OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		Oxygen Sensor Monitor Bank 1 Sensor 1			
01	01	0A	Rich to Lean Sensor Threshold Voltage	0.0000 to 7.9900 V	0.122 mv / bit
01	02	0A	Lean to Rich Sensor Threshold Voltage	0.0000 to 7.9900 V	0.122 mv / bit
01	03	0A	Low Sensor Voltage for Switch Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit
01	04	0A	High Sensor Voltage for Switch Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit
01	05	10	Rich to Lean Sensor Switch Time	0.0000 to 65.535 ms	1 ms / bit
01	06	10	Lean to Rich Sensor Switch Time	0.0000 to 65.535 ms	1 ms / bit
01	10	see footnote 1			
01	80	2B	Rich to Lean Switches Test Results	0 to 65535 switches	1 switch / bit
01	81	2B	Lean to Rich Switches Test Results	0 to 65535 switches	1 switch / bit
01	82	20	Rich-Lean Response to Lean-Rich Response Ratio	0.000:1 to 255.996:1 ratio	0.0039 / bit
01	83	0A	Low Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit
01	84	0A	High Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit
01	85	10	O2 Sensor Rich to Lean Half Period Time	0.0000 to 65535 ms	1 ms / bit
01	86	10	O2 Sensor Lean to Rich Half Period Time	0.0000 to 65535 ms	1 ms / bit
01	87	10	Sum of O2 Sensor L/R and R/L Half Period Times	0.0000 to 65535 ms	1 ms / bit
01	88	90 <sup>3</sup>	Difference Between Rich-Lean Response and Lean-Rich Response	-32768 to +32767 milliseconds	1 ms / bit
01	89	06	B1S1 WRAF Slow Response	0 to 19.99 raw value	0.000305 / bit
01	8E	B1	Absolute Average Slope of the O2 Sensor Signal	-65536 to +65534 mV/s	2 mV/s per bit
01	8F	B1	Instantaneous Positive Slope of the O2 Sensor Signal	-65536 to +65534 mV/s	2 mV/s per bit
01	90	B1	Instantaneous Negative Slope of the O2 Sensor Signal	-65536 to +65534 mV/s	2 mV/s per bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		Oxygen Sensor Monitor Bank 1 Sensor 2			
02	05	20	B1S2 rich-lean switch time in fuel cut-off	0.000:1 to 255.99:1 ratio	0.0039062 / bit
02	8A	24	Post Catalyst Sensor Open Test	0 to 65535 counts	1 count / bit
02	8B	0A	Post Catalyst Sensor Rich Test	0.0000 to 7.9900 V	0.122 mv / bit
02	8C	0A	Post Catalyst Sensor Lean Test	0.0000 to 7.9900 V	0.122 mv / bit
		Oxygen Sensor Monitor Bank 1 Sensor 3			
03	8A	24	Post Catalyst Sensor Open Test	0 to 65535 counts	1 count / bit
03	8B	0A	Post Catalyst Sensor Rich Test	0.0000 to 7.9900 V	0.122 mv / bit
03	8C	0A	Post Catalyst Sensor Lean Test	0.0000 to 7.9900 V	0.122 mv / bit
		Oxygen Sensor Monitor Bank 2 Sensor 1			
05	01	0A	Rich to Lean Sensor Threshold Voltage	0.0000 to 7.9900 V	0.122 mv / bit
05	02	0A	Lean to Rich Sensor Threshold Voltage	0.0000 to 7.9900 V	0.122 mv / bit
05	03	0A	Low Sensor Voltage for Switch Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit
05	04	0A	High Sensor Voltage For Switch Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit
05	05	10	Rich to Lean Sensor Switch Time	0.0000 to 65535 ms	1 ms / bit
05	06	10	Lean to Rich Sensor Switch Time	0.0000 to 65535 ms	1 ms / bit
05	10	see footnote 1			
05	80	2B	Rich to Lean Switches Test Results	0 to 65535 switches	1 switch / bit
05	81	2B	Lean to Rich Switches Test Results	0 to 65535 switches	1 switch / bit
05	82	20	Rich-Lean Response to Lean-Rich Response Ratio	0:1 to 255.996:1 ratio	0.0039 / bit
05	83	0A	Low Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
05	84	0A	High Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 V	0.122 mv / bit
05	85	10	O2 Sensor Rich to Lean Half Period Time	0.0000 to 65535 ms	1 ms / bit
05	86	10	O2 Sensor Lean to Rich Half Period Time	0.0000 to 65535 ms	1 ms / bit
05	87	10	Sum of O2 Sensor L/R and R/L Half Period Times	0.0000 to 65535 ms	1 ms / bit
05	88	90	Difference Between Rich-Lean Response and Lean-Rich Response	-32768 to +32767 milliseconds	1 ms / bit
05	89	06	B2S1 WRAF Slow Response	0 to 19.99 raw value	0.000305 / bit
05	8E	B1	Absolute Average Slope of the O2 Sensor Signal	-65536 to +65534 mV/s	2 mV/s per bit
05	8F	B1	Instantaneous Positive Slope of the O2 Sensor Signal	-65536 to +65534 mV/s	2 mV/s per bit
05	90	B1	Instantaneous Negative Slope of the O2 Sensor Signal	-65536 to +65534 mV/s	2 mV/s per bit
		Oxygen Sensor Monitor Bank 2 Sensor 2			
06	05	20	B2S2 rich-lean switch time in fuel cut-off	0.000:1 to 255.99:1 ratio	0.0039062 / bit
06	8A	24	Post Catalyst Sensor Open Test	0 to 65535 counts	1 count / bit
06	8B	0A	Post Catalyst Sensor Rich Tests	0.0000 to 7.9900 V	0.122 mv / bit
