



U.S. Department  
of Transportation

**National Highway  
Traffic Safety  
Administration**

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

Dear Crash Data Researchers/Users:

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

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

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

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AUTO SAFETY HOTLINE  
(800) 424-9393  
Wash. D.C. Area 366-0123

[REDACTED], INC.

AIRBAG INVESTIGATION

CASE NO. 92-07

[REDACTED], MONTANA

TECHNICAL REPORT

[REDACTED], INC.

[REDACTED]  
[REDACTED]

AIRBAG INVESTIGATION

CASE NO. 92-07

[REDACTED], MONTANA

Contract No. DTHN 22-87-C-17169

Prepared for:

U.S. Department of Transportation  
National Highway Traffic Safety Administration  
Washington, D.C. 20590

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## SUMMARY

This study is a Level One Remote investigation of an airbag deployment accident. The NCSI In-depth accident investigation team was notified of this crash on [REDACTED] 1992 by [REDACTED] of NHTSA.

The accident occurred on [REDACTED], 1992 on a residential street in [REDACTED], Montana. The vehicles involved were a 1992 Plymouth Sundance equipped with a driver's side airbag supplemental restraint system and a 1989 Subaru GL station wagon. The accident was investigated on-site by the [REDACTED] County Sheriff's Department.

According to the police accident report, the Sundance was traveling north on [REDACTED] Avenue and had turned east on to [REDACTED] Street. After turning east, the report stated that the driver of the Sundance apparently "blacked out" and lost control of her vehicle and struck the rear of the Subaru, which was parked near the south edge of [REDACTED] Street, also headed east. From police photographs supplied by the driver of the Sundance, it appears that the front-left and front-center of the Sundance impacted the back-left and back-center of the Subaru. The force direction was estimated to be 12 o'clock (360 degrees) for the Sundance and 6 o'clock (190 degrees) for the Subaru. Maximum residual crush to the Sundance appeared to be less than 6 inches at the front-left bumper corner. Maximum residual crush to the Subaru appeared to be approximately 6 to 8 inches at the back-left corner above the bumper. From the photos, it appears that the Front bumper of the Sundance overrode the back bumper of the Subaru.

The driver of the Sundance indicated that she was unsure if the airbag deployed at the time of the crash or prior to impact of the Sundance with the Subaru. She stated that there was no unusual warning lamp illumination or flashing prior to the accident. Post-crash diagnostic analysis of the airbag system by Chrysler service personnel indicated no stored system faults and that the deployment was the result of a collision.

The driver of the Sundance was properly restrained by the active three-point lap and shoulder belt system of the vehicle. She is approximately 62 inches tall and weighs approximately 125 pounds. Her seat was near the most forward position in the seat tracks at the time of the accident. She suffered abrasions to the front of her neck and left side of her face from striking the deployed airbag. She stated that her left jaw and neck were swollen on the day following the accident. The hearing in both of her ears was muffled after the accident, and approximately one and one-half months after the accident, the hearing in her left ear was still muffled and she continued to suffer ringing and popping noises in this ear. At the time of this report, she has apparently completely recovered from her injuries. The Subaru was unoccupied at the time of the accident.

NCSI IN-DEPTH ACCIDENT INVESTIGATION  
AIRBAG ACCIDENT INVESTIGATION

FLEET - Private Owner  
LOCATION - [REDACTED], Montana  
CASE NO. - 92-07

IDENTIFICATION

Location/Street: [REDACTED] Street, approximately 55 feet east of [REDACTED]  
Area/Type: Rural  
Accident Date/Time: [REDACTED] 1992 at [REDACTED] hours  
Notification Date: [REDACTED] 1992  
Investigating Police Agency: [REDACTED]  
Accident Type: Car / Car - Rear-end  
Air Bag Vehicle  
Occupant Injury Severity: Minor (AIS-1)

AMBIENCE

Viewing Conditions: Daylight  
Weather: Clear  
Precipitation: None  
Road Surface: Dry

ROADWAY

Location: [REDACTED] Street  
Type: Residential street  
Width: Unknown  
Number of Lanes: Two  
Median: None  
Surface Material: Asphaltic aggregate  
Road Edge: Curbed  
Traffic Density: Moderate

ROADWAY, CONTINUED

Coefficient Of Friction: .65 (estimated)  
Vertical Alignment: Level (at impact)  
Horizontal Alignment: Straight

TRAFFIC CONTROLS

Signals/Signs: None  
Speed Limit: 25 miles per hour

VEHICLES

	<u>Airbag Vehicle</u>	<u>Vehicle #2</u>
Year:	1992	1989
Make:	Plymouth	Subaru
Model:	Sundance	GL
Body Style:	Two-door sedan	Station wagon
V.I.N.:	1P3XP24D7NN*****	JF1AN4323KC*****
Exterior Color:	Red	Red
Odometer Reading:	Unknown	Unknown
Securiflex Windshield:	Unknown	
Windshield Damage:	None	
Engine:	4 cyl / 2.2 liter	
Transmission:	Unknown	
Steering:	Power-assisted	
Brake System:	Power-assisted	

