

V2233

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

MAZDA MOTORS CORPORATION
1995 Mazda Millenia
4-Door Sedan

NHTSA NUMBER: CS5403

CALSPAN TEST NUMBER: 8221-5

November 10, 1994

CALSPAN CORPORATION
ADVANCED TECHNOLOGY CENTER
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FINAL REPORT

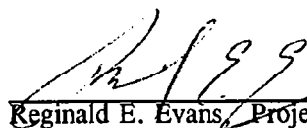
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ENFORCEMENT
Office of Vehicle Safety Compliance
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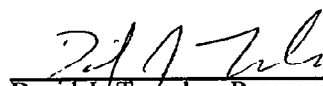
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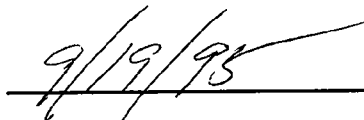
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		6. Performing Organization Code CAL	
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16. Abstract A 30 mph vehicle safety compliance test was conducted on a 1995 Mazda Millenia 4-door sedan. This test was performed at the Calspan Advanced Technology Center in Buffalo, New York on November 10, 1994. 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 29.3 mph. The ambient temperature at the impact face was 70 °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 a driver air bag and a passenger air bag restraint system. The manual seat belts were not used for this test.			
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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. DTNH22-93-D-11089. The purpose of this test was to determine if the subject vehicle, a 1995 Mazda Millenia 4-door sedan, 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-208-09, dated March 15, 1993.

Section 2

SUMMARY OF TEST NUMBER CS5403

A frontal barrier was impacted by a 1995 Mazda Millenia 4-door sedan at a velocity of 29.3 mph. The test was performed at the Calspan Corporation Advanced Technology Center on November 10, 1994. 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 572B, 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 three axis (x, y, and z) accelerometers and left/right femur load cells. These ATDs had been certified prior to the test.

The 24 channels of data were recorded on a P.C. based data acquisition system. Appendix B contains the vehicle and dummy response data traces.

The driver's HIC was 235.54. The maximum chest deceleration over 3 milliseconds was 44.914 g's. The maximum force on the driver's left femur was -1495.8 pounds and -1455.7 pounds on the right femur.

The right front passenger's HIC was 563.85. The maximum chest deceleration over 3 milliseconds was 49.057 g's. Loads of -1465.4 and -1582.1 pounds were recorded on the left and right femurs respectively.

Table 1

CRASH TEST SUMMARY

Vehicle NHTSA No. :	CS5403	Test Mode :	30 mph Frontal Barrier
Test Date :	November 10, 1994	Time:	13:45 Temperature : 70 °F
Vehicle Make/Model/Body Style :	1995 Mazda Millenia 4-Door Sedan		
Vehicle Test Weight :	3580	lbs	
Vehicle/Barrier Impact Angle :	0	°	
Impact Velocity :	29.3	mph	
Maximum Static Crush :	14.4	inches	
Vehicle Rebound :	16.5	inches	
<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>	
Type :	Part 572 B	Part 572 B	
Restraint System :	Air bag	Air bag	
Number of Data Channels :	24		
Number of Cameras :	1	Real Time	
	14	High Speed	
<u>DOOR OPENING DATA :</u>	Closed/Operable	- Left Front	
	Closed/Operable	- Right Front	
Front Seat(s) Data :	<u>DRIVER</u>	<u>PASSENGER</u>	
Seat Track Failure :	None	None	
		Inches of shift	
Seat Back Failure :	0.0	0.0	
<u>VISIBLE DUMMY CONTACT POINTS :</u>	<u>DRIVER</u>	<u>PASSENGER</u>	
Head :	Face with air bag, top and rear of head with sunvisor and header.	Face with air bag, forehead and top of head with sunvisor, rear of head with head rest.	
Abdomen :	Air bag	Air bag	
Chest	Air bag	Air bag	
Knees	Lower dash panel	Glove box door	

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATATEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1995 Mazda Millenia 4-Door Sedan

NHTSA No. : CS5403 ; VIN: JMITA2213S1115023 ; Color : Blue

Engine Data: 6 cylinders; 152 CID; - Liters; - cc

Placement : - Longitudinal or In-Line; X Transverse of 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; Power Tilt Wheel

Date Received : 9-27-94 ; Odometer Reading 286 miles

Selling Dealer : ROGER BURDICK MAZDA

& Address: 3274 Brewerton Road, N. Syracuse, N.Y. 13220

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : MAZDA MOTORS CORPORATION

Date of Manufacture May, 1994

GVWR : 4083 lbs.; GAWR: 2209 lbs. FRONT; 1874 lbs. REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 32 psi FRONT

29 psi REAR

Recommended Tire Size : P205/65 R 15

* Recommended Cold Tire Pressure : 32 psi FRONT; 29 psi REAR

Size of Tires on Test Vehicle: P205/65 R 15 ; Manufacturer: BRIDGESTONE

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) = 850 lbs.

No. of Occupants x 150 lbs. = 750 lbs.

Rated Cargo/Luggage Weight (RCLW) = 100 lbs.

*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	=	1005	lbs.	Right Rear	=	585	lbs.
Left Front	=	975	lbs.	Left Rear	=	594	lbs.
TOTAL FRONT	=	1,980	lbs.	TOTAL REAR	=	1,179	lbs.
TOTAL DELIVERED WEIGHT	=	3,159	lbs.				
% of Total Front of Vehicle Weight	=	62.7	%	% of Total Rear Weight	=	37.3	%

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight	=	3,159	lbs.
Rated Cargo/Luggage Weight (RCLW)	=	100	lbs.
Weight of 2 p.572 Dummies @ 167 each	=	334	lbs.
TARGET TEST WEIGHT	=	3,593	lbs.

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 87 POUNDS OF CARGO WEIGHT:

Right Front	=	1074	lbs.	Right Rear	=	709	lbs.
Left Front	=	1032	lbs.	Left Rear	=	765	lbs.
TOTAL FRONT	=	2,106	lbs.	TOTAL REAR	=	1,474	lbs.
TOTAL TEST WEIGHT	=	3,580.0	lbs.				
% of Total Front Weight	=	58.8	%	% of Total Rear Weight	=	41.2	%
Weight of Ballast Secured in Vehicle Trunk Area	=	0.0	lbs.				
Vehicle Components Removed for Weight Reduction:		None					

VEHICLE ATTITUDE (all dimension in inches) :

AS DELIVERED :	RF	27.7	LF	27.8	RR	28.4	LR	28.3
FULLY LOADED :	RF	27.2	LF	27.3	RR	27.2	LR	27.2
AS TESTED :	RF	27.6	LF	27.6	RR	27.7	LR	27.4
Vehicle's Wheel Base :		108.0	in.					
Location of Vehicle's C.G. :		44.5	inches rearward of front wheel center.					

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual	=	18.0	gallons
Usable Capacity Figure Furnished by COTR	=	17.04	gallons
Test Volume Range (92 to 94% of Usable Capacity)	=	16.6	to 16.9 gallons
ACTUAL TEST VOLUME=		*15.7	gallons (with entire fuel system filled)

* One gallon of stoddard was removed from vehicle just prior to test at the request of the NHTSA and Mazda. The information provided by the COTR (17.04 gal.) was inaccurate.

Table 3
POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°
 Test Date : November 10, 1994 Time: 13:45 Temperature: 70 °F
 Vehicle NHTSA No. : CS5403
 Required Impact Velocity Range : 28.9 to 29.9 mph

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

Trap No. 1 = 29.3 mph; Trap No. 2 = 29.2 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 = 184.6 ; C/L = 189.2 ; Left = 184.6
 Post-Test Right = 174.4 ; C/L = 174.8 ; Left = 174.5
 Crush Right = 10.2 ; C/L = 14.4 ; Left = 10.1
 AVERAGE = 11.6 inches

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

Right = 16.4 ; C/L = 16.0 ; Left = 17.0
 AVERAGE = 16.5 inches

DOOR OPENING:

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

SEAT MOVEMENT :

	Seat Back Failure	Seat Shift
Front	<u>None</u>	<u>0.0 in.</u>
Rear	<u>N/A</u>	<u>N/A</u>

Table 3

POST IMPACT (cont.)

GLAZING DAMAGE :

Windshield cracked throughout.

OTHER NOTABLE IMPACT FEATURES :

None.

Section 3

OCCUPANT AND VEHICLE DATA

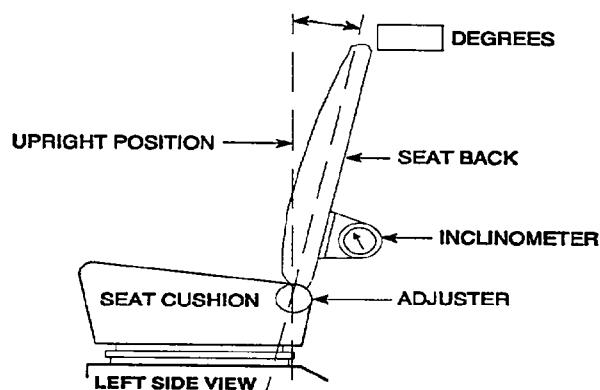
Figure 1

TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1995 Vehicle Model: Mazda Millenia 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.



FRONT SEAT ASSEMBLY

Seat back angle for driver's seat : 15 deg.

Measurement instructions : Seat back angle is measured along strut of head restraint.

Driver seat is electronically adjustable.

Seat back angle for passenger's seat : 15 deg.

Measurement instructions : Seat back adjusted to 5th latch from forward most locking position (zero). Passenger seat is manually operated.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Seat adjusted to 115 mm rearward of forward-most position. Driver seat is electronically adjustable. Total seat travel equals 230 mm.

Positioning of the passenger's seat (if applicable) : Seat adjusted rearward to 12th latch from forward-most locking position (zero). 24 detents total.

3. Fuel Tank Capacity Data

A. "Usable Capacity" of the standard equipment fuel tank is 18.0 gallons

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

4. Steering Column Position :

Set at mid-position.

5. Other:

Upper seat belt anchorages for driver and passenger seats were adjusted to their highest positions.

Figure 2

PART 572 DUMMY IN-VEHICLE POSITION

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

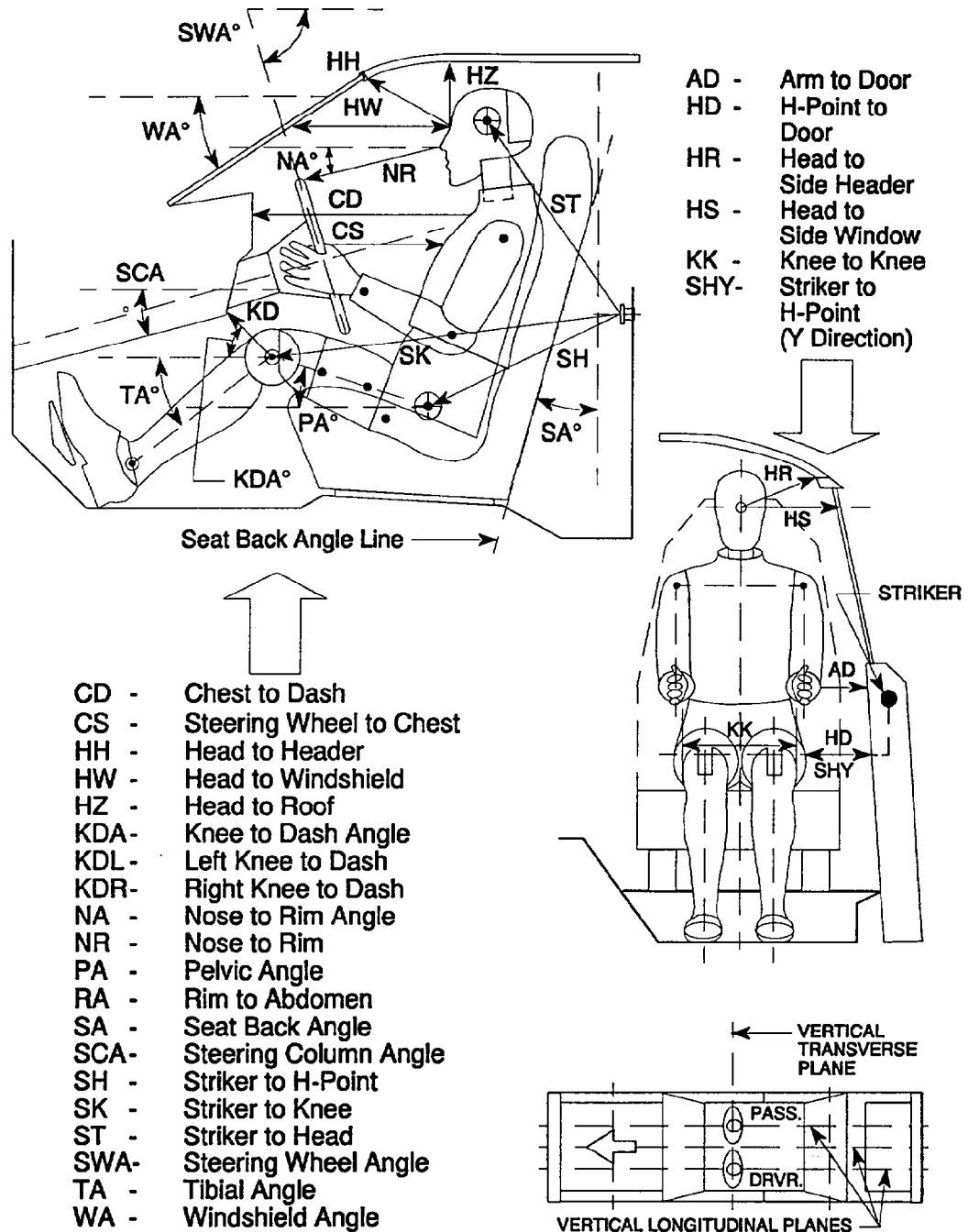


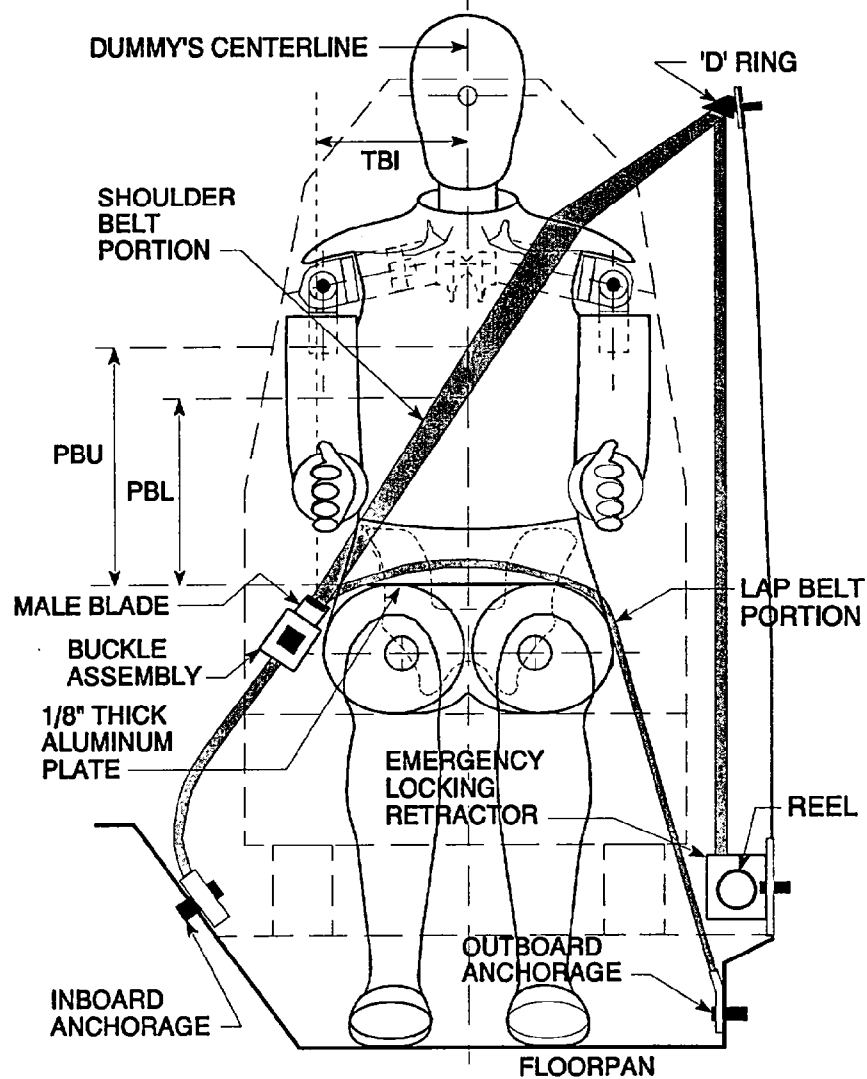
Table 4

FRONT SEAT OCCUPANT MEASUREMENTS

	DRIVER (Serial #1022)	PASS. (Serial #1021)
WA°	28 deg.	-
SWA°	66 deg.	-
SCA°	24 deg.	-
SA°	15 deg.	15 deg.
HZ	5.8	5.8
HH	13.8	14.4
HW	20.7	20.6
HR	6.8	5.5 (to handle)
NR	17.1 Angle 16 deg.	-
CD	23.6	23.3
CS	12.7	-
RA	7.1	-
KDL	7.8 Angle (KDA) 39 deg.	7.8
KDR	7.6	7.3 Angle (KDA) 37 deg.
PA°	-	-
TA°	28 deg.	27 deg.
KK	13.3	11.8
ST	20.2 Angle 2 deg.	21.4 Angle 3 deg.
SK	22.2 Angle 99 deg.	23.1 Angle 100 deg.
SH	9.1 Angle 135 deg.	9.1 Angle 133 deg.
SHY	9.6	9.3
HS	10.5	10.4
HD	5.1 To door pocket	4.6 To door pocket
AD	3.3	3.7

Figure 3

SEAT BELT POSITIONING DATA



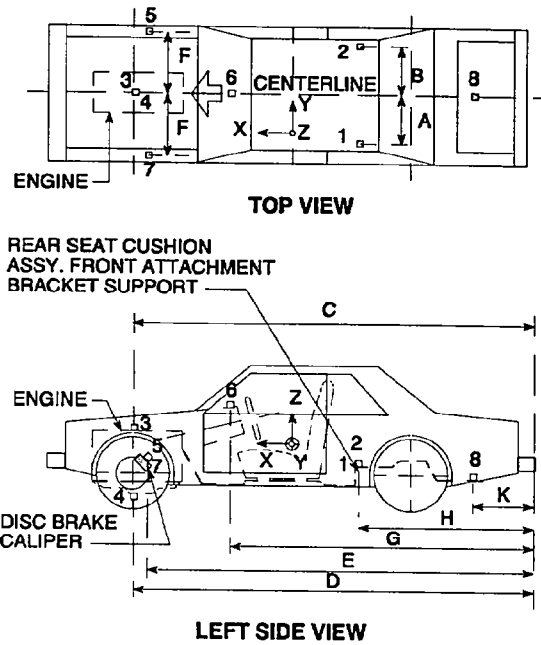
FRONT VIEW OF DUMMY

	DRIVER DUMMY (inches)	PASSENGER DUMMY (inches)
<u>PBU</u> -- Top surface of alum. plate to upper edge	*	*
<u>PBL</u> -- Top surface of alum. plate to belt lower edge	*	*
<u>TBI</u> -- Distance from torso centerline to buckle	*	*

* Vehicle equipped with air bag, manual seat belt not used for this position.

Figure 4

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



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	Instrument Panel	X		
7	Left Disc Brake Caliper	X		
8	Trunk Z			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

DIMENSION	LENGTH (Inches)	
	PRE-TEST VALUES	POST-TEST VALUES
A Left Rear Seat Crossmember Y	23.3	23.3
B Right Rear Seat Crossmember Y	23.3	23.3
C Top of Engine X	150.7	145.5
D Bottom of Engine X	162.2	158.4
E Disc Brake Calipers X	147.2	Left = 146.2 Right = 146.7
F Disc Brake Calipers Y	22.0	22.5
G Instrument Panel X	118.8	119.7
H Rear Seat Crossmembers X	74.4	74.4
K Trunk X	12.6	12.6

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	4.3	96.1	-43.2	38.3
2	Rear Seat X-Member @ Right Side	5.4	19.1	-38.2	39.6
3	Top of Engine Block	11.2	38.2	-86.2	29.4
4	Bottom of Engine	29.7	37.9	-128.1	25.9
5	Disc Brake Caliper @ Right Side	17.5	55.0	-103.5	39.2
6	Instrument Panel	50.1	67.7	-77.6	47.0
7	Disc Brake Caliper @ Left Side	19.0	27.0	-115.4	37.1
8	Trunk	16.3	50.2	18.8	90.7

CAMERA POSITIONS FOR FRONTAL IMPACTS

CAMERA POSITIONS FOR FRONTAL IMPACTS

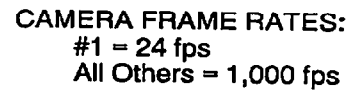


Table 6

HIGH-SPEED CAMERA LOCATIONS

Test No.		CS5403		Vehicle:		1995 Mazda Millenia 4-Door Sedan				
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	244	73	41	-2	227.8 in.	13	1000		
3	Left Side View	322	51	41	-2	305.8 in.	25	1010		
4	Driver and Interior View	110	106	69	-19	-	13	1000		
5	Steering Column (Bottom)	288	85	46	-3	271.8 in.	25	1100		
6	Steering Column (Top)	288	85	70	-9	271.8 in.	25	1110		
7	Overall Right Side	253	78	42	-4	236.8 in.	13	1050		
8	Right Side View	318	69	41	-3	301.8 in.	25	1040		
9	Passenger and Interior View	109	112	69	-20	-	13	1150		
10	Right Passenger View	314	78	58	-5	297.8 in.	35	1050		
11	Windshield View	12	0	127	-59	-	13	1080		
12	Driver Front View	18	22	73	-40	-	8	1000		
13	Passenger Front View	18	22	72	-46	-	8	1000		
14	Pit View of Engine	36	0	-86	90	-	13	860		
15	Pit View of Fuel Tank	120	0	-86	90	-	13	930		

*X = film plane to monorail centerline
 Y = film plane to impact location
 Z = film plane to ground
 ** = referenced to horizontal plane

Figure 6

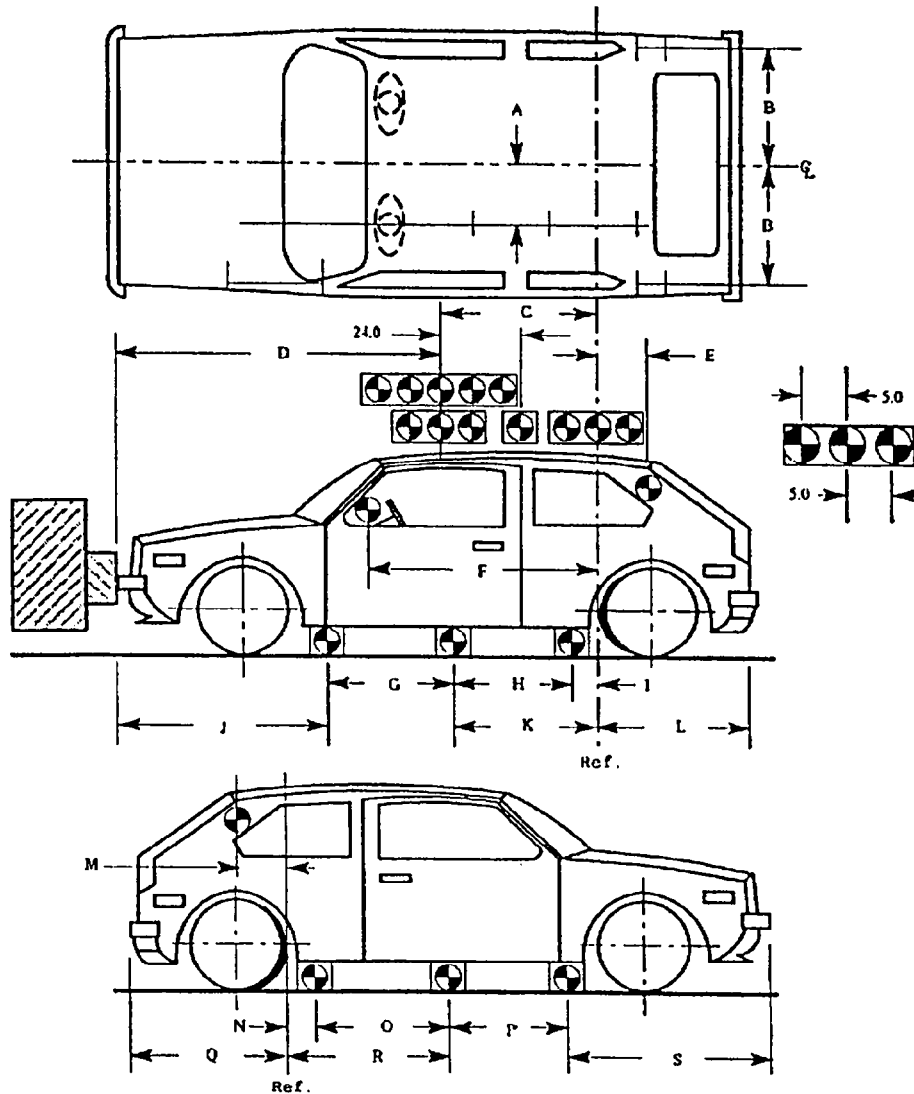
VEHICLE TARGET LOCATIONS
(All dimensions in inches)

Key (Inches)

A = 13.2
B = 19.9

C = 47.9
D = 85.0
E = 8.5
F = 63.9
G = 37.0
H = 36.9
I = 4.0
J = 54.0
K = 40.9
L = 57.3

M = 8.5
N = 4.3
O = 37.0
P = 36.9
Q = 56.9
R = 41.3
S = 54.1



Note: Targets on front fender are 12.0 inches apart.
Targets rearward of front fender are 24.0 inches apart (targets C1 and C2 per TP-208-09 are 24 inches apart and located on the door).

Figure 7
TEST VEHICLE MEASUREMENTS

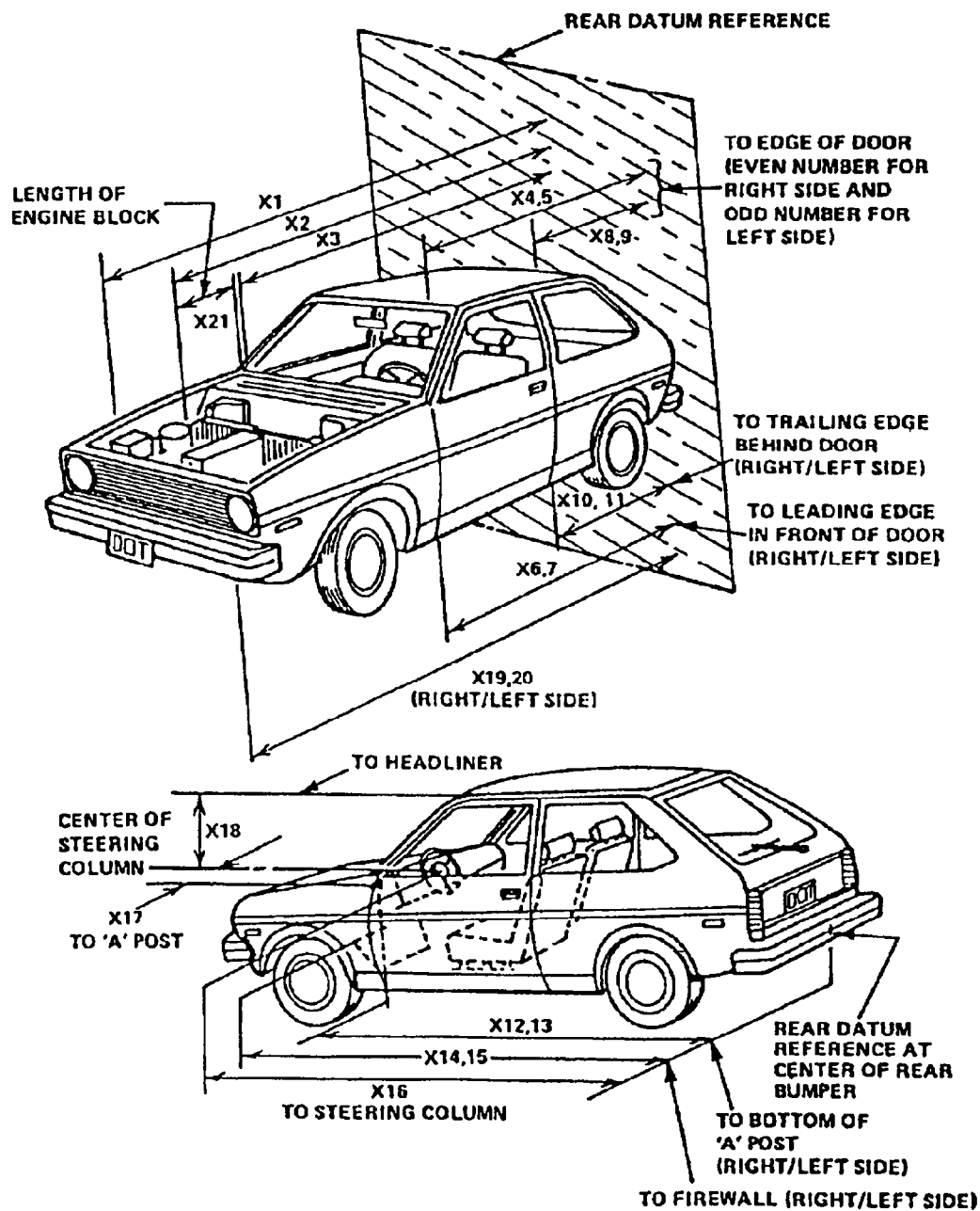


Table 7

VEHICLE MEASUREMENTS

No.		All Dimensions in inches		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	189.2	174.8	14.4
X2	Rear Surface of Vehicle to Front of Engine	172.4	167.6	4.8
X3	Rear Surface of Vehicle to Firewall	144.4	142.8	1.6
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	129.5	130.0	-0.5
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	129.3	130.0	-0.7
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	129.8	129.6	0.2
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	129.9	129.9	0.0
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	88.8	89.3	-0.5
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	88.9	89.4	-0.5
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	88.6	88.8	-0.2
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	88.8	88.9	-0.1
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	130.8	130.5	0.3
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	130.9	130.4	0.5
X14	Rear Surface of Vehicle to Firewall, Right Side	143.5	142.2	1.3
X15	Rear Surface of Vehicle to Firewall, Left Side	143.6	143.4	0.2
X16	Rear Surface of Vehicle to Steering Column	113.0	115.0	-2.0
X17	Center of Steering Column to "A" Post	15.6	15.6	0.0
X18	Center of Steering Column to Headliner	16.0	17.6	-1.6
X19	Rear Surface of Vehicle to Right Side of Front Bumper	184.6	174.4	10.2
X20	Rear Surface of Vehicle to Left Side of Front Bumper	184.6	174.5	10.1
X21	Length of Engine Block	24.3	24.3	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. : CS5403 Vehicle : 1995 Mazda Millenia 4-Door Sedan

	MAXIMUM ACCELERATION (g's)								
	HEAD				CHEST				
	X	Y	Z	R	X	Y	Z	R*	Displacement
Dummy (1)	-39.3	7.4	29.6	45.8	-48.8	5.3	-7.3	44.914	N/A
Dummy (2)	-88.9	-14.9	43.7	99.4	-50.4	-9.3	20.9	49.057	N/A

	MAXIMUM FORCE - FEMUR LOAD (lbs.)	
	LEFT FEMUR	RIGHT FEMUR
Dummy (1)	-1495.8	-1455.7
Dummy (2)	-1465.4	-1582.1

	HEAD INJURY CRITERIA**			
	HIC	36 millisecond Maximum		Avg. Acc (g)
		t ₁ (msec)	t ₂ (msec)	t ₁ TO t ₂
Dummy (1)	235.54	63.480	99.360	33.64
Dummy (2)	563.85	59.640	70.920	75.78

* 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 = 6.0 sec.

Log time duration of reminder light operation = 6.0 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 = 0.0 sec.
(audible warning should not operate)

Log time duration of reminder light operation = 0.0 sec.

Note wording of visual warning :

Fasten Seat Belt -

Fasten Belt -

Symbol 101 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 :

Label located on out side panel of driver sun-visor.

The label states, "No maintenance needed unless: 1. Air bag lamp does not light when key is turned to on position. 2. Air bag lamp flashes or stays lit. 3. Groups of five beeps are heard. 4. An air bag is inflated.

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 system ?

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 :

XReadiness indicator located at top right 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. :	CS5403
Make/Model :	1995 Mazda Millenia 4-Door Sedan
Date of Comfort/Convenience Check :	11-8-94
Technician Performing Check :	R. E.
GVWR :	4083

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 X NO -

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 X NO -

(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 (non-engaged)

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 N/A 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 | <u>N/A</u> | NO | <u>N/A</u> |
| b. The latch plate is released from the buckle. | YES | <u>N/A</u> | NO | <u>N/A</u> |
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 | <u>N/A</u> | NO | <u>N/A</u> |
|--|-----|------------|----|------------|

(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 | <u>-</u> | NO | <u>X</u> |
|--|-----|----------|----|----------|
2. Seat are adjusted according to instructions in Appendix B.
- | | | | | |
|--|-----|----------|----|----------|
| | YES | <u>X</u> | NO | <u>-</u> |
|--|-----|----------|----|----------|
3. The test dummies are positioned according to dummy position placement instructions in Appendix B and Appendix C.
- | | | | | |
|--|-----|----------|----|----------|
| | YES | <u>X</u> | NO | <u>-</u> |
|--|-----|----------|----|----------|
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 | <u> X </u> | NO | <u> - </u> |
| 2. | Attach the inboard and outboard reach string. | YES | <u> X </u> | NO | <u> - </u> |
| 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 | <u> X </u> | NO | <u> - </u> |
| 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 | <u> X </u> | NO | <u> - </u> |

D5
RETRACTION

- | | | | | | |
|----|--|-----|----------------|----|----------------|
| 1. | Seats and seat backs are adjusted according to instructions in Appendix B "General Test Conditions" in TP-208-09, dated March 15, 1993. | YES | <u> X </u> | NO | <u> - </u> |
| 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 | <u> X </u> | NO | <u> - </u> |
| 3. | Outboard armrests which are capable of being stowed on vehicle seats shall be placed in their stowed positions. | YES | <u> N/A </u> | NO | <u> N/A </u> |
| 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 | <u> X </u> | NO | <u> - </u> |

Table 12 (cont.)

b. The torso and lap belt webbing of the seat belt system automatically retract when the seat belt latchplate is released.		YES	<u>X</u>	NO	<u>-</u>
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	<u>X</u>	NO	<u>-</u>
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	<u>N/A</u>	NO	<u>N/A</u>

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	<u>X</u>	NO	<u>-</u>
-----	----------	----	----------
2. The remaining two seat belt parts are accessible under normal conditions.

YES	<u>X</u>	NO	<u>-</u>
-----	----------	----	----------

Table 12 (cont.)

3. The buckle and latchplate pass through the guides or conduits provided and do not fall behind the seat when the following events occur in order:
 - a. The belt is completely retracted or, if the belt is non-retractable, the belt is unattached.

YES	<u> X </u>	NO	<u> - </u>
-----	--------------	----	--------------
 - b. The seat is moved to any position to which it is designed to be adjusted.

YES	<u> X </u>	NO	<u> - </u>
-----	--------------	----	--------------
 - c. The seat back, if foldable, is folded forward as far as possible and then moved backward into positions.

YES	<u> X </u>	NO	<u> - </u>
-----	--------------	----	--------------
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	<u> X </u>	NO	<u> - </u>
-----	--------------	----	--------------

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	<u> X </u>	NO	<u> - </u>
-----	--------------	----	--------------
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	<u> X </u>	NO	<u> - </u>
-----	--------------	----	--------------
3. That releases at a single point by a push button action.

YES	<u> X </u>	NO	<u> - </u>
-----	--------------	----	--------------

Figure 8

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA SHEET

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

The windshield is bonded in place with 1 inch rubber molding along top and sides of windshield. The bottom is covered by a plastic shroud.

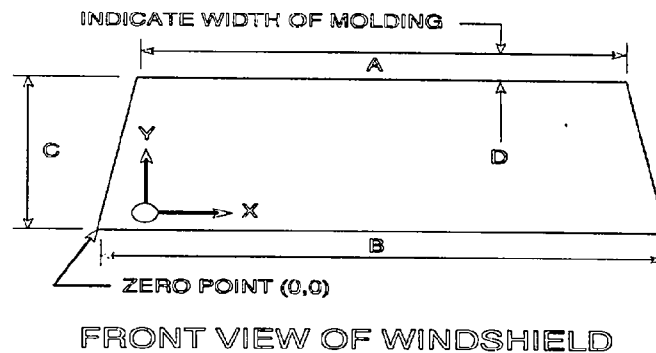
FMVSS 212 REQUIREMENTS :

The Post - Test periphery retention amount must be at least 75% of the Pre - Test periphery measurement for vehicle 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		PERCENT RETENTION
	PRE - TEST (in.)	POST - TEST (in.)	
RIGHT SIDE	85.1	85.1	100.0 %
LEFT SIDE	85.1	85.1	100.0 %
TOTAL	170.2	170.2	100.0 %

AREA OF RETENTION FAILURE:



FAILURE DETAILS : None.

Figure 9

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

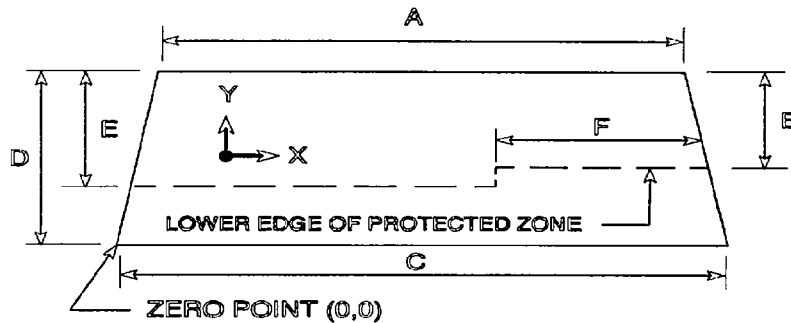
PROTECTED ZONE LOWER EDGE REQUIREMENT :

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.)

