

SAE J1979 Mode \$06 Test Information

Spec. NO.

Mode \$06_SIEMENS 662_KWP (β 2.0L)

TID/CID List

Test ID (TID)	TID Description	Component ID (CID)	CID Description
\$81	Catalyst Efficiency Monitoring	\$01	Value of catalyst conversion capability (B1)
\$83	Wide Range O2 Sensor Monitoring	\$01	Diagnosis value of the WRAF sensor dynamic (B1S1)
		\$02	Diagnosis value of the WRAG sensor heater coupling (B1S1)
		\$04	Mean value of the ratio between the monitor sensor switching time and the threshold value (B1S1)
\$84	Downstream O2 Sensor After Fuel-cut Diagnosis	\$01	Monitor O2 Sensor Voltage during catalyst purge (B1S2)
\$85	Evap. Emission Diagnosis	\$02	Reduced leakage diameter stored for mode 06 communication
		\$03	Reduced leakage diameter stored for mode 06 communication
		\$09	Mean value of the differential pressure between tank and ambient
		\$0A	DTP difference during the vapour generation phase
		\$10	Value of DTP difference for signal fluctuation for mode 06 comm. (DTP Plau.)
\$8B	O2 sensor heater diagnosis	\$01	Number of fault detected during valid diagnosis cycles for mode 06 comm.
\$8C		\$01	Number of fault detected during valid diagnosis cycles for mode 06 comm.

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TID \$81		Catalyst Efficiency Monitoring					
CID \$01		Value of catalyst conversion capability(B1)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	7Fh	0.0156	0	0	1.984	_	X≤0.45
Explanation				Related DTC		P0420	
<p>The catalyst monitoring items : measure indirectly that rate of Catalyst Deactivation by switching of Down O2 sensor. In other words, check number of switching of Down O2 sensor when number, switching sample of Up O2 sensor, is 120th.</p> <p>Signal of Down O2 sensor in normal vehicle is no switching. because its catalyst is new product.</p> <p>If number of switching of Down O2 sensor is more than 85 as long as Up O2 sensor is switching a total of 120th, it means trouble. Diagnosis value(CAT_DIAG) of normal vehicle has less than 2. Result of Mode\$06 means a catalyst monitoring index.</p>							

TID \$83		Wide Range O2 Sensor Monitoring					
CID \$01		Diagnosis value of the WRAF sensor dynamic (B1S1)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	7FFFh	0.0009766	0	0	32	_	X≤1/0.8
Explanation				Related DTC		P0133	
<p>The discharge gas increases due to the deterioration of the sensor that becomes the reason to decrease in the sensibility of the sensor. If the sensibility of sensor decrease, the amplitude of sensor is smaller than normal sensor. In this instance, Value of diagnosis of vehicle grows bigger. If this value exceed any special value(XD is 1, LD is 0.8), this means the trouble. Value of diagnosis in the normal vehicle approaches zero.</p>							

TID \$83		Wide Range O2 Sensor Monitoring					
CID \$02		Diagnosis value of the WRAG sensor heater coupling (B1S1)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFh	1	0	0	255	_	X≤50
Explanation				Related DTC		P0030	
<p>If isolation condition is bad, current leakage occur between heater and UN line. At this time PWM signal of heater have influence on sensor signal and signal that have noise is occurred. diagnostic technique: if value that accumulate the difference between sensor signal and labmbda model in switching point is bigger than threshold, it means failure.</p>							

TID \$83		Wide Range O2 Sensor Monitoring					
CID \$04		Mean value of the ratio between the monitor sensor switching time and the threshold value (B1S1)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFh	0.0078	0	0	1.9961	_	X≤1
Explanation				Related DTC		P0140	
<p>Down O2 sensor signal changes from rich to lean immediately after cut-off during reduced Speed. If There's something wrong with the sensor, It takes up much the time that signal change. The time is used to calculate a diagnosis value. if this value is bigger than threshold, it means a failure.</p>							

TID \$84		DOWN O2 After Fuel-cut Diagnosis					
CID \$01		Monitor O2 Sensor Voltage during catalyst purge (B1S2)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	3FFh	0.0048	0	0	4.995	V	X≤0.55
Explanation				Related DTC		P0139	
<p>Executing rich injection to purge excessive accumulated O2 in side of catalyst after fuel-cut. If the value of down O2 sensor can't rise to the 0.55V within a certain period of the time, you diagnosis it as the failure. Result of Mode \$06 mean the value of Down O2 after the fixed hour.</p>							

