

## CDR File Information

Vehicle Identification Number	1G1JC124827105812
Investigator	Phillips/Casteel/Beck
Case Number	
Investigation Date	Tuesday, November 1 2005
Crash Date	Tuesday, November 1 2005
Filename	1G1JC124827105812.CDR
Saved on	Tuesday, November 1 2005 at 01:49:22 PM
Collected with CDR version	Crash Data Retrieval Tool 2.710
Collecting program verification number	3F8F669A
Reported with CDR version	Crash Data Retrieval Tool 2.710
Reporting program verification number	3F8F669A
Interface used to collected data	Block number: 00 Interface version: 42 Date: 03-10-05 Checksum: 1300
Event(s) recovered	Deployment Non-Deployment

## SDM Data Limitations

### SDM Recorded Crash Events:

There are two types of SDM recorded crash events. The first is the Non-Deployment Event. A Non-Deployment Event is an event severe enough to "wake up" the sensing algorithm but not severe enough to deploy the air bag(s). It contains Pre-Crash and Crash data. The SDM can store up to one Non-Deployment Event. This event may be overwritten by another Non-Deployment event. This event will be cleared by the SDM after the ignition has been cycled 250 times.

The second type of SDM recorded crash event is the Deployment Event. It also contains Pre-Crash and Crash data. The SDM can store up to two different Deployment Events, if they occur within five seconds of one another. Deployment events cannot be overwritten or cleared from the SDM. Once the SDM has deployed the air bag, the SDM must be replaced.

The data in the non-deployment file will be locked after a deployment, if the non-deployment occurred within 5 seconds before the deployment or a deployment level event occurs within 5 seconds after the deployment.

### SDM Data Limitations:

-SDM Recorded Vehicle Forward Velocity Change is one of the measures used to make air bag deployment decisions. SDM Recorded Vehicle Forward Velocity Change reflects the change in forward velocity that the sensing system experienced during the recorded portion of the event. SDM Recorded Vehicle Forward Velocity Change is the change in velocity during the recording time and is not the speed the vehicle was traveling before the event, and is also not the Barrier Equivalent Velocity. This data should be examined in conjunction with other available physical evidence from the vehicle and scene when assessing occupant or vehicle forward velocity change. For deployments and deployment level events, the SDM will record 100 milliseconds of data after deployment criteria is met and up to 50 milliseconds before deployment criteria is met. For non-deployments, the SDM will record the first 150 milliseconds of data after algorithm enable.

-SDM Recorded Vehicle Speed accuracy can be affected if the vehicle has had the tire size or the final drive axle ratio changed from the factory build specifications.

-Brake Switch Circuit Status indicates the status of the brake switch circuit.

-Pre-Crash Electronic Data Validity Check Status indicates "Data Invalid" if the SDM does not receive a valid message.

-Driver's Belt Switch Circuit Status indicates the status of the driver's seat belt switch circuit

-Passenger Front Air Bag Suppression Switch Circuit Status indicates the status of the suppression switch circuit.

-The Time Between Non-Deployment and Deployment Events is displayed in seconds. If the time between the two events is greater than five seconds, "N/A" is displayed in place of the time.

-If power to the SDM is lost during a crash event, all or part of the crash record may not be recorded.

### SDM Data Source:

All SDM recorded data is measured, calculated, and stored internally, except for the following:

-Vehicle Speed, Engine Speed, and Percent Throttle data are transmitted once a second by the Powertrain Control Module (PCM), via the Class 2 data link, to the SDM.

-Brake Switch Circuit Status data is transmitted once a second by either the ABS module or the PCM, via the Class 2 data link, to the SDM. Depending on vehicle option content, the Brake Switch Circuit Status data may not be available.

