CRASH DATA RESEARCH CENTER
Calspan Corporation
Buffalo, NY 14225

NOT-IN-TRAFFIC SURVEILLIANCE
CALSPAN REMOTE POWER WINDOW FATALITY INVESTIGATION

SCI CASE NO.: CA07-010

VEHICLE: 2007 PONTIAC VIBE
LOCATION: MICHIGAN
DATE: DECEMBER 2006

Contract No. DTNH22-07-C-00043

Prepared for:

U.S. Department of Transportation
National Highway Traffic Safety Administration
Washington, D.C. 20590

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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.

TECHNICAL REPORT STANDARD TITLE PAGE

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16. Abstract This remote investigation focused on the cause of death for a 3-year old female rear left passenger of a 2007 Pontiac Vibe. The child was killed when her neck became captured in the power window of the Pontiac. The Vibe was equipped with power door windows and toggle switches that were mounted vertically on the forward aspects of the rear door panels. While traveling on a city street, a motorist traveling in the lane adjacent to the Pontiac observed the child's head captured between the left rear door window and the top of the door window frame. This witness alerted the driver of the Vibe of the child's position and the Pontiac driver stopped near an intersection. She exited the vehicle and observed the child trapped in the power window. Another witness at the intersection observed the Pontiac as it stopped and noted the position of the child. This witness reached in the vehicle, lowered the window and removed the child. It could not be determined which window controls were used to lower the window. A third witness to the events initiated CPR activities as the 9-1-1 system was called. Following the arrival of paramedics and police, the child was transported by ambulance to a local pediatric hospital where she was pronounced deceased on arrival. The Pontiac was towed from the scene and impounded. The child's death was police reported as a crime and not as a traffic fatality.			
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BACKGROUND

This remote investigation focused on the cause of death for a 3-year old female rear left passenger of a 2007 Pontiac Vibe **(Figure 1)**. The child was killed when her neck became captured in the power window of the Pontiac. The Vibe was equipped with power door windows and toggle switches that were mounted vertically on the forward aspects of the rear door panels. While traveling on a city street, a motorist traveling in the lane adjacent to the Pontiac observed the child's head captured between the left rear door window and the top of the door window frame. This witness alerted the driver of the Vibe of the child's position and the Pontiac driver stopped near an intersection. She exited the vehicle and observed the child trapped in the power window. Another witness at the intersection observed the Pontiac as it stopped and noted the position of the child. This witness reached in the vehicle, lowered the window and removed the child. It could not be determined which window controls were used to lower the window. A third witness to the events initiated CPR activities as the 9-1-1 system was called. Following the arrival of paramedics and police, the child was transported by ambulance to a local pediatric hospital where she was pronounced deceased on arrival. The Pontiac was towed from the scene and impounded. The child's death was police reported as a crime and not as a traffic fatality.

Figure 1. Exemplar Pontiac Vibe.

NHTSA provided notification of this crash to the Calspan Special Crash Investigations (SCI) team for remote follow-up. A GES Researcher located the report at the investigating police station and faxed the report to the SCI team. This case was subsequently assigned as a remote-level investigation on February 28, 2007. Additional efforts for this case involved an inspection of an exemplar 2007 Pontiac Vibe and the testing of the rear power window to determine the force loads that this window exerts in the up-position and the location and operation of the window switches.

SUMMARY

Site of Incident

This incident occurred during the evening hours in December 2006 in a city environment in Michigan. The weather conditions were dark with overcast sky and light rain. The ambient temperature was reported at 4 degrees C (39 degrees F). The driver drove a distance of approximately 9 km (5.7 miles) from the on-set of the trip to the location where she stopped the vehicle. The witness first observed the child and the Pontiac on a

four-lane roadway as she attempted to pass the Vibe on its left. The specific location where this event transpired is unknown.

Vehicle Data

The Pontiac Vibe was a four-door station wagon that was identified by Vehicle Identification Number (VIN) 5Y2SL65807Z (production number deleted). The passenger compartment of this vehicle was configured with front bucket seats with adjustable head restraints and a three-passenger rear bench with split, forward folding seat backs. The rear outboard positions were equipped with adjustable head restraints. Standard equipment also included power windows for the four doors with the driver's switch console mounted to the forward aspect of the driver's door panel **(Figure 2)**.

