400 Seventh Street, S.W.
Washington, D.C. 20590

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

Dear Crash Data Researchers/Users:

Thank you for choosing crash data from the National Highway Traffic Safety Administration (NHTSA) for your research or other use. The information contained in this motor vehicle crash report is collected, maintained and distributed in accordance with Public Law 89-564. In accordance with this Public Law, NHTSA is required not to release any case information until completion of quality control procedures. These procedures include a review of the case material to extract all names, licenses and registration numbers, non-coded interview material, non-research related researcher comments in the margins, non-factual data, and the production number portion of the vehicle identification number (VIN).

If you requested NHTSA to query its database files in order to identify a specific crash, then that query was made using non-personal descriptors you provided for use in our search. This motor vehicle crash may have been identified from a data search and matches the general, non-personal descriptors you provided, but we cannot confirm that this is the specific crash report you requested.

If you have any questions with regard to the above procedures, please contact the Field Operations Branch, Crash Investigation Division, National Center for Statistics and Analysis at 202-366-4820. Again, please be advised that we cannot confirm that this is the case that you have specifically requested nor can we certify the information to be correct.

*** *** ***

TRANSPORTATION SCIENCES CENTER
ACCIDENT RESEARCH GROUP

Division of Arvin/Calspan
[redacted]

CALSPAN REMOTE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 92-17

VEHICLE - 1990 LEXUS ES250

LOCATION - [redacted]

ACCIDENT DATE - [redacted] 1992

Contract No. DTNH22-87-C-27169

Prepared for:

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

DISCLAIMERS

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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 be 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.	2. Government Accession No.	3. Recipient's Catalog No.
92-17		

4. Title and Subtitle	5. Report Date
Calspan Remote Air Bag Deployment Investigation Vehicle - 1990 Lexus ES250 Location - [redacted]	[redacted] 1992
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
Accident Research Group	
9. Performing Organization Name and Address	10. Work Unit No.
Transportation Sciences Center Accident Research Group Division of Arvin/Calspan [redacted]	[redacted]
	11. Contract or Grant No.
	DTNH22-87-C-27169
	13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address	Technical Report Date of Crash [redacted]/92
U.S. Department of Transportation National Highway Traffic Safety Administration Washington, D.C. 20950	14. Sponsoring Agency Code

15. Supplementary Notes

Remote investigation of an air bag deployment crash that involved a 1990 Lexus ES250. The driver sustained a detached right retina (AIS-2) from his contact with the deploying air bag.

16. Abstract

This remote investigation focused on a single vehicle air bag deployment crash that involved a 1990 Lexus ES250. The 40 year old male driver swerved off the right side of the roadway to avoid a non-contact vehicle. The Lexus sideswiped a chain link fence and impacted a 15-20 cm (6-8") diameter tree stump with the right front bumper area. The 12 o'clock direction of force impact produced 15-20 cm (6-8") of bumper crush and a sufficient longitudinal deceleration which deployed the supplemental driver's air bag system.

The belted driver initiated a forward trajectory in response to the 12 o'clock impact force and contacted the deploying air bag with his right facial area. The air bag contact resulted in an abrasion that extended from the chin to the eye (AIS-1), with swelling of the right eyelids (AIS-1), a detached right retina (AIS-2), and a vitreous hemorrhage (AIS-1) of the right eye.

The ophthalmologist who surgically reattached the retina stated that the driver had sustained permanent impairment of the right eye equal to 20/400 vision. Since the injury, the driver has developed a cataract which requires additional surgery.

There were no available photographs of the damaged vehicle or of the driver's injuries. The Lexus ES250 was a leased vehicle and was repaired. The driver subsequently turned in the vehicle prior to our investigation and leased a non-air bag equipped vehicle.

17. Key Words	18. Distribution Statement
Front right impact Sufficient longitudinal deceleration Air bag deployment Detached right retina (AIS-2)	General Public

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	12	

Form DOT F 1700.7 (8-69)

CALSPAN REMOTE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 92-17

VEHICLE - 1990 LEXUS ES250
LOCATION - [redacted]

SUMMARY

This remote investigation focused on a single vehicle crash that occurred on a left curve at a hillcrest of a two lane road in a 48 KPH (35 mph) speed zone. The crash occurred at night on [redacted] 1992. The involved vehicle was a 1990 Lexus ES250, 4 dr. sedan, that was equipped with a supplemental driver's air bag system. The Lexus was driven by a 40 year old male with a stated height of 179.1 cm (70.5") and weight of 76.5 kg (170 lbs.). He was wearing soft contact lenses (myopia) at the time of the crash.

The 1990 Lexus ES250 was traveling in a southerly direction on the two lane roadway at a driver estimated speed of 48-56 KPH (30-35 mph). As he entered a left curve that was located on a hillcrest, he noted the headlights of a northbound vehicle that had crossed the centerline into the southbound travel lane. The driver of the Lexus braked and steered in a clockwise direction off the right (west) side of the roadway. The vehicle traversed a shallow drainage ditch and sideswiped a chain link fence which resulted in superficial damage along the entire right side of the Lexus. The driver maintained a sufficient braking force and steered in a counterclockwise direction in an attempt to reenter the southbound travel lane. The Lexus was equipped with four-wheel anti-lock brakes which enabled the driver to steer the vehicle while maintaining a sufficient braking force.

The right front bumper area of the Lexus subsequently struck a 15-20 cm (6-8") diameter tree stump that was approximately 1 m (3') in height. The driver estimated the impact speed at 16-24 KPH (10-15 mph) for the 12 o'clock direction of force impact. The stump impact produced a sufficient longitudinal deceleration which deployed the vehicle's supplemental driver's air bag system. The driver estimated the bumper crush at 15-20 cm (6-8") and stated that the hood, grille, and headlight areas were not damaged. The vehicle came to rest against the stump which was slightly displaced by the impact.

The driver of the Lexus was in a normal seated position with both hands on the steering wheel rim at impact with the stump. He stated that he was properly restrained by the active 3-point lap and shoulder belt system. At impact with the tree stump, the driver's head was probably turned to the left, toward the road. He initiated a slight forward trajectory in response to the 12 o'clock impact force. The deploying air bag contacted the right side of his face which resulted in abrasions (AIS-1) of the face that extended from the chin to the right eye area. The air bag also contacted the right eye and eye area which abraded both eye lids (AIS-1) and displaced the right contact lens. In addition to the abrasions, the air bag contact compressed the eye which resulted in a vitreous hemorrhage (AIS-1) and a large tear with detachment of the right retina (AIS-2). The driver's thoracic area subsequently loaded the active belt webbing which produced soreness across the upper chest area.

Immediately following the crash, the driver unfastened the active belt system and noted the deployed air bag extending from the steering assembly. Prior to this point, he was unaware that the air bag had deployed. He exited the vehicle from the left door area and was transported by private vehicle to a local hospital where he was treated for his facial abrasions and released. The attending physician referred the driver to an ophthalmologist for treatment of his eye injuries.

The driver stated that he lost sight in the eye following the crash and that the eye was swollen shut due to the abrasions around the eye. The ophthalmologist identified the injury as a vitreous hemorrhage and treated the eye with drops. The swelling subsided in one week; however, the sight did not return. The driver continued using the eyedrops for a one month period with weekly visits to the ophthalmologist. The driver then sought a second opinion and was examined by another ophthalmologist who identified the eye injury as a large tear with detachment of the retina. The retina was surgically reattached which restored vision in the right eye. The ophthalmologist stated that the driver sustained permanent impairment of the eye with vision equal to 20/400. In addition to the injury to the eye, the driver has developed a cataract in the right eye which will require additional surgery.

