

1769

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301-CAL-93-3

VEHICLE SAFETY COMPLIANCE TESTING FOR OCCUPANT CRASH PROTECTION,
WINDSHIELD MOUNTING, WINDSHIELD ZONE INTRUSION (PARTIAL)
AND FUEL SYSTEM INTEGRITY

CHRYSLER CORPORATION
1993 EAGLE VISION ESi
4-DOOR SEDAN

NHTSA NUMBER: CP0303

CALSPAN TEST NUMBER: 8056-4

OCTOBER 15, 1992

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FINAL REPORT

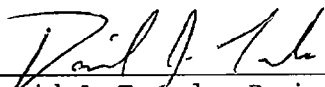
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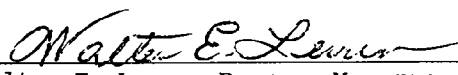
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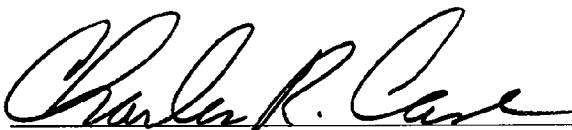
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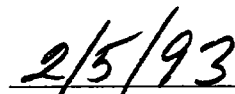
Approved:


Walter E. Levan, Program Manager
Transportation Sciences Center

FINAL REPORT ACCEPTED BY:



Contracting Office's Technical Representative
(COTR), NHTSA, Office of Vehicle Safety Compliance



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16. Abstract A 30 mph vehicle safety compliance test was conducted on a 1993 Eagle Vision ESi 4-Door Sedan. This test was performed at the Calspan Advanced Technology Center in Buffalo, New York on October 15, 1992. The purpose of this test was to determine compliance with the performance requirements of the following Federal Motor Vehicle Safety Standards: 1. FMVSS No. 208, "Occupant Crash Protection" 2. FMVSS No. 212, "Windshield Mounting" 3. FMVSS No. 219 (partial), "Windshield Zone Intrusion" 4. FMVSS No. 301, "Fuel System Integrity" The test mode was perpendicular (0°) and the impact velocity was 29.8 mph. The ambient temperature at the impact face was 57°F. The subject test vehicle appears to comply with the requirements of FMVSS Nos. 208, 212, 219 (partial) and 301. <u>Type of Restraint System:</u> The test vehicle was equipped with driver and right front passenger air bags. Manual 3-point seat belts were not used for this test.					
17. Key Words 30 mph Vehicle Safety Compliance Testing FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Mounting" FMVSS 219, "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity" Frontal Impact			18. Distribution Statement Copies of this report are available from: Technical Reference Division National Highway Traffic Safety Admin. Nassif Building, Room 5108 (NAD-52) 400 Seventh St., S.W., Washington, DC 20590		
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Section 1

PURPOSE AND TEST PROCEDURE

This 30 mph frontal barrier impact test is part of the Federal Motor Vehicle Safety Standard (FMVSS) 208, 212, 219 (partial) and 301 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by Calspan Advanced Technology Center under Contract No. DTNH22-90-C-01003. The purpose of this test was to determine if the subject vehicle, a 1993 Eagle Vision ESi, meets the performance requirements of FMVSS 208, "Occupant Crash Protection"; FMVSS No. 212, "Windshield Mounting"; FMVSS No. 219 (partial), "Windshield Zone Intrusion"; and FMVSS No. 301, "Fuel System Integrity". This compliance test was conducted using the requirements found in the OVSC Laboratory Test Procedure No. TP-208-08, dated September 8, 1989.

Section 2

SUMMARY OF TEST NUMBER CP0303

A frontal barrier was impacted by a 1993 Eagle Vision ESi 4-Door Sedan at a velocity of 29.8 mph. The test was performed at the Calspan Corporation Advanced Technology Center on October 15, 1992. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by one real-time camera and 14 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right front passenger seating positions according to dummy placement instructions specified in the OVSC Laboratory Test Procedure.

Both ATDs were fully instrumented with head and chest triaxial accelerometers, chest displacement potentiometers and left/right femur load cells. These ATDs had been certified prior to the test.

The 25 channels of data were recorded on two 14-channel FM tape recorders. Appendix B contains the vehicle and dummy response data traces.

The driver's HIC was 482. The maximum chest deceleration over 3 milliseconds was 58.6 g's with 0.5 inches of deflection. The maximum force on the driver's left femur was 1709 pounds and 1707 pounds on the right femur.

The right front passenger's HIC was 238. The maximum chest deceleration over 3 milliseconds was 47.1 g's with 0.7 inches of deflection. Loads of 1772 and 1966 were recorded on the left and right femurs respectively.

Table 1
CRASH TEST SUMMARY

Vehicle NHTSA No.: CP0303 Test Mode: 30 mph Frontal Barrier

Test Date: October 15, 1992 Time: 14:35 Temperature: 57 °F

Vehicle Make/Model/Body Style: 1993 Eagle Vision ESi 4-Door Sedan

Vehicle Test Weight: 3650 lbs.

Vehicle/Barrier Impact Angle: 0 °

Impact Velocity: 29.8 mph

Maximum Static Crush: 20.7 inches

Vehicle Rebound: 19.4 inches

<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Type:	<u>Part 572E</u>	<u>Part 572E</u>
Restraint System:	<u>Air bag</u>	<u>Air bag</u>

Number of Data Channels: 25

Number of Cameras: 1 Real Time
14 High Speed

DOOR OPENING DATA: Closed - Left Front
Closed - Right Front

Front Seat(s) Data:	<u>DRIVER</u>	<u>PASSENGER</u>
Seat Track Failure:	<u>0.0</u>	<u>0.0</u>
	inches of shift	
Seat Back Failure:	<u>None</u>	<u>None</u>

<u>VISIBLE DUMMY CONTACT POINTS:</u>	<u>DRIVER</u>	<u>PASSENGER</u>
Head:	<u>Center of air bag</u>	<u>Air bag</u>
Abdomen:	<u>Air bag</u>	<u>Air bag</u>
Chest:	<u>Air bag</u>	<u>Air bag</u>
Knees:	<u>Lower dash</u>	<u>Glove box door</u>

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 1993 Eagle Vision 4-Door Sedan
 NHTSA No.: CP0303; VIN: 2E3ED56TOPH504461; Color: Char-Gold Satin Glow
 Engine Data: 6 cylinders; - CID; 3.3 Liters; - cc
 Placement: X Longitudinal or In-Line; - Transverse or Lateral
 Transmission Data: 4 speeds; - Manual; X Automatic; X Overdrive
 Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel Drive
 Major Options: X A/C; X Pwr.Strg.; X Pwr.Brakes
X Pwr.Windows; X Pwr.Door Locks; X Tilt Wheel
 Date Received: 9/11/92; Odometer Reading 274 miles
 Selling Dealer: Kane-Doyle Inc.
 & Address 2780 Delaware Avenue.. Kenmore, NY 14217

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by: Chrysler Corporation
 Date of Manufacture: 8/92
 GVWR: 4314 lbs.; GAWR: 2483 lbs. FRONT; 1906 lbs. REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load: 35 psi FRONT
35 psi REAR
 Recommended Tire Size: P20570R15955
 *Recommended Cold Tire Pressure: 35 psi FRONT; 35 psi REAR
 Size of Tires on Test Vehicle: P205/70R15955; Manufacturer: Michelin XGT4
 Vehicle Capacity Data:
 Type of Front Seats: - Bench; X Bucket; - Split Bench
 Number of Occupants: 2 Front; 3 Rear; 5 Total
 Vehicle Capacity Weight (VCW) = 865 lbs.
 No. of Occupants x 150 lbs. = 750 lbs.
 Rated Cargo/Luggage Weight (RCLW) = 115 lbs. (Difference)

*Tire pressure used for test

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (WITH MAXIMUM FLUIDS) = UDW:

Right Front = 1040 lbs. Right Rear = 550 lbs.
 Left Front = 1040 lbs. Left Rear = 590 lbs.
 TOTAL FRONT = 2080 lbs. TOTAL REAR = 1140 lbs.
 % of Total Vehicle Weight = 64.6 % of Total Weight = 35.4 %
 TOTAL DELIVERED WEIGHT = 3220 lbs.

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight = 3220 lbs.
 Rated Cargo/Luggage Weight (RCLW) = 115 lbs.
 Weight of 2 P.572 Dummies @ ¹⁶⁷~~104~~ ea. = 334 lbs.
 TARGET TEST WEIGHT _{cca} = 3669 lbs. (sum)

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 0 POUNDS OF CARGO WEIGHT:

Right Front = 1150 lbs. Right Rear = 710 lbs.
 Left Front = 1080 lbs. Left Rear = 710 lbs.
 TOTAL FRONT = 2230 lbs. TOTAL REAR = 1420 lbs.
 % of Total Weight = 61.1 % % of Total Weight = 38.9 %
 TOTAL TEST WEIGHT = 3650 lbs.

Weight of Ballast Secured in Vehicle Trunk Area = 50 lbs.

Vehicle Components Removed for Weight Reduction: None

VEHICLE ATTITUDE (all dimensions in inches):

AS DELIVERED: RF 28.7 LF 28.6 RR 30.0 LR 29.5
 FULLY LOADED: RF 28.0 LF 27.9 RR 28.0 LR 27.6
 AS TESTED: RF 28.3 LF 28.5 RR 28.7 LR 28.6
 Vehicle's Wheel Base: 112.8 in.

Location of Vehicle's C.G.: 43.9 inches rearward of front wheel center

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 18 gallons
 Usable Capacity Figure Furnished by COTR = 18 gallons
 Test Volume Range (92 to 94% of Usable Capacity) = 16.6 to 16.9 gallons
 ACTUAL TEST VOLUME = 16.7 gallons (with entire fuel system filled)

Table 3

POST IMPACT DATATYPE OF TEST:

Type of Test: Frontal Barrier Impact Angle: 0°
 Test Date: October 15, 1992 Time: 14:35 Temperature: 57°F
 Vehicle NHTSA No.: CP0303
 Required Impact Velocity Range: 28.9 to 29.9 mph

BARRIER IMPACT VELOCITY: (Speed traps within 5 feet of impact plane.)

Trap No. 1 = 29.8 mph; Trap No. 2 = 29.8 mph
 Distance from vehicle to barrier: (1) entering trap = 52 inches
 (2) exiting trap = 12 inches

VEHICLE STATIC CRUSH: (For frontal and rear impacts only.)

Vehicle Length:

Pre-Test Right = 196.1; C/L = 201.7; Left = 196.0
 Post-Test Right = 186.2; C/L = 181.0; Left = 184.5
 Crush Right = 9.9; C/L = 20.7; Left = 11.5
 AVERAGE = 14.0 inches

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point:

Right = 16.8; C/L = 20.8; Left = 20.5
 AVERAGE = 19.4 inches

DOOR OPENING:

	Left	Right
Front	<u>Closed</u>	<u>Closed</u>
Rear	<u>Closed</u>	<u>Closed</u>

SEAT MOVEMENT:

	Seat Back Failure	Seat Shift
Front	<u>None</u>	<u>None</u>
Rear	<u>N/A</u>	<u>N/A</u>

Table 3

POST IMPACT DATA (cont.)

GLAZING DAMAGE: Windshield cracked throughout. Driver side windshield bubbled
out from interior contact, however, no dummy chalk visible on interior of
windshield.

OTHER NOTABLE IMPACT FEATURES: Steering column moved up.

Section 3
OCCUPANT AND VEHICLE DATA

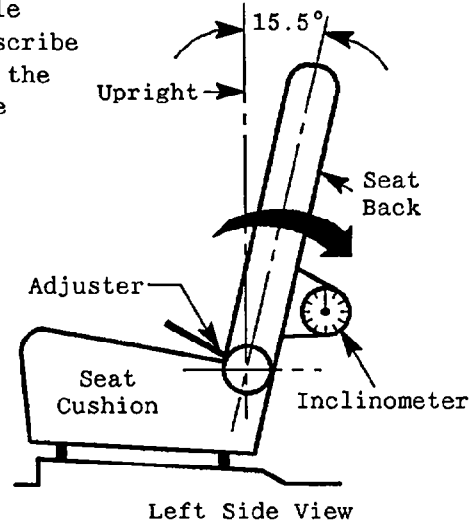
Figure 1

TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year: 1993 Vehicle Model: Eagle Vision ESi Body Style: 4-Door Sedan

1. Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



Seat back angle for driver's seat: 15.5°

Measurement instructions: Measure angle along rear of headrest post

Seat back angle for passenger's seat: 15.5°

Measurement instructions: Same as driver

2. Seat Fore and Aft Positioning

Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, provide information to locate the detent in which the seat track is to be locked.

Positioning of the driver's seat: Seat on 12th detent of 23 total
detents (mid-position)

Positioning of the passenger's seat (if applicable): Same as driver

3. Fuel Tank Capacity Data

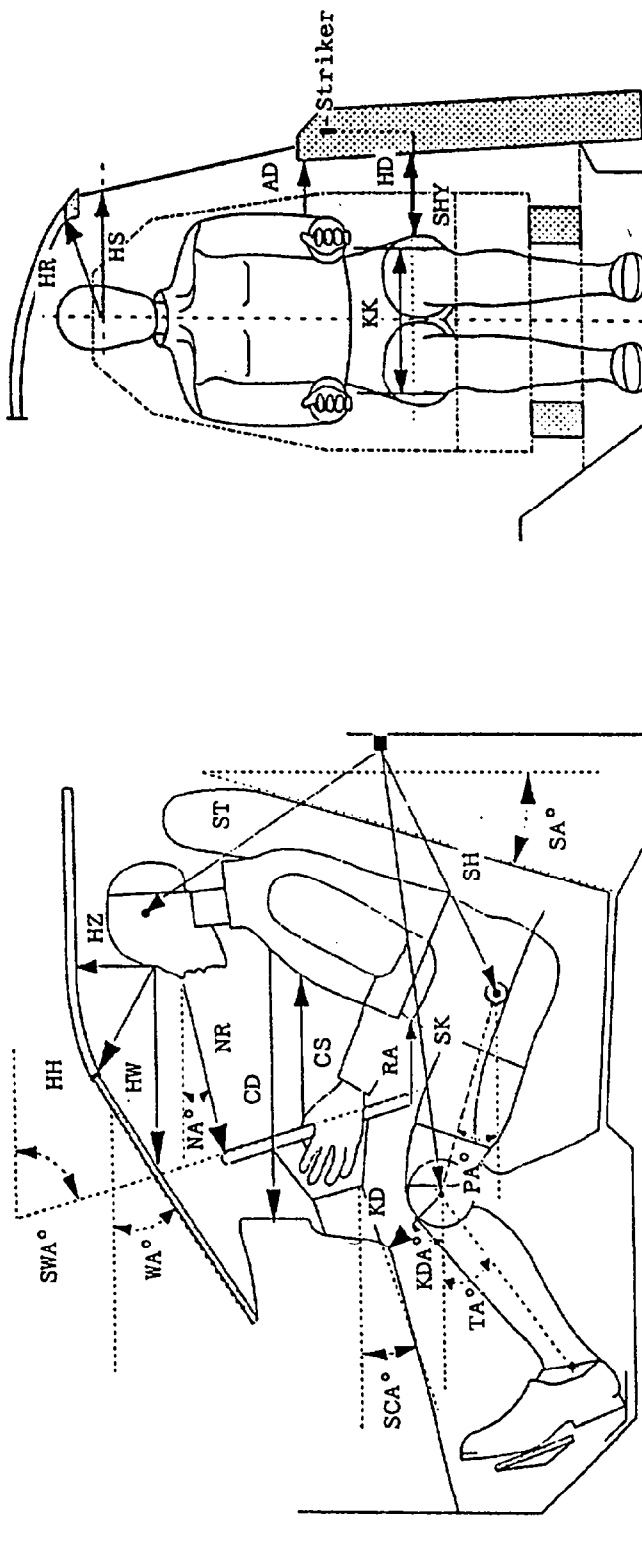
A. "Usable Capacity" of the standard equipment fuel tank is 18 gallons

B. "Usable Capacity" of the optional equipment fuel tank is - gallons

Additional Instructions: None

Figure 2

PART 572 DUMMY IN-VEHICLE POSITION

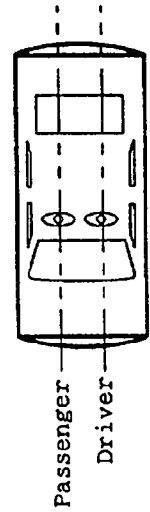


HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
NR - Nose to Rim
CS - Steering Wheel to Chest
CD - Chest to Dash
RA - Rime to Abdomen
KDL/KDR - Knee to Dash Angle
KDA - Knee to H-Point
SH - Striker to H-Point

SK - Striker to Knee
ST - Striker to Head
NA - Nose to Rim Angle
TA - Tibial Angle
PA - Pelvic Angle
SA - Seat Back Angle
SCA - Steering Column Angle
SWA - Steering Wheel Angle
WA - Windshield Angle

HR - Head to Side Header
HS - Head to Side Window
AD - Arm to Door
HD - H-Point to Door
SHY - Striker to H-Point (Y Dir.)
KK - Knee to Knee

Vertical Longitudinal Planes



Vertical Transverse Planes

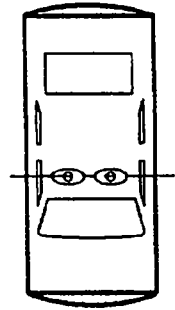
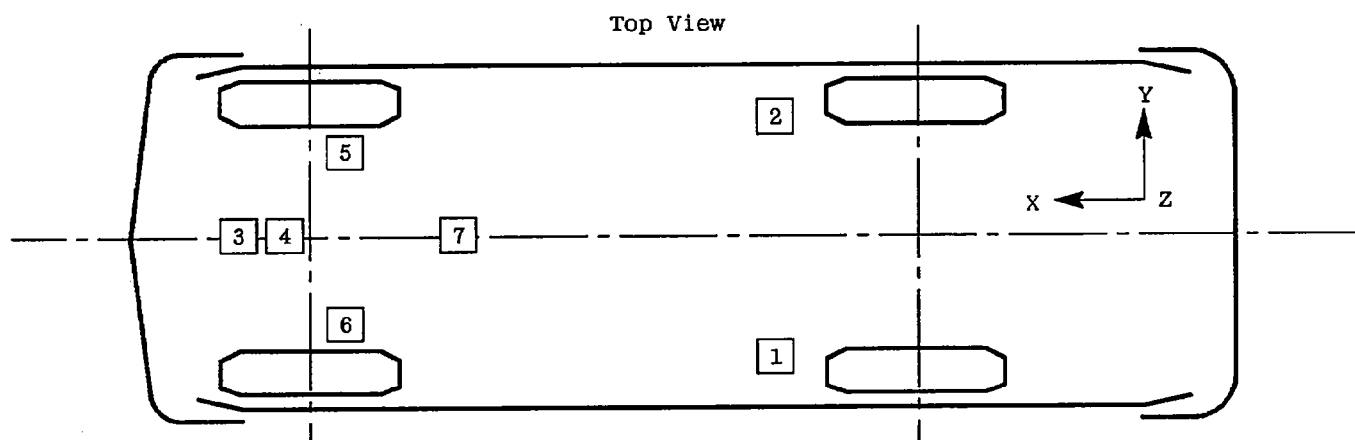


Table 4

FRONT SEAT OCCUPANT MEASUREMENTS

	DRIVER (Serial #290)	PASS (Serial #313)
WA°	24°	
SWA°	66°	
SCA°	24° column set in mid-position	
SA°	15.5° as specified by manufacturer	15.5° as specified by manufacturer
HZ	6.8	6.7
HH	13.8	13.3
HW	24.6	24.2
HR	7.7	7.7
NR	14.8 Angle 12°	
CD	20.9	19.3
CS	12.1	
RA	7.6	
KDL	5.8 Angle (KDA) 26°	6.2
KDR	6.1	6.1 Angle (KDA) 36°
PA°	24°	24°
TA°	38°	41°
KK	13.0	10.6
ST	20.9 Angle 13°	20.7 Angle 15°
SK	22.5 Angle 94°	23.1 Angle 96°
SH	10.1 Angle 134°	9.5 Angle 134°
SHY	10.1	10.5
HS	13.6	13.6
HD	5.6 To door pocket	5.6 To door pocket
AD	4.5	5.3

Figure 3
VEHICLE ACCELEROMETER LOCATIONS



ACCELEROMETER NUMBER*	ACCELEROMETER LOCATION	DIRECTION		
		X	Y	Z
1	Left Rear Seat Crossmember	X		
2	Right Rear Seat Crossmember	X		
3	Top of Engine	X		
4	Bottom of Engine	X		
5	Right Disc Brake Caliper	X		
6	Left Disc Brake Caliper	X		
7	Instrument Panel	X		

*The accelerometer pack number can be correlated with the vehicle response data traces found in Appendix B.

Table 5
VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

NO.	LOCATION		X*	Y*	Z*	POSITIVE DIRECTION**		NEGATIVE DIRECTION**	
						MAX (g)	TIME (msec)	MAX (g)	TIME (msec)
1	REAR SEAT X-MEMBER AT LEFT SIDE	PRE:	78.7	23.5	14.6				
		POST:	78.7	23.5	14.8				
	LONGITUDINAL ACCELERATION					0	-4	-41	55
2	REAR SEAT X-MEMBER AT RIGHT SIDE	PRE:	78.8	-23.5	14.6				
		POST:	78.8	-23.5	14.8				
	LONGITUDINAL ACCELERATION					12	174	-30	61
3	TOP OF ENGINE BLOCK	PRE:	166.5	5.0	31.3				
		POST:	157.0	5.1	32.0				
	LONGITUDINAL ACCELERATION					19	42	-96	34
4	BOTTOM OF ENGINE	PRE:	163.9	0.0	9.4				
		POST:	156.9	0.0	9.1				
	LONGITUDINAL ACCELERATION					30	43	-83	31
5	BRAKE CALIPER AT RIGHT SIDE	PRE:	158.9	-23.8	18.4				
		POST:	154.2	-23.8	18.4				
	LONGITUDINAL ACCELERATION					21	64	-103	47
6	BRAKE CALIPER AT LEFT SIDE	PRE:	158.9	23.8	18.4				
		POST:	154.1	23.8	18.4				
	LONGITUDINAL ACCELERATION					99	48	-53	40
7	DASH PANEL	PRE:	123.2	-3.0	31.4				
		POST:	123.2	-3.0	32.7				
	LONGITUDINAL ACCELERATION					45	73	-211	66

*X + Forward from rear bumper Y + Left from vehicle centerline Z + Up from ground	**	LONGITUDINAL: LATERAL: VERTICAL:	<u>POSITIVE</u> FORWARD LEFTWARD UPWARD	<u>NEGATIVE</u> REARWARD RIGHTWARD DOWNWARD
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DISTANCE MEASUREMENTS IN INCHES

Figure 4
CAMERA POSITIONS FOR FRONTAL IMPACTS

NOTE: Camera Information Shown on Table 5.

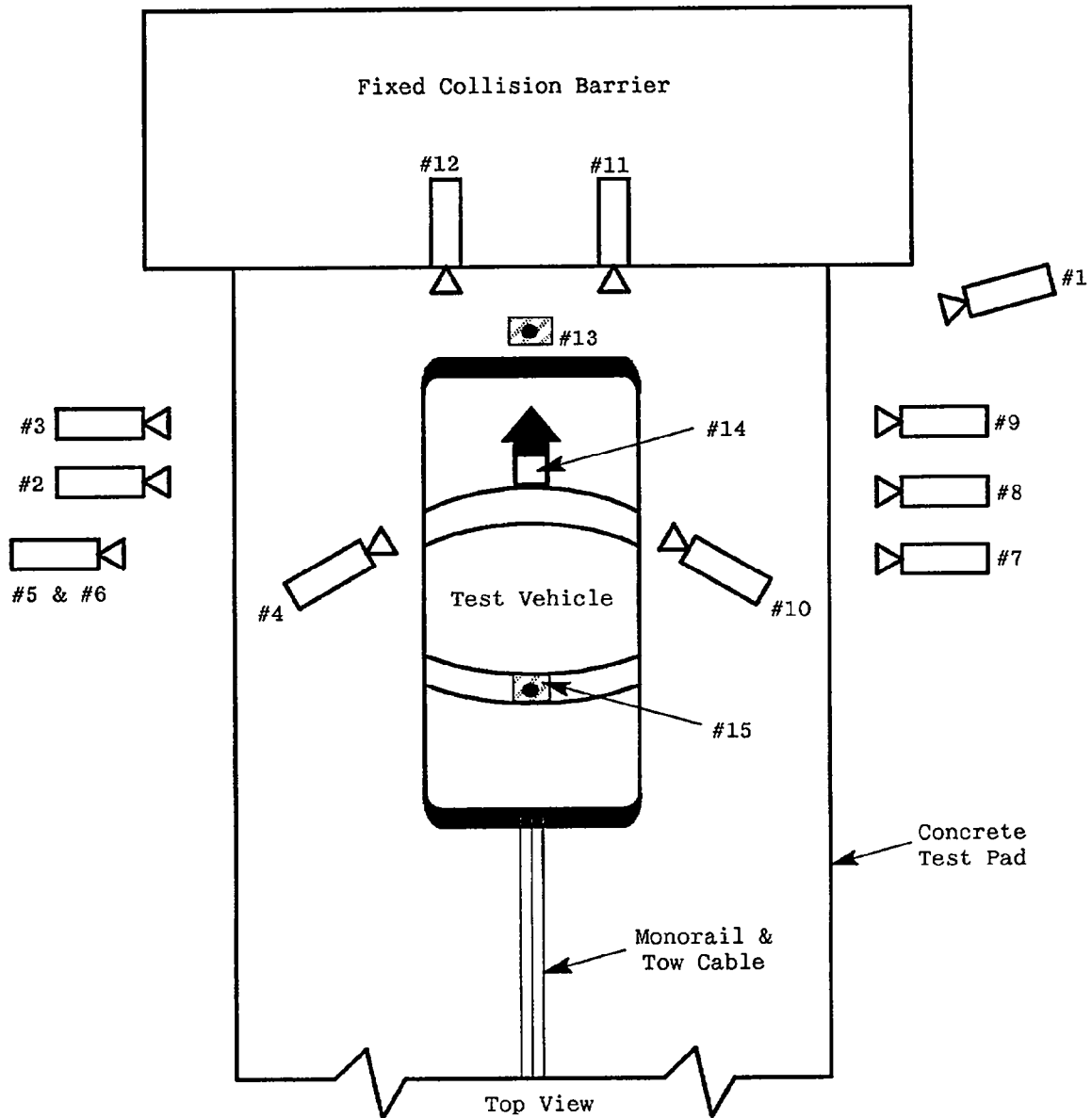


Table 6

HIGH-SPEED CAMERA LOCATIONS

Test No.	CAMERA NO.	VIEW	CAMERA POSITIONS (in)*			ANGLE** (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
			X	Y	Z				
	1	Real-Time Camera	-	-	-	-	-	-	24
	2	Overall Left Side	264	67	41	-4	246.3	13	550
	3	Left Side View	330	50	42	-4	312.3	25	610
	4	Driver and Interior View	124	108	69	-18	-	13	570
	5	Steering Column (Bottom)	303	80	46	-5	285.3	25	590
	6	Steering Column (Top)	303	80	70	-9	285.3	25	570
	7	Overall Right Side	254	87	41	-6	236.3	13	560
	8	Right Side View	318	56	40	-2	300.0	25	560
	9	Right Passenger View	330	82	58	-5	312.3	35	530
	10	Passenger and Interior View	119	115	65	-16	-	13	570
	11	Passenger Front View	22	19	78	-38	-	13	615
	12	Driver Front View	22	19	78	-39	-	13	600
	13	Windshield View	0	0	126	-55	-	25	605
	14	Pit View of Engine	0	24	-90	90	-	13	655
	15	Pit View of Fuel Tank	0	139	-90	90	-	13	815

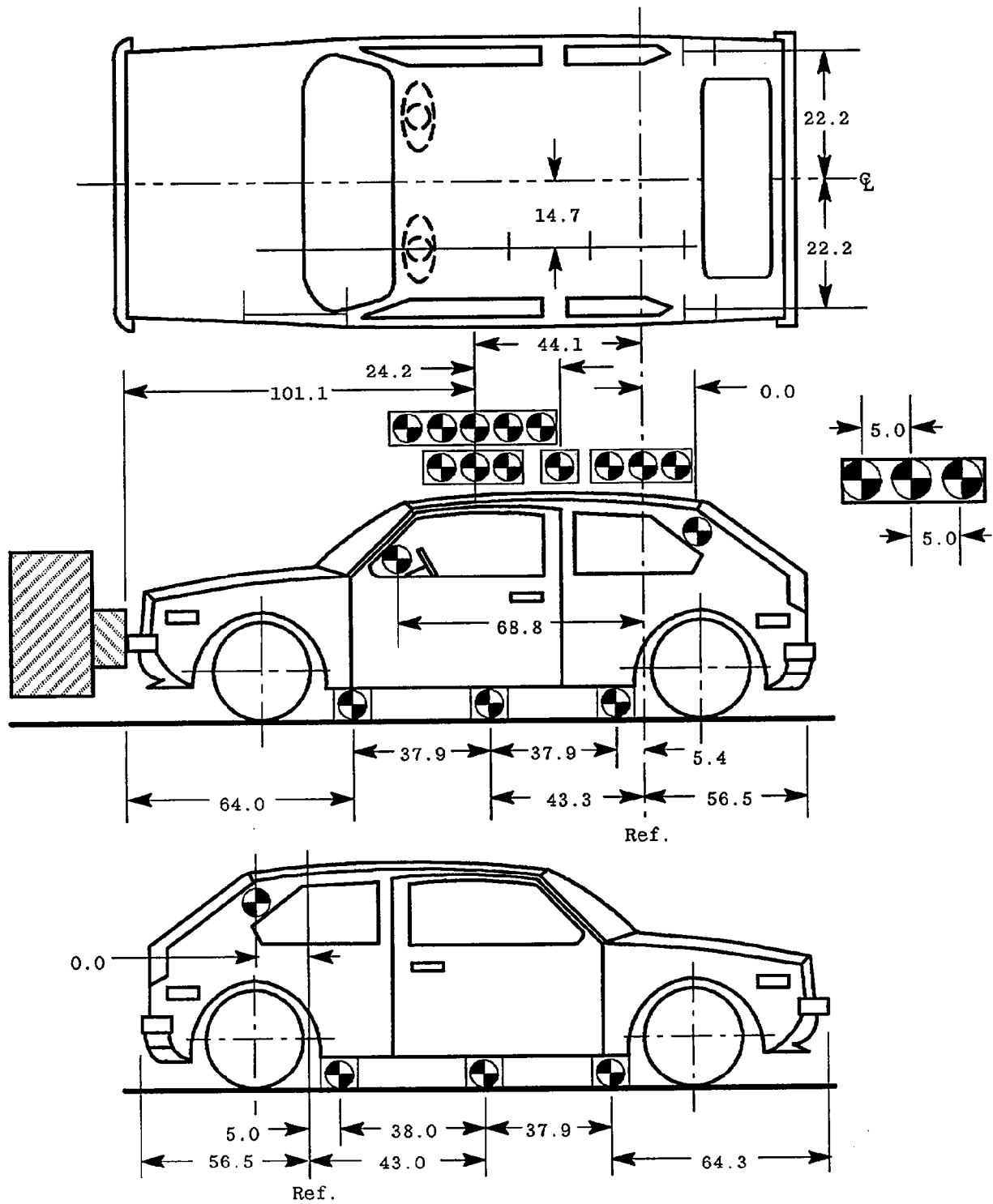
*X = film plane to monorail centerline

Y = film plane to impact location

Z = film plane to ground

** = referenced to horizontal plane

Figure 5
VEHICLE TARGET LOCATIONS



(Dimensions in inches)

Figure 6
TEST VEHICLE MEASUREMENTS

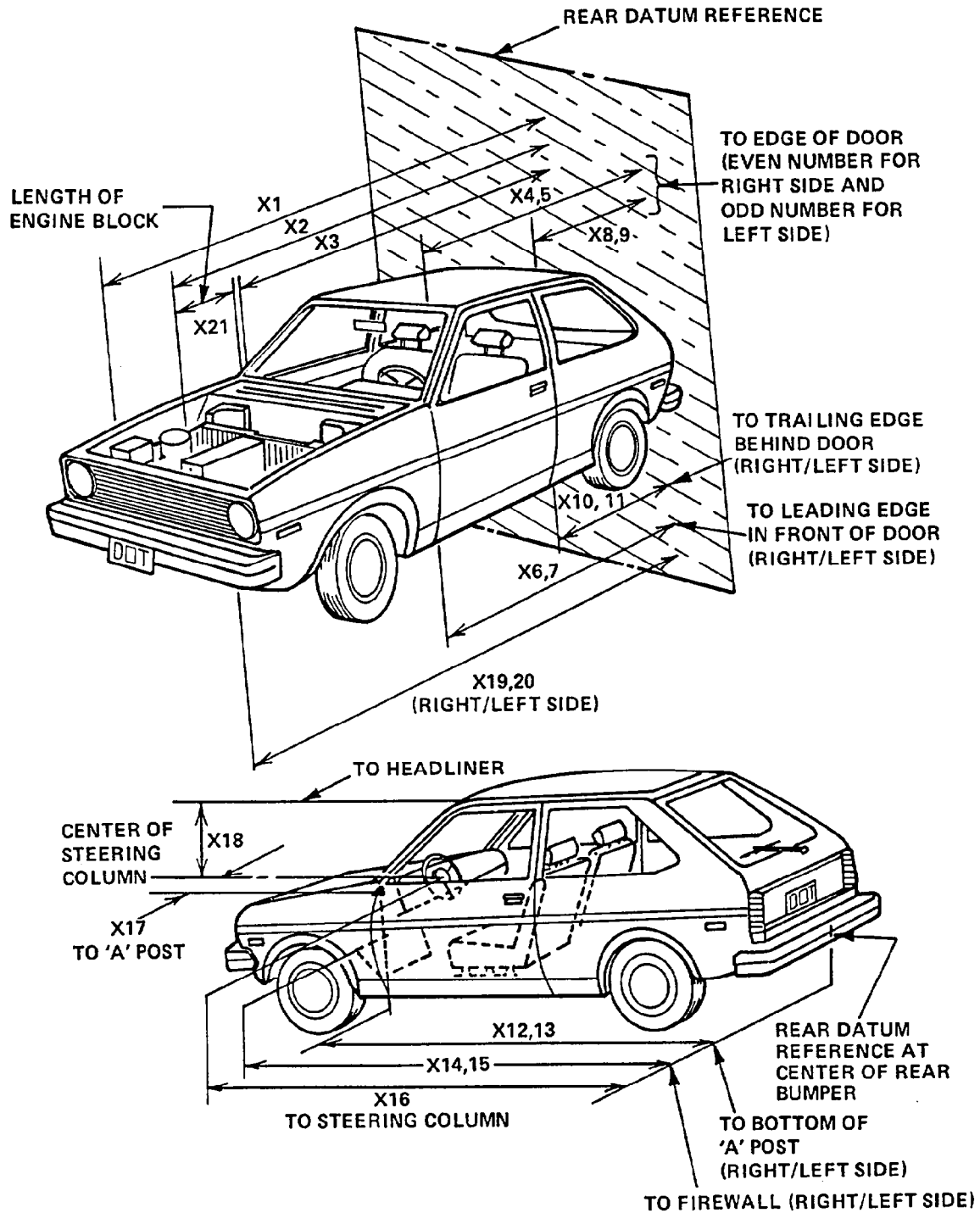


Table 7

VEHICLE MEASUREMENTS

No.		All Dimensions in Inches		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	201.7	181.0	20.7
X2	Rear Surface of Vehicle to Front of Engine	178.5	168.4	10.1
X3	Rear Surface of Vehicle to Firewall	158.2	154.7	3.5
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	138.8	138.4	0.4
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	138.6	138.3	0.3
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	135.8	135.8	0.0
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	136.2	135.4	0.8
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	94.9	94.3	0.6
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	94.6	94.0	0.6
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	94.4	94.4	0.0
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	94.5	94.1	0.4
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	133.0	133.4	-0.4
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	133.3	133.4	-0.1
X14	Rear Surface of Vehicle to Firewall, Right Side	157.2	155.1	2.1
X15	Rear Surface of Vehicle to Firewall, Left Side	156.1	153.4	2.7
X16	Rear Surface of Vehicle to Steering Column	118.3	118.0	0.3
X17	Center of Steering Column to "A" Post	16.9	17.1	-0.2
X18	Center of Steering Column to Headliner	15.2	11.5	3.7
X19	Rear Surface of Vehicle to Right Side of Front Bumper	196.1	186.2	9.9
X20	Rear Surface of Vehicle to Left Side of Front Bumper	196.0	184.5	11.5
X21	Length of Engine Block	17.3	17.3	0.0

Section 4

SUMMARY OF RESULTS OF FMVSS NOS. 208, 212, 219 AND 301-75

- "Occupant Crash Protection," FMVSS No. 208 Data
- "Windshield Mounting," FMVSS No. 212 Data
- "Windshield Zone Intrusion," FMVSS No. 219 (Partial) Data
- "Fuel System Integrity," FMVSS No. 301-75

Table 8

DUMMY INJURY CRITERIA VALUESNHTSA No.: CP0303 Vehicle: 1993 Eagle Vision ESi 4-Door Sedan

	MAXIMUM ACCELERATION (g's)							
	HEAD				CHEST			
	X	Y	Z	R	X	Y	Z	R*
Dummy (1)	-53	22	-62	62	-72	13	19	58.6
Dummy (2)	-39	-8	24	44	-47	-5	15	47.1

	MAXIMUM FORCE - FEMUR LOAD (lbs.)	
	LEFT FEMUR	RIGHT FEMUR
Dummy (1)	1709	1707
Dummy (2)	1772	1966

	HEAD INJURY CRITERIA**			
	HIC	36 millisecond Maximum		Avg. Acc. (g) t ₁ TO t ₂
		t ₁ (msec)	t ₂ (msec)	
Dummy (1)	481.86	68.040	103.920	44.79
Dummy (2)	238.38	59.640	95.520	33.80

*Defined as exceeding 0.003 sec. duration

**As defined in FMVSS No. 208

Table 9

FMVSS NO. 208 - SEAT BELT WARNING SYSTEM CHECK

With occupant in driver's position, the lap belt in stowed position, and ignition switch placed in "Start/On" position:

Log time duration of audible warning signal = 6 sec.

