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

HONDA MOTOR COMPANY, LTD. JAPAN
1994 Acura Integra
3-door hatch-back

NHTSA NUMBER: CR5309

CALSPAN TEST NUMBER: 8183-4

April 18, 1994

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ADVANCED TECHNOLOGY CENTER
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FINAL REPORT

PREPARED FOR:

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National Highway Traffic Safety Administration
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16. Abstract A 30 mph vehicle safety compliance test was conducted on a 1994 Acura Integra 3-door hatch-back. This test was performed at the Calspan Advanced Technology Center in Buffalo, New York on April 18, 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 29.4 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 airbag and a passenger airbag 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 1994 Acura Integra 3-door hatch-back, 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 CR5309

A frontal barrier was impacted by a 1994 Acura Integra 3-door hatch-back at a velocity of 29.4 mph. The test was performed at the Calspan Corporation Advanced Technology Center on April 18, 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 334. The maximum chest deceleration over 3 milliseconds was 54.4 g's. The maximum force on the driver's left femur was -1744.0 pounds and -1622.5 pounds on the right femur.

The right front passenger's HIC was 320. The maximum chest deceleration over 3 milliseconds was 52.3 g's. Loads of -1242.7 and -1434.6 pounds were recorded on the left and right femurs respectively.

Table 1

CRASH TEST SUMMARY

Vehicle NHTSA No. :	<u>CR5309</u>	Test Mode :	<u>30 mph Frontal Barrier</u>
Test Date :	<u>April 18, 1994</u>	Time:	<u>11:35</u> Temperature : <u>70</u> °F
Vehicle Make/Model/Body Style :	<u>1994 Acura Integra 3-door hatch-back</u>		
Vehicle Test Weight :	<u>2950</u>	lbs	
Vehicle/Barrier Impact Angle :	<u>0</u>	°	
Impact Velocity :	<u>29.4</u>	mph	
Maximum Static Crush :	<u>14.0</u>	inches	
Vehicle Rebound :	<u>7.8</u>	inches	
<u>DUMMIES:</u>	<u>DRIVER</u>	<u>PASSENGER</u>	
Type :	<u>Part 572B</u>	<u>Part 572B</u>	
Restraint System :	<u>Air bag</u>	<u>Air bag</u>	
Number of Data Channels :	<u>24</u>		
Number of Cameras :	<u>1</u>	Real Time	
	<u>14</u>	High Speed	
<u>DOOR OPENING DATA :</u>	<u>Closed/Operable</u>	- Left Front	
	<u>Closed/Operable</u>	- Right Front	
Front Seat(s) Data :	<u>DRIVER</u>	<u>PASSENGER</u>	
Seat Track Failure :	<u>None</u>	<u>None</u>	
		Inches of shift	
Seat Back Failure :	<u>0.0</u>	<u>0.0</u>	
<u>VISIBLE DUMMY CONTACT POINTS :</u>	<u>DRIVER</u>	<u>PASSENGER</u>	
Head :	Face with air bag, forehead and top of head with sunvisor and windshield, top of head with sunvisor clip.	Face with air bag, forehead and top of head with sunvisor and windshield, rear of head with head rest.	
Abdomen :	<u>Air bag</u>	<u>Air bag</u>	
Chest	<u>Air bag</u>	<u>Air bag</u>	
Knees	<u>Lower dash panel.</u>	<u>Glove box door and dash panel.</u>	

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATATEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1994 Acura Integra 3-door hatch-back

NHTSA No. : CR5309 ; VIN: JH4DC4340RS034969 ; Color : White

Engine Data: 4 cylinders; - CID; 1.8 Liters; - cc

Placement : - Longitudinal or In-Line; X Transverse of Lateral

Transmission Data : 5 speeds; X Manual; - Automatic; - Overdrive

Final Drive : - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel Drive

Major Options : - A/C; X Pwr.Strg.; X Pwr. Brakes
X Pwr. Windows; - Pwr. Door Locks; X Tilt Wheel

Date Received : 3/22/94 ; Odometer Reading 75.0 miles

Selling Dealer : ACURA CITY

& Address: 3300 West Henrietta Road, Rochester, N.Y. 14623

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : HONDA MOTOR COMPANY, LTD. JAPAN

Date of Manufacture December, 1993

GVWR : 3680 lbs.; GAWR: 1985 lbs. FRONT; 1740 lbs. REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 29 psi FRONT
29 psi REAR

Recommended Tire Size : P195/60 R14 85H

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

Size of Tires on Test Vehicle: P195/60 R14 85H ; Manufacturer: Bridgestone

Vehicle Capacity Data :

Type of Front Seats:	<u>-</u> Bench;	<u>X</u> Bucket;	<u>-</u> Split Bench
Number of Occupants:	<u>2</u> Front;	<u>2</u> Rear;	<u>4</u> Total
Vehicle Capacity Weight (VCW)	=	<u>700</u>	lbs.
No. of Occupants x 150 lbs.	=	<u>600</u>	lbs.
Rated Cargo/Luggage Weight (RCLW)	=	<u>100</u>	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	=	<u>780</u>	lbs.	Right Rear	=	<u>480</u>	lbs.
Left Front	=	<u>780</u>	lbs.	Left Rear	=	<u>490</u>	lbs.
TOTAL FRONT	=	<u>1,560</u>	lbs.	TOTAL REAR	=	<u>970</u>	lbs.

TOTAL DELIVERED WEIGHT = 2,530.0 lbs.% of Total Front of Vehicle Weight = 61.7 % of Total Rear Weight = 38.3 %CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight	=	<u>2,530</u>	lbs.
Rated Cargo/Luggage Weight (RCLW)	=	<u>100</u>	lbs.
Weight of 2 p.572 Dummies @ 164 each	=	<u>328</u>	lbs.
TARGET TEST WEIGHT	=	<u>2,958</u>	lbs.

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 92 POUNDS OF CARGO WEIGHT:

Right Front	=	<u>850</u>	lbs.	Right Rear	=	<u>630</u>	lbs.
Left Front	=	<u>860</u>	lbs.	Left Rear	=	<u>610</u>	lbs.
TOTAL FRONT	=	<u>1,710</u>	lbs.	TOTAL REAR	=	<u>1,240</u>	lbs.

TOTAL TEST WEIGHT = 2,950.0 lbs.% of Total Front Weight = 58.0 % % of Total Rear Weight = 42.0 %Weight of Ballast Secured in Vehicle Trunk Area = 0 lbs.Vehicle Components Removed for Weight Reduction: NoneVEHICLE ATTITUDE (all dimension in inches) :

AS DELIVERED :	RF	<u>26.2</u>	LF	<u>26.1</u>	RR	<u>26.4</u>	LR	<u>26.3</u>
FULLY LOADED :	RF	<u>25.1</u>	LF	<u>25.3</u>	RR	<u>24.3</u>	LR	<u>24.2</u>
AS TESTED :	RF	<u>25.8</u>	LF	<u>25.8</u>	RR	<u>24.8</u>	LR	<u>24.6</u>
Vehicle's Wheel Base : <u>101.2</u> in.								

Location of Vehicle's C.G. : 42.5 inches rearward of front wheel center.FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual	=	<u>13.2</u>	gallons
Usable Capacity Figure Furnished by COTR	=	<u>13.21</u>	gallons
Test Volume Range (92 to 94% of Usable Capacity)	=	<u>12.14</u> to <u>12.41</u>	gallons
ACTUAL TEST VOLUME=	<u>12.3</u>	gallons	(with entire fuel system filled)

Table 3

POST IMPACT DATATYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°
 Test Date : April 18, 1994 Time: 11:35 Temperature: 70 °F
 Vehicle NHTSA No. : CR5309
 Required Impact Velocity Range : 28.9 to 29.9 mph

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

Trap No. 1 = 29.4 mph; Trap No. 2 = 29.3 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 = 168.5 ; C/L = 172.7 ; Left = 168.0
 Post-Test Right = 155.6 ; C/L = 158.7 ; Left = 156.7
 Crush Right = 12.9 ; C/L = 14.0 ; Left = 11.3
 AVERAGE = 12.7 inches

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

Right = 8.2 ; C/L = 6.7 ; Left = 8.5
 AVERAGE = 7.8 inches

DOOR OPENING :

	Left	Right
Front	Closed/Operable	Closed/Operable
Rear	N/A	N/A

SEAT MOVEMENT :

	Seat Back Failure	Seat Shift
Front	None	0.0
Rear	N/A	N/A

Table 3
POST IMPACT (cont.)

GLAZING DAMAGE :

Windshield cracked throughout. Driver and passenger heads contacted windshield.

OTHER NOTABLE IMPACT FEATURES :

Steering wheel rim deformed.

Section 3

OCCUPANT AND VEHICLE DATA

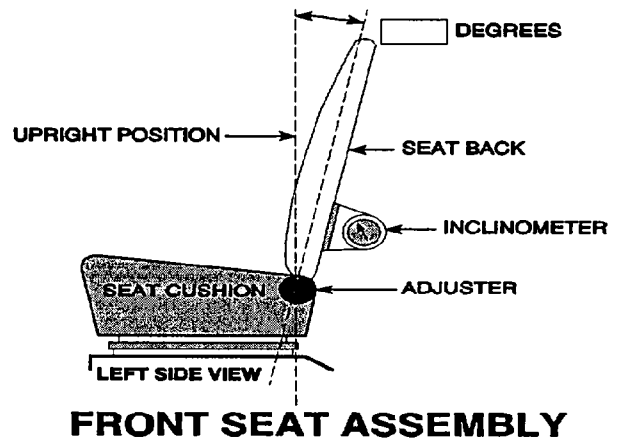
Figure 1

TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1994 Vehicle Model: Acura Integra Body Style : 3-door hatch-back

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 : -

Measurement instructions : Seat back adjusted to 5th latch position from forward-most locking position (zero).

Seat back angle for passenger's seat : -

Measurement instructions : Same as driver seating position.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Seat set at mid-position, 12th detent rearward of forward-most locking position (zero). 25 detents total.

Positioning of the passenger's seat (if applicable) : Seat set at 10th detent rearward of forward-most locking position (zero). 20 detents total.

3. Fuel Tank Capacity Data

A. "Usable Capacity" of the standard equipment fuel tank is 13.2 gallons

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

4. Steering Column Position :

Measured steering column in highest and lowest positions and adjusted to mid-position.

5. Other:

None.

Figure 2

PART 572 DUMMY IN-VEHICLE POSITION

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS

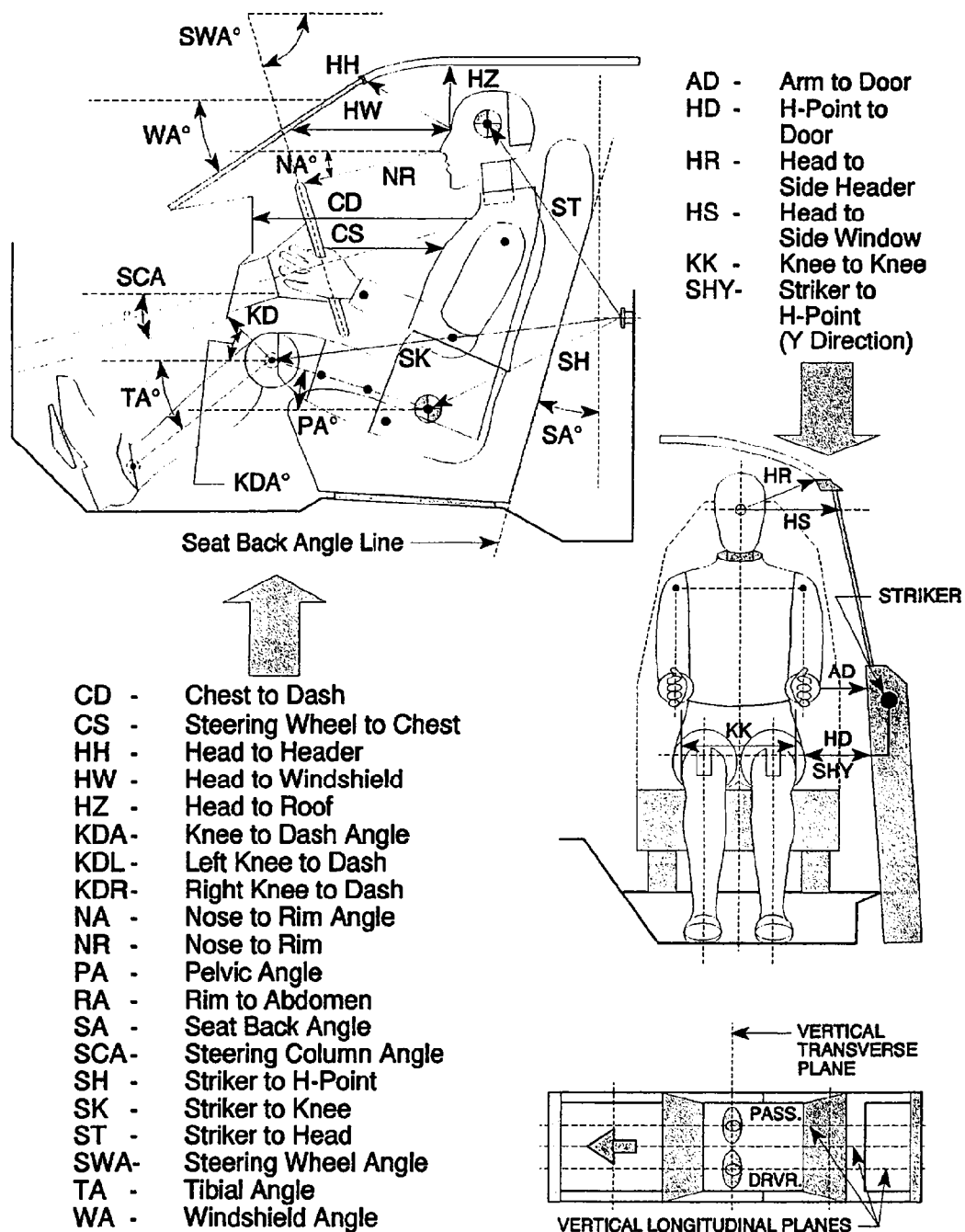


Table 4

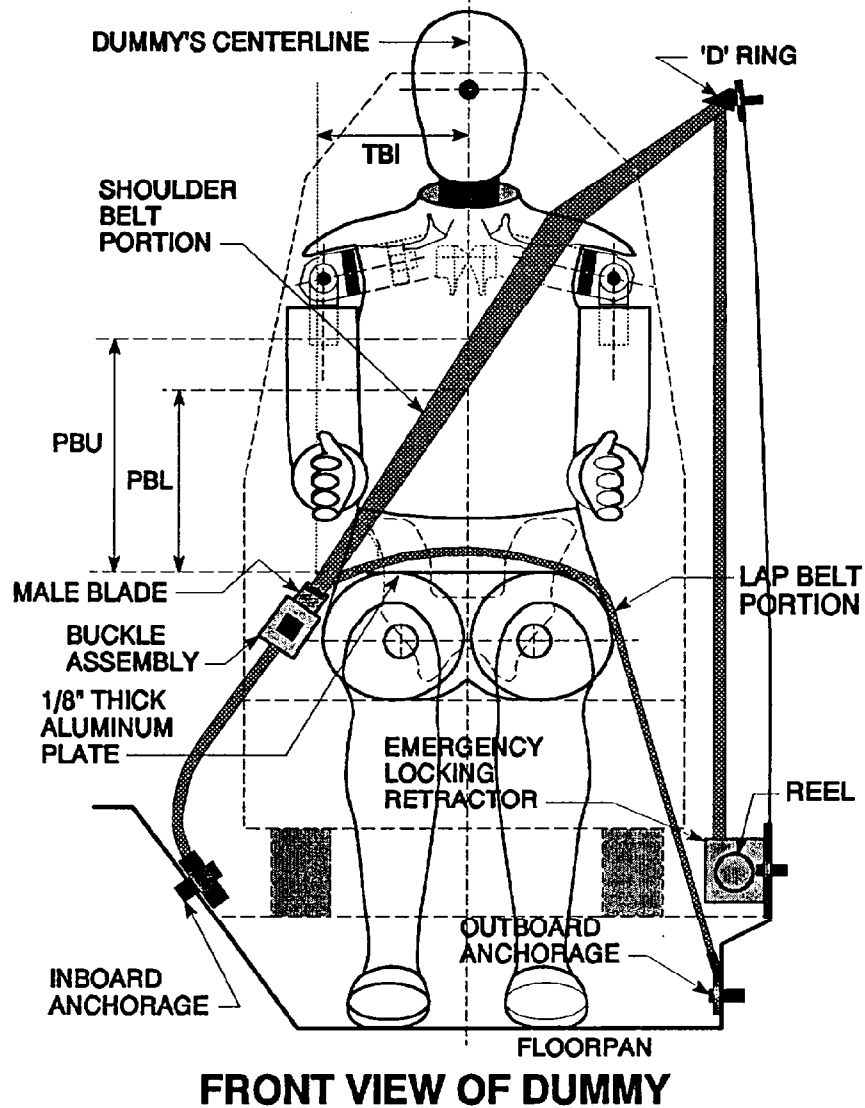
FRONT SEAT OCCUPANT MEASUREMENTS

	DRIVER (Serial #1022)	PASS. (Serial #1019)
WA°	26 deg.	-
SWA°	68.5 deg.	-
SCA°	21.5 deg.	-
SA°	See note	See note
HZ	5.1	5.4
HH	13.6	14.8
HW	18.9	20.7
HR	5.8	5.1 (To handle)
NR	19.5 Angle 17 deg.	-
CD	26.1	25.2
CS	12.9	-
RA	7.6	-
KDL	8.3 Angle (KDA) 38 deg.	8.4
KDR	8.2	8.8 Angle (KDA) 36 deg.
PA°	-	-
TA°	28 deg.	28 deg.
KK	13.1	11.6
ST	18.8 Angle 24 deg.	18.4 Angle 19 deg.
SK	31.1 Angle 102 deg.	30.8 Angle 103 deg.
SH	17.0 Angle 122 deg.	16.1 Angle 124 deg.
SHY	9.5	8.0
HS	9.3	9.7
HD	4.7	4.4
AD	2.7	3.4

Note: Seat back angle positioned according to manufacturer specifications. (See Figure 1).

Figure 3

SEAT BELT POSITIONING DATA



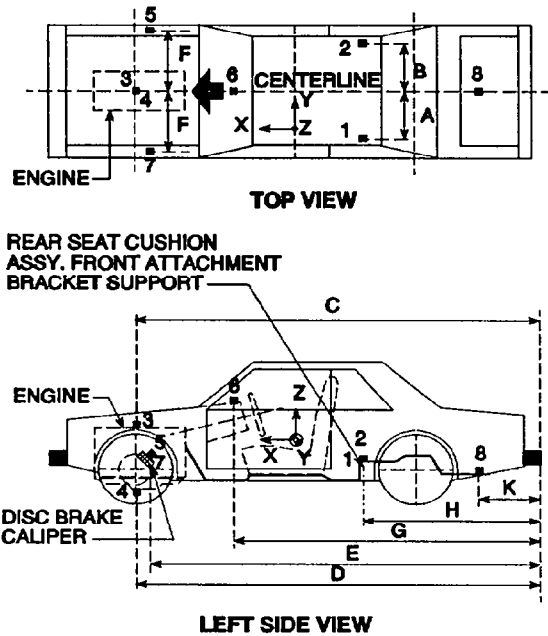
FRONT VIEW OF DUMMY

	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	*	*

* - Seating position equipped with air bag. Manual seat belt not used for this test.

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	20.8	20.8
B	20.8	20.8
C	141.7	137.8
D	140.8	137.0
E	134.7	Right = 133.3 Left = 134.3
F	23.5	Right = 23.4 Left = 24.9
G	104.5	105.2
H	61.8	61.8
K	9.5	9.5

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	1.9	118.3	-36.8	58.0
2	Rear Seat X-Member @ Right Side	2.6	102.4	-38.0	60.5
3	Top of Engine Block	19.4	48.1	-70.7	38.9
4	Bottom of Engine	42.4	51.6	-70.9	41.6
5	Disc Brake Caliper @ Right Side	5.0	102.2	-47.5	51.8
6	Instrument Panel	9.4	89.8	-44.9	49.6
7	Disc Brake Caliper @ Left Side	6.2	41.9	-73.6	29.5
8	Trunk	13.4	112.0	-11.1	108.1

Figure 5

CAMERA POSITIONS FOR FRONTAL IMPACTS

NOTE: Camera Information shown on Table 5.

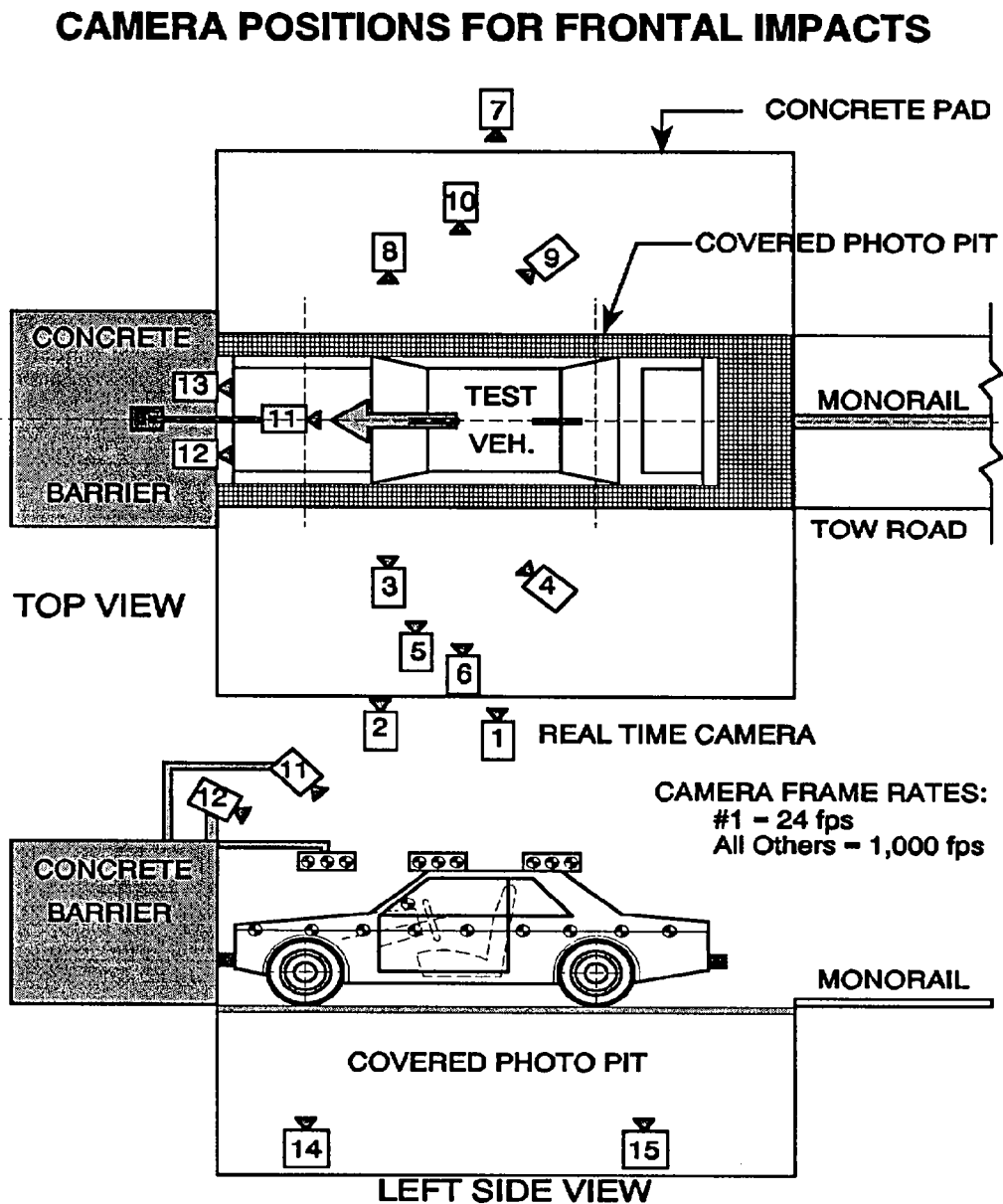


Table 6

HIGH-SPEED CAMERA LOCATIONS

Test No.	CR5309	Vehicle:	1994 Acura Integra 3-door hatch-back					
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	227	68	42	-3	212.2	13	1040
3	Left Side View	314	45	41	-3	299.2	25	1020
4	Driver and Interior View	113	109	76	-24	-	13	925
5	Steering Column (Bottom)	260	77	46	-3	245.2	25	1050
6	Steering Column (Top)	260	77	70	-9	245.2	25	1060
7	Overall Right Side	230	72	41	-3	215.2	13	1050
8	Right Side View	312	50	41	-2	297.2	25	1135
9	Right Passenger View	307	77	58	-4	292.2	35	1150
10	Passenger and Interior View	110	112	76	-24	-	13	905
11	Passenger Front View	22	19	76	-45	-	13	1020
12	Driver Front View	22	19	76	-43	-	13	1030
13	Windshield View	0	7	126	-61	-	13	1105
14	Pit View of Engine	0	34	-86	90	-	13	700
15	Pit View of Fuel Tank	0	120	-86	90	-	13	700

*X = film plane to monorail centerline

Y = film plane to impact location

Z = film plane to ground

** = referenced to horizontal plane

Figure 6

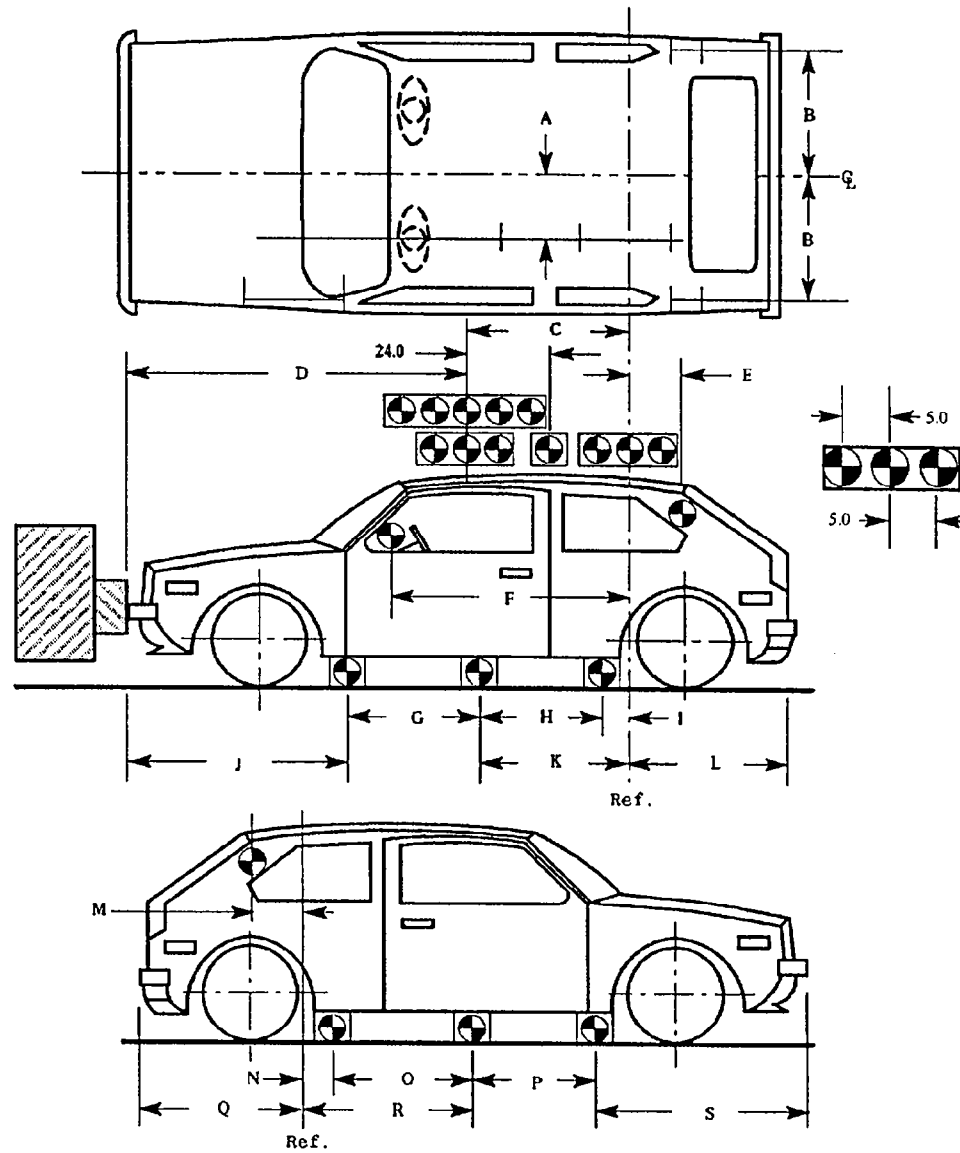
VEHICLE TARGET LOCATIONS
(All dimensions in inches)

Key (Inches)

A = 11.8
B = 19.1

C = 35.0
D = 90.2
E = -5.4
F = 56.8
G = 33.7
H = 33.7
I = 5.2
J = 52.6
K = 38.9
L = 47.5

M = -5.4
N = 5.3
O = 33.7
P = 33.7
Q = 47.5
R = 39.0
S = 52.5



Note: Targets on front fender are 12.0 inches apart.
Targets rearward of front fender are 24.0 inches apart.

Figure 7

TEST VEHICLE MEASUREMENTS

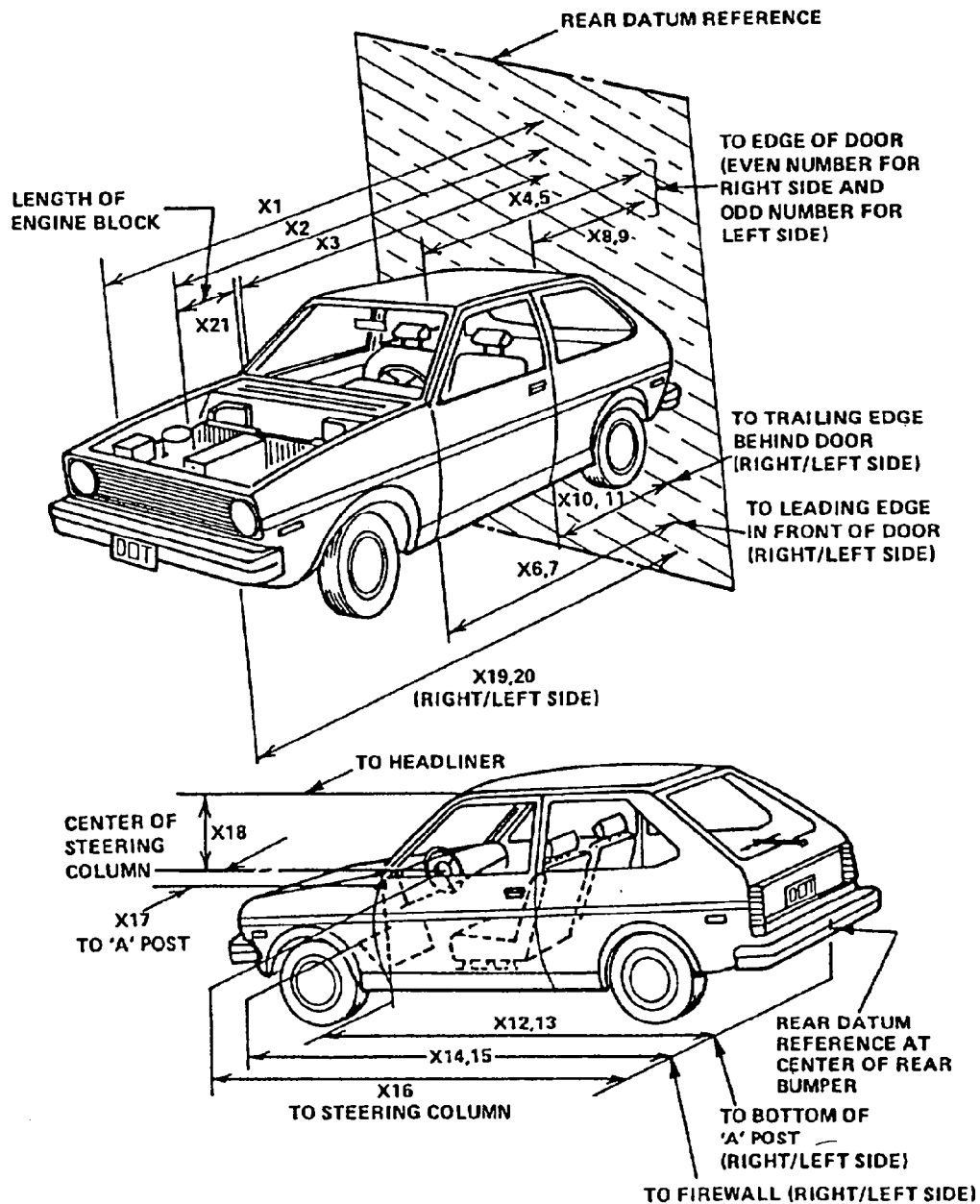


Table 7

VEHICLE MEASUREMENTS

No.		All Dimensions in inches		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	172.7	158.7	14.0
X2	Rear Surface of Vehicle to Front of Engine	150.5	145.7	4.8
X3	Rear Surface of Vehicle to Firewall	128.4	126.2	2.2
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	115.7	115.8	-0.1
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	115.5	115.8	-0.3
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	116.2	115.8	0.4
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	115.8	115.8	0.0
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	67.2	66.9	0.3
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	66.9	67.4	-0.5
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	68.4	68.0	0.4
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	68.2	68.3	-0.1
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	115.2	114.5	0.7
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	114.9	115.0	-0.1
X14	Rear Surface of Vehicle to Firewall, Right Side	125.0	123.4	1.6
X15	Rear Surface of Vehicle to Firewall, Left Side	126.2	125.7	0.5
X16	Rear Surface of Vehicle to Steering Column	96.8	97.8	-1.0
X17	Center of Steering Column to "A" Post	15.5	17.6	-2.1
X18	Center of Steering Column to Headliner	17.5	17.5	0.0
X19	Rear Surface of Vehicle to Right Side of Front Bumper	168.5	155.6	12.9
X20	Rear Surface of Vehicle to Left Side of Front Bumper	168.0	156.7	11.3
X21	Length of Engine Block	19.8	19.8	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. : CR5309 Vehicle : 1994 Acura Integra 3-door hatch-back

	MAXIMUM ACCELERATION (g's)								
	HEAD				CHEST				
	X	Y	Z	R	X	Y	Z	R*	Displacement
Dummy (1)	-79.0	-18.1	-89.6	114.1	-54.9	10.1	30.4	54.449	N/A
Dummy (2)	-76.2	-39.7	35.5	78.7	-54.4	-6.2	12.5	52.331	N/A

	MAXIMUM FORCE - FEMUR LOAD (lbs.)	
	LEFT FEMUR	RIGHT FEMUR
Dummy (1)	-1744.0	-1622.5
Dummy (2)	-1242.7	-1434.6

	HEAD INJURY CRITERIA**			
	HIC	36 millisecond Maximum		Avg. Acc (g)
		t ₁ (msec)	t ₂ (msec)	t ₁ TO t ₂
Dummy (1)	334.17	74.160	104.880	41.17
Dummy (2)	320.12	63.000	77.040	55.36

* 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 = continuous 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 = 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 in glove compartment.

