

**IMPORTANT NOTICE:** Robert Bosch LLC and the manufacturers whose vehicles are accessible using the CDR System urge end users to use the latest production release of the Crash Data Retrieval system software when viewing, printing or exporting any retrieved data from within the CDR program. Using the latest version of the CDR software is the best way to ensure that retrieved data has been translated using the most current information provided by the manufacturers of the vehicles supported by this product.

## CDR File Information

User Entered VIN	1G4GA5EC1BF243565
User	
Case Number	RB0179
EDR Data Imaging Date	10/28/2011
Crash Date	
Filename	1G4GA5EC1BF243565_ACM.CDRX
Saved on	Friday, October 28 2011 at 15:34:55
Collected with CDR version	Crash Data Retrieval Tool 4.1.2
Reported with CDR version	Crash Data Retrieval Tool 10.2
EDR Device Type	Airbag Control Module
Event(s) recovered	Deployment, Non-Deployment

## Comments

No comments entered.

## Data Limitations

### Recorded Crash Events:

There are two types of recorded crash events for Front, Side, and Rear (FSR) Events. The first is the Non-Deployment Event. A Non-Deployment Event records data but does not deploy the air bag(s). The minimum SDM Recorded Vehicle Velocity Change, that is needed to record a Non-Deployment Event, is five MPH [8 km/h]. A Non-Deployment Event contains Pre-Crash and Crash data. The oldest Non-Deployment event can be overwritten by a Deployment Event, if all three records are full and the Non-Deployment Event is not locked. Non-Deployment Events can be overwritten after approximately 250 ignition cycles. Also, a Non-Deployment event can be recorded if one of the following occurs without the Deployment of any of the frontal air bags, side air bags, or roll bars:

- Pretensioner(s) only Deployment
- Head Rest Deployment
- Battery Cut-Off Deployment

The second type of SDM recorded crash event for FSR Events is the Deployment Event. It also contains Pre-Crash and Crash data. Deployment Events cannot be overwritten or cleared by the SDM.

There are also two types of recorded crash events for Rollover Events. The first is the Non-Deployment (Non-rollover) Event. A Non-Deployment Event records data but does not deploy the air bag(s). A Non-Deployment Event contains Pre-Crash and Crash data. Non-Deployment Rollover event follow the same rules as FSR Non-Deployment events. The SDM can store up to three Events.

### Data:

For FSR Events, SDM Recorded Vehicle Velocity Change reflects the change in velocity that the sensing system experienced during the recorded portion of the event. SDM Recorded Vehicle 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. For Deployment Events, the SDM will record 220 milliseconds of data after the Deployment criteria is met and up to 70 milliseconds before the Deployment criteria is met. For Non-Deployment Events, the SDM will record the first 300 milliseconds of data after algorithm enable.

For Rollover Events, the SDM may record Lateral Acceleration, Vertical Acceleration, and Roll Rate data, if the SDM is rollover capable. This data reflects what the sensing system experienced during the recorded portion of the event. For Non-Deployment (Non-rollover) Events, the SDM will record 750 milliseconds of data before a calibrated angle threshold is reached. For Deployment Events, the SDM will record up to 490 milliseconds of data before the Deployment criteria is met and 250 milliseconds after the Deployment criteria is met.

-Time between events is recorded in 10 msec intervals and is displayed in seconds for a maximum time of 655.33 seconds. The counter measures the time from the start of one event to the start of the next event if both events occur within the same ignition cycle.

-The CDR tool displays time from Algorithm Enable (AE) to time of Deployment command in a Deployment event and AE to time of maximum SDM recorded vehicle velocity change in a Non-Deployment event. Time from AE begins when the first air bag system enable threshold is met and ends when Deployment command criteria is met or at maximum SDM recorded vehicle velocity change. Any air bag systems may be a source of an enable.

-Time From Algorithm Enable to Maximum SDM Recorded Vehicle Velocity Change is captured when the largest, absolute value of either the Longitudinal or Lateral Recorded Vehicle Velocity Change occurs. The Maximum may occur

- between the recorded 10 millisecond sample points.
- 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 by various factors, including but not limited to the following:
  - Significant changes in the tire's rolling radius
  - Final drive axle ratio changes
  - Wheel lockup and wheel slip
- Brake Switch Circuit Status indicates the open/closed state of the brake switch circuit.
- Pre-Crash data is recorded asynchronously.
- Pre-Crash Electronic Data Validity Check Status indicates "Data Invalid" if:
  - The SDM receives a message with an "invalid" flag from the module sending the pre-crash data
- Pre-Crash Electronic Data Validity Check Status indicates "Data Not Available" if:
  - No data is received from the module sending the pre-crash data
- Belt Switch Circuit Status indicates the status of the seat belt switch circuit.
- The ignition cycle counter will increment when the power mode cycles from OFF/Accessory to RUN. Applying and removing of battery power to the module will not increment the ignition cycle counter.
- Ignition Cycles Since DTCs Were Last Cleared can record a maximum value of 253 cycles and can only be reset by a scan tool.
- Deployment Event Counter tracks the number of Deployment events that have occurred during the SDM's lifetime.
- Algorithm Enable Counter tracks the number of times the sensing algorithm enabled (either Deployments, Non-deploy, or Rollover events) during the SDM's lifetime.
- The Algorithm Enable to Deployment Command Criteria Met times for the following will be indicated for whichever occurs first:
  - Driver Thorax or Driver Curtain
  - Passenger Thorax or Passenger Curtain
  - Driver Pretensioner Loop #1 or Driver Pretensioner Loop #2
  - Passenger Pretensioner Loop #1 or Passenger Pretensioner Loop #2
- For Deployment Events, DTC B0052 (Deployment commanded) shall be recorded with the remainder of the data for this event even though it occurred after Event Enable.
- Once a firing loop has been commanded to be deployed, it will not be commanded to be deployed again during the same ignition cycle. Firing loop times for subsequent deployment type events, during the same ignition cycle, will record the deployment times as N/A.
- The reported range of the longitudinal and lateral acceleration values is approximately  $\pm 50$  g.
- All data should be examined in conjunction with other available physical evidence from the vehicle and scene.

