

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

1996-2006 ENGINE PERFORMANCE

Mode 6 - Class 2 & 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.

CLASS 2

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
Enhanced Evaporative Emission System Monitor #1 (.040" Leak)					
02	04	1-Low	EVAP canister loading test	Test Not Run - Test Value Passed Test Not Run - Test Limit Passed	0000 - 0100 0000 - 0001
02	06	1-Low	EVAP excess vacuum pass test 2	-3276.8 -to- +3276.7 integral index-seconds	0000 - FFFF
02	10	1-Low	EVAP weak vacuum pass test 1 ⁽¹⁾	-3276.8 -to- +3276.7 in of H2O Vacuum	8000 - 7FFF
02	11	1-Low	EVAP purge leak pass test	0 -to- 8553.5 seconds	0000 - FFFF
02	12	0-high	EVAP small leak vacuum decay rate test ⁽¹⁾	-32.768 -to- +32.767 inches of H2O per sec	8000 - 7FFF
02	20	0-high	EVAP weak vacuum fail test 1 ⁽¹⁾	-3276.8 -to- +3276.7 integral index-seconds	8000 - 7FFF
02	21	0-high	EVAP purge leak vapor fail test	0 -to- 8553.5 seconds	0000 - FFFF
02	26	0-high	EVAP excess vacuum test 1 ⁽¹⁾	-3276.8 -to- +3276.7 in of H2O Vacuum	8000 - 7FFF
02	30	1-Low	EVAP weak vacuum test 2 vacuum	0 -to- 8553.5 seconds	0000 - FFFF
02	31	0-high	EVAP purge leak vacuum fail test	-3276.8 -to- +3276.7 in of H2O Vacuum	0000 - FFFF
02	36	0-high	EVAP excess vacuum fail test 2	0 -to- 8553.5 seconds	0000 - FFFF
02	40	1-Low	EVAP weak vacuum test 2 vapor	0 -to- 8553.5 seconds	0000 - FFFF
02	46	1-Low	EVAP excess vacuum pass test 2 ⁽¹⁾	-3276.8 -to- +3276.7 integral index-seconds	8000 - 7FFF
02	50	1-Low	EVAP weak vacuum pass test 1	-3276.8 -to- +3276.7 in of H2O Vacuum	0000 - FFFF
02	52	0-high	EVAP small leak vacuum decay rate test	-32.768 -to- +32.767 inches of H2O per sec	0000 - FFFF
02	60	0-high	EVAP weak vacuum fail test 1	-3276.8 -to- +3276.7 integral index-seconds	0000 - FFFF
02	82	0-high	EVAP NV .020" Error test	-12800 -to- +12799.6% slope error	0000 - FFFF
02	86	0-high	EVAP excess vacuum test 1	-3276.8 -to- +3276.7 in of H2O Vacuum	0000 - FFFF
02	71	0-high	EVAP purge leak vacuum fail test	-3276.8 -to- +3276.7 in of H2O Vacuum	0000 - FFFF
02	72	0-high	EVAP NV .040" Error Test	-12800 -to- +12799.6% slope error	0000 - FFFF

Fig. 1: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (1 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
Secondary Air Injection Reaction System Monitor					
03	01	0-High	AIR bank 1 test	0 -to- 65535 counts	0000 - FFFF
03	02	0-High	AIR bank 2 test	0 -to- 65535 counts	0000 - FFFF
03	03	0-High	AIR on pressure error test bank 1 Out of range high	-32.768 -to- +32.767 kPa	0000 - FFFF
03	03	1-Low	AIR on pressure error test bank 1 Out of range low	-32.768 -to- +32.767 kPa	0000 - FFFF
03	04	1-Low	AIR valve shut pressure error test bank 1	-32.768 -to- +32.767 kPa	0000 - FFFF
03	05	0-High	AIR pump off pressure error test bank 1	-32.768 -to- +32.767 kPa	0000 - FFFF
03	13	0-High	AIR on pressure error test bank 2 Out of range high	-32.768 -to- +32.767 kPa	0000 - FFFF
03	13	1-Low	AIR on pressure error test bank 2 Out of range low	-32.768 -to- +32.767 kPa	0000 - FFFF
03	14	1-Low	AIR valve shut pressure error test bank 2	-32.768 -to- +32.767 kPa	0000 - FFFF
03	15	0-High	AIR pump off pressure error test bank 2	-32.768 -to- +32.767 kPa	0000 - FFFF
03	16	0-High	AIR on pressure differential high between bank 1 and bank 2 Out of range high	-32.768 -to- +32.767 kPa	0000 - FFFF
03	16	1-Low	AIR on pressure differential high between bank 1 and bank 2 Out of range low	-32.768 -to- +32.767 kPa	0000 - FFFF
Catalyst Efficiency Steady State Monitor					
04	20	0-High	Steady state catalyst test bank 1 ⁽¹⁾	-555 -to- +554.9831 mV	8000 - 7FFF
04	30	0-High	Steady state catalyst test bank 2 ⁽¹⁾	-555 -to- +554.9831 mV	8000 - 7FFF
04	60	0-High	Steady state catalyst test bank 1	-555 -to- +554.9831 mV	0000 - FFFF
04	61	C-Low	DFCO Exit Test Bank 1 ⁽⁵⁾	0 -to- 65535 counts	0000 - FFFF
04	70	0-High	Steady state catalyst test bank 2	-555 -to- +554.9831 mV	0000 - FFFF
04	71	C-Low	DFCO Exit Test Bank 2 ⁽⁵⁾	0 -to- 65535 counts	0000 - FFFF

