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Special Crash Investigations:
On-Site Ambulance Crash Investigation;
Vehicle: 2019 Ford F-450 Type I Ambulance;
Location: Ohio;
Date: November 2021

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Each crash represents a unique sequence of events, and generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicles or their safety systems. This report and associated case data are based on information available to the Special Crash Investigation team on the date this report was published.

16. Abstract

This report documents the on-site investigation of the offset frontal crash of a 2019 Ford F-450 Type I ambulance and a 2001 Dodge Ram 2500 that resulted in injuries to the occupants in both vehicles. The ambulance was driven by a belted 23-year-old male, with a belted 33-year-old male front right passenger, and an unrestrained 50-year-old male paramedic in the patient compartment. The ambulance was returning to the fire station after transporting a patient to a hospital and was not operating in an emergency mode. The Dodge Ram was driven by an unbelted 37-year-old male. The ambulance was negotiating a right curve when the Dodge, traveling in the opposite direction, crossed the centerline into the travel lane resulting in the offset frontal collision. The ambulance driver and front right passenger sustained B-level (non-incapacitating) injuries and were transported to a local hospital where they were treated and released. The paramedic in the patient compartment sustained A-level (incapacitating) injuries and was transported from the scene by helicopter to a hospital where he was admitted overnight for treatment and observation. The Dodge driver sustained A-level (incapacitating) injuries and was transported from the scene by helicopter to a hospital. The extent of his treatment is unknown.

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Special Crash Investigations
On-Site Ambulance Crash Investigation
SCI Case No: CR21028
Vehicle 1: 2019 Ford F-450 Type I Ambulance
Vehicle 2: 2001 Dodge Ram 2500
Location: Ohio
Crash Date: November 2021

Background

This report documents the on-site investigation of the offset frontal crash of a 2019 Ford F-450 Type I ambulance (Figure 1) and a 2001 Dodge Ram 2500 that resulted in injuries to the occupants of both vehicles. The ambulance was driven by a belted 23-year-old male with a belted 33-year-old male front right passenger and an unrestrained 50-year-old male paramedic in the patient compartment. The ambulance was returning to the fire station after transporting a patient to a hospital and was not operating in an emergency mode. The Dodge Ram was driven by an unbelted 37-year-old male.

Figure 1. Right front oblique view of the 2019 Ford F-450 Type I ambulance

The Ford ambulance was eastbound on a two-lane roadway and was negotiating a right curve. The Dodge was westbound and crossed the centerline into the westbound travel lane. The cause for the Dodge crossing the centerline is unknown. The front, left aspect of the ambulance struck the front, left aspect of the Dodge. The ambulance driver and front right passenger sustained B-level (non-incapacitating) injuries. They were transported to a local hospital where they were treated and released. The paramedic in the patient compartment sustained A-level (incapacitating) injuries and was transported from the scene by helicopter to a hospital where he was admitted overnight for treatment and observation. The Dodge driver sustained A-level (incapacitating) injuries and was transported from the scene by helicopter to a hospital for treatment. The extent of his treatment is unknown.

The crash was identified by the National Highway Traffic Safety Administration's Office of Emergency Medical Services in November 2021 and assigned to the Special Crash Investigations (SCI) team at Crash Research & Analysis, Inc. Cooperation was established with the local fire department ambulance service and the inspection occurred in the same month.

On-site activities included inspections of the ambulance to measure and document exterior damage, interior damage and intrusion, documentation of occupant contacts, assessment of the

manual and supplemental restraint systems. The ambulance had an event data recorder (EDR) that was imaged during the inspection process with the Bosch Crash Data Retrieval (CDR) tool. An inspection of the Dodge included documentation of its exterior damage. The crash site was also photographed and documented using total station.

Ambulance Agency, Personnel, Driver Training, and Transport Description

The ambulance service was a multi-tiered medical transport service and was part of the local fire department but not associated with any particular medical treatment facility. It delivered all levels of emergency medical services care, from basic life support to advanced life support. The ambulance service covered an area of 35.7 sq/km (22.2 sq/mi) and performed public emergency response, inter-facility transfers, and specialty transports using a fleet of two Type I ambulances.

The ambulance agency had volunteer and part-time professionals that included administrative staff, support personnel, dispatchers, and emergency medical technicians/paramedics. All personnel, whether volunteer or part-time, would work 8-hour shifts. Personnel could volunteer for additional work time. However, the agency would not allow for more than a 12-hour shift to be worked in a 24-hour period without prior approval. A minimum of 8 hours between the end and start of shifts was required per agency policies. The agency maintained its equipment and operated in compliance with all Ohio Department of Public Safety regulations. The ambulance agency required its employees who operated vehicles to complete emergency vehicle operations training.

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Crash Summary

Crash Site

This crash occurred on a two lane, undivided rural roadway at night. At the time of the crash, the National Weather Service listed the conditions as cloudy with a temperature of 56 °F, 72 percent humidity, and eastward winds at 20 km/h (12 mph). The dry, bituminous roadway traversed in a general east-west direction with one through lane in each direction that curved right for the ambulance's path of travel (Figure 2). The roadway was dark and unlit. Roadway markings had a solid white fog line on the road edges and a double yellow median lane line to separate the east and west lanes. Both roadsides were protected by W-beam guardrail systems. The posted speed limit was 89 km/h (55 mph).

Figure 2. Eastward view of the ambulance's pre-crash approach to the crash site

Pre-Crash

The ambulance driver was eastbound negotiating a right curve of the two-lane rural roadway at an EDR reported speed of 42 km/h (26 mph), 3.5 seconds prior to algorithm enable (AE) and decelerated to 26 km/h (16 mph) at AE. The Dodge driver was westbound and negotiating the left curve and crossed over the centerline into the eastbound lane of the Ford's path of travel. The cause of the Dodge crossing the centerline is unknown.

Crash

The front left aspect of the Dodge struck the front left aspect of the Ford. The crash deployed both ambulance frontal and inflatable curtain (IC) air bags and the driver's outboard side impact air bag. The Dodge came to final rest on the roadway facing southwest. The ambulance came to final rest straddling the road edge facing east.

Post-Crash

Local emergency services were notified and responded to the scene. The ambulance driver and front right passenger sustained B-level (non-incapacitating) injuries and were transported by ambulance to a local hospital where they were treated and released. The paramedic in the patient compartment sustained A-level (incapacitating) injuries and was transported by helicopter to a local hospital. He sustained a scalp laceration and was admitted overnight for observation.

Emergency personnel extracted the Dodge driver, who sustained A-level (incapacitating) injuries and was transported by helicopter to a local hospital due to perceived serious injuries. The extent of his treatment and the severity of his injuries are unknown.

2019 Ford F-450 Type I Ambulance

Description

The 2019 Ford F-450 Type I Ambulance (Figure 3) was manufactured in May 2019 and was identified by vehicle identification number (VIN) 1FDUF4HT9KDxxxxxx. It was built on a rear-wheel drive platform and powered by a 6.7 liter, 8-cylinder diesel engine linked to a 6-speed automatic transmission.

Figure 3. Left front oblique view of the 2019 Ford F-450 Type I ambulance

Secondary manufacturing of the vehicle was the installation of the Braun patient compartment and installation of emergency services operational equipment (warning lights, sirens, and radio communications) in July 2019. Completed as a Type I certified "Star of Life" ambulance, the vehicle had a rear patient compartment equipped for the treatment of medical emergencies in a mobile environment. A placard showed that the Braun Type I ambulance conformed to the payload requirement to Federal Specifications KKK-A-1822F effective in July 2019.

The Ford's cab had seating for two occupants with forward-facing seats that featured manual seat tracks, seatback recline, and height adjustments. Three-point lap and shoulder seat belt systems were available for manual restraint and the head restraints were adjustable. Supplemental safety systems included the driver's and passenger's frontal, outboard side impact, and IC air bags.

The patient compartment had a rear-facing, high back pedestal-mounted captain's seat (Figure 4) at the forward aspect of the patient compartment, a single passenger seat on the right wall, a single passenger seat on the left wall (Figure 5), and a centrally located single occupant patient cot and containment system. All seating positions in the patient compartment had integrated four-point lap and shoulder seat belts.

Figure 4. Rear facing captain's seat in the patient compartment

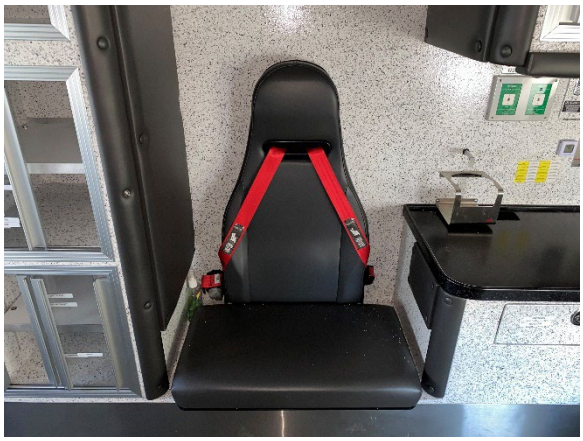

Figure 5. Passenger seat along the left wall in the patient compartment

The patient compartment had five exterior storage compartments, three on the left side and two on the right side, and three occupant access doors (one right and two rear). The exterior compartments served for the storage of and curbside access to large emergency medical equipment and supplies, such as backboards, stair-chairs, trauma dressing kits, splints, oxygen cylinders, and roadside safety equipment. Two rear doors served for the loading and unloading of the patient cot system, as well as entry/exit for medical personnel. There was also a door at the forward aspect of the right side of the patient compartment.

