

## CDR File Information

Vehicle Identification Number	2GCEC19V431*****
Investigator	
Case Number	
Investigation Date	
Crash Date	
Filename	2003-50-042-V1.CDR
Saved on	xxxxx
Collected with CDR version	Crash Data Retrieval Tool 2.00
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 can be overwritten by an event that has a greater SDM recorded vehicle forward velocity change. 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 25.4 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. If multiple Non-Deployment Events occur within 5 seconds prior to a Deployment Event, then the most severe Non-Deployment Event will be recorded and locked. If multiple Non-Deployment Events precede a Deployment Event, and multiple Non-Deployment Events occur within 5 seconds of each other (but not necessarily all within 5 seconds of the Deployment Event), and subsequent Non-Deployment Events are less severe than prior Non-Deployment Events, and the last of the multiple Non-Deployment Events occurs within 5 seconds of a Deployment Event, then the most severe of the Non-Deployment Events (which may have occurred more than 5 seconds prior to the Deployment Event) will be recorded and locked.

### SDM Data Limitations:

- 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.

- Event Recording Complete will indicate if data from the recorded event has been fully written to the SDM memory or if it has been interrupted and not fully written.

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

- The Time Between Non-Deployment and Deployment Events is displayed in seconds. If the time between the two events is greater than 25.4 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.

- Multiple Events Associated with this Record: This parameter will indicate whether one or more associated events preceded the recorded event.

- One or More Associated Events Not Recorded: If a single event is recorded, this parameter will indicate whether one or more associated events, prior to the recorded event, was not recorded.

If two associated events are recorded, this parameter for the first event will indicate whether one or more associated events, prior to the first event, was not recorded.

If two associated events are recorded, this parameter, for the second event, will indicate whether one or more associated events, between the first and second events, was not 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 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.

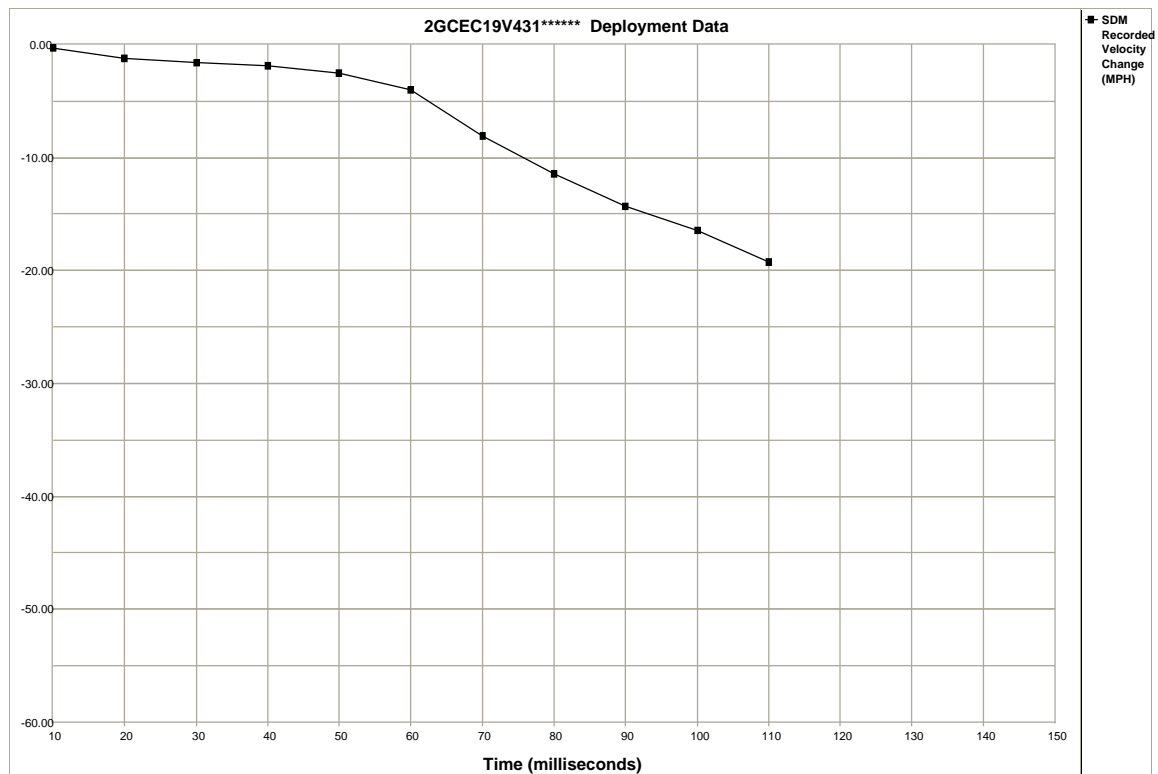
-The SDM may obtain Belt Switch Circuit Status data a number of different ways, depending on the vehicle architecture. Some switches are wired directly to the SDM, while others may obtain the data from various vehicle control modules, via the vehicle's communication network.

