



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**



DOT HS 812 831

October 2019

Special Crash Investigations On-Site Air Bag Non-Deployment Crash Investigation Vehicle: 2017 Ram 1500 Location: Arizona Crash Date: November 2017

DISCLAIMER

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Suggested APA Citation Format:

Dynamic Science, Inc. (2019, October). *Special Crash Investigations: On-Site Air Bag Non-Deployment Crash Investigation; Vehicle: 2017 Ram 1500; Location: Arizona; Crash Date: November 2017* (Report No. DOT HS 812 831). Washington, DC: National Highway Traffic Safety Administration.

Technical Report Documentation Page

1. Report No. DOT HS 812 831	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Special Crash Investigations: On-Site Air Bag Non-Deployment Crash Investigation Vehicle: 2017 Ram 1500 Location: Arizona Crash Date: November 2017		5. Report Date October 2019	
		6. Performing Organization Code	
7. Author Dynamic Science, Inc.		8. Performing Organization Report No. Case No. DS17019	
9. Performing Organization Name and Address Dynamic Science, Inc. 26141 Marguerite Parkway, Suite C Mission Viejo, CA 92692		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No. DTNH22-12-C00271	
12. Sponsoring Agency Name and Address National Highway Traffic Safety Administration 1200 New Jersey Avenue SE Washington, DC 20590		13. Type of Report and Period Covered Technical Report Crash Date: November 2017	
		14. Sponsoring Agency Code	
15. Supplementary Notes Each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems. This report and associated case data are based on information available to the Special Crash Investigation team on the date the report was published.			
16. Abstract This report documents the on-site investigation of the non-deployment of air bags and the injuries sustained by the driver of a 2017 Ram 1500 that was involved in a crash with another vehicle and a subsequent rollover. This two-vehicle crash occurred during the evening on a westbound interstate highway in Arizona in November 2017. The Ram was being driven by a belted 54-year-old male. The other vehicle was a 2017 Nissan Versa driven by a 28-year-old female. Both drivers were intending to exit the highway via a right off-ramp. The slower-moving Nissan abruptly traveled from right to left into the path of the Ram causing the front plane of the Ram to impact the back plane of the Nissan. The Nissan subsequently struck a median wall, and the Ram overturned and came to rest on its left plane. The driver of the Ram was transported, treated, and released. The driver of the Nissan was not injured. Both vehicles were towed due to damage and the Ram was declared to be a total loss. There were no air bag deployments, but pretensioners were commanded in the Ram. Based on the available data from this investigation, it would appear that IC air bags in the Ram should have deployed during the rollover event.			
17. Key Words air bag, non-deployment, rollover, injury		18. Distribution Statement Document is available to the public from the National Technical Information Service, www.ntis.gov .	
19 Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21 No. of Pages 77	22. Price

Form DOT F 1700.7 (8-72)

Reproduction of completed page authorized

Table of Contents

BACKGROUND.....	1
SUMMARY.....	2
Crash Site	2
Pre-Crash.....	2
Crash.....	2
Post-Crash	3
2017 RAM 1500 SLT.....	3
Description	3
Exterior Damage	3
NHTSA Recalls and Investigations.....	4
Event Data Recorder	4
Interior Damage.....	5
Manual Restraint Systems.....	5
Supplemental Restraint Systems	6
Air Bag Non-Deployment Discussion	6
Rollover Mitigation.....	6
2017 RAM 1500 OCCUPANT.....	7
Driver Demographics	7
Driver Injuries	7
Driver Kinematics	7
2017 NISSAN VERSA.....	8
Description	8
Exterior Damage	8
Occupant Data	8
CRASH DIAGRAM.....	9
CRASH DIAGRAM DETAILED VIEW	10
APPENDIX A: Event Data Recorder Report 2017 Ram 1500.....	A-1

**Special Crash Investigations (SCI)
On-Site Office of Defects Investigation (ODI)
Air Bag Non-Deployment Crash Investigation
Case Number: DS17019
Vehicle: 2017 Ram 1500
Location: Arizona
Crash Date: November 2017**

BACKGROUND

This report documents the on-site investigation of the non-deployment of air bags and the injuries sustained by the driver of a 2017 Ram 1500 that was involved in a crash with another vehicle and a subsequent rollover (**Figure 1**).

This case was initiated in response to a driver notification made to the National Highway Traffic Safety Administration. The Special Crash Investigations (SCI) group assigned the case to Dynamic Science, Inc., in December 2017. The owner of the Ram indicated in the notification that none of the vehicle's air bags deployed in the crash that included a high-speed front-to-rear impact and a rollover event. The driver of the Ram reported injuries including a left rib fracture, multiple rib contusions, and a whiplash-type injury requiring treatment. The investigation was intended to determine air bag deployment parameters, occupant restraint usage, kinematics, and injury sources for the Ram. The vehicle was configured with frontal air bags for the front row occupants, combination side impact/rollover-sensing seat-mounted side air bags for the front row and combination side impact/rollover-sensing inflatable curtain (IC) air bags for both rows. The vehicle was being held at an auto auction facility. The vehicle inspection occurred in December 2017 and a representative from Fiat Chrysler Automobiles (FCA) was present. The scene was also inspected in December 2017 but the location was not correct and Google images were used to supplement the scene photos. The Ram was supported by the Bosch Crash Data Retrieval (CDR) system and the vehicle's event data recorder (EDR) was imaged during the inspection. There were no air bag deployments. Based on the available data from this investigation, it would appear that IC air bags should have deployed during the rollover event. The calculated delta-V for the frontal impact was probably too low to deploy the frontal air bags.



Figure 1. 2017 Ram 1500 pickup.

This two-vehicle crash occurred during the evening on a westbound interstate highway in Arizona in November 2017. The Ram was being driven by a belted 54-year-old male. The other vehicle was a 2017 Nissan Versa being driven by a 28-year-old female. Both drivers were intending to exit the highway via a right off-ramp. The slower-moving Nissan abruptly traveled from right to left into the path of the Ram, causing the front plane of the Ram to strike the back plane of the Nissan. The Nissan subsequently struck a median wall, and the Ram overturned and

came to rest on its left plane. The driver of the Ram was transported, treated, and released. The driver of the Nissan was not injured. Both vehicles were towed due to damage and the Ram was declared to be a total loss.

SUMMARY

Crash Site

The crash site was in the westbound lanes of a divided interstate highway (**Figure 2**). Westbound traffic was divided from eastbound traffic by a concrete median barrier. The roadway was configured with one westbound high-occupancy vehicle (HOV) lane, two westbound through lanes, a westbound lane leading to an off-ramp connecting a southbound State highway, and two westbound lanes connecting an off-ramp to a northbound State highway. The roadways were straight and level. The lanes leading to the northbound off-ramp were gradually separated from the through lanes by a marked gore. The roadway was dark at the time of the crash with spot illumination. The posted speed limit was 105 km/h (65 mph). The weather at the nearest reporting station was 21 degrees C (70 degrees F), 48 percent humidity, clear visibility, and the winds were out of the east at 7.4 km/h (4.6 mph). Crash diagrams are attached at the end of this technical report.



Figure 2. Westbound traffic lanes.

Pre-Crash

The Ram was traveling westbound in the third lane from the right (lane leading to southbound off-ramp) at a driver-reported speed of 105 km/h (65 mph). The Nissan was traveling westbound in the second lane from the right (lane leading to northbound off-ramp) ahead of the Ram at a slower speed. The driver of the Nissan decided to change lanes to the left to enter the lane leading to the northbound off-ramp. The Nissan abruptly crossed the gore into the path of the Ram.

Crash

The front plane of the Ram struck the back plane of the Nissan in a narrow over-lapping configuration (Event 1). The Collision Deformation Classification (CDC)-only algorithm of the WinSMASH program calculated a total delta-V of 13 km/h (8 mph) for the Ram. The longitudinal and lateral components were -13 km/h (-8 mph) and 0 km/h, respectively. There were no air bag deployments. The program calculated a total delta-V of 27 km/h (17 mph) for the Nissan. The longitudinal and lateral components were 26 km/h (16 mph) and 5 km/h (3 mph), respectively. The Ram began a clockwise rotation and there was a second swiping type impact to the Nissan (Event 2). The Ram began a counterclockwise rotation, departed the roadway, and entered a gravel-covered gore area. After the vehicle had rotated approximately 90 degrees, the vehicle's right wheels furrowed into the gravel and the vehicle tripped. The vehicle began a right-side-leading rollover (Event 3). It rolled three quarter turns and came to rest on its left side.

The rollover distance was unknown. The Nissan began a clockwise rotation, crossed multiple travel lanes, and struck the median barrier (Event 4). At some point, it appears that the left plane of the Ram struck an unknown object (Event 5).

Post-Crash

The Ram came to rest on its left side. The driver was unable to exit due to the position of the vehicle. He was extricated by emergency personnel through the windshield. He sustained police-reported “C” (possible) injuries and was transported to a local hospital where he was treated and released after 6 to 8 hours. The Nissan came to rest against the center median. The driver exited the vehicle under her own power. She did not report any injuries. Both vehicles sustained disabling damage and were towed from the scene. The Ram was later declared a total loss by the insurance company.

2017 RAM 1500 SLT

Description

The 2017 Ram 1500 SLT was a 4-door crew cab pickup. The vehicle was identified by the Vehicle Identification Number (VIN) 1C6RR6LG9HSxxxxxx with a manufacture date of November 2016. The vehicle was equipped with a 3.6-liter, 6-cylinder, gasoline flex fuel (unleaded/E85) engine, an 8-speed automatic transmission, 4-wheel ABS, a 170 cm (67 in) bed, and rear-wheel drive. The vehicle manufacturer’s recommended tire size was P275/60R20 with a cold tire pressure of 269 kPa (39 psi). The vehicle was equipped with Goodyear Wrangler tires of the recommended size. The specific tire information was as follows:

Position	Measured Pressure	Measured Tread Depth	Restricted	Damage
LF	241 kPa (35 psi)	5 mm (6/32 in)	No	None, rocks in bead
LR	255 kPa (37 psi)	4 mm (5/32 in)	No	None, rocks in bead
RR	241 kPa (35 psi)	5 mm (6/32 in)	No	None
RF	Flat	5 mm (6/32 in)	Yes	Sidewall holed and debaded

The Ram was configured with seating for five occupants. The front row was equipped with fabric covered bucket seats with adjustable head restraints. The driver’s seat was slightly reclined and was adjusted to the middle track position at the time of the vehicle inspection.

The Ram was purchased new by the driver and had not been involved in any previous crashes. A CARFAX report supported the driver’s statement of not being involved in any previous crashes. The mileage at the time of the crash was 23,292 km (14,472 miles).

Exterior Damage

The Ram sustained minor severity frontal damage from the impact to the Nissan (**Figure 3**). The direct damage began at the right front bumper corner and extended 65 cm (25.5 in) to the left.

The damage extended 90 cm (35.4 in) down the right side. The Field L extended from bumper corner to bumper corner. Twenty-one measurements were taken at bumper level by the Nikon Total Station and the Faro Blitz program computed crush measurement in six increments as follows: C₁ = 0 cm, C₂ = 0 cm, C₃ = 0 cm, C₄ = 0 cm, C₅ = 0 cm, C₆ = 29 cm (11.4 in). The Collision Deformation Classification (CDC) was 12FZEW2.

The vehicle sustained minor contact damage to the right side from the Nissan at the second row door and on the bed (red paint), and along the frame (tire). The direct damage began 41 cm (16.1 in) forward of the right rear axle and extended 114 cm (44.8 in) forward. The damage was masked to some degree by the rollover. The CDC was 12RZES1.

The vehicle sustained moderate damage to the left, right, and top planes during the rollover event. The direct damage to the damage measured 122 cm (48.0 in) from roof side rail to roof side rail (**Figure 4**). The damage extended from the front of the hood to the rear of the cab. The tailgate was deformed laterally. The maximum vertical crush was located 33 cm (13.0 in) to the right along the windshield header and measured 33 cm (12.9 in). The CDC was 00TDDO3. There was damage to the left side of the bed from an unknown object that measured 80 cm (31.4 in) in length and 35 cm (13.7 in) in depth. The CDC was 00LBEW3.

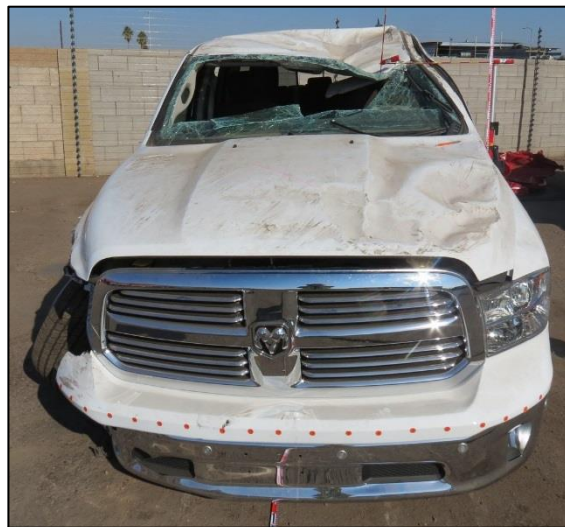


Figure 3. 2017 Ram 1500, frontal damage.

NHTSA Recalls and Investigations

There was one recall associated with the VIN for this vehicle when the database was last queried in August 2019. The recall was related to an engine control module and had no relationship to this crash.

Event Data Recorder

The Ram was equipped with a Bosch air bag control module (ACM) that had EDR capability to store deployment and non-deployment events. For the pre-crash data there is a 5-second buffer that records vehicle speed, accelerator pedal %, engine throttle %, service brake, engine rpm, ABS activity, stability control, and steering input.



Figure 4. 2017 Ram 1500, top damage.

The data from the Ram's EDR was imaged using the Bosch Crash Data Retrieval Tool version 17.5.1 via the direct-to-module method and reported using version 19.0. Three events were recovered. The air bag warning lamp was "off" for all three stored events. There were no Diagnostic Trouble Codes (DTCs) present for any event. The cumulative number events that the EDR recorded was 30, which included those non-

deployment events that have been overwritten by subsequent events. The ignition cycle at the time of the crash was 1481. The ignition cycle at the time of imaging was 1486. The difference in cycles is likely due to the ignition being powered multiple times through the fuse block during the attempts to image the EDR. NHTSA subsequently discussed the issue of the high number of EDR event counts with technical staff from FCA. FCA explained that an EDR software anomaly can occur during rollover events of this model and model year of vehicle, resulting in an abnormally high number of event counts for a single rollover event, and that the cause of the anomaly has been identified. FCA further explained that it was in the process of correcting the cause and assessing what if any further action was warranted.

EDR event numbers 30, 29, and 28 were represented as the most recent event, 1st prior event, and 2nd prior event, respectively. The System State data recorded for these three events was essentially identical. The maximum longitudinal delta-V was -8.0 km/h (-5.0 mph) and the maximum lateral delta-V was 12.0 km/h (7.5 mph). This data was not related to the initial crash event. The belt status for the driver was “Buckled” and the belt status for the front passenger was “Not Buckled.”

The deployment command data for the most recent event, 1st prior event, and 2nd prior event indicated there were no air bags commanded to deploy. The driver and passenger retractor pretensioners were commanded to deploy first during the 2nd prior event. The same command data was also present in the other two events.

The maximum angular rate was -238 deg/sec at 120 ms. A negative angular rate indicates counterclockwise rotation around the longitudinal axis. The design range for Bosch ACMs was +/- 240 degrees/sec. The trace was repeated in the most recent event and the 2nd prior event.

The pre-crash data for all three recorded events appeared to be invalid. Most of the data values were zeroed out.

Interior Damage

The inspection of the interior revealed intrusion-related and extrication-related damage. There was vertical intrusion to the left and middle windshield header and roof, left roof side rail, and left A-pillar. The windshield was damaged during the rollover and was cut open during extrication efforts. The left side glass was disintegrated. All the doors remained closed and operational.

Manual Restraint Systems

The front row was equipped with driver and front right passenger lap and shoulder seat belts. The driver's belt was equipped with continuous loop belt webbing, a sliding latch plate, an emergency locking retractor (ELR), and an adjustable upper anchor that was in the full-up position. The driver's seat belt retractor pretensioner actuated and the seat belt was locked in the used position. The front right passenger's seat belt retractor pretensioner actuated and the seat belt was locked in the stowed position. The second row seat belts were equipped with continuous loop belt webbing, sliding latch plates, switchable ELR/automatic locking retractors (ALRs), and non-adjustable upper anchors.

Supplemental Restraint Systems

The supplemental restraints systems included an occupant restraint controller (ORC), dual-stage frontal air bags for the driver and front right passenger positions, seat-mounted side air bags for the front row seats, front row seat belt retractor pretensioners, and IC air bags for the front and second row seats.

There were no air bag deployments in either the frontal impact with the Nissan or during the subsequent rollover. The front row retractor pretensioners did actuate. The pretensioners are triggered by the ORC. Presumably they deployed during the rollover.

Air Bag Non-Deployment Discussion

There were no air bag deployments. Based on the available data from this investigation, it would appear that IC air bags should have deployed during the rollover. The IC and seat-mounted side air bags were designed to deploy in certain side impacts and certain rollover events. The ORC determines whether the deployment of the air bags in a particular side impact or rollover event is appropriate, based on the severity and type of collision. According to the manual, “The rollover sensing system determines if a rollover event may be in progress and whether deployment is appropriate. A slower-developing event may deploy the seat belt pretensioners on both sides of the vehicle. A faster-developing event may deploy the seat belt pretensioners as well as the side air bags on both sides of the vehicle. The rollover sensing system may also deploy the seat belt pretensioners, with or without the side air bags, on both sides of the vehicle if the vehicle experiences a near-rollover event.”

The calculated longitudinal delta-V for the frontal impact [-13 km/h (-8 mph)] was probably too low to deploy the frontal air bags. According to the vehicle owner’s manual the front air bags will not deploy in all frontal collisions, including some that may produce substantial vehicle damage, including pole and offset impacts. The damage in this crash occurred outside of the frame rail on the right corner.

Rollover Mitigation

The NHTSA has given this vehicle model a four-star rating on a 5-star scale¹ with a risk of rollover of 19.8 percent for the rear-wheel drive model. This vehicle was equipped with an advanced electronic brake control (EBC) system. This system includes electronic brake distribution, ABS, brake assist system, hill start assist, traction control system, electronic stability control, and electronic roll mitigation (ERM). ERM anticipates the potential for wheel lift by monitoring the driver’s steering wheel angle and the speed the vehicle. It then applies brake and a reduction of engine power to compensate. It cannot prevent wheel lift due to factors such as road conditions, leaving the roadway, or striking objects or other vehicles.

The front right of the Ram struck the left rear of the Nissan. The Ram began a counterclockwise rotation, departed the roadway, and entered a gravel-covered gore area. After the vehicle had rotated approximately 90 degrees, the vehicle’s wheels furrowed into the gravel, and the vehicle tripped. The vehicle began a right side leading rollover. It rolled three quarter turns and came to rest on its left side. The rollover distance was unknown.

¹ www.safercar.gov.

2017 RAM 1500 OCCUPANT

Driver Demographics

Age/Sex: 54 years/male
Height: 170 cm (67 in)
Weight: 77 kg (170 lbs)
Eyewear: None
Seat type: Bucket
Seat track position: Middle
Manual restraint usage: Lap and shoulder used
Usage source: Vehicle inspection, EDR report
Air bags: Steering wheel mounted frontal, seat-mounted side, and IC air bags, not deployed

Alcohol/drug data: None
Egress from vehicle: Extricated by emergency personnel through windshield
Transport from scene: Ambulance
Type of medical treatment: Treated and released

Driver Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Components (IPC)	IPC Confidence Level
1	Rib fracture, left anterior	450200.1	Seat belt webbing	Probable
2	Severe cervical strain	640278.1	Seat belt webbing (indirect)	Probable
3	Chest contusion, center	410402.1	Seat belt webbing	Probable
4	Lower back strain	640678.1	Seat belt webbing	Probable

Source: Interviewee.

Driver Kinematics

The 54-year-old male driver was seated in an upright position. He was wearing the manual lap and shoulder seat belt and the seat was adjusted to the middle track position. Both hands were on the steering wheel and the right foot was on the accelerator. He saw the Nissan at the last moment and did not have time to take any evasive actions. At impact with the Nissan he was displaced forward and probably loaded the seat belt. As the vehicle began the clockwise rotation, he was displaced to the left. During the subsequent rollover, he was displaced in multiple directions while loading the seat belt. The seat belt pretensioner likely actuated during the rollover event. The Ram came to rest on its left side. The driver was unable exit due to the position of the vehicle. He was extricated by emergency personnel through the windshield. He sustained minor injuries and was transported to a local hospital where he was treated and

released. The driver indicated that he had seen a neurologist and had been under chiropractic and acupuncturist care.

2017 NISSAN VERSA

Description

The 2017 Nissan Versa was a 4-door sedan. The vehicle was identified by the VIN 3N1CN7AP7HKxxxxxx. The vehicle was equipped a 1.6-liter, 4-cylinder engine, an automatic transmission, front-wheel drive, and front disc/rear drum brakes. The vehicle was part of a rental fleet.

Exterior Damage

The vehicle sustained moderate rear plane damage from the impact to the front plane of the Ram (**Figure 5**). Based on photos of the damage, the estimated CDC was 06BLEE3 for Event 1. The Nissan sustained minor contacts along the left side and unknown damage to the frontal plane from Events 2 and 4.

