

2013 ENGINE PERFORMANCE

Mode 6 - GMLAN

INTRODUCTION

Mode 6 is designed to allow access to the results of onboard diagnostic monitoring tests of specific components/systems that are not continuously monitored. These systems include the catalytic converter, EVAP system, oxygen sensor, oxygen sensor heater, EGR system, secondary AIR system, and sometimes misfire.

Mode 6 data is output from the PCM/ECM in hexadecimal form. The \$ sign indicates a hexadecimal number. Depending on the software in the scanner, the output could be displayed in hexadecimal numbers (no conversion), raw data (conversion to decimal numbers), or measurable values (applying conversion factor to raw data).

Before reading mode 6 information, ensure that the monitor for the information you are accessing has run to completion. If the monitor is not complete, the mode 6 data will not be accurate.

GMLAN (CAN)

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link					
Some items have footnotes, defined on the last pages.					
OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
Oxygen Sensor Monitor Bank 1 Sensor 1					
01	01	0A	Rich to Lean Sensor Threshold Voltage	0.0000 to 7.9900 Volts	0.122 mV / bit
01	02	0A	Lean to Rich Sensor Threshold Voltage	0.0000 to 7.9900 Volts	0.122 mV / bit
01	03	0A	Low Sensor Voltage for Switch Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
01	04	0A	High Sensor Voltage for Switch Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
01	05	10	Rich to Lean Sensor Switch Time	0.0000 to 65.535 seconds	1 ms / bit
01	06	10	Lean to Rich Sensor Switch Time	0.0000 to 65.535 seconds	1 ms / bit
01	07	0A	Minimum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
01	08	0A	Maximum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
01	0A	10	Sensor Period (Calculated)	0 to 65535 ms	1.0 ms / bit
01	10 ⁽¹⁾	06	B1S1 WRAF Slow Response	0 to 19.99 raw value	0.000305 / bit
01	80 ⁽¹⁰⁾	2B	Rich to Lean Switches Test Results	0 to 65535 switches	1 switch / bit
01	81 ⁽¹⁰⁾	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 to 255.996	0.0039062 / bit
01	83	05	Dynamic Response Performance	0.0 to 2.000	0.0000305 / bit
01	83	0A	Low Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
01	84	0A	High Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
01	84	85	Secondary Sensor Lambda Trim Correction of Primary Sensor	-0.999 to 0.999	0.0000305 / bit
01	85	10	O2 Sensor Rich to Lean Half Period Time	0.0000 to 65.535 seconds	1 ms / bit
01	86	10	O2 Sensor Lean to Rich Half Period Time	0.0000 to 65.535 seconds	1 ms / bit
01	87	10	Sum of O2 Sensor L/R and R/L Half Period Times	0.0000 to 65.535 seconds	1 ms / bit
01	88 ⁽²⁾	90	Difference Between Rich-Lean Response and Lean-Rich Response	-32.768 to +32.767 seconds	0.001 sec / 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

Footnotes are explained on the last pages of this document.

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Fig. 1: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (1 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
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
01	91 ⁽¹⁾	90	O2 Sensor Delayed Response - Rich to Lean	-32.768 to +32.767 seconds	0.001 sec per bit
01	92 ⁽¹⁾	90	O2 Sensor Delayed Response - Lean to Rich	-32.768 to +32.767 seconds	0.001 sec per bit
01	D0	24	O2 Value Plausibility Check During Overrun	0 to 65535 counts	1 count / bit
01	D1	24	Dynamic Check for O2 Signal Test	0 to 65535 counts	1 count / bit
01	D2	11	Dynamic Check of NOx sensor	0.0 to 6553.5 seconds	0.1 seconds / bit
01	D3	86	NOx Sensor Performance - Signal High	-9.994 to +9.994	0.000305 per bit
01	D4	86	NOx Sensor Performance - Signal Low	-9.994 to +9.994	0.000305 per bit
01	E0	10	O2 Sensor Increasing Dynamic Check Low - Bank 1 Sensor 1	0 - 65535 ms	1 ms / bit
01	E1	10	O2 Sensor Increasing Dynamic Check High - Bank 1 Sensor 1	0 - 65535 ms	1 ms / bit
01	E2	10	O2 Sensor Decreasing Dynamic Check Low - Bank 1 Sensor 1	0 - 65535 ms	1 ms / bit
01	E3	10	O2 Sensor Decreasing Dynamic Check High - Bank 1 Sensor 1	0 - 65535 ms	1 ms / bit
01	E4	30	Oxygen concentration implausibly high in part load	0 - 100 %	0.001526 % / bit
01	E5	30	Oxygen concentration implausibly Low in part load	0 - 100 %	0.001526 % / bit
01	E6	11	NOx Sensor Dynamic Check low to high - Bank 1 Sensor 1	0 - 6553.5 s	100 ms / bit unsigned
Oxygen Sensor Monitor Bank 1 Sensor 2					
02	05	10	Rich to Lean Sensor Transient (Gradient) Time	0 to 65535 ms	1.0 ms / bit
02	05	20	B1S2 rich-lean switch time in fuel cut-off	0.000:1 to 255.99:1 ratio	0.0039062 / bit
02	07	0A	Minimum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
02	08	0A	Maximum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
02	81 ^(R)	0A	Maximum Sensor Voltage for Functional Check	0.0 to 7.99 V	0.122 mv / bit
02	82 ^(R)	0A	Minimum Sensor Voltage for Functional Check	0.0 to 7.99 V	0.122 mv / bit