Figure 6. Crush damage of the 2019 Ford F-450 Type I ambulance

Exterior Damage

The collision with the Dodge resulted in damage to the front plane of the Ford (Figure 6). The front reinforced bumper, front left headlight, and hood all sustained direct damage from the Dodge. The direct damage was 115 cm (45.2 in) wide beginning 11 cm (4.3 in) right of the front center point extending left. The field-L was 208 cm (81.8 in). The maximum crush was located at the left front bumper corner with a corresponding collision deformation classification (CDC) of 12FYEW1. The WinSMASH program could not determine velocity change since the vehicle type was out of the scope of the program.

Event Data Recorder

The Ford had an air bag control module that performed the diagnostic, sensing, and deployment command functions for the vehicle's supplemental restraint systems. This module had EDR capabilities and was located on the center tunnel of the vehicle. The EDR component was imaged with the Bosch CDR tool and software version 21.3 via the diagnostic link connector port. The imaged data is reported with version 21.5.1. The EDR report is included at the end of this report as an appendix.

The EDR was capable of storing up to two crash events, termed either non-deployment or deployment events. Non-deployment events occur when the recording trigger threshold is met or exceeded [minimum of 8 km/h (5 mph)]. Data from non-deployments can be overwritten by subsequent events. Deployment events cannot be overwritten from the EDR. This EDR also categorizes non-air bag deployment events when there is an event in which non-air bag devices, such as pretensioners, have actuated. This type of event can be overwritten given a subsequent air bag deployment event. Associative to each reported event is a 5.0-second pre-crash buffer. Several pre-crash data points are recorded on a recurring basis of 0.5 seconds that include vehicle speed, accelerator pedal (% full), service brake status, engine rpm, antilock brake system (ABS) activity and steering data.

This EDR recorded one locked event. The ignition cycles at the crash were 2,969. The ignition cycles at the investigation were 2,977. The recorded data was consistent with the crash circumstances. The disparity in the ignition cycle count attributed to the post-crash movement of the vehicle, as well as the local law enforcement and SCI investigations.

Pre-Crash

The EDR reported that 5.0 seconds prior to the recorded event, the vehicle was traveling 40 km/h (24 mph) and decelerated to 26 km/h (16 mph) at AE. The driver was applying the accelerator pedal until 1.5 seconds prior to AE. At 0.5 seconds prior to AE, the driver applied the brake. The EDR did not report any steering values. At crash, the driver and front right passengers seat belt status was "Buckled."

First Record

The frontal impact with the Dodge (Event 1) initiated AE. As the crash dynamics developed, it deployed the drivers and passengers frontal air bags, outboard side impact air bags, and IC air bags at 71.5 milliseconds. It deployed the driver's and passenger's buckle pretensioners at 37.0 milliseconds. A maximum longitudinal delta V of -23.40 km/h (-14.54 mph) was recorded at 300 milliseconds into AE. The principal direction of force was in the 12 o'clock sector. There were no fault codes at the time of this event.

Interior Damage

The ambulance cab and patient compartment were not damaged during the crash. A scuff was noted on the glove box door (Figure 7). Another contact point was in the patient compartment on the left sidewall corner just behind the rear-facing captain's seat (Figure 8). A contact to the back of the captain's chair and a contact to the patient cot system were determined during the reconstruction process after medical records were received. No physical evidence of these

contacts was found at the time of the inspection. No additional contacts were found in the passenger or patient compartments.

Figure 7. Contact point on front right passenger's lower instrument panel in the passenger compartment

Figure 8. Contact point on the left sidewall corner just behind the rear-facing captain's seat in the patient compartment

Manual Restraint Systems

The ambulance had three-point lap and shoulder seat belts for the driver and front right passenger. These systems had continuous loop webbing with sliding latch plates. The driver's and front passenger's seat belt systems used retractor pretensioners. The pretensioners for both seat belt systems actuated during the crash sequence. Both front row occupants of the ambulance cab were belted by the manual seatbelt systems. The driver's seat belt had minimal abrasions on it that were consistent with it being used during the collision. The passenger's seat belt showed no signs of damage but was pinched in the B-pillar D-ring that showed usage during the collision.

The patient compartment seating positions had four-point integrated lap and shoulder belts for all three seating positions. The paramedic was not restrained by his seat belt system at the time of the crash.

Supplemental Restraint Systems

The Ford had dual-stage driver's and passenger's frontal air bags, outboard side impact air bags and IC air bags. All air bags deployed during the crash.

The driver and front right passenger sustained thermal burns on the underside of their upper arms that resulted from the exhaust gases vented from the seat-mounted air bags. The driver sustained burns on his left upper arm whereas the front right passenger sustained burns on his right upper arm. Figure 9 shows the burn damage to the underside of the right front passenger's right upper arm.

Figure 9. View of the right-front passenger's burn marks on the underside of the front right occupant's upper arm

The thermal burns came from the right front passenger's side impact air bags. The air bag vent ports were located on the inboard aspects of the seat-mounted air bags and exhausted toward the respective occupants. The hot exhaust gases vented from the air bag ports, (Figure 10) and burned through the right front passenger's shirt (Figure 11) causing thermal burn to his upper arm. The burn pattern on the shirts aligned with the exhaust vent port on the front side impact air bags. The driver sustained the same type of thermal burns on his left arm from the left front driver's side impact air bag as it deployed.

Figure 10. View of the front right occupant side seat-mounted air bag exhaust port

Figure 11. View of the right sleeve from the front right occupant's shirt

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2019 Ford F-450 Type I Ambulance Occupants

Driver Demographics

Age/sex:	23 years / male
Height:	178 cm (70 in)
Weight:	77 kg (170 lbs)
Eyewear:	None
Seat type:	Forward-facing bucket seat with adjustable head restraint
Seat track position:	Rear most
Manual restraint usage:	Lap and shoulder belt with pretensioner actuation
Usage source:	Vehicle inspection, EDR data, and interview
Air bags:	Frontal, seat-mounted side impact, and IC air bags available; all deployed
Alcohol/drug involvement:	None
Egress from vehicle:	Exited from vehicle under own power
Transport from scene:	Ambulance
Type of medical treatment:	Treated and released

Driver Injuries

Inj. No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
1	Thermal burn to underside/back of left upper arm*	912002.1	Isolated Left seat-mounted air bag – Left seatback outboard	Certain
2	Bruising to lower back around spine**	410402.1	Isolated Interior – This occupant's seatback	Probable
3	Bruising to underside of right forearm*	710402.1	Isolated Left air bag – Steering wheel hub	Certain
4	Contusion to right wrist	710402.1	Isolated Left air bag – Steering wheel hub	Certain
5	Abrasion to volar aspect of right wrist	710202.1	Isolated Left air bag – Steering wheel hub	Certain

Emergency room record
Investigator observation*
Interviewee**

Driver Kinematics

The driver was seated in an upright driving posture, the seat track was adjusted to the rearmost position, and he was restrained by the seat belt. As a result of the crash impact with the Dodge, the driver was displaced forward and to the left. He loaded his seat belt, the deployed frontal air bag, and steering wheel rim sustaining a contusion to the underside of his right forearm and a contusion and abrasion to his right wrist. The left seat-mounted side impact air bag also deployed and exhaust gases from the air bag burned through his shirt and caused a thermal burn to the left on his upper arm. The driver stated he sustained a lumbar area contusion from a probable rebound into the seat back.

Following the crash, the driver exited the vehicle unassisted. He was transported by ambulance to a local hospital where he was treated and released.

Front Right Passenger Demographics

Age/sex:	33 years / male
Height:	180 cm (71 in)
Weight:	98 kg (216 lbs)
Eyewear:	None
Seat type:	Forward-facing bucket seat with adjustable head restraint
Seat track position:	Rear most position
Manual restraint usage:	Lap and shoulder belt
Usage source:	Vehicle inspection, EDR data, and interview
Air bags:	Frontal, seat-mounted side impact, and IC air bags available; all deployed
Alcohol/drug involvement:	None
Egress from vehicle:	Exited vehicle under own power
Transport from scene:	Ambulance
Type of medical treatment:	Treated and released

Front Right Passenger Injuries

Inj. No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
1	Thermal burn to underside/back of upper right arm*	912002.1	Isolated Right air bag – Right seatback outboard	Certain
2	Contusion to right upper arm	710402.1	Isolated Right air bag – Right seatback outboard	Certain
3	Cervical strain	640278.1	Isolated Interior – Shoulder portion of belt restraint	Certain

Emergency room record

Investigator observation, photo*

Front Right Passenger Kinematics

The front right passenger of the ambulance was seated in an upright position, the seat track was adjusted between the mid and full-rear track position and was restrained by the seat belt. As a result of the impact with the Dodge, the passenger was displaced forward and to the left. He loaded his seat belt and the deployed frontal air bag. The right seat-mounted side impact air bag also deployed and exhaust gases from the air bag burned through his shirt and caused a thermal burn to his right upper arm.

