



# VehicleMRI™



## 2001 SATURN SL SERIES ANY 1.9 L4 (7) GAS

# B-

Very Good

Report Summary	
Report Name	VehicleMRI Complete
Report Number	346
Report Time	02/02/2012 3:43 PM
Performed By	John Smith
Company ID	55

Vehicle Information	
VIN	1G8ZH52821Z284934
Year	2001
Make	SATURN
Model	SL SERIES
Engine	1.9 L4 (7)
Odometer	122701
Vehicle ID	VIN-MIS

Other Summary	
Items Checked	144
Duration	03:15 (Min:Sec)
Device	EVI-6
Firmware Version	EVI6_01_
Script Version	13
Applet Version	1.0.0.12
Database Version	1/9/2012

Category Details			
Category	Overall	Key On	Engine Running
Report Preconditions	✗ FAIL	✓ PASS	✗ FAIL
Vehicle Information	📄 COND FAIL	📄 COND FAIL	📄 N/A
MIL / DTC / IM / Dash Lights	✗ FAIL	✗ FAIL	📄 N/A
Battery	✓ PASS	✓ PASS	✓ PASS
Powertrain Misc.	✗ FAIL	✓ PASS	✗ FAIL
Oxygen Sensors	✗ FAIL	✓ PASS	✗ FAIL
Evaporative System	📄 NOT SUPPORTED	📄 NOT SUPPORTED	📄 NOT SUPPORTED
Temperatures	✓ PASS	✓ PASS	✓ PASS
Fuel Trim	✗ FAIL	✓ PASS	✗ FAIL
Fuel/Pressure & Rates	📄 NOT SUPPORTED	📄 NOT SUPPORTED	📄 NOT SUPPORTED
Load/Torque	📄 NOT GRADED	📄 NOT GRADED	📄 NOT GRADED
Throttle/Accelerator	✓ PASS	✓ PASS	📄 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



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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<http://www.vehiclemri.com>



## Failed Items Details

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Applet Version	1.0.0.12
Database Version	1/9/2012

**CRITICAL ALERTS: NONE**

### Failed Items Details

Test	Value	Result	Note
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#### Report Preconditions (KOER) - FAIL

<b>Extended KOER Preconditions</b>		<b>FAIL</b>	Preconditions were skipped
Engine Speed (Generic)	913.0 RPM	<b>FAIL</b>	134 Failed Items
Additional Notes			

#### Vehicle Information - COND FAIL

<b>Mode \$09 - VIN</b>		<b>COND FAIL</b>	VIN Mismatch between entered VIN and controller VIN. Check for typos in VIN entry.
ECM	1G8ZH52862Z176317	<b>COND FAIL</b>	VIN Mismatch between entered VIN and controller VIN. Check for typos in VIN entry.
Additional Notes			

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

<b>IM Readiness Status</b>	1	<b>COND FAIL</b>	It appears the DTCs were just cleared. Perform a test drive/Run Drive Cycle to COMPLETE monitor(s) and retest.
Evaporative System	NOT COMPLETE	<b>COND FAIL</b>	Run Drive Cycle to COMPLETE monitor(s) and retest. To properly test, Fuel level must be between 15% and 85%.
Additional Notes			

<b>GM Enhanced DTC Scan</b>	3	<b>FAIL</b>	
Engine Control Module (10)	P0444;P0562;P1599	<b>FAIL</b>	
Additional Notes			

#### Powertrain Misc. (KOER) - FAIL

<b>Engine Speed</b>		<b>FAIL</b>	
AVG	872.84 RPM	<b>FAIL</b>	Outside of normal idle range, too HIGH
Additional Notes			

#### Oxygen Sensors (KOER) - FAIL

<b>O2 Bank 1 Sensor 1 (\$13)</b>		<b>FAIL</b>	
Rich to Lean Switch Time (Average)	298.08 ms	<b>FAIL</b>	Sensor is switching too slow
Additional Notes			

**Failed Items Details**

Test	Value	Result	Note
<b>O2 Bank 1 Sensor 2 (\$13)</b>		<b>COND FAIL</b>	
MIN	0.8 Volts	<b>COND FAIL</b>	O2 Sensor has not reported a LEAN state. Sensor may still be ok, perform appropriate diagnostic tests to determine sensor condition.
AVG	0.81 Volts	<b>COND FAIL</b>	Engine running RICH.
Peak-To-Peak	0.01 Volts	<b>COND FAIL</b>	No or minimal sensor activity detected.
Additional Notes			

