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U.S. Department  
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**National Highway  
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Administration**

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Division of Calspan Corporation  
[REDACTED]

[REDACTED] 1995  
[Signature]

**CALSPAN REMOTE AIR BAG DEPLOYMENT INVESTIGATION  
CALSPAN CASE NO. 94-29  
VEHICLE: 1992 FORD TAURUS  
LOCATION: [REDACTED] MD  
DATE: [REDACTED] 1994**

Contract No. DTNH22-94-D-07058

Prepared for:

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

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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points are coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

Because each crash is a unique sequence of events, generalized conclusions cannot be made concerning the crashworthiness performance of the involved vehicle(s) or their safety systems.

**TECHNICAL REPORT STANDARD TITLE PAGE**

1. Report No. 94-29		2. Government Accession No.		3. Recipient's Catalog No.	
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				14. Sponsoring Agency Code	
15. Supplementary Notes Remote investigation of an air bag deployment crash that resulted in facial and eye injuries to the belted 6 year old male right front passenger.					
16. Abstract This remote air bag deployment investigation focused on a two vehicle crash that resulted in facial and eye injuries to a 6 year old right front passenger of a Ford Taurus. The Taurus impacted the left side of a U-turning Ford Escort on a divided four lane roadway in a 80 km/h (50 mph) speed zone. As a result of the crash, the Taurus' supplemental driver and passenger side air bags deployed.  The 73 year old female driver of the Taurus sustained minor severity contusions of the chest and right arm from her involvement with the deployment of the driver's side air bag. Her 6 year old grandson who was seated in the right front position of the vehicle, sustained multiple facial abrasions and numerous injuries of the eyes which included bilateral corneal abrasions, left eye hyphema, and conjunctival hemorrhage. He was transferred to an eye clinic of a major medical center where he was admitted for five (5) days for treatment of his injuries.					
17. Key Words Supplemental Restraint System (SRS) Frontal impact AIS-1 level eye injuries				18. Distribution Statement General Public	
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**CALSPAN REMOTE AIR BAG DEPLOYMENT INVESTIGATION**

**CALSPAN CASE NO. 94-29**

**VEHICLE: 1992 FORD TAURUS**

**LOCATION: [REDACTED], MD**

**DATE: [REDACTED] 1994**

**SUMMARY**

This remote investigation of an air bag deployment crash focused on the eye injuries sustained by a 6 year old right front occupant of a 1992 Ford Taurus that was equipped with dual driver and passenger side air bags. The frontal area of the Taurus struck the left side of a 1985 Ford Escort as the Escort initiated a U-turn across the Taurus' path of travel. The Taurus underwent a sufficient longitudinal deceleration which deployed the supplemental driver and passenger side air bags. The 73 year old female driver of the Taurus sustained right anterior arm contusions and a right chest contusion from contact with the deployed driver's side air bag. The 6 year old right front passenger was struck in the face by the deploying passenger side air bag and sustained multiple facial abrasions, bilateral eyelid abrasions, bilateral corneal abrasions, traumatic hyphema of the left eye, and bilateral conjunctival hemorrhage. He was transported by ambulance to a local hospital and subsequently transferred to an eye clinic of a major medical center where he was admitted for 5 days for treatment of the eye injuries.

The crash occurred in a mid block area on a five lane state route on [REDACTED] 1994, during daylight hours. The police report indicated that the road surface was straight, level, and dry with a posted speed limit of 80 km/h (50 mph). Parallel parking was permitted along both edges of the roadway.

The air bag equipped vehicle was a 1992 Ford Taurus GL, 4 door sedan. The vehicle was equipped with the Supplemental Restraint System (SRS) which consisted of the standard driver's side air bag and the optional passenger side air bag. The air bags were combined into a single system and as a result of the crash, the system deployed. The vehicle was identified by the following vehicle identification number (VIN): 1FALP52U3NA.

The driver of the Ford Taurus was a 73 year old female with a stated height of 160 cm (63") and weight of 61 kg (135 lbs.). She was traveling in a southerly direction in the left lane of the state route at an estimated speed of 65 km/h (40 mph). The driver stated that a van type vehicle was parallel parked at the right roadside with vehicle #2 parked forward of the van. As she approached the parked vehicles, the driver of the Escort accelerated from her parked position and initiated a U-turn across the southbound travel lanes. The driver of the Ford Taurus stated that the parked van obstructed her view of the Ford Escort prior to its departure from its parked position. There was no police reported physical evidence at the scene, however, the driver of the Taurus probably braked in an attempt to avoid the impending crash. It was unknown if the driver of the Ford Escort initiated avoidance action.

The left and center zones of the frontal area of the Ford Taurus impacted the left passenger compartment area of the U-turning Ford Escort. Based on photographs of the damage to the Taurus and the impact configuration, resultant directions of force were within the 12-1 o'clock sectors for the Taurus and probably within the 9-10 o'clock sectors for the struck Ford Escort. The impact resulted in an estimated longitudinal deceleration of 18-21 km/h (11-13 mph) for the Taurus which was sufficient to deploy the vehicle's supplemental driver and passenger air bag system.

As a result of the crash, the Ford Taurus sustained moderate frontal damage. Direct contact damage began at the left front corner and extended approximately 142 cm (56") to the right, ending at a point near the inboard third of the right headlamp assembly. Based on the attached photographs, the left front bumper corner was minimally displaced rearward, however, both bumper energy absorbing units probably fully stroked and returned to their original positions. Damaged components included the front bumper fascia, hood, header panel, left turn signal assembly, and the left front fender. The driver of the vehicle reported the vehicle damage repair cost at approximately \$5K.

The driver stated during the interview process that the triangular plastic trim panels that were mounted to the mid instrument panel adjacent to the passenger side air bag module assembly separated from the panel during the deployment and were recovered from the floor of the vehicle post-crash. Based on photographs supplied by the families' attorney and the inspection of an exemplary vehicle, these plastic trim panels were affixed to the mid panel by three spring clips. The left side panel was approximately 28 cm (11") in length and 14.6 cm (5.75") in height adjacent to the air bag module assembly and 3.8 cm (1.5") in height at the left edge. The right side panel was approximately 20.3 cm (8.0") in length and 12.7 cm (5.0") in height adjacent to the right side of the air bag module. These trim panels were repositioned and are depicted in Photograph No. 8.

In addition to the displacement of the right side trim panels, the rear view mirror was separated from its windshield mount by probable contact from the deploying passenger side air bag. The mirror was observed in the attached photographs lying on the front seat cushion with the glass cracked across the length of the mirror. The steering wheel mounted cruise control switches, which were positioned between the spokes of the wheel, separated from the wheel as a result of deployment of the driver's side air bag.

## **HUMAN FACTORS/OCCUPANT DATA**

### **Driver (Air Bag Vehicle)**

Age/Sex:	73 years old female
Height:	160 cm (63")
Weight:	61 kg (135 lbs.)
Manual Restraint	
System Usage:	3-point lap and shoulder belt system
Usage Source:	Driver interview, police report
Eyewear:	Prescription eyeglasses, slightly deformed, remained on face

**Driver (Cont'd):**

Vehicle Familiarity: 2 years  
Route Familiarity: Frequent  
Mode of Transport  
From Scene: Ambulance  
Type of Medical  
Treatment: Treated and release at local hospital

**DRIVER INJURIES**

Injury	Severity (OIC/AIS)	Injury Mechanism
Contusion of right chest and right breast	Minor (490402.11)	Driver's side air bag
Contusion of the anterior aspect of the right upper arm	Minor (790402.11)	Driver's side air bag

**DRIVER KINEMATICS**

The driver of the Ford Taurus was in a normal driving posture with the seat adjusted to a mid track position and the tilt steering column set at the center adjustment point. She stated that she was properly restrained by the manual 3-point lap and shoulder belt system.

