CRASH DATA RESEARCH CENTER

Calspan Corporation
Buffalo, NY 14225

NOT-IN-TRAFFIC SURVEILLANCE
CALSPAN ON-SITE BACKOVER FATALITY INVESTIGATION

SCI CASE NO.: CA07-014

VEHICLE: 2007 CHRYSLER 300C

LOCATION: NEW YORK

CRASH DATE: APRIL 2007

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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NOT-IN-TRAFFIC SURVEILLANCE
CALSPAN ON-SITE BACKOVER FATALITY INVESTIGATION
SCI CASE NO.: CA07-014
VEHICLE: 2007 CHRYSLER 300C
LOCATION: NEW YORK
CRASH DATE: APRIL 2007

BACKGROUND

This on-site crash investigation focused on the dynamics of the crash and the rear visibility issues that resulted in the death of a 18-month old female toddler who was struck and subsequently run over by the left side tires of a 2007 Chrysler 300C **(Figure 1)**. The backover crash occurred in a private driveway to the driver's residence. The 23-year old female driver was the mother of the struck toddler.

Figure 1. Involved 2007 Chrysler 300C.

The crash was identified by the Calspan Special Crash Investigations (SCI) team on the day of its occurrence through an Internet search of local media for potential crashes of interest to the SCI program. The crash was local to Calspan, therefore immediate contact was made with the investigating officer and the vehicle and scene were scheduled for inspection on the day following the crash. The Chrysler 300 was impounded by police and secured for this investigation. The standard New York State Police Accident Report was completed by the investigating agency and this crash was reported to the state as a fatal crash.

SUMMARY

Crash Site

This crash occurred in a private residential driveway during daylight hours under clear skies with an ambient temperature of approximately 13 degrees C (55 degrees F). The involved Chrysler 300C sedan was parked in a one-car detached garage that was located at the end of a concrete driveway. The garage was 4.4 m (14.5') in width with a 2.4 m (8') wide overhead door that was located 0.4 m (1.3') from the right side of the garage and 1.6 m (5.2') from the left side. An 81 cm (32") wide entry-door was located on the front of the garage, left (east) of the overhead door. The house was located 3.1 m (10.2') north of the garage and extended 10.8 m (35.4') to the north toward the street. A side door to the single family residence was located adjacent to the driveway and a single concrete pad, resulting in two risers, provided access from the floor level of the house to the driveway.

A level concrete driveway was located adjacent to the west side of the house and was straight from the street to a point located 1 m (3') south of the concrete step. At this point the driveway angled four degrees to the east on approach to the garage. The driveway was 3.7 m (12.1') in width for the full length of 25.3 m (83'). The concrete driveway was segmented with numerous scour lines for expansion and several cracks that provided an

uneven surface. A garden hose was lying on the driveway in the path of the backing vehicle. **Figures 2 and 3** are of the driveway and the backing trajectory of the vehicle.

Figure 2. Backing trajectory of the Chrysler 300C.

Figure 3. Lookback view of the vehicle's trajectory.

Vehicle Data

The involved vehicle in this crash was a 2007 Chrysler 300C, 4-door sedan. The vehicle was newly acquired by the 23-year old driver as the odometer reading at the time of the crash was 468 km (291 miles). The vehicle was manufactured on November 2006 and was identified by Vehicle Identification Number (VIN): 2C3KA63H37H (production number deleted). The Chrysler was equipped with a 5.7 liter V8-Hemi engine linked to a five-speed auto-stick automatic transmission with a console mounted transmission selector lever and rear-wheel drive. The service brakes were four-wheel disc with anti-lock.

The Chrysler 300 was equipped with OEM multi-spoke alloy wheels and P225/60R18 Continental ContiTouring Contact all-season radial tires. The OEM tire diameters were 71 cm (28") and the tread width was 21.5 cm (8.5"). The tires were new with 8 mm (10/32") of tread depth.

