

LB 83X OBD II - SUMMARY TABLE - MY2012



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yellow = DTC just for 4+2 Catalyst Version

Test Group CNLXV06.5L83

Certification Standard
(LEV II)

Issue date: December/10 (RC01)

Component/System	Fault code	Monitor Strategy description	Malfunction Criteria	Threshold Parameters	Secondary Parameters	Enable Conditions	Time Required	Mil Illumination
CATALYST MONITORING								
Catalyst 1 Efficiency Below Threshold Bank1	P0421	Functional check	Front/rear oxygen sensor ratio	< 8	Time from engine start function of ECT @ engine start Catalyst temperature Lambda control engine speed MAP ECT DMAPn and DMAPp DTP (°TP/sec) Lambda switching frequency	> 380°C Closed loop > 1800 and < 3800 rpm > 33 kPa and < 60 kPa > 70 < 0.004 kPa/rev < 8 % / sec ≥ 1 Hz	5 faults in 10 times 1 time = 5 sec once for trip	2 DCY
Catalyst 1 Efficiency Below Threshold Bank2	P0431	Functional check	Front/rear oxygen sensor ratio	same as P0421	same as P0421	same as P0421	same as P0421	2 DCY
Catalyst 1 Efficiency Below Threshold Bank3	P3264	Functional check	Front/rear oxygen sensor ratio	same as P0421	same as P0421	same as P0421	same as P0421	2 DCY
Catalyst 1 Efficiency Below Threshold Bank4	P3265	Functional check	Front/rear oxygen sensor ratio	same as P0421	same as P0421	same as P0421	same as P0421	2 DCY
MISFIRE MONITORING								
MULTIPLE MISFIRE	P0300	Misfire detection with ionization current signal	Integral Area of Ionization signal (IAIon) evaluated for more than one cylinder	Emission threshold misfire rate > 2.6%	IAT Camshaft revolution ECT @ engine start If ECT@ engine start than wait until actual ECT Engine torque	> -29 [°C] 1 [rev] ≥ -9 [°C] < -9 [°C] ≥ 18 [°C] > 0 [Nm]	1000 rev continuous	2 DCY
			Integral Area of Ionization signal (IAIon) evaluated for more than one cylinder	Catalyst damage misfire rate > [5 ... 6.5]%	IAT Camshaft revolution ECT @ engine start If ECT@ engine start than wait until actual ECT Engine torque	> -29 [°C] 1 [rev] ≥ -9 [°C] < -9 [°C] ≥ 18 [°C] > 0 [Nm]	200 rev continuous	MIL ON immediately
CYLINDER 1 MISFIRE DETECTED	P0301	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon1) evaluated for cylinder number 1	Emission threshold misfire rate > 2.6%	IAT Camshaft revolution ECT @ engine start If ECT@ engine start than wait until actual ECT Engine torque	> -29 [°C] 1 [rev] ≥ -9 [°C] < -9 [°C] ≥ 18 [°C] > 0 [Nm]	1000 rev continuous	2 DCY
				Catalyst damage misfire rate > [5 ... 6.5]%	IAT Camshaft revolution ECT @ engine start If ECT@ engine start than wait until actual ECT Engine torque	> -29 [°C] 1 [rev] ≥ -9 [°C] < -9 [°C] ≥ 18 [°C] > 0 [Nm]	200 rev continuous	MIL ON immediately
CYLINDER 2 MISFIRE DETECTED	P0302	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon2) evaluated for cylinder number 2	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 3 MISFIRE DETECTED	P0303	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon3) evaluated for cylinder number 3	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 4 MISFIRE DETECTED	P0304	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon4) evaluated for cylinder number 4	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 5 MISFIRE DETECTED	P0305	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon5) evaluated for cylinder number 5	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 6 MISFIRE DETECTED	P0306	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon6) evaluated for cylinder number 6	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 7 MISFIRE DETECTED	P0307	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon7) evaluated for cylinder number 7	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 8 MISFIRE DETECTED	P0308	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon8) evaluated for cylinder number 8	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 9 MISFIRE DETECTED	P0309	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon9) evaluated for cylinder number 9	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 10 MISFIRE DETECTED	P0310	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon10) evaluated for cylinder number 10	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 11 MISFIRE DETECTED	P0311	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon11) evaluated for cylinder number 11	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY
CYLINDER 12 MISFIRE DETECTED	P0312	Misfire detection with ionization current signal	Integral area of ionization signal (IAIon12) evaluated for cylinder number 12	same as P0301	same as P0301	same as P0301	same as P0301	2 DCY

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MISFIRE DETECTION SYSTEM MALFUNCTION BANK R	P139E	internal routine	no coherence data		key	on	immediately continuous	2DCY
MISFIRE DETECTION SYSTEM MALFUNCTION BANK L	P139F	internal routine	no coherence data		key	on	immediately continuous	2DCY
EVAPORATIVE SYSTEM MONITORING								
Evap Purge Valve Bank Right	P0444	open circuit	incorrect data feedback		evap purge valve engine speed	commanded off > 40 rpm	0.5 sec continuous	2 DCY
	P0458	short to ground	incorrect data feedback		evap purge valve engine speed	commanded off > 40 rpm	0.5 sec continuous	2 DCY
	P0459	short to battery plus	incorrect data feedback		evap purge valve engine speed	commanded off > 40 rpm	0.5 sec continuous	2 DCY
Evap Purge Valve Bank Left	P04AB	open circuit	incorrect data feedback		evap purge valve engine speed	commanded off > 40 rpm	0.5 sec continuous	2 DCY
	P04AC	short to ground	incorrect data feedback		evap purge valve engine speed	commanded off > 40 rpm	0.5 sec continuous	2 DCY
	P04AD	short to battery plus	incorrect data feedback		evap purge valve engine speed	commanded off > 40 rpm	0.5 sec continuous	2 DCY
Evap Purge Valve Bank Right	P0441	Evaporative Emission System Incorrect Purge Flow	deviation lambda control functional check or deviation idle control (MAP)	> 3.5 % > 15 mBar	engine speed engine speed deviation time after engine start ECT Lambda control Ambient pressure IAT	idle [rpm] < 100 [rpm] > 350 [s] > 59.25 [°C] Closed loop > 980 mBar > 5.25 [°C]	25 sec once for trip	2 DCY
Evap Purge Valve Bank Left	P1494	Evaporative Emission System Incorrect Purge Flow	deviation lambda control functional check or deviation idle control (MAP)	> 3.5 % > 15 mBar	engine speed engine speed deviation time after engine start ECT Lambda control Ambient pressure IAT	idle [rpm] < 100 [rpm] > 350 [s] > 59.25 [°C] Closed loop > 970 mBar > 5.25 [°C]	25 sec once for trip	2 DCY
Evap System Very Small Leak	P0456	Pressure check	time for pressure drop	< 4...5.5 sec	evap purge valve LDP Engine Speed MAP IAT IAT drop after engine start intake manifold vacuum ECT ECT @ start number of diagnostic attempts gear status time after engine start vehicle speed vehicle acceleration delta ambient pressure Ambient pressure delta engine load	closed activated > 2000[rpm] and < 4000[rpm] > 400 mBar and < 700 mBar > 4 [°C] < 6 [°C] > 15 [kPa] 4 ... 95 [°C] 4 ... 35 [°C] 15 [-] gear engaged 230 ... 900 [s] 25 ... 90 [mph] < 0.0018 [mi/s2] < 0.2 [kPa] > 970 mBar < 36 [%]	140 sec once for trip	2 DCY
Evap System Small Leak	P0442	Pressure check	time for pressure drop	< 1.7...2.2 sec	evap purge valve LDP Engine Speed MAP IAT delta ambient pressure IAT drop after engine start time after engine start intake manifold vacuum ECT ECT @ start number of diagnostic attempts vehicle speed delta ambient pressure Ambient pressure selected gear	closed activated > 2000[rpm] and < 4000[rpm] > 400 mBar and < 700 mBar > 4 [°C] < 0.25 [kPa] < 6 [°C] 230 ... 1200 [sec] > 15 [kPa] 4 ... 95 [°C] 4 ... 35 [°C] 15 [-] > 25 [mph] < 0.2 [kPa] > 970 mBar any drive [-]	140 sec once for trip	2 DCY

