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212-CAL-94-1
301-CAL-94-1

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

MAZDA MOTOR CORPORATION
1994 MAZDA 626
Four-Door Sedan

NHTSA NUMBER: CR5400

CALSPAN TEST NUMBER: 8145-1

September 30, 1993

CALSPAN CORPORATION
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FINAL REPORT

PREPARED FOR:

U. S. Department of Transportation
National Highway Traffic Safety Administration
ENFORCEMENT
Office of Vehicle Safety Compliance
400 Seventh Street, S. W.
Room No. 6115 (NEF-30)
Washington, DC 20590

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15. Supplementary Notes

16. Abstract

A 30 mph vehicle safety compliance test was conducted on a 1994 Mazda 626 4-Door sedan.

This test was performed at the Calspan Advanced Technology Center in Buffalo, New York on September 30, 1993. 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 29.5 mph. The ambient temperature at the impact face was 58 °F.

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

Type of Restraint System: The test vehicle was equipped driver and right front passenger air bags. The manual 3-point seat belts were not used for this test.

17. Key Words	18. Distribution Statement
30 mph Vehicle Safety Compliance Testing FMVSS 208, "Occupant Crash Protection" FMVSS 212, "Windshield Mounting" FMVSS 219, "Windshield Zone Intrusion" FMVSS 301, "Fuel System Integrity" Frontal Impact	Copies of this report are available from: Technical Reference Division National Highway Traffic Safety Admin. Nassif Building, Room 5108 (NAD-52) 400 Seventh , S.W., Washington, D.C. 20590

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Section 1

PURPOSE AND TEST PROCEDURE

This 30 mph frontal barrier impact test is part of the Federal Motor Vehicle Safety Standard (FMVSS) 208, 212, 219 (partial) and 301 compliance test program conducted for the National Highway Traffic Safety Administration (NHTSA) by Calspan Advanced Technology Center under Contract No. DTNH22-90-D-02121. The purpose of this test was to determine if the subject vehicle , a 1994 Mazda 626 Four-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-208-08, dated September 8, 1989.

Section 2

SUMMARY OF TEST NUMBER CR5400

A frontal barrier was impacted by a 1994 Mazda 626 Four-Door Sedan at a velocity of 29.5 mph. The test was performed at the Calspan Corporation Advanced Technology Center on September 30, 1993. 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 triaxial accelerometers, and left/right femur load cells. These ATDs had been certified prior to the test.

The 23 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 347. The maximum chest deceleration over 3 milliseconds was 53.9 g's. The maximum force on the driver's left femur was -1191.4 pounds and -1441.4 pounds on the right.

The right front passenger's HIC was 186. The maximum chest deceleration over 3 milliseconds was 34.8 g's. Loads of -1341.6 and -1518.4 pounds were recorded on the left and right femurs respectively.

Table 1

CRASH TEST SUMMARY

Vehicle NHTSA No. : CR5400 Test Mode : 30 mph Frontal Barrier

Test Date : September 30, 1993 Time: 11:55 AM Temperature : 58 °F

Vehicle Make/Model/Body Style : 1994 Mazda 626 Four-Door Sedan

Vehicle Test Weight : 3100 lbs

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 29.5 mph

Maximum Static Crush : 17.7 inches

Vehicle Rebound : 17.4 inches

DUMMIES:	DRIVER	PASSENGER
Type :	Part 572 B	Part 572 B
Restraint System :	Airbag	Airbag

Number of Data Channels : 23

Number of Cameras : 1 Real Time

14 High Speed

DOOR OPENING DATA : Closed - Left Front

Closed - Right Front

Front Seat(s) Data :	DRIVER	PASSENGER
Seat Track Failure :	0.0	0.0
	Inches of shift	
Seat Back Failure :	None	None

VISIBLE DUMMY CONTACT POINTS :	DRIVER	PASSENGER
Head :	Face w/ airbag, top of head w/ header and sunvisor.	Face w/ airbag, top and rear of head w/ header and sunvisor.
Abdomen :	Airbag and lower steering wheel.	Air bag
Chest	Airbag	Airbag
Knees	Lower dash panel.	Glove box door.

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/model/Body Style : 1994 Mazda 626 Four-Door Sedan

NHTSA No. : CR5400 ; VIN: 1YVGE22C3R5103507 ; Color : Blue

Engine Data: 4 cylinders; - CID; 2.0 Liters; - cc

Placement : - Longitudinal or In-Line; - 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

- Pwr. Windows; - Pwr. Door Locks; X Tilt Wheel

Date Received : 9/14/93 ; Odometer Reading 24 miles

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : AUTO ALLIANCE INTERNATIONAL, INC.

Date of Manufacture July 29, 1993

GVWR : 3795 lbs.; GAWR: 2050 lbs. FRONT; 1745 lbs. REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 32 psi FRONT

26 psi REAR

Recommended Tire Size : P 195/65 R14 88S

* Recommended Cold Tire Pressure : 32 psi FRONT; 26 psi REAR

Size of Tires on Test Vehicle: P 195/65 R14 88S ; Manufacturer: DUNLOP

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

*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	= 830	lbs.	Right Rear	= 510	lbs.
Left Front	= 810	lbs.	Left Rear	= 540	lbs.
TOTAL FRONT	= 1,640	lbs.	TOTAL REAR	= 1,050	lbs.

TOTAL DELIVERED WEIGHT = 2,690 lbs.

% of Total Front of Vehicle Weight = 60.97 % of Total Rear Weight = 39.03 %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight	= 2,690	lbs.
Rated Cargo/Luggage Weight (RCLW)	= 100	lbs.
Weight of 2 p.572 Dummies @ 164 each	= 328	lbs.
TARGET TEST WEIGHT	= 3,118	lbs.

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 82 POUNDS OF CARGO WEIGHT:

Right Front	= 915	lbs.	Right Rear	= 655	lbs.
Left Front	= 860	lbs.	Left Rear	= 670	lbs.
TOTAL FRONT	= 1,775	lbs.	TOTAL REAR	= 1,325	lbs.

TOTAL TEST WEIGHT = 3,100 lbs.

% of Total Front Weight = 57.26 % % of Total Rear Weight = 42.74 %

Weight of Ballast Secured in Vehicle Trunk Area = 0 lbs.

Vehicle Components Removed for Weight Reduction: None

VEHICLE ATTITUDE (all dimension in inches) :

AS DELIVERED :	RF	27.4	LF	27.4	RR	27.7	LR	27.5
FULLY LOADED :	RF	27.0	LF	26.9	RR	24.2	LR	24.3
AS TESTED :	RF	27.0	LF	27.2	RR	25.6	LR	25.7

Vehicle's Wheel Base : 102.8 in.

Location of Vehicle's C.G. : 43.94 inches rearward of front wheel center.

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual = 15.5 gallons

Usable Capacity Figure Furnished by COTR = 14.5 gallons

Test Volume Range (92 to 94% of Usable Capacity) = 14.26 to 14.57 gallons

ACTUAL TEST VOLUME= 14.4 gallons (with entire fuel system filled)

Table 3

POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°

Test Date : September 30, 1993 Time: 11:55 AM Temperature: 58 °F

Vehicle NHTSA No. : CR5400

Required Impact Velocity Range : 28.9 to 29.9 mph

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

Trap No. 1 = 29.5 mph; Trap No. 2 = 29.5 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 =	179.7	; C/L =	184.7	;Left =	180.0
Post-Test	Right =	164.3	; C/L =	167.0	;Left =	165.5
Crush	Right =	15.4	; C/L =	17.7	;Left =	14.5
AVERAGE	=	15.9	inches			

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

	Right =	18.9	; C/L =	17.4	;Left =	19.3
AVERAGE	=	18.5	inches			

	Left	Right
DOOR OPENING :		
Front	Closed	Closed
Rear	Closed	Closed
SEAT MOVEMENT :	Seat Back Failure	Seat Shift
Front	None	None
Rear	N/A	N/A

Table 3

POST IMPACT (cont.)

GLAZING DAMAGE :

Windshield cracked near lower A pillars and on passenger side by interior contact through airbag.

OTHER NOTABLE IMPACT FEATURES :

Steering column stroked.

Section 3

OCCUPANT AND VEHICLE DATA

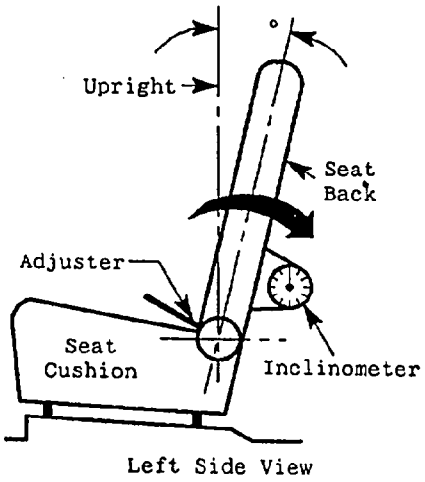
Figure 1

TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1994 Vehicle Model: 626 Body Style : Four-Door Sedan

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



Seat back angle for driver's seat : ----

Measurement instructions : Seat back set at 6th notch rearward of full upright (position zero), as specified by manufacturer.

Seat back angle for passenger's seat : ----

Measurement instructions : Seat back set at 6th notch rearward of full upright (position zero), as specified by manufacturer.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Seat set at 11th detent reward of full front (position zero). 11th detent is mid position. Driver seat contains 24 detents total.

Positioning of the passenger's seat (if applicable) : Seat set at 10th detent rearward of front most position (zero). 10th detent is mid position. Seat contains 21 detents total.

3. Fuel Tank Capacity Data

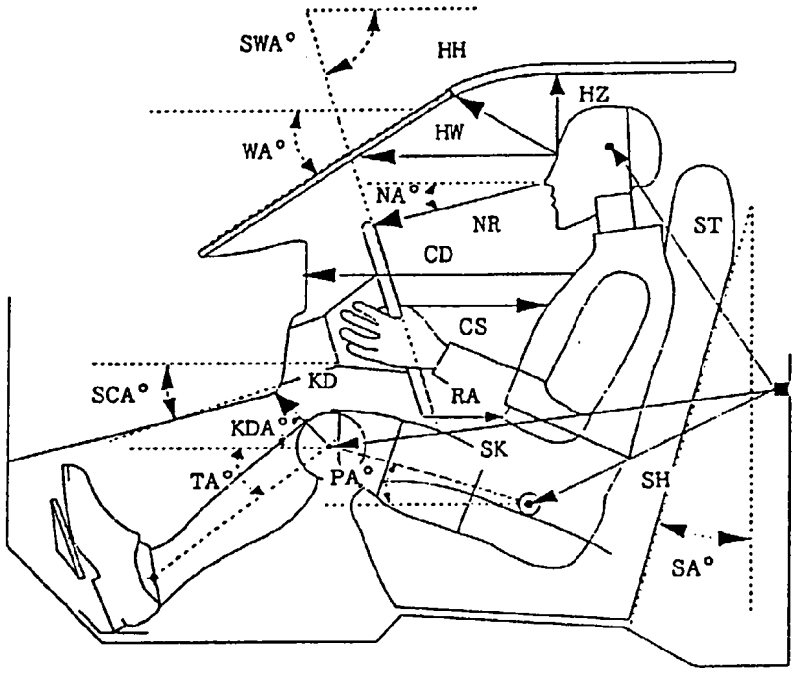
A. "Usable Capacity" of the standard equipment fuel tank is 15.5 gallons

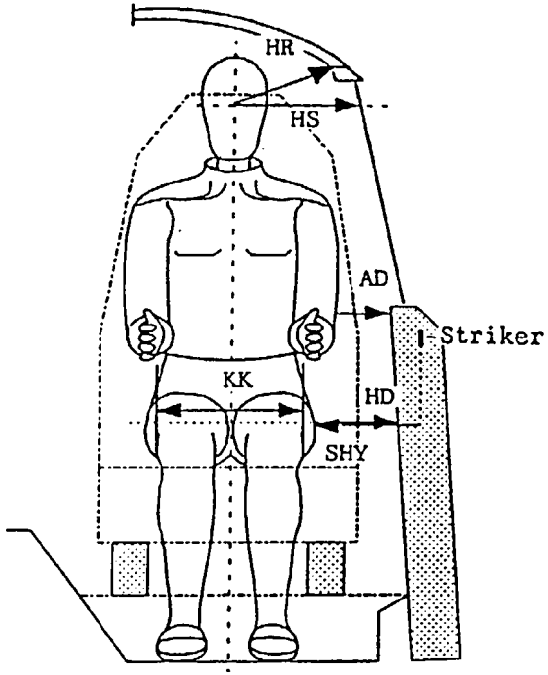
B. "Usable Capacity" of the optional equipment fuel tank is N/A gallons

4. Steering Column Position :

Steering column has three adjustment positions, column was set at mid (No.2), position.

5. Other:

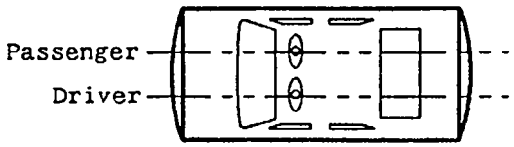




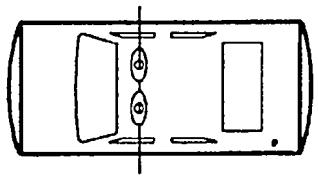
HH - Head to Header
HW - Head to Windshield
HZ - Head to Roof
NR - Nose to Rim
CS - Steering Wheel to Chest
CD - Chest to Dash
RA - Rim to Abdomen
KDL/KDR - Knee to Dash
KDA - Knee to Dash Angle
SH - Striker to H-Point
SK - Striker to Knee
ST - Striker to Head
NA - Nose to Rim Angle
TA - Tibial Angle
PA - Pelvic Angle
SA - Seat Back Angle
SCA - Steering Column Angle
SWA - Steering Wheel Angle
WA - Windshield Angle

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

Vertical Longitudinal Planes



Vertical Transverse Plane



PART 572 DUMMY IN-VEHICLE POSITION

Figure 2

8145-1

Table 4

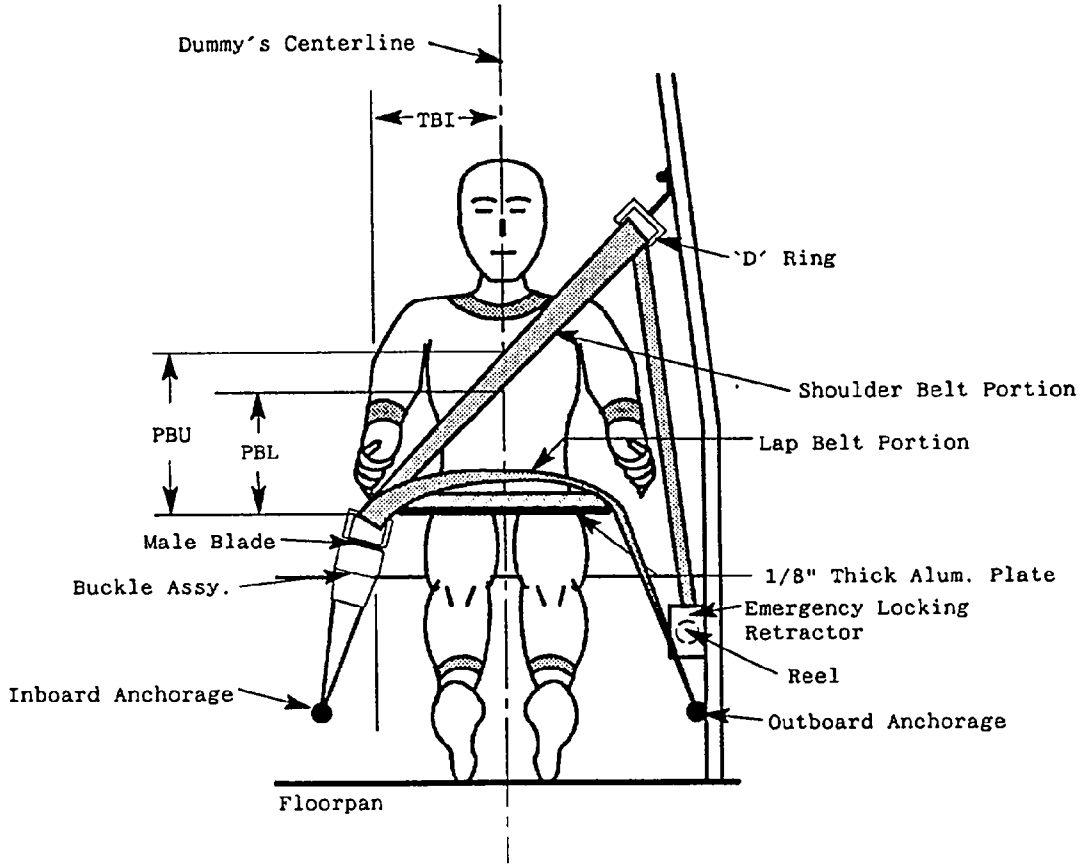
FRONT SEAT OCCUPANT MEASUREMENTS

	DRIVER (Serial #1019)	PASS. (Serial #1022)
WA°	31 deg.	N/A
SWA°	69 deg.	N/A
SCA°	21 deg.	N/A
SA°	*	*
HZ	6.3	6.3
HH	17.3	17.6
HW	23.1	23.4
HR	7.8	6.8
NR	17.9 Angle 18 deg.	-
CD	25.6	24.3
CS	14.9	N/A
RA	6.9	N/A
KDL	7.6 Angle (KDA) 33 deg.	7.6
KDR	8.2	7.3 Angle (KDA) 36 deg.
PA°	N/A	N/A
TA°	33 deg.	31 deg.
KK	15.4	11.8
ST	19.5 Angle 0 deg.	19.6 Angle 0 deg.
SK	22.5 Angle 101 deg.	23.4 Angle 91 deg.
SH	9.0 Angle 136 deg.	10.0 Angle 133 deg.
SHY	9.5	9.5
HS	11.9	12.0
HD	5.4 (To door pocket.)	5.3 (To door pocket.)
AD	3.9	4.2

* Seat set as specified by manufacturer. Seat back in 6th notch rearward of full up-right (position zero).

Figure 3

SEAT BELT POSITIONING DATA



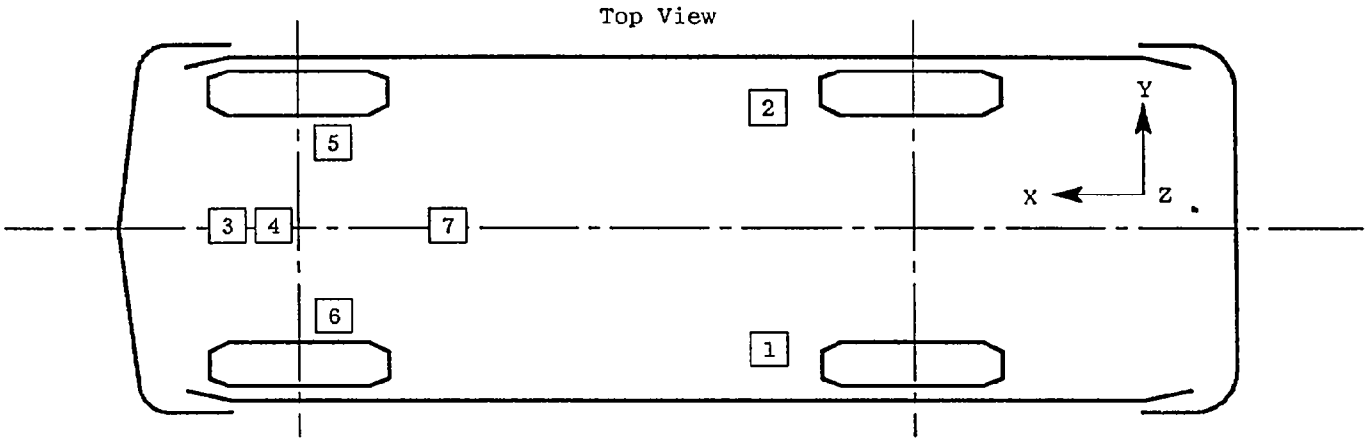
Front View of Driver Dummy

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

Driver and right front passenger seating positions equipped with air bags. Manual 3-point seat belts not used for this test.

Figure 4

VEHICLE ACCELEROMETER LOCATIONS



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

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

Table 5

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

NO.	LOCATION		X*	Y*	Z*	POSITIVE DIRECTION** MAX (g)	POSITIVE DIRECTION** TIME (msec)	NEGATIVE DIRECTION** MAX (g)	NEGATIVE DIRECTION** TIME (msec)
1	REAR SEAT X-MEMBER AT LEFT SIDE	PRE:	71.3	23.5	14.5				
		POST:	71.3	23.5	14.5				
	LONGITUDINAL ACCELERATION					2.8	128.3	-49.2	45.0
2	REAR SEAT X-MEMBER AT RIGHT SIDE	PRE:	71.3	-23.5	14.5				
		POST:	71.3	-23.5	14.5				
	LONGITUDINAL ACCELERATION					4.2	98.9	-36.4	44.9
3	TOP OF ENGINE BLOCK	PRE:	161.0	-5.9	26.3				
		POST:	152.2	-5.3	24.0				
	LONGITUDINAL ACCELERATION					***	***	***	***
4	BOTTOM OF ENGINE	PRE:	150.4	-7.8	9.9				
		POST:	148.3	-7.8	9.7				
	LONGITUDINAL ACCELERATION					47.3	47.2	-88.1	34.9
5	BRAKE CALIPER AT RIGHT SIDE	PRE:	143.8	-22.7	18.3				
		POST:	141.8	-22.7	18.3				
	LONGITUDINAL ACCELERATION					8.8	-6.1	-58.1	48.0
6	BRAKE CALIPER AT LEFT SIDE	PRE:	143.8	22.7	18.3				
		POST:	142.3	22.7	18.3				
	LONGITUDINAL ACCELERATION					6.4	93.0	-75.6	49.9
7	DASH PANEL	PRE:	113.9	-3.0	29.6				
		POST:	113.3	-3.0	28.0				
	LONGITUDINAL ACCELERATION					52.4	58.9	-84.4	66.6

*X + Forward from rear bumper
Y + Left from vehicle centerline
Z + Up from ground

** | POSITIVE | NEGATIVE
LONGITUDINAL: | FORWARD | REARWARD
LATERAL: | LEFTWARD | RIGHTWARD
VERTICAL: | UPWARD | DOWNWARD

DISTANCE MEASUREMENTS IN INCHES

*** - Data cable damaged during test.

Figure 5

CAMERA POSITIONS FOR FRONTAL IMPACTS

NOTE: Camera Information shown on Table 5.

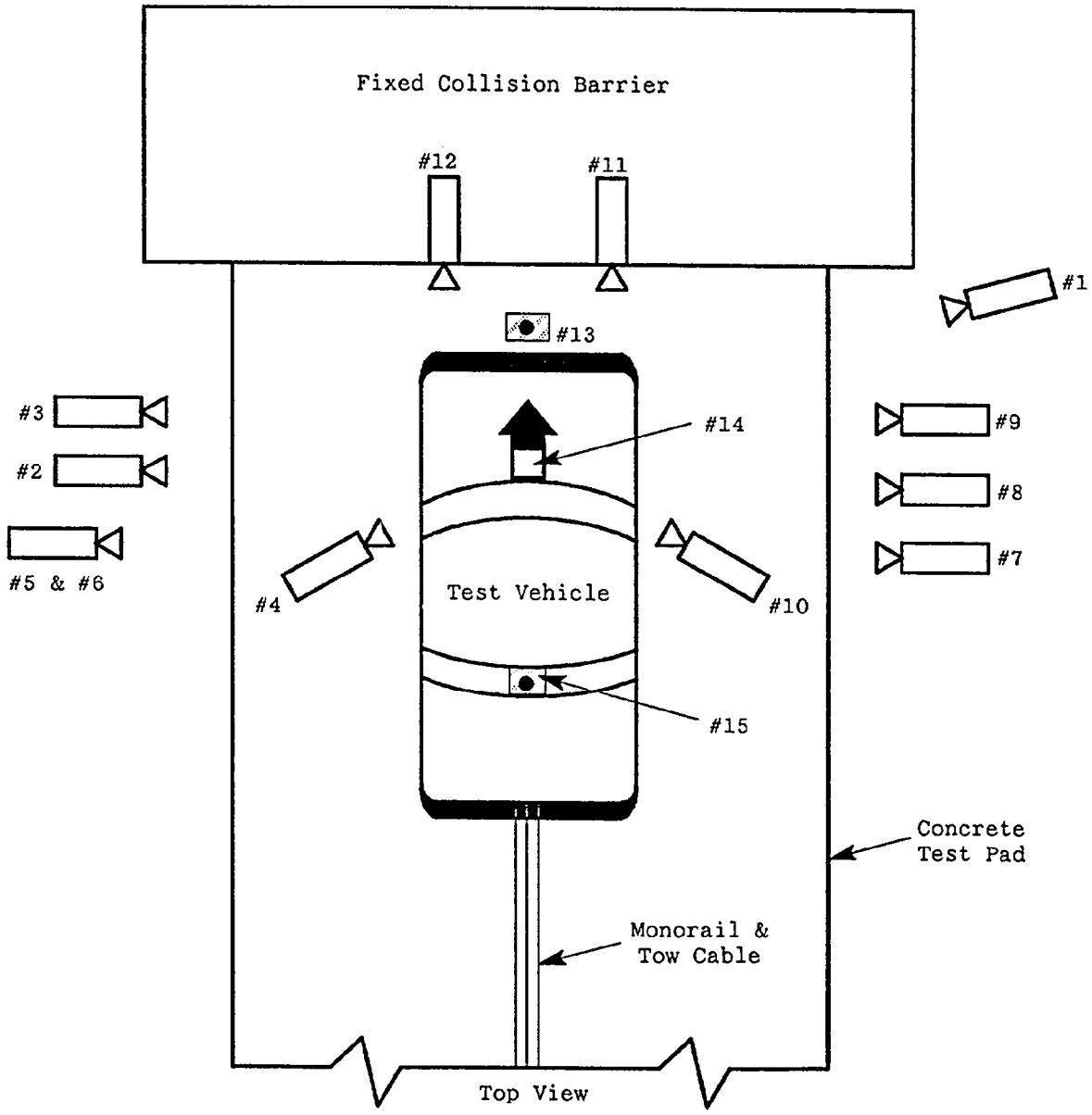


Table 6

HIGH-SPEED CAMERA LOCATIONS

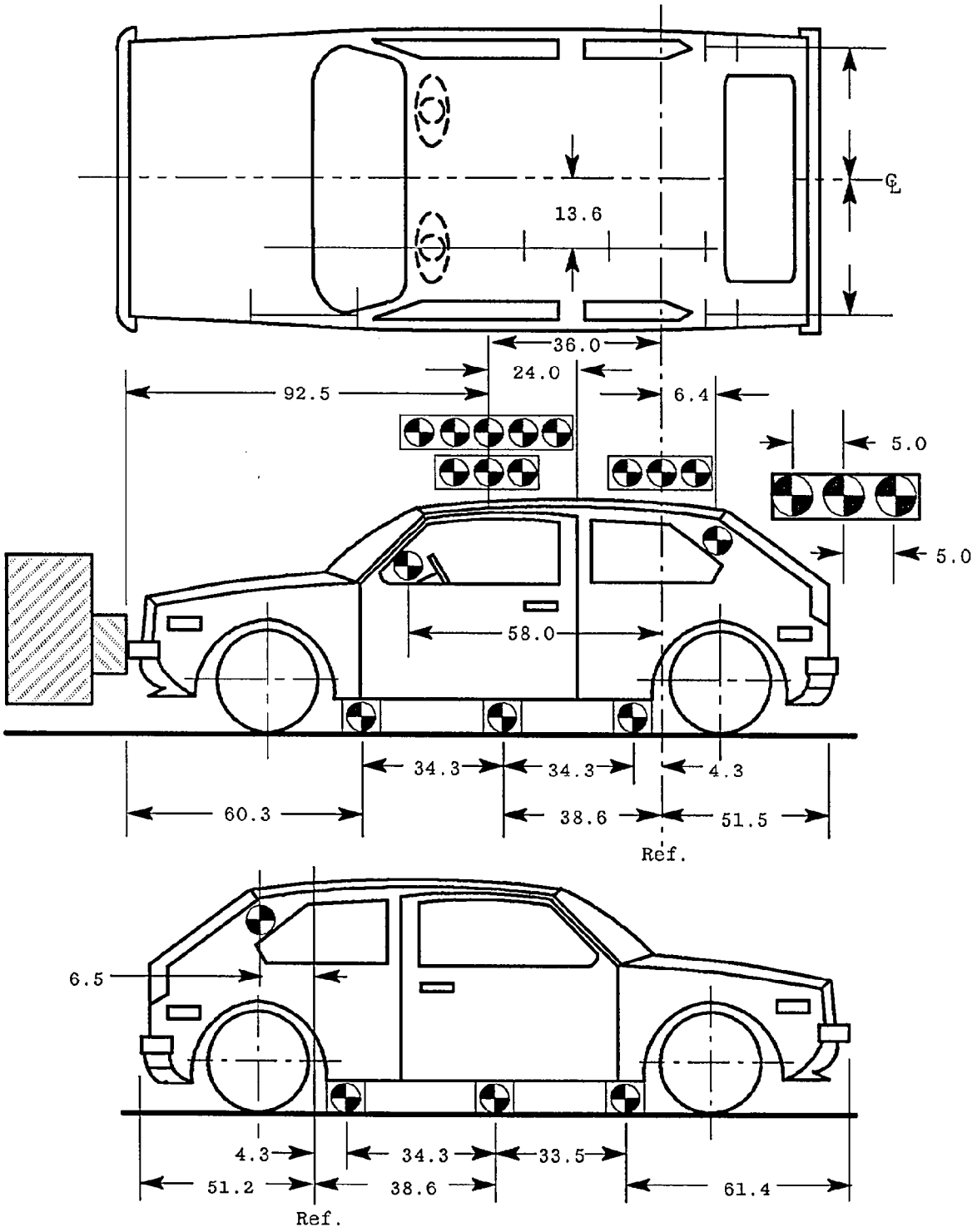
Test No. CR5400 Vehicle: 1994 626 Mazda 4-Door Sedan

CAMERA NO.	VIEW	CAMERA POSITIONS (In.)* X	Y	Z	ANGLE** (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	231	68	42	-2	214.4	25	1010
3	Left Side View	295	42	41	-3	278.4	13	1010
4	Driver and Interior View	114	104	68	-19	-	25	1035
5	Steering Column (Bottom)	260	79	46	-5	243.4	25	1025
6	Steering Column (Top)	260	79	70	-9	243.4	13	1010
7	Overall Right Side	235	79	40	-3	218.4	25	-
8	Right Side View	303	60	41	-2	286.4	35	910
9	Right Passenger View	297	81	58	-3	280.4	13	1090
10	Passenger and Interior View	113	106	71	-19	-	13	785
11	Passenger Front View	22	19	76	-44	-	13	1005
12	Driver Front View	21	19	76	42	-	13	-
13	Windshield View	0	0	127	-59	-	13	1005
14	Pit View of Engine	0	30	-86	90	-	13	1095
15	Pit View of Fuel Tank	0	110	-86	90	-	13	750

*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



(Dimensions in inches)

Figure 7

TEST VEHICLE MEASUREMENTS

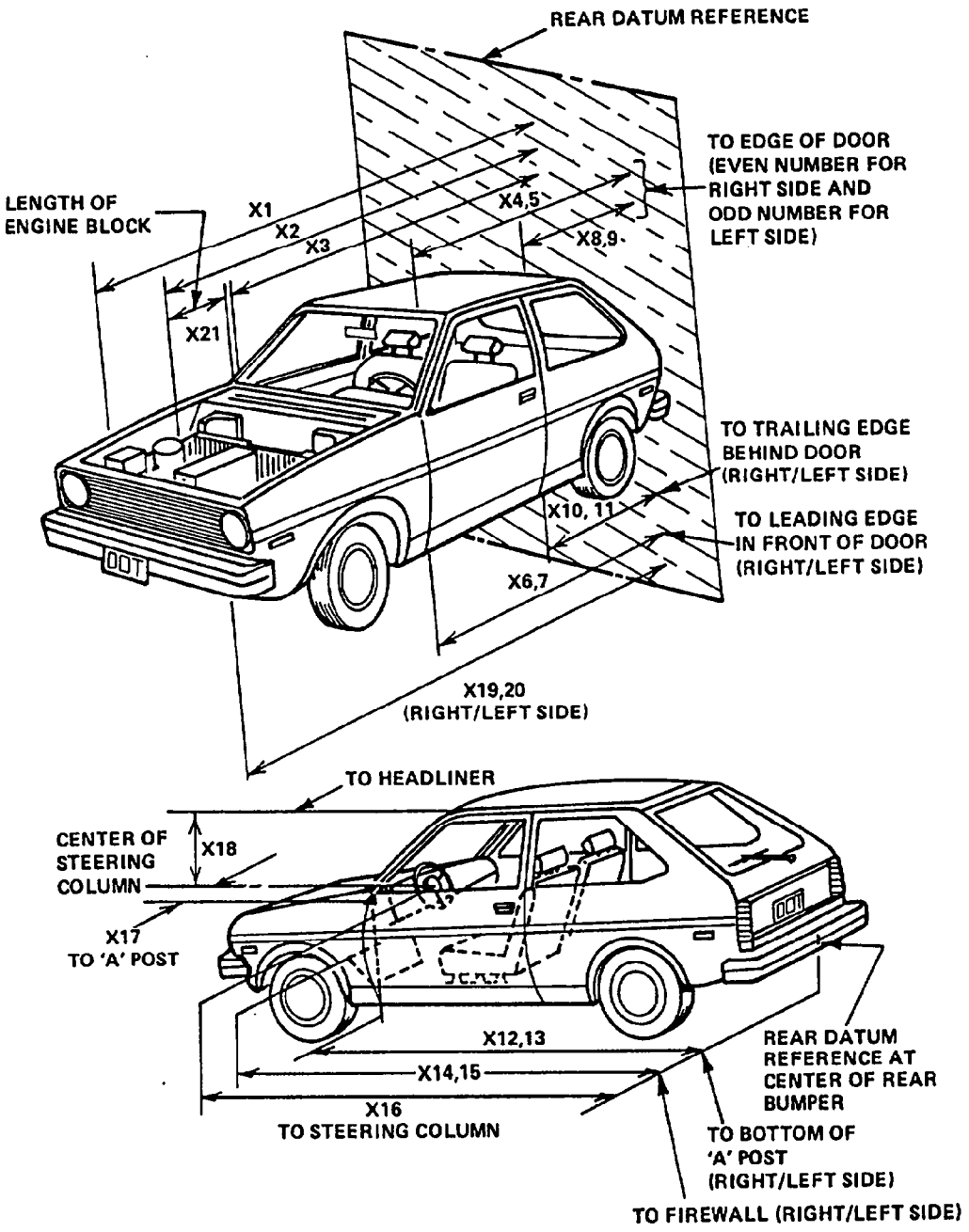


Table 7

VEHICLE MEASUREMENTS

		All Dimensions in inches		
No.		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	184.7	167.0	17.7
X2	Rear Surface of Vehicle to Front of Engine	158.5	153.7	4.8
X3	Rear Surface of Vehicle to Firewall	139.0	138.5	0.5
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	122.4	122.3	0.1
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	122.6	122.4	0.2
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	123.8	122.6	1.2
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	124.0	123.6	0.4
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	84.0	83.8	0.2
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	84.4	84.3	0.1
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	84.3	83.9	0.4
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	84.6	84.4	0.2
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	125.1	124.3	0.8
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	125.3	125.0	0.3
X14	Rear Surface of Vehicle to Firewall, Right Side	135.6	136.2	-0.6
X15	Rear Surface of Vehicle to Firewall, Left Side	136.4	136.2	0.2
X16	Rear Surface of Vehicle to Steering Column	107.0	110.0	-3.0
X17	Center of Steering Column to "A" Post	15.8	17.0	-1.2
X18	Center of Steering Column to Headliner	17.4	14.53	2.9
X19	Rear Surface of Vehicle to Right Side of Front Bumper	179.7	164.3	15.4
X20	Rear Surface of Vehicle to Left Side of Front Bumper	180.0	165.5	14.5
X21	Length of Engine Block	17.0	17.0	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 VALUES

NHTSA No. : CR5400 Vehicle : 1994 Mazda 626 Four-Door Sedan

	MAXIMUM ACCELERATION (g's)								
	HEAD				CHEST				
	X	Y	Z	R	X	Y	Z	R*	Displacement
Dummy (1)	-43.5	22.5	23.4	50.1	-54.2	10.5	-15.6	53.9	-
Dummy (2)	-33.0	-25.3	49.6	58.2	-35.9	-12.9	48.1	34.8	-

	MAXIMUM FORCE - FEMUR LOAD (lbs.)	
	LEFT FEMUR	RIGHT FEMUR
Dummy (1)	-1191.4	-1441.4
Dummy (2)	-1341.6	-1518.4

	HEAD INJURY CRITERIA**			
		36 millisecond Maximum		Avg. Acc (g)
	HIC	t_1 (msec)	t_2 (msec)	t_1 TO t_2
Dummy (1)	347	69.600	105.480	39.27
Dummy (2)	186	75.840	104.880	33.34

* Defined as exceeding 0.003 sec. duration
**As defined in FMVSS No. 208

Table 9

FMVSS NO. 208 - SEAT BELT WARNING SYSTEM CHECK

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

Log time duration of audible warning signal = 6 sec.