The exterior of the vehicle was finished in a red color with matching bumper fascias. The window glazing was AS1 for the windshield and AS2 for the side and backlight glass with OEM solar tint. An aftermarket mirror tint film was applied to the rear door and backlight glazing **(Figures 4 and 5)**. This film prevented viewing through the glass from the exterior, but provided a deep tint view from the interior of the vehicle.

Figure 4. Left side view of the 300C and the aftermarket window tint.

Figure 5. Rear three-quarter view of the 300C.

Additional aftermarket features on the 300C included an incomplete speaker and amplifier system that was installed in the trunk of the vehicle. The speaker system occupied approximately 50 percent of the usable trunk space. The OEM wiper washer nozzles were replaced with chrome units that had mini LED lights in the leading edge that illuminated when the head lamp switch was turned to the on-position. The interior lights that illuminated the front floor of the vehicle were modified to include a changing color scheme.

The vertical measurements from the ground to the major rear components of the vehicle **(Figures 6 and 7)** were documented and are listed in the following table:

Component	Vertical Measurement
Bottom of rear bumper fascia	38 cm (15”)
Top of rear bumper fascia	70 cm (27.5”)
Top of trunk deck	109 cm (43”)
Height of backlight glass	113 cm (44.4”)
Height of backlight glass above high-mounted brake light	117 cm (46”)
Belt line glass at midpoint of left rear door	108 cm (42.5”)
Bottom of left exhaust tailpipe	28 cm (11”)
Lowest point of left muffler	27 cm (10.5”)
Lowest point of left rear control arm	18 cm (7.25”)
Sill height at C-pillar	17 cm (6.75”)
Sill height at A-pillar	15 cm (5.9”)

Figure 6. Rear view of the undercarriage components.

Figure 7. Left rear muffler and suspension components.

Driver Data

The driver of the 2007 Chrysler 300C was a 23-year old female with a police reported height of 163 cm (64") and a weight of 50-54 kg (110-120 lb). She was the mother of the pedestrian/non-motorist. The driver was dressed in denim blue jeans, a short sleeve top and athletic shoes. She was not wearing prescription eyeglasses or sunglasses at the arrival of the investigating officer. The driver was not available to be interviewed regarding this crash.

Pedestrian/Non-Motorist

The 18-month old female pedestrian/non-motorist was the daughter of the driver. She was police reported as 61 cm (24") in height with a weight of approximately 11 kg (24 lbs). The child was dressed in a white one-piece cotton top/bottom and heavy weight cotton black sweat pants. No shoes were present; the child was barefoot. The investigating police officer indicated an autopsy of the child identified the cause of death as a severe liver laceration. The child did not sustain a head injury and no external soft tissue injuries were identified.

Injury	***Injury Severity (AIS 98 update)***	***Injury Source***
Liver laceration, NFS	Moderate (541820.2,1)	Left rear tire

Note: the source of this injury was the investigating police officer. The injury code was defaulted to the Not Further Specified code due to the lack of medical records.

Crash Sequence

Pre-Crash

The Chrysler 300C was parked in the detached garage of the driver's residence. The 23-year old female driver was planning on departing her residence during the morning hours. She exited her residence and opened the overhead garage door to back the vehicle from the garage onto the driveway prior to placing her child in her child safety seat (CSS). The driver stated that is was difficult to place the child in the CSS in the garage due to the close quarters of the narrow garage. The driver further stated that she left her 18-month

old daughter alone in the residence while she backed the vehicle from the garage. All windows in the vehicle were closed and the CD player was on set to a low volume.

Crash

As the driver began to back from the garage, the 18-month old toddler apparently exited the residence and negotiated two steps from the door to the level of the driveway. The driver was unaware of the child's presence and continued backing, striking the toddler with the back left area of the bumper and knocking the child to the concrete driveway surface. This event was not detected by the driver as she continued her backing maneuver. Subtle wipe marks (i.e. road film removed) were noted to the lower aspect of the bumper fascia aft of the rear tire from probable contact by the child. The left rear tire of the vehicle ran over the child and rolled the toddler. Additional wipe marks were present of the left sill of the vehicle between the axles. As the vehicle continued to back, the left front tire ran over the child. Again, the driver was unaware of these events. She continued to back approximately 10 m (33'), stopped the vehicle, placed it in park and exited the 300C. At this point, the driver observed the child lying on the driveway in front of the Chrysler. The Chrysler was parked at final rest approximately 16 m (52') from the garage. There were no witnesses to this backover event. The crash schematic is attached as **Figure 13** on this report.

