Massachusetts State Police Collision Reconstruction Report



CASE #	2011-CAR-000556
Related Case#	2011-0C6-005536

Requesting	g Agency:	MSP Holden				
Date Rec'd:	28 Dec 2011	Time Rec'd: 0800		Class:	Traffic, Crash - MV PI	
Primary Investig	gating Officer:	Sergeant Stephen Kelly		Agency	MSP Holden	
Reconstruction	ist Assigned:	Lieutenant Andrew S Klane, #1301		Team	Central	
Collision	City/Town	County	Day	Date Time		Time
Occurred:	STERLING	WORCESTER	Wednesday	02 Nov 3	2011	05:26

This document may contain sensitive information regulated pursuant to G.L.c.4 7(26). Additionally, information contained in this document and any attachment may or may not be part of an ongoing Massachusetts State Police and/or local police investigation. Any disclosure, dissemination or copying of this report by persons not authorized by the Department of State Police or the District Attorney's Office of jurisdiction is strictly prohibited. Please forward any requests for this report to the following address:

Massachusetts State Police Collision Analysis and Reconstruction Section 485 Maple Street Danvers, MA 01923 cars.reports@state.ma.us

Status: Approved Approved by: #Sergeant Deborah Ryan ID# 1460



Commonwealth of Massachusetts

Collision Analysis and Reconstruction Section

2011-CAR-000556

Collision Reconstruction Report

Collision Analysis and Re Lieutenant Klane, Andrew	econstruction Section	11/2/11 5:26 On Call:	AM No	# Vehic 1	les: # Injured: Speed Limit:	0 65
Arrival Time: 2011-12-28 0	08:00:40 Cleared Time: 20 ⁻	11-12-28 08:00:40	Crash - N	IV PI		
	RT 19	0 South. Mile Marker 1	1.6. STERLING. M	Α		
	Latitud	le: 42 25.87	Longitude: -	71 46.64		
Requesting Agency: MSP	Holden	Requesting A	gency Case#: 2011	1-006-005536	OUI Related: No	
Cause Determination: One	erator/Human Driving Bel	havior Marked Lanes			Charges: Under	
Cause Determination. Op	erator/fiuman, briving be	navior, marked Lanes			Charges. Onder	
Light: 5 - Dark	 roadway not lighted 		Trafficway:	2 - Tv	vo-way. divided, unprote	ected
Weather: 1 - Clear	r 		School Bus:	No		
Traffic Ctrl: 1 - No co	ontrols		Work Zone:	No		
Ctrl Function:			Collision:	1 - Si	ngle Vehicle Crash	
Road Surface: 99 - Unk	nown		1st Harmful:	Other		
InterSection: 1 - Not a	at intersection		1st Harmful L	ocation: 5 - Sh	noulder - Unpaved	
Vehicle# 1 Reg#	169GPO MA	PAN 2007	Ford	Crow	vn Victoria Towed	
Insurance Co: Self Insured	Ł	Action Prior:	1 - Travelling	Straight ahead		
Veh Config: 1 - Passenge	er car	Most Harmful:	Overturn/Rolle	over		
Hit/Run: No		Event Seq. 1:	40 - Ran off ro	oad right		
Moped: No		Event Seq. 2:	35 - Other Fix	ed Object (Wall,		4
Travel Direction: S		Event Seq. 3:	43 - Overturn/	/rollover		5
Respond Emerg: No		Event Seq. 4:			8 7	6
Driver Contributing: 9 - 1	Failure to keep in proper lar	e Under/Override:	1 - None		Damaged Area(s)	1,3,11
Tow Company: Crar	nston's/AAA	Tow Reason:	Crash		Damage > \$1000	Yes
CDR: Yes		CDR Supported:	Yes			
Owner: Veh # 1 Commonwealth of Massach	husetts					
Office of Admin and Finance			Seat Position			
Boston	MA 02133		Safety System:			
DOB:			Airbag Status:			
Sex:			Airbag Switch:			
Lic Num:			Eject Code:			
Lic State:			Trap Code:			
CDI END:			Injury Status:			
ODE END.			MedicalFac			
Medical Examiner:			ME Notified and Ca	ame To:		
Body Removed To:			Next of Kin Notifie	d Bv:		
Citation/Charge(s)						
Driver: Veh # 1						
Murray , Timothy						
470 Worcester Rd			Seat Position:	1 - Front seat - let	ft seat (or	
Framingham	MA 01702		Safety System:	0 - None used		
DOB: 06/07/	/1968		Airbag Status:	1 - Deployed - Fro	nt	
Lic Num: S2572	20482		Fiect Code:	0 - Not ejected		
Lic State: MA			Trap Code:	0 - Not trapped		
Restrictions:			Injury Status:	4 - Possible (non-l	fatal)	
CDL END:			Transported:	1 - Not transported	b	
			MedicalFac.	_		
Medical Examiner:			ME Notified and C	ame To:		
Body Removed To:			Next of Kin Notifie	ed By:		
Citation/Charge(s)	A 10 10 10 10 10 10	Status: Approved				
	Approvea by:	. #Sergeant Deborah	куант D# 1460			

Officer Name	Signature	ID#	Station	Date
Lieutenant Klane, Andrew		1301 Col	lision Analysis and	12/29/2011



Narrative

By Lieutenant Andrew S Klane 1301

It should be noted that the following synopsis is a brief outline or general view of the facts surrounding this incident.

1. On 11/2/2011 at approximately 0526 hrs, vehicle #1 was traveling south on Rte 190 in the town of Sterling at approximately the 11.6 mile marker. The operator of vehicle #1 failed to maintain control of the vehicle. Vehicle #1 traveled off of the west shoulder of the roadway, traveling approximately 140 feet in the grass median at a shallow angle prior to striking a rock ledge, which was located parallel to the travel way. Vehicle #1 rotated clockwise and rolled over before coming to rest on its wheels facing southeast approximately 232 feet south of the impact with the rock ledge.

2. The operator of Vehicle #1 received superficial injuries in this collision. He was evaluated at the scene by Sterling EMS at which time he signed a refusal for medical treatment form.

Lieutenant Andrew S Klane #1301

Lieutenant Andrew S Klane #1301

Status: Approved Approved by: #Sergeant Deborah Ryan ID# 1460

Signature

2

Date

Station

ID#



Massachusetts State Police Collision Analysis & Reconstruction Section



INVESTIGATION

- 1. At the Request of Lieutenant Colonel Timothy P. Alben, this Officer arrived at the State Police General Headquarters on 12/28/2011 at approximately 0800 hrs to image and analyzes the data contained in the Powertrain Control Module (PCM) and the Airbag Control Module (ACM) of vehicle #1, 2007 Ford Crown Victoria VIN # 2FAHP71W47X129872.
- 2. Vehicle #1 was located at the State Police Fleet Section Garage. With the assistance of Tpr Edward O'Hara #2428, C.A.R.S, the PCM and ACM from vehicle #1 were successfully imaged. This Officer also performed a vehicle inspection.
- 3. In preparation for analyzing the Imaged data, this Officer reviewed the crash report prepared by Sgt Stephen Kelly #2197 (2011-0C6-005536) as well as the collision scene photographs taken by Tpr Colleen Tanguay of the Crime Scene Services Section.

ROADWAY

- 4. Rte 190 southbound in Sterling consists of 2 southbound travel lanes each measured to be approximately 12 feet in width. A breakdown lane measuring approximately 11 feet in width is present. A snow shelf measuring approximately 20 feet in width is located to the west of the breakdown lane. A grass shoulder measuring approximately 21 feet in width is located to the west of the breakdown lane. A grass shoulder measuring approximately 21 feet in width is located to the west of the breakdown lane. A rock ledge is located parallel and adjacent to the grass shoulder. On the east side of the roadway there is a 23 foot wide snow shelf located to the east of the left travel lane. A grass shoulder and median is also present. Rte 190 in the area of this collision is generally free of any curvature of the roadway. There is a slight left bearing curve north of the area of this collision.
- 5. According to the report generated by Sgt Stephen Kelly, the weather condition was clear, the lighting condition was nighttime with no artificial lighting and the road surface was icy in the area of this collision.





VEHICLE INSPECTION

- 6. Vehicle #1 was inspected by this Officer on 12/28/2011 at the MA State Police Fleet Section garage in Framingham. To summarize this inspection, vehicle #1 sustained contact damage to the bumper (right front), right front quarter, right front lower control arm and spindle assembly, passenger side front and rear doors, and the right rear quarter from initial contact with the rock ledge.
- 7. There was secondary contact damage to the left rear quarter and left rear door from contact with the ledge during rotation. Vehicle #1 sustained damage due to rolling over to the roof, hood, right rear quarter, "B" and "C" pillars on the passenger side, trunk, rear bumper, left rear quarter and the "C" pillar on the driver's side. Vehicle #1 sustained induced damage to the driver's door and the left front quarter. The left front, right front and right rear rims were bent from contact with the rock ledge and rollover.
- 8. Inspection of the headlamp bulbs depict hot shock indicating the headlights were incandescent at the time of impact. Inspection of the tail lamps indicates that the right rear taillight marker lamp was incandescent. The right rear brake lamp filament did not show any signs of hot shock. The examination of the left rear tail lamp was inconclusive.
- 9. Inspection of the vehicle tires indicates that the vehicle was fitted with Goodyear Eagle Ultra P23555R17 on the left front, right front and right rear. The left rear was fitted with a Goodyear Eagle RSA P23555R17. These tires are the appropriate OEM size for the vehicle. The left front tire had 8/32 of tread and was flat at inspection. The left rear tire had 11/32 of tread and was inflated to 24 PSI at inspection. The right front tire had 7/32 of tread and was flat at inspection. The spare tire (Goodyear Ultra P23555R17) had 11/32 of tread and was inflated to 43 PSI at inspection.

VEHICLE #1 EDR DATA

- 10. Vehicle #1 is equipped with a Supplemental Restraint System (SRS), which includes an Airbag Control Module (ACM) which includes an Event Data Recorder (EDR). Vehicle #1 is also equipped with a Powertrain Control Module (PCM), which also includes an Event Data Recorder (EDR).
- 11. On 12/28/2011 at approximately 0913 HRS, I conducted an EDR investigation on Vehicle #1's PCM and ACM at the GHQ, Framingham garage, where Vehicle #1 had been impounded since shortly after this collision. There was no power to the vehicle, the battery was broken away and the electrical wiring was damaged. The PCM and ACM, including their wiring harnesses and plugs were undamaged and intact. The PCM and ACM were directly accessed utilizing the Ford PCM Adapter while the modules were mounted in the vehicle. (See attached Crash Data Retrieval [CDR] reports.)

VEHICLE #1 ACM EDR DATA

12. Vehicle #1's ACM EDR does not record pre-impact data, such as speed and braking etc. The ACM EDR data was successfully downloaded with no fault or invalidity codes. The CDR report file information indicates that there was a frontal deployment event recorded and a side deployment event recorded. (See attached ACM CDR Report.)

System Status at Retrieval Data

13. The system status at retrieval data indicates that there was one deployment event recorded. The longitudinal velocity change is reported to be -22.67 MPH. The algorithm run time was reported to be 712.8 milliseconds. There were no restraint system faults present at the time of the recorded deployments.

System Status at Frontal Deployment Data

14. At deployment the ignition key had been on for 2,540 seconds (42.33 minutes). The operator's seatbelt switch was reported as unbuckled. The passenger's seatbelt status was listed as unbuckled. The passenger's occupant classification status was reported as empty. The operator's seat was in the rearward position. The deployment was a two stage deployment event. The driver's first stage deployment time was reported to be 19.2 milliseconds. The drivers second stage deployment time was 29.6 milliseconds. Both the operator's and right front seat passenger seatbelt pre-tensioner deployment times were reported as "N/A" (not deployed). The deployment record was complete and the data was locked.

System Status at Side Trigger Event

- 15. At the side trigger event the ignition key had been on for 2,540 seconds (42.33 minutes). The operator's seatbelt switch was reported as unbuckled. The passenger's seatbelt status was listed as unbuckled. The passenger's occupant classification status was reported as empty. The operator's seat was in the rearward position.
- 16. Both the driver and passenger side airbag deployment times were listed as "N/A". Both the driver and passenger pre-tensioner deployment time are listed as "N/A".

Longitudinal Crash Pulse Graph and Table

17. The maximum recorded longitudinal cumulative change in velocity (Delta-V) in the crash pulse data table and graph is reported to be -15.23 MPH at 68.8 milliseconds after algorithm enable (AE). The maximum recorded time for longitudinal crash pulse data in the graph and table is 70.4 milliseconds.

ANALYSIS OF VEHICLE #1 RCM EDR DATA

- 18. Vehicle #1's SRS system was functioning as designed at the time of this collision. The vehicle had been on for 42.33 minutes. The operator's and the right front seat passenger's seatbelt pre-tensioners did not fire. The operator's seatbelt was unbuckled. The right front passenger's seat was unoccupied. The operator's frontal airbag was commanded to deploy. The right front passenger frontal airbag was not commanded to deploy as designed. A side airbag deployment was commanded, but no side airbags deployed.
- 19. Vehicle #1's ACM EDR reported the maximum change in longitudinal velocity to be 22.67 MPH. This reported change in velocity is a moderate change in velocity for Vehicle #1 and its occupant. This reported change in longitudinal velocity is most probably under reported due to rotation of Vehicle #1 during the collision as well as the way that the longitudinal velocity is determined over time by the ACM.

VEHICLE #1 PCM EDR DATA

PCM EDR Access

20. The PCM EDR data was successfully downloaded with no fault or invalidity codes. The data indicates that there was a Restraint Deployment Signal (RDS) received by the PCM from the Supplemental Restraint System (SRS). Analysis of the recovered data and the circumstances of this collision indicate that the recorded data is related to this collision. This PCM records a maximum of 25.2 seconds of data, 20.2 seconds prior to RDS and 5 seconds after RDS.

PCM EDR Data

- 21. The EDR data indicates that the RDS occurred at buffer address #EA0000B0, relative time 0.2 in the PCM EDR report. The key on timer indicates that at RDS, Vehicle #1's ignition was on for a minimum time of approximately 63.75 seconds (1.06 minutes). The key on timer was reported as 63.75 seconds throughout the entire recording, which indicates that the reported data is complete and had not been overwritten.
- 22. A review and analysis of the EDR data indicates that the airbag deployment occurred approximately at buffer address #EA000780, relative time -3.4 seconds prior to the RDS in the PCM EDR report. Vehicle #1's speed at deployment was reported to be 92 MPH. Vehicle #1s brake switch was reported to be on at deployment, but was off .2 seconds prior to deployment and was off .2 seconds after deployment.
- 23. At 16.8 seconds prior to deployment (20.2 seconds prior to RDS), Vehicle #1's speed was reported as 75 MPH, the accelerator pedal was at 27 percent, the engine throttle was at 19.5 percent, the brake switch was off, the ABS was not active and the transmission was reported as Not Neutral.
- 24. At 2.0 seconds prior to deployment Vehicle #1's speed is reported as 93 MPH, the accelerator pedal is 81 percent, the throttle is at 98.5 percent. The brake switch is off. The transmission is "Not Neutral". The ABS has changed to Active, from Not Active at 2.2 seconds prior to deployment.
- 25. At .4 seconds prior to deployment, Vehicle #1's speed is reported to be 108 MPH, the maximum speed reported in the report. The accelerator pedal is reported at 100 percent. The throttle is reported at 98.5 percent. The brake switch and transmission parameters remain unchanged. The ABS remained active.
- 26. At .2 seconds prior to deployment Vehicle #1's speed is reported as 99 MPH, down from the 108 MPH reported at .4 seconds prior to deployment. The accelerator pedal is 100 percent; the throttle is at 98.5 percent. The brake switch is off. The transmission is "Not Neutral". The ABS remained active.
- 27. At deployment, Vehicle #1's speed decreased to 92 MPH, the accelerator pedal remained at 100 percent. The throttle was 98.5 percent. The brake switch changed from off at .2 seconds prior to deployment to on at deployment. The transmission parameters remain unchanged. The ABS remained active. The engine speed was 3,677 RPM.

- 28. At .2 seconds after deployment, Vehicle #1's speed decreased to 56 MPH from 92 MPH at deployment. The accelerator pedal decreased to 2 percent from 100 percent at deployment. The throttle decreased to 47.5 percent from 98.5 percent at deployment. The brake switch changed from on at deployment to off .2 seconds after deployment. The transmission changed to Neutral from Not Neutral at deployment. The ABS remained active.
- 29. After deployment Vehicle #1's reported speeds drop down to 0 MPH at RDS. The accelerator pedal drops down to 0 percent at RDS and the throttle drops to 4.5 percent at RDS. The brake switch remains off to RDS.

