

US DEPARTMENT of Transportation Auto Safety Hotline VEHICLE OWNER'S QUESTIONNAIRE National Highway Traffic Safety Administration NATIONWIDE 1-800-424-9393 DC METRO AREA 202-365-0123		FOR AGENCY USE ONLY <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">ID</td> <td style="width:30%;">REFERENCE NO.</td> <td style="width:20%;">DATE RECEIVED</td> <td style="width:35%;"> cd_or rt_dt ed_rt up_lr </td> </tr> <tr> <td style="text-align: center;">041</td> <td style="text-align: center;">940436</td> <td style="text-align: center;">05-AUG-93</td> <td></td> </tr> </table>		ID	REFERENCE NO.	DATE RECEIVED	cd_or rt_dt ed_rt up_lr	041	940436	05-AUG-93	
ID	REFERENCE NO.	DATE RECEIVED	cd_or rt_dt ed_rt up_lr								
041	940436	05-AUG-93									
OWNER INFORMATION (TYPE OR PRINT)											
NAME and ADDRESS HOLMEN, MICHELE 8225 90TH AVE., VERO BEACH, FL 32967			TELEPHONE NO. (AREA CODE) 407-388-3665								
Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? YES ☐ NO ☐ In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.											
SIGNATURE OF OWNER			DATE								
VEHICLE INFORMATION											
VEHICLE IDENTIFICATION NO. *		VEHICLE MAKE CHEVROLET TRUCK	VEHICLE MODEL BLAZER								
		MODEL YEAR 1992									
* LOCATED AT BOTTOM OF WINDSHIELD ON DRIVER'S SIDE											
CURRENT ODOMETER READING	DATE PURCHASED	DEALER'S NAME, CITY, & STATE	ENGINE SIZE (CID/CC) ☐ TURBO DIESEL GAS ☐ FUEL INJECTN								
	☐ NEW ☐ USED		NO. CYLINDERS ☐								
TRANSMISSION TYPE ☐ MANUAL ☐ AUTOMATIC	ANTI LOCK BRAKES ☐ YES ☐ NO	RESTRAINT SYSTEM ☐ DRIVER SIDE AIRBAG ☐ MOTOR BELT ☐ PASSENGER SIDE AIRBAG ☐ 3-POINT BELT ☐ 2-POINT BELT	CRUISE CONTROL ☐ YES ☐ NO								
		DRIVETRAIN ☐ FRONT ☐ REAR ☐ 4 WHEEL	BODY STYLE STAWAG ☐ HATCH BK ☐ 4 DR ☐ VAN ☐ 2 DR ☐ PK UP TRK ☐ OTHER ☐								
FAILED COMPONENT(S)/PART(S) INFORMATION (REPORT TIRE INFORMATION ON BACK)											
COMPONENT 03250000	PART NAME(S)	LOCATION ☐ LEFT FRONT ☐ RIGHT REAR	FAILED PART(S) ☐ ORIGINAL ☐ REPLACEMENT								
NO. OF FAILURES	DATE(S) OF FAILURE(S) 01-AUG-93	MANUFACTURER CONTACTED ☐ YES ☐ NO	NHTSA PREVIOUSLY CONTACTED ☐ YES ☐ NO								
	MILEAGE AT FAILURE(S) 20000										
	VEHICLE SPEED AT FAILURE(S) 40										
APPLICABLE ACCIDENT INFORMATION											
ACCIDENT ☐ YES ☒ NO	FRE ☐ YES ☒ NO	NUMBER PERSONS INJURED 0	NUMBER OF FATALITIES 0								
		PROPERTY DAMAGE ☒ YES ☐ NO	POLICE REPORT FILED ☐ YES ☒ NO								
NARRATIVE DESCRIPTION OF FAILURE(S), ACCIDENT(S), INJURY(IES)											
ABS, BRAKES LOCK-UP WHEN BRAKES ARE APPLIED, WHICH CAUSED VEHICLE TO FLIP OVER, NO IMPACT. TT											
CONTINUE ON BACK IF NEEDED											
The Privacy Act of 1974 Public Law 93-579 This information is requested pursuant to authority vested in the National Highway Traffic Safety Act and subsequent amendments. You are under no obligation to respond to this questionnaire. Your response may be used to assist the NHTSA in determining whether a manufacturer should take appropriate action to correct a safety defect if the NHTSA proceeds with administrative enforcement or litigation against a manufacturer, your response, or a statistical summary thereof, may be used in support of the agency's action.											

Opt 2028

The Honorable Joseph I. Lieberman
United States Senate
Washington, DC 20510

NIEF-11dm

Dear Senator Lieberman:

Thank you for your letter dated June 28, 1993, on behalf of your constituents, Mr. and Mrs. Louis Sperandio, regarding the safety of certain General Motors Corporation (GM) pickup trucks with fuel tanks located on the side of the vehicle, outside of the frame rails. Mr. and Mrs. Sperandio state that their son drives a Chevrolet pickup truck and believe that the trucks should be recalled.

The National Highway Traffic Safety Administration (NHTSA) is the government agency responsible for improving safety on our Nation's highways. As part of our efforts to achieve this goal, we are authorized, under the National Traffic and Motor Vehicle Safety Act of 1966, to order manufacturers to recall and repair vehicles or items of motor vehicle equipment when our investigations indicate that they contain serious safety-related defects due to design, construction, or performance. Based upon the results of our investigations, we may seek a recall when such defects affect a group of vehicles or items of motor vehicle equipment and these defects represent an unreasonable risk to motor vehicle safety.

In August 1992, NHTSA received a request to conduct a safety defect investigation of 1973 through 1987 full-size GM pickup trucks. This request, known as a petition, was filed by the Center for Auto Safety and Public Citizen and alleges that the position of the fuel tanks, located on the side of the vehicles outside of the frame rails, poses an unreasonable safety risk. The petitioners requested that NHTSA order GM to recall these trucks and modify them to reduce the alleged excessive fire risk.

Consistent with agency procedures for evaluating petitions, we initiated the process of reviewing information concerning the susceptibility of fuel leakage and ensuing fire from a side impact on these trucks. This review included an assessment of real-world accident data to determine the safety risk in GM trucks, as well as other full-size pickups. Further, we reviewed information from GM, Ford Motor Company, and Chrysler Corporation concerning the safety performance of full-size pickup trucks in crashes. On December 8, 1992, based on the results of this technical analysis, the agency granted the petition and began a defect investigation, known as an Engineering Analysis (EA).

During this EA, the agency collected and analyzed a variety of information, such as fatal accident data, information from litigation files, crash tests, and surveys of owners. The EA has focused on an assessment of whether the tank placement in these GM pickup trucks poses an unreasonable risk of injury or death. Based on information analyzed during the EA, NHTSA's Office of Defects Investigation formed the belief that these vehicles present such a risk and, on April 9, 1993, sent a letter to GM requesting that it recall the vehicles.

A recall request letter is normal at this stage of a safety defect investigation. It states the reasons why our Office of Defects Investigation believes that there is a safety-related defect and informally requests that the manufacturer conduct a recall campaign without a formal recall order from the agency. It is not a recall order or a formal conclusion by NHTSA that a safety defect exists. GM responded to this letter on April 30, 1993, declining to conduct a safety recall.

We are currently reviewing the material GM submitted to support its position that a recall is not warranted. Additionally, we are conducting further analyses to assess the safety performance of the subject GM trucks. After all these efforts are completed, we will decide how to proceed in this investigation. If our investigation does not indicate the presence of a safety-related defect, the investigation would be closed. If, at the completion of the investigation, we initially determine that the trucks contain a safety defect, we will hold a public meeting to provide an opportunity for GM and other interested parties to present data and arguments as to why the trucks should or should not be recalled. After careful consideration of all the information presented at the public meeting, as well as other facts, the agency would either close the investigation or order the manufacturer to conduct a recall. Most investigations never reach this stage.

We hope that this information is helpful. If we can be of further assistance to you or your constituents, please call upon us. Mr. and Mrs. Sperandio may contact us through the Auto Safety Hotline at 1-800-424-9393.

Sincerely,

Original signed by
William A. Boehly

William A. Boehly
Associate Administrator
for Enforcement

Enclosure:
Constituents' Correspondence

U.S. Department
of TransportationNational Highway
Traffic Safety
Administration

AUTO SAFETY HOTLINE

VEHICLE OWNER'S QUESTIONNAIRE

NATIONWIDE 1-800-424-9393
DC METRO AREA 202-396-0123

FOR AGENCY USE ONLY

DATE RECEIVED

od-or _____
rt-di _____
ad-n _____
up-itr _____

REFERENCE NO.

OWNER INFORMATION (TYPE OR PRINT)

NAME and ADDRESS

MILTON BUCK
CRESTON RURAL STATION
CRESTON, MT 59902

DAY TIME TELEPHONE NO. (AREA CODE)

none

Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? YES ☒ NO ☐
In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.SIGNATURE OF OWNER *Milton Buck*

DATE JULY 14, 1993

VEHICLE INFORMATION

VEHICLE IDENTIFICATION NO.

