Case 470: Narrative

Case Vehicle (A): 2003 Saturn

Type: Vue, 4-door SUV

Driver: 56-year-old female

CDC: 12-FDEW-3

SITUATION

12 It was daylight and foggy, and the asphalt surface of the north-south road with a posted speed of 55 mph (89 kph) was wet. Case vehicle (A) was traveling north in the northbound lane at a driver-estimated speed of 45 mph (72 kph) when 3 it crossed the centerline and the southbound lane for an unknown reason and 4 exited the west edge of the road. 5 The case vehicle entered a grassy ditch located about 8 meters west of the road edge and continued to travel north for approximately 63 meters 67 until the front end struck a brick and concrete residential driveway embankment. The vehicle came to rest and was towed from the scene due to damage.

The police accident report indicates A-level injuries for the female driver of case vehicle (A) who was transported to a local hospital, where she was hospitalized for thirty-five days.

GENERAL VEHICLE DAMAGE AND ESTIMATED CRASH SEVERITIES

<u>8 9</u> Damage to case vehicle (A) was moderate and direct damage extended 160-cm across the entire front end. The maximum rearward crush was 49 cm and it occurred 24 cm to the left of the right-front bumper corner.

10 11 12 13 14 Using the WinSMASH crash-reconstruction program and a crush profile measured for case vehicle (A), the following impact severity was estimated for the full-frontal impact:

		Estimated Velocity Change - kph (mph)				
Vehicle	Variable	Total	Longitudinal	Latitudinal		
Case vehicle (A)	EBS	43 (27)	-43 (-27)	0 (0)		

DESCRIPTION OF DAMAGE TO CASE VEHICLE (A)

Exterior

15 16 17 In the front, the bumper cover was crushed and separated at the right attachment but the left side was still attached. 18 19 The bumper reinforcement bar was crushed rearward into the grille and engine compartment, both headlight assemblies were damaged, and both headlamps were shattered. 20 The hood latch was jammed but the fire department had cut a hole in the center section of the hood to gain access to the battery. 21 There was no direct crash-related damage to the hood but it was slightly

elevated although 22 23 there was no damage to the hood hinges. 24 25 There was no damage to the windshield.

- 26 On the right side, the fender was slightly buckled, the 27 front wheel was pushed into the rear section of the fender, the tire was completely deflated, and the right wheelbase was reduced by 19 cm. 28 Both right-side doors were undamaged and operational but 29 the window in the rear door was shattered. There was no damage to the 30 right quarter panel or to the 31 right-rear wheel.
- <u>32</u> On the left side, the front section of the fender was broken and the rear section was pushed rearward into the door panel. <u>33</u> The front tire was not damaged but the axle was pushed slightly rearward, which reduced the left wheelbase by 6 cm. <u>34</u> The driver door would not close completely but the door was not damaged and the window was intact. <u>35</u> <u>36</u> There was no other damage to the left side and <u>37</u> there was no damage to the rear of case vehicle (A).

Interior

38 This vehicle was equipped with steering-wheel and dash-mounted frontal-impact airbags, and both deployed during the frontal impact. 39 This vehicle was also equipped with roof siderail-mounted airbags but they did not deploy.

In the driver area, 40 there was no damage to the deployed steering-wheel airbag or 41 module cover 42 but there were drops of blood on the center section of the fabric. 44 45 The lower-left section of the steering-wheel rim was bent and pushed forward from loading by the driver 46 47 but there was no rotation of the steering column. 48 The upper and mid sections of the instrument panel were displaced and the plastic that covers the instruments was cracked. 49 50 The knee-bolster cover was damaged and separated from its left-side attachments and there were scuffmarks on the center section below the steering column. The driver seatback and cushion were not damaged but the manual seat adjuster was jammed in a rearward position. 43 51 52 There was no other interior damage in the driver seating area.

- 53 In the center-front area, there was no damage to the roof or to the windshield header and there was no damage to the rearview mirror, 54 which was separated from its windshield mount. 55 56 There was a scuffmark on the left side of the vertical console 57 but there was no other damage in the center-front seating area.
- 58 59 60 61 There was no damage in the right-front seating area and there was no damaged to the deployed dash-mounted airbag. There were no rearward intrusions into the front occupant space.

OCCUPANT KINEMATICS AND INJURIES

62 The 173-cm, 120-kg (5-ft 8-in, 265-lb) 56-year-old female driver was using the three-point belt 63 64 with an after-market belt extender and 65 with the shoulder-belt anchor point adjusted to the lowest position on the B-pillar, and 40 the steering-wheel airbag deployed. 66 67 Belt use at the time of the crash is indicated by loading marks on the D-ring 68 and the continuous loop, and 69 by the fact that the webbing was cut to extricate the driver.

During the frontal impact, the driver moved forward relative to the vehicle interior into the belt restraints, airbag, and knee bolster. She sustained several chest and abdominal injuries, <u>63</u> <u>64</u> probably from loading by the shoulder belt. These include multiple bilateral rib fractures with a right pneumothorax (#1-9 right anterior, #3-9 right posterior, #1-9 left anterior), a lung contusion, a fracture and a contusion to the sternum, and a mediastinal contusion. She sustained a laceration to the liver,

probably from loading by the shoulder belt or possibly from contact with the steering-wheel rim. She sustained a fracture to the right clavicle from an unknown source and she sustained a comminuted fracture to distal right radius, probably from contact with the vertical console, as 55 56 evidenced by a scuffmark on the plastic. She sustained fractures to the distal aspects of the left radius and ulna, 45 48 possibly from contact with the upper section of the instrument panel. She sustained bimalleolar fractures to the left ankle, probably from foot contact with the toepan, and she sustained a fracture to the 5th metatarsal of the right foot, 51 52 probably from foot contact with the toepan or the pedals. She also sustained a fracture to the right tibial plateau and proximal fibula, and abrasions to both knees, probably from contact with the knee bolster, 49 50 as evidenced by scuffmarks on the bolster cover below the steering column.

The following table $\frac{70}{2}$ and attached drawing summarize the injuries for the belt-plus-airbag restrained driver.