Post-Crash

She immediately picked up the toddler and ran into the house where she observed a color change in the child's appearance. The driver ran frantically out to the house carrying the toddler and yelled for help. She placed the child on the lawn area and called the 9-1-1 system for emergency assistance. Police, fire, and ambulance personnel arrived on scene as the driver initiated CPR activities on the child. The child was transported by ground ambulance to a pediatric hospital where she expired approximately four-hours following the crash. An autopsy was performed and identified the cause of death as a severe liver laceration. The child did not sustain head injuries or open wounds.

Vehicle Contact Evidence

At the time of the SCI inspection, the vehicle was wet from rain as it had been parked outdoors overnight. The rainwater was beaded on the clean finish of the vehicle. The Chrysler was towed on a flatbed truck from the crash site to the impound facility without altering the controls of the vehicle.

The investigating officer pointed out several wipe marks on the vehicle that he observed the day of the crash. These were located on the left side surface of the rear bumper fascia and the left sill. Additional marks were also observed on the rear bumper fascia and documented by the SCI investigators.

A horizontally oriented scuff mark that consisted of two parallel semi-circular scuffs was present of the rear left bumper fascia. The scuff mark was located 45-62.9 cm (17.6-24.75") left of center and was 43-47 cm (17.1-18.4") above ground level. This mark could be rubbed from the painted finish; however, it appeared to be too pronounced to be related to contact with the child non-motorist.

A circular wipe mark was noted to the left side surface of the bumper fascia. This wipe mark was observed by the investigating officer on the day of the crash. The mark was 6 cm (2.5”) in height and 9 cm (3.5”) in width, centered 62 cm (24.5”) aft of the left rear axle and 47 cm (18.5”) above the ground. Two additional wipe marks were located on the bottom surface of the bumper fascia, below the circular wipe mark **(Figure 8)**. The most rearward mark was 7x5 cm (3x2”) in size and centered 87 cm (34.25”) rearward of the reference axle and 32 cm (12.75”) above the ground. Located forward of this wipe mark was a wipe mark that began 74 cm (29.25”) aft of the left rear axle extending 29 cm (11.5”) forward to the forward edge of the bumper fascia. The rear edge of the mark was 30 cm (12”) above the pavement while the forward edge was 26 cm (10.4”) above the pavement.

Figure 8. Contact evidence (wipe marks) to the left side surface of the rear bumper fascia.

Figure 9. Left lower sill wipe marks.

The child was run over by the left rear tire; however, there was no contact evidence on the tire. The investigating officer observed a small wipe mark on the alloy wheel on the day of the incident that he believed to be related to contact with the non-motorist.

As the Chrysler 300C continued to back, the toddler non-motorist was apparently rolled over by the tire/vehicle contact. Apparent hand/finger wipe marks were present on the bottom of the sill along the left wheelbase. These led to a continuous wipe mark that terminated at the forward edge of the sill **(Figure 9)** immediately prior to the left front wheel opening. The sill wipe marks began 121 cm (47.5”) forward of the left rear axle and extended 140 cm (55.25”) forward. The child was subsequently run over by the left front tire. No contact evidence was present on the tire or alloy wheel. There was no additional contact evidence on the undercarriage components located forward of the front axle.