VEHICLE #1 PCM EDR DATA ANALYSIS

- 30. Examining Vehicle #1's PCM data indicates that the impact between Vehicle #1 and the rock ledge wall occurred at approximately address #EA000780, approximately at 3.4 seconds prior to the RDS.
- 31. The data indicates that the speed of Vehicle #1 at impact with the ledge was approximately 92 MPH. At the time of impact between Vehicle #1 and the rock ledge, Vehicle #1's accelerator pedal was at 100 percent, its brake switch was on and its ABS system was active.
- 32. The data indicates no significant braking prior to impact with the rock ledge. The ABS system was active at impact with the rock ledge and for approximately 2 seconds prior to impact.
- 33. The maximum speed recorded by Vehicle #1's PCM prior to this collision was 108 MPH at 3.8 seconds before RDS and .40 seconds prior to impact with the rock ledge.
- 34. The data shows that at 16.8 seconds prior to deployment (20.2 seconds prior to RDS), Vehicle #1's speed was 75 MPH.
- 35. After the impact, the reported EDR speed data drops dramatically, eventually to 0 MPH before the airbag RDS is commanded. The decrease in the reported speeds for Vehicle #1 between the initial impact with the rock ledge and the RDS indicate that the ACM was still monitoring Vehicle #1 for additional restraint deployment events prior to issuing the RDS to the PCM.

SUMMARY OF FACTS

- 36. Vehicle #1 was traveling southbound on Rte 190 at speeds ranging from a low of 75 mph to a high of 99 mph while on the roadway, before traveling off of the west shoulder of the roadway.
- 37. Vehicle #1 traversed a distance of approximately 140 feet at a shallow angle across the grass shoulder before striking the rock ledge.
- 38. The speed of vehicle #1 at impact with the rock ledge was approximately 92 mph. This impact was at a slight angle almost parallel to the rock ledge.
- 39. Vehicle #1 traveled an additional 232 feet in a southerly direction while rotating clockwise, rolling over and coming to final rest facing southeast on the grass shoulder.
- 40. EDR data indicates that the maximum speed recorded was 108 mph approximately .4 seconds prior to impact with the rock ledge.
- 41. EDR data indicates that there was no braking prior impact.
- 42. EDR data indicates that the longitudinal delta V was reported as 22.67 mph. This is most likely under reported due to the rotation of the vehicle as well as other collision related factors.
- 43. EDR data indicates that vehicle #1 had its engine running for approximately 42.33 minutes.
- 44. EDR data indicates that the driver's seatbelt was unbuckled.

Respectfully Submitted,

Lt. dell +1301

Lieutenant Andrew S. Klane #1301 ACTAR # 949 Massachusetts State Police Collision Analysis & Reconstruction Section 326 West Grove Street Middleboro, Massachusetts 02346





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	2FAHP71W47X129872
User	LT. A.S. KLANE #1301, MSP-CARS
Case Number	2011-CAR-00556
EDR Data Imaging Date	12/28/2011
Crash Date	11/02/2011
Filename	2011-CAR-000556 2FAHP71W47X129872_ACM.CDRX
Saved on	Wednesday, December 28 2011 at 09:22:11
Collected with CDR version	Crash Data Retrieval Tool 4.3
Reported with CDR version	Crash Data Retrieval Tool 4.3
EDR Device Type	Airbag Control Module
	Frontal Deployment
Event(s) recovered	Side deployment

Comments

12/28/2011, 0910 HRS GHQ GARAGE, FRAMINGHAM. 2007 FORD CROWN VICTORIA. MA REG. 169-GP0. MSP #9200. 1 VEHICLE C-16, RT. 190SB STERLING. IMPACT DAMAGE TO RIGHT FRONT CORNER AND SIDE. ROLLOVER ENTIRE. P235/55R17. OEM. NO POWER. ELECTRICAL SYSTEM DAMAGED. ATTEMPTS THROUGH PCM AND ACM MOUNTED IN VEHICLE. PCM ADAPTER UTILIZED AS REQUIRED.

Data Limitations

The retrieval of this data has been authorized by the vehicle's owner, or other legal authority such as a subpoena or search warrant, as indicated by the CDR tool user on Wednesday, December 28 2011 at 09:22:11.

Limitations that are important for users of the Bosch Crash Data Retrieval (CDR) tool on this Ford product to know

Disclaimer: Ford Motor Company Restraint Control Modules (RCM's) were designed to record deceleration data for the purpose of understanding the approximate input data the Restraint Control Module used to determine whether or not to deploy restraint devices. Ford Motor Company RCM's were not designed for the purpose of assisting accident reconstructionists. Ford RCM modules do not record vehicle speed, throttle position, brake on-off, and other data desired by accident reconstructionists, which may be recorded in some 1999 model year and later General Motors modules. There is a second module in the vehicle, the Powertrain Control Module (PCM) which may record vehicle speed, brake, and throttle information. Proper precautions must be taken when reading the RCM not to spoliate the data in the PCM. Those precautions are discussed later in this document.

The time series deceleration data recorded by Ford's module during a crash is mathematically integrated into a partial Delta V by the Bosch tool. Delta_V is the change in velocity during the recording time and is NOT the speed the vehicle was traveling before the accident.

Accident reconstructionists must be aware of the limitations of the data recorded in Ford's control modules and should compare the recorded data with the physical evidence at the accident scene using professional accident reconstruction techniques (i.e. vehicle crush characteristics, momentum analysis. etc.) before making any assumptions about the import and validity of the data recorded in the module with respect to the crash event being analyzed. The following describes specific limitations that must be considered when analyzing recorded data.

1. There may be no deceleration data recorded in the module.

Loss of power (cut wires, damaged battery, crushed fuse box) to the module during or immediately after the crash may prevent the crash data from being written to NVM (non-volatile memory). A backup power supply within the module has sufficient power to continue to analyze the deceleration data and deploy restraint devices if needed, but there is limited backup power for recording.





2. If there are no deployment times recorded, but airbags or other restraint devices are observed to have deployed, the recorded data that you read after that event are most likely from a prior event. This module family does utilize backup power left over after any deployment to attempt to record information from the crash, and is much more likely to get a recording than prior modules, but it is still theoretically possible that there may not be any recording from a new event in which power is lost.

3. The recorded Longitudinal Delta V may understate or overstate the total Delta_V under certain circumstances.

3.1. This module has two different displays with Delta V information. The cumulative longitudinal Delta V shown in the system status section of the report reflects the change in forward velocity that the sensing system experienced from the point of algorithm entry to algorithm exit. The cumulative longitudinal Delta V may understate the Delta V slightly because the algorithm does not begin until the deceleration reaches a pre-specified level of approximately 2 G's, so the first one or two milliseconds of actual Delta V may not be included in the total.

3.2. If the acceleration levels measured exceed the sensor range of +/-40G's, the data may be clipped and the area under the curve beyond +/-40G's will not be integrated in to the cumulative Delta V.

3.3. In addition to the cumulative Delta V, this module records and displays a time series up to 192 data points of longitudinal vehicle acceleration at 0.8 millisecond intervals from which a partial Delta V is calculated and displayed. The 192 data points consist of 64 data points post deployment, 1 at deployment, and 127 prior to deployment. Depending upon the time from algorithm wake up to deployment, the duration of the data in the graph may not be sufficient to reach the maximum or final Delta V of the collision.

3.4. The cumulative longitudinal Delta V is more likely than the graph to represent the Delta V of the complete crash because it will typically be over a longer duration. One purpose of looking at the graph is to determine if the G level exceeded the sensor range of +/- 40G's which would lead to under or over reporting Delta V.

3.5. The cumulative longitudinal Delta V is not the total resultant Delta V in anything other than a pure frontal collision. If the collision is angular, you must determine the Principal Direction of Force and divide by the cosine of the PDOF angle from frontal to get the total resultant Delta V.

3.6. The "Cumulative Delta V during the algorithm run time accurately reports observed delta-V for the period the RCM's decision making algorithm runs which may, in some cases, be longer than the actual crash pulse for a given event. For that reason, the reported Delta V may be different than a reconstruction based calculated Delta V for a given event. For example, during heavy slowing, such as braking or wheels locked from damage after the initial contact phase in a crash, the vehicle is capable of slowing as much as 2 mph per 100 milliseconds. If the algorithm runs for another 100 milliseconds beyond the end of the normally observed crash pulse, the data recorded may reflect an over reported event Delta V inasmuch as it includes the 2 mph from post contact braking observed while the system was still active. Similarly, after contact a vehicle may continue through the contact area to rest and may experience some level of positive X axis acceleration during that period. Even over a short period, some of that positive X axis acceleration may be observed by the RCM while the algorithm is still running and that may cause an under reporting of the delta-V relative to what may be calculated by a reconstructionist. Users should compare the reported algorithm run time to a normal crash duration of approximately 100-150 ms. If the algorithm run time is significantly longer than the reconstruction estimated crash duration, you may want to consider accounting for after contact acceleration - whether X positive or negative - where appropriate. End users using the crash pulse graph to estimate the event Delta V.

4. Event Recording Complete will indicate if data from the recorded event has been fully written to the RCM memory or if it has been interrupted and not fully written. Even if the event Recording Complete is "no", the data may still be valid. In general, fields with nonzero data written in them have been written successfully. The exception is passenger airbag occupant classification, which when unwritten displays "empty".

5. The module is not intended to record longitudinal acceleration/deceleration in a side-impact event. If the side impact generates a longitudinal deceleration component sufficient to wake up the frontal deployment algorithm, there may be a recording of longitudinal deceleration.

6. If there is any question that the restraint system did not perform as it was designed to perform, please read the system only through the diagnostic link connector. The Bosch CDR kit provides a connector to plug directly into the restraint control module. The Bosch CDR RCM Interface Cable connects only power, ground, and memory readout pins to the relevant vehicle restraint control module. The other pins normally connected to inputs, like sensors, and outputs, such as airbags, are not connected to anything when you use the RCM Interface Cable connector to plug directly into the module. Since the vehicle restraint control module is constantly monitoring airbag system readiness, it will detect that the connection to the input sensors and output airbags has been lost. The restraint control module will write a new diagnostic trouble code into memory for each device that is not connected. These new diagnostic trouble codes could potentially overwrite previously written diagnostic trouble codes present prior to the accident and spoil evidence necessary to determine if the restraint of the restraint on the as it was designed to perform. Not only could this prevent Ford from being able to charged with evidence spoliation in any litigation that may arise out of the accident. If you cannot read the module out





through the diagnostic link connector, and if you suspect improper system performance, contact Ford Motor Company and request their assistance to read the module out with a proper vehicle simulator attached. If you choose to read out through the module small connector, Ford recommends that you do so in the vehicle and that you leave the second large connector plugged into the vehicle wiring harness to minimize the number of new diagnostic trouble codes created.

POWERTRAIN CONTROL MODULE DATA SPOLIATION CAUTIONS:

When reading the RCM users must use caution to not spoil data in the PCM. This Restraint Control Module does not record vehicle speed, braking, or throttle inputs prior to or during a collision event. There is a Powertrain Control Module (PCM) in this vehicle which records vehicle speed, brake, throttle angle and other parameters in a Data Recording Device (DRD), an EEPROM chip, whenever the key is in the run position. The PCM is intended to lock the recording if an airbag or safety belt pretensioner has deployed, and the vehicle data bus stays up long enough for the deploy signal from the RCM to reach the PCM. If the deploy signal has not reached the PCM and the PCM is powered, the DRD data can be overwritten by new data. If there is any doubt as to the PCM deployment lock status, the user must proceed with the understanding that the data may not be locked and could be overwritten if key power is turned on. It is recommended that the PCM not be key powered until it the EEPROM memory can be properly read out by a special procedure that prevents data from being overwritten. To read PCM data, follow the instructions in the CDR help file to determine which cable and adapter to use and how to connect to Ford PCMs for the purpose of downloading DRD data. The Bosch PCM readout cables and adapter are not included in the CDR kit and can be purchased directly from Bosch or through an authorized CDR tool distributor.

The PCM also has a diagnostic trouble code history kept in Keep Alive Memory (KAM). KAM is a form of RAM memory powered directly from the battery and is preserved as long as there is battery power to the PCM (the ignition key does not have to be on). If all power is removed from the PCM or the PCM exits flash mode after reading the Data Recording Device, KAM is cleared. The reader must make a judgment as to which data, DRD or KAM, is more likely to provide useful data for the situation at hand.

It has been Ford's experience that the DRD data is more useful than the KAM data when:

- 1. The airbag has deployed and it is likely that the DRD is locked and has data
- 2. Power was lost in the crash and KAM is already cleared due to power loss
- 3. Power has been depleted subsequent to the crash and KAM is already lost.

4. Crash damage makes it likely there are multiple codes in KAM due to accident damage which were not likely to be present before the crash, where it is difficult to isolate codes present before the crash that may have contributed to the cause of the crash.

The KAM data may be more valuable when there has been no airbag deployment and it is likely the key has been left on after the event such that no useful data is likely to remain in the DRD.

If there is insufficient information to make a judgment per the above, Ford's experience is that the DRD data is more likely to have significance, and that it is better to prioritize reading the DRD data first. To preserve the DRD data, unplug the PCM connectors while the RCM is being read.

AIRBAG MODULE DATA SOURCES:

All RCM recorded data is measured, calculated, and stored internally, sensors external to the RCM include the following: 1. The Driver and Passenger Belt Switch Circuits are wired directly to the RCM.

2. The Driver's Seat Track Position Switch Circuit is wired directly to the RCM.

3. The Side Impact Sensors (if equipped) are located at the base of the B-pillars and are wired directly to the RCM.

4. The Occupant Classification Sensor is located in the front passenger seat and transmits data directly to the RCM on a dedicated high-speed CAN bus.

5. Front Impact Sensors (right and left) are located on top of radiator support bracket.

02004_RCM-Takata2_r001





System Status at Time of Data Retrieval

Vehicle Identification Number	2FAHP71W47X129872
Module Serial Number	0624158U
Restraints Control Module Part Number	7W73-14B321-BA
Restraints Control Module Software Version Number	0
Restraints Control Module Software Date	September 7, 2005
Longitudinal velocity change during algorithm run time (MPH)	-22.67
Algorithm run time (msec)	712.8
Deployment Counter	1
Restraints System Faults Present at time of deployment.	No

System Status At Frontal Deployment

Ignition Cycle Key On Timer at Start of Frontal Event (sec)	2540
Driver's Belt Switch Circuit Status	Unbuckled
Passenger's Belt Switch Circuit Status	Unbuckled
Driver seat forward of switch point	Rearward
Passenger occupant classification status	Empty
Driver First Stage Deployment Time (msec)	19.2
Driver Second Stage Deployment Time (msec)	29.6
Passenger First Stage Deployment Time (msec)	N/A
Passenger Second Stage Deployment Time (msec)	N/A
Driver Pretensioner Time Deployment Time (msec)	N/A
Passenger Pretensioner Deployment Time (msec)	N/A
Driver Column Device Deployment Time (msec)	N/A
Frontal Event Record Locked	Yes
Frontal Event Recording Complete	Yes
	103

System Status At Side Deployment

Ignition Cycle Key On Timer at Start of Side Event (sec)	2540
Driver's Belt Switch Circuit Status	Unbuckled
Passenger's Belt Switch Circuit Status	Unbuckled
Driver seat forward of switch point	Rearward
Passenger occupant classification status	Empty
Driver Side Airbag Deployment Time (msec)	N/A
Passenger Side Airbag Deployment Time (msec)	N/A
Driver Pretensioner Time Deployment Time (msec)	N/A
Passenger Pretensioner Deployment Time (msec)	N/A
Side Event Record Locked	Yes
Side Event Recording Complete	Yes











Milliogoanda	Long. Acceleration	Long. Cumulative
winnseconds	(Gs)	Delta V (MPH)
-82.4	-0.41	-0.01
-81.6	-0.41	-0.01
-80.8	-0.41	-0.02
-80.0	-0.41	-0.03
-79.2	0.00	-0.03
-78.4	-0.41	-0.04
-77.6	-0.41	-0.04
-76.8	-0.41	-0.05
-76.0	-0.82	-0.07
-75.2	-0.41	-0.07
-74.4	-0.41	-0.08
-73.6	-0.82	-0.09
-72.8	-0.41	-0.10
-72.0	-0.41	-0.11
-71.2	-0.82	-0.12
-70.4	-0.82	-0.14
-69.6	-0.82	-0.15
-68.8	-0.82	-0.17
-68.0	-0.82	-0.18
-67.2	-0.82	-0.20
-66.4	-0.82	-0.21
-65.6	-0.82	-0.22
-64.8	-0.41	-0.23
-64.0	-0.41	-0.24
-63.2	-0.41	-0.25
-62.4	-0.41	-0.25
-61.6	-0.41	-0.26
-60.8	-0.41	-0.27
-60.0	-0.41	-0.27
-59.2	-0.41	-0.28
-58.4	-0.41	-0.29
-57.6	-0.41	-0.30
-56.8	-0.41	-0.30
-56.0	-0.41	-0.31
-55.2	-0.41	-0.32
-54.4	-0,41	-0.33
-53.6	-0,41	-0.33
-52.8	-0,41	-0.34
-52.0	-0.41	-0.35
-51.2	-0,41	-0.35
-50.4	-0.41	-0.36
-49.6	-0.82	-0.38
-48.8	-0.82	-0.39
-48.0	-0.82	-0.41
-47 2	-0.82	-0.42
-46.4	-0.82	-0.43
-45.6	-0.82	-0.45
-44 8	-0.82	-0.46
-44 0	-0.82	-0.48
-43.2	-0.82	-0.49

