### Case 436: Narrative

Case Vehicle (A): 2002 Dodge	Vehicle (B): 1990 Buick
Type: Stratus SE Plus, 4-door sedan	Type: Century Custom, 4-door sedan
Driver: 14-year-old female	Driver: 22-year-old male
CDC: 12-FZEW-2	CDC: 99-0000-0

#### **SITUATION**

1 2 3 4 It was daylight and cloudy as case vehicle (A) was being driven south by a student driver at a driver-instructor-estimated speed of 45 mph (72 kph) in the inside southbound lane of an undivided four-lane, north-south road. The asphalt road surface was dry and the posted speed limit was 55 mph (89 kph). 5 6 7 Vehicle (B) was traveling east at an unknown speed in the left lane of a two-lane exit ramp from an east-west limited-access highway that intersects the north-south road from the west. 8 As case vehicle (A) approached the intersection, the driver of vehicle (B) began a left turn to travel north on the north-south road and vehicle (B) entered the southbound lanes. 9 The driver and right-front passenger of case vehicle (A) attempted to brake to avoid a collision but the front of case vehicle (A) struck the left-front corner of vehicle (B). Both vehicles were towed from the scene due to damage.

The police accident report (PAR) indicates B-level injuries for the driver and two passengers of case vehicle (A), who were transported by a private vehicle to a local clinic where they were treated and released. The PAR indicates B-level injuries for the driver of vehicle (B) but no medical information was available.

# GENERAL VEHICLE DAMAGE AND ESTIMATED CRASH SEVERITIES

10 Direct damage to case vehicle (A) began at the right-front bumper corner and extended 92-cm to the left, resulting in a 59-percent vehicle overlap (%VOL). The maximum rearward crush at bumper level was 44 cm, and it occurred 67-cm to the left of the right-front bumper corner.

Vehicle (B) was not available for inspection.

Using the missing-vehicle algorithm of the WinSMASH crash-reconstruction program and crush profiles 11 12 13 for case vehicle (A), the following impact severities were estimated:

		Estimated Velocity Change - kph (mph)			
Vehicle	Variable	Total	Longitudinal	Latitudinal	
Case Vehicle (A)	delta V	24 (15)	-24 (-15)	-4 (-3)	
Case Vehicle (B)	delta V	30 (18)	-28 (-17)	10 (6)	

### **DESCRIPTION OF DAMAGE TO CASE VEHICLE (A)**

#### **Exterior**

14 15 Direct damage to case vehicle (A) was to the front of the vehicle, which was crushed rearward. 16 17 The center-front area of the hood was crushed rearward into the radiator, 18 the hood latch was jammed, and 19 20 the left and right hood hinges were bent. 21 The bumper support was bent into the grille, the left headlight assembly was displaced to the left, and the right headlight was cracked. The center of the hood was bent rearward and up and 22 the rear edge of the hood was elevated but it did not contact the windshield. 23 24 25 The bumper cover was detached and deformed and there were several cracks in both bumper corners. There were also cracks in the right section of the grille and part of the grille on the right side was missing. 26 There was a spider-web crack in the right side of the windshield from internal contact by the deploying dash-mounted airbag.

27 28 29 30 31 32 33 There was no damage to the either side of the vehicle and there was no measurable change in either the left or right wheelbase. 34 There was no damage to the rear of case vehicle (A).

#### Interior

35 This vehicle was equipped with steering-wheel and dash-mounted frontal-impact airbags and both deployed during the frontal impact with vehicle (B). In the driver area, 36 there was no damage to the airbag or to the module cover but 42 43 there were grease stains on the center, upper-left, and lower-left regions of the airbag. 37 38 There was no damage to the steering-wheel rim and there was no rotation of the steering column, but 39 40 41 the steering wheel was rotated one hundred-eighty degrees and the steering-wheel hub was displaced at the left and right steering-wheel spokes. 44 There was no damage to the interior of the roof, to the windshield header, to the sunvisor, 45 to the interior trim of the left A-pillar, or 46 47 to the instrument panel, but 48 there were linear cracks in the windshield that originated in the right-front section. 49 50 There were numerous small scuffmarks and one large scuffmark on the driver knee bolster under the steering wheel. 44 51 52 There was no other damage in the driver area.

53 54 55 56 In the center-front area, the only damage was a series of linear and semi-circular cracks along the base of the windshield that originated in the right-front section of the windshield.

57 58 In the right-front seating area, there was a small tear in the lower-right quadrant of the deployed dash-mounted airbag, and 59 60 there was a small gash in the lower-right corner of the module cover. 61 There was a dense pattern of circular cracks in the windshield where it was contacted by the deploying airbag. 62 There was no damage to the roof interior, to the windshield header, to the sunvisor, or 63 to the interior trim of the right A-pillar. 64 The glove-box door was operational but there were numerous scuffmarks on the glove-compartment door and 65 there was a scuffmark on the right side of the floor console. 66 There was no damage to the seat head restraint, to the seatback or seat cushion, to the seat adjuster, 67 to the interior panel of the right-front door, or 68 to the right kick panel. The carpet in the right-front seating area had been cut to install the instructor brake mechanism, which was removed prior to inspection. A rearview mirror attached to the right section of the windshield for use by the driver instructor had also been removed prior to inspection.

69 70 71 72 There was no damage in the left-rear seating area. 69 73 74 75 There was also no damage in the center- or right-rear seating areas.

There were no intrusions of vehicle components into the seating areas of case vehicle (A).

#### **OCCUPANT KINEMATICS AND INJURIES**

44 The 160-cm, 45-kg (5-ft 3-in, 100-lb) 14-year-old female student driver was using the three-point-belt, the belt pretensioner was activated, and the steering-wheel airbag deployed in the frontal impact. 76 The Loading marks on the continuous loop of the latch plate confirm belt use by the driver.

During the frontal impact, the driver moved forward relative to the interior of the vehicle, into the three-point belt, the steering-wheel airbag, and the knee bolster. She sustained abrasions to both cheeks and the nose from contact by the deploying steering-wheel airbag. She sustained an abrasion to the right breast and a contusion to the center of the chest from loading by the shoulder belt. She sustained contusions to both knees 49 50 from contact with the knee bolster, as evidenced by scuffmarks.