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Fig. 2: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (2 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
02	86	10	Rich to Lean Sensor Delay (Response) Time	0 to 65535 ms	1.0 ms / bit
02	86	35	Rich to Lean Sensor Delay (Response) Time	0 to 655350 ms	10.0 ms / 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 Volts	0.122 mV / bit
02	8C	0A	Post Catalyst Sensor Lean Test	0.0000 to 7.9900 Volts	0.122 mV / bit
02	91	0A	Post Catalyst Sensor Delayed Initial R/L Response Test	0.0000 to 7.9900 Volts	0.122 mV / bit
02	92	0A	Post Catalyst Sensor Delayed Initial L/R Response Test	=E430.0000 to 7.9900 Volts	0.122 mV / bit
02	93	03	Post Catalyst Sensor Slow R/L Response Test	0 to +655.35 unitless	0.01 per bit
02	94	03	Post Catalyst Sensor Slow L/R Response Test	0 to +655.35 unitless	0.01 per bit
02	D5	01	NOx Sensor Performance - Signal Insufficient Peak Value	0 to +65535 unitless	1 per bit
02	D6	01	NOx Sensor Performance	0 to +65535 unitless	1 per bit
02	D7	30	Oxygen concentration implausibly high in part load	0 to 100 percent	0.001526 % per bit
02	D8	30	Oxygen concentration implausibly low in part load	0 to 100 percent	0.001526 % per bit
02	E0	81	NOx Sensor Self Diagnostics - Bank 1 Sensor 2	-32768 to 32767	1 / bit hex to decimal
02	E1	81	NOx Signal Stuck in Range - Bank 1 Sensor 2	-32768 to 32767	1 / bit hex to decimal
02	E2	81	NOx Sensor Abort Self Diagnostics - Bank 1 Sensor 2	-32768 to 32767	1 / bit hex to decimal
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 Volts	0.122 mV / bit
03	8C	0A	Post Catalyst Sensor Lean Test	0.0000 to 7.9900 Volts	0.122 mV / bit
03	91	0A	Post Catalyst Sensor Delayed Initial R/L Response Test	0.0000 to 7.9900 Volts	0.122 mV / bit
03	92	0A	Post Catalyst Sensor Delayed Initial L/R Response Test	0.0000 to 7.9900 Volts	0.122 mV / bit
03	93	03	Post Catalyst Sensor Slow R/L Response Test	0 to +655.35 unitless	0.01 per bit
03	94	03	Post Catalyst Sensor Slow L/R Response Test	0 to +655.35 unitless	0.01 per bit

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Fig. 3: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (3 Of 21)
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OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
Oxygen Sensor Monitor Bank 2 Sensor 1					
05	01	0A	Rich to Lean Sensor Threshold Voltage	0.0000 to 7.9900 Volts	0.122 mV / bit
05	02	0A	Lean to Rich Sensor Threshold Voltage	0.0000 to 7.9900 Volts	0.122 mV / bit
05	03	0A	Low Sensor Voltage for Switch Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
05	04	0A	High Sensor Voltage for Switch Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
05	05	10	Rich to Lean Sensor Switch Time	0.0000 to 65.535 seconds	1 ms / bit
05	06	10	Lean to Rich Sensor Switch Time	0.0000 to 65.535 seconds	1 ms / bit
05	07	0A	Minimum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
05	08	0A	Maximum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
05	0A	10	Sensor Period (Calculated)	0 to 65535 ms	1.0 ms / bit
05	10 ⁽¹⁾	06	B2S1 WRAF Slow Response	0 to 19.99 raw value	0.000305 / bit
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 to 255.996	0.0039062 / bit
05	83	0A	Low Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
05	84	0A	High Sensor Voltage for Half Period Time Calculation	0.0000 to 7.9900 Volts	0.122 mV / bit
05	85	10	O2 Sensor Rich to Lean Half Period Time	0.0000 to 65.535 seconds	1 ms / bit
05	86	10	O2 Sensor Lean to Rich Half Period Time	0.0000 to 65.535 seconds	1 ms / bit
05	87	10	Sum of O2 Sensor L/R and R/L Half Period Times	0.0000 to 65.535 seconds	1 ms / bit
05	88	90	Difference Between Rich-Lean Response and Lean-Rich Response	-32.768 to +32.767 seconds	0.001 sec per 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