Crash Pulse Data



	Long, Acceleration	Long, Cumulative
Milliseconds	(Gs)	Delta V (MPH)
-42 4	-0.41	-0.50
-41.6	-0.82	-0.51
-40.8	-0.82	-0.53
-40.0	-0.82	-0.54
-39.2	-0.82	-0.56
-38.4	-0.82	-0.57
-37.6	-0.82	-0.59
-36.8	-0.82	-0.60
-36.0	-1.24	-0.62
-35.2	-1.24	-0.02
-34.4	-0.82	-0.66
-33.6	-0.62	-0.00
-32.8	-0.41	-0.07
-32.0	-0.41	-0.07
-32.0	-0.41	-0.00
-31.2	-0.41	-0.69
-30.4	-0.41	-0.69
-29.6	0.00	-0.69
-28.8	0.00	-0.69
-28.0	0.00	-0.69
-27.2	-0.82	-0.71
-26.4	0.00	-0.71
-25.6	0.41	-0.70
-24.8	0.41	-0.69
-24.0	0.00	-0.69
-23.2	-0.41	-0.70
-22.4	0.00	-0.70
-21.6	0.00	-0.70
-20.8	-0.41	-0.71
-20.0	-0.41	-0.72
-19.2	-0.41	-0.72
-18.4	-0.82	-0.74
-17.6	-0.82	-0.75
-16.8	-0.82	-0.77
-16.0	-0.82	-0.78
-15.2	-0.82	-0.80
-14.4	-1.24	-0.82
-13.6	-0.82	-0.83
-12.8	-0.41	-0.84
-12.0	-0.41	-0.85
-11.2	0.00	-0.85
-10.4	-0.41	-0.85
-9.6	0.00	-0.85
-8.8	0.82	-0.84
-8.0	0.02	-0.83
-7 2	0.00	-0.83
-6.4	0.00	_0.00
-5.6	0.00	_0.00
_/ Q	0.00	-0.03
-4.0	0.00	-0.03
-4.0	0.00	-0.00
-3.2	0.00	-0.03
-2.4	-U.82	-0.85
-1.6	0.41	-0.84
-0.8	-0.41	-0.85



	Long Acceleration	Long Cumulative
Milliseconds		
0.0		
0.0	-3.30	-0.90
0.8	-4.12	-0.98
1.6	-5.36	-1.07
2.4	-6.60	-1.19
3.2	-7.83	-1.32
4.0	-8.66	-1.48
4.8	-4.54	-1.56
5.6	-6.60	-1.67
6.4	-7.83	-1.81
7.2	-3.71	-1.87
8.0	-0.82	-1.89
8.8	-4.12	-1.96
9.6	-0.82	-1.98
10.4	8.66	-1.82
11.2	4 12	-1 75
12.0	-13.61	-1.00
12.0	-13.01	2 10
12.0	-11.55	-2.19
13.0	-7.42	-2.32
14.4	-9.90	-2.50
15.2	-23.92	-2.92
16.0	-28.45	-3.42
16.8	11.96	-3.21
17.6	8.66	-3.05
18.4	-28.87	-3.56
19.2	-28.45	-4.06
20.0	-32.58	-4.63
20.8	-40.41	-5.34
21.6	-40.41	-6.05
22.4	-16.08	-6.33
23.2	8.25	-6.19
24.0	3.71	-6.12
24.8	-22.68	-6.52
25.6	-26.80	-6.99
26.0	-17 73	-7 30
20.4	-18 1/	-7.62
28.0	-10.14	-7.02
20.0	-52.10	-0.10
20.0	-37.11	-0.04
29.0	-37.11	-9.49
30.4	-40.41	-10.20
31.2	7.42	-10.07
32.0	40.41	-9.36
32.8	40.41	-8.65
33.6	-31.75	-9.21
34.4	-35.05	-9.82
35.2	34.64	-9.21
36.0	1.65	-9.18
36.8	-16.49	-9.47
37.6	4.12	-9.40
38.4	31.75	-8.84
39.2	-4.54	-8.92
40.0	20.21	-8.57
40.8	1.24	-8.55
41.6	-18.97	-8.88



Millionenado	Long. Acceleration	Long. Cumulative
wiiliseconds	(Gs)	Delta V (MPH)
42.4	9.07	-8.72
43.2	9.48	-8.55
44.0	-7.42	-8.68
44.8	-11.55	-8.89
45.6	-39.59	-9.58
46.4	-37.11	-10.23
47.2	0.00	-10.23
48.0	0.41	-10.23
48.8	8.66	-10.07
49.6	18.56	-9.75
50.4	-9.07	-9.91
51.2	-21.03	-10.28
52.0	-8.66	-10.43
52.8	7.83	-10.29
53.6	-9.07	-10.45
54.4	-28.04	-10.94
55.2	-21.86	-11.33
56.0	-9.48	-11.49
56.8	-18.56	-11.82
57.6	-29.28	-12.33
58.4	-26.39	-12.79
59.2	-16.91	-13.09
60.0	-11.13	-13.29
60.8	-8.66	-13.44
61.6	-21.86	-13.82
62.4	-28.45	-14.32
63.2	-27.22	-14.80
64.0	-7.42	-14.93
64.8	3.71	-14.86
65.6	3.71	-14.80
66.4	0.82	-14.78
67.2	-6.60	-14.90
68.0	-14.85	-15.16
68.8	-3.71	-15.23
69.6	7.83	-15.09
70.4	-2.47	-15.13





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.

0000:	30	30	30	32	46	41	48	50	37	31	57	34	37	58	31	32
0010:	39	38	37	32	03	BB	\mathbf{FF}	00	60	D9	00	00	F8	29	05	44
0020:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0030:	0E	22	0E	2в	39	56	0A	12	03	CC	30	30	07	0D	26	BC
0040:	BC	BC	BC	0D	20	20	BC	BC	ВC	BC	ВC	BC	BC	BC	BC	00
0050:	0.0	0.0	BC	BC	BC	05	80	37	57	37	33	02	0.0	В5	1C	C4
0060:	09	32	0.0	BB	ਸ਼ਾਸ	DB	FD	70	01	ਸਤ	61	56	1D	ਸਤ	61	56
0070:	1D	32	34	31	38	30	35	29	20	41	41	20	20		28 2	94
00700	2 T	55	50	12	35	62	11	00	00	00	т <u>р</u>		20	ם בית תיש	110	FC
00000	010	22	00	20	10	02	- T	00	00	00	00	0.0	a0		- T.	- C
0090.	0F 00		02	20	10	00	04	00	20	00	00	00	CU 72	7 F 2 O		02
00A00	00	00	00	00	00	00	10	00	30	01	88	8B	/3	29	19	02
0080:	30	01	88	88	/3	29	19	02	20	01	88	88	/3	29	19	02
000000	20	UT 0	88	88	/3	29	19	02	BC.	21	00	00	00	00	00	00
00D0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00E0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
00F0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0100:	00	00	30	36	32	34	31	35	38	55	30	30	35	31	39	30
0110:	36	43	30	30	35	31	38	33	32	36	30	30	34	43	34	34
0120:	30	33	30	30	34	43	43	32	38	31	65	85	82	51	07	62
0130:	63	12	С3	вб	8A	00	28	00	00	00	84	6D	03	00	00	00
0140:	03	00	1C	00	00	00	03	00	19	00	00	00	00	00	02	81
0150:	80	6D	1C	00	00	00	03	00	1C	00	00	00	03	00	19	00
0160:	00	00	00	00	01	81	4E	00	AB	A3	8A	00	F2	09	C3	В6
0170:	8A	00	00	00	00	00	00	00	00	00	05	00	00	00	00	00
0180:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0190:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	00	0.0
01A0:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0180:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0100:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
01000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
01000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
01000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
01000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
02000	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0210.	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0220.	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0230.	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0240;	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0250:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0260:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0270:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0280:	00	00	00	00	00	00	00	00	00	00	00	00	00	40	00	00
0290:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
02A0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	11
02B0:	00	00	00	00	00	00	00	00	00	00	00	00	33	33	00	01
02C0:	AA	FO	7F	03	33	41	42	39	38	39	38	44	20	00	00	00
02D0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
02E0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
02F0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0300:	00	01	0A	02	02	01	00	01	00	02	00	06	00	14	01	00
0310:	00	00	00	05	06	04	01	02	05	05	04	06	23	00	00	00
0320:	CC	01	00	00	00	00	00	00	55	00	00	00	E8	03	00	05
0330:	25	02	08	02	C2	33	C4	00	CO	01	44	00	AO	00	84	03
0340:	86	01	99	02	7F	0.3	19	0.0	9A	01	FE	FF	C3	0.0	77	01
0350:	08	02	20	03	8F	01	84	03	D0	07	20	03	FE	FF	E8	03
0360:	F4	01	85	0.0	64	0.0	14	0.0	BD	00	BD	0.0	0.0	0.0	07	07
0000		0 -	00	00	01	00	- <u>-</u>	00	עם	00	00	00	00	00	07	07





0370:	08	00	00	04	03	03	00	00	A5	00	79	00	00	07	00	05
0380:	DF	00	8F	01	17	02	F9	00	BB	02	В4	00	8F	01	96	00
0390:	54	01	E8	03	62	0E	26	07	00	00	00	00	00	00	00	00
03A0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0380.	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
03E0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
03F0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0400:	00	01	07	08	02	00	00	00	00	00	00	04	04	05	05	05
0410:	05	06	03	05	06	01	01	01	70	01	02	02	6D	00	00	01
0420:	00	01	00	02	00	01	00	01	00	01	00	01	64	00	31	00
0430:	64	00	00	00	64	00	00	00	00	00	31	00	00	00	64	00
0440:	C8	00	F'A	00	3F	01	82	00	82	00	C7	00	4A	01	64	00
0450.	A5 0.0	00	93	00	93 DC	00	04 01	00	20	01	20	01	5E 0F	01	20 96	03
0470:	00	00	AF	00	8A	02	90	01	54	01	2C	01	58	02	4F	01
0480:	в0	04	BC	02	58	02	90	01	04	01	2C	01	4B	00	6E	00
0490:	AO	00	90	01	F4	01	72	01	90	01	ΕO	15	00	00	84	03
04A0:	8A	02	14	05	02	61	00	00	00	00	00	00	00	00	00	00
04B0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
04C0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
04D0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
04E0. 04F0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0500:	00	01	08	01	01	01	05	04	04	07	06	04	05	01	1D	00
0510:	00	01	00	18	00	01	00	00	00	00	00	00	00	00	03	00
0520:	34	03	ED	01	20	03	A4	01	57	01	4A	04	02	02	BC	02
0530:	F4	01	DB	00	FO	00	82	00	F4	01	FA	00	44	00	FA	00
0540:	FA	00	17	C8	03	70	86	00	00	00	00	00	00	00	00	00
0550:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0560:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0580:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0590:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
05A0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
05B0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
05C0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
05D0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
05E0; 05E0;	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0500:	36	41	00 7F	00 7Ε	60 64	52	95	B2	94	6C	95	C3	B4	96	AC	C6
0610:	BF	A8	9A	94	в4	C4	C1	91	76	76	7D	8F	A3	88	6C	85
0620:	80	80	80	80	7F	80	80	80	81	80	80	81	80	80	81	81
0630:	81	81	81	81	81	81	80	80	80	80	80	80	80	80	80	80
0640:	80	80	80	80	80	80	80	80	80	81	81	81	81	81	81	81
0650:	81	81	80	81	81	81	81	81	81	81	82	82	81	80	80	80
0670:	80 81	80 81	7F 81	7F 81	7F 81	81 82	7F 81	/또 요이	/또 요이	/년 7도	80	/년 7도	יד / ד סר	80 75	80 75	80 75
0680:	7F	7F	7F	7F	81	7E	80	87	89	8C	8F	92	94	8A	8F	92
0690:	88	81	89	81	6A	75	A0	9B	91	97	в9	C4	62	6A	C5	C4
06A0:	CE	E1	E1	A6	6В	76	вб	C0	AA	AB	CD	D9	D9	E1	6D	1D
06B0:	1D	CC	D4	2В	7B	Α7	75	32	8A	4E	7C	AD	69	68	91	9B
06C0:	DF	D9	80	82	82	81	80	7E	7D	7C	7C	7C	7E	80	81	81
06D0:	80	'/F	'/E	'/D	./C	'/C	7C	'/C	'/E	'/F	80	81	80	'/E	./D	./D
06500	/上 Qつ	/또 요^	7D 91	7A 82	93	7F 75	7 F	ע/ סד	70	7D 75	7B 82	7C 8 🖬	/ 또 Q /	/ 년 요 다	80 80	8⊿ 7⋤
0700:	71	6C	6R	69	6C	6E	78	85	AA	BU	AE.	AD	д1	8C	7A	71
0710:	61	5E	76	8E	BD	C8	AE	9B	76	58	46	42	45	5B	87	A2
0720:	CE	D5	BC	A8	7D	58	44	45	58	бA	80	95	BF	CA	BD	AE
0730:	86	63	4E	49	4C	60	75	7D	93	AE	B8	в7	В2	A9	9C	96
0740:	88	7B	74	74	76	76	71	6D	бA	75	81	85	8B	8D	8E	8E
0750:	8E	8B	8D	8A	87	80	7Β	·/7	73	'/3	./C	8D	93	8E	'/C	.78
0700:	76 6⊅	0Д 76	00 87	D D D	11 90	0E QR	АЗ 97	80 ВU	ы∠ 84	AA 75	שע 6	7D 6D	оғ GD	54 75	41년 Q 1	00 82
01101	UA	, 0	07	20			JA	00	υт	, ,	01.	00	00	, ,	ΟT	Ч