## System Status At Deployment

SIR Warning Lamp Status	OFF
Driver's Belt Switch Circuit Status	UNBUCKLED
Passenger Seat Position Switch Circuit Status	Rearward
Ignition Cycles At Deployment	1288
Ignition Cycles At Investigation	1297
Maximum SDM Recorded Velocity Change (MPH)	-25.98
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	182.5
Driver 1st Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	17.5
Driver 2nd Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	N/A
Passenger 1st Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	17.5
Passenger 2nd Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	N/A
Time Between Non-Deployment And Deployment Events (sec)	N/A
Frontal Deployment Level Event Counter	1
Event Recording Complete	Yes
Multiple Events Associated With This Record	No
One Or More Associated Events Not Recorded	No

Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle
-5	38	1152	27
-4	39	1216	27
-3	39	1216	27
-2	40	1216	27
-1	41	1216	27

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



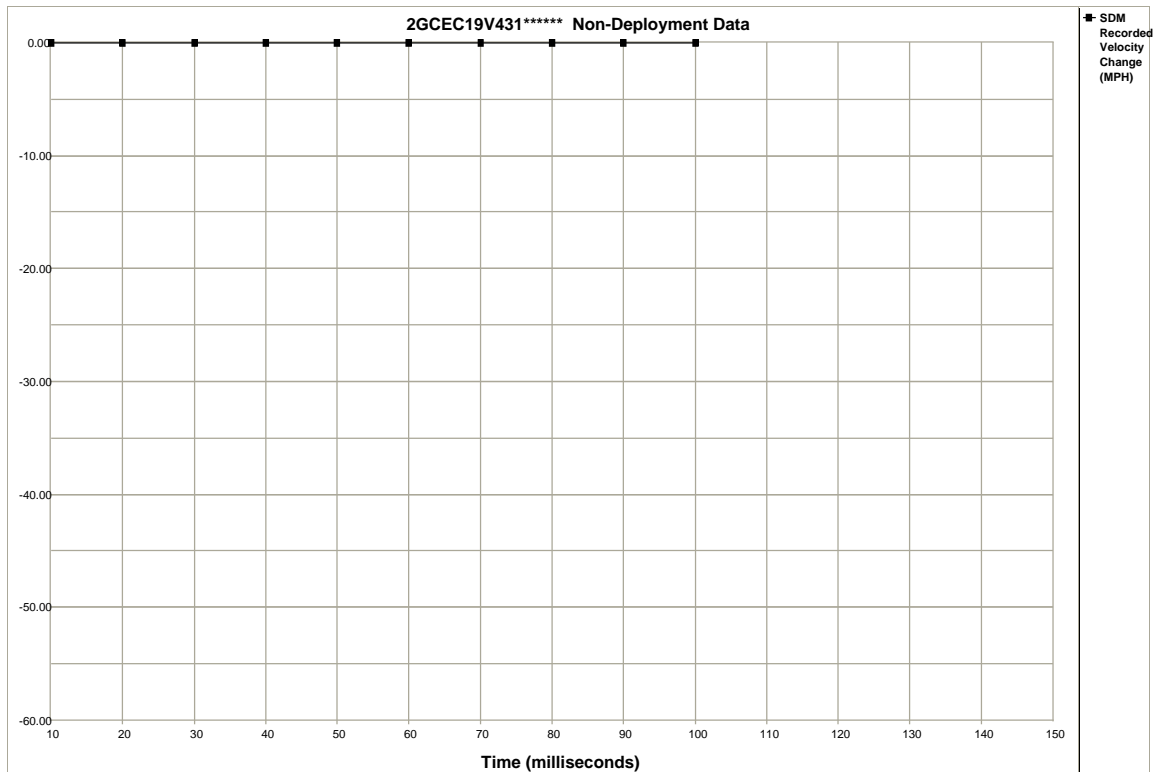
Time (milliseconds)	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
Recorded Velocity Change (MPH)	-0.31	-1.24	-1.55	-1.86	-2.48	-4.03	-8.06	-11.47	-14.26	-16.43	-19.22	N/A	N/A	N/A	N/A

