CRASH DATA RESEARCH CENTER

Calspan Corporation
Buffalo, NY 14225

NOT-IN-TRAFFIC SURVEILLANCE

CALSPAN ON-SITE FRONT OVER INCIDENT INVESTIGATION

SCI CASE NO.: CA09052

VEHICLE: 2003 FORD EXPEDITION

LOCATION: MASSACHUSETTS

DATE OF INCIDENT: JULY 2009

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

1. Report No. CA09052	*2. Government Accession No.*	*3. Recipient's Catalog No.*	
4. Title and Subtitle Not-In-Traffic Surveillance Calspan On-Site Front Over Incident Investigation Vehicle: 2003 Ford Expedition Location: State of Massachusetts		*5. Report Date*: September 2009 *6. Performing Organization Code*	
7. Author(s) Crash Data Research Center		*8. Performing Organization Report No.*	
9. Performing Organization Name and Address Crash Data Research Center Calspan Corporation P.O. Box 400 Buffalo, New York 14225		*10. Work Unit No.* *11. Contract or Grant No.* DTNH22-07-C-00043	
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Washington, D.C. 20590		*13. Type of Report and Period Covered* Incident Date: July 2009 *14. Sponsoring Agency Code*	
15. Supplementary Note This on-site investigation focused on the circumstances of a non-fatal front over incident and the front visibility study of the involved 2003 Ford Expedition.			
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17. Key Words Not-In-Traffic Surveillance Front Over		*18. Distribution Statement* General Public	
19. Security Classif. (of this report) Unclassified	*20. Security Classif. (of this page)* Unclassified	*21. No. of Pages* 17	*22. Price*

TABLE OF CONTENTS

BACKGROUND **1**

SUMMARY **2**

INCIDENT SITE 2
VEHICLE DATA 2
DRIVER DATA 3
NON-MOTORIST DATA 3
INCIDENT SEQUENCE 3
PRE-INCIDENT 3
INCIDENT 4
POST-INCIDENT 4
VEHICLE CONTACT DAMAGE/EVIDENCE 5

NOT-IN-TRAFFIC SURVEILLANCE
CALSPAN ON-SITE FRONT OVER INCIDENT INVESTIGATION
SCI CASE NO.: CA09052
VEHICLE: 2003 FORD EXPEDITION
LOCATION: MASSACHUSETTS
DATE OF INCIDENT: JULY 2009

BACKGROUND

This on-site investigation focused on the circumstances of a non-fatal front over incident and the front visibility study of the involved 2003 Ford Expedition **(Figure 1)**. This incident occurred at the garage door opening of a private residence as the driver was moving the Ford forward out of the garage. The non-motorist was a 22-month-old female and the daughter of the driver. The driver exited the home through an interior door and entered the garage where she proceeded to move the vehicle forward a short distance in order to open the rear tail gate. During this maneuver, the 22-month-old female non-motorist exited the residence through the interior door, entered the garage and approached the front right corner area of the Ford. The non-motorist was subsequently struck by the front bumper, knocked to the ground and was contacted by the front right tire. The non-motorist was transported by ground ambulance to a landing zone where she was transferred to a helicopter for transport to a trauma center. Numerous tests were conducted on the non-motorist which revealed no internal injuries. The child did sustain petechiae of the torso and head, an abdominal contusion and a left leg contusion. She was released five days post-incident.

Figure 1. Case vehicle, 2003 Ford Expedition.

This incident was identified by the Crash Investigation Division (CID) of the National Highway Traffic Safety Administration (NHTSA) on July 23, 2009. Details of the incident were forwarded to the Calspan Special Crash Investigations (SCI) team on the same day. The SCI team established cooperation with the driver of the vehicle on July 28, 2009 to facilitate the inspection of the Ford, the incident site, and to conduct an interview. The inspection of the vehicle, incident site, and driver interview were conducted on August 5, 2009.