0780:	8C	8B	89	84	80	78	6D	66	65	67	71	7E	84	91	94	8B
0790:	87	'/E 75	.78 75	'/4 75	73	'/4 75	'/F 7D	'/F 7D	'/Е 7р	'/Е 7г	'/Е 7г	'/E 75	./Ε	./Ε	./Ε	./F
07A0:	7F	7E	7E	7E	7E 7E	7E 7E	7D 7F	80	80	20 20	7E 7F	7E	00 7E	00 ק7	00 7Π	00 7E
07C0:	7E	7E	7F	7F	7F	7E	7E	7E	7E	7E	7F	80	80	7F	7E	7D
07D0:	7D	7E	7E	7F	80	82	82	80	7f	7D	7в	78	76	76	7в	7f
07E0:	83	85	87	87	85	84	80	7C	7A	7A	7B	7B	7C	7E	82	84
07F0:	83	82	80	7D	7A	78	76	78	7B	80	82	87	88	85	84	7F
0800:	7A	76	77	79	7A	7D	7E	83	86	84	82	7F	7D	7B	7A	7B
0810:	7D	7F	81	81	80	7F	7E	7E	7E	7E	7E	7F	80	80	80	80
0820:	80 70	/上 70	/ビ フロ	/上 01	/또	/또	/또	7 F.	8T 8	8T 8	81 75	80	/ビ フロ	7B	/A 75	/8
0840:	70 87	79 88	7 D 8 R	84	05 7E	65 78	85 70	80 70	80	80 82	75 88	86	7 D 8 2	80	7E	80 79
0850:	77	79	81	92	Аб	AD	AB	A2	9B	8D	76	6D	59	3F	3A	48
0860:	71	94	в7	CC	D9	CF	A5	90	71	6E	68	67	бA	6D	6D	6F
0870:	82	84	85	85	92	95	98	9в	AB	В8	ΒA	в9	в8	вб	9F	91
0880:	6D	51	3D	3F	4C	68	90	Α7	СВ	D8	D2	C2	93	61	47	3E
0890:	42	5D	83	95	AD	B8	AD	9E	72	54	4C	4C	54	6C	89	97
08A0:	AB	BA	B8	AD	Al	82	60	50	4C	4F	5B	6E	79	8B	98	9B
0880:	97 70	88 70	80 75	0E /B	00 /B	80 07	89 75	8A 7D	8/ 97	83 70	84 77	/占 フフ	7B 76	74	74 7D	/6 01
	/0 82	7D 7E	7E	05 7ਜ਼	00 7E	07E	7 8 0	7Б 84	7 B 8 5	7 B 8 2	7A 7D	70	יי סי 70	7 R	7D 7A	ο⊥ 7⊓
08E0:	7E	83	88	89	88	89	7F	7F	7F	7F	7F	7F	7F	7F	7F	7F
08F0:	7E	7E	7E	7E	7F	7F	7F	7F	7F	7E	7E	7E	7E	7F	7F	80
0900:	80	80	80	80	7F	7F	7E	7E	7E	7E	7F	80	80	80	80	7F
0910:	7E	7D	7D	7E	7E	80	80	81	80	80	7F	7F	7f	80	81	80
0920:	80	80	80	7E	7E	7C	7A	7A	7B	7C	7E	82	84	83	81	7D
0930:	'/B	'/B	'/B	'/D	82	83	84	84	82	81	'/D	'/C	'/D	'/D	./E	./E
0940:	80 80	80 75	7 F 7 D	7E	80 7D	80 75	80 80	80 91	/또 Q1	/또 Q1	7D 80	7D 75	7E 7D	7E 7D	80 7D	80 75
0950:	00 7ਜ	80	82	01	7D A5	Δ3	8D	00	EC	09	09	00	B3	B3	41	00
0970:	46	00	4B	00	00	00	00	00	10	20	01	00	00	B3	в3	3E
0980:	00	43	00	48	00	00	00	00	00	04	20	02	00	00	18	00
0990:	19	00	18	00	19	00	18	00	18	00	18	00	18	00	25	00
09A0:	00	00	00	00	00	00	00	00	00	00	D8	D8	D8	D8	D8	D8
09B0:	D8	D8	D8	D8	D8	1B	00	18	00	1B	00	1A	00	18	00	19
0900:	00	02	04	01	04 D4	01	UT D3	01	2F 0 2	00	ZA D4	00	59 57	00	84 02	00
09000	09 1 F	01 1 ឆ	00 75	00 0B	0B	00 7D	ע 75	87	00	22	00	23	כע קצ	00	00	00
09E0:	7B	03	FF	01	81	D0	00	00	54	1A	CD	00	01	00	03	00
0A00:	00	00	00	00	30	00	00	0A	05	00	00	30	00	00	0A	05
0A10:	00	00	30	00	00	0A	05	00	00	30	00	00	0A	05	00	00
0A20:	30	00	00	0A	05	00	00	02	00	03	00	00	00	00	00	00
0A30:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0A40:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0A50:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0A70:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0A80:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0A90:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0AA0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0AB0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
UACU:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
OADU:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
OAFO:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0B00:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0B10:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0B20:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0B30:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
UB40:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0850.	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0B70:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0B80:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00





0B90: 0BA0: 0BB0:	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00											
0BC0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
OBEO:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0C00:	50	00 F5	00 A4	00 A9	00 ВЗ	00 BF	00 В2	00 94	88	00 9A	00 В9	00 D2	00 E1	CE	00 C5	BE
0C10:	9F	8A	99	E2	\mathbf{FF}	EC	D3	F5	DE	AD	90	79	AC	E4	FE	FF
0C20:	FF	FE 70	FF 74	FF	FF	FF E4	FF	FF	AF	65 5	04	01	00	5B	A7	B1
0C30:	90 F7	38	00	9C 17	6B	82	93	81	82	гг 84	гг 84	г <u>г</u> 84	83	83	гг 84	г <u>г</u> 85
0C50:	86	86	85	85	86	89	90	95	92	88	86	88	86	84	8A	91
0C60:	99 7D	9А 7	90 7D	7F 77	80 7D	9B 7D	B2 7ד	82 75	9B 75	9B 75	7D 75	7D 7D	7D 7D	7D 75	7D 75	7D 75
0C80:	7F	7E	7D 7D	7D 7D	7E	7F	80	82	82	81	80	7E 7F	7E	7F	80	83
0C90:	83	82	82	81	7E	80	81	82	84	87	87	84	82	83	83	81
OCAO:	7F 79	7F 75	7E 76	7C 7B	7F 7E	80 8B	80 8F	82 80	83 88	84 88	86 84	89 80	87 84	86 85	87 83	84 84
0000:	91	9C	9E	9E	A2	A3	9E	88	84	87	7D	7D	7D	7D	7C	7C
0CD0:	7C	7D	7E	7D	7C	7C	7D	7D	7D	7C	7A	79	78	76	77	79
OCEO:	7A 64	7B	7E 6D	יארי סד	7E 88	7E 87	7C 86	75 75	78	7D 73	82 71	81 81	83	81 71	75 6D	69 71
0000:	7E	6D	65	6D	66	5B	63	71	7E	81	76	4F	48	6F	7D	84
0D10:	7B	7A	7C	66 0 D	53	62	6D	72	80	70	52	35	54	7A 2 D	A1	B5
0D20: 0D30:	D0 7E	BE 7C	9D 01	00 8B	70 A5	6Е ДЗ	/년 8A	84 00	6C EC	39 09	2D 2B	37	3B 56	3B	7E AD	/또 00
0D40:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	55	00
0D50:	55	00	2A	00	00	00	B3	B3	00	00	00	00	00	B3	B3	00
0D60: 0D70:	00 7D	41 7C	45	08 44	60	00 5F	60	00 5F	00 7E	87	00	00 AA	AD 81	D0	00	20 00
0D80:	54	1A	CD	00	01	00	03	00	00	00	00	00	00	00	00	00
0D90:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
ODAU:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0DC0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
ODDO:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
ODE0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E00:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E10: 0E20:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E30:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E40:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E50: 0E60:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E70:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E80:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0E90: 0EA0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0EB0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
OECO:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
OEEO:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0EF0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0F00: 0F10:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0F20:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0F30:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0F40: 0F50:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0F60:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0F70:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0F90:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00





0FA0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0FB0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0FC0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0FD0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
OFEO:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
0FF0:	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	A5
C943	00	06	01	09												
E200	09	07	69													
E217	14	0B	03	21												
E219	02	00														
E21A	37	57	37	33												
E221	30	36	32	34												
E222	31	35	38	55												
E300	30	30	30	32												
E301	46	41	48	50												
E302	37	31	57	34												
E303	37	58	31	32												
E304	39	38	37	32												

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





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	2FAHP71W47X129872
User	LT. A.S. KLANE #1301, MSP-CARS
Case Number	2011-CAR-00556
EDR Data Imaging Date	12/28/2011
Crash Date	11/02/2011
Filename	2011-CAR-000556 2FAHP71W47X129872_PCM.CDRX
Saved on	Wednesday, December 28 2011 at 09:13:17
Collected with CDR version	Crash Data Retrieval Tool 4.3
Reported with CDR version	Crash Data Retrieval Tool 4.3
EDR Device Type	Powertrain Control Module
Restraint Deployment Signal	Vac
Received	

Comments

12/28/2011, 0910 HRS GHQ GARAGE, FRAMINGHAM. 2007 FORD CROWN VICTORIA. MA REG. 169-GP0. MSP #9200. 1 VEHICLE C-16, RT. 190SB STERLING. IMPACT DAMAGE TO RIGHT FRONT CORNER AND SIDE. ROLLOVER ENTIRE. P235/55R17. OEM. NO POWER. ELECTRICAL SYSTEM DAMAGED. ATTEMPTS THROUGH PCM AND ACM MOUNTED IN VEHICLE. PCM ADAPTER UTILIZED AS REQUIRED.

Data Limitations

The retrieval of this data has been authorized by the vehicle's owner, or other legal authority such as a subpoena or search warrant, as indicated by the CDR tool user on Wednesday, December 28 2011 at 09:13:17.

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 occur every 0.2 seconds of time. It should be pointed out that "Relative Time (calc.)" in these tables is calculated based on the 0.2 second time interval and is displayed relative to the receipt of a Restraint Deployment Signal from the RCM. The "Relative Time (calc.)" Information is not data which is retrieved from the PCM but is calculated based on the above information.

3. In the event that one of the vehicle's restraint devices (e.g., the vehicle's airbag or pretensioner) have deployed as a result of a collision, the Restraint Control Module or RCM will send a Restraints Deployment Signal (RDS) to the PCM via the vehicle data bus or through a direct wired connection. If the PCM receives an RDS, it will lock the data. It should be pointed out that the RCM and Vehicle Data Bus both require power for tenths of a second after the collision in order to send a signal or flag to 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 relating to the moment of impact:

a.) With regard to the PCM EDR Data tables where a Restraint Deployment Signal is received, the data is displayed in ordered of the "Relative Time (calc.)" parameter beginning with the oldest recorded frame of data.

The moment of impact can be found by reviewing the data contained in the RDS column. Specifically, the data samples recorded with an RDS flag equal to "Received" in the PCM EDR Data tables signify points recorded after the PCM received the RDS signal from the RCM. If the PCM has received an RDS flag, the moment of impact is typically set at the RDS = "Not Received" in the PCM EDR Data tables reading that immediately precedes a reading of RDS = "Received". The last RDS = "Received" data point signifies the last data point recorded in the event.





b.) With regard to the PCM EDR Data tables where a Restraint Deployment Signal is not received, 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 first address listed in the PCM EDR Data tables does not necessarily signify the beginning of the PCM recording. The start and stop time of the PCM recording could be in the middle of the Table.

The moment of impact usually correlates 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. This point usually signifies impact time zero. 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 the moment of impact.

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 cycles 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.

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
- Traction Control
- ABS
- Restraint Deployment Signal

02005_PCM-1-2_r001





PCM Module Information

Vehicle Identification Number (from PCM)	2FAHP71W47X129872
PCM File Name (calibration level)	FCHG2PZ.HEX*
PCM Part Number	7W7A-12A650-VC









PCM EDR Data (1)