Occupant: Driver	Age: 50	Gender: Female				
Restraints: 3-point belt with after-market belextender; steering-wheel airbag	Stature in)					
Injury Description	A.I.S.		Injury Sour	ce		
_	_	Definite	Probable	Possible		
Fracture, right clavicle	2	Unknown	_	_		
Multiple bilateral rib fractures with right pneumothorax #1-9 right anterior, #3-9 right posterior, #1-9 left anterior	5	_	Shoulder belt	_		
Lung contusion (unknown aspect)	3		Shoulder belt			
Fracture sternum	2	_	Shoulder belt			
Contusion sternum	1		Shoulder belt			
Laceration, liver	2	_	Shoulder belt	Steering-wheel rim		
Mediastinal contusion	2	_	Shoulder belt			
Comminuted fracture, shaft of distal right radius	3	_	Vertical console	_		
Fracture distal left radius and ulna	2		_	Upper instrument panel		
Abrasion, left and right knees	1	_	Knee bolster			
Fracture, right tibial plateau and proximal fibula	2		Knee bolster	_		
Fracture, left bimalleolar	2	_	Toepan			
Fracture, right 5th metatarsal	2	_	Toepan; foot controls	_		
Maximum A.I.S. Level	5		_			
Injury Severity Score	38		_			

CASE NO.: 470

CASE VEHICLE: 2003 Saturn

TYPE: Vue, 4-door SUV

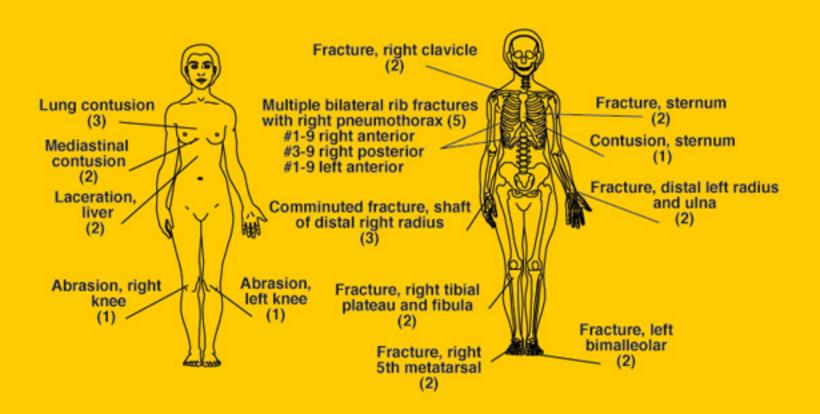
OCCUPANT: (Driver) 56-year-old female

STATURE: 173 cm (5 ft, 8 in) MASS

MASS: 120 kg (265 lb)

RESTRAINTS: 3-point belt with extender; steering-wheel airbag

SEVERITY: MAIS - 5 ISS - 38



Case No.: 470

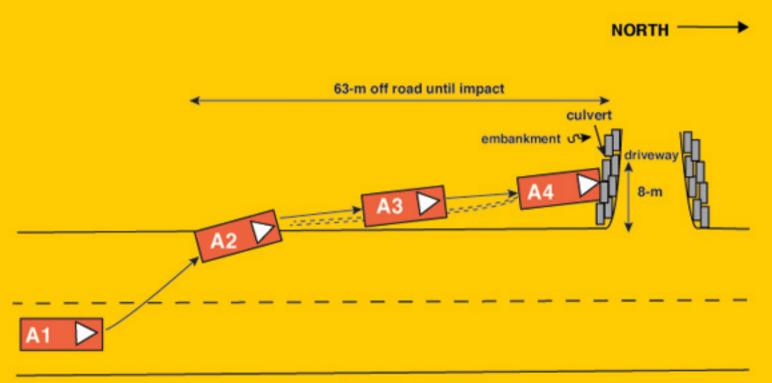
Case Veh. (A): 2003 Saturn Type: Vue, 4-door SUV

Driver: 56-year-old female

Weather: Fog

Road Surface: Wet

Road Construction: Asphalt Light Condition: Daylight



speed limit 55 mph (89 kph)

470: Vehicle Report

Click on Section Name to jump directly to that Section —

- General Information
- Other Vehicle
- Case Vehicle General
- Case Vehicle Damage Description
- Crash Reconstruction
- Case Vehicle Tires & Rims
- Case Vehicle Fuel Tank
- Case Vehicle Fuel Leakage
- Case Vehicle Fire
- Case Vehicle Exterior
- Case Vehicle Steering Column/Rim
- Case Vehicle Intrusion
- Case Vehicle Airbag(s)
- Case Vehicle Interior
- Case Vehicle Seats
- Case Vehicle Side Airbag(s)
- EDR -- Event Data Recorder

General Information Back to Top

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0204	Collision Hour	1545	Time of day (24 hour clock)	more
V0205	State Fips Code	26	Michigan	<u>more</u>
V0206	Urban/rural Area	2	Rural	more
V0207	Limited Access Highway	0	No	<u>more</u>
V0208	Road Total Lanes	2	2 lanes	<u>more</u>
V0209	Intersect Road Total Lanes	6	Parking lot/driveway	<u>more</u>
V0210	Trafficway Flow	0	Not physically divided - two way traffic	<u>more</u>
V0211	Road Surface Type	1	Asphalt	<u>more</u>
V0212	Road Defects	0	No	more
V0213	Construction Zone	0	No	more
V0214	Road Alignment Vertical Plane	1	Level	more

V0215	Road Alignment Horzontal Plane	1	Straight	more
V0216	Surface Covering	29	Water - amount unknown	more
V0217	Visibility Limitation	2	Fog	more
V0218	Visibility Obstruction	0	None	more
V0219	Speed Limit	6	86-90 km/h 55 mph	more
V0220	Precipitation Type	0	None	more
V0221	Precipitation Rate	8	Not applicable	more
V0222	Temperature	9	Unknown	more
V0223	Crosswind	9	Unknown	more
V0224	Light Conditions	1	Daylight	more
V0225	Mechanical Malfunction Mention	0	No	more
V0226	Case Vehicle And Object	3	Yes, non-fixed object off-road	more
V0227	Case Vehicle Rollover	0	No	more
V0228	Rollover Location	0	No rollover	more
V0229	Roll Direction	0	No rollover	more
V0230	Rollover Initation Type	0	No rollover	more
V0231	Rollover Number Of Turns	0	No rollover	more
V0232	Case Vehicle Preimpact Braking	9	Unknown	more
V0233	Case Vehicle Preimpact Stability	1	Case vehicle tracking before impact	more
V0234	Case Vehicle Ran Off Roadway	1	Yes	more
V0235	Moving Case Vehicle Contacted Moving Vehicle	0	No	more
V0236	Case Vehicle Contacted Stopped Vehicle	0	No	more
V0237	Stopped Case Vehicle Contacted Vehicle	0	No	more
V0238	Total Vehicles Hit By Case Vehicle	0	0 vehicles	more
V0239	Any Fire In Crash?	0	No	more
V0240	Maximum Police Severity-acc	3	A - Incapacitating Injury	more
V0241	Driver Alcohol Involvmnt	0	Had not been drinking	more
V0242	Driver Alcohol BAC (Case Vehicle)	80	No test	more
V0243	Driver Impairment Mention	0	No	more
V0244	Driver Distraction	99	Unknown	more

V0245	Driver Drug Involvement	0	None	more
V0246	Driver Drug Type	0	No drug use	more
V0247	Driven/towed From Scene	2	Towed Due to Damage	<u>more</u>