Log time duration of reminder light operation = 6 sec.

With occupant in driver's position, lap belt in use, and the ignition switch placed in "Start/On" position:

Log time duration of audible warning signal = 0 sec.
(audible warning should not operate)

Log time duration of reminder light operation = 6 sec.

Note wording of visual warning:

Fasten Seat Belt -

Fasten Belt -

Symbol 101-80 X

Table 10

FMVSS NO. 208 - LABELING AND DRIVER'S MANUAL INFORMATION

Locate label which describes manufacturers maintenance or replacement schedule for crash-deployed occupant protection system.

Describe location:

Driver sunvisor refers to owners manual which says,
"While the air bag Supplemental Restraint System (SRS) is designed to be maintenance free, if any of the following occurs, have an authorized dealer service the system immediately.

- The air bag light does not come on or flickers during the 6 to 8 seconds when the engine is first turned on
- The light remains on or flickers after the 6 to 8 second interval
- The light flickers or comes on and remains on while driving"

Were appropriate instructions concerning maintenance and/or replacement of this system provided? YES X NO -

Was a description of the functional operation of the system provided?

YES X NO -

Is there a reference to the instructions and description of the system on the label? YES X NO -

Was an owner's manual provided?

YES X NO -

Did the owner's manual contain appropriate information concerning maintenance and/or replacement and a description of the functional operation of the systems?

YES X NO -

Table 11

FMVSS NO. 208 - READINESS INDICATOR

An occupant restraint system that deploys in the event of a crash shall have a monitoring system with a readiness indicator. A totally mechanical system is exempt from this requirement.

Is the system totally mechanical? YES - NO X

Describe the location of the readiness indicator:

Lower center of instrument cluster

Is the readiness indicator clearly visible to the driver?
YES X NO -

Is a list of the elements in the occupant restraint system, being monitored by the readiness indicator, provided?
YES X NO -

Table 12

FMVSS NO. 208 - COMFORT AND CONVENIENCE TEST SUMMARY

Test Vehicle NHTSA No.:	<u>CP0303</u>
Make/Model:	<u>1993 Eagle Vision ESi</u>
Date of Comfort/Convenience Check:	<u>10/14/92</u>
Technician Performing Check:	<u>D.J.T.</u>
GVWR:	<u>4314 lbs.</u>

Seat belt comfort and convenience requirements cover vehicles manufactured on or after September 1, 1986, which have a gross vehicle weight rating of 10,000 pounds or less. Exemptions to this rule are belts installed in a walk-in, van-type vehicle and manual Type 2 belt systems installed in the front outboard seating positions of passenger automobiles. On or after September 1, 1989, the exemption of the type 2 manual seat belts installed in the front outboard seating positions of passenger automobiles will change depending on the states' enactment of mandatory usage laws.

Was vehicle built after or on September 1, 1986, and is it equipped with:

1. Automatic seat belts YES - NO X

If yes, go to requirements D1, D2 and D3

2. Manual seat belts* YES X NO -

a. The seat belts, other than Type 2 lap/shoulder belts, are located in
the front outboard seating positions of a passenger automobile.

YES - NO X

(Go to requirements D3, D4, D5, and D6)

b. The seat belt system is Type 2 lap/shoulder belt in the front outboard seating positions or the seat belts are located in a walk-in van.

STOP

*If the seat belts are voluntarily installed by the manufacturer they do not have to comply.

Table 12 (cont.)

D1

CONVENIENCE HOOKS

A convenience hook or other device is provided to stow seat belt webbing to facilitate entering or exiting the vehicle.

YES - NO X

Check the option which applies to this test vehicle:

1. A convenience hook or other device automatically releases the webbing when the automatic belt system is operational and remains in the released mode as long as the vehicle's ignition switch is moved to the "on" or "start" position and the vehicle's drivetrain is engaged.

YES N/A NO N/A

2. A convenience hook or other device automatically releases the webbing when the automatic belt system is operational and remains in the released mode as long as the vehicle's ignition switch is moved to the "on" or "start" position and the vehicle's parking brake is in the released mode (nonengaged).

YES N/A NO N/A

D2

WEBBING TENSION - RELIEVING DEVICE

The seat belt assembly installed in the outboard designated seating position has either manual or automatic tension relieving devices permitting the introduction of slack in the webbing of the shoulder belt ("comfort clips" or "window shade" devices).

YES - NO X

Check the owner's manual and determine the maximum amount of slack recommended by the manufacturer in inches. The recommended slack is - inches. Introduce this slack into the shoulder belt before testing the vehicle to comply with the requirements of FMVSS 208 S5.1. A warning is included in the owner's manual that introducing slack beyond the amount specified can significantly reduce the effectiveness of the shoulder belt.

YES N/A NO N/A

(If NO, provide explanation.)

Check the option which applies to this test vehicle:

1. This vehicle is equipped with automatic seat belts and the tension relieving device is cancelled each time the adjacent door is opened.

YES N/A NO N/A

(If NO, provide explanation.)

Table 12 (cont.)

2. This vehicle is equipped with manual belts, required to meet FMVSS 208 S4.6, and the tension relieving device is cancelled each time one of the following options occurs:

a. The adjacent door is opened. YES N/A NO N/A

b. The latch plate is released from the buckle. YES N/A NO N/A

3. This is an open-body vehicle, without doors. Does the manual mean to cancel any shoulder belt slack introduced by a tension relieving device to operate properly?

YES N/A NO N/A

(If NO, provide explanation.)

D3

BELT CONTACT FORCE

1. Do not measure the belt contact force if the manual or automatic seat belt assemblies in this vehicle incorporate a webbing tension relieving device. Does the vehicle incorporate a tension relieving device?

YES - NO X

2. Seats are adjusted according to instructions in Appendix B.

YES X NO -

3. The test dummies are positioned according to dummy position placement instructions in Appendix B and Appendix C.

YES X NO -

4. Close the vehicle's adjacent door, pull either 12 inches of belt webbing or the maximum available amount of belt webbing, whichever is less, from the retractor and then release it, allowing the belt webbing to return to the dummy's chest, then fasten the latch. Locate the point where the centerline of the upper torso belt webbing crosses the midsagittal line on the dummy's chest. At that point, pull the belt webbing out 3 inches from the dummy's chest and release until it is within one inch from the dummy's chest. Measure the contact force exerted by the belt webbing on the dummy's chest. The contact force is 0.3 pounds. Contact the COTR if the contact force exceeds 0.7 pounds.

Table 12 (cont.)

D4

LATCHPLATE ACCESSIBILITY

1. Position the test dummy in the driver's seat or passenger's seat in its forward most adjustment position.
YES X NO -
2. Attach the inboard and outboard reach string. YES X NO -
3. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms. With the latchplate in the normal stowed position, check to assure that the latchplates are within the reach envelope.
YES X NO -
4. Using the clearance test block, determine if there is sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latchplate or buckle.
YES X NO -

D5

RETRACTION

1. Seats and seat backs are adjusted according to instructions in Appendix B "General Test Conditions" in TP-208-8.
YES X NO -
2. Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B and restrain the dummies, using the belt systems for the positions being tested.
YES X NO -
3. Outboard armrests which are capable of being stowed on vehicle seats shall be placed in their stowed positions.
YES X NO -
4. Check the option which applies to this test vehicle:
 - a. The torso and lap belt webbing of the seat belt system automatically retract to a stowed position when the adjacent vehicle door is in an open position and the seat belt latch plate is released.
YES X NO -

Table 12 (cont.)

- b. The torso and lap belt webbing of the seat belt system automatically retract when the seat belt latch plate is released.

YES X NO -

5. With the webbing and hardware in the stowed position, close the door to assure that the webbing and hardware are prevented from being pinched.

YES X NO -

6. If this test vehicle has an open body (without doors) and has a belt system with a tension-relieving device, check to assure that the belt system fully retracts when the tension-relief device is manually deactivated.

YES N/A NO N/A

D6

ACCESSIBILITY

The requirements for accessibility do not apply to:

1. Seats whose seat cushions are removable so that the seat back serves a function other than seating;
2. Seats which are removable;
3. Seats which are movable so that the space formerly occupied by the seat can be used for a secondary function.

If the seats in this vehicle are different than the criteria above, then determine if:

1. Each manual seat belt assembly whose webbing is designed to pass through the seat cushion or between the seat cushion and seat back has one of the following three parts (the seat belt latchplate, the buckle, or the seat belt webbing) on top of or above the seat cushion under normal conditions (i.e., conditions other than when belt hardware is intentionally pushed behind the seat by a vehicle occupant).

YES X NO -

2. The remaining two seat belt parts are accessible under normal conditions.

YES X NO -

Table 12 (cont.)

3. The buckle and latchplate do not pass through the guides or conduits provided and fall behind the seat when the following events occur in order:

a. The belt is completely retracted or, if the belt is nonretractable, the belt is unattached.

YES - NO X

b. The seat is moved to any position to which it is designed to be adjusted.

YES - NO X

c. The seat back, if foldable, is folded forward as far as possible and then moved backward into positions.

YES - NO X

4. Is the inboard receptacle end of the seat belt assembly which is installed in the outboard designated seating position accessible with the center arm rest in any position to which it can be adjusted without moving the armrest?

YES X NO -

D7

LATCH MECHANISM

A seat belt assembly installed in a passenger car, except an automatic belt assembly, shall have a latch mechanism:

1. Whose components are accessible to a seated occupant in both the stowed and operational positions.

YES X NO -

2. That releases both the upper torso restraint and the lap belt simultaneously, if the assembly has a lap belt and an upper torso restraint that require unlatching for release of the occupant.

YES X NO -

3. That releases at a single point by a push button action.

YES X NO -

Figure 7

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA SHEET

DETAILS OF WINDSHIELD MOUNTING SUCH AS RETENTION METHOD, TRIM TYPE, ETC.:

Windshield is bonded in place with 0.6 inch rubber trim covering the top and sides. Bottom portion of windshield is covered by a plastic shroud.

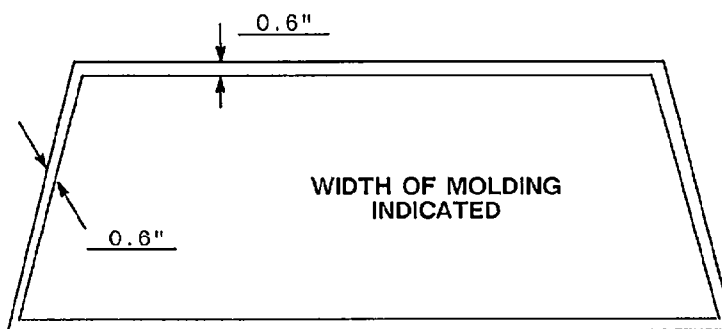
FMVSS 212 REQUIREMENTS:

The Post-Test periphery retention amount must be at least 75% of the Pre-Test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

FMVSS 212 TEST DATA:

	WINDSHIELD PERIPHERY		
	PRE-TEST (in.)	POST-TEST (in.)	PERCENT RETENTION
RIGHT SIDE	92.25	92.25	100%
LEFT SIDE	92.25	92.25	100%
TOTAL	184.5	184.5	100%

AREA OF RETENTION FAILURE:



FRONT VIEW

FAILURE DETAILS:

None

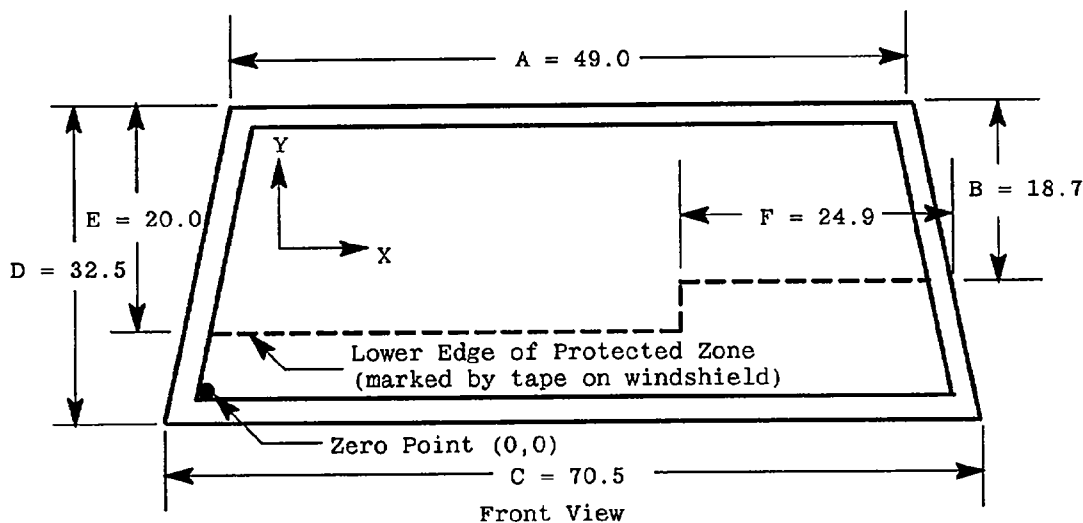
Figure 8

FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA SHEET

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 6.5" dia. rigid sphere weighing 15 pounds in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. The locus of points is drawn on the inner surface of the windshield contacted by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 1/2" distant from the locus line. The LOWER EDGE OF THE PROTECTED ZONE is the longitudinal projection of this line onto the outer surface of the windshield.

FMVSS 219 TEST DATA: (Dimensions in inches.)



DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4":

(Show location of penetration on above sketch)

None

	COORDINATES	
	X	Y
1.		
2.		
3.		
4.		

Table 13
FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

FMVSS NO. 301

TEST VEHICLE NHTSA NO.:

C	P	0	3	0	3
---	---	---	---	---	---

TEST DATE: October 15, 1992

Vehicle Mfgr./Make/Model: Chrysler Corporation 1993 Eagle Vision ESi

Test vehicle fuel tank filled to 92% to 94% of manufacturer's "usable" capacity and with electric fuel pump operating (if it will operate without engine operation). Part 572 test dummies located at each front designated seating position.

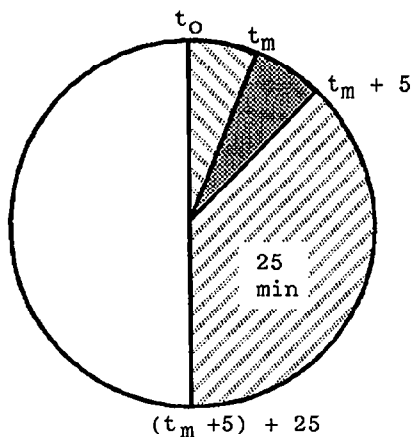
TEST VEHICLE IMPACT TYPE: X Frontal (30 mph)

 - Oblique (30 mph) with ° barrier face first
contacting _____
(driver/passenger) side

 - Rear Moving Barrier (30 mph)

 - Lateral Moving Barrier (20 mph)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For 5 minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0	1 oz.
0	5 oz.
0	1 oz./1 min.

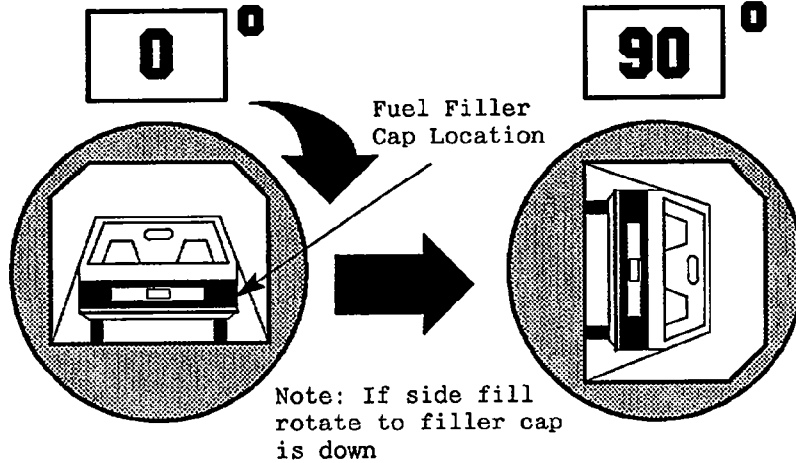
SOLVENT SPILLAGE DETAILS:

None

Table 14
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:

Vehicle NHTSA ID No.:



CP0303

I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time _____ 1 _____ minutes _____ 43 _____ seconds
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + _____ 5 _____ minutes _____ 00 _____ seconds

TOTAL _____ 6 _____ minutes _____ 43 _____ seconds

Next whole minute interval _____ 7 _____ minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.
------------------------------------	----------	----------	----------------------

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce
----------	---------	---------	---------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0.07	0	0	N/A
------	---	---	-----

Note: Record spillage for whole minute
intervals only as determined above.

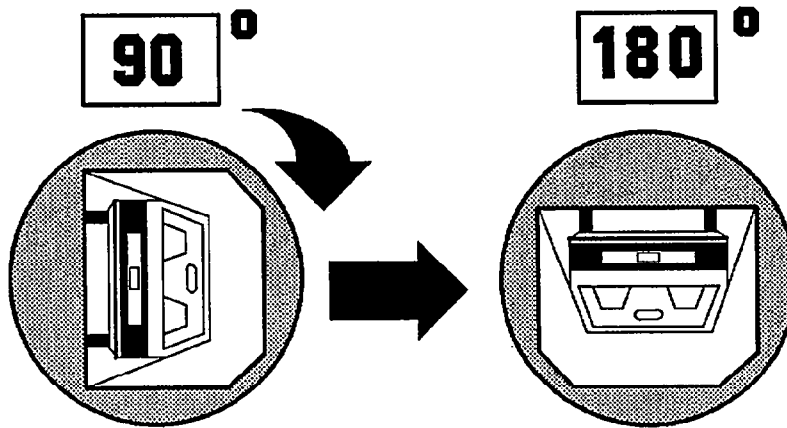
IV. SOLVENT SPILLAGE LOCATION(S):

The exact spillage location could not be determined. However it appeared the general location was near the engine compartment firewall.

Table 14
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:

Vehicle NHTSA ID No.:



CPQ303

I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time _____ 2 _____ minutes _____ 05 _____ seconds
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + _____ 5 _____ minutes _____ 00 _____ seconds

TOTAL _____ 7 _____ minutes _____ 05 _____ seconds

Next whole minute interval _____ 8 _____ minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.
------------------------------------	----------	----------	----------------------

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce
----------	---------	---------	---------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	0
---	---	---	---

Note: Record spillage for whole minute intervals only as determined above.

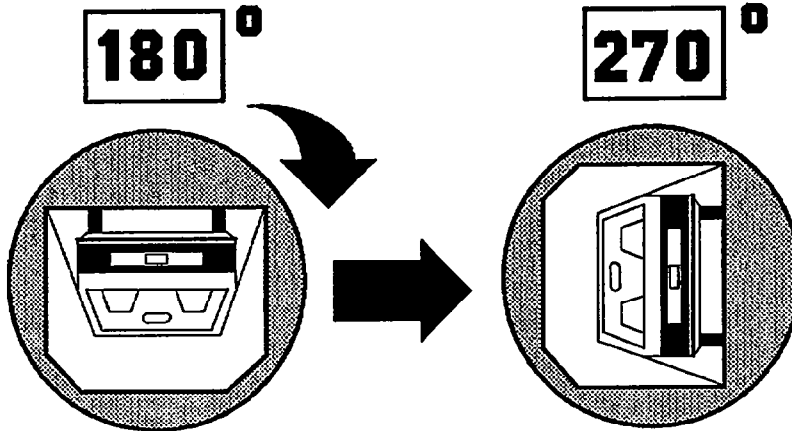
IV. SOLVENT SPILLAGE LOCATION(S):

None

Table 14
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:

Vehicle NHTSA ID No.:



CP0303

I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time _____ 2 _____ minutes _____ 10 _____ seconds
(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time + _____ 5 _____ minutes _____ 00 _____ seconds

TOTAL _____ 7 _____ minutes _____ 10 _____ seconds

Next whole minute interval _____ 8 _____ minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.
------------------------------------	----------	----------	----------------------

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce
----------	---------	---------	---------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	0
---	---	---	---

Note: Record spillage for whole minute intervals only as determined above.

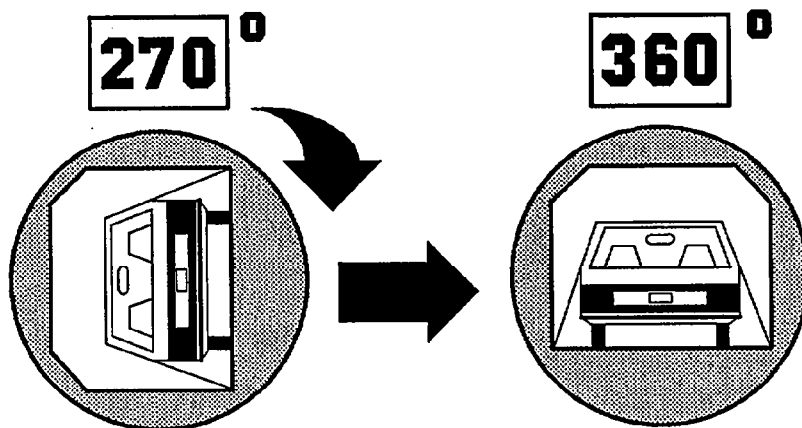
IV. SOLVENT SPILLAGE LOCATION(S):

None

Table 14
FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:

Vehicle NHTSA ID No.:



CPO303

I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	2 minutes 00 seconds
FMVSS 301 Position Hold Time +	5 minutes 00 seconds
TOTAL	7 minutes 00 seconds
Next whole minute interval	7 minutes

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

First 5 min FROM onset of rotation	6th min.	7th min.	8th min. if reqd.
------------------------------------	----------	----------	----------------------

(2) Maximum Allowable Solvent Spillage

5 ounces	1 ounce	1 ounce	1 ounce
----------	---------	---------	---------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	0
---	---	---	---

Note: Record spillage for whole minute
intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S):

None

Table 15

TEST VEHICLE NONCOMPLIANCE NOTICE

NHTSA Contract Lab: Calspan Advanced Technology Center
Lab Project Manager & Telephone No.: Walter E. Levan (716) 632-7500
Date of Test: October 15, 1992 Vehicle NHTSA No.: CP0303
Vehicle Manufacturer: Chrysler Corporation
Model Year: 1993 VIN: 2E3E356TOPH504461
Model: Eagle Vision Esi Body Style: 4-Door Sedan Build Date: 8/92
Dummy Stabilized Temperature at Time of Test: 70 °F (Spec. = 69-72°F)
Impact Velocity: 29.8 mph Time of Test: _____
Type of Automatic Restraint System: Driver and right front passenger air bags

Failure Details:

The vehicle as tested appears to comply with the requirements of FMVSS
Nos. 208, 212, 219 (Partial), and 301.

Appendix A

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Figure A-1 PRE-TEST FRONT VIEW

