

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/Frame Number	
User	
Case Number	
EDR Data Imaging Date	
Crash Date	
Filename	
Saved on	
Imaged with CDR version	Crash Data Retrieval Tool 21.4
Imaged with Software Licensed to (Company Name)	
Reported with CDR version	Crash Data Retrieval Tool 21.4
Reported with Software Licensed to (Company Name)	
EDR Device Type	Airbag Control Module
Event(s) recovered	Front/Rear/Side Events (1), Side Events (1), Rollover Events (1)

Comments

Comments

Data Limitations

CDR Record Information:

- Due to limitations of the data recorded by the airbag ECU, such as the resolution, data range, sampling interval, time period of the recording, and the items recorded, the information provided by this data may not be sufficient to capture the entire crash.
- Pre-Crash data is recorded in discrete intervals. Due to different refresh rates within the vehicle's electronics, the data recorded may not be synchronous to each other.
- Airbag ECU data should be used in conjunction with other physical evidence obtained from the vehicle and the surrounding circumstances.
- If any of the front passenger seat airbags, side airbags, or Curtain Shield Airbags have deployed, data will not be overwritten or deleted by the airbag ECU following that event. If none of the airbags have deployed, the data of that event may be overwritten by a following event even if other airbags (pretensioner, rear seat airbag, etc.) have deployed.
- If power supply to the airbag ECU is lost during an event, all or part of the data may not be recorded.
- "Diagnostic Trouble Codes" are information about faults when a recording trigger is established. Various diagnostic trouble codes could be set and recorded due to component or system damage during an accident.
- The airbag ECU records only diagnostic information related to the airbag system. It does not record diagnostic information related to other vehicle systems.
- The TaSCAN, Global Tech Stream, or Intelligent Tester II devices (or any other Toyota genuine diagnostic tool) can be used to obtain detailed information on the diagnostic trouble codes from the airbag system, as well as diagnostic information from other systems. However, in some cases, the diagnostic trouble codes of the airbag system recorded by the airbag ECU when the event occurred may not match the diagnostic trouble codes read out when the diagnostic tool is used.

General Information:

- The data recording specifications of Toyota's airbag ECUs are divided into the following categories. The specifications for 12EDR or later are designed to be compatible with NHTSA's 49CFR Part 563 rule.
 - 00EDR / 02EDR / 04EDR / 06EDR / 10EDR / 12EDR / 13EDR / 15EDR / 17EDR / 19EDR
- The airbag ECU records data for all or some of the following accident types: frontal crash, rear crash, side crash, and rollover events. Depending on the installed airbag ECU, data for side crash and/or rollover events may not be recorded.
- The airbag ECU has the following recording pages (memory maps) for each accident type to store event data: four pages for frontal/rear/side crash, four pages for a side crash, and two pages for rollover event.
- When a crash impact for a lateral direction is occurred, data may be recorded in a page for frontal/rear/side crash. And additional data may be recorded in a page for side crash.
- The data recorded by the airbag ECU includes correlating information between each previously occurring event (i.e., information that clarifies the collision event sequence. This correlation information consists of the following items.
 - Time from Previous TRG
 - TRG Count
 - Previous Crash Type
- In frontal/rear/side crash events, earlier point in the following is regarded as time zero for the recorded data.
 - the first point where a longitudinal cumulative delta-V of over 0.8 km/h (0.5 mph) is reached

- the first point where a lateral cumulative delta-V of over 0.8 km/h (0.5 mph) is reached

In side crash event and rollover event, the point in time at which the recording trigger is established is regarded as time zero for the recorded data.

- The recording trigger judgment threshold value differs depending on the collision type (i.e., frontal crash, rear crash, side crash, or rollover event).
- Some of the data recorded by the airbag ECU is transmitted to the airbag ECU from various vehicle control modules by the vehicle's Controller Area Network (CAN).
- In some cases, the airbag ECU part number printed on the ECU label may not match the airbag ECU part number that the CDR tool reports. The part number retrieved by the CDR tool should be considered as the official ECU part number.
- In frontal/rear/side collision events, the record time varies depending on the period during which a longitudinal and lateral cumulative delta-V of over 0.8 km/h (0.5 mph) is reached, and time series data is recorded for up to 250 ms. The record time described above is indicated as "Length of Delta-V". "Delta-V, Longitudinal" outside the record time is indicated by area shaded in the table, and not indicated in the graph.

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 Name	Positive Sign Notation Indicates
Maximum Delta-V, Longitudinal	Forward
Delta-V, Longitudinal	Forward
Delta-V, Lateral	Left to Right
Lateral Acceleration, Side Satellite Sensor 1	Left to Right
Lateral Acceleration, Side Satellite Sensor 2	Left to Right
Lateral Acceleration, Side Satellite Sensor 3	Left to Right
Lateral Acceleration, Side Satellite Sensor 4	Left to Right
Rate of Change of Pressure, Side Satellite Sensor 1	The pressure of a door interior is applied.
Rate of Change of Pressure, Side Satellite Sensor 2	The pressure of a door interior is applied.
Rate of Change of Pressure, Side Satellite Sensor 3	The pressure of a door interior is applied.
Rate of Change of Pressure, Side Satellite Sensor 4	The pressure of a door interior is applied.
Lateral Acceleration for Side Crash, Floor Sensor	Left to Right
Roll Angle Peak	Clockwise Rotation
Roll Angle at the Time of TRG	Clockwise Rotation
Roll Rate	Clockwise Rotation
Lateral Acceleration for Rollover, Floor Sensor	Left to Right
Longitudinal Acceleration, VSC Sensor	Forward
Yaw Rate	Left Turn
Steering Input	Left Turn

Data Definitions:

- After "Freeze Signal" has been turned ON, subsequent events will not be recorded in the recording page.
- "Recording Status" indicates a state in which all recorded event data has been written into the non-volatile memory, or a state in which this process was interrupted and not fully written into the non-volatile memory. If "Recording Status" is "Incomplete", recorded event data may not be valid.
- "Engine RPM" indicates the number of engine revolutions, not the number of motor revolutions. The recorded value has an upper limit of 12,800 rpm. Resolution is 100 rpm and the value is rounded down and recorded. For example, if the actual engine speed is 799 rpm, the recorded value will be 700 rpm.
- If the electric vehicle is using a calculated/virtual engine RPM for drivetrain control, "Engine RPM" may be recorded, but should not be used during data analysis.
- The upper limit for the recorded "Vehicle Speed" value is 200 km/h (125mph). Resolution is 1km/h (0.6mph) and the value is rounded down and recorded. The accuracy of the "Vehicle Speed" value can be affected by various factors. These include, but not limited, to the following.
 - Significant changes in the tire's rolling radius
 - Wheel lock and wheel slip
- "Accelerator Pedal" value is recorded as a percentage. The percentage increases as the driver depresses the accelerator.
- If M/T transmission vehicle of some limited model, "Shift Position" may display "Drive" regardless of the actual shift position.
- Depending on the type of occupant sensor installed in the vehicle, one of the following three recording formats for "Occupant Size Classification, Front Passenger" will be utilized.
 - Occupied / Not Occupied
 - AM50 / AF05 / Child / Not Occupied
 - AM50 / AF05 / Child or Not Occupied
- "Cruise Control Status" indicates whether the cruise control system is actuated or not. OFF indicates that the cruise control system is not actuated, but can also indicate that the vehicle is not equipped with the system.
- "Air Bag Warning Lamp, On/Off", "Ignition Cycle, Crash", "Seat Track Position Switch, Foremost, Status, Driver", "Occupant Size Classification, Front Passenger", "Safety Belt Status, Driver", "Safety Belt Status, Front Passenger", "Frontal Air Bag Suppression Switch Status, Front Passenger", and "RSCA Disable Switch" indicate the state approximately 1 second before time zero. They may not always indicate the state at the moment of collision.
- The upper and lower limits for the recorded value of "Motor RPM" is 17,500 rpm and -7,500 rpm respectively. Resolution is 100 rpm and the value is rounded down and recorded.
- "Brake Oil Pressure" has an upper limit of 12.14 Mpa. In the case of the vehicle that has not VSC system, "0 Mpa" or "Invalid" may be displayed.
- "Longitudinal Acceleration, VSC Sensor" has upper and lower limits for the recorded value of 8.973 m/s² and -8.973 m/s² respectively. This acceleration sensor does not sense collisions.
- "Sequential Shift Range" displaying "Undetermined" indicates the shift range is undetermined or was not being used.
- Some vehicles will not be equipped with all "Drive Mode" types indicated in the "Drive Mode" table. If some or all drive modes are not applicable to vehicle, "OFF" or "Invalid" may be displayed. The item in the "Drive Mode" table may not match the name of switch or indicator that equipped the vehicle.