Log time duration of reminder light operation = 6 sec.

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

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

Log time duration of reminder light operation = 6 sec.

Note wording of visual warning :

Fasten Seat Belt	-
Fasten Belt	-
Symbol 101	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 outside panel of driver side sunvisor.

No SRS maintenance is needed unless:

- Airbag lamp flashes or stays lit.
- Airbag light does not light when key is turned to on position.
- Groups of five beeps are heard.

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 : Located on left side of instrument cluster.

Readiness 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. :	CR5400
Make/Model :	1994 Mazda 626 Four-Door Sedan
Date of Comfort/Convenience Check :	9/29/93
Technician Performing Check :	D. J. T.
GVWR :	3795 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 N/A NO N/A

(If NO, provide explanation.)

D3
BELT CONTACT FORCE

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

YES - NO X

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

YES X NO -

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

YES X NO -

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

Table 12 (cont.)

D4
LATCHPLATE ACCESSIBILITY

1. Position the test dummy in the driver's seat or passenger's seat in its forward most adjustment position.

   YES X NO -

2. Attach the inboard and outboard reach string. YES X NO -

3. Extend each line backward and outboard to generate arcs of the reach envelope of the test dummy's arms. With the latchplate in the normal stowed position, check to assure that the latchplates are within the reach envelope.

   YES X NO -

4. Using the clearance test block, determine if there is sufficient clearance between the vehicle seat and the side of vehicle interior to allow the test block to move unhindered to the latchplate or buckle.

   YES X NO -

D5
RETRACTION

1. Seats and seat backs are adjusted according to instructions in Appendix B "General Test Conditions" in TP - 208 - 8.

   YES X NO -

2. Use anthropomorphic test dummies whose arms have been removed and position the dummies in the front outboard designated seating positions according to instructions in Appendix B and restrain the dummies, using the belt systems for the positions being tested.

   YES X NO -

3. Outboard armrests which are capable of being stowed on vehicle seats shall be placed in their stowed positions.

   YES N/A NO N/A

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 X NO -

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

YES X NO -

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

YES N/A NO N/A

D6
ACCESSIBILITY

The requirements for accessibility do not apply to:

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

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

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

YES X NO -

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

YES X NO -

Table 12 (cont.)

3. The buckle and latchplate 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 X NO -

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

   YES X NO -

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

   YES X NO -

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

   YES X NO -

D7
LATCH MECHANISM

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

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

   YES X NO -

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

   YES X NO -

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

   YES X NO -

Figure 8

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA SHEET

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

Windshield is bonded in place with 0.7 inch rubber and plastic trim along the top and sides. Bottom of windshield is covered with a plastic shroud.

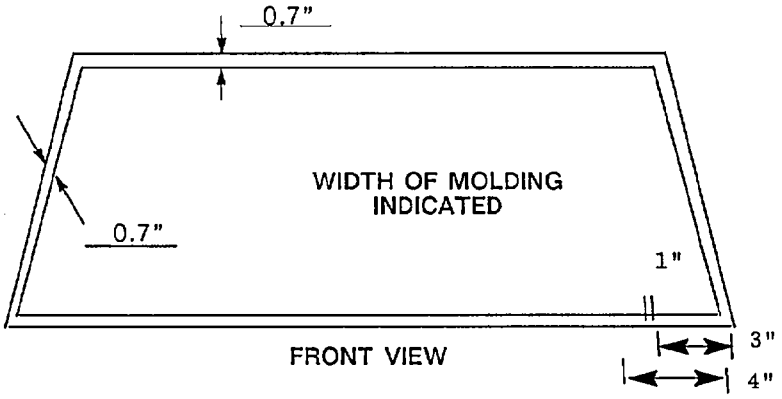
FMVSS 212 REQUIREMENTS :

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		
	PRE - TEST (in.)	POST - TEST (in.)	PERCENT RETENTION
RIGHT SIDE	83.25	83.25	100.0
LEFT SIDE	83.25	82.25	98.8
TOTAL	166.5	165.5	99.4

AREA OF RETENTION FAILURE:



FAILURE DETAILS :

Windshield seperated at lower driver side approximately 3 inches from left "A" pillar. Length of seperation was 1 inch.

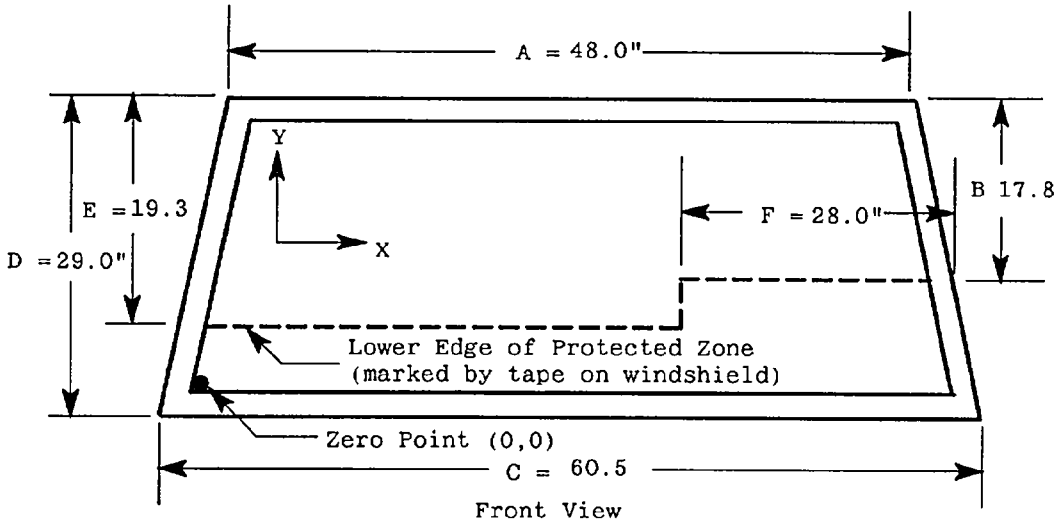
Figure 9

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.)



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. : CR5400 TEST DATE : 9/30/93

Vehicle Mfgr./Make/Model : 1994 Mazda 626 Four-Door Sedan

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 0 ° barrier face first contacting _____ (driver/passenger) side

\- Rear Moving Barrier (30 mph)

\- Lateral Moving Barrier (20 mph)

FUEL SPILLAGE MEASUREMENT:

	ACTUAL	MAX ALLOWED
1. From impact until vehicle motion ceases	0	1 oz.
2. For five minute period after vehicle motion ceases	0	5 oz.
3. For next 25 minutes	0	1 oz./1 min.

SOLVENT SPILLAGE DETAILS :

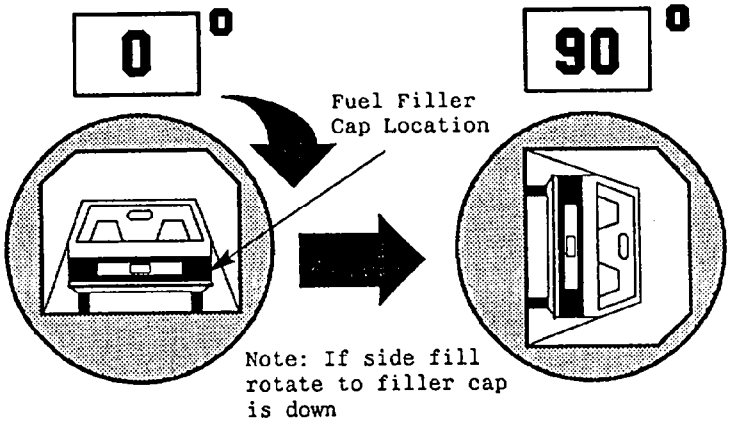
None

Table 14

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE :

Vehicle NHTSA ID No. : CR5400



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)		2	minutes	13	seconds
FMVSS 301 Position Hold Time +		5	minutes	00	seconds
	TOTAL	7	minutes	13	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.

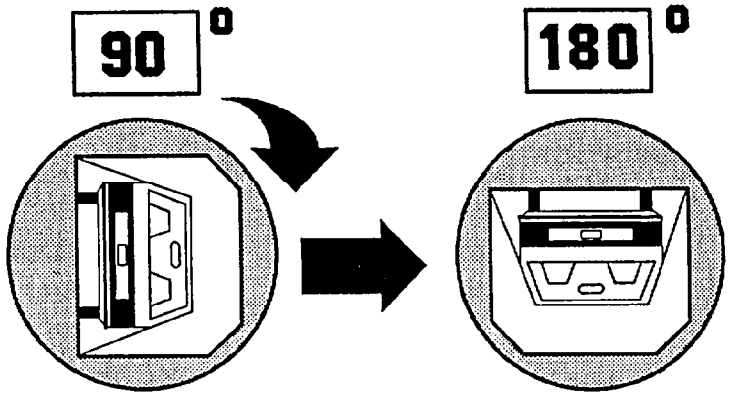
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :

Vehicle NHTSA ID No. :
CR5400



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)		1	minutes	59	seconds
FMVSS 301 Position Hold Time +		5	minutes	00	seconds
	TOTAL	6	minutes	59	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.

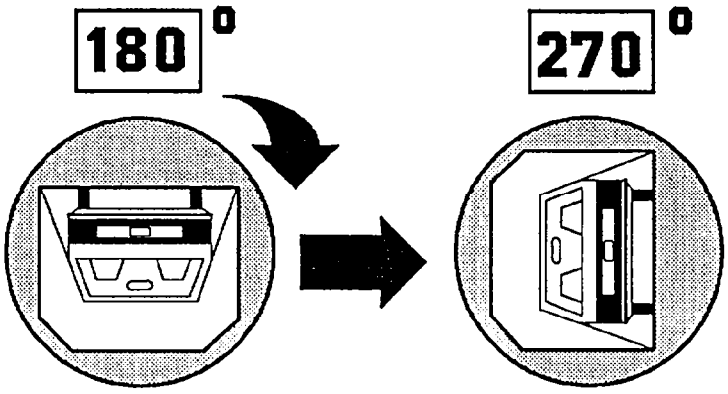
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :

Vehicle NHTSA ID No. :
CR5400



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.

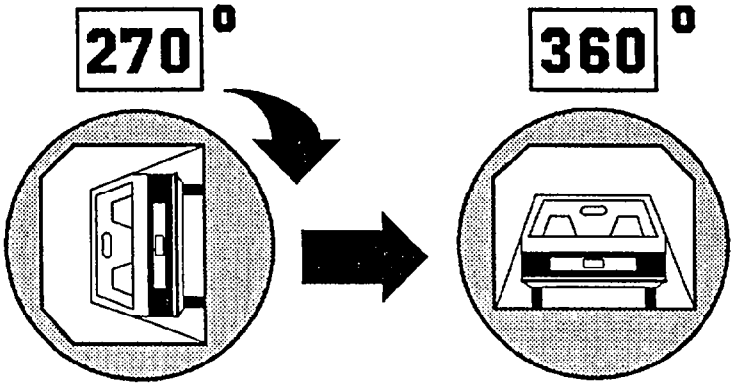
IV. SOLVENT SPILLAGE LOCATION(S) :

None

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

TEST PHASE :

Vehicle NHTSA ID No. :
CR5400



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)		2	minutes	10	seconds
FMVSS 301 Position Hold Time +		5	minutes	00	seconds
	TOTAL	7	minutes	10	seconds
Next whole minute interval		8	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 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
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 : September 30, 1993 Vehicle NHTSA No. : CR5400

Vehicle Manufacturer : Autoalliance International Inc.

Model Year : 1994 VIN : 1YVGE22C3R5103507

Model : 626 Body Style: Four-Door Sedan Build Date : July 29, 1993

Dummy Stabilized Temperature at Time of Test : 70 °F (Spec. = 66 - 78 °F)

Impact Velocity : 29.5 mph; Time of Test : 11:55 AM

Type of Automatic Restraint System :