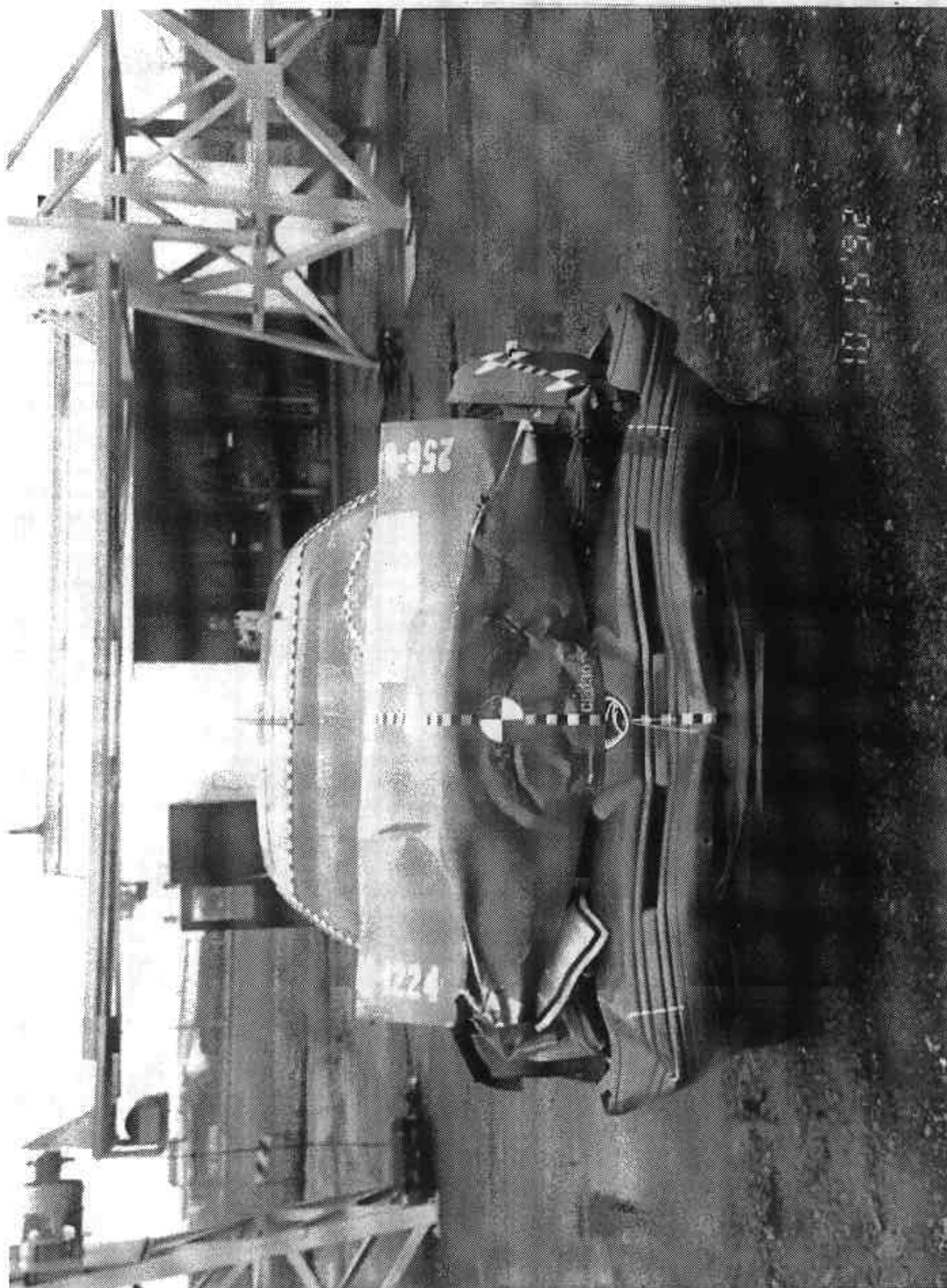


Figure A-2 POST-TEST FRONT VIEW

A-4

8056-4

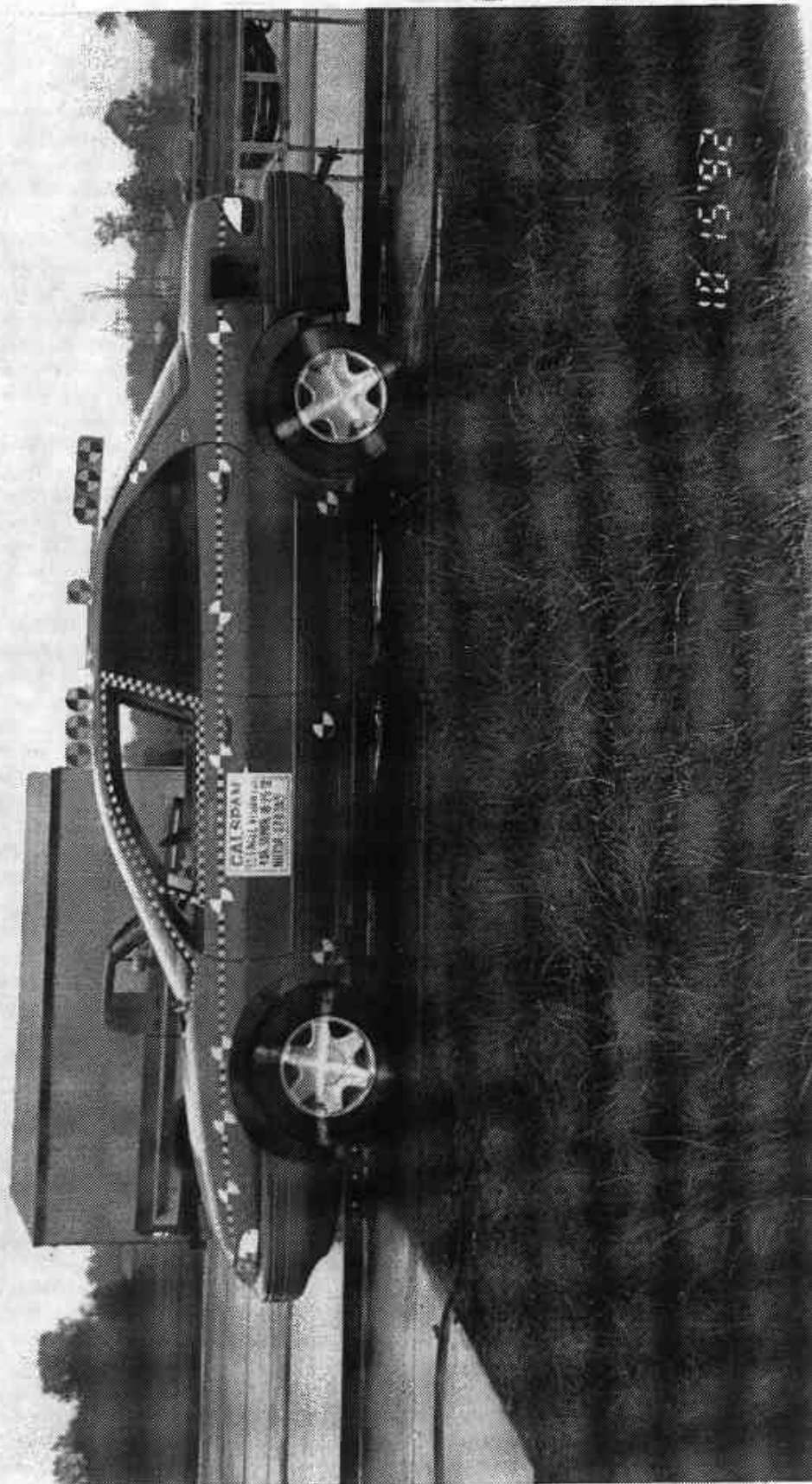


Figure A-3 PRE-TEST LEFT SIDE VIEW

A-5

8056-4



Figure A-4 POST-TEST LEFT SIDE VIEW

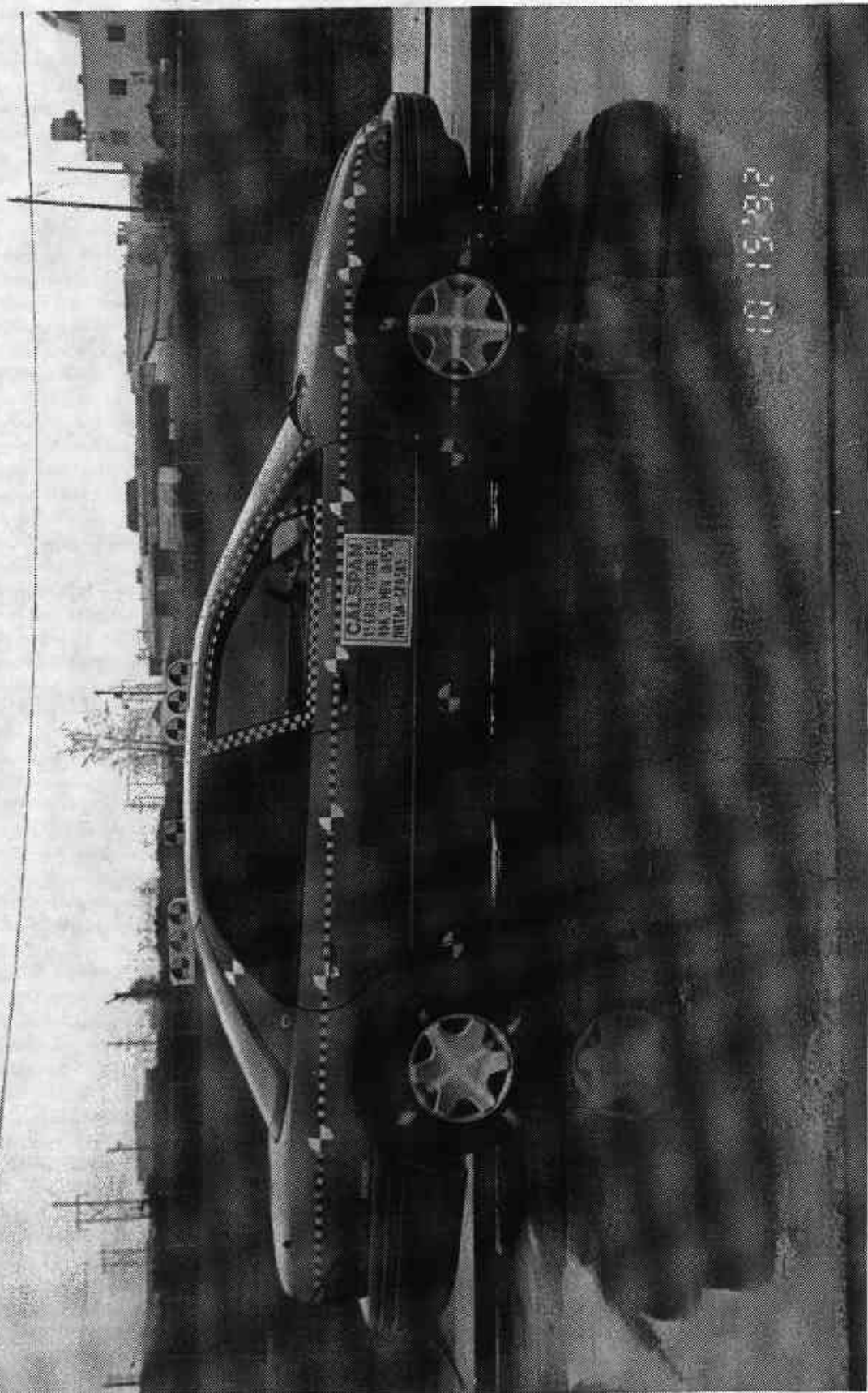


Figure A-5 PRE-TEST RIGHT SIDE VIEW

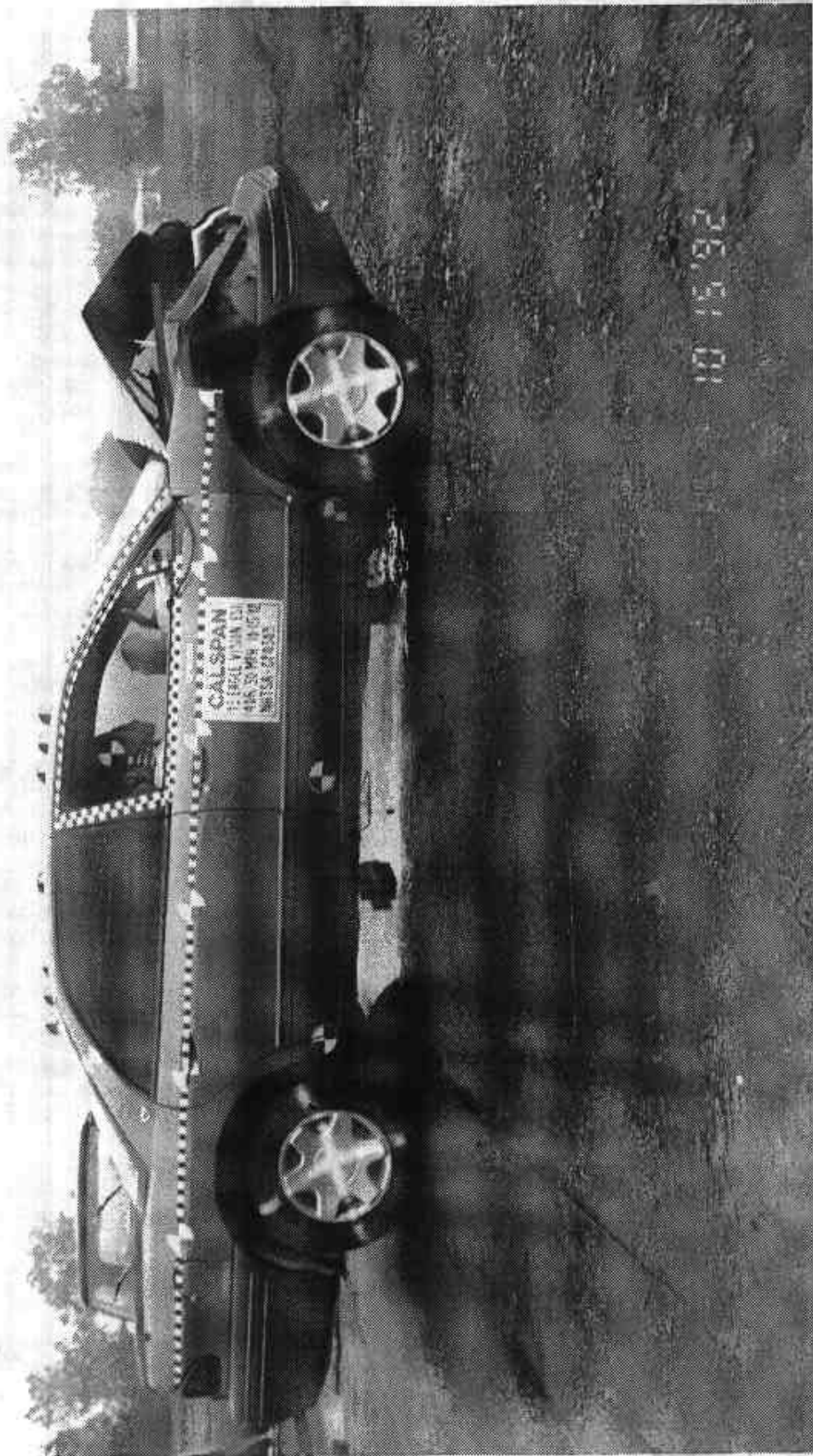


Figure A-6 POST-TEST RIGHT SIDE VIEW



10 15 '92

Figure A-7 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW



Figure A-8 POST-TEST RIGHT FRONT THREE-QUARTER VIEW

A-10

8056-4

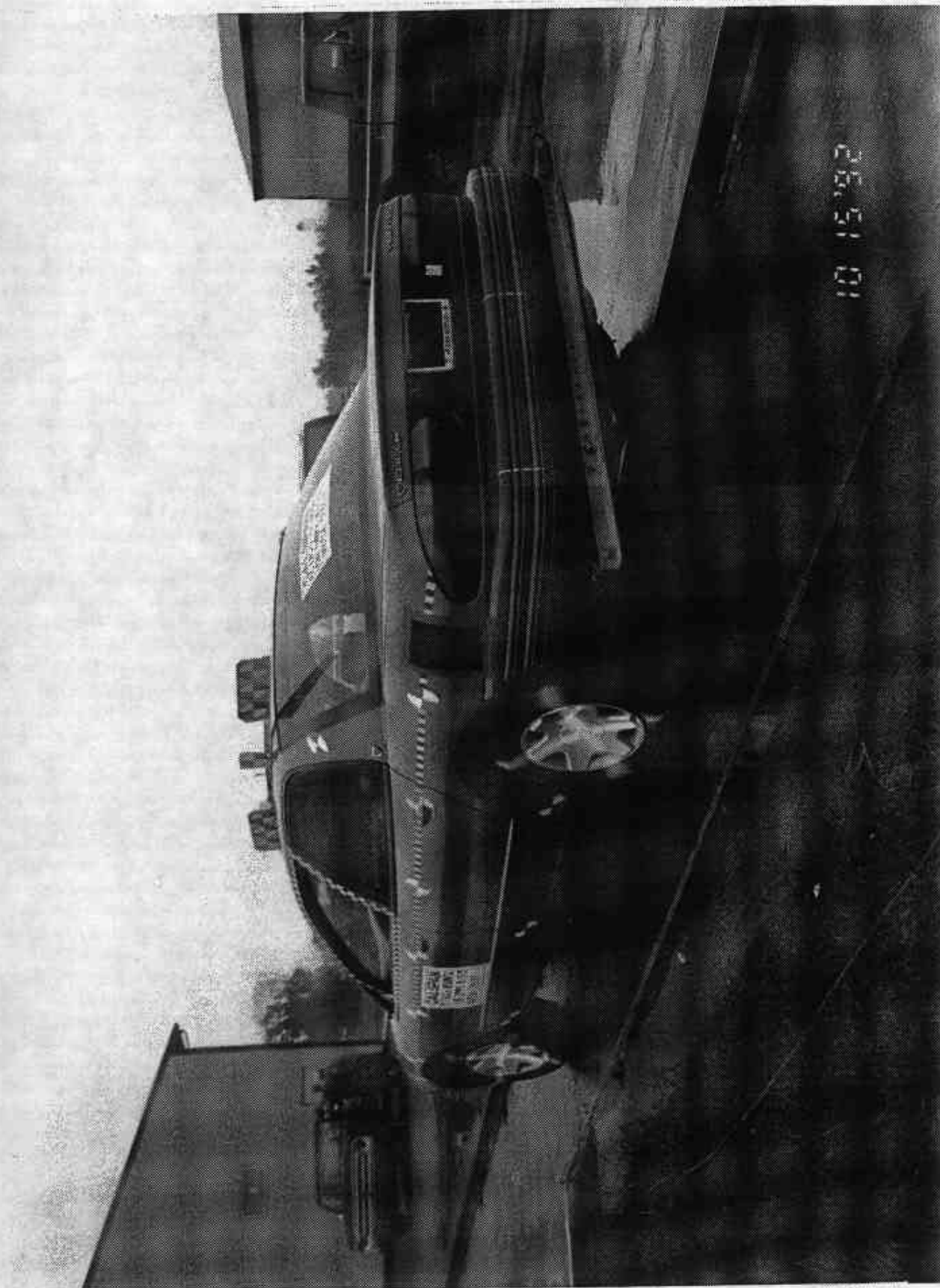


Figure A-9 PRE-TEST LEFT REAR THREE-QUARTER VIEW

A-11

8056-4



Figure A-10 POST-TEST LEFT REAR THREE-QUARTER VIEW

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8056-4



Figure A-11 POST-TEST TOP VIEW

A-13

8056-4



Figure A-12 PRE-TEST WINDSHIELD VIEW

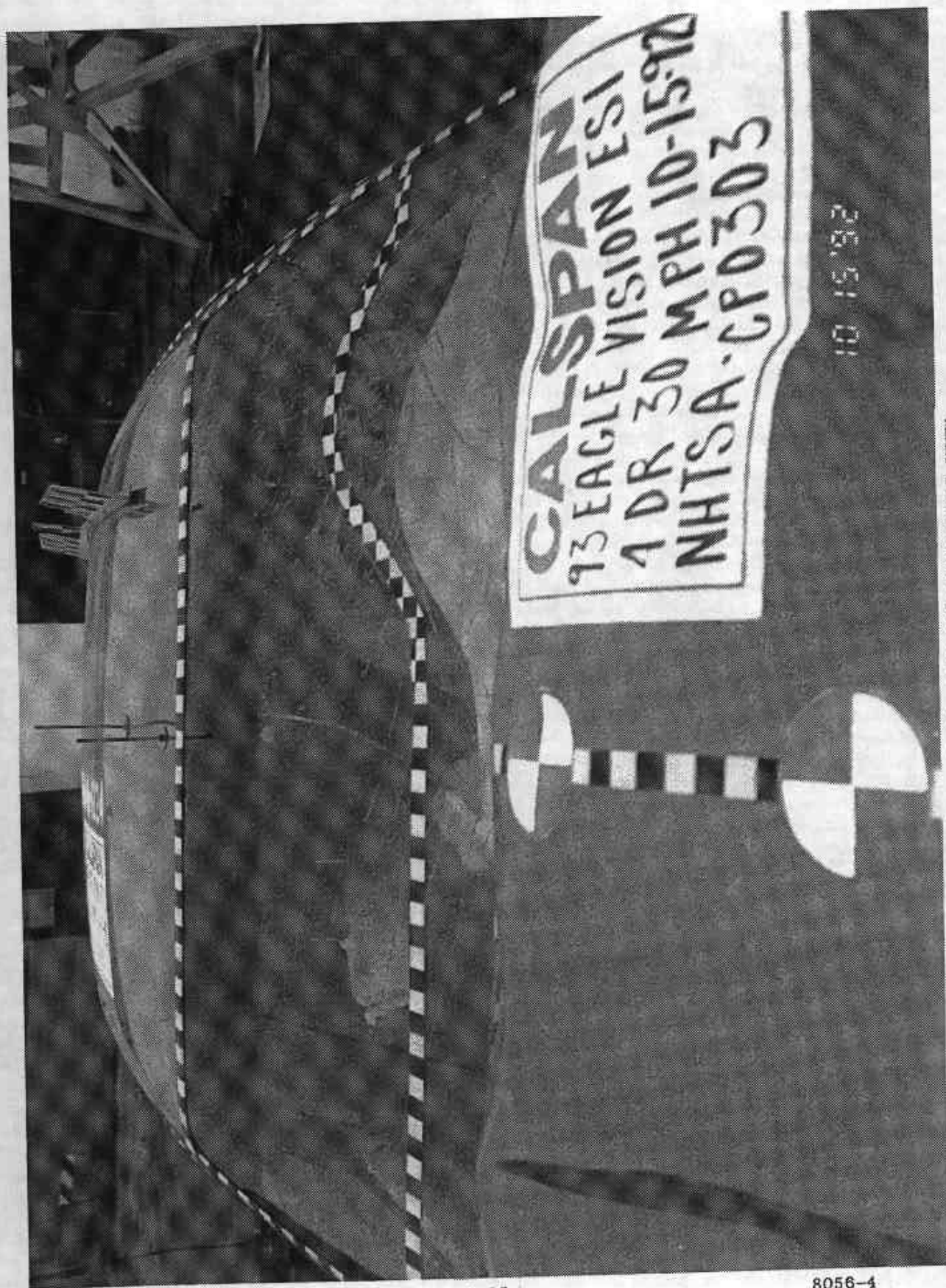


Figure A-13 POST-TEST WINDSHIELD VIEW

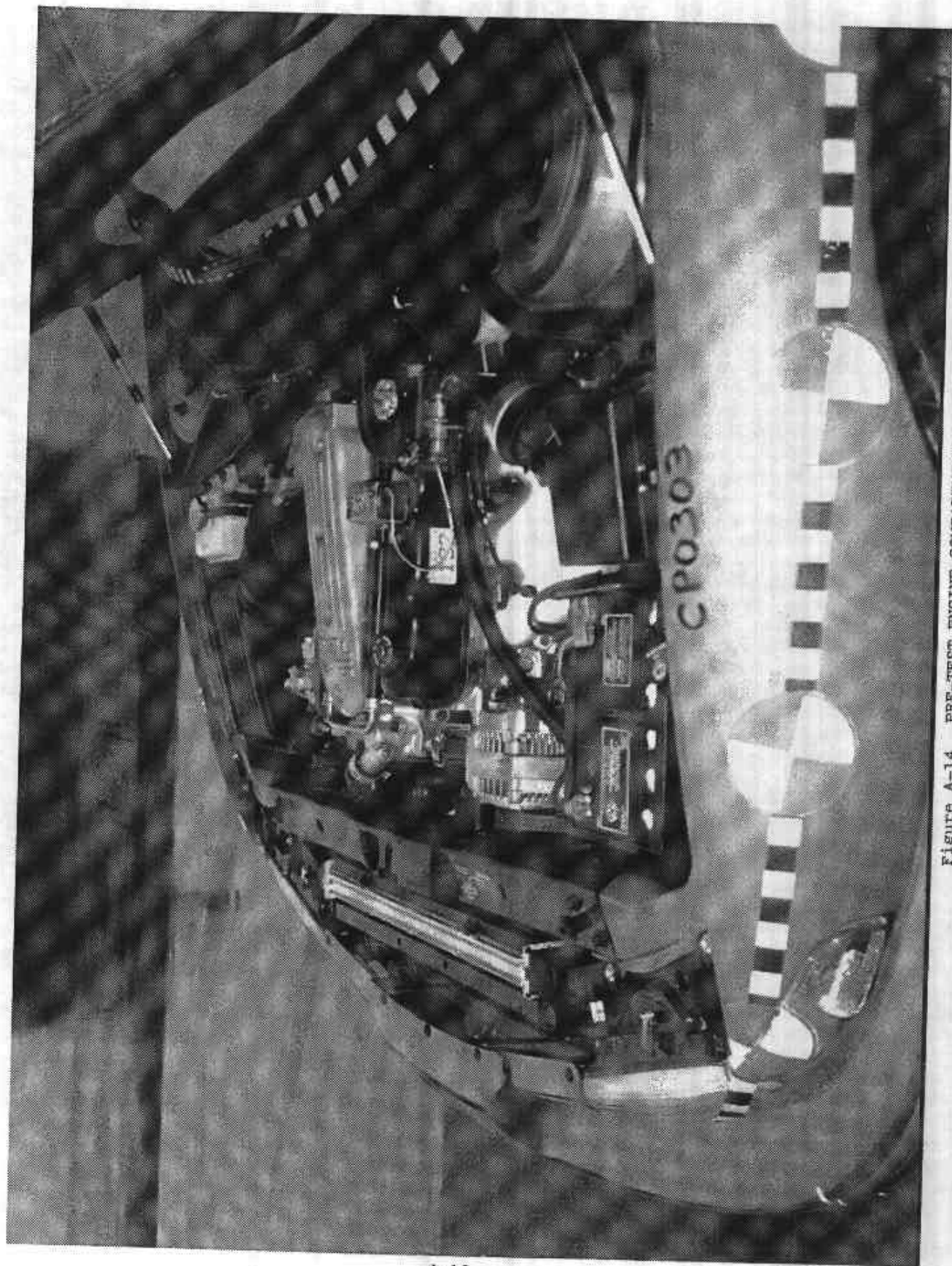


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW

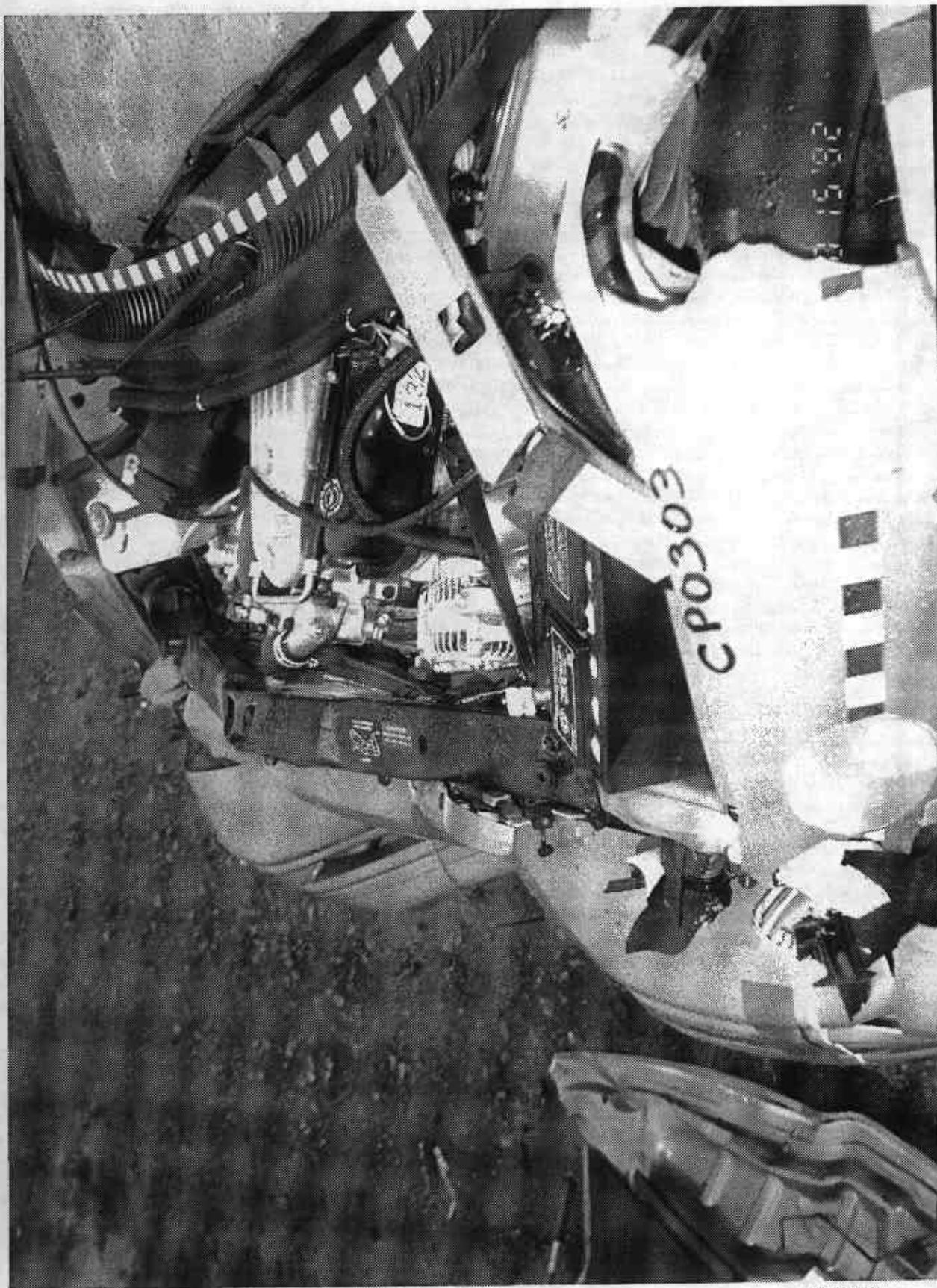


Figure A-15 POST-TEST ENGINE COMPARTMENT VIEW



Figure A-16 PRE-TEST FUEL FILLER CAP PHOTO

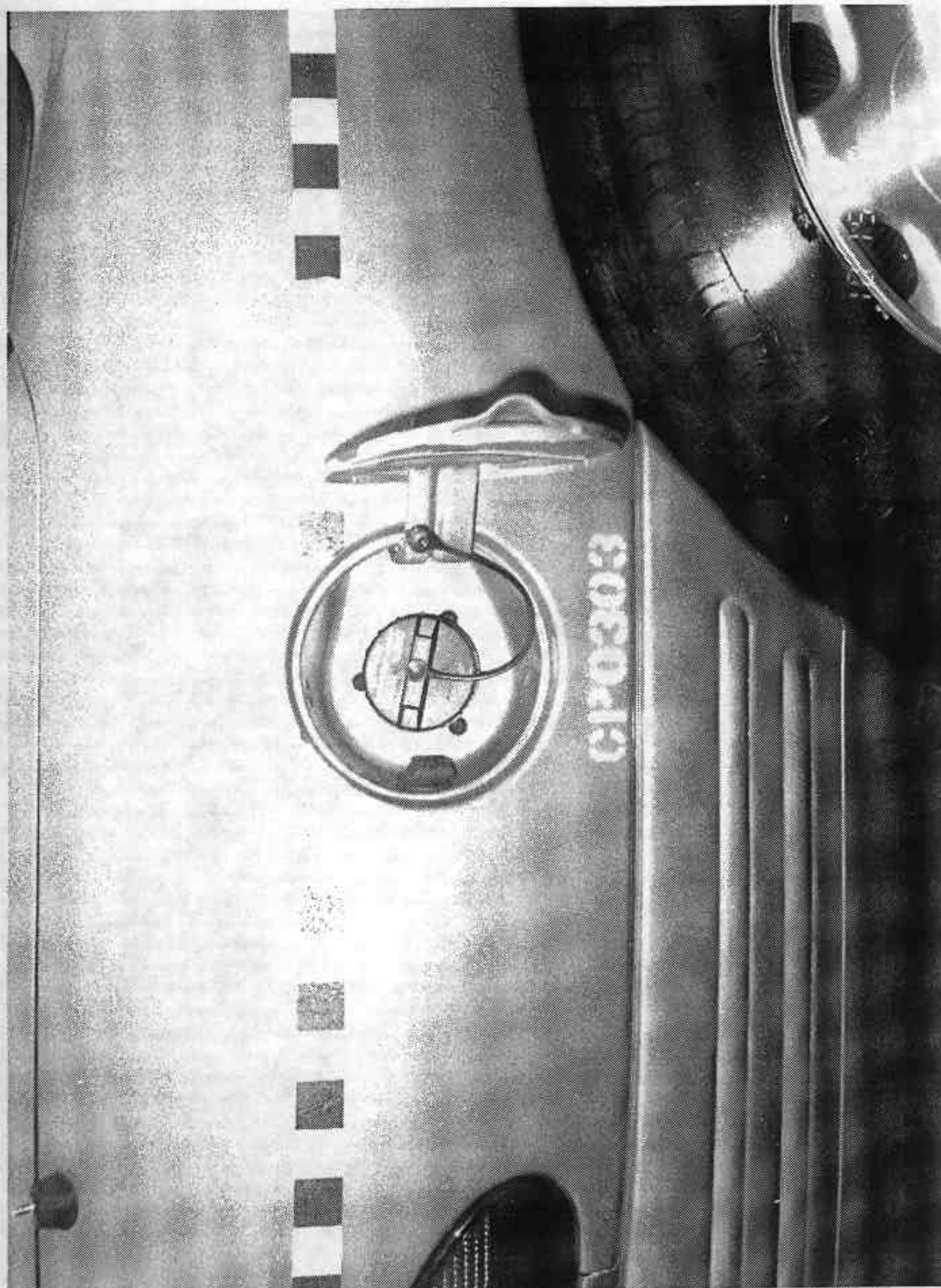


Figure A-17 POST-TEST FUEL FILLER CAP PHOTO

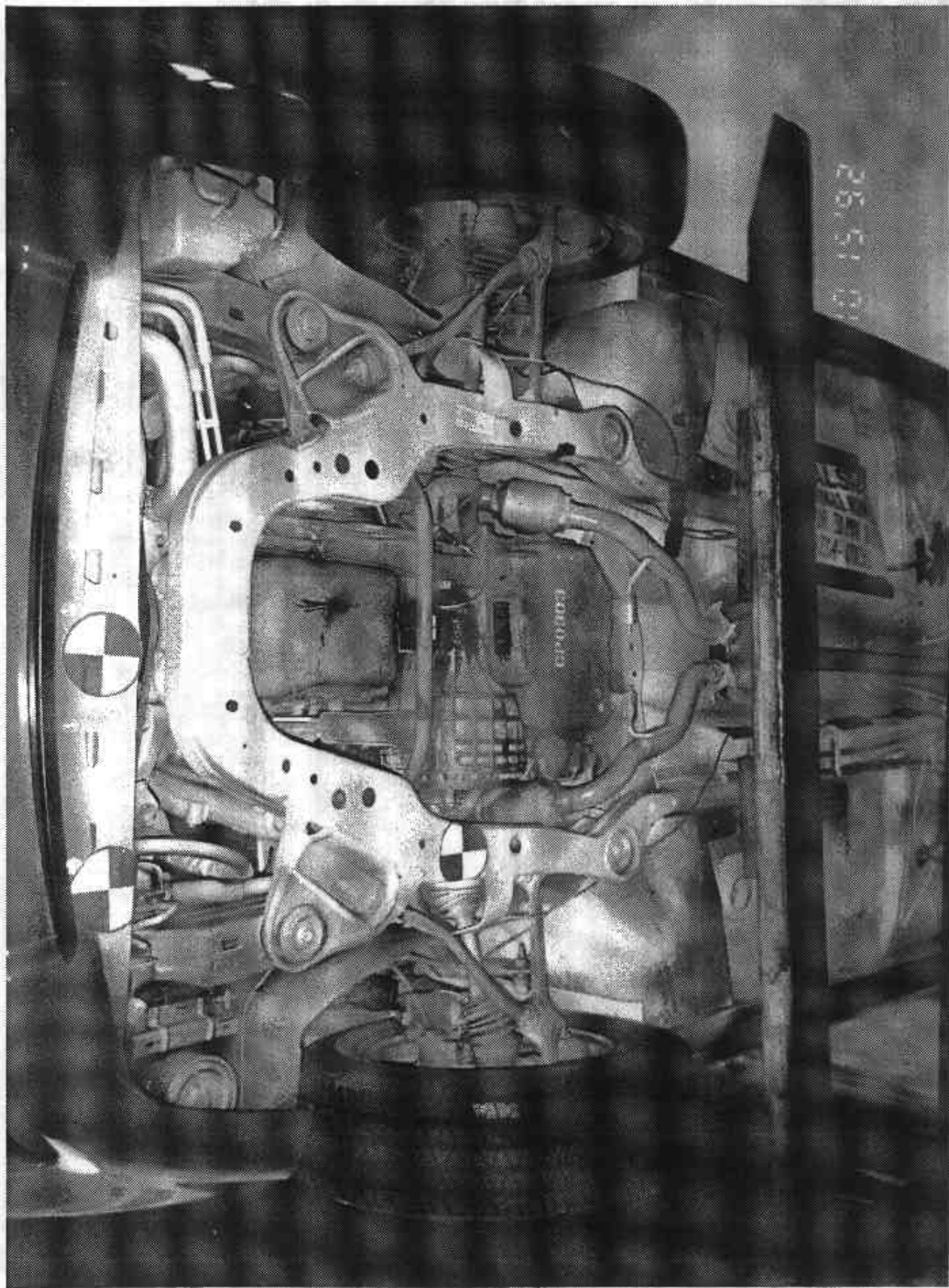


Figure A-18 PRE-TEST FRONT UNDERBODY VIEW

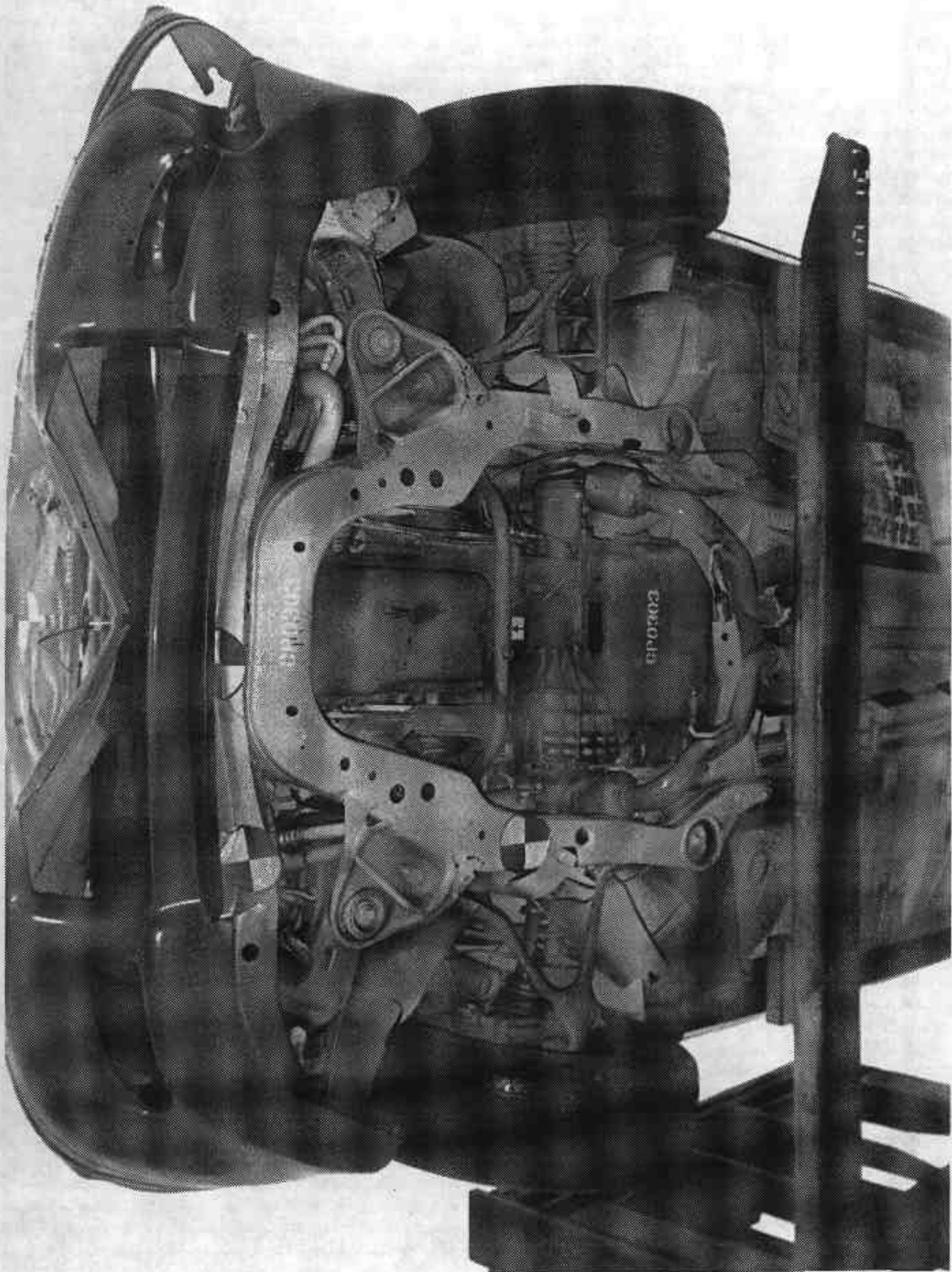


Figure A-19 POST-TEST FRONT UNDERBODY VIEW

A-21

8058-4

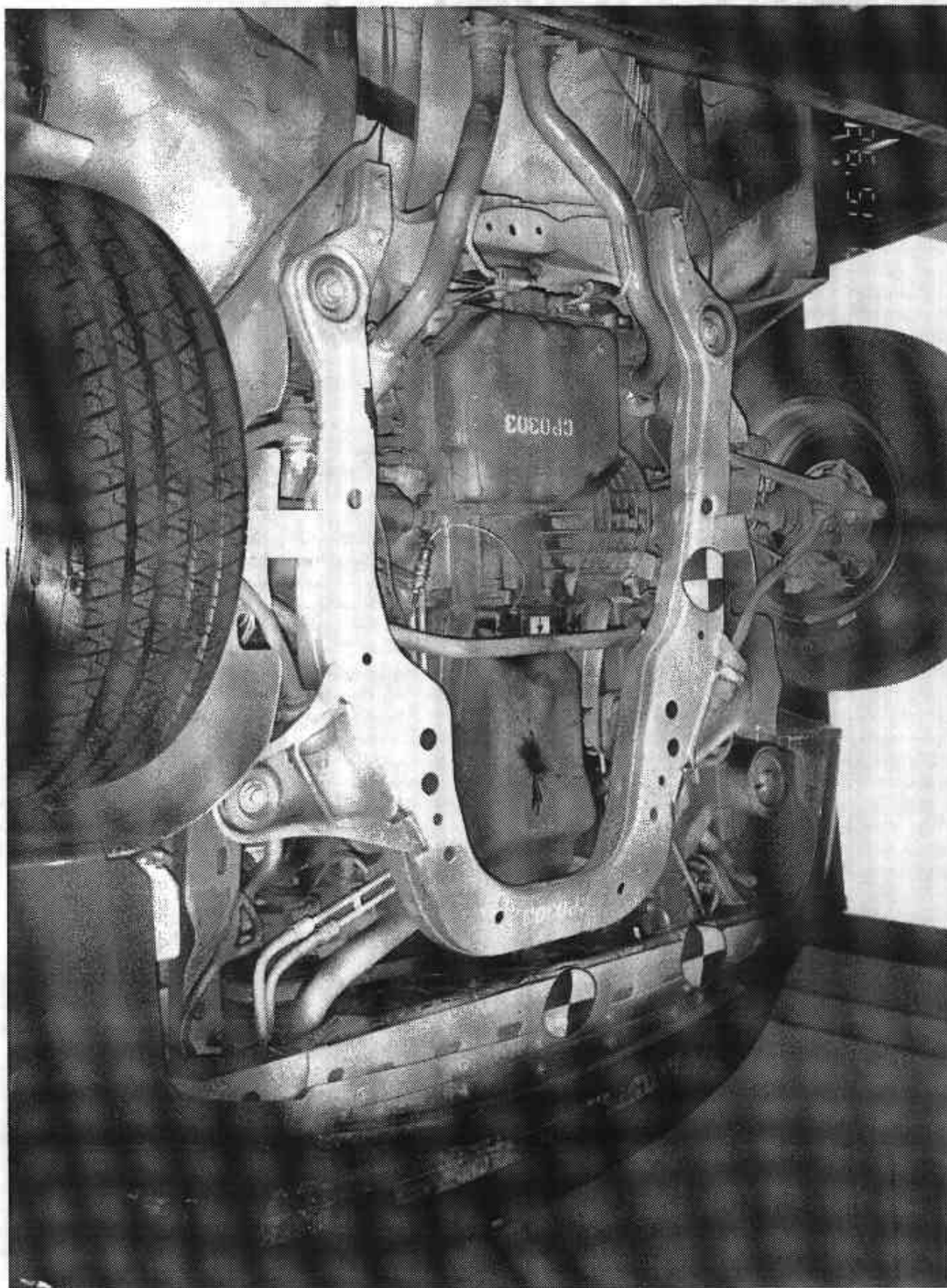


Figure A-20 PRE-TEST FRONT SIDE UNDERBODY VIEW

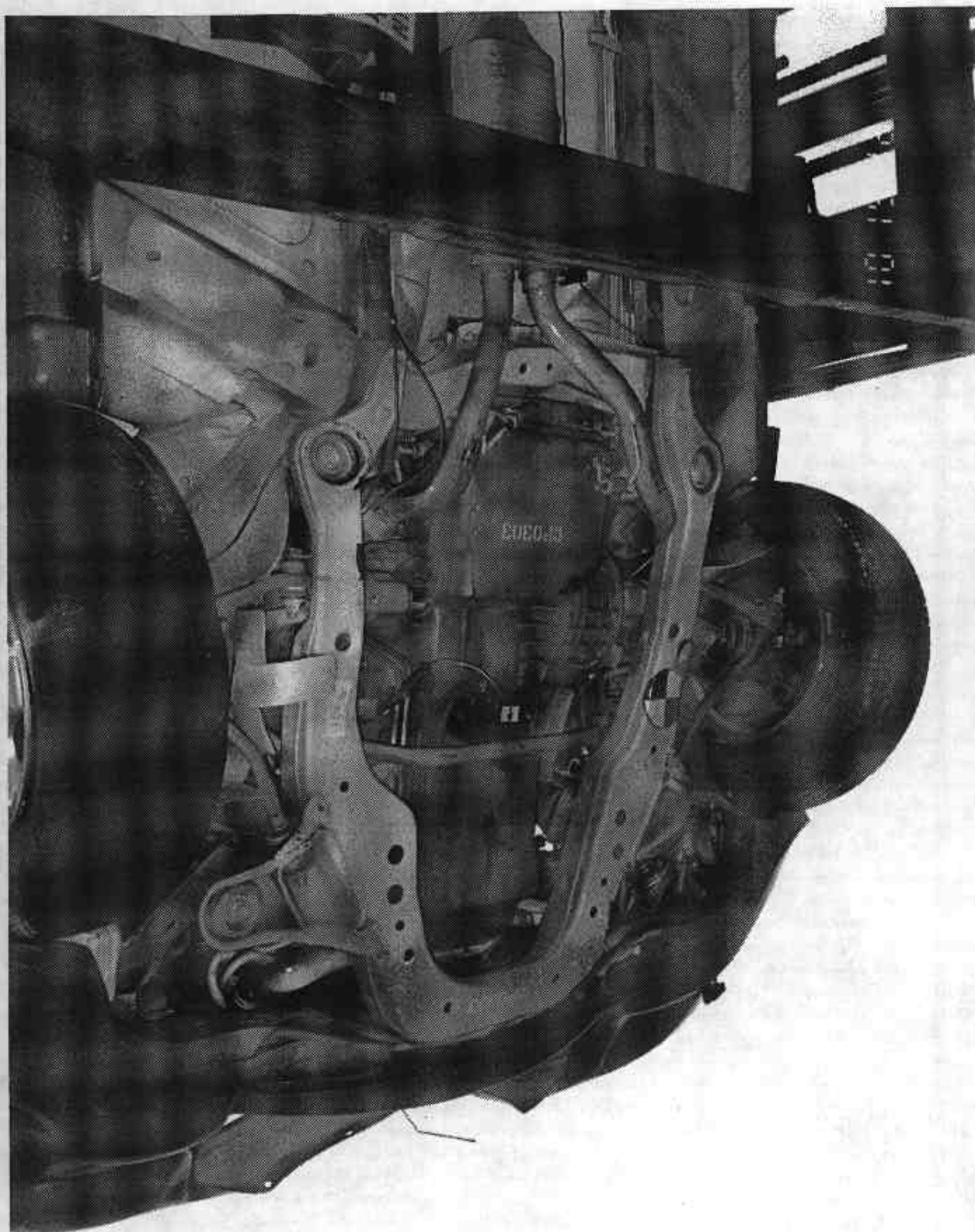


Figure A-21 POST-TEST FRONT SIDE UNDERBODY VIEW

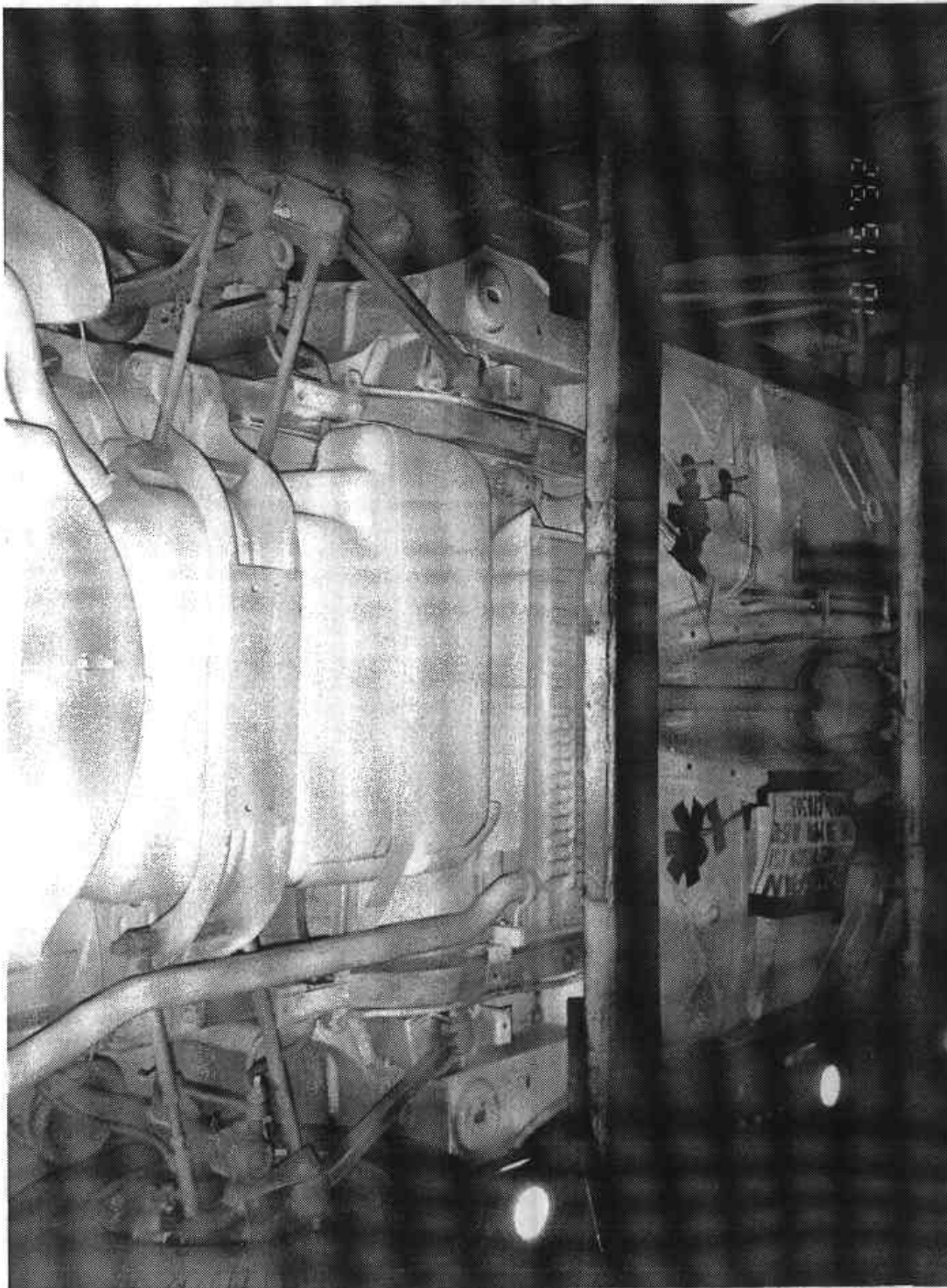


