

CL-1054540-9665

STATE OF NEW YORK
OFFICE OF THE ATTORNEY GENERAL

NOV 27 2013

ERIC T. SCHNEIDERMAN
ATTORNEY GENERAL

November 21, 2013

DIVISION OF REGIONAL OFFICES
WESTCHESTER REGIONAL OFFICE

[REDACTED]
Thornwood, New York [REDACTED]

Re: Our File Number: 2013-1142562
Company: Toyota Motor Sales USA

Dear [REDACTED]

On behalf of Attorney General Eric T. Schneiderman, I am writing to notify you that we have received your correspondence.

We appreciate you alerting us to this matter. We believe the organization shown below may be able to assist you and we are forwarding your correspondence there.

If you do not receive a response in the near future, please follow up directly with that organization. I suggest you attach a copy of this letter or, if appropriate, mention that you are adding new information.

Thank you for contacting us.

Very truly yours,
John Katzenstein
John Katzenstein/CW
Bureau of Consumer Frauds
And Protection

✓ Enclosure

cc: National Highway Traffic Safety Administration
1200 New Jersey Avenue SE
West Building
Washington, DC 20590

NM
112913
SMD

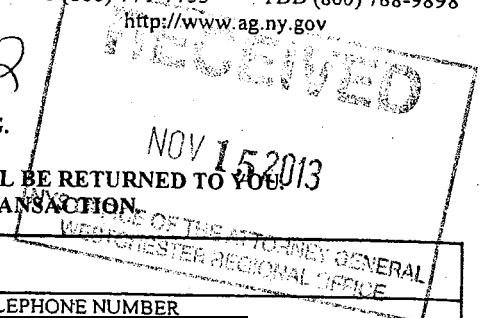


ATTORNEY GENERAL ERIC T. SCHNEIDERMAN
STATE OF NEW YORK
OFFICE OF THE ATTORNEY GENERAL
BUREAU OF CONSUMER FRAUDS AND PROTECTION
101 East Post Road
White Plains, NY 10601-5008
Tel. (914) 422-8755 Fax (914) 422-8706

COMPLAINT FORM

Consumer Hotline For Hearing Impaired
1 (800) 771-7755 TDD (800) 788-9898
<http://www.ag.ny.gov>

1. PLEASE BE SURE TO COMPLAIN TO THE COMPANY OR INDIVIDUAL BEFORE FILING.
2. PLEASE TYPE OR PRINT CLEARLY IN DARK INK.
3. YOU MUST COMPLETE THE ENTIRE FORM. INCOMPLETE OR UNCLEAR FORMS WILL BE RETURNED TO YOU.
4. MAKE SURE YOU ENCLOSE COPIES OF IMPORTANT PAPERS CONCERNING YOUR TRANSACTION.



CONSUMER		
YOUR NAME		HOME TELEPHONE NUMBER
STREET ADDRESS		BUSINESS TELEPHONE NUMBER
CITY/TOWN	COUNTY	STATE
Thornwood	Westchester	NY
COMPLAINT		
NAME OF SELLER OR PROVIDER OF SERVICES		NAME OF OTHER SELLER OR PROVIDER OF SERVICES
Toyota Motor Sales USA		
STREET ADDRESS		STREET ADDRESS
19001 South Western Ave		
CITY/TOWN	STATE	ZIP
Torrance	CA	90501
TELEPHONE NUMBER		TELEPHONE NUMBER
800-331-4331		
DATE OF TRANSACTION	COST OF PRODUCT OR SERVICE	HOW PAID (Check those which apply)
9/5/2013	\$ 7,000.00	☒ Cash ☒ Check ☐ Credit Card ☐ Other
DID YOU SIGN A CONTRACT?	WHERE DID YOU SIGN THE CONTRACT?	DATE SIGNED
☐ Yes ☒ No		
WAS PRODUCT OR SERVICE ADVERTISED?	WHERE WAS IT ADVERTISED?	DATE ADVERTISED
☐ Yes ☒ No		
TYPE OF COMPLAINT (e.g. car, mail order, etc. Use the reverse side of this form to provide details)		
Malfunction of Automobile accelerator and brakes - Roll-Over		
DATE YOU COMPLAINED TO THE COMPANY OR INDIVIDUAL	PERSON CONTACTED	JOB TITLE
9/9/13 ☐ By Mail ☒ By Telephone ☐ In Person	Marcelo Santos	Case Manager
NATURE OF RESPONSE		DATE OF RESPONSE
Independent inspection revealed no defects		
HAS MATTER BEEN SUBMITTED TO ANOTHER AGENCY OR ATTORNEY? (If "Yes," give name and address)		
☐ Yes ☒ No		
IS COURT ACTION PENDING? (Please describe as necessary)		
☐ Yes ☒ No		
ADDITIONAL INFORMATION *Airbags did not deploy		
MANUFACTURER OF PRODUCT	PRODUCT MODEL OR SERIAL NUMBER	
Toyota	2003 Toyota Camry	
ADDRESS	WARRANTY EXPIRATION DATE	
S/A	4T1BE32K834	
DID BUSINESS ARRANGE FINANCING? (If "Yes," give name and address of bank or finance company)		
☐ Yes ☒ No		

PLEASE DESCRIBE COMPLAINT ON REVERSE SIDE

YIN 001WS (12/10)

* File Toyota Number 1309091532

BRIEFLY DESCRIBE YOUR COMPLAINT On 9/5/2013 I was driving my 2003 Toyota Camry on parkway with cruise control on. I was preparing to exit parkway when the car suddenly and unexpectedly accelerated despite application of brakes. I lost control due to this malfunction causing me to hit guardrail and the vehicle rolled over. I sustained a deep laceration to my knee and was transported to local emergency department by ambulance. This accident has left me feeling very anxious and I have had difficulty sleeping. I was informed that there have been numerous incidents similar to this, but Toyota had denied any fault.

WHAT FORM OF RELIEF ARE YOU SEEKING? (e.g., exchange, repair or money back, etc.) Cost of vehicle and medical expenses. loss of independence

WHO REFERRED YOU TO THIS OFFICE? Westchester Attorney

READ THE FOLLOWING BEFORE SIGNING BELOW

PLEASE ATTACH TO THIS FORM PHOTOCOPIES of any papers involved (contracts, warranties, bills received, canceled checks, correspondence, etc.). **DO NOT SEND ORIGINALS.**

NOTE: In order to resolve your complaint, we may send a copy of this form to the person or firm about whom you are complaining.

In filing this complaint, I understand that the Attorney General is not my private attorney, but represents the public in enforcing laws designed to protect the public from misleading or unlawful business practices. I also understand that if I have any questions concerning my legal rights or responsibilities, I should contact a private attorney. I have no objection to the contents of this complaint being forwarded to the business or person the complaint is directed against. The above complaint is true and accurate to the best of my knowledge.

I also understand that any false statements made in this complaint are punishable as a Class A Misdemeanor under Section 175.30 and/or Section 210.45 of the Penal Law.

Signature: _____

Date: 11/13/2013

HAVE YOU ENCLOSED COPIES OF IMPORTANT PAPERS?