Other Vehicle Back to Top

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0301	Other Vehicle VIN	0 XXXXXX	Click for Contacted Vehicle figure	more
V0302	Other Vehicle Manufacturer/Body Code	99898		
V0303	Other Vehicle Manufacturer	998	Unknown Other Vehicle	more
V0304	Other Vehicle Body Code	98	No Other Vehicle	more
V0305	Other Vehicle Make/model	0000	No other vehicle	more
V0306	Other Vehicle Model Year	0000	No Other Vehicle	more
V0307	Other Vehicle Mass	000000 kg	No Other Vehicle	<u>more</u>
V0308	Other Vehicle Number	8	No other vehicle	more
V0309	Other Vehicle Number of Occupants	98	No Other Vehicle	<u>more</u>
V0310	Other Vehicle Traveling Speed	990	No Other Vehicle	more
V0311	Highest Police Injury Severity	9	Unknown	more
V0312	Other Vehicle Type	99	Unknown	more
V0313	Other Vehicle Wheelbase in Centimeters	999	Unknown wheelbase	more
V0314	Other Vehicle Average Track Width	999	Unknown	more
V0315	Other Vehicle Overall Length	999	Unknown	more
V0316	Other Vehicle Overall Width (OAW)	999	Unknown	more
V0317	Other Vehicle Front Overhang	999	Unknown	more
V0318	Other Vehicle Rear Overhang	999	Unknown	more
V0319	Other Vehicle Undeformed End Width (UEW)	999	Unknown	more
V0320	Other Vehicle Engine Displacement	9.9	Unknown	more
V0321	Other Vehicle Engine: Number of Cylinders	99	Unknown	more

V0322	Other Vehicle Direct Damage Length (DDL)	999	Unknown	<u>more</u>
V0323	Other Vehicle Front-End Overlap	99	Missing or Not applicable	more
V0324	Other Vehicle - Vehicle Overlap	99	Missing or Not applicable	more

Case Vehicle General

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0401	VIN	5GZCZ63BX3XXXXXXX	Click for Case Vehicle figure	more
V0402	Manufacturer/Body Code	11814	_	_
V0403	Vehicle Manufacturer	118	Saturn	more
V0404	Vehicle Body Code	14	Short wheelbase utility vehicle (Jeep, Bronco)	<u>more</u>
V0405	Make/model Code	3760	Saturn Vue	more
V0406	Model Year	2003	Model year	more
V0407	Vehicle Mass	001584 kg	Mass (Kg)	more
V0408	Odometer Reading	888888		_
V0409	Number of Occupants	01	1 occupant	<u>more</u>
V0410	Traveling Speed	072 kph	Speed (km/h)	<u>more</u>
V0411	Body Type	21	Small utility (e.g. Jeep, Scout, Bronco)	<u>more</u>
V0412	Stolen Vehicle	8	Not currently collected	more
V0413	Body Structure	2	Unitized	<u>more</u>
V0414	Transmission Type	1	Automatic	more
V0415	Transmission Lever Location	2	Console	more
V0416	Steering	1	Power	more
V0417	Brakes	1	Power	more
V0418	Brake Type	2	Disc - front wheels	more
V0419	Adjustable Pedals?	0	No	more
V0420	Brake Anti-lock Device	1	Two-wheel	more
V0421	Air Conditioning in Vehicle	8	Not currently collected	more
V0422	Drive Type	4	All wheel drive	more
V0423	Dual Rear Wheels	0	No	more
V0424	Original Restraint	3	Air bag	more

	System Type			
V0425	Equipped With Roll Bar	0	No	more
V0426	Roof Type	1	Solid	more
V0427	Case Vehicle Wheelbase in Centimeters	271 cm	Actual Wheelbase	more
V0428	Anti-lacerative Glass	8	Not Collected	<u>more</u>
V0429	Case Vehicle average track Width	155 cm	actual measurement (cm)	more
V0430	Case Vehicle Overall Length	461 cm	actual measurement (cm)	<u>more</u>
V0431	Case Vehicle Overall Width (OAW)	182	actual measurement (cm)	more
V0432	Case Vehicle Front Overhang	094 cm	actual measurement (cm)	more
V0433	Case Vehicle Rear Overhang	096 cm	actual measurement (cm)	<u>more</u>
V0434	Case Vehicle Undeformed End Width (UEW)	160 cm	actual measurement (cm)	more
V0435	Case Vehicle Engine Displacement	3.0 <i>l</i>	Liters	more
V0436	Case Vehicle Engine: Number of Cylinders	06	number of cylinders	<u>more</u>
V0437	Case Vehicle Direct Damage Length (DDL)	160 cm	actual measurement (cm)	<u>more</u>
V0438	Case Vehicle Front-end Overlap	98	98% or more	more
V0439	Case Vehicle - Vehicle Overlap	98	98% or more	more

Case Vehicle Damage Description

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0501	Maximum Sheet Metal Crush - Front	049 cm	Depth of Crush (cm)	more
V0502	Maximum Sheet Metal Crush - Right Side	000 cm	No Crush (or less than 1 cm.)	more
V0503	Maximum Sheet Metal Crush - Rear	000 cm	No Crush (or less than 1 cm.)	more
	Maximum Sheet Metal Crush			

V0504	- Left Side	000 cm	No Crush (or less than 1 cm.)	<u>more</u>
V0505	Maximum Sheet Metal Crush - Roof	000 cm	No Crush (or less than 1 cm.)	more
V0506	Maximum Sheet Metal Crush - Other	000 cm	No Crush (or less than 1 cm.)	more
V0507	Seq In Chronologicl Ordr	1	Yes	<u>more</u>
V0508	Event 1 -impact Location	4	Outside Roadside right-of-way	more
V0509	Event 1 -Impact Configuration	17	FRONT of case veh - object	<u>more</u>
V0510	Event 1 -Object/Vehicle Contactd	82	Culvert	<u>more</u>
V0511	Event 2 -impact Location	8	No 2nd event	<u>more</u>
V0512	Event 2 -Impact Configuration	88	No 2nd event	<u>more</u>
V0513	Event 2 -Object/Vehicle Contactd	00	No object/vehicle contacted	<u>more</u>
V0514	Event 3 -impact Location	8	No 3rd event	<u>more</u>
V0515	Event 3 -Impact Configuration	88	No 3rd event	<u>more</u>
V0516	Event 3 -Object/Vehicle Contactd	00	No object/vehicle contacted	more
V0517	Event 4 -impact Location	8	No 4th event	more
V0518	Event 4 -Impact Configuration	88	No 4th event	more
V0519	Event 4 -Object/Vehicle Contactd	00	No object/vehicle contacted	more
V0520	Event 5 -impact Location	8	No 5th event	more
V0521	Event 5 -Impact Configuration	88	No 5th event	<u>more</u>
V0522	Event 5 -Object/Vehicle Contactd	00	No object/vehicle contacted	more
V0523	Event 6 -impact Location	8	No 6th event	<u>more</u>
V0524	Event 6 -Impact Configuration	88	No 6th event	more
V0525	Event 6 -Object/Vehicle Contactd	00	No object/vehicle contacted	more
V0526	Event 7 -impact Location	8	No 7th event	more
V0527	Event 7 -Impact Configuration	88	No 7th event	more
V0528	Event 7 -Object/Vehicle Contactd	00	No object/vehicle contacted	more
	Primary CDC Case Vehicle -			

