P1101
87	F	T	F	T	F	T	F	F	P1101
88	F	T	F	T	F	T	F	T	P1101
89	F	T	F	T	F	T	T	F	P1101
90	F	T	F	T	F	T	T	T	P1101
91	F	T	F	T	T	F	F	F	P1101
92	F	T	F	T	T	F	F	T	P1101
93	F	T	F	T	T	F	T	F	P1101
94	F	T	F	T	T	F	T	T	P1101
95	F	T	F	T	T	T	F	F	P1101
96	F	T	F	T	T	T	F	T	P1101
97	F	T	F	T	T	T	T	F	P1101
98	F	T	F	T	T	T	T	T	P1101
99	F	T	T	F	F	F	F	F	P1101
100	F	T	T	F	F	F	F	T	P1101
101	F	T	T	F	F	F	T	F	P1101
102	F	T	T	F	F	F	T	T	P1101
103	F	T	T	F	F	T	F	F	P1101
104	F	T	T	F	F	T	F	T	P1101
105	F	T	T	F	F	T	T	F	P1101
106	F	T	T	F	F	T	T	T	P1101
107	F	T	T	F	T	F	F	F	P1101
108	F	T	T	F	T	F	F	T	P1101
109	F	T	T	F	T	F	T	F	P1101
110	F	T	T	F	T	F	T	T	P1101

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

111	F	T	T	F	T	T	F	F	P1101
112	F	T	T	F	T	T	F	T	P1101
113	F	T	T	F	T	T	T	F	P1101
114	F	T	T	F	T	T	T	T	P1101
115	F	T	T	T	F	F	F	F	P0106
116	F	T	T	T	F	F	F	T	P0106
117	F	T	T	T	F	F	T	F	P0106
118	F	T	T	T	F	F	T	T	P0106
119	F	T	T	T	F	T	F	F	P1101
120	F	T	T	T	F	T	F	T	P1101
121	F	T	T	T	F	T	T	F	P1101
122	F	T	T	T	F	T	T	T	P1101
123	F	T	T	T	T	F	F	F	P1101
124	F	T	T	T	T	F	F	T	P1101
125	F	T	T	T	T	F	T	F	P1101
126	F	T	T	T	T	F	T	T	P1101
127	F	T	T	T	T	T	F	F	P1101
128	F	T	T	T	T	T	T	F	P1101
129	F	T	T	T	T	T	T	F	P1101
130	F	T	T	T	T	T	T	T	P1101
131	T	F	F	F	F	F	F	F	P1101
132	T	F	F	F	F	F	F	T	P1101
133	T	F	F	F	F	F	T	F	P1101
134	T	F	F	F	F	F	T	T	P0236
135	T	F	F	F	F	T	F	F	P1101
136	T	F	F	F	F	T	F	T	P0121
137	T	F	F	F	F	T	T	F	P1101
138	T	F	F	F	F	T	T	T	P0236
139	T	F	F	F	T	F	F	F	P1101
140	T	F	F	F	T	F	F	T	P1101
141	T	F	F	F	T	F	T	F	P1101
142	T	F	F	F	T	F	T	T	P0236
143	T	F	F	F	T	T	F	F	P1101
144	T	F	F	F	T	T	F	T	P0121
145	T	F	F	F	T	T	T	F	P1101
146	T	F	F	F	T	T	T	T	P0236
147	T	F	F	T	F	F	F	F	P1101
148	T	F	F	T	F	F	F	T	P1101

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

149	T	F	F	T	F	F	T	F	P1101
150	T	F	F	T	F	F	T	T	P1101
151	T	F	F	T	F	T	F	F	P1101
152	T	F	F	T	F	T	F	T	P1101
153	T	F	F	T	F	T	T	F	P1101
154	T	F	F	T	F	T	T	T	P1101
155	T	F	F	T	T	F	F	F	P1101
156	T	F	F	T	T	F	F	T	P1101
157	T	F	F	T	T	F	T	F	P1101
158	T	F	F	T	T	F	T	T	P1101
159	T	F	F	T	T	T	F	F	P1101
160	T	F	F	T	T	T	F	T	P1101
161	T	F	F	T	T	T	T	F	P1101
162	T	F	F	T	T	T	T	T	P1101
163	T	F	T	F	F	F	F	F	P1101
164	T	F	T	F	F	F	F	T	P1101
165	T	F	T	F	F	F	T	F	P1101
166	T	F	T	F	F	F	T	T	P1101
167	T	F	T	F	F	T	F	F	P1101
168	T	F	T	F	F	T	F	T	P1101
169	T	F	T	F	F	T	T	F	P1101
170	T	F	T	F	F	T	T	T	P1101
171	T	F	T	F	T	F	F	F	P1101
172	T	F	T	F	T	F	F	T	P1101
173	T	F	T	F	T	F	T	F	P1101
174	T	F	T	F	T	F	T	T	P1101
175	T	F	T	F	T	T	F	F	P1101
176	T	F	T	F	T	T	F	T	P1101
177	T	F	T	F	T	T	T	F	P1101
178	T	F	T	F	T	T	T	T	P1101
179	T	F	T	T	F	F	F	F	P1101
180	T	F	T	T	F	F	F	T	P1101
181	T	F	T	T	F	F	T	F	P1101
182	T	F	T	T	F	F	T	T	P1101
183	T	F	T	T	F	T	F	F	P1101
184	T	F	T	T	F	T	F	T	P1101
185	T	F	T	T	F	T	T	F	P1101
186	T	F	T	T	F	T	T	T	P1101

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

187	T	F	T	T	T	F	F	F	P0101 or P010B
188	T	F	T	T	T	F	F	T	P0101 or P010B
189	T	F	T	T	T	F	T	F	P0101 or P010B
190	T	F	T	T	T	F	T	T	P0101 or P010B
191	T	F	T	T	T	T	F	F	P1101
192	T	F	T	T	T	T	F	T	P1101
193	T	F	T	T	T	T	T	F	P1101
194	T	F	T	T	T	T	T	T	P1101
195	T	T	F	F	F	F	F	F	P1101
196	T	T	F	F	F	F	F	T	P1101
197	T	T	F	F	F	F	T	F	P1101
198	T	T	F	F	F	F	T	T	P0236
199	T	T	F	F	F	T	F	F	P1101
200	T	T	F	F	F	T	F	T	P0121
201	T	T	F	F	F	T	T	F	P1101
202	T	T	F	F	F	T	T	T	P0236
203	T	T	F	F	T	F	F	F	P1101
204	T	T	F	F	T	F	F	T	P1101
205	T	T	F	F	T	F	T	F	P1101
206	T	T	F	F	T	F	T	T	P0236
207	T	T	F	F	T	T	F	F	P1101
208	T	T	F	F	T	T	F	T	P0121
209	T	T	F	F	T	T	T	F	P1101
210	T	T	F	F	T	T	T	T	P0236
211	T	T	F	T	F	F	F	F	P1101
212	T	T	F	T	F	F	F	T	P1101
213	T	T	F	T	F	F	T	F	P1101
214	T	T	F	T	F	F	T	T	P1101
215	T	T	F	T	F	T	F	F	P1101
216	T	T	F	T	F	T	F	T	P1101
217	T	T	F	T	F	T	T	F	P1101
218	T	T	F	T	F	T	T	T	P1101
219	T	T	F	T	T	F	F	F	P1101
220	T	T	F	T	T	F	F	T	P1101
221	T	T	F	T	T	F	T	F	P1101
222	T	T	F	T	T	F	T	T	P1101
223	T	T	F	T	T	T	F	F	P1101
224	T	T	F	T	T	T	F	T	P1101

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 Turbocharger Intake Flow Rationality Diagnostic Failure Matrix

225	T	T	F	T	T	T	T	F	P1101
226	T	T	F	T	T	T	T	T	P1101
227	T	T	T	F	F	F	F	F	P1101
228	T	T	T	F	F	F	F	T	P1101
229	T	T	T	F	F	F	T	F	P1101
230	T	T	T	F	F	F	T	T	P1101
231	T	T	T	F	F	T	F	F	P1101
232	T	T	T	F	F	T	F	T	P1101
233	T	T	T	F	F	T	T	F	P1101
234	T	T	T	F	F	T	T	T	P1101
235	T	T	T	F	T	F	F	F	P1101
236	T	T	T	F	T	F	F	T	P1101
237	T	T	T	F	T	F	T	F	P1101
238	T	T	T	F	T	F	T	T	P1101
239	T	T	T	F	T	T	F	F	P1101
240	T	T	T	F	T	T	F	T	P1101
241	T	T	T	F	T	T	T	F	P1101
242	T	T	T	F	T	T	T	T	P1101
243	T	T	T	T	F	F	F	F	P1101
244	T	T	T	T	F	F	F	T	P1101
245	T	T	T	T	F	F	T	F	P1101
246	T	T	T	T	F	F	T	T	P1101
247	T	T	T	T	F	T	F	F	P1101
248	T	T	T	T	F	T	F	T	P1101
249	T	T	T	T	F	T	T	F	P1101
250	T	T	T	T	F	T	T	T	P1101
251	T	T	T	T	T	F	F	F	P1101
252	T	T	T	T	T	F	F	T	P1101
253	T	T	T	T	T	F	T	F	P1101
254	T	T	T	T	T	F	T	T	P1101
255	T	T	T	T	T	T	F	F	P1101
256	T	T	T	T	T	T	F	T	P1101
257	T	T	T	T	T	T	T	F	P1101
258	T	T	T	T	T	T	T	T	P1101

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P012B_P0236_P1101 TPS Residual Weight Factor based on RPM

Description: P0101_P0106_P0121_P012B_P0236_P1101 TPS Residual Weight Factor based on RPM

Notes:

y/x	600	950	1,300	1,650	2,000	2,350	2,700	3,050	3,400	3,750	4,100	4,450	4,800	5,150	5,500	6,000	6,500
1	1.000	1.000	1.000	1.000	0.684	1.000	0.759	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.540

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P012B_P0236_P1101 MAP1 Residual Weight Factor based on RPM

Description: P0101_P0106_P0121_P012B_P0236_P1101 MAP1 Residual Weight Factor based on RPM

Notes:

y/x	600	950	1,300	1,650	2,000	2,350	2,700	3,050	3,400	3,750	4,100	4,450	4,800	5,150	5,500	6,000	6,500
1	1.000	1.000	1.000	1.000	0.830	1.000	0.968	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.698

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P012B_P0236_P1101 MAP2 Residual Weight Factor based on RPM

Description: P0101_P0106_P0121_P012B_P0236_P1101 MAP2 Residual Weight Factor based on RPM

Notes:

y/x	600	950	1,300	1,650	2,000	2,350	2,700	3,050	3,400	3,750	4,100	4,450	4,800	5,150	5,500	6,000	6,500
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.963	1.000	1.000	1.000	0.662

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P012B_P0236_P1101 MAP3 Residual Weight Factor based on RPM

Description: P0101_P0106_P0121_P012B_P0236_P1101 MAP3 Residual Weight Factor based on RPM

Notes:

y/x	600	950	1,300	1,650	2,000	2,350	2,700	3,050	3,400	3,750	4,100	4,450	4,800	5,150	5,500	6,000	6,500
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	0.953	0.887	0.914	0.950	1.000	0.630	1.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P0236_P1101 TIAP Residual Weight Factor based on RPM

Description: P0101_P0106_P0121_P0236_P1101 TIAP Residual Weight Factor based on RPM

Notes:

y/x	600	950	1,300	1,650	2,000	2,350	2,700	3,050	3,400	3,750	4,100	4,450	4,800	5,150	5,500	6,000	6,500
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P0236_P1101 TIAP-MAP Correlation Offset

Description: P0101_P0106_P0121_P0236_P1101 TIAP-MAP Correlation Offset

Notes:

y/x	1,000	1,750	2,500	3,250	4,000	4,750	5,500	6,250	7,000
1	1.0	1.0	1.0	1.0	2.0	2.4	4.0	5.0	5.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P0236_P1101 TIAP-Baro Correlation Offset

Description: P0101_P0106_P0121_P0236_P1101 TIAP-Baro Correlation Offset

Notes:

y/x	1,000	1,750	2,500	3,250	4,000	4,750	5,500	6,250	7,000
1	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P0236_P1101 TIAP-MAP Correlation Min Air Flow

Description: P0101_P0106_P0121_P0236_P1101 TIAP-MAP Correlation Min Air Flow

Notes:

y/x	1,000	1,750	2,500	3,250	4,000	4,750	5,500	6,250	7,000
1	15.0	32.0	36.0	47.0	57.0	70.0	74.0	76.0	76.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P0236_P1101 TIAP-Baro Correlation Max Air Flow

Description: P0101_P0106_P0121_P0236_P1101 TIAP-Baro Correlation Max Air Flow

Notes:

y/x	1,000	1,750	2,500	3,250	4,000	4,750	5,500	6,250	7,000
1	6.0	8.0	10.0	6.0	8.0	9.0	12.0	13.0	13.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P0236_P1101 TIAP-MAP Correlation Min MAP

Description: P0101_P0106_P0121_P0236_P1101 TIAP-MAP Correlation Min MAP

Notes:

y/x	1,000	1,750	2,500	3,250	4,000	4,750	5,500	6,250	7,000
1	100.0	100.0	120.0	155.0	170.0	160.0	150.0	162.0	170.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P0236_P1101 TIAP-Baro Correlation Max MAP

Description: P0101_P0106_P0121_P0236_P1101 TIAP-Baro Correlation Max MAP

Notes:

y/x	1,000	1,750	2,500	3,250	4,000	4,750	5,500	6,250	7,000
1	35.0	27.5	26.1	26.0	26.0	26.0	30.0	30.0	30.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P012B_P1101 Boost Residual Weight Factor based on % of Boost

Description: P0101_P0106_P0121_P012B_P1101 Boost Residual Weight Factor based on % of Boost

Notes:

y/x	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P012B_P1101 SCIAP1 Residual Weight Factor based on RPM

Description: P0101_P0106_P0121_P012B_P1101 SCIAP1 Residual Weight Factor based on RPM

Notes:

y/x	0	400	800	1,200	1,600	2,000	2,400	2,800	3,200	3,600	4,000	4,400	4,800	5,200	5,600	6,000	6,500
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P0121_P012B_P1101 SCIAP2 Residual Weight Factor based on RPM

Description: P0101_P0106_P0121_P012B_P1101 SCIAP2 Residual Weight Factor based on RPM

Notes:

y/x	0	400	800	1,200	1,600	2,000	2,400	2,800	3,200	3,600	4,000	4,400	4,800	5,200	5,600	6,000	6,500
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P00C7 Twin Turbo Failure Matrix

Description: Intake Air Pressure System Performance Failure Matrix for Twin Turbo Applications

Notes: This table describes the combination of intake system pressure sensor difference combinations that will set P00C7 on twin turbocharged applications

y/x	1	2	3	4	5	6	7
1	DTC	MAP & TCBP Diff	MAP & Baro Diff	MAP & Baro2 Diff	TCBP & Baro Diff	TCBP & Baro2 Diff	Baro & Baro2 Diff
2	No DTC	N	N	N	N	N	N
3	P00C7	Y	N	N	N	N	N
4	P00C7	N	Y	N	N	N	N
5	P00C7	Y	Y	N	N	N	N
6	P00C7	N	N	Y	N	N	N
7	P00C7	Y	N	Y	N	N	N
8	P00C7	N	Y	Y	N	N	N
9	P0106	Y	Y	Y	N	N	N
10	P00C7	N	N	N	Y	N	N
11	P00C7	Y	N	N	Y	N	N
12	P00C7	N	Y	N	Y	N	N
13	P00C7	Y	Y	N	Y	N	N
14	P00C7	N	N	Y	Y	N	N
15	P00C7	Y	N	Y	Y	N	N
16	P00C7	N	Y	Y	Y	N	N
17	P00C7	Y	Y	Y	Y	N	N
18	P00C7	N	N	N	N	Y	N
19	P00C7	Y	N	N	N	Y	N
20	P00C7	N	Y	N	N	Y	N
21	P00C7	Y	Y	N	N	Y	N
22	P00C7	N	N	Y	N	Y	N
23	P00C7	Y	N	Y	N	Y	N
24	P00C7	N	Y	Y	N	Y	N
25	P00C7	Y	Y	Y	N	Y	N
26	P00C7	N	N	N	Y	Y	N
27	P0236	Y	N	N	Y	Y	N
28	P00C7	N	Y	N	Y	Y	N
29	P00C7	Y	Y	N	Y	Y	N
30	P00C7	N	N	Y	Y	Y	N
31	P00C7	Y	N	Y	Y	Y	N
32	P00C7	N	Y	Y	Y	Y	N
33	P00C7	Y	Y	Y	Y	Y	N
34	P00C7	N	N	N	N	N	Y

