1996 2.2L (LN2) A-Car (with Automatic Transmission) Engine Diagnostic Parameters

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SENSED PARAMETER	FAULT CODE	SENSOR SIGNAL TYPE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETER	SECONDARY MONITORING PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH AND FREQUENCY OF CHECK	MONITORING METHOD	FAULT CODE STORAGE AND MIL ILLUMINATION
MANIFOLD PRESSURE SENSOR RATIONALITY	P0106	ANALOG	1.6V - 2.1V UNDER IDLE CONDITIONS	CHANGE OF MAP > .33V	RPM Δ < 150￼ IAC Δ < 10 CTS￼ TP SENSOR Δ < 1%￼ EGR Δ < 0%￼ ABOVE CONDITIONS STABLE FOR AT LEAST 0.4 SECONDS￼ NO MAP SENSOR HIGH/LOW DTC'S	5/10 CTS￼ 125 mS PER CT￼ ￼ CONTINUOUS CHECK	PRESSURE DIFFERENTIAL SENSOR	DTC TYPE A
MANIFOLD PRESSURE TOO LOW	P0107	ANALOG	NORMAL OPERATING RANGE OF .55V - 4.7V	MAP < .20V	RPM < 1200￼ TP SENSOR >15.2 %￼ NO TP SENSOR HIGH/LOW DTC'S	80/100 CTS￼ 125mS PER CT￼ ￼ CONTINUOUS CHECK	PRESSURE DIFFERENCITAL SENSOR	DTC TYPE A
MANIFOLD PRESSURE TOO HIGH	P0108	ANALOG	NORMAL OPERATING RANGE OF .55V - 4.7V	MAP > 3.80V	TP SENSOR < 12%￼ VSS < 1MPH￼ ENGINE SHOULD RUN FOR AT LEAST 20 - 40 SEC BEFORE MALF ENABLE￼ NO TP SENSOR HIGH/LOW DTC'S	80/100 CTS￼ 125mS PER CT￼ ￼ CONTINUOUS CHECK	PRESSURE DIFFERENTIAL SENSOR	DTC TYPE A
MANIFOLD TEMPERATURE TOO HIGH	P0112	ANALOG	NORMAL OPERATING RANGE OF -40°C - 128°C	IAT < 48 CTS (128°C)	VSS > 15 MPH￼ ENGINE RUNNING > 320 SEC	25/100 CTS￼ 125mS PER CT￼ ￼ CONTINUOUS CHECK	THERMISTER	DTC TYPE A
MANIFOLD TEMPERATURE TOO LOW	P0113	ANALOG	NORMAL OPERATING RANGE OF -40°C - 128°C	IAT >253 CTS (-57°C)	VSS < 15MPH￼ ENGINE RUNNING > 320 SEC	25/100 CTS￼ 125mS PER CT￼ ￼ CONTINUOUS CHECK	THERMISTER	DTC TYPE A
HIGH COOLANT TEMPERATURE	P0117	ANALOG	NORMAL OPERATING RANGE OF -40°C - 142°C	ECT < 4 CTS (HIGH R) (138°C) OR ECT < 36 CTS (LOW R) (142°C)	ENGINE RUNNING > 128 SEC	50/100 CTS￼ 125mS PER CT￼ ￼ CONTINUOUS CHECK	THERMISTER	DTC TYPE A
LOW COOLANT TEMPERATURE	P0118	ANALOG	NORMAL OPERATING RANGE OF -40°C - 142°C	ECT > 251 CTS (HIGH R) (-50°C) OR ECT > 252 CTS (LOW R) (-71°C)	ENGINE RUNNING > 60 SEC	50/100 CTS￼ 125mS PER CT￼ ￼ CONTINUOUS CHECK	THERMISTER	DTC TYPE A