2GCEK19K9K1170424

VEHICLE MAKE

CHEVROLET

VEHICLE MODEL

1/2 T 4x4 Pickup

MODEL YEAR

1989

LOCATED AT BOTTOM OF WINDSHIELD ON DRIVER'S SIDE

CURRENT ODOMETER READING

3 6 2 9

DATE

PURCHASED 9-25-92

DEALER'S NAME, CITY & STATE

C & S CHEVROLET
BUTTE, MT

ENGINE SIZE

(CID/CC/L) 350

NO. CYLINDERS 8

TURBO

DIESEL

GAS

FUEL INJECTN

TRANSMISSION TYPE

☐ MANUAL☒ AUTOMATIC

ANTILOCK BRAKES

☒ YES☐ NO

RESTRAINT SYSTEM

☐ DRIVERSIDE AIRBAG ☐ MOTORBELT☐ PASSENGERSIDE AIRBAG☒ 3-POINT BELT ☐ 2-POINT BELT

CRUISE CONTROL

☐ YES☒ NO

DRIVETRAIN

☐ FRONT☐ REAR☒ 4-WHEEL

BODY STYLE

STAWAG

4 DR

2 DR

HATCH BK

VAN

PK UP TRK

OTHER

FAILED COMPONENT(S)/PART(S) INFORMATION (REPORT TIRE INFORMATION ON BACK)

COMPONENT

See attached letter.....

PART NAME(S)

LOCATION

☐ LEFT
☐ FRONT☐ RIGHT
☐ REAR

FAILED PART(S)

☐ ORIGINAL
☐ REPLACEMENT

NO. OF FAILURES

DATE(S) OF FAILURE(S)

MILEAGE AT FAILURE(S)

VEHICLE SPEED AT FAILURE(S)

MANUFACTURER
CONTACTED☒ YES ☐ NONHTSA PREVIOUSLY
CONTACTED☒ YES ☐ NO

APPLICABLE ACCIDENT INFORMATION

ACCIDENT

☐ YES ☒ NO

FIRE

☒ YES ☐ NO

NUMBER PERSONS INJURED

0

NUMBER OF FATALITIES

0

PROPERTY

DAMAGE EST\$

POLICE REPORTED

☐ YES ☐ NO

NARRATIVE DESCRIPTION OF FAILURE(S), ACCIDENT(S), INJURY(IES)

SEE ATTACHED LETTER AND SUPPORTING DOCUMENTS

CONTINUE ON BACK IF NEEDED

The Privacy Act of 1974
Public Law 93-578

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US DEPARTMENT of Transportation Auto Safety Hotline VEHICLE OWNER'S QUESTIONNAIRE National Highway Traffic Safety Administration NATIONWIDE 1-800-424-9393 DC METRO AREA 202-355-0123		FOR AGENCY USE ONLY			
		ID	REFERENCE NO.	DATE RECEIVED	od_or _____ ri_dt _____ od_r1 _____ up_lr _____
		041	940436	05-AUG-93	
OWNER INFORMATION (TYPE OR PRINT)					
NAME and ADDRESS HOLMEN, MICHELE 8225 90TH AVE., VERO BEACH, FL 32967				TELEPHONE NO. (AREA CODE) 407-388-3665	
Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? YES ☐ NO ☐ In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.					
SIGNATURE OF OWNER				DATE	
VEHICLE INFORMATION					
VEHICLE IDENTIFICATION NO.*		VEHICLE MAKE CHEVROLET TRUCK		VEHICLE MODEL BLAZER	MODEL YEAR 1992
*LOCATED AT BOTTOM OF WINDSHIELD ON DRIVER'S SIDE					
CURRENT ODOMETER READING	DATE PURCHASED	DEALER'S NAME, CITY, & STATE		ENGINE SIZE (CID/CCL)	☐ TURBO ☐ DIESEL ☐ GAS ☐ FUEL INJECTION
☐ NEW ☐ USED				NO. CYLINDERS	
TRANSMISSION TYPE ☐ MANUAL ☐ AUTOMATIC	ANTI LOCK BRAKES ☐ YES ☐ NO	RESTRAINT SYSTEM ☐ DRIVER SIDE AIRBAG ☐ PASSENGER SIDE AIRBAG ☐ 3-POINT BELT ☐ MOTOR BELT ☐ 2-POINT BELT	CRUISE CONTROL ☐ YES ☐ NO	DRIVETRAIN ☐ FRONT ☐ REAR ☐ 4-WHEEL	BODY STYLE STATION WAGON _____ 4 DR _____ 2 DR _____ HATCH BACK _____ VAN _____ PICKUP TRUCK _____ OTHER _____
FAILED COMPONENT(S)/PART(S) INFORMATION (REPORT TIME INFORMATION ON BACK)					
COMPONENT 03250000	PART NAME(S)	LOCATION ☐ LEFT FRONT ☐ RIGHT REAR		FAILED PART(S) ☐ ORIGINAL ☐ REPLACEMENT	
NO. OF FAILURES	DATE(S) OF FAILURE(S) 01-AUG-93		MANUFACTURER CONTACTED		NHTSA PREVIOUSLY CONTACTED
	MILEAGE AT FAILURE(S) 20000		☐ YES ☐ NO		☐ YES ☐ NO
	VEHICLE SPEED AT FAILURE(S) 40				
APPLICABLE ACCIDENT INFORMATION					
ACCIDENT ☐ YES ☐ NO	FIRE ☐ YES ☐ NO	NUMBER PERSONS INJURED 0	NUMBER OF FATALITIES 0	PROPERTY DAMAGE \$/2 EST \$	POLICE REPORT FILED ☐ YES ☐ NO
NARRATIVE DESCRIPTION OF FAILURE(S), ACCIDENT(S), INJURY(IES)					
ABS, BRAKES LOCK-UP WHEN BRAKES ARE APPLIED, WHICH CAUSED VEHICLE TO FLIP OVER, NO IMPACT. TT					
CONTINUE ON BACK IF NEEDED					
The Privacy Act of 1974 Public Law 93-579 This information is requested pursuant to authority vested in the National Highway Traffic Safety Act and subsequent amendments. You are under no obligation to respond to this questionnaire. Your response may be used to assist the NHTSA in determining whether a manufacturer should take appropriate action to correct a safety defect. If the NHTSA proceeds with administrative enforcement or litigation against a manufacturer, your response, or a statistical summary thereof, may be used in support of the agency's action.					

US DEPARTMENT of Transportation Auto Safety Hotline VEHICLE OWNER'S QUESTIONNAIRE National Highway Traffic Safety Administration NATIONWIDE 1-800-424-0303 DC METRO AREA 202-366-0123		FOR AGENCY USE ONLY <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">ID</td> <td style="width:30%;">REFERENCE NO.</td> <td style="width:20%;">DATE RECEIVED</td> <td style="width:40%;">ed or rt dt od rt up ltr</td> </tr> <tr> <td style="text-align: center;">041</td> <td style="text-align: center;">940436</td> <td style="text-align: center;">05-AUG-93</td> <td></td> </tr> </table>		ID	REFERENCE NO.	DATE RECEIVED	ed or rt dt od rt up ltr	041	940436	05-AUG-93	
ID	REFERENCE NO.	DATE RECEIVED	ed or rt dt od rt up ltr								
041	940436	05-AUG-93									
OWNER INFORMATION (TYPE OR PRINT)											
NAME and ADDRESS HOLMEN, MICHELE 8225 90TH AVE., VERO BEACH, FL 32967		TELEPHONE NO. (AREA CODE) 407-388-3665									
Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? YES ☐ NO ☐ In the absence of an authorization, NHTSA <i>WILL NOT</i> provide your name or address to the vehicle manufacturer.											
SIGNATURE OF OWNER		DATE									
VEHICLE INFORMATION											
VEHICLE IDENTIFICATION NO. *		VEHICLE MAKE CHEVROLET TRUCK	VEHICLE MODEL BLAZER								
* LOCATED AT BOTTOM OF WINDSHIELD ON DRIVER'S SIDE		MODEL YEAR 1992									
CURRENT ODOMETER READING	DATE PURCHASED	DEALER'S NAME, CITY, & STATE	ENGINE SIZE (DISPL.) NO. CYLINDERS								
	☐ NEW ☐ USED		☐ TURBO DIESEL GAS ☐ FUEL INJECTN								
TRANSMISSION TYPE ☐ MANUAL ☐ AUTOMATIC	ANTILOCK BRAKES ☐ YES ☐ NO	RESTRAINT SYSTEM ☐ DRIVER SIDE AIRBAG ☐ MOTOR BELT ☐ PASSENGER SIDE AIRBAG ☐ 3-POINT BELT ☐ 2-POINT BELT	CRUISE CONTROL ☐ YES ☐ NO								
		DRIVETRAIN ☐ FRONT ☐ REAR ☐ 4-WHEEL	BODY STYLE STAWAG _____ HATCH BK _____ 4 DR _____ VAN _____ 2 DR _____ PK UP TRK _____ OTHER _____								
FAILED COMPONENT(S)/PART(S) INFORMATION (REPORT TIRE INFORMATION ON BACK)											
COMPONENT 03250000	PART NAME(S)	LOCATION ☐ LEFT FRONT ☐ RIGHT REAR	FAILED PART(S) ORIGINAL REPLACEMENT								
NO. OF FAILURES	DATE(S) OF FAILURE(S) 01-AUG-93	MANUFACTURER CONTACTED ☐ YES ☐ NO	NHTSA PREVIOUSLY CONTACTED ☐ YES ☐ NO								
	MILEAGE AT FAILURE(S) 20000										
	VEHICLE SPEED AT FAILURE(S) 40										
APPLICABLE ACCIDENT INFORMATION											
ACCIDENT YES ☐ Yes ☐ NO	FIRE NO ☐ YES ☐ NO	NUMBER PERSONS INJURED 0	NUMBER OF FATALITIES 0								
		PROPERTY DAMAGE NO EST'S	POLICE REPORT FILED ☐ YES ☐ NO								
NARRATIVE DESCRIPTION OF FAILURE(S), ACCIDENT(S), INJURY(IES)											
ABS, BRAKES LOCK-UP WHEN BRAKES ARE APPLIED, WHICH CAUSED VEHICLE TO FLIP OVER, NO IMPACT. TT											
CONTINUE ON BACK IF NEEDED											
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The Privacy Act of 1974
Public Law 93-579
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CONTINUE ON BACK IF NEEDED