Figure 2. Driver's door power window switch console (exemplar vehicle).

Figure 3. Overall view of the interior of an exemplar Pontiac Vibe.

Child Passenger

The left rear child passenger in the Pontiac Vibe was a 3-year old female. She was the granddaughter of the driver of the Pontiac. Demographic data was not available.

Incident

The 52-year old female driver of the 2007 Pontiac Vibe drove to the babysitter's residence where she picked up her 3-year old granddaughter. According to the Police Report, the babysitter placed the child in the left rear of the vehicle, positioned the safety belt system around the child, and buckled the 3-point belt manual belt system**.** This safety belt system consisted of continuous loop webbing with a sliding latch plate and a switchable Emergency Locking/Automatic Locking Retractor (ELR/ALR). The retractor mode was not called out in the Police Report. It was noted that a Child Safety Seat (CSS) was not present in the vehicle.

The driver proceeded to travel in a westerly direction en route to pick up the child's mother at her place of employment. While en route, the child apparently unbuckled the safety belt and opened the left rear power window with the door mounted switch. At some point during the trip, the child apparently extended her head out of the window opening. The power window was closed, capturing the child's neck between the window and the top of the window frame. Based on a driver's statement in the Police Crime Report, the driver was unaware of the child's activity. She further stated to the investigating officer, that the child was quiet in the back seat; therefore the driver

assumed the child had fallen asleep as the child complained about being tired as she entered the vehicle.

As the driver traveled approximately 9 km (5.7 miles) from the babysitter's residence, a motorist traveling on the inboard travel lane adjacent to the Pontiac observed the child's head captured in the window frame. This witness sounded her horn to gain the attention of the Pontiac's driver. The Pontiac driver looked to her left and noted that the witness was motioning to the rear window of her vehicle. The witness stated that she was yelling "baby" to the driver to get her to stop the vehicle.

The driver of the Vibe stopped the vehicle near a four-leg intersection and exited the vehicle. She observed the child's head extending from the left rear window and began to scream for help. A second witness to the event observed the child's head dangling from the left rear window and noted that the child was foaming from the mouth. This witness opened the door of the Pontiac and lowered the left rear power window and removed the child from the vehicle. A third witness initiated CPR on the child as the emergency response center (9-1-1) was called.

Police and ambulance personnel arrived on-scene within minutes of the call. The paramedics continued with the CPR as the child was loaded into a ground ambulance. With police escort, the ambulance departed the scene and drove to a pediatric hospital where the child was pronounced deceased approximately 20 minutes following the 9-1-1 call.

The witnesses were interviewed at the scene of the event. The driver was allowed to travel to the hospital with the child following a brief interview by the investigating officer. The Pontiac was towed from the scene as evidence as this case was initially reported as a crime. No Police Accident Report (PAR) was filed for this fatality.

Exemplar Vehicle Power Window

An exemplar 2007 Pontiac Vibe was inspected at a local new car dealership. By coincidence, the temperature at the time of this inspection was approximately 4 degrees C (40 degrees F), similar to the temperature at the time of this incident. A cursory inspection of the power window switches was conducted. The driver's power window switch console was located at the forward aspect of the integrated door panel armrest **(Figure 4)**. The switches were arranged in a two-by-two cluster with the front door switches forward of the rear door switches. The driver's door window was the only window equipped with the auto-down feature. This was achieved by depressing the forward aspect of the switch and momentarily holding the switch to activate the auto-down mode. Upon releasing pressure on the switch, the window powers to the full down position. To raise any window from the driver's position, the forward aspect of the switches required upward pressure. This window and the other door windows were NOT equipped with an auto-up feature. A lock-out switch to turn-off the door switches for the front right passenger and rear doors was positioned at the top right aspect of the driver's switch console. This function required depressing the switch to the detent that disabled the other door window switches and pressing again to restore the door switch functions.

It is suspected that this switch was not activated to the lock-out mode at the time of this incident.

Figure 4. Driver's power window switch console (exemplar vehicle).

Figure 5. Rear door window switches on an exemplar Pontiac Vibe.