Fig. 2: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (2 Of 9)
Courtesy of GENERAL MOTORS CORP.

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
Oxygen Sensor Monitors and Constants					
05	01	0-High	Rich to lean sensor threshold voltage - B1S1	0 -to- 2048 mV	0000 - FFFF
05	02	0-High	Lean to rich sensor threshold voltage - B1S1	0 -to- 2048 mV	0000 - FFFF
05	03	0-High	Low sensor voltage for switch time calculation - B1S1	0 -to- 2048 mV	0000 - FFFF
05	04	0-High	High sensor voltage for switch time calculation - B1S1	0 -to- 2048 mV	0000 - FFFF
05	05	0-High	Rich to lean sensor switch time - B1S1 Out of range high	0 -to- 1024 ms	0000 - FFFF
05	05	1-Low	Rich to lean sensor switch time - B1S1 Out of range low	0 -to- 1024 ms	0000 - FFFF
05	06	0-High	Lean to rich sensor switch time - B1S1 Out of range high	0 -to- 1024 ms	0000 - FFFF
05	06	1-Low	Lean to rich sensor switch time - B1S1 Out of range low	0 -to- 1024 ms	0000 - FFFF
05	07	1-Low	Rich to lean switches - B1S1	0 -to- 65535 switches	0000 - FFFF
05	08	1-Low	Lean to rich switches - B1S1	0 -to- 65535 switches	0000 - FFFF
05	09	0-High	R/L response to L/R response ratio - B1S1 Out of range high	0:1 -to- 8:1 ratio	0000 - FFFF
05	09	1-Low	R/L response to L/R response ratio - B1S1 Out of range low	0:1 -to- 8:1 ratio	0000 - FFFF
05	0A	0-High	Post catalyst sensor open test - B1S2 ⁽⁴⁾	0 -to- 65535 samples	0000 - FFFF
05	0B	1-Low	Post catalyst sensor rich tests - B1S2	0 -to- 2048 mV	0000 - FFFF
05	0C	0-High	Post catalyst sensor lean tests - B1S2	0 -to- 2048 mV	0000 - FFFF
05	0D	0-High	Difference between R/L response and L/R response - B1S1 Out of range high ⁽²⁾	-32768 -to- +32767 ms	0000 - FFFF
05	0D	1-Low	Difference between R/L response and L/R response - B1S1 Out of range low ⁽²⁾	-32768 -to- +32767 ms	0000 - FFFF
05	13	0-High	Low sensor voltage for half period time calculation - B1S1	0 -to- 2048 mV	0000 - FFFF
05	14	0-High	High sensor voltage for half period time calculation - B1S1	0 -to- 2048 mV	0000 - FFFF