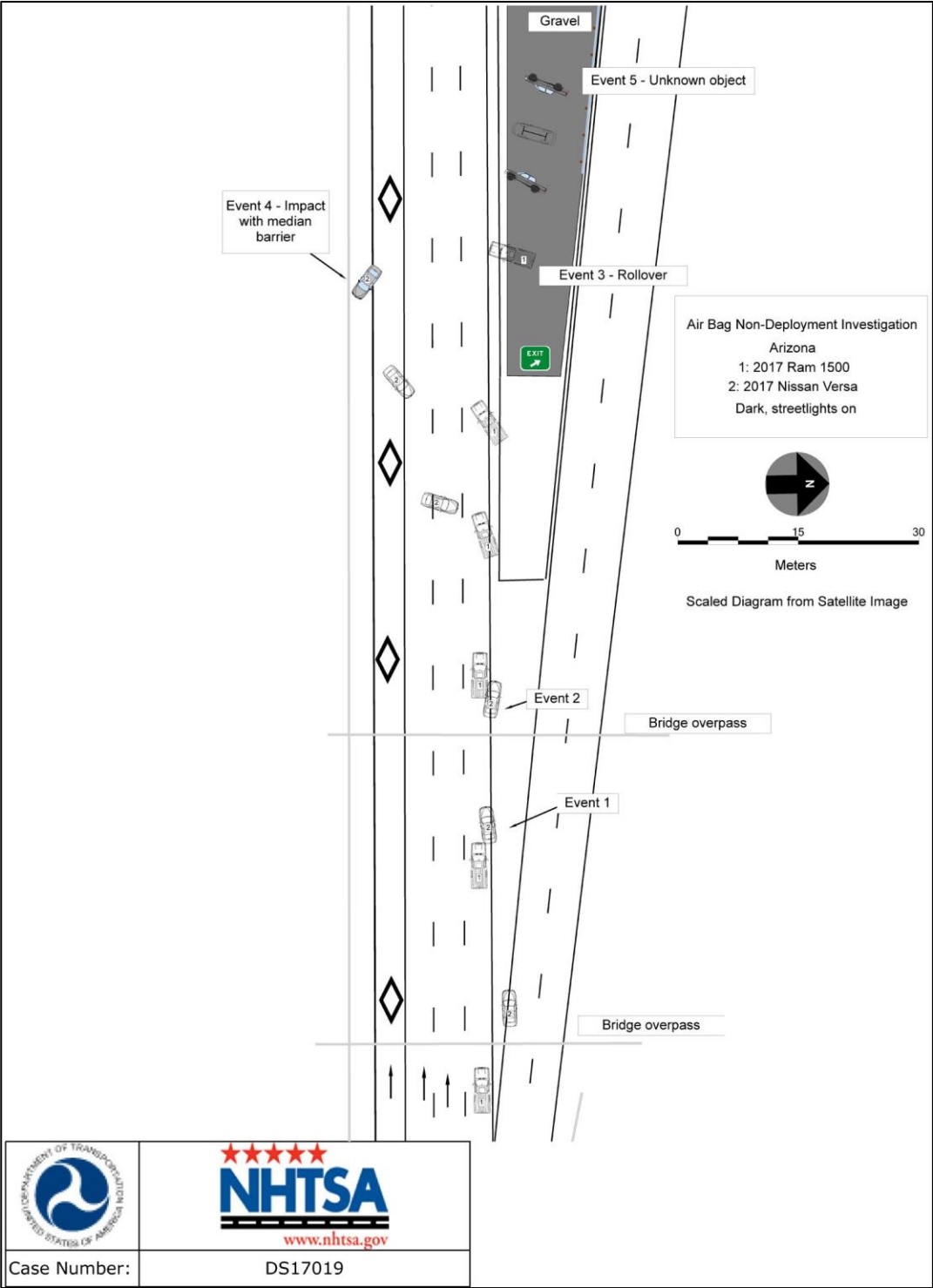


Figure 5. 2017 Nissan Versa, rear plane damage (insurance photo).

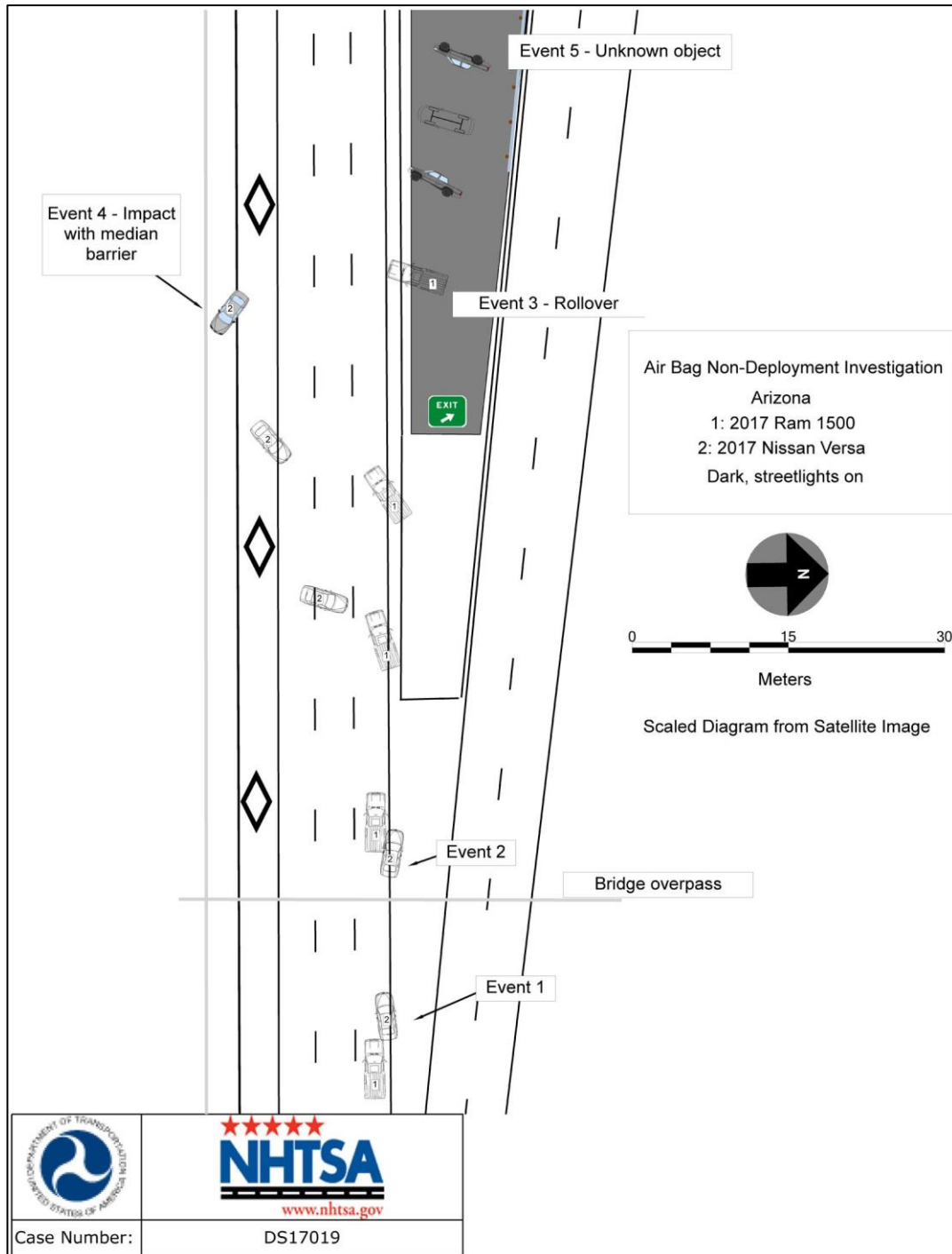
Occupant Data

The 28-year-old female driver of the Nissan did not report any injuries and was belted according to the police report.

CRASH DIAGRAM



CRASH DIAGRAM DETAILED VIEW



APPENDIX A: Event Data Recorder Report 2017 Ram 1500²

² The EDR report contained in this technical report was imaged using the current version of the Bosch CDR software at the time of the vehicle inspection. The CDR report contained in the associated Crash View application may differ relative to this report.

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	1C6RR6LG9HS*****
User	
Case Number	
EDR Data Imaging Date	
Crash Date	
Filename	201750S3DS17019_V1.CDRX
Saved on	
Imaged with CDR version	Crash Data Retrieval Tool 17.5.1
Imaged with Software Licensed to (Company Name)	Company Name information was removed when this file was saved without VIN sequence number
Reported with CDR version	Crash Data Retrieval Tool 19.0
Reported with Software Licensed to (Company Name)	NHTSA
EDR Device Type	Airbag Control Module
Event(s) recovered	Most Recent Event 1st Prior Event 2nd Prior Event

Comments

No comments entered.

Data Limitations

AIRBAG CONTROL MODULE (ACM) DATA LIMITATIONS:

GENERAL INFORMATION:

CAUTION: During direct-to-module imaging where the Airbag Control Module (ACM) is disconnected and removed from a vehicle, make sure the ACM is not moved, tilted or turned over while connected to and powered by the CDR Interface Module (with appropriate adaptors in place, where required). Also, after a CDR imaging process, wait 2 minutes after power is removed from the ACM before attempting to move the module. Not following these general ACM guidelines for direct-to-module imaging may cause new events to be recorded in the ACM.

- For additional definitions, please refer to the CDR Help File Glossary.
- As the VIN may be used to determine the configuration of the restraint system, it is imperative that the correct VIN be entered into the CDR Tool during the imaging process.
- For Fiat vehicles, the "Read VIN from Vehicle" feature in the CDR Tool will not work. The VIN will have to be manually entered.
- The 2019 MY RAM 1500 may take up to 30 minutes to retrieve the EDR data. The ignition will time out within 20 minutes so the vehicle flashers must be turned on within 20 minutes to keep the ignition and communication bus active.
- Lateral Delta V will not be displayed for the 2013 MY Jeep Compass and Patriot.
- Ignition Cycle, download/crash
 - For RAMs and Dodge Vipers, there are 2 internal ignition counters in the ACM. It is possible for the ignition cycles at download to be different than the ignition cycles at event due to the 2 different counters.
 - Note that the ignition cycle count in an ACM may differ from the ignition cycle count in a Pedestrian Protection Module (PPM) in the same vehicle due to the fact that the ACM has an energy reserve while the PPM does not.
- The following table provides an explanation of the sign notation for data elements that may be included in this CDR report. All directional references to sign notation are from the perspective of the driver when seated in the vehicle facing the direction of forward vehicle travel.

Data Element Name	Positive Sign Notation Indicates
Delta-V, Longitudinal	Forward
Maximum Delta-V, Longitudinal	Forward
Delta-V, Lateral	Left to Right
Maximum Delta-V, Lateral	Left to Right
Angular Rate	Clockwise rotation around the longitudinal axis
Peripheral Sensors, X and Y	Outside to Inside
Pressure Sensors	Compression of air

Internal Y Acceleration	Left to Right
Low-g Z Acceleration	Downward
Steering Input	Steering wheel turned counter clockwise
Yaw Rate	Counter clockwise rotation

CDR FILE INFORMATION:

- An event will be stored when the delta V is approximately 5 mph (8 km/h) or greater within a 150 ms interval.
- For non-NAFTA ACMs that control pedestrian protection devices, a non-deployment event will be stored when the pedestrian protection devices are activated.
- A non-deployment event may be stored with activation of the Active Head Restraints. See AHR explanation under System Configuration at Retrieval/Event section.

Event(s) Recovered definitions:

- None - There are no stored events in the ACM
- Not Retrievable - Event Data may be stored in the ACM but is not retrievable by the CDR Tool.
- Most Recent Event - Data of the most recent event is displayed in the report
- 1st Prior Event - Two events are stored in the ACM, Data displayed is of the first prior event.
- 2nd Prior Event - Three events are stored in the ACM, Data displayed is of the second prior event.
- For 2013 and 2014 MY Dodge Journey and Fiat Freemont:
 - Event Record 1 - Data from an event is stored in the ACM (not necessarily in chronological order)
 - Event Record 2 - Data from another event is stored in the ACM (not necessarily in chronological order)
- For TRW modules:
 - If there is a side impact, two EDR events may be stored for the one side impact event. The second event may be recorded due to the Lateral Delta V exceeding 5 mph (8 km/h) within a 150 ms interval after the side deployment occurred.
- For some Fiat vehicles:
 - Two EDR events may be stored for one impact event. The second event may be recorded due to the deployment of the frontal airbag, 3rd stage passenger.
- During an event, if power to the ACM is lost, all or part of the event data record may not be recorded. An indication may be observed in the recorded data under this condition: The restraint data is recorded first and then the vehicle data.
 - "None" may be displayed in the "Event(s) Recovered" section of the report indicating no pre-crash vehicle data.
 - An event may be displayed in the "Event(s) Recovered" section of the report and "Interrupted" will be displayed for Pre-Crash Recorder Status.

SYSTEM STATUS AT RETRIEVAL:

- Original VIN - The VIN is captured by the ACM and then recorded as the Original VIN after 10 consecutive ignition cycles of capturing the same number. Once it has been recorded, this number cannot be changed.

SYSTEM CONFIGURATION AT RETRIEVAL/EVENT:

- The System Configuration data tables indicate the components that the ACM for a particular vehicle monitors and/or controls.
- Active Head Restraint (AHR) - This refers to some active head restraint systems that are electronically controlled by the ACM. AHRs may activate but not store an EDR Record if the delta V does not exceed the minimum delta V threshold. It is possible that the AHRs may activate after the EDR record has been stored and written, based on achieving the minimum delta V. This condition will result in an EDR but no record of the AHR activation in the CDR report. Activation of only the AHRs, if stored, will be a non-deployment event.

SYSTEM STATUS AT EVENT:

- Number, Total Events - Cumulative number of events that the ACM has recorded, including those non-deployment events that have been overwritten by a subsequent event.
- Occupant Size Classification, Outboard Front Passenger - "Child" status may be used to indicate anything weighing less than a 5th percentile female adult crash dummy, including an empty seat; "Not Child" indicates anything weighing the same as or more than a 5th percentile female adult crash dummy.
- Odometer at Event - Vehicle odometer at the time of the event
- Operation via Energy Reserve Only - "Yes" indicates that the ACM had lost power at or before T0 and was only operating on energy reserve at T0.
- System Voltage at Event, ACM - Voltage at the ACM as measured by the ACM.
- System Voltage at Event, Bussed - Voltage of the vehicle system, communicated on the communication bus to other electronic modules in the vehicle.
- Temperature, Outside - Ambient Air Temperature.
- Time, Airbag Warning Lamp On - This is a cumulative time. It indicates the total amount of time that the ACM has requested the Airbag Warning Lamp be turned on.
 - This time does not include the warning lamp bulb check time, which occurs at every ignition cycle
 - For 2013 MY Minivans and new 2017+ MY Jeep Compass, this time is only cumulative for the past 10 ignition cycles.

- Time from event 1 to 2 -
 - If only one event is stored, either a value of 0 or >5 may be displayed for this data element.
 - For the 2018+ MY Promaster and 2019+ MY RAM 1500, a value of 0 may be displayed for the first event or for events >5 seconds apart.
 - If multiple events exist in the EDR, the time from event 1 to event 2 is defined as:
 - For Bosch and TRW modules, the time from the prior recorded event (even if it has been overwritten) to the current recorded event.
 - For Continental modules, the time from the prior existing recorded event (as long as it is still displayed in the CDR report) to the current recorded event. If the prior event in a multi-event condition is overwritten by a subsequent event, the multi-event status will no longer be displayed.
 - For the 2019+ MY RAM 1500, the time from event 1 to 2 may utilize a non-stored event as event 1. In this case, the total number of events and multi-event data elements will not include the non-stored event in the number of events. However, the time from event 1 to 2 will be shown as time from that non-stored event.
- Time, Operation System Time - This is a cumulative lifetime timer for the ACM. It indicates the total amount of time the ACM has been powered up.
- VIN at Event, Last 8 Digits- Last 8 digits of the VIN of the vehicle at the time the ACM records the event.

DEPLOYMENT COMMAND DATA:

- A "Yes" for a particular item indicates that the ACM commanded the deployment /activation of the associated device.
- The phrase "Exceeded Storage Range" for a particular time to deploy indicates that the deployment time is equal to or greater than the 255 milliseconds that can be stored.
- If a device is not deployed, the "time to deploy" for that device will display 0, SNA, N/A or 255.
- In vehicles with Bosch ACMs, once a device has been deployed in an ignition cycle, it is possible that the ACM will not attempt to re-deploy any already deployed device during subsequent events in that same ignition cycle.

DTCs PRESENT AT START OF EVENT:

- If any DTCs (diagnostic trouble codes) are present in the ACM at the start of the event, these will be listed in this section. A dealership service manual can be used to decode the DTCs.
 - DTCs Present at Start of Event are not present in the Alfa Romeo Giulia, Fiat 500X, and the Jeep Renegade.

SENSOR DATA:

- The design range for the angular rate data is:
 - +/- 240 deg/sec for Bosch ACMs
 - +/- 300 deg/sec for TRW ACMs, the 2019 MY RAM 1500, and the 2018+ MY Dodge Journey
 - +/- 290 deg/sec for 2008+ MY minivans and 2009-2017 MY Dodge Journey
 - +/- 340 deg/sec for 2017+ MY Chrysler Pacifica and new 2017+ MY Jeep Compass
- For vehicles that store peripheral sensor data, t0 for the peripheral sensors is the same as the t0 for the delta V.
- Internal y acceleration is stored prior to t0 so the internal y acceleration data will usually be zero unless the rollover sensing algorithm has triggered storage of the EDR event.
- The words "Sensor Design Range Exceeded" and a vertical line will be displayed on the Longitudinal and Lateral Delta-V graphs the first time the applicable sensor range is exceeded.

PRE-CRASH DATA:

- The recorded Event may contain Pre-Crash data. Pre-Crash data from the various electronic control modules in the vehicle is transmitted to the Airbag Control Module via the vehicle's communication bus.
- (if equip.) - If a parameter name is followed by the words (if equip.), then the parameter is only valid for vehicles equipped with the associated parameter/vehicle system.
- The MIL (Malfunction Indicator Lamp) Status for the various recorded systems indicates the requested state of the applicable malfunction indicator lamp at the time that the data was captured. Note: Some fault codes could be stored due to component/system damage from the accident. The appropriate diagnostic tool should be used to read any stored Diagnostic Trouble Codes (DTC's) in the various electronic modules (ACM, PCM, ABS, TCM, etc., where applicable) for use in interpretation of some vehicle specific recorded data.
- ABS Activity - "Yes" indicates an active ABS event in which the ABS is actively controlling the brakes.
- ABS MIL- This indicates the ABS fault indicator lamp status. It will only be "On" when there is a fault in the ABS system. The Electronic brake module DTC's should be read and recorded for final system interpretation.
- Accelerator Pedal, % Full - This indicates the actual position of the accelerator pedal. It will be "SNA" if the vehicle is in the power free mode which limits acceleration.
- Accelerator Pedal (Derived), % Full - This indicates the calculated value of the accelerator pedal for battery electric vehicles only.
- Accelerator Pedal/Engine Throttle, % Full - This indicates the actual position of the accelerator pedal unless the cruise control is engaged. If the cruise control is engaged, this indicates the actual position of the engine throttle blade.
- Braking System, Maximum Braking - "Yes" indicates that ABS is active on all 4 wheels at the same time.
- Cruise Control:
 - Note that the following two Cruise Control data elements are only valid for vehicles not equipped with Adaptive Cruise Control

- (ACC). For vehicles equipped with ACC, the ACC data elements are used for both regular Cruise Control and ACC.
- Cruise Control System/Lamp Status - "On" indicates that the Cruise Control system is turned on.
 - Cruise Control Engaged Status/Active - "Engaged"/"Yes" indicates the Cruise Control system is actively controlling vehicle speed. "Not Engaged"/"No" indicates the system is NOT controlling vehicle speed.
 - Adaptive Cruise Control (ACC) Status (if equip.)- "Off" indicates that all cruise control functionality is disabled; "NCC_On" indicates that the Normal Cruise Control system is turned on; "NCC_Set" indicates the Normal Cruise Control is actively controlling vehicle speed; "ACC_On" indicates that ACC is turned on; "ACC_Set" indicates that the ACC is actively controlling vehicle speed. If the value is SNA for all time stamps, then the vehicle is not equipped with ACC.
 - ACC Speed Set (if equip.)- This indicates the desired speed in mph that was input by the driver for the ACC system. If the value is SNA for all time stamps, then the vehicle is not equipped with ACC.
 - ACC Faulted - "Yes" indicates that the ACC system will not function and the ACC warning lamp is lit; "No" indicates that the ACC system is functional and the ACC warning lamp is off;
 - Drive Mode - This indicates the driver selected mode of operation (e.g. normal, sport, track, ...)
 - Electronic Brake/Stability Control information:
 - Stability Control - This is the status of the ESC symbol - "car with squiggly lines" indicator lamp. "On" indicates that the ESC system is functional. "Off" indicates that the ESC system was turned off either by the driver or due to a fault or thermal mode shutdown. "Engaged" indicates an active ESC/TCS event. "Partial Off" indicates that engine management has been turned off but brake traction control is still functional.
 - For the Jeep Renegade, if the Stability Control is "Off", the ESC Button Status is "Disabled", and the vehicle speed exceeds 40 mph, the stability control system will operate in a reduced functionality mode with traction control turned off ("partial off" mode) even though the user disabled it. For all other conditions, when the Stability Control is "Off", the stability control system will be off.
 - ESC Button Status - This indicates the driver selected mode for the ESC system. "Disabled" indicates that the driver pressed the ESC Button to disable engine management. "Enabled" is the default state for the ESC system.
 - SRT and some Fiat products have the ability to fully disable the ESC system if the ESC button has been pressed and held for a specific amount of time. Additional system analysis is required.
 - ESP Feature is Completely Disabled - This indicates that the stability control system has turned off engine management, traction control, and stability control.
 - ESC/ESP MIL - This indicates the ESC/ESP fault indication lamp status. It will only be "On" when there is a fault or thermal mode shutdown in the ESC/ESP system. The ESC/ESP module DTC's should be read and recorded for final system interpretation.
 - Brake Intervention by ESP - "Yes" indicates that the stability control system has engaged the brakes.
 - Engine Torque Applied - "No" indicates no engine torque output was applied (as in Park/Neutral for Automatic transmissions or clutch depressed on manual or during an ESP/Traction Control event). If "Yes", then engine torque output was applied.
 - Traction Control Active - "Yes" indicates that the traction control system is actively controlling the vehicle's wheels.
 - Electronic Park Brake (EPB):
 - Park Brake Engaged - "Yes" indicates that the park brake is applied.
 - EPB MIL - "On" indicates that there is a fault in the Electronic Park Brake System.
 - Engine Throttle, % Full - This indicates the actual position of the Engine Throttle blade. This data element is not supported by vehicles with diesel engines. Thus a value of "SNA" will be displayed if the vehicle has a diesel engine.
 - ETC Lamp - Lamp "ON" indicates there is an active Electronic Throttle DTC.
 - ETC Lamp Flashing - "Yes" indicates that the ETC is in the limp-in mode.
 - Forward Collision Warning (FCW) (if equip.):
 - Object of Interest Distance - This indicates the actual forward distance to the main object being tracked by the FCW system. "FCW present but not tracking" indicates that the FCW system is not currently tracking an object. If the value is SNA for all time stamps, then the vehicle is not equipped with FCW.
 - FCW System Operating State - "Off" indicates that the FCW system is off and the FCW Warning Lamp will be "On"; "On" indicates that the FCW system is fully on with active braking as well as the audible and visual warnings enabled.
 - FCW System Status - "Off" indicates that the FCW system is off and the FCW Warning Lamp will be "On". "On-braking" indicates that the FCW system is on with active braking enabled but there will no FCW audible or visual warnings in an FCW event. "On-warning" indicates that the FCW system is on but active braking is disabled. In an FCW event, the driver will only receive FCW audible and visual warnings. "On-full" indicates that the FCW system is fully on with active braking as well as the audible and visual warnings enabled. SNA indicates that the vehicle is not equipped with FCW.
 - Gear Position - This indicates the current transmission gear.
 - Master Cylinder Pressure - This indicates the brake pressure applied to the brakes through the brake pedal.
 - PCM MIL - This indicates the PCM fault indicator lamp status. It will only be "On" when there is a fault in the PCM. "Flashing" indicates misfire detection. The Powertrain Control Module DTC's should be read and recorded for final system interpretation.
 - Pre-Crash Recorder Complete - Due to the interruption of data recording in one section, this data element may display "Interrupted" for all sections when some data sections are actually complete.
 - For the 2014 MY Jeep Grand Cherokee and Dodge Durango, if recording of angular rate data is interrupted, the entire EDR record will display "Interrupted" even though the rest of the data may be complete.
 - PRND/PRNDL/PRNDS Status - This indicates the status of the Shifter Position.
 - Raw Manifold Pressure - This indicates engine load in kPa.
 - Reverse Gear - For manual transmission vehicles only, "Yes" indicates the transmission is in the reverse gear.
 - Service Brake - "On" indicates that the brake pedal is physically depressed. Braking from the ABS or FCW systems will not be reported in this data element.
 - Speed, Vehicle Indicated - This indicates the average of the drive wheels. The accuracy of the recorded Speed, Vehicle Indicated will be affected if the vehicle had the tire size or the final drive axle ratio changed from the factory build specifications. On some vehicles capable of speeds in excess of 255km/h (about 158mph), the actual vehicle speed may have exceeded the reporting range. It is always prudent to check the reported wheel speeds and other parameters to confirm the Speed, Vehicle Indicated value(s).