Return to: **Office of the Attorney General
Bureau of Consumer Frauds and Protection
101 East Post Road
White Plains, NY 10601-5008**

C3379710

Series C

Honorable Discharge



from the

United States Navy

This is to certify that

[REDACTED] A Coxswain USNR

is Honorably Discharged from the USN PERSONNEL SEPARATION CENTER
LETO BEACH, L. I., N. Y. *and from the Naval Service of the United States*

this 19th *day of* March 1946

*This certificate is awarded as a Testimonial of Fidelity and
Obedience*



NOTICE OF SEPARATION FROM U. S. NAVAL SERVICE

NAVPERS-553 (REV. 8-45)

1. SERIAL OR FILE NO.		2. NAME (LAST) (FIRST) (MIDDLE)		3. RATE AND CLASS OR RANK AND CLASSIFICATION		4. PLACE OF SEPARATION	
		Coxswain, EV-6 USNR		(Bronx)		USN Personnel Separation Center Lido Beach, Long Island, New York	
5. RACE		6. SEX		7. MARITAL STATUS		8. CHARACTER OF SEPARATION	
White		Male		Single		HONORABLE	
9. PERMANENT ADDRESS FOR MAILING PURPOSES		10. U.S. CITIZEN (YES OR NO)		11. DATE AND PLACE OF BIRTH		12. ADDRESS FROM WHICH EMPLOYMENT WILL BE RESUME	
New York		Yes		[REDACTED] Bronx, N.Y.		Same as # 4	
13. REGISTERED		14. SELECTIVE SERVICE BOARD OF REGISTRATION		15. HOME ADDRESS AT TIME OF ENTRY INTO SERVICE		16. NET SERVICE (FOR PAY PURPOSES)	
☒ YES ☐ NO		#100 Bronx (Bronx) N.Y.		Same as # 4		(YES, MO., DAYS) 2-8-1	
17. MEANS OF ENTRY (INDICATE BY CHECK IN APPROPRIATE BOX)		18. DATE OF ENTRY INTO ACTIVE SERVICE		19. PLACE OF ENTRY INTO ACTIVE SERVICE		20. FOREIGN AND/OR SEA SERVICE WORLD WAR II	
☒ ENLISTED ☒ INDUCTED ☐ COMMISSIONED		7-23-43		New York, N.Y.		☒ YES ☐ NO	
DATE 7-16-43 DATE 7-16-43 DATE		21. RATINGS HELD		22. SERVICE (VESSELS AND STATIONS SERVED ON)		23. FOREIGN AND/OR SEA SERVICE WORLD WAR II	
19. QUALIFICATIONS, CERTIFICATES HELD, ETC.		AS, S2c, S1c, Cox		NRS New York, N.Y./ NTS Gt. Lakes, Ill./ NATTC Memphis, Tenn./ RS NS NOLA/ ACORN 18/ ATB Port Hueneme, Cal./ NATE NAS Corpus Christi, Texas/ ACORN 8/ PSC Lido Beach, L.I., NY./		☒ YES ☐ NO	
20. SERVICE SCHOOLS COMPLETED		WEEKS		24. INITIAL MUSTERING		25. NAME OF DISBURSING OFFICER	
Recruit Tr., Gt. Lakes, Ill.		8		\$100.		E. P. O'Rourke	
26. REMARKS		27. SIGNATURE (BY DIRECTION OF COMMANDING OFFICER)		28. DATE OF LAST EMPLOYMENT		29. MAIN CIVILIAN OCCUPATION AND O. D. T. NO.	
Asiatic-Pacific Medal American Theatre Medal Victory Medal		F.R. AHM TY Lt., USNR By Direction		FROM -		Student High School	
30. NAME AND ADDRESS OF LAST EMPLOYER		31. DATES OF LAST EMPLOYMENT		32. MAIN CIVILIAN OCCUPATION AND O. D. T. NO.		33. PREFERENCE FOR ADDITIONAL TRAINING (TYPE OF TRAINING)	
Student		TO -		Student High School		College - - Writer	
34. JOB PREFERENCE (LIST TYPE, LOCALITY, AND GENERAL AREA)		35. PREFERENCE FOR ADDITIONAL TRAINING (TYPE OF TRAINING)		36. VOCATIONAL OR TRADE COURSES (NATURE AND LENGTH OF COURSE)		37. NON-SERVICE EDU. (YRS. SUCCESSFULLY COMPLETED)	
Undecided		College - - Writer		None		GRAM: 8 1/2 H. S. 4 COLL. - General	
38. RIGHT INDEX FINGERPRINT		39. OFF DUTY EDUCATIONAL COURSES COMPLETED		40. DATE OF SEPARATION		41. DATE OF SEPARATION	
[REDACTED]		None		3-19-46		[REDACTED]	

RECORD OF NAVAL SERVICE

PAY & INSURANCE DATA

EMPLOYMENT AND EDUCATIONAL DATA

POLICE ACCIDENT REPORT

MV-104A (6/04)

DMV COPY

Local Codes

SP3K1925FQ1T

☐ AMENDED REPORT

1	Accident Date		Day of Week	Military Time	No. of Vehicles	No. Injured	No. Killed	Not Investigated at Scene ☐	Left Scene ☐	Police Photos ☒ Yes ☐ No
	Month	Day	Year	Thu	1	1	0	Accident Reconstructed ☐		
	09	05	2013							

VEHICLE 1 ☐ VEHICLE 2 ☐ BICYCLIST ☐ PEDESTRIAN ☐ OTHER PEDESTRIAN

2	VEHICLE 1 - Driver	State of Lic.	VEHICLE 2 - Driver	State of Lic.
---	--------------------	---------------	--------------------	---------------

	License ID Number		License ID Number	
--	-------------------	--	-------------------	--

	Driver Name - exactly as printed on license		Driver Name - exactly as printed on license	
--	---	--	---	--

	Address (Include Number & Street)	Apt. No.	Address (Include Number & Street)	Apt. No.
--	-----------------------------------	----------	-----------------------------------	----------

	City or Town	State	Zip Code	City or Town	State	Zip Code
--	--------------	-------	----------	--------------	-------	----------

	THORNWOOD	NY				
--	-----------	----	--	--	--	--

3	Date of Birth	Sex	Unlicensed	No. of Occupants	Public Property Damaged	Date of Birth	Sex	Unlicensed	No. of Occupants	Public Property Damaged
---	---------------	-----	------------	------------------	-------------------------	---------------	-----	------------	------------------	-------------------------

	Month	Day	Year	M						
--	-------	-----	------	---	--	--	--	--	--	--

	Name - exactly as printed on registration	Sex	Date of Birth	Name - exactly as printed on registration	Sex	Date of Birth
--	---	-----	---------------	---	-----	---------------

	Month	Day	Year	Month	Day	Year
--	-------	-----	------	-------	-----	------

	Apt. No.	Haz. Mat. Code	Released	Apt. No.	Haz. Mat. Code	Released
--	----------	----------------	----------	----------	----------------	----------

	City or Town	State	Zip Code	City or Town	State	Zip Code
--	--------------	-------	----------	--------------	-------	----------

	THORNWOOD	NY				
--	-----------	----	--	--	--	--

	Plate Number	State of Reg.	Vehicle Year & Make	Vehicle Type	Ins. Code	Plate Number	State of Reg.	Vehicle Year & Make	Vehicle Type	Ins. Code
--	--------------	---------------	---------------------	--------------	-----------	--------------	---------------	---------------------	--------------	-----------

		NY	2003 TOYT	4DSD	341					
--	--	----	-----------	------	-----	--	--	--	--	--

5	Ticket/Arrest Number(s)	Ticket/Arrest Number(s)
---	-------------------------	-------------------------

	Violation Section(s)	Violation Section(s)
--	----------------------	----------------------

	Check if involved vehicle is:	Check if involved vehicle is:	Circle the diagram below that describes the accident, or draw your own diagram in space #9. Number the vehicles.
--	-------------------------------	-------------------------------	--

	☐ more than 95 inches wide;	☐ more than 95 inches wide;	
--	--	--	--

	☐ more than 34 feet long;	☐ more than 34 feet long;	
--	--	--	--

	☐ operated with an overweight permit;	☐ operated with an overweight permit;	
--	--	--	--