Fig. 3: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (3 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
Oxygen Sensor Monitors and Constants					
05	15	0-High	Rich to lean half period time - B1S1	0 -to- 2048 ms	0000 - FFFF
05	16	0-High	Lean to rich half period time - B1S1	0 -to- 2048 ms	0000 - FFFF
05	17	0-High	Sum of R/L and L/R half period times - B1S1	0 -to- 2048 ms	0000 - FFFF
05	1A	0-High	Post catalyst sensor open test - B1S3	0 -to- 65535 samples	0000 - FFFF
05	1B	1-Low	Post catalyst sensor rich tests - B1S3	0 -to- 2048 mV	0000 - FFFF
05	1C	0-High	Post catalyst sensor lean tests - B1S3	0 -to- 2048 mV	0000 - FFFF
05	41	0-High	Rich to lean sensor threshold voltage - B2S1	0 -to- 2048 mV	0000 - FFFF
05	42	0-High	Lean to rich sensor threshold voltage - B2S1	0 -to- 2048 mV	0000 - FFFF
05	43	0-High	Low sensor voltage for switch time calculation - B2S1 (3)	0 -to- 2048 mV	0000 - FFFF
05	44	0-High	High sensor voltage for switch time calculation - (3)	0 -to- 2048 mV	0000 - FFFF
05	45	0-High	Rich to lean sensor switch time - B2S1 Out of range high	0 -to- 1024 ms	0000 - FFFF
05	45	1-Low	Rich to lean sensor switch time - B2S1 Out of range low	0 -to- 1024 ms	0000 - FFFF
05	46	0-High	Lean to rich sensor switch time - B2S1 Out of range high	0 -to- 1024 ms	0000 - FFFF
05	46	1-Low	Lean to rich sensor switch time - B2S1 Out of range low	0 -to- 1024 ms	0000 - FFFF
05	47	1-Low	Rich to lean switches - B2S1	0 -to- 65535 switches	0000 - FFFF
05	48	1-Low	Lean to rich switches - B2S1	0 -to- 65535 switches	0000 - FFFF
05	49	0-High	R/L response to L/R response ratio - B2S1 Out of range high	0.1 -to- 8:1 ratio	0000 - FFFF
05	49	1-Low	R/L response to L/R response ratio - B2S1 Out of range low	0.1 -to- 8:1 ratio	0000 - FFFF
05	4A	0-High	Post catalyst sensor open test - B2S2	0 -to- 65535 samples	0000 - FFFF
05	4B	1-Low	Post catalyst sensor rich tests - B2S2	0 -to- 2048 mV	0000 - FFFF
05	4C	0-High	Post catalyst sensor lean tests - B2S2	0 -to- 2048 mV	0000 - FFFF
05	4D	0-High	Difference between R/L response and L/R response - B2S1 Out of range high	-32768 -to- +32737 ms	0000 - FFFF
05	4D	1-Low	Difference between R/L response and L/R response - B2S1 Out of range low	-32768 -to- +32737 ms	0000 - FFFF

Fig. 4: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (4 Of 9)
Courtesy of GENERAL MOTORS CORP.

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
Oxygen Sensor Monitors and Constants					
05	53	0-High	Low sensor voltage for half period time calculation - B2S1	0 -to- 2048 mV	0000 - FFFF
05	54	0-High	High sensor voltage for half period time calculation - B2S1	0 -to- 2048 mV	0000 - FFFF
05	55	0-High	Rich to lean half period time - B2S1	0 -to- 2048 ms	0000 - FFFF
05	56	0-High	Lean to rich half period time - B2S1	0 -to- 2048 ms	0000 - FFFF
05	57	0-High	Sum of R/L and L/R half period times - B2S1	0 -to- 2048 ms	0000 - FFFF
05	5A	0-High	Post Catalyst Sensor Open Test - B2S3	0 -to- 65535 samples	0000 - FFFF
O2 Sensor Heater System Time to Activity Monitor					
06	35	0-High	Oxygen sensor heater time to activity - B1S1	0 -to- 65535 seconds	0000 - FFFF
06	41	0-High	Oxygen sensor heater time to activity - B1S2	0 -to- 65535 seconds	0000 - FFFF
06	47	0-High	Oxygen sensor heater time to activity - B1S3	0 -to- 65535 seconds	0000 - FFFF
06	55	0-High	Oxygen sensor heater time to activity - B2S1	0 -to- 65535 seconds	0000 - FFFF
06	61	0-High	Oxygen sensor heater time to activity - B2S2	0 -to- 65535 seconds	0000 - FFFF
06	67	0-High	Oxygen sensor heater time to activity - B2S3	0 -to- 65535 seconds	0000 - FFFF
Exhaust Gas Recirculation System Monitor					
07	01	1-Low	MAF measured EGR dynamic range	0 -to- 255.996 gm/cyl	0000 - FFFF
07	02	0-High	Lowest measured exhaust pressure during EGR intrusive test	0 -to- 32767.5 kPa	0000 - FFFF
07	03	0-High	MAF below expected value during no EGR intrusive idle test	0 -to- 255.996 gm/cyl	0000 - FFFF
07	04	0-High	MAF below expected value during no EGR off-idle test	0 -to- 255.996 gm/cyl	0000 - FFFF
07	05	0-High	MAF below expected value during full EGR intrusive idle test	0 -to- 255.996 gm/cyl	0000 - FFFF
07	06	0-High	No EGR intrusive idle test MAF Out of range high	0 -to- 255.996 gm/cyl	0000 - FFFF
07	07	0-High	No EGR off-idle test MAF Out of range high	0 -to- 255.996 gm/cyl	0000 - FFFF
07	08	0-High	Largest positive MAF error during EGR intrusive test	0 -to- 255.996 gm/cyl	0000 - FFFF
07	09	0-High	EVRV open stuck during no EGR intrusive idle test	0 -to- 32767.5 kPa	0000 - FFFF
07	0A	0-High	VSV closed stuck during no EGR intrusive idle test	0 -to- 32767.5 kPa	0000 - FFFF
07	0B	0-High	No EGR intrusive idle test MAF Out of range high	0 -to- 255.996 gm/cyl	0000 - FFFF