- The upper and lower limits for the recorded value of "Steering Input" is 375 deg and -375 deg respectively. Resolution is 1.5 deg and the value is rounded down and recorded.
- Resolution of the "Air Bag Warning Lamp ON Time Since DTC was Set" is 15 minutes, and the value is rounded down and recorded.
- "Delta-V, Longitudinal" indicates the change in forward speed after time zero. This does not refer to vehicle speed, and it does not include the change in speed during the period from the start of the actual collision to establishment of the time zero.
- "Location of Side Satellite Sensor" shows the outline of a typical sensor position. Sensory location can be confirmed using the repair manual.
- "TRG Count" indicates a calculated value of the number of times recording triggers have been established for all crash types. The sequence in which each event occurred can be verified from the "TRG Count". The smaller the "TRG Count" value, the older the data. The upper limit for the recorded value is 65,533 times. When more than one event reaches the upper limit, the actual "TRG Count" may be greater than what is displayed for that event.
- Resolution of the "Time from Pre-Crash to TRG" is 50 [ms], and the value is rounded up and recorded.
- "Time from Previous TRG" indicates the time between the establishment of a most recent event's recording trigger to the establishment of a latest event's recording trigger. The upper limit for the recorded value is 32,767 milliseconds. In the event of establishment of the first recording trigger after the ignition is switched ON, the upper limit value(max value) is recorded.
- "Roll Angle at the Time of TRG" and "Roll Angle Peak" do not represent the actual roll angle of the vehicle. These values are used internally by the airbag ECU for sensing a rollover.
- Depending on the type of satellite sensor installed in the vehicle, "Lateral Acceleration" or "Rate of Change of Pressure" is displayed as Side satellite sensor. "Rate of Change of Pressure" indicates that of a door interior. 0% is displayed when the pressure of a door interior is equal with the outside air pressure.
- Depending on the type of satellite sensor installed in the vehicle, "Clipping Time, Lateral Acceleration" or "Clipping Time, Rate of Change of Pressure" is displayed.
- "VSC Control Status" displaying "OFF+ (disable)" indicates VSC is disable (a part of the behavior stabilization control is operated).
- "Trip count" indicates the number of ignition power applying to a vehicle. The upper limit for the recorded value is 65534 times. When trip count reaches the upper limit value, trip count is reset at the next counting up.
- "Time count input system" indicates a count method of "Time count" and "Trip count".
 - Normal: Airbag ECU correct the count value with vehicle common value and count it up.
 - IG: ECU uniquely counts up regardless of vehicle common value. (In case of IG system ECU.)
 - ACC: ECU uniquely counts up regardless of vehicle common value. (In case of ACC system ECU.)
 - +B: ECU uniquely counts up regardless of vehicle common value. (In case of +B system ECU.)
- "Time count" indicates time from ignition power applying. The upper limit for the recorded value is 1,677,721,400ms. The resolution is 100ms and the value is rounded down and recorded.

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System Status at Retrieval

ECU Part Number	89170-0E100
EDR Generation	17EDR
Complete File Recorded	Yes
Ignition Cycle, Download (times)	1610
Multi-Event, Number of Events (times)	2 or greater
Time from Event 1 to 2 (sec)	0.245
Diagnostic Trouble Codes Exist	No
Location of Side Satellite Sensor 1, L	front door
Location of Side Satellite Sensor 2, L	Not Equipped
Location of Side Satellite Sensor 3, L	Not Equipped
Location of Side Satellite Sensor 4, L	C-Pillar
Location of Side Satellite Sensor 1, R	front door
Location of Side Satellite Sensor 2, R	Not Equipped
Location of Side Satellite Sensor 3, R	Not Equipped
Location of Side Satellite Sensor 4, R	C-Pillar
Location of Floor Sensor	Airbag ECU

Event Record Summary at Retrieval

Events Recorded	TRG Count	Crash Type	Time (msec)	Pre-Crash Recording Status	Diagnostic Data Recording Status	Occupant Data Recording Status	Crash Info Recording Status	Time Series Recording Status
Most Recent Event	3	Rollover	0	Complete	Complete	Complete	Complete	Complete
1st Prior Event	2	Side Crash	-234.5	N/A	Complete	N/A	N/A	Complete
2nd Prior Event	1	Frontal/Rear/Side Crash	-245	Complete	Complete	Complete	Complete	Complete

System Status at Event (Most Recent Event, TRG 3)

TRG Count (times)	3
Event Type	Rollover
Previous Crash Type	Side Crash
Time from Previous TRG (msec)	234.5
Freeze Signal	OFF
Freeze Signal Factor	None
Recording Status, Rollover Crash Info.	Complete
Odometer signal (miles [km])	14,546 [23,410]
Trip count (times)	1622
Time count (msec)	1,767,400
Time count input system	Normal

Deployment Command Data (Most Recent Event, TRG 3)

Pretensioner Deployment, Time to Fire, 1st Seat, Driver (msec)	No
Pretensioner Deployment, Time to Fire, 1st Seat, Passenger (msec)	No
Pretensioner Deployment, Time to Fire, 2nd Seat, Driver (msec)	No
Pretensioner Deployment, Time to Fire, 2nd Seat, Passenger (msec)	No
Side Curtain Airbag Deployment, Time to Deploy, Driver (msec)	No
Side Curtain Airbag Deployment, Time to Deploy, Passenger (msec)	No

DTCs Present at Time of Event (Most Recent Event, TRG 3)

Recording Status, Diagnostic	Complete
Ignition Cycle Since DTC was Set (times)	0
Airbag Warning Lamp ON Time Since DTC was Set (min)	0
Diagnostic Trouble Codes	None

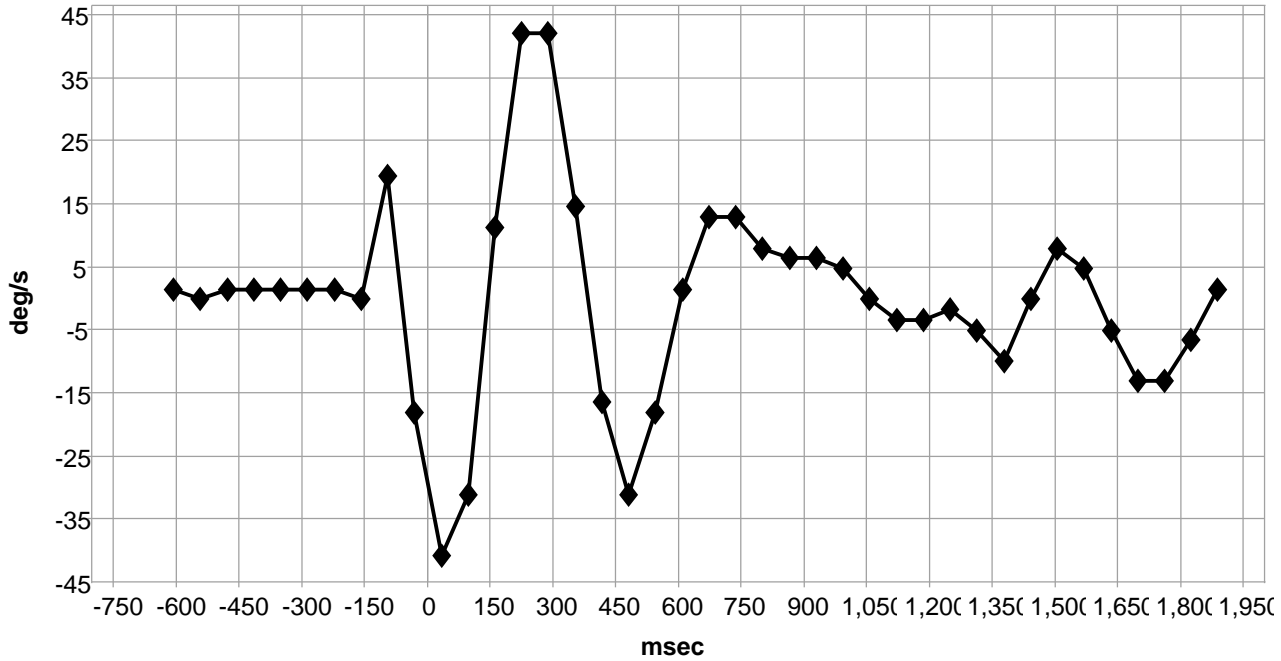
Pre-Crash Data, 1 Sample (Most Recent Event, TRG 3)