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TP SENSOR STUCK	P0121	ANALOG	NORMAL OPERATING RANGE OF 0% TO 99.6%	TP VS RPM TABLE TP > 78% AT 1600 RPM TP > 89% AT 2400 RPM TP > 99.6% AT 3200 RPM	MAP < 37.2 kPa TP SENSOR Δ < 2% NO MAP SENSOR HIGH/LOW DTC'S	50/100 CTS 125mS PER CT CONTINUOUS CHECK	POTIENTIOMETER	DTC TYPE B
TP SENSOR LOW	P0122	ANALOG	NORMAL OPERATING RANGE OF .33V - 4.24V	TP SENSOR < .16V	ENGINE RUNNING	50/200 CTS 125mS PER CT CONTINUOUS CHECK	POTIENTIOMETER	DTC TYPE A
TP SENSOR HIGH (PART "A")	P0123	ANALOG	NORMAL OPERATING RANGE OF .33V - 4.24V	TP SENSOR > 3.9V	ENGINE RUNNING RPM < 1500 MAP < 65 kPa	110/200 CTS 125mS PER CT CONTINUOUS CHECK	POTIENTIOMETER	DTC TYPE A
TP SENSOR HIGH (PART "B")	P0123	ANALOG	NORMAL OPERATING RANGE OF .33V - 4.24V	TP SENSOR > 4.8V	N/A	110/200 CTS 125mS PER CT CONTINUOUS CHECK	POTIENTIOMETER	DTC TYPE A
TIME FOR CLOSED LOOP	P0125	ANALOG	ECT NORMAL OPERATING RANGE OF .7V - 4.9V	ECT < 60°C	VSS > 5MPH IAT > 20°C	363 SEC ONCE AN IGNITION CYCLE	THERMISTER	DTC TYPE B
O2S 1 LEAN	P0131	ANALOG	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV	O2S 1 < 43mV	ENGINE RUNNING > 25 SEC TP BETWEEN 4.7% & 50.2% ECT > 70°C A/F RATIO BETWEEN 14.5 AND 14.7 ENGINE OPERATING IN "CLOSED LOOP" NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	999/1000 CTS 125mS PER CT CONTINUOUS CHECK	OXYGEN SENSOR	DTC TYPE A

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O2S 1 RICH	P0132	ANALOG	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV	O2S 1 >1042mV	ENGINE RUNNING > 25 SEC TP BETWEEN 4.7% & 50.2% ECT > 70°C A/F RATIO 14.5 & 14.7 ENGINE OPERATING IN "CLOSED LOOP" NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	599/600 CTS 125mS PER CT CONTINUOUS CHECK	OXYGEN SENSOR	DTC TYPE A
O2S 1 SLOW RESPONSE	P0133	ANALOG	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV THIS DTC DETERMINES IF THE O2S 1 IS FUNCTIONING PROPERLY BY CHECKING ITS RESPONSE TIME	AVG O2S 1 RESPONSE TIMES: R/L > 249mS L/R > 249mS RATIO OF L/R TO R/L IS >3.5 OR < 0.4	TP BETWEEN 8% & 20% RPM BETWEEN 1600 & 2600 EVAP > 60% PWM PLM > 191 NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	100 SEC ONCE AN IGNITION CYCLE	OXYGEN SENSOR	DTC TYPE B

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O2S 1 OPEN	P0134	ANALOG	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV	O2S 1 > 407mV & < 509mV	ENGINE RUNNING > 90 SEC TP BETWEEN 9% & 56% ECT > 70°C NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	399/400 CTS 125mS PER CT CONTINUOUS CHECK	OXYGEN SENSOR	DTC TYPE A
O2S 2 LEAN	P0137	ANALOG	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV	O2S 2 < 22mV	ENGINE RUNNING > 30 SEC TP BETWEEN 4.7% & 50.2% A/F RATIO BETWEEN 14.5 & 14.7 NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	899/900 CTS 125mS PER CT CONTINUOUS CHECK	OXYGEN SENSOR	DTC TYPE B