	☐ operated with an overdimension permit.	☐ operated with an overdimension permit.	
--	---	---	--

	VEHICLE 1 DAMAGE CODES	VEHICLE 2 DAMAGE CODES	
--	------------------------	------------------------	--

	Box 1 - Point of Impact	Box 1 - Point of Impact	
--	-------------------------	-------------------------	--

	Box 2 - Most Damage	Box 2 - Most Damage	
--	---------------------	---------------------	--

	Enter up to three more Damage Codes	Enter up to three more Damage Codes	
--	-------------------------------------	-------------------------------------	--

	Vehicle By HILLTOP	Vehicle By	
--	--------------------	------------	--

	Towed: To HILLTOP	Towed: To	
--	-------------------	-----------	--

	VEHICLE DAMAGE CODING:	
--	------------------------	--

	1-13. SEE DIAGRAM ON RIGHT.	
--	-----------------------------	--

	14. UNDERCARRIAGE	17. DEMOLISHED
--	-------------------	----------------

	15. TRAILER	18. NO DAMAGE
--	-------------	---------------

	16. OVERTURNED	19. OTHER
--	----------------	-----------

	Place Where Accident Occurred:	
--	--------------------------------	--

	County WEST	City Village Town of YORKTOWN. TOWN OF
--	-------------	--

	Road on which accident occurred TACONIC STATE PARKWAY N	(Route Number or Street Name)
--	---	-------------------------------

	at 1) intersecting street	(Route Number or Street Name)
--	---------------------------	-------------------------------

	or 2) 300	N S E W of State Route 202
--	-----------	----------------------------

	Feet Miles	(Milepost, Nearest intersecting Route Number or Street Name)
--	------------	--

	Accident Description/Officer's Notes	
--	--------------------------------------	--

	V-1 Traveling North bound on the Taconic State Parkway in the right lane. Driver of V-1 stated	
--	--	--

	that he applied his brakes to exit off parkway, and driver noticed that V-1 continued to	
--	--	--

	accelerate. Driver of V-1 then immediately steered the vehicle into the grass area between the	
--	--	--

	parkway and the ST-202 exit ramp to avoid hitting any other vehicles. V-1 collides with small tree,	
--	---	--

	8 9 10 11 12 13 14 15 16 17 BY TO 18	Names of all involved	Date of Death Only
--	--------------------------------------	-----------------------	--------------------

	A 01 1 A I M 11 4 6 9993 5908		
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	B		
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	C		
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	D		
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	E		
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	F		
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	Officer's Rank and Signature	Badge/ID No.	NCIC No.	Precinct/Post Troop/Zone	Station/Beat/Sector	Reviewing Officer	Date/Time Reviewed
--	------------------------------	--------------	----------	--------------------------	---------------------	-------------------	--------------------

	TPR	5295	15901	K3	11	MULLER, LAWREN	09/10/2013 10:51
--	-----	------	-------	----	----	----------------	------------------

	Print Name in Full	CLAYTON A HOWELL
--	--------------------	------------------

	This is to certify that this document is a true and complete copy of a record on	
--	--	--

	Barbara A. Liska
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US
COM

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Index

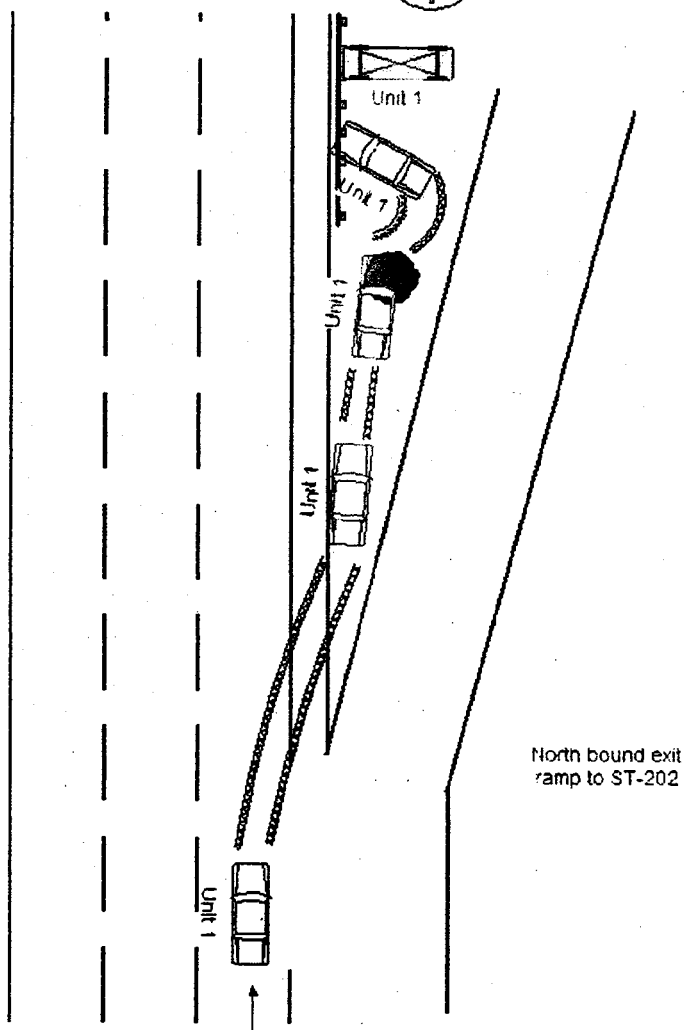
1

AMENDED REPORT

ALL INVOLVED

Barbara C. Fula

Taconic State Parkway
North Bound Lanes



To protect the privacy of individuals, NHTSA does not make medical records available to the public without authorization. For this reason, documents falling into this category have not been included in this complaint record.

TOYOTA

Nekii Montgomery
Direct Phone (310) 468-7436
Fax (310) 381-6982

Toyota Motor Sales, U.S.A., Inc.
19001 South Western Avenue
Torrance, CA 90501

October 23, 2013

[REDACTED]
Thornwood, NY [REDACTED]

RE: Date of Loss: September 5, 2013
 Vehicle: 2003 Toyota Camry
 VIN: 4T1BE32K83U [REDACTED]

Dear [REDACTED]

Thank you for contacting our Toyota Customer Experience Center regarding the incident you reported on September 9, 2013.

It is our understanding that you were driving and when you pressed the brake pedal the vehicle accelerated causing you to hit the guard rail and flip over. The vehicle was inspected on September 30, 2013 at Hilltop Garage.

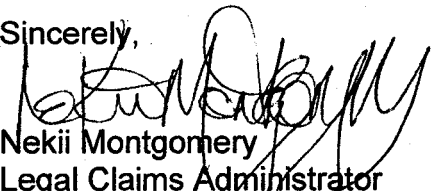
The accelerator pedal operated smoothly and returned to its idle position without any restrictions. The connector was in place and secure. There was no damage observed to the accelerator pedal. There were no brake fluid leaks or defects found in the brake system. The brake pedal held firm when tested. The brake fluid was at the normal level. The inspection showed the brake system to be in operational condition. The visual inspection showed no abnormalities with the vehicle. The inspector was not able to duplicate your concern with the vehicle. A diagnostic system check showed that there were no diagnostic trouble codes relating to the operation of the vehicle.

In reference to the non-deployment of the airbags, the inspection revealed this was not a direct frontal impact to the vehicle. There was insufficient abrupt forward deceleration of the vehicle to deploy the air bags and the frontal impact was not of significant severity to cause airbag deployment.

The Supplemental Restraint System is activated in response to abrupt frontal deceleration in high speed frontal impacts. In addition, the vehicle is not equipped with roll sensing technology.