Fig. 5: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (5 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
Exhaust Gas Recirculation System Monitor					
07	0B	1-Low	No FGR intrusive idle test MAF Out of range low	0 -to- 255.966 gm/cyl	0000 - FFFF
07	0C	0-High	No EGR off-idle test MAF Out of range high	0 -to- 255.966 gm/cyl	0000 - FFFF
07	0C	1-Low	No EGR off-idle test MAF Out of range low	0 -to- 255.966 gm/cyl	0000 - FFFF
07	0D	0-High	ECR decel test ⁽¹⁾	-45.000 -to- +44.99883 kPa	8000 - 7FFF
07	0D	1-Low	Full EGR intrusive idle test MAF Out of range low	0 -to- 255.966 gm/cyl	0000 - FFFF
07	4C	0-High	EGR cruise test	-45.000 -to- +44.99883 kPa	0000 - FFFF
07	4D	0-High	EGR decel test	-45.000 -to- +44.99883 kPa	0000 - FFFF
07	4F	0-High	EGR quick test	-45.000 -to- +44.99883 kPa	0000 - FFFF
Enhanced Evaporative System Monitor #2 (.020" Leak)					
EVPD = Evap Vacuum Pressure Decay tests					
EONV = Engine Off Natural Vacuum tests					
0A	01	0-High	EVPD canister vent restriction test 1 ⁽⁶⁾	0 -to- 6553.5 seconds	0000 - FFFF
0A	03	0-High	EVPD weak vacuum test	0 -to- 6553.5 seconds	0000 - FFFF
0A	04	1-Low	EVPD weak vacuum follow-up test	0 -to- 6553.5 seconds	0000 - FFFF
0A	05	0-High	EVPD .040" leak test	0 -to- 6.5535 inches	0000 - FFFF
0A	06	0-High	EVPD .020" leak test	0 -to- 6.5535 inches	0000 - FFFF
0A	07	1-Low	EVPD purge pass test	0 -to- 6553.5 seconds	0000 - FFFF
0A	09	0-High	EONV NV .020" test	0:1 -to- 4.0000:1 ratio	0000 - FFFF
0A	0A	0-High	EONV NV .020" test ⁽⁹⁾	0:1 -to- 255.99609375:1 ratio	0000 - FFFF
0A	0B	0-High	EONV vacuum rezero test ⁽⁸⁾	0:1 -to- 255.99609375:1 ratio	0000 - FFFF

Fig. 6: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (6 Of 9)
Courtesy of GENERAL MOTORS CORP.

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
Enhanced Evaporative System Monitor #2 (.020" Leak)					
EVPD = Evap Vacuum Pressure Decay tests					
EONV = Engine Off Natural Vacuum tests					
0A	0C	0-High	EONV fuel level rationality test ⁽⁷⁾	0 -to- 65535 counts	0000 - FFFF
0A	0D	0-High	EONV vacuum rationality test ⁽⁷⁾	0 -to- 65535 counts	0000 - FFFF
0A	13	0-High	EVAP weak vacuum test	0 -to- 65.535 liters	0000 - FFFF
0A	42	0-High	EVPD canister vent restriction test 2 Cut of range high	-3275.8 -to- +3276.7 in of H2O Vacuum	0000 - FFFF
0A	42	1-Low	EVPD canister vent restriction test 2 Out of range low	0 -to- 65.535 liters	0000 - FFFF
0A	4B	0-High	EVPD purge vacuum fail test	-3275.8 -to- +3276.7 in of H2O Vacuum	0000 - FFFF
Catalyst Efficiency Monitor					
0C	20	0-High	Idle catalyst efficiency test - bank 1 ⁽¹⁾	-32.768 -to- +32.767 seconds	8000 - 7FFF
0C	30	0-High	Idle catalyst efficiency test - bank 2 ⁽¹⁾	-32.768 -to- +32.767 seconds	8000 - 7FFF
0C	60	0-High	Catalyst Test Bank 1 (using OSC compensation units)	-32.768 -to- +32.767 seconds	0000 - FFFF
0C	61	1-Low	Catalyst Test Bank 1 (using OSC normalized ratio units)	0.000 -to- 1.999	0000 - FFFF
0C	70	0-High	Catalyst Test Bank 2 (using OSC compensation units)	-32.768 -to- +32.767 seconds	0000 - FFFF
0C	71	1-Low	Catalyst Test Bank 2 (using OSC normalized ratio units)	0.000 -to- 1.999	0000 - FFFF