Following the crash, the passenger exited the vehicle unassisted. He was transported to a local hospital by ambulance where he was treated and released.

Patient Compartment Paramedic Demographics

Age/sex:	50 years / male
Height:	178 cm (70 in)
Weight:	82 kg (180 lbs)
Eyewear:	None
Seat type:	Rear-facing bucket seat with adjustable head restraint
Seat track position:	Non-adjustable
Manual restraint usage:	None used
Usage source:	Vehicle inspection and interview
Air bags:	None
Alcohol/drug involvement:	None
Egress from vehicle:	Exited vehicle under own power
Transport from scene:	Helicopter transport
Type of medical treatment:	Admitted for 1 day

Patient Compartment Paramedic Injuries

Inj. No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
1	Loss of consciousness, NFS	161002.2	Isolated Interior – Other interior object (specify): Left side wall corner of patient compartment	Probable
2	4 cm (1.6 in) sutured laceration of the posterior scalp	110602.1	Isolated Interior – Other interior object (specify): Left side wall corner of patient compartment	Probable

Inj. No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
3	2.5 cm (1 in) abrasion to center right lower back*	410202.1	Isolated Interior – This occupant's seatback	Probable
4	5 cm (2 in) abrasion to top back of right shoulder*	710202.1	Isolated Interior – Other interior object (specify): Left side wall upper corner of patient compartment	Probable
5	5 cm (2 in) bruise to left mid shin*	810402.1	Isolated Interior – Other interior object (specify): patient cot	Probable

Source: Medical record
Interviewee*

Patient Compartment Paramedic Kinematics

The paramedic was seated on the rear-facing captain's seat leaning to the right with his elbow on the desk area with his head in his right hand. He was not wearing the integrated four-point lap and shoulder seat belt system. At impact he initiated a rearward trajectory (respective to his seated position) in response to the frontal crash forces and loaded the seatback. The posterior aspect of his scalp struck the corner area of an overhead cabinet that resulted in a 4 cm (1.6 in) laceration and an unspecified loss of consciousness. The abrasion to the right shoulder was likely also caused by the overhead cabinet. His back abrasion was probably caused by the seatback and the bruise to his left shin was caused from contact to the patient cot in front of him. He was transported by helicopter to a local hospital and he was admitted overnight for observation.

2001 Dodge Ram 2500

Description

The Dodge (Figure 12) was a rear-wheel drive, 3-passenger pickup truck identified by VIN 3B7KC26Z61Mxxxxxx, manufactured in February 2001. It had a 5.9 liter, 8-cylinder gasoline engine linked to a 4-speed automatic transmission. Its service brakes were power-assisted four-wheel disc with ABS. The gross vehicle weight rating was 3,992 kg (8,800 lb).

Figure 12. Right front oblique view of the Dodge

Exterior Damage

The crash involved the front plane of the Dodge. The offset frontal impact with the ambulance resulted in a CDC of 12FYEW4. The maximum crush to the front plane was 95 cm (37 in) and was located 53 cm (21 in) right of the left front bumper corner.

The WinSMASH program could not be used to calculate delta V since the impact with large vehicles is out of the scope of the program. The barrier equivalent speed calculated by the WinSMASH program was 49 km/h (30 mph). The result was considered reasonable based on damage to the vehicle.

Event Data Recorder

The Dodge was not supported by the Bosch CDR software.

Occupant Data

The Dodge driver was an unbelted 37-year-old male. The police crash report stated that the driver sustained incapacitating (A-level) injuries. He was transported by helicopter to a local hospital for treatment. The extent of his injuries and treatment is unknown.

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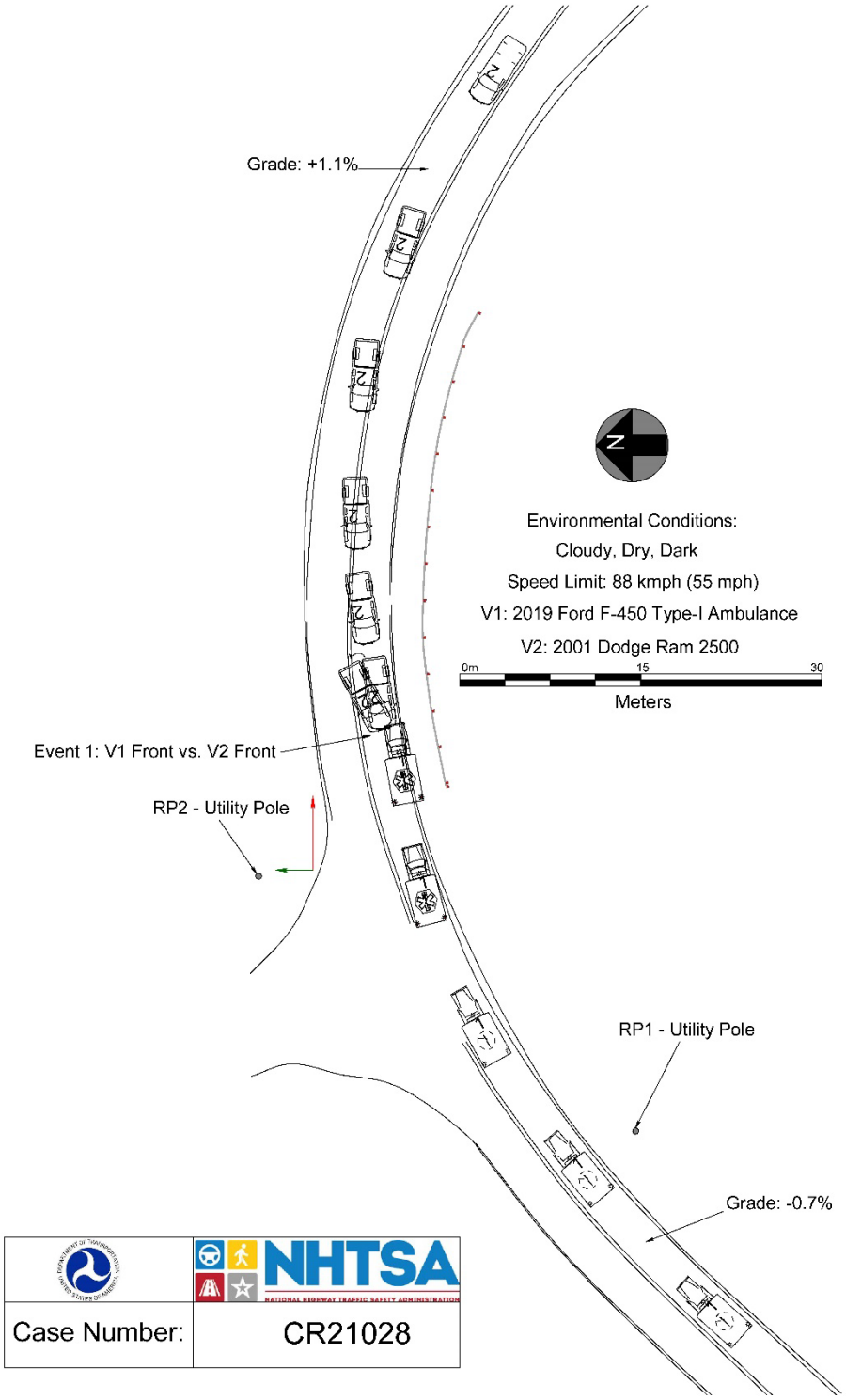
Crash Diagram



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Appendix A: 2019 Ford F-450 Event Data Recorder Report

[1] 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 Viewer 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	1FDUF4HT9KD******
User	
Case Number	
EDR Data Imaging Date	
Crash Date	
Filename	CR21028_V1_ACM.CDRX
Saved on	
Imaged with CDR version	Crash Data Retrieval Tool 21.3
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 21.5.1
Reported with Software Licensed to (Company Name)	NHTSA
EDR Device Type	Airbag Control Module
ACM Adapter Detected During Download	No
Event(s) recovered	locked frontal event

Comments

No comments entered.

The retrieval of this data has been authorized by the vehicle's owner, or other legal authority such as a court order or search warrant, as indicated by the CDR tool user on .

Data Limitations

Data Imaging:

CAUTION: When imaging data directly from the RCM on a bench top, make sure the RCM is placed on a flat surface without any movement (static) while connected to and powered by the CDR interface. Not following the above guideline for bench top imaging could risk inducing new events to be recorded in the RCM and possibly overwriting a Non airbag deployment.

Note that the RCM Adapter Detected during Download parameter equal to '' Yes'' indicates that the EDR data was collected directly from the RCM. When equal to "No", it indicates that the EDR data was collected through the OBD II from the vehicle.

Restraints Control Module (RCM) Recorded Crash Event(s):

The RCM can store up to two crash events. Event types are categorized as follow:

1. Non deployment trigger event is an event in which EDR recording trigger threshold is met or exceeded (minimum of 5 mph (8kph) Accumulated Delta Velocity within 150ms interval), but no device(s) have deployed. The data from such event can be overwritten by subsequent events.