SUMMARY

Incident Site

The front over incident occurred during the daytime hours of July 2009. At the time of the incident, the weather was not a factor. The incident occurred in the left bay of a two-vehicle garage at the home of the driver. The driver's residence was a two-story, single-family dwelling located in a suburban neighborhood **(Figure 2)**. The garage measured 6.2 meters (20.3 feet) in total width and consisted of two bays. The depth of the left bay measured 7.5 meters (24.6 feet). The entry door to the house was located in the rear aspect of the left bay. The right bay measured 6.5 meters (21.3 feet) in depth and was used for vehicle parking. The left bay (closest to the house) was being used for storage at the time of the incident. The stored items included, but were not limited to, bicycles, cooking range, toys, and a shop vacuum. At the time of the incident, these items extended to the centerline of the garage. Additionally, the right garage door was closed at the time of the incident. The driver stated that the items were moved closer to the left wall post-incident. The 2003 Ford Expedition was backed into the left bay at the time of the incident. The Incident Schematic is included as **Figure 10** of this report.

Figure 2: View of the driver's residence.

Vehicle Data

The 2003 Ford Expedition was identified by the Vehicle Identification Number (VIN): 1FMFU18L63L (production sequence deleted). This four-door, four-wheel drive sport utility vehicle was equipped with a 5.4-liter V-8 engine linked to a four-speed automatic transmission and the Eddie Bauer trim package. The Ford Expedition was equipped with P265/70R17 tires, the tire size recommended by the vehicle manufacturer. The Ford was equipped with a rear bumper mounted ultrasonic parking aid system.

The window glazing was AS1 for the laminated windshield, AS2 for the front doors, and AS3 OEM deep tint for the rear doors, rear quarter windows, backlight, and the sun roof. The driver stated that all windows were closed at the time of the incident. The clarity of the glass was clear and there were no obstructions to the front, side, or rear glazing.

The interior of the Ford was configured with bucket seats for the first row, and bench seats for second row and third rows. The front seats were equipped with integrated head restraints. The second row was equipped with height adjustable head restraints for the outboard seats that had been removed by the driver prior to the incident. The second row center seat was equipped with an integrated head restraint. The third row was folded forward in the stowed position at the time of the incident.

Figure 3 is an overall view of the front undercarriage components. The vertical clearance heights of the front components of the Ford were measured from the paved surface of the driveway in front of the residence and are listed in the following table:

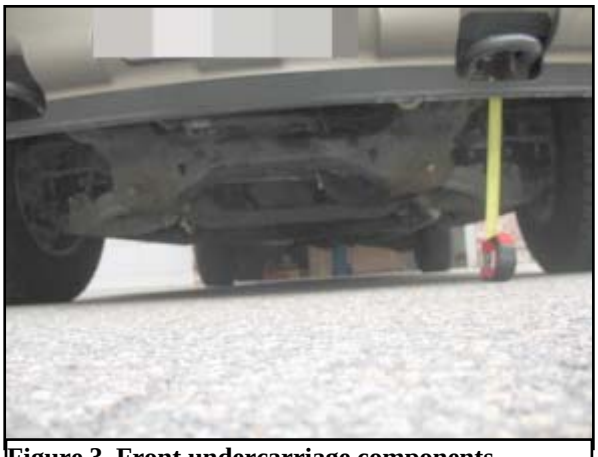

Figure 3. Front undercarriage components.

Component	Clearance Height
Beltline	124 cm (48.8 in)
Top of hood	112 cm (44 in)
Top of bumper	77 cm (30.5 in)
Base of bumper	41 cm (16 in)
Valance	31 cm (12.3 in)
Tow hooks	37 cm (14.5 in)
Cross member	31 cm (12 in)
Cross members mounts	23 cm (9 in)
Frame rails	41 cm (16.3 in)
Lower control arms	24 cm (9.3 in)

Driver Data

The driver of the Ford was a 33-year-old female with a stated height of 135 cm (53 in) and weight of 54 kg (118 lb). The driver had no hearing or vision deficiencies. The driver was familiar with backing into and out of the garage, and the driveway from her residence. Although the driver was familiar with backing out of the garage, she stated that this was the first time she could recall that she had backed the vehicle into the garage and parked.