KEY:

A = 46.8
B = 16.0
C = 59.4
D = 32.0
E = 19.3
F = 33.2



FRONT VIEW OF WINDSHIELD

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

(Show location of penetration on above sketch)

None

COORDINATES		
	X	Y
1		
2		
3		
4		

FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

TEST VEHICLE NHTSA NO. : CS5403 TEST DATE : November 10, 1994
Vehicle Mfgr./Make/Model : 1995 Mazda Millenia 4-Door Sedan

FUEL SPILLAGE MEASUREMENT:

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

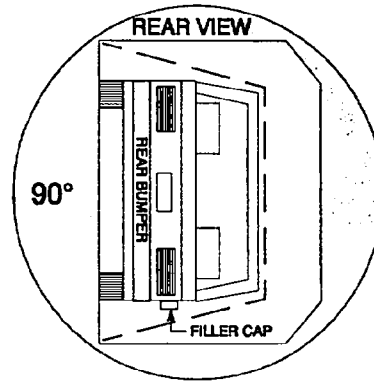
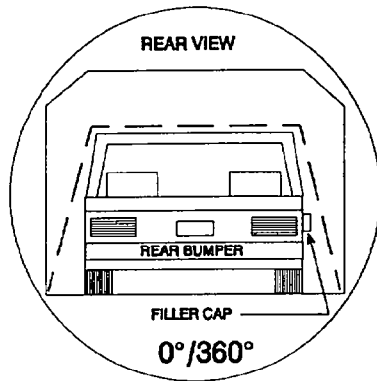
None

Table 14

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE :
0-90 Deg.

Vehicle NHTSA ID No. :
CS5403

I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	2	minutes	31	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	7	minutes	31	seconds
Next whole minute interval	8	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes 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.

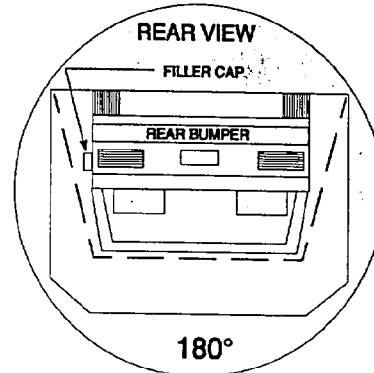
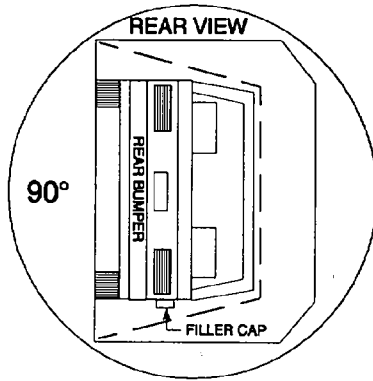
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :
90-180 Deg.

Vehicle NHTSA ID No.:
CS5403



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

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

1 minutes 50 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 50 seconds

Next whole minute interval

7 minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes 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	N/A
---	---	---	-----

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

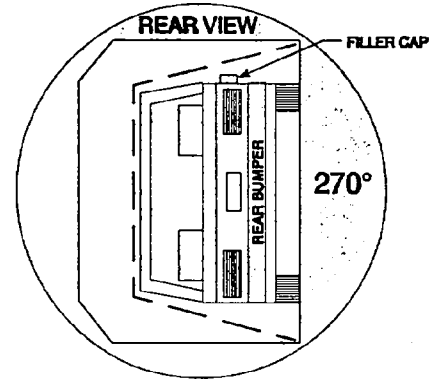
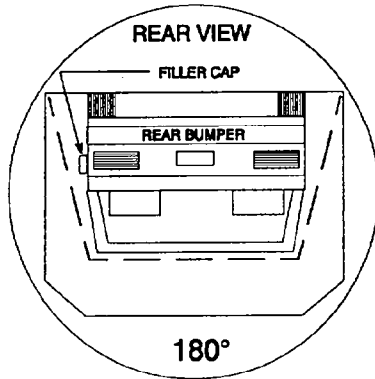
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :
180-270 Deg.

Vehicle NHTSA ID No. :
CS5403



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>1</u>	minutes	<u>48</u>	seconds
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>00</u>	seconds
TOTAL	<u>6</u>	minutes	<u>48</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes 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.

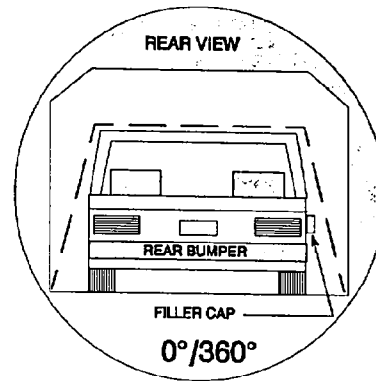
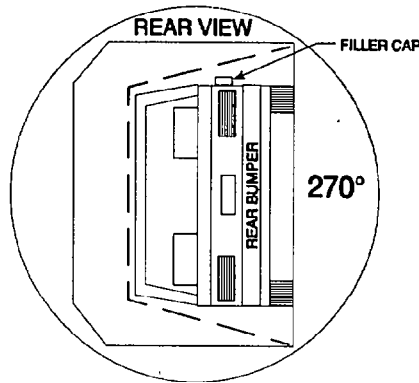
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :
 270-360 Deg.

Vehicle NHTSA ID No. :
 CS5403



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>1</u>	minutes	<u>47</u>	seconds
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>00</u>	seconds
TOTAL	<u>6</u>	minutes	<u>47</u>	seconds
Next whole minute interval	<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes 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	N/A
---	---	---	-----

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

IV. SOLVENT SPILLAGE LOCATION(S) :

None

Table 15

POST TEST AIR BAG DATANHTSA No. : CS5403; Test Date: November 10, 1994; Technician: R.E.Vehicle Model Year/Make/Model: 1995 Mazda Millenia

A. No. of vent holes: 2 -Driver 2 -Passenger

B. Size of vent holes: (In.²) 1.3 -Driver 3.1 -Passenger

C. Total vent area: (In.²) 2.6 -Driver 6.2 -Passenger

D. Deflated air bag length and width dimensions or, if round, diameter. (In inches)

Driver: - -Length; - -Width; 25.0 -Diameter

Passenger: 26.0 -Height; 15.5 -Width; 29.5 -Depth

E. Is the air bag tethered?

Driver: X -Yes; - -No; If yes, record length of tether- 8.0

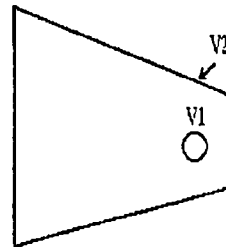
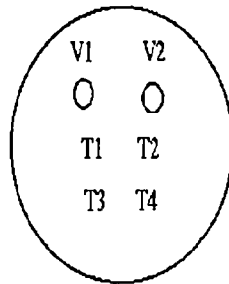
Passenger: - -Yes; X -No; If yes, record length of tether- -

Sketch the air bag showing the location of the vent holes, how the bag is tethered, and where the bag is tethered. Also describe how the thetthers are attached to the bag and the steering wheel.

(Note: Not to scale; V_n = Vent hole_n, T_n = Tether_n).

Driver Air bag front view

Passenger Air bag right side view



F. Record part numbers and manufacturer name of the air bag and gas generator.

Driver: Generator: H16-TA009412142 Air bag: BBNH006 4SS944626 270 494-012198Passenger: Generator: 2002174C/CMZ3027 420509/TRWVSS1 TA02-57-K50-B

G. Cut out a 6 inch by 6 inch swatch of the bag material and at least one tether from each bag, mark the vehicle's NHTSA number on the swatch, and send these parts to the COTR with the test report.

Table 16

ACCIDENT INVESTIGATION DIVISION DATA

VEHICLE YEAR/MAKE/MODEL/BODY STYLE: 1995 Mazda Millenia 4-Door Sedan

VEHICLE NHTSA NO. : CS5403 VIN NO. : JM1TA2213S1115023

WHEELBASE: 108.0 in. BUILD DATE: 5/94 TEST DATE: November 10, 1994

VEH SIZE CATEGORY: --- TEST WEIGHT: 3580 lbs.

FRONT OVERHANG: --- OVERALL WIDTH: 69.7 in.

COLLISION DEFORMATION (CDC) CODE: 12FDEW2

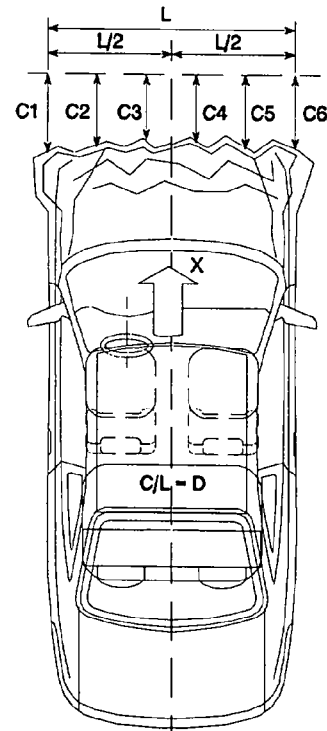
IMPACT MODE: 0 degree 30 mph frontal barrier impact.

CRUSH DEPTH DIMENSIONS: (Inches)

C1 = <u>8.1</u>	C4 = <u>14.3</u>
C2 = <u>12.8</u>	C5 = <u>13.3</u>
C3 = <u>13.9</u>	C6 = <u>8.3</u>

MIDPOINT OF DAMAGE: D = 29.1
(Vehicle Longitudinal Centerline)

LENGTH OF DAMAGE REGION: L = 58.2



Remarks: None

Table 17
TEST VEHICLE NONCOMPLIANCE NOTICE

NHTSA Contract Lab : Calspan Advanced Technology Center
Lab Project Manager & Telephone No. : David J. Travale (716) 632 - 7500
Date of Test : November 10, 1994 Vehicle NHTSA No. : CS5403
Vehicle Manufacturer : MAZDA MOTORS CORPORATION
Model Year : 1995 VIN : JM1TA2213S1115023
Model : Millenia Body Style: 4-Door Sedan Build Date: 5/94
Dummy Stabilized Temperature at Time of Test : 70 °F (Spec. = 66 - 78 °F)
Impact Velocity : 29.3 mph; Time of Test : 13:45
Type of Automatic Restraint System :
Driver : Air bag
Passenger : Air bag

Failure Details :

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

Appendix A
PHOTOGRAPHS

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Figure A-1 PRE-TEST FRONT VIEW