The label states the SRS system must be inspected ten years after the date of manufacture shown on the certification plate.

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 :

Readiness indicator located at the top right of the 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. :	CR5309
Make/Model :	1994 Acura Integra 3-door hatch-back
Date of Comfort/Convenience Check :	4-15-94
Technician Performing Check :	D.J.T.
GVWR :	3680 lbs.

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 (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 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	<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 | 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-208-09, dated March 15, 1993. | 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 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 0.7 inch trim along the top and 1.0 inch trim along the sides. The lower portion of the windshield is covered by a plastic shroud.

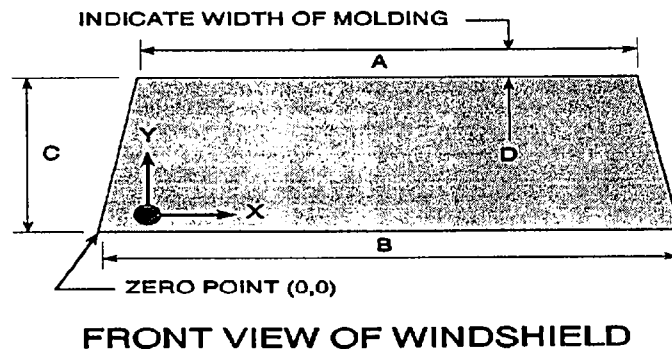
FMVSS 212 REQUIREMENTS :

The Post - Test periphery retention amount must be at least 75% of the Pre - Test periphery measurement for 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	84.1	84.1	100.0
LEFT SIDE	84.1	84.1	100.0
TOTAL	168.2	168.2	100.0

AREA OF RETENTION FAILURE:



FAILURE DETAILS :

none

Figure 9

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

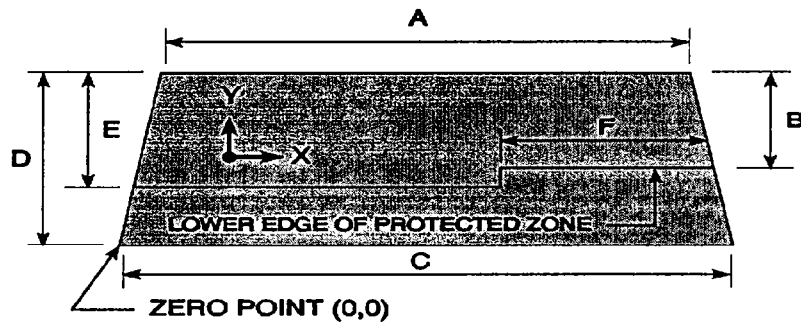
PROTECTED ZONE LOWER EDGE REQUIREMENT :

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=42.4
B=19.2
C=58.0
D=33.7
E=22.8
F=26.8



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		

Table 13
FUEL SYSTEM INTEGRITY POST IMPACT TEST DATA

FMVSS NO. 301

TEST VEHICLE NHTSA NO. : CR5309 TEST DATE : April 18, 1994
Vehicle Mfgr./Make/Model : 1994 Acura Integra 3-door hatch-back

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 five 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 :

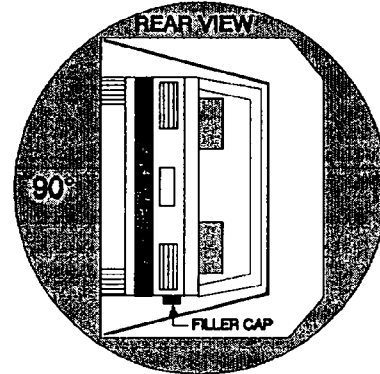
None

Table 14

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE :
0-90 Deg.

Vehicle NHTSA ID No. :
CR5309

I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	58	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	58	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.

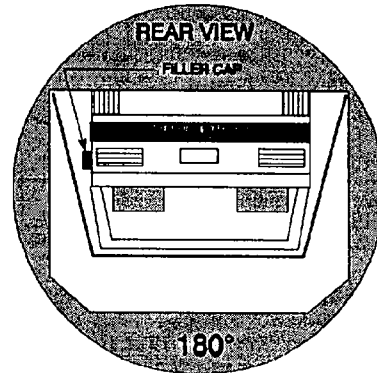
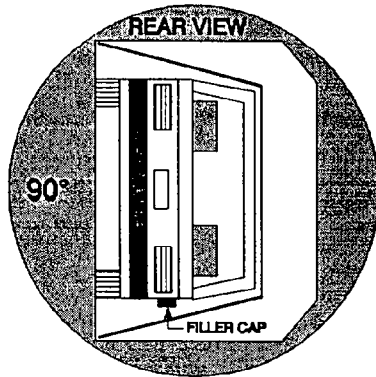
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :
90-180 Deg.

Vehicle NHTSA ID No. :
CR5309



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

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

1 minutes 57 seconds

FMVSS 301 Position Hold Time +

5 minutes 00 seconds

TOTAL

6 minutes 57 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.

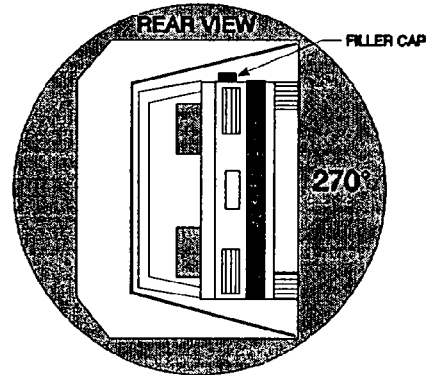
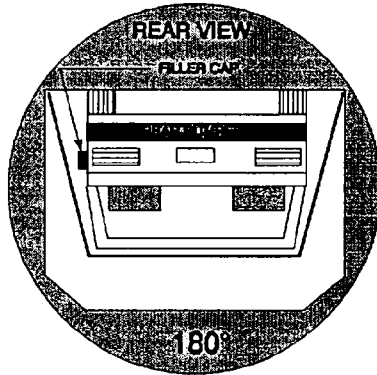
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :
180-270 Deg.

Vehicle NHTSA ID No. :
CR5309



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>1</u>	minutes	<u>44</u>	seconds
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>00</u>	seconds
TOTAL	<u>6</u>	minutes	<u>44</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.

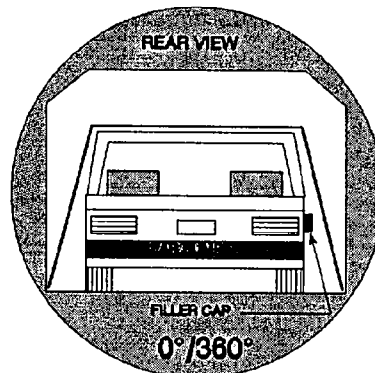
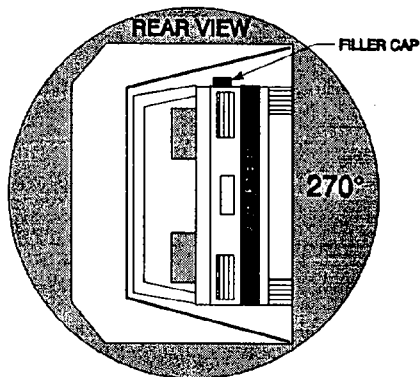
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :
270-360 Deg.

Vehicle NHTSA ID No. :
CR5309



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>2</u>	minutes	<u>27</u>	seconds
FMVSS 301 Position Hold Time +	<u>5</u>	minutes	<u>00</u>	seconds
TOTAL	<u>7</u>	minutes	<u>27</u>	seconds
Next whole minute interval	<u>8</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 15

POST TEST AIR BAG DATANHTSA No. : CR5309; Test Date: April 18, 1994; Technician: D.J.T.Vehicle Model Year/Make/Model: 1994 Acura Integra

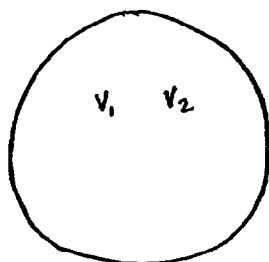
A.	No. of vent holes:	<u>2</u>	-Driver	<u>2</u>	-Passenger
B.	Size of vent holes: (In. ²)	<u>1.5</u>	-Driver	<u>6.6</u>	-Passenger
C.	Total vent area: (In. ²)	<u>3.0</u>	-Driver	<u>13.2</u>	-Passenger
D.	Deflated air bag length and width dimensions or, if round, diameter. (In inches)				
	Driver:	<u>-</u>	-Length;	<u>-</u>	-Width;
				<u>23.3</u>	-Diameter
	Passenger:	<u>19.5</u>	-Height;	<u>18.0</u>	-Width;
				<u>22.0</u>	-Depth

E. Is the air bag tethered?

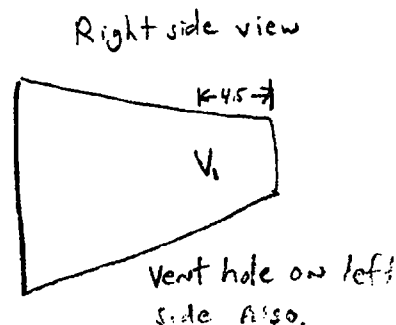
Driver: X -Yes; - -No; If yes, record length of tether- bag sent to NHTSAPassenger: - -Yes; X -No; If yes, record length of tether- n/a

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 tethers are attached to the bag and the steering wheel.

(Note: Not to scale; V_a = Vent hole_a, T_a = Tether_a).



DRIVER



PASSENGER

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

Driver: air bag # 4LDQ99383, all other items sent to NHTSA intact.Passenger: air bag # 7LDQX6977, inflator #'s 7785, ST7-A810 00, M/D 1293, PLD3ZD0230

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: 1994 Acura Integra 3-door hatch-back

VEHICLE NHTSA NO. : CR5309 VIN NO. : JH4DC4340RS034969

WHEELBASE: 101.2 BUILD DATE: December, 1993 TEST DATE: April 18, 1994

VEH SIZE CATEGORY: - TEST WEIGHT: 2950 lbs.

FRONT OVERHANG: 24.6 in OVERALL WIDTH: 67.0 in

COLLISION DEFORMATION (CDC) CODE: 12FDEW2

IMPACT MODE: Frontal Barrier

CRUSH DEPTH DIMENSIONS: (Inches)

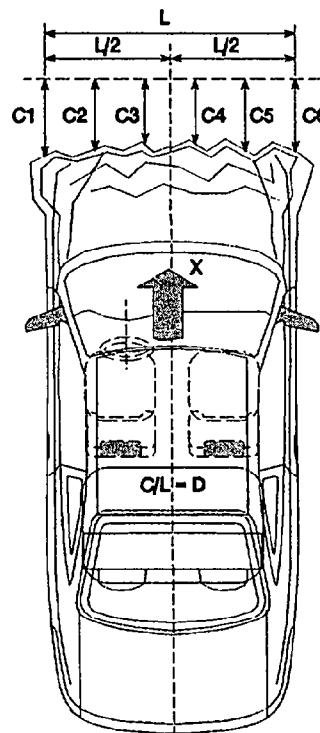
C1 = 10.0 C4 = 14.9

C2 = 12.8 C5 = 16.0

C3 = 13.2 C6 = 10.4

MIDPOINT OF DAMAGE: D =
(Vehicle Longitudinal Centerline) 28.5

LENGTH OF DAMAGE
REGION: L = 57.0



Remarks: -

Table 17
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 : April 18, 1994 Vehicle NHTSA No. : CR5309
Vehicle Manufacturer : HONDA MOTOR COMPANY, LTD. JAPAN
Model Year : 1994 VIN : JH4DC4340RS034969
Model : Integra Body Style: 3-door hatch-back Build Date : December, 1993
Dummy Stabilized Temperature at Time of Test : 70 °F (Spec. = 69 - 72 °F)
Impact Velocity : 29.4 mph; Time of Test : 11:35
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

LIST OF PHOTOGRAPHS

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A-4	POST -TEST LEFT SIDE VIEW	A-6
A-5	PRE-TEST RIGHT SIDE VIEW	A-7
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A-11	PRE-TEST PASSENGER SIDE VIEW	A-13
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A-14	POST-TEST UNDERBODY STEERING SHAFT	A-16
A-15	PRE-TEST STEERING COLUMN/FIREWALL INSIDE VIEW	A-17
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A-21	TIRE PLACARD	A-23
A-22	POST-TEST DRIVER AIRBAG VIEW	A-24
A-23	POST-TEST PASSENGER AIRBAG AND HEAD CONTACT VIEW	A-25
A-24	DRIVER HEAD CONTACT LOCATIONS	A-26

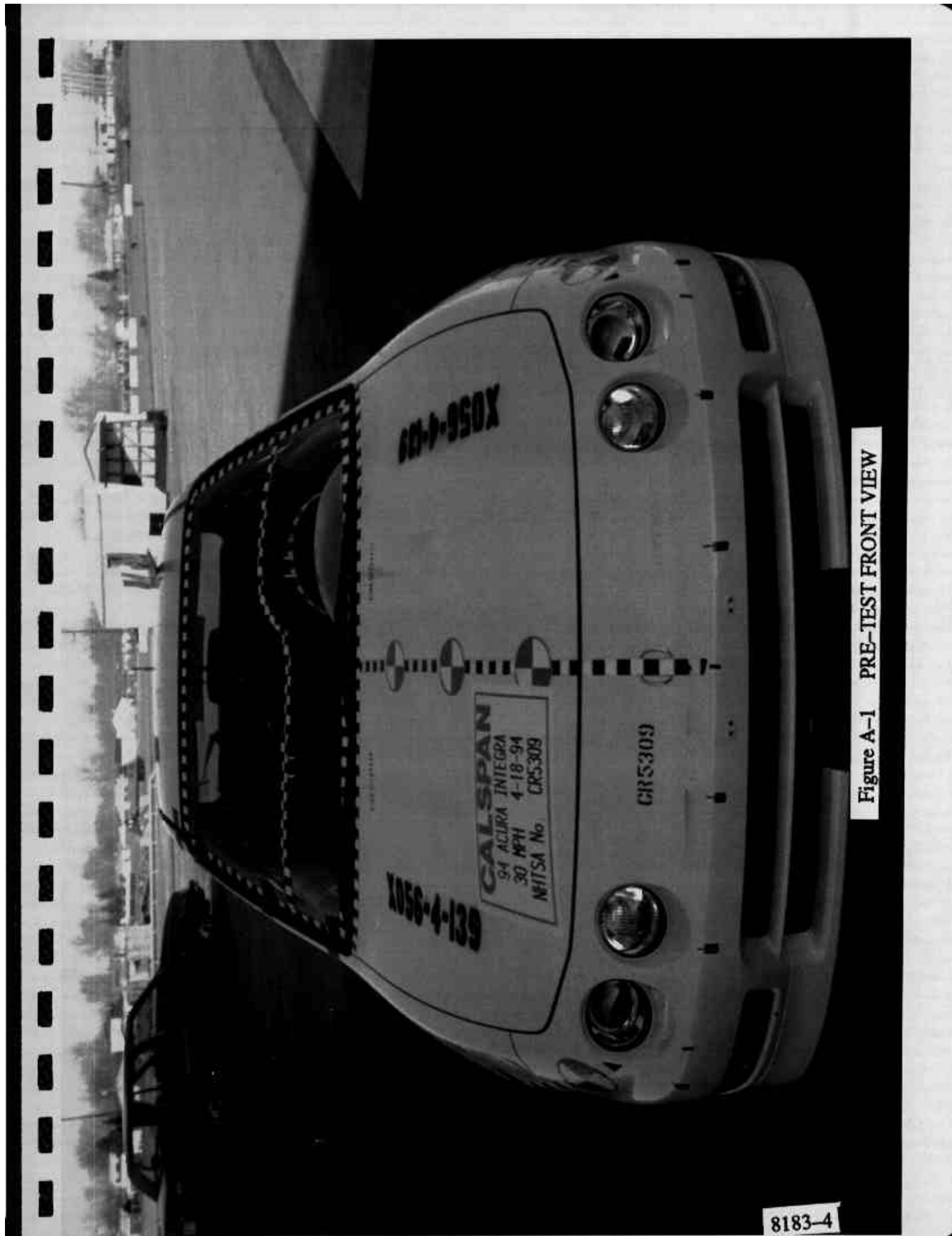


Figure A-1 PRE-TEST FRONT VIEW

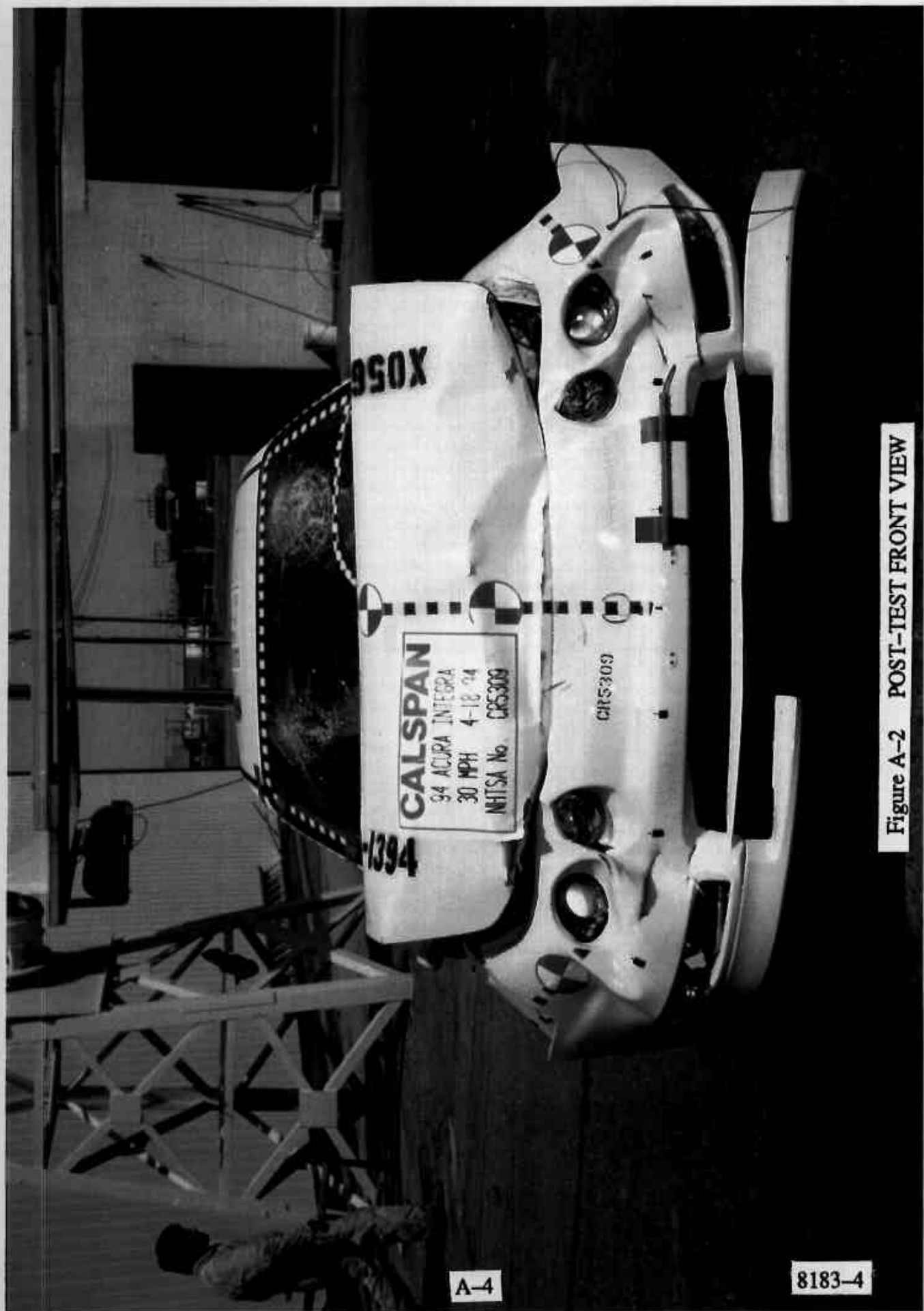


Figure A-2 POST-TEST FRONT VIEW

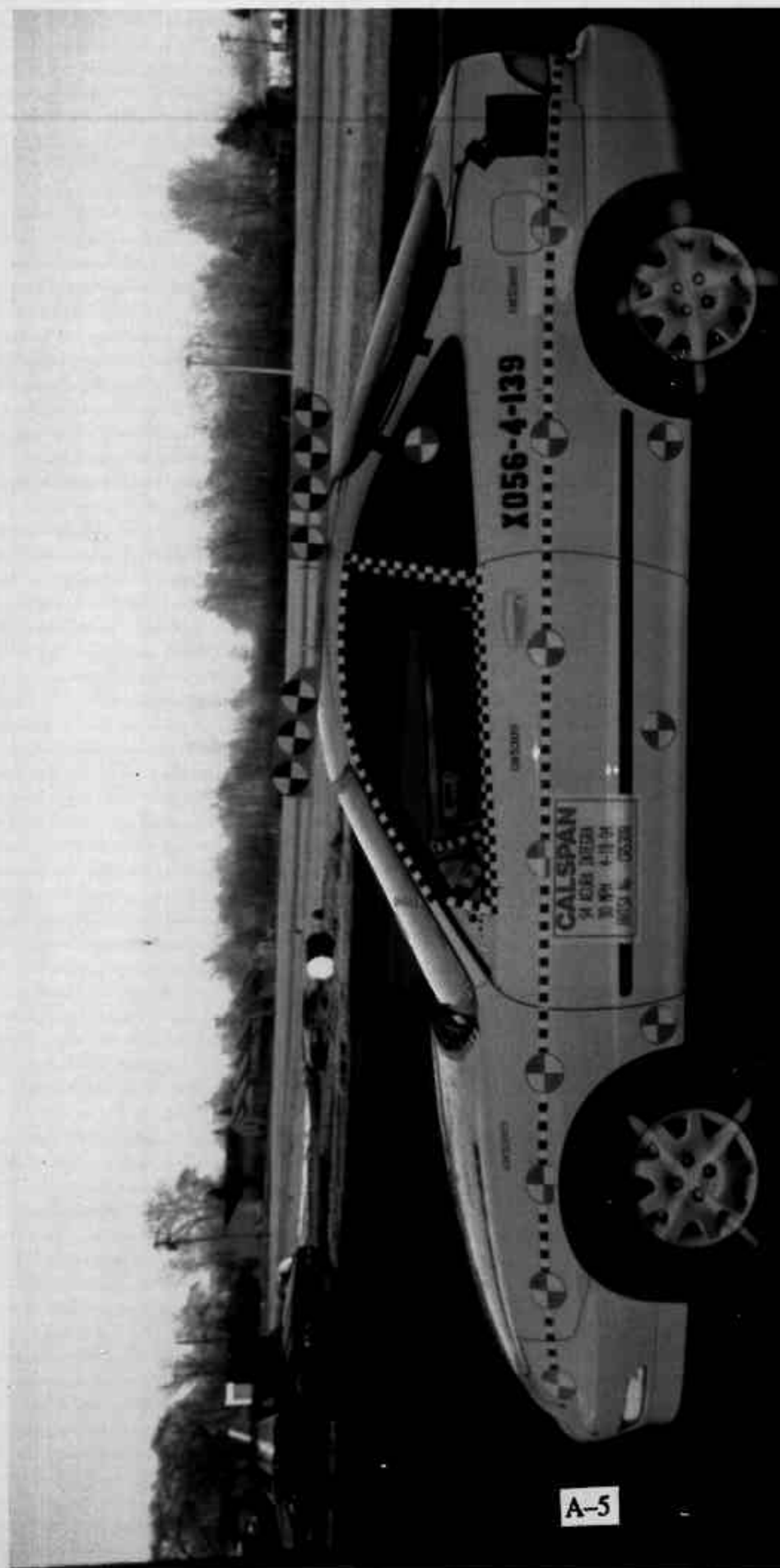


Figure A-3 PRE-TEST LEFT SIDE VIEW

A-5

8183-4

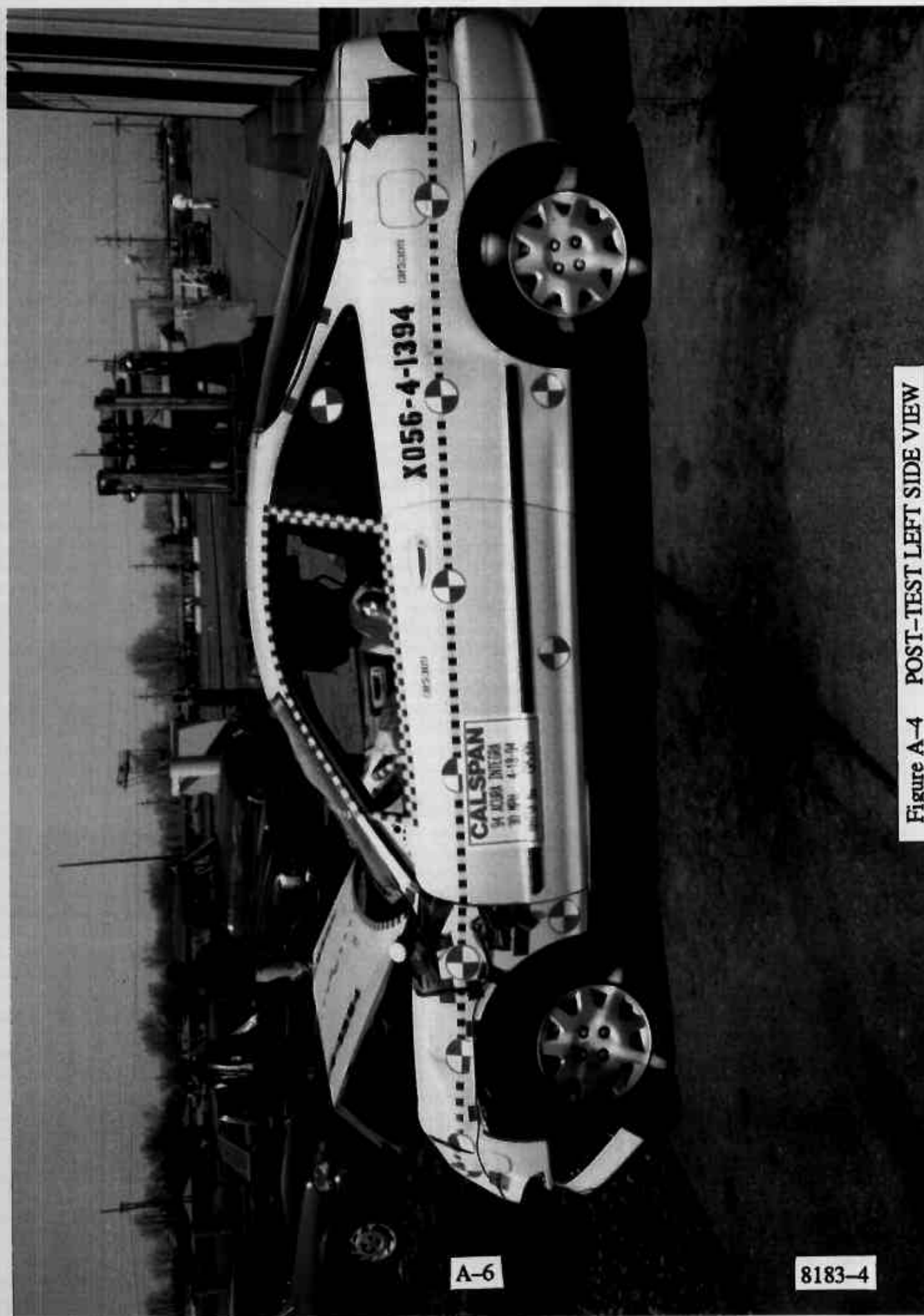


Figure A-4 POST-TEST LEFT SIDE VIEW

A-6

8183-4

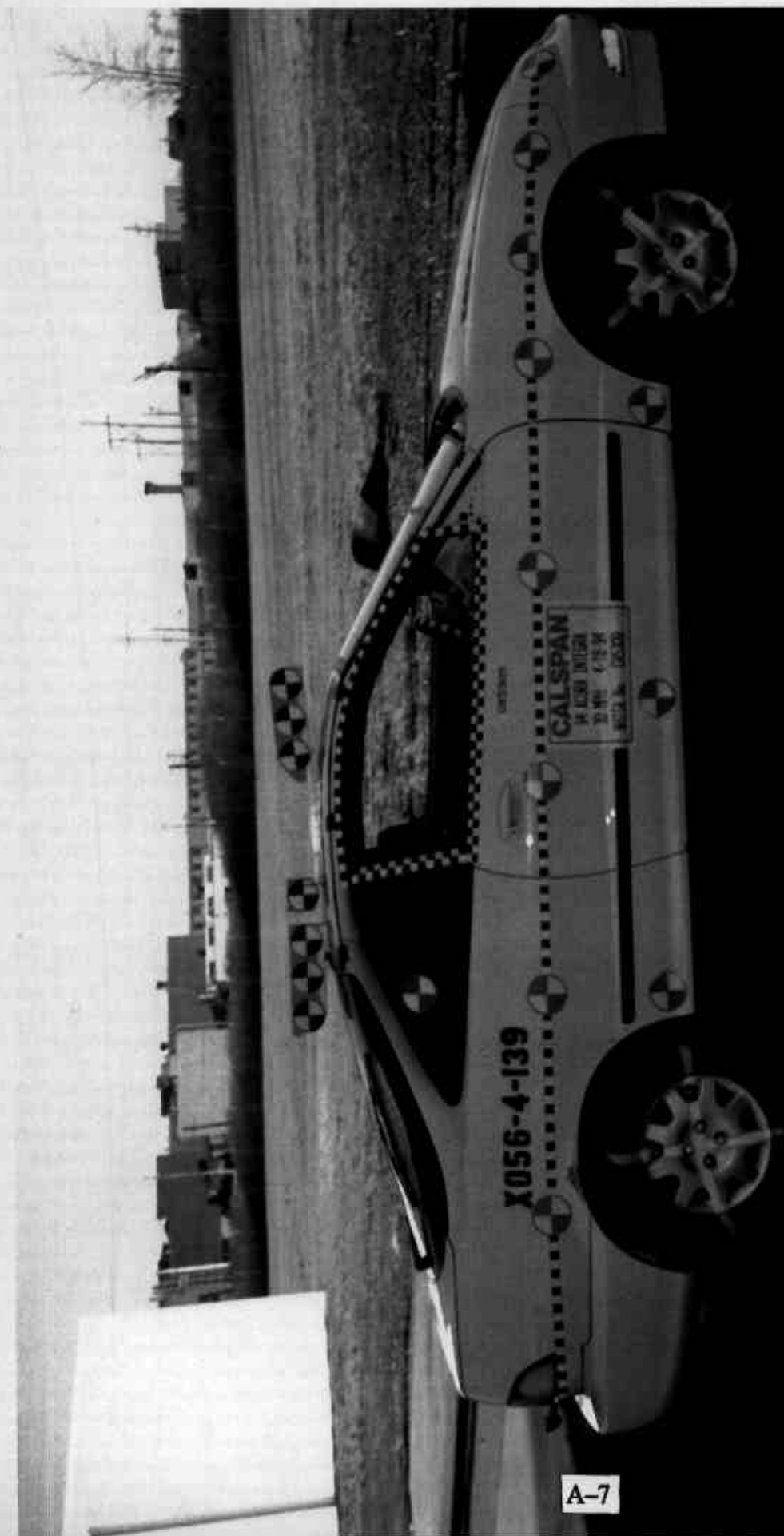


Figure A-5 PRE-TEST RIGHT SIDE VIEW



Figure A-6 POST-TEST RIGHT SIDE VIEW

A-8

8183-4



Figure A-7 PRE-TEST FRONT UNDERBODY VIEW

A-9

8183-4



Figure A-8 POST-TEST FRONT UNDERBODY VIEW

A-10

8183-4



Figure A-9 PRE-TEST DRIVER SIDE VIEW

A-11

8183-4

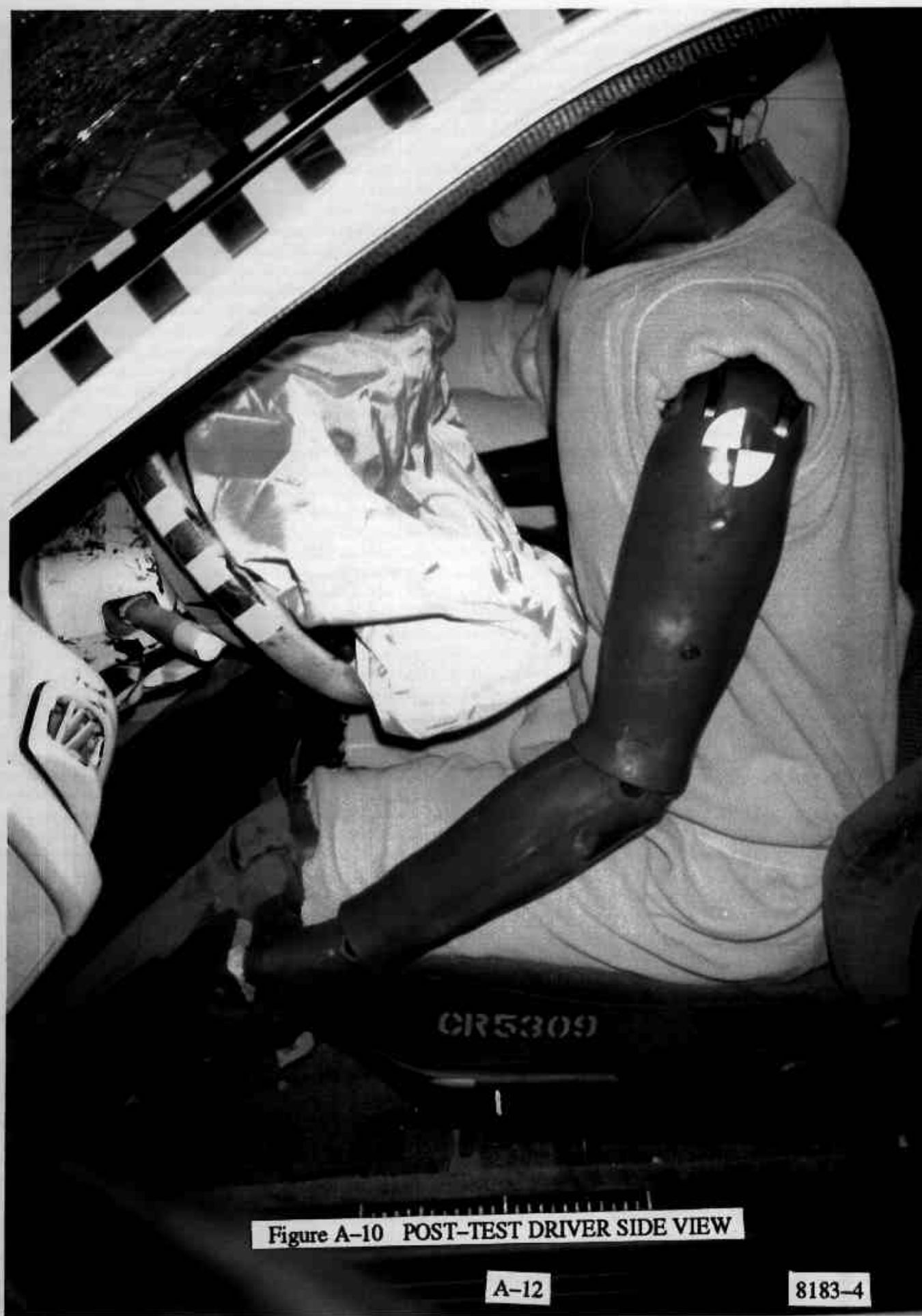


Figure A-10 POST-TEST DRIVER SIDE VIEW



Figure A-11 PRE-TEST PASSENGER SIDE VIEW

A-13

8183-4



Figure A-12 POST-TEST PASSENGER SIDE VIEW

A-14

8183-4



Figure A-13 PRE-TEST UNDERBODY STEERING SHAFT

A-15

8183-4



Figure A-14 POST-TEST UNDERBODY STEERING SHAFT

A-16

8183-4



Figure A-15 PRE-TEST STEERING COLUMN/FIREWALL INSIDE VIEW

A-17

8183-4



Figure A-16 POST-TEST STEERING COLUMN/FIREWALL INSIDE VIEW

A-18

8183-4



Figure A-17 POST-TEST DRIVER KNEE BOLSTER

A-19

8183-4



Figure A-18 POST-TEST PASSENGER KNEE BOLSTER

A-20

8183-4



Figure A-19 VEHICLE IMPACT

MFD. IN JAPAN BY HONDA MOTOR CO., LTD: 12/'93
GVWR 3680LBS GAWR F 1985LBS R 1740LBS
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY, BUMPER,
AND THEFT PREVENTION STANDARDS IN EFFECT
ON THE DATE OF MANUFACTURE SHOWN ABOVE:

V.I.N. JH4DC4340RS034969



PASSENGER CAR

Figure A-20 CERTIFICATION PLACARD

TIRE INFORMATION					TR
SEATING CAPACITY	TOTAL	4	FRONT 2	REAR 2	SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
VEHICLE CAPACITY WEIGHT	700 lbs				
RECOMMENDED TIRE SIZE	COLD TIRE INFLATION PRESSURE				
	FRONT	200kPa, 29psi			
P195/60R14 85H	REAR	200kPa, 29psi			
COMPACT SPARE TIRE	UP TO VEHICLE CAPACITY WEIGHT				INTEGRA RS
T115/70D14	415kPa, 80psi				

Figure A-21 TIRE PLACARD



Figure A-22 POST-TEST DRIVER AIRBAG VIEW

A-24

8183-4



Figure A-23 POST-TEST PASSENGER AIRBAG AND HEAD CONTACT VIEW

A-25

8183-4



Figure A-24 DRIVER HEAD CONTACT LOCATIONS

A-26

8183-4

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. CR5309

VEHICLE

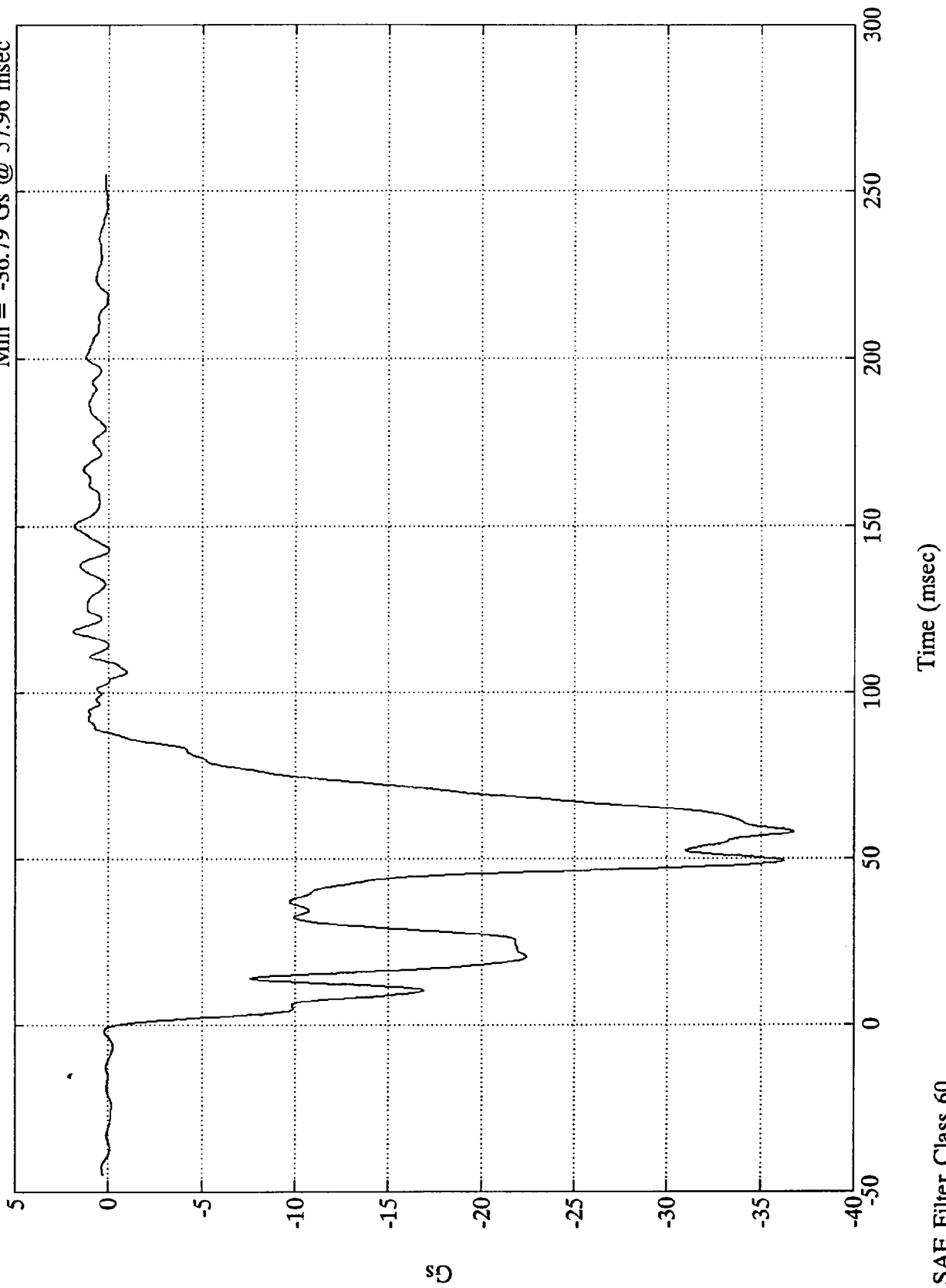
SAE FILTER CHANNEL CLASS

60

FMVSS 208 - 1994 Acura Integra

L. Rear Crossmember X

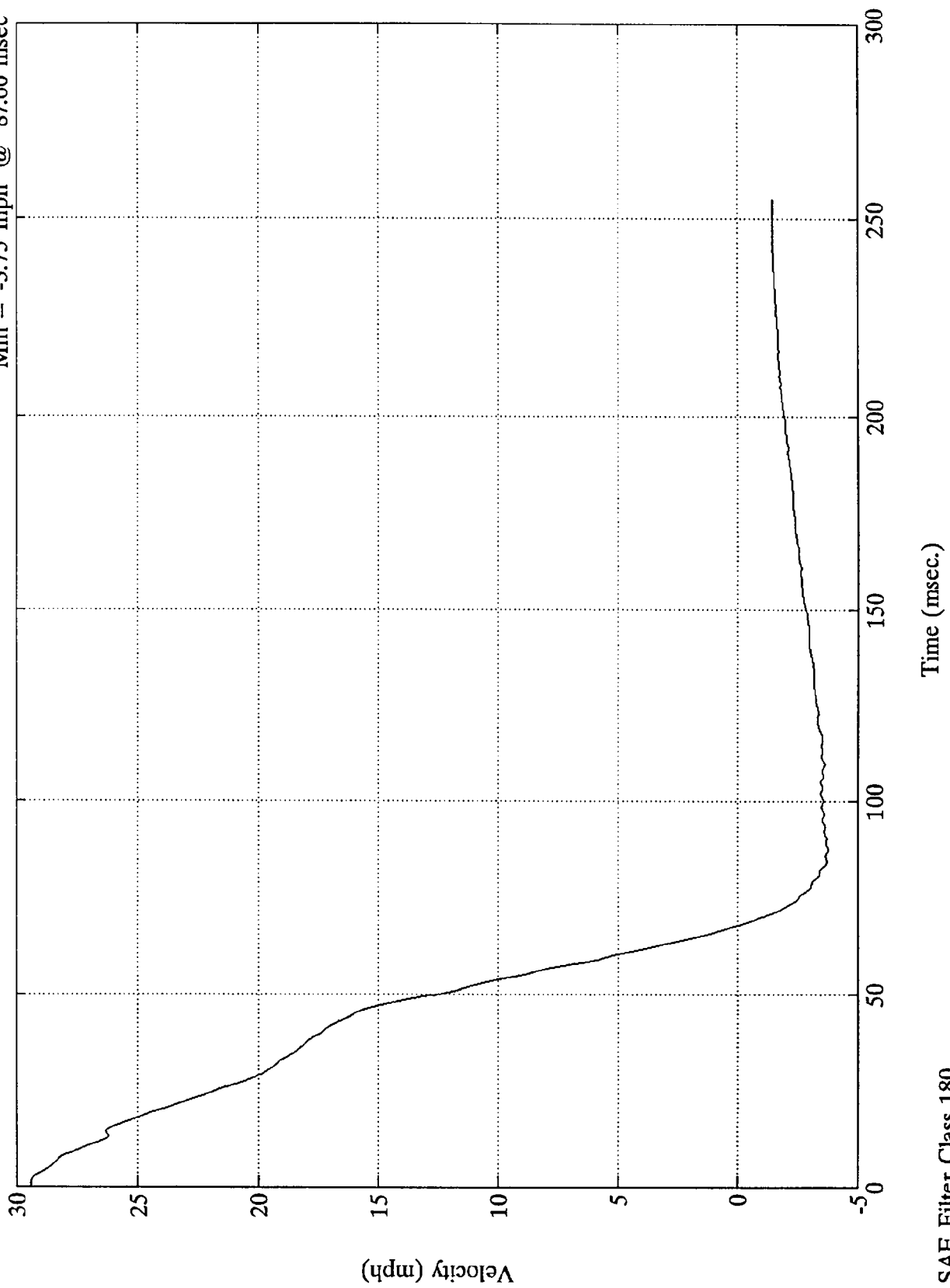
Max = 1.89 Gs @ 118.32 msec
Min = -36.79 Gs @ 57.96 msec



FMVSS 208 - 1994 Acura Integra

L. Rear Crossmember X

Max = 29.41 mph @ 1.44 msec
Min = -3.75 mph @ 87.60 msec

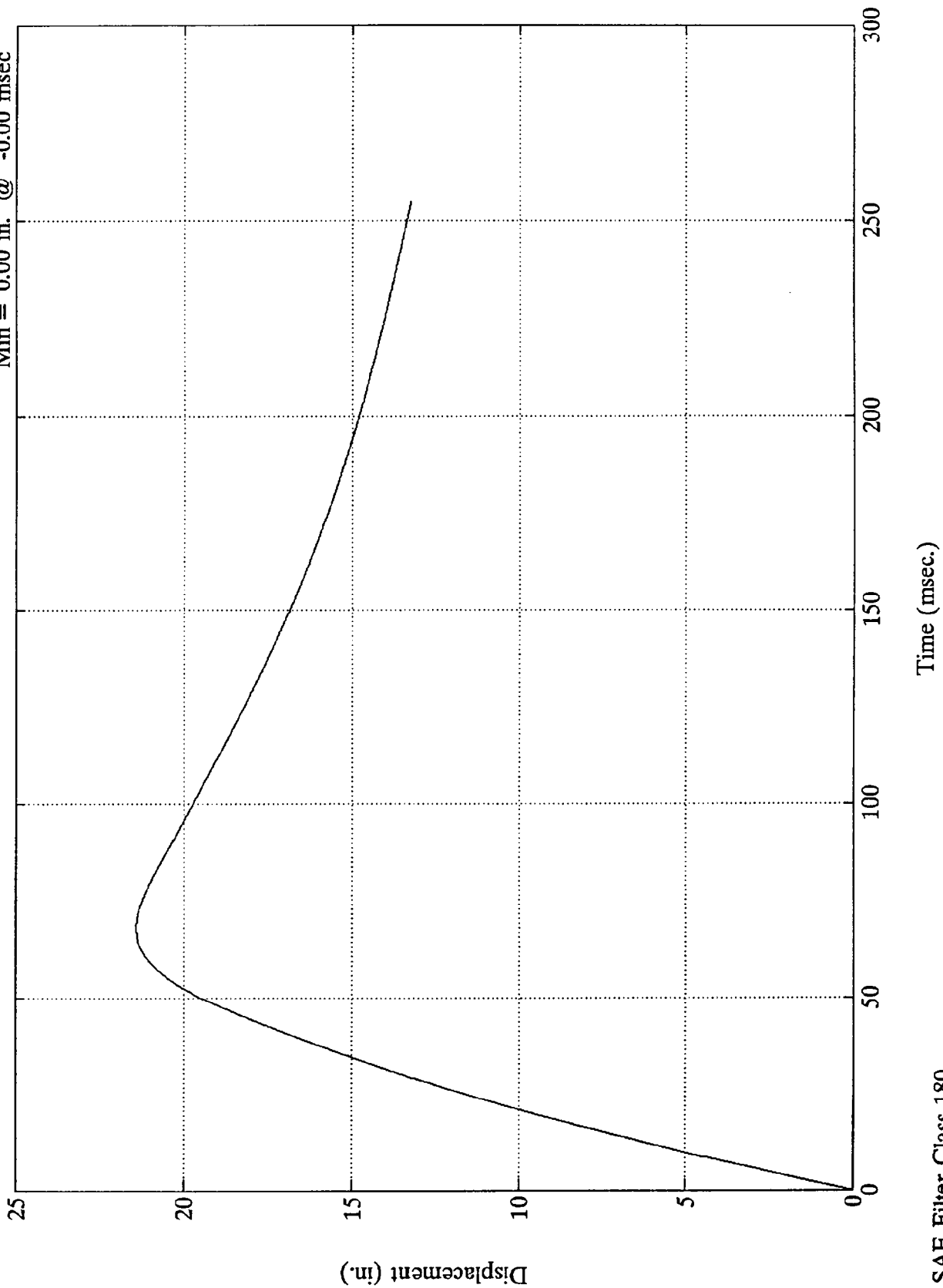


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

L. Rear Crossmember X

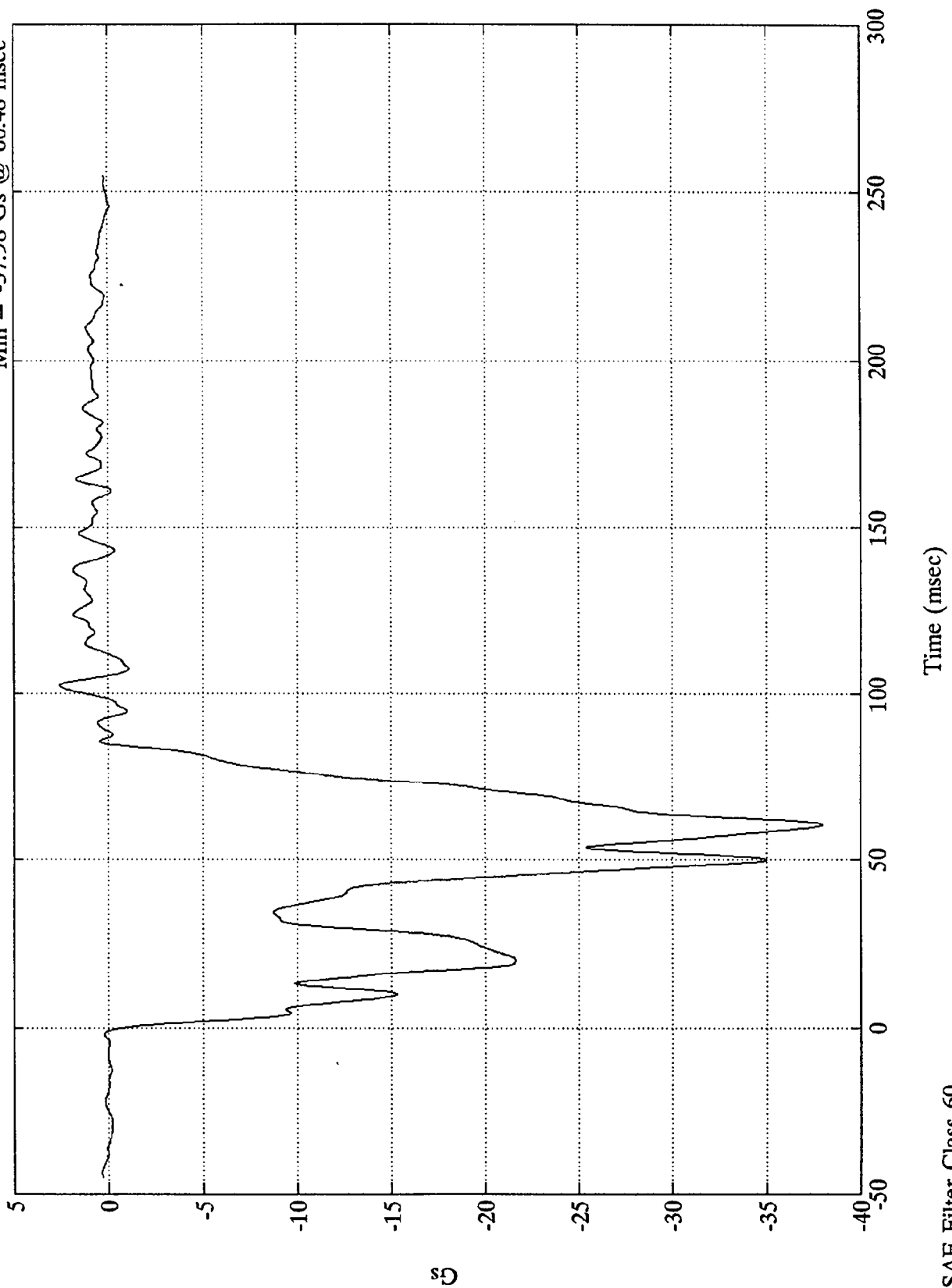
Max = 21.42 in. @ 69.12 msec
Min = 0.00 in. @ -0.00 msec



SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

R. Rear Crossmember X
Max = 2.60 Gs @ 102.36 msec
Min = -37.98 Gs @ 60.48 msec

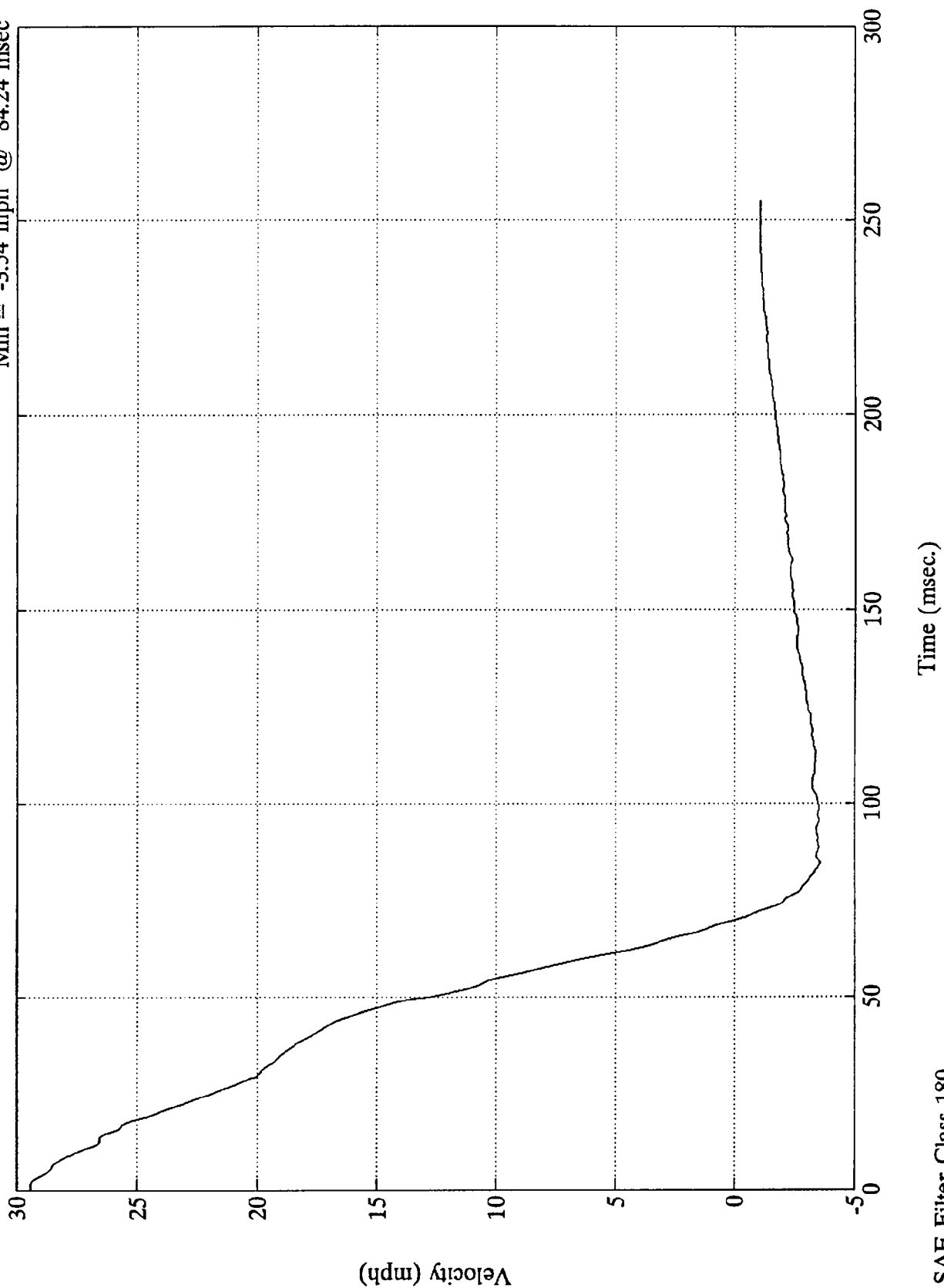


SAE Filter Class 60

FMVSS 208 - 1994 Acura Integra

Max = 29.41 mph @ 1.44 msec
Min = -3.54 mph @ 84.24 msec

R. Rear Crossmember X

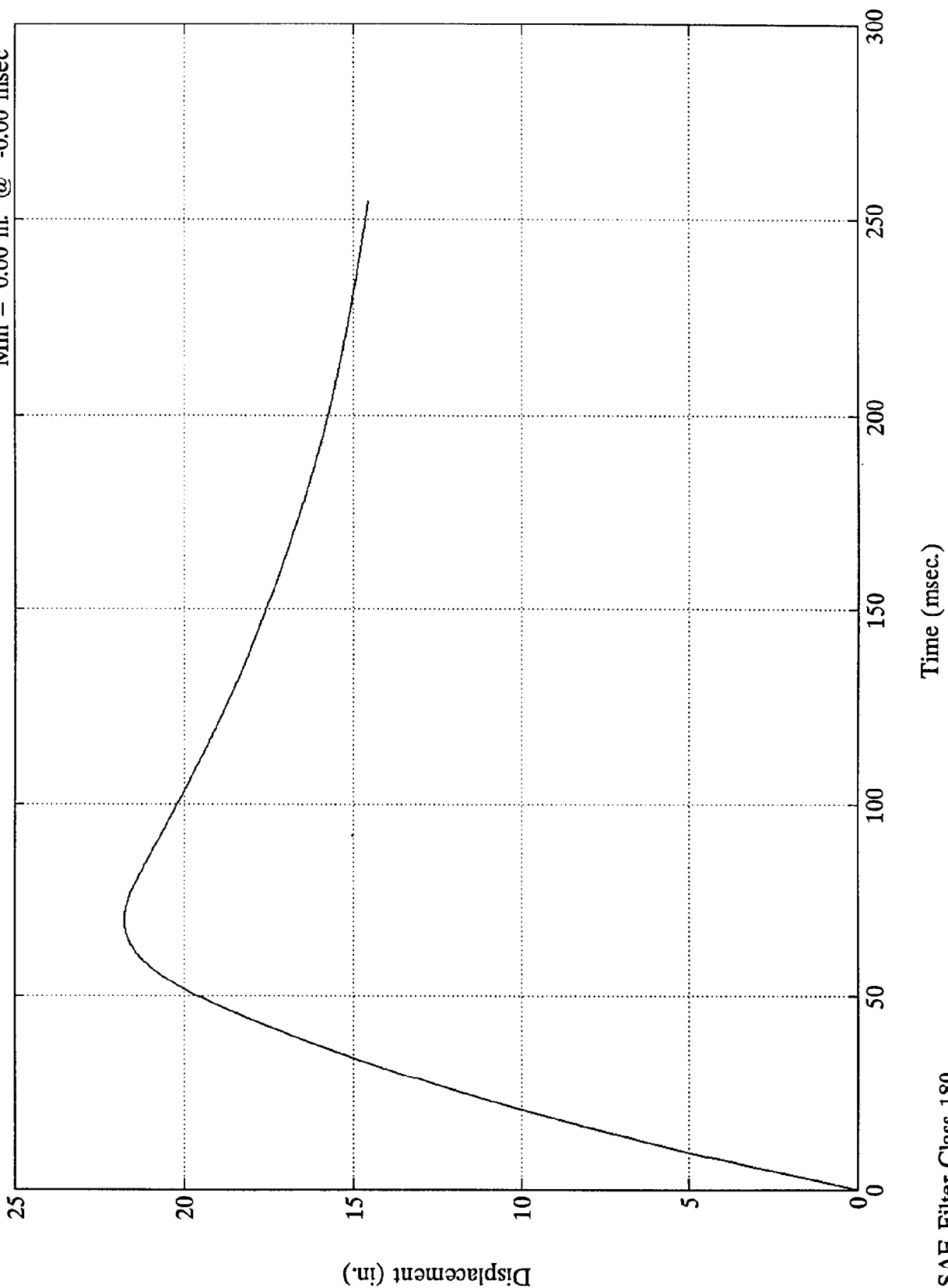


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

R. Rear Crossmember X

Max = 21.77 in. @ 69.84 msec
Min = 0.00 in. @ -0.00 msec

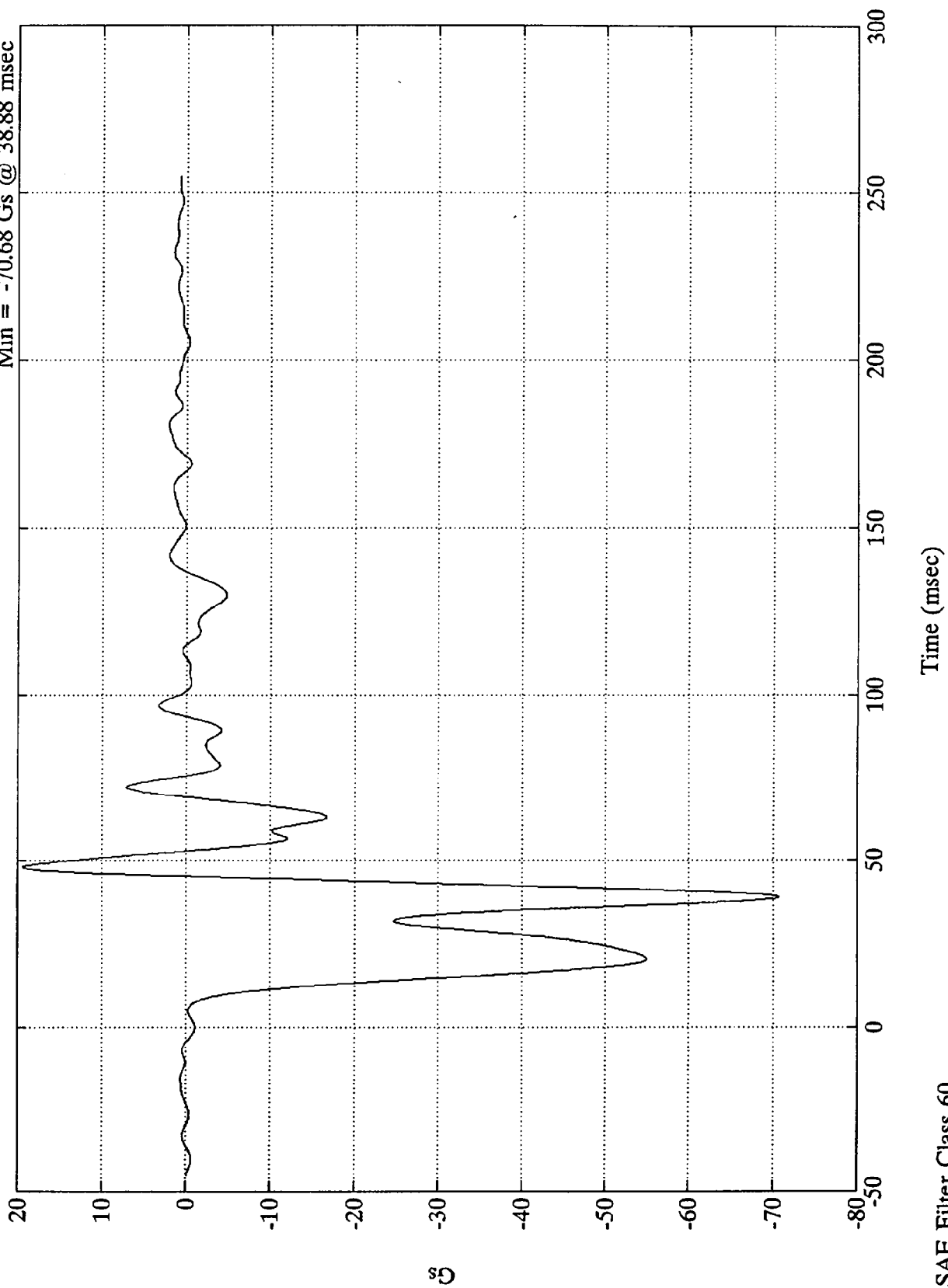


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

Engine Top X

Max = 19.35 Gs @ 48.12 msec
Min = -70.68 Gs @ 38.88 msec

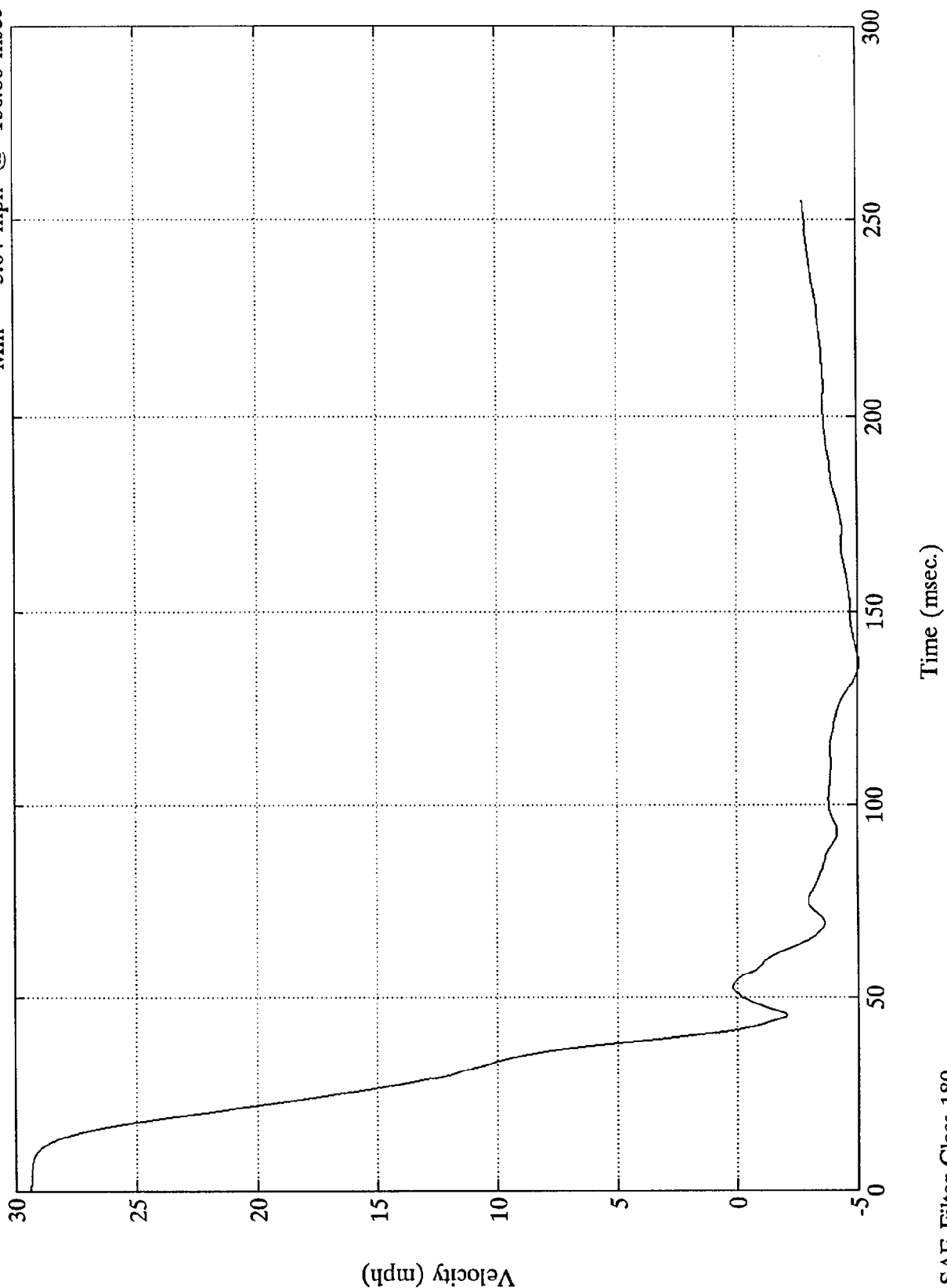


SAE Filter Class 60

FMVSS 208 - 1994 Acura Integra

Max = 29.40 mph @ -0.00 msec
Min = -5.04 mph @ 136.80 msec

Engine Top X

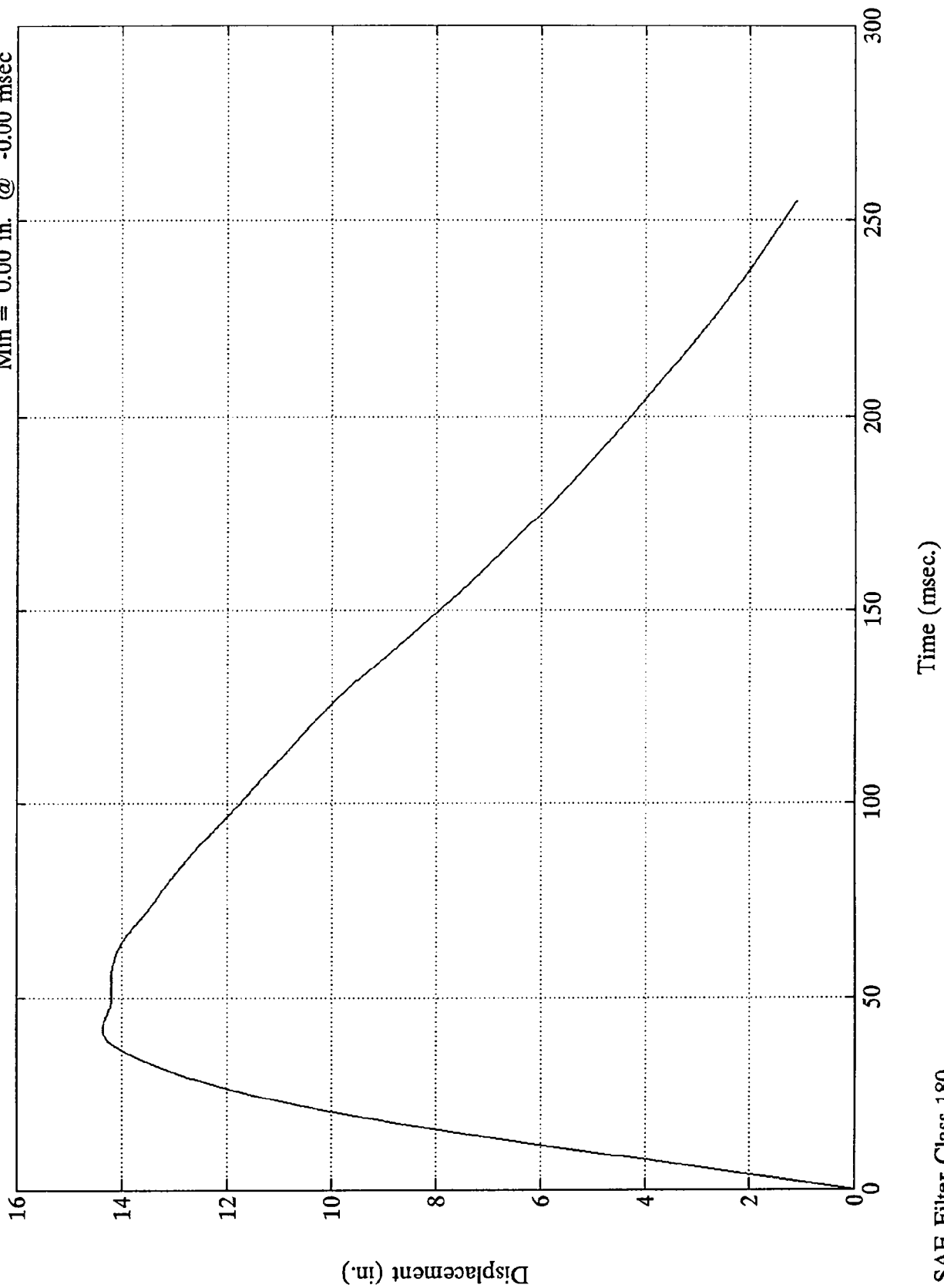


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

Engine Top X

Max = 14.36 in. @ 42.24 msec
Min = 0.00 in. @ -0.00 msec

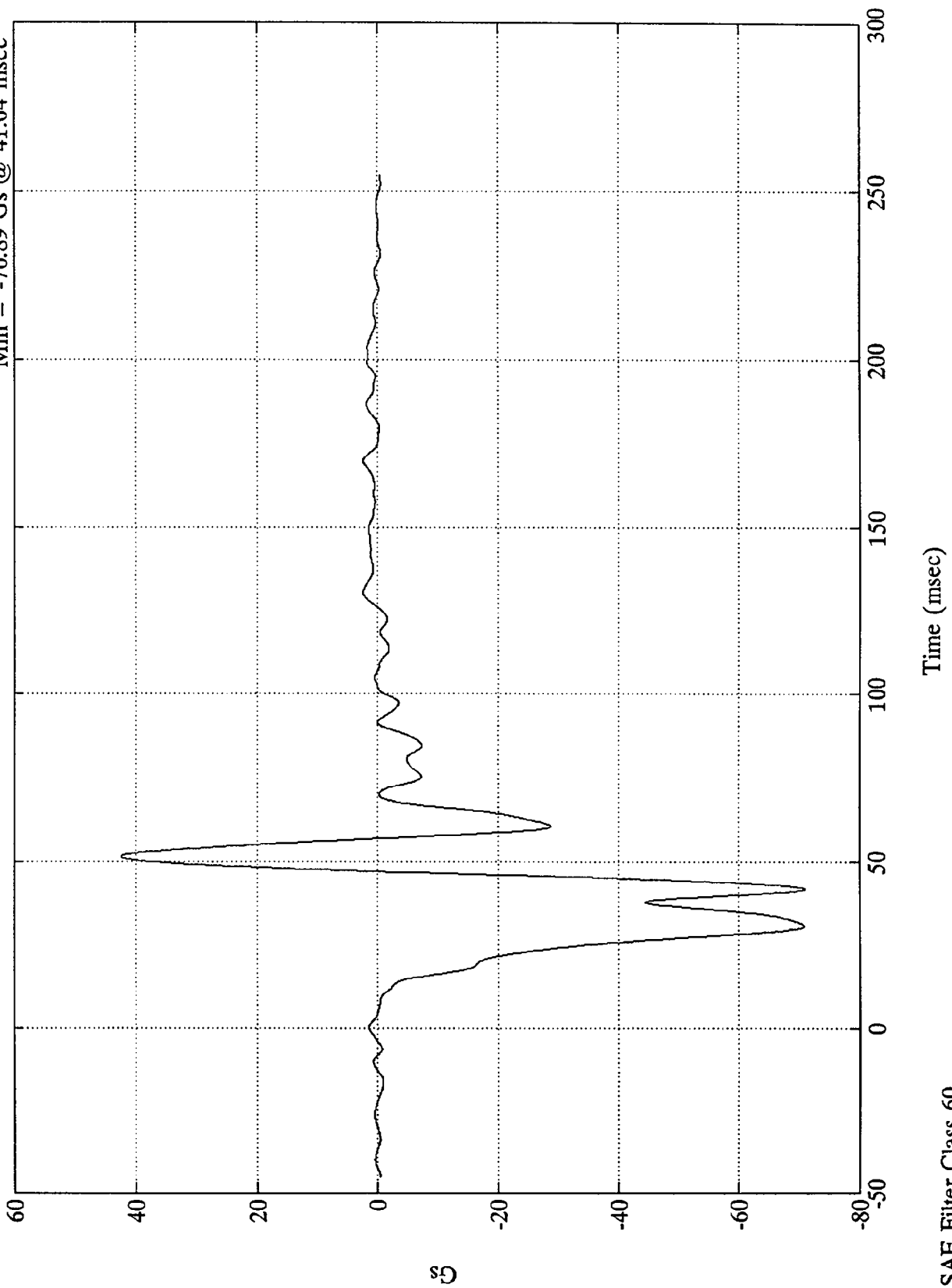


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

Engine Bottom X

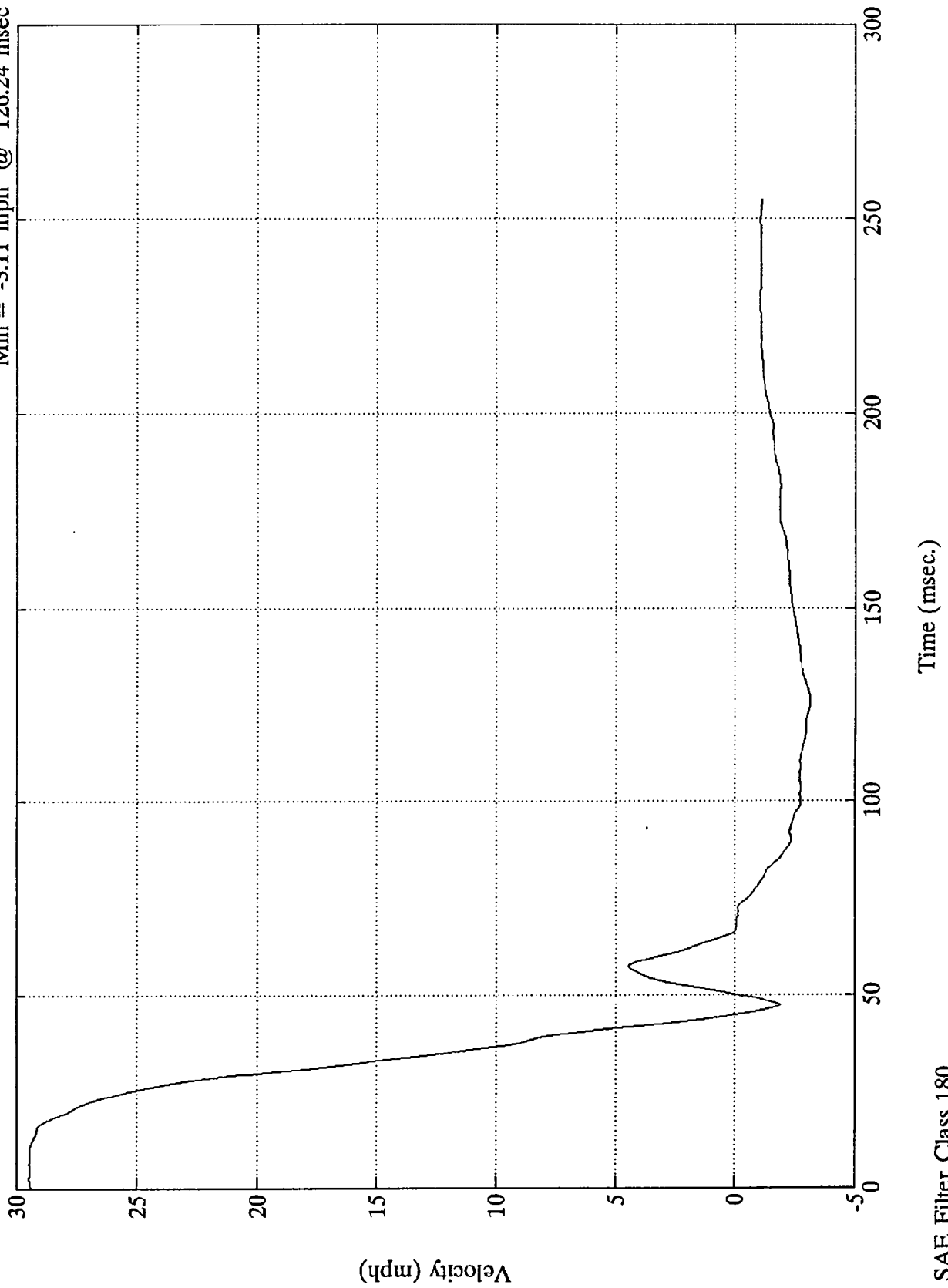
Max = 42.40 Gs @ 51.60 msec
Min = -70.89 Gs @ 41.64 msec



FMVSS 208 - 1994 Acura Integra

Engine Bottom X

Max = 29.48 mph @ 6.24 msec
Min = -3.11 mph @ 126.24 msec

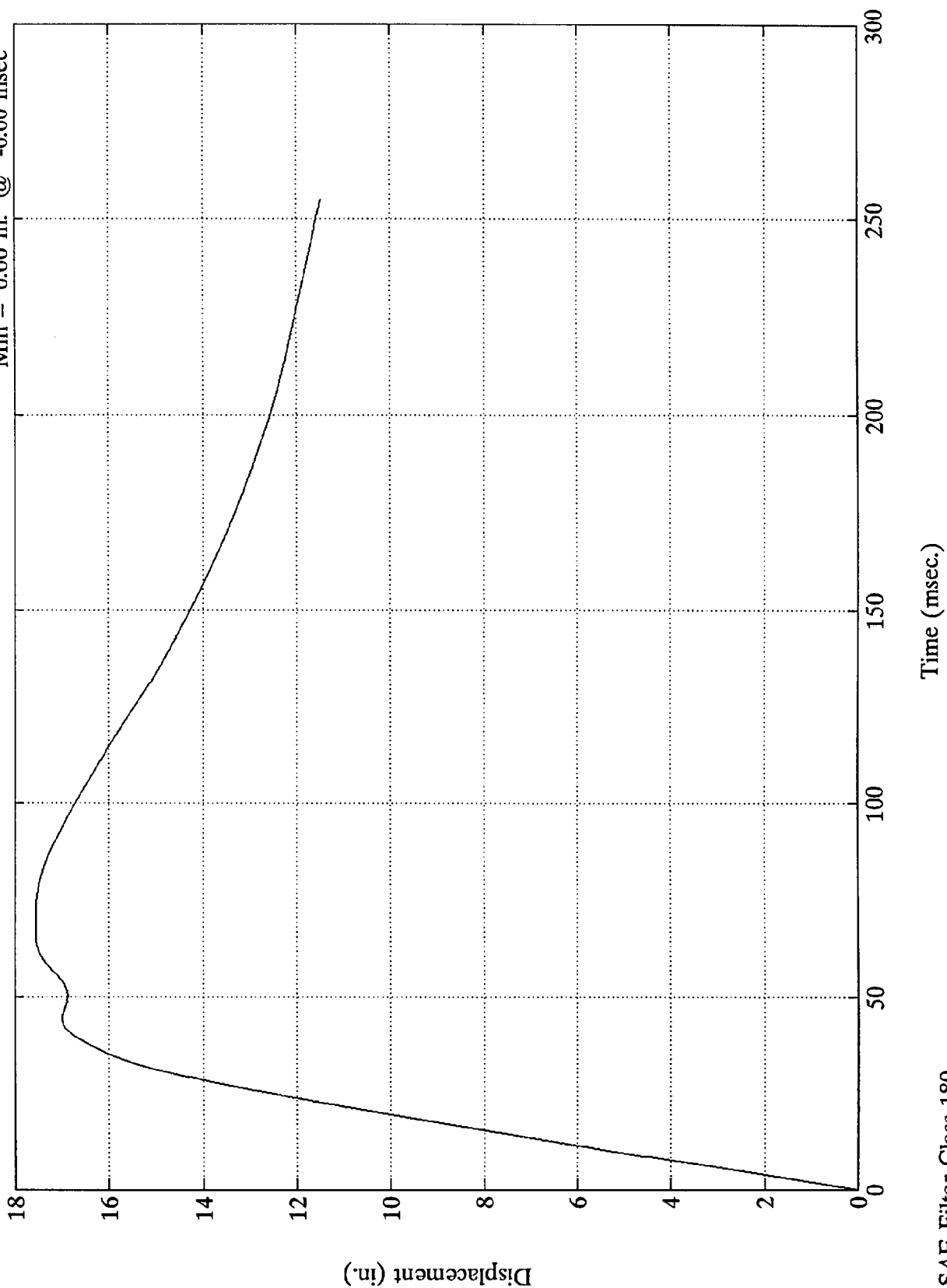


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

Engine Bottom X

Max = 17.56 in. @ 72.96 msec
Min = 0.00 in. @ -0.00 msec

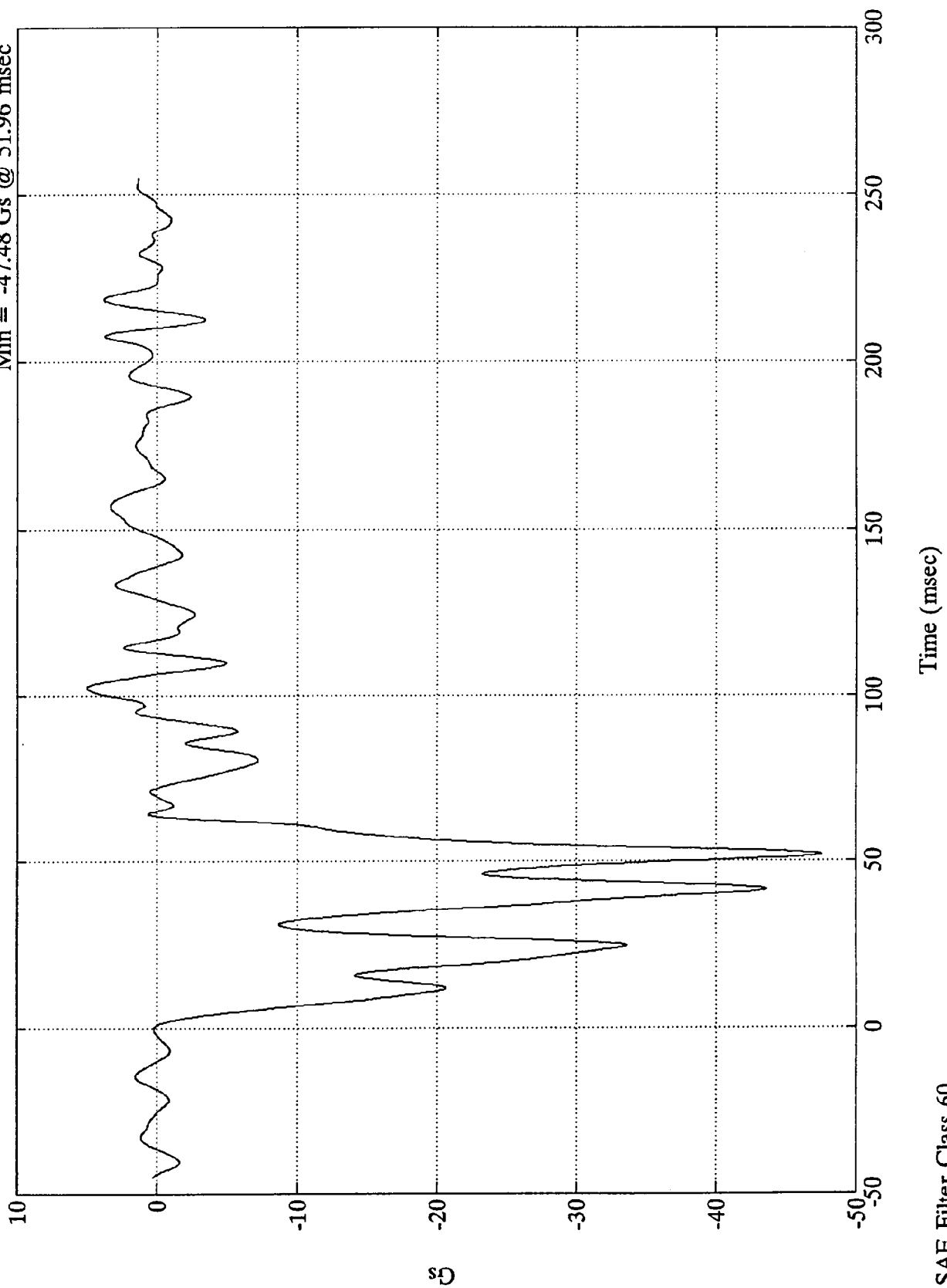


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

R. Brake Caliper X

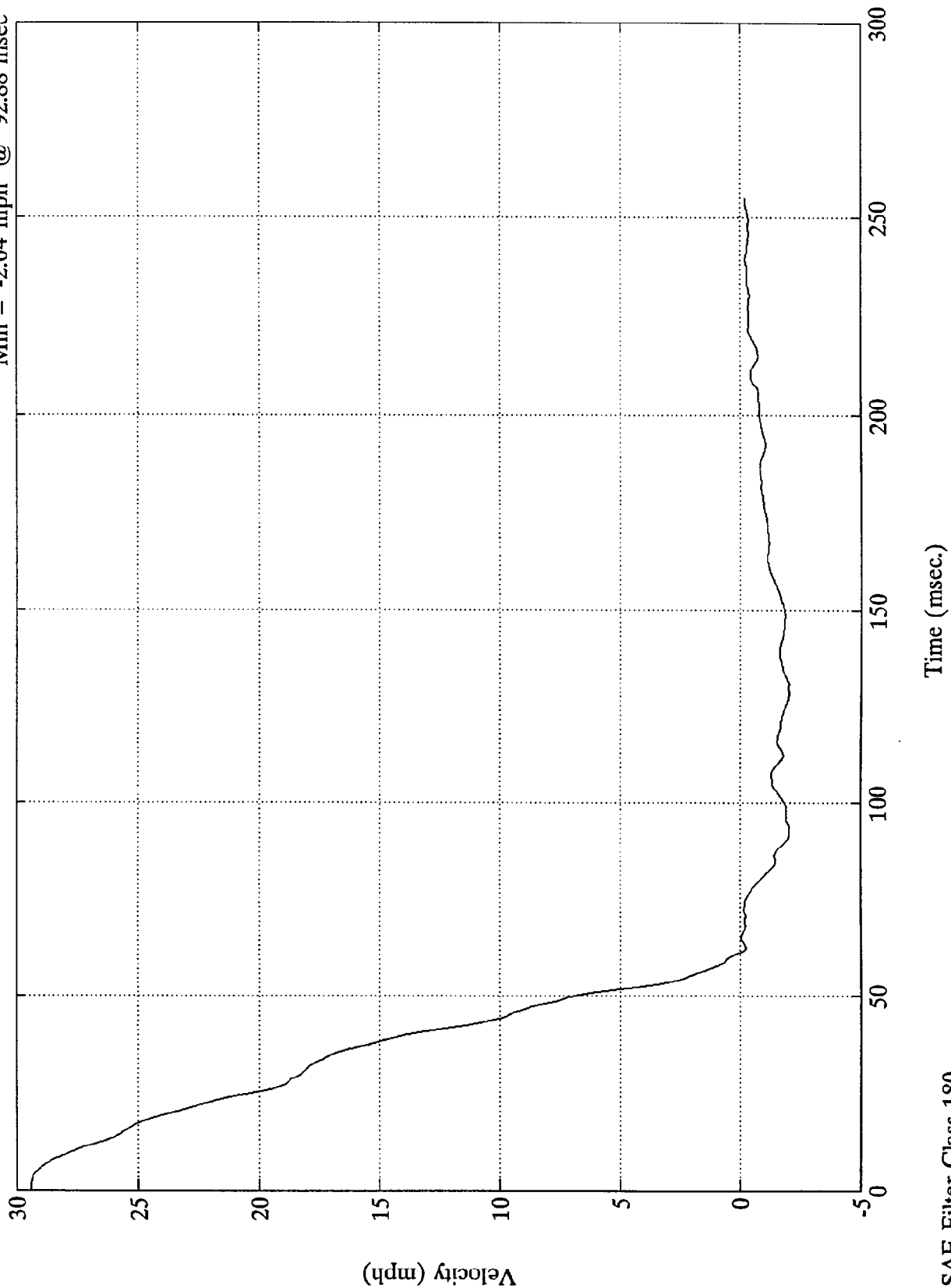
Max = 4.98 Gs @ 102.24 msec
Min = -47.48 Gs @ 51.96 msec



