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

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

Dear Crash Data Researchers/Users:

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

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

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

*** *** ***

DS9107

DYNAMIC SCIENCE, INC.
Contract DTNH22-88-C-07015

CASE NUMBER: DSI-91-AB-07

[redacted] **1991**

DISCLAIMERS

This document is disseminated under the sponsorship of the Department of Transportation in the interest of information exchange. The United States Government assumes no responsibility for the contents or use thereof.

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

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

TECHNICAL SUMMARY

CONTRACTOR: Dynamic Science, Inc.

CONTRACT NUMBER: DTNH 22-88-C-07015

CASE NUMBER: DSI-91-AB-07

[redacted]

This single-vehicle vs. fixed object accident occurred during the morning hours of a summer weekday on an interstate/beltway in Maryland. Vehicle 1 is a 1991 Toyota Celica 2-door coupe equipped with an air cushion restraint system on the driver's side only. It was being driven southbound in lane four by a 28 year old female. The driver was wearing the available lap/shoulder belt. The weather was clear, the road was dry and traffic was heavy in morning rush hour.

The driver of Vehicle 1 had begun braking and changing lanes to her right to avoid striking a vehicle which had entered her lane of travel. Control was lost and Vehicle 1 entered a counterclockwise rotating skid toward the east (driver's left). The vehicle departed the east edge and struck the center median guard rail. At impact the right front bumper contacted the guard rail producing a direct damage width of 8.0 inches and an induced damage width of 46.0 inches involving the full front of Vehicle 1. Considerable side movement caused the front bumper and end stubs to shift left greater than 4.0 inches fracturing the left end stub weld at the bumper location. Final rest position was not established by the investigating officer and no residual evidence was present.

Information from the investigating officer's report indicated no entrapment, no ejection, no first-aid required and no transport to a medical facility.

Inspection and documentation of Vehicle 1 was completed including system (ACRS) check out at the repair facility used for storage. Sheet metal flow and damage assessment, system damage and function check, and collision dynamics indicated: the air cushion restraint system performed as designed and no defects exist.

The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the National Highway Traffic Safety Administration.

Table of Contents

Appendices:

A. Complete set of NASS field forms and Airbag Supplement

B. Police Accident Report

DYNAMIC SCIENCE, INC.
In-Depth Investigation
Case Number: DSI-91-AB-07

IDENTIFICATION:

Location:	Maryland
Area/Type:	Rural, interstate/beltway
Date/Time:	[redacted]91 0805 hours
Accident Type:	Frontal (end-swipe) - V1; "W" Beam Guard rail (fixed object)
Injury Severity (V1 - Airbag vehicle):	AIS-1

AMBIENCE:

Viewing Conditions:	No restrictions, daylight
Cloud Cover:	Clear
Precipitation:	None
Temperature:	60 - 70 degrees
Road Surface:	Dry

ROADWAY:

	Vehicle 1	Fixed Object
Type:	4-lane (S/B) interstate/beltway	N/A
Width:	68.0 feet (est.)	
Traffic Density:	Heavy	
Median:	Grass stabilized w/guard rail	
Edge:	Asphalt-paved shoulders	
Surface:	Asphalt paved	
Coefficient of Friction:	0.75 - 0.80 est.	
Vertical Alignment:	Level	
Horizontal Alignment:	Straight	

TRAFFIC CONTROLS:

	Vehicle 1
Signals:	None
Signs:	None applicable
Speed Limit:	55 miles per hour
Markings:	Continuous evenly spaced white dash lines denoting travel lanes southbound. Continuous solid yellow line at east shoulder lane, continuous solid white line at west shoulder lane.

VEHICLE:

	Vehicle 1
Description:	1991 Toyota Celica 2-door coupe
Odometer:	16,966 miles
Engine:	I4, 1.6L, F.I.
Active Restraints:	L/S belts in front and rear seating positions
Passive Restraints:	Driver's side airbag
Reported Defects:	None
Cargo:	None known
Windshield Damage:	Stress/impact fracturing R/lower side
Fleet:	No
Previous Repairs:	None known
Tow Status:	Yes - damage

VEHICLE DAMAGE:

	Vehicle 1
Object Struck:	"W" beam guard rail
CDC:	02FREW1
Estimated Maximum Crush:	7.75 inches at C6
Event Number:	1

VEHICLE VELOCITY ESTIMATES:

The Delta V's of this accident were not computed using Crash P.C. as the configuration is out of scope, i.e. end swipe.

Estimated Impact Speed by the Investigator:
Forward speed at barrier: less than 10 MPH
Sideward speed at barrier: unknown.

Primary Direction of Force was approximately 080 degrees (sheet metal flow assessment) which is outside the sensor range.

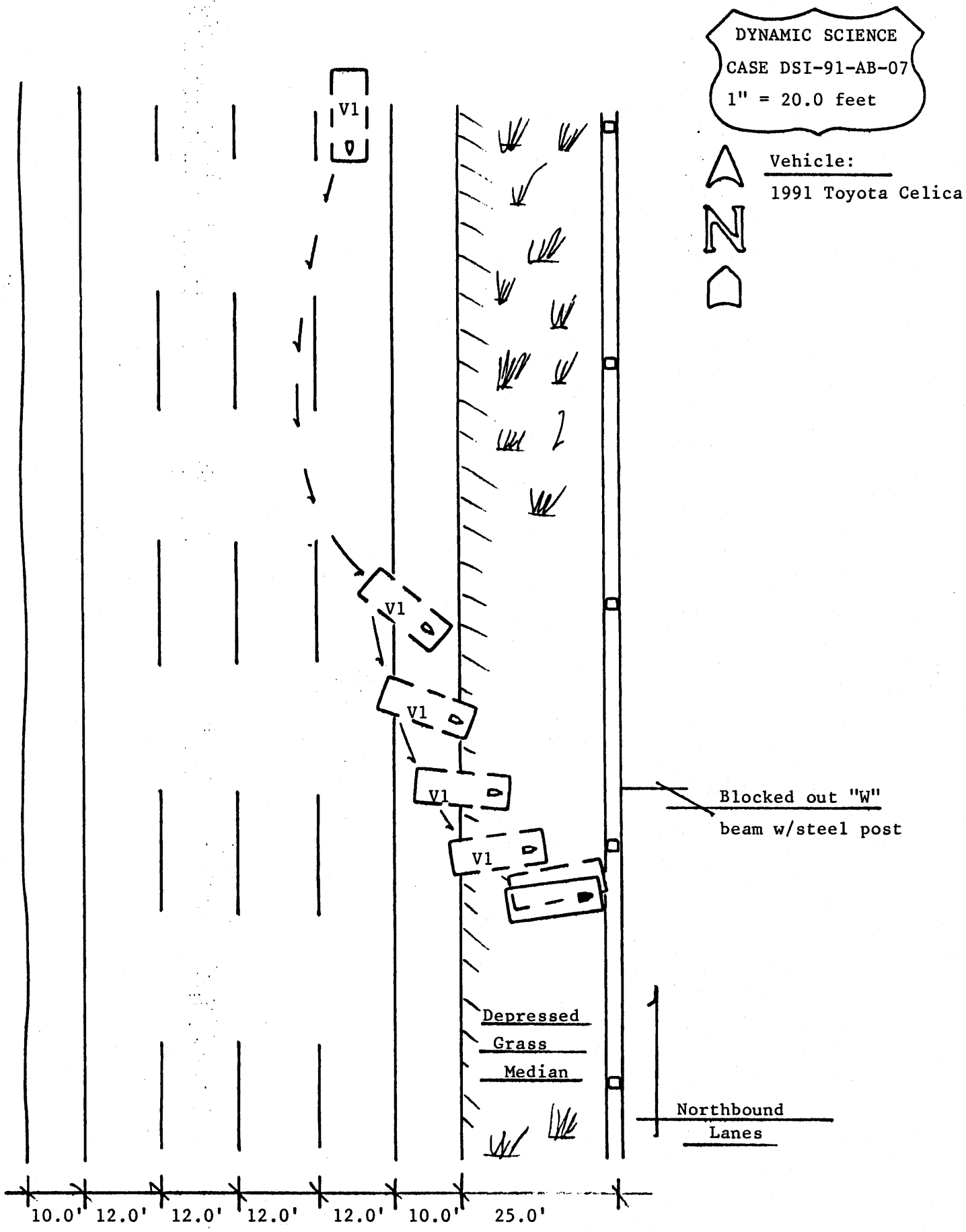
COLLISION SEQUENCE:

Pre-Crash: Vehicle 1 was southbound in lane four (counted from curb side) in heavy traffic. The driver, while braking and changing lanes to avoid striking another vehicle, lost control. Vehicle 1 entered into a counterclockwise rotating skid and departed the east road edge.

Crash: At impact the right front bumper corner of Vehicle 1 struck the guard rail. Damage assessment and sheet metal flow indicate a low forward speed and moderate sideward motion. At impact the forces involved were not sufficient to exceed the threshold in the air cushion restraint system and no deployment occurred. The primary direction of force (080 degrees) is outside of the sensing range.

Post Crash: The driver was able to exit the vehicle unassisted. The investigating officer assessed the injury severity as possible (2 - Police Severity Scale) and first-aid was not administered nor was the driver transported by ambulance. Vehicle 1 was towed from the scene due to damage received in this accident.

Driver Activity: No interview.