Figure A-22 PRE-TEST REAR UNDERBODY VIEW

A-24

8056-4

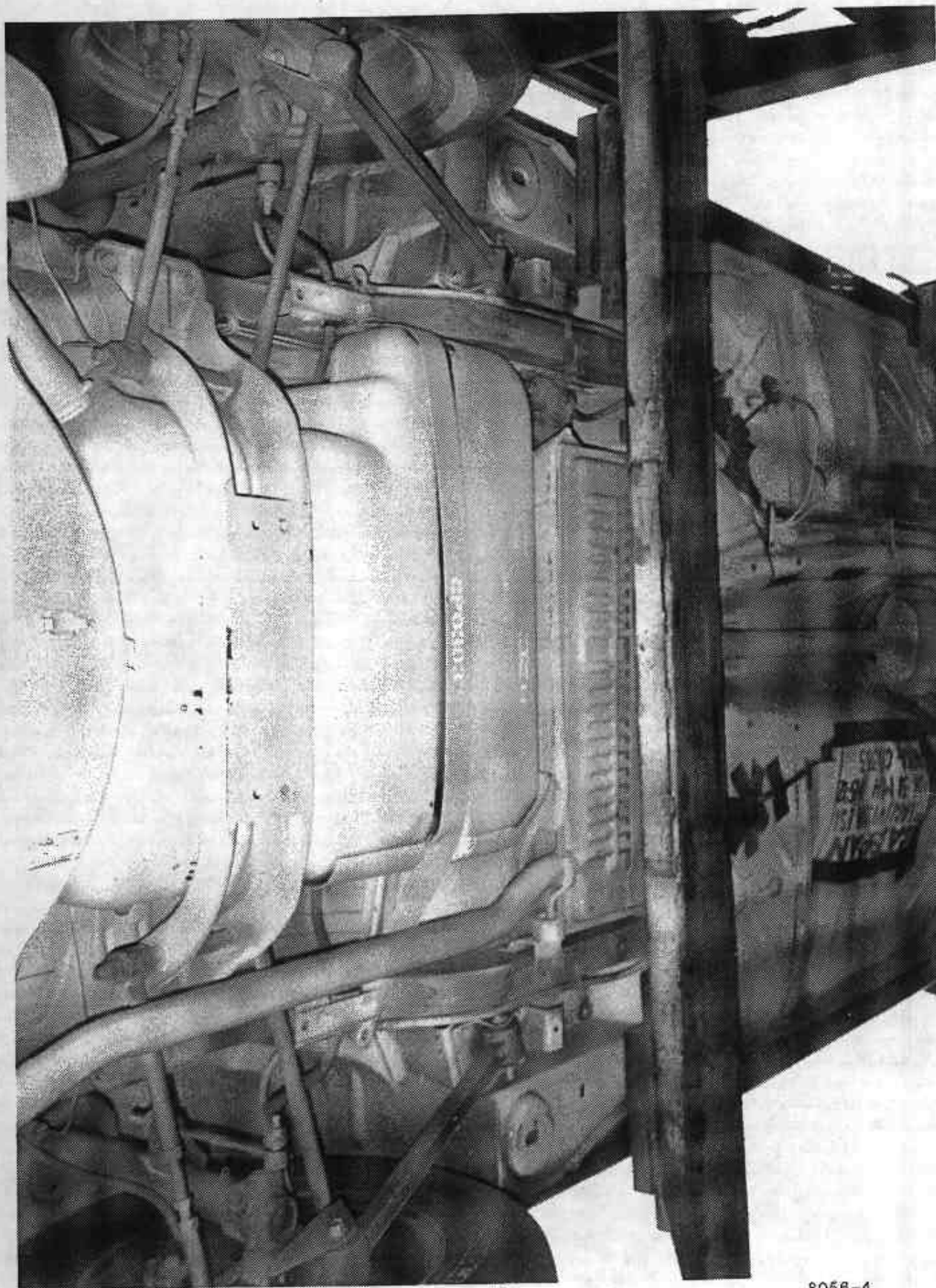


Figure A-23 POST-TEST REAR UNDERBODY VIEW

A-25

8056-4

MFD BY CHRYSLER CORPORATION
 DATE OF MFR: 08-92
 GVWR 4314 LB 5400 2483 LB GVWR 1986 LB
 1956 KG FRONT 1126 KG REAR 864 KG
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY, BUMPER AND
 THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
 VIN: 2E3ED56T8PH504451
 TYPE: PASSENGER CAR
 4548124
 VEHICLE MADE IN CANADA
 061118 589



Figure A-24 CERTIFICATION LABEL

	VEHICLE CAPACITY OR LESS
1ST SEAT	* 3 PASS
2ND SEAT	3 PASS
LUGGAGE	115 LBS-52kg
TOTAL	* 6 PASS
TOTAL WEIGHT	* 1015 LBS-461 kg
TIRE PRESSURE COLD	35 PSI 240 kPa FRONT AND REAR
* REDUCE VEHICLE CAPACITY TO 2 PASSENGERS IN 1ST SEAT; (865 LBS-392 kg -5 PASS. TOTAL) WHEN EQUIPPED WITH BUCKET SEATS WITHOUT CENTER SEAT	
MINIMUM TIRE SIZE P205/70R15 95S STANDARD LOAD	
SEE OWNER'S MANUAL FOR ADDITIONAL DATA	
PRINTED IN USA 4582297	

Figure A-25 TIRE PLACARD



Figure A-26 PRE-TEST DRIVER DUMMY POSITION



Figure A-27 POST-TEST DRIVER DUMMY POSITION



Figure A-28 PRE-TEST PASSENGER DUMMY POSITION

A-30

8056-4



Figure A-29 POST-TEST PASSENGER DUMMY POSITION



Figure A-30 PRE-TEST DRIVER DUMMY AND INTERIOR VIEW



Figure A-31 POST-TEST DRIVER DUMMY AND INTERIOR VIEW



Figure A-32 PRE-TEST PASSENGER DUMMY AND INTERIOR VIEW



Figure A-33 POST-TEST PASSENGER DUMMY AND INTERIOR VIEW



Figure A-34 POST-TEST DRIVER AIRBAG VIEW



Figure A-35 POST-TEST PASSENGER AIRBAG VIEW

A-37

8056-4

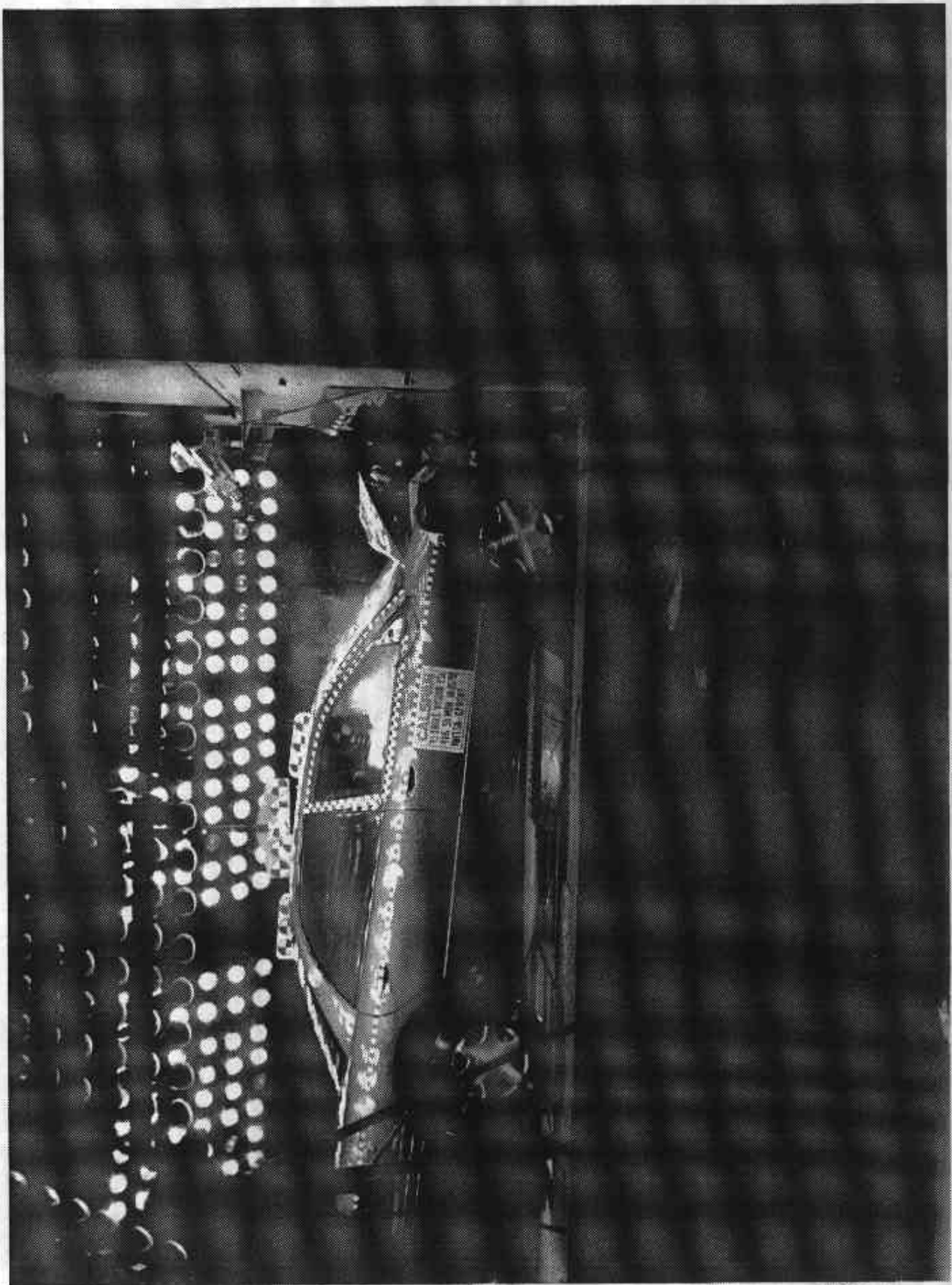


Figure A-36 VEHICLE IMPACT

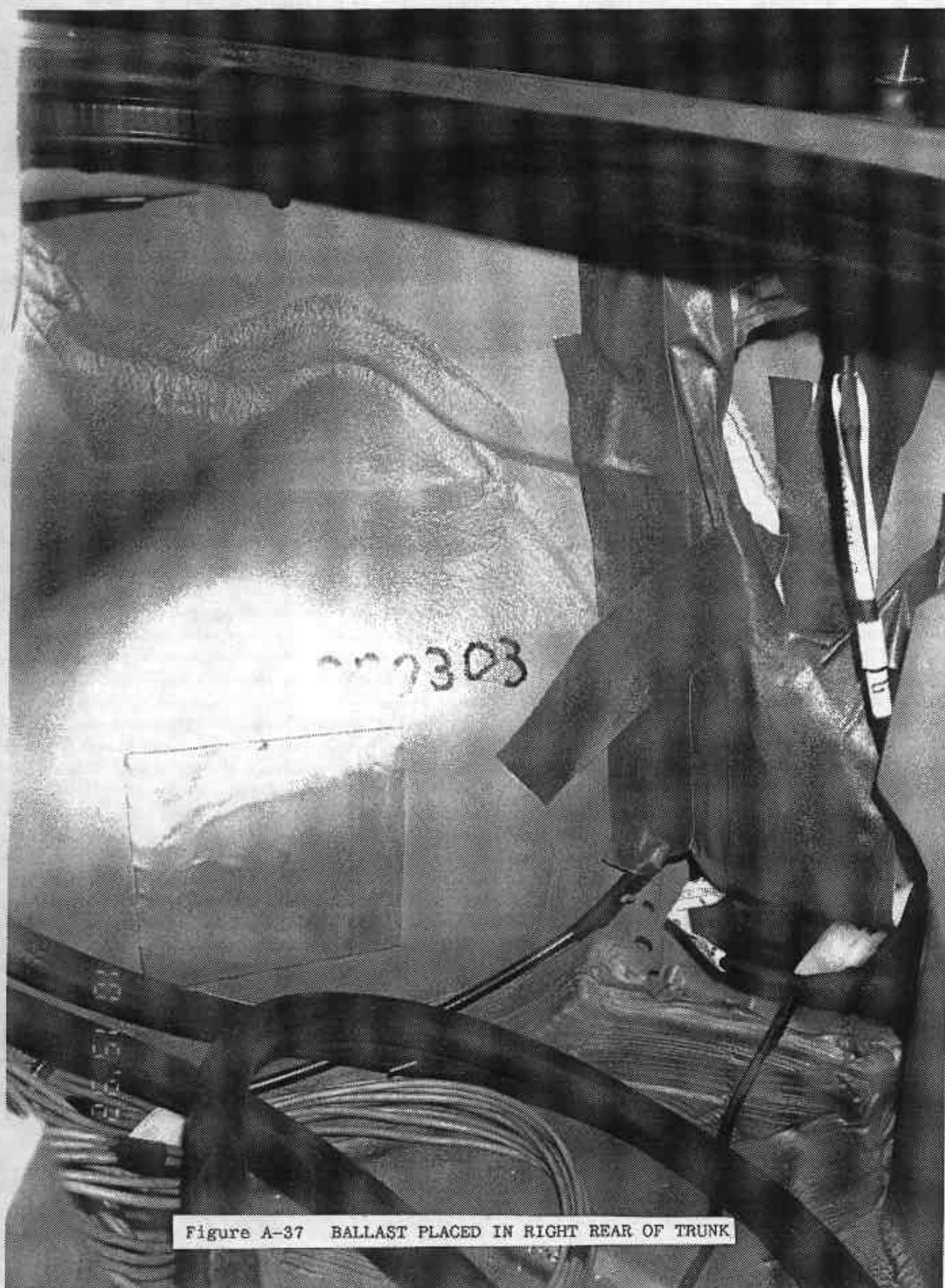


Figure A-37 BALLAST PLACED IN RIGHT REAR OF TRUNK.