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Evap System Large Leak	P0455	Pressure check	time for pressure drop	< 0.9...1.1 sec	evap purge valve engine seed LDP Engine Speed MAP IAT delta ambient pressure IAT drop after engine start time after engine start intake manifold vacuum ECT ECT @ start number of diagnostic attempts vehicle speed delta ambient pressure Ambient pressure selected gear	closed activated > 2000[rpm] and < 4000[rpm] > 400 mBar and < 700 mBar > 4 [°C] < 0.25 [kPa] < 6 [°C] 230 ... 1200 [sec] > 15 [kPa] 4 ... 95 [°C] 4 ... 35 [°C] 15 [-] > 25 [mph] < 0.2 [kPa] > 970 mBar any drive [-]	140 sec once for trip	2 DCY
LDP Leak Detection Pump	P2400	open circuit	signal voltage	> 4.5 V	LDP engine speed time after engine start	commanded off > 80 [rpm] 10 [s]	0.5 sec continuous	2 DCY
	P2401	short to ground	signal voltage	< 3 V	LDP engine speed time after engine start	commanded off > 80 [rpm] 10 [s]		
	P2402	short to battery plus	signal current	> 2.7 A	LDP engine speed time after engine start	commanded off > 80 [rpm] 10 [s]		
Reed Sensor	P2403	rationality check unable to close	switch status	open	LDP same as for purge mass integral	commanded off P0442 > 6 [g]	11 sec once for trip	2 DCY
	P2404	rationality check unable to open	switch status	close	LDP same as for	commanded on P0442		
SECONDARY AIR SYSTEM MONITORING (SAI)								
SECONDARY AIR INJECTION Bank Right	P0491	Functional check during normal operation of secondary air injection	difference between SAI pressure and ambient pressure	6.5 < SAI p. < 16 Kpa	Air pump Electro valve engine speed Nominal Airflow through the engine	On On > 800 [rpm] < 4 g/sec	30 sec once for trip	2 DCY
		Functional check	Front O2 lambda sensor Ip Current integral value	< 0.015 A	Air pump Electro valve ECT at engine start ECT engine speed Front O2 lambda sensor	On On > -10 [°C] => 70 [°C] idle [rpm] No Fault	30 sec once for trip	2 DCY
SECONDARY AIR INJECTION Bank Left	P0492	Functional check during normal operation of secondary air injection	difference between SAI pressure and ambient pressure	6.5 < SAI p. < 16 kPa	Air pump Electro valve engine speed Nominal Airflow through the engine	On On > 800 [rpm] < 4 g/sec	30 sec once for trip	2 DCY
		Functional check	Front O2 lambda sensor Ip Current integral value	< 0.015 A	Air pump Electro valve ECT at engine start ECT engine speed Front O2 lambda sensor	On On > -10 [°C] => 70 [°C] idle [rpm] No Fault	30 sec once for trip	2 DCY
SECONDARY AIR INJECTION ELECTRO VALVE	P0413	circuit open	feedback-test	incorrect data feedback			immediately once for trip	2 DCY
	P0414	circuit shorted	feedback-test	incorrect data feedback			immediately once for trip	2 DCY
SECONDARY AIR INJECTION SYSTEM SWITCHING VALVE STUCK OPEN (BANK RIGHT)	P2440	Secondary Air Injection System Switching Valve Stuck Open	difference between SAI pressure and ambient pressure	< 16:50 kPa	Secondary air electro valve Secondary air pump	Off On	5 sec once for trip	2 DCY
SECONDARY AIR INJECTION SYSTEM SWITCHING VALVE STUCK OPEN (BANK LEFT)	P2442	Secondary Air Injection System Switching Valve Stuck Open	difference between SAI pressure and ambient pressure	same as P2440	same as P2440	same as P2440	same as P2440	2 DCY
SECONDARY AIR SYSTEM PRESSURE SENSOR Bank Right	P2431	rationality check	difference between SAI pressure and ambient pressure	< ... > -2 ... 2 kPa	ambient pressure sensor SAI	no fault completed	60 sec once for trip	2 DCY
	P2432	signal range check	signal voltage	< 0.4 V	ambient pressure sensor	no fault	0.5 sec continuous	2 DCY
	P2433	signal range check	signal voltage	> 4.6 V	ambient pressure sensor	no fault	0.5 sec continuous	2 DCY
SECONDARY AIR SYSTEM PRESSURE SENSOR Bank Left	P2436	rationality check	difference between SAI pressure and ambient pressure	< ... > -2 ... 2 kPa	ambient pressure sensor SAI	no fault completed	60 sec once for trip	2 DCY
	P2437	signal range check	signal voltage	< 0.4 V	ambient pressure sensor	no fault	0.5 sec continuous	2 DCY
	P2438	signal range check	signal voltage	> 4.6 V	ambient pressure sensor	no fault	0.5 sec continuous	2 DCY
SAIR Pump Bank R	P2444	Secondary Air Injection System Pump Stuck On	difference between SAI pressure and ambient pressure	< ... > -2 ... 2 kPa	secondary air electro vale secondary air pump	Off On	5 sec once for trip	2 DCY
SAIR Pump Bank L	P2446	Secondary Air Injection System Pump Stuck On	difference between SAI pressure and ambient pressure	< ... > -2 ... 2 kPa	secondary air electro vale secondary air pump	Off On	5 sec once for trip	2 DCY