**Fuel Trim (KOER) - FAIL**

<b>Short Term Fuel Trim B1</b>		<b>FAIL</b>	
AVG	-22.46 %	<b>FAIL</b>	Subtracting too much fuel
Additional Notes			

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## Report Details

Test	Value	Result	Note
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### Report Preconditions - **PASS**

<b>Preconditions</b>		<b>PASS</b>	All Procedure Preconditions PASSED
Engine Speed (Generic)	0.0 RPM		
Additional Notes	Engine Speed should be 0 RPM		

### Report Preconditions (KOER) - **FAIL**

<b>Extended KOER Preconditions</b>		<b>FAIL</b>	Preconditions were skipped
Engine Coolant Temp	140.0 RPM	<b>PASS</b>	0 Failed Items
Vehicle Speed	0.0 RPM	<b>PASS</b>	0 Failed Items
Engine Speed (Generic)	913.0 RPM	<b>FAIL</b>	134 Failed Items
Fuel System 1	CLOSED LOOP RPM	<b>PASS</b>	0 Failed Items
Fuel System 2	NOT USED RPM	<b>PASS</b>	0 Failed Items
Additional Notes			

### Vehicle Information - **COND FAIL**

<b>Mode \$09 - VIN</b>		<b>COND FAIL</b>	VIN Mismatch between entered VIN and controller VIN. Check for typos in VIN entry.
ECM	1G8ZH52862Z176317	<b>COND FAIL</b>	VIN Mismatch between entered VIN and controller VIN. Check for typos in VIN entry.
Additional Notes			

<b>Mode \$09 - CALID's</b>			
ECM	21009255, 21009250		
Additional Notes			

### MIL / DTC / IM / Dash Lights - **FAIL**

<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>IM Readiness Status</b>	1	<b>COND FAIL</b>	It appears the DTCs were just cleared. Perform a test drive/Run Drive Cycle to COMPLETE monitor(s) and retest.
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Misfire	COMPLETE	<b>PASS</b>	
Fuel System	COMPLETE	<b>PASS</b>	
Comprehensive component	COMPLETE	<b>PASS</b>	
Catalyst	COMPLETE	<b>PASS</b>	
Heated Catalyst	NOT SUPPORTED	<b>NOT SUPPORTED</b>	NOT SUPPORTED

## Report Details

Test	Value	Result	Note
Evaporative System	NOT COMPLETE	COND FAIL	Run Drive Cycle to COMPLETE monitor(s) and retest. To properly test, Fuel level must be between 15% and 85%.
Secondary Air System	COMPLETE	PASS	
Oxygen Sensor	COMPLETE	PASS	
Oxygen Sensor Heater	COMPLETE	PASS	
EGR System	COMPLETE	PASS	
Additional Notes			

<b>Emissions Readiness</b>	PASS	PASS	If you register this vehicle in a state/county with an emissions inspection program, this vehicle should PASS the Emissions test.
Additional Notes			

<b>OBD Support Level</b>	OBD II (California ARB)		
Additional Notes			

<b>Commanded Secondary AIR Status</b>	Atmosphere/OFF		
Additional Notes			

<b>GM Enhanced DTC Scan</b>	3	FAIL	
Restraint Controller(58)	0	PASS	
Engine Control Module (10)	P0444;P0562;P1599	FAIL	
Body Controller(40)	0	PASS	
Additional Notes			

## Battery - PASS

<b>Battery Voltage (No Load)</b>		PASS	
MIN	11.72 Volts	PASS	
MAX	11.78 Volts		
AVG	11.75 Volts	PASS	
Peak-To-Peak	0.06 Volts		
Standard Deviation	0.01 Volts		
Additional Notes			

<b>Battery Voltage Under Load</b>		PASS	
MIN	10.71 Volts	PASS	
MAX	11.68 Volts		
AVG	11.35 Volts	PASS	
Peak-To-Peak	0.97 Volts		
Standard Deviation	0.07 Volts		
Additional Notes			

<b>Highest Voltage Since Power Up</b>	14.91 Volts	PASS	
Additional Notes			

## Battery (KOER) - PASS

<b>Battery Voltage (No Load); Alternator</b>		PASS	
MIN	14.04 Volts	PASS	
MAX	14.33 Volts		
AVG	14.19 Volts	PASS	