Appendix B

VEHICLE AND DUMMY RESPONSE DATA

TEST NO. CP0303

VEHICLE DATA

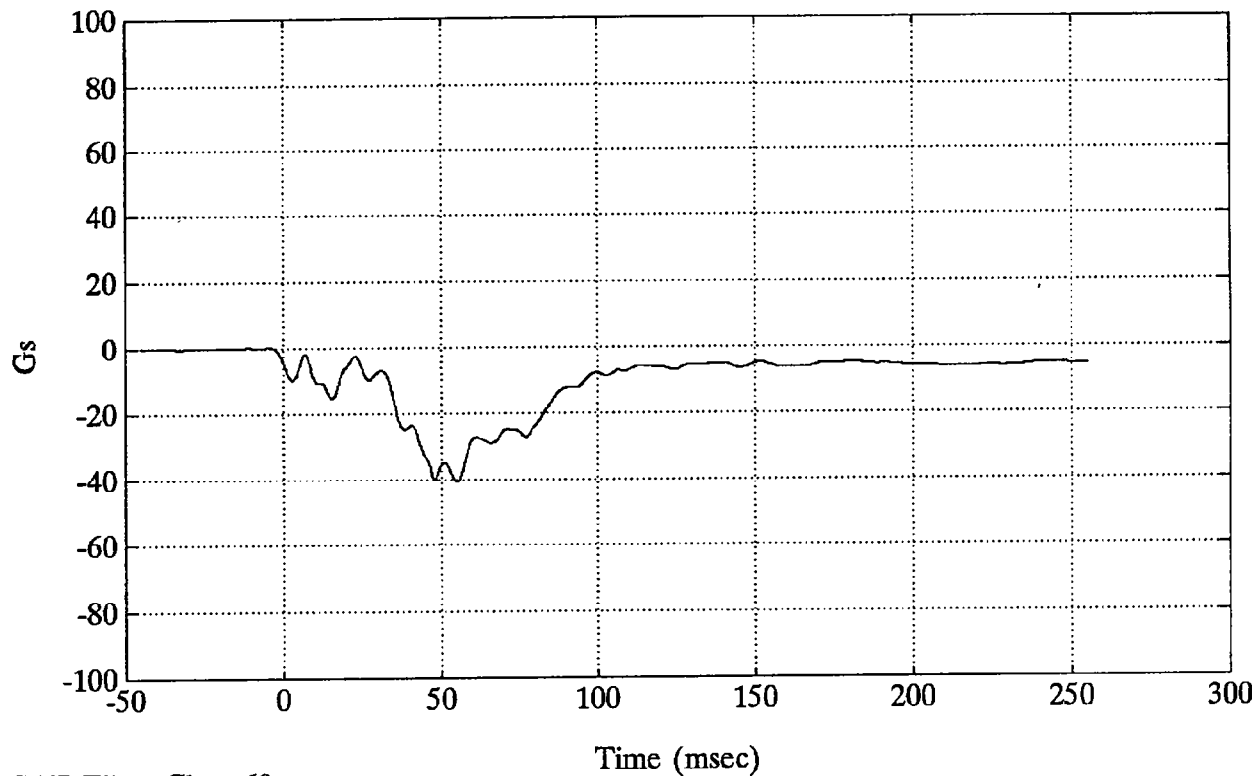
SAE FILTER CHANNEL CLASS

60

FMVSS 208 - 1993 EAGLE VISION

L. Rear X-member X (#1)

Max = 0.29 Gs @ -4.20 msec
Min = -40.84 Gs @ 55.20 msec

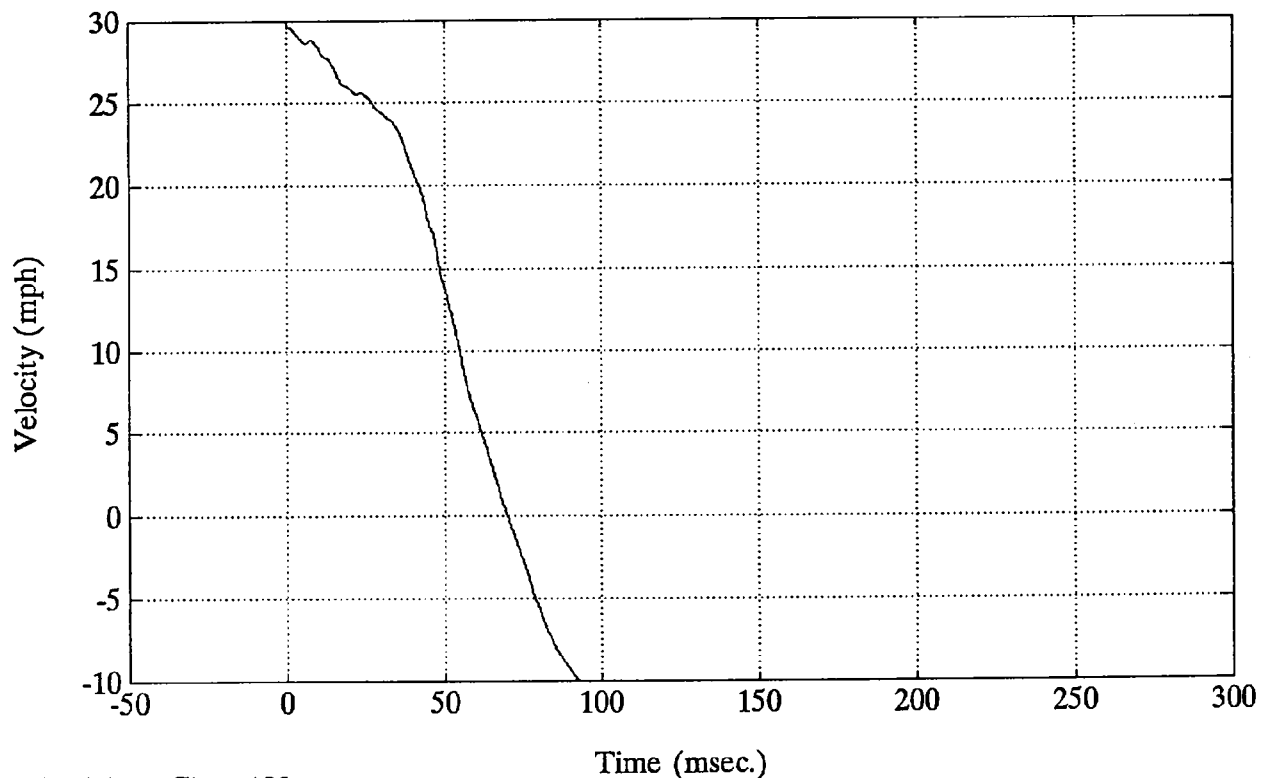


SAE Filter Class 60

FMVSS 208 - 1993 EAGLE VISION

L. Rear X-member X (#1)

Max = 29.80 mph @ -0.00 msec
Min = -31.38 mph @ 254.88 msec

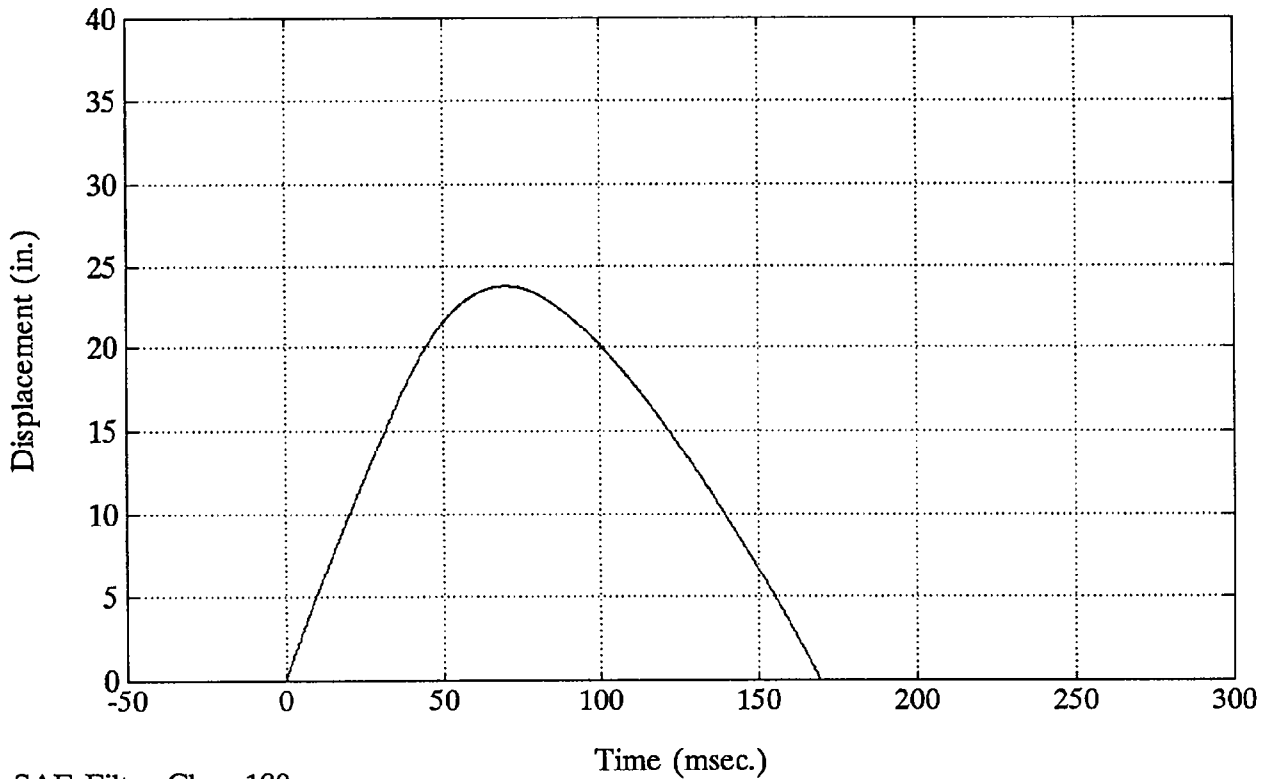


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

L. Rear X-member X (#1)

Max = 23.81 in. @ 71.04 msec
Min = -39.37 in. @ 254.88 msec

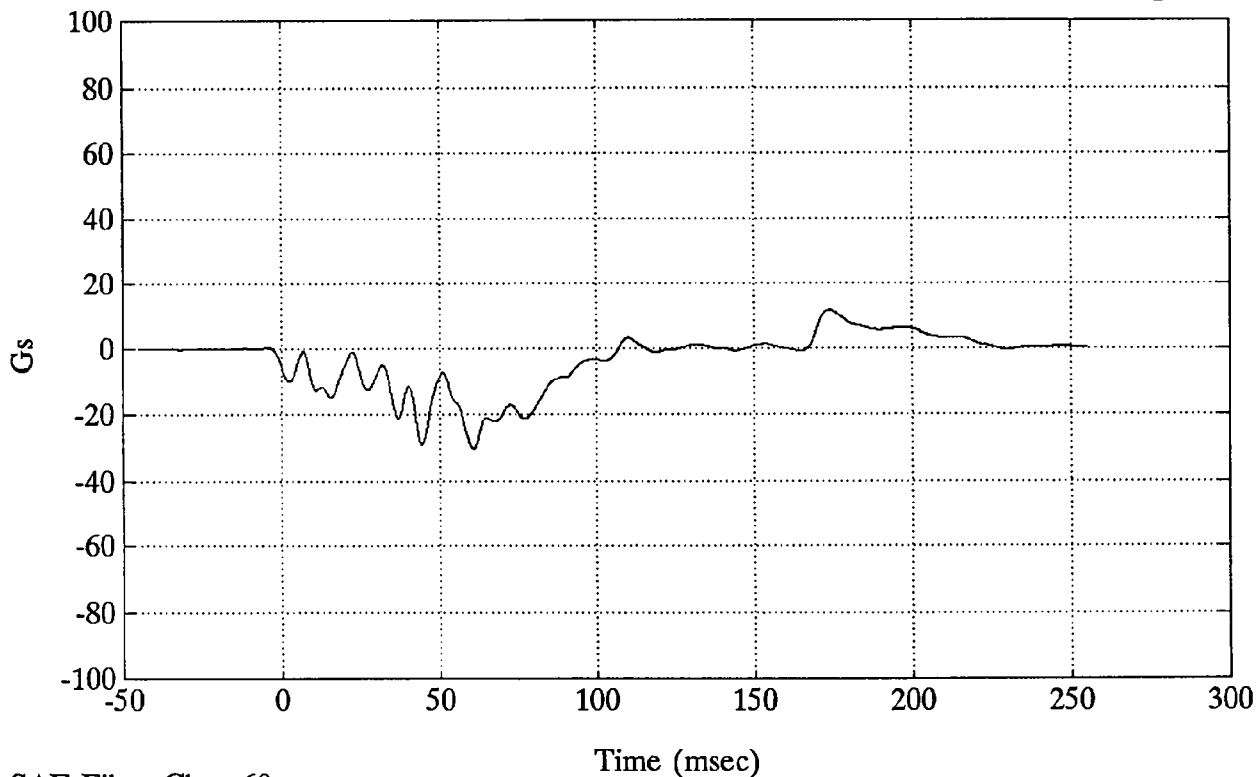


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

R. Rear X-member X (#2)

Max = 11.67 Gs @ 173.88 msec
Min = -30.21 Gs @ 60.96 msec

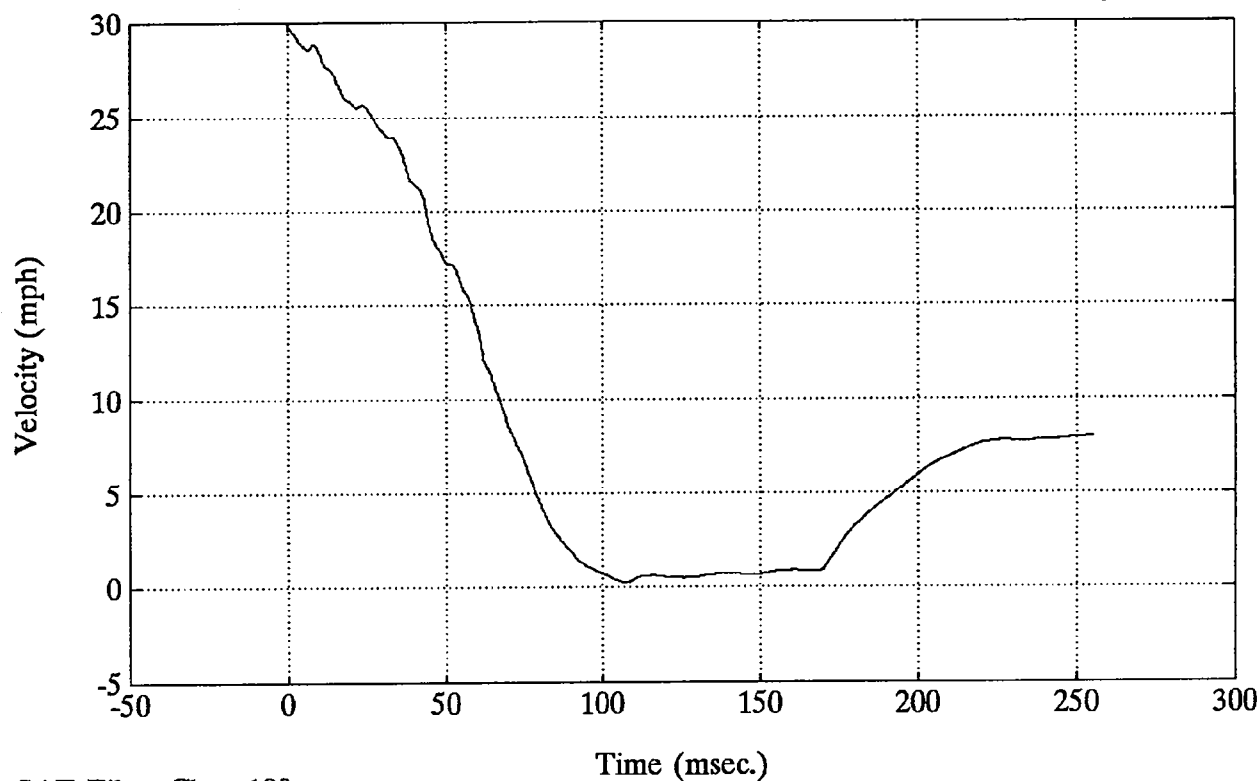


SAE Filter Class 60

FMVSS 208 - 1993 EAGLE VISION

R. Rear X-member X (#2)

Max = 29.80 mph @ -0.00 msec
Min = 0.25 mph @ 107.04 msec

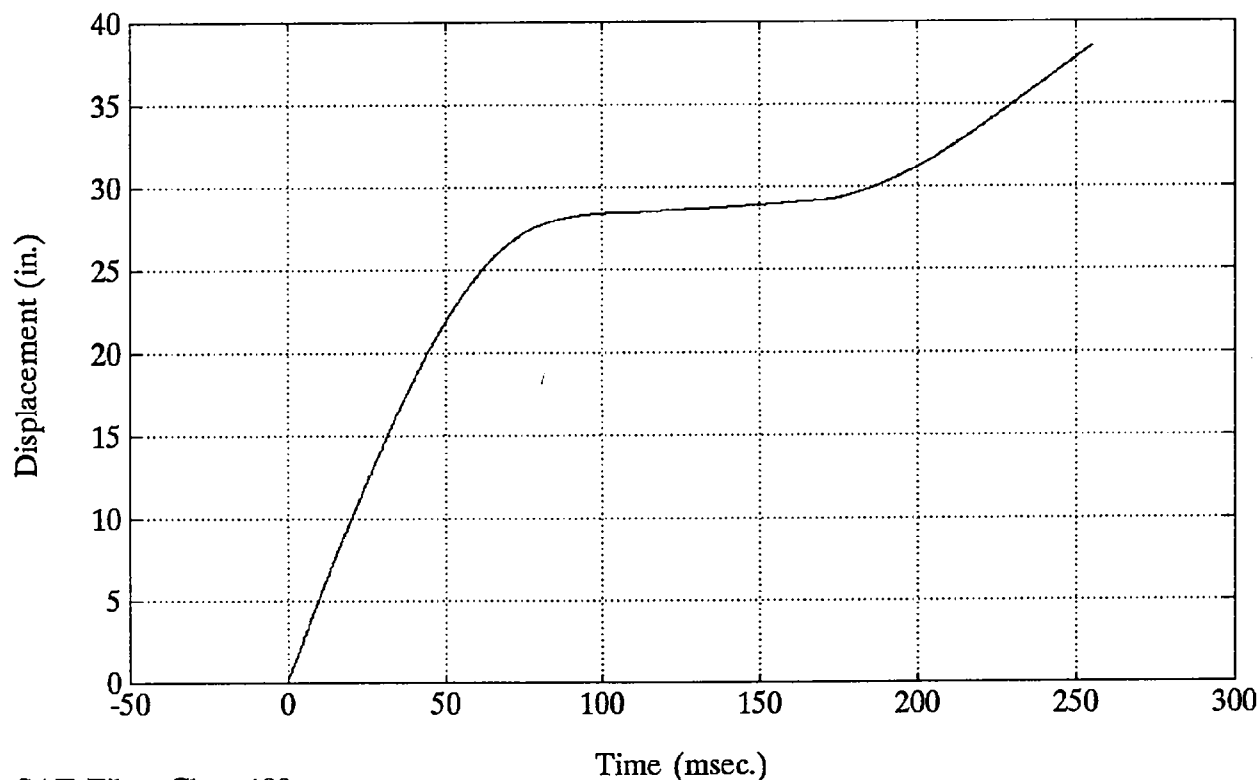


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

R. Rear X-member X (#2)

Max = 38.49 in. @ 254.88 msec
Min = 0.00 in. @ -0.00 msec

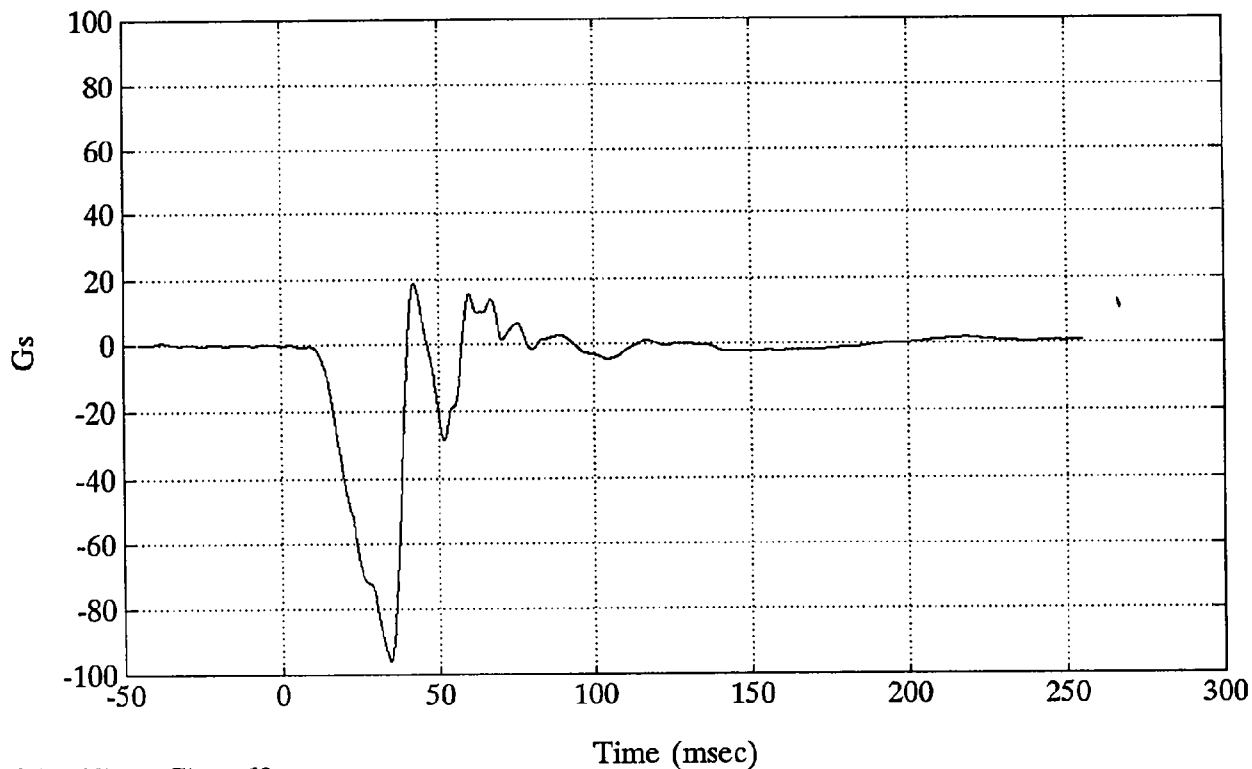


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Engine Top X (#3)

Max = 18.87 Gs @ 42.24 msec
Min = -95.99 Gs @ 34.44 msec

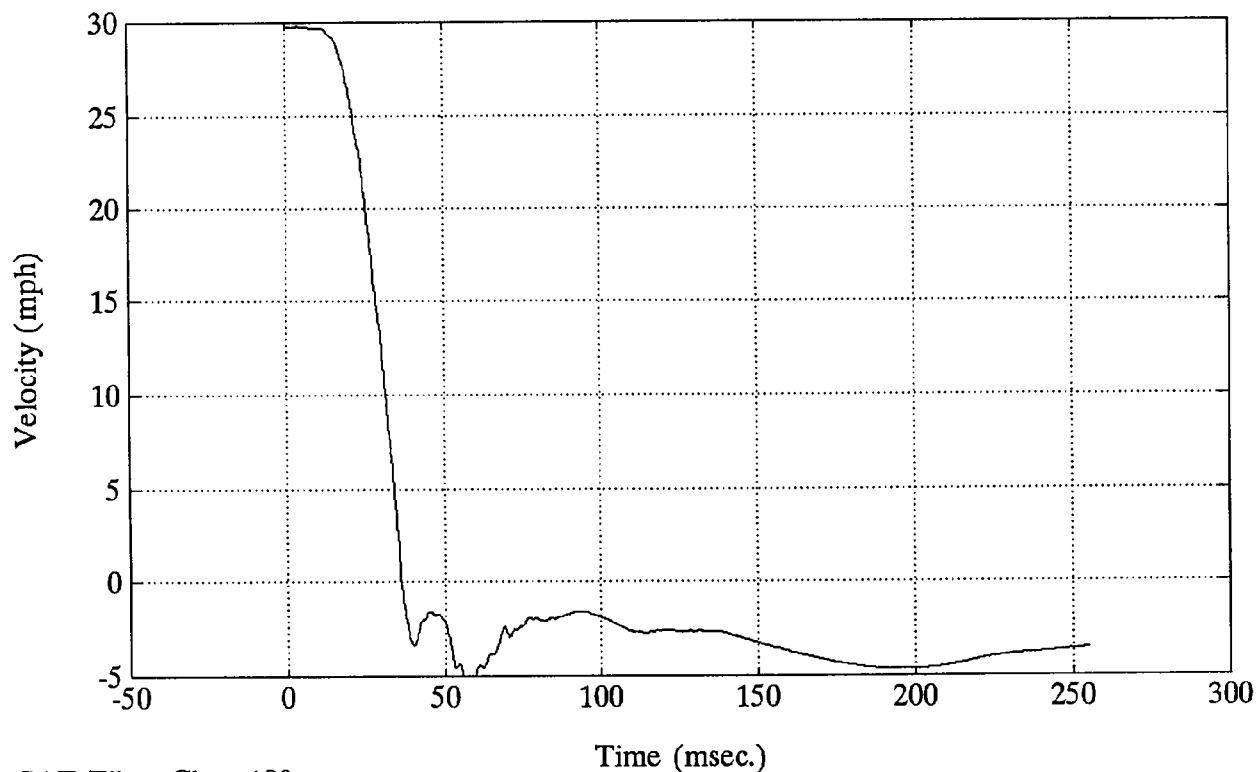


SAE Filter Class 60

FMVSS 208 - 1993 EAGLE VISION

Engine Top X (#3)

Max = 29.80 mph @ 4.32 msec
Min = -5.89 mph @ 57.60 msec

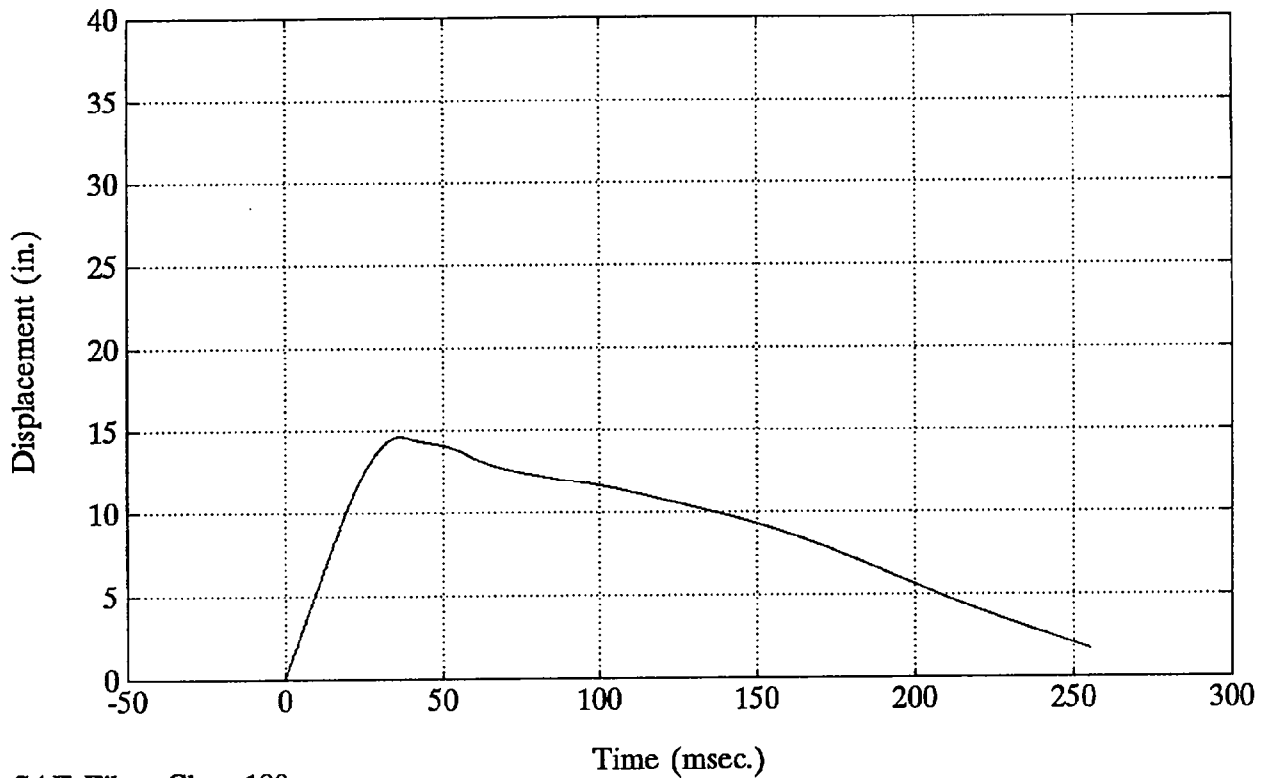


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Engine Top X (#3)

Max = 14.62 in. @ 36.96 msec
Min = 0.00 in. @ -0.00 msec

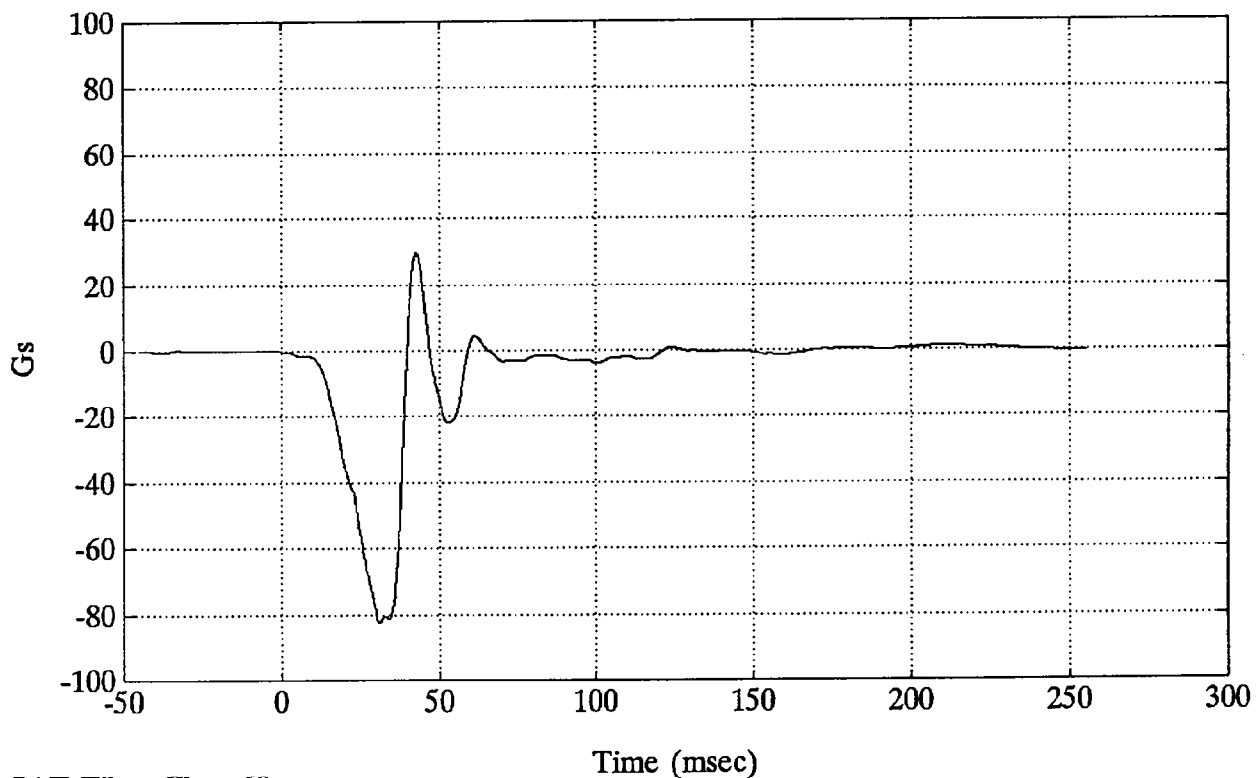


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Engine Bottom X (#4)

Max = 29.78 Gs @ 42.84 msec
Min = -82.47 Gs @ 31.08 msec

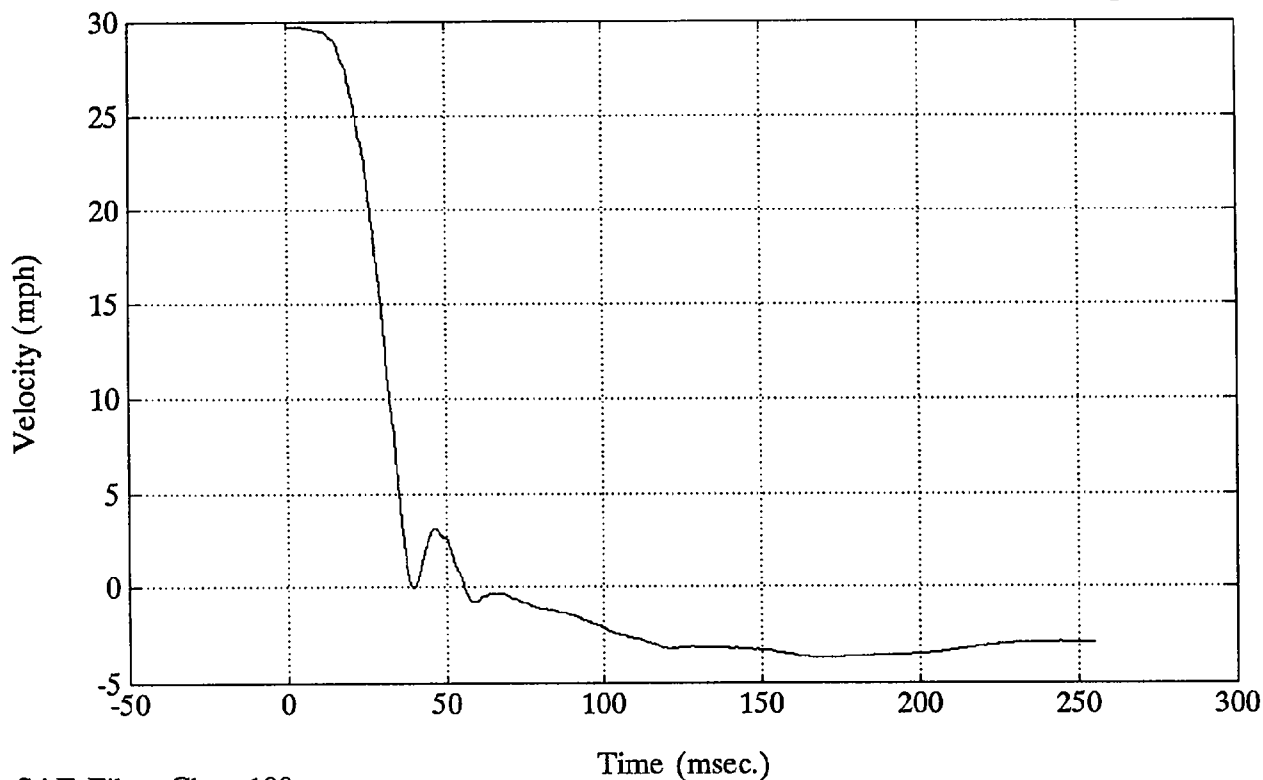


SAE Filter Class 60

FMVSS 208 - 1993 EAGLE VISION

Engine Bottom X (#4)

Max = 29.80 mph @ 0.24 msec
Min = -3.66 mph @ 168.48 msec

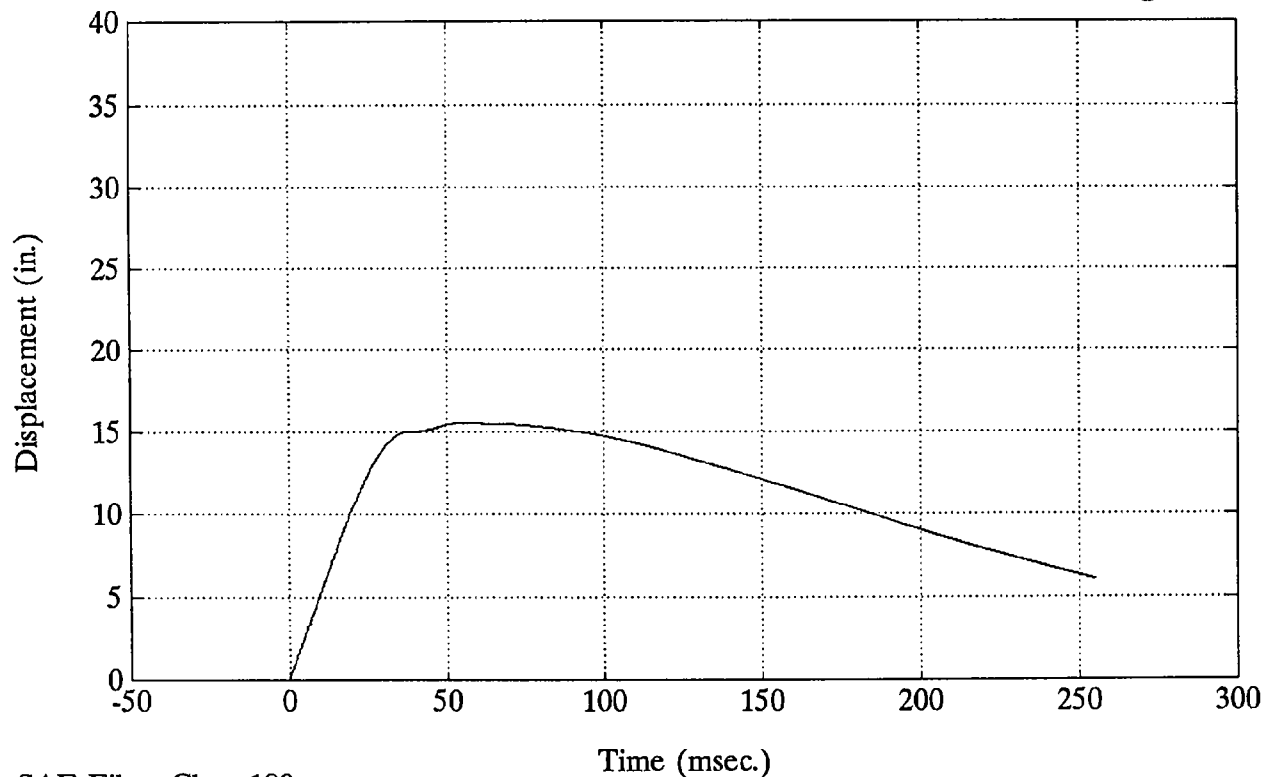


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Engine Bottom X (#4)