## VEHICLES, CONTINUED

Driver Active  
Restraint System  
Availability: Active three-point  
lap and shoulder belt

Driver Active  
Restraint System  
Usage: Lap and shoulder belt

Usage Source: Police accident  
report

Passive Restraint  
System: Driver airbag

## VEHICLE DAMAGE

	<u>Airbag Vehicle</u>	<u>Vehicle #2</u>
Object Struck:	Vehicle #2	Airbag vehicle
Event Number:	One	One
Damage Location:	Front	Back
CDC:	12-FYEW-1	06-BYEW-X
Tow Status:	Driven	Driven
Exterior Damage:	The frontal surface of the airbag vehicle struck the rear surface of the Subaru in a rear-end impact. Direct damage and direct plus induced damage extended across most of the frontal plane of the Sundance. The Sundance was not inspected by the author of this report. Damage was estimated from police photographs of the vehicle. Maximum residual crush to the frontal surface appeared to be less than 6 inches, located at C1.	The back surface of the Subaru was struck by the frontal surface of the Sundance in a rear-end impact. The Subaru was not inspected by the author of this report. Damage was estimated from police photographs of the vehicle. Direct and direct plus induced damage extended a length of 40 inches across the back plane of the vehicle. Maximum residual crush to the back surface was estimated to be approximately 6 to 8 inches, located at C1.



## VEHICLE DAMAGE, CONTINUED

### Damaged Components:

Damaged components included the front bumper, grille, left front fender, and parking lamp. See photos.

Damaged components included the rear hatch, left rear fender, and rear left tail light assembly. See photos.

### Interior Damage:

The interior of the vehicle was not examined, but the only known damage was the deployed airbag.

The Subaru was not inspected, but from police photographs, the only component which appeared to be intruded was the rear hatch door. The intrusion appeared to be less than 3 inches.

## COLLISION SEQUENCE

### Pre-crash:

At approximately [REDACTED] hours on [REDACTED] 1992, the case vehicle, a 1992 Plymouth Sundance equipped with a driver airbag supplemental restraint system, was traveling north on [REDACTED] in the small town of [REDACTED] Montana. The Sundance turned right to travel east on [REDACTED], when, according to the driver, she felt her face burning and the vehicle was suddenly filled with smoke.

### Crash and Post-crash:

The Sundance traveled to the right and the front-left and front-center of the Sundance impacted the back-left and back-center of the 1989 Subaru GL station wagon which was parked at the south edge of [REDACTED]. Both vehicles came to rest near impact headed east.

### Police Activities:

The [REDACTED] Sheriff's Office was notified of the accident at [REDACTED] hours and a Deputy arrived on the scene at [REDACTED] hours.

### Rescue Activities:

The driver of the Sundance was treated and released from the emergency room of a [REDACTED]. She suffered abrasions to the left side of her face and neck from contact with the deployed airbag. She also suffered temporary hearing loss in both ears. She stated that her left jaw cracked and popped for a while after the accident. At the time of this report, she appears to have recovered from her injuries.

## RELEVANT SAFETY ISSUES

### Applicable Standards:FMVSS 208:

Occupant Crash Protection: The 1992 Plymouth Sundance was equipped with a factory installed driver supplemental airbag restraint system. According to diagnostic analysis of the airbag system performed by Chrysler service personnel following the accident, the deployment was the result of the collision.

## HUMAN FACTORS/OCCUPANT DATA/AIRBAG VEHICLE

### DRIVER DATA

Age:	40
Sex:	Female
Height:	62 inches
Weight:	125 lbs.
Occupation:	Housewife
Active Restraint System Usage:	Three-point lap and shoulder belt
Usage Source:	Police Accident Report
Vision:	Apparently normal
Vehicle Familiarity:	Daily
Route Familiarity:	Daily
Manner of Leaving Scene:	Private vehicle
Type of Medical Treatment:	Emergency room and private physician later
Physical State:	Apparently normal
Psychological State:	Apparently normal

### DRIVER INJURIES

<u>Injury Description</u>	<u>Severity</u>	<u>Source</u>
Abrasion of left side of face	Minor (AIS-1)	Airbag
Abrasions of neck	Minor (AIS-1)	Airbag

### Injury Coding

	O.I.C. Body Region	Aspect	Lesion	System/ Organ	A.I.S. Severity	Injury Source	Direct/ Indirect Injury
1st	F	L	A	I	1	45	1
2nd	N	L	A	I	1	45	1

### DRIVER KINEMATICS

The driver was apparently seated in a normal position and was fully restrained by the active three-point lap and shoulder belt system of the Sundance.