## Report Details

Test	Value	Result	Note
Standard Deviation	0.05 Volts		
Additional Notes			

Battery Voltage (Under Load); Alternator		Result	Note
		<b>PASS</b>	
MIN	13.34 Volts	<b>PASS</b>	
MAX	14.17 Volts	<b>PASS</b>	
AVG	13.91 Volts	<b>PASS</b>	Voltage is within normal range.
Peak-To-Peak	0.83 Volts	<b>PASS</b>	
Standard Deviation	0.09 Volts		
Additional Notes			

Lowest Battery Voltage During Crank		Result	Note
	8.1 V	<b>PASS</b>	
Additional Notes			

### Powertrain Misc. - **PASS**

Engine Speed		Result	Note
	0.0 RPM	<b>PASS</b>	
Additional Notes			

Manifold Absolute Pressure		Result	Note
	28.35 in Hg		
Additional Notes			

Engine Vacuum		Result	Note
	1.57 in Hg		
Additional Notes			

Vehicle Speed Sensor		Result	Note
	0 mph		
Additional Notes			

Ignition Timing Advance for Cylinder 1		Result	Note
	0.0 deg		
Additional Notes			

### Powertrain Misc. (KOER) - **FAIL**

Engine Speed		Result	Note
		<b>FAIL</b>	
MIN	860.0 RPM	<b>PASS</b>	
MAX	886.0 RPM	<b>PASS</b>	
AVG	872.84 RPM	<b>FAIL</b>	Outside of normal idle range, too HIGH
Peak-To-Peak	26.0 RPM	<b>PASS</b>	The engine is running smoothly
Standard Deviation	6.3 RPM		
Additional Notes			

Manifold Absolute Pressure		Result	Note
		<b>PASS</b>	
MIN	8.86 in Hg	<b>PASS</b>	
MAX	9.45 in Hg	<b>PASS</b>	
AVG	9.07 in Hg	<b>PASS</b>	Pressure is within normal range
Peak-To-Peak	0.59 in Hg	<b>PASS</b>	Engine has a very stable manifold pressure
Standard Deviation	0.25 in Hg		
Additional Notes			

Engine Vacuum		Result	Note
		<b>PASS</b>	
MIN	20.17 in Hg	<b>PASS</b>	
MAX	21.06 in Hg	<b>PASS</b>	

## Report Details

Test	Value	Result	Note
AVG	20.8 in Hg	PASS	Vacuum is within normal range.
Peak-To-Peak	0.89 in Hg	PASS	Engine has a very stable vacuum
Freq. of AVG	2.1 Hz		
Standard Deviation	0.26 in Hg		
Additional Notes			

### Ignition Timing Advance for Cylinder 1

MIN	25.0 deg		
MAX	31.0 deg		
AVG	28.26 deg		
Peak-To-Peak	6.0 deg		
Standard Deviation	1.18 deg		
Additional Notes			

### Vehicle Speed Sensor

		PASS	
MIN	0 mph		
MAX	0 mph	PASS	
AVG	0 mph	PASS	
Peak-To-Peak	0 mph		
Standard Deviation	0 mph		
Additional Notes			

## Oxygen Sensors - PASS

O2 Locations	34L-1S	PASS	
\$13 Location of O2 Sensors	3		
\$1D Location of O2 Sensors	NOT SUPPORTED	NOT SUPPORTED	
Additional Notes			

### O2 Sensor Voltage (Location \$13)

\$13, \$1D - O2 Volts, B1 S1	0.46 V		
\$13, \$1D - O2 Volts, B1 S2	0.46 V		
\$13 O2 Volts, B1 S3	NOT SUPPORTED	NOT SUPPORTED	
\$13 O2 Volts, B1 S4	NOT SUPPORTED	NOT SUPPORTED	
\$13 O2 Volts, B2 S1	NOT SUPPORTED	NOT SUPPORTED	
\$13 O2 Volts, B2 S2	NOT SUPPORTED	NOT SUPPORTED	
\$13 O2 Volts, B2 S3	NOT SUPPORTED	NOT SUPPORTED	
\$13 O2 Volts, B2 S4	NOT SUPPORTED	NOT SUPPORTED	
Additional Notes			

## Oxygen Sensors (KOER) - FAIL

Fuel System Status	CLOSED LOOP	PASS	
Fuel System 1	CLOSED LOOP	PASS	Closed loop: using oxygen sensor(s) as feedback for fuel control
Fuel System 2	NOT USED		