At impact, the supplemental air bag system deployed and the driver initiated a forward trajectory in response to the frontal impact. She loaded the manual belt webbing and the deploying driver's side air bag which prevented her from contact with frontal components. Her involvement with the deploying air bag resulted in contusions across the right chest and right breast and a contusion of the anterior right upper arm. The driver's face loaded the air bag which deformed her eyeglass frames, however, the eyeglasses remained on her face. She was also wearing a necklace and a watch on her left wrist; both jewelry items remained intact and were not damaged.

The driver came to rest in an upright seated position behind the steering wheel. She glanced over at her grandson who was seated in the right front position and noted injury to his face. The driver remained in the vehicle and waited for emergency personnel to arrive on scene. She and her grandson were transported by ambulance to a local hospital for treatment of their injuries. The driver was released following a brief examination.

**Right Front Occupant**

Age/Sex: 6 year old male  
 Height: 114 cm (45")  
 Weight: 20 kg (45 lbs.)  
 Manual Restraint  
 System Usage: 3-point lap and shoulder belt system  
 Usage Source: Driver interview  
 Eyeware: None  
 Mode of Transport  
 from Scene: Ambulance  
 Type of Medical  
 Treatment: Treated at a local hospital then transferred to an eye clinic where he was admitted for five (5) days for treatment of his injuries

**PASSENGER INJURIES**

<b>Injury</b>	<b>Severity (OIC/AIS)</b>	<b>Injury Mechanism</b>
1.5 mm traumatic hyphema of the left eye	Minor (240604.12)	Passenger side air bag
Right corneal abrasion	Minor (240602.11)	Passenger side air bag
Left corneal abrasion	Minor (240602.12)	Passenger side air bag
Bilateral abrasions of the upper and lower eyelids	Minor (297202.11, 297202.12)	Passenger side air bag
Multiple abrasions across both cheeks of the face	Minor (290202.11, 290202.12)	Passenger side air bag
Abrasions across the nose	Minor (290202.14)	Passenger side air bag
Abrasions over the forehead	Minor (290202.17)	Passenger side air bag
Right conjunctival hemorrhage	Minor (240416.11)	Passenger side air bag
Left conjunctival hyperemia with area of subconjunctival hemorrhage temporally	Minor (240416.12)	Passenger side air bag
Left periorbital edema	Minor (297402.12)	Passenger side air bag
Abrasions across both lips	Minor (290202.18)	Passenger side air bag



## **Right Front Passenger Kinematics**

The 6 year old right front occupant of the 1992 Ford Taurus was presumably in a normal seated posture with the seat adjusted to a mid track position. The driver of the vehicle (grandmother) stated that he was properly wearing the manual 3-point lap and shoulder belt system.

Based on the driver estimated pre-impact travel speed of the Taurus and the moderate frontal damage to the vehicle, the driver probably braked in an attempt to avoid the U-turning Ford Escort. As a result of the pre-impact braking, the child passenger possibly responded by moving forward from his pre-event position, thus placing himself closer to the passenger side air bag module.

At impact, the supplemental driver and passenger side air bag deployed. The passenger side air bag fabric contacted the 6 year old child's face as he continued to move forward in response to the frontal impact force. The air bag contact and expansion of the bag across the child's face produced abrasions to the upper and lower eyelids bilaterally, left periorbital edema, and multiple abrasions across both cheeks, nose, lips and forehead. The air bag fabric also produced bilateral corneal abrasions, traumatic hyphema of the left eye, right conjunctival hemorrhage, and left subconjunctival hemorrhage with conjunctival hyperemia.

It was reported by the driver of the vehicle that the plastic trim panels located adjacent to the passenger side air bag module separated from the instrument panel and contacted the child passenger resulting in the injuries identified above. Although these trim panels may have the potential to cause significant injury as they separate during deployment, Calspan does not believe that these panels contributed to the injuries sustained by the child occupant. The facial abrasions and eye injuries sustained by this child are similar to occupants of other cases where the sole injury mechanism was the air bag fabric. It would be suspected that injury caused by the plastic trim panel would be more severe than abrasive type injuries and would probably involve lacerations and facial bone fractures given the rigid construction of the trim panels and the velocity at which the panels could be expelled from the instrument panel.

The child occupant was transported by ambulance to a local hospital where he was examined in the emergency room and was diagnosed with the facial abrasions, right corneal abrasions, left subconjunctival hemorrhage and hyphema. The attending physician noted on the emergency room report that the child occupant's left eye reacted to light. He referred the child to an eye clinic at a major medical facility.

The child was subsequently transferred to the eye clinic by his parents where he was admitted for treatment of the injuries. Upon admission, the ophthalmologist examined the child's eyes and reported that his visual acuity was rated at 20/60 - 20/40 in the right eye, however, the child was only able to briefly count fingers with the left eye at several feet, therefore no acuity range was assigned. The pupils were 3 mm and trace reactive on the right and 4 mm and trace reactive on the left with no definite afferent pupillary defect. Eye pressures were measured by tonometry at 20 on the right and 20-25 on the left side. The ophthalmologist treated the eyes with oral dosages of *Amicar* which

decreases the risk of post-injury hemorrhage. In addition, he applied *Erythromycin* ointment to both eyes, prescribed *Atropine* 1% twice a day, *Pred Forte* to be administered four times a day to the left eye, and placed a shield over the left eye.

On the day following the injury, the ophthalmologist examined the child and measured the eye pressures at 9-12 in the right eye and 15-16 in the left eye. He reported that the child was able to count fingers with either eye at a distance of five feet.

On the third day following the injury, the ophthalmologist reported the child's vision at 20/60 in the right eye and the ability to detect hand motions at one foot in the left eye. He recorded the left eye pressures at 16-23 by tonometry.

On the fifth day following the injury, the ophthalmologist reported visual acuity at 20/40 - 20/50 in the right eye and 20/300 in the left eye. The left eye pressure was measured at 13-15 while the right eye pressure was not reported. The left eye hyphema was reduced to a diameter of approximately 0.5 mm and the corneal abrasions had resolved. He was discharged from the eye clinic with the left eye shield in place and instructions for quiet activity.

The child occupant's vision had returned to the pre-accident acuity of approximately 20/20 bilaterally, however, it was reported that his left pupil had remained slightly larger than the right and that the eyes are light sensitive. The parents were advised that he has an increased risk of developing glaucoma and additional injury could cause serious damage to the eyes.

# **“GRAPHIC” PHOTOGRAPHS AND IMAGES**

The following “GRAPHIC” Photographs and Images have been removed from this case.