14 OBDG06B ECM Supporting Tables

Supporting Table - P00C7 Twin Turbo Failure Matrix

35	P00C7	Y	N	N	N	N	Y
36	P00C7	N	Y	N	N	N	Y
37	P00C7	Y	Y	N	N	N	Y
38	P00C7	N	N	Y	N	N	Y
39	P00C7	Y	N	Y	N	N	Y
40	P00C7	N	Y	Y	N	N	Y
41	P00C7	Y	Y	Y	N	N	Y
42	P00C7	N	N	N	Y	N	Y
43	P00C7	Y	N	N	Y	N	Y
44	P2227	N	Y	N	Y	N	Y
45	P00C7	Y	Y	N	Y	N	Y
46	P00C7	N	N	Y	Y	N	Y
47	P00C7	Y	N	Y	Y	N	Y
48	P00C7	N	Y	Y	Y	N	Y
49	P00C7	Y	Y	Y	Y	N	Y
50	P00C7	N	N	N	N	Y	Y
51	P00C7	Y	N	N	N	Y	Y
52	P00C7	N	Y	N	N	Y	Y
53	P00C7	Y	Y	N	N	Y	Y
54	P222B	N	N	Y	N	Y	Y
55	P00C7	Y	N	Y	N	Y	Y
56	P00C7	N	Y	Y	N	Y	Y
57	P00C7	Y	Y	Y	N	Y	Y
58	P00C7	N	N	N	Y	Y	Y
59	P00C7	Y	N	N	Y	Y	Y
60	P00C7	N	Y	N	Y	Y	Y
61	P00C7	Y	Y	N	Y	Y	Y
62	P00C7	N	N	Y	Y	Y	Y
63	P00C7	Y	N	Y	Y	Y	Y
64	P00C7	N	Y	Y	Y	Y	Y
65	P00C7	Y	Y	Y	Y	Y	Y

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P012B_P0236_P1101 MAF1 Residual Weight Factor based on RPM

Description: P0101_P0106_P010B_P0121_P012B_P0236_P1101 MAF1 Residual Weight Factor based on RPM

Notes:

y/x	600	950	1,300	1,650	2,000	2,350	2,700	3,050	3,400	3,750	4,100	4,450	4,800	5,150	5,500	6,000	6,500
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P012B_P0236_P1101 MAF1 Residual Weight Factor based on MAF Est

Description: P0101_P0106_P010B_P0121_P012B_P0236_P1101 MAF1 Residual Weight Factor based on MAF Est

Notes:

y/x	0	50	70	73	76	79	82	85	89	95	100	110	120	150	200	280	350
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 MAF2 Residual Weight Factor based on MAF Est

Description: P0101_P0106_P010B_P0121_P0236_P1101 MAF2 Residual Weight Factor based on MAF Est

Notes:

y/x	0	50	70	73	76	79	82	85	89	95	100	110	120	150	200	280	350
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

14 OBDG06B ECM Supporting Tables

Supporting Table - P0101_P0106_P010B_P0121_P0236_P1101 MAF2 Residual Weight Factor based on RPM

Description: P0101_P0106_P010B_P0121_P0236_P1101 MAF2 Residual Weight Factor based on RPM

Notes:

y/x	600	950	1,300	1,650	2,000	2,350	2,700	3,050	3,400	3,750	4,100	4,450	4,800	5,150	5,500	6,000	6,500
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

14 OBDG06B ECM Supporting Tables

Supporting Table - P0234_KtBSTD_p_CntrlDevNegLim

Description:

Notes:

y/x	105.0000	114.0000	120.0000	130.0000	140.0000	150.0000	160.0000	170.0000	180.0000	220.0000
1,000.0000	-11.0000	-11.0000	-15.0000	-15.0000	-12.5000	-12.5000	-15.0000	-15.0000	-15.0000	-15.0000
1,500.0000	-11.0000	-11.0000	-15.0000	-15.0000	-12.5000	-12.5000	-15.0000	-15.0000	-15.0000	-15.0000
1,900.0000	-11.0000	-11.0000	-15.0000	-15.0000	-12.5000	-12.5000	-15.0000	-15.0000	-15.0000	-15.0000
2,500.0000	-12.0000	-12.0000	-15.0000	-15.0000	-13.2143	-13.2143	-15.0000	-15.0000	-15.0000	-15.0000
3,000.0000	-12.0000	-12.0000	-15.0000	-15.0000	-13.4941	-16.3512	-19.2083	-19.2083	-19.2083	-19.2083
3,500.0000	-12.0000	-12.0000	-16.7500	-16.1548	-15.5595	-19.4881	-23.4167	-23.4167	-23.4167	-23.4167
4,000.0000	-13.0000	-13.0000	-16.7500	-16.7500	-16.7500	-21.7500	-26.7500	-26.7500	-26.7500	-26.7500
4,500.0000	-13.0000	-13.0000	-16.7500	-16.7500	-16.7500	-21.7500	-26.7500	-26.7500	-26.7500	-26.7500
5,500.0000	-13.0000	-13.0000	-16.7500	-16.7500	-16.7500	-21.7500	-26.7500	-26.7500	-26.7500	-26.7500
6,500.0000	-13.0000	-13.0000	-16.7500	-16.7500	-16.7500	-21.7500	-26.7500	-26.7500	-26.7500	-26.7500

14 OBDG06B ECM Supporting Tables

Supporting Table - P0234_P0299_KtBSTD_p_CntrlDevPosLim

Description:

Notes:

y/x	105.0000	114.0000	120.0000	130.0000	140.0000	150.0000	160.0000	170.0000	180.0000	220.0000
1,000.0000	4.0000	9.0000	16.6016	20.0000	31.0000	36.0000	41.0000	46.0000	53.5000	85.0000
1,500.0000	4.0000	9.0000	16.6016	20.0000	31.0000	36.0000	41.0000	46.0000	53.5000	85.0000
1,900.0000	4.0000	9.0000	16.1016	21.0000	29.0000	34.0000	39.0000	44.0000	51.5000	85.0000
2,500.0000	4.0000	8.0000	13.1016	18.0000	26.0000	31.0000	36.0000	41.0000	48.5000	85.0000
3,000.0000	4.0000	6.0000	14.8736	18.0000	24.7500	28.5000	33.5000	38.5000	47.2500	71.0000
3,500.0000	4.0000	6.0000	10.1456	12.0000	16.0000	20.0000	23.7500	25.0000	38.7500	60.0000
4,000.0000	4.0000	6.0000	8.1087	10.0000	15.0000	20.0000	20.0000	25.0000	35.0000	40.0000
4,500.0000	4.0000	6.0000	8.1087	10.0000	15.0000	20.0000	20.0000	25.0000	35.0000	40.0000
5,500.0000	4.0000	6.0000	8.1087	10.0000	15.0000	20.0000	20.0000	25.0000	35.0000	40.0000
6,500.0000	4.0000	6.0000	8.1087	10.0000	15.0000	20.0000	20.0000	25.0000	35.0000	40.0000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0234_P0299_KtBSTD_p_CntrlDevAmbAirCorr

Description:

Notes:

y/x	60.0000	70.0000	80.0000	90.0000	95.0000	110.0000
1,500.0000	50.0000	42.0000	18.0000	8.0000	3.0000	0.0000
2,500.0000	45.0000	37.0000	13.0000	6.3333	3.0000	0.0000
3,000.0000	35.8571	27.5714	15.4286	7.1429	3.0000	0.0000
4,000.0000	40.5714	31.7143	20.2857	8.7619	3.0000	0.0000
5,000.0000	44.2857	34.8571	25.1429	10.3810	3.0000	0.0000
6,000.0000	50.0000	40.0000	30.0000	12.0000	3.0000	0.0000

14 OBDG06B ECM Supporting Tables

Supporting Table - P00C4_P2261_KtBSTD_r_SurgeLim

Description:

Notes:

y/x	0.0000	10.0000	21.0000	53.0000	95.0000	129.0000
1.0000	0.9248	1.1142	1.3226	1.9405	2.6235	3.1574

14 OBDG06B ECM Supporting Tables
Supporting Table - P0234_P0299_EnableDelay

Description: KtBSTD_t_CntrlDevEnblDelay

Notes:

y/x	1,000	1,500	1,900	2,500	3,000	3,500	4,000	4,500	5,500	6,500
1	3.000	2.250	1.880	1.500	1.380	1.250	1.130	1.000	0.750	0.630

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KtFSTA_t_ClosedLoopAutostart

Description: Engine run time following an autostart, as a function of begin run coolant, which must be exceeded to enable CLOSED LOOP.

Notes: Time in seconds: Hybrid use Only

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
1	320.0	225.0	190.0	130.0	70.0	19.0	19.0	19.0	19.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KtFSTA_t_ClosedLoopTime

Description: Engine run time, as a function of startup coolant temperature, which must be exceeded to enable CLOSED LOOP.

Notes: Time in seconds

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
1	320.0	225.0	190.0	130.0	70.0	19.0	19.0	19.0	19.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KtFCLL_p_AdaptiveLowMAP_Limit

Description: KtFCLL_p_AdaptiveLowMAP_Limit

Notes: MAP in KPa

y/x	65	70	75	80	85	90	95	100	105
1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KtFCLP_t_PostIntgIDisableTime

Description: Disable integral offset after engine start for this amount of time.

Notes: Time in seconds

y/x	-40	-29	-18	-6	5	16	28	39	50	61	73	84	95	106	118	129	140
1	100.0	100.0	100.0	100.0	75.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0	50.0

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KtFCLP_t_PostIntglRampInTime

Description: Time required to ramp integral offset to desired value.

Notes: Time in seconds

y/x	-40	-29	-18	-6	5	16	28	39	50	61	73	84	95	106	118	129	140
1	50.0	50.0	50.0	45.0	40.0	40.0	40.0	40.0	30.0	25.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KfFULC_U_O2_SensorReadyThrshLo

Description: Lower limit checked against when determining if an oxygen sensor is in range

Notes: Voltage in millivolts

y/x	1
1	1,100

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KcFULC_O2_SensorReadyEvents

Description: Number of times an oxygen sensor value must be in range before declaring it ready

Notes: Time (events * 12.5 milliseconds)

y/x	
1	10

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KfFCLL_T_AdaptiveLoCoolant

Description: LTM learning is inhibited if the engine coolant temperature is below this calibration.

Notes: Degrees Celcius

y/x	1
1	55

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KfFCLL_T_AdaptiveHiCoolant

Description: LTM learning is inhibited if the engine coolant temperature is above this calibration.

Notes: Degrees Celcius

y/x	1
1	120

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KfFCLP_U_O2ReadyThrshLo

Description: Lower threshold defining not ready window for post oxygen sensor voltage.

Notes: Voltage in millivolts

y/x	1
1	1,100

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KcFCLP_Cnt_O2RdyCyclesThrsh

Description: Number of post catalyst oxygen sensor samples which must be outside not ready window before post oxygen sensor is READY.

Notes: Time (events * 12.5 milliseconds)

y/x	1
1	10

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KeFCLP_T_IntegrationCatalystMax

Description: Maximum allowed estimated catalytic converter temperature for post O2 integral terms to be updated.

Notes: Modeled catalyst Temperature in Celcius

y/x	1
1	1,000

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KeFCLP_T_IntegrationCatalystMin

Description: Minimum allowed estimated catalytic converter temperature to begin using post O2 integration correction terms. Converter temperature must remain above this threshold to ramp-in the post O2 integration adjustments. Once the ramp-in has started, a converter temperature below this threshold will freeze the ramp-in multiplier. Post O2 integration will not be allowed below this converter temperature

Notes: Modeled catalyst Temperature in Celcius

y/x	1
1	450

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KeFCLP_Pct_CatAccuSlphrPostDsbl

Description: Sulphur percent threshold above which post integral learning is disabled if the threshold criteria KaFCLP_U_SlphrIntglOfst_Thrsh is also met.

Notes: Percent

y/x	1
1	255

14 OBDG06B ECM Supporting Tables

Supporting Table - Closed Loop Enable Clarification - KaFCLP_U_SlphrIntglOfst_Thrsh

Description: Integral Offset voltage thresholds (bank and cell specific calcs) used with KeFCLP_Pct_CatAccuSlphrPostDsbl to check for sulphur poisoning.

Notes: millivolts

y/x	CiOXYR_O2_PostCat1	CiOXYR_O2_PostCat2
CiFCLP_Decel	2,048	2,048
CiFCLP_Idle	2,048	2,048
CiFCLP_Cruise	2,048	2,048
CiFCLP_LightAccel	2,048	2,048
CiFCLP_HeavyAccel	2,048	2,048

14 OBDG06B ECM Supporting Tables

Supporting Table - P0116_Fail if power up ECT exceeds IAT by these values

Description: KtECTD_T_HSC_FastFailTempDiff

Notes: X axis is IAT Temperature at Power up (° C), Z axis is the Fast Failure temp difference (° C)

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
1	80	80	80	60	60	40	40	30	30	30	30	30	30	30	30	30	30

14 OBDG06B ECM Supporting Tables

Supporting Table - P0128_Maximum Accumulated Energy for Start-up ECT conditions - Primary

Description: Maximum Total Energy transferred to Cooling System for Ambient and Start-up ECT conditions (Primary Test)

Notes: Z axis is the cooling system energy failure threshold (kJ), X axis is ECT Temperature at Power up (° C) , (Deluxe version)

y/x	-16	-4	8	20	32	44	68
1	12,629	11,234	9,840	8,445	7,049	5,654	2,864

14 OBDG06B ECM Supporting Tables

Supporting Table - P0128_Maximum Accumulated Energy for Start-up ECT conditions - Alternate

Description: Maximum Total Energy transferred to Cooling System for Ambient and Start-up ECT conditions (Alternate Test)

Notes: Z axis is the cooling system energy failure threshold (kJ), X axis is ECT Temperature at Power up (° C), (Deluxe version)

y/x	-16	-4	8	20	32	44	68
1	10,424	9,013	7,603	6,193	4,783	3,373	1,962

14 OBDG06B ECM Supporting Tables

Supporting Table - P057B KtBRKI_K_FastTestPointWeight

Description:

Notes:

y/x	0.000	0.050	0.080	0.250	0.350	0.450	0.550	0.750	1.000
1	0	1	1	1	1	1	1	1	1

14 OBDG06B ECM Supporting Tables

Supporting Table - P057B KtBRKI_K_CmpltTestPointWeight

Description:

Notes:

y/x	0.000	0.050	0.080	0.250	0.350	0.450	0.550	0.750	1.000
1	0	1	1	1	1	1	1	1	1

14 OBDG06B ECM Supporting Tables
Supporting Table - P0011_CamPosErrorLimlc1

Description: P0011 - Cam Position Error Limit for performance diagnostic

Notes: KtPHSD_phi_CamPosErrorLimlc1

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

14 OBDG06B ECM Supporting Tables
Supporting Table - P0014_CamPosErrorLimEc1

Description: P0014 - Cam Position Error Limit for performance diagnostic

Notes: KtPHSD_phi_CamPosErrorLimEc1

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

14 OBDG06B ECM Supporting Tables
Supporting Table - P0021_CamPosErrorLimlc2

Description: P0021 - Cam Position Error Limit for performance diagnostic

Notes: KtPHSD_phi_CamPosErrorLimlc2

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

14 OBDG06B ECM Supporting Tables
Supporting Table - P0024_CamPosErrorLimEc2

Description: P0024 - Cam Position Error Limit for performance diagnostic

Notes: KtPHSD_phi_CamPosErrorLimEc2

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
2,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
3,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
4,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,200	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
5,600	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,000	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,400	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
6,800	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0011_StablePositionTimelc1