Fig. 7: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (7 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
O2 Sensor Heater System Current Feedback Monitor					
0E	11	0-High	Oxygen sensor heater x/y samples test - B1S1	0 -to- 65535 samples	0000 - FFFF
0E	12	0-High	Oxygen sensor heater x/y samples test - B1S2 ⁽⁴⁾	0 -to- 65535 samples	0000 - FFFF
0E	13	0-High	Oxygen sensor heater x/y samples test - B1S3	0 -to- 65535 samples	0000 - FFFF
0E	21	0-High	Oxygen sensor heater x/y samples test - B2S1	0 -to- 65535 samples	0000 - FFFF
0E	22	0-High	Oxygen sensor heater x/y samples test - B2S2	0 -to- 65535 samples	0000 - FFFF
0E	23	0-High	Oxygen sensor heater x/y samples test - B2S3	0 -to- 65535 samples	0000 - FFFF
0E	35	0-High	Oxygen sensor heater amperage test - B1S1 Out of range high	0 -to- 5.000 Amperes	0000 - 00FF
0E	35	1-Low	Oxygen sensor heater amperage test - B1S1 Out of range low	0 -to- 5.000 Amperes	0000 - 00FF
0E	41	0-High	Oxygen sensor heater amperage test - B1S2 Out of range high	0 -to- 5.000 Amperes	0000 - 00FF
0E	41	1-Low	Oxygen sensor heater amperage test - B1S2 Out of range low	0 -to- 5.000 Amperes	0000 - 00FF
0E	47	0-High	Oxygen sensor heater amperage test - B1S3 Out of range high	0 -to- 5.000 Amperes	0000 - 00FF
0E	47	1-Low	Oxygen sensor heater amperage test - B1S3 Out of range low	0 -to- 5.000 Amperes	0000 - 00FF
0E	55	0-High	Oxygen sensor heater amperage test - B2S1 Out of range high	0 -to- 5.000 Amperes	0000 - 00FF
0E	55	1-Low	Oxygen sensor heater amperage test - B2S1 Out of range low	0 -to- 5.000 Amperes	0000 - 00FF
0E	61	0-High	Oxygen sensor heater amperage test - B2S2 Out of range high	0 -to- 5.000 Amperes	0000 - 00FF

Fig. 8: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (8 Of 9)
Courtesy of GENERAL MOTORS CORP.

Test ID (Hex)	Comp ID (Hex)	Test Limit Type	Description	Decimal Range	Hex Range
O2 Sensor Heater System Current Feedback Monitor					
0E	61	1-Low	Oxygen sensor heater amperage test - B2S2 Out of range low	0 -to- 5.000 Amperes	0000 - 00FF
0E	67	0-High	Oxygen sensor heater amperage test - B2S3 Out of range high	0 -to- 5.000 Amperes	0000 - 00FF
0E	67	1-Low	Oxygen sensor heater amperage test - B2S3 Out of range low	0 -to- 5.000 Amperes	0000 - 00FF
O2 Sensor Heater Monitor Resistance Error Test					
15	11	0-High	Heater Resistance Error Test - B1S1 Out of range high	-32.768 -to- +32.767 ohms	0000 - FFFF
15	11	1-Low	Heater Resistance Error Test - B1S1 Out of range low	-32.768 -to- +32.767 ohms	0000 - FFFF
15	12	0-High	Heater Resistance Error Test - B1S2 Out of range high	-32.768 -to- +32.767 ohms	0000 - FFFF
15	12	1-Low	Heater Resistance Error Test - B1S2 Out of range low	-32.768 -to- +32.767 ohms	0000 - FFFF
15	13	0-High	Heater Resistance Error Test - B1S3 Out of range high	-32.768 -to- +32.767 ohms	0000 - FFFF
15	13	1-Low	Heater Resistance Error Test - B1S3 Out of range low	-32.768 -to- +32.767 ohms	0000 - FFFF
15	21	0-High	Heater Resistance Error Test - B2S1 Out of range high	-32.768 -to- +32.767 ohms	0000 - FFFF
15	21	1-Low	Heater Resistance Error Test - B2S1 Out of range low	-32.768 -to- +32.767 ohms	0000 - FFFF
15	22	0-High	Heater Resistance Error Test - B2S2 Out of range high	-32.768 -to- +32.767 ohms	0000 - FFFF
15	22	1-Low	Heater Resistance Error Test - B2S2 Out of range low	-32.768 -to- +32.767 ohms	0000 - FFFF
15	23	0-High	Heater Resistance Error Test - B2S3 Out of range high	-32.768 -to- +32.767 ohms	0000 - FFFF
15	23	1-Low	Heater Resistance Error Test - B2S3 Out of range low	-32.768 -to- +32.767 ohms	0000 - FFFF