06	8C	0A	Post Catalyst Sensor Lean Tests	0.0000 to 7.9900 V	0.122 mv / bit
		Oxygen Sensor Monitor Bank 2 Sensor 3			
07	8A	24	Post Catalyst Sensor Open Tes	0 to 65535 counts	1 count / bit
07	8B	0A	Post Catalyst Sensor Rich Tests	0.0000 to 7.9900 V	0.122 mv / bit
07	8C	0A	Post Catalyst Sensor Lean Tests	0.0000 to 7.9900 V	0.122 mv / bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		Catalyst Monitor			
21	Α0	05	Catalyst Test Bank 1 (using OSC normalized ratio units)	0 to 1.999 unitless	0.0000305 / bit
21	A0	90	Catalyst Test Bank 1 (using OSC compensation units)	-32768 to +32767 milliseconds	1 ms / bit
21	A1	01	Catalyst Test Bank 1 (using Catalyst DFCO Exit Test)	0 to +65535 unitless	1 per bit
22	Α0	05	Catalyst Test Bank 2 (using OSC normalized ratio units)	0 to 1.999 raw value	0.0000305 / bit
22	0A	90	Catalyst Test Bank 2 (using OSC compensation units)	-32768 to +32767 milliseconds	1 ms / bit
22	<b>A</b> 1	01	Catalyst Test Bank 2 (using Catalyst DFCO Exit Test)	0 to +65535 unitless	1 per bit
		EGR Bank 1			
31	A8	FD	EGR Flow Decel Service Test	-32.768 to +32.767 kPa	0.001 kPa / bit
31	A9	FD	EGR Flow Quick Test	-32.768 to +32.767 kPa	0.001 kPa / bit
		EVAP Monitor (Cap off/gross Leak,large leak)	EVPD = Evap Pressure / Vacuum Decay		
39	39	see footnote 1			
39	3A	see footnote 1			
39	3B	see footnote 2			
39	В0	FE	Cap Off/gross Leak	-8192 to +8191.75 Pa	0.25 Pa / bit
39	B1	32	Large leak	0 to 1.999 inch	0.0000305 / bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		EVAP Monitor (Large)	<b>EVPD</b> = Evap Pressure / Vacuum Decay		
3A	C0	31	EVPD Weak Vacuum Test scaled in liters	0.0 to 65.535 liters	0.001 liters / bit
3A	C0	FD	EVPD Weak Vacuum Test scaled in kPa	-32.768 to +32.767 kPa	0.001 kPa / bit
3A	C1	11	EVPD Weak Vacuum Followup Test	0.0 to 6553.5 sec	100 milliseconds / bit
		EVAP Monitor 0.040"	<b>EVPD</b> = Evap Pressure / Vacuum Decay		
3B	C2	32	EVPD NV 0.040 Test - scaled in inches	0.000 to 1.999 inches	0.0000305 inches / bit
3B	C2	В0	EVPD NV 0.040 Test - scaled in percentage slope	-100.01 to +100.00%	+0.003052 percent / bit
		EVAP Monitor 0.020"	EVPD = Evap Pressure / Vacuum Decay EONV = Engine Off Natural Vacuum		
3C	C2	В0	EVPD NV 0.020 Test - scaled in percentage slope	-100.01 to +100.00%	+0.003052 percent / bit
3C	С3	В0	EVPD NV 0.020 Test - scaled in percentage slope	-100.01 to +100.00%	+0.003052 percent / bit
3C	С3	32	EVPD NV 0.020 Test - scaled in inches	0.000 to 1.999 inches	0.0000305 inches / bit
3C	C8	05	EONV 0.020" leak	0 to 1.999 raw value	0.0000305 / bit
3C	C8	20	EONV NV 0.020 Test	0.000:1 to 255.996:1 ratio	0.0039 / bit
3C	C8	FD	EONV NV 0.020 Test (Note: 1 kPa = 4.0146309 inches H2O)	-32.768 to +32.767 kPa	0.001 kPa / bit
3C	C9	20	EONV Vacuum Rezero Test	0.000:1 to 255.996:1 ratio	0.0039 / bit
3C	С9	FE	Canister Vent Valve 'stuck closed'	-8192 to +8191.75 Pa	0.25 Pa / bit
3C	CA	24	EONV Fuel Level Rationality Test	0 to 65535 counts	1 count / bit
3C	СВ	24	EONV Vacuum Rationality Test	0 to 65535 counts	1 count / bit
3C	СВ	FE	Canister Purge Valve 'stuck open'	-8192 to +8191.75 Pa	0.25 Pa / bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		Purge Flow Monitor	EVPD = Evap Pressure / Vacuum Decay		
3D	C4	11	EVPD NV Purge Pass Test	0.0 to 6553.5 sec	100 milliseconds / bit
3D	C5	FE	EVPD Purge Vacuum Fail Test Note: 1kPa = 0.0040146309 inches H2O vacuum Note: Min Test Limit is set to \$8000 if test complete.	-32.768 to +32.767 inches H2O	0.001 inches H2O / bit
3D	C6	11	EVPD Vent Restriction Test 1	0.0 to 6553.5 sec	100 milliseconds / bit
3D	С7	FD	EVPD Vent Restriction Test 2 - scaled in kPa. Note: 1 kPa = 4.0146309 in H2O	32.768 to +32.767 kPa	0.001 kPa / bit
3D	<b>C</b> 7	31	EVPD Vent Restriction Test 2 - scaled in liters	0.0 to 65.535 liters	0.001 liters / bit
3D	C8	31	EVPD Vent Restriction Test2 - scaled in liters	0.0 to 65.535 liters	0.001 liters / bit
		Oxygen Sensor Heater Monitor Bank 1 Sensor 1			
41	D0	11	Time to Activity Monitor	0.0 to 6553.5 sec	100 milliseconds / bit
41	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 amperes	0.01 Ampers / bit
41	D2	24	Current Feedback X out of Y Samples Test	0 to 65535 counts	1 count / bit
41	D3	11	Sensor Heater Monitor B1S1 'operative readiness time'	0 to 6553.5 seconds	100ms / bit
41	D4	96	Sensor Heater Monitor B1S1 'tip temperature out of range'	-3276.8 to + 3276.7 degC	0.1 degC / bit
41	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm/bit