DYNAMIC SCIENCE
CASE DSI-91-AB-07
1" = 20.0 feet
N
Vehicle:
1991 Toyota Celica
V1
V1
V1
V1
V1
Blocked out "W"
beam w/steel post
Depressed
Grass
Median
Northbound
Lanes
10.0'
12.0'
12.0'
12.0'
12.0'
10.0'
25.0'

COLLISION MEASUREMENTS
Case Number DSI-91-AB-07

Reference Point: Accident Location - .2 Miles South of Overpass on Outer Loop of Beltway

DATA POINT	LONGITUDINALS	LATERALS
Diagram is representative of collision events based on accident report, environmental restraints and Investigating Officer's Report		

SLIDE INDEX
CASE NO. DSI-91-AB-07

SLIDE NO.	VEHICLE NO.	DIRECTION OF PICTURE	SUBJECT MATTER
1-2	1	S	V1 route S/B in lane 1
3	1	SE	V1 CCW rotational skidmarks
			off east side of roadway
4	1	SE	V1 departure east side
5	1	SE	POI #1 V1 and "W" beam
			center median guard rail
6-13	1	--	Exterior views V1 (front)
14	1		Center AB sensor
15	1		R/F AB sensor
16	1		L/F AB sensor
17	1		Center AB sensor
18-27	1		Front end parts V1
28-32	1		Exterior views V1
33-49	1		Interior views V1

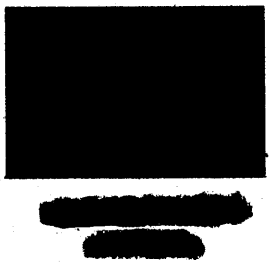
DSI-91-AB07- 1

DSI-91-AB07- 2

DSI-91-AB07- 3

SI-91-AB07- 4

DSI-91-AB07- 5



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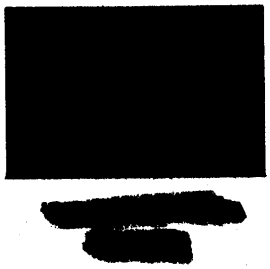

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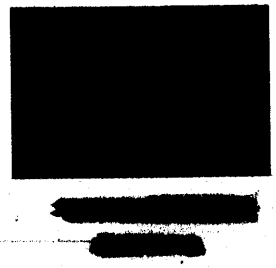

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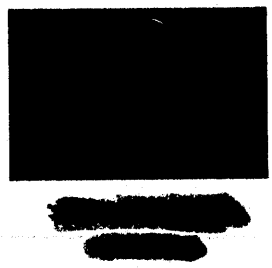

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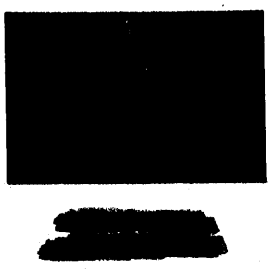
DSI-91-AB07-13



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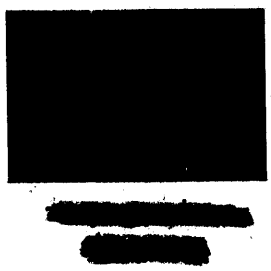

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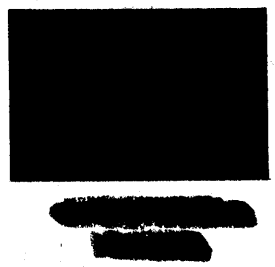

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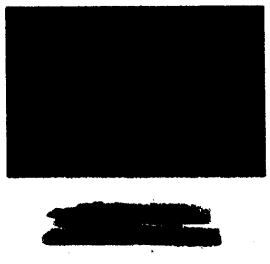

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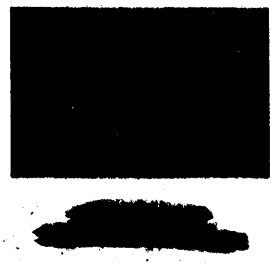

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BEST AVAILABLE

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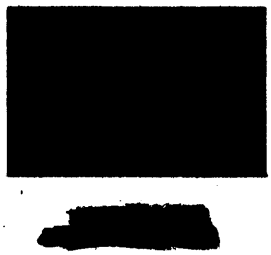

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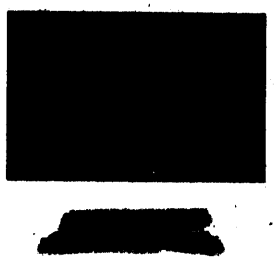

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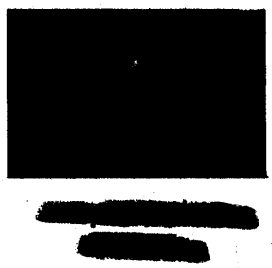

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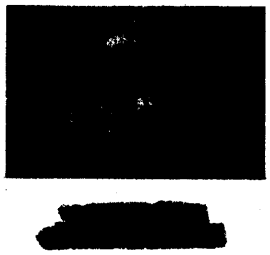

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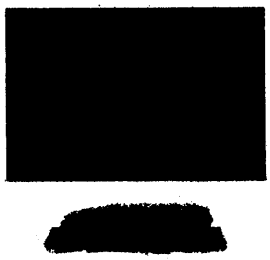

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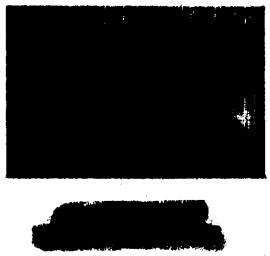

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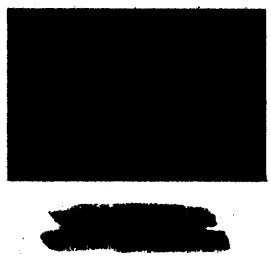

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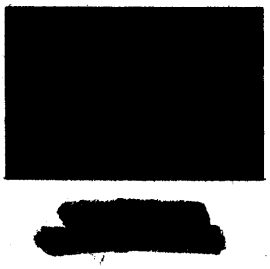

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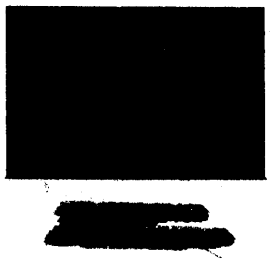

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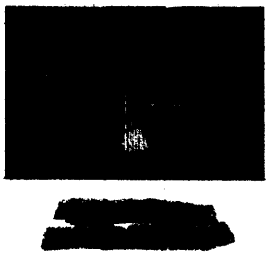

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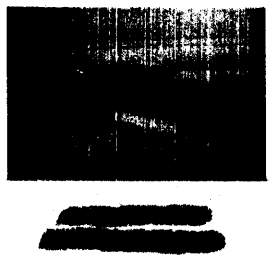

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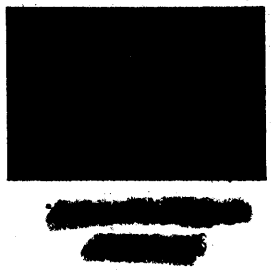

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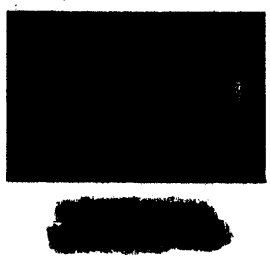

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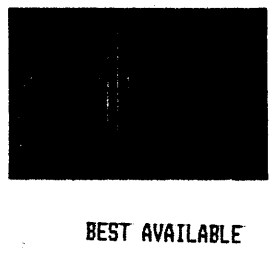

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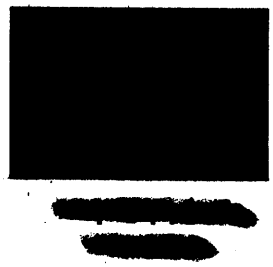

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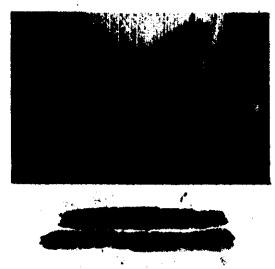

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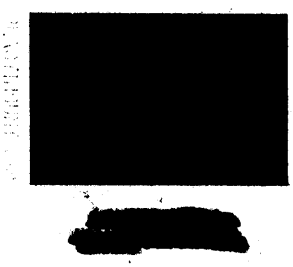

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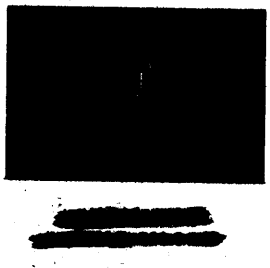

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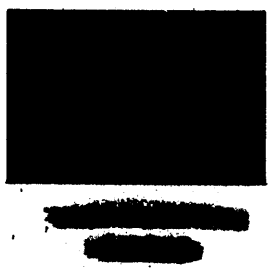

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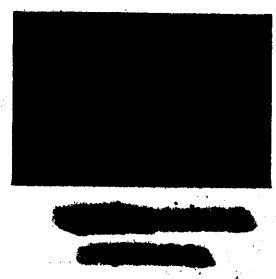

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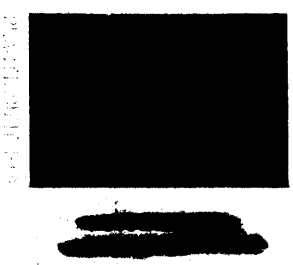


BEST AVAILABLE

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

ACCIDENT FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

Second case in a DOUBLE? (y/n) N

Case Number – DSI-91-AB-07

IDENTIFICATION

3. Number of General Vehicle Forms Submitted 01

4. Date of Accident [redacted] 9 1

5. Time of Accident 0825

SPECIAL STUDIES INDICATORS

NUMBER OF EVENTS

11. Number of Recorded Events in This Accident 01

Code the number of events which occurred in this accident.

ACCIDENT EVENTS

For each event that occurred in the accident, code the lowest numbered vehicle in the left columns and the other involved vehicle or object on the right.

Accident Event Sequence Number	Vehicle Number	Class of Vehicle	General Area of Damage	Vehicle Number or Object Contacted	Class of Vehicle	General Area of Damage
12. 01	13. 01	14. 01	15. F	16. 56	17. 00	18. 0
19. 02	20.	21.	22.	23.	24.	25.
26. 03	27.	28.	29.	30.	31.	32.
33. 04	34.	35.	36.	37.	38.	39.
40. 05	41.	42.	43.	44.	45.	46.

IF GREATER THAN FIVE EVENTS, CONTINUE CODING ON THE ACCIDENT EVENTS SUPPLEMENT

CODES FOR CLASS OF VEHICLE

(00) Not a motor vehicle
(01) Subcompact/mini (wheelbase 100 ")
(02) Compact (wheelbase - 100 "-104 ")
(03) Intermediate (wheelbase - 105 "-109 ")
(04) Full size (wheelbase - 110 "-114 ")
(05) Largest (wheelbase · 115 ")
(09) Unknown passenger car size
(11) Short utility vehicle
(12) Truck based utility (· 10,000 lbs GVWR)
(13) Passenger van (· 10,000 lbs GVWR)
(14) Other van (· 10,000 lbs GVWR)
(15) Pickup truck (· 10,000 lbs GVWR)
(18) Other truck (· 10,000 lbs GVWR)
(19) Unknown light truck type
(20) School bus
(21) Other bus
(22) Truck (10,000 lbs GVWR)
(23) Tractor without trailer
(24) Tractor-trailer(s)
(25) Motored cycle
(28) Other vehicle
(99) Unknown

CODES FOR GENERAL AREA OF DAMAGE (GAD)

CDC APPLICABLE AND OTHER VEHICLES

(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back
(T) Top
(U) Undercarriage
(9) Unknown

TDC APPLICABLE VEHICLES

(0) Not a motor vehicle
(N) Noncollision
(F) Front
(R) Right side
(L) Left side
(B) Back of unit with cargo area (rear of trailer or straight truck)
(D) Back (rear of tractor)
(C) Rear of cab
(V) Front of cargo area
(T) Top
(U) Undercarriage
(9) Unknown

CODES FOR VEHICLE NUMBER OR 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 (· 4 inches in diameter)
(42) Tree (4 inches in diameter)
(43) Shrubbery or bush
(44) Embankment

(45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
(50) Pole or post (· 4 inches in diameter)
(51) Pole or post (4 but · 12 inches in diameter)
(52) Pole or post (12 inches in diameter)
(53) Pole or post (diameter unknown)