CALSPAN REMOTE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 92-17

VEHICLE - 1990 LEXUS ES250
LOCATION - [redacted] MI

ACCIDENT DATA

Location/Street:	2 lane town road
City/Township:	[redacted]
Area/Type:	Rural/Residential
Accident Date/Time:	[redacted]1992, nighttime hours
Investigating Police Agency:	[redacted] Police Department
Accident Type:	Car/Fixed object
Driver Injury Severity:	Moderate (AIS-2)

AMBIENCE

Light Conditions:	Dark
Weather:	Overcast with patchy fog
Precipitation:	None
Road Surface:	Dry

HIGHWAY

Location:	Town road
Number of Lanes:	2
Surface:	Asphalt
Vertical Alignment:	Hillcrest
Horizontal Alignment:	Left curve
Traffic Density:	Light
Speed Limit:	35 mph
Traffic Controls:	None

VEHICLE

Year:	1990
Make:	Lexus
Model:	ES250
Body Style:	4 dr. sedan
V.I.N.:	JT8VV22T3L0 (production number deleted)
Odometer:	72,450 km (45,000 miles)
Tow Status:	Towed due to damage
Reported Defects:	None

VEHICLE DAMAGE

Deployment Impact

Object Struck:	15-20 cm (6-8") diameter tree stump
Event Number:	2
Damage Location:	Front right bumper area
CDC:	12-FREN-1 (estimated)
Maximum Crush:	15-20 cm (6-8") at bumper (driver estimate)
Damaged Components:	Front bumper, no headlight, hood or structural damage

Secondary Impact

Object Struck:	Chain link fence
Event Number:	1
Damage Location:	Right sideswipe damage
CDC:	12-RDES-1 (estimated)
Maximum Crush:	Minor dents and superficial abrasions on entire side of vehicle
Damaged Components:	Right front fender, both right side doors, right outside rear view mirror, right rear quarter panel

VEHICLE DAMAGE (CONT'D.)

Repair Estimate: $4,500-5,000 (inclusive of both impacts and air bag module replacement)

Interior: None other than deployment of the supplemental driver's air bag system

COLLISION SEQUENCE

Pre-Crash: The 1990 Lexus ES250 was traveling in a southerly direction on the rural two lane roadway at a driver estimated speed of 48-56 KPH (30-35 mph). The driver reported that the road curved to the left at a hillcrest and as he entered the curve, he noted a northbound vehicle cross the centerline of the roadway and enter his lane of travel. The driver of the Lexus braked and steered to the right to avoid impact with the other vehicle. The Lexus departed the right edge of the roadway and traversed a shallow drainage ditch that paralleled the travel lane.

Crash: The right side of the Lexus ES250 sideswiped a chain link fence which resulted in superficial damage to the entire right side of the vehicle. The driver maintained a moderate braking force and steered in a counterclockwise direction in an attempt to reenter the southbound travel lane. The Lexus was equipped with four-wheel anti-lock brakes which allowed the driver to steer the vehicle while maintaining a sufficient braking force to decelerate the vehicle.

The right front bumper area of the vehicle subsequently impacted a 15-20 cm (6-8") diameter tree stump that was approximately 1 m (3') in height. The driver estimated the impact speed at 16-24 KPH (10-15 mph) for the 12 o'clock direction of force impact. As a result of the tree stump impact, the vehicle underwent a sufficient longitudinal deceleration which deployed the driver's supplemental air bag system. The driver stated that the vehicle sustained 15-20 cm (6-8") of bumper crush and that the headlight and hood areas were not damaged. The vehicle displaced the stump forward before coming to rest against the struck stump.

Post-Crash: The driver was not aware of the deployed air bag until he attempted to exit the vehicle and noted the deflated bag extending from the module. He unfastened the active restraint system and exited the vehicle from the left front door.

The driver left the vehicle at the scene and was transported by a private vehicle to a local hospital where he was treated for his facial injuries and released. The attending physician referred him to an ophthalmologist for treatment of an eye injury.

HUMAN FACTORS/OCCUPANT DATA

Driver:	40 year old male
Height:	179.1 cm (70.5")
Weight:	76.5 kg (170 lbs.)
Active Restraint System Usage:	3-point lap and shoulder belt
Usage Source:	Driver interview
Eyewear:	Soft contact lenses for myopia, right lens separated from eye
Vehicle Familiarity:	22 months
Route Familiarity:	Daily
Trip Plan:	Returning to residence
Manner of Leaving Scene:	Private vehicle
Type of Medical Treatment:	Transported to a local hospital where he was treated for his injuries and released. He was referred to an ophthalmologist who treated the right eye with drops. The driver sought the opinion of a second ophthalmologist (month following the crash) who diagnosed the detached retina and surgically reattached the retina.

DRIVER INJURIES

Injury	Severity (OIC/AIS)	Source
Large tear and detachment of the right retina (eye)	Moderate (FRGO-2)	Air bag
Vitreous hemorrhage of the right eye	Minor (FRUO-1)	Air bag
Abrasions of the right face that extended from the chin to the eye	Minor (FRAI-1)	Air bag
Abrasions with swelling around the right eye and eyelids	Minor (FRAO-1)	Air bag
Soreness of the upper chest	N/A (not a codeable injury)	Shoulder belt/ impact force

DRIVER KINEMATICS

The driver of the 1990 Lexus ES250 stated that he was properly restrained by the active 3-point lap and shoulder belt system and that he was in a normal driving position with both hands on the steering wheel as he swerved off-road to avoid the non-contact vehicle. Following the sideswipe impact sequence with the chain link fence, the right frontal area of the vehicle impacted the tree stump which deployed the vehicle's supplemental driver air bag system.

At impact with the tree stump, the driver's head was probably turned to the left toward the road as he initiated a forward trajectory in response to the 12 o'clock impact force. The deploying air bag contacted the right side of the driver's face which resulted in an abrasion of the right face that extended from his chin to his right eye. In addition to the facial contact, the air bag contacted the driver's righteye which abraded the right eye area and eyelids. The air bag also displaced the right soft contact lens and compressed the eye which resulted in a large tear and detachment of the right retina and a vitreous hemorrhage.

The driver subsequently loaded the active 3-point lap and shoulder belt system which resulted in soreness of the upper chest. The driver rebounded into the left front seat back as the vehicle came to rest against the struck stump.

As the driver unfastened the active restraint system, he noted the deflated air bag protruding from the steering assembly. He was unaware that the air bag had deployed prior to his exit from the vehicle. He was subsequently transported by ambulance to a local hospital where he was treated for his facial injuries and released. The attending physician referred the driver to an ophthalmologist for treatment of his right eye injury. The driver stated that he had lost full sight in the eye from his contact with the air bag.

MEDICAL TREATMENT

The driver was examined by an ophthalmologist on [redacted] two days following the crash. The eye was swollen shut due to the abrasion and contact to the eye area. The ophthalmologist identified the injury as a vitreous hemorrhage and treated the eye with drops to reduce the hemorrhage. The driver stated that the swelling subsided over a one week period; however, the eyesight did not return. He continued using the eye drops for a one month period with weekly visits to the ophthalmologist. After a month, the sight did not return and the driver sought a second opinion from another ophthalmologist.