The rear door power window switches were mounted on the vertical surface at the forward third area of the rear door panels **(Figures 5 and 6)**. The rear door window switches were spring return toggle-type switches **(Figure 7)** that measured 25 mm (1") in width and 6 mm (0.25") in height. The switches rested in the neutral position and moved approximately 3 mm (0.125") in both the up and down directions for window operation. The switches required constant pressure to operate the windows. Once pressure is removed from the switch, it automatically returns to the neutral position and the window immediately stops. The switch was considered a light-duty switch that required minimal effort to operate the switch.

Figure 6. Left rear door panel and power window switch of an exemplar vehicle.

Figure 7. Close-up view of the exemplar left rear door power window switch.

The switches were mounted within a trim face plate that had outside dimensions of 5 cm (2 1/16") horizontally and 5 cm (2") vertically. The toggle switch was recessed approximately 2 mm (1/16") from the trim plate. The midpoint of the toggle switch was positioned 31 cm (12.375") below the top sill of the door panel, 18 cm (6.9") aft of the leading edge of the door panel, and 37 cm (14.375") above the left rear door sill. Additionally, the center point of the switch was located 3 cm (1.25") forward of the leading edge of the left rear seat cushion.

The left rear door window glass was AS-2 solid tempered with a thickness of 5 mm (3/16”). The dimensions of the glass in its closed position within the window frame measured 39 cm (15.5”) vertically at the leading edge, 61 cm (24”) horizontally across the top surface of the window frame, 31 cm (12.25”) vertically at the aft edge, and 68 cm (26.9”) horizontally along the top surface of the door panel. In its fully opened position, the back edge of the glass was fully concealed within the door and the leading edge protruded 8 cm (3.25”) above the top surface of the door resulting in a vertical opening of 31 cm (12.25”) across the full length of the glazing.

During the inspection of the exemplar vehicle, an SCI investigator was able to activate the power window switch with his right knee. The switch required constant pressure to raise the window. This is depicted in **Figure 8**.

Figure 8. SCI investigator activating power window switch with his right knee.

Power Window Closing Force Test

The closing force of the left rear power window of the Exemplar 2007 Pontiac Vibe was tested by the SCI team using an IMADA Digital Force Gauge that was calibrated to 311 N (70 lbs) of force on 11/6/2006. The gauge consisted of a plunger with a duck-bill cut on the bottom that was placed over the top surface of the glazing. The top of the gauge was positioned against the top of the door window frame. **Figure 9** is a view of the force gauge positioned in the window frame. The power window was raised using the driver’s door mounted window switch. With the gauge in position and no force applied to the unit, the digital read-out was zeroed out. The window was closed against the gauge using the driver’s door switch. The method was repeated several times. The procedure was also repeated using the left rear door window switch to close the glazing against the gauge. The gauge displaced readings of 282.5-286.5 N (63.6-64.4 lbs) of force **(Figure 10)**. The window stalled against the gauge at these readings and maintained the readings when pressure was released from the power window switch. It should be noted that these closure force measurements were taken with the engine off, on battery power only.

Figure 9. Force gauge positioned in the left rear window of the exemplar vehicle.

Figure 10. Highest reading exerted by the power window with battery power only.

A second series of closure force measurements were taken with the engine running. The peak closure force measured 356.8 N (80.3 lbs). Refer to **Figure 11**. The typical measured force after the closing window stalled against the force meter ranged from 335.0-343.4 N (75.4-77.3 lbs).

Figure 11. Peak closure force with the engine running.

Not Applicable ☐

Reset Values

Print Forms

U.S. Department of Transportation
National Highway Traffic Safety Administration

SCENE FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 0 7 0 1 0

IDENTIFICATION

2. Date of Crash 1 2 / X X / 0 6

3. Time of Crash 1 9 4 0

Code reported military time of crash.

NOTE: Midnight = 2400
Unknown = 9999

AMBIENT CONDITIONS

4. Light Conditions

- ○ Daylight
- ◉ Dark
- ○ Dark but lighted
- ○ Dawn
- ○ Dusk
- ○ Unknown

5. Atmospheric Conditions
(*Select all that apply)*

- ○ Clear-No adverse conditions
- ○ Cloudy
- ◉ Rain
- ○ Snow
- ○ Fog, Smog, Smoke
- ○ Sleet, Hail (freezing rain or drizzle)
- ○ Blowing Snow
- ○ Severe Crosswinds
- ○ Blowing Sand, Soil, Dirt
- ○ Other (specify): _____
- ○ Unknown