2. Airbag deployment event is an event in which frontal, side or curtain airbags have deployed. Note that such event cannot be overwritten or cleared from the Restraints Control Module (RCM). Once the RCM has deployed any airbag device(s), the RCM must be replaced.

3. Some RCM may also categorize Non airbag deployment event. This type is an event in which non airbag devices such as pretentioners, knee bolster etc… have deployed. Note that such event can be overwritten given a subsequent "deployment" event.

"Time zero" or Event Beginning of any event (First Record or Second Record) is defined as the first Algorithm wake up during that event. So all the Pre-Crash, At Event, Delta V Data, deployment times etc… are relative to "Time zero".

It is possible that conditions in a crash may result in an incomplete event data record.

EDR Data Elements Overview/Interpretation in CDR Report:

Under CDR File Information Section

- Event(s) recovered indicates if an event was detected and recorded by RCM. If no event is detected, it will indicate "none". If a trigger or non airbag deployment event is detected, it will indicate "unlocked event". If an airbag deployment is detected, it will indicate "locked frontal event", or "locked side event", or "locked rollover event".

Under System Status at Event Section

- Complete file recorded indicates if data from the recorded event has been fully written to the RCM memory.
- If the RCM detected a peripheral crash sensor was lost during an event, the crash sensor would be identified as well as the time it was lost during that event relative to Time zero. If no loss of a peripheral crash sensor, nothing would be displayed. Note in some vehicles, loss of a peripheral crash sensor may lead to the loss of another peripheral crash sensor due to shared communication.

Under Deployment Data Section

- If the RCM commanded a deployment during an event, the deployment device(s) would be identified as well as the time the RCM commanded its deployment relative to Time zero. If no device was commanded to deploy by the RCM, nothing (no deployment device(s)) would be displayed.

Under Pre-Crash Data -5 to 0 sec

- Steering Wheel Angle if Applicable: positive value indicates left turn, and negative value would indicate right turn.
- Stability Control Lateral Acceleration if Applicable: Lateral Acceleration (Y-direction) is the acceleration along the lateral axis of the vehicle, reported as positive when accelerating to the left.
- Stability Control Longitudinal Acceleration if Applicable**:** Longitudinal Acceleration (X-direction) is the acceleration along the longitudinal axis of the vehicle, reported as positive when accelerating in a forward direction.
- Stability Control Yaw Rate if Applicable: The Yaw Axis is the vertical axis of the vehicle, generally perpendicular to the plane of the road. A positive Yaw Rate is counter-clockwise when observing the vehicle from above.
- Stability Control Roll Rate if Applicable: The Roll Axis is the longitudinal axis of the vehicle, generally aligned with the primary axis of motion of the vehicle. A positive Roll Rate is counter-clockwise when observing the vehicle from the front.

Under Longitudinal Crash Pulse

- Delta-V, longitudinal: SAE J211 sign convention, negative value generally indicates a front crash and positive value generally indicates a rear crash. Longitudinal delta-V reflects the change in forward velocity that the sensing system experienced from Time zero. It is not the speed the vehicle was traveling before the event. Note that the vehicle speed is recorded separately. This data should be examined in conjunction with other available physical evidence from the vehicle and scene when assessing occupant or vehicle longitudinal delta-V.

Under Lateral Crash Pulse

- Delta-V, lateral: SAE J211 sign convention, Positive value generally indicates a driver side crash and negative value generally indicates a passenger side crash.

Under Rollover Sensor Data (if Applicable)

- Vehicle roll angle if applicable: The Roll Axis is the longitudinal axis of the vehicle, generally aligned with the primary axis of motion of the vehicle. A positive Roll Angle is counter-clockwise when observing the vehicle from the front.

Data Sources:

The Restraints Control Module (RCM) contains all recorded data on any event. Data collected from the RCM comes from multiple sources:

1. Internal to the RCM such as internal sensors for delta Velocity data, rollover angle data if applicable, etc… which are measured, calculated and stored internally.

2. External to the RCM but with a direct connection such as buckle switches, peripheral crash sensors, seat track switch(s) etc… which are measured, calculated and stored internally.

3. External Modules to the RCM such as Powertrain Control Module, Brake Control Module, etc… Theses modules communicate to the RCM via Vehicle Communication Network. The RCM stores the received data internally.

02013_RCM-RC7P_r001

System Status at Time of Retrieval

VIN As Programmed into RCM at Factory	1FDUF4HT9KD******
Current VIN (From PCM)	1FDUF4HT9KD******
Ignition Cycle, Download (First Record)	2,977
Ignition Cycle, Download (Second Record)	N/A
Restraints Control Module Part Number	HC3T-14B321-BF
Restraints Control Module Serial Number	3577742337750000
Restraints Control Module Software Part Number (Version)	HB5T-14C028-BA
Driver Side/Center Frontal Restraints Sensor Serial Number	00BB30EF
Driver, Row 1, Side Restraint Sensor 1 Serial Number	00000071
Driver, Row 2, Side Restraint Sensor 2 Serial Number	00000000
Passenger Frontal Restraints Sensor Serial Number	00000000
Passenger, Row 1, Side Restraint Sensor 1 Serial Number	000000A4
Passenger, Row 2, Side Restraint Sensor 2 Serial Number	00000000

System Status at Event (First Record)

Complete File Recorded (Yes,No)	Complete
Multi-Event, Number of Events	1
Time From Event 1 to 2 (msec)	0
Lifetime Operating Timer at Event Time Zero (sec)	5,128,875
Key-On Timer at Event Time Zero (sec)	9,750
Vehicle Voltage at Time Zero (V)	14.3
Energy Reserve Mode Entered During Event (Yes, No)	No
Longitudinal Delta-V Time Zero Offset (msec)	5.5
Lateral Delta-V Time Zero Offset (msec)	5.5
Roll Angle Time Zero Offset (msec)	15.5
Fuel Cutoff Algorithm Decision Time (msec)	30

Faults Present at Start of Event (First Record)

No Faults Recorded

Deployment Data (First Record)

Frontal Airbag Deployment, Time to First Stage Deployment, Driver (msec)	30.0
Frontal Airbag Deployment, Time to First Stage Deployment, Front Passenger (msec)	30.0
Pretensioner (Retractor) Deployment, Time to Fire, Driver (msec)	30.0
Pretensioner (Retractor) Deployment, Time to Fire, Right Front Passenger (msec)	30.0
Side (Thorax) Airbag Deployment, Time to Deploy, Driver (msec)	71.5
Side (Thorax) Airbag Deployment, Time to Deploy, Right Front Passenger (msec)	71.5
Side Curtain Airbag Deployment, Time to Deploy, Driver Side (msec)	71.5
Side Curtain Airbag Deployment, Time to Deploy, Passenger Right Side (msec)	71.5
Pretensioner (Anchor) Deployment, Time to Fire, Driver (msec)	37.0
Pretensioner (Anchor) Deployment, Time to Fire, Right Front Passenger (msec)	37.0
Maximum Delta-V, Longitudinal (MPH [km/h])	-14.54 [-23.40]
Time, Maximum Delta-V Longitudinal (msec)	300.0
Driver or center, front satellite sensor, Discriminating Deployment	Yes
Driver or center, front satellite sensor, Safing Deployment	Yes
RCM front(longitudinal), Discriminating Deployment	Yes
RCM front(longitudinal), Safing Deployment	Yes

Pre-Crash Data -1 sec (First Record)

Ignition cycle, Crash	2,969
Frontal Air Bag Warning Lamp, On/Off	Off
Safety Belt Status, Driver	Buckled
Safety Belt Status, Front Passenger	Buckled
Brake Telltale	Off
ABS Telltale	Off
ESC/TC Telltale	Off
ESC/TC Off Telltale	Default Mode
Powertrain Wrench Telltale	Off
MIL Telltale (Powertrain Malfunction Indicator)	Fresh Off
Global Real Time (seconds)	76,957,308.5
Frontal Air Bag Suppression Switch Status, Front Passenger	Off

Pre-Crash Data -5 to 0 sec [2 samples/sec] (First Record) - Table 1 of 2

Time (sec)	Speed, Vehicle Indicated (MPH [km/h])	Speed, Vehicle Indicated, Quality Factor	Accelerator Pedal, % Full	Accelerator Pedal, % Full, Quality Factor	Service Brake, On/Off	Service brake, on/off Quality Factor	Engine RPM	ABS Activity (Engaged, Non-Engaged)
- 5.0	24.8 [40]	OK	18.5	OK	Off	OK	1,688	Non-engaged
- 4.5	25.3 [41]	OK	13.5	OK	Off	OK	1,518	Non-engaged
- 4.0	25.7 [41]	OK	14.3	OK	Off	OK	1,484	Non-engaged
- 3.5	26.1 [42]	OK	15.9	OK	Off	OK	1,346	Non-engaged
- 3.0	26.4 [43]	OK	7.9	OK	Off	OK	1,354	Non-engaged
- 2.5	26.3 [42]	OK	8.5	OK	Off	OK	1,350	Non-engaged
- 2.0	26.5 [43]	OK	10.0	OK	Off	OK	1,366	Non-engaged
- 1.5	26.7 [43]	OK	11.0	OK	Off	OK	1,378	Non-engaged
- 1.0	26.6 [43]	OK	0.0	OK	Off	OK	1,364	Non-engaged
- 0.5	23.4 [38]	OK	0.0	OK	On	OK	1,180	Non-engaged
0.0	16.2 [26]	OK	0.0	OK	On	OK	836	Engaged

