Enable condition

Parameter	Minimum	Maximum
Engine coolant temp.	70 (158) °C (°F)	110 (230) °C (°F)
Intake air temp.	–10 (14) °C (°F)	70 (158) °C (°F)
Barometric pressure	560 mmHg	
Fuel level		85%
Engine speed	1000 rpm	3500 rpm
Vehicle speed	15 km/h	
MDP	160 mmHg	
Fuel system status	Closed loop mode	
Calculated load value	12.5%	
Purge accumulation time	300 s	

Typical malfunction thresholds

P0440: Tank pressure change during depressurized condition > 4.88 – 7.81 mmHg (according to Fuel level)
P0455: Tank pressure change < 1.95 mmHg

MODE $06 Data

Test item (related DTC)	Test value		Description	Scaling
	TID	CID		
EVAP control system (P0440 / P0455)	$22	$00	Differential pressure	*16.67/256/256 kPa
	$23	$00	Differential rising pressure	(N-128)*16.67/256/256 kPa
	$24	$00	Differential pressure	(N-128)*16.67/256/256 kPa

OBD System Description - Fuel System Monitor

SVSE011101011 (03/01)

System Description / Monitoring Procedure

As fuel system components age or otherwise change over the life of the vehicle, the adaptive fuel strategy learns deviations from stoichiometry while running in closed loop fuel. These learned corrections are stored in keep alive memory as long term fuel trim corrections. They may be stored continue to change beyond normal limits or if a malfunction occurs, the long term fuel trim values will reach a calibratable rich or lean limit where the adaptive fuel strategy is no longer allowed to compensate for additional fuel system changes. Long term fuel trim corrections at their limits, in conjunction with a calibratable deviation in short term fuel trim, indicate a rich or lean fuel system malfunction.

DTC Description / Detecting Condition / Confirmation Procedure

P0171, P0172

Refer to “DTC P0171 / P0172: Fuel System Too Lean / Rich”.

Fuel System Monitor

Operation

DTCs	P0171, P0172
Monitor execution	Continuous
Sensors / components OK	IAT, BARO. press
Monitoring duration	64 rev.

Enable condition

Parameter	Minimum	Maximum
Intake air temp.	–10 (14) °C (°F)	
Barometric pressure	560 mmHg	
Fuel level	15%	
Fuel system status	Closed loop mode	

Typical malfunction thresholds

P0171: Long + short term > 43% and (short term > 20% or long term > 20%)
P0172: Long + short term < –34% and (short term < –19% or long term < –15%)

OBD System Description - Oxygen Sensor Monitor

SVSE011101012 (03/01)

Phase 2
Voltage average < 0.12 V or > 0.9 V Max voltage average < 0.20 V Min. voltage average > 0.40 V

OBD System Description - HO2S Heater Monitor

SVSE011101013 (03(01)

System Description / Monitoring Procedure

For both primary and secondary HO2S heaters, the system monitors proper current and loaded voltage. The HO2S heaters are monitored once per driving cycle during monitoring conditions.

DTC Description / Detecting Condition / Confirmation Procedure

P0135

Refer to "DTC P0135: HO2S-1 Heater Circuit Malfunction".

P0141

Refer to "DTC P0141: HO2S-2 Heater Circuit Malfunction".