Address Jime (Latts) Depicyment Venture No. Received No. Received	Buffer	Relative	Restraint	Speed,	Accelerator	Engine	Brake	Brake	ABS	Transmission -
(Heb.) (Records) (MPH [km/h]) (%) (Dn / Off) (Dn / Off) (Nort Neutral / Inactive) (Nort Neutral / Inactive) EA002240 20.2 Not Reserved 75 [121] 27 19.5 OFF OFF Not Active Nort Neutral EA002260 -16.8 Not Received 75 [121] 27 19.5 OFF OFF Not Active Nort Neutral EA002200 -19.2 Not Received 75 [121] 27 19.5 OFF OFF Not Active Nort Neutral EA002200 -19.2 Not Received 75 [121] 27 19.5 OFF OFF Nort Active Nort Neutral EA002200 18.8 Not Received 75 [121] 27 20 OFF OFF Nort Active Nort Neutral EA002200 18.4 Nort Received 75 [121] 28 20.5 OFF OFF Nort Active Nort Neutral EA002200 17.8 Nort Received 76 [122] 28.5 20.5 OFF	Address	l ime (calc.)	Deployment Signal	Indicated	Pedal % Full	% Full	Switch	SC De-ac		Neutral
EA002240 20.2 Nor. Received 75.112.11 27 19.5. OFF OFF Nor. Active Nor. Neutral EA002560 19.8 Nor. Received 75.112.1 27 19.5. OFF OFF Nor. Active Nor. Neutral EA00270 19.6 Nor. Received 75.112.1 27 19.5. OFF OFF Nor. Active Nor. Neutral EA002020 10.8 Nor. Received 75.112.1 27 19.5. OFF OFF Nor. Active Nor. Neutral EA002020 10.8 Nor. Received 75.112.1 27 20 OFF OFF Nor. Active Nor. Neutral EA002020 16.8 Nor. Received 75.121 27 20 OFF OFF Nor. Active Nor. Neutral EA002020 16.4 Nor. Received 75.121 28 20.5 OFF OFF Nor. Active Nor. Neutral EA002030 17.6 Nor. Received 76.122 28.5 20.5 OFF	(Hex)	(Seconds)	(Received / Not Received)	(MPH [km/h])	(%)	(%)	(On / Off)	(On / Off)	(Active / Inactive)	(Neutral / Not Neutral)
EA00250 -20.0 Not Received 75:1121 27 19.5. OFF OFF Not Active Not Neutral EA00220 -19.6. Not Received 75:1121 27 19.5. OFF OFF Not Active Not Neutral EA00220 -19.6. Not Received 75:1121 27 19.5. OFF OFF Not Active Not Neutral EA00220 -19.2. Not Received 75:1121 27 20 OFF OFF Not Active Not Neutral EA002020 -19.8. Not Received 75:1121 27 20 OFF OFF Not Active Not Neutral EA002020 -19.8. Not Received 75:1121 27 20 OFF OFF Not Active Not Neutral EA002020 -13.2. Not Received 75:121 28 20.5 OFF OFF Not Active Not Neutral EA002020 -12.8. Not Received 76:121 28.5 20.5 OFF OFF	EA000240	-20.2	Not Received	75 [121]	27	19.5	OFF	OFF	Not Active	Not Neutral
EA002026 19.8 Not Received 75 [121] 27 19.5 OFF OFF Not Active Nan Neutral EA00220 19.4 Not Received 75 [121] 27 19.5 OFF OFF Not Active Nan Neutral EA00220 19.4 Not Received 75 [121] 27 19.5 OFF OFF Not Active Nan Neutral EA00220 19.8 Not Received 75 [121] 27 20 OFF OFF Not Active Not Neutral EA00220 19.8 Not Received 75 [121] 27 20 OFF OFF Not Active Not Neutral EA00220 19.4 Not Received 75 [121] 27 20 OFF OFF Not Active Not Neutral EA00220 19.4 Not Received 75 [121] 28 20.5 OFF OFF Not Active Not Neutral EA00230 10.7 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA000300 10.6 Not Receiv	EA000250	-20.0	Not Received	75 [121]	27	19.5	OFF	OFF	Not Active	Not Neutral
EA00020 19.6 Not Active Not Neutral EA000230 19.4 Not Received 75 [121] 27 19.5 OFF OFF Not Active Not Neutral EA000230 19.2 Not Active Not Neutral 27.5 19.5 OFF OFF Not Active Not Neutral EA0002A0 19.8 Not Received 75 [121] 27.5 19.5 OFF OFF Not Active Not Neutral EA0002A0 18.8 Not Received 75 [121] 27 20 OFF OFF Not Active Not Neutral EA0002A0 18.4 Not Received 75 [121] 27 20 OFF OFF Not Active Not Neutral EA0002A0 17.8 Not Received 75 [121] 28 20.5 OFF OFF Not Active Not Neutral EA000301 17.8 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA000301 17.7 Not Received 76 [122] 28.5 25 OFF OFF Not Active Not	EA000260	-19.8	Not Received	75 [121]	27	19.5	OFF	OFF	Not Active	Not Neutral
EA00280 -19.4 Not Active Not Neutral EA00280 -19.2 Not Active Not Neutral EA00280 -19.2 Not Active Not Neutral EA00280 -19.3 Not Active Not Neutral EA00280 -19.3 Not Active Not Neutral EA00280 -19.3 Not Active Not Neutral EA00280 -18.4 Not Active Not Neutral EA00280 -18.0 Not Active Not Neutral EA00280 -17.6 Not Active Not Neutral EA00230 -17.7 Not Active Not Neutral EA00230 -17.8 Not Active Not Neutral EA00230 -16.8 Not Active Not Neutral	EA000270	-19.6	Not Received	75 [121]	27	19.5	OFF	OFF	Not Active	Not Neutral
EAUJO224 19.2 OPF OPF Not Active Not Neutral EA000220 16.8 Not Received 75 121 22 20 OFF OFF Not Active Not Neutral EA000220 16.8 Not Received 76 121 27 20 OFF OFF Not Active Not Neutral EA000220 17.8 Not Received 76 122 28.5 20.5 OFF OFF Not Active Not Neutral EA000320 17.4 Not Received 76 122 28.5 20.5 OFF OFF Not Active Not Neutral EA000320 17.0 Not Received 77 122 34.5 28 OFF OFF No	EA000280	-19.4	Not Received	75 [121]	27	19.5	OFF	OFF	Not Active	Not Neutral
EADQUAD 1:8:1 OFF OFF Not. Active Not. Neutral EADQUED 1:8:3 Not. Received 75:12:1 22:5 20 OFF OFF Not. Active Not. Neutral EADQUED 1:8:4 Not. Received 75:11:21 27 20 OFF OFF Not. Active Not. Neutral EADQUED 1:8:4 Not. Received 75:11:21 28 20 OFF OFF Not. Active Not. Neutral EADQUED 1:8:0 Not. Received 75:11:21 28 20.5 OFF OFF Not. Active Not. Neutral EADQUESO 1:7:6 Not. Received 76:11:22 28:5 20:5 OFF OFF Not. Active Not. Neutral EADQUESO 1:6:6 Not. Received 76:122 28:5 20:5 OFF OFF Not. Active Not. Neutral EADQUESO 1:6:6 Not. Received 77:122 35:5 25:5 OFF OFF Not. Active Not. Neutral <tr< td=""><td>EA000290</td><td>-19.2</td><td>Not Received</td><td>75[121]</td><td>27</td><td>19.5</td><td></td><td></td><td>Not Active</td><td>Not Neutral</td></tr<>	EA000290	-19.2	Not Received	75[121]	27	19.5			Not Active	Not Neutral
EAD00200 18.6 Not Received 75 121 27 50 OFF OFF Not Active Not Neutral EAD002D0 18.4 Not Received 75 1211 27 20 OFF OFF Not Active Not Neutral EAD002F0 18.0 Not Received 75 1211 28 20 OFF OFF Not Active Not Neutral EA0002F0 17.8 Not Received 75 1212 28.5 20.5 OFF Not Active Not Neutral EA000320 17.4 Not Received 76 122 28.5 20.5 OFF Not Active Not Neutral EA000320 16.8 Not Received 76 122 34.5 26 OFF Not Active Not Neutral EA000320 16.8 Not Received 76 122 35.2 25 OFF Not Active Not Neutral EA000320 16.8 Not Received 77 124 32.5 25	EA0002A0	-19.0	Not Received	75[121]	27.0	19.5			Not Active	Not Neutral
EA002D0 -18.4 Not Received 75 121 27 20 OFF OFF Not Active Not Neutral EA002E0 -18.0 Not Received 75 1211 27 20 OFF OFF Not Active Not Neutral EA002300 -17.8 Not Received 75 1211 28 20.5 OFF OFF Not Active Not Neutral EA00330 -17.4 Not Received 76 122 28.5 20.5 OFF OFF Not Active Not Neutral EA003300 -17.0 Not Received 76 122 28.5 20.5 OFF OFF Not Active Not Neutral EA003300 -16.8 Not Received 76 122 34.5 26 OFF OFF Not Active Not Neutral EA003300 -16.8 Not Received 77 124 32.5 25.5 OFF OFF Not Active Not Neutral EA0003300 -16.2 Not Received	EA0002D0	-18.6	Not Received	75 [121]	27.5	20	OFF	OFF	Not Active	Not Neutral
EA002E0 -18.0 Not Received 75 [121] 27 20 OFF Not Active Not Neutral EA00200 -17.8 Not Received 75 [121] 28 20.5 OFF OFF Not Active Not Neutral EA003030 -17.6 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA003030 -17.2 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA003030 -16.8 Not Received 76 [122] 34.5 26 OFF OFF Not Active Not Neutral EA003030 -16.8 Not Received 77 [124] 32.5 25 OFF OFF Not Active Not Neutral EA003030 -16.8 Not Received 77 [124] 32.5 25 OFF OFF Not Active Not Neutral EA003030 -15.8 Not Received 77 [124] 62.5 98.5 OFF OFF <t< td=""><td>EA0002D0</td><td>-18.4</td><td>Not Received</td><td>75 [121]</td><td>27</td><td>20</td><td>OFF</td><td>OFF</td><td>Not Active</td><td>Not Neutral</td></t<>	EA0002D0	-18.4	Not Received	75 [121]	27	20	OFF	OFF	Not Active	Not Neutral
EA0022P -18.0 Not Received 75 121 28 20 OFF Not Active Not Neutral EA000301 -17.6 Not Received 76 122 28.5 20.5 OFF Not Active Not Active Not Neutral EA000303 -17.4 Not Received 76 122 28.5 20.5 OFF OFF Not Active Not Neutral EA000303 -17.2 Not Received 76 122 32.2 23 OFF OFF Not Active Not Neutral EA000303 -16.8 Not Received 76 122 35 27 OFF Not Active Not Neutral EA000303 -16.4 Not Received 77 124 32.5 25.5 OFF OFF Not Active Not Neutral EA000303 -16.2 Not Received 77 124 32.5 25.5 OFF OFF Not Active Not Neutral EA000303 -15.2 Not Received 77	EA0002E0	-18.2	Not Received	75 [121]	27	20	OFF	OFF	Not Active	Not Neutral
EA00030 -17.6 Not Received 75 [121] 29 20.5 OFF OFF Not Active Not Neutral EA000320 -17.4 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA000330 -17.2 Not Received 76 [122] 32 23 OFF OFF Not Active Not Neutral EA000330 -16.8 Not Received 76 [122] 34.5 26 OFF OFF Not Active Not Neutral EA000300 -16.6 Not Received 77 [124] 32.5 25 OFF OFF Not Active Not Neutral EA000300 -16.0 Not Received 77 [124] 67 68 OFF OFF Not Active Not Neutral EA000300 -15.6 Not Received 78 [126] 53.9 98.5 OFF OFF Not Active Not Neutral EA000300 -15.2 Not Received 78 [126] 53 98.5 OFF O	EA0002F0	-18.0	Not Received	75 [121]	28	20	OFF	OFF	Not Active	Not Neutral
EA000310 -17.6 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA000330 -17.2 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA000330 -17.0 Not Received 76 [122] 32.2 3 OFF OFF Not Active Not Neutral EA000330 -16.6 Not Received 76 [122] 35.2 25 OFF OFF Not Active Not Neutral EA000330 -16.2 Not Received 77 [124] 32.5 25.5 OFF OFF Not Active Not Neutral EA000330 -16.2 Not Received 77 [124] 67.5 98.5 OFF OFF Not Active Not Neutral EA000300 -15.6 Not Received 78 [126] 53 98.5 OFF OFF Not Active Not Neutral EA000300 -15.4 Not Received 78 [126] 53 94.5 OFF	EA000300	-17.8	Not Received	75 [121]	29	20.5	OFF	OFF	Not Active	Not Neutral
EA000320 -17.4 Not Received 76 122 28.5 20.5 OFF OFF Not Active Not Neutral EA000330 -17.2 Not Received 76 122 32 23 OFF OFF Not Active Not Neutral EA000330 -16.8 Not Received 76 122 34.5 26 OFF OFF Not Active Not Neutral EA000330 -16.4 Not Received 77 124 32.5 25 OFF OFF Not Active Not Neutral EA000330 -16.2 Not Received 77 124 67 68 OFF OFF Not Active Not Neutral EA000330 15.6 Not Received 77 124 67.6 98.5 OFF OFF Not Active Not Neutral EA000300 15.6 Not Received 78 128 53 94.5 OFF OFF Not Active Not Neutral EA000300 15.2 Not Received	EA000310	-17.6	Not Received	76 [122]	28.5	20.5	OFF	OFF	Not Active	Not Neutral
EA000330 11.2 Not Received 76 [122] 28.5 20.5 OFF OFF Not Active Not Neutral EA000330 16.8 Not Received 76 [122] 34.5 26 OFF OFF Not Active Not Neutral EA000380 16.8 Not Received 77 [124] 32.5 27 OFF OFF Not Active Not Neutral EA000380 16.2 Not Received 77 [124] 32.5 25.5 OFF OFF Not Active Not Neutral EA000380 16.2 Not Received 77 [124] 32.5 25.5 OFF OFF Not Active Not Neutral EA000300 15.8 Not Received 77 [124] 62.5 98.5 OFF OFF Not Active Not Neutral EA000300 15.6 Not Received 78 [126] 53 98.5 OFF OFF Not Active Not Neutral EA000300 15.0 Not Received 78 [126] 53 64.5 OFF OFF Not Active Not Neutral EA000400 14.6	EA000320	-17.4	Not Received	76 [122]	28.5	20.5	OFF	OFF	Not Active	Not Neutral
EAU00330 11.0 Not Received 76 [122] 34.5 26 OFF OFF Not Active Not Neutral EA000330 -16.8 Not Received 76 [122] 35. 27 OFF OFF Not Active	EA000330	-17.2	Not Received	76 [122]	28.5	20.5			Not Active	Not Neutral
EAX00320 10.6 Not Received 76 [122] 24.3 20 OFF OFF Not Active	EA000340	-17.0	Not Received	76[122]	32	23	OFF	OFF	Not Active	Not Neutral
Excession Total	EA000350	-10.0	Not Received	76 [122]	34.0	20	OFF	OFF	Not Active	Not Neutral
EA000380 -16.2 Not Received 77 1124 32.5 25.5 OFF OFF Not Active Not Neutral EA000380 -16.6 Not Received 77 1124 67 68 OFF OFF Not Active Not Neutral EA000360 -15.6 Not Received 77 1124 62.5 98.5 OFF OFF Not Active Not Neutral EA0003C0 -15.4 Not Received 78 1126 53 98.5 OFF OFF Not Active Not Neutral EA0003C0 -15.0 Nor Received 78 1126 53 94.5 OFF OFF Not Active Not Neutral EA000400 -14.6 Nor Received 79 1127 52 45.5 OFF OFF Not Active Not Neutral EA000401 -14.4 Nor Received 79 1127 52 51 OFF OFF Not Active Not Neutral EA000400 -14.2 Nor Received 80 1129 52 98.5 OFF OFF	EA000370	-16.4	Not Received	77 [124]	32.5	25	OFF	OFF	Not Active	Not Neutral
EA000390 16.0 NoR Received 77 [124] 67 68 OFF OFF Not Active Not Neutral EA000300 -15.6 Nor Received 77 [124] 62.5 98.5 OFF OFF Not Active Nor Neutral EA000300 -15.4 Nor Received 77 [124] 62.5 98.5 OFF OFF Nort Active Nort Neutral EA000300 -15.2 Nort Received 78 [126] 53 98.5 OFF OFF Nort Active Nort Neutral EA0003F0 -15.2 Nort Received 78 [126] 53 91.5 OFF OFF Nort Active Nort Neutral EA000400 -14.8 Nort Received 79 [127] 52 44.5 OFF OFF Nort Active Nort Neutral EA000400 -14.4 Nort Received 80 [129] 52 97.5 OFF OFF Nort Active Nort Neutral EA000400 -13.6 Nort Received 80 [129] 57.5 98.5 OFF	EA000380	-16.2	Not Received	77 [124]	32.5	25.5	OFF	OFF	Not Active	Not Neutral
EA0003A0 -15.8 Not Received 77.1124 70.5 99. OFF Not Active, Not Neutral EA0003B0 -15.6 Not Received 78.1126 55.5 98.5 OFF OFF Not Active, Not Neutral EA0003D0 -15.2 Not Received 78.1126 53. 98.5 OFF OFF Not Active, Not Neutral EA0003D1 -15.0 Not Received 78.1126 53. 98.5 OFF OFF Not Active, Not Neutral EA000400 -14.8 Not Received 79.127 52. 44.5 OFF OFF Not Active, Not Neutral EA000400 -14.4 Not Received 79.127 52. 44.5 OFF OFF Not Active, Not Neutral EA000400 -14.4 Not Received 79.127 52. 44.5 OFF OFF Not Active, Not Neutral EA000400 -13.8 Not Received 79.127 52. 97.5 OFF OFF Not Active, Not Neutral EA0004030 -14.2 Not R	EA000390	-16.0	Not Received	77 [124]	67	68	OFF	OFF	Not Active	Not Neutral
EA000380 -15.6 Not Received 77 [124] 62.5 98.5 OFF OFF Not Active Not Neutral EA000320 -15.4 Not Received 78 [126] 53.3 98.5 OFF OFF Not Active Not Neutral EA000350 -14.8 Not Received 78 [126] 53 94.5 OFF OFF Not Active Not Neutral EA000400 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000401 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000430 -14.4 Not Received 80 [129] 52 97.5 OFF OFF Not Active Not Neutral EA000430 -13.6 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000460 -13.2 Not Received 81 [130] 57.5 98.5 OFF	EA0003A0	-15.8	Not Received	77 [124]	70.5	99	OFF	OFF	Not Active	Not Neutral
EA0003C0 -15.4 Not Received 78 [126] 55.5 98.5 OFF OFF Not active Not Netural EA0003D0 -15.0 Not Received 78 [126] 53 98.5 OFF OFF Not Active Not Neutral EA0003F0 -14.8 Not Received 78 [126] 53 64.5 OFF OFF Not Active Not Neutral EA000400 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000401 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000401 -14.2 Not Received 80 [129] 52 97.5 OFF OFF Not Active Not Neutral EA000405 -13.4 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000407 -13.2 Not Received 81 [130] 57.5 98.5 OFF	EA0003B0	-15.6	Not Received	77 [124]	62.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0003D0 -15.2 Not Received 78 [126] 53 98.5 OFF OFF Not Active Not Netward EA0003E0 -14.8 Not Received 78 [126] 53 91.5 OFF OFF Not Active Not Neutral EA000401 -14.4 Not Received 79 [127] 53 48.5 OFF OFF Not Active Not Neutral EA000401 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000420 -14.2 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000440 -13.8 Not Received 80 [129] 52 98.5 OFF OFF Not Active Not Neutral EA000460 -13.4 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000460 -13.0 Not Received 81 [130] 57.5 98.5 OFF	EA0003C0	-15.4	Not Received	78 [126]	55.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0003E0 -15.0 Not Received 78 [126] 53 91.5 OFF NoF Not Active Not Neutral EA0003F0 -14.6 Not Received 78 [127] 53 64.5 OFF OFF Not Active Not Neutral EA000400 -14.4 Not Received 79 [127] 52 45.5 OFF OFF Not Active Not Neutral EA000400 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000440 -13.8 Not Received 80 [129] 52 97.5 OFF OFF Not Active Not Neutral EA000460 -13.4 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000460 -13.4 Not Received 82 [132] 57.5 98.5 OFF OFF Not Active Not Neutral EA000480 -12.4 Not Received 82 [132] 56 98.5 OFF	EA0003D0	-15.2	Not Received	78 [126]	53	98.5	OFF	OFF	Not Active	Not Neutral
EA0003P0 -14.8 Not Received 78 [120] 53 64.5 OFF OFF Not Active Not Neutral EA000400 -14.4 Not Received 79 [127] 53 48.5 OFF OFF Not Active Not Neutral EA000400 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000400 -14.3 Not Received 80 [129] 52 97.5 OFF OFF Not Active Not Neutral EA000400 -13.6 Not Received 80 [129] 52 98.5 OFF OFF Not Active Not Neutral EA000400 -13.2 Not Received 81 [130] 57.5 98.5 OFF OFF Not Active Not Neutral EA000400 -13.2 Not Received 82 [132] 57 98.5 OFF OFF Not Active Not Neutral EA000400 -12.6 Not Received 82 [132] 54.5 98.5 OFF	EA0003E0	-15.0	Not Received	78 [126]	53	91.5	OFF	OFF	Not Active	Not Neutral
LADOUGO 14.4 Not Received 79 [127] 52 45.5 OFF OFF Not Active Not Neutral EA000410 -14.4 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000430 -13.8 Not Received 80 [129] 52 97.5 OFF OFF Not Active Not Neutral EA000430 -13.6 Not Received 80 [129] 52 97.5 OFF OFF Not Active Not Neutral EA000460 -13.4 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000490 -12.8 Not Received 82 [132] 57 98.5 OFF OFF Not Active Not Neutral EA000400 -12.6 Not Received 82 [132] 55 99 OFF OFF Not Active Not Neutral EA000400 -12.4 Not Received 82 [132] 54.5 98.5 OFF	EA0003F0	-14.8	Not Received	78[120]	53	04.5 48.5	OFF	OFF	Not Active	Not Neutral
EA000410 14.2 Not Received 79 [127] 52 44.5 OFF OFF Not Active Not Neutral EA000420 -14.4 Not Received 79 [127] 52 51 OFF OFF Not Active Not Neutral EA000440 -13.8 Not Received 80 [129] 52 97.5 OFF OFF Not Active Not Neutral EA000400 -13.4 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000470 -13.2 Not Received 81 [130] 57.5 98.5 OFF OFF Not Active Not Neutral EA000470 -13.2 Not Received 82 [132] 57 98.5 OFF OFF Not Active Not Neutral EA000400 -12.6 Not Received 82 [132] 56 98.5 OFF OFF Not Active Not Neutral EA000400 -12.6 Not Received 83 [134] 54.5 98.5 OFF <	EA000400	-14.0	Not Received	79[127]	52	40.5	OFF	OFF	Not Active	Not Neutral
EA000430 14.0 Not Received 79 127 52 51 OFF OFF Not Active Not Neutral EA000430 -13.8 Not Received 80 129 52 97.5 OFF OFF Not Active Not Neutral EA000450 -13.4 Not Received 80 129 52 98.5 OFF OFF Not Active Not Neutral EA000440 -13.4 Not Received 81 130 57.5 98.5 OFF OFF Not Active Not Neutral EA000440 -13.0 Not Received 81 130 57.5 98.5 OFF OFF Not Active Not Neutral EA000440 -12.8 Not Received 82 132 56 98.5 OFF OFF Not Active Not Neutral EA000400 -12.2 Not Received 82 132 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.2 Not Receive	EA000410	-14.2	Not Received	79 [127]	52	44.5	OFF	OFF	Not Active	Not Neutral
EA000440 -13.8 Not Received 80 129 52 97.5 OFF OFF Not Active Not Neutral EA000450 -13.6 Not Received 80 129 57.5 98.5 OFF OFF Not Active Not Neutral EA000400 -13.2 Not Received 81 130 57.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.8 Not Received 82 132 57 98.5 OFF OFF Not Active Not Neutral EA000400 -12.6 Not Received 82 132 55 99 OFF OFF Not Active Not Neutral EA000400 -12.4 Not Received 82 132 55 99 OFF OFF Not Active Not Neutral EA000400 -12.0 Not Received 82 132 54.5 98.5 OFF OFF Not Active Not Neutral EA0004050 -11.6 Not Receive	EA000430	-14.0	Not Received	79 [127]	52	51	OFF	OFF	Not Active	Not Neutral
EA000450 -13.6 Not Received 80 [129] 52 98.5 OFF OFF Not Active Not Neutral EA000400 -13.4 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000470 -13.2 Not Received 81 [130] 57.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.8 Not Received 82 [132] 57 98.5 OFF OFF Not Active Not Neutral EA000400 -12.8 Not Received 82 [132] 55 99 OFF OFF Not Active Not Neutral EA000400 -12.4 Not Received 82 [132] 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.0 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -11.6 Not Received 84 [135] 53 98.5 OFF	EA000440	-13.8	Not Received	80 [129]	52	97.5	OFF	OFF	Not Active	Not Neutral
EA000460 -13.4 Not Received 80 [129] 57.5 98.5 OFF OFF Not Active Not Neutral EA000470 -13.2 Not Received 81 [130] 57.5 98.5 OFF OFF Not Active Not Neutral EA000480 -13.0 Not Received 82 [132] 57 98.5 OFF OFF Not Active Not Neutral EA000480 -12.8 Not Received 82 [132] 56 98.5 OFF OFF Not Active Not Neutral EA000480 -12.4 Not Received 82 [132] 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.2 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -11.6 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000510 -11.6 Not Received 83 [134] 54.5 98.5 OFF	EA000450	-13.6	Not Received	80 [129]	52	98.5	OFF	OFF	Not Active	Not Neutral
EA000470 -13.2 Not Received 81 [130] 57.5 98.5 OFF OFF Not Active Not Neutral EA000480 -13.0 Not Received 81 [130] 57.5 98.5 OFF OFF Not Active Not Neutral EA000490 -12.6 Not Received 82 [132] 56 98.5 OFF OFF Not Active Not Neutral EA000400 -12.4 Not Received 82 [132] 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.2 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -11.8 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000450 -11.8 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000500 -11.2 Not Received 84 [135] 53 98.5 OFF	EA000460	-13.4	Not Received	80 [129]	57.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000480 -13.0 Not Received 81 [130] 57.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.8 Not Received 82 [132] 56 98.5 OFF OFF Not Active Not Neutral EA000400 -12.4 Not Received 82 [132] 55 99 OFF OFF Not Active Not Neutral EA000400 -12.2 Not Received 82 [132] 54.5 98.5 OFF OFF Not Active Not Neutral EA000400 -12.0 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA0004F0 -11.6 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000500 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 85 [137] 52.5 98.5 OFF	EA000470	-13.2	Not Received	81 [130]	57.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000490 112.8 Not Received 82 [132] 57 98.5 OFF OFF Not Active Not Neutral EA000400 112.6 Not Received 82 [132] 55 99 OFF OFF Not Active Not Neutral EA000400 112.4 Not Received 82 [132] 54.5 98.5 OFF OFF Not Active Not Neutral EA0004D0 -12.0 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA0004E0 -11.8 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000500 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000510 -11.2 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 85 [137] 52.5 98.5 OFF	EA000480	-13.0	Not Received	81 [130]	57.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0004A0 1-2.6 Not Received 82 [132] 56 99.0 OFF OFF Not Active Not Neutral EA0004D0 -12.2 Not Received 82 [132] 55.99 OFF OFF Not Active Not Neutral EA0004D0 -12.0 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA0004E0 -11.8 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000510 -11.6 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000500 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000530 -10.4 Not Received 85 [137] 52.5 98.5 OFF OFF	EA000490	-12.8	Not Received	82 [132]	57	98.5			Not Active	Not Neutral
EA000420 -12.7 Not Received 82 [132] 54.5 98.5 OFF OFF Not Active Not Neutral EA000420 -12.0 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000420 -11.8 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000470 -11.6 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000510 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000510 -11.2 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000530 -10.4 Not Received 85 [137] 52.5 98.5 OFF	EA0004A0	-12.0	Not Received	82 [132]	55	90.0	OFF	OFF	Not Active	Not Neutral
EA0004D0 -12.2 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA0004D0 -11.8 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA0004F0 -11.6 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000500 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000510 -11.2 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000550 -10.4 Not Received 85 [137] 51 98.5 OFF OFF Not Active Not Neutral EA000560 -10.2 Not Received 86 [138] 50.5 98.5 OFF	EA0004D0	-12.4	Not Received	82 [132]	54 5	98.5	OFF	OFF	Not Active	Not Neutral
EA0004E0 -11.8 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA0004F0 -11.6 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000500 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000510 -11.2 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000530 -10.8 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000560 -10.4 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000560 -10.2 Not Received 86 [138] 50.5 98.5 OFF	EA0004D0	-12.0	Not Received	83 [134]	54.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0004F0 -11.6 Not Received 83 [134] 54.5 98.5 OFF OFF Not Active Not Neutral EA000500 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000510 -11.2 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000530 -10.8 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000550 -10.4 Not Received 85 [137] 51 98.5 OFF OFF Not Active Not Neutral EA000560 -10.2 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.8 Not Received 86 [138] 50.5 98.5 OFF	EA0004E0	-11.8	Not Received	83 [134]	54.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000500 -11.4 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000510 -11.2 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000530 -10.8 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000550 -10.4 Not Received 85 [137] 51 98.5 OFF OFF Not Active Not Neutral EA000560 -10.2 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.8 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.8 Not Received 86 [138] 50.5 98.5 OFF	EA0004F0	-11.6	Not Received	83 [134]	54.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000510 -11.2 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000520 -11.0 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000530 -10.8 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000550 -10.4 Not Received 85 [137] 51.5 98.5 OFF OFF Not Active Not Neutral EA000560 -10.2 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000570 -10.0 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.8 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.2 Not Received 87 [140] 50.5 98.5 OFF	EA000500	-11.4	Not Received	84 [135]	53	98.5	OFF	OFF	Not Active	Not Neutral
EA000520 -11.0 Not Received 84 [135] 53 98.5 OFF OFF Not Active Not Neutral EA000530 -10.8 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000540 -10.6 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000550 -10.4 Not Received 85 [137] 51 98.5 OFF OFF Not Active Not Neutral EA000560 -10.2 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.8 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000590 -9.6 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000590 -9.6 Not Received 87 [140] 50.5 98.5 OFF	EA000510	-11.2	Not Received	84 [135]	53	98.5	OFF	OFF	Not Active	Not Neutral
EA000530 -10.8 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000540 -10.6 Not Received 85 [137] 52.5 98.5 OFF OFF Not Active Not Neutral EA000550 -10.4 Not Received 85 [137] 51 98.5 OFF OFF Not Active Not Neutral EA000560 -10.2 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000570 -10.0 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.8 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA000580 -9.4 Not Received 86 [140] 50.5 98.5 OFF OFF Not Active Not Neutral EA0005C0 -9.0 Not Received 87 [140] 50.5 98.5 OFF	EA000520	-11.0	Not Received	84 [135]	53	98.5	OFF	OFF	Not Active	Not Neutral
EA000540-10.6Not Received85 [137]52.596.5OFFOFFNot ActiveNot ActiveNot NeutralEA000550-10.4Not Received85 [137]5198.5OFFOFFNot ActiveNot NeutralEA000560-10.2Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000570-10.0Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000580-9.8Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000590-9.6Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000590-9.6Not Received87 [140]50.598.5OFFOFFNot ActiveNot NeutralEA000500-9.4Not Received87 [140]50.598.5OFFOFFNot ActiveNot NeutralEA000500-9.2Not Received87 [140]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.8Not Received87 [140]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.6Not Received88 [142]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.4Not Received88 [142]5098.5OFFOFFNot ActiveNot NeutralEA000600-8.2 <td>EA000530</td> <td>-10.8</td> <td>Not Received</td> <td>85 [137]</td> <td>52.5</td> <td>98.5</td> <td></td> <td></td> <td>Not Active</td> <td>Not Neutral</td>	EA000530	-10.8	Not Received	85 [137]	52.5	98.5			Not Active	Not Neutral
EA000300-10.4Not Received83 [137]3190.3OFFOFFNot ActiveNot ReceivedEA000560-10.2Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000570-10.0Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000580-9.8Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000590-9.6Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA0005A0-9.4Not Received87 [140]50.598.5OFFOFFNot ActiveNot NeutralEA0005D0-9.2Not Received87 [140]50.598.5OFFOFFNot ActiveNot NeutralEA0005C0-9.0Not Received87 [140]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.8Not Received87 [140]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.6Not Received88 [142]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.4Not Received88 [142]5098.5OFFOFFNot ActiveNot NeutralEA000600-8.2Not Received88 [142]50.598.5OFFOFFNot ActiveNot NeutralEA000600-8.0Not Received </td <td>EA000540</td> <td>-10.6</td> <td>Not Received</td> <td>85[137] 95 [127]</td> <td>52.5</td> <td>98.5</td> <td>OFF</td> <td>OFF</td> <td>Not Active</td> <td>Not Neutral</td>	EA000540	-10.6	Not Received	85[137] 95 [127]	52.5	98.5	OFF	OFF	Not Active	Not Neutral
EA00050010.2Not Received86 [136]50.5 <th< td=""><td>EA000550</td><td>-10.4</td><td>Not Received</td><td>86 [138]</td><td>50.5</td><td>98.5</td><td>OFF</td><td>OFF</td><td>Not Active</td><td>Not Neutral</td></th<>	EA000550	-10.4	Not Received	86 [138]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000580-9.8Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA000590-9.6Not Received86 [138]50.598.5OFFOFFNot ActiveNot NeutralEA0005A0-9.4Not Received87 [140]50.598.5OFFOFFNot ActiveNot NeutralEA0005B0-9.2Not Received87 [140]50.598.5OFFOFFNot ActiveNot NeutralEA0005C0-9.0Not Received87 [140]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.8Not Received87 [140]5098.5OFFOFFNot ActiveNot NeutralEA0005D0-8.6Not Received88 [142]5098.5OFFOFFNot ActiveNot NeutralEA0005E0-8.6Not Received88 [142]5098.5OFFOFFNot ActiveNot NeutralEA0005F0-8.4Not Received88 [142]5098.5OFFOFFNot ActiveNot NeutralEA000600-8.2Not Received88 [142]50.598.5OFFOFFNot ActiveNot NeutralEA000610-8.0Not Received89 [143]50.598.5OFFOFFNot ActiveNot NeutralEA000620-7.8Not Received89 [143]5198.5OFFOFFNot ActiveNot Neutral	EA000570	-10.0	Not Received	86 [138]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000590 -9.6 Not Received 86 [138] 50.5 98.5 OFF OFF Not Active Not Neutral EA0005A0 -9.4 Not Received 87 [140] 50.5 98.5 OFF OFF Not Active Not Neutral EA0005B0 -9.2 Not Received 87 [140] 50.5 98.5 OFF OFF Not Active Not Neutral EA0005C0 -9.0 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA0005F0 -8.4 Not Received 88 [142] 50.5 98.5 OFF	EA000580	-9.8	Not Received	86 [138]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0005A0 -9.4 Not Received 87 [140] 50.5 98.5 OFF OFF Not Active Not Neutral EA0005B0 -9.2 Not Received 87 [140] 50.5 98.5 OFF OFF Not Active Not Neutral EA0005C0 -9.0 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA0005F0 -8.4 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000600 -8.2 Not Received 88 [142] 50.5 98.5 OFF	EA000590	-9.6	Not Received	86 [138]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0005B0 -9.2 Not Received 87 [140] 50.5 98.5 OFF OFF Not Active Not Neutral EA0005C0 -9.0 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005E0 -8.6 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA0005F0 -8.4 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000600 -8.2 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000610 -8.0 Not Received 89 [143] 50.5 98.5 OFF	EA0005A0	-9.4	Not Received	87 [140]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0005C0 -9.0 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 87 [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005D0 -8.8 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA0005E0 -8.6 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA0005F0 -8.4 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA000600 -8.2 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000610 -8.0 Not Received 89 [143] 50.5 98.5 OFF OFF Not Active Not Neutral EA000620 -7.8 Not Received 89 [143] 51 98.5 OFF OFF<	EA0005B0	-9.2	Not Received	87 [140]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
EAUU05DU -8.8 Not Received 8/ [140] 50 98.5 OFF OFF Not Active Not Neutral EA0005E0 -8.6 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA0005F0 -8.4 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA000600 -8.2 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000610 -8.0 Not Received 89 [143] 50.5 98.5 OFF OFF Not Active Not Neutral EA000620 -7.8 Not Received 89 [143] 51 98.5 OFF OFF Not Active Not Neutral	EA0005C0	-9.0	Not Received	87 [140]	50	98.5	OFF	OFF	Not Active	Not Neutral
EAU003E0 -8.0 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA0005F0 -8.4 Not Received 88 [142] 50 98.5 OFF OFF Not Active Not Neutral EA000600 -8.2 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000610 -8.0 Not Received 89 [143] 50.5 98.5 OFF OFF Not Active Not Neutral EA000620 -7.8 Not Received 89 [143] 51 98.5 OFF OFF Not Active Not Neutral	EA0005D0	-8.8	Not Received	87 [140]	50	98.5			Not Active	Not Neutral
EA000600 -8.2 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000600 -8.0 Not Received 88 [142] 50.5 98.5 OFF OFF Not Active Not Neutral EA000610 -8.0 Not Received 89 [143] 50.5 98.5 OFF OFF Not Active Not Neutral EA000620 -7.8 Not Received 89 [143] 51 98.5 OFF OFF Not Active Not Neutral		-0.0	Not Received	00 [142]	50	98.5			Not Active	Not Neutral
EA000610 -8.0 Not Received 89 [143] 50.5 98.5 OFF OFF Not Active Not Neutral EA000620 -7.8 Not Received 89 [143] 51 98.5 OFF OFF Not Active Not Neutral	EA000800	-8.2	Not Received	88 [142]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000620 -7.8 Not Received 89 [143] 51 98.5 OFF OFF Not Active Not Neutral	EA000610	-8.0	Not Received	89 [143]	50.5	98.5	OFF	OFF	Not Active	Not Neutral
	EA000620	-7.8	Not Received	89 [143]	51	98.5	OFF	OFF	Not Active	Not Neutral



