



# VehicleMRI™



2004 CHEVROLET SILVERADO  
3500

**A+**

ANY 6.0 V8 (U) GAS

Excellent

Report Summary	
Report Name	VehicleMRI KOER
Report Number	670
Report Time	03/21/2012 5:35 PM
Performed By	John Smith
Company ID	55

Vehicle Information	
VIN	1GBJK39U84E222336
Year	2004
Make	CHEVROLET
Model	SILVERADO 3500
Engine	6.0 V8 (U)
Odometer	2880
Vehicle ID	

Other Summary	
Items Checked	193
Duration	02:52 (Min:Sec)
Device	EVI-6
Firmware Version	EVI6_01_
Script Version	9
Applet Version	1.0.0.15
Database Version	3/19/2012

Category Details			
Category	Overall	Key On	Engine Running
Report Preconditions	N/A	NOT SUPPORTED	N/A
Vehicle Information	N/A	N/A	N/A
MIL / DTC / IM / Dash Lights	<b>PASS</b>	<b>PASS</b>	N/A
Battery	<b>COND PASS</b>	<b>PASS</b>	<b>COND PASS</b>
Powertrain Misc.	<b>PASS</b>	N/A	<b>PASS</b>
Oxygen Sensors	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>
Evaporative System	N/A	N/A	NOT SUPPORTED
Temperatures	<b>PASS</b>	N/A	<b>PASS</b>
Fuel Trim	<b>PASS</b>	N/A	<b>PASS</b>
Fuel/Pressure & Rates	NOT SUPPORTED	NOT SUPPORTED	NOT SUPPORTED
Load/Torque	<b>NOT GRADED</b>	N/A	<b>NOT GRADED</b>
Throttle/Accelerator	<b>PASS</b>	<b>PASS</b>	N/A
Misfire / Injectors	N/A	N/A	N/A
Transmission	N/A	N/A	N/A
ABS / Airbag	N/A	N/A	N/A
Body Misc.	N/A	N/A	N/A



Report Provided By
<b>demo</b>
Vehicle Research Center, Building 2 187 Commerce Drive Scott Township, PA 18447 1(570)241-0769

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# VehicleMRI™



## Failed Items Details

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**CRITICAL ALERTS: NONE**

### Failed Items Details

**No issues found.**

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<http://www.vehiclemri.com>



## Report Details

Test	Value	Result	Note
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### Report Preconditions - NOT SUPPORTED

<b>Preconditions</b>	UNDETERMINED	<b>UNDETERMINED</b>	
Additional Notes	Engine must be running between 500 RPM and 825 RPM and Coolant Temp. over 140 deg F but not over 225 deg F. Vehicle must be at a stop and Fuel System Loop Status must be in CLOSED LOOP.		

### MIL / DTC / IM / Dash Lights - PASS

<b>Commanded MIL</b>	OFF	<b>PASS</b>	No Emissions related DTCs are active.
Additional Notes			
<b>Generic Stored DTCs</b>	0	<b>PASS</b>	No Emissions related Error Codes detected.
Additional Notes			
<b>Generic Pending DTCs</b>	0	<b>PASS</b>	No Emissions related Error Codes detected.
Additional Notes			
<b>Permanent DTCs</b>	0	<b>PASS</b>	No Permanent Emissions related Error Codes detected.
Additional Notes			
<b>Non-Continuous Monitors (Mode \$06)</b>	0	<b>PASS</b>	All Supported Tests have Passed
MODE06	CHECKED : 44		
MODE06	PASS : 44		
MODE06	FAIL : 0		
MODE06	INCOMPLETE : 0		
Additional Notes			

### Battery - PASS

<b>Highest Voltage Since Power Up</b>	13.84 Volts	<b>PASS</b>	
Additional Notes			

### Battery (KOER) - COND PASS

<b>Lowest Battery Voltage During Crank</b>	6.09 V	<b>COND PASS</b>	Battery may be getting too weak to effectively start engine. Perform appropriate battery load and starter tests to confirm.
Additional Notes			
<b>Battery Voltage (Under Load); Alternator</b>		<b>PASS</b>	
MIN	12.65 Volts	<b>PASS</b>	
MAX	13.21 Volts	<b>PASS</b>	
AVG	13.02 Volts	<b>PASS</b>	Voltage is within normal range.
Peak-To-Peak	0.56 Volts	<b>PASS</b>	
Standard Deviation	0.08 Volts		
Additional Notes			
<b>Battery Voltage (No Load); Alternator</b>		<b>PASS</b>	
MIN	13.3 Volts	<b>PASS</b>	
MAX	13.75 Volts	<b>PASS</b>	

