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2 IMMEDIATE

TRANSPORTATION SCIENCES CENTER
ACCIDENT RESEARCH GROUP

Division of Calspan Corporation
Buffalo, NY 14225

CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION

CALSPAN CASE NO. 94-25
VEHICLE: 1990 MERCURY SABLE
LOCATION: [redacted] MD
CRASH DATE: [redacted] 1994

Contract No. DTNH22-94-D-07058

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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On-site investigation of an air bag deployment crash that resulted in multiple facial and eye injuries to the 85 year old female driver of the Mercury Sable.

16. *Abstract*

This on-site investigation focused on the facial and eye injuries sustained by the 85 year old female driver of an air bag equipped 1990 Mercury Sable. The driver initiated a left turn across the path of a 1989 Oldsmobile Cutlass at a four-leg intersection on a green signal phase. The right frontal area of the Cutlass impacted the front right side area of the Mercury resulting in respective impact forces of 11 and 2 o'clock. The Mercury Sable underwent a sufficient longitudinal deceleration which deployed the supplemental driver's side air bag system.

The driver of the Mercury was properly restrained by the 3-point lap and shoulder belt system. She was in a normal driving posture with the seat track adjusted to forward position, placing the driver within a close proximity to the steering assembly and air bag module. The driver initiated a trajectory that was forward and to her right in response to the impact force and loaded the manual belt webbing. Her face was contacted by the deploying driver's side air bag which compressed her prescription eyeglasses against her face and shattered the plastic lenses. As a result of air bag and eyeglass contact, the driver sustained nasal bone fractures, bilateral hyphema, a right corneal abrasion, right conjunctival lacerations and hemorrhage, bilateral iris injuries, and multiple soft tissue injuries of the face.

The driver was transported to a local hospital where she was admitted for treatment of her injuries. Cataracts rapidly formed in both eyes which required follow-up outpatient surgery.

17. *Key Words* Supplemental Restraint System (SRS) Driver's side air bag Shattered plastic eyeglass lenses Eye injuries	18. *Distribution Statement* General Public

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CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION
CALSPAN CASE NO. 94-25
VEHICLE: 1990 MERCURY SABLE
LOCATION: [redacted] MD

SUMMARY

This on-site investigation focused on a 1990 Mercury Sable LS, 4 dr. sedan, that was involved in a moderate front-to-side crash at a four-leg intersection in [redacted] MD. The Mercury Sable was equipped with a driver's side air bag Supplemental Restraint System (SRS) which deployed as a result of the crash. This vehicle was owned and operated by an 85-year-old female driver with a stated height of 161.3 cm (63.5") and weight of 55 kg (123 lbs.) She initiated a left turn across the path of a 1989 Oldsmobile Cutlass Supreme and was struck on the right front side area that resulted in a sufficient longitudinal deceleration which deployed the SRS. The driver of the Mercury Sable was properly restrained by the 3-point manual belt system and was in a normal driving posture with her seat adjusted to a forward track position. The deploying air bag contacted her face which resulted in multiple facial contusions, lacerations, and abrasions. In addition, the air bag contacted her eyeglasses and fractured the plastic lenses. As a result of the air bag contact, the driver sustained multiple subconjunctival lacerations and hemorrhage of the eye, right corneal abrasions, bilateral hyphema, right pupil distortion, nasal bone fractures, and a fracture of the body of C_6. Cataracts rapidly developed in both eyes post-crash which required removal.

The crash occurred at a four-leg intersection of two divided roadways in a commercial area on [redacted] 1994, during daylight hours. Traffic flow through the intersection was controlled by overhead, mast-arm mounted on-colors traffic signals. The posted speed limit for traffic traveling in all directions through the intersection was 48 k/hr (30 mph). The Mercury Sable was traveling in a westerly direction on the approach to the intersection on a driver reported green signal phase. She entered the left turn lane and momentarily stopped at the mouth of the intersection to check for approaching traffic prior to initiating the turn. The driver stated that she observed a vehicle approaching the intersection in an easterly direction; however, she determined that she had sufficient time to complete the left turn. The driver of the Mercury Sable apparently misjudged the speed or distance of the Oldsmobile Cutlass and turned across its path of travel.

The right frontal area of the Oldsmobile Cutlass impacted the right front side area of the Mercury Sable. Resultant directions of force were within the 2 o'clock sector for the struck Mercury Sable (PDOF 50 degrees), and probably within the 11 o'clock sector for the Oldsmobile Cutlass. The impact produced a sufficient longitudinal deceleration which deployed the driver's SRS. Direct contact damage on the right side of the Mercury began 14 cm (6.5") forward of the right front axle and extended 64.8 cm (25.5") forward to the front corner of the bumper reinforcement beam. Maximum side crush was approximately 35.3 cm (13.9") located at the leading edge of the right front fender. The right front bumper energy absorbing device (EAD) was compressed 3.2 mm (0.125") and was displaced laterally to the left. There was no compression of the left EAD.

The impact rotated the Mercury Sable in a counterclockwise direction as the Oldsmobile rotated in a clockwise direction. Both vehicles came to rest within the intersection with the Oldsmobile resting against the median of the south leg of the intersection. The Sable came to rest parallel to the Oldsmobile, facing the southeast quadrant of the intersection. Both vehicles sustained disabling damage and were towed from the scene.

The elderly female driver of the Mercury Sable was properly wearing the manual 3-point lap and shoulder belt system. Belt usage was determined from driver statements and blood stains on both sides of the belt webbing. In addition, there was evidence of belt loading on the plastic trim panel hardware which fractured adjacent to the lap belt anchorage point. The driver was wearing new prescription eyeglasses that consisted of metal frames and plastic bifocal lenses. At impact, the SRS deployed as the driver initiated a trajectory that was forward and to her right in response to the 2 o'clock impact force. She loaded the manual shoulder belt webbing which produced a seat belt contusion that extended from her anterior left shoulder, across her left breast, and onto the abdominal and right hip area. The loading force produced considerable pain to the chest of the driver that persisted for a two-week period. The expanding air bag contacted and contused the anterior aspect of her left forearm and upper arm. The bag also contacted and contused the anterior aspect of her right upper arm as the driver initiated the turn with both hands on the steering wheel. The contact probably caused her left hand to separate from the steering wheel and impact the left A-pillar. There was a scuff mark on the mid portion of the pillar at the trailing edge. The driver complained of pain and numbness to the left hand.

The deploying air bag contacted and expanded across the driver's face. The bag compressed the driver's metal framed eyeglasses against her face which fractured the nasal and septal bones. In addition, the plastic eyeglass lenses shattered as a result of air bag contact. The air bag and eyeglass contact resulted in numerous injuries to the eyes which included multiple small conjunctival lacerations with hemorrhage, right corneal abrasions, bilateral hyphema, right pupil distortion, and bilateral iris injuries.

The driver also sustained multiple soft tissue injuries from her involvement with the air bag, which included abrasions of the anterior neck, right anterior chin, both cheeks, across both lips, bilateral ecchymoses of the eyelids, a forehead laceration, and a laceration of the lower lip.

Due to the driver's forward position, her knees contacted the steel knee bolster and the plastic steering column cover. Two small areas of scuff marks were noted to these components which produced a hematoma to her right knee. The driver also complained of pain over both heels from probable contact with the floor pan.

The driver remained in the vehicle following the crash and stated that her eyesight was significantly impaired, with light perception only. She was removed from the vehicle by paramedics and transported by ambulance to a local hospital where she was admitted for treatment of her injuries. Following her arrival at the hospital, the driver was initially examined in the emergency room where

her primary complaint focused on her eyes. The ER staff attended to the soft tissue injuries and ordered X-rays of the right shoulder, head, face, cervical spine, chest, pelvis, and lower extremities. An ophthalmologist was consulted who examined the driver and scheduled eye surgery on the night of admission.

The ophthalmologist probed the eyes and removed two small shards of plastic eyeglass lens from under the eyelid. He noted that the lens fragments did not penetrate the eye and that they produced superficial damage to the eye. Eye pressures were measured at approximately 20 mmHg bilaterally. The ophthalmologist explored the right eye and performed a reformation of the right anterior chamber, repaired the right conjunctival laceration, and injected the eye with the medications vancomycin and ceftazidime. He concluded the surgery by suturing the forehead laceration.

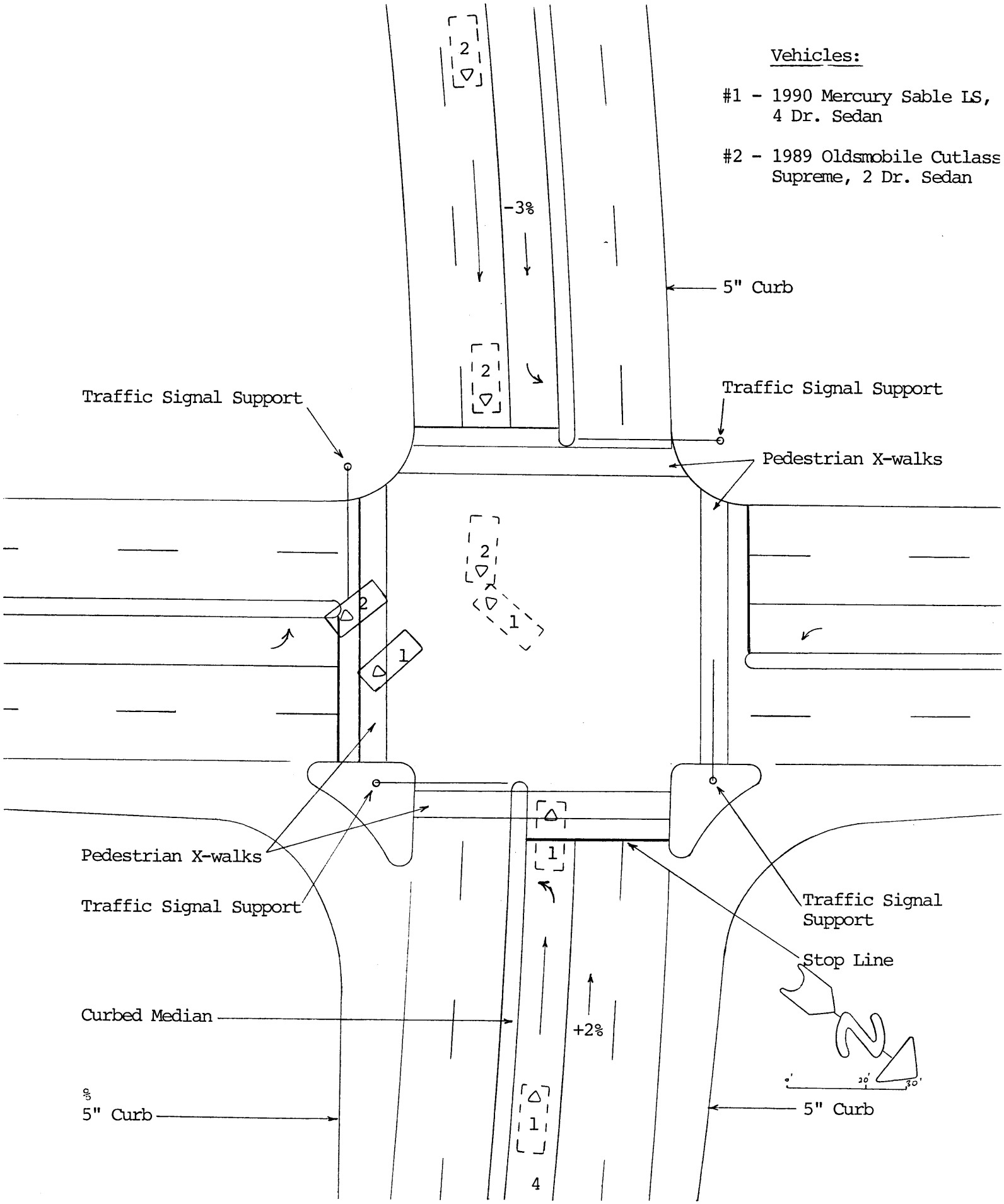
The compressive force exerted on the eyes resulted in bilateral cataracts that developed rapidly following the crash. The eyes were patched and the driver was admitted to the hospital for additional treatment and monitoring.

On [redacted] 1990, three days post-crash, the driver was admitted to surgery to repair the displaced nasal fractures. Closed reduction surgery was performed to repair the nasal and septal fractures and to realign the bones to clear the nasal passageways. The driver tolerated the procedure well and was discharged to the care of a nursing home on [redacted].

The driver had two additional surgeries on [redacted] and [redacted] for removal of the cataracts which formed in the eyes as a result of her involvement with the air bag. The ophthalmologist who performed the surgeries stated that the driver had regained 20/30 *corrected* vision in the left eye and was expected to recover similar vision in the right eye.

ACCIDENT SCHEMATIC

CALSPAN CASE NO. 94-25



CALSPAN ON-SITE AIR BAG DEPLOYMENT INVESTIGATION
CALSPAN CASE NO. 94-25
VEHICLE - 1990 MERCURY SABLE
LOCATION - [redacted], MD

CRASH DATA

Location:	Urban four-leg intersection
City/Township:	[redacted]MD
Area/Type:	Urban/Commercial
Crash Date/Time:	[redacted]1994, daylight hours
Investigating Police Agency:	[redacted]County Police Department
Accident Type:	Car/Car, left turn across path
Air Bag Vehicle Driver Injury Severity:	Moderate (AIS-2)

AMBIENCE

Viewing Conditions:	Daylight
Weather:	Clear
Precipitation:	None
Road Surface:	Dry

HIGHWAY

Type:	Intersection of two state routes
Number of Lanes:	5, divided, inclusive of left turn lanes
Width:	19.5 m (64.0')

HIGHWAY (CONT'D.):

Surface:	Asphalt
Median:	1.1m (3'9") curbed
Edge:	North edge: 13cm (5") barrier curb South edge: 13cm (5") barrier curb
Vertical Alignment:	2% grade, positive to the east
Horizontal Alignment:	Left curve with respect to vehicle #1's path of travel
Estimated Coefficient of Friction:	0.75
Traffic Density:	Light

TRAFFIC CONTROLS

Signal:	On-colors, overhead signal system
Signs:	None pertinent
Markings:	Broken white lane lines, solid white left lane lines, painted white left turn arrows, marked pedestrian crosswalks
Speed Limit:	48 km/h (30 mph)

VEHICLES

	Air Bag Vehicle	**Vehicle #2**
Description:	1990 Mercury Sable LS, 4 dr. sedan	1989 Oldsmobile Cutlass Supreme, 2 dr. coupe
V.I.N.:	1MECM53U4LG (production number deleted)	1G3WH14W6KD (production number deleted)
Color:	Silver	Unknown

Odometer:	8767.3km (5,445.5 miles)	Unknown
Engine:	V-6, 3.0L	V-6, 2.8L
Transmission:	4-speed automatic overdrive, column mounted transmission selector lever	Unknown
Steering:	Power-assisted rack-and-pinion	
Brakes:	Power-assisted 4-wheel disc	
Padding:	Upper and mid instrument panel, soft edged steering wheel rim and air bag module cover, door panels, adjustable head restraints, sunvisors	
Manual Restraints:	3-point lap and shoulder belts in the four outboard seated positions, center front and center rear lap belts	
Automatic Restraints:	Driver's side air bag Supplemental Restraint System (SRS) which deployed as a result of the crash	
Tow Status:	Towed due to vehicle damage	Towed due to vehicle damage

VEHICLE DAMAGE :

Exterior:	**Air Bag Vehicle**	**Vehicle #2**
	The 1990 Mercury Sable sustained moderate right side damage from the intersection related crash with vehicle #2. Maximum crush was 35.3 cm (13.9") located at the leading edge of the right front fender. Direct contact damage began 26.7 cm (10.5") forward of the right front axle and extended 49.5 cm (19.5") forward to the corner of the front bumper. The combined induced and direct contact damage was 64.8" (25.5") which began 14.0 cm (5.5") forward of the reference axle. Crush values at bumper level along the damaged right side of the vehicle were as follows: C_1 = 0 cm , C_2 = 15.2 cm (6.0"), C_3 = 21.8 cm (8.6"), C_4 = 30.2 cm (11.9"), C_5 = 35.3 cm (13.9"), C_6 = 30.2 cm (11.9"). The 2 o'clock impact force displaced the right front fender and its related components laterally to the left and compressed the right bumper energy absorbing device 0.6 cm (0.25"). Components damaged by the crash included the right front fender, right headlamp assembly, front bumper facia, bumper valance, and the header panel.	The 1989 Oldsmobile Cutlass was not inspected, therefore the specific damage pattern is unknown. The police report identified damage to the right frontal area of the vehicle and as a result, the vehicle was towed from the scene.
CDC:	O2-RFEW-3	11-FREW-2 (estimated)
Repair Cost:	Total loss	Unknown

VEHICLE DAMAGE (CONT'D.):

Interior (Air Bag Vehicle): The interior of the Mercury Sable sustained minor damage that was associated with driver contact and injury. There was no intrusion of interior components or deformation from exterior damage.

