CRASH DATA RESEARCH CENTER

Calspan Corporation
Buffalo, NY 14225

NOT-IN-TRAFFIC SURVEILLANCE

CALSPAN REMOTE BACK OVER INVESTIGATION

SCI CASE NO.: CA07-024

VEHICLE: 2001 JEEP CHEROKEE

LOCATION: NORTH CAROLINA

CRASH DATE: JUNE 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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16. Abstract This remote investigation focused on the site distances and the circumstances of a back over incident that involved a 2001 Jeep Cherokee and a 54-year-old short statured female non-motorist. The Jeep was parked in a commercial parking lot facing in an easterly direction. The driver began a backing maneuver to exit the parking space while the 54-year-old non-motorist approached the vehicle from the left rear. The driver noted that the interior mounted spare tire blocked his view of the non-motorist. The spare tire was mounted vertically to the left side wall in the cargo area of the Jeep Cherokee. There were no other visual obstructions on this vehicle. The non-motorist was struck and knocked down by the rear left aspect of the Jeep. The female non-motorist sustained a fractured toe and a knee abrasion as result of this back over incident. She refused medical attention at the scene; however, she sought treatment at a later time.			
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BACKGROUND

This remote investigation focused on the site distances and the circumstances of a back over incident that involved a 2001 Jeep Cherokee and a 54-year-old short statured female non-motorist. **Figure 1** is a depiction of an exemplar 2001 Jeep Cherokee for reference purposes. The Jeep was parked in a commercial parking lot facing in an easterly direction. The driver began a backing maneuver to exit the parking space while the 54-year-old non-motorist approached the vehicle from the left rear. The driver noted that the interior mounted spare tire blocked his view of the non-motorist. The spare tire was mounted vertically to the left side wall in the cargo area of the Jeep Cherokee. There were no other visual obstructions on this vehicle. The non-motorist was struck and knocked down by the rear left aspect of the Jeep. The female non-motorist sustained a fractured toe and a knee abrasion as result of this back over incident. She refused medical attention at the scene; however, she sought treatment at a later time.

Figure 1. Exemplar 2001 Jeep Cherokee.

This incident was identified by the Calspan Special Crash Investigations (SCI) team through the review of Police Accident Reports (PAR) submitted to the Not-In-Traffic Surveillance program. Due to the back over dynamics, the PAR was forwarded to the Crash Investigation Division (CID) of the National Highway Traffic Safety Administration (NHTSA) and was initially assigned as an on-site investigation on July 18, 2007. The 23-year-old male driver of the Jeep consented to a telephone interview with the Calspan SCI team; however, his attorney refused an inspection of the vehicle during an on-site investigation of another crash. The scene for this back over incident was inspected and documented. An exemplar vehicle was used to determine the visibility and site distances for this case. As a result of the attorney refusal, this incident was downgraded to a remote level investigation. This incident was reported by the police agency using the standard North Carolina Accident Report which is stored at the investigating police agency and was reported to the state.

SUMMARY

Incident Site

This incident occurred during the daylight hours of June 2007 in a commercial parking lot of a post office. The weather at the time was clear with no adverse conditions and the temperature was report as 30 degrees C (87 degrees F). A 7 meter (22.3 feet) wide

service road began at the roadway and circled the parking area. The parking lot was configured with numerous diagonally oriented parking spaces. The parking spaces measured 3 meters (9.8 feet) wide and 9.6 meters (31.5 feet) in length. A raised curbed median that contained crushed stone and landscaping was located in the center of this parking lot. The Scene Schematic is included at the end of this report as **Figure 7**.

Vehicle Data

The subject vehicle in this incident was a 2001 Jeep Cherokee 4x2 four door sport utility vehicle. The mileage at the time of the incident was unknown. The vehicle was identified by Vehicle Identification Number (VIN): 1J4FT58S51L (production number deleted). The Jeep was equipped with a 4.0 liter, six cylinder engine, and rear-wheel drive.

Although an inspection of the Jeep was refused by the driver's attorney, an exterior observation was conducted by the SCI investigator. Based on this observation, the exterior of the vehicle was finished in a gray color with matching bumper fascias. The window glazing was AS1 for the windshield and AS2 for the sides and backlight. No aftermarket tint film was present on the glazing. At the time of the SCI observation, the glazing was clear. Two stickers were affixed to the lower corners of the backlight. These stickers did not appear to affect the driver's rear visibility. An aftermarket roof rack was present on the Jeep. No additional aftermarket modifications to the exterior of the Jeep were observed.