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FUEL SYSTEM MONITORING								
FUEL SYSTEM Bank 1								
	P0171	Fuel trim system too lean	Long term fuel trim correction	> 1,2 [-]	ECT Carbon canister load estimation	> 70 [°C] < 0.065 grams of gasoline for grams of gas flow from purge system Closed loop	30 sec continuous	2 DCY
	P0172	Fuel trim system too rich	Long term fuel trim correction	< 0,8 [-]	same as P0171	same as P0171	30 sec continuous	2 DCY
	P2096	Out of range lean	feedback of 2nd lambda control loop value limit low	< -0.015 [-]	Lambda control	Closed loop	30 sec continuous	2 DCY
	P2097	Out of range rich	feedback of 2nd lambda control loop value limit high	> 0.015 [-]	2nd lambda control engine speed MAP	Closed loop > 1400 and < 4000 [rpm] > 30.7 and < 53.3 [kPa]	30 sec continuous	2 DCY
FUEL SYSTEM Bank 2								
	P0174	Fuel trim system too lean	Long term fuel trim correction	same as P0171	same as P0171	same as P0171	same as P0171	2 DCY
	P0175	Fuel trim system too rich	Long term fuel trim correction	same as P0172	same as P0171	same as P0171	same as P0171	2 DCY
	P2098	Out of range lean	feedback of 2nd lambda control loop value limit low	same as P2096	same as P2096	same as P2096	same as P0171	2 DCY
	P2099	Out of range rich	feedback of 2nd lambda control loop value limit high	same as P2097	same as P2096	same as P2096	same as P0171	2 DCY
FUEL SYSTEM Bank 3								
	P1081	Fuel trim system too lean	Long term fuel trim correction	same as P0171	same as P0171	same as P0171	same as P0171	2 DCY
	P1083	Fuel trim system too rich	Long term fuel trim correction	same as P0172	same as P0171	same as P0171	same as P0171	2 DCY
	P117C	Out of range lean	feedback of 2nd lambda control loop value limit low	same as P2096	same as P2096	same as P2096	same as P0171	2 DCY
	P117D	Out of range rich	feedback of 2nd lambda control loop value limit high	same as P2097	same as P2096	same as P2096	same as P0171	2 DCY
FUEL SYSTEM Bank 4								
	P1082	Fuel trim system too lean	Long term fuel trim correction	same as P0171	same as P0171	same as P0171	same as P0171	2 DCY
	P1084	Fuel trim system too rich	Long term fuel trim correction	same as P0172	same as P0171	same as P0171	same as P0171	2 DCY
	P117E	Out of range lean	feedback of 2nd lambda control loop value limit low	same as P2096	same as P2096	same as P2096	same as P0171	2 DCY
	P117F	Out of range rich	feedback of 2nd lambda control loop value limit high	same as P2097	same as P2096	same as P2096	same as P0171	2 DCY

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OXYGEN SENSOR MONITORING								
OXYGEN SENSOR L1 BANK 1	P0133	Response Rate	Switching frequency AND Quick output change counter	S_FREQ < 10 or QOCC < 50 [-]	SAI Time form engine start engine speed MAP [DRPM] [MAP] Lambda target ECT Lambda control ECT at engine start Time lag	OFF > 30 [sec] > 780 and < 3500 [rpm] > 33 and < 60 [kPa] < 50 rpm / 10msec < 0.004 [KPa/rev] > 0.98 and < 1.05 [-] > 45 [°C] Closed loop > -10 and < 50 [°C] 2 [sec]	5 sec once for trip	2 DCY
	P0134	Oxygen sensor inactive	Open loop status	different to 0 [-]	O2 sensor	warmed up	60 sec continuous	2 DCY
	P2195	Oxygen sensor signal stuck lean	Oxygen sensor output	LL status = -1 [-]	same as P0134 Lambda control SAI	Closed loop OFF	10 sec continuous	2 DCY
	P2196	Oxygen sensor signal stuck rich	Oxygen sensor output	LL status = 1 [-]	same as P0134 Lambda control	Closed loop	10 sec continuous	2 DCY
	P0131	low Voltage/ Positive Current Control Circuit Open	Oxygen sensor output voltage	< 1 V	O2 sensor Lambda control	warmed up Closed loop	immediately continuous	2 DCY
	P0132	high Voltage / Reference/Negative Voltage Control Circuit Open	Oxygen sensor output voltage	> 6 V	same as P0131	same as P0131	same as P0131	2 DCY
	P014C	O2 Sensor Slow Response - Rich to Lean	Rich to Lean transition counter	< 4 [-]	same as P0133	same as P0133	same as P0133	2 DCY
OXYGEN SENSOR L2 BANK 1	P014D	O2 Sensor Slow Response - Lean to Rich	Lean to Rich transition counter	< 4 [-]	same as P0133	same as P0133	same as P0133	2 DCY
	P0140	Oxygen sensor inactive / Open circuit Transient test	Oxygen sensor output voltage Oxygen sensor output voltage - Time for Rear O2 sensor signal to go below 0.15V Oxygen sensor output voltage - Time for transition from 0.55V to 0.25V	0.4 < O2 signal < 0.55 V < 2 sec > 0.15 sec	No active DTCs: ILIOS_lambda Fuel Cut Off ILIOS_lambda Fuel Cut Off	P0141 > 1.0 [-] On > 1.0 On	60 sec continuous immediately continuous	2 DCY
	P2270	Oxygen sensor signal stuck lean	Oxygen sensor output voltage	0.01 < O2 signal < 0.1 V	same as P0134 Lambda control Secondary air	Closed loop OFF	37 sec continuous	2 DCY
	P2271	Oxygen sensor signal stuck rich	Oxygen sensor output voltage	0.85 < O2 signal < 1.05 V	same as P0134 engine speed MAP Lambda control	> 800 and < 3000 [rpm] > 33 and < 73 [kPa] Closed loop	37 sec continuous	2 DCY
	P0137	low Voltage	Oxygen sensor output voltage	< 0.01 V	same as P0131		15 sec continuous	2 DCY
	P0138	high Voltage	Oxygen sensor output voltage	> 1.05 V	same as P0131		15 sec continuous	2 DCY
	P0135	Rationality Check	Oxygen sensor temperature	< 600 or > 900 °C	Catalyst temperature	> 70° C (dew point)	15 sec continuous	2 DCY
OXYGEN HEATER L1 BANK 1	P0031	Control Circuit low	feedback-test	no coherence data	key status	on	immediately continuous	2 DCY
	P0032	Control Circuit high	feedback-test	no coherence data	key status	on	immediately continuous	2 DCY
	P0141	Rationality Check	Oxygen sensor output voltage	0.4 < O2 signal < 0.55 V	Time from engine start	> 20 sec	10 sec once for trip	2 DCY
OXYGEN SENSOR L1 BANK 2	P0153	Response Rate	Switching frequency AND Quick output change counter	same as P0133	same as P0133	same as P0133	same as P0133	2 DCY
	P0154	Oxygen sensor inactive	Open loop status	same as P0134	same as P0134	same as P0134	same as P0134	2 DCY
	P2197	Oxygen sensor signal stuck lean	Oxygen sensor output	same as P2195	same as P2195	same as P2195	same as P2195	2 DCY
	P2198	Oxygen sensor signal stuck rich	Oxygen sensor output	same as P2196	same as P2196	same as P2196	same as P2196	2 DCY
	P0151	low Voltage/ Positive Current Control Circuit Open	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P0152	high Voltage / Reference/Negative Voltage Control Circuit Open	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P014E	O2 Sensor Slow Response - Rich to Lean	Rich to Lean transition counter	same as P014C	same as P014C	same as P014C	same as P014C	2 DCY
OXYGEN SENSOR L2 BANK 2	P014F	O2 Sensor Slow Response - Lean to Rich	Lean to Rich transition counter	same as P014D	same as P014D	same as P014D	same as P014D	2 DCY
	P0160	Oxygen sensor inactive / Open circuit Transient test	Oxygen sensor output voltage Oxygen sensor output voltage - Time for Rear O2sensor signal to go below 0.15V Oxygen sensor output voltage - Time for transition from 0.55V to 0.25V	same as P0140 same as P0140 same as P0140	same as P0140 same as P0140 same as P0140	same as P0140 same as P0140 same as P0140	same as P0140 same as P0140 same as P0140	2 DCY 2 DCY 2 DCY
	P2272	Oxygen sensor signal stuck lean	Oxygen sensor output voltage	same as P2270	same as P2270	same as P2270	same as P2270	2 DCY
	P2273	Oxygen sensor signal stuck rich	Oxygen sensor output voltage	same as P2271	same as P2271	same as P2271	same as P2271	2 DCY
	P0157	low Voltage	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P0158	high Voltage	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P0155	Rationality Check	Oxygen sensor temperature	same as P0135	same as P0135	same as P0135	same as P0135	2 DCY
OXYGEN HEATER L1 BANK 2	P0051	Control Circuit low	feedback-test	same as P0031	same as P0031	same as P0031	same as P0031	2 DCY
	P0052	Control Circuit high	feedback-test	same as P0032	same as P0032	same as P0032	same as P0032	2 DCY
	P0161	Rationality Check	Oxygen sensor output voltage	same as P0141	same as P0141	same as P0141	same as P0141	2 DCY