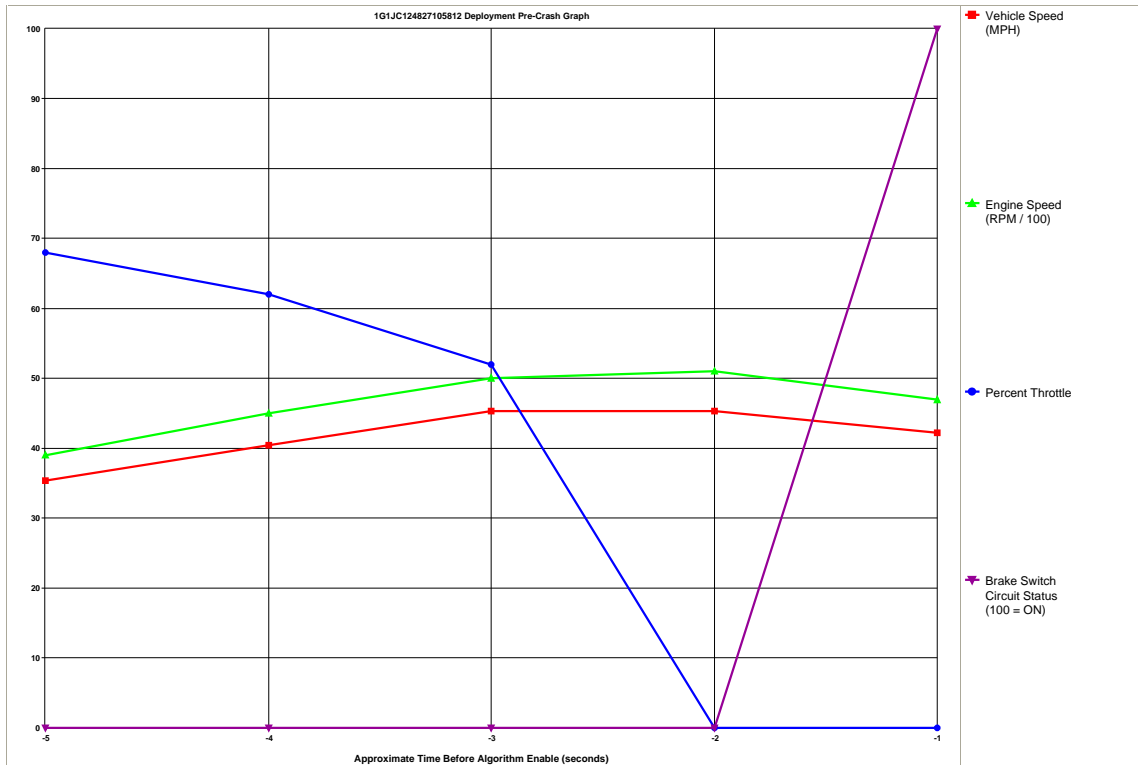
-If the vehicle is a 2000 - 2002 Chevrolet Cavalier Z24 or a Pontiac Sunfire GT, with a manual transmission (RPO MM5) and a 2.4L engine (RPO LD9), the Brake Switch Circuit Status data will be reported in the opposite state than what actually occurred, e.g. an actual brake switch status of "ON" will be reported as "OFF".

-In most vehicles, the Driver's Belt Switch Circuit is wired directly to the SDM. In some vehicles, the Driver's Belt Switch Circuit Status data is transmitted from the Body Control Module (BCM), via the Class 2 data link, to the SDM.