- Tire Information:
 - XX where LF = Left Front Tire, RF = Right Front Tire, LR = Left Rear Tire, and RR = Right Rear Tire.
 - Tire X Location - This indicates the location of the tire pressure sensor data being displayed for that time stamp. Default is used to indicate that the location of the tire pressure sensor is unknown or there is no tire pressure sensor in that wheel. Vehicles with Base Tire Pressure Monitoring systems will display SNA for both Tire Locations as these vehicles do not send actual pressure values across the communication bus.
 - Tire X Pressure/Tire Pressure Status, XX - This indicates the actual pressure status of the Tire Location defined in the previous column (Tire X Location) or by the values for XX. Possible values are LOW, NORMAL, HIGH, or SNA for this parameter. Vehicles with Base Tire Pressure Monitoring systems may display NORMAL even though these vehicles do not send actual pressure values across the communication bus.
 - Tire X Pressure/Tire Pressure Value, XX (psi) - This indicates the actual tire pressure value of the Tire Location defined in the previous column (Tire X Location) or by the values for XX. Vehicles with Base Tire Pressure Monitoring systems will display N/A for this parameter as these vehicles do not send actual pressure values across the communication bus.
 - For the following vehicles, the tire location, if displayed, may not be accurate if the tires have been rotated:
 - 2013 MY Ram
 - 2013-2017 MY Jeep Patriot
 - 2013-2014 MY Chrysler 200
 - 2013-2017 MY Jeep Compass
 - 2013-2016 MY Dodge Dart
 - For the 2013 MY Ram, if the values for tire pressure status and the tire pressure are SNA, the EDR does not store tire pressure monitoring data.
 - Tire pressure is not stored in the EDR for the following vehicles:
 - 2014-2018 MY RAM 1500
 - 2014+ MY RAM (all but 1500)
 - 2013+ MY Jeep Wrangler
 - 2013 MY Jeep Grand Cherokee
 - 2013 MY Dodge Durango
 - 2013-2014 MY Dodge Challenger
 - 2013-2016 MY Chrysler Town and Country
 - 2013+ MY Dodge Grand Caravan
 - 2015+ MY Fiat 500
 - Wheel Speed, XX - This indicates the speed value (in revolutions per minute) of a particular tire as denoted by XX.
- Tire Pressure Monitor Indicator Lamp/Faults - "On" indicates a fault in the tire pressure monitoring system. The TPM module DTC's should be read and recorded for final system interpretation.
- "T0" ("Time zero" where '0' is seen as subscript) is defined as "beginning of the crash event". T0 is the time at which the ACM algorithm is activated, a specific Delta-V is exceeded, or a non-reversible restraint device is deployed. T0 may be defined differently for front, side, rear and roll-over events.
 - If multiple algorithm decisions (i.e.: frontal, side, rear and/or rollover) are made before the first recorded event ends, all of those events are part of the same event record and "T0" is defined as the "T0" from the first recorded event.
 - In the Pre-Crash data tables, the relative time marker "-0.1s" or "-0.25s" respectively represents the last set of data captured in the buffer prior to "T0."
- Torque Information:
 - Axle Torque - This indicates the E-Motor Torque multiplied by the gear ratio for battery electric vehicles only.
 - E-Motor Torque - This indicates the calculated torque from the output shaft of the electric motor in battery electric vehicles only.
- Traction Control Intervention Active - "Active" indicates wheel slippage was occurring during vehicle acceleration.

APPLICATION INFORMATION:

- Jeep Renegade and Alfa Romeo Giulia are only CDR supported in the NAFTA market.

03002_Chrysler_r038

System Status at Retrieval

Original VIN	1C6RR6LG9HS*****
Ignition Cycle, Download	1486
ACM Part Number	68303218AA
ECU Serial Number	T52MD287604674
ACM Supplier	Bosch
ECU Supply Voltage at Time of Retrieval	14.7

System Configuration at Retrieval

Configured for Driver Frontal Airbag	Yes
Configured for Passenger Airbag	Yes
Configured for Driver Retractor Pretensioner	Yes
Configured for Passenger Retractor Pretensioner	Yes
Configured for Left Side Curtain Airbag	Yes
Configured for Right Side Curtain Airbag	Yes
Configured for Front Left Seat Airbags	Yes
Configured for Front Right Seat Airbag	Yes
Configured for Safety Belt Status, Driver	Yes
Configured for Safety Belt Status, Outboard Front Passenger	Yes
Configured for Seat Track Position Switch, Foremost, Status, Driver	No
Configured for Seat Track Position Switch, Foremost, Status, Outboard Front Passenger	No
Configured for Rollover Sensing	Yes

System Configuration at Event (Most Recent Event)

Configured for Driver Frontal Airbag	Yes
Configured for Passenger Airbag	Yes
Configured for Driver Retractor Pretensioner	Yes
Configured for Passenger Retractor Pretensioner	Yes
Configured for Left Side Curtain Airbag	Yes
Configured for Right Side Curtain Airbag	Yes
Configured for Front Left Seat Airbags	Yes
Configured for Front Right Seat Airbag	Yes
Configured for Safety Belt Status, Driver	Yes
Configured for Safety Belt Status, Outboard Front Passenger	Yes
Configured for Seat Track Position Switch, Foremost, Status, Driver	No
Configured for Seat Track Position Switch, Foremost, Status, Outboard Front Passenger	No
Configured for Rollover Sensing	Yes

System Status at Event (Most Recent Event)

Event Number	30
Multi-Event, Number of Events (1,2)	1
Total number of events	30
Time from Event 1 to 2 (Time since last event)(sec)	>5
Complete File Recorded (Yes, No)	Yes
Maximum Delta-V Longitudinal (MPH [km/h])	-5.0 [-8]
Time, Maximum Delta-V, Longitudinal (msec)	206
Maximum Delta-V Lateral (MPH [km/h])	7.5 [12]
Time, Maximum Delta-V, Lateral (msec)	128
Ignition Cycle, Crash	1481
Safety Belt Status, Driver	Buckled
Safety Belt Status, Outboard Front Passenger	Not Buckled
Airbag Warning Lamp, On/Off	Off
Operation System Time (sec)	2095439
Airbag Warning Lamp On Time Before Event (min)	0
Supply Voltage at Event, ACM (V)	13.9
Operation via Energy Reserve	No
VIN at Event (last 8 digits)	HS*****
Odometer at Event (km [miles])	23292 [14472.8]

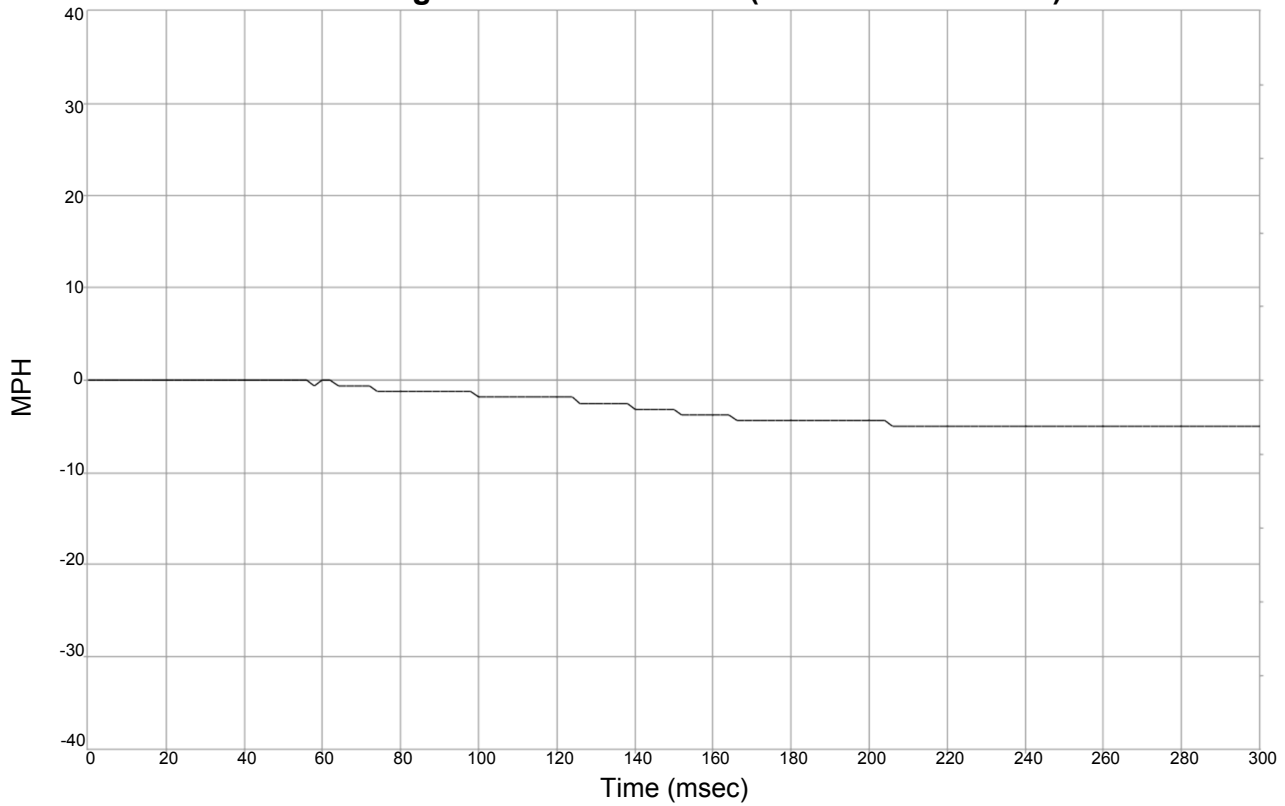
Deployment Command Data (Most Recent Event)

Driver Frontal Airbag Commanded	No
Driver Front Airbag, Time to 1st stage (msec)	0
Driver Front Airbag, Time to 2nd Stage from T0 (msec)	0
Passenger Frontal Airbag Commanded	No
Passenger Front Airbag, Time to 1st stage (msec)	0
Passenger Front Airbag, Time to 2nd Stage from T0 (msec)	0
Commanded Driver Retractor Pretensioner Deployment	Yes
Commanded Passenger Retractor Pretensioner Deployment	Yes
Commanded Left Side Curtain Airbag Deployment	No
Commanded Left Seat Airbag Deployment	No
Commanded Right Side Curtain Airbag Deployment	No
Commanded Front Right Side Seat Airbag Deployment	No

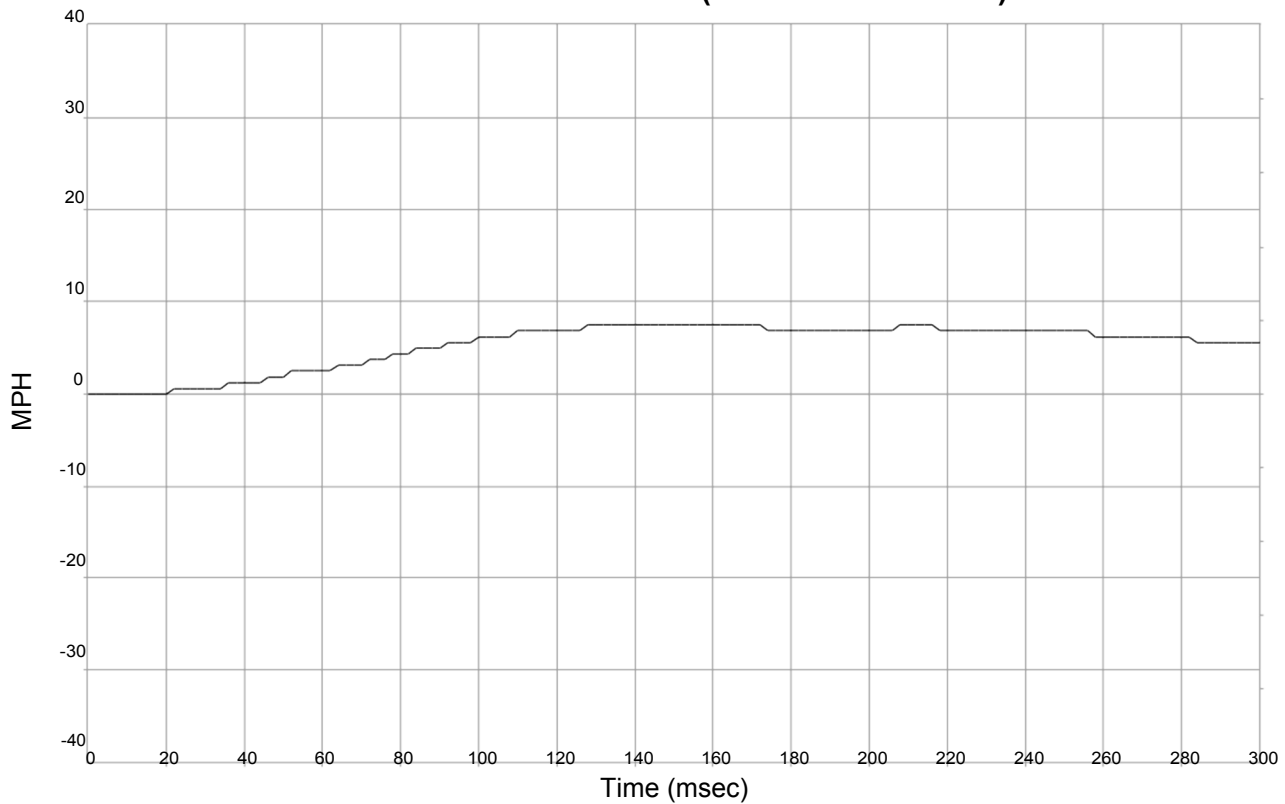
DTCs Present at Start of Event (Most Recent Event)

No DTCs Present

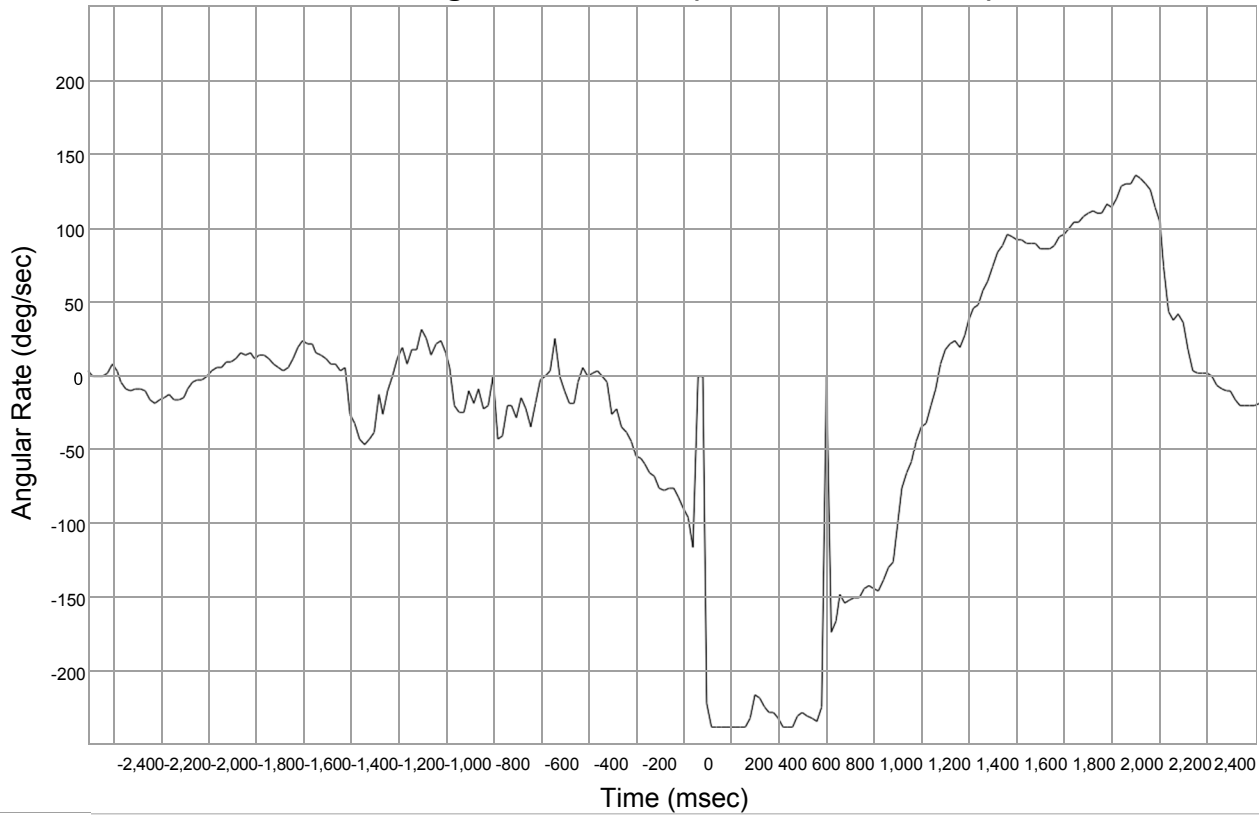
Longitudinal Crash Pulse (Most Recent Event)



Lateral Crash Pulse (Most Recent Event)



Angular Rate Data (Most Recent Event)



Longitudinal Crash Pulse (Most Recent Event)