Description: P0011 - Delay after transient move

Notes: KtPHSD_t_StablePositionTimelc1

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0014_StablePositionTimeEc1

Description: P0014 - Delay after transient move

Notes: KtPHSD_t_StablePositionTimeEc1

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0021_StablePositionTimelc2

Description: P0021 - Delay after transient move

Notes: KtPHSD_t_StablePositionTimelc2

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0024_StablePositionTimeEc2

Description: P0024 - Delay after transient move

Notes: KtPHSD_t_StablePositionTimeEc2

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5,600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
6,800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

14 OBDG06B ECM Supporting Tables
Supporting Table - P0011_PerfMaxlc1

Description: P0011 - Range of phaser travel where diagnostic cannot make a decision if both desired & measured positions are greater than

Notes:

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
2	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
3	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
4	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
5	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
7	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
8	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
10	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
11	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
12	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
13	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
14	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
15	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
16	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
17	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

14 OBDG06B ECM Supporting Tables
Supporting Table - P0014_PerfMaxEc1

Description: P0014 - Range of phaser travel where diagnostic cannot make a decision if both desired & measured positions are greater than

Notes:

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
2	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
3	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
4	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
5	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
7	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
8	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
10	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
11	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
12	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
13	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
14	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
15	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
16	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
17	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

14 OBDG06B ECM Supporting Tables
Supporting Table - P0021_PerfMaxlc2

Description:																	
Notes:																	
y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
2	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
3	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
4	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
5	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
7	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
8	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
10	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
11	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
12	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
13	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
14	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
15	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
16	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
17	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

14 OBDG06B ECM Supporting Tables
Supporting Table - P0021_PerfMaxEc2

Description:

Notes:

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
2	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
3	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
4	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
5	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
6	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
7	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
8	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
9	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
10	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
11	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
12	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
13	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
14	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
15	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
16	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
17	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0016 P0017 P0018 P0019 Cam Correlation Oil Temperature Threshold

Description: KtEPSI_t_RtnHomeDlyLmt

Notes:

y/x	-40	-28	-16	-4	8	20	32	44	56	68	80	92	104	116	128	140	152
1	300.0	300.0	7.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0068_Delta MAP Threshold f(TPS)

Description: Table of delta MAP values as a function of desired throttle position. The output of this table provides a delta MAP that if the measured minus the estimated MAP exceeds, is considered a fail.

Notes: P0068, KtTPSD_p_MAP_DesThrDelt

y/x	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	100.00
1.00	33.80	36.70	33.73	24.30	20.64	17.91	22.67	29.29	255.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0068_Delta MAF Threshold f(TPS)

Description: Table of delta MAF values as a function of desired throttle position. The output of this table provides a delta MAF that if the measured minus the estimated MAF exceeds, is considered a fail.

Notes: P0068, KtTPSD_dm_MAF_DesThrDelt

y/x	5.00	10.00	15.00	20.00	25.00	30.00	35.00	40.00	100.00
1.00	17.45	21.63	18.48	17.72	20.56	26.94	42.23	69.64	255.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0068_Maximum MAF f(RPM)

Description: Table of maximum MAF values vs. engine speed. This is the maximum MAF the engine can see under all ambient conditions.

Notes: P0068, KtTPSD_dm_MaxMAF_VsRPM

y/x	600.00	1,400.00	2,200.00	3,000.00	3,800.00	4,600.00	5,400.00	6,200.00	7,000.00
1.00	20.00	50.00	80.00	115.00	150.00	176.00	194.00	203.00	210.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0068_Maximum MAF f(Volts)

Description: Table of maximum MAF values vs. system voltage. The output of the air meter is clamped to lower values as system voltage drops off.

Notes: P0068, KtTPSD_dm_MaxMAF_VsVoltage

y/x	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00
1.00	0.00	20.00	60.00	150.00	250.00	300.00	300.00	300.00	300.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0606_Last Seed Timeout f(Loop Time)

Description: The max time for the Last Seed Timeout as a function of operating loop time sequence.

Notes: P0606, KaPISD_t_LastSeedTimeout[x]

y/x	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C
1	0.175	0.175	0.175	409.594

14 OBDG06B ECM Supporting Tables

Supporting Table - P0606_Program Sequence Watch Enable f(Loop Time)

Description: The enabling flags for the program sequence watch as a function of operating loop time sequence.

Notes: P0606, KaPISD_b_ProgSeqWatchEnbl

y/x	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C
1	1	1	1	1

14 OBDG06B ECM Supporting Tables

Supporting Table - P0606_PSW Sequence Fail f(Loop Time)

Description: Fail threshold for PSW per operating loop.

Notes: P0606, KaPISD_Cnt_SequenceFail[x]

y/x	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C
1	3	3	3	3

14 OBDG06B ECM Supporting Tables

Supporting Table - P0606_PSW Sequence Sample f(Loop Time)

Description: Sample threshold for PSW per operating loop.

Notes: P0606, KaPISD_Cnt_SequenceSmp[x]

y/x	CePISR_e_6p25msSeq	CePISR_e_12p5msSeq	CePISR_e_25msSeq	CePISR_e_LORES_C
1	4	4	4	4

14 OBDG06B ECM Supporting Tables

Supporting Table - P1682_PT Relay Pull-in Run/Crank Voltage f(IAT)

Description: The Run/Crank voltages required to pull in the PT relay as a function of induction air temperature.

Notes: P1682, KtEROR_U_PT_RelayPullInEnbl

y/x	23.00	85.00	95.00	105.00	125.00
1.00	7.00	8.70	9.00	9.20	10.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P16F3_Delta Spark Threshold f(RPM,APC)

Description: Threshold for determining when the difference between commanded spark and applied spark exceeds the torque security requirement. It is a function of engine rpm and APC.

Notes: P16F3, KtSPRK_phi_DeltTorqueScrtAdv

y/x	500.00	980.74	1,461.48	1,942.23	2,422.97	2,903.71	3,384.45	3,865.20	4,345.94	4,826.68	5,307.42	5,788.16	6,268.91	6,749.65	7,230.39	7,711.13	8,191.88
80.00	125.00	26.66	21.59	22.80	26.34	33.91	29.34	28.75	28.16	23.58	18.48	15.89	17.19	17.66	17.66	17.66	17.66
160.00	125.00	25.22	20.41	21.13	23.31	27.14	25.02	24.77	24.52	20.80	16.64	14.72	16.25	16.80	16.80	16.80	16.80
240.00	125.00	23.95	19.36	19.69	20.94	22.66	21.80	21.75	21.70	18.63	15.14	13.70	15.41	16.02	16.02	16.02	16.02
320.00	125.00	22.80	18.41	18.44	18.84	19.47	19.31	19.39	19.47	16.86	13.91	12.81	14.63	15.27	15.27	15.27	15.27
400.00	125.00	21.77	17.55	17.33	16.59	16.97	17.03	17.33	17.64	15.39	12.83	11.77	13.06	13.53	13.53	13.53	13.53
480.00	125.00	20.83	16.78	16.19	14.13	14.63	15.05	15.53	16.02	13.91	11.45	10.38	11.41	11.78	11.78	11.78	11.78
560.00	125.00	19.97	16.06	14.39	12.27	12.81	13.47	13.97	14.48	12.53	10.27	9.19	9.94	10.20	10.20	10.20	10.20
640.00	125.00	19.16	15.17	12.91	10.84	11.41	12.17	12.69	13.22	11.41	9.31	8.23	8.77	8.95	8.95	8.95	8.95
720.00	125.00	18.38	14.02	11.64	9.72	10.28	11.11	11.61	12.13	10.42	8.45	7.41	7.83	7.97	7.97	7.97	7.97
800.00	125.00	17.64	12.75	10.61	8.81	9.36	10.22	10.70	11.19	9.59	7.73	6.73	7.06	7.19	7.19	7.19	7.19
880.00	125.00	16.67	11.70	9.73	8.05	8.58	9.45	9.92	10.39	8.88	7.13	6.16	6.44	6.55	6.55	6.55	6.55
960.00	125.00	15.45	10.81	9.00	7.41	7.92	8.80	9.25	9.70	8.27	6.59	5.69	5.92	6.00	6.00	6.00	6.00
1,040.00	125.00	14.41	10.06	8.36	6.86	7.36	8.22	8.66	9.09	7.73	6.16	5.27	5.47	5.55	5.55	5.55	5.55
1,120.00	125.00	13.50	9.39	7.81	6.39	6.88	7.70	8.13	8.55	7.27	5.77	4.92	5.09	5.16	5.16	5.16	5.16
1,200.00	125.00	12.70	8.81	7.33	5.98	6.45	7.25	7.67	8.08	6.86	5.42	4.61	4.77	4.81	4.81	4.81	4.81
1,280.00	125.00	11.98	8.30	6.91	5.63	6.06	6.84	7.25	7.66	6.48	5.11	4.33	4.47	4.52	4.52	4.52	4.52
1,360.00	125.00	11.36	7.84	6.53	5.31	5.73	6.48	6.88	7.27	6.16	4.84	4.09	4.22	4.25	4.25	4.25	4.25

14 OBDG06B ECM Supporting Tables

Supporting Table - P16F3_Delta MAP Threshold f(Desired Engine Torque)

Description: Engine Sync based and Time based delta pressure threshold above which Torque Security error is reported.

Notes: P16F3, KtMAPI_p_ES_TB_MAP_DeltaThresh

y/x	0.00	50.00	100.00	150.00	200.00	300.00
1.00	17.91	17.91	17.91	17.91	17.91	17.91

14 OBDG06B ECM Supporting Tables

Supporting Table - P16F3_Speed Control External Load f(Oil Temp, RPM)

Description: Specifies the external load table for SPDR torque security as a function of engine oil temperature and engine RPM.

Notes: P16F3, KtSPDC_M_ExternalLoad

y/x	-40.00	-20.00	-10.00	0.00	50.00	90.00
350.00	218.32	235.75	217.63	237.35	253.33	241.30
450.00	189.86	199.46	183.61	197.33	203.89	192.47
550.00	172.12	176.74	162.33	172.23	172.80	161.78
600.00	165.52	168.26	154.39	162.86	161.18	150.31
650.00	161.45	162.61	149.20	156.46	152.88	142.13
700.00	157.99	157.79	144.78	151.00	145.79	135.14
750.00	183.61	179.06	161.76	165.93	141.39	130.85
800.00	206.05	197.70	176.65	179.02	137.57	127.10
900.00	193.61	184.20	164.61	165.91	144.91	134.58
1,000.00	221.46	195.17	155.08	155.53	137.67	125.06
1,100.00	197.57	181.01	166.92	156.93	132.39	115.19
1,200.00	169.92	153.98	142.71	137.89	116.51	101.06
1,300.00	150.29	135.50	125.36	124.48	105.67	91.75
1,400.00	131.48	117.67	108.16	106.89	88.90	76.34
2,000.00	95.85	50.37	45.99	43.23	29.32	22.63
4,000.00	71.84	59.81	54.46	49.56	31.73	25.48
6,000.00	103.35	89.39	83.18	77.49	56.80	49.55

14 OBDG06B ECM Supporting Tables

Supporting Table - P0442: Engine Off Time Before Vehicle Off Maximum as a Function of Estimated Ambient Temperature Table

Description: Data is Engine Off Time Before Vehicle Off Maximum Table (in seconds) and Axis is Estimated Ambient Coolant in Deg C

Notes: KtEONV_t_EngOffTimeBefVehOffMax

y/x	-10	-4	1	7	13	18	24	29	35	41	46	52	58	63	69	74	80
1	44	44	44	44	68	82	105	153	320	480	480	480	480	480	480	480	480

14 OBDG06B ECM Supporting Tables

Supporting Table - P0496: Purge Valve Leak Test Engine Vacuum Test Time (Cold Start) as a Function of Fuel Level Table

Description: Data is Purge Valve Leak Test Engine Vacuum Test Time (in seconds) and Axis is Fuel Level in %

Notes: KtEVPD_t_PVLT_EngineVacTimeCold

y/x	0	6	12	19	25	31	37	44	50	56	62	69	75	81	87	94	100
1	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

14 OBDG06B ECM Supporting Tables

Supporting Table - P0461, P2066, P2636: Transfer Pump Enable Time Table

Description: Data is TransferPumpOnTimeLimit (in seconds) and Axis is Fuel Level in %

Notes: KtFLVC_t_XferFuelPmpOnTmLim

P0461, P2066, P2636: Transfer Pump Enable Time Table - Part 1

y/x	0	3	6	9	13	16	19	22	25	28	31	34	38	41	44	47	50
1	30	35	40	45	50	55	60	65	70	85	90	95	135	135	160	160	260

P0461, P2066, P2636: Transfer Pump Enable Time Table - Part 2

y/x	53	56	59	63	66	69	72	75	78	81	84	88	91	94	97	100	
1	260	360	360	360	360	360	460	460	460	460	460	460	460	460	460	460	

14 OBDG06B ECM Supporting Tables

Supporting Table - P0442: EONV Pressure Threshold (Pascals) Table

Description: Data is EONV Pressure Threshold in Pascals, X axis (horizontal) is fuel level in % from 0 to 100 with step size 6.25, and Y axis (vertical) is temperature in deg C from -10 to 80 with step size 5.625

Notes: KtEONV_p_PressureThreshold

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
2	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
3	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
5	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
6	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
7	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
8	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
9	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
10	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
11	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
12	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
13	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
14	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
15	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
16	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0
17	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-311.4	-261.5	-211.6	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0	-162.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0442: Volatility Time as a Function of Estimate of Ambient Temperature

Description: Data is Volatility Time (in seconds) and Axis is Estimated Ambient Coolant in Deg C

Notes: KtEONV_t_VolatilityTimeMax

y/x	-10	-4	1	7	13	18	24	29	35	41	46	52	58	63	69	74	80
1	30	30	30	37	60	120	200	300	400	400	400	400	400	400	400	400	400

14 OBDG06B ECM Supporting Tables

Supporting Table - P0171_P0172_P0174_P0175 Long-Term Fuel Trim Cell Usage

Description: Identifies which Long Term Fuel Trim Cell I.D.s are used for diagnosis. Only cells identified as "CeFADD_e_NonSelectedCell" are not used for diagnosis.

Notes: DTCs: P0171, P0172, P0174, P0175; Calibration Name: KaFADD_e_SelectCellSet; Axis is Long Term Fuel Trim Cell I.D.