We are very sorry to hear about the unfortunate incident however there is no indication that any type of manufacturing or design defect caused or contributed to this incident and the air bags performed properly by not deploying. At this time we are unable to honor the claim. Thank you for allowing Toyota Motor Sales, USA, Inc. to address your concerns.

Sincerely,



Nekii Montgomery
Legal Claims Administrator
Toyota Motor Sales, U.S.A., Inc.

Event Data Recorder - Reference Document

An Event Data Recorder (EDR) is a part of the Supplemental Restraint System (SRS) ECU that records data for some types of collision events for future safety research or analysis. The EDR will record data when the vehicle experiences a rapid change in speed that exceeds a specified threshold. The threshold to start recording is above changes in speeds that are considered normal driving use. For example, stopping hard with the brakes would not cause a recording, but hitting a curb may. EDRs were installed on Toyota/Lexus/Scion vehicles because they have the capability to serve several purposes, such as assisting in vehicle development, quality control and/or safety research. An EDR is also helpful in determining the circumstances that caused an airbag to be deployed or not deployed.

EDR Generations

Starting with the 2001 Lexus LS400, EDRs were incorporated into to all Toyota, Lexus and Scion vehicles by 2007. SRS ECUs with EDRs were typically installed at full model change years, which generally occur every 4 to 6 years, depending on the model. The chart below outlines the three generations of EDRs installed on Toyota, Lexus, and Scion vehicles and what each EDR generation is capable of recording.

01MY	02MY	03MY	04MY	05MY	06MY
Gen 1		Gen 2		Gen 3	
EDR		☆		☆	
Frontal		Frontal Roll Over		Current EDR	
				Frontal Rollover Side Impact Multiple Events	

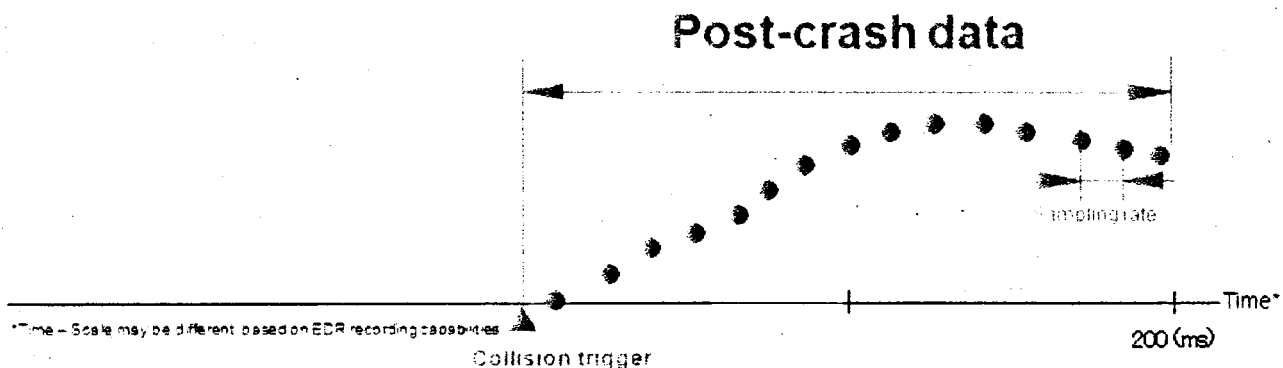
Note: MY stands for model year

Post-Crash & Pre-Crash data

Post-Crash Data - All vehicles equipped with an EDR will record post-crash data

If an impact occurs that has exceeded the rapid change in speed threshold, the EDR system will begin to record data for varying lengths of time depending on the parameters it is capable of recording. Figure 1 shows a collision 'trigger' and the data sampling rate recorded in the EDR.

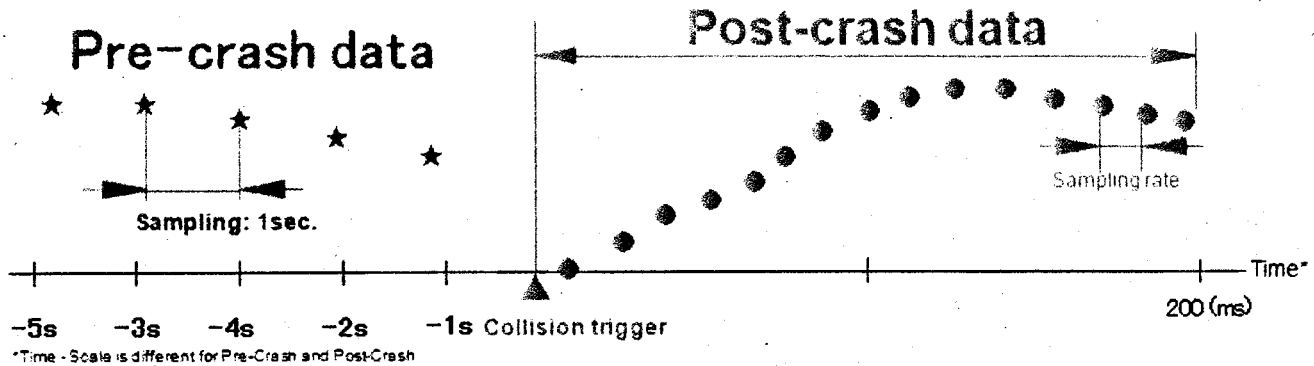
Figure 1



Pre-Crash Data - Not all models have an EDR capable of recording pre-crash data

As explained in the Post-crash section, the EDR System begins recording data when an impact exceeds the rapid change in speed threshold. On certain models, the EDR will also record about 5 seconds of data that took place before the impact. Figure 2 shows the sampling rate of Pre-Crash data is different than Post-Crash data.

Figure 2



Post Crash & Pre-Crash Applicability Chart

The chart below provides EDR capability of each model and the corresponding calendar year (CY) it was built. Vehicles and the corresponding year that have a yellow bar are equipped with EDR that have the ability to record post-crash data only. Vehicles and the corresponding year that have a red bar, are equipped with EDRs capable of pre & post-crash data recording.

		Post-crash data only					Pre- & Post-crash data					
		2000CY	2001CY	2002CY	2003CY	2004CY	2005CY	2006CY	2007CY	2008CY	2009CY	2010CY
Lexus	LS											
	LS HV											
	GS											
	GS HV											
	SC											
	ES											
	LX											
	GX											
	RX											
	RX HV											
	IS											
	IS-F											
	IS-C											
	HS											
	CT											
LFA												
Toyota	Avalon											
	Camry											
	Camry Solara											End of Production
	Corolla											
	Echo											
	4Runner											
	Land Cruiser											
	RAV4											
	Sienna											
	Prius											
	Highlander											
	Highlander HV											
	Tacoma											
	Tundra											
	SEQUOIA											
	Yaris											
	Yaris Sedan											
	FJ Cruiser											
SCION	Verza											
	Matrix											
	iC											
	xB											
	xD											

EDR - Frequently Asked Questions

What is an EDR? An Event Data Recorder (EDR) is part of the Supplemental Restraint System (SRS) ECU that records data for some types of collision events for future safety research or analysis. An event is a change in vehicle speed that is more than typical of everyday use. For example, stopping hard with the brakes would not cause a recording, but hitting a curb may cause the EDR to record an event.

Are EDRs required in cars? They are currently not required.

Is the EDR a black box? No, the EDR is not a black box like on an airplane. It does not record sounds or conversations and does not have the capacity like an airplane blackbox. The EDR is simply part of the Supplemental Restraint System (SRS) ECU that only records certain vehicle data for a short period of time before or during a collision.

What causes the EDR to record? The EDR starts to record when the vehicle experiences a rapid change in speed (like acceleration or deceleration) that exceeds a specified threshold higher than normal use. Hard braking will not cause an EDR to record, because that may be considered normal use. Impacting a curb hard may cause a recording as the vehicle body may change speed much quicker than normal use.