Fig. 9: Mode \$06 Data Definitions Using J1859/Class 2 Diagnostic Data Link (9 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

Footnote 1

The data corresponding to these ComPIDs are scaled using signed 2's complement mathematics and will be phased out according to CARB mail-out 98-01.

Footnote 2

For the following 2004 model year vehicles:

Saturn LS with 2.2 liter (VIN F) engine
Pontiac Grand Am, Sunfire with 2.2 liter (VIN F) engine
Oldsmobile Alero with 2.2 liter (VIN F) engine
Chevrolet Cavalier, Classic with 2.2 liter (VIN F) engine

The data definition for TID \$05 CID \$0D -and- CID \$8D test limits and value may be defined as:

Decimal Range: -32768 -to- +32767

Hex range: 8000 -to- 7FFF

Footnote 3

For the following 2004 and 2005 model year vehicles:

Vehicles equipped with:
4.6 liter (VIN Y) -or- 4.6 liter (VIN 9) engines

The TID \$05 CID \$43 and CID \$44 test limits may be transposed

Fig. 10: J1850/Class2 Footnotes 1-3
Courtesy of GENERAL MOTORS CORP.

Footnote 4

For the following 2004 and 2005 model year vehicles:

Trucks equipped with:
2.8 liter (VIN 8) -or- 3.5 liter (VIN 6) engines

The TID \$0E CID \$12 and TID \$05 CID \$0A test values are invalid

Footnote 5

For the following 2004 through 2007 model year vehicles:

Parallel Hybrid Trucks equipped with 5.3 liter (VIN T) engine

The test tool will identify TID \$04 CID \$61 -and- CID \$71 as High limit tests

The TID \$04 CID \$61 and CID \$71 test limits are actually LOW limits

For TID \$04 CID \$61 and CID \$71, test values above the test limit indicate a passing test

For TID \$04 CID \$61 and CID \$71, test values below the test limit indicate a failing test

Footnote 6

For the following 2007 model year vehicles:

Buick Rendezvous with 3.5L (VIN 8) engine
Buick LaCrosse with 3.8L (VIN 2) engine
Pontiac Grand Prix with 3.8L (VIN 2 -or- 4) engine

If the test limit for TID \$0A CID \$01 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.

Fig. 11: J1850/Class2 Footnotes 4-6
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

Footnote 7	For the following 2005 and 2006 model year vehicles:
	Chevrolet Colorado, GMC Canyon, Hummer H3, with 2.8L (VIN 8) -or- 3.5L (VIN 6) engine
	Chevrolet Trailblazer (all), GMC Envoy (all), Buick Rainier, with 4.2L (VIN S) engine
	Saab 9.7, Isuzu Ascender, with 4.2L (VIN S) engine
	Chevrolet Malibu with 2.2L (VIN F) engine
	Chevrolet Cobalt SS, Saturn ION Redline with 2.0L (VIN P) engine
The test limit will read zero (0) counts for these vehicles equipped with the engines listed above.	
When comparing to test values, the test limits for TID \$0A CID \$0C -and- \$0D should be 1 count.	
For TID \$0A CID \$0C -and- \$0D, a test value of 0 or 1 count indicates a passing test.	
For TID \$0A CID \$0C -and- \$0D, a test value of more than 1 count indicates a failing test.	

Fig. 12: J1850/Class2 Footnote 7
Courtesy of GENERAL MOTORS CORP.