Recording Status, Occupant	Complete
Recording Status, Pre-Crash	Complete
Time from Pre-Crash to TRG (msec)	500
Safety Belt Status, Driver	ON
Safety Belt Status, Front Passenger	OFF
Occupant Size Classification, Front Passenger	Child or Not Occupied
Frontal Airbag Suppression Switch Status, Front Passenger	SNA
RSCA Disable Switch	SNA
Seat Track Position Switch, Foremost, Status, Driver	No
Airbag Warning Lamp, On/Off	OFF
Ignition Cycle, Crash (times)	1609

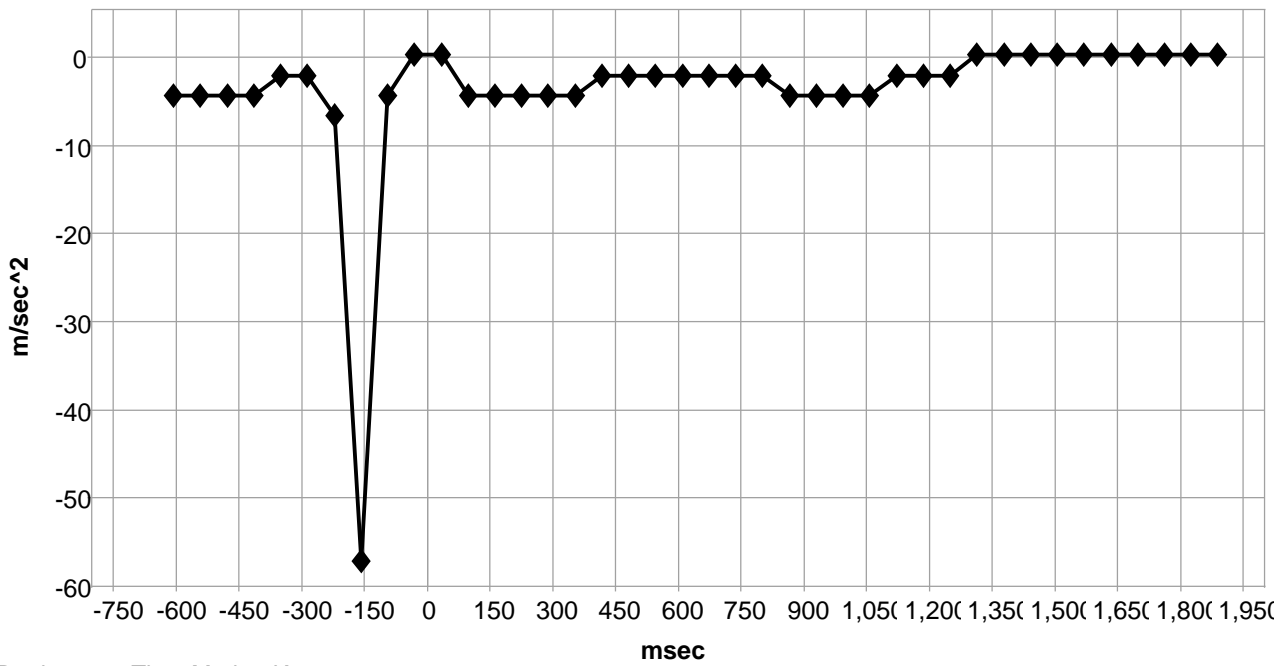
Rollover Crash Pulse (Most Recent Event, TRG 3)

Recording Status, Time Series Data	Complete
Time from TRG to Next Sample (msec)	33
RollAngle Peak (degrees)	3.8
Roll Angle at the Time of TRG (degrees)	-1.4

Roll Rate



Lateral Acceleration for Rollover



Deployment Time Marker Key

1	Driver CSA
2	Passenger CSA
3	Driver Pretensioner Deployment
4	Passenger Pretensioner Deployment

Rollover Crash Pulse (Most Recent Event, TRG 3)

Time (msec)	Roll Rate (deg/s)	Lateral Acceleration for Rollover (m/s ²)
-607	1.6	-4.6
-543	0.0	-4.6
-479	1.6	-4.6
-415	1.6	-4.6
-351	1.6	-2.3
-287	1.6	-2.3
-223	1.6	-6.9
-159	0.0	-57.4
-95	19.5	-4.6
-31	-17.9	0.0
33	-40.7	0.0
97	-30.9	-4.6
161	11.4	-4.6
225	42.3	-4.6
289	42.3	-4.6
353	14.7	-4.6
417	-16.3	-2.3
481	-30.9	-2.3
545	-17.9	-2.3
609	1.6	-2.3
673	13.0	-2.3
737	13.0	-2.3
801	8.1	-2.3
865	6.5	-4.6
929	6.5	-4.6
993	4.9	-4.6
1057	0.0	-4.6
1121	-3.3	-2.3
1185	-3.3	-2.3
1249	-1.6	-2.3
1313	-4.9	0.0
1377	-9.8	0.0
1441	0.0	0.0
1505	8.1	0.0
1569	4.9	0.0
1633	-4.9	0.0
1697	-13.0	0.0
1761	-13.0	0.0
1825	-6.5	0.0
1889	1.6	0.0

Pre-Crash Data -5 to 0 Seconds (Most Recent Event, TRG 3) - Table 1 of 4

Time (sec)	Vehicle Speed (MPH [km/h])	Accelerator Pedal, % Full (%)	Percentage of Engine Throttle (%)	Fuel Injection Quantity (mm ³ /st)	Engine RPM (RPM)	Motor RPM (RPM)	Service Brake, ON/OFF
-5.00	50.3 [81]	8.0	1.0	Invalid	1,300	Invalid	OFF
-4.50	49.7 [80]	8.0	1.0	Invalid	1,200	Invalid	OFF
-4.00	49.1 [79]	8.0	1.0	Invalid	1,200	Invalid	OFF
-3.50	49.1 [79]	7.5	0.5	Invalid	1,200	Invalid	OFF
-3.00	48.5 [78]	7.5	0.5	Invalid	1,200	Invalid	OFF
-2.50	48.5 [78]	7.5	0.5	Invalid	1,200	Invalid	OFF
-2.00	47.8 [77]	8.0	1.0	Invalid	1,200	Invalid	OFF
-1.50	47.2 [76]	8.0	0.5	Invalid	1,200	Invalid	OFF
-1.00	46.6 [75]	67.0	7.0	Invalid	1,200	Invalid	OFF
-0.50	47.2 [76]	100.0	99.5	Invalid	2,100	Invalid	OFF
TRG(0)	11.8 [19]	100.0	49.0	Invalid	3,900	Invalid	OFF

Pre-Crash Data -5 to 0 Seconds (Most Recent Event, TRG 3) - Table 2 of 4

Time (sec)	ABS Control Status	BOS Control Status	Brake Oil Pressure (Mpa)	Longitudinal Acceleration , VSC Sensor (m/s ²)	Yaw Rate (deg/s)	Steering Input (degrees)	Shift Position
-5.00	OFF	OFF	0.00	-0.359	-0.49	0.0	D
-4.50	OFF	OFF	0.00	-0.215	0.49	3.0	D
-4.00	OFF	OFF	0.00	-0.287	-0.49	0.0	D
-3.50	OFF	OFF	0.00	-0.359	-0.49	3.0	D
-3.00	OFF	OFF	0.00	-0.287	0.98	6.0	D
-2.50	OFF	OFF	0.00	-0.215	2.93	12.0	D
-2.00	OFF	OFF	0.00	-0.287	6.83	28.5	D
-1.50	OFF	OFF	0.00	-0.359	8.78	33.0	D
-1.00	OFF	OFF	0.00	-0.502	14.64	45.0	D
-0.50	OFF	OFF	0.00	0.072	14.15	55.5	D
TRG(0)	ON	ON	0.10	-7.178	61.00	57.0	N