Time (msec)	Delta-V, Longitudinal (MPH [km/h])	Time (msec)	Delta-V, Longitudinal (MPH [km/h])	Time (msec)	Delta-V, Longitudinal (MPH [km/h])
0	0.0 [0]	100	-1.9 [-3]	200	-4.3 [-7]
2	0.0 [0]	102	-1.9 [-3]	202	-4.3 [-7]
4	0.0 [0]	104	-1.9 [-3]	204	-4.3 [-7]
6	0.0 [0]	106	-1.9 [-3]	206	-5.0 [-8]
8	0.0 [0]	108	-1.9 [-3]	208	-5.0 [-8]
10	0.0 [0]	110	-1.9 [-3]	210	-5.0 [-8]
12	0.0 [0]	112	-1.9 [-3]	212	-5.0 [-8]
14	0.0 [0]	114	-1.9 [-3]	214	-5.0 [-8]
16	0.0 [0]	116	-1.9 [-3]	216	-5.0 [-8]
18	0.0 [0]	118	-1.9 [-3]	218	-5.0 [-8]
20	0.0 [0]	120	-1.9 [-3]	220	-5.0 [-8]
22	0.0 [0]	122	-1.9 [-3]	222	-5.0 [-8]
24	0.0 [0]	124	-1.9 [-3]	224	-5.0 [-8]
26	0.0 [0]	126	-2.5 [-4]	226	-5.0 [-8]
28	0.0 [0]	128	-2.5 [-4]	228	-5.0 [-8]
30	0.0 [0]	130	-2.5 [-4]	230	-5.0 [-8]
32	0.0 [0]	132	-2.5 [-4]	232	-5.0 [-8]
34	0.0 [0]	134	-2.5 [-4]	234	-5.0 [-8]
36	0.0 [0]	136	-2.5 [-4]	236	-5.0 [-8]
38	0.0 [0]	138	-2.5 [-4]	238	-5.0 [-8]
40	0.0 [0]	140	-3.1 [-5]	240	-5.0 [-8]
42	0.0 [0]	142	-3.1 [-5]	242	-5.0 [-8]
44	0.0 [0]	144	-3.1 [-5]	244	-5.0 [-8]
46	0.0 [0]	146	-3.1 [-5]	246	-5.0 [-8]
48	0.0 [0]	148	-3.1 [-5]	248	-5.0 [-8]
50	0.0 [0]	150	-3.1 [-5]	250	-5.0 [-8]
52	0.0 [0]	152	-3.7 [-6]	252	-5.0 [-8]
54	0.0 [0]	154	-3.7 [-6]	254	-5.0 [-8]
56	0.0 [0]	156	-3.7 [-6]	256	-5.0 [-8]
58	-0.6 [-1]	158	-3.7 [-6]	258	-5.0 [-8]
60	0.0 [0]	160	-3.7 [-6]	260	-5.0 [-8]
62	0.0 [0]	162	-3.7 [-6]	262	-5.0 [-8]
64	-0.6 [-1]	164	-3.7 [-6]	264	-5.0 [-8]
66	-0.6 [-1]	166	-4.3 [-7]	266	-5.0 [-8]
68	-0.6 [-1]	168	-4.3 [-7]	268	-5.0 [-8]
70	-0.6 [-1]	170	-4.3 [-7]	270	-5.0 [-8]
72	-0.6 [-1]	172	-4.3 [-7]	272	-5.0 [-8]
74	-1.2 [-2]	174	-4.3 [-7]	274	-5.0 [-8]
76	-1.2 [-2]	176	-4.3 [-7]	276	-5.0 [-8]
78	-1.2 [-2]	178	-4.3 [-7]	278	-5.0 [-8]
80	-1.2 [-2]	180	-4.3 [-7]	280	-5.0 [-8]
82	-1.2 [-2]	182	-4.3 [-7]	282	-5.0 [-8]
84	-1.2 [-2]	184	-4.3 [-7]	284	-5.0 [-8]
86	-1.2 [-2]	186	-4.3 [-7]	286	-5.0 [-8]
88	-1.2 [-2]	188	-4.3 [-7]	288	-5.0 [-8]
90	-1.2 [-2]	190	-4.3 [-7]	290	-5.0 [-8]
92	-1.2 [-2]	192	-4.3 [-7]	292	-5.0 [-8]
94	-1.2 [-2]	194	-4.3 [-7]	294	-5.0 [-8]
96	-1.2 [-2]	196	-4.3 [-7]	296	-5.0 [-8]
98	-1.2 [-2]	198	-4.3 [-7]	298	-5.0 [-8]
				300	-5.0 [-8]

Lateral Crash Pulse (Most Recent Event)

Time (msec)	Delta-V, Lateral (MPH [km/h])	Time (msec)	Delta-V, Lateral (MPH [km/h])	Time (msec)	Delta-V, Lateral (MPH [km/h])
0	0.0 [0]	100	6.2 [10]	200	6.8 [11]
2	0.0 [0]	102	6.2 [10]	202	6.8 [11]
4	0.0 [0]	104	6.2 [10]	204	6.8 [11]
6	0.0 [0]	106	6.2 [10]	206	6.8 [11]
8	0.0 [0]	108	6.2 [10]	208	7.5 [12]
10	0.0 [0]	110	6.8 [11]	210	7.5 [12]
12	0.0 [0]	112	6.8 [11]	212	7.5 [12]
14	0.0 [0]	114	6.8 [11]	214	7.5 [12]
16	0.0 [0]	116	6.8 [11]	216	7.5 [12]
18	0.0 [0]	118	6.8 [11]	218	6.8 [11]
20	0.0 [0]	120	6.8 [11]	220	6.8 [11]
22	0.6 [1]	122	6.8 [11]	222	6.8 [11]
24	0.6 [1]	124	6.8 [11]	224	6.8 [11]
26	0.6 [1]	126	6.8 [11]	226	6.8 [11]
28	0.6 [1]	128	7.5 [12]	228	6.8 [11]
30	0.6 [1]	130	7.5 [12]	230	6.8 [11]
32	0.6 [1]	132	7.5 [12]	232	6.8 [11]
34	0.6 [1]	134	7.5 [12]	234	6.8 [11]
36	1.2 [2]	136	7.5 [12]	236	6.8 [11]
38	1.2 [2]	138	7.5 [12]	238	6.8 [11]
40	1.2 [2]	140	7.5 [12]	240	6.8 [11]
42	1.2 [2]	142	7.5 [12]	242	6.8 [11]
44	1.2 [2]	144	7.5 [12]	244	6.8 [11]
46	1.9 [3]	146	7.5 [12]	246	6.8 [11]
48	1.9 [3]	148	7.5 [12]	248	6.8 [11]
50	1.9 [3]	150	7.5 [12]	250	6.8 [11]
52	2.5 [4]	152	7.5 [12]	252	6.8 [11]
54	2.5 [4]	154	7.5 [12]	254	6.8 [11]
56	2.5 [4]	156	7.5 [12]	256	6.8 [11]
58	2.5 [4]	158	7.5 [12]	258	6.2 [10]
60	2.5 [4]	160	7.5 [12]	260	6.2 [10]
62	2.5 [4]	162	7.5 [12]	262	6.2 [10]
64	3.1 [5]	164	7.5 [12]	264	6.2 [10]
66	3.1 [5]	166	7.5 [12]	266	6.2 [10]
68	3.1 [5]	168	7.5 [12]	268	6.2 [10]
70	3.1 [5]	170	7.5 [12]	270	6.2 [10]
72	3.7 [6]	172	7.5 [12]	272	6.2 [10]
74	3.7 [6]	174	6.8 [11]	274	6.2 [10]
76	3.7 [6]	176	6.8 [11]	276	6.2 [10]
78	4.3 [7]	178	6.8 [11]	278	6.2 [10]
80	4.3 [7]	180	6.8 [11]	280	6.2 [10]
82	4.3 [7]	182	6.8 [11]	282	6.2 [10]
84	5.0 [8]	184	6.8 [11]	284	5.6 [9]
86	5.0 [8]	186	6.8 [11]	286	5.6 [9]
88	5.0 [8]	188	6.8 [11]	288	5.6 [9]
90	5.0 [8]	190	6.8 [11]	290	5.6 [9]
92	5.6 [9]	192	6.8 [11]	292	5.6 [9]
94	5.6 [9]	194	6.8 [11]	294	5.6 [9]
96	5.6 [9]	196	6.8 [11]	296	5.6 [9]
98	5.6 [9]	198	6.8 [11]	298	5.6 [9]
				300	5.6 [9]

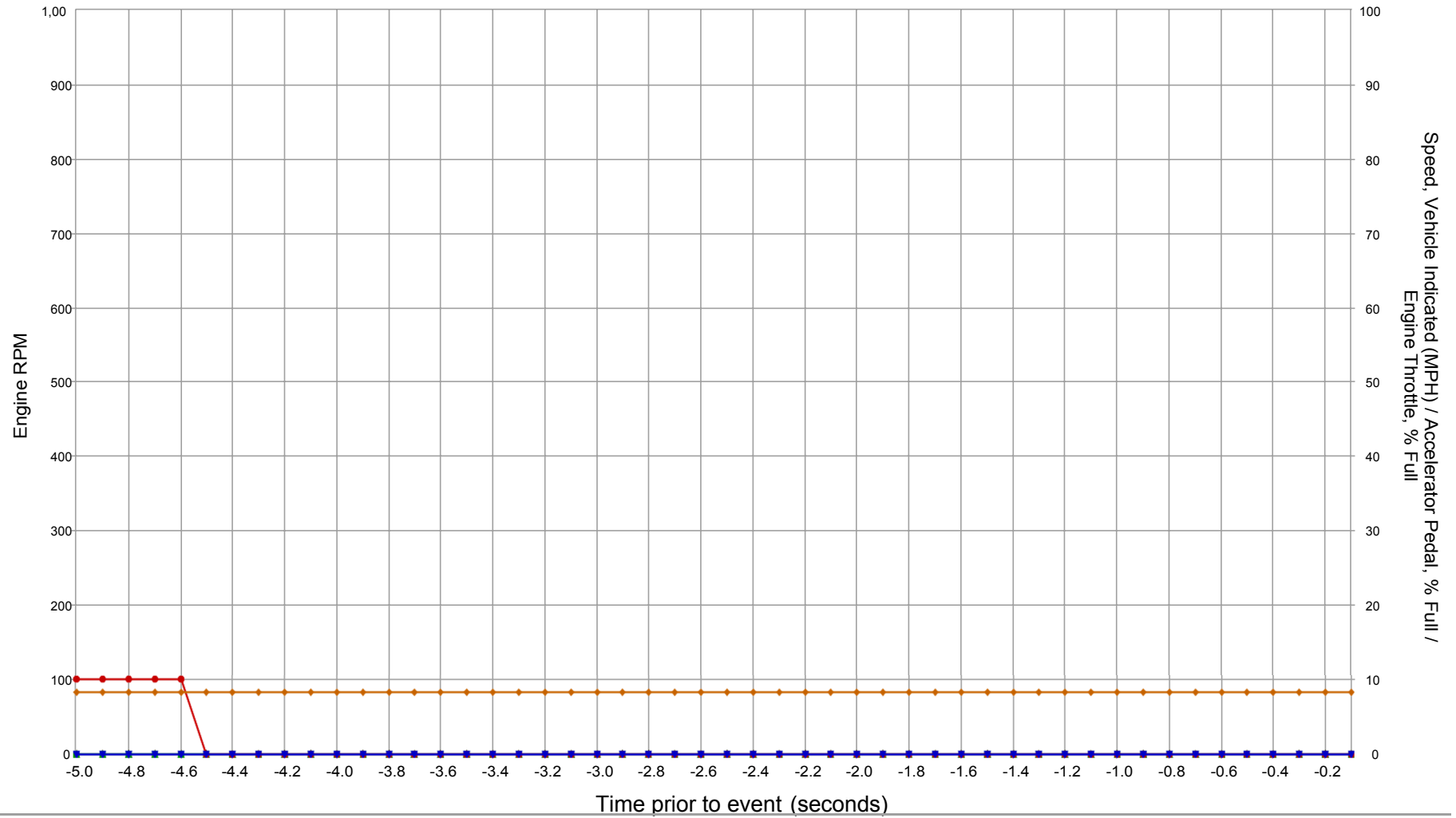
Angular Rate Data (Most Recent Event)

Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)
-2500	4.00	-1500	12.00	-500	-10.00
-2480	0.00	-1480	8.00	-480	-18.00
-2460	0.00	-1460	8.00	-460	-18.00
-2440	0.00	-1440	4.00	-440	-4.00
-2420	2.00	-1420	6.00	-420	6.00
-2400	8.00	-1400	-26.00	-400	0.00
-2380	4.00	-1380	-32.00	-380	2.00
-2360	-4.00	-1360	-42.00	-360	4.00
-2340	-8.00	-1340	-46.00	-340	0.00
-2320	-10.00	-1320	-42.00	-320	-4.00
-2300	-8.00	-1300	-38.00	-300	-26.00
-2280	-8.00	-1280	-12.00	-280	-22.00
-2260	-10.00	-1260	-26.00	-260	-34.00
-2240	-16.00	-1240	-10.00	-240	-38.00
-2220	-18.00	-1220	0.00	-220	-44.00
-2200	-16.00	-1200	12.00	-200	-54.00
-2180	-14.00	-1180	20.00	-180	-56.00
-2160	-12.00	-1160	8.00	-160	-60.00
-2140	-16.00	-1140	18.00	-140	-66.00
-2120	-16.00	-1120	18.00	-120	-68.00
-2100	-14.00	-1100	32.00	-100	-76.00
-2080	-8.00	-1080	26.00	-80	-78.00
-2060	-4.00	-1060	14.00	-60	-76.00
-2040	-2.00	-1040	22.00	-40	-76.00
-2020	-2.00	-1020	24.00	-20	-82.00
-2000	0.00	-1000	16.00	0	-90.00
-1980	4.00	-980	6.00	20	-96.00
-1960	6.00	-960	-20.00	40	-116.00
-1940	6.00	-940	-24.00	60	0.00
-1920	10.00	-920	-24.00	80	0.00
-1900	10.00	-900	-10.00	100	-222.00
-1880	12.00	-880	-18.00	120	-238.00
-1860	16.00	-860	-8.00	140	-238.00
-1840	14.00	-840	-22.00	160	-238.00
-1820	16.00	-820	-20.00	180	-238.00
-1800	12.00	-800	0.00	200	-238.00
-1780	14.00	-780	-42.00	220	-238.00
-1760	14.00	-760	-40.00	240	-238.00
-1740	12.00	-740	-20.00	260	-238.00
-1720	8.00	-720	-20.00	280	-232.00
-1700	6.00	-700	-28.00	300	-216.00
-1680	4.00	-680	-14.00	320	-218.00
-1660	6.00	-660	-22.00	340	-224.00
-1640	12.00	-640	-34.00	360	-228.00
-1620	20.00	-620	-18.00	380	-228.00
-1600	24.00	-600	-2.00	400	-232.00
-1580	22.00	-580	0.00	420	-238.00
-1560	22.00	-560	4.00	440	-238.00
-1540	16.00	-540	26.00	460	-238.00
-1520	14.00	-520	0.00	480	-230.00

Angular Rate Data (Most Recent Event)

Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)
500	-228.00	1500	86.00
520	-230.00	1520	86.00
540	-232.00	1540	86.00
560	-234.00	1560	88.00
580	-224.00	1580	94.00
600	0.00	1600	96.00
620	-174.00	1620	100.00
640	-166.00	1640	104.00
660	-148.00	1660	104.00
680	-154.00	1680	108.00
700	-152.00	1700	110.00
720	-150.00	1720	112.00
740	-150.00	1740	110.00
760	-144.00	1760	110.00
780	-142.00	1780	116.00
800	-144.00	1800	114.00
820	-146.00	1820	120.00
840	-138.00	1840	128.00
860	-130.00	1860	130.00
880	-126.00	1880	130.00
900	-98.00	1900	136.00
920	-76.00	1920	134.00
940	-66.00	1940	130.00
960	-58.00	1960	126.00
980	-44.00	1980	114.00
1000	-34.00	2000	104.00
1020	-32.00	2020	74.00
1040	-20.00	2040	44.00
1060	-8.00	2060	38.00
1080	8.00	2080	42.00
1100	18.00	2100	36.00
1120	22.00	2120	18.00
1140	24.00	2140	4.00
1160	20.00	2160	2.00
1180	28.00	2180	2.00
1200	38.00	2200	2.00
1220	46.00	2220	0.00
1240	48.00	2240	-6.00
1260	58.00	2260	-8.00
1280	64.00	2280	-10.00
1300	74.00	2300	-10.00
1320	84.00	2320	-16.00
1340	88.00	2340	-20.00
1360	96.00	2360	-20.00
1380	94.00	2380	-20.00
1400	92.00	2400	-20.00
1420	92.00	2420	-18.00
1440	90.00		
1460	90.00		
1480	90.00		

Pre-Crash Data (Most Recent Event)



★ Engine RPM ■ Speed, Vehicle Indicated (MPH) ● Service Brake (0=Off/10=On) ▼ Accelerator Pedal, % Full ◆ Engine Throttle, % Full

SNA values will not be plotted on the graph

Pre-Crash Data (Most Recent Event - table 1 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	Pre-Crash Recorder Status	Speed, Vehicle Indicated (MPH [km/h])	Accelerator Pedal, % Full	Engine Throttle, % Full	Service Brake	Engine RPM	ABS Activity	Stability Control	Steering Input (deg)
-5.0	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.9	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.8	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.7	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.6	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.5	Complete	0 [0]	0	8	Off	0	No	Off	-36
-4.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-4.3	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.2	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.1	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.0	Complete	0 [0]	0	8	Off	0	No	Off	-33
-3.9	Complete	0 [0]	0	8	Off	0	No	Off	-33
-3.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.3	Complete	0 [0]	0	8	Off	0	No	Off	-36
-0.2	Complete	0 [0]	0	8	Off	0	No	Off	-36
-0.1	Complete	0 [0]	0	8	Off	0	No	Off	-35

Pre-Crash Data (Most Recent Event - table 2 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	Raw Manifold Pressure (kPa)	PCM MIL	Yaw Rate (deg/sec)	Wheel Speed LF (RPM)	Wheel Speed RF (RPM)	Wheel Speed LR (RPM)	Wheel Speed RR (RPM)	ETC Lamp
-5.0	96.80	Off	SNA	0	0	0	0	Off
-4.9	96.80	Off	SNA	0	0	0	0	Off
-4.8	96.80	Off	SNA	0	0	0	0	Off
-4.7	96.80	Off	SNA	0	0	0	0	Off
-4.6	96.80	Off	SNA	0	0	0	0	Off
-4.5	96.80	Off	SNA	0	0	0	0	Off
-4.4	96.80	Off	SNA	0	0	0	0	Off
-4.3	96.80	Off	SNA	0	0	0	0	Off
-4.2	96.80	Off	SNA	0	0	0	0	Off
-4.1	96.80	Off	SNA	0	0	0	0	Off
-4.0	96.80	Off	SNA	0	0	0	0	Off
-3.9	96.80	Off	SNA	0	0	0	0	Off
-3.8	96.80	Off	SNA	0	0	0	0	Off
-3.7	96.80	Off	SNA	0	0	0	0	Off
-3.6	96.80	Off	SNA	0	0	0	0	Off
-3.5	96.80	Off	SNA	0	0	0	0	Off
-3.4	96.80	Off	SNA	0	0	0	0	Off
-3.3	96.80	Off	SNA	0	0	0	0	Off
-3.2	96.80	Off	SNA	0	0	0	0	Off
-3.1	96.80	Off	SNA	0	0	0	0	Off
-3.0	96.80	Off	SNA	0	0	0	0	Off
-2.9	96.80	Off	SNA	0	0	0	0	Off
-2.8	96.80	Off	SNA	0	0	0	0	Off
-2.7	96.80	Off	SNA	0	0	0	0	Off
-2.6	96.80	Off	SNA	0	0	0	0	Off
-2.5	96.80	Off	SNA	0	0	0	0	Off
-2.4	96.80	Off	SNA	0	0	0	0	Off
-2.3	96.80	Off	SNA	0	0	0	0	Off
-2.2	96.80	Off	SNA	0	0	0	0	Off
-2.1	96.80	Off	SNA	0	0	0	0	Off
-2.0	96.80	Off	SNA	0	0	0	0	Off
-1.9	96.80	Off	SNA	0	0	0	0	Off
-1.8	96.80	Off	SNA	0	0	0	0	Off
-1.7	96.80	Off	SNA	0	0	0	0	Off
-1.6	96.80	Off	SNA	0	0	0	0	Off
-1.5	96.80	Off	SNA	0	0	0	0	Off
-1.4	96.80	Off	SNA	0	0	0	0	Off
-1.3	96.80	Off	SNA	0	0	0	0	Off
-1.2	96.80	Off	SNA	0	0	0	0	Off
-1.1	96.80	Off	SNA	0	0	0	0	Off
-1.0	96.80	Off	SNA	0	0	0	0	Off
-0.9	96.80	Off	SNA	0	0	0	0	Off
-0.8	96.80	Off	SNA	0	0	0	0	Off
-0.7	96.80	Off	SNA	0	0	0	0	Off
-0.6	96.80	Off	SNA	0	0	0	0	Off
-0.5	96.80	Off	SNA	0	0	0	0	Off
-0.4	96.80	Off	SNA	0	0	0	0	Off
-0.3	96.80	Off	SNA	0	0	0	0	Off
-0.2	96.80	Off	SNA	0	0	0	0	Off
-0.1	96.80	Off	SNA	0	0	0	0	Off

Pre-Crash Data (Most Recent Event - table 3 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	ETC Flashing	Engine Torque Applied	PRNDL Status (if equip.)	Reverse Gear (Manual Only)	Cruise Control Engaged (if equip.)	Cruise Control Status (if equip.)
-5.0	No	No	Drive	No	Not Engaged	Off
-4.9	No	No	Drive	No	Not Engaged	Off
-4.8	No	No	Drive	No	Not Engaged	Off
-4.7	No	No	Drive	No	Not Engaged	Off
-4.6	No	No	Drive	No	Not Engaged	Off
-4.5	No	No	Drive	No	Not Engaged	Off
-4.4	No	No	Drive	No	Not Engaged	Off
-4.3	No	No	Drive	No	Not Engaged	Off
-4.2	No	No	Drive	No	Not Engaged	Off
-4.1	No	No	Drive	No	Not Engaged	Off
-4.0	No	No	Drive	No	Not Engaged	Off
-3.9	No	No	Drive	No	Not Engaged	Off
-3.8	No	No	Drive	No	Not Engaged	Off
-3.7	No	No	Drive	No	Not Engaged	Off
-3.6	No	No	Drive	No	Not Engaged	Off
-3.5	No	No	Drive	No	Not Engaged	Off
-3.4	No	No	Drive	No	Not Engaged	Off
-3.3	No	No	Drive	No	Not Engaged	Off
-3.2	No	No	Drive	No	Not Engaged	Off
-3.1	No	No	Drive	No	Not Engaged	Off
-3.0	No	No	Drive	No	Not Engaged	Off
-2.9	No	No	Drive	No	Not Engaged	Off
-2.8	No	No	Drive	No	Not Engaged	Off
-2.7	No	No	Drive	No	Not Engaged	Off
-2.6	No	No	Drive	No	Not Engaged	Off
-2.5	No	No	Drive	No	Not Engaged	Off
-2.4	No	No	Drive	No	Not Engaged	Off
-2.3	No	No	Drive	No	Not Engaged	Off
-2.2	No	No	Drive	No	Not Engaged	Off
-2.1	No	No	Drive	No	Not Engaged	Off
-2.0	No	No	Drive	No	Not Engaged	Off
-1.9	No	No	Drive	No	Not Engaged	Off
-1.8	No	No	Drive	No	Not Engaged	Off
-1.7	No	No	Drive	No	Not Engaged	Off
-1.6	No	No	Drive	No	Not Engaged	Off
-1.5	No	No	Drive	No	Not Engaged	Off
-1.4	No	No	Drive	No	Not Engaged	Off
-1.3	No	No	Drive	No	Not Engaged	Off
-1.2	No	No	Drive	No	Not Engaged	Off
-1.1	No	No	Drive	No	Not Engaged	Off
-1.0	No	No	Drive	No	Not Engaged	Off
-0.9	No	No	Drive	No	Not Engaged	Off
-0.8	No	No	Drive	No	Not Engaged	Off
-0.7	No	No	Drive	No	Not Engaged	Off
-0.6	No	No	Drive	No	Not Engaged	Off
-0.5	No	No	Drive	No	Not Engaged	Off
-0.4	No	No	Drive	No	Not Engaged	Off
-0.3	No	No	Drive	No	Not Engaged	Off
-0.2	No	No	Drive	No	Not Engaged	Off
-0.1	No	No	Drive	No	Not Engaged	Off

