

CRASH DATA RESEARCH CENTER

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CALSPAN ON-SITE CHILD SAFETY SEAT CRASH INVESTIGATION

CALSPAN CASE NO: CA05-054

VEHICLE: 2000 SATURN SL2

LOCATION: FLORIDA

CRASH DATE: AUGUST 2005

Contract No. DTNH22-01-C-17002

Prepared for:

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

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CALSPAN ON-SITE CHILD SAFETY SEAT CRASH INVESTIGATION

CASE NO.: CA05-054

VEHICLE: 2000 SATURN SL2

LOCATION: FLORIDA

DATE OF CRASH: AUGUST 2005

BACKGROUND

This on-site investigative effort focused on the performance of two high back belt positioning booster child safety seats and the resulting injuries to an 8-year-old male passenger and a 6-year-old female passenger of a 2000 Saturn SL2 (**Figure 1**). The Saturn was involved in a rollover and subsequent collision with a tree. The vehicle was equipped with redesigned frontal air bags for the driver and front right positions. Additionally, the vehicle was equipped with an Event Data Recorder (EDR) that was downloaded during this on-site investigation. The EDR printout is included as **Attachment A** of this report.



Figure 1. Subject vehicle: 2001 Saturn SL2.

The Saturn was occupied by a restrained 32-year-old female driver, an 8-year-old male rear left passenger, who was restrained by a lap and shoulder belt in a belt positioning booster seat, and a 6-year-old female rear right passenger, who was restrained by the lap and shoulder in a belt positioning booster seat. The 32-year-old female driver of the Saturn relinquished control of the vehicle and departed the right roadside. As a result, the vehicle rolled onto its left side and impacted a tree with its roof area. The driver and the 6-year-old rear right passenger sustained minor to moderate severity injuries and were not immediately transported to a hospital from the crash site. The driver and the 6-year-old female sought medical treatment several hours after the crash at a local hospital. The 8-year-old male rear left passenger sustained moderate severity injuries and was transported by helicopter to a trauma center.

This crash was identified by the General Estimate System (GES) through their weekly review of Police Accident Reports (PAR). The crash information was forwarded to the Crash Investigation Division of the National Highway Traffic Safety Administration (NHTSA) due to the presence of the child safety seats. The Saturn and the two child safety seats were located at a salvage facility and cooperation was established with the facility to inspect the vehicle and safety seats. An on-site investigation was assigned to the Calspan SCI team on October 14, 2005. The vehicle, safety seats, and the crash site were inspected during the week of October 17, 2005.

SUMMARY

Crash Site

This road departure crash occurred on the west roadside of a four-lane north/south interstate highway. The specific crash site location could not be located due to the inaccurate documentation by the investigating police officer. The approximate area of the crash was pinpointed based on statements by the driver during the SCI interview. The southbound travel direction consisted of two through traffic lanes that were delineated by a broken white lane line. The north/south roadways were separated by a depressed grass median with a tree line. A 3-meter (9.8 feet) asphalt shoulder extended beyond the west fog line. The west roadside consisted of a grass area and a tree line that was located 15 meters (49.2 feet) beyond the road edge. The roadway was wet at the time of the crash and the posted speed limit was 113 km/h (70 mph). The scene schematic is included as **Figure 12** of this report.

Vehicle Data

2000 Saturn SL2

The subject vehicle in this crash was a 2000 Saturn SL2. The Saturn was identified by Vehicle Identification Number (VIN) 1G8ZK5271Y (production number deleted). The odometer reading at the time of the SCI inspection was unknown due to the expended vehicle battery. However, the driver stated to the SCI investigator that the vehicle had approximately 82,000 kilometers (51,000 miles). The vehicle was purchased used by the driver in 2001. The vehicle was a four-door sedan that was equipped with a 1.9-liter, four-cylinder engine linked to a four-speed automatic transmission with a console mounted transmission shifter. The service brakes were front disc and rear drum. The vehicle was equipped with OEM alloy rims and Futura 2000 Radial LTE P185/65R15 tires. Due to the jammed doors, the vehicle placard could not be accessed; therefore, the manufacturer recommended front and rear tire pressure could not be determined. The specific tire data at the time of the SCI inspection was as follows:

