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Special Crash Investigations: On-Site Air Bag Non-Deployment Crash Investigation; Vehicle: 2004 Ford Explorer; Location: Ohio; Crash Date: July 2017

DISCLAIMER

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15. Supplementary Notes 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 non-deployment of the frontal air bag system in a 2004 Ford Explorer, a 4-door SUV equipped with dual-stage frontal air bags. A belted 50-year-old male drove the vehicle. The driver's dog was located on the front passenger's seat, and distracted the driver. The vehicle departed the right side of the roadway and the vehicle sustained four minor impacts with fixed objects. The vehicle re-entered and traveled across the roadway and departed the south side of the roadway where the front plane struck and fractured a 30 cm (11.8 in.) diameter wooden utility pole, part of which then struck the hood. The vehicle rotated clockwise and came to final rest on the south roadside facing southwest. The driver sustained police-reported "B" (non-incapacitating) injuries and was transported by ambulance to a hospital and admitted for treatment of moderate severity injuries. The vehicle was towed from the crash scene due to damage.The driver's frontal air bag did not deploy during the impact with the utility pole. It is possible that the crash sensing algorithm determined that the impact was not of sufficient severity to require air bag deployment due to an elongated crash pulse resulting from fracturing of the utility pole and the impact occurring between the Ford's frame rails in a relatively "soft" area of the front structure.			
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Special Crash Investigations
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BACKGROUND

This report documents the on-site investigation of the non-deployment of the driver's frontal air bag in a 2004 Ford Explorer (**Figure 1**). This single-vehicle crash investigation was initiated by the National Highway Traffic Safety Administration in July 2017 and assigned to the Special Crash Investigations (SCI) team at the Indiana University Transportation Research Center. The crash occurred in Ohio in July 2017 during afternoon hours and was investigated by a local police agency. The Ford and the crash scene were inspected and the driver interviewed in August 2017. A follow-up interview was also conducted with the driver in September 2017.

Figure 1: The damaged 2004 Ford Explorer.

This crash occurred on the roadside of a curved, two-lane, two-way suburban roadway. The Ford was a 4-door SUV equipped with dual-stage frontal air bags. A belted 50-year- old male drove the vehicle. The driver's dog was located on the front passenger's seat. The Ford was traveling west in its lane in a left curve when the driver was distracted by his dog. The vehicle departed the right side of the roadway and the vehicle sustained four minor impacts with fixed objects (Events 1 to 4). The vehicle re-entered and traveled across the roadway and departed the south side of the roadway where the front plane struck and fractured a 30 cm (11.8 in.) diameter wooden utility pole (Event 5). An unknown component of the damaged utility pole then struck the hood (Event 6). The vehicle rotated clockwise and came to final rest on the south roadside facing southwest. The driver sustained police-reported "B" (non-incapacitating) injuries and was transported by ambulance to a hospital and admitted for treatment of moderately severe injuries. The vehicle was towed from the crash scene due to damage.

The driver's frontal air bag did not deploy during the impact with the utility pole. It is possible that the crash sensing algorithm determined that the impact was not sufficiently severe to require air bag deployment due to an elongated crash pulse resulting from fracturing of the utility pole and the impact occurring between the Ford's frame rails in a relatively "soft" area of the front structure.

CRASH SUMMARY

Crash Site

This crash occurred during daytime hours on both roadsides of a curved, two-lane, two-way suburban roadway. The weather conditions were cloudy with southwesterly winds at 23 km/h (14 mph), a temperature of 31 °C (87 °F), and a dew point of 71 °C (22 °F), according to local weather reports. The roadway had one bituminous lane in each direction and was bordered by grass shoulders. A curve warning sign with an advisory speed of 56 km/h (35 mph) and four chevron alignment signs were located on the right side of the roadway in the curve. A plastic petroleum pipeline marker and vent pipe were also located on the right side of the roadway. Wooden utility poles were located along both sides of the roadway. The speed limit was 72 km/h (45 mph). A crash diagram is included at the end of this report.

Figure 2: Westbound approach of the Ford.

Figure 3: Westbound view of the area of roadway departure and approach to impact with two chevron alignment signs.

Pre-Crash

The Ford was traveling west in its lane in a left curve (**Figure 2**) at a driver-reported speed of 64 to 72 km/h (40 to 45 mph). The driver stated during the SCI interview that he had picked up his dog from the veterinarian and was concerned about the poor condition of the dog. The driver took his attention away from the roadway and reached over to the dog, who was located on the front row right seat. The vehicle then departed the right side of the roadway (**Figure 3**). The driver further stated that he did brake without lock-up in an effort to avoid the crash.