**Data Source:**

- All SDM recorded data is measured, calculated, and stored internally, except for the following:
- Vehicle Status Data (Pre-Crash) is transmitted to the SDM, by Body Control Module, via the vehicle's communication network.
  - The Belt Switch Circuit is wired directly to the SDM.

**Data Element Sign Convention:**

The following table provides an explanation of the sign notation for data elements that may be included in this CDR report.

Data Element Notation	Positive Sign
Longitudinal Velocity Change	Forward
Lateral Acceleration	Left to Right
Lateral Velocity Change	Left to Right
Vertical Acceleration	Downward
Roll Rate	Clockwise Rotation

01039\_SDM10-conti\_r012

**Event Data (General)**

Ignition Cycles At Investigation	45
ESS # 1 Traceability Data	AU2341T7HAF8L20N
ESS # 2 Traceability Data	AT2341TNHAPK520N
ESS # 3 Traceability Data	AH2340TW5IPT4M0L
ESS # 4 Traceability Data	AJ2340T85I0CSM0L
ESS # 5 Traceability Data	000000T000000000
ESS # 6 Traceability Data	000000T000000000
ESS # 7 Traceability Data	000000T000000000
ESS # 8 Traceability Data	000000T000000000
Dynamic Deployment Event Counter	1
Dynamic Algorithm Enable Counter	2
Dynamic OnStar Notification Event Counter	2
Vehicle Identification Number	1G4GA5EC1BF243565
System Type	Continental Temic
Manufacturing Traceability Data	AS8321T103070187
Software Module Identifier 1	00CF3041
Software Module Identifier 2	01400E7C
Software Module Identifier 3	00CE01A1
End Model Part Number	00CF3051

## Event Data (Event Record 1)

Event Recording Complete	Yes
Event Record Type	Deployment
Crash Record Locked	Yes
OnStar Deployment Status Data Sent	Yes
OnStar SDM Recorded Vehicle Velocity Change Data Sent	Yes
Deployment Event Counter	1
Algorithm Enable Counter	1
OnStar Notification Event Counter	1
Algorithm Active: Rear	Yes
Algorithm Active: Rollover	Yes
Algorithm Active: Side	Yes
Algorithm Active: Frontal	Yes
Ignition Cycles At Event	44
Time Between Events (sec)	Data Not Available
Concurrent Event Flag Set	No
Event Severity Status: Rollover	No
Event Severity Status: Rear	No
Event Severity Status: Right Side	No
Event Severity Status: Left Side	Yes
Event Severity Status: Frontal Stage 2	Yes
Event Severity Status: Frontal Stage 1	Yes
Event Severity Status: Frontal Pretensioner	Yes
Driver 1st Stage Deployment Loop Commanded	Yes
Passenger 1st Stage Deployment Loop Commanded	No
Driver 2nd Stage Deployment Loop Commanded	Yes
Passenger 2nd Stage Deployment Loop Commanded	No
Driver Pretensioner Deployment Loop #1 Commanded	Yes
Passenger Pretensioner Deployment Loop #1 Commanded	Yes
Driver Pretensioner Deployment Loop #2 Commanded (If Equipped)	Yes
Passenger Pretensioner Deployment Loop #2 Commanded (If Equipped)	Yes
Driver Thorax Loop Commanded (If Equipped)	Yes
Passenger Thorax Loop Commanded (If Equipped)	No
Driver Row 2 Thorax Loop Commanded (If Equipped)	No
Passenger Row 2 Thorax Loop Commanded (If Equipped)	No
Driver Row 1 Roof Rail/Head Curtain Loop Commanded (If Equipped)	Yes
Passenger Row 1 Roof Rail/Head Curtain Loop Commanded (If Equipped)	Yes
Driver Row 2 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Passenger Row 2 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Driver Row 3 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Passenger Row 3 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Driver Knee Deployment Loop Commanded (If Equipped)	No
Passenger Knee Deployment Loop Commanded (If Equipped)	No
Driver Row 2 Pretensioner Deployment Loop Commanded (If Equipped)	No
Passenger Row 2 Pretensioner Deployment Loop Commanded (If Equipped)	No
Center Row 2 Pretensioner Deployment Loop Commanded (If Equipped)	No
Battery Cutoff Loop Commanded (If Equipped)	No
Driver Roll Bar Loop Commanded (If Equipped)	No
Passenger Roll Bar Loop Commanded (If Equipped)	No
Steering Column Energy Absorbing Loop Commanded (If Equipped)	No
Driver Head Rest Loop Commanded (If Equipped)	No
Passenger Head Rest Loop Commanded (If Equipped)	No
Driver Row 2 Head Rest Loop Commanded (If Equipped)	No
Passenger Row 2 Head Rest Loop Commanded (If Equipped)	No
Center Row 2 Head Rest Loop Commanded (If Equipped)	No
High Voltage Battery Cutoff Loop Commanded (If Equipped)	No
Driver Belt Switch Circuit Status (If Equipped)	Buckled
Passenger Belt Switch Circuit Status (If Equipped)	Buckled
Driver Seat Position Status (If Equipped)	Data Invalid
Passenger Seat Position Status (If Equipped)	Data Invalid
Passenger Seat Occupancy Status (If Equipped)	Empty
Passenger Classification Status (If Equipped)	Not Applicable
Passenger SIR Suppression Switch Circuit Status (If Equipped)	Data Not Available
Passenger Air Bag ON Indicator Status (If Equipped)	Off
Passenger Air Bag OFF Indicator Status (If Equipped)	On