Why were EDRs installed in Toyota/Lexus/Scion vehicles? EDRs have the capability to serve several purposes, such as assisting in vehicle development, quality control or safety research. Airbag deployment occurs very rapidly and it may be difficult to determine exactly what occurred during a collision. Although indirect methods may be used to determine airbag deployment circumstances, an EDR is a more direct method to understand airbag deployment circumstances.

Do all EDRs record the same information? No. Due to different vehicle designs and changes in equipment, the information recorded varies by model and model year.

Were there other recording systems before EDR in Toyota vehicles? Yes, some vehicles in the past had some impact recording capabilities, but these were not considered reliable for field use. There is no current capability to read these predecessors to EDRs.

How accurate is the EDR data? The accuracy of the data from the EDR depends on the collision and the EDR capabilities. Government studies of Toyota EDRs indicate that Toyotas EDRs have similar capabilities to other vehicle manufacturers.

What has Toyota done to validate its EDRs and EDR tools? Toyota has been analyzing data from vehicles since they were first introduced to ensure the reliability of the EDR technology. Toyota performs imaging of our own vehicles as part of crash testing. Toyota also performs EDR imaging from U.S. Government crash testing and investigations, and when requested, in law enforcement investigations.

How does the EDR record information? During a collision, the EDR calculates the delta V based on accelerometer data every 10 milliseconds and puts it into the permanent memory. During the intervals, other data is also placed into memory. If all the data is not transferred into the permanent memory, a writing flag is put on the report. If all data is successfully transferred, the report states 'Finished writing'. In some very severe impacts, electrical connections or internal EDR components may be damaged, resulting in incomplete data transfer to the permanent memory.

How long is an event stored in the EDR? If the airbags are deployed in a collision, the EDR data is locked and cannot be erased or overwritten. If the airbags have not been deployed in previous EDR events, an event that causes the vehicle to experience a rapid change in speed (example: hitting a curb) that exceeds a specified threshold will overwrite previous EDR events.

Why is a signed consent form required before performing imaging? Various states have privacy regulations that require consent before performing an EDR image.

How is EDR data retrieved and does the retrieval process affect/change the data contained in the EDR? Depending on the vehicle's condition, data can be imaged in one of two ways. The EDR tool is either connected through the vehicle's DLC port, or the EDR is removed from the vehicle and the EDR tool is connected directly to the SRS ECU. Neither method alters or erases EDR data during the process. In some rare circumstances such as water immersions- the EDR data may not be able to be imaged.

What will I receive after the EDR image process has taken place on my vehicle? After the imaging has been completed, the EDR report and other reference documents will be provided.

What is the difference between vehicle speed and delta V? Vehicle speed is how fast the vehicle moves relative to the ground - usually in miles per hour. It is understood that vehicle speed is the straight line speed of the entire vehicle. Delta V is the change in vehicle speed over milliseconds and is usually discussed as longitudinal, lateral or total delta V.

Is there more than one delta V? In some EDR reports there are longitudinal and lateral delta V data.

Why can't the EDR tool operator just tell the customer what the report says? Crashes can be very complex events. The EDR report is just one piece of information and without knowing other critical crash information, the EDR data could be misinterpreted with the context for the overall crash.

Can the EDR tell me the date and time of collision? No, the EDR does not have a time stamp function.

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	4T1BE32K83U
User	Joe O'Connor - EAA
Case Number	-3U
EDR Data Imaging Date	09/30/2013
Crash Date	09/04/2013
Filename	4T1BE32K83U ACM.CDRX
Saved on	Monday, September 30 2013 at 12:09:15
Collected with CDR version	Crash Data Retrieval Tool 11.0
Reported with CDR version	Crash Data Retrieval Tool 11.0
EDR Device Type	Airbag Control Module
Event(s) recovered	Front/Rear (3)

Comments

L/F fender hit guard rail an car rolled over on the Roof.
Air Bags and Pretensioners did NOT deploy.

Data Limitations

CDR Record Information:

- Due to limitations of the data recorded by the airbag ECU, such as the resolution, data range, sampling interval, time period of the recording, and the items recorded, the information provided by this data may not be sufficient to capture the entire crash.
- Pre-Crash data is recorded in discrete intervals. Due to different refresh rates within the vehicle's electronics, the data recorded may not be synchronous to each other.
- Airbag ECU data should be used in conjunction with other physical evidence obtained from the vehicle and the surrounding circumstances.
- If the airbags did not deploy or the pretensioners did not operate during an event that meets a specified recording threshold, it is called a Non-Deployment Event. Data from a Non-Deployment Event can be overwritten by a succeeding event that meets the specified recording threshold. If the airbag(s) deploy or the pretensioners are operated, it is called a Deployment Event. Deployment Event data cannot be overwritten or deleted by the airbag ECU following that event.
- If power supply to the airbag ECU is lost during an event, all or part of the data may not be recorded.
- The EDR does not record diagnostic trouble codes.
- The TaSCAN, Global TechStream, or Intelligent Tester II devices (or any other Toyota genuine diagnostic tool) can be used to obtain detailed information on the diagnostic trouble codes from the airbag system, as well as diagnostic information from other systems.

General Information:

- The data recording specifications of Toyota's airbag ECUs are divided into the following seven categories. The specifications for 12EDR or later are designed to be compatible with NHTSA's 49CFR Part 563 rule.
 - 00EDR / 02EDR / 04EDR / 06EDR / 10EDR / 12EDR / 13EDR
- The airbag ECU records data for all or some of the following accident types: frontal crash, rear crash, side crash, and rollover events. Depending on the installed airbag ECU, data for side crash and/or rollover events may not be recorded.
- The airbag ECU records post-crash data and may record pre-crash data in the event of a frontal/rear crash. In addition, it may record post-crash data in the event of a side crash or rollover.
- The airbag ECU has the following recording pages (memory maps) for each accident type to store event data: three pages for frontal or rear crash, one page for a side crash (if airbag ECU is applicable), and one page for rollover events. (if airbag ECU is applicable)
- The data recorded by the airbag ECU in the event of a frontal/rear crash includes information that indicates the sequence and interval of each previously-occurring frontal/rear crash event.
 - Time from Previous TRG
 - TRG Count
- The point in time at which the recording trigger is established is regarded as time zero for the recorded data. For the time indicated in "Lateral Delta-V", "Roll Angle" or "Lateral Acceleration", the first sampling point after the recording trigger establishment is regarded as time zero. The time zero of the data and the recording trigger establishment do not always occur simultaneously.
- The recording trigger judgment threshold value differs depending on the collision type (i.e., frontal crash, rear crash, side crash, or rollover event).
- Some of the data recorded by the airbag ECU is transmitted to the airbag ECU from various vehicle control modules by the vehicle's Controller Area Network (CAN).
- In some cases, the airbag ECU part number printed on the ECU label may not match the airbag ECU part number that the CDR tool reports. The part number retrieved by the CDR tool should be considered as the official ECU part number.
- The sampling interval of "Roll Angle" and "Lateral Acceleration" is 8 [ms] or 128 [ms]. A field indicating the sampling interval is not

provided. The graph scaling can assist with determining the sample rate. The time zero is indicated by count (0).

"Prior Event" is the event that occurred before the "1st Prior Event" that reached the greatest MAX Delta-V. Therefore, "Prior Event" is not always the prior event of "1st Prior Event".

Data Element Sign Convention:

The following table provides an explanation of the sign notation for data elements that may be included in this CDR report.