Crash

The Ford's right outside mirror struck a chevron alignment sign (Event 1) as the vehicle departed the right side of the roadway. The vehicle traveled 18.4 m (60.4 ft) and the left outside mirror struck a second chevron alignment sign (Event 2). The vehicle continued for 15.0 m (48.8 ft) and the left front tire struck a hole in the ground followed by a right plane sideswipe to a plastic petroleum pipeline marker post (**Figure 4**,

Figure 4: Westerly view of the approach to impact with petroleum pipeline marker post (displaced during impact).

events 3 and 4). The vehicle traveled 54.4 m (178.4 ft) from the wheel impact and re-entered the roadway traveling 18.5 m (60.7 ft) along a diagonal path across the roadway (**Figure 5**) and departed the south side of the roadway. The vehicle then traveled an additional 7.3 m (23.9 ft) and the front plane (**Figure 6**) struck a 30 cm (11.8 in.) diameter wooden utility pole (Event 5). The impact displaced the pole in the ground and fractured the top portion of the pole, which remained suspended by the electrical lines. An unknown component of the utility pole was displaced and struck the left portion of the hood (Event 6). The vehicle rotated clockwise 80 degrees from the utility pole impact and came to final rest heading southwest. The impact resulted in no deployment of the driver's frontal air bag. WinSMASH could not be used to calculate delta V since an impact with a yielding object is out of scope for the program. However, WinSMASH was used to calculate a barrier equivalent speed (BES) of 44 km/h (27 mph) based on the crush to the front plane. The results appeared reasonable.

Figure 5: Southwesterly view of the vehicle's trajectory across roadway to impact with utility pole (arrow).

Figure 6: Damage to the Ford's front plane from utility pole impact.

Post-Crash

The driver exited the vehicle without assistance through the left front door. He then removed his dog from the vehicle. The driver sustained police-reported "B" (non- incapacitating) injuries and was transported by ambulance to a hospital and admitted for treatment of moderate severity injuries. The driver's dog sustained a fractured back and was euthanized the following day. The vehicle was towed from the crash scene due to damage. The fractured utility pole was replaced the same day by the local power company.

2004 FORD EXPLORER

Description

The Ford was a 4-wheel-drive, 7-occupant, 4-door SUV with the Vehicle Identification Number 1FMZU73K64Uxxxxxx manufactured in June 2004. The vehicle was equipped with a 4.0-liter, V-6 engine, 5-speed automatic transmission, 4-wheel antilock brakes with electronic brake force distribution, a tire pressure monitoring system, and adjustable pedals. The vehicle was also equipped with dual stage frontal air bags and a tilt steering column, which was adjusted to the center position. The driver stated during the interview that the vehicle's mileage was 141,459 miles (227,650 kilometers). The specified wheelbase was 289 cm (113.8 in.).

The vehicle manufacturer's recommended tire size was P235/70R16. The vehicle was equipped with Yokohoma YK-HTX tires of the recommended size. The manufacturer's recommended cold tire pressure for the front and rear tires was 240 kPa (35 psi). The tires were in good condition prior to the crash.

The front row was equipped with driver and front passenger leather-covered bucket seats with adjustable head restraints. The second row was equipped with a leather-covered split bench seat with folding backs and adjustable head restraints. The third row was equipped with a leather-covered bench seat with folding back and adjustable head restraints. The driver's seat track was adjusted between the middle and rear-most positions and the seat back was slightly reclined. The top of the driver's head restraint was located 18 cm (7.1 in.) above the top of the seat back. The remaining seat positions were unoccupied at the time of the crash.

Exterior Damage

Exterior Damage Event 1: The right side view mirror was damaged and displaced from the vehicle during the impact with a chevron alignment sign. There was no side plane crush from this impact.

Damage Classifications Event 1: The Collision Deformation Classifications (CDC) was 12RPGN2. The severity of the damage was minor.

Exterior Damage Event 2: The left side view mirror was also damaged and displaced from the vehicle when it struck a second chevron alignment sign. There was no other damage to the left plane from this impact.

Damage Classification Event 2: The CDC was 12LPGN2. The severity of the damage was minor.

Exterior Damage Events 3 and 4: The left front tire sustained a bead separation and loss of air pressure from the impact with the hole in the ground. The right plane was scraped during the sideswipe impact with the plastic petroleum pipeline marker pipe. The direct damage began 213 cm (83.9 in.) forward of the right rear axle and extended 245 cm (96.5 in.) rearward on the side plane. There was no crush from this impact.

Damage Classification Events 3 and 4: The CDC for the wheel impact was 12FLWN3. The CDC for the sideswipe was 12RZES1. The severity of the damage was minor for each impact.