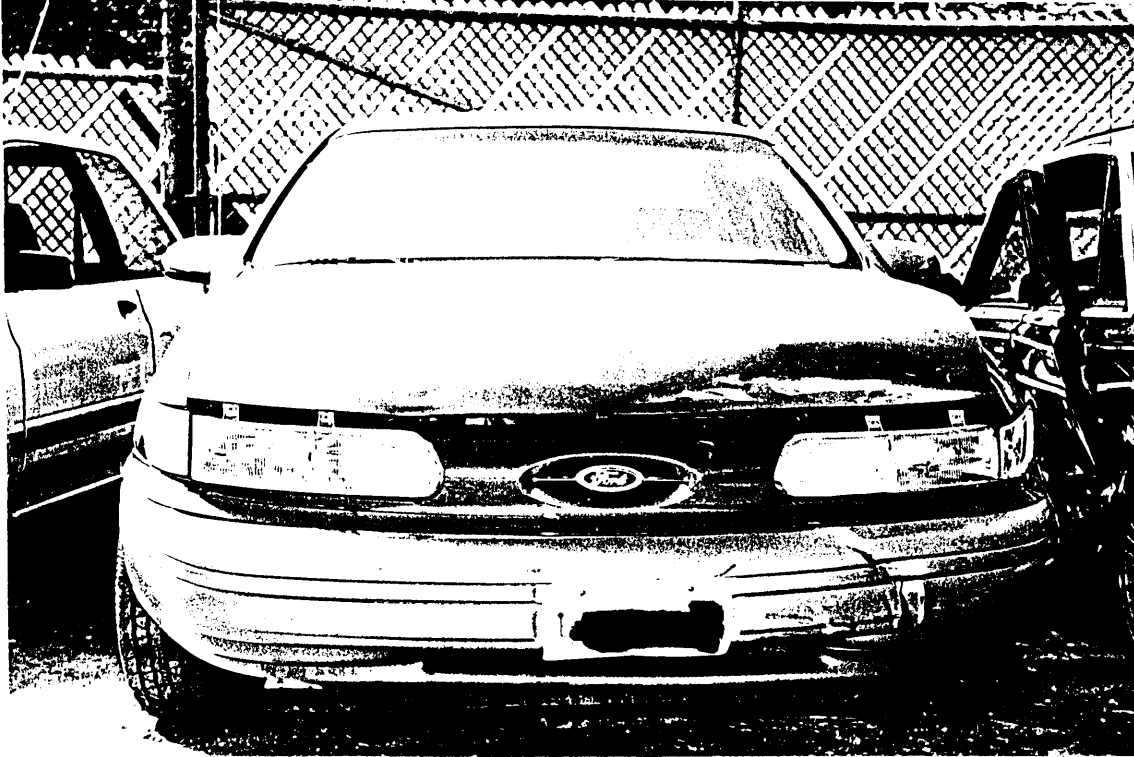
Photo #10-12

If you would like a copy of these photographs and/or images please write to:

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CAMBRIDGE, MA 02142

In the body of your request please include the case, photograph and image number(s).

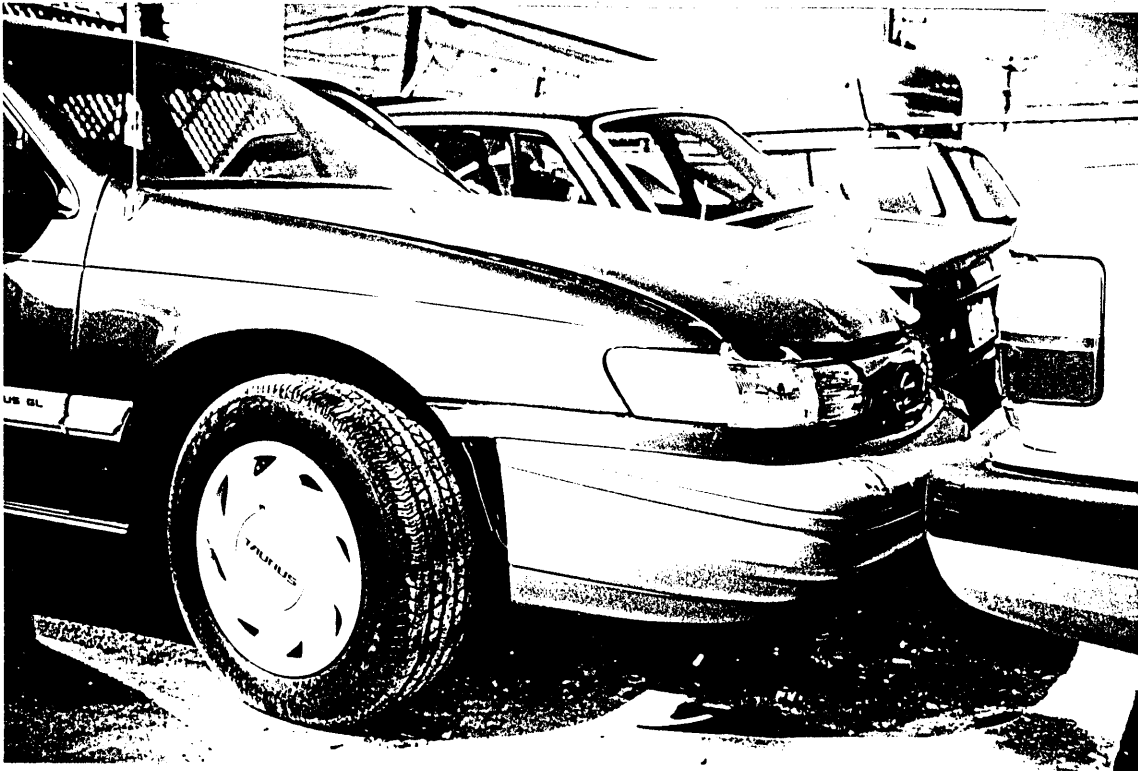
**Photographs**  
**Calspan Case No. 94-29**  
**Location: ██████████, MD**



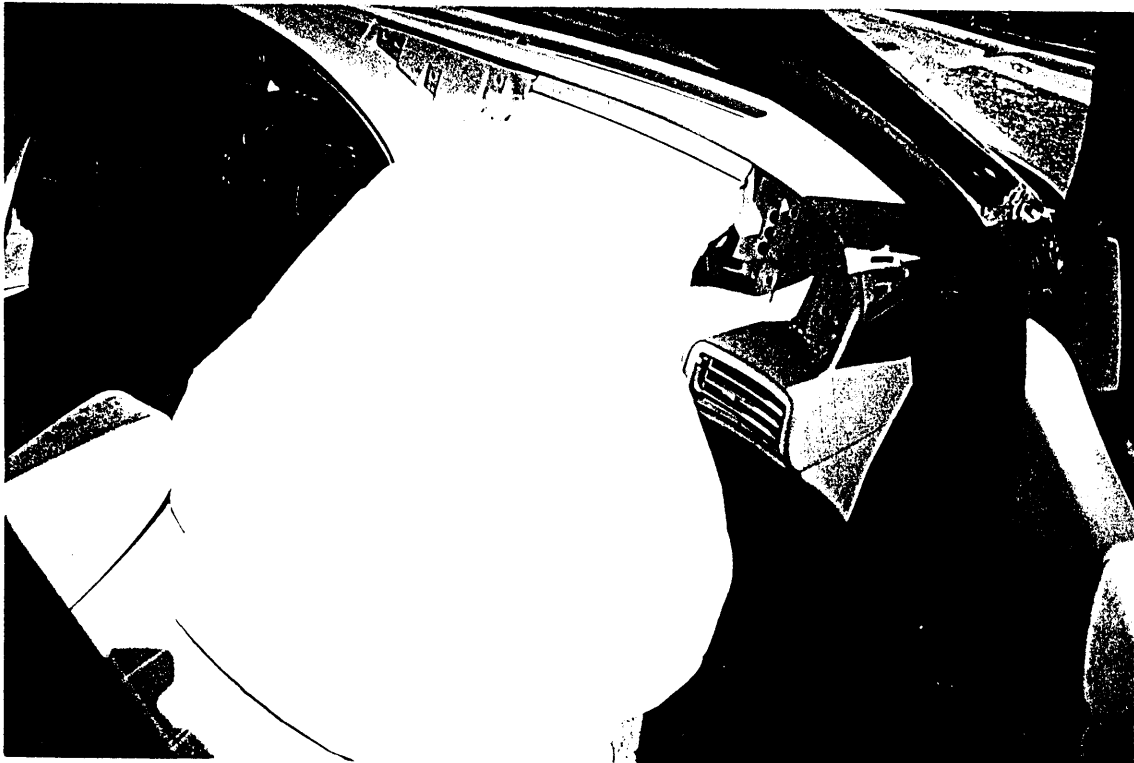
1. Frontal damage to the Ford Taurus.