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		Oxygen Sensor Heater Monitor Bank 1 Sensor 2			
42	D0	11	Time to Activity Monitor	0.0 to 6553.5 sec	100 milliseconds / bit
42	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 amperes	0.01 Ampers / bit
42	D2	24	Current Feedback X out of Y Samples Test	0 to 65535 counts	1 count / bit
42	D5	14	Sensor Heater Monitor B1S2 ' resistance out of range'	0 to 65535 ohms	1 ohm / bit
42	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm/bit
		Oxygen Sensor Heater Monitor Bank 1 Sensor 3			
43	D0	11	Time to Activity Monitor	0.0 to 6553.5 sec	100 milliseconds / bit
43	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 amperes	0.01 Ampers / bit
43	D2	24	Current Feedback X out of Y Samples Test	0 to 65535 counts	1 count / bit
43	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm/bit
		Oxygen Sensor Heater Monitor Bank 2 Sensor 1			
45	D0	11	Time to Activity Monitor	0.0 to 6553.5 sec	100 milliseconds / bit
45	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 amperes	0.01 Ampers / bit
45	D2	24	Current Feedback X out of Y Samples Test	0 to 65535 counts	1 count / bit
45	D3	11	Sensor Heater Monitor B2S1 'operative readiness time'	0 to 6553.5 seconds	100ms / bit
45	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm/bit
45	D4	96	Sensor Heater Monitor B2S1 'tip temperature out of range'	-3276.8 to + 3276.7 degC	0.1 degC / bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		Oxygen Sensor Heater Monitor Bank 2 Sensor 2			
46	D0	11	Time to Activity Monitor	0.0 to 6553.5 sec	100 milliseconds / bit
46	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 amperes	0.01 Ampers / bit
46	D2	24	Current Feedback X out of Y Samples Test	0 to 65535 counts	1 count / bit
46	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm/bit
46	D5	14	Sensor Heater Monitor B2S2 ' resistance out of range'	0 to 65535 ohms	1 ohm / bit
		Oxygen Sensor Heater Monitor Bank 2 Sensor 3			
47	D0	11	Time to Activity Monitor	0.0 to 6553.5 sec	100 milliseconds / bit
47	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 amperes	0.01 Ampers / bit
47	D2	24	Current Feedback X out of Y Samples Test	0 to 65535 counts	1 count / bit
47	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm/bit
		Secondary AIR monitor bank 1			
71	E0	24	AIR - Bank 1 Test	0 to 65535 counts	1 count / bit
71	E1	FD	AIR on - pressure error test	−32.768 to +32.767 kPa	0.001 kPa / bit
71	E2	FD	AIR Valve shut - pressure error test	-32.768 to +32.767 kPa	0.001 kPa / bit
71	E3	FD	AIR Pump off - pressure error test	-32.768 to +32.767 kPa	0.001 kPa / bit