Rear Visibility

2007 Chrysler 300C

The rear visibility of the Chrysler 300C was measured in the level parking lot at the vehicle’s impounding location. A 71 cm (28 in) tall red reflective target was placed on the vehicle’s centerline and moved rearward to a location where a substitute driver could first see the red target by looking over his right shoulder through the backlight. The

subject driver's eye height was estimated at 122 cm (48") above ground level based on her reported height and the adjusted levels of the rear view mirrors. The rear visibility was measured along the centerline of the vehicle through the center of the backlight. The location of the vehicle's pillars and height of the adjustable head restraints did not effect this measurement. The centerline visibility distance was measured from the rear bumper to the location of the target. The centerline visibility distance to ground level was estimated by projecting that sight line to the ground intercept. The visibility distance is summarized below and depicted in a diagram attached to the end of this report (**Figure 12**):

- Sight distance to 71 cm (28 in) target: 10.6 m (34.7 ft)
- Sight distance to ground level target: 24.5 m (80.4 ft)

Cones of visibility were also established using the outside mirrors. A 4.6 m (15 ft) distance from the rear bumper was used as an arbitrary reference location. The substitute driver was asked to locate the 71 cm (28 in) target using the outside mirrors. The target location was then measured to the side plane of the vehicle. The cone for the left mirror began along the left side plane and extended 0.8 m (2.75 ft) left. The cone for the right mirror began along the right side plane and extended 2.6 m (8.5 ft) right. The visibilities through the rear view mirrors are depicted in **Figures 10 and 11**. These visibility measurements are depicted graphically in **Figure 12** at the end of this report.

Figure 10. Visible red target in rear view mirror.

Figure 11. Visible red target in left outside rear view mirror.