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OXYGEN SENSOR L1 BANK 3	P3209	Response Rate	Switching frequency AND Quick output change counter	same as P0133	same as P0133	same as P0133	same as P0133	2 DCY
	P3208	Oxygen sensor inactive	Open loop status	same as P0134	same as P0134	same as P0134	same as P0134	2 DCY
	P3144	Oxygen sensor signal stuck lean	Oxygen sensor output	same as P2195	same as P2195	same as P2195	same as P2195	2 DCY
	P3145	Oxygen sensor signal stuck rich	Oxygen sensor output	same as P2196	same as P2196	same as P2196	same as P2196	2 DCY
	P3205	low Voltage/ Positive Current Control Circuit Open	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P3206	high Voltage / Reference/Negative Voltage Control Circuit Open	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P11E3	O2 Sensor Slow Response - Rich to Lean	Rich to Lean transition counter	same as P014C	same as P014C	same as P014C	same as P014C	2 DCY
	P11E4	O2 Sensor Slow Response - Lean to Rich	Lean to Rich transition counter	same as P014D	same as P014D	same as P014D	same as P014D	2 DCY
OXYGEN SENSOR L2 BANK 3	P3223	Oxygen sensor inactive / Open circuit Transient test	Oxygen sensor output voltage	same as P0140	same as P0140	same as P0140	same as P0140	2 DCY
			Oxygen sensor output voltage - Time for Rear O2sensor signal to go below 0.15V	same as P0140	same as P0140	same as P0140	same as P0140	2 DCY
			Oxygen sensor output voltage - Time for transition from 0.55V to 0.25V	same as P0140	same as P0140	same as P0140	same as P0140	2 DCY
	P118C	Oxygen sensor signal stuck lean	Oxygen sensor output voltage	same as P2270	same as P2270	same as P2270	same as P2270	2 DCY
	P118D	Oxygen sensor signal stuck rich	Oxygen sensor output voltage	same as P2271	same as P2271	same as P2271	same as P2271	2 DCY
	P3220	low Voltage	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
OXYGEN HEATER L1 BANK 3	P3201	Rationality Check Control Circuit low Control Circuit high	high Voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
			Oxygen sensor temperature	same as P0135	same as P0135	same as P0135	same as P0135	2 DCY
			feedback-test	same as P0031	same as P0031	same as P0031	same as P0031	2 DCY
			feedback-test	same as P0032	same as P0032	same as P0032	same as P0032	2 DCY
OXYGEN HEATER L2 BANK 3	P3218	Rationality Check	Oxygen sensor output voltage	same as P0141	same as P0141	same as P0141	same as P0141	2 DCY
			Oxygen sensor output voltage	same as P0141	same as P0141	same as P0141	same as P0141	2 DCY
OXYGEN SENSOR L1 BANK 4	P3239	Response Rate	Switching frequency AND Quick output change counter	same as P0133	same as P0133	same as P0133	same as P0133	2 DCY
	P3238	Oxygen sensor inactive	Open loop status	same as P0134	same as P0134	same as P0134	same as P0134	2 DCY
	P3146	Oxygen sensor signal stuck lean	Oxygen sensor output	same as P2195	same as P2195	same as P2195	same as P2195	2 DCY
	P3147	Oxygen sensor signal stuck rich	Oxygen sensor output	same as P2196	same as P2196	same as P2196	same as P2196	2 DCY
	P3235	low Voltage/ Positive Current Control Circuit Open	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P3236	high Voltage / Reference/Negative Voltage Control Circuit Open	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
	P11E5	O2 Sensor Slow Response - Rich to Lean	Rich to Lean transition counter	same as P014C	same as P014C	same as P014C	same as P014C	2 DCY
	P11E6	O2 Sensor Slow Response - Lean to Rich	Lean to Rich transition counter	same as P014D	same as P014D	same as P014D	same as P014D	2 DCY
OXYGEN SENSOR L2 BANK 4	P3253	Oxygen sensor inactive / Open circuit Transient test	Oxygen sensor output voltage	same as P0140	same as P0140	same as P0140	same as P0140	2 DCY
			Oxygen sensor output voltage - Time for Rear O2sensor signal to go below 0.15V	same as P0140	same as P0140	same as P0140	same as P0140	2 DCY
			Oxygen sensor output voltage - Time for transition from 0.55V to 0.25V	same as P0140	same as P0140	same as P0140	same as P0140	2 DCY
	P118E	Oxygen sensor signal stuck lean	Oxygen sensor output voltage	same as P2270	same as P2270	same as P2270	same as P2270	2 DCY
	P118F	Oxygen sensor signal stuck rich	Oxygen sensor output voltage	same as P2271	same as P2271	same as P2271	same as P2271	2 DCY
	P3250	low Voltage	Oxygen sensor output voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
OXYGEN HEATER L1 BANK 4	P3251	Rationality Check Control Circuit low Control Circuit high	high Voltage	same as P0131	same as P0131	same as P0131	same as P0131	2 DCY
			Oxygen sensor temperature	same as P0135	same as P0135	same as P0135	same as P0135	2 DCY
			feedback-test	same as P0031	same as P0031	same as P0031	same as P0031	2 DCY
			feedback-test	same as P0032	same as P0032	same as P0032	same as P0032	2 DCY
OXYGEN HEATER L2 BANK 4	P3248	Rationality Check	Oxygen sensor output voltage	same as P0141	same as P0141	same as P0141	same as P0141	2 DCY
			Oxygen sensor output voltage	same as P0141	same as P0141	same as P0141	same as P0141	2 DCY



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Test Group CNLXV06.5L83 **Certification Standard** (LEV II) **Issue date:** December/10 (RC01)