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Fig. 4: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (4 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link					
Some items have footnotes, defined on the last pages.					
OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
05	91	90	O2 Sensor Delayed Response - Rich to Lean	-32.768 to +32.767 seconds	0.001 sec per bit
05	92	90	O2 Sensor Delayed Response - Lean to Rich	-32.768 to +32.767 seconds	0.001 sec per bit
Oxygen Sensor Monitor Bank 2 Sensor 2					
06	05	10	Rich to Lean Sensor Transient (Gradient) Time	0 to 65535 ms	1.0 ms / bit
06	05	20	B2S2 rich-lean switch time in fuel cut-off	0.000:1 to 255.99:1 ratio	0.0039062 / bit
06	07	0A	Minimum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
06	08	0A	Maximum Sensor Voltage Achieved	0.0 to 7.99 V	0.122 mv / bit
06	81 ^(B)	0A	Sensor Voltage Achieved for below Commanded Target Voltage Functional Check	0.0 to 7.99 V	0.122 mv / bit
06	82	0A	Sensor Voltage Achieved for above Commanded Target Voltage Functional Check	0.0 to 7.99 V	0.122 mv / bit
06	86	10	Rich to Lean Sensor Delay (Response) Time	0 to 65535 ms	1.0 ms / 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 Volts	0.122 mV / bit
06	8C	0A	Post Catalyst Sensor Lean Tests	0.0000 to 7.9900 Volts	0.122 mV / bit
06	91	0A	Post Catalyst Sensor Delayed Initial R/L Response Test	0.0000 to 7.9900 Volts	0.122 mV / bit
06	92	0A	Post Catalyst Sensor Delayed Initial L/R Response Test	0.0000 to 7.9900 Volts	0.122 mV / bit
06	93	03	Post Catalyst Sensor Slow R/L Response Test	0 to +655.35 unitless	0.01 per bit
06	94	03	Post Catalyst Sensor Slow L/R Response Test	0 to +655.35 unitless	0.01 per bit
Oxygen Sensor Monitor Bank 2 Sensor 3					
07	8A	24	Post Catalyst Sensor Open Test	0 to 65535 counts	1 count / bit
07	8B	0A	Post Catalyst Sensor Rich Tests	0.0000 to 7.9900 Volts	0.122 mV / bit
Footnotes are explained on the last pages of this document.					
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Fig. 5: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (5 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

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OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
07	8C	0A	Post Catalyst Sensor Lean Tests	0.0000 to 7.9900 Volts	0.122 mV / bit
07	91	0A	Post Catalyst Sensor Delayed Initial R/L Response Test	0.0000 to 7.9900 Volts	0.122 mV / bit
07	92	0A	Post Catalyst Sensor Delayed Initial L/R Response Test	0.0000 to 7.9900 Volts	0.122 mV / bit
07	93	03	Post Catalyst Sensor Slow R/L Response Test	0 to +655.35 unitless	0.01 per bit
07	94	03	Post Catalyst Sensor Slow L/R Response Test	0 to +655.35 unitless	0.01 per bit
Catalyst Monitor Bank 1 EWMA = Exponentially Weighted Moving Average					
21	84 ^(B)	05	Catalyst Test Bank 1 (normalized) - EWMA	0.0 to 1.999	0.0000305 / bit
21	A0	01	Catalyst Test Bank 1 (using Catalyst DFCO Exit Test)	0 to +65535 unitless	1 per bit
21	A0	05	Catalyst Test Bank 1 (using OSC normalized ratio units)	0 to +1.999 unitless	0.0000305 per bit
21	A0	86	Catalyst Test Bank 1 (using OSC normalized ratio units)	-9.994 to +9.994	0.000305 per bit
21	A0	90	Catalyst Test Bank 1 (using OSC compensation units)	-32.768 to +32.767 seconds	0.001 sec per bit
21	A0	05	Catalyst Diag B1	0 to 1.999 raw value	0.0000305 / bit
21	A1	01	Catalyst Test Bank 1 (using Catalyst DFCO Exit Test)	0 to +65535 unitless	1 per bit
21	A2	06	Passive monitoring of the oxidation catalyst efficiency	0 to +19.988 unitless	0.000305 per bit
Catalyst Monitor Bank 2 EWMA = Exponentially Weighted Moving Average					
22	84 ^(B)	05	Catalyst Test Bank 2 (normalized) - EWMA	0.0 to 1.999	0.0000305 / bit
22	A0	01	Catalyst Test Bank 2 (using Catalyst DFCO Exit Test)	0 to +65535 unitless	1 per bit
22	A0	05	Catalyst Test Bank 2 (using OSC normalized ratio units)	0 to +1.999 unitless	0.0000305 per bit
22	A0	86	Catalyst Test Bank 2 (using OSC normalized ratio units)	-9.994 to +9.994	0.000305 per bit
22	A0	90	Catalyst Test Bank 2 (using OSC compensation units)	-32.768 to +32.767 seconds	0.001 sec per bit
22	A0	05	Catalyst Diag B2	0 to 1.999 raw value	0.0000305 / bit

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Fig. 6: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (6 Of 21)
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