The second ophthalmologist identified the injury as a large tear with detachment of the retina. He surgically reattached the retina; however, permanent impairment had occurred to the eye. The ophthalmologist stated that the vision in the right eye had stabilized at a level equal to 20/400.

The driver has also developed a cataract in the right eye which will require additional surgery to remove the cataract.

ATTACHMENTS

Police Accident Report

Photograph of a Similar Vehicle

Air Bag/Seat Belt Schematic

[redacted] Motor Vehicle Accident Report

PLEASE DO NOT WRITE IN THIS MICROFILM SPACE

☐ Amended Document No. [redacted]

SECTION A

[redacted]	City / Village / Township (circled) 2 Name [redacted]	ACCIDENT DAY, DATE, TIME — Day of Week / Mo.-Day-Yr. / Time of Acc. [redacted] 92 [redacted] AM PM
ON	Hwy No. 3 / and Street Name 4 [redacted]	TOTAL NUMBER — Units 13 / Injured 14: 1 / Killed 15: — ; Sheet No. 1 Of 16: 1
AT	☒ House No. ☐ Utility No. ☐ Fire No. ☐ Railroad No. ☐ Other 5 N [redacted]	Accident Location: 1. Public highway, intersection 2. Public highway, non-intersection 3. Parking lot 4. Private property or road 17: 2
	Feet / Mile(s) 6 / 7 N S E W FROM	TYPE OF ACCIDENT (First Harmful Event): 1. Motor veh. in operation 2. Fixed object 3. Object on road 4. Parked motor vehicle 5. Deer 6. Other animal 7. Overturning 8. Pedestrian 9. Bicyclist 10. Maintenance veh. or equip. 11. Farm equip. 12. Railway train 13. Other 18: 1
	Hwy No. 8 / and Street Name 9	

Reportable Accident Y/N 19	Government Property Y/N 20	Photos Taken Y/N 21	Material Spillage Y/N 22	Trailer or Towed Y/N 23	Fire Y/N 24	Witness Y/N 25	Construction Zone Y/N 26	Hit & Run Y/N 27
Y	N	Y	N	N	N	Y	N	N

SECTION B

Field	UNIT 1	UNIT 2
Unit 28	1	2
Unit Type 29		
Total Number of Occupants 30		
Direction of Travel Before Accident 31		
Posted Speed 32		
Operator Name First M.I. Last 33	[redacted]	
Street Address (Area) Phone No. 34/35	[redacted]	
City and State Zip 36	[redacted]	
Driver's License – No. State Exp. Yr. 37/38/39	[redacted] 93	
Date of Birth 40	[redacted] 52	
Sex 41	M	
Licensed As: Classified Preclassified Type 42	R	
Class 43 / Endorse 44		
On Duty Accident (P = Police, E = EMT-Advanced, F = Fire Fighter) 45	—	
Operating As: Classified Preclassified Type 46	D	
Class 47 / Endorse 48		
CMV Y/N 49	N	
Vehicle Owner/Lessor First M.I. Last 50	[redacted]	
Street Address (Area) Phone No. 51/52	[redacted]	
City and State Zip 53	[redacted]	
Year 54	90	
Make of Veh. 55	LEXUS	
Model 56	250	
Body Style 57	4DR	
Color 58	BLACK	
Vehicle ID Number 59	JT8VV22T3L [redacted]	
License Plate No. 60	[redacted]	
Plate Type 61	AUT	
State 62	[redacted]	
Exp. Yr. 63	92	
Liability Insurance Company Name 64	[redacted]	
Policy Holder's Name 65 / Policy No. 66	[redacted]	
1st Citation No. 67	[redacted]	
Violation – Statute No. 68	346.70-1	
ABV. Code 69	FTR	
2nd Citation No. 70		
Violation – Statute No. 71		
ABV. Code 72		

SECTION C

73 SAFETY EQUIPMENT
1= Shoulder Belt 2= Lap Belt 3= Child Res 4= Air Bag 5= Helmet 6= Eye Protect 7= Helmet & Eye 8= None 9= Unknown
ENTER ONE NUMBER PER OCCUPANT

UNIT 1: 1 / 1 2 3 4 5 6 7 Other — CYCLE or BICYCLE: 1 2 — UNIT 2: 1 2 3 4 5 6 7 Other

	Name First M.I. Last	Date of Birth	Sex	Severity K-A-B-C (Head / Trunk Int. / Trunk Ext. / Arm / Leg)	Medical Transport Y/N	SEAT
74: 1 — Injured Person Unit No.	75 [redacted] Address / City and State / Zip [redacted]	[redacted]	77 M	79: B / 80 / 81 / 82 / 83	84: N	85: 1
Injured Person Unit No.	Name First M.I. Last / Address City and State Zip				Y/N	

1. Traffic signal
2. Traffic sign post
3. Tree/shrubbery
4. Light support/utility pole
5. Fence
6. Guard rail/concrete barrier
7. Culvert/drainage structure
8. Embankment
9. Building/wall
10. Bridge support
11. Construction barricade
12. Impact attenuator
13. Mail box
14. Other

