

Attachment - C

GMC SDM Data Reports  
(5 Pages)

## CDR File Information

Vehicle Identification Number	2GTEK19T811120444
Investigator	Ewer
Case Number	20051119
Investigation Date	Monday, May 16 2005
Crash Date	Monday, May 9 2005
Filename	2GTEK19T811120444.CDR
Saved on	Monday, May 16 2005 at 12:18:38 PM
Collected with CDR version	Crash Data Retrieval Tool 2.70
Collecting program verification number	70812808
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: 41 Date: 11-04-04 Checksum: 9E00
Event(s) recovered	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 Adjusted Algorithm Forward Velocity Change:

Once the crash data is downloaded, the CDR tool mathematically adjusts the recorded algorithm forward velocity data to generate an adjusted algorithm forward velocity change that may more closely approximate the forward velocity change the sensing system experienced during the recorded portion of the event. The adjustment takes place within the downloading tool and does not affect the crash data, which remains stored in the SDM. The SDM Adjusted Algorithm Forward Velocity Change may not closely approximate what the sensing system experienced in all types of events. For example, if a crash is preceded by other common events, such as rough road, struck objects, or off-road travel, the SDM Adjusted Algorithm Forward Velocity Change may be less than, and some times significantly less than the actual forward velocity change the sensing system experienced. 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. The maximum value that can be recorded for SDM Adjusted Algorithm Forward Velocity Change is about 112 MPH.

-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.

-Some of the Pre-Crash data may be recorded after Algorithm Enable (AE). This may happen in situations involving relatively "soft" crash pulses or those that take place over a relatively longer period of time. If this occurs, it may affect the reported pre-crash data values, but does not affect other data such as SDM Adjusted Algorithm Forward Velocity Change.

-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. If the vehicle's electrical system is compromised during a crash, the state of the Driver's Belt Switch Circuit may be reported as unbuckled, although the driver's seat belt was buckled.

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

-The Time Between 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.

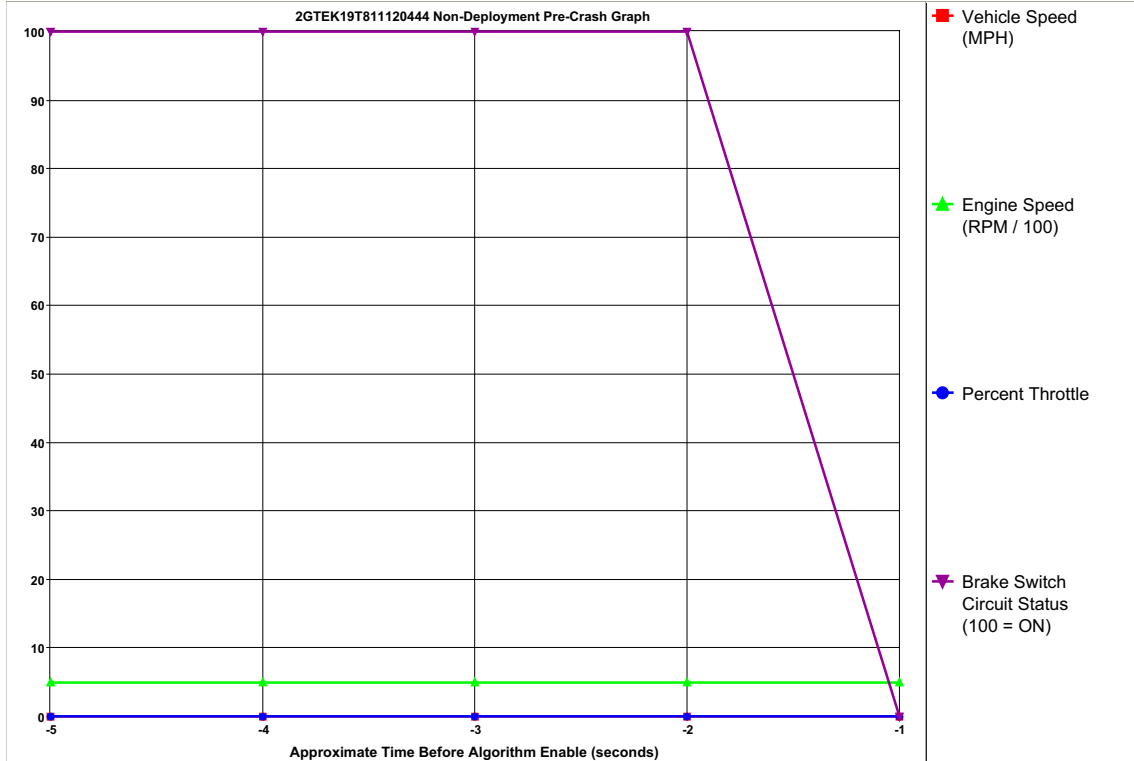
-If the vehicle is a 2000 - 2002 Chevrolet Cavalier Z24 or a Pontiac Sunfire GT, with a manual transmission (RPO MM5) and a 2.4L engine (RPO LD9), the Brake Switch Circuit Status data will be reported in the opposite state than what actually occurred, e.g. an actual brake switch status of "ON" will be 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 2GTEK19T811120444

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 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	9234
Maximum SDM Algorithm Forward Velocity Change (MPH)	-0.10



Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle	Brake Switch Circuit Status
-5	0	512	0	ON
-4	0	512	0	ON
-3	0	512	0	ON
-2	0	512	0	ON
-1	0	512	0	OFF

## 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  91 17 00 00
$02  A7 18
$03  41 53 30 32 30 38
$04  4B 30 56 53 4D 32
$05  00
$06  15 76 31 80
$11  8E 92 92 F7 99 00
$14  03 A4 34 80
$18  87 86 87 72 FF 00
$1C  FA FA FA FA FA FA
$1D  FA FA FA FA FA FA
$1E  FA FA
$1F  FF 02 00 00 00
$20  02 00 00 FF 7D 80
$21  FF FF FF FF FF FF
$22  FF FF FF FF FF FF
$23  FF 00 00 07 01 00
$24  00 00 00 FF FF FF
$25  FF FF FF FF FF FF
$26  FF FF 04 00 00 00
$27  00 00 00 7F 00 00
$28  00 00 00 00 00 08
$29  08 08 08 08 00 FB
$2A  7D FC FF FF FF FF
$2B  FF FF FF 00 00 FF
$2C  FF FF FF FF
$30  FF FF FF FF FF FF
$31  FF FF FF FF FF FF
$32  FF FF FF FF FF FF
$33  FF FF FF FF FF FF
$34  FF FF FF FF FF FF
$35  FF FF FF FF FF FF
$36  FF FF FF FF FF FF
$37  FF FF FF FF FF FF
$38  FF FF FF FF FF FF
$39  FF FF FF FF FF FF
$3A  FF FF FF FF FF FF
$3B  FF FF FF
$40  FF FF FF FF FF FF
$41  FF FF FF FF FF FF
$42  FF FF FF FF FF FF
$43  FF
```