Pre-Crash Data -5 to 0 Seconds (Most Recent Event, TRG 3) - Table 3 of 4

Time (sec)	Sequential Shift Range	Cruise Control Status	VSC Control Status	READY Signal	Drive Mode, Power Train	Drive Mode, Snow	Drive Mode, EV
-5.00	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-4.50	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-4.00	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-3.50	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-3.00	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-2.50	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-2.00	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-1.50	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-1.00	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-0.50	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
TRG(0)	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid

Pre-Crash Data -5 to 0 Seconds (Most Recent Event, TRG 3) - Table 4 of 4

Time (sec)	Drive mode select signal
-5.00	Normal
-4.50	Normal
-4.00	Normal
-3.50	Normal
-3.00	Normal
-2.50	Normal
-2.00	Normal
-1.50	Normal
-1.00	Normal
-0.50	Normal
TRG(0)	Normal

System Status at Event (1st Prior Event, TRG 2)

TRG Count (times)	2
Event Type	Side Crash
Previous Crash Type	Frontal/Rear/Side Crash
Time from Previous TRG (msec)	8.0
Freeze Signal	OFF
Freeze Signal Factor	None
Odometer signal (miles [km])	14,546 [23,410]
Trip count (times)	1622
Time count (msec)	1,767,200
Time count input system	Normal

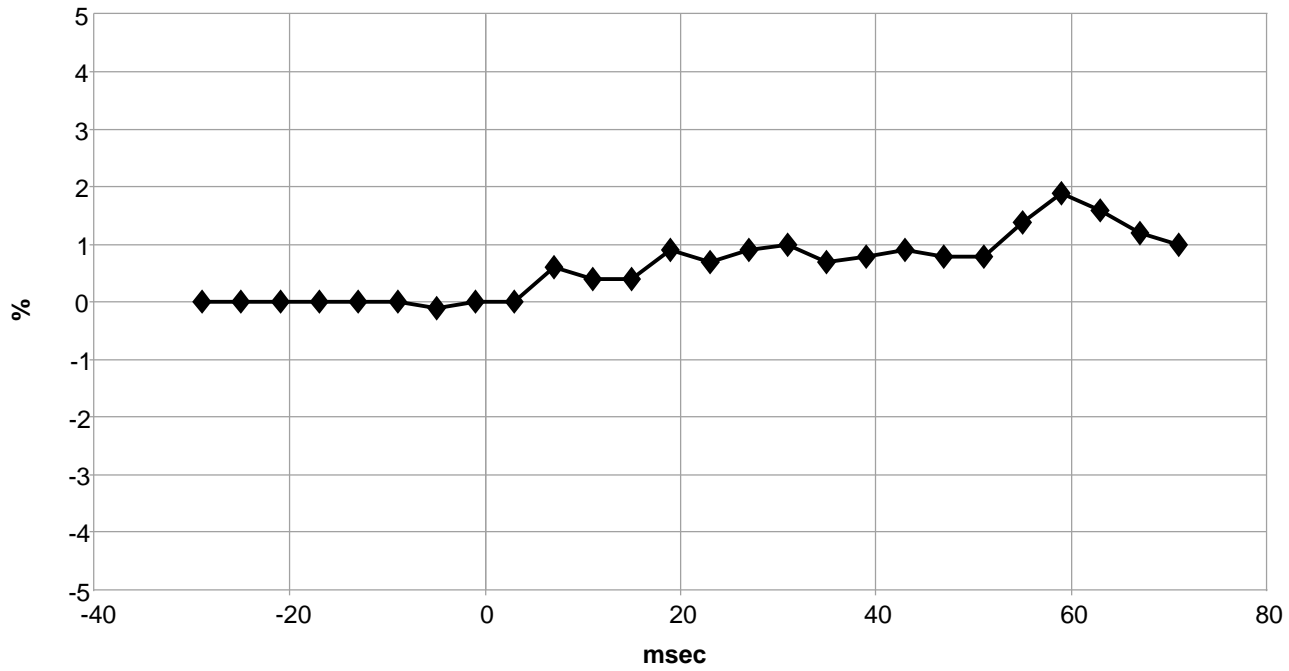
DTCs Present at Time of Event (1st Prior Event, TRG 2)

Recording Status, Diagnostic	Complete
Ignition Cycle Since DTC was Set (times)	0
Airbag Warning Lamp ON Time Since DTC was Set (min)	0
Diagnostic Trouble Codes	None

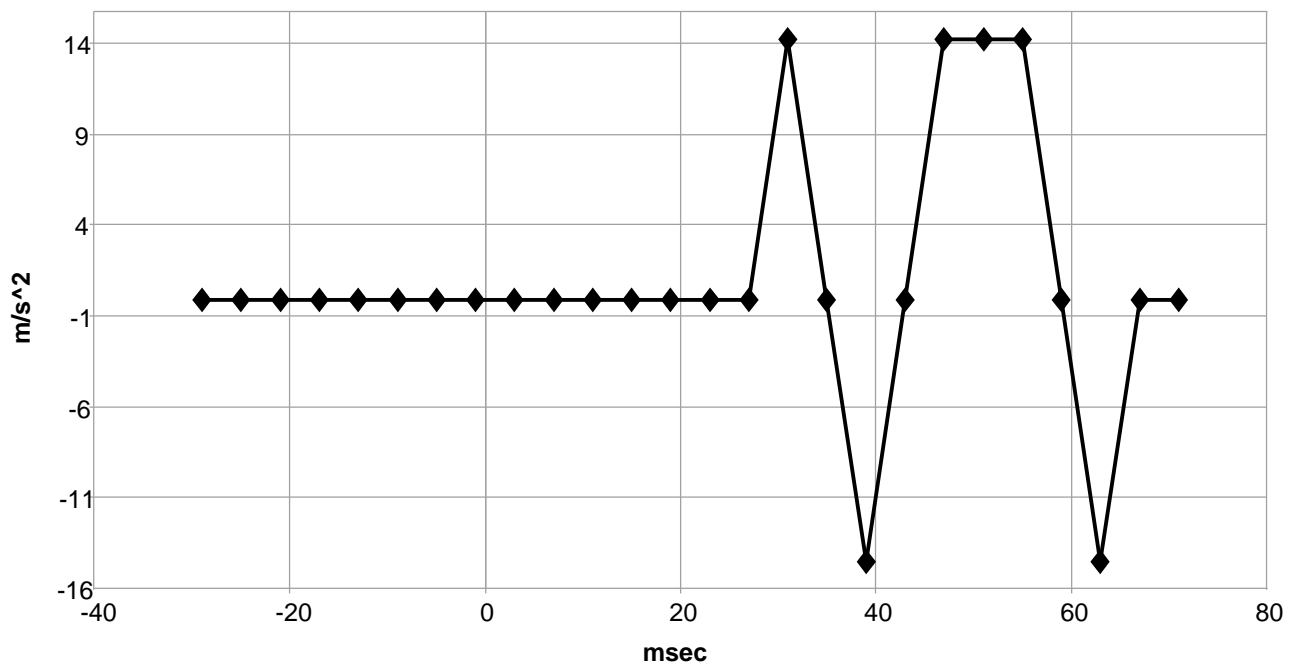
Lateral Crash Pulse (1st Prior Event, TRG 2)

Recording Status , Time Series Data	Complete
Time from TRG to Next Sample (msec)	3
Clipping Time, Rate of Change of Pressure, Side Satellite Sensor 1, L (msec)	No
Clipping Time, Lateral Acceleration, Side Satellite Sensor 2, L (msec)	SNA
Clipping Time, Lateral Acceleration, Side Satellite Sensor 3, L (msec)	SNA
Clipping Time, Lateral Acceleration, Side Satellite Sensor 4, L (msec)	No
Clipping Time, Rate of Change of Pressure, Side Satellite Sensor 1, R (msec)	No
Clipping Time, Lateral Acceleration, Side Satellite Sensor 2, R (msec)	SNA
Clipping Time, Lateral Acceleration, Side Satellite Sensor 3, R (msec)	SNA
Clipping Time, Lateral Acceleration, Side Satellite Sensor 4, R (msec)	No
Clipping Time, Lateral Acceleration, Floor Sensor (msec)	No