Exterior Damage Event 5: The front plane sustained direct and induced damaged during the impact with the 30 cm (11.8 in.) diameter wooden utility pole. The bumper, grille, and hood were directly damaged. The direct damage began 55 cm (21.7 in.) left of the front right bumper corner and was 30 cm (11.8 in.) long. The Field L was 59 cm (23.2 in.). Crush measurements were taken on the bumper bar and the maximum residual crush was 49 cm (19.3 in.) occurring 33

cm (13.0 in.) left of the right bumper corner (**Figure 7**). The crush values were: C1 = 11 cm (4.3 in.), C2 = 31 cm (12.2 in.), C3 =48 cm (18.9 in.), C4 = 49 cm (19.3 in.), C5 = 20 cm (7.9 in.), C6 = 0 cm.

*Damage Classification Event 5**:*** The CDC was 12FCEN2. The severity of the damage was moderate.

Exterior Damage Event 6: The top left portion of the hood was damaged by a displaced component of the utility pole. The shape of the damage suggested it may have been a securement component that was part of the guy wire system.

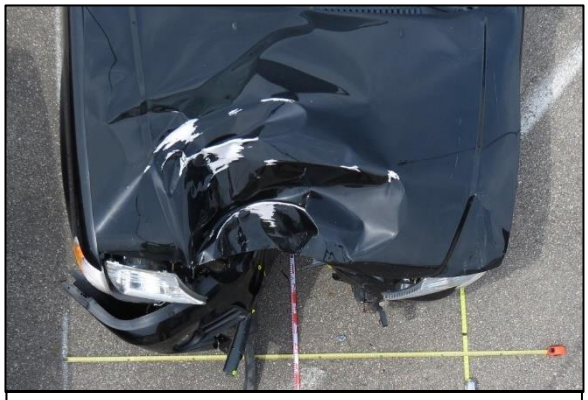


Figure 7: Front crush to the Ford from impact with the utility pole.

*Damage Classification Event 6**:*** The CDC was 00TFLN2. The severity of the damage was minor.

Event Data Recorder

The Ford was equipped with a Power Train Control Module (PCM) that was capable of capturing pre-crash data. The PCM and was supported by the Bosch Crash Data Retrieval (CDR) tool. The PCM was imaged with version 17.4 of the CDR program via direct connection to the PCM. The data was read with version 19.3.1 and the report is attached at the end of this report as an appendix. The pre-crash data monitored by the PCM was not stored because a restraint deployment signal was not received by the PCM. The electrical system remained energized post-crash (broken ignition key) and overwrote any crash-related data with zeros and default data.

Interior Damage

The interior of the Ford (**Figure 8**) sustained minor damage resulting from 10 cm (3.9 in.) of longitudinal intrusion of the left toe pan. Evidence of occupant contact consisted of the fractured ignition key from contact by the driver's right knee. The driver's head contacted the steering wheel rim, although there was no evidence of contact other than sustained injury. He loaded the seat belt system evidenced by frictional abrasions on the latch plate and webbing from the D-ring. The passenger mid-mount air bag module cover was dented and the glove box door scuffed from contact by the driver's dog. The windshield-mounted rear view mirror separated from the windshield from possible driver arm contact, or the crash forces. The AS1 laminated windshield was fractured vertically from exterior deformation. All other glazing was undamaged. All the doors remained closed and operational.

Figure 8: Oblique view of Ford's front row/non-deployed air bags.

Manual Restraint Systems
The front, second, and third row seating positions were equipped with manual 3-point lap and shoulder seat belts with sliding latch plates. The front row seat belts had adjustable D-rings, both adjusted to the full-down positions. The front row positions were equipped with buckle pretensioners that did not actuate. The driver was restrained by the lap and shoulder seat belt as evidenced by a 6 cm (2.4 in.) long load mark from the D-ring located on the belt webbing and frictional abrasions on the polymer surface of the latch plate.

Supplemental Restraint Systems
The Ford was equipped with dual-stage frontal air bags for the driver and right passenger positions. The driver air bag was mounted in the four-spoke steering wheel hub. The front right passenger air bag was a mid-mount configuration with a single cover flap that wrapped onto the top instrument panel. The frontal air bags did not deploy during the impact with the utility pole. The Ford was not equipped with side impact seat-mounted or inflatable curtain air bags.

NHTSA Recalls And Investigations
The Safercar.gov website was searched in March 2020 using the Ford's VIN and no open recalls were listed.

A Carfax report was also obtained for the vehicle. It reported that the vehicle had three owners. No issues, recalls, or previous crashes beside the one that is the subject of this investigation were reported. The maintenance that was reported in the Carfax was all routine and did not include any service related to the air bag system.