Non-Motorist Data

The non-motorist was a 22-month-old female. The non-motorist had a measured height of 84 cm (33 in) and a driver stated weight of 12 kg (26 lbs). At the time of the incident, she was wearing a brown floral patterned dress, blue T-shirt, diaper, and no shoes. The child has no known sight or hearing impairments.

Incident Sequence

Pre-Incident

Prior to the incident, the driver and her three toddlers were in the residence. The driver had been gathering items for a family trip that they were scheduled to depart for the following day. The driver recalled that the vehicle was backed into the garage and she

could not access the cargo area. She stated to the SCI investigator that she told the children to stay in the home so she could go into the garage and pull the Ford forward. Her intention was to move the vehicle forward a few feet so she could open the tailgate and begin loading some of the items into the Ford. Upon asking the toddlers to remain in the family room located behind the garage, she exited through the interior door into the garage and approached the Ford from the vehicle's rear right. She walked behind the vehicle to its left side, entered the Ford, and started the vehicle. The driver stated the she did not close the front left door and was holding it with her left hand. She depressed the brake pedal, placed the transmission selector in drive and released the brake. The vehicle began to idle forward. The driver noted that her attention was on the front left door and front of the vehicle as she did not want to contact the wall during this maneuver.

Incident

While the driver was moving the vehicle, the 22-month-old female exited the residence through the same door and approached the Ford from the vehicle's rear right. The non-motorist walked along the right side of the vehicle between the storage items and the vehicle **(Figure 4)**. As the non-motorist reached the front right corner, she turned to the left and was struck by the front right corner of the vehicle and was knocked to the ground. The non-motorist was on her back with her head extending through the garage door opening **(Figure 5)**. The vehicle continued forward and ran over her left leg and onto her abdomen. The Ford traveled approximately 0.6-0.9 meters (2-3 feet) where the driver stopped the vehicle with the front left door immediately inboard of the exterior wall. The driver stated that she did not see the non-motorist and was unaware of the incident. **Figures 4 and 5** depict the travel directions of the vehicle and the non-motorist.

Figure 4. Non-motorist approach to the right side of the Ford.

Figure 5. Area of contact between the front right tire and the non-motorist.

Post-Incident

The driver placed the transmission selector in "Park" and turned off the Ford. She exited the vehicle and walked along the left side and rear of the Ford. Upon reaching the rear right corner, the driver looked toward the front right of the Ford and observed the non-motorist under the front right tire. She immediately ran back into the vehicle, started it, depressed the brake pedal and placed the transmission selector in reverse. The driver stated that she tried to remain calm as she released the brake pedal, began a backing maneuver and focused on the "R" on the transmission gear selector. She backed the vehicle a short distance, exited through the front left door and ran to the non-motorist. The driver stated that she picked-up the non-motorist, noted that she was blue in color and not breathing. She yelled out the non-motorist's name, at which point the non-motorist started breathing. She placed the child on the front lawn, ran into the house and called the 9-1-1 emergency response number. She remained on the line for approximately five minutes until the first responders arrived. The non-motorist was transported by ground ambulance to a landing zone where she was transferred to a helicopter. The non-motorist was flown to a trauma center where she was admitted for observation. After numerous tests were conducted on the non-motorist, it was determined that the child did not sustain any internal injuries. The non-motorist was diagnosed with petechiae of the torso and head, and contusions to her left leg and abdomen. She was released five days post-incident.

Vehicle Contact Damage/Evidence

The Ford was inspected by the SCI investigator at the residence where the incident occurred 20 days post-incident. The vehicle had been used on several occasions since the incident. The SCI investigator inspected the front bumper and undercarriage of the vehicle for contact evidence. No contact evidence was present on the bumper or undercarriage components.