(54) Concrete traffic barrier
(55) Impact attenuator
(56) Other traffic barrier (specify):
"W" BEAM GUARD RAIL

(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 (specify):

(75) Vehicle occupant
(76) Animal
(77) Train
(78) Trailer, disconnected in transport
(88) Other nonfixed object (specify):

(89) Unknown nonfixed object

(98) Other event (specify):

(99) Unknown event or object

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

GENERAL VEHICLE FORM

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

Case Number: DSI-91-AB-07

Vehicle Number: 01

VEHICLE IDENTIFICATION

4. Vehicle Model Year: 91
Code the last two digits of the model year
(99) Unknown

5. Vehicle Make (specify): 49
TOYOTA
Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual.
(99) Unknown

6. Vehicle Model (specify): 033
CELICA
Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual.
(999) Unknown

7. Body Type: 02
Note: Applicable codes are found on the back of this page.

8. Vehicle Identification Number
JT2AT86F7M[redacted]
Left justify: Slash zeros and letter Z (0 and Z)
No VIN—Code all zeros
Unknown—Code all nine's

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: 99
Code to the nearest mph (NOTE: 00 means less than 0.5 mph)
(97) 96.5 mph and above
(99) Unknown

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: PAR

ACCIDENT RELATED

13. Speed Limit: 55
(00) No statutory limit
Code posted or statutory speed limit
(99) Unknown

14. Attempted Avoidance Maneuver: 04
(00) No impact
(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: 07
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)
(08) Other automobile type (specify):

_____

(09) Unknown automobile type

Automobile Derivatives

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

Utility Vehicles

(13) Short utility—not truck based (includes Jeep CJ-5, Jeep CJ-7, Renegade, Landrover, Pre-78 Bronco, Landcruiser, Thing)
(14) Truck based utility (2-door; includes Blazer, Bronco—78 on, Bronco II, Jimmy, Ramcharger, Cherokee, Trailduster, Scout)

Van Based Light Trucks (· 10,000 lbs GVWR)

(20) Minivan (Lumina APV, Astro, Caravan, Plymouth Vista, Aerostar, Safari, Voyager [84 and after], Dodge Vista, Mini Ram Van, Toyota Cargo Van, Toyota Van, Vanagon, VW Bus, Kombi)
(21) Standard van (Sportvan, Chevy Van, Club Wagon, Ford Econoline, Ram Van, Chateau, Ram Wagon, Vandura, Rally, Voyager [83 and before], Beauville, Sportsman)
(28) Other van type (Hi-Cube Van, Kary) (specify):

_____

(29) Unknown van type

Light Conventional Trucks (Pickup Style Cab, 10,000 lbs GVWR)

(30) Compact pickup (· 4,500 lbs. GVWR, S-10, LUV, Ram 50, Rampage, Courier, Ranger, S-15 Pup, Mazda Pickup, Mitsubishi Truck, Nissan Pickup, Arrow Pickup, Scamp, Toyota Pickup, VW Pickup)
(31) Standard pickup (4,500 to 10,000 lbs. GVWR, C10 - C30, K10 - K30, T10, D100 - D350, W150 - W350, F100 - F350, Comanche, J10 - J30, Dakota)
(32) Pickup with slide-in camper
(33) Truck based station wagon (4-door; includes Suburban, Travelall, Wagoneer)
(34) Light truck based suburban limousine
(35) Convertible pickup
(39) Unknown (pickup style) light conventional truck type

Other Light Trucks (· 10,000 lbs GVWR)

(40) Cab chassis based (includes rescue vehicle, light stake, dump, and tow truck)
(41) Truck based panel
(42) Light truck based motorhome (chassis mounted)
(47) Other light conventional truck type (not a pickup - includes step vans ≤ 10,000 lbs GVWR, Grumman LLV vehicle) (specify):

_____

(48) Unknown other light truck type (not a pickup)
(49) Unknown light vehicle type (automobile, 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 (·10,000 lbs GVWR)

(60) Step van
(61) Single unit straight truck (10,000 lbs GVWR 26,000 lbs)
(62) Single unit straight truck (·26,000 lbs GVWR)
(63) Medium/heavy truck based motorhome
(64) Truck-tractor with no cargo trailer
(65) Truck-tractor pulling one trailer
(66) Truck-tractor pulling two or more trailers
(67) Truck-tractor (unknown if pulling trailer)
(68) Unknown medium/heavy truck type
(69) Unknown truck type (light/medium/heavy)

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

(70) Motorcycle
(71) Moped (motorized bicycle)
(78) Other motored cycle type(minibike, motorscooter) (specify):

_____

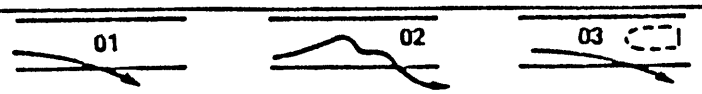
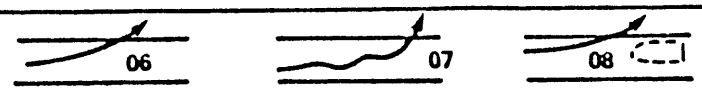
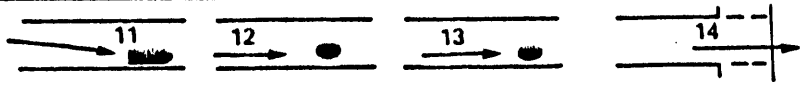
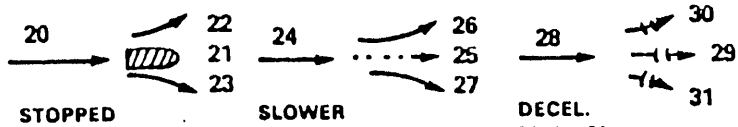
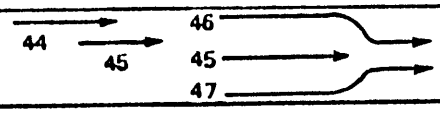
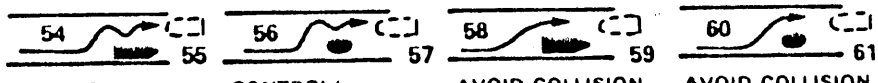
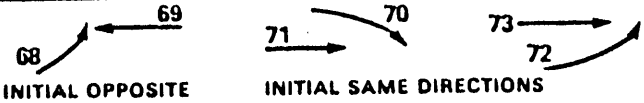
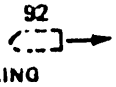
(79) Unknown motored cycle type

Other Vehicles

(80) ATV (All-Terrain Vehicle) and ATC (All-Terrain Cycle)
(88) Other vehicle type (specify):

_____

(99) Unknown body type

Category	Configuration	ACCIDENT TYPES (Includes Intent)
I. Single Driver	A. Right Roadside Departure	
	B. Left Roadside Departure	
	C Forward Impact	
II Same Trafficway Same Direction	D Rear-End	
	F Forward Impact	
	F. Sideswipe Angle	
III Same Trafficway Opposite Direction	G Head-On	
	H Forward Impact	
	I. Sideswipe Angle	
IV. Change Trafficway Vehicle Turning	J. Turn Across Path	
	K. Turn Into Path	
V Intersecting Paths (Vehicle Damage)	L. Straight Paths	
VI Miscellaneous	M. Backing Etc.	 98 Other Accident Type 99 Unknown Accident Type 00 No Impact

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 — 02,500
2500 Code weight to nearest 100 pounds.
(010) Less than 1050 pounds
(135) 13,500 lbs or more
(999) Unknown
Source: [redacted]

20. Vehicle Cargo Weight — 9,900
UNK Code weight to nearest 100 pounds.
(00) Less than 50 pounds
(97) 9,650 lbs or more
(99) Unknown

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 — 1
(0) No
(1) Yes Photo only

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 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 — 998

28. Heading Angle for Other Vehicle — 998

(END SWIPE)

29. Basis for Total Delta V (Highest) 5

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

Delta V Not Calculated
(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 techniques, regardless of adequacy of damage data.

(6) All vehicles and collision conditions are within scope of one of the acceptable reconstruction programs, but there is insufficient data available.

COMPUTER GENERATED DELTA V

	Secondary	Highest
30. Total Delta V		99
——— Nearest mph	———	

(NOTE: 00 means less than 0.5 mph)
(97) 96.5 mph and above
(99) Unknown

	Secondary	Highest
31. Longitudinal Component of Delta V		+ 99
——— Nearest mph	———	

(NOTE: —00 means greater than −0.5 and less than +0.5 mph)
(±97) ±96.5 mph and above
(— 99) Unknown

	Secondary	Highest
32. Lateral Component of Delta V		+ 99
——— Nearest mph	———	

(NOTE: —00 means greater than −0.5 and less than +0.5 mph)
(±97) ±96.5 mph and above
(— 99) Unknown

33. Energy Absorption 9999,900
——— Nearest 100 foot-lbs ———

(NOTE: 0000 means less than 50 Foot-Lbs)
(9997) 999,650 foot-lbs 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):

*99. Percent Overlap + 000

Code the rounded product of :
Direct Width / Undef. End Width
— = Left Overlap +=Right Overlap

000 Not an end-to-end impact
999 Unknown

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

* GV99 notes: The idea is to document overlap at initial contact. Therefore, divide the direct width of the vehicle with the most narrow direct width by the undeformed end width of the vehicle described on this form.

If this vehicle sustained direct contact across the entire plane at initial contact, then code 100.

37. Police Reported Other Drug Presence — 7
- (0) No other drugs present
- (1) Yes (other drug present)
- (7) Not reported
- (8) No driver present
- (9) Unknown

38. Police Reported Observation/Perception Test Type For Driver — Ø
- (0) No observation/perception test given
- (1) Drug recognition technician (DRT) determination
- (2) Behavioral
- (3) Other physical observation/perception determination (specify): _____
- (7) Other observation/perception test
- (8) No driver present
- (9) Unknown if observation/perception test given

39. Other Drug Specimen Test Type For Driver — Ø
- (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

OTHER DRUGS TEST RESULTS FOR DRIVER

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

Codes For Observation/Perception Test Results

- (0) No observation/perception test given
- (1) Passed observation/perception test
- (2) Failed observation/perception test
- (3) Observation/perception test given - results unknown
- (8) No driver present
- (9) Unknown if observation perception test given

Codes for Specimen Test Results

- (0) No specimen test given
- (1) Drug not found in specimen
- (2) Drug found in specimen
- (8) No driver present
- (9) Unknown if specimen test given

*** 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.

US Department of Transportation
National Highway Traffic Safety Administration

EXTERIOR VEHICLE FORM

BEST AVAILABLE

NATIONAL ACCIDENT SAMPLING SYSTEM
CRASHWORTHINESS DATA SYSTEM

2. Case Number: DSI-91-AB-07

3. Vehicle Number: 01

VEHICLE IDENTIFICATION

VIN: JT2AT86F7M[redacted] Model Year: 1991

Vehicle Make (specify): TOYOTA

Vehicle Model (specify): CELICA

LOCATOR

Locate the end of the damage with respect to the vehicle longitudinal center line or bumper corner for end impacts or an undamaged axle for side impacts.