The driver initially loaded the manual 3-point lap and shoulder belt system as she responded to the right side impact force. Her loading force against the belt webbing fractured the plastic sill trim panel at the inboard edge of the lap belt anchorage point. The driver's subsequent contact with the deploying air bag produced two areas of abrasion to the face of the bag at the upper right and lower right quadrants. She subsequently bled profusely from facial injuries onto the deployed air bag, seat belt webbing, and left front seat cushion.

The blood stains on the belt webbing began 16.5 cm (6.5") below the latchplate stop button and extended 90.2 cm (35.5") above the stop on both the outside and inside surfaces of the webbing. These stains, in combination with the fractured trim panel verified belt usage at the time of the crash. With the belt in the retracted position, the majority of the stains were concealed by the B-pillar trim panel.

AUTOMATIC RESTRAINT SYSTEM

The 1990 Mercury Sable was equipped with a driver's side air bag Supplemental Restraint System (SRS) which deployed as a result of the crash. The SRS consisted of three front mounted crash sensors, the steering wheel mounted driver's side air bag module, and a instrument panel mounted diagnostic unit and safing sensor. The SRS deployed as designed and there was no damage to the components. The right front crash sensor was displaced in a counterclockwise direction due to the right side impact damage.

The steering wheel mounted air bag module cover opened at the designated tear points in an asymmetrical flap configuration. The large upper flap measured 20.3 cm (8.0") in width and 12.4 cm (4.9") in height while the lower flap had respective measurements of 20.3 cm and 3.5 cm (1.4"). The air bag was constructed of a woven nylon fabric with a neoprene liner and measured approximately 61 cm (24") in diameter in its deflated state. The bag was vented by two 2.5 cm (1.0") vent ports that were located on the back side of the bag (side opposite of driver) at the 2 and 8 o'clock positions. The air bag was tethered by four internal tether straps that were sewn to the face of the bag in an octagonal pattern with three rows of external stitching. The face of the air bag was stained with blood and contained two areas of abrasions which were probably related to driver facial and eyeglass contact. The larger area of abrasion was located at the lower left quadrant of the bag, approximately 10-15 cm (4-6") below the horizontal centerline and 3.8-14.0 cm (1.5-5.5") right of center. The second area of abrasion was located at the upper right quadrant of the bag approximately 11.4-15 cm (4.5-6") above the centerline and 2.5-5 cm (1-2") right of center. It should be noted that the steering wheel was rotated 180 degrees from the straight forward position (12-6 o'clock) at the time of our inspection, therefore the abrasions appear opposite in the attached photographs.

COLLISION SEQUENCE:

Pre-Crash: The driver of the 1990 Mercury Sable was traveling in an westerly direction on the inboard travel lane of the divided roadway as she approached the four leg intersection on a green signal phase. She decelerated and entered the designated left turn lane in preparation for a left turn onto the intersecting roadway. A road construction zone was set up at the southeast quadrant of the intersection. The driver stated that she momentarily stopped at the mouth of the intersection to check for approaching eastbound traffic and the position of the workmen prior to initiating the left turn. She observed a eastbound vehicle (vehicle #2) approaching the intersection, however, the driver of the Mercury Sable thought she had sufficient time to safely turn across the approaching vehicle's path of travel.

The driver of vehicle #2 was traveling in an easterly direction at an unknown rate of speed as she descended the 2 percent negative grade on her approach to the intersection. The police report noted that the traffic signal was in a green phase for both east and westbound traffic flow. There was no left turn signal arrows for the designated left turn lanes.

The driver of the Mercury Sable apparently misjudged the speed of the Oldsmobile Cutlass or the distance that the vehicle was from the intersection. She initiated her left turn across the eastbound travel lanes and into the path of the Oldsmobile Cutlass. There was no pre-crash avoidance action (i.e., braking) initiated by the driver of the Mercury Sable. It was unknown if the driver of the Oldsmobile Cutlass initiated avoidance maneuvers. The investigating officer did not note the presence of physical evidence (i.e., skid marks) at the crash scene.

Crash: The center and right frontal area of the Oldsmobile Cutlass impacted the right front side area of the left turning Mercury Sable. Although the Oldsmobile Cutlass was not inspected, resultant directions of force were probably with the 11 o'clock sector for the Cutlass and 2 o'clock (PDOF 50 degrees) for the struck Mercury Sable. The impact resulted in a sufficient longitudinal deceleration which deployed the Mercury's supplemental driver's side air bag system.

Post Crash: The struck 1990 Mercury Sable rotated approximately 83 degrees in a counterclockwise direction prior to coming to rest diagonally across the mouth of the northbound travel lanes at the south leg of the intersection approximately 8.5 m (28') southeast of the point of impact. Vehicle #2, the 1989 Oldsmobile Cutlass, was displaced in a clockwise direction approximately 7.6 m (25') south of the point of impact prior to coming to rest straddling the curbed median at the south leg of the intersection. Final rest positions were based on the police schematic of the crash.

HUMAN FACTORS/OCCUPANT DATA

Driver:	85 year old female
Height:	161.3 cm (63.5")
Weight:	55 kg (123 lbs.)
Seat Position:	Forward, upright driving posture, both hands placed on steering wheel
Manual Restraint System Usage:	3-point lap and shoulder belt system
Usage Source:	Driver interview, vehicle inspection, police report
Eyewear:	Prescription eyeglasses, metal frame with plastic lenses, compressed into face by deploying air bag, frames deformed, lenses shattered, displaced from driver's face
Vehicle Familiarity:	Approximately 3.5 years, 8690 km (5,400 miles)
Route Familiarity:	Daily
Trip Plan:	Returning to residence
Mode of Transport From Scene:	Ambulance
Type of Medical Treatment:	Admitted to local hospital for treatment of injuries, subsequent out-patient surgeries

DRIVER INJURIES:

Injury	Severity (OIC/AIS)	Source
Displaced, closed nasal bone fractures with closed septal fracture which rresulted in left nasal passage obstruction	Moderate (251004.24)	Air bag/ eyeglasses

Multiple small conjunctival lacerations of the right eye with a subconjunctival hemorrhage that was dense, occluding view of the sclera temporally between the 12 and 6 o'clock position	Minor (240416.11)	Air bag/shattered eyeglass lens
Small right corneal abrasions	Minor (240602.11)	Air bag/shattered eyeglass lens
Bilateral hyphema, with a dense clot occupying the left pupil space	Minor (240604.11, 240604.12)	Air bag
Right iridocorneal patch superiorly with an iris dialysis superiorly occupying the area between the 10 and 2 o'clock positions	N/A, result of an injury	
Severe blunt force trauma to bilateral globes with deformation of the right anterior chamber	N/A, not a codeable injury	Air bag
Left iris injury	N/A, not a codeable injury	Air bag
Sutured laceration of the forehead	Minor (290600.17)	Air bag/ eyeglasses
Right pupil distortion of half a crescent, inferiorly with the iris pulled inferiorly, with the patch to the cornea from limbus to limbus superiorly	N/A, not a codeable injury	Air bag
Small corner triangular fracture of the anterior/inferior aspect of the body C_6 (cervical spine) with measured approximately 3 mm in diameter	Moderate (650230.26)	Probable ligament pull from hyperextension of neck
Bilateral ecchymosis of the eyelids	Minor (297402.11, 297402.12)	Air bag

Hematoma over right knee with swelling	Minor (890402.11)	Knee bolster/steering column cover
Multiple superficial lacerations of the face and nose	Minor (290602.14, 290602.10)	Air bag/eyeglass frames and lenses
Ecchymosis and contusions of face	Minor (290402.10)	Air bag
Laceration of lower lip	Minor (290600.18)	Air bag/teeth
Severe swelling of the face and orbital areas	N/A, result of an injury	
Formation of cataracts bilaterally	N/A, result of an injury	
Left anterior shoulder contusion	Minor (790402.12)	Shoulder belt webbing
Left anterior chest contusion which extended across left breast	Minor (490402.12)	Shoulder belt webbing
Lower abdominal contusion	Minor (590402.18)	Lap belt webbing
Right lip contusion	Minor (890402.11)	Lap belt webbing/seat belt buckle
Possible nerve injury in left shoulder/elbow area which resulted in numbness in fingers	N/A, not a codeable injury	Shoulder belt webbing, and/or air bag
Contusion of the anterior aspect of the left forearm and upper arm	Minor (790402.12)	Air bag
Contusion of the anterior right upper arm	Minor (790402.11)	Air bag
Multiple facial abrasions across both cheeks	Minor (290202.10)	Air bag
Abraded lips with swelling	Minor (290202.18)	Air bag

Abrasion of the right anterior chin	Minor (290202.18)	Air bag
0.25" diameter burn type injury of the left upper eyelid	Minor (297202.12)	Air bag
Anterior neck contusion	Minor (390402.15)	Air bag
Two small fragments of eyeglass lens (plastic) were found under the right eyelid; however, there was no penetration of the eye	N/A, not an injury	Air bag contact with eyeglasses and subsequent shattering of plastic lenses
Pain in both heels	N/A, not a codeable injury	Probable floor contact

DRIVER KINEMATICS

The driver of the 1990 Mercury Sable was in a normal upright driving posture with the seat track adjusted to a forward position at impact which placed her within a close proximity to the steering wheel and air bag module assembly. She stated that she drives with both hands on the steering wheel and maintains a center adjustment on the tilt steering wheel. The driver was properly wearing the manual 3-point lap and shoulder belt system. Belt usage was confirmed by blood stains on the webbing and a loading fracture of the plastic trim panel at the lap belt anchorage point.

The driver was wearing a new pair of prescription eyeglasses that she obtained through her insurance provider approximately two weeks prior to the crash. The eyeglasses consisted of a full metal frame with plastic prescription lenses. In addition to the eyeglasses, the driver was wearing a watch on her left wrist, a ring on each ring finger, slacks, and a short sleeved blouse.

As a result of the impact, the supplemental driver's side air bag system deployed. The driver responded to the impact force by moving on a trajectory that was forward and to her right, initially loading the manual 3-point lap and shoulder belt system. Her loading force against the belt webbing fractured the sill mounted plastic trim panel adjacent to the outboard anchorage point of the lap belt. As a result of her involvement with the belt webbing, the driver sustained a left anterior shoulder contusion (AIS-1), a left anterior chest contusion which extended across the left breast (AIS-1), a lower abdominal contusion (AIS-1) from the lap belt, and a right hip contusion (AIS-1) from the lap belt and/or buckle and latchplate assembly. Due to the driver's forward seated position, her knees contacted the right side of the knee bolster and the lower steering wheel cover. Scuffs were noted to the contacted components. The contact resulted in a hematoma over the right knee with swelling (AIS-1).

Due to the driver's forward seated position, the deploying air bag contacted and expanded across the driver's facial and anterior neck areas as she responded to the impact force. The driver sustained an abrasion of the right anterior chin (AIS-1), abrasions across the lips and bilateral cheeks (AIS-1), and a laceration of the lower lip (AIS-1) that probably resulted from compression of the lip against the teeth. The air bag contacted and compressed the eyeglasses against the driver's face, deforming the metal frames and shattering the plastic lenses. (Plastic lens fragments were retrieved from the Mercury Sable by family members prior to Calspan's inspection of the vehicle. Additional lens fragments were found in the vehicle during the inspection process. A large 3.2 x 1.3 cm (1.25 x 0.5") triangular lens fragment was found on the right rear floor of the vehicle adjacent to the C-pillar with two small fragments on the right rear floor pan and center rear seat cushion.) The air bag and lens fragments directly contacted the driver's eyes and eyelids. She sustained multiple small conjunctival lacerations of the right eye with subconjunctival hemorrhage (AIS-1), small right corneal abrasions (AIS-1), bilateral hyphema (AIS-1), bilateral ecchymosis of the eyelids (AIS-1), severe blunt force trauma to the globes bilaterally, and right pupil distortion. In addition to the eye injuries, the driver also sustained a displaced, closed nasal bone fracture with a septal fracture (AIS-2), a laceration of the forehead which required sutures (AIS-1), multiple superficial lacerations and contusions of the face (AIS-1) with severe swelling of the orbital areas.

The deploying air bag probably displaced the driver's head in a rearward direction which produced a hyperextension of the neck. This hyperextension probably pulled a cervical ligament which resulted in a 3 mm triangular fracture of the anterior/inferior aspect of the body of C_6 (AIS-2). The moderate severity fracture did not produce spinal cord injury or a neurological deficit.

The air bag also expanded against the driver's forearms as she maintained her grip on the steering wheel rim. The bag contused the anterior aspect of her right upper arm (AIS-1) and the anterior aspect of her left forearm and upper arm area (AIS-1). A faint scuff was noted to the left A-pillar which indicated a possible hand or wrist contact. The driver complained of a numbness in the left hand which possibly resulted from pillar contact or was the result of a possible nerve injury in the left shoulder or elbow area.

The driver came to rest in an upright attitude in the left front seat position in a conscious state and bleed profusely onto the deflated air bag, her clothing, seat cushion, and manual seat belt webbing. She immediately lost sight in both eyes and stated that she could only detect an orange blur and could not see shapes or objects. Rescue personnel responded to the crash scene and removed the driver from the vehicle and transported her by ambulance to a local hospital.

Medical Treatment

Following her arrival to the hospital, the driver was initially examined in the emergency room where her primary complaint focused on her eyes. The ER staff attended to the soft tissue injuries and ordered X-rays of the right shoulder, head, face, cervical spine, chest, pelvis, and lower extremities. An ophthalmologist was consulted who examined the driver and scheduled eye surgery on the night of admission.

The ophthalmologist probed the eyes and removed two small shards of plastic eyeglass lens from under the eyelid. He noted that the lens fragments did not penetrate the eye and that they produced superficial damage to the eye. Eye pressures were measured at approximately 20 mmHg bilaterally. The ophthalmologist explored the right eye and performed a reformation of the right anterior chamber, repaired the right conjunctival laceration, and injected the eye with the medications vancomycin and ceftazidime. He concluded the surgery by suturing the forehead laceration.

The compressive force exerted on the eyes resulted in bilateral cataracts that developed rapidly following the crash. The eyes were patched and the driver was admitted to the hospital for additional treatment and monitoring.

On [redacted] 1990, three days post-crash, the driver was admitted to surgery to repair the displaced nasal fractures. Closed reduction surgery was performed to repair the nasal and septal fractures and to realign the bones to clear the nasal passageways. The driver tolerated the procedure well and was discharged to the care of a nursing home on [redacted]

The driver had two additional surgeries on [redacted] and [redacted] for removal of the cataracts which formed in the eyes as a result of her involvement with the air bag. The ophthalmologist who performed the surgeries stated that the driver had regained 20/30 *corrected* vision in the left eye and was expected to recover similar vision in the right eye.

Selected Photographs
Case No. 94-25
[redacted], MD

1. & 2. Pre-crash trajectory of the Mercury Sable.