Pre-Crash Data -5 to 0 sec [2 samples/sec] (First Record) - Table 2 of 2

Time (sec)	Brake Powertrain Torque Request 1	Brake Powertrain Torque Request 2	Traction Control via Brakes	Wheel Torque Requested	Speed Control Status	Driver Gear Selection (Auto Trans)	Cruise Control Driver Accelerator Pedal Override
- 5.0	No	No	No	1,816	Off	Drive	Inactive (not overridden)
- 4.5	No	No	No	1,196	Off	Drive	Inactive (not overridden)
- 4.0	No	No	No	1,192	Off	Drive	Inactive (not overridden)
- 3.5	No	No	No	1,516	Off	Drive	Inactive (not overridden)
- 3.0	No	No	No	572	Off	Drive	Inactive (not overridden)
- 2.5	No	No	No	648	Off	Drive	Inactive (not overridden)
- 2.0	No	No	No	864	Off	Drive	Inactive (not overridden)
- 1.5	No	No	No	968	Off	Drive	Inactive (not overridden)
- 1.0	No	No	No	136	Off	Drive	Inactive (not overridden)
- 0.5	No	No	No	-12	Off	Drive	Inactive (not overridden)
0.0	No	No	No	-76	Off	Drive	Inactive (not overridden)

Pre-Crash Data -5 to 0 sec [10 samples/sec] (First Record)

Time (sec)	Stability Control Lateral Acceleration (g)	Stability Control Longitudinal Acceleration (g)	Stability Control Yaw Rate (deg/sec)	Stability Control Roll Rate (deg/sec)	Steering Wheel Angle (deg)
- 5.0	-0.03	0.04	0.36	-0.71	2.7
- 4.9	-0.01	0.06	0.17	-0.31	0.4
- 4.8	-0.02	0.03	0.13	-1.03	-2.9
- 4.7	-0.04	0.04	-0.22	-1.91	-7.9
- 4.6	-0.07	0.04	-0.88	-1.11	-13.5
- 4.5	-0.07	0.03	-1.51	-1.08	-19.2
- 4.4	-0.05	0.02	-1.86	-1.03	-24.2
- 4.3	-0.11	0.02	-2.76	-0.71	-26.5
- 4.2	-0.09	0.03	-2.66	-0.60	-29.9
- 4.1	-0.11	0.03	-3.24	-0.15	-34.2
- 4.0	-0.12	0.02	-3.75	0.15	-39.6
- 3.9	-0.15	0.02	-4.19	0.39	-41.6
- 3.8	-0.12	0.06	-4.47	0.95	-42.3
- 3.7	-0.12	0.04	-4.63	0.95	-46.3
- 3.6	-0.16	0.04	-5.11	1.08	-50.0
- 3.5	-0.12	0.03	-5.27	1.48	-52.0
- 3.4	-0.15	0.03	-5.60	1.88	-54.3
- 3.3	-0.16	0.02	-5.81	1.83	-55.6
- 3.2	-0.18	0.01	-6.20	2.72	-59.3
- 3.1	-0.14	-0.01	-6.38	1.59	-65.0
- 3.0	-0.21	0.00	-7.24	0.68	-69.0
- 2.9	-0.14	-0.02	-7.68	0.79	-70.0
- 2.8	-0.13	0.00	-7.93	0.03	-70.3
- 2.7	-0.21	-0.02	-8.25	0.71	-71.3
- 2.6	-0.17	-0.02	-8.09	1.11	-71.3
- 2.5	-0.16	0.01	-8.20	0.07	-71.3
- 2.4	-0.18	0.03	-7.86	-0.71	-72.6
- 2.3	-0.16	0.00	-8.49	0.39	-73.6
- 2.2	-0.17	-0.01	-8.61	0.68	-75.3
- 2.1	-0.23	0.01	-8.58	0.31	-79.0
- 2.0	-0.12	-0.02	-8.93	-0.11	-80.0
- 1.9	-0.18	0.01	-9.04	-1.51	-79.6
- 1.8	-0.21	0.00	-9.32	0.39	-79.0
- 1.7	-0.20	-0.02	-8.83	0.28	-77.0
- 1.6	-0.21	0.00	-8.70	0.71	-77.0
- 1.5	-0.19	0.01	-8.54	2.07	-76.6
- 1.4	-0.16	0.01	-8.83	1.00	-76.6
- 1.3	-0.24	0.01	-8.79	0.87	-80.0
- 1.2	-0.26	0.01	-9.06	-0.28	-87.3
- 1.1	-0.22	-0.03	-9.76	-0.79	-94.6
- 1.0	-0.27	-0.05	-11.29	-0.36	-105.1
- 0.9	-0.28	-0.01	-11.70	0.03	-107.0
- 0.8	-0.25	-0.21	-11.91	-0.55	-107.7
- 0.7	-0.25	-0.37	-11.75	0.03	-110.3
- 0.6	-0.31	-0.49	-12.46	0.44	-126.4
- 0.5	-0.31	-0.59	-13.82	-0.47	-145.1
- 0.4	-0.30	-0.68	-15.11	-0.52	-158.1
- 0.3	-0.21	-0.73	-14.52	1.80	-152.4
- 0.2	-0.03	-0.70	-11.84	4.40	-123.7
- 0.1	-0.15	-0.79	-8.97	7.63	-116.1
0.0	-0.12	-0.70	-6.93	7.68	-94.1

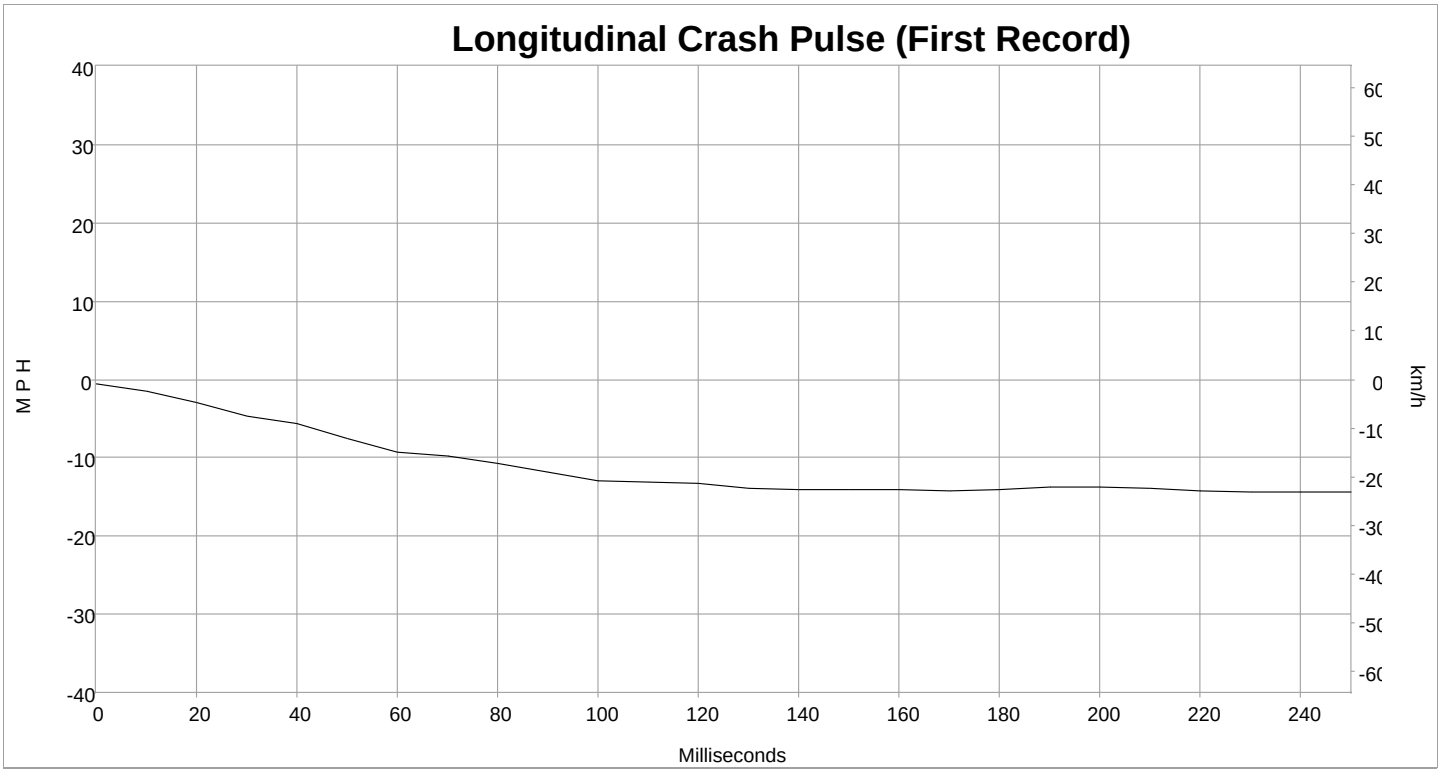
Pre-Crash Data -5 to 0 sec [5 samples/sec] (First Record)

Time (sec)	Brake Pre-Charge Request	Brake Assist Sensitivity Level	Brake Deceleration Request (m/s^2)	Brake Deceleration Request Enable	Large Driver Steering or Accel Pedal Input	Collision Mitigation System Fault	Collision Mitigation System Enabled
- 5.0	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 4.8	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 4.6	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 4.4	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 4.2	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 4.0	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 3.8	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 3.6	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 3.4	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 3.2	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 3.0	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 2.8	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 2.6	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 2.4	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 2.2	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No

Time (sec)	Brake Pre-Charge Request	Brake Assist Sensitivity Level	Brake Deceleration Request (m/s^2)	Brake Deceleration Request Enable	Large Driver Steering or Accel Pedal Input	Collision Mitigation System Fault	Collision Mitigation System Enabled
- 2.0	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 1.8	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 1.6	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 1.4	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 1.2	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 1.0	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 0.8	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 0.6	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 0.4	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
- 0.2	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No
0.0	No PreCharge Request	Normal	0	No (no CMbB deceleration request)	No	No (not denied)	No

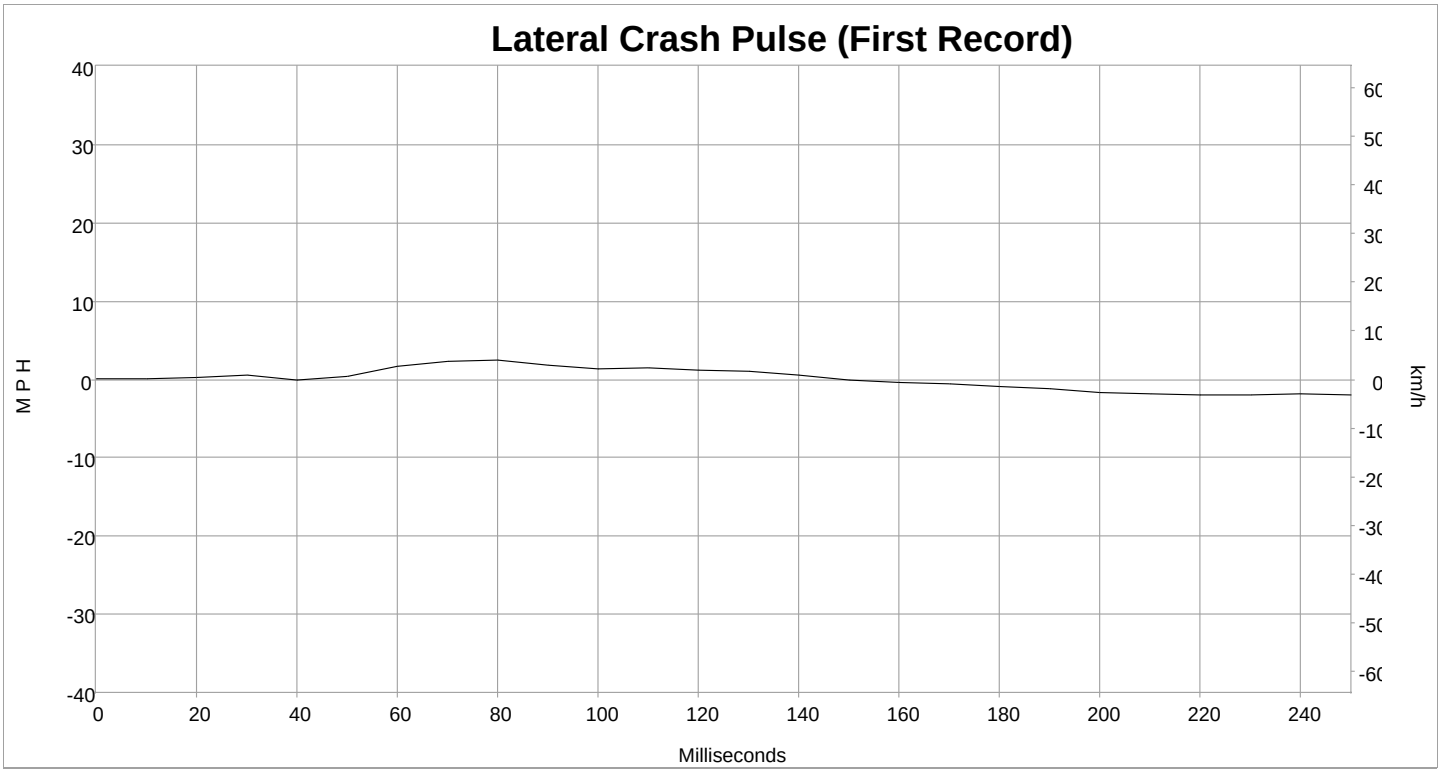
Post-Crash Data 0 to 5 sec [4 samples/sec] (First Record)

Time (sec)	Impact Event Feedback Status
0.00	EventInProgress
0.25	EventInProgress
0.50	EventInProgress
0.75	EventInProgress
1.00	EventInProgress
1.25	EventInProgress
1.50	EventInProgress
1.75	EventInProgress
2.00	EventInProgress
2.25	EventInProgress
2.50	EventInProgress
2.75	EventInProgress
3.00	EventInProgress
3.25	EventInProgress
3.50	EventInProgress
3.75	EventInProgress
4.00	EventInProgress
4.25	EventInProgress
4.50	EventInProgress
4.75	EventInProgress
5.00	EventInProgress



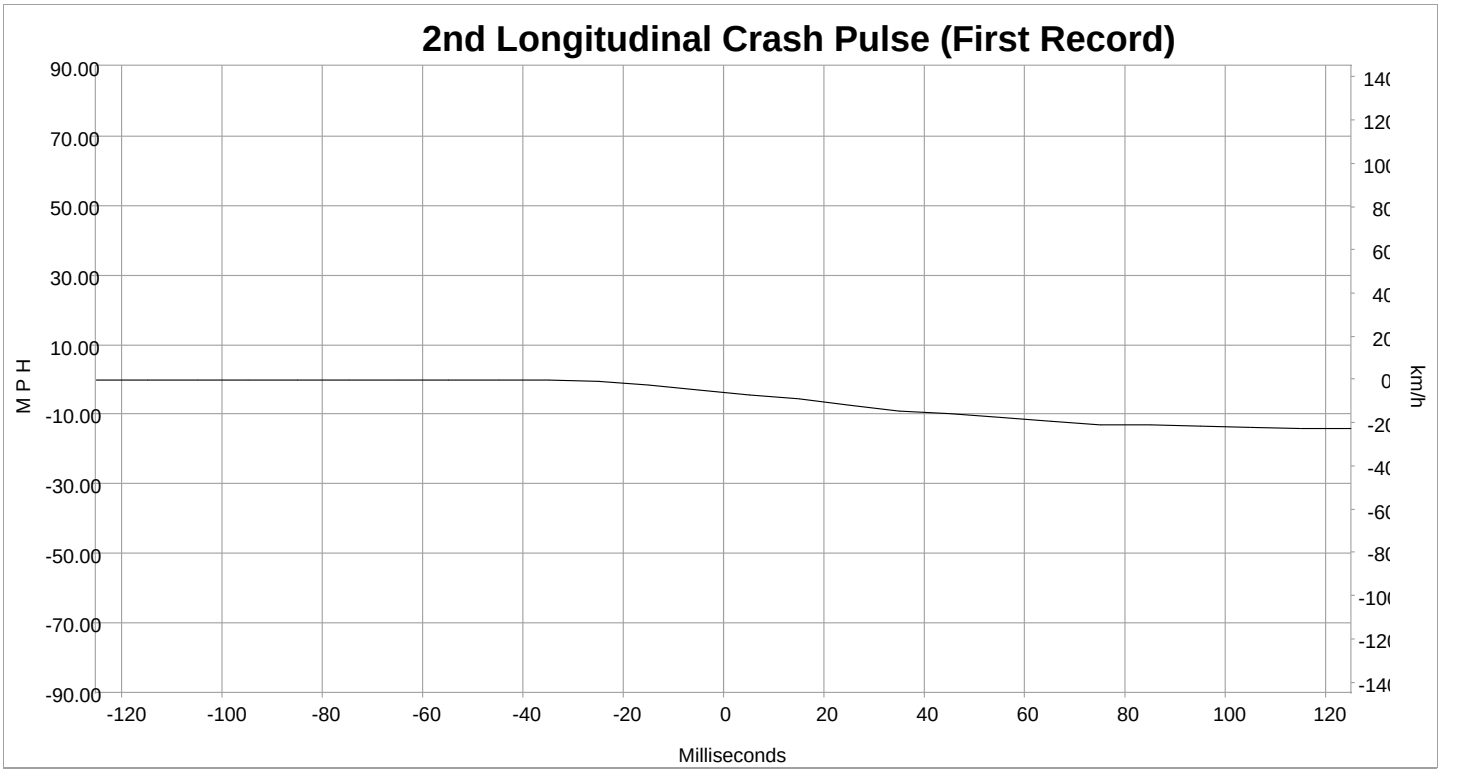
Longitudinal Crash Pulse (First Record)

Time (msec)	Delta-V, longitudinal (MPH)	Delta-V, longitudinal (km/h)
0	-0.60	-0.97
10	-1.49	-2.40
20	-2.98	-4.80
30	-4.65	-7.48
40	-5.66	-9.11
50	-7.49	-12.06
60	-9.24	-14.87
70	-9.82	-15.81
80	-10.74	-17.29
90	-11.90	-19.15
100	-12.91	-20.78
110	-13.04	-20.99
120	-13.32	-21.44
130	-13.86	-22.31
140	-14.02	-22.56
150	-14.05	-22.61
160	-14.15	-22.78
170	-14.26	-22.95
180	-14.02	-22.56
190	-13.76	-22.14
200	-13.79	-22.20
210	-13.96	-22.46
220	-14.21	-22.87
230	-14.35	-23.10
240	-14.42	-23.21
250	-14.47	-23.29



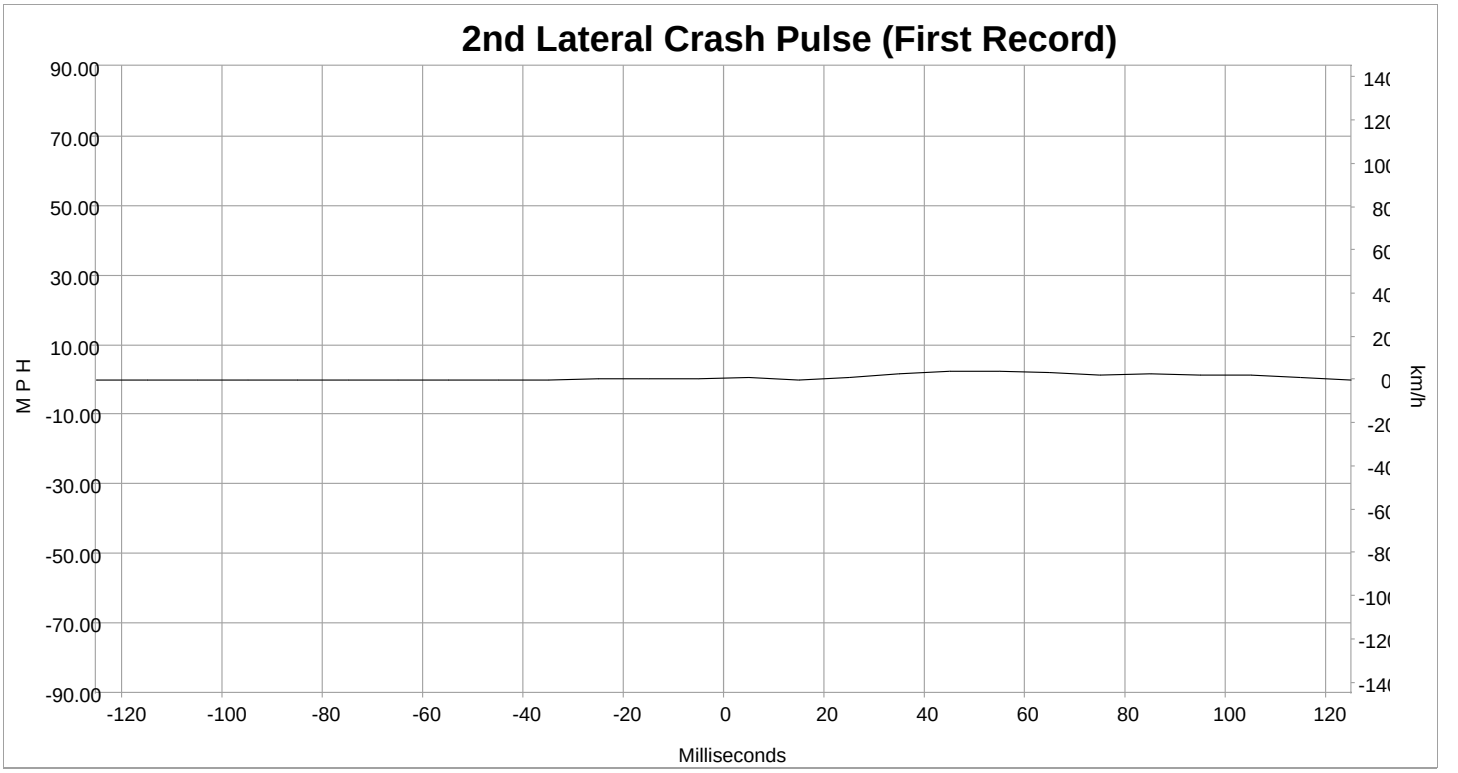
Lateral Crash Pulse (First Record)

Time (msec)	Delta-V, Lateral (MPH)	Delta-V, Lateral (km/h)
0	0.02	0.04
10	0.07	0.12
20	0.29	0.47
30	0.48	0.78
40	-0.15	-0.24
50	0.39	0.63
60	1.60	2.58
70	2.27	3.66
80	2.47	3.97
90	1.86	3.00
100	1.43	2.30
110	1.52	2.44
120	1.26	2.02
130	1.09	1.75
140	0.56	0.90
150	-0.07	-0.12
160	-0.40	-0.64
170	-0.61	-0.98
180	-0.81	-1.31
190	-1.17	-1.88
200	-1.59	-2.56
210	-1.85	-2.98
220	-2.03	-3.26
230	-2.01	-3.24
240	-1.90	-3.05
250	-1.95	-3.14



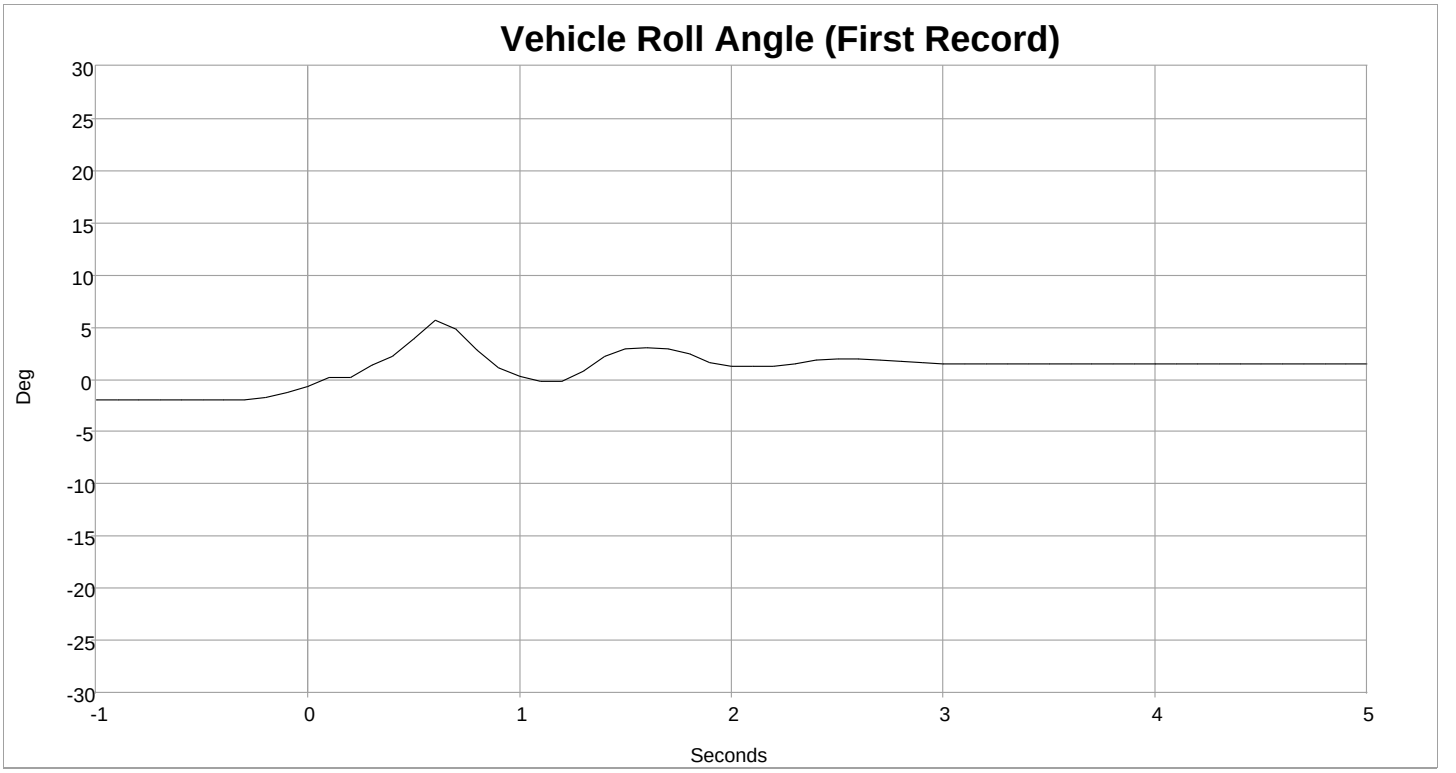
2nd Longitudinal Crash Pulse (First Record)

Time (msec)	2nd Delta-V, longitudinal (MPH)	2nd Delta-V, longitudinal (km/h)
-125	0.00	0.00
-115	0.00	0.00
-105	0.00	0.00
-95	0.00	0.00
-85	0.00	0.00
-75	0.00	0.00
-65	0.00	0.00
-55	0.00	0.00
-45	0.00	0.00
-35	0.00	0.00
-25	-0.60	-0.97
-15	-1.49	-2.40
-5	-2.98	-4.80
5	-4.65	-7.48
15	-5.66	-9.11
25	-7.49	-12.06
35	-9.24	-14.87
45	-9.82	-15.81
55	-10.74	-17.29
65	-11.90	-19.15
75	-12.91	-20.78
85	-13.04	-20.99
95	-13.32	-21.44
105	-13.86	-22.31
115	-14.02	-22.56
125	-14.05	-22.61



2nd Lateral Crash Pulse (First Record)

Time (msec)	2nd Delta-V, Lateral (MPH)	2nd Delta-V, Lateral (km/h)
-125	0.00	0.00
-115	0.00	0.00
-105	0.00	0.00
-95	0.00	0.00
-85	0.00	0.00
-75	0.00	0.00
-65	0.00	0.00
-55	0.00	0.00
-45	0.00	0.00
-35	0.00	0.00
-25	0.02	0.04
-15	0.07	0.12
-5	0.29	0.47
5	0.48	0.78
15	-0.15	-0.24
25	0.39	0.63
35	1.60	2.58
45	2.27	3.66
55	2.47	3.97
65	1.86	3.00
75	1.43	2.30
85	1.52	2.44
95	1.26	2.02
105	1.09	1.75
115	0.56	0.90
125	-0.07	-0.12



Vehicle Roll Angle (First Record)

Time (sec)	Vehicle Roll Angle (deg)
-1.0	-1.97
-0.9	-1.97
-0.8	-1.99
-0.7	-1.99
-0.6	-1.99
-0.5	-1.99
-0.4	-2.00
-0.3	-1.96
-0.2	-1.71
-0.1	-1.25
0.0	-0.65
0.1	0.22
0.2	0.13
0.3	1.39
0.4	2.18
0.5	3.90
0.6	5.66
0.7	4.86
0.8	2.82
0.9	1.12
1.0	0.25

Time (sec)	Vehicle Roll Angle (deg)
1.1	-0.17
1.2	-0.15
1.3	0.80
1.4	2.15
1.5	2.98
1.6	3.05
1.7	2.89
1.8	2.39
1.9	1.66
2.0	1.24
2.1	1.20
2.2	1.30
2.3	1.55
2.4	1.80
2.5	1.94
2.6	1.94
2.7	1.84
2.8	1.69
2.9	1.56
3.0	1.51
3.1	1.51

Time (sec)	Vehicle Roll Angle (deg)
3.2	1.52
3.3	1.53
3.4	1.53
3.5	1.53
3.6	1.52
3.7	1.51
3.8	1.47
3.9	1.47
4.0	1.47
4.1	1.47
4.2	1.47
4.3	1.47
4.4	1.47
4.5	1.47
4.6	1.47
4.7	1.47
4.8	1.47
4.9	1.47
5.0	1.47

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.

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$5B17 - Event Type
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$F113 - RCM Part Number
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$F18C - RCM Serial Number
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$F188 - RCM Software Part Number
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$5800 - Left/Center Frontal Restraints Sensor Serial Number
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$5801 - Left Side Restraints Sensor One Serial Number
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$5802 - Left Side Restraints Sensor Two Serial Number
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$5804 - Right Frontal Restraints Sensor Serial Number
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$5805 - Right Side Restraints Sensor One Serial Number
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$5806 - Right Side Restraints Sensor Two Serial Number
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$DE00 - Original VIN
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$F190 - Current VIN
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$DE01 - RCM Option Content
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$5817 - Event Record 1

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22 20 00 00 28 22 00 00 5E 25 00 00 64 29 00 00 E8 2C 00 00 5C 2D 00 00 56 2E 00 00 38 30 00 00
C0 30 00 00 DC 30 00 00 3A 31 00 00 98 31 00 00 BE 30 00 00 DA 2F 00 00 FA 2F 00 00 88 30 00 00
6E 31 00 00 EA 31 00 00 28 32 00 00 54 32 00 00 14 00 00 00 42 00 00 00 02 01 00 00 B0 01 00 00
7C FF FF FF 5C 01 00 00 92 05 00 00 EA 07 00 00 92 08 00 00 7A 06 00 00 F6 04 00 00 48 05 00 00
5C 04 00 00 C8 03 00 00 F4 01 00 00 BC FF FF FF A0 FE FF FF E2 FD FF FF 2E FD FF FF F0 FB FF FF
78 FA FF FF 90 F9 FF FF F2 F8 FF FF FE F8 FF FF 66 F9 FF FF 36 F9 FF FF 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1A 02 00 00 2E 05 00 00 62 0A 00 00 28 10 00 00 B0 13 00 00 0E 1A 00 00 22 20 00 00 28 22 00 00
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00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
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E6 F9 FF FF 03 FA FF FF CA FA FF FF 33 FC FF FF 01 FE FF FF A8 00 00 00 62 00 00 00 3F 04 00 00
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$5818 - Event Record 2
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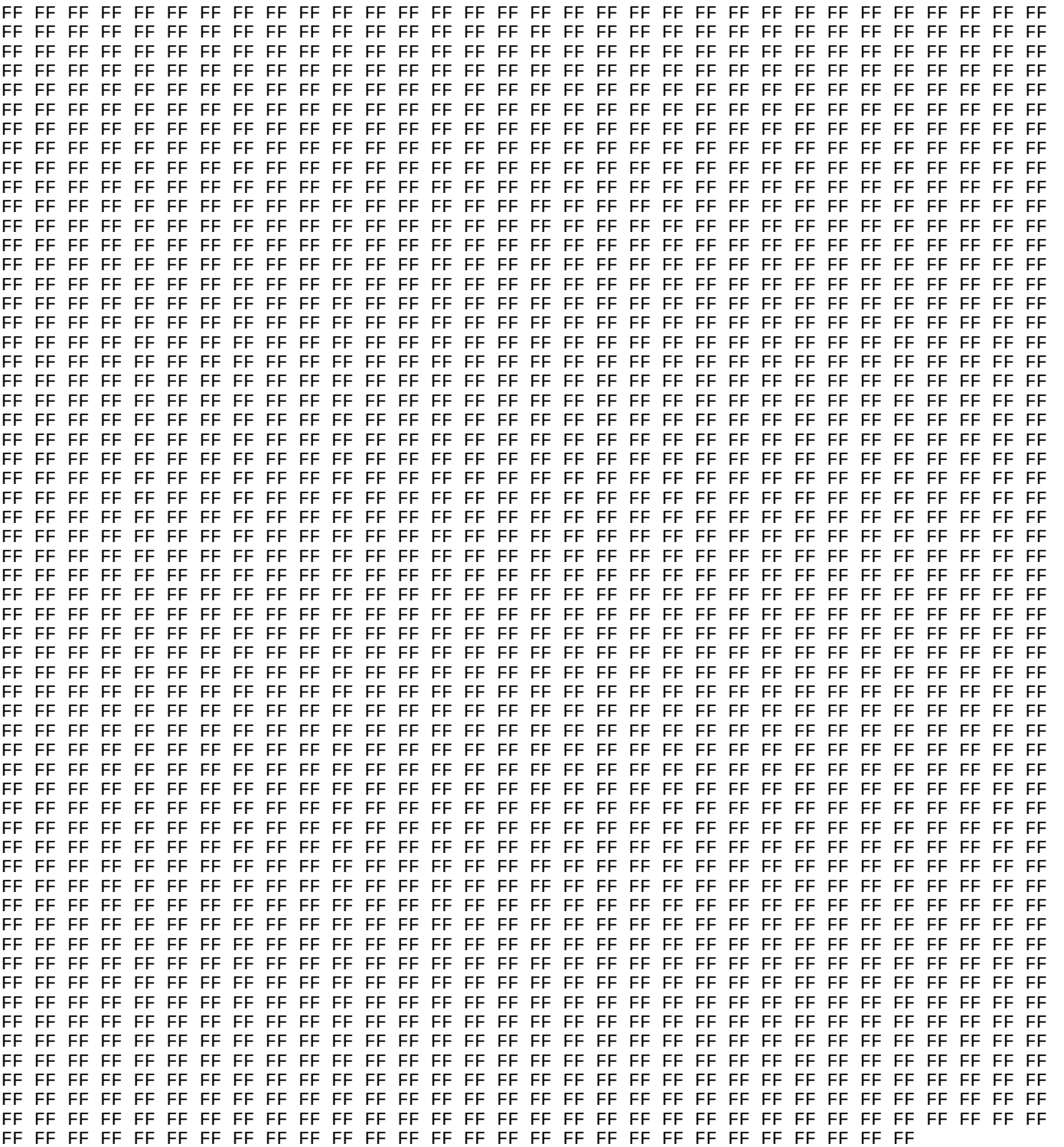

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