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OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
EGR Monitor Bank 1					
31	A0	82	EGR Slow Response - Increasing Flow	-3276.8 to +3276.7 counts	0.1 sec per bit
31	A1	82	EGR Slow Response - Decreasing Flow	-3276.8 to +3276.7 counts	0.1 sec per bit
31	A2	06	EGR Cooler Efficiency	0 to +19.988 unitless	0.000305 per bit
31	A3	82	Excessive EGR	-3276.8 to +3276.7 counts	0.1 sec per bit
31	A4	82	Insufficient EGR	-3276.8 to +3276.7 counts	0.1 sec per bit
31	A8	FD	EGRF Decel Service Test	-32.768 to +32.767 kPa	0.001 kPa / bit
31	A9 ⁽⁶⁾	FD	EGRF Quick Test	-32.768 to +32.767 kPa	0.001 kPa / bit
31	AA	24	O2 Positive Concentration Rationality Test	0 to 65535 counts	1 count / bit
31	AB	24	O2 Negative Concentration Rationality Test	0 to 65535 counts	1 count / bit
31	AC	24	Throttle Airflow Positive Control Deviation Test	0 to 65535 counts	1 count / bit
31	AD	24	Throttle Airflow Negative Control Deviation Test	0 to 65535 counts	1 count / bit
31	AE	24	Airflow Positive Control Deviation Test	0 to 65535 counts	1 count / bit
31	AF	24	Airflow Negative Control Deviation Test	0 to 65535 counts	1 count / bit
VVT Monitor Bank 1					
35	9A ⁽⁶⁾	9C	Exhaust Camshaft Slow Response	-327.68 to 327.67 °	0.01° / bit
35	9B ⁽⁶⁾	9C	Exhaust Camshaft Target Error	-327.68 to 327.67 °	0.01° / bit
35	9D ⁽⁶⁾	9C	Intake Camshaft Slow Response	-327.68 to 327.67 °	0.01° / bit
35	9E ⁽⁶⁾	9C	Intake Camshaft Target Error	-327.68 to 327.67 °	0.01° / bit

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Fig. 7: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (7 Of 21)
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

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OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
35	B0	24	PHSR Intake CAM Phaser Rationality Test	0 to 65535 counts	1 count / bit
35	B1	24	PHSR Exhaust CAM Phaser Rationality Test	0 to 65535 counts	1 count / bit
VVT Monitor Bank 2					
36	9A ⁽⁹⁾	9C	Exhaust Camshaft Slow Response	-327.68 to 327.67 °	0.0 1° / bit
36	9B ⁽⁹⁾	9C	Exhaust Camshaft Target Error	-327.68 to 327.67 °	0.0 1° / bit
36	9D ⁽⁹⁾	9C	Intake Camshaft Slow Response	-327.68 to 327.67 °	0.0 1° / bit
36	9E ⁽⁹⁾	9C	Intake Camshaft Target Error	-327.68 to 327.67 °	0.0 1° / bit
36	B0	24	PHSR Intake CAM Phaser Rationality Test	0 to 65535 counts	1 count / bit
36	B1	24	PHSR Exhaust CAM Phaser Rationality Test	0 to 65535 counts	1 count / bit
EVAP Monitor (Cap off)					
39	39 ⁽¹⁾	FE	Cap Off/gross Leak	-8192 to +8191.75 Pa	0.25 Pa / bit
39	3A ⁽¹⁾	32	Large leak	0 to 1.999 inch	0.0000305 / bit
39	3B ⁽²⁾				
39	80	81	EVAP Tank Gross Leak	-32768 to +32767	1.0 / bit
39	B0	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
EVAP Monitor (Large) EVPD = Evap Pressure / Vacuum Decay					
3A	C0 ⁽¹²⁾	31	EVPD Weak Vacuum Test scaled in liters	0.0 to 65.535 liters	0.001 liters / bit
3A	C0	3F	EVPD_Weak_Vacuum_Test (scaled in liters)	0.0 to 655.35 liters	0.01 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 Vac Flwup Test	0.0 to 6553.5 seconds	0.1 seconds / bit

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Fig. 8: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (8 Of 21)
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OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
3A	EC	0A	EVPD_NV_LargeLeak_EREV_Test1 (scaled in Volts)	0.0000 to 7.9900 Volts	0.122 mV / bit
3A	ED	0A	EVPD_NV_LargeLeak_EREV_Test2 (scaled in Volts)	0.0000 to 7.9900 Volts	0.122 mV / bit
3A	EE	FD	EVPD_NV_LargeLeak_EREV_Test3 (scaled in kPa)	-32.768 to +32.767 kPa	0.001 kPa / bit
EVAP Monitor 0.040"					
EVPD = 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	B0	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 EWMA = Exponentially Weighted Moving Average EONV = Engine Off Natural Vacuum EREV = Extended Range Electric Vehicle					
3C	80	05	EONV NV 0.020 Test - EWMA	0.0 to 1.999	0.0000305 / bit
3C	C3	32	EVPD NV 0.020 Test scaled in inches	0.000 to 1.999 inches	0.0000305 inches / bit
3C	C3	B0	EVPD NV 0.020 Test scaled in percentage slope	-100.01 to +100.00%	+0.003052 percent / bit
3C	C8	20	EONV NV 0.020 Test for EONV	0.000:1 to 255.996:1 ratio	0.0039 / bit unitless
3C	C8	FD	EONV NV 0.020 Test for EONV	-32.768 to +32.767 kPa	0.001 kPa / bit
3C	C8	05	EONV 0.020" leak	0 to 1.999 raw value	0.0000305 / bit
3C	C9	FE	Canister Vent Valve 'stuck closed'	-8192 to +8191.75 Pa	0.25 Pa / bit
3C	C9	20	EONV Vacuum Rezero Test for EONV	0.000:1 to 255.996:1 ratio	0.0039 / bit unitless
3C	CA	24	EONV Fuel Level Rationality Test for EONV	0 to 65535 counts	1 count / bit
3C	CB	FE	Canister Purge Valve 'stuck open'	-8192 to +8191.75 Pa	0.25 Pa / bit