3. Area of impact.

4. Pre-crash trajectory of the Oldsmobile Cutlass.

5. Trajectory of the Oldsmobile Cutlass to impact.

6. Frontal view of the Mercury Sable.

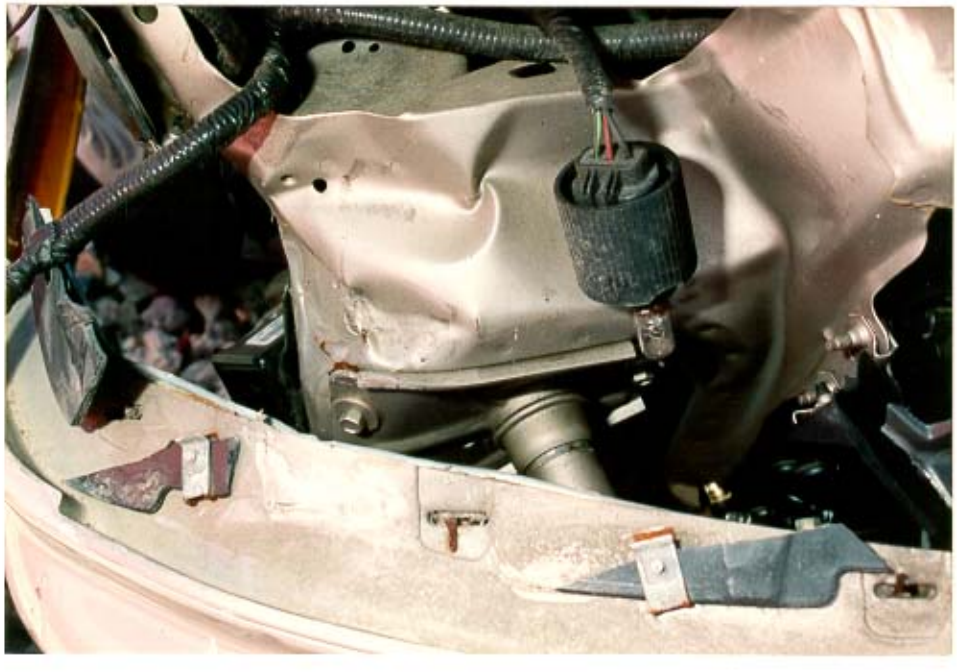
7. Left front three-quarter view of the Mercury Sable.

8. Profile view of the left front corner area.

9. Left side view.

10. Right rear three quarter view.

11. Impact damage to the right front side area.

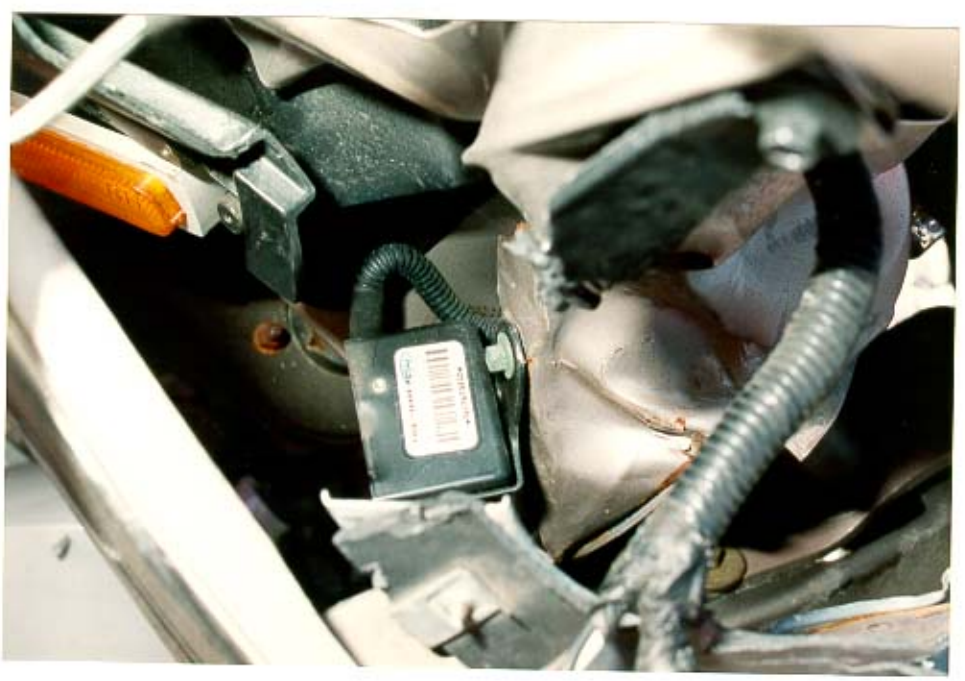


12. Lateral displacement of the bumper and bumper isolator.

13. Lateral displacement of the impact area.

14. Engine compartment of the Mercury Sable.

15. Center front air bag crash sensor.



16. Right front air bag crash sensor.

17. Overall view of the driver's compartment and the deployed air bag.

18. Driver contact points on the deployed air bag.

19. Driver's seat and the manual belt system.

20. Blood transfers on the seatbelt webbing.

21. Belt loading fracture to the plastic sill trim.

22. Profile view of the steering wheel; no deformnation.

23. Air bag vent port and module cover flap configuration (wheel rotated 180 degrees).

24. Driver knee loading to the steering column cover and bolster.

25. Driver left hand contact to left A-pillar.

26. Overall interior view from the right door area.

27. Eyeglass plastic lens fragment on the right rear floor mat.

28. Large eyeglass lens fragment adjacent to base of left C-pillar.

29. Addition lens fragment on center rear seat cushion.

30. Deformed eyeglass frames from air bag involvement.

31. Additional view of the deformed metal eyeglass frames.

32. Shattered plastic lens fragments recovered from vehicle by family members.

33. & 34. Additional views of the plastic eyeglass lens fragments.

ATTACHMENT B:

Police Accident Report

State of Maryland Motor Vehicle Accident Report

BEST AVAILABLE COPY

REPORT NO. [redacted] | PAGE OF 1 1 | ACCIDENT DATE 3 [redacted]94 | ACCIDENT TIME 4 1525 | REPORT TYPE 5 ☐ FATAL ☒ INJURY ☐ PDO ☐ HIT & RUN ☐ NON-TRAFFIC | RESEARCH 6 | LOCAL CASE NUMBER [redacted] | LOCAL CODES [redacted]

INVESTIGATING OFFICER ID 10 [redacted] | AGENCY [redacted]A 11 Cm 1548 | SUPERVISING OFFICER ID 12 [redacted] | REVIEWER ID # 13 | CODE – AND – NAME OF ME [redacted] 14

RD CHAR 75 02 | RTE NUM Accident Occurred On 17 [redacted] | ROAD NAME 18 [redacted] | IN LANE 19 E2 | TRAF SIG ☐ NO 20 ☐ YES | ON RAMP ☐ NO 21 ☐ YES | Ramp Number (Direction) 1 N-W 2 W-N 3 E-N 4 N-E 5 S-E 6 E-S 7 W-S 8 S-W 9 Other 0–Not Ramp 22 | IN INTERSECT ☐ NO ☒ YES

RD COND 24 01 | INT-RTE 25 [redacted] | INTERSECTING NAME or Log Mile Reference Manual description. 26 | MILEPT 27 600.65W | DIR 28 | Dist. of Acc fr INT-RTE/Ref. & Dir. 29 600.00 ☐ Ft ☐ Mi

RD DIV 30 03 | ACCIDENT DIAGRAM | Draw & Label: Roads, Traffic Units, and Travel Direction consistent with the Log Mile Reference Manual, and Movement of Traffic Units. 31 | NORTH: 32

SRF COND 34 02 | CRN [redacted] | GRN | AOR [redacted]

CZM ZONE ☒ NO 35 ☐ YES

JUNCTN 36 02

EVENT-1 37 01

EVENT-2 38 00

FIX OBJ 39 04

COLL TY 40 02

LIGHT 41 01

WEATHER 42 01

DESCRIBE ACCIDENT briefly: identify units by numbers. Also identify the following a) the OBJECT DAMAGED & NATURE OF DAMAGE (Property other than vehicles) and b) the NAME & ADDRESS OF OWNER when applicable.

VEH 1 WEST ON [redacted] AVE. DRIVER ATTEMPTED TO TURN LEFT ONTO SOUTHBOUND [redacted]. DRIVER OF VEH 1 FAILED TO YIELD TO VEH 2 WHICH WAS EAST ON [redacted] AVE WAS STRUCK BY VEH 2.

UNIT # 01

UNIT # 43 01 | NAME (First, Middle, Last) 44 [redacted] | SEX 45 02

ADDRESS (No., Street, City, State, Zip) [redacted] | TEL ☐ Work ☐ Res 47 | INJ 48 4

TYPE OF UNIT 46 ☒ DRIVER ☐ "PED" | EMS 49 A

MOVEMENT 50	CONDITN 51	SUBST 52	TEST 53	RESULT 54	FOR PEDS ONLY	AGE 55	TYPE 56	LOCAT'N 57	OBEY 58	VISIBL 59
12	01	01	00	00		0				

SPEED LIMIT 60 30 | SAF. EQU 61 3 | EQ PROB 62 0 | EJECT 63 0 | CITATION NUMBER (S) 64 NONE ISSUED | FAULT ☐ NO 65 ☒ YES

GOING 66 04 | DRIVER'S LICENSE NUMBER [redacted] | STATE 68 [redacted] | CLASS 69 C

CONTINU 70 02 | DR DATE OF BIRTH 71 [redacted] | IRREGULAR CONDITION 72 ☐ PARKED ☐ CAUGHT FIRE ☐ HIT & RUN ☐ DRIVERLESS | HM SPILL 73 ☒ N ☐ Y | HAZ MAT NUMBER 74

BODY TY 75 02 | COMMER VEHICLE ONLY | U.S. DOT NUMBER 76 | ICC NUMBER 77 | BODY TY 78 | CDL? ☐ NO 79 ☐ YES

MOST HE 80 00 | OWNER OR CARRIER NAME (Write "SAME" if Driver) SAME | TEL ☐ Work ☐ Res 81

CONTRIB CIRCUM-STANCES 82-1 01 | OWNER / CARRIER ADDRESS 83 | TOWED VEH (S) 84 00

82-2 11 | YEAR & MAKE OF VEHICLE 85 90 MARC | MODEL 86 SABER | 1st IMPACT PT. 87 03 | MAIN IMPACT 88 03

82-3 00 | EXP YR & REGISTR # STATE 89 [redacted] | AREAS DAMAGED 90 03 02 17 | INSURER 91

82-4 00 | VEHICLE ID NUMBER 92 [redacted] | POLICY NUMBER 93

DAM EXT 94 01 | VEHICLE REMOVED BY [redacted] | VEHICLE REMOVED TO 96 LOT

UNIT # 02

UNIT # 43 02 | NAME (First, Middle, Last) 44 [redacted] | SEX 45

ADDRESS (No., Street, City, State, Zip) [redacted] | TEL ☐ Work ☐ Res 47 | INJ 48 A

TYPE OF UNIT 46 ☒ DRIVER ☐ "PED" | EMS 49

MOVEMENT 50	CONDITN 51	SUBST 52	TEST 53	RESULT 54	FOR PEDS ONLY	AGE 55	TYPE 56	LOCAT'N 57	OBEY 58	VISIBL 59
01	01	01	03	00		0				

SPEED LIMIT 60 30 | SAF. EQU 61 1 | EQ PROB 62 0 | EJECT 63 0 | CITATION NUMBER (S) 64 NONE | FAULT ☐ NO 65 ☐ YES

GOING 66 03 | DRIVER'S LICENSE NUMBER [redacted] | STATE 68 MD | CLASS 69 C

CONTINU 70 03 | DR DATE OF BIRTH 71 [redacted] | IRREGULAR CONDITION 72 ☐ PARKED ☐ CAUGHT FIRE ☐ HIT & RUN ☐ DRIVERLESS | HM SPILL 73 ☐ N ☐ Y | HAZ MAT NUMBER 74

BODY TY 75 02 | COMMER VEHICLE ONLY | U.S. DOT NUMBER 76 | ICC NUMBER 77 | BODY TY 78 | CDL? ☐ NO 79 ☐ YES

MOST HE 80 00 | OWNER OR CARRIER NAME (Write "SAME" if Driver) [redacted] | TEL ☐ Work ☐ Res

CONTRIB CIRCUM-STANCES 82-1 00 | OWNER / CARRIER ADDRESS SAME | TOWED VEH (S) 84 00

82-2 00 | YEAR & MAKE OF VEHICLE 85 85 DODG | MODEL 86 CUST | 1st IMPACT PT. 87 00 | MAIN IMPACT 88 00

82-3 00 | EXP YR & REGISTR # STATE 89 [redacted] | AREAS DAMAGED 90 03 01 02 17 | INSURER

82-4 00 | VEHICLE ID NUMBER [redacted] | POLICY NUMBER

DAM EXT 94 01 | VEHICLE REMOVED BY [redacted] | VEHICLE REMOVED TO LOT

TRAFFIC UNIT #	SEATING POSITION	CODE all injured & uninjured PASSENGERS below. Use "W" for witness in TRAF UNIT and SEAT columns. WRITE NAME & ADDRESS of Injured Passengers and Witnesses.	Witness telephone #	SEX	AGE	SAFETY EQUIP	EQUIP PROB.	INJUR SEVER	EJEC-TION
A2	A3	[redacted]	99	100	0 101	102	103	104	105
					0				
					0				
					0				
					0				
					0				
					0				

E UNIT M A S 106 INJURED TAKEN BY: [redacted] | INJURED TAKEN TO: [redacted] | EMS RUN REPORT # 110 | E UNIT M B S 107 INJURED TAKEN BY: 108 | INJURED TAKEN TO: 109 | EMS RUN REPORT # 111

MSP FORM #1 (11/93)

POLICE DEPARTMENT COPY

(1994)

BEST AVAILABLE COPY

UNIVERSAL ACCIDENT CODES: 96 Not Applicable 98 Other 99 or UU Unknown

18 ROAD CHARACTER
01 Straight & Level
02 Straight & Grade
03 Straight & Hillcrest
04 Curve & Level
05 Curve & Grade
06 Curve & Hillcrest
07 On Bridge

19 IN LANE:
Direction (Pos. 1)
N North
E East
S South
W West
P Parking
Number (Pos. 2)
(Lane #: 0 thru 9)
R Right Turn
L Left Turn
A Acceleration
D Deceleration
S Shoulder
X Crossover
O Off Road
G Gore
M Median
L (Parking) Lot

24 ROAD CONDITION
01 No Defects
02 Shoulder Defect
03 Holes, Ruts, Etc.
04 Foreign Material
05 Loose Surface Material
06 Obstruction Not Lighted
07 Obstruct. Not Signaled
08 View Obstructed

30 ROAD DIVISION
01 Not Divided
02 One Way Road or Street
03 Divided: Median strip without Barrier
04 Divided: Median strip with Barrier

34 SURFACE CONDITION
01 Wet
02 Dry
03 Snow
04 Ice
05 Mud

36 JUNCTION RELATIONSHIP
01 Non-Intersection
02 Intersection
03 Intersection Related
04 Driveway Access

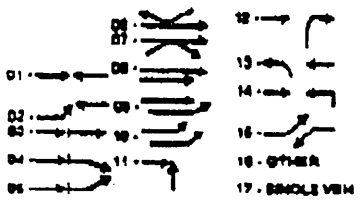
37 HARMFUL EVENT-1
38 HARMFUL EVENT-2

Collision With:
01 Other Motor Vehicle in Transport
02 Parked Motor Vehicle
03 Pedestrian
04 Bicycle
05 Other Pedalcycle
06 Other Conveyance
07 Railway Train
08 Animal
09 Fixed Object
10 Other Object

Non-collision:
11 Overturn
12 Spilled Cargo
13 Jackknife
14 Separation of Units
15 Other Non-Collision

39 FIXED OBJECT STRUCK
01 Bridge-Overpass
02 Building
03 Culvert-Otten
04 Curb
05 Guardrail-Barrier
06 Embankment
07 Fence
08 Light Support Pole
09 Sign Support Pole
10 Other Pole
11 Tree-Shrubbery
12 Construction Barrier
13 Crash Attenuator