Data Element Name	Positive Sign Notation Indicates
Max. Longitudinal Delta-V	Forward
Longitudinal Delta-V	Forward

1) Data Definitions:

2)

- The "ON" setting for the "Freeze Signal" indicates a state in which the non-volatile memory can not be overwritten or deleted by the airbag ECU. After "Freeze Signal" has been turned ON, subsequent events will not be recorded.
- "Time to Deployment Command" indicates the time between recording trigger establishment and the determination of airbag deployment. This value may differ from the actual time it takes for the airbag to fully deploy.
- Even if an airbag/pretensioner did not deploy due to the "front passenger airbag disable switch and/or "RSCA Disable Switch" in the ON position or other disabling criteria are met, the "Time to deployment command" data element for that airbag/pretensioner may still be recorded.
- "Engine RPM" indicates the number of engine revolutions, not the number of motor revolutions. The recorded value has an upper limit of 6,000 rpm. Resolution is 400 rpm and the value is rounded down and recorded. For example, if the actual engine speed is 799 rpm, the recorded value will be 400 rpm.
- The upper limit for the recorded "Vehicle Speed" value is 126 km/h (78.3mph). Resolution is 2km/h (1.2mph) and the value is rounded down and recorded. The accuracy of the "Vehicle Speed" value can be affected by various factors. These include, but not limited, to the following.
 - Significant changes in the tire's rolling radius
 - Wheel lock and wheel slip
- The "Accelerator Rate" value is recorded as a voltage or level. In the case of voltage, the voltage increases as the driver depresses the accelerator. In case of the level, the following three levels are recorded.
 - FULL / MIDDLE / OFF
- "Accelerator Rate" may be recorded as "OFF" even if the accelerator pedal is depressed lightly. In addition, "FULL" may be recorded when the accelerator pedal is depressed strongly but not fully.
- The "Drive" setting for the "Shift Position" value indicates the shift position state is other than "R," (Reverse), "N" (Neutral), or "P" (Park).
- Depending on the type of occupant sensor installed in the vehicle, one of the following three recording formats for "Occupancy Status, Passenger" will be utilized.
 - Occupied / Not Occupied
 - Adult / Child / Not Occupied
 - AM50 / AF05 / Child / Not Occupied
- Resolution of the "Air Bag Warning Lamp ON Time Since DTC was Set" is 15 minutes, and the value is rounded down and recorded.
- "Longitudinal Delta-V" indicates the change in forward speed after establishment of the recording trigger. This does not refer to vehicle speed, and it does not include the change in speed during the period from the start of the actual collision to establishment of the recording trigger.
- "Roll Angle peak" may not always match the peak value within the "Roll Angle" sampling points due to differences in data calculation method.
- For "Lateral Delta-V", the sensor location (B-pillar, front door, C-pillar, and slide door) shows the outline of a typical sensor position. Sensory location can be confirmed using the repair manual.
- "TRG Count" indicates the number of frontal/rear recording triggers that have been established. The calculated value does not include the number of times side or rollover recording triggers have been established. The sequence in which each frontal/rear event occurred can be verified from the "TRG Count". The lesser the "TRG Count" value, the older the data. The upper limit for the recorded value is 255 times. When more than one event reaches the upper limit, the actual "TRG Count" may be greater than what is displayed for that event.
- "TRG Count" value is rewritten by the airbag ECU every time the Ignition is switched ON. At this time, the "TRG Count" values become 0, 1, or 2 in order from the smallest to the largest "TRG Count" value of each recorded frontal/rear page (memory map). For example, if the frontal/rear "TRG Count" values before rewriting are 2 for Page 0, 3 for Page 1, and 4 for Page 2, the rewritten "TRG Count" values will be 0 for Page 0, 1 for Page 1, and 2 for Page 2. However, the values are not rewritten when the "Freeze Signal" is set "ON".
- Resolution of the "Time from Pre-Crash to TRG" is 100 [ms], and the value is rounded down and recorded.
- For "Time from Previous TRG", the recording trigger of side crash and rollover is not considered. The upper limit for the recorded value is 5000 [ms] or 5100 [ms] depending on the ECU part number. Resolution is 20 [ms] and the value is rounded down and recorded. When it's displayed as 5100ms, the actual "Time from Previous TRG" may be longer than what is displayed for that event.
- For "Diagnostic Trouble Codes Exist", the default/initial value (= NO) is indicated when the front airbag did not deploy.
- For Non-Deployment Event, "Buckle Switch", "Ignition Cycle Since DTC was Set" and "Airbag Warning Lamp ON Time Since DTC was Set" is the ACM parameter data at the time of retrieval, not the parameter data when the recording trigger was established. For Deployment Event, it is the information when the airbag deployment.
- If the seat belt switch has a fault condition, the recorded value of "Buckle Switch" may not be applicable. A Toyota genuine diagnostic tool can be used to determine if DTCs for seat belt switch exist.

05000_ToyotaDENSO_r018

System Status at Time of Retrieval

ECU Part Number	89170-33230
ECU Generation	00EDR
Freeze Signal	OFF

Front/Rear Event Record Summary at Retrieval

Events Recorded	TRG Count	Crash Type	Time (msec)	Event & Crash Pulse Data Recording Status
Most Recent Frontal/Rear Event	2	Front/Rear Crash	0	Not Supported (Page 1)
1st Prior Frontal/Rear Event	1	Front/Rear Crash	-520	Not Supported (Page 0)
Prior Frontal/Rear Event	0	Front/Rear Crash	N/A	Not Supported (Page 2)

System Status at Front Airbag Deployment

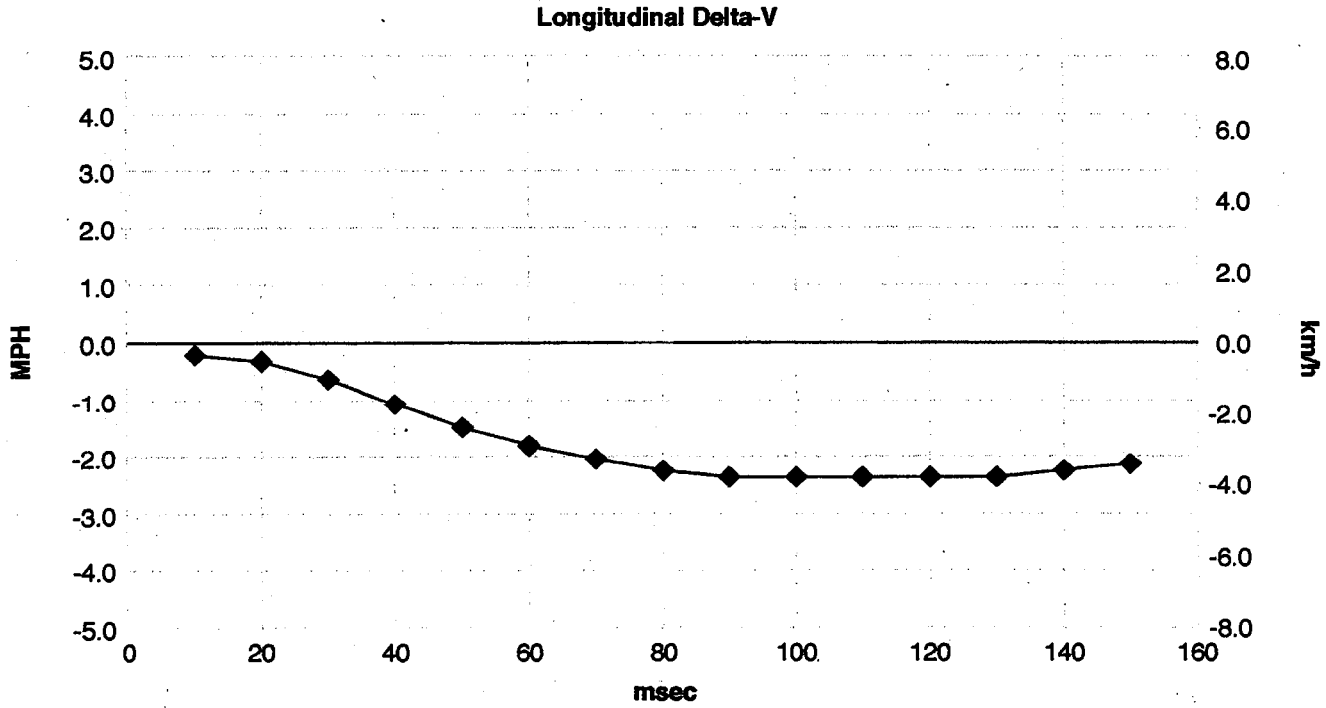
Time to Deployment Command, Front Airbag, Driver (msec)	Not Commanded
Time to Deployment Command, Front Airbag, Passenger (msec)	Not Commanded
Event Severity Status, Driver	N/A
Event Severity Status, Passenger	N/A
Diagnostic Trouble Codes Exist	No
Buckle Switch, Driver	Unbelted
Buckle Switch, Passenger	Unbelted
Seat Position, Driver	SNA
Ignition Cycle Since DTC was Set (times)	0
Airbag Warning Lamp ON Time Since DTC was Set (min)	0

