

Service 01

Request current powertrain diagnostic data	SID 0x01				
PID Description	PID	Bytes	Rang,Scaling	Service x01	Service x02
Request supported PIDs from PID 0x01-0x20	PID \$00	4		√	√
	ByteA				
	ByteB				
	ByteC				
	ByteD				
01 Monitor status since DTCs cleared	PID\$01	4		√	×
	ByteA				
	ByteB				
	ByteC				
	ByteD				
DTC that caused required freeze frame data storage	PID \$02	2	0000~FFFF	×	√
Fuel system status	PID \$03	ByteA	Bit coding	√	√
		ByteB	Bit coding		
Calculated Load Value	PID \$04	1	0~100%,100/255%	√	√
Engine Coolant Temperature	PID \$05	1	-40~215°C, 1°C	√	√
Short Term Fuel Trim Bank1	PID \$06	1	-100%~99.22%, 100/128%	√	√
Long term Fuel Trim-bank1	PID \$07	1	-100%~99.22%, 100/128%	√	√
Intake Manifold Absolute Pressure	PID \$0B	1	0~255kpa, 1kpa	√	√
Engine RPM	PID \$0C	2	0~16383.75/min, 0.25/min	√	√
Vehicle speed sensor	PID \$0D	1	0.0...511.9922	√	√
Ignition Timing Advance for #1 Cylinder	PID \$0E	1	-64~63.5°, 0.5°	√	√
Intake Air Temperature	PID \$0F	1	-40~215°C, 1°C	√	√
Absolute Throttle Position	PID \$11	1	0%~100%, 100/255%	√	√
Location of Oxygen sensor	PID \$13	1	Bit coding	√	×
Oxygen Sensor Output Voltage Bank1 sensor1	PID \$14	2	0~1.275, 0.005V	√	×
Short term fuel trim Bank 1 Sensor 1		1	-100%~99.22%, 100/128%	√	√
O2 Sensor and SHRFT Bank 1, Sensor 2	PID \$15	2		√	×
O2 Sensor Bank 1, Sensor 2		ByteA	0V~1.275V, 0.005V	√	×
OBD requirements to which vehicle or engine is certified.	PID \$1C	1	Bit coding	√	×
Time Since Engine Start	PID \$1F	2	65.535sec,1sec	√	√
Distance traveled while MIL is activated	PID \$21	1		√	×
Absolute load value	PID \$43	1	0~100%,100/255%	√	√
Relative throttle position	PID \$45	1	0%~100%, 100/255%	√	√

Service 02

Outputs	Decription
PID \$02	Pcode of the fault which freeze frame
PID \$03	Fuel system bank1/bank2 status
PID \$04	Calculated load value
PID \$05	Engine coolant temperature
PID \$06	Short term fuel trim - Bank 1
PID \$07	Long term fuel trim - Bank 1
PID \$0B	Intake manifold absolute pressure
PID \$0C	Engine speed
PID \$0D	Vehicle speed
PID \$0E	Ignition angle
PID \$0F	Intake air temperature
PID \$11	Absolute throat position
PID \$43	Absolute load value

Service 03

Fault code	Description	EOBD	
		Class	Active MIL
P0262	Fuel injector short to battery plus	4	√
P0261	Fuel injector short to ground	4	√
P0201	Fuel injector open circuit	4	√
P0629	Fuel pump short to battery plus	4	√
P0628	Fuel pump short to ground	4	√
P0627	Fuel pump open circuit	4	√
P0509	Stepper motor short to battery plus	4	√
P0508	Stepper motor short to ground	4	√
P0511	Stepper motor open circuit	4	√
P0511	Stepper motor Over current	4	√
P0412	Secondary air valve short to battery plus	4	√
P0459	canister purge valve short to battery plus	4	√
P0458	canister purge valve short to ground	4	√
P0444	canister purge valve open circuit	4	√
P2300	Ignition Coil short to ground	4	√
P0650	MIL short to battery plus	5	×
P0650	MIL short to ground	5	×
P0650	MIL open circuit	5	×
P0108	Manifold absolute pressure sensor voltage > UADPSMX	4	√
P0107	Manifold absolute pressure sensor voltage > UADPSMN	4	√
P0105	Manifold absolute pressure sensor no pressure drop after start	3	√
P0106	Manifold absolute pressure sensor signal non plausible	3	√
P0322	Synchronisation didn't take place by some certain phase sensor signals has been detected.	4	√
P0507	actuator blocked at higher position	3	√
P0506	actuator blocked at lower position	3	√
P0118	Engine temperature sensor short to 5V	4	√
P0117	Engine temperature sensor short to ground	4	√
P0116	Engine temperature exceeds plausible threshold	4	√
P0126	Engine temperature engine temperature is stuck	3	√
P0113	Intake manifold temperature sensor short to 5V	4	√
P0112	Intake manifold temperature sensor short to ground	4	√
P0111	intake manifold temperature exceeds plausible threshold	4	√
P0114	intake manifold temperature is stuck	3	√
P0563	rationality check max limit exceeds	5	×
P0562	rationality check min limit exceeds	5	×
P0560	implausibility check	5	×
P0501	lower limit exceeded during fuel cut off	4	√
P0123	Throttle position sensor max limit exceeds	4	√
P0122	Throttle position sensor min limit exceeds	4	√
P2177	multiplicative adaption value reach upper limit	11	√
P2178	multiplicative adaption value reach lower limit	11	√
P2187	additive adaption value reach upper limit	11	√
P2188	additive adaption value reach lower limit	11	√
P0301	misfire rate that harmful to catlyst (mx fault)	2	√ or Blink