Driver : Airbag

Passenger : Airbag

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

Figure A-1 PRE-TEST FRONT VIEW

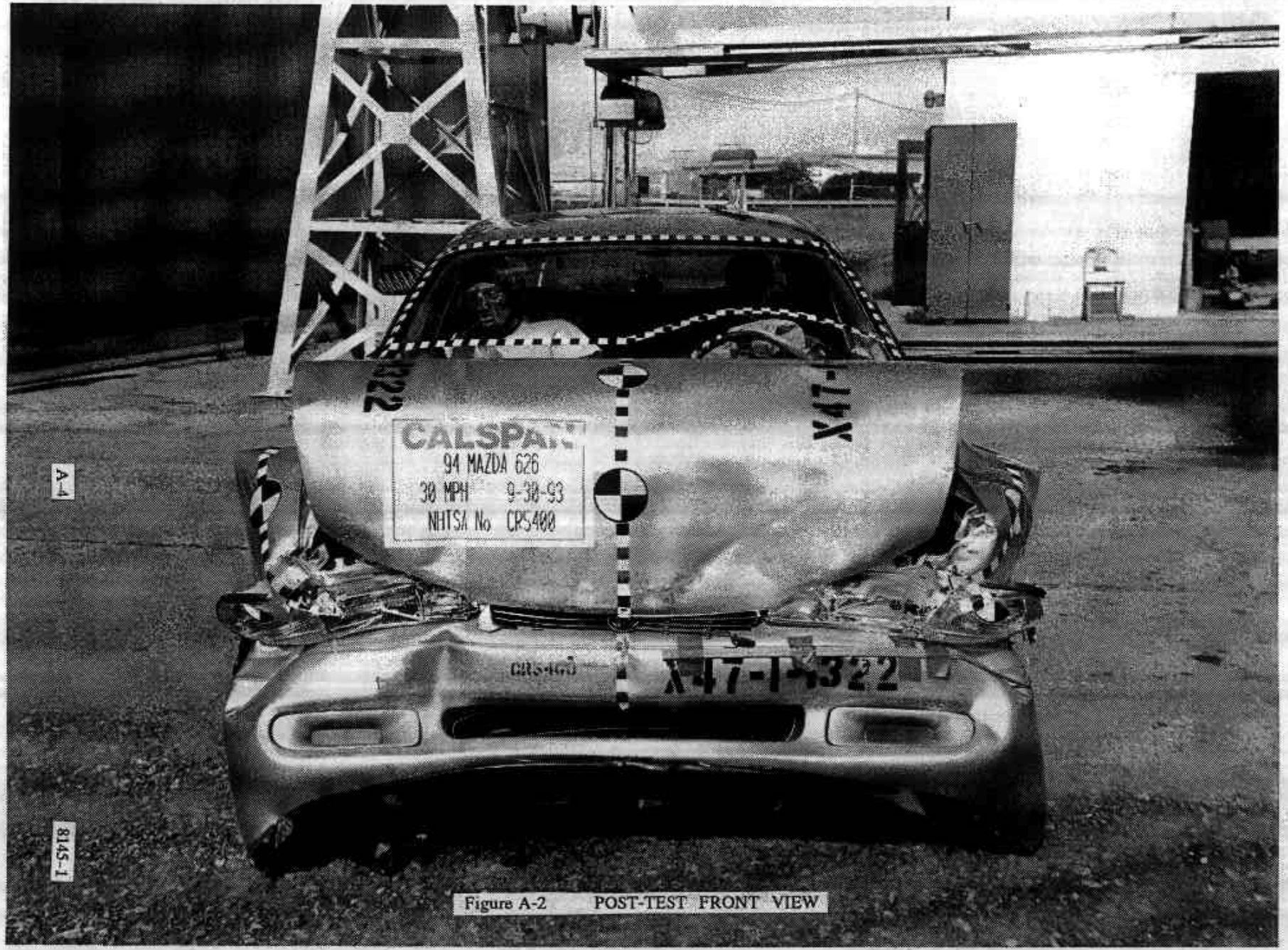


Figure A-2 POST-TEST FRONT VIEW

Figure A-3 PRE-TEST LEFT SIDE VIEW

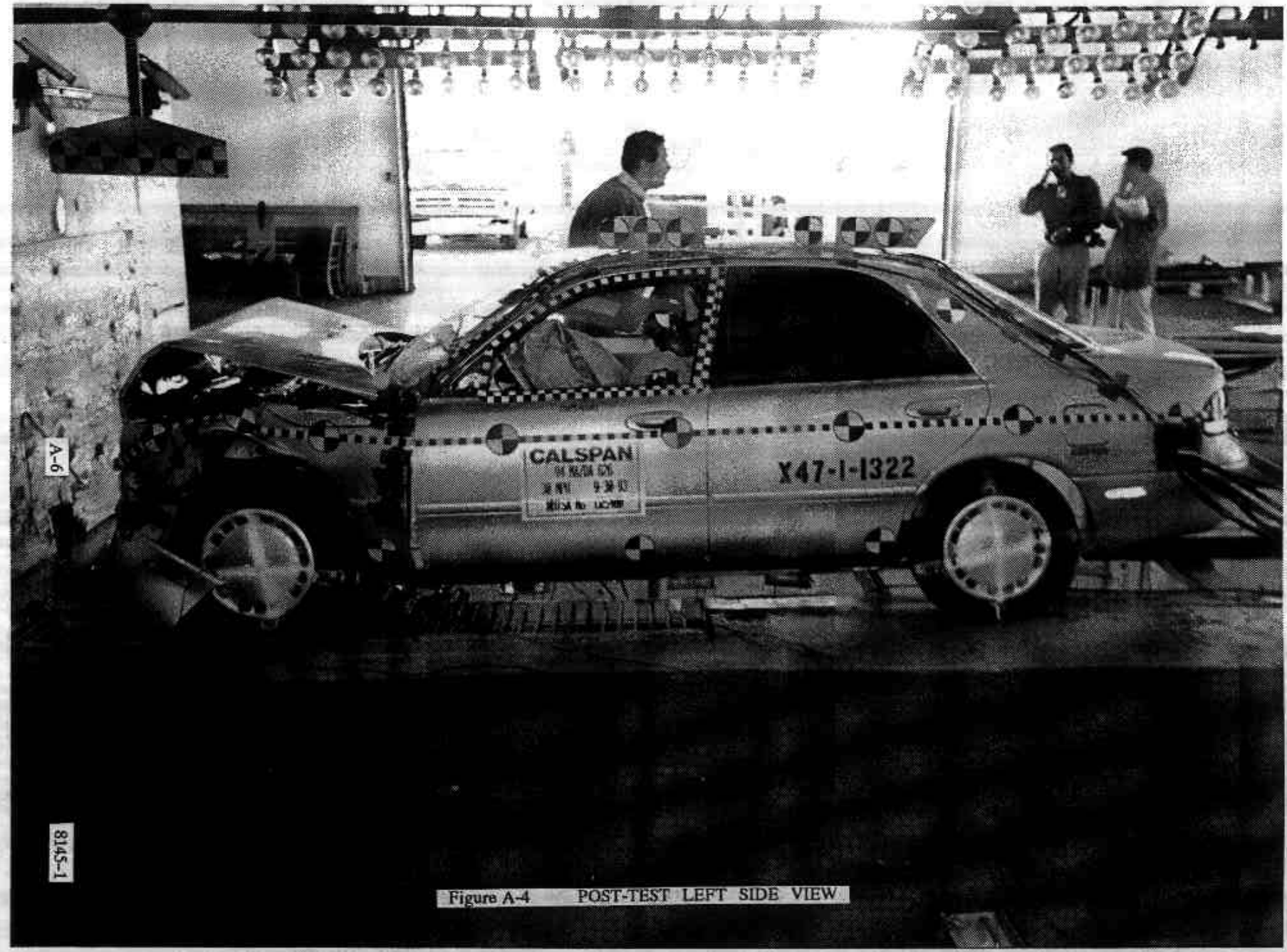


Figure A-4 POST-TEST LEFT SIDE VIEW

Figure A-5 PRE-TEST RIGHT SIDE VIEW

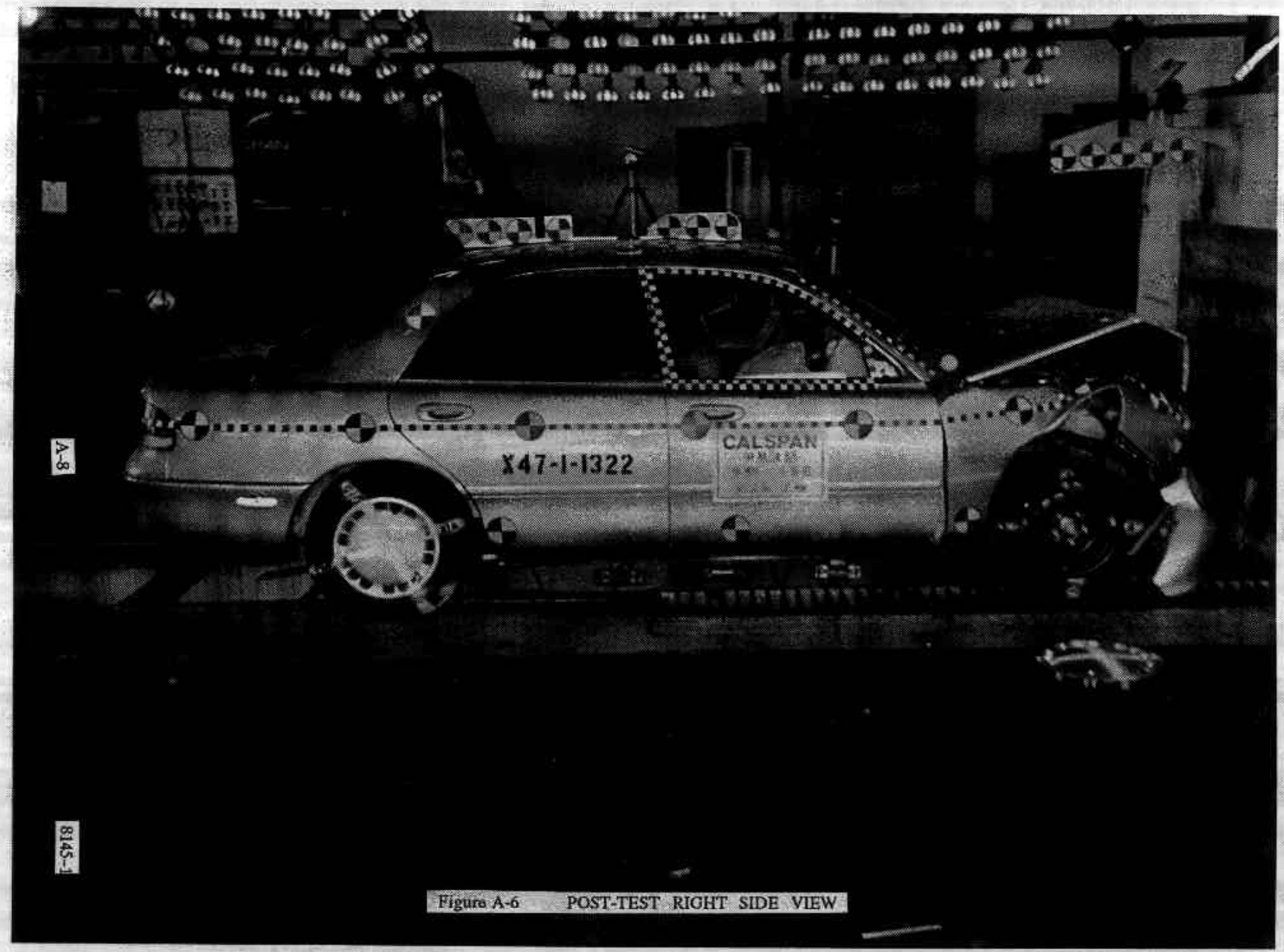


Figure A-6 POST-TEST RIGHT SIDE VIEW

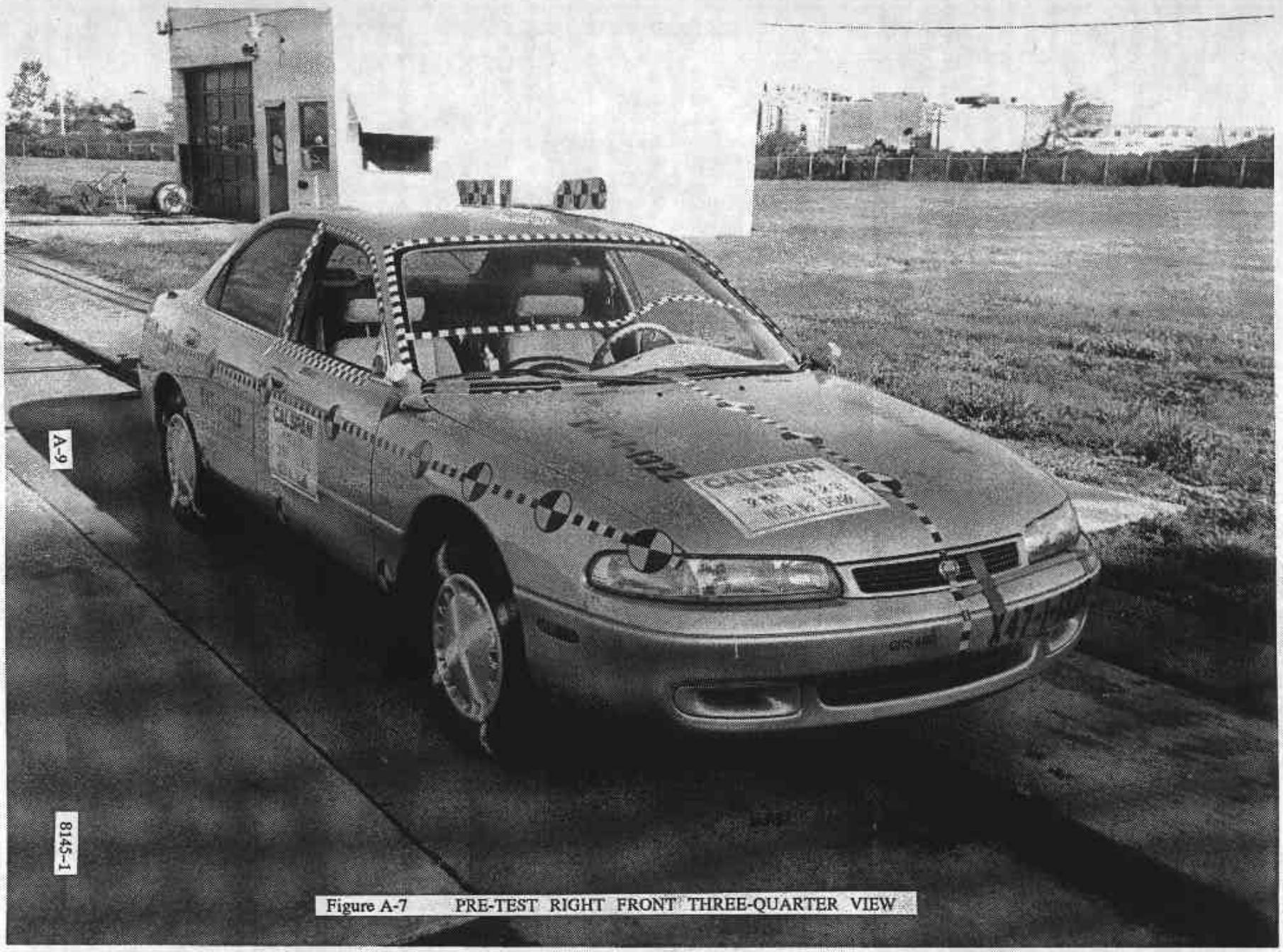


Figure A-7 PRE-TEST RIGHT FRONT THREE-QUARTER VIEW

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 POST-TEST TOP VIEW

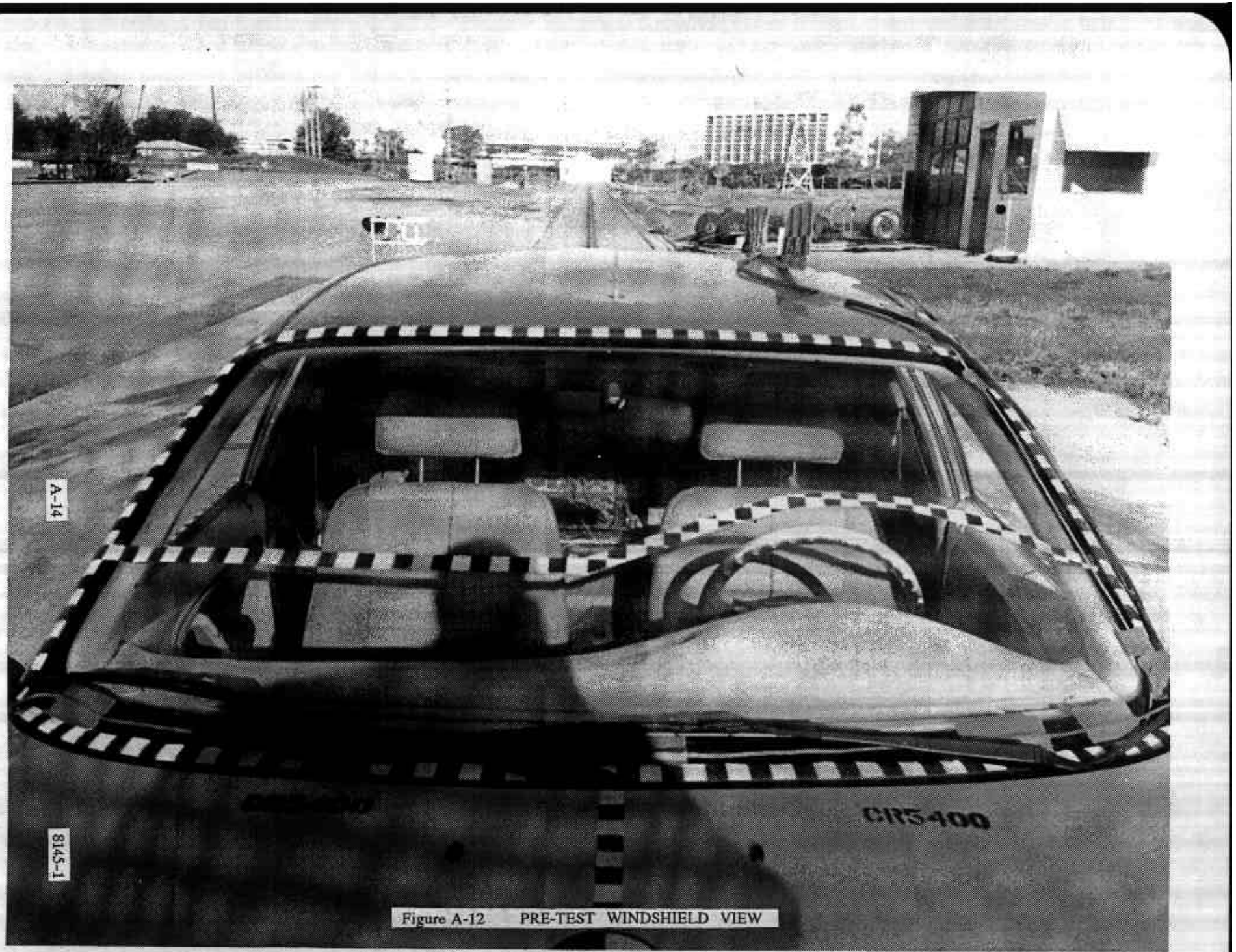


Figure A-12 PRE-TEST WINDSHIELD VIEW

Figure A-13 POST-TEST WINDSHIELD VIEW

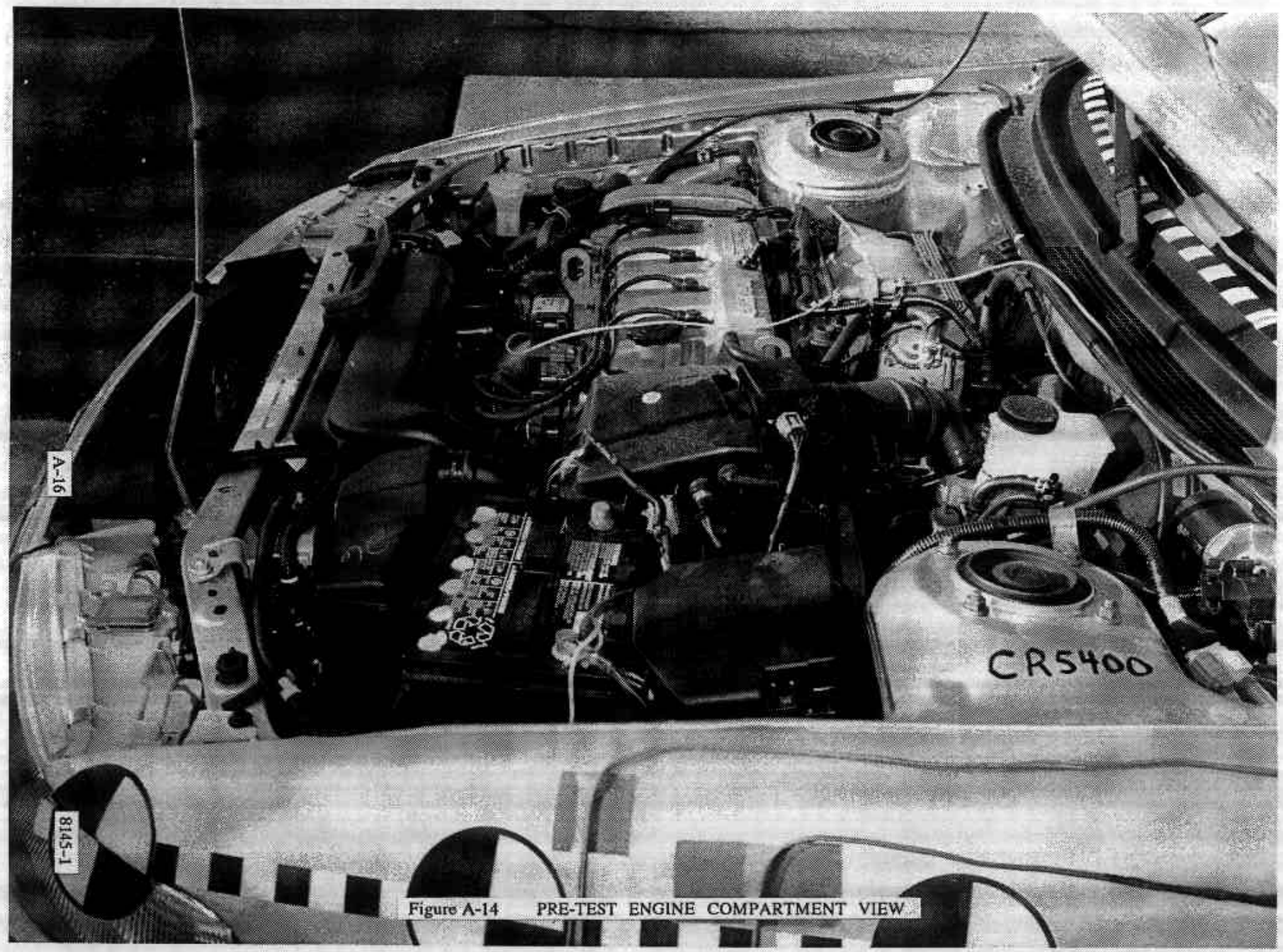


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW

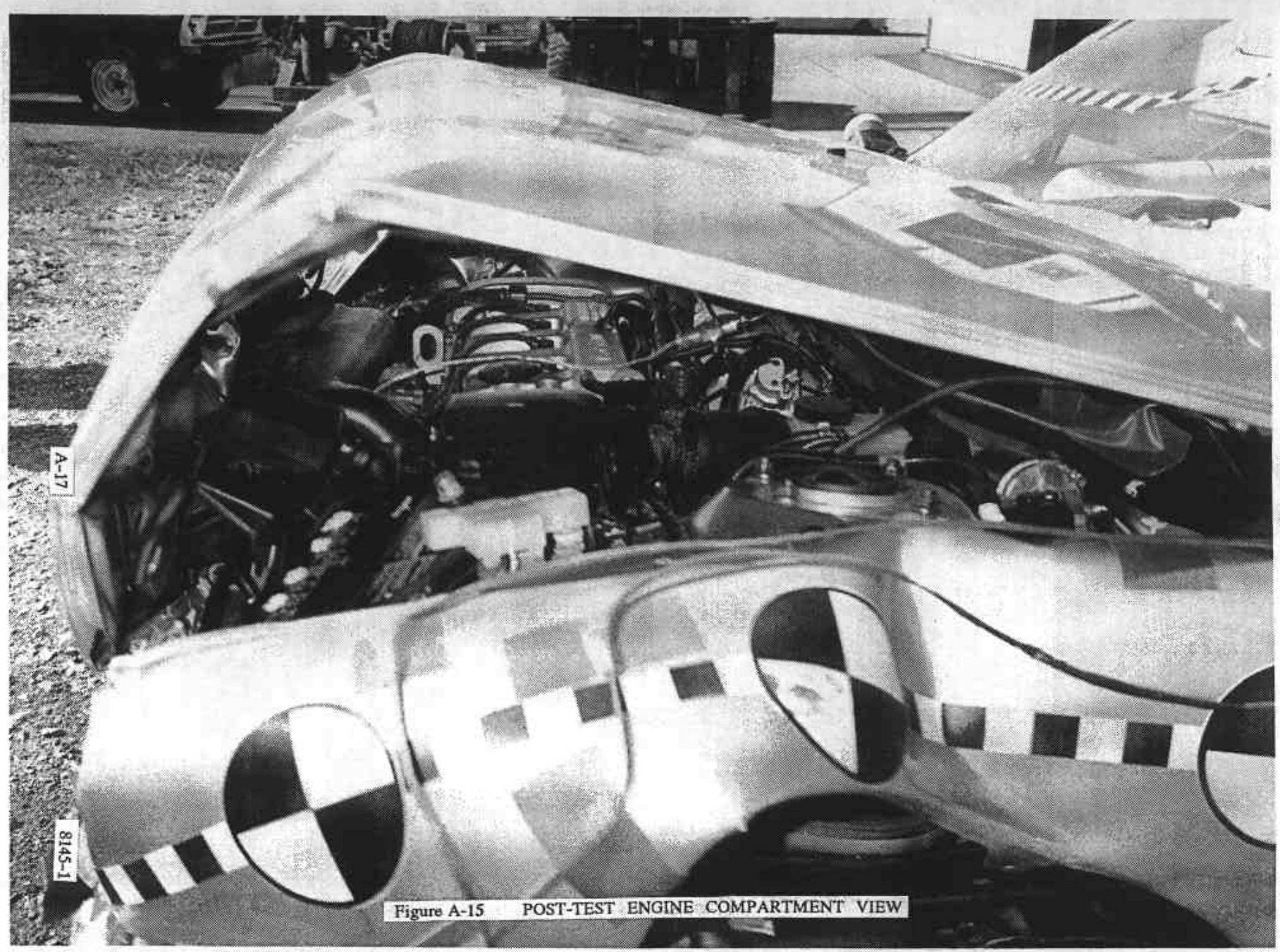


Figure A-15 POST-TEST ENGINE COMPARTMENT VIEW

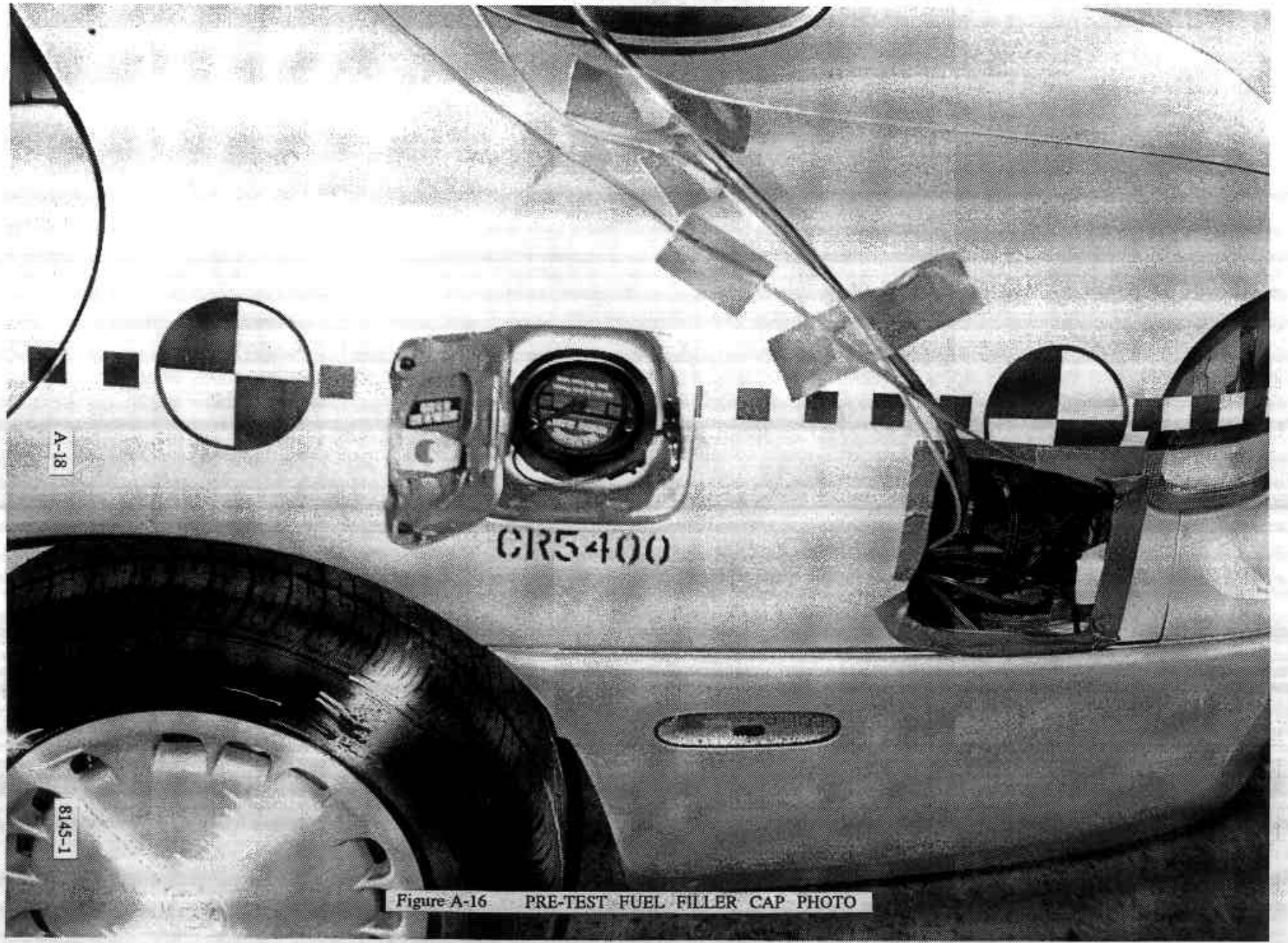


Figure A-16 PRE-TEST FUEL FILLER CAP PHOTO

Figure A-17 POST-TEST FUEL FILLER CAP PHOTO

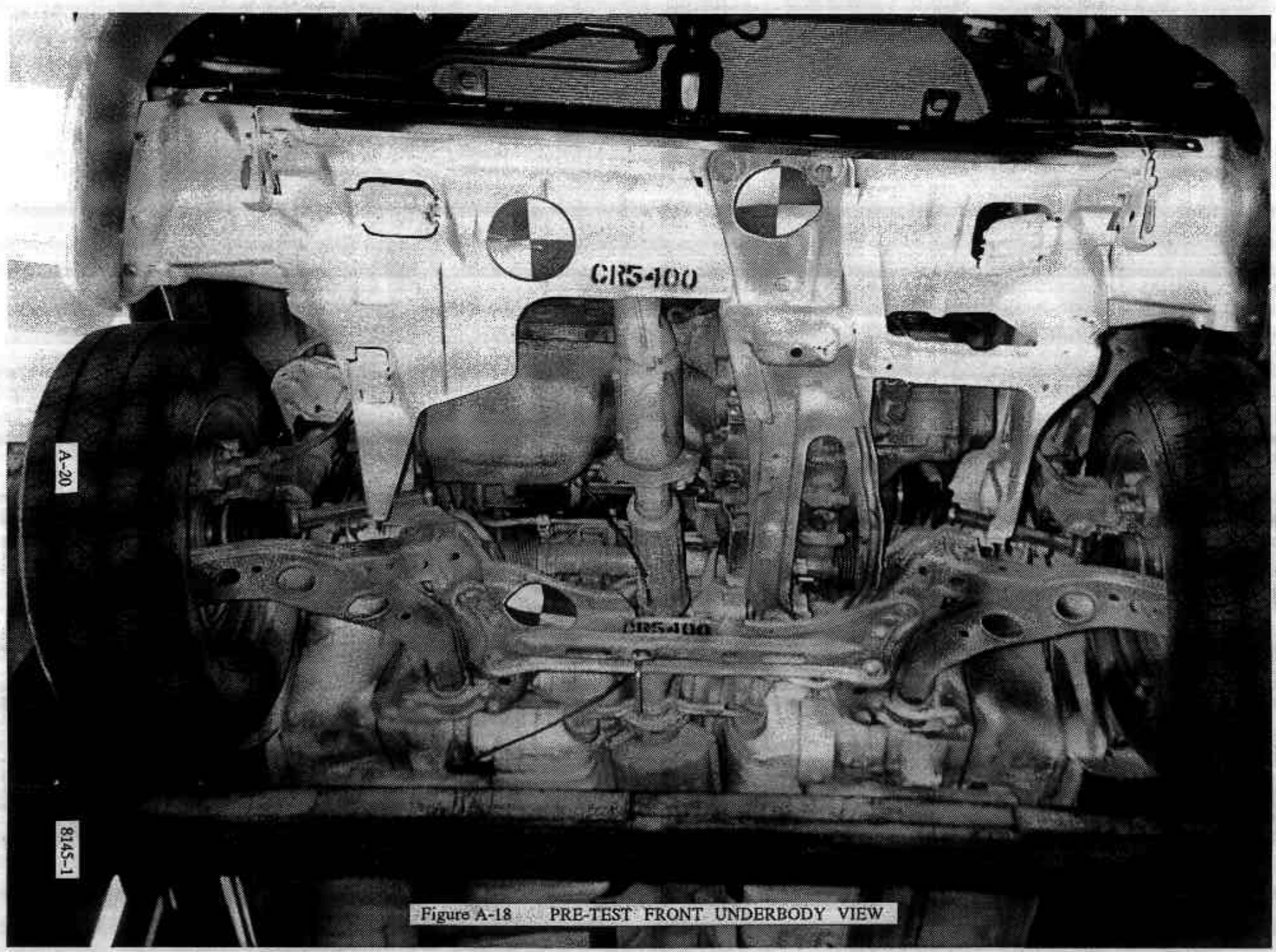


Figure A-18 PRE-TEST FRONT UNDERBODY VIEW

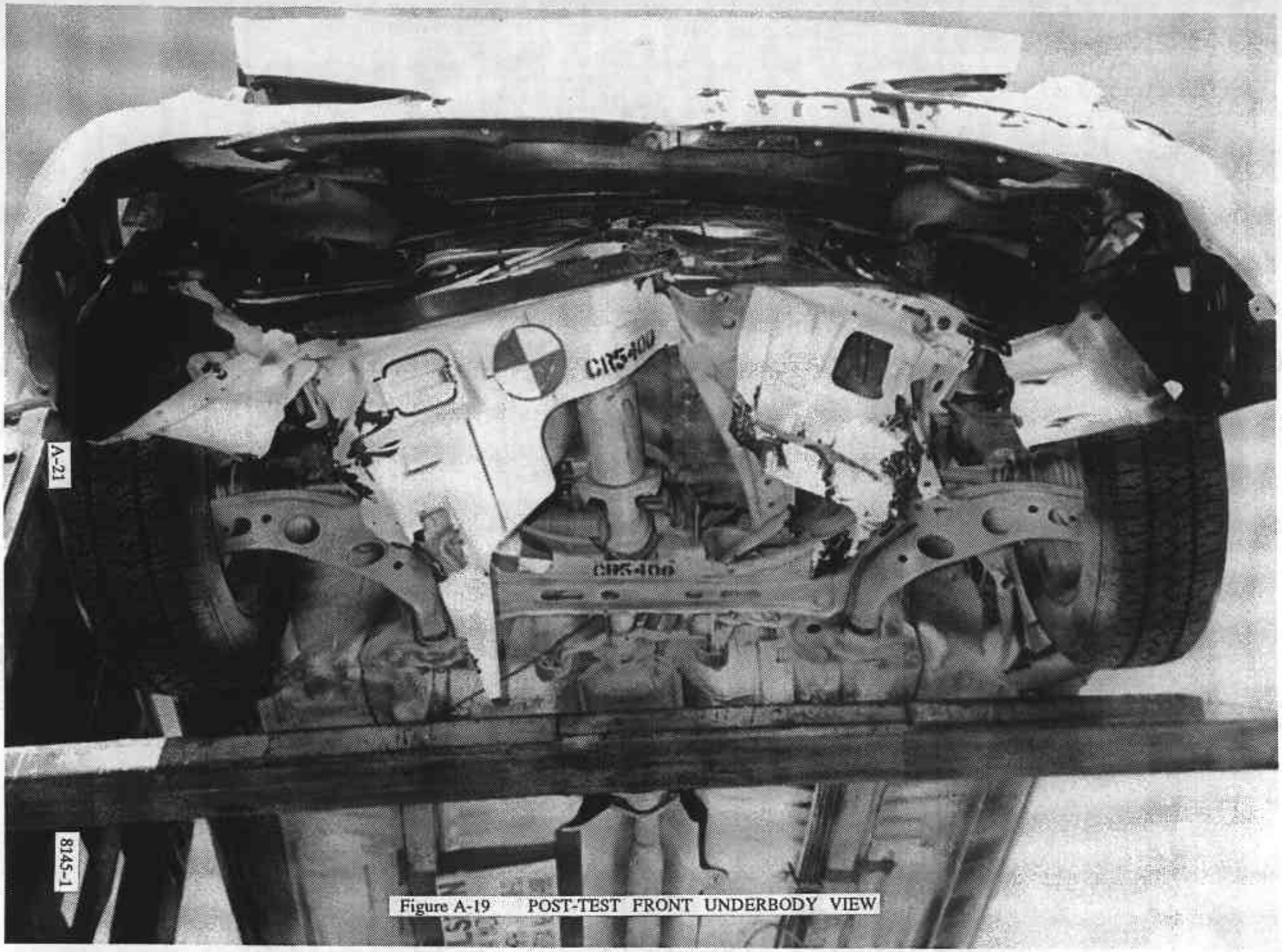


Figure A-19 POST-TEST FRONT UNDERBODY VIEW

Figure A-20 PRE-TEST FRONT SIDE UNDERBODY VIEW

8145-1

Figure A-21 POST-TEST FRONT SIDE UNDERBODY VIEW

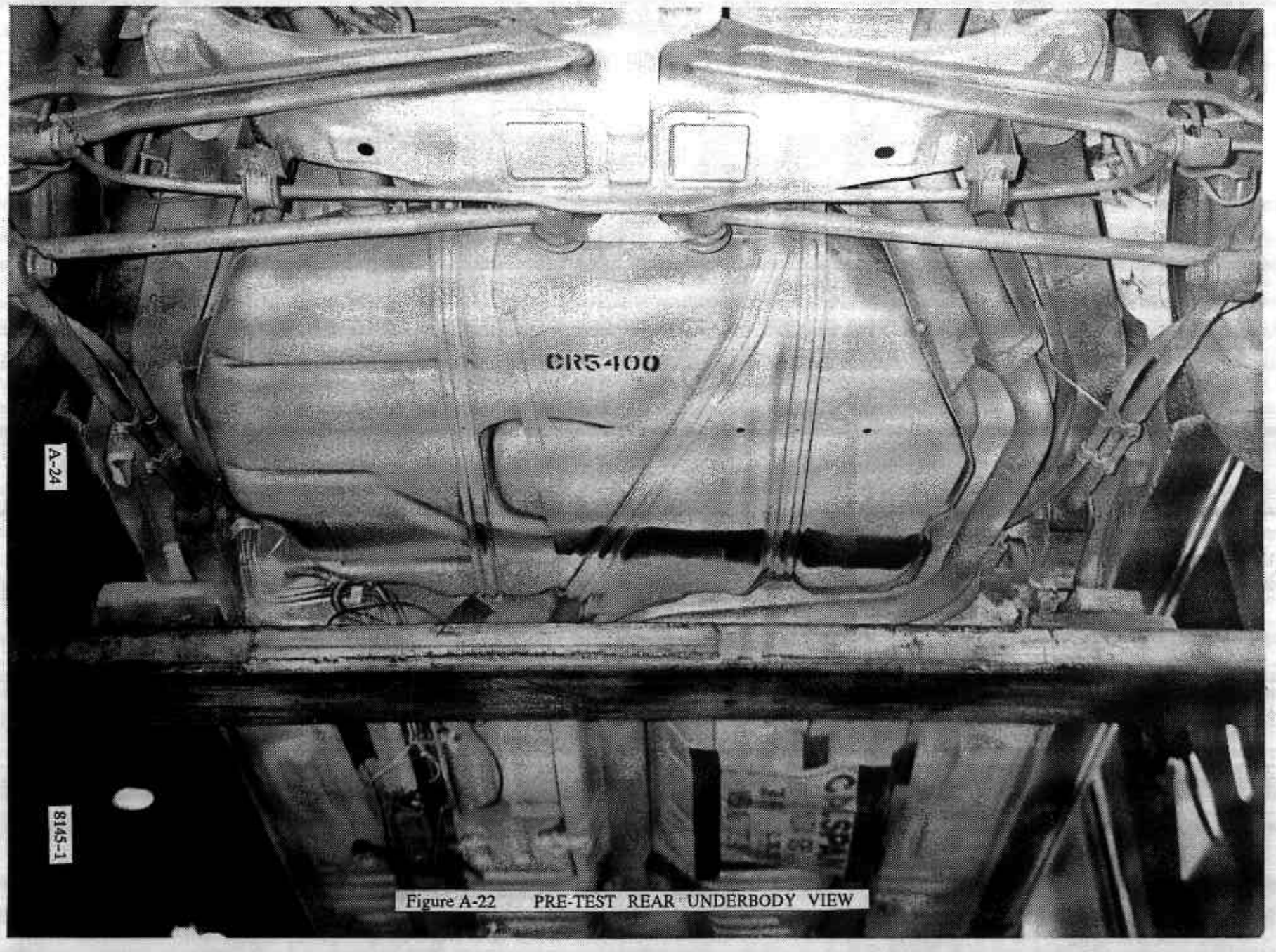