Component/System	Fault code	Monitor Strategy description	Malfunction Criteria	Threshold Parameters	Secondary Parameters	Enable Conditions	Time Required	Mil Illumination
ENGINE COOLING SYSTEM MONITORING								
ENGINE COOLANT TEMPERATURE								
	P011A	Engine Coolant Temperature Sensor 1 Circuit Range/Performance	Comparison between sensor 1 and sensor 2	> 20 °C			10 times 0.5 sec continuous	2 DCY
	P0117	Engine Coolant Temperature Sensor 1 Circuit low	Coolant temperature sensor 1	< 0.048 (175°C) V			3 times 0.5 sec continuous	2 DCY
	P0118	Engine Coolant Temperature Sensor 1 Circuit high	Coolant temperature sensor 1	> 4.8 (-56°C) V			3 times 0.5 sec continuous	2 DCY
	P2184	Engine Coolant Temperature Sensor 2 Circuit low	Coolant temperature sensor 2	< 0.048 (175°C) V			3 times 0.5 sec continuous	2 DCY
	P2185	Engine Coolant Temperature Sensor 2 Circuit high	Coolant temperature sensor 2	> 4.8 (-56°C) V			3 times 0.5 sec continuous	2 DCY
THERMOSTAT	P0128	Functional check	Comparison between estimated coolant temperature (EECT) and engine coolant temperature	when EECT = 75°C, ECT < 70°C	ECT at engine on Time from engine start	-7°C < ... < 50°C > 5 sec	immediately once for trip	2 DCY
VARIABLE VALVE TIMING AND/OR CONTROL (VVT) SYSTEM								
INTAKE CAMSHAFT POSITION SENSOR bank R	P0341	Response rate	Cam sensor signal	Repetition of the same sector of the cam signal after one revolution of the crankshaft			20 revs continuous	2 DCY
EXHAUST CAMSHAFT POSITION SENSOR bank R	P0366	Response rate	Cam sensor signal	same as P0341			20 revs continuous	2 DCY
INTAKE CAMSHAFT POSITION SENSOR bank L	P0346	Response rate	Cam sensor signal	same as P0341			20 revs continuous	2 DCY
EXHAUST CAMSHAFT POSITION SENSOR bank L	P0391	Response rate	Cam sensor signal	same as P0341			20 revs continuous	2 DCY
CRANKSHAFT POSITION SENSOR	P0336	Response rate	Crank sensor signal	No crank signals during cam signal.			60 revs continuous	2 DCY
SIGNAL SEQUENCE	P0321	Response rate	Intermittent loss of signal (blip)	Crankshaft sequence vs Camshaft sequence coherence.			30 revs continuous	2 DCY
Intake VVT control solenoid valve circuit low bank R	P0076	low Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Intake VVT control solenoid valve circuit high bank R	P0077	high Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Exhaust VVT control solenoid valve circuit low bank R	P0079	low Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Exhaust VVT control solenoid valve circuit high bank R	P0080	high Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Intake VVT control solenoid valve circuit low bank L	P0082	low Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Intake VVT control solenoid valve circuit high bank L	P0083	high Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Exhaust VVT control solenoid valve circuit low bank L	P0085	low Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Exhaust VVT control solenoid valve circuit high bank L	P0086	high Voltage	feedback-test	No coherence data	key status	On	10 times 0.2 sec continuous	2 DCY
Crankshaft Position – Camshaft Position Correlation Sensor A Bank Right	P0016	Response rate	Cam sensor signal	If a difference of 6 crankshaft degrees is detected between the reference position and the measured one	During cranking, with Oil Control Valves OFF		immediately Once per trip	2 DCY
Crankshaft Position – Camshaft Position Correlation Sensor B Bank Right	P0017	Response rate	Cam sensor signal	same as P0016	same as P0016		same as P0016	2 DCY
Crankshaft Position – Camshaft Position Correlation Sensor A Bank Left	P0018	Response rate	Cam sensor signal	same as P0016	same as P0016		same as P0016	2 DCY
Crankshaft Position – Camshaft Position Correlation Sensor B Bank Left	P0019	Response rate	Cam sensor signal	same as P0016	same as P0016		same as P0016	2 DCY
Intake Variable Valve Timing Control Range/Performance Bank Right	P000A	Functional check	Difference between VVT position Target and VVT position	> 10 °	engine speed	> 800 rpm	10 sec Once per trip	2 DCY
Exhaust Variable Valve Timing Control Range/Performance Bank Right	P000B	Functional check	Difference between VVT position Target and VVT position	same as P000A	same as P01366		same as P000A	2 DCY
Intake Variable Valve Timing Control Range/Performance Bank Left	P000C	Functional check	Difference between VVT position Target and VVT position	same as P000A	same as P01366		same as P000A	2 DCY
Exhaust Variable Valve Timing Control Range/Performance Bank Left	P000D	Functional check	Difference between VVT position Target and VVT position	same as P000A	same as P01366		same as P000A	2 DCY