System Configuration at Event (1st Prior Event)

Configured for Driver Frontal Airbag	Yes
Configured for Passenger Airbag	Yes
Configured for Driver Retractor Pretensioner	Yes
Configured for Passenger Retractor Pretensioner	Yes
Configured for Left Side Curtain Airbag	Yes
Configured for Right Side Curtain Airbag	Yes
Configured for Front Left Seat Airbags	Yes
Configured for Front Right Seat Airbag	Yes
Configured for Safety Belt Status, Driver	Yes
Configured for Safety Belt Status, Outboard Front Passenger	Yes
Configured for Seat Track Position Switch, Foremost, Status, Driver	No
Configured for Seat Track Position Switch, Foremost, Status, Outboard Front Passenger	No
Configured for Rollover Sensing	Yes

System Status at Event (1st Prior Event)

Event Number	29
Multi-Event, Number of Events (1,2)	1
Total number of events	30
Time from Event 1 to 2 (Time since last event)(sec)	>5
Complete File Recorded (Yes, No)	Yes
Maximum Delta-V Longitudinal (MPH [km/h])	-5.0 [-8]
Time, Maximum Delta-V, Longitudinal (msec)	206
Maximum Delta-V Lateral (MPH [km/h])	7.5 [12]
Time, Maximum Delta-V, Lateral (msec)	128
Ignition Cycle, Crash	1481
Safety Belt Status, Driver	Buckled
Safety Belt Status, Outboard Front Passenger	Not Buckled
Airbag Warning Lamp, On/Off	Off
Operation System Time (sec)	2095439
Airbag Warning Lamp On Time Before Event (min)	0
Supply Voltage at Event, ACM (V)	13.9
Operation via Energy Reserve	No
VIN at Event (last 8 digits)	HS*****
Odometer at Event (km [miles])	23292 [14472.8]

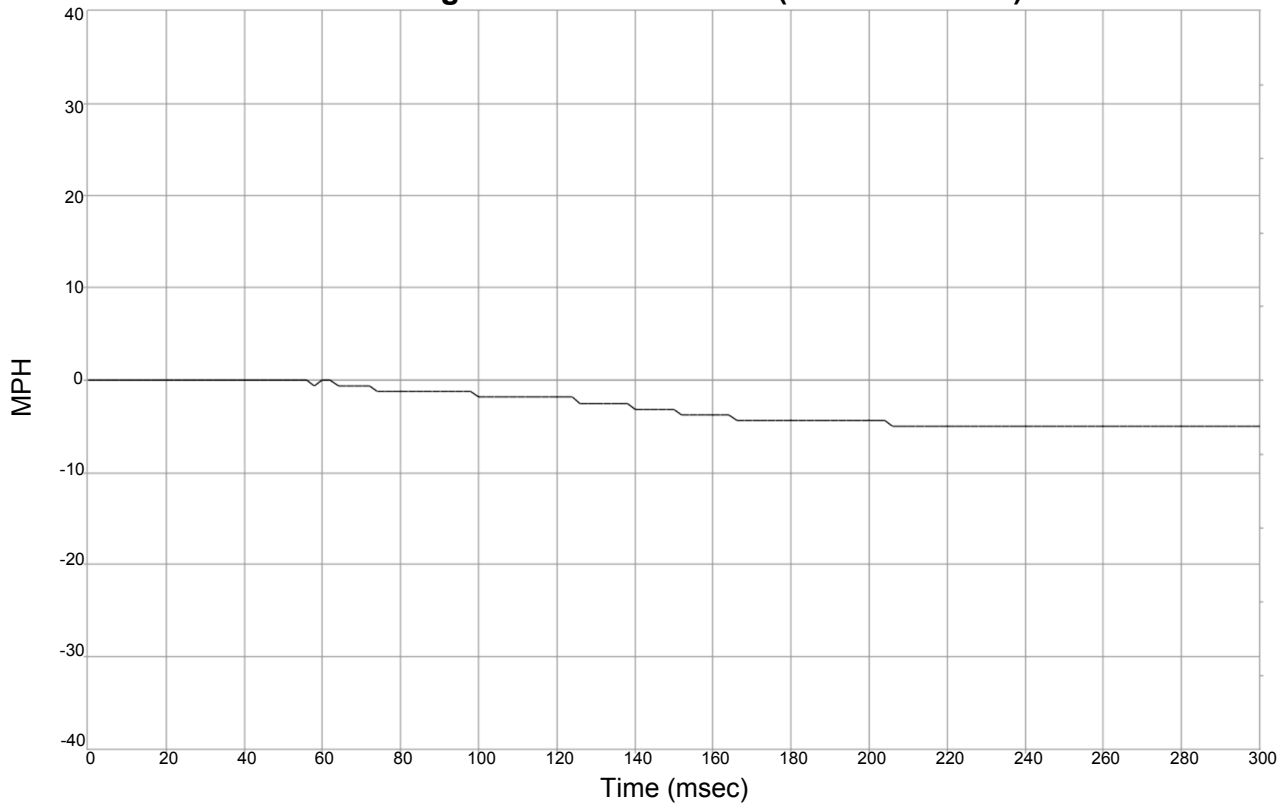
Deployment Command Data (1st Prior Event)

Driver Frontal Airbag Commanded	No
Driver Front Airbag, Time to 1st stage (msec)	0
Driver Front Airbag, Time to 2nd Stage from T0 (msec)	0
Passenger Frontal Airbag Commanded	No
Passenger Front Airbag, Time to 1st stage (msec)	0
Passenger Front Airbag, Time to 2nd Stage from T0 (msec)	0
Commanded Driver Retractor Pretensioner Deployment	Yes
Commanded Passenger Retractor Pretensioner Deployment	Yes
Commanded Left Side Curtain Airbag Deployment	No
Commanded Left Seat Airbag Deployment	No
Commanded Right Side Curtain Airbag Deployment	No
Commanded Front Right Side Seat Airbag Deployment	No

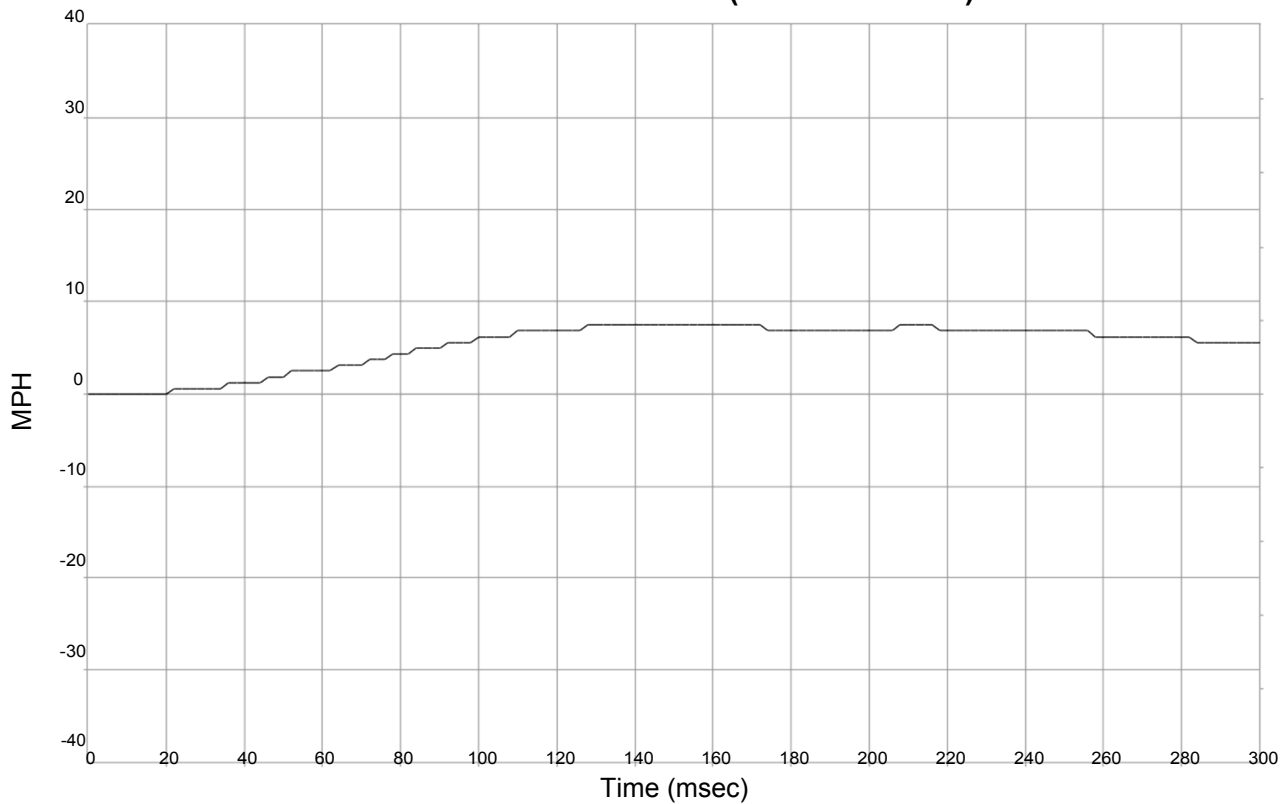
DTCs Present at Start of Event (1st Prior Event)

No DTCs Present

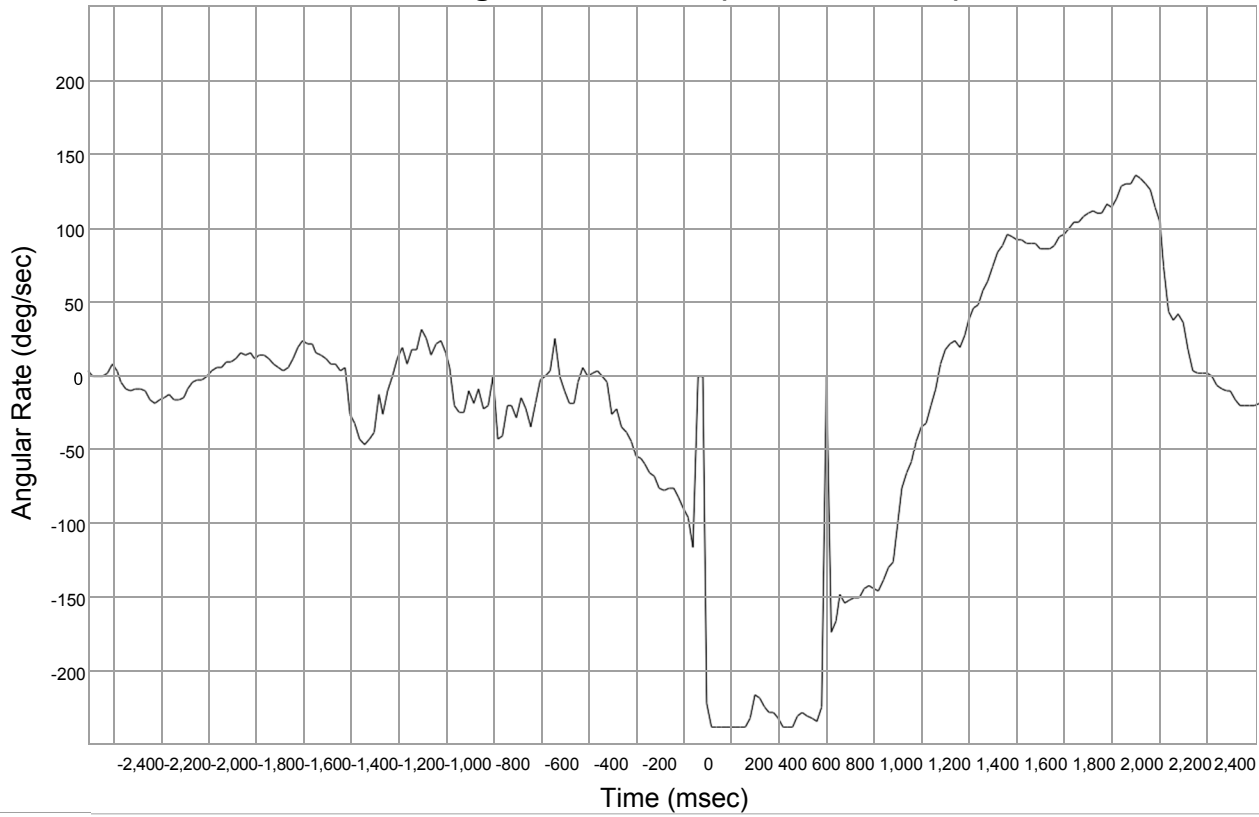
Longitudinal Crash Pulse (1st Prior Event)



Lateral Crash Pulse (1st Prior Event)



Angular Rate Data (1st Prior Event)



Longitudinal Crash Pulse (1st Prior Event)

Time (msec)	Delta-V, Longitudinal (MPH [km/h])	Time (msec)	Delta-V, Longitudinal (MPH [km/h])	Time (msec)	Delta-V, Longitudinal (MPH [km/h])
0	0.0 [0]	100	-1.9 [-3]	200	-4.3 [-7]
2	0.0 [0]	102	-1.9 [-3]	202	-4.3 [-7]
4	0.0 [0]	104	-1.9 [-3]	204	-4.3 [-7]
6	0.0 [0]	106	-1.9 [-3]	206	-5.0 [-8]
8	0.0 [0]	108	-1.9 [-3]	208	-5.0 [-8]
10	0.0 [0]	110	-1.9 [-3]	210	-5.0 [-8]
12	0.0 [0]	112	-1.9 [-3]	212	-5.0 [-8]
14	0.0 [0]	114	-1.9 [-3]	214	-5.0 [-8]
16	0.0 [0]	116	-1.9 [-3]	216	-5.0 [-8]
18	0.0 [0]	118	-1.9 [-3]	218	-5.0 [-8]
20	0.0 [0]	120	-1.9 [-3]	220	-5.0 [-8]
22	0.0 [0]	122	-1.9 [-3]	222	-5.0 [-8]
24	0.0 [0]	124	-1.9 [-3]	224	-5.0 [-8]
26	0.0 [0]	126	-2.5 [-4]	226	-5.0 [-8]
28	0.0 [0]	128	-2.5 [-4]	228	-5.0 [-8]
30	0.0 [0]	130	-2.5 [-4]	230	-5.0 [-8]
32	0.0 [0]	132	-2.5 [-4]	232	-5.0 [-8]
34	0.0 [0]	134	-2.5 [-4]	234	-5.0 [-8]
36	0.0 [0]	136	-2.5 [-4]	236	-5.0 [-8]
38	0.0 [0]	138	-2.5 [-4]	238	-5.0 [-8]
40	0.0 [0]	140	-3.1 [-5]	240	-5.0 [-8]
42	0.0 [0]	142	-3.1 [-5]	242	-5.0 [-8]
44	0.0 [0]	144	-3.1 [-5]	244	-5.0 [-8]
46	0.0 [0]	146	-3.1 [-5]	246	-5.0 [-8]
48	0.0 [0]	148	-3.1 [-5]	248	-5.0 [-8]
50	0.0 [0]	150	-3.1 [-5]	250	-5.0 [-8]
52	0.0 [0]	152	-3.7 [-6]	252	-5.0 [-8]
54	0.0 [0]	154	-3.7 [-6]	254	-5.0 [-8]
56	0.0 [0]	156	-3.7 [-6]	256	-5.0 [-8]
58	-0.6 [-1]	158	-3.7 [-6]	258	-5.0 [-8]
60	0.0 [0]	160	-3.7 [-6]	260	-5.0 [-8]
62	0.0 [0]	162	-3.7 [-6]	262	-5.0 [-8]
64	-0.6 [-1]	164	-3.7 [-6]	264	-5.0 [-8]
66	-0.6 [-1]	166	-4.3 [-7]	266	-5.0 [-8]
68	-0.6 [-1]	168	-4.3 [-7]	268	-5.0 [-8]
70	-0.6 [-1]	170	-4.3 [-7]	270	-5.0 [-8]
72	-0.6 [-1]	172	-4.3 [-7]	272	-5.0 [-8]
74	-1.2 [-2]	174	-4.3 [-7]	274	-5.0 [-8]
76	-1.2 [-2]	176	-4.3 [-7]	276	-5.0 [-8]
78	-1.2 [-2]	178	-4.3 [-7]	278	-5.0 [-8]
80	-1.2 [-2]	180	-4.3 [-7]	280	-5.0 [-8]
82	-1.2 [-2]	182	-4.3 [-7]	282	-5.0 [-8]
84	-1.2 [-2]	184	-4.3 [-7]	284	-5.0 [-8]
86	-1.2 [-2]	186	-4.3 [-7]	286	-5.0 [-8]
88	-1.2 [-2]	188	-4.3 [-7]	288	-5.0 [-8]
90	-1.2 [-2]	190	-4.3 [-7]	290	-5.0 [-8]
92	-1.2 [-2]	192	-4.3 [-7]	292	-5.0 [-8]
94	-1.2 [-2]	194	-4.3 [-7]	294	-5.0 [-8]
96	-1.2 [-2]	196	-4.3 [-7]	296	-5.0 [-8]
98	-1.2 [-2]	198	-4.3 [-7]	298	-5.0 [-8]
				300	-5.0 [-8]

Lateral Crash Pulse (1st Prior Event)

Time (msec)	Delta-V, Lateral (MPH [km/h])	Time (msec)	Delta-V, Lateral (MPH [km/h])	Time (msec)	Delta-V, Lateral (MPH [km/h])
0	0.0 [0]	100	6.2 [10]	200	6.8 [11]
2	0.0 [0]	102	6.2 [10]	202	6.8 [11]
4	0.0 [0]	104	6.2 [10]	204	6.8 [11]
6	0.0 [0]	106	6.2 [10]	206	6.8 [11]
8	0.0 [0]	108	6.2 [10]	208	7.5 [12]
10	0.0 [0]	110	6.8 [11]	210	7.5 [12]
12	0.0 [0]	112	6.8 [11]	212	7.5 [12]
14	0.0 [0]	114	6.8 [11]	214	7.5 [12]
16	0.0 [0]	116	6.8 [11]	216	7.5 [12]
18	0.0 [0]	118	6.8 [11]	218	6.8 [11]
20	0.0 [0]	120	6.8 [11]	220	6.8 [11]
22	0.6 [1]	122	6.8 [11]	222	6.8 [11]
24	0.6 [1]	124	6.8 [11]	224	6.8 [11]
26	0.6 [1]	126	6.8 [11]	226	6.8 [11]
28	0.6 [1]	128	7.5 [12]	228	6.8 [11]
30	0.6 [1]	130	7.5 [12]	230	6.8 [11]
32	0.6 [1]	132	7.5 [12]	232	6.8 [11]
34	0.6 [1]	134	7.5 [12]	234	6.8 [11]
36	1.2 [2]	136	7.5 [12]	236	6.8 [11]
38	1.2 [2]	138	7.5 [12]	238	6.8 [11]
40	1.2 [2]	140	7.5 [12]	240	6.8 [11]
42	1.2 [2]	142	7.5 [12]	242	6.8 [11]
44	1.2 [2]	144	7.5 [12]	244	6.8 [11]
46	1.9 [3]	146	7.5 [12]	246	6.8 [11]
48	1.9 [3]	148	7.5 [12]	248	6.8 [11]
50	1.9 [3]	150	7.5 [12]	250	6.8 [11]
52	2.5 [4]	152	7.5 [12]	252	6.8 [11]
54	2.5 [4]	154	7.5 [12]	254	6.8 [11]
56	2.5 [4]	156	7.5 [12]	256	6.8 [11]
58	2.5 [4]	158	7.5 [12]	258	6.2 [10]
60	2.5 [4]	160	7.5 [12]	260	6.2 [10]
62	2.5 [4]	162	7.5 [12]	262	6.2 [10]
64	3.1 [5]	164	7.5 [12]	264	6.2 [10]
66	3.1 [5]	166	7.5 [12]	266	6.2 [10]
68	3.1 [5]	168	7.5 [12]	268	6.2 [10]
70	3.1 [5]	170	7.5 [12]	270	6.2 [10]
72	3.7 [6]	172	7.5 [12]	272	6.2 [10]
74	3.7 [6]	174	6.8 [11]	274	6.2 [10]
76	3.7 [6]	176	6.8 [11]	276	6.2 [10]
78	4.3 [7]	178	6.8 [11]	278	6.2 [10]
80	4.3 [7]	180	6.8 [11]	280	6.2 [10]
82	4.3 [7]	182	6.8 [11]	282	6.2 [10]
84	5.0 [8]	184	6.8 [11]	284	5.6 [9]
86	5.0 [8]	186	6.8 [11]	286	5.6 [9]
88	5.0 [8]	188	6.8 [11]	288	5.6 [9]
90	5.0 [8]	190	6.8 [11]	290	5.6 [9]
92	5.6 [9]	192	6.8 [11]	292	5.6 [9]
94	5.6 [9]	194	6.8 [11]	294	5.6 [9]
96	5.6 [9]	196	6.8 [11]	296	5.6 [9]
98	5.6 [9]	198	6.8 [11]	298	5.6 [9]
				300	5.6 [9]