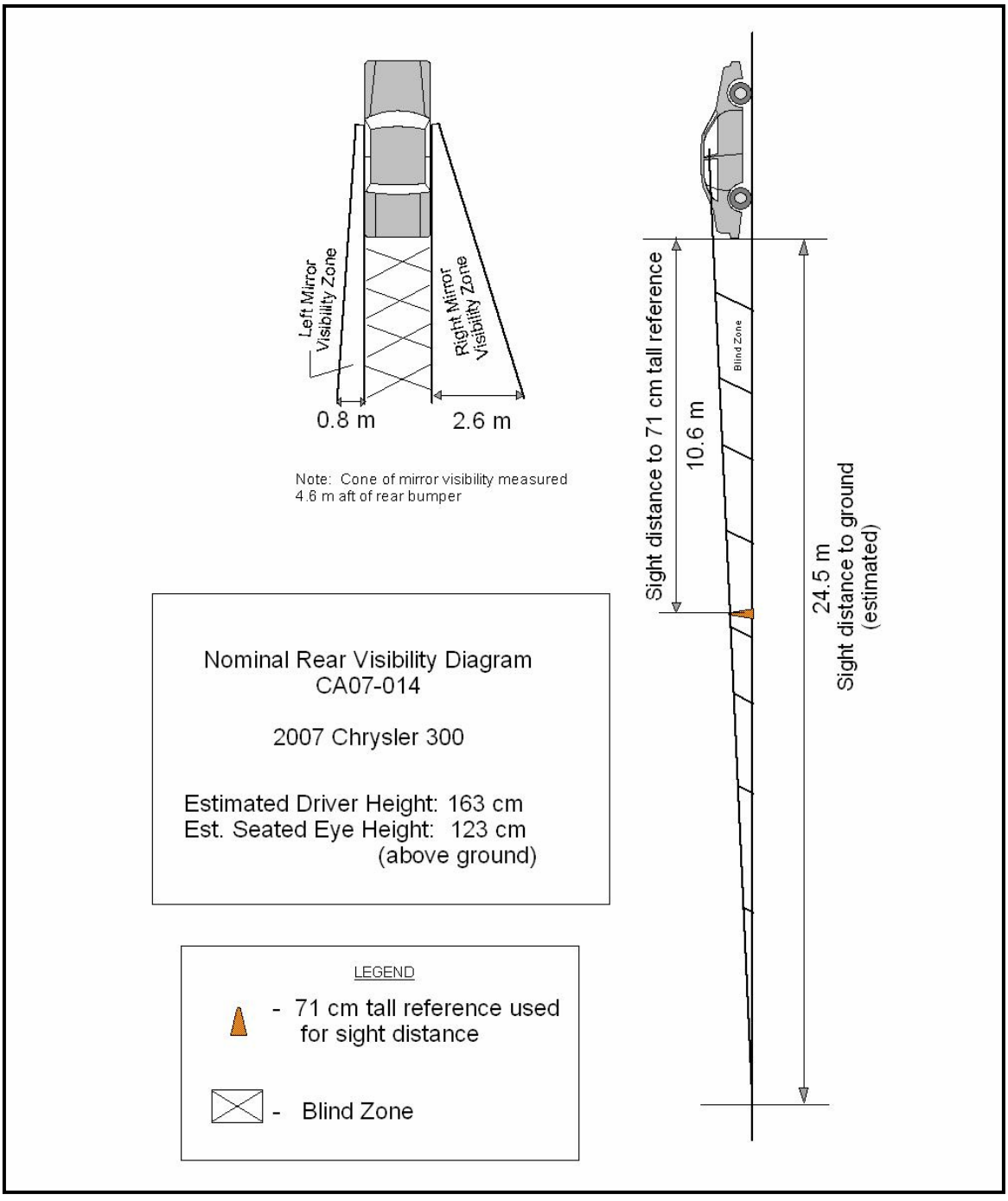

Figure 12: Nominal Rear Visibility Diagram.

