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Special Crash Investigations: On-Site Air Bag Inflator Rupture Crash Investigation; Vehicle: 2012 Honda Fit; Location: California; Crash Date: December 2016

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16. Abstract This report documents the on-site investigation of the front air bag module inflator rupture in a 2012 Honda Fit. It was the consensus of manufacturer experts present during the vehicle inspection that the driver's air bag module had been replaced with an off-brand module that was not manufactured by Takata that ruptured in the crash. The manufacturer of the module is not known. This three-vehicle crash occurred on a two-lane undivided urban roadway in California in December 2016 at night; the asphalt roadway was straight and wet at the time of the crash. The Honda was traveling northbound and was driven by a belted 21-year-old female. The second vehicle was a 2016 Toyota Prius that was legally parked on the east side of the roadway. The third vehicle was a 2008 KTM 690 Duke motorcycle that was legally parked in front of the Toyota. For unknown reasons, the Honda veered to the right and struck the rear plane of the Toyota with its front plane. During the impact with the Toyota the frontal air bags in the Honda deployed. The Toyota was then pushed forward into the KTM motorcycle. The driver of the Honda drove a short distance to her parent's home. She was transported by ambulance to a local hospital for treatment and hospitalized for two days. The Honda was towed from the residence. The other vehicles remained at the scene with their respective owners.					
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**Special Crash Investigations
On-Site Air Bag Inflator Rupture Crash Investigation
Office of Defects Investigation
Case Number: DS17006
Vehicle: 2012 Honda Fit
Location: California
Crash Date: December 2016**

BACKGROUND

This report documents the on-site investigation of the front air bag module inflator rupture in a 2012 Honda Fit (**Figure 1**). The purpose of this inspection is to document the ruptured driver air bag inflator, the air bag, and the steering wheel/column assembly. This investigation was initiated by the Office of Defects Investigation in response to a manufacturer notification. The Special Crash Investigations (SCI) group of the National Highway Traffic Safety Administration assigned the case to Dynamic Science, Inc., in April 2017. The vehicle was being held by the driver's attorney at a private storage facility. Arrangements were made with the attorney and the vehicle inspection occurred in May 2017. Multiple parties associated with Honda, Takata, and the driver's attorney were present during the SCI inspection and conducted their own inspections. The vehicle was supported by the Bosch Crash Data Retrieval (CDR) system and the vehicle's event data recorder (EDR) was imaged during the inspection.



Figure 1. 2012 Honda Fit.

According to a CARFAX report, there were two previous owners of this vehicle, the first in South Carolina. The vehicle had been involved in crashes in January 2012 and July 2012. The vehicle sustained frontal damage during the crash in July 2012 and there was an air bag deployment. The vehicle was declared a total loss in August 2012. In November 2012 the second owner took possession of the vehicle. Presumably between August 2012 and November 2012, the vehicle was repaired and the driver's air bag was replaced. It was the consensus of manufacturer experts present during the vehicle inspection that the driver's air bag module had been replaced with an off-brand module that was not manufactured by Takata and that ruptured in the crash. The manufacturer of the module is not known.

This three-vehicle crash occurred on a two-lane undivided urban roadway in California in December 2016 at night. The asphalt roadway was straight and wet at the time of the crash. It was dark and the streetlights were lit. The posted speed limit was 40 km/h (25 mph). The Honda was traveling northbound and was driven by a belted 21-year-old female. The second vehicle was an un-occupied 2016 Toyota Prius legally parked on the east side of the roadway. The third vehicle was a 2008 KTM 690 Duke motorcycle legally parked in front of the Toyota. For

unknown reasons, the Honda veered to the right and struck the rear plane of the Toyota with its front plane. The frontal air bag in the Honda deployed. The Toyota was then pushed forward into the KTM motorcycle. The driver of the Honda drove a short distance to her parent's home. She was transported by ambulance to a local hospital for treatment and hospitalized for two days. The Honda was towed from near the residence and the Toyota was towed from the scene. The other vehicle remained at the scene with the owner.

SUMMARY

Crash Site

This crash occurred on a two-lane undivided urban roadway at 2011 hours (**Figure 2**). The asphalt roadway was straight and wet at the time of the crash. It was dark and the streetlights were lit. Parked vehicles were present on both sides of the roadway. The posted speed limit was 40 km/h (25 mph). The weather at the nearest reporting station was 9 degrees C (48 degrees F), 71 percent humidity, clear visibility, and the winds were out of the west northwest at 11.1 km/h (6.9 mph). A crash diagram is attached at the end of this report.



Figure 2. Crash site, northbound approach.

Pre-Crash

The Honda was traveling northbound at an EDR-reported speed of 40 km/h (25 mph) at 5 seconds prior to impact. The vehicle accelerated slightly to 51 km/h (32 mph) in the next 4.5 seconds. Just prior to impact, the vehicle slowed to 49 km/h (30 mph). The service brake remained "Off" throughout.

Crash

For unknown reasons, the Honda veered slightly to the right and struck the rear plane of the Toyota with its front plane. The "missing vehicle" algorithm of the WinSMASH program calculated a Total delta V of 13 km/h (8 mph) for the Honda. The longitudinal and lateral components were -13 km/h (-8 mph) and 0 km/h, respectively. The results were borderline. The EDR reported a maximum longitudinal delta V of -27 km/h (-17 mph) and a maximum lateral delta V of -2 km/h (-1 mph). The driver's frontal air bag deployed and the safety belt retractor pretensioner actuated during this impact. WinSMASH calculated a Total delta V of 11 km/h (7 mph) for the Toyota. The longitudinal and lateral components were 11 km/h (7 mph) and 2 km/h (1 mph), respectively. The Toyota was then pushed forward into the KTM motorcycle, which overturned.

Post-Crash

The driver of the Honda drove a short distance to her parent's home. She sustained police-reported "B" (other visible) injuries that included a comminuted mandibular fracture, a comminuted fracture of alveolar process of the left maxilla, multiple tooth avulsions and fractures, and multiple soft tissue injuries to her lower face. She was transported by ambulance to a local trauma center for treatment and was hospitalized for two days. The Honda was towed

from near the driver's house and the Toyota was towed from the scene. The other vehicle remained at the scene with the owner.

2012 HONDA FIT

Description

The Honda was a 5-passenger, 4-door sedan. The vehicle was identified by the Vehicle Identification Number (VIN) JHMGE8H53CCxxxxxx with a manufacture date of October 2011. The vehicle was equipped with a 1.5-liter, 4-cylinder engine, an automatic transmission, and front-wheel drive. The vehicle manufacturer's recommended tire size was P185/55R16 with a cold pressure of 228 kPa (33 psi). The vehicle was equipped with Dunlop Sport 7000 tires of the recommended size for the left front, right front, and right rear. The vehicle was equipped with a Bridgestone Turanza tire for the left rear. The specific tire information was as follows:

Position	Measured Tread Depth	Restricted	Damage
LF	2 mm (3/32 in)	No	None
LR	2 mm (3/32 in)	No	None
RR	2 mm (3/32 in)	No	None
RF	2 mm (3/32 in)	No	Sidewall holed

The Honda was configured with seating for five occupants. The front row was equipped with fabric covered bucket seats with adjustable head restraints. The driver's seat was slightly reclined and was adjusted to the full rearward track position at the time of the vehicle inspection, however its position during the crash is unknown.