Specific Impact No.	Location of Direct Damage	Location of Field L	Location of Maximum Crush
1	BEGINS @ C6	FULL FRONTAL	@ C6

CRUSH PROFILE

NOTES: Identify the plane at which the C-measurements are taken (e.g., at bumper, above bumper, at sill, above sill, etc.) and label adjustments (e.g., free space).

Measure C1 to C6 from driver to passenger side in front or rear impacts and rear to front in side impacts.

Free space value is defined as the distance between the baseline and the original body contour taken at the individual C locations. This may include the following: bumper lead, bumper taper, side protrusion, side taper, etc. Record the value for each C-measurement and maximum crush.

Use as many lines/columns as necessary to describe each damage profile.

Specific Impact Number	Plane of C-Measurements	Direct Damage		Field L	C_1	C_2	C_3	C_4	C_5	C_6	±D
		Width (CDC)	Max Crush								
1	FT. BUMPER	8.0	15.0	46.0	5.5	4.3	5.1	7.0	9.0	15.0	
LESS	FREE SPACE		5.25		5.25	2.0	.5	.5	2.0	5.25	
SUB	TOTAL		9.75		.25	2.3	4.6	6.5	7.0	9.75	
LESS	BUMPER FACIA		2.0		2.0	2.0	2.0	2.0	2.0	2.0	
RESULTANT			7.75		0	.3	2.6	4.5	5.0	7.75	

HS Form 435A (Rev. 1/91)

VEHICLE DAMAGE SKETCH

TIRE—WHEEL DAMAGE

a. Rotation physically restricted		b. Tire deflated	
RF	2	RF	2
LF	2	LF	2
RR	2	RR	2
LR	2	LR	2

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

TYPE OF TRANSMISSION

☒ Manual ☐ Automatic

ORIGINAL SPECIFICATIONS

Wheelbase	99.4
Overall Length	176.0
Maximum Width	67.1
Curb Weight	2500
Average Track	57.2
Front Overhang	38.25
Rear Overhang	38.25
Engine Size: cyl./ displ.	FI: I4/1.6L
Undeformed End Width	54.0

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

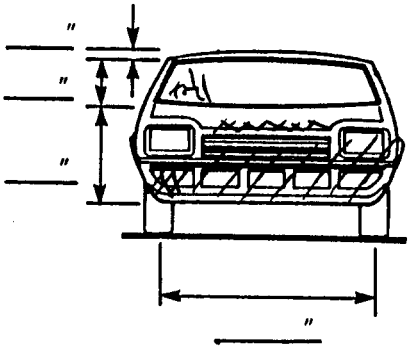
RF ± 0 °
LF ± 0 °
RR ± 0 °
LR ± 0 °
Within ±5 degrees

DRIVE WHEELS

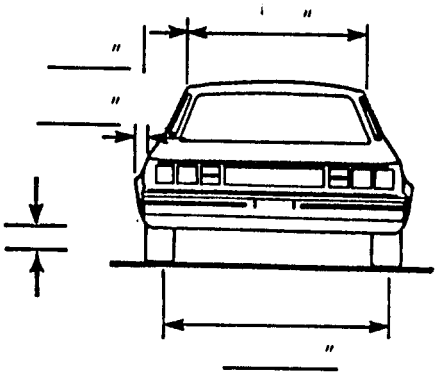
☒ FWD ☐ RWD ☐ 4WD

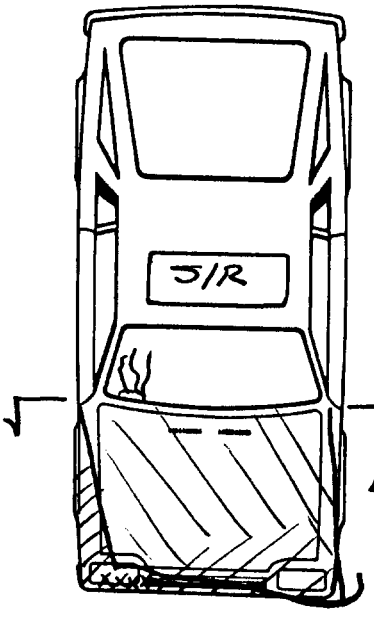
Approximate Cargo Weight UNK

SHIFT LEFT 4.0"

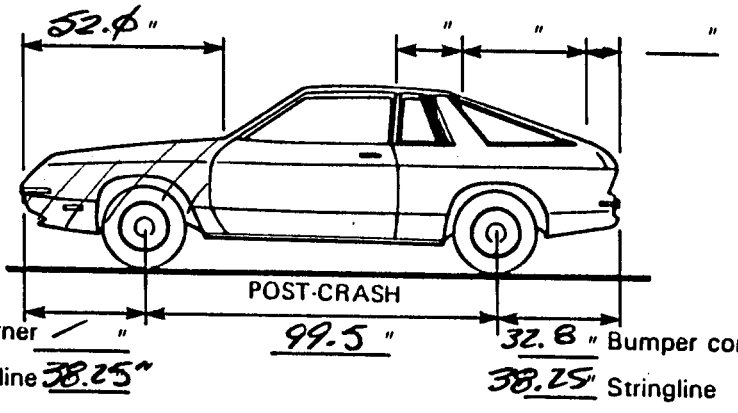


Original Bumper height

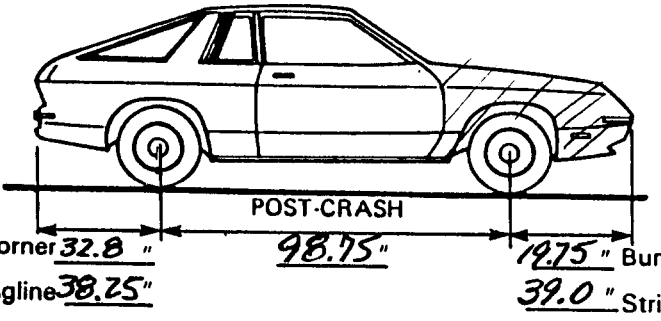




PARTS REMOVED
Bumper, L/R FENDERS HOOD



Bumper corner " 99.5 " 32.8 " Bumper corner
Stringline 38.25" 38.25" Stringline



Bumper corner 32.8 " 98.75" 19.75 " Bumper corner
Stringline 38.25" 39.0 " Stringline

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 sidewall, 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 (≤4 inches in diameter)
- (42) Tree (>4 inches in diameter)
- (43) Shrubbery or bush
- (44) Embankment
- (45) Breakaway pole or post (any diameter)

Nonbreakaway Pole or Post
- (50) Pole or post (≤4 inches in diameter)
- (51) Pole or post (>4 but ≤12 inches in diameter)
- (52) Pole or post (>12 inches in diameter)
- (53) Pole or post (diameter unknown)
- (54) Concrete traffic barrier
- (55) Impact attenuator
- (56) Other traffic barrier (specify): "W" Beam Guard Rail
- (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 (specify):
- (75) Vehicle occupant
- (76) Animal
- (77) Train
- (78) Trailer, disconnected 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 (Shift Left >4")	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
01	56	075	80	F	R	F	N	01

COLLISION DEFORMATION CLASSIFICATION

HIGHEST DELTA "V"

Accident Event Sequence Number	Object Contacted	(1) (2) Direction of Force	(3) Deformation Location	(4) Specific Longitudinal or Lateral Location	(5) Specific Vertical or Lateral Location	(6) Type of Damage Distribution	(7) Deformation Extent
4. 01	5. 56	6. 02	7. F	8. R	9. E	10. N	11. 01

Second Highest Delta "V"

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

CRUSH PROFILE

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

HIGHEST DELTA "V"

20.	21.						22. + − D
L	C1	C2	C3	C4	C5	C6	
							+ −

Second Highest Delta "V"

23.	24.						25. + − D
L	C1	C2	C3	C4	C5	C6	
							+ −

26. Are CDCs Documented but Not Coded on The Automated File? 1
(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 0994
994 Code to the nearest tenth of an inch
(9999) Unknown

29. Is This A Multi-Stage Manufactured Vehicle And/Or A Certified Altered Vehicle? Ø
(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 Ø
(0) No fire

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

31. Origin of Fire Ø
(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
(0) No fuel tank (electrical vehicle)
(1) Metallic
(2) Non-metallic
(9) Unknown

*** STOP: IF THE CDS APPLICABLE VEHICLE WAS NOT TOWED ***
(I.E., GV09 = 0 OR 9), 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

Case Number: DSI-91-AB-07

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 (rear)
(04) Roof
(05) Roof glass
(06) Side window
(07) Rear window
(08) Roof and roof glass
(09) Windshield and door (side)
(10) Windshield and roof
(11) Side and rear window
(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 0 8. RR 0 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 8.