Position	Measured Tire Pressure	Measured Tread Depth	Damage
Left Front	0 kPa	7 mm (9/32")	De-beaded
Left Rear	179 kPa (26 PSI)	7 mm (9/32")	None
Right Front	179 kPa (26 PSI)	6 mm (8/32")	None
Right Rear	172 kPa (25 PSI)	5 mm (6/32")	None

The interior of the Saturn was configured with cloth surfaced front bucket seats with height adjustable head restraints. The front head restraints were adjusted to the full down position at the time of the SCI inspection. The second row was configured with a cloth-upholstered bench seat with a fixed seatback.

Crash Sequence

Pre-Crash

The 32-year-old female driver was operating the vehicle southbound on the interstate on the outboard lane (**Figure 2**). The driver stated to the SCI investigator that she attempted to change lanes to the inboard travel lane. As she initiated this lane change maneuver, a non-contact vehicle, which was traveling adjacent to the Saturn, activated its horn. The driver stated that she applied a right steering input and in doing so, relinquished directional control of the vehicle. The steering maneuver resulted in a clockwise (CW) rotation of the vehicle. The Saturn traversed the outboard travel lane and the asphalt shoulder and entered the grass roadside. The vehicle traveled approximately 15 meters (49') on the grass roadside while rotating CW (**Figure 3**).

The EDR Non-Deployment pre-crash data showed that the Saturn was traveling at 113 km/h (70 mph) five seconds prior to Algorithm Enable (AE). The driver applied a level of braking, which was reported by the brake switch status 'on' position from five to two seconds prior to AE. The vehicle had slowed to 10 km/h (6 mph) at one-second prior to AE; however, the brake switch status was off at this recording time.



Figure 2. Southbound pre-crash travel direction of the Saturn.



Figure 3. Off-road pre-crash travel of the Saturn.

Crash

The CW rotation resulted in the left side tires rolling under the alloy wheels and thereby exposing the alloy rim bead. The alloy rims engaged the ground, which tripped the Saturn, resulting in a left-side-leading rollover (**Figure 4**).

The Saturn continued on its left side approximately 5 meters (16 feet) and impacted a tree with the rear roof area (**Figure 5**). The vehicle came to rest on its left against the tree facing in a northerly direction. Due to the non-horizontal impact forces, the WinSMASH program was not used to calculate a delta-V for this impact. The EDR recorded maximum longitudinal delta-V was 0 km/h. The impact sequence did not result in the deployment of the frontal air bag system.

Post-Crash

Police and Emergency Medical Services (EMS) personnel responded to the crash site. The driver stated that she and the two child passengers were assisted out of the vehicle.



Figure 4 -Area of rollover.



Figure 5. Area of roof impact with tree and

The driver and the 6-year-old female rear right passenger sustained minor injuries and were not transported to a hospital from the crash site. Later that day, the driver and the 6-year-old female sought medical treatment at a local hospital. The 8-year-old male rear left passenger sustained moderate severity injuries and was transported by helicopter to a trauma center. The vehicle sustained severe damage and was towed from the scene of the crash.

Vehicle Damage

Exterior

The Saturn sustained minor damage to the left side door from the rollover event. The damage consisted of a scuffmark and a fracture of the composite door panel. A crush profile was not documented for this damage. The Collision Deformation Classification (CDC) for this impact was 00-LDAO-2.



Figure 6. Left roof side rail crush profile.



Figure 7. Overhead view of the crush to the roof area,

The 2000 Saturn SL2 sustained severe damage to the rear roof area as a result of the impact with the tree. Two crush profiles were documented at the left and right roof side rails. The direct contact damage measured 40 cm (15.7") across the left roof side rail and began 58 cm (22.8") rear of the A-pillar (**Figures 6 and 7**). The maximum crush measured 37 cm (14.6") and was located 37 cm (14.6") rear of the left A-pillar. Six equidistant crush measurements were documented at this level and were as follows: C1 = 23 cm (9.1"), C2 = 37 cm (14.6"), C3 = 26 cm (10.2"), C4 = 6 cm (2.4"), C5 = 4 cm (1.6"), C6 = 0 cm.



