# Case 439 : Narrative

Case Vehicle (A): 2002 Ford Type: Escape XLT, 4-door SUV Driver: 21-year-old male

CDC: 12-FYEW-4

This was a fatal crash. The unbelted driver of case vehicle (A) died of a cardiac tamponade due to laceration of the left ventricle in a severe frontal crash.

# SITUATION

<u>1</u> <u>2</u> On a cloudy night, case vehicle (A) was traveling west at an unknown speed on a two-way, two-lane, dirt road, in a rural area. The road surface was snow-covered, it was dark and unlighted, and the speed limit was 55 mph (89 kph). <u>3</u> Following a slight curve to the left, <u>4</u> <u>5</u> the road straightened out and case vehicle (A) exited the right edge of the road. <u>6</u> It continued traveling west off the road for approximately eleven meters until it <u>7</u> struck a 100-cm diameter tree with the front end. The driver had been drinking prior to the crash and his blood alcohol level was .18 percent. The vehicle was towed from the scene due to damage. The police accident report indicates K-level injuries for the driver of case vehicle (A), who died at the scene from a ruptured left ventricle.

# GENERAL VEHICLE DAMAGE AND ESTIMATED CRASH SEVERITIES

<u>8</u> Damage to the front of case vehicle (A) from impact with the tree was severe, with a significant amount of rearward crush to the left and center sections of the front end. <u>9</u> Direct damage began at the left-front bumper corner and extended 100-cm to the right, resulting in a 62-percent vehicle overlap (% VOL). <u>10</u> The maximum rearward crush was 87 cm and it occurred 31-cm to the right of the left-front bumper corner.

Using the WinSMASH crash-reconstruction program and crush profiles measured for <u>11 12 13 14 15</u> case vehicle (A), the following impact severity was estimated for the frontal impact with the tree:

		Estimated Velocity Change - kph (mph)				
Vehicle	Variable	Total Longitudinal Latitudinal				
Case vehicle (A)	delta V	77 (48) -77 (-48) 0 (0)				

# DESCRIPTION OF DAMAGE TO CASE VEHICLE (A)

### Exterior

<u>16</u> In the front, the left and center sections of the bumper and the grille were crushed rearward into the engine compartment  $\underline{17}$  and the right section of the bumper cover was pulled out. <u>18</u> Both headlight

assemblies were damaged and the headlamps were shattered. <u>19</u> The hood was crushed rearward and pushed up, and the right side of the hood was displaced to the left. The damaged hood latch had released, <u>20</u> the right-hood hinge was bent up, <u>21</u> and the left-hood hinge was bent up and to the rear, allowing the rear edge of the hood to elevate and contact and crack the left and center sections of the windshield. <u>22</u> There was a hole in the plastic interlayer on the right side of the windshield, and cracks radiated across the entire windshield. <u>23</u> <u>24</u> A fire started in the engine compartment, which burned and melted some of the engine components and <u>25</u> the center section of the windshield.

26 On the left side, the fender was badly crumpled and separated from its attachments, and 27 it was pushed rearward into the left-front wheel, which was turned sideways and pushed into the lower section of the A-pillar, resulting in a 65-cm reduction in the left wheelbase. 28 The upper section of the left A-pillar was displaced rearward into a vertical orientation, 29 which caused remote buckling of the roof above the driver door. The sunroof frame was slightly deformed but the sunroof glass was not broken. 30 The lower section of the A-pillar was pushed rearward into the front edge of the driver door and the door was buckled. 31 The upper and lower sections of the B-pillar were deformed and had been cut to extricate the driver. 32 Both left-side doors were jammed closed and the windows were shattered, but the driver door had been opened 33 and the left-rear door had been removed to extricate the driver. 34 There was no damage to the side panel behind the left-rear door and the door glass was intact. There was no damage to the left D-pillar <u>35</u> or to the left-rear wheel.

<u>36 37</u> On the right side, the fender was deformed and pulled to the left <u>38 39 40 41</u> but there was no other damage. <u>42</u> There was also no damage to the rear of case vehicle (A).