Buffer Address	Relative Time (calc.)	Restraint Deployment Signal	Speed, Vehicle Indicated	Accelerator Pedal % Full	Engine Throttle % Full	Brake Switch	Brake SC De-ac	ABS	Transmission - Neutral
(Hex)	(Seconds)	(Received / Not Received)	(MPH [km/h])	(%)	(%)	(On / Off)	(On / Off)	(Active / Inactive)	(Neutral / Not Neutral)
EA000630	-7.6	Not Received	89 [143]	96	99	OFF	OFF	Not Active	Not Neutral
EA000640	-7.4	Not Received	89 [143]	98	98.5	OFF	OFF	Not Active	Not Neutral
EA000650	-7.2	Not Received	89 [143]	98.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000660	-7.0	Not Received	90 [145]	98.5	98.5	OFF	OFF	Not Active	Not Neutral
EA000670	-6.8	Not Received	89 [143]	98	98.5	OFF	OFF	Not Active	Not Neutral
EA000680	-6.6	Not Received	89 [143]	95	99	OFF	OFF	Not Active	Not Neutral
EA000690	-6.4	Not Received	89 [143]	97.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0006A0	-6.2	Not Received	90 [145]	97.5	98.5	OFF	OFF	Not Active	Not Neutral
EA0006B0	-6.0	Not Received	91 [146]	100	98.5	OFF	OFF	Not Active	Not Neutral
EA0006C0	-5.8	Not Received	91 [146]	95.5	99	OFF	OFF	Not Active	Not Neutral
EA0006D0	-5.6	Not Received	91 [146]	74	98.5			Not Active	Not Neutral
EA0006E0	-5.4	Not Received	93 [150]	81	98.5			Active	Not Neutral
EA0006F0	-5.2	Not Received	95[153]	05	98.5			Active	Not Neutral
EA000700	-5.0	Not Received	100 [161]	90	90.5	OFF	OFF	Active	Not Neutral
EA000710	-4.0	Not Received	00 [161]	90.5	99	OFF	OFF	Active	Not Neutral
EA000720	-4.0	Not Received	07 [156]	99	90.5			Activo	Not Neutral
EA000730	-4.4	Not Received	102 [16/]	100	99	OFF	OFF	Active	Not Neutral
EA000740	-4.0	Not Received	102 [104]	100	98.5	OFF	OFF	Active	Not Neutral
EA000760	-3.8	Not Received	108 [174]	100	98.5	OFF	OFF	Active	Not Neutral
EA000770	-3.6	Not Received	99 [159]	100	99	OFF	OFF	Active	Not Neutral
EA000780	-3.4	Not Received	92 [148]	100	98.5	ON	OFF	Active	Not Neutral
EA000790	-3.2	Not Received	56 [90]	2	47.5	OFF	OFF	Active	Neutral
EA0007A0	-3.0	Not Received	49 [79]	0	10.5	OFF	OFF	Active	Neutral
EA0007B0	-2.8	Not Received	35 [56]	0	11.5	OFF	OFF	Active	Neutral
EA0007C0	-2.6	Not Received	8 [13]	0	8	OFF	OFF	Active	Neutral
EA0007D0	-2.4	Not Received	1 [2]	0	7.5	OFF	OFF	Active	Neutral
EA0007E0	-2.2	Not Received	1 [2]	0	7	OFF	OFF	Active	Neutral
EA0007F0	-2.0	Not Received	0 01	0	6.5	OFF	OFF	Active	Neutral
EA000010	-1.8	Not Received	2 [3]	0	6	OFF	OFF	Not Active	Neutral
EA000020	-1.6	Not Received	1 [2]	0	6	OFF	OFF	Not Active	Neutral
EA000030	-1.4	Not Received	2 [3]	0	5.5	OFF	OFF	Not Active	Neutral
EA000040	-1.2	Not Received	1 [2]	0	5.5	OFF	OFF	Not Active	Neutral
EA000050	-1.0	Not Received	0 [0]	0	5	OFF	OFF	Not Active	Neutral
EA000060	-0.8	Not Received	0 [0]	0	5	OFF	OFF	Not Active	Neutral
EA000070	-0.6	Not Received	1 [2]	0	5	OFF	OFF	Not Active	Neutral
EA000080	-0.4	Not Received	2 [3]	0	5	OFF	OFF	Not Active	Neutral
EA000090	-0.2	Not Received	0 [0]	0	5	OFF	OFF	Not Active	Neutral
EA0000A0	0.0	Not Received	0 [0]	0	4.5	OFF	OFF	Not Active	Neutral
EA0000B0	0.2	Received	0 [0]	0	4.5	OFF	OFF	Not Active	Neutral
EA0000C0	0.4	Received	1 [2]	0	4.5	OFF	OFF	Not Active	Neutral
EA0000D0	0.6	Received	0 0	0	4.5			Not Active	Neutral
	0.8	Received		0	4.5			Not Active	Neutral
	1.0	Received	1 [2]	0	4.5			Not Active	Neutral
EA000100	1.2	Received	0.[0]	0	5 5 5			Not Active	Neutral
	1.4	Received		0	5.5 5.5			Not Active	Neutral
EA000120	1.0	Received	1 [2]	0	5.5			Not Active	Noutral
EA000130	2.0	Received		0	5.5			Not Active	Neutral
EA000140	2.0	Received	2 [3]	0	5.5	OFF	OFF	Not Active	Neutral
EA000150	2.2	Received	1 [2]	0	5.5	OFF	OFF	Not Active	Neutral
EA000100	2.4	Received		0	6	OFF	OFF	Not Active	Neutral
FA000180	2.8	Received	0 [0]	0	6	OFF	OFF	Not Active	Not Neutral
EA000190	3.0	Received	0 01 0	0	6	OFF	OFF	Not Active	Not Neutral
EA0001A0	3.2	Received	0 0 101	0	6.5	OFF	OFF	Not Active	Not Neutral
EA0001B0	3.4	Received	0 01	0	6.5	OFF	OFF	Not Active	Not Neutral
EA0001C0	3.6	Received	0 01	0	2.5	OFF	OFF	Not Active	Not Neutral
EA0001D0	3.8	Received	0 01	0	9	OFF	OFF	Not Active	Not Neutral
EA0001E0	4.0	Received	0 00	0	9.5	OFF	OFF	Not Active	Not Neutral
EA0001F0	4.2	Received	0 0	0	9.5	OFF	OFF	Not Active	Not Neutral
EA000200	4.4	Received	0 00	0	9.5	OFF	OFF	Not Active	Not Neutral
EA000210	4.6	Received	0 0	0	9.5	OFF	OFF	Not Active	Not Neutral
EA000220	4.8	Received	0 [0]	0	9.5	OFF	OFF	Not Active	Not Neutral
EA000230	5.0	Received	0 [0]	0	9.5	OFF	OFF	Not Active	Not Neutral