Low Tire Pressure Warning Lamp	Off
SIR Warning Lamp Status	Off
SIR Warning Lamp ON/OFF Time Continuously (seconds)	36510
Number of Ignition Cycles SIR Warning Lamp was ON/OFF Continuously	0
Ignition Cycles Since DTCs Were Last Cleared at Event Enable	44
Time From Algorithm Enable to Maximum SDM Recorded Vehicle Velocity Change (msec)	90
Longitudinal SDM Recorded Vehicle Velocity Change at time of Maximum SDM Recorded Vehicle Velocity Change MPH [km/h]	-27 [-44]
Lateral SDM Recorded Vehicle Velocity Change at time of Maximum SDM Recorded Vehicle Velocity Change MPH [km/h]	11 [ 17]
Driver 1st Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	6
Driver 2nd Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	12
Passenger 1st Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Passenger 2nd Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Driver Thorax/Curtain Time From Algorithm Enable to Deployment Command Criteria Met (msec)	9
Passenger Thorax/Curtain Time From Algorithm Enable to Deployment Command Criteria Met (msec)	9
Driver Pretensioner Time From Algorithm Enable to Deployment Loop #1 or Loop #2 Command Criteria Met (msec)	6
Passenger Pretensioner Time From Algorithm Enable to Deployment Loop #1 or Loop #2 Command Criteria Met (msec)	6

**DTCs Present at Time of Event (Event Record 1)**

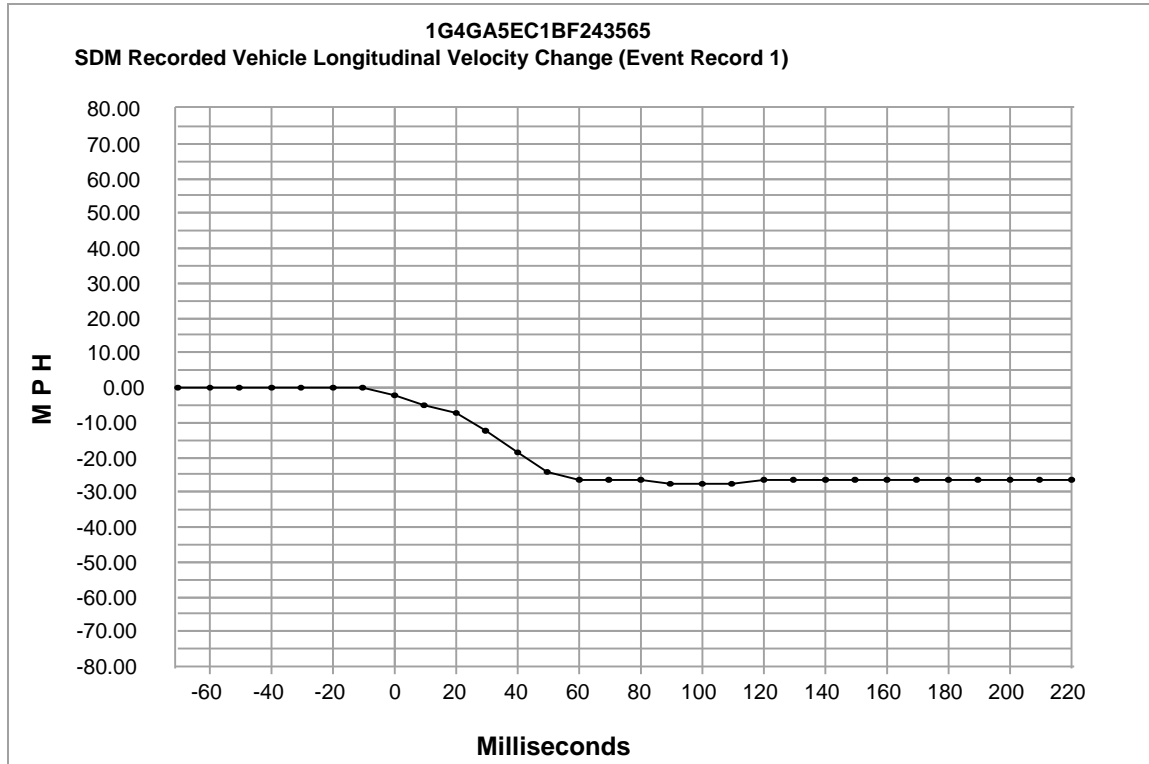
B0052-00
----------

**Pre-Crash Data -1 to -.5 sec (Event Record 1)**

Times (sec)	Cruise Control Active	Cruise Control Resume Switch Active	Cruise Control Set Switch Active	Engine Torque (lb-ft [N-m])	Reduced Engine Power Mode Indicator
-1.0	No	No	No	-31 [-42]	Off
-0.5	No	No	No	-31 [-42]	Off