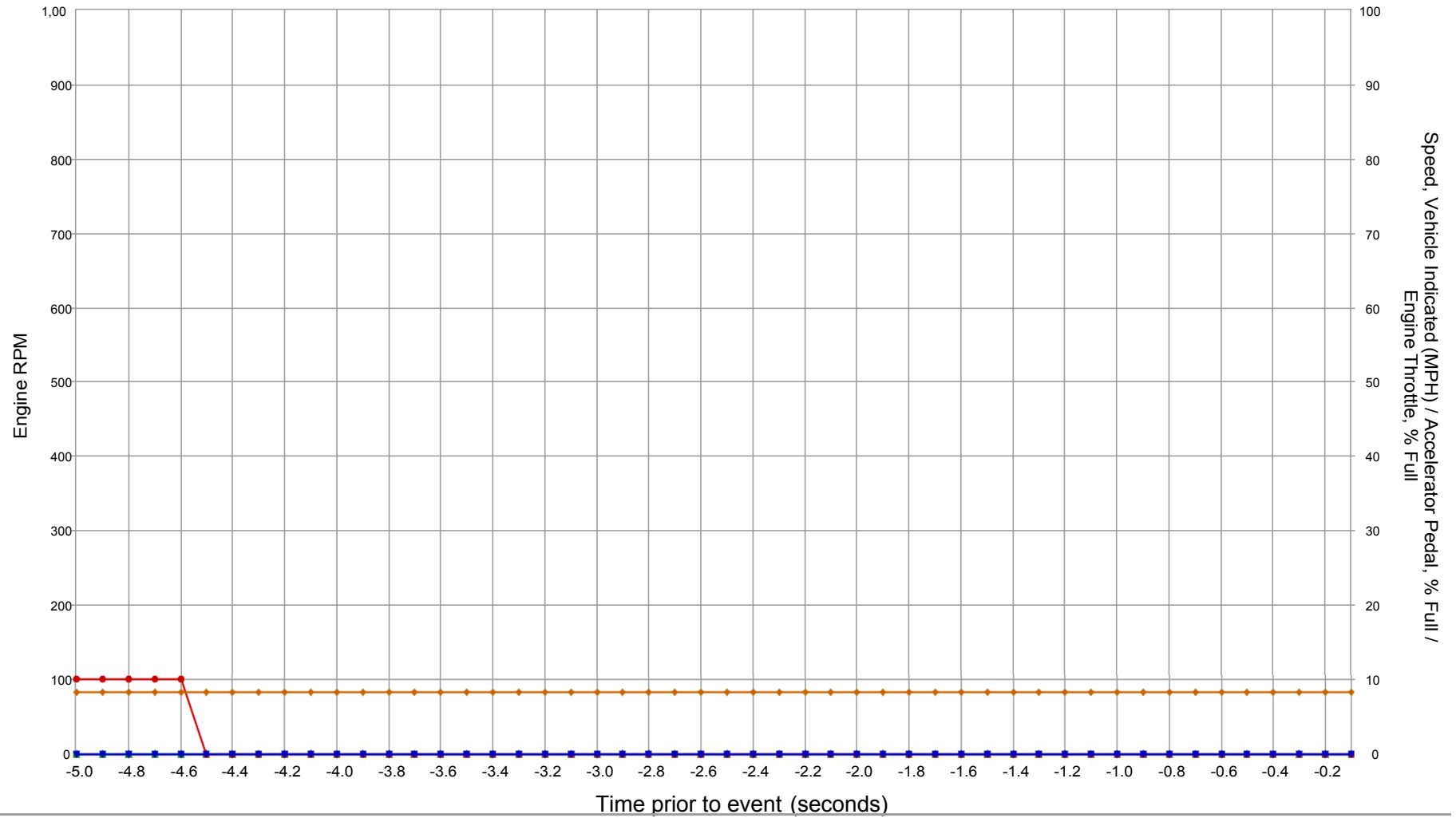
Angular Rate Data (1st Prior Event)

Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)
-2500	4.00	-1500	12.00	-500	-10.00
-2480	0.00	-1480	8.00	-480	-18.00
-2460	0.00	-1460	8.00	-460	-18.00
-2440	0.00	-1440	4.00	-440	-4.00
-2420	2.00	-1420	6.00	-420	6.00
-2400	8.00	-1400	-26.00	-400	0.00
-2380	4.00	-1380	-32.00	-380	2.00
-2360	-4.00	-1360	-42.00	-360	4.00
-2340	-8.00	-1340	-46.00	-340	0.00
-2320	-10.00	-1320	-42.00	-320	-4.00
-2300	-8.00	-1300	-38.00	-300	-26.00
-2280	-8.00	-1280	-12.00	-280	-22.00
-2260	-10.00	-1260	-26.00	-260	-34.00
-2240	-16.00	-1240	-10.00	-240	-38.00
-2220	-18.00	-1220	0.00	-220	-44.00
-2200	-16.00	-1200	12.00	-200	-54.00
-2180	-14.00	-1180	20.00	-180	-56.00
-2160	-12.00	-1160	8.00	-160	-60.00
-2140	-16.00	-1140	18.00	-140	-66.00
-2120	-16.00	-1120	18.00	-120	-68.00
-2100	-14.00	-1100	32.00	-100	-76.00
-2080	-8.00	-1080	26.00	-80	-78.00
-2060	-4.00	-1060	14.00	-60	-76.00
-2040	-2.00	-1040	22.00	-40	-76.00
-2020	-2.00	-1020	24.00	-20	-82.00
-2000	0.00	-1000	16.00	0	-90.00
-1980	4.00	-980	6.00	20	-96.00
-1960	6.00	-960	-20.00	40	-116.00
-1940	6.00	-940	-24.00	60	0.00
-1920	10.00	-920	-24.00	80	0.00
-1900	10.00	-900	-10.00	100	-222.00
-1880	12.00	-880	-18.00	120	-238.00
-1860	16.00	-860	-8.00	140	-238.00
-1840	14.00	-840	-22.00	160	-238.00
-1820	16.00	-820	-20.00	180	-238.00
-1800	12.00	-800	0.00	200	-238.00
-1780	14.00	-780	-42.00	220	-238.00
-1760	14.00	-760	-40.00	240	-238.00
-1740	12.00	-740	-20.00	260	-238.00
-1720	8.00	-720	-20.00	280	-232.00
-1700	6.00	-700	-28.00	300	-216.00
-1680	4.00	-680	-14.00	320	-218.00
-1660	6.00	-660	-22.00	340	-224.00
-1640	12.00	-640	-34.00	360	-228.00
-1620	20.00	-620	-18.00	380	-228.00
-1600	24.00	-600	-2.00	400	-232.00
-1580	22.00	-580	0.00	420	-238.00
-1560	22.00	-560	4.00	440	-238.00
-1540	16.00	-540	26.00	460	-238.00
-1520	14.00	-520	0.00	480	-230.00

Angular Rate Data (1st Prior Event)

Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)
500	-228.00	1500	86.00
520	-230.00	1520	86.00
540	-232.00	1540	86.00
560	-234.00	1560	88.00
580	-224.00	1580	94.00
600	0.00	1600	96.00
620	-174.00	1620	100.00
640	-166.00	1640	104.00
660	-148.00	1660	104.00
680	-154.00	1680	108.00
700	-152.00	1700	110.00
720	-150.00	1720	112.00
740	-150.00	1740	110.00
760	-144.00	1760	110.00
780	-142.00	1780	116.00
800	-144.00	1800	114.00
820	-146.00	1820	120.00
840	-138.00	1840	128.00
860	-130.00	1860	130.00
880	-126.00	1880	130.00
900	-98.00	1900	136.00
920	-76.00	1920	134.00
940	-66.00	1940	130.00
960	-58.00	1960	126.00
980	-44.00	1980	114.00
1000	-34.00	2000	104.00
1020	-32.00	2020	74.00
1040	-20.00	2040	44.00
1060	-8.00	2060	38.00
1080	8.00	2080	42.00
1100	18.00	2100	36.00
1120	22.00	2120	18.00
1140	24.00	2140	4.00
1160	20.00	2160	2.00
1180	28.00	2180	2.00
1200	38.00	2200	2.00
1220	46.00	2220	0.00
1240	48.00	2240	-6.00
1260	58.00	2260	-8.00
1280	64.00	2280	-10.00
1300	74.00	2300	-10.00
1320	84.00	2320	-16.00
1340	88.00	2340	-20.00
1360	96.00	2360	-20.00
1380	94.00	2380	-20.00
1400	92.00	2400	-20.00
1420	92.00	2420	-18.00
1440	90.00		
1460	90.00		
1480	90.00		

Pre-Crash Data (1st Prior Event)



★ Engine RPM ■ Speed, Vehicle Indicated (MPH) ● Service Brake (0=Off/10=On) ▼ Accelerator Pedal, % Full ◆ Engine Throttle, % Full

SNA values will not be plotted on the graph

Pre-Crash Data (1st Prior Event - table 1 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	Pre-Crash Recorder Status	Speed, Vehicle Indicated (MPH [km/h])	Accelerator Pedal, % Full	Engine Throttle, % Full	Service Brake	Engine RPM	ABS Activity	Stability Control	Steering Input (deg)
-5.0	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.9	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.8	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.7	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.6	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.5	Complete	0 [0]	0	8	Off	0	No	Off	-36
-4.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-4.3	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.2	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.1	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.0	Complete	0 [0]	0	8	Off	0	No	Off	-33
-3.9	Complete	0 [0]	0	8	Off	0	No	Off	-33
-3.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.3	Complete	0 [0]	0	8	Off	0	No	Off	-36
-0.2	Complete	0 [0]	0	8	Off	0	No	Off	-36
-0.1	Complete	0 [0]	0	8	Off	0	No	Off	-35

Pre-Crash Data (1st Prior Event - table 2 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	Raw Manifold Pressure (kPa)	PCM MIL	Yaw Rate (deg/sec)	Wheel Speed LF (RPM)	Wheel Speed RF (RPM)	Wheel Speed LR (RPM)	Wheel Speed RR (RPM)	ETC Lamp
-5.0	96.80	Off	SNA	0	0	0	0	Off
-4.9	96.80	Off	SNA	0	0	0	0	Off
-4.8	96.80	Off	SNA	0	0	0	0	Off
-4.7	96.80	Off	SNA	0	0	0	0	Off
-4.6	96.80	Off	SNA	0	0	0	0	Off
-4.5	96.80	Off	SNA	0	0	0	0	Off
-4.4	96.80	Off	SNA	0	0	0	0	Off
-4.3	96.80	Off	SNA	0	0	0	0	Off
-4.2	96.80	Off	SNA	0	0	0	0	Off
-4.1	96.80	Off	SNA	0	0	0	0	Off
-4.0	96.80	Off	SNA	0	0	0	0	Off
-3.9	96.80	Off	SNA	0	0	0	0	Off
-3.8	96.80	Off	SNA	0	0	0	0	Off
-3.7	96.80	Off	SNA	0	0	0	0	Off
-3.6	96.80	Off	SNA	0	0	0	0	Off
-3.5	96.80	Off	SNA	0	0	0	0	Off
-3.4	96.80	Off	SNA	0	0	0	0	Off
-3.3	96.80	Off	SNA	0	0	0	0	Off
-3.2	96.80	Off	SNA	0	0	0	0	Off
-3.1	96.80	Off	SNA	0	0	0	0	Off
-3.0	96.80	Off	SNA	0	0	0	0	Off
-2.9	96.80	Off	SNA	0	0	0	0	Off
-2.8	96.80	Off	SNA	0	0	0	0	Off
-2.7	96.80	Off	SNA	0	0	0	0	Off
-2.6	96.80	Off	SNA	0	0	0	0	Off
-2.5	96.80	Off	SNA	0	0	0	0	Off
-2.4	96.80	Off	SNA	0	0	0	0	Off
-2.3	96.80	Off	SNA	0	0	0	0	Off
-2.2	96.80	Off	SNA	0	0	0	0	Off
-2.1	96.80	Off	SNA	0	0	0	0	Off
-2.0	96.80	Off	SNA	0	0	0	0	Off
-1.9	96.80	Off	SNA	0	0	0	0	Off
-1.8	96.80	Off	SNA	0	0	0	0	Off
-1.7	96.80	Off	SNA	0	0	0	0	Off
-1.6	96.80	Off	SNA	0	0	0	0	Off
-1.5	96.80	Off	SNA	0	0	0	0	Off
-1.4	96.80	Off	SNA	0	0	0	0	Off
-1.3	96.80	Off	SNA	0	0	0	0	Off
-1.2	96.80	Off	SNA	0	0	0	0	Off
-1.1	96.80	Off	SNA	0	0	0	0	Off
-1.0	96.80	Off	SNA	0	0	0	0	Off
-0.9	96.80	Off	SNA	0	0	0	0	Off
-0.8	96.80	Off	SNA	0	0	0	0	Off
-0.7	96.80	Off	SNA	0	0	0	0	Off
-0.6	96.80	Off	SNA	0	0	0	0	Off
-0.5	96.80	Off	SNA	0	0	0	0	Off
-0.4	96.80	Off	SNA	0	0	0	0	Off
-0.3	96.80	Off	SNA	0	0	0	0	Off
-0.2	96.80	Off	SNA	0	0	0	0	Off
-0.1	96.80	Off	SNA	0	0	0	0	Off

Pre-Crash Data (1st Prior Event - table 3 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	ETC Flashing	Engine Torque Applied	PRNDL Status (if equip.)	Reverse Gear (Manual Only)	Cruise Control Engaged (if equip.)	Cruise Control Status (if equip.)
-5.0	No	No	Drive	No	Not Engaged	Off
-4.9	No	No	Drive	No	Not Engaged	Off
-4.8	No	No	Drive	No	Not Engaged	Off
-4.7	No	No	Drive	No	Not Engaged	Off
-4.6	No	No	Drive	No	Not Engaged	Off
-4.5	No	No	Drive	No	Not Engaged	Off
-4.4	No	No	Drive	No	Not Engaged	Off
-4.3	No	No	Drive	No	Not Engaged	Off
-4.2	No	No	Drive	No	Not Engaged	Off
-4.1	No	No	Drive	No	Not Engaged	Off
-4.0	No	No	Drive	No	Not Engaged	Off
-3.9	No	No	Drive	No	Not Engaged	Off
-3.8	No	No	Drive	No	Not Engaged	Off
-3.7	No	No	Drive	No	Not Engaged	Off
-3.6	No	No	Drive	No	Not Engaged	Off
-3.5	No	No	Drive	No	Not Engaged	Off
-3.4	No	No	Drive	No	Not Engaged	Off
-3.3	No	No	Drive	No	Not Engaged	Off
-3.2	No	No	Drive	No	Not Engaged	Off
-3.1	No	No	Drive	No	Not Engaged	Off
-3.0	No	No	Drive	No	Not Engaged	Off
-2.9	No	No	Drive	No	Not Engaged	Off
-2.8	No	No	Drive	No	Not Engaged	Off
-2.7	No	No	Drive	No	Not Engaged	Off
-2.6	No	No	Drive	No	Not Engaged	Off
-2.5	No	No	Drive	No	Not Engaged	Off
-2.4	No	No	Drive	No	Not Engaged	Off
-2.3	No	No	Drive	No	Not Engaged	Off
-2.2	No	No	Drive	No	Not Engaged	Off
-2.1	No	No	Drive	No	Not Engaged	Off
-2.0	No	No	Drive	No	Not Engaged	Off
-1.9	No	No	Drive	No	Not Engaged	Off
-1.8	No	No	Drive	No	Not Engaged	Off
-1.7	No	No	Drive	No	Not Engaged	Off
-1.6	No	No	Drive	No	Not Engaged	Off
-1.5	No	No	Drive	No	Not Engaged	Off
-1.4	No	No	Drive	No	Not Engaged	Off
-1.3	No	No	Drive	No	Not Engaged	Off
-1.2	No	No	Drive	No	Not Engaged	Off
-1.1	No	No	Drive	No	Not Engaged	Off
-1.0	No	No	Drive	No	Not Engaged	Off
-0.9	No	No	Drive	No	Not Engaged	Off
-0.8	No	No	Drive	No	Not Engaged	Off
-0.7	No	No	Drive	No	Not Engaged	Off
-0.6	No	No	Drive	No	Not Engaged	Off
-0.5	No	No	Drive	No	Not Engaged	Off
-0.4	No	No	Drive	No	Not Engaged	Off
-0.3	No	No	Drive	No	Not Engaged	Off
-0.2	No	No	Drive	No	Not Engaged	Off
-0.1	No	No	Drive	No	Not Engaged	Off

System Configuration at Event (2nd Prior Event)

Configured for Driver Frontal Airbag	Yes
Configured for Passenger Airbag	Yes
Configured for Driver Retractor Pretensioner	Yes
Configured for Passenger Retractor Pretensioner	Yes
Configured for Left Side Curtain Airbag	Yes
Configured for Right Side Curtain Airbag	Yes
Configured for Front Left Seat Airbags	Yes
Configured for Front Right Seat Airbag	Yes
Configured for Safety Belt Status, Driver	Yes
Configured for Safety Belt Status, Outboard Front Passenger	Yes
Configured for Seat Track Position Switch, Foremost, Status, Driver	No
Configured for Seat Track Position Switch, Foremost, Status, Outboard Front Passenger	No
Configured for Rollover Sensing	Yes

System Status at Event (2nd Prior Event)

Event Number	28
Multi-Event, Number of Events (1,2)	1
Total number of events	30
Time from Event 1 to 2 (Time since last event)(sec)	>5
Complete File Recorded (Yes, No)	Yes
Maximum Delta-V Longitudinal (MPH [km/h])	-5.0 [-8]
Time, Maximum Delta-V, Longitudinal (msec)	206
Maximum Delta-V Lateral (MPH [km/h])	7.5 [12]
Time, Maximum Delta-V, Lateral (msec)	128
Ignition Cycle, Crash	1481
Safety Belt Status, Driver	Buckled
Safety Belt Status, Outboard Front Passenger	Not Buckled
Airbag Warning Lamp, On/Off	Off
Operation System Time (sec)	2095439
Airbag Warning Lamp On Time Before Event (min)	0
Supply Voltage at Event, ACM (V)	13.9
Operation via Energy Reserve	No
VIN at Event (last 8 digits)	HS*****
Odometer at Event (km [miles])	23292 [14472.8]

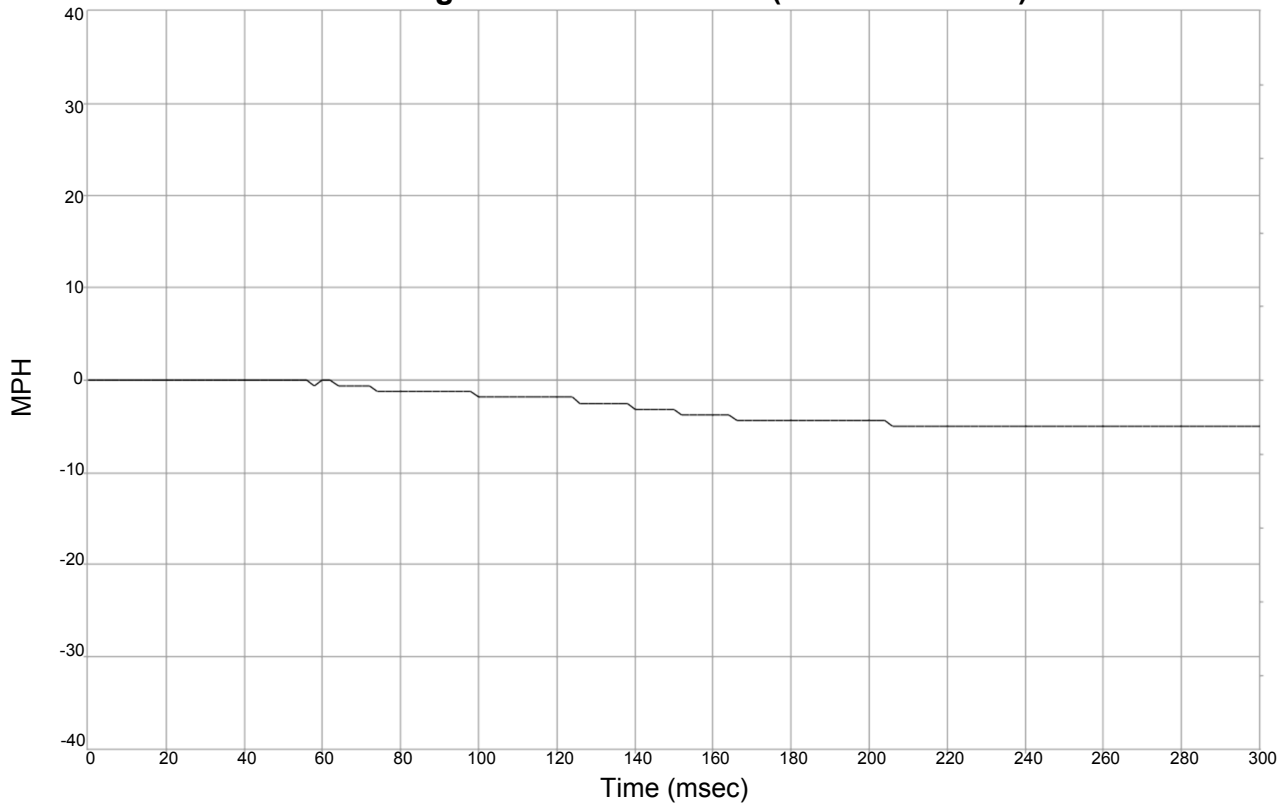
Deployment Command Data (2nd Prior Event)