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O2S 2 RICH	P0138	ANALOG	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV	O2S 2 >1042 mV	ENGINE RUNNING > 25 SEC TP BETWEEN 4.7% & 50.2% ECT > 40°C A/F RATIONBETWEEN 14.5 & 14.7 NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	599/600 CTS 125mS PER CT CONTINUOUS CHECK	OXYGEN SENSOR	DTC TYPE B
O2S 2 OPEN	P0140	ANALOG	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV	O2S 2 BETWEEN 425mV & 456mV	ENGINE RUNNING > 30 SEC TP BETWEEN 5% & 50% ECT >40°C NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	999/1000 CTS 125mS PER CT CONTINUOUS CHECK	OXYGEN SENSOR	DTC TYPE B

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SENSED PARAMETER	FAULT CODE	SENSOR SIGNAL TYPE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETER	SECONDARY MONITORING PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH AND FREQUENCY OF CHECK	MONITORING METHOD	FAULT CODE STORAGE AND MIL ILLUMINATION
O2S 2 HEATER CIRCUIT MALFUNCTION	P0141	SOFTWARE CHECK	11.5V – 13.6V	O2S 2 VOLTAGE CHANGES > 150mV FROM MEAN O2S 2 BIAS VOLTAGE	ECT AND IAT < 40°C DIFFERENCE IN ECT & IAT < 7°C TP MUST NOT BE > 18% FOR > 5 SEC. NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	TIME DETERMINED BY TABLE ONCE AN IGNITION CYCLE	SOFTWARE CHECK	DTC TYPE B
FUEL TRIM LEAN	P0171	SOFTWARE CHECK	FUEL TRIM INDEX BETWEEN 110 AND 145	FUEL TRIM INDEX > 165	BARO > 72 kPa ECT > 60°C & < 115°C MAT >-25°C & < 115 °C MAP >38kPa RPM BETWEEN 750 & 3600 VSS < 70MPH NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO O2S 1 DTC'S NO MISFIRE DTC'S NO KS DTC'S NO CKP SENSOR DTC'S NO CMP SENSOR DTC'S NO EGR DTC'S NO EVAP PURGE VALVE DTC'S NO VSS DTC'S NO IAC VALVE DTC'S NO P/N FAULT DTC'S NO INTERNAL PCM COMMUNICATION ERROR DTC'S	4 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE B

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FUEL TRIM RICH	P0172	SOFTWARE CHECK	FUEL TRIM INDEX BETWEEN 110 AND 145	FUEL TRIM INDEX < 70	BARO > 72 kPa ECT > 60°C & < 115°C MAT >-25°C & < 115 °C MAP >38kPa RPM BETWEEN 750 & 3600 VSS < 70MPH NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO O2S 1 DTC'S NO MISFIRE DTC'S NO KS DTC'S NO CKP SENSOR DTC'S NO CMP SENSOR DTC'S NO EGR DTC'S NO EVAP PURGE VALVE DTC'S NO VSS DTC'S NO IAC VALVE DTC'S NO P/N FAULT DTC'S NO INTERNAL PCM COMMUNICATION ERROR DTC'S	16 SEC ONCE EVERY 250 SECONDS	SOFTWARE CHECK	DTC TYPE B
RANDOM MISFIRE CYLINDER 1 MISFIRE CYLINDER 2 MISFIRE CYLINDER 3 MISFIRE CYLINDER 4 MISFIRE	P0300 P0301 P0302 P0303 P0304	DIGITAL	MISFIRE TOTAL (MTOT) = 0	MTOT > 12 CTS	RPM BETWEEN 469 & 3600 ECT > -7°C & <123°C NO MAP SENSOR LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO O2S 1 DTC'S NO FUEL TRIM DTC'S NO KS DTC'S NO CKP SENSOR DTC'S NO CMP SENSOR DTC'S NO EGR DTC'S NO VSS DTC'S NO IAC VALVE DTC'S NO PCM DTC'S	200 CRANKSHAFT REVOLUTIONS CONTINUOUS CHECK	CKP SENSOR FOR MISFIRE DETECTION CMP SENSOR FOR CYLINDER IDENTIFICATION	DTC TYPE B