Fixed Objects Struck 86 — Unit 1: 3 / Unit 1 / Unit 1; Unit 2 / Unit 2 / Unit 2

Govt. Damage Tag Number

87 Property Owner First M.I. Last [redacted]
Street (Area) Phone No. [redacted]
City and State Zip [redacted]

MV4000 1/90

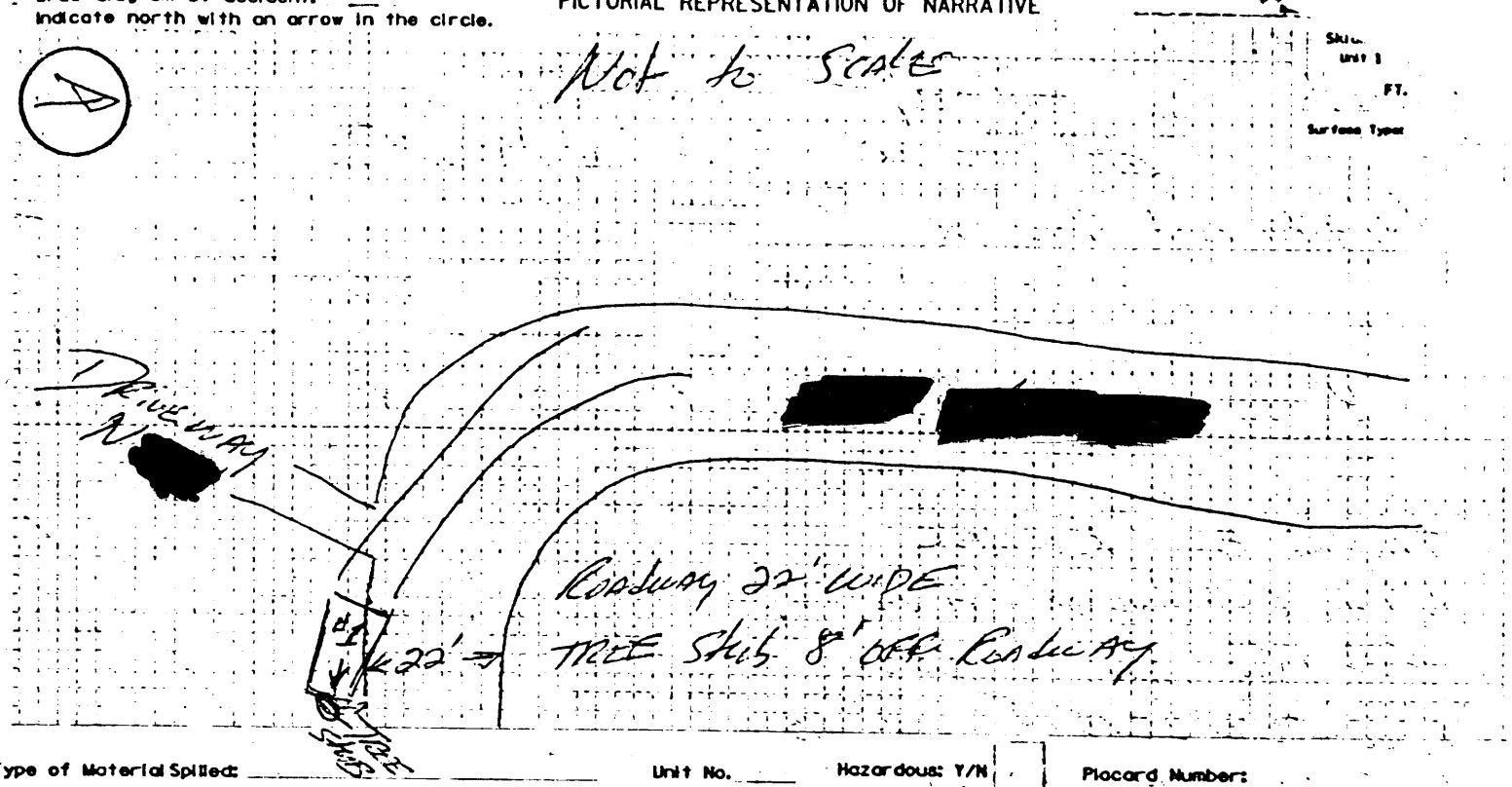
LAW ENFORCEMENT COPY

BEST AVAILABLE COPY

BEST AVAILABLE COPY

Draw diagram of accident.
Indicate north with an arrow in the circle.

PICTORIAL REPRESENTATION OF NARRATIVE



Type of Material Spilled: _____ Unit No. ___ Hazardous: Y/N [ ] Placard Number:

Narrative: VEH 2 left Roadway Right and Struck A TREE Stub. Then Fled the AREA with A [redacted]

Witness Name First M.I. Last Date of Birth

[redacted]

Street Address (Area) Phone No.

City and State Zip

[redacted] WI [redacted]

LIGHT CONDITION
1. Daylight
2. Dark
3. Dark with street lights
4. Dawn or Dusk

2

WEATHER CONDITION
1. Clear
2. Cloudy
3. Rain
4. Snow or Ice
5. Fog or Mist
6. Sleet

1

ROAD CONDITION
1. Dry
2. Snow or Ice
3. Wet
4. Gravel
5. Slush
6. Muddy
7. Oily
8. Other

1

DRIVER CONDITION (OR PEDESTRIAN)
1. Had been drinking
2. Use of drugs
3. Physical disability
4. Other

Unit 1	Unit 1	Unit 1
1		
Unit 2	Unit 2	Unit 2

DRIVER FACTOR (OR PEDESTRIAN)
1. Appeared normal
2. Reduced alertness
3. Ability impaired

Unit 1
Unit 2

WHAT DRIVERS WERE DOING
1. Going straight ahead
2. Making left turn
3. Making right turn
4. Slowing or stopping
5. Stopped in traffic
6. Legally parked
7. Illegally parked
8. Parking maneuver
9. Backing in roadway
10. Changing lanes
11. Overtaking on left
12. Overtaking on right
13. Making U turn
14. Turning on red
15. Merging
16. Other
17. Negotiating Curve

PEDESTRIAN LOCATION
1. In crosswalk
2. In roadway
3. Not in roadway
4. On or off veh.

Unit 1	Unit 2
2	

PEDESTRIAN ACTION
1. Walking not facing traffic
2. Disregarded signal
3. Darting into road
4. Dark clothing

Unit 2

TRAFFIC CONTROL
1. No control
2. Traffic signal operating
3. Traffic signal flashing
4. Stop sign
5. Stop sign with flasher
6. Warning
7. Warn sign with flasher
8. Yield sign
9. Police officer
10. RR xing signal
11. Other

Unit 1
1
Unit 2

Print Name First M.I. Last

[redacted]

Law Enforcement Agency Address

[redacted]

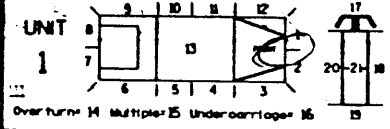
City and State Zip (Area) Phone No.

MANNER OF COLLISION
1. Head On
2. Rear End
3. Side Swipe Same
4. Side Swipe Opposite
5. Off Rd Left
6. Off Rd Right
7. Angle
8. Left Turn
9. Other

6

Circle Area Of Vehicle Damage

UNIT 1



Overturn= 14 Multiple= 15 Undercarriage= 16

Damage Severity: 1. Scratched 2. Dented 3. Structural 4. None Apparent: 3

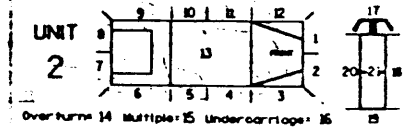
Driveable: Y/N N

Vehicle Removed By:

[redacted]

Circle Area Of Vehicle Damage

UNIT 2



Overturn= 14 Multiple= 15 Undercarriage= 16

Damage Severity: 1. Scratched 2. Dented 3. Structural 4. None Apparent:

Driveable: Y/N

Vehicle Removed By:

OFFICER'S OPINION OF POSSIBLE CONTRIBUTING CIRCUMSTANCES

Driver Factors
1. Speed too fast/condition
2. Fail to Yield RT-of-way
3. Inattentive driving
4. Following too close
5. Improper turn
6. Left of center
7. Disregarded signal
8. Disregarded stop sign
9. Improper overtaking
10. Unsafe backing
11. Failure to have control
12. Driver Condition
13. Other

Unit 1	Unit 1	Unit 1
[redacted]		
Unit 2	Unit 2	Unit 2

Vehicle Factors
1. Brake system
2. Tires
3. Steering system
4. Turn signals
5. Head lamps
6. Stop lamps
7. Tail lamps
8. Disabled in prior acc.
9. Other disabled
10. Mirrors
11. Suspension system
12. Other