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

(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 IV 31 Through IV 46 As 0

Type of Window/Windshield Glazing

31. WS 1 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):

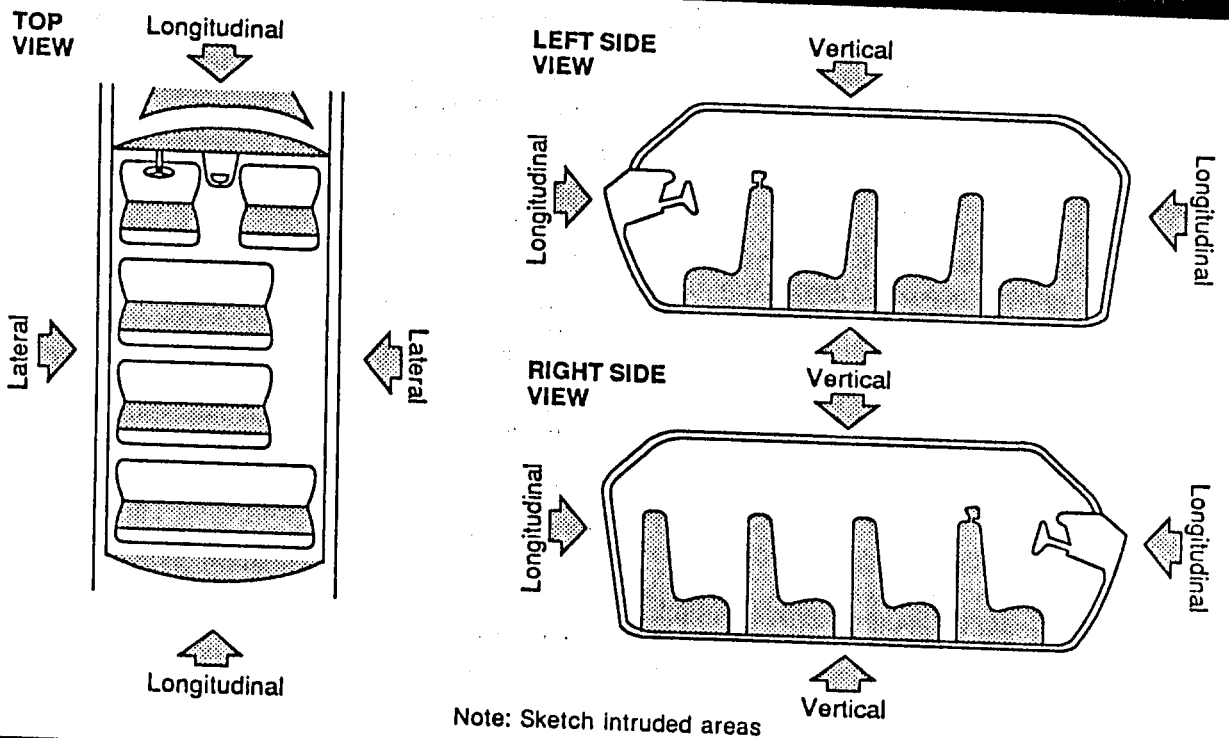
(9) Unknown

Window Precrash Glazing Status

39. WS 1 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

INTRUSION WORK SHEET



Note: Sketch intruded areas

LOCATION OF INTRUSION	INTRUDED COMPONENT	COMPARISION VALUE	–	INTRUDED VALUE	=	INTRUSION	DOMINANT CRUSH DIRECTION
			–		=		
			–		=		
			–		=		
			–		=		
		NONE	–		=		
			–		=		
			–		=		
			–		=		
			–		=		
			–		=		
			–		=		
			–		=		
			–		=		
			–		=		
			–		=		

Document no more than the 15 most severe intrusions

OCCUPANT AREA INTRUSION

Note: If no intrusions, leave variables IV 47-IV 86 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.___

NONE

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-pillar
- (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-pillar
- (28) Side panel - rear of the A-pillar

Exterior Components
- (30) Hood
- (31) Outside surface of 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

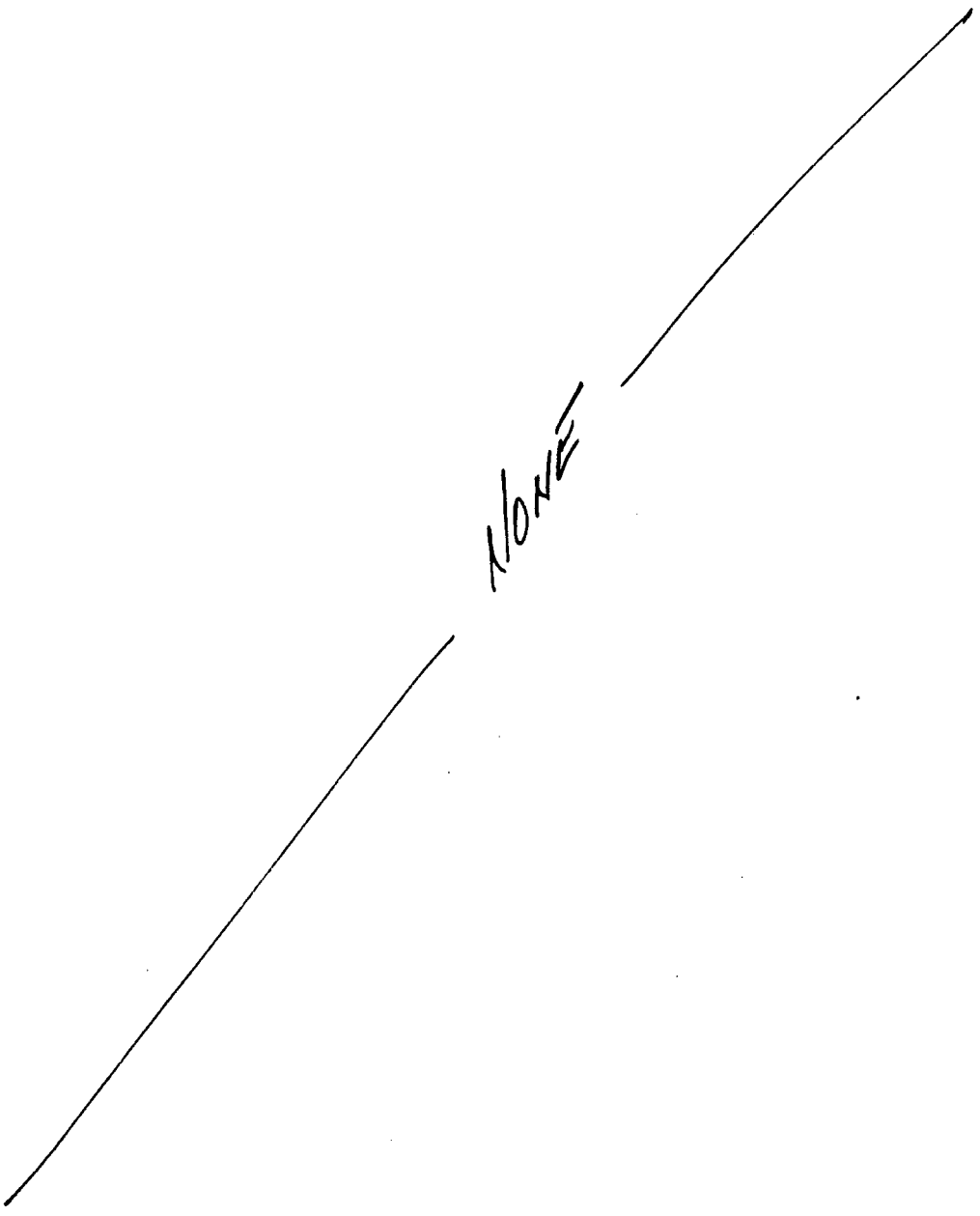
- (1) ≥ 1 inch but < 3 inches
- (2) ≥ 3 inches but < 6 inches
- (3) ≥ 6 inches but < 12 inches
- (4) ≥ 12 inches but < 18 inches
- (5) ≥ 18 inches but < 24 inches
- (6) ≥ 24 inches
- (7) Catastrophic
- (9) Unknown

DOMINANT CRUSH DIRECTION

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

STEERING RIM/SPOKE DEFORMATION

COMPARISON VALUE	-	DAMAGE VALUE	=	DEFORMATION
	-		=	
	-		=	
	-		=	
	-		=	



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

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

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

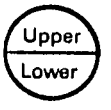
91. Blank XXX
(This variable is left blank so that numbering consistency can be maintained with the 1988-90 CDS.

92. Steering Rim/Spoke Deformation Ø
_____ Code actual measured deformation to the nearest inch.
(0) No steering rim deformation
(1-5) Actual measured value
(6) 6 inches or more
(8) Observed deformation cannot be measured
(9) Unknown

93. Location of Steering Rim/Spoke Deformation ØØ
(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 Ø17,000
16966 miles—Code mileage to the nearest 1,000 miles
(000) No odometer
(001) Less than 1,500 miles
(300) 299,500 miles or more
(999) Unknown
Source: _____

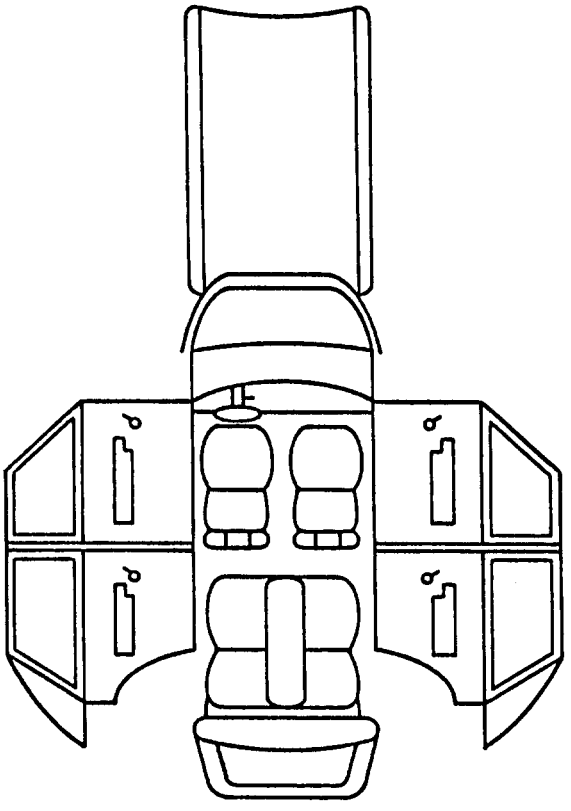
95. Instrument Panel Damage from Occupant Contact? Ø
(0) No
(1) Yes
(9) Unknown

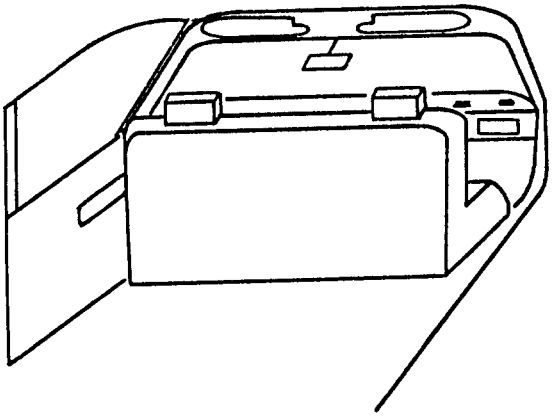
96. Knee Bolsters Deformed from Occupant Contact? Ø
(0) No
(1) Yes
(8) Not present
(9) Unknown

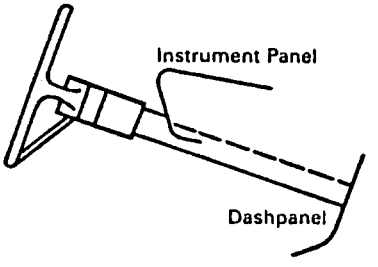
97. Did Glove Compartment Door Open During Collision(s)? Ø
(0) No
(1) Yes
(8) Not present
(9) Unknown