6. Temperature

- ○ Below 0 degrees Celsius (Below 32 F)
- ◉ 1-10 degrees Celsius (33-50 F)
- ○ >10-24 degrees Celsius (51-75 F)
- ○ Over 24 degrees Celsius (Over 75 F)
- ○ Unknown

SCENE INFORMATION

7. Type of area in which crash occurred
(*Select all that apply)*

- ○ Single family residential
- ○ Row houses/townhouses
- ○ Multi family housing
- ○ Commercial
- ○ Industrial
- ○ Rural
- ◉ Unknown

8. Driver exterior sightline obstructions
(*Select all that apply)*

- ◉ None
- ○ Other vehicles
- ○ Building
- ○ Trees
- ○ Shrubbery
- ○ Other (specify)_____
- ○ Utility poles
- ○ Signs
- ○ Glare
- ○ Unknown
- ○ No driver present

9. Crash location

- ○ Driveway
- ○ Parking Lot
- ○ Sidewalk
- ○ Alley
- ○ Intersection of driveway and sidewalk
- ◉ Road / street
- ○ Roadside / shoulder
- ○ Other (specify)_____
- ○ Unknown

10. Non motorist sightline obstructions
(*Select all that apply)*

- ◉ None
- ○ Other vehicles
- ○ Building
- ○ Trees
- ○ Shrubbery
- ○ Utility poles
- ○ Signs
- ○ Glare
- ○ Other (specify) _____
- ○ Unknown

11. Grade at parked position + / - 9 9 9 %

12. Estimated distance from parked position to impact

9 9 9 . 9 m

13. Estimated speed at impact 9 9 9 kmph

14. Grade at impact + / - 9 9 9 %

15. Estimated distance from impact to vehicle final rest

9 9 9 . 9 m

Unknown. = 999 Reference Items 11,12, 13, 14, 15

Not Applicable ☐

Reset Values

U.S. Department of Transportation
National Highway Traffic Safety Administration

VEHICLE FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number C A 0 7 0 1 0

VEHICLE IDENTIFICATION

2. VIN 5 Y 2 S L 6 5 8 0 7 Z X X X X X X

3. Model Year 2 0 0 7

4. Vehicle Make (specify): PONTIAC

5. Vehicle Model (specify): VIBE

GLAZING

Location	Presence (check)	Status (select)	Clarity (select)	Tint (check)	Glazing Obstructions (specify if present)
Windshield	☑	☑ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
LF	☑	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☑ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
RF	☑	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☑ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
2nd Left	☑	☐ Fixed / ☑ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
2nd Right	☑	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☑ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
3rd Left	☑	☑ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
3rd Right	☑	☑ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
Backlight	☑	☑ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☑ Unknown	☐	
Left Backlight	☐	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☐	
Right Backlight	☐	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☐	
Roof	☐	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☐	
Other (specify)	☐	☐ Fixed / ☐ Closed / ☐ Open / ☐ Partially Open / ☐ Unknown	☐ Clear / ☐ Hazy / ☐ Very Dirty / ☐ Unknown	☐	

TIRE DATA

6. Vehicle Manufacturer Recommended Tire Size UNKNOWN

7. LF Tire Size UNKNOWN

8. LR Tire Size UNKNOWN

9. RF Tire Size UNKNOWN

10. RR Tire Size UNKNOWN

Seats / Head Restraint Data

Seat Position	Seat Type (Select from below)	Head Restraint (Check if available)	Head Restraint Adjustment (select)	NOTES:
Front Left	1	☑	Full Down / Mid / Full Up	Head restraint adjustment was unknown
Front Middle		☐	Full Down / Mid / Full Up	
Front Right	1	☑	Full Down / Mid / Full Up	
2nd Left	3	☐	Full Down / Mid / Full Up	
2nd Middle	3	☐	Full Down / Mid / Full Up	
2nd Right	3	☐	Full Down / Mid / Full Up	
3rd Left		☐	Full Down / Mid / Full Up	
3rd Middle		☐	Full Down / Mid / Full Up	
3rd Right		☐	Full Down / Mid / Full Up	

Seat Type codes:

0 = No seat or seat folded down
1 = Bucket
2 = Bucket w/ folding back
3 = Bench
4 = Bench w/ separate back cushions
5 = Bench w/ folding back
6 = Split bench w/ separate back cushions
7 = Split bench w/ folding back
8 = Pedestal (i.e. column supported)
9 = Box mounted (i.e. van type)
10= Other seat type (specify)
99= Unknown seat type

VEHICLE MEASUREMENTS

Clearance Heights		Measurements (all from ground, and in centimeters	NOTES
Beltline		N/A	
Top of trunk/tailgate		N/A	
Bottom of bumper		N/A	
Trailer hitch (if applicable)		N/A	
Undercarriage			
	Sway bar	N/A	
	Axle	N/A	
	Differential	N/A	
	Other (specify): N/A	N/A	
Sensor Height (if equipped)		N/A	
Camera Height (if equipped)		N/A	

Not Applicable ☑

Reset Values

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National Highway Traffic Safety Administration

Back Up / Parking Aid Form

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 0 7 0 1 0

PARKING AID PRESENCE

2. Type of backing/parking aid present

- ○ OEM camera
- ○ OEM ultrasonic/radar sensor
- ○ OEM combination camera-ultrasonic/radar sensor
- ○ OEM Fresnel lens
- ○ OEM interior mirrors
- ○ Aftermarket camera
- ○ Aftermarket ultrasonic/radar sensor
- ○ Aftermarket combination camera-ultrasonic radar sensor
- ○ Aftermarket Fresnel lens
- ○ Aftermarket interior mirrors
- ○ Other (specify): _____

CAMERA INFORMATION

Specify field of view measurements on diagram

3. System make/model

_____

4. Video monitor type

- ○ None present
- ○ LCD (color)
- ○ CRT (black & white)
- ○ Unknown

5. Video display size _____ cm
(Diagonal)

6. Camera location

- ○ None present
- ○ Bumper
- ○ License plate
- ○ Tailgate/Hatch/Trunk
- ○ Other (specify): _____

7. Video image quality under scene lighting conditions

- ○ None present
- ○ Good
- ○ Average
- ○ Poor (specify): _____
- ○ Unknown

8. Was the camera functioning properly

- ○ None present
- ○ Yes
- ○ No, poor image quality due to glare
- ○ No, poor image quality due to atmospheric conditions
- ○ No, camera turned off
- ○ No, camera inoperable
- ○ Unknown

ULTRASONIC/RADAR SENSOR

Specify object detection range on diagram

9. System make/model

_____

10. Auditory warning illumination

- ○ No sensor present
- ○ Yes
- ○ No
- ○ Unknown

11. Number of sensors ____

12. Sensor locations
(Select all that apply)

- ○ No sensor present
- ○ Left bumper
- ○ Center bumper
- ○ Right bumper
- ○ License plate area
- ○ Tailgate/Hatch/Trunk

13. Was warning system functioning properly

- ○ No sensor present
- ○ Yes, system alerted driver
- ○ No, system did not alert driver
- ○ No, system turned off
- ○ No, system inoperable
- ○ Unknown

14. Did driver react to warning

- ○ No sensor present
- ○ Yes
- ○ No
- ○ Unknown

15. Did driver report common false warnings

- ○ No sensor present
- ○ Yes
- ○ No
- ○ Unknown

No Driver Present ☐

Reset Values

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DRIVER FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 0 7 0 1 0

DRIVER PROFILE

2. Driver's Age 5 2
   99 = Unknown

3. Driver's Sex
   - ○ Male
   - ◉ Female
   - ○ Unknown

4. Driver's Height 9 9 9 cm
   999 = Unknown

5. Driver's Weight 9 9 9 kg
   999 = Unknown

6. Driver eyewear worn
   (Select all that apply)
   - ○ None
   - ○ Eyeglasses
   - ○ Sunglasses
   - ○ Contacts
   - ◉ Unknown

7. Driver vision deficiency condition
   (Select all that apply)
   - ○ None
   - ○ Near sighted
   - ○ Far sighted
   - ○ Astigmatism
   - ○ Other (specify) _____
   - ◉ Unknown

8. Non motorist's relationship to driver
   - ○ No relationship
   - ○ Child
   - ◉ Grandchild
   - ○ Sibling
   - ○ Neighbor
   - ○ Friend
   - ○ Other (specify): _____
   - ○ Unknown

