

DTC LIST - WG1605 Standard

update Sep.21.2012

Name	DTC	SPN	FMI	DTC Name	Detected Item	DTC Set Preconditions	DTC Set Conditions	Period for Judgment or Number of Occurrence for Judgment	System Action	HL	Engine Warning Light
MAP	P0108	106	16	MAP high pressure	*Sensor/wiring harness short to power *Sensor malfunction	*Engine Cranking or Running	*MAP pressure > 16.00 psia *and TPS < 3.0 % *and RPM > 1000 rpm	*2 sec	*AL Disable KC *Power derate 1	○	ON Hard Warning
	P0107	106	4	MAP Low Voltage	*Sensor/wiring harness open/short to ground *Sensor malfunction	*Engine Cranking or Running	*MAP voltage < 0.050 volts *and TPS < 3.0 % *and RPM > 4000 rpm	*1 sec	*AL Disable KC *Power derate 1	○	ON Hard Warning
FP (-G, -GL only)	P0092	94	3	FP High Voltage	*Sensor/wiring harness short to power *Sensor malfunction	*Engine Running	*FP voltage > 4.90 volts	*5 sec	*AL Disable KC *Low Rev Limit	○	ON Hard Warning
	P0091	94	4	FP Low Voltage	*Sensor/wiring harness open/short to ground *Sensor malfunction	*Engine Running	*FP voltage < 0.10 volts	*1 sec	*AL Disable KC *Low Rev Limit	○	ON Hard Warning
	P0088	94	0	Fuel pressure high	*Fuel pressure abnormality (High side)	*Engine Running	*FP fault mode Gasoline only *run time wait for fuel pressure high faults 5.0 sec *FP pressure > 65.0 psi	*2 sec	*AL Disable KC *Low Rev Limit	○	ON Hard Warning
	P0087	94	1	Fuel pressure low	*Fuel pressure abnormality (Low side)	*Engine Running	*FP fault mode Gasoline only *run time wait for fuel pressure low faults 5.0 sec *FP pressure < 50.0 psi	*2 sec	*AL Disable KC *Low Rev Limit	○	ON Hard Warning
	P0183	174	3	FT gasoline high	*Operating in a hot environment *Sensor out of calibration	*Engine Running	*FT fault mode Temp only *fuel temp > 140.0 degF	*1 sec	*Power Derate 2	○	ON Hard Warning
FT (-G, -GL only)	P0182	174	4	FT gasoline low	*Operating in a frigid atmosphere *Sensor out of calibration	*Engine Running	*FT fault mode Temp only *fuel temp < -35.0 degF	*1 sec	*None	○	ON Hard Warning
	P0118	110	3	ECT/CHT High Voltage	*Sensor/wiring harness open/short to power *Sensor malfunction	*Engine Running	*ECT voltage > 4.900 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning
ECT/CHT	P0117	110	4	ECT/CHT Low Voltage	*Sensor/wiring harness short to ground *Sensor malfunction	*Engine Running	*ECT voltage < 0.100 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning
	P0116	110	15	ECT Higher Than Expected Stage 1	*Engine coolant temperature abnormality (High side stage 1)	*Engine Running	*run time wait for ECT HiExp faults 30.0 sec *ECT > 230 degF *and RPM > 600 rpm	*20 sec	*AL Disable *Power derate 1	x	ON Hard Warning
	P0217	110	0	ECT Higher Than Expected 2	*Engine coolant temperature abnormality (High side stage 2)	*Engine Running	*run time wait for ECT HiExp faults 30.0 sec *ECT > 240 degF *and RPM > 600 rpm	*30 sec	*shut down	x	ON Hard Warning
	P0113	105	3	IAT High Voltage	*Sensor/wiring harness open/short to power *Sensor malfunction	*Engine Running	*IAT voltage > 4.90 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning
IAT	P0112	105	4	IAT Low Voltage	*Sensor/wiring harness short to ground *Sensor malfunction	*Engine Running	*IAT voltage < 0.10 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning
	P0111	105	15	IAT Higher Than Expected Stage 1	*Intake air temperature abnormality (High side stage 1)	*Engine Running	*run-time wait for all IAT HiExp faults 0.0 sec *IAT > 180 degF *and RPM > 1000 rpm	*60 sec	*AL Disable *Power derate 1	x	ON Hard Warning
	P0127	105	0	IAT Higher Than Expected Stage 2	*Intake air temperature abnormality (High side stage 2)	*Engine Running	*run-time wait for all IAT HiExp faults 0.0 sec *IAT > 200 degF *and RPM > 1000 rpm	*120 sec	*AL Disable *Force idle	x	ON Hard Warning
	P0327	731	4	Knock 1 Sensor Open or Not Present	*Sensor/wiring harness open/short to power *Sensor malfunction	*Key On, Engine On	*KNK1 sensor input < 0.005 volts *and RPM > 2000 rpm *and MAP > 12.00 psia	*10 sec	*Power Derate 1 *Retard Fault KNK Max	○	ON Hard Warning