#### Interior

43 This vehicle was equipped with steering-wheel and 44 dash-mounted frontal-impact airbags, and both deployed during the frontal impact. 45 In the driver area, the roof and roof moldings were buckled, 46 the headliner fabric was crumpled, 47 the left A-pillar was displaced rearward, and the grab handle on the left A-pillar was bent. The fabric cover of the sunroof was slightly displaced but there was no damage to the driver sunvisor.  $\frac{48}{10}$  There was no damage to the steering-wheel airbag  $\frac{49}{10}$  but there were bloodstains on the right side of the fabric. 50 51 52 The bottom half of the steering-wheel rim and the spokes were severely bent and deflected forward, 53 54 55 the steering assembly/column was displaced rearward, the steering column was rotated up and to the left, and <u>56 57</u> there were scuffmarks on the underside of the steering column. 58 59 The instrument panel was displaced rearward and the upper and mid sections were damaged. The vent outlets and ducts were also damaged. 60 The knee bolster was damaged, <u>61</u> the left section was separated from its attachments, and there were dents and scuffmarks on the left and 62 right sides of the bolster cover. 63 64 The toepan and floor were displaced rearward, 65the brake pedal was bent to the left and displaced rearward, 66 and the accelerator pedal was displaced to the right. Also, the kickpanel and parking brake pedal were displaced to the right. 67 68 The driver door, the door hardware, and the door armrest were damaged, and the interior door panel was separated from its attachments. 69 There was no damage to the driver seat but the manual seat adjuster was jammed.

<u>70</u> In the center-front area, there was no damage to the roof or to the windshield header, but <u>71</u> the rearview mirror was separated from its attachment to the windshield and it was not in the vehicle. <u>72</u> The vertical console cover was separated from its upper attachments and displaced rearward, and the floor was displaced rearward. <u>73</u> The center armrest between the seats was twisted due to console damage.

 $\underline{74}$  In the right-front seating area,  $\underline{77}$  the instrument panel and glove compartment were deformed, the

glove-compartment door would not close, and  $\frac{78}{18}$  the toepan/floor was displaced rearward. There was no damage to the roof, to the windshield header, or to the right A-pillar, and  $\frac{75}{15}$  there was no damage to the deployed dash-mounted airbag or  $\frac{76}{16}$  to the airbag module cover.

Location	Component	Distance (cm)	Direction
	toepan/floor	44	to rear
	A-pillar	32	to rear
driver	instrument panel	30	to rear
	kickpanel	17	to right
	steering column	15	to rear
aantan fuant	instrument panel	15	to rear
center front	floor	21	to rear
right front	toepan/floor	21	to rear

The following intrusions were noted and measured:

# **OCCUPANT KINEMATICS AND INJURIES**

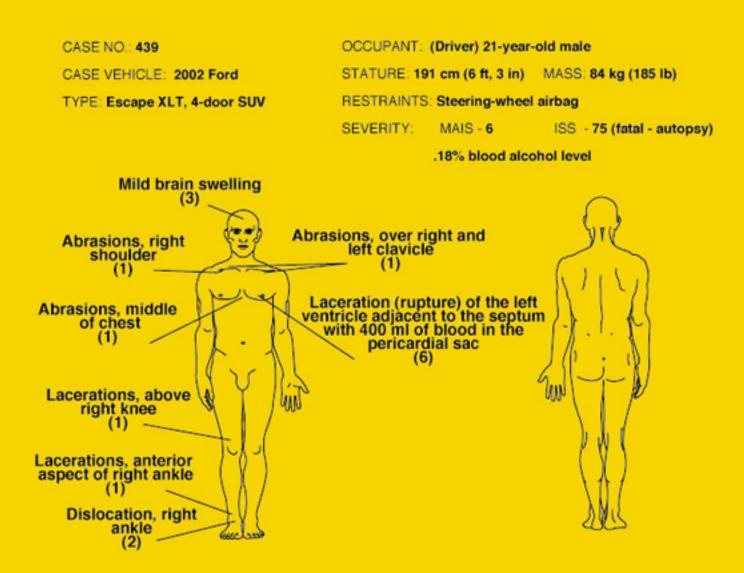
59 The 191-cm, 84-kg (6-ft 3-in, 185-lb) 21-year-old male driver was not using the available three-point belt and the steering-wheel airbag deployed during the frontal impact with the tree. 79 80 There was no evidence of belt use on the webbing or the D-ring, and the belt was jammed in the B-pillar retractor when the rescue crew cut the pillar.