Exterior Damage

The Honda sustained moderate severity frontal damage from the impact to the rear of the parked Toyota Prius (**Figure 3**). The direct damage began at the right front bumper corner and extended 33 cm (12.0 in) to the left. The damaged extended along the right side to just aft of the right front tire. The Field L extended from bumper corner to bumper corner. Twelve measurements were taken at bumper level by the Nikon Total Station



Figure 3. 2012 Honda Fit.

and the Faro Blitz program computed crush measurement in six increments as follows: $C_1 = 0$ cm, $C_2 = 0$ cm, $C_3 = 0$ cm, $C_4 = 0$ cm, $C_5 = 2$ cm (0.8 in), $C_6 = 9$ cm (3.5 in). The Collision Deformation Classification (CDC) was 12FREE3.

NHTSA Recalls and Investigations

At the time of the crash, the vehicle was subject to NHTSA Recall 16V-061(Manufacturer Recall JY1) in January 2016. The recall involved the possibility of driver air bag module ruptures and the remedy was to have the air bag inflator replaced. There were no official records that the inflator had been replaced.

Event Data Recorder

The Honda was originally equipped with an air bag control module that had EDR capability to store deployment and non-deployment events. Both types of events can contain pre-crash and crash data. For the pre-crash data there is a 5-second buffer that records vehicle speed, PCM derived accelerator pedal position, service brake, ABS activity, stability control, engine RPM, and accelerator pedal position. Typically, the EDR records only one event unless two events occur within 5 seconds of each other.

The data from the Honda's EDR was imaged using the Bosch Crash Data Retrieval Tool version 17.2.1 via the Diagnostic Link Connector (DLC) and reported version 19.3.1. A single deployment event was recovered and resulted from the impact with the rear plane of the parked Toyota. The maximum longitudinal delta V was -27 km/h (-17 mph) at 230 ms. The first stage of the driver's frontal air bag deployed at 39 ms, the second at 79 ms. The safety belt pretensioner actuated at 17 ms.

The Bosch CDR report is included at the end of this report. The pre-crash data at 0.0 seconds was as follows.

Speed, Vehicle Indicated:	49 km/h (30 mph)
PCM derived Acc. Pedal Position:	5%
Service Brake:	Off
ABS Activity:	Off
Stability Control:	On Non-Engaged
Engine RPM:	1,800
Acc. Pedal Position:	0

Interior Damage

The inspection of the interior revealed minor damage related to the air bag deployments and areas of blood deposits. The driver's air bag module inflator ruptured during the crash. The air bag, portions of the inflator, and the module cover separated from the steering wheel. There were blood deposits on the steering wheel rim, windshield header, and the driver's seat. There was a tear identified in the passenger seat back that may have been produced by an inflator fragment. There was no deformation of the steering wheel rim or compression of the column. There were no deformations to any of the seats. All the doors remained closed and operational. The front right side glazing was fractured; there was no additional glazing damage. There was no intrusion into the passenger compartment.

Manual Restraint Systems

The front row was equipped with driver and front right passenger lap and shoulder safety belts. The driver's belt was equipped with continuous loop belt webbing, a sliding latch plate, an emergency locking retractor (ELR), and an adjustable upper anchor. There was a light area of scuffing at the D-pillar. The retractor pretensioner actuated during the impact with the rear plane of the Toyota. The second row safety belts were equipped with continuous loop belt webbing, sliding latch plates, switchable ELR/automatic locking retractors (ALRs), and non-adjustable upper anchors.

Supplemental Restraint Systems

The Honda was originally equipped with dual-stage frontal air bags for the driver and front right passenger positions, seat back mounted side air bags for the front row seats, and inflatable curtain (IC) air bags for the front and second row seats. The driver's air bag inflator was manufactured by an unknown party and was not original to this vehicle. As a result of the front- to-rear impact with Toyota the driver's frontal air bag deployed. There were no additional air bag deployments.

The air bag system was controlled by a sensing and diagnostic module. The module was located on the forward aspect of the center tunnel forward of the transmission shifter. Two external sensors were mounted to the outboard forward aspects of the front frame rails.

The driver's air bag deployed from an H- configuration module cover located in the hub of the steering wheel rim. The air bag was circular and measured 60 cm (23.6 in) in diameter in its deflated state (**Figure 4**). The air bag was configured with rear panel vent ports and was tethered. The air bag inflator ruptured during the air bag deployment. It was reported that the air bag and module cover were displaced from the steering wheel during the deployment rupture (**Figure 5**).



Figure 4. Driver's air bag (front), 2012 Honda Fit.



Figure 5. Module cover flaps, 2012 Honda Fit.

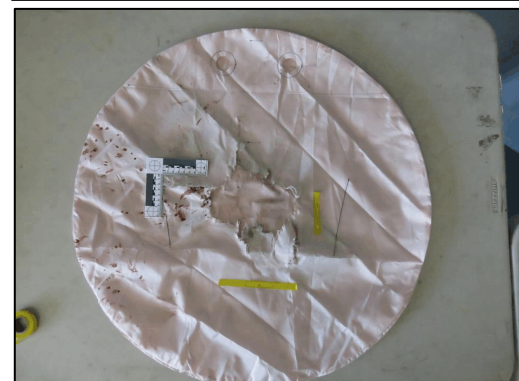


Figure 6. Driver's air bag (back), 2012 Honda Fit.

There was a circular tear in the center of the back of the air bag where it was attached to the module (**Figure 6**). There were multiple linear tears radiating from this central tear. Based on the damage, it appears that the air bag was partially torn during the deployment and then cut to fully remove it.

Air Bag Inflator Rupture Discussion

The driver's dual-stage air bag inflator was manufactured by an unknown party and was not original to this vehicle. It is presumed that the original inflator had been replaced during the repair to this vehicle in 2012. At the time of the inspection, the bottom portion of the module was still attached to the vehicle (**Figure 7**). The top of the module was missing and not recovered. The wire mesh filter was located in the front right seat. The module was unbolted from the steering wheel and further torn down for inspection (**Figure 8**). The sidewalls of the inflator body were deformed outward (**Figure 9**). The rear bracket the module was deformed and there were two indentations on the lower bracket from screws where it was seated in the steering wheel (**Figure 10**).



Figure 7. Air bag module (in place in vehicle), 2012 Honda Fit.

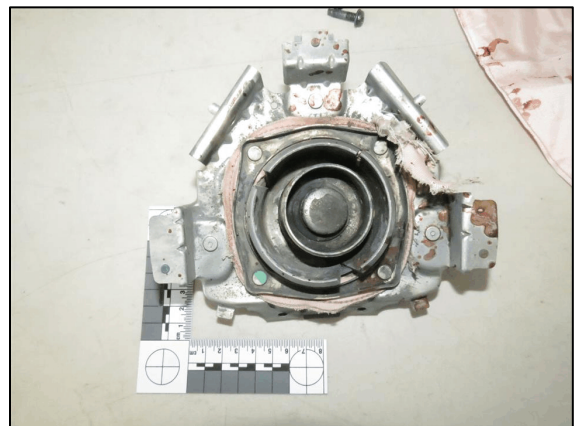


Figure 8. Air bag module (removed from vehicle), 2012 Honda Fit.



Figure 9. Inflator damage, 2012 Honda Fit.