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ESC SENSOR OUTPUT LOW (PART "A")	P0325	ANALOG	.04V - .14V AND VARIES WITH ENGINE SPEED	KNOCK PRESENT > 2.3 SECONDS	ENGINE RUNNING	6 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE A
ESC SENSOR NOT PRESENT (PART "B")	P0325	ANALOG	.04V - .14V AND VARIES WITH ENGINE SPEED	ESC < .19V OR > 4.99V	RPM BETWEEN 2200 & 6375 TP > 5% NO TP SENSOR HIGH/LOW DTC'S NO ECT SENSOR HIGH/LOW DTC'S	5 SEC CONTINUOUS CHECK	ESC INPUT VOLTAGE	DTC TYPE A
CKP SENSOR POSITION RESYNC	P0335	DIGITAL	7X RESYNC COUNTER = 0 COUNTS	7X RESYNC COUNTER > 15 COUNTS	ENGINE RUNNING NO CMP SENSOR DTC'S	256 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE A
CMP SENSOR POSITION RESYNC	P0341	DIGITAL	CAM RESYNC COUNTER = 0 COUNTS	CAM RESYNC COUNTER > 15 COUNTS	ENGINE RUNNING	256 SECONDS CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE A
CMP SENSOR MISSING	P0342	DIGITAL	0 - 255 COUNTS	NO CHANGE IN CAM ACTIVITY > 16 CYCLES	ENGINE RUNNING	CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE A
EGR FLOW INSUFFICIENT	P0401	SOFTWARE CHECK	OPERATES WHEN EGR IS USED EGR ENABLES WITH IAT > 5°C EGR DISABLES WITH IAT < 3°C MAP Δ > MAP CAL UNDER DECEL CONDITIONS	MAP Δ < MAP CAL UNDER DECEL CONDITIONS	RPM BETWEEN 900 & 2200 VEHICLE SPEED >20 MPH NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO FUEL TRIM RICH DTC'S NO MISFIRE DTC'S NO CAM RESYNC DTC'S NO EVAP LEAK DTC'S NO VSS DTC'S NO INTERNAL PCM COMMUNICATION ERROR DTC'S	15 TESTS PER TRIP AFTER NVM RESET OTHERWISE ONCE PER IGNITION CYCLE	PRESSURE DIFFERENTIAL SENSOR	DTC TYPE A

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CATALYST MONITOR	P0420	DIGITAL	NORMAL OPERATING RANGE WHICH VARIES 150mV - 850mV	O2S 2 VARIES > 252mV	RPM BETWEEN 1600 & 3700 FLOW BETWEEN 12 - 29 GPS VEHICLE SPEED BETWEEN 30 - 80MPH NOT IN SERVICE MODE NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO O2 SENSOR DTC'S NO MISFIRE DTC'S NO EGR PINTLE POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO VSS DTC'S NO IAC VALVE DTC'S	5 TESTS PER TRIP AFTER NVM RESET OTHERWISE ONCE PER IGNITION CYCLE	OXYGEN SENSOR	DTC TYPE A
EVAP SYSTEM INSUFFICIENT FLOW	P0441	ANALOG	0.5 TO 4.5 V	VAC < 4.5 V	BARO >83kPa ECT BETWEEN 4°C & 30°C AT STARTUP IAT BETWEEN 2°C & 30°C AT STARTUP ECT AND IAT WITHIN 6°OF EACHOTHER EVAP SOLENOID ENABLED ENGINE RUN TIME > 1300 SECTP SENSOR BETWEEN 9% & 20% RPM BETWEEN 1700 & 4000 MAP SENSOR BETWEEN 20 kPa & 70 kPa NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO EGR DTC'S NO IAC VALVE DTC'S	5 TESTS PER TRIP AT 3 SECONDS PER TEST	VACUUM SWITCH	DTC TYPE A