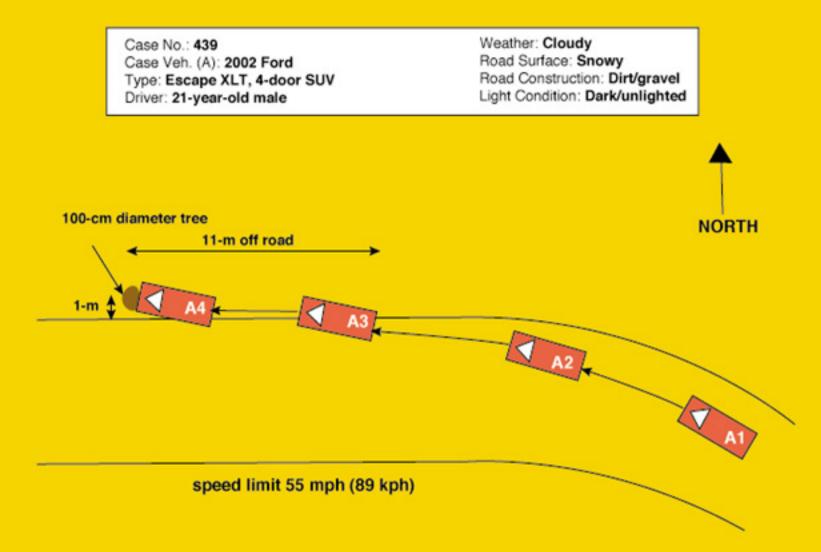
58 During the frontal impact, the driver moved forward relative to the vehicle interior, into and through the airbag, and into the steering wheel and knee bolster. He sustained mild brain swelling, probably from contact with an unknown part of the vehicle interior, although no external head or face injuries were noted. He sustained a laceration (rupture) to the left ventricle adjacent to the septum resulting in 400 ml of blood in the pericardial sac and death at the scene, probably from contact with the steering wheel through the deployed airbag, 50 51 52 53 54 55 as evidenced by severe deformation to the lower half of the steering-wheel rim and damage to the two lower spokes. He sustained abrasions to the middle of the chest, to the right shoulder, and over the left and right clavicles, 50 51 52 53 54 55 probably from contact with the steering wheel through the airbag. He sustained lacerations above the right knee, probably from contact with the knee bolster or the steering column, 56 57 62 as evidenced by damage and scuffmarks to the right side of the bolster cover and scuffmarks on the underside of the steering column. He sustained lacerations to the anterior aspect of the right ankle, probably from contact with the toepan but possibly from contact with the pedals, 63 64 65 66 as evidenced by displacement of, and damage to, the floor and pedals.

The following table and attached drawing  $\underline{81}$  summarize the injuries for the driver.

Occupant: Driver	Age: 21 years	Gender: Male
	Stature: 191 cm (6 ft, 3	

Restraints: Steering-wheel airbag	in)		Mass: 84 kg (18	85 lb)
Injury Description	A.I.S.		Injury Source	
		Definite	Probable	Possible
Mild brain swelling	3		Unknown interior component	
Laceration (rupture) of the left ventricle adjacent to the septum with 400 ml of blood in the pericardial sac	6		Steering wheel thru airbag	
Abrasions, middle of chest	1		Steering wheel thru airbag	
Abrasions, right shoulder	1		Steering wheel thru airbag	
Abrasions, over left clavicle	1		Steering wheel thru airbag	
Abrasions, over right clavicle	1		Steering wheel thru airbag	
Lacerations, above right knee	1		Knee bolster; steering column	
Lacerations, anterior aspect of right ankle	1		Pedals	
Dislocation, right ankle	2		Toepan	Pedals
Maximum A.I.S. Level	6			
Injury Severity Score	75	Fatal - autopsy		
.18% blood alcohol level				





# **UM-4250: 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
- <u>Case Vehicle Airbag(s)</u>
- Case Vehicle Interior
- Case Vehicle Seats
- <u>Case Vehicle Side Airbag(s)</u>
- EDR -- Event Data Recorder

#### **General Information**

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0204	Collision Hour	2139	Time of day (24 hour clock)	more
V0205	State Fips Code	26	Michigan	more
V0206	Urban/rural Area	2	Rural	more
V0207	Limited Access Highway	0	No	more
V0208	Road Total Lanes	2	2 lanes	more
V0209	Intersect Road Total Lanes	8	Not applicable	more
V0210	Trafficway Flow	0	Not physically divided - two way traffic	more
V0211	Road Surface Type	3	Gravel	more
V0212	Road Defects	0	No	more
V0213	Construction Zone	0	No	more
	Road Alignment Vertical			