40 COLLISION TYPE (Veh-to-Veh)



41 LIGHT
01 Daylight
02 Dawn or Dusk
03 Dark: Street Lights On
04 Dark: No Street Lights

42 WEATHER
01 Clear or Cloudy
02 Foggy
03 Raining
04 Snow or Sleet
05 Severe winds

45 SEX
01 Male
02 Female

46 INJURY
01 Not Injured/Not Known
02 Possible Injury
03 Inj.—not Incapacitated
04 Disabled (Incapacitated)
05 Fatal

50 MOVEMENT
Vehicle Movement
01 Moving Constant Speed
02 Accelerating
03 Slowing or Stopping
04 Starting from Traffic Lane
05 Starting from Parked Pos.
06 Stopped in Traffic Lane
07 Changing Lanes
08 Passing
09 Parking
10 Parked
11 Backing
12 Making Left Turn
13 Making Right Turn
14 Making Right Turn on Red
15 Making U Turn
16 Skidding
17 Driverless Moving Vehicle
PED Movement
51 Cross/Enter at Intersection
52 Cross/Ent Not at Intsect
53 Walking/Riding w/Traffic
54 Walk/Ride Against Traffic
55 Playing
56 Standing (continued→)
57 Getting On/Off Vehicle
58 Push/Work on Vehicle
59 Other Working
60 Hitchhiking
61 Approach/Leave School Bus

51 CONDITION
01 Apparently Normal
02 Had Been Drinking
03 Using Drugs
04 Physical Defects
05 Other Handicaps
06 Ill
07 Fatigued
08 Apparently Asleep

52 SUBSTANCE DETECTED
01 No Substance Detected
11 Alcohol Present
12 Illegal Drug Present
13 Medication Present
14 Combined Subst. Present
21 Alcohol Contributed
22 Illegal Drug Contributed
23 Medication Contributed
24 Combination Contributed

53 TEST ADMINISTERED
01 Test (s) Refused
02 Positive Prelim. Test
03 Evidence Test Given

56 PED TYPE
01 Pedestrian
02 Bicyclist
03 Other Pedalcyclist
04 Rider of animal
05 In animal-drawn vehicle
06 Machine operator/rider
07 Other Conveyance

57 PED LOCATION
01 Shoulder
02 Curb
03 Sidewalk
04 Outside Right of Way
05 On Roadway at Crosswalk
06 On Roadway Not at Crswlk
07 In School Bus Zone
08 In Bikeway

58 PED OBEDIENCE
01 No pedestrian signal
02 Obeyed pedestrian signal
03 Disobeyed ped. signal
04 Ped. signal malfunction

59 PED VISIBILITY
01 Light Clothing
02 Dark Clothing
03 Mixed Clothing
04 Reflective Material
05 Head Light
06 Rear Light Reflector
07 Head Light & Rear Reflect

61 DR SAFETY EQUIP USE
01 None
11 Lap Belt Only
12 Shoulder Belt Only
13 Shoulder/Lap Belt (s)
14 Child/Youth Restraint
21 MC/Bike Helmet
22 MC/Bike Eye Shield Only
23 MC/Bike Helment & Shield
31 Air Bag (Only)
32 Air Bag & Belt (s)

62 DR EQUIPMENT PROBLEM
01 No Misuse/Problem (Use OK)
11 Belt (s)/Anchor (s) Broke
13 Belt (s) Misused
31 Air Bag Failed to Deploy

68 DR EJECTION
01 Not ejected; not trapped
02 Fully Ejected
03 Partially Ejected
04 Trapped

69/70 (DIRECTION) GOING/CONTINU
01 North
02 South
03 East
04 W

72 IRREGULAR CONDITION
01 Commercial
02 Parked
03 Hit & Run
04 Non-Contact
05 Driverless
06 Caught Fire

73 (VEH) BODY TYPE
01 Motorcycle
02 Automobile
03 Station Wagon
04 Limousine
05 Single Truck 2 axles
06 Single Truck 3 axles
07 Truck Tractor
08 Recreational Vehicle
09 Farm Vehicle
10 Transit Bus
11 Cross Country Bus
12 School Bus
13 Ambulance/Emergency
14 Ambulance/Non-Emergency
15 Fire Vehicle/Emergency
16 Fire Vehicle/Non-Emerg
17 Police Veh/Emergency
18 Police Veh/Non-Emerg
19 Moped
20 Pickup Truck
21 Van

75 COMM BODY TYPE
01 Bus
02 Van/Encl. Box
03 Truck-Tractor
04 Cargo Tank
05 Flatbed
06 Dump
07 Concrete Mixer
08 Auto Transporter
09 Garbage/Refuse

80 (VEH) MOST HARMFUL EVENT

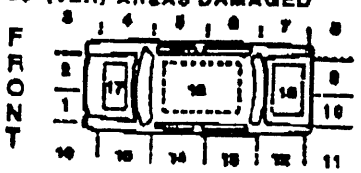
Collision With:
01 Other Motor Vehicle in Transport
02 Parked Motor Vehicle
03 Pedestrian
04 Bicycle
05 Other Pedalcycle
06 Other Conveyance
07 Railway Train
08 Animal
09 Fixed Object
10 Other Object

Non-collision:
11 Overturn
12 Spilled Cargo
13 Jackknife
14 Separation of Units
15 Other Non-collision

82-1/83/84 CONTRIB CIRCUMSTANCE
Drivar/Ped/Cyclist
01 Under influence of drugs
02 Under influence: alcohol
03 Under infl. of medication
04 Under combined influence
05 Physical/ment. difficulty
06 Fell asleep, fainted, etc.
07 Failed to give full time and attention
08 Did not comply with license restrictions
11 Fail: yield right of way
12 Fail to obey stop sign
13 Fail: obey traffic signal
14 Fail: obey oth traf contr
15 Fail: keep right of center
16 Fail: stop for school bus
17 Wrong way on one way road
18 Exceeded speed limit
21 Too fast for conditions
22 Followed too closely
23 Improper turn
24 Improper lane change
25 Improper backing
26 Improper passing
27 Improper signal
28 Improper parking
29 Interference/Obstruction by passenger
Ped/Cyclist ONLY
31 Illegally in roadway
32 Bicycle violation
37 Clothing not visible
Environment
41 Smog, smoke
42 Sleet, hail, freez. rain
43 Blowing sand, soil, dirt
44 Severe crosswinds
45 Rain, snow
46 Animal
47 Vision obstruction (incl. blinded by sun or lights)
Vehicle
51 Brakes
52 Tires
53 Steering
54 Lights
55 Windows/windshield
56 Wheel (s)
57 Trailer coupling
58 Cargo
Road
61 Wet
62 Icy or slushy
63 Debris or obstruction
64 Ruts, holes, bumps
65 Road under const/maint.
66 Traffic control device inoperative
67 Shoulders low, soft, high

84 (VEH) TOWED VEHICLES
01 1 Semi Trailer
02 1 Semi + 1 Full Trailer
03 1 Full Trailer
04 2 Full Trailers
05 3 Trailers
06 Automobile
07 Utility Trailer
08 Boat Trailer
09 Camper
10 Travel/Home Trailer
11 Mobile Home
12 Farm Equipment

87/88 FIRST/MAIN IMPACT PTS
90 (VEH) AREAS DAMAGED



17 Hood
18 Roof/Top
19 Truck
20 Windshield
21 Windows
22 Underside
23 Overturn (overall)

94 (VEH) DAMAGE EXTENT
01 No Damage
02 Superficial or Minor
03 Functional
04 Disabling
05 Destroyed

98 SEAT POSITION
01 Driver/MCycle Operator
02 Center Front Seat
03 Right Front Seat
04 Left Rear/MC Passenger
05 Center Rear Seat
06 Right Rear Seat
07 Other Seat IN Vehicle
08 In Cargo Area
09 OUTSIDE Vehicle

100 SEX
01 Male
02 Female

102 SAFETY EQUIPMENT USE
01 None
11 Lap Belt Only
12 Shoulder Belt Only
13 Shoulder/Lap Belt (s)
14 Child/Youth Restraint
21 MC/Bike Helmet
22 MC/Bike Eye Shield Only
23 MC/Bike Helmet & Shield
31 Air Bag (Only)
32 Air Bag & Belt (s)

103 EQUIPMENT PROBLEM
Adult/Youth Restraint
01 No Misuse/Problem (Use OK)
11 Belt (s)/Anchor (s) Broke
13 Belt (s) Misused
31 Air Bag Failed to Deploy
Child Restraint
42 Facing Wrong Way
43 Not Anchored Right
44 Anchor Not Secure
45 Not Strapped Right
46 Strap/Tether Loose
47 Size/Type Improper

104 PASS INJURY SEVERITY
01 Not Injured/not known
02 Possible Injury
03 Inj.—not incapacitated
04 Disabled (incapacitated)
05 Fatal

105 EJECTION
01 Not ejected; not trapped
02 Fully Ejected
03 Partially Ejected
04 Trapped

State of Maryland Motor Vehicle Accident Report

ATTACHMENT C:

NASS Vehicle Forms

U.S. Department of Transportation

National Highway Traffic Safety Administration

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ___

2. Case Number - Stratum 94-25

3. Vehicle Number 01

VEHICLE IDENTIFICATION

4. Vehicle Model Year 90
Code the last two digits of the model year
(99) Unknown

5. Vehicle Make (specify): 14
MERCURY
Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
(99) Unknown

6. Vehicle Model (specify): 017
SABLE LS
Applicable codes are found in your NASS Data Collection, Coding and Editing Manual.
(999) Unknown

7. Body Type 04
Note: Applicable codes may be found on the back of this page.

8. Vehicle Identification Number

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	M	E	C	M	5	3	U	4	L	G						

Left justify; Slash zeros and letter Z (Ø and Z)
No VIN—Code all zeros
Unknown—Code all nines

OFFICIAL RECORDS

9. Police Reported Vehicle Disposition 1
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

10. Police Reported Travel Speed 999
Code to the nearest kph (NOTE: 000 means less than 0.5 kph)
(160) 159.5 kph and above
(999) Unknown

___ mph X 1.6093 = ___ kph

11. Police Reported Alcohol Presence 0
(0) No alcohol present
(1) Yes (alcohol present)
(7) Not reported
(8) No driver present
(9) Unknown

Note: See variables 37 through 55 (Page 4) for information on Other Drugs

12. Alcohol Test Result For Driver 96
Code actual value (decimal implied before first digit—0.xx)
(95) Test refused
(96) None given
(97) AC test performed, results unknown
(98) No driver present
(99) Unknown

Source: ___

ACCIDENT RELATED

13. Speed Limit 048
(000) No statutory limit
Code posted or statutory speed limit in kph
(999) Unknown

30 mph X 1.6093 = 048 kph

14. Attempted Avoidance Maneuver 01
(01) No avoidance actions
(02) Braking (no lockup)
(03) Braking (lockup)
(04) Braking (lockup unknown)
(05) Releasing brakes
(06) Steering left
(07) Steering right
(08) Braking and steering left
(09) Braking and steering right
(10) Accelerating
(11) Accelerating and steering left
(12) Accelerating and steering right
(97) No driver present
(98) Other action (specify):
___
(99) Unknown

15. Accident Type 68
Applicable codes may be found on the back of page two of this field form
(00) No impact
Code the number of the diagram that best describes the accident circumstance
(98) Other accident type (specify):
___
(99) Unknown

****** SKIP TO VARIABLE GV37 IF GV07 DOES NOT EQUAL 01-49 ******

CODES FOR BODY TYPE

CDS APPLICABLE VEHICLES

Automobiles

(01) Convertible (excludes sun-roof, t-bar)
(02) 2-door sedan, hardtop, coupe
(03) 3-door/2-door hatchback
(04) 4-door sedan, hardtop
(05) 5-door/4-door hatchback
(06) Station wagon (excluding van and truck based)
(07) Hatchback, number of doors unknown
(08) Other automobile type (specify):

_____

(09) Unknown automobile type

Automobile Derivatives

(10) Auto based pickup (includes El Camino, Caballero, Ranchero, Brat, and Rabbit pickup)
(11) Auto based panel (cargo station wagon, auto based ambulance/hearse)
(12) Large limousine - more than four side doors or stretched chassis
(13) Three-wheel automobile or automobile derivative

Utility Vehicles (≤ 4,500 kgs GVWR)

(14) Compact utility (Jeep CJ-2 - CJ-7, Scrambler, Golden Eagle, Renegade, Laredo, Wrangler, Cherokee [84 and after], Dispatcher, Raider, Bronco II, Bronco [76 and before], Explorer, S-10 Blazer, Geo Tracker, Bravada, S-15 Jimmy, Thing, Pathfinder, Trooper, Trooper II, Rodeo, Amigo, Navajo, 4-Runner, Montero, Samurai, Sidekick, Rocky)
(15) Large utility (includes Jeep Cherokee [83 and before], Ramcharger, Trailduster, Bronco-fullsize [78 and after], fullsize Blazer, fullsize Jimmy, Landcruiser, Rover, Scout)
(16) Utility station wagon (Chevy Suburban, GMC Suburban, Travelall, Grand Wagoneer, includes suburban limousine)
(19) Utility, unknown body type

Van Based Light Trucks (≤ 4,500 kgs GVWR)

(20) Minivan (Chrysler Town and Country, Caravan, Grand Caravan, Voyager, Grand Voyager, Mini-Ram, Dodge/Plymouth Vista, Aerostar, Villager, Lumina APV, Trans Sport, Silhouette, Astro, Safari, Toyota Van, Toyota Minivan, Previa, Nissan Minivan, Quest, Mitsubishi Minivan, Vanagon/Camper.)
(21) Large van (B150-B350, Sportsman, Royal, Maxiwagon, Ram, Tradesman, Voyager [83 and before], E150-E350, Econoline, Clubwagon, Chateau, G10-G30, Chevy Van, Beauville, Sport Van, G15-G35, Rally Van, Vandura.)
(22) Step van or walk-in van (≤ 4,500 kgs GVWR)
(23) Van based motorhome (≤ 4,500 kgs GVWR)
(24) Van based school bus (≤ 4,500 kgs GVWR)
(25) Van based other bus (≤ 4,500 kgs GVWR)
(28) Other van type (Hi-Cube Van, Kary) (specify):

_____

(29) Unknown van type

Light Conventional Trucks (Pickup style cab, ≤ 4,500 kgs GVWR)

(30) Compact pickup (D50, Colt P/U, Ram 50, Dakota, Arrow Pickup [foreign], Ranger, Courier, S-10 , T-10, LUV, S-15, T-15, Sonoma, Datsun/Nissan Pickup, P'up, Mazda Pickup, Toyota Pickup, Mitsubishi Pickup)
(31) Large Pickup (Jeep Pickup, Comanche, Ram Pickup, D100-D350, W100-W350, F100-F350, C10-C35, K10-K35, R10-R35, V10-V35, Silverado, Sierra, R100-R500,)
(32) Pickup with slide-in camper
(33) Convertible pickup
(39) Unknown pickup style light conventional truck type

Other Light Trucks (≤ 4,500 kgs GVWR)

(40) Cab chassis based (includes rescue vehicles, light stake, dump, and tow truck)
(41) Truck based panel
(42) Light truck based motorhome (chassis mounted)
(45) Other light conventional truck type
(48) Unknown light truck type
(49) Unknown light vehicle type (automobile, utility, van, or light truck)

OTHER VEHICLES

Buses (Excludes Van Based)

(50) School bus (designed to carry students, not cross country or transit)
(58) Other bus type (e.g., transit, intercity, bus based motorhome) (specify):

_____

(59) Unknown bus type

Medium/Heavy Trucks (> 4,500 kgs GVWR)

(60) Step van (> 4,500 kgs GVWR)
(61) Single unit straight truck (4,500 kgs < GVWR ≤ 8,850 kgs)
(62) Single unit straight truck (8,850 kgs < GVWR ≤ 12,000 kgs)
(63) Single unit straight truck (> 12,000 kgs GVWR)
(64) Single unit straight truck, GVWR unknown
(65) Medium/heavy truck based motorhome
(67) Truck-tractor with no cargo trailer
(68) Truck-tractor pulling one trailer
(69) Truck-tractor pulling two or more trailers
(70) Truck-tractor (unknown if pulling trailer)
(78) Unknown medium/heavy truck type
(79) Unknown truck type (light/medium/heavy)

Motored Cycles (Does Not Include All-Terrain Vehicles/Cycles)

(80) Motorcycle
(81) Moped (motorized bicycle)
(82) Three-wheel motorcycle or moped
(88) Other motored cycle (minibike, motorscooter) (specify):_____
(89) Unknown motored cycle type