66 The 183-cm, 91-kg (6-ft, 200-lb) 59-year-old male right-front passenger was using the three-point belt, the belt pretensioner was activated, and the dash-mounted airbag deployed. 78 79 80 Loading marks on the D-ring, on the continuous loop of the latch plate, and 81 82 on the belt tabs, confirm belt use by the right-front passenger. During the frontal impact, he moved forward relative to the interior of the vehicle, into the three-point belt, the dash-mounted airbag, and the knee bolster. He sustained an abrasion to the scalp on the right side near the hairline, possibly due to contact with the instructor rearview mirror mounted on the right side of the windshield. He sustained a contusion to the sternum and a contusion to the right side of the chest from loading by the shoulder belt. He sustained a contusion to the left side of the abdomen from loading by the lap belt.

69 The 168-cm, 57-kg (5-ft 6-in, 125-lb) 15-year-old female left-rear passenger was using the three-point belt. 83 84 85 Loading marks on the continuous loop of the latch plate and 81 82 on the belt tabs confirm belt use by the left-rear passenger. During the frontal impact, she moved forward relative to the interior of the vehicle, into the three-point belt and the back of the driver seat. She sustained abrasions to the left shoulder and to the left breast due to loading by the shoulder belt. She sustained contusions across the abdomen and an abrasion to the right hip due to loading by the lap belt. She sustained left and right ankle fractures in unspecified locations, probably from contact with the back of the driver seat. She sustained a lumbar strain, probably from non-contact impact forces.

The following tables and <u>86 87 88</u> attached drawings summarize the injuries sustained by the restrained occupants of case vehicle (A).

Occupant: Driver	Occupant: Driver Age: 14 ye		Gender	Gender: Female	
Restraints: 3-point belt with pretensioner; steering-wheel airbag Stature: 160 in)		0 cm (5 ft, 3	Mass:	45 kg (100	) lb)
Injury Description		A.I.S.	In	jury Sourc	ce
_			Definite	Probable	Possible
Abrasion, nose		1	Airbag		
Abrasion, left cheek	1	Airbag			
Abrasion, right cheek		1	Airbag		
Abrasion, right breast		1	Shoulder belt	_	
Contusion, center of chest		1	Shoulder belt	_	

Contusion, left knee	1	Knee bolster		
Contusion, right knee	1	Knee bolster		
Maximum A.I.S. Level	1		_	
Injury Severity Score	1			

Occupant: Right front	Age: 59	Age: 59 years		Gender: Male	
Restraints: 3-point belt with pretensioner; dash- mounted airbag	Stature: 183 cm (6 ft) Mass: 91 kg (200		200 lb)		
Injury Description		A.I.S.	-	Injury Sou	rce
_		—	Definite	Probable	Possible
Abrasion to scalp on right side near hairline		1	_	_	Driver- instructor rearview mirror on windshield
Contusion, sternum		1	Shoulder belt		
Contusion, right side of chest		1	Shoulder belt		_
Contusion, left side of abdomen		1	Lap belt		
Maximum A.I.S. Level		1			
Injury Severity Score		2			_

Occupant: Left rear	Age: 15 year	ge: 15 years		Gender: Female	
Restraints: 3-point belt	3-point belt Stature: 16 in)		8 cm (5 ft, 6 Mass: 57 kg (125 l		ilb)
Injury Description		A.I.S.	In	jury Sourc	ce
_	_	Definite	Probable	Possible	
Abrasion, left shoulder		1	Shoulder belt	_	
Abrasion, left breast		1	Shoulder belt	_	
Contusions, across abdomen		1	Lap belt		
Abrasion, right hip		1	Lap belt		
Fracture, left ankle, unspecified location		2	_	Back of driver	_

			seat	
Fracture, right ankle, unspecified location	2		Back of driver seat	
Strain, lumbar	1	_	Non- contact impact forces	
Maximum A.I.S. Level	2	_	_	
Injury Severity Score	6			

CASE NO.: 436

CASE VEHICLE: 2002 Dodge

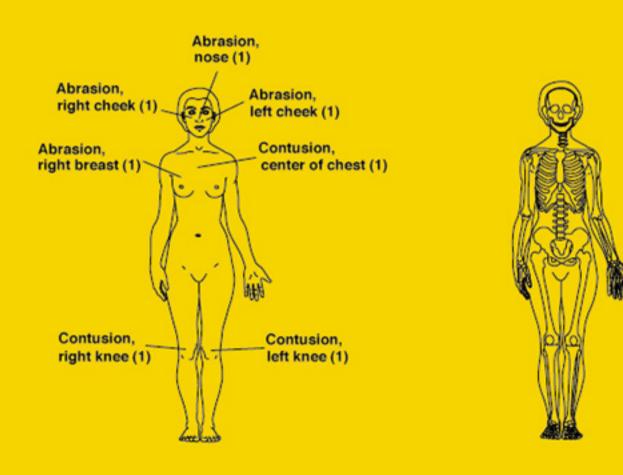
TYPE: Stratus SE Plus, 4-door sedan

OCCUPANT: (Driver) 14-year-old female

STATURE: 160 cm (5 ft, 3 in) MASS: 45 kg (100 lb)

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

MAIS - 1 ISS - 1 SEVERITY:

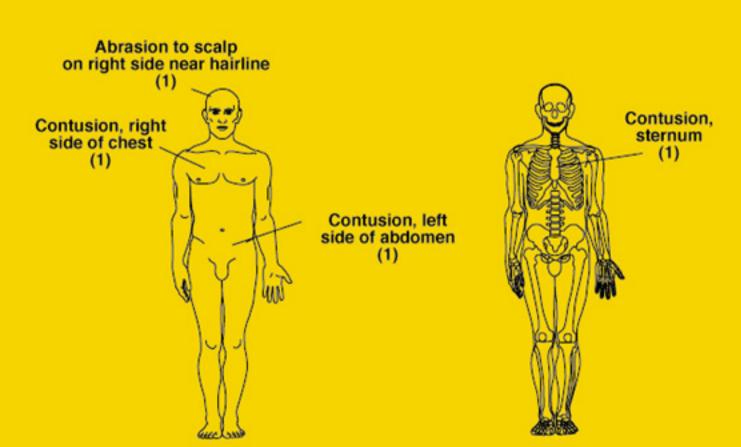


CASE NO.: 436 OCCUPANT: (Right front) 59-year-old male

CASE VEHICLE: 2002 Dodge STATURE: 183 cm (6 ft) MASS: 91 kg (200 lb)