P0171_P0172_P0174_P0175 Long-Term Fuel Trim Cell Usage - Part 1

y/x	CeFADR_e_Cell00_PurgOnAirMode 5	CeFADR_e_Cell01_PurgOnAirMode 4	CeFADR_e_Cell02_PurgOnAirMode 3	CeFADR_e_Cell03_PurgOnAirMode 2
1	CeFADD_e_SelectedPurgeCell	CeFADD_e_SelectedPurgeCell	CeFADD_e_SelectedPurgeCell	CeFADD_e_SelectedPurgeCell

P0171_P0172_P0174_P0175 Long-Term Fuel Trim Cell Usage - Part 2

y/x	CeFADR_e_Cell04_PurgOnAirMode 1	CeFADR_e_Cell05_PurgOnAirMode 0	CeFADR_e_Cell06_PurgOnIdle	CeFADR_e_Cell07_PurgOnDecel
1	CeFADD_e_SelectedPurgeCell	CeFADD_e_SelectedPurgeCell	CeFADD_e_SelectedPurgeCell	CeFADD_e_NonSelectedCell

P0171_P0172_P0174_P0175 Long-Term Fuel Trim Cell Usage - Part 3

y/x	CeFADR_e_Cell08_PurgOffAirMode 5	CeFADR_e_Cell09_PurgOffAirMode 4	CeFADR_e_Cell10_PurgOffAirMode 3	CeFADR_e_Cell11_PurgOffAirMode 2
1	CeFADD_e_SelectedNonPurgeCell	CeFADD_e_SelectedNonPurgeCell	CeFADD_e_SelectedNonPurgeCell	CeFADD_e_SelectedNonPurgeCell

P0171_P0172_P0174_P0175 Long-Term Fuel Trim Cell Usage - Part 4

y/x	CeFADR_e_Cell12_PurgOffAirMode 1	CeFADR_e_Cell13_PurgOffAirMode 0	CeFADR_e_Cell14_PurgOffIdle	CeFADR_e_Cell15_PurgOffDecel
1	CeFADD_e_SelectedNonPurgeCell	CeFADD_e_SelectedNonPurgeCell	CeFADD_e_SelectedNonPurgeCell	CeFADD_e_NonSelectedCell

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_IdleSCD_Decel

Description: Crankshaft decel threshold while in SCD mode. SCD mode uses smaller windows near TDC. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMISF_dt_SCD_IdleMode
 Note: Misfire's Load term is %, but not PID\$04. PID \$04 is not robust to temperature and altitude shifts. (especially decel and jerk thresholds since they track actual air trapped in cylinder)

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000
3	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
6	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
8	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
10	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
12	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
14	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
16	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
18	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
20	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
22	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
24	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
26	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
28	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
30	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
32	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
34	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
36	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_IdleSCD_Jerk

Description: Crankshaft jerk threshold while in SCD mode. SCD mode uses smaller windows near TDC. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMISF_ddt_SCD_IdleMode

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000
3	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
6	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
8	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
10	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
12	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
14	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
16	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
18	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
20	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
22	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
24	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
26	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
28	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
30	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
32	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
34	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
36	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_SCD_Decel

Description: Crankshaft decel threshold. SCD mode uses smaller windows near TDC. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMISF_dt_SCD_OffIdleMode

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000
3	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
6	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
8	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
10	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
12	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
14	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
16	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
18	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
20	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
22	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
24	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
26	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
30	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
40	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
60	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
78	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
97	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_SCD_Jerk

Description: Crankshaft jerk threshold. SCD mode uses smaller windows near TDC. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMISF_ddt_SCD_OffIdleMode

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000
3	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
6	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
8	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
10	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
12	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
14	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
16	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
18	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
20	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
22	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
24	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
26	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
30	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
40	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
60	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
78	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
97	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_IdleCyl_Decel

Description: Crankshaft decel threshold. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMSFD_dt_IdleCylinderMode

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000
3	2,060	2,010	2,000	1,910	1,435	1,175	700	540	300	280	270	230	180
6	2,070	2,020	2,010	1,920	1,445	1,185	710	550	310	290	280	240	190
8	2,080	2,030	2,020	1,930	1,455	1,195	720	560	320	300	290	250	200
10	2,090	2,040	2,030	1,940	1,465	1,205	730	570	330	310	300	260	210
12	2,100	2,050	2,000	1,950	1,475	1,215	740	580	340	310	310	270	220
14	2,100	2,050	2,000	1,950	1,485	1,225	750	590	350	310	310	280	230
16	2,100	2,050	2,000	1,950	1,495	1,235	760	600	360	330	330	290	240
18	2,100	2,050	2,000	1,950	1,505	1,235	770	525	370	340	340	300	250
20	2,100	2,050	2,000	1,950	1,700	1,245	780	610	370	340	350	320	260
22	2,070	2,060	2,010	2,010	1,710	1,295	790	620	380	350	360	330	270
24	2,080	2,070	2,020	2,020	1,720	1,265	800	630	390	360	370	330	280
26	2,090	2,080	2,030	2,030	1,730	1,275	800	640	400	370	380	340	290
28	2,100	2,090	2,040	2,040	1,740	1,285	860	650	410	380	390	350	300
30	2,110	2,100	2,050	2,050	1,750	1,295	870	660	420	390	400	350	310
32	2,120	2,110	2,060	2,060	1,760	1,305	880	670	430	400	410	360	320
34	2,130	2,120	2,070	2,070	1,770	1,315	890	680	440	410	395	370	330
36	2,140	2,130	2,080	2,080	1,780	1,325	900	690	450	420	405	380	340

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_IdleCyl_Jerk

Description: Crankshaft jerk threshold. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMSFD_ddt_IdleCylinderMode

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000
3	2,310	2,260	2,210	2,160	1,415	1,120	700	500	370	370	370	330	275
6	2,320	2,270	2,220	2,170	1,425	1,130	710	510	380	380	380	340	285
8	2,330	2,280	2,230	2,180	1,435	1,140	720	520	390	390	390	350	295
10	2,340	2,290	2,240	2,190	1,445	1,150	730	530	400	400	400	360	305
12	2,350	2,300	2,250	2,200	1,455	1,160	740	540	410	413	400	370	315
14	2,350	2,300	2,250	2,200	1,465	1,170	740	550	420	413	400	380	325
16	2,350	2,300	2,250	2,200	1,465	1,170	740	560	430	450	400	390	335
18	2,350	2,300	2,250	2,200	1,465	1,170	750	570	440	450	400	400	345
20	2,350	2,300	2,250	2,200	1,585	1,180	760	580	440	460	410	400	355
22	2,360	2,310	2,260	2,210	1,595	1,190	770	590	450	470	420	400	365
24	2,370	2,320	2,270	2,230	1,605	1,200	780	600	460	480	430	410	375
26	2,380	2,330	2,280	2,240	1,615	1,210	790	610	470	490	440	420	385
28	2,390	2,340	2,290	2,250	1,625	1,230	800	620	480	500	450	430	395
30	2,400	2,350	2,300	2,260	1,635	1,240	810	630	490	510	460	440	405
32	2,410	2,360	2,320	2,270	1,645	1,250	820	640	500	520	470	450	415
34	2,420	2,370	2,330	2,280	1,655	1,260	830	650	510	530	490	460	425
36	2,430	2,380	2,340	2,290	1,665	1,270	840	660	520	540	500	470	435

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_CylModeDecel

Description: Crankshaft decel threshold. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMISF_CylinderMode

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000
3	4,000	3,000	2,700	1,800	1,400	900	500	325	300	200	195	185	160	150	140	130	100	80	50	40	12	10	9	6	5	4
6	3,900	2,900	2,600	1,700	1,200	700	450	275	250	225	190	170	140	130	115	105	90	60	40	30	9	7	6	5	4	3
8	3,600	2,600	2,500	1,600	1,100	600	425	250	200	195	185	150	110	84	64	50	39	30	20	20	9	6	6	5	4	2
10	4,000	3,000	2,700	1,900	1,250	675	450	300	225	190	180	130	70	45	35	25	24	20	16	12	10	6	6	4	2	2
12	4,200	3,200	2,900	2,000	1,400	900	650	400	276	225	190	135	80	50	40	35	25	22	17	13	12	8	8	5	3	2
14	4,400	3,400	3,200	2,200	1,550	1,000	750	450	375	250	195	140	90	65	50	45	35	25	22	15	13	9	8	6	4	2
16	4,500	3,500	3,400	2,800	1,750	1,100	800	500	450	300	200	145	105	70	60	50	36	30	24	18	14	11	8	7	5	3
18	4,550	3,550	3,500	2,900	1,800	1,200	900	650	500	325	230	165	110	85	70	60	45	35	26	19	15	11	9	7	6	3
20	4,600	3,600	3,550	3,100	2,200	1,300	950	700	575	350	240	180	125	100	75	65	50	40	28	20	17	11	8	8	7	4
22	4,650	3,650	3,600	3,200	2,400	1,800	1,075	775	650	400	260	200	150	120	85	70	55	45	30	25	18	12	9	9	9	4
24	4,700	3,700	3,650	3,300	2,600	1,900	1,400	1,100	725	475	351	240	160	130	100	75	65	50	36	28	20	13	11	10	9	5
26	4,750	3,750	3,700	3,400	2,700	2,000	1,500	1,200	750	600	401	280	180	145	110	85	70	55	38	30	23	15	12	11	10	6
30	4,800	3,800	3,750	3,500	2,800	2,100	1,600	1,300	1,100	700	450	325	220	161	135	100	80	60	40	35	26	18	12	11	10	7
40	4,850	3,850	3,800	3,600	2,900	2,200	1,700	1,400	1,200	950	650	450	320	220	180	145	115	90	55	45	35	25	13	12	11	7
60	4,900	3,900	3,850	3,700	3,000	2,300	1,800	1,500	1,300	1,000	850	800	520	420	310	280	180	155	100	55	45	35	14	13	12	9
78	4,950	3,950	3,900	3,800	3,100	2,400	1,900	1,600	1,400	1,100	900	750	700	650	600	550	500	450	150	100	85	75	60	40	25	20
97	5,000	4,000	3,950	3,900	3,200	2,500	2,000	1,700	1,500	1,200	1,000	800	750	700	650	600	550	500	200	150	100	85	75	60	45	25

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_CylModeJerk

Description: Crankshaft jerk threshold. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMISF_ddt_CylinderMode

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000
3	4,000	3,000	2,200	1,700	1,200	850	450	275	250	225	200	190	180	160	140	120	100	80	60	40	13	12	9	8	6	5
6	3,800	2,800	2,100	1,600	1,000	650	400	225	200	190	180	170	160	140	120	100	80	60	40	30	9	7	6	6	6	4
8	2,900	1,900	2,000	1,500	900	550	375	200	125	120	115	60	40	35	25	20	19	13	14	11	9	6	6	5	4	4
10	3,500	2,500	2,200	1,700	1,100	625	400	250	150	145	135	80	50	35	30	20	20	16	14	12	10	6	6	4	3	3
12	3,700	2,700	2,400	1,800	1,300	850	600	350	200	175	140	90	60	40	35	30	25	18	17	13	12	8	7	4	4	3
14	3,900	2,900	2,600	2,000	1,400	900	700	400	275	180	150	100	75	60	45	40	30	20	20	15	13	8	8	6	5	5
16	4,100	3,100	2,800	2,200	1,450	1,000	750	450	350	190	160	120	85	65	55	45	31	25	22	18	14	10	8	7	6	6
18	4,150	3,150	3,000	2,400	1,600	1,100	850	600	400	200	170	125	100	80	65	55	40	30	24	19	15	10	8	7	7	7
20	4,200	3,200	3,050	2,600	1,800	1,200	900	650	475	225	180	140	120	90	70	60	45	35	26	20	17	10	8	8	7	8
22	4,250	3,250	3,100	2,700	2,000	1,700	950	700	550	325	200	150	140	110	80	65	50	40	28	23	18	12	10	10	9	9
24	4,300	3,300	3,150	2,800	2,200	1,800	1,300	900	575	400	250	190	150	121	90	70	55	45	33	28	19	13	11	11	10	10
26	4,350	3,350	3,200	2,900	2,300	1,900	1,400	1,000	600	526	300	230	160	135	100	80	65	50	36	30	22	15	13	13	12	10
30	4,400	3,300	3,250	3,000	2,400	2,000	1,500	1,100	900	625	400	275	200	150	125	90	75	55	40	35	25	17	14	14	13	11
40	4,450	3,350	3,300	3,100	2,500	2,100	1,600	1,200	1,000	875	600	400	300	200	170	135	105	85	50	40	25	20	15	14	13	12
60	4,500	3,400	3,350	3,200	2,600	2,200	1,700	1,300	1,100	900	750	700	500	400	290	265	165	150	90	50	35	30	20	18	16	14
78	4,550	3,450	3,400	3,300	2,700	2,300	1,800	1,400	1,200	1,000	800	800	750	700	650	600	550	450	300	225	175	120	95	50	50	30
97	4,600	3,500	3,450	3,400	2,800	2,400	1,900	1,500	1,300	1,100	900	850	800	750	700	650	600	525	350	250	200	125	110	90	85	50

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_RevMode_Decel

Description: Crankshaft decel threshold. Thresholds are a function of rpm and % engine Load.

Notes: Used for P0300-P0308. Cal Name: KtMISF_RevolutionMode

y/x	1,100	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	
3	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
6	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
8	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
10	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
12	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
14	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
16	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
18	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
20	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
22	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
24	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
26	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
30	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
40	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
60	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
78	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767
97	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767	32,767

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_Random_SCD_Decel

Description: Multitplier to SCD_Decel to account for different pattern of light level misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_MEDRES_Emiss

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_Random_SCD_Jerk

Description: Multitplier to Random_SCD_Jerk to account for different pattern of light level misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_MEDRES_Emiss

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_RandomCylModDecel

Description: Multiplier to P0300_CylMode_Decel. account for different pattern of light level misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308. Cal Name: KtMSFD_K_dt_LORES_Emiss

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
8	1.00	1.00	1.02	1.02	1.00	1.13	1.13	1.13	1.13
12	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
16	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
20	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
24	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
30	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
40	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
60	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13
98	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13	1.13

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_RandomCylModJerk

Description: Multiplier to P0300_CylMode_Jerk to account for different pattern of light level misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_LORES_Emiss

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_RandomRevModDecl

Description: Multplier to P0300_RevMode_Decel to account for different pattern of light level misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_RevModeEmiss

y/x	3,000	3,500	4,000	4,500	5,000	5,500	6,000	7,000	8,000
8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_Pair_SCD_Decel

Description: Multitplier to P0300_SCD_Decel to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_MEDRES_Opp

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_Pair_SCD_Jerk

Description: Multitplier to P0300_SCD_Jerk to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_MEDRES_Opp

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
8	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_PairCylModeDecel

Description: Multplier to Cyl Mode Deceleration to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_LORES_Opp

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
8	1.00	1.00	0.93	0.86	0.89	1.00	1.00	0.50	0.80
12	1.00	1.00	0.75	0.77	0.89	1.00	1.00	1.00	1.00
16	1.00	0.75	0.78	0.78	0.86	0.78	1.00	1.00	1.00
20	0.79	0.54	0.80	0.80	0.66	0.81	1.00	1.00	1.00
24	0.92	0.62	0.88	0.74	0.78	0.82	1.00	1.00	1.00
30	0.77	0.81	0.65	0.71	0.75	0.90	1.00	1.00	1.00
40	0.95	0.89	0.71	0.67	0.70	0.87	1.00	1.00	1.00
60	0.77	0.77	0.67	0.70	0.81	0.88	1.00	1.00	1.00
98	0.89	0.74	0.82	0.77	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_PairCylModeJerk

Description: Multplier to P0300_CylModeJerk to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_LORES_Opp

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
8	1.11	1.25	1.00	0.93	0.93	1.00	1.00	1.00	1.00
12	1.12	1.27	1.11	1.15	1.20	1.00	1.00	1.00	1.00
16	1.13	1.20	1.31	1.25	1.13	0.96	1.00	1.00	1.00
20	1.16	1.00	1.32	1.21	1.08	1.00	1.00	1.00	1.00
24	1.17	1.00	1.32	1.12	1.08	1.03	1.00	1.00	1.00
30	0.96	1.00	1.06	1.08	1.08	1.21	1.00	1.00	1.00
40	1.13	1.00	1.14	1.10	1.09	1.07	1.00	1.00	1.00
60	0.96	1.00	1.00	1.25	1.15	1.38	1.00	1.00	1.00
98	1.13	1.00	1.07	1.09	1.15	1.00	1.00	1.00	1.06

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_Bank_SCD_Decel

Description: Multitplier to SCD decel to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_MEDRES_Bank

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
12	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
16	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
18	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
20	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
24	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
30	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
40	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
98	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_Bank_SCD_Jerk

Description: Multitplier to Medres SCD jerk to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_MEDRES_Bank

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
12	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
16	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
18	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
20	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
24	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
30	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
40	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
60	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33
98	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33	1.33

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_BankCylModeDecel

Description: Multitplier to Lores Decel to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_LORES_Bank