Other Vehicles

(90) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
(91) Snowmobile
(92) Farm equipment other than trucks
(93) Construction equipment other than trucks
(97) Other vehicle type
(99) Unknown body type

OCCUPANT RELATED

16. Driver Presence in Vehicle: 1
(0) Driver not present
(1) Driver present
(9) Unknown

17. Number of Occupants This Vehicle: 01
(00-96) Code actual number of occupants for this vehicle
(97) 97 or more
(99) Unknown

18. Number of Occupant Forms Submitted: 01

VEHICLE WEIGHT ITEMS

19. Vehicle Curb Weight: 1,420
____Code weight to nearest 10 kilograms.
(045) Less than 450 kilograms
(610) 6,100 kilograms or more
(999) Unknown

3,131 lbs X .4536 = ,___ kgs

Source: [redacted]

20. Vehicle Cargo Weight: 0,000
____Code weight to nearest 10 kilograms.
(000) Less than 5 kilograms
(450) 4,500 kilograms or more
(999) Unknown

___,___ lbs X .4536 = ,___ kgs

RECONSTRUCTION DATA

21. Towed Trailing Unit: 0
(0) No towed unit
(1) Yes—towed trailing unit
(9) Unknown

22. Documentation of Trajectory Data for This Vehicle: 0
(0) No
(1) Yes

23. Post Collision Condition of Tree or Pole (For Highest Delta V): 0
(0) Not collision (for highest delta V) with tree or pole
(1) Not damaged
(2) Cracked/sheared
(3) Tilted <45 degrees
(4) Tilted ≥45 degrees
(5) Uprooted tree
(6) Separated pole from base
(7) Pole replaced
(8) Other (specify):

(9) Unknown

24. Rollover: 0
(0) No rollover (no overturning)

Rollover (primarily about the longitudinal axis)
(1) Rollover, 1 quarter turn only
(2) Rollover, 2 quarter turns
(3) Rollover, 3 quarter turns
(4) Rollover, 4 or more quarter turns (specify):

(5) Rollover--end-over-end (i.e., primarily about the lateral axis)
(9) Rollover (overturn), details unknown

OVERRIDE/UNDERRIDE (THIS VEHICLE)

25. Front Override/Underride (this Vehicle): 0

26. Rear Override/Underride (this Vehicle): 0

(0) No override/underride, or not an end-to-end impact

Override (see specific CDC)
(1) 1st CDC
(2) 2nd CDC
(3) Other not automated CDC (specify):

Underride (see specific CDC)
(4) 1st CDC
(5) 2nd CDC
(6) Other not automated CDC (specify):

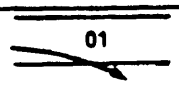
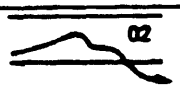
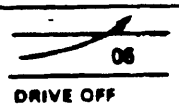
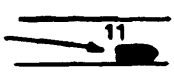
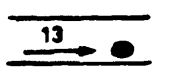
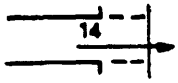
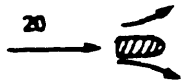
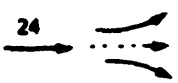
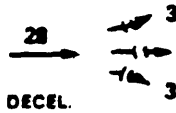
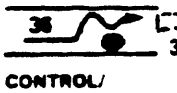
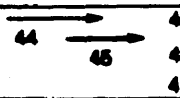
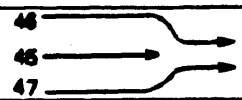
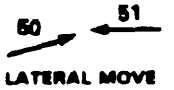
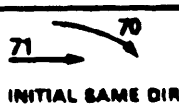
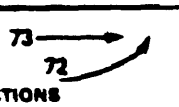
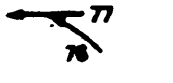
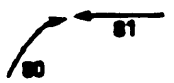
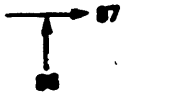
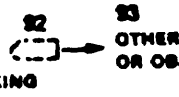
(7) Medium/heavy truck or bus override
(9) Unknown

HEADING ANGLE AT IMPACT FOR HIGHEST DELTA V

Values: (000)-(359) Code actual value
(997) Noncollision
(998) Impact with object
(999) Unknown

27. Heading Angle For This Vehicle: 176

28. Heading Angle For Other Vehicle: 056

Category	Configuration	ACCIDENT TYPES (Includes Intent)				
I Single Driver	A Right Roadside Departure	 01 DRIVE OFF ROAD	 02 CONTROL/ TRACTION LOSS	 03 AVOID COLLISION WITH VEH., PED., ANIM.	04 SPECIFICS OTHER	05 SPECIFICS UNKNOWN
	B Left Roadside Departure	 06 DRIVE OFF ROAD	 07 CONTROL/ TRACTION LOSS	 08 AVOID COLLISION WITH VEH., PED., ANIM.	09 SPECIFICS OTHER	10 SPECIFICS UNKNOWN
	C Forward Impact	 11 PARKED VEH.	 12 STA. OBJECT	 13 PEDESTRIAN/ ANIMAL	 14 END DEPARTURE	15 SPECIFICS OTHER	16 SPECIFICS UNKNOWN
II Same Trafficway Same Direction	D Rear-End	 20 22 21 23 STOPPED 21, 22, 23	 24 26 25 27 SLOWER 25, 26, 27	 28 30 29 31 DECEL. 29, 30, 31	(EACH • 32) SPECIFICS OTHER	(EACH • 33) SPECIFICS UNKNOWN
	E Forward Impact	 34 35 CONTROL/ TRACTION LOSS	 36 37 CONTROL/ TRACTION LOSS	 38 39 AVOID COLLISION WITH VEH.	 40 41 AVOID COLLISION WITH OBJECT	(EACH • 42) SPECIFICS OTHER	(EACH • 43) SPECIFICS UNKNOWN
	F Sideswipe Angle	 44 45  46 45 47		(EACH • 48) SPECIFICS OTHER		(EACH • 49) SPECIFICS UNKNOWN	
III Same Trafficway Opposite Direction	G Head-On	 50 51 LATERAL MOVE		(EACH • 52) SPECIFICS OTHER		(EACH • 53) SPECIFICS UNKNOWN	
	H Forward Impact	 54 55 CONTROL/ TRACTION LOSS	 56 57 CONTROL/ TRACTION LOSS	 58 59 AVOID COLLISION WITH VEH.	 60 61 AVOID COLLISION WITH OBJECT	(EACH • 62) SPECIFICS OTHER	(EACH • 63) SPECIFICS UNKNOWN
	I Sideswipe Angle	 64 65 LATERAL MOVE		(EACH • 66) SPECIFICS OTHER		(EACH • 67) SPECIFICS UNKNOWN	
IV Change Trafficway Vehicle Turning	J. Turn Across Path	 68 69 INITIAL OPPOSITE DIRECTIONS	 71 70 INITIAL SAME DIRECTIONS	 73 72		(EACH • 74) SPECIFICS OTHER	(EACH • 75) SPECIFICS UNKNOWN
	K. Turn Into Path	 77 76  78 79 TURN INTO SAME DIRECTION		 81 80  83 82 TURN INTO OPPOSITE DIRECTIONS		(EACH • 84) SPECIFICS OTHER	(EACH • 85) SPECIFICS UNKNOWN
V Intersecting Paths (Vehicle Damage)	L. Straight Paths	 87 86  88 89		(EACH • 90) SPECIFICS OTHER		(EACH • 91) SPECIFICS UNKNOWN	
VI Miscellaneous	M. Backing Etc.	 92 BACKING VEH. 93 OTHER VEH. OR OBJECT		98 Other Accident Type 99 Unknown Accident Type 00 No Impact			

29. Basis for Total Delta V (highest) 6

Delta V Calculated
(1) CRASH program—damage only routine
(2) CRASH program—damage and trajectory routine
(3) Missing vehicle algorithm

Delta V Not Calculated U-2 NOT INSPECTED
(4) At least one vehicle (which may be this vehicle) is beyond the scope of an acceptable reconstruction program, regardless of collision conditions.
(5) All vehicles within scope (CDC applicable) of CRASH program but one of the collision conditions is beyond the scope of the CRASH program or other acceptable reconstruction technique, regardless of adequacy of damage data.
(6) All vehicle and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

COMPUTER GENERATED DELTA V

Highest

30. Total Delta V 999

_____ Nearest kph (highest)

_____ Nearest kph (secondary)

(NOTE: 000 means less than 0.5 kph)
(160) 159.5 kph and above
(999) Unknown

31. Longitudinal Component of Delta V +/- 999

_____ Nearest kph (highest)

_____ Nearest kph (secondary)

(NOTE: __000 means greater than −0.5 kph and less than +0.5 kph)
(±160) ±159.5 kph and above
(__999) Unknown

Highest

32. Lateral Component of Delta V +/- 999

_____ Nearest kph (highest)

_____ Nearest kph (secondary)

(NOTE: __000 means greater than −0.5 kph and less than +0.5 kph)
(±160) ±159.5 kph and above
(__999) Unknown

33. Energy Absorption 999,900

_____ Nearest 100 joules (highest)

_____ Nearest 100 joules (secondary)

(NOTE: 0000 means less than 50 joules)
(9997) 999,650 joules or more
(9999) Unknown

34. Confidence In Reconstruction Program Results (For Highest Delta V) 0
(0) No reconstruction
(1) Collision fits model — results appear reasonable
(2) Collision fits model — results appear high
(3) Collision fits model — results appear low
(4) Borderline reconstruction — results appear reasonable

35. Type of Vehicle Inspection 1
(0) No inspection
(1) Complete inspection
(2) Partial inspection (specify):
_____

36. Is this an AOPS Vehicle? 1
(0) No
(1) Yes - researcher determined
(2) VIN determined air bag system
(3) VIN determined automatic (passive) belts
(4) VIN determined air bag and automatic (passive) belts

IS OLDMISS APPLICABLE FOR THIS VEHICLE? [ ] YES [X] NO

IF YES: IS A COMPLETED OLDMISS PROGRAM SUMMARY INCLUDED? [ ] YES [ ] NO

37. Police Reported Other Drug Presence ___0___
(0) No other drug(s) present
(1) Yes [other drug(s) present]
(7) Not reported
(8) No driver present
(9) Unknown

38. Police Reported Drug Evaluation Classification (DEC) Test For Driver ___0___
(0) No DEC process available or given
(1) DEC process given, results known
(2) DEC process given, results unknown
(3) DEC process available, unknown if given
(8) No driver present

39. Other Drug Specimen Test Type For Driver ___0___
(0) No specimen test given
(1) Blood test
(2) Urine test
(3) Other specimen tests (specify): _____
(7) Unspecified specimen test
(8) No driver present
(9) Unknown if specimen test given

DRUG EVALUATION CLASSIFICATION
OTHER DRUGS TEST RESULTS FOR DRIVER

	DEC Test Results	Specimen Test Results
Narcotic Drug	40. 0	41. 0
Depressant Drug	42. 0	43. 0
Stimulant Drug	44. 0	45. 0
Hallucinogen Drug	46. 0	47. 0
Cannabinoid Drug	48. 0	49. 0
Phencyclidine (PCP)	50. 0	51. 0
Inhalant Drug	52. 0	53. 0
Other Drug (Excluding Nicotine, Aspirin, Alcohol, Drugs Administered Post-Crash)	54. 0	55. 0

Codes For DEC Test Results

(0) No DEC test given
(1) Passed DEC test
(2) Failed DEC test
(3) DEC test given—results unknown
(8) No driver present
(9) Unknown if DEC test given

Codes for Specimen Test Results

(0) No specimen test given
(1) Drug not found in specimen
(2) Drug found in specimen
(7) Specimen test given, results unknown or not obtained
(8) No driver present
(9) Unknown if specimen test given

OTHER DATA

56. Driver's Zip Code [redacted]

(00000) Driver not present
(00001) Driver not a resident of U.S. or territories
_____ Code actual 5-digit zip code
(99999) Unknown

57. Driver's Race/Ethnic Origin 1
(0) Driver not present
(1) White (non-Hispanic)
(2) Black (non-Hispanic)
(3) White (Hispanic)
(4) Black (Hispanic)
(5) American Indian, Eskimo or Aleut
(6) Asian or Pacific Islander
(8) Other (specify):
_____
(9) Unknown

58. Vehicle Special Use (This Trip) 0
(0) No special use
(1) Taxi
(2) Vehicle used as school bus
(3) Vehicle used as other bus
(4) Military
(5) Police
(6) Ambulance
(7) Fire truck or car
(8) Other (specify): _____
(9) Unknown

ROLLOVER DATA

If GV07 (Body Type) ≠ 1-49, leave GV59-GV63 blank.
If GV24 (Rollover) = 0, then GV59-GV63 must equal 0.
If GV24 = 9, then GV59-GV63 must equal 9.

59. Rollover Initiation Type 0
(0) No rollover
(1) Trip-over
(2) Flip-over
(3) Turn-over
(4) Climb-over
(5) Fall-over
(6) Bounce-over
(7) Collision with another vehicle
(8) Other rollover initiation type specify):
_____
(9) Unknown rollover initiation type

60. Location of Rollover Initiation 0
(0) No rollover
(1) On roadway
(2) On shoulder—paved
(3) On shoulder—unpaved
(4) On roadside or divided trafficway median
(9) Unknown

61. Rollover Initiation Object Contacted 00

62. Location on Vehicle Where Initial Principal Tripping Force Is Applied 0
(0) No rollover
(1) Wheels/tires
(2) Side plane
(3) End plane
(4) Undercarriage
(5) Other location on vehicle (specify):
_____
(8) Non-contact rollover forces (specify):
_____
(9) Unknown

63. Direction of Initial Roll 0
(0) No rollover
(1) Roll right - primarily about the longitudinal axis
(2) Roll left - primarily about the longitudinal axis
(5) End-over-end (i.e., primarily about the lateral axis)
(9) Unknown roll direction

PRECRASH DATA

64. Pre-Event Movement (Prior to Recognition of Critical Event) 03
(01) Going straight
(02) Slowing or stopping in traffic lane
(03) Starting in traffic lane
(04) Stopped in traffic lane
(05) Passing or overtaking another vehicle
(06) Disabled or parked in travel lane
(07) Leaving a parking position
(08) Entering a parking position
(09) Turning right
(10) Turning left
(11) Making a U-turn
(12) Backing up (other than for parking position)
(13) Negotiating a curve
(14) Changing lanes
(15) Merging
(16) Successful avoidance maneuver to a previous critical event
(97) Other (specify):
_____
(98) No driver present
(99) Unknown

CODES FOR ROLLOVER INITIATION OBJECT CONTACTED

(00) No rollover
(01-30) — Vehicle Number

Noncollision
(31) Turn-over — fall-over
(33) Jackknife

Collision With Fixed Object
(41) Tree (≤ 10 cm in diameter)
(42) Tree (> 10 cm in diameter)
(43) Shrubbery or bush
(44) Embankment

(45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
(50) Pole or post (≤ 10 cm in diameter)
(51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
(52) Pole or post (> 30 cm in diameter)
(53) Pole or post (diameter unknown)

(54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (includes guardrail) (specify):_____

(57) Fence
(58) Wall
(59) Building
(60) Ditch or culvert
(61) Ground
(62) Fire hydrant
(63) Curb
(64) Bridge
(68) Other fixed object (specify):

_____
(69) Unknown fixed object

Collision with Nonfixed Object
(71) Motor vehicle not in-transport
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(79) Object fell from vehicle in-transport
(88) Other nonfixed object (specify):

_____
(89) Unknown nonfixed object

(98) Other event (specify):

_____
(99) Unknown event or object

PRECRASH DATA (Continued)

65. Critical Precrash Event 15

This Vehicle Loss of Control Due To:
(01) Blow out or flat tire
(02) Stalled engine
(03) Disabling vehicle failure (e.g., wheel fell off) (specify): _____
(04) Non-disabling vehicle problem (e.g., hood flew up) (specify): _____
(05) Poor road conditions (puddle, pot hole, ice, etc.) (specify): _____
(06) Traveling too fast for conditions
(08) Other cause of control loss (specify): _____
(09) Unknown cause of control loss