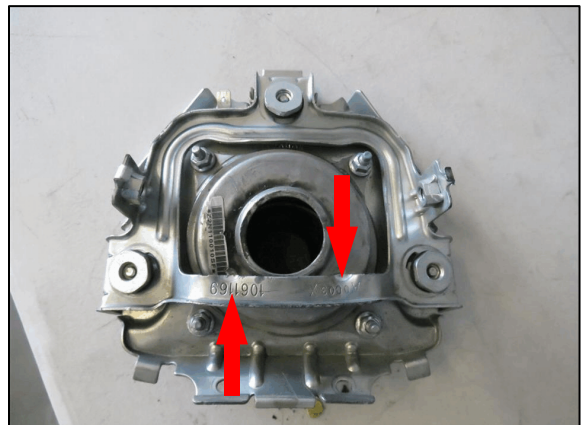


Figure 10. Back of module, 2012 Honda Fit.

2012 HONDA FIT OCCUPANT

Driver Demographics

Age/sex: 21 years/female
Height: 157 cm/62 in
Weight: 54 kg/120 lbs
Eyewear: Unknown
Seat type: Bucket
Seat track position: Unknown
Manual restraint usage: Lap and shoulder used
Usage source: Vehicle inspection, EDR report
Air bags: Frontal air bag, deployed
Alcohol/drug data: None
Egress from vehicle: Under own power
Transport from scene: Transported from parent's house, near scene
Type of medical treatment: Hospitalized for two days

Driver Injuries

Inj. No.	Injury	Injury Severity AIS 2015	Involved Physical Component (IPC)	IPC Confidence Level
1	Comminuted mandible fracture with non-displaced fracture line extending into left mandibular body	250615.2	Air bag components	Certain
2	Right mandibular incisor fracture	251404.1	Air bag components	Certain
3	Comminuted fracture of alveolar process of left maxilla, fracture 2nd and 3rd left molars, 2 missing maxillary incisors	250200.2	Air bag components	Certain
4	Fracture line into medial and posterioriolateral walls of left maxillary sinus	250400.1	Air bag components	Certain
5	Chin avulsion, 5.0 x 7.0 cm	210802.1	Air bag components	Certain
6	Lip laceration, through and through	210602.1	Air bag components	Certain

Source: ER report, surgery report, CT scan

Driver Kinematics

The belted 21-year-old female driver of the Honda was seated in an unknown posture. She reported that she did not see the parked vehicle. For unknown reasons, the Honda veered slightly to the right and struck back plane of the Toyota. At impact, the driver was displaced forward. The safety belt pretensioner actuated and the driver was held in place. The driver's air bag failed to deploy properly and it appears that portions of the module/inflator/cover contacted her face. She continued driving her vehicle for approximately 60 m (200 ft) as she went to her parent's house. Her parents applied pressure to her chin to stop the bleeding. She stated that she did not lose consciousness during this incident. She was transported to a local trauma center where she was hospitalized for two days.

2016 TOYOTA PRIUS (PARKED)

Description

The 2016 Toyota Prius 4-door hatchback was identified by the VIN JTDKBRFU3Gxxxxxx. The vehicle was equipped with front-wheel drive and a 1.8-liter, 4-cylinder gasoline engine.

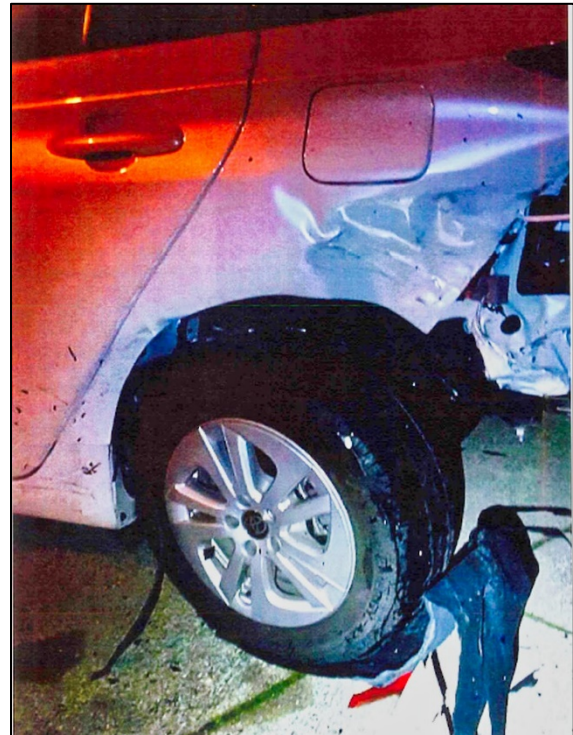


Figure 11. Left bumper corner/fender damage (police photo).

Exterior Damage

The Toyota sustained moderate damage along the rear bumper and the left quarter panel (**Figure 11**). The estimated CDC was 06BLEE2. There was also minor damage to the front bumper. The vehicle was towed from the scene due to damage.