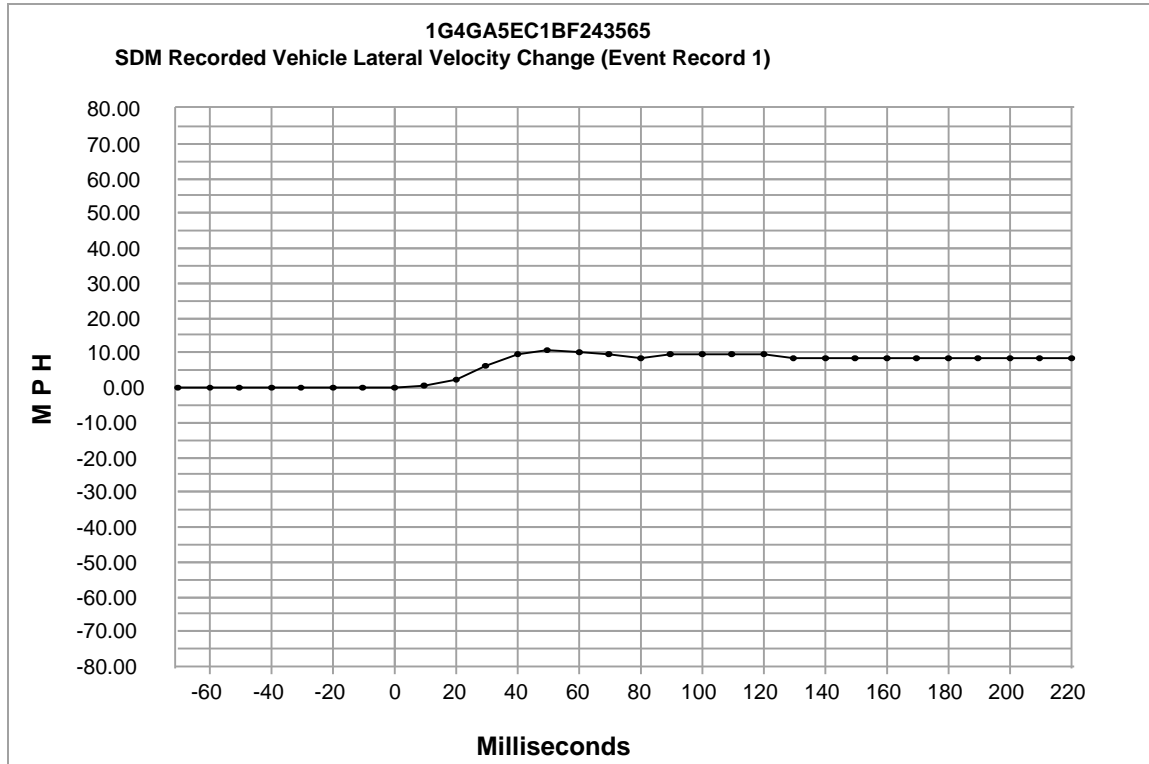
**Pre-Crash Data -2.5 to -.5 sec (Event Record 1)**

Times (sec)	Accelerator Pedal Position (percent)	Brake Switch Circuit State	Engine Speed	Throttle Position (%)	Vehicle Speed (MPH [km/h])
-2.5	0	Off	0	28	0 [0]
-2.0	0	Off	0	28	0 [0]
-1.5	0	Off	0	28	0 [0]
-1.0	0	Off	0	28	0 [0]
-0.5	0	Off	0	28	0 [0]



Time (msec)	Delta-V, longitudinal (MPH)	Delta-V, longitudinal (km/h)
-70	0.0	0.0
-60	0.0	0.0
-50	0.0	0.0
-40	0.0	0.0
-30	0.0	0.0
-20	0.0	0.0
-10	0.0	0.0
0	-2.5	-4.0
10	-5.0	-8.0
20	-7.5	-12.0
30	-12.4	-20.0
40	-18.6	-30.0
50	-24.2	-39.0
60	-26.7	-43.0
70	-26.7	-43.0
80	-26.7	-43.0
90	-27.3	-44.0
100	-27.3	-44.0
110	-27.3	-44.0
120	-26.7	-43.0
130	-26.7	-43.0

Time (msec)	Delta-V, longitudinal (MPH)	Delta-V, longitudinal (km/h)
140	-26.7	-43.0
150	-26.7	-43.0
160	-26.7	-43.0
170	-26.7	-43.0
180	-26.7	-43.0
190	-26.7	-43.0
200	-26.7	-43.0
210	-26.7	-43.0
220	-26.7	-43.0



Time (msec)	Delta-V, lateral (MPH)	Delta-V, lateral (km/h)
-70	0.0	0.0
-60	0.0	0.0
-50	0.0	0.0
-40	0.0	0.0
-30	0.0	0.0
-20	0.0	0.0
-10	0.0	0.0
0	0.0	0.0
10	0.6	1.0
20	2.5	4.0
30	6.2	10.0
40	9.3	15.0
50	10.6	17.0
60	9.9	16.0
70	9.3	15.0
80	8.7	14.0
90	9.3	15.0
100	9.3	15.0
110	9.3	15.0
120	9.3	15.0
130	8.7	14.0

Time (msec)	Delta-V, lateral (MPH)	Delta-V, lateral (km/h)
140	8.7	14.0
150	8.7	14.0
160	8.7	14.0
170	8.7	14.0
180	8.7	14.0
190	8.7	14.0
200	8.7	14.0
210	8.7	14.0
220	8.7	14.0

SDM Recorded Vehicle Lateral Acceleration (Event Record 1)

Contains No Recorded Data

SDM Recorded Vehicle Vertical Acceleration (Event Record 1)

Contains No Recorded Data

SDM Recorded Vehicle Roll Rate (Event Record 1)