This Vehicle Traveling
(10) Over the lane line on left side of travel lane
(11) Over the lane line on right side of travel lane
(12) Off the edge of the road on the left side
(13) Off the edge of the road on the right side
(14) End departure
(15) Turning left at intersection
(16) Turning right at intersection
(17) Crossing over (passing through) intersection
(19) Unknown travel direction

Other Motor Vehicle In Lane
(50) Stopped
(51) Traveling in same direction with lower speed (i.e., lower steady speed or decelerating)
(52) Traveling in same direction with higher speed
(53) Traveling in opposite direction
(54) In crossover
(55) Backing
(59) Unknown travel direction of other motor vehicle in lane

Other Motor Vehicle Encroaching Into Lane
(60) From adjacent lane (same direction)—over left lane line
(61) From adjacent lane (same direction)—over right lane line
(62) From opposite direction—over left lane line
(63) From opposite direction—over right lane line
(64) From parking lane
(65) From crossing street, turning into same direction
(66) From crossing street, across path
(67) From crossing street, turning into opposite direction
(68) From crossing street, intended path not known
(70) From driveway, turning into same direction
(71) From driveway, across path
(72) From driveway, turning into opposite direction
(73) From driveway, intended path not known
(74) From entrance to limited access highway
(78) Encroachment by other vehicle—details unknown

Pedestrian or Pedalcyclist, or Other Nonmotorist
(80) Pedestrian in roadway
(81) Pedestrian approaching roadway
(82) Pedestrian—unknown location
(83) Pedalcyclist or other nonmotorist in roadway (specify): _____
(84) Pedalcyclist or other nonmotorist approaching roadway (specify): _____
(85) Pedalcyclist or other nonmotorist—unknown location (specify): _____

Object or Animal
(87) Animal in roadway
(88) Animal approaching roadway
(89) Animal—unknown location
(90) Object in roadway
(91) Object approaching roadway
(92) Object—unknown location

(98) Other critical precrash event (specify): _____
(99) Unknown

For Corrective Actions Attempted see variable GV14 (Attemped Avoidance Manuever)

66. Precrash Stability After Avoidance Maneuver 0
(0) No avoidance maneuver
(1) Tracking
(2) Skidding longitudinally—rotation less than 30 degrees
(3) Skidding laterally—clockwise rotation
(4) Skidding laterally—counterclockwise rotation
(7) Other vehicle loss-of-control (specify): _____
(8) No driver present
(9) Precrash stability unknown

67. Precrash Directional Consequences of Avoidance Maneuver (Corrective Action) 0
(0) No avoidance maneuver
(1) Vehicle stayed in travel lane where avoidance maneuver was initiated
(2) Vehicle stayed on roadway but left travel lane where avoidance maneuver was initiated
(3) Vehicle stayed on roadway, not known if left travel lane where avoidance maneuver was initiated
(4) Vehicle departed roadway
(5) Avoidance maneuver initiated off roadway
(8) No driver present
(9) Directional consequences unknown

***** IF THE CDS APPLICABLE VEHICLE WAS NOT INSPECTED (I.E., GV35 = 0), *****
DO NOT COMPLETE THE EXTERIOR AND INTERIOR VEHICLE FORMS.

***** IF GV07 DOES NOT EQUAL 01-49, DO NOT COMPLETE *****
THE EXTERIOR VEHICLE, INTERIOR VEHICLE,
OCCUPANT ASSESSMENT, AND OCCUPANT INJURY FORMS.

ORIGINAL SPECIFICATIONS WORK SHEET

Wheelbase	106.0	inches	x 2.54	=	269	cm
Overall Length	192.2	inches	x 2.54	=	488	cm
Maximum Width	70.8	inches	x 2.54	=	180	cm
Curb Weight	3,131	pounds	x .4536	=	1,420	kg
Average Track	61.1	inches	x 2.54	=	155	cm
Front Overhang	___	inches	x 2.54	=	___	cm
Rear Overhang	___	inches	x 2.54	=	___	cm
Undeformed End Width	___	inches	x 2.54	=	___	cm
Engine Size: cyl./displ.	3000	cc	x .001	=	3.0	L
V-6	___	CID	x .0164	=	___	L

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

a. Rotation physically restricted

RF 2
LF 2
RR 2
LR 2

b. Tire deflated

RF 2
LF 2
RR 2
LR 2

(1) Yes (2) No (8) NA (9) Unk.

TYPE OF TRANSMISSION

☐ Manual ☒ Automatic

ORIGINAL SPECIFICATIONS

Wheelbase	269	cm
Overall Length	488	cm
Maximum Width	180	cm
Curb Weight	1420	kg
Average Track	155	cm
Front Overhang		cm
Rear Overhang		cm
Undeformed End Width		cm
Engine Size: cyl./displ.	6/ 3.0	L

WHEEL STEER ANGLES
(For locked front wheels or displaced rear axles only)

RF ± ___ ___ °
LF ± ___ ___ °
RR ± ___ ___ °
LR ± ___ ___ °

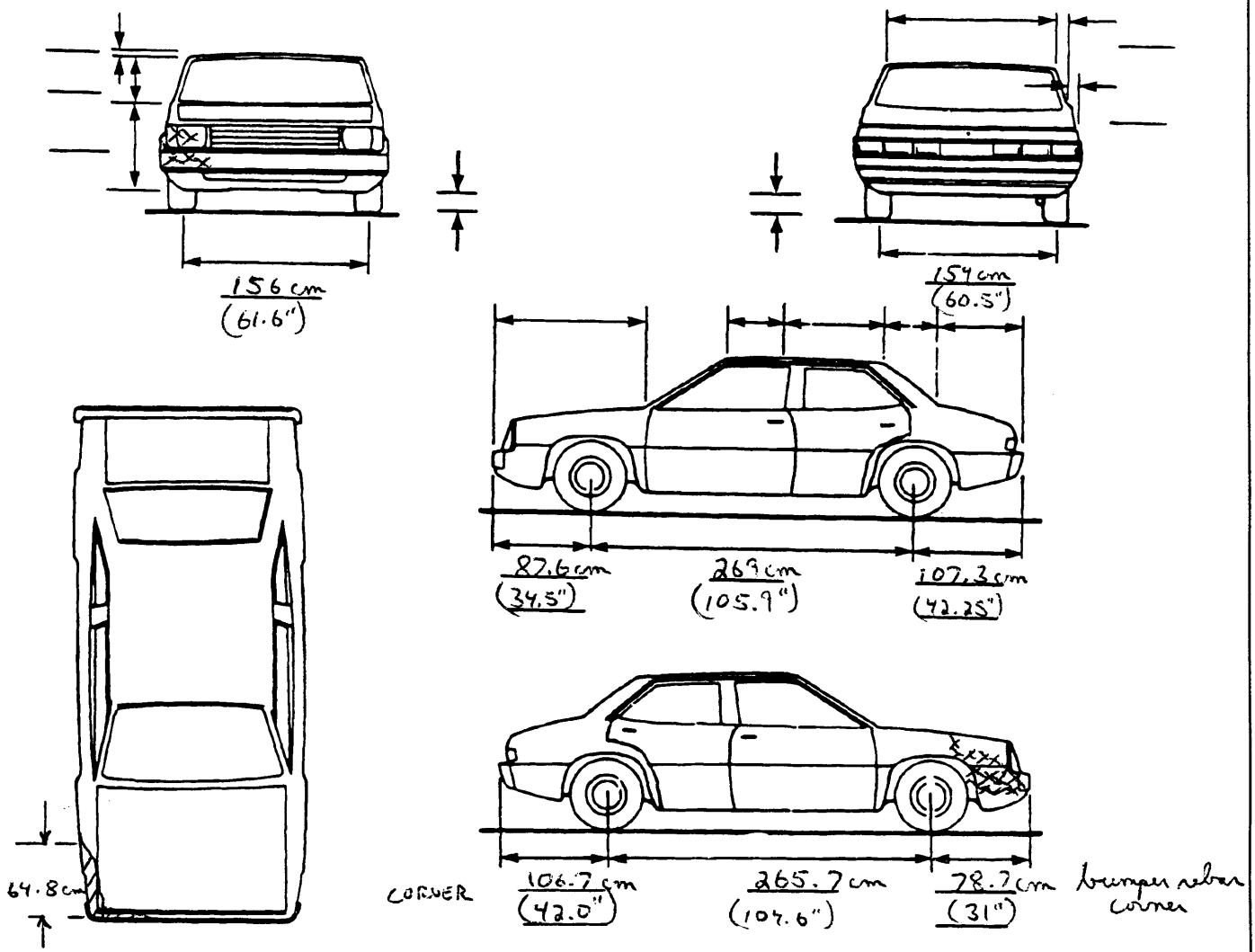
Within ± 5 degrees

DRIVE WHEELS

☒ FWD ☐ RWD ☐ 4WD

Approximate Cargo Weight 0 kg

MEASUREMENTS IN CENTIMETERS



NOTES: Sketch new perimeter and cross hatch direct damage and single hatch induced damage on all views. Annotate observations which might be useful in reconstructing the accident (e.g., grass in tire bead, direction of striations, scuff on sidewalls, etc.). If pulling trailer, sketch type of trailer and damage received on the back of this page.

Annotate any damage caused by extrication such as component removal by torching, prying, or hydraulic shears.

CDC WORKSHEET

CODES FOR OBJECT CONTACTED

(01-30) — Vehicle Number

Noncollision
- (31) Overturn — rollover
- (32) Fire or explosion
- (33) Jackknife
- (34) Other intraunit damage (specify): _____
- (35) Noncollision injury
- (38) Other noncollision (specify): _____
- (39) Noncollision — details unknown

Collision With Fixed Object
- (41) Tree (≤ 10 cm in diameter)
- (42) Tree (> 10 cm in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤ 10 cm in diameter)
- (51) Pole or post (> 10 cm but ≤ 30 cm in diameter)
- (52) Pole or post (> 30 cm in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (includes guardrail) (specify): _____
- (57) Fence
- (58) Wall
- (59) Building
- (60) Ditch or culvert
- (61) Ground
- (62) Fire hydrant
- (63) Curb
- (64) Bridge
- (68) Other fixed object (specify): _____
- (69) Unknown fixed object

Collision with Nonfixed Object
- (71) Motor vehicle not in-transport
- (72) Pedestrian
- (73) Cyclist or cycle
- (74) Other nonmotorist or conveyance
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected in transport
- (79) Object fell from vehicle in-transport
- (88) Other nonfixed object (specify): _____
- (89) Unknown nonfixed object
- (98) Other event (specify): _____
- (99) Unknown event or object

DEFORMATION CLASSIFICATION BY EVENT NUMBER

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force (degrees)	Incremental Value of Shift	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
01	02	050	00	R	F	E	W	03

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Longitudinal or Lateral Location	(5) Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. 01	5. 02	6. 02	7. R	8. F	9. E	10. W	11. 03

Second Highest Delta "V"

12.	13.	14.	15.	16.	17.	18.	19.

CRUSH PROFILE IN CENTIMETERS

The crush profile for the damage described in the CDC(s) above should be documented in the appropriate space below. (ALL MEASUREMENTS ARE IN CENTIMETERS.)

HIGHEST DELTA "V"

20. L	21. C_1	C_2	C_3	C_4	C_5	C_6	22. ±D
065	000	015	022	030	035	030	⊕ 181

Second Highest Delta "V"

23. L	24. C_1	C_2	C_3	C_4	C_5	C_6	25. ±D
							+ −

26. Are CDCs Documented but Not Coded on The Automated File? 0
(0) No
(1) Yes

27. Researcher's Assessment of Vehicle Disposition 1
(0) Not towed due to vehicle damage
(1) Towed due to vehicle damage
(9) Unknown

28. Original Wheelbase 269
106.0" Code to the nearest centimeter
(999) Unknown

106.0 inches X 2.54 = 269.24 centimeters

29. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? 0
(0) No post manufacturer modifications
(1) Yes - post manufacturer modifications (specify): _____
_____
_____
(Include photograph of CERTIFICATION PLACARD in case report)
(9) Unknown if vehicle is modified

30. Fire Occurrence 0
(0) No fire

Yes, fire occurred
(1) Minor
(2) Major
(9) Unknown

31. Origin of Fire 0
(0) No fire
(1) Vehicle exterior (front, side, back, top)
(2) Exhaust system
(3) Fuel tank (and other fuel retention system parts)
(4) Engine compartment
(5) Cargo/trunk compartment
(6) Instrument panel
(7) Passenger compartment area
(8) Other location (specify):
_____
(9) Unknown

32. Type of Fuel Tank-1 1

33. Type of Fuel Tank-2 0
(0) No fuel tank (electrical vehicle)
(1) Metallic
(2) Non-metallic
(9) Unknown

34. Fuel Tank-1 Location 4

35. Fuel Tank-2 Location 0
(0) No fuel tank
(1) Aft of center of the rear wheels (rear axle) centered
(2) Aft of center of the rear wheels (rear axle) left side
(3) Aft of center of the rear wheels (rear axle) right side
(4) Forward of center of the rear wheels (rear axle) centered
(5) Forward of center of the rear wheels (rear axle) left side
(6) Forward of center of the rear wheels (rear axle) right side
(7) Over center of the rear wheels (rear axle)
(8) Other (specify):
_____
(9) Unknown

36. Fuel Tank-1 Filler Cap Location 3

37. Fuel Tank-2 Filler Cap Location 0
(0) No fuel tank
(1) On back plane
(2) Aft of center of the rear wheels (rear axle) on left side plane
(3) Aft of center of the rear wheels (rear axle) on right side plane
(4) Forward of center of the rear wheels (rear axle) on left side plane
(5) Forward of center of the rear wheels (rear axle) on right side plane
(6) Over the center of the rear wheels (rear axle) on left side plane
(7) Over the center of the rear wheels (rear axle) on right side plane
(8) Other (specify): _____
(9) Unknown

38. Fuel Tank-1 Damage 1

39. Fuel Tank-2 Damage 0
(0) No fuel tank
(1) No damage to fuel tank
(2) Deformed, no seam failure
(3) Deformed, with a seam failure
(4) Punctured
(5) Lacerated (ripped)
(6) Abraded (scraped)
(7) Filler neck separation from the fuel tank
(8) Other damage (specify):
_____
(9) Unknown

40. Location of Fuel System-1 Leakage 1

41. Location of Fuel System-2 Leakage 0
(0) No fuel tank
(1) No fuel leakage

Primary Area Of Leakage
(2) Tank
(3) Filler neck
(4) Cap
(5) Lines/pump/filter
(6) Vent/emission recovery
(8) Other (specify): _____
(9) Unknown

42. Fuel Type-1 01

43. Fuel Type-2 00

Single Fuel Type
(00) No fuel tank
(01) Gasoline
(02) Diesel
(03) CNG (Compressed Natural Gas)
(04) LPG (Liquid Petroleum Gas) also known as Propane
(05) LNG (Liquid Natural Gas)
(06) Methanol (M100 or M85)
(07) Ethanol (E100 or E85)
(08) Other (Hydrogen or others) (specify): _____

Electric Powered or Electric/Solar Powered Vehicles
(10) Lead Acid Battery
(11) Nickel-Iron Battery
(12) Nickel-Cadmium Battery
(13) Sodium Metal Chloride Battery
(14) Sodium Sulfur Battery
(18) Other (Specify): _____

(98) Other Hybrid (specify): _____

(99) Unknown fuel type

44. Is This Vehicle Equipped With More Than Two Fuel Tanks? 0
(0) No (one or two tanks only)

Yes - More Than Two Tanks
(1) Yes -- no damage to any tank or filler cap and no fuel system leakage
(2) Yes -- no damage to any tank or filler cap but there is fuel system leakage (specify leakage location): _____
(3) Yes -- damage to an additional tank or filler cap and there is fuel system leakage (specify the following):
Type of tank _____
Tank location _____
Filler cap location _____
Tank damage _____
Location of leakage _____
Type of fuel _____
(9) Unknown if more than two tanks

COMMENTS

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED AND WAS NOT AN AOPS *** (I.E., GV09 = 0 OR 9 AND GV36 = 0), DO NOT COMPLETE THE INTERIOR VEHICLE FORM.