Figure A-22 PRE-TEST REAR UNDERBODY VIEW

Figure A-23 POST-TEST REAR UNDERBODY VIEW

8145-1

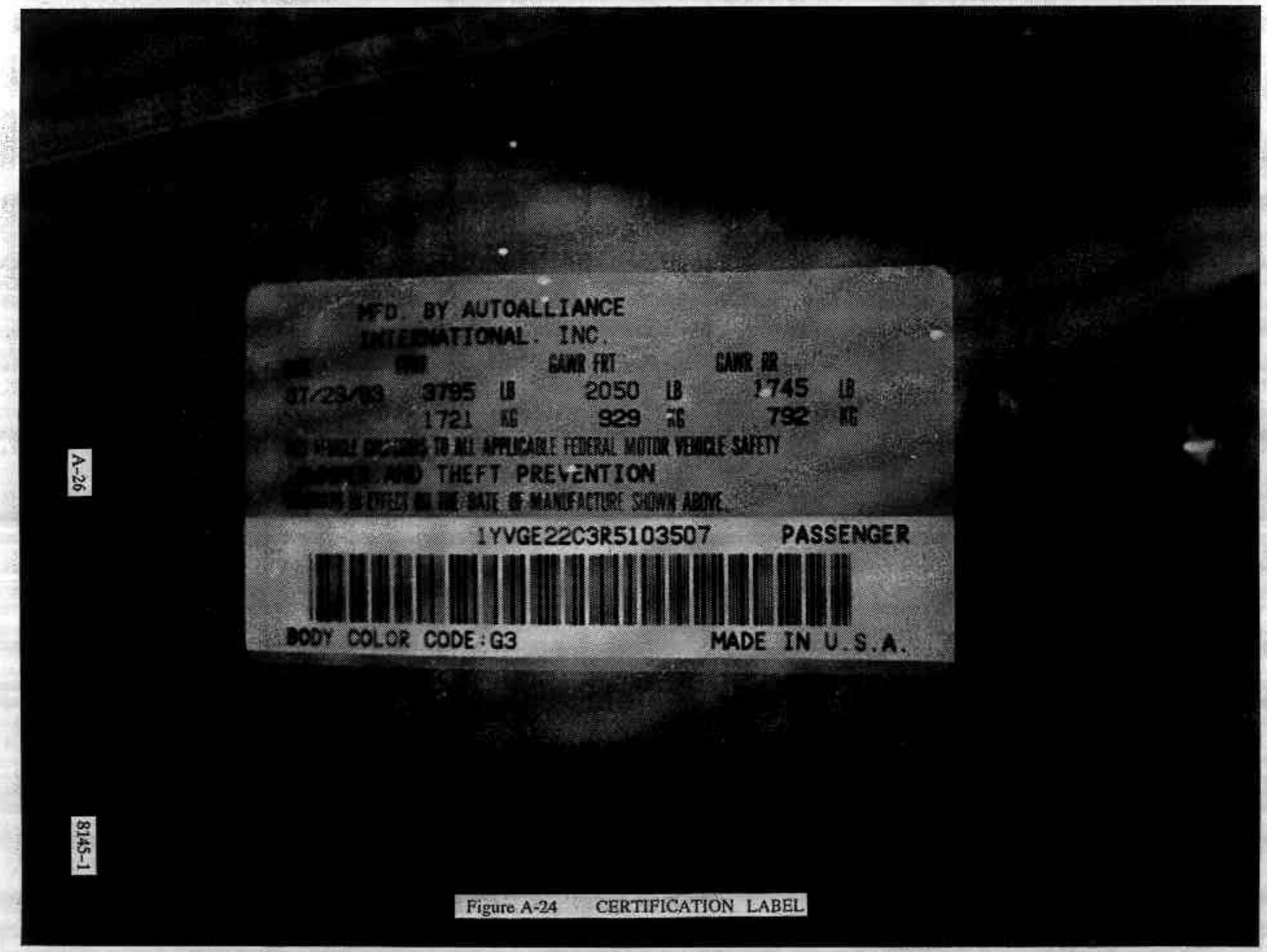


Figure A-24 CERTIFICATION LABEL

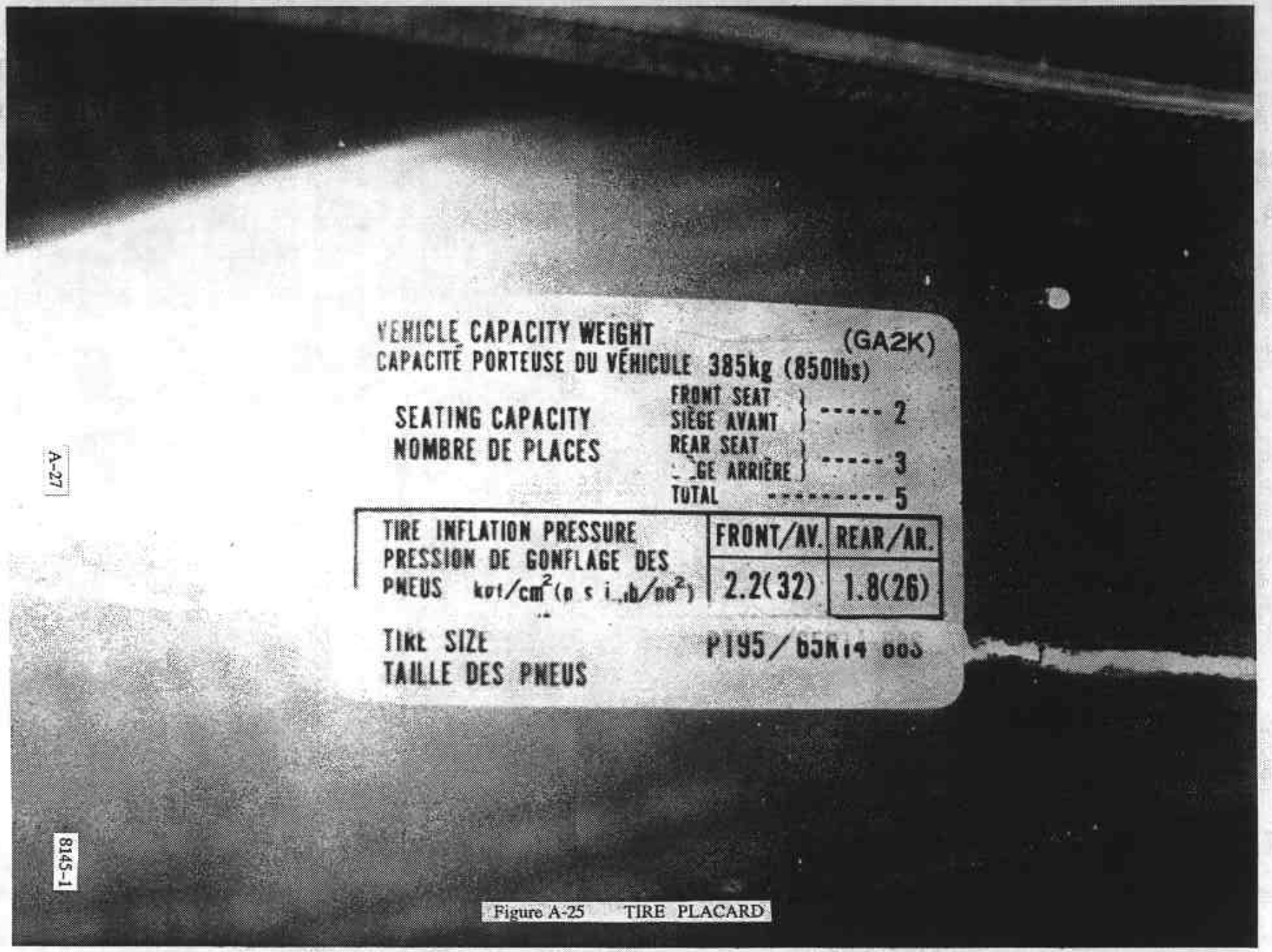


Figure A-25 TIRE PLACARD

Figure A-26 PRE-TEST DRIVER DUMMY POSITION

Figure A-27 POST-TEST DRIVER DUMMY POSITION

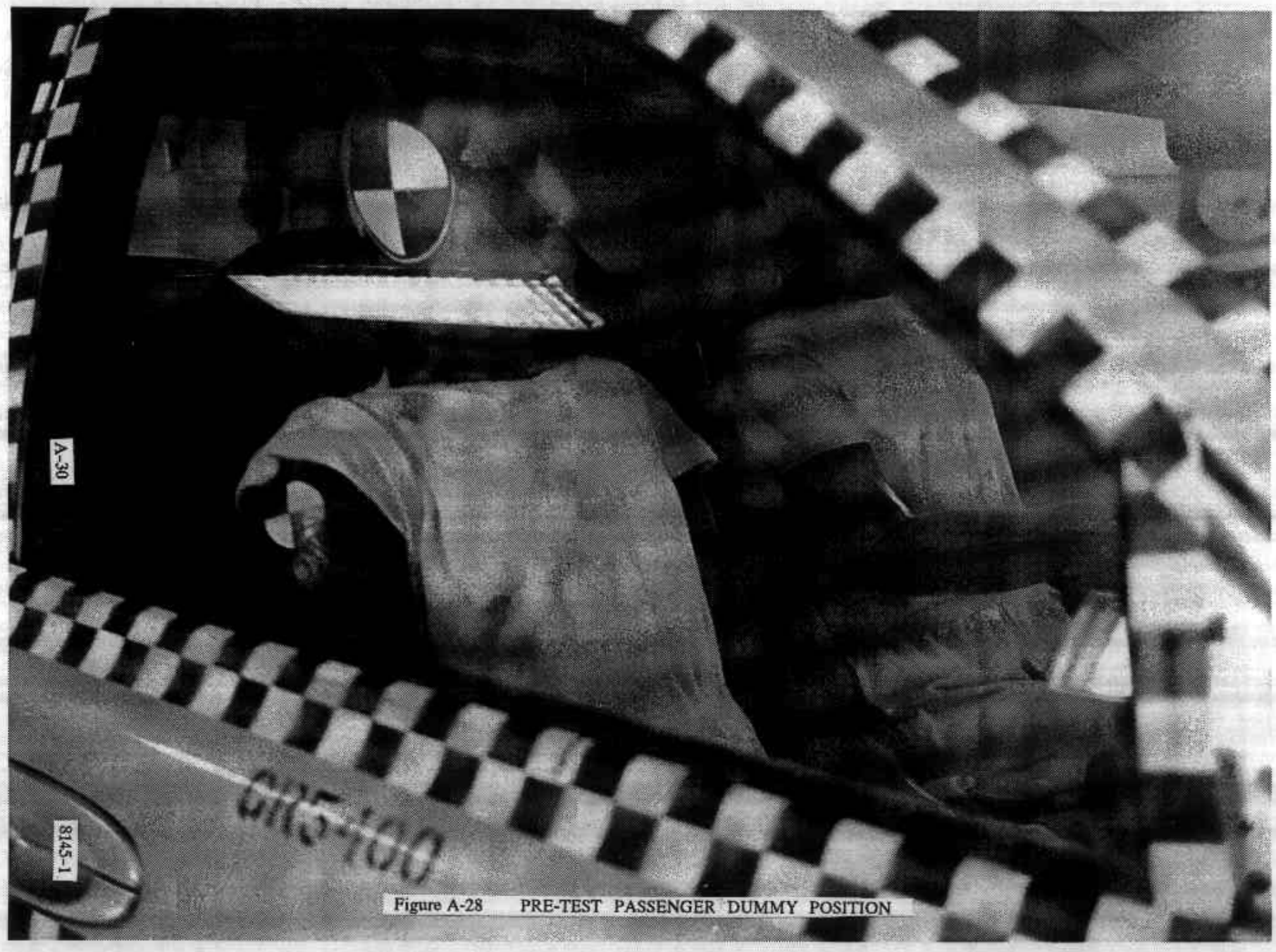


Figure A-28 PRE-TEST PASSENGER DUMMY POSITION

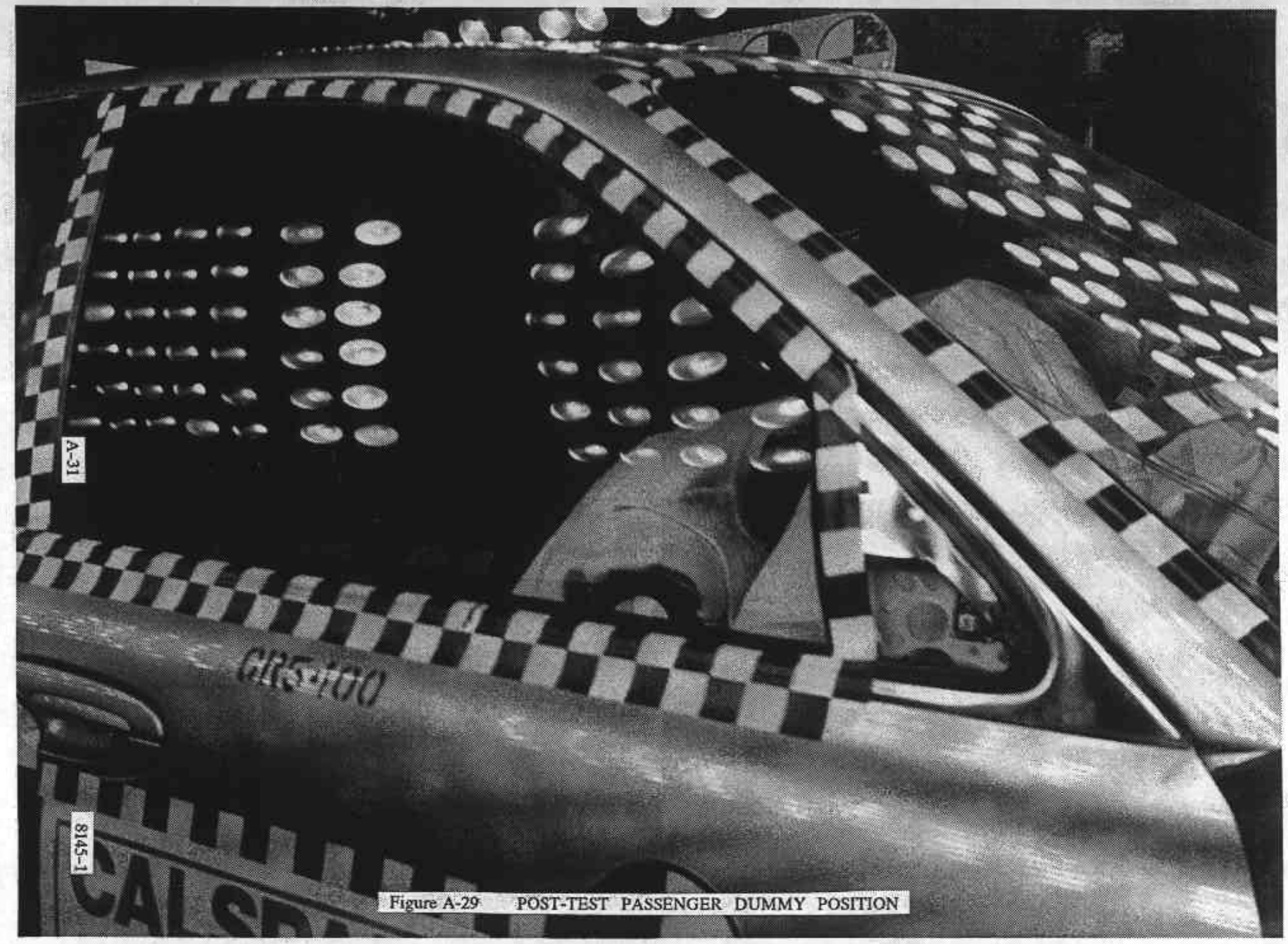


Figure A-29 POST-TEST PASSENGER DUMMY POSITION

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

8145-1

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

8145-1

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

8145-1

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

8145-1

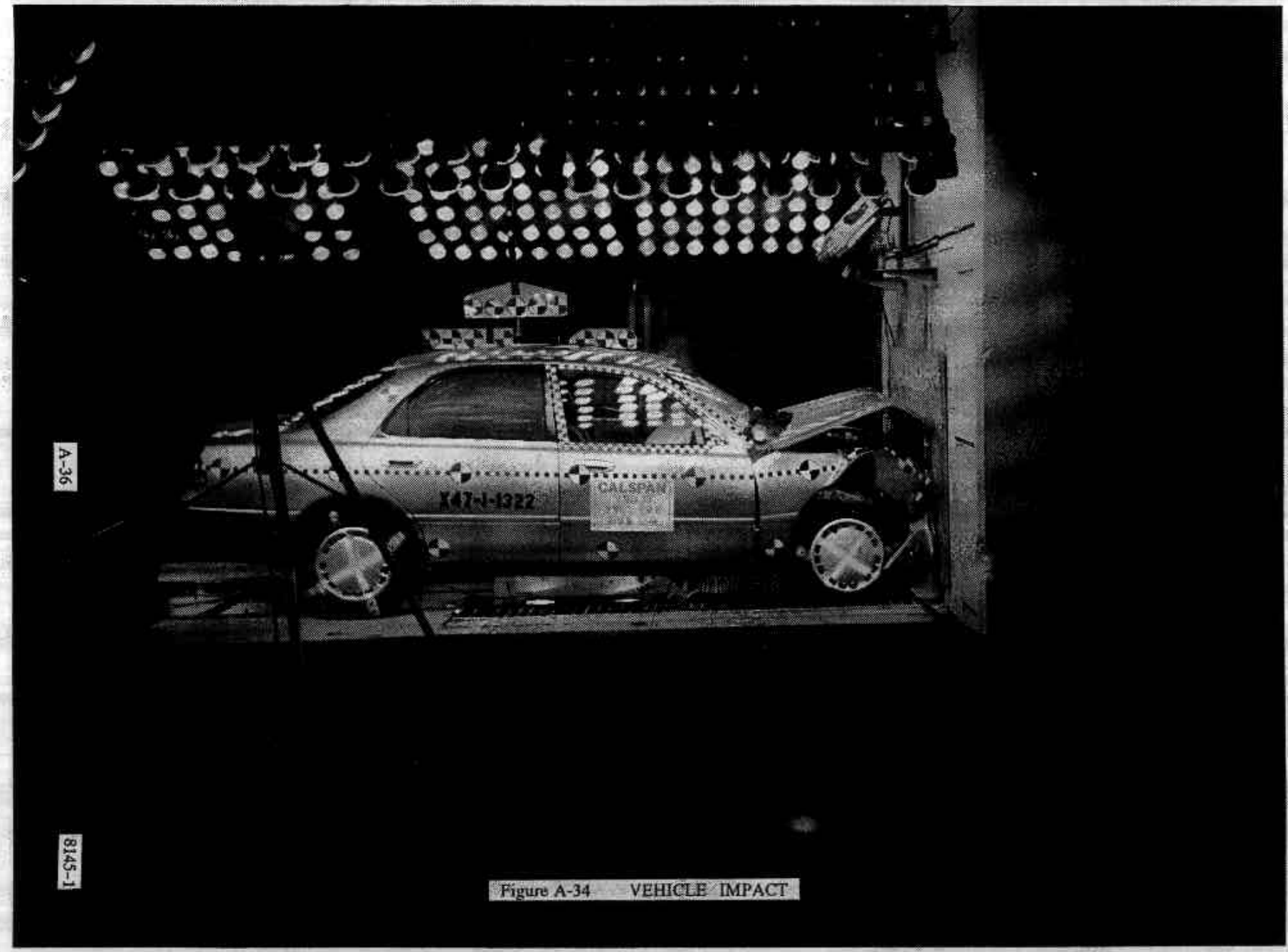


Figure A-34 VEHICLE IMPACT

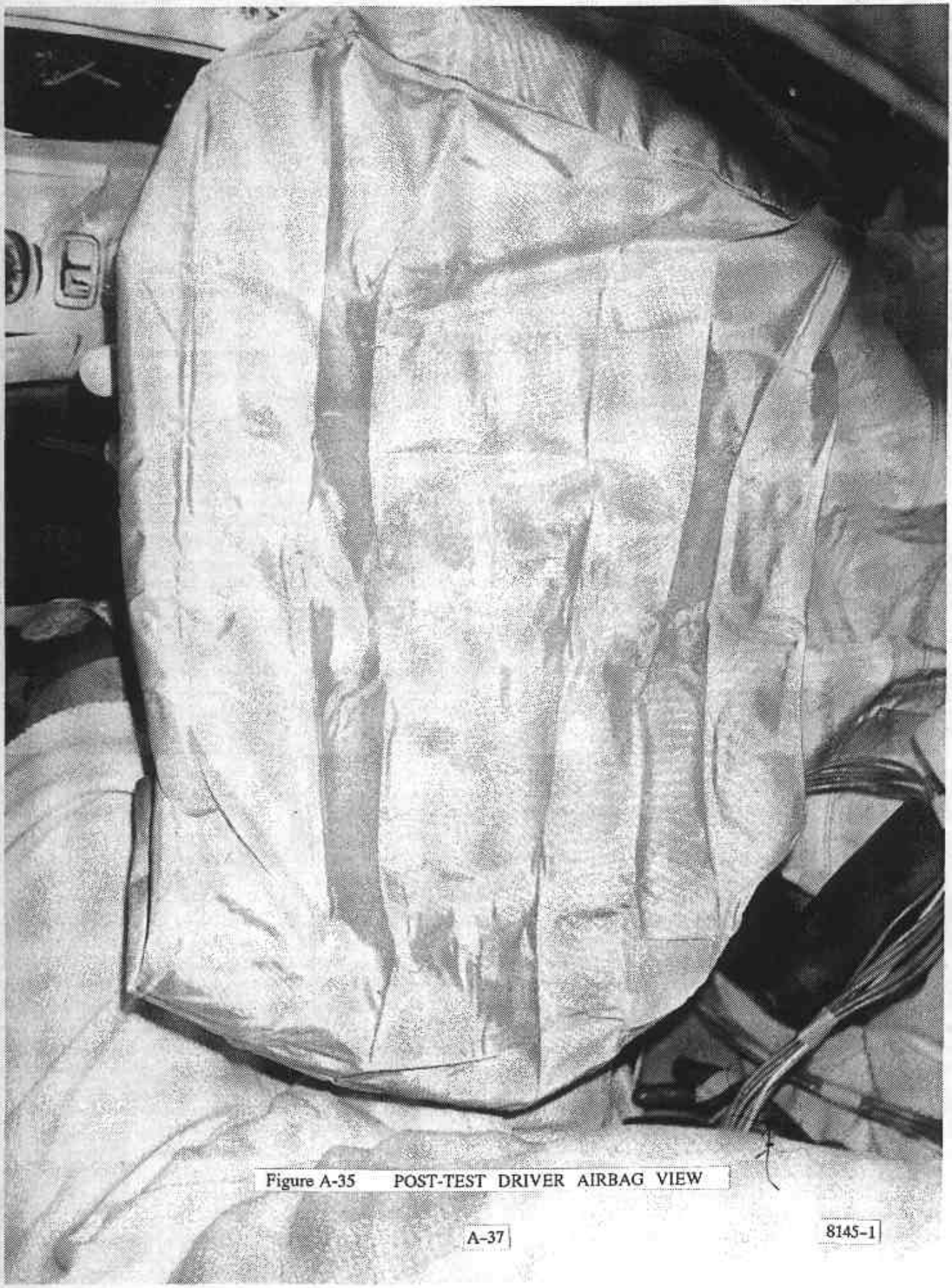


Figure A-35 POST-TEST DRIVER AIRBAG VIEW

8145-1

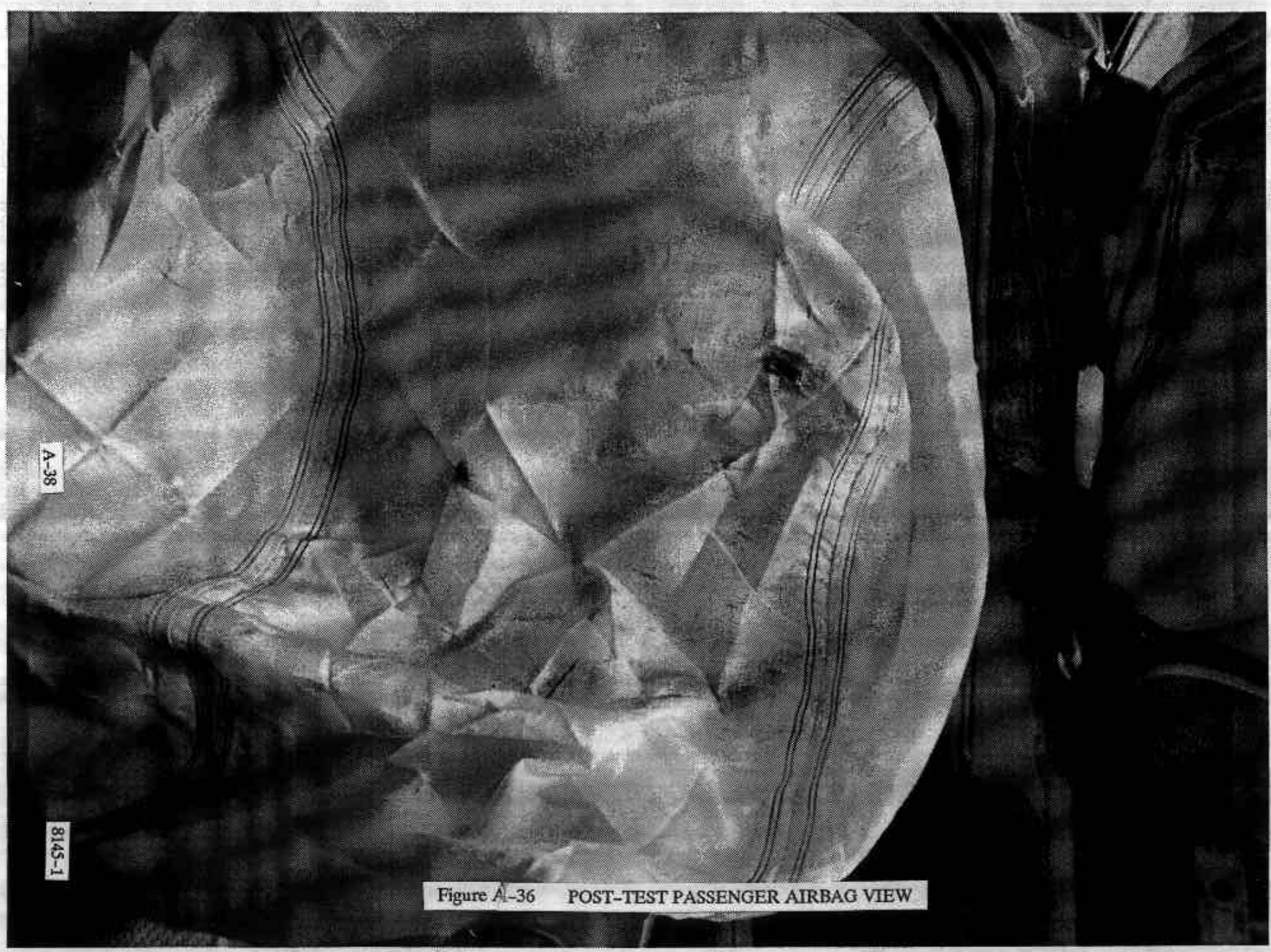


Figure A-36 POST-TEST PASSENGER AIRBAG VIEW

Appendix B

VEHICLE AND DUMMY RESPONSE DATA

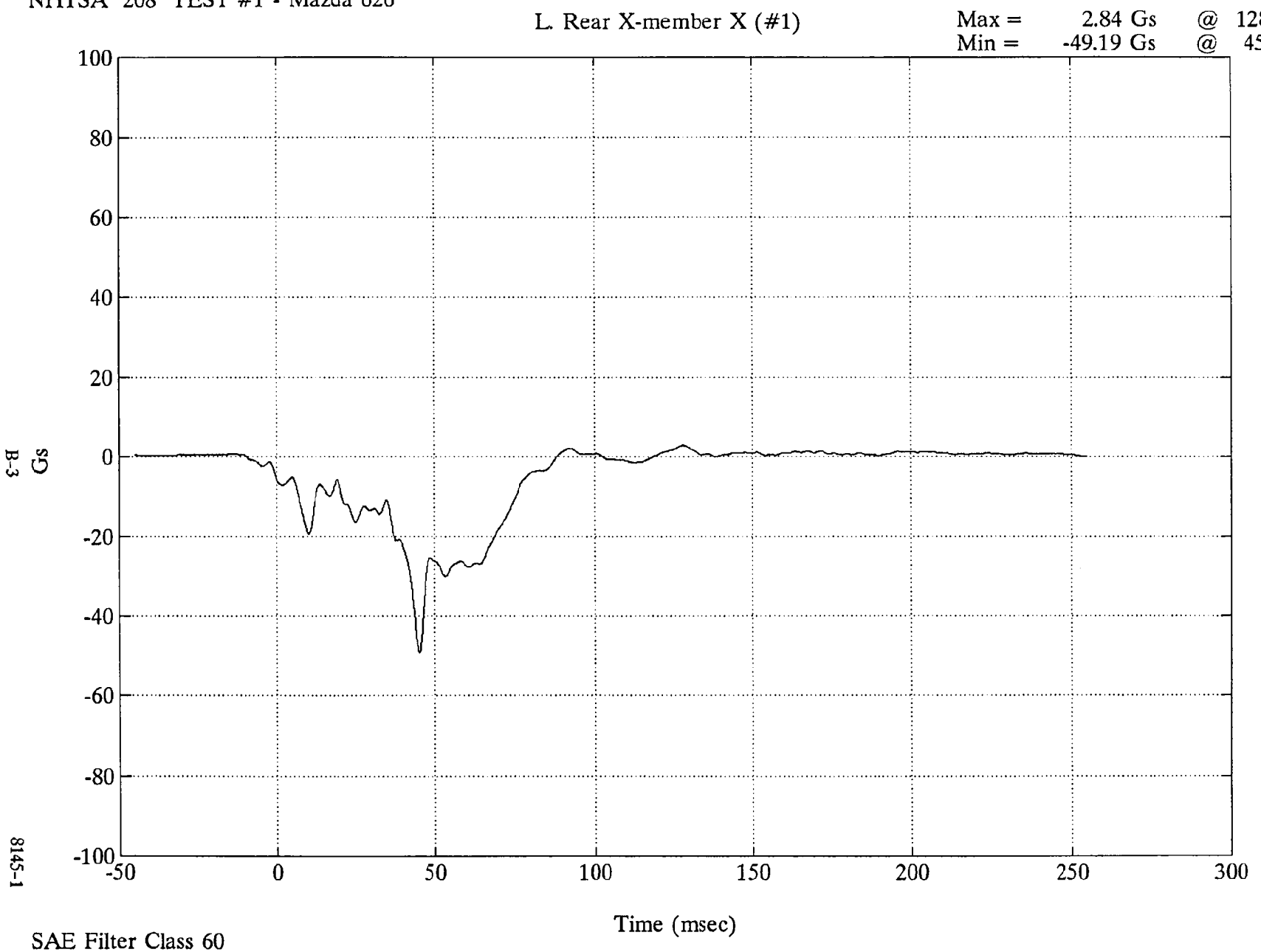
TEST NO. CR5400

VEHICLE

SAE FILTER CHANNEL CLASS

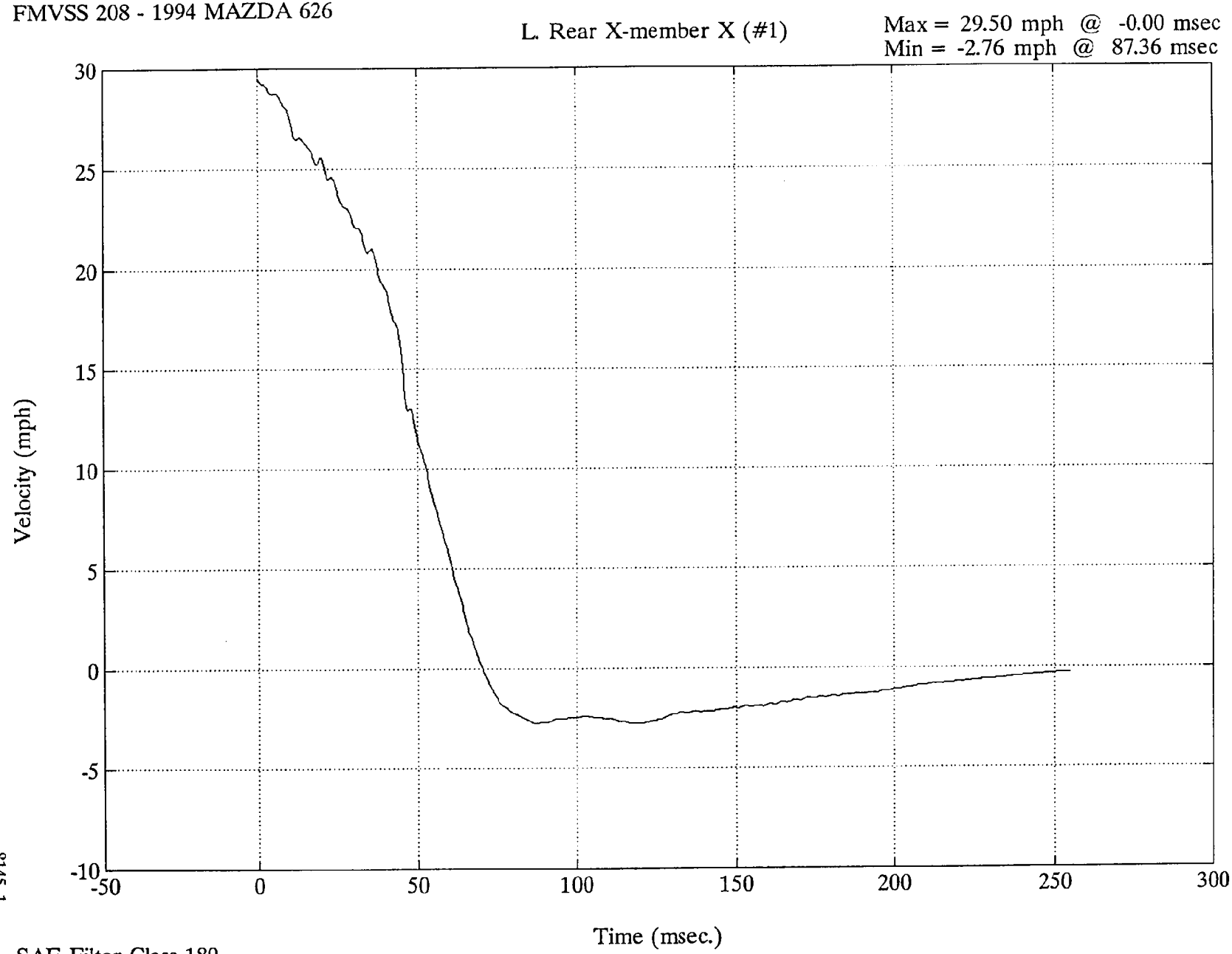
60

NHTSA "208" TEST #1 - Mazda 626



SAE Filter Class 60

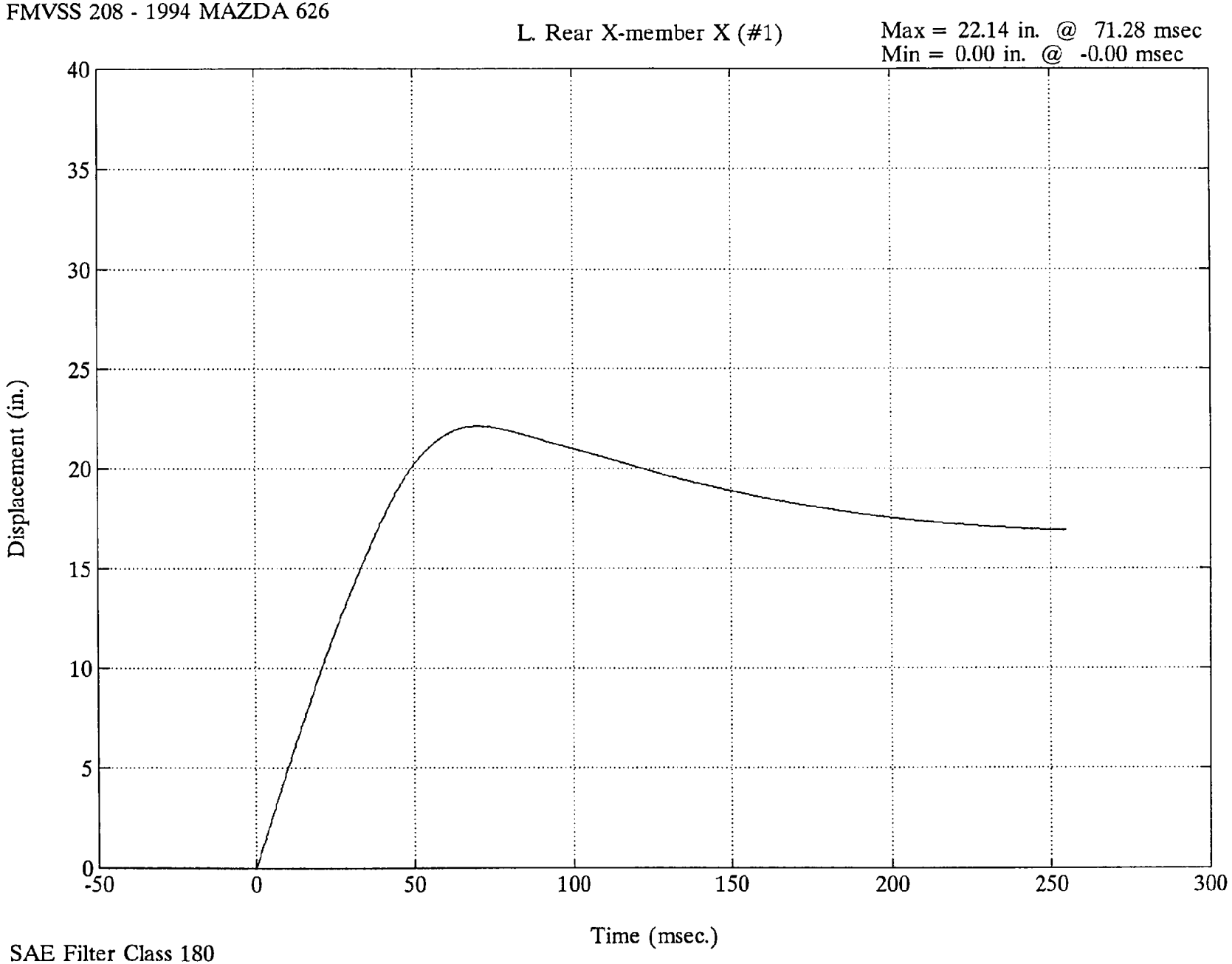
FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