Based on an exemplar vehicle, the base of the backlight began 109 cm (43") from the ground and extended vertically 46 cm (18"). The spare tire was mounted in the interior cargo area at the left rear aspect and extended from the cargo floor to the mid-level of the rear glazing. The driver reported this to be an obstruction when looking through the left side of the backlight. Based on the examination of exemplar vehicles, multiple spare tire mounting configurations and tire sizes were observed in these vehicles. Therefore, the height of the spare tire in the subject vehicle could not be determined.

The ground clearance of the major rear components of the exemplar vehicle **(Figures 2 and 3)** were documented and listed in the following table:

Component	Vertical Measurement
Bottom of rear bumper fascia	48 cm (19")
Top of rear bumper fascia	61 cm (24")
Base of backlight	109 cm (43")
Top of backlight	150 cm (59")
Lowest point of tail pipe	31 cm (12.25")
Exhaust heat shield	30 cm (11.75")
Gas tank	28 cm (11")
Differential	19 cm (7.5")
Axle tube	28 cm (11")

Component	Vertical Measurement
Left shock mount	22 cm (8.75”)
Right shock mount	21 cm (8.25”)

Figure 2. Overall view of the undercarriage components.

Figure 3. Overall view of the gas tank height.

Driver Data

The driver of the Jeep was a 23-year old male with a stated height and weight of 178 cm (70”) and 83 kg (183 lbs). The driver was not wearing prescription eyeglasses or sunglasses at the time of the crash.

Non-Motorist

The non-motorist was a 54-year-old female. Her demographics were estimated by the driver of the Jeep at 158 cm (62”) and 59 kg (130 lbs). The attire of the motorist was described by the driver as a white cotton short sleeve shirt with light colored khakis cotton slacks. Her foot wear was not known and she was not wearing a hat. The police reported injuries are listed in the following table:

Injury	Injury Severity AIS90/Update 98	Injury Source
Fractured toe, NFS	Minor (853602.1,9)	Ground
Knee abrasion, NFS	Minor (890202.1,9)	Ground

Incident Sequence

Pre-Incident

The driver entered the parking lot from the east entrance and turned right to proceed in a northerly direction. He traveled around the cured median and entered the third diagonally oriented parking space from the left **(Figure 4)** and parked the Jeep facing in an easterly direction. The driver exited the vehicle to conduct errands. He was familiar with area as he drove to this location on a daily basis.

The driver returned to the vehicle, approaching it from the left rear aspect. He entered the Jeep and prior to initiating the backing maneuver, he looked over his left shoulder and out of the backlight and then returned to a forward facing position and checked his rear view mirrors. He estimated the time at between 11 and 20 seconds from entry to the start of the backing maneuver.

Figure 4. Police documented parking space of the Jeep.

The non-motorist exited a parked vehicle that was located immediately left of the Jeep. She proceeded to exit her vehicle and began walking towards the left rear area of the Jeep. As she reached the left rear area, she stopped and waited for the driver of her vehicle to catch-up to her. The driver of the Jeep placed the vehicle in reverse and looked to his left and checked his left outside rear-view mirror for non-motorists and other vehicles. At this point, the driver of the Jeep initiated a straight backing trajectory to exit the parking space.

Note: The scene and photographic documentation took place several weeks following this incident; therefore the vehicles depicted in these images are unrelated to this event. The investigating officer noted on his report the specific parked position of the Jeep Cherokee at the time of this event.

Incident

As he began to back-up, the back left corner area struck the stationary female non-motorist and knocked her to the ground **(Figure 5)**. The driver estimated the time from the start of the backing maneuver to impact was approximately two seconds. The driver observed the non-motorist fall to the ground and immediately stopped the vehicle without running over her. He exited the Cherokee to check on the status of the female non-motorist.

Figure 5. Area of contact with the non-motorist.

The driver noted that the interior mounted spare tire blocked his view of the non-motorist. The spare tire was mounted vertically to the left side wall in the cargo area of the Jeep Cherokee. There were no other visual obstructions on this vehicle.