Knock	P0326	731	2	Knock 1 Excessive or Erratic Signal	*Knock signal abnormality (High side) *Sensor malfunction	*Key On, Engine On	*KNK1 sensor input > 0.5 volts *MAP < 8.00 psi	*3 sec	*Power Derate 1 *Retard Fault KNK Max	○	ON Hard Warning
	P0563	168	15	Battery Voltage (VBAT) High	*System voltage abnormality (High side)	*Key-On, Engine Cranking, or Running	*Voltage > 16.00 volts	*3 sec	*AL Disable KC *Low Rev Limit	○	ON Hard Warning
Battery Voltage	P0562	168	17	Battery Voltage (VBAT) Low	*Wiring harness open/short/damage *Battery abnormality	*Key On, Engine On	*Voltage < 9.00 volts *and RPM > 1000 rpm	*5 sec	*AL Disable KC *Power derate 2	○	ON Hard Warning
	P0643	1079	3	Sensor Supply Voltage 1 High (5Vext1)	*Wiring harness short to 12V power *ECM malfunction	*Key-On, Engine OFF, or Running	*5VE1 > 5.40 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning
5V External	P0642	1079	4	Sensor Supply Voltage 1 Low (5Vext1)	*Wiring harness short to ground *ECM malfunction	*Key-On, Engine OFF, or Running	*5VE1 < 4.60 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning
	P0653	1080	3	Sensor Supply Voltage 2 High (5Vext2)	*Wiring harness short to 12V power *ECM malfunction	*Key-On, Engine OFF, or Running	*5VE2 > 5.40 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning
	P0652	1080	4	Sensor Supply Voltage 2 Low (5Vext2)	*Wiring harness short to ground *ECM malfunction	*Key-On, Engine OFF, or Running	*5VE2 < 4.60 volts	*1 sec	*AL Disable *Power derate 1	○	ON Hard Warning

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TPS	P0123	51	3	TPS1 Signal Voltage High	*TPS circuit in the harness short to power *TPS malfunction	*Key-On,Engine Cranking, or Running	*TPS1 voltage > 4.800 volts	*0.5 sec	*Shutdown	○	ON Hard Warning
	P0122	51	4	TPS1 Signal Voltage Low	*TPS circuit in the harness short to ground *TPS malfunction	*Key-On,Engine Cranking, or Running	*TPS1 voltage < 0.200 volts	*0.5 sec	*Shutdown	○	ON Hard Warning
	P0223	3673	3	TPS2 Signal Voltage High	*TPS circuit in the harness short to power *TPS malfunction	*Key-On,Engine Cranking, or Running	*TPS2 voltage > 4.800 volts	*0.5 sec	*Shutdown	○	ON Hard Warning
	P0222	3673	4	TPS2 Signal Voltage Low	*TPS circuit in the harness short to ground *TPS malfunction	*Key-On,Engine Cranking, or Running	*TPS2 voltage < 0.200 volts	*0.5 sec	*Shutdown	○	ON Hard Warning
	P0221	51	0	TPS1 % Higher Than TPS2 %	*TPS malfunction	*Key-On,Engine Cranking, or Running	(TPS1% - TPS2%) > 20.0 %	*1 sec	*Shutdown	○	ON Hard Warning
	P0121	51	1	TPS1 % Lower Than TPS2 %	*TPS malfunction	*Key-On,Engine Cranking, or Running	(TPS1% - TPS2%) < -20.0 %	*1 sec	*Shutdown	○	ON Hard Warning
	P2112	51	7	Unable to Reach Higher TPS	*TPS malfunction	*Cranking or Running	*target TPS - actual TPS > 20.0 % *persistently longer than 200ms while battery voltage > 9 v and battery voltage < 16 v	*1 sec	*Shutdown	○	ON Hard Warning
	P2111	51	7	Unable to Reach Lower TPS	*TPS malfunction	*Cranking or Running	*target TPS - actual TPS < -20.0 % *persistently longer than 200ms while battery voltage > 9 v and battery voltage < 16 v	*1 sec	*Shutdown	○	ON Hard Warning
	P2135	51	31	TPS1/2 Simultaneous Voltages out of range	*TPS malfunction	*Key On, Engine On	User same parameter as individual TPS1/2 voltage fault detection above	*0.5 sec	*Shutdown	○	ON Hard Warning
	FPP	P2122	91	3	FPP1 Voltage High	*Wiring harness open/short/damage *FPP malfunction	*Key On	*FPP1 voltage > 4.800 volts	*0.5 sec	*Power Derate 1 *Low Rev Limit	○
P2123		91	4	FPP1 Voltage Low	*Wiring harness open/short/damage *FPP malfunction	*Key On, Engine Off	*FPP1 voltage < 0.200 volts	*0.5 sec	*Power Derate 1 *Low Rev Limit	○	ON Hard Warning