RESTRAINTS: 3-point belt with pretensioner; dash-mounted airbag TYPE: Stratus SE Plus, 4-door sedan

MAIS - 1 ISS - 2 SEVERITY:



CASE NO.: 436

CASE VEHICLE: 2002 Dodge

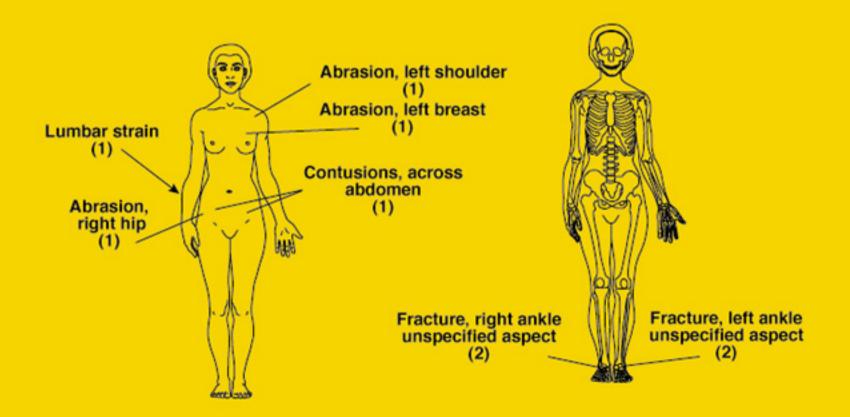
TYPE: Stratus SE Plus, 4-door sedan

OCCUPANT: (Left rear) 15-year-old female

STATURE: 168 cm (5 ft, 6 in) MASS: 57 kg (125 lb)

RESTRAINTS: 3-point belt

SEVERITY: MAIS - 2 ISS - 6



Case No.: 436

Case Vehicle (A): 2002 Dodge

Type: Stratus SE Plus, 4-door sedan

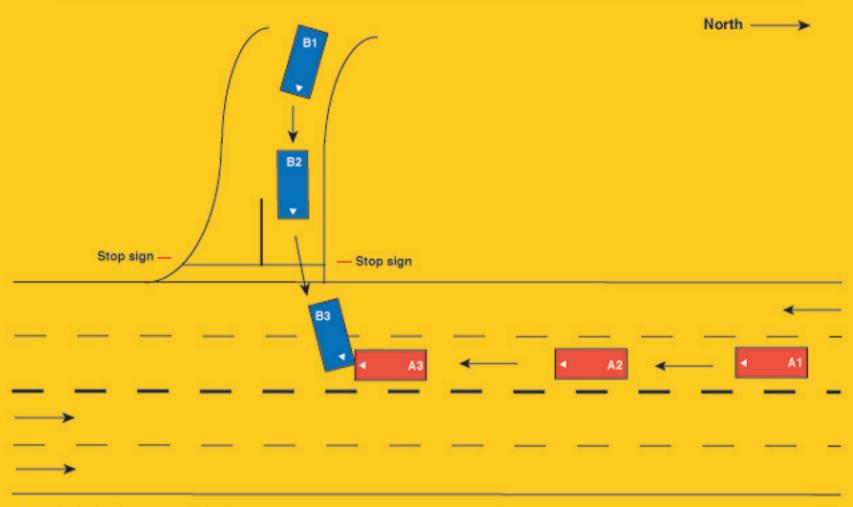
Driver: 14-year-old female

Vehicle (B): 1990 Buick Century Custom, 4-door sedan

Light Conditions: Daylight

Weather: Cloudy Road Surface: Dry

Road Construction: Asphalt



### Case # 436: 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

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Variable Number	Variable Name	Code Value	Code Description	Other Options
V0201	Collision Month	05	May	<u>more</u>
V0202	Collision Day	20	Actual day of the month	<u>more</u>
V0203	Collision Year	2004	2004	more
V0204	Collision Hour	0935	Time of day (24 hour clock)	<u>more</u>
V0205	State Fips Code	26	Michigan	more
V0206	Urban/rural Area	1	Urban	more
V0207	Limited Access Highway	0	No	more
V0208	Road Total Lanes	4	4 lanes or more	more
V0209	Intersect Road Total Lanes	2	2 lanes	more
V0210	Trafficway Flow	1 ()	Not physically divided - two way traffic	<u>more</u>
V0211	Road Surface Type	1	Asphalt	more

V0212	Road Defects	0	No	more
V0212	Construction Zone	0	No	more
V0213	Road Alignment Vertical Plane	1	Level	more
V0215	Road Alignment Horzontal Plane	1	Straight	more
V0216	Surface Covering	10	Dry	<u>more</u>
V0217	Visibility Limitation	0	None	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	6	16 to 25 C 60 to 77 F	more
V0223	Crosswind	9	Unknown	more
V0224	Light Conditions	1	Daylight	more
V0225	Mechanical Malfunction Mention	0	No	more
V0226	Case Vehicle And Object	0	No	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	1	Yes	more
V0233	Case Vehicle Preimpact Stability	1	Case vehicle tracking before impact	more
V0234	Case Vehicle Ran Off Roadway	0	No	more
V0235	Moving Case Vehicle Contacted Moving Vehicle	1	Yes	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	1	1 vehicle	more
V0239	Any Fire In Crash?	0	No	more
V0240	Maximum Police Severity-acc	2	B - Non-Incapacitating Injury	more

V0241	Driver Alcohol Involvmnt	0	Had not been drinking	<u>more</u>
V0242	Driver Alcohol BAC (Case Vehicle)	8.0	No test	more
V0243	Driver Impairment Mention	0	No	more
V0244	Driver Distraction	01	Attentive or not distracted	more
V0245	Driver Drug Involvement	0	None	more
V0246	Driver Drug Type	0	No drug use	<u>more</u>
V0247	Driven/towed From Scene	2	Towed Due to Damage	more