ABS, BRAKES LOCK-UP WHEN BRAKES ARE APPLIED, WHICH CAUSED VEHICLE TO FLIP OVER, NO IMPACT TO

NARRATIVE DESCRIPTION OF FAILURE(S), ACCIDENT(S), INJURY(IES)

ACCOUNT ☐ YES ☒ NO	NUMBER PERSONS INJURED ☐ YES ☒ NO	NUMBER OF FATALITIES 0	PROPERTY DAMAGE 0	POLICE REPORT FILED ☐ YES ☒ NO
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APPLICABLE ACCIDENT INFORMATION

COMPONENT 33250000	PART NAME(S)	LOCATION ☐ LEFT ☐ RIGHT ☐ REAR	MANUFACTURER CONTACTED ☐ YES ☒ NO	NHTSA PREVIOUSLY CONTACTED ☐ YES ☒ NO	NO. OF FAILURES 01-AUG-93	MILEAGE AT FAILURE(S) 2000MI	VEHICLE SPEED AT FAILURE(S) 40
					DATE(S) OF FAILURE(S)	MILEAGE AT FAILURE(S)	VEHICLE SPEED AT FAILURE(S)
					DATE(S) OF FAILURE(S)	MILEAGE AT FAILURE(S)	VEHICLE SPEED AT FAILURE(S)

FAILED COMPONENT(S), PART(S) INFORMATION (REPORT THE INFORMATION ON BACK)

TRANSMISSION TYPE ☐ AUTOMATIC ☒ MANUAL	ANTI-LOCK BRAKES ☐ YES ☒ NO	RESTRAINT SYSTEM ☐ DRIVER SIDE AIRBAG ☐ PASSENGER SIDE AIRBAG ☐ 3-POINT BELT ☐ 2-POINT BELT ☐ MOTOR BELT	CAUSE CONTROL ☐ YES ☒ NO	DRIVER/RAIN ☐ FRONT ☐ REAR ☐ 4 WHEEL	BODY STYLE STATION WAGON VAN PICKUP TRUCK OTHER	ENGINE SIZE TURBO DIESEL GAS FUEL INJECTION	NO. CYLINDERS	DEALER'S NAME, CITY, & STATE	CURRENT ODOMETER READING	DATE PURCHASED	USED ☐ YES ☒ NO
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VEHICLE IDENTIFICATION NO.	VEHICLE MAKE CHEVROLET	VEHICLE MODEL BLAZER	MODEL YEAR 1992
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VEHICLE INFORMATION

SIGNATURE OF OWNER	DATE
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Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? YES ☐ NO ☒
In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.

NAME AND ADDRESS HOLMEN, MICHELLE 8225 90TH AVE. VERO BEACH, FL 32967	TELEPHONE NO. (AREA CODE) 407-388-3665
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OWNER INFORMATION (TYPE OR PRINT)

US DEPARTMENT of Transportation Admin Safety Hotline NATIONAL HIGHWAY Traffic Safety Administration NATIONWIDE 1-800-424-9300 DOMESTIC AREA 202-966-0123	VEHICLE OWNER'S QUESTIONNAIRE	ID 041 940436	REFERENCE NO. 05AUG-93	DATE RECEIVED	OR AGENCY USE ONLY
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 AUTO SAFETY HOTLINE VEHICLE OWNER'S QUESTIONNAIRE NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION NATIONWIDE 1-800-424-9393 DC METRO AREA 202-366-0123		FOR AGENCY USE ONLY DATE RECEIVED _____ ed...or _____ r...di _____ ed...rt _____ up...ltr _____ REFERENCE NO. _____	
OWNER INFORMATION (TYPE OR PRINT)		DAY TIME TELEPHONE NO. (AREA CODE) _____ none	
NAME and ADDRESS MILTON BUCK CRESTON RURAL STATION CRESTON, MT 59902		Do you authorize NHTSA to provide a copy of this report to the manufacturer of your vehicle? YES ☒ NO ☐ In the absence of an authorization, NHTSA WILL NOT provide your name or address to the vehicle manufacturer.	
SIGNATURE OF OWNER <i>Milton Buck</i>		DATE JULY 14, 1993	
VEHICLE INFORMATION			
VEHICLE IDENTIFICATION NO. 2GCEK19K9K1170424		VEHICLE MAKE CHEVROLET	
VEHICLE MODEL 1/2 T 4x4 Pickup		MODEL YEAR 1989	
*LOCATED AT BOTTOM OF WINDSHIELD ON DRIVER'S SIDE			
CURRENT ODOMETER READING 3 6 2 1 9		DATE PURCHASED 9-25-92 DEALER'S NAME, CITY & STATE C & S CHEVROLET BUTTE, MT	
ENGINE SIZE (C/D/CCA) 350 NO. CYLINDERS 3		☐ TURBO ☒ DIESEL ☒ GAS ☐ FUEL INJECTION	
TRANSMISSION TYPE ☐ MANUAL ☒ AUTOMATIC		ANTI-LOCK BRAKES ☒ YES ☐ NO	
RESTRAINT SYSTEM ☐ DRIVERSIDE AIRBAG ☐ MOTORBELT ☐ PASSENGERSIDE AIRBAG ☒ 1-POINT BELT ☐ 2-POINT BELT		CRUISE CONTROL ☐ YES ☒ NO	
DRIVETRAIN ☐ FRONT ☐ REAR ☒ 4-WHEEL		BODY STYLE STAWAG _____ HATCH 2K _____ 4 DR _____ VAN _____ 2 DR _____ PICK UP TRK ☒ OTHER _____	
FAILED COMPONENT(S)/PART(S) INFORMATION (REPORT TIRE INFORMATION ON BACK)			
COMPONENT See attached letter.....		PART NAME(S)	
LOCATION ☐ LEFT ☐ RIGHT ☐ FRONT ☐ REAR		FAILED PART(S) ☐ ORIGINAL ☐ REPLACEMENT	
NO. OF FAILURES		DATE(S) OF FAILURE(S) _____	
MANUFACTURER CONTACTED ☒ YES ☐ NO		NHTSA PREVIOUSLY CONTACTED ☒ YES ☐ NO	
VEHICLE SPEED AT FAILURE(S) _____		PROPERTY DAMAGE EST\$ _____	
APPLICABLE ACCIDENT INFORMATION			
ACCIDENT ☐ YES ☒ NO		FIRE ☒ YES ☐ NO	
NUMBER PERSONS INJURED 0		NUMBER OF FATALITIES 0	
POLICE REPORTED ☐ YES ☐ NO		NARRATIVE DESCRIPTION OF FAILURE(S), ACCIDENT(S), INJURY(IES)	
SEE ATTACHED LETTER AND SUPPORTING DOCUMENTS			
CONTINUE ON BACK IF NEEDED			

The Privacy Act of 1974
 Public Law 93-579

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Auto Safety Hotline

FOR AGENCY USE ONLY

US DEPARTMENT
of TransportationNational Highway
Traffic Safety
Administration

REFERENCE NO.

DATE
RECEIVED

od_ow

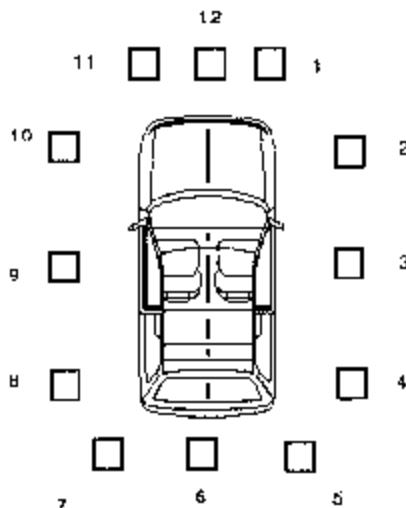
rt_di

od_n

up_ltr

940436

05-AUG-93

Location of initial impact (please mark
appropriate box)

1992

CHEVROLET TRUCK

BLAZER

Vehicle speed: 40

Is vehicle equipped with a driver side airbag?

NO

☐ YES ☐ NO ☐ UNKNOWN

Did driver side airbag deploy?

Was the driver wearing a seatbelt?

LAP/SHOULDER

☐ LAP/SHOULDER ☐ LAP ONLY
☐ SHOULDER ONLY ☐ NO
Location of the most severe injury sustained
by the driver.

NO INJURY

☐ NO INJURY SUSTAINED BY DRIVER
☐ HEAD ☐ EYE ☐ NECK
☐ TORSO ☐ ARM/UPPER EXTREMITIES
☐ LEG/LOWER EXTREMITIES

Type of injury to driver.

☐ ABRASION ☐ LACERATION ☐ BREAK
☐ BURN ☐ TRAUMA

Severity of injury to driver.

☐ NO TREATMENT ☐ EMERGENCY ROOM
☐ HOSPITALIZATION ☐ FATAL
Is vehicle equipped with a passenger side
airbag?

NO

☐ YES ☐ NO ☐ UNKNOWN

Did passenger side airbag deploy?

☐ YES ☐ NO

Was the passenger wearing a seatbelt?

NO PASSENGER

☐ LAP/SHOULDER ☐ LAP ONLY
☐ SHOULDER ONLY ☐ NOT WEARING
☐ NO PASSENGER
Location of the most severe injury
sustained by the passenger.
☐ NO INJURY SUSTAINED BY PASSENGER
☐ HEAD ☐ EYE ☐ NECK
☐ TORSO ☐ ARM/UPPER EXTREMITIES
☐ LEG/LOWER EXTREMITIES

Type of injury to passenger.