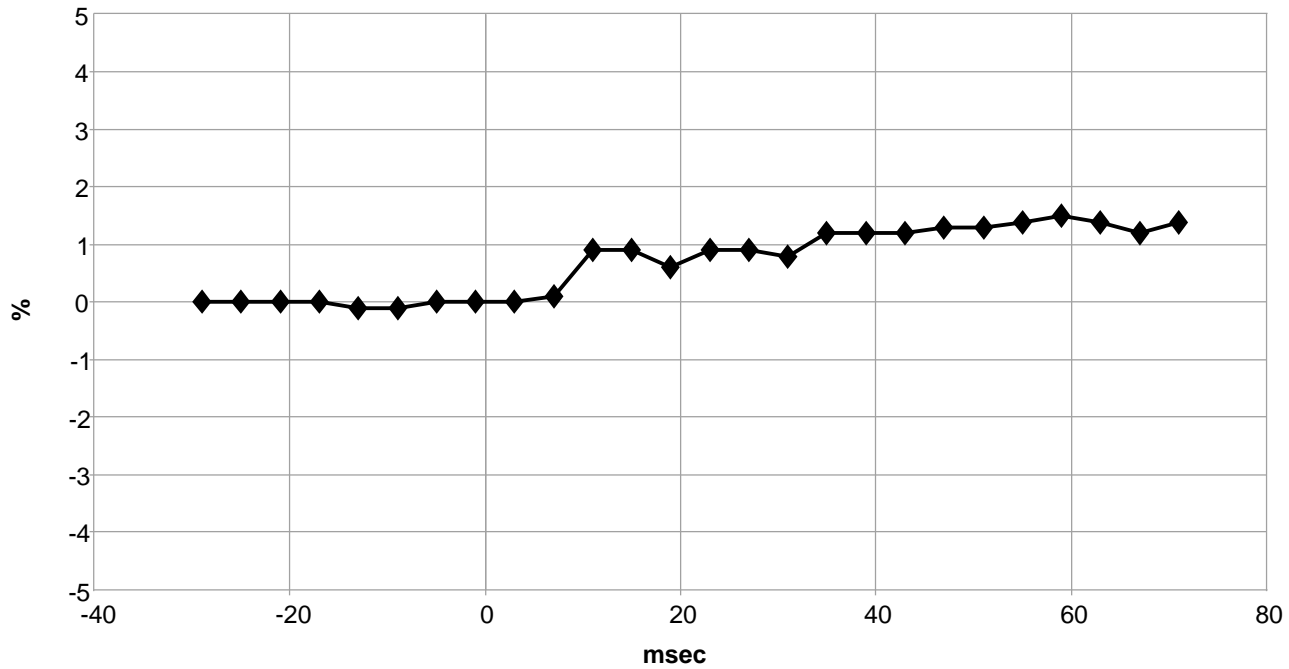
Rate of Change of Pressure, Side Satellite Sensor 1, L



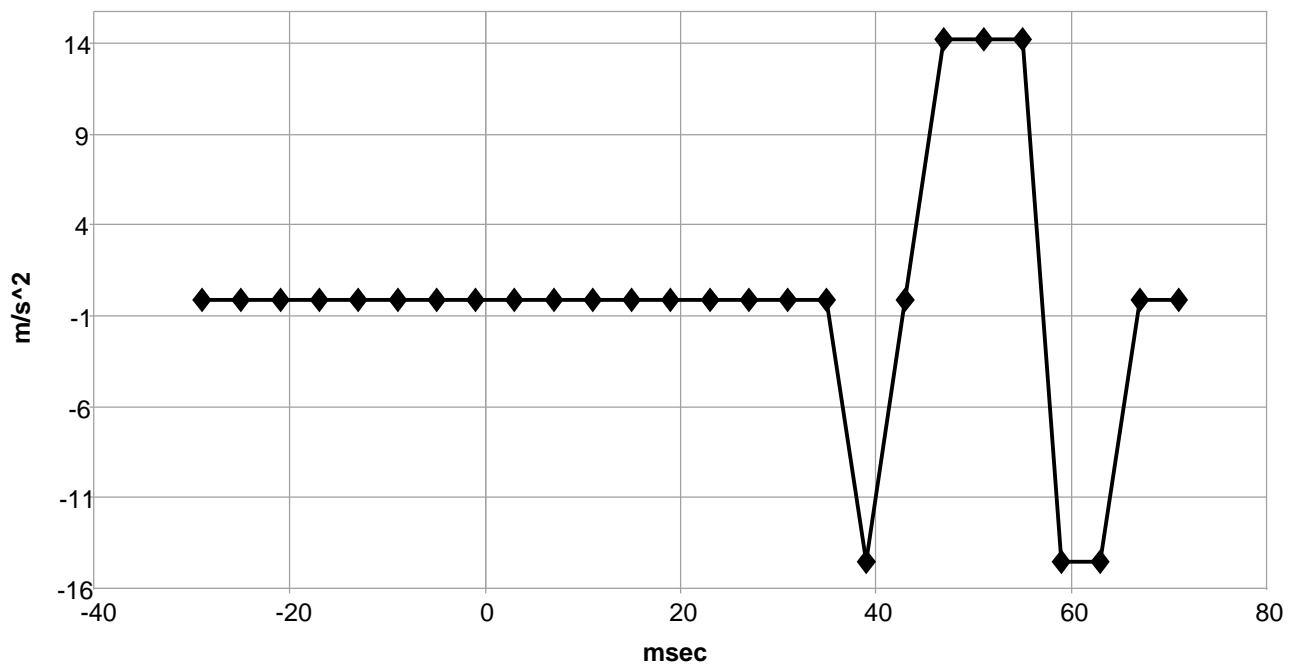
Lateral Acceleration, Side Satellite Sensor 4, L



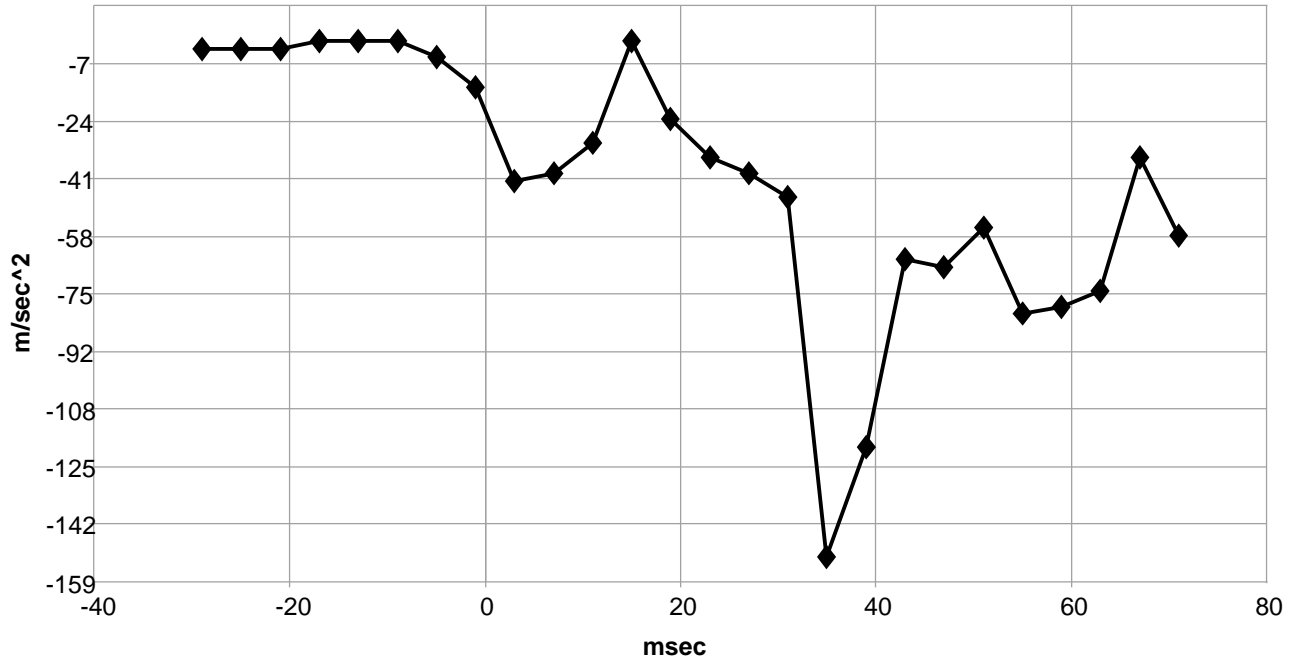
Rate of Change of Pressure, Side Satellite Sensor 1, R