2008 KTM 690 DUKE MOTORCYCLE (PARKED)

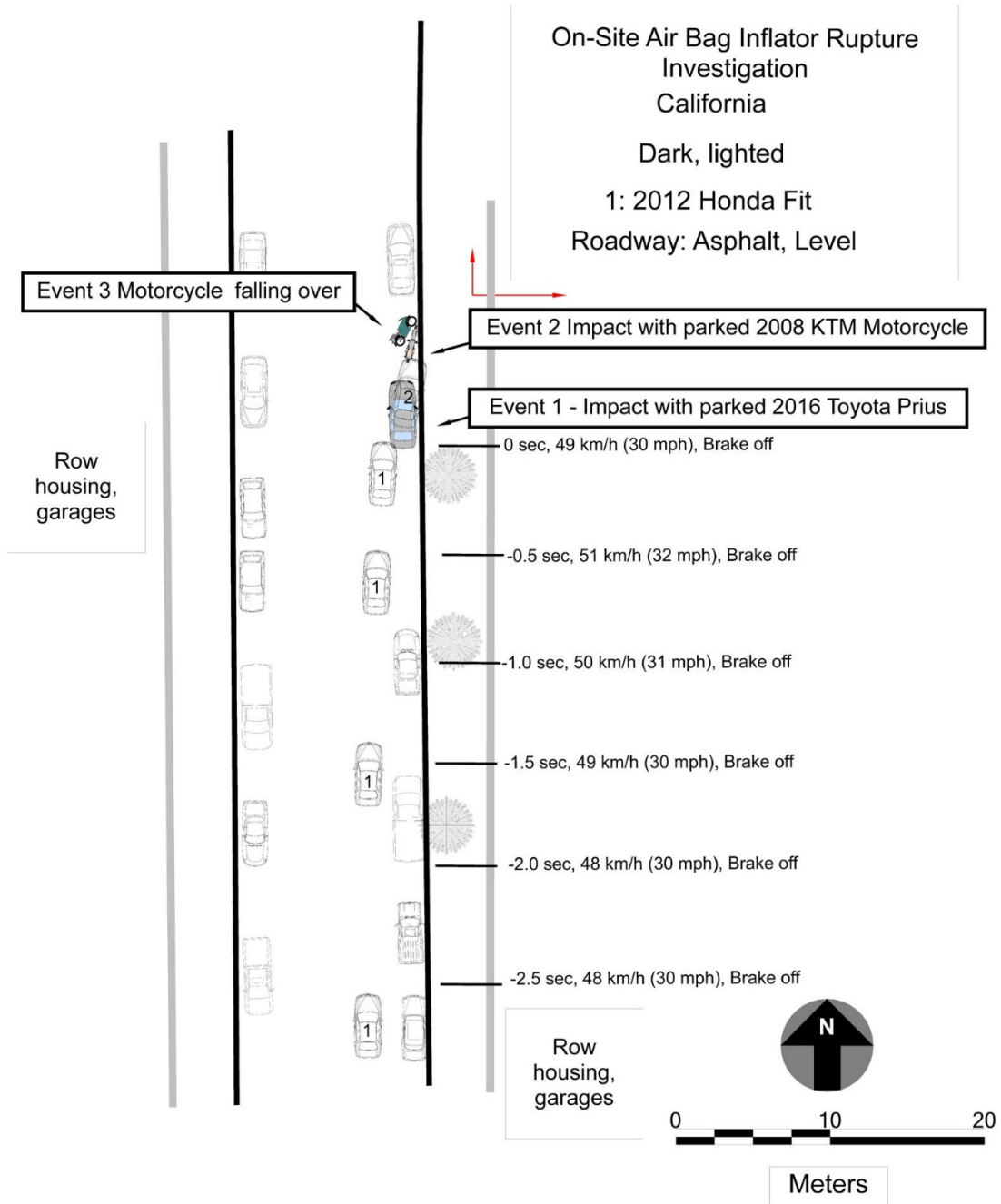
Description

The 2008 KTM 690 Duke motorcycle was identified from the VIN VBKLDS4008Mxxxxxx. The motorcycle was equipped with a 654 cc 1-cylinder gasoline engine.

Exterior Damage

The KTM sustained minor damage to the left handle bar as it was struck by the Toyota and fell over.

CRASH DIAGRAM



	
Case Number:	DS17006

APPENDIX A.
EVENT DATA RECORDER (EDR) REPORT 2012 HONDA FIT¹

¹ The EDR Report contained in this technical report was imaged using the current version of the Bosch CDR software at the time of the vehicle inspection. The CDR report contained in the associated Crash View application may differ relative to this report.

IMPORTANT NOTICE: Robert Bosch LLC and the manufacturers whose vehicles are accessible using the CDR System urge end users to use the latest production release of the Crash Data Retrieval system software when viewing, printing or exporting any retrieved data from within the CDR program. Using the latest version of the CDR software is the best way to ensure that retrieved data has been translated using the most current information provided by the manufacturers of the vehicles supported by this product.

CDR File Information

User Entered VIN	JHMGE8H53CC*****
User	
Case Number	
EDR Data Imaging Date	
Crash Date	
Filename	201750S3DS17006_V1_ACM.CDRX
Saved on	
Imaged with CDR version	Crash Data Retrieval Tool 17.2.1
Imaged with Software Licensed to (Company Name)	Company Name information was removed when this file was saved without VIN sequence number
Reported with CDR version	Crash Data Retrieval Tool 19.3.1
Reported with Software Licensed to (Company Name)	NHTSA
EDR Device Type	Airbag Control Module
Event(s) recovered	1

Comments

No comments entered.

Data Limitations

General Information:

These limitations are intended to assist you in reading the event data that has been imaged from the vehicle's SRS control unit. They contain general information and are not specific to this particular event. Event data should be considered in conjunction with other available physical evidence from the vehicle and scene.

Honda and Acura passenger vehicles designated as 2013 or later model year production are designed to be compatible with the Bosch CDR tool. Only some 2012 model year vehicles are compatible with the Bosch CDR tool.

Recorded Crash Events:

Data for front, side, rear and rollover events can be recorded as either non-deployment or deployment events. Both types of events can contain pre-crash and crash data.

- A non-deployment event is recorded if the change in longitudinal or lateral velocity equals or exceeds 8km/h over a 150ms timeframe or another type of non-reversible deployable restraint device other than a front, side, or side curtain airbag (e.g. seatbelt pretensioner) is commanded to deploy. Except as indicated below, non-deployment events are not locked into memory and can be over-written by subsequent non-deployment or deployment events.
- A deployment event is recorded if front airbag(s), side airbag(s), or side curtain airbag(s) are commanded to deploy. Deployment events are locked into memory and cannot be over-written.

The SRS control unit typically records only one event. Two events can be recorded if the T0 (time zero) values for each event occur within 5 seconds of each other. Therefore, a non-deployment event can be recorded and locked if it occurs within 5 seconds of a deployment event.

T0 is established by whichever of the following occurs first: (1) the change in longitudinal velocity at the SRS control unit equals or exceeds 0.8km/h over a 20ms timeframe; or (2) the change in lateral velocity at the SRS control unit equals or exceeds 0.8km/h over a 5ms timeframe; or (3) the occupant restraint control algorithm is activated; or (4) a commanded deployment of any type of non-reversible deployable restraint device (e.g. airbag or seatbelt pretensioner). If the time to deploy equals 0, then the command to deploy occurred at T0 or the device was not commanded to deploy during the event.

TEnd (end of event) is established by whichever of the following occurs first: (1) the change in longitudinal and lateral Delta V equals or falls below 0.8km/h over a 20ms timeframe; or (2) the occupant restraint control algorithm resets; or (3) time from T0 exceeds 300ms.

Data:

- Data recorded by the SRS control unit and imaged by the CDR tool is displayed relative to T0, not the time at which the vehicle made contact with another vehicle or object.
- Pre-crash data is recorded at 2 samples per second within the 5 seconds before T0. The sampling point at 0.0 is taken at T0 and is asynchronous with the other sample points. The time between -0.5 and 0.0 is not recorded and is between 1 and 500ms.
- Delta V data is recorded at 100 samples per second from T0 to 250ms or T0 to TEnd plus 30ms.
- Acceleration data is recorded at 100 samples per second from T0 to 250ms.
- Delta V, longitudinal reflects the change in velocity that the SRS control unit experienced in the longitudinal direction during the recorded portion of the event and is not the speed the vehicle was traveling before the event.
- Depending on the severity of the event and the accelerometer characteristics, saturation of the SRS control unit longitudinal or lateral accelerometers may occur, decreasing the recorded Delta V value.

- Time, accelerometer range exceeded is recorded if saturation of the SRS control unit longitudinal, lateral and/or normal (vertical) accelerometer occurs. The recorded data is the time at which the sensor range is first exceeded.
- The maximum recording capability of Deployment Command Data is 254ms or 255ms depending on vehicle model. A recorded value of 254ms or 255ms may indicate that the recording maximum was exceeded. In this case, the deployment command may have occurred between the recorded time and TEnd.
- Speed, vehicle indicated data is the speed indicated to the driver by the speedometer, not actual vehicle ground speed. Data accuracy can be affected by various factors, including but not limited to the following:
 - Significant changes in tire size from the factory setting
 - Wheel lockup or spin
 - Data latency or filtering and hysteresis within the speedometer module
- Accelerator pedal position, percent full is the ratio of accelerator pedal position compared to the fully depressed position.
- PCM (Powertrain Control Module) derived accelerator pedal position, percent full may differ from the accelerator pedal position, percent full under circumstances such as brake override activation or cruise control system engagement. These circumstances are based on vehicle equipment application and vary by model.
- Steering input angle is recorded in 5 degree increments.
- Side air bag suppression system status, right front passenger is recorded when the vehicle is equipped with the Occupant Position Detection System (OPDS).
- Occupant size classification, right front passenger airbag suppressed data is recorded as yes (suppressed) if the front passenger seat weight sensor system determined the passenger seat was empty or occupied by a child-size occupant.
- EV mode data records the vehicle powertrain status, not a driver selected operation mode. EV mode is recorded as On when the vehicle is moving and the internal combustion engine is not operating. EV mode may be recorded as On or Off when the vehicle is stopped.
- If power to the SRS control unit is lost during an event, all or part of the data may not be recorded.