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Fig. 9: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (9 Of 21)
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
3C	CB	24	EONV Vacuum Rationality Test for EONV	0 to 65535 counts	1 count / bit
3C	E0	0A	EVDP_NV_020_EREV_Test1 (scaled in Volts)	0.0000 to 7.9900 Volts	0.122 mV / bit
3C	E1	0A	EVDP_NV_020_EREV_Test2 (scaled in Volts)	0.0000 to 7.9900 Volts	0.122 mV / bit
3C	E2	FD	EVDP_NV_020_EREV_Test3 (scaled in kPa)	-32.768 to +32.767 kPa	0.001 kPa / bit
3C	E3	FD	EREV LeakBetweenDCV_LDP Test1(scaled in kPa)	-32.768 to +32.767 kPa	0.001 kPa / bit
3C	E4	2E	EREV VentValveStuckOpen Test1	FALSE, TRUE	N/A
3C	E5	FE	EREV VentValveStuckOpen Test2 (scaled in inH2O)	-8192 to +8191.75 Pa or approx -32.768 to +32.767 inches H2O	0.25 Pa per bit or approx 0.001 inches H2O per bit
3C	E6	2E	EREV VentValveStuckClsd Test1	FALSE, TRUE	N/A
3C	E7	FE	EREV VentValveStuckClsd Test2 (scaled in inH2O)	-8192 to +8191.75 Pa or approx -32.768 to +32.767 inches H2O	0.25 Pa per bit or approx 0.001 inches H2O per bit
3C	E8	FD	EREV VentValveStuckClsd Test3 (scaled in kPa)	-32.768 to +32.767 kPa	0.001 kPa / bit
Purge Flow Monitor			EVDP = Evap Pressure / Vacuum Decay		
3D	88	81	Purge Valve Flow Test - Stuck Open / Leak	-32768 to +32767	1.0 / bit
3D	8C	81	Canister Vent Valve Test - Stuck Closed / Restricted	-32768 to +32767	1.0 / bit
3D	C4	11	EVDP NV Purge Pass Test	0.0 to 6553.5 seconds	0.1 seconds / bit

Footnotes are explained on the last pages of this document.

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Fig. 10: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (10 Of 21)
Courtesy of GENERAL MOTORS CORP.

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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
3D	C5	FE	EVPD Purge Vac Fail Test	-8192 to +8191.75 Pa or approx -32.768 to +32.767 inches H2O	0.25 Pa per bit or approx 0.001 inches H2O per bit
3D	C6 ⁽⁹⁾	11	EVPD Vent Rest Test 1	0.0 to 6553.5 seconds	0.1 seconds / bit
3D	C7	FD	EVPD Vent Rest Test 2 - scaled in kPa	-32.768 to +32.767 kPa	0.001 kPa / bit
3D	C7	31	EVPD Vent Rest Test 2 - scaled in liters	0.0 to 65.535 liters	0.001 liters / bit
3D	EA	FE	EREV_VentSystemPerf_Test (scaled in inH2O)	-8192 to +8191.75 Pa or approx -32.768 to +32.767 inches H2O	0.25 Pa per bit or approx 0.001 inches H2O per bit
3D	EB	FD	EREV_PurgeValveFlow_Test (scaled in kPa)	-32.768 to +32.767 kPa	0.001 kPa / bit
3D	EC	24	EREV_VentSysPerf_Test (scaled in counts)	0 to 65535 counts	1 count / bit
Oxygen Sensor Heater Monitor Bank 1 Sensor 1					
41	81 ⁽⁹⁾	14	Sensor Element Impedance	0 to 65535 Ohms	1 Ohm / bit
41	85	16	Heater Temperature	-40 to 6513.5 °C	0.1 °C per bit - 40°C
41	D0	11	Time to Activity Monitor	0.0 to 6553.5 seconds	0.1 seconds / bit
41	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 Amperes	0.01 Amperes / bit
41	D2	24	Current Feedback X/Y Samples Test	0 to 65535 counts	1 count / bit
41	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm/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	D4	24	UEGO Heater Temperature Test	0 to 65535 counts	1 count / bit

Footnotes are explained on the last pages of this document.