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Component/System	Fault code	Monitor Strategy description	Malfunction Criteria	Threshold Parameters	Secondary Parameters	Enable Conditions	Time Required	Mil Illumination	
COMPREHENSIVE COMPONENT MONITORING									
MANIFOLD ABSOLUTE PRESSURE / BAROMETRIC									
	P0069	rationality check	difference between manifold absolute pressure and barometric pressure	> 8 kPa	time since engine off key status	> 7 [sec] off	1.5 sec once for trip	2 DCY	
	P2227	rationality check	Barometric pressure sensor signal	<= 2.25 V (60.8 kPa) and > 0.2V (14 kPa)			1 sec continuous	2 DCY	
	P2228	low input	Barometric pressure sensor signal	<= 0.2 [14 kPa]			1 time 0.1 sec continuous	2 DCY	
	P2229	high input	Barometric pressure sensor signal	> 4.96 [107.9 kPa]			1 time 0.1 sec continuous	2 DCY	
	P0106	rationality check	Comparison between sensor bank R value and sensor bank L value	> 5 kPa	engine speed at key ON and engine OFF	> 800 [rpm] > 1 [sec]	10 times 0.2 sec continuous	2 DCY	
	P0107	low input	Manifold absolute pressure sensor signal Bank R	< 0.38 [20 kPa]			3 times 0.06 sec continuous	2 DCY	
	P0108	High input	Manifold absolute pressure sensor signal Bank R	> 4.28 [107.9 kPa]			3 times 0.06 sec continuous	2 DCY	
	P115B	low input	Manifold absolute pressure sensor signal Bank L	> 0.38 [20 kPa]			3 times 0.06 sec continuous	2 DCY	
	P115C	High input	Manifold absolute pressure sensor signal Bank L	< 4.28 [107.9 kPa]			3 times 0.06 sec continuous	2 DCY	
INTAKE AIR TEMPERATURE									
	P2199	Rationality Check	Comparison between bank R sensor and bank L sensor	> 25 °C	time	> 0.5 sec	3 times 0.06 sec continuous	2 DCY	
	P0112	low input	air temperature sensor 1	< 0.10 V (130.7°C)	V	time	> 10 sec	10 times 0.2 sec continuous	2 DCY
	P0113	high input	air temperature sensor 1	> 4.9 V (-46.1°C)	V	time	> 10 sec	10 times 0.2 sec continuous	2 DCY
	P0097	low input	air temperature sensor 2	< 0.10 V (130.7°C)	V	time	> 10 sec	10 times 0.2 sec continuous	2 DCY
	P0098	high input	air temperature sensor 2	> 4.9 V (-46.1°C)	V	time	> 10 sec	10 times 0.2 sec continuous	2 DCY
THROTTLE POSITION ENGINE BANK 1									
	P153C	rationality check	Bank R					continuous 2 DCY	
THROTTLE POSITION ENGINE BANK 2									
	P153D	rationality check	Bank L					continuous 2 DCY	
THROTTLE POSITION SENSORS "A"									
	P2135	rationality check	Throttle/Pedal Position Sensor/Switch "A"/"B" % Correlation	> 13,5 %			0.5 sec continuous	2 DCY	
	P0122	low input	position signal	< 0.20	V		immediately continuous	2 DCY	
	P0123	high input	position signal	> 4.8	V		immediately continuous	2 DCY	
THROTTLE POSITION SENSORS "B"									
	P0222	low input	position signal	< 00:10	V		immediately continuous	2 DCY	
	P0223	high input	position signal	> 4.75	V		immediately continuous	2 DCY	
THROTTLE POSITION SENSORS "F"									
	P212F	rationality check	Throttle/Pedal Position Sensor/Switch "F"/"G" % Correlation	> 13,5 %			0.5 sec continuous	2 DCY	
	P2132	low input	position signal	< 0.20	V		immediately continuous	2 DCY	
	P2133	high input	position signal	> 4.8	V		immediately continuous	2 DCY	
THROTTLE POSITION SENSORS "G"									
	P212C	low input	position signal	< 00:10	V		immediately continuous	2 DCY	
	P212D	high input	position signal	> 4.75	V		immediately continuous	2 DCY	
THROTTLE ACTUATOR ENGINE BANK 1									
	P153A	rationality check	Bank R					continuous 2 DCY	
THROTTLE ACTUATOR ENGINE BANK 2									
	P153B	rationality check	Bank L					continuous 2 DCY	
THROTTLE ACTUATOR "A"									
	P2108	internal hardware check	Vbatt low	< 6	V		immediately continuous	2 DCY	
	P2101	rationality check	request position vs actuated position	> 3 %	Battery Voltage	>7 [V]	3 sec continuous	2 DCY	
	P2100	internal hardware check	CC to GND or CC to batt				immediately continuous	2 DCY	
	P2100	DC Motor open circuit	Open circuit				immediately continuous	2 DCY	
THROTTLE ACTUATOR "B"									
	P211F	internal hardware check	Vbatt low	< 6	V		immediately continuous	2 DCY	
	P210B	rationality check	request position vs actuated position	> 3 %	Battery Voltage	>7 [V]	3 sec continuous	2 DCY	
	P210A	internal hardware check	CC to GND or CC to batt				immediately continuous	2 DCY	
	P210A	DC Motor open circuit	Open circuit				immediately continuous	2 DCY	
PEDAL POSITION									
	P2138	rationality check	signal voltage sensor 1 *0.5 vs. sensor 2	> 0.117 ... 0.703	V		0.5 sec continuous	2 DCY	
	P2122	low input	signal voltage	< 0.4	V		0.2 sec continuous	2 DCY	
	P2123	high input	signal voltage	> 4.87	V		0.2 sec continuous	2 DCY	
	P2127	low input	signal voltage	< 0.24	V		0.2 sec continuous	2 DCY	
	P2128	high input	signal voltage	> 2.22	V		0.2 sec continuous	2 DCY	
IDLE CONTROL SYSTEM									
	P0506	Functional check	RPM	RPM_TARGET f(ECT) - RPM > 90 Rpm	time after cranking ECT	> 60 sec > 60 °C	10 times 0.2 sec continuous	2 DCY	
	P0507	Functional check	RPM	RPM_TARGET f(ECT) - RPM < -90 Rpm	Time ECT Pedal position	> 60 sec > 60 °C < 3°	10 times 0.2 sec continuous	2 DCY	
			Throttle Position Self Learning (TPSL)	TPSL - TPSL last trip > 3,5%			immediately	2 DCY	
			Throttle Position	TP = lower Saturation TP (2%)	Time ECT Pedal position	> 35 sec > 70°C and < 95°C < 3°	immediately	2 DCY	