Roll Rate Data:

- Vehicle roll rate data is recorded separately from the non-deployment and deployment events as described above. Therefore, the T0 for the roll rate data may differ from the T0 for the other data in this report.
- Roll rate recording trigger (T0) is established by whichever of the following occurs first: (1) a rollover algorithm ON judgment (SRS control unit decision to command deployment); or (2) a change in relative roll angle at the SRS control unit equal to or exceeding 30 degrees (roll angle is not measured, but is calculated from the roll rate data); or (3) the rollover algorithm is activated.
- Once a recording trigger has been met, roll rate data is recorded for one rollover event at 10 samples per second from 1 second before to 2 seconds after T0. If a roll angle trigger is satisfied without a rollover algorithm ON judgment, the recorded roll rate data is unlocked and can be over-written by a subsequent rollover event. Roll rate data triggered by or recorded during a rollover algorithm ON judgment is locked into memory and cannot be over-written.
- If roll rate is detected at the SRS control unit during a non-deployment or deployment event but the recording trigger has not been satisfied, no roll rate data will be recorded. A graph of roll rate data will only be present in this report if roll rate data is recorded.

Data Element Sign Convention:

Except as noted below, all data is displayed in SAE J211 sign convention. The following table provides an explanation of the sign notation for data elements that may be included in this CDR report. All directional references to sign notation are from the perspective of the driver when seated in the vehicle facing the direction of forward vehicle travel.

Data element name	Positive sign indicates
Longitudinal Acceleration	Forward direction acceleration
Delta-V, Longitudinal	Forward direction acceleration
Lateral Acceleration	Left to right direction acceleration
Delta-V, Lateral	Left to right direction acceleration
Normal (Vertical) Acceleration	Downward direction acceleration
Vehicle Roll Rate*	See roll rate graph and data (if recorded)
Steering Input Angle*	Left Turn

*Not SAE J211 sign convention

Data Source:

All recorded data is measured and calculated within the SRS control unit except for the following parameters (if applicable) which are transmitted via the vehicle's communication network to the SRS control unit:

- Speed, vehicle indicated
- Accelerator pedal position, percent full
- Service brake
- ABS activity
- Stability control
- Steering input angle
- Engine RPM
- PCM derived accelerator pedal position, percent full
- EV mode

Depending on vehicle feature content, capability, or conditions described above, the following items may not be recorded. If these items are not recorded, they will not be present in this document.

- ABS activity
- Stability control
- Steering input angle
- PCM derived accelerator pedal position, percent full
- Side air bag suppression system status, right front passenger
- Vehicle roll rate
- Normal acceleration
- Time, accelerometer range exceeded (longitudinal, lateral or normal)

- EV mode

Hexadecimal Data:

All data that has been specified for imaging is shown in the hexadecimal data section of this report. However, not all of this data is translated by the CDR tool. The SRS control unit may contain additional data that is not retrievable by the CDR tool.

Data Imaging:

If the SRS control unit is imaged outside of the vehicle, ensure that it is not moved, tilted or turned while connected to the CDR tool. Also, after imaging is complete, wait 3 minutes after removing the CDR tool before moving the SRS control unit. Not following this guideline could cause current non-deployment event data to be overwritten and a new event to be recorded. Current fault status could also be altered if the SRS control unit is imaged outside of the vehicle.

04001_HondaSRS_GEN1_r002

System Status at Retrieval

EDR Version	0.1.1.0
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System Status at Crash Judgment

Side Air Bag Suppression System Status, Right Front Passenger at 1st Front Crash Judgment	Actuation Permitted
Side Air Bag Suppression System Status, Right Front Passenger at 2nd Front Crash Judgment	No Crash Judgment
Side Air Bag Suppression System Status, Right Front Passenger at Left Side Crash Judgment	No Crash Judgment
Side Air Bag Suppression System Status, Right Front Passenger at Right Side Crash Judgment	No Crash Judgment
Side Air Bag Suppression System Status, Right Front Passenger at 1st Roll Over Judgment	No Crash Judgment
Side Air Bag Suppression System Status, Right Front Passenger at 2nd Roll Over Judgment	No Crash Judgment
Frontal Air Bag Suppression System Status, Right Front Passenger at 1st Front Crash Judgment	Actuation Prohibited
Frontal Air Bag Suppression System Status, Right Front Passenger at 2nd Front Crash Judgment	No Crash Judgment
Frontal Air Bag Suppression System Status, Right Front Passenger at Left Side Crash Judgment	No Crash Judgment
Frontal Air Bag Suppression System Status, Right Front Passenger at Right Side Crash Judgment	No Crash Judgment
Frontal Air Bag Suppression System Status, Right Front passenger at 1st Roll Over Judgment	No Crash Judgment
Frontal Air Bag Suppression System Status, Right Front Passenger at 2nd Roll Over Judgment	No Crash Judgment

System Status at Event (Event Record 1)

Safety Belt Status, Driver	Buckled
Safety Belt Status, Right Front Passenger	Unbuckled
Seat Track Position Switch, Foremost, Status, Driver	No
Occupant Size Classification, Right Front Passenger Airbag Suppressed (Yes/No)	Yes
Frontal Air Bag Warning Lamp (On, Off)	On
Ignition Cycle, Crash	11274
Multi-Event, Number of Events (1, 2)	1
Complete File Recorded (Yes/No)	Yes
Ignition Cycle, Download	11279
Maximum Delta-V, Longitudinal (MPH [km/h])	-17 [-27]
Time, Maximum Delta-V, Longitudinal (msec)	230.0
Maximum Delta-V, Lateral (MPH [km/h])	-1 [-2]
Time, Maximum Delta-V, Lateral (msec)	60.0
Time, Maximum Delta-V, Resultant (msec)	230.0