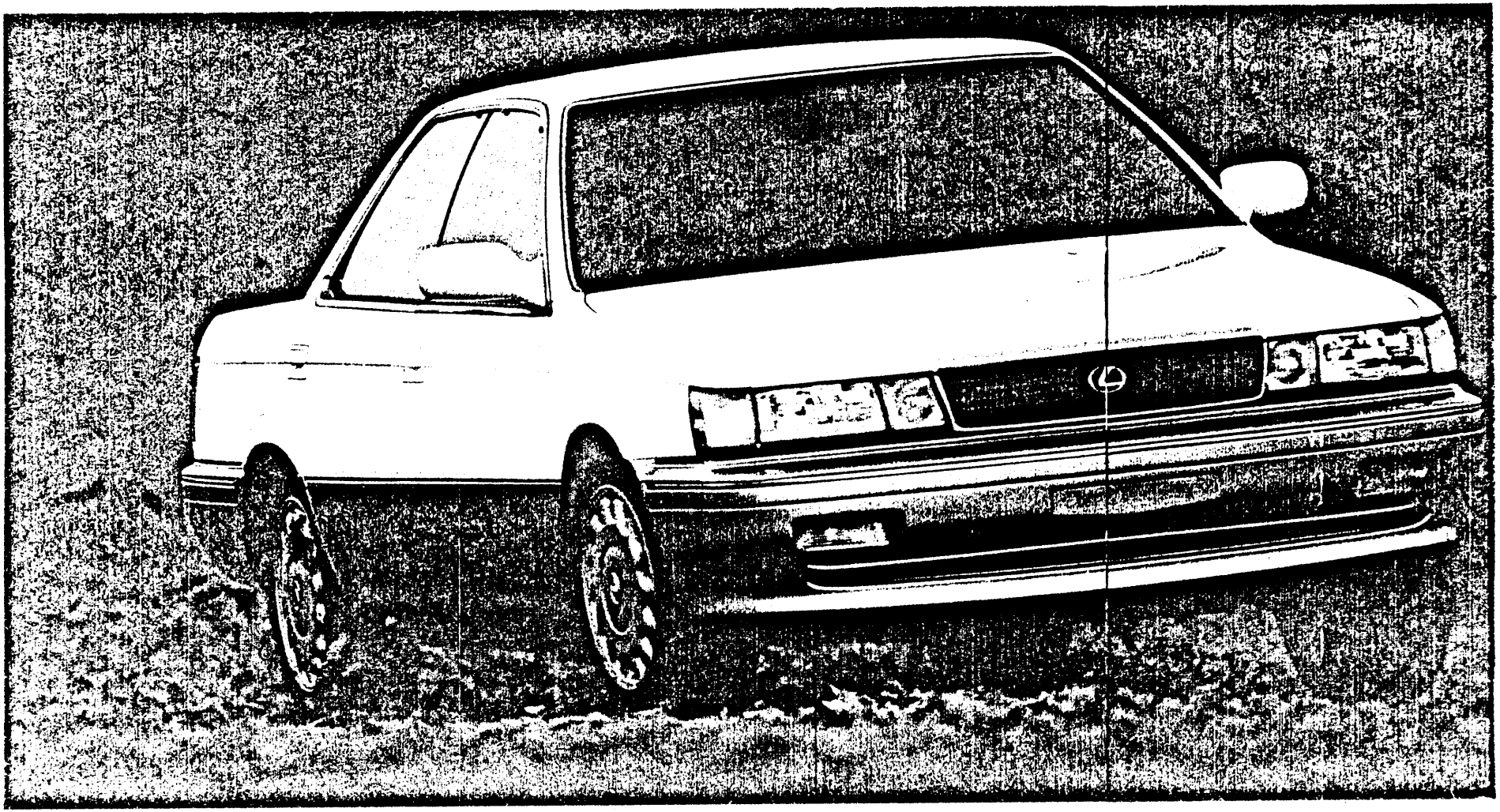
Unit 1	Unit 1	Unit 1
Unit 2	Unit 2	Unit 2

Highway Factors
1. Snow or Ice or Wet
2. Narrow shoulder
3. Low shoulder
4. Soft shoulder
5. Rough pavement
6. Debris from prior acc.
7. Other debris
8. Sign obscured or missing
9. Narrow bridge
10. Construction zone
11. Visibility obscured
12. Other

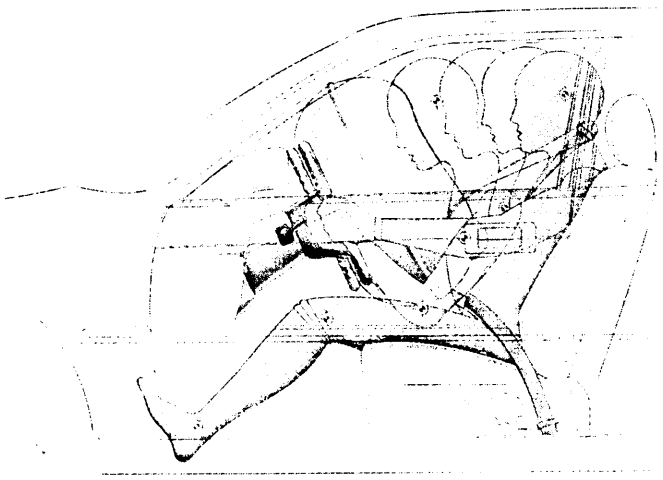
Unit 1	Unit 1	Unit 1
2	11	
Unit 2	Unit 2	Unit 2

Date Notified [redacted] Time Notified [redacted] AM PM Time Arrived [redacted] AM PM Officer ID No. [redacted]

Agency No. [redacted] Enforcement Agency [redacted] Date of Report



Similar Lexus ES250.



In moderate frontal collisions, the three-point safety belt system provides primary crash protection, and the airbag SRS is designed not to inflate. In the event of a severe enough accident, the driver's-side airbag SRS is designed to inflate to provide additional protection. So safety belts should be worn at all times.

Air Bag/Seat Belt Schematic of the Lexus ES250.

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

OCCUPANT ASSESSMENT FORM

Form Approved
O.M.B. No. 2127-0021

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number - ~~Stratum~~ 92-17
3. Vehicle Number 01
4. Occupant Number 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 40
   Code actual age at time of accident.
   (00) Less than one year old (specify by month): _____
   (97) 97 years and older
   (99) Unknown

6. Occupant's Sex 1
   (1) Male
   (2) Female
   (9) Unknown

7. Occupant's Height 70.5" (179.1 cm) 71
   Code actual height to the nearest inch.
   (99) Unknown

8. Occupant's Weight (76.5 kg) 120
   Code actual weight to the nearest pounds.
   (999) Unknown

9. Occupant's Role 1
   (1) Driver
   (2) Passenger
   (9) Unknown

10. Occupant's Seat Position 11
    Front Seat
    (11) Left side
    (12) Middle
    (13) Right side
    (14) Other (specify): _____
    (15) On or in the lap of another occupant

    Second Seat
    (21) Left side
    (22) Middle
    (23) Right side
    (24) Other (specify): _____
    (25) On or in the lap of another occupant

    Third Seat
    (31) Left side
    (32) Middle
    (33) Right side
    (34) Other (specify): _____
    (35) On or in the lap of another occupant

    Fourth Seat
    (41) Left side
    (42) Middle
    (43) Right side
    (44) Other (specify): _____
    (45) On or in the lap of another occupant

    (97) In or on unenclosed area
    (98) Other seat (specify): _____
    (99) Unknown

11. Occupant Posture 0
    (0) Normal posture
    (1) Abnormal posture (specify): _____
    (9) Unknown

EJECTION/ENTRAPMENT

12. Ejection 0
    (0) No ejection
    (1) Complete ejection
    (2) Partial ejection
    (3) Ejection, unknown degree
    (9) Unknown

