

## CDR File Information

Vehicle Identification Number	1GKEC13Z22R*****
Investigator	
Case Number	
Investigation Date	
Crash Date	
Filename	2003-76-107-V1.CDR
Saved on	xxxxx
Collected with CDR version	Crash Data Retrieval Tool 2.10
Reported with CDR version	Crash Data Retrieval Tool 2.900
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 Event file will be locked after a Deployment Event, if the Non-Deployment Event occurred within 5 seconds before the Deployment Event unless a Deployment Level Event occurs within 5 seconds after the Deployment Event, and then the Deployment Level Event will overwrite the Non-Deployment Event file.

### 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 Deployment Events 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-Deployment Events, 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 receive an invalid message from the module sending the pre-crash data.

-Driver's Belt Switch Circuit Status indicates the status of the driver's seat belt switch circuit. If the vehicle's electrical system is compromised during a crash, the state of the Driver's Belt Switch Circuit may be reported other than the actual state.

-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.

-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?

### 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 vehicle's communication network, to the SDM.

-Brake Switch Circuit Status data is transmitted once a second by either the ABS module or the PCM, via the vehicle's communication network, to the SDM.

-The SDM may obtain Belt Switch Circuit Status data a number of different ways, depending on the vehicle architecture. Some switches are wired directly to the SDM, while others may obtain the data from various vehicle control modules, via the vehicle's communication network.

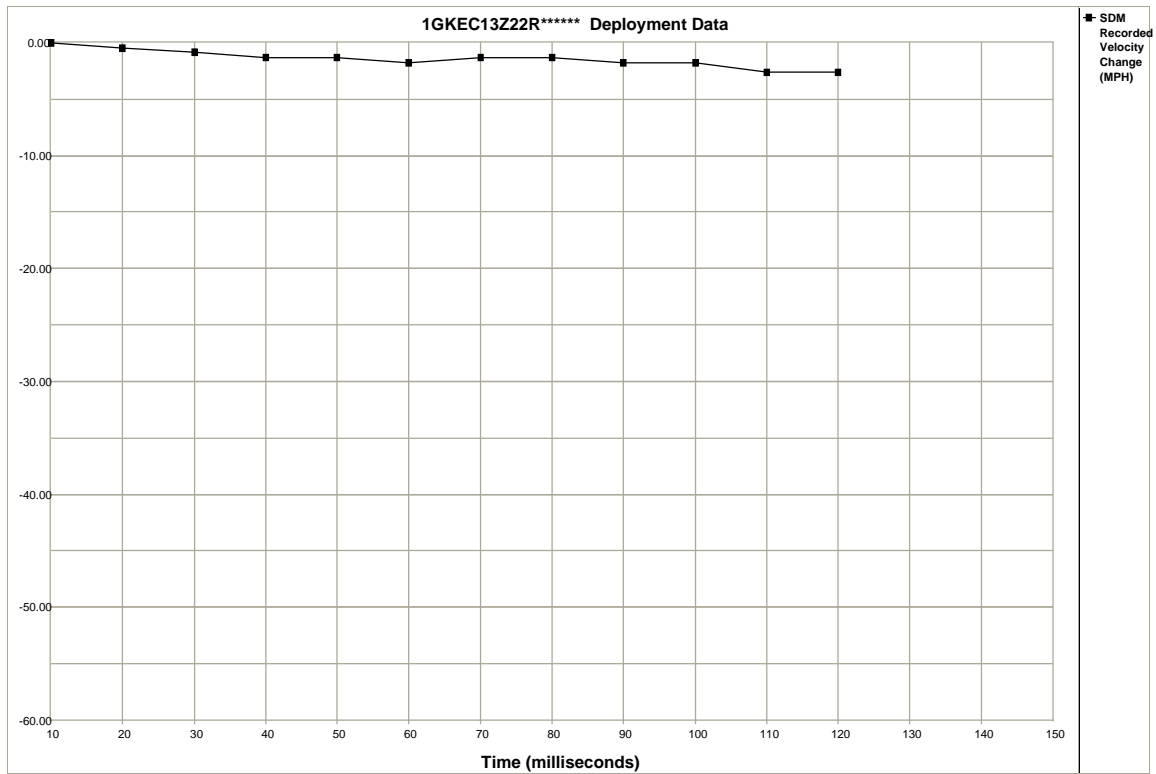
-The Passenger Front Air Bag Suppression Switch Circuit is wired directly to the SDM.

## 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	6036
Ignition Cycles At Investigation	6039
Maximum SDM Recorded Velocity Change (MPH)	-2.97
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	110
Time Between Non-Deployment And Deployment Events (sec)	N/A
Time From Algorithm Enable to Deployment Command Criteria Met (msec)	17.5

Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle
-5	63	1856	25
-4	63	1856	25
-3	63	1856	20
-2	63	1856	14
-1	63	1792	31

Seconds Before AE	Brake Switch Circuit Status
-8	OFF
-7	OFF
-6	OFF
-5	OFF
-4	OFF
-3	OFF
-2	OFF
-1	OFF