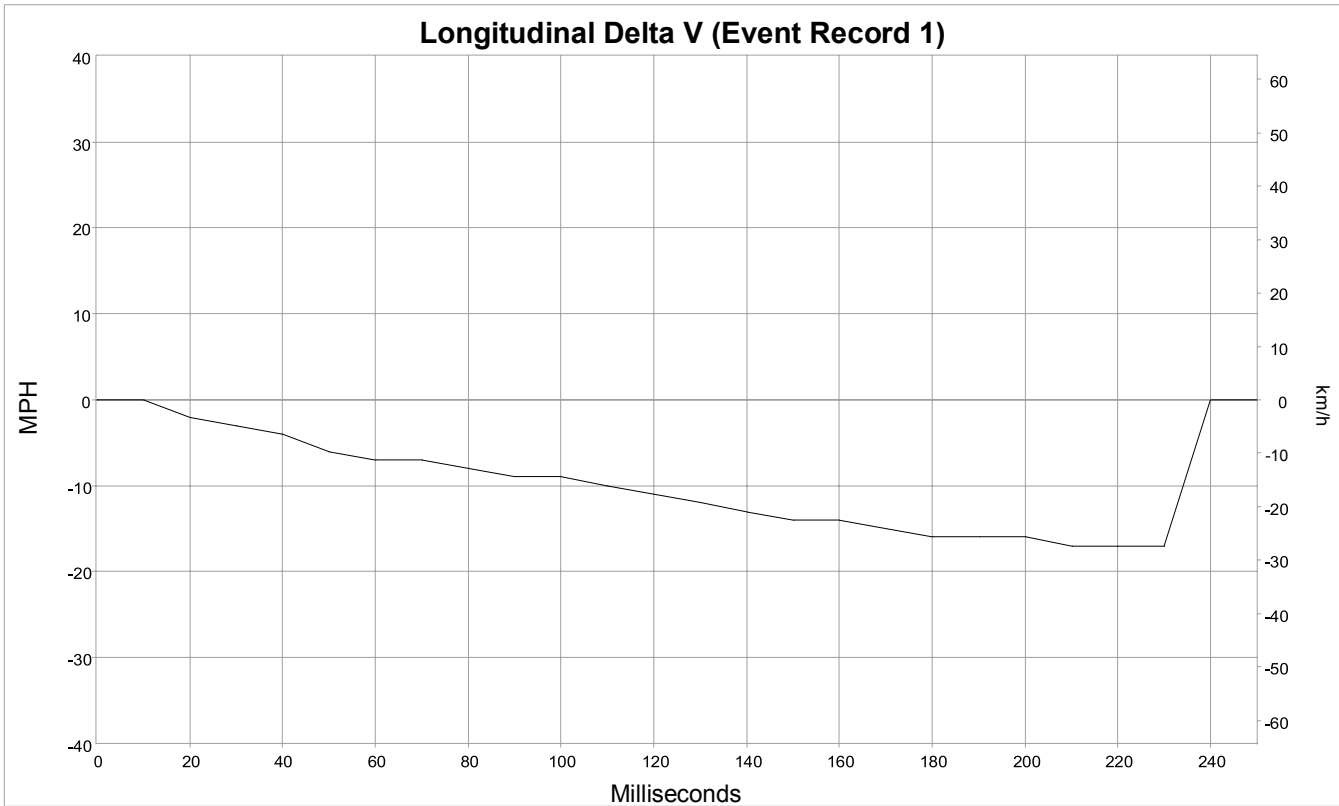
Deployment Command Data (Event Record 1)

Pretensioner Deployment, Time to Fire, Driver (msec)	17
Pretensioner Deployment, Time to Fire, Right Front Passenger (msec)	0
Frontal Air Bag Deployment, Time to Deploy/First Stage, Driver (msec)	39
Frontal Air Bag Deployment, Time to Deploy/First Stage, Right Front Passenger (msec)	0
Side Air Bag Deployment, Time to Deploy, Driver (msec)	0
Side Air Bag Deployment, Time to Deploy, Right Front Passenger (msec)	0
Side Curtain/Tube Air Bag Deployment, Time to Deploy, Driver Side (msec)	0
Side Curtain/Tube Air Bag Deployment, Time to Deploy, Right Side (msec)	0
Frontal Air Bag Deployment, 2nd Stage Disposal, Driver (Yes/No)	No (Not disposal)
Frontal Air Bag Deployment, 2nd Stage Disposal, Right Front Passenger (Yes/No)	Yes (Disposal)
Frontal Air Bag Deployment, Time to 2nd Stage, Driver (msec)	79
Frontal Air Bag Deployment, Time to 2nd Stage, Right Front Passenger (msec)	0

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

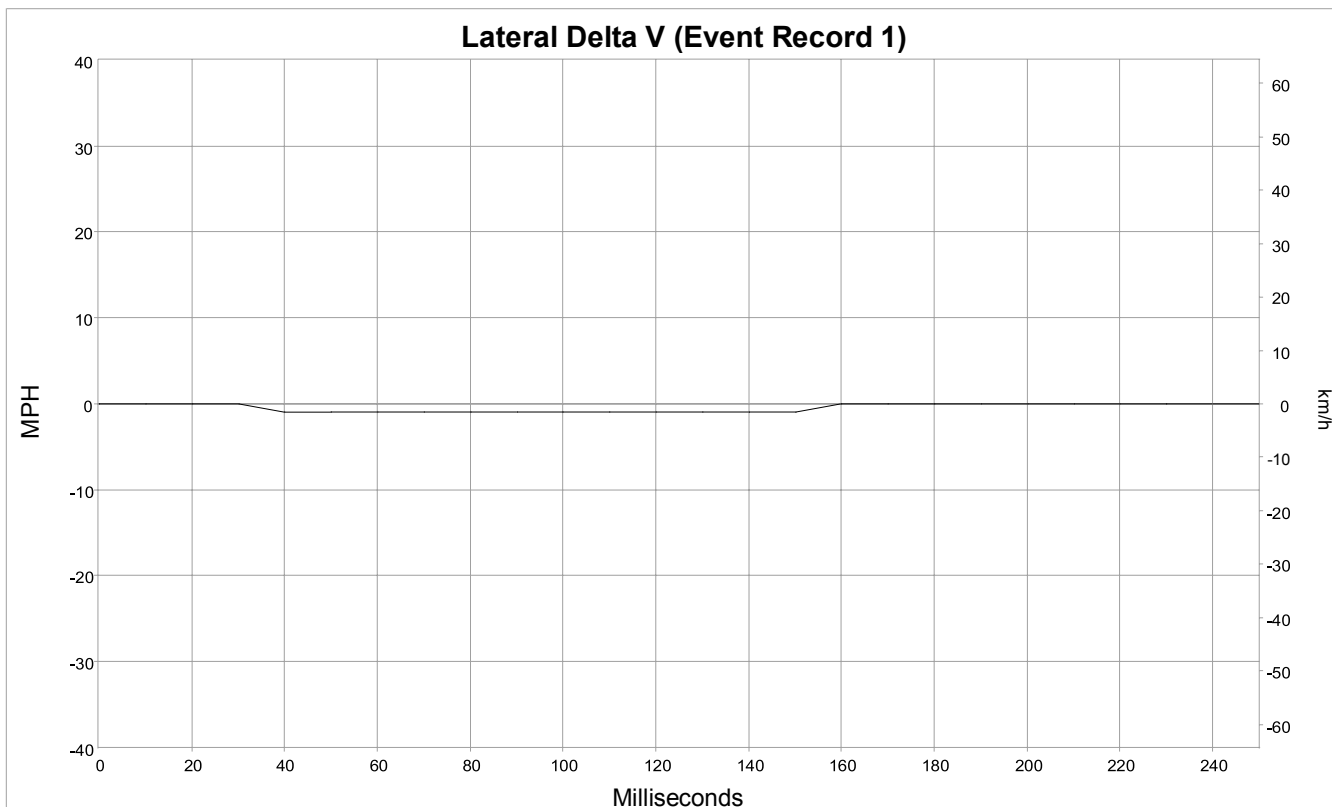
(the most recent sampled values are recorded prior to the event)