System Status at Event (Most Recent Frontal/Rear Event, TRG 2)

TRG Count	2
Time From Previous TRG (msec)	520

Longitudinal Crash Pulse (Most Recent Frontal/Rear Event, TRG 2 - table 1 of 2)

Max Longitudinal Delta-V (MPH (km/h))	-2.4 [-3.8]
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Longitudinal Crash Pulse (Most Recent Frontal/Rear Event, TRG 2 - table 2 of 2)

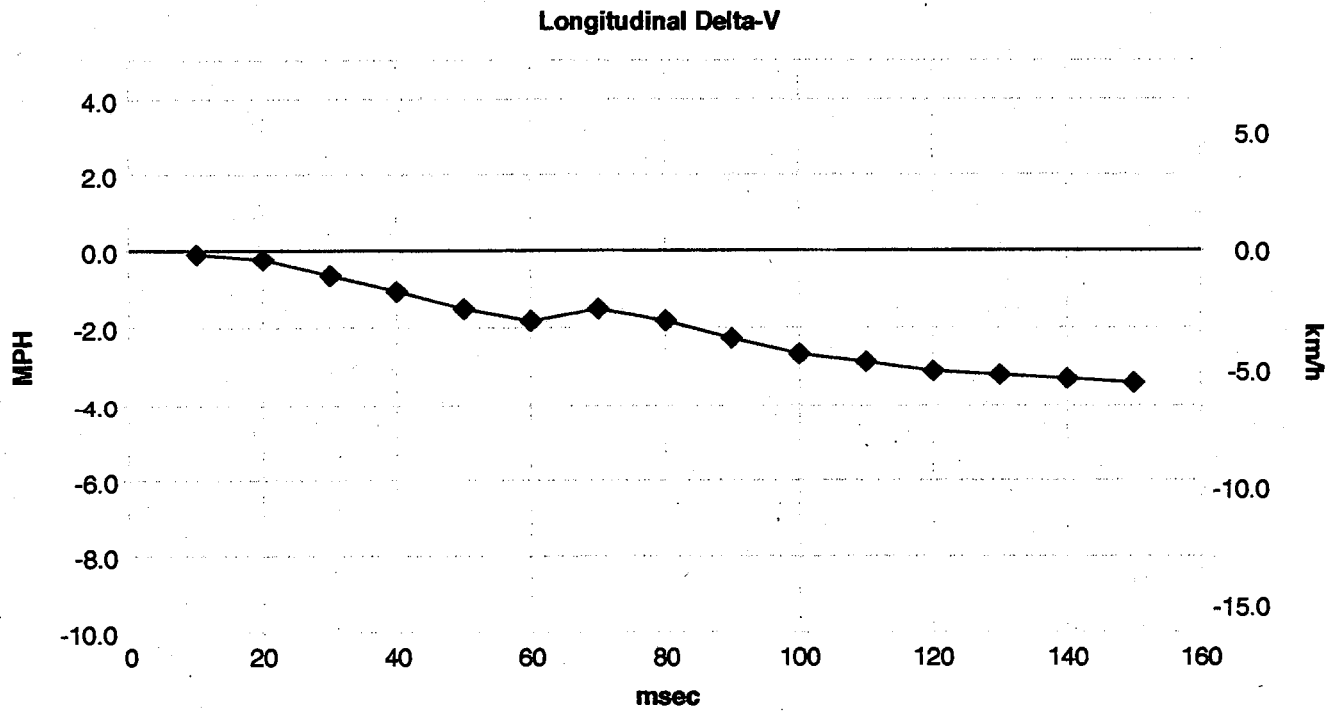
Time (msec)	Longitudinal Delta-V (MPH [km/h])
10	-0.2 [-0.3]
20	-0.3 [-0.5]
30	-0.6 [-1.0]
40	-1.1 [-1.7]
50	-1.5 [-2.4]
60	-1.8 [-2.9]
70	-2.0 [-3.3]
80	-2.2 [-3.6]
90	-2.4 [-3.8]
100	-2.4 [-3.8]
110	-2.4 [-3.8]
120	-2.4 [-3.8]
130	-2.4 [-3.8]
140	-2.2 [-3.6]
150	-2.1 [-3.4]

System Status at Event (1st Prior Frontal/Rear Event, TRG 1)

TRG Count	1
Time From Previous TRG (msec)	180

Longitudinal Crash Pulse (1st Prior Frontal/Rear Event, TRG 1 - table 1 of 2)

Max Longitudinal Delta-V (MPH (km/h))	-3.4 [-5.5]
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Longitudinal Crash Pulse (1st Prior Frontal/Rear Event, TRG 1 - table 2 of 2)