SAE Filter Class 60

FMVSS 208 - 1994 Acura Integra

R. Brake Caliper X
Max = 29.41 mph @ 1.92 msec
Min = -2.04 mph @ 92.88 msec

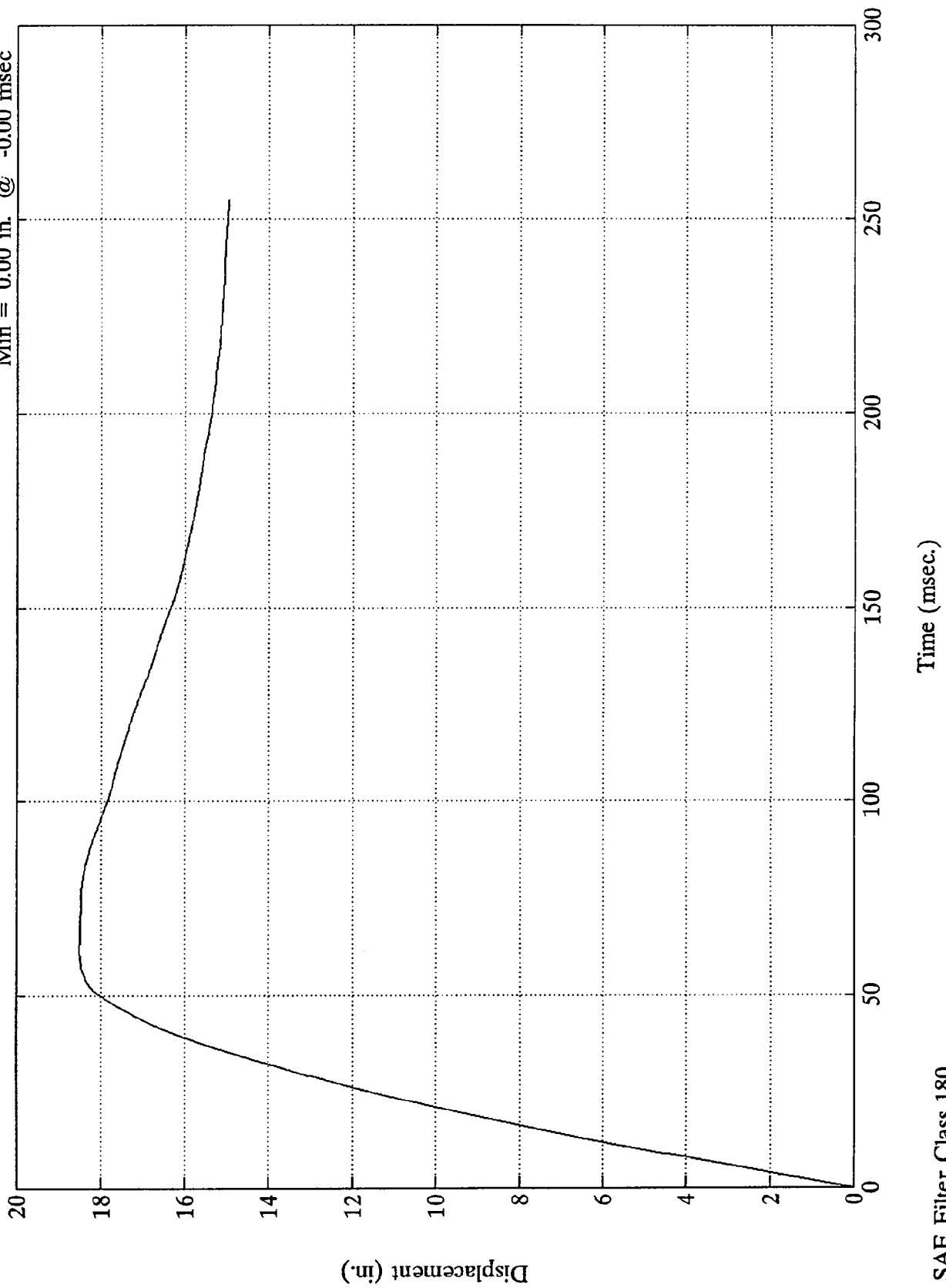


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

R. Brake Caliper X

Max = 18.50 in. @ 62.88 msec
Min = 0.00 in. @ -0.00 msec

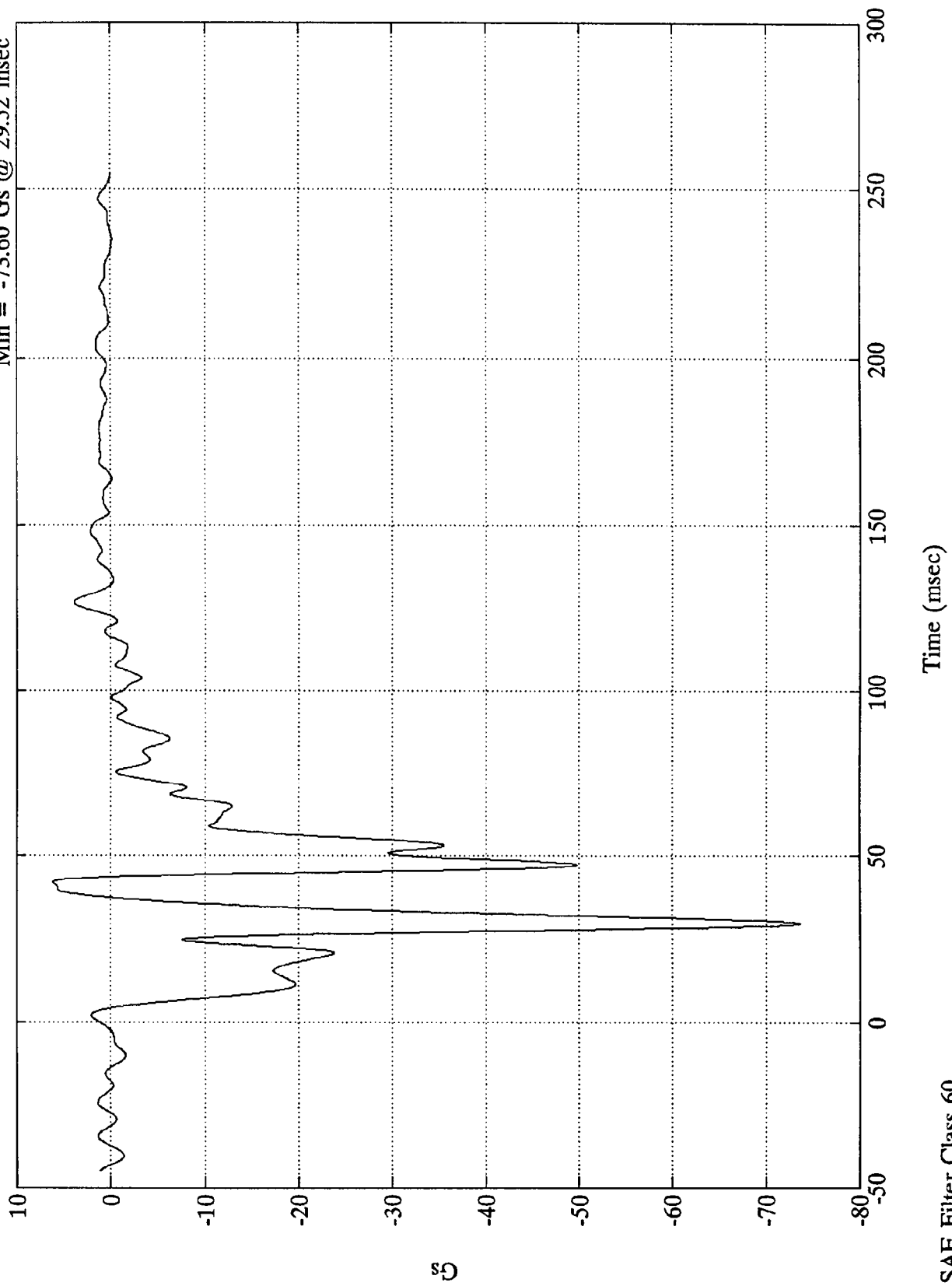


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

L. Brake Caliper X

Max = 6.23 Gs @ 41.88 msec
Min = -73.60 Gs @ 29.52 msec

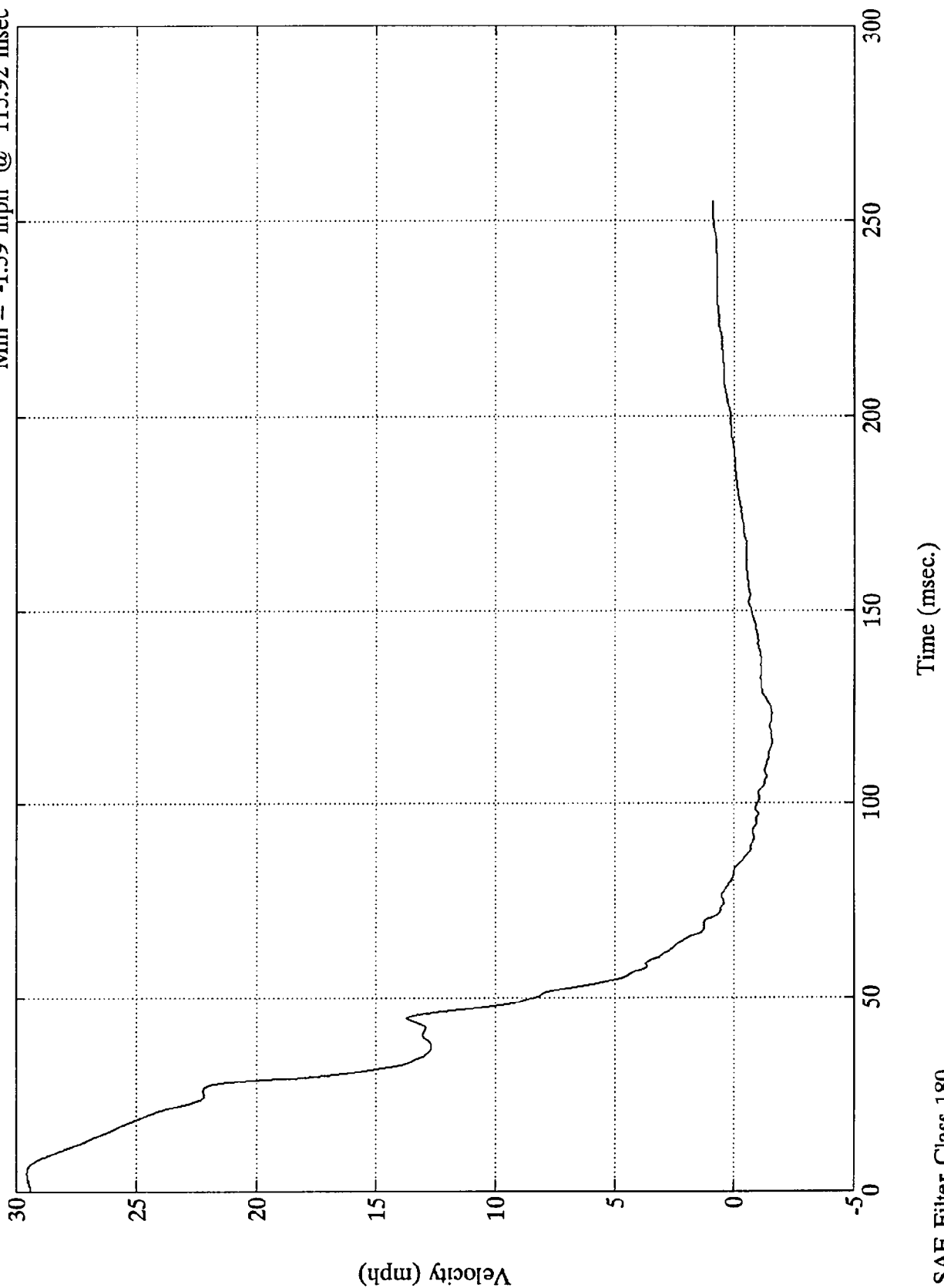


SAE Filter Class 60

FMVSS 208 - 1994 Acura Integra

L. Brake Caliper X

Max = 29.56 mph @ 4.80 msec
Min = -1.59 mph @ 115.92 msec

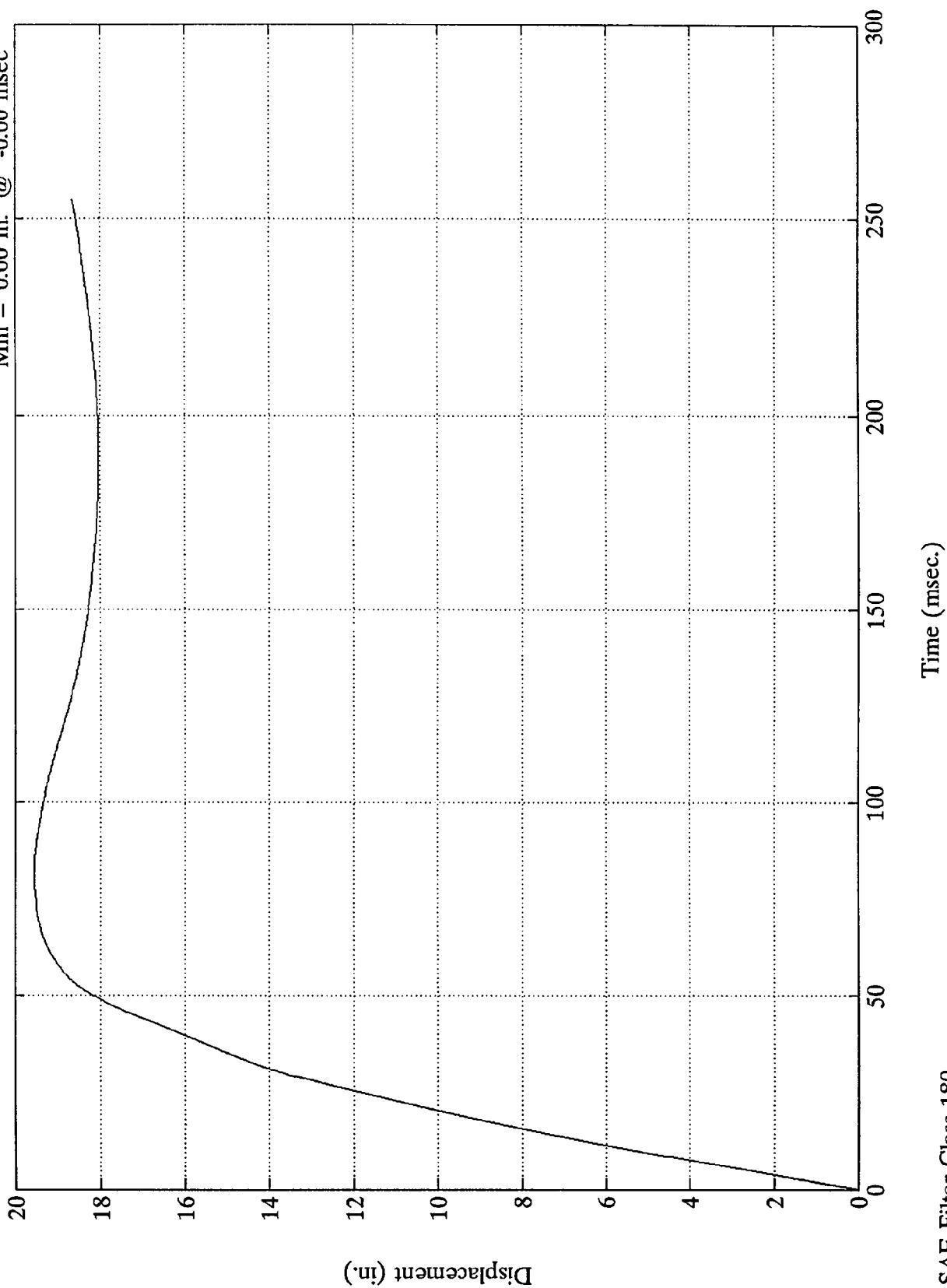


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

L. Brake Caliper X

Max = 19.56 in. @ 84.96 msec
Min = 0.00 in. @ -0.00 msec

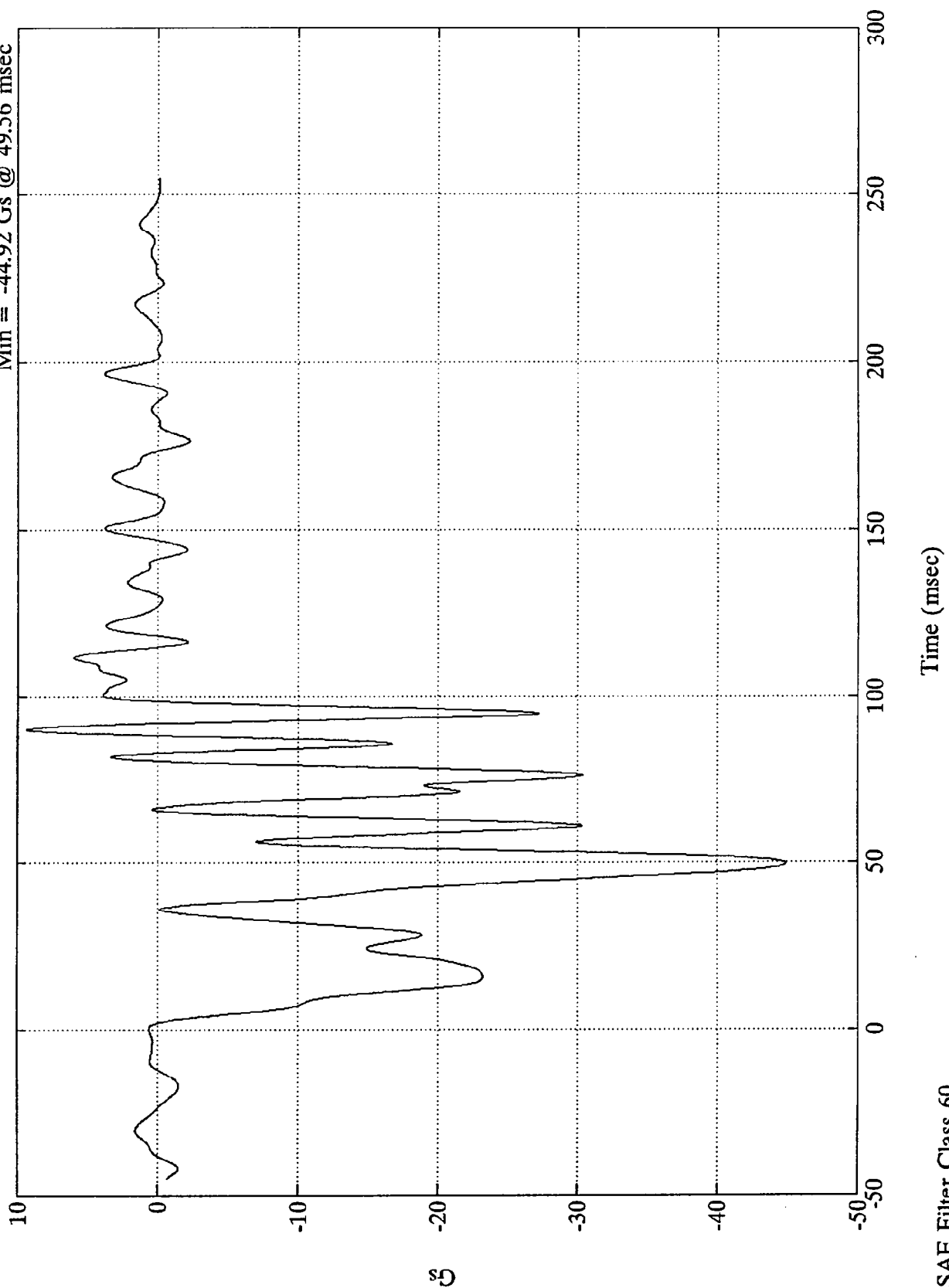


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

Instrument Panel X

Max = 9.37 Gs @ 89.76 msec
Min = -44.92 Gs @ 49.56 msec

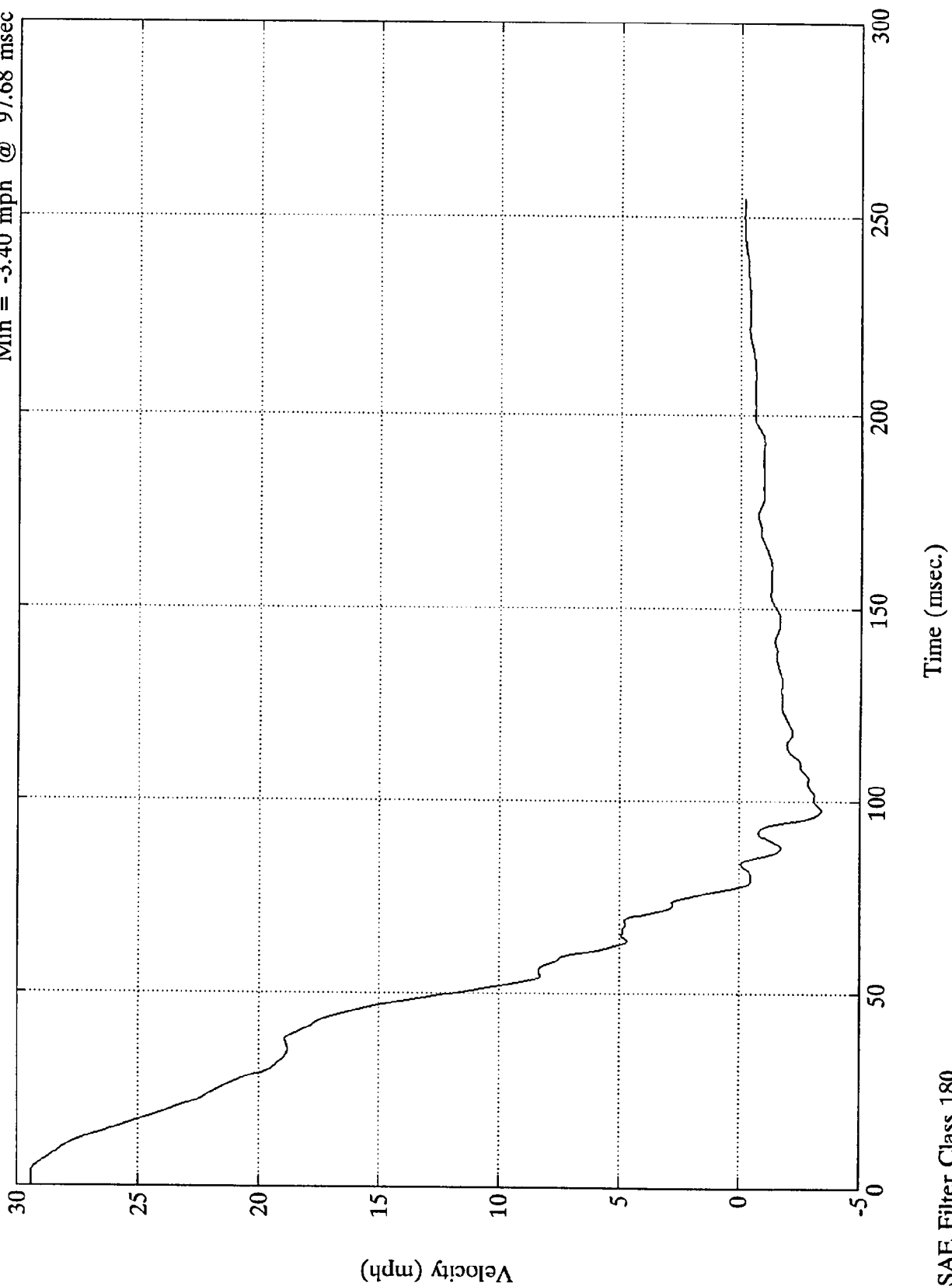


SAE Filter Class 60

FMVSS 208 - 1994 Acura Integra

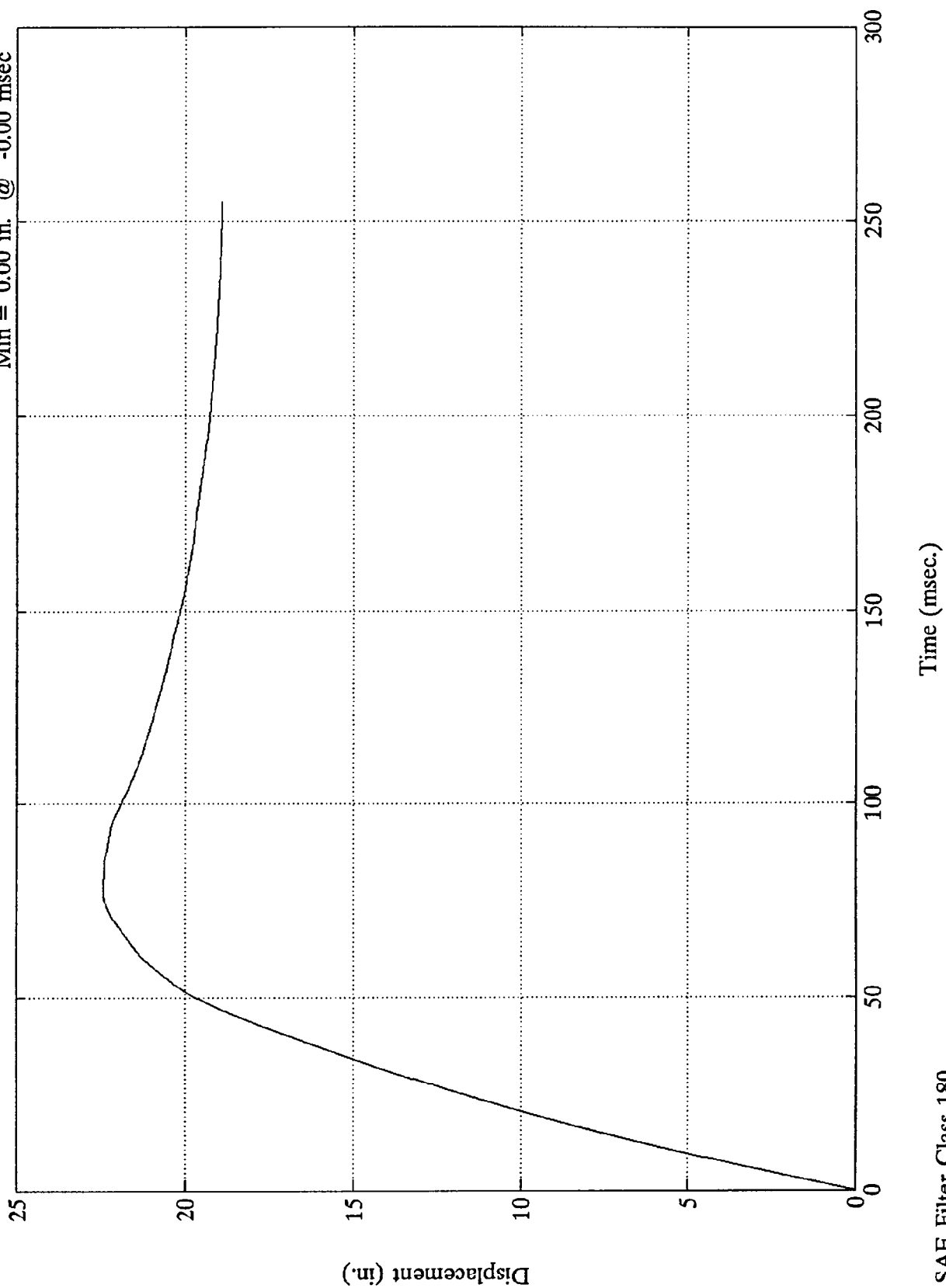
Max = 29.43 mph @ 3.36 msec
Min = -3.40 mph @ 97.68 msec

Instrument Panel X



SAE Filter Class 180

Instrument Panel X
Max = 22.44 in. @ 78.24 msec
Min = 0.00 in. @ -0.00 msec

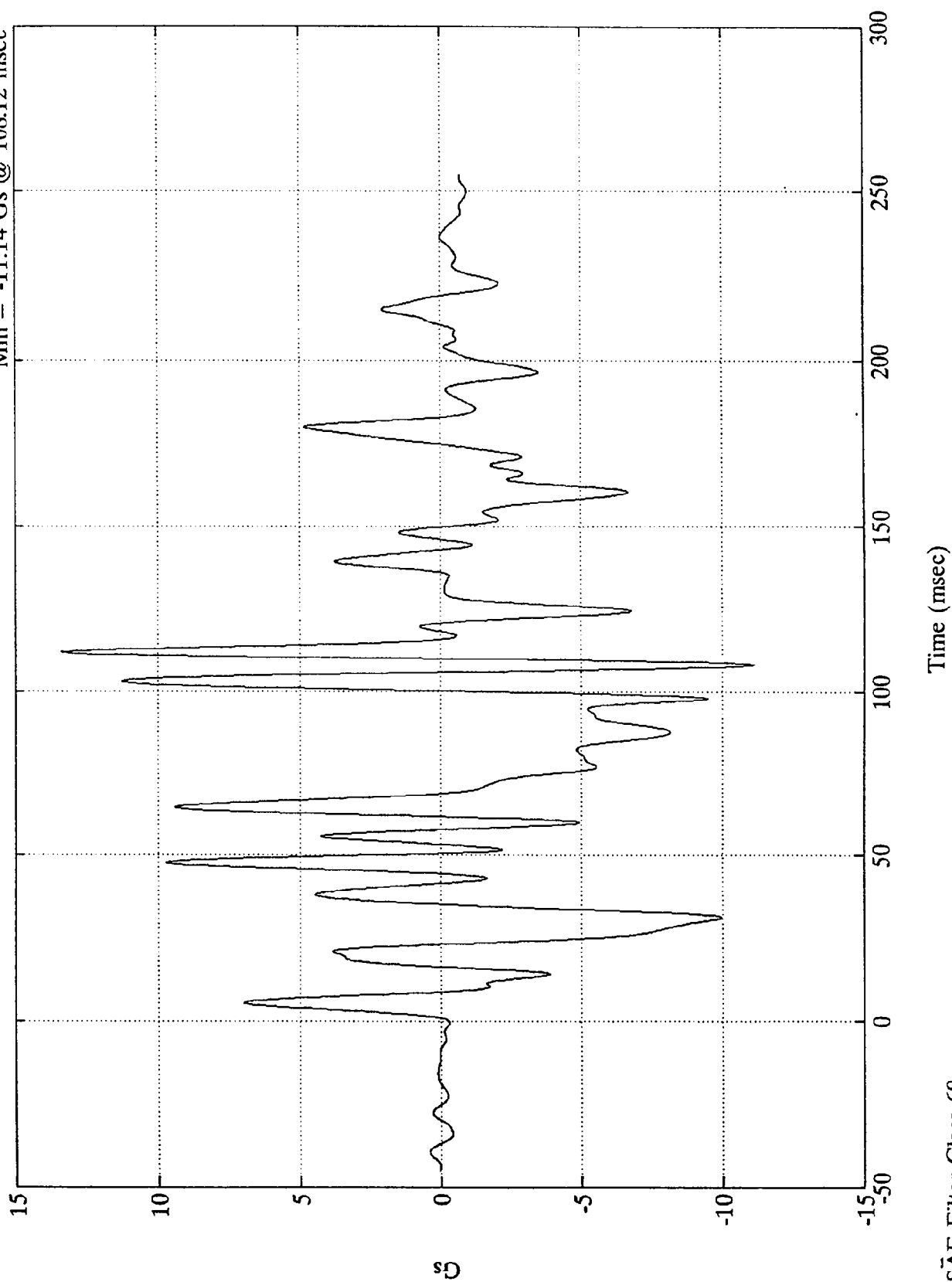


SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra

Max = 13.38 Gs @ 111.96 msec
Min = -11.14 Gs @ 108.12 msec

Trunk Z

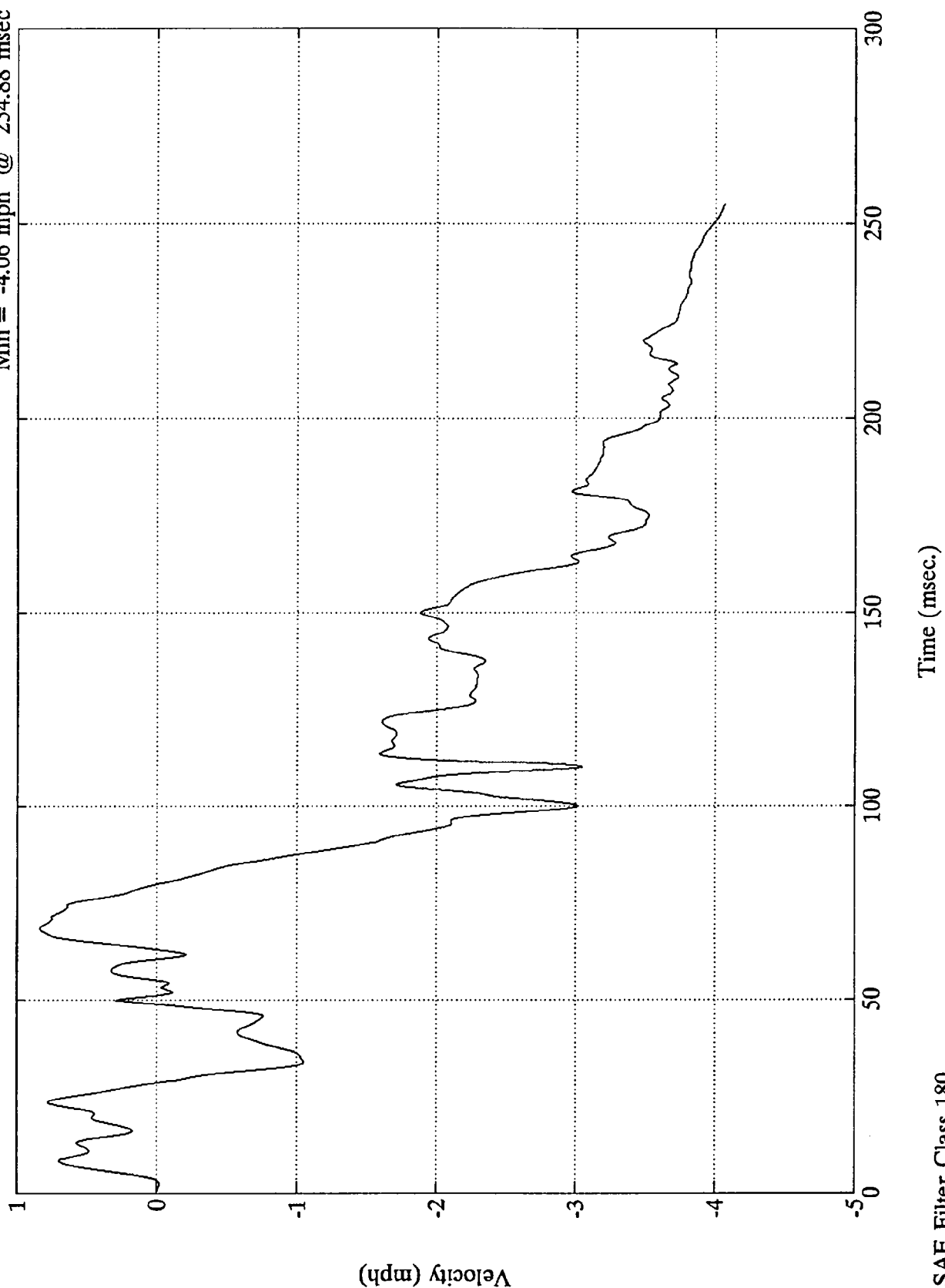


SAE Filter Class 60

FMVSS 208 - 1994 Acura Integra

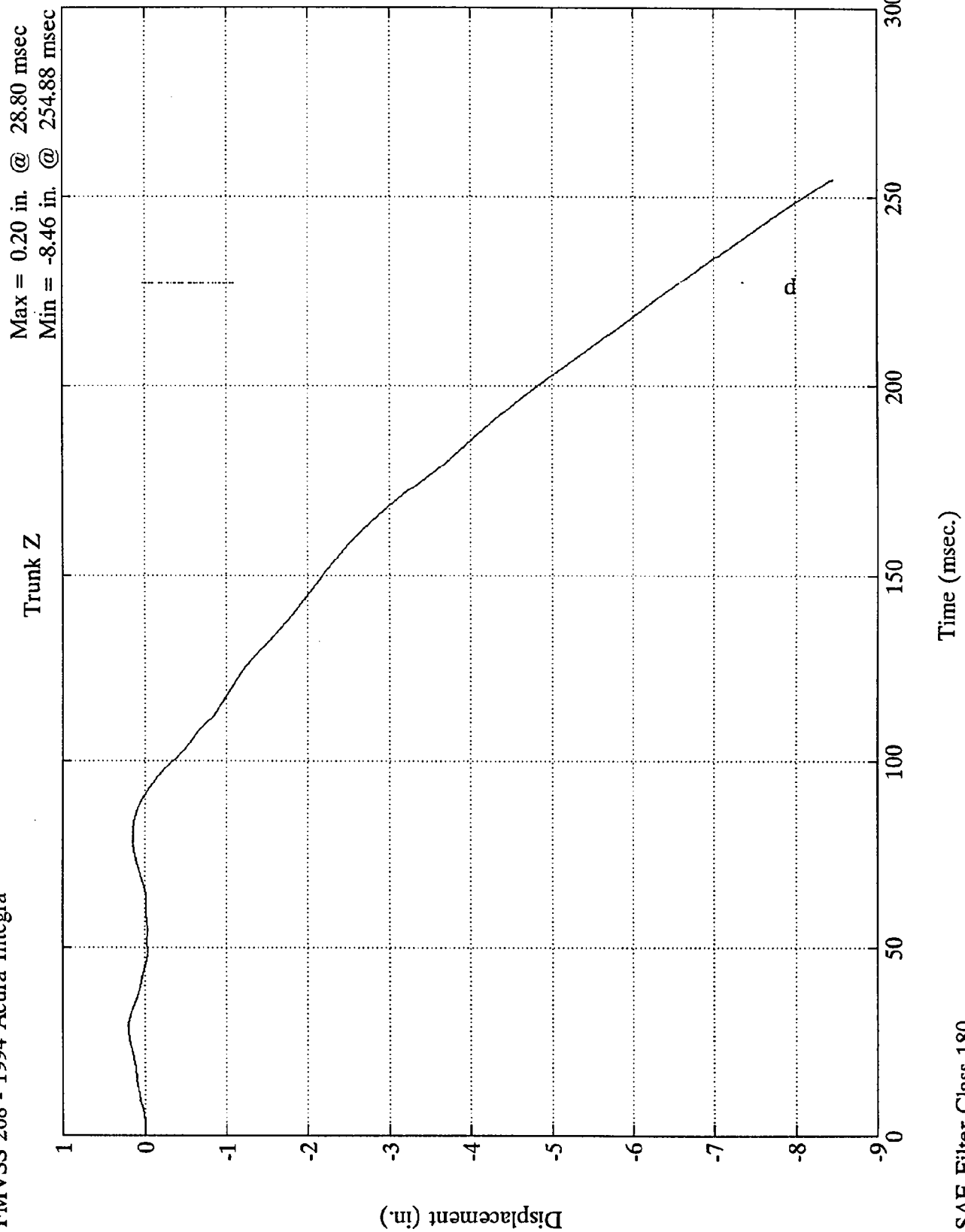
Max = 0.83 mph @ 68.16 msec
Min = -4.06 mph @ 254.88 msec

Trunk Z



SAE Filter Class 180

FMVSS 208 - 1994 Acura Integra



SAE Filter Class 180

TEST NO. CR5309

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

FACILITY: TRACK
RUN #: 1394
SERIES #: 1

TEST DATE: 18 Apr 1994
TEST TIME: 11:17:06
BOARD: a

TITLE: NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

CHANNEL NUMBER	DESCRIPTION	ENGR UNIT	MAXIMUM AMP	msec	MINIMUM AMP	msec	FILTER CLASS
1	Pos. 1 Head X	Gs	3.7	46.7	-79.0	76.7	1000.0
2	Pos. 1 Head Y	Gs	16.1	74.8	-18.1	77.0	1000.0
3	Pos. 1 Head Z	Gs	65.1	75.8	-89.6	76.6	1000.0
4	Pos. 1 Left Femur	lbs	220.7	54.5	-1744.0	72.8	600.0
5	Pos. 1 Chest X	Gs	2.9	147.8	-54.9	81.5	180.0
6	Pos. 1 Chest Y	Gs	10.1	80.3	-3.9	102.0	180.0
7	Pos. 1 Chest Z	Gs	30.4	80.4	-8.3	59.2	180.0
8	Pos. 1 Right Femur	lbs	282.5	101.0	-1622.5	57.0	600.0
9	Pos. 2 Head X	Gs	14.6	86.3	-76.2	69.6	1000.0
10	Pos. 2 Head Y	Gs	10.2	76.1	-39.7	95.4	1000.0
11	Pos. 2 Head Z	Gs	35.5	63.6	-32.6	95.2	1000.0
12	Pos. 2 Left Femur	lbs	78.2	47.0	-1242.7	73.6	600.0
13	Pos. 2 Chest X	Gs	4.3	162.8	-54.4	79.8	180.0
14	Pos. 2 Chest Y	Gs	4.4	81.5	-6.2	92.0	180.0
15	Pos. 2 Chest Z	Gs	12.5	72.5	-7.4	57.8	180.0
16	Pos. 2 Right Femur	lbs	64.4	19.7	-1434.6	70.2	600.0
17	Pos. 1 Head Resultant	Gs	114.1	76.7	.1	9.2	1000.0
18	Pos. 1 Chest Resultant	Gs	60.8	80.5	.0	-27.8	180.0
19	Pos. 2 Head Resultant	Gs	78.7	69.6	.1	19.8	1000.0
20	Pos. 2 Chest Resultant	Gs	54.9	79.9	.0	-27.0	180.0