Driver Frontal Airbag Commanded	No
Driver Front Airbag, Time to 1st stage (msec)	0
Driver Front Airbag, Time to 2nd Stage from T0 (msec)	0
Passenger Frontal Airbag Commanded	No
Passenger Front Airbag, Time to 1st stage (msec)	0
Passenger Front Airbag, Time to 2nd Stage from T0 (msec)	0
Commanded Driver Retractor Pretensioner Deployment	Yes
Commanded Passenger Retractor Pretensioner Deployment	Yes
Commanded Left Side Curtain Airbag Deployment	No
Commanded Left Seat Airbag Deployment	No
Commanded Right Side Curtain Airbag Deployment	No
Commanded Front Right Side Seat Airbag Deployment	No

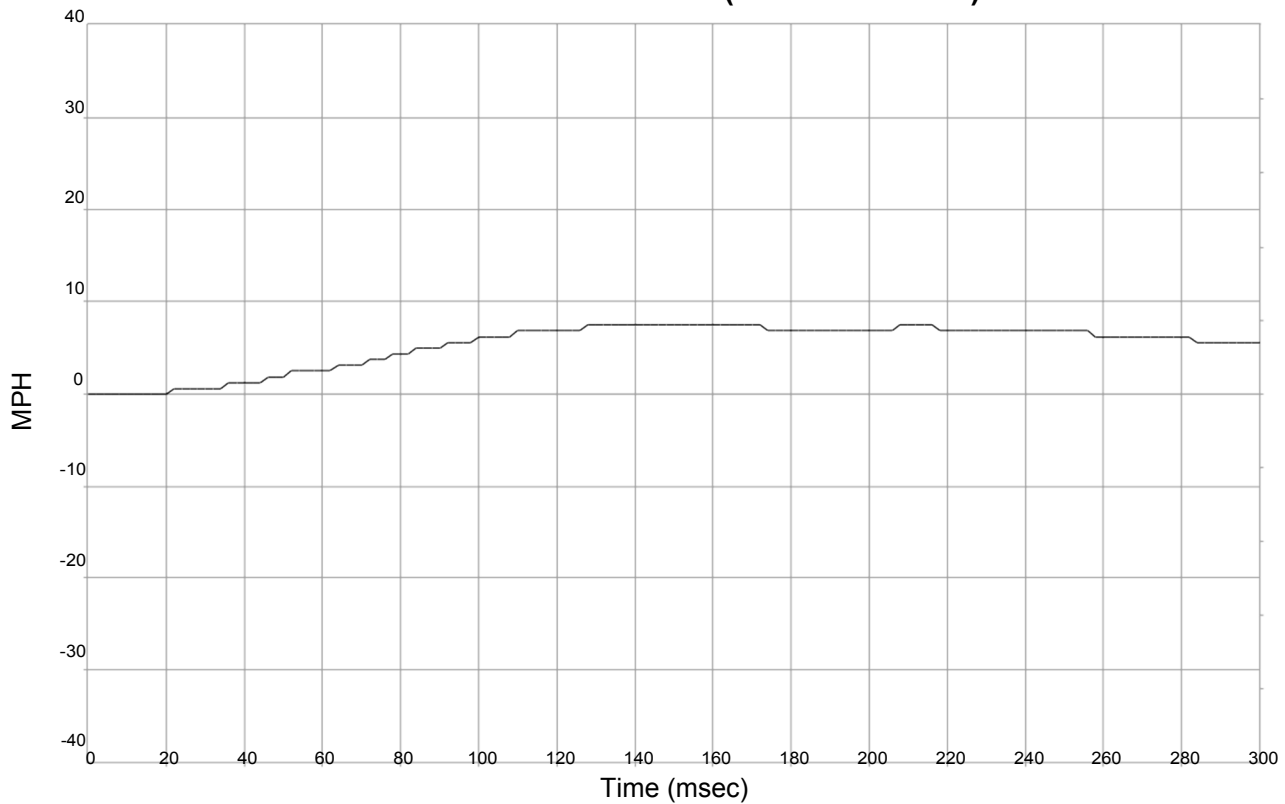
DTCs Present at Start of Event (2nd Prior Event)

No DTCs Present

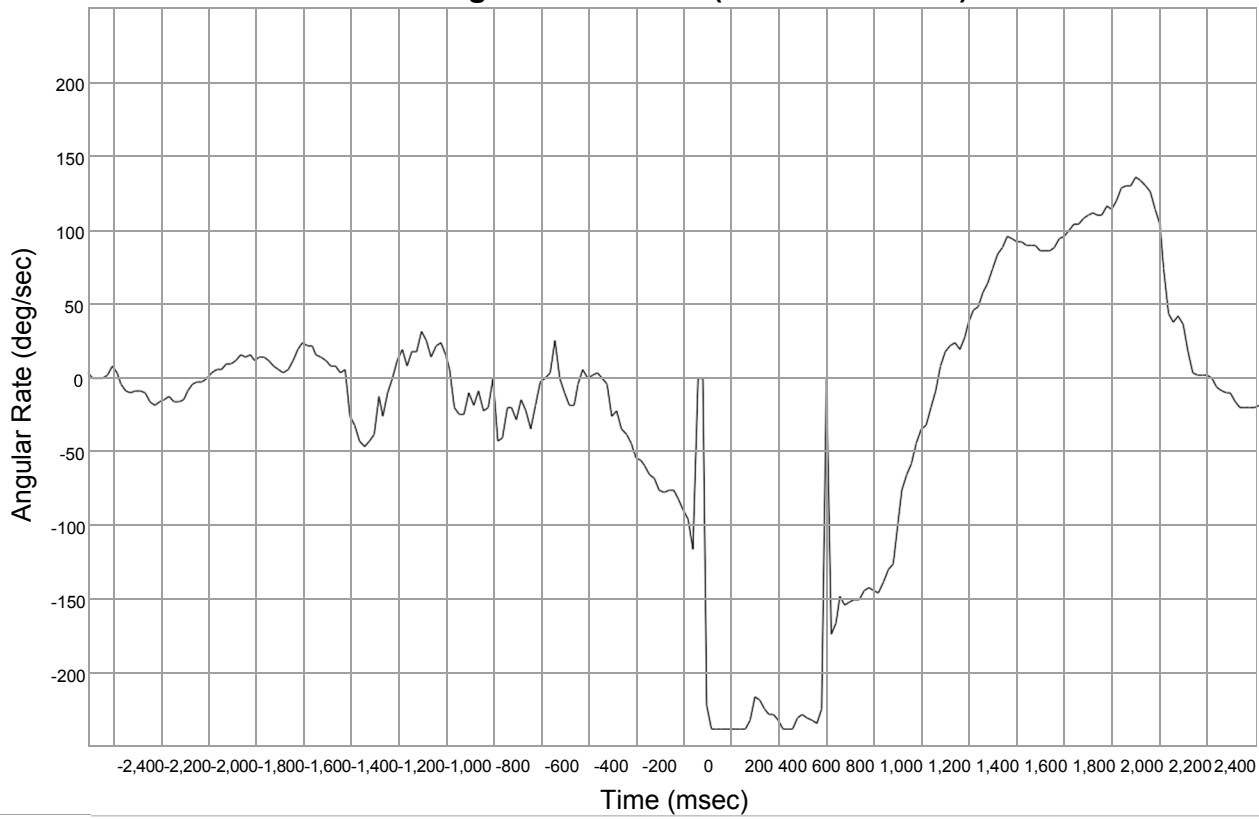
Longitudinal Crash Pulse (2nd Prior Event)



Lateral Crash Pulse (2nd Prior Event)



Angular Rate Data (2nd Prior Event)



Longitudinal Crash Pulse (2nd Prior Event)

Time (msec)	Delta-V, Longitudinal (MPH [km/h])	Time (msec)	Delta-V, Longitudinal (MPH [km/h])	Time (msec)	Delta-V, Longitudinal (MPH [km/h])
0	0.0 [0]	100	-1.9 [-3]	200	-4.3 [-7]
2	0.0 [0]	102	-1.9 [-3]	202	-4.3 [-7]
4	0.0 [0]	104	-1.9 [-3]	204	-4.3 [-7]
6	0.0 [0]	106	-1.9 [-3]	206	-5.0 [-8]
8	0.0 [0]	108	-1.9 [-3]	208	-5.0 [-8]
10	0.0 [0]	110	-1.9 [-3]	210	-5.0 [-8]
12	0.0 [0]	112	-1.9 [-3]	212	-5.0 [-8]
14	0.0 [0]	114	-1.9 [-3]	214	-5.0 [-8]
16	0.0 [0]	116	-1.9 [-3]	216	-5.0 [-8]
18	0.0 [0]	118	-1.9 [-3]	218	-5.0 [-8]
20	0.0 [0]	120	-1.9 [-3]	220	-5.0 [-8]
22	0.0 [0]	122	-1.9 [-3]	222	-5.0 [-8]
24	0.0 [0]	124	-1.9 [-3]	224	-5.0 [-8]
26	0.0 [0]	126	-2.5 [-4]	226	-5.0 [-8]
28	0.0 [0]	128	-2.5 [-4]	228	-5.0 [-8]
30	0.0 [0]	130	-2.5 [-4]	230	-5.0 [-8]
32	0.0 [0]	132	-2.5 [-4]	232	-5.0 [-8]
34	0.0 [0]	134	-2.5 [-4]	234	-5.0 [-8]
36	0.0 [0]	136	-2.5 [-4]	236	-5.0 [-8]
38	0.0 [0]	138	-2.5 [-4]	238	-5.0 [-8]
40	0.0 [0]	140	-3.1 [-5]	240	-5.0 [-8]
42	0.0 [0]	142	-3.1 [-5]	242	-5.0 [-8]
44	0.0 [0]	144	-3.1 [-5]	244	-5.0 [-8]
46	0.0 [0]	146	-3.1 [-5]	246	-5.0 [-8]
48	0.0 [0]	148	-3.1 [-5]	248	-5.0 [-8]
50	0.0 [0]	150	-3.1 [-5]	250	-5.0 [-8]
52	0.0 [0]	152	-3.7 [-6]	252	-5.0 [-8]
54	0.0 [0]	154	-3.7 [-6]	254	-5.0 [-8]
56	0.0 [0]	156	-3.7 [-6]	256	-5.0 [-8]
58	-0.6 [-1]	158	-3.7 [-6]	258	-5.0 [-8]
60	0.0 [0]	160	-3.7 [-6]	260	-5.0 [-8]
62	0.0 [0]	162	-3.7 [-6]	262	-5.0 [-8]
64	-0.6 [-1]	164	-3.7 [-6]	264	-5.0 [-8]
66	-0.6 [-1]	166	-4.3 [-7]	266	-5.0 [-8]
68	-0.6 [-1]	168	-4.3 [-7]	268	-5.0 [-8]
70	-0.6 [-1]	170	-4.3 [-7]	270	-5.0 [-8]
72	-0.6 [-1]	172	-4.3 [-7]	272	-5.0 [-8]
74	-1.2 [-2]	174	-4.3 [-7]	274	-5.0 [-8]
76	-1.2 [-2]	176	-4.3 [-7]	276	-5.0 [-8]
78	-1.2 [-2]	178	-4.3 [-7]	278	-5.0 [-8]
80	-1.2 [-2]	180	-4.3 [-7]	280	-5.0 [-8]
82	-1.2 [-2]	182	-4.3 [-7]	282	-5.0 [-8]
84	-1.2 [-2]	184	-4.3 [-7]	284	-5.0 [-8]
86	-1.2 [-2]	186	-4.3 [-7]	286	-5.0 [-8]
88	-1.2 [-2]	188	-4.3 [-7]	288	-5.0 [-8]
90	-1.2 [-2]	190	-4.3 [-7]	290	-5.0 [-8]
92	-1.2 [-2]	192	-4.3 [-7]	292	-5.0 [-8]
94	-1.2 [-2]	194	-4.3 [-7]	294	-5.0 [-8]
96	-1.2 [-2]	196	-4.3 [-7]	296	-5.0 [-8]
98	-1.2 [-2]	198	-4.3 [-7]	298	-5.0 [-8]
				300	-5.0 [-8]

Lateral Crash Pulse (2nd Prior Event)

Time (msec)	Delta-V, Lateral (MPH [km/h])	Time (msec)	Delta-V, Lateral (MPH [km/h])	Time (msec)	Delta-V, Lateral (MPH [km/h])
0	0.0 [0]	100	6.2 [10]	200	6.8 [11]
2	0.0 [0]	102	6.2 [10]	202	6.8 [11]
4	0.0 [0]	104	6.2 [10]	204	6.8 [11]
6	0.0 [0]	106	6.2 [10]	206	6.8 [11]
8	0.0 [0]	108	6.2 [10]	208	7.5 [12]
10	0.0 [0]	110	6.8 [11]	210	7.5 [12]
12	0.0 [0]	112	6.8 [11]	212	7.5 [12]
14	0.0 [0]	114	6.8 [11]	214	7.5 [12]
16	0.0 [0]	116	6.8 [11]	216	7.5 [12]
18	0.0 [0]	118	6.8 [11]	218	6.8 [11]
20	0.0 [0]	120	6.8 [11]	220	6.8 [11]
22	0.6 [1]	122	6.8 [11]	222	6.8 [11]
24	0.6 [1]	124	6.8 [11]	224	6.8 [11]
26	0.6 [1]	126	6.8 [11]	226	6.8 [11]
28	0.6 [1]	128	7.5 [12]	228	6.8 [11]
30	0.6 [1]	130	7.5 [12]	230	6.8 [11]
32	0.6 [1]	132	7.5 [12]	232	6.8 [11]
34	0.6 [1]	134	7.5 [12]	234	6.8 [11]
36	1.2 [2]	136	7.5 [12]	236	6.8 [11]
38	1.2 [2]	138	7.5 [12]	238	6.8 [11]
40	1.2 [2]	140	7.5 [12]	240	6.8 [11]
42	1.2 [2]	142	7.5 [12]	242	6.8 [11]
44	1.2 [2]	144	7.5 [12]	244	6.8 [11]
46	1.9 [3]	146	7.5 [12]	246	6.8 [11]
48	1.9 [3]	148	7.5 [12]	248	6.8 [11]
50	1.9 [3]	150	7.5 [12]	250	6.8 [11]
52	2.5 [4]	152	7.5 [12]	252	6.8 [11]
54	2.5 [4]	154	7.5 [12]	254	6.8 [11]
56	2.5 [4]	156	7.5 [12]	256	6.8 [11]
58	2.5 [4]	158	7.5 [12]	258	6.2 [10]
60	2.5 [4]	160	7.5 [12]	260	6.2 [10]
62	2.5 [4]	162	7.5 [12]	262	6.2 [10]
64	3.1 [5]	164	7.5 [12]	264	6.2 [10]
66	3.1 [5]	166	7.5 [12]	266	6.2 [10]
68	3.1 [5]	168	7.5 [12]	268	6.2 [10]
70	3.1 [5]	170	7.5 [12]	270	6.2 [10]
72	3.7 [6]	172	7.5 [12]	272	6.2 [10]
74	3.7 [6]	174	6.8 [11]	274	6.2 [10]
76	3.7 [6]	176	6.8 [11]	276	6.2 [10]
78	4.3 [7]	178	6.8 [11]	278	6.2 [10]
80	4.3 [7]	180	6.8 [11]	280	6.2 [10]
82	4.3 [7]	182	6.8 [11]	282	6.2 [10]
84	5.0 [8]	184	6.8 [11]	284	5.6 [9]
86	5.0 [8]	186	6.8 [11]	286	5.6 [9]
88	5.0 [8]	188	6.8 [11]	288	5.6 [9]
90	5.0 [8]	190	6.8 [11]	290	5.6 [9]
92	5.6 [9]	192	6.8 [11]	292	5.6 [9]
94	5.6 [9]	194	6.8 [11]	294	5.6 [9]
96	5.6 [9]	196	6.8 [11]	296	5.6 [9]
98	5.6 [9]	198	6.8 [11]	298	5.6 [9]
				300	5.6 [9]

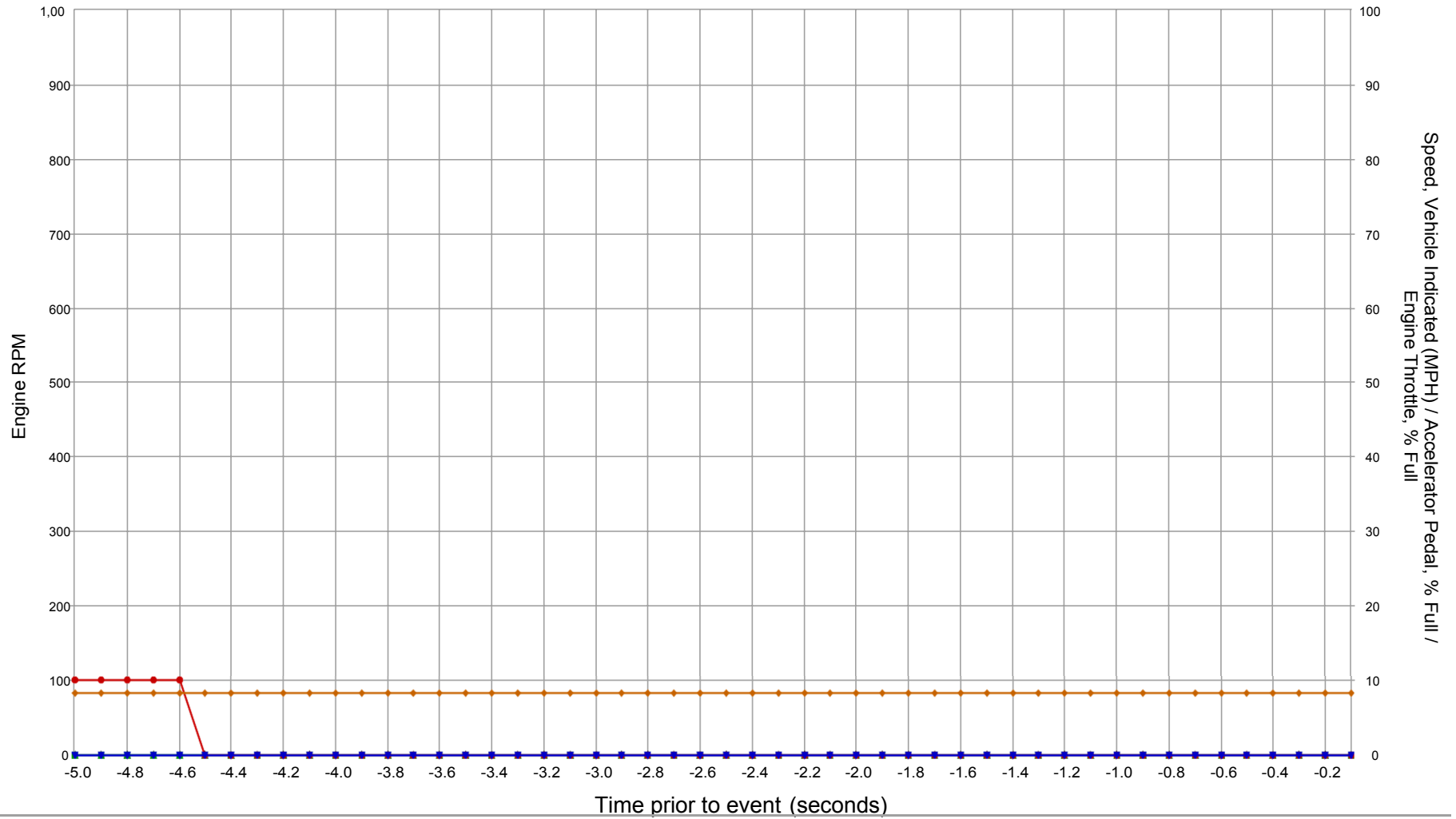
Angular Rate Data (2nd Prior Event)

Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)
-2500	4.00	-1500	12.00	-500	-10.00
-2480	0.00	-1480	8.00	-480	-18.00
-2460	0.00	-1460	8.00	-460	-18.00
-2440	0.00	-1440	4.00	-440	-4.00
-2420	2.00	-1420	6.00	-420	6.00
-2400	8.00	-1400	-26.00	-400	0.00
-2380	4.00	-1380	-32.00	-380	2.00
-2360	-4.00	-1360	-42.00	-360	4.00
-2340	-8.00	-1340	-46.00	-340	0.00
-2320	-10.00	-1320	-42.00	-320	-4.00
-2300	-8.00	-1300	-38.00	-300	-26.00
-2280	-8.00	-1280	-12.00	-280	-22.00
-2260	-10.00	-1260	-26.00	-260	-34.00
-2240	-16.00	-1240	-10.00	-240	-38.00
-2220	-18.00	-1220	0.00	-220	-44.00
-2200	-16.00	-1200	12.00	-200	-54.00
-2180	-14.00	-1180	20.00	-180	-56.00
-2160	-12.00	-1160	8.00	-160	-60.00
-2140	-16.00	-1140	18.00	-140	-66.00
-2120	-16.00	-1120	18.00	-120	-68.00
-2100	-14.00	-1100	32.00	-100	-76.00
-2080	-8.00	-1080	26.00	-80	-78.00
-2060	-4.00	-1060	14.00	-60	-76.00
-2040	-2.00	-1040	22.00	-40	-76.00
-2020	-2.00	-1020	24.00	-20	-82.00
-2000	0.00	-1000	16.00	0	-90.00
-1980	4.00	-980	6.00	20	-96.00
-1960	6.00	-960	-20.00	40	-116.00
-1940	6.00	-940	-24.00	60	0.00
-1920	10.00	-920	-24.00	80	0.00
-1900	10.00	-900	-10.00	100	-222.00
-1880	12.00	-880	-18.00	120	-238.00
-1860	16.00	-860	-8.00	140	-238.00
-1840	14.00	-840	-22.00	160	-238.00
-1820	16.00	-820	-20.00	180	-238.00
-1800	12.00	-800	0.00	200	-238.00
-1780	14.00	-780	-42.00	220	-238.00
-1760	14.00	-760	-40.00	240	-238.00
-1740	12.00	-740	-20.00	260	-238.00
-1720	8.00	-720	-20.00	280	-232.00
-1700	6.00	-700	-28.00	300	-216.00
-1680	4.00	-680	-14.00	320	-218.00
-1660	6.00	-660	-22.00	340	-224.00
-1640	12.00	-640	-34.00	360	-228.00
-1620	20.00	-620	-18.00	380	-228.00
-1600	24.00	-600	-2.00	400	-232.00
-1580	22.00	-580	0.00	420	-238.00
-1560	22.00	-560	4.00	440	-238.00
-1540	16.00	-540	26.00	460	-238.00
-1520	14.00	-520	0.00	480	-230.00