Lateral Acceleration, Side Satellite Sensor 4, R



Lateral Acceleration for Side Crash Addition, Floor Sensor



Lateral Crash Pulse (1st Prior Event, TRG 2) - Table 1 of 2

Time (msec)	Rate of Change of Pressure, Side Satellite Sensor 1, L (%)	Lateral Acceleration, Side Satellite Sensor 2, L (m/s^2)	Lateral Acceleration, Side Satellite Sensor 3, L (m/s^2)	Lateral Acceleration, Side Satellite Sensor 4, L (m/s^2)	Rate of Change of Pressure, Side Satellite Sensor 1, R (%)	Lateral Acceleration, Side Satellite Sensor 2, R (m/s^2)	Lateral Acceleration, Side Satellite Sensor 3, R (m/s^2)	Lateral Acceleration, Side Satellite Sensor 4, R (m/s^2)
-29	0.0	SNA	SNA	0.0	0.0	SNA	SNA	0.0
-25	0.0	SNA	SNA	0.0	0.0	SNA	SNA	0.0
-21	0.0	SNA	SNA	0.0	0.0	SNA	SNA	0.0
-17	0.0	SNA	SNA	0.0	0.0	SNA	SNA	0.0
-13	0.0	SNA	SNA	0.0	-0.1	SNA	SNA	0.0
-9	0.0	SNA	SNA	0.0	-0.1	SNA	SNA	0.0
-5	-0.1	SNA	SNA	0.0	0.0	SNA	SNA	0.0
-1	0.0	SNA	SNA	0.0	0.0	SNA	SNA	0.0
3	0.0	SNA	SNA	0.0	0.0	SNA	SNA	0.0
7	0.6	SNA	SNA	0.0	0.1	SNA	SNA	0.0
11	0.4	SNA	SNA	0.0	0.9	SNA	SNA	0.0
15	0.4	SNA	SNA	0.0	0.9	SNA	SNA	0.0
19	0.9	SNA	SNA	0.0	0.6	SNA	SNA	0.0
23	0.7	SNA	SNA	0.0	0.9	SNA	SNA	0.0
27	0.9	SNA	SNA	0.0	0.9	SNA	SNA	0.0
31	1.0	SNA	SNA	14.4	0.8	SNA	SNA	0.0
35	0.7	SNA	SNA	0.0	1.2	SNA	SNA	0.0
39	0.8	SNA	SNA	-14.4	1.2	SNA	SNA	-14.4
43	0.9	SNA	SNA	0.0	1.2	SNA	SNA	0.0
47	0.8	SNA	SNA	14.4	1.3	SNA	SNA	14.4
51	0.8	SNA	SNA	14.4	1.3	SNA	SNA	14.4
55	1.4	SNA	SNA	14.4	1.4	SNA	SNA	14.4
59	1.9	SNA	SNA	0.0	1.5	SNA	SNA	-14.4
63	1.6	SNA	SNA	-14.4	1.4	SNA	SNA	-14.4
67	1.2	SNA	SNA	0.0	1.2	SNA	SNA	0.0
71	1.0	SNA	SNA	0.0	1.4	SNA	SNA	0.0

Lateral Crash Pulse (1st Prior Event, TRG 2) - Table 2 of 2

Time (msec)	Lateral Acceleration for Side Crash Addition, Floor Sensor (m/s^2)
-29	-2.3
-25	-2.3
-21	-2.3
-17	0.0
-13	0.0
-9	0.0
-5	-4.6
-1	-13.8
3	-41.4
7	-39.1
11	-29.9
15	0.0
19	-23.0
23	-34.5
27	-39.1
31	-45.9
35	-151.6
39	-119.5
43	-64.3
47	-66.6
51	-55.1
55	-80.4
59	-78.1
63	-73.5
67	-34.5
71	-57.4

System Status at Event (2nd Prior Event, TRG 1)

TRG Count (times)	1
Event Type	Frontal/Rear/Side Crash
Previous Crash Type	No Event
Time from Previous TRG (msec)	32767 or greater
Time from Time Zero to TRG (msec)	2.5
Event Establishment Factor	Frontal Crash
TRG Establishment Factor	Frontal Crash
Freeze Signal	ON
Freeze Signal Factor	Front Airbag Deployment, Driver / Front Airbag Deployment, Passenger
Recording Status , Front/Rear and Side Crash Info.	Complete
Odometer signal (miles [km])	14,546 [23,410]
Trip count (times)	1622
Time count (msec)	1,767,200
Time count input system	Normal

Deployment Command Data (2nd Prior Event, TRG 1)

Active Head Restraint, Time to Deploy, Driver (msec)	SNA
Active Head Restraint, Time to Deploy, Front Passenger (msec)	SNA
Frontal Airbag Deployment, Time to 1st Stage Deployment, Driver (msec)	5.5
Frontal Airbag Deployment, Time to 1st Stage Deployment, Front Passenger (msec)	No
Frontal Airbag Deployment, Time to 2nd Stage, Driver (msec)	15.5
Frontal Airbag Deployment, Time to 2nd Stage, Front Passenger (msec)	No
Frontal Airbag Deployment, Time to 3rd Stage, Front Passenger (msec)	SNA
Pretensioner Deployment, Time to Fire, 1st Seat, Driver (msec)	2.5
Pretensioner Deployment, Time to Fire, 1st Seat, Passenger (msec)	2.5
Pretensioner Deployment, Time to Fire, 2nd Seat, Driver (msec)	2.5
Pretensioner Deployment, Time to Fire, 2nd Seat, Passenger (msec)	2.5
Rear Window Airbag Deployment, Time to Deploy (msec)	SNA
Side Airbag Deployment, Time to Deploy, 1st Seat, Driver (msec)	55.5
Side Airbag Deployment, Time to Deploy, 1st Seat, Passenger (msec)	55.5
Side Airbag Deployment, Time to Deploy, 2nd Seat, Driver (msec)	55.5
Side Airbag Deployment, Time to Deploy, 2nd Seat, Passenger (msec)	55.5
Side Curtain Airbag Deployment, Time to Deploy, Driver (msec)	5.5
Side Curtain Airbag Deployment, Time to Deploy, Passenger (msec)	5.5

DTCs Present at Time of Event (2nd Prior Event, TRG 1)

Recording Status, Diagnostic	Complete
Ignition Cycle Since DTC was Set (times)	0
Airbag Warning Lamp ON Time Since DTC was Set (min)	0
Diagnostic Trouble Codes	None

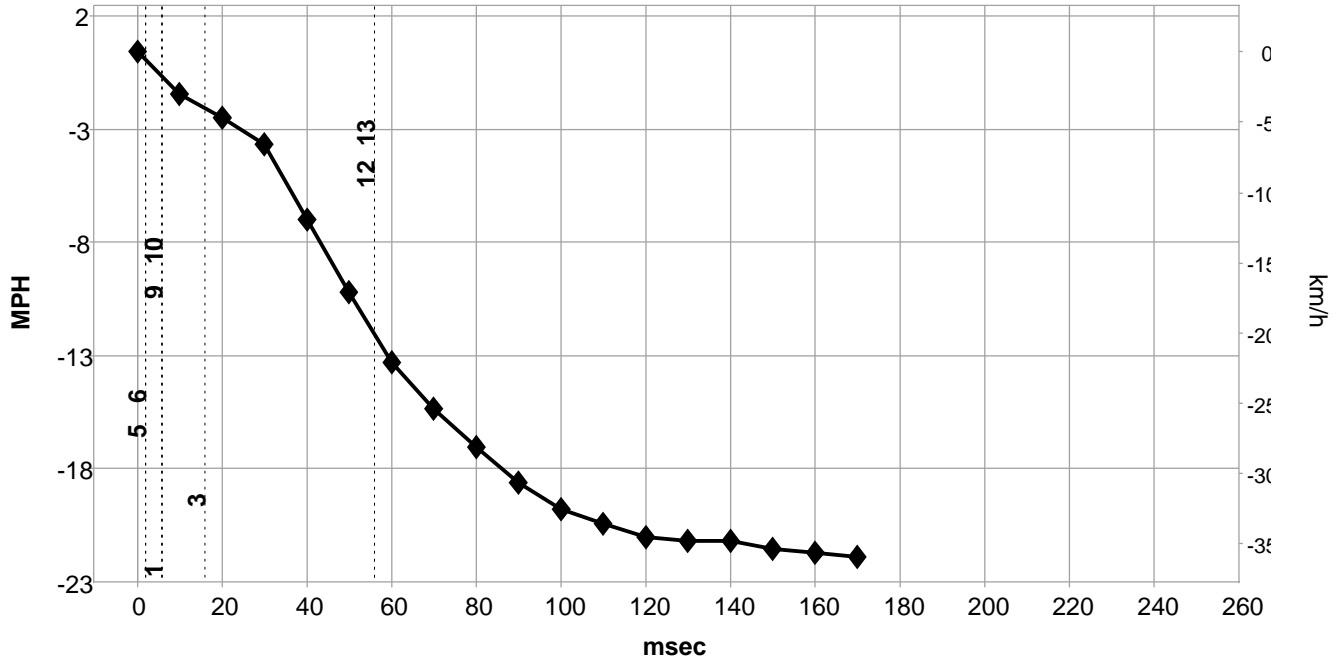
Pre-Crash Data, 1 Sample (2nd Prior Event, TRG 1)