Figure A-2 POST-TEST FRONT VIEW



Figure A-3 PRE-TEST LEFT SIDE VIEW

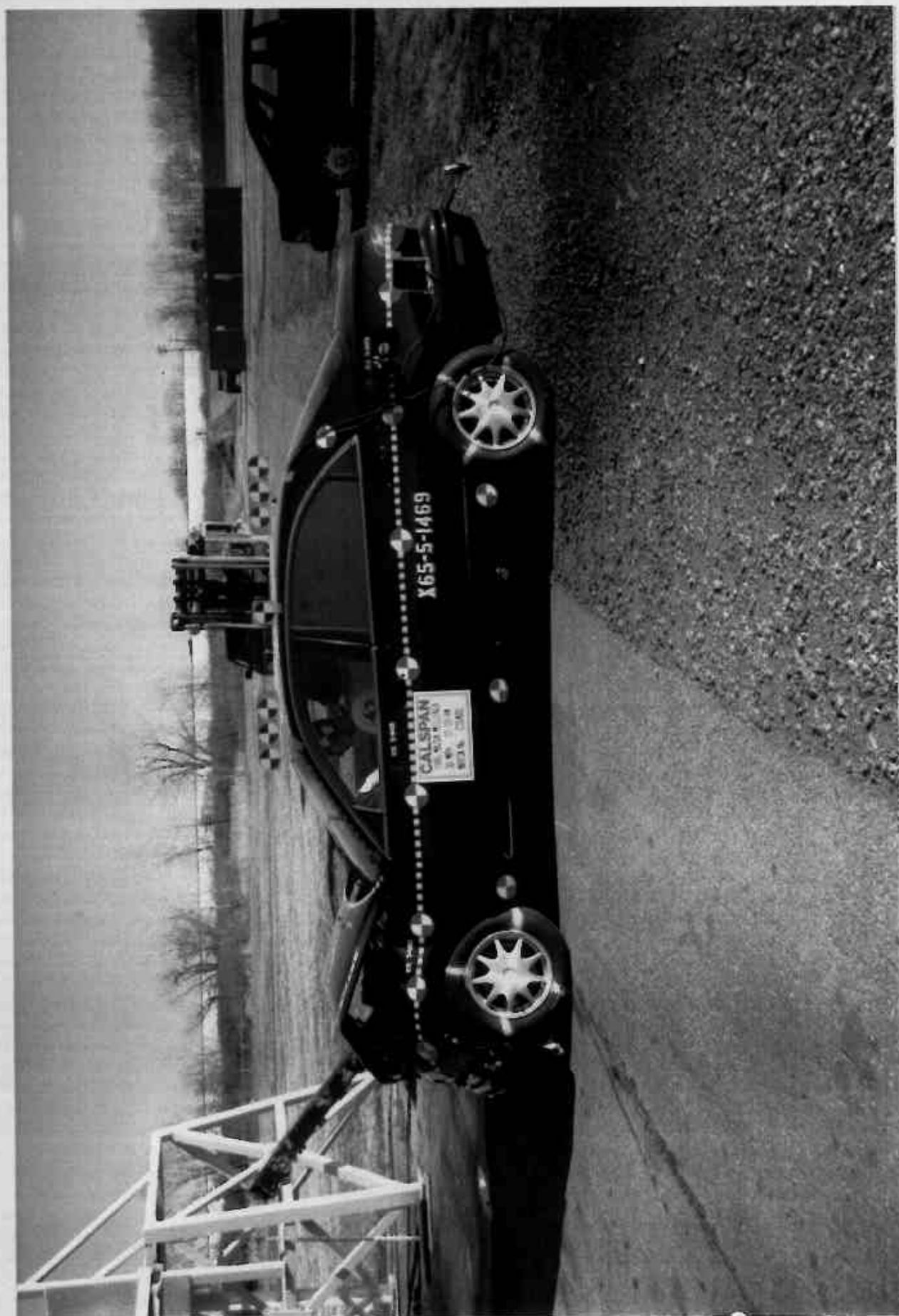


Figure A-4 POST-TEST LEFT SIDE VIEW



Figure A-5 PRE-TEST RIGHT SIDE VIEW

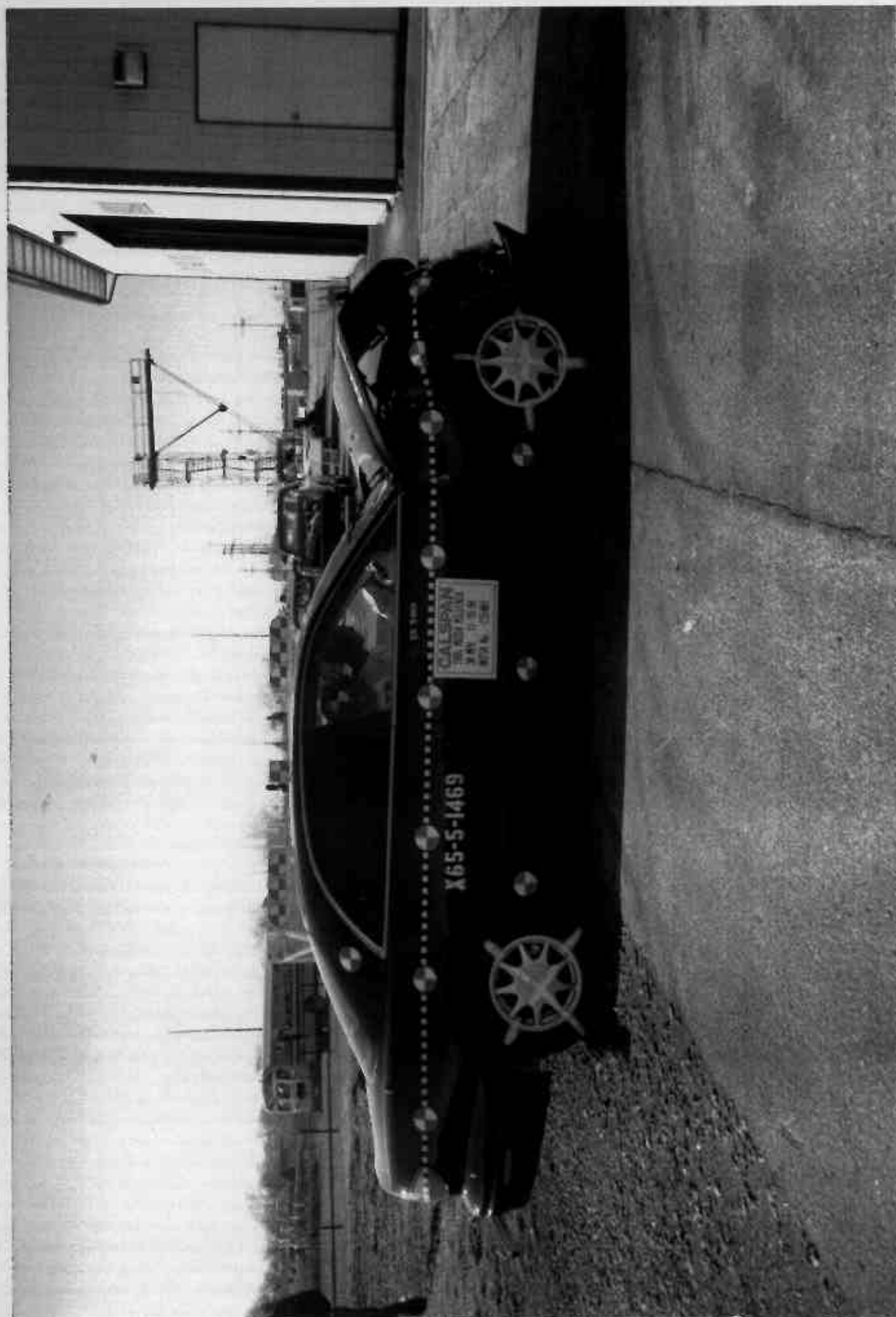


Figure A-6 POST-TEST RIGHT SIDE VIEW



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

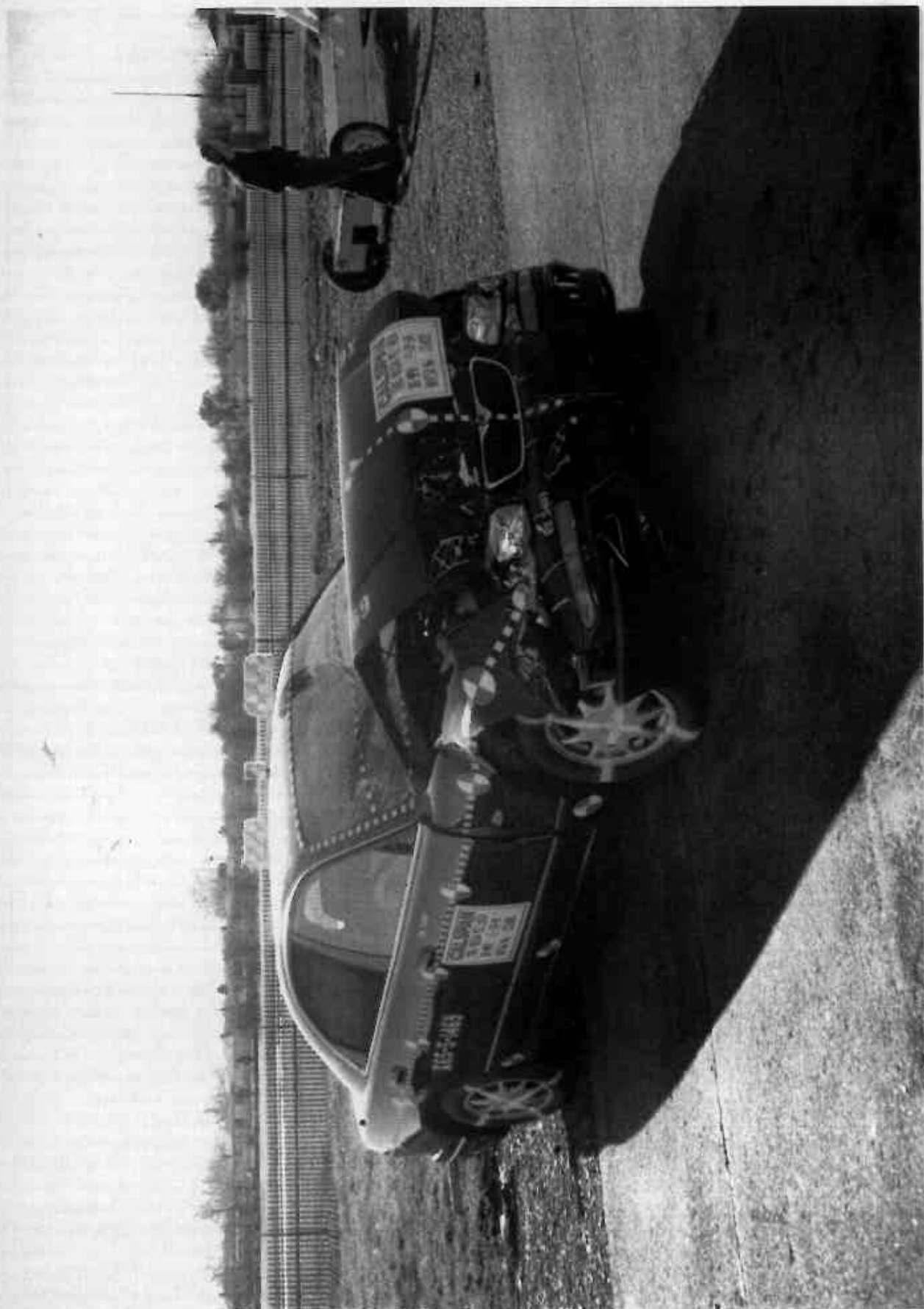


Figure A-8 POST-TEST RIGHT FRONT THREE-QUARTER VIEW



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

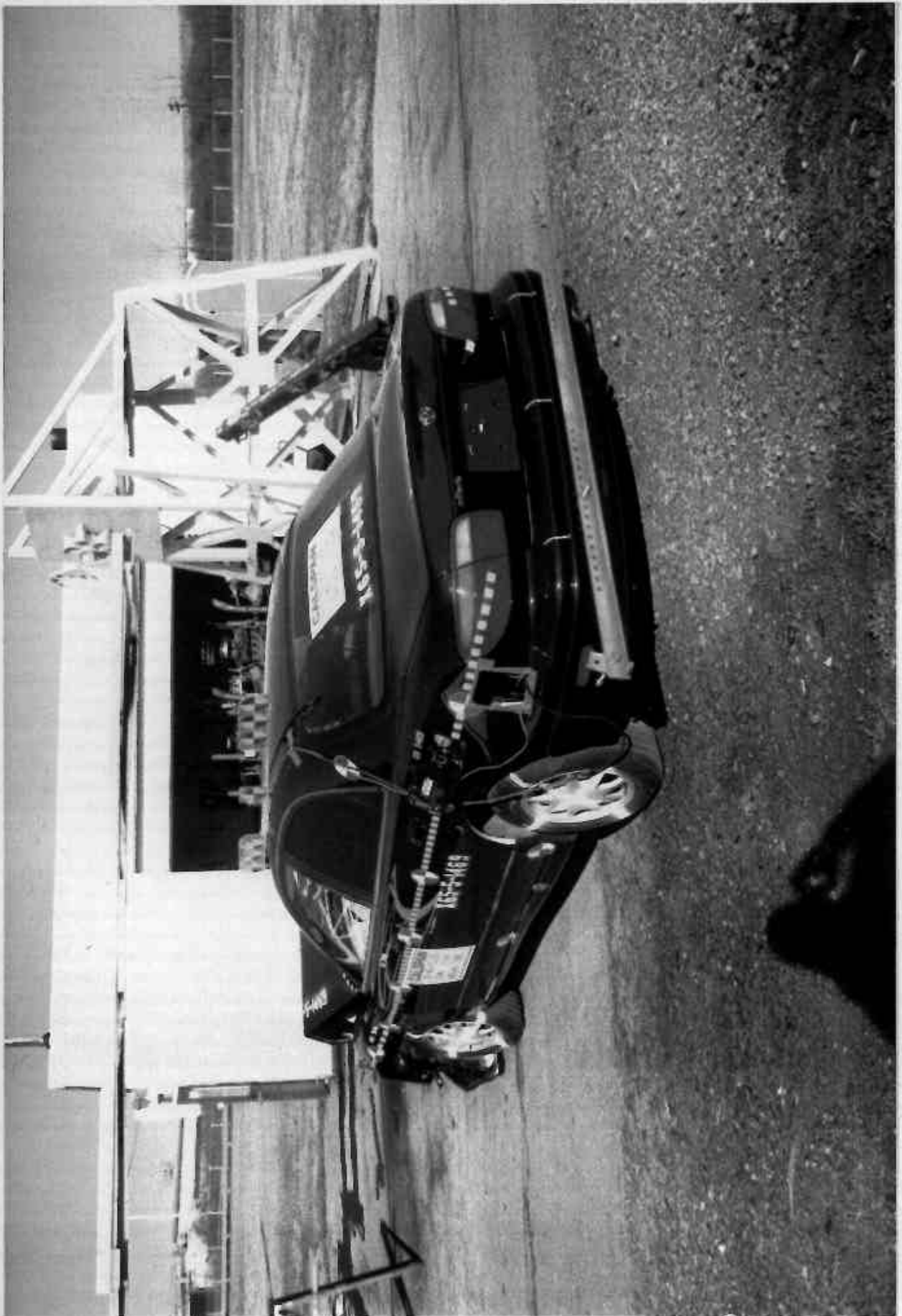


Figure A-10 POST-TEST LEFT REAR THREE-QUARTER VIEW

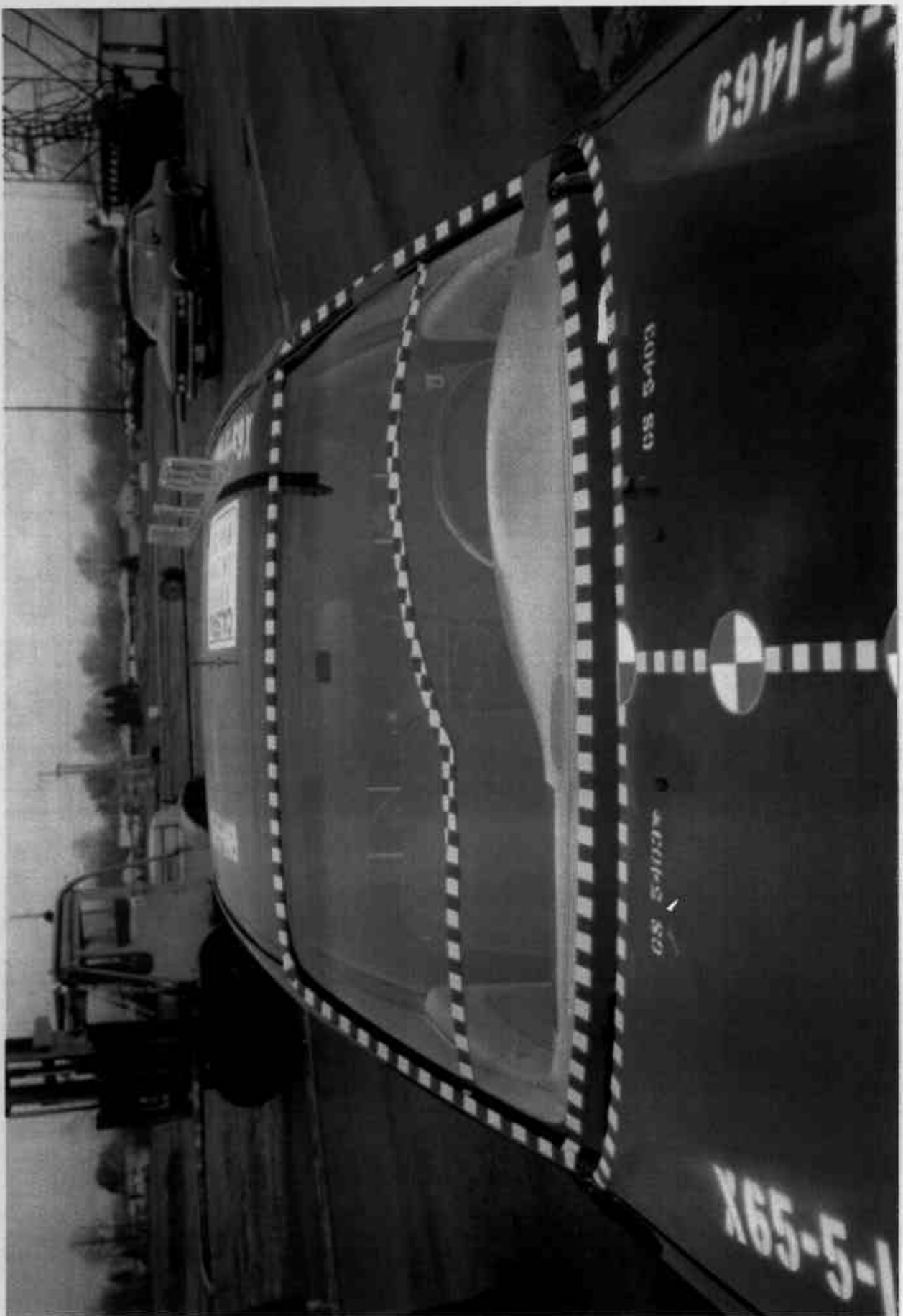


Figure A-11 PRE-TEST WINDSHIELD VIEW

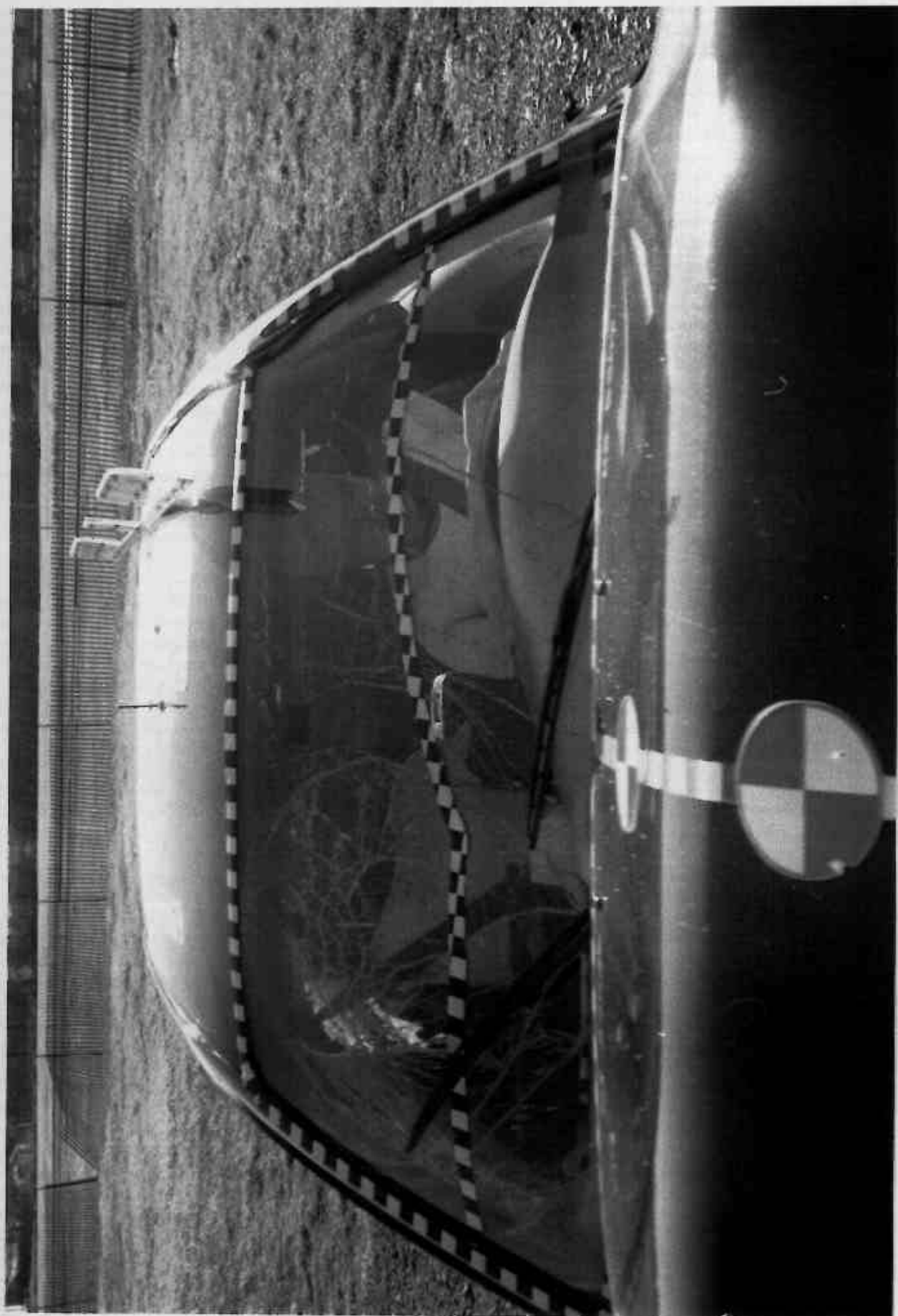


Figure A-12 POST-TEST WINDSHIELD VIEW

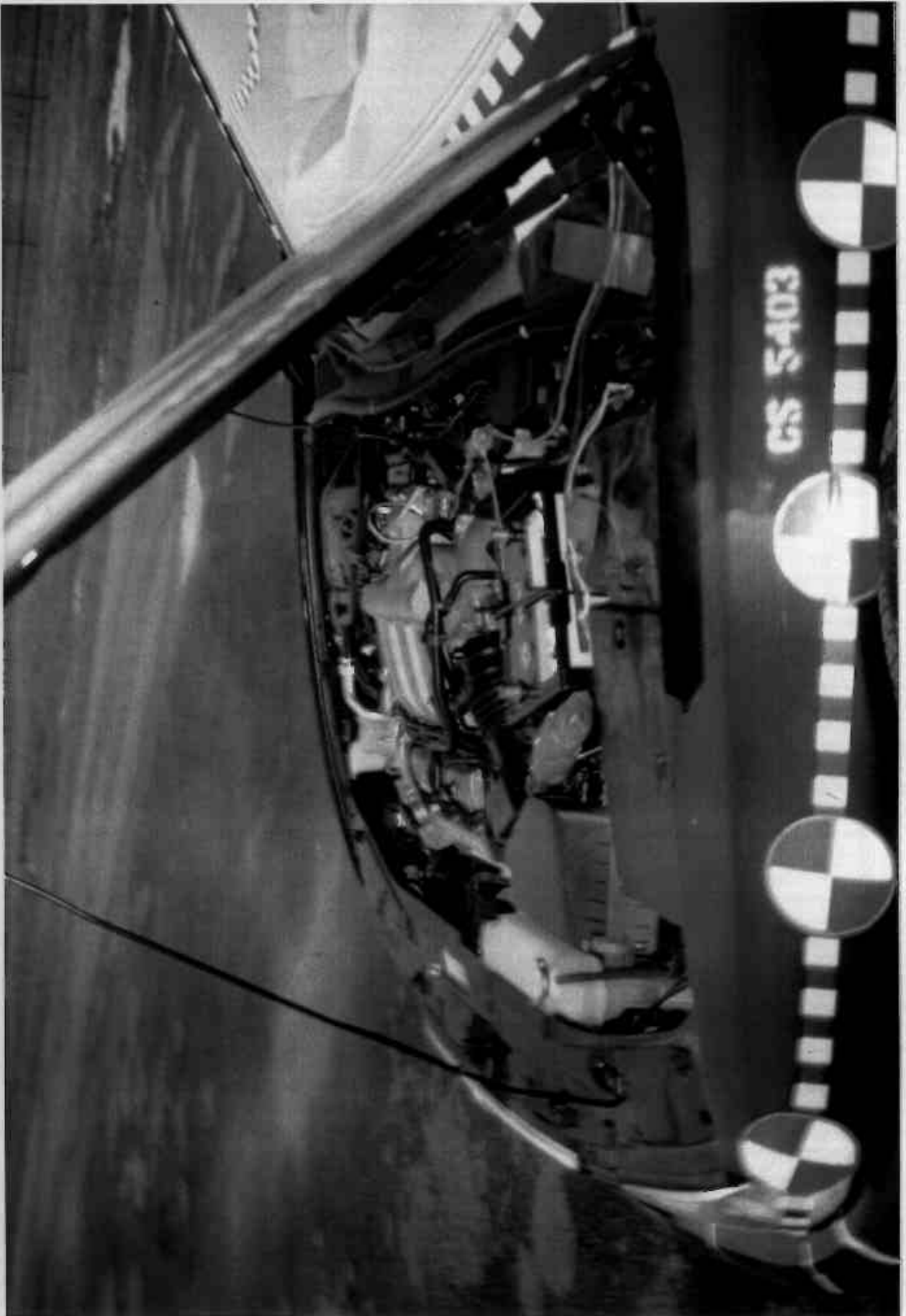


Figure A-13 PRE-TEST ENGINE COMPARTMENT VIEW

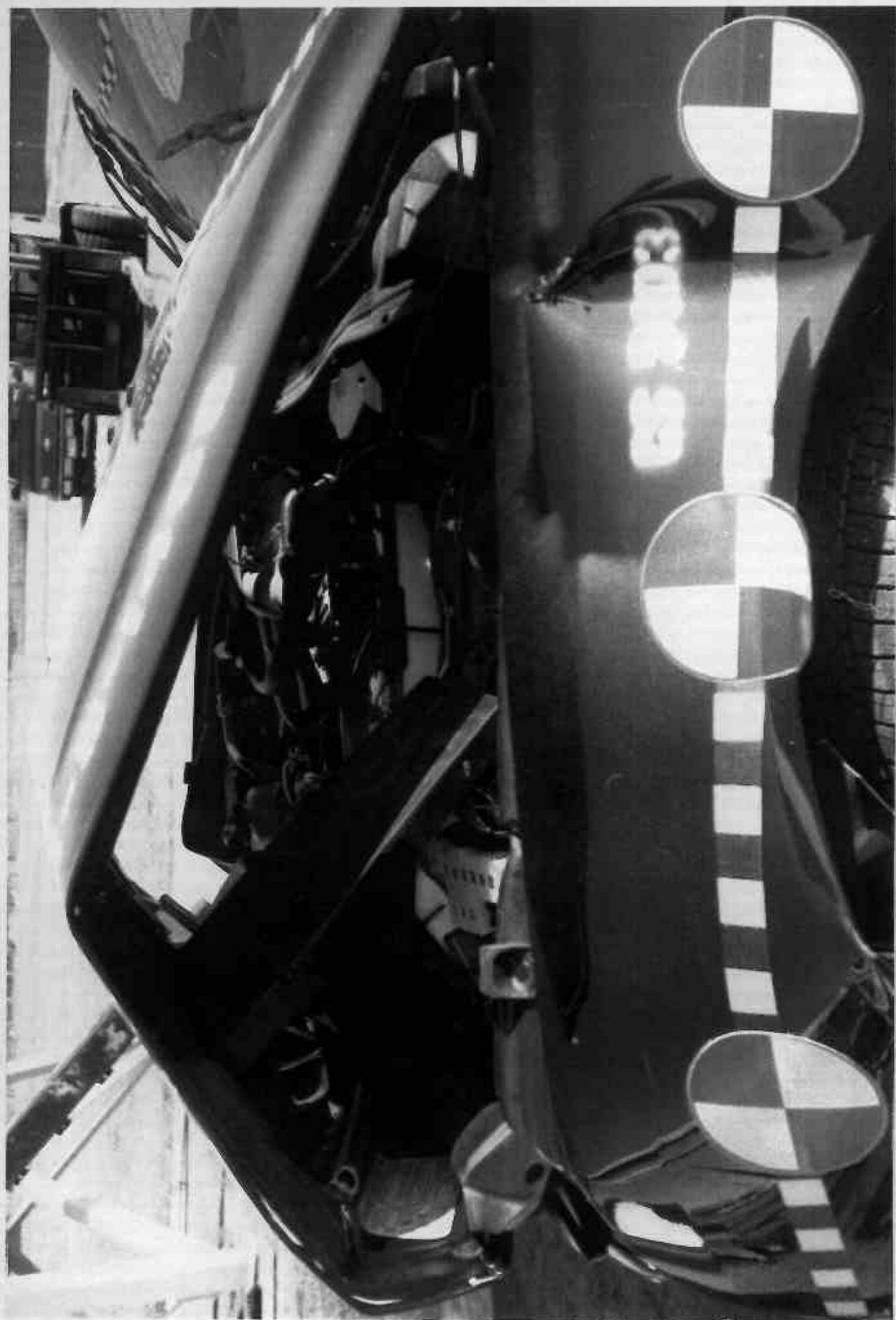


Figure A-14 POST-TEST ENGINE COMPARTMENT VIEW



Figure A-15 PRE-TEST FUEL FILLER CAP

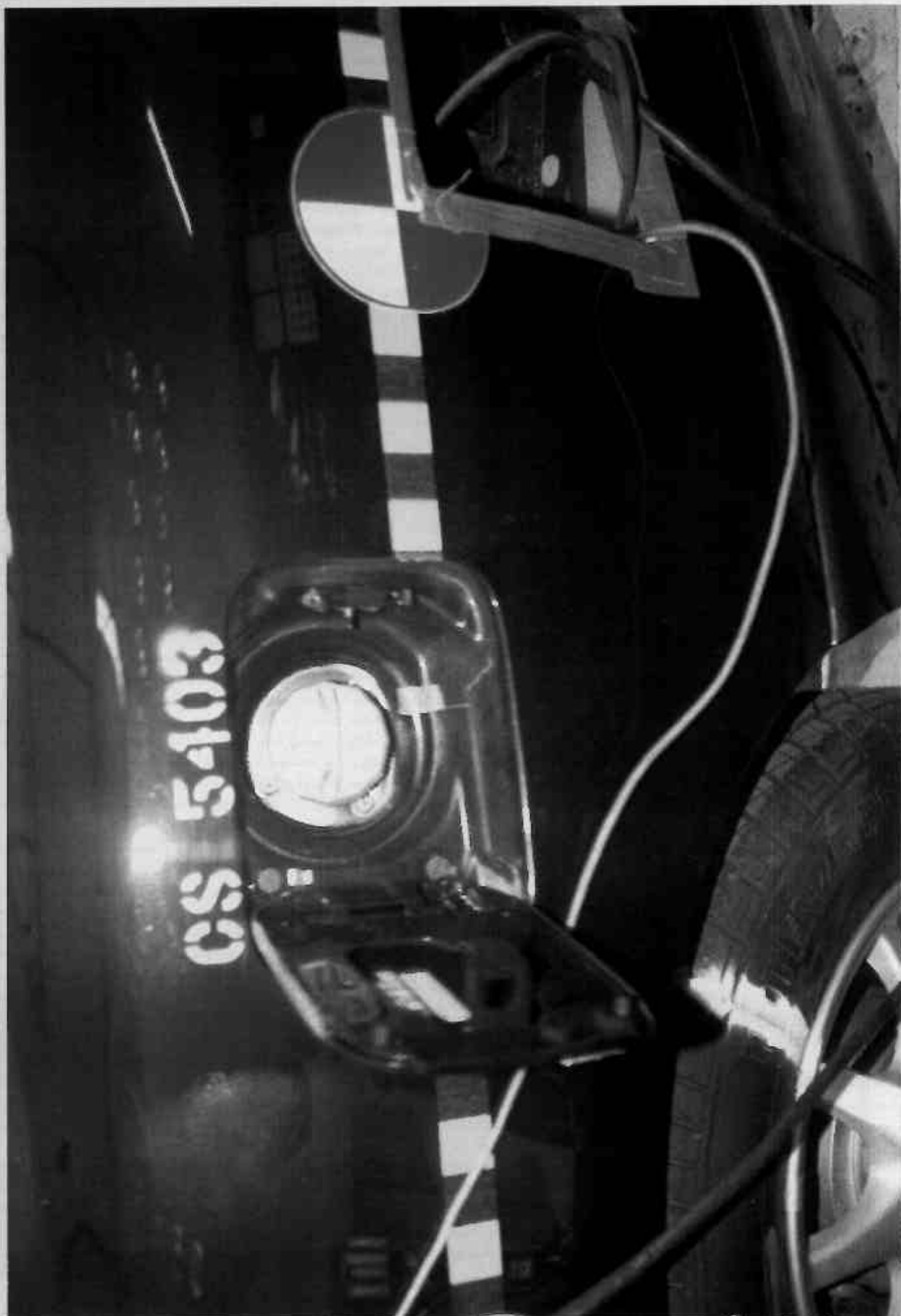


Figure A-16 POST-TEST FUEL FILLER CAP

PHOTOGRAPH NOT AVAILABLE

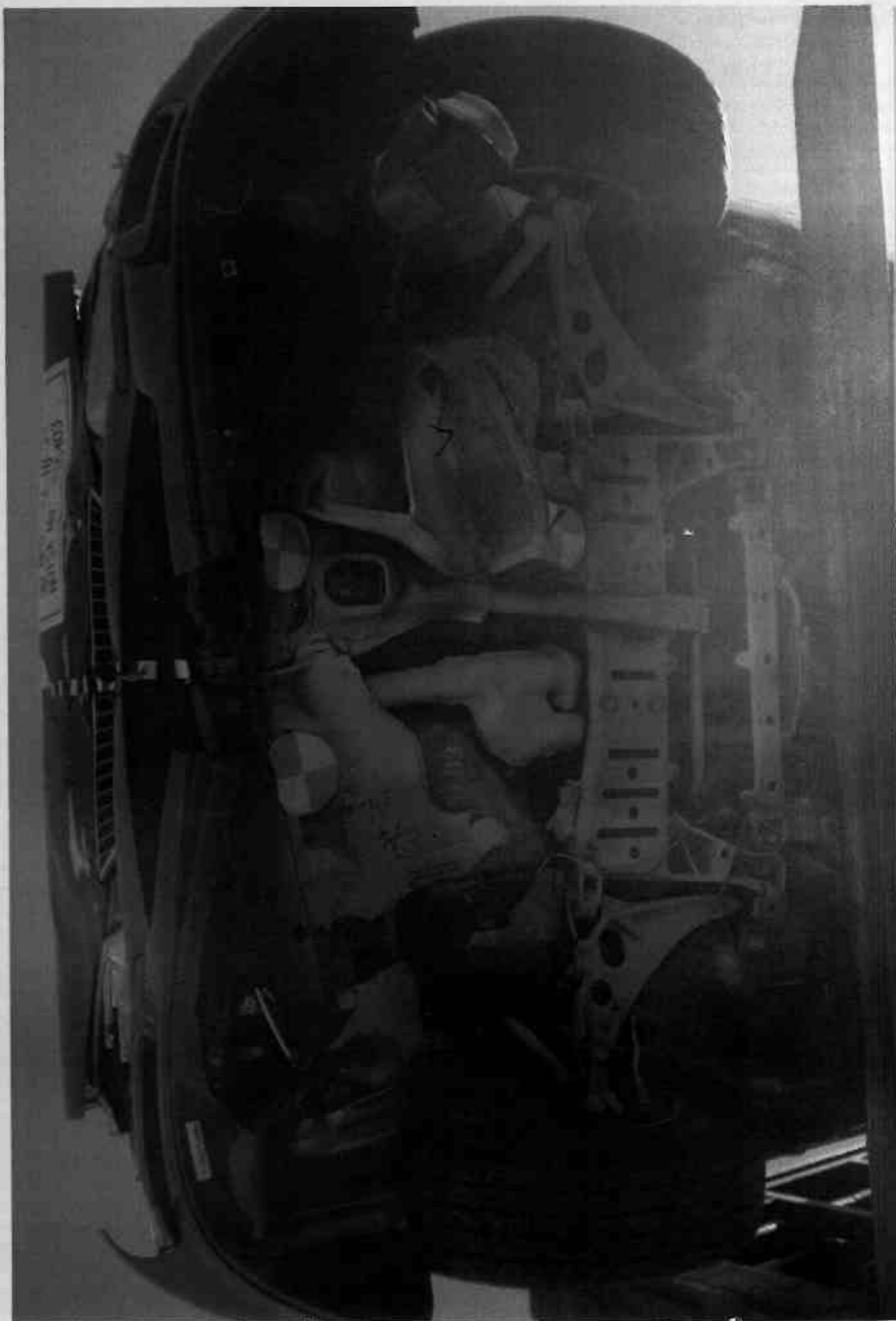


Figure A-18 POST-TEST FRONT UNDERBODY VIEW

PHOTOGRAPH NOT AVAILABLE

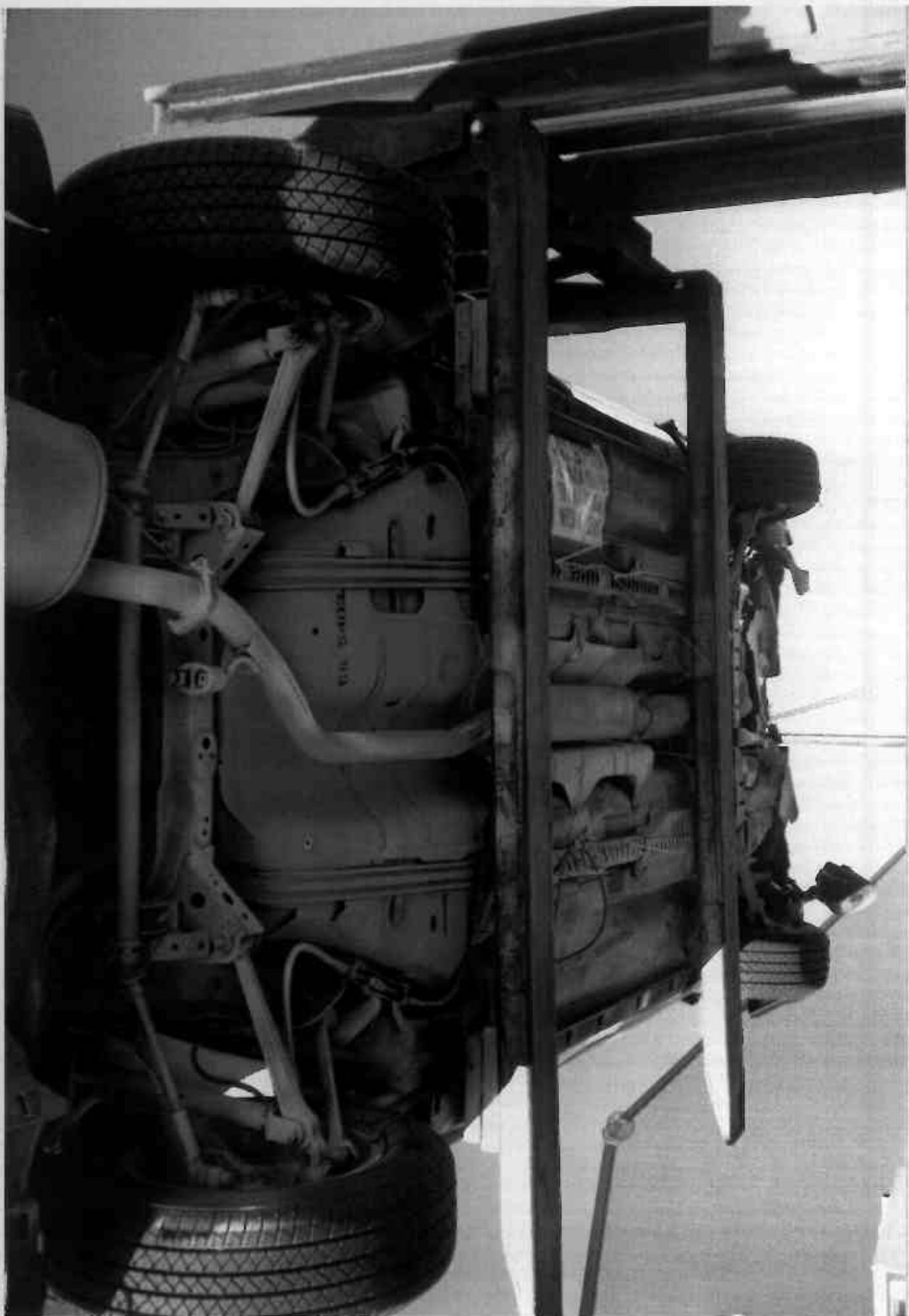


Figure A-20 POST-TEST REAR UNDERBODY VIEW



Figure A-21 PRE-TEST DRIVER SIDE VIEW

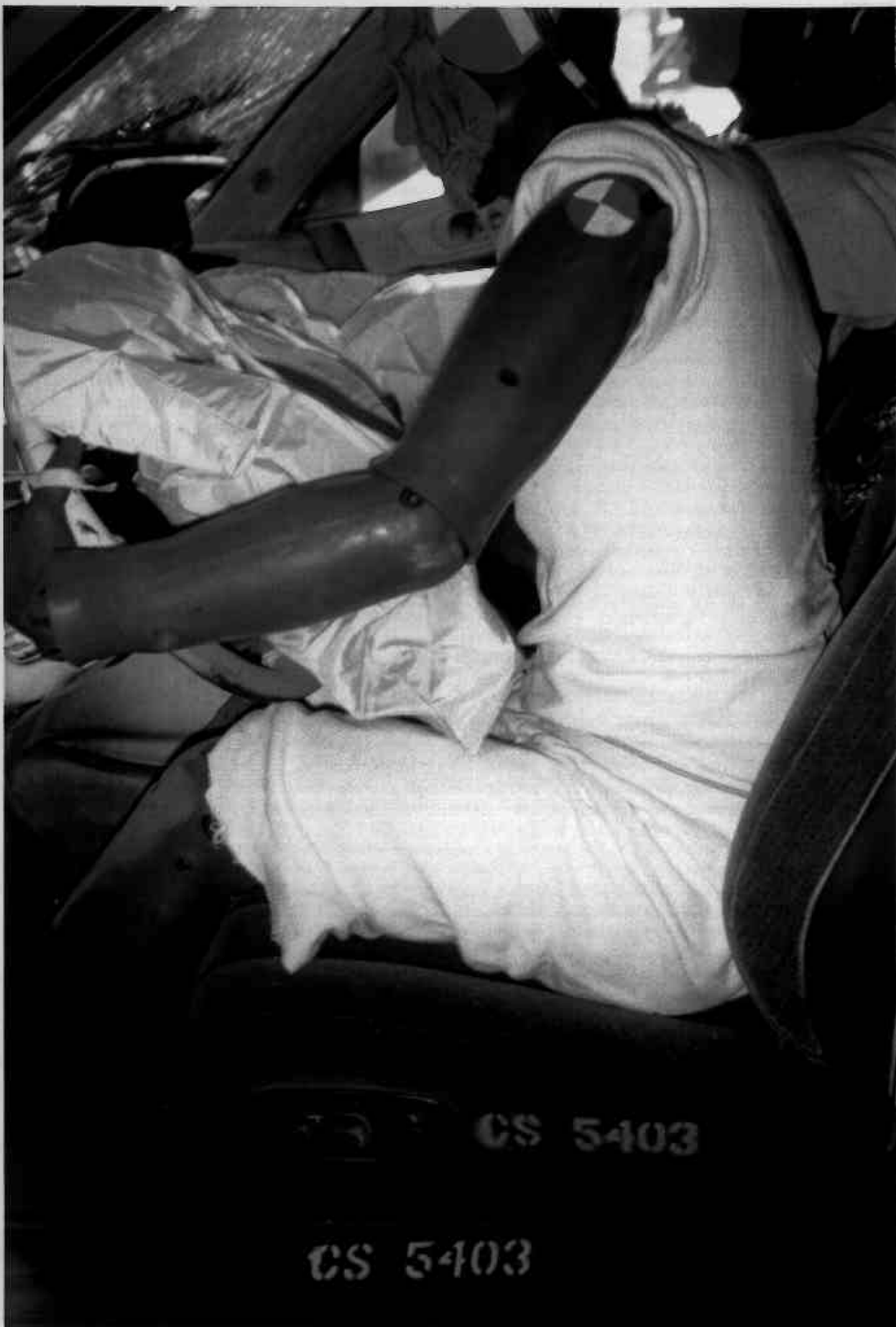


Figure A-22 POST-TEST DRIVER SIDE VIEW

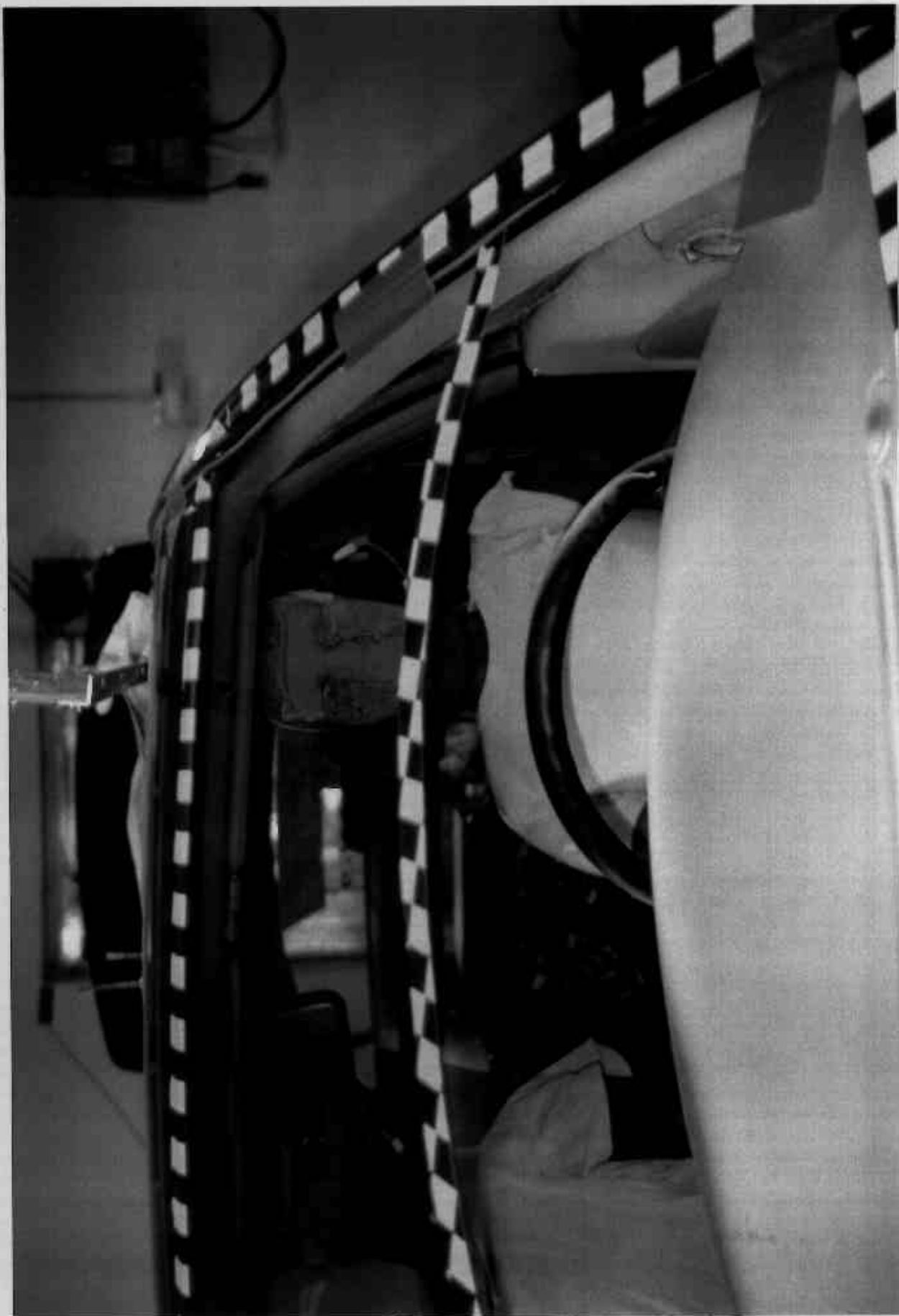


Figure A-23 PRE-TEST DRIVER FRONT VIEW

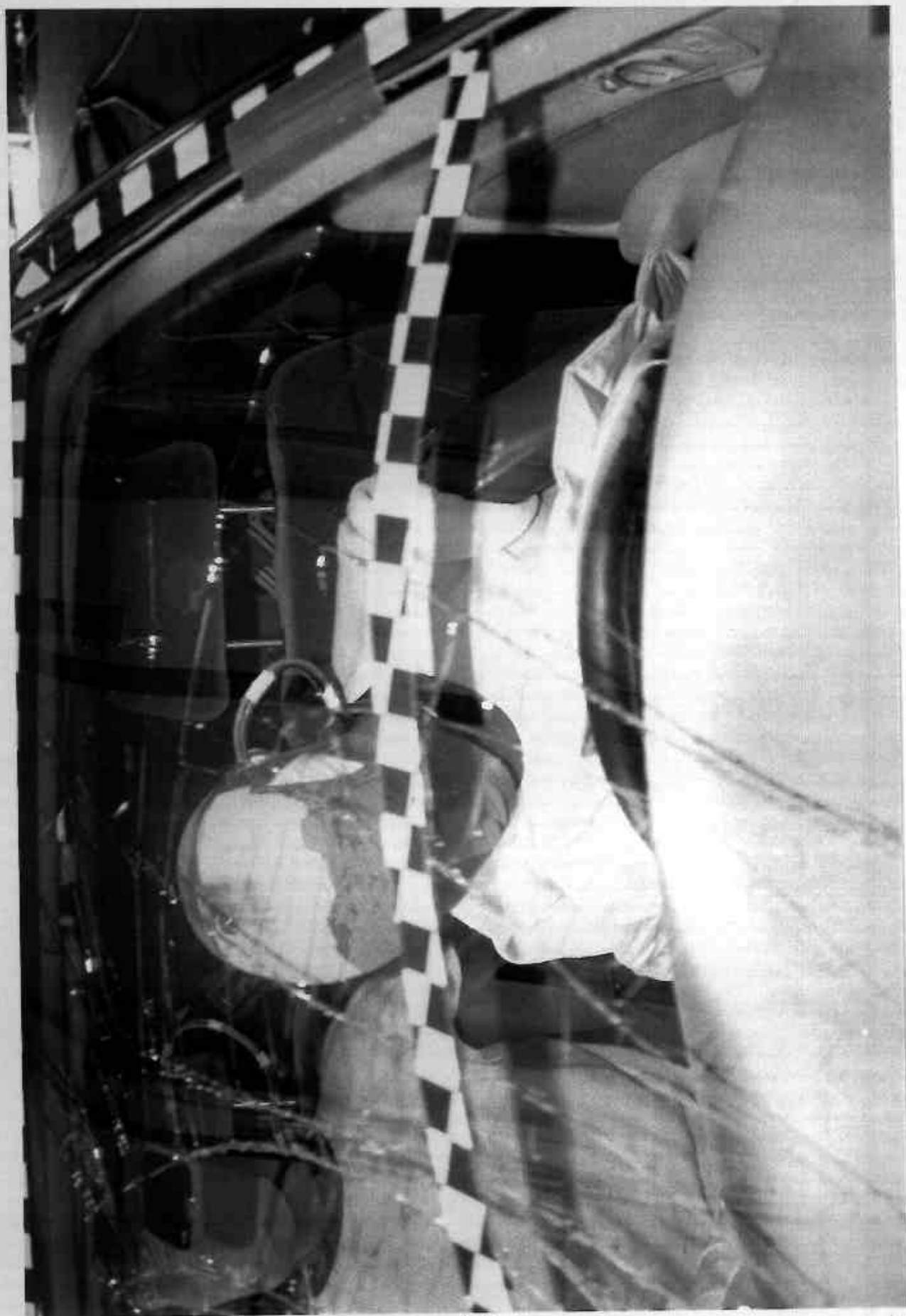


Figure A-24 POST-TEST DRIVER FRONT VIEW



Figure A-25 PRE-TEST DRIVER DUMMY AND INTERIOR VIEW



Figure A-26 POST-TEST DRIVER DUMMY AND INTERIOR VIEW



Figure A-27 PRE-TEST PASSENGER SIDE VIEW



Figure A-28 POST-TEST PASSENGER SIDE VIEW

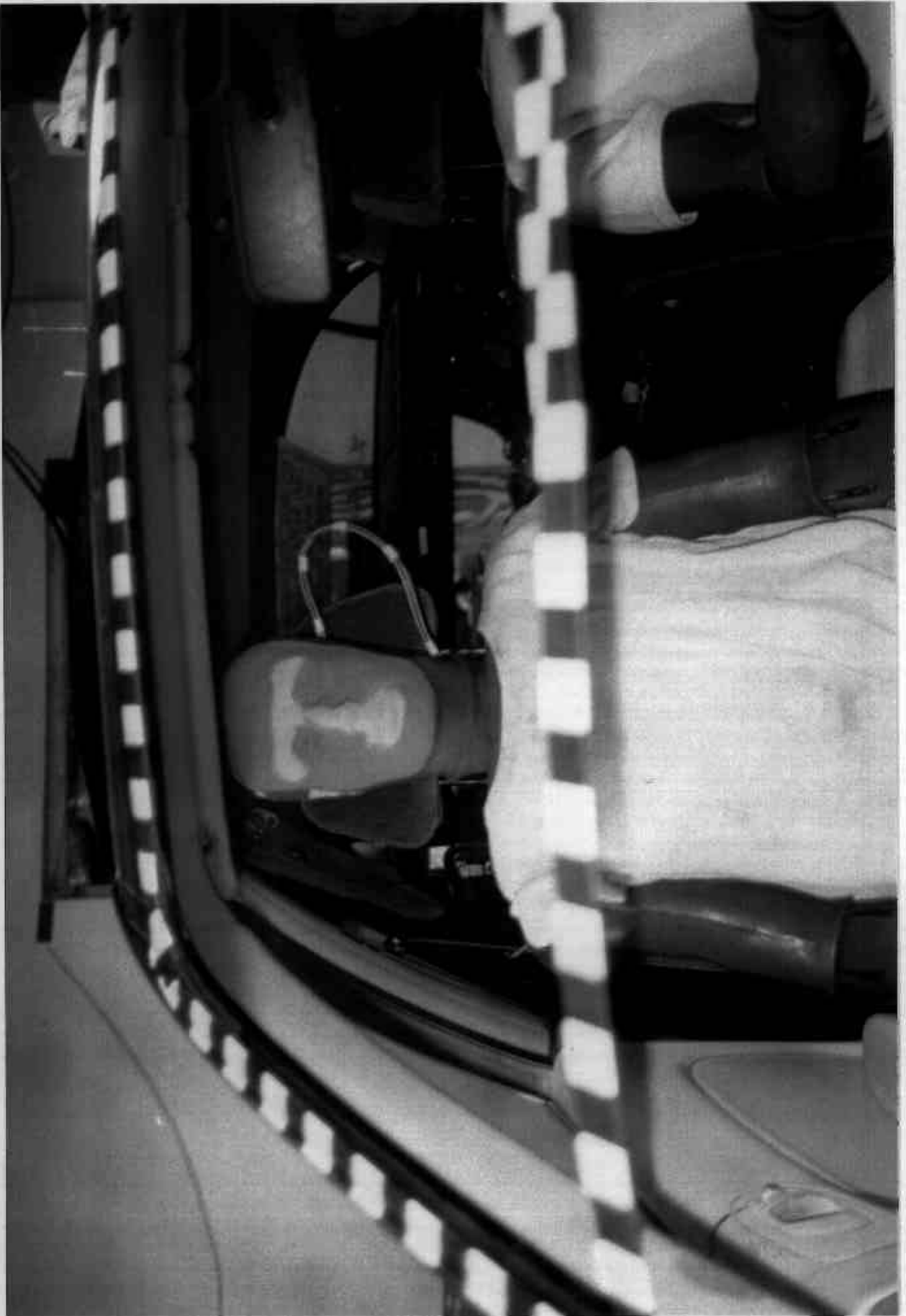


Figure A-29 PRE-TEST PASSENGER FRONT VIEW

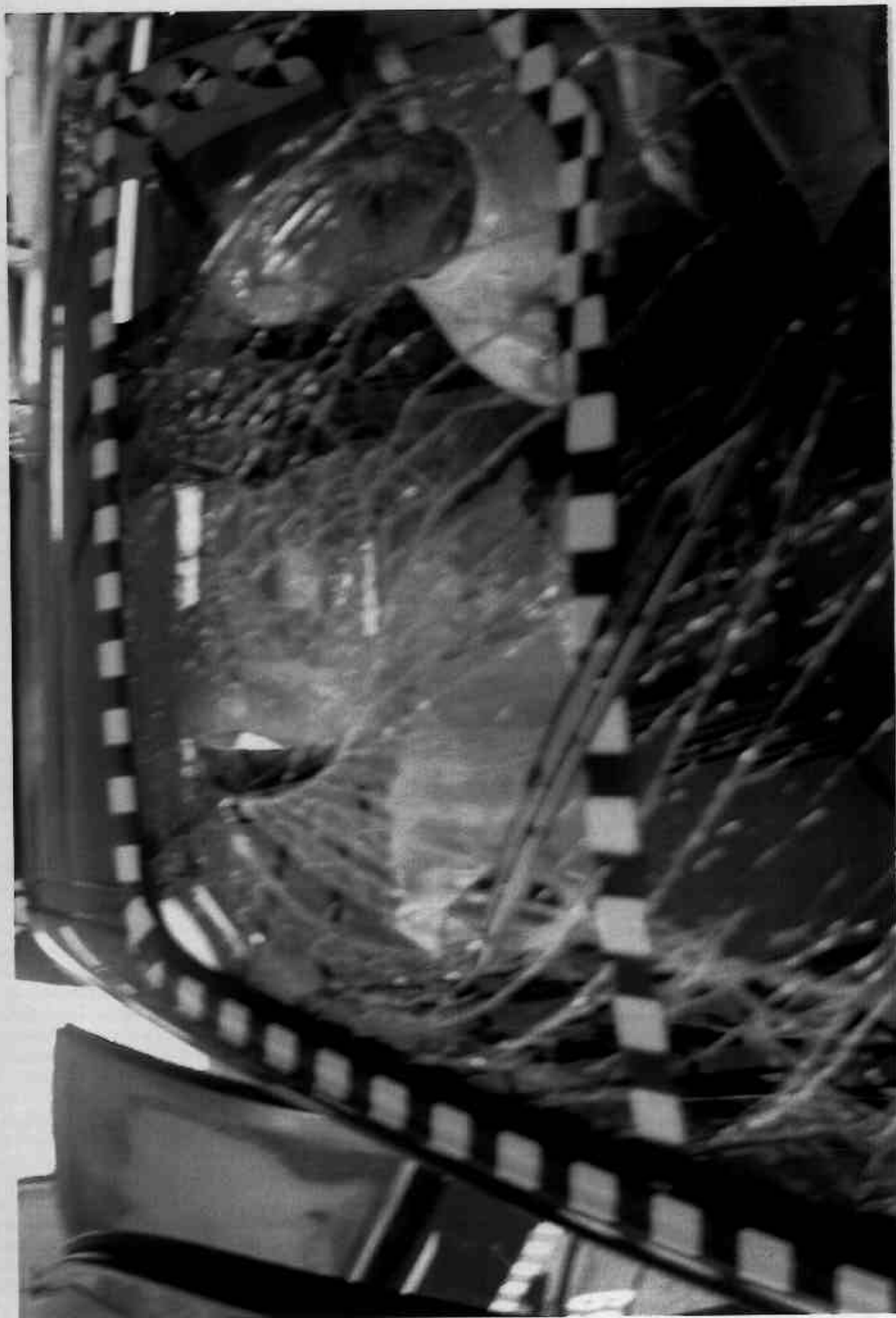


Figure A-30 POST-TEST PASSENGER FRONT VIEW



Figure A-31 PRE-TEST PASSENGER DUMMY AND INTERIOR VIEW
A-33



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

A-34

8221-5

PHOTOGRAPH NOT AVAILABLE

PHOTOGRAPH NOT AVAILABLE



Figure A-35 POST-TEST VEHICLE TOP VIEW

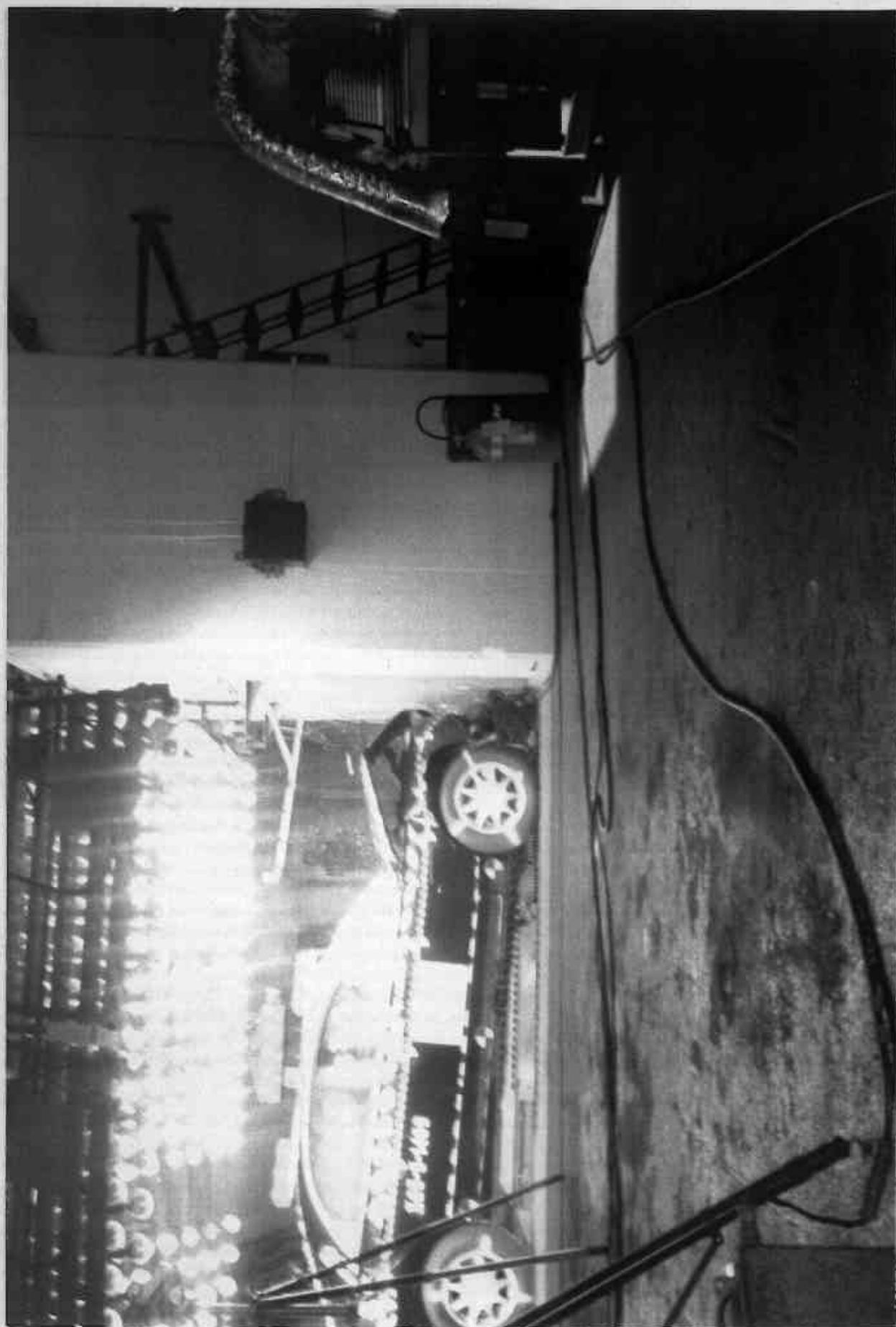


Figure A-36 VEHICLE IMPACT



Figure A-37 TIRE PLACARD
A-39



Figure A-38 CERTIFICATION PLACARD
A-40



Figure A-39 POST-TEST DRIVER AIRBAG VIEW



Figure A-40 POST-TEST PASSENGER AIRBAG VIEW

Appendix B

VEHICLE AND DUMMY RESPONSE DATA

NOTE : Data trace scales are automatically scaled at the
request of the COTR. Use caution when
reviewing data.