Other Vehicle Back to Top

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0301	Other Vehicle VIN	1G4AH54N4LXXXXXXX	Click for Contacted Vehicle figure	more
V0302	Other Vehicle Manufacturer/Body Code	11127		_
V0303	Other Vehicle Manufacturer	111	Buick	<u>more</u>
V0304	Other Vehicle Body Code	27	Compact 100-104.9 in. wb.	more
V0305	Other Vehicle Make/model	0422	Century	more
V0306	Other Vehicle Model Year	1990	Year	more
V0307	Other Vehicle Mass	001262 kg	Mass (Kg.)	<u>more</u>
V0308	Other Vehicle Number	0	No separate report	more
V0309	Other Vehicle Number of Occupants	01	number of occupants	more
V0310	Other Vehicle Traveling Speed	999	Unknown	more
V0311	Highest Police Injury Severity	2	B - Non-Incapacitating Injury	more
V0312	Other Vehicle Type	27	Compact 100-104.9 in. wb.	<u>more</u>
V0313	Other Vehicle Wheelbase in Centimeters	266 cm	Actual Wheelbase (cm)	more
V0314	Other Vehicle Average Track Width	148 cm	actual measurement (cm)	more
V0315	Other Vehicle Overall Length	480 cm	actual measurement (cm)	more

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V0316	Other Vehicle Overall Width (OAW)	176 cm	actual measurement (cm)	<u>more</u>
V0317	Other Vehicle Front Overhang	106 cm	actual measurement (cm)	<u>more</u>
V0318	Other Vehicle Rear Overhang	115 cm	actual measurement (cm)	more
V0319	Other Vehicle Undeformed End Width (UEW)	999	Unknown	more
V0320	Other Vehicle Engine Displacement	3.3 <i>l</i>	Liters	<u>more</u>
V0321	Other Vehicle Engine: Number of Cylinders	06	number of cylinders	more
V0322	Other Vehicle Direct Damage Length (DDL)	999	Unknown	<u>more</u>
V0323	Other Vehicle Front- End Overlap	99	Missing or Not applicable	<u>more</u>
V0324	Other Vehicle - Vehicle Overlap	99	Missing or Not applicable	<u>more</u>

**Case Vehicle General** 

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0401	VIN	1B3EL46R52XXXXXX	Click for Case Vehicle figure	<u>more</u>
V0402	Manufacturer/Body Code	13228	_	
V0403	Vehicle Manufacturer	132	Dodge	<u>more</u>
V0404	Vehicle Body Code	28	Intermediate 105-109.9 in. wb.	more
V0405	Make/model Code	0766	Stratus	<u>more</u>
V0406	Model Year	2002	Model year	<u>more</u>
V0407	Vehicle Mass	001452 kg	Mass (Kg)	<u>more</u>
V0408	Odometer Reading	071561	_	
V0409	Number of Occupants	03	3 occupants	<u>more</u>
V0410	Traveling Speed	072 kph	Speed (km/h)	<u>more</u>
V0411	Body Type	14	4-door sedan	<u>more</u>
V0412	Stolen Vehicle	8	Not currently collected	<u>more</u>
V0413	Body Structure	2	Unitized	<u>more</u>
V0414	Transmission Type	1	Automatic	<u>more</u>
V0415	Transmission Lever	2	Console	more

	Location			
V0416	Steering	1	Power	<u>more</u>
V0417	Brakes	1	Power	<u>more</u>
V0418	Brake Type	3	Disc - all wheels	<u>more</u>
V0419	Adjustable Pedals?	0	No	more
V0420	Brake Anti-lock Device	2	Four-wheel	more
V0421	Air Conditioning in Vehicle	8	Not currently collected	more
V0422	Drive Type	2	Front wheel	<u>more</u>
V0423	Dual Rear Wheels	0	No	<u>more</u>
V0424	Original Restraint System Type	3	Air bag	more
V0425	Equipped With Roll Bar	0	No	more
V0426	Roof Type	1	Solid	more
V0427	Case Vehicle Wheelbase in Centimeters	274 cm	Actual Wheelbase	more
V0428	Anti-lacerative Glass	8	Not Collected	<u>more</u>
V0429	Case Vehicle average track Width	153 cm	actual measurement (cm)	more
V0430	Case Vehicle Overall Length	486 cm	actual measurement (cm)	more
V0431	Case Vehicle Overall Width (OAW)	179	actual measurement (cm)	more
V0432	Case Vehicle Front Overhang	101 cm	actual measurement (cm)	more
V0433	Case Vehicle Rear Overhang	111 cm	actual measurement (cm)	more
V0434	Case Vehicle Undeformed End Width (UEW)	150 cm	actual measurement (cm)	more
V0435	Case Vehicle Engine Displacement	2.7 <i>l</i>	Liters	more
V0436	Case Vehicle Engine: Number of Cylinders	06	number of cylinders	more
V0437	Case Vehicle Direct Damage Length (DDL)	092 cm	actual measurement (cm)	more
V0438	Case Vehicle Front- end Overlap	61	percentage (%)	more
V0439	Case Vehicle - Vehicle	59	percentage (%)	more

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	Overlap				

### **Case Vehicle Damage Description**

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0501	Maximum Sheet Metal Crush - Front	044 cm	Depth of Crush (cm)	more
V0502	Maximum Sheet Metal Crush - Rear	000 cm	No Crush (or less than 1 cm.)	more
V0503	Maximum Sheet Metal Crush - Roof	000 cm	No Crush (or less than 1 cm.)	more
V0504	Maximum Sheet Metal Crush - Right Side	000 cm	No Crush (or less than 1 cm.)	more
V0505	Maximum Sheet Metal Crush - Left Side	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	1	On Roadway	<u>more</u>
V0509	Event 1 -Impact Configuration	13	FRONT of case veh - SIDE of contacted veh	<u>more</u>
V0510	Event 1 -Object/Vehicle Contactd	27	Compact 100-104.9 in. wb.	more
V0511	Event 2 -impact Location	8	No 2nd event	<u>more</u>
V0512	Event 2 -Impact Configuration	88	No 2nd event	more
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	more
V0516	Event 3 -Object/Vehicle Contactd	00	No object/vehicle contacted	<u>more</u>
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	<u>more</u>
V0521	Event 5 -Impact Configuration	88	No 5th event	more