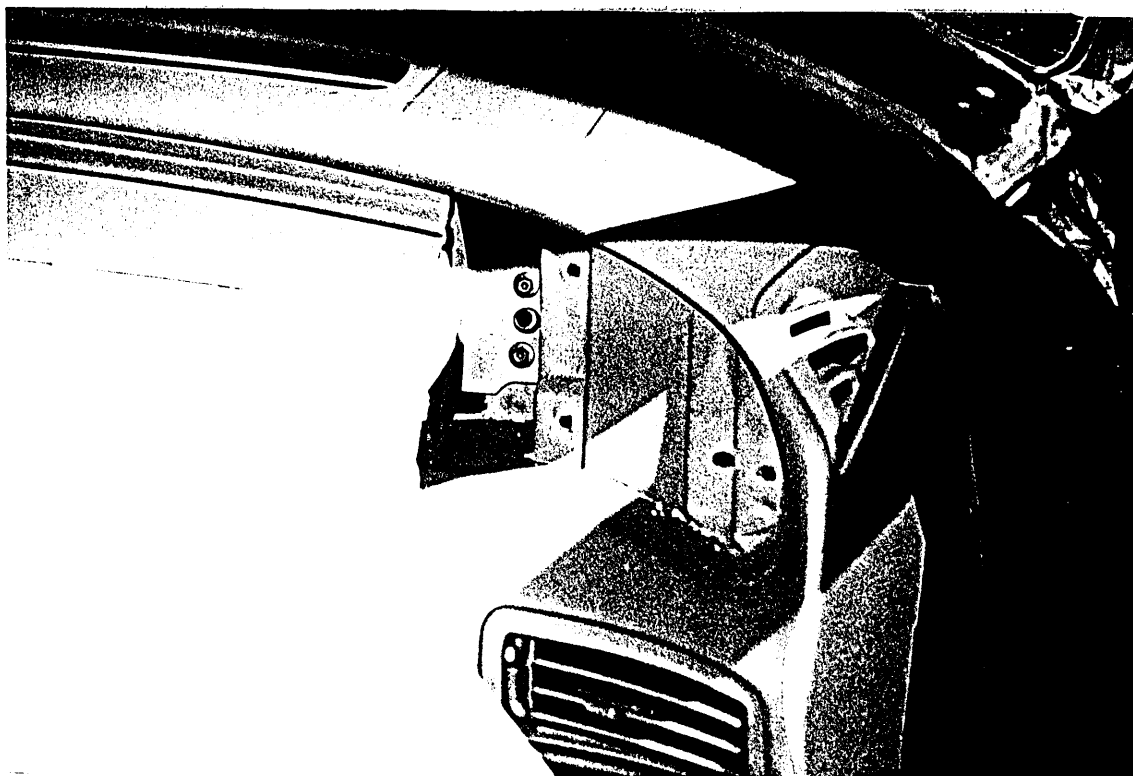
2. Overhead view of the damage at the left front corner area.



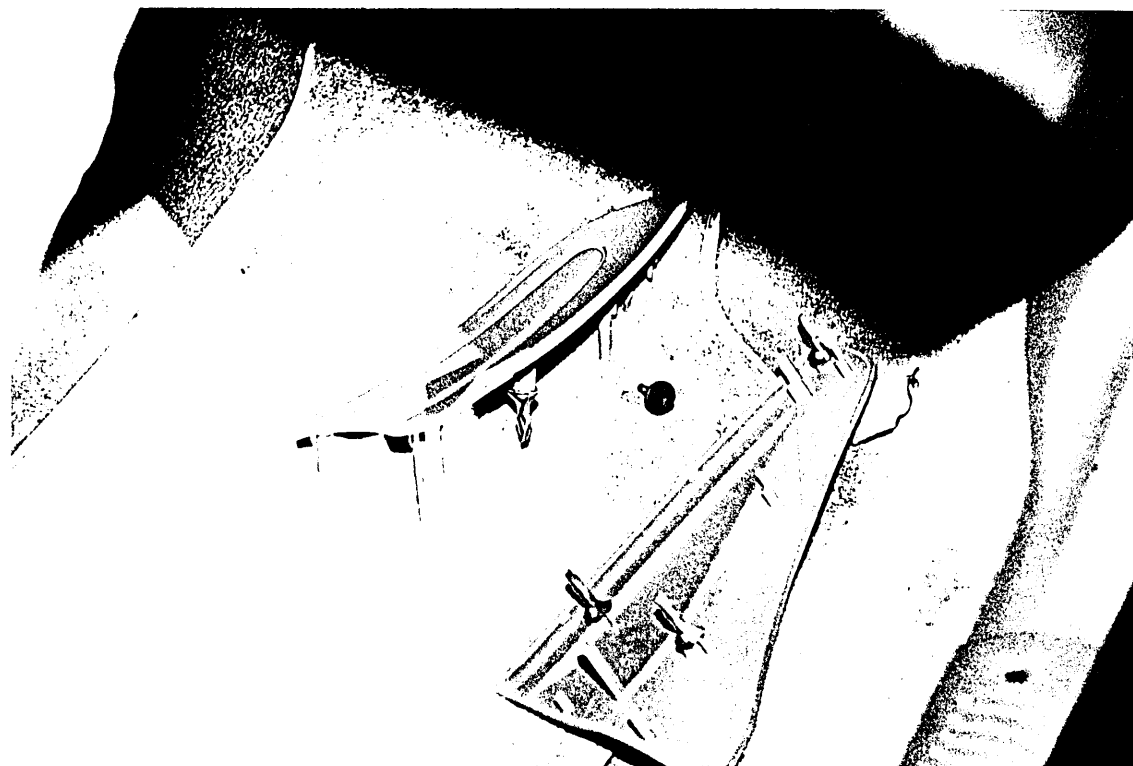
3. Right front three-quarter view of the Ford Taurus.