TEST NO. CS5403

VEHICLE

SAE FILTER CHANNEL CLASS

60

FACILITY: TRACK
RUN #: 1469
SERIES #: 16

TEST DATE: 10 Nov 1994
TEST TIME: 14:26:09
BOARD: b

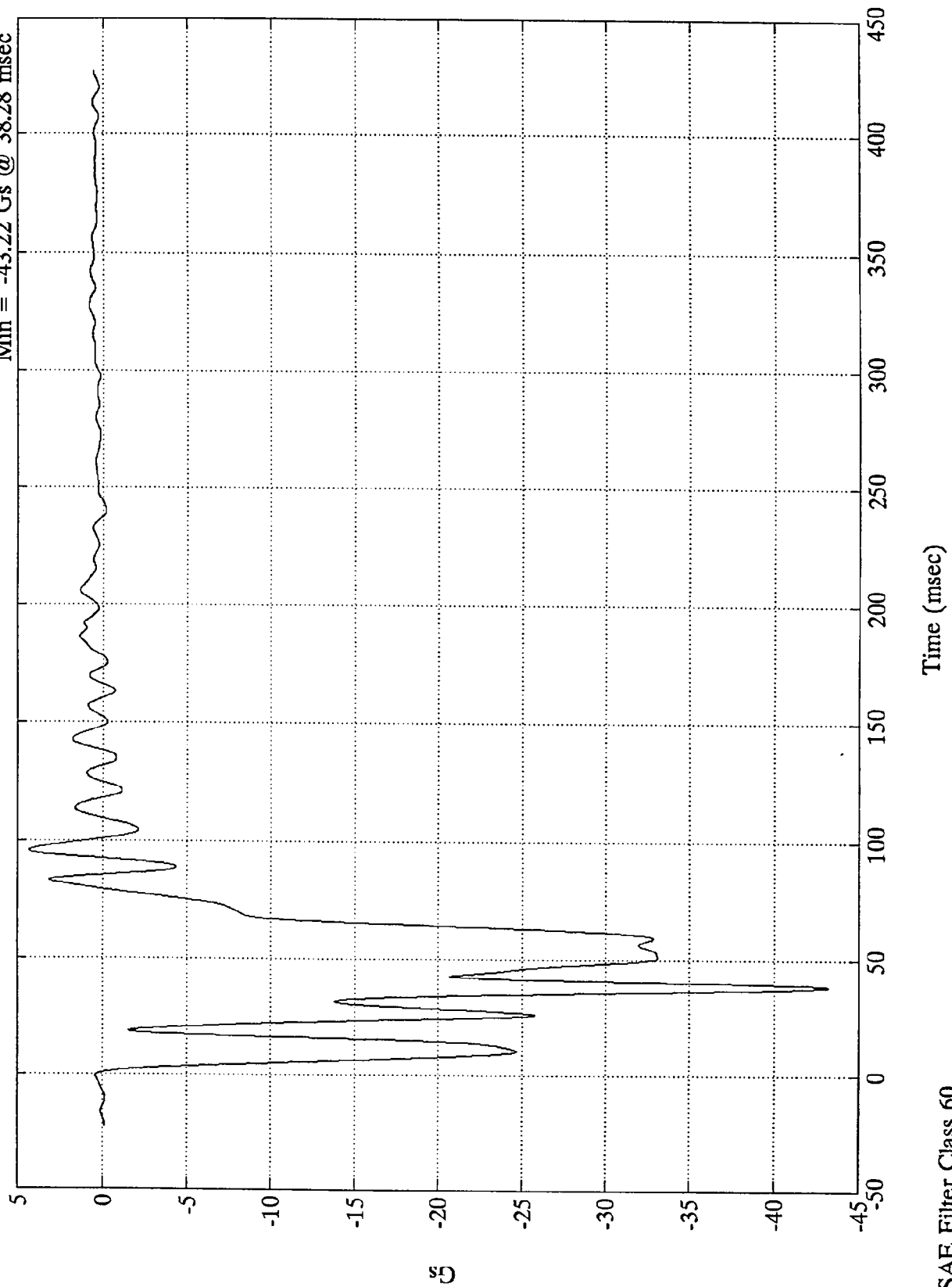
TITLE: 208 TEST #5 - 1995 MAZDA MILLENIA

CHANNEL NUMBER	DESCRIPTION	ENGR UNIT	MAXIMUM		MINIMUM		FILTER CLASS
			AMP	msec	AMP	msec	
1	L. Rear X-member X	Gs	4.3	96.1	-43.2	38.3	60.0
2	R. Rear X-member X	Gs	5.4	19.1	-38.2	39.6	60.0
3	Engine Top X	Gs	11.2	38.2	-86.2	29.4	60.0
4	Engine Bottom X	Gs	29.7	37.9	-128.1	25.9	60.0
5	R. Brake Caliper X	Gs	17.5	55.0	-103.5	39.2	60.0
6	L. Brake Caliper X	Gs	19.0	27.0	-115.4	37.1	60.0
7	Instrument Panel X	Gs	50.1	67.7	-77.6	47.0	60.0
8	Trunk Z	Gs	16.3	50.2	-18.8	90.7	60.0

FMVSS 208 - 95 MAZDA MILLENIA

Max = 4.33 Gs @ 96.12 msec
Min = -43.22 Gs @ 38.28 msec

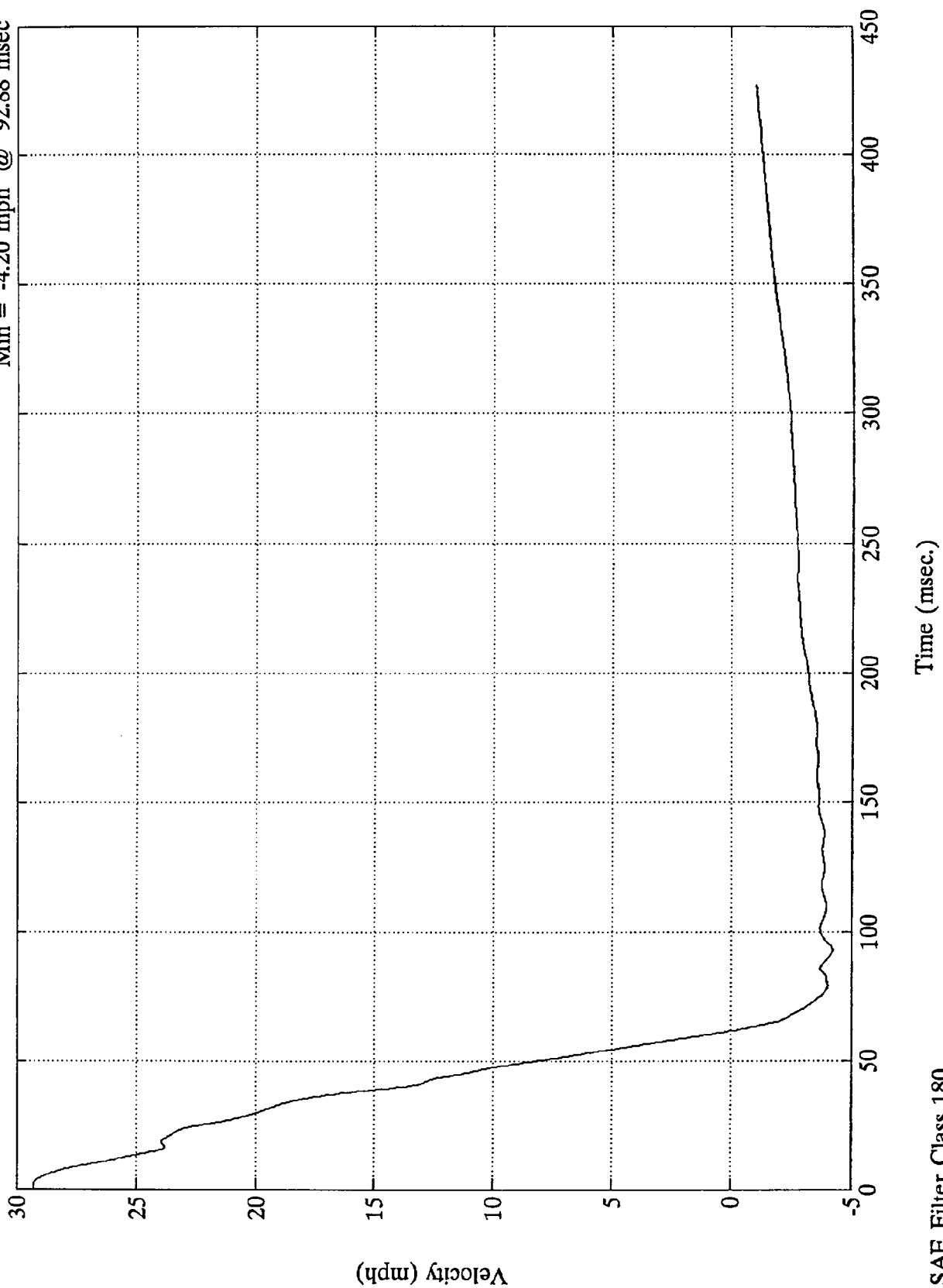
L. Rear X-member X



SAE Filter Class 60

FMVSS 208 - 95 MAZDA MILLENNIA

L. Rear X-member X
Max = 29.30 mph @ 2.16 msec
Min = -4.20 mph @ 92.88 msec

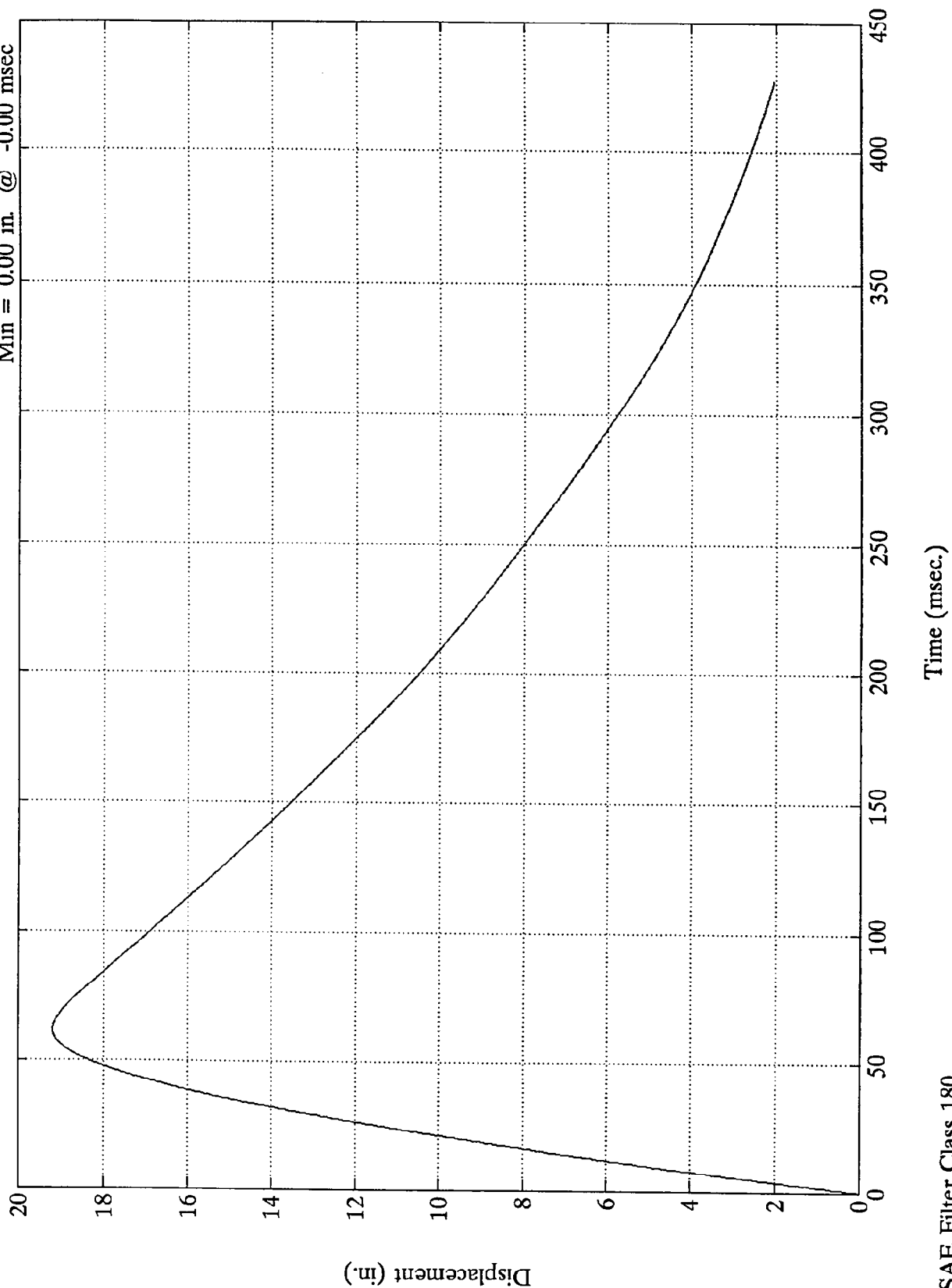


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENNIA

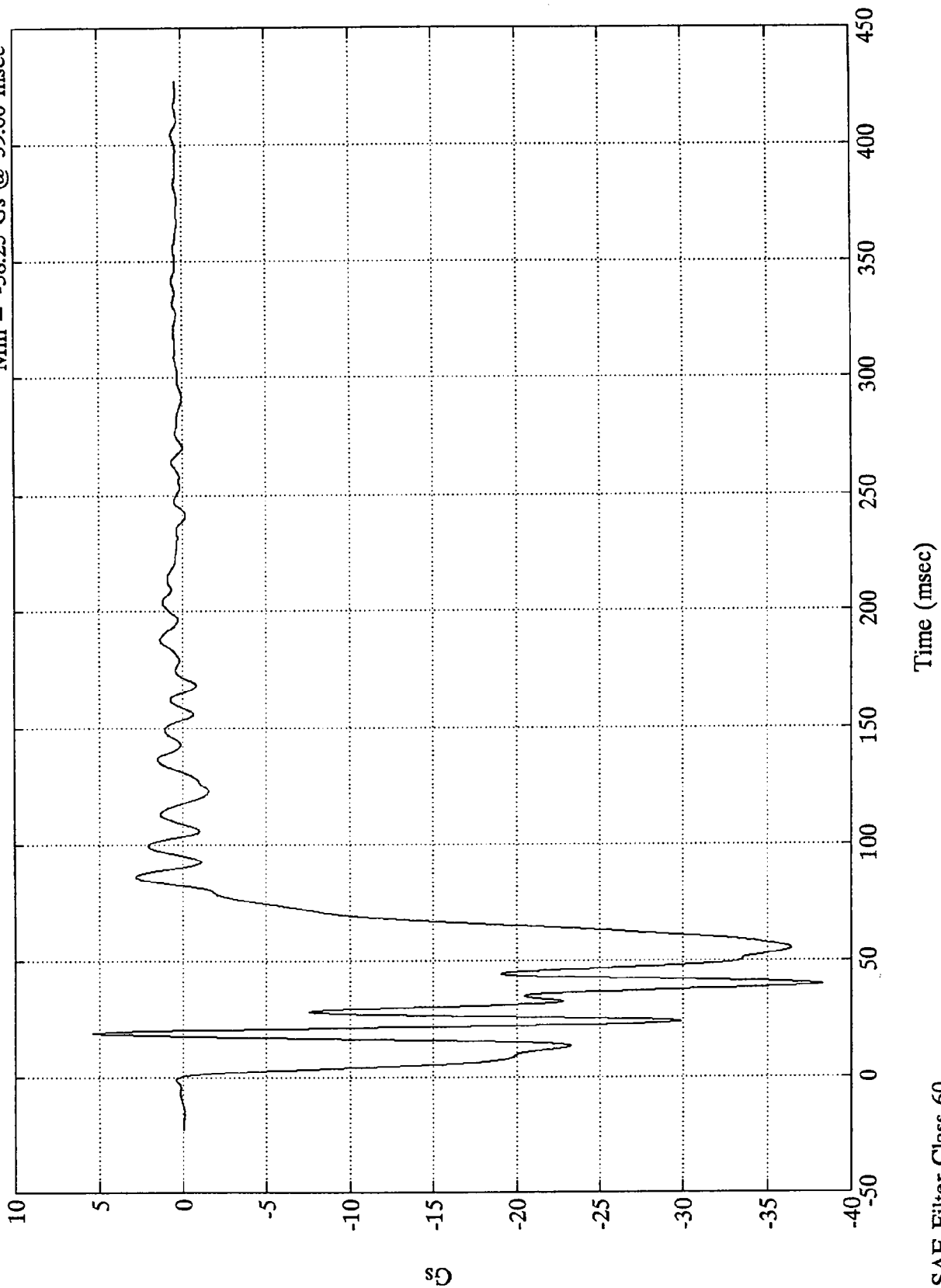
L. Rear X-member X

Max = 19.19 in. @ 62.40 msec
Min = 0.00 in. @ -0.00 msec



FMVSS 208 - 95 MAZDA MILLENNIA

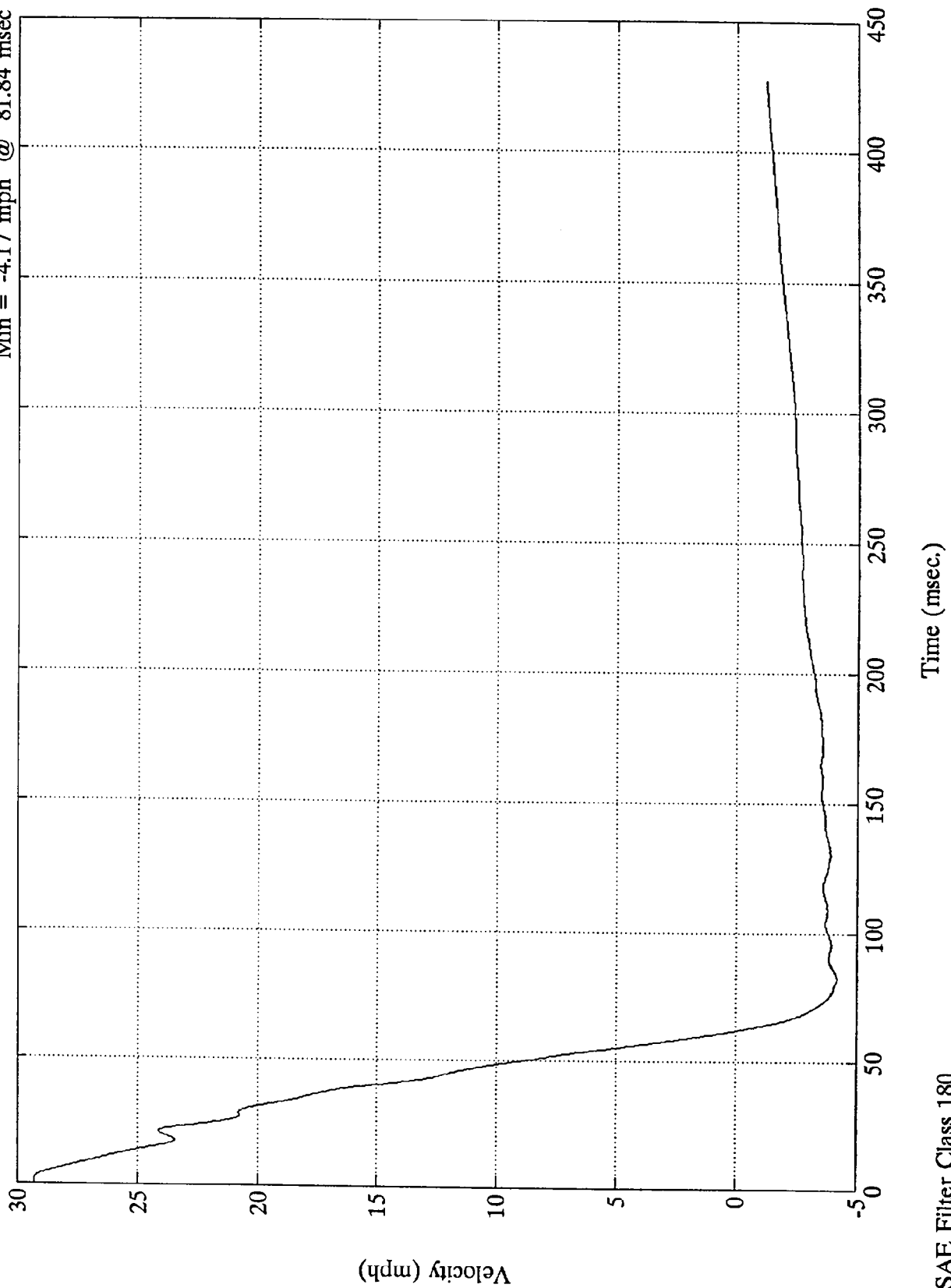
R. Rear X-member X
Max = 5.39 Gs @ 19.08 msec
Min = -38.25 Gs @ 39.60 msec



SAE Filter Class 60

FMVSS 208 - 95 MAZDA MILLENIA

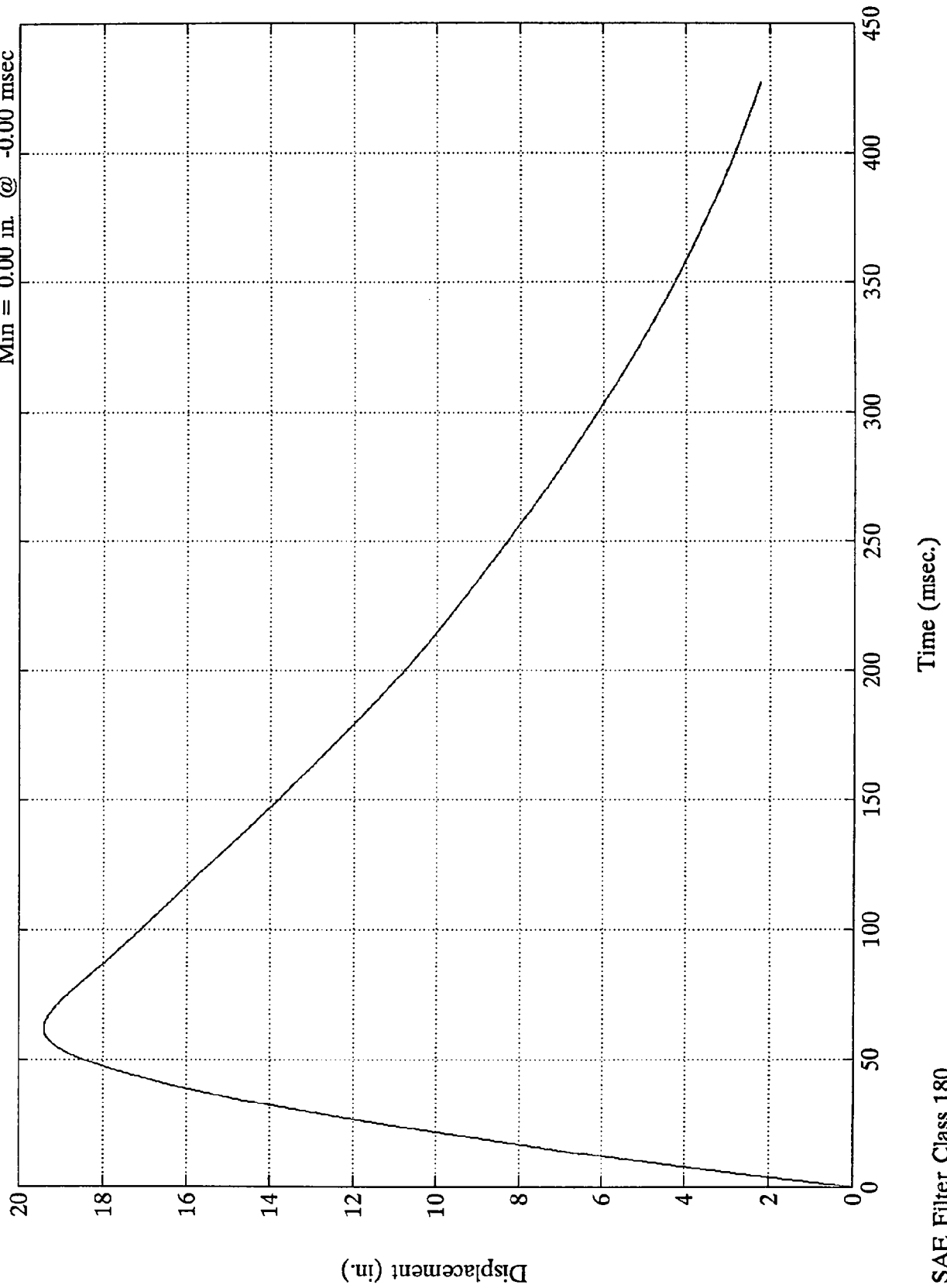
R. Rear X-member X
Max = 29.30 mph @ 1.68 msec
Min = -4.17 mph @ 81.84 msec



FMVSS 208 - 95 MAZDA MILLENNIA

R. Rear X-member X

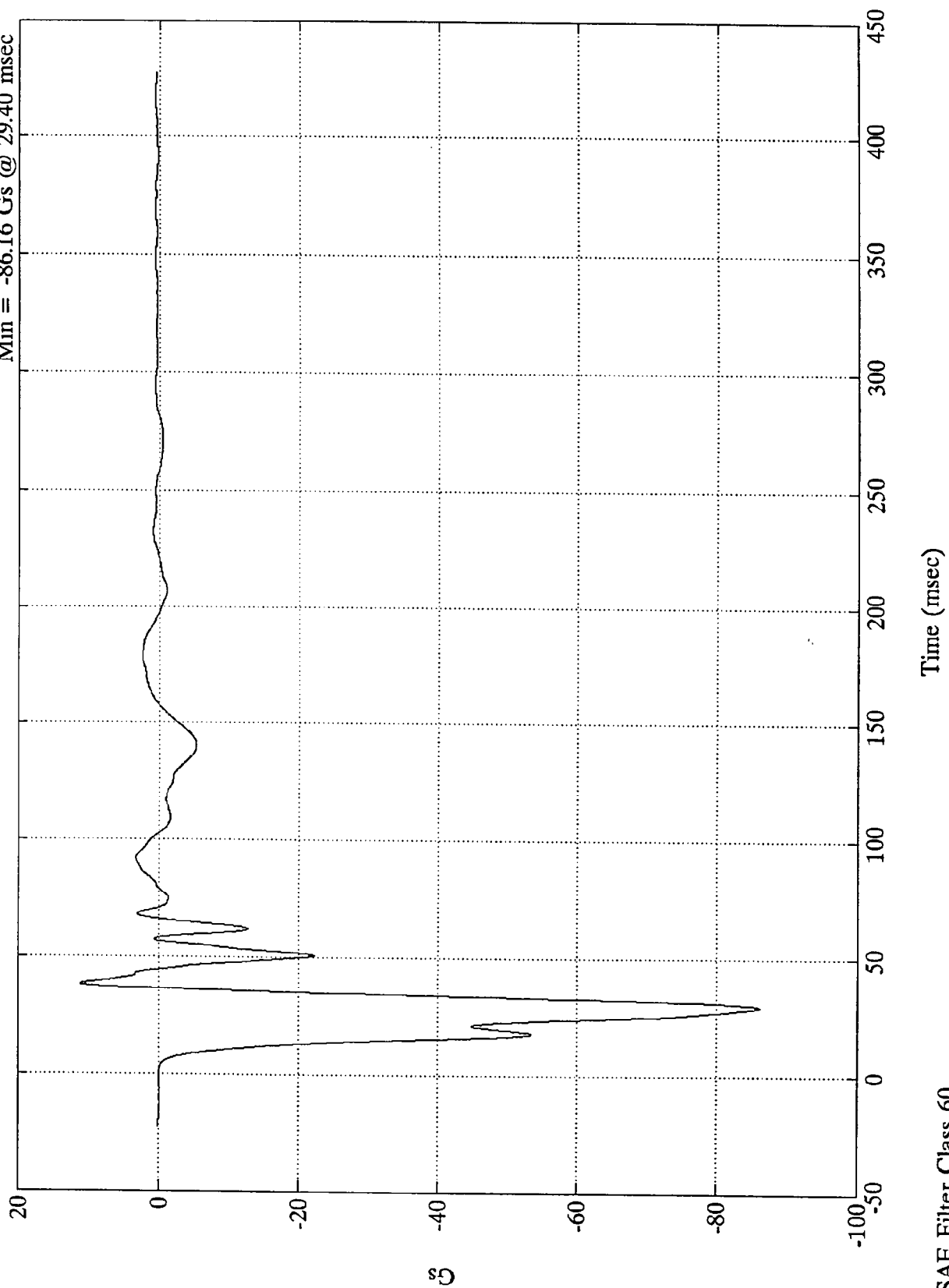
Max = 19.40 in. @ 62.88 msec
Min = 0.00 in. @ -0.00 msec



FMVSS 208 - 95 MAZDA MILLENIA

Engine Top X

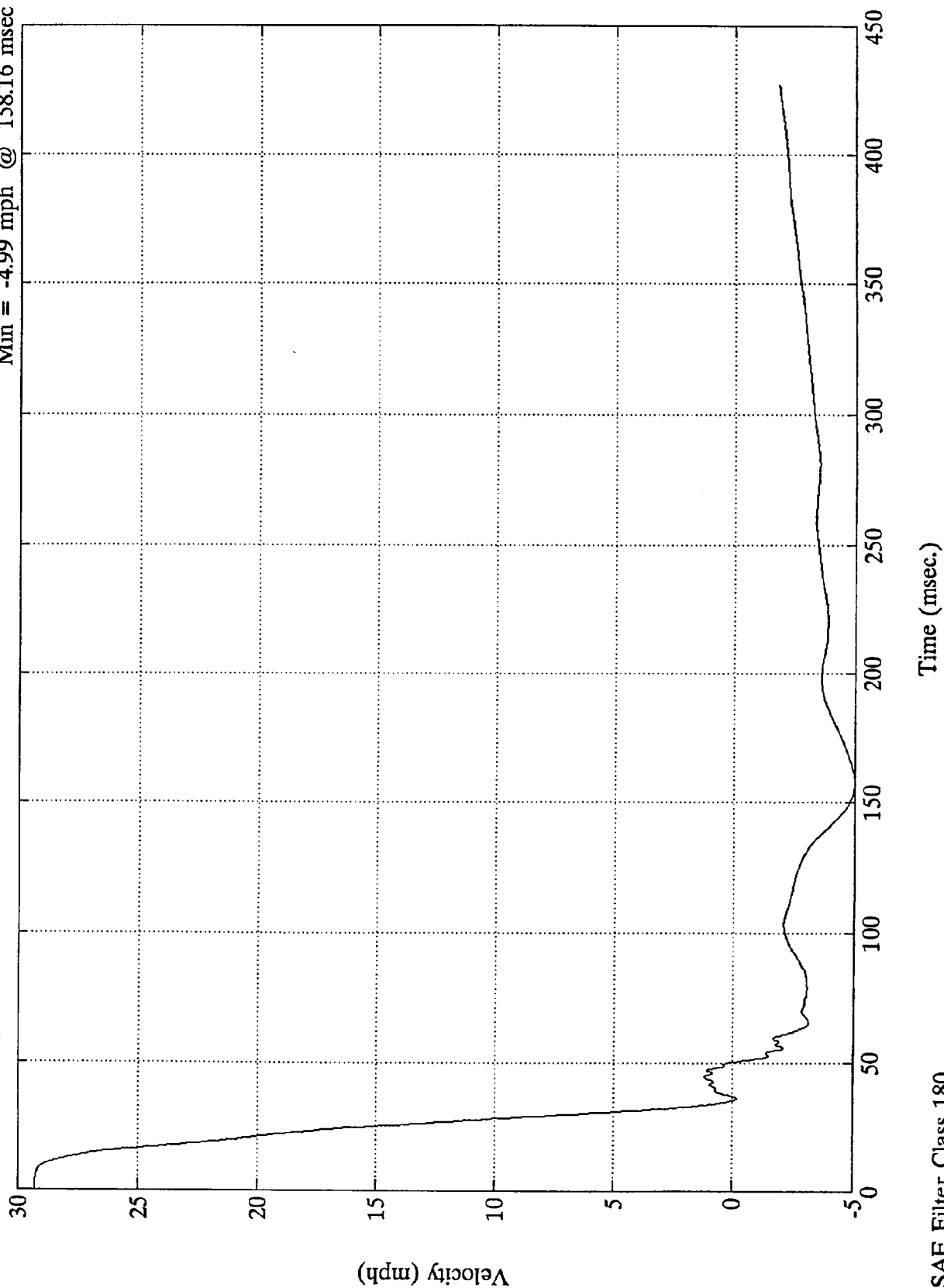
Max = 11.20 Gs @ 38.16 msec
Min = -86.16 Gs @ 29.40 msec



SAE Filter Class 60

FMVSS 208 - 95 MAZDA MILLENNIA

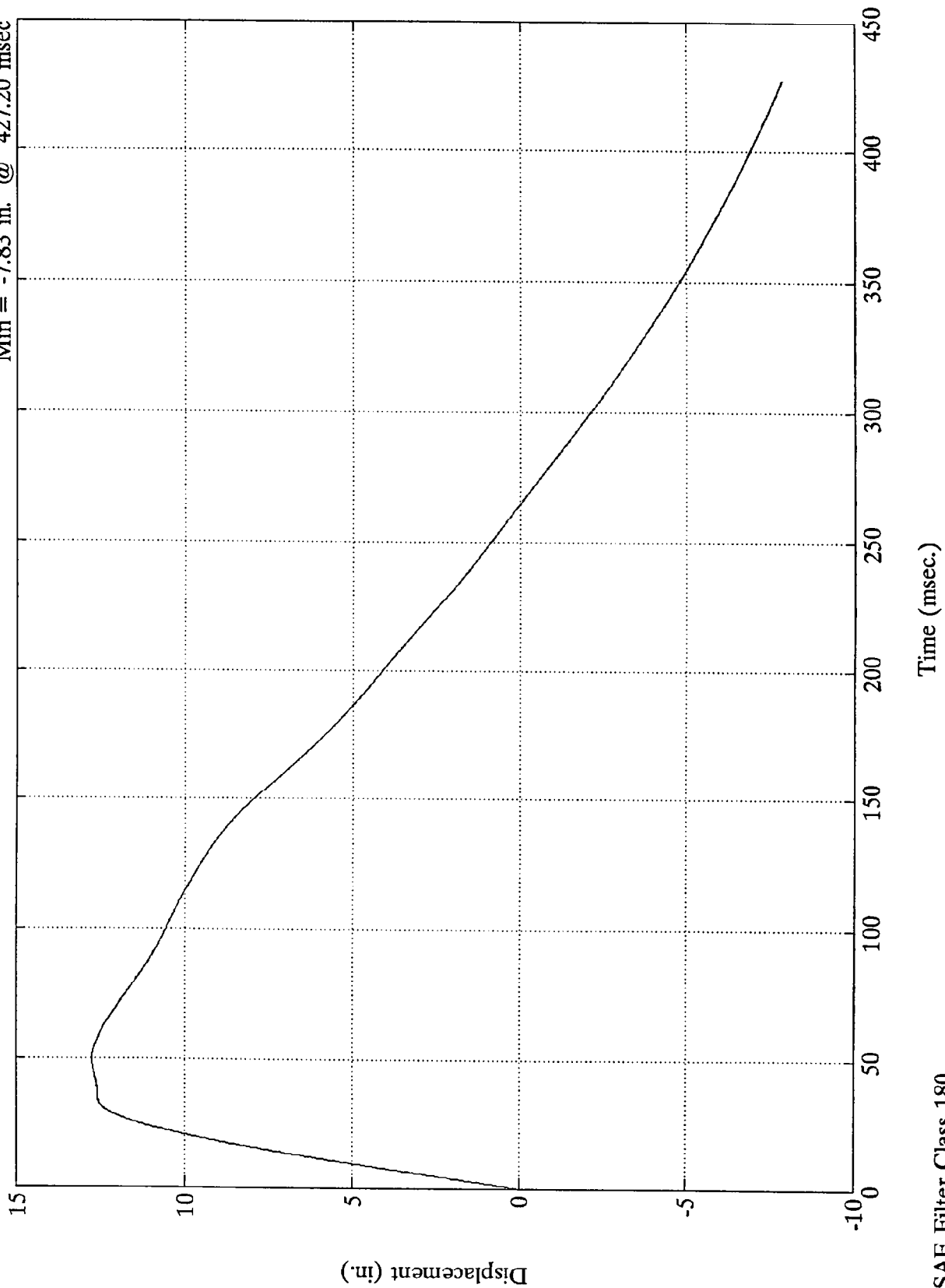
Engine Top X
Max = 29.30 mph @ 3.36 msec
Min = -4.99 mph @ 158.16 msec



FMVSS 208 - 95 MAZDA MILLENIA

Engine Top X

Max = 12.77 in. @ 51.36 msec
Min = -7.83 in. @ 427.20 msec

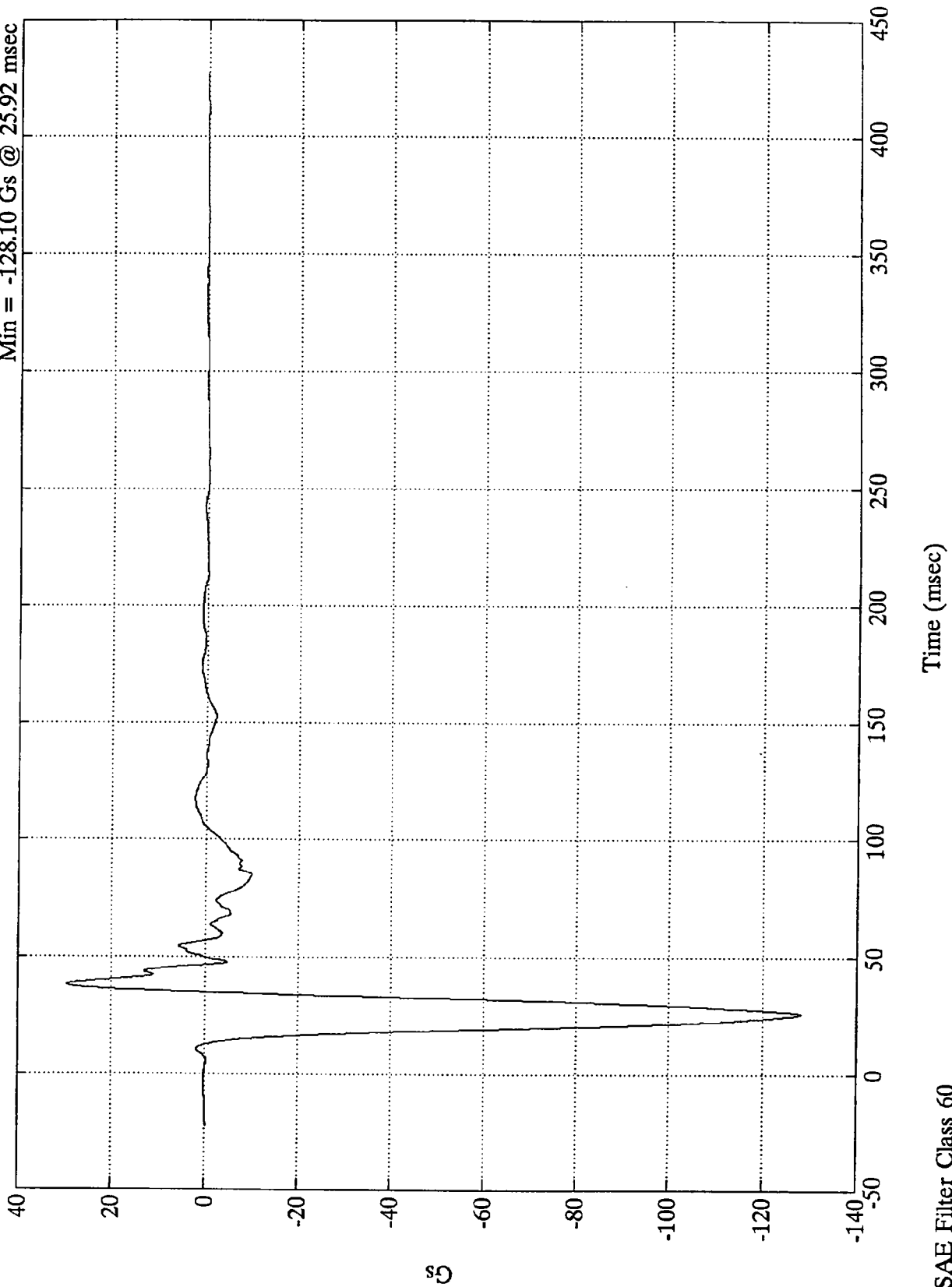


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENIA

Engine Bottom X

Max = 29.66 Gs @ 37.92 msec
Min = -128.10 Gs @ 25.92 msec



SAE Filter Class 60

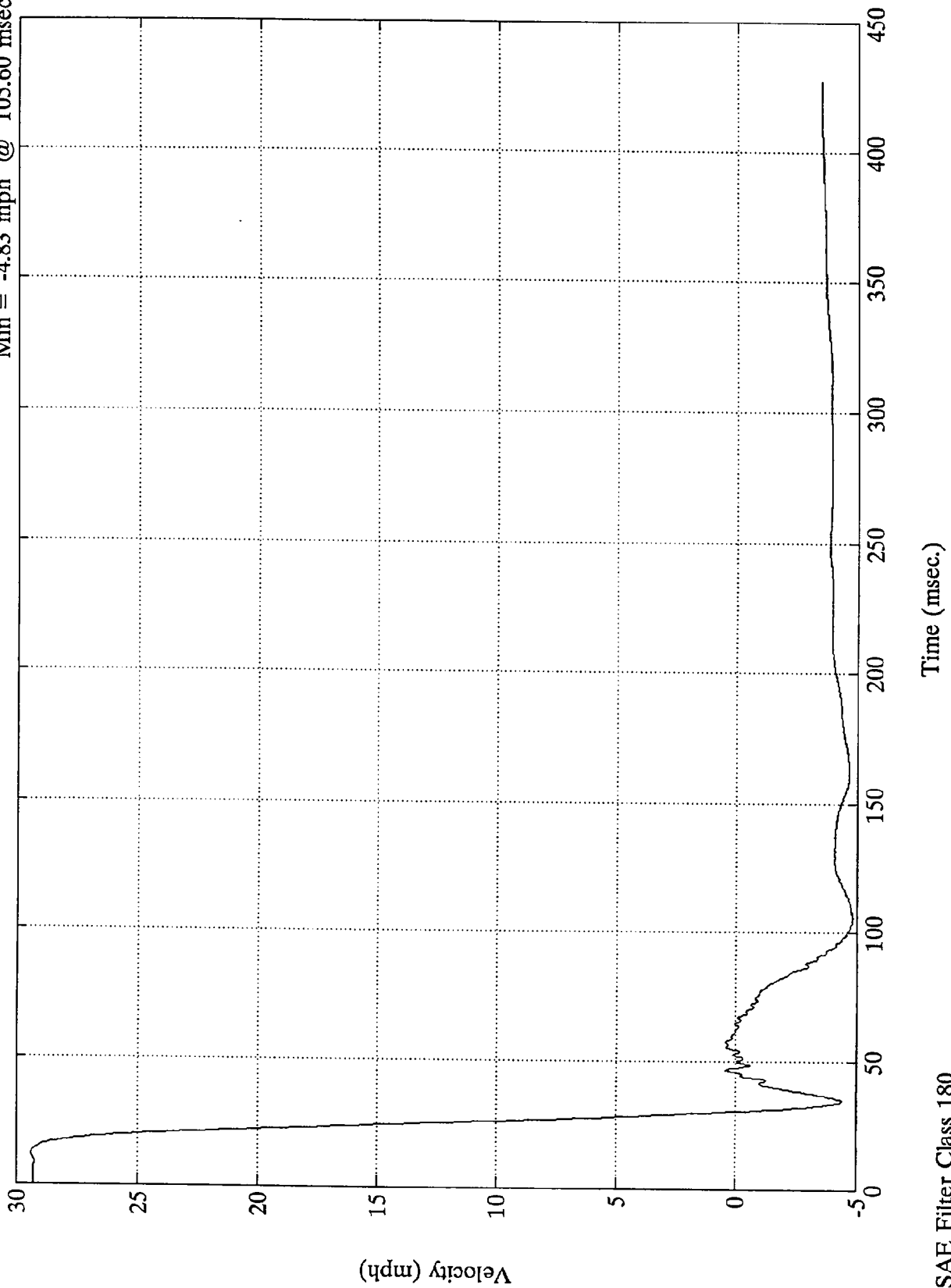
Gs

Time (msec)