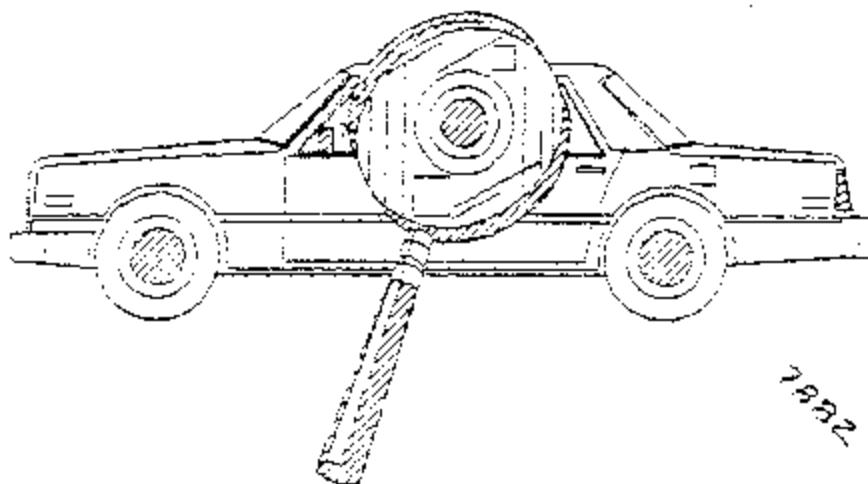
☐ ABRASION ☐ LACERATION ☐ BREAK
☐ BURN ☐ TRAUMA

Severity of injury to passenger.

☐ NO TREATMENT ☐ EMERGENCY ROOM
☐ HOSPITALIZATION ☐ FATAL
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Traffic Safety Act and subsequent amendments. You are under no obligation
to respond to this questionnaire. Your response may be used to assist the NHTSAin determining whether a manufacturer should take appropriate action to correct
a safety defect. If the NHTSA proceeds with administrative enforcement or
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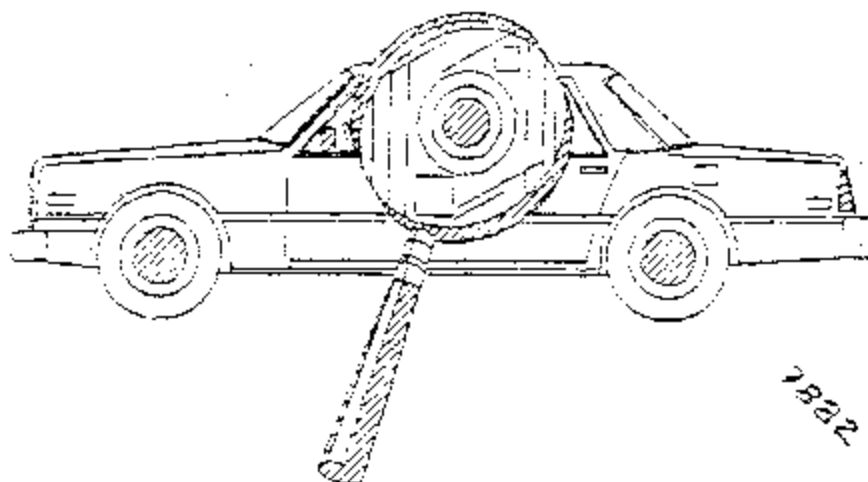
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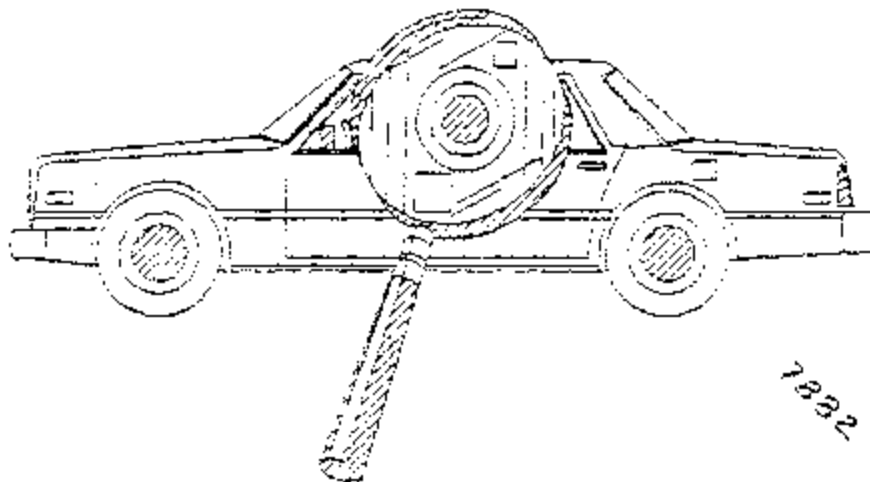
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135 -TRC-98-010

2/3
633272

SAFETY COMPLIANCE TESTING FOR FMVSS 135
Passenger Car Brake Systems

General Motors Corporation
1998 Cadillac Catera, 4-Door Sedan
NHTSA No. CW0120

TRANSPORTATION RESEARCH CENTER INC.
10820 State Route 347
East Liberty, Ohio 43319



Final Report Completed: July 17, 1998

FINAL REPORT

Prepared Under Contract No. : DTNH22-95-C-01000

U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
400 Seventh Street, SW
Room 6115 (NSA-30)
Washington, DC 20590

Prepared for the Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-95-C-01000.

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Prepared By

Approved By

Approval Date:

7/24/98

Final Report Acceptance By OVSC:

Contract Technical Manager, Office of
Vehicle Safety Compliance

8/31/98

Acceptance Date

88-214 12-2000

CO-VEHICLE

1. REPORT NUMBER: 135-TRC-98-010		2. GOVERNMENT ACCESSION NO.:		3. RECIPIENTS CATALOG NO.:	
4. TITLE AND SUBTITLE: Final report of FMVSS 135 Compliance Testing of a 1998 Cadillac Catera, 4-Door Sedan, NHTSA NO. CW0120				5. REPORT DATE: July 17, 1998	
				6. PERFORMING ORGANIZATION CODE: TRC 96317/2350	
7. AUTHOR(S): Project Manager: JEFF SANKLY Project Engineer: RANDALL A. LANDES				8. PERFORMING ORGANIZATION REPORT NO.: TRC-DOT-135-010	
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Transportation Research Center Inc 10826 State Route 347 East Liberty, Ohio 43319				10. WORK UNIT NUMBER:	
12. SPONSORING AGENCY NAME AND ADDRESS: U.S. Department of Transportation National Highway Traffic Safety Administration Safety Assurance Office of Vehicle Safety Compliance (NSA-30) 400 Seventh Street, SW, Room 6115 Washington, DC 20590				11. CONTRACT OR GRANT NO.: DTNH22-95-C-01000	
				13. TYPE OF REPORT AND PERIOD COVERED: Final test report Tested: 05/27/98 to 07/01/98	
15. SUPPLEMENTARY NOTES:				14. SPONSORING AGENCY CODE: NSA-30	
16. ABSTRACT: Compliance tests were conducted on the subject 1998 Cadillac Catera, 4-Door Sedan, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-135-00 for the determination of FMVSS 135 compliance. Test failures identified were as follows: NONE					
17. KEY WORDS: Compliance Testing Safety Engineering FMVSS 135				18. DISTRIBUTION STATEMENT: Copies of this report are available from: NHTSA Technical Reference Division Mail Code: NAD-40 400 Seventh Street, SW, Rm. 5108 Washington, DC 20590 Telephone No. (202) 366-4949	
19. SECURITY CLASSIF. (OF THIS REPORT): Unclassified	20. SECURITY CLASSIF. (OF THIS PAGE): Unclassified	21. NO. OF PAGES:	22. PRICE:		

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1.0 INTRODUCTION

Tests were conducted on a 1998 Cadillac Catera manufactured by General Motors Corporation, to determine compliance with FMVSS 135 "Passenger Car Brake Systems." All tests were conducted in accordance with the U.S. D.O.T., NHTSA Laboratory Procedure TP 135-00 and/or the corresponding TRC test procedure which was submitted to NHTSA for their approval. The test procedure was clearly described in the submitted document and has not been repeated in this report.

All stops were performed manually.

All tests were conducted by TRC personnel using the following TRC facilities:

7.5-Mile Test Track

Vehicle Maximum Speed

Burnish

Heating Snubs

Hot Performance Stops

Brake Cooling Stops

Recovery Stops

Skid Pad

Cold Effectiveness Stops

High Speed Effectiveness Stops

Stops with Engine Off

Failed Antilocks

Failed Variable Proportioning Valve (if applicable)

Failed Hydraulic Circuits

Brake Power Assist Unit Failures

Inoperative Power Assists

Brake Slope

Parking Brake

Average PFC during the test period was 0.90 utilizing the ASTM E1337 w/E1336 tire method.

The test vehicle was ABS equipped. Therefore, the Wheel Lock Sequence and Adhesion Utilization Tests were not performed.

The test vehicle met all the requirements of FMVSS 135.

DATA SHEET 1 - VEHICLE INFORMATION

VEHICLE SPECS

Year: 1998	NHTSA No: CW0120
Make: GEN. MOTORS	GVWR (Kg): 2185.0
Model: CADILLAC CATERA	GAWR Front(Kg): 1039.7
Body Style: 4-DOOR SEDAN	GAWR Rear(Kg): 1154.9
Mfr. Date: 08-97	Wheelbase (mm): 2746.5
VIN: W06VR52RXWR004454	Odometer: Start:273 MI. End:803 MI.