13. Ejection Area 0
    (0) No ejection
    (1) Windshield
    (2) Left front
    (3) Right front
    (4) Left rear
    (5) Right rear
    (6) Rear
    (7) Roof
    (8) Other area (e.g., back of pickup, etc.) (specify): _____
    (9) Unknown

14. Ejection Medium 0
    (0) No ejection
    (1) Door/hatch/tailgate
    (2) Nonfixed roof structure
    (3) Fixed glazing
    (4) Nonfixed glazing (specify): _____
    (5) Integral structure
    (8) Other medium (specify): _____
    (9) Unknown

15. Medium Status (Immediately Prior To Impact) 0
    (0) No ejection
    (1) Open
    (2) Closed
    (3) Integral structure
    (9) Unknown

16. Entrapment 0
    (NOTE: Entrapped means that part of the person was in the vehicle and mechanically restrained; jammed doors and immobilizing injuries by themselves are not sufficient to constitute entrapment.)
    (0) Not entrapped
    (1) Entrapped
    (9) Unknown

RESTRAINT SYSTEM AND SEAT EVALUATION

17. Manual (Active) Belt System Availability 4
(0) None available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available—type unknown

Integral Belt Partially Destroyed
(6) Shoulder belt (lap belt destroyed/removed)
(7) Lap belt (shoulder belt destroyed/removed)

(8) Other belt (specify):

(9) Unknown

18. Manual (Active) Belt System Use 04
(00) None used, not available, or belt removed/destroyed
(01) Inoperative (specify):

(02) Shoulder belt
(03) Lap belt
(04) Lap and shoulder belt
(05) Belt used—type unknown
(08) Other belt used (specify):

(12) Shoulder belt used with child safety seat
(13) Lap belt used with child safety seat
(14) Lap and shoulder belt used with child safety seat
(15) Belt used with child safety seat—type unknown
(18) Other belt used with child safety seat (specify):
(99) Unknown if belt used

19. Proper Use of Manual (Active) Belts 1
(0) None used or not available
(1) Belt used properly
(2) Belt used properly with child safety seat

Belt Used Improperly
(3) Shoulder belt worn under arm
(4) Shoulder belt worn behind back or seat
(5) Belt worn around more than one person
(6) Lap belt worn on abdomen
(7) Lap belt or lap and shoulder belt used improperly with child safety seat (specify):

(8) Other improper use of manual belt system (specify):

(9) Unknown

20. Manual (Active) Belt Failure Modes During Accident 1
(0) No manual belt used
(1) No manual belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify):

(6) Broken retractor
(7) Combination of above (specify):

(8) Other manual belt failure (specify):

(9) Unknown

21. Air Bag System Availability/Function 1
(0) Not equipped/not available
(1) Air bag

Non-functional
(2) Air bag disconnected (specify):

(3) Air bag not reinstalled
(9) Unknown

22. Air Bag System Deployment 1
(0) Not equipped/not available
(1) Air bag deployed during accident (as a result of impact)
(2) Air bag deployed inadvertently just prior to accident
(3) Air bag deployed, accident sequence undetermined
(4) Nondeployed
(5) Unknown if deployed
(6) Air bag deployed as a result of a noncollision event during accident sequence (e.g., fire, explosion, electrical)
(9) Unknown

23. Did Air Bag System Fail? 1
(0) Not equipped/not available
(1) No
(2) Yes (specify):

(9) Unknown

Note: See Variables 44 through 48 (Page 5) for Information on Automatic Belts

24. Police Reported Restraint Use 2
(0) None used
(1) Police did not indicate restraint use
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt used, type not specified
(6) Child safety seat
(7) Other or automatic restraint (specify):

(8) Restrained, type unknown
(9) Police indicated "unknown"

25. Head Restraint Type/Damage by Occupant at This Occupant Position 3
(0) No head restraints
(1) Integral—no damage
(2) Integral—damaged during accident
(3) Adjustable—no damage
(4) Adjustable—damaged during accident
(5) Add-on—no damage
(6) Add-on—damaged during accident
(8) Other (specify):

(9) Unknown

26. Seat Type (this Occupant Position) 01
(00) Occupant not seated or no seat
(01) Bucket
(02) Bucket with folding back
(03) Bench
(04) Bench with separate back cushions
(05) Bench with folding back(s)
(06) Split bench with separate back cushions
(07) Split bench with folding back(s)
(08) Pedestal (i.e., column supported)
(09) Other seat type (specify):
_____
(10) Box mounted seat (i.e., van type)
(99) Unknown

27. Seat Performance (this Occupant Position) 1
(0) Occupant not seated or no seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks or "seat back" failed
(4) Seat track/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion (specify):
_____
_____
(7) Combination of above (specify):
_____
(8) Other (specify):
_____
(9) Unknown

CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding and Editing
(950) Built-in child safety seat
(997) Other make/model (specify):
_____
(998) Unknown make/model
(999) Unknown if child safety seat used

29. Type of Child Safety Seat 0
(0) No child safety seat
(1) Infant seat
(2) Toddler seat
(3) Convertible seat
(4) Booster seat
(7) Other type child safety seat (specify):
_____
(8) Unknown child safety seat type
(9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00
(00) No child safety seat

Designed for Rear Facing for This Age/Weight
(01) Rear facing
(02) Forward facing
(08) Other orientation (specify):
_____
(09) Unknown orientation

Designed For Forward Facing for This Age/Weight
(11) Rear facing
(12) Forward facing
(18) Other orientation (specify):
_____
(19) Unknown orientation

Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight
(21) Rear facing
(22) Forward facing
(28) Other orientation (specify):
_____
(29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 00

32. Child Safety Seat Shield Usage 00

33. Child Safety Seat Tether Usage 00
Note: Options below applicable to Variables OA31-OA33.
(00) No child safety seat

Not Designed With Harness/Shield/Tether
(01) After market harness/shield/tether added, not used
(02) After market harness/shield/tether used
(03) Child safety seat used, but no after market harness/shield/tether added
(09) Unknown if harness/shield/tether added or used

Designed With Harness/Shield/Tether
(11) Harness/shield/tether not used
(12) Harness/shield/tether used
(19) Unknown if harness/shield/tether used

Unknown If Designed With Harness/Shield/Tether
(21) Harness/shield/tether not used
(22) Harness/shield/tether used
(29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 2

(0) O - No injury
(1) C - Possible injury
(2) B - Nonincapacitating injury
(3) A - Incapacitating injury
(4) K - Killed
(5) U - Injury, severity unknown
(6) Died prior to accident
(9) Unknown

35. Treatment - Mortality 4

(0) No treatment
(1) Fatal
(2) Fatal - ruled disease

Nonfatal
(3) Hospitalization
(4) Transported and released
(5) Treatment at scene - nontransported
(6) Treatment later
(8) Treatment - other (specify):

_____
(9) Unknown

36. Type Of Medical Facility (for Initial Treatment) 2

(0) Not treated at a medical facility
(1) Trauma center
(2) Hospital
(3) Medical clinic
(4) Physician's office
(5) Treatment later at medical facility
(8) Other (specify):

_____
(9) Unknown

37. Hospital Stay 00

(00) Not Hospitalized
_____Code the number of days (up through 60) that the occupant stayed in hospital.
(61) 61 days or more
(99) Unknown

38. Working Days Lost 99

_____Code the number of days (up through 60) that the occupant lost from work due to the accident
(00) No working days lost
(61) 61 days or more
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