## Report Details

Test	Value	Result	Note
Additional Notes			
<b>O2 Bank 1 Sensor 1 (\$13)</b>		<b>FAIL</b>	
MIN	0.22 Volts	PASS	
MAX	0.88 Volts	PASS	
AVG	0.56 Volts	PASS	
Peak-To-Peak	0.66 Volts	PASS	
Freq. of AVG	0.8 Hz	PASS	
Cross count	16	PASS	
Standard Deviation	0.25 Volts		
Lean to Rich Switch Time (Average)	203.0 ms	PASS	
Rich to Lean Switch Time (Average)	298.08 ms	FAIL	Sensor is switching too slow
# Samples	75		
O2 Histo - Lean	0.0 %		
O2 Histo - Center Lean	32.17 %		
O2 Histo - Center	17.29 %		
O2 Histo - Center Rich	27.62 %		
O2 Histo - Rich	22.92 %		
Additional Notes			

<b>O2 Bank 1 Sensor 2 (\$13)</b>		<b>COND FAIL</b>	
MIN	0.8 Volts	COND FAIL	O2 Sensor has not reported a LEAN state. Sensor may still be ok, perform appropriate diagnostic tests to determine sensor condition.
MAX	0.81 Volts	PASS	
AVG	0.81 Volts	COND FAIL	Engine running RICH.
Peak-To-Peak	0.01 Volts	COND FAIL	No or minimal sensor activity detected.
Freq. of AVG	0.1 Hz		
Cross count	0		
Standard Deviation	0.0 Volts		
Lean to Rich Switch Time (Average)	UNDETERMINED		
Rich to Lean Switch Time (Average)	UNDETERMINED		
# Samples	76		
O2 Histo - Lean	0.0 %		
O2 Histo - Center Lean	0.0 %		
O2 Histo - Center	0.0 %		
O2 Histo - Center Rich	2.59 %		
O2 Histo - Rich	97.41 %		
Additional Notes			



## Temperatures - PASS

<b>Engine Coolant Temperature</b>	35.6 °F	PASS	
Additional Notes			
<b>Intake Air Temperature</b>	32 °F	PASS	
Additional Notes			
<b>ECT to IAT Comparison</b>	3.6 °F	PASS	
Engine Coolant Temp	35.6 °F	PASS	
Intake Air Temperature	32 °F	PASS	



## Report Details

Test	Value	Result	Note
Additional Notes			

### Temperatures (KOER) - **PASS**

Engine Coolant Temperature		Result	Note
MIN	145.4 °F	PASS	
MAX	145.4 °F	PASS	
AVG	145.4 °F	PASS	
Peak-To-Peak	0 °F		
Standard Deviation	0 °F		
Additional Notes			

Intake Air Temperature		Result	Note
MIN	39.2 °F	PASS	
MAX	39.2 °F	PASS	
AVG		PASS	
Peak-To-Peak	0 °F		
Standard Deviation	0 °F		
Additional Notes			

### Fuel Trim - **PASS**

Short Term Fuel Trim B1		Result	Note
0.0 %		PASS	
Additional Notes			

Long Term Fuel Trim B1		Result	Note
-5.47 %		PASS	
Additional Notes			

### Fuel Trim (KOER) - **FAIL**

Short Term Fuel Trim B1		Result	Note
MIN	-23.44 %	PASS	
MAX	-21.87 %	PASS	
AVG	-22.46 %	FAIL	Subtracting too much fuel
Peak-To-Peak	1.57 %	PASS	
Standard Deviation	0.53 %		
Additional Notes			

Long Term Fuel Trim B1		Result	Note
MIN	-5.47 %	PASS	
MAX	-5.47 %	PASS	
AVG	-5.47 %	PASS	
Peak-To-Peak	0.0 %	PASS	
Standard Deviation	0.0 %		
Additional Notes			

### Load/Torque - **NOT GRADED**


Calculated Load Value		Result	Note
0.0 %			
Additional Notes			

### Load/Torque (KOER) - **NOT GRADED**

Calculated Load Value		Result	Note

**Report Details**

Test	Value	Result	Note
MIN	36.86 %		
MAX	40.78 %		
AVG	38.78 %		
Peak-To-Peak	3.92 %		
Standard Deviation	1.19 %		
Additional Notes			

 **Throttle/Accelerator - PASS**

<b>Absolute Throttle Position</b>	0.0 %	<b>PASS</b>	
Additional Notes			

<b>Absolute Throttle Position - Full Throttle Test</b>			
MAX	96.47 %		
Additional Notes			

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