TID \$85		Evap. Emission Diagnosis					
CID \$02		Reduced leakage diameter stored for mode 06 communication					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFh	0.016184	0	0	4.127	mm	X≤0.4208
Explanation				Related DTC		P0456	
<p>having leakage to correspond to the orifice of the diameter 0.5mm ~ 1.0mm in EVAP tank system. The ECU sense leakage as 0.5mm in diameter. Its threshold is 0.4208. Result of Mode \$06 mean the result of diagnosis of leakage like the diameter of the orifice.</p>							

TID \$85		Evap. Emission Diagnosis					
CID \$03		Reduced leakage diameter stored for mode 06 communication					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFh	0.016184	0	0	4.127	mm	$X \leq 0.8092$
Explanation				Related DTC		P0442	
<p>Having leakage to correspond to the orifice of the diameter 1mm ~ 3mm in EVAP tank system. ECU sense leakage as 1mm in diameter. Its threshold is 0.8092. Result of Mode \$06 mean the result of diagnosis of leakage like the diameter of the orifice.</p>							

TID \$85		Evap. Emission Diagnosis					
CID \$09		Mean value of the differential pressure between tank and ambient					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFFFh	0.00125	-40.96	-40.96	40.96	hPa	$X \geq -15$
Explanation				Related DTC		P0455	
<p>Having leakage to correspond to the orifice of the diameter 3mm and above in EVAP tank system. ECU sense leakage as large leak. Its threshold is -15hPa. Result of Mode \$06 mean the maximum vaccum that formed in tank.</p>							

TID \$85		Evap. Emission Diagnosis					
CID \$0A		DTP difference during the vapour generation phase					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFFFh	0.00125	-40.96	-40.96	40.96	hPa	$X \geq -2$
Explanation				Related DTC		P0441	
<p>When you check the amount of evaporation gas in the section during EVAP monitoring, it turn off the canister valve and the fuzzy solenoid valve. by the way, if it is a little leakage in fuzzy solenoid valve, the pressure of the tank is dropped. If the pressure of the tank dropped below -2hPa for 5 seconds, it mean troble. Result of Mode \$06 mean the drop range of the pressure sensor in tank.</p>							

TID \$85		Evap. Emission Diagnosis					
CID \$10		Value of DTP difference for signal fluctuation for mode 06 comm. (DTP Plau.)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFFFh	0.00125	-40.96	-40.96	40.96	hPa	$X \leq 0.5$
Explanation				Related DTC		P0441	
<p>Checking the noise of pressure sensor inside of tank in the early part of EVAP monitoring. If range of the noise is over 0.5hPa continuously for 15 seconds, it mean a failure. When range of the noise is below 0.5hPa within one seconds the usual time, it is normal. Result of Mode \$06 mean range of the noise range of the pressure sensor in tank.</p>							

TID \$8B		O2 sensor heater diagnosis					
CID \$01		Number of fault detected during valid diagnosis cycles for mode 06 comm. (B1S2)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	3FFh	1	0	0	1023	_	X≤40
Explanation				Related DTC		P0036	
<p>If performance which of heater of Rear O2 sensor go down, the element of ZrO2 is inactivated and the response comes to be slow. Consequently, emissions gas come to be increase. If 40 resistance is over the fixed value from among the 60 sample internal resistance of O2 sensor, ECU estimate a failure.</p> <p>Result of Mode \$06 mean that several resistance among the sample internal resistance is larger than the fixed value. Normally the result is zero.</p>							

TID \$8C		O2 sensor heater diagnosis					
CID \$01		Number of fault detected during valid diagnosis cycles for mode 06 comm. (B1S1)					
Hex. Limits		Resolution	Offset	Physical Limits		Unit	Threshold
Min	Max			Min	Max		
0h	FFFFh	1	0	0	65535	_	X≤40
Explanation				Related DTC		P0030	
<p>If performance which of heater of Front O2 sensor go down, the element of ZrO2 is inactivated and the response comes to be slow. Consequently, emissions gas come to be increase. If 30 resistance is over the fixed value from among the 50 sample internal resistance of O2 sensor, ECU estimate a failure.</p> <p>Result of Mode \$06 mean that several resistance among the sample internal resistance is larger than the fixed value. Normally the result is zero.</p>							