V0529	event Number	1	Event 1	<u>more</u>
V0530	Primary CDC Case Vehicle - Impact Speed (kph)	999	Unknown	more
V0531	Primary CDC Case Vehicle- estimatr	1	Investigator	more
V0532	Primary CDC Case Vehicle - Crush (CM)	049	Crush measurements in cm	more
V0533	Primary CDC Case Vehicle- clock #1	12	12 o'clock	more
V0534	Primary CDC Case Vehicle- Letter 1 #1	06	F - Front	more
V0535	Primary CDC Case Vehicle- Letter 2 #1	04	D - Distributed (Side or End)	more
V0536	Primary CDC Case Vehicle- Letter 3 #1	05	E - Everything below belt line	<u>more</u>
V0537	Primary CDC Case Vehicle- Letter 4 #1	23	W - Wide impact area	more
V0538	Primary CDC Case Vehicle Extent #1	03	Extent 3	<u>more</u>
V0539	Primary CDC - Contacted Vehicles Assoc CDC - CDC #1	12FDEW3		_
V0540	Primary CDC Case Vehicle- clock #2	98	Not Applicable	more
V0541	Primary CDC Case Vehicle- Letter 1 #2	00	Missing Data/Not applicable	more
V0542	Primary CDC Case Vehicle- Letter 2 #2	00	Missing Data/Not applicable	more
V0543	Primary CDC Case Vehicle- Letter 3 #2	00	Missing Data/Not applicable	more
V0544	Primary CDC Case Vehicle- Letter 4 #2	00	Missing Data/Not applicable	more
V0545	Primary CDC Case Vehicle Extent #2	00	Missing Data/Not applicable	more
V0546	Primary CDC - Case Vehicle Assoc CDC - CDC #2	9800000		
V0547	Primary CDC Contacted Vehicle - Impact Speed (kph)	998	Not Applicable	more
V0548	Primary CDC Contacted Vehicle-estimater	1	Investigator	more
V0549	Primary CDC Contacted Vehicle - Crush (CM)	998	Not Applicable	more
V0550	Primary CDC Contacted	98	Not Applicable	more

	Vehicle-clock #1			
V0551	Primary CDC Contacted Vehicle-Letter 1 #1	00	Missing Data/Not applicable	more
V0552	Primary CDC Contacted Vehicle-Letter 2 #1	00	Missing Data/Not applicable	more
V0553	Primary CDC Contacted Vehicle-Letter 3 #1	00	Missing Data/Not applicable	more
V0554	Primary CDC Contacted Vehicle-Letter 4 #1	00	Missing Data/Not applicable	more
V0555	Primary CDC Contacted Vehicle Extent #1	00	Missing Data/Not applicable	more
V0556	primary CDC - Contacted Vehicles Assoc CDC - CDC #1	9800000		
V0557	Primary CDC Contacted Vehicle-clock #2	98	Not Applicable	more
V0558	Primary CDC Contacted Vehicle-Letter 1 #2	00	Missing Data/Not applicable	more
V0559	Primary CDC Contacted Vehicle-Letter 2 #2	00	Missing Data/Not applicable	more
V0560	Primary CDC Contacted Vehicle-Letter 3 #2	00	Missing Data/Not applicable	more
V0561	Primary CDC Contacted Vehicle-Letter 4 #2	00	Missing Data/Not applicable	more
V0562	Primary CDC Contacted Vehicle Extent #2	00	Missing Data/Not applicable	more
V0563	Primary CDC - Contacted Vehicles Assoc CDC - CDC #2	9800000		_
V0564	Secondary CDC Case Vehicle-event No	8	Not applicable	more
V0565	Secondary CDC Case Vehicle - Impact Speed (kph)	998	Not Applicable	more
V0566	Secondary CDC Case Vehicle-estimater	8	Not applicable (no vehicle/no impact)	more
V0567	Secondary CDC Case Vehicle - Crush (CM)	998	Not Applicable	more
V0568	Secondary CDC Case Vehicle-clock #1	98	Not Applicable	more
V0569	Secondary CDC Case Vehicle-Letter 1 #1	00	Missing Data/Not applicable	more
V0570	Secondary CDC Case Vehicle-Letter 2 #1	00	Missing Data/Not applicable	more

V0571	Secondary CDC Case Vehicle-Letter 3 #1	00	Missing Data/Not applicable	<u>more</u>
V0572	Secondary CDC Case Vehicle-Letter 4 #1	00	Missing Data/Not applicable	more
V0573	Secondary CDC Case Vehicle Extent #1	00	Missing Data/Not applicable	more
V0574	Secondary CDC - Case Vehicle Assoc CDC - CDC #1	9800000		
V0575	Secondary CDC Case Vehicle-clock #2	98	Not Applicable	more
V0576	Secondary CDC Case Vehicle-Letter 1 #2	00	Missing Data/Not applicable	more
V0577	Secondary CDC Case Vehicle-Letter 2 #2	00	Missing Data/Not applicable	more
V0578	Secondary CDC Case Vehicle-Letter 3 #2	00	Missing Data/Not applicable	more
V0579	Secondary CDC Case Vehicle-Letter 4 #2	00	Missing Data/Not applicable	more
V0580	Secondary CDC Case Vehicle Extent #2	00	Missing Data/Not applicable	more
V0581	Secondary CDC - Case Vehicle Assoc CDC - CDC #2	9800000		_
V0582	Secondary CDC Contacted Vehicle - Impact Speed (kph)	998	Not Applicable	more
V0583	Secondary CDC Contacted Vehicle-estimater	8	Not applicable (no vehicle/no impact)	more
V0584	Secondary CDC Contacted Vehicle - Crush (CM)	998	Not Applicable	more
V0585	Secondary CDC Contacted Vehicle-clock #1	98	Not Applicable	more
V0586	Secondary CDC Contacted Vehicle-Letter 1 #1	00	Missing Data/Not applicable	more
V0587	Secondary CDC Contacted Vehicle-Letter 2 #1	00	Missing Data/Not applicable	more
V0588	Secondary CDC Contacted Vehicle-Letter 3 #1	00	Missing Data/Not applicable	more
V0589	Secondary CDC Contacted Vehicle-Letter 4 #1	00	Missing Data/Not applicable	more
V0590	Secondary CDC Contacted Vehicle Extent #1	00	Missing Data/Not applicable	more
V0591	Secondary CDC - Contacted Vehicle Assoc CDC - CDC	9800000		_