Figure 8. Right roof side rail crush.

The direct contact damage on the right roof side rail measured 15 cm (5.9) and began 77 cm (30.3") rear of the right A-pillar (**Figure 8**). The maximum crush was 31 cm (12.2") and was located at the right C-pillar. The crush profile for the right roof side rail was as follows: C1 = 21 cm (8.3"), C2 = 17 cm (6.7"), C3 = 0 cm, C4 = 0 cm, C5 = 0 cm, C6 = 0 cm. The CDC for this impact was 00-TPDN-5.

Interior

No interior damage was attributed directly to occupant contact inside the Saturn. However, the interior did sustain severe damage as a result of passenger compartment intrusion. Body fluid transfers were located on the front left seatback, left rear door panel, and rear right roof area, but the source of the injuries could not be determined. The passenger compartment intrusions were as follows:

Seat Position	Intruded Component	Magnitude	Direction
Front Left	B-pillar	16 cm (6.3")	Vertical
Front Right	B-pillar	6 cm (2.4")	Vertical
Rear Left	Roof	50 cm (20.0")	Vertical
Rear Center	Roof	35 cm (13.8")	Vertical
Rear Right	Roof	43 cm (16.9")	Vertical
Rear Left	C-pillar	33 cm (13.0")	Vertical
Rear Right	C-pillar	34 cm (13.4")	Vertical

Frontal Air Bag System

The Saturn was equipped with a redesigned frontal air bag system. Due to the vertical crash forces, the frontal air bag system did not deploy in this impact.

Event Data Recorder

The 2000 Saturn SL2 was equipped with an Event Data Recorder (EDR) that was downloaded during the on-site investigation. The EDR printout is included as **Attachment A** of this report. Rescue personnel cut the battery cables to the vehicle and the power could not be restored. The SCI investigator used an external power box to supply power to the EDR module through the fuse box that was located under the center instrument panel. Using the Vetronix Crash Data Retrieval (CDR) tool and the current software, the EDR was successfully downloaded through the Diagnostic Link Connector (DLC).

In the subject crash, the EDR recorded a Non-Deployment event and reported a maximum delta-V of 0 km/h. The EDR indicated that the driver's safety belt was buckled and that the front air bag was not suppressed at the time of AE. The pre-crash data confirmed that the Saturn was traveling at 113 km/h (70 mph) five seconds prior to AE. The driver applied a level of braking, which was recorded by the brake switch status; the switch status was in the 'on' position from five to two seconds prior to AE. The vehicle had slowed to 10 km/h (6 mph) one-second prior to AE; however, the brake switch status was off at this recording time.

Manual Safety Belt Systems

The 2000 Saturn SL2 was equipped with three-point lap and shoulder belt systems for the four outboard positions. The front safety belts consisted of continuous loop webbing, sliding latch plates, and height adjustable D-rings that were in the full-down position at the time of the SCI inspection.

The driver's safety belt retracted onto an Emergency Locking Retractor (ELR). The driver utilized her safety belt in the crash, which was supported by the lack of occupant contact damage and her minor severity injuries.

The remaining three outboard belt systems utilized switchable ELR/Automatic Locking Retractors (ALR). The rear center safety belt was configured with a fixed length lap belt with a locking latch plate and no retractor.

The rear outboard safety belts were used by the 8-year-old male rear left passenger and the 6-year-old female rear right passenger. These passengers were seated in belt positioning booster seats and were restrained by the safety belts during the crash. The usage was supported by the lack of occupant contact points. Additional supporting evidence consisted of the restricted safety belts



Figure 9. Child safety seats in the post-crash location.

indicative of being in the used position. The roof intrusion locked the retractors in the pre-crash location. Also noted the left rear latch plate was bent; however, it could not be determined how this occurred.