V0214	Plane	1	Level	more
V0215	Road Alignment Horzontal Plane	2	Curve	more
V0216	Surface Covering	39	Snow - condition unknown	more
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	9	Unknown	more
V0223	Crosswind	9	Unknown	more
V0224	Light Conditions	5	Dark, unlighted	more
V0225	Mechanical Malfunction Mention	0	No	more
V0226	Case Vehicle And Object	4	Yes, 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	9	Case vehicle pre-impact stability unknown	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?	1	Yes	more
V0240	Maximum Police Severity- acc	4	K - Fatal	more
V0241	Driver Alcohol Involvmnt	1	Had been drinking	more
V0242	Driver Alcohol BAC (Case Vehicle)	0.18	Actual BAC	more
V0243	Driver Impairment Mention	1	Yes	more

<u> </u>	11		1	
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	more

## **Other Vehicle**

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0301	Other Vehicle VIN	0 XXXXXXX	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	00	Year	more
V0307	Other Vehicle Mass	000000 kg	No Other Vehicle	more
V0308	Other Vehicle Number	8	No other vehicle	more
V0309	Other Vehicle Number of Occupants	98	No Other Vehicle	more
V0310	Other Vehicle Traveling Speed	990	No Other Vehicle	more
V0311	Highest Police Injury Severity	8	No Other Vehicle	more
V0312	Other Vehicle Type	98	No Other Vehicle	more
V0313	Other Vehicle Wheelbase in Centimeters	998	No Other Vehicle	more
V0314	Other Vehicle Average Track Width	998	No Other Vehicle	more
V0315	Other Vehicle Overall Length	998	No Other Vehicle	more
V0316	Other Vehicle Overall Width (OAW)	998	No Other Vehicle	more
V0317	Other Vehicle Front Overhang	998	No Other Vehicle	more
V0318	Other Vehicle Rear Overhang	998	No Other Vehicle	more
V0319	Other Vehicle Undeformed End Width (UEW)	998	No Other Vehicle	more

VII5/11	Other Vehicle Engine Displacement	0.0 <i>l</i>	No Other Vehicle	more
	Other Vehicle Engine: Number of Cylinders	98	No Other Vehicle	more
V0322	Other Vehicle Direct Damage Length (DDL)	998	No Other Vehicle	more
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	1FMYU04172XXXXXX	Click for Case Vehicle figure	more
V0402	Manufacturer/Body Code	12114		
V0403	Vehicle Manufacturer	121	Ford	more
V0404	Vehicle Body Code	14	Short wheelbase utility vehicle (Jeep, Bronco)	more
V0405	Make/model Code	3135	Escape (SUV)	more
V0406	Model Year	2002	Model year	more
V0407	Vehicle Mass	001526 kg	Mass (Kg)	more
V0408	Odometer Reading	888888		
V0409	Number of Occupants	01	1 occupant	more
V0410	Traveling Speed	999	Unknown	more
V0411	Body Type	21	Small utility (e.g. Jeep, Scout, Bronco)	more
V0412	Stolen Vehicle	8	Not currently collected	more
V0413	Body Structure	2	Unitized	more
V0414	Transmission Type	1	Automatic	more
V0415	Transmission Lever Location	3	Column	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	3	Four wheel	more
V0423	Dual Rear Wheels	0	No	more
V0424	Original Restraint System Type	3	Air bag	more
V0425	Equipped With Roll Bar	0	No	more
V0426	Roof Type	4	Sun roof closed	more
V0427	Case Vehicle Wheelbase in Centimeters	262 cm	Actual Wheelbase	more
V0428	Anti-lacerative Glass	8	Not Collected	more
V0429	Case Vehicle average track Width	154 cm	actual measurement (cm)	more
V0430	Case Vehicle Overall Length	439 cm	actual measurement (cm)	more
V0431	Case Vehicle Overall Width (OAW)	178	actual measurement (cm)	more
V0432	Case Vehicle Front Overhang	085 cm	actual measurement (cm)	more
V0433	Case Vehicle Rear Overhang	092 cm	actual measurement (cm)	more
V0434	Case Vehicle Undeformed End Width (UEW)	156 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	more
V0437	Case Vehicle Direct Damage Length (DDL)	100 cm	actual measurement (cm)	more
V0438	Case Vehicle Front- end Overlap	64	percentage (%)	more
V0439	Case Vehicle - Vehicle Overlap	62	percentage (%)	more

Case Vehicle Damage Description

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0501	Maximum Sheet Metal	087 cm	Depth of Crush (cm)	more