Contains No Recorded Data

## Event Data (Event Record 2)

Event Recording Complete	Yes
Event Record Type	Non-Deployment
Crash Record Locked	Yes
OnStar Deployment Status Data Sent	Yes
OnStar SDM Recorded Vehicle Velocity Change Data Sent	Yes
Deployment Event Counter	1
Algorithm Enable Counter	2
OnStar Notification Event Counter	2
Algorithm Active: Rear	Yes
Algorithm Active: Rollover	Yes
Algorithm Active: Side	Yes
Algorithm Active: Frontal	Yes
Ignition Cycles At Event	45
Time Between Events (sec)	2.02
Concurrent Event Flag Set	No
Event Severity Status: Rollover	No
Event Severity Status: Rear	No
Event Severity Status: Right Side	No
Event Severity Status: Left Side	No
Event Severity Status: Frontal Stage 2	No
Event Severity Status: Frontal Stage 1	No
Event Severity Status: Frontal Pretensioner	No
Driver 1st Stage Deployment Loop Commanded	No
Passenger 1st Stage Deployment Loop Commanded	No
Driver 2nd Stage Deployment Loop Commanded	No
Passenger 2nd Stage Deployment Loop Commanded	No
Driver Pretensioner Deployment Loop #1 Commanded	No
Passenger Pretensioner Deployment Loop #1 Commanded	No
Driver Pretensioner Deployment Loop #2 Commanded (If Equipped)	No
Passenger Pretensioner Deployment Loop #2 Commanded (If Equipped)	No
Driver Thorax Loop Commanded (If Equipped)	No
Passenger Thorax Loop Commanded (If Equipped)	No
Driver Row 2 Thorax Loop Commanded (If Equipped)	No
Passenger Row 2 Thorax Loop Commanded (If Equipped)	No
Driver Row 1 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Passenger Row 1 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Driver Row 2 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Passenger Row 2 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Driver Row 3 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Passenger Row 3 Roof Rail/Head Curtain Loop Commanded (If Equipped)	No
Driver Knee Deployment Loop Commanded (If Equipped)	No
Passenger Knee Deployment Loop Commanded (If Equipped)	No
Driver Row 2 Pretensioner Deployment Loop Commanded (If Equipped)	No
Passenger Row 2 Pretensioner Deployment Loop Commanded (If Equipped)	No
Center Row 2 Pretensioner Deployment Loop Commanded (If Equipped)	No
Battery Cutoff Loop Commanded (If Equipped)	No
Driver Roll Bar Loop Commanded (If Equipped)	No
Passenger Roll Bar Loop Commanded (If Equipped)	No
Steering Column Energy Absorbing Loop Commanded (If Equipped)	No
Driver Head Rest Loop Commanded (If Equipped)	No
Passenger Head Rest Loop Commanded (If Equipped)	No
Driver Row 2 Head Rest Loop Commanded (If Equipped)	No
Passenger Row 2 Head Rest Loop Commanded (If Equipped)	No
Center Row 2 Head Rest Loop Commanded (If Equipped)	No
High Voltage Battery Cutoff Loop Commanded (If Equipped)	No
Driver Belt Switch Circuit Status (If Equipped)	Buckled
Passenger Belt Switch Circuit Status (If Equipped)	Buckled
Driver Seat Position Status (If Equipped)	Data Invalid
Passenger Seat Position Status (If Equipped)	Data Invalid
Passenger Seat Occupancy Status (If Equipped)	Unknown
Passenger Classification Status (If Equipped)	Not Applicable
Passenger SIR Suppression Switch Circuit Status (If Equipped)	Data Not Available
Passenger Air Bag ON Indicator Status (If Equipped)	Data Invalid
Passenger Air Bag OFF Indicator Status (If Equipped)	Data Invalid

Low Tire Pressure Warning Lamp	Off
SIR Warning Lamp Status	On
SIR Warning Lamp ON/OFF Time Continuously (seconds)	36510
Number of Ignition Cycles SIR Warning Lamp was ON/OFF Continuously	0
Ignition Cycles Since DTCs Were Last Cleared at Event Enable	45
Time From Algorithm Enable to Maximum SDM Recorded Vehicle Velocity Change (msec)	160
Longitudinal SDM Recorded Vehicle Velocity Change at time of Maximum SDM Recorded Vehicle Velocity Change MPH [km/h]	-12 [-20]
Lateral SDM Recorded Vehicle Velocity Change at time of Maximum SDM Recorded Vehicle Velocity Change MPH [km/h]	6 [ 9]
Driver 1st Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Driver 2nd Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Passenger 1st Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Passenger 2nd Stage Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Driver Thorax/Curtain Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Passenger Thorax/Curtain Time From Algorithm Enable to Deployment Command Criteria Met (msec)	Data Not Available
Driver Pretensioner Time From Algorithm Enable to Deployment Loop #1 or Loop #2 Command Criteria Met (msec)	Data Not Available
Passenger Pretensioner Time From Algorithm Enable to Deployment Loop #1 or Loop #2 Command Criteria Met (msec)	Data Not Available