	#1			
V0592	Secondary CDC Contacted Vehicle-clock #2	98	Not Applicable	more
V0593	Secondary CDC Contacted Vehicle-Letter 1 #2	00	Missing Data/Not applicable	<u>more</u>
V0594	Secondary CDC Contacted Vehicle-Letter 2 #2	00	Missing Data/Not applicable	<u>more</u>
V0595	Secondary CDC Contacted Vehicle-Letter 3 #2	00	Missing Data/Not applicable	more
V0596	Secondary CDC Contacted Vehicle-Letter 4 #2	00	Missing Data/Not applicable	more
V0597	Secondary CDC Contacted Vehicle Extent #2	00	Missing Data/Not applicable	more
V0598	Secondary CDC - Contacted Vehicle Assoc CDC - CDC #2	9800000		_

Crash Reconstruction

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0601	Primary Delta-V Case Vehicle-event #	1	Event number 1	more
V0602	Primary Delta V Case Vehicle - Total Delta V	043 kph	kph	more
V0603	Primary delta-V Case Vehicle -LONGITUD	-043		
V0604	Primary delta-V Case Vehicle-Lateral	0000		
V0605	Primary Delta V Case Vehicle - Energy Dissipated by Crush (k	0124		
V0606	Primary Delta-V Case Vehicle-Reconstruction	22	Reconstructed, moderate confidence level	more
V0607	Primary Delta-V Case Vehicle- Mode	2	CDC & detailed damage	more
V0608	Primary Delta V Contacted Vehicle - Total Delta V	888	Not Applicable	more
V0609	Primary delta-V Contacted Vehicle-LONGITUD	8888		
V0610	Primary delta-V Contacted Vehicle-Lateral	8888		
	Primary delta-V Contacted			

V0611	Vehicle - Energy Dissipated by Cru	8888	_	_
V0612	Secondary Delta-V Case Vehicle-event #	8	Not applicable	more
V0613	Secondary Delta V Case Vehicle - Total Delta V	888	Not applicable	more
V0614	Secondarydelta-V Case Vehicle -LONGITUD	8888		_
V0615	Secondary delta-V Case Vehicle-Lateral	8888		_
V0616	Secondary delta-V Case Vehicle - Energy Dissipated by Crush	8888		_
V0617	Secondary Delta-V Case Vehicle-Reconstruction	88	Not applicable	<u>more</u>
V0618	Secondary Delta-V Case Vehicle- Mode	8	Not applicable	more
V0619	Secondary Delta V Contacted Vehicle - Total Delta V	888	Not applicable	<u>more</u>
V0620	Secondary delta-V Contacted Vehicle-LONGITUD	8888		
V0621	Secondary delta-V Contacted Vehicle-Lateral	8888		
V0622	Secondary delta-V Contacted Vehicle - Energy Dissipated By C	8888		
V0623	Primary EBS Case Vehicle- event #	1	Event number 1	<u>more</u>
V0624	Primary EBS Case Vehicle - Total EBS	043 kph	kph	<u>more</u>
V0625	Primary EBS Case Vehicle - LONGITUD	-043		
V0626	Primary EBS Case Vehicle- Lateral	0000		
V0627	Primary EBS Case Vehicle - Energy Dissipated by Crush (kj)	0124		
V0628	Primary EBS Case Vehicle- Reconstruction	22	Reconstructed, moderate confidence level	<u>more</u>
V0629	Primary EBS Case Vehicle- Mode	2	CDC & detailed damage	more
V0630	Primary EBS Contacted Vehicle - Total EBS	888	Not Applicable	more
	Primary EBS Contacted			

V0631	Vehicle-LONGITUD	8888	<u> </u>	_
V0632	Primary EBS Contacted Vehicle-Lateral	8888		_
V0633	Primary EBS Contact Vehicle - Energy Dissipated by Crush (kj	8888		
V0634	Secondary EBS Case Vehicle-event #	8	Not applicable	more
V0635	Secondary EBS Case Vehicle - Total EBS	888	Not Applicable	more
V0636	Secondary EBS Case Vehicle -LONGITUD	8888		_
V0637	Secondary EBS Case Vehicle-Lateral	8888		_
V0638	Secondary EBS Case Vehicle - Energy Dissipated by Crush (kj)	8888		_
V0639	Secondary EBS Case Vehicle-Reconstruction	88	Not applicable	more
V0640	Secondary EBS Case Vehicle- Mode	8	Not applicable	more
V0641	Secondary EBS Contacted Vehicle - Total EBS	888	Not Applicable	more
V0642	Secondary EBS Contacted Vehicle-LONGITUD	8888		_
V0643	Secondary EBS Contacted Vehicle-Lateral	8888		_
V0644	Secondary EBS Contact Vehicle - Energy Dissipated by Crush (8888		_
V0645	Specific Event # Case(1)	1	Event number 1	more
V0646	Plane of Impact Case Vehicle (1)	1	Bumper	more
V0647	Direct Damage Length (DDL) - Case Vehicle (1)	160 cm	ст	more
V0648	Direct Damage Maximum Crush - Case Vehicle (1)	049 cm	cm	more
V0649	Direct and Induced Damage Length in CM	120 cm	cm	more
V0650	Field C1 - Case Vehicle (1)	037 cm	cm	more
V0651	Field C2 - Case Vehicle (1)	044 cm	cm	more
V0652	Field C3 - Case Vehicle (1)	046 cm	cm	more
V0653	Field C4 - Case Vehicle (1)	047 cm	cm	more

V0654	Field C5 - Case Vehicle (1)	049 cm	cm	<u>more</u>
V0655	Field C6 - Case Vehicle (1)	045 cm	cm	more
V0656	Direct Damage D Value = The Center of Direct Damage Offset t	+000 cm	Offset (cm)	more
V0657	Specific Event # Case(2)	1	Event number 1	more
V0658	Plane of Impact Case Vehicle (2)	1	Bumper	more
V0659	Direct Damage Length (DDL) - Case Vehicle (2)	160 cm	cm	more
V0660	Direct Damage MaximumCrush - Case Vehicle (2)	049 cm	cm	more
V0661	Direct and Induced Damage Length in CM	120 cm	cm	more
V0662	Field C1 - Case Vehicle (2)	037 cm	cm	more
V0663	Field C2 - Case Vehicle (2)	044 cm	cm	more
V0664	Field C3 - Case Vehicle (2)	046 cm	cm	<u>more</u>
V0665	Field C4 - Case Vehicle (2)	047 cm	cm	more
V0666	Field C5 - Case Vehicle (2)	049 cm	cm	<u>more</u>
V0667	Field C6 - Case Vehicle (2)	045 cm	cm	<u>more</u>
V0668	Direct Damage D Value = The Center of Direct Damage Offset t	+000 cm	cm	more
V0669	Specific Event # Cont(1)	9	Unknown	more
V0670	Plane of Impact Contacted Vehicle(1)	9	Unknown	more
V0671	Direct Damage Length (DDL) - Contacted Vehicle (1)	999	Unknown	more
V0672	Direct Damage Maximum Crush - Contacted Vehicle (1)	999	Unknown	more
V0673	Field L - Contacted Vehicle (1)	999	Unknown	<u>more</u>
V0674	Field C1 - Contacted Vehicle (1)	999	Unknown	more
V0675	Field C2 - Contacted Vehicle (1)	999	Unknown	more
V0676	Field C3 - Contacted Vehicle (1)	999	Unknown	more
V0677	Field C4 - Contacted Vehicle (1)	999	Unknown	more