Post-Incident

The non-motorist sustained abrasions to her knee and a fractured toe from her fall; however, she refused treatment at the scene. She sought medical treatment at a later time. Both parties departed the location of the incident post-crash.

Vehicle Contact Evidence

The driver's attorney refused an inspection of the Jeep. It could not be determined if contact evidence was present on the vehicle.

Rear Visibility

Exemplar Jeep Cherokee

The rear visibility of an exemplar Jeep Cherokee was measured on a level parking lot. Based on the driver's demographics, a substitute driver of similar stature was used to complete the rear visibility study. The substitute driver was positioned in an exemplar vehicle to simulate the approximate eye height of the subject driver. The measured eye height of this substitute driver was 137 cm (54") above the ground.

A 71 cm (28 in) tall red reflective target was placed on the vehicle's centerline and moved rearward to a location where the substitute driver could fully see the red target by looking at the rearview mirror. The centerline visibility distance was measured from the rear bumper to the location of the target and to the visible ground location. The visibility distance is summarized below and depicted in a diagram attached as (**Figure 6**):

- Sight distance to 71 cm (28 in) target: 3.4 m (11.1 ft)
- Sight distance to ground level target: 8 m (26.2 ft)

Cones of visibility were also established using the outside mirrors. A 6 m (20 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 from the centerline of the vehicle. The cone for the left mirror began inboard of the vehicle centerline and extended 2.6 m (8.5 ft) left. The cone for the right mirror began inboard of the vehicle centerline and extended 3.8 m (12.5 ft) right.