**DTCs Present at Time of Event (Event Record 2)**

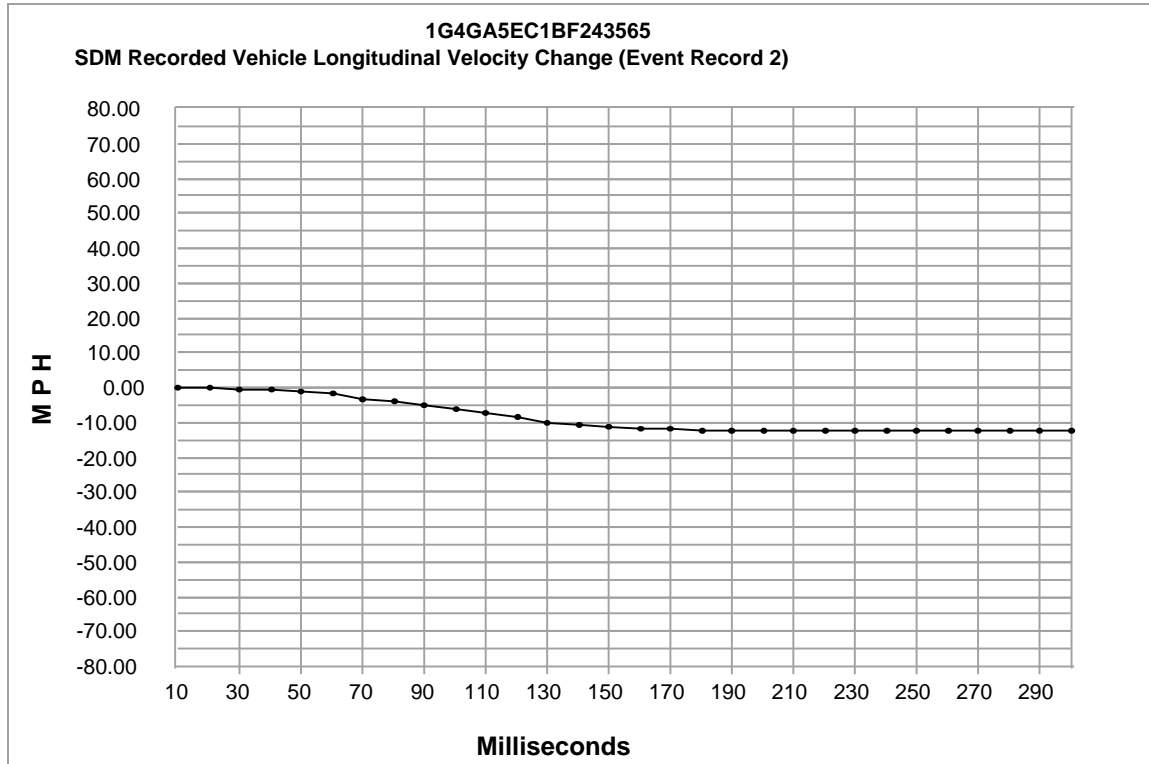
B0052-00

**Pre-Crash Data -1 to -.5 sec (Event Record 2)**

Times (sec)	Cruise Control Active	Cruise Control Resume Switch Active	Cruise Control Set Switch Active	Engine Torque (lb-ft [N-m])	Reduced Engine Power Mode Indicator
-1.0	No	No	No	-31 [-42]	Off
-0.5	No	No	No	-31 [-42]	Off

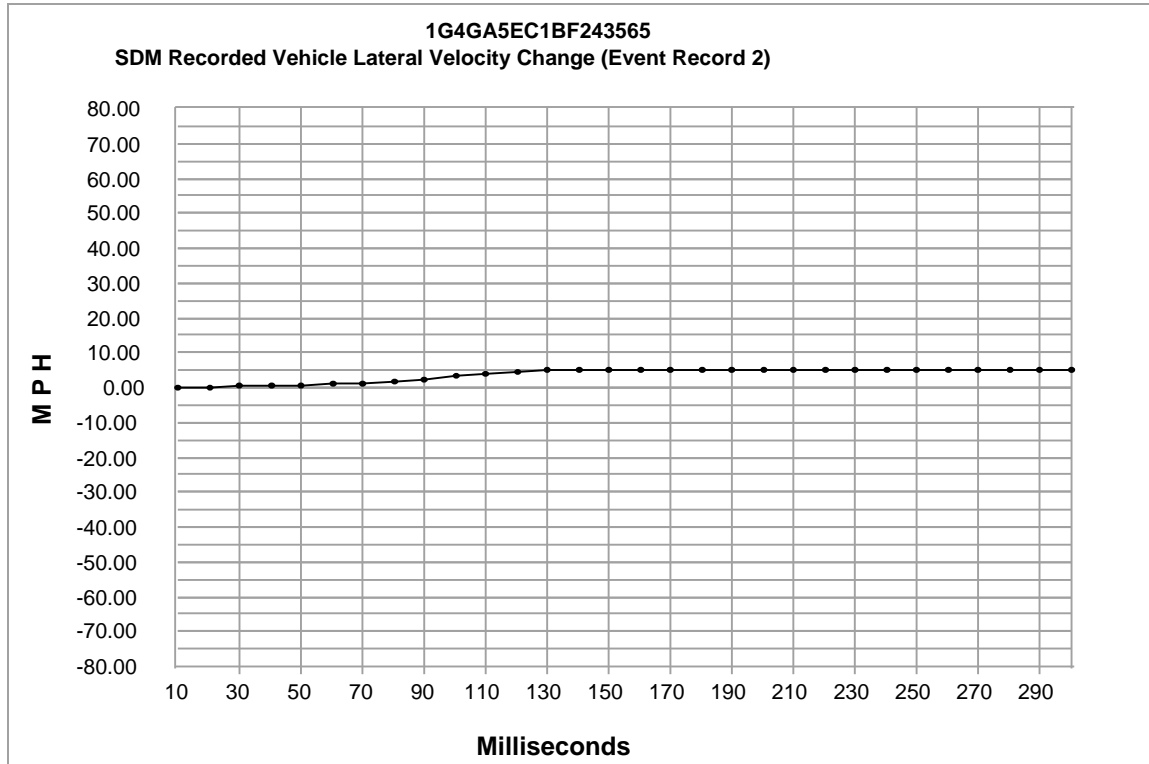
**Pre-Crash Data -2.5 to -.5 sec (Event Record 2)**