Max = 15.55 in. @ 55.92 msec
Min = 0.00 in. @ -0.00 msec

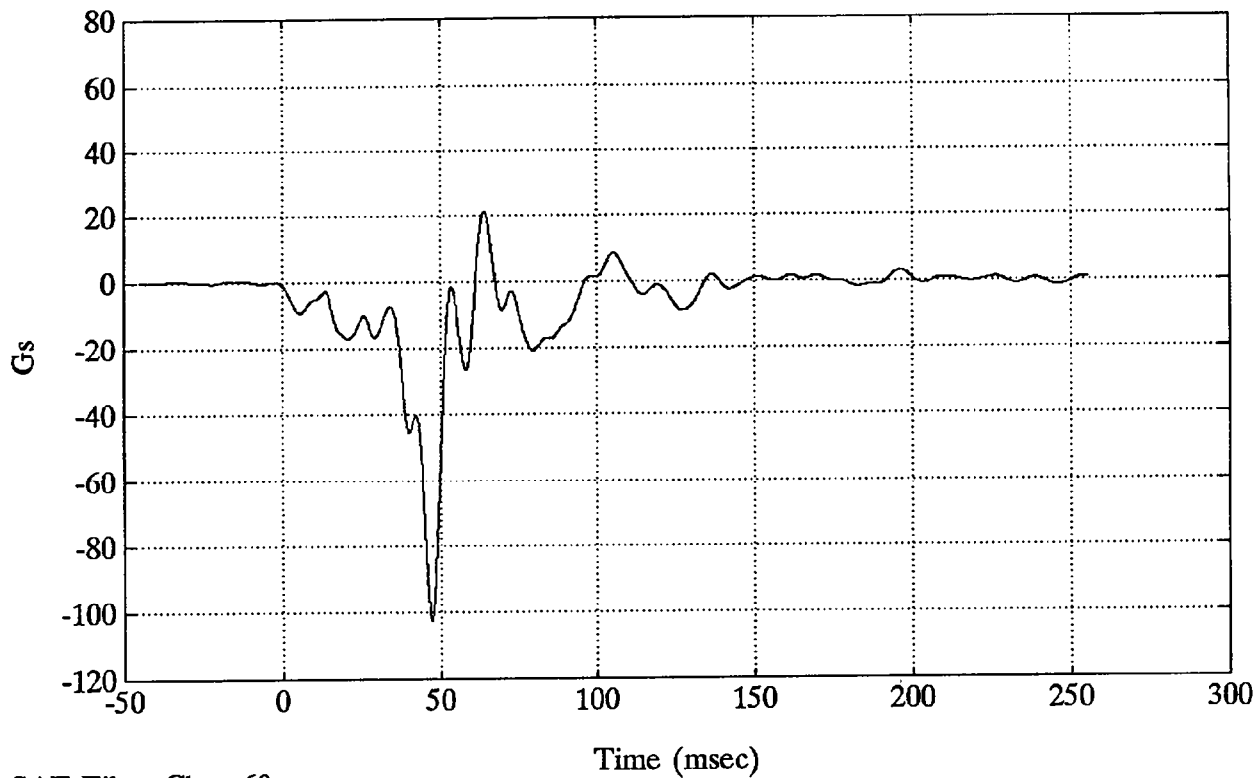


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

R. Brake Caliper X (#5)

Max = 21.37 Gs @ 64.08 msec
Min = -102.75 Gs @ 47.28 msec

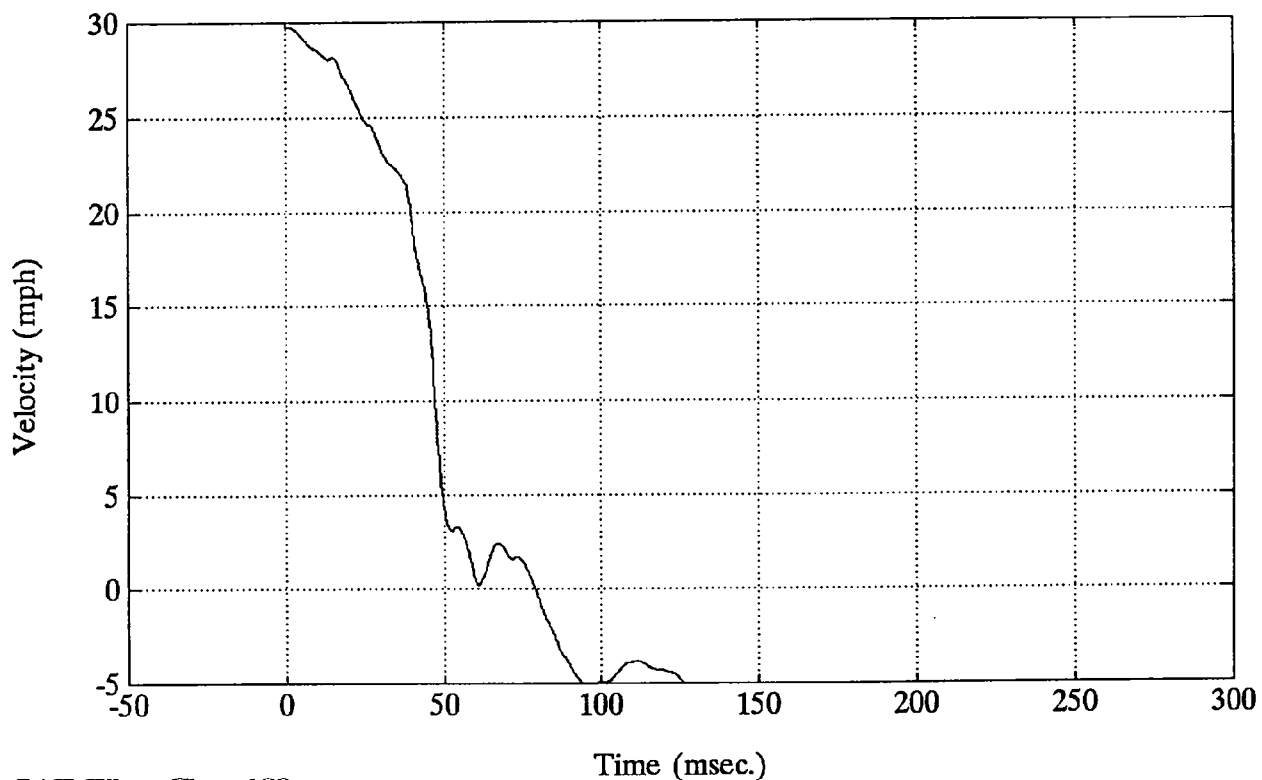


SAE Filter Class 60

FMVSS 208 - 1993 EAGLE VISION

R. Brake Caliper X (#5)

Max = 29.80 mph @ -0.00 msec
Min = -6.23 mph @ 147.36 msec

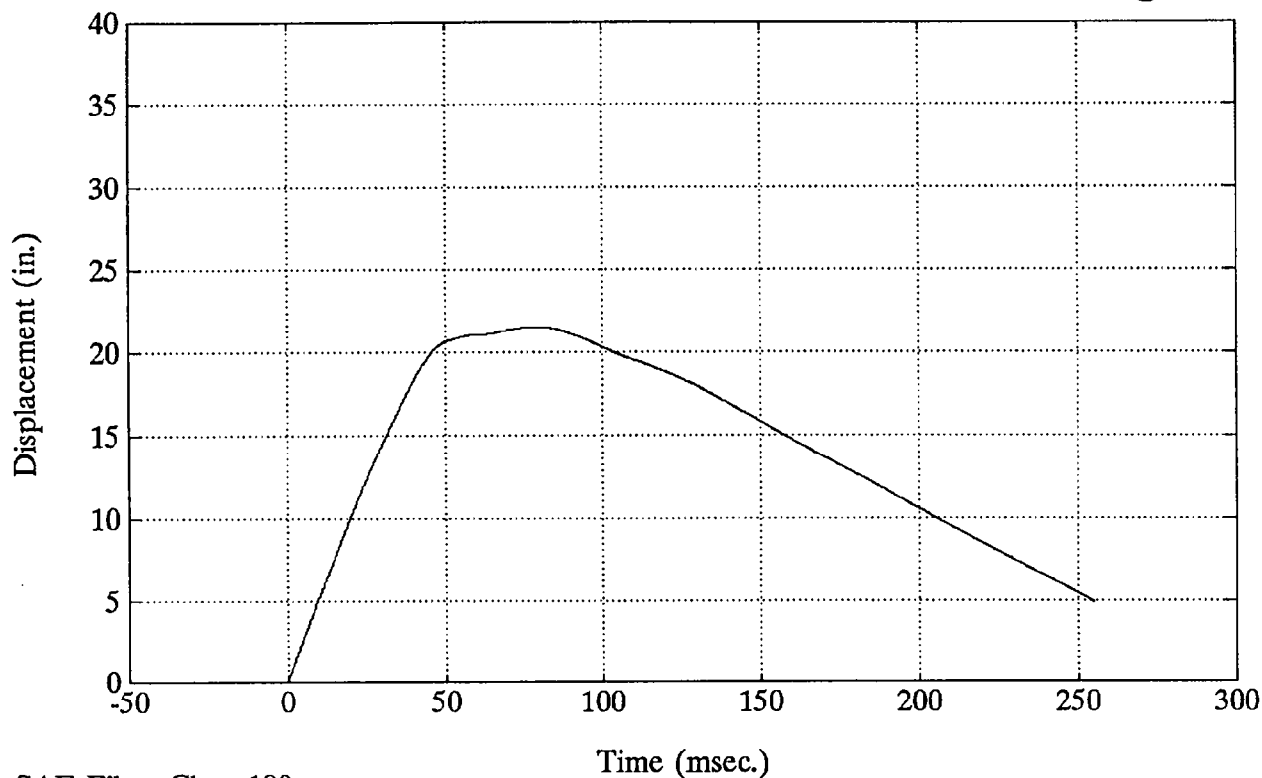


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

R. Brake Caliper X (#5)

Max = 21.59 in. @ 80.40 msec
Min = 0.00 in. @ -0.00 msec

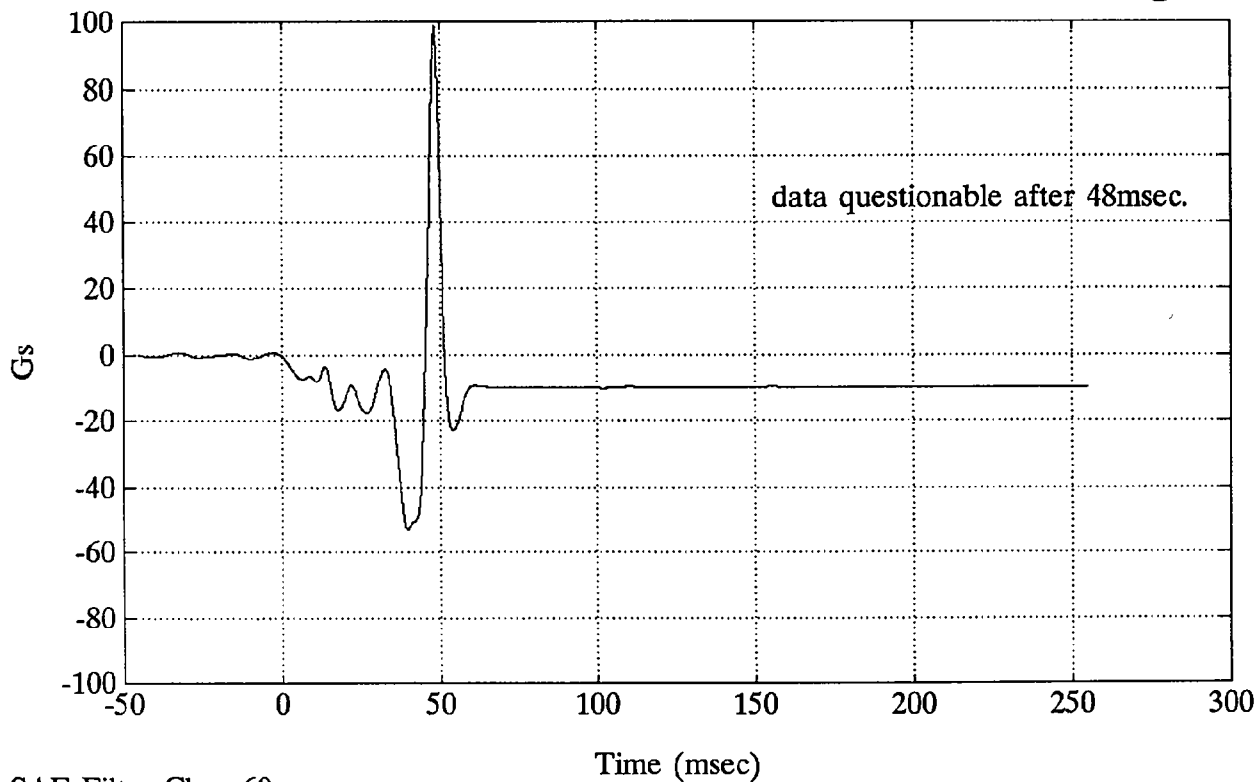


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

L. Brake Caliper X (#6)

Max = 98.90 Gs @ 48.36 msec
Min = -53.04 Gs @ 39.84 msec

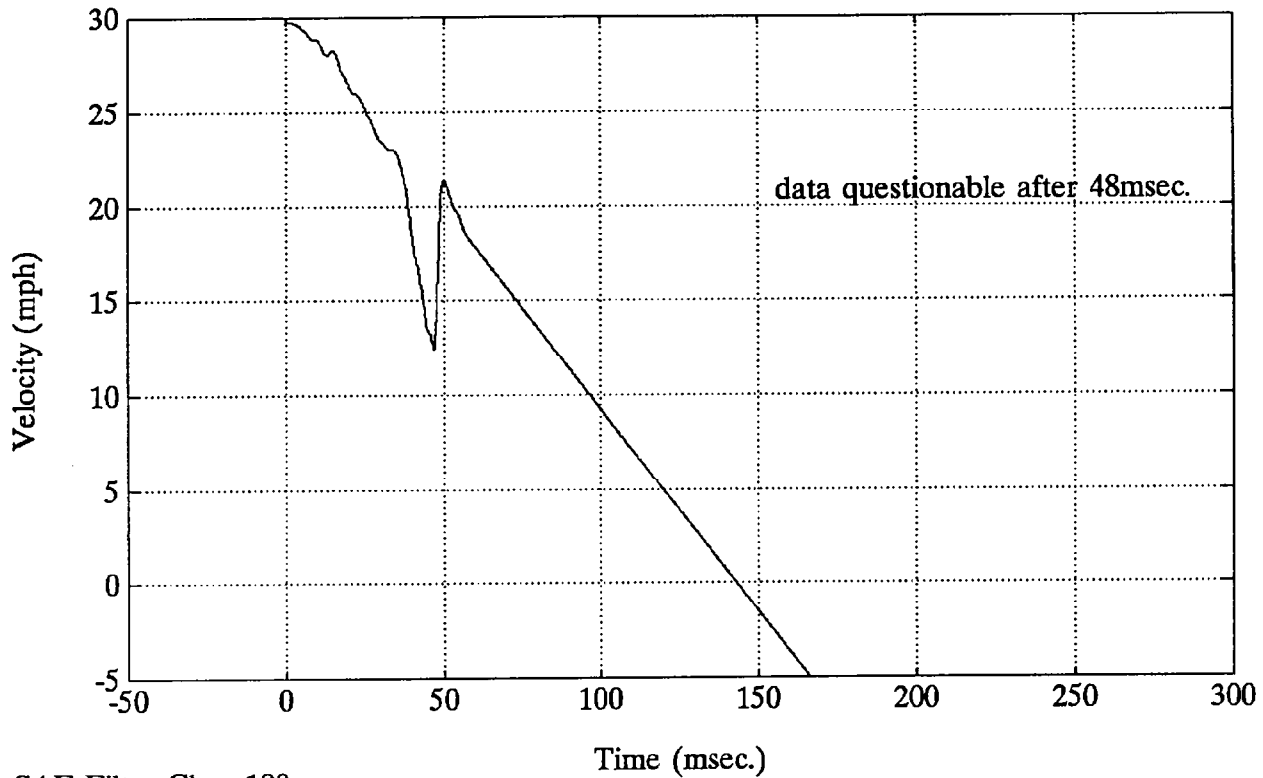


SAE Filter Class 60

FMVSS 208 - 1993 EAGLE VISION

L. Brake Caliper X (#6)

Max = 29.80 mph @ 0.72 msec
Min = -24.17 mph @ 254.88 msec

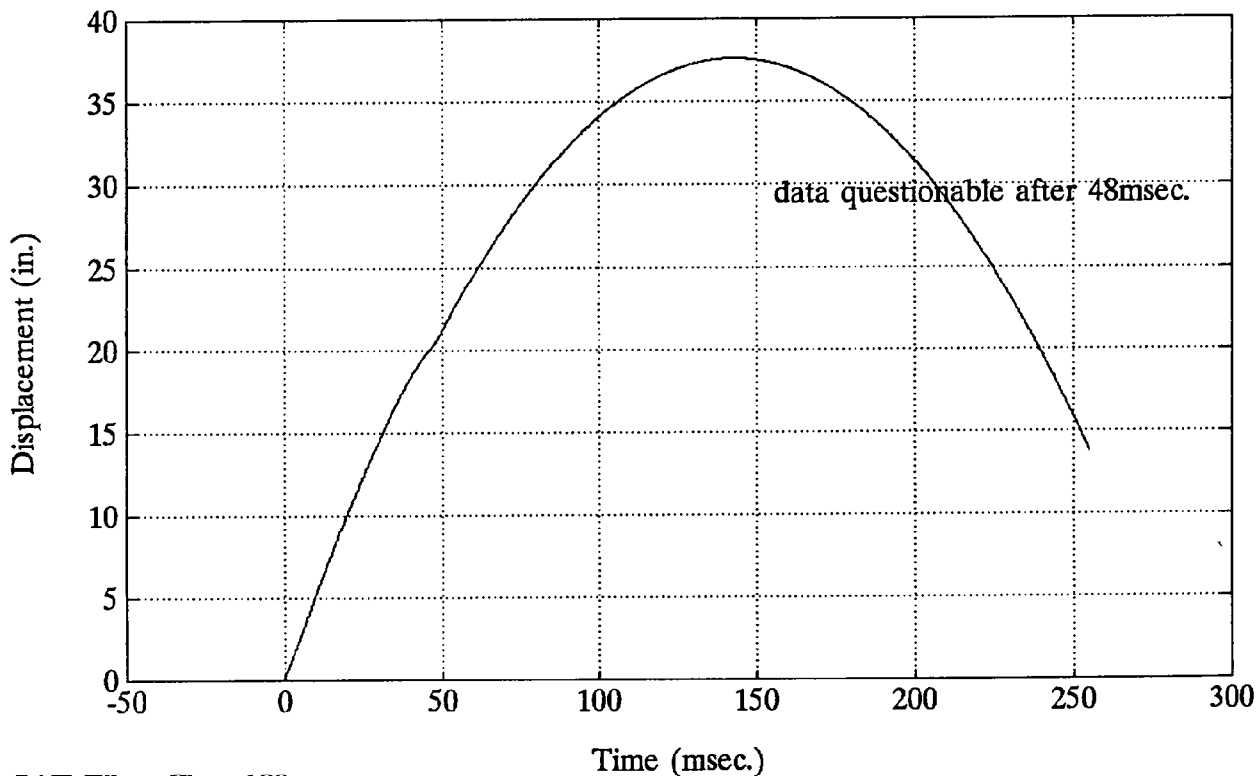


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

L. Brake Caliper X (#6)

Max = 37.59 in. @ 144.72 msec
Min = 0.00 in. @ -0.00 msec

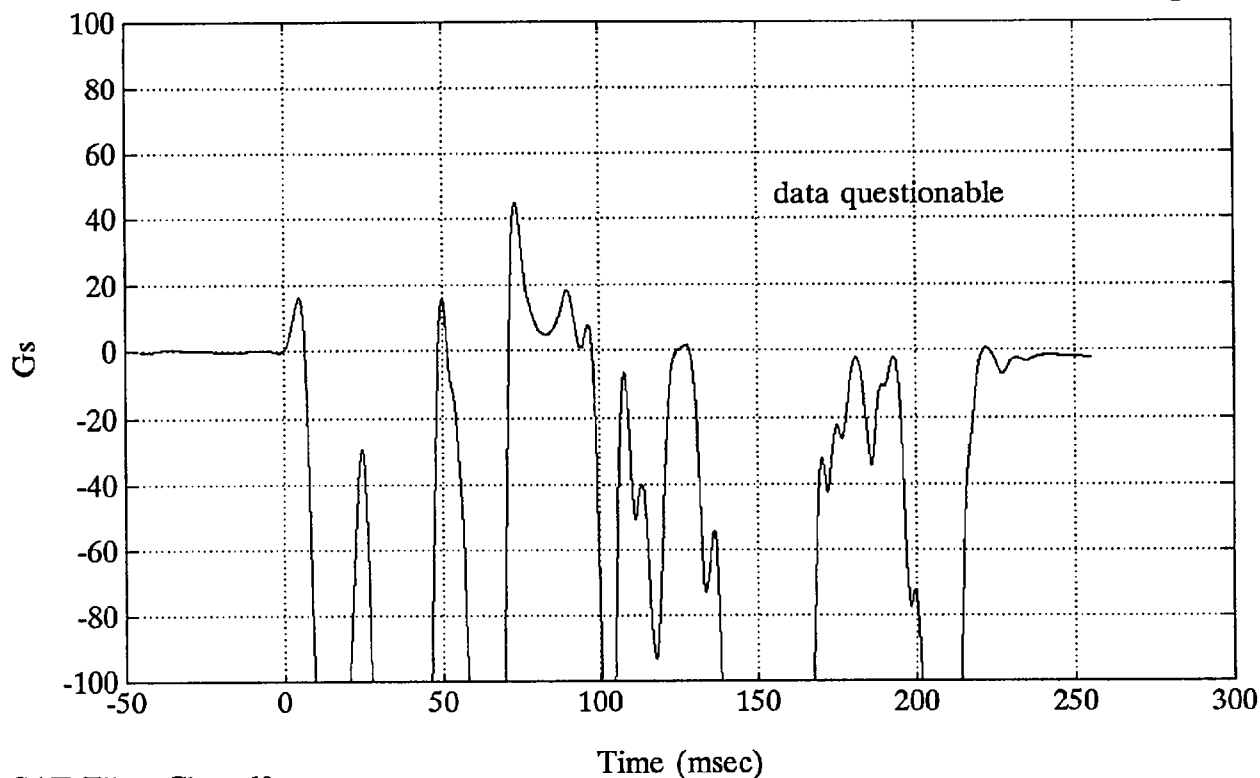


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Instrument Panel X (#7)

Max = 44.84 Gs @ 73.20 msec
Min = -210.91 Gs @ 65.76 msec

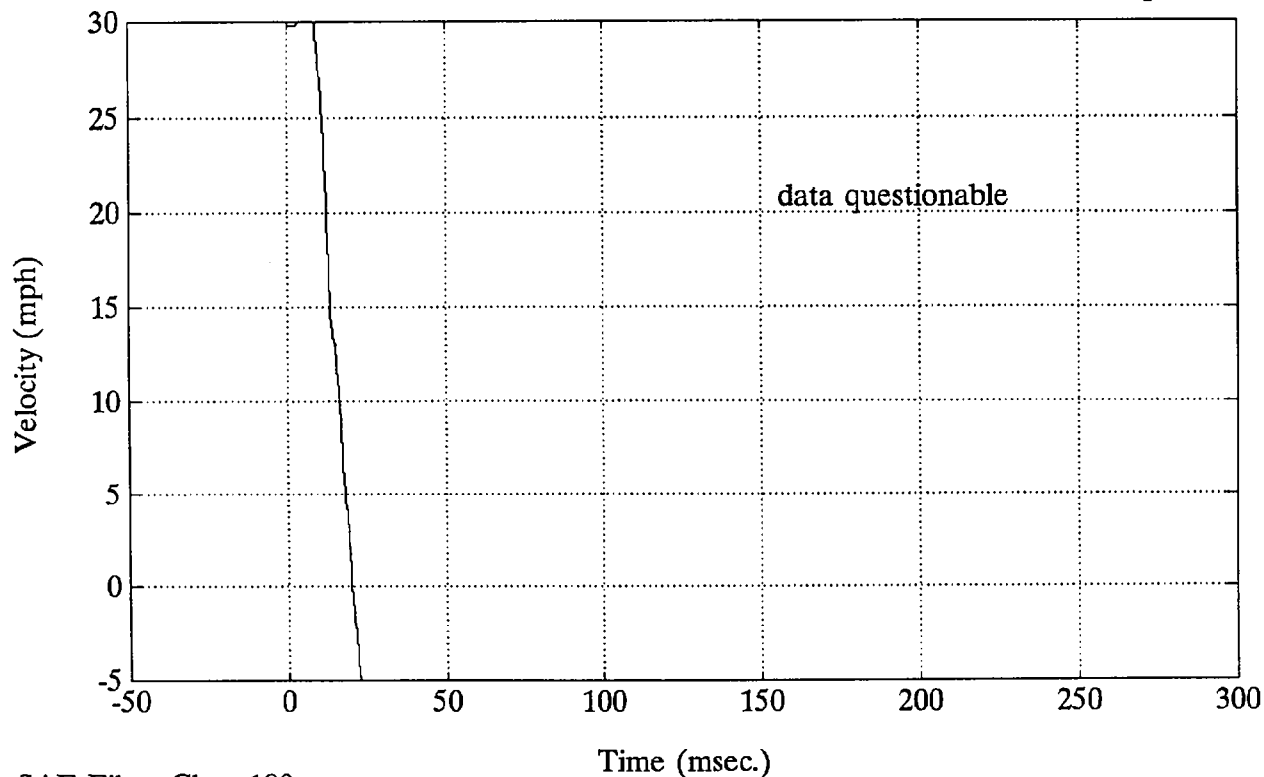


SAE Filter Class 60

FMVSS 208 - 1993 EAGLE VISION

Instrument Panel X (#7)

Max = 31.38 mph @ 7.92 msec
Min = -344.32 mph @ 254.88 ms

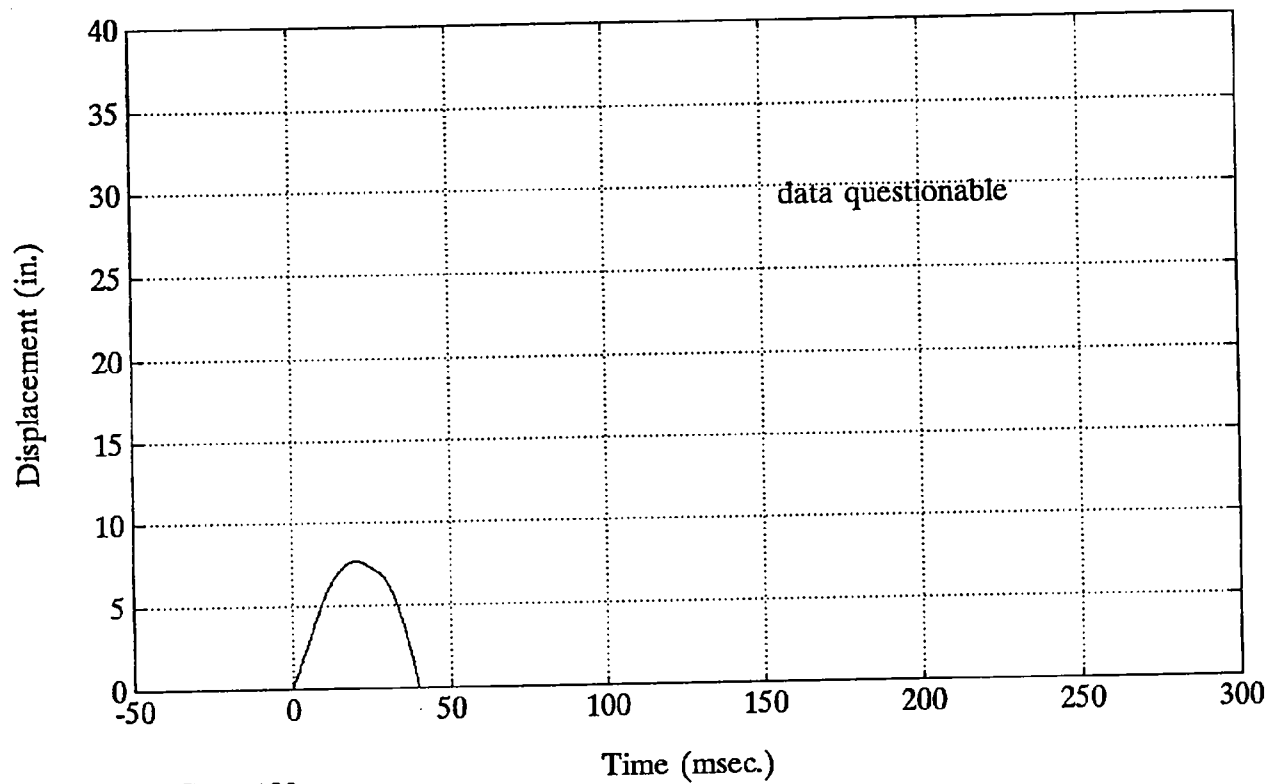


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Instrument Panel X (#7)

Max = 7.65 in. @ 20.16 msec
Min = -811.70 in. @ 254.88 msec



SAE Filter Class 180

TEST NO. CP0303

DUMMY DATA	SAE FILTER CHANNEL CLASS
Head Accelerations	1000
Chest Accelerations	180
Femur Forces	600

FACILITY: TRACK
RUN #: 1224
SERIES #: 4

TEST DATE: 15 Oct 1992
TEST TIME: 14:26:46
BOARD: A

TITLE: NHTSA "208" TEST #4 - 1993 EAGLE VISION

CHANNEL NUMBER	DESCRIPTION	ENGR UNIT	MAXIMUM		MINIMUM	
			AMP	msec	AMP	msec
1	Pos. 1 Head X	Gs	17.3	110.4	-52.8	76.1
2	Pos. 1 Head Y	Gs	22.2	86.5	-10.9	110.0
3	Pos. 1 Head Z	Gs	35.4	82.4	-61.5	98.5
4	Pos. 1 Left Femur	lbs	26.1	211.4	-1709.1	63.2
5	Pos. 1 Chest X	Gs	6.8	210.8	-71.9	87.7
6	Pos. 1 Chest Y	Gs	12.7	88.0	-4.8	97.2
7	Pos. 1 Chest Z	Gs	19.3	80.6	-4.6	89.2
8	Pos. 1 Right Femur	lbs	35.7	209.2	-1707.3	81.5
9	Pos. 2 Head X	Gs	13.1	120.1	-38.5	79.9
10	Pos. 2 Head Y	Gs	4.3	231.8	-8.2	70.0
11	Pos. 2 Head Z	Gs	23.9	78.2	-22.1	115.2
12	Pos. 2 Left Femur	lbs	41.3	232.9	-1772.0	61.8
13	Pos. 2 Chest X	Gs	2.4	212.5	-46.7	83.8
14	Pos. 2 Chest Y	Gs	2.8	65.8	-4.6	89.3
15	Pos. 2 Chest Z	Gs	15.4	66.1	-13.0	114.6
16	Pos. 2 Right Femur	lbs	102.1	52.0	-1966.3	61.0
17	Pos. 1 Head Resultant	Gs	62.0	98.5	.0	-16.7
18	Pos. 1 Chest Resultant	Gs	72.9	87.7	.0	-19.3
19	Pos. 2 Head Resultant	Gs	44.3	78.2	.0	-14.5
20	Pos. 2 Chest Resultant	Gs	47.8	83.4	.0	-25.2

HIC SUMMARY: Pos. 1 Head Resultant

hic: 481.86
t1 = 68.040 msec
t2 = 103.920 msec
Average G's Over Hic Duration = 44.79

HIC SUMMARY: Pos. 2 Head Resultant

hic: 238.38
t1 = 59.640 msec
t2 = 95.520 msec
Average G's Over Hic Duration = 33.80

CLIP SUMMARY: Pos. 1 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 58.595 G's
Tstart = 86.2800 ms
Tend = 89.4000 ms
CSI = 551.947

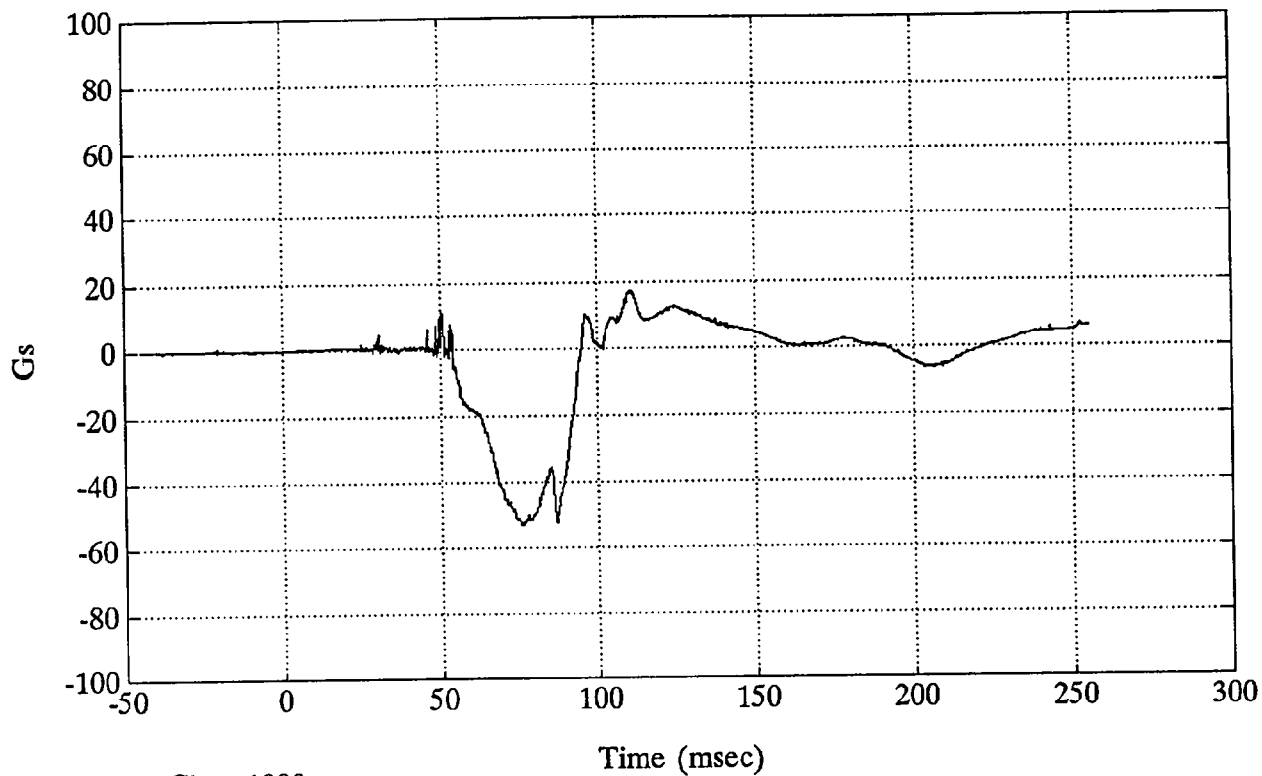
CLIP SUMMARY: Pos. 2 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 47.112 G's
Tstart = 81.3600 ms
Tend = 84.4800 ms
CSI = 362.929