4. Overall interior view of the deployed passenger side air bag and the separated instrument trim panels.



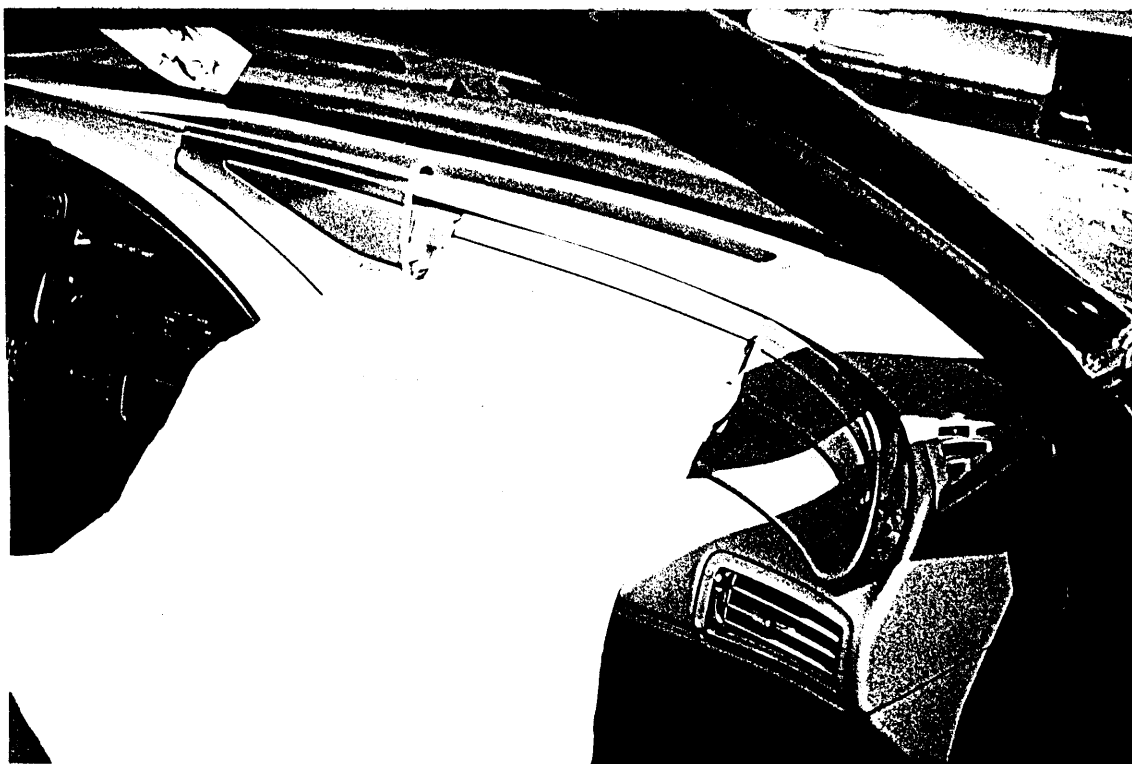
5. Close-up view of the right instrument panel and the separated trim panel.



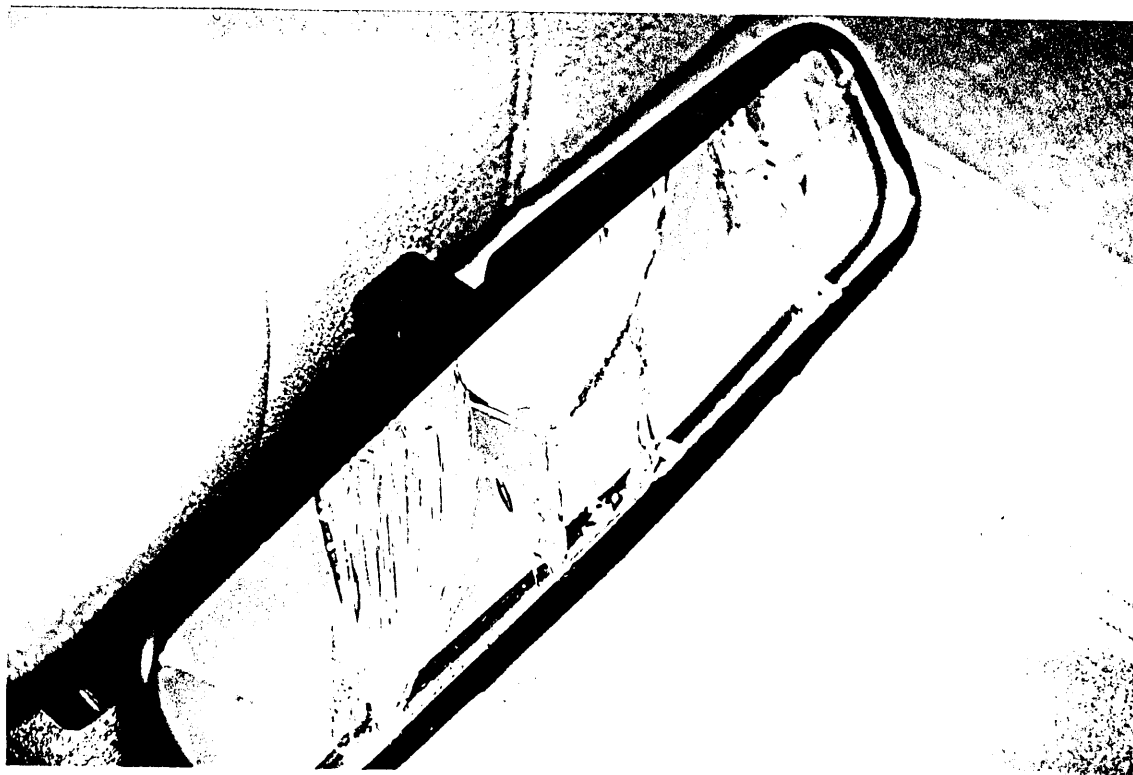
6. Separated trim panels positioned on the right front floor.



7. Push type spring clips which retained the trim panels to the instrument panel.



8. Right instrument panel with trim panels repositioned into their respective locations.



9. Separated and cracked review mirror.



**ATTACHMENT B**

**Police Accident Report**

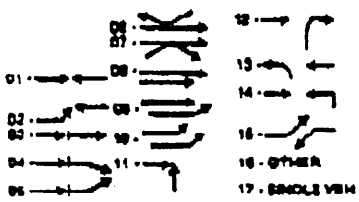
# State of Maryland Motor Vehicle Accident Report