Child Safety Seats

Two high back belt positioning booster Child Safety Seats (CSS) were used in the second row of the Saturn. **Figure 9** is the location of the CSS's in their post-crash position. The CSS that was used in the rear left seating position was a Cosco Complete Voyager (**Figure 10**). The 8-year-old male passenger utilized this CSS and was restrained by the vehicle's 3-point lap and shoulder belt system. The safety seat model number was 22-210-BLR and was manufactured on 08/04/02. The following placarded was on the CSS:

Use only the vehicle's lap and shoulder belt system when restraining the child in this booster seat.

14-36 kg (30-80 lb')

94-139 cm (37-51")

The driver purchased the CSS approximately one year prior to the crash. The driver stated that the 8-year-old male buckles the belt himself once seated in the CSS and was not aware what mode the retractor was placed in at the time of the crash. She stated that the child was sitting in an upright posture prior to the crash and remained buckled within the CSS during the crash.



Figure 10. Belt positioning booster seat the used by the 8-year-old male.

Body fluid was found on the cloth seat cushion of the CSS. Minor stress marks were identified on the CSS that resulted from compression by the intruding roof. The marks were located on the top aspect of the seatback at the junction of the reinforcements. Additional stress marks were noted to the left and right side shoulder belt guides. No fractures of the plastic frame were present on the shell.

The 6-year-old female passenger was restrained in a Graco Turbo Booster in the rear right position (**Figure 11**). The model number was 8495LAD and was manufactured on 08/27/04. The driver purchased the CSS approximately one month prior to the crash. The registration card for the CSS had not been mailed to the manufacturer. The following was placarded on the CSS:

This child restraint is designed for use **ONLY** by children who:

WITH BACK SUPPORT (approximately 3-10 years old):

- Weigh between 14 and 45 kg (30 and 100 lb).

- Are between 96 and 145 cm (38 and 57”) in height

WITHOUT BACK SUPPORT (approximately 4-10 years old):

- Weigh between 18 and 45 kg (40 and 100 lbs) and
- Are between 101 and 145 cm (40 and 57”) in height, and whose ears are below top of vehicle seat cushion/headrest.

The CSS consisted of a three-piece plastic construction. The head restraint and back support could be removed allowing the safety seat to be used solely with the base cushion.

The driver stated to the SCI investigator that the 6-year-old female passenger would restrain herself with the vehicle’s lap and shoulder belt. The inspection of the CSS revealed no damage or loading evidence.



Figure 11. Belt positioning booster seat the used by the 6-year-old female.

Occupant Demographics/Data

Driver Demographics

Age/Sex: 32-year-old/Female
 Height: 150 cm (59”)
 Weight: 50 kg (110 lbs)
 Seat Track Position: Forward track position
 Eyewear: Contact lenses
 Manual Safety Belt Usage: Manual lap and shoulder belt
 Usage Source: Vehicle inspection
 Egress from Vehicle: Assisted through left door
 Mode of Transport from Scene: Not transported from scene
 Type of Medical Treatment: Transported later for evaluation of injuries and released

Driver Injuries

Injury	Injury Severity (AIS90/Update 98)	Injury Source
Scalp hematoma, NFS	Minor (190402.1,5)	Roof
Left shoulder muscle laceration, NFS	Moderate (740400.2,2)	Shoulder belt

Source – Driver interview

Driver Kinematics

The 32-year-old female driver of the 2000 Saturn SL2 was seated in an upright driving posture. The driver’s seat was adjusted to a near full-forward track position and she was restrained by the manual 3-point safety belt. As the Saturn rolled onto its left side, the driver responded to the forces by initiating a slight left trajectory and loading the safety belt system and possibly the left front door.

The impact with the tree resulted in the driver responding to the crash forces by initiating a slight upward trajectory with respect to the vehicle. Her movement was minimal due to the usage of the safety belt system. The driver sustained a scalp hematoma which may have occurred when she released the safety belt allowing her to contact roof/side rail.

The source of the left shoulder muscle laceration was the shoulder belt. The driver stated to the SCI investigator that she was assisted out of the vehicle through the disintegrated glazing. The driver refused treatment at the scene. However, she sought treatment several hours after the crash at a local hospital.