Time Stamp (sec)	Speed, Vehicle Indicated (MPH [km/h])	PCM Derived Accelerator Pedal Position, % full	Service Brake (On, Off)	ABS Activity (On, Off)	Stability Control (On, Off, Engaged)	Engine RPM	Accelerator Pedal Position, % full
-5.0	25 [40]	18	Off	Off	On Non-Engaged	2,200	0
-4.5	25 [41]	18	Off	Off	On Non-Engaged	2,100	0
-4.0	27 [43]	18	Off	Off	On Non-Engaged	2,000	0
-3.5	27 [44]	18	Off	Off	On Non-Engaged	1,900	0
-3.0	29 [46]	18	Off	Off	On Non-Engaged	2,000	0
-2.5	30 [48]	18	Off	Off	On Non-Engaged	2,000	0
-2.0	30 [48]	18	Off	Off	On Non-Engaged	1,700	0
-1.5	30 [49]	18	Off	Off	On Non-Engaged	1,600	0
-1.0	31 [50]	6	Off	Off	On Non-Engaged	1,600	0
-0.5	32 [51]	0	Off	Off	On Non-Engaged	1,500	0
0.0	30 [49]	5	Off	Off	On Non-Engaged	1,800	0



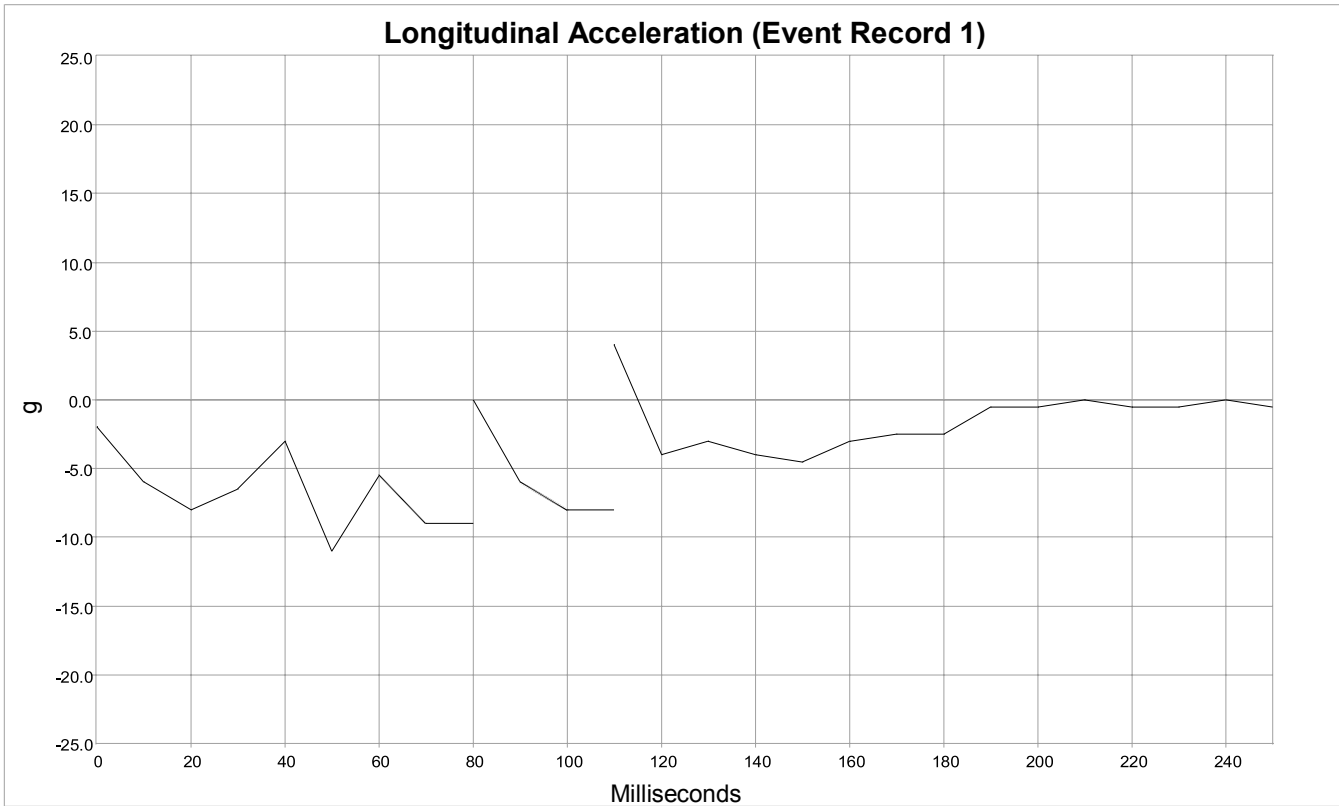
Longitudinal Delta V (Event Record 1)

Time (msec)	MPH [km/h]
0	0 [0]
10	0 [0]
20	-2 [-3]
30	-3 [-5]
40	-4 [-7]
50	-6 [-9]
60	-7 [-11]
70	-7 [-12]
80	-8 [-13]
90	-9 [-14]
100	-9 [-15]
110	-10 [-16]
120	-11 [-18]
130	-12 [-19]
140	-13 [-21]
150	-14 [-22]
160	-14 [-23]
170	-15 [-24]
180	-16 [-25]
190	-16 [-26]
200	-16 [-26]
210	-17 [-27]
220	-17 [-27]
230	-17 [-27]
240	0 [0]
250	0 [0]



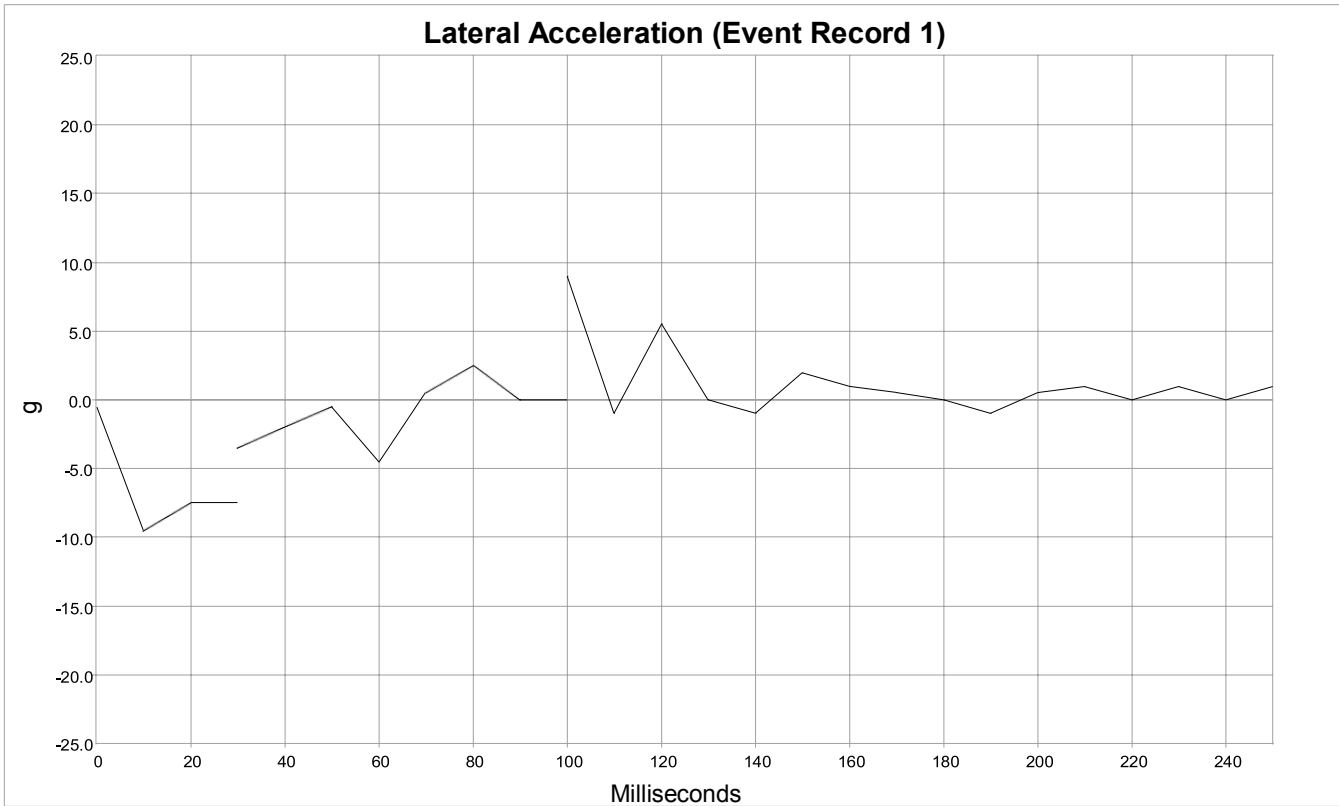
Lateral Delta V (Event Record 1)