8145-1

FMVSS 208 - 1994 MAZDA 626



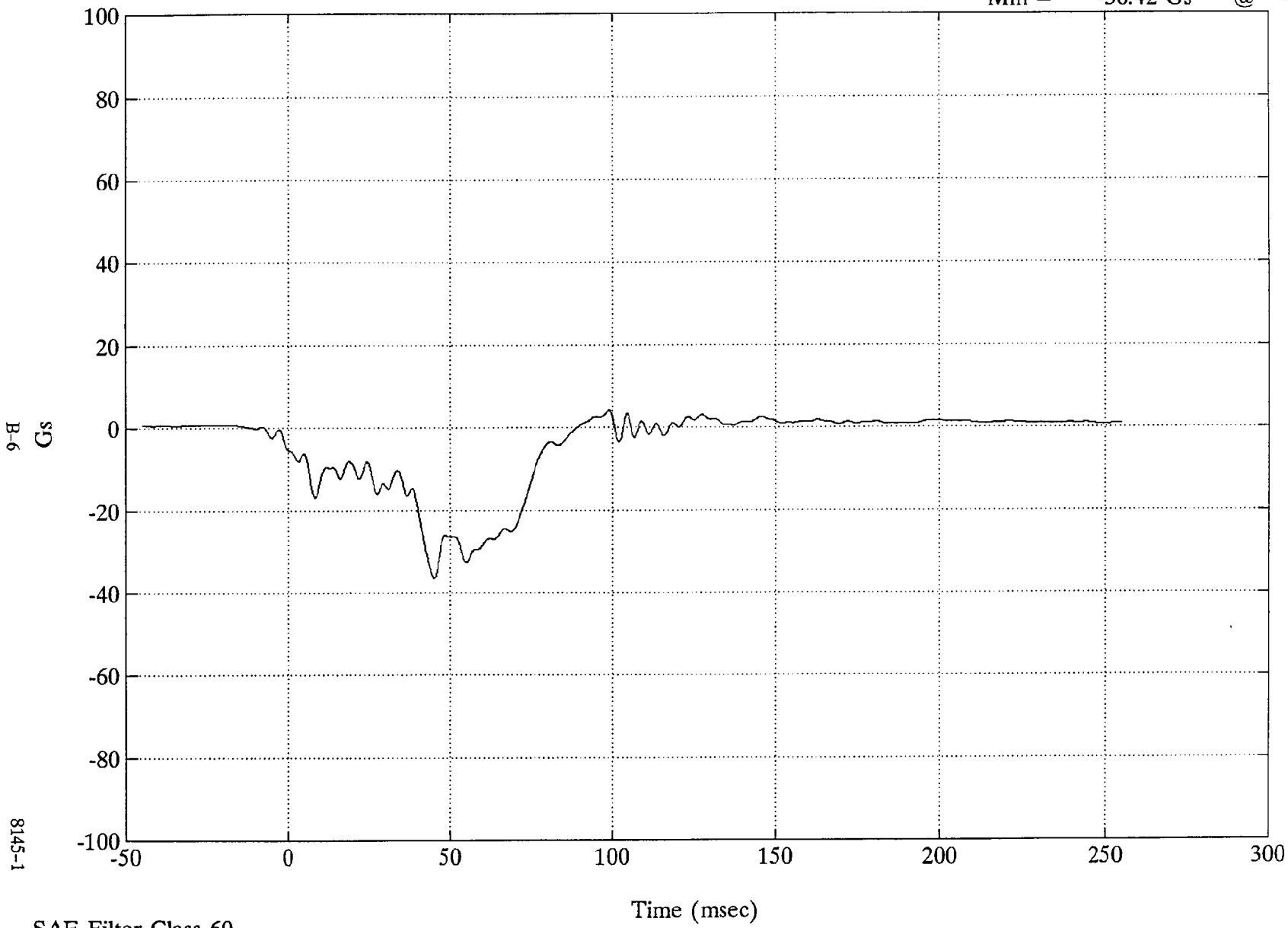
SAE Filter Class 180

8145-1

NHTSA "208" TEST #1 - Mazda 626

R. Rear X-member X (#2)

Max = 4.21 Gs @ 98.87 msec
Min = -36.42 Gs @ 44.87 msec



B-6

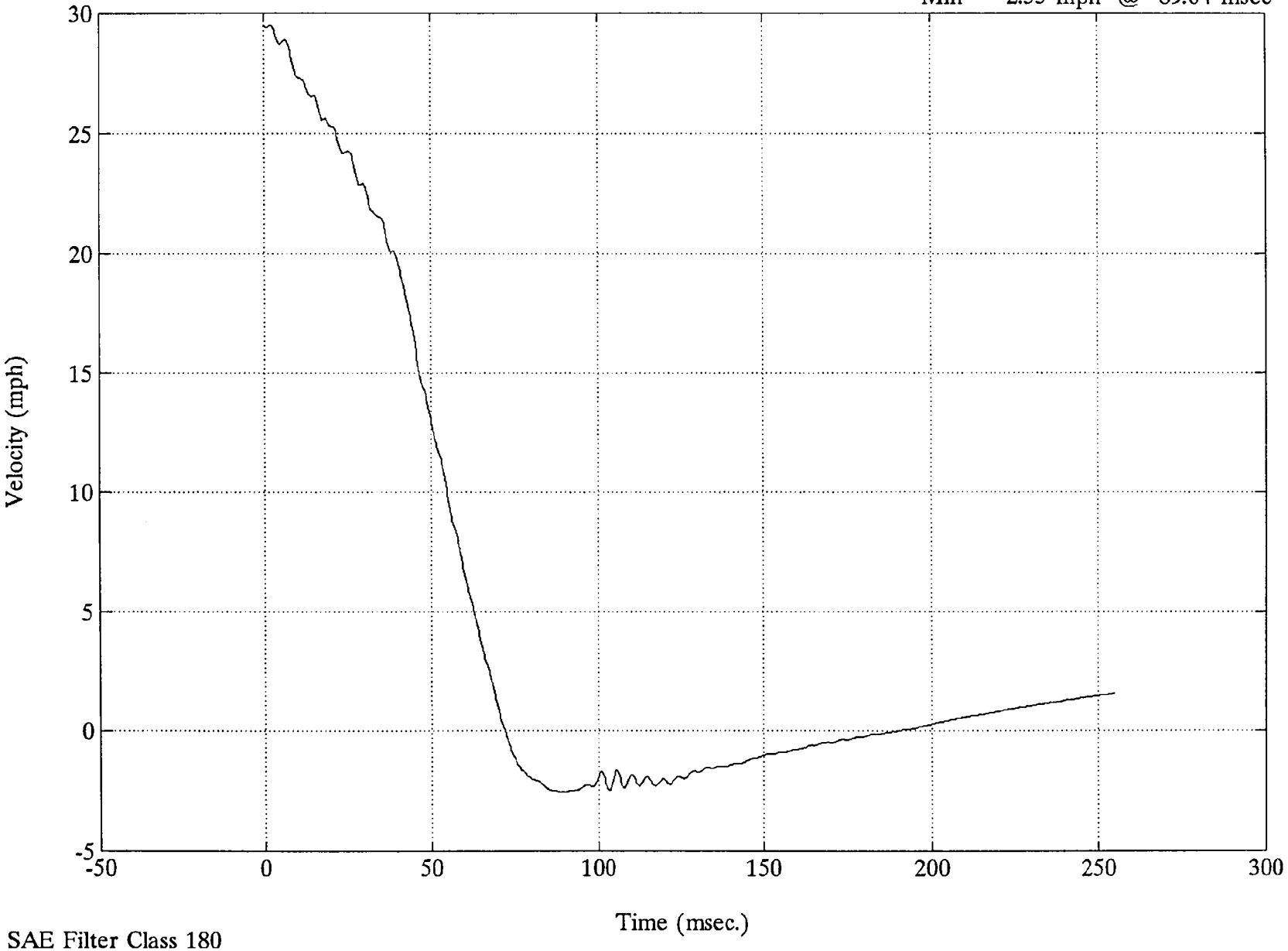
8145-1

SAE Filter Class 60

FMVSS 208 - 1994 MAZDA 626

R. Rear X-member X (#2)

Max = 29.50 mph @ 1.92 msec
Min = -2.55 mph @ 89.04 msec



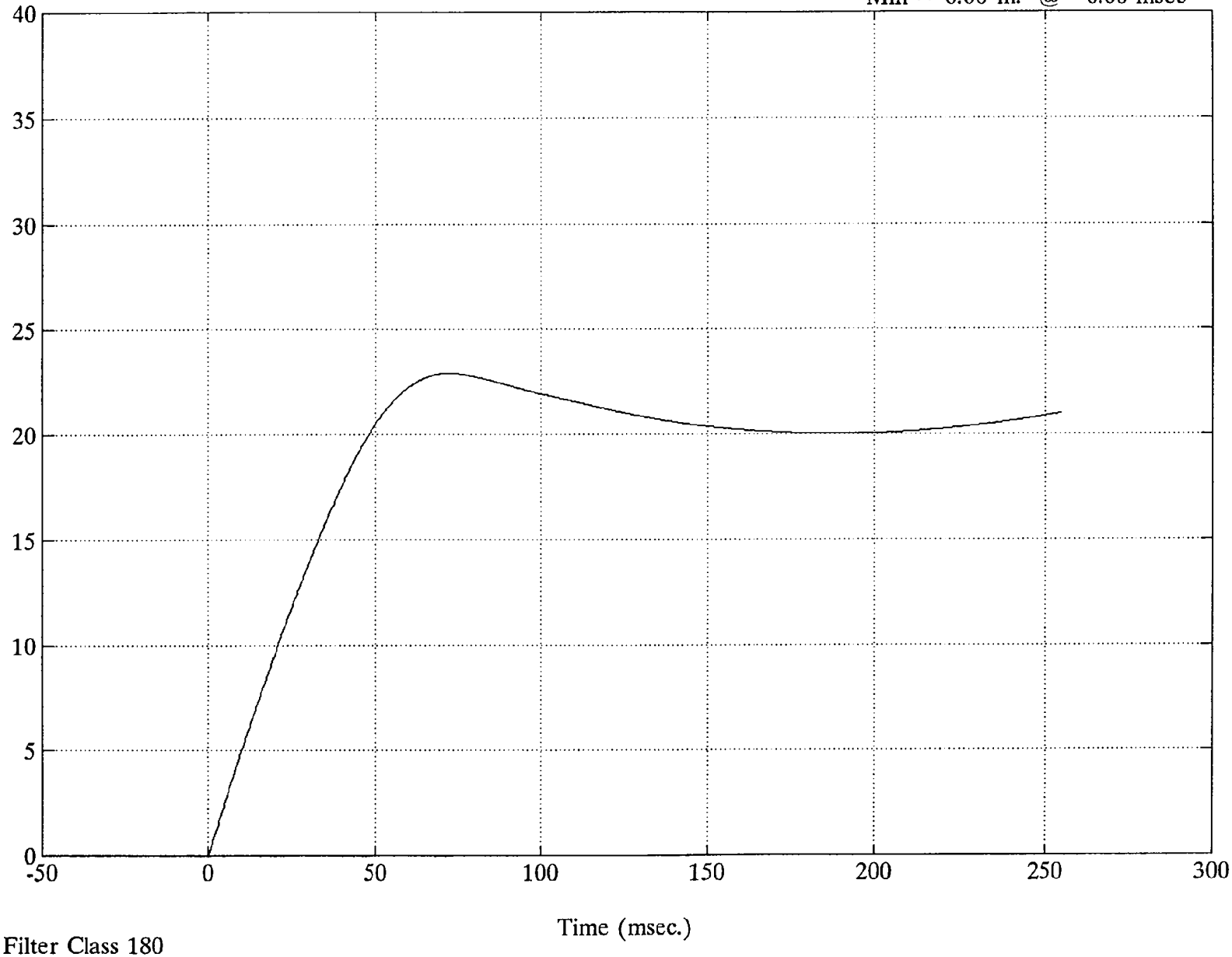
SAE Filter Class 180

8145-1

FMVSS 208 - 1994 MAZDA 626

R. Rear X-member X (#2)

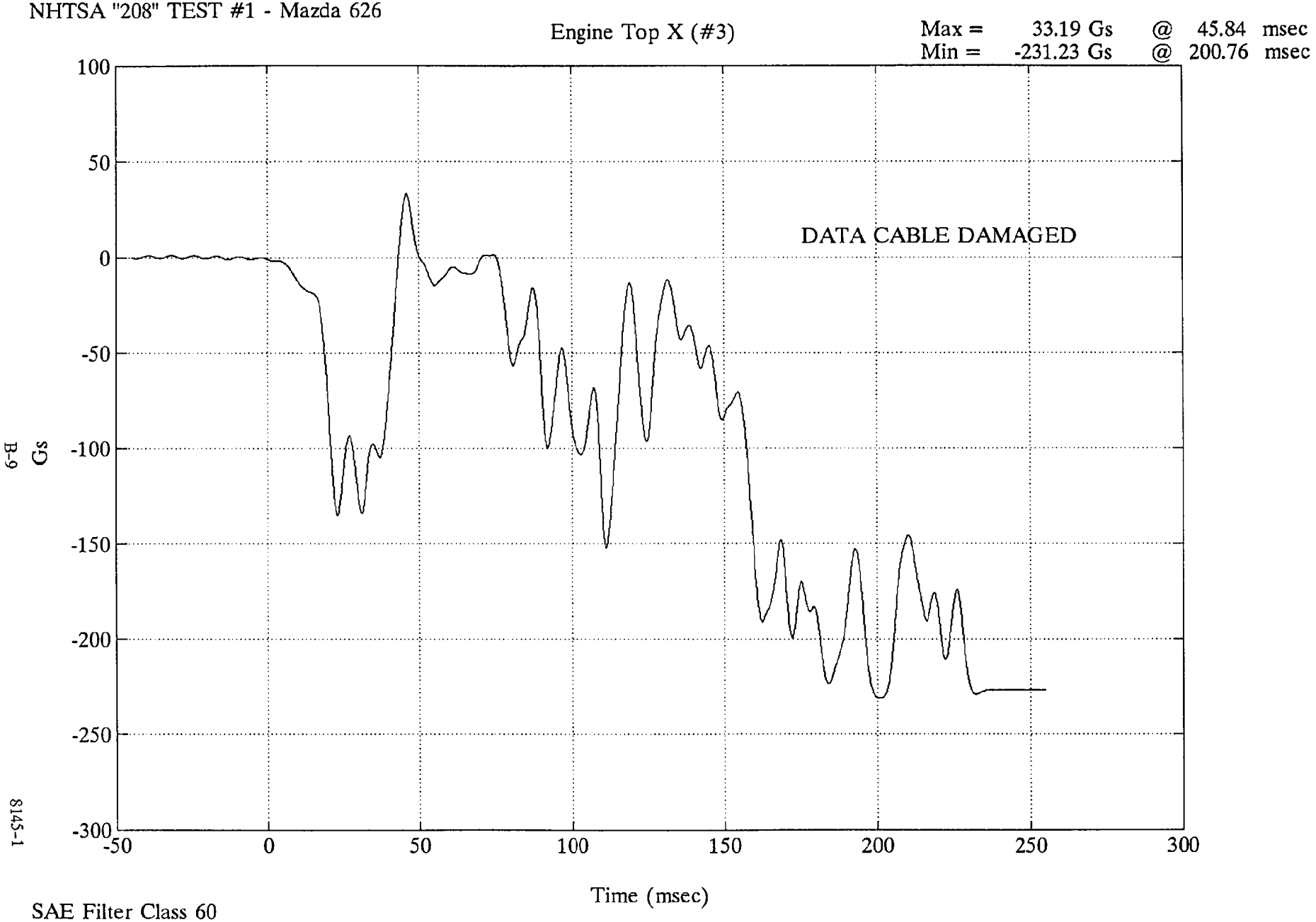
Max = 22.93 in. @ 72.48 msec
Min = 0.00 in. @ -0.00 msec



SAE Filter Class 180

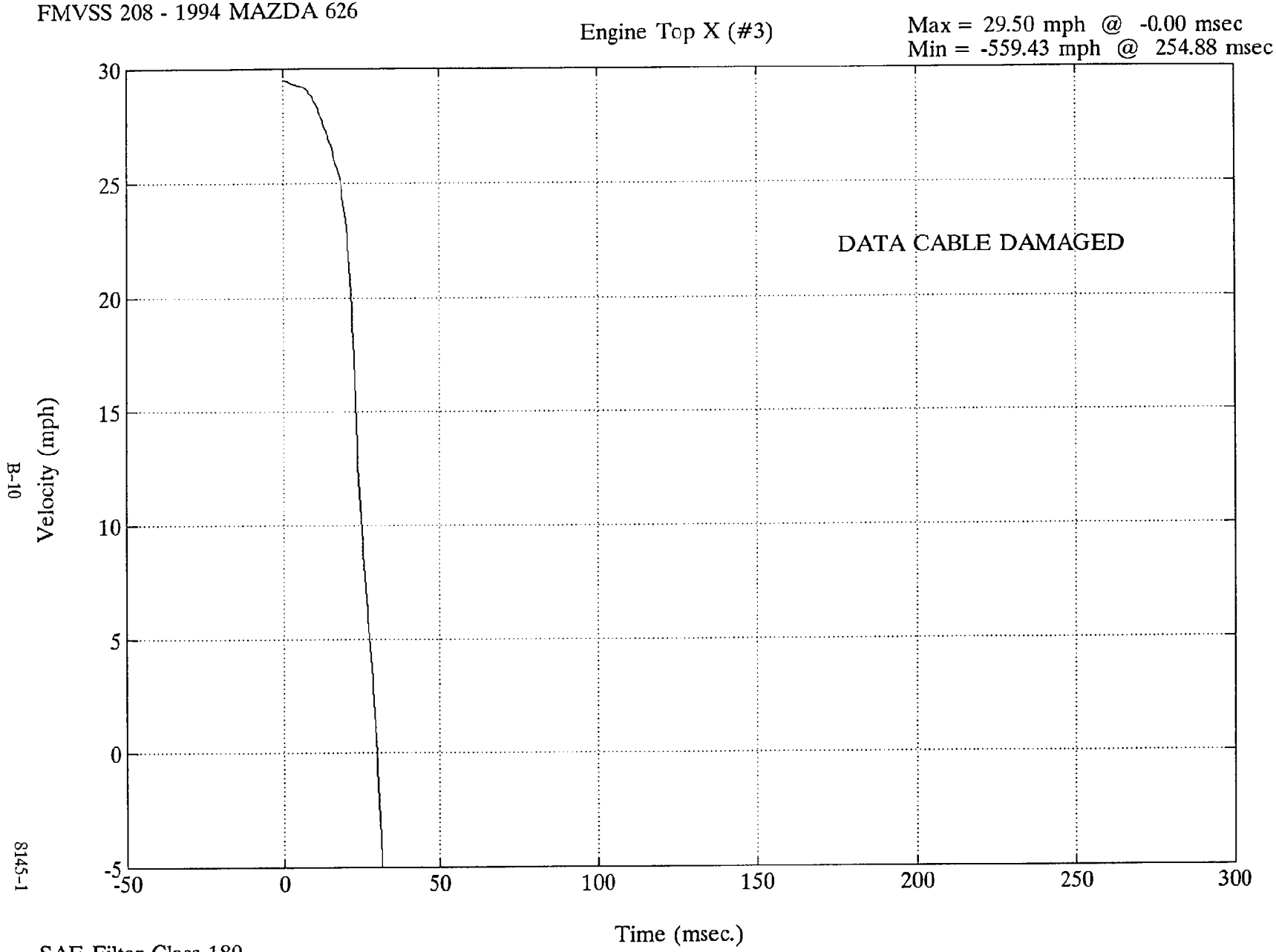
8145-1

NHTSA "208" TEST #1 - Mazda 626



SAE Filter Class 60

FMVSS 208 - 1994 MAZDA 626

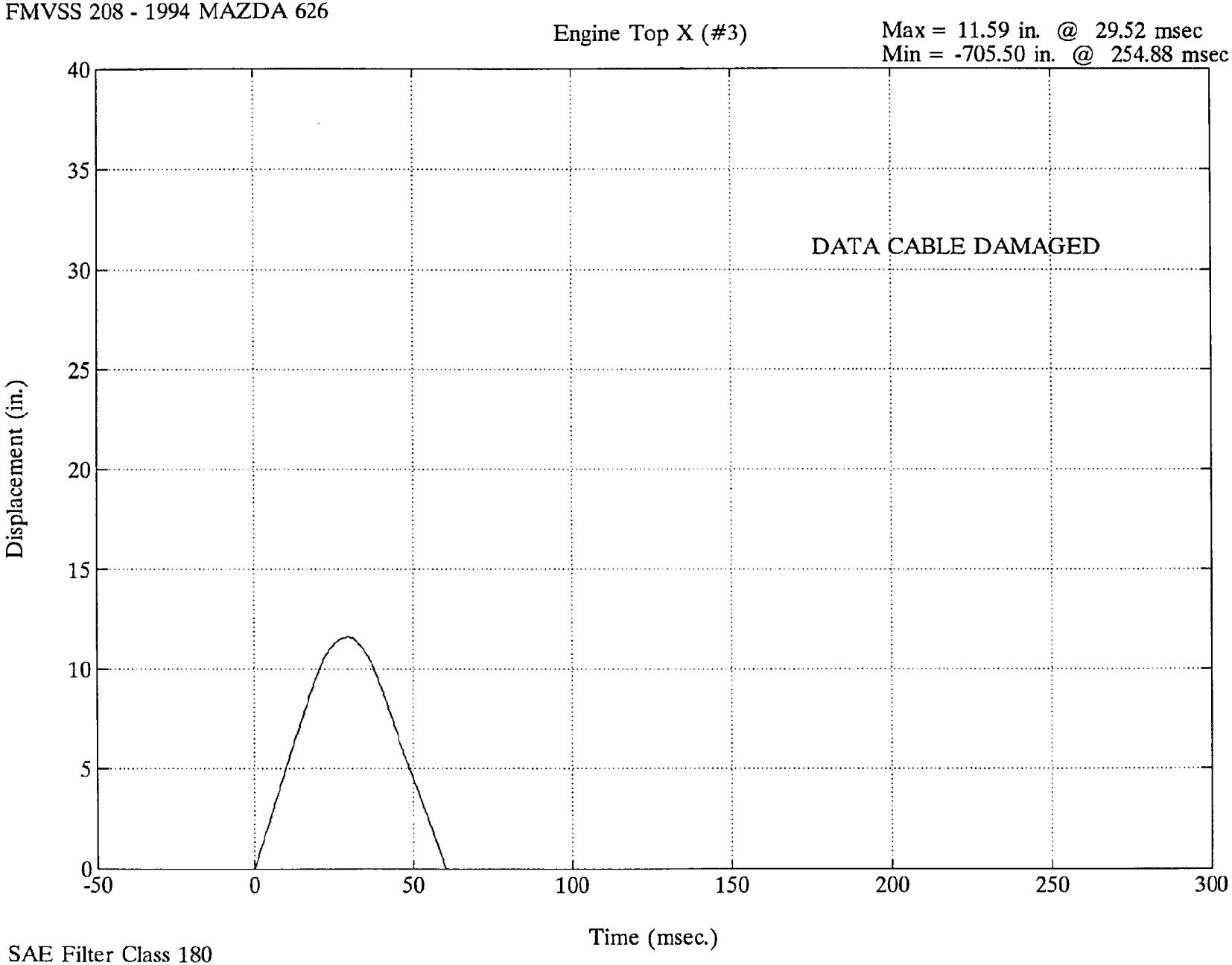


SAE Filter Class 180

B-10

8145-1

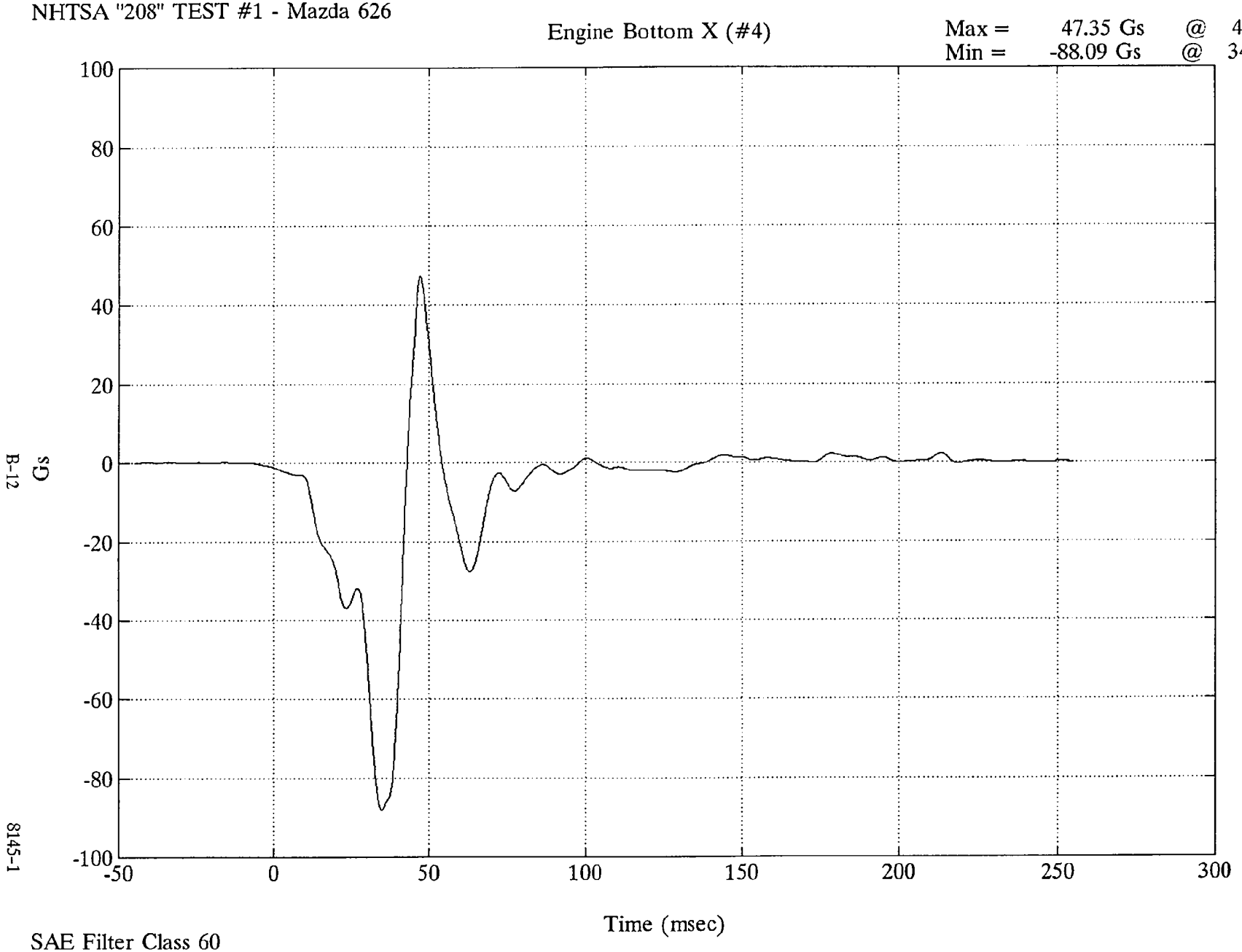
FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

8145-1

NHTSA "208" TEST #1 - Mazda 626

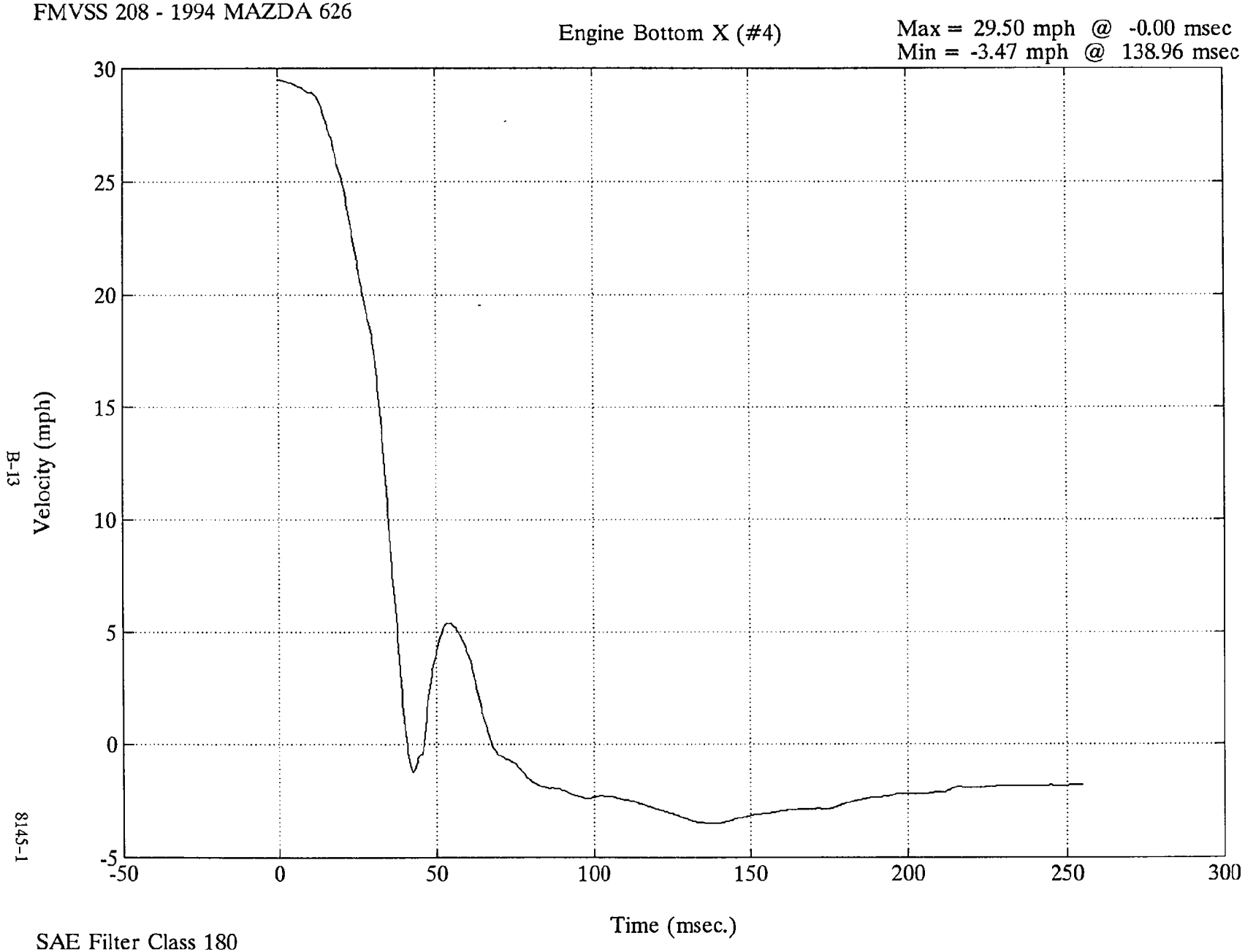


B-12

8145-1

SAE Filter Class 60

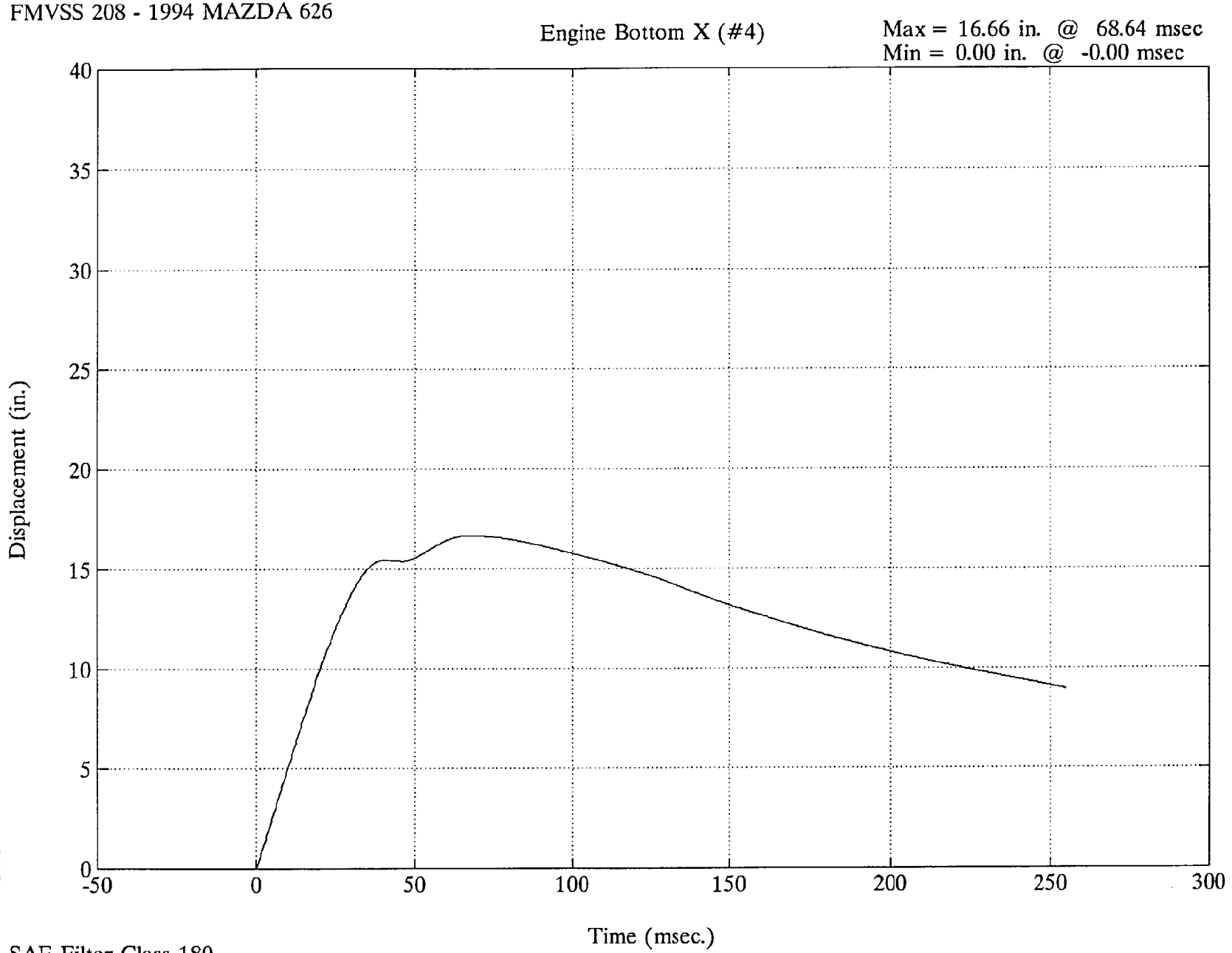
FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