P0219		515	15	RPM Higher Than Max Allowed Governed Speed	*Engine over speed condition, stuck throttle, large vacuum leak into intake manifold after throttle blade	*Engine Running	*rpm > 3800 rpm	*1 sec	*reduce throttle to limit speed	x	ON Hard Warning
Engine Speed	P1111	515	16	RPM Above Fuel Rev Limit Level	*Engine overspeed condition, faulty Crank sensor or input	*Engine Running	*rpm > 4200 rpm	*1 sec	*disable fuel injectors or gaseous fuel control actuator	○	ON Hard Warning
	P1112	515	0	RPM Above Spark Rev Limit Level	*Engine overspeed condition, faulty Crank sensor or input	*Engine Running	*rpm > 4300 rpm	*1 sec	*disable ignition coils	○	ON Hard Warning
	P0524	100	1	Oil Pressure Low	*Low Oil Pressure	*Key On, Engine On	*run time wait for oil pressure low faults 15.0 sec *RPM lower limit for oil pressure low faults 600 rpm *Oil pressure pulled-up input less than a threshold voltage of 2.5 volts	*3 sec	*Shutdown	○	ON Hard Warning
Adaptive Learn	P0171	4237	0	Adaptive Learn Bank 1 High (Gasoline)	*exhaust leaks upstream or near the HEGO sensor *reduced fuel supply pressure to the fuel injection system *a inoperative sensor *an injector that is stuck closed or dirty *weak spark or lack of spark to a cylinder *a MAP sensor that indicates pressure that is lower than ture	*Engine Running,Adaptive Mode	*AL_BM > 30% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*3 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P0172	4237	1	Adaptive Learn Bank 1 Low (Gasoline)	*an inoperative O2 sensor *high fuel supply pressure or temperature *internal mechanical engine damage *an injector that is stuck open or leaking	*Engine Running,Adaptive Mode	*AL_BM < -30% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*3 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1161	4237	0	Adaptive Learn High (LPG)	*exhaust leaks upstream or near the HEGO sensor *reduced fuel supply pressure to the gaseous fuel control system *a fuel supply or manifold leak *a non-responsive HEGO sensor	*Engine Running,Adaptive Mode	*AL_BM > 30% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*3 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1162	4237	1	Adaptive Learn Low (LPG)	*high fuel supply pressure to the gaseous fuel control or faulty pressure regulator *a non-responsive HEGO sensor	*Engine Running,Adaptive Mode	*AL_BM < -30% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*3 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1163	4237	0	Adaptive Learn High (NG)	*exhaust leaks upstream or near the HEGO sensor *reduced fuel supply pressure to the gaseous fuel control system *a fuel supply or manifold leak *a non-responsive HEGO sensor	*Engine Running,Adaptive Mode	*AL_BM > 30% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*3 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1164	4237	1	Adaptive Learn Low (NG)	*high fuel supply pressure to the gaseous fuel control or faulty pressure regulator *a non-responsive HEGO sensor	*Engine Running,Adaptive Mode	*AL_BM < -30% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*3 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1155	4236	0	Closed Loop Bank 1 High (Gasoline)	*exhaust leaks upstream or near the HEGO sensor *reduced fuel supply pressure *an injector that is stuck closed	*Engine Running,Closed Loop Mode	*CL_BM > 35% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*5 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1156	4236	1	Closed Loop Bank 1 Low (Gasoline)	*high fuel supply pressure to the fuel injection system *a non-responsive HEGO sensor *an injector that is stuck open	*Engine Running,Closed Loop Mode	*CL_BM < -35% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*5 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