Driver's Frontal Air Bag Non-Deployment Discussion
The SCI investigation determined that the vehicle sustained six impacts during the crash sequence and only the frontal impact with the utility pole was possibly of sufficient severity to require deployment of the driver's frontal air bag. There are at least two possibilities as to why the driver's frontal air bag did not deploy during the utility pole impact. One possibility is that there was an issue or malfunction with the air bag system. The other is that the crash sensing algorithm determined that the crash was not of sufficient severity to require air bag deployment. The first possibility was considered unlikely since there were no recalls on the vehicle related to the air bag system and the Carfax and driver reported no air bag related issues with vehicle. The driver also stated during the interview that at no time during his ownership of the vehicle did he notice the air bag warning light illuminated. While it cannot be ruled out that some issue with the air bag system developed prior to or during the crash sequence, that possibility is unlikely. The possibility that the crash sensing algorithm determined that the crash was not of sufficient severity to require air bag deployment appeared more plausible for the following reasons. The crash sensing algorithm is predictive and must make a decision whether or not to deploy the air bag within approximately the initial 50 msec of the impact. Since the utility pole impact occurred between the Ford's frame rails in a relatively "soft" area of the front structure and the utility pole yielded and fractured during the impact, the crash pulse was possibly elongated and the crash sensing algorithm predicted the impact would not be of sufficient severity to require deployment of the driver's frontal air bag.

2004 FORD EXPLORER OCCUPANT

Driver Demographics

Age/sex:	50 years/male
Height:	180 cm (71 in.)
Weight:	89 kg (196 lb)
Eyewear:	Sunglasses
Seat type:	Bucket
Seat track position:	Between middle and rear-most
Manual restraint usage:	Lap and shoulder seat belt
Usage source:	Vehicle inspection
Air bags:	Frontal, not deployed
Alcohol/drug involvement:	None
Egress from vehicle:	Exited through left front door without assistance
Transport from scene:	Ambulance
Medical treatment:	Hospitalized 2 days

Driver Injuries

Injury No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
1	Right lung contusion	441406.2	Tandem IPC Initial: Interior – Shoulder portion of belt restraint Secondary: Front - Steering wheel (combination of rim and spoke)	Possible Certain
2	Laceration to forehead, 3 cm	210602.1	Isolated IPC Front – Steering wheel rim	Certain
3	Right periorbital ecchymosis	210402.1	Isolated IPC Front – Steering wheel rim	Certain
4	Cervical strain	640278.1	Isolated IPC Interior - Shoulder portion of belt restraint	Certain
5	Right upper chest contusion	410402.1	Isolated IPC Front - Steering wheel (combination of rim and spoke)	Certain
6	Left upper chest contusion	410402.1	Isolated IPC Interior - Shoulder portion of belt restraint	Certain
7	Lower abdomen contusion	510402.1	Isolated IPC Interior - Lap portion of belt restraint	Certain