PCM EDR Data (2)

Buffer	Relative	Transmission	Speed	Engine	Driveline	Driveline	Traction	Stability	Key On Timer
Address	Time (calc.)	- Reverse	Control	RPM	Torque	Torque	Control	Control	63.75 Max (sec)
(Hex)	(Seconds)	(Reverse / Not Reverse)	(On / Off)	(RPM)	(N-m)	(N-m)	(Active / Inactive)	(Active / Inactive)	(Seconds)
EA000240	-20.2	Not Reverse	OFF	2175	168	102	Not Active	Not Active	63.75
EA000250	-20.0	Not Reverse	OFF	2174	167	102	Not Active	Not Active	63.75
EA000260	-19.8	Not Reverse	OFF	2180	168	102	Not Active	Not Active	63.75
EA000270	-19.6	Not Reverse	OFF	2185	169	103	Not Active	Not Active	63.75
EA000280	-19.4	Not Reverse	OFF	2180	167	101	Not Active	Not Active	63.75
EA000290	-19.2	Not Reverse	OFF	2185	168	102	Not Active	Not Active	63.75
EA0002A0	-19.0	Not Reverse		2189	169	102	Not Active	Not Active	63.75
EA0002B0	-18.8	Not Reverse		2192	175	107	Not Active	Not Active	63.75
EA0002C0	-10.0	Not Povorso		2193	175	107	Not Active	Not Active	63.75
EA0002D0	-18.2	Not Reverse	OFF	2200	176	107	Not Active	Not Active	63 75
EA0002E0	-18.0	Not Reverse	OFF	2196	175	106	Not Active	Not Active	63.75
EA000300	-17.8	Not Reverse	OFF	2203	180	110	Not Active	Not Active	63.75
EA000310	-17.6	Not Reverse	OFF	2207	182	111	Not Active	Not Active	63.75
EA000320	-17.4	Not Reverse	OFF	2209	183	112	Not Active	Not Active	63.75
EA000330	-17.2	Not Reverse	OFF	2213	182	111	Not Active	Not Active	63.75
EA000340	-17.0	Not Reverse	OFF	2217	196	120	Not Active	Not Active	63.75
EA000350	-16.8	Not Reverse	OFF	2224	213	132	Not Active	Not Active	63.75
EA000360	-16.6	Not Reverse	OFF	2228	238	148	Not Active	Not Active	63.75
EA000370	-16.4	Not Reverse	OFF	2232	235	146	Not Active	Not Active	63.75
EA000380	-16.2	Not Reverse	OFF	2244	227	141	Not Active	Not Active	63.75
EA000390	-16.0	Not Reverse		2248	282	1/8	Not Active	Not Active	63.75
EA0003A0	15.6	Not Reverse		2318	307	193	Not Active	Not Active	63.75
EA0003D0	-15.0	Not Reverse	OFF	3079	284	206	Not Active	Not Active	63 75
EA0003D0	-15.2	Not Reverse	OFF	3296	315	250	Not Active	Not Active	63 75
EA0003E0	-15.0	Not Reverse	OFF	3400	292	248	Not Active	Not Active	63.75
EA0003F0	-14.8	Not Reverse	OFF	3393	279	240	Not Active	Not Active	63.75
EA000400	-14.6	Not Reverse	OFF	3612	297	271	Not Active	Not Active	63.75
EA000410	-14.4	Not Reverse	OFF	3633	306	282	Not Active	Not Active	63.75
EA000420	-14.2	Not Reverse	OFF	3615	308	283	Not Active	Not Active	63.75
EA000430	-14.0	Not Reverse	OFF	3318	283	234	Not Active	Not Active	63.75
EA000440	-13.8	Not Reverse	OFF	2938	369	239	Not Active	Not Active	63.75
EA000450	-13.6	Not Reverse	OFF	2989	322	211	Not Active	Not Active	63.75
EA000460	-13.4	Not Reverse	OFF	2990	322	209	Not Active	Not Active	63.75
EA000470	-13.2	Not Reverse		2990	325	210	Not Active	Not Active	63.75
EA000460	12.0	Not Reverse		2900	220	207	Not Active	Not Active	62.75
EA000490	-12.0	Not Reverse	OFF	2930	329	207	Not Active	Not Active	63 75
EA0004R0	-12.0	Not Reverse	OFF	2746	324	202	Not Active	Not Active	63 75
EA0004C0	-12.2	Not Reverse	OFF	2642	318	199	Not Active	Not Active	63.75
EA0004D0	-12.0	Not Reverse	OFF	2494	326	205	Not Active	Not Active	63.75
EA0004E0	-11.8	Not Reverse	OFF	2424	323	203	Not Active	Not Active	63.75
EA0004F0	-11.6	Not Reverse	OFF	2435	315	198	Not Active	Not Active	63.75
EA000500	-11.4	Not Reverse	OFF	2448	316	198	Not Active	Not Active	63.75
EA000510	-11.2	Not Reverse	OFF	2454	318	200	Not Active	Not Active	63.75
EA000520	-11.0	Not Reverse	OFF	2462	319	200	Not Active	Not Active	63.75
EA000530	-10.8	Not Reverse	OFF	2470	317	199	Not Active	Not Active	63.75
EA000540	-10.6	Not Reverse	OFF	2478	318	200	Not Active	Not Active	63.75
EA000550	-10.4	Not Reverse		2491	318	199	Not Active	Not Active	63.75
EA000560	-10.2	Not Reverse		2490	318	200	Not Active	Not Active	03./5 63.75
EA000580	-10.0	Not Reverse	OFF	2433	320	200	Not Active	Not Active	63 75
EA000500	-9.6	Not Reverse	OFF	2515	317	199	Not Active	Not Active	63.75
EA000540	-9.4	Not Reverse	OFF	2530	317	199	Not Active	Not Active	63.75
EA0005B0	-9.2	Not Reverse	OFF	2536	318	199	Not Active	Not Active	63.75
EA0005C0	-9.0	Not Reverse	OFF	2551	318	199	Not Active	Not Active	63.75
EA0005D0	-8.8	Not Reverse	OFF	2551	319	200	Not Active	Not Active	63.75
EA0005E0	-8.6	Not Reverse	OFF	2562	317	198	Not Active	Not Active	63.75
EA0005F0	-8.4	Not Reverse	OFF	2568	316	198	Not Active	Not Active	63.75
EA000600	-8.2	Not Reverse	OFF	2580	316	198	Not Active	Not Active	63.75
EA000610	-8.0	Not Reverse	OFF	2584	315	197	Not Active	Not Active	63.75
EA000620	-7.8	Not Reverse	OFF	2592	317	198	Not Active	Not Active	63.75