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Component/System	Fault code	Monitor Strategy description	Malfunction Criteria	Threshold Parameters	Secondary Parameters	Enable Conditions	Time Required	Mil Illumination	
CAN COMMUNICATION	U0028	Vehicle Communication Bus A	CAN message on CAN 1Mb	CAN 1MB			3 sec continuous	2 DCY	
	U1130	Lost Communication With ION1	Lost Communication With ION1	CAN 1MB			3 sec continuous	2 DCY	
	U1131	Lost Communication With ION2	Lost Communication With ION2	CAN 1MB			3 sec continuous	2 DCY	
	U1132	Lost Communication With LUP	Lost Communication With LUP	CAN 1MB			3 sec continuous	2 DCY	
	U0101	Lost Communication with TCM	Message-TimeOut for CAN- failure memory entries	CAN 500KB			continuous	2 DCY	
	U0402	Invalid Data Received From TCM	DLC, checksum and message counter monitoring	CAN 500KB			continuous	2 DCY	
	U0155	Lost Communication With Instrument Panel Cluster (IPC) Control Module	Message-TimeOut for CAN- failure memory entries	CAN 500KB			continuous	2 DCY	
U0423	Invalid Data Received From Instrument Panel Control Module	DLC	CAN 500KB			continuous	2 DCY		
INTERNAL CONTROL MODULE	P0605	Internal Control Module Read Only Memory (ROM) Error	check	Incorrect			immediately continuous	2 DCY	
CATALYST TEMPERATURE Bank 1	P2428	Exhaust Gas Temperature Too high Bank1	catalyst temperature sensor signal	> 940 °C			immediately continuous	2 DCY	
	P0544	rationality check	catalyst temperature sensor signal	< 180 °C	engine status ECT Closed loop	idle > 90 °C On > 100 sec	immediately continuous	2 DCY	
	P0545	low input	catalyst temperature sensor signal	< 0.1 (<40°C)	V	Key	on	immediately continuous	2 DCY
	P0546	high input	catalyst temperature sensor signal	>= 12.9 (>= 970°C)	V			immediately continuous	2 DCY
CATALYST TEMPERATURE Bank 2	P2429	Exhaust Gas Temperature Too high Bank2	catalyst temperature sensor signal	same as P2428	same as P2428	same as P2428	same as P2428	2 DCY	
	P0547	rationality check	catalyst temperature sensor signal	same as P0544	same as P0544	same as P0544	same as P0544	2 DCY	
	P0548	low input	catalyst temperature sensor signal	same as P0545	same as P0545	same as P0545	same as P0545	2 DCY	
	P0549	high input	catalyst temperature sensor signal	same as P0546	same as P0546	same as P0546	same as P0546	2 DCY	
CATALYST TEMPERATURE Bank 3	P11E7	Exhaust Gas Temperature Too high Bank3	catalyst temperature sensor signal	same as P2428	same as P2428	same as P2428	same as P2428	2 DCY	
	P14A0	rationality check	catalyst temperature sensor signal	same as P0544	same as P0544	same as P0544	same as P0544	2 DCY	
	P11E9	low input	catalyst temperature sensor signal	same as P0545	same as P0545	same as P0545	same as P0545	2 DCY	
	P14A2	high input	catalyst temperature sensor signal	same as P0546	same as P0546	same as P0546	same as P0546	2 DCY	
CATALYST TEMPERATURE Bank 4	P11E8	Exhaust Gas Temperature Too high Bank4	catalyst temperature sensor signal	same as P2428	same as P2428	same as P2428	same as P2428	2 DCY	
	P14A3	rationality check	catalyst temperature sensor signal	same as P0544	same as P0544	same as P0544	same as P0544	2 DCY	
	P11EA	low input	catalyst temperature sensor signal	same as P0545	same as P0545	same as P0545	same as P0545	2 DCY	
	P14A5	high input	catalyst temperature sensor signal	same as P0546	same as P0546	same as P0546	same as P0546	2 DCY	
CATALYST TEMPERATURE	P11EB	Rationality Check (difference between sensor Bank 1 vs Bank 2)	catalyst temperature sensor signal Bank 1 vs Bank 2	> 200 °C			60 sec continuous	2 DCY	
	P11EC	Rationality Check (difference between sensor Bank 3 vs Bank 4)	catalyst temperature sensor signal Bank 3 vs Bank 4	> 200 °C			60 sec continuous	2 DCY	
	P11ED	Rationality Check (difference between sensor Bank 1 vs Bank 4)	catalyst temperature sensor signal Bank 1 vs Bank 4	> 200 °C			60 sec continuous	2 DCY	
OIL TEMPERATURE	P0197	low input	Oil temperature sensor 1	< 0.048 (175°C)	V		3 times 0.5 sec continuous	2 DCY	
	P0198	high input / Open circuit	Oil temperature sensor 1	> 4.8 (-56°C)	V		3 times 0.5 sec continuous	2 DCY	
V.I.N.	P0630	Internal routine	Data	Component found failed	Key	On	immediately	2 DCY	
INJECTOR 1	P0261	low input/open circuit	feedback-test	Incorrect data feedback			continuous immediately	2 DCY	
INJECTOR 1	P0262	high input	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 1	P0201	open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 2	P0264	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 2	P0265	high input	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 2	P0202	open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 3	P0267	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 3	P0268	high input	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 3	P0203	open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 4	P0270	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 4	P0271	high input	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 4	P0204	open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 5	P0273	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 5	P0274	high input	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 5	P0205	open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 6	P0276	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 6	P0277	high input	same as P0261	same as P0261			same as P0261	2 DCY	
INJECTOR 6	P0206	open circuit	same as P0261	same as P0261			same as P0261	2 DCY	



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Component/System	Fault code	Monitor Strategy description	Malfunction Criteria	Threshold Parameters	Secondary Parameters	Enable Conditions	Time Required	Mil Illumination
INJECTOR 7	P0279	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 7	P0280	high input	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 7	P0207	open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 8	P0282	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 8	P0283	high input	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 8	P0208	open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 9	P0285	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 9	P0286	high input	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 9	P0209	open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 10	P0288	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 10	P0289	high input	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 10	P0210	open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 11	P0291	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 11	P0292	high input	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 11	P0211	open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 12	P0294	low input/open circuit	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 12	P0295	high input	same as P0261	same as P0261			same as P0261	2 DCY
INJECTOR 12	P0212	open circuit	same as P0261	same as P0261			same as P0261	2 DCY
JUST FOR 4+2 CATALYST VERSION								
EXHAUST TEMPERATURE PRESSURE CONTROL SYSTEM - Bank R	P0471	Exhaust Pressure Sensor "A" Circuit Range/Performance	Differential exhaust pressure signal	< 4.74 V (36.8 kPa) and > 2.5 V (23 kPa)			immediately continuous	2 DCY
	P0472	low input	Differential exhaust pressure signal	< 0.25 (-3.37 kPa) V			immediately continuous	2 DCY
	P0473	high input	Differential exhaust pressure signal	> 4.751 V (43.7 kPa) V			immediately continuous	2 DCY
EXHAUST TEMPERATURE PRESSURE CONTROL SYSTEM - Bank L	P047B	Exhaust Pressure Sensor "B" Circuit Range/Performance	Differential exhaust pressure signal	< 4.74 V (36.8 kPa) and > 2.5 V (23 kPa)			immediately continuous	2 DCY
	P047C	low input	Differential exhaust pressure signal	< 0.25 (-3.37 kPa) V			immediately continuous	2 DCY
	P047D	high input	Differential exhaust pressure signal	> 4.751 V (43.7 kPa) V			immediately continuous	2 DCY
EXHAUST TEMPERATURE ELECTRO VALVE CONTROL SYSTEM	P0477	low input	feedback-test	incorrect data feedback			Immediately continuous	2 DCY
	P0478	high input	feedback-test	incorrect data feedback			Immediately continuous	2 DCY
EXHAUST TEMPERATURE VALVE CONTROL SYSTEM Bank R	P047F	Exhaust Pressure Control Valve "A" Stuck Open	Differential exhaust pressure signal	> 0.62 V (5.7 kPa) V	airflow through the engine	> 360 mg/inj	4 times 5 sec continuous	2 DCY
	P048A	Exhaust Pressure Control Valve "A" Stuck Closed	Differential exhaust pressure signal	< 0.80 V (7.36 kPa) V	airflow through the engine	> 360 mg/inj	4 times 5 sec continuous	2 DCY
EXHAUST TEMPERATURE VALVE CONTROL SYSTEM Bank L	P04A4	Exhaust Pressure Control Valve "B" Stuck Open	Differential exhaust pressure signal	< 0.62 V (5.7 kPa) V	airflow through the engine	> 360 mg/inj	4 times 5 sec continuous	2 DCY
	P04A5	Exhaust Pressure Control Valve "B" Stuck Closed	Differential exhaust pressure signal	< 0.80 V (7.36 kPa) V	airflow through the engine	> 360 mg/inj	4 times 5 sec continuous	2 DCY
ELECTRONIC TRANSMISSION								
CLUTCH POSITION SENSOR	P0808	Clutch Position Sensor Circuit High	Range check on input	Duty > 92 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
	P0807	Clutch Position Sensor Circuit Low	Range check on input	Duty < 8 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
GEAR POSITION SENSOR 1-R	P2834	Shift Fork Circuit High	Range check on input	Duty > 92 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
	P2833	Shift Fork Circuit Low	Range check on input	Duty < 8 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
GEAR POSITION SENSOR 2-4	P2839	Shift Fork Circuit High	Range check on input	Duty > 92 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
	P2838	Shift Fork Circuit Low	Range check on input	Duty < 8 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
GEAR POSITION SENSOR 3-5	P283E	Shift Fork Circuit High	Range check on input	Duty > 92 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
	P283D	Shift Fork Circuit Low	Range check on input	Duty < 8 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
GEAR POSITION SENSOR 6-7	P2843	Shift Fork Circuit High	Range check on input	Duty > 92 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
	P2842	Shift Fork Circuit Low	Range check on input	Duty < 8 %	time after TCM power ON	> 70 msec	10 msec continuous	2 DCY
ENGINE SPEED SENSOR	P0727	Engine Speed Sensor No Signal	Plausibility check with CAN message/Calculated values	Engine speed = 0 rpm	calculated engine speed	> 500 rpm	250 msec continuous	2 DCY
	P0728	Engine Speed Sensor Intermittent	Rate of change too high check on input	Rate > 80 rpm/msec	time after TCM power ON	> 100 msec	1 sec continuous	2 DCY
INPUT SHAFT SPEED SENSOR	P0716	Input Shaft Speed Sensor Range/Performance	Status line on input	Voltage <0,7V or >4,0V	time after TCM power ON	> 100 msec	continuous	2 DCY
	P0717	Input Shaft Speed Sensor No Signal	Plausibility check with CAN message/Calculated values	Input shaft speed = 0 rpm	calculated input shaft speed	> 500 rpm	250 msec	2 DCY
	P0718	Input Shaft Speed Sensor Intermittent	Rate of change too high check on input	Rate > 400 rps/5msec	time after TCM power ON	> 100 msec	1 sec continuous	2 DCY
OUTPUT SHAFT SPEED SENSOR	P0721	Output Shaft Speed Sensor Circuit Range/Performance	Status line on input	Voltage <0,7V or >4,0V	time after TCM power ON	> 100 msec	continuous	2 DCY
	P0722	Output Shaft Speed Sensor No Signal	Plausibility check with CAN message/Calculated values	Output shaft speed = 0 rpm	calculated output shaft speed	> 500 rpm	250 msec	2 DCY
	P0723	Output Shaft Speed Sensor Intermittent	Rate of change too high check on input	Rate > 600 rps/5msec	time after TCM power ON	> 100 msec	1 sec continuous	2 DCY
SOLENOID OUTPUT VALVE PP1	P0746	Pressure Control Stuck Off	Current requested from TCM	< actual solenoid current - 100 mA	time after TCM power ON	> 100 msec	50 msec continuous	2 DCY
	P0747	Pressure Control Stuck On	Current requested from TCM	> 100 mA + actual solenoid current or > 2400 mA	time after TCM power ON	> 100 msec	50 msec continuous	2 DCY
SOLENOID OUTPUT VALVE PP2	P0776	Pressure Control Stuck Off	Current requested from TCM	< actual solenoid current - 100 mA	time after TCM power ON	> 100 msec	50 msec continuous	2 DCY
	P0777	Pressure Control Stuck On	Current requested from TCM	> 100 mA + actual solenoid current or > 2400 mA	time after TCM power ON	> 100 msec	50 msec continuous	2 DCY
SOLENOID OUTPUT VALVE PGRI	P0751	Shift Solenoid Stuck Off	Current requested from TCM	< actual solenoid current - 100 mA	time after TCM power ON	> 100 msec	50 msec continuous	2 DCY
	P0752	Shift Solenoid Stuck On	Current requested from TCM	> 100 mA + actual solenoid current or > 2400 mA	time after TCM power ON	> 100 msec	50 msec continuous	2 DCY