39. Time to Death 00

_____Code number of hours from time of accident to time of death up through 24 hours. If time of death is greater than 24 hours, code number of days. (Note: 1 day = 31, 2 days = 32, ... n days = 30 +n up through 30 days = 60)
(00) Not fatal
(96) Fatal - ruled disease
(99) Unknown

40. 1st Medically Reported Cause of Death 00

41. 2nd Medically Reported Cause of Death 00

42. 3rd Medically Reported Cause of Death 00

_____Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(97) Other result (specify):

_____
(99) Unknown

43. Number of Recorded Injuries for This Occupant 04

_____Code the actual number of injuries recorded for this occupant.
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

AUTOMATIC BELT SYSTEM

44. Automatic (Passive) Belt System Availability/ Function — 0
(0) Not equipped/not available
(1) 2 point automatic belts
(2) 3 point automatic belts
(3) Automatic belts - type unknown

Non-functional
(4) Automatic belts destroyed or rendered inoperative
(9) Unknown

45. Automatic (Passive) Belt System Use — 0
(0) Not equipped/not available/destroyed or rendered inoperative
(1) Automatic belt in use
(2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): _____
(3) Automatic belt use unknown
(9) Unknown

46. Automatic (Passive) Belt System Type — 0
(0) Not equipped/not available
(1) Non-motorized system
(2) Motorized system
(9) Unknown

47. Proper Use of Automatic (Passive Belt System — 0
(0) Not equipped/not available/not used
(1) Automatic belt used properly
(2) Automatic belt used properly with child safety seat

Automatic Belt Used Improperly
(3) Automatic shoulder belt worn under arm
(4) Automatic shoulder belt worn behind back
(5) Automatic belt worn around more than one person
(6) Lap portion of automatic belt worn on abdomen
(7) Automatic lap and shoulder belt or automatic shoulder belt used improperly with child safety seat (specify): _____
(8) Other improper use of automatic belt system (specify): _____
(9) Unknown

48. Automatic (Passive) Belt Failure Modes During Accident — 0
(0) Not equipped/not available/not in use
(1) No automatic belt failure(s)
(2) Torn webbing (stretched webbing not included)
(3) Broken buckle or latchplate
(4) Upper anchorage separated
(5) Other anchorage separated (specify): _____
(6) Broken retractor
(7) Combination of above (specify):
(8) Other automatic belt failure (specify): _____
(9) Unknown

49. Seat Orientation (this Occupant Position) — 1
(0) Occupant not seated or no seat
(1) Forward facing seat
(2) Rear facing seat
(3) Side facing seat (inward)
(4) Side facing seat (outward)
(8) Other (specify): _____
(9) Unknown

TRAUMA DATA

50. Glasgow Coma Scale (GCS) Score (at Medical Facility) — 02
(00) Not injured
(01) Injured - not treated at medical facility
(02) No GCS Score at medical facility
(03-15) Code the actual value of the initial GCS Score recorded at medical facility.
(97) Injured, details unknown
(99) Unknown if injured

51. Was the Occupant Given Blood? — 1
(1) No - blood not given
(2) Yes - blood given (specify units): _____
(9) Unknown if blood given

52. Arterial Blood Gases (ABG) - HCO_3 — 01
(00) Not injured
(01) Injured, ABGs not measured or reported
(02-50) Code the actual value of the HCO_3
(96) ABGs reported , HCO_3 unknown
(97) Injured, details unknown
(99) Unknown if injured

UPDATE CANDIDATE? NO [✓] YES [ ]

OCCUPANT INJURY FORM INCLUDED WITH INITIAL SUBMISSION? NO [ ] YES [✓]

***** STOP HERE *****
IF THERE ARE NO RECORDED INJURIES
(I.E., OA43 = 00,97,99)

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

OCCUPANT INJURY FORM

Form Approved
O.M.B. No. 2127-0021
NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number ~~Stratum~~ 9217
3. Vehicle Number 01
4. Occupant Number 01

INJURY DATA

Record below the actual injuries sustained by this occupant that were identified from the official and unofficial data sources. Remember not to double count an injury just because it was identified from two different sources. If greater than ten injuries have been documented, encode the balance on the Occupant Injury Supplement.

	Source of Injury Data	O.I.C.-A.I.S Body Region	Aspect	Lesion	System Organ	A.I.S. Severity	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion No.
1st	5. 4	6. F	7. R	8. G	9. 0	10. 2	11. 45	12. 1	13. 1	14. 00
2nd	15. 4	16. F	17. R	18. U	19. 0	20. 1	21. 45	22. 1	23. 1	24. 00
3rd	25. 4	26. F	27. R	28. A	29. I	30. 1	31. 45	32. 1	33. 1	34. 00
4th	35. 4	36. F	37. R	38. A	39. 0	40. 1	41. 45	42. 1	43. 1	44. 00
5th	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.
6th	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.
7th	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.
8th	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.
9th	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.
10th	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.

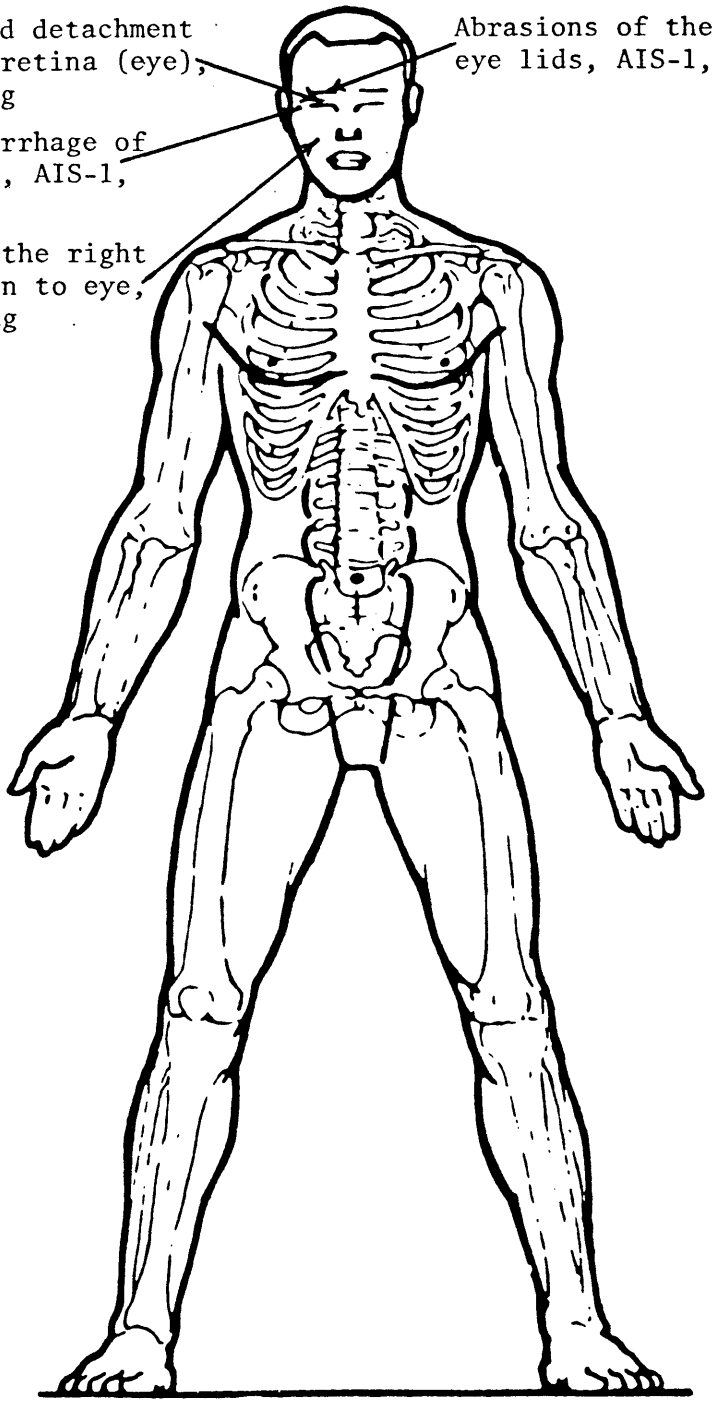
AGE 40
SEX MALE
WT. 76.5kg(170
HT. 179.1cm(71'