Times (sec)	Accelerator Pedal Position (percent)	Brake Switch Circuit State	Engine Speed	Throttle Position (%)	Vehicle Speed (MPH [km/h])
-2.5	0	Off	0	28	0 [0]
-2.0	0	Off	0	28	0 [0]
-1.5	0	Off	0	28	0 [0]
-1.0	0	Off	0	28	0 [0]
-0.5	0	On	0	28	0 [0]



Time (msec)	Delta-V, longitudinal (MPH)	Delta-V, longitudinal (km/h)
10	0.0	0.0
20	0.0	0.0
30	-0.6	-1.0
40	-0.6	-1.0
50	-1.2	-2.0
60	-1.9	-3.0
70	-3.1	-5.0
80	-3.7	-6.0
90	-5.0	-8.0
100	-6.2	-10.0
110	-7.5	-12.0
120	-8.7	-14.0
130	-9.9	-16.0
140	-10.6	-17.0
150	-11.2	-18.0
160	-11.8	-19.0
170	-11.8	-19.0
180	-12.4	-20.0
190	-12.4	-20.0
200	-12.4	-20.0
210	-12.4	-20.0

Time (msec)	Delta-V, longitudinal (MPH)	Delta-V, longitudinal (km/h)
220	-12.4	-20.0
230	-12.4	-20.0
240	-12.4	-20.0
250	-12.4	-20.0
260	-12.4	-20.0
270	-12.4	-20.0
280	-12.4	-20.0
290	-12.4	-20.0
300	-12.4	-20.0



Time (msec)	Delta-V, lateral (MPH)	Delta-V, lateral (km/h)
10	0.0	0.0
20	0.0	0.0
30	0.6	1.0
40	0.6	1.0
50	0.6	1.0
60	1.2	2.0
70	1.2	2.0
80	1.9	3.0
90	2.5	4.0
100	3.1	5.0
110	3.7	6.0
120	4.3	7.0
130	5.0	8.0
140	5.0	8.0
150	5.0	8.0
160	5.0	8.0
170	5.0	8.0
180	5.0	8.0
190	5.0	8.0
200	5.0	8.0
210	5.0	8.0

Time (msec)	Delta-V, lateral (MPH)	Delta-V, lateral (km/h)
220	5.0	8.0
230	5.0	8.0
240	5.0	8.0
250	5.0	8.0
260	5.0	8.0
270	5.0	8.0
280	5.0	8.0
290	5.0	8.0
300	5.0	8.0

SDM Recorded Vehicle Lateral Acceleration (Event Record 2)

Contains No Recorded Data

SDM Recorded Vehicle Vertical Acceleration (Event Record 2)

Contains No Recorded Data

SDM Recorded Vehicle Roll Rate (Event Record 2)

Contains No Recorded Data

## Hexadecimal Data

Data that the vehicle manufacturer has specified for data retrieval is shown in the hexadecimal data section of the CDR report. The hexadecimal data section of the CDR report may contain data that is not translated by the CDR program. The control module contains additional data that is not retrievable by the CDR system.