Footnote 8	For the following 2005 and 2006 model year vehicles:
	Chevrolet Colorado, GMC Canyon, Hummer H3, with 2.8L (VIN 8) -or- 3.5L (VIN 6) engine
	Chevrolet Trailblazer (all), GMC Envoy (all), Buick Rainier, with 4.2L (VIN S) engine
	Saab 9.7, Isuzu Ascender, with 4.2L (VIN S) engine
	Chevrolet Malibu with 2.2L (VIN F) engine
	Chevrolet Cobalt SS, Saturn ION Redline with 2.0L (VIN P) engine
The test limit will read zero (0) counts for these vehicles equipped with the engines listed above.	
When comparing to test values, the test limits for TID \$0A CID \$0B should be as follows:	
If P0450 is not currently active:	
The test value should be compared to 0.7299 (Hex value BA) when evaluating test results.	
For TID \$0A CID \$0B, a test value less than or equal to 0.7299 (Hex value BA) indicates a passing test.	
For TID \$0A CID \$0B, a test value more than 0.7299 (Hex value BA) indicates a failing test.	
If P0450 is currently active:	
The test value should be compared to 0.4000 (Hex value 66) when evaluating test results.	
For TID \$0A CID \$0B, a test value less than or equal to 0.4000 (Hex value 66) indicates a passing test.	
For TID \$0A CID \$0B, a test value more than 0.4000 (Hex value 66) indicates a failing test.	

Fig. 13: J1850/Class2 Footnote 8
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

For the following 2005 and 2006 model year vehicles:

Footnote 9

Group A	Chevrolet Colorado, GMC Canyon, with 2.8L (VIN 8) -or- 3.5L (VIN 6) engine
Group B	Hummer H3 with 3.5L (VIN 6) engine
Group C	Chevrolet Trailblazer (all), GMC Envoy (all), Buick Rainier, with 4.2L (VIN S) engine
Group C	Saab 9.7, Isuzu Ascender, with 4.2L (VIN S) engine
Group D	Chevrolet Malibu with 2.2L (VIN F) engine
Group E	Chevrolet Cobalt SS, Saturn ION Redline with 2.0L (VIN P) engine

The test limit will read zero (0) counts for these vehicles equipped with the engines listed above.

When comparing to test values, the test limits for TID \$0A CID \$0A should be as follows:

If P0450 is not currently active:

The test value should be compared to (see table below) when evaluating test results.

	Group A	Group B	Group C	Group D	Group E
Actual test limit	0.6300	0.5499	0.6500	0.4000	0.5000
Hex value	A1	8C	A6	66	80

For each group, for TID \$0A CID \$0A, a test value less than or equal to (table value above) indicates a passing test.

For each group, for TID \$0A CID \$0A, a test value more than (table value above) indicates a failing test.

If P0450 is currently active:

The test value should be compared to (see table below) when evaluating test results.

	Group A	Group B	Group C	Group D	Group E
Actual test limit	0.4500	0.3499	0.3499	0.3499	0.3302
Hex value	73	59	59	59	54

For each group, for TID \$0A CID \$0A, a test value less than or equal to (table value above) indicates a passing test.

For each group, for TID \$0A CID \$0A, a test value more than (table value above) indicates a failing test.

Fig. 14: J1850/Class2 Footnote 9
Courtesy of GENERAL MOTORS CORP.

GMLAN (CAN)

OBD Monitor ID (OBDMID)	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	0.0036 / 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 ⁽³⁾	Difference Between Rich-Lean Response and Lean-Rich Response	-32768 to +32767 milliseconds	1 ms / bit
01	89	05	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
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	0.0036 / 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

Fig. 15: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (1 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

OBD Monitor ID (OBDMID)	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 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 255.99:1 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
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

Fig. 16: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (2 Of 9)
Courtesy of GENERAL MOTORS CORP.

OBD Monitor ID (OBDMID)	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 2 Sensor 2					
06	05	20	B2S2 rich-lean switch time in fuel cut-off	0.000:1 to 255.99:1 ratio	0.0039 / 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 Tests	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
Catalyst Monitor					
21	A0	01	Catalyst Test Bank 1 (using OSC normalized ratio units)	0 to +65535 unitless	1 per bit
21	A0	05	Catalyst Test Bank 1 (using OSC normalized ratio units)	0 to 1.999 unitless	0.000305 / 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	A0	01	Catalyst Test Bank 2 (using OSC compensation units)	0 to +65535 unitless	1 per bit
22	A0	05	Catalyst Test Bank 2 (using OSC normalized ratio units)	0 to 1.999 raw value	0.000305 / bit
22	A0	90	Catalyst Test Bank 2 (using OSC compensation units)	-32768 to +32767 milliseconds	1 ms / bit
22	A1	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 ⁽⁶⁾	EGR Flow Quick Test	-32.768 to +32.767 kPa	0.001 kPa / bit

Fig. 17: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (3 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