Rear Left Child Passenger Demographics

Age/Sex: 8-year-old/Male
Height: 135 cm (53”)
Weight: 23 kg (50 lbs)
Seat Track Position: Not adjustable
Eyewear: None
Child Restraint Use: Belt positioning booster CSS with 3-point lap and shoulder belt
Usage Source: Vehicle inspection
Egress from Vehicle: Assisted by driver
Mode of Transport from Scene: Airlifted to a trauma center
Type of Medical Treatment: Hospitalized four days and released

Rear Left Child Passenger Injuries

Injury	Injury Severity (AIS 90, Update 98)	Injury Source
Multiple skull fractures, NFS	Moderate (150400.2,9)	Intruding roof
Nose bleed	Minor (251090.1,4)	Intruding roof
Left shoulder laceration approximately 20-25 cm (8.0-10.0”)	Minor (790602.1,2)	Broken glass while exiting vehicle
Left knee laceration approximately 5 cm (2.0”)	Minor (890602.1,2)	Broken glass while exiting vehicle

Source = Driver interview

Rear Left Child Passenger Kinematics

The 8-year-old male rear left passenger was seated in an upright posture in a Cosco Complete Voyager belt-positioning booster seat and was restrained by the manual safety belt system.

The impact with the tree resulted in the roof intruding into the passenger compartment. The 8-year-old male passenger responded by initiating a slight upward trajectory; however, his movement was minimal due to the usage of the safety belt system. The intruding roof contacted his head resulting in the multiple skull fractures and a nosebleed. The driver stated to the SCI investigator that this passenger was assisted from the vehicle through the disintegrated rear glazing. During this process he sustained the left shoulder laceration approximately 20-25 cm (8-10”) and left knee laceration approximately 5 cm (2”) from contact with the broken glass that was scattered at the crash site.

As a result of his injuries, he was transported by helicopter to a local trauma center where he was admitted for treatment and released four days following the crash.

Rear Right Child Passenger

Age/Sex: 6-year-old/Female
Height: 109 cm (43”)
Weight: 15 kg (33 lbs)
Seat Track Position: Not Adjustable
Eyewear: None
Child Restraint Use: Belt positioning booster CSS with 3-point lap and shoulder belt
Usage Source: Vehicle inspection
Egress from Vehicle: Assisted by driver
Mode of Transport from Scene: Not transported
Type of Medical Treatment: Transported later that day evaluated for injuries and released

Rear Right Child Injuries

Injury	Injury Severity (AIS90/Update 98)	Injury Source
Forehead abrasion	Minor (290202.1,7)	Intruding roof