8145-1

FMVSS 208 - 1994 MAZDA 626



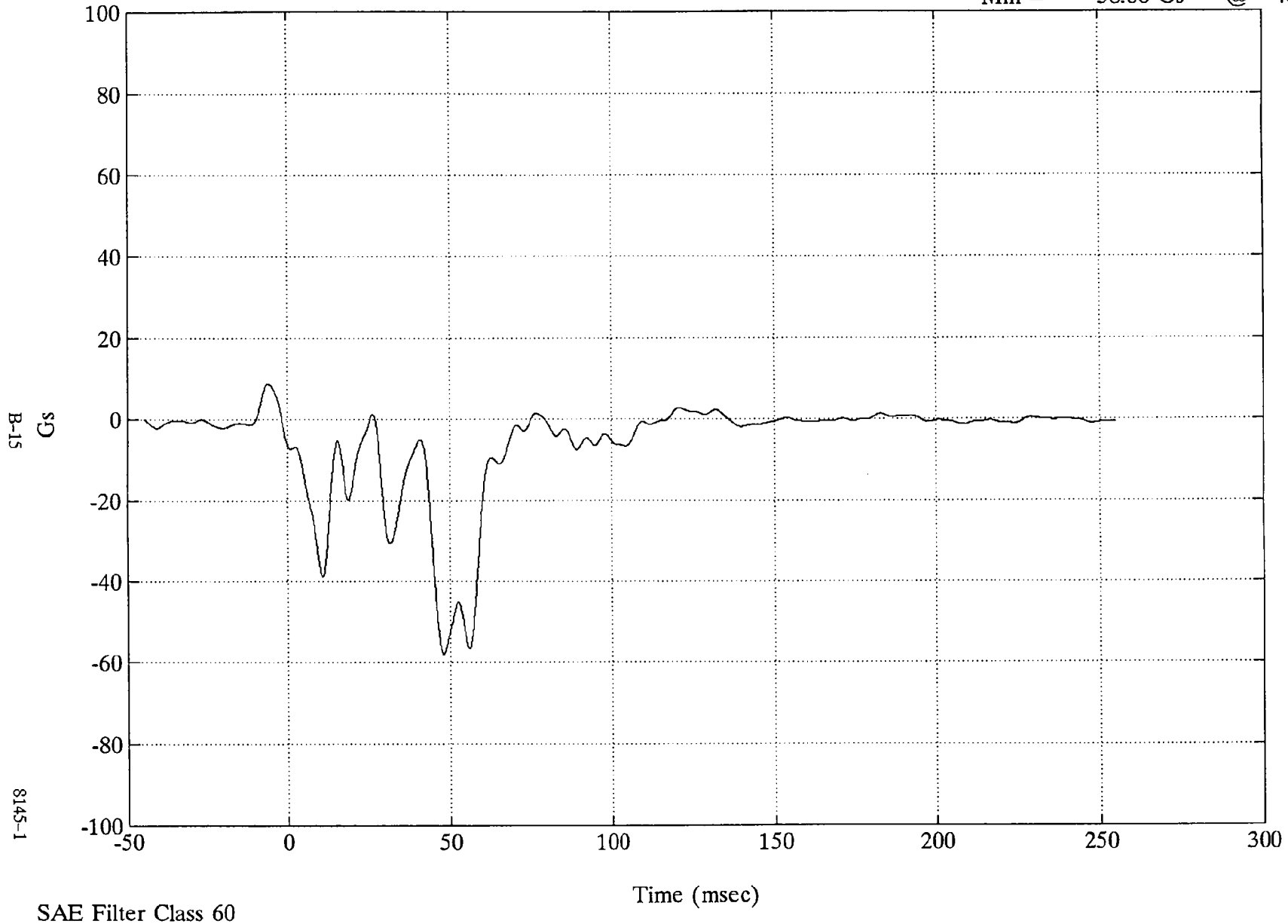
SAE Filter Class 180

8145-1

NHTSA "208" TEST #1 - Mazda 626

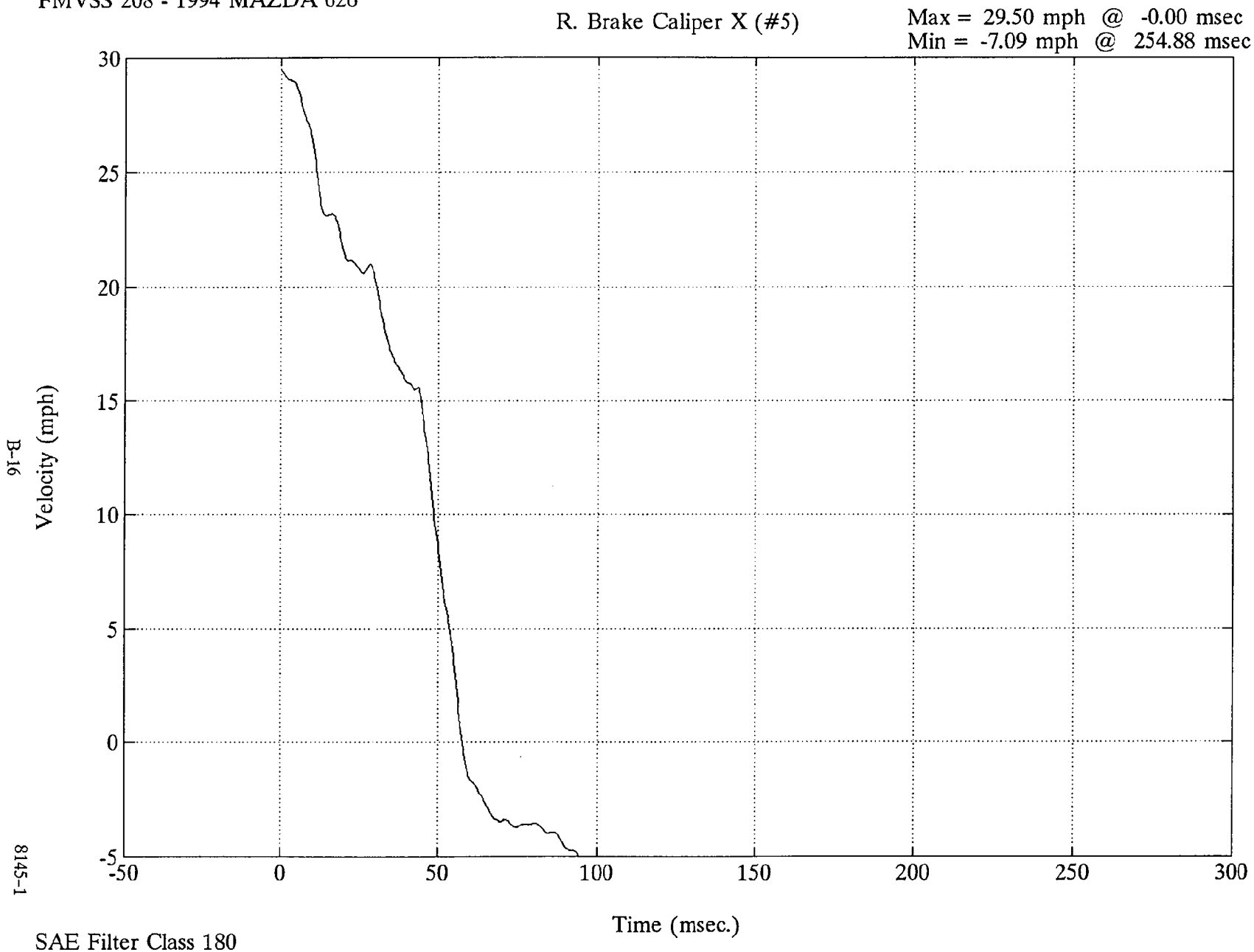
R. Brake Caliper X (#5)

Max = 8.78 Gs @ -6.12 msec
Min = -58.06 Gs @ 48.00 msec



SAE Filter Class 60

FMVSS 208 - 1994 MAZDA 626



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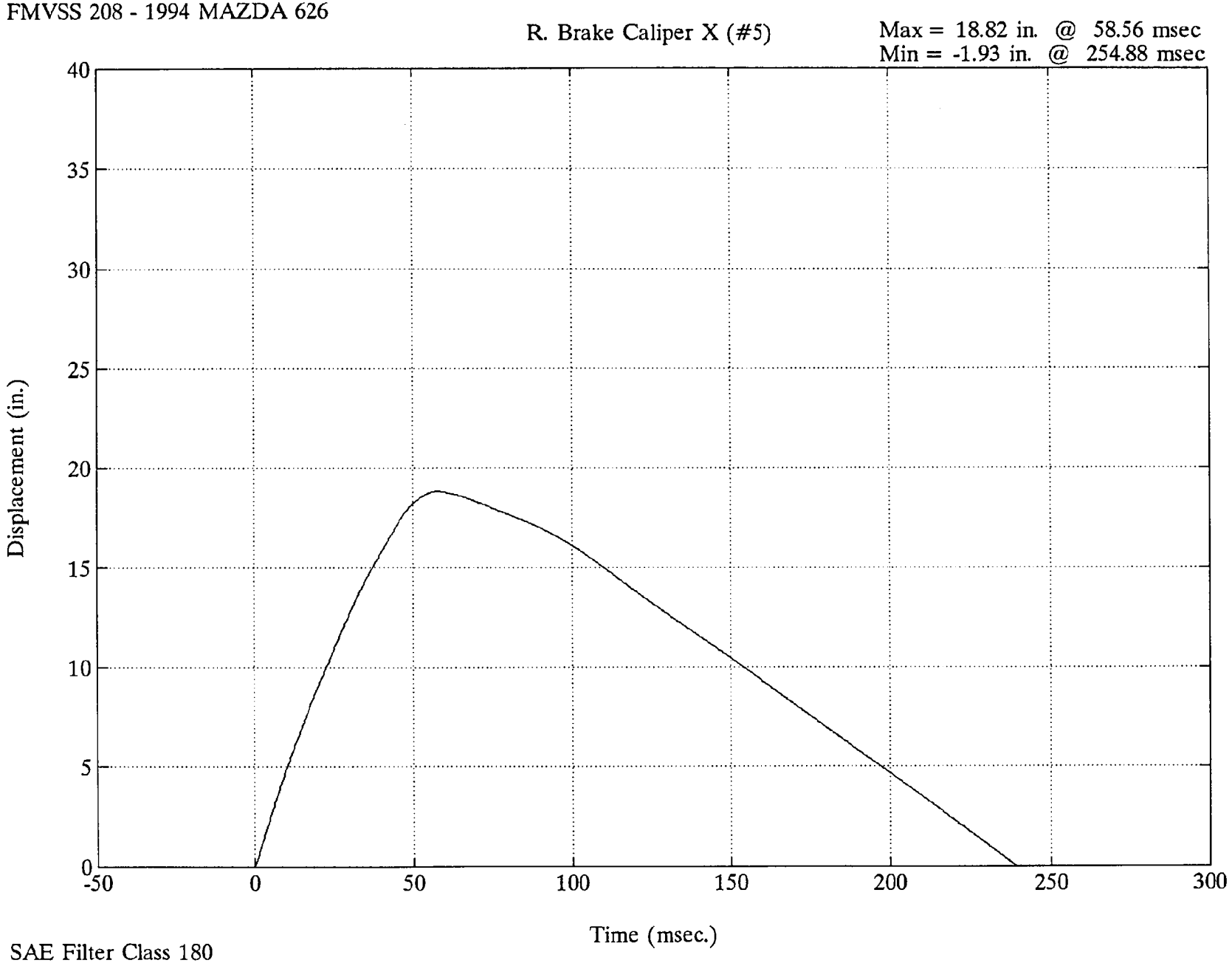
8145-1

SAE Filter Class 180

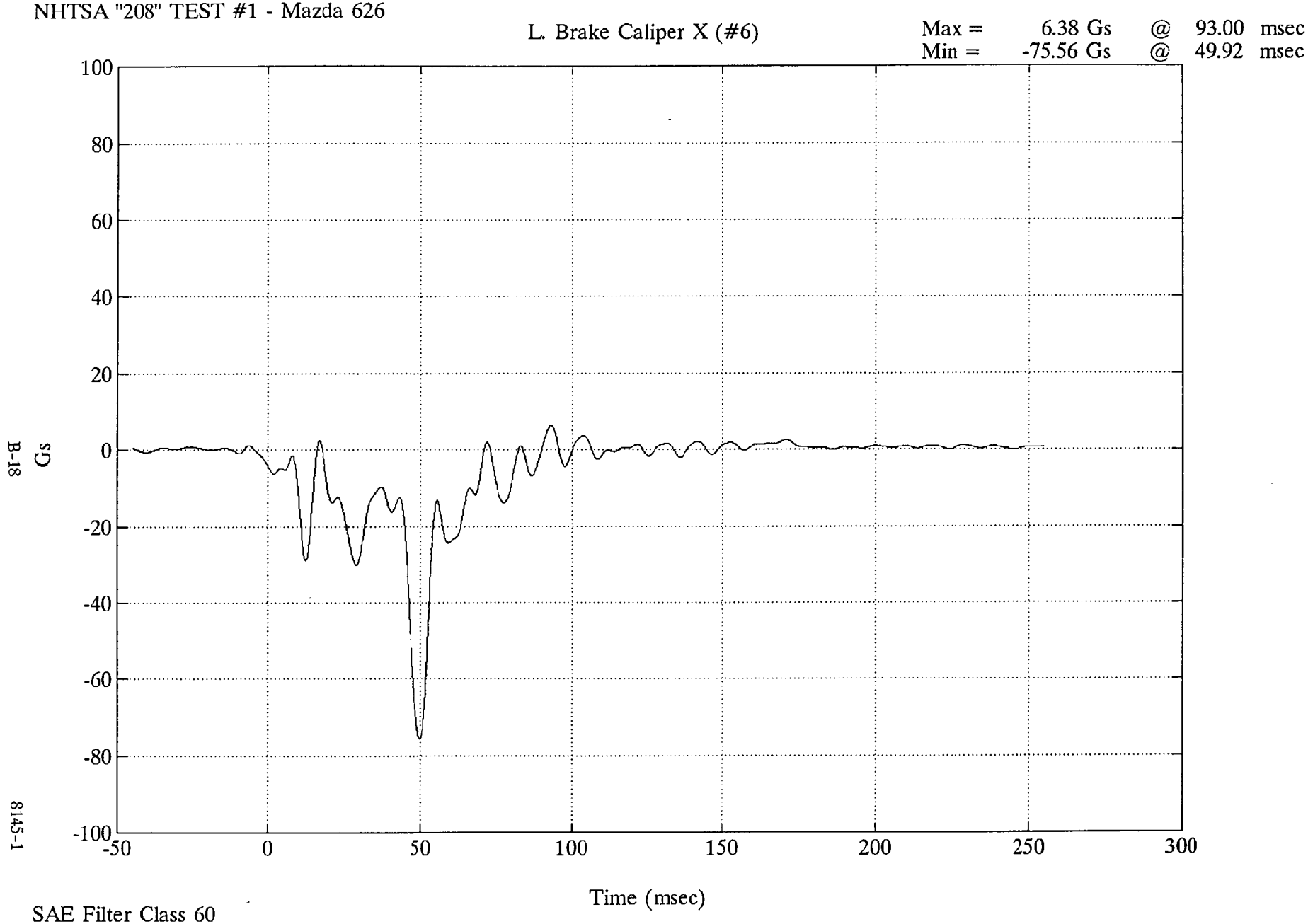
FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

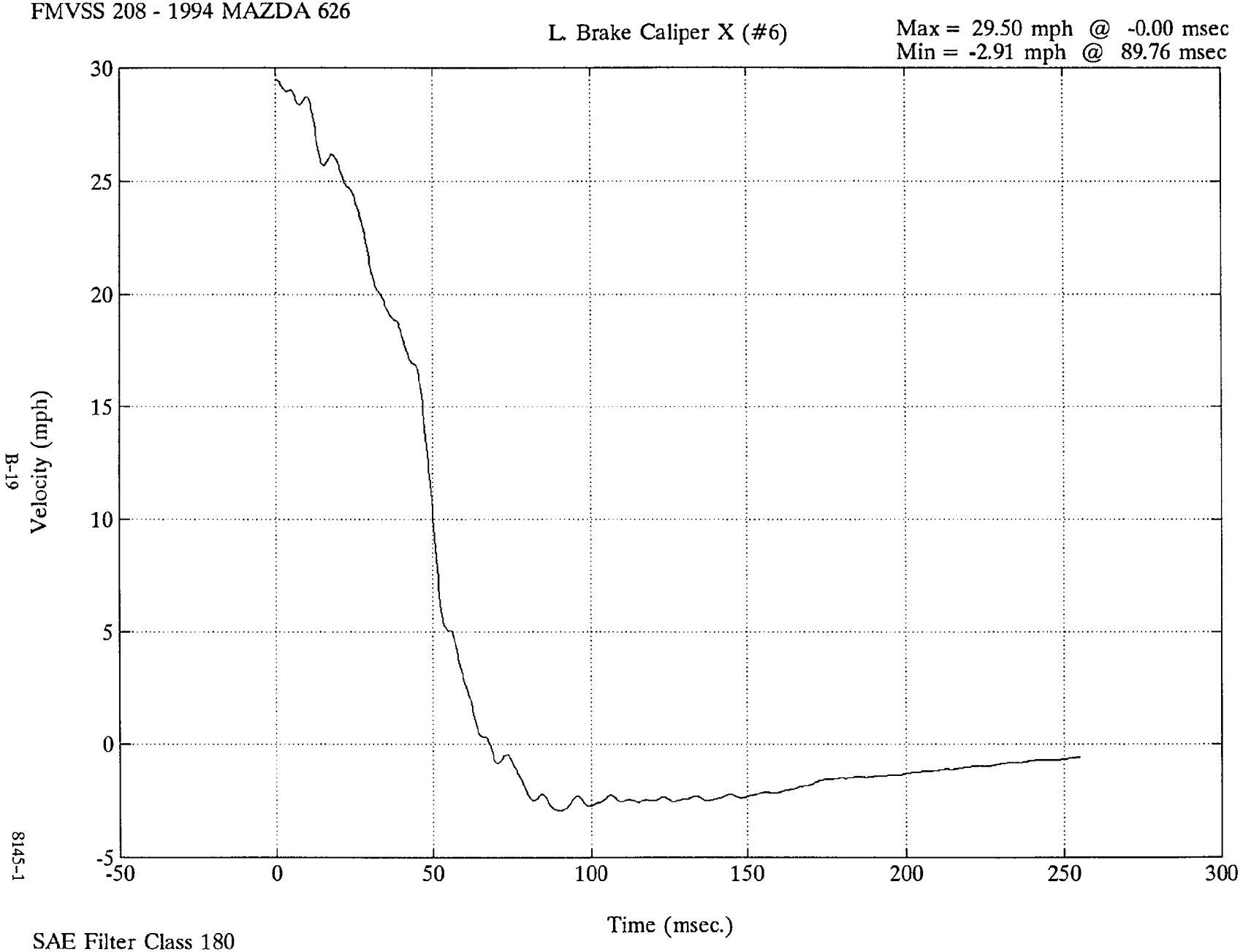
8145-1

NHTSA "208" TEST #1 - Mazda 626



SAE Filter Class 60

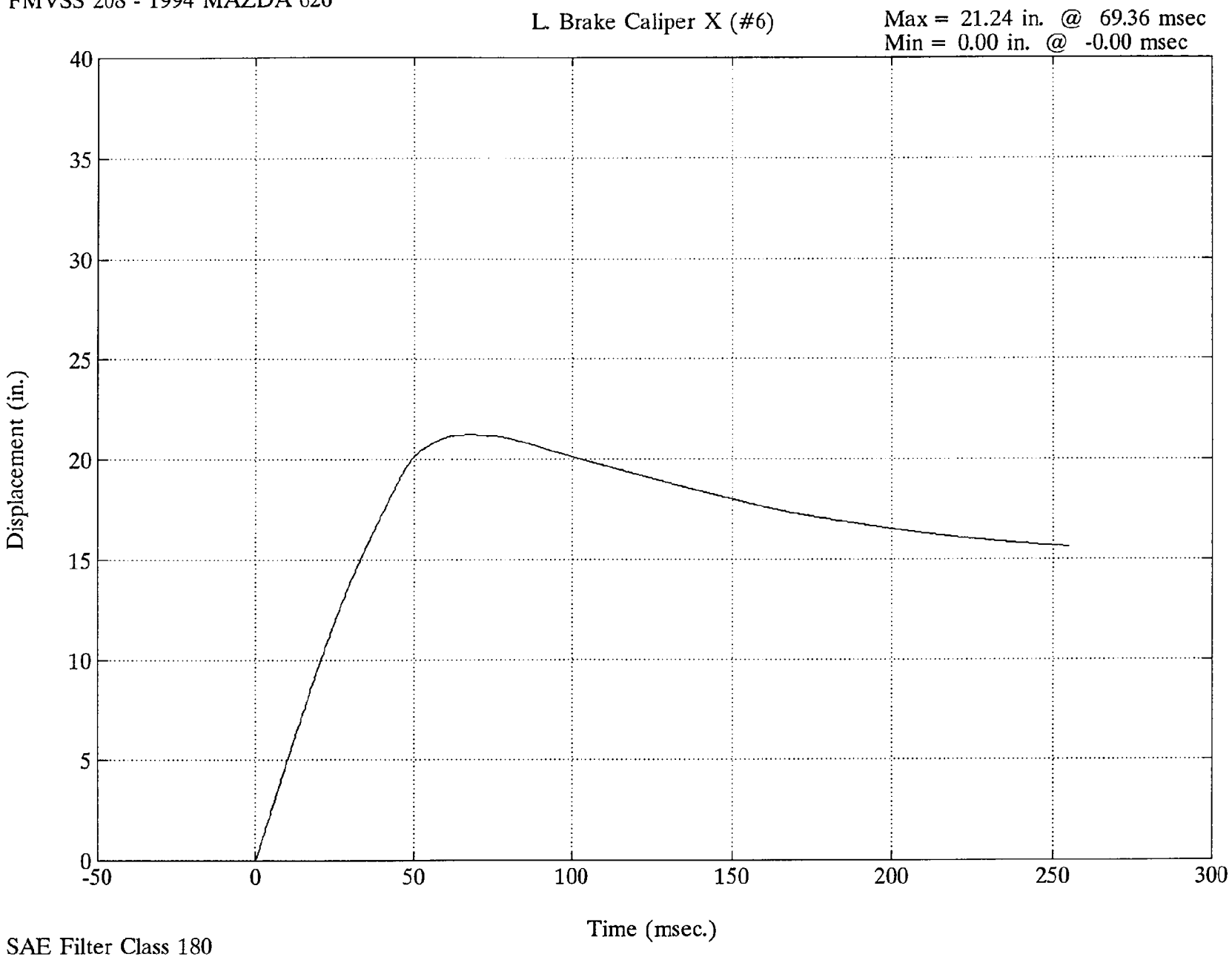
FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

8145-1

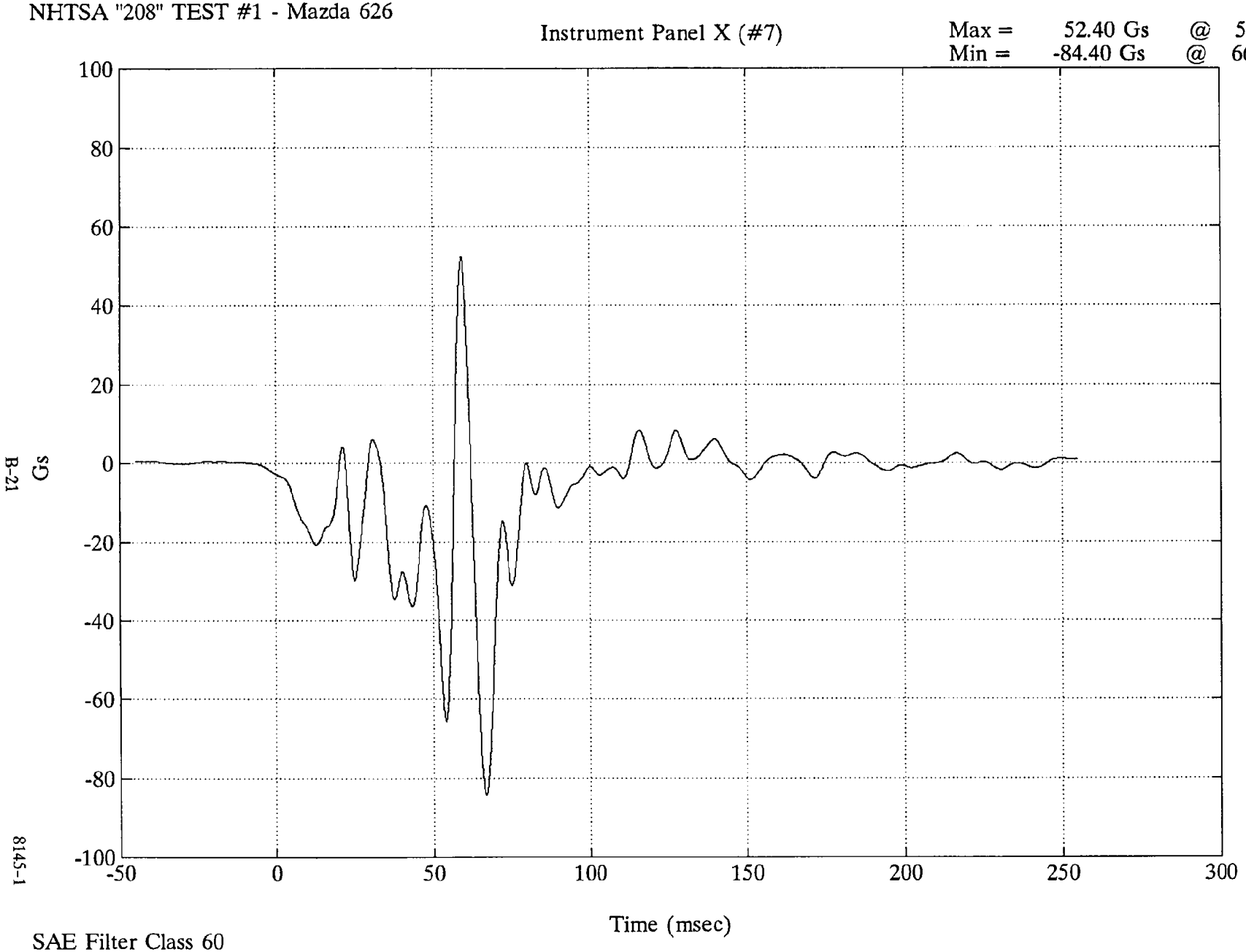
FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

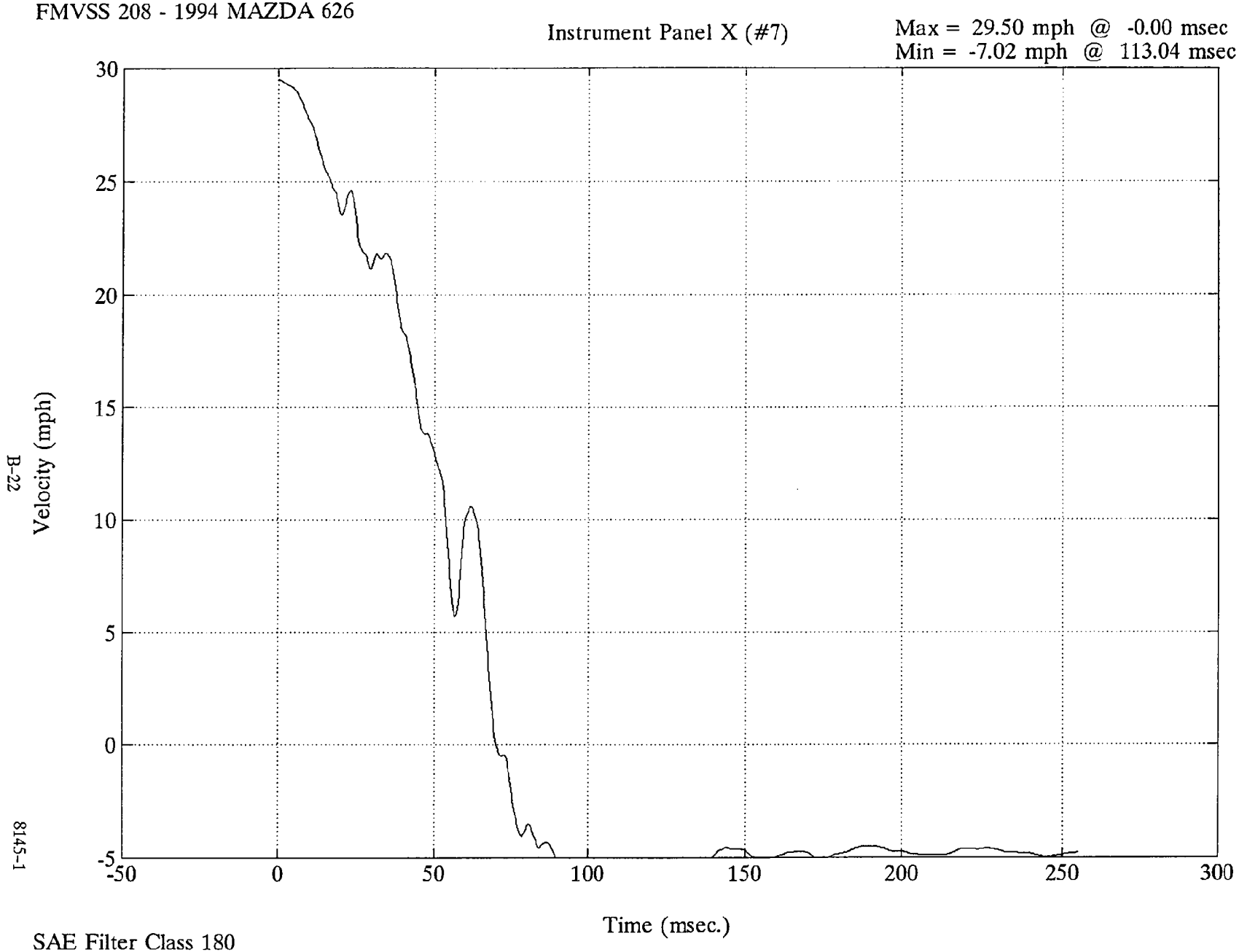
8145-1

NHTSA "208" TEST #1 - Mazda 626



SAE Filter Class 60

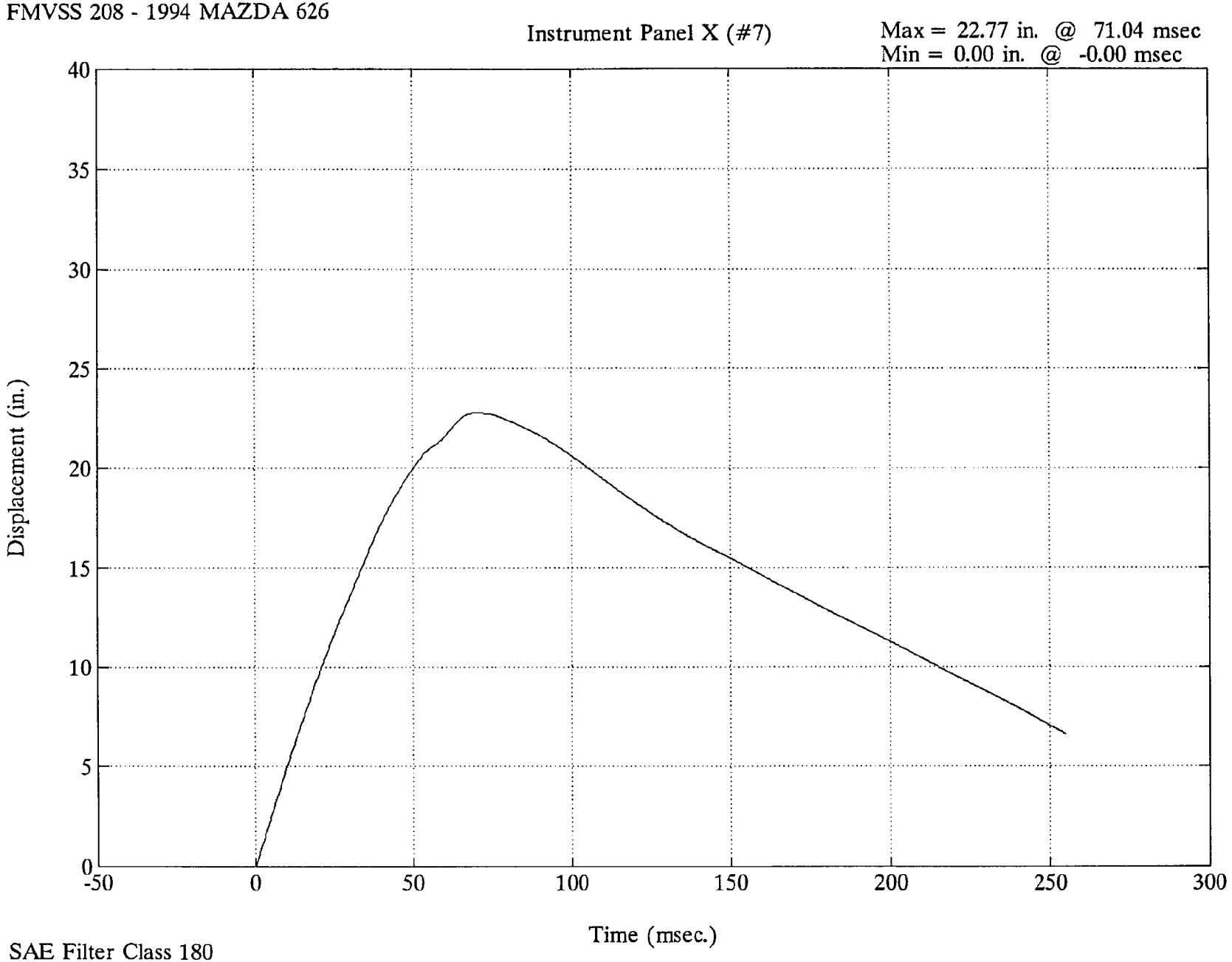
FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