Source: hospital records

Driver Kinematics

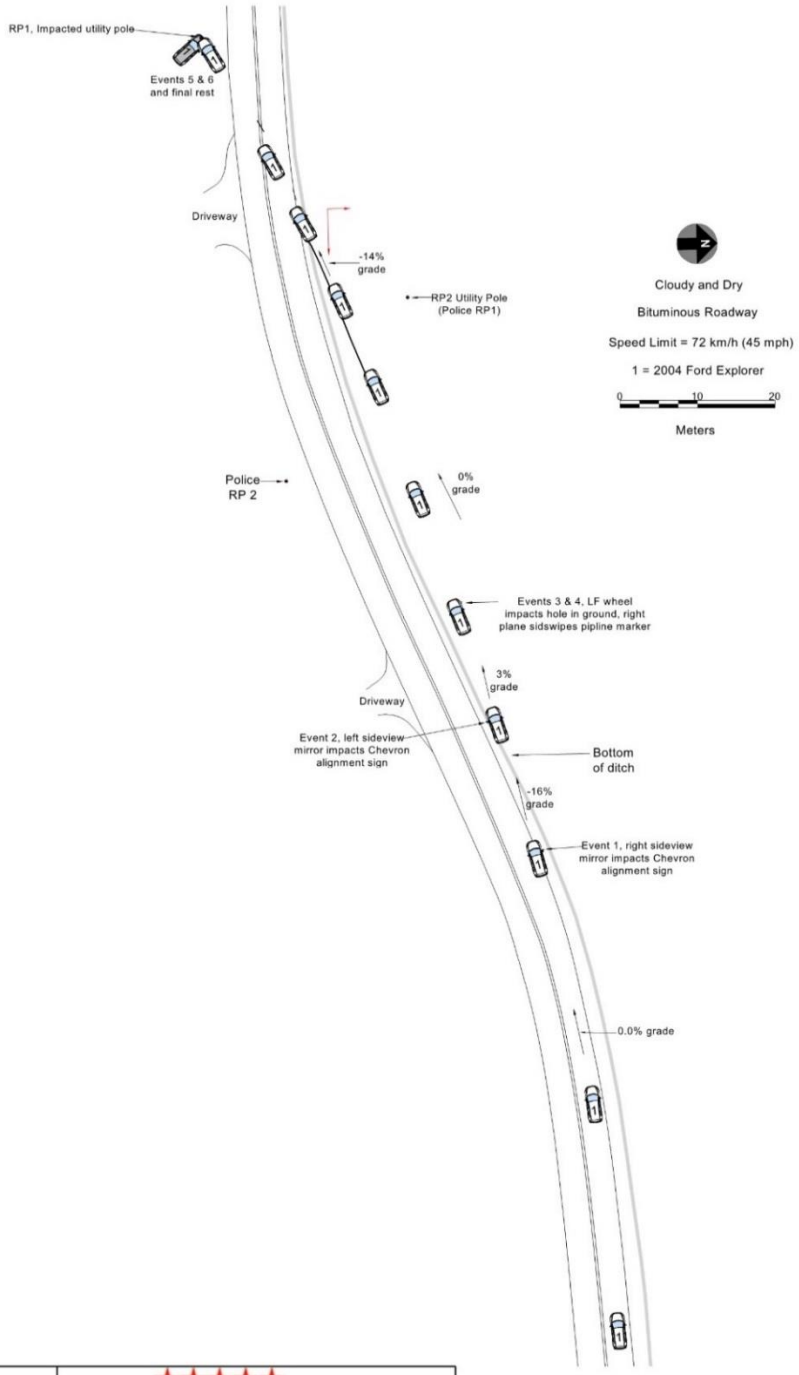
The driver was seated in an upright driving posture with the seat track adjusted between the middle and rear-most positions and the adjustable head restraint in the full-down position. He was restrained by the manual 3-point lap and shoulder seat belt evidenced by frictional abrasions on the polymer surface of the latch plate and a D-ring transfer on the webbing. The driver was minimally displaced in multiple directions in his seat belt as the vehicle traveled off road and sustained minor impacts to both side planes and the left front wheel.

The driver responded to the 12 o'clock direction of force impact with the utility pole by translating forward and initially loading the seat belt webbing as the ELR retractor locked. This loading produced the seat belt evidence and caused a contusion over the driver's upper left chest and an abdominal contusion. The initial loading of the seat belt webbing caused his head to flex forward causing cervical strain. His torso began to rotate counterclockwise from under the shoulder belt webbing which allowed his right chest to contact the steering wheel rim resulting in an upper chest wall contusion and an underlying pulmonary contusion. His head continued forward and struck the steering wheel rim resulting in a forehead laceration and a right periorbital contusion. The driver's right knee also contacted the right side of the steering column and fractured the ignition key in the switch. His right hand or arm possibly contacted the rearview mirror that separated from its windshield mount. No injury occurred from this possible contact. Deployment of the driver's frontal air bag may have prevented or reduced the severity of his head and thoracic injuries.

It should be noted that the driver's unrestrained dog moved forward from the right front seat and struck the left aspect of the non-deployed right front air bag module cover. The cover flap was dented with dog hair scattered around the contact area. A scuff was also noted on the glove box door from dog contact.

Immediately following the crash, the driver unbuckled his seat belt system, opened the left front door and exited the vehicle without assistance. He was transported by ambulance to a local hospital where he was evaluated and admitted for two days for treatment of his injuries.

CRASH DIAGRAM



	NHTSA www.nhtsa.gov
Case Number:	IN17025

APPENDIX A: 2004 FORD EXPLORER POWER CONTROL MODULE REPORT[1]

[1] The PCM 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	1FMZU73K64U******
User	
Case Number	
EDR Data Imaging Date	
Crash Date	
Filename	201750S2IN17025_V1_PCM.CDRX
Saved on	
Imaged with CDR version	Crash Data Retrieval Tool 17.4
Imaged with Software Licensed to (Company Name)	NHTSA
Reported with CDR version	Crash Data Retrieval Tool 19.3.1
Reported with Software Licensed to (Company Name)	U.S. DOT / NHTSA
EDR Device Type	Powertrain Control Module
Restraint Deployment Signal Received	No. Analyst evaluation of PCM EDR data is needed. Refer to CSV export of PCM EDR data to perform further analysis.

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

FORD POWERTRAIN CONTROL MODULE EVENT DATA INTERPRETATION GUIDE

1. This document is intended to assist you in reading the data that has been retrieved from a Powertrain Control Module ("PCM") contained in a Ford vehicle. This document is further intended to provide general guidelines and is not intended to provide information regarding the interpretation of a specific read-out.