BEST AVAILABLE COPY

REPORT NO. [REDACTED]		PAGE OF [REDACTED]	ACCIDENT DATE [REDACTED] 9/4/72	ACCIDENT TIME [REDACTED] 1:25	REPORT TYPE <input type="checkbox"/> FATAL <input type="checkbox"/> INJURY <input checked="" type="checkbox"/> NON-TRAFFIC	RESEARCH	LOCAL CASE NUMBER [REDACTED]	LOCAL CODES [REDACTED]	PHOTOS? [REDACTED]						
INVESTIGATING OFFICER ID [REDACTED]		AGENCY AND AREA [REDACTED]	SUPERVISING OFFICER ID [REDACTED]		REVIEWER ID # [REDACTED]	CODE - AND - NAME OF MUNICIPALITY [REDACTED]		COUNTY [REDACTED]							
RD CHAR [REDACTED]	RTENUM Accident Occurred On [REDACTED]		ROAD NAME [REDACTED]		IN LANE [REDACTED]		Ramp Number (Direction) [REDACTED]		IN INTERSECTION [REDACTED]						
RD COND [REDACTED]	INT-RT [REDACTED]	INTERSECTING ROAD NAME or Log Mile Reference Manual description [REDACTED]			MILEPT [REDACTED]	DIR [REDACTED]	Dist. of Acc fr INT-RT/Ref. & Dir. [REDACTED]								
RD DIV [REDACTED]	ACCIDENT DIAGRAM Show & Label: Road, Traffic Units, the Travel Direction consistent with the Log Mile Reference Manual, and Movement of Traffic Units.				DESCRIBE ACCIDENT briefly: Identify units by numbers. Also identify the following: a) the OBJECT DAMAGED & NATURE OF DAMAGE (Property other than vehicles) and by the NAME & ADDRESS OF OWNER when applicable.										
SFR COND [REDACTED]					Vek#2 was traveling 3/4 bound on [REDACTED] when Veh#1 pulled out from a parked position attempting to make a U-turn across traffic. At which time the two vehicles collided.										
UNIT # [REDACTED]	NAME (First, Middle, Last) [REDACTED]		SEX [REDACTED]	UNIT # [REDACTED]	NAME (First, Middle, Last) [REDACTED]		SEX [REDACTED]	UNIT # [REDACTED]							
TYPE OF UNIT [REDACTED]	ADDRESS (No., Street, City, State, Zip) [REDACTED]		INSURANCE [REDACTED]	TYPE OF UNIT [REDACTED]	ADDRESS (No., Street, City, State, Zip) [REDACTED]		INSURANCE [REDACTED]	TYPE OF UNIT [REDACTED]							
MOVEMENT [REDACTED]	CONDITN [REDACTED]	SUBST [REDACTED]	TEST [REDACTED]	RESULT [REDACTED]	FOR PEDS ONLY [REDACTED]	AGE [REDACTED]	TYPE [REDACTED]	LOCAT'N [REDACTED]	OBEY [REDACTED]	VISIBL [REDACTED]					
SPEED LIMIT [REDACTED]	SAF. EQU [REDACTED]	EQ PROR [REDACTED]	EJECT [REDACTED]	CITATION NUMBER (S) [REDACTED]	FAULT [REDACTED]	SPEED LIMIT [REDACTED]	SAF. EQU [REDACTED]	EQ PROR [REDACTED]	EJECT [REDACTED]	CITATION NUMBER (S) [REDACTED]					
GOING [REDACTED]	DRIVER'S LICENSE NUMBER [REDACTED]	STATE [REDACTED]	CLASS [REDACTED]	GOING [REDACTED]	DRIVER'S LICENSE NUMBER [REDACTED]	STATE [REDACTED]	CLASS [REDACTED]	GOING [REDACTED]	DRIVER'S LICENSE NUMBER [REDACTED]	STATE [REDACTED]	CLASS [REDACTED]				
CONTINU [REDACTED]	DR DATE OF BIRTH [REDACTED]	IRREGULAR CONDITION [REDACTED]	HAZ MAT NUMBER [REDACTED]	CONTINU [REDACTED]	DR DATE OF BIRTH [REDACTED]	IRREGULAR CONDITION [REDACTED]	HAZ MAT NUMBER [REDACTED]	CONTINU [REDACTED]	DR DATE OF BIRTH [REDACTED]	IRREGULAR CONDITION [REDACTED]	HAZ MAT NUMBER [REDACTED]				
BODY TY [REDACTED]	COMM. VEHICLE ONLY [REDACTED]	U.S. DOT NUMBER [REDACTED]	ICC NUMBER [REDACTED]	BODY TY [REDACTED]	COMM. VEHICLE ONLY [REDACTED]	U.S. DOT NUMBER [REDACTED]	ICC NUMBER [REDACTED]	BODY TY [REDACTED]	COMM. VEHICLE ONLY [REDACTED]	U.S. DOT NUMBER [REDACTED]	ICC NUMBER [REDACTED]				
MOST HE [REDACTED]	OWNER OR CARRIER NAME (Write "SAME" if Driver) [REDACTED]		TEL [REDACTED]	MOST HE [REDACTED]	OWNER OR CARRIER NAME (Write "SAME" if Driver) [REDACTED]		TEL [REDACTED]	MOST HE [REDACTED]	OWNER OR CARRIER NAME (Write "SAME" if Driver) [REDACTED]		TEL [REDACTED]				
CONTRIB CIRCUMSTANCES [REDACTED]	OWNER/CARRIER ADDRESS [REDACTED]			CONTRIB CIRCUMSTANCES [REDACTED]	OWNER/CARRIER ADDRESS [REDACTED]			CONTRIB CIRCUMSTANCES [REDACTED]	OWNER/CARRIER ADDRESS [REDACTED]						
YEAR & MAKE OF VEHICLE [REDACTED]	MODEL [REDACTED]	FORMED VEH (S) [REDACTED]	1ST IMPACT PT. [REDACTED]	YEAR & MAKE OF VEHICLE [REDACTED]	MODEL [REDACTED]	FORMED VEH (S) [REDACTED]	1ST IMPACT PT. [REDACTED]	YEAR & MAKE OF VEHICLE [REDACTED]	MODEL [REDACTED]	FORMED VEH (S) [REDACTED]	1ST IMPACT PT. [REDACTED]				
EXP YR & REGISTR # STATE [REDACTED]	AREAS DAMAGED [REDACTED]	INSURER [REDACTED]		EXP YR & REGISTR # STATE [REDACTED]	AREAS DAMAGED [REDACTED]	INSURER [REDACTED]		EXP YR & REGISTR # STATE [REDACTED]	AREAS DAMAGED [REDACTED]	INSURER [REDACTED]					
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DAM EXT [REDACTED]	VEHICLE REMOVED BY [REDACTED]	VEHICLE REMOVED TO [REDACTED]		DAM EXT [REDACTED]	VEHICLE REMOVED BY [REDACTED]	VEHICLE REMOVED TO [REDACTED]		DAM EXT [REDACTED]	VEHICLE REMOVED BY [REDACTED]	VEHICLE REMOVED TO [REDACTED]					
TRAFFIC UNIT # [REDACTED]	SEATING POSITION [REDACTED]	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 # [REDACTED]	SEX [REDACTED]	AGE [REDACTED]	SAFETY EQUIP [REDACTED]	EQUIP PROB. [REDACTED]	INJUR SEVER [REDACTED]	EJECT [REDACTED]	EMS UNIT [REDACTED]	
[REDACTED] 99 010006 102 103 104 105 106															
E UNIT # [REDACTED]	INJURED TAKEN BY: [REDACTED]	INJURED TAKEN TO: [REDACTED]	EMS RUN REPORT # [REDACTED]	E UNIT # [REDACTED]	INJURED TAKEN BY: [REDACTED]	INJURED TAKEN TO: [REDACTED]	EMS RUN REPORT # [REDACTED]	E UNIT # [REDACTED]	INJURED TAKEN BY: [REDACTED]	INJURED TAKEN TO: [REDACTED]	EMS RUN REPORT # [REDACTED]	E UNIT # [REDACTED]	INJURED TAKEN BY: [REDACTED]	INJURED TAKEN TO: [REDACTED]	EMS RUN REPORT # [REDACTED]