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Fig. 11: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (11 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link					
Some items have footnotes, defined on the last pages.					
OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
Oxygen Sensor Heater Monitor Bank 1 Sensor 2					
42	81 ^(R)	14	Sensor Element Impedance	0 to 65535 Ohms	1 Ohm / bit
42	D0	11	Time to Activity Monitor	0.0 to 6553.5 seconds	0.1 seconds / bit
42	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 Amperes	0.01 Amperes / bit
42	D2	24	Current Feedback X/Y Samples Test	0 to 65535 counts	1 count / bit
42	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm / bit
42	D5	14	Sensor Heater Monitor B1S2 'resistance out of range'	0 to 65535 ohms	1 ohm / bit
Oxygen Sensor Heater Monitor Bank 1 Sensor 3					
43	D0	11	Time to Activity Monitor	0.0 to 6553.5 seconds	0.1 seconds / bit
43	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 Amperes	0.01 Amperes / bit
43	D2	24	Current Feedback X/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	81 ^(R)	14	Sensor Element Impedance	0 to 65535 Ohms	1 Ohm / bit
45	D0	11	Time to Activity Monitor	0.0 to 6553.5 seconds	0.1 seconds / bit
45	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 Amperes	0.01 Amperes / bit
45	D2	24	Current Feedback X/Y Samples Test	0 to 65535 counts	1 count / bit
45	D3	84	Heater Resistance Error Test	-32.768 to +32.767 differential ohms	0.001 Ohm / bit
45	D3	11	Sensor Heater Monitor B2S1 'operative readiness time'	0 to 6553.5 seconds	100ms / bit
Footnotes are explained on the last pages of this document.					
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Fig. 12: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (12 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
45	D4	96	Sensor Heater Monitor B2S1 'tip temperature out of range'	-3276.8 to + 3276.7 degC	0.1 degC / bit
Oxygen Sensor Heater Monitor Bank 2 Sensor 2					
46	81 ⁽⁹⁾	14	Sensor Element Impedance	0 to 65535 Ohms	1 Ohm / bit
46	D0	11	Time to Activity Monitor	0.0 to 6553.5 seconds	0.1 seconds / bit
46	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 Amperes	0.01 Amperes / bit
46	D2	24	Current Feedback X/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 seconds	0.1 seconds / bit
47	D1	0F	Current Feedback Amps Value Test	0.00 to 655.35 Amperes	0.01 Amperes / bit
47	D2	24	Current Feedback X/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 1					
71	E0	24	AIR Bank 1 Test	0 to 65535 counts	1 count / bit
71	E1	FD	AIR On Pressure Error Test Bank 1	-32.768 to +32.767 kPa	0.001 kPa / bit
71	E2	FD	AIR Valve Shut Pressure Error Test Bank 1	-32.768 to +32.767 kPa	0.001 kPa / bit
71	E3	FD	AIR Pump Off Pressure Error Test Bank 1	-32.768 to +32.767 kPa	0.001 kPa / bit

Footnotes are explained on the last pages of this document.

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Fig. 13: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (13 Of 21)
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
71	E5	02	AIR Pump On Pressure Variation Test Bank 1	0 to 6553.5 unitless	0.1 / bit
Secondary AIR Monitor 2					
72	E0	24	AIR Bank 2 Test	0 to 65535 counts	1 count / bit
72	E1	FD	AIR On Pressure Error Test Bank 2	-32.768 to +32.767 kPa	0.001 kPa / bit
72	E2	FD	AIR Valve Shut Pressure Error Test Bank 2	-32.768 to +32.767 kPa	0.001 kPa / bit
72	E3	FD	AIR Pump Off Pressure Error Test Bank 2	-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
72	E5	02	AIR Pump On Pressure Variation Test Bank 2	0 to 6553.5 unitless	0.1 / bit
Fuel System Monitor Bank 1					
81	D1	3C	Cylinder 1 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	D2	3C	Cylinder 2 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	D3	3C	Cylinder 3 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	D4	3C	Cylinder 4 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	D5	3C	Cylinder 5 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	D6	3C	Cylinder 6 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	D7	3C	Cylinder 7 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	D8	3C	Cylinder 8 Injection Timing Retarded	[0 to 6553.5] usec	0.1 usec per bit
81	A1	3C	Cylinder 1 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit

Footnotes are explained on the last pages of this document.

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Fig. 14: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (14 Of 21)
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
81	A2	3C	Cylinder 2 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit
81	A3	3C	Cylinder 3 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit
81	A4	3C	Cylinder 4 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit
81	A5	3C	Cylinder 5 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit
81	A6	3C	Cylinder 6 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit
81	A7	3C	Cylinder 7 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit
81	A8	3C	Cylinder 8 Injection Timing Advanced	[0 to 6553.5] usec	0.1 usec per bit
81	E0	83	A/F Ratio Deviation Max	-327.68 to 327.67	0.01 / bit hex to decimal
81	E1	83	A/F Ratio Deviation Min	-327.68 to 327.67	0.01 / bit hex to decimal
Boost Pressure Control Monitor Bank 1					
85	B0	30	Turbocharger Vane Position Slow Response - Increasing Position	[0 to 100] Percent	0.001526 % per bit
85	B1	30	Turbocharger Vane Position Slow Response - Decreasing Position	[0 to 100] Percent	0.001526 % per bit
85	B2	6	Charge Air Cooler Efficiency	[0 to 19.988] unitless	0.000305 per bit
85	B3	FC	Monitoring for Underboost	[-327.68 to +327.67] kPa	0.01 kPa per bit

Footnotes are explained on the last pages of this document.