	Crush - Front			
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	more
V0508	Event 1 -impact Location	3	On Roadside	more
V0509	Event 1 -Impact Configuration	17	FRONT of case veh - object	more
V0510	Event 1 -Object/Vehicle Contactd	77	Sign post, utility pole, tree	more
V0511	Event 2 -impact Location	8	No 2nd event	more
V0512	Event 2 -Impact Configuration	88	No 2nd event	more
V0513	Event 2 -Object/Vehicle Contactd	00	No object/vehicle contacted	more
V0514	Event 3 -impact Location	8	No 3rd event	more
V0515	Event 3 -Impact Configuration	88	No 3rd event	more
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	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)	087	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	25	Y - Side or end $(F + P \text{ or } L + C)$	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	more
V0538	Primary CDC Case Vehicle - Extent #1	4		
V0539	Primary CDC - Contacted Vehicles Assoc CDC - CDC #1	12FYEW4		
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	0		
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 Vehicle-clock #1	98	Not Applicable	more
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	0		
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	0		
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
	Secondary CDC Case			

V0567	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	more
V0572	Secondary CDC Case Vehicle-Letter 4 #1	00	Missing Data/Not applicable	more
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	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	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	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	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
V0601	Primary Delta-V Case Vehicle-event #	1	Event number 1	more
V0602	Primary Delta V Case Vehicle - Total Delta V	077 kph	kph	more
V0603	Primary delta-V Case Vehicle -LONGITUD	-077		
V0604	Primary delta-V Case Vehicle-Lateral	0000		
	Primary Delta V Case Vehicle - Energy Dissipated by Crush (k	0412		
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		
V0611	Primary delta-V Contacted 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	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	077 kph	kph	more
V0625	Primary EBS Case Vehicle - LONGITUD	-077		

V0626	Primary EBS Case Vehicle- Lateral	0000		
V0627	Primary EBS Case Vehicle - Energy Dissipated by Crush (kj)	0412		
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	888	Not Applicable	more
V0631	Primary EBS Contacted Vehicle-LONGITUD	8888		_
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)	100 cm	cm	more
V0648	Direct Damage Maximum Crush - Case Vehicle (1)	087 cm	cm	more
V0649	Direct and Induced Damage Length in CM	156 cm	cm	more
V0650	Field C1 - Case Vehicle (1)	078 cm	cm	more
V0651	Field C2 - Case Vehicle (1)	087 cm	cm	more
V0652	Field C3 - Case Vehicle (1)	083 cm	cm	more
V0653	Field C4 - Case Vehicle (1)	077 cm	cm	more
V0654	Field C5 - Case Vehicle (1)	062 cm	cm	more
V0655	Field C6 - Case Vehicle (1)	003 cm	cm	more
V0656	Direct Damage D Value = The Center of Direct Damage Offset t	-028 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)	100 cm	cm	more
V0660	Direct Damage MaximumCrush - Case Vehicle (2)	087 cm	cm	more
V0661	Direct and Induced Damage Length in CM	156 cm	cm	more
V0662	Field C1 - Case Vehicle (2)	078 cm	cm	more
V0663	Field C2 - Case Vehicle (2)	087 cm	cm	more
V0664	Field C3 - Case Vehicle (2)	083 cm	cm	more
V0665	Field C4 - Case Vehicle (2)	077 cm	cm	more
V0666	Field C5 - Case Vehicle (2)	062 cm	cm	more
V0667	Field C6 - Case Vehicle (2)	003 cm	cm	more
V0668	Direct Damage D Value = The Center of Direct Damage Offset t	-028 cm	cm	more
V0669	Specific Event # Cont(1)	9	Unknown	more
V0670	Plane of Impact Contacted Vehicle(1)	9	Unknown	more
	Direct Damage Length			

V0671	(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	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	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	more
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	9999	Offset (cm)	more

## Case Vehicle Tires & Rims

Variable Number	Variable Name	Code Value	Code Description	Other Options
V0701	Left Front Wheel Damaged	1	Yes	more
V0702	Right Front Wheel Damaged	1	Yes	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	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	more
V0717	Left Front Tire Condition Postcrash	3	Sidewall cut, tear, or other sidewall damage	more
V0718	Right Front Tire Condition Postcrash	8	Other	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	more
V0723	Right Rear Tire Involvement	0	No	more
V0724	Left Rear Tire Involvement	0	No	more
V0725	Left Front Tire Size	P23570R16		
V0726	Right Front Tire Size	P23570R16		
V0727	Right Rear Tire Size	P23570R16		
V0728	Left Rear Tire Size	P23570R16		
V0729	Left Front Tire Pressure (recorded in psi)	01.0 psi	Actual tire pressure in psi	more
V0730	Right Front Tire Pressure (recorded in psi)	00.0 psi	Actual tire pressure in psi	more
V0731	Right Rear Tire Pressure (recorded in psi)	27.5 psi	Actual tire pressure in psi	more
V0732	Left Rear Tire Pressure (recorded in psi)	26.5 psi	Actual tire pressure in psi	more
V0733	Left Front Tread Depth	07	07/32"	more
V0734	Right Front Tread Depth	06	06/32"	more
V0735	Right Rear Tread Depth	07	07/32"	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	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	more

