Parameter	Minimum	Maximum
Misfire monitor	Normal	
Canister purge circuit continuity	Normal	
Fuel system monitor	Normal	

Common prohibition mode

Intake air temp. at engine start	< –8 °C
Intake air temp.	< –8 °C
Intake air temp. sensor	Out of order
Engine coolant temp. at start	< –8 °C
Engine coolant temp. sensor	Out of order
Barometric pressure	< 74.5kPa
Barometric sensor	Out of order
ECM check sum	Error

Typical malfunction thresholds

P0441
Calculated load value change < 2.34% IAC change < 10 L/min
P0442
Tank pressure change during depressurized condition: 0.8 – 1.8 kPa (according to fuel vapor temperature and Fuel Level)
P0496
Min tank pressure < –5.47 kPa
P0455
Tank pressure > –2.67 kPa Max tank pressure change < 0.391 kPa

MODE $06 Data

Test item (related DTC)	Test value		Description	Scaling
	TID	CID		
EVAP Control System (P0442 / P0455 / P0496)	$24	$00	Differential pressure	*16.67/256/256 kPa
	$24	$10	Differential pressure	*16.67/256/256 kPa
	$24	$20	Differential rising pressure	(N-128)*16.67/256/256 kPa
	$24	$30	Differential pressure	(N-128)*16.67/256/256 kPa
	$24	$31	Differential pressure	(N-128)*16.67/256/256 kPa
	$24	$40	Differential pressure	(N-128)*16.67/256/256 kPa
	$24	$41	Differential pressure	(N-128)*16.67/256/256 kPa
	$24	$50	Differential pressure	(N-128)*16.67/256/256 kPa
EVAP Control system (P0441)	$25	$00	Purge vapor density	*100/128/14.7%
	$25	$10	Deviation	/128/256
	$25	$11	Deviation	*100/128/256%
	$25	$12	Deviation	/256 L/min

OBD System Description - Fuel System Monitor

print=OFF, S2SQ011111012 (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”.

Typical malfunction thresholds

P0140
Voltage average < 0.12 V Max. voltage < 0.2 V
P0136
Phase 1: Pull-up voltage > 4.5 V
Phase 2: Voltage average < 0.12 V or > 0.9 V Max. voltage average < 0.20 V Min. voltage average > 0.40 V

MODE $06 Data

Self diagnostic test item (related DTC)	Test value		Description	Scaling
	TID	CID		
O2S 1 circuit low volt (P0131)	$26	$00	Minimum terminal voltage	*5/256/256 V
	$26	$10	Minimum sensor voltage	*5/1024/256 V
	$26	$11	Maximum sensor voltage	*5/1024/256 V
O2S 1 circuit high volt (P0132)	$27	$00	Minimum terminal voltage	*5/256/256 V
	$27	$01	Minimum sensor voltage	*5/1024/256 V
	$27	$02	Maximum sensor voltage	*5/1024/256 V
Slow response (P0133)	$28	$00	Rich to lean sensor switch time	*0.01/256 s
	$28	$01	Lean to rich sensor switch time	*0.01/256 s
	$28	$02	Time between sensor transitions	*0.025/256 s
No activity detect (P0134)	$29	$00	Maximum sensor voltage	*5/1024/256 V
	$29	$01	Unexpected transition time	*0.5/256 s
O2S circuit open (P0137)	$2A	$00	Minimum terminal voltage	*5/256/256 V
O2S 2 circuit volt (P0136 / P0138)	$2B	$00	Mean sensor voltage	*5/256/256 V
	$2B	$01	Minimum sensor voltage	*5/1024/256 V
No activity / low voltage (P0140)	$2C	$00	Mean sensor voltage	*5/256/256 V
	$2C	$01	Maximum sensor voltage	*5/1024/256 V

OBD System Description - HO2S Heater Monitor

print=OFF, S2SQ011111014 (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

P0031, P0032

Refer to “DTC P0031 / P0032: HO2S-1 Heater Circuit Low / High”.

P0037, P0038

Refer to “DTC P0037 / P0038: HO2S-2 Heater Circuit Low / High”.

Primary HO2S Heater Monitor

Operation

DTCs	P0031 (for bank 1) P0032 (for bank 1)
Monitor execution	Continuous
Monitoring duration	3 s

Enable conditions

Parameter	Minimum	Maximum
Battery voltage	11 V	16 V
Primary HO2S heater operation time	5 s	
Ignition switch	On	

Typical malfunction thresholds

P0031