Primary HO2S Heater Monitor

Operation

DTCs	P0135
Monitor execution	Continuous
Monitoring duration	3 s

Enable condition

Parameter	Minimum	Maximum
Heater control	On	

Typical malfunction thresholds

Heater current < 0.15 A or > 4.0 A Heater voltage < 10 V or > 13.8 V

Secondary HO2S Heater Monitor

Operation

DTCs	P0141
Monitor execution	Continuous
Monitoring duration	3 s

Enable condition

Parameter	Minimum	Maximum
Heater control	On	

Typical malfunction thresholds

Heater current < 0.22 A or > 4.0 A Heater voltage < 10 V or > 13.8 V

MODE $06 Data

Self diagnostic test item (related DTC)	Test value		Description	Scaling
	TID	CID		
O2S 1 heater circuit malfunction (P0135)	$28	$00	Minimum sensor current	*18.75/256 s
	$28	$00	Maximum sensor current	*18.75/256 s
	$29	$00	Minimum sensor current	*18.75/256 s
	$29	$00	Maximum sensor current	*18.75/256 s
O2S 2 heater circuit malfunction (P0141)	$2A	$00	Minimum sensor current	*18.75/256 s
	$2A	$00	Maximum sensor current	*18.75/256 s
	$2B	$00	Minimum sensor current	*18.75/256 s
	$2B	$00	Maximum sensor current	*18.75/256 s

Method B
MDP difference between EGR ON & OFF < 35.3 – 100.2 mmHg (according to engine speed)

MODE $06 Data

Self diagnostic test item (related DTC)	Test value		Description	Scaling
	TID	CID		
EGR (P0400)	$2C	$00	Differential Pressure	*31.68/256/256 kPa
	$2D	$00	Differential Pressure	*31.68/256/256 kPa

OBD System Description - Comprehensive Component (Engine Input) Monitor

SVSE011101015 (03(01)

Monitoring Procedure

Input signals of MAF (P0102 / P0103), IAT (P0112 / P0113), ECT (P0117 / P0118), TP (P0122 / P0123), Fuel tank pressure sensor (P0450), Fuel level sensor (P0463), MDP (P01408) and Barometric pressure sensor (P1450, P1451) are checked for open, short of circuit by monitoring input voltage.

DTC Description / Detecting Condition / Confirmation Procedure

P0101
Refer to "DTC P0101: Mass Air Flow (MAF) Sensor Circuit Performance Problem".
P0102
Refer to "DTC P0102: Mass Air Flow (MAF) Sensor Circuit Low Input".
P0103
Refer to "DTC P0103: Mass Air Flow (MAF) Sensor Circuit High Input".
P0112
Refer to "DTC P0112: Intake Air Temperature (IAT) Sensor Circuit Low Input".
P0113
Refer to "DTC P0113: Intake Air Temperature (IAT) Sensor Circuit High Input".
P0117
Refer to "DTC P0117: Engine Coolant Temperature (ECT) Sensor Circuit Low Input".
P0118
Refer to "DTC P0118: Engine Coolant Temperature (ECT) Sensor Circuit High Input".
P0121
Refer to "DTC P0121: Throttle Position (TP) Sensor Circuit Range / Performance Problem".
P0122
Refer to "DTC P0122: Throttle Position (TP) Sensor Circuit Low Input".
P0123
Refer to "DTC P0123: Throttle Position (TP) Sensor Circuit High Input".
P0125
Refer to "DTC P0125: Insufficient Coolant Temperature for Closed Loop Fuel Control".
P0335
Refer to "DTC P0335: Crankshaft Position (CKP) Sensor Circuit Malfunction".
P0340
Refer to "DTC P0340: Camshaft Position (CMP) Sensor Circuit Malfunction".
P0450
Refer to "DTC P0450: EVAP Control System Pressure Sensor Malfunction".
P0461
Refer to "DTC P0461: Fuel Level Sensor Circuit Performance".
P0463
Refer to "DTC P0463: Fuel Level Sensor Circuit High Input".
P0500
Refer to "DTC P0500: Vehicle Speed Sensor Malfunction".
P0510
Refer to "DTC P0510: Closed Throttle Position Switch Malfunction".
P1408
Refer to "DTC P1408: Manifold Differential Pressure Sensor Circuit Malfunction".
P1450, P1451
Refer to "DTC P1450 / P1451: Barometric Pressure Sensor Circuit Malfunction / Performance Problem".
P1500
Refer to "DTC P1500: Engine Starter Signal Circuit Malfunction".
P1510