## System Status At Non-Deployment

SIR Warning Lamp Status	ON
Driver's Belt Switch Circuit Status	UNBUCKLED
Passenger Seat Position Switch Circuit Status	Rearward
Ignition Cycles At Non-Deployment	1288
Ignition Cycles At Investigation	1297
Maximum SDM Recorded Velocity Change (MPH)	-0.08
Algorithm Enable to Maximum SDM Recorded Velocity Change (msec)	72.5
Crash Record Locked	No
Event Recording Complete	Yes
Multiple Events Associated With This Record	Yes
One Or More Associated Events Not Recorded	Yes

Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle
-5	39	1216	27
-4	39	1216	27
-3	40	1216	27
-2	41	1216	27
-1	42	1280	43

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
Recorded Velocity Change (MPH)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	N/A	N/A	N/A	N/A

## Hexadecimal Data

```
$01  F1 26 C4 F8 AE 5A
$02  F1 F1 00 00 B8 00
$03  41 53 32 33 34 36
$04  4B 39 31 32 4A 31
$05  00 00 00 00 00 00
$06  15 19 24 46 00 00
$07  00 00 00 00 00 00
$08  00 00 00 00 00 00
$09  00 00 00 00 00 00
$0A  00 00 00 00 00 00
$0B  00 00 00 00 00 00
$0C  00 00 00 00 00 00
$0D  00 00 00 00 00 00
$0E  00 00 00 00 00 00
$0F  00 00 00 00 00 00
$10  FF 5D FE 00 00 00
$11  80 7F 81 7F 7E 80
$12  88 78 77 20 20 01
$13  FF 02 00 00 00 00
$14  03 03 00 00 6C 00
$15  FA FA FA FA FA FA
$16  FA FA FA FA FA FA
$17  FA FA 00 00 00 00
$18  00 0F 05 AC F1 00
$19  09 00 0A 00 00 64
$1A  00 00 00 00 00 00
$1B  00 00 00 00 00 00
$1C  00 0C 00 00 00 00
$1D  00 00 00 00 00 00
$1F  FE 00 00 00 00 00
$20  5E FB 00 00 FF FF
$21  FF F7 FF FF FF FF
$22  FF FF FF FF FF FF
$23  FF FF FF FF FF F7
$24  00 00 04 00 1D 00
$25  00 00 00 00 00 00
$26  00 00 00 00 00 00
$27  00 00 00 00 00 00
$28  00 00 00 0A FF 5E
$29  FF A5 FF FF FF FF
$2A  FF FF FF FF FF FF
$2B  FF FF FF FF FF FF
$2C  FF FF FF FF FF FF
$2D  FF FF 00 00 00 00
$30  B2 FE 00 00 FF FF
$31  FF FF FF FF FF FF
$32  FF FF FF FF FF FF
$33  FF FF FF FF FF FF
$34  00 00 33 0F 07 1F
$35  00 33 0F 07 1F 00
$36  00 00 00 00 00 00
$37  00 00 00 05 3B 59
$38  49 07 5E 3B 00 00
$39  03 00 00 00 00 00
$3A  01 04 05 06 08 0D
$3B  1A 25 2E 35 3E 00
$3C  00 00 00 0B FF 5E
$3D  FF A5 00 00 00 00
$40  42 40 3F 3F 3D 00
$41  00 00 44 44 44 44
$42  44 00 13 13 13 13
$43  12 00 7D 80 00 00
$44  43 42 40 3F 3F 00
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$45  00 00 6D 44 44 44
$46  44 00 14 13 13 13
$47  13 00 80 FE 00 00
$48  43 42 40 3F 3F 00
$49  00 00 6D 44 44 44
$4A  44 00 14 13 13 13
$4B  13 00 80 FE 00 00
$4C  FF FF FF FF FF FF
$4D  FF FF FF FF FF FF
$4E  FF FF FF FF FF FF
$4F  FF FF FF FF 00 00
$50  FF FF FF FF FF FF
$51  FF FF FF FF FF FF
$52  FF FF FF FF FF FF
$53  FF FF FF FF FF FF
$54  FF FF FF FF FF FF
```