

Remote Investigation/Vehicle to Vehicle to Vehicle/ Front to Right-front to Right-side
Dynamic Science, Inc. / Case Number:DS9801
1998 Chevrolet Lumina
Washington
January, 1998

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15. Supplemental Notes This case was initiated in response to a reported depowered airbag deployment crash.					
16. Abstract <p>This collision occurred in Washington in January, 1998 at 1650 hours. The accident location was within a four-leg intersection. The road surface was dry and free of apparent defects. Traffic at the intersection was controlled by properly functioning tri-color traffic signals</p> <p>Vehicle 1, a 1998 Chevrolet Lumina four-door rental unit, driven by a 48 year-old female, was traveling southbound, approaching the intersection. Vehicle 2, a 1994 Ford Aspire two-door driven by a 25 year-old male, was traveling westbound, also approaching the intersection. A 30-year-old female pedestrian was walking eastbound on a sidewalk on the southern side of the western leg of the intersection.</p> <p>Witnesses stated that the driver of Vehicle 2 failed to stop at a red traffic light and entered the intersection from the north. The front of Vehicle 2 struck the front-left of Vehicle 1 in a right-angle impact configuration. After the initial collision, Vehicle 1 rotated clockwise and Vehicle 2 rotated counterclockwise and the left-rear door of Vehicle 1 sideslapped the right-rear of Vehicle 2. Following the second impact, Vehicle 2 traveled off the south edge of the street and struck the pedestrian, knocked her to the ground and came to rest.</p> <p>The air bags in Vehicle 1 deployed as a result of the initial impact with Vehicle 2. The driver of the case vehicle stated that she and the front-right occupant, a 19 year-old female (not listed on the police accident report) were not injured in the crash. The police accident report indicated that the driver of Vehicle 2 suffered no apparent injuries. The pedestrian was treated at the scene for minor injuries and soreness and released. Vehicle 1 sustained light damage (11FLEW1) with a longitudinal delta V of approximately 9.6 km/h (6.0 MPH) from the initial impact with Vehicle 2. Both vehicles were towed from the crash site.</p>					
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The crash investigation process is an inexact science which requires that physical evidence such as skid marks, vehicular damage measurements, and occupant contact points be coupled with the investigator's expert knowledge and experience of vehicle dynamics and occupant kinematics in order to determine the pre-crash, crash, and post-crash movements of involved vehicles and occupants.

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

Dynamic Science, Inc.
Crash Investigation
Case Number: DS9801

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BACKGROUND:

Description: This case was initiated in response to a report of a depowered air-bag deployment crash.

Investigation Type: Remote

Crash Location: Washington

Crash Date: January 1998

Notification Date: January 7, 1998

SUMMARY:

This collision occurred in Washington in January, 1998 at 1650 hours. The accident location was within a four-leg intersection. The road surface was dry and free of apparent defects. Traffic at the intersection was controlled by properly functioning tri-color traffic signals

Vehicle 1, a 1998 Chevrolet Lumina four-door rental unit, driven by a 48 year-old female, was traveling southbound, approaching the intersection. Vehicle 2, a 1994 Ford Aspire two-door driven by a 25 year-old male, was traveling westbound, also approaching the intersection. A 30-year-old female pedestrian was walking eastbound on a sidewalk on the southern side of the western leg of the intersection.

Witnesses stated that the driver of Vehicle 2 failed to stop at a red traffic light and entered the intersection from the north. The front of Vehicle 2 struck the front-left of Vehicle 1 in a right-angle impact configuration. After the initial collision, Vehicle 1 rotated clockwise and Vehicle 2 rotated counterclockwise and the left-rear door of Vehicle 1 sideslapped the right-rear of Vehicle 2. Following the second impact, Vehicle 2 traveled off the south edge of the street and struck the pedestrian, knocked her to the ground and came to rest.

The air bags in Vehicle 1 deployed as a result of the initial impact with Vehicle 2. The driver of the case vehicle stated that she and the front-right occupant, a 19 year-old female (not listed on the police accident report) were not injured in the crash. The police accident report indicated that the driver of Vehicle 2 suffered no apparent injuries. The pedestrian was treated at the scene for minor injuries and soreness and released. Vehicle 1 sustained light damage (11FLEW1) with a longitudinal delta V of approximately 9.6 km/h (6.0 MPH) from the initial impact with Vehicle 2. Both vehicles were towed from the crash site.