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

hic: 334.17
t1 = 74.160 msec
t2 = 104.880 msec
Average G's Over Hic Duration = 41.17

CLIP SUMMARY: Pos. 1 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 54.449 G's
Tstart = 79.6800 ms
Tend = 82.6800 ms
CSI = 381.835

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

hic: 320.12
t1 = 63.000 msec
t2 = 77.040 msec
Average G's Over Hic Duration = 55.36

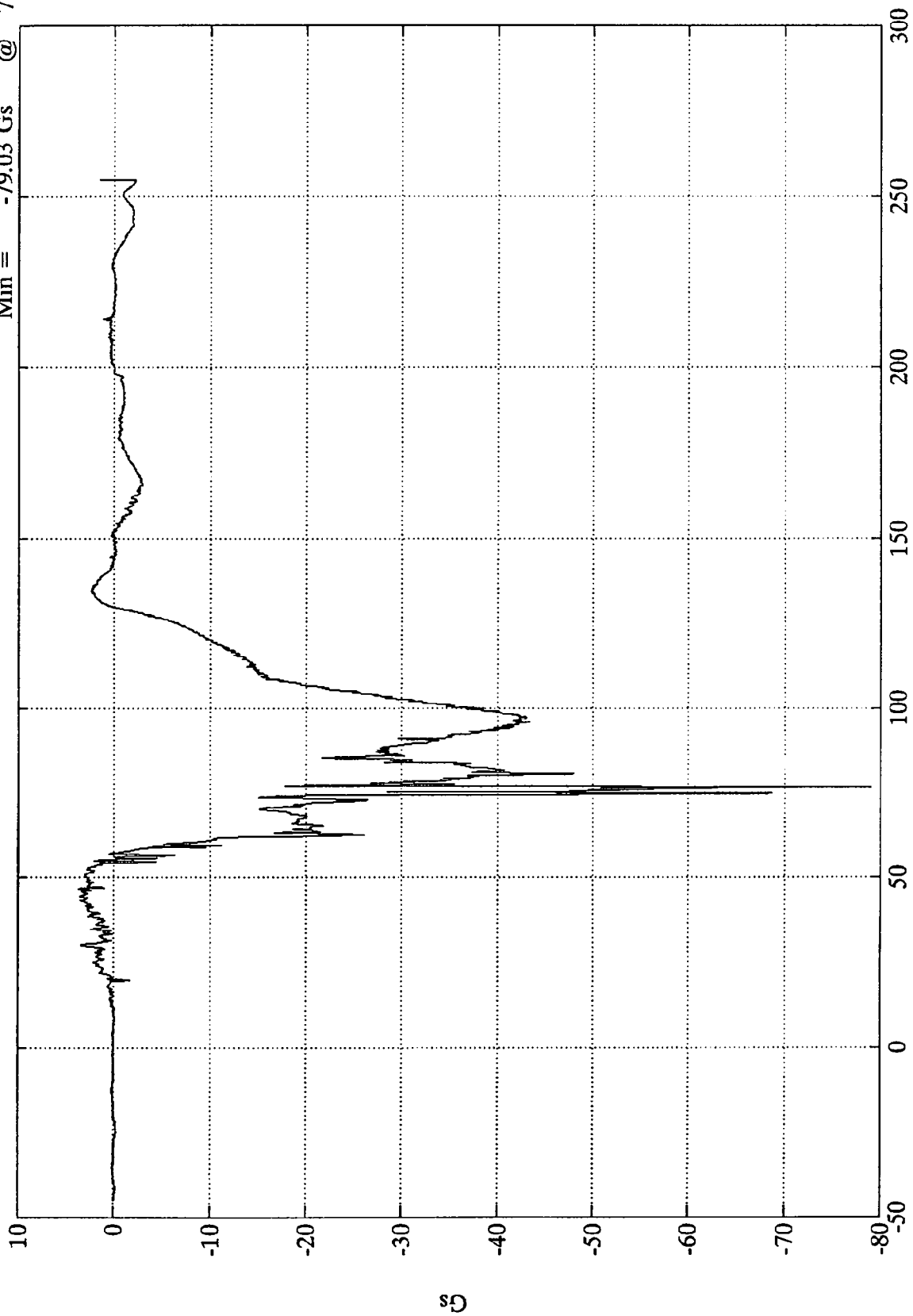
CLIP SUMMARY: Pos. 2 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 52.331 G's
Tstart = 77.8800 ms
Tend = 81.0000 ms
CSI = 322.059

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Max = 3.69 Gs @ 46.68 msec
Min = -79.03 Gs @ 76.68 msec

Pos. 1 Head X

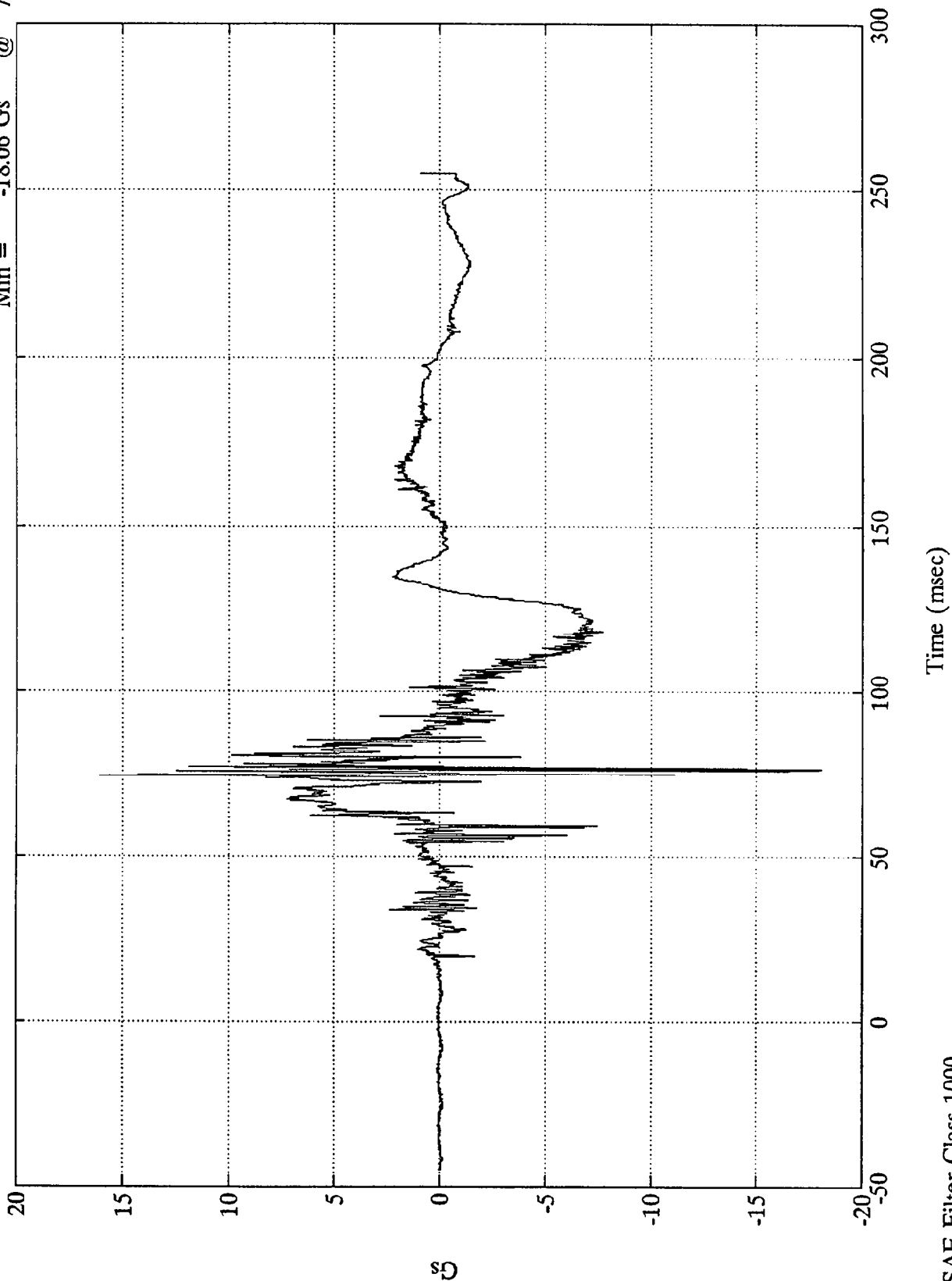


Time (msec)

SAE Filter Class 1000

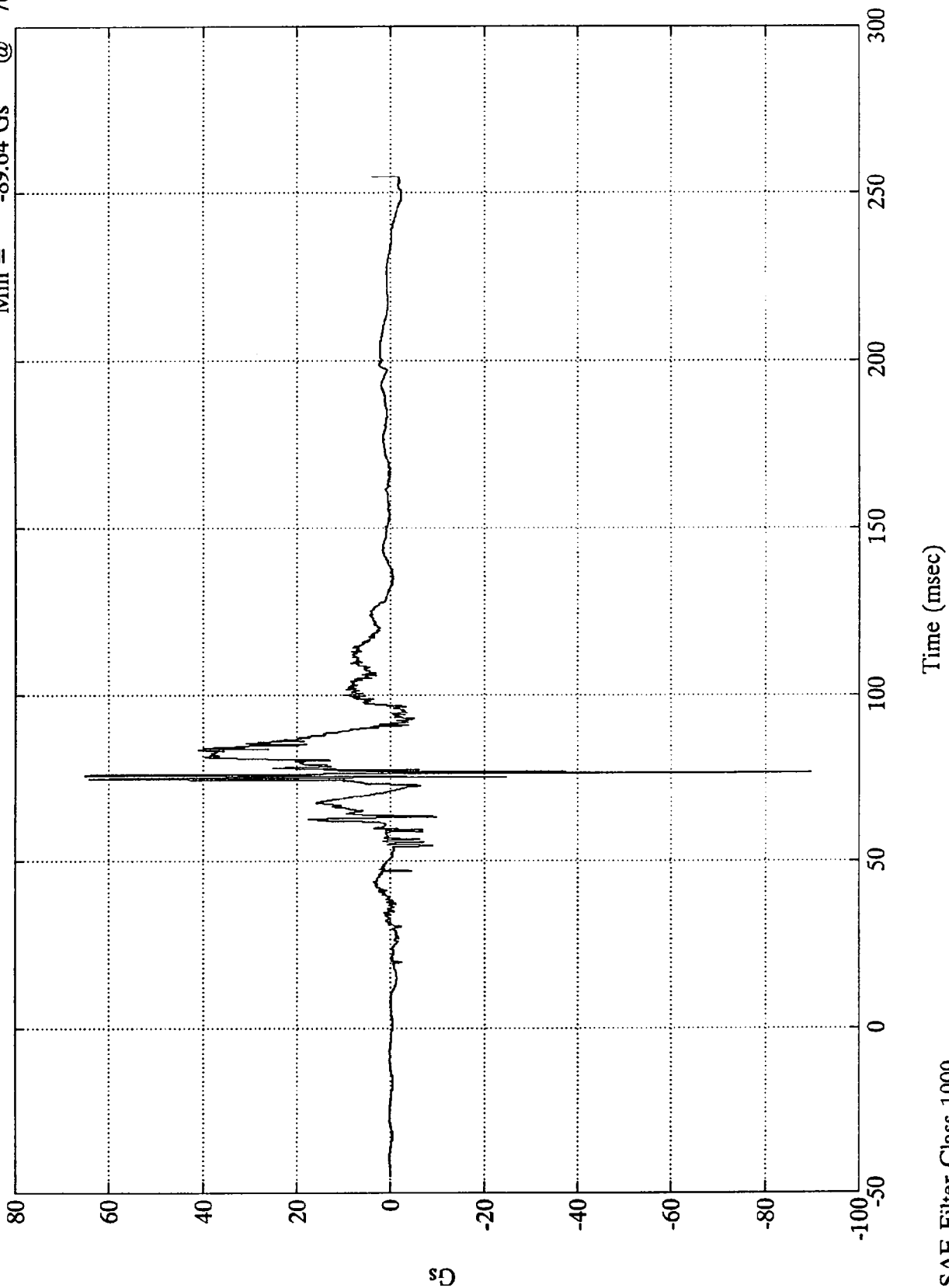
NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 1 Head Y
 Max = 16.06 Gs @ 74.76 msec
 Min = -18.06 Gs @ 77.04 msec



NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

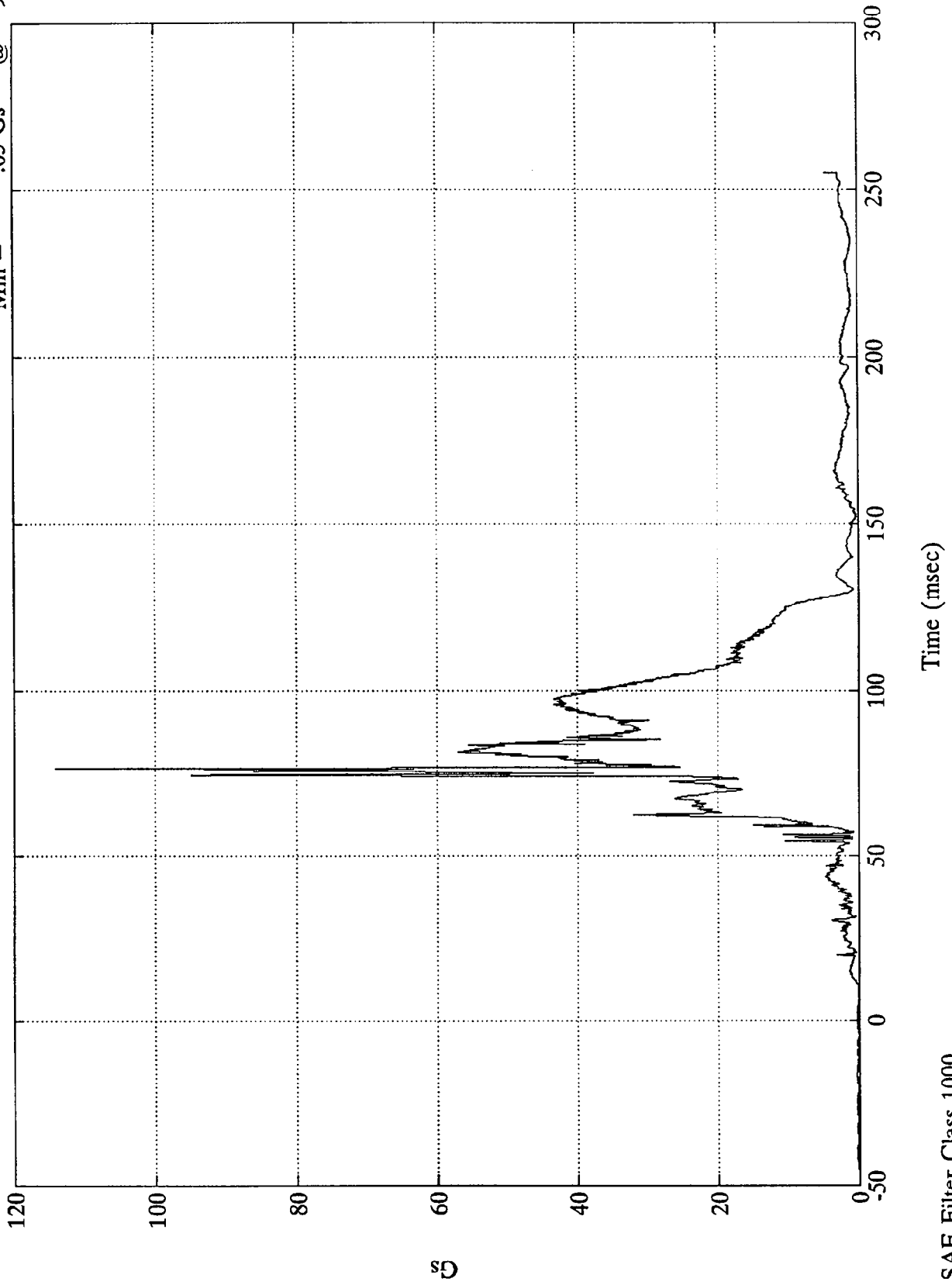
Pos. 1 Head Z
Max = 65.07 Gs @ 75.84 msec
Min = -89.64 Gs @ 76.55 msec



NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 1 Head Resultant

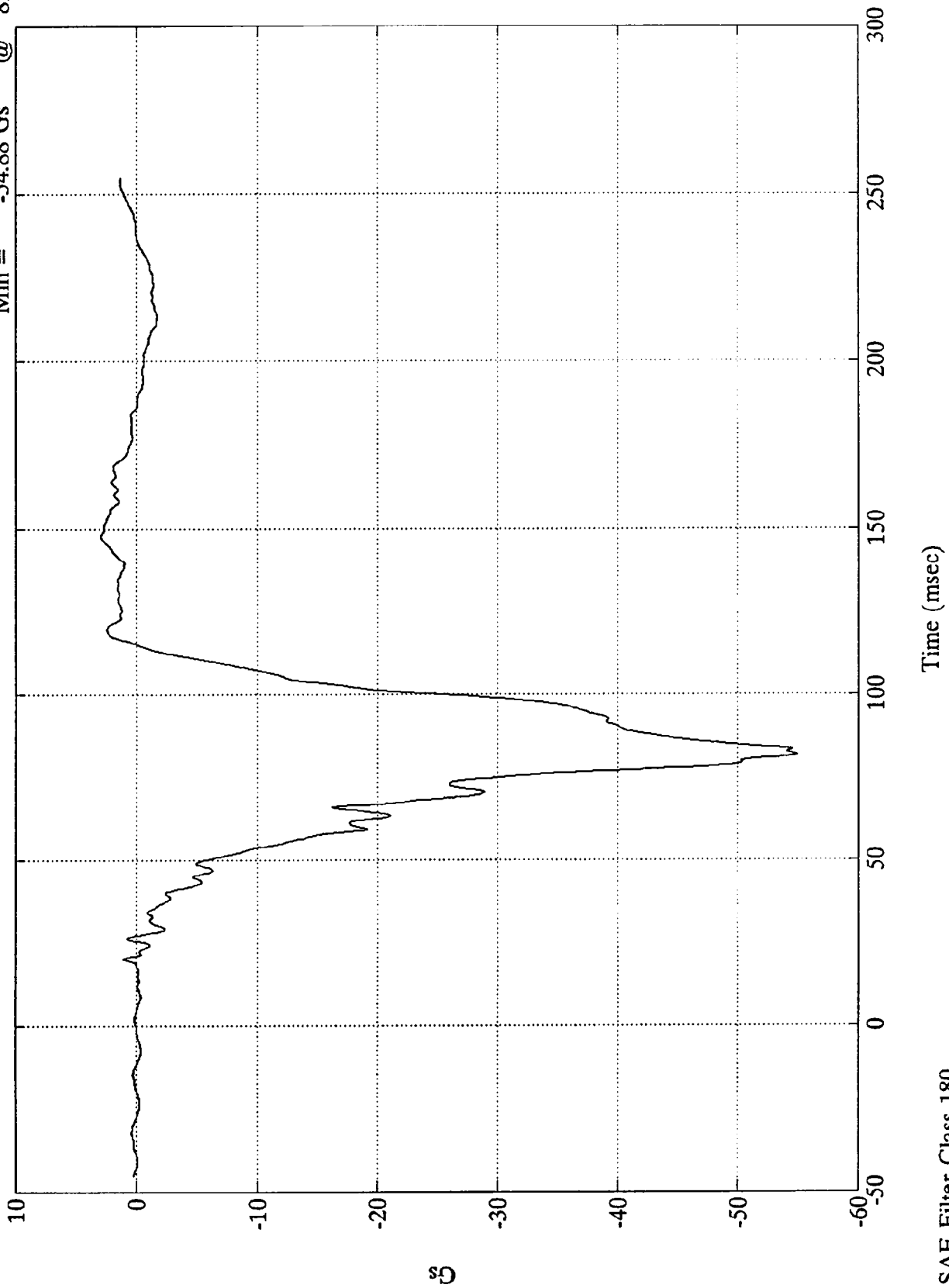
Max = 114.14 Gs @ 76.68 msec
Min = .05 Gs @ 9.23 msec



NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Max = 2.89 Gs @ 147.84 msec
Min = -54.88 Gs @ 81.48 msec

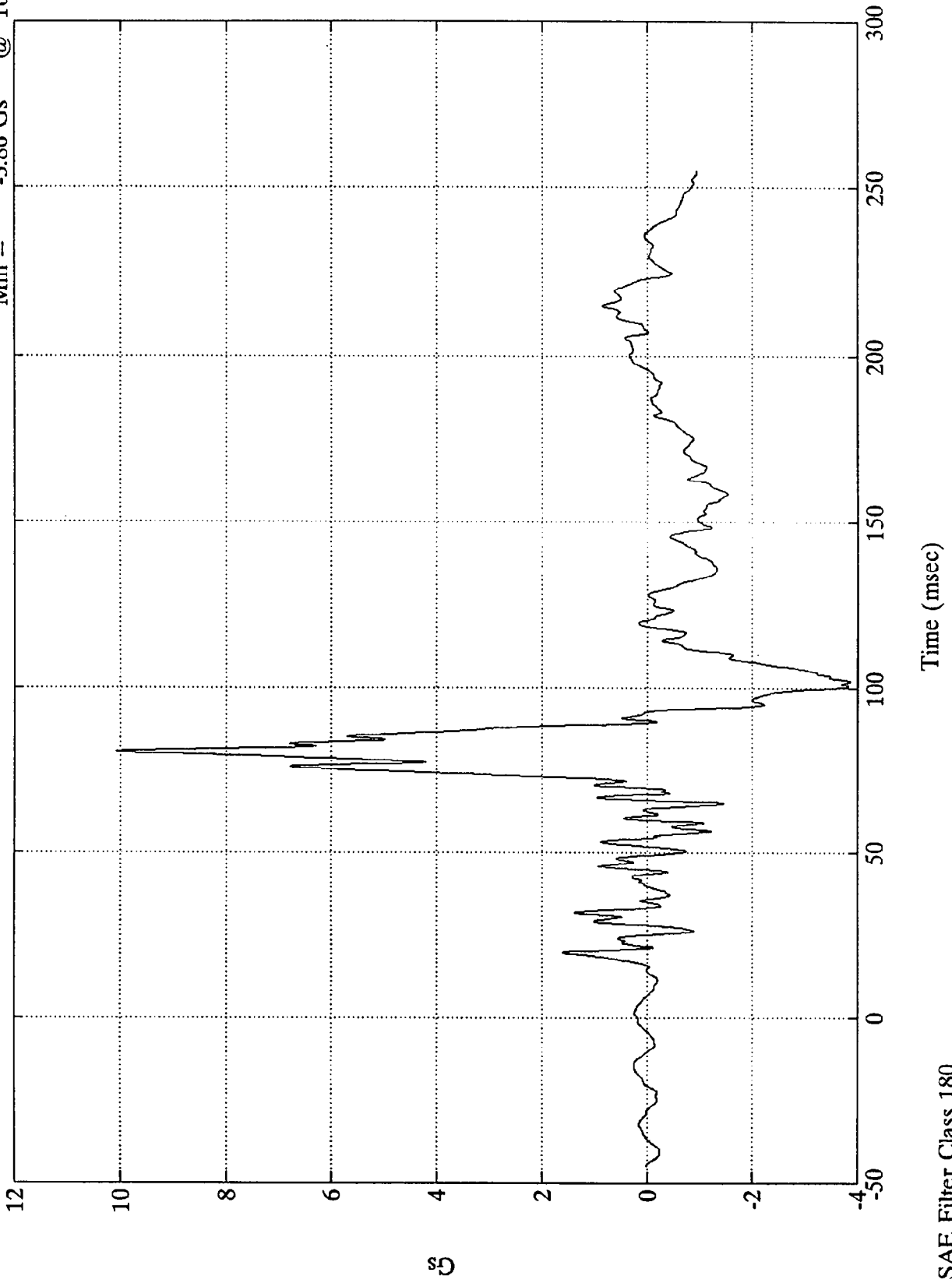
Pos. 1 Chest X



SAE Filter Class 180

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

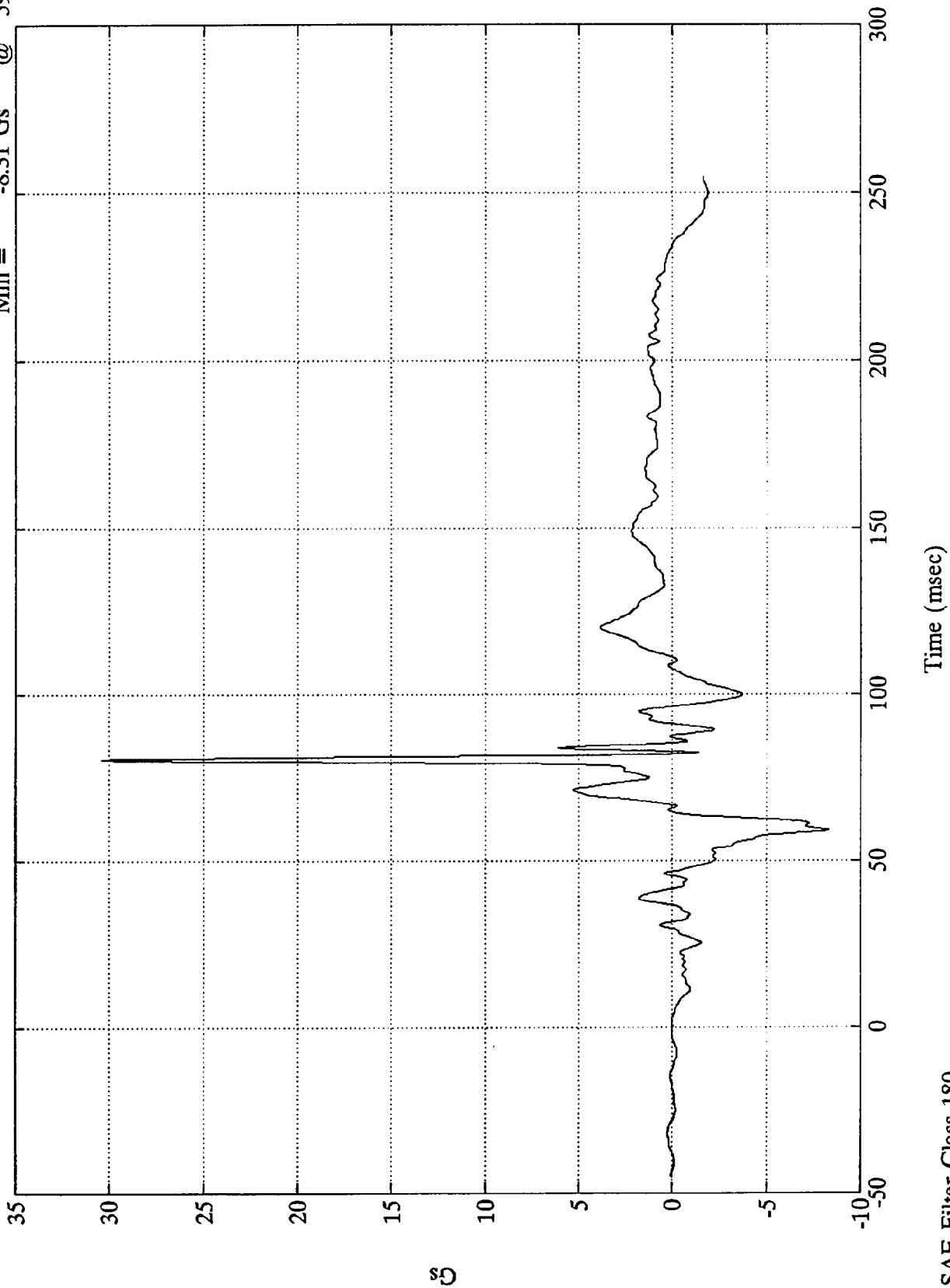
Pos. 1 Chest Y
Max = 10.07 Gs @ 80.27 msec
Min = -3.86 Gs @ 102.00 msec



SAE Filter Class 180

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 1 Chest Z
Max = 30.36 Gs @ 80.40 msec
Min = -8.31 Gs @ 59.15 msec

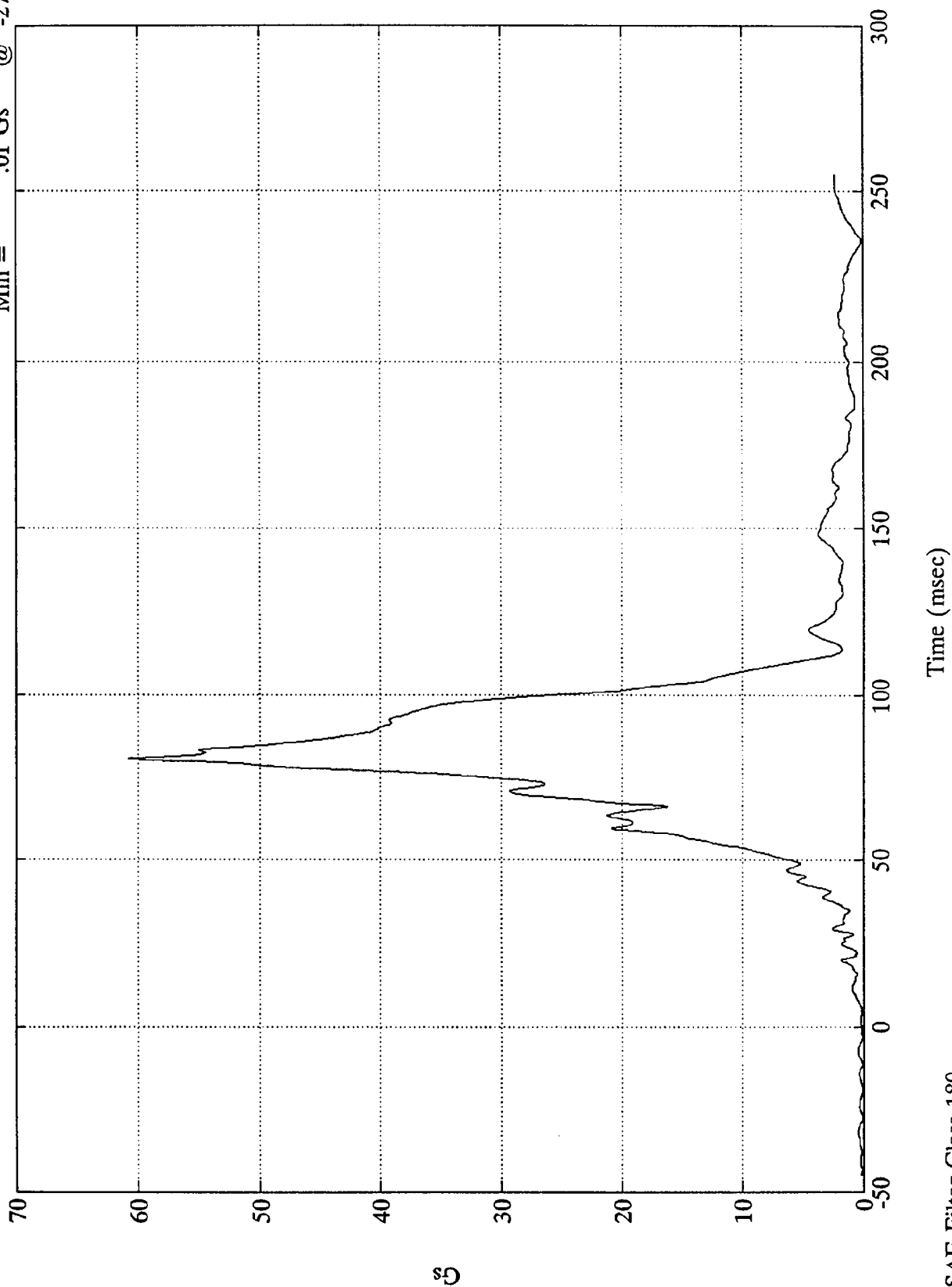


SAE Filter Class 180

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 1 Chest Resultant

Max = 60.79 Gs @ 80.52 msec
Min = .01 Gs @ -27.84 msec

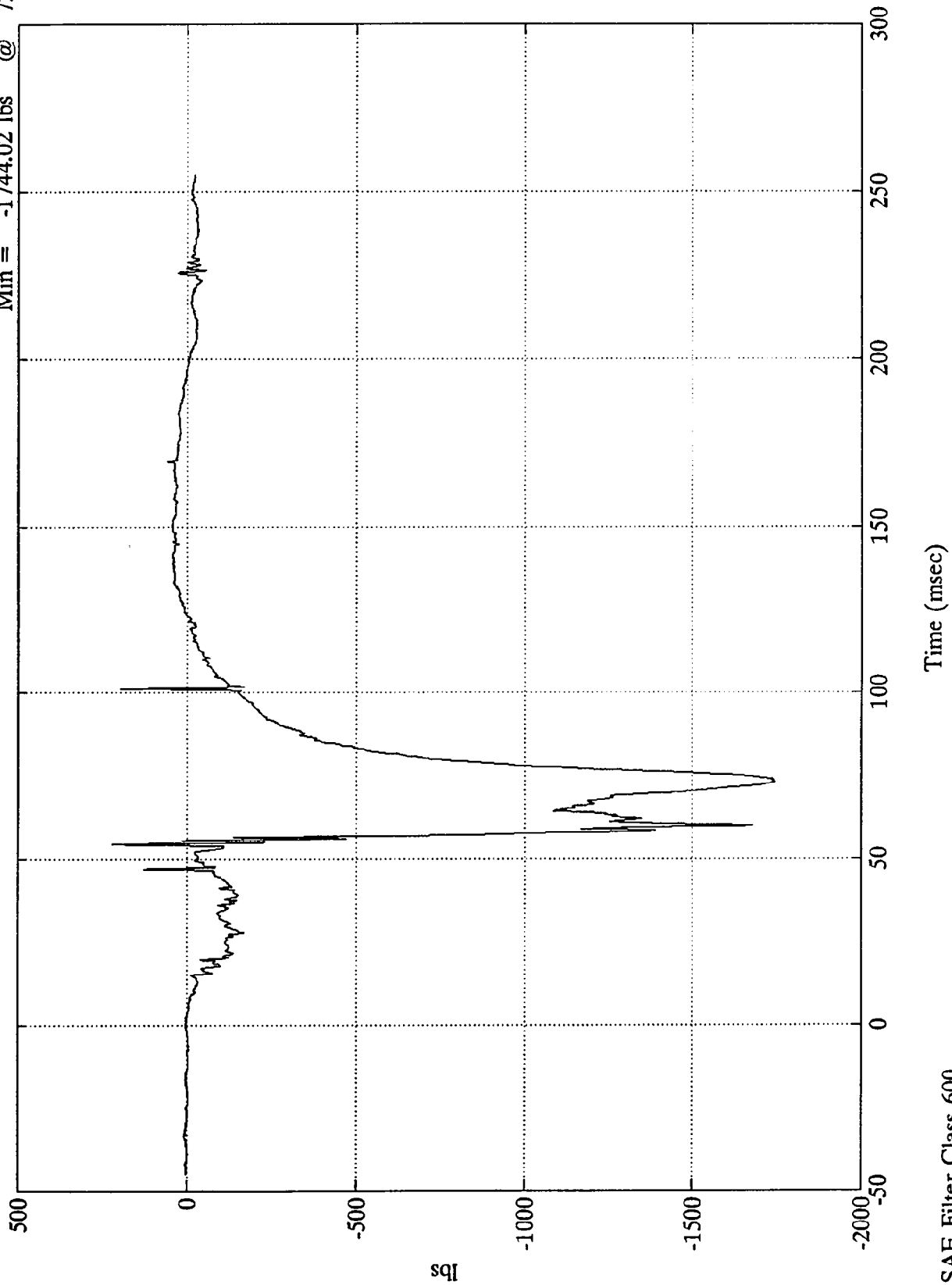


SAE Filter Class 180

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Max = 220.65 lbs @ 54.47 msec
 Min = -1744.02 lbs @ 72.83 msec