# Case Vehicle Fuel Leakage

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

**Case Vehicle Fire** 

Variable	Code	Code Description	Other
Number Variable Name	Value		Options
V1001 Fire In Or On Case Vehicle	1	Yes	more

**Case Vehicle Exterior** 

Variable Number	Variable Name	Code Value	Code Description	Other Options
V1101	Hood Latch Released	1	Yes	more
V1102	Hood Latch Damaged	1	Yes	more
V1103	Hood Latch Jammed	0	No	more
V1104	Left Hood Hinge Damaged	1	Yes	more
V1105	Left Hood Hinge Separated	0	No	more
V1106	Right Hood Hinge Damaged	1	Yes	more
V1107	Right Hood Hinge Separated	0	No	more
V1108	Hood Remained On Vehicle	1	Yes	more
V1109	Rear Hood Edge Elevated	1	Yes	more
V1110	Edge Contacted Windshield	1	Yes	more
V1111	Edge Penetrated Windshield	1	Yes	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	888	Not currently collected	more

Back to Top

Back to Top

	Difference			
V1119	Left Side Body Mount Separated	8	Not applicable (unitized)	more
V1120	Upper Left A-pillar Sep	4	No separation, but damaged	more
V1121	Lower Left A-pillar Sep	4	No separation, but damaged	more
V1122	Upper Left B-pillar Sep	4	No separation, but damaged	more
V1123	Lower Left B-pillar Sep	4	No separation, but damaged	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	more
V1130	Left Front Door Jammed Closed	1	Yes	more
V1131	Left Rear Door Jammed Closed	1	Yes	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	1	Fixed	more
V1136	Left Front Glazing Damage	1	Shattered	more
V1137	Left Rear Glazing Damage	1	Shattered	more
V1138	Lr2 Glazing Damage	0	No damage	more
V1139	Rear Door Type	2	One-way tailgate	more
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	3	Bumper and frame (but non-equalizing)	more
V1147	Trailer Type	0	No trailer	more
V1148	Rght Side Body Mount Separated	8	Not applicable (unitized)	more
	Upper Right A-pillar			

V1149	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	more
V1154	Lower Right C-pillar Separated	0	No	more
V1155	Upper Right D-pillar Separated	0	No	more
V1156	Lower Right D-pillar Separated	0	No	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	1	Fixed	more
V1165	Right Front Glazing Damage	0	No damage	more
V1166	Right Rear Glazing Damage	0	No damage	more
V1167	Rr2 Glazing Damage	0	No damage	more
V1168	Windshield Cracked	1	Yes	more
V1169	Windshield Broken	1	Yes Click for Windshield Damage figure	more
V1170	Occupant Cracked/Broke Wndshld	0	No	more
V1171	Bond Separation Extent	0	None	more
V1172	Windshield Code	99	Click for Windshield Mark figure	more
V1173	Did Sun Roof/T-Roof Open	1	Yes	more

Case Vehicle Steering Column/Rim

Variable Number	Variable Name	Code Value	Code Description	Other Options
V1201	Steering Wheel Rim Damage	2	Severely bent	more
V1202	Number of Steering Wheel Spokes	4	4 spokes	more
V1203	Steering Wheel Spoke Damage	2	Severely bent	more
V1204	Steering Wheel Hub Damage	1	Occupant contact	more
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	more
V1209	Column Telescoping Feature	0	Not equipped	more
V1210	Wheel Energy Absorb Device	8	Not currently collected	more
V1211	Wheel EA Device's original/damage Dimension Difference	888	Not collected	more
V1212	Column Energy Absorb Device	88	Not collected	more
V1213	Col EA Device's Orig/compressed (or Extruded) Length Diff	888	Not collected	more
V1214	Shear Capsule Separation	888	Not collected	more
V1215	Column Vertical Rotation	1	Upward apparent rotation	more
V1216	Column Lateral Rotation	1	Left apparent rotation	more