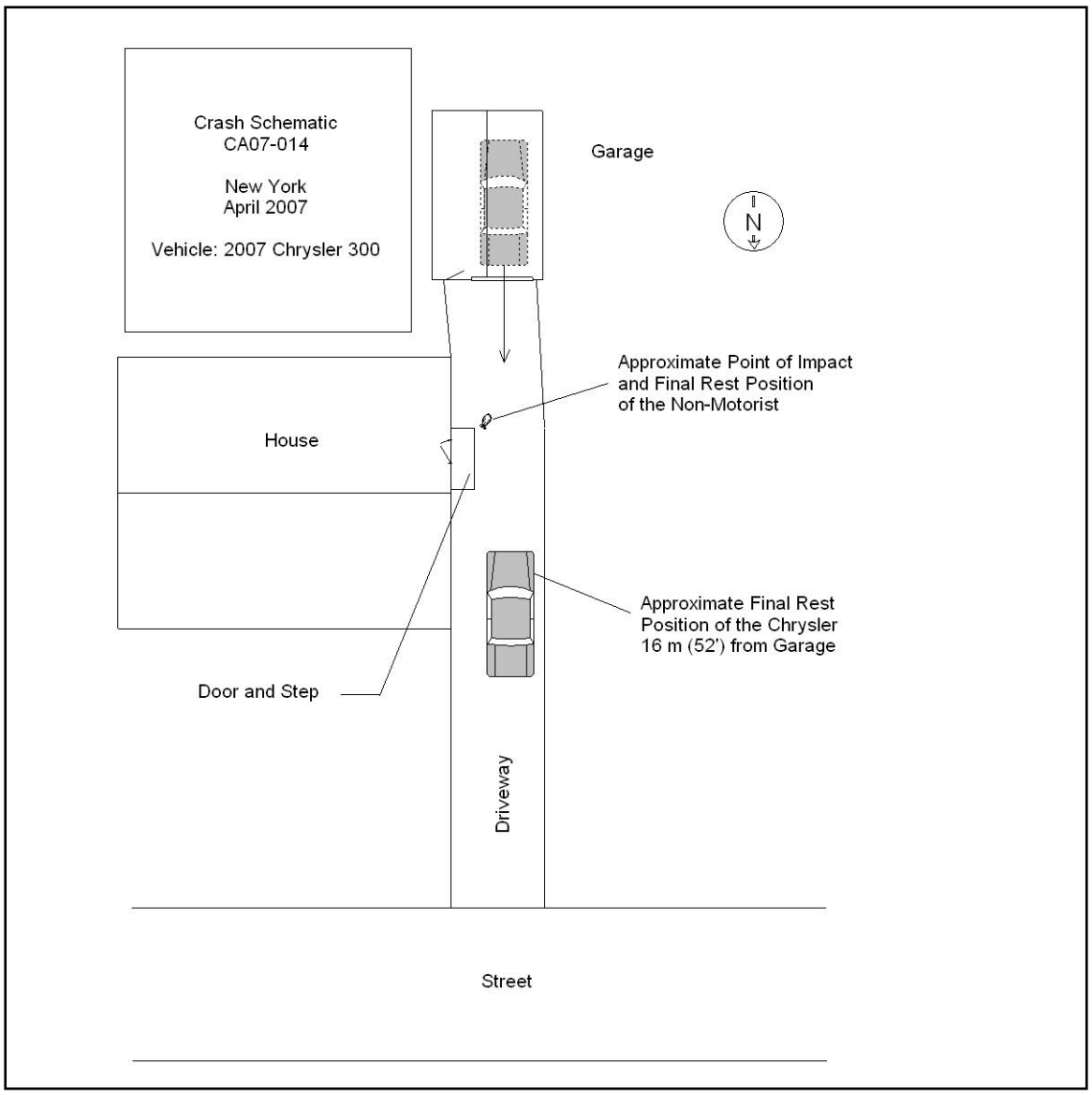

Figure 13: Crash Schematic.

ATTACHMENT A

Not-In-Traffic Surveillance Forms

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 4

IDENTIFICATION

2. Date of Crash 0 4 / X X / 0 7

3. Time of Crash 1 0 5 8

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 (+ / -) 0 0 0 %

12. Estimated distance from parked position to impact

0 0 6 . 0 m

13. Estimated speed at impact 0 0 2 kmph

14. Grade at impact (+ / -) 0 0 0 %

15. Estimated distance from impact to vehicle final rest

0 1 0 . 0 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 4

VEHICLE IDENTIFICATION

2. VIN 2 C 3 K A 6 3 H 3 7 H X X X X X X

3. Model Year 2 0 0 7

4. Vehicle Make (specify): CHRYSLER

5. Vehicle Model (specify): 300 C

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 P225/60R18

7. LF Tire Size P225/60R18

8. LR Tire Size P225/60R18

9. RF Tire Size P225/60R18

10. RR Tire Size P225/60R18

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	
Front Middle		☐	☐ ☐ ☐ Full Down / Mid / Full Up	
Front Right	1	☑	☐ ☐ ☑ Full Down / Mid / Full Up	
2nd Left	7	☑	☑ ☐ ☐ Full Down / Mid / Full Up	
2nd Middle	7	☐	☐ ☐ ☐ Full Down / Mid / Full Up	
2nd Right	7	☑	☑ ☐ ☐ 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		108	Height of the backlight glass: 113 cm
Top of trunk/tailgate		109	
Bottom of bumper		38	Lower point left rear control arm: 18 cm
Trailer hitch (if applicable)		N/A	
Undercarriage			Sill height at C-pillar: 17 cm
	Sway bar	N/A	
	Axle	N/A	Sillheight at A-pillar: 15 cm
	Differential	N/A	
	Other (specify): Muffler	27	
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 4

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

Not Applicable ☐

Reset Values

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National Highway Traffic Safety Administration

DRIVER FORM

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 0 7 0 1 4

DRIVER PROFILE

2. Driver's Age 2 3
   99 = Unknown

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

4. Driver's Height 1 6 3 cm
   999 = Unknown

5. Driver's Weight 0 5 2 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): Exiting garage
    - ○ N/A
    - ○ Unknown

12. Where was driver going
    Description:

    The store

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 4

NON-MOTORIST PROFILE

2. Non-motorist's Age — 1 8 ◉ Months ○ Years
99 = Unknown

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

4. Non-motorist's Height — 0 6 1 cm
999 = Unknown

5. Non-motorist's Weight — 0 1 1 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:_____
- ○ 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): From left rear
- ○ 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): _____				
UPPER BODY	Short Sleeve	White	Natural	Soft	Light
	Long Sleeve				
	Light Jacket				
	Heavy Jacket				
	Other (Specify): _____				
LOWER BODY	Shorts				
	Pants	Black	Natural	Soft	Heavy
	Shoes				
	Other (specify): _____				