2. The data points in the “PCM EDR Data” tables shown in this report are recorded in the PCM approximately every 0.2 seconds. Where a time element is shown in the report under the heading “Relative Time (calc.),” that is a value calculated by the CDR Tool software based on the indication of the receipt of a "Restraint Deployment Signal" or "RDS" which is a function of communication between the RCM and PCM. While the recording time interval shown is based on the function of the PCM, the “Relative Time (calc.)” is not a data element which is retrieved from the PCM.

3. In the event that one of the vehicle's restraint devices (e.g., an airbag or belt pretensioner) have been commanded for deployment by the Restraint Control Module (RCM), it is designed to indicate that deployment as a function of a Restraints Deployment Signal (RDS). If the PCM "receives" an RDS, the PCM will lock data internally in the PCM. The RCM and PCM both require power for some period of time after the collision and after a deployment in order for that signal or flag to reach the PCM.

4. If no RDS flag has been received from the RCM and there is still power to the PCM, the PCM data will not lock and the circular buffer will continuously overwrite itself when the vehicle’s ignition is in the run position. In this event, data contained in the PCM that was relevant to the collision may be lost. However, if power was lost as a result of the collision, or the ignition key was turned off shortly after the event, there may still be data relating to the collision in the PCM.

5. Finding the data closest to impact:

a.) Where a Restraint Deployment Signal is received by the PCM, the data is displayed based on the “Relative Time (calc.)” parameter beginning with the oldest recorded frame of data displayed first in the data table. When an RDS has been received by the PCM, the indication will be associated with a frame of data reported as "RDS = Received" which would follow a series of data elements showing "RDS=NOT RECEIVED." To calculate relative time, the CDR program adopts a "time zero" (for the time element shown in in the column “Relative Time (calc.)") associated with the sample where the RDS was received. The CDR Tool software then assigns "negative time" relative to that point moving "back in time" to the oldest sample in the loop of data and "positive time" going forward from that assigned time zero.

b.) Where a Restraint Deployment Signal is NOT received at any point in the data set, the data is displayed in order of the “Buffer Address” parameter data beginning with the lowest address value. The PCM buffer is circular and the data point of the first address listed in the PCM EDR Data tables does not necessarily signify the beginning of the PCM recording loop. The start and stop time of the PCM recording could be in the middle of the table. An indication that there has been an impact will often correlate with a discontinuity of the data listed in the table. If a single, significant discontinuity in the data is found, the data point immediately

preceding the discontinuity is likely to be the last data point recorded. If there is no single significant discontinuity, the data must be examined in detail to determine the largest discontinuity in the largest number of data elements. If no single largest discontinuity can be determined, it may not be possible to determine whether or not this data is associated with an impact.

c.) The Restraint Deployment Signal may not be recorded on the PCM immediately at impact. Time lags within the system may result in the Restraint Deployment Signal being recorded a few data samples after impact has occurred. The Restraint Deployment Signal is a guide, but the analyst must examine all of the data to determine when impact has occurred.

6. The PCM Data Tables further show a column labeled as the "Key on Timer - 63.75 Max (sec)" or PUTMR. The PUTMR shows the length of time that the PCM was functioning for the most recent key cycle. The timer ascends to a maximum value of 63.75 seconds. If the data was not locked by an RDS flag and the ignition key was turned off and on again, the PCM will begin to write new data starting at the beginning of the data table. While it is not common, there are instances where the first portion of the data table has subsequent-key-on, post-crash data; while the latter portion of the data table has data from the key cycle in which the crash occurred. In other rare cases, an event has occurred in less than 25 seconds after key on and older data from prior key cycles has been left in the latter part of the buffer. Review the Key on Timer - 63.75 Max (sec) (PUTMR) data for discontinuities to determine if this has occurred.

7. Data displayed in the Key on Timer - 63.75 Max (sec) column has a resolution of 0.25 seconds and rounds actual data to the nearest 0.25 seconds. The data points occur every 0.2 seconds.

Actual time	Key on Timer display
0.0	0.0
0.2	0.25
0.4	0.50
0.6	0.50
0.8	0.75
1.0	1.00

8. Recorded Vehicle Speed is proportional to transmission output shaft speed and accuracy can be affected if the vehicle has had the tire size or inflation pressure or the final drive axle ratio changed from the factory build specifications.