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Fig. 15: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (15 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
85	B4	FC	Monitoring for Overboost	[-327.68 to +327.67] kPa	0.01 kPa per bit
85	B5	AF	Turbocharger Vane Position Performance - Low Position	[-327.68 to +327.67] kPa	0.01 kPa per bit
85	B6	AF	Turbocharger Vane Position Performance - High Position	[-327.68 to +327.67] kPa	0.01 % per bit
85	B7	17	Boost Pressure Slow Reponse – Increasing	0 – 655.35 kPa	0.01 kPa / bit unsigned
85	B8	17	Boost Pressure Slow Reponse – Decreasing	0 – 655.35 kPa	0.01 kPa / bit unsigned
NOx Catalyst Monitor Bank 1					
98	90	84	SCR NOx Efficiency	[-32.768 to 32.767] unitless	0.001 per bit
98	91	84	Diesel Emission Fluid Quality	[-32.768 to 32.767] unitless	0.001 per bit
98	92	3	Closed loop Reductant Injection Control at Limit-Flow too low	[0 to 655.35] unitless	0.01 per bit
98	93	3	Closed Loop Reductant Injection Control at Limit-Flow too High	[0 to 655.35] unitless	0.01 per bit
Misfire Cylinder 1 Data					
A2	0B	24 ⁽⁴⁾	EWMA (Exponential 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

Footnotes are explained on the last pages of this document.

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Fig. 16: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (16 Of 21)
Courtesy of GENERAL MOTORS CORP.

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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link					
Some items have footnotes, defined on the last pages.					
OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
A2	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A2	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
Misfire Cylinder 2 Data					
A3	0B	24 ⁽⁶⁾ ⁽⁷⁾	EWMA (Exponential Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A3	0C	24 ⁽⁷⁾	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
A3	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A3	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
Misfire Cylinder 3 Data					
A4	0B	24 ⁽⁶⁾ ⁽⁷⁾	EWMA (Exponential Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A4	0C	24 ⁽⁷⁾	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
A4	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A4	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
Footnotes are explained on the last pages of this document.					
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Fig. 17: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (17 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY Source information is J1979	Resolution For Information ONLY Source information is J1979
Misfire Cylinder 4 Data					
A5	0B	24 ⁽⁴⁾ ⁽⁷⁾	EWMA (Exponential Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A5	0C	24 ⁽⁷⁾	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
A5	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A5	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
A5	A5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
Misfire Cylinder 5 Data					
A6	0B	24 ⁽⁴⁾	EWMA (Exponential 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
A6	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A6	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
A6	A5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit

Footnotes are explained on the last pages of this document.

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Fig. 18: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (18 Of 21)
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
Misfire Cylinder 6 Data					
A7	0B	24 ⁽⁴⁾	EWMA (Exponential 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
A7	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A7	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
A7	A5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
Misfire Cylinder 7 Data					
A8	0B	24	EWMA (Exponential 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
A8	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A8	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
A8	A5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit

Footnotes are explained on the last pages of this document.

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Fig. 19: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (19 Of 21)
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
Misfire Cylinder 8 Data					
A9	0B	24	EWMA (Exponential Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A9	0C	24	Misfire counts for the last / current driving cycles	0 to 65535 counts	1 count / bit
A9	0B	24 ⁽¹³⁾	EWMA (Exponential Weighted Moving Average) misfire counts since the last restart after hybrid/electric autostop for the last 10 driving cycles	0 to 65535 counts	1 count / bit
A9	0C	24 ⁽¹³⁾	Misfire counts since the last restart after hybrid/electric autostart	0 to 65535 counts	1 count / bit
A9	A5	24	EWMA (Exponentially Weighted Moving Average) misfire counts for the last 10 driving cycles	0 to 65535 counts	1 count / bit
Particulate Matter Filter Monitor Bank 1					
B2	F0	17	Diesel Particulate Filter Efficiency	0 to +655.35 kPa	0.01 kPa / bit
B2	F1	36	Diesel Particulate Filter Regeneration Frequency	0 to +655.35 kPa	0.01 kPa / bit
B2	F2	96	Closed Loop Exhaust Fuel Injector DPF Regeneration Control At Limit - Temperature Too Low	-3276.8 to +3276.7 degrees C	0.1 degrees C per bit
B2	F3	96	Closed Loop Exhaust Fuel Injector DPF Regeneration Control At Limit - Temperature Too High	-3276.8 to +3276.7 degrees C	0.1 degrees C per bit
B2	F4	96	Closed Loop DPF Regeneration Control At Limit - Stage 1 Temperature Too Low	-3276.8 to +3276.7 degrees C	0.1 degrees C per bit
B2	F5	96	Closed Loop DPF Regeneration Control At Limit - Stage 1 Temperature Too High	-3276.8 to +3276.7 degrees C	0.1 degrees C per bit

Footnotes are explained on the last pages of this document.