FMVSS 208 - 95 MAZDA MILLENIA

Engine Bottom X

Max = 29.41 mph @ 12.24 msec
Min = -4.83 mph @ 105.60 msec

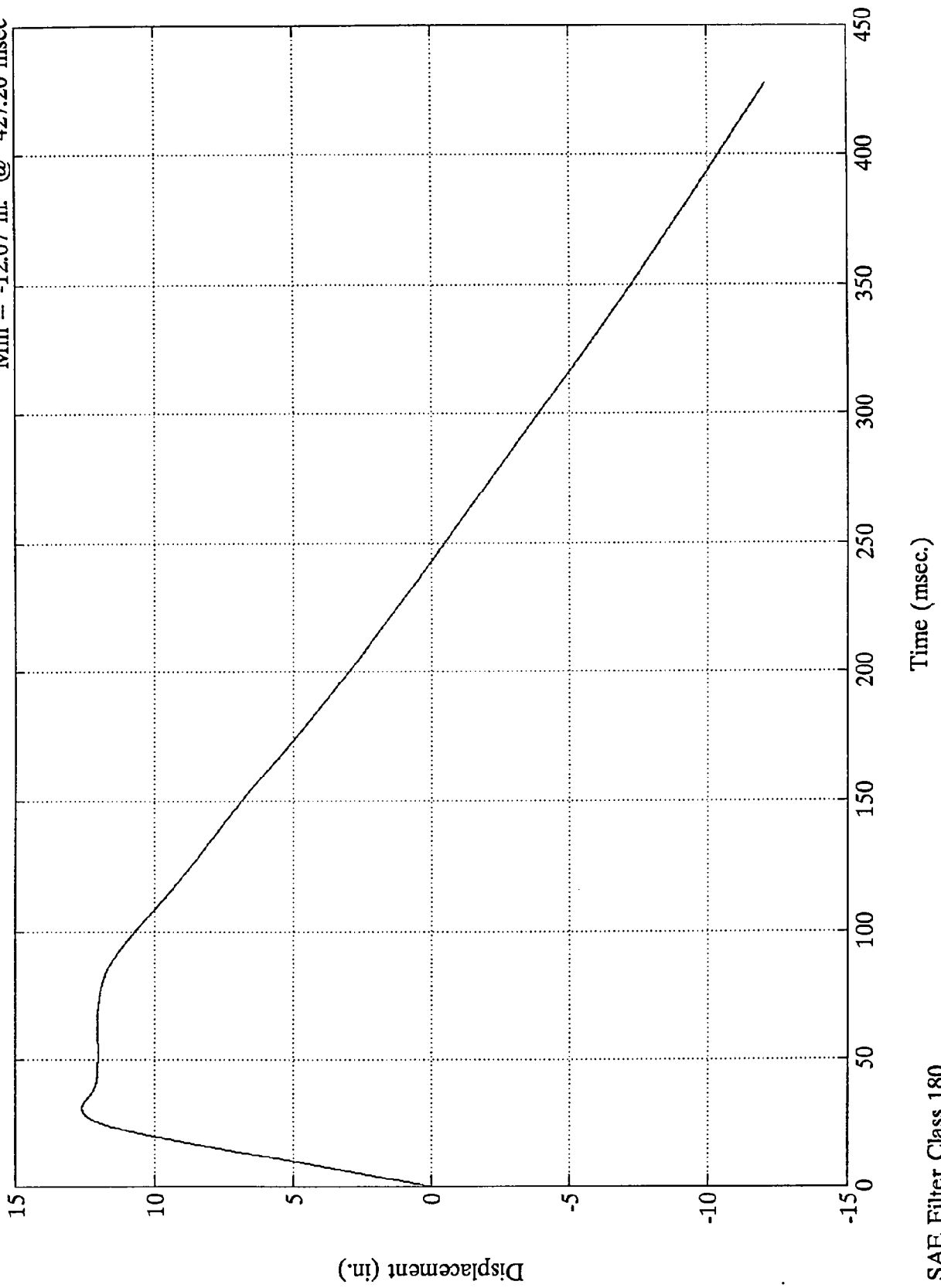


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENIA

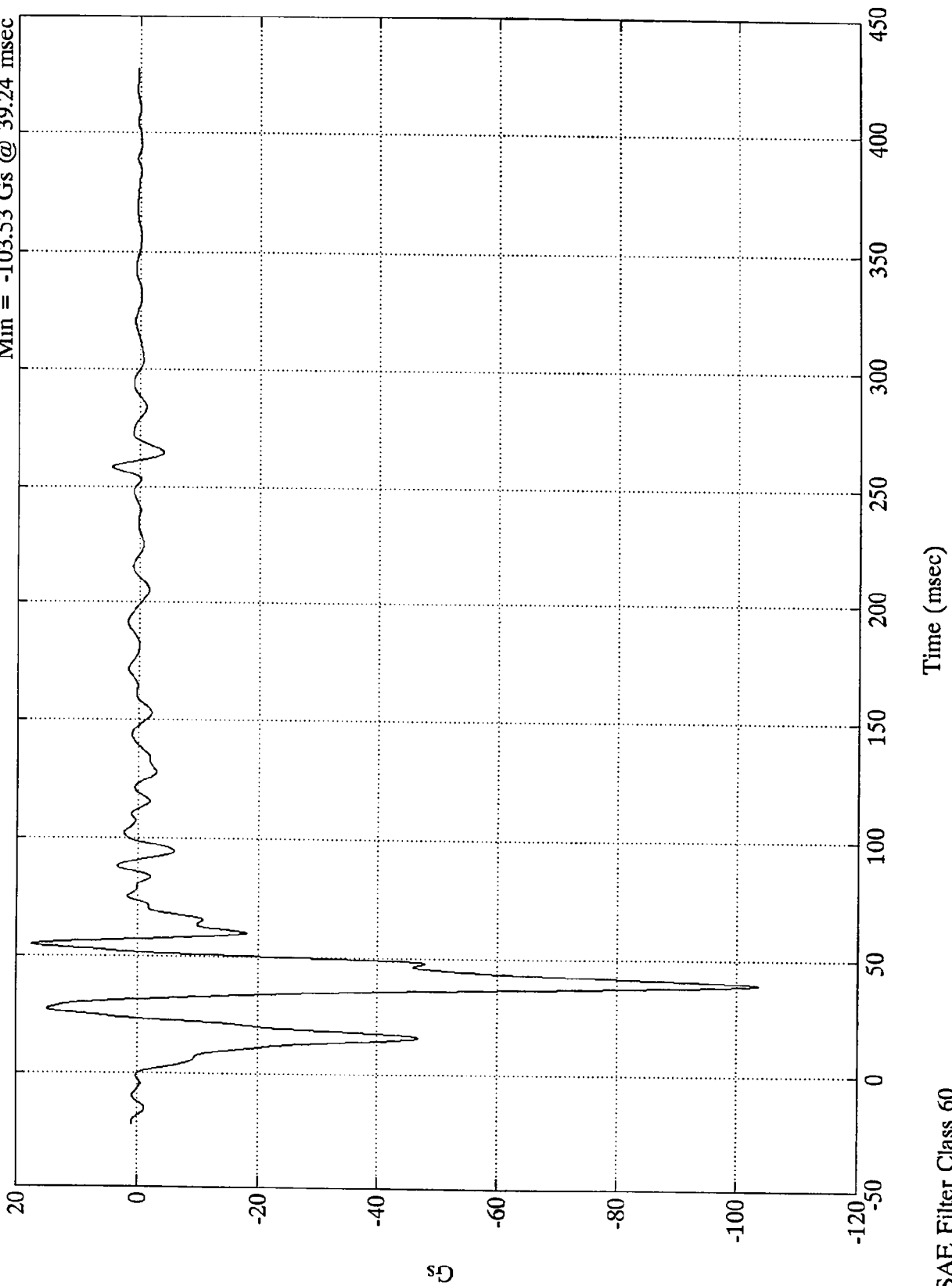
Engine Bottom X

Max = 12.62 in. @ 30.72 msec
Min = -12.07 in. @ 427.20 msec



FMVSS 208 - 95 MAZDA MILLENIA

R. Brake Caliper X
Max = 17.46 Gs @ 54.96 msec
Min = -103.53 Gs @ 39.24 msec

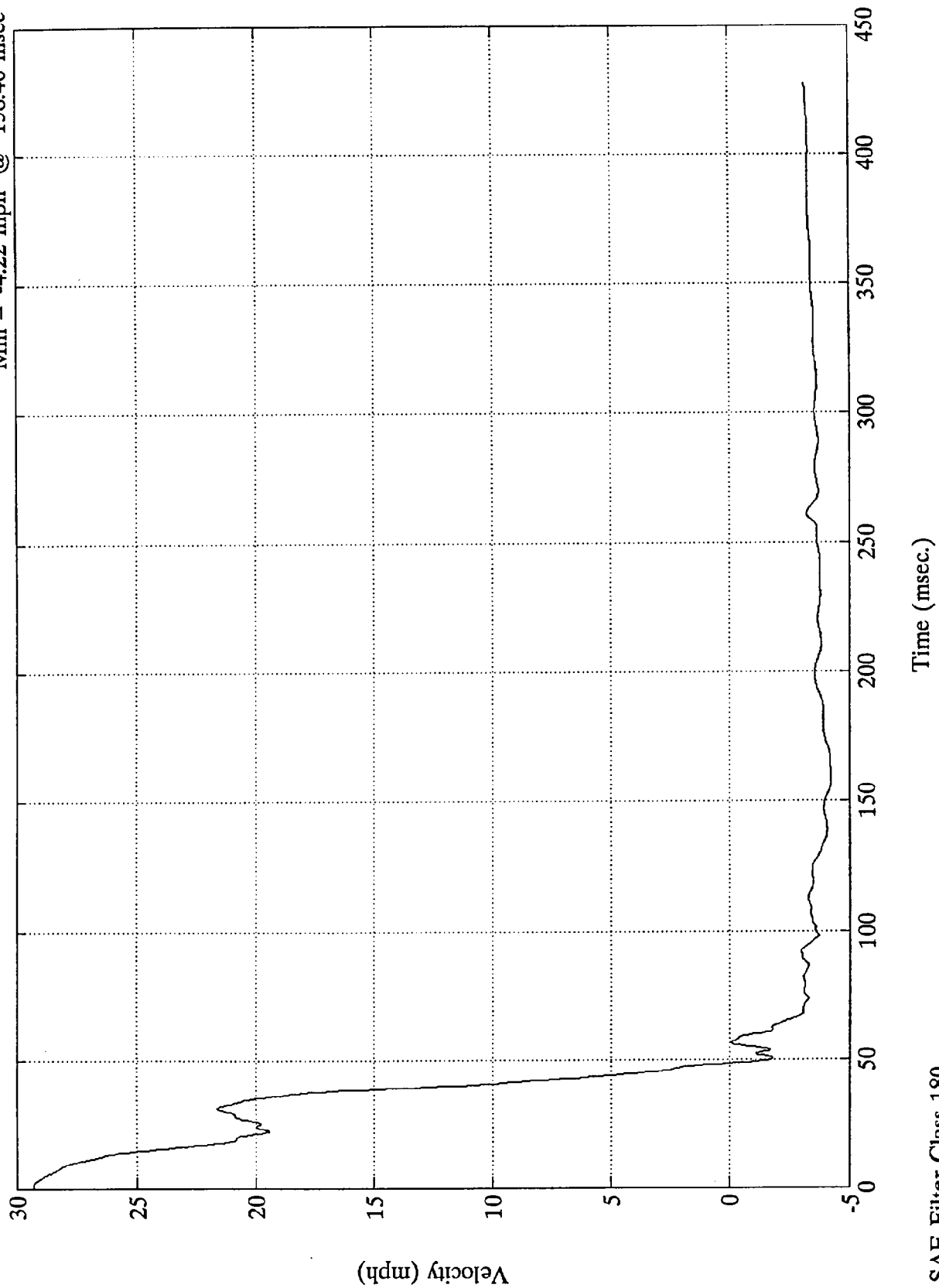


SAE Filter Class 60

FMVSS 208 - 95 MAZDA MILLENNIA

R. Brake Caliper X

Max = 29.30 mph @ 1.44 msec
Min = -4.22 mph @ 158.40 msec

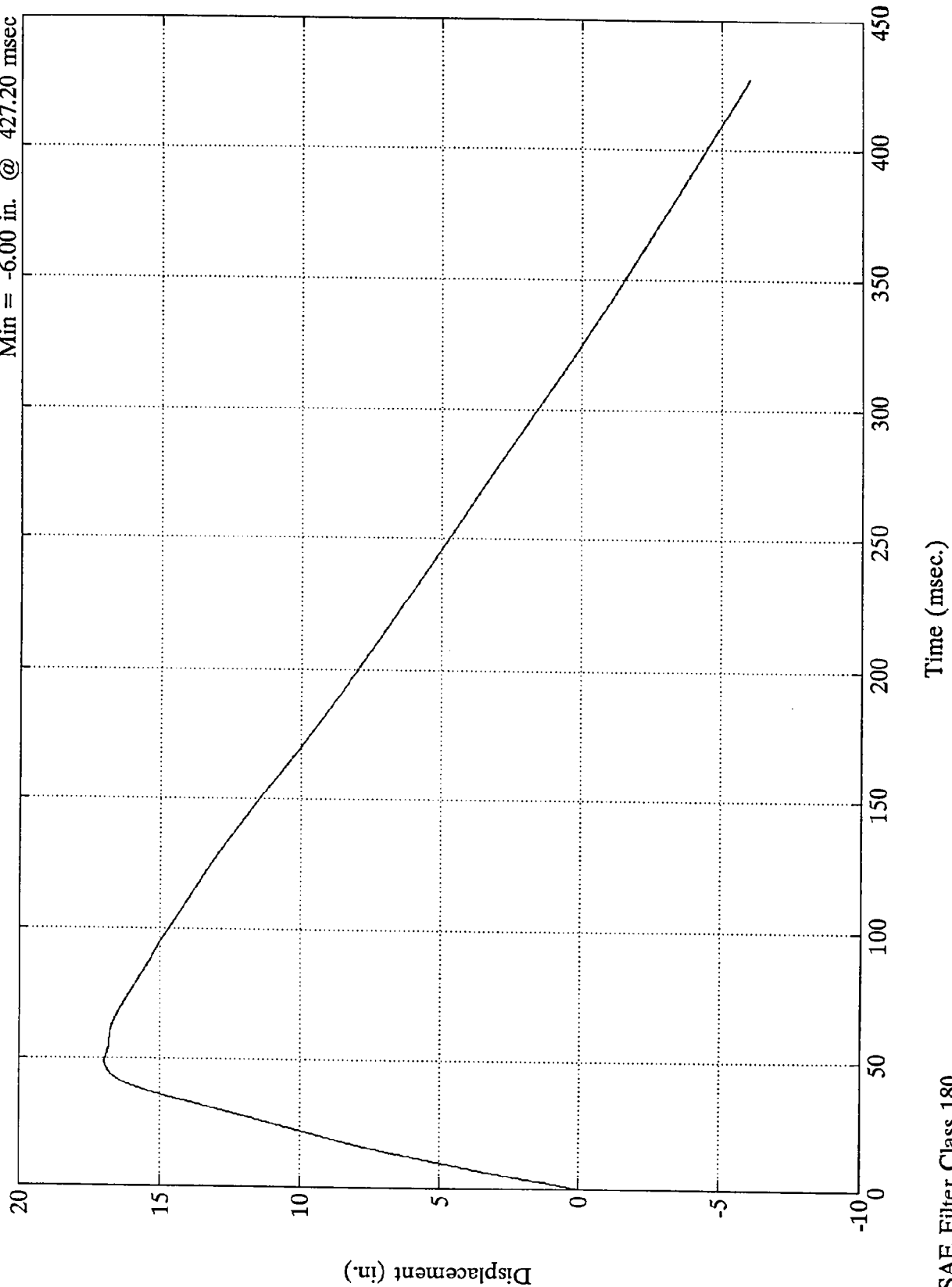


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENNIA

R. Brake Caliper X

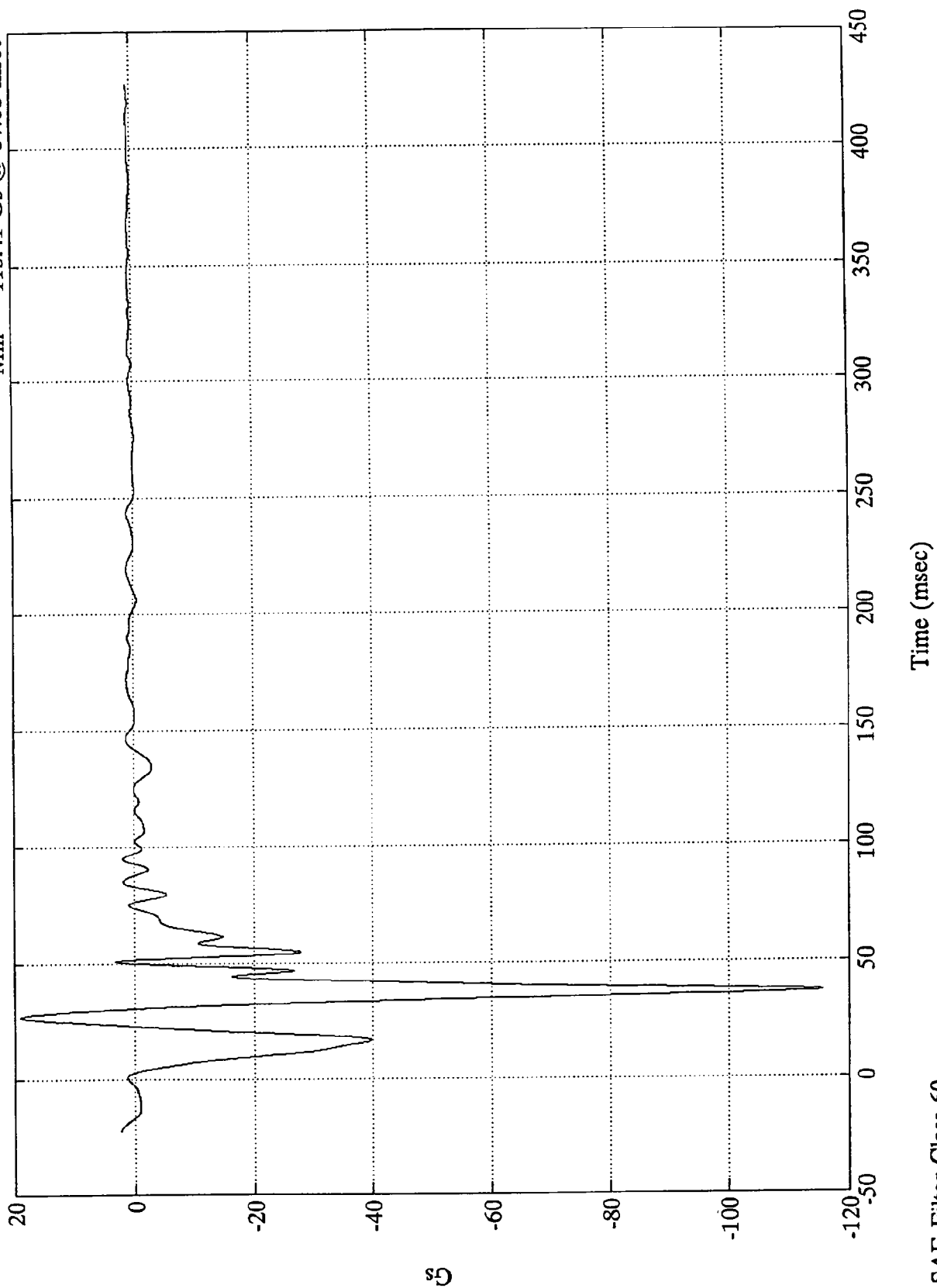
Max = 16.97 in. @ 49.20 msec
Min = -6.00 in. @ 427.20 msec



FMVSS 208 - 95 MAZDA MILLENIA

L. Brake Caliper X

Max = 19.03 Gs @ 27.00 msec
Min = -115.41 Gs @ 37.08 msec



SAE Filter Class 60

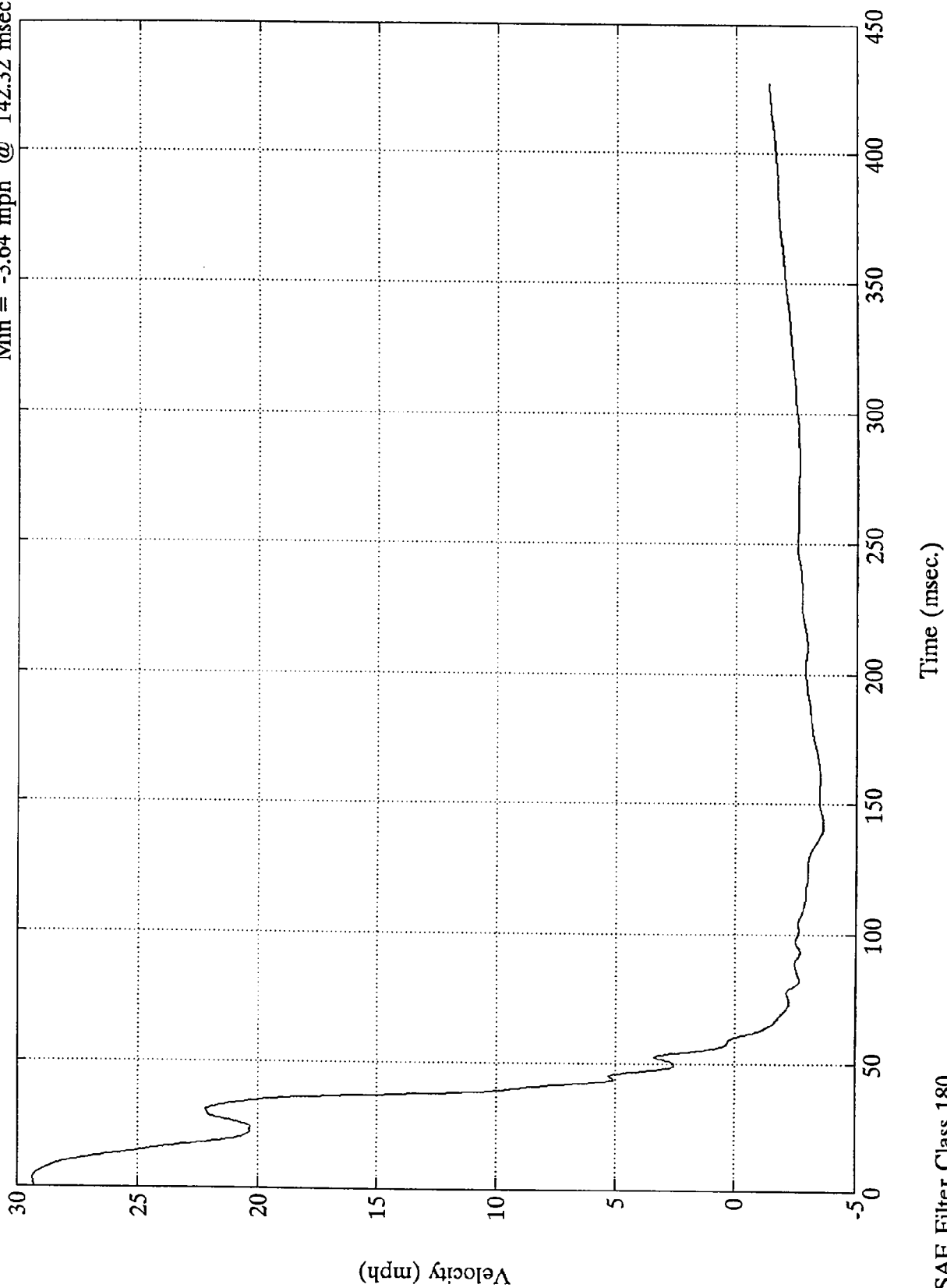
Gs

Time (msec)

FMVSS 208 - 95 MAZDA MILLENNIA

L. Brake Caliper X

Max = 29.37 mph @ 3.84 msec
Min = -3.64 mph @ 142.32 msec

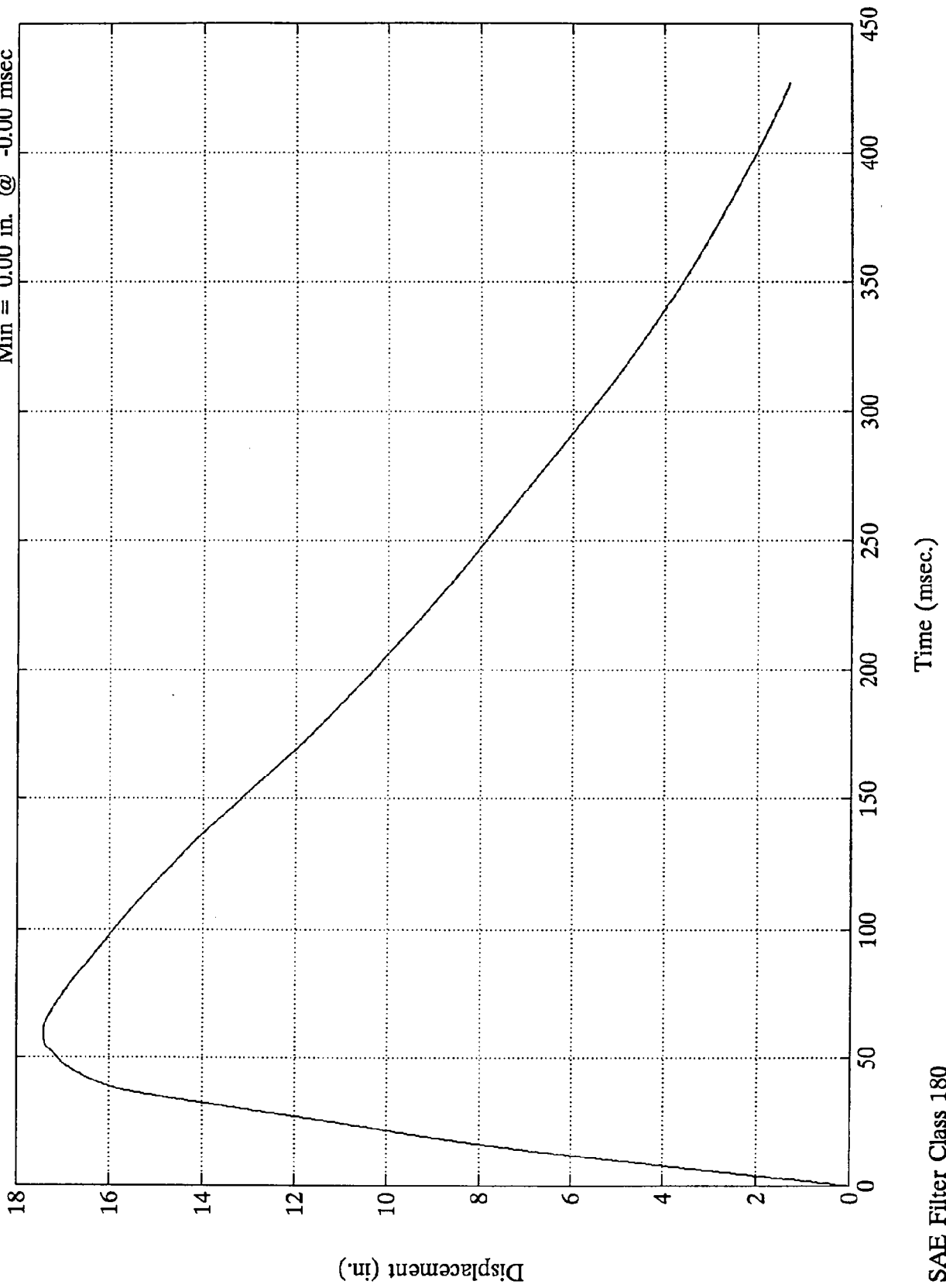


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENNIA

L. Brake Caliper X

Max = 17.42 in. @ 61.44 msec
Min = 0.00 in. @ -0.00 msec

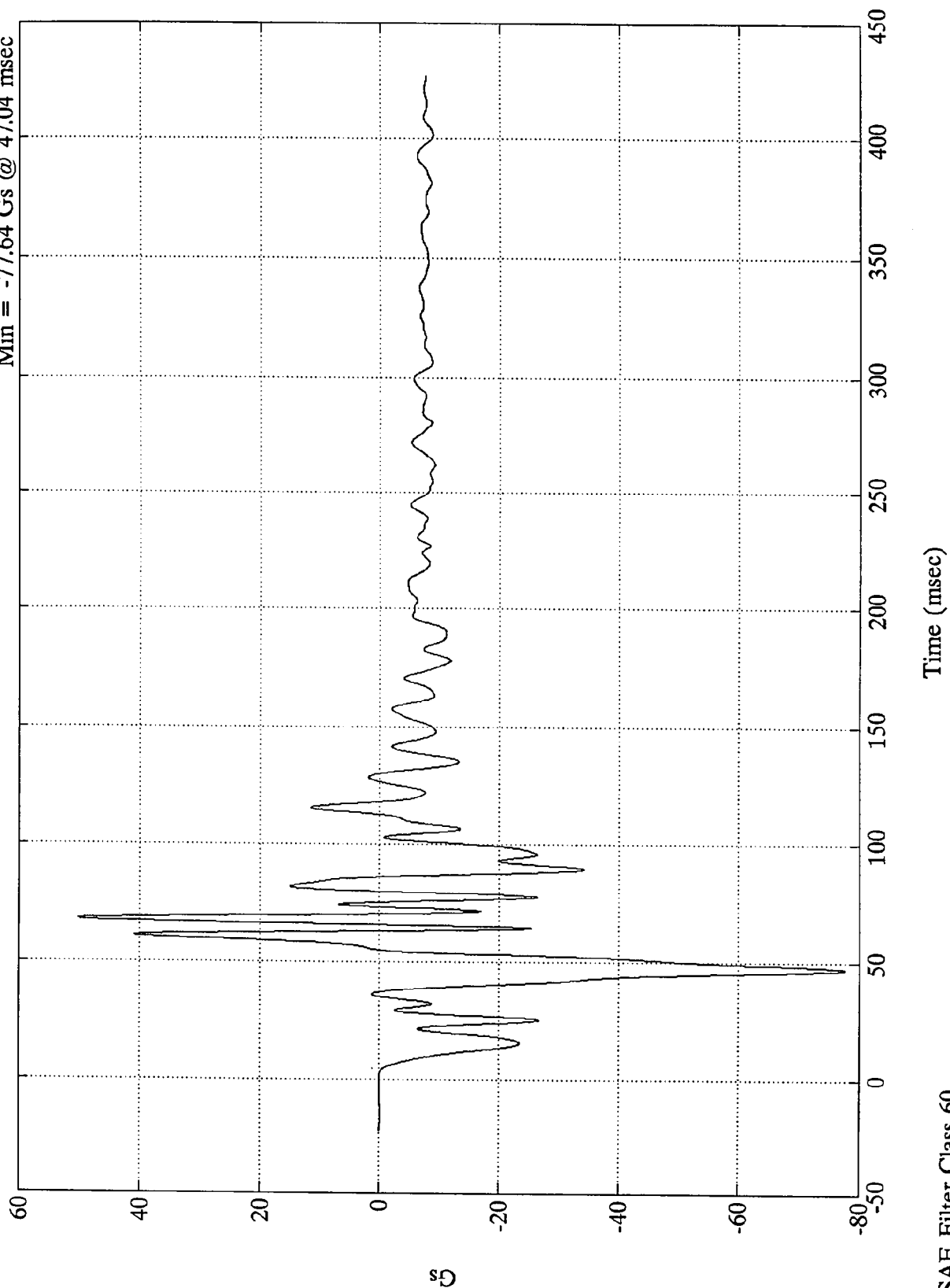


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENNIA

Max = 50.08 Gs @ 67.68 msec
Min = -77.64 Gs @ 47.04 msec

Instrument Panel X

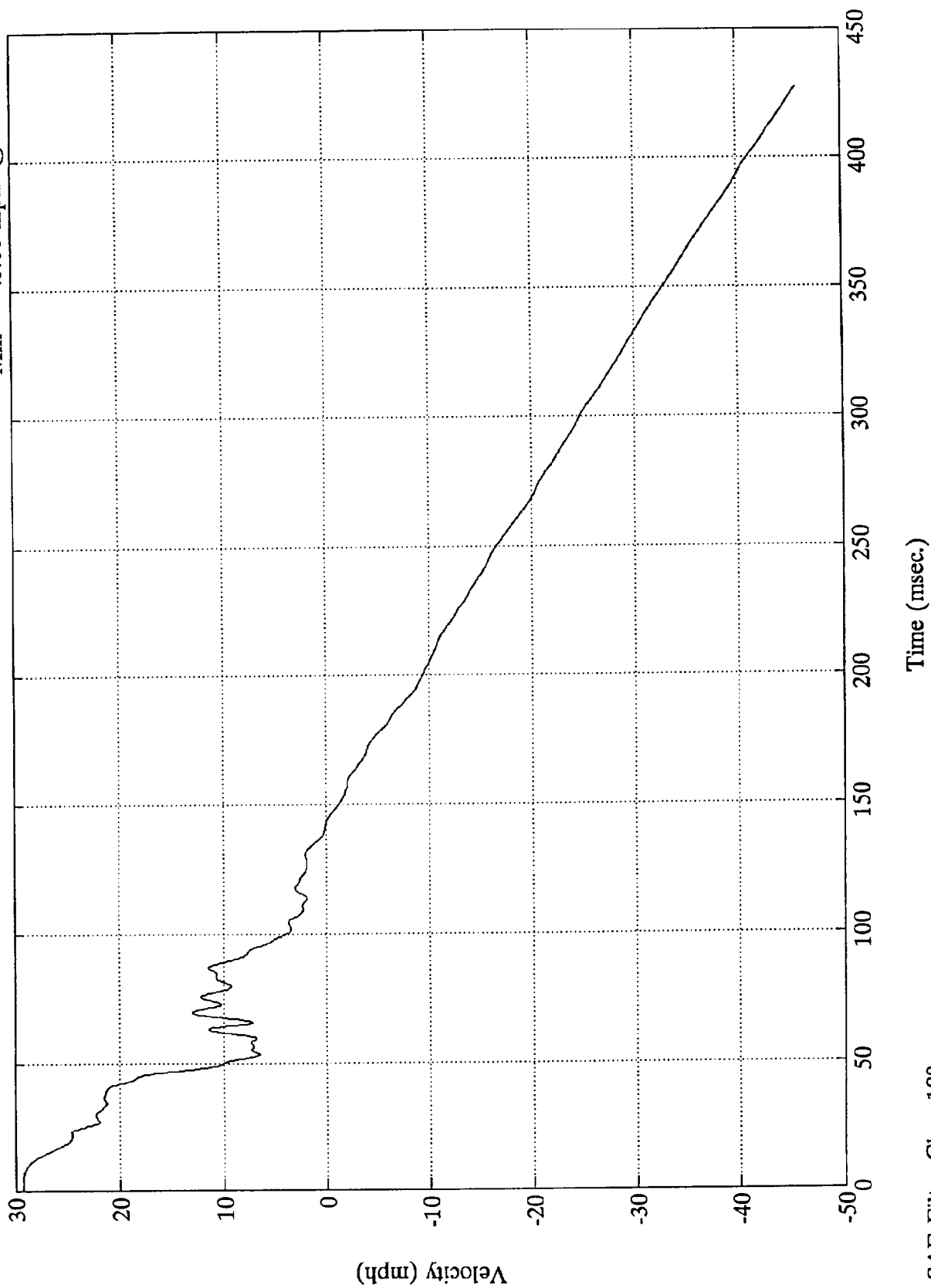


SAE Filter Class 60

FMVSS 208 - 95 MAZDA MILLENIA

Instrument Panel X

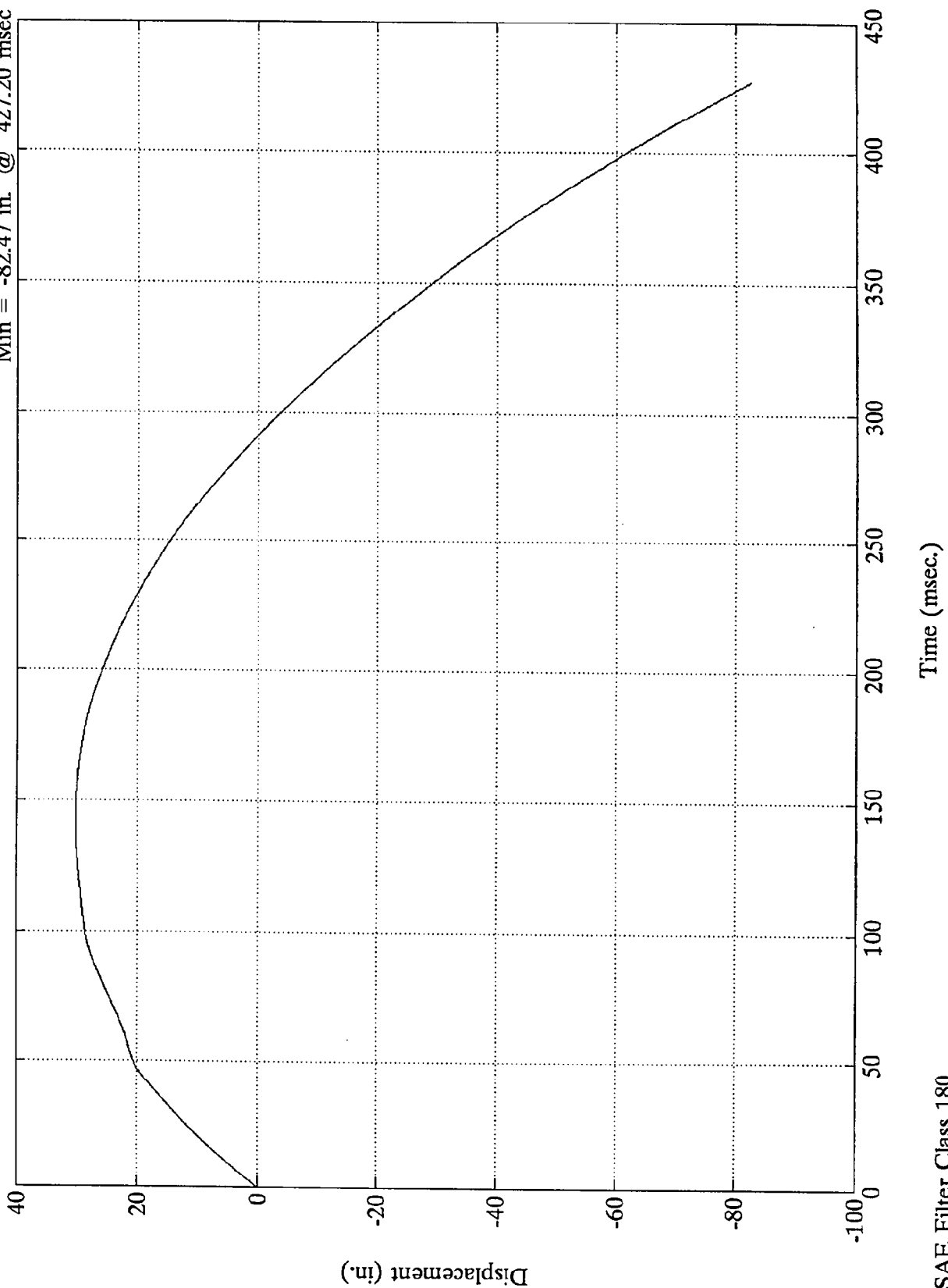
Max = 29.30 mph @ 1.92 msec
Min = -45.66 mph @ 427.20 msec



SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENIA

Instrument Panel X
Max = 30.22 in. @ 145.68 msec
Min = -82.47 in. @ 427.20 msec

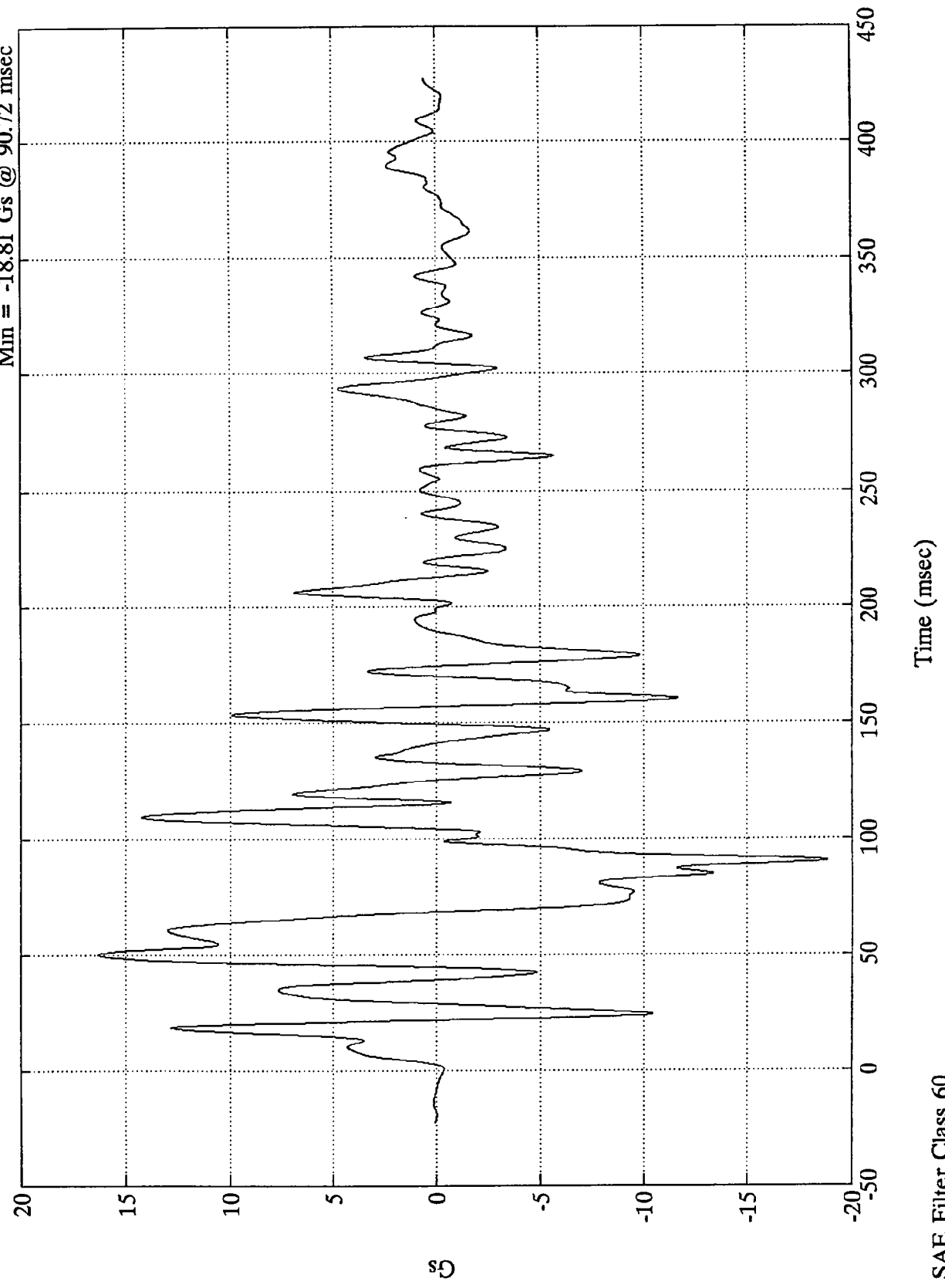


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENIA

Max = 16.32 Gs @ 50.16 msec
Min = -18.81 Gs @ 90.72 msec

Trunk Z



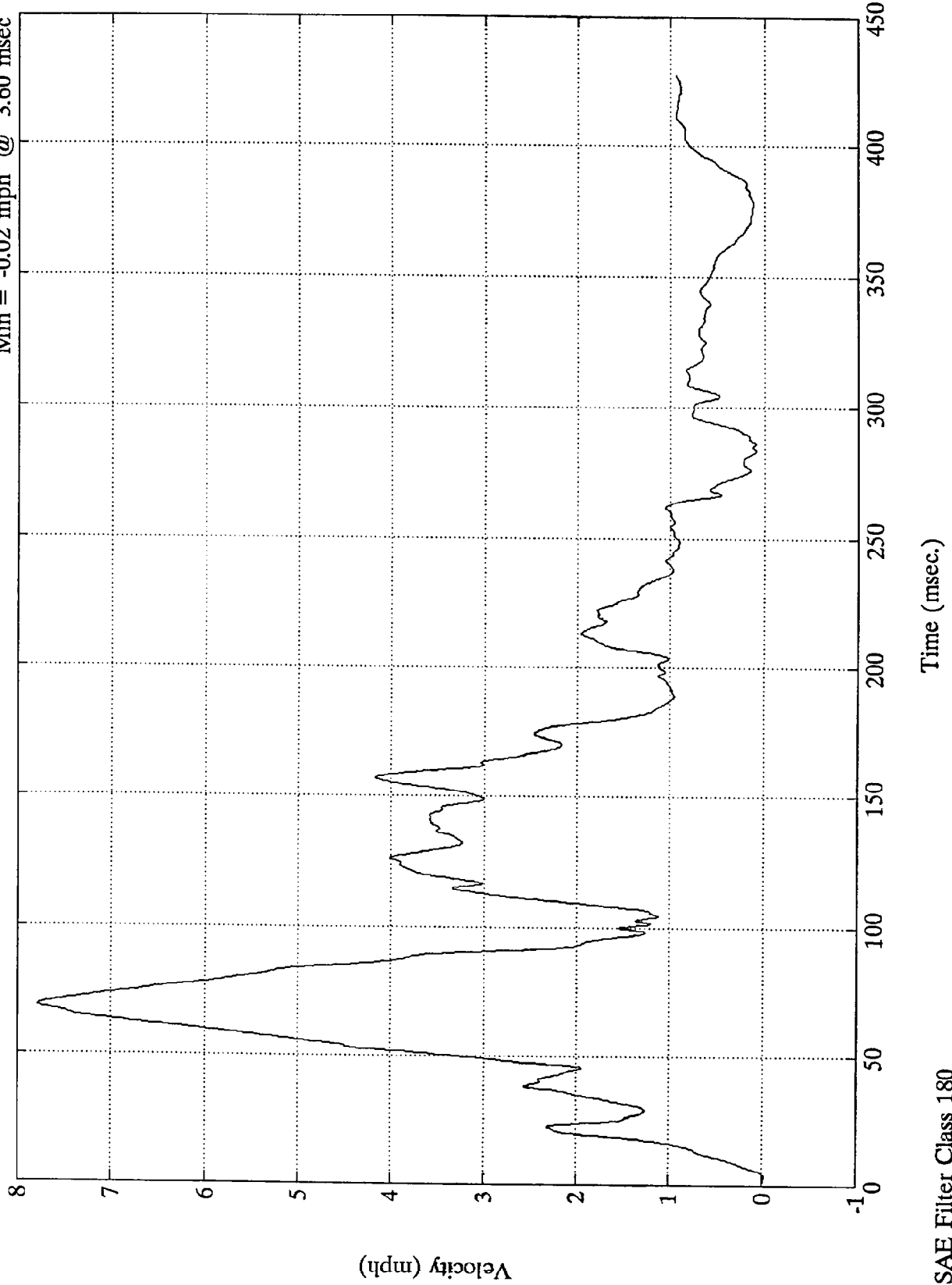
Time (msec)

SAE Filter Class 60

FMVSS 208 - 95 MAZDA MILLENIA

Max = 7.79 mph @ 68.64 msec
Min = -0.02 mph @ 3.60 msec

Trunk Z

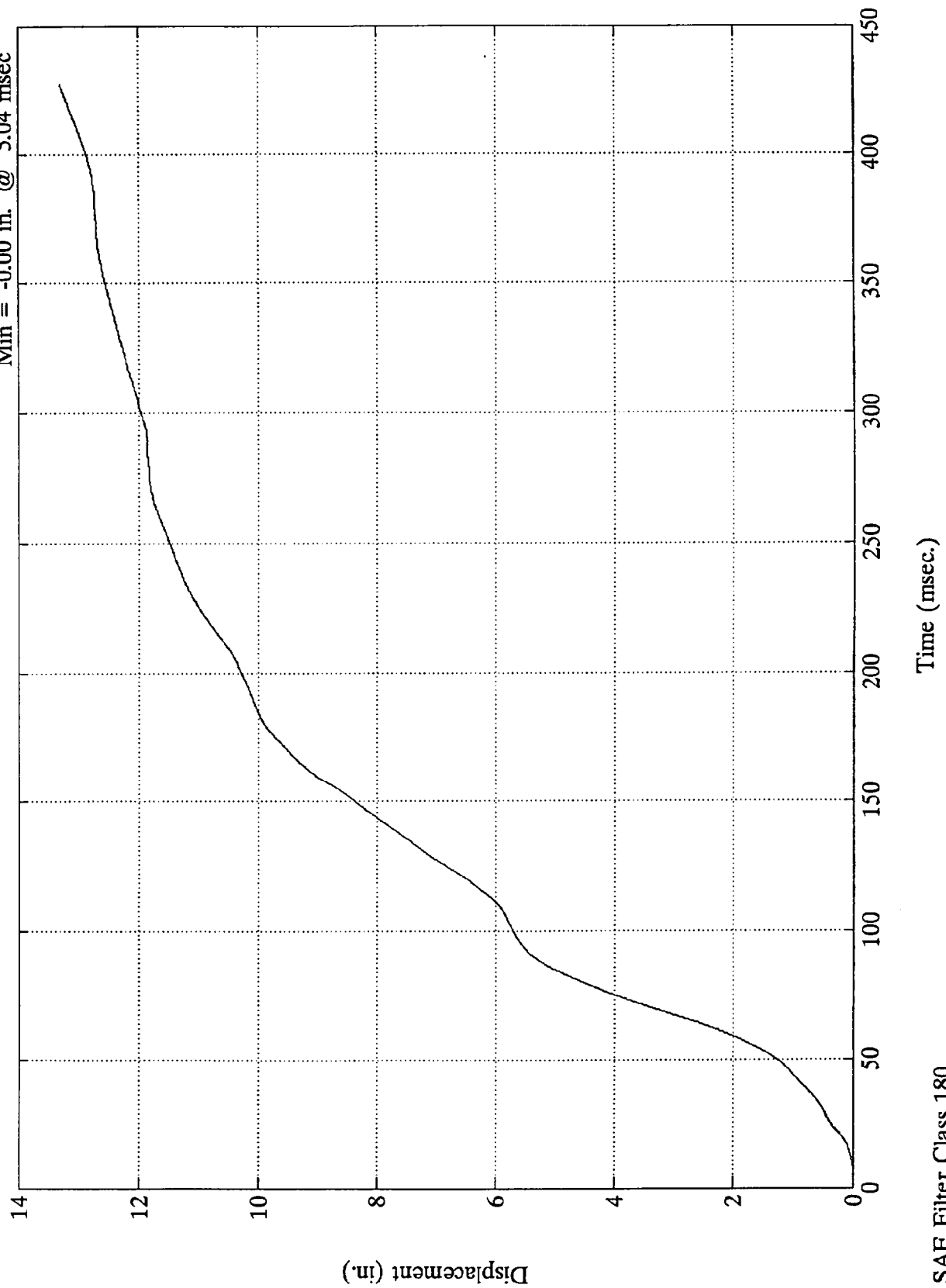


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENIA

Max = 13.30 in. @ 427.20 msec
Min = -0.00 in. @ 5.04 msec

Trunk Z



TEST NO. CS5403

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

FACILITY: TRACK
RUN #: 1469
SERIES #: 16

TEST DATE: 10 Nov 1994
TEST TIME: 14:26:09
BOARD: a

TITLE: 208 TEST #5 - 1995 MAZDA MILLENIA

CHANNEL NUMBER	DESCRIPTION	ENGR UNIT	MAXIMUM AMP	msec	MINIMUM AMP	msec	FILTER CLASS
1	Pos. 1 Head X	Gs	8.4	220.2	-39.3	73.1	1000.0
2	Pos. 1 Head Y	Gs	7.4	82.1	-2.1	154.9	1000.0
3	Pos. 1 Head Z	Gs	29.6	78.5	-3.2	54.0	1000.0
4	Pos. 1 Left Femur	lbs	78.5	166.0	-1495.8	54.0	600.0
5	Pos. 1 Chest X	Gs	1.5	265.1	-48.8	73.4	180.0
6	Pos. 1 Chest Y	Gs	5.3	95.2	-2.4	124.6	180.0
7	Pos. 1 Chest Z	Gs	3.9	56.9	-7.3	54.1	180.0
8	Pos. 1 Right Femur	lbs	62.4	166.3	-1455.7	59.5	600.0
9	Pos. 2 Head X	Gs	18.6	367.3	-88.9	64.1	1000.0
10	Pos. 2 Head Y	Gs	7.4	56.9	-14.9	66.7	1000.0
11	Pos. 2 Head Z	Gs	43.7	64.2	-35.4	90.8	1000.0
12	Pos. 2 Left Femur	lbs	52.5	45.8	-1465.4	52.3	600.0
13	Pos. 2 Chest X	Gs	7.6	147.1	-50.4	79.0	180.0
14	Pos. 2 Chest Y	Gs	4.7	39.1	-9.3	74.8	180.0
15	Pos. 2 Chest Z	Gs	20.9	70.6	-15.2	79.0	180.0
16	Pos. 2 Right Femur	lbs	43.4	225.8	-1582.1	62.5	600.0
17	Pos. 1 Head Resultant	Gs	45.8	76.9	.1	-14.2	1000.0
18	Pos. 1 Chest Resultant	Gs	48.8	73.4	.0	-21.0	180.0
19	Pos. 2 Head Resultant	Gs	99.4	64.1	.0	-2.5	1000.0
20	Pos. 2 Chest Resultant	Gs	52.9	79.0	.0	3.6	180.0

36 ms Fixed Duration HIC SUMMARY: Pos. 1 Head Resultant

hic: 235.54
t1 = 63.480 msec
t2 = 99.360 msec
Average G's Over Hic Duration = 33.64

CLIP SUMMARY: Pos. 1 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 44.914 G's
Tstart = 71.8800 ms
Tend = 75.0000 ms
CSI = 256.477

36 ms Fixed Duration HIC SUMMARY: Pos. 2 Head Resultant

hic: 563.85
t1 = 59.640 msec
t2 = 70.920 msec
Average G's Over Hic Duration = 75.78

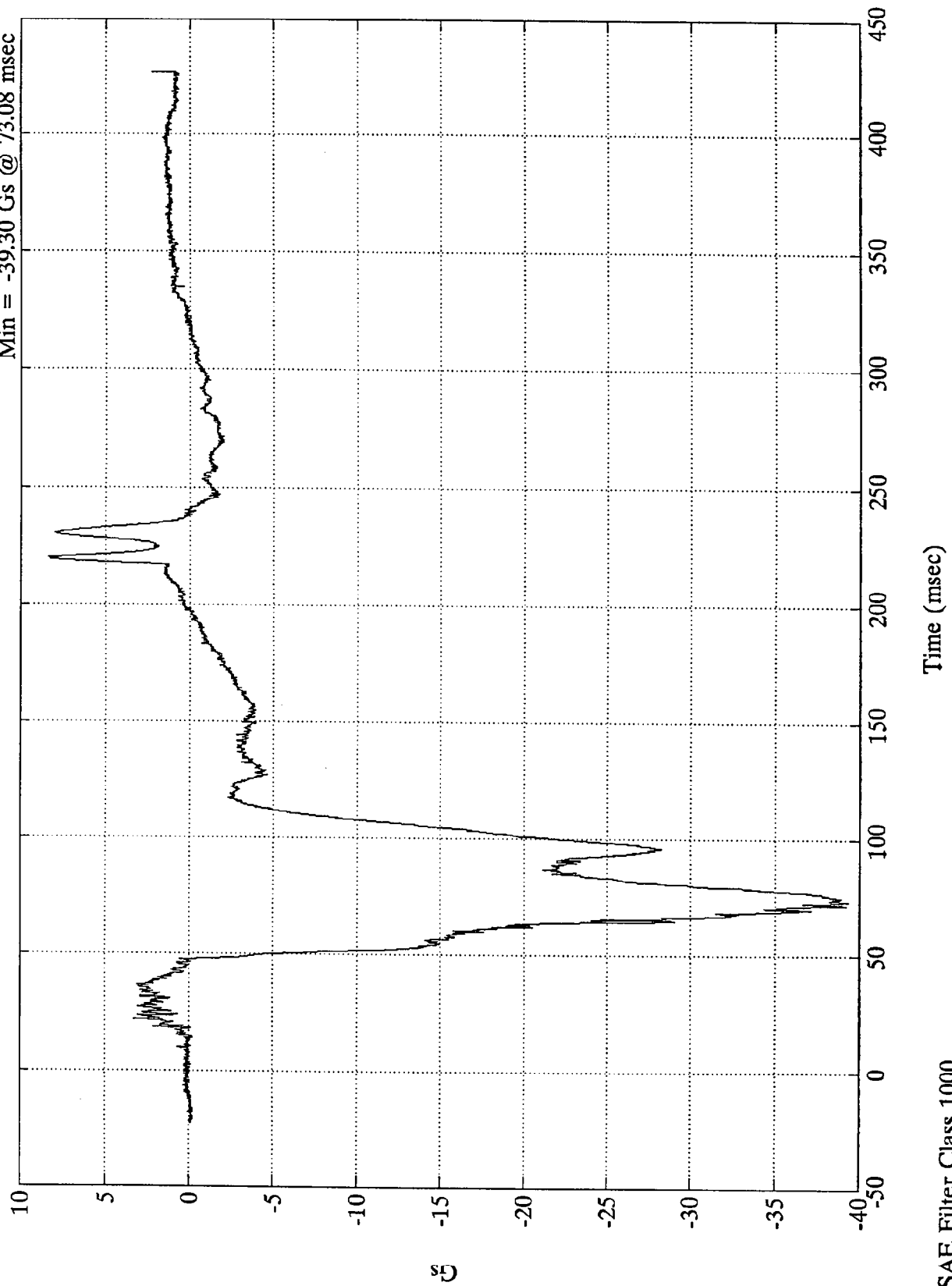
CLIP SUMMARY: Pos. 2 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 49.057 G's
Tstart = 77.4000 ms
Tend = 80.5200 ms
CSI = 482.785

FMVSS 208 - 95 MAZDA MILLENIA

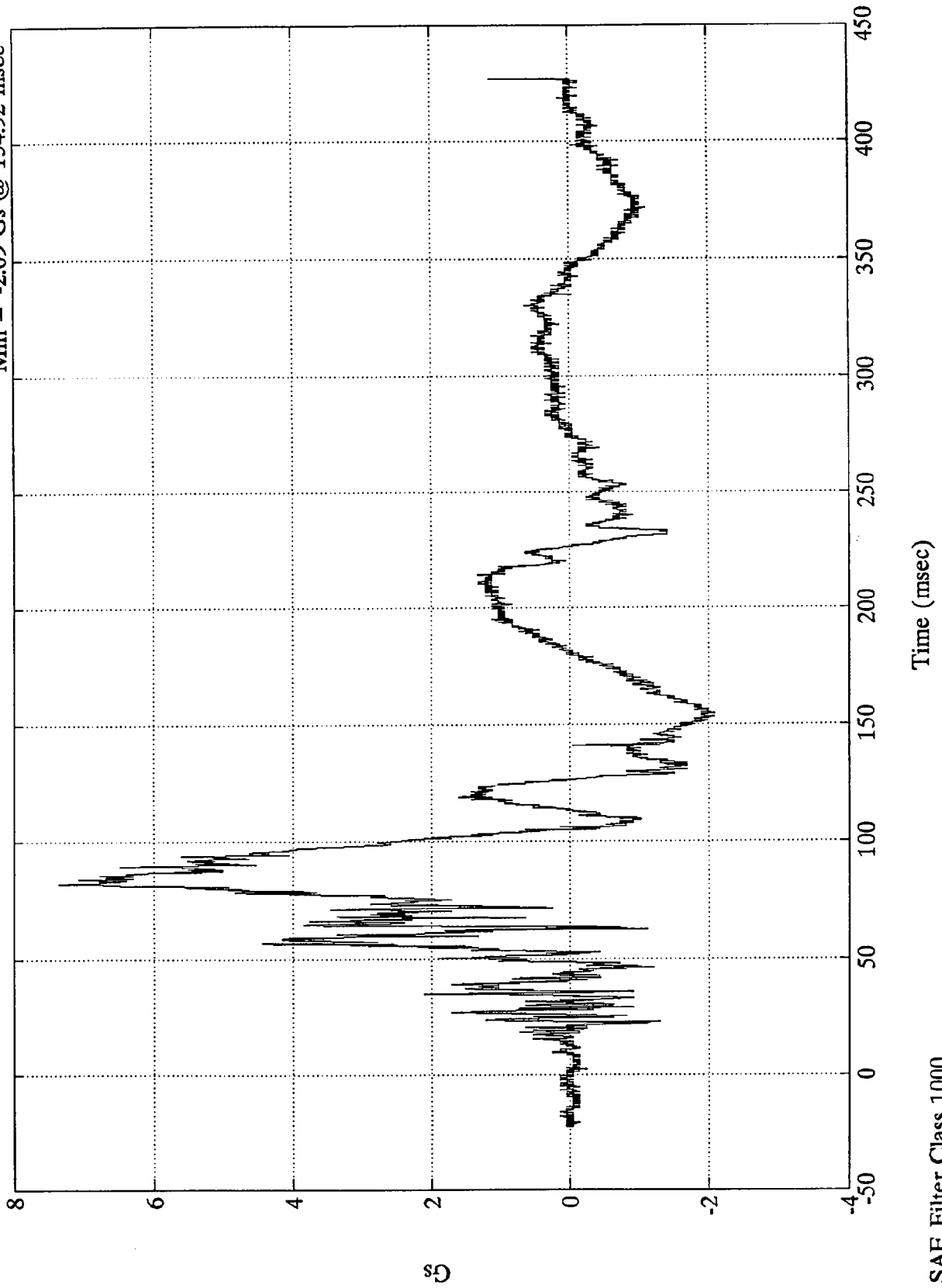
Pos. 1 Head X

Max = 8.36 Gs @ 220.20 msec
Min = -39.30 Gs @ 73.08 msec



FMVSS 208 - 95 MAZDA MILLENNIA

Pos. 1 Head Y
Max = 7.36 Gs @ 82.08 msec
Min = -2.09 Gs @ 154.92 msec

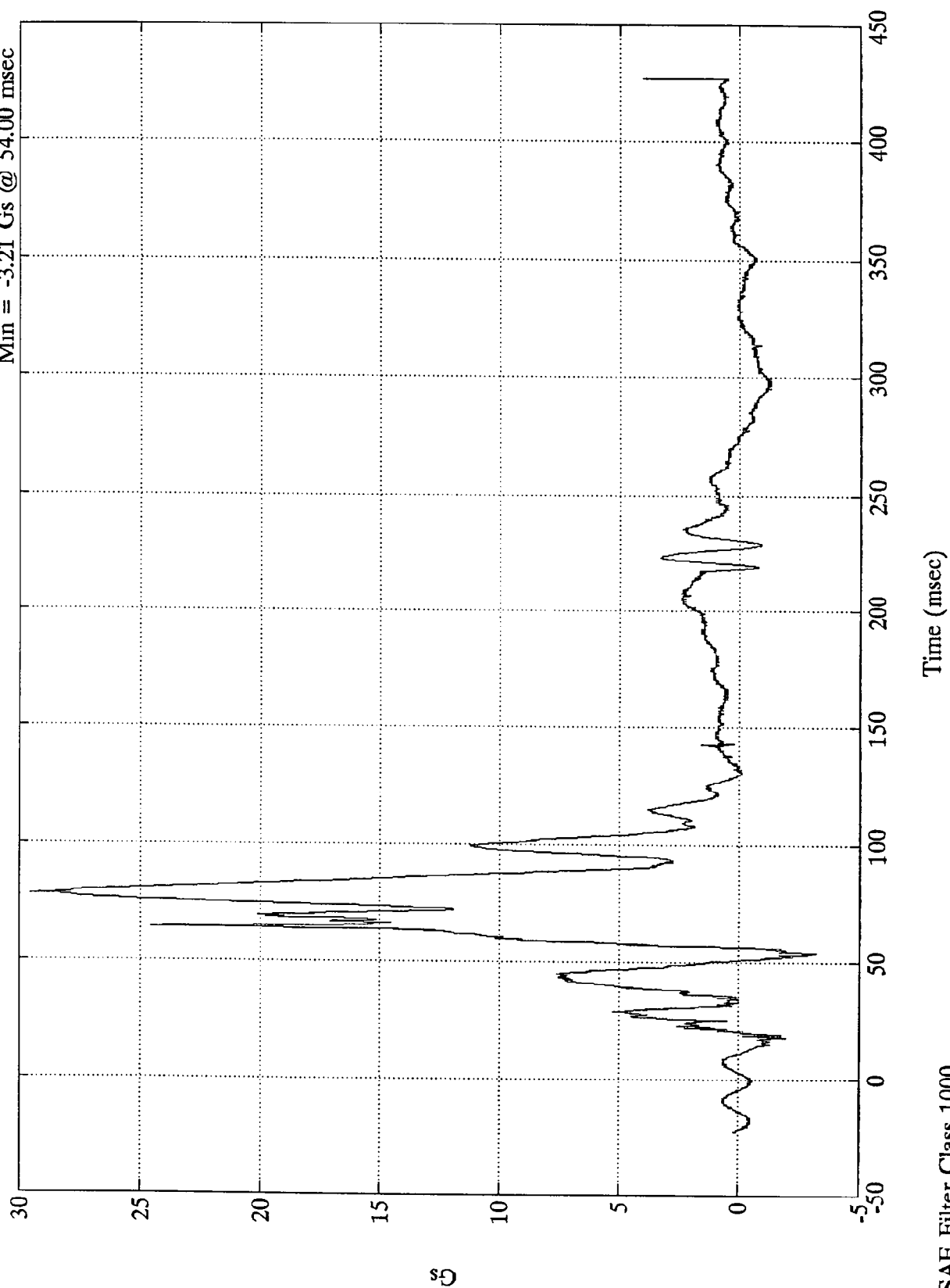


SAE Filter Class 1000

FMVSS 208 - 95 MAZDA MILLENIA

Pos. 1 Head Z

Max = 29.55 Gs @ 78.48 msec
Min = -3.21 Gs @ 54.00 msec

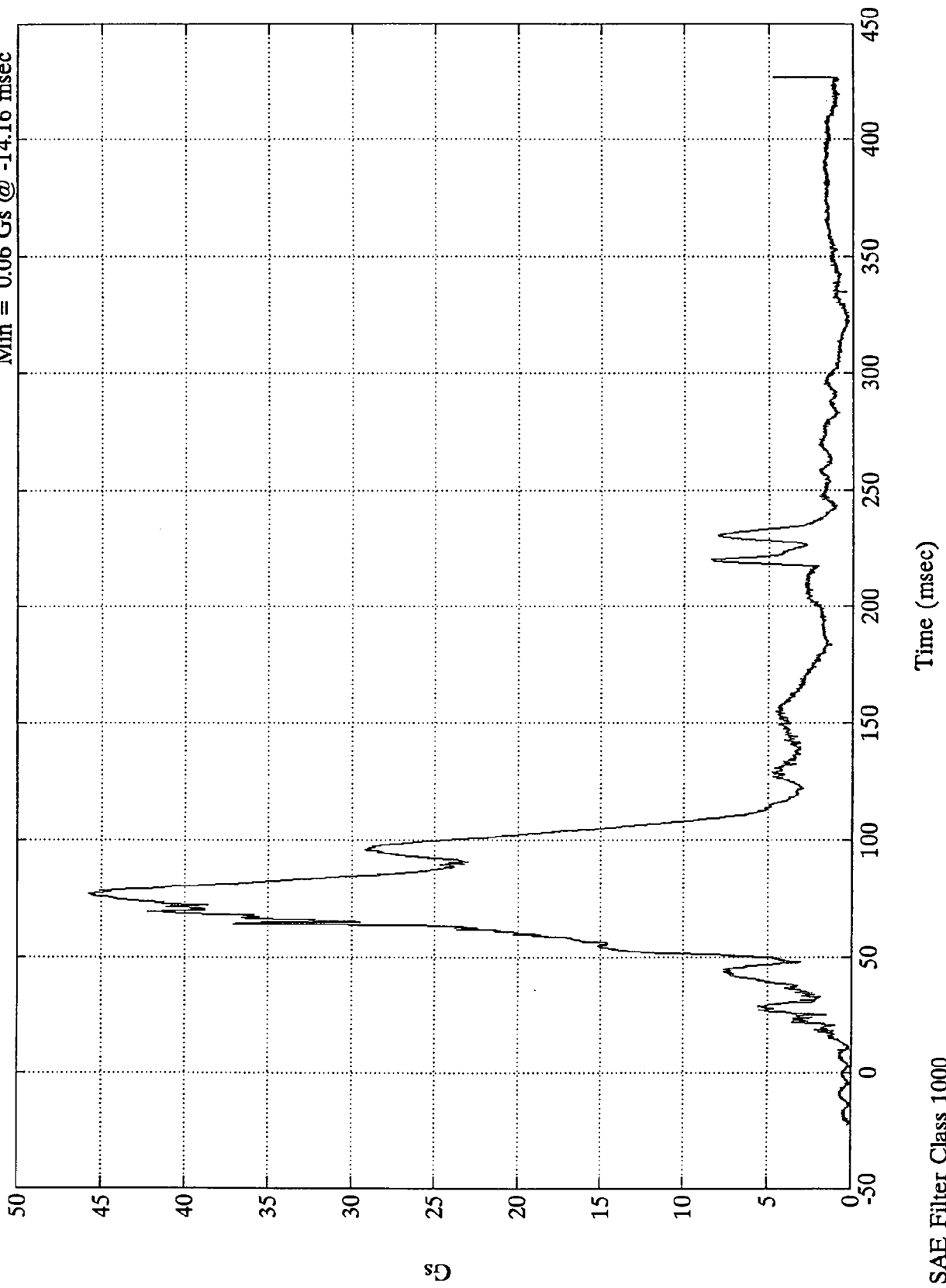


Gs

FMVSS 208 - 95 MAZDA MILLENNIA

Pos. 1 Head Resultant

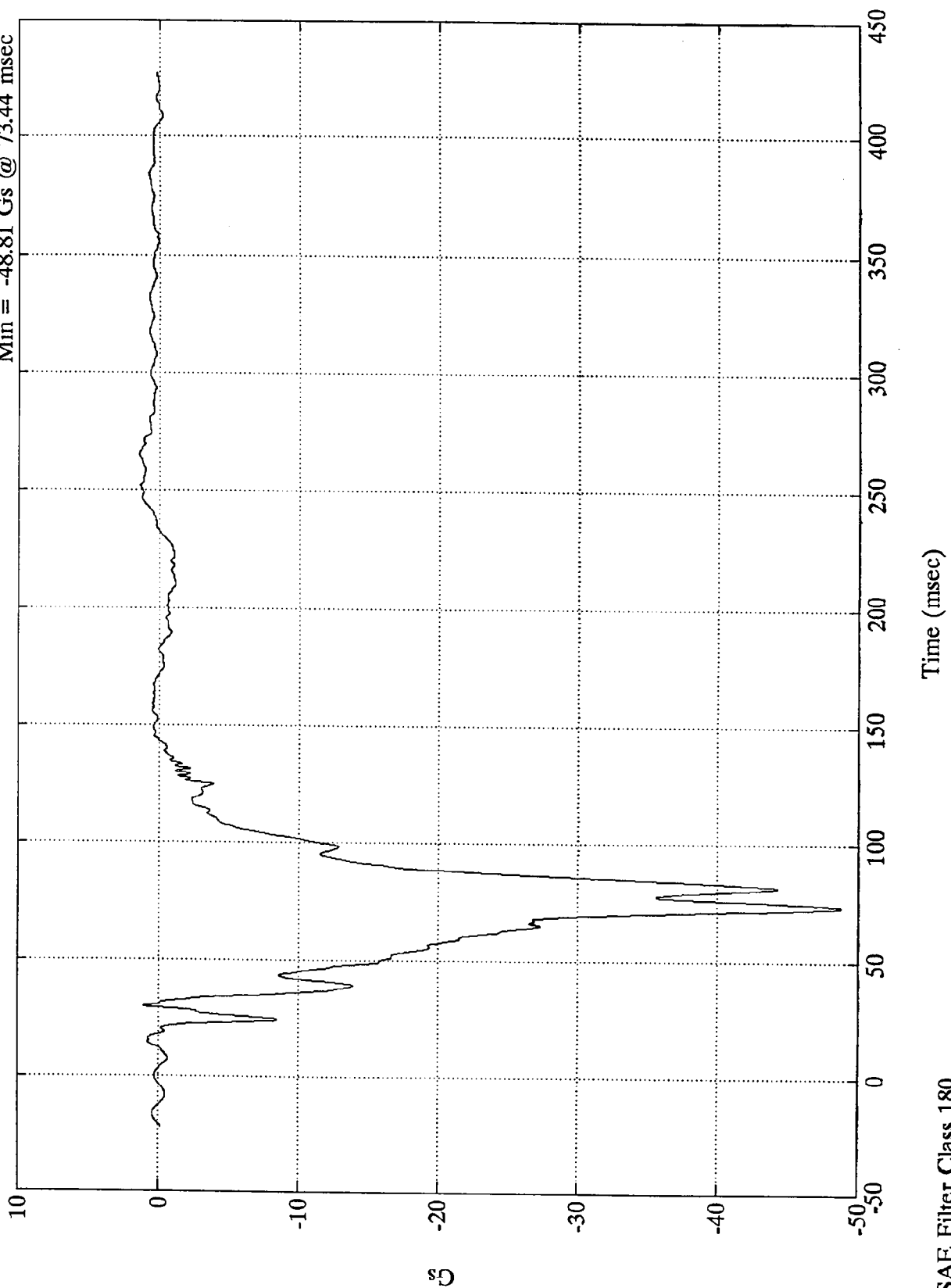
Max = 45.78 Gs @ 76.92 msec
Min = 0.06 Gs @ -14.16 msec