Front Visibility

The driver of the Ford parked the vehicle on the driveway at the mouth of the garage and its front visibility was documented during the SCI inspection. The driveway was level in the area of the measurements. Five 71 cm (28 in) tall red reflective targets were used to identify the location of the blind zone around the front of the vehicle. The targets were located outboard the left mirror, at the front left, forward of the centerline, at the front right, and outboard the right mirror. The locations of the targets were adjusted outboard of the vehicle along the driver's sight line, to a point where the driver indicated that she could first identify the target. The driver was asked to remain seated in a normal driving position during the visibility study. Her

Figure 6. Driver's view out of the front right window.

seated eye height was 156 cm (61.5 in) above the ground. **Figure 6** is a driver view through the front right window to the right target. **Figures 7 and 8** are exterior views depicting the blind zone along the right side of the Ford. The target locations were then measured with respect to the vehicle. The lateral distance from the right plane to the target measured 2.3 m (7.5 ft). **Figure 9**, attached to the end of this report, is a scaled overhead visibility schematic depicting the blind zone forward of the vehicle.

It should be noted that although the non-motorist was walking within the blind zone on the right side of the vehicle, it would have been possible to observe the non-motorist during her initial approach to the vehicle by the use of the right mirror. The driver did not observe the non-motorist, as her attention was focused to the front left door and front of the vehicle throughout the entire maneuver of driving the vehicle forward.

Figure 7. Right side blind zone.

Figure 8. Front oblique view of the blind zone.