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

INTERIOR VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

1. ~~Primary Sampling Unit Number~~ ____
2. Case Number - ~~Stratum~~ 94-25
3. Vehicle Number 01

INTEGRITY

4. Passenger Compartment Integrity 00

(00) No integrity loss

Yes, Integrity Was Lost Through
(01) Windshield
(02) Door (side)
(03) Door/hatch (back door)
(04) Roof
(05) Roof glass
(06) Side window
(07) Rear window (backlight)
(08) Roof and roof glass
(09) Windshield and door (side)
(10) Windshield and roof
(11) Side and rear window (side window and backlight)
(12) Windshield and side window
(13) Door and side window
(98) Other combination of above (specify): _____
(99) Unknown

Door, Tailgate or Hatch Opening

5. LF 1 6. RF 1 7. LR 1 8. RR 1 9. TG/H 0

(0) No door/gate/hatch
(1) Door/gate/hatch remained closed and operational
(2) Door/gate/hatch came open during collision
(3) Door/gate/hatch jammed shut
(8) Other (specify): _____
(9) Unknown

Damage/Failure Associated with Door, Tailgate or Hatch Opening in Collision. If IV05-IV09 ≠ 2, Then code Ø

10. LF 0 11. RF 0 12. LR 0 13. RR 0 14. TG/H 0

(0) No door/gate/hatch or door not opened

Door, Tailgate or Hatch Came Open During Collision
(1) Door operational (no damage)
(2) Latch/striker failure due to damage
(3) Hinge failure due to damage
(4) Door structure failure due to damage
(5) Door support (i.e., pillar, sill, roof side rail, etc.) failure due to damage
(6) Latch/striker and hinge failure due to damage
(8) Other failure (specify): _____
(9) Unknown

GLAZING

Glazing Damage from Impact Forces

15. WS 0 16. LF 0 17. RF 0 18. LR 0 19. RR 0
20. BL 0 21. Roof 8 22. Other 8

(0) No glazing damage from impact forces
(2) Glazing in place and cracked from impact forces
(3) Glazing in place and holed from impact forces
(4) Glazing out-of-place (cracked or not) and not holed from impact forces
(5) Glazing out-of-place and holed from impact forces
(6) Glazing disintegrated from impact forces
(7) Glazing removed prior to accident
(8) No glazing
(9) Unknown if damaged

Glazing Damage from Occupant Contact

23. WS 0 24. LF 0 25. RF 0 26. LR 0 27. RR 0
28. BL 0 29. Roof 0 30. Other 0

(0) No occupant contact to glazing or no glazing
(1) Glazing contacted by occupant but no glazing damage
(2) Glazing in place and cracked by occupant contact
(3) Glazing in place and holed by occupant contact
(4) Glazing out-of-place (cracked or not) by occupant contact and not holed by occupant contact
(5) Glazing out-of-place by occupant contact and holed by occupant contact
(6) Glazing disintegrated by occupant contact
(9) Unknown if contacted by occupant

If No Glazing Damage ***And*** No Occupant Contact or No Glazing, Then Code IV31 Through IV46 As Ø

Type of Window/Windshield Glazing

31. WS 0 32. LF 0 33. RF 0 34. LR 0 35. RR 0
36. BL 0 37. Roof 0 38. Other 0

(0) No glazing contact and no damage, or no glazing
(1) AS-1 — Laminated
(2) AS-2 — Tempered
(3) AS-3 — Tempered-tinted
(4) AS-14 — Glass/Plastic
(8) Other (specify): _____
(9) Unknown

Window Precrash Glazing Status

39. WS 0 40. LF 0 41. RF 0 42. LR 0 43. RR 0
44. BL 0 45. Roof 0 46. Other 0

(0) No glazing contact and no damage, or no glazing
(1) Fixed
(2) Closed
(3) Partially opened
(4) Fully opened
(9) Unknown

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV47-IV86 blank.

	Location of Intrusion	Intruding Component	Magnitude of Intrusion	Dominant Crush Direction
1st	47.___ ___	48.___ ___	49.___	50.___
2nd	51.___ ___	52.___ ___	53.___	54.___
3rd	55.___ ___	56.___ ___	57.___	58.___
4th	59.___ ___	60.___ ___	61.___	62.___
5th	63.___ ___	64.___ ___	65.___	66.___
6th	67.___ ___	68.___ ___	69.___	70.___
7th	71.___ ___	72.___ ___	73.___	74.___
8th	75.___ ___	76.___ ___	77.___	78.___
9th	79.___ ___	80.___ ___	81.___	82.___
10th	83.___ ___	84.___ ___	85.___	86.___

LOCATION OF INTRUSION

Front Seat
- (11) Left
- (12) Middle
- (13) Right

Second Seat
- (21) Left
- (22) Middle
- (23) Right

Third Seat
- (31) Left
- (32) Middle
- (33) Right

Fourth Seat
- (41) Left
- (42) Middle
- (43) Right

- (97) Catastrophic
- (98) Other enclosed area (specify) _____
- (99) Unknown

INTRUDING COMPONENT

Interior Components
- (01) Steering assembly
- (02) Instrument panel left
- (03) Instrument panel center
- (04) Instrument panel right
- (05) Toe pan
- (06) A (A1/A2)-pillar NO INTRUSION
- (07) B-pillar
- (08) C-pillar
- (09) D-pillar
- (10) Door panel (side)
- (12) Roof (or convertible top)
- (13) Roof side rail
- (14) Windshield
- (15) Windshield header
- (16) Window frame
- (17) Floor pan (includes sill)
- (18) Backlight header
- (19) Front seat back
- (20) Second seat back
- (21) Third seat back
- (22) Fourth seat back
- (23) Fifth seat back
- (24) Seat cushion
- (25) Back door/panel (e.g., tailgate)
- (26) Other interior component (specify): _____
- (27) Side panel - forward of the A (A2)-pillar
- (28) Side panel - rear of the A (A2)-pillar

Exterior Components
- (30) Hood
- (31) Outside surface of this vehicle (specify): _____
- (32) Other exterior object in the environment (specify): _____
- (33) Unknown exterior object
- (97) Catastrophic
- (98) Intrusion of unlisted component(s) (specify): _____
- (99) Unknown

MAGNITUDE OF INTRUSION

- (1) ≥ 3 centimeters but < 8 centimeters
- (2) ≥ 8 centimeters but < 15 centimeters
- (3) ≥ 15 centimeters but < 30 centimeters
- (4) ≥ 30 centimeters but < 46 centimeters
- (5) ≥ 46 centimeters but < 61 centimeters
- (6) ≥ 61 centimeters
- (7) Catastrophic
- (9) Unknown

DOMINANT CRUSH DIRECTION

- (1) Vertical
- (2) Longitudinal
- (3) Lateral
- (7) Catastrophic
- (9) Unknown

STEERING COLUMN

87. Steering Column Type — 2
(1) Fixed column
(2) Tilt column
(3) Telescoping column
(4) Tilt and telescoping column
(8) Other column type (specify): _____
(9) Unknown

88. Blank — X X
(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

89. Blank — X X X
(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

90. Blank — X X X
(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

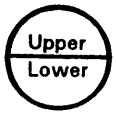
91. Blank — X X X
(This variable is left blank so that numbering consistency can be maintained with the 1988-94 CDS.

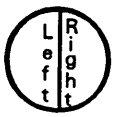
92. Steering Rim/Spoke Deformation — 0 0
_____Code actual measured deformation to the nearest centimeter
(00) No steering rim deformation
(01-14) Actual measured value in centimeters
(15) 15 centimeters or more
(98) Observed deformation cannot be measured
(99) Unknown

93. Location of Steering Rim/Spoke Deformation — 0 0
(00) No steering rim deformation

Quarter Sections
(01) Section A
(02) Section B
(03) Section C
(04) Section D

Half Sections
(05) Upper half of rim/spoke
(06) Lower half of rim/spoke
(07) Left half of rim/spoke
(08) Right half of rim/spoke





(09) Complete steering wheel collapse
(10) Undetermined location
(99) Unknown

INSTRUMENT PANEL

94. Odometer Reading — 0 0 9 ,000
9,000 kilometers—Code to the nearest 1,000 kilometers
(000) No odometer
(001) Less than 1,500 kilometers
(500) 499,500 kilometers or more
(999) Unknown

005,445.5 miles X 1.6093 = 8,763 kilometers

Source: ODOMETER

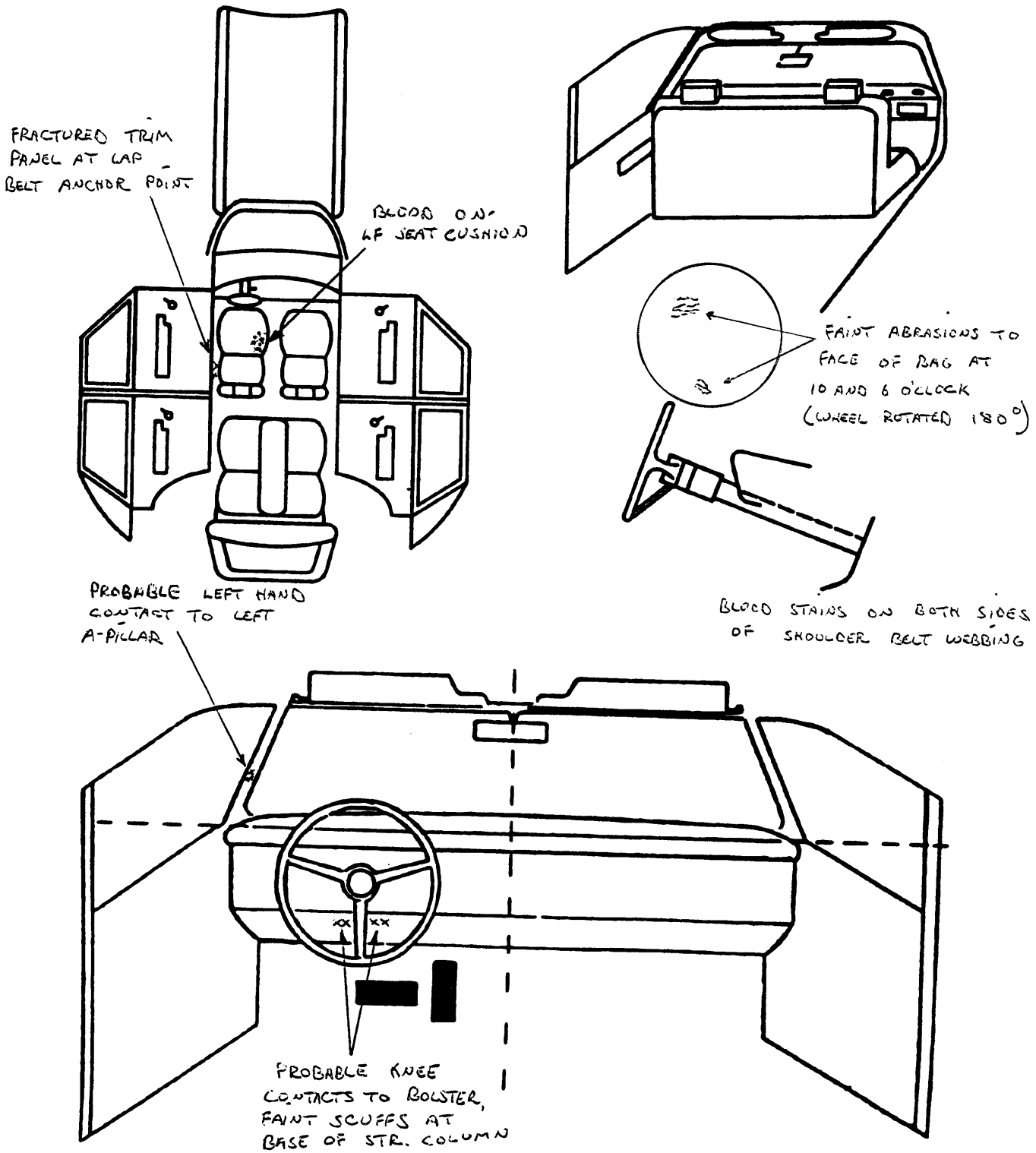
95. Instrument Panel Damage from Occupant Contact? — 0
(0) No
(1) Yes
(9) Unknown

96. Knee Bolsters Deformed from Occupant Contact? — 0
(0) No
(1) Yes
(8) Not present
(9) Unknown

97. Did Glove Compartment Door Open During Collision(s)? — 0
(0) No
(1) Yes
(8) Not present
(9) Unknown

VEHICLE INTERIOR SKETCHES

Note area of ejection/entrapment



Sketch windshield contact(s) and the damaged area(s) on the instrument panel outline (e.g., radio, glove compartment, damage to instrument panel structure.
Cross hatch contact points, draw spider webs or use other annotation as may be appropriate.
Annotate the contacted area with a letter (begin with A) and list on the Points of Occupant Contact page.

POINTS OF OCCUPANT CONTACT

Contact	Interior Component Contacted	Occupant No. If Known	Body Region If Known	Supporting Physical Evidence	Confidence Level of Contact Point
A	45	1	FACE	BLOOD/ABRASIONS	1
B	41	1	CHEST/ABD.	FRACTURED TRIM PANEL, BLOOD STAINS	1
C	13	1	KNEES	SCUFFS	2
D	22	1	(5) HAND	SCUFF	2
E					
F					
G					
H					
I					
J					
K					
L					
M					
N					

CODES FOR INTERIOR COMPONENTS

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 (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
- (16) Driver side air bag compartment cover
- (17) Passenger side air bag compartment cover
- (18) Windshield reinforced by exterior object (specify):_____
- (19) Other front object (specify):

LEFT SIDE
- (20) Left side interior surface, excluding hardware or armrests
- (21) Left side hardware or armrest
- (22) Left A (A1/A2)-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 (A1/A2)-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 (A1/A2)-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 (A1/A2)-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 (use codes "16" and "17" for injuries sustained from air bag compartment covers)
- (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):

CONFIDENCE LEVEL OF CONTACT POINT
- (1) Certain
- (2) Probable
- (3) Possible
- (9) Unknown

AUTOMATIC RESTRAINTS

NOTES: Encode the data for each applicable front seat position. The attribute for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

AIR BAGS

		Left	Right
FIRST	Availability/Function	1	0
	Deployment	1	0
	Failure	1	0

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

Non-functional
(2) Air bag disconnected (specify): _____
(3) Air bag not reinstalled
(9) Unknown

Air Bag System Deployment
(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

Are There Indications of Air Bag System Failure?
(0) Not equipped/not available
(1) No
(2) Yes (specify): _____
(9) Unknown

AUTOMATIC BELTS

		Left	Right
FIRST	Availability/Function	0	0
	Use	0	0
	Type	0	0
	Proper Use	0	0
	Failure Modes	0	0

Automatic (Passive) Belt System Availability/Function
(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

Automatic (Passive) Belt System Use
(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)
(3) Automatic belt use unknown
(9) Unknown

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

Proper Use of Automatic (Passive) Belt System
(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

Automatic (Passive) Belt Failure Modes During Accident
(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

MANUAL RESTRAINTS

NOTES: Encode the applicable data **for each seat position** in the vehicle. The attribute for the variable may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Ocupant Assessment Form.

If a Child safety seat is present, encode the data on the back of this page.

If the vehicle has automatic restraints available, encode the appropriate data on the back of the previous page.

		Left	Center	Right
FIRST	Availability	4	3	4
	Evidence of usage	04	-	-
	Used in this crash?	04	-	-
	Proper Use	1	-	-
	Failure Modes	1	-	-
SECOND	Availability	4	3	4
	Evidence of usage	-	-	-
	Used in this crash?	-	-	-
	Proper Use	-	-	-
	Failure Modes	-	-	-
OTHER	Availability			
	Evidence of usage			
	Used in this crash?			
	Proper Use			
	Failure Modes			

Manual (Active) Belt System Availability
- (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

Manual (Active) Belt System Use
- (00) None used, not available, or belt removed/destroyed
- (01) Inoperable (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

Proper Use of Manual (Active) Belts
- (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

Manual (Active) Belt Failure Modes During Accident
- (0) No manual belt used or not available
- (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

CHILD SAFETY SEAT FIELD ASSESSMENT

When a child safety seat is present enter the occupant's number in the first row and complete the column below the occupant's number using the codes listed below. Complete a column for each child safety seat present.