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
12	0.48	0.43	0.38	0.48	0.39	0.36	0.75	0.45	0.75
16	0.48	0.43	0.38	0.48	0.57	0.36	0.75	0.75	0.50
18	0.48	0.43	0.39	0.47	0.57	0.36	0.75	0.75	0.50
20	0.48	0.49	0.41	0.44	0.49	0.71	0.75	0.75	0.50
24	0.52	0.51	0.49	0.53	0.63	0.71	0.75	0.75	0.50
30	0.48	0.66	0.45	0.61	0.75	0.71	0.75	0.75	0.50
40	0.67	0.66	0.60	0.67	0.70	0.73	0.75	0.75	0.50
60	0.65	0.66	0.67	0.75	0.70	0.73	0.75	0.75	0.50
98	0.75	0.74	0.70	0.75	0.70	0.73	0.75	0.75	0.50

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_BankCylModeJerk

Description: Multitplier to Lores Jerk to account for different pattern of Paired cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_LORES_Bank

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
12	1.67	1.17	0.88	0.80	0.92	0.92	0.87	0.87	0.87
16	1.71	1.18	0.57	0.70	0.92	1.11	1.29	0.87	0.75
18	1.75	0.76	0.88	1.04	1.28	0.84	1.40	0.87	0.85
20	1.23	1.03	1.30	0.98	1.20	0.89	1.03	0.85	0.94
24	1.23	1.25	1.35	1.08	1.60	0.85	1.00	1.07	0.83
30	1.02	1.60	1.04	1.43	0.92	1.00	1.00	1.07	0.86
40	1.32	1.60	1.13	1.00	0.88	0.93	1.00	1.00	0.67
60	0.87	1.60	0.83	1.13	1.00	1.04	1.00	1.00	1.00
98	1.00	0.92	0.93	0.91	1.25	1.00	1.00	0.73	0.83

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_ConsecSCD_Decel

Description: Multitplier to medres decel to account for different pattern of the second cylinder of consecutive misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_MEDRES_Consec

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
8	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
12	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
16	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
20	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
24	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
30	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
40	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
60	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
98	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_ConsecSCD_Jerk

Description: Multitplier to medres Jerk to account for different pattern of the second cylinder of consecutive misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_MEDRES_Consec

y/x	400	550	700	800	900	1,000	1,200	1,400	1,600
8	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
12	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
16	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
20	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
24	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
30	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
40	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
60	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17
98	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17	-0.17

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_ConsecCylModDecel

Description: Multplier to Lores decel to account for different pattern of the second cylinder of consecutive misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_LORES_Consec

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
8	0.84	0.86	0.93	0.86	0.52	0.52	0.52	0.52	1.00
12	0.83	0.85	0.75	0.96	0.52	0.52	1.11	1.11	1.00
16	0.82	0.83	1.07	1.02	0.52	0.50	1.00	1.00	1.00
20	0.87	0.74	0.80	0.69	0.52	0.58	0.72	1.00	1.00
24	0.70	0.74	0.62	0.64	0.57	0.71	0.89	1.00	1.00
30	0.59	0.67	0.56	0.69	0.66	0.71	0.96	1.00	1.00
40	0.76	0.67	0.64	0.74	0.70	0.67	1.00	1.00	1.00
60	0.73	0.68	0.64	0.78	0.75	1.00	1.00	1.00	1.00
98	1.00	0.80	0.97	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_ConsecCylModeJerk

Description: Multitplier to Lores Jerk to account for different pattern of the second cylinder of consecutive misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_LORES_Consec

y/x	700	900	1,100	1,400	2,000	2,600	3,500	5,000	6,500
8	-1	-1	-1	-1	0	0	0	0	-1
12	-1	-1	-1	-1	-1	-1	-2	-2	-1
16	-1	-1	-1	-1	-1	-1	-2	-2	-2
20	-1	-1	-1	-1	-1	-1	-1	-2	-2
24	-1	-1	-2	-1	-1	-1	-1	-1	-2
30	-1	-2	-1	-1	-1	-1	-1	-1	-2
40	-2	-2	-1	-1	-1	-1	-1	-1	-2
60	-1	-2	-1	-1	-1	-1	-1	-1	-1
98	-2	-2	-1	-1	-1	-1	-1	-1	-1

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_ClyAfterAFM_Decel

Description: Multplier to Lores decel to account for different pattern of misfire after a deactivated cylider. Similar to the second cylinder of consecutive cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_LORES_PostDeac

y/x	800	1,000	1,200	1,600	2,000	2,400	2,600	3,000	3,500
5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_CylAfterAFM_Jerk

Description: Multplier to Lores JerkI to account for different pattern of misfire after a deactivated cylider. Similar to the second cylinder of consecutive cylinder misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_LORES_PostDeac

y/x	800	1,000	1,200	1,600	2,000	2,400	2,600	3,000	3,500
5	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_CylBeforeAFM_Decel

Description: Multplier to Lores decel to account for different pattern of misfire before a deactivated cylider, but after an active cylinder that follows an deactive cylinder on engine that supports cylinder deactivation in non even fire patterns.. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_LORES_PreDeac

y/x	800	1,000	1,200	1,600	2,000	2,400	2,600	3,000	3,500
5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_ClyBeforeAFM_Jerk

Description: Multplier to Lores decel to account for different pattern of misfire before a deactivated cylider, but after an active cylinder that follows an deactive cylinder on engine that supports cylinder deactivation in non even fire patterns.. Multipliers are a function of engine rpm and % engine Load.

Notes: KtMSFD_K_ddt_LORES_PreDeac KtMSFD_K_ddt_LORES_PreDeac

y/x	800	1,000	1,200	1,600	2,000	2,400	2,600	3,000	3,500
5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_RandomAFM_Decl

Description: Multplier to Cylinder_Decel while in CylnDer Deactivation mode to account for different pattern of light level misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_LORES_AFM_Emiss

y/x	800	1,000	1,200	1,600	2,000	2,400	2,600	3,000	3,500
5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_RandomAFM_Jerk

Description: Multitplier to Cylinder_Jerk while in Cylinder Deactivation mode to account for different pattern of light level misfire. Multipliers are a function of engine rpm and % engine Load.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_LORES_AFM_Emiss

y/x	800	1,000	1,200	1,600	2,000	2,400	2,600	3,000	3,500
5	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
40	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
60	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
80	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
100	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_Catalyst_Damage_Misfire_Percentage

Description: Catalyst Damaging Misfire Percentage" Table whenever secondary conditions are met.

Notes: Used for P0300-P0308. Cal Name: KtMSFD_Pct_CatalystMisfire

y/x	0	1,000	2,000	3,000	4,000	5,000	6,000	7,000
0	11.3	11.3	4.8	4.8	4.8	4.8	4.8	4.8
10	11.3	11.3	4.8	4.8	4.8	4.8	4.8	4.8
20	11.3	11.3	4.8	4.8	4.8	4.8	4.8	4.8
30	9.0	9.0	4.8	4.8	4.8	4.8	4.8	4.8
40	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
50	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
60	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
70	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
80	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
90	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
100	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300 EngineOverSpeedLimit

Description: Engine OverSpeed Limit versus gear

Notes: Used for P0300-P0308. Cal Name: KaEOSC_n_EngOvrspdLimitGear

P0300 EngineOverSpeedLimit - Part 1

y/x	CeTGRR_e_TransGr1	CeTGRR_e_TransGr2	CeTGRR_e_TransGr3	CeTGRR_e_TransGr4	CeTGRR_e_TransGr5	CeTGRR_e_TransGr6	CeTGRR_e_TransGrE VT1
1	6,465	6,465	6,465	6,465	6,465	6,465	3,200

P0300 EngineOverSpeedLimit - Part 2

y/x	CeTGRR_e_TransGrE VT2	CeTGRR_e_TransGrN eut	CeTGRR_e_TransGrR vrs	CeTGRR_e_TransGrP ark	CeTGRR_e_TransGr7	CeTGRR_e_TransGr8	
1	3,200	3,200	6,465	3,200	6,465	6,465	

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_ZeroTorqueEngLoad

Description: %air load that represents Zero Brake torque along the Neutral rev line. The Zero torque threshold is adjusted for Baro via P0300_ZeroTorqueBaro

Notes: Used for P0300-P0308. Cal Name: KtMISF_ZeroTorqSpd

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000
1	-1.20	-1.20	-1.80	-2.20	-2.20	-1.80	-1.20	-1.20	-1.20	-1.12	-1.12	-1.12	-1.11	-1.12	-1.00	-1.00	-1.11	-1.00	0.43	1.86	3.28	4.71	6.13	7.56	8.99	10.42

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_ZeroTorqBaro

Description: adjusts zero torque for altitude

Notes: Used for P0300-P0308. Cal Name: KtMSFD_K_ZeroTorqBaro

y/x	65	70	75	80	85	90	95	100	105
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300_ZeroTorqDoD

Description: Zero torque engine load while in Active Fuel Management

Notes: Used for P0300-P0308. Cal Name: KtMSFD_ZeroTorqDoD

y/x	400	500	600	700	800	900	1,000	1,100	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

14 OBDG06B ECM Supporting Tables
Supporting Table - P0300 Ring Filter

Description: Driveline Ring Filter

After a low level misfire, another misfire may not be detectable until driveline ringing ceases. If no ringing seen, stop filter early.

Notes: Used for P0300-P0308. Cal Name: KaMSFD_Cnt_RingFilter

y/x	0	1	2	3	4	5	6	7	8
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300 Number of Normals

Description: Number of Normals for the Driveline Ring Filter
 After a low level misfire, another misfire may not be detectable until driveline ringing ceases. If no ringing seen, stop filter early.

Notes: Used for P0300-P0308. Cal Name: KaMSFD_Cnt_NumOfNormalsFil

y/x	0	1	2	3	4	5	6	7	8
1	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_Abnormal SCD Mode

Description: Number of consecutive number of decelerating cylinders after the misfire that would be considered abnormal. (SCD Mode Equation)

Notes: Used for P0300-P0308. Cal Name: KaMSFD_Cnt_SCD_CylAbnormal

y/x	0	1	2	3	4	5	6	7	8
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_Abnormal Cylinder Mode

Description: Number of consecutive number of decelerating cylinders after the misfire that would be considered abnormal. (Cylinder Mode Equation)

Notes: Used for P0300-P0308. Cal Name: KaMSFD_Cnt_CylAbnormal

y/x	0	1	2	3	4	5	6	7	8
1	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_Abnormal Rev Mode

Description: Abnormal Rev Mode Number of consecutive number of decelerating cylinders after the misfire that would be considered abnormal. (Rev Mode Equation)

Notes: Used for P0300-P0308. Cal Name: KaMSFD_Cnt_RevAbnormal

y/x	0	1	2	3	4	5	6	7	8
1	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_1st_FireAftrMisfr_Acel

Description: Multiplier for establishing the expected acceleration of the cylinder after the misfire

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dt_CylAftMsfr

y/x	500	1,200	2,400	3,600	7,000
0	0.50	0.50	0.50	0.50	0.50
20	0.50	0.50	0.50	0.50	0.50
40	0.50	0.50	0.50	0.50	0.50
60	0.50	0.50	0.50	0.50	0.50
100	0.50	0.50	0.50	0.50	0.50

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_1st_FireAftMisfr_Jerk

Description: Multiplier for establishing the expected Jerk of the cylinder after the misfire

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_ddt_CylAftMsfr

y/x	500	1,200	2,400	3,600	7,000
0	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00
40	0.00	0.00	0.00	0.00	0.00
60	0.00	0.00	0.00	0.00	0.00
100	0.00	0.00	0.00	0.00	0.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_SnapDecayAfterMisfire

Description: multiplier times the ddt_jerk value used used to detect misfire at that speed and load to see if size of disturbance has died down as expected of real misfire. Table lookup as a function of engine rpm and trans gear ratio.

Notes: Used for P0300 - P0308, Cal Name: KtMSFD_K_dddt_PostCylAft

y/x	500	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000
1	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
1	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
1	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
1	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
2	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
3	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
5	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
5	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_RepetSnapDecayAdjst

Description: If misfire is present in consecutive engine cycles, this multiplier is applied to the misfire jerk threshold and compared to a crankshaft snap value after the misfire has taken place.. Table lookup as a function of engine rpm.

Notes: Used for P0300 - P0308, Cal Name:KtMSFD_K_dddPostCylCnscMsfr

y/x	500	1,000	2,000	3,000	4,000	5,000	6,000	7,000	8,000
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_WSSRoughRoadThres

Description: Only used if Wheel speed from ABS is used. If difference between wheel speed readings is larger than this limit, rough road is present

Notes: Used for P0300-P0308. Cal Name: KtRRDI_a_WhlSpdRoughRoadLim

y/x	0	12	24	36	48	60	72	85	97	109	121	133	145	157	169	181	193
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0300_TOSSRoughRoadThres

Description: Only used if Rough Road source = TOSS: dispersion value on Transmission Output Speed Sensor above which rough road is indicated present

Notes: Used for P0300-P0308. Cal Name: KtRRDI_a_RoughRoadThresh

y/x	600	800	1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,400	2,600	2,800	3,000	3,500	4,000	4,500	5,000	5,500	6,000
100	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
300	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
500	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
600	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
700	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
800	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
900	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,000	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,100	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,200	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,300	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1,400	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P00C6 - KtFHPD_p_HPS_PressFallLoThrsh

Description: The minimum acceptable value of fuel rail pressure after High Pressure Start (HPS) is executed. This ensures the pressure does not fall off drastically after High Pressure Start (HPS) is executed, but before engine is in run mode.

Notes: Axes are

y/x	-40	-32	-24	-16	-8	0	8	16	20	24	32	40	48	64	80	96	112
0	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
13	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
25	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
38	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
50	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
63	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
88	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
100	2.0	2.0	2.0	2.0	2.0	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5

14 OBDG06B ECM Supporting Tables

Supporting Table - P00C6 - KtFHPD_Cnt_HPS_PressFallLoThrsh

Description: The maximum acceptable counts of fuel rail pressure below KtFHPD_p_HPS_PressFallLoThrsh after High Pressure Start (HPS) is executed but before engine is in run mode.

Notes:

y/x	-40	-32	-24	-16	-8	0	8	16	20	24	32	40	48	64	80	96	112
0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
13	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
25	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
38	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
50	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
63	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
75	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
88	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
100	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P00C6 - KtFHPC_p_HighPressStart

Description: This calibration is the minimum pressure in MPa that will exit High Pressure Start mode and allow fuel delivery

Notes:

y/x	-40	-32	-24	-16	-8	0	8	16	20	24	32	40	48	64	80	96	112
0	15.0	15.0	10.0	8.0	5.5	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	3.0
13	15.0	15.0	10.0	8.0	5.5	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	3.0
25	15.0	15.0	10.0	8.0	5.5	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
38	15.0	15.0	12.0	9.0	6.1	4.4	3.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
50	15.0	15.0	15.0	12.0	8.0	5.0	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
63	15.0	15.0	15.0	15.0	11.0	7.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
75	15.0	15.0	15.0	15.0	12.0	9.0	5.5	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
88	15.0	15.0	15.0	15.0	15.0	13.0	8.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
100	15.0	15.0	15.0	15.0	15.0	13.0	10.0	6.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P00C6 - KtFHPC_t_HighPressStartTmout

Description: High Pressure Pump Control Mode will exit (Fuel will be delivered) if this timeout in seconds is reached.

Notes:

y/x	-40	-32	-24	-16	-8	0	8	16	20	24	32	40	48	64	80	96	112
1	11.0	11.0	10.4	9.6	8.6	7.0	5.5	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.5	5.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0089 - P163A - P228C - P228D - P0191 - KtFHPD_t_PumpCntrlEngRunThrsh

Description: The High Pressure Control Performance Diagnostic and Pump Current Diagnostic will not run when the engine run time is below this timer following an engine start.