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Head X

Max = 17.35 Gs @ 110.40 msec
Min = -52.77 Gs @ 76.08 msec

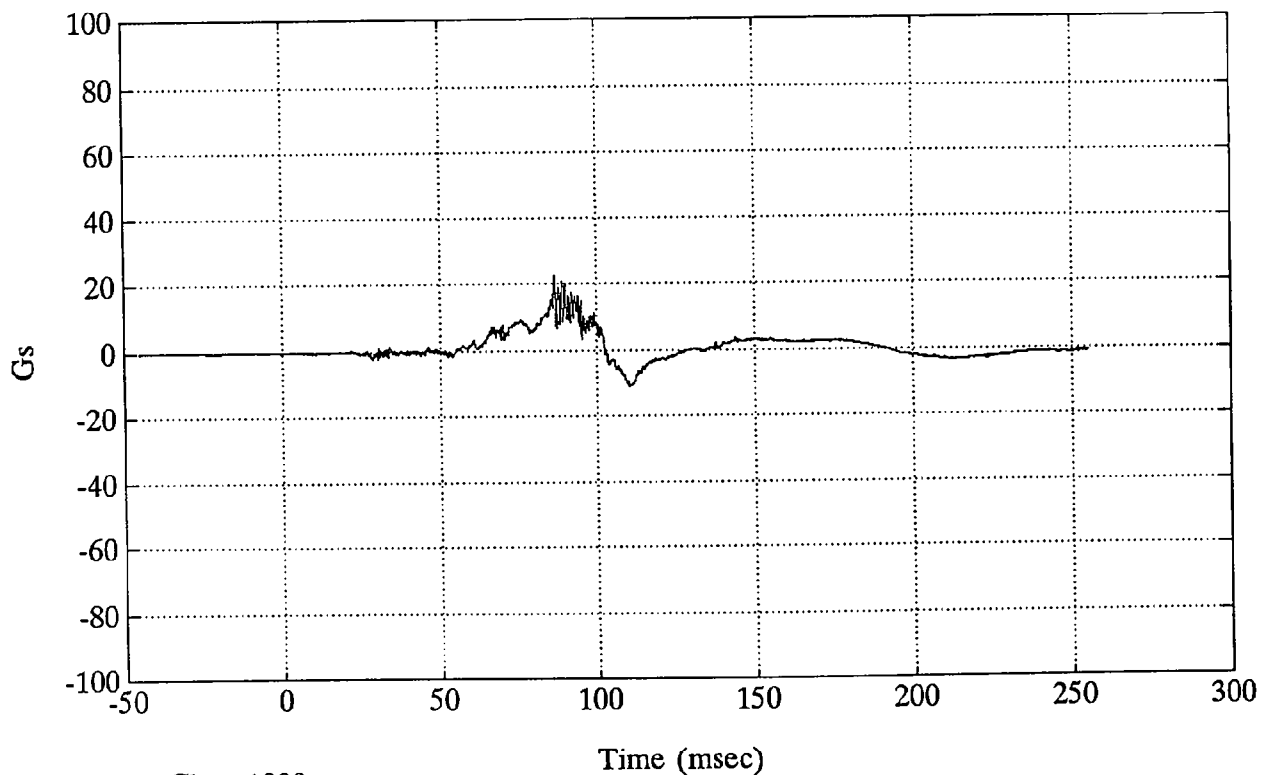


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Head Y

Max = 22.22 Gs @ 86.52 msec
Min = -10.90 Gs @ 110.04 msec

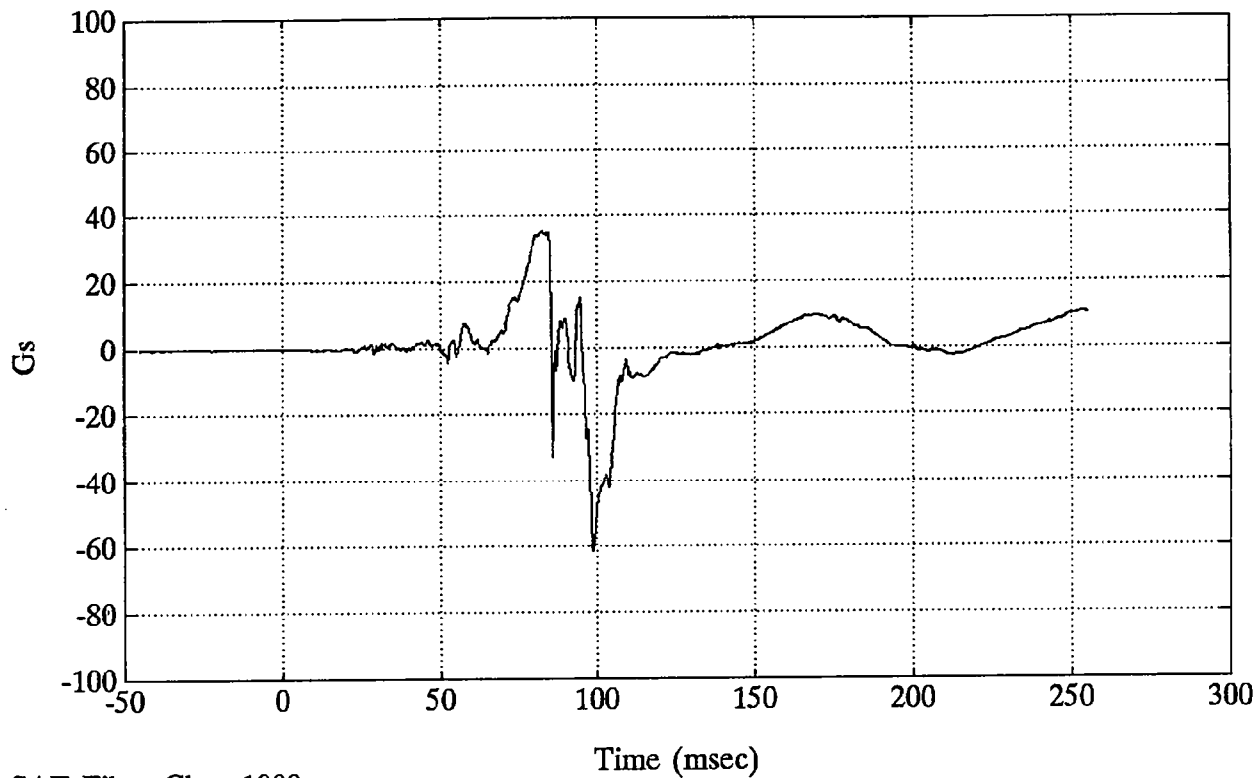


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Head Z

Max = 35.45 Gs @ 82.44 msec
Min = -61.55 Gs @ 98.52 msec

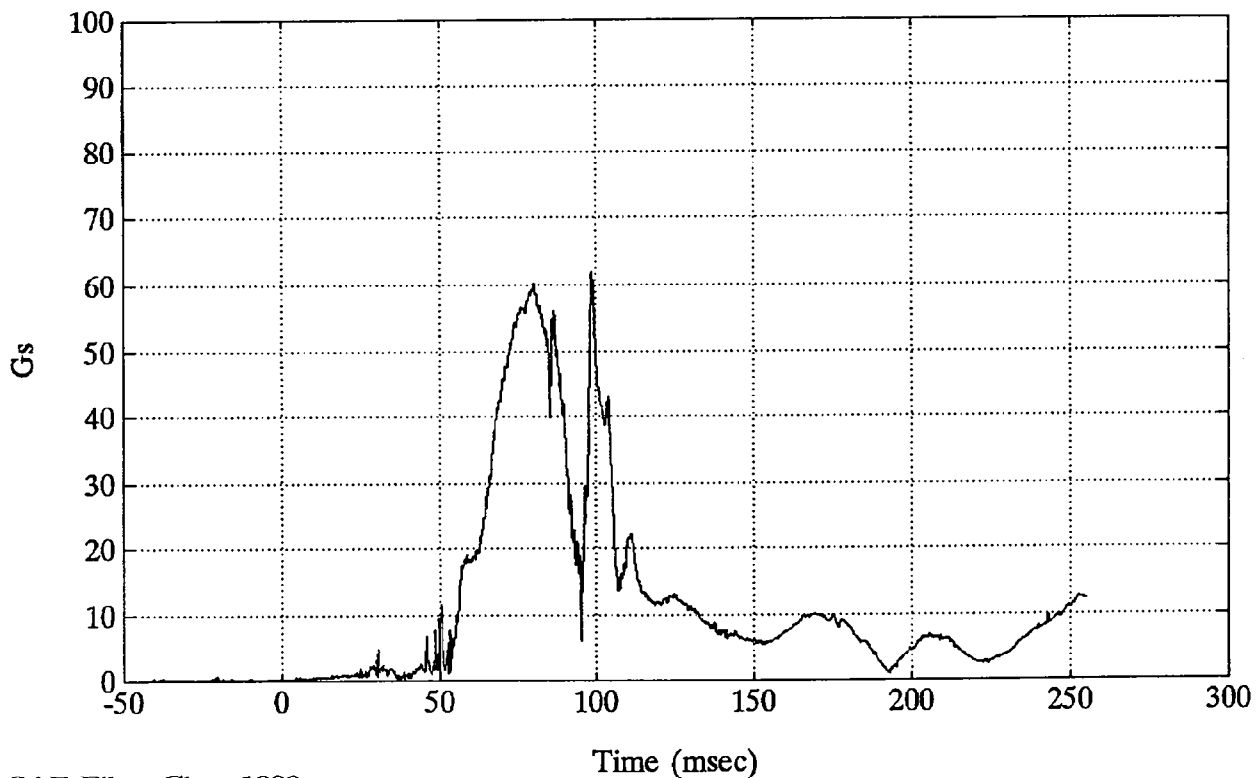


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Head Resultant

Max = 62.01 Gs @ 98.52 msec
Min = 0.05 Gs @ -16.68 msec

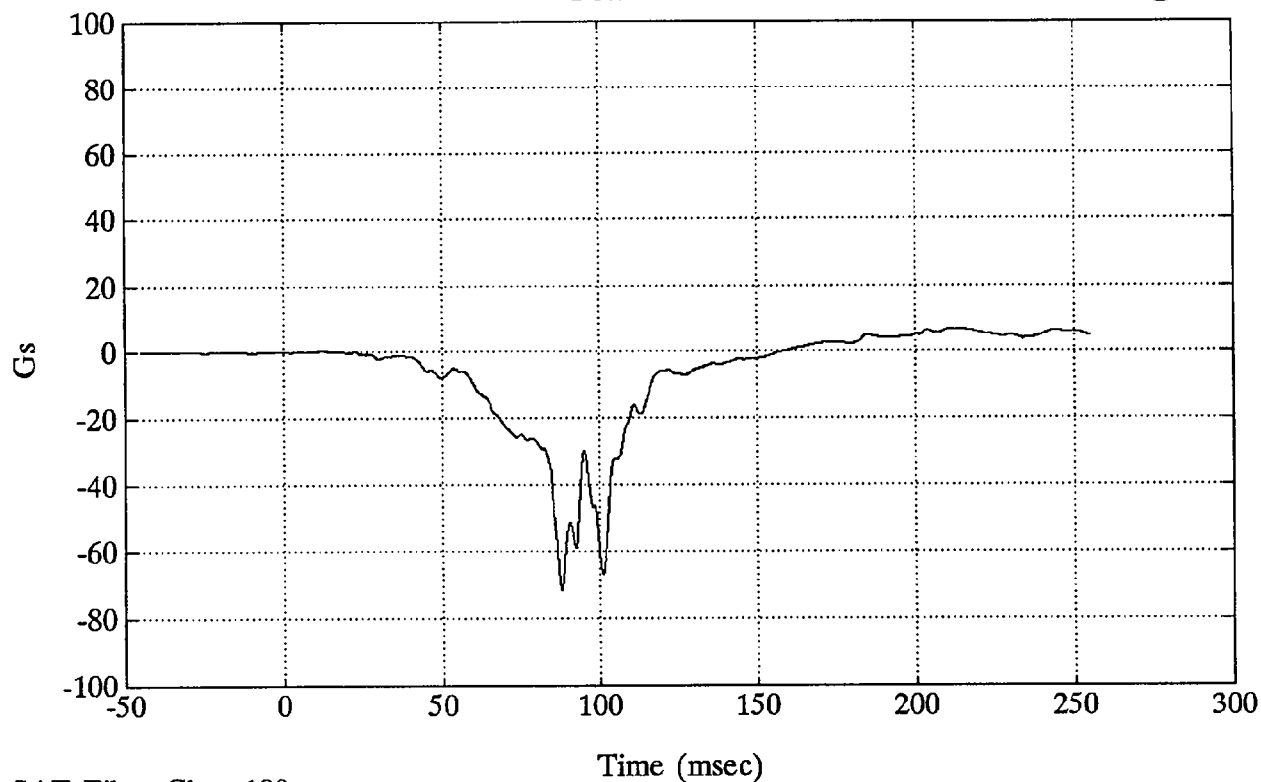


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Chest X

Max = 6.82 Gs @ 210.84 msec
Min = -71.88 Gs @ 87.72 msec

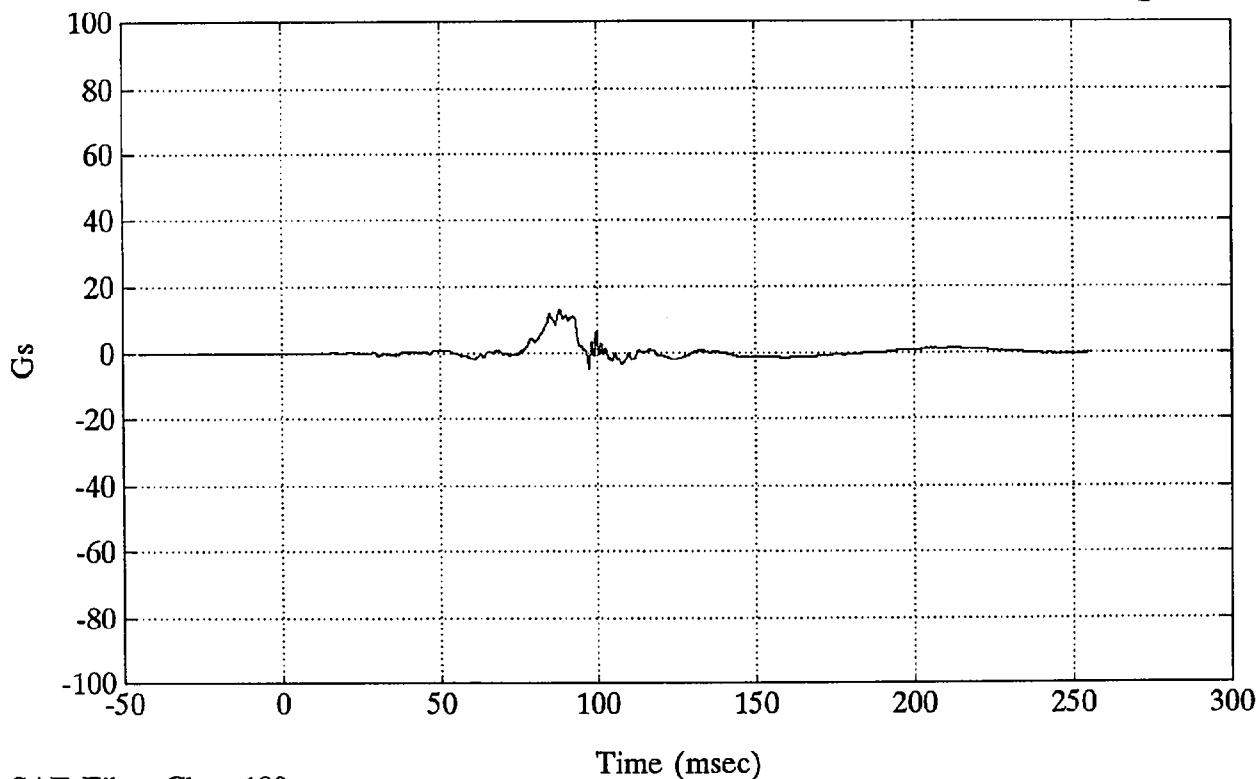


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Chest Y

Max = 12.75 Gs @ 87.96 msec
Min = -4.82 Gs @ 97.20 msec

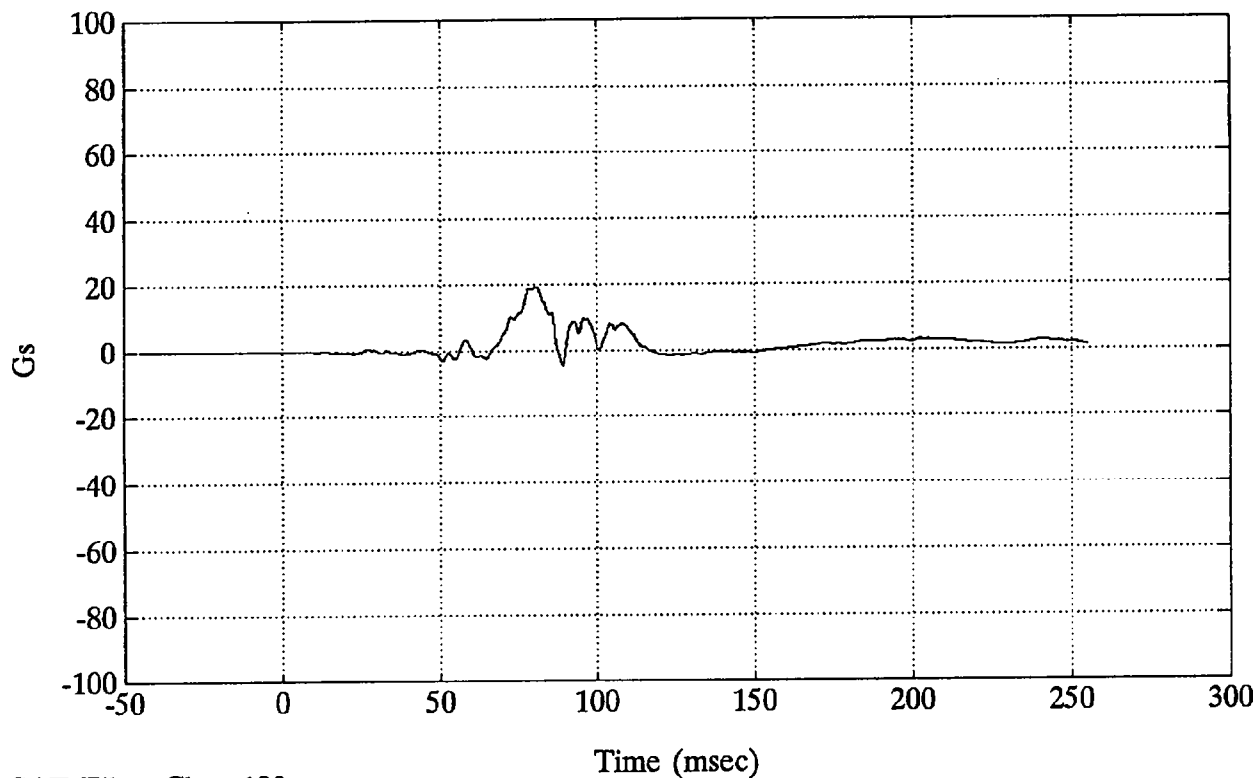


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Chest Z

Max = 19.32 Gs @ 80.64 msec
Min = -4.62 Gs @ 89.16 msec

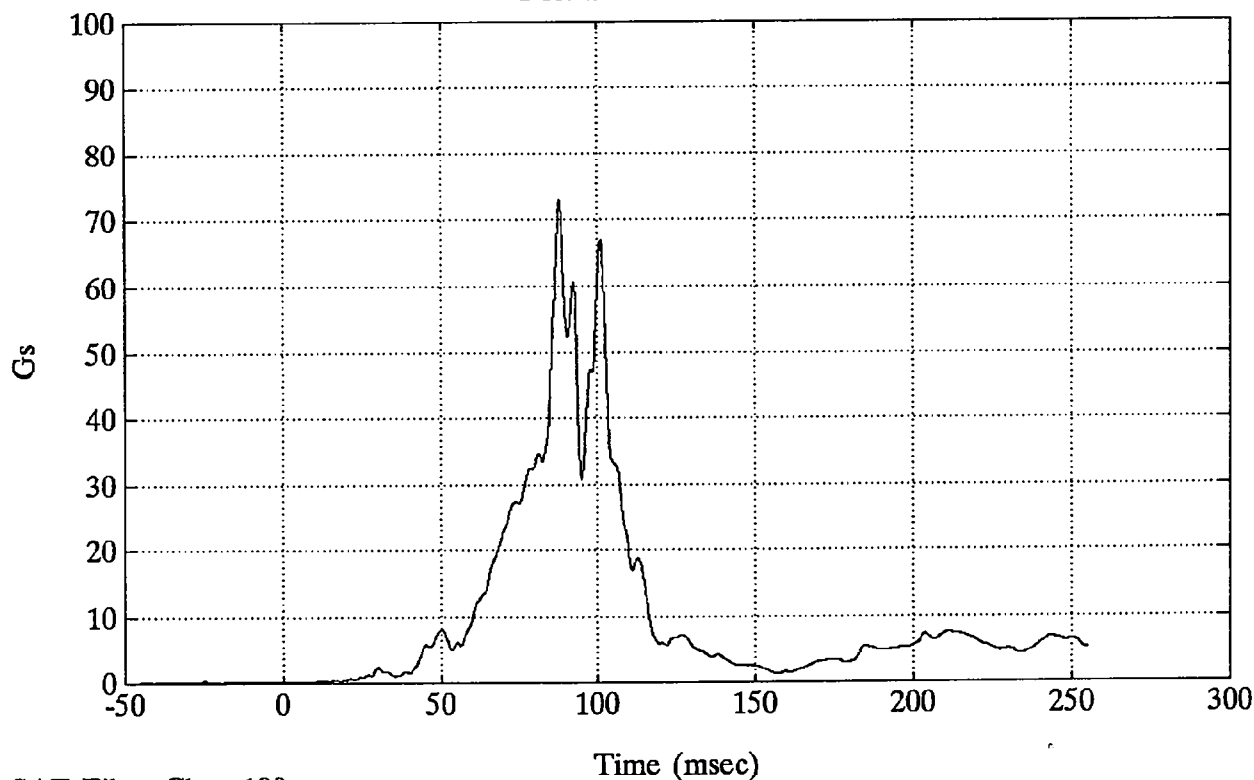


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Chest Resultant

Max = 72.95 Gs @ 87.72 msec
Min = 0.03 Gs @ -19.32 msec

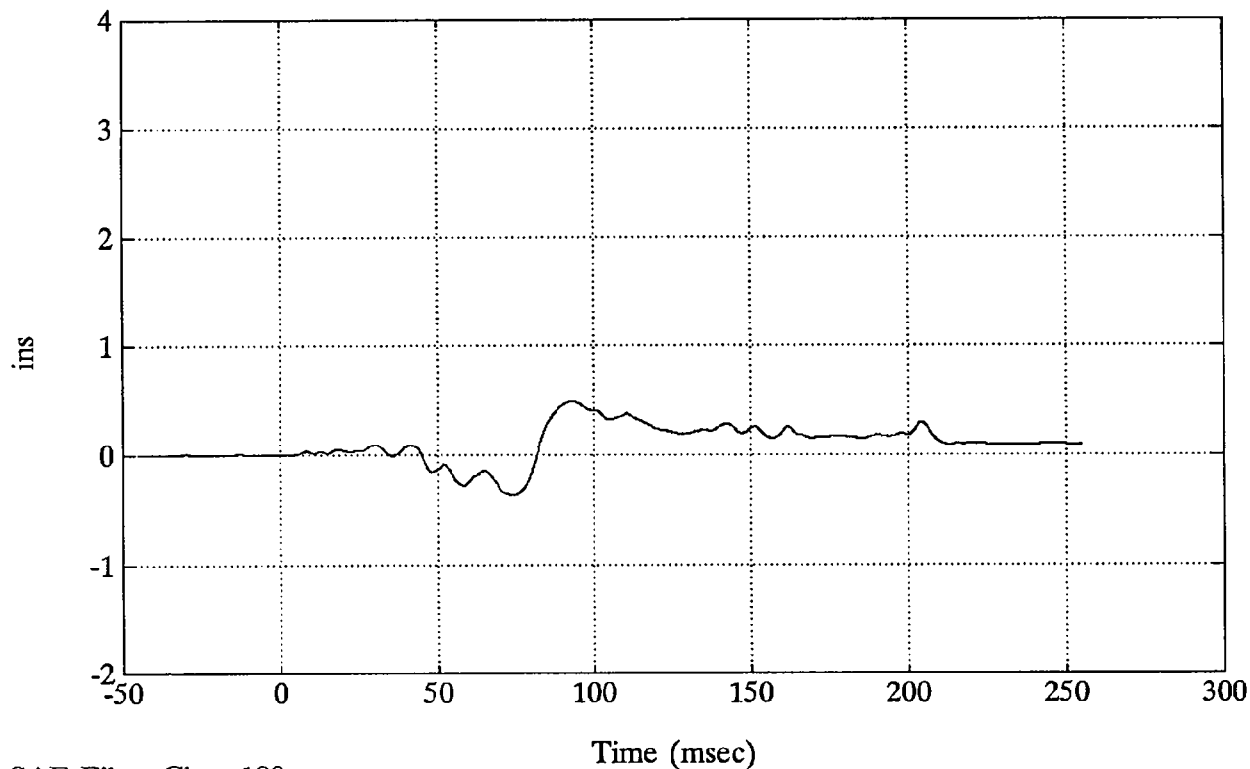


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos 1 Chest Disp.