Closed Loop	P1151	4236	0	Closed Loop High (LPG)	*exhaust leaks upstream or near the HEGO sensor *reduced fuel supply pressure to the gaseous fuel control system *a fuel supply or manifold leak *a non-responsive HEGO sensor	*Engine Running,Closed Loop Mode	*CL_BM > 35% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*5 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1152	4236	1	Closed Loop Low (LPG)	*high fuel supply pressure to the gaseous fuel control or faulty pressure regulator *a non-responsive HEGO sensor	*Engine Running,Closed Loop Mode	*CL_BM < -35% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*5 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1153	4236	0	Closed Loop High (NG)	*exhaust leaks upstream or near the HEGO sensor *reduced fuel supply pressure to the gaseous fuel control system *a fuel supply or manifold leak *a non-responsive HEGO sensor	*Engine Running,Closed Loop Mode	*CL_BM > 35% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*5 updates	*CL Disable *AL Disable KC	○	ON Hard Warning
	P1154	4236	1	Closed Loop Low (NG)	*high fuel supply pressure to the gaseous fuel control or faulty pressure regulator *a non-responsive HEGO sensor	*Engine Running,Closed Loop Mode	*CL_BM < -35% *and RPM >= 0rpm *and RPM <= 9999rpm *and MAP >= 0.00psia *and MAP <= 99.00psia	*5 updates	*CL Disable *AL Disable KC	○	ON Hard Warning

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Catalyst Monitor	P0420	3050	11	Catalyst Inactive on Gasoline (Bank 1)	•Physically damaged catalyst •Contaminated catalyst element •Post signal circuit shorted to Pre signal	•Engine Running	•EGO2RMS/EGO1RMS*40% •mass flow <1000g/sec	•100updates	•CL Disable •AL Disable	○	ON Hard Warning	
	P1165	3050	11	Catalyst Inactive on LPG	•Physically damaged catalyst •Contaminated catalyst element •Post signal circuit shorted to Pre signal	•Engine Running	•EGO2RMS/EGO1RMS*40% •mass flow <1000g/sec	•100updates	•CL Disable •AL Disable	○	ON Hard Warning	
	P1166	3050	11	Catalyst Inactive on NG	•Physically damaged catalyst •Contaminated catalyst element •Post signal circuit shorted to Pre signal	•Engine Running	•EGO2RMS/EGO1RMS*40% •mass flow <1000g/sec	•100updates	•CL Disable •AL Disable	○	ON Hard Warning	
EGO Sensors	P0134	3217	5	EGO1 Open/Lazy (HO2S1)	•Open feed circuit to O2 heater •Open heater ground circuit •Open or shorted to ground O2 signal wire •open sensor ground (5Vrtn1) •inoperative sensor	•Engine Running	•EGO cold persistently > 120.0 sec	•5 sec	•CL Disable •AL Disable KC	○	ON Hard Warning	
	P0154	3227	5	EGO2 Open/Lazy (HO2S2)	•Open feed circuit to O2 heater •Open heater ground circuit •Open or shorted to ground O2 signal wire •open sensor ground (5Vrtn1) •inoperative sensor	•Engine Running	•EGO cold persistently > 120.0 sec	•5 sec	•CL Disable •AL Disable KC	○	ON Hard Warning	
Injectors	P0261	651	5	Injector Driver #1 Open/Short-To-Ground	•Loss of 12V feed to injector •open injector coil •open or shorted to ground injector driver circuit in engine harness	•Key-On, Engine Running	•Injector1 off-state low-side < 4.0 volts •and battery voltage > 9.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	P0264	652	5	Injector Driver #2 Open/Short-To-Ground	•Loss of 12V feed to injector •open injector coil •open or shorted to ground injector driver circuit in engine harness	•Key-On, Engine Running	•Injector2 off-state low-side < 4.0 volts •and battery voltage > 9.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	P0267	653	5	Injector Driver #3 Open/Short-To-Ground	•Loss of 12V feed to injector •open injector coil •open or shorted to ground injector driver circuit in engine harness	•Key-On, Engine Running	•Injector3 off-state low-side < 4.0 volts •and battery voltage > 9.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	P0270	654	5	Injector Driver #4 Open/Short-To-Ground	•Loss of 12V feed to injector •open injector coil •open or shorted to ground injector driver circuit in engine harness	•Key-On, Engine Running	•Injector4 off-state low-side < 4.0 volts •and battery voltage > 9.