SAE Filter Class 1000

FMVSS 208 - 95 MAZDA MILLENIA

Pos. 1 Chest X
Max = 1.46 Gs @ 265.08 msec
Min = -48.81 Gs @ 73.44 msec

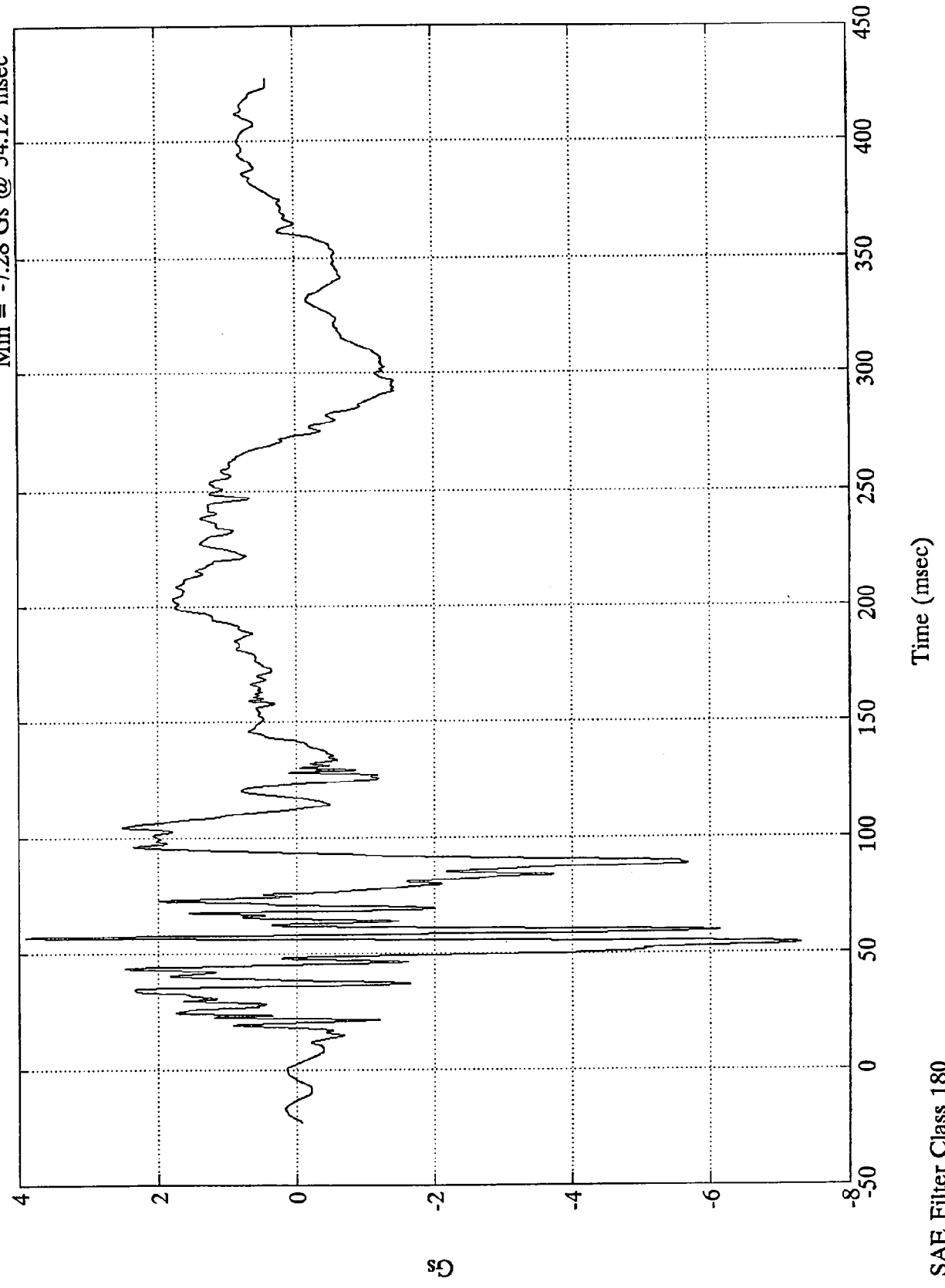


SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENIA

Pos. 1 Chest Z

Max = 3.91 Gs @ 56.88 msec
Min = -7.28 Gs @ 54.12 msec



Time (msec)

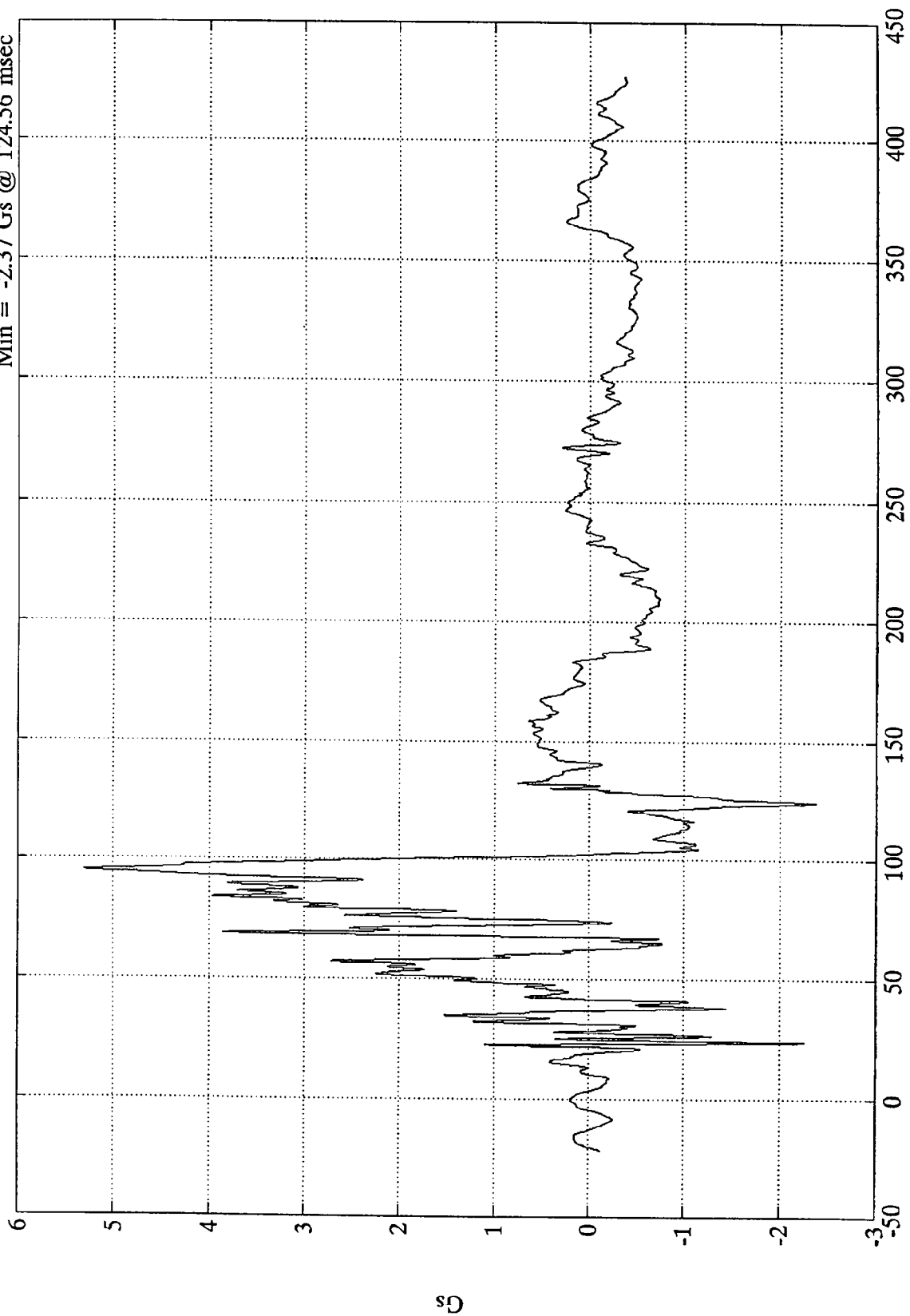
SAE Filter Class 180

Gs

FMVSS 208 - 95 MAZDA MILLENIA

Max = 5.30 Gs @ 95.16 msec
Min = -2.37 Gs @ 124.56 msec

Pos. 1 Chest Y



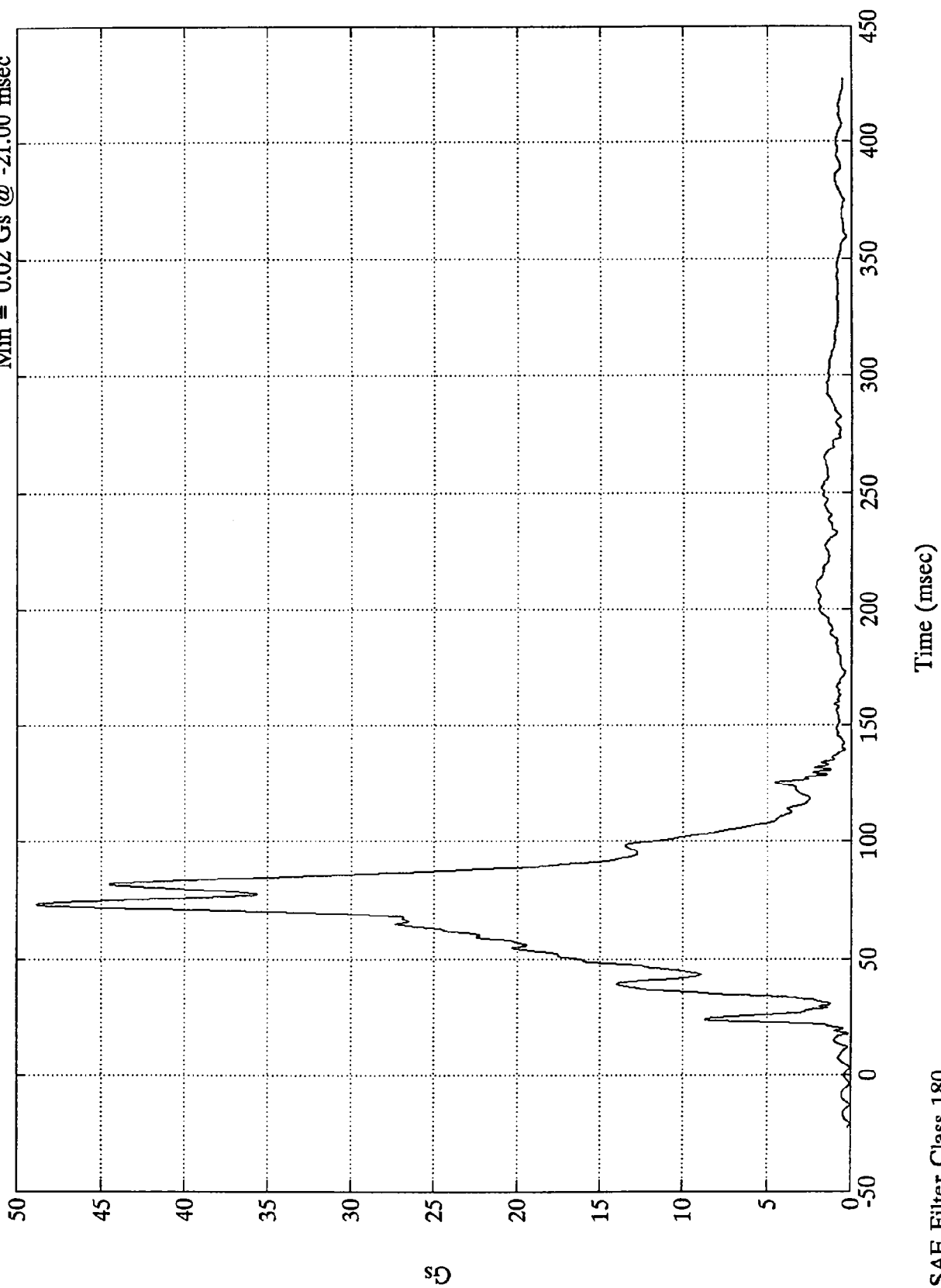
Time (msec)

SAE Filter Class 180

FMVSS 208 - 95 MAZDA MILLENIA

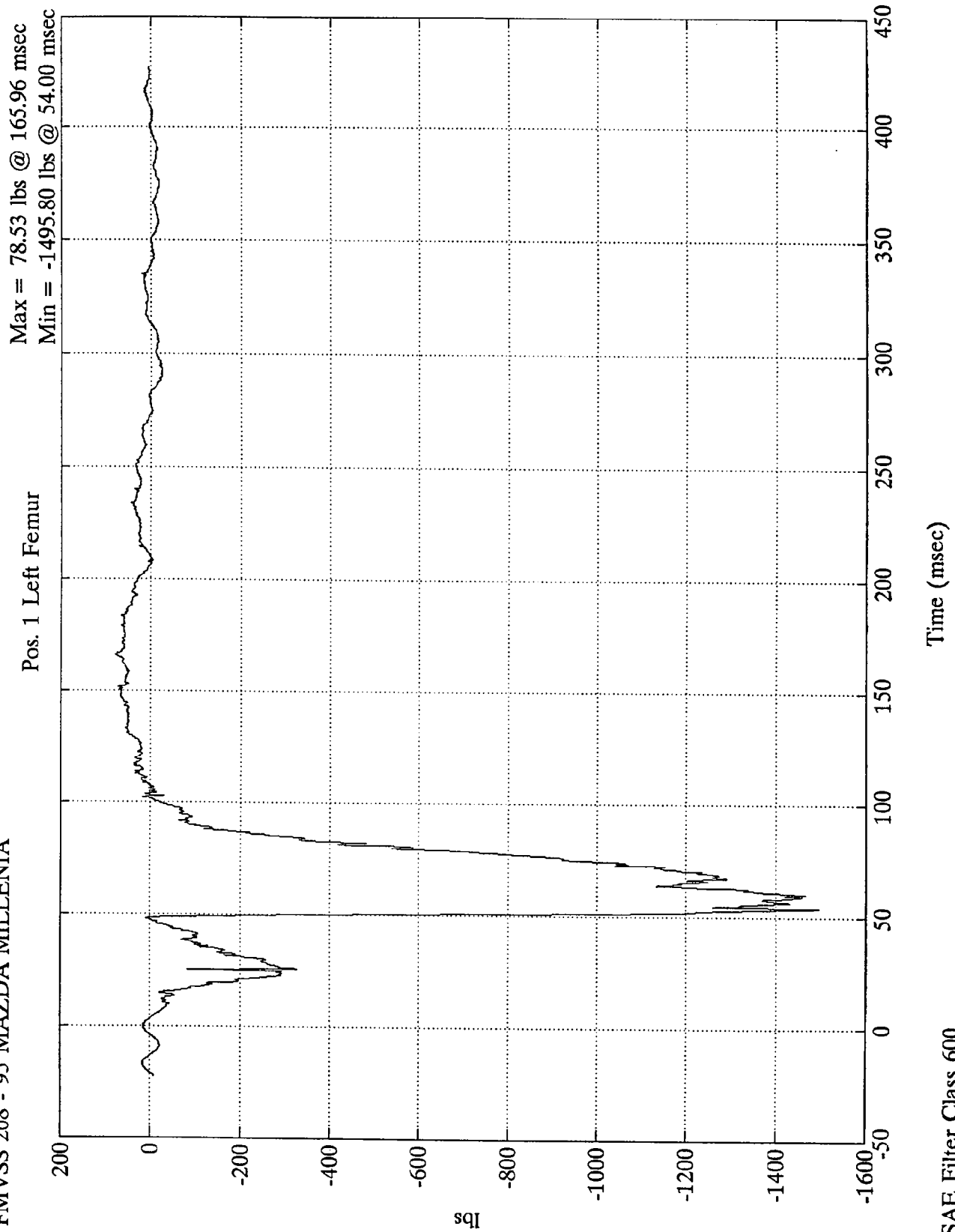
Pos. 1 Chest Resultant

Max = 48.83 Gs @ 73.44 msec
Min = 0.02 Gs @ -21.00 msec



SAE Filter Class 180

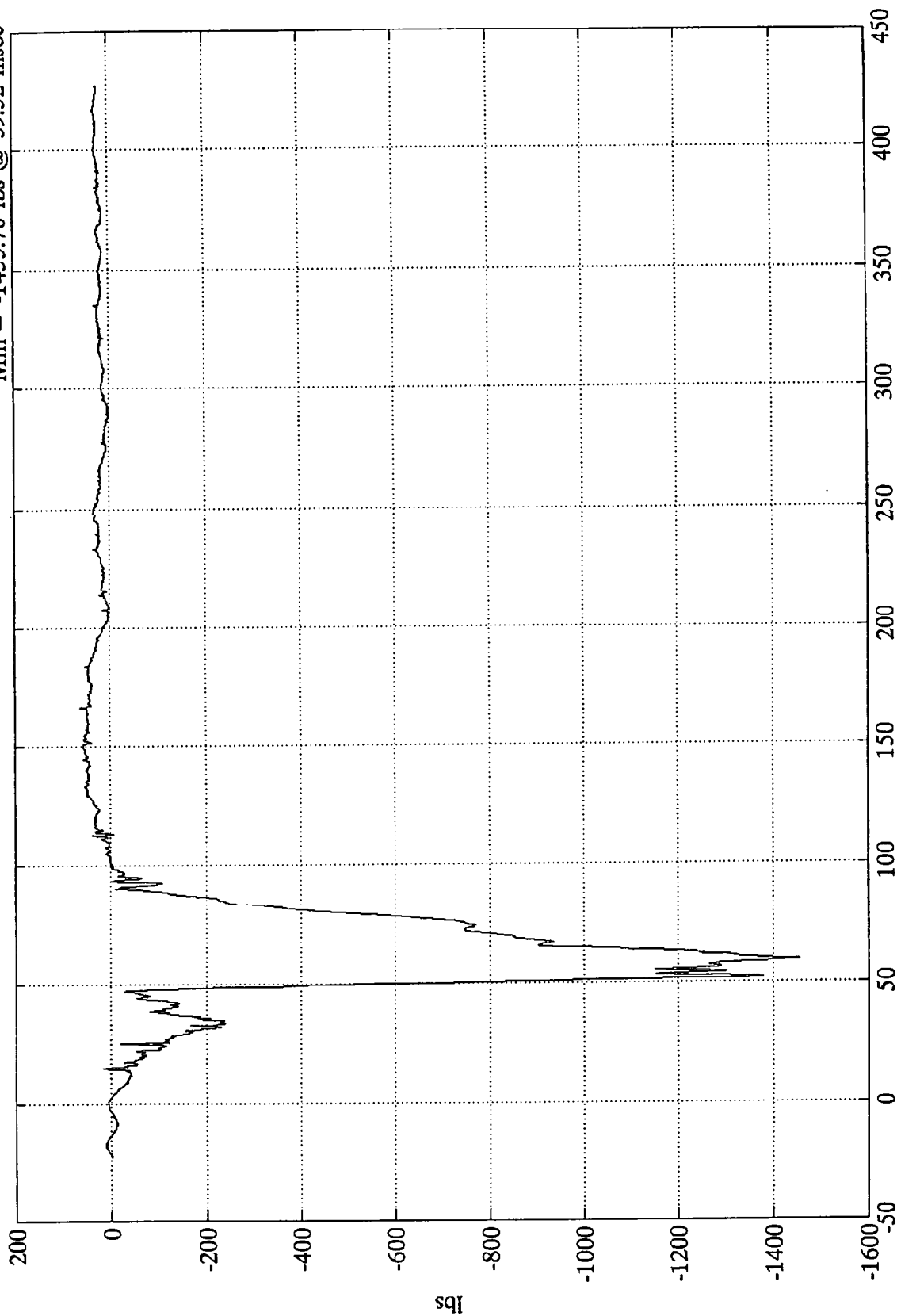
FMVSS 208 - 95 MAZDA MILLENIA



FMVSS 208 - 95 MAZDA MILLENIA

Pos. 1 Right Femur

Max = 62.37 lbs @ 166.32 msec
Min = -1455.70 lbs @ 59.52 msec



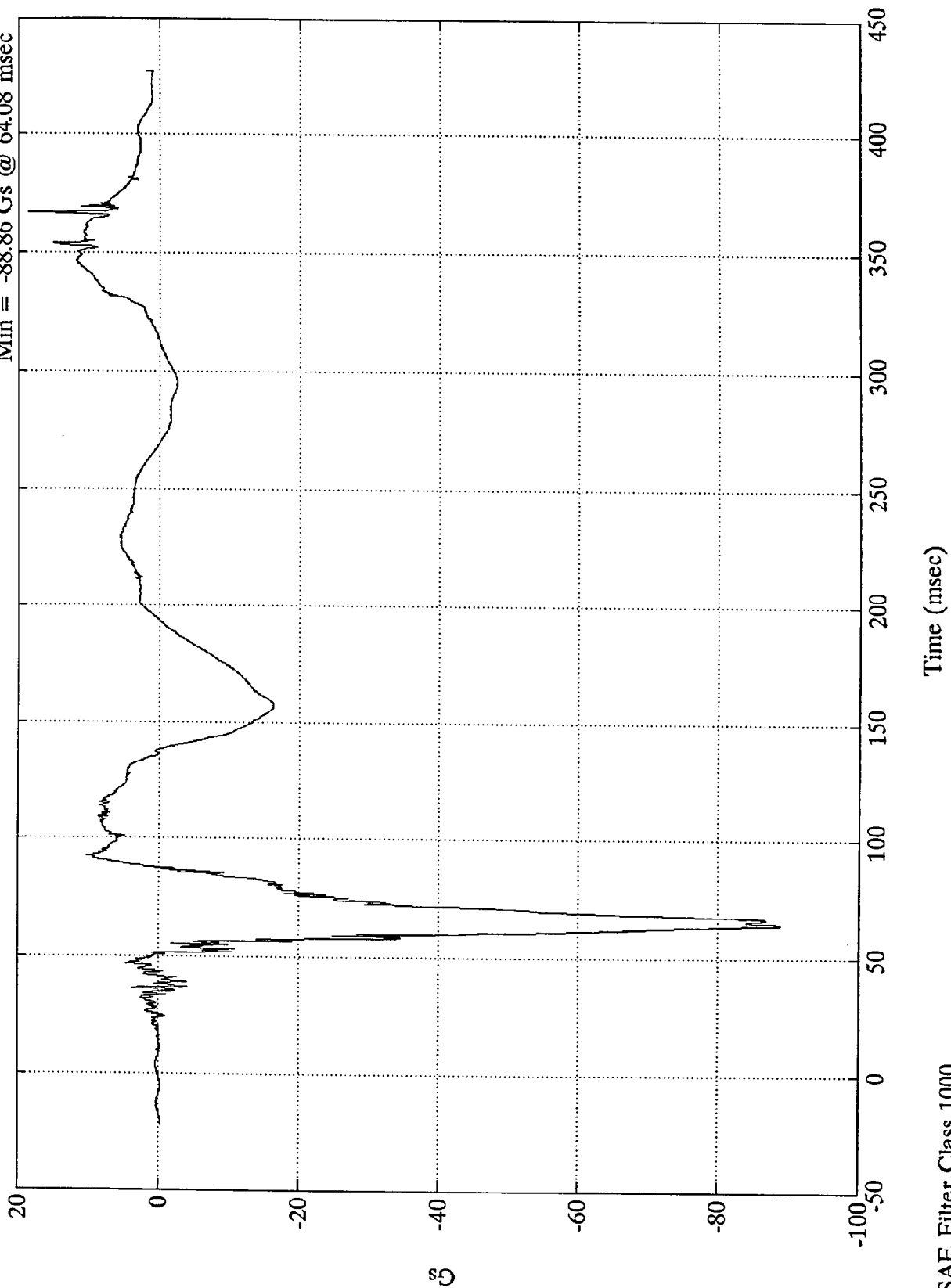
Time (msec)

SAE Filter Class 600

FMVSS 208 - 95 MAZDA MILLENIA

Pos. 2 Head X

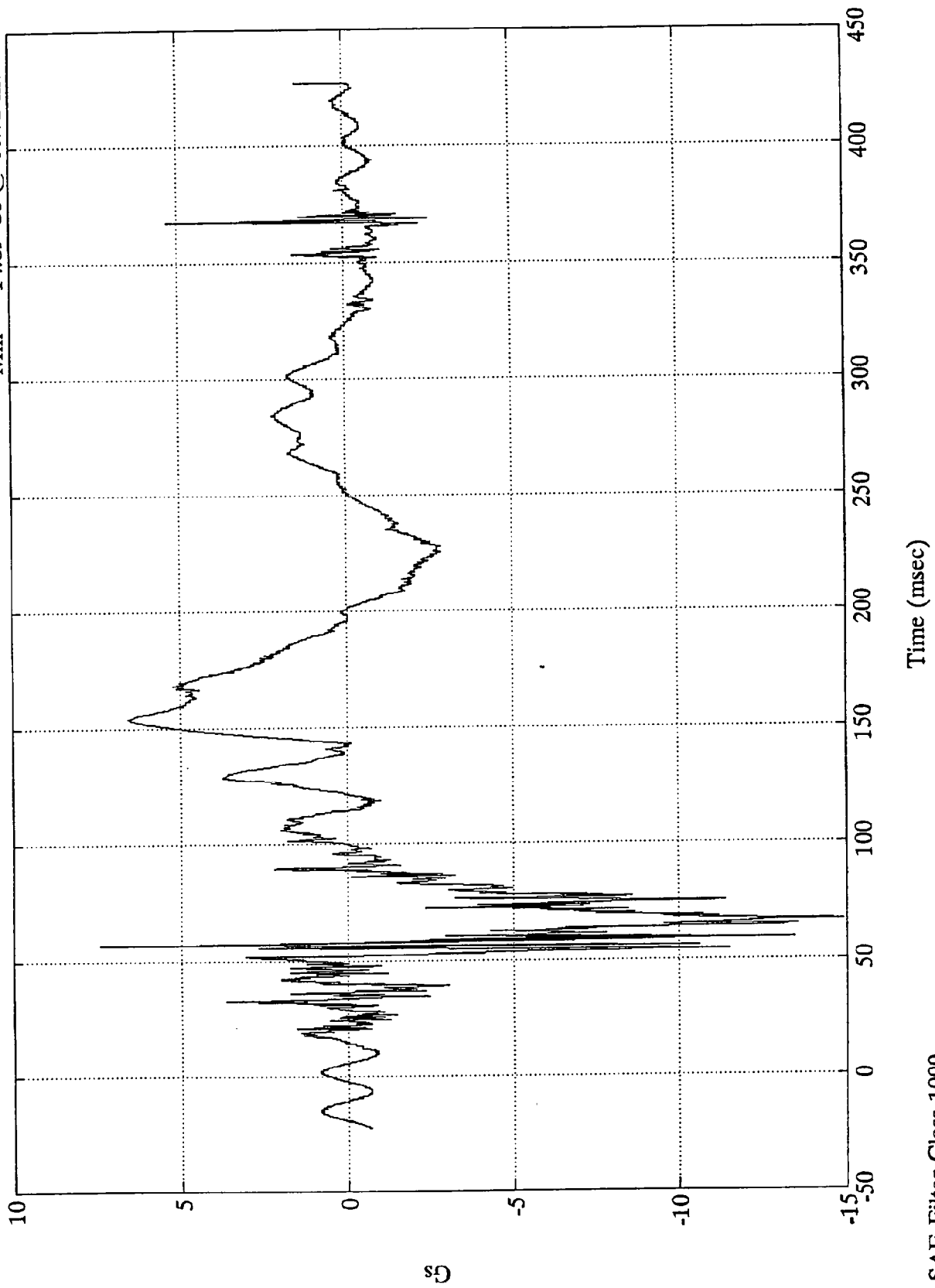
Max = 18.56 Gs @ 367.32 msec
Min = -88.86 Gs @ 64.08 msec