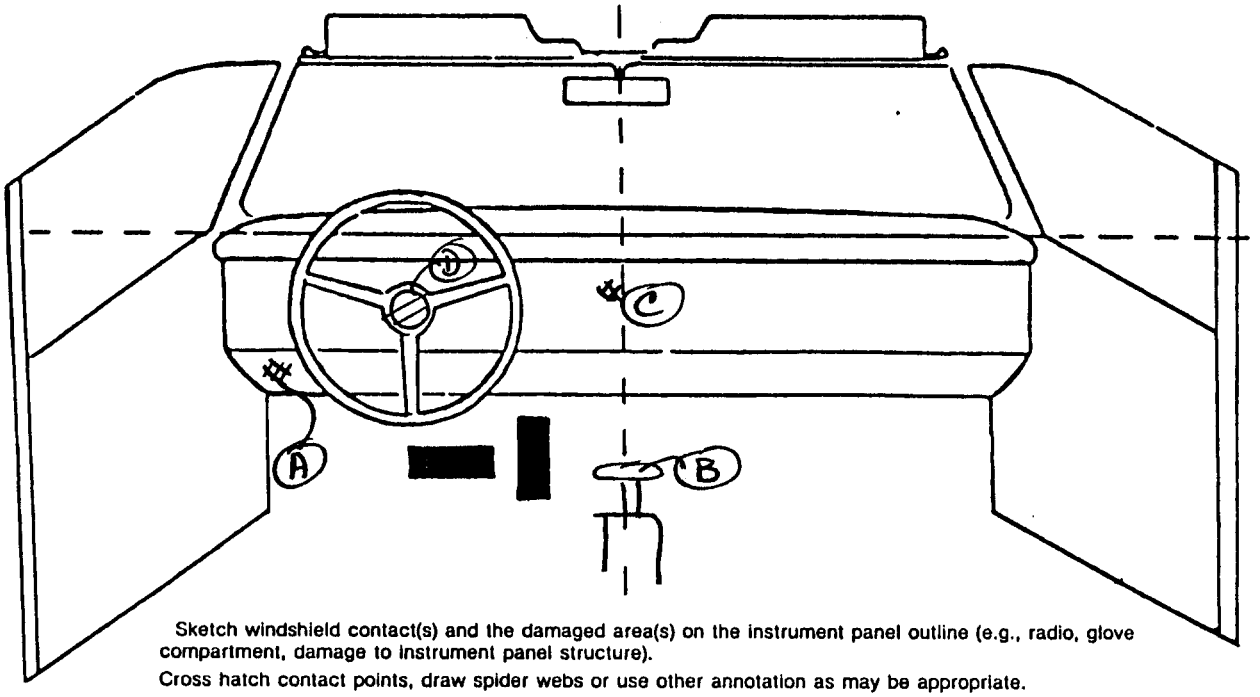
VEHICLE INTERIOR SKETCHES

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	09	01	L/KNEE	OIL/SKIN TRANSFER	1
B	57	01	R/HAND	SKIN TRANSFER	1
C	10	01	R/HAND	SKIN TRANSFER	1
D	05	01	L/HAND	SKIN TRANSFER	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-pillar, instrument panel, mirror,or steering assembly (driver side only)
- (15) Windshield including one or more of the following: front header, A-pillar, instrument panel, or mirror (passenger side only)
- (16) Other front object (specify): _____

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

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

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

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

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

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

CONFIDENCE LEVEL OF CONTACT POINT
- (1) Certain
- (2) Probable
- (3) Possible
- (4) 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						
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
(03) Other orientation (specify):

_____

(04) 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)

_____

_____

_____

_____

AUTOMATIC RESTRAINTS

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

		Left	Center	Right
FIRST	Availability	1	Ø	Ø
	Function	4	Ø	Ø
	Failure	1	Ø	Ø

AIR BAGS

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
(2) Air bag deployed inadvertently just prior to accident
(3) Air bag deployed, accident sequence undetermined
(4) Nondeployed
(5) Unknown if deployed
(9) Unknown

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

_____

(9) Unknown

AUTOMATIC BELTS

Automatic (Passive) Belt System Availability/Function
(0) Not eqipped/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 attributes for the variables may be found below. Restraint systems should be assessed during the vehicle inspection then coded on the Occupant 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	0	4
	Use	04	00	00
	Failure Modes	1	0	0
SECOND	Availability	4	0	4
	Use	00	00	00
	Failure Modes	0	0	0
THIRD	Availability			
	Use			
	Failure Modes			
OTHER	Availability			
	Use			
	Failure Modes			

Manual (Active) Belt System Availability

(0) Not available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available — type unknown
(8) Other belt (specify):

_____

(9) Unknown

Manual (Active) Belt System Use

(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

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

HEAD RESTRAINTS/SEAT EVALUATION

NOTES: Encode the applicable data for **each seat position** in the vehicle. The attributes 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	02	00	02
	Seat Performance	1	0	1
SECOND	Head Restraint Type/Damage	0	0	0
	Seat Type	03	03	03
	Seat Performance	1	1	1
THIRD	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			
OTHER	Head Restraint Type/Damage			
	Seat Type			
	Seat Performance			

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) 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., van type)
(09) Other seat type (specify): _____
(99) Unknown

Seat Performance (This Occupant Position)

(0) No seat
(1) No seat performance failure(s)
(2) Seat adjusters failed
(3) Seat back folding locks failed
(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

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

EJECTION/ENTRAPMENT DATA

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

EJECTION No [X] Yes [ ]

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

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 [X] Yes [ ]

Describe entrapment mechanism:

Component(s):

(Note in vehicle interior diagram)

U.S Department of Transportation
National Highway Traffic Safety Administration

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

OCCUPANT ASSESSMENT FORM

Case Number: DSI-91-AB-07

Vehicle Number: 01

Occupant Number: 01

OCCUPANT'S CHARACTERISTICS

5. Occupant's Age 28
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 99
Code actual height to the nearest inch.
(99) Unknown

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

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

10. Occupant's Seat Position 11

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

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

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

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

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

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

EJECTION/ENTRAPMENT

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

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

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

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

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

RESTRAINT SYSTEM AND SEAT EVALUATION

17. Manual (Active) Belt System Availability 4
(0) Not available
(1) Belt removed/destroyed
(2) Shoulder belt
(3) Lap belt
(4) Lap and shoulder belt
(5) Belt available—type unknown
(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 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

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 4
(0) Not equipped/not available
(1) Air bag deployed during accident
(2) Air bag deployed inadvertently just prior to accident
(3) Air bag deployed, accident sequence undetermined
(4) Nondeployed
(5) Unknown if deployed
(9) Unknown

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

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

24. Police Reported Restraint Use 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"

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) 02
(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., van type)
(09) Other seat type (specify):

_____

(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 failed
(4) Seat track/anchors failed
(5) Deformed by impact of occupant
(6) Deformed by passenger compartment intrusion (specify):

_____

_____

_____

(7) Combination of above (specify):

_____

(8) Other (specify):

_____

(9) Unknown

CHILD SAFETY SEAT

28. Child Safety Seat Make/Model 000
(000) No child safety seat
Applicable codes are found in your NASS CDS Data Collection, Coding, and Editing Manual
(997) Other make/model (specify):

_____

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

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

_____

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

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

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

_____

(09) Unknown orientation

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

_____

(19) Unknown orientation

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

_____

(29) Unknown orientation

(99) Unknown if child safety seat used

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

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

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

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

(99) Unknown if child safety seat used

INJURY CONSEQUENCES

34. Injury Severity (Police Rating) 1
(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 0
(0) No treatment
(1) Fatal
(2) Fatal—ruled disease

Nonfatal
(3) Hospitalized
(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) 0
(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
—— Code number of days (up through 60) that the occupant stayed in the hospital
(00) Not hospitalized
(61) 61 days or more
(99) Unknown

98. Glascow Coma Score (upon admission) 00

(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

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

40. 1st Medically Reported Cause of Death 00

41. 2nd Medically Reported Cause of Death 00

42. 3rd Medically Reported Cause of Death 00
—— Code the Occupant Injury from line number(s) for the medically reported injury(s) which reportedly contributed to this occupant's death
(00) Not fatal or no additional causes
(97) Other result (specify):

_____

(99) Unknown

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

99. Case Occupant 1
(0) Not the Case occupant
(1) This is the Case occupant
(2) This is the Case occupant in another case

UPDATE CANDIDATE NO [1] YES [ ]

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

44. 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

45. 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) (specify): _____
- (3) Automatic belt use unknown
- (9) Unknown

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

47. 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

48. 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

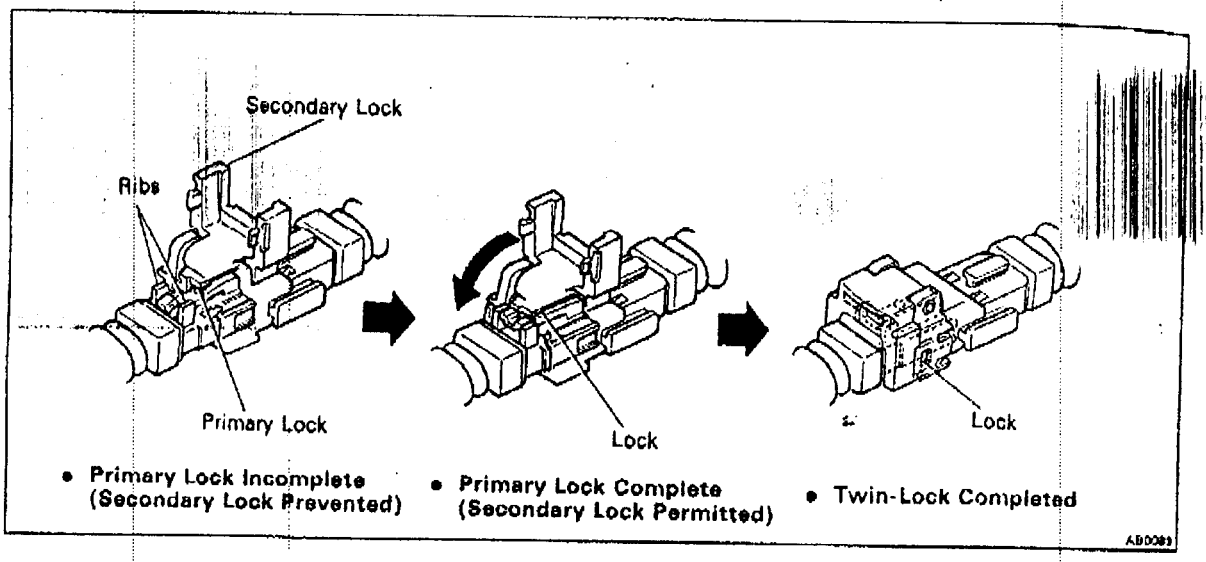
UPDATE CANDIDATE? NO [X] YES [ ]

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

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

(4) Connector Twin-Lock Mechanism

With this mechanism connectors (male and female connectors) are locked by two locking devices to increase connection reliability.
If the primary lock is incomplete, ribs interfere and prevent the secondary lock.



When the vehicle is involved in a frontal collision in the hatched area (Fig. 1) and the shock is larger than a predetermined level, the airbag is activated automatically. Safing sensors are designed to go on at a smaller deceleration rate than the front and center airbag sensors. As illustrated in Fig. 2 below, ignition is caused when current flows to the squib, which happens when a safing sensor and a front airbag sensor and/or the center airbag sensor go on simultaneously.

When a deceleration force acts on the sensors, it causes the squib to ignite. Gas is then generated, increasing the pressure inside the bag rapidly. The inflated bag breaks open the steering wheel pad. Bag inflation then ends, and the gas is discharged through discharge holes provided behind the bag. The bag becomes deflated as a result.