BUSES ONLY

Chassis Mfg.: N/A
Serial No.: N/A
No. of Seats: N/A
Manufacture Date: N/A

Engine Type: GASOLINE,EFI,DOHC,V6,PISTON.
Displacement: 3.0 LITER Tire Size: P225/55R16 94H
Engine Hspwr: N/A Tire Type: EAGLE RS-A,M+S,TUBELESS
Idle Speed(rpm): 710 Tire Mfr.: GOODYEAR
Transmission Type: AUTOMATIC 4-SPEED W/CD GVWR Front Press.(kpa): 220.6
No. of Axles: 2 GVWR Rear Press.(kpa): 220.6

BRAKE APPLY SYSTEM

Brake Series: Front:DISC Rear:DISC	Power Assist Unit: YES
Brake Actuation	Pwr Unit w/Accumulator: NO
(Hydr. Circuit Split): DIAGONAL	Pwr Asst./Pwr Unit w/Backup: NO
Power Unit: VACUUM	Variable Prop. System: NO
Anti-Skid unit Mfr: BOSCH	Anti-Skid Device: YES
Parking Mechanism: YES	
Type of Parking Unit: AUTOMATIC TRANSMISSION WITH PARK DETENT.	
Mstr Cylinder Dia(mm): 25.40	Pedal Ratio: 4.0:1

FRONT SYSTEM BRAKE COMPONENT MATERIALS AND CONSTRUCTION

BRAKE TYPE: DISC	Material: CAST
Drum Construction: N/A	LF Drum Shoe Cage Dia.(mm): 0.00
Disc Construction: INTEGRAL CAST,VENTED	RF Drum Shoe Cage Dia.(mm): 0.00
Front Brake Dia (mm): 295.63	LF Drum Dia. RESET(mm): 0.00
Fr Disc Thickness(mm): 27.99	RF Drum Dia. RESET(mm): 0.00

FRONT BRAKE COMPONENT DIMENSIONS AND CODES:

Inboard (Primary)	Outboard (Secondary)
Width(mm): 56.49	Width(mm): 56.39
Length(mm): 113.06	Length(mm): 113.41
Thickness(mm): 11.56	Thickness(mm): 11.84
Lining Code/Color: JURID 501 FF	Lining Code/Color: JURID 501 FF
Hyd. Piston Dia.(mm): 57.10	

DATA SHEET 1 - (CONTINUED)

REAR SYSTEM BRAKE COMPONENT MATERIALS AND CONSTRUCTION.

BRAKE TYPE: DISC

Material: CAST IRON

Drum Construction: N/A

LR Drum Shoe Cage Dia.(mm): 0.00

Disc Construction: UNVENTED

RR Drum Shoe Cage Dia.(mm): 0.00

Lining Construction: BONDED

LR Drum Dia. RESET(mm): 0.00

Rear Brake Dia.(mm): 285.67

RR Drum Dia. RESET(mm): 0.00

Rr Disc Thickness(mm): 11.96

REAR BRAKE COMPONENT DIMENSIONS AND CODES:

Inboard (Primary)

Outboard (Secondary)

Width(mm): 41.05

Width (mm): 41.02

Length(mm): 60.48

Length (mm): 60.60

Thickness(mm): 12.40

Thickness (mm): 12.40

Lining Code/Color: FER3426F FF

Lining Code/Color: FER3426F FF

Hyd Piston Dia (mm): 40.13

OTHER COMPONENT INFORMATION

Friction-type Park Brake: NOT APPLICABLE

Non-Service Brake Type

Parking Brake: HAND-OPERATED

NOTE: If at any time after the test series has begun, any brake system part requires replacement or the brake system requires adjustments other than permitted in burnish and reburnish procedures, discontinue testing and notify the COTR immediately.

Technician:

Karen Easterday
KAREN EASTERDAY

Date:

07-23-98

Quality Assurance:

Mitt Dunlay
GARY WAGNER

VEHICLE: 1998 Cadillac Catera

NHTSA NO.: CW0120

DATE: 07/13/98

3.0 SUMMARY OF TESTING

		Specification and Limit				TEST RESULTS					
TEST	Loading Condition	Speed (km/h)	Min. Pedal Force (N)	Max. Pedal Force (N)	Stopping Distance Requirement (m)	Shortest Stop Min. Pedal Force (N)**	Shortest Stop Max. Pedal Force (N)	Shortest Stop Stopping Distance (m) (Corrected)	PASS Fail		
Equipment Requirements					Specified Equipment	Vehicle contains specified equipment:			Pass		
Vehicle Maximum Speed	LLVW	NA				212.5 km/h avg.			NA		
Burnish	GVWR	80				200, 80 - 0 km/h stops @ 3.0 mpsps			NA		
Wheel Lockup Sequence w/o ABS	GVWR				Lockup of front wheels prior to rear	ABS Equipped			NA		
Wheel Lockup Sequence w/o ABS	LLVW					ABS Equipped			NA		
Adhesion Utilization w/o ABS	LLVW				Rear axle adhesion utilization curve below specified value			ABS Equipped			NA
Adhesion Utilization w/o ABS	GVWR							ABS Equipped			NA
Cold Effectiveness	GVWR	100	65	500	70	5	433.4	46.3	Pass		
High Speed Effectiveness	GVWR	160.0	65	500	spd. depend.-187.5	5	439.5	118.0	Pass		
Stops with Engine Off	GVWR	100	65	500	70	5	445.2	46.4	Pass		
Cold Effectiveness	LLVW	100	65	500	70	5	405.2	45.9	Pass		
High Speed Effectiveness	LLVW	160.0	65	500	spd. depend.-187.5	5	482.8	107.1	Pass		
Failed Antilock	LLVW	100	65	500	85	5	388.8	50.4	Pass		
Failed Proportioning Valve	LLVW	100	85	500	110	5	NA	NA	NA		
Failed Hydraulic Circuit #1	LLVW	100	65	500	168	5	475.8	93.8	Pass		
Failed Hydraulic Circuit #2	LLVW	100	65	500	188	5	472.7	94.6	Pass		
Failed Hydraulic Circuit #1	GVWR	100	65	500	168	5	430.3	99.3	Pass		
Failed Hydraulic Circuit #2	GVWR	100	65	500	188	5	463.8	101.0	Pass		
Failed Antilock	GVWR	100	65	500	85	5	391.9	56.0	Pass		
Failed Proportioning Valve	GVWR	100	85	500	110	5	NA	NA	NA		
Power Brake Unit Failure	GVWR	100	65	500	168	5	498.5	148.4	Pass		
Parking Brake - Uphill	GVWR	-	-	400	Hold for 5 min.?	NA	403.0	Yes-Holds	Pass		
Parking Brake - Downhill	GVWR	-	-	400	Hold for 5 min.?	NA	372.9	Yes-Holds	Pass		
Heating Snubs	GVWR	120-80	NA	NA	15 Snubs- 3.0 mpsps	5	70 vis. avg.	NA	NA		
Hot Performance Stop #1	GVWR	100	65	248 avg.	89.7	5	134.0 avg.	56.1	Pass **		
Hot Performance Stop #2	GVWR	100	65	500	89	5	462.8	52.0	Pass		
Brake Cooling	GVWR	50	NA	NA	4 Stops - 3.0 mpsps	5	87 vis avg	NA	NA		
Recovery Performance Stop #1	GVWR	100	65	248 avg.	One of the two stops between 61.2 and 33.8 meters	5	175.0 avg.	34.7	Pass		
Recovery Performance Stop #2	GVWR	100	65	500		5	441.5	47.4			
Final Inspection-Brake Integrity	Check components for detachment, fracture or lubricants.					No detachments or fractures-normal appear. & color.			Pass		
Final Inspection-	Master cylinder or brake power reservoir shall have the meet the volume					Brake system has sufficient capacity and indicators			Pass		

*** Note: The Shortest Stop Minimum Pedal Force represents the minimum force value required to engage the data acquisition's recording mode. **See Contractor's Comm. Appendix C

DATA SHEET 3 - VEHICLE WEIGHT

VEHICLE: GEN. MOTORS 1998 CADILLAC 4-DOOR SEDAN NHTSA No. CWO120 Date: 06/05/98

Tire Pressure(cold): Front (kpa) 221 Rear (kpa) 221

Odometer: Start 273 MI. End 803 MI.

Scale(s) Used: TRC Toledo Scales

NOTE: GVWR, LLVW and axle weights to be measured within +0% and -1%

GVWR/GAWR INFORMATION

(From Veh. Certification Label)

GVWR(Kg): 2185

GAWR Front(Kg): 1040

GAWR Rear(Kg): 1155

UNLOADED VEHICLE WEIGHT(UVW)

L Front(Kg) 476 L Rear(Kg) 395

R Front(Kg): 454 R Rear(Kg): 404

T Front(Kg): 930 T Rear(Kg): 798

Total UVW(Kg): 1728

TARGET LIGHT LOADED WEIGHT(LLVW):

ACTUAL LIGHT LOADED WEIGHT(LLVW):

NOTE 1: LLVW = UVW-181.4Kg

NOTE 2: Weight distributed in front passenger seat area.

NOTE 3: Neither axle load at LLVW less than at UVW; ballast as required

L Front(Kg): 517 L Rear(Kg): 440

R Front(Kg): 503 R Rear(Kg): 454

T Front(Kg): 1021 T Rear(Kg): 894

Total LLVW(Kg): 1914

L Front(Kg): 513 L Rear(Kg) 435

R Front(Kg): 508 R Rear(Kg): 458

T Front(Kg): 1021 T Rear(Kg): 894

Total Actual Test LLVW(Kg): 1914

Load: Driver/Observer 70(Kg) + Instru. 43(Kg) + Ballast 68(Kg) = 181.44(Kg)

FULLY LOADED TEST WEIGHT (ACTUAL GVWR)

NOTE 1: Vehicle loaded so axle loads proportional to GAWR shown previously.

NOTE 2: But no axle weight to be less than at LLVW

NOTE 3: If weight on any axle at LLVW exceeds the axle's proportional share of the GVWR, the load required to reach GVWR is placed so that the weight on that axle remains the same as at LLVW.