Notes:

y/x	-30	-20	-10	0	10	20	80	100	110
1	120.0	120.0	80.0	60.0	60.0	60.0	60.0	80.0	120.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0191 - KtFHPD_t_SnsPrfStuckCrankTmout

Description: The maximum crank time allowed before allowing the Sensor Performance Stuck Test to fail

Notes:

y/x	-30	-20	-10	0	10	20	80	100	110
1	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0191 - KtFHPD_Cnt_SnsPrfIdlePumpOffDly

Description: The delay counter following the disabling of the high pressure pump used Only for the Sensor Performance Idle Test

Notes:

y/x	0	13	25	38	50	63	75	88	100
65	390.0	390.0	446.0	501.0	557.0	613.0	669.0	724.0	780.0
70	380.0	380.0	380.0	380.0	380.0	380.0	380.0	380.0	380.0
75	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0	370.0
80	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0
85	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0	350.0
90	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0	340.0
95	330.0	330.0	330.0	330.0	330.0	330.0	330.0	330.0	330.0
100	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0
105	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0	320.0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0191 - KtFHPD_cmp_DPS_FailLoThrsh (Dual sensors)

Description: Low fail limit of fuel control due to pressure sensor error as Function of desired pressure

Notes:

y/x	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00	32.00
1.00	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75

14 OBDG06B ECM Supporting Tables

Supporting Table - P0191 - KtFHPD_cmp_DPS_FailHiThrsh (Dual Sensors)

Description: High fail limit of fuel control due to pressure sensor error as Function of desired pressure

Notes:

y/x	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00	32.00
1.00	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20

14 OBDG06B ECM Supporting Tables

Supporting Table - P0191 - KeFHPD_p_DPSPrsDiffFailThrsh (Dual Sensors)

Description:

Notes:

y/x	1.00
1.00	1.00

14 OBDG06B ECM Supporting Tables

Supporting Table - P0133_O2S Slow Response Bank 1 Sensor 1 "Pass/Fail Threshold table"

Description: KaEOSD_x_ST_ResponseLimRS1[x][y]

Notes: X axis is Lean to Rich response time (in sec), Please see the table below named "KnEOSD_t_ST_LRC_LimRS1" for the 17 X axis table breakpoints. Y axis is Rich to Lean response time (sec), Please see the cal table below named "KnEOSD_t_ST_RLC_LimRS1" for the 17 Y axis table breakpoints. Z axis is the pass/fail result, Note: If the cell contains a "0" then the fault is indicated, if it contains a "1" a fault is not indicated.

y/x	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

14 OBDG06B ECM Supporting Tables

Supporting Table - P0153_O2S Slow Response Bank 2 Sensor 1 "Pass/Fail Threshold table"

Description: KaEOSD_x_ST_ResponseLimRS2[x][y]

Notes: X axis is Lean to Rich response time (in sec), Please see the table below named "KnEOSD_t_ST_LRC_LimRS2" for the 17 X axis table breakpoints. Y axis is Rich to Lean response time (sec), Please see the cal table below named "KnEOSD_t_ST_RLC_LimRS2" for the 17 Y axis table breakpoints. Z axis is the pass/fail result, Note: If the cell contains a "0" then the fault is indicated, if it contains a "1" a fault is not indicated.

y/x	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
15	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

14 OBDG06B ECM Supporting Tables

Supporting Table - P1133_O2S HC L to R Switches Limit Bank 1 Sensor 1 "Pass/Fail Threshold table"

Description: KtEOSD_d_HC_LRSLimRS1

Notes: X axis is estimated Ethanol percentage, Please see the table below named "KnE85G_Pct_FFS_CompAtEngAxis" for the 5 X axis table breakpoints. Y axis is Average airflow during the response test (gps). Z axis is the limit for L2R Half Cycle switches, Note: The cell contains the mininum switches, below which the fault is indicated.

y/x	0	10	20	50	80
0.0	22	22	22	22	22
6.3	22	22	22	22	22
12.5	22	22	22	22	22
18.8	22	22	22	22	22
25.0	23	23	23	23	23
31.3	24	24	24	24	24
37.5	24	24	24	24	24
43.8	25	25	25	25	25
50.0	25	25	25	25	25
56.3	25	25	25	25	25
62.5	25	25	25	25	25
68.8	25	25	25	25	25
75.0	25	25	25	25	25
81.3	25	25	25	25	25
87.5	25	25	25	25	25
93.8	25	25	25	25	25
100.0	25	25	25	25	25

14 OBDG06B ECM Supporting Tables

Supporting Table - P1133_O2S HC R to L Switches Limit Bank 1 Sensor 1 "Pass/Fail Threshold table"

Description: KtEOSD_d_HC_RLSLimRS1

Notes: X axis is estimated Ethanol percentage, Please see the table below named "KnE85G_Pct_FFS_CompAtEngAxis" for the 5 X axis table breakpoints. Y axis is Average airflow during the response test (gps). Z axis is the limit for R2L Half Cycle switches, Note: The cell contains the mininum switches, below which the fault is indicated.

y/x	0	10	20	50	80
0.0	22	22	22	22	22
6.3	22	22	22	22	22
12.5	22	22	22	22	22
18.8	22	22	22	22	22
25.0	23	23	23	23	23
31.3	24	24	24	24	24
37.5	24	24	24	24	24
43.8	25	25	25	25	25
50.0	25	25	25	25	25
56.3	25	25	25	25	25
62.5	25	25	25	25	25
68.8	25	25	25	25	25
75.0	25	25	25	25	25
81.3	25	25	25	25	25
87.5	25	25	25	25	25
93.8	25	25	25	25	25
100.0	25	25	25	25	25

14 OBDG06B ECM Supporting Tables

Supporting Table - P1153_O2S HC L to R Switches Limit Bank 2 Sensor 1 "Pass/Fail Threshold table"

Description: KtEOSD_d_HC_LRSLimRS2

Notes: X axis is estimated Ethanol percentage, Please see the table below named "KnE85G_Pct_FFS_CompAtEngAxis" for the 5 X axis table breakpoints. Y axis is Average airflow during the response test (gps). Z axis is the limit for L2R Half Cycle switches, Note: The cell contains the mininum switches, below which the fault is indicated.

y/x	0	10	20	50	80
0.0	22	22	22	22	22
6.3	22	22	22	22	22
12.5	22	22	22	22	22
18.8	22	22	22	22	22
25.0	23	23	23	23	23
31.3	24	24	24	24	24
37.5	24	24	24	24	24
43.8	25	25	25	25	25
50.0	25	25	25	25	25
56.3	25	25	25	25	25
62.5	25	25	25	25	25
68.8	25	25	25	25	25
75.0	25	25	25	25	25
81.3	25	25	25	25	25
87.5	25	25	25	25	25
93.8	25	25	25	25	25
100.0	25	25	25	25	25

14 OBDG06B ECM Supporting Tables

Supporting Table - P1153_O2S HC R to L Switches Limit Bank 2 Sensor 1 "Pass/Fail Threshold table"

Description: KtEOSD_d_HC_RLSLimRS2

Notes: X axis is estimated Ethanol percentage, Please see the table below named "KnE85G_Pct_FFS_CompAtEngAxis" for the 5 X axis table breakpoints. Y axis is Average airflow during the response test (gps). Z axis is the limit for R2L Half Cycle switches, Note: The cell contains the mininum switches, below which the fault is indicated.

y/x	0	10	20	50	80
0.0	22	22	22	22	22
6.3	22	22	22	22	22
12.5	22	22	22	22	22
18.8	22	22	22	22	22
25.0	23	23	23	23	23
31.3	24	24	24	24	24
37.5	24	24	24	24	24
43.8	25	25	25	25	25
50.0	25	25	25	25	25
56.3	25	25	25	25	25
62.5	25	25	25	25	25
68.8	25	25	25	25	25
75.0	25	25	25	25	25
81.3	25	25	25	25	25
87.5	25	25	25	25	25
93.8	25	25	25	25	25
100.0	25	25	25	25	25

14 OBDG06B ECM Supporting Tables

Supporting Table - Multiple DTC Use_Green Sensor Delay Criteria - Airflow

Description: This Calibration is the airflow (in gps) above which the green airflow is accumulated to expire the condition.

Notes: Used for: P0133, P013A, P013B, P013C, P013D, P013E, P013F, P014A, P014B, P0153, P015A, P015B, P015C, P015D, P1133, P1153, P2270, P2271, P2272 and P2273. The specific diagnostic (from summary table) will not be enabled until the next ignition cycle after the airflow criteria below (by sensor location) has been met:

y/x	1
1	22

14 OBDG06B ECM Supporting Tables

Supporting Table - Multiple DTC Use_Green Sensor Delay Criteria - Limit

Description: This Calibration is the accumulated airflow (in grams) limit above which the green condition is expired

Notes: Used for: P0133, P013A, P013B, P013C, P013D, P013E, P013F, P014A, P014B, P0153, P015A, P015B, P015C, P015D, P1133, P1153, P2270, P2271, P2272 and P2273. Note: This feature is only enabled when the vehicle is new and cannot be enabled in service

y/x	CiOXYR_O2_Bank1_Sensor1	CiOXYR_O2_Bank1_Sensor2	CiOXYR_O2_Bank2_Sensor1	CiOXYR_O2_Bank2_Sensor2
1	120,000	120,000	120,000	120,000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0133_KnEOSD_t_ST_LRC_LimRS1

Description: KnEOSD_t_ST_LRC_LimRS1. X Table Axis (in sec) for P0133, L2R Reponse time breakpoints for table

Notes:

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	0.000	0.010	0.021	0.032	0.043	0.054	0.065	0.076	0.088	0.099	0.110	0.121	0.132	0.143	0.154	0.165	2.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0133_KnEOSD_t_ST_RLC_LimRS1

Description: KnEOSD_t_ST_RLC_LimRS1. Y Table Axis (in sec) for P0133, R2L Reponse time breakpoints for table

Notes:

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	0.000	0.010	0.021	0.033	0.044	0.056	0.067	0.079	0.090	0.101	0.113	0.124	0.136	0.147	0.159	0.170	2.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0153_KnEOSD_t_ST_LRC_LimRS2

Description: KnEOSD_t_ST_LRC_LimRS2. X Table Axis (in sec) for P0153, L2R Reponse time breakpoints for table

Notes:

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	0.000	0.010	0.021	0.032	0.043	0.054	0.065	0.076	0.088	0.099	0.110	0.121	0.132	0.143	0.154	0.165	2.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P0153_KnEOSD_t_ST_RLC_LimRS2

Description: KnEOSD_t_ST_RLC_LimRS2. Y Table Axis (in sec) for P0153, R2L Reponse time breakpoints for table

Notes:

y/x	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	0.000	0.010	0.021	0.033	0.044	0.056	0.067	0.079	0.090	0.101	0.113	0.124	0.136	0.147	0.159	0.170	2.000

14 OBDG06B ECM Supporting Tables

Supporting Table - P1133_P1153_KnE85G_Pct_FFS_CompAtEngAxis

Description: KnE85G_Pct_FFS_CompAtEngAxis. X Table Axis for P1133, P1153 (both L2R and R2L tables)

Notes: Ethanol percentage breakpoints

y/x	1	2	3	4	5
1	0	10	20	50	80

14 OBDG06B ECM Supporting Tables

Supporting Table - P0324_P0326_P0331_AbnormalNoise_Threshold

Description: Fail threshold for the Knock Performance Abnormal Noise Diagnostic

Notes: Used for P0324, P0326 and P0331. Cal Name: KtKNKD_k_PerfAbnLimitLo. X-axis = Engine Speed (RPM). Diagnostic fails when VaKNKD_k_PerfCylAbnFiltnsity < KtKNKD_k_PerfAbnLimitLo

y/x	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500
1	0.372	0.363	0.197	0.180	0.205	0.212	0.210	0.238	0.252	0.291	0.323	0.633	0.558	0.558	0.558	0.558	0.558

14 OBDG06B ECM Supporting Tables

Supporting Table - P0325_P0330_OpenCktThrshMin (20 kHz)

Description: Knock Open Circuit Diagnostic Minimum Threshold when using the 20 kHz method (see "OpenMethod" description)

Notes: Used for P0325 and P0330. Cal name: KtKNKD_k_OpenMin20K. x-axis = Engine Speed (RPM)

Diagnostic fails when the filtered diagnostic output is between the OpenCktThrshMin and OpenCktThrshMax:
 i.e.: $KtKNKD_k_OpenMin20K < VaKNKD_k_OpenFiltIntensity < KtKNKD_k_OpenMax20K$.

y/x	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500
1	3.8965	3.8809	3.8535	3.8574	3.8672	3.8633	3.7559	3.7871	3.6836	3.6523	3.4316	3.2383	3.1055	3.1074	3.1074	3.1074	3.1074

14 OBDG06B ECM Supporting Tables

Supporting Table - P0325_P0330_OpenCktThrshMax (20 kHz)

Description: Knock Open Circuit Diagnostic Maximum Threshold when using the 20 kHz method (see "OpenMethod" description)

Notes: Used for P0325 and P0330. Cal name: KtKNKD_k_OpenMax20K. x-axis = Engine Speed (RPM).

Diagnostic fails when the filtered diagnostic output is between the OpenCktThrshMin and OpenCktThrshMax:
 i.e.: KtKNKD_k_OpenMin20K < VaKNKD_k_OpenFiltIntensity < KtKNKD_k_OpenMax20K.

y/x	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500
1	11.1191	11.0664	11.0078	10.9961	11.0098	11.0039	10.7676	10.7832	10.5918	10.3711	9.6934	9.1836	8.6094	8.6094	8.6094	8.6094	8.6094

14 OBDG06B ECM Supporting Tables

Supporting Table - P0325_P0330_OpenCktThrshMin (Normal Noise)

Description: Knock Open Circuit Diagnostic Minimum Threshold when using the Normal Noise method (see "OpenMethod" description): When using the Normal Noise method (see "OpenMethod" description).

Notes: Used for P0325 and P0330. Cal name: KtKNKD_k_OpenMinNN. x-axis = Engine Speed (RPM)

Diagnostic fails when the filtered diagnostic output is between the OpenCktThrshMin and OpenCktThrshMax:
 i.e.: $KtKNKD_k_OpenMinNN < VaKNKD_k_OpenFilIntensity < KtKNKD_k_OpenMaxNN$.

y/x	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6426	0.7090	0.7773	0.8438	0.9121	0.9785	1.0449	1.1133

14 OBDG06B ECM Supporting Tables

Supporting Table - P0325_P0330_OpenCktThrshMax (Normal Noise)

Description: Knock Open Circuit Diagnostic Minimum Threshold when using the Normal Noise method (see "OpenMethod" description): When using the Normal Noise method (see "OpenMethod" description).

Notes: Used for P0325 and P0330. Cal name: KtKNKD_k_OpenMaxNN. x-axis = Engine Speed (RPM)

Diagnostic fails when the filtered diagnostic output is between the OpenCktThrshMin and OpenCktThrshMax:
 i.e.: KtKNKD_k_OpenMinNN < VaKNKD_k_OpenFilIntensity < KtKNKD_k_OpenMaxNN.

y/x	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500
1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.6680	1.0840	1.4980	1.9141	2.3301	2.7461	3.1602	3.5762

14 OBDG06B ECM Supporting Tables

Supporting Table - P06B6_P06B7_OpenTestCktThrshMin

Description: Knock Open Circuit Minimum Threshold for Internal Circuit Diagnostic. Used only when the 20 kHz method is being used (see "OpenMethod" description). The Open Test Circuit ensures that the internal circuit used to generate the 20 kHz signal for the Open Circuit diags (P0325, P0330) is within range.

Notes: Used for P0325 and P0330. Cal name: KtKNKD_k_OpenTestCktMin. x-axis = Engine Speed (RPM).

Diagnostic fails when the filtered diagnostic output is between the OpenTestCktThrshMin and OpenTestCktThrshMax:

i.e. $KtKNKD_k_OpenTestCktMin < VaKNKD_k_OpenTestCktIntFilter < KtKNKD_k_OpenTestCktMax$

y/x	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500
1	0.131	0.133	0.137	0.158	0.172	0.215	0.197	0.297	0.295	0.361	0.373	0.373	0.373	0.373	0.373	0.373	0.373

14 OBDG06B ECM Supporting Tables

Supporting Table - P06B6_P06B7_OpenTestCktThrshMax

Description: Knock Open Circuit Minimum Threshold for Internal Circuit Diagnostic. Used only when the 20 kHz method is being used (see "OpenMethod" description). The Open Test Circuit ensures that the internal circuit used to generate the 20 kHz signal for the Open Circuit diags (P0325, P0330) is within range.