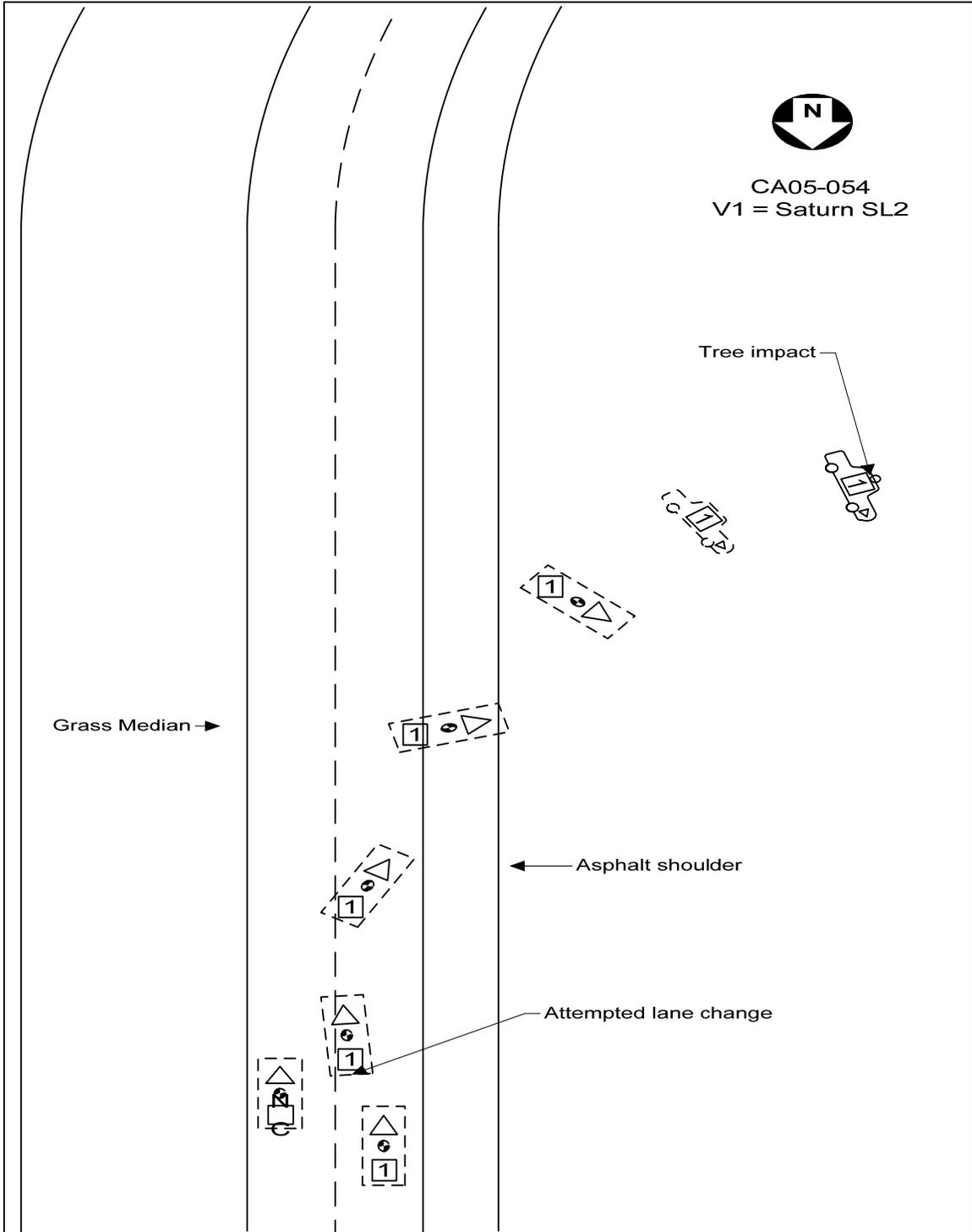
Source= Driver interview

Rear Right Child Kinematics

The 6-year-old female child passenger was seated in a Graco Turbo Booster belt positioning booster seat and was restrained by the vehicle 3-point lap and shoulder belt system. The vehicle rolled onto its left side prior to impacting the tree. The 6-year-old passenger responded to the crash forces by initiating a slight left trajectory and loading the safety belt system. The safety belt usage restrained the passenger in the belt positioning booster seat and prevented her from possible contact with the interior components.

The impact with the tree resulted in the roof intruding into the passenger compartment. She responded to the non-horizontal crash forces by moving upward toward the roof; however, her trajectory was limited due to the usage of the safety belt system. The intruding roof contacted the child passenger's head resulting in the forehead abrasion. The driver stated to the SCI investigator that this child was not transported directly from the crash site to a hospital. She was taken to a local hospital later on the day of the crash, where she was evaluated and treated for the minor injuries and released.

Figure 12 - Scene Schematic



Attachment A: 2000 Saturn SL2 EDR Printout

CDR File Information

Vehicle Identification Number	1G8ZK5271YZ*****
Investigator	
Case Number	
Investigation Date	
Crash Date	
Filename	
Saved on	
Collected with CDR version	
Collecting program verification number	70812808
Reported with CDR version	Crash Data Retrieval Tool 2.800
Reporting program verification number	9238B95E
Interface used to collected data	Block number: 00 Interface version: 41 Date: 11-04-04 Checksum: 9E00
Event(s) recovered	Non-Deployment

SDM Data Limitations

SDM Recorded Crash Events:

There are two types of SDM recorded crash events. The first is the Non-Deployment Event. A Non-Deployment Event is an event severe enough to "wake up" the sensing algorithm but not severe enough to deploy the air bag(s). It contains Pre-Crash and Crash data. The SDM can store up to one Non-Deployment Event. This event may be overwritten by another Non-Deployment Event. This event will be cleared by the SDM after the ignition has been cycled 250 times.