V0522	Event 5 -Object/Vehicle Contactd	00	No object/vehicle contacted	more
V0523	Event 6 -impact Location	8	No 6th event	more
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
V0529	Primary CDC Case Vehicle - event Number	1	Event 1	more
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)	044	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	26	Z - Side or end $(B + P  or  R + C)$	more
V0536	Primary CDC Case Vehicle- Letter 3 #1	05	E - Everything below belt line	more
V0537	Primary CDC Case Vehicle- Letter 4 #1	23	W - Wide impact area	<u>more</u>
V0538	Primary CDC Case Vehicle - Extent #1	2		_
V0539	Primary CDC - Contacted Vehicles Assoc CDC - CDC #1	12FZEW2		
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	0.0	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	0		
V0546	Primary CDC - Case Vehicle Assoc CDC - CDC #2	9800000		
V0547	Primary CDC Contacted Vehicle - Impact Speed (kph)	999	Unknown	more
V0548	Primary CDC Contacted Vehicle-estimater	1	Investigator	more
V0549	Primary CDC Contacted Vehicle - Crush (CM)	999	Unknown	<u>more</u>
V0550	Primary CDC Contacted Vehicle-clock #1	99	Unknown or no damage	<u>more</u>
V0551	Primary CDC Contacted Vehicle-Letter 1 #1	00	Missing Data/Not applicable	<u>more</u>
V0552	Primary CDC Contacted Vehicle-Letter 2 #1	00	Missing Data/Not applicable	<u>more</u>
V0553	Primary CDC Contacted Vehicle-Letter 3 #1	00	Missing Data/Not applicable	<u>more</u>
V0554	Primary CDC Contacted Vehicle-Letter 4 #1	00	Missing Data/Not applicable	<u>more</u>
V0555	Primary CDC Contacted Vehicle - Extent #1	0	_	
V0556	primary CDC - Contacted Vehicles Assoc CDC - CDC #1	9900000		
V0557	Primary CDC Contacted Vehicle-clock #2	99	Unknown or no damage	more
V0558	Primary CDC Contacted Vehicle-Letter 1 #2	00	Missing Data/Not applicable	<u>more</u>
V0559	Primary CDC Contacted Vehicle-Letter 2 #2	00	Missing Data/Not applicable	<u>more</u>
V0560	Primary CDC Contacted Vehicle-Letter 3 #2	00	Missing Data/Not applicable	<u>more</u>
V0561	Primary CDC Contacted Vehicle-Letter 4 #2	00	Missing Data/Not applicable	<u>more</u>
V0562	Primary CDC Contacted Vehicle - Extent #2	0		
V0563	Primary CDC - Contacted Vehicles Assoc CDC - CDC #2	9900000		

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	<u>more</u>
V0568	Secondary CDC Case Vehicle-clock #1	98	Not Applicable	<u>more</u>
V0569	Secondary CDC Case Vehicle-Letter 1 #1	00	Missing Data/Not applicable	<u>more</u>
V0570	Secondary CDC Case Vehicle-Letter 2 #1	00	Missing Data/Not applicable	<u>more</u>
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	<u>more</u>
V0573	SECONDARY CDC CASE VEHICLE - EXTENT #1	0	_	
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	<u>more</u>
V0578	Secondary CDC Case Vehicle-Letter 3 #2	00	Missing Data/Not applicable	<u>more</u>
V0579	Secondary CDC Case Vehicle-Letter 4 #2	00	Missing Data/Not applicable	<u>more</u>
V0580	SECONDARY CDC CASE VEHICLE - EXTENT #2	0		_
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	<u>more</u>
V0586	Secondary CDC Contacted Vehicle-Letter 1 #1	00	Missing Data/Not applicable	<u>more</u>
V0587	Secondary CDC Contacted Vehicle-Letter 2 #1	00	Missing Data/Not applicable	<u>more</u>
V0588	Secondary CDC Contacted Vehicle-Letter 3 #1	00	Missing Data/Not applicable	<u>more</u>
V0589	Secondary CDC Contacted Vehicle-Letter 4 #1	00	Missing Data/Not applicable	<u>more</u>
V0590	Secondary CDC Contacted Vehicle - Extent #1	0		
V0591	Secondary CDC - Contacted Vehicle Assoc CDC - CDC #1	9800000	_	_
V0592	Secondary CDC Contacted Vehicle-clock #2	98	Not Applicable	more
V0593	Secondary CDC Contacted Vehicle-Letter 1 #2	00	Missing Data/Not applicable	more
V0594	Secondary CDC Contacted Vehicle-Letter 2 #2	00	Missing Data/Not applicable	more
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	0	_	
V0598	Secondary CDC - Contacted Vehicle Assoc CDC - CDC #2	9800000		

### **Crash Reconstruction**

Variable Number	Variable Name	Code Value	Code Description	Other Options
II VIIIII I	Primary Delta-V Case Vehicle-event #	1	Event number 1	<u>more</u>
	Primary Delta V Case Vehicle - Total Delta V	024 kph	kph	<u>more</u>
V0603	Primary delta-V Case	-024	_	