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		Secondary AIR monitor bank 2			
72	E0	24	AIR - Bank 2 Test	0 to 65535 counts	1 count / bit
72	E1	FD	AIR on - pressure error test	-32.768 to +32.767 kPa	0.001 kPa / bit
72	E2	FD	AIR Valve shut - pressure error test	-32.768 to +32.767 kPa	0.001 kPa / bit
72	E3	FD	AIR Pump off - pressure error test	-32.768 to +32.767 kPa	0.001 kPa / bit
72	E4	FD	AIR on - pressure differential, between bank 1 and bank 2	-32.768 to +32.767 kPa	0.001 kPa / bit
		Misfire Cylinder 1 data			
A2	0B	24 <sup>4</sup>	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A2	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 2 data			
А3	0B	24 4	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
А3	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 3 data			
A4	0B	24 4	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A4	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 4 data			
<b>A</b> 5	0B	24 4	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A5	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		Misfire Cylinder 5 data			
A6	0B	24 <sup>4</sup>	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A6	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 6 data			
A7	0B	24 4	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A7	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 7 data			
A8	0В	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A8	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 8 data			
А9	0В	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
А9	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 9 data			
AA	0В	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
AA	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit

OBD Monitor ID (OBDIMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
		Misfire Cylinder 10 data			
АВ	0B	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
AB	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 11 data			
AC	<b>A</b> 5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
AC	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
		Misfire Cylinder 12 data			
AD	0В	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
AD	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDIMID)	Test Units and Scaling ID ID (TID) (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
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### **FOOTNOTES**

1	For the following 2004 model year vehicles:
	Cadillac XLR, SRX with 4.6 liter (VIN A) engine
	The following OBDMID and TIDs may be defined as shown:
	The following Obdividd and Tids may be defined as shown:
	OBDMID \$01
	TID \$10 may be replaced with TID \$89
	+, +
	OBDMID \$05
	TID \$10 may be replaced with TID \$89
	OBDMID \$39
	TID \$39 may be replaced with TID \$B0
	TID \$3A may be replaced with TID \$B1

2 For the following 2004 model year vehicles:

Cadillac XLR, SRX with 4.6 liter (VIN A) engine

OBDMID \$39 TID \$3B test limits and value are invalid

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDIMID)	Test Units and Scaling ID ID (TID) (UASID)	Description	Range For Information ONLY. Source information is ISO-15031-5 document	Resolution For Information ONLY. Source information is ISO-15031-5 document
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### **FOOTNOTES**

3 For the following 2005 model year vehicles:

Chevrolet Equinox with 3.4 liter (VIN F)
Chevrolet Malibu with 3.5 liter (VIN 8)
Pontiac Grand Am with 3.5 liter (VIN 8)

OBDMID \$01 TID \$88 test limits and value should be divided by 1000

**4** For the following 2005 model year vehicles:

Chevrolet Equinox with 3.4 liter (VIN F)

Chevrolet Malibu with 3.5 liter (VIN 8)

Pontiac Grand Am with 3.5 liter (VIN 8)

OBDMID \$A2 through \$A7 TID \$0B test value should be multiplied by 10