## Report Details

Test	Value	Result	Note
AVG	13.53 Volts	PASS	
Peak-To-Peak	0.45 Volts	PASS	
Standard Deviation	0.07 Volts		
Additional Notes			

## Powertrain Misc. (KOER) - PASS

Manifold Absolute Pressure		Result	Note
MIN	11.22 in Hg	PASS	
MAX	11.52 in Hg	PASS	
AVG	11.33 in Hg	PASS	Pressure is within normal range
Peak-To-Peak	0.3 in Hg	PASS	Engine has a very stable manifold pressure
Standard Deviation	0.14 in Hg		
Additional Notes			

MAF Analysis		Result	Note
MIN	7.02 gm/s	PASS	
MAX	7.11 gm/s	PASS	
AVG	7.07 gm/s	PASS	
Peak-To-Peak	0.09 gm/s	PASS	Airflow is Stable
Standard Deviation	0.02 gm/s		
# Samples			
Additional Notes			

Engine Speed		Result	Note
MIN	562.0 RPM	PASS	
MAX	589.0 RPM	PASS	
AVG	577.56 RPM	PASS	Within normal idle range
Peak-To-Peak	27.0 RPM	PASS	The engine is running smoothly
Standard Deviation	6.52 RPM		
Additional Notes			

Ignition Timing Advance for Cylinder 1		Result	Note
MIN	14.0 deg		
MAX	22.0 deg		
AVG	16.26 deg		
Peak-To-Peak	8.0 deg		
Standard Deviation	1.61 deg		
Additional Notes			

Engine Vacuum		Result	Note
MIN	18.4 in Hg	PASS	
MAX	18.7 in Hg	PASS	
AVG	18.68 in Hg	PASS	Vacuum is within normal range.
Peak-To-Peak	0.3 in Hg	PASS	Engine has a very stable vacuum
Freq. of AVG	0.4 Hz		
Standard Deviation	0.07 in Hg		
Additional Notes			

Vehicle Speed Sensor		Result	Note
MIN	0 mph		
MAX	0 mph	PASS	

## Report Details

Test	Value	Result	Note
AVG	0 mph	PASS	
Peak-To-Peak	0 mph		
Standard Deviation	0 mph		
Additional Notes			

## Oxygen Sensors - PASS

O2 Locations	Value	Result	Note
	38V-2SD	PASS	
\$13 Location of O2 Sensors	33		
\$1D Location of O2 Sensors	NOT SUPPORTED	NOT SUPPORTED	
Additional Notes			

## Oxygen Sensors (KOER) - PASS

Fuel System Status	Value	Result	Note
	CLOSED LOOP	PASS	
Fuel System 1	CLOSED LOOP	PASS	Closed loop: using oxygen sensor(s) as feedback for fuel control
Fuel System 2	CLOSED LOOP	PASS	Closed loop: using oxygen sensor(s) as feedback for fuel control
Additional Notes			

O2 Bank 1 Sensor 1 (\$13)	Value	Result	Note
		PASS	
MIN	0.06 Volts	PASS	
MAX	0.79 Volts	PASS	
AVG	0.49 Volts	PASS	
Peak-To-Peak	0.73 Volts	PASS	
Freq. of AVG	0.5 Hz	PASS	
Cross count	11	PASS	
Standard Deviation	0.25 Volts		
Lean to Rich Switch Time (Average)	179.0 ms	PASS	
Rich to Lean Switch Time (Average)	212.89 ms	PASS	
# Samples	73		
O2 Histo - Lean	19.98 %		
O2 Histo - Center Lean	15.85 %		
O2 Histo - Center	14.32 %		
O2 Histo - Center Rich	49.85 %		
O2 Histo - Rich	0.0 %		
Additional Notes			

O2 Bank 1 Sensor 2 (\$13)	Value	Result	Note
		PASS	
MIN	0.23 Volts	PASS	
MAX	0.96 Volts	PASS	
AVG	0.71 Volts	PASS	
Peak-To-Peak	0.73 Volts	PASS	
Freq. of AVG	0.4 Hz		
Cross count	4		
Standard Deviation	0.24 Volts		
Lean to Rich Switch Time (Average)	320.0 ms		
Rich to Lean Switch Time (Average)	568.18 ms		
# Samples	75		