P0301	misfire rate that deteriorate emission (mn fault)	2	√
P0301	misfire implausible fault	2	√
P0032	O2 sensor heater short to battery plus	4	√
P0031	O2 sensor heater short to ground	4	√
P0030	O2 sensor heater open circuit	4	√
P0053	current O2 sensor resistance is greater than threshold value	3	√
P0133	filtered cycle delay time of O2 sensor signal upstream cat.is greater than threshold value	3	√
P0132	O2 Sensor Circuit High Voltage	4	√
P0131	O2 Sensor Circuit Low Voltage	4	√
P0134	O2 Sensor Circuit No Activity Detected	4	√
P0130	O2 Sensor Voltage coupled with heater line	4	√
P0138	O2 Sensor2 Circuit High Voltage	4	√
P0137	O2 Sensor2 Circuit Low Voltage	4	√
P0136	O2 Sensor2 Circuit No Activity Detected	4	√
P2232	O2 Sensor2 Voltage coupled with heater line	4	√
P2270	O2 Sensor2 Signal Biased&Stuck Lean Bank 1 Sensor 2	3	√
P2271	O2 Sensor2 Signal Biased&Stuck Rich Bank 1 Sensor 2	3	√
P0036	O2 sensor2 heater open circuit	4	√
P0037	O2 sensor2 heater short to ground	4	√
P0038	O2 sensor2 heater short to battery plus	4	√
P0054	current O2 sensor2 resistance is greater than threshold value	3	√
P0420	Catalyst System Efficiency Below Threshold Bank 1	3	√

Service 06

Monitor ID	Test ID	Test value	Min value	Max value	Description
01	01		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1
01	02		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1
01	07		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1
01	08		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1
01	09		0s	65.535s	Exhaust Gas Sensor Monitor Bank 1
01	0A		0s	65.535s	Exhaust Gas Sensor Monitor Bank 1
02	01		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1 - Sensor 2
02	02		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1 - Sensor 2
02	07		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1 - Sensor 2
02	08		0V	7.999V	Exhaust Gas Sensor Monitor Bank 1 - Sensor 2
02	87		0s	65.535s	Exhaust Gas Sensor Monitor Bank 1 - Sensor 2
02	89		0s	65.535s	Exhaust Gas Sensor Monitor Bank 1 - Sensor 2
21	86		0	ATKATMX	Catalyst Monitor Bank 1
41	81		0Ohm	65535Ohm	Manufacturer Defined Test ID range — This parameter is an identifier for the test performed within the On-Board Diagnostic Monitor.
42	81		0Ohm	65535Ohm	Manufacturer Defined Test ID range — This parameter is an identifier for the test performed within the On-Board Diagnostic Monitor.
A2	0B		0 counts	65535 counts	EWMA (Exponential Weighted Moving Average) misfire counts for previous driving cycles (calculated, rounded to an integer value)
A2	0C		0 counts	65535 counts	Misfire counts for last/current driving cycles (calculated, rounded to an integer value)

Service 09

VID 02		VIN	Vehicle Identification Number
VID 04		CALID	Calibration Identifications
VID 06		CVN	Calibration Verification Numbers

VID 08	In use performance tracking	IPT	
	OBDCON	0	General denominator
	IGNCNTR	0	ignition counter
	CATCOMP1	0	numerator, catalyst monitor completion counts bank1
	CATCOND1	0	denominator, catalyst monitor completion counts bank1
		7.995	calculated ratio
	CATCOMP2	0	numerator, catalyst monitor completion counts bank2
	CATCOND2	0	denominator, catalyst monitor completion counts bank2
		7.995	calculated ratio
	O2SCOMP1	0	numerator, O2 sensor monitor completion counts bank1
	O2SCOND1	0	denominator, O2 sensor monitor completion counts bank1
		7.995	calculated ratio
	O2SCOMP2	0	numerator, O2 sensor monitor completion counts bank2
	O2SCOND2	0	denominator, O2 sensor monitor completion counts bank2
		7.995	calculated ratio
	EGRCOMP	0	numerator, EGR/VVT monitor completion counts
	EGRCOND	0	denominator, EGR/VVT monitor completion counts
		7.995	calculated ratio
	AIRCOMP	0	numerator, secondary air monitor completion counts
	AIRCOND	0	denominator, secondary air monitor completion counts
		7.995	calculated ratio
	EVAPCOMP	0	numerator, EVAP monitor completion counts
	EVAPCOND	0	denominator, EVAP monitor completion counts
		7.995	calculated ratio
	SO2SCOMP1	0	numerator, Secondary O2 sensor monitor completion counts bank1
	SO2SCOND1	0	denominator, Secondary O2 sensor monitor completion counts bank1
		7.995	calculated ratio
	SO2SCOMP2	0	numerator, Secondary O2 sensor monitor completion counts bank2
	SO2SCOND2	0	denominator, Secondary O2 sensor monitor completion counts bank2
		7.995	calculated ratio