Pos. 1 Left Femur

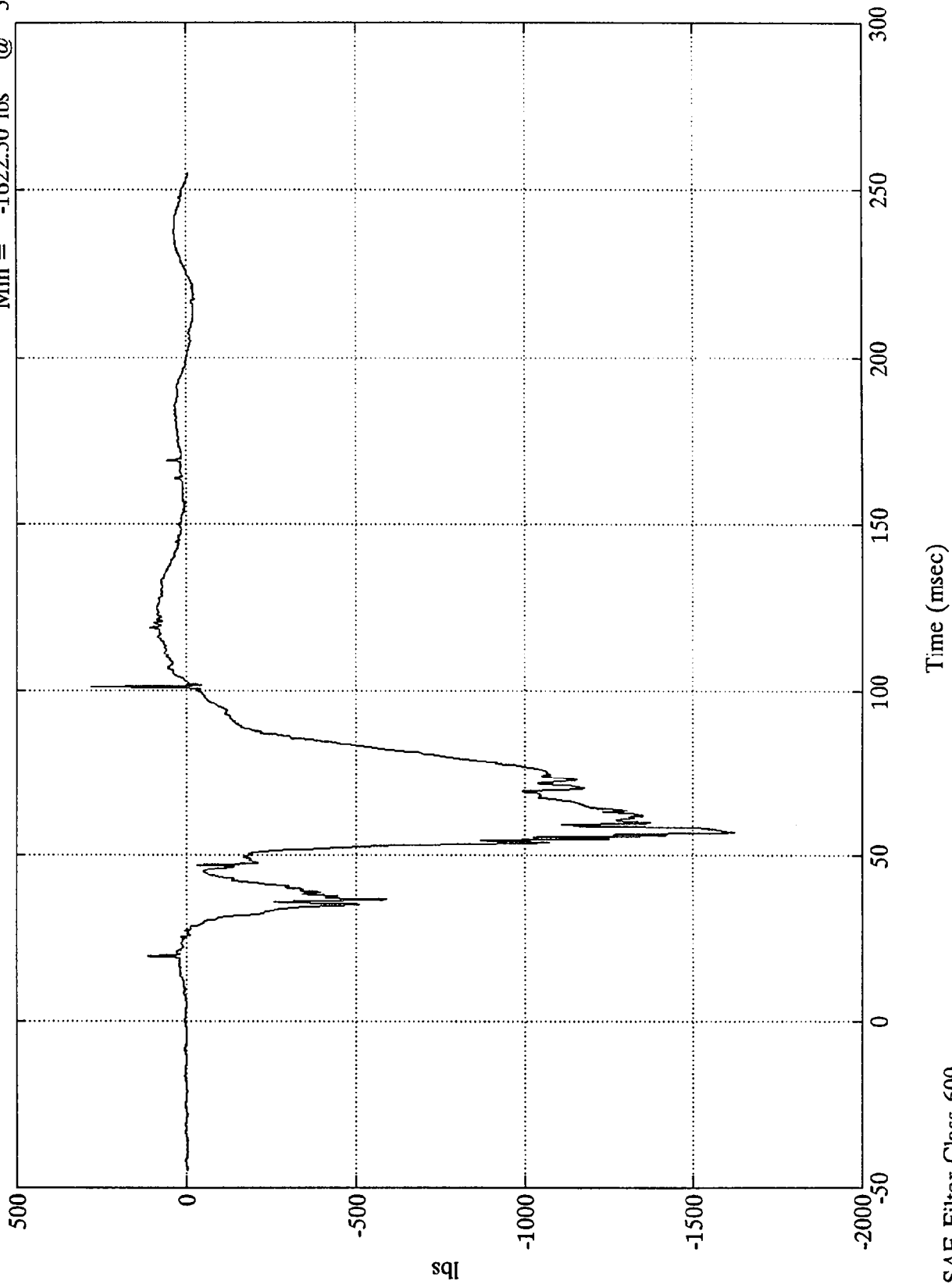


SAE Filter Class 600

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

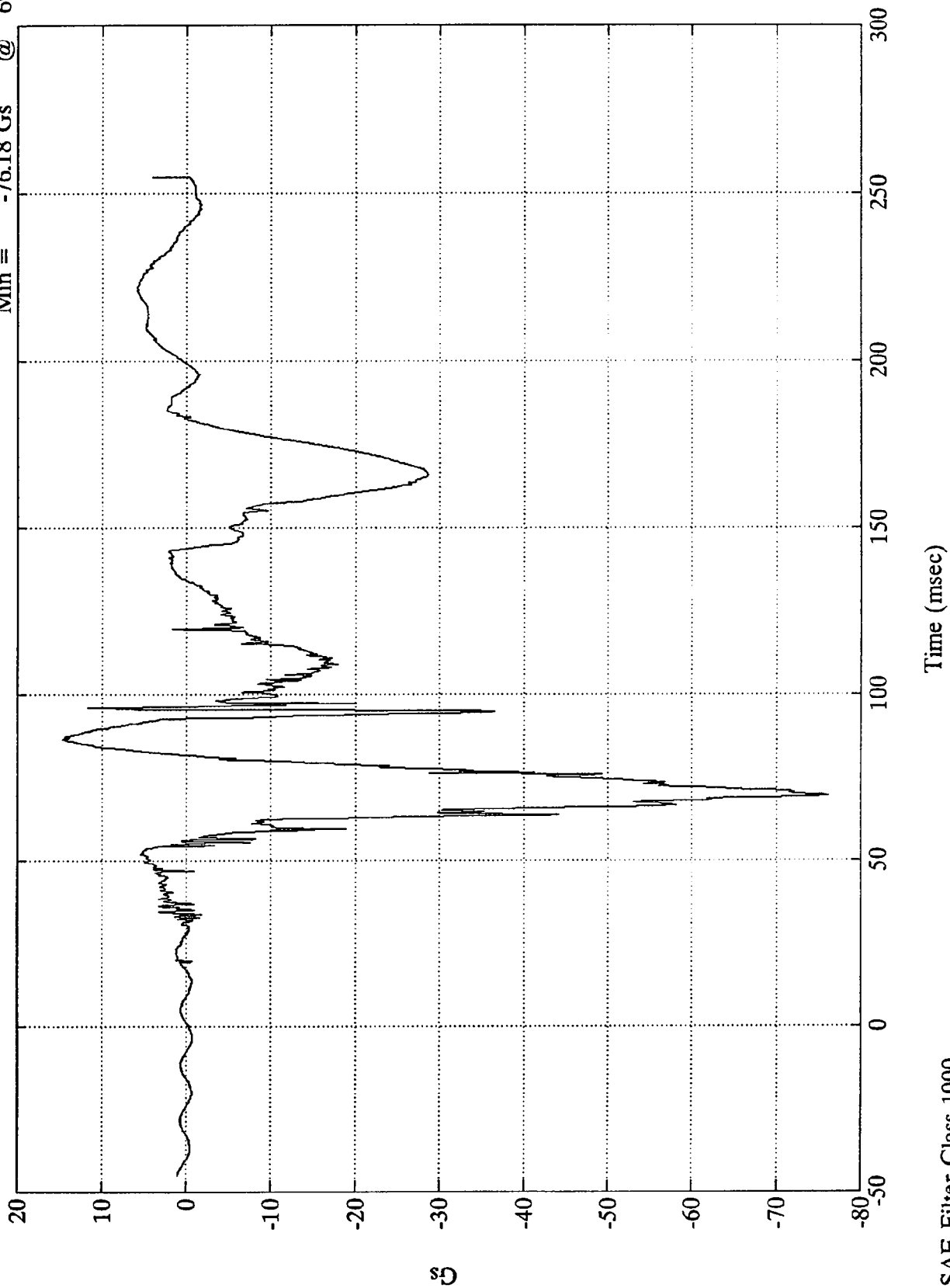
Pos. 1 Right Femur

Max = 282.51 lbs @ 101.04 msec
Min = -1622.50 lbs @ 57.00 msec



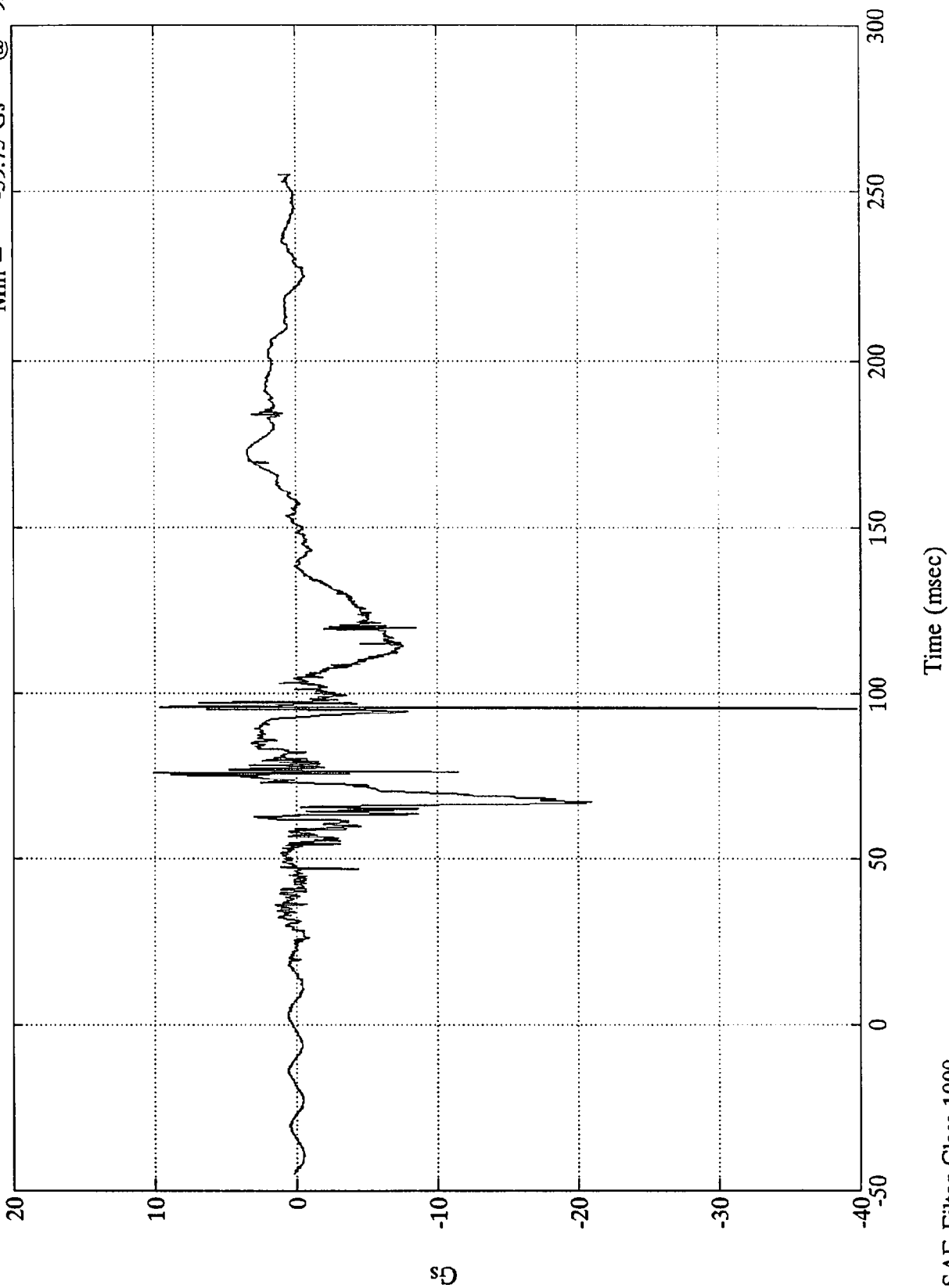
NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 2 Head X
 Max = 14.60 Gs @ 86.28 msec
 Min = -76.18 Gs @ 69.59 msec



NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

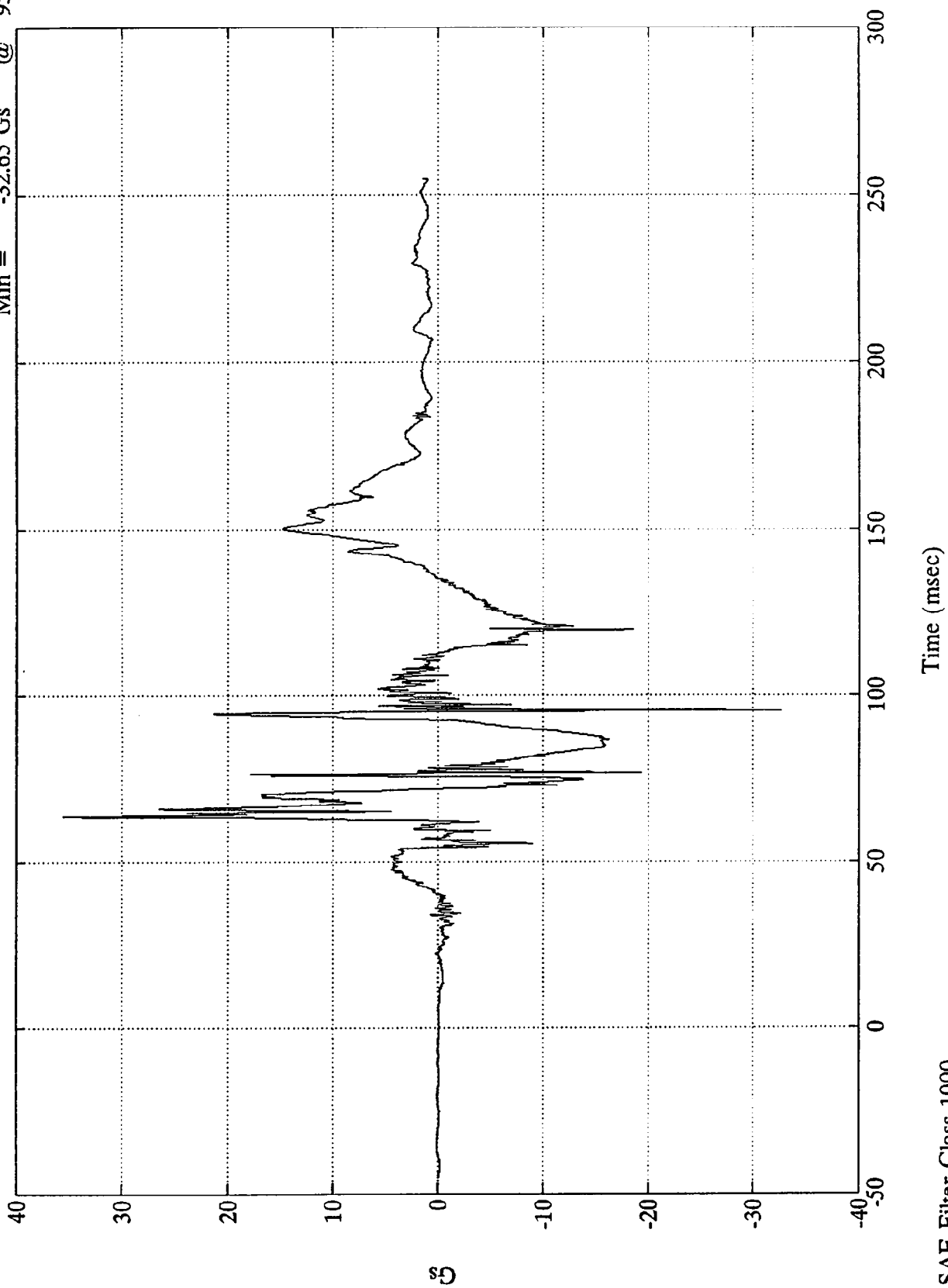
Pos. 2 Head Y
 Max = 10.16 Gs @ 76.08 msec
 Min = -39.75 Gs @ 95.40 msec



SAE Filter Class 1000

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

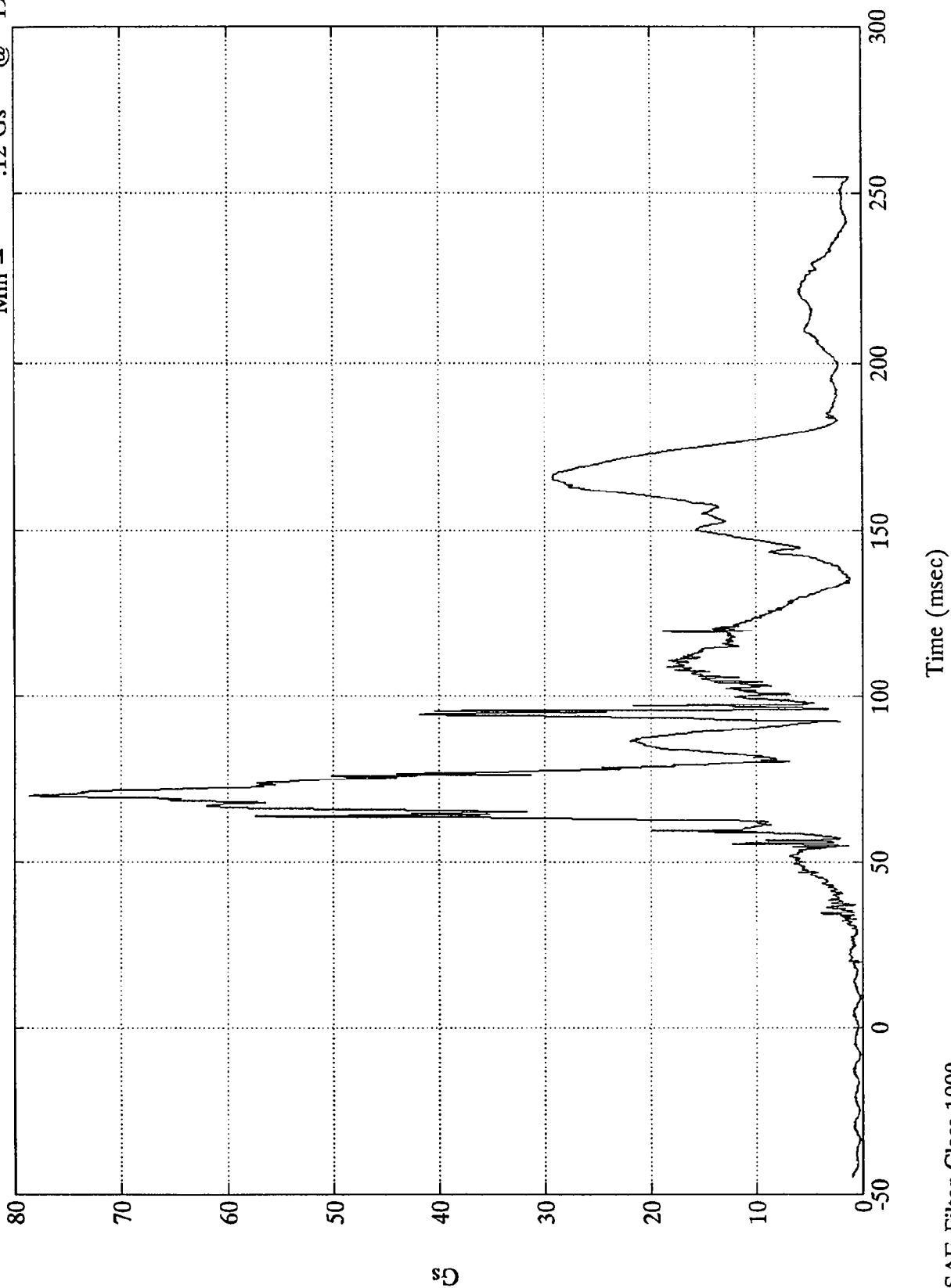
Pos. 2 Head Z
Max = 35.51 Gs @ 63.60 msec
Min = -32.65 Gs @ 95.16 msec



NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

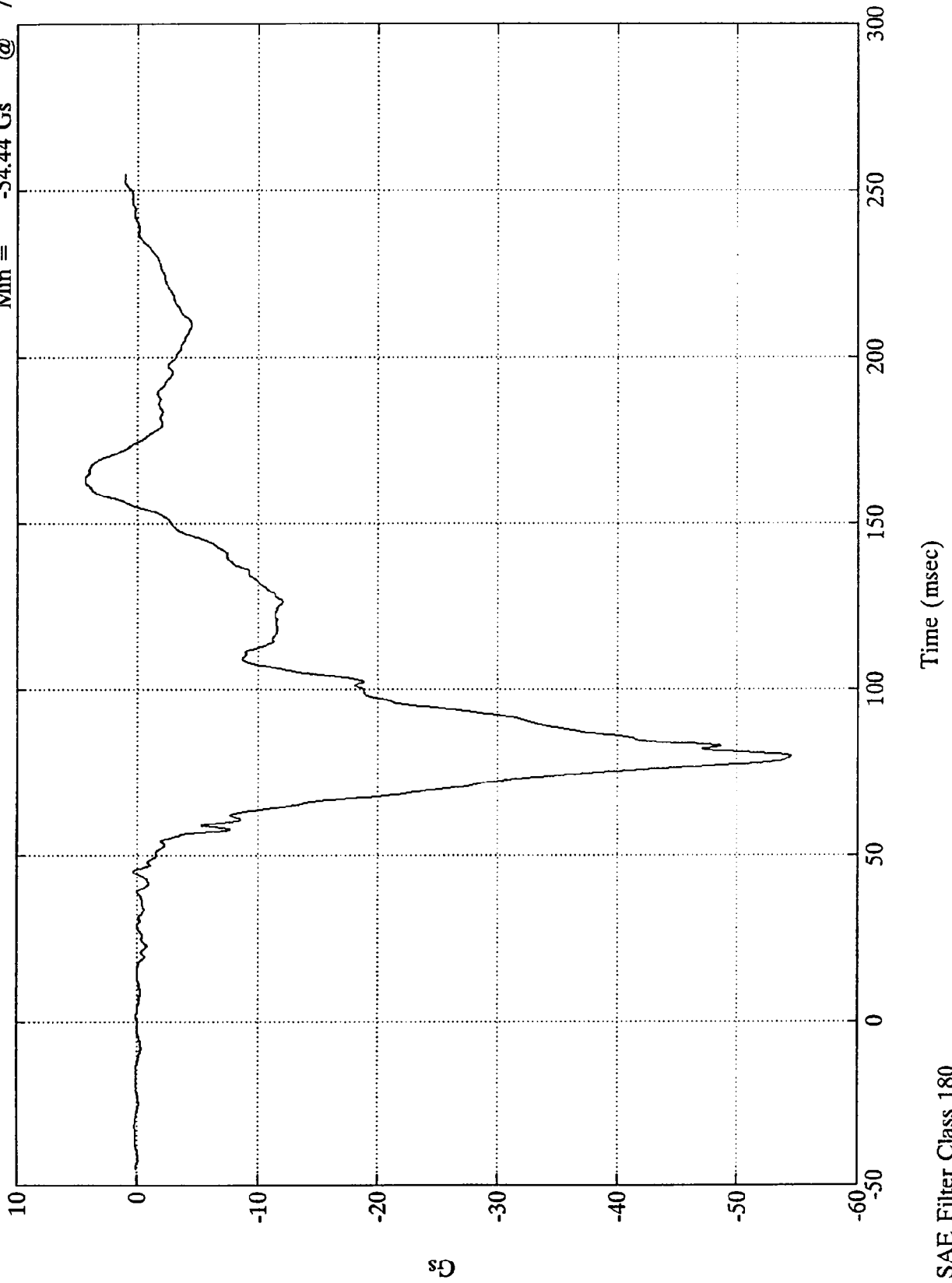
Pos. 2 Head Resultant

Max = 78.69 Gs @ 69.59 msec
Min = .12 Gs @ 19.79 msec



NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 2 Chest X
Max = 4.32 Gs @ 162.84 msec
Min = -54.44 Gs @ 79.80 msec

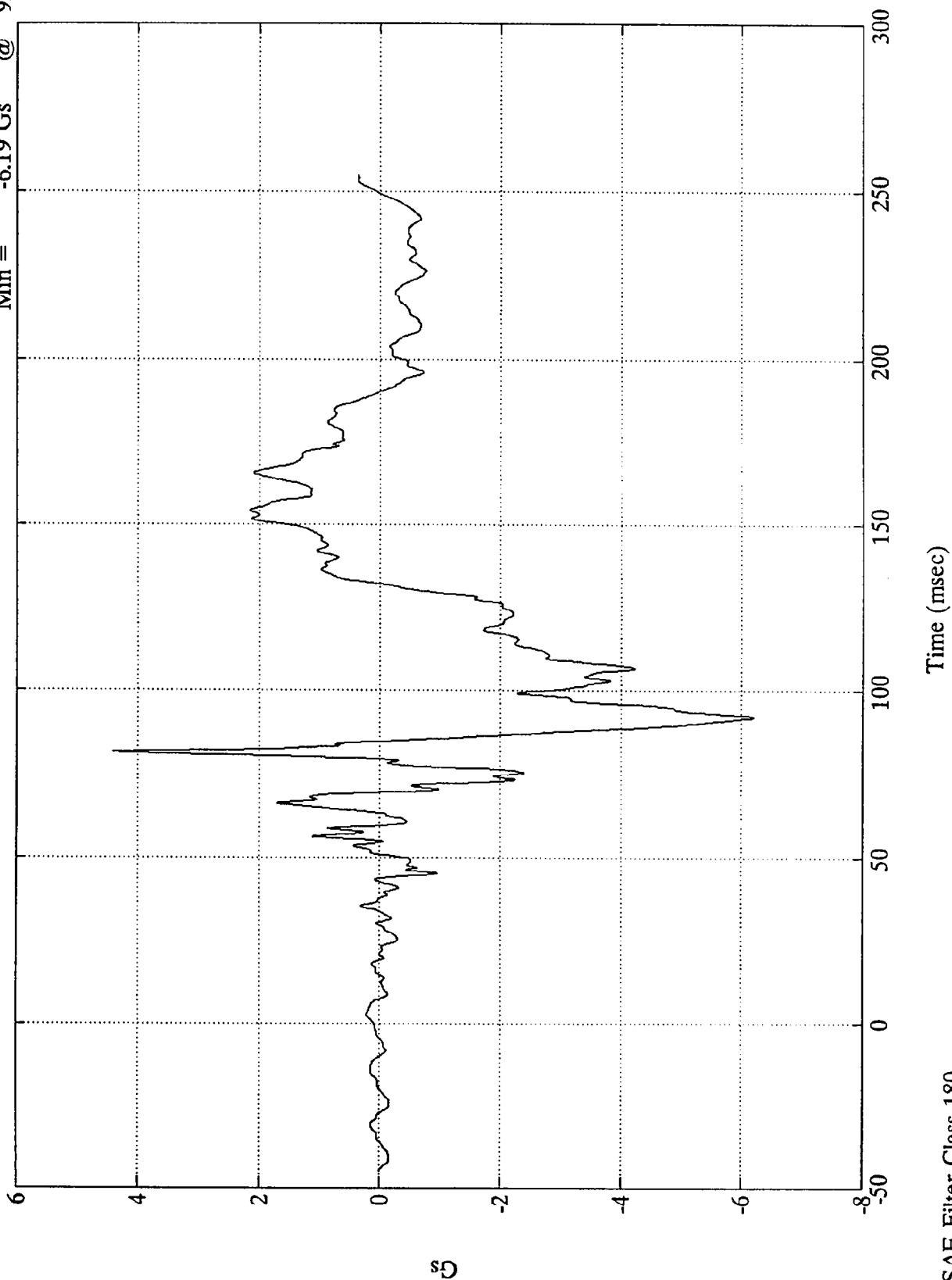


SAE Filter Class 180

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Max = 4.41 Gs @ 81.48 msec
Min = -6.19 Gs @ 92.04 msec