## Report Details

Test	Value	Result	Note
O2 Histo - Lean	0.0 %		
O2 Histo - Center Lean	16.26 %		
O2 Histo - Center	7.63 %		
O2 Histo - Center Rich	23.87 %		
O2 Histo - Rich	52.23 %		
Additional Notes			

O2 Bank 2 Sensor 1 (\$13)		Result	Note
MIN	0.06 Volts	PASS	
MAX	0.84 Volts	PASS	
AVG	0.54 Volts	PASS	
Peak-To-Peak	0.78 Volts		
Freq. of AVG	0.6 Hz	PASS	
Cross count	8	PASS	
Standard Deviation	0.29 Volts		
Lean to Rich Switch Time (Average)	125.0 ms	PASS	
Rich to Lean Switch Time (Average)	248.28 ms	PASS	
# Samples	73		
O2 Histo - Lean	24.47 %		
O2 Histo - Center Lean	6.88 %		
O2 Histo - Center	8.37 %		
O2 Histo - Center Rich	43.95 %		
O2 Histo - Rich	16.33 %		
Additional Notes			

O2 Bank 2 Sensor 2 (\$13)		Result	Note
MIN	0.13 Volts	PASS	
MAX	0.91 Volts	PASS	
AVG	0.55 Volts	PASS	
Peak-To-Peak	0.78 Volts	PASS	
Freq. of AVG	0.6 Hz		
Cross count	12		
Standard Deviation	0.28 Volts		
Lean to Rich Switch Time (Average)	128.0 ms		
Rich to Lean Switch Time (Average)	246.56 ms		
# Samples	73		
O2 Histo - Lean	14.68 %		
O2 Histo - Center Lean	18.4 %		
O2 Histo - Center	15.59 %		
O2 Histo - Center Rich	20.84 %		
O2 Histo - Rich	30.49 %		
Additional Notes			

## Temperatures (KOER) - PASS

Engine Coolant Temperature		Result	Note
MIN	186.8 °F	PASS	
MAX	188.6 °F	PASS	

## Report Details

Test	Value	Result	Note
AVG	186.94 °F	PASS	
Peak-To-Peak	1.8 °F		
Standard Deviation	0.5 °F		
Additional Notes			

Intake Air Temperature		Result	Note
MIN	111.2 °F	PASS	
MAX	111.2 °F	PASS	
AVG	111.2 °F	PASS	
Peak-To-Peak	0 °F		
Standard Deviation	0 °F		
Additional Notes			

## Fuel Trim (KOER) - PASS

Short Term Fuel Trim B1		Result	Note
MIN	-2.34 %	PASS	
MAX	1.56 %	PASS	
AVG	-0.25 %	PASS	
Peak-To-Peak	3.9 %	PASS	
Standard Deviation	0.9 %		
Additional Notes			

Short Term Fuel Trim B2		Result	Note
MIN	-0.78 %	PASS	
MAX	0.78 %	PASS	
AVG	-0.35 %	PASS	
Peak-To-Peak	1.56 %	PASS	
Standard Deviation	0.53 %		
Additional Notes			

Long Term Fuel Trim B1		Result	Note
MIN	2.34 %	PASS	
MAX	2.34 %	PASS	
AVG	2.34 %	PASS	
Peak-To-Peak	0.0 %	PASS	
Standard Deviation	0.0 %		
Additional Notes			


Long Term Fuel Trim B2		Result	Note
MIN	0.78 %	PASS	
MAX	0.78 %	PASS	
AVG	0.78 %	PASS	
Peak-To-Peak	0.0 %	PASS	
Standard Deviation	0.0 %		
Additional Notes			

## Load/Torque (KOER) - NOT GRADED

Calculated Load Value		Result	Note
MIN	2.35 %		
MAX	2.35 %		
AVG	2.35 %		

 **Report Details**

Test	Value	Result	Note
Peak-To-Peak	0.0 %		
Standard Deviation	0.0 %		
Additional Notes			

 **Throttle/Accelerator - PASS**

<b>Absolute Throttle Position</b>	7.45 %	<b>PASS</b>	
Additional Notes			

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