	Vehicle -LONGITUD			
V0604	Primary delta-V Case Vehicle-Lateral	-004		_
V0605	Primary Delta V Case Vehicle - Energy Dissipated by Crush (k	0049		_
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	030 kph	kph	more
V0609	Primary delta-V Contacted Vehicle-LONGITUD	-028		_
V0610	Primary delta-V Contacted Vehicle-Lateral	0010	_	_
V0611	Primary delta-V Contacted Vehicle - Energy Dissipated by Cru	0049		
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	more
V0618	Secondary Delta-V Case Vehicle- Mode	8	Not applicable	more
V0619	Secondary Delta V Contacted Vehicle - Total Delta V	888	Not applicable	more
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	more
V0624	Primary EBS Case Vehicle - Total EBS	024 kph	kph	more
V0625	Primary EBS Case Vehicle - LONGITUD	-024		_
V0626	Primary EBS Case Vehicle- Lateral	-004		
V0627	Primary EBS Case Vehicle - Energy Dissipated by Crush (kj)	0049		
V0628	Primary EBS Case Vehicle- Reconstruction	22	Reconstructed, moderate confidence level	more
V0629	Primary EBS Case Vehicle- Mode	2	CDC & detailed damage	more
V0630	Primary EBS Contacted Vehicle - Total EBS	030 kph	kph	more
V0631	Primary EBS Contacted Vehicle-LONGITUD	-028		_
V0632	Primary EBS Contacted Vehicle-Lateral	0010		
V0633	Primary EBS Contact Vehicle - Energy Dissipated by Crush (kj	0049		_
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	<u>more</u>
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	<u>more</u>
V0646	Plane of Impact Case Vehicle (1)	1	Bumper	<u>more</u>
V0647	Direct Damage Length (DDL) - Case Vehicle (1)	092 cm	cm	more
V0648	Direct Damage Maximum Crush - Case Vehicle (1)	044 cm	cm	<u>more</u>
V0649	Direct and Induced Damage Length in CM	094 cm	cm	more
V0650	Field C1 - Case Vehicle (1)	000 cm	No Crush	<u>more</u>
V0651	Field C2 - Case Vehicle (1)	013 cm	cm	more
V0652	Field C3 - Case Vehicle (1)	031 cm	cm	<u>more</u>
V0653	Field C4 - Case Vehicle (1)	041 cm	cm	more
V0654	Field C5 - Case Vehicle (1)	023 cm	cm	<u>more</u>
V0655	Field C6 - Case Vehicle (1)	006 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)	092 cm	cm	more
V0660	Direct Damage MaximumCrush - Case Vehicle (2)	044 cm	cm	more
V0661	Direct and Induced Damage Length in CM	094 cm	cm	more
V0662	Field C1 - Case Vehicle (2)	000 cm	No Crush	more
V0663	Field C2 - Case Vehicle (2)	013 cm	cm	more
V0664	Field C3 - Case Vehicle (2)	031 cm	cm	more
V0665	Field C4 - Case Vehicle (2)	041 cm	cm	more

V0666	Field C5 - Case Vehicle (2)	023 cm	cm	<u>more</u>
V0667	Field C6 - Case Vehicle (2)	006 cm	cm	more
V0668	Direct Damage D Value = The Center of Direct Damage Offset t	+000 cm	cm	more
V0669	Specific Event # Cont(1)	1	Event number 1	<u>more</u>
V0670	Plane of Impact Contacted Vehicle(1)	9	Unknown	more
V0671	Direct Damage Length (DDL) - Contacted Vehicle (1)	999	Unknown	<u>more</u>
V0672	Direct Damage Maximum Crush - Contacted Vehicle (1)	999	Unknown	more
V0673	Field L - Contacted Vehicle (1)	999	Unknown	more
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	more
V0680	Direct Damage D Value = The Center of Direct Damage Offset t	+999 cm	offset (cm)	more
V0681	Specific Event # Contacted Vehicle (2)	1	Event number	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	(2)	999	Unknown	<u>more</u>
V0687	Field C2 - Contacted Vehicle (2)	999	Unknown	more
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	more
V0692	Direct Damage D Value = The Center of Direct Damage Offset t	+999 cm	Offset (cm)	more

### Case Vehicle Tires & Rims

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0701	Left Front Wheel Damaged	0	No	<u>more</u>
V0702	Right Front Wheel Damaged	0	No	more
V0703	Right Rear Wheel Damaged	0	No	more
V0704	Left Rear Wheel Damaged	0	No	more
V0705	Left Front Tire Tread Type	4	All Weather	<u>more</u>
V0706	Right Front Tire Tread Type	4	All Weather	more
V0707	Right Rear Tire Tread Type	4	All Weather	<u>more</u>
V0708	Left Rear Tire Tread Type	4	All Weather	<u>more</u>
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	more
V0717	Left Front Tire Condition Postcrash	0	Normal - no damage to tire	more
V0718	Right Front Tire Condition Postcrash	0	Normal - no damage to tire	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	<u>more</u>
V0725	Left Front Tire Size	P205165R15		
V0726	Right Front Tire Size	P205165R15	_	
V0727	Right Rear Tire Size	P205165R15	_	
V0728	Left Rear Tire Size	P205165R15	_	
V0729	Left Front Tire Pressure (recorded in PSI)	35.0 psi	actual tire pressure in PSI	more
V0730	Right Front Tire Pressure (recorded in PSI)	21.0 psi	actual Tire pressure in PSI	more
V0731	Right Rear Tire Pressure (recorded in PSI)	31.0 psi	actual Tire pressure in PSI	more
V0732	Left Rear Tire Pressure (recorded in PSI)	35.5 psi	actual Tire pressure in PSI	more
V0733	Left Front Tread Depth	05	05/32"	more
V0734	Right Front Tread Depth	06	06/32"	more
V0735	Right Rear Tread Depth	05	05/32"	more
V0736	Left Rear Tread Depth	09	09/32"	more

Case Vehicle Fuel Tank

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0801	Propulsive Fuel Type	1	Gasoline	more

V0802	Main Tank Location	222	Within frame/centered laterally - within vertica	more
V0803	Main Filler Cap Location	113	Left of frame laterally - above vertically	<u>more</u>
V0804	Main Tank Material	1	Steel	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	more

### Case Vehicle Fuel Leakage

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Variable Number	Variable Name	Code Value	Code Description	Other Options
V0901	Fuel Leakage From Crash	0	No	<u>more</u>

### **Case Vehicle Fire**

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Variable Number	Variable Name	Code Value	Code Description	Other Options
V1001	Fire In Or On Case Vehicle	0	No	more