The second type of SDM recorded crash event is the Deployment Event. It also contains Pre-Crash and Crash data. The SDM can store up to two different Deployment Events, if they occur within five seconds of one another. Deployment Events cannot be overwritten or cleared from the SDM. Once the SDM has deployed the air bag, the SDM must be replaced.

The data in the Non-Deployment Event file will be locked after a Deployment Event, if the Non-Deployment Event occurred within 5 seconds before the Deployment Event unless a Deployment Level Event occurs within 5 seconds after the Deployment Event, and then the Deployment Level Event will overwrite the Non-Deployment Event file.

SDM Data Limitations:

-SDM Adjusted Algorithm Forward Velocity Change:

Once the crash data is downloaded, the CDR tool mathematically adjusts the recorded algorithm forward velocity data to generate an adjusted algorithm forward velocity change that may more closely approximate the forward velocity change the sensing system experienced during the recorded portion of the event. The adjustment takes place within the downloading tool and does not affect the crash data, which remains stored in the SDM. The SDM Adjusted Algorithm Forward Velocity Change may not closely approximate what the sensing system experienced in all types of events. For example, if a crash is preceded by other common events, such as rough road, struck objects, or off-road travel, the SDM Adjusted Algorithm Forward Velocity Change may be less than and some times significantly less than the actual forward velocity change the sensing system experienced. This data should be examined in conjunction with other available physical evidence from the vehicle and scene when assessing occupant or vehicle forward velocity change. For Deployment Events and Deployment Level Events, the SDM will record 100 milliseconds of data after deployment criteria is met and up to 50 milliseconds before deployment criteria is met. The maximum value that can be recorded for SDM Adjusted Algorithm Forward Velocity Change is about 112 MPH.

-SDM Recorded Vehicle Speed accuracy can be affected if the vehicle has had the tire size or the final drive axle ratio changed from the factory build specifications.

-Brake Switch Circuit Status indicates the status of the brake switch circuit.

-Some of the Pre-Crash data may be recorded after Algorithm Enable (AE). This may happen in situations involving relatively "soft" crash pulses or those that take place over a relatively longer period of time. If this occurs, it may affect the reported pre-crash data values, but does not affect other data such as SDM Adjusted Algorithm Forward Velocity Change.

-Pre-Crash Electronic Data Validity Check Status indicates "Data Invalid" if the SDM receive an invalid message from the module sending the pre-crash data.

-Driver's Belt Switch Circuit Status indicates the status of the driver's seat belt switch circuit. If the vehicle's electrical system is compromised during a crash, the state of the Driver's Belt Switch Circuit may be reported other than the actual state.

-Passenger Front Air Bag Suppression Switch Circuit Status indicates the status of the suppression switch circuit.

-The Time Between Events is displayed in seconds. If the time between the two events is greater than five seconds, "N/A" is displayed in place of the time.

-If power to the SDM is lost during a crash event, all or part of the crash record may not be recorded.

-If the vehicle is a 2000 - 2002 Chevrolet Cavalier Z24 or a Pontiac Sunfire GT, with a manual transmission (RPO MM5) and a 2.4L engine (RPO LD9), the Brake Switch Circuit Status data will be reported in the opposite state than what actually occurred, e.g. an actual brake switch status of "ON" will be reported as "OFF".

SDM Data Source:

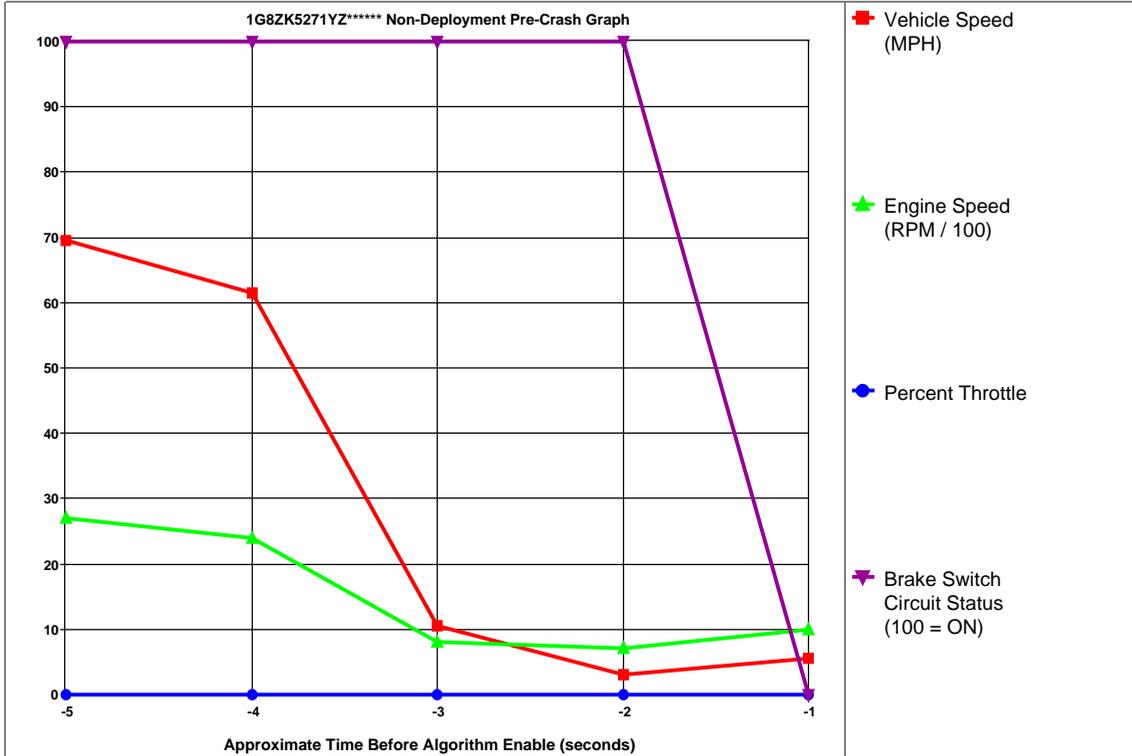
All SDM recorded data is measured, calculated, and stored internally, except for the following:

1G8ZK5271YZ*****

- Vehicle Speed, Engine Speed, and Percent Throttle data are transmitted once a second by the Powertrain Control Module (PCM), via the vehicle's communication network, to the SDM.
- Brake Switch Circuit Status data is transmitted once a second by either the ABS module or the PCM, via the vehicle's communication network, to the SDM.
- The SDM may obtain Belt Switch Circuit Status data a number of different ways, depending on the vehicle architecture. Some switches are wired directly to the SDM, while others may obtain the data from various vehicle control modules, via the vehicle's communication network.
- The Passenger Front Air Bag Suppression Switch Circuit is wired directly to the SDM.

System Status At Non-Deployment

SIR Warning Lamp Status	OFF
Driver's Belt Switch Circuit Status	BUCKLED
Passenger Front Air Bag Suppression Switch Circuit Status	Air Bag Not Suppressed
Ignition Cycles At Non-Deployment	11229
Maximum SDM Algorithm Forward Velocity Change (MPH)	0.00



Seconds Before AE	Vehicle Speed (MPH)	Engine Speed (RPM)	Percent Throttle	Brake Switch Circuit Status
-5	70	2688	0	ON
-4	62	2432	0	ON
-3	11	768	0	ON
-2	3	704	0	ON
-1	6	960	0	OFF

Hexadecimal Data

This page displays all the data retrieved from the air bag module.
It contains data that is not converted by this program.

```
$01 93 23 00 00
$02 90 D2
$03 41 53 39 32 36 35
$04 4B 33 51 4C 59 31
$05 00
$06 21 06 06 93
$11 88 03 86 FC 8D 00
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$1E FA FA
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$28 00 00 00 00 00 0F
$29 0B 0C 26 2A 00 FA
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$2B FF FF FF 00 00 00
$2C 00 27 00 00
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