Large tear and detachment of the right retina (eye), AIS-2, air bag

Vitreous hemorrhage of the right eye, AIS-1, air bag

Abrasions of the right face from chin to eye, AIS-1, air bag

Abrasions of the right eye lids, AIS-1, air bag



SOURCE OF INJURY DATA

OFFICIAL
(1) Autopsy records with or without hospital medical records
(2) Hospital medical records other than emergency room (e.g., dishcarge summary)
(3) Emergency room records only (including associated X-rays or other lab reports)
(4) Private physician, walk-in or emergency clinic

UNOFFICIAL
(5) Lay coroner report
(6) E.M.S. personnel
(7) Interviewee
(8) Other source (specify): _____
(9) Police

INJURY SOURCE

FRONT
(01) Windshield
(02) Mirror
(03) Sunvisor
(04) Steering wheel rim
(05) Steering wheel hub/spoke
(06) Steering wheel (combination of codes 04 and 05)
(07) Steering column, transmission selector lever, other attachment
(08) Add on equipment (e.g., CB, tape deck, air conditioner)
(09) Left instrument panel and below
(10) Center instrument panel and below
(11) Right instrument panel and below
(12) Glove compartment door
(13) Knee bolster
(14) Windshield including one or more of the following: front header, A-pillar, instrument panel, mirror, or steering assembly (driver side only)
(15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
(16) Other front object (specify): _____

LEFT SIDE
(20) Left side interior surface, excluding hardware or armrests
(21) Left side hardware or armrest
(22) Left A pillar
(23) Left B pillar
(24) Other left pillar (specify): _____
(25) Left side window glass or frame
(26) Left side window glass including one or more of the following: frame, window sill, A-pillar, B-pillar, or roof side rail.
(27) Other left side object (specify): _____
(28) Left side window sill

RIGHT SIDE
(30) Right side interior surface, excluding hardware or armrests
(31) Right side hardware or armrest
(32) Right A pillar
(33) Right B pillar
(34) Other right pillar (specify): _____
(35) Right side window glass or frame
(36) Right side window glass including one or more of the following: frame, window sill, A pillar, B pillar, or roof side rail.
(37) Other right side object (specify): _____
(38) Right side window sill

INTERIOR
(40) Seat, back support
(41) Belt restraint webbing/buckle
(42) Belt restraint B-pillar attachment point
(43) Other restraint system component (specify): _____
(44) Head restraint system
(45) Air bag
(46) Other occupants (specify): _____
(47) Interior loose objects
(48) Child safety seat (specify): _____
(49) Other interior object (specify): _____

ROOF
(50) Front header
(51) Rear header
(52) Roof left side rail
(53) Roof right side rail
(54) Roof or convertible top

FLOOR
(56) Floor (including toe pan)
(57) Floor or console mounted transmission lever, including console
(58) Parking brake handle
(59) Foot controls including parking brake

REAR
(60) Backlight (rear window)
(61) Backlight storage rack, door, etc.
(62) Other rear object (specify): _____

EXTERIOR of OCCUPANT'S VEHICLE
(65) Hood
(66) Outside hardware (e.g., outside mirror, antenna)
(67) Other exterior surface or tires (specify): _____
(68) Unknown exterior objects

EXTERIOR OF OTHER MOTOR VEHICLE
(70) Front bumper
(71) Hood edge
(72) Other front of vehicle (specify): _____
(73) Hood
(74) Hood ornament
(75) Windshield, roof rail, A-pillar
(76) Side surface
(77) Side mirrors
(78) Other side protrusions (specify) _____
(79) Rear surface
(80) Undercarriage
(81) Tires and wheels
(82) Other exterior of other motor vehicle (specify): _____
(83) Unknown exterior of other motor vehicle

OTHER VEHICLE OR OBJECT IN THE ENVIRONMENT
(84) Ground
(85) Other vehicle or object (specify) _____
(86) Unknown vehicle or object

NONCONTACT INJURY
(90) Fire in vehicle
(91) Flying glass
(92) Other noncontact injury source (specify): _____
(93) Air bag exhaust gases
(97) Injured, unknown source

INJURY SOURCE CONFIDENCE LEVEL

(1) Certain
(2) Probable
(3) Possible
(9) Unknown

DIRECT/INDIRECT INJURY

(1) Direct contact injury
(2) Indirect contact injury
(3) Noncontact injury
(7) Injured, unknown source

OCCUPANT INJURY CLASSIFICATION

O.I.C. Body Region

(M) Abdomen
(Q) Ankle—foot
(A) Arm (upper)
(B) Back-thoracolumbar spine
(C) Chest
(E) Elbow
(F) Face
(R) Forearm
(H) Head—skull
(U) Injured, unknown region
(K) Knee
(L) Leg (lower)
(Y) Lower limbs(s) (whole or unknown part)
(N) Neck—cervical spine
(P) Pelvic—hip
(S) Shoulder
(T) Thigh
(X) Upper limb(s) (whole or unknown part)
(O) Whole body
(W) Wrist—hand

Aspect of Injury

(A) Anterior—front
(B) Bilateral (rib fracture only)
(C) Central
(I) Inferior—lower
(U) Injured, unknown aspect
(L) Left
(P) Posterior—back
(R) Right
(S) Superior—upper
(W) Whole region

Lesion

(A) Abrasion
(M) Amputation
(V) Avulsion
(B) Burn
(K) Concussion
(C) Contusion
(N) Crush
(G) Detachment, separation
(D) Dislocation
(F) Fracture
(Z) Fracture and dislocation
(U) Injured, unknown lesion
(L) Laceration
(O) Other
(P) Perforation, puncture
(R) Rupture
(S) Sprain
(T) Strain
(E) Total severance, transection

System/Organ

(W) All systems in region
(A) Arteries—veins
(B) Brain
(D) Digestive
(E) Ears
(O) Eye
(H) Heart
(U) Injured, unknown system
(I) Integumentary
(J) Joints
(K) Kidneys
(L) Liver
(M) Muscles
(N) Nervous system
(P) Pulmonary—lungs
(R) Respiratory
(S) Skeletal
(C) Spinal cord
(Q) Spleen
(T) Thyroid, other endocrine gland
(V) Vertebrae

Abbreviated Injury Scale

(1) Minor injury
(2) Moderate injury
(3) Seriour injury
(4) Severe injury
(5) Critical injury
(6) Maximum (untreatable)
(7) Injured, unknown severity