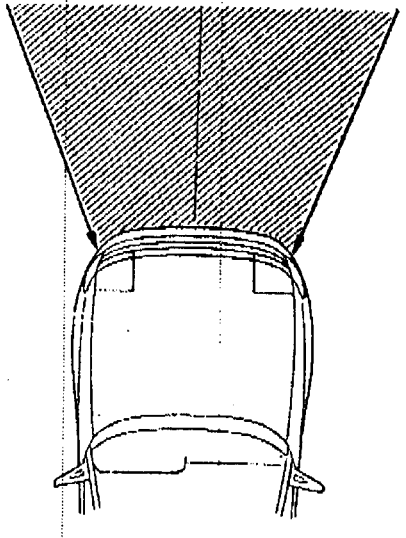


Fig. 1

AB0200

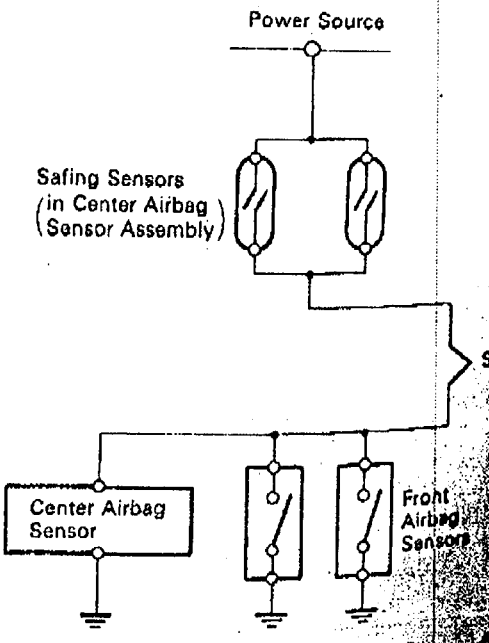


Fig. 2

AIRBAG SUPPLEMENT

ACCIDENT SUMMARY

1. Accident Date: [redacted]/91

2. Police Investigated [1]

   (1) Yes
   (2) No
   (3) Unknown

   Agency:
   City:
   County:

3. General Locality [1]

   (1) Freeway, Limited Access
   (2) Urban (City)
   (3) Urban-Rural (mixed)
   (4) Rural, Fields

4. Configuration (First Harm) [0]
   (0) Struck Object or Ped
   (1) Rear-End
   (2) Head-On
   (3) Rear-to-Rear
   (4) Angle
   (5) Sideswipe-Same Direction
   (6) Sideswipe-Opposite Dir.
   (7) Noncollision
   (8) Nonimpact Deployment
   (9) Unknown

5. Fire Involved [0]
   (0) None
   (1) Airbag Vehicle
   (2) Other Vehicle
   (3) Both Vehicles
   (9) Unknown

6. Vehicles Involved [1]

7. Persons Involved [1]

8. Injured Persons [1]

9. Maximum AIS in Accident [1]

AIRBAG VEHICLE INSPECTION

10. Date Vehicle Inspected:

11. Reason Vehicle Note Inspected [1]
    (0) Not Required
    (1) Inspection Completed
    (2) Cannot be Located
    (3) Repaired or Destroyed
    (5) Refusal or Impounded
    (7) Other:

12. Impact Data Obtained [4]
    (0) No Data Obtained
    (1) CDC Only
    (2) Crush Profile Only
    (3) Trajectory Data Only
    (4) CDC and Crush Profile
    (5) CDC and Trajectory
    (6) Crush and Trajectory
    (7) CDC, Crush, and Trajectory

13. Basis of Delta-V [7]
    (0) Not Computed (Unknown why)
    (1) CRASH - Damage Only
    (2) CRASH - Damage + Traj
    (3) OLDMISS
    (4) POLES ENDSWIPE
    (5) Unknown Basis
    (6) One Vehicle Beyond Scope
    (7) Collision Beyond Scope
    (8) Insufficient Data

VEHICLE HISTORY

14. Prior Impacts for AB Vehicle? [2]

    (1) Yes
    (2) No
    (9) Unknown

15. Prior AB Maintenance or Service [2]

    (1) Yes, (2) No, (9) Unknown

    Describe:

AIRBAG SUPPLEMENT

AIRBAG VEHICLE
Fleet:
VIN:
Mileage:

No

SYSTEM READINESS LAMP

16. Pre-Impact Lamp Condition [1]
(1) Functioning/Proved Out
(2) Inoperative
(9) Unknown

17. Driver's Report of Pre-Impact Flashing [00]
(00) No Flashing Reported
(01) Continuous Flashing
(02)
Number of Flashes: ___
(11)
(12) Constant Light
(19) Flashing, Unknown Number
(88) Not Applicable, System Removed
(99) Unknown

18. Period of Pre-Impact Flashing [0]
(0) No Flashing
(1) Same Day as Impact
(2) Prior Day
(3) Prior Two Days
(4) Prior Week
(5) Prior Month
(6) Over One Month
(9) Unknown

19. Post-Impact Lamp Condition [1]
(1) Functioning/Proved Out
(2) Inoperative
(9) Unknown

20. Post-Impact Flashing [00]
(00) No Flashing Reported
(01) Continuous Flashing
(02)
Number of Flashes: ___
(11)
(12) Constant Light
(19) Flashing, Unknown Number
(88) Not Applicable, System Removed
(99) Unknown

21. Airbag Vehicle First Harmful Event [23]
(01) Fire or explosion
(02) Immersion
(03) Gas Inhalation
(04) Fell from vehicle
(05) Injured in vehicle
(06) Other noncollision (specify):
(07) Overturn
(08) Jackknife
COLLISION WITH:
(09) Pedestrian
(10) Pedalcyclist
(11) Railway train
(12) Animal
(13) Motor vehicle in transport (same roadway)
(14) Motor vehicle in transport (other roadway)
(15) Parked motor vehicle
(16) Other type nonmotorist (specify):
(17) Thrown or falling object
(18) Boulder
COLLISION WITH FIXED OBJECT
(20) Building
(21) Impact attenuator/crash cushion
(22) Bridge pier or abutment
(23) Bridge parapet end
(24) Bridge rail
(25) Guardrail
(26) Concrete traffic barrier
(27) Median barrier
(28) Other longitudinal barrier (specify):
(29) Highway/traffic sign post
(30) Overhead sign support
(31) Luminaire/light support
(32) Utility pole
(33) Other post, pole, or support
(34) Culvert
(35) Curb
(36) Ditch
(37) Embankment-earth
(38) Embankment-rock, stone, or concrete
(39) Fence
(40) Wall
(41) Fire hydrant
(42) Shrubbery
(43) Tree
(44) Other fixed object (specify):
(45) Pavement surface irregularity
(99) Unknown

AIRBAG SUPPLEMENT

AIRBAG VEHICLE IMPACT SUMMARY

22. Vehicle Role [1]
(0) Noncollision
(1) Striking unit
(2) Struck unit
(3) Both striking and struck
(9) Unknown

23. Manner of Leaving Scene [2]
(1) Driven
(2) Towed-due to damage
(3) Towed-not for damage
(4) Towed-details unknown
(5) Abandoned
(9) Unknown

24. Number of Impact Events [1]
(8) 8 or more
(9) Unknown

25. Rollover [0]
(0) No rollover
(1) First event
(2) Subsequent event
(3) Yes, Unknown event
(9) Unknown

26. Override/Underride [0]
(0) No override/underride
(1) Override - 1st CDC
(2) Override - Other CDC
(3) Underride - 1st CDC
(4) Underride - Other CDC
(9) Unknown

AIRBAG VEHICLE DAMAGE
CODES: (1) Yes, (2) No, (9) Unknown

27. Left Front Fender Damage [1]

28. Right Front Fender Damage [1]

29. Center Top of Grille Damage [1]

FRONT BUMPER E.A. STATUS

30. Left [5]

31. Right [5]
(1) Normal
(2) Extended
(3) Partial Compression
(4) Complete Compression
(5) Not Applicable
(9) Unknown

FIRST AIRBAG VEHICLE IMPACT:

32. Configuration [0]
(0) Struck Object or Ped
(1) Rear-End
(2) Head-On
(3) Rear-to-Rear
(4) Angle
(5) Sideswipe-Same Direction
(6) Sideswipe-Opposite Dir.
(7) Noncollision
(8) Nonimpact Deployment
(9) Unknown

33. CDC:

34. Object Contacted:

PRIMARY/DEPLOYMENT IMPACT:

35. Event Number [1]

36. Total Delta-V [ ]
CONDITIONS OUT OF SCOPE FOR CRASH III

37. Longitudinal Delta-V [ ]

38. Configuration [ ]
See 32 above for codes

39. CDC: 02FREW1

40. Object Contacted: GUARD RAIL

AIRBAG SUPPLEMENT

AIRBAG SYSTEM DAMAGE

CODES: (1) Yes, Damaged
(2) No, Intact
(3) Not Applicable
(9) Unknown

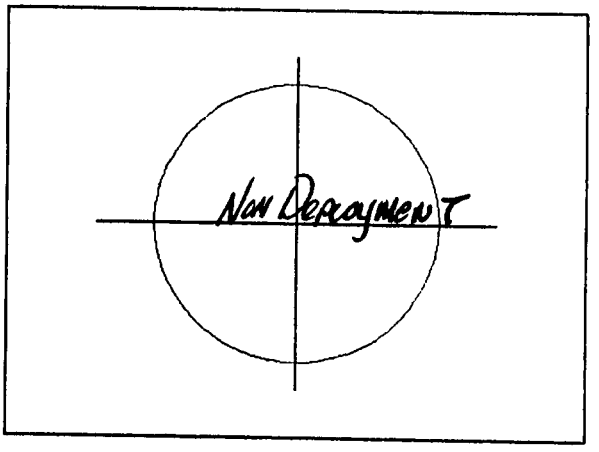
41.	Airbag Module	2
42.	Left Front Sensor	2
43.	Center Front Sensor	3
44.	Right Front Sensor	2
45.	Rear Cowl Sensor	2
46.	Diagnostic Module	2
47.	Wiring	2
48.	Knee Diverter	2
49.	Indication of disconnected or loose electrical connectors	2
50.	Condition of Deployed Bag (1) Bag intact (2) Split or torn (3) Cut by object in impact (4) Cut after accident (5) Other (8) NA (not deployed) (9) Unknown	8

DESCRIBE SYSTEM AND BAG DAMAGE:

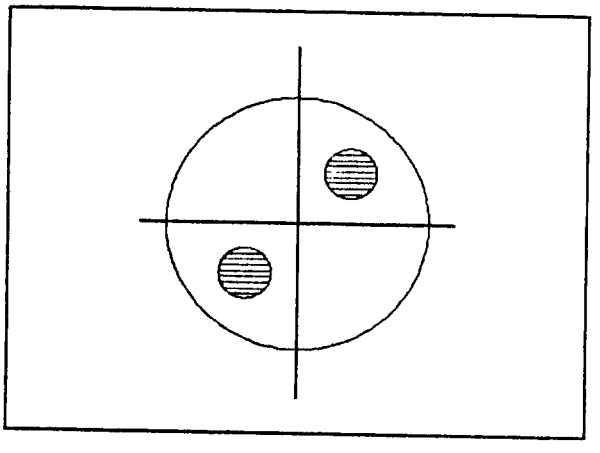
NONE

NOTE DAMAGE AND CONTACT MARKS ON AIRBAG DIAGRAMS BELOW:

FRONT



BACK



AIRBAG SUPPLEMENT

OCCUPANTS OF AIRBAG CAR

51. Number of Occupants in Vehicle [1]

52. Number of Injured Persons [1]

53. Maximum AIS in Airbag Vehicle [1]
(0) No Injury
(1-6) AIS Severity
(7) Injured, unknown severity
(9) Unknown

DRIVER

Age: 28 Y.O.