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IDLE SPEED LOW	P0506	SOFTWARE CHECK	30 - 72 STEPS AT IDLE	IAC > 150 STEPS	ENGINE RUN TIME > 20 SEC BARO > 72kPa ECT > 40°C IDLE SPEED > 60 RPM OF DESIRED BATT BETWEEN 10V & 17.1V IDLE STABILIZED FOR 5 SEC NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO O2S 1 DTC'S NO INJECTOR DTC'S NO CKP SENSOR DTC'S NO CMP SENSOR DTC'S NO EGR DTC'S NO EVAP FLOW OR LEAKING DTC'S NO EVAP VENT BLOCKED DTC'S NO VSS DTC'S	12.5 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE B
IDLE SPEED HIGH	P0507	SOFTWARE CHECK	30 - 72 STEPS AT IDLE	IAC < 2 STEPS	ENGINE RUN TIME > 20 SEC BARO > 72kPa ECT > 40°C IDLE SPEED > 60 RPM OF DESIRED BATT BETWEEN 10V & 17.1V IDLE STABILIZED FOR 5 SEC NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO O2S 1 DTC'S NO INJECTOR DTC'S NO CKP SENSOR DTC'S NO CMP SENSOR DTC'S NO EGR DTC'S NO EVAP FLOW OR LEAKING DTC'S NO EVAP VENT BLOCKED DTC'S NO VSS DTC'S	12.5 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE B

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PCM INTERNAL COMMUNICATION CHECK	P0600	SOFTWARE CHECK	N/A	N/A	N/A	250mS CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE A
PCM HAS EEPROM FLASH ERROR	P0601	SOFTWARE CHECK	CORRECT CHECKSUM	CHECKSUM DETECTION INCORRECT > 3 TIMES	N/A	IMMEDIATE	SOFTWARE CHECK	DTC TYPE A
O2S 1 NOT ENOUGH SWITCHES	P1133	ANALOG	NORMAL OPERATION WHICH VARIES FROM 150mV - 850mV	O2S 1 SWITCH NUMBERS L/R < 15 CTS R/L < 10 CTS	1600 - 2600 RPM EVAP > 60% PWM PLM > 191 TP BETWEEN 9% & 20 % NO MAP LOW/RATIONALITY DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR HIGH/LOW DTC'S NO TP SENSOR DTC'S NO MISFIRE DTC'S NO EGR POSITION DTC'S NO EVAP PURGE VALVE LEAKING DTC'S NO IAC VALVE DTC'S	100 SEC ONCE AN IGNITION CYCLE	OXYGEN SENSOR	DTC TYPE B
EGR PINTLE POSITION (PART A)	P1406	SOFTWARE CHECK	ACTUAL EGR CLOSED POSITION > 6CTS	ACTUAL EGR CLOSED POSITION < 6 CTS	EGR ENABLED BATT > 11.7V NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO FUEL TRIM RICH DTC'S NO MISFIRE DTC'S NO CAM RESYNC DTC'S NO EVAP LEAK DTC'S NO VSS DTC'S NO INTERNAL PCM COMMUNICATION ERROR DTC'S	25 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE B

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EGR PINTLE POSITION (PART B)	P1406	SOFTWARE CHECK	ACTUAL CLOSED EGR VS DESIRED CLOSED EGR <15 CTS	ACTUAL CLOSED EGR VS DESIRED CLOSED EGR >15 CTS	EGR ENABLED BATT > 11.7V NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO FUEL TRIM RICH DTC'S NO MISFIRE DTC'S NO CAM RESYNC DTC'S NO EVAP LEAK DTC'S NO VSS DTC'S NO INTERNAL PCM COMMUNICATION ERROR DTC'S	20 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE B
EGR PINTLE POSITION (PART C)	P1406	SOFTWARE CHECK	DESIRED EGR POS VS ACTUAL EGR POS < 9%	DESIRED EGR POS VS ACTUAL EGR POS > 9%	EGR ENABLED BATT > 11.7V NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO FUEL TRIM RICH DTC'S NO MISFIRE DTC'S NO CAM RESYNC DTC'S NO EVAP LEAK DTC'S NO VSS DTC'S NO INTERNAL PCM COMMUNICATION ERROR DTC'S	18 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE B