Notes: Used for P0325 and P0330. Cal name: KtKNKD_k_OpenTestCktMax. x-axis = Engine Speed (RPM).

Diagnostic fails when the filtered diagnostic output is between the OpenTestCktThrshMin and OpenTestCktThrshMax:

i.e. $KtKNKD_k_OpenTestCktMin < VaKNKD_k_OpenTestCktIntFilter < KtKNKD_k_OpenTestCktMax$

y/x	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000	5,500	6,000	6,500	7,000	7,500	8,000	8,500
1	0.281	0.287	0.291	0.350	0.387	0.490	0.447	0.588	0.586	0.715	0.713	0.703	0.703	0.703	0.703	0.703	0.703

14 OBDG06B ECM Supporting Tables

Supporting Table - P0324_P0326_P0331_AbnormalNoise_CylsEnabled

Description: Specifies which cylinders will be used for the Abnormal Noise portion of the performance diagnostics (1 = cylinder used, 0 = cylinder not used)

Notes: Used for P0324, P0326 and P0331. Cal name: KaKNKD_b_PerfAbnIncludeCyl. x-axis = Cylinder number in firing order (i.e. Cyl 0 = first cylinder in firing order, Cyl 1 = second cylinder in firing order....)

A cal value = 1 specifies the cylinder is used for the Abnormal Noise diagnostic. A cal value = 0 specifies the cylinder is not used. Only the first four values in the table are relevant for a four-cylinder engine and only the first six values in the table are relevant for a six-cylinder engine.

Typically, all cylinders are used. Cylinders are only excluded if the signal from that cylinder is weak and there is no separation between normal and faulted conditions (can occur if the sensor location results in poor signal-to-noise ratio for a given cylinder).

y/x	0	1	2	3	4	5	6	7
1	1	1	1	1	1	1	0	0

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: 5VoltReferenceA_FA

P0641

Bundle Name: 5VoltReferenceB_FA

P0651

Bundle Name: 5VoltReferenceMAP_OOR_Fit

P0697

Bundle Name: A/F Imbalance Bank1

P219A

Bundle Name: A/F Imbalance Bank2

P219B

Bundle Name: AAP_SnsrCktFA

Naturally aspirated: P2228, P2229. Turbocharged: P0237, P0238

Bundle Name: AAP_SnsrCktFP

Naturally aspirated: P2228, P2229. Turbocharged: P0237, P0238

Bundle Name: AAP_SnsrFA

Naturally Aspirated: P2227, P2228, P2229, P2230. Turbocharged: P0237, P0238.

Bundle Name: AAP_SnsrTFTKO

Naturally Aspirated: P2227, P2228, P2229, P2230. Turbocharged: P0237, P0238.

Bundle Name: AAP2_SnsrCktFA

P2228, P2229

Bundle Name: AAP2_SnsrCktFP

P2228, P2229

Bundle Name: AAP2_SnsrFA

P2227, P2228, P2229, P2230

Bundle Name: AAP2_SnsrTFTKO

P2227, P2228, P2229, P2230

Bundle Name: AAP3_SnsrCktFA

P222C, P222D

Bundle Name: AAP3_SnsrCktFP

P222C, P222D

Bundle Name: AccCktLo_FA

P2537

Bundle Name: AcceleratorPedalFailure

P2122, P2123, P2127, P2128, P2138, P0697, P06A3

Bundle Name: ACCMLostComm

U016B

Bundle Name: ACFailedOnSD

See ACCM Document

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: ACHighSidePressSnsrCktFA
P0532, P0533
Bundle Name: ACThrmIRefrigSpdVld
See ACCM Document
Bundle Name: AfterThrottlePressTFTKO
Naturally Aspirated or Turbocharged: P0106, P0107, P0108. Supercharged: P012B, P012C, P012D.
Bundle Name: AfterThrottlePressureFA
Naturally Aspirated or Turbocharged: P0106, P0107, P0108. Supercharged: P012B, P012C, P012D.
Bundle Name: AfterThrottleVacuumTFTKO
Naturally Aspirated or Turbocharged: P0106, P0107, P0108. Supercharged: P012B, P012C, P012D.
Bundle Name: AIR System FA
P0411, P2440, P2444
Bundle Name: AIRPumpControlCircuit FA
P0418, P2257, P2258
Bundle Name: AIRSystemPressureSensor FA
P2430, P2431, P2432, P2433, P2435, P2436, P2437, P2438
Bundle Name: AIRValveControlCircuit FA
P0412, P041F, P044F
Bundle Name: AmbientAirDefault
Baro Sensor Present: P2227, P2228, P2229, P2230. No Baro Sensor Present: P0101, P0102, P0103, P0106, P0107, P0108, P0111, P0112, P0113, P0114, P0121, P0122, P0123, P012B, P012C, P012D, P0222, P0223, P1221
Bundle Name: AmbPresDfltStatus
Baro Sensor Present: P2227, P2228, P2229, P2230. No Baro Sensor Present: P0101, P0102, P0103, P0106, P0107, P0108, P0111, P0112, P0113, P0114, P0121, P0122, P0123, P012B, P012C, P012D, P0222, P0223, P1221
Bundle Name: AmbPresSnsr2_CktFA
P222C, P222D
Bundle Name: AmbPresSnsrCktFA
P2228, P2229
Bundle Name: AmbPresSnsrCktFP
P2228, P2229
Bundle Name: AnyCamPhaser_FA
P0010, P0011, P0013, P0014, P0020, P0021, P0023, P0024, P2088, P2089, P2090, P2091, P2092, P2093, P2094, P2095
Bundle Name: AnyCamPhaser_TFTKO
P0010, P0011, P0013, P0014, P0020, P0021, P0023, P0024, P2088, P2089, P2090, P2091, P2092, P2093, P2094, P2095
Bundle Name: BrakeBoosterSensorFA
P0556, P0557, P0558
Bundle Name: BrakeBoosterVacuumValid

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

P0556, P0557, P0558

Bundle Name: BSTR_b_IC_Pmp_EffPerTFTKO

P026A

Bundle Name: CamLctnExhFA

P0017, P0019, P0365, P0366, P0390, P0391

Bundle Name: CamLctnIntFA

P0016, P0018, P0340, P0341, P0345, P0346

Bundle Name: CamSensor_FA

P0016, P0017, P0018, P0019, P0340, P0341, P0345, P0346, P0365, P0366, P0390, P0391

Bundle Name: CamSensor_TFTKO

P0016, P0017, P0018, P0019, P0340, P0341, P0345, P0346, P0365, P0366, P0390, P0391

Bundle Name: CamSensorAnyLctnTFTKO

P0016, P0017, P0018, P0019, P0340, P0341, P0345, P0346, P0365, P0366, P0390, P0391

Bundle Name: CamSensorAnyLocationFA

P0016, P0017, P0018, P0019, P0340, P0341, P0345, P0346, P0365, P0366, P0390, P0391

Bundle Name: CamSensorFA

P0016, P0017, P0018, P0019, P0340, P0341, P0345, P0346, P0365, P0366, P0390, P0391

Bundle Name: CamSensorTFTKO

P0016, P0017, P0018, P0019, P0340, P0341, P0345, P0346, P0365, P0366, P0390, P0391

Bundle Name: CatalystSysEfficiencyLoB1_FA

P0420

Bundle Name: CatalystSysEfficiencyLoB2_FA

P0430

Bundle Name: ClutchPstnSnsr FA

P0806, P0807, P0808

Bundle Name: ClutchPstnSnsrCktHi FA

P0808

Bundle Name: ClutchPstnSnsrCktLo FA

P0807

Bundle Name: ClutchPstnSnsrNotLearned

P080A

Bundle Name: CommBusAOff_VICM_FA

U0073

Bundle Name: CommBusBOff_VICM_FA

U0074

Bundle Name: CoolingFanSpeedTooHigh_FA

P0495

Bundle Name: CrankCamCorrelationTFTKO

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

P0016, P0017, P0018, P0019
Bundle Name: CrankExhaustCamCorrelationFA
P0017, P0019
Bundle Name: CrankExhaustCamCorrFA
P0017, P0019
Bundle Name: CrankIntakeCamCorrelationFA
P0016, P0018
Bundle Name: CrankIntakeCamCorrFA
P0016, P0018
Bundle Name: CrankSensor_FA
P0335, P0336
Bundle Name: CrankSensor_TFTKO
P0335, P0336
Bundle Name: CrankSensorFA
P0335, P0336
Bundle Name: CrankSensorFaultActive
P0335, P0336
Bundle Name: CrankSensorTestFailedTKO
P0335, P0336
Bundle Name: CrankSensorTFTKO
P0335, P0336
Bundle Name: CylDeacDriverFault
P3401, P03403, P03404, P3409, P03411, P03412, P3417, P3419, P3420, P3425, P3427, P3428, P3433, P3435, P3436, P3441, P3443, P3444, P3449, P3451, P3452, P3457, P3459, P3460
Bundle Name: CylDeacSystemTFTKO
P3400
Bundle Name: ECT_Sensor_Ckt_FA
P0117, P0118, P0119
Bundle Name: ECT_Sensor_Ckt_FP
P0117, P0118
Bundle Name: ECT_Sensor_Ckt_High_FP
P0118
Bundle Name: ECT_Sensor_Ckt_Low_FP
P0117
Bundle Name: ECT_Sensor_Ckt_TFTKO
P0117, P0118, P0119
Bundle Name: ECT_Sensor_Ckt_TPTKO
P0117, P0118, P0019

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: ECT_Sensor_DefaultDetected
P0117, P0118, P0116, P0125
Bundle Name: ECT_Sensor_FA
P0117, P0118, P0116, P0125, P0128
Bundle Name: ECT_Sensor_Perf_FA
P0116
Bundle Name: ECT_Sensor_TFTKO
P0117, P0118, P0116, P0125, P0119
Bundle Name: EGRValve_FP
P0405, P0406, P042E
Bundle Name: EGRValveCircuit_FA
P0403, P0404, P0405, P0406
Bundle Name: EGRValveCircuit_TFTKO
P0403, P0404, P0405, P0406
Bundle Name: EGRValvePerformance_FA
P0401, P042E
Bundle Name: EGRValvePerformance_TFTKO
P0401, P042E
Bundle Name: ELCP_PumpCircuit_FA
P2400, P2401, P2402
Bundle Name: ELCP_SwitchCircuit_FA
P2418, P2419, P2420
Bundle Name: ELCP_Circuit_FA
P24BA, P24BB
Bundle Name: EngineMetalOvertempActive
P1258
Bundle Name: EngineMisfireDetected_FA
P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308
Bundle Name: EngineMisfireDetected_TFTKO
P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308
Bundle Name: EngineModeNotRunTimer_FA
P2610
Bundle Name: EngineModeNotRunTimerError
P2610
Bundle Name: EnginePowerLimited
P0068, P00C8, P00C9, P00CA, P0090, P0091, P0092, P0122, P0123, P0191, P0192, P0193, P0222, P0223, P0601, P0604, P0606, P0697, P06A3, P06DB, P06DE, P0A1D, P1104, P127A, P127C, P127D, P15F2, P160D, P160E, P1682, P16A0, P16A1, P16A2, P16F3, P2100, P2101, P2102, P2103, P2122, P2123, P2127, P2128, P2135, P2138, P215B, P2176, P228C, P228D, U0073, U0074, U0293, U1817

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: EngineTorqueEstInaccurate

EngineMisfireDetected_FA, FuelInjectorCircuit_FA, FuelInjectorCircuit_TFTKO, FuelTrimSystemB1_FA, FuelTrimSystemB2_FA, MAF_SensorTFTKO, MAP_SensorTFTKO, EGRValuePerforamnce_FA

Bundle Name: EngModeNotRunTmErr

P2610

Bundle Name: EngOilModeledTempValid

ECT_Sensor_FA, IAT_SensorCircuitFA

Bundle Name: EngOilPressureSensorCktFA

P0522, P0523

Bundle Name: EngOilPressureSensorFA

P0521, P0522, P0523

Bundle Name: EngOilTempFA

EngOilTempSensorCircuitFA, EngOilModeledTempValid, P16F3

EngOilTempFA - Other Definitions:

P16F3 with GetXOYR_b_SecurityFlt(CeXOYR_e_EOTR_SecurityFlt)

Bundle Name: EngOilTempSensorCircuitFA

P0197, P0198

Bundle Name: Ethanol Composition Sensor FA

P0178, P0179, P2269

Bundle Name: EvapEmissionSystem_FA

P0455, P0446

Bundle Name: EvapExcessPurgePsbl_FA

ELCP sealed/vented fuel system, P0442, P0455, P0458 OR Conventional fuel system, P0442, P0455, P0458, P0496

Bundle Name: EvapFlowDuringNonPurge_FA

P0496

Bundle Name: EvapPurgeSolenoidCircuit_FA

P0443, P0458, P0459

Bundle Name: EvapReducedPurgePsbl_FA

ELCP sealed/vented fuel system, P0443, P0446, P0449, P0459, P0497, P0499, P1463, P2419, P2422 OR Conventional fuel system, P0443, P0446, P0455, P0459, P0498

Bundle Name: EvapSmallLeak_FA

P0442

Bundle Name: EvapVentSolenoidCircuit_FA

P0449, P0498, P0499

Bundle Name: ExhaustCamSensor_FA

P0017, P0019, P0365, P0366, P0390, P0391

Bundle Name: ExhaustCamSensor_TFTKO

P0017, P0019, P0365, P0366, P0390, P0391

Bundle Name: ExhaustCamSensorFA

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

P0017, P0019, P0365, P0366, P0390, P0391

Bundle Name: ExhaustCamSensorTFTKO

P0017, P0019, P0365, P0366, P0390, P0391

Bundle Name: FanOutputDriver_FA

P0480, P0481, P0482, P0691, P0692, P0693, P0694, P0695, P0696, P1485 (EREV), P1486 (EREV), P1487 (EREV)

Bundle Name: FHPD_b_HPC_PresErrNeg_FA

P228D

Bundle Name: FHPD_b_HPC_PresErrNeg_TFTKO

P228D

Bundle Name: FHPD_b_HPC_PresErrPos_FA

P228C

Bundle Name: FHPD_b_HPC_PresErrPos_TFTKO

P228C

Bundle Name: FHPD_b_HPC_Windup_TFTKO

P0089

Bundle Name: FHPD_b_HPC_Windup_FA

P0089

Bundle Name: FHPD_b_PumpCurr_FA

P163A

Bundle Name: FHPD_b_PumpCurr_TFTKO

P163A

Bundle Name: FHPR_b_FRP_SnsrCkt_FA

P0192, P0193, P127C, P127D

Bundle Name: FHPR_b_FRP_SnsrCkt_TFTKO

P0192, P0193, , P127C, P127D

Bundle Name: FHPR_b_FRP_SnsrPerfDiag_FA

P0191, P127A

Bundle Name: FHPR_b_FRP_SnsrPerfDiag_TFTKO

P0191, P127A

Bundle Name: FHPR_b_PumpCkt_FA

P0090, P0091, P0092, P00C8, P00C9, P00CA

Bundle Name: FHPR_b_PumpCkt_TFTKO

P0090, P0091, P0092, P00C8, P00C9, P00CA

Bundle Name: FourWheelDriveLowStateInvalid

P2771

Bundle Name: FTP_SensorCircuit_FA

P0452, P0453

Bundle Name: FuelInjectorCircuit_FA

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

PFI: P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0261, P0264, P0267, P0270, P0273, P0276, P0279, P0282, P0262, P0265, P0268, P0271, P0274, P0277, P0280, P0283 SIDI: P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0261, P0264, P0267, P0270, P0273, P0276, P0279, P0282, P0262, P0265, P0268, P0271, P0274, P0277, P0280, P0283, P2147, P2150, P2153, P2156, P216B, P216E, P217B, P217E, P2148, P2151, P2154, P2157, P216C, P216F, P217C, P217F, P1248, P1249, P124A, P124B, P124C, P124D, P124E, P124F