Recording Status, Occupant	Complete
Recording Status, Pre-Crash	Complete
Time from Pre-Crash to TRG (msec)	250
Safety Belt Status, Driver	ON
Safety Belt Status, Front Passenger	OFF
Occupant Size Classification, Front Passenger	Child or Not Occupied
Frontal Airbag Suppression Switch Status, Front Passenger	SNA
RSCA Disable Switch	SNA
Seat Track Position Switch, Foremost, Status, Driver	No
Airbag Warning Lamp, On/Off	OFF
Ignition Cycle, Crash (times)	1609

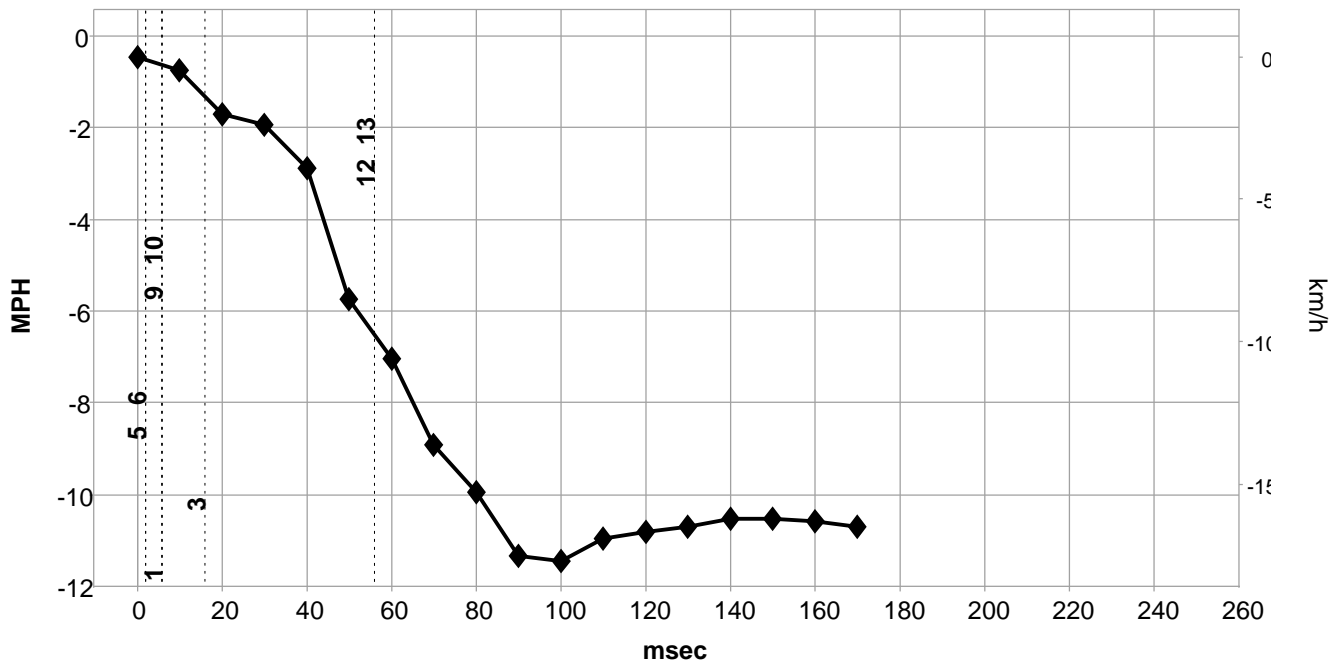
Longitudinal/Lateral Crash Pulse (2nd Prior Event, TRG 1)

Recording Status , Time Series Data	Complete
Power Supply Status at the time of Max. Delta-V	ON
Maximum Delta-V, Longitudinal (MPH [km/h])	-22.3 [-35.9]
Time, Maximum Delta-V, Longitudinal (msec)	164.0
Clipping Time, Longitudinal Delta-V (msec)	No
Clipping Time, Lateral Delta-V (msec)	No
Length of Delta-V (msec)	170

Delta-V, Longitudinal



Delta-V, Lateral



Deployment Time Marker Key

1	Driver Airbag Deployment Time
2	Passenger Airbag Deployment Time
3	Driver 2nd Stage Airbag Deployment
4	Passenger 2nd Stage Airbag
5	Driver Pretensioner Deployment
6	Passenger Pretensioner Deployment
7	Driver AHR
8	Passenger AHR
9	Driver CSA
10	Passenger CSA
11	Rear Window Airbag Deployment
12	Driver SAB
13	Passenger SAB

Longitudinal/Lateral Crash Pulse (2nd Prior Event, TRG 1)

Time (msec)	Delta-V, Longitudinal (MPH [km/h])	Delta-V, Lateral (MPH [km/h])	Power Supply Status
0	0.0 [0.0]	0.0 [0.0]	ON
10	-1.9 [-3.0]	-0.3 [-0.5]	ON
20	-2.9 [-4.7]	-1.2 [-2.0]	ON
30	-4.1 [-6.6]	-1.5 [-2.4]	ON
40	-7.4 [-11.9]	-2.4 [-3.9]	ON
50	-10.6 [-17.1]	-5.3 [-8.5]	ON
60	-13.7 [-22.1]	-6.6 [-10.6]	ON
70	-15.8 [-25.4]	-8.5 [-13.6]	ON
80	-17.5 [-28.1]	-9.5 [-15.3]	ON
90	-19.0 [-30.6]	-10.9 [-17.5]	ON
100	-20.2 [-32.5]	-11.0 [-17.7]	ON
110	-20.9 [-33.6]	-10.5 [-16.9]	ON
120	-21.4 [-34.5]	-10.4 [-16.7]	ON
130	-21.6 [-34.8]	-10.3 [-16.5]	ON
140	-21.6 [-34.8]	-10.1 [-16.2]	ON
150	-21.9 [-35.3]	-10.1 [-16.2]	ON
160	-22.1 [-35.6]	-10.1 [-16.3]	ON
170	-22.3 [-35.9]	-10.3 [-16.5]	ON
180	0.0 [0.0]	0.0 [0.0]	ON
190	0.0 [0.0]	0.0 [0.0]	ON
200	0.0 [0.0]	0.0 [0.0]	ON
210	0.0 [0.0]	0.0 [0.0]	ON
220	0.0 [0.0]	0.0 [0.0]	ON
230	0.0 [0.0]	0.0 [0.0]	ON
240	0.0 [0.0]	0.0 [0.0]	ON
250	0.0 [0.0]	0.0 [0.0]	ON

Pre-Crash Data -5 to 0 Seconds (2nd Prior Event, TRG 1) - Table 1 of 4

Time (sec)	Vehicle Speed (MPH [km/h])	Accelerator Pedal, % Full (%)	Percentage of Engine Throttle (%)	Fuel Injection Quantity (mm ³ /st)	Engine RPM (RPM)	Motor RPM (RPM)	Service Brake, ON/OFF
-4.75	50.3 [81]	8.0	1.0	Invalid	1,300	Invalid	OFF
-4.25	49.7 [80]	8.0	1.0	Invalid	1,200	Invalid	OFF
-3.75	49.1 [79]	8.0	1.0	Invalid	1,200	Invalid	OFF
-3.25	49.1 [79]	7.5	0.5	Invalid	1,200	Invalid	OFF
-2.75	48.5 [78]	7.5	0.5	Invalid	1,200	Invalid	OFF
-2.25	48.5 [78]	7.5	0.5	Invalid	1,200	Invalid	OFF
-1.75	47.8 [77]	8.0	1.0	Invalid	1,200	Invalid	OFF
-1.25	47.2 [76]	8.0	0.5	Invalid	1,200	Invalid	OFF
-0.75	46.6 [75]	67.0	7.0	Invalid	1,200	Invalid	OFF
-0.25	47.2 [76]	100.0	99.5	Invalid	2,100	Invalid	OFF
TRG(0)	47.2 [76]	100.0	99.5	Invalid	3,300	Invalid	OFF