Time (msec)	MPH [km/h]
0	0 [0]
10	0 [0]
20	0 [0]
30	0 [0]
40	-1 [-1]
50	-1 [-2]
60	-1 [-2]
70	-1 [-2]
80	-1 [-2]
90	-1 [-2]
100	-1 [-1]
110	-1 [-1]
120	-1 [-1]
130	-1 [-1]
140	-1 [-1]
150	-1 [-1]
160	0 [0]
170	0 [0]
180	0 [0]
190	0 [0]
200	0 [0]
210	0 [0]
220	0 [0]
230	0 [0]
240	0 [0]
250	0 [0]



Longitudinal Acceleration (Event Record 1)

Time (msec)	g
0	-2.0
10	-6.0
20	-8.0
30	-6.5
40	-3.0
50	-11.0
60	-5.5
70	-9.0
80	0.0
90	-6.0
100	-8.0
110	4.0
120	-4.0
130	-3.0
140	-4.0
150	-4.5
160	-3.0
170	-2.5
180	-2.5
190	-0.5
200	-0.5
210	0.0
220	-0.5
230	-0.5
240	0.0
250	-0.5



Lateral Acceleration (Event Record 1)

Time (msec)	g
0	-0.5
10	-9.5
20	-7.5
30	-3.5
40	-2.0
50	-0.5
60	-4.5
70	0.5
80	2.5
90	0.0
100	9.0
110	-1.0
120	5.5
130	0.0
140	-1.0
150	2.0
160	1.0
170	0.5
180	0.0
190	-1.0
200	0.5
210	1.0
220	0.0
230	1.0
240	0.0
250	1.0

Hexadecimal Data

Block #	Data
00:	00 20 00 00 00 FF FF 0A 00 00 00 11 21 21 11 AA BA
01:	00 01 01 00 00 00 00 00 00 00 00 00 00 00 00 00
02:	00 37 37 39 36 30 54 4B 36 41 30 34 30 4D 31 00 00
03:	00 32 30 37 31 37 38 38 33 48 5A 00 00 00 00 00 00
04:	00 33 00 00 00 00 00 00 00 21 00 10 00 00 00 00 00
05:	00 00 01 00 00 00 00 00 00 FB D6 FF 09 00 00 00 26
06:	00 7D B0 28 40 13 70 28 40 00 00 00 00 00 00 00 80
07:	00 71 17 12 13 81 33 11 55 11 33 00 23 0F 00 88 3B
08:	00 AF 81 23 6F 00 1F 00 00 00 00 00 00 00 00 00 00
09:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0A:	00 11 00 27 00 00 00 00 00 00 00 02 12 01 01 2C 0A
0B:	00 00 00 4F 00 00 00 00 00 00 00 00 2D 01 AA 2C 0F
0C:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0D:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
0E:	00 00 A2 00 00 00 00 00 1F 00 00 00 00 00 00 00 00
0F:	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
10:	01 28 12 00 00 16 00 00 00 29 12 00 00 15 00 00 00
11:	01 2B 12 00 00 14 00 00 00 2C 12 00 00 13 00 00 00
12:	01 2E 12 00 00 14 00 00 00 30 12 00 00 14 00 00 00
13:	01 30 12 00 00 11 00 00 00 31 12 00 00 10 00 00 00
14:	01 32 06 00 00 10 00 00 00 33 00 00 00 0F 00 00 00
15:	01 31 05 00 00 12 00 00 00 00 00 00 00 00 00 00 9C
16:	01 00 00 FD FB F9 F7 F5 F4 F3 F2 F1 F0 EE ED EB EA
17:	01 E9 E8 E7 E6 E5 E5 E5 00 00 00 E5 5C 00 00 00 00
18:	01 00 00 00 00 FF FE FE FE FE FE FF FF FF FF FF FF
19:	01 00 00 00 00 00 00 00 00 00 00 00 FE 18 00 5C 00
1A:	01 FC F4 F0 F3 FA EA F5 EE 00 F4 F0 08 F8 FA F8 F7
1B:	01 FA FB FB FF FF 00 FF FF 00 FF 00 00 00 00 00 00
1C:	01 FF ED F1 F9 FC FF F7 01 05 00 12 FE 0B 00 FE 04
1D:	01 02 01 00 FE 01 02 00 02 00 02 00 00 00 00 00 00
1E:	01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
1F:	01 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 E4
20:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
21:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
22:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
23:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
24:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
25:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
26:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
27:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
28:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
29:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
2A:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
2B:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
2C:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
2D:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
2E:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
2F:	02 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
30:	03 21 00 10 16 78 40 00 59 3C D0 7F 00 00 00 00 1D
31:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
32:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
33:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
34:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
35:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
36:	03 55 04 3C 05 AC 00 08 08 90 03 8B 0A 0A DF 01 4D
37:	03 04 0A DF 01 4D 00 00 00 00 00 10 00 00 00 00 00
38:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
39:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
3A:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
3B:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
3C:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
3D:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
3E:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
3F:	03 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

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40: 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
41: 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
42: 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
43: 04 80 00 00 00 00 00 00 00 00 80 16 01 00 00 00 00 00
44: 04 00 00 00 0E 00 00 00 00 00 00 00 00 00 00 00 00 00
45: 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
46: 04 01 01 00 00 01 00 00 00 00 00 00 00 00 00 00 00 00
47: 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
48: 04 59 3C D0 A0 00 FB 00 00 16 78 40 00 00 32 00 00 00
49: 04 00 00 00 00 00 00 00 00 00 01 01 BB 00 85 00 00 00
4A: 04 01 FF 02 00 02 01 01 FD 02 01 02 02 00 00 00 00 00
4B: 04 00 00 00 00 00 00 00 00 00 00 00 80 00 83 FF 00 00
4C: 04 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
4D: 04 00 00 00 00 00 00 00 00 00 13 00 00 00 00 00 00 00
4E: 04 51 21 FF 00 85 62 4E 00 62 11 6C 00 21 11 10 00 00
4F: 04 81 62 53 00 92 21 5B 00 92 22 09 00 61 11 03 00 00
50: 50
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November 2020



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