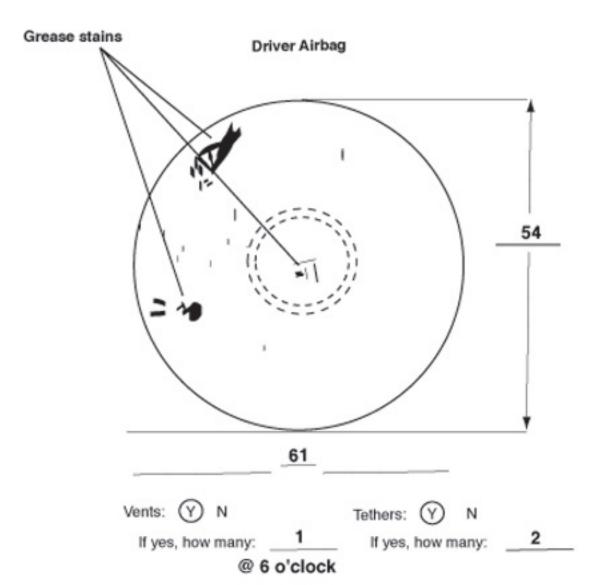
### **Case Vehicle Exterior**

Variable Number	Variable Name	Code Value	Code Description	Other Options
V1101	Hood Latch Released	0	No	<u>more</u>
V1102	Hood Latch Damaged	1	Yes	more
V1103	Hood Latch Jammed	1	Yes	<u>more</u>
V1104	Left Hood Hinge Damaged	1	Yes	<u>more</u>
V1105	Left Hood Hinge Separated	0	No	<u>more</u>
V1106	Right Hood Hinge Damaged	1	Yes	<u>more</u>
V1107	Right Hood Hinge Separated	0	No	more
V1108	Hood Remained On Vehicle	1	Yes	<u>more</u>
V1109	Rear Hood Edge Elevated	1	Yes	more
V1110	Edge Contacted Windshield	0	No	<u>more</u>
V1111	Edge Penetrated Windshield	8	Not applicable	more
V1112	Hood Latch Location	1	Front of Vehicle	more

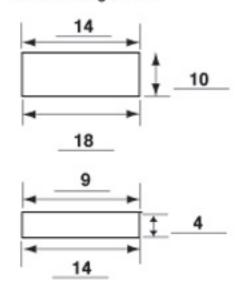
V1113	Eng/transmissn Mount Separated	0	No	more
V1114	Steering Column Flex Couplng	9	Unknown if equipped	more
V1115	Steering Column Coupling Dam	9	Unknown	more
V1116	Steering Column Coupling Separated	9	Unknown	more
V1117	Eng Comp Telescopng Unit	88	Not currently collected	more
V1118	Compartment Unit's 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	8	Not applicable (not equipped)	more
V1127	Lower Left D-pillar Sep	8	Not applicable (not equipped)	more
V1128	Left Front Door Opening Cause	00	Door did not open	more
V1129	Left Rear Door Opening Cause	00	Door did not open	more
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	Closed	more
V1135	Lr2 Glazing Availability	0	No glazing present	more
V1136	Left Front Glazing Damage	0	No damage	more
V1137	Left Rear Glazing Damage	0	No damage	more
V1138	Lr2 Glazing Damage	8	Not Applicable (No Door)	more
V1139	Rear Door Type	0	No door (includes pickups)	more
V1140	Rear Door Opening Cause	8	Not applicable (no rear door)	more

V1141	Rear Door Jammed Closed	8	Not applicable (no rear door)	more
V1142	Rear Glazng Availability	8	Not Applicable (No Door)	more
V1143	Rear Glazing Damage	8	Not Applicable (No Door)	<u>more</u>
V1144	Luggage Partition Damaged	0	No	<u>more</u>
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	<u>more</u>
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	more
V1154	Lower Right C-pillar Separated	0	No	more
V1155	Upper Right D-pillar Separated	8	Not applicable (not equipped)	<u>more</u>
V1156	Lower Right D-pillar Separated	8	Not applicable (not equipped)	more
V1157	Right Front Door Opening Cause	00	Door did not open	more
V1158	Right Rear Door Opening Cause	00	Door did not open	more
V1159	Right Front Door Jammed Closed	0	No	more
V1160	Right Rear Door Jammed Closed	0	No	more
V1161	Van Right-rear Door Type	8	Not applicable (not a van)	more
V1162	Right Front Glazing Availability	2	Closed	more
V1163	Right Rear Glazing Availability	2	Closed	more
V1164	Rr2 Glazing Availability	0	No glazing present	more
V1165	Right Front Glazing Damage	0	No damage	more
V1166	Right Rear Glazing Damage	0	No damage	more
V1167	Rr2 Glazing Damage	8	Not Applicable (No Door)	more

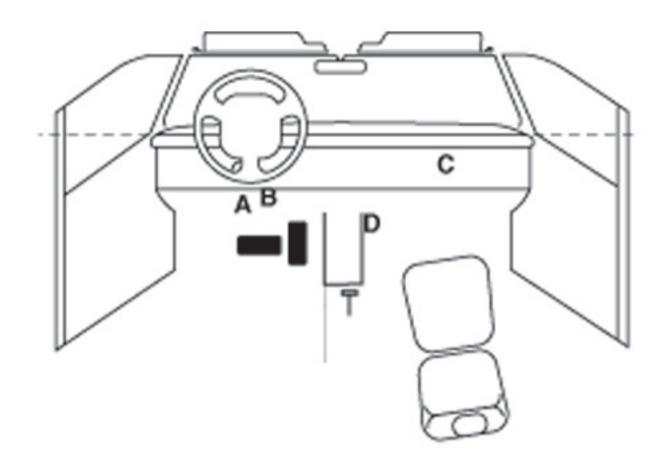
V1168	Windshield Cracked	1	Yes	more
V1169	Windshield Broken	U	No Click for Windshield Damage figure	more
V1170	Occupant Cracked/Broke Wndshld	0	No	more
V1171	Bond Separation Extent	0	None	more
V1172	Windshield Code	97	Click for Windshield Mark figure	<u>more</u>
V1173	Did Sun Roof/T-Roof Open	8	Not Applicable	more



### **Driver Airbag Doors**



H-Pattern



A= Knee bolster, scuffmark

B= Knee bolster, scuffmark

C= Glovebox, numerous scuffmarks

D= Floor console, scuffmark

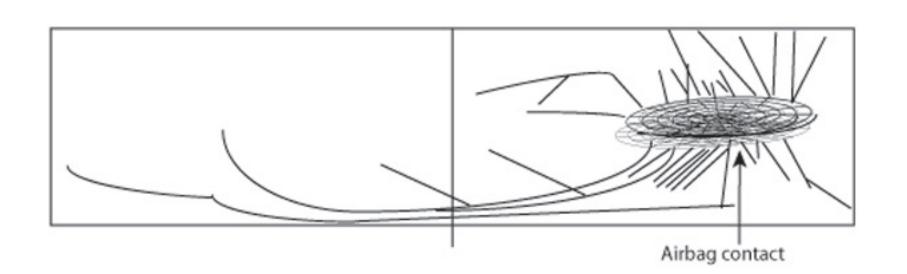
#### 1 = Definitely 2 = Probably 3 = Possible