Occupant Number		NONE USED			
1. Type of Child Safety Seat					
2. Child Safety Seat Orientation					
3. Child Safety Seat Harness Usage					
4. Child Safety Seat Shield Usage					
5. Child Safety Seat Tether Usage					
6. Child Safety Seat Make/Model	Specify Below for Each Child Safety Seat				

1. Type of Child Safety Seat

   (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

2. Child Safety Seat Orientation

   (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

3. Child Safety Seat Harness Usage

4. Child Safety Seat Shield Usage

5. Child Safety Seat Tether Usage
   Note: Options Below Are Used for Variables 3-5.

   (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

6. Child Safety Seat Make/Model
   (Specify make/model and occupant number)

   _____

   _____

   _____

   _____

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attribute for these variables may be found at the bottom of the page. Head restraint type/damage and seat type/performance should be assessed during the vehicle inspection then coded on the Occupant Assessment Form.

		Left	Center	Right
FIRST	Head Restraint Type/Damage	3	0	3
	Seat Type	06	06	06
	Seat Performance	1	1	1
	Seat Orientation	1	1	1
SECOND	Head Restraint Type/Damage	3	0	3
	Seat Type	03	03	03
	Seat Performance	1	1	1
	Seat Orientation	1	1	1
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
	Seat Orientation			

Head Restraint Type/Damage by Occupant at This Occupant Position

(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

Seat Type (this Occupant Position)

(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

Seat Performance (this Occupant Position)

(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 specify: _____
(4) Seat tracks/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

Seat Orientation (this Occupant Position)

(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

DESCRIBE ANY INDICATION OF ABNORMAL OCCUPANT POSTURE (I.E., UNUSUAL OCCUPANT CONTACT PATTERN)

EJECTION/ENTRAPMENT DATA

Complete the following if the researcher has any indication that an occupant was either ejected from or entrapped in the vehicle. Code the appropriate data on the Occupant Assessment Form.

EJECTION No [✓] Yes [ ]

Describe indications of ejection and body parts involved in partial ejection(s):

NO EJECTION/ENTRAPMENT

Occupant Number						
Ejection						
(Note on Vehicle Interior Sketch) Ejection Area						
Ejection Medium						
Medium Status						

Ejection
(1) Complete ejection
(2) Partial ejection
(3) Ejection, Unknown degree
(9) Unknown

Ejection Area
(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

Ejection Medium
(1) Door/hatch/tailgate
(2) Nonfixed roof structure
(3) Fixed glazing
(4) Nonfixed glazing (specify): _____
(5) Integral structure
(8) Other medium (specify): _____
(9) Unknown

Medium Status (Immediately Prior to Impact)
(1) Open
(2) Closed
(3) Integral structure
(9) Unknown

ENTRAPMENT No [✓] Yes [ ]

Describe entrapment mechanism: _____

Component(s): _____

(Note in vehicle interior diagram)

ATTACHMENT D:

NASS Occupant Forms

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~~ 94-25
3. Vehicle Number 01
4. Occupant Number 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 85
   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 2
   (1) Male
   (2) Female
   (9) Unknown

7. Occupant's Height 161
   Code actual height to the nearest centimeter.
   (999) Unknown

   63.5 inches X 2.54 = 161 centimeters

8. Occupant's Weight 056
   Code actual weight to the nearest kilogram.
   (999)Unknown

   123 pounds X .4536 = 056 kilograms

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

OCCUPANT'S SEATING

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's Posture 0
    (0) Normal posture

    Abnormal posture
    (1) Kneeling or standing on seat
    (2) Lying on or across seat
    (3) Kneeling, standing or sitting in front of seat
    (4) Sitting sideways or turned to talk with another occupant or to look out a rear window
    (5) Sitting on a console
    (6) Lying back in a reclined seat position
    (7) Bracing with feet or hands on a surface in front of seat
    (8) Other abnormal posture (specify): _____
    (9) Unknown

This report is authorized by P.L. 89-563, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the of this data collection effort comprehensive, accurate, and timely.

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 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. Are There Indications of Air Bag System Failure? — 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 — 7
(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): AIR BAG & BELT
(8) Restrained, type unknown
(9) Police indicated "unknown"

HEAD RESTRAINT AND SEAT EVALUATION

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) — 06
    (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 (specify): _____
    (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

INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 3

(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 3
(0) No treatment
(1) Fatal
(2) Fatal - ruled disease (specify):

_____

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 04
(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 00
____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 RETIRED
(62) Fatally injured
(97) Not working prior to accident
(99) Unknown

STOP - GO TO VARIABLE 44 ON PAGE 7

VARIABLES 39 THROUGH 43 ARE COMPLETED BY THE ZONE CENTER

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
(96) Mode of death given but specific injuries are not linked to cause of death. (specify):

_____
(97) Other result (includes fatal ruled disease) (specify):

_____
(99) Unknown

43. Number of Recorded Injuries for This Occupant 24
____Code the actual number of injuries recorded for this occupant.
(00) No recorded injuries
(97) Injured, details unknown
(99) Unknown if injured

STOP - VARIABLES 50 THROUGH 53 ARE COMPLETED BY THE ZONE CENTER

TRAUMA DATA

50. Glasgow Coma Scale (GCS) Score (at Medical Facility) 0 2
    (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 NOT REPORTED
    (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 0 1
    (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

BELT USE DETERMINATION

53. Primary Source of Belt Use Determination 1
    (0) Not equipped/not available/destroyed or rendered inoperative
    (1) Vehicle inspection
    (2) Official injury data
    (3) Driver/occupant interview
    (8) Other (specify):_____
    (9) Unknown if belt used

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~~	3. Vehicle Number 01
2. Case Number - ~~Stratum~~ 94-25	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.

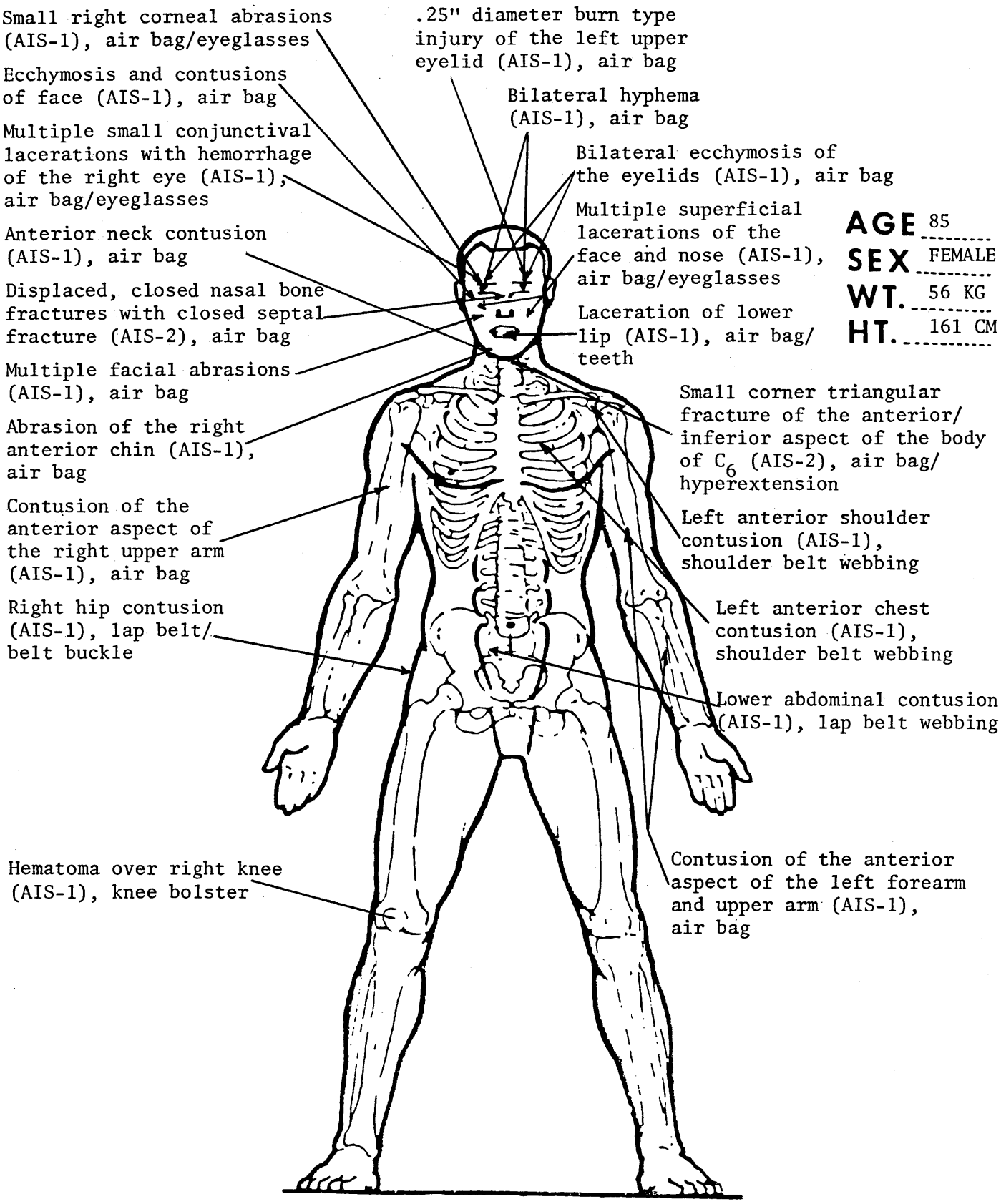
	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
1st	5. 2	6. 2	7. 5	8. 10	9. 04	10. 2	11. 4	12. 45	13. 1	14. 1	15. 00
2nd	16. 2	17. 2	18. 4	19. 04	20. 16	21. 1	22. 1	23. 45	24. 1	25. 1	26. 00
3rd	27. 2	28. 2	29. 4	30. 06	31. 02	32. 1	33. 1	34. 45	35. 1	36. 1	37. 00
4th	38. 2	39. 2	40. 4	41. 06	42. 04	43. 1	44. 1	45. 45	46. 1	47. 1	48. 00
5th	49. 2	50. 2	51. 4	52. 06	53. 04	54. 1	55. 2	56. 45	57. 1	58. 1	59. 00
6th	60. 2	61. 6	62. 5	63. 02	64. 30	65. 2	66. 6	67. 45	68. 1	69. 1	70. 00
7th	71. 2	72. 2	73. 9	74. 74	75. 02	76. 1	77. 1	78. 45	79. 1	80. 1	81. 00
8th	82. 2	83. 2	84. 9	85. 74	86. 02	87. 1	88. 2	89. 45	90. 1	91. 1	92. 00
9th	93. 2	94. 8	95. 9	96. 04	97. 02	98. 1	99. 1	100. 13	101. 1	102. 1	103. 00
10th	104. 2	105. 2	106. 9	107. 06	108. 02	109. 1	110. 4	111. 45	112. 1	113. 1	114. 00

HS Form 433B (1/94)

This report is authorized by P.L. 89-563, Title 1, Section 106, 108, and 112. While you are not required to respond, your cooperation is needed to make the results of this data collection effort comprehensive, accurate, and timely.

OCCUPANT INJURY DATA

	Source of Injury Data	A.I.S. - 90 Body Region	Type of Anatomic Structure	Specific Anatomic Structure	Level of Injury	A.I.S. Severity	Aspect	Injury Source	Injury Source Confidence Level	Direct/ Indirect Injury	Occupant Area Intrusion Number
11th	2	2	9	06	02	1	0	45	1	1	00
12th	2	2	9	04	02	1	0	45	1	1	00
13th	2	2	9	06	00	1	8	45	1	1	00
14th	7	7	9	04	02	1	2	41	1	1	00
15th	7	4	9	04	02	1	2	41	1	1	00
16th	7	5	9	04	02	1	8	41	1	1	00
17th	7	8	9	04	02	1	1	41	1	1	00
18th	7	7	9	04	02	1	2	45	1	1	00
19th	7	7	9	04	02	1	1	45	1	1	00
20th	2	2	9	02	02	1	0	45	1	1	00
21st	7	2	9	02	02	1	8	45	1	1	00
22nd	7	2	9	02	02	1	8	45	1	1	00
23rd	7	2	9	72	02	1	2	45	1	1	00
24th	7	3	9	04	02	1	5	45	1	1	00
25th											


Small right corneal abrasions (AIS-1), air bag/eyeglasses
Ecchymosis and contusions of face (AIS-1), air bag
Multiple small conjunctival lacerations with hemorrhage of the right eye (AIS-1), air bag/eyeglasses
Anterior neck contusion (AIS-1), air bag
Displaced, closed nasal bone fractures with closed septal fracture (AIS-2), air bag
Multiple facial abrasions (AIS-1), air bag
Abrasion of the right anterior chin (AIS-1), air bag
Contusion of the anterior aspect of the right upper arm (AIS-1), air bag
Right hip contusion (AIS-1), lap belt/ belt buckle
Hematoma over right knee (AIS-1), knee bolster
.25" diameter burn type injury of the left upper eyelid (AIS-1), air bag
Bilateral hyphema (AIS-1), air bag
Bilateral ecchymosis of the eyelids (AIS-1), air bag
Multiple superficial lacerations of the face and nose (AIS-1), air bag/eyeglasses
Laceration of lower lip (AIS-1), air bag/ teeth
AGE 85
SEX FEMALE
WT. 56 KG
HT. 161 CM
Small corner triangular fracture of the anterior/ inferior aspect of the body of C_6 (AIS-2), air bag/ hyperextension
Left anterior shoulder contusion (AIS-1), shoulder belt webbing
Left anterior chest contusion (AIS-1), shoulder belt webbing
Lower abdominal contusion (AIS-1), lap belt webbing
Contusion of the anterior aspect of the left forearm and upper arm (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., discharge 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 (A1/A2)-pillar, instrument panel, mirror, or steering assembly (driver side only)
(15) Windshield including one or more of the following: front header, A (A1/A2)-pillar, instrument panel, or mirror (passenger side only)
(16) Driver side air bag compartment cover
(17) Passenger side air bag compartment cover
(18) Windshield reinforced by exterior object (specify): _____
(19) Other front object (specify): _____

LEFT SIDE
(20) Left side interior surface, excluding hardware or armrests
(21) Left side hardware or armrest
(22) Left A (A1/A2)-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 (A1/A2)-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 (A1/A2)-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 (A1/A2)-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 or door frame attachment point
(43) Other restraint system component (specify): _____
(44) Head restraint system
(45) Air bag (use codes "16" and "17" for injuries sustained from air bag compartment covers)
(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

Body Region

(1) Head
(2) Face
(3) Neck
(4) Thorax
(5) Abdomen
(6) Spine
(7) Upper Extremity
(8) Lower Extremity
(9) Unspecified

Type of Anatomic Structure

(1) Whole Area
(2) Vessels
(3) Nerves
(4) Organs (includes muscles/ ligaments)
(5) Skeletal (includes joints)
(6) Head - LOC
(9) Skin

Specific Anatomic Structure

Whole Area
(02) Skin - Abrasion
(04) Skin - Contusion
(06) Skin - Laceration
(08) Skin - Avulsion
(10) Amputation
(20) Burn
(30) Crush
(40) Degloving
(50) Injury - NFS
(90) Trauma, other than mechanical

Head - LOC
(02) Length of LOC
(04, 06, 08) Level of Consciousness
(10) Concussion

Spine
(02) Cervical
(04) Thoracic
(06) Lumbar

Vessels, Nerves, Organs. Bones, Joints are assigned consecutive two digit numbers beginning with 02

Level of Injury

Specific injuries are assigned consecutive two-digit numbers beginning with 02.

To the extent possible, within the organizational framework of the AIS, 00 is assigned to an injury NFS as to severity or where only one injury is given in the dictionary for that anatomic structure. 99 is assigned to any injury NFS as to lesion or severity.

Abbreviated Injury Scale

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

Aspect

(1) Right
(2) Left
(3) Bilateral
(4) Central
(5) Anterior
(6) Posterior
(7) Superior
(8) Inferior
(9) Unknown
(0) Whole region