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	P0262	651	6	Injector Driver #1 Short-To-Power	•Injector coil shorted internally •Injector driver circuit shorted to voltage between injector and ECM	•Key-On, Engine Running	•Injector1 on-state low-side > 4.0 volts •and battery voltage < 16.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	P0265	652	6	Injector Driver #2 Short-To-Power	•Injector coil shorted internally •Injector driver circuit shorted to voltage between injector and ECM	•Key-On, Engine Running	•Injector2 on-state low-side > 4.0 volts •and battery voltage < 16.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	P0268	653	6	Injector Driver #3 Short-To-Power	•Injector coil shorted internally •Injector driver circuit shorted to voltage between injector and ECM	•Key-On, Engine Running	•Injector3 on-state low-side > 4.0 volts •and battery voltage < 16.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	P0271	654	6	Injector Driver #4 Short-To-Power	•Injector coil shorted internally •Injector driver circuit shorted to voltage between injector and ECM	•Key-On, Engine Running	•Injector4 on-state low-side > 4.0 volts •and battery voltage < 16.0 volts	•10 samples	•CL Disable •AL Disable KC •Low Rev Limit	○	ON Hard Warning	
	Spark Coil Primary	P2300	1268	5	Spark Coil #1 Primary Open/Short-to-Ground	•a short to ground or open circuit in the harness •an open internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment >= 2.0 ms •or total dwell >= 14.0 ms •and battery voltage > 11.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning
		P2303	1269	5	Spark Coil #2 Primary Open/Short-to-Ground	•a short to ground or open circuit in the harness •an open internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment >= 2.0 ms •or total dwell >= 14.0 ms •and battery voltage > 11.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning
P2306		1270	5	Spark Coil #3 Primary Open/Short-to-Ground	•a short to ground or open circuit in the harness •an open internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment >= 2.0 ms •or total dwell >= 14.0 ms •and battery voltage > 11.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning	
P2309		1271	5	Spark Coil #4 Primary Open/Short-to-Ground	•a short to ground or open circuit in the harness •an open internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment >= 2.0 ms •or total dwell >= 14.0 ms •and battery voltage > 11.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning	
P2301		1268	6	Spark Coil #1 Primary Short-to-Power	•a short to power in the harness •a short internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment <= -2.0 ms •or total dwell <= 4.0 ms •and battery voltage < 16.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning	
P2304		1269	6	Spark Coil #2 Primary Short-to-Power	•a short to power in the harness •a short internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment <= -2.0 ms •or total dwell <= 4.0 ms •and battery voltage < 16.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning	
P2307		1270	6	Spark Coil #3 Primary Short-to-Power	•a short to power in the harness •a short internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment <= -2.0 ms •or total dwell <= 4.0 ms •and battery voltage < 16.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning	
P2310		1271	6	Spark Coil #4 Primary Short-to-Power	•a short to power in the harness •a short internal to the primary coil	•Key On, Engine On	•Adaptive dwell adjustment <= -2.0 ms •or total dwell <= 4.0 ms •and battery voltage < 16.0 volts	•10 sparks	•CL Disable •AL Disable •Low Rev Limit	○	ON Hard Warning	
Lockoff/Fuel Diagnostics		P0359	632	31	Fuel run-out longer than expected	•Leak fuel at solenoid •Faulty solenoid •Open or short to ground	•Key Off, Engine On	•Fuel run-out engine run time > 2000ms	•N/A	•Shutdown	○	ON Hard Warning