Sex: FEMALE

54. Number of Driver Injuries [ ]

UNK

55. Source of Best Injury Data [7]
(0) Not injured
(1) Autopsy
(2) Hospital Medical Records
(3) Emergency Room only
(4) Private physician, clinic
(5) Lay Coroner Report
(6) EMS Personnel
(7) Interviewee
(8) Police
(9) Unknown

DATA FROM DEFECT OFFICE

MAXIMUM AIS BY BODY REGION

REGION	MAX AIS	CONTACT
Head/Neck/Face	1	IMPACT FORCES
Chest		
Abdomen		
Legs/Hips		
Other (Arms)		
Driver Maximum		

EJECTION

Extent: No

Portal:

OTHER VEHICLE:

Maximum AIS ____

Prime/Deploy Impact w AB Vehicle Event Number ____

CDC:

Total Delta V ____

Make:

Model Year:

Model:

Body Type:

NOTES:

AIRBAG SUPPLEMENT

No Interview

DRIVER BELT USAGE: (1) Used (2) Not Used (9) Unknown ____

Evidence:

DRIVER POSTURE: Any comments Recorded (1) Yes, (2) No ____

Describe driver's posture and position on seat including specific comments on head, torso, buttocks, legs, and feet. Also note hand and arm position. Did driver brace before crash? Describe:

DRIVER FOREIGN OBJECTS: Comments Recorded (1) Yes, (2) No ____

Was driver wearing contact lenses or eyeglasses? Or holding any foreign object at the time of the impact (packages on lap, pipe, food, bottle, cigarette, etc.)? Did any lenses, objects, or jewelery play any role?:

DRIVER COMMENTS: Comments Recorded (1) Yes, (2) No ____

Was the driver aware that the vehicle was equipped with a supplemental restraint system? Did driver offer any comments on smoke, noise, etc.? Did the driver comment on the airbag as a restraint system? Describe:

PASSENGER-AIRBAG CONTACT: (1) Yes, (2) No, (9) Unknown ____

Describe:

BEST AVAILABLE

MOTOR VEHICLE ACCIDENT REPORT

A-1. REPORT NO.

2. FORM 1 OF 1

3. LOCAL AREA CASE NO.

4. ACCIDENT DATE MO [redacted] DAY YR 9/08/25

5. TIME (MILITARY)

6. DAY OF WEEK [redacted] 1

7. REPORT TYPE: 1 - TRAFFIC ACCIDENT; 2 - NON TRAFFIC ACCIDENT

8. COUNTY

9. TIME NOTIFIED (MILITARY) 2330

10. TIME ARRIVED (MILITARY) 0843

11. ACCIDENT SEVERITY: 2 (1 - Damage only; 2 - Possible Injury; 3 - Non-Incapacitating; 4 - Incapacitating; 5 - Fatal)

12. FIRST HARMFUL EVENT: 09 (01 - Other Motor Veh in Transport; 02 - Parked Motor Vehicle; 03 - Motor Veh on other roadway; 04 - Pedestrian; 05 - Pedalcycle; 06 - Other Convey; 07 - Animal; 08 - Rwy Train; 09 - Fixed Object; 10 - Other Object; 11 - Overturned; 12 - Other Non-Collision)

13. SUBSEQUENT EVENTS

14. FIXED OBJECT STRUCK: 06 RST (01 - Bridge/Overpass; 02 - Building; 03 - Culvert, Ditch; 04 - Curb, Wall; 05 - Guardrail/Barrier; 06 - Embankment; 07 - Fence; 08 - Light support pole; 09 - Sign support pole; 10 - Other pole; 11 - Tree, Shrubbery; 12 - Construction Barrier; [redacted] Other)

15. COLLISION TYPE: 17 (01 - 12 diagram)

16. RELATIONSHIP TO INTERSECTION: 1 (1 - Non-Intersection; 2 - Intersection; 3 - Intersection Related; 4 - Driveway-Access)

17. KIND OF LOCALITY: 5 (1 - Manufacturing or Industrial; 2 - Shopping or Business; 3 - Residential; 4 - School or Recreational; 5 - Open Country)

D-1. DAMAGE TO PROPERTY OTHER THAN VEHICLE OBJECT

2. OWNER NAME

3. DAMAGE SEVERITY: 1 - No Damage; 2 - Superficial; 3 - Moderate; 4 - Destroyed

C-1. ACCIDENT OCCURRED ON - ROAD NAME

3. DISTANCE 2 (1 - Feet; 2 - Miles)

5. REFERENCED ROAD NAME

7. CITY ACCIDENT OCCURRED IN - OR INDICATE RURAL: RURAL

8. MUNICIPAL CODE

C-2. TYPE: US ROUTE NO. SUFFIX

4. GOING FROM ACCIDENT: 1 (1 - North; 2 - South; 3 - East; 4 - West; 5 - N/A)

6. TYPE ROUTE NO. SUFFIX

9. LOG MILE REFERENCE ON C-1. AT C-5.

10. RAMP MOVEMENT: 0 (0 - N/A; 1 - N → W; 2 - W → N; 3 - E → N; 4 - N → E; 5 - S → E; 6 - E → S; 7 - W → S; 8 - S → W)

D- MOVEMENT OF VEHICLES

1. VEH 1: 16 (01 - Moving Constant Speed; 02 - Accelerating; 03 - Slowing or Stopping; 04 - Starting from Traffic Lane; 05 - Starting from Parked Position; 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; 18 - Other/Unknown)

2. VEH 2:

DIRECTION PRIOR TO TURNING

3. VEH 1: 2 (1 - N; 2 - S)

4. VEH 2: (3 - E; 4 - W; 5 - N/A)

E-1. ACCIDENT OCCURRED IN: 12 (01 - Lane 1; 02 - Lane 2; 03 - Lane 3; 04 - Lane 4; 05 - Merge/Transition Lane; 06 - Acceleration Lane; 07 - Deceleration Lane; 08 - Left Turn Lane; 09 - Right Turn Lane; 10 - Left Shoulder; 11 - Right Shoulder; 12 - Center Median; 13 - Left Roadside; 14 - Right Roadside; 15 - Outside Trafficway; 16 - Median Crossover; 17 - Gore; 18 - Parking Lot; 19 - Other)

F- TRAFFIC CONTROLS

FUNCTIONING 1. 05 13

NOT FUNCTIONING 2.

(01 - Police Officer; 02 - R.R. Watchman, Gate, Etc.; 03 - Stop & Go Signal; 04 - Flashing Signal; 05 - Lane Markings; 06 - Channelization Painted; 07 - Channelization Physical; 08 - Construction/Maintenance Controls; 09 - Warning Sign; 10 - Stop Sign; 11 - Yield Sign; 12 - Center Line; 13 - Edge Line; 14 - Other Traf Control; 15 - No Control Present)

G-1 MV UNIT NO. 1

2. HIT & RUN: 1 (1 - NO; 2 - YES)

3. OWNER NAME - FIRST, MIDDLE & LAST

4. ADDRESS - NO., STREET, CITY, STATE & ZIP

5. PHONE NO.

6. DATE OF BIRTH MO [redacted] DAY YR 63

7. SEX: F

8. DRIVER LICENSE NO.

9. CLASS: D

10. RESTRICTIONS: 1

11. STATE

12. YEARS DRV EXP. 13

13. DRIVER EDUCATION: 1 (1 - Public 3 - None; 2 - Com'l 4 - Unkn)

14. INJ SEV: 2

15. SAFETY EQPT.: 03

16. EJT: 1

17. OCC NO	18. ST. POS	19. AGE	20. SEX	21. INJ SEVERITY	22. SFTY EQPT.	23. EJT	24. OCCUPANT NAME & ADDRESS
1							
2							
3							
4							

25. OWNER - NAME & ADDRESS: S/A DRIVER

26. MAKE	27. MODEL	28. YR	29. VEHICLE ID NO.	30. PLATE NO.	31. STATE	32. YR	33. VEH TYPE	34. TOWED TYPE	35. DAMAGE SEVERITY
TOYT	CELMA	94 [redacted]		VEHIC		91	08	E	1
TOWE									

36. VEHICLE REMOVED BY

37. VEHICLE REMOVED TO

38. REMOVAL AUTHORITY: 2 (1 - Owner; 2 - Driver; 3 - Officer; 4 - Occupant; 5 - Other; 6 - N/A)

G-1. MV UNIT NO.

2. HIT & RUN: (1 - NO; 2 - YES)

3. DRIVER NAME - FIRST, MIDDLE & LAST

4. ADDRESS - NO., STREET, CITY, STATE & ZIP

5. PHONE NO.

6. DATE OF BIRTH MO DAY YR

7. SEX

8. DRIVER LICENSE NO.

9. CLASS

10. RESTRICTIONS

11. STATE

12. YEARS DRV EXP

13. DRIVER EDUCATION (1 - Public 3 - None; 2 - Com'l 4 - Unkn)

14. INJ SEV

15. SAFETY EQPT.

16. EJT

17. OCC NO	18. ST POS	19. AGE	20. SEX	21. INJ SEVERITY	22. SFTY EQPT.	23. EJT	24. OCCUPANT NAME & ADDRESS
1							
2							
3							
4							

MARYLAND STATE POLICE

25. OWNER - NAME & ADDRESS

26. MAKE	27. MODEL	28. YR	29. VEHICLE ID NO.	30. PLATE NO.	31. STATE	32. YR	33. VEH TYPE	34. TOWED TYPE	35. DAMAGE SEVERITY
PRIM	ARY		VEHIC				LE	E	
TOWE	D		VEHIC						

36. VEHICLE REMOVED BY

37. VEHICLE REMOVED TO

38. REMOVAL AUTHORITY (1 - Owner; 2 - Driver; 3 - Officer; 4 - Occupant; 5 - Other; 6 - N/A)