### HUMAN FACTORS / OCCUPANT DATA / VEHICLE #2

#### OCCUPANT DATA

The Subaru was unoccupied at the time of the accident.

#### LIST OF ATTACHMENTS

Appendix A: Police Accident Report  
Appendix B: NASS Data Collection Forms  
Appendix C: Airbag Supplement Form  
Appendix D: Summary of Airbag System Diagnostic Test  
Appendix E: Repair Estimate

#### OTHER SOURCES OF DATA

Interview with driver of airbag vehicle

POLICE PHOTOGRAPHS  
NCSI Case No. 92-07



1. Front-left overall view of the Plymouth Sundance and left-rear view of the Subaru GL station wagon.



2. Left side view of the Sundance.





3. Back-left view of the Subaru showing impact damage and left-front corner of the Sundance.

Appendix A  
Police Accident Report

ACCIDENT NUMBER		YEAR	AGENCY	BADGE	MONTH	SEQ. NO.	DATE OF ACCIDENT	TIME	CITY	COUNTY
OCCURRED ON		AT INTERSECTION OF			MILES		OF			
IF NOT AT INTERSECTION		OF			FUNCTIONAL CLASS		HIGHWAY		MILEPOST	
55.0 FEET		MILES N S E W								

FIRST HARMFUL EVENT 06

FIRST OBJECT HIT OFF RDWY. 24

INJURY SEVERITY 4

DAMAGE SEVERITY 1

CLASS OF TRAFFICWAY 7

BIKEWAY 0

GRADE & HORIZ. ALIGN. 1

ROADWAY RELATED LOC. 2

RELATIONSHIP TO JUNCTION 0

NUMBER OF VEHICLES 02

NUMBER OF PEDESTRIANS 00

NUMBER OF FATALITIES 00

NUMBER OF INJURIES 00

WEATHER CONDITION 1

ROAD CONDITION 1

LIGHT CONDITION 1

TRAFFIC CONTROLS 00

DAMAGE TO OTHER PROPERTY

TYPE

SEVERITY

OWNERSHIP

POSTED SPEED 25

ENGINEERING STUDY REQUEST

ACCIDENT ANALYSIS I 4

ACCIDENT ANALYSIS II 01

TYPE OF COLLISION 2

RANGE    TOWNSHIP    SECTION    ACCIDENT NARRATIVE

Vehicle #1 Turned Right off of [redacted] drive  
apparently black out lost control of vehicle  
and hit vehicle #2 in the rear.

OFFICER'S NAME		BADGE NO.	DEPT.	DATE	DATE NOTIFIED	TIME	DATE ARRIVED	TIME
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

DRIVER NAME (LAST) FIRST MIDDLE ADDRESS		PEDESTRIAN NAME (LAST) FIRST MIDDLE ADDRESS	
[redacted]		[redacted]	

DRIVER LICENSE NUMBER		STATE	OPER. CHAUF. OTHER	DRIVER LICENSE STATUS	RESTRICTION COMPLIANCE	DATE OF BIRTH
[redacted]		Mont.		1	0	52

VIOLATION CODE		SUMMONS NO.	CONTRIBUTING FACTORS	DRIVER
5134		23673	00009040F104	

SEAT POSITION		NAME		ADDRESS		ALC	AGE	SEX	BELT	LOC	NU
FRONT CENTER											
FRONT RIGHT											
REAR LEFT											
REAR CENTER											
REAR RIGHT											

INSURANCE CARRIER		THIS DRIVER PEDESTRIAN WAS HEADED N S E W ON	
[redacted]		[redacted]	

PROPERTY DAMAGED BY THIS VEHICLE		VEHICLE NO.		INTENDED TO	WRECKER CO.
[redacted]		00		00	REQUESTED BY NONE

OWNER		VEHICLE MAKE		BODY	TRLR	VEH. YEAR	VEHICLE DAMAGE (H) IF OVER \$400
[redacted]		Plymouth		01		92	

VEHICLE ID NUMBER		LICENSE PLATE NO.		STATE	LIC. YEAR
1P3X1P		[redacted]		Mont.	92

OWNER OF VEHICLE		ADDRESS	
[redacted]		[redacted]	

DRIVER NAME (LAST) FIRST MIDDLE ADDRESS		PEDESTRIAN NAME (LAST) FIRST MIDDLE ADDRESS	
[redacted]		[redacted]	

DRIVER LICENSE NUMBER		STATE	OPER. CHAUF. OTHER	DRIVER LICENSE STATUS	RESTRICTION COMPLIANCE	DATE OF BIRTH
[redacted]		Mont.		1	0	66