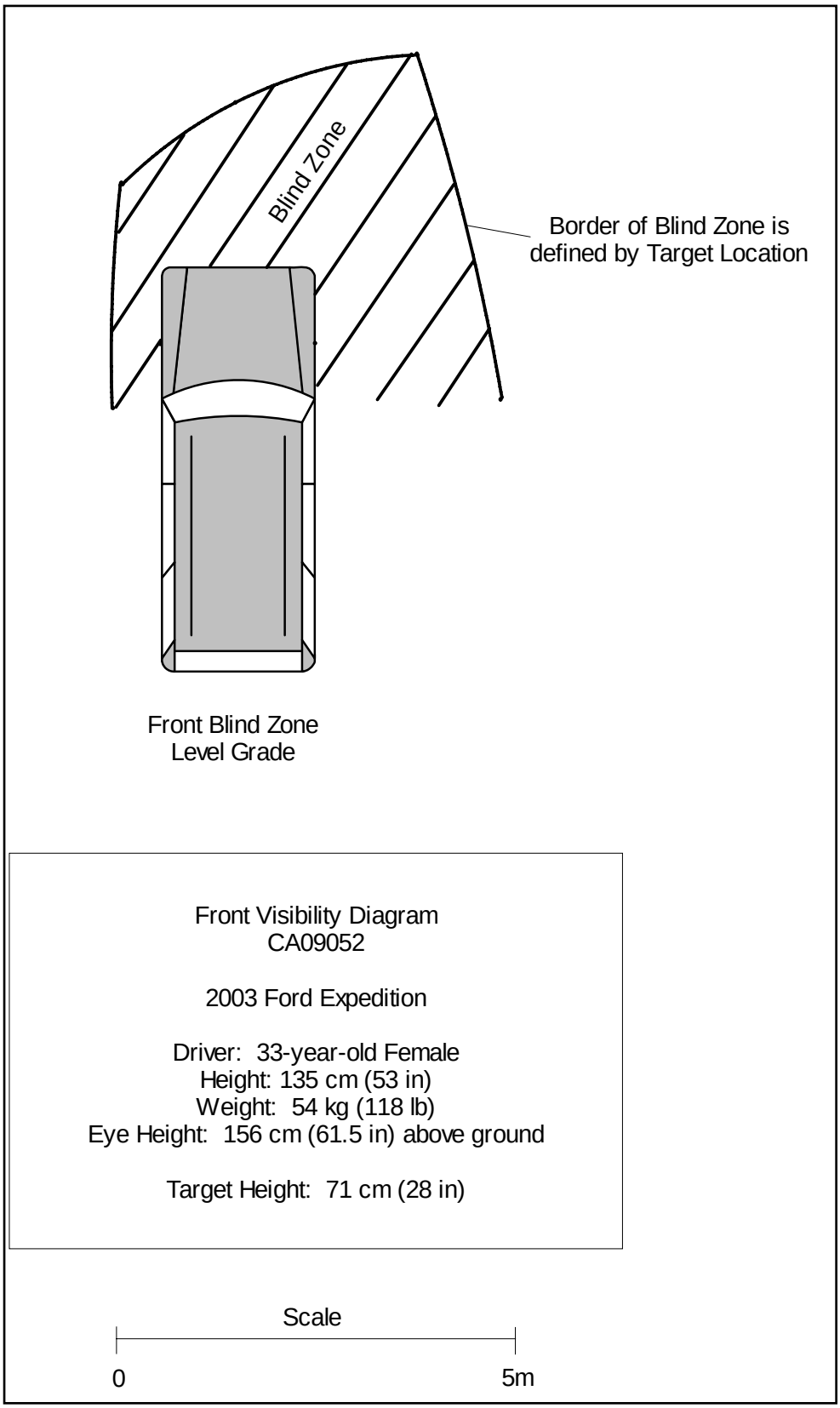

Figure 9. Rear Visibility Diagram

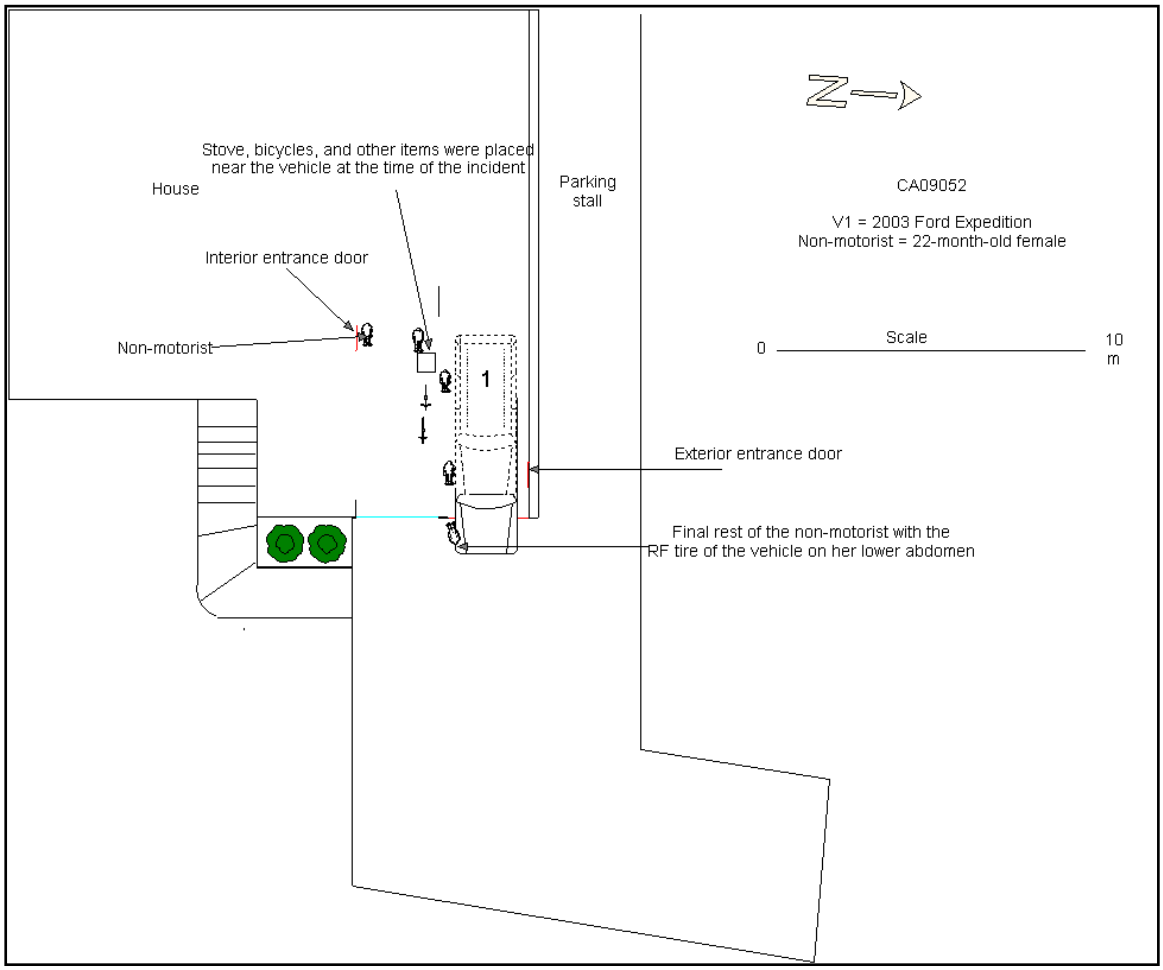

Figure 10. Incident Schematic

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 9 0 5 2

IDENTIFICATION

2. Date of Crash 0 7 / X X / 0 9

3. Time of Crash 1 6 1 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 0 . 6 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 0 . 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 9 0 5 2

VEHICLE IDENTIFICATION

2. VIN 1 F M F U 1 8 L 6 3 L X X X X X X

3. Model Year 2 0 0 3

4. Vehicle Make (specify): Ford

5. Vehicle Model (specify): Expedition

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 P265/70R17

7. LF Tire Size P265/70R17

8. LR Tire Size P265/70R17

9. RF Tire Size P265/70R17

10. RR Tire Size P265/70R17

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	4	☐	☐ ☐ ☐ Full Down / Mid / Full Up
2nd Middle	4	☑	☐ ☐ ☐ Full Down / Mid / Full Up
2nd Right	4	☐	☐ ☐ ☐ Full Down / Mid / Full Up
3rd Left	4	☐	☐ ☐ ☐ Full Down / Mid / Full Up
3rd Middle	4	☐	☐ ☐ ☐ Full Down / Mid / Full Up
3rd Right	4	☐	☐ ☐ ☐ Full Down / Mid / Full Up

NOTES:

Front and second row center have integrated head restraints.

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		124	See technical report for additional components not listed here.
Top of trunk/tailgate		N/A	
Bottom of bumper		41	
Trailer hitch (if applicable)		N/A	
Undercarriage			
	Sway bar	N/A	
	Axle	N/A	
	Differential	N/A	
	Other (specify): Tow hook	37	
Sensor Height (if equipped)		64	
Camera Height (if equipped)		N/A	

Not Applicable ☐

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Back Up / Parking Aid Form