Fuel Pump Relay Control/Coil		P0628	1348	4	Fuel Pump Relay Ground Short	•Relay pull in coil shorted internally •relay driver circuit shorted to ground in wire harness	•Key On, Engine Off	•Fuel Pump relay coil output shorted to ground	•10 samples	•None	○	ON Hard Warning
	P0627	1348	5	Fuel Pump Relay Coil Open	•Open coil in relay •Open in relay driver circuit in engine harness	•Key On, Engine Off	•Fuel Pump relay coil output open circuit	•10 samples	•None	○	ON Hard Warning	
	P0629	1348	3	Fuel Pump Relay Coil Short-To-Power	•Shorted relay pull in coil •relay driver circuit shorted to voltage in wire harness	•Key On, Engine Off	•Fuel Pump relay coil output short to power/voltage	•10 samples	•None	○	ON Hard Warning	
Power Relay Control/Coil	P0686	1485	4	Power Relay Ground Short	•Short to ground in relay pull in coil •short to ground in relay driver circuit in wire harness	•Key On, Engine Off	•Power relay coil output shorted to ground	•10 samples	•None	○	ON Hard Warning	
	P0687	1485	3	Power Relay Coil Short-To-Power	•Shorted relay pull in coil •relay driver circuit shorted to voltage in wire harness	•Key On, Engine Off	•Power relay coil output short to power/voltage	•10 samples	•None	○	ON Hard Warning	
Megajector Diagnostics	P1173	520620	31	Megajector/EPR Comm Lost	•Faulty CAN connection •CAN termination incorrect	•Engine Running	•No MJ packets receive	•500ms	•AL Disable KC •Power Derate 2 •Low Rev Limit	○	ON Hard Warning	

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Cam/Crank Sensors	P0342	723	4	Loss of Camshaft Input Signal	•Loss of feed voltage to Cam sensor •loss of signal or ground circuits • faulty sensor	•Key On, Engine On	•No cam pulse in 2.0 cycles •and RPM > 150 rpm	•1 sec	•AL Disable KC	○	ON Hard Warning
	P0337	636	4	Loss of Crankshaft Input Signal	•Loss of sensor feed •open sensor ground •open or shorted to ground signal wire	•Key On, Engine On	•Cam pulsed without crank activity > 3 cam pulses	•1 sec	•None	○	ON Hard Warning
	P0341	723	2	Camshaft Input Signal Noise	•Cam+ or Cam- circuits in wrong connector terminal slot	•Key On, Engine On	•Number of invalid cam re-syncs 3 re-syncs •within a time window of <= 700 ms	•1 sec	•AL Disable KC	○	ON Hard Warning
	P0336	636	2	Crank Input Signal Noise	•Crank+ or Crank- circuits in wrong connector terminal slot	•Key On, Engine On	•Number of invalid cam re-syncs 3 re-syncs •within a time window of <= 800 ms	•1 sec	•AL Disable KC	○	ON Hard Warning
	P0016	636	8	Crank and/or Cam Could Not Synchronize During Start	•Mechanical misalignment between cam and crank	•Engine Cranking or Running	•Cranking revs without sync > 4.0 revs •and RPM > 90 rpm	•2 sec	•None	○	ON Hard Warning
	P0606	629	31	Microprocessor Failure – COP	•Faulty ECU	•Key on	•Internal microprocessor error	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning
Internal Processor Diagnostics	P1612	629	31	Microprocessor Failure – RTI 1	•Faulty ECU	•Key on	•Internal microprocessor error	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning
	P1613	629	31	Microprocessor Failure – RTI 2	•Faulty ECU	•Key on	•Internal microprocessor error	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning
	P1614	629	31	Microprocessor Failure – RTI 3	•Faulty ECU	•Key on	•Internal microprocessor error	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning
	P1615	629	31	Microprocessor Failure – A/D	•Faulty ECU	•Key on	•Internal microprocessor error	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning
	P1616	629	31	Microprocessor Failure – Interrupt	•Faulty ECU	•Key on	•Internal microprocessor error	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning
	P0601	628	13	Microprocessor Failure – FLASH	•Faulty ECU	•Key on	•Internal microprocessor error	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning
	P0604	630	12	Microprocessor Failure – RAM	•Faulty ECU	•Key on	•Internal ECM microprocessor memory access failure	•N/A	•Never Forget •AL Disable KC •Power Derate 2	○	ON Hard Warning