V0678	Field C5 - Contacted Vehicle (1)	999	Unknown	more
V0679	Field C6 - Contacted Vehicle (1)	999	Unknown	<u>more</u>
V0680	Direct Damage D Value = The Center of Direct Damage Offset t	9999	offset (cm)	more
V0681	Specific Event # Contacted Vehicle (2)	9	Unknown	more
V0682	Plane of Impact Contacted Vehicle(2)	9	Unknown	more
V0683	Direct Damage Length (DDL) - Contacted Vehicle (2)	999	Unknown	more
V0684	Direct Damage Maximum Crush - Contacted Vehicle (2)	999	Unknown	more
V0685	Direct and Induced Damage Length in CM	999	Unknown	more
V0686	Field C1 - Contacted Vehicle (2)	999	Unknown	<u>more</u>
V0687	Field C2 - Contacted Vehicle (2)	999	Unknown	<u>more</u>
V0688	Field C3 - Contacted Vehicle (2)	999	Unknown	more
V0689	Field C4 - Contacted Vehicle (2)	999	Unknown	more
V0690	Field C5 - Contacted Vehicle (2)	999	Unknown	more
V0691	Field C6 - Contacted Vehicle (2)	999	Unknown	<u>more</u>
V0692	Direct Damage D Value = The Center of Direct Damage Offset t	9999	Offset (cm)	more

Case Vehicle Tires & Rims

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0701	Left Front Wheel Damaged	0	No	more
V0702	Right Front Wheel Damaged	1	Yes	<u>more</u>
V0703	Right Rear Wheel Damaged	0	No	<u>more</u>
V0704	Left Rear Wheel Damaged	0	No	more
][

V0705	Left Front Tire Tread Type	4	All Weather	more
V0706	Right Front Tire Tread Type	4	All Weather	more
V0707	Right Rear Tire Tread Type	4	All Weather	more
V0708	Left Rear Tire Tread Type	4	All Weather	more
V0709	Left Front Carcass Construction	3	Radial	more
V0710	Right Front Carcass Construction	3	Radial	more
V0711	Right Rear Carcass Construction	3	Radial	more
V0712	Left Rear Carcass Construction	3	Radial	more
V0713	Left Front Tire Condition Precrash	0	Normal - no pre-crash problems	more
V0714	Right Front Tire Condition Precrash	0	Normal - no pre-crash problems	more
V0715	Right Rear Tire Condition Precrash	0	Normal - no pre-crash problems	more
V0716	Left Rear Tire Condition Precrash	0	Normal - no pre-crash problems	<u>more</u>
V0717	Left Front Tire Condition Postcrash	0	Normal - no damage to tire	more
V0718	Right Front Tire Condition Postcrash	2	Completely deflated	more
V0719	Right Rear Tire Condition Postcrash	0	Normal - no damage to tire	more
V0720	Left Rear Tire Condition Postcrash	0	Normal - no damage to tire	more
V0721	Left Front Tire Involvement	0	No	more
V0722	Right Front Tire Involvement	0	No	<u>more</u>
V0723	Right Rear Tire Involvement	0	No	more
V0724	Left Rear Tire Involvement	0	No	more
V0725	Left Front Tire Size	P23565R16		
V0726	Right Front Tire Size	P23565R16		
V0727	Right Rear Tire Size	P23565R16	_	_
V0728	Left Rear Tire Size	P23565R16	_	_
V0729	Left Front Tire Pressure (recorded in psi)	28.5 psi	Actual tire pressure in psi	more
V0730	Right Front Tire Pressure (recorded in psi)	00.0 psi	Actual tire pressure in psi	more
	Right Rear Tire Pressure			

V0731	(recorded in psi)	27.5 psi	Actual tire pressure in psi	<u>more</u>
V0732	Left Rear Tire Pressure (recorded in psi)	30.0 psi	Actual tire pressure in psi	more
V0733	Left Front Tread Depth	06	06/32"	more
V0734	Right Front Tread Depth	06	06/32"	<u>more</u>
V0735	Right Rear Tread Depth	08	08/32"	more
V0736	Left Rear Tread Depth	08	08/32"	<u>more</u>

Case Vehicle Fuel Tank

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Variable Number	Variable Name	Code Value	Code Description	Other Options
V0801	Propulsive Fuel Type	1	Gasoline	more
V0802	Main Tank Location	322	Within frame/centered laterally - within vertica	more
V0803	Main Filler Cap Location	133	Right of frame laterally - above vertically	more
V0804	Main Tank Material	9	Unknown	more
V0805	Aux Tank Type	8	Not applicable (not equipped)	more
V0806	Aux Tank Location	888	Not applicable (not equipped)	more
V0807	Aux Filler Cap Location	888	Not applicable (not equipped)	more
V0808	Aux Tank Material	8	Not applicable	<u>more</u>

Case Vehicle Fuel Leakage

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Variable Number	Variable Name		Code Description	Other Options
V0901	Fuel Leakage From Crash	0	No	more

Case Vehicle Fire

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Variable	iable		Code Description	Other
Number	nber Variable Name			Options
V1001	Fire In Or On Case Vehicle	0	No	<u>more</u>

Case Vehicle Exterior

Variable	Variable		Code Description	Other
Number	Number			Options
V1101	Hood Latch Released	0	No	<u>more</u>

V1102	Hood Latch Damaged	1	Yes	<u>more</u>	
V1103	Hood Latch Jammed	1	Yes	more	
V1104	Left Hood Hinge Damaged	0	No	more	
V1105	Left Hood Hinge Separated	8	Not applicable	more	
V1106	Right Hood Hinge Damaged	0	No	more	
V1107	Right Hood Hinge Separated	8	Not applicable	more	
V1108	Hood Remained On Vehicle	1	Yes	more	
V1109	Rear Hood Edge Elevated	1	Yes	more	
V1110	Edge Contacted Windshield	0	No	more	
V1111	Edge Penetrated Windshield	8	Not applicable	more	
V1112	Hood Latch Location	1	Front of Vehicle	more	
V1113	Eng/transmissn Mount Separated	0	No	more	
V1114	Steering Column Flex Couplng	9	Unknown if equipped	more	
V1115	Steering Column Coupling Dam	9	Unknown	more	
V1116	Steering Column Coupling Separated	9	Unknown	more	
V1117	Eng Comp Telescopng Unit	88	Not currently collected	more	
V1118	Compartment Unit's Original/telescoped Length Difference	888	Not currently collected	more	
V1119	Left Side Body Mount Separated	8	Not applicable (unitized)	more	
V1120	Upper Left A-pillar Sep	0	No	more	
V1121	Lower Left A-pillar Sep	0	No	more	
V1122	Upper Left B-pillar Sep	0	No	more	
V1123	Lower Left B-pillar Sep	0	No	more	
V1124	Upper Left C-pillar Sep	0	No	more	
V1125	Lower Left C-pillar Sep	0	No	more	
V1126	Upper Left D-pillar Sep	0	No	more	
V1127	Lower Left D-pillar Sep	0	No	more	
V1128	Left Front Door Opening Cause	00	Door did not open	more	
V1129	Left Rear Door Opening Cause	00	Door did not open		
V1130	Left Front Door Jammed Closed	0	No	more	
V1131	Left Rear Door Jammed Closed	0	No	more	