VIOLATION CODE		SUMMONS NO.	CONTRIBUTING FACTORS	DRIVER
			000000022F	

SEAT POSITION		NAME		ADDRESS		ALC	AGE	SEX	BELT	LOC	NU
FRONT CENTER											
FRONT RIGHT											
REAR LEFT											
REAR CENTER											
REAR RIGHT											

INSURANCE CARRIER		THIS DRIVER PEDESTRIAN WAS HEADED N S E W ON	
[redacted]		Parked	

PROPERTY DAMAGED BY THIS VEHICLE		VEHICLE NO.		INTENDED TO	WRECKER CO.
[redacted]		02		00	REQUESTED BY NONE

OWNER		VEHICLE MAKE		BODY	TRLR	VEH. YEAR	VEHICLE DAMAGE (H) IF OVER \$400
[redacted]		Subaru		01		89	

VEHICLE ID NUMBER		LICENSE PLATE NO.		STATE	LIC. YEAR
JENIAK		[redacted]		Mont.	93

OWNER OF VEHICLE		ADDRESS	
[redacted]		[redacted]	

HQ-1055

Appendix B  
Airbag System Diagnostic Test Results



WORLD FAMOUS

DATED: [REDACTED]-92

DRB II TEST  
Air Bag System  
Version 9.1

Air Bag Codes  
Active 101 code squib initiator open  
Stored 71 running minutes

This test was done by:  
Tech [REDACTED]  
Witnessed by: [REDACTED] body shop manager  
Witnessed by: [REDACTED] Claim Adjuster

This test was done on [REDACTED], 1992, at [REDACTED] AM in our shop.  
The witnesses were present at all times during the test.

1st witness: [REDACTED] Body Shop Manager  
2nd witness: [REDACTED] of [REDACTED]

The system tested out properly and showed that air bag was deployed with no malfunction of system. Cause of development was the impact of collision.

Sincerely,

[REDACTED]  
Body Shop Manager  
[REDACTED]

Appendix C:  
Repair Estimate:

FAX #

## Adjustments &amp; Appraisals

 Dry  
 no tilt  
 or cruise  
 2 spoke  
 5 speed

19112

To \_\_\_\_\_ Address \_\_\_\_\_ Date \_\_\_\_\_ 92

Insured \_\_\_\_\_ Policy No. \_\_\_\_\_

Description 1992 Plymouth Sundance 9ME \_\_\_\_\_ Claim No. \_\_\_\_\_

Insurance Co. \_\_\_\_\_ Serial No. \_\_\_\_\_ Mileage 10,212

Repair	Replace	DESCRIPTION OF REPAIRS	Labor Hours		Parts		Paint or Sublet
	X	Front bumper cover (black) FY20EX9	1	7	190	00	
	X	Reinforcement 4451940	-	-	78	00	
	X	L bumper impact 5263592	-	-	24	50	
	X	L park lamp arm 4399809	-	-	14	00	
	X	L bumper cover slider 4451859	-	-	1	35	
	X	Screw mount 6501212	-	-	00	75	
	X	Panel Grille Opening 5263463	1	5	120	00	1
	X	Grille 4481502	-	-	44	00	
	X	L Rod Support (Radiator) 5655133	1	5	59	00	0
	X	Support center 4534392	0	5	5	75	0
	X	Panel tie bar 4534390	3	0	23	50	0
		air H2 lamp	0	4			
X		Hood	2	5			2
	X	L fender 4604953	1	8	126	00	2
	X	L fender rear side vldy X661EX9	0	2	4	00	
X		L door	0	6			2
	X	L door side lower vldy X663EX9	0	2	17	00	
		Stripes (thin line)	-	-			36
		Unibody pull line left rail + square sheet metal 2 in x 40.00	-	-			80
		align front wheels	-	-			39
	X	Steering wheel (Gray) 06 in x 44.00 WM23JDS	-	-	100	00	26
	X	Clockspring 03 in x 44.00 4632949	-	-	88	00	13
	X	Air Bag 05 in x 44.00 EC26JDS	-	-	450	00	22
	X	L + R Sensors 63.00 each 09 in x 44.00	-	-	126	00	39

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Open items, labor/parts subject to inspection/approval of appraiser.

PARTS

TOTAL

Insured Value \_\_\_\_\_ Deductible \_\_\_\_\_

DISCOUNT

HOURS @ \_\_\_\_\_

TOTAL

THIS IS NOT AN AUTHORIZATION TO REPAIR, NOR AN AGREEMENT TO PAY.

PAINT

TOTAL

Of this amount the above named insured is to pay \$ \_\_\_\_\_

SUBLET

Firm \_\_\_\_\_ By \_\_\_\_\_

MATERIALS

Adjuster \_\_\_\_\_ Branch \_\_\_\_\_

TOTAL

\$ \_\_\_\_\_

[illegible]Adjuster [REDACTED] Branch [REDACTED]

16