DRIVER ACTIONS

9. Driver approach to vehicle for entry
   - ○ From left front
   - ○ From left
   - ○ From left rear
   - ○ From right rear
   - ○ From right front
   - ○ Circled vehicle
   - ○ Return trip (backing into driveway/lot)
   - ○ Other (specify): _____
   - ◉ N/A
   - ○ Unknown

10. Driver entry interruption
    (Select all that apply)
    - ○ Direct trip from building to vehicle
    - ○ Loaded items into vehicle
    - ○ Spoke with family
    - ○ Spoke with neighbors
    - ○ Spoke with contacted nonmotorist
    - ○ Return trip (backing into driveway/lot)
    - ○ Other (specify): _____
    - ◉ N/A
    - ○ Unknown

11. Purpose of backing
    - ○ Leaving parking space in parking lot
    - ○ Backing onto roadway from driveway
    - ○ Entering parking space in parking lot
    - ○ Backing into driveway from roadway
    - ○ Other (specify): _____
    - ◉ N/A
    - ○ Unknown

12. Where was driver going
    Description:

    UNKNOWN

13. Driver in a hurry
    - ○ Yes
    - ○ No
    - ○ N/A
    - ◉ Unknown

14. How did driver check behind (rear area of vehicle) after vehicle entry
    (Select all that apply)
    - ○ Did not look
    - ○ Checked mirrors
    - ○ Turned right and looked back
    - ○ Turned left and looked back
    - ○ Viewed Camera
    - ○ Listened for auditory/visual warning from system
    - ○ Other (specify): _____
    - ◉ N/A
    - ○ Unknown

15. Estimated time between vehicle entry and start of backing
    - ○ 0-10 Seconds
    - ○ 11-30 Seconds
    - ○ 31-60 Seconds
    - ○ Over 60 Seconds
    - ◉ N/A
    - ○ Unknown

16. What direction was the driver looking during backing maneuver
(Select all that apply)

- ○ Straight ahead
- ○ Right
- ○ Left
- ○ Rearward
- ○ At object inside the car
- ○ At mirrors
- ○ Other (specify): _____
- ◉ N/A
- ○ Unknown

17. Was the driver distracted during back up maneuver
(Select all that apply)

- ○ No non-driving activities

External

- ○ Looking at other vehicles
- ○ Looking at other non motorist
- ○ Looking at intended turn destination
- ○ External focus, not specified
- ○ Other external focus (specify): _____

Internal

- ○ Looking at other occupant
- ○ Talking to passenger
- ○ Dialing phone
- ○ Talking on phone
- ○ Listening to radio/cd/portable playback device
- ○ Adjusting radio/cd player
- ○ Adjusting climate controls
- ○ Using a device/controls integral to vehicle (specify): _____
- ○ Reading/adjusting navigation system
- ○ Eating or drinking
- ○ Smoking related
- ○ Retrieving fallen object (specify): _____
- ○ Internal focus, not specified
- ○ Focused on other internal object (specify): _____
- ◉ N/A
- ○ Unknown

18. Driver avoidance actions prior to impact
(Select all that apply)

- ○ None
- ○ Braking
- ○ Steering left
- ○ Steering right
- ○ Accelerating
- ○ Other (specify): _____
- ◉ N/A
- ○ Unknown

19. Did driver see struck non motorist prior to impact
(Select all that apply)

- ○ No, never saw non motorist
- ○ Saw non motorist prior to entering vehicle
- ○ Saw non motorist after entering vehicle
- ○ Other (specify): _____
- ◉ N/A
- ○ Unknown

20. Est time between start of backing and impact

- ○ <2 or = 1 second
- ○ 2-5 seconds
- ○ 6-10 seconds
- ○ > 10 seconds
- ◉ N/A
- ○ Unknown

21. Driver interior sightline obstructions
(Select all that apply)

- ○ Pillar
- ○ Headrest
- ○ Cargo
- ○ Other occupant
- ○ Other (specify) _____
- ◉ Unknown
- ○ None

22. Recent experience driving this vehicle

- ○ More than 10 times the last three months
- ○ 6-10 times the last three months
- ○ 2-5 times the last three months
- ○ Less than 2 times the last three months
- ○ First time driving this vehicle
- ○ N/A
- ○ Unknown