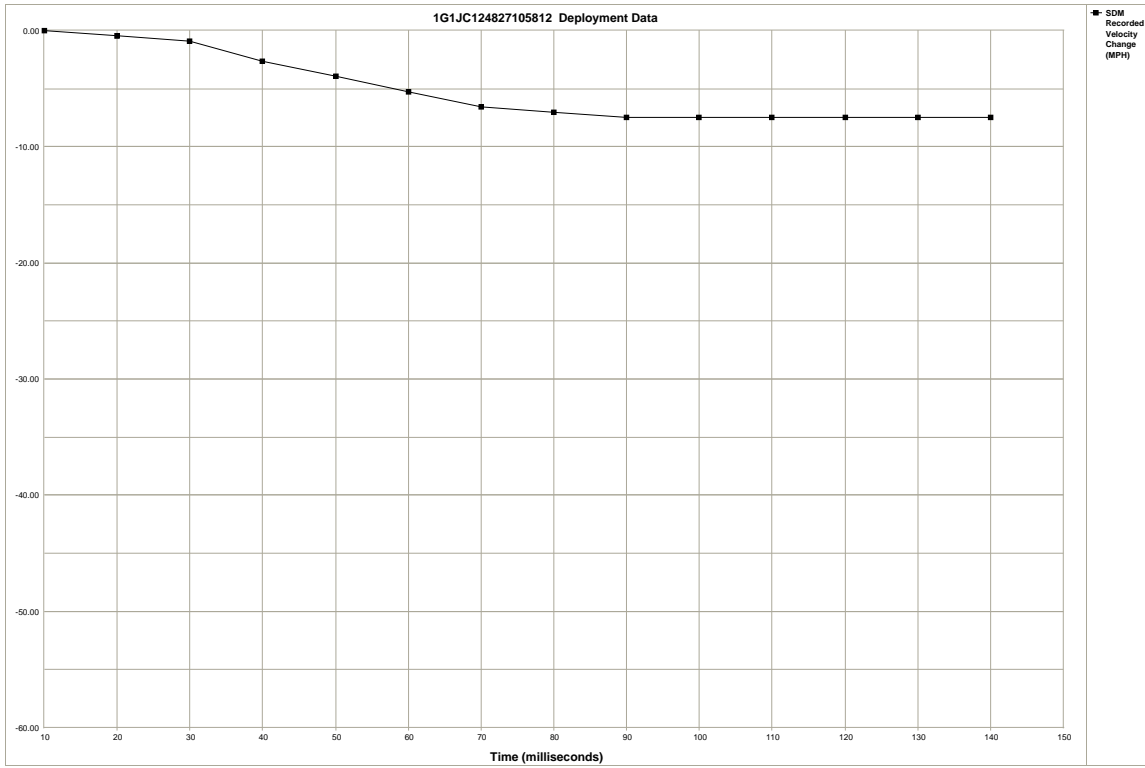
-The Passenger Front Air Bag Suppression Switch Circuit is wired directly to the SDM.

## System Status At Deployment

SIR Warning Lamp Status	OFF
Driver's Belt Switch Circuit Status	BUCKLED
Passenger Front Air Bag Suppression Switch Circuit Status	Air Bag Not Suppressed
Ignition Cycles At Deployment	13790
Ignition Cycles At Investigation	13791
Maximum SDM Algorithm Forward Velocity Change (MPH)	-7.78
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	97.5
Time Between Non-Deployment And Deployment Events (sec)	N/A
Time From Algorithm Enable to Deployment Command Criteria Met (msec)	37.5