UNIVERSAL ACCIDENT CODES: 00 Not Applicable 99 Other 98 or UU Unknown

- 16 ROAD CHARACTER
  - 01 Straight & Level
  - 02 Straight & Grade
  - 03 Straight & Hillcrest
  - 04 Curve & Level
  - 05 Curve & Grade
  - 06 Curve & Hillcrest
  - 07 On Bridge
- 18 IN LANE:
  - Direction (Pos. 1)
    - N North
    - E East
    - S South
    - W West
  - P Parking
  - Number (Pos. 2)
    - 1 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 Construction 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-Open
  - 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
- 48 SEX
  - 01 Male
  - 02 Female
- 49 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
    - 01 Cross/Enter at Intersection
    - 02 Cross/Ent Not at Intsect
    - 03 Walking/Riding w/Traffic
    - 04 Walk/Ride Against Traffic
    - 05 Playing
    - 06 Standing (continued—)

- 57 Getting On/Off Vehicle
- 58 Push/Work on Vehicle
- 59 Other Working
- 60 Hitchhiking
- 61 Approach/Leave School Bus
- 61 CONDITION
  - 01 Apparently Normal
  - 02 Had Been Drinking
  - 03 Using Drugs
  - 04 Physical Defects
  - 05 Other Handicaps
  - 06 Ill
  - 07 Fatigued
  - 08 Apparently Asleep
- 62 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
- 63 TEST ADMINISTERED
  - 01 Test (s) Refused
  - 02 Positive Prelim. Test
  - 03 Evidence Test Given
- 66 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
- 67 PED LOCATION
  - 01 Shoulder
  - 02 Curb
  - 03 Sidewalk
  - 04 Outside Right of Way
  - 05 On Roadway at Crosswalk
  - 06 On Roadway Not at Crswk
  - 07 In School Bus Zone
  - 08 In Bikeway
- 68 PED OBEDIENCE
  - 01 No pedestrian signal
  - 02 Obeyed pedestrian signal
  - 03 Disobeyed ped. signal
  - 04 Ped. signal malfunction
- 69 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 Helmet & 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

BEST AVAILABLE COPY

- 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 Overtum  
 12 Spilled Cargo  
 13 Jackknif  
 14 Separation of Units  
 15 Other Non-collision

- 82-12/24 CONTRB CIRCUMSTANCE**  
Driver/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  
 19 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**
- 
- FRONT**
- 17 Hood  
 18 Roof/Top  
 19 Truck  
 20 Windshield  
 21 Windows  
 22 Underside  
 23 Overtum (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 (a)
- 103 EQUIPMENT PROBLEM**  
Adult/Youth Restraint  
 01 No Misuse/Problem (Use OK)  
 11 Belt (a)/Anchor (a) Broke  
 13 Belt (a) 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

**ATTACHMENT C**  
**NASS Occupant Forms**



# OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number \_\_\_\_\_  
 2. Case Number - Stratum 94-29  
 3. Vehicle Number 01  
 4. Occupant Number 01

## 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

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 73  
 Code actual age at time of accident.  
 (00) Less than one year old (specify by month): \_\_\_\_\_  
 (97) 97 years and older  
 (99) Unknown

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

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

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

7. Occupant's Height 160  
 Code actual height to the nearest  
 centimeter.  
 (999) Unknown

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

63 inches X 2.54 = 160 centimeters

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

8. Occupant's Weight 061  
 Code actual weight to the nearest  
 kilogram.  
 (999) Unknown

11. Occupant's Posture 0  
 (0) Normal posture

135 pounds X .4536 = 061 kilograms

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

*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 \_\_\_\_\_

## 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 0

- (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 4

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

(8) Restrained, type unknown \_\_\_\_\_

(9) Police indicated "unknown" \_\_\_\_\_



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)

9 9

- (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

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 0 0 0

(000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):

\_\_\_\_\_  
 (998) Unknown make/model  
 (999) Unknown if child safety seat used

29. Type of Child Safety Seat 0

(0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):

\_\_\_\_\_  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

30. Child Safety Seat Orientation 0 0

(00) No child safety seat

*Designed for Rear Facing for This Age/Weight*

(01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):

\_\_\_\_\_  
 (09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*

(11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):

\_\_\_\_\_  
 (19) Unknown orientation

*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*

(21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):

\_\_\_\_\_  
 (29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 0 032. Child Safety Seat Shield Usage 0 033. Child Safety Seat Tether Usage 0 0

Note: Options below applicable to  
 Variables OA31-OA33.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

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

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 2

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

35. Treatment - Mortality 4

- (0) No treatment
- (1) Fatal
- (2) Fatal - ruled disease (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 00

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

38. Working Days Lost 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
- (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 02

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

**AUTOMATIC BELT SYSTEM**

44. Automatic (Passive) Belt System Availability/Function 0

- (0) Not equipped/not available
- (1) 2 point automatic belts
- (2) 3 point automatic belts
- (3) Automatic belts - type unknown

*Non-functional*

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

45. Automatic (Passive) Belt System Use 0

- (0) Not equipped/not available/destroyed or rendered inoperative
- (1) Automatic belt in use
- (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify):  
\_\_\_\_\_
- (3) Automatic belt use unknown
- (9) Unknown

46. Automatic (Passive) Belt System Type 0

- (0) Not equipped/not available
- (1) Non-motorized system
- (2) Motorized system
- (9) Unknown

47. Proper Use of Automatic (Passive) Belt System 0

- (0) Not equipped/not available/not used
- (1) Automatic belt used properly
- (2) Automatic belt used properly with child safety seat

*Automatic Belt Used Improperly*

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

48. Automatic (Passive) Belt Failure Modes During Accident 0

- (0) Not equipped/not available/not in use
- (1) No automatic belt failure(s)
- (2) Torn webbing (stretched webbing not included)
- (3) Broken buckle or latchplate
- (4) Upper anchorage separated
- (5) Other anchorage separated (specify):  
\_\_\_\_\_
- (6) Broken retractor
- (7) Combination of above (specify):  
\_\_\_\_\_
- (8) Other automatic belt failure (specify):  
\_\_\_\_\_
- (9) Unknown

49. Seat Orientation (this Occupant Position) 1

- (0) Occupant not seated or no seat
- (1) Forward facing seat
- (2) Rear facing seat
- (3) Side facing seat (inward)
- (4) Side facing seat (outward)
- (8) Other (specify):  
\_\_\_\_\_
- (9) Unknown

Check the Primary Source Used In Determining Belt Use.