LB 83X OBD II - SUMMARY TABLE - MY2012



LEGENDA

yellow = DTC just for 4+2 Catalyst Version

Test Group CNLXV06.5L83

Certification Standard
(LEV II)

Issue date:

December/10 (RC01)

Component/System	Fault code	Monitor Strategy description	Malfunction Criteria	Threshold Parameters	Secondary Parameters	Enable Conditions	Time Required	Mil Illumination
SOLENOID OUTPUT VALVE PG24	P0756	Shift Solenoid Stuck Off	Current requested from TCM	< actual solenoid current - 100 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
	P0757	Shift Solenoid Stuck On	Current requested from TCM	> 100 mA + actual solenoid current or > 2400 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
SOLENOID OUTPUT VALVE PG35	P0761	Shift Solenoid Stuck Off	Current requested from TCM	< actual solenoid current - 100 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
	P0762	Shift Solenoid Stuck On	Current requested from TCM	> 100 mA + actual solenoid current or > 2400 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
SOLENOID OUTPUT VALVE PG67	P0766	Shift Solenoid Stuck Off	Current requested from TCM	< actual solenoid current - 100 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
	P0767	Shift Solenoid Stuck On	Current requested from TCM	> 100 mA + actual solenoid current or > 2400 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
SOLENOID OUTPUT VALVE PK	P0771	Shift Solenoid Stuck Off	Current requested from TCM	< actual solenoid current - 100 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
	P0772	Shift Solenoid Stuck On	Current requested from TCM	> 100 mA + actual solenoid current or > 2400 mA	time after TCM power ON	> 100 msec	50 msec	contiunos 2 DCY
5V SENSORS SUPPLY	P0642	Sensor Supply Voltage Low	Range check on voltage	Voltage < 4V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
	P0643	Sensor Supply Voltage High	Range check on voltage	Voltage > 6V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
TCM POWER RELAY SENSE	P0890	TCM Power Relay Sense Circuit Low	Range check on voltage	Voltage < 9V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
	P0891	TCM Power Relay Sense Circuit High	Range check on voltage	Voltage > 20V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
ACTUATOR SUPPLY VOLTAGE "A"	P0658	Actuator Supply Voltage Low	Range check on voltage	Voltage < 9V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
	P0659	Actuator Supply Voltage High	Range check on voltage	Voltage > 20V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
ACTUATOR SUPPLY VOLTAGE "B"	P2670	Actuator Supply Voltage Low	Range check on voltage	Voltage < 9V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
	P2671	Actuator Supply Voltage High	Range check on voltage	Voltage > 20V	time after TCM power ON	> 70 msec	20 msec	contiunos 2 DCY
HYDRAULIC OIL PRESSURE CONTROL	P0944	Hydraulic pressure loss	pump working time	> 30 sec	no gear shifting operation			contiunos 2 DCY
GEAR ENGAGEMENT CONTROL	P073D	Unable to engage Neutral	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P073E	Unable to engage Reverse	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P073F	Unable to engage 1st	Gear actuator position	not congruent with the command	key status	On	100 msec	2 DCY
	P074A	Unable to engage 2nd	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P074B	Unable to engage 3rd	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P074C	Unable to engage 4th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P074D	Unable to engage 5th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P074E	Unable to engage 6th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P074F	Unable to engage 7th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P072B	Stuck in Reverse	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P072C	Stuck in 1st	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P072D	Stuck in 2nd	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P072E	Stuck in 3rd	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P072F	Stuck in 4th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P073A	Stuck in 5th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P073B	Stuck in 6th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
	P073C	Stuck in 7th	Gear actuator position	not congruent with the command	key status	On	100 msec	contiunos 2 DCY
CLUTCH CONTROL	P0811	Excessive clutch slippage	Detection of slip with clutch indicating fully locked	Slip >200 rpm	fully locked clutch		2 sec	contiunos 2 DCY