Pre-Crash Data -5 to 0 Seconds (2nd Prior Event, TRG 1) - Table 2 of 4

Time (sec)	ABS Control Status	BOS Control Status	Brake Oil Pressure (Mpa)	Longitudinal Acceleration , VSC Sensor (m/s ²)	Yaw Rate (deg/s)	Steering Input (degrees)	Shift Position
-4.75	OFF	OFF	0.00	-0.359	-0.49	0.0	D
-4.25	OFF	OFF	0.00	-0.215	0.49	3.0	D
-3.75	OFF	OFF	0.00	-0.287	-0.49	0.0	D
-3.25	OFF	OFF	0.00	-0.359	-0.49	3.0	D
-2.75	OFF	OFF	0.00	-0.287	0.98	6.0	D
-2.25	OFF	OFF	0.00	-0.215	2.93	12.0	D
-1.75	OFF	OFF	0.00	-0.287	6.83	28.5	D
-1.25	OFF	OFF	0.00	-0.359	8.78	33.0	D
-0.75	OFF	OFF	0.00	-0.502	14.64	45.0	D
-0.25	OFF	OFF	0.00	0.072	14.15	55.5	D
TRG(0)	OFF	OFF	0.00	-7.896	12.69	48.0	D

Pre-Crash Data -5 to 0 Seconds (2nd Prior Event, TRG 1) - Table 3 of 4

Time (sec)	Sequential Shift Range	Cruise Control Status	VSC Control Status	READY Signal	Drive Mode, Power Train	Drive Mode, Snow	Drive Mode, EV
-4.75	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-4.25	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-3.75	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-3.25	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-2.75	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-2.25	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-1.75	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-1.25	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-0.75	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
-0.25	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid
TRG(0)	Undetermined	OFF	ON (enable)	Invalid	Normal	OFF	Invalid

Pre-Crash Data -5 to 0 Seconds (2nd Prior Event, TRG 1) - Table 4 of 4

Time (sec)	Drive mode select signal
-4.75	Normal
-4.25	Normal
-3.75	Normal
-3.25	Normal
-2.75	Normal
-2.25	Normal
-1.75	Normal
-1.25	Normal
-0.75	Normal
-0.25	Normal
TRG(0)	Normal

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.

PIDs	PID	Data
	00	BC 75 00 01
	01	00
	03	30 45 31 30 30 30 30 30 36 38 30 30 30 36 38 30 30 30 30 30 30 30
		30 36 45
	04	02 03 01 01
	05	01
	06	BA 17
	0A	06
	0B	00
	0C	30 30 30 33 39 30 30 30 33 39
	10	00
	20	E8 00 00 01
	21	02 A0
	22	00 00 00 00 00 00
	23	98 03 06 56 00 00 45 0D 98 37 06 56 00 00 45 0D 99 26 06 56 00 00
		45 1A 99 06 06 56 00 00 45 1A 99 01 06 56 00 00 45 1B 99 21 06 56
		00 00 45 1C
	25	00 00 00 00 00 00 00 00 00
	40	00 00 00 01
	60	F7 77 00 01
	61	02 0A 05 00 14 D8 00 00 00 00 00 00 00 00 00 00 00 00 00 03 55
		03 55 14 D8 29 B1 85 5F 14 D8 00 00 E8 00 FF FE 30 00 80 02 80 02
		80 00 FF C0 06 4A 80 01 00 06
	62	55 00 6F 00 6F 00 0B 3F FE 00 05 00 05 00 1F 3F FE 00 0B 00 0B 00
		6F 00 6F 00 05 00 05 3F FE 3F FE 3F FE 3F FE 55 38 05 FF FE 00 01
		11 A5 03
	63	03 FE 12 00 00 00 0B 00 11 00 18 00 2B 00 3E 00 50 00 5C 00 66 00
		6F 00 76 00 7A 00 7D 00 7E 00 7E 00 80 00 81 00 82 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 82 01 48
	64	03 FE 00 00 00 08 00 1E 00 25 00 3B 00 80 00 A0 00 CE 00 E8 01 08
		01 0B 01 00 00 FD 00 F9 00 F5 00 F5 00 F7 00 F9 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
	66	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00
	67	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
	68	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00
	6A	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00
	6B	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00
	6C	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00
	6E	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00
	6F	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00
	70	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
		00 00 00 00 00 00 00 00 00 00
	80	00 00 00 01
	A0	0C 0C FF FD
	A5	55 3F FE 3F FE 3F FE 3F FE 3F FE 3F FE 55 E1 01 00 01 01 01 01 01
		00 0C F5 E7 ED 07 1A 1A 09 F6 ED F5 01 08 08 05 04 04 03 00 FE FE
		FF FD FA 00 05 03 FD F8 F8 FC 01 00 00 00 00
	A6	02 02 02 02 01 01 03 19 02 00 00 02 02 02 02 02 01 01 01 01 01 01

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	00 00
	00 00 00 00 00 00 00 00 00 00 00 00 00
CC	00 00
	00 00 00 00 00 00
CD	55 00
	00 00 00 00 00 00 00 06 56 00 00 45 08 00 00 38 D2 02 55 11 10 00
	00
CE	55 06 49 40 11 11 11 11 11 10 51 50 4F 4F 4E 4E 4D 4C 4B 4C 4C 10
	10 10 0F 0F 0F 10 10 86 C8 C8 00 00 00 0D 0C 0C 0C 0C 0C 0C 0C
	15 21 00 00 00 00 00 00
CF	00 00 00 00 00 00 00 00 00 00 00 FF 01 FF FF 02 06 0E 12 1E 1D 1A
	FB FD FC FB FC FD FC FB F9 01 92 02 02 02 01 01 01 02 01 0E C7 C7
	00 00 00
D0	00 40 00 40 00 40 00 40 00 40 00 40 00 40 00 40 00 40 00 40 40
	FE FE
D1	00 00 00 02 00 00 00 02 00 04 00 08 00 13 00 16 00 1E 00 25 00 20
	00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 02
D2	00 00
	00 00
	00
D3	00 00
	00 00
	00 00 00 00 00 00 00 00
D4	00 00
	00 00
	00 00 00
D5	00 00
	00 00
D6	00 00
	00 00
D7	00 00
	00 00
	00
D8	00 00
	00 00
	00 00 00 00 00 00 00 00
D9	00 00
	00 00
	00 00 00
DA	00 00
	00 00
DB	00 00
	00 00
E0	FC 11 FF FC
F0	00 00
	00 00
	00
F1	00 00
	00 00
	00 00 00 00 00 00 00 00
F2	00 00
	00 00
	00 00 00
F3	00 00
	00 00
F4	00 00
	00 00
F5	55 00
	00 00 00 00 00 00 00 06 56 00 00 45 0A 00 00 38 D2 02 55 11 10 00
	00
F6	55 06 49 90 11 11 11 11 11 00 51 50 4F 4F 4E 4E 4D 4C 4B 4C 13 10
	10 10 0F 0F 0F 10 10 86 C8 C8 00 00 00 0D 0C 0C 0C 0C 0C 0C 0C
	15 27 00 00 00 00 00 00
F7	00 00 00 00 00 00 00 00 00 00 00 02 FF 01 FF FF 02 06 0E 12 1E 1D 7D
	FB FD FC FB FC FD FC FB F9 01 9C 02 02 02 01 01 01 02 01 0E C7 62

	00 00 00
F8	00 40 00 40 00 40 00 40 00 40 00 40 00 40 00 40 00 40 00 40 00 40 FE
F9	00 00 00 02 00 00 00 02 00 04 00 08 00 13 00 16 00 1E 00 25 00 26 00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 02 00 A2
FA	00 00
FB	00 00
FC	00 00
FD	00 00
FE	00 00

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