- [ ] Not equipped/not available/destroyed or rendered inoperative
- [ ] Vehicle inspection
- [ ] Official injury data
- [x] Driver/occupant interview
- [ ] Other (specify):  
\_\_\_\_\_

[ ] Unknown if belt used

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION? NO [ ] YES [ ]

UPDATE CANDIDATE? NO [ ] YES [ ]

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

**TRAUMA DATA**

50. Glasgow Coma Scale (GCS) Score 02  
 (at Medical Facility)  
 (00) Not injured  
 (01) Injured - not treated at medical facility  
 (02) No GCS Score at medical facility  
 (03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
 (97) Injured, details unknown  
 (99) Unknown if injured
51. Was the Occupant Given Blood? 1  
 (1) No - blood not given  
 (2) Yes - blood given  
 (specify units): \_\_\_\_\_  
 (9) Unknown if blood given
52. Arterial Blood Gases (ABG) - HCO<sub>3</sub> 01  
 (00) Not injured  
 (01) Injured, ABGs not measured or reported  
 (02-50) Code the actual value of the HCO<sub>3</sub>  
 (96) ABGs reported, HCO<sub>3</sub> unknown  
 (97) Injured, details unknown  
 (99) Unknown if injured

**BELT USE DETERMINATION**

53. Primary Source of Belt Use Determination 3  
 (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 <u>01</u>
2. Case Number - <del>Stratum</del> <u>94-29</u>	4. Occupant Number <u>01</u>

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

**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



# OCCUPANT ASSESSMENT FORM

1. Primary Sampling Unit Number             
 2. Case Number - Stratum 94-29  
 3. Vehicle Number 01  
 4. Occupant Number 02

## OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 06  
 Code actual age at time of accident.  
 (00) Less than one year old (specify by month):  
 (97) 97 years and older  
 (99) Unknown

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

7. Occupant's Height 114  
 Code actual height to the nearest  
 centimeter.  
 (999) Unknown  
45 inches X 2.54 = 114 centimeters

8. Occupant's Weight 020  
 Code actual weight to the nearest  
 kilogram.  
 (999) Unknown  
045 pounds X .4536 = 020 kilograms

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

## OCCUPANT'S SEATING

10. Occupant's Seat Position 13  
*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



## 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 1

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

(8) Restrained, type unknown \_\_\_\_\_

(9) Police indicated "unknown" \_\_\_\_\_

## HEAD RESTRAINT AND SEAT EVALUATION

25. Head Restraint Type/Damage by Occupant  
at This Occupant Position3

- (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)

99

- (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

## CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 006

(000) No child safety seat  
 Applicable codes are found in your NASS CDS  
 Data Collection, Coding and Editing  
 (950) Built-in child safety seat  
 (997) Other make/model (specify):

\_\_\_\_\_  
 (998) Unknown make/model  
 (999) Unknown if child safety seat used

29. Type of Child Safety Seat 0

(0) No child safety seat  
 (1) Infant seat  
 (2) Toddler seat  
 (3) Convertible seat  
 (4) Booster seat  
 (7) Other type child safety seat (specify):

\_\_\_\_\_  
 (8) Unknown child safety seat type  
 (9) Unknown if child safety seat used

30. Child Safety Seat Orientation 00

(00) No child safety seat

*Designed for Rear Facing for This Age/Weight*

(01) Rear facing  
 (02) Forward facing  
 (08) Other orientation (specify):

\_\_\_\_\_  
 (09) Unknown orientation

*Designed For Forward Facing for This Age/Weight*

(11) Rear facing  
 (12) Forward facing  
 (18) Other orientation (specify):

\_\_\_\_\_  
 (19) Unknown orientation

*Unknown Design or Orientation For This Age/Weight, or Unknown Age/Weight*

(21) Rear facing  
 (22) Forward facing  
 (28) Other orientation (specify):

\_\_\_\_\_  
 (29) Unknown orientation

(99) Unknown if child safety seat used

31. Child Safety Seat Harness Usage 0032. Child Safety Seat Shield Usage 0033. Child Safety Seat Tether Usage 00

Note: Options below applicable to  
 Variables OA31-OA33.

(00) No child safety seat

*Not Designed With Harness/Shield/Tether*

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

*Designed With Harness/Shield/Tether*

(11) Harness/shield/tether not used  
 (12) Harness/shield/tether used  
 (19) Unknown if harness/shield/tether used

*Unknown If Designed With Harness/Shield/Tether*

(21) Harness/shield/tether not used  
 (22) Harness/shield/tether used  
 (29) Unknown if harness/shield/tether used

(99) Unknown if child safety seat used

**INJURY CONSEQUENCES**

34. Injury Severity (Police Rating) 9

- (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

NOT REPORTED

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) 1

- (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 05

- (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
- (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 13

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

AUTOMATIC BELT SYSTEM	
<p>44. Automatic (Passive) Belt System Availability/ Function <span style="float: right;"><input type="radio"/></span></p> <p>(0) Not equipped/not available                      (1) 2 point automatic belts                      (2) 3 point automatic belts                      (3) Automatic belts - type unknown</p> <p><i>Non-functional</i>                      (4) Automatic belts destroyed or rendered inoperative                      (9) Unknown</p>	<p>48. Automatic (Passive) Belt Failure Modes During Accident <span style="float: right;"><input type="radio"/></span></p> <p>(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</p>
<p>45. Automatic (Passive) Belt System Use <span style="float: right;"><input type="radio"/></span></p> <p>(0) Not equipped/not available/destroyed or rendered inoperative                      (1) Automatic belt in use                      (2) Automatic belt not in use (manually disconnected, motorized track inoperative) (specify): _____                      (3) Automatic belt use unknown                      (9) Unknown</p>	<p>49. Seat Orientation (this Occupant Position) <span style="float: right;"><input type="radio"/></span></p> <p>(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</p>
<p>46. Automatic (Passive) Belt System Type <span style="float: right;"><input type="radio"/></span></p> <p>(0) Not equipped/not available                      (1) Non-motorized system                      (2) Motorized system                      (9) Unknown</p>	<p>Check the Primary Source Used In Determining Belt Use.</p> <p><input type="checkbox"/> Not equipped/not available/destroyed or rendered inoperative  <input type="checkbox"/> Vehicle inspection  <input type="checkbox"/> Official injury data  <input checked="" type="checkbox"/> Driver/occupant interview  <input type="checkbox"/> Other (specify): _____  <input type="checkbox"/> Unknown if belt used</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>47. Proper Use of Automatic (Passive) Belt System <span style="float: right;"><input type="radio"/></span></p> <p>(0) Not equipped/not available/not used                      (1) Automatic belt used properly                      (2) Automatic belt used properly with child safety seat</p> <p><i>Automatic Belt Used Improperly</i>                      (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</p>	

<p>ARE ALL APPLICABLE MEDICAL RECORDS INCLUDED WITH INITIAL SUBMISSION?</p>	<p>NO <input type="checkbox"/> YES <input type="checkbox"/></p>
<p>UPDATE CANDIDATE?</p>	<p>NO <input type="checkbox"/> YES <input type="checkbox"/></p>

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

**BELT USE DETERMINATION**

**TRAUMA DATA**

- 50. Glasgow Coma Scale (GCS) Score 02  
 (at Medical Facility)  
 (00) Not injured  
 (01) Injured - not treated at medical facility  
 (02) No GCS Score at medical facility  
 (03-15) Code the actual value of the initial GCS Score recorded at medical facility.  
 (97) Injured, details unknown  
 (99) Unknown if injured
  
- 51. Was the Occupant Given Blood? 1  
 (1) No - blood not given  
 (2) Yes - blood given  
 (specify units): \_\_\_\_\_  
 (9) Unknown if blood given
  
- 52. Arterial Blood Gases (ABG) - HCO<sub>3</sub> 01  
 (00) Not injured  
 (01) Injured, ABGs not measured or reported  
 (02-50) Code the actual value of the HCO<sub>3</sub>  
 (96) ABGs reported, HCO<sub>3</sub> unknown  
 (97) Injured, details unknown  
 (99) Unknown if injured

- 53. Primary Source of Belt Use Determination 3  
 (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. <del>Primary Sampling Unit Number</del> _____	3. Vehicle Number <u>01</u>
2. Case Number - <del>Stratum</del> <u>94-29</u>	4. Occupant Number <u>02</u>

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





### 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
- (06) 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