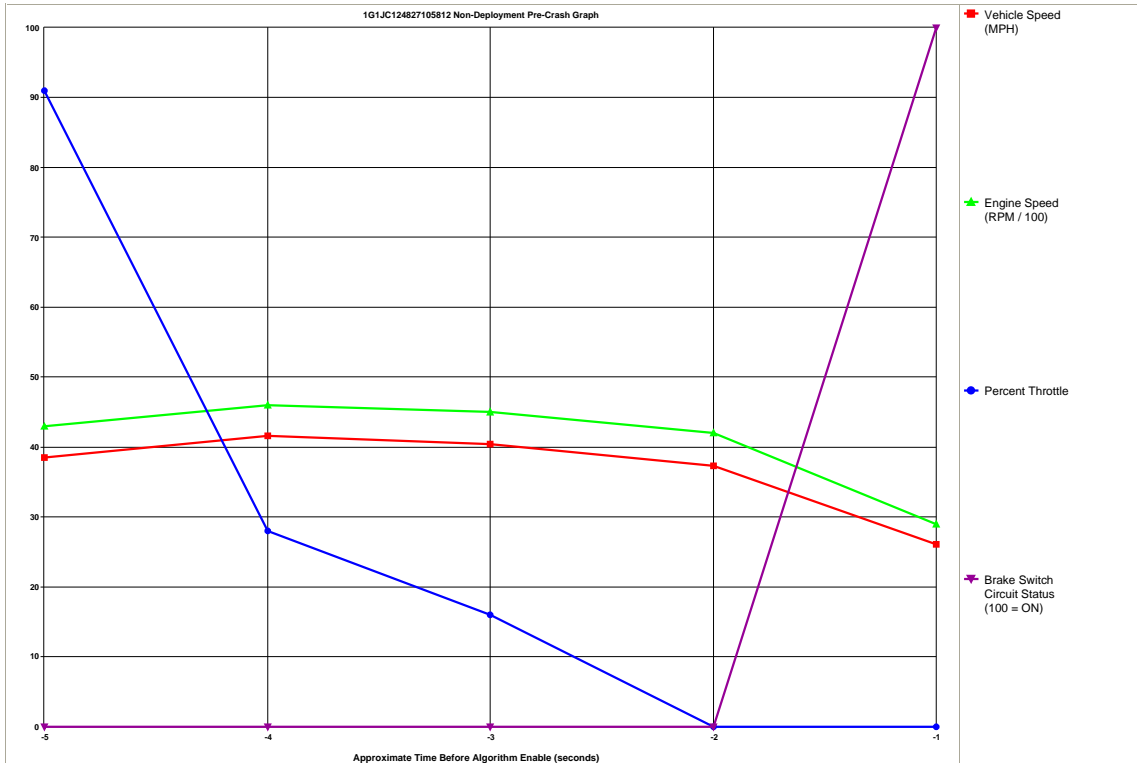
Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle	Brake Switch Circuit Status
-5	35	3904	68	OFF
-4	40	4480	62	OFF
-3	45	4992	52	OFF
-2	45	5056	0	OFF
-1	42	4672	0	ON



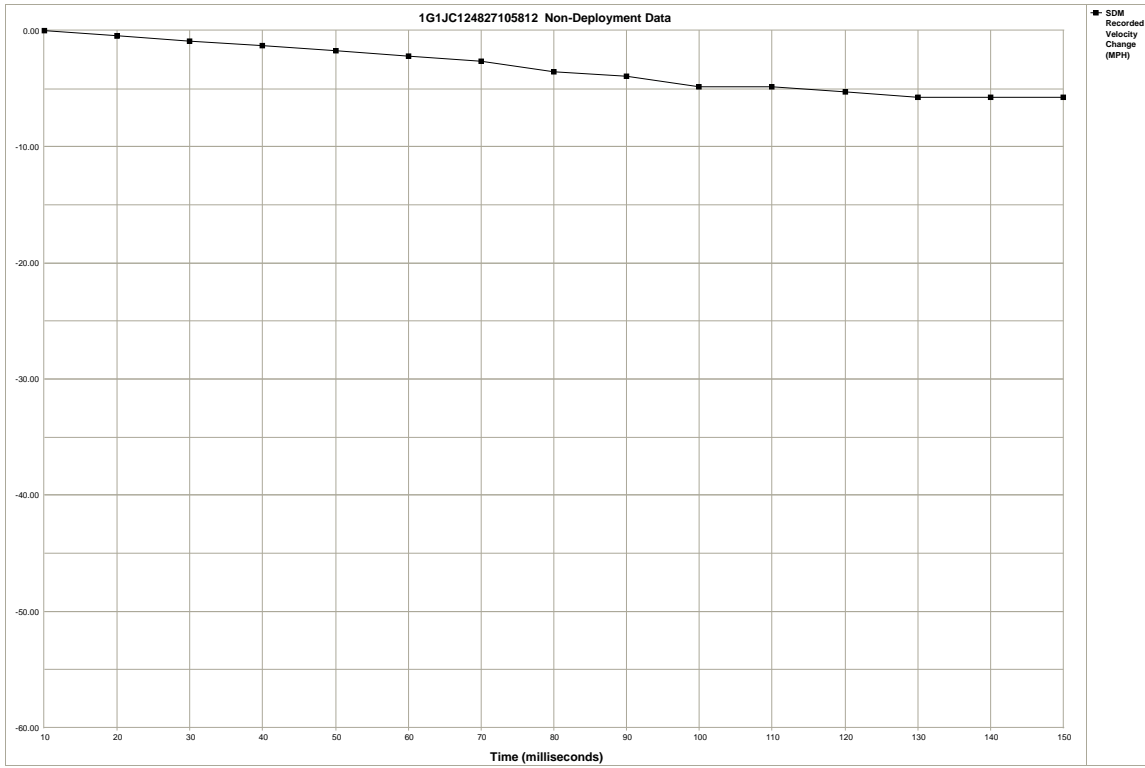
Time (milliseconds)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
SDM Recorded Velocity Change	0.00	-0.44	-0.88	-2.63	-3.95	-5.27	-6.58	-7.02	-7.46	-7.46	-7.46	-7.46	-7.46	-7.46	N/A