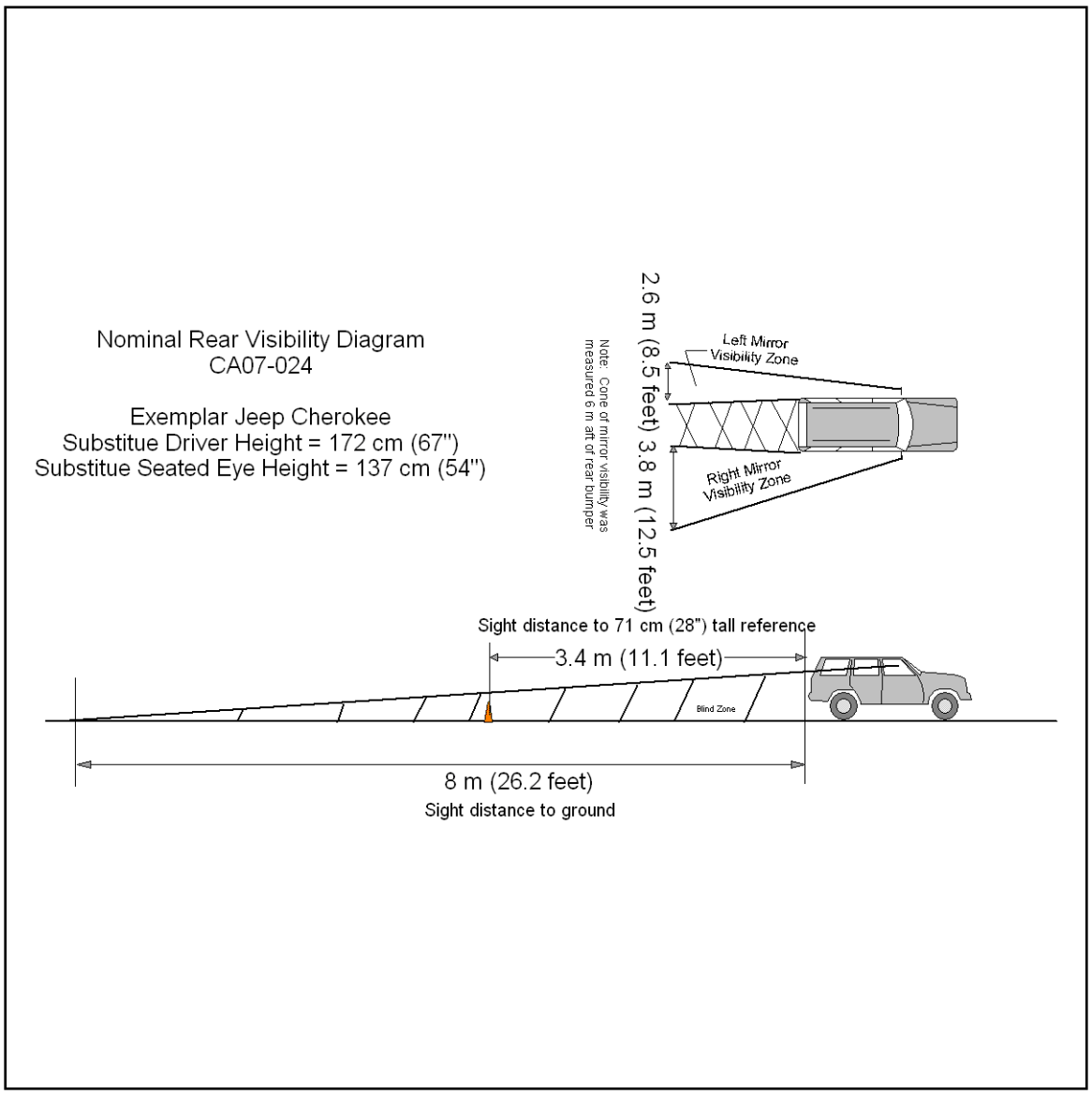

Figure 6: Rear Visibility Diagram

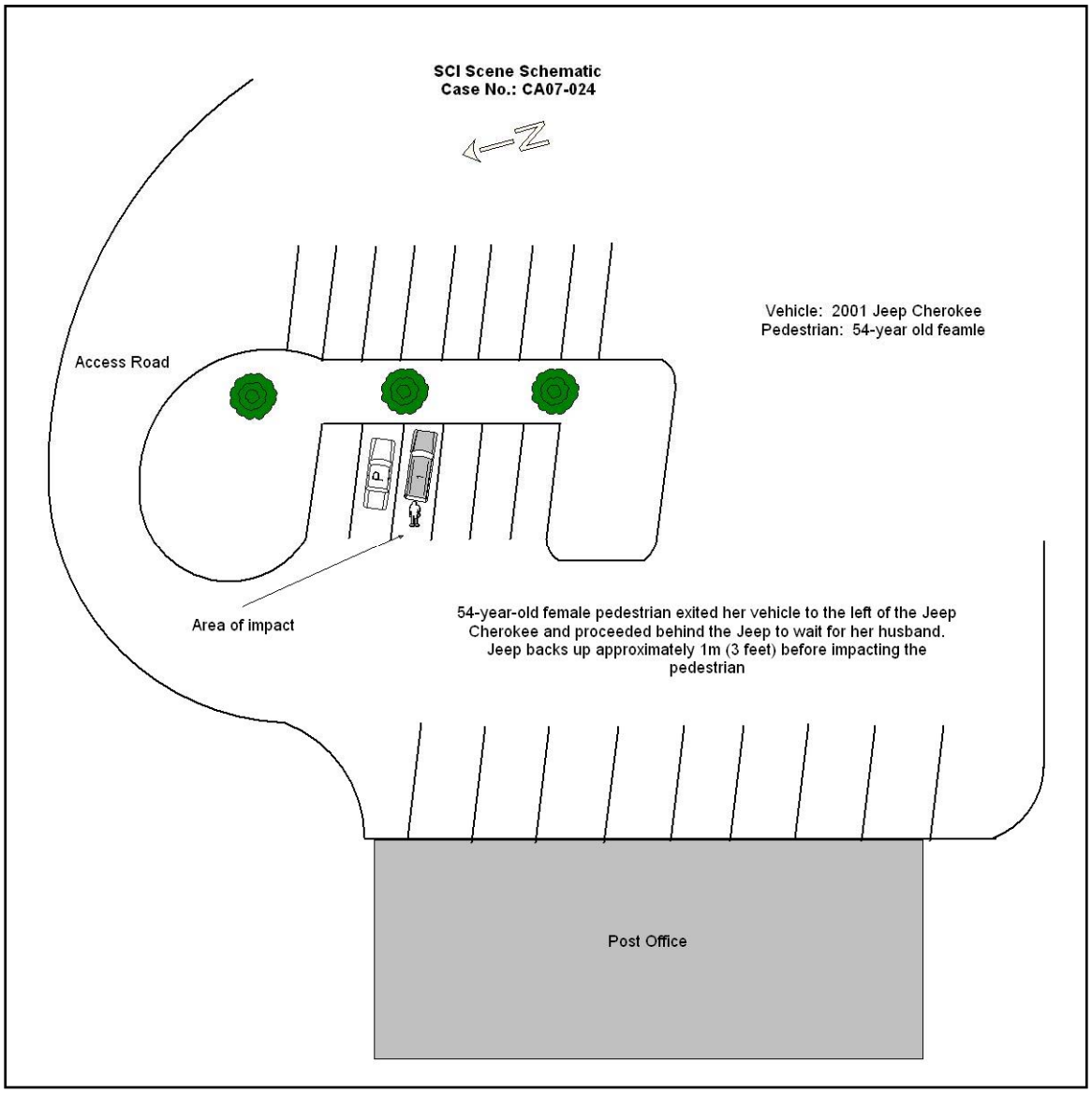

Figure 7: Scene Schematic

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 2 4

IDENTIFICATION

2. Date of Crash 0 6 / X X / 0 7

3. Time of Crash 1 7 2 5

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 1 . 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 0 1 . 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 2 4

VEHICLE IDENTIFICATION

2. VIN 1 J 4 F T 5 8 S 5 1 L X X X X X X

3. Model Year 2 0 0 1

4. Vehicle Make (specify): Jeep

5. Vehicle Model (specify): Cherokee 4x2

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	☐	Spare tire
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)
Front Left	1	☑	☐ Full Down / ☐ Mid / ☐ Full Up
Front Middle	0	☐	☐ Full Down / ☐ Mid / ☐ Full Up
Front Right	1	☑	☐ Full Down / ☐ Mid / ☐ Full Up
2nd Left	5	☐	☐ Full Down / ☐ Mid / ☐ Full Up
2nd Middle	5	☐	☐ Full Down / ☐ Mid / ☐ Full Up
2nd Right	5	☐	☐ Full Down / ☐ Mid / ☐ Full Up
3rd Left	0	☐	☐ Full Down / ☐ Mid / ☐ Full Up
3rd Middle	0	☐	☐ Full Down / ☐ Mid / ☐ Full Up
3rd Right	0	☐	☐ Full Down / ☐ Mid / ☐ Full Up

NOTES:

Unknown front head restraint adjustment. The Jeep was not equipped with front center or third row seats.

Seat Type codes:

0 = No seat or seat folded down
1 = Bucket
2 = Bucket w/ folding back
3 = Bench
4 = Bench with folding back cushions
5 = Bench w/ folding back
6 = Split bench w/ separate back cushions
7 = Split bench w/ separate 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		109	See technical report for additional components measured from exemplar vehicle.