DPID \$32  
00 FF 00 2D 00 00 00

DPID \$35  
78 00 00 00 00 00 00

DID \$01  
41 55 32 33 34 31 54 37 48 41 46 38 4C 32 30 4E

DID \$03  
41 54 32 33 34 31 54 4E 48 41 50 4B 35 32 30 4E

DID \$05  
41 48 32 33 34 30 54 57 35 49 50 54 34 4D 30 4C

DID \$07  
41 4A 32 33 34 30 54 38 35 49 30 43 53 4D 30 4C

DID \$09  
30 30 30 30 30 30 54 30 30 30 30 30 30 30 30 30

DID \$0B  
30 30 30 30 30 30 54 30 30 30 30 30 30 30 30 30

DID \$0D  
30 30 30 30 30 30 54 30 30 30 30 30 30 30 30 30

DID \$0F  
30 30 30 30 30 30 54 30 30 30 30 30 30 30 30 30

DID \$30  
01 00 02 02

DID \$90  
31 47 34 47 41 35 45 43 31 42 46 32 34 33 35 36 35

DID \$9A  
03 01

DID \$B4  
41 53 38 33 32 31 54 31 30 33 30 37 30 31 38 37

DID \$C1  
00 CF 30 41

DID \$C2  
01 40 0E 7C

DID \$C3  
00 CE 01 A1

DID \$CB  
00 CF 30 51

DID \$31

```
0000 A5 F0 01 00 01 01 0F 00 2C FF
0010 FF 00 00 00 1E A3 E3 00 00 00
0020 5C A8 FC A0 00 00 F0 10 00 00
0030 00 00 00 00 00 00 00 00 00 00
0040 00 00 06 4D 06 4D 1C 1C 1C 1C
0050 1C 00 00 00 00 00 00 0E 43 00
0060 00 2C 80 52 00 FF FF FF FF FF
0070 FF FF FF FF FF FF FF FF FF FF
0080 FF FF FF FF FF FF FF FF FF 09
0090 53 90 02 04 FF FF 03 03 02 02
0100 7F 7F 7F 7F 7F 7F 7F 7F 7F 7F
0110 7F 7F 7F 7F 7B 7F 77 80 73 83
0120 6B 89 61 8E 58 90 54 8F 54 8E
0130 54 8D 53 8E 53 8E 53 8E 54 8E
0140 54 8D 54 8D 54 8D 54 8D 54 8D
0150 54 8D 54 8D 54 8D 54 8D 54 8D
0160 FF FF FF FF FF FF FF FF FF FF
0170 FF FF FF FF FF FF FF FF FF FF
0180 FF FF FF FF FF FF FF FF FF FF
0190 FF FF FF FF FF FF FF FF FF FF
0200 FF FF FF FF FF FF FF FF FF FF
0210 FF FF FF FF FF FF FF FF FF FF
0220 FF FF FF FF FF FF FF FF FF FF
0230 FF FF FF FF FF FF FF FF FF FF
0240 FF FF FF FF FF FF FF FF FF FF
0250 FF FF FF FF FF FF FF FF FF FF
0260 FF FF FF FF FF FF FF FF FF FF
0270 FF FF FF FF FF FF FF FF FF FF
0280 FF FF FF FF FF FF FF FF FF FF
0290 FF FF FF FF FF FF FF FF FF FF
0300 FF FF FF FF FF FF FF FF FF FF
0310 FF FF FF FF FF FF FF FF FF FF
0320 FF FF FF FF FF FF FF FF FF FF
0330 FF FF FF FF FF FF FF FF FF FF
0340 FF FF FF FF FF FF FF FF FF FF
0350 FF FF FF FF FF FF FF FF FF FF
0360 FF FF FF FF FF FF FF FF FF FF
0370 FF FF FF FF FF FF FF FF FF FF
0380 FF FF FF FF FF FF 00 00 00 00
0390 00 00 00 00 00 00 01 00 0B 0C 35
0400 2C 00 01 08 07 00 00 00 00 00
0410 00 00 00 00 00 00 01 00 00 00
0420 00 00 02 00 00 01 00 8F AA AA
0430 0E 01 00 00 00 00 00 00 00 00
0440 00 00 00 00 00 00 00 00 00 00
0450 00 00 00 00 00 00 00 00 00 00
0460 00 00 00 00 00 00 00 00 00 00
0470 00 00 00 00 00 00 00 00 00 00
0480 00 00 00 00 00 00 00 00 00 00
0490 00 00 00 00 00 00 00 00 FF FF
```

## DID §32

```
0000 A5 70 01 00 02 02 0F 00 2D 00
0010 CA 00 00 00 00 00 00 00 00 00
0020 5C A8 FC A0 40 00 F0 A0 00 00
0030 00 00 00 40 00 00 00 00 00 00
0040 00 00 06 4D 06 4D 1C 1C 1C 1C
0050 1C 00 00 00 00 00 01 0E 43 00
0060 00 2D 80 52 00 FF FF FF FF FF
0070 FF FF FF FF FF FF FF FF FF FF
0080 FF FF FF FF FF FF FF FF FF 10
0090 6B 88 FF FF FF FF FF FF FF FF
0100 7F 7F 7F 7F 7E 80 7E 80 7D 80
0110 7C 81 7A 81 79 82 77 83 75 84
```

0120	73	85	71	86	6F	87	6E	87	6D	87
0130	6C	87	6C	87	6B	87	6B	87	6B	87
0140	6B	87	6B	87	6B	87	6B	87	6B	87
0150	6B	87	6B	87	6B	87	6B	87	6B	87
0160	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0170	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0180	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0190	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0200	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0210	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0220	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0230	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0240	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0250	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0260	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0270	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0280	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0290	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0300	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0310	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0320	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0330	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0340	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0350	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0360	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0370	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0380	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0390	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0400	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0410	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0420	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0430	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0440	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0450	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0460	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0470	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0480	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0490	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

DID \$33

0000	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0010	FF	FF	00	00	FF	EB	FF	FF	FF	F0
0020	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0030	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0040	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0050	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0060	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0070	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0080	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0090	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0100	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0110	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0120	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0130	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0140	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0150	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0160	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0170	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0180	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0190	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0200	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0210	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0220	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
0230	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF

```
0240 FF FF FF FF FF FF FF FF FF FF
0250 FF FF FF FF FF FF FF FF FF FF
0260 FF FF FF FF FF FF FF FF FF FF
0270 FF FF FF FF FF FF FF FF FF FF
0280 FF FF FF FF FF FF FF FF FF FF
0290 FF FF FF FF FF FF FF FF FF FF
0300 FF FF FF FF FF FF FF FF FF FF
0310 FF FF FF FF FF FF FF FF FF FF
0320 FF FF FF FF FF FF FF FF FF FF
0330 FF FF FF FF FF FF FF FF FF FF
0340 FF FF FF FF FF FF FF FF FF FF
0350 FF FF FF FF FF FF FF FF FF FF
0360 FF FF FF FF FF FF FF FF FF FF
0370 FF FF FF FF FF FF FF FF FF FF
0380 FF FF FF FF FF FF FF FF FF FF
0390 FF FF FF FF FF FF FF FF FF FF
0400 FF FF FF FF FF FF FF FF FF FF
0410 FF FF FF FF FF FF FF FF FF FF
0420 FF FF FF FF FF FF FF FF FF FF
0430 FF FF FF FF FF FF FF FF FF FF
0440 FF FF FF FF FF FF FF FF FF FF
0450 FF FF FF FF FF FF FF FF FF FF
0460 FF FF FF FF FF FF FF FF FF FF
0470 FF FF FF FF FF FF FF FF FF FF
0480 FF FF FF FF FF FF FF FF FF FF
0490 FF FF FF FF FF FF FF FF 00 00
```

## Disclaimer of Liability

The users of the CDR product and reviewers of the CDR reports and exported data shall ensure that data and information supplied is applicable to the vehicle, vehicle's system(s) and the vehicle ECU. Robert Bosch LLC and all its directors, officers, employees and members shall not be liable for damages arising out of or related to incorrect, incomplete or misinterpreted software and/or data. Robert Bosch LLC expressly excludes all liability for incidental, consequential, special or punitive damages arising from or related to the CDR data, CDR software or use thereof.