L Front(Kg): 508 L Rear(Kg): 558

R Front(Kg): 526 R Rear(Kg): 590

T Front(Kg): 1034 T Rear(Kg): 1148

Total Fully Loaded GVWR(Kg): 2182

Load: Driver/Observer 70(Kg) + Instru 43(Kg) + Ballast 274(Kg)= 388(kg)

Technician

KAREN EASTERDAY

Date:

6-23-98

Quality Assurance.

GARY WAGNER

DATA SHEET 4 - EQUIPMENT REQUIREMENTS (S5)

SERVICE BRAKE SYSTEM (S5.1)

Vehicle equipped with a service brake system acting on all wheels? YES

Wear Adjustment (S5.1.1)

Service Brakes are compensated for wear by means of a system of automatic adjustment? YES

Describe: DISC-AUTOMATIC CLEARANCE TAKE-UP.

Wear Status (S5.1.2):

Wear status of service brakes is indicated by:

(A) Acoustic or optical device? YES

Describe FRT ONLY-SENSOR NEAR LINING ACTIVATES DASH WARNING LAMP

(B) Visual check outside or under vehicle? YES

Describe: N/A

PARKING BRAKE SYSTEM (S5.2)

Vehicle equipped with a parking brake system of a friction type with solely mechanical means to retain engagement: YES

CONTROLS (S5.3)

(A) Service brakes activated by means of a foot control? YES

(B) Parking brake control is independent of the service brake control? YES

(C) Parking brake control is hand or foot operated? YES

(D) ABS, if equipped, cannot be manually disabled? YES

DATA INDICATES COMPLIANCE: YES

COMMENTS:

Tester/Technician: KAREN EASTERDAY Date: _____

Quality Assurance: GARY WAGNER

DATA SHEET 5 - VEHICLE MAX SPEED

VEHICLE: GEN MOTORS 1998 CADILLAC 4-DOOR SEDAN NHTSA No. CW0120 Date: 06/05/98

Ambient Temperature: 17.78°C Wind Velocity: 3.22(KM/H)

Road PFC: 0.89 Wind Direction: 241°

Odometer: Start 295(Km) End 308(Km)

TEST WEIGHT: Total (Kg) 1914 Front (Kg): 1021 Rear (Kg): 894

ESTABLISH VEHICLE MAXIMUM SPEED

VEHICLE LOAD: LLVW

IBT: N/A

GEAR: Drive

DECEL RATE: N/A

PEDAL FORCE: N/A

WHEEL LOCKUP: N/A

TEST SPEED: Maximum attainable from

INTERVAL: N/A

a standing start in 3.2 km.

1. Ballast Vehicle to LLVW
2. Accelerate at a maximum rate from a standing start for a distance of 3.2 km on a level surface.
3. Repeat in opposite direction.
4. Record speed attained in each direction and use the average of the two runs.

	DIRECTION	MAX SPEED (km/h)		Time 0 - 100 KPH (seconds)
		Visual	Recorded	
Run No. 1	South	215.6km/h	215.8	12.99
Run No. 2	North	209km/h	209.2	12.24

AVERAGE = 212.5

COMMENTS: This Vehicle was ABS equipped Data Sheets 6 - 9 not included.

Tester/Technician

Karen Easterday
KAREN EASTERDAY

Date

07-23-98

Quality Assurance:

Mitt Duro
GARY WAGNER

Vehicle: 1999 GEN. MOICRS

NHTSA NUMBER: CW0120

Transportation Research Center, Inc.

Make: CADILLAC

10920 State Route 347

Model: CATERA

East Liberty, Ohio 43515

Body Style: 4 DOOR SEDAN

Front Cold Tire Pressure: 221 (Kpa)

Rear Cold Tire Pressure: 221 (Kpa)

Date Tested: 06/06/98

DATA SHEET 10 - BURNISH AT GVWR

Testing Conditions: INV DATA, Section 0002, 06/06/98, 14:24:34

Weather Conditions: 61°F Wind: 1 mph 243°

Start Odo.: 309

End Odo.: 576

Schedule:

Initial Brake Temperature Less Than 190°C

Initial Speed 90 km/h to zero

200 stops with transmission in gear

Performance Requirements:

Interval between runs: Time necessary to reduce IRT to 1.0 C of GE

2 km distance, whichever occurs first.

Constant decel. rate: 3.0 m/s²

Pedal force adjusted to maintain constant decel.

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 1.5m

STOP #	INIT SPD (km/h)	LEFT FRONT IRT (°C)	RIGHT FRONT IRT (°C)	LEFT REAR IRT (°C)	RIGHT REAR IRT (°C)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	AVG. DECEL (m/sec ²)
1	80.88	92	91	92	91	128.34	68.82	2.95
10	79.88	107	97	84	81	131.71	72.14	3.40
20	80.05	116	103	97	95	102.53	66.23	2.17
30	79.86	110	100	94	94	95.93	65.46	2.93
40	81.77	116	99	93	93	107.08	66.76	3.08
50	80.29	113	102	95	95	99.34	62.38	2.95
60	81.29	112	102	94	95	105.83	65.33	3.05
70	81.68	110	103	94	95	101.67	63.21	2.95
80	80.11	111	104	96	97	108.81	63.51	2.12
90	80.72	104	101	95	94	106.23	67.02	3.00
100	80.24	106	101	94	94	105.43	63.47	3.07
110	79.40	104	102	94	94	104.40	66.98	2.97
120	79.99	104	103	95	95	105.09	60.62	2.06
130	80.70	104	100	93	92	104.57	64.43	2.88
140	80.85	104	102	94	93	124.17	67.97	4.14
150	81.67	106	102	92	93	123.06	66.55	3.14
160	78.08	102	99	90	89	83.54	68.27	2.81
170	80.37	102	98	91	89	104.15	62.67	2.94
180	80.31	100	99	91	87	104.74	75.96	2.82
190	79.42	98	99	92	87	100.53	66.74	3.06
200	79.15	98	98	91	88	95.08	77.95	3.03

BRAKE ADJUSTMENT**Schedule:**

Adjust service brakes; record procedure and amount adjusted

Left Front: DISC DISC BRAKE NO ADJUSTMENT REQUIRED
 Right Front: DISC DISC BRAKE NO ADJUSTMENT REQUIRED
 Left Rear: DISC DISC BRAKE NO ADJUSTMENT REQUIRED
 Right Rear: DISC DISC BRAKE NO ADJUSTMENT REQUIRED

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY

Observer: NONE

Recorded Data Processed by: CHUCK JENKINS

Date: 7/6/98

Approving Laboratory Official: GARY WAGNER

Date: 7/13/98

Vehicle: 1998 GEN.MOTORS
 Make: CADILLAC
 Model: CATERA
 Body Style: 4-DOOR SEDAN
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

NHTSA NUMBER: CWD120

Transportation Research Center, Inc.
 10620 Stone Road 247
 East Liberty, Ohio 43018

Date Tested: 06/10/98

DATA SHEET 11 - COLD EFFECTIVENESS AT GVWR

Testing Conditions: INV DATA, Section 0015, 06/10/98, 13:11:25

Weather Conditions: 70°F Wind: 8 mph 274° Start Odo.: 599 End Odo.: 605

Schedule:

Initial Brake Temperature 65 - 101 C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 70m
 Pedal force between 65N and 500N
 No Lock Up allowed longer than 0.2 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INTC SPD (km/h)	LEFT FRONT TBT (°C)	RIGHT FRONT TBT (°C)	LEFT REAR TBT (°C)	RIGHT REAR TBT (°C)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (g/mph²)	AVG. DECEL (m/mph²)
1	95.46	77	77	62	59	45.8	46.3	413.37	248.69	9.89	7.86
2	95.01	91	91	73	71	40.7	41.6	170.24	256.11	9.89	8.41
3	98.50	96	94	76	72	46.4	47.9	175.68	305.04	9.80	8.30
4	95.20	93	89	73	68	45.8	46.5	421.25	325.53	9.06	8.00
5	100.32	95	88	76	71	47.9	47.5	407.78	392.52	9.86	8.15
6	70.48	94	87	74	66	66.5	47.0	434.04	364.24	9.56	8.13
7	7.14	101	95	79	75	7.7	1515.6	40.11	32.44	0.48	0.24

STOP #	DRIVER VEHICLE STOP COMMENTS		
#	(Wheel Lock up - Direction of Stop - Stay in Lane)		
1	-	NOX	SOUTH YES
2	-	NOX	SOUTH YES
3	-	NOX	SOUTH YES
4	-	NOX	SOUTH YES
5	-	NOX	SOUTH YES
6	-	NOX	SOUTH YES
7	-	No Stop - False Trigger	

Corrected Distances are used to determine shortest stopping distance.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY Observer: NOME
 Recorded Data Processed by: CHUCK JENKINS Date: 7/8/98
 Approving Laboratory Official: GARY WAGNER Date: 7/13/98

Vehicle: 1998 GEN.MOTORS
 Make: CADILLAC
 Model: CATERA
 Body Style: 4 DOOR SEDAN
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

NHTSA NUMBER: CW0120

Transportation Research Center, Inc.
 12320 State Route 347
 East Liberty, Ohio 43319

Date Tested: 06/10/98

DATA SHEET 12 - HIGH SPEED EFFECTIVENESS AT GVWR

Testing Conditions: FVW DATA, Section 0320, 06/10/98, 15:14:31

Weather Conditions: 79°F Wind: 4 mph 351° Start Odo. 607 End Odo. 629

Schedule:

Initial Brake Temperature: 58 100°C
 Initial Speed: 80% max km/h, not greater than 150km/h
 6 stops with transmission in gear

Performance Requirements:

One Stop with:
 Stopping Distance less than: 187.5 meter
 Pedal force between 65N and 100N
 No Lock-Up allowed longer than 0.1 sec above 5 km/h
 Vehicle Must stay in lane of 3.6m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	COMBINED	MAX.	AVG.	MAX.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	DISTANCE	PEDAAL	PEDAAL	PEDAAL	PEDAAL
	(km/h)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec²)	(m/sec²)
1	158.89	90	82	82	82	115.1	116.7	565.77	352.76	11.82	8.04
2	139.57	92	86	74	73	117.3	119.0	423.52	305.23	11.91	8.09
3	139.08	93	87	76	73	118.3	120.2	459.88	370.05	12.17	8.08
4	123.48	93	86	76	76	118.6	119.4	423.35	374.14	12.42	7.86
5	119.55	92	87	76	74	119.2	119.3	483.59	459.42	11.52	8.03
6	109.34	94	86	75	75	117.5	118.6	453.46	389.39	14.33	8.14

STOP DRIVER VEHICLE STOP COMMENTS
 # (Wheel Lock Up - Direction of Stop - Stay in Lane)

STOP	DRIVER	VEHICLE	STOP	COMMENTS
#				
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 7/8/98
 Approving Laboratory Official: GARY WAGNER Date: 7/13/98

Vehicle: 1988 GEN. MOTORS
 Make: CADILLAC
 Model: CATERA
 Body Style: 4-DOOR SEDAN
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

NHTSA NUMBER: CN0120

Transportation Research Center, Inc.
 10220 State Route 347
 East Liberty, Ohio 43019

Date Tested: 06/11/88

DATA SHEET 13 - STOPS WITH ENGINE OFF AT GVWR

Testing Conditions: INV DATA, Section 0025, 06/11/88, 07:19:25

Weather Conditions: 63°F Wind: 1 mph 13° Start Odo.: 638 End Odo.: 614

Schedule:

Initial Brake Temperature: 65 100°C
 Initial Speed 100 km/h to zero
 5 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 70m
 Pedal force between 60N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAF 293) (meters)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		1ET (°C)	1BT (°C)	1RT (°C)	1RO (°C)						
1	98.63	76	72	47	44	47.4	49.5	554.93	310.43	12.02	7.99
2	98.74	93	87	58	56	45.7	46.9	443.52	351.86	12.17	9.75
3	100.32	88	86	57	52	63.7	63.3	407.31	311.73	12.15	9.34
4	100.39	91	88	65	61	50.6	49.7	345.65	277.32	13.98	8.28
5	99.59	87	84	61	58	45.9	46.4	441.17	302.52	14.53	8.39
6	98.48	98	84	66	65	46.6	45.1	452.72	301.85	11.84	8.70

STOP

DRIVER VEHICLE STOP COMMENTS

(Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP #	WHEEL LOCK-UP	DIRECTION OF STOP	STAY IN LANE
1	NOX	SOUTH	YES
2	-	LTX-INIT SOUTH	YES
3	-	Driver turned ignition key "off" too far, AHS was not "on"	
4	-	NOX SOUTH	YES
5	-	NOX SOUTH	YES
6	-	NOX SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTHERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENNINGS Date: 7/8/88
 Approving Laboratory Official: GARY WAGNER Date: 7/13/88

Vehicle: 1996 CHEVROLET
 Make: CADILLAC
 Model: CATERA
 Body Style: 4-DOOR SEDAN
 Front Cold Tire Pressure: 321 (Kpa)
 Rear Cold Tire Pressure: 321 (Kpa)

NHTSA NUMBER: CW0120

Transportation Research Center, Inc.
 10920 State Route 347
 East Liberty, Ohio 43319

Date Tested: 06/11/98

DATA SHEET 14 - COLD EFFECTIVENESS AT LLVW

Testing Conditions: INV DATA, Section 3030, 06/11/98, 08:30:51

Weather Conditions: 64°F Wind: 5 mph 75° Start Odo.: 647 End Odo.: 655

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than **70m**
 Pedal force between 65N and 500N
 No Lock Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE	CORRECTED DISTANCE	MAX. PEDAL	AVG. PEDAL	MAX. DECEL	AVG. DECEL
	(Kpa)	(°C)	(°C)	(°C)	(°C)	(meters)	(meters)	(N)	(N)	(m/sec²)	(m/sec²)
1	93.32	74	69	47	46	43.9	42.1	329.94	396.56	14.41	9.13
2	99.33	95	93	50	60	43.5	44.1	350.44	421.04	13.06	9.19
3	99.78	93	97	61	62	50.2	50.4	362.35	287.76	13.52	8.33
4	98.03	94	89	57	57	44.6	45.0	405.20	302.95	13.27	8.37
5	98.63	92	86	56	57	45.1	46.2	412.56	321.78	14.41	8.63
6	99.44	92	84	56	57	44.0	46.4	342.20	404.00	14.39	8.10

STOP DRIVER VEHICLE STOP COMMENTS
 # (Wheel Lock-Up - Direction of Stop - Stay in Lane)

1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KARRN HASTERHAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 7/8/98
 Approving Laboratory Official: GARY WAGNER Date: 7/13/98

Vehicle: 1999 GEN.MOTORS NHTSA N.M.B.P.R.: CW0120 Transportation Research Center, Inc.
 Make: CADILLAC 10830 State Route 347
 Model: CATERA East Liberty, Colo 80313
 Body Style: 4-DOOR SEDAN
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa) Date Tested: 06/13/98

DATA SHEET 15 - HIGH SPEED EFFECTIVENESS AT LLVW

Testing Conditions: INV DATA, Section 0635, 06/12/98, 09:13:54

Weather Conditions: 73°F Wind: 11 mph 249° Start Cdn.: 601 End Cdn.: 679

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed: 30% max km/h
 6 stops with transmission in gear

Performance Requirements:

One Stop with:
 Stopping Distance less than 187.5m
 Pedal force between 65N and 500N
 No Lock Up allowed longer than 0.1 sec above 15 km/h
 Vehicle must stay in lane of 4.5m

STOP #	INIT SPD (kph)	LEFT FRONT TBT (°C)	RIGHT FRONT TBT (°C)	LEFT REAR TBT (°C)	RIGHT REAR TBT (°C)	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAB 280) (meter)	MAX. PEDAL FORCE (N)	AVG PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
1	158.08	84	76	85	82	138.6	120.6	719.74	433.70	14.66	9.22
2	160.52	95	86	82	86	168.8	138.1	476.32	376.20	14.56	9.06
3	158.83	88	83	89	86	108.6	110.1	454.74	285.67	16.78	9.21
4	159.63	84	89	83	84	167.1	137.1	462.94	371.75	16.66	9.25
5	150.12	91	87	81	82	109.0	108.9	468.90	373.34	15.24	9.26
6	159.50	81	87	89	82	104.5	129.1	472.60	378.96	15.04	9.28

STOP # DRIVER VEHICLE STOP COMMENTS
 (Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP #	WHEEL LOCK-UP	DIRECTION OF STOP	STAY IN LANE
1	-	NOK	SOUTH YES
2	-	NOK	SOUTH YES
3	-	NOK	SOUTH YES
4	-	NOK	SOUTH YES
5	-	NOK	SOUTH YES
6	-	NOK	SOUTH YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTEDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 7/8/98
 Approving Laboratory Official: GARY WAGNER Date: 7/8/98

Vehicle: 1998 GEA MOTORS
 Make: CADILLAC
 Model: CATERA
 Body Style: 4-DOOR SEDAN
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

NHTSA NUMBER: CW0120

Transportation Research Center, Inc.
 10821 State Route 347
 East Liberty, Ohio 43017

Date Tested: 06/12/98

DATA SHEET 16 - ANTILOCK FUNCTIONAL FAILURE AT LLVW

Testing Conditions: INV DATA, Section 0040, 06/12/98, 10:51:41

Weather Conditions: 56°F Wind: 12 mph 262° Start Odo.: 651 Run Odo.: 681

Schedule:

Initial Brake Temperature: 65-105°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance Less than 85m
 Pedal force between 15N and 500N
 No lock up allowed longer than 1.1 sec above 15 km/h
 Vehicle must stay in lane of 3.5m

STOP #	INIT SPD (Kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAE 299) (meters)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
		180° 180° (°C)	180° 180° (°C)	180° 180° (°C)	180° 180° (°C)						
1	88.83	81	77	59	50	50.9	52.2	221.26	177.34	9.82	6.57
2	100.44	84	89	54	58	54.7	54.3	281.32	223.34	10.93	7.58
3	99.16	98	90	65	59	47.9	48.4	290.21	200.20	11.18	8.05
4	90.53	97	58	62	47	57.0	57.5	237.12	188.35	9.52	7.10
5	59.61	90	68	41	48	52.7	53.1	277.49	196.35	10.02	7.77
6	59.13	95	67	59	50	49.6	50.4	388.70	190.16	10.15	7.88

STOP #	DRIVER VEHICLE STOP COMMENTS			
	IN Wheel Lock-Up - Direction of Stop - Stay in Lane!			
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	RFL-END	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

How was the ABS failure induced: REMOVED PUNK FROM PUSH PANEL UNDER DASH, F 10.