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PURGE SOLENOID STUCK OPEN	P1441	ANALOG	0.5 TO 4.5 V	VAC > 4.2V	BARO >83kPa ECT BETWEEN 4°C & 30°C AT STARTUP IAT BETWEEN 2°C & 30°C AT STARTUP ECT AND IAT WITHIN 6°OF EACHOTHER EVAP SOLENOID *DISABLED* ENGINE RUN TIME < 1300 SEC TP SENSOR BETWEEN 9% & 20% RPM BETWEEN 1700 & 4000 MAP SENSOR BETWEEN 20 kPa & 70 kPa NO MAP SENSOR DTC'S NO IAT SENSOR DTC'S NO ECT SENSOR DTC'S NO TP SENSOR DTC'S NO EGR DTC'S NO IAC VALVE DTC'S	5 TESTS PER TRIP AT 3 SECONDS PER TEST	VACUUM SWITCH	DTC TYPE A
P/N DIAGNOSTIC	P1520	DIGITAL	P/N SWITCH INDICATES R-DL WHILE DRIVING	P/N SWITCH INDICATES P/N WHILE DRIVING	RPM BETWEEN 1700 & 3000 TP SENSOR BETWEEN 6.6% & 20% VSS > 40 MPH NO TP SENSOR DTC'S NO CKP SENSOR DTC'S NO VSS DTC'S	26/27 SEC CONTINUOUS CHECK	SOFTWARE CHECK	DTC TYPE B

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SENSED PARAMETER	FAULT CODE	SENSOR SIGNAL TYPE	ACCEPTABLE OPERATING RANGE AND RATIONALITY	PRIMARY MALF DETECTION PARAMETER	SECONDARY MONITORING PARAMETERS AND CONDITIONS	MONITORING TIME LENGTH AND FREQUENCY OF CHECK	MONITORING METHOD	FAULT CODE STORAGE AND MIL ILLUMINATION
Vehicle Speed Sensor - Low Input	P0502	Analog	0 RPM to 6000 RPM This DTC detects a low vehicle speed when the vehicle has a large engine speed in a drive gear range.	Vehicle Speed ≤ 2 MPH	Gear Range is not Park/Neutral No TP high or low sensor DTC's set 18% ≤ Throttle Position ≤ 70% No Map Sensor High or Low DTC's set 0 KPA ≤ MAP Sensor ≤ 30 KPA 2950 ≤ Engine Speed ≤ 4800 RPM	2.0 seconds Continuous	AC Voltage generating Vehicle Speed Sensor	DTC Type B
TCC System Stuck ON	P0742	Software	This DTC detects low torque converter slip when the TCC is commanded off.	TCC stuck on counter ≥3 This is incremented if enable conditons are met.	20.3 kpa ≤ VAC* ≤ 36.56 kpa 35 mph ≤ Vehicle speed ≤ 65 mph 1300 rpm ≤ Engine speed ≤ 3000 rpm 0.98 ≤ Speed Ratio ≤ 1.3125 No TP sensor high or low DTC's set 18 % ≤ Throttle Position ≤ 60 % TCC is commanded off No VSS Low DTC's set -20rpm ≤ TCC Slip ≤ 20rpm for ≥ 5sec	5 sec Continuous	1X Engine Speed Signal and the Vehicle Speed Sensor	DTC Type A
Transmission Component Slipping	P1870	Software	This DTC detects excessive TCC slip when the torque converter clutch should be engaged.	Trans Slip Counter ≥ 3 This counte is incremented once each time the enabling conditions are met.	No TPS sensor High or Low DTC's set 16 % ≤ TPS ≤ 35 % No VSS Low DTC's set TCC on for ≥ 5 sec 20.3 kpa ≤ VAC ≤ 56.56 kpa 2000 rpm ≤ Engine speed ≤ 3000 rpm 0.98 ≤ Speed Ratio ≤ 1.3125 40 mph ≤ Vehicle speed ≤ 65 mph 200 rpm ≤ TCC slip ≤ 1000 rpm for ≥ 10 sec	Continuous	1X Engine Speed Signal and the Vehicle Speed Sensor	DTC Type A