V1132	Van Left Rear Door Type	8	Not applicable (not a van)	more		
V1133	Left Front Glazing Availability	2	Closed	more		
V1134	Left Rear Glazing Availability	2	2 Closed			
V1135	Lr2 Glazing Availability	1	Fixed	more		
V1136	Left Front Glazing Damage	0	No damage	more		
V1137	Left Rear Glazing Damage	0	No damage	more		
V1138	Lr2 Glazing Damage	0	No damage	more		
V1139	Rear Door Type	2	One-way tailgate	<u>more</u>		
V1140	Rear Door Opening Cause	0	Door did not open	more		
V1141	Rear Door Jammed Closed	0	No	more		
V1142	Rear Glazng Availability	1	Fixed	more		
V1143	Rear Glazing Damage	0	No damage	more		
V1144	Luggage Partition Damaged	8	Not applicable	more		
V1145	Spare Tire Status	8	Not collected	more		
V1146	Trailer Hitch Type	0	No hitch	more		
V1147	Trailer Type	0	No trailer	more		
V1148	Rght Side Body Mount Separated	8	Not applicable (unitized)	more		
V1149	Upper Right A-pillar Separated	0	No	more		
V1150	Lower Right A-pillar Separated	0	No	more		
V1151	Upper Right B-pillar Separated	0	No	more		
V1152	Lower Right B-pillar Separated	0	No	more		
V1153	Upper Right C-pillar Separated	0	No	<u>more</u>		
V1154	Lower Right C-pillar Separated	0	No	<u>more</u>		
V1155	Upper Right D-pillar Separated	0	No	more		
V1156	Lower Right D-pillar Separated	0	0 No			
V1157	Right Front Door Opening Cause	00	Door did not open			
V1158	Right Rear Door Opening Cause	00	Door did not open			
V1159	Right Front Door Jammed	0	No	more		

	Closed			
V1160	Right Rear Door Jammed Closed	0	0 N o	
V1161	Van Right-rear Door Type	8	Not applicable (not a van)	more
V1162	Right Front Glazing Availability	2	Closed	<u>more</u>
V1163	Right Rear Glazing Availability	2	2 Closed	
V1164	Rr2 Glazing Availability	1	1 Fixed	
V1165	Right Front Glazing Damage	0	0 No damage	
V1166	Right Rear Glazing Damage	1	1 Shattered	
V1167	Rr2 Glazing Damage	0	No damage	
V1168	Windshield Cracked	0	No	more
V1169	Windshield Broken	8	Not applicable Click for Windshield Damage figure	<u>more</u>
V1170	Occupant Cracked/Broke Wndshld	8 Not applicable		<u>more</u>
V1171	Bond Separation Extent	0	None	<u>more</u>
V1172	Windshield Code	97	97 Click for Windshield Mark figure	
V1173	Did Sun Roof/T-Roof Open	8	Not Applicable	<u>more</u>

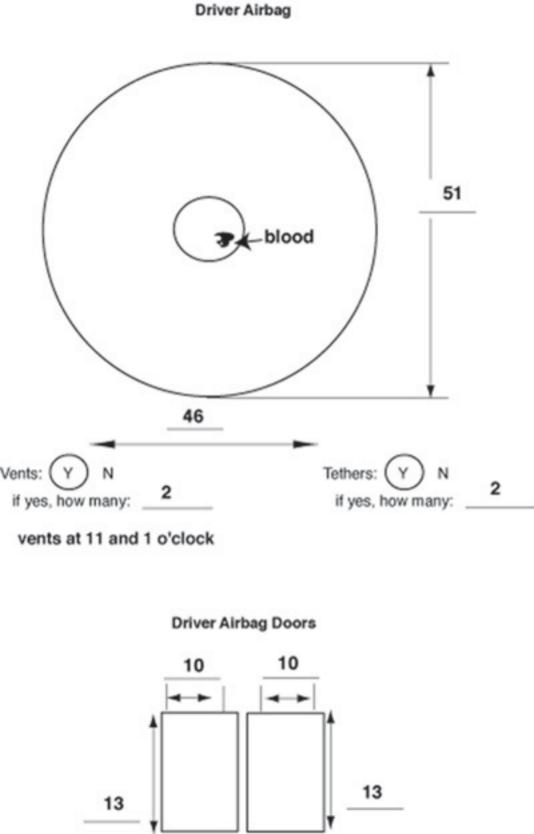
Case Vehicle Steering Column/Rim

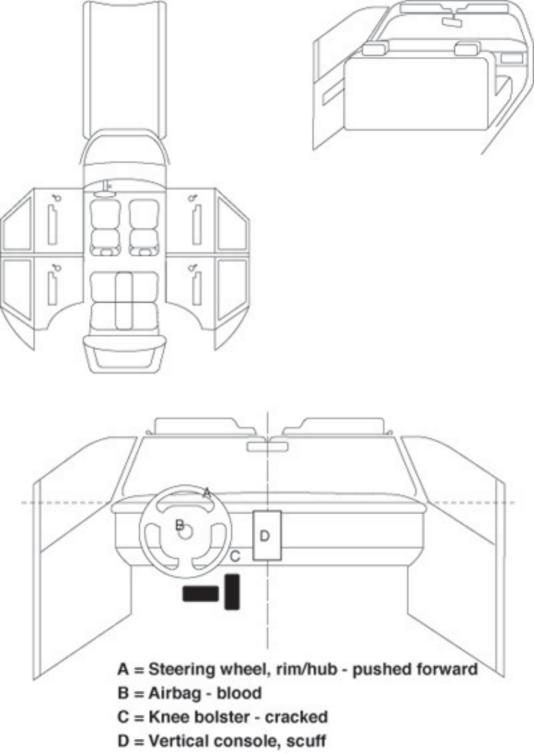
Variable Number	Variable Name	Code Value	Code Description		
V1201	Steering Wheel Rim Damage	1	Deformed slightly	more	
V1202	Number of Steering Wheel Spokes	4	4 spokes	more	
V1203	Steering Wheel Spoke Damage	0	0 None		
V1204	Steering Wheel Hub Damage	1	Occupant contact		
V1205	Steering Wheel Location of Rim Damage	2	Bottom half	more	
V1206	Aftermarket Add-on Device	0	None	more	
V1207	Column Tilt Feature	1	Yes, equipped	more	
V1208	Column Swing-away Feature	0	Not equipped	<u>more</u>	
V1209	Column Telescoping Feature	0	Not equipped	more	
V1210	Wheel Energy Absorb Device	8	Not currently collected		
V1211	Wheel EA Device's original/damage Dimension	888	Not collected	more	