Special Crash Investigations
Not In Traffic Surveillance

1. Case Number

C A 0 9 0 5 2

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

N/A

4. Video monitor type

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

5. Video display size *(Diagonal)* N/A cm

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

OEM

10. Auditory warning illumination

- ☐ No sensor present
- ☑ Yes
- ☐ No
- ☐ Unknown

11. Number of sensors 4

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
- ☉ Sensor present, did not sound

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 9 0 5 2

DRIVER PROFILE

2. Driver's Age 3 3
   99 = Unknown

3. Driver's Sex
   - ☐ Male
   - ☉ Female
   - ☐ Unknown

4. Driver's Height 1 3 5 cm
   999 = Unknown

5. Driver's Weight 0 5 4 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:

    Pulling foward to open the tailgate so that driver

    could load items into the vehicle.

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 9 0 5 2

NON-MOTORIST PROFILE

2. Non-motorist's Age — 2 2 ◉ Months ☐ Years
99 = Unknown

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

4. Non-motorist's Height — 0 8 4 cm
999 = Unknown

5. Non-motorist's Weight — 0 1 2 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) Walking
☐ 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				
	Helmet				
	Hood				
	Other (specify): _____				
	Unknown				
UPPER BODY	Short Sleeve	Dark blue	Natural	Soft	Light
	Long Sleeve				
	Light Jacket				
	Heavy Jacket				
	Other (Specify): Dress	Brown floral print	Natural	Soft	Light
	Unknown				
LOWER BODY	Shorts				
	Pants				
	Shoes				
	Other (specify): Diaper	Unknown	Synthetic	Soft	Unknown
	Unknown				