Is brake system indicator lamp activated: Yes (X) NO ()

Vehicle not equipped with variable proportioning valve. Data Sheet 17 not included.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY Observer: NONK
 Recorded Data Processed by: CHUCK JENKINS Date: 7/4/98
 Approving Laboratory Official: GARY WAGNER Date: 7/13/98

Vehicle: 1993 GEN. MOTORS
Make: CADILLAC
Model: CATERA
Body Style: 4-DOOR SEDAN
Front Cold Tire Pressure: 221 (Kpa)
Rear Cold Tire Pressure: 221 (Kpa)

NHTSA NUMBER: CW0120

Transportation Research Center, Inc.
11820 State Route 247
East Liberty, Ohio 43319

Date Tested: 06/12/98

DATA SHEET 18 - HYDRAULIC CIRCUIT FAILURE #1 AT LLVW

Testing Conditions: INV DATA, Section 0000, 06/12/98, 12:42:45

Weather Conditions: 70°F Wind: 16 mph 200° Start Odo.: 602 End Odo.: 646

Method of simulating failure: Disconnected Brake Lines

System Portion Failed: RF & LR

Schedule:

Initial Brake Temperature: 65-100°C
Initial Speed 100 km/h to zero
4 stops with transmission in neutral

Performance Requirements:

One Stop with:
Stopping Distance less than 169m
Pedal force between 65N and 510N
No Lock-Up allowed longer than 0.1 sec above 13 km/h
Vehicle Must stay in lane at 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT IRT (%)	RIGHT FRONT IRT (%)	LEFT REAR IRT (%)	RIGHT REAR IRT (%)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAR 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG DECEL (m/sec²)
1	99.54	74	45	42	53	84.0	86.0	414.05	304.49	4.91	4.24
2	103.07	47	37	32	72	150.4	151.0	445.86	246.85	7.25	3.27
3	99.94	46	37	42	46	97.1	97.1	414.46	319.89	4.77	4.15
4	98.94	34	41	23	54	91.9	93.8	475.55	383.95	6.61	4.15

STOP # DRIVER VEHICLE STOP COMMENTS
4 Wheel Lock-Up - Direction of Stop - Stay in lane)

STOP #	DRIVER	VEHICLE	STOP COMMENTS
1	-	NOX	SOUTH YES
2	-	False initial trigger, no stop	
3	-	NOX	SOUTH YES
4	-	NOX	SOUTH YES

Force Needed to Activate Brake Failure Lamp (N): N/A
Fluid Removed (mL) to Activate Brake Failure Lamp: 174

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN RASTERDAY Observer: NONE
Recorded Data Processed by: CHUCK JENKINS Date: 7/8/98
Approving Laboratory Official: GARY WAGNER Date: 7/13/98

Vehicle: 1998 GRN MC1048
 Make: CADILLAC
 Model: CATERA
 Body Style: 4-DOOR SEDAN
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

NHTSA NUMBER: C40120

Transportation Research Center, Inc.
 10820 State Route 247
 East Liberty, Ohio 43319

Date Tested: 06/12/98

DATA SHEET 19 - HYDRAULIC CIRCUIT FAILURE #2 AT LLVW

Testing Conditions: INV DATA, Section 0055, 06/12/98, 14:25:21

Weather Conditions: 82°F Wind: 14 mph 284° Start Odo.: 589 End Odo.: 635

Method of simulating failure: Disconnected Brake Lines

System Portion Failed: LF & RR

Schedule:

Initial Brake Temperature 65-100°C
 Initial Speed 100 km/h to zero
 4 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 168m
 Pedal force between 60N and 80N
 No lock up allowed longer than 0.1 sec above 15 km/h
 Vehicle must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (8AS 255)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		180° (°C)	180° (°C)	180° (°C)	180° (°C)						
1	98.48	46	71	55	36	96.4	97.4	460.03	421.26	7.21	4.04
2	101.10	45	95	52	36	96.7	94.6	477.71	387.93	7.16	4.04
3	100.42	47	91	62	46	99.1	98.3	467.37	412.82	7.76	3.96
4	100.25	51	96	66	37	95.6	95.1	483.80	419.05	7.27	4.01

STOP # DRIVER VEHICLE STOP COMMENTS
 (Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP #	WHEEL LOCK-UP	DIRECTION OF STOP	STAY IN LANE
1	-	NOX	SOUTH YES
2	-	NOX	SOUTH YES
3	-	NOX	SOUTH YES
4	-	NOX	SOUTH YES

Force Needed to Activate Brake Failure Lamp (N): N/A
 Fluid Removed (mL) to Activate Brake Failure Lamp: 174

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY Observer: NONE
 Recorded Data Processed By: CHUCK JENKINS Date: 7/6/00
 Approving Laboratory Official: GARY WAGNER Date: 7/11/98

Vehicle: 1996 GEN.MOTORS
Make: CADILLAC
Model: CATERA
Body Style: 4-DOOR SEDAN
Front Cold Tire Pressure: 221 (Kpa)
Rear Cold Tire Pressure: 221 (Kpa)

NHTSA NUMBER: CW0120

Transportation Research Center, Inc.
17820 State Route 347
East Liberty, Ohio 43413

Date Tested: 05/17/98

DATA SHEET 20 - HYDRAULIC CIRCUIT FAILURE #1 AT GVWR

Testing Conditions: INV DATA, Section 5060, 06/17/98, 11:53:55

Weather Conditions: 75°F Wind: 13 mph 100% Start Odo.: 719 End Odo.: 724

Method of simulating failure: Disconnected Brake Lines

System Portion Failed: LP & RR

Schedule:

Initial Brake Temperature 65-100°C
Initial Speed 100 km/h to zero
6 stops with transmission in neutral

Performance Requirements:

One Stop within:
Stopping Distance less than 168m
Pedal force between 65N and 500N
No lock up allowed longer than 0.7 sec above 15 km/h
Vehicle Must stay in lane of 1.8m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAB 213) (meters)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
1	100.35	85	45	36	65	100.8	99.5	440.27	426.11	7.05	5.96
2	89.78	86	44	34	76	104.7	105.2	455.68	381.18	6.76	3.64
3	100.33	87	49	34	72	100.1	99.5	521.35	421.05	7.19	5.91
4	89.19	96	49	34	78	106.7	106.4	457.80	394.20	7.37	3.79

STOP # DRIVER VEHICLE STOP COMMENTS
Wheel Lock-Up - Direction of Stop - Stay in Lane!

1	NOX	SOUTH	YES
2	NOX	SOUTH	YES
3	NOX	SOUTH	YES
4	NOX	SOUTH	YES

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN WASTENDAY Observer: NONE
Recorded Data Processed by: CHUCK JENKINS Date: 7/8/98
Approving Laboratory Official: GARY WAGNER Date: 7/23/98



U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

Auto Safety Hotline

Vehicle Owner's Questionnaire

NATIONWIDE 1-800-424-9393
DC METRO AREA (202) 366-0123
INTERNET: <http://www.nhtsa.dot.gov>

FOR AGENCY USE ONLY 336

Date Received

22-MAY-2001

Od_or _____
rt_dt _____
pd_rt _____
rp_lr _____

Reference No.

888888

Do you authorize NHTSA to provide a copy of report to the manufacturer of your vehicle? ☐ YES ☐ NO
In the absence of an authorization, NHTSA WILL NOT provide your name and address to the vehicle manufacturer.

Signature of Owner _____ Date ____/____/____

VEHICLE INFORMATION

Vehicle Ident. No. (VIN) (Location at bottom of windshield and driver's side)		Vehicle Make	Vehicle Model	Vehicle Year	Current Odometer Reading
2FMDA51U3WBB95740		FORD TRUCK	WINDSTAR	1998	
Purchase Date	Dealer's Name _____		Engine Size (CID/CC/L _____)	☐ Turbo ☐ Diesel ☐ Gas ☐ Fuel Injection	
☐ New ☒ Used	City _____ State _____ Zip Code _____		No Cylinders _____		
Transmission Type	Antilock Brakes	Restraint System	Cruise Control	Drive Train	Vehicle Type
☐ Manual ☐ Automatic	☐ Yes ☒ No	☐ 3-Point Belt ☐ Driverside Airbag ☐ Passengerside Airbag ☐ Motorbelt ☐ 2-Point Belt	☐ Yes ☒ No	☐ Front ☐ Rear ☐ 4-Wheel	☐ Car ☒ Van ☐ Minivan ☐ Other _____
					Body Style
					☐ 2-Door ☐ 4-Door ☐ Stationwagon ☐ Pick Up Truck ☐ Other _____

FAILED COMPONENT(S)/PART(S) INFORMATION

Component 09012000 13450000	Part Name(s) LIGHTING:GENERAL OR UNKNOWN COMPONENT:INSTRUMENT I STRUCTURE:DOOR ASSEMBLY:LATCHES AND LOCKS	Location ☐ Left ☐ Right ☐ Front ☐ Rear	Failed Part(s) ☐ Original ☐ Replacement
No of Failure 0	Date(s) of Failure(s) 18-APR-2001 39930 Mileage at Failure(s) 0	Failed Part(s) ☐ Yes ☐ No	NHTSA Previously ☐ Yes ☐ No

APPLICATION INCIDENT INFORMATION

(Please describe in detail the incident(s), Failure(s), Crash(es), and Injury(ies) on the back of this form)

Crash ☐ Yes ☒ No	Fire ☐ Yes ☒ No	Number of Persons Injured 0	Number of Fatalities 0	Estimated Property Damage	Reported to Police ☐ Yes ☒ No
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NARRATIVE DESCRIPTION OF FAILURE(S), INCIDENT(S), INJURY(IES)

AJAR BELL KEEPS RINGING, DASH LIGHT IS ON, AND LIGHTS UP. DOOR IS NOT OPEN, BUT BELL CONTINUES TO RING. *AK

COPIES OF THIS FORM ARE:

The Privacy Act of 1974-Public Law 93-579 This information is requested pursuant to authority vested in the National Highway Traffic Safety Act and subsequent amendments. You are under no obligation to respond to this questionnaire. Your response may be used to assist the NHTSA in determining whether a manufacturer should take appropriate action to correct a safety defect. If the NHTSA proceeds with administrative enforcement or litigation against a manufacturer, your response, or a statistical summary thereof, may be used in support of the agency's action.