	Difference			
V1212	Column Energy Absorb Device	88	Not collected	<u>more</u>
V1213	Col EA Device's Orig/compressed (or Extruded) Length Diff	888	Not collected	more
V1214	Shear Capsule Separation	888	Not collected	<u>more</u>
V1215	Column Vertical Rotation	0	No apparent rotation	more
V1216	Column Lateral Rotation	0	No apparent rotation	<u>more</u>

Case Vehicle Intrusion

Variable Number	Variable Name	Code Value	Code Description	Other Options
V1301	Was Occupant Compartment Intruded	0	No Click for Intrusion Worksheet figure Click for Intrusion figure	more
V1302	Was Intrusn Catastrophic	8	Not applicable	more
V1303	Intrusion #1	99	Unknown or data not collected	<u>more</u>
V1304	Occupant Space Number(1)	99	Unknown or data not collected	more
V1305	Intrud Component/obj (1)	99	Unknown or data not collected	<u>more</u>
V1306	Associate Event Numb (1)	9	Unknown or data not collected	<u>more</u>
V1307	Maximum Intrusion X Axis	99	Unknown or data not collected	more
V1308	Maximum Intrusion Y Axis	99	Unknown or data not collected	<u>more</u>
V1309	Maximum Intrusion Z Axis	99	Unknown or data not collected	<u>more</u>
V1310	Occupant Number #1 (1)	99	Unknown or data not collected	<u>more</u>
V1311	Injury Number #1 (1)	99	Contact, injury unknown or data not collected	<u>more</u>
V1312	Occupant Number #2 (1)	99	Unknown or data not collected	more
V1313	Injury Number #2 (1)	99	Contact, injury unknown or data not collected	
V1314	Intrusion Number #2	99	Unknown or data not collected	more





1 = Definitely 2 = Probably 3 = Possible

INTRUSION IT-1

		(All Me	(All Measurements Are in Centimeters)				Dominant
Location of Intrusion	Intruded Component	Comparison Value	-	Intruded Value	=	Intrusion	Crush Direction
none			_		=		
			_		=		
			_		=		
			_		=		
			_		=		
			-		=		
			-		=		
			-		=		
			-		=		
			-		=		
			_		=		
			_		=		
			_		=		

OCCUPANT CONTACT WORKSHEET

	la (ani an	0	Dark		Confidence
	Interior	Occupant	Body		Level of
	Component	No. if	Region		Contact
Contact	Contacted	Known	if Known	Supporting Physical Evidence	Point
Δ	Steering	1	Chest	Rim/Hub pushed forward	1
Α	wheel			·	
В	Driver airbag	1	Chest	Blood	1
С	Knee bolster	1	Knees	Cracked	1
D	Vertical	1	Right hand	Scuff	1
	console				
Е					
F					
G					
Н					
I					



WINDSHIELD MARK ON CASE VEHICLE:

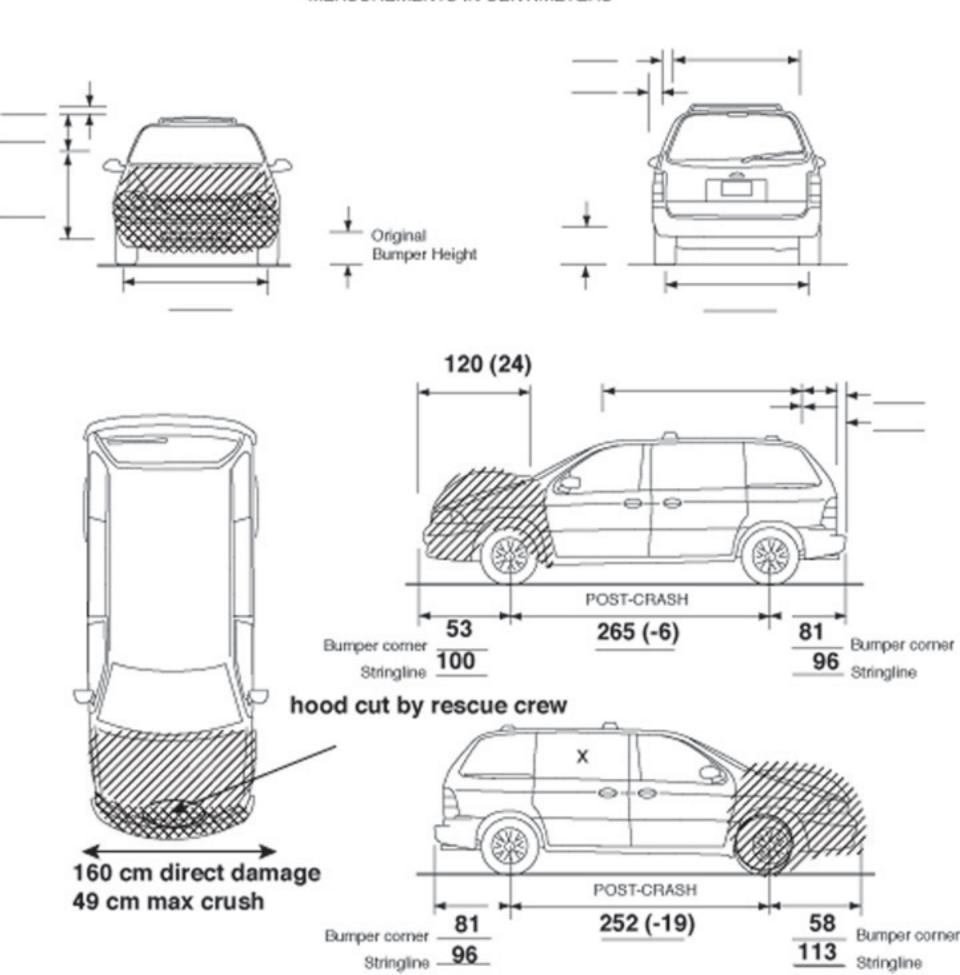
GM LAMINATED G2

DOT 376 AS1M334

TRANS. 70% MIN

AP TECHNOLOGY A22

3 . . .



Passenger Airbag 62 no contact marks 54 Vents: (Tethers: Y if yes, how many: if yes, how many: vents located at 9 and 3 o'clock

Passenger Airbag Doors

Single Door