DETAILED INFORMATION**VEHICLES****Vehicle 1**

Description:	1998 Chevrolet Lumina	
VIN:	2G1WL52M3W1*****	
Odometer:	4519 km (2808 miles)	
Engine:	6 cyl 3.1L	
Reported Defects:	None	
Cargo:	None known	
Damage Description:	Damage to front-left of vehicle from initial impact. Components included bumper, grille, hood, lamp assemblies, etc. Damage to left-rear door from secondary impact.	
CDC:	11-FLEW-1	
Delta V (ROLDMISS Routine):	Total	10.2 km/h (6.3 mph)
	Longitudinal	-9.6 km/h (-5.9 mph)
	Lateral	3.5 km/h (2.2 mph)
	Energy	6,613. Joules (4881 ft lbs.)

This vehicle is equipped with bucket seats in the front and a bench seat in the rear. From insurance photos, the front seats appear to be slightly reclined and undamaged. There did not appear to be any integrity loss or intrusions to the vehicle interior.

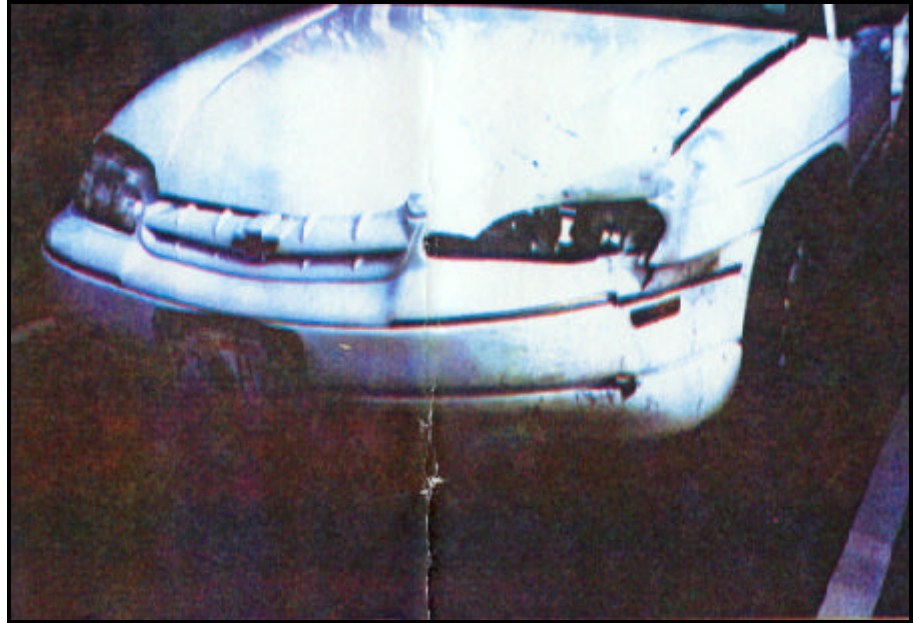


Figure 1. Vehicle 1, front view.



Figure 2. Vehicle 1, left side view.

Vehicle 2

Description: 1994 Ford Aspire
VIN: KNJLT05H3R6*****
Odometer: Unknown
Engine: 4 cyl. 1.3L
Reported Defects: None
Cargo: None known
Damage Description: Unknown, towed from scene.

CDC: Unknown

Delta V
(ROLDMISS Routine):

Total	16.1 km/h (10 mph)
Longitudinal	-5.5 km/h (-3.4 mph)
Lateral	-15.1 km/h (-9.4 mph)
Energy	12,436. Joules (9179 ft lbs.)

No photos were available of this vehicle.

OCCUPANTS**Vehicle 1**

	DRIVER	OCCUPANT #2
Age/Sex:	48/female	19/female
Seated Position:	Front-left	Front-right
Seat Type:	Bucket	Bucket
Height:	157 cm (62 in.)	163 cm (64 in.)
Weight:	63 kg (139 lbs.)	56 kg (123 lbs.)
Occupation:	Unknown	Student
Pre-existing Medical Condition:	None	None
Alcohol/Drug Involvement:	None	None
Driving Experience:	Unknown	N/A
Body Posture:	Normal upright	Normal upright
Hand Position:	Both on steering wheel	Unknown
Foot Position:	On floor and foot controls	On floor
Restraint Usage:	Lap and shoulder belt used	Lap and shoulder belt used

INJURIES AND INJURY CAUSING MECHANISMS**Vehicle 1**

	<u>INJURY</u>	<u>OIC CODE</u>	<u>ICD-9</u>	<u>SOURCE</u>
Driver	Not injured			
Occupant #2	Not injured			

OCCUPANT KINEMATICS:

The driver and front-right passenger were seated in normal upright positions and moved forward and slightly to the left in relation to the vehicle and struck the deploying airbags. The driver stated that they suffered no injuries in the crash.

Diagram