8145-1

FMVSS 208 - 1994 MAZDA 626



SAE Filter Class 180

8145-1

TEST NO. CR5400

DUMMY	SAE FILTER CHANNEL CLASS
Head Accelerations	1000
Chest Accelerations	100
Femur Forces	600

FACILITY: TRACK TEST DATE: 30 Sep 1993
RUN #: 1322 TEST TIME: 13:55:06
SERIES #: 1 BOARD: a

TITLE: NHTSA "208" TEST #1 - Mazda 626

CHANNEL NUMBER	DESCRIPTION	ENGR UNIT	MAXIMUM AMP	MAXIMUM msec	MINIMUM AMP	MINIMUM msec	FILTER CLASS
1	Pos. 1 Head X	Gs	3.7	25.6	-43.5	81.1	1000.0
2	Pos. 1 Head Y	Gs	22.5	101.5	-8.9	25.0	1000.0
3	Pos. 1 Head Z	Gs	23.4	82.3	-10.0	62.8	1000.0
4	Pos. 1 Left Femur	lbs	156.5	163.6	-1191.4	61.3	600.0
5	Pos. 1 Chest X	Gs	5.8	143.2	-54.2	88.2	180.0
6	Pos. 1 Chest Y	Gs	10.5	90.2	-1.7	46.7	180.0
7	Pos. 1 Chest Z	Gs	7.2	104.5	-15.6	67.6	180.0
8	Pos. 1 Right Femur	lbs	65.5	130.9	-1441.4	57.7	600.0
9	Pos. 2 Head X	Gs	8.0	42.4	-33.0	138.5	1000.0
10	Pos. 2 Head Y	Gs	6.0	57.2	-25.3	91.3	1000.0
11	Pos. 2 Head Z	Gs	49.6	87.4	-10.4	106.8	1000.0
12	Pos. 2 Left Femur	lbs	56.1	217.9	-1341.6	64.0	600.0
13	Pos. 2 Chest X	Gs	1.2	244.0	-35.9	86.2	180.0
14	Pos. 2 Chest Y	Gs	3.0	60.5	-12.9	103.8	180.0
15	Pos. 2 Chest Z	Gs	48.1	77.0	-10.6	57.4	180.0
16	Pos. 2 Right Femur	lbs	73.1	232.3	-1518.4	53.4	600.0
17	Pos. 1 Head Resultant	Gs	50.1	81.5	.0	-2.4	1000.0
18	Pos. 1 Chest Resultant	Gs	55.3	88.2	.0	-28.9	180.0
19	Pos. 2 Head Resultant	Gs	58.2	87.8	.0	16.1	1000.0
20	Pos. 2 Chest Resultant	Gs	52.8	77.0	.0	-20.6	180.0

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

hic: 346.71
t1 = 69.600 msec
t2 = 105.480 msec
Average G's Over Hic Duration = 39.27

CLIP SUMMARY: Pos. 1 Chest Resultant

Peak Resultant (3 ms CLIPPED DURATION) = 53.919 G's
Tstart = 85.5600 ms
Tend = 88.5600 ms
CSI = 472.111

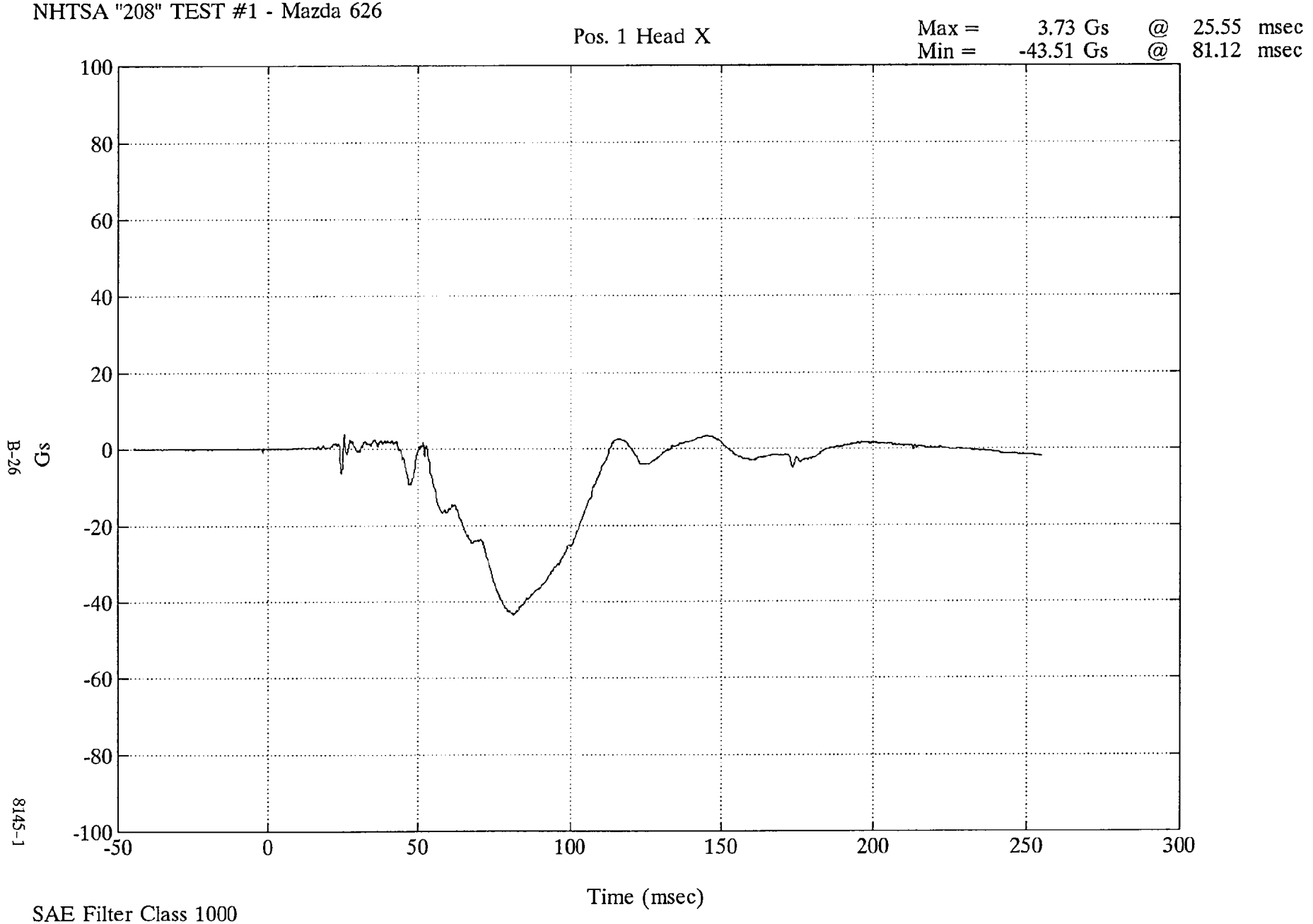
36 ms Fixed Duration HIC SUMMARY: Pos. 2 Head Resultant

hic: 186.35
t1 = 75.840 msec
t2 = 104.880 msec
Average G's Over Hic Duration = 33.34

CLIP SUMMARY: Pos. 2 Chest Resultant

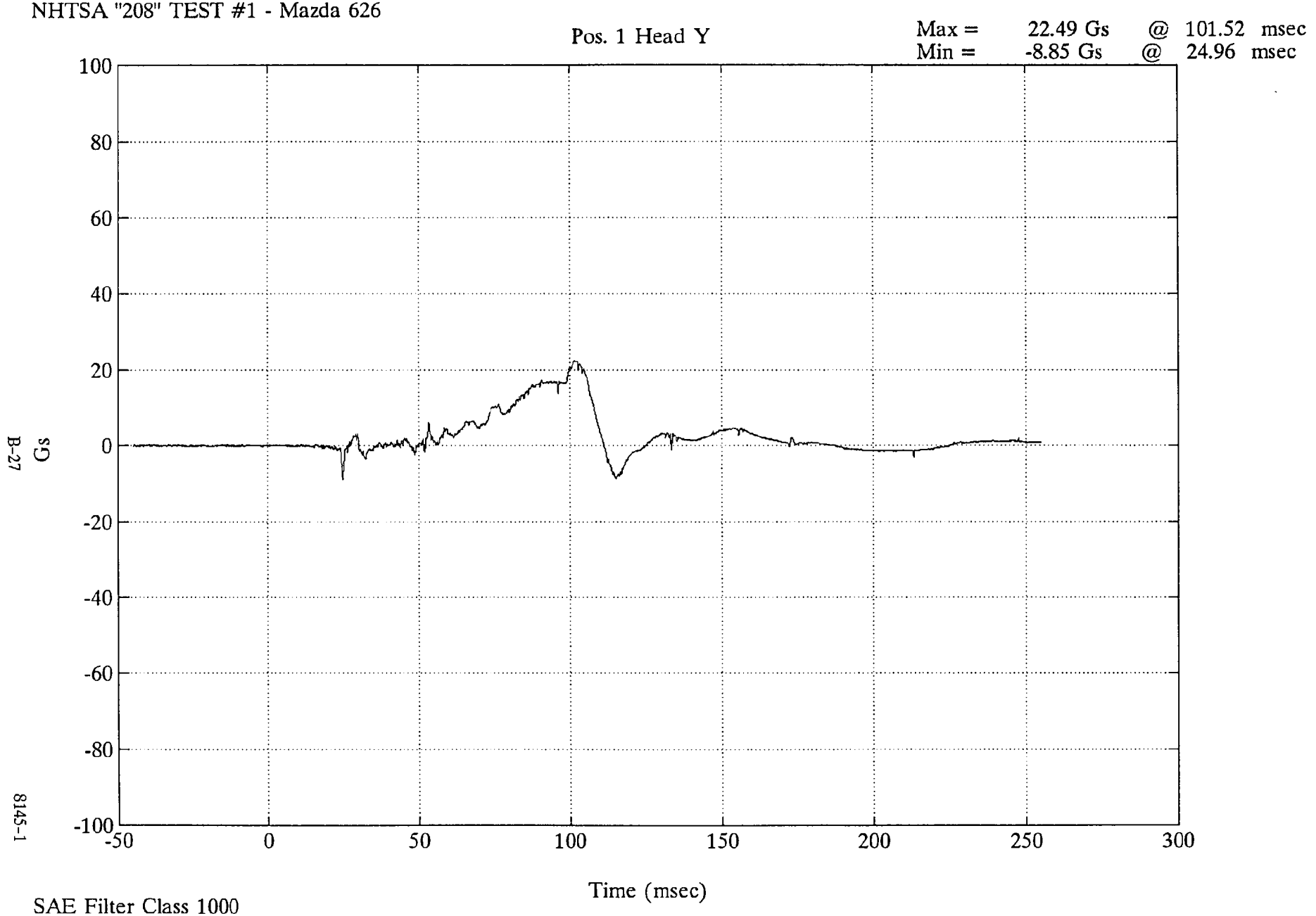
Peak Resultant (3 ms CLIPPED DURATION) = 34.777 G's
Tstart = 85.3200 ms
Tend = 88.4400 ms
CSI = 211.857

NHTSA "208" TEST #1 - Mazda 626



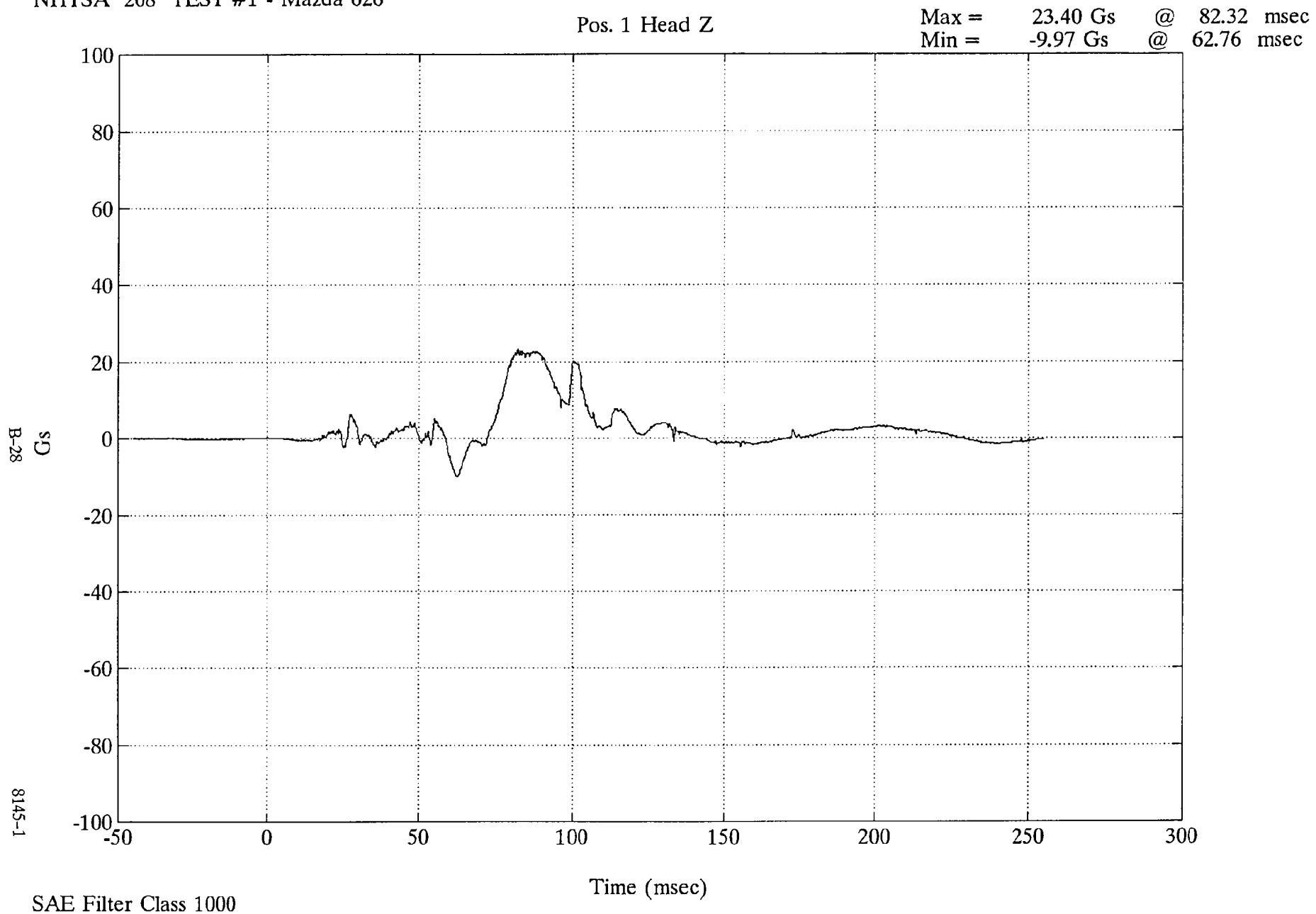
SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626



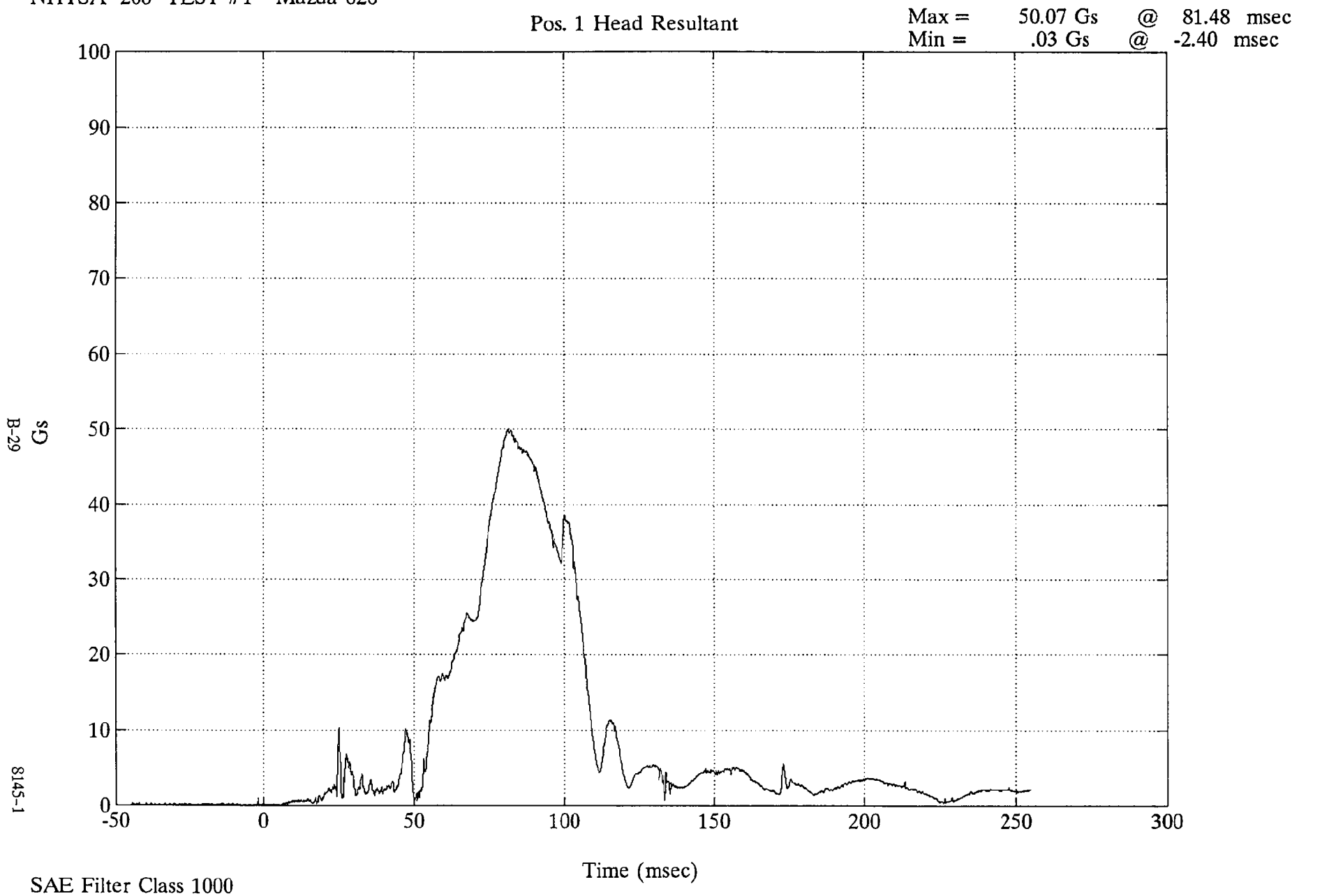
SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626



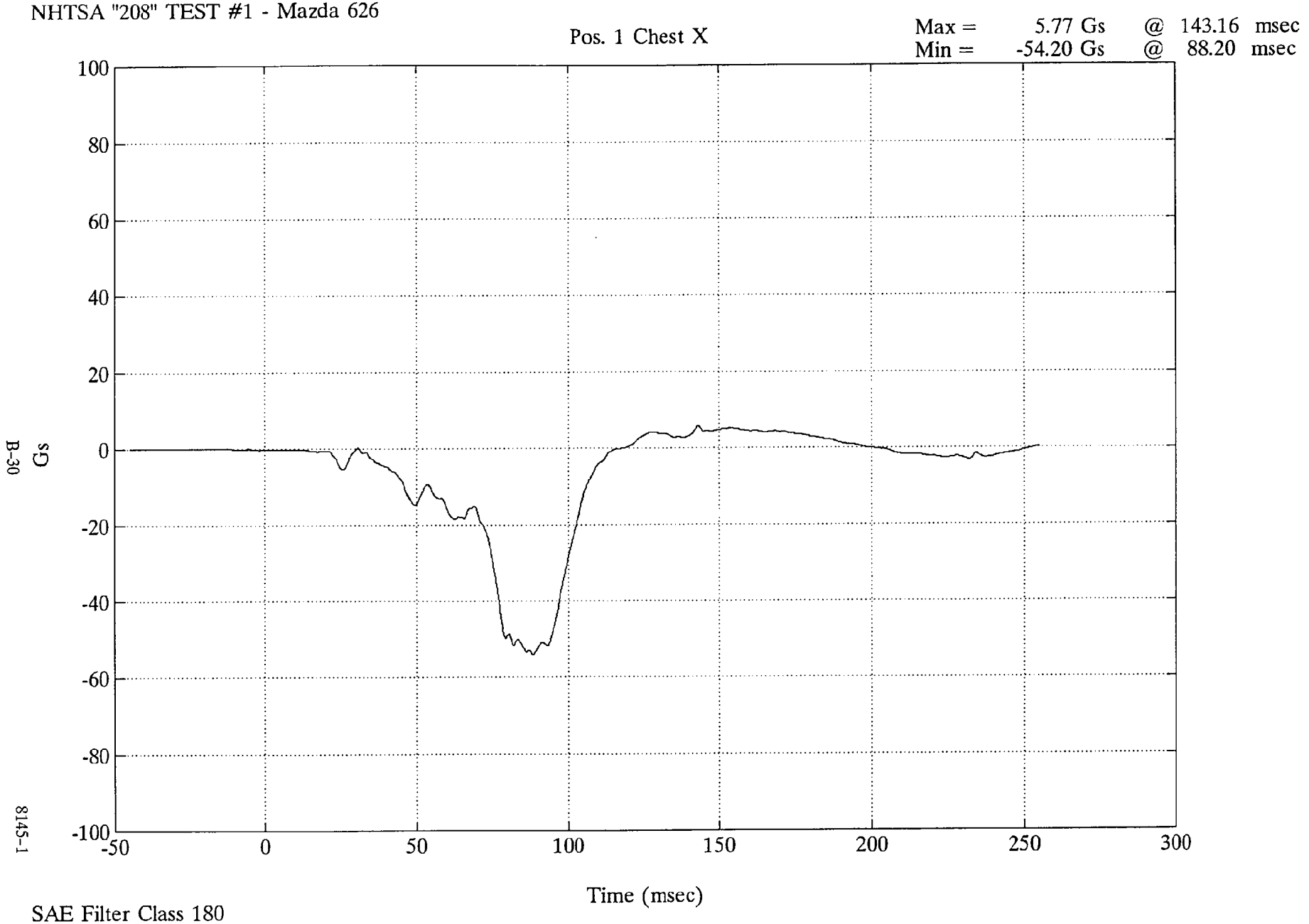
SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626



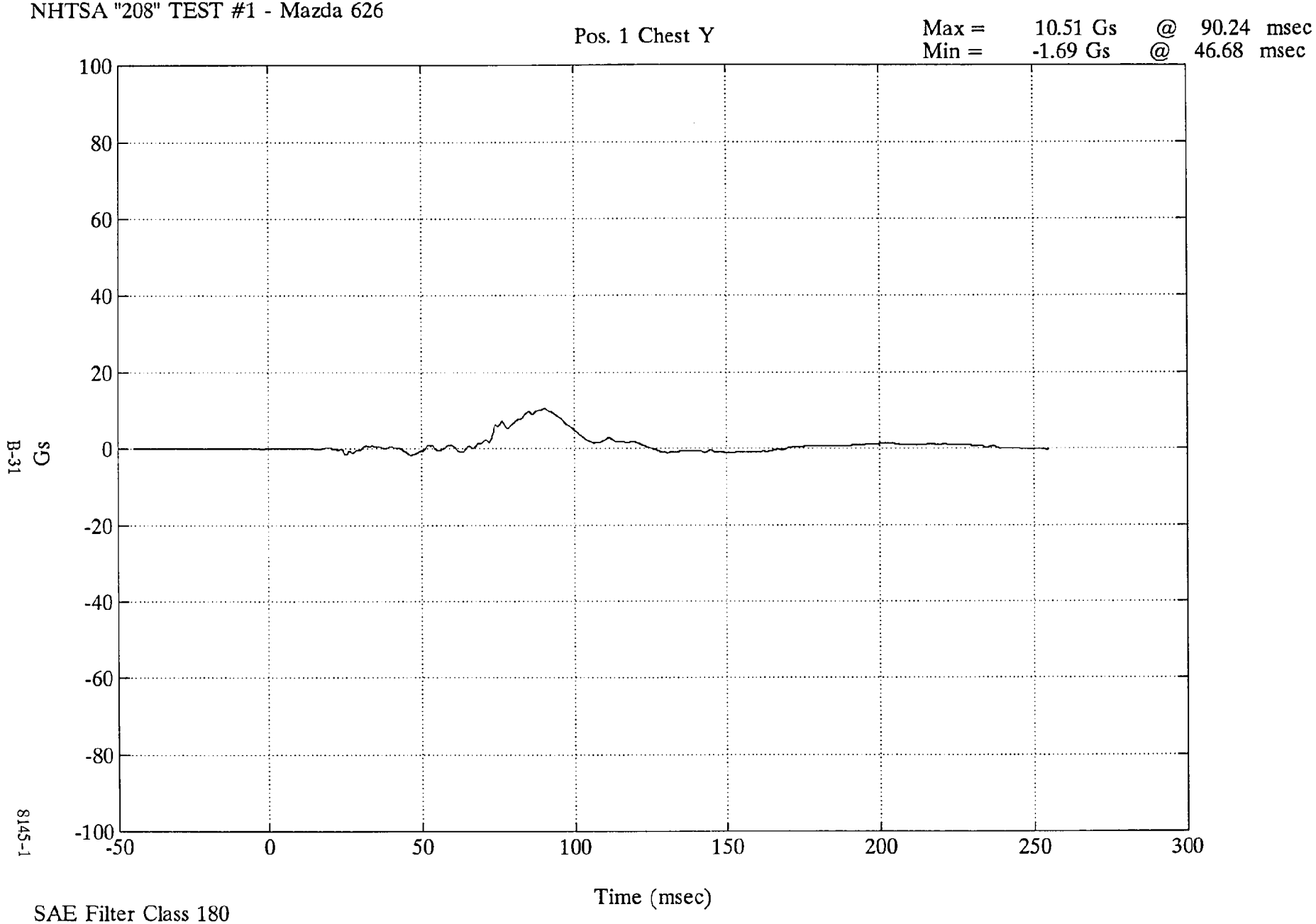
SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626



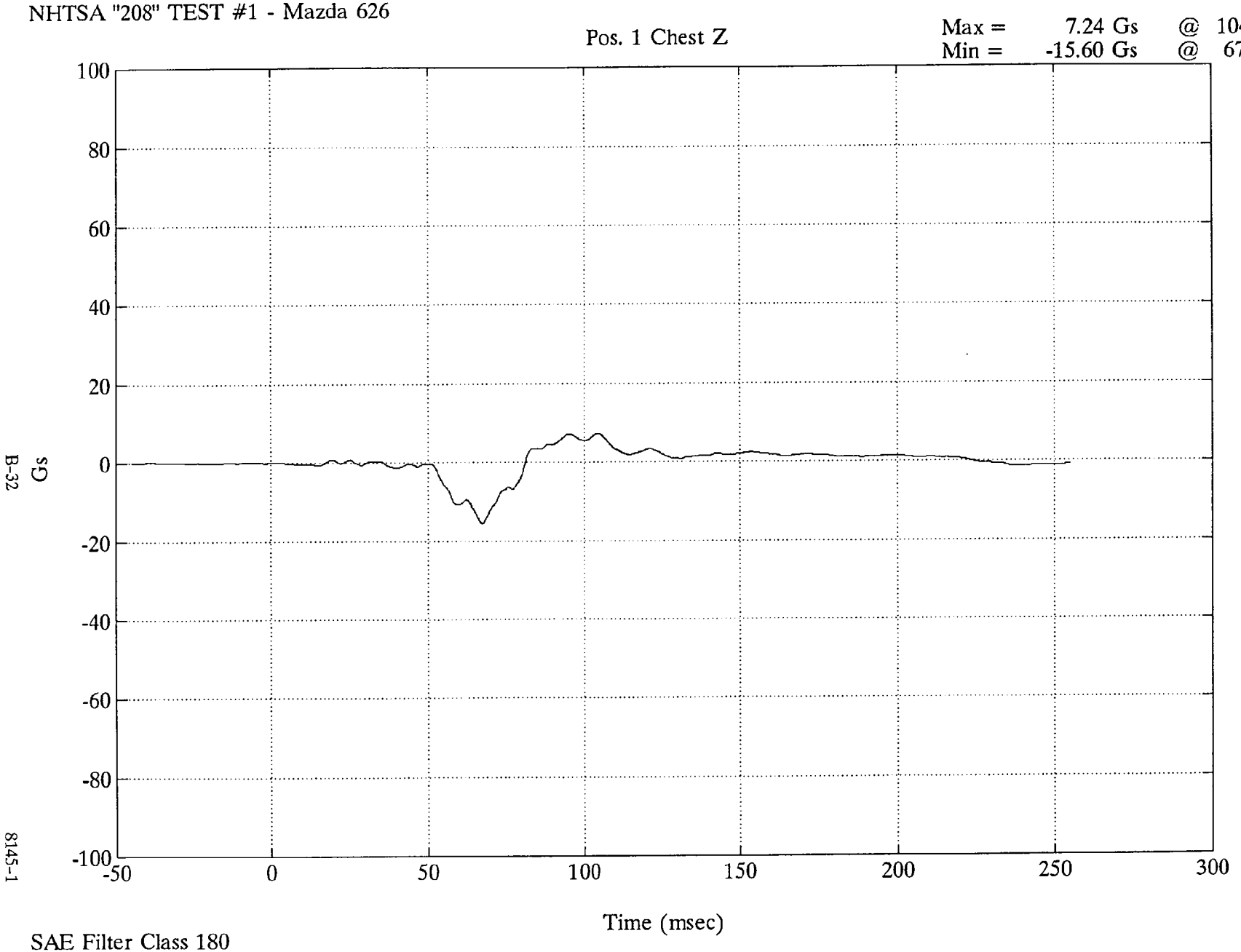
SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626