Bundle Name: FuelInjectorCircuit_TFTKO

PFI: P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0261, P0264, P0267, P0270, P0273, P0276, P0279, P0282, P0262, P0265, P0268, P0271, P0274, P0277, P0280, P0283 SIDI: P0201, P0202, P0203, P0204, P0205, P0206, P0207, P0208, P0261, P0264, P0267, P0270, P0273, P0276, P0279, P0282, P0262, P0265, P0268, P0271, P0274, P0277, P0280, P0283, P2147, P2150, P2153, P2156, P216B, P216E, P217B, P217E, P2148, P2151, P2154, P2157, P216C, P216F, P217C, P217F, P1248, P1249, P124A, P124B, P124C, P124D, P124E, P124F

Bundle Name: FuelLevelDataFault

P0461, P0462, P0463, P2066, P2067, P2068

Bundle Name: FuelTankPressureSnsrCkt_FA

P0452, P0453

Bundle Name: HumidityFA

P0097, P0098, P11C2, P11C3, P2227, P2228, P2229, P2230

Bundle Name: HumTempSnsrCktFA

P0097, P0098

Bundle Name: HumTempSnsrCktFP

P0097, P0098

Bundle Name: HumTempSnsrFA

P0096, P0097, P0098, P0099

Bundle Name: IAC_SystemRPM_FA

P0506, P0507

Bundle Name: IAT_ContCorrFA

P2199

Bundle Name: IAT_SensorCircuitFA

P0112, P0113

Bundle Name: IAT_SensorCircuitFP

P0112, P0113

Bundle Name: IAT_SensorCircuitTFTKO

P0112, P0113

Bundle Name: IAT_SensorFA

P0111, P0112, P0113, P0114

Bundle Name: IAT_SensorTFTKO

P0111, P0112, P0113, P0114

Bundle Name: IgnitionOffTimer_FA

P2610

Bundle Name: IgnitionOffTimeValid

P2610

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: IgnitionOutputDriver_FA
P0351, P0352, P0353, P0354, P0355, P0356, P0357, P0358, P2300, P2301, P2303, P2304, P2306, P2307, P2309, P2310, P2312, P2313, P2315, P2316, P2318, P2319, P2321, P2322
Bundle Name: IntakeCamSensor_FA
P0016, P0018, P0340, P0341, P0345, P0346
Bundle Name: IntakeCamSensor_TFTKO
P0016, P0018, P0340, P0341, P0345, P0346
Bundle Name: IntakeCamSensorFA
P0016, P0018, P0340, P0341, P0345, P0346
Bundle Name: IntakeCamSensorTFTKO
P0016, P0018, P0340, P0341, P0345, P0346
Bundle Name: IntkCamPhaser_FA
P0010, P0011, P0020, P0021, P2088, P2089, P2092, P2093
Bundle Name: KS_Ckt_Perf_B1B2_FA
P0324, P0325, P0326, P0327, P0328, P0330, P0332, P0333, P06B6, P06B7
Bundle Name: LostCommBCM_FA
U0140
Bundle Name: LostCommBusB_VICM_FA
U182D
Bundle Name: LowFuelConditionDiagnostic
LowFuelConditionDiagnostic - Other Definitions: Flag set to TRUE if the fuel level < 10.0 % AND No Active DTCs: FuelLevelDataFault, P0462, P0463 for at least 30.0 seconds
Bundle Name: MAF_SensorCircuitFA
P0102, P0103, P010C, P010D
Bundle Name: MAF_SensorCircuitTFTKO
P0102, P0103, P010C, P010D
Bundle Name: MAF_SensorFA
P0101, P0102, P0103, P010C, P010D
Bundle Name: MAF_SensorFP
P0102, P0103, P010C, P010D
Bundle Name: MAF_SensorPerfFA
P0101
Bundle Name: MAF_SensorPerfTFTKO
P0101
Bundle Name: MAF_SensorTFTKO
P0101, P0102, P0103, P010C, P010D
Bundle Name: MAF_Snsr1_FA

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

P0101, P0102, P0103

Bundle Name: MAF_Snsr2_FA

P010B, P010C, P010D

Bundle Name: MAF_SnsrCktFA

P0102, P0103, P010C, P010D

Bundle Name: MAF_SnsrCktTFTKO

P0102, P0103, P010C, P010D

Bundle Name: MAP_EngineVacuumStatus

P0106, P0107, P0108 Fault Active OR P0107, P0108 Fault Pending

Bundle Name: MAP_SensorCircuitFA

P0107, P0108

Bundle Name: MAP_SensorCircuitFP

P0107, P0108

Bundle Name: MAP_SensorFA

P0106, P0107, P0108

Bundle Name: MAP_SensorPerfFA

P0106

Bundle Name: MAP_SensorPerfTFTKO

P0106

Bundle Name: MAP_SensorTFTKO

P0106, P0107, P0108

Bundle Name: MnfdTempSensorCktFA

Turbocharged or Supercharged, with Humidity sensor: P112C, P112D. Turbocharged or Supercharged, without Humidity sensor: P0097, P0098. Naturally Aspirated: P0112, P0113.

Bundle Name: MnfdTempSensorCktFP

Turbocharged or Supercharged, with Humidity sensor: P112C, P112D. Turbocharged or Supercharged, without Humidity sensor: P0097, P0098. Naturally Aspirated: P0112, P0113.

Bundle Name: MnfdTempSensorCktTFTKO

Turbocharged or Supercharged, with Humidity sensor: P112C, P112D. Turbocharged or Supercharged, without Humidity sensor: P0097, P0098. Naturally Aspirated: P0112, P0113.

Bundle Name: MnfdTempSensorFA

Turbocharged or Supercharged, with Humidity sensor: P112B, P112C, P112D, P112E. Turbocharged or Supercharged, without Humidity sensor: P0096, P0097, P0098, P0099. Naturally Aspirated: P0111, P0112, P0113, P0114.

Bundle Name: MnfdTempSensorTFTKO

Turbocharged or Supercharged, with Humidity sensor: P112B, P112C, P112D, P112E. Turbocharged or Supercharged, without Humidity sensor: P0096, P0097, P0098, P0099. Naturally Aspirated: P0111, P0112, P0113, P0114.

Bundle Name: ModuleOffTime_FA

P2610

Bundle Name: ModuleOffTimeErr

P2610

Bundle Name: OAT_AmbientFilteredFA

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

ECM OAT: P0071, P0072, P0073, P0074, EngModeNotRunTmErr, VehicleSpeedSensor_FA, IAT_SensorFA, ECT_Sensor_DefaultDetected, MAF_SensorFA. VIMC OAT: P0072, P0073, EngModeNotRunTmErr, VehicleSpeedSensor_FA, ECT_Sensor_DefaultDetected. IAT-Based OAT: not applicable. All other cases: not applicable.

Bundle Name: OAT_AmbientSensorFA

ECM OAT: P0071, P0072, P0073, P0074. VIMC OAT: P0071, P0072, P0073, EngModeNotRunTmErr, VehicleSpeedSensor_FA, ECT_Sensor_DefaultDetected. IAT-Based OAT: not applicable. All other cases: not applicable.

Bundle Name: OAT_EstAmbTemp_FA

ELCP sealed/vented fuel system, P0071, P0072, P0073, P0502, P0503, P0722, P0723 OR Conventional fuel system, P0071, P0072, P0073, P0074, P2610

Bundle Name: OAT_PtEstFiltFA

ECM OAT: P0071, P0072, P0073, P0074, EngModeNotRunTmErr, VehicleSpeedSensor_FA, IAT_SensorFA, ECT_Sensor_DefaultDetected, MAF_SensorFA. VIMC OAT: P0072, P0073, EngModeNotRunTmErr, VehicleSpeedSensor_FA, ECT_Sensor_DefaultDetected. IAT-Based OAT: VehicleSpeedSensor_FA, IAT_SensorFA, MAF_SensorFA. All other cases: EngModeNotRunTmErr, VehicleSpeedSensor_FA, IAT_SensorFA, ECT_Sensor_DefaultDetected.

Bundle Name: OAT_PtEstRawFA

ECM OAT: P0071, P0072, P0073, P0074. VIMC OAT: P0071, P0072, P0073, EngModeNotRunTmErr, VehicleSpeedSensor_FA, ECT_Sensor_DefaultDetected. IAT-Based OAT: IAT_SensorFA. All other cases: IAT_SensorFA, ECT_Sensor_DefaultDetected.

Bundle Name: OilPmpCktFA

P06DA, P06DB, P06DC

OilPmpCktFA - Other Definitions:

Output Driver Codes

Bundle Name: OilPmpFA

P06DA, P06DB, P06DC, P06DD, P06DE

OilPmpFA - Other Definitions:

FA only for Output Driver and rationality

Bundle Name: OilPmpStuckHigh

P06DA, P06DB, P06DD

OilPmpStuckHigh - Other Definitions:

TFTKO and FA

Bundle Name: OilPmpStuckLow

P06DC, P06DE

OilPmpStuckLow - Other Definitions:

TFTKO and FA

Bundle Name: OilPmpTFTKO

P06DA, P06DB, P06DC, P06DD, P06DE

OilPmpTFTKO - Other Definitions:

TFTKO only for Output Driver and rationality

Bundle Name: PostCatFuelTrimHiB1

P2097

Bundle Name: PostCatFuelTrimHiB2

P2099

Bundle Name: PostCatFuelTrimLoB1

P2096

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: PostCatFuelTrimLoB2

P2098

Bundle Name: PowertrainRelayStateOn_FA

P0685, P0686, P0687

Bundle Name: PPS1_OutOfRange

P2122, P2123

Bundle Name: PPS1_OutOfRange_Composite

P2122, P2123, P06A3

Bundle Name: PPS2_OutOfRange

P2127, P2128

Bundle Name: PPS2_OutOfRange_Composite

P2127, P2128, P0697

Bundle Name: SCIAP_SensorCircuitFA

P012C, P012D

Bundle Name: SCIAP_SensorCircuitFP

P012C, P012D

Bundle Name: SCIAP_SensorFA

P012B, P012C, P012D

Bundle Name: SCIAP_SensorPerfFA

P012B

Bundle Name: SCIAP_SensorPerfTFTKO

P012B

Bundle Name: SCIAP_SensorTFTKO

P012B, P012C, P012D

Bundle Name: SuperchargerBypassValveFA

P2261

Bundle Name: SystemVoltageHigh_FA

P0563

Bundle Name: SystemVoltageLow_FA

P0562

Bundle Name: TC_BoostPresSnsrCktFA

P0237, P0238

Bundle Name: TC_BoostPresSnsrFA

P0236, P0237, P0238

Bundle Name: TCM_EngSpdReqCkt

P150C

Bundle Name: THMR_AHV_FA

P2681, P26A3, P26A6, P26A7, P26A9

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: THMR_AWP_AuxPumpFA
B2920, B2923, B2922
Bundle Name: THMR_ECT_Sensor_Ckt_FA
P0116, P0117, P0118, P00B6
Bundle Name: THMR_Insuff_Flow_FA
P00B7
Bundle Name: THMR_RCT_Sensor_Ckt_FA
P00B3, P00B4
Bundle Name: THMR_SWP_Control_FA
P261D, P261A, P261C
Bundle Name: THMR_SWP_FlowStuckOn_FA
P261A, P261D, P261E
Bundle Name: THMR_SWP_NoFlow_FA
P261B, P261C
Bundle Name: THMR_Therm_Control_FA
P0597, P0598, P0599
Bundle Name: ThrotTempSensorFA
Turbocharged or Supercharged, with Humidity sensor: P112B, P112C, P112D, P112E. Turbocharged or Supercharged, without Humidity sensor: P0096, P0097, P0098, P0099. Naturally Aspirated: P0111, P0112, P0113, P0114.
Bundle Name: ThrotTempSensorTFTKO
Turbocharged or Supercharged, with Humidity sensor: P112B, P112C, P112D, P112E. Turbocharged or Supercharged, without Humidity sensor: P0096, P0097, P0098, P0099. Naturally Aspirated: P0111, P0112, P0113, P0114.
Bundle Name: ThrottlePositionSnrPerfFA
P0121
Bundle Name: ThrottlePositionSnrPerfTFTKO
P0121
Bundle Name: TIAP_SensorPerfFA
P0236
Bundle Name: TPS_FA
P0122, P0123, P0222, P0223, P2135
Bundle Name: TPS_FaultPending
P0122, P0123, P0222, P0223, P2135
Bundle Name: TPS_Performance_FA
P0068, P0121, P1104, P2100, P2101, P2102, P2103
Bundle Name: TPS_Performance_TFTKO
P0068, P0121, P1104, P2100, P2101, P2102, P2103
Bundle Name: TPS_TFTKO
P0122, P0123, P0222, P0223, P2135

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: TPS_ThrottleAuthorityDefaulted

P0068, P0122, P0123, P0222, P0223, P16F3, P1104, P2100, P2101, P2102, P2103, P2135

Bundle Name: TPS1_OutOfRange_Composite

P0122, P0123, P06A3

Bundle Name: TPS2_OutOfRange_Composite

P0222, P0223, P06A3

Bundle Name: Trans Output Rotations Rolling Count Validity

P0722, P0723, P077C, P077D

Bundle Name: TransActualGearValidity

P182E, P1915

Bundle Name: Transfer Pump is Commanded On

Transfer Pump is Commanded On - Other Definitions:

Fuel Volume in Primary Fuel Tank < 0.0 liters AND

Fuel Volume in Secondary Fuel Tank ≥ 0.0 liters AND

Transfer Pump on Time < P0461, P2066, P2636: Transfer Pump Enable (see supporting table for numeric value) AND

Transfer Pump had been Off for at least 0.0 seconds AND

Evap Diagnostic (Purge Valve Leak Test, Large Leak Test, and Waiting for Purge) is not running AND

Engine Running

Bundle Name: Transmission Actual Gear Validity

P182E, P1915

Bundle Name: Transmission Engaged State Validity

P182E, P1915

Bundle Name: Transmission Estimated Gear Validity

P182E, P1915

Bundle Name: Transmission Gear Ratio Validity

P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0

Bundle Name: Transmission Gear Selector Position Validity

P182E, P1915

Bundle Name: Transmission Oil Temperature Validity

P0667, P0668, P0669, P0711, P0712, P0713

Bundle Name: Transmission Output Shaft Angular Velocity Validity

P0722, P0723, P077C, P077D

Bundle Name: Transmission Overall Actual Torque Ratio Validity

P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P182E, P1915

Bundle Name: Transmission Overall Estimated Torque Ratio Validity

P0716, P0717, P0722, P0723, P077C, P077D, P07BF, P07C0, P182E, P1915

Bundle Name: Transmission Shift Lever Position Validity

P182E, P1915

14 OBDG06B ECM Supporting Tables

Fault Bundle Definitions

Bundle Name: Transmission Turbine Angular Velocity Validity

P0716, P0717, P07BF, P07C0

Bundle Name: TransmissionEngagedState_FA

P182E, P1915

Bundle Name: TransmissionGearDefaulted

P182E, P1915

Bundle Name: TransmissionOutputRotationalStatusValidity

P0722, P0723, P077C, P077D

Bundle Name: TransmissionRatioControlSystemFault

P0751, P0752, P0756, P0757, P0973, P0974, P0976, P0977

Bundle Name: VCER_TorqueSecurity

P16F3

VCER_TorqueSecurity - Other Definitions:

P16F3 with GetXOYR_b_SecurityFit(CeXOYR_e_AFM_PreloadAreaFit, CeXOYR_e_AFM_PreloadTimerFit, CeXOYR_e_AFM_DualPreloadAreaFit, CeXOYR_e_CDAR_SecurityFit)

Bundle Name: VehicleSpeedSensor_FA

P0502, P0503, P0722, P0723

Bundle Name: VehicleSpeedSensorError

P0502, P0503, P0722, P0723

Bundle Name: VentCircuit_FA

ELCP sealed/vented fuel system, P0449, P0498, P0499

Bundle Name: VICM_WakeupDiag_FA

P06E4

Bundle Name: VICM_WakeupDiag_TFTKO

P06E4

Bundle Name: VITR_LVT_FltBndl

P058B, P058D, P118C, P118D