Top of trunk/tailgate		163	
Bottom of bumper		48	
Trailer hitch (if applicable)		N/A	
Undercarriage			
	Sway bar	N/A	
	Axle	28	
	Differential	19	
	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 2 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

No Driver Present ☐

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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 2 4

DRIVER PROFILE

2. Driver's Age ___ ___
   99 = Unknown

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

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

5. Driver's Weight ___ ___ ___ 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:

    Returning to residence

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) Spare tire
- ○ 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 2 4

NON-MOTORIST PROFILE

2. Non-motorist's Age
99 = Unknown
5 4 ○ Months ◉ Years

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

4. Non-motorist's Height
999 = Unknown
1 5 7 cm

5. Non-motorist's Weight
999 = Unknown
0 5 9 kg

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): _____
○ 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)			
Pink				

	Clothing	Color	Fabric	Texture	Weight
HEADWEAR	Hat	None			
	Helmet	None			
	Hood	None			
	Other (specify): _____	None			
		None			
UPPER BODY	Short Sleeve	White	Natural	Unknown	Unknown
	Long Sleeve	None			
	Light Jacket	None			
	Heavy Jacket	None			
	Other (Specify): _____	None			
		None			
LOWER BODY	Shorts	None			
	Pants	Gold/tan	Natural	Unknown	Unknown
	Shoes	Unknown	Unknown	Unknown	Unknown
	Other (specify): _____	None			
		None			