#### **Case Vehicle Intrusion**

Variable Number	Variable Name	Code Value	Code Description	Other Options
	Was Occupant Compartment Intruded	1	Yes Click for Intrusion Worksheet figure Click for Intrusion figure	more
V1302	Was Intrusn Catastrophic	0	No	more
V1303	Intrusion Number #1	01	Intrusion #1	more
V1304	Occupant Space Number(1)	11	First row, Left seat	more
V1305	Intrud Component/obj (1)	03	Toe pan	more
V1306	Associate Event Numb (1)	1	Event #1	more
V1307	Maximum Intrusion X Axis	44 cm	Intrusion (cm)	more

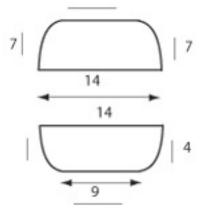
V1308	Maximum Intrusion Y Axis	00 cm	0 cm or No Intrusion	more
V1309	Maximum Intrusion Z Axis	00 cm	0 cm or No Intrusion	more
V1310	Occupant Number #1 (1)	01	Occupant number 1, contact	more

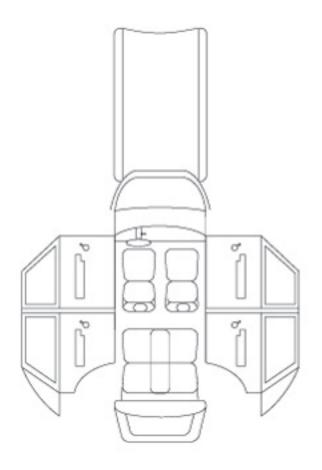
#### Airbag Number: 520 3141 00D REV D03 U204 DAB FCEMYGL2BRF

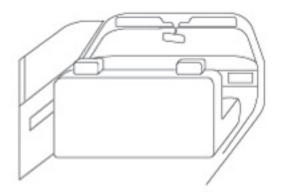
Vents: Y N if yes, how many: 2 vents at 11 and 1 o'clock