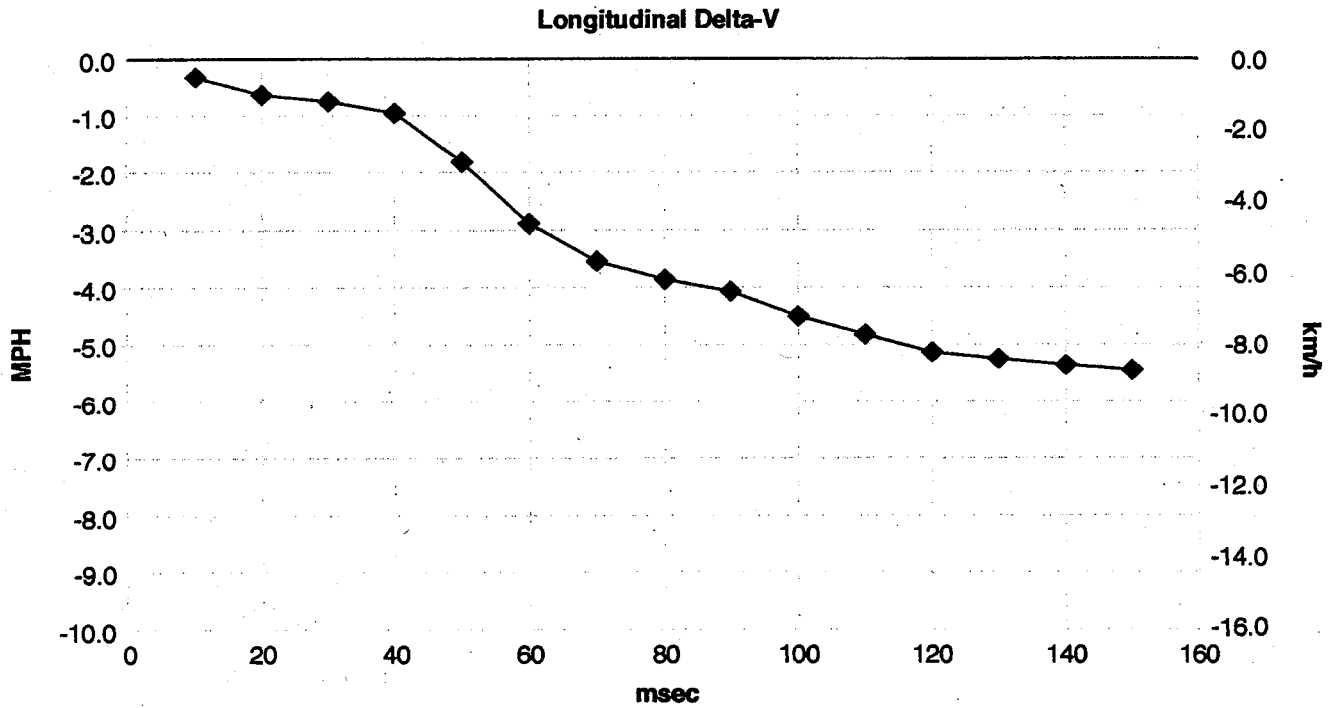
Time (msec)	Longitudinal Delta-V (MPH [km/h])
10	-0.1 [-0.2]
20	-0.2 [-0.3]
30	-0.6 [-1.0]
40	-1.1 [-1.7]
50	-1.5 [-2.4]
60	-1.8 [-2.9]
70	-1.5 [-2.4]
80	-1.8 [-2.9]
90	-2.2 [-3.6]
100	-2.7 [-4.3]
110	-2.9 [-4.7]
120	-3.1 [-5.0]
130	-3.2 [-5.2]
140	-3.3 [-5.3]
150	-3.4 [-5.5]

System Status at Event (Prior Frontal/Rear Event, TRG 0)

TRG Count	0
Time From Previous TRG (msec)	160

Longitudinal Crash Pulse (Prior Frontal/Rear Event, TRG 0 - table 1 of 2)

Max Longitudinal Delta-V (MPH [km/h])	-5.5 [-8.8]
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Longitudinal Crash Pulse (Prior Frontal/Rear Event, TRG 0 - table 2 of 2)

Time (msec)	Longitudinal Delta-V (MPH [km/h])
10	-0.3 [-0.5]
20	-0.6 [-1.0]
30	-0.8 [-1.2]
40	-1.0 [-1.6]
50	-1.8 [-2.9]
60	-2.9 [-4.7]
70	-3.5 [-5.7]
80	-3.9 [-6.2]
90	-4.1 [-6.6]
100	-4.5 [-7.2]
110	-4.8 [-7.8]
120	-5.1 [-8.3]
130	-5.2 [-8.4]
140	-5.4 [-8.6]
150	-5.5 [-8.8]

Hexadecimal Data

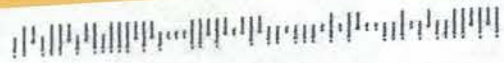
Data that the vehicle manufacturer has specified for data retrieval is shown in the hexadecimal data section of the CDR report. The hexadecimal data section of the CDR report may contain data that is not translated by the CDR program. The control module contains additional data that is not retrievable by the CDR system.

PIDs	PID	Data
	00	B0 FE 00 00
	01	00
	02	(no response)
	03	00
	04	02 00
	09	30 30 30 30 30
	0A	30 30 30 30 30
	0B	30 36 30 37 30
	0C	30 36 30 37 30
	0D	33 33 32 33 30
	0E	30 30 30 30 30
	0F	30 30 30 30 30
	11	44 4E
	12	33 33 32 33 30
	13	04
	14	0B
	15	00 7A
	16	FF FF FF FF FF FF
	17	FF FF FF FF FF FF
	18	FF FF FF FF FF FF
	19	FF FF FF FF FF FF
	1A	FF FF FF FF FF FF
	1B	FF FF FF FF FF FF
	1C	FF FF FF FF FF FF
	1D	FF FF FF FF FF FF
	1E	FF FF FF FF FF FF
	1F	FF FF FF FF FF FF
	20	FF FF FF FF FF FF
	21	FF FF FF FF FF FF
	22	FF FF FF FF FF FF
	23	FF FF FF FF FF FF
	24	FF FF FF FF FF FF
	25	FF FF FF FF FF FF
	26	FF FF FF FF FF FF
	27	FF FF FF FF FF FF
	28	FF FF FF FF FF FF
	29	FF FF
	2A	FF
	2B	44 45 44 45
	2C	30 36 30 37 30
	31	30 30
	32	30 30 30 30 30
	33	00
	34	FF
	35	FF FF
	36	FF FF FF FF FF FF
	37	FF FF FF FF FF FF
	38	FF FF FF FF FF FF
	39	FF FF FF FF FF FF
	3A	FF FF FF FF FF FF
	3B	FF FF FF FF FF FF
	3C	FF FF FF FF FF FF
	3D	FF FF FF FF FF FF
	3E	FF FF FF FF FF FF
	3F	FF FF FF FF FF FF
	40	FF FF FF FF FF FF
	41	FF FF FF FF FF FF
	42	FF FF FF FF FF FF

```
43 FF FF FF FF FF FF
44 FF FF FF FF FF FF
45 FF FF FF FF FF FF
46 FF FF FF FF FF FF
47 FF
48 FF
49 FF
4A FF
4B FF
51 30 30
52 30 30 30 30 30
53 00
54 FF
55 FF FF
56 FF FF FF FF FF FF
57 FF FF FF FF FF FF
58 FF FF FF FF FF FF
59 FF FF FF FF FF FF
5A FF FF FF FF FF FF
5B FF FF FF FF FF FF
5C FF FF FF FF FF FF
5D FF FF FF FF FF FF
5E FF FF FF FF FF FF
5F FF FF FF FF FF FF
60 FF FF FF FF FF FF
61 FF FF FF FF FF FF
62 FF FF FF FF FF FF
63 FF FF FF FF FF FF
64 FF FF FF FF FF FF
65 FF FF FF FF FF FF
66 FF FF FF FF FF FF
67 FF
68 FF
69 FF
6A FF
6B FF
6C 30 30
6F ( no response )
B0 ( no response )
B1 ( no response )
B2 ( no response )
B3 ( no response )
B4 ( no response )
B5 ( no response )
B6 ( no response )
B7 ( no response )
B8 ( no response )
B9 ( no response )
BA ( no response )
BB ( no response )
BC ( no response )
BD ( no response )
BE 03 03 01 02 08 0A
BF 06 03 02 04 03 03
C0 01 01 01 08 00 02
C1 FF FF FF FF FF
C2 FF FF FF FF FF FF
C3 FF FF FF FF FF FF
C4 02 01 03 04 04 03
C5 02 02 01 00 00 00
C6 00 FF FF 1A 02 05
C7 FF FF FF FF FF
C8 FF FF FF FF FF FF
C9 FF FF FF FF FF FF
CA 01 01 04 04 04 03
CB FD 03 04 04 02 02
CC 01 01 01 09 01 02
```

CD	FF FF FF FF FF
CE	FF FF FF FF FF FF
CF	FF FF FF FF FF FF
D0	A9 A9 A9
D1	00
D2	00 00 00 00 00 00
D3	00 00 00 00
E0	C0 10 00 00
E1	00 00
E2	00 00
EC	00

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Defects
PM