23. Frequency of driving in this parking lot/driveway

- ○ Daily
- ○ Weekly
- ○ Several times a month
- ○ Monthly
- ○ Rarely
- ○ First time in lot/driveway
- ◉ N/A
- ○ Unknown

24. Driver Impairment
(Select all that apply)

- ○ No drugs or alcohol present
- ○ Alcohol present (specify BAC): _____
- ○ Drugs present (specify):_____
- ◉ Unknown

25. Source of alcohol/drug results

- ○ Police reported
- ○ Medical record
- ○ Other (specify)_____
- ○ Not Tested
- ◉ Unknown if tested

Not Applicable ☐

U.S. Department of Transportation
National Highway Traffic Safety Administration

Non Motorist Form

Reset Values

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number
C A 0 7 0 1 0

NON-MOTORIST PROFILE

2. Non-motorist's Age 0 3 ○ Months ◉ Years
99 = Unknown

3. Non-motorist's Sex
○ Male
◉ Female
○ Unknown

4. Non-motorist's Height 9 9 9 cm
999 = Unknown

5. Non-motorist's Weight 9 9 9 kg
999 = Unknown

6. Medical outcome
○ Not injured
○ ER only
○ Hospitalized 1-4 days
○ Hospitalized 5 days or more
○ Treatment later
◉ Fatal
○ Unknown

7. Source of most severe injury
○ Bumper
○ Tire
○ Undercarriage
◉ Other Specify: LR Power window
○ Ground
○ N/A
○ Unknown

8. Non-motorist impairment
(Select all that apply)
○ No drugs or alcohol present
○ Positive for alcohol (specify BAC): _____
○ Positive for drugs (specify): _____
◉ Unknown

9. Source of alcohol/drug results
○ Police reported
○ Medical Report
○ Other (specify) _____
○ Not Tested
◉ Unknown if tested

NON-MOTORIST ACTIONS

10. Non-motorist attitude
○ Standing
○ Bending at waist
○ Sitting
○ Crouching
○ Kneeling
○ On skates/skateboard
○ On bike/scooter
○ Other (specify)_____
◉ Unknown

11. Non-motorist motion
○ Not moving
○ Walking slowly
○ Walking rapidly
○ Running or jogging
○ Skipping/Hopping/Jumping
○ Falling/Stumbling/Rising
○ On skates/skateboard
○ On bike/scooter
○ Other (specify): _____
◉ Unknown

12. Non-motorist approach relative to rear of vehicle
○ Stationary
○ From left
○ From right
○ From behind
○ Other (specify): _____
◉ Unknown

13. Non-motorist first avoidance action
○ No avoidance actions
○ Stopped
○ Accelerated pace
○ Ran away (along vehicle path)
○ Jumped
○ Turned away from vehicle
○ Turned toward vehicle and braced
○ Dove or fell away from vehicle
○ Other (specify): _____
◉ Unknown

14. Non-motorist primary focus of attention
○ Striking vehicle
○ Play object
○ Person
○ Surrounding traffic
○ Animal
○ Handheld electronic (phone, MP3 player, etc.)
○ Other Object (specify) _____
◉ Unknown

15. Were any other Non-motorists present?
(*Select all that apply)*
◉ Alone
○ One adult present
○ One other child present
○ Multiple adults present
○ Multiple children present
○ Unknown

NON MOTORIST CLOTHING

NOTES:

- Specify Color, Fabric and Texture/Weight for outermost layer only
- Indicate "*NONE*" if applicable
- Available codes:

Colors		***Fabrics***	***Textures***	***Weights***
Black	Charcoal gray	Natural	Soft	Heavy
Lt gray/silver	Brown	Synthetic	Slick	Medium
Gold/tan	Purple	Blend	Coarse	Light
Dark blue	Light blue			
Dark green	Light green			
Maroon	Red			
Orange	Yellow			
White	Other (specify)			

	Clothing	Color	Fabric	Texture	Weight
HEADWEAR	Hat				
	Helmet				
	Hood				
	Other (specify): _____				
		UNKNOWN			
UPPER BODY	Short Sleeve				
	Long Sleeve				
	Light Jacket				
	Heavy Jacket				
	Other (Specify): _____				
		UNKNOWN			
LOWER BODY	Shorts				
	Pants				
	Shoes				
	Other (specify): _____				
		UNKNOWN			