Angular Rate Data (2nd Prior Event)

Time (msec)	Angular Rate (deg/sec)	Time (msec)	Angular Rate (deg/sec)
500	-228.00	1500	86.00
520	-230.00	1520	86.00
540	-232.00	1540	86.00
560	-234.00	1560	88.00
580	-224.00	1580	94.00
600	0.00	1600	96.00
620	-174.00	1620	100.00
640	-166.00	1640	104.00
660	-148.00	1660	104.00
680	-154.00	1680	108.00
700	-152.00	1700	110.00
720	-150.00	1720	112.00
740	-150.00	1740	110.00
760	-144.00	1760	110.00
780	-142.00	1780	116.00
800	-144.00	1800	114.00
820	-146.00	1820	120.00
840	-138.00	1840	128.00
860	-130.00	1860	130.00
880	-126.00	1880	130.00
900	-98.00	1900	136.00
920	-76.00	1920	134.00
940	-66.00	1940	130.00
960	-58.00	1960	126.00
980	-44.00	1980	114.00
1000	-34.00	2000	104.00
1020	-32.00	2020	74.00
1040	-20.00	2040	44.00
1060	-8.00	2060	38.00
1080	8.00	2080	42.00
1100	18.00	2100	36.00
1120	22.00	2120	18.00
1140	24.00	2140	4.00
1160	20.00	2160	2.00
1180	28.00	2180	2.00
1200	38.00	2200	2.00
1220	46.00	2220	0.00
1240	48.00	2240	-6.00
1260	58.00	2260	-8.00
1280	64.00	2280	-10.00
1300	74.00	2300	-10.00
1320	84.00	2320	-16.00
1340	88.00	2340	-20.00
1360	96.00	2360	-20.00
1380	94.00	2380	-20.00
1400	92.00	2400	-20.00
1420	92.00	2420	-18.00
1440	90.00		
1460	90.00		
1480	90.00		

Pre-Crash Data (2nd Prior Event)



★ Engine RPM ■ Speed, Vehicle Indicated (MPH) ● Service Brake (0=Off/10=On) ▼ Accelerator Pedal, % Full ◆ Engine Throttle, % Full

SNA values will not be plotted on the graph

Pre-Crash Data (2nd Prior Event - table 1 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	Pre-Crash Recorder Status	Speed, Vehicle Indicated (MPH [km/h])	Accelerator Pedal, % Full	Engine Throttle, % Full	Service Brake	Engine RPM	ABS Activity	Stability Control	Steering Input (deg)
-5.0	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.9	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.8	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.7	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.6	Complete	0 [0]	0	8	On	0	No	Off	-36
-4.5	Complete	0 [0]	0	8	Off	0	No	Off	-36
-4.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-4.3	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.2	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.1	Complete	0 [0]	0	8	Off	0	No	Off	-33
-4.0	Complete	0 [0]	0	8	Off	0	No	Off	-33
-3.9	Complete	0 [0]	0	8	Off	0	No	Off	-33
-3.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-3.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-2.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.3	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.2	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.1	Complete	0 [0]	0	8	Off	0	No	Off	-34
-1.0	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.9	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.8	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.7	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.6	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.5	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.4	Complete	0 [0]	0	8	Off	0	No	Off	-34
-0.3	Complete	0 [0]	0	8	Off	0	No	Off	-36
-0.2	Complete	0 [0]	0	8	Off	0	No	Off	-36
-0.1	Complete	0 [0]	0	8	Off	0	No	Off	-35

Pre-Crash Data (2nd Prior Event - table 2 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	Raw Manifold Pressure (kPa)	PCM MIL	Yaw Rate (deg/sec)	Wheel Speed LF (RPM)	Wheel Speed RF (RPM)	Wheel Speed LR (RPM)	Wheel Speed RR (RPM)	ETC Lamp
-5.0	96.80	Off	SNA	0	0	0	0	Off
-4.9	96.80	Off	SNA	0	0	0	0	Off
-4.8	96.80	Off	SNA	0	0	0	0	Off
-4.7	96.80	Off	SNA	0	0	0	0	Off
-4.6	96.80	Off	SNA	0	0	0	0	Off
-4.5	96.80	Off	SNA	0	0	0	0	Off
-4.4	96.80	Off	SNA	0	0	0	0	Off
-4.3	96.80	Off	SNA	0	0	0	0	Off
-4.2	96.80	Off	SNA	0	0	0	0	Off
-4.1	96.80	Off	SNA	0	0	0	0	Off
-4.0	96.80	Off	SNA	0	0	0	0	Off
-3.9	96.80	Off	SNA	0	0	0	0	Off
-3.8	96.80	Off	SNA	0	0	0	0	Off
-3.7	96.80	Off	SNA	0	0	0	0	Off
-3.6	96.80	Off	SNA	0	0	0	0	Off
-3.5	96.80	Off	SNA	0	0	0	0	Off
-3.4	96.80	Off	SNA	0	0	0	0	Off
-3.3	96.80	Off	SNA	0	0	0	0	Off
-3.2	96.80	Off	SNA	0	0	0	0	Off
-3.1	96.80	Off	SNA	0	0	0	0	Off
-3.0	96.80	Off	SNA	0	0	0	0	Off
-2.9	96.80	Off	SNA	0	0	0	0	Off
-2.8	96.80	Off	SNA	0	0	0	0	Off
-2.7	96.80	Off	SNA	0	0	0	0	Off
-2.6	96.80	Off	SNA	0	0	0	0	Off
-2.5	96.80	Off	SNA	0	0	0	0	Off
-2.4	96.80	Off	SNA	0	0	0	0	Off
-2.3	96.80	Off	SNA	0	0	0	0	Off
-2.2	96.80	Off	SNA	0	0	0	0	Off
-2.1	96.80	Off	SNA	0	0	0	0	Off
-2.0	96.80	Off	SNA	0	0	0	0	Off
-1.9	96.80	Off	SNA	0	0	0	0	Off
-1.8	96.80	Off	SNA	0	0	0	0	Off
-1.7	96.80	Off	SNA	0	0	0	0	Off
-1.6	96.80	Off	SNA	0	0	0	0	Off
-1.5	96.80	Off	SNA	0	0	0	0	Off
-1.4	96.80	Off	SNA	0	0	0	0	Off
-1.3	96.80	Off	SNA	0	0	0	0	Off
-1.2	96.80	Off	SNA	0	0	0	0	Off
-1.1	96.80	Off	SNA	0	0	0	0	Off
-1.0	96.80	Off	SNA	0	0	0	0	Off
-0.9	96.80	Off	SNA	0	0	0	0	Off
-0.8	96.80	Off	SNA	0	0	0	0	Off
-0.7	96.80	Off	SNA	0	0	0	0	Off
-0.6	96.80	Off	SNA	0	0	0	0	Off
-0.5	96.80	Off	SNA	0	0	0	0	Off
-0.4	96.80	Off	SNA	0	0	0	0	Off
-0.3	96.80	Off	SNA	0	0	0	0	Off
-0.2	96.80	Off	SNA	0	0	0	0	Off
-0.1	96.80	Off	SNA	0	0	0	0	Off

Pre-Crash Data (2nd Prior Event - table 3 of 3)

(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	ETC Flashing	Engine Torque Applied	PRNDL Status (if equip.)	Reverse Gear (Manual Only)	Cruise Control Engaged (if equip.)	Cruise Control Status (if equip.)
-5.0	No	No	Drive	No	Not Engaged	Off
-4.9	No	No	Drive	No	Not Engaged	Off
-4.8	No	No	Drive	No	Not Engaged	Off
-4.7	No	No	Drive	No	Not Engaged	Off
-4.6	No	No	Drive	No	Not Engaged	Off
-4.5	No	No	Drive	No	Not Engaged	Off
-4.4	No	No	Drive	No	Not Engaged	Off
-4.3	No	No	Drive	No	Not Engaged	Off
-4.2	No	No	Drive	No	Not Engaged	Off
-4.1	No	No	Drive	No	Not Engaged	Off
-4.0	No	No	Drive	No	Not Engaged	Off
-3.9	No	No	Drive	No	Not Engaged	Off
-3.8	No	No	Drive	No	Not Engaged	Off
-3.7	No	No	Drive	No	Not Engaged	Off
-3.6	No	No	Drive	No	Not Engaged	Off
-3.5	No	No	Drive	No	Not Engaged	Off
-3.4	No	No	Drive	No	Not Engaged	Off
-3.3	No	No	Drive	No	Not Engaged	Off
-3.2	No	No	Drive	No	Not Engaged	Off
-3.1	No	No	Drive	No	Not Engaged	Off
-3.0	No	No	Drive	No	Not Engaged	Off
-2.9	No	No	Drive	No	Not Engaged	Off
-2.8	No	No	Drive	No	Not Engaged	Off
-2.7	No	No	Drive	No	Not Engaged	Off
-2.6	No	No	Drive	No	Not Engaged	Off
-2.5	No	No	Drive	No	Not Engaged	Off
-2.4	No	No	Drive	No	Not Engaged	Off
-2.3	No	No	Drive	No	Not Engaged	Off
-2.2	No	No	Drive	No	Not Engaged	Off
-2.1	No	No	Drive	No	Not Engaged	Off
-2.0	No	No	Drive	No	Not Engaged	Off
-1.9	No	No	Drive	No	Not Engaged	Off
-1.8	No	No	Drive	No	Not Engaged	Off
-1.7	No	No	Drive	No	Not Engaged	Off
-1.6	No	No	Drive	No	Not Engaged	Off
-1.5	No	No	Drive	No	Not Engaged	Off
-1.4	No	No	Drive	No	Not Engaged	Off
-1.3	No	No	Drive	No	Not Engaged	Off
-1.2	No	No	Drive	No	Not Engaged	Off
-1.1	No	No	Drive	No	Not Engaged	Off
-1.0	No	No	Drive	No	Not Engaged	Off
-0.9	No	No	Drive	No	Not Engaged	Off
-0.8	No	No	Drive	No	Not Engaged	Off
-0.7	No	No	Drive	No	Not Engaged	Off
-0.6	No	No	Drive	No	Not Engaged	Off
-0.5	No	No	Drive	No	Not Engaged	Off
-0.4	No	No	Drive	No	Not Engaged	Off
-0.3	No	No	Drive	No	Not Engaged	Off
-0.2	No	No	Drive	No	Not Engaged	Off
-0.1	No	No	Drive	No	Not Engaged	Off

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.

62 F1 00 00 42 01 03

62 F1 32 36 38 33 30 33 32 31 38 41 41

```
62 F1 50 0C 05 00
```

```
62  F1  51  0F  2D  00  0F  2E  00
```

```
62 02 20 07 00 00 00 00 00 FF FF FF 00 00 00 00 00 00 00 00 00 00 00 00 00 00 3F 30 30 30 30
30 30 30 30 30 30 30 30 30 30 30 30 30 7E 0F 00 00 00 00
```

62 F1 8C 54 35 32 4D 44 32 38 37 36 30 34 36 37 34

62 F1 54 00 03

62 F1 90 31 43 36 52 52 36 4C 47 39 48 53 2A 2A 2A 2A 2A 2A

[illegible][illegible][illegible]

```
62 02 C1 1E 7F 00 1D 7F 00 1C 7F 00
```

Printed on: Wednesday, August 14 2019 at 13:16:10

71	10	FF	00	00	00	01	01	0C	CC	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79	
10	00	00	00	01	00	00	00	07	00	FF	00	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	00	04	04	FB	FF	FF	03	FF	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	00	00	01	01	0D	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
10	00	00	00	01	00	00	00	07	00	FF	00	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	00	04	04	FB	FF	FF	03	FF	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	00	00	01	01	0E	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
10	00	00	00	01	00	00	00	07	00	FF	00	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	00	04	04	FB	FF	FF	03	FF	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	00	00	01	01	0F	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
10	00	00	00	01	00	00	00	07	00	FF	00	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	00	04	04	FB	FF	FF	03	FF	FF	FF	FF	FF	FF	40	FF	75	8													

Printed on: Wednesday, August 14 2019 at 13:16:10

[illegible]

[illegible]

[illegible]

71	01	03	01	02	1B	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	2A	D5	16	0B	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF															
71	01	03	01	02	1C	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	2A	D5	16	00	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF															
71	01	03	01	02	1D	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	2A	D5	16	0A	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF															
71	01	03	01	02	1E	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	2A	D5	16	0B	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF															
71	01	03	01	02	1F	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	2A	D5	16	0A	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF															
71	01	03	01	02	20	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	2A	D5			

71	01	03	01	02	28	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0B	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BF	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																
71	01	03	01	02	29	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0B	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BF	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																
71	01	03	01	02	2A	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BF	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																
71	01	03	01	02	2B	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0B	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	64	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																
71	01	03	01	02	2C	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
10	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	B8	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF
FF	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00
00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																
71	01	03	01	02	2D	CC	00	00	00</																					

71	10	FF	00	03	01	03	03	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0B	79
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	03	01	03	04	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0B	79
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	03	01	03	05	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	03	01	03	06	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	03	01	03	07	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	03	01	03	08	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0B	79
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	03	01	03	09	CC	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0A	79
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF																

71	10	FF	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF	00	00	00	00	00	00	2A	D5	16	0B	79
10	00	00	00	01	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF	
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	00	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF	
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	00	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF	
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	00	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF	
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF	40	FF	75	8D	FF	FF	74	74	7F	7E	00	00	10	00	00	00	00	
00	00	00	00	00	00	00	00	00	00	00	00	00	00	FF	FF																	
71	10	FF	00	00	00	00	07	00	FF	00	00	00	00	00	0F	BC	00	0F	1F	FF	00	FF	60	03	FF	FF	78	FF	FF	FF	FF	
FF	00	00	00	00	04	04	FB	FF	03	FF	FF	FF	FF	FF</																		

Printed on: Wednesday, August 14 2019 at 13:16:10

Printed on: Wednesday, August 14 2019 at 13:16:10

```

0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 09 09 09 09 09 09
09 09 09

71 01 03 03 02 CC 00 00 00 00 00 00 00 00 00 00 00 00 01 01 01 01 01 01 01 02 02 02 02 02 03
03 03 04 04 04 04 04 04 05 05 05 05 06 06 06 07 07 07 08 08 08 08 09 09 09 09 0A 0A 0A 0A 0A
0B 0B 0B 0B 0B 0B 0B 0B 0B 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C
0C 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0C 0C 0C 0C 0C 0C 0B 0B 0B 0B 0B 0B 0B
0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 09 09 09 09 09 09
09 09 09

71 01 03 03 03 CC 00 00 00 00 00 00 00 00 00 00 00 00 01 01 01 01 01 01 01 02 02 02 02 02 03
03 03 04 04 04 04 04 04 05 05 05 05 06 06 06 07 07 07 08 08 08 08 09 09 09 09 0A 0A 0A 0A 0A
0B 0B 0B 0B 0B 0B 0B 0B 0B 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C 0C
0C 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0C 0C 0C 0C 0C 0C 0B 0B 0B 0B 0B 0B 0B
0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0B 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 0A 09 09 09 09 09 09
09 09 09

71 01 03 04 01 CC 00 02 00 00 00 01 04 02 FE FC FB FC FC FB F8 F7 F8 F9 FA F8 F8 F9 FC FE FF
FF 00 02 03 03 05 05 06 08 07 08 06 07 07 06 04 03 02 03 06 0A 0C 0B 0B 08 07 06 04 04 02 03
F3 F0 EB E9 EB ED FA F3 FB 00 06 0A 04 09 09 10 0D 07 0B 0C 08 03 F6 F4 F4 FB F7 FC F5 F6 00
EB EC F6 F6 F2 F9 F5 EF F7 FF 00 02 0D 00 FB F7 F7 FE 03 00 01 02 00 FE F3 F5 EF ED EA E5 E4
E2 DF DE DA D9 DA DA D7 D3 D0 C6 00 00 91 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89
89 8D 8E 8D 8C 8B 90 00 A9 AD B6 B3 B4 B5 B5 B8 B9 B8 B7 BB BF C1 CF DA DF E3 EA EF F0 F6 FC
04 09 0B 0C 0A 0E 13 17 18 1D 20 25 2A 2C 30 2F 2E 2E 2D 2D 2D 2B 2B 2B 2C 2F 30 32 34 34 36
37 38 37 37 3A 39 3C 40 41 41 44 43 41 3F 39 34 25 16 13 15 12 09 02 01 01 01 00 FD FC FB FB
F8 F6 F6 F6 F6 F7 F8 F8 F6 F6

71 01 03 04 02 CC 00 02 00 00 00 01 04 02 FE FC FB FC FC FB F8 F7 F8 F9 FA F8 F8 F9 FC FE FF
FF 00 02 03 03 05 05 06 08 07 08 06 07 07 06 04 03 02 03 06 0A 0C 0B 0B 08 07 06 04 04 02 03
F3 F0 EB E9 EB ED FA F3 FB 00 06 0A 04 09 09 10 0D 07 0B 0C 08 03 F6 F4 F4 FB F7 FC F5 F6 00
EB EC F6 F6 F2 F9 F5 EF F7 FF 00 02 0D 00 FB F7 F7 FE 03 00 01 02 00 FE F3 F5 EF ED EA E5 E4
E2 DF DE DA D9 DA DA D7 D3 D0 C6 00 00 91 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89
89 8D 8E 8D 8C 8B 90 00 A9 AD B6 B3 B4 B5 B5 B8 B9 B8 B7 BB BF C1 CF DA DF E3 EA EF F0 F6 FC
04 09 0B 0C 0A 0E 13 17 18 1D 20 25 2A 2C 30 2F 2E 2E 2D 2D 2D 2B 2B 2B 2C 2F 30 32 34 34 36
37 38 37 37 3A 39 3C 40 41 41 44 43 41 3F 39 34 25 16 13 15 12 09 02 01 01 01 00 FD FC FB FB
F8 F6 F6 F6 F6 F7 F8 F8 F6 F6

71 01 03 04 03 CC 00 02 00 00 00 01 04 02 FE FC FB FC FC FB F8 F7 F8 F9 FA F8 F8 F9 FC FE FF
FF 00 02 03 03 05 05 06 08 07 08 06 07 07 06 04 03 02 03 06 0A 0C 0B 0B 08 07 06 04 04 02 03
F3 F0 EB E9 EB ED FA F3 FB 00 06 0A 04 09 09 10 0D 07 0B 0C 08 03 F6 F4 F4 FB F7 FC F5 F6 00
EB EC F6 F6 F2 F9 F5 EF F7 FF 00 02 0D 00 FB F7 F7 FE 03 00 01 02 00 FE F3 F5 EF ED EA E5 E4
E2 DF DE DA D9 DA DA D7 D3 D0 C6 00 00 91 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89
89 8D 8E 8D 8C 8B 90 00 A9 AD B6 B3 B4 B5 B5 B8 B9 B8 B7 BB BF C1 CF DA DF E3 EA EF F0 F6 FC
04 09 0B 0C 0A 0E 13 17 18 1D 20 25 2A 2C 30 2F 2E 2E 2D 2D 2D 2B 2B 2B 2C 2F 30 32 34 34 36
37 38 37 37 3A 39 3C 40 41 41 44 43 41 3F 39 34 25 16 13 15 12 09 02 01 01 01 00 FD FC FB FB
F8 F6 F6 F6 F6 F7 F8 F8 F6 F6

62 F1 0B 1D 00 00 00 07 1F 84 00 B6 88 07 00 0C 00 00 00 07 01 02 3F 10 4F FD 26 C7 00 02 00
00 07 39 21 03 00 CF 37 00 8E 67 18 06 00 02 B0 FE FE 42 00 54 3C 00 00 00 00 0C 5A 03 00 00
00 00 00

59 02 99 80 7F 13 89 80 7E 13 89 A1 2C 13 08 9B C7 00 89 D4 2A 00 09 80 11 13 89 80 10 13 89
80 02 13 89 80 01 13 89 80 95 87 89 80 90 87 89

59 06 80 7F 13 89 01 00 05 AF 05 AF 01 00 02 00 0D 00 1F F9 65 FF FF FF FF

59 06 80 7E 13 89 01 00 05 AF 05 AF 01 00 02 00 0D 00 1F F9 65 FF FF FF FF

59 06 A1 2C 13 08 01 00 FF FF 05 AF 02 02 02 00 01 00 1F FA 52 00 1F FB 00

59 06 9B C7 00 89 01 00 FF FF FF FF 01 00 02 00 0A 00 1F FA 43 FF FF FF FF

59 06 D4 2A 00 09 01 00 FF FF FF FF 05 00 02 00 0A 00 1F FA 53 FF FF FF FF

59 06 80 11 13 89 01 00 FF FF FF FF 01 00 02 00 09 00 1F FB 06 FF FF FF FF

```

```
59 06 80 10 13 89 01 00 FF FF FF FF 01 00 02 00 09 00 1F FB 05 FF FF FF FF
59 06 80 02 13 89 01 00 FF FF FF FF 01 00 02 00 09 00 1F FB 05 FF FF FF FF
59 06 80 01 13 89 01 00 FF FF FF FF 01 00 02 00 09 00 1F FB 05 FF FF FF FF
59 06 80 95 87 89 01 00 FF FF FF FF 01 00 02 00 09 00 1F FB 03 FF FF FF FF
59 06 80 90 87 89 01 00 FF FF FF FF 01 00 02 00 09 00 1F FB 03 FF FF FF FF
```

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.

DOT HS 812 831
October 2019



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**



14526-100719-v1a