## NO INTRUSION IT-1

		(All Me	Dominant				
Location of Intrusion	Intruded Component	Comparison Value	-	Intruded Value	=	Intrusion	Crush Direction
11							
11							
11							
11							
11							
11							
11							
11							
12							
12							
13							
13							
13							

#### OCCUPANT CONTACT WORKSHEET

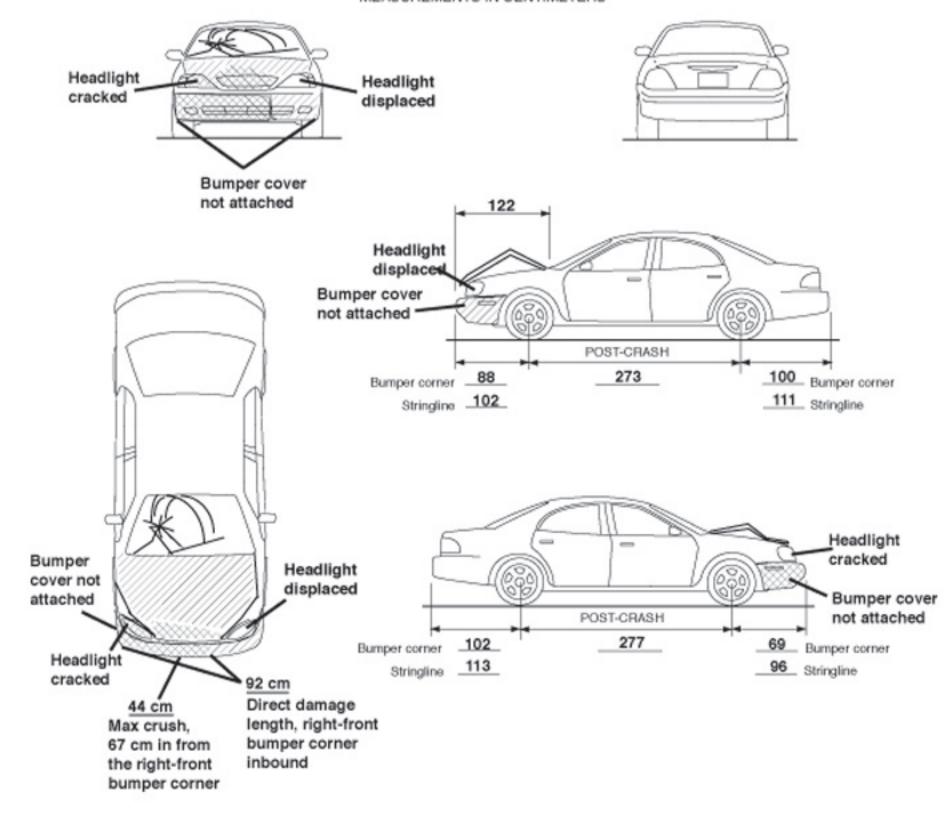
	Interior Component	Occupant No. if	Body Region		Confidence Level of Contact
Contact	Contacted	Known	if Known	Supporting Physical Evidence	Point
А	Knee bolster	1	Lx	Scuffmark	2
В	Knee bolster	1	Lx	Scuffmark	2
С	Glovebox	2	Unk	Numerous scuffmarks	3
D	Floor console	2	Unk	Scuffmark	3
Е					
F					
G					
Н					
I					
J					
K					
L					
М					



# WINDSHIELD MARK ON CASE VEHICLE:

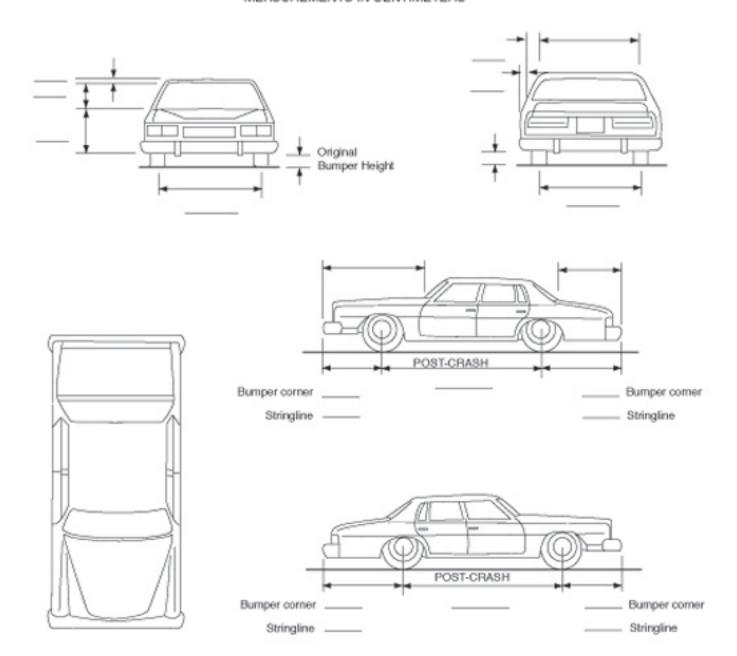


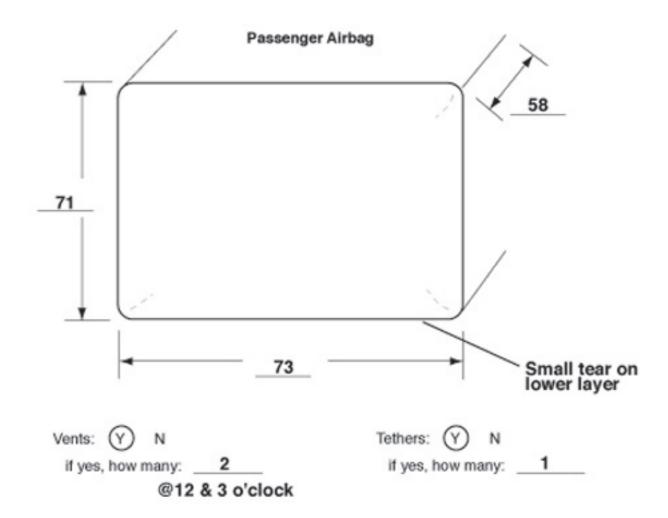
#### MEASUREMENTS IN CENTIMETERS



#### VEHICLE (B) NOT INSPECTED

MEASUREMENTS IN CENTIMETERS





## Passenger Airbag Door