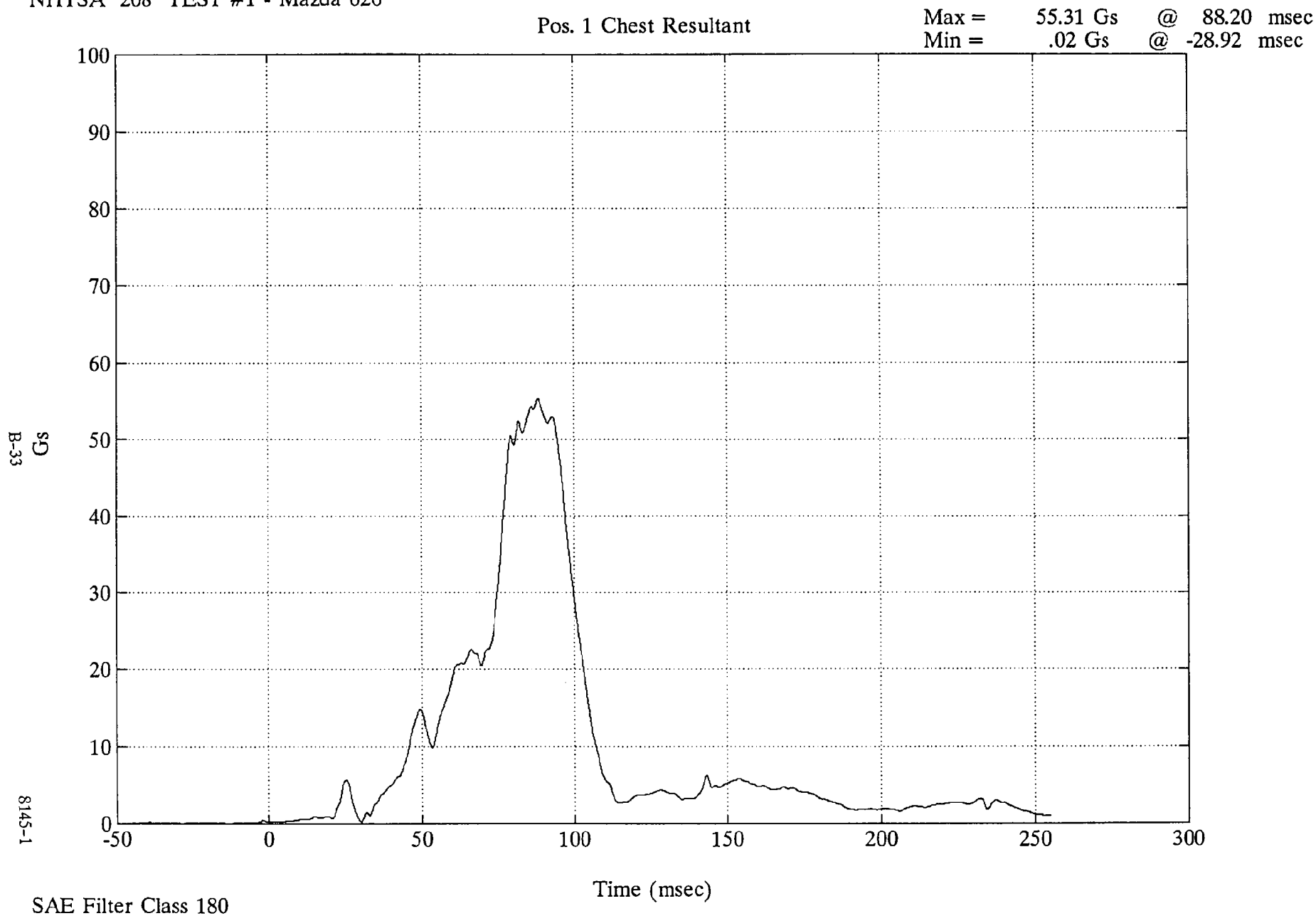
SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626



SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626

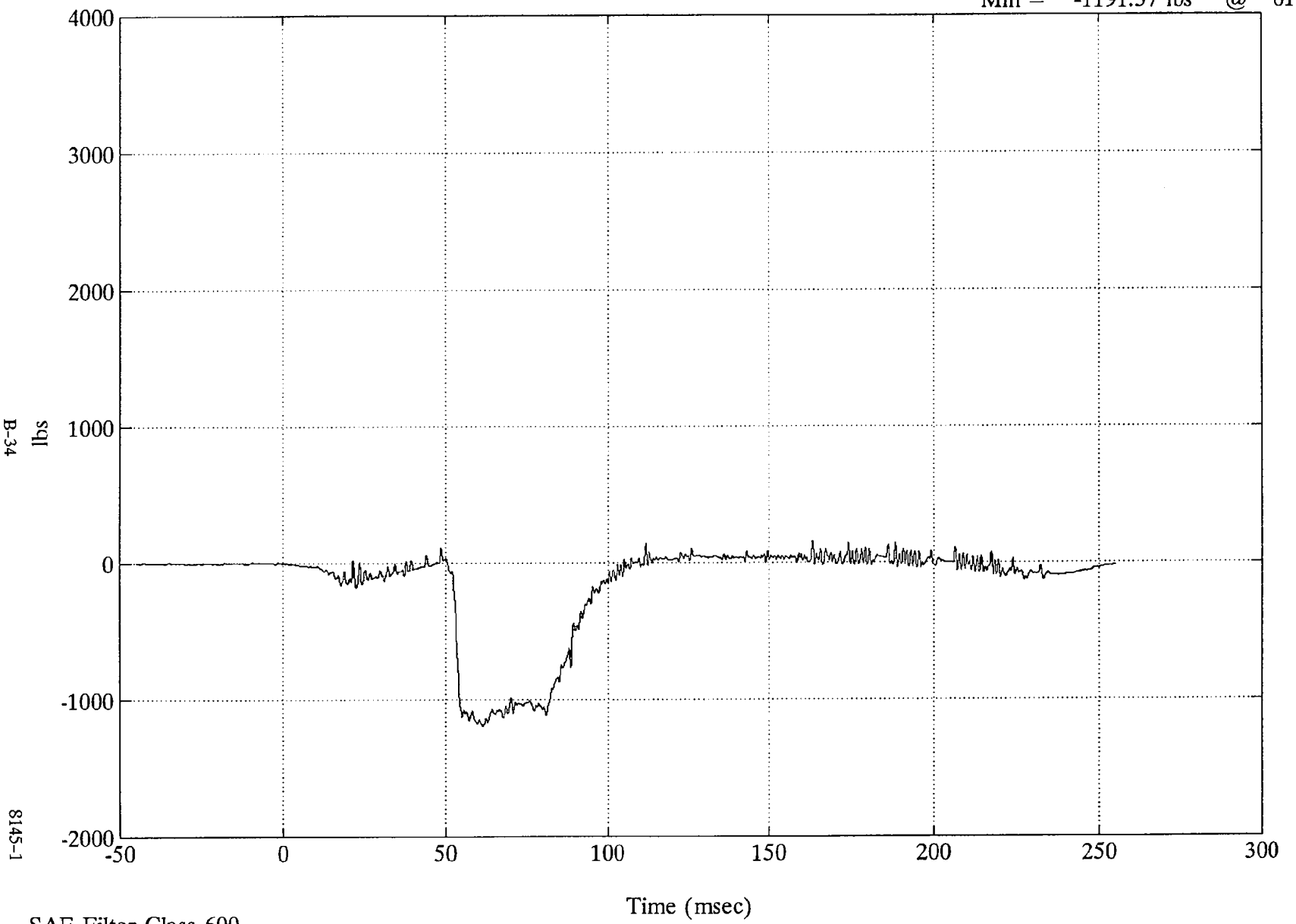


SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626

Pos. 1 Left Femur

Max = 156.48 lbs @ 163.55 msec
Min = -1191.37 lbs @ 61.31 msec



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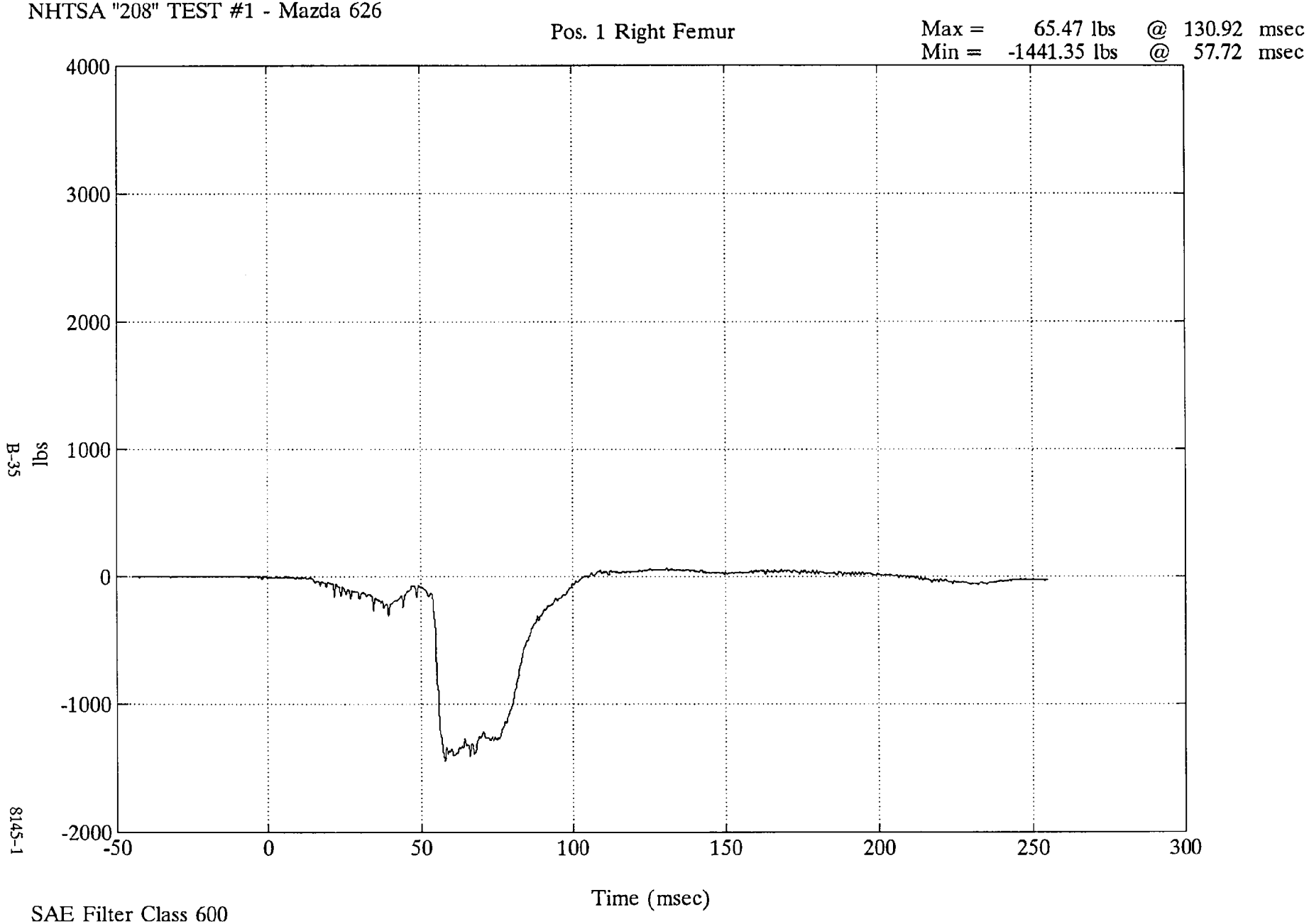
8145-1

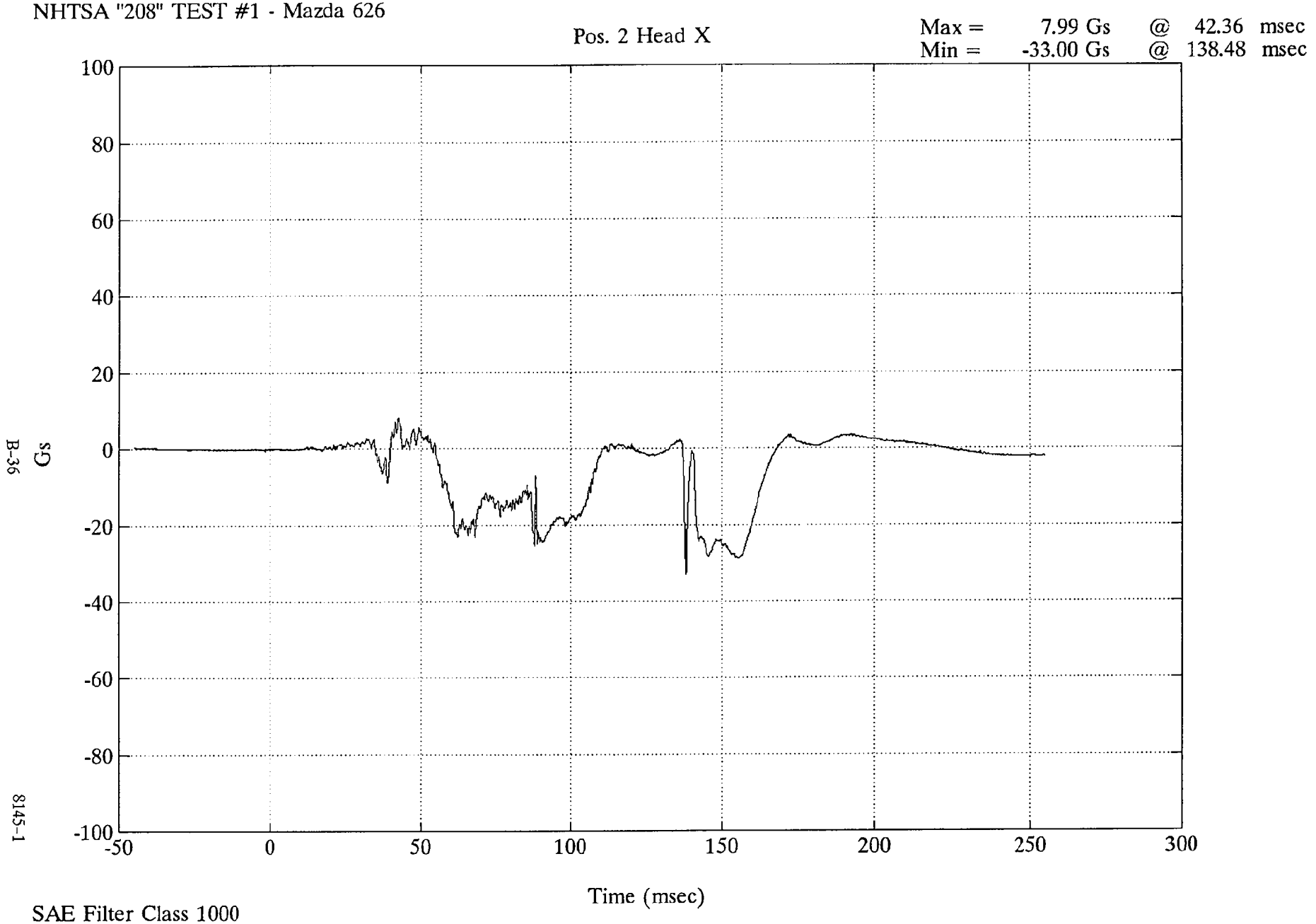
SAE Filter Class 600

NHTSA "208" TEST #1 - Mazda 626



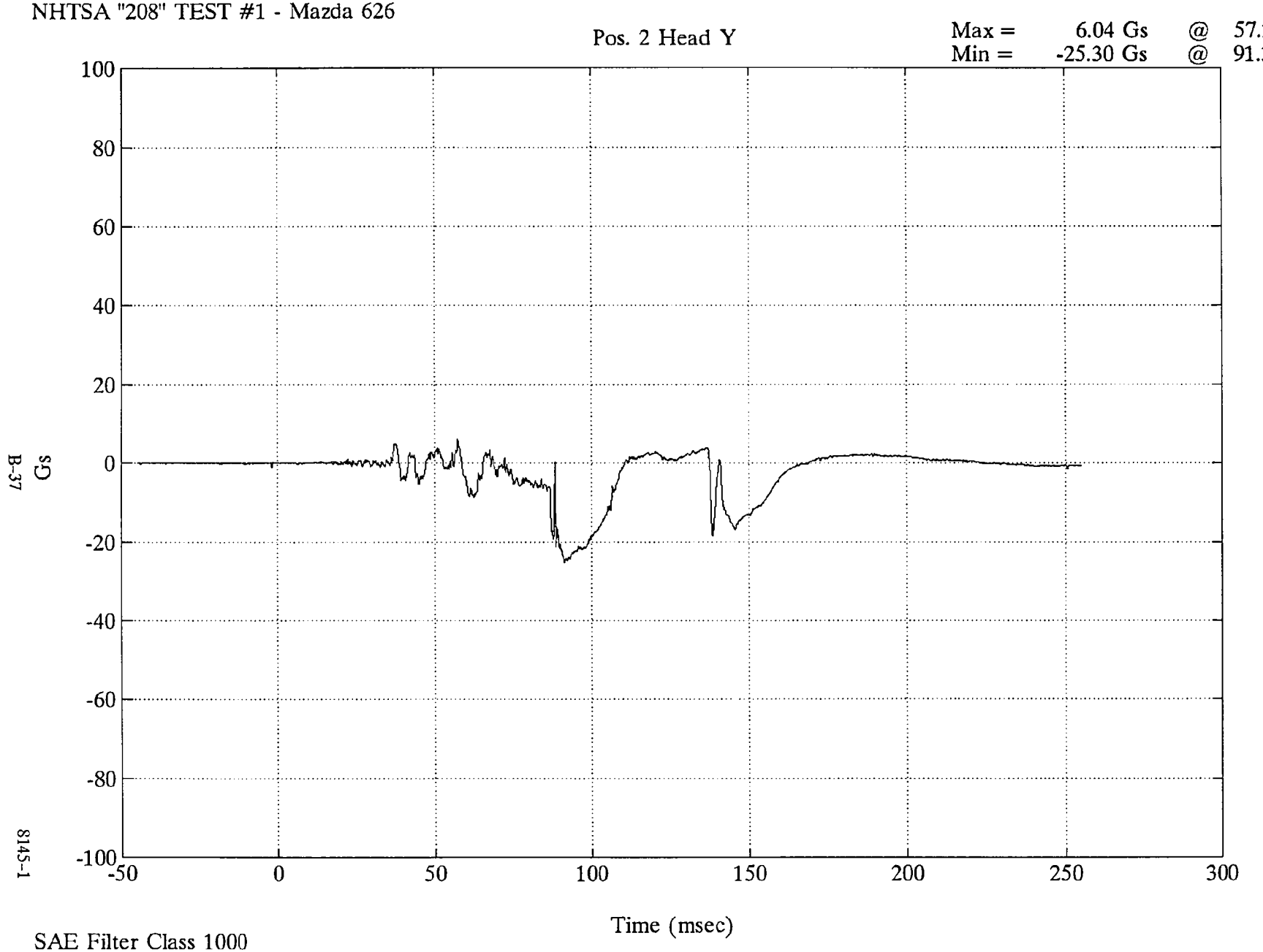
SAE Filter Class 600

NHTSA "208" TEST #1 - Mazda 626



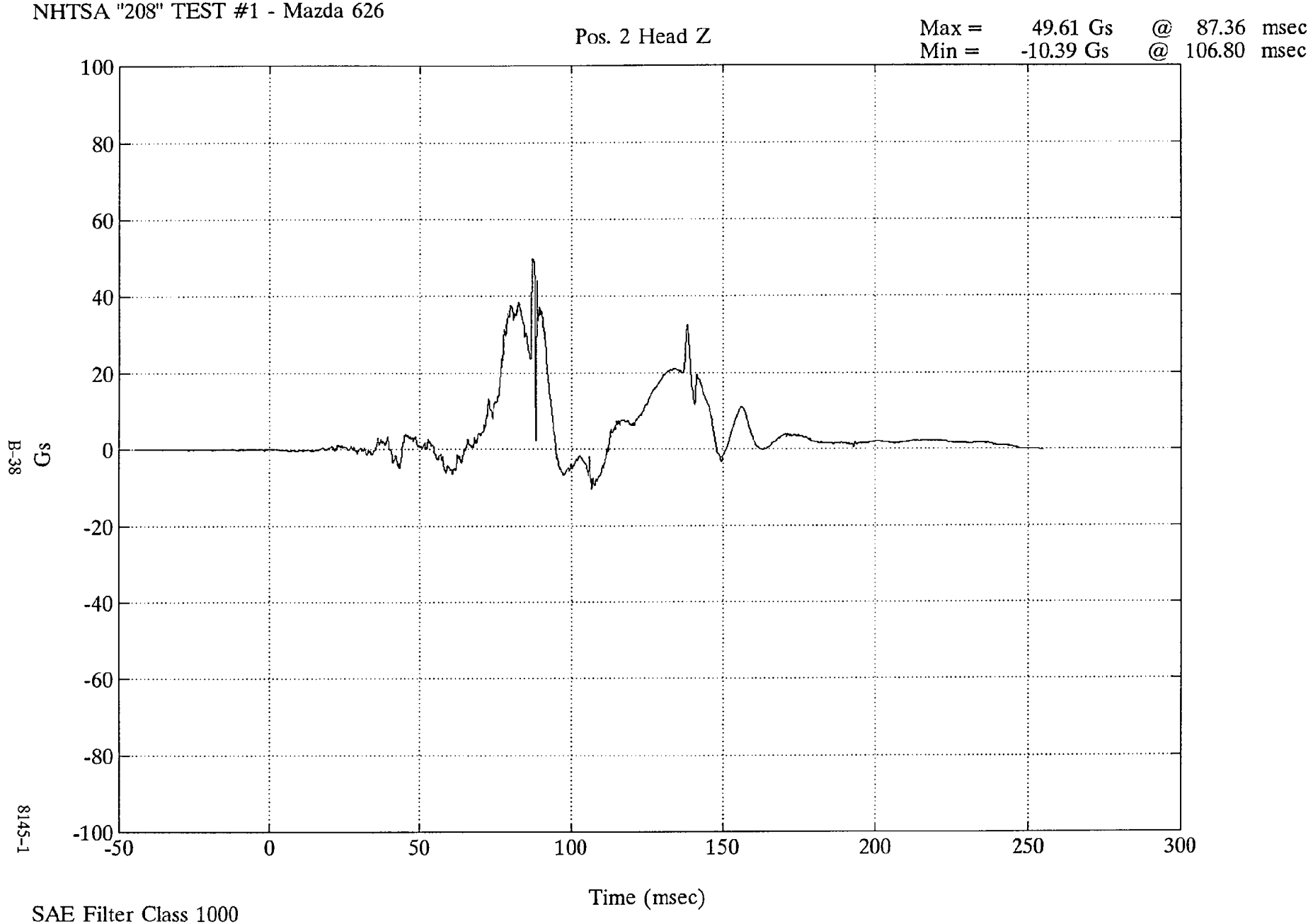
SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626



SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626



B-38

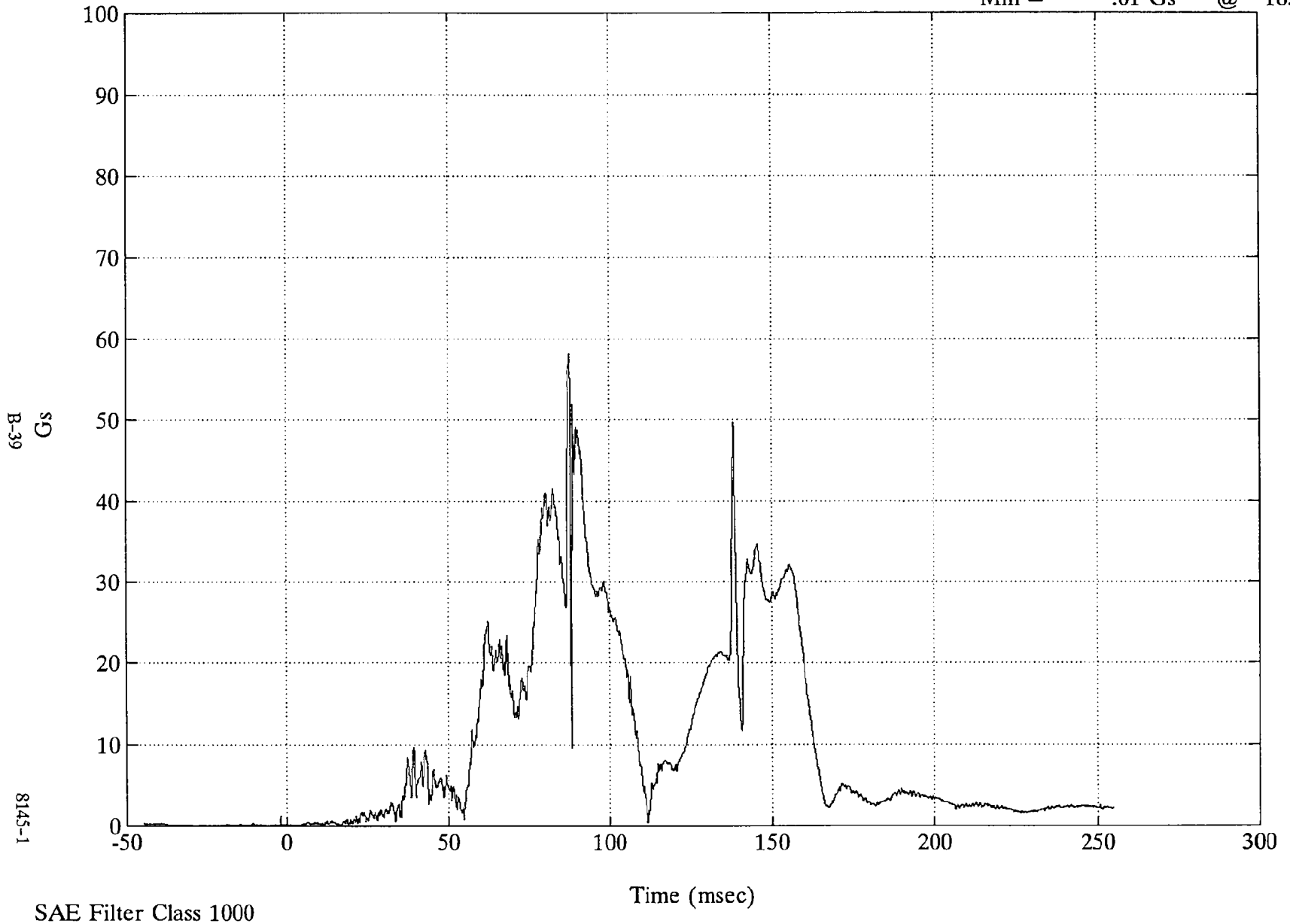
8145-1

SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626

Pos. 2 Head Resultant

Max = 58.18 Gs @ 87.83 msec
Min = .01 Gs @ 16.07 msec

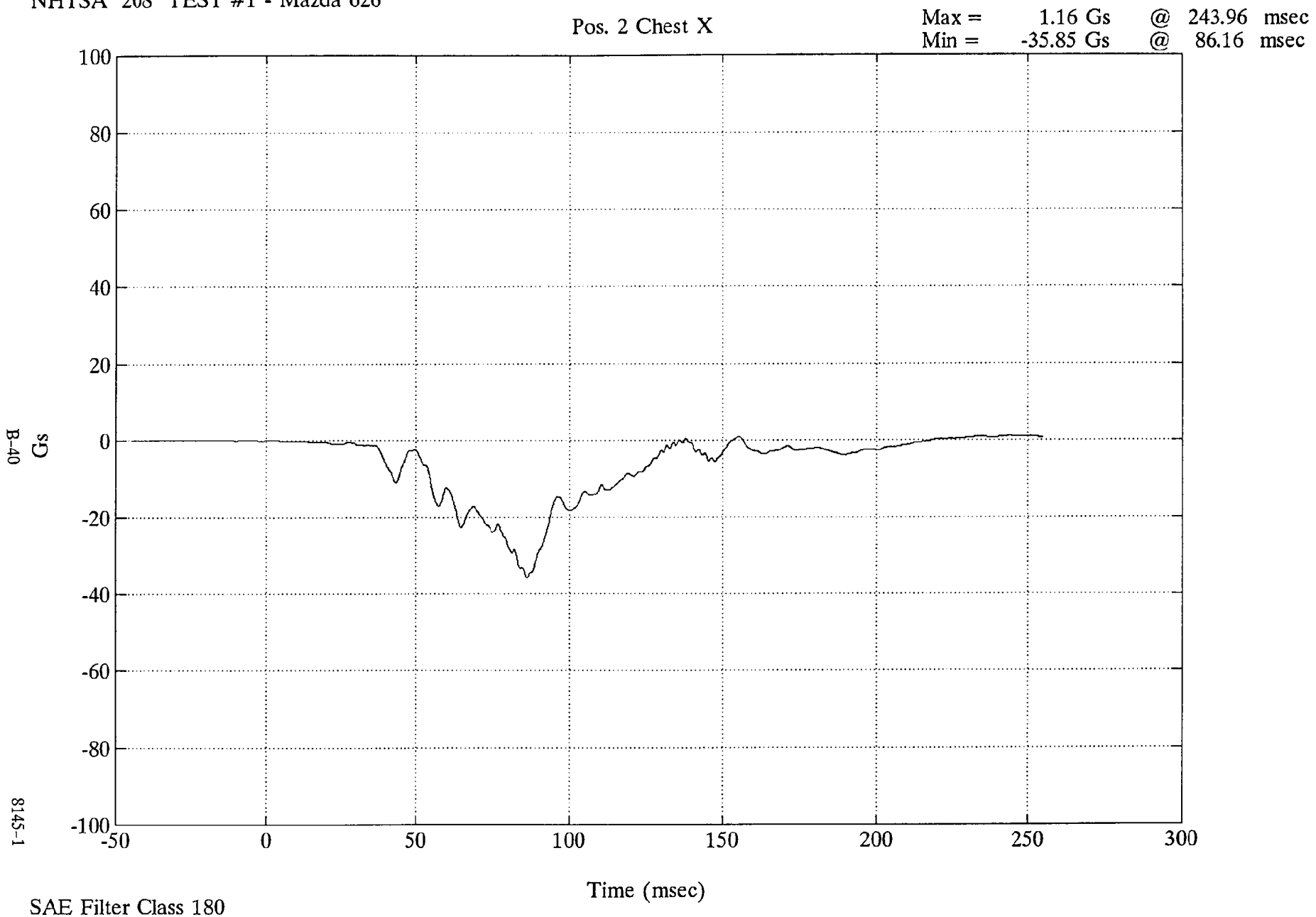


B-39

8145-1

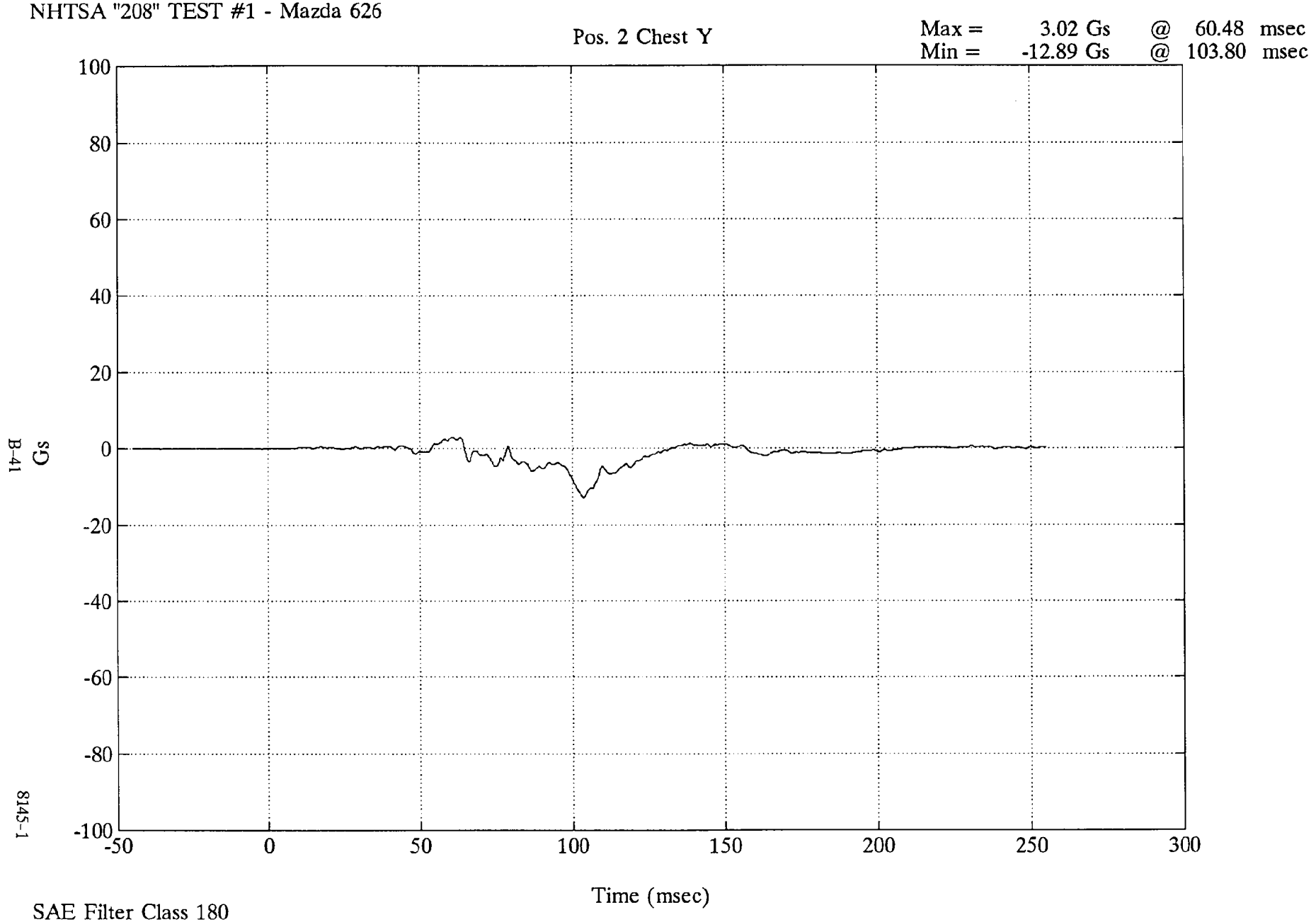
SAE Filter Class 1000

NHTSA "208" TEST #1 - Mazda 626