9. ABS_EVENT=1 occurs when the ABS is active. This can occur with or without the brake pedal being applied. The ABS module may or may not be taking an action. (For Example, if the brake pedal is not depressed, the ABS cannot modulate brake pressure if it detects wheel slippage)

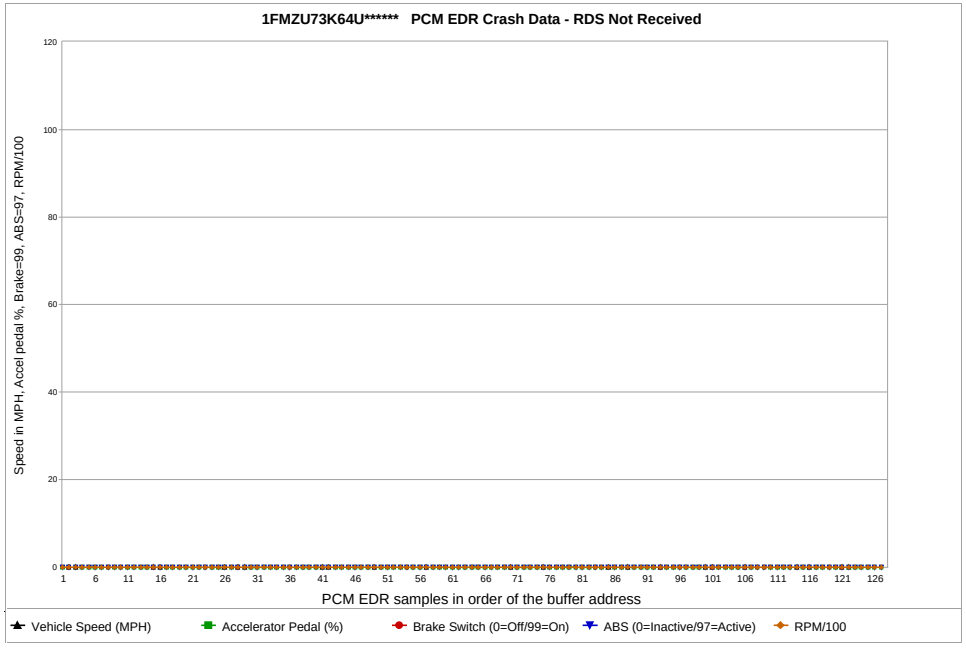
PCM Data Source:
• All PCM recorded data is fed directly from sensors to the PCM where raw signals are processed, and stored internally, except for the following parameters which are transmitted via the vehicle's communication network:

- Stability Control (if equipped)
- Traction Control (if equipped)
- ABS
- Restraint Deployment Signal

02005_PCM-1-2_r002

PCM Module Information

Vehicle Identification Number (from PCM)	1FMZU73K64U******
PCM File Name (calibration level)	PWAPEC5.HEX*
PCM Part Number	4L2A-12A650-AAC


1FMZU73K64U****** PCM EDR Crash Data - RDS Not Received
Speed in MPH, Accel pedal %, Brake=99, ABS=97, RPM/100
120
100
80
60
40
20
0
1 6 11 16 21 26 31 36 41 46 51 56 61 66 71 76 81 86 91 96 101 106 111 116 121 126
PCM EDR samples in order of the buffer address
Vehicle Speed (MPH)
Accelerator Pedal (%)
Brake Switch (0=Off/99=On)
ABS (0=Inactive/97=Active)
RPM/100

PCM EDR Data (1)

Buffer Address (Hex)	Relative Time (calc.) (Seconds)	Restraint Deployment Signal (Received / Not Received)	Speed, Vehicle Indicated (MPH [km/h])	Accelerator Pedal % Full (%)	Engine Throttle % Full (%)	Brake Switch (On / Off)	Brake SC De-ac (On / Off)	ABS (Active / Inactive)	Transmission - Neutral (Neutral / Not Neutral)
EA000010	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000020	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000030	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000040	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000050	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000060	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000070	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000080	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000090	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0000A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0000B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0000C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0000D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0000E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0000F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000100	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000110	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000120	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000130	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000140	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000150	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000160	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000170	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000180	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000190	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0001A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0001B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0001C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0001D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0001E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0001F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000200	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000210	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000220	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000230	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000240	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000250	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000260	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000270	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000280	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000290	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0002A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0002B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0002C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0002D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0002E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0002F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000300	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000310	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000320	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000330	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000340	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000350	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000360	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000370	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000380	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000390	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0003A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0003B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0003C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0003D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0003E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0003F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral

Buffer Address (Hex)	Relative Time (calc.) (Seconds)	Restraint Deployment Signal (Received / Not Received)	Speed, Vehicle Indicated (MPH [km/h])	Accelerator Pedal % Full (%)	Engine Throttle % Full (%)	Brake Switch (On / Off)	Brake SC De-ac (On / Off)	ABS (Active / Inactive)	Transmission - Neutral (Neutral / Not Neutral)
EA000400	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000410	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000420	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000430	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000440	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000450	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000460	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000470	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000480	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000490	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0004A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0004B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0004C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0004D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0004E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0004F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000500	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000510	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000520	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000530	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000540	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000550	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000560	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000570	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000580	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000590	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0005A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0005B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0005C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0005D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0005E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0005F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000600	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000610	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000620	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000630	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000640	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000650	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000660	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000670	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000680	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000690	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0006A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0006B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0006C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0006D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0006E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0006F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000700	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000710	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000720	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000730	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000740	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000750	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000760	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000770	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000780	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA000790	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0007A0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0007B0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0007C0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0007D0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0007E0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral
EA0007F0	N/A	Not Received	0 [0]	0	0	OFF	ON	Not Active	Neutral