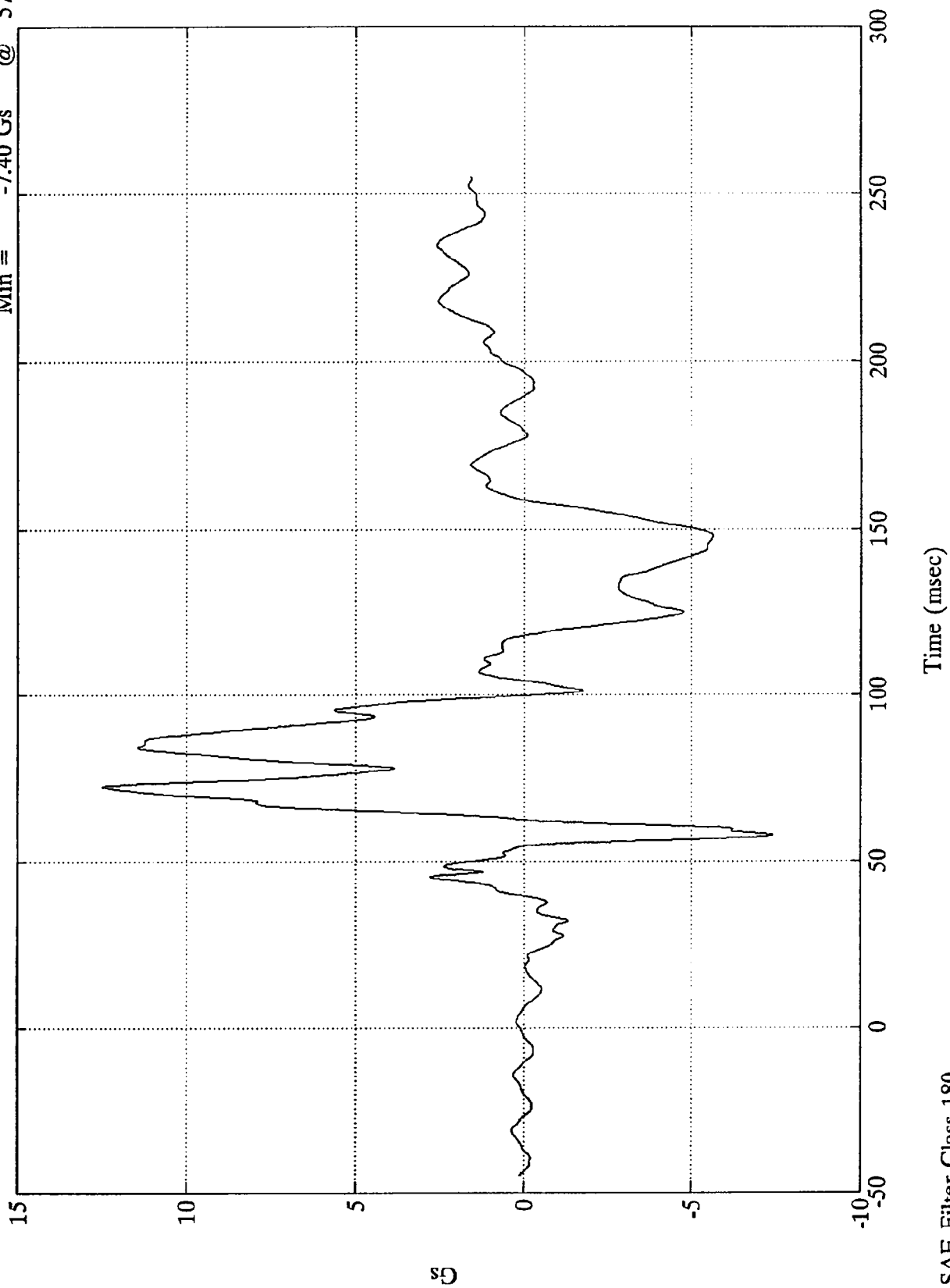
Pos. 2 Chest Y



SAE Filter Class 180

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

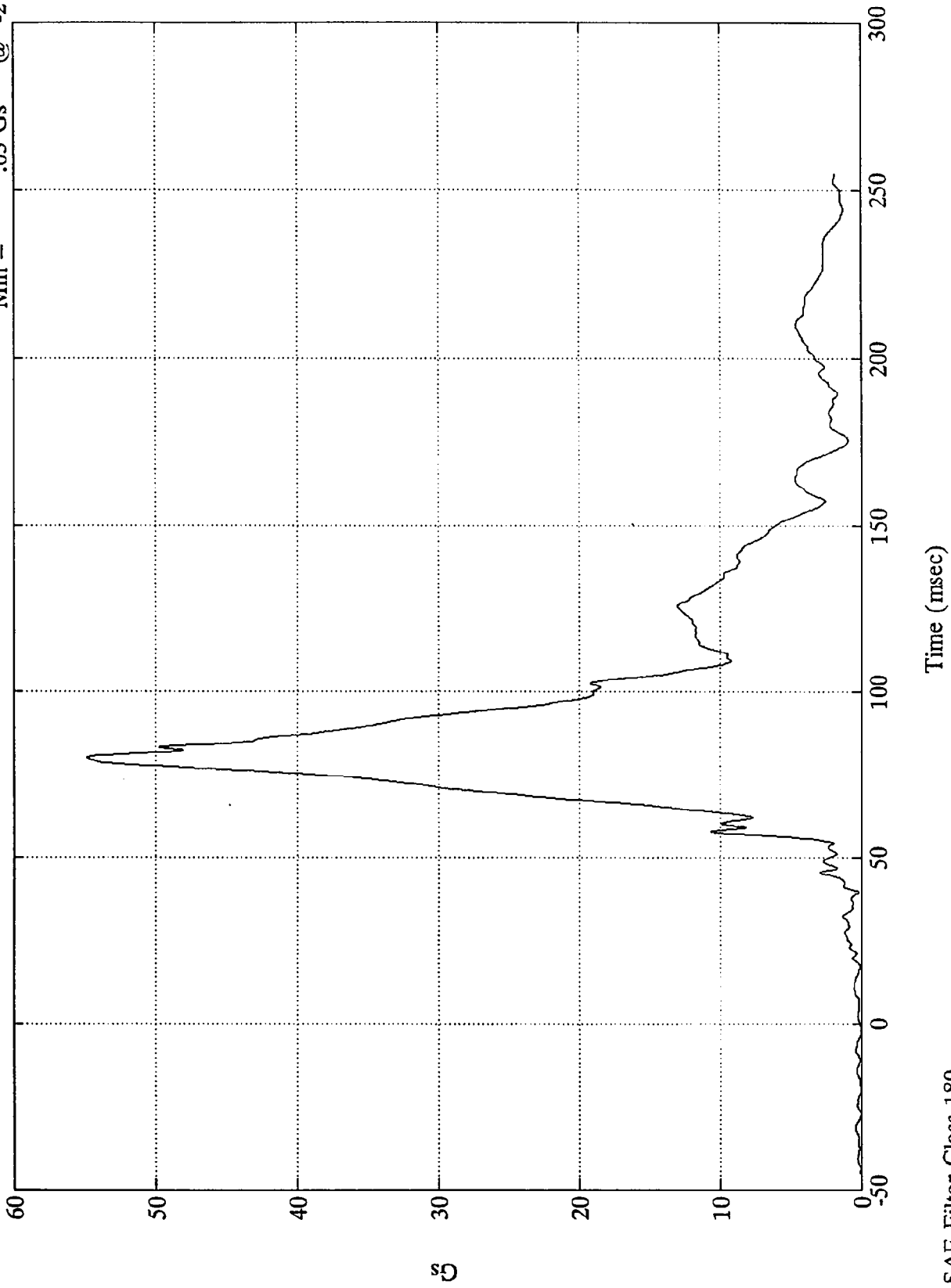
Pos. 2 Chest Z
Max = 12.51 Gs @ 72.48 msec
Min = -7.40 Gs @ 57.84 msec



NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 2 Chest Resultant

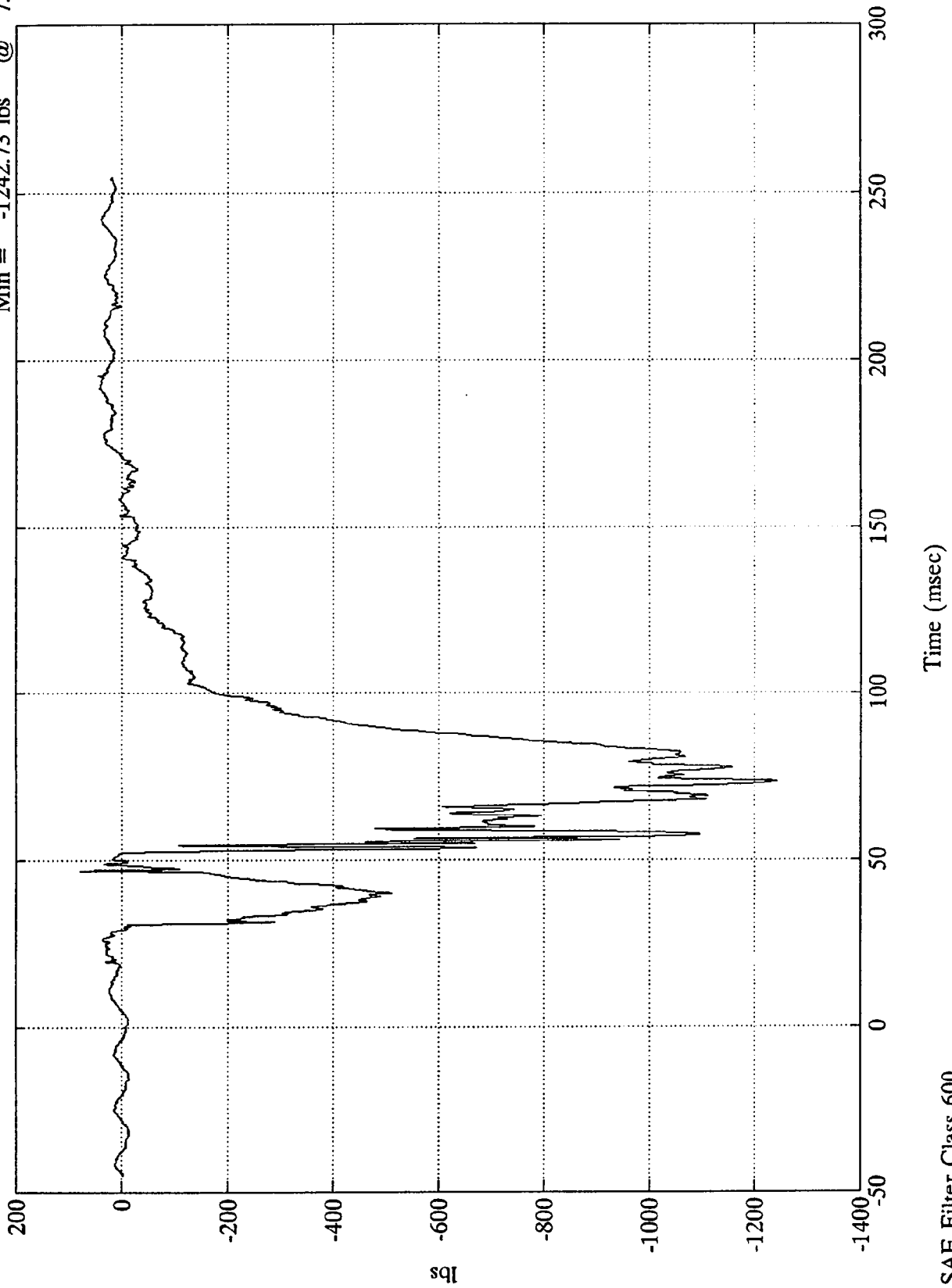
Max = 54.87 Gs @ 79.91 msec
Min = .03 Gs @ -27.00 msec



SAE Filter Class 180

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

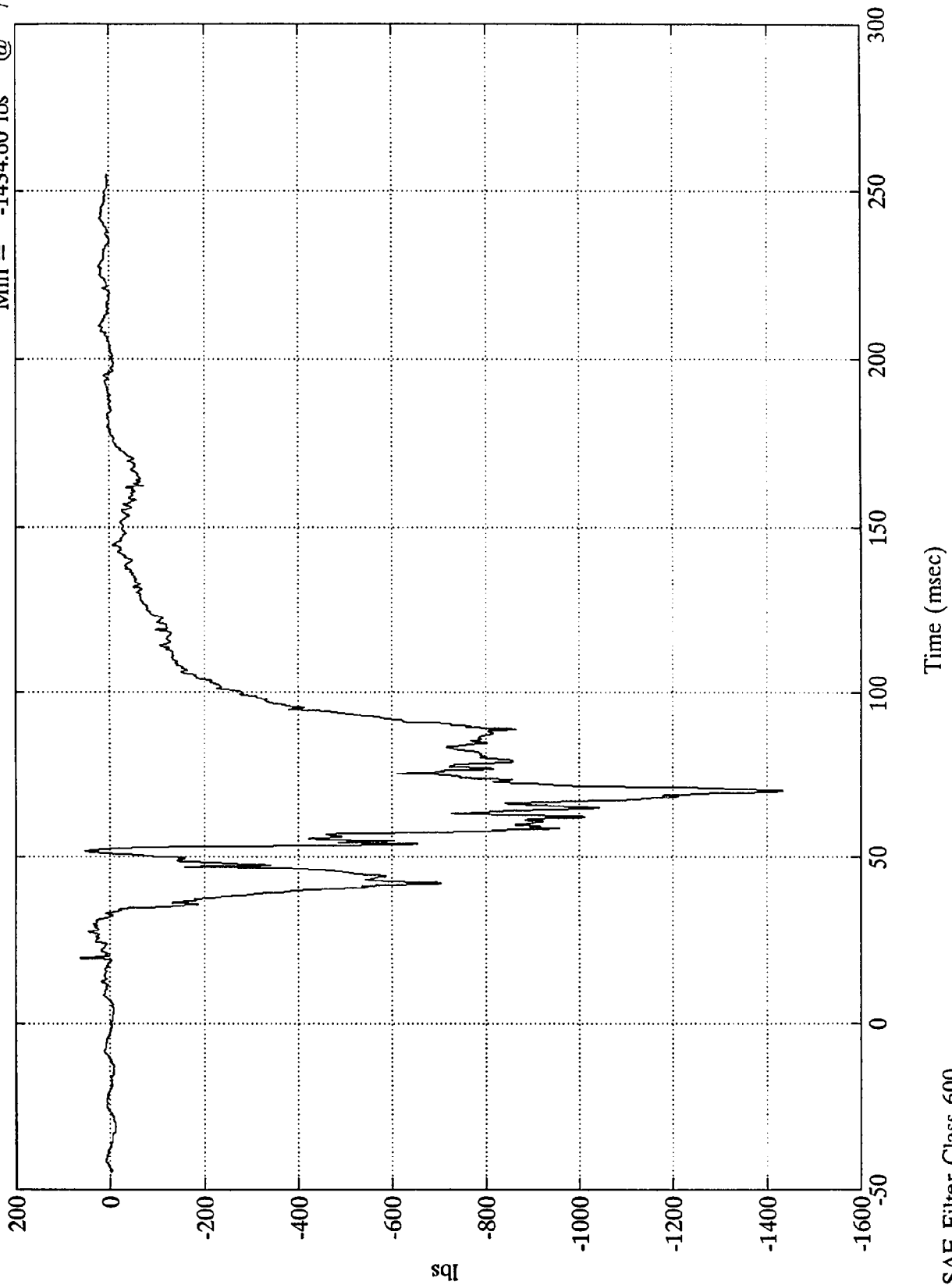
Pos. 2 Left Femur
Max = 78.16 lbs @ 47.04 msec
Min = -1242.73 lbs @ 73.55 msec



SAE Filter Class 600

NHTSA 208 TEST #13 - 1994 ACURA INTEGRA

Pos. 2 Right Femur
Max = 64.37 lbs @ 19.67 msec
Min = -1434.60 lbs @ 70.20 msec



SAE Filter Class 600

Appendix C

VEHICLE OWNERS MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

Your Occupant Protection System

Your Acura is equipped with seat belts and other features that work together to protect you and your passengers during a crash.

Seat belts are the most important part of your occupant protection system. When worn properly, seat belts can reduce the chance of serious injury or death in a crash.

For added protection during a severe frontal collision, your Integra has a Supplemental Restraint System (SRS) with a driver's airbag. All models except the Canadian RS model also have a passenger's airbag.

Two indicator lights are also part of your safety system. One reminds you to make sure you and your passengers wear your seat belts. The other alerts you to a possible problem with your supplemental restraint system (see page 14).

The seats, head restraints, and door locks also play a role in occupant safety. For example, reclining the seat-back can decrease the effectiveness of your seat belt. Head restraints can help protect your neck and head, especially during rear-end impacts. Door locks help keep your doors from being accidentally opened during a crash.

To get the maximum protection from your occupant protection system, check the following before you drive away:

- Everyone in the car is wearing a seat belt properly (see page 6).
- Infants and small children are properly secured in child safety seats (see page 18).
- Both doors and the hatch are closed and locked (see page 17).
- Seat-backs are upright and head restraints are properly adjusted (see pages 16 and 55).
- There are no loose items that could be thrown around and hurt someone during a crash or sudden stop (see page 17).

By following these guidelines, you can reduce injuries to yourself and your passengers in many crash situations. Remember, however, that no safety system can prevent all injuries or deaths that can occur in severe crashes.

4 Driver and Passenger Safety

The Seat Belt System and How It Works

Why Wear Seat Belts

Wearing seat belts, and wearing them properly, is fundamental to your safety and the safety of your passengers.

During a crash or emergency stop, seat belts can help keep you from being thrown against the inside of the car, against other occupants, or out of the car.

Of course, seat belts cannot completely protect you in every crash. But, in most cases, seat belts reduce your chance of serious injury. They can even save your life. That is why many states and all Canadian provinces require you to wear seat belts.

Not wearing a seat belt increases the chance of being killed or seriously hurt in a crash.

Be sure you and your passengers always wear seat belts and wear them properly.

Important Safety Reminders
Seat belts are designed for adults and larger children. All infants and small children must be properly restrained in child safety seats (see page 18).

A pregnant woman needs to wear a seat belt to protect herself and her unborn child (see page 8).

Two people should never use the same seat belt. If they do, they could be very seriously injured in a crash.

Do not place the shoulder portion of a lap/shoulder belt under your arm or behind your back. This could increase the chance of serious injuries in a crash.

Do not put shoulder belt pads or other accessories on seat belts. They can reduce the effectiveness of the belts and increase the chance of injury.

The Seat Belt System and How It Works

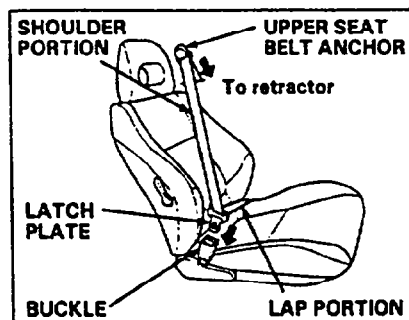
Seat Belt System Components

Your Acura has lap/shoulder seat belts in all four seating positions.

Your seat belt system also includes a light on the instrument panel to remind you to fasten your seat belt, and to make sure your passengers fasten theirs. This light comes on when you turn on the ignition if you have not fastened your seat belt. A beeper also sounds for several seconds (see page 32).

The following pages cover more about the seat belt components and how they work.

Lap/Shoulder Belt



This style of seat belt has a single belt that goes over your shoulder, across your chest, and across your hips.

Each lap/shoulder belt has an emergency locking retractor. In normal driving, the retractor lets you move freely in your seat while it keeps some tension on the belt. During a collision or sudden stop, the retractor automatically locks the belt to help restrain your body.

Wearing Seat Belts Properly

You can increase the effectiveness of your seat belts if you take a little time to read the following pages and make sure you know how to wear seat belts properly.

Not wearing a seat belt properly increases the chance of serious injury or death in a crash.

Be sure you and your passengers always wear seat belts and wear them properly.

6 Driver and Passenger Safety

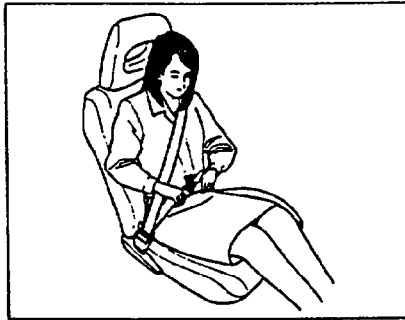
The Seat Belt System and How It Works

Wearing a Lap/Shoulder Belt

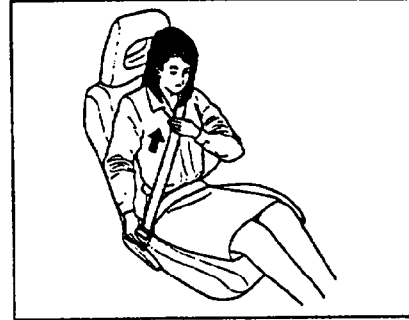


Before putting on a front seat belt, be sure your seat is adjusted forward or backward to a good driving or riding position and the back of your seat is upright (see page 53).

1. Pull the latch plate across your body and insert it into the buckle. Tug on the belt to make sure the latch is securely locked.



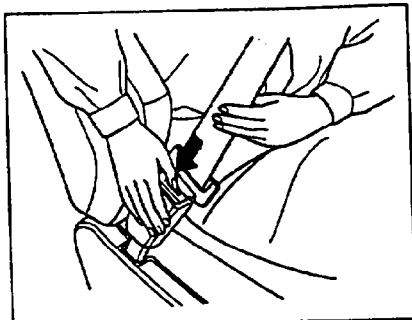
2. Check that the belt is not twisted.
3. Position the lap portion of the belt as low as possible across your hips, not across your stomach. This lets your strong pelvic bones take the force of a crash.



4. Pull up on the shoulder part of the belt to remove any slack. Make sure the belt goes over your collarbone and across your chest.

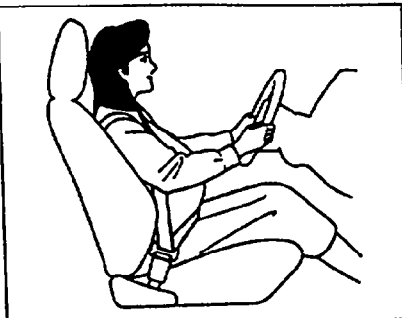
CONTINUED

The Seat Belt System and How It Works



To unlatch the seat belt, push the red **PRESS** button on the buckle. Guide the belt across your body to the door pillar. If the belt doesn't retract easily, pull it out and check for twists or kinks.

Advice for Pregnant Women



Protecting the mother is the best way to protect her unborn child. Therefore, a pregnant woman should wear a properly-positioned seat belt whenever she drives or rides in a car.

When using the seat belt, remember to keep the lap portion as low as possible (see page 7).

Each time you have a check-up, ask your doctor if it's okay for you to drive and how you should position a lap/shoulder seat belt.

The Seat Belt System and How It Works

Seat Belt Maintenance

For safety, you should check the condition of your seat belts regularly.

Pull out each belt fully and look for frays, cuts, burns, and wear. Check that the latches work smoothly and the lap/shoulder belts retract easily. Any belt not in good condition or not working properly should be replaced.

If a seat belt is worn during a crash, have your dealer replace the belt and inspect the anchors for damage.

For information on how to clean your seat belts, see page 175.

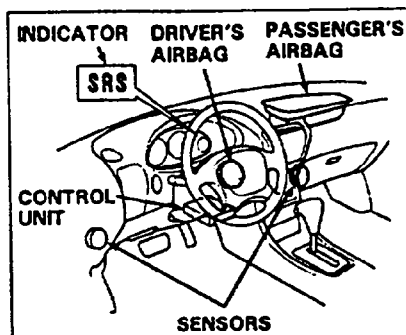
Supplemental Restraint System

The supplemental restraint system includes an airbag to help protect your head and chest during a severe frontal collision. This system does not replace your seat belt. It supplements, or adds to, the protection offered by your seat belt.

All models except the Canadian RS model also have a front passenger's airbag.

Not wearing a seat belt increases the chance of serious injury or death in a crash, even if you have an airbag.

Be sure you and your passengers always wear seat belts and wear them properly.



The main components in your SRS are:

- An airbag in the steering wheel.

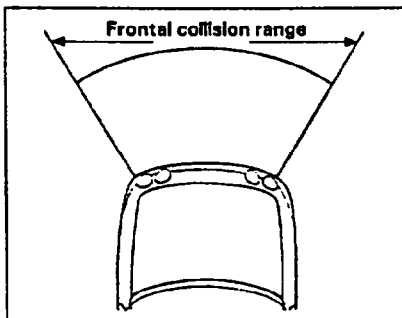
(Except Canadian RS model)
An airbag in the dashboard for the passenger.

10 Driver and Passenger Safety

Supplemental Restraint System

- A diagnostic system that, when the ignition is ON (II), continually monitors the sensors, control unit, airbag activator, and all related wiring.
- An indicator light to warn you of a possible problem with the system.
- Emergency power backup in case your car's electrical system is disconnected in a crash.

Important Safety Reminder



Even with an airbag, you need to wear a seat belt. The reasons are:

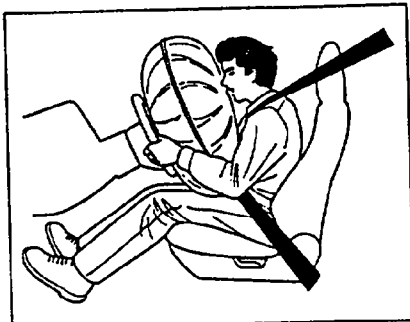
- Airbags only inflate in severe frontal collisions. They offer no protection in rear impacts, side impacts, rollovers, or moderate frontal collisions.

- An airbag inflates and deflates very quickly. It cannot protect you during any additional impacts that can occur during a crash.

- A seat belt helps keep you in the proper position when an airbag inflates. An airbag opens with considerable force and can hurt you if you are not in the proper position.

Supplemental Restraint System

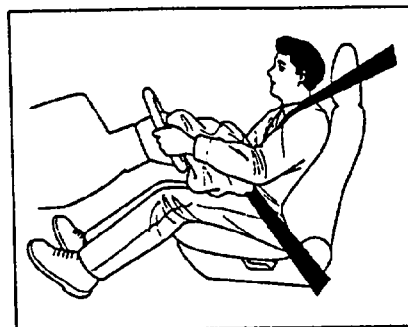
How the Driver's Airbag Works



If you ever have a severe frontal collision, your airbag will instantly inflate to help protect your head and chest.

When the airbag inflates, you may hear a fairly loud noise and you might see smoke or powder. This is normal; it is caused by the inflation of the airbag.

To do its job, the airbag inflates with considerable force. So, while it can reduce serious injuries and even save your life, the airbag might cause some facial abrasions or other injuries. For this reason, you should always sit as far back from the steering wheel as comfortable while still maintaining control.



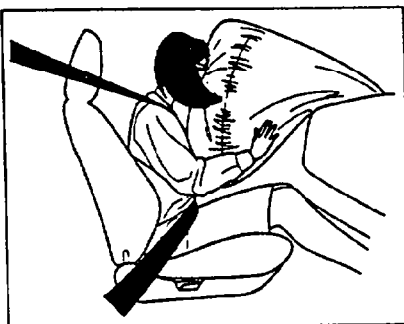
After the bag completely inflates, it immediately starts deflating so it won't interfere with your visibility, ability to steer, or ability to operate other controls. The total time for inflation and deflation takes less than one-tenth of a second. You may not even be aware that the airbag has been fully inflated.

12 Driver and Passenger Safety

Supplemental Restraint System

The airbag is stored in the center of the steering wheel. For your safety, do not attach any items to the steering wheel. They could interfere with the proper operation of the airbag. Or, if the airbag inflates, they could be propelled inside the car and hurt someone.

How the Passenger's Airbag Works (All models except Canadian RS)



If you ever have a severe frontal collision, the passenger's airbag will inflate at the same time as the driver's airbag.

This airbag is quite large and inflates with considerable force. It can seriously hurt a front seat passenger who is not in the proper position and wearing the seat belt properly. Front seat passenger's should move the seat as far back as practical and sit well back in the seat.

Because of the airbag, we strongly recommend that you do not put an infant seat in the front passenger's seat. If the airbag inflates, it can dislodge the infant seat and seriously injure the infant.

If a toddler seat is used in the front passenger's seat, the vehicle seat should be moved as far back as possible. If the passenger's bag inflates, it could seriously hurt a toddler who is not in the proper position or properly restrained.

CONTINUED

Supplemental Restraint System

The passenger's airbag is stored near the top of the dashboard, under a lid marked SRS. Do not place any objects on top of this lid. If the airbag inflates, those objects can be propelled inside the car and possibly hurt someone.

SRS

How the SRS Indicator Light Works

The purpose of the SRS light on your instrument panel is to alert you of a potential problem with your supplemental restraint system.

Have the system checked if:

- The light does not come on when you turn the ignition ON (II).
- The light stays on after the engine starts.
- The light comes on or flashes while you are driving.

System Service

Your supplemental restraint system is virtually maintenance-free. There are no parts you can safely service.

You must have the system serviced by an authorized Acura dealer:

- If your airbag ever inflates. The airbag must be replaced. Do not try to remove or discard the airbag by yourself. This must be done by an Acura dealer.
- If the SRS indicator light alerts you of a problem. Have the supplemental restraint system checked as soon as possible. Otherwise, your airbag might not inflate when you need it.
- When the car is ten years old. Have the dealer inspect the system. The production date is on the driver's door jamb for your convenience.

Appendix D
CHECKLISTS

CALSPAN VEHICLE PREPARATION CHECKLIST
Pre-Test, Engineer

TEST TYPE FO8
VEHICLE YEAR, MAKE AND MODEL 1994 Nissan Integra
VIN No. JH4DC4340RS034969
NHTSA No. CR5309

Date &
INITIALS

- | | |
|---|------------|
| 1. Seat tracks set in mid position, seat back angle set, steering column position set, seats in lowest position, and lumbar support off. All data recorded in test report. | <u>R.E</u> |
| 2. Centerline of each front seat marked. Place H-point machine in each front outboard seat following H-point machine checklist if Part 572E ATDs are used. | <u>N/A</u> |
| 3. Adjustable seat belt anchorages positioned per mfg. inst. | <u>N/A</u> |
| 4. All dsp have at minimum type I seat belt. | <u>DJ7</u> |
| 5. All outboard dsp have type II seat belt. | <u>DJ7</u> |
| 6. Seat belts adjust to fit required ATDs with seat in full forward or rear position. | <u>DJ7</u> |
| 7. Perform air bag, seat belt warning system, and belt comfort and convenience tests and record in test report. | <u>DJ7</u> |
| 8. Measure windshield for FMVSS 212, and 219 and record in test report. | <u>R.E</u> |
| 9. Measure accelerometer locations and record if applicable. | <u>R.E</u> |
| 10. Weigh vehicle with all equipment and ATD weight. Test weight is target weight (-10, -20 lbs.). Record in test report with ballast added or vehicle components removed to achieve test weight. | <u>DJ7</u> |

Signed: DJ7h Date: 4/18/94

- o Record the ambient temperature as the vehicle begins to move towards the barrier.
- o Document post-test condition of the vehicle exterior, vehicle interior and dummies with a real-time movie camera.
- o Collect Stoddard solvent leakage (if any) immediately after impact. Document leakage with real-time motion picture coverage and a stop watch.
- o Record post-test condition of vehicle and ATDs.
- o Take post-test still photos of vehicle (except underside) and ATDs.
- o Record visually apparent dummy contact locations.
- o Check windshield for FMVSS 212 and record in test report.
- o Check windshield for FMVSS 219 zone intrusion and record in test report.
- o Perform static rollover test for FMVSS 301 only if "quick look" dummy data appear to have satisfied FMVSS 208 occupant injury criteria. Collect and photographically document possible Stoddard solvent spillage.
- o Take still photographs of the vehicle underside.
- o Fill in air bag data sheet.
- o Record seat movement, if any.
- o Document any other noteworthy observation(s) in test report.
- o Photograph the velocity counter.
- o Perform post-test functional DLR check.
- o Process all data gathered on computer.

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Signature: DF

Date: 4/18/94

Table B-8
Calspan
Part 572B - Hybrid II
DUMMY PLACEMENT CHECKLIST

	<u>Driver</u>	<u>Passenger</u>
<u>Initial Placement</u>		
Place driver dummy's knees 14.5 inches apart with left outer surface 5.9" from mid-sagittal plane.	<u>✓ footrest</u>	
Right foot on accelerator pedal.	<u>✓</u>	
Left foot on toeboard, heel on floorpan. If vehicle has a footrest that does not elevate foot, place foot on footrest. If feet do not reach toeboard place feet perpendicular to leg.	<u>✓</u>	
Place passenger knees 11.75" apart, feet on toeboard, heels on floorpan.		<u>✓</u>
For vehicles with bench seat, driver is placed in centerline with steering wheel, passenger is placed same distance from vehicle centerline as driver.	<u>N/A</u>	<u>N/A</u>
<u>Final Placement</u>		
Lift dummy so buttocks no longer contact seat.	<u>✓</u>	<u>✓</u>
Apply a rearward force of 50 pounds 6.5" above bottom of buttocks.	<u>✓</u>	<u>✓</u>
Slowly lower dummy to seat cushion. Remove force as necessary to lower dummy.	<u>✓</u>	<u>✓</u>
Apply 10-15 pounds of force to lower torso. Rock dummy side to side 14-16 degrees from vertical for 3 to 4 repetitions.	<u>✓</u>	<u>✓</u>
Maintain 10-15 pound rearward force on lower torso. Push upper torso against seatback center with a 50 pound force 18" above buttocks.	<u>✓</u>	<u>✓</u>

Part 572B - Hybrid II
DUMMY PLACEMENT CHECKLIST

	<u>Driver</u>	<u>Passenger</u>
<u>Manual Belt Placement</u>		
Place belt around dummy and fasten latch.	<u>N/A</u>	<u>N/A</u>
Cycle belt retractors 4 times.	<u>↓</u>	<u>↓</u>
Apply 2-4 pounds of tension to belt near retractor and measure. Torso and lap belts should lay flat.	<u>↓</u>	<u>↓</u>
<u>Automatic Belt Placement</u>		
Close doors and allow vehicle system to position belt on dummy. Torso belt should lay flat on shoulder. If not contact OVSC COTR.	<u>N/A</u>	<u>N/A</u>
<u>Arm and Leg Placement</u>		
Fully outstretch driver arm. Push each arm rearward until palm center contacts outer steering wheel rim. Tape thumb of each hand with 1/4 inch wide masking tape. Max 1" overlap.	<u>✓</u>	
Fully outstretch ^{passenger} driver arm. Push each arm rearward until upper arm contacts seatback. Lower forearm until palm contacts outer thigh and little finger contacts seat cushion.		<u>✓</u>
Dummy feet and legs may be repositioned.	<u>✓</u>	<u>✓</u>

Vehicle: 94 Acura Integra

NHTSA No. C25309

Signed: DJ Th

Date: 4/18/94

NHTSA No. CR5309
Date: 4/18/94
Vehicle: 94 Acura Integra

CALSPAN FMVSS 208 TRACK MANAGER CHECKLIST

- o Obtain vehicle test weight. OK
- o Set console pull force limit. OK
- o Set abort system window. OK
- o Set abort system pressures. OK
- o Verify dummies are grounded, sprayed with static elimination spray,
and vehicle battery drained and disconnected. OK
- o Perform onboard light check. OK
- o Start tow system engines. OK
- o Tow system feedback is acceptable. OK
- o Velocity trap system check acceptable. OK
- o Tension tow cable. OK
- o Send track personnel to ready positions. OK
- o Receive final OK from all personnel. OK
- o Energize onboard lights and notify barrier personnel to light barrier. OK
- o Run test. OK

Signed: Walt Lewis

NHTSA No. CR5309
Date: 4-18-94
Vehicle: Acura Integra

CALSPAN FMVSS 208 ELECTRICAL TECHNICIAN CHECKLIST

- o All accelerometers calibrated within 6 months, have not been used for more than four FMVSS 208 tests without recalibration, or been used in an ATD which failed 208 without recalibration. ✓
- o Dummy's have passed pre-test calibration. ✓
- o Dummies attached to amplifier boxes and also grounded. ✓
- o Data umbilicals attached to vehicle. ✓
- o Event trigger switch functional. ✓
- o Data recording system functional. ✓
- o Data channels functional. ✓
- o Pre-test zero and DLR levels acceptable and recorded. ✓
- o Post-test zero and DLR levels recorded. ✓

Signed: DW Hess

CALSPAN 208 HIGH-SPEED PHOTOGRAPHY CHECKLIST

NHTSA No. CR5309

Vehicle 94 Acura Integra

- o Obtain real-time (24 fps) film coverage of the removal, installation and tightening of the vehicle fuel filler cap consistent with Stoddard solvent fill operation. ☒
- o Set up on-board vehicle and fixed-site cameras consistent with test requirements. ☒
- o Site cameras to ensure that the film will show the required view and target markers and that glare or light reflection on vehicle minimized. ☒
- o Focus cameras. ☒
- o Record identification number, site location and lens focal length for all cameras. ☒
- o Set up time-zero event markers and computer trigger switch. ☒
- o Position camera start switch pad. ☒
- o Test all cameras for operation. ☒
- o Load all cameras. ☒
- o Obtain pre-test, real-time coverage of the vehicle and dummies. ☒
- o High-speed cameras show green light, indicating ready. ☒
- o Film vehicle motion along track from start to impact using real-time camera. ☒
- o Record post-test Stoddard solvent spillage from vehicle (if any) immediately following the impact. ☒
- o Obtain post-test, real-time coverage of the vehicle and dummies. ☒

Signature: Ed Dutton

Date: 4/18/94