SAE Filter Class 1000

FMVSS 208 - 95 MAZDA MILLENNIA

Pos. 2 Head Y
Max = 7.44 Gs @ 56.88 msec
Min = -14.89 Gs @ 66.72 msec

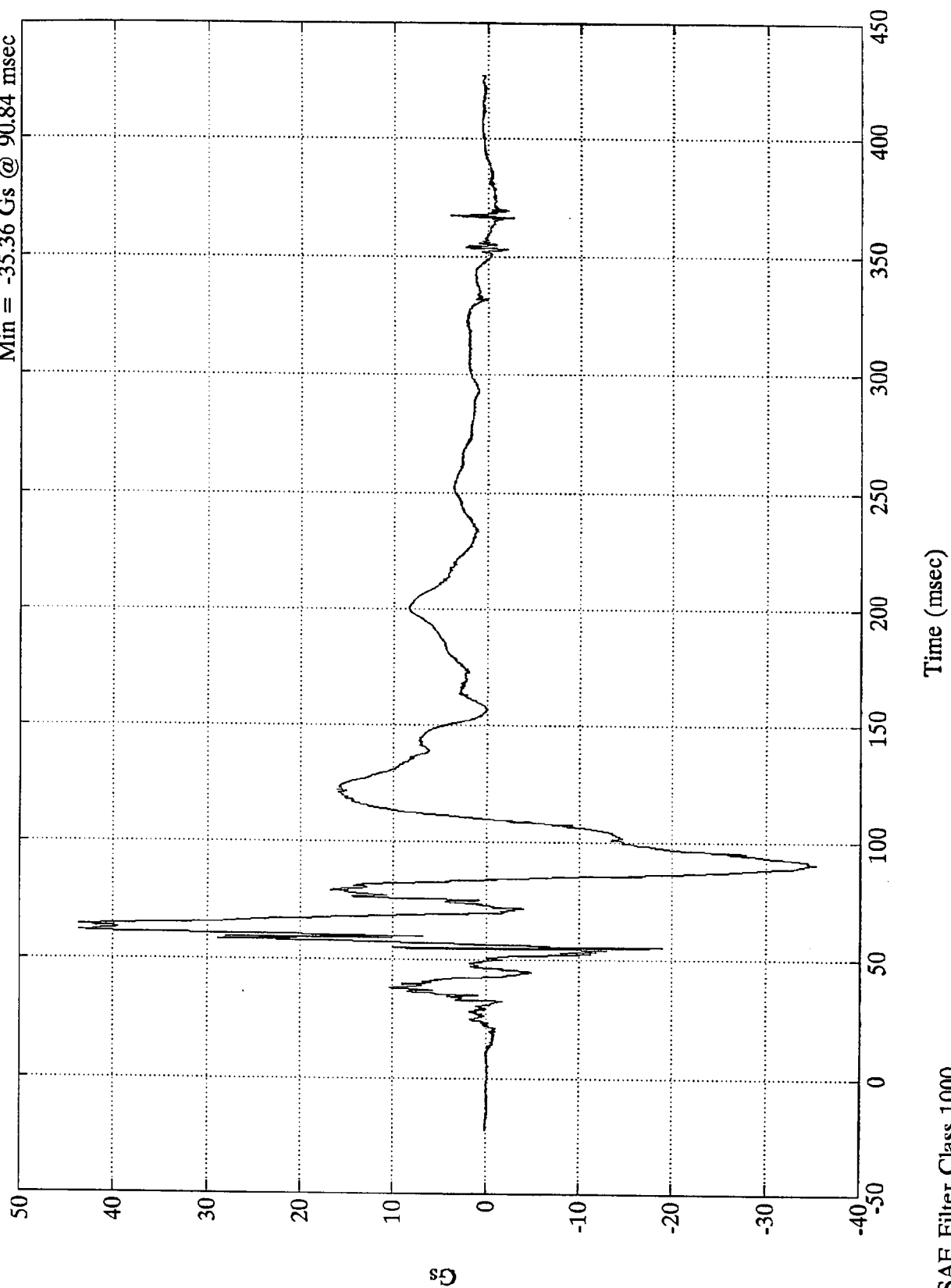


Gs

FMVSS 208 - 95 MAZDA MILLENIA

Pos. 2 Head Z

Max = 43.69 Gs @ 64.20 msec
Min = -35.36 Gs @ 90.84 msec

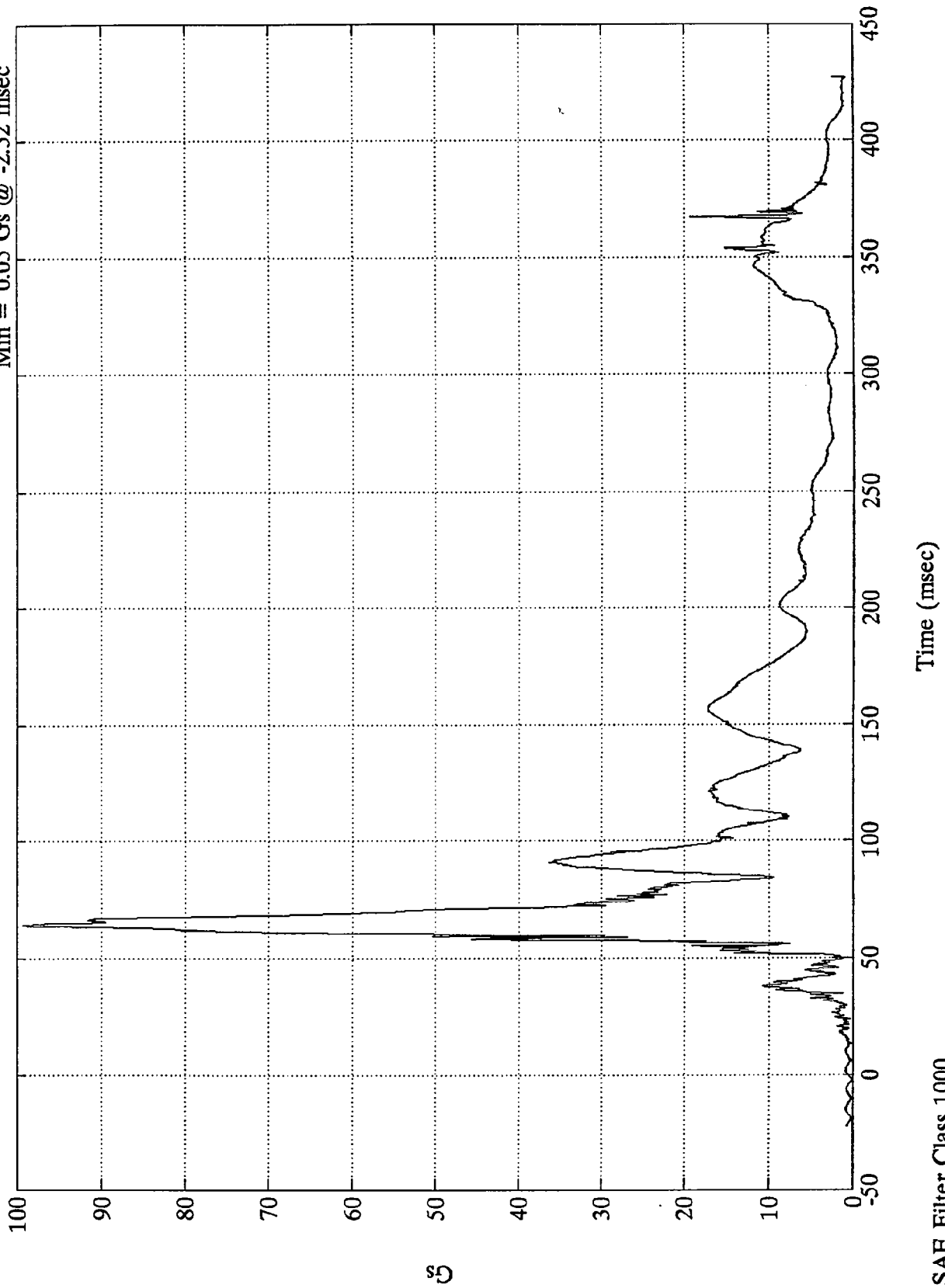


FMVSS 208 - 95 MAZDA MILLENIA

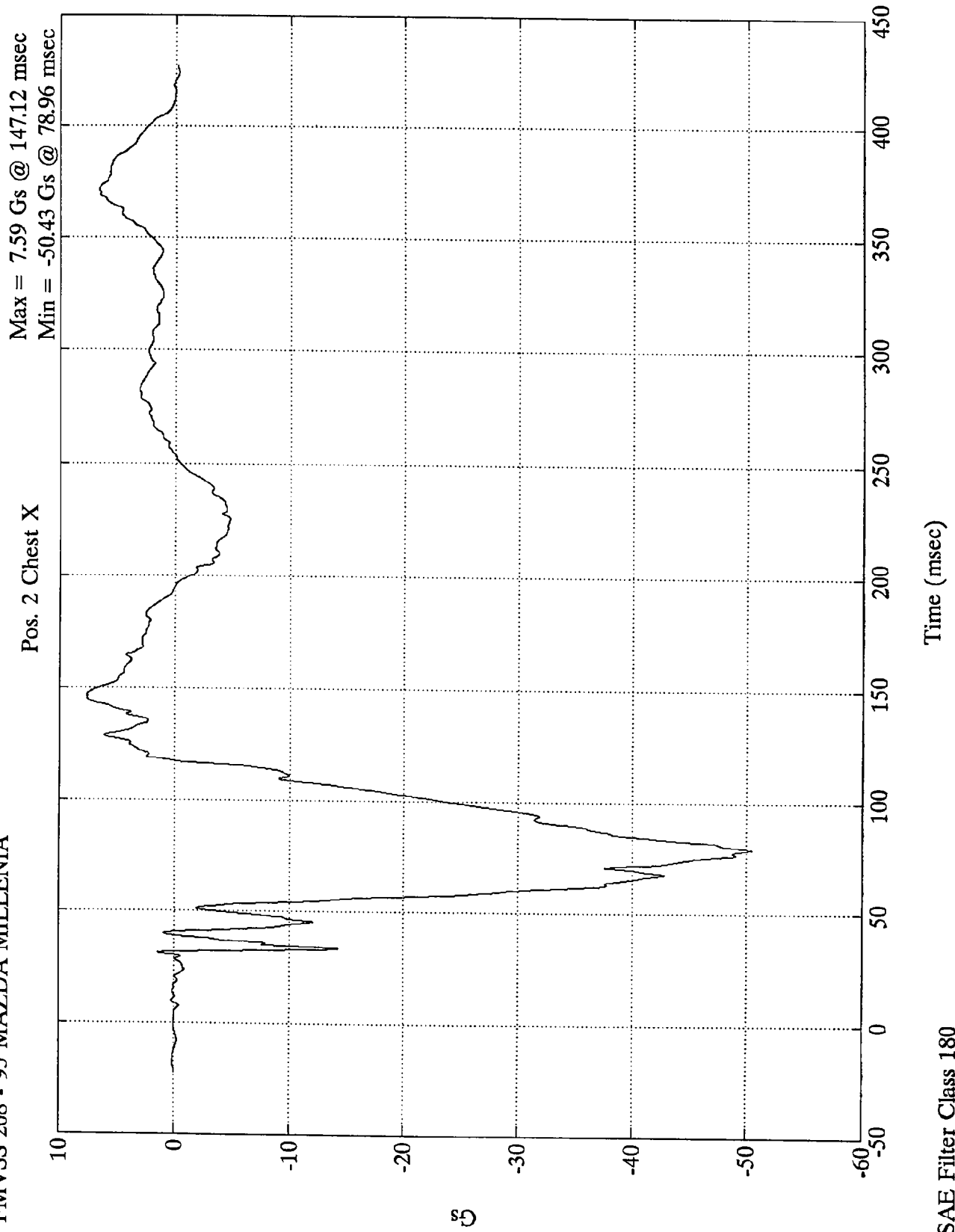
Pos. 2 Head Resultant

Max = 99.35 Gs @ 64.08 msec

Min = 0.05 Gs @ -2.52 msec

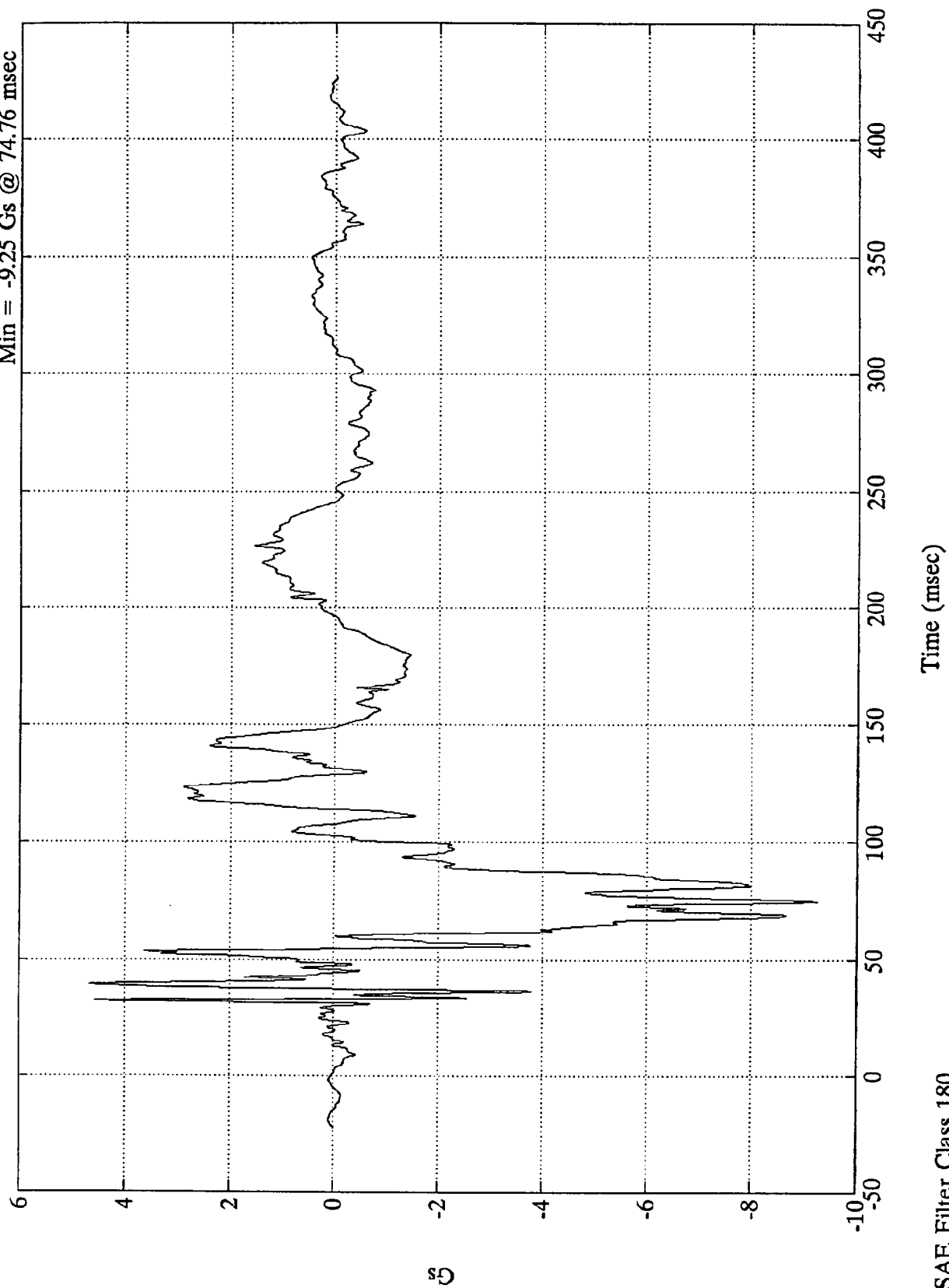


FMVSS 208 - 95 MAZDA MILLENIA



FMVSS 208 - 95 MAZDA MILLENIA

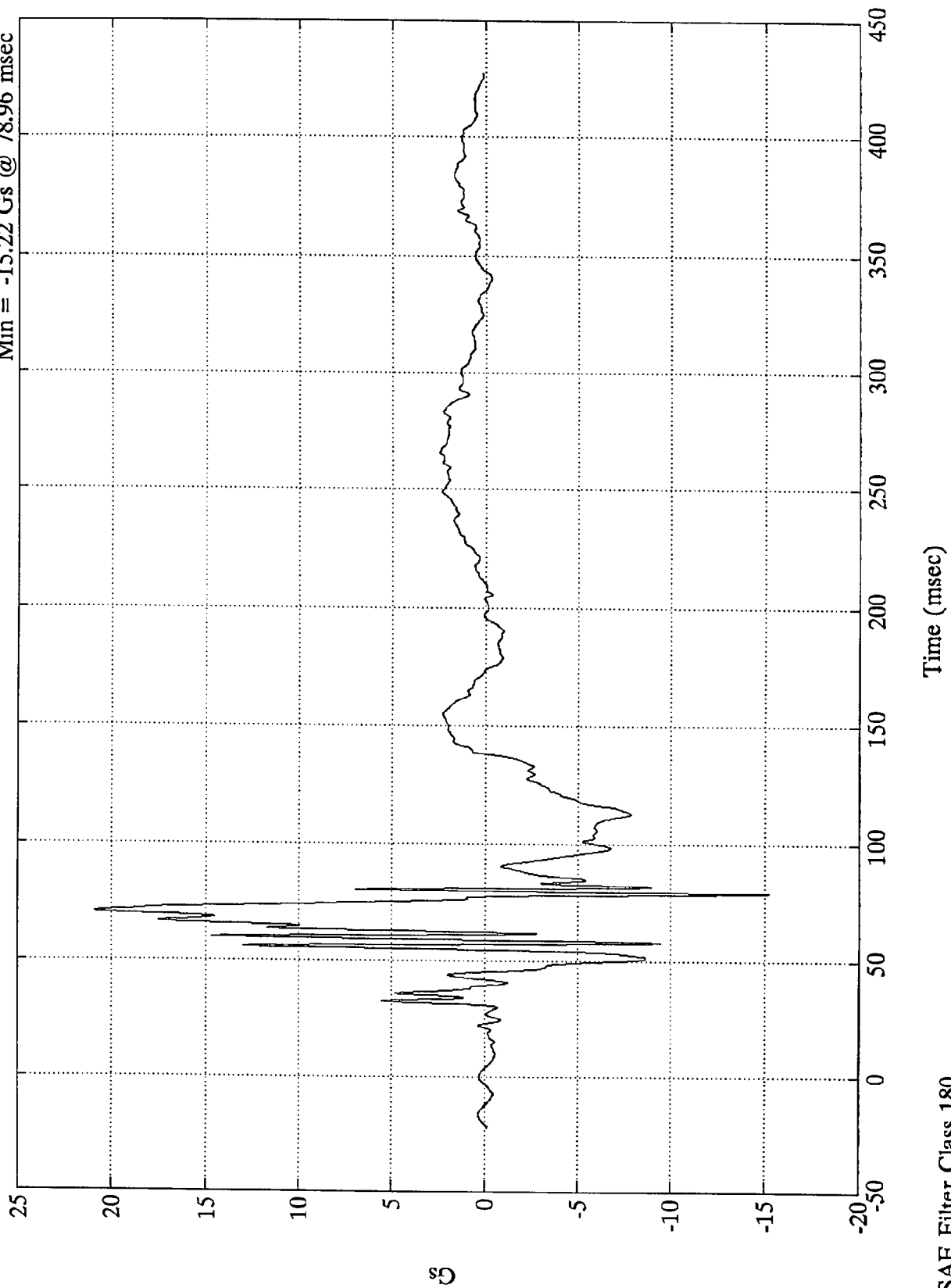
Pos. 2 Chest Y
Max = 4.68 Gs @ 39.12 msec
Min = -9.25 Gs @ 74.76 msec



FMVSS 208 - 95 MAZDA MILLENIA

Pos. 2 Chest Z

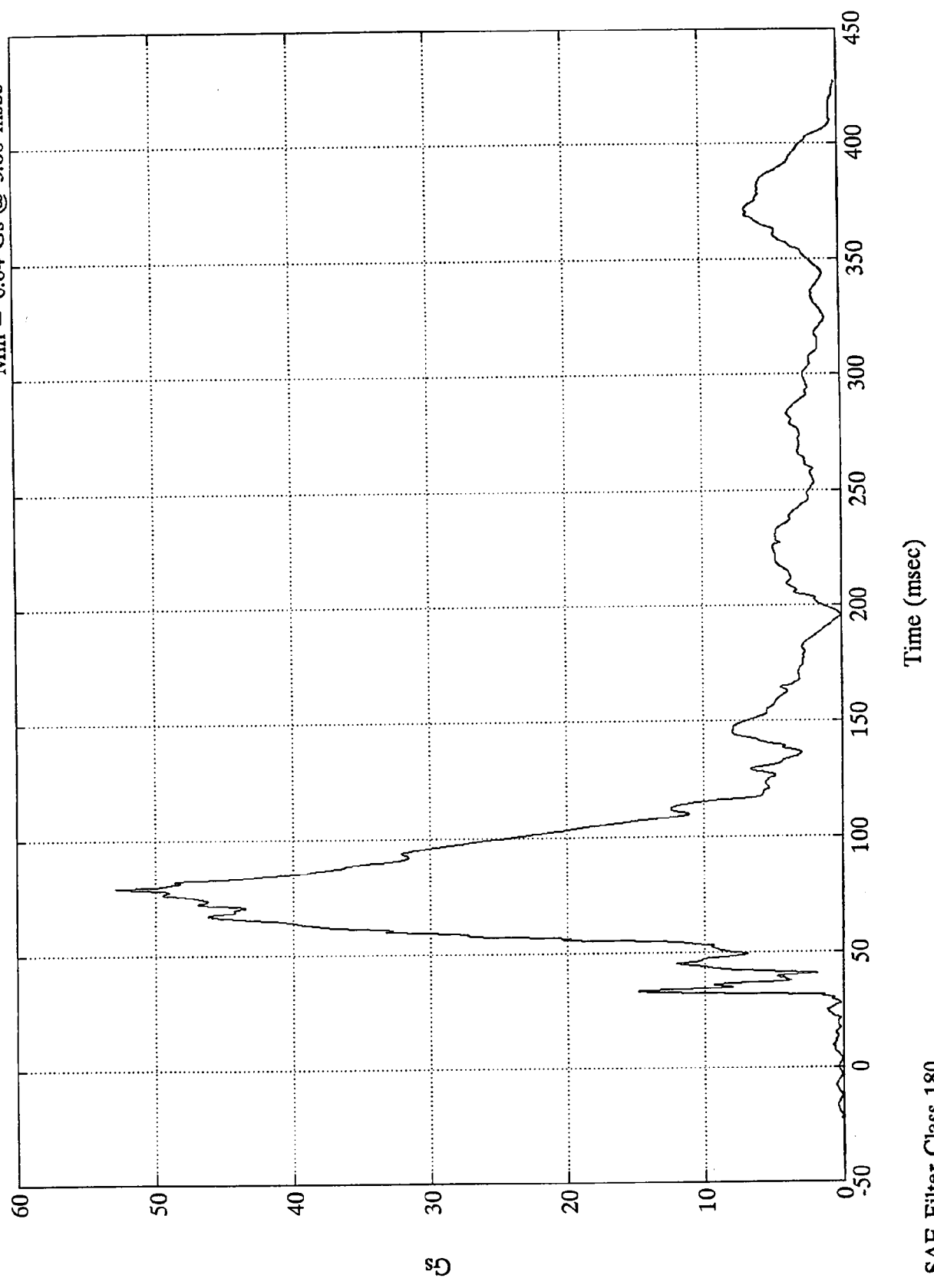
Max = 20.94 Gs @ 70.56 msec
Min = -15.22 Gs @ 78.96 msec



SAE Filter Class 180

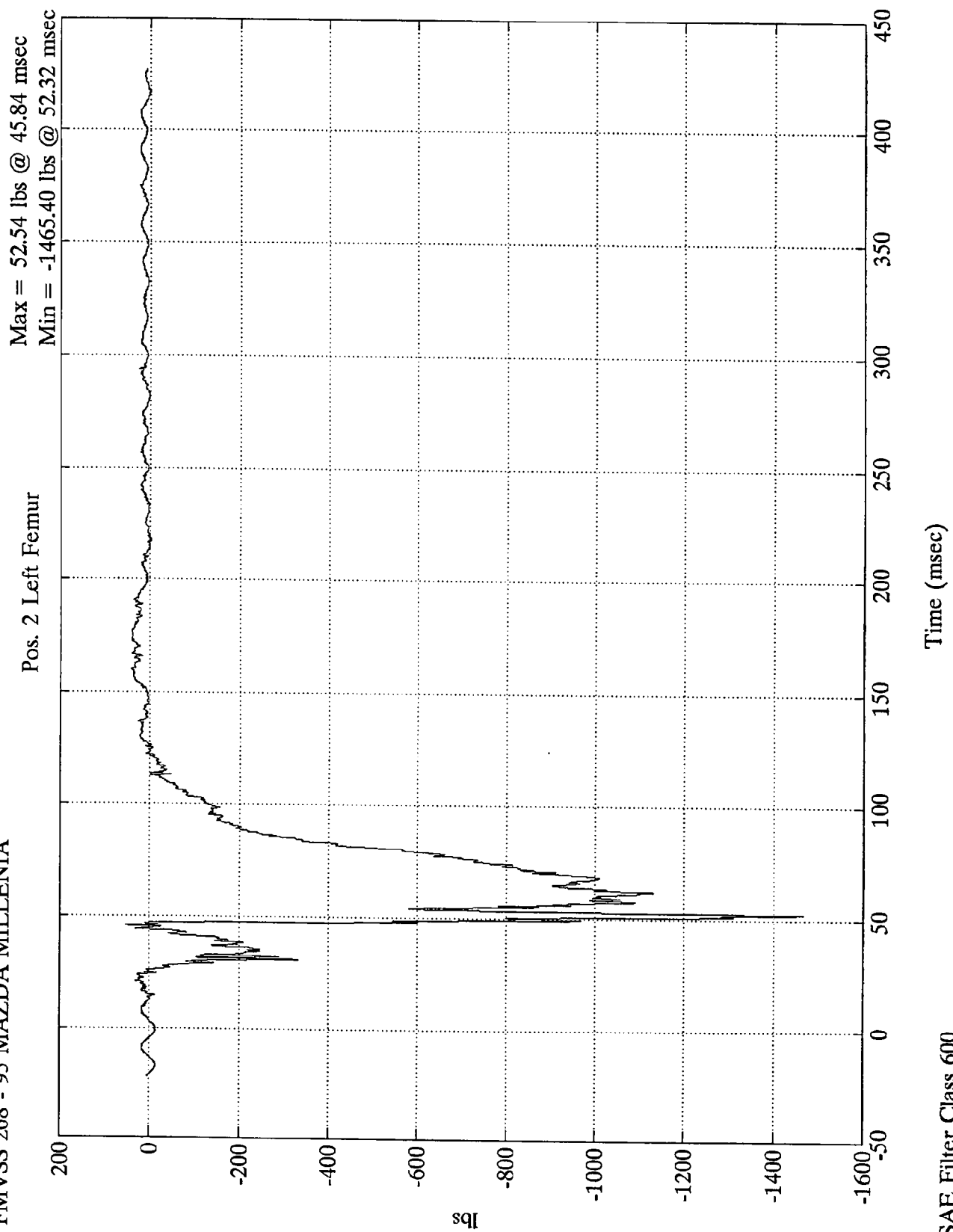
FMVSS 208 - 95 MAZDA MILLENIA

Pos. 2 Chest Resultant
Max = 52.92 Gs @ 78.96 msec
Min = 0.04 Gs @ 3.60 msec



SAE Filter Class 180

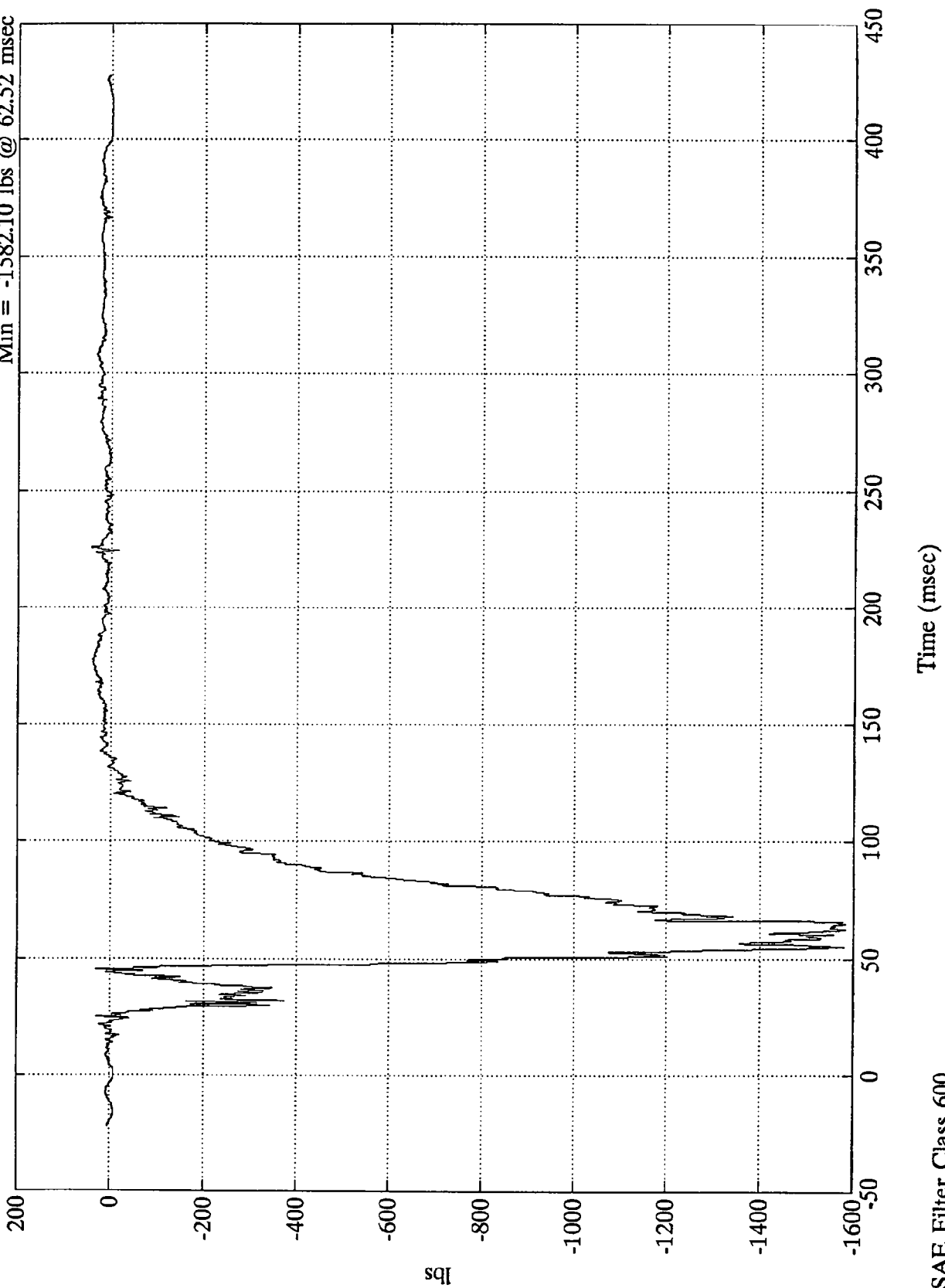
FMVSS 208 - 95 MAZDA MILLENIA



FMVSS 208 - 95 MAZDA MILLENIA

Pos. 2 Right Femur

Max = 43.35 lbs @ 225.84 msec
Min = -1582.10 lbs @ 62.52 msec



Appendix C

VEHICLE OWNERS MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

Rear Seat

WARNING

Stacking Cargo:

Stacking luggage or other cargo higher than the seat backs can be dangerous. During a sudden stop or collision, it can become a projectile that may hit and injure passengers. Don't stack things higher than the seat backs.

Seat Belt System

Seat belts help decrease the possibility or severity of injury during accidents and sudden stops. Mazda recommends that the driver and passengers wear seat belts at all times.

The front seats have a lap/shoulder belt. These belts have retractors with inertia locks that keep them out of the way when not in use. The locks allow the belts to remain comfortable on users, but they'll lock in position during a collision.

The rear seat has lap/shoulder belts that have retractors with inertia locks for the door-side seats and a lap belt with manual adjustment for the center seat.

WARNING

Seat Belts:

Passengers not wearing seat belts during a collision can be injured much worse than those wearing seat belts. They can hit things inside the vehicle or even be thrown from it. They can be seriously injured or killed. In the same collision, passengers wearing seat belts might be much safer.

WARNING

Damaged Seat Belts:

An accident can damage a seat belt in use. The belt webbing can be weakened and retractors and anchors can be bent or broken. Therefore a damaged seat belt may not provide adequate protection in a collision. Have a professional inspect all seat belt systems in use during an accident before they are used again.

WARNING

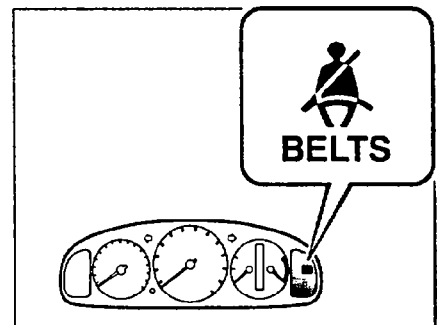
One Belt, One Passenger:

Using one seat belt for more than one person at a time is dangerous. A seat belt used in this way can't spread the impact forces properly and the two passengers could be crushed together and seriously injured. Never use one belt for more than one person at a time.

WARNING

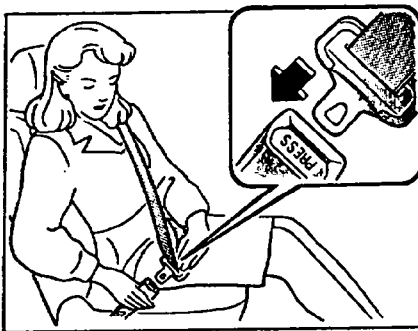
Twisted Seat Belts:

Twisted seat belts can cause injury. In a collision, the full width of the belt isn't available to absorb the impact. This puts more force on the bones beneath the belt, which could break them or cause other serious injury. Don't wear twisted seat belts.



■ Seat Belt Warning Light/Beep

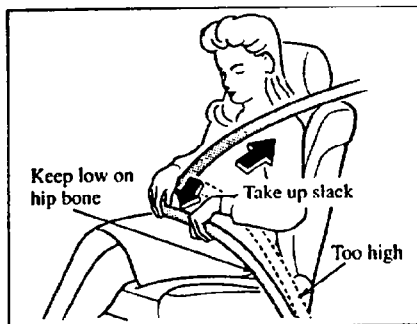
When you turn on the ignition before fastening your seat belt, a warning light will come on and a beep will sound (warning lights/beeps, page 4-26).



■ Front Seat Belts

To fasten:

1. Grasp the buckle and tongue plate.
2. Slowly pull out the lap/shoulder belt.
3. Insert the plate into the buckle until you hear a click.



⚠ WARNING

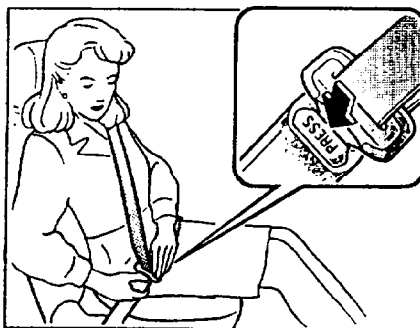
Positioning the Lap Portion of the Seat Belt:

The lap portion of the seat belt worn too high can be dangerous. In a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap portion of the belt snugly and as low as possible.

⚠ WARNING

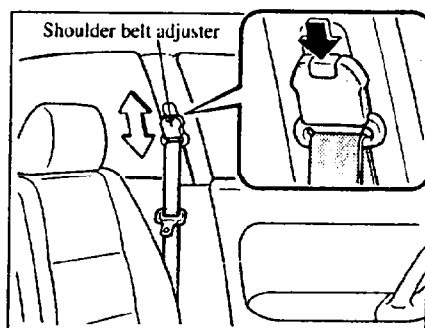
Positioning the Shoulder Portion of the Seat Belt:

Failure to position the shoulder portion of the seat belt properly reduces the amount of protection in an accident and increases the chance of injury. Make sure the shoulder portion of the seat belt is positioned across your shoulder near your neck, not on your neck or upper arm.



To unfasten:

Depress the buckle release.



▼ Shoulder belt adjuster

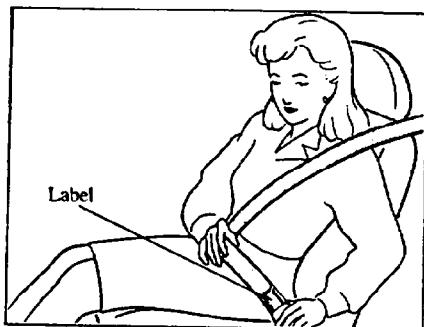
This adjusts the shoulder belt angle for a more comfortable fit. Simply push the button, move it to the desired position, and then release it. Make sure the adjuster is locked.



⚠ WARNING

Positioning the Shoulder Portion of the Seat Belt:

Failure to position the shoulder portion of the seat belt properly reduces the amount of protection in an accident and increases the chance of injury. Make sure the shoulder portion of the seat belt is positioned across your shoulder near your neck, not on your neck or upper arm.



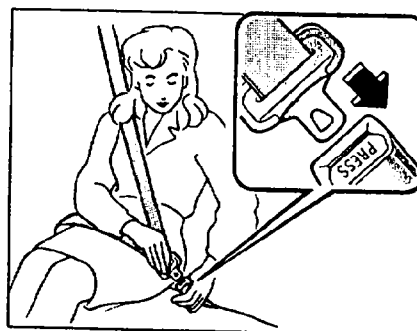
■ Seat Belt Caution Label

A caution label is inside the sleeve of each front seat lap belt. If a belt is used in an accident, the stress will cause this label to be pulled from the sleeve.

This indicates that the seat belt must be replaced.

Also, if the seat belt undergoes excessive stress at any time, the belt's webbing, metal fittings, and anchor bolt may be damaged. The damage may not be apparent, so the

seat belt should be replaced after this kind of stress, even if the label is not exposed.



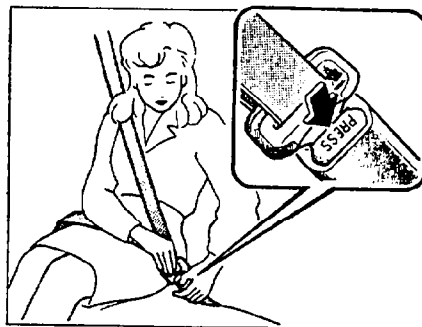
■ Rear Seat Belts

▼ Lap/shoulder belt

To fasten:

1. Grasp the tongue plate and pull it to the desired length.
2. Insert this plate into the buckle until you hear a click.

The retractor will take up excess belt and maintain tension.



To unfasten:

Depress the button on the buckle.

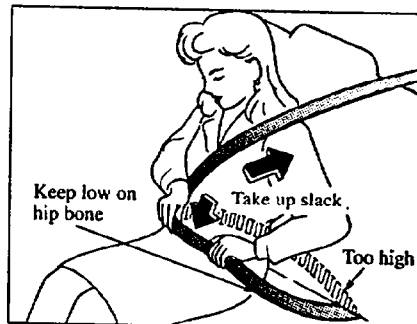
NOTE

If a belt does not fully retract, inspect it for kinks and twists.

⚠ WARNING

Positioning the Shoulder Portion of the Seat Belt:

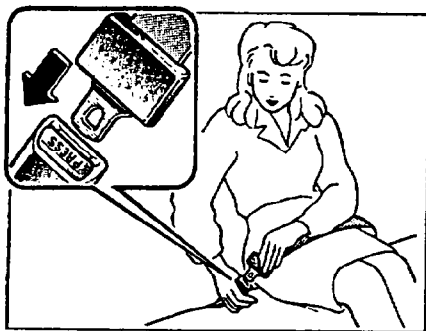
Failure to position the shoulder portion of the seat belt properly reduces the amount of protection in an accident and increases the chance of injury. Make sure the shoulder portion of the seat belt is positioned across your shoulder near your neck, not on your neck or upper arm.



⚠ WARNING

Positioning the Lap Portion of the Seat Belt:

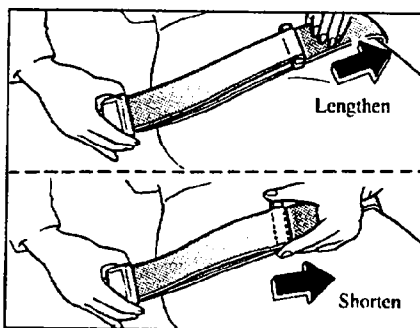
The lap portion of the seat belt worn too high can be dangerous. In a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap portion of the belt snugly and as low as possible.



▼ Lap belt

To fasten:

1. Pull the tongue to the desired length.
2. Insert it into the buckle until you hear a click.

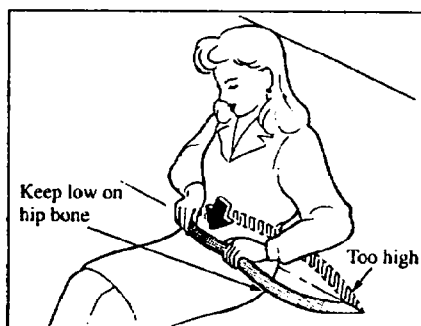


3. To lengthen the belt, hold the tongue at a right angle to the webbing and pull; to shorten, pull the loose end of the webbing.



To unfasten:

Depress the button on the buckle.



■ Pregnant Women

Pregnant women should wear seat belt assemblies as recommended by their doctors. The lap belt should be worn **SNUGLY AND AS LOW AS POSSIBLE**.

■ Small Children

Small children should be protected by a child-restraint system that meets the Federal Motor Vehicle Safety Standard (FMVSS).

It should fit the seat and the child.

⚠ WARNING

Wearing the Lap Belt:

A lap belt worn too high can be dangerous. In a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap belt snugly and as low as possible.

NOTE

Every child-restraint system is designed for use with a lap belt or the lap-belt portion of a lap/shoulder belt.

Follow all instructions when installing a child-restraint system, which should be secured with the lap portion of the lap/shoulder belt. Since accident statistics reveal that a child is safer in the rear seat, we recommend that the child-restraint system be placed in the rear seat.

WARNING

Unsecured Restraint System:

A child restraint system that is not securely fastened down can be dangerous. In a sudden stop or collision, it can become a projectile and hit someone, causing serious injury. When not in use, remove it from the vehicle or fasten it with a seat belt.

WARNING

Unattended Children:

Leaving children unattended in a vehicle can be dangerous. In hot weather, temperatures inside a parked vehicle can become high enough to cause brain damage or even death. Never leave children or animals unattended in the vehicle.

WARNING

Child-Restraint Anchor:

Your Mazda has no child-restraint anchor. Therefore, using a child-restraint system that requires an anchor can be dangerous. In a collision, it would not be properly secured; thus it could move around in the cabin and seriously injure someone. Use only a system designed for use without an anchor.

WARNING

Holding a Child:

A child should never be held on the lap or in the arms of a passenger in a moving vehicle. No matter how strong a person may be, he or she cannot hold a child during an accident. The child may thus be injured by hitting parts of the vehicle or by being crushed by an unrestrained passenger.

WARNING

Child Restraint Positioning:

Child restraints used in the front seat and which face the rear are unsafe. The restraint can be hit by a deploying air bag, moved out of position, and result in your child being seriously injured. Don't use child restraints which face the rear in the front seat.

■ Older Children

A child who has outgrown child-restraint systems should sit in the rear and use seat belts, both lap and shoulder. If the shoulder belt crosses the neck or face, move the child closer to the center.

Accident statistics reveal that a child is safer in the rear seat.

CAUTION

A seat belt or child restraint can become very hot in a closed vehicle during warm weather. To avoid burning yourself or a child, inspect either before using.

Supplemental Restraint System

In a front-end accident, the supplemental restraint system with air bags is designed to provide protection for the driver and front seat passenger in addition to the three-point seat belt system.

WARNING

The Importance of Seat Belts:

The air bags must have assistance from the seat belt system to provide its best protection. Alone, an air bag may not prevent severe injury in an accident. Vehicle occupants should always wear seat belts.

WARNING

Air Bag Activation:

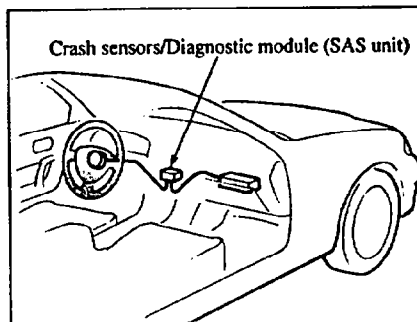
The air bags will inflate only during a frontal or near-frontal collision that is at least moderate in force. In other kinds of accidents, such as side impact, rear impact or roll over, only seat belts can protect occupants because the air bags will not activate. Vehicle occupants should always wear seat belts to help reduce the possibility of injury during a sudden stop or an accident.

Small children, those under 40 lbs. (18 kg), should be protected by a child restraint system.

WARNING

Child Restraint Positioning:

Child restraints used in the front seat and which face the rear are unsafe. The restraint can be hit by a deploying air bag, moved out of position, and result in your child being seriously injured. Don't use child restraints which face the rear in the front seat.

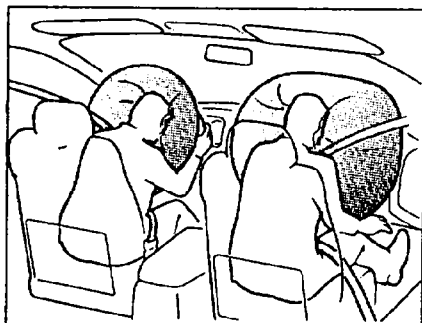


■ **System Description**

The supplemental restraint system has two basic subsystems:

- 1) The air bag system with inflator and air bags
- 2) The electric system with crash sensors and diagnostic module

The air bags are mounted in the center of the steering wheel and passenger side of the dashboard, but they are out of sight until activated.



■ **How Air Bags Work**

When air bag crash sensors detect a greater than moderate frontal impact, an electrical current is sent to the inflators. Nitrogen gas is produced to inflate both bags. After the inflation, they quickly deflate.

WARNING

Seating Position:

Sitting too close to an air-bag storage compartment or placing hands on it increases the risk of injury if the air bags inflate. The driver should hold onto only the steering wheel rim. Front seat occupants should adjust their seats as far back as possible and always sit upright against the seat backs.

NOTE

- During a severe front-end impact, you will hear a loud inflation noise and some smoke will be released.

Neither will cause injury, and the smoke doesn't indicate a fire.

- The air bags will function only once. After that, the air bags will not work again and must be replaced.

Only an Authorized Mazda Dealer can replace the system.

⚠ WARNING

Modification of the Air Bag System:

Modifying the components or wiring of the Air Bag System is dangerous. You could accidentally activate it or make it inoperable. Don't make any modifications to the Air Bag System. This includes installing trim, badges, and anything else over the air bag storage areas and extra electrical/electronics equipment on or near system components and wiring.

⚠ WARNING

Air Bag Storage Area:

Attaching an object to an air bag storage area or placing one in front of it is dangerous. In an accident, the object could interfere with air bag inflation or injure the occupants. Always keep the air bag storage areas free of objects.

⚠ WARNING

Air Bag Inspection after a Collision:

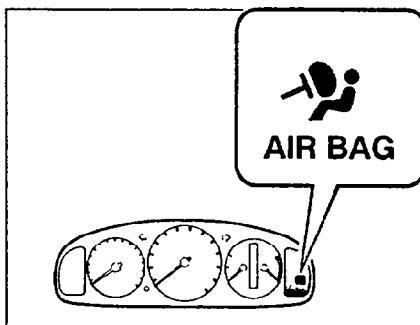
If your Mazda was in a collision not strong enough to inflate the air bags, parts on which the sensors are mounted may be distorted, and without repairs the system may not operate when necessary. Have an Authorized Mazda Dealer make a very careful inspection of the system.

■ Constant Monitoring

These components are monitored by the supplemental restraint system warning light or beeper:

- SAS unit
- Air bag modules
- Related wiring
- Warning light

A diagnostic module continuously monitors the system's readiness. This begins when the ignition is turned on and continues while the vehicle is being driven.



▼ Warning light

If the supplemental restraint system is OK, the warning light comes on when the ignition is turned on or after the engine is cranked. After about 6 seconds it goes out.

A system malfunction is indicated when this light constantly flashes or stays on or if it doesn't come on at all. If one of these happens, consult an Authorized Mazda Dealer as soon as possible. The system may not work in an accident.

▼ Warning beeper

A warning light is the basic method of reporting the system's condition.

But if the light is out and a malfunction occurs, a series of beeps will be heard.

This also signals need for servicing. Consult an Authorized Mazda Dealer at your first opportunity.

These beeps will continue until the reason for the light being out is taken care of.

Again: if this happens, the system may not work in an accident.

 WARNING

Supplemental Restrain System Service:
Don't try to self-service the system. Tampering with it could cause it to activate, and this could result in injury. For servicing and repairs, have an Authorized Mazda Dealer do the work.

 WARNING

Air Bag Disposal:
Disposing of an air bag can be dangerous. Unless all safety procedures are followed, injury can result. Ask an Authorized Mazda Dealer how to safely dispose of an air bag or how to scrap an air bag equipped vehicle.

■ **Maintenance**

This air bag system is maintenance-free. But if any of the following occurs, take your vehicle to an Authorized Mazda Dealer as soon as possible.

- Warning light flashes
- Warning light stays on
- Warning light stays off when the ignition is turned on and warning beeps sound
- Air bag inflates

NOTE

Should you sell your Mazda, we urge you to tell the new owner it has an air bag system and that he or she should become familiar with all instructions about it in the Owner's Manual.