**Driver Airbag** 

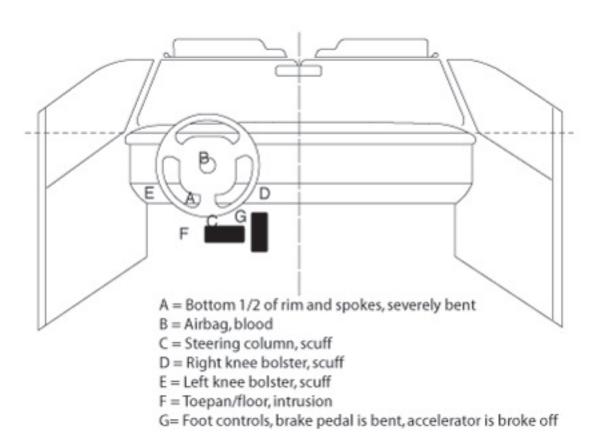
**Driver Airbag Doors** 





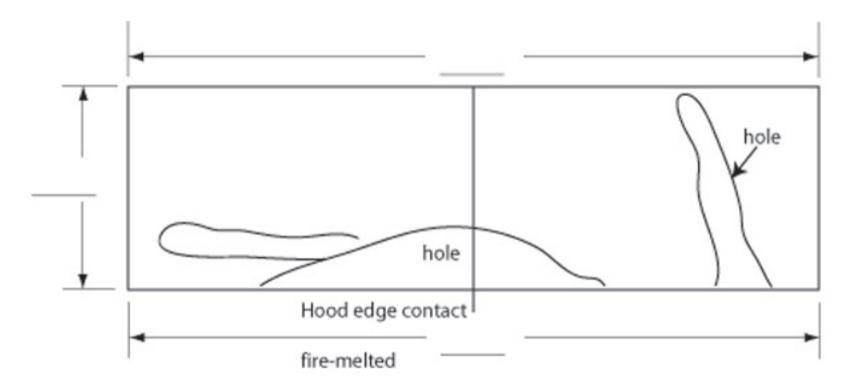


no evidence of belt use



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

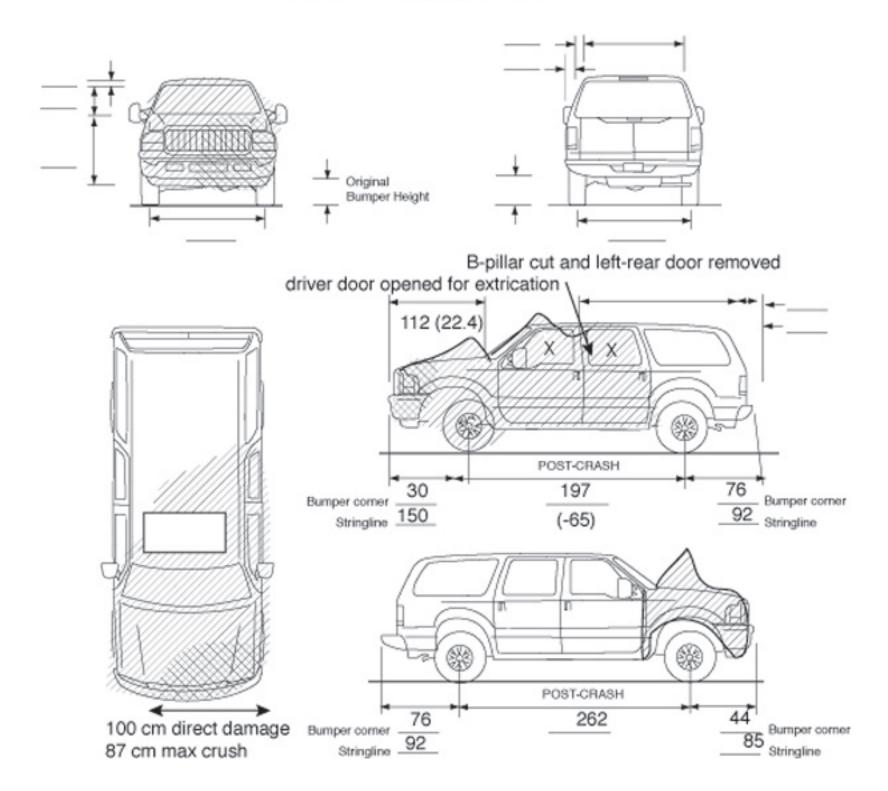
#### **INTRUSION IT-1** (All Measurements Are in Centimeters) Dominant Location of Comparison Intruded Crush \_ = Intruded Component Direction Intrusion Value Value Intrusion Toepan/floor 11 142 98 44 To rear \_ = 11 A-pillar 178 146 32 To rear \_ = 11 Instrument panel 158 128 30 To rear \_ = 11 Kickpanel 55 17 To right 38 \_ = 11 Steering wheel 150 135 15 To rear = 12 Floor 142 121 21 To rear \_ = 12 Instrument panel 158 143 15 To rear \_ = 13 Toepan/floor 142 121 21 To rear \_ = \_ = \_ = OCCUPANT CONTACT WORKSHEET Confidence Interior Occupant Body Level of No. if Region Component Contact Contacted Known if Known Supporting Physical Evidence Point Contact Bottom half of rim is severely bent Chest Steering 1 1 А wheel spokes are bent rim/spokes 1 Chest 1 Airbag Blood В 1 Knee Scuff Steering 1 С column 1 Knee 1 **Right knee** Scuff D bolster 1 1 Left knee Knee Scuff Е bolster F Toepan/floor 1 Feet Intrusion 1 1 2 Foot Feet Brake pedal is bent, G controls accelarator pedal is broke off Н



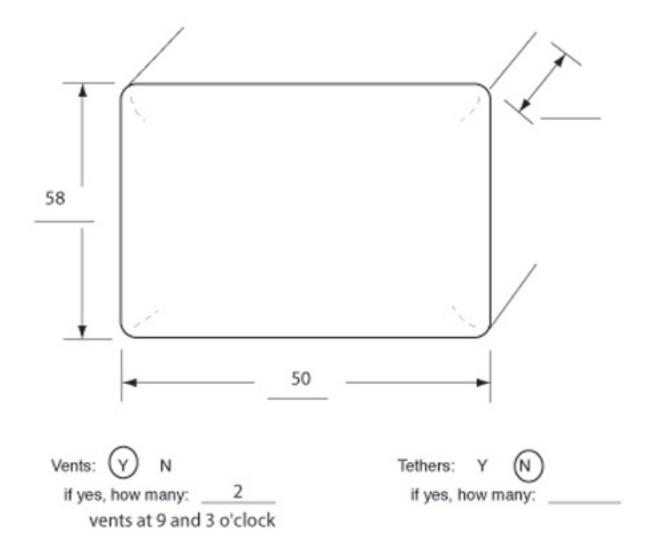
# WINDSHIELD MARK ON CASE VEHICLE:

unknown

#### MEASUREMENTS IN CENTIMETERS



Passenger Airbag



#### Passenger Airbag Doors

Single Door