Max = 0.49 ins @ 93.00 msec
Min = -0.36 ins @ 74.04 msec

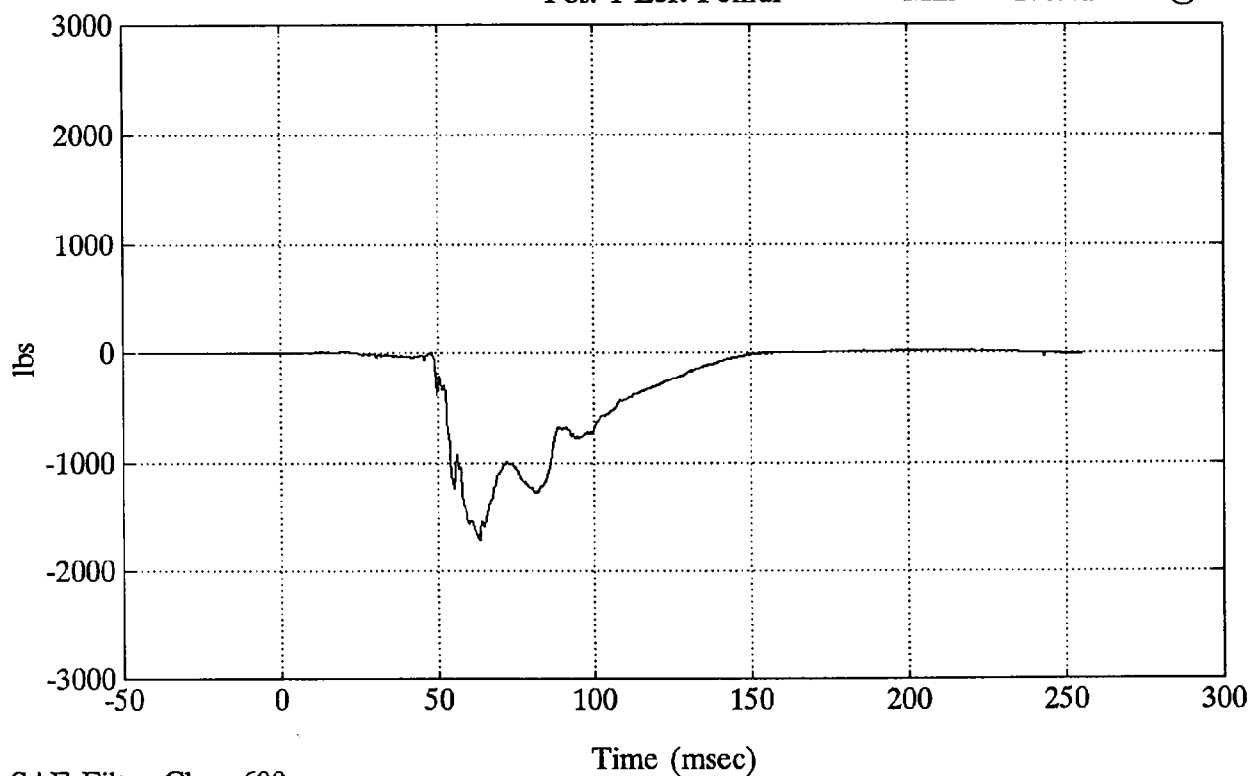


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Left Femur

Max = 26.09 lbs @ 211.44 msec
Min = -1709.10 lbs @ 63.24 msec

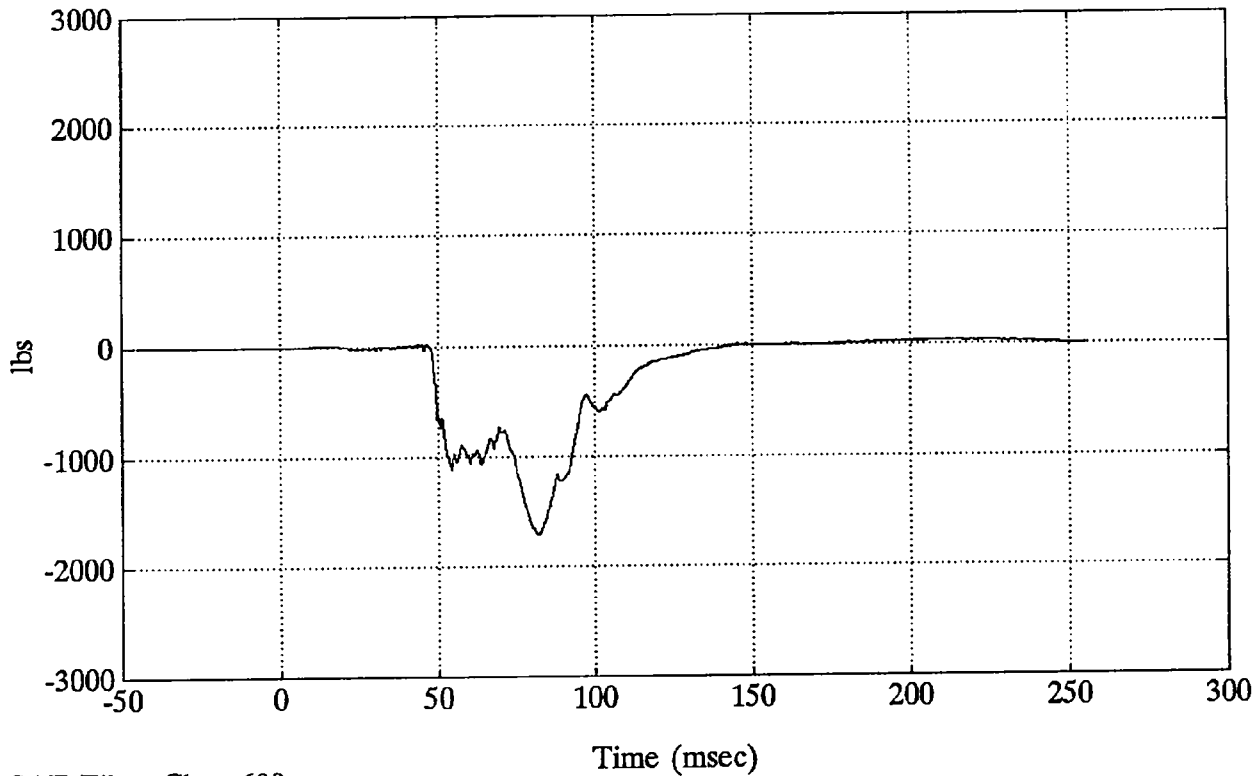


SAE Filter Class 600

FMVSS 208 - 1993 EAGLE VISION

Pos. 1 Right Femur

Max = 35.67 lbs @ 209.16 msec
Min = -1707.30 lbs @ 81.48 msec

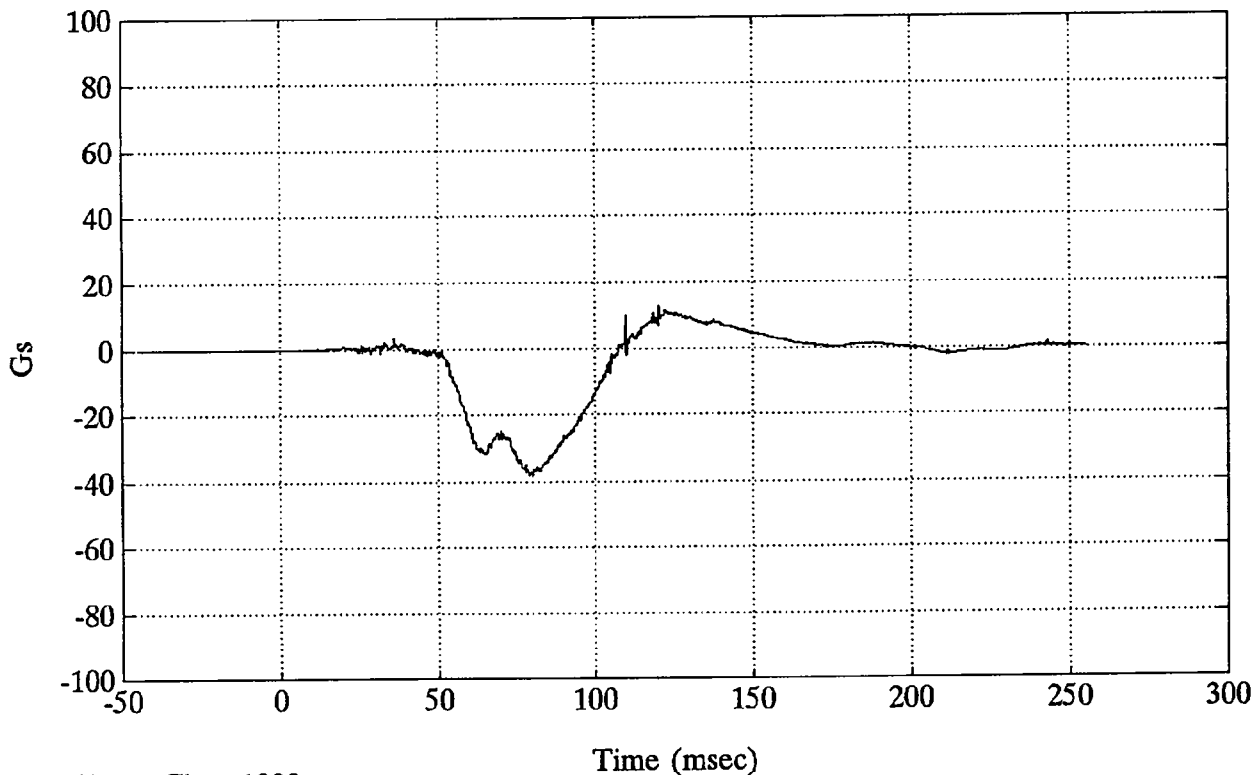


SAE Filter Class 600

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Head X

Max = 13.10 Gs @ 120.12 msec
Min = -38.47 Gs @ 79.92 msec

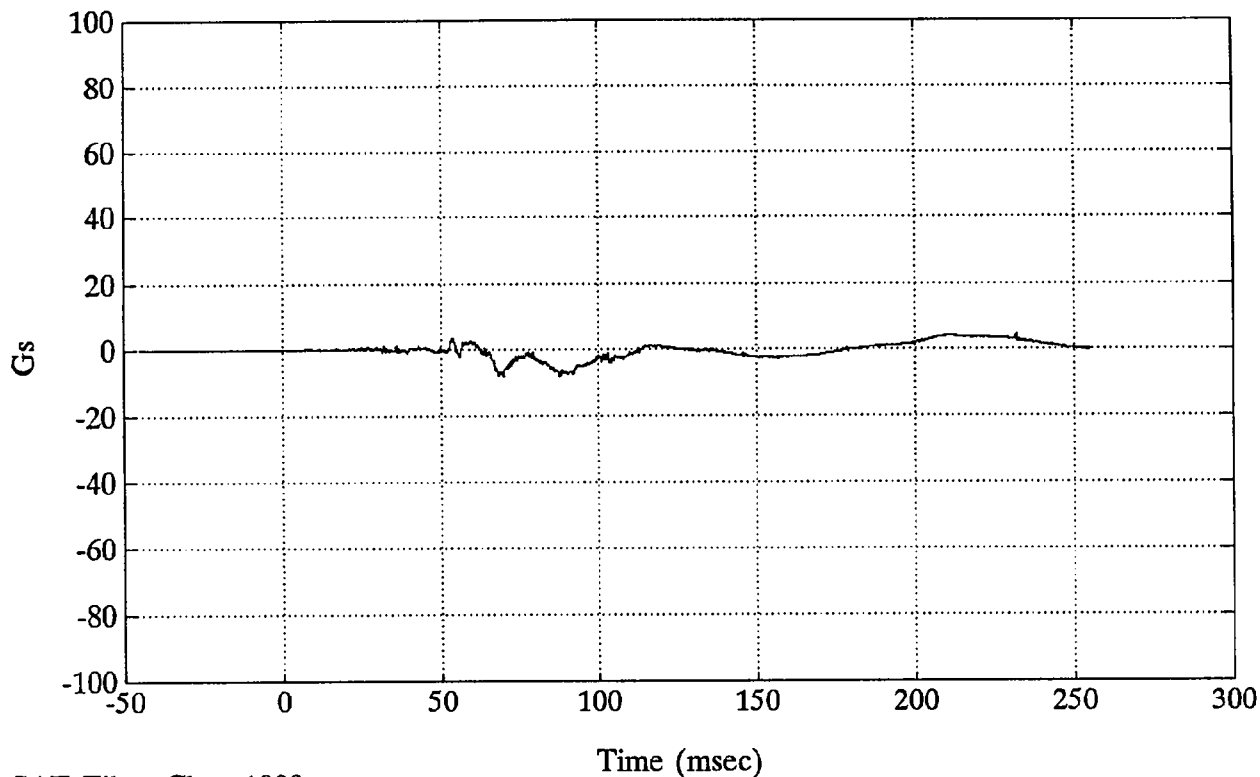


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Head Y

Max = 4.31 Gs @ 231.84 msec
Min = -8.19 Gs @ 69.96 msec

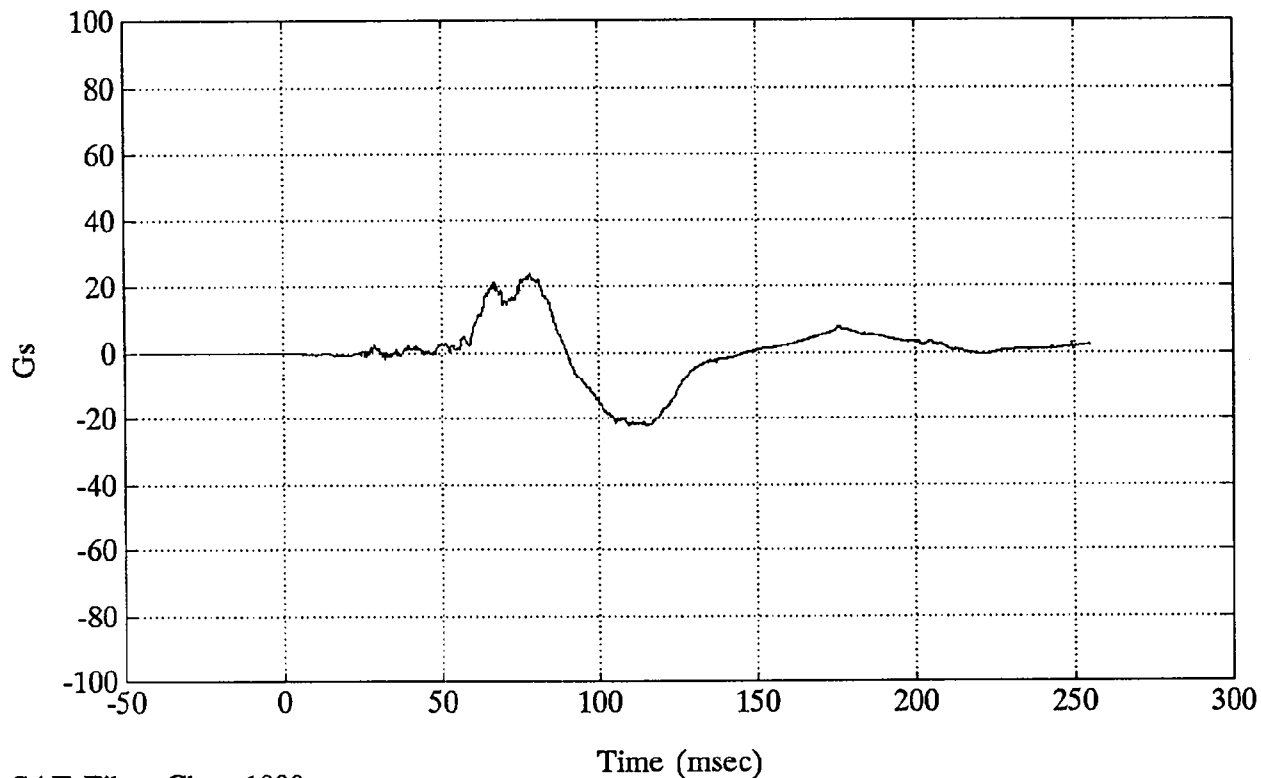


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Head Z

Max = 23.87 Gs @ 78.24 msec
Min = -22.11 Gs @ 115.20 msec

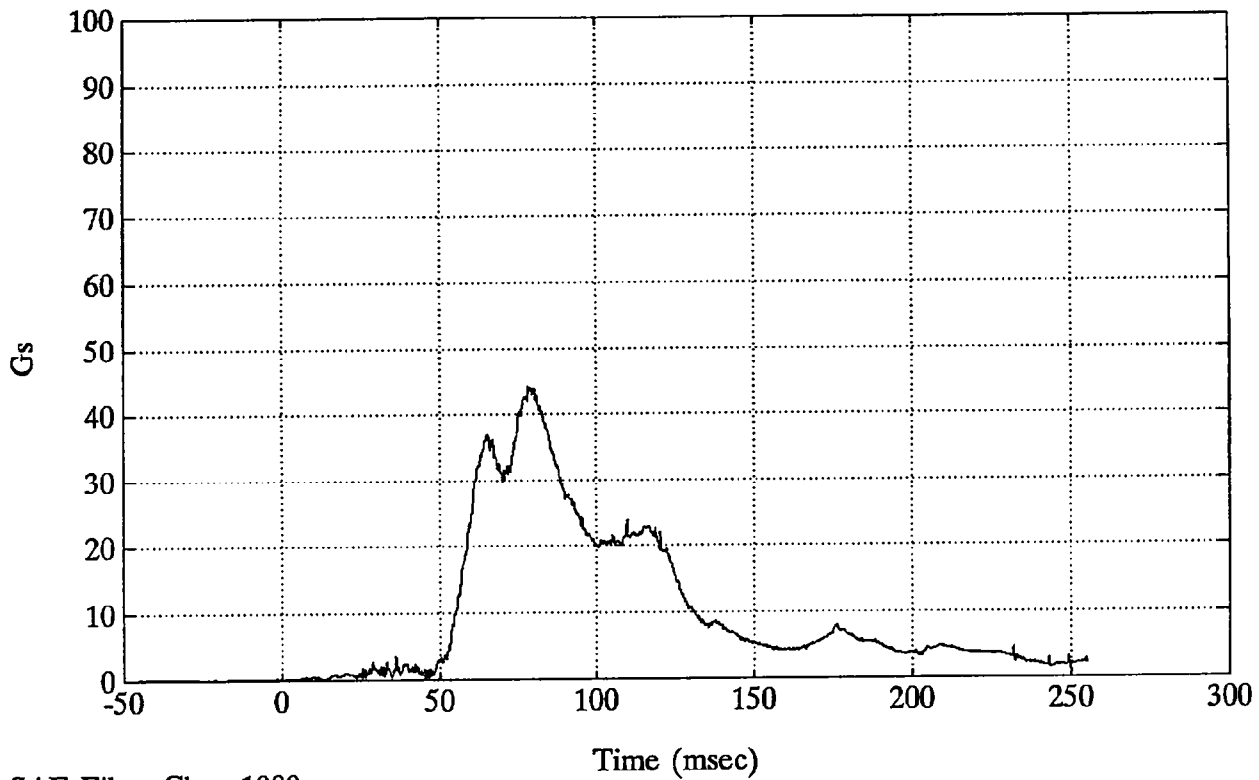


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Head Resultant

Max = 44.30 Gs @ 78.24 msec
Min = 0.04 Gs @ -14.52 msec

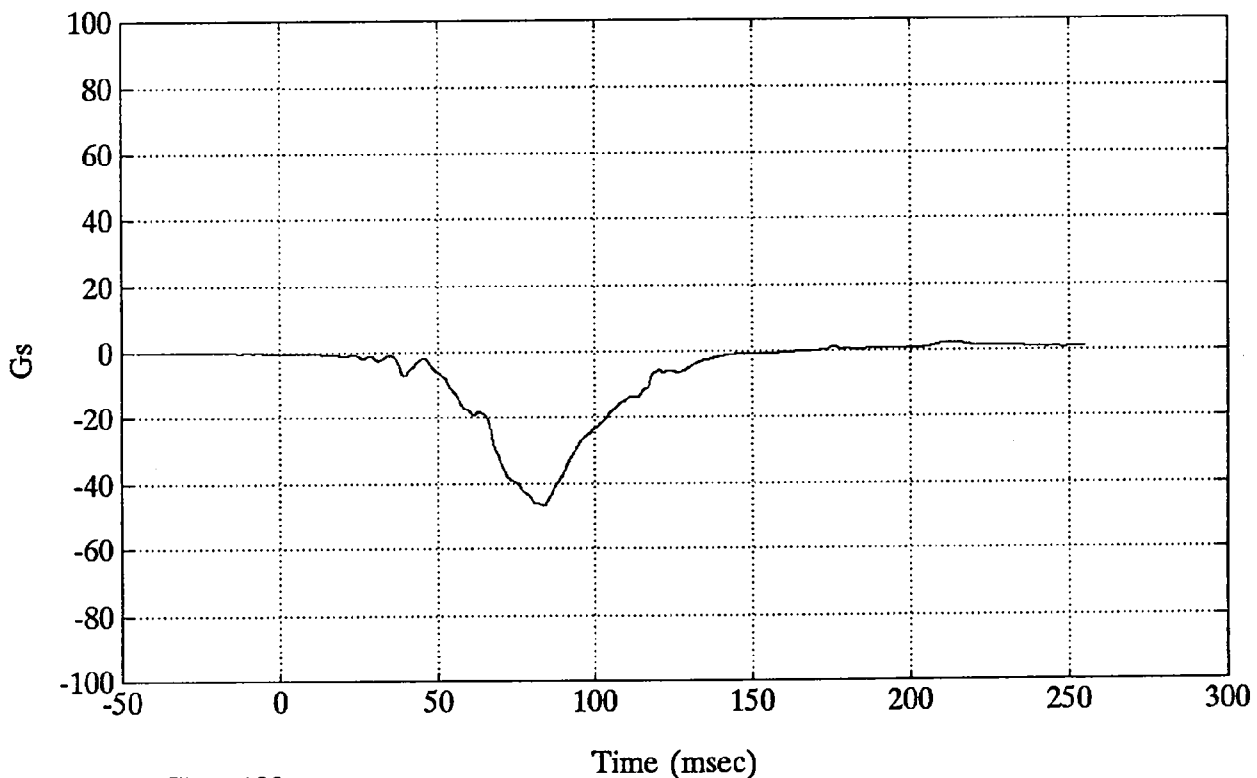


SAE Filter Class 1000

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Chest X

Max = 2.40 Gs @ 212.52 msec
Min = -46.71 Gs @ 83.76 msec

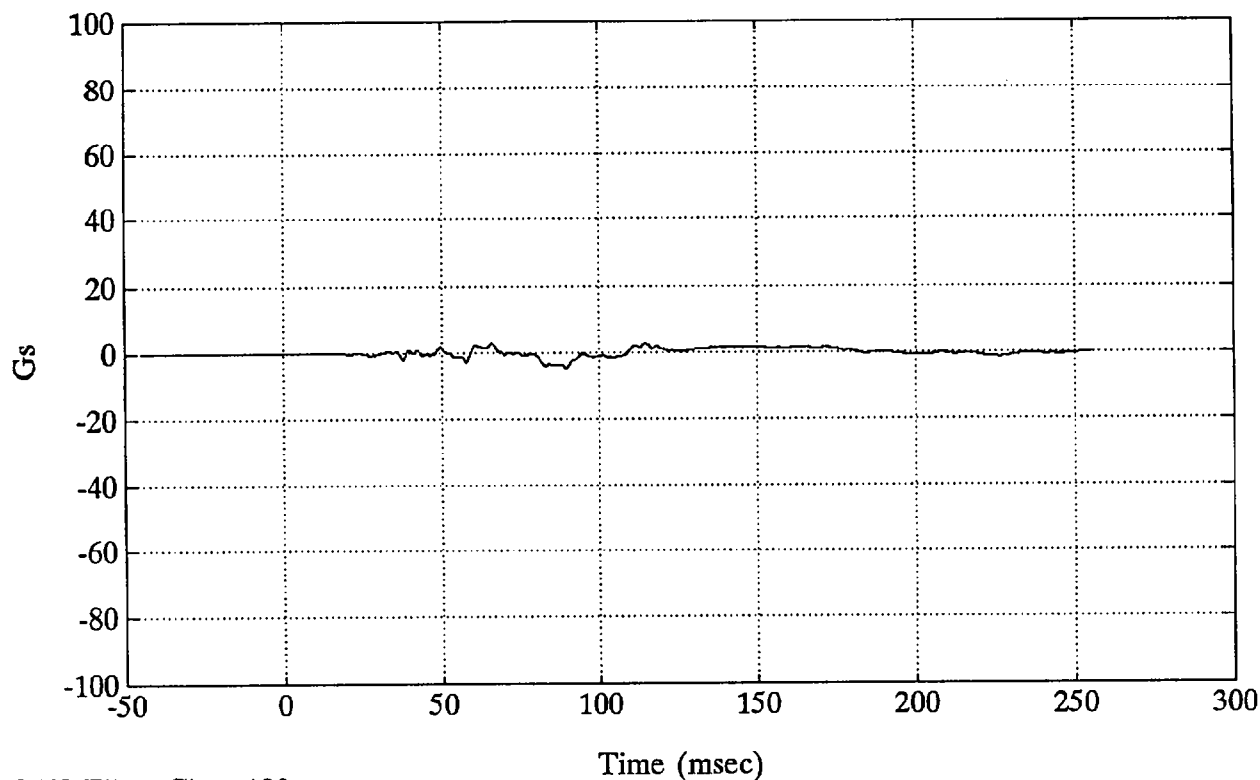


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Chest Y

Max = 2.82 Gs @ 65.76 msec
Min = -4.61 Gs @ 89.28 msec

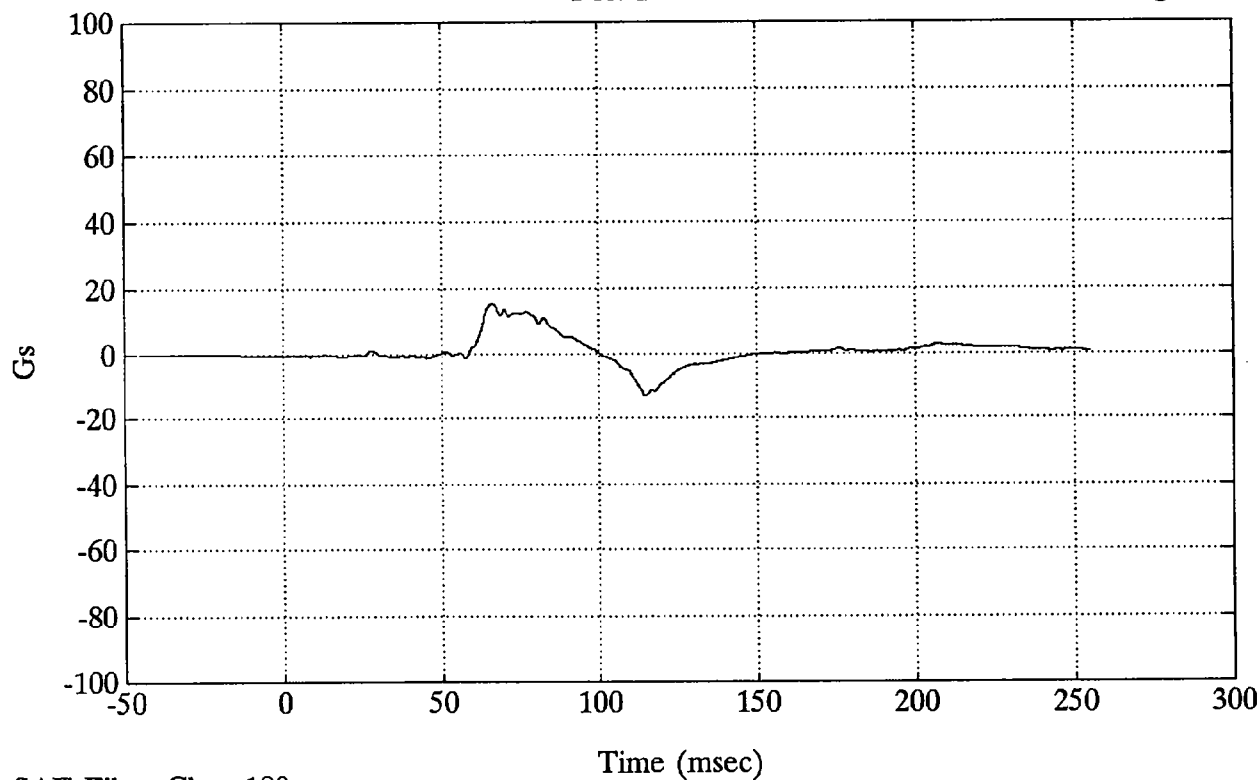


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Chest Z

Max = 15.43 Gs @ 66.12 msec
Min = -12.96 Gs @ 114.60 msec

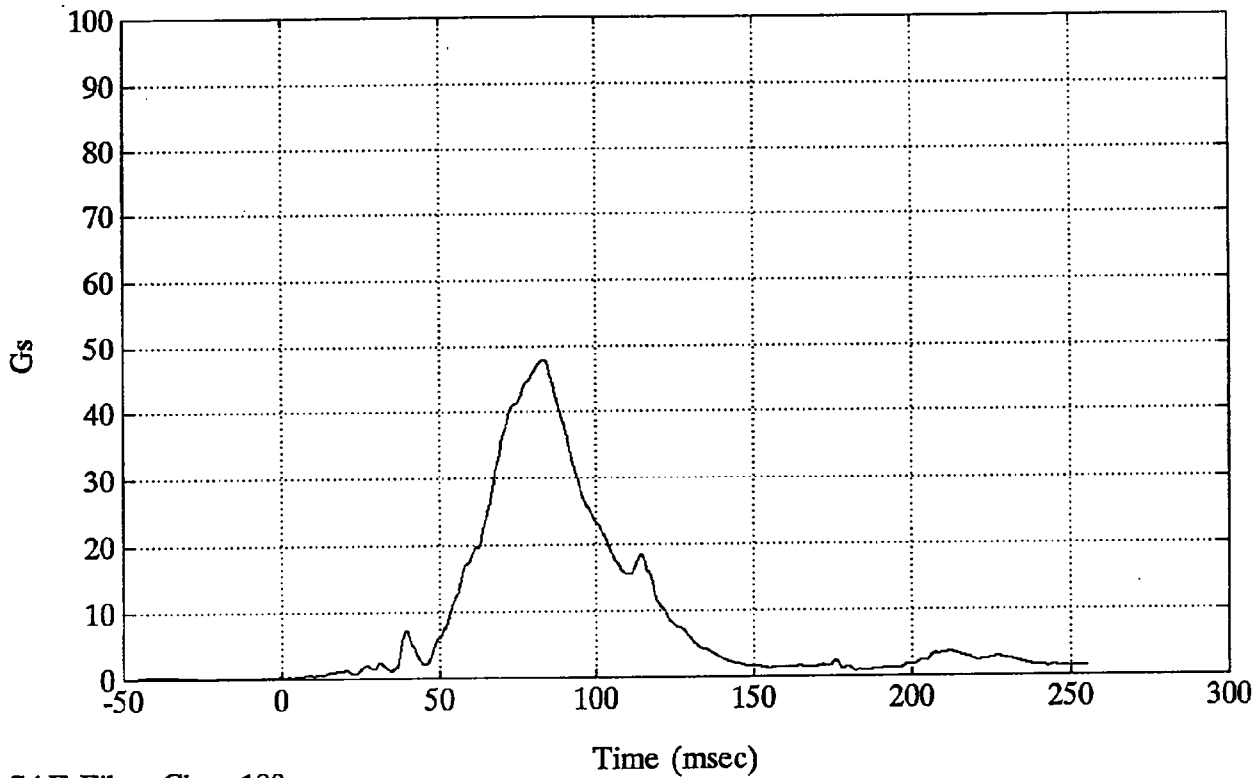


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Chest Resultant

Max = 47.82 Gs @ 83.40 msec
Min = 0.03 Gs @ -25.20 msec

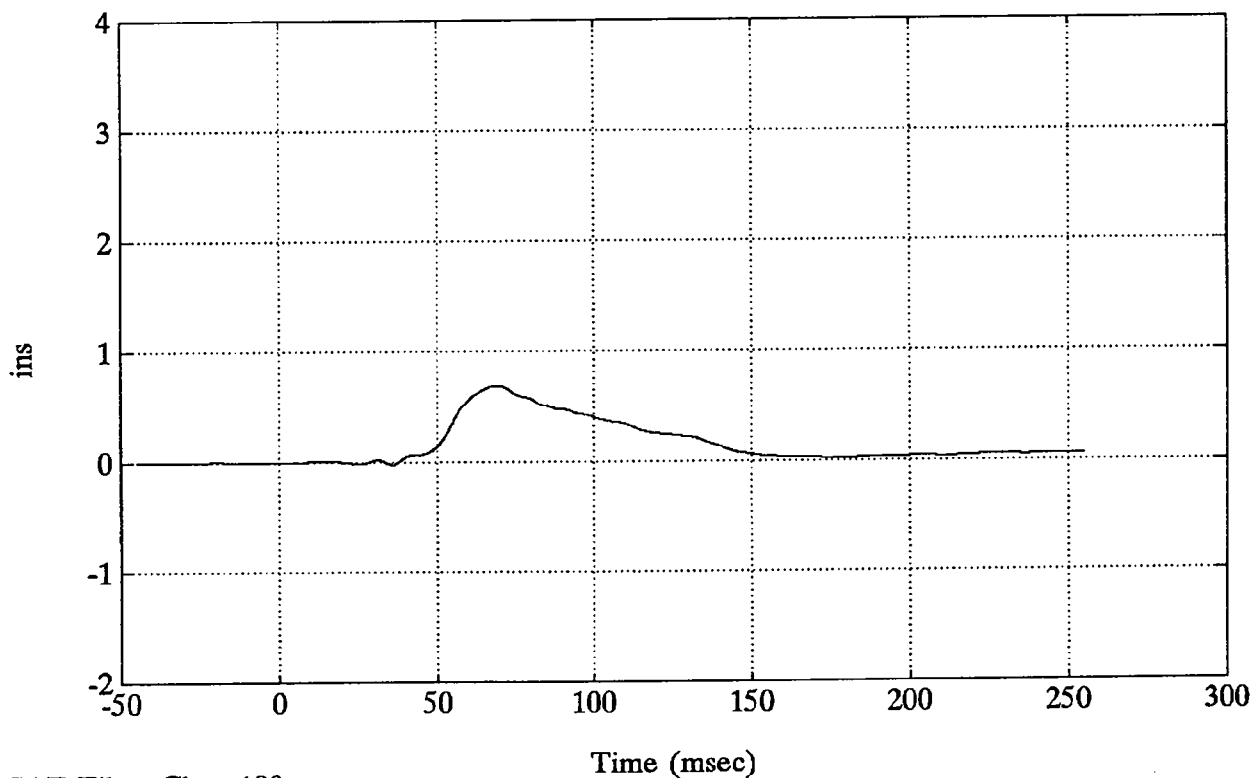


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos 2 Chest Disp.

Max = 0.69 ins @ 69.36 msec
Min = -0.02 ins @ 36.00 msec

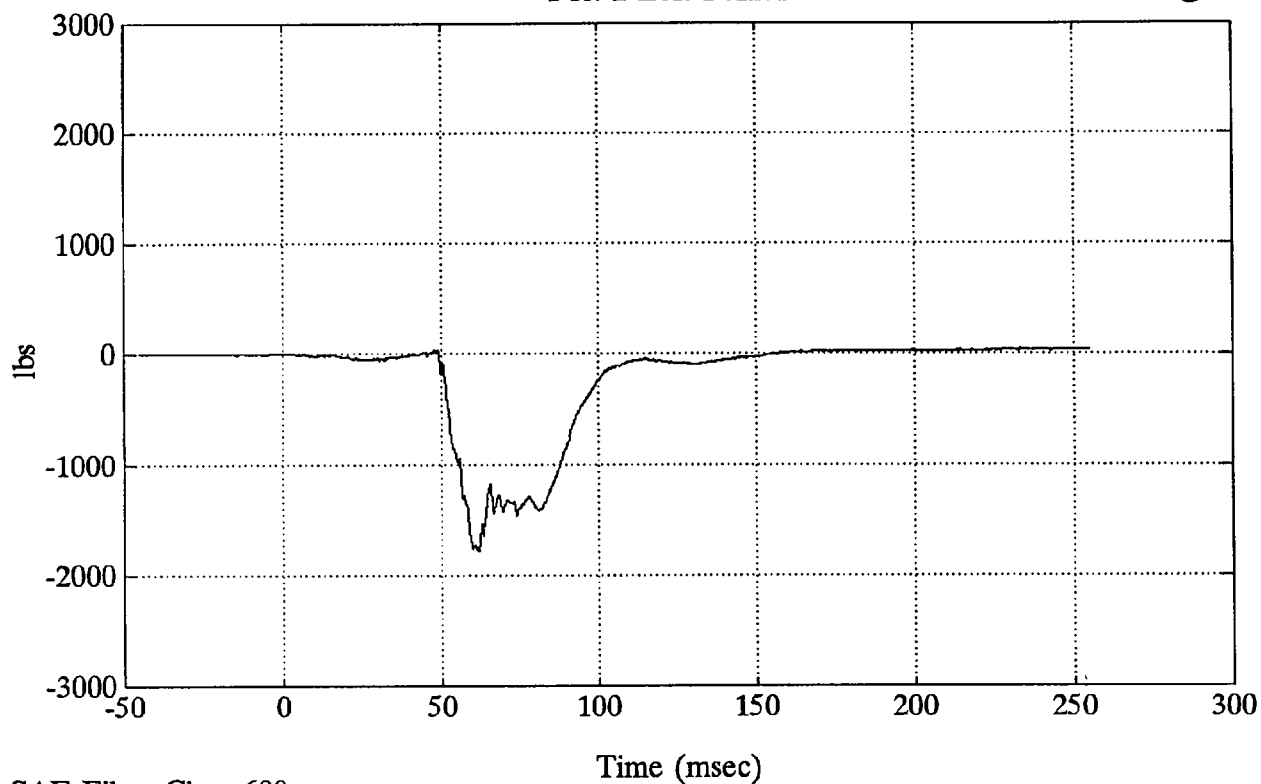


SAE Filter Class 180

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Left Femur

Max = 41.33 lbs @ 232.92 msec
Min = -1772.00 lbs @ 61.80 msec

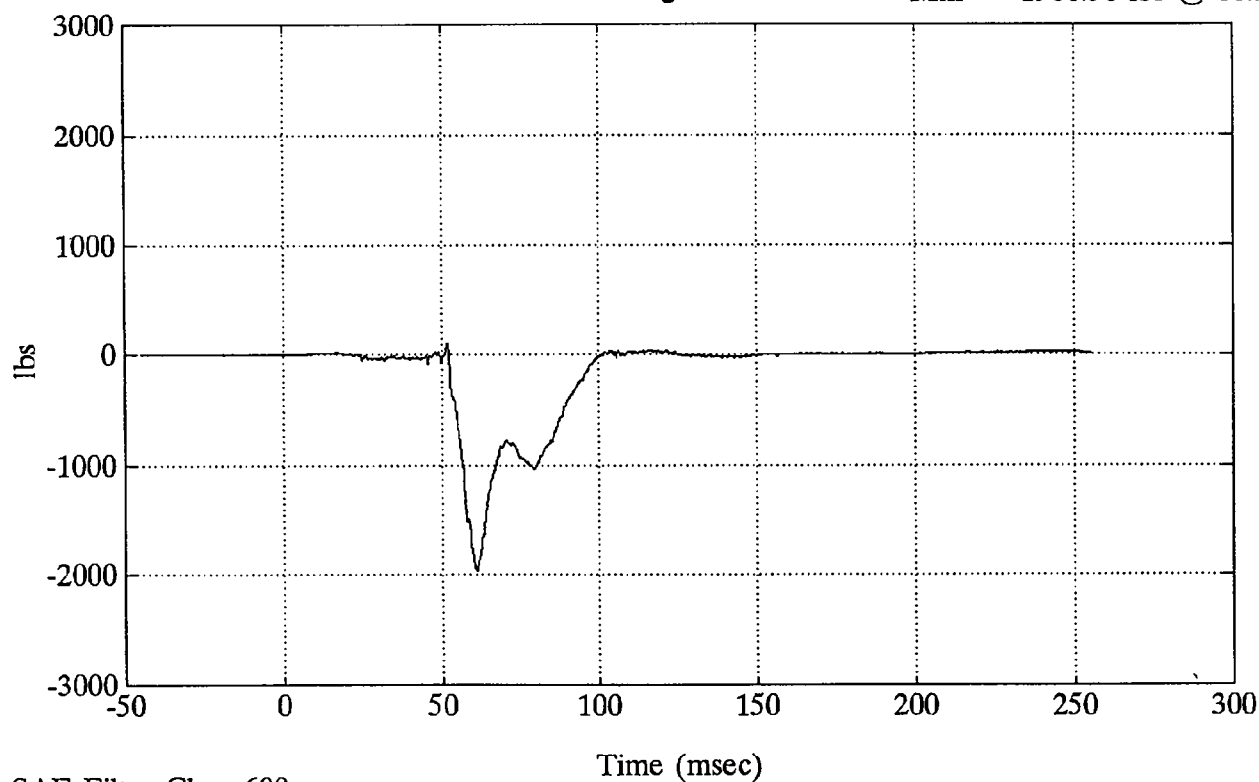


SAE Filter Class 600

FMVSS 208 - 1993 EAGLE VISION

Pos. 2 Right Femur

Max = 102.12 lbs @ 51.96 msec
Min = -1966.30 lbs @ 60.96 msec



SAE Filter Class 600

Appendix C

VEHICLE OWNERS MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

REMOTE TRUNK LID RELEASE

The trunk lid can be opened from inside the vehicle by pressing the switch located in the glove compartment.

When the ignition key must be left with the vehicle, such as for service or parking lot attendants, be sure that the glove box is locked to prevent unauthorized access into the trunk compartment.

CUP HOLDERS

These cupholders are mounted in the front face of the center console. Push the release and the cupholder will deploy.

OCCUPANT RESTRAINTS

One of the most important safety features in your vehicle is the restraint system. This system includes the front and rear seat belts, and airbags for the driver and right front passenger. Your seat belts can also be used to hold infant and child restraint systems if you will be carrying children too small for adult-size belts.

Please pay close attention to the information in this section. It tells you how to use your restraint system

properly to keep you and your passengers as safe as possible.

WARNING! In a collision, you and your passengers can suffer much greater injuries if you are not properly buckled up. You can strike parts of the inside of your vehicle or other passengers, or you can be thrown out of the vehicle. Always be sure you and others in your vehicle are buckled up properly.

Buckle up even though you are an excellent driver. Even on short trips. Someone on the road may be a poor driver and cause a collision which includes you. And this can happen far away from home or on your own street.

Research has shown that seat belts save lives. And they can reduce the seriousness of injuries in a collision. Some of the worst injuries happen when people are thrown from the vehicle. Seat belts provide protection against that, and they reduce the risk of injury caused by striking the inside of the vehicle. **Everyone** in a motor vehicle needs to be buckled up **all the time**.

UNIBELTS

The seats next to the front and rear doors of your vehicle are equipped with UNIBELTS.

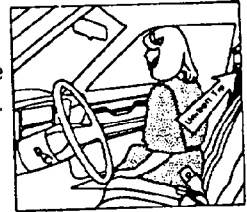
Each unbelt is a combined lap/shoulder belt system. The belt webbing retractor will lock only during very sudden stops or impacts. This feature allows the shoulder part of the belt to move freely with you under normal conditions. But in a collision, the belt will lock and reduce the risk of your striking the inside of the vehicle or being thrown out.

WARNING! Wearing a seat belt incorrectly is dangerous. Seat belts are designed to go around the large bones of your body. These are the strongest parts of your body and can take the forces of a collision the best. Wearing your belt in the wrong place could make your injuries in a collision much worse. You might suffer internal injuries, or you could even slide out of part of the belt. Follow these instructions to wear your seat belt safely and to keep your passengers safe, too.

WARNING! Belting two people into one seat belt can lead to greater injury. People belted together can crash into one another in an accident, hurting one another badly. Never use a unbelt or a lap belt for more than one person, no matter what their size.

UNIBELT OPERATING INSTRUCTIONS

1. Enter the vehicle and close the door. Sit back and adjust the seat.



1

2. The seat belt latch plate is above the back of your seat. Grasp the latch plate and pull out the belt. Slide the latch plate up the webbing as far as necessary to make the belt go around your lap.



2

3. When the belt is long enough to fit, insert the latch plate into the buckle until you hear a "click."



3

WARNING! A belt that is buckled into the wrong buckle will not protect you properly. The lap portion could ride too high on your body, possibly causing internal injuries. Always buckle your belt into the buckle nearest you.

A belt that is too loose will not protect you as well. In a sudden stop you could move too far forward, increasing the possibility of injury. Wear your seat belt snugly.

A belt that is worn under your arm is very dangerous. Your body could fall into the inside surfaces of the vehicle in a collision, increasing head and neck injury. And a belt worn under the arm can cause internal injuries. Ribs aren't as strong as shoulder bones. Wear the belt over your shoulder so that your strongest bones will take the force in a collision.

4. Position the lap belt across your thighs, below your abdomen. To remove slack in the lap belt portion, pull up a bit on the shoulder belt, as shown. To loosen the lap belt if it is too tight, tilt the latch plate and pull on the lap belt. A snug belt reduces the risk of sliding under the belt in a collision.



WARNING! A lap belt worn too high can increase the risk of internal injury in a collision. The belt forces won't be at the strong hip and pelvic bones, but across your abdomen. Always wear the lap belt as low as possible and keep it snug.

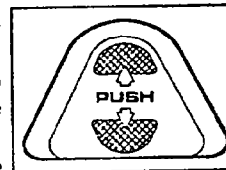
5. Position the shoulder belt on your chest so that it is comfortable and not resting on your neck. The retractor will withdraw any slack in the belt.



WARNING! A twisted belt can't do its job as well. In a collision it could even cut into you. Be sure the belt is straight. If you can't straighten a belt in your vehicle, take it to your dealer and have it fixed.

Adjustable Upper Shoulder Belt Anchorage

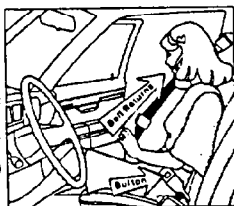
In the front seat, the shoulder belt can be adjusted upward or downward to position the belt away from your neck. Push on the anchorage cover to release the anchorage, and then move it up or down to the position that serves you best.



As a guide, if you are shorter than average, you will prefer a lower position, and if you are taller than average, you'll prefer a higher position. When you release the anchorage, try to move it up or down to make sure that it is locked in position.

In the rear seat, move toward the center of the seat to position the belt away from your neck.

6. To release the belt, push the red button marked PRESS on the buckle. The belt will automatically retract to its stowed position. If necessary, slide the latch plate down the webbing to allow it to retract fully.



6

SEAT BELTS AND PREGNANT WOMEN

We recommend that pregnant women use the seat belts throughout their pregnancy. Keeping the mother safe is the best way to keep the baby safe.

Pregnant women should wear the lap part of the belt across the thighs and as snug across the hips as possible. Keep the belt low so that it does not come across the abdomen. That way the strong bones of the hips will take the force if there is a collision.

FRONT CENTER AND REAR CENTER LAP BELTS

Center seating positions have a lap belt only. To fasten a lap belt, slip the latch plate into the buckle.

To lengthen a lap belt, tilt the latch plate and pull. To remove slack, pull the loose end of the webbing. Wear the belt snug against the hips. Sit back and erect in the seat, then adjust the belt as tightly as is comfortable.

WARNING! A lap belt worn too loose or too high is dangerous.

A belt worn too loose can allow you to slip down and under the belt in a collision.

A belt that is too high will apply crash forces to the abdomen, not to the stronger hip bones.

In either case, the risk of internal injuries is greater. Wear the lap belt low and snug.

WARNING! A frayed or torn belt could rip apart in a collision and leave you with no protection. Inspect the belt system periodically, checking for cuts, frays, or loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system. Seat belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc).

SEAT BELT EXTENDER

If a seat belt is too short, even when fully extended, your dealer can provide you with a seat belt extender. This extender should be used only if the existing belt is not long enough. When it is not required, remove the extender and stow it.

CHRYSLER INTEGRATED CHILD SEAT (if so equipped)

Operating instructions for this seat are included with the seat. If the instructions are not with the seat or in the owner's manual Package, replacement instructions can be obtained.

To obtain replacement instructions:

Use the order form at the rear of this manual and specify publication 81-016-3051.

CHILD RESTRAINT

Everyone in your vehicle needs to be buckled up all the time, babies and children, too.

WARNING! In a collision, an unrestrained child, even a tiny baby, can become a missile inside the vehicle. The force required to hold even an infant on your lap could become so great that you could not hold the child, no matter how strong you are. The child and others could be badly injured. Any child riding in your vehicle should be in a proper restraint for the child's size.

All states and Canadian provinces require small children to ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

Infants and Small Children

There are different sizes and types of restraints for children from newborn size to the bigger child almost large enough for an adult safety belt. Use the restraint that is correct for your child.

Two different child restraint systems are generally available:

- The infant carrier for babies weighing up to 20 lbs (9kg.)
- The child seat for small children over 20 lbs.

In addition, some manufacturers make systems that can be first used as an infant carrier, and then converted to a child seat as the child grows.

Here are some tips on getting the most out of your child restraint:

- Before buying any restraint system, make sure that it has a label certifying that it meets Motor Vehicle Safety Standard 213. Chrysler also recommends that before you buy a child restraint, you try it in the vehicle seats where you will use it.
- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for this too.

WARNING! A rearward facing infant restraint should only be used in a rear seat. A rearward facing infant restraint in the front seat may be struck by a deploying passenger airbag which may cause severe or fatal injury to the infant.

- If possible, install the restraint in the rear seat. According to accident statistics, children are safer when properly restrained in the rear seats than in the front.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly, it may not work when you need it.

WARNING! Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.

- Infant and child restraints are secured in the vehicle seats by the lap belt or the lap part of the lap/shoulder belt. In the rear seats, you may have trouble tightening the belt on the child restraint because the buckle or latch plate interferes with the belt path opening on the restraint. Disconnect the latch plate from the buckle and twist the short buckle-end belt several turns to shorten it. Reassemble the latch plate to the buckle with the release button facing out.

In the front seat, move the seat forward to reposition the buckle against the side of the child restraint.

In the center rear seat if the belt still can't be tightened, or if by pulling and pushing on the restraint loosens the belt, you may need to do something more. Disconnect the latch plate from the buckle, turn it over, and reconnect it to the buckle. If you still can't make the child restraint secure, try a different seating position.

- Some child seat manufacturers recommend the use of a top anchorage (tether) strap in addition to the lap belt. Your vehicle has tether strap anchorages behind the rear seating positions for use with these child

seats. Your dealer can provide you with anchorage hardware and installation instructions.

- Buckle the child into the seat exactly as the seat manufacturer's directions tell you. The cinching latch plate will keep the belt tight.
- When your infant carrier or child seat is not in use, secure it with the seat belt or remove it from the vehicle. Don't leave it loose in the vehicle. In a sudden stop or collision, it could strike occupants and injure them.

Children Too Large For Child Seats

Children who are too large for child seats and who can sit upright by themselves should use the available lap/shoulder belts for best protection.

- Make sure that the child is seated upright in the seat.
- The lap belt should be fastened low on the hips and as snug as possible.
- Check belt fit periodically. A child's squirming or slouching can move the belt out of position.

If the shoulder belt contacts the face or neck, move the child closer to the middle of the vehicle. If this doesn't solve the problem, move the child to the center rear seating position and use the lap belt.

Booster seats that may help overcome this problem are also available for use with lap/shoulder belts. Before buying a booster seat, make sure that it has a label certifying that it meets applicable Motor Vehicle Safety Standards. Make sure that it is satisfactory for use in this vehicle.

DRIVER AND RIGHT FRONT PASSENGER SUPPLEMENTAL RESTRAINT SYSTEM (SRS) - AIRBAG

This vehicle has airbags for the driver and right front passenger as a supplement to the seat belt restraint systems. The driver's airbag is mounted in the steering wheel. The passenger side airbag is mounted in the instrument panel, above the glove compartment, under a cover marked SRS/AIRBAG. These airbags inflate in higher speed impacts. They work with the instrument panel knee bolsters and the seat belts to provide im-

proved protection for the driver and right front passenger.

WARNING! Relying on the airbags alone could lead to more severe injuries in a collision. The airbags work **with** your seat belt to restrain you properly. In some collisions the airbags won't deploy at all. Wear your seat belts even though you have airbags.

The seat belts are designed to protect you in many types of collisions. The airbags deploy only in frontal collisions and will not deploy in collisions at slow speed. But even in collisions where the airbags work, you need the seat belts to keep you in the right position for the airbags to protect you properly.

WARNING! Ignoring the AIRBAG light in your instrument panel could mean you won't have the airbags to protect you in a collision. If the light does not come on, stays on after you start the vehicle, or if it comes on as you drive, have the airbag system checked right away.

The airbag system consists of the following:

- Crash Sensors
- Diagnostic Unit
- AIRBAG Readiness Light
- Driver and Passenger Airbag/inflator Units
- Unique Steering Wheel and Column
- Unique Instrument Panel
- Interconnecting Wiring
- Knee Impact Bolster

How The Airbag System Works

- **Crash Sensors** in the front of the vehicle and in the occupant compartment determine if a frontal impact is severe enough to require the airbag. The sensors will not detect side, rollover, or rear impacts. Switches in the sensors are connected to the diagnostic unit and to the airbag/inflator unit.
- The **Diagnostic Unit** monitors the readiness of the electronic parts of the system whenever the ignition switch is in the START or RUN positions. These include all of the items listed above except the knee bolster. The Diagnostic Unit also turns on the AIRBAG light in the instrument panel for 6 to 8 seconds when the ignition is first turned on, then turns the light off. If it detects a malfunction in any part of the system, it turns on the light either momentarily or continuously.
- The **Airbag/Inflator Units** are in the center of the steering wheel and in the instrument panel. The words SRS/AIRBAG are embossed on the airbag covers.

WARNING! Do not put anything on or around the airbag covers or attempt to manually open them. You may damage the airbags and you could be injured because the airbags are not there to protect you. These protective covers for the airbag cushions are designed to open only when the airbags are inflating.

- When the crash sensors detect an impact requiring the airbags, they signal the inflator units. A large quantity of non-toxic nitrogen gas is generated to inflate the airbags. The airbag covers separate and fold out of the way as the airbags inflate to their full size. The airbags fully inflate in about 50 milliseconds. This is only about half of the time it takes you to blink your eyes. The airbags then quickly deflate while helping to restrain the driver and right front passenger. The airbag gas is vented through the airbag material towards the instrument panel. In this way the airbags do not interfere with your control of the vehicle.
- The **Knee impact Bolsters** help protect the knees and position you for the best interaction with the airbags.

If A Deployment Occurs

The airbag system is designed to deploy when the impact sensors detect a moderate-to-severe frontal collision, to help restrain the driver and right front passenger, and then to immediately deflate.

NOTE: *A frontal collision that is not severe enough to need airbag protection will not activate the system. This does not mean something is wrong with the airbag system.*

If you do have a collision which deploys the airbags, any or all of the following may occur:

- The nylon airbag material may sometimes cause abrasions and/or skin reddening to the driver and right front passenger as the airbags deploy and unfold.

The abrasions are similar to friction rope burns or those you might get sliding along a carpet or gymnasium floor. They are not caused by contact with chemicals. They are not permanent and normally heal quickly. However, if you haven't healed significantly within a few days, or if you have any blistering, see

your doctor immediately.

- As the airbags deflate you may see some smoke-like particles. The particles are a normal by-product of the process that generates the non-toxic nitrogen gas used for airbag inflation. These airborne particles may irritate the skin, eyes, nose, or throat. If you have skin or eye irritation, rinse the area with cool water. For nose or throat irritation, move to fresh air. If the irritation continues, see your doctor.

If these particles settle on your clothing, follow the garment manufacturer's instructions for cleaning.

- Your vehicle may be safely driveable after the airbags deploy. If so, you can tuck the deployed airbags inside the opening in the steering wheel hub and instrument panel trim covers to make driving somewhat easier.

WARNING! Deployed airbags can't protect you in another collision. Have the airbags replaced by an authorized dealer as soon as possible.

You will want to have the airbags ready for your protection in a collision. While the airbag Supplemental Restraint System (SRS) is designed to be maintenance free, if any of the following occurs, have an authorized dealer service the system immediately.

- The AIRBAG light does not come on or flickers during the 6 to 8 seconds when the ignition switch is first turned on.
- The light remains on or flickers after the 6 to 8 second interval.
- The light flickers or comes on and remains on while driving.

SEATS

Manual Seat Adjustment

WARNING! Adjusting a seat while the vehicle is moving is dangerous. The sudden movement of the seat could cause you to lose control. The seat belt might not be properly adjusted and you could be injured. Adjust the seat only while the vehicle is parked.

The adjusting lever is at the front of the seat, near the center of the vehicle. Pull the lever up and move the seat to the desired position.

Using body pressure, move forward and rearward on the seat to be sure the seat adjusters have latched.

Transporting Pets

Airbags deploying in the front seat could harm your pet. An unrestrained pet will be thrown about and possibly injured, or injure a passenger during panic braking or in a collision.

Pets should be restrained in the rear seat in pet harnesses or pet carriers that are secured by seat belts.

MAINTAINING YOUR AIRBAG SYSTEM

WARNING!

- Modifications to any part of the airbag system could cause it to fail when you need it. You could be injured because the airbag is not there to protect you. Do not modify the components or wiring, including adding any kind of badges or stickers to the airbag covers. Do not modify the front bumper or vehicle body structure.
- You need proper knee impact protection in a collision. Do not mount or locate any aftermarket equipment on or behind the knee bolsters.
- You can be injured if you are too close to either airbag cover when the airbags inflate. It is dangerous to try to repair any part of the airbag system yourself. Don't try to repair the airbag system. Be sure to tell anyone who works on your vehicle that it has airbags.