## System Status At Non-Deployment

SIR Warning Lamp Status	OFF
Driver's Belt Switch Circuit Status	BUCKLED
Passenger Front Air Bag Suppression Switch Circuit Status	Air Bag Not Suppressed
Ignition Cycles At Non-Deployment	13788
Ignition Cycles At Investigation	13791
Maximum SDM Algorithm Forward Velocity Change (MPH)	-6.36
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	180



Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle	Brake Switch Circuit Status
-5	39	4288	91	OFF
-4	42	4608	28	OFF
-3	40	4480	16	OFF
-2	37	4160	0	OFF
-1	26	2944	0	ON



Time (milliseconds)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
SDM Recorded Velocity Change	0.00	-0.44	-0.88	-1.32	-1.76	-2.19	-2.63	-3.51	-3.95	-4.83	-4.83	-5.27	-5.70	-5.70	-5.70

## Hexadecimal Data

This page displays all the data retrieved from the air bag module.  
It contains data that is not converted by this program.

```
$01 08 23 00 00
$02 95 6B
$03 41 53 31 31 35 39
$04 4B 34 42 5A 32 31
$05 00
$06 22 67 40 98
$10 F9 44 80
$11 94 96 96 FF 9D 01
$14 03 84 AB 80
$18 84 83 85 BD FF 00
$1C FA 32 4A FA FA FA
$1D FA FA 32 4A FA FA
$1E FA FA
$1F FF 02 00 00 00
$20 A0 00 00 FF 2B FF
$21 FF FF FF FF FF FF
$22 FF FF FF FF FF FF
$23 FF 00 01 D0 01 00
$24 01 02 03 04 05 06
$25 08 09 0B 0B 0C 0D
$26 0D 0D 00 2A 3C 41
$27 43 3E 00 80 00 00
$28 00 2A 47 E9 00 2E
$29 41 46 48 43 00 F9
$2A 44 F0 FF FF FF FF
$2B FF FF FF 00 00 00
$2C 00 00 00 00
$2D 48 35 27 00
$30 A0 00 00 FF 2B FC
$31 FF BF FF FF FF FF
$32 FF FF FF FF FF FF
$33 7C 17 03 01 00 01
$34 02 06 09 0C 0F 10
$35 11 11 11 11 11 11
$36 FF 0E 31 02 38 44
$37 49 49 41 39 00 80
$38 00 00 00 84 9F AD
$39 00 49 4F 4E 46 3D
$3A 00 F9 44 C0 00 00
$3B 00 20 00
$3C 0F 27 3B 21
$40 FF FF FF FF FF FF
$41 FF FF FF FF FF FF
$42 FF FF FF FF FF FF
$43 FF
```

## Comments

Connect to SDM - Impact #3