OBD Monitor ID (OBDMID)	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 (Cap off/gross Leak, large leak)					
			EVDP = Evap Pressure / Vacuum Decay		
39	39	sec footnote 1			
39	3A	sec footnote 1			
39	3B	sec footnote 2			
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	0.000305 / bit
EVAP Monitor (Large)					
			EVDP = Evap Pressure / Vacuum Decay		
3A	C0	31	EVDP Weak Vacuum Test scaled in liters	0.0 to 65.535 liters	0.001 liters / bit
3A	C0	FD	EVDP Weak Vacuum Test scaled in kPa	-32.768 to +32.767 kPa	0.001 kPa / bit
3A	C1	11	EVDP Weak Vacuum Follow-up Test	0.0 to 6553.5 sec	100 milliseconds / bit
EVAP Monitor 0.040"					
			EVDP = Evap Pressure / Vacuum Decay		
3B	C2	32	EVDP NV 0.040 Test - scaled in inches	0.000 to 1.999 inches	0.000305 inches / bit
3B	C2	B0	EVDP NV 0.040 Test - scaled in percentage slope	-100.01 to +100.00%	+0.003052 percent / bit
EVAP Monitor 0.020"					
			EVDP = Evap Pressure / Vacuum Decay EONV = Engine Off Natural Vacuum		
3C	C2	B0	EVDP NV 0.020 Test - scaled in percentage slope	-100.01 to +100.00%	+0.003052 percent / bit
3C	C3	B0	EVDP NV 0.020 Test - scaled in percentage slope	-100.01 to +100.00%	+0.003052 percent / bit
3C	C3	32	EVDP NV 0.020 Test - scaled in inches	0.000 to 1.999 inches	0.000305 inches / 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	C9	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	CB	24	EONV Vacuum Rationality Test	0 to 65535 counts	1 count / bit
3C	CB	FE	Canister Purge Valve 'stuck open'	-8192 to +8191.75 Pa	0.25 Pa / bit

Fig. 18: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (4 Of 9)
Courtesy of GENERAL MOTORS CORP.

OBD Monitor ID (OBDMID)	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					
			EVDP = Evap Pressure / Vacuum Decay		
3D	C4	11	EVDP NV Purge Pass Test	0.0 to 6553.5 sec	100 milliseconds / bit
3D	C5	FE	EVDP Purge Vacuum Fail Test Note: 1 kPa = 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 ⁽⁵⁾	EVDP Vent Restriction Test 1	0.0 to 6553.5 sec	100 milliseconds / bit
3D	C7	FD	EVDP 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	C7	31	EVDP Vent Restriction Test 2 - scaled in liters	0.0 to 65.535 liters	0.001 liters / bit
3D	C8	31	EVDP 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 Amperes / 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
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 Amperes / 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

Fig. 19: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (5 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

OBD Monitor ID (OBDMID)	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 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 Amperes / 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 Amperes / 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
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 Amperes / 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

Fig. 20: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (6 Of 9)
Courtesy of GENERAL MOTORS CORP.

OBD Monitor ID (OBDMID)	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 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 Amperes / 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
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 (4)	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

Fig. 21: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (7 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

OBD Monitor ID (OBDMID)	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 2 data					
A3	0B	24 ⁽⁴⁾ ⁽⁷⁾	EWMA (Exponentially 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
Misfire Cylinder 3 data					
A4	0B	24 ⁽⁴⁾ ⁽⁷⁾	EWMA (Exponentially 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
Misfire Cylinder 4 data					
A5	0B	24 ⁽⁴⁾ ⁽⁷⁾	EWMA (Exponentially 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
Misfire Cylinder 5 data					
A6	0B	24 ⁽⁴⁾	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	0B	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

Fig. 22: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (8 Of 9)
Courtesy of GENERAL MOTORS CORP.

OBD Monitor ID (OBDMID)	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 8 data					
A9	0B	24	EWMA (Exponentially 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
Misfire Cylinder 9 data					
AA	0B	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
Misfire Cylinder 10 data					
AB	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	A5	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	0B	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

Fig. 23: Mode \$06 Data Definitions Using GMLAN Diagnostic Data Link (9 Of 9)
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

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 limits and value are invalid.

Fig. 24: GMLAN Footnotes 1 & 2
Courtesy of GENERAL MOTORS CORP.

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.

5 For the following 2007 model year vehicle:

Buick Lucerne with 3.8L (VIN 2) engine

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.

Fig. 25: GMLAN Footnotes 3-5
Courtesy of GENERAL MOTORS CORP.

2006 Chevrolet Equinox LS

1996-2006 ENGINE PERFORMANCE Mode 6 - Class 2 & GMLAN

6 For the following 2006 model year vehicles:

Buick Lucerne with 4.8L (VIN Y) engine
Cadillac DTS with 4.6L (VIN Y -or- 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).

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).

Fig. 26: GMLAN Footnotes 6 & 7
Courtesy of GENERAL MOTORS CORP.