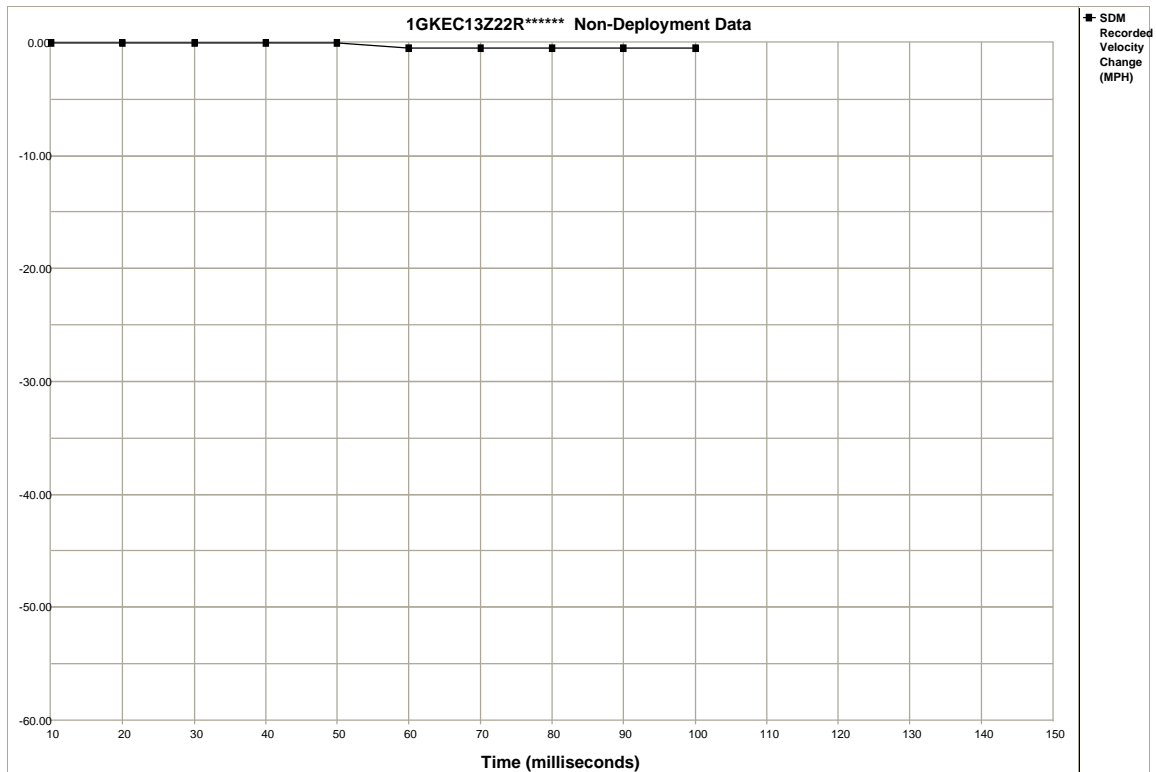
Time (milliseconds)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
SDM Recorded Velocity Change	0.00	-0.44	-0.88	-1.32	-1.32	-1.76	-1.32	-1.32	-1.76	-1.76	-2.63	-2.63	N/A	N/A	N/A

## 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	6036
Ignition Cycles At Investigation	6039
Maximum SDM Recorded Velocity Change (MPH)	-0.71
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	77.5

Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle
-5	63	1792	31
-4	39	2688	29
-3	79	3840	58
-2	91	3520	0
-1	1	448	0

Seconds Before AE	Brake Switch Circuit Status
-8	OFF
-7	OFF
-6	OFF
-5	OFF
-4	ON
-3	OFF
-2	OFF
-1	OFF



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

## Hexadecimal Data

```
$01 08 23 2C 2C
$02 AB A9
$03 41 53 31 33 30 32
$04 4B 45 57 52 52 33
$05 00
$06 15 07 13 91
$10 FD 0D 80
$11 81 82 81 7D 87 00
$14 0F C4 34 A0
$18 7C 7C 7D 84 84 85
$1C FA FA FA FA FA FA
$1D FA FA FA FA FA FA
$1E FA FA
$1F FC 03 05 05 00
$20 A3 00 00 FF 80 FE
$21 FF BF FF FF FF DF
$22 FF FF FE FF FF FF
$23 7C 00 00 34 01 00
$24 00 00 00 00 01 01
$25 01 01 01 FF FF FF
$26 FF FF 0A 01 93 7F
$27 3E 65 00 10 00 00
$28 00 94 49 50 00 07
$29 37 3C 2A 1C 00 FD
$2A 0D F0 FF 00 01 00
$2B 02 17 94 00 00 00
$2C 00 29 0F 00
$2D 1F 0C 13 00
$30 A0 00 00 FF 7D 80
$31 FF BF FF FF FF DF
$32 FF FF FE FF FF FF
$33 7C 0F 29 01 00 01
$34 02 03 03 04 03 03
$35 04 04 06 06 FF FF
$36 FF 0C 02 00 D9 65
$37 65 65 65 65 00 00
$38 00 50 24 33 41 41
$39 00 1C 1D 1D 1D 1D
$3A 00 FD 0D F0 00 00
$3B 00 04 00
$3C 07 2C 18 0F
$40 FF FF FF FF FF FF
$41 FF FF FF FF FF FF
$42 FF FF FF FF FF FF
$43 FF
```