Buffer Address	Relative Time (calc.)	Transmission - Reverse	Speed Control	Engine RPM	Driveline Torque	Driveline Torque	Traction Control	Stability Control	Key On Timer 63.75 Max (sec)
(Hex)	(Seconds)	(Reverse / Not Reverse)	(On / Off)	(RPM)	(N-m)	Actual (N-m)	(Active / Inactive)	(Active / Inactive)	(Seconds)
FA000630	-7.6	Not Reverse	OFF	2602	324	203	Not Active	Not Active	63.75
EA000640	-7.4	Not Reverse	OFF	2762	318	199	Not Active	Not Active	63.75
EA000650	-7.2	Not Reverse	OFF	3262	300	206	Not Active	Not Active	63 75
EA000660	-7.0	Not Reverse	OFF	3655	318	253	Not Active	Not Active	63.75
EA000670	-6.8	Not Reverse	OFF	3833	278	240	Not Active	Not Active	63 75
EA000680	-6.6	Not Reverse	OFF	3936	288	259	Not Active	Not Active	63 75
EA000690	-6.4	Not Reverse	OFF	4034	357	328	Not Active	Not Active	63 75
EA0006A0	-6.2	Not Reverse	OFF	4066	363	334	Not Active	Not Active	63 75
EA0006B0	-6.0	Not Reverse	OFF	4089	364	336	Not Active	Not Active	63 75
EA0006C0	-5.8	Not Reverse	OFF	4005	363	334	Not Active	Not Active	63 75
EA0006D0	-5.6	Not Reverse	OFF	4130	356	327	Not Active	Not Active	63.75
EA0006E0	-5.4	Not Reverse	OFF	4188	356	330	Not Active	Not Active	63 75
	-5.2	Not Reverse	OFF	4100	346	310	Not Active	Not Active	63.75
EA000700	-5.0	Not Reverse	OFF	4329	344	318	Not Active	Not Active	63 75
EA000710	-4.8	Not Reverse	OFF	4426	340	314	Not Active	Not Active	63 75
EA000720	-1.6	Not Reverse	OFF	13/8	355	328	Not Active	Not Active	63 75
EA000720	-4.0	Not Reverse	OFF	4368	363	336	Not Active	Not Active	63.75
EA000730	-4.4	Not Reverse	OFF	4300	347	320	Not Active	Not Active	63.75
EA000740	-4.2	Not Reverse	OFF	4490	330	312	Not Active	Not Active	63 75
EA000750	-4.0	Not Povorso		4505	330	312	Not Active	Not Active	63 75
EA000700	-3.0	Not Poverse		4004	202	265	Not Active	Not Active	62.75
EA000770	-3.0	Not Reverse		2677	204	269	Not Active	Not Active	62.75
EA000780	-3.4	Not Reverse		2100	124	414	Not Active	Not Active	62.75
EA000790	-3.2	Not Deverse		2700	404	414	Not Active	Not Active	62.75
EA0007A0	-3.0	Not Reverse		2799	32	19	Not Active	Not Active	03.75
EA000760	-2.0	Not Reverse		2000	21	20	Not Active	Not Active	03.75
EA0007C0	-2.0	Not Deverse		2319	20	32	Not Active	Not Active	03.75
EA0007D0	-2.4	Not Reverse		2100	-11	-94	Not Active	Not Active	63.75
EA0007E0	-2.2	Not Reverse		1904	-33	100	Not Active	Not Active	03.75
EA0007F0	-2.0	Not Reverse		1919	-21	107	Not Active	Not Active	03.75
EA000010	-1.0	Not Deverse		1734	-24	-127	Not Active	Not Active	03.75
EA000020	-1.0	Not Deverse		1000	-21	-120	Not Active	Not Active	62.75
EA000030	1.4	Not Poverse		1335	0	-57	Not Active	Not Active	62.75
EA000040	1.0	Not Poverse		1190	5	-39	Not Active	Not Active	62.75
EA000050	-1.0	Not Reverse		1224	-0	-70	Not Active	Not Active	62.75
EA000000	-0.0	Not Deverse		1024	-20	-130	Not Active	Not Active	62.75
EA000070	-0.6	Not Reverse		1034	12	-63	Not Active	Not Active	63.75
EA000000	-0.4	Not Reverse		1075	-12	-94	Not Active	Not Active	62.75
EA000090	-0.2	Not Reverse		1007		-40	Not Active	Not Active	62.75
EA0000A0	0.0	Not Deverse		1110	10 F	-17	Not Active	Not Active	62.75
	0.2	Not Deverse		1014	<u> </u>	-40	Not Active	Not Active	03.75
	0.4	Not Poverse		016	-23	-124	Not Active	Not Active	62.75
EA0000D0	0.0	Not Povorso		681	-13	-114	Not Active	Not Active	63.75
	1.0	Not Reverse	OFF	196	_17	-106	Not Active	Not Active	63.75
EA0000F0	1.0	Not Povorso		490	-1	-100	Not Active	Not Active	63.75
EA000110	1.2	Not Reverse	OFF	508	10	-7	Not Active	Not Active	63.75
EA000110	1.4	Not Povorso		410	70	-7	Not Active	Not Active	63.75
EA000120	1.0	Not Povorso		410	70	152	Not Active	Not Active	63.75
EA000130	2.0	Not Povorso		668	35	35	Not Active	Not Active	63.75
EA000140	2.0	Not Povorso		624	55	<u> </u>	Not Active	Not Active	63.75
EA000150	2.2	Not Reverse	OFF	576	_1	-64	Not Active	Not Active	63.75
EA000170	2.4	Not Reverse	OFF	398	17	-14	Not Active	Not Active	63 75
EA000180	2.0	Not Reverse	OFF	276	20	53	Not Active	Not Active	63.75
EA000180	3.0	Not Reverse	OFF	210	20	95	Not Active	Not Active	63 75
EA000140	3.2	Not Reverse	OFF	277	70	334	Not Active	Not Active	63 75
EA0001R0	3.4	Not Reverse	OFF	148	107	510	Not Active	Not Active	63 75
EA0001C0	3.6	Not Reverse	OFF	148	47	264	Not Activo	Not Active	63 75
EA000100	3.8	Not Reverse	OFF	0	252	1693	Not Active	Not Active	63 75
EA0001E0	4.0	Not Reverse	OFF	0	233	1555	Not Active	Not Active	63 75
EA0001E0	42	Not Reverse	OFF	0	231	1540	Not Active	Not Active	63 75
EA000200	44	Not Reverse	OFF	0	231	1535	Not Active	Not Active	63 75
FA000200	4.6	Not Reverse	OFF	0	231	1535	Not Active	Not Active	63 75
FA000220	4.8	Not Reverse	OFF	0	231	1535	Not Active	Not Active	63 75
FA000230	5.0	Not Reverse	OFF	0	231	1535	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: 0000100D0:	32 32	46 FF	41 FF	48 FF	50	37	31	57	34	37	58	31	32	39	38	37
000010046:	46	43	48	47	32	50	5A	2E	48	45	58	2A				
000010054:	37	57	37	41	56	43	20	2A								
0EA000000:	05	00	A0	5B	00	00	00	00	00	00	00	00	00	00	00	00
0EA000010.	00	00	00	10	19	01	E8	01	20		8T	00	FO	F F	00	3⊥ ⊐⊐
0EA000020.	00	00	00	10	29	01	EB 01	00	9D	01	88	00	FØ	F F	00	
0EA000030:	00	00	0B	14		02	UT 00	00	EE 4 D	01	C7	00	F 8	F.F.	00	54
0EA000040:	00	00	08	12	97	02	00	00	4E	01	C5	00	F.8	F.F.	00	3F.
0EA000050:	00	00	AU	12	AE	01	FB	00	00	01	B4	00	F 8	F.F.	00	8E
0EA000060:	00	00	AU	13	21	01	E6	00	00	01	/8	00	F.S	F.F.	00	6B
0EA000070:	00	00	AU	10	26	02	00	00	85	01	CT	00	F.8	F.F.	00	80
0EA000080:	00	00	AU A	10	CB	UT 01	F4	UT 00	20	01	AZ D2	00	F.S	F.F.	00	6B
0EA000090:	00	00	AU	10 11	83	02	05	00	00		D3	00	F 8	F.F.	00	91 47
OEAUUUUAU.	00	00	09	11 11	70	02	OF	00	3/		EF DO	00	F 8	F F	00	4/
OEA0000BU:	00	00	09	ΔĒ		02	05	00	31 72	01		01	F O TP O	F F E E	00	27
0EA0000C0:	00	00	09	0F 0F	D7 51	01	29 1717	00	25	01	04 017	01	го го	rr rr	00	י כ דיד
OEA0000D0:	00	00	09	0E 07	ΣL	01		00	00	01	80 0E	01	го гQ	rr rr	00	
OFACCOCEC:	00	00	09	07	C1	01	모모	00	00 75	01	96	01	F8	ਸੂਸ	00	32
0EA0000F0;	00	00	02	06	42	01	모모	00	4C	01	C1	01	F8	ਸੂਸ	00	78
0EA000100:	00	00	0B	07	도 도 1	02	13	00	00	01	F9	01	F8	ਸਤ	00	д0 F6
0EA000120:	00	00	0B	06	68	02	46	00	00	02	83	01	F8	ਸ਼	00	C2
0EA000130:	0.0	00	0B	07	C5	02	4D	00	B8	02	98	01	F8	77	00	90
0EA000140:	00	00	0B	0A	6E	02	23	00	00	02	23	01	F8	FF	00	3B
0EA000150:	00	00	0B	09	BF	02	33	00	CD	02	53	01	F8	FF	00	DE
0EA000160:	00	00	0B	08	FF	01	FF	00	43	01	CO	01	F8	FF	00	F2
0EA000170:	00	00	0C	06	37	02	11	00	00	01	F2	01	F8	FF	00	в9
0EA000180:	00	04	0C	04	50	02	14	00	00	02	35	01	F8	FF	00	57
0EA000190:	00	04	0C	03	65	02	1C	00	00	02	5F	01	F8	\mathbf{FF}	00	11
0EA0001A0:	00	04	0D	04	54	02	46	00	00	03	4E	01	F8	\mathbf{FF}	00	06
0EA0001B0:	00	04	0D	02	51	02	6B	00	00	03	\mathbf{FE}	01	F8	\mathbf{FF}	00	36
0EA0001C0:	00	04	05	02	51	02	2F	00	00	03	08	01	F8	\mathbf{FF}	00	70
0EA0001D0:	00	04	12	00	00	02	FC	00	00	08	9D	01	F8	\mathbf{FF}	00	4F
0EA0001E0:	00	04	13	00	00	02	Е9	00	00	8 0	13	01	F8	\mathbf{FF}	00	EΒ
0EA0001F0:	00	04	13	00	00	02	E7	00	00	8 0	04	01	F8	\mathbf{FF}	00	FC
0EA000200:	00	04	13	00	00	02	E7	00	00	07	\mathbf{FF}	01	F8	\mathbf{FF}	00	02
0EA000210:	00	04	13	00	00	02	E7	00	00	07	\mathbf{FF}	01	F8	\mathbf{FF}	00	02
0EA000220:	00	04	13	00	00	02	E7	00	00	07	FF	01	F8	FF	00	02
0EA000230:	00	04	13	00	00	02	E7	00	00	07	FF	01	F8	FF	00	02
0EA000240:	36	04	27	21	FC	02	A8	25	42	02	66	00	F.8	F.F.	00	12
0EA000250:	30	04	27	21	FA	02	A /	25	4B	02	66	00	F.S	F.F.	00	00
0EA000260;	30	04	27	22	7 E	02	A8 70	25 25	5B	02	66	00	F 8 TP 0	F.F.	00	E4
0EA000270.	30	04	27	22	25 017	02	A9 77	25 25	50	02	67	00	F 8 TP 0	F F E E	00	
0EA000280.	26	04	27	22	0F 25	02	A/ 70	20	00 6 प्र	02	65	00	го го	rr rr	00	עע סס
0EA000290:	27	04	27	22	25	02	λQ	25	0F 77	02	66	00	го гQ	rr rr	00	л1
0EA0002A0:	22	04	29	22	42	02	A F	25	82	02	6B	00	го F8	T.T.	00	
0EA0002D0:	37	04	28	22	45	02	ΔF	25	90	02	6B	00	F8	ਸੂਸ	00	60
0EA0002D0:	36	04	28	22	3 F.	02	BU	25	98	02	6R	00	- 0 F8	ਸਤ	00	6R
0EA0002E0:	36	04	28	22	61	02	B0	25	AO	02	6B	00	F8	FF	00	40
0EA0002F0:	38	04	28	22	52	02	AF	25	AE	02	6A	00	F8	FF	00	41
0EA000300:	3A	04	29	22	6D	02	в4	25	в9	02	6E	00	F8	FF	00	0F
0EA000310:	39	04	29	22	7C	02	в6	25	C7	02	6F	00	F8	FF	00	FO
0EA000320:	39	04	29	22	84	02	в7	25	D1	02	70	00	F8	FF	00	DC
0EA000330:	39	04	29	22	94	02	вб	25	ЕЗ	02	6F	00	F8	\mathbf{FF}	00	BC
0EA000340:	40	04	2E	22	A3	02	C4	25	F7	02	78	00	F8	\mathbf{FF}	00	76





0EA000350:	45	04	34	22	C2	02	D5	26	0E	02	84	00	F8	FF	00	17
0EA000360:	46	04	36	22	D0	02	EE	26	30	02	94	00	F8	FF	00	BB
0EA000370: 0EA000380:	4⊥ 41	04	32	22	ビエ 12	02	EB EB	26	49 5 F	02	92 8D	00	F.8 F.8	1.1.1 1.1.1	00	9F 63
0EA000390:	86	04	88	23	20	03	1A	26	8C	02	B2	00	F8	FF	00	31
0EA0003A0:	8D	04	C6	24	39	03	33	26	97	02	C1	00	F8	FF	00	9F
0EA0003B0:	7D	04	C5	2A	61	03	16	26	9F	02	В1	00	F8	\mathbf{FF}	00	A7
0EA0003C0:	6F	04	C5	30	1D	03	1C	26	D6	02	CE	00	F8	FF	00	99
0EAUUU3DU:	6A 67	04	C5	33	/ Ĕ	03	3B 24	26	F'6 17	02	F'A F'A	00	Ε.8 Е.8	Б.Б.	00	CE 25
0EA0003E0:	6A	04	81	35	03	03	17	27	1F	02	FO	00	F8	FF	00	90
0EA000400:	6A	04	61	38	6F	03	29	27	62	03	0F	00	F8	FF	00	CC
0EA000410:	68	04	5B	38	C3	03	32	27	7F	03	1A	00	F8	\mathbf{FF}	00	4F
0EA000420:	68	04	59	38	7D	03	34	27	86	03	1B	00	F8	FF	00	8D
0EA000430; 0FA000440;	68 68	04	66	33 70	D7 ភូទ	03	1B 71	27	B8 B8	0∠ ∩2	EA FF	00	F.8 F.8	1.1.1 L.L.	00	44 50
0EA000450:	68	04	C5	2E	в4	03	42	28	14	02	D3	00	F8	FF	00	A0
0EA000460:	73	04	C5	2E	в7	03	42	28	3D	02	D1	00	F8	FF	00	6B
0EA000470:	73	04	C5	2E	В9	03	45	28	71	02	D2	00	F8	\mathbf{FF}	00	31
0EA000480:	73	04	C5	2E	A6	03	42	28	95	02	CF	00	F8	FF	00	26 DC
0EA000490: 0EA0004A0:	70	04	C5	2D 2C	2B	03	49 47	∠8 28	E9	0∠ 02	CF	00	г8 F8	ㅋㅋ ㅋㅋ	00	во 50
0EA0004B0:	6E	04	C6	2A	EA	03	44	29	15	02	CA	00	F8	FF	00	6C
0EA0004C0:	6D	04	C5	29	48	03	3E	29	3E	02	C7	00	F8	\mathbf{FF}	00	F1
0EA0004D0:	6D	04	C5	26	F7	03	46	29	72	02	CD	00	F8	FF	00	03
0EA0004E0:	6D	04	C5	25	DE	03	43 2D	29	85 D0	02	CB	00	F8	FF	00	0F
0EA0004F0:	6D 6A	04	C5	20 26	0D 3 ਜ	03	зв 3С	29 29	во DD	02	C6	00	го F8	тт ТТ	00	вэ 64
0EA000510:	бA	04	C5	26	57	03	3E	2A	01	02	C8	00	F8	FF	00	23
0EA000520:	6A	04	C5	26	78	03	3F	2A	2D	02	C8	00	F8	\mathbf{FF}	00	D5
0EA000530:	69	04	C5	26	99	03	3D	2A	53	02	C7	00	F8	FF	00	92
0EA000540:	69 66	04	C5	26	88 88	03	3E 25	2A 2 7	/3 0 ਵ	02	C8	00	Ε.8 Е.8	Б.Б.	00	51 〒/
0EA000550:	65	04	C5	26	E9	03	3E	2A 2A	C0	02	C8	00	F8	FF	00	D7
0EA000570:	65	04	C5	27	0B	03	3F	2A	E4	02	C8	00	F8	FF	00	8F
0EA000580:	65	04	C5	27	54	03	40	2B	0A	02	C9	00	F8	\mathbf{FF}	00	1D
0EA000590:	65	04	C5	27	4C	03	3D	2B	30	02	C7	00	F8	FF	00	04
0EA0005A0:	65	04	C5	27	о9 А1	03	3E	2в 2в	5⊿ 73	02	C7	00	го F8	rr FF	00	A5 6B
0EA0005C0:	64	04	C5	27	DC	03	3E	2B	94	02	C7	00	F8	FF	00	10
0EA0005D0:	64	04	C5	27	DC	03	3F	2B	ΒA	02	C8	00	F8	\mathbf{FF}	00	Ε8
0EA0005E0:	64	04	C5	28	09	03	3D	2B	DD	02	C6	00	F8	FF	00	9B
0EA0005F0:	64 65	04	C5	28	20	03	3C 3C	2C 2C	23 01	02	C6	00	Ε.8 Е.8	Б.Б.	00	60 00
0EA000610:	65	04	C5	28	5E	03	3B	2C	43	02	C5	00	F8	FF	00	E1
0EA000620:	66	04	C5	28	80	03	3D	2C	6F	02	C6	00	F8	FF	00	8F
0EA000630:	C0	04	C6	28	A7	03	44	2C	81	02	CB	00	F8	FF	00	EF
0EA000640:	C4	04	C5	2B	27	03	3E	2C	99 DG	02	C7	00	F8	FF	00	5B
0EA000650:	C5	04	C5	3⊿ 39	гэ 1в	03	ZC 3E	2C	D6	02	FD	00	го F8	rr FF	00	С9 Е5
0EA000670:	C4	04	C5	3B	E5	03	16	2C	в1	02	F0	00	F8	FF	00	74
0EA000680:	BE	04	Сб	3D	7F	03	20	2C	6B	03	03	00	F8	\mathbf{FF}	00	05
0EA000690:	C3	04	C5	3F	09	03	65 67	2C	90 D0	03	48	00	F8	FF	00	C6
0EA0006A0:	C3 C8	04	C5	3ਸ ੨ਜ	88 E5	03	6C	2C 2D	D8 47	03	4也 50	00	F 8 F 8	ייי דד	00	F 3 1 E
0EA0006C0:	BF	04	C6	3F	FC	03	6B	2D	59	03	4E	00	F8	FF	00	00
0EA0006D0:	94	04	C5	40	87	03	64	2D	92	03	47	00	F8	FF	00	75
0EA0006E0:	A2	04	C5	41	6E	03	64	2E	бA	03	4A	00	FC	FF	00	9F
0EA0006F0:	9A 55	04	C5	42	D9 74	03	5A 58	2F 30	AB a2	03	3F. 3E.	00	FC	F.F.	00	30 0E
0EA000700:	C1	04	C5 C6	45 45	28	03	56	31	DB	03	3A	00	FC	FF	00	59 6D
0EA000720:	C6	04	C5	43	EF	03	63	31	56	03	48	00	FC	FF	00	0C
0EA000730:	C4	04	C6	44	40	03	6B	30	AG	03	50	00	FC	\mathbf{FF}	00	5C
0EA000740:	C8	04	C5	46	26	03	5B	33	31	03	40	00	FC	FF	00	03
0EA000/50: 0EA000760:	08 02	04 04	C5	44/ 48	с3 Е0	03 03	っ <i>う</i> 5 ろ	34 36	UE 27	03 03	38 38	00	FC	ייי דיק	00	บ/ 5 ธ
0EA000770:	C8	04	C6	41	49	03	88	31	Ξ, BE	03	6D	00	FC	FF	00	FF
0EA000780:	C8	05	C5	39	75	03	8A	2D	E8	03	70	00	FC	FF	00	в0
0EA000790:	04	00	5F	30	6F	03	B2	1C	3A	03	9E	00	FC	FF	00	57
UEA0007A0:	00	00	15	2В	BC	02	20	18	61	02	13	00	FC	FF	00	59





0EA0007B0:	00	00	17	27	24	02	1в	11	7f	02	14	00	FC	\mathbf{FF}	00	ΕO
0EA0007C0:	00	00	10	24	3B	02	19	03	E4	02	20	00	FC	\mathbf{FF}	00	72
0EA0007D0:	00	00	0F	21	AD	01	F5	00	A3	01	A2	00	FC	$\mathbf{F}\mathbf{F}$	00	ЕC
0EA0007E0:	00	00	0E	1F	02	01	DF	00	52	01	65	00	FC	\mathbf{FF}	00	3E
0EA0007F0:	00	00	0D	1D	FB	01	ΕB	00	00	01	86	00	FC	\mathbf{FF}	00	6D

Disclaimer of Liability

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