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Fig. 20: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (20 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

OBD Monitor ID (OBDMID)	Test ID (TID)	Units and Scaling ID (UASID)	Description	Range For Information ONLY. Source information is J1979	Resolution For Information ONLY. Source information is J1979
B2	F6	83	Diesel Particulate Filter Efficiency Monitoring	-327.68 to +327.67	0.01 / bit hex to decimal signed
B2	F7	24	Diesel Particulate Filter Total Not Functional Failure Monitoring	0 to 65535 counts	1 count/bit

Fig. 21: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (21 Of 21)
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

FOOTNOTES

1 For the following 2004 model year vehicles:

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

The following OBDMIDs 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 is not supported by the vehicle. Test limits and value are invalid.

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.

Footnotes are explained on the last pages of this document.

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Fig. 22: GMLAN Footnotes 1, 2 & 3

Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

FOOTNOTES

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.

5 For the following 2007 model year vehicle:

Buick Lucerne with 3.8L (VIN 2) engine
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If the test limit for OBDMID \$3D TID \$6C reads 8.8 seconds (raw Hex value 58), the test value may be invalid.

If the test value is more than the test limit *-and-* P0446 is not set, the data is invalid.

If the test value is less than the test limit *-and-* P0446 is set, the data may be invalid.

6 For the following 2006 model year vehicles:

Buick Lucerne with 4.6L (VIN Y) engine
Cadillac DTS with 4.6L (VIN Y <i>-or-</i> 9) engine

OBDMID \$31 TID \$A9 test limits and test value should be multiplied by 4 (limit result to -32.768 -to- +32.767 kPa).

Footnotes are explained on the last pages of this document.

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Fig. 23: GMLAN Footnotes 4, 5 & 6
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

FOOTNOTES

7 For the following 2007 model year vehicle:

Pontiac Solstice, Saturn Sky, with 2.0L (VIN X) engine.

The OBDMID \$A3, \$A4, and \$A5 are misaligned with the cylinders.

OBDMID \$A3 Test IDs contain misfire data for cylinder #3, (not #2).

OBDMID \$A4 Test IDs contain misfire data for cylinder #4, (not #3).

OBDMID \$A5 Test IDs contain misfire data for cylinder #2, (not #4).

8 For the following 2010 model vehicles:

Pontiac Solstice and Saturn Sky with 2.0L (VIN X) engine

Chevrolet HHR SS and Cobalt SS with 2.0L (VIN X) engine

Cadillac CTS and STS 3.6L (VIN X) engine

Saturn Outlook 3.6L (VIN X) engine

Buick Enclave and LaCrosse 3.6L (VIN X) engine

GMC Acadia 3.6L (VIN X) engine

Chevrolet Traverse and Camaro 3.6L (VIN X) engine

Pontiac G8 with 3.6L (VIN X) engine

For the following OBDMID and TID the test value could equal the test limit when the test has failed.

OBDMID \$35	TID \$9D
OBDMID \$35	TID \$9A
OBDMID \$35	TID \$9E
OBDMID \$35	TID \$9B
OBDMID \$42	TID \$81
OBDMID \$21	TID \$84
OBDMID \$02	TID \$81
OBDMID \$02	TID \$82

Fig. 24: GMLAN Footnotes 7 & 8
Courtesy of GENERAL MOTORS CORP.

GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

FOOTNOTES

9 For the following 2010 model vehicles:

Cadillac CTS and STS 3.6L (VIN X) engine
Saturn Outlook 3.6L (VIN X) engine
Buick Enclave and LaCrosse 3.6L (VIN X) engine
GMC Acadia 3.6L (VIN X) engine
Chevrolet Traverse and Camaro 3.6L (VIN X) engine
Pontiac G8 with 3.6L (VIN X) engine

For the following OBDMID and TID the test value could equal the test limit when the test has failed.

OBDMID \$36	TID \$9D
OBDMID \$36	TID \$9A
OBDMID \$36	TID \$9E
OBDMID \$36	TID \$9B
OBDMID \$41	TID \$81
OBDMID \$45	TID \$81
OBDMID \$46	TID \$81
OBDMID \$22	TID \$84
OBDMID \$06	TID \$81

10 For the following 2011 model year vehicle:

Chevrolet Cruze with 1.8L (VIN H) engine

OBDMID \$01 TID \$80 and TID \$81 test values and limits may not be available on all vehicles.

Footnotes are explained on the last pages of this document.

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Fig. 25: GMLAN Footnotes 9 & 10
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GM mode \$06 data definitions for GM vehicles using GMLAN diagnostic data link

Some items have footnotes, defined on the last pages.

FOOTNOTES

11 For the following 2011 model year vehicle:

Chevrolet Cruze with 1.8L (VIN H) engine

OBDMID \$01 TID \$91 and TID \$92: Tests are not supported by the vehicle. Test limits and values are invalid.

12 For the following vehicles:

All vehicles that respond with OBDMID \$3A TID \$C0 UASID \$31

Test value could equal the test limit when the test has failed.

13 For the following vehicles:

All hybrid/electric vehicles through 2013 model year

Footnotes are explained on the last pages of this document.

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Fig. 26: GMLAN Footnotes 11, 12 & 13
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