PCM EDR Data (2)

Buffer Address (Hex)	Relative Time (calc.) (Seconds)	Transmission - Reverse (Reverse / Not Reverse)	Speed Control (On / Off)	Engine RPM (RPM)	Engine Output Torque Calculated (N-m)	Driveline Output Torque Calculated (N-m)	Traction Control (Active / Inactive)	Stability Control (Active / Inactive)	Key On Timer 63.75 Max (sec) (Seconds)
EA000010	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000020	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000030	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000040	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000050	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000060	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000070	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000080	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000090	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0000A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0000B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0000C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0000D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0000E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0000F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000100	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000110	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000120	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000130	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000140	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000150	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000160	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000170	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000180	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000190	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0001A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0001B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0001C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0001D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0001E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0001F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000200	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000210	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000220	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000230	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000240	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000250	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000260	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000270	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000280	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000290	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0002A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0002B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0002C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0002D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0002E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0002F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000300	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000310	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000320	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000330	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000340	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000350	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000360	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000370	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000380	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000390	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0003A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0003B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0003C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0003D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0003E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0003F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75

Buffer Address (Hex)	Relative Time (calc.) (Seconds)	Transmission - Reverse (Reverse / Not Reverse)	Speed Control (On / Off)	Engine RPM (RPM)	Engine Output Torque Calculated (N-m)	Driveline Output Torque Calculated (N-m)	Traction Control (Active / Inactive)	Stability Control (Active / Inactive)	Key On Timer 63.75 Max (sec) (Seconds)
EA000400	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000410	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000420	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000430	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000440	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000450	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000460	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000470	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000480	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000490	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0004A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0004B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0004C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0004D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0004E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0004F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000500	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000510	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000520	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000530	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000540	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000550	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000560	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000570	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000580	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000590	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0005A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0005B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0005C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0005D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0005E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0005F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000600	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000610	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000620	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000630	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000640	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000650	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000660	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000670	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000680	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000690	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0006A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0006B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0006C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0006D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0006E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0006F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000700	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000710	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000720	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000730	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000740	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000750	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000760	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000770	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000780	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA000790	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0007A0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0007B0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0007C0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0007D0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0007E0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75
EA0007F0	N/A	Not Reverse	OFF	0	-74	-512	Not Active	Not Active	63.75

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.

```
0000100C0:  31 46 4D 5A 55 37 33 4B 36 34 55 2A 2A 2A 2A 2A
0000100D0:  2A FF FF FF

000010046:  50 57 41 50 45 43 35 2E 48 45 58 2A

000010054:  34 4C 32 41 41 41 43 2A

0EA000000:  FF 00 00 01 00 00 00 00 00 00 00 00 00 00 00 00
0EA000010:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000020:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000030:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000040:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000050:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000060:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000070:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000080:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000090:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0000A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0000B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0000C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0000D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0000E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0000F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000100:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000110:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000120:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000130:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000140:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000150:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000160:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000170:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000180:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000190:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0001A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0001B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0001C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0001D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0001E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0001F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000200:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000210:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000220:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000230:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000240:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000250:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000260:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000270:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000280:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000290:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0002A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0002B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0002C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0002D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0002E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0002F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000300:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000310:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000320:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000330:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000340:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000350:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
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0EA000360:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000370:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000380:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000390:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0003A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0003B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0003C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0003D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0003E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0003F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000400:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000410:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000420:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000430:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000440:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000450:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000460:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000470:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000480:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000490:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0004A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0004B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0004C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0004D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0004E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0004F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000500:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000510:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000520:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000530:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000540:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000550:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000560:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000570:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000580:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000590:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0005A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0005B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0005C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0005D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0005E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0005F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000600:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000610:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000620:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000630:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000640:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000650:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000660:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000670:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000680:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000690:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0006A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0006B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0006C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0006D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0006E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0006F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000700:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000710:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000720:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000730:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000740:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000750:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000760:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000770:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000780:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA000790:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0007A0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0007B0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
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0EA0007C0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0007D0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0007E0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
0EA0007F0:  00 02 00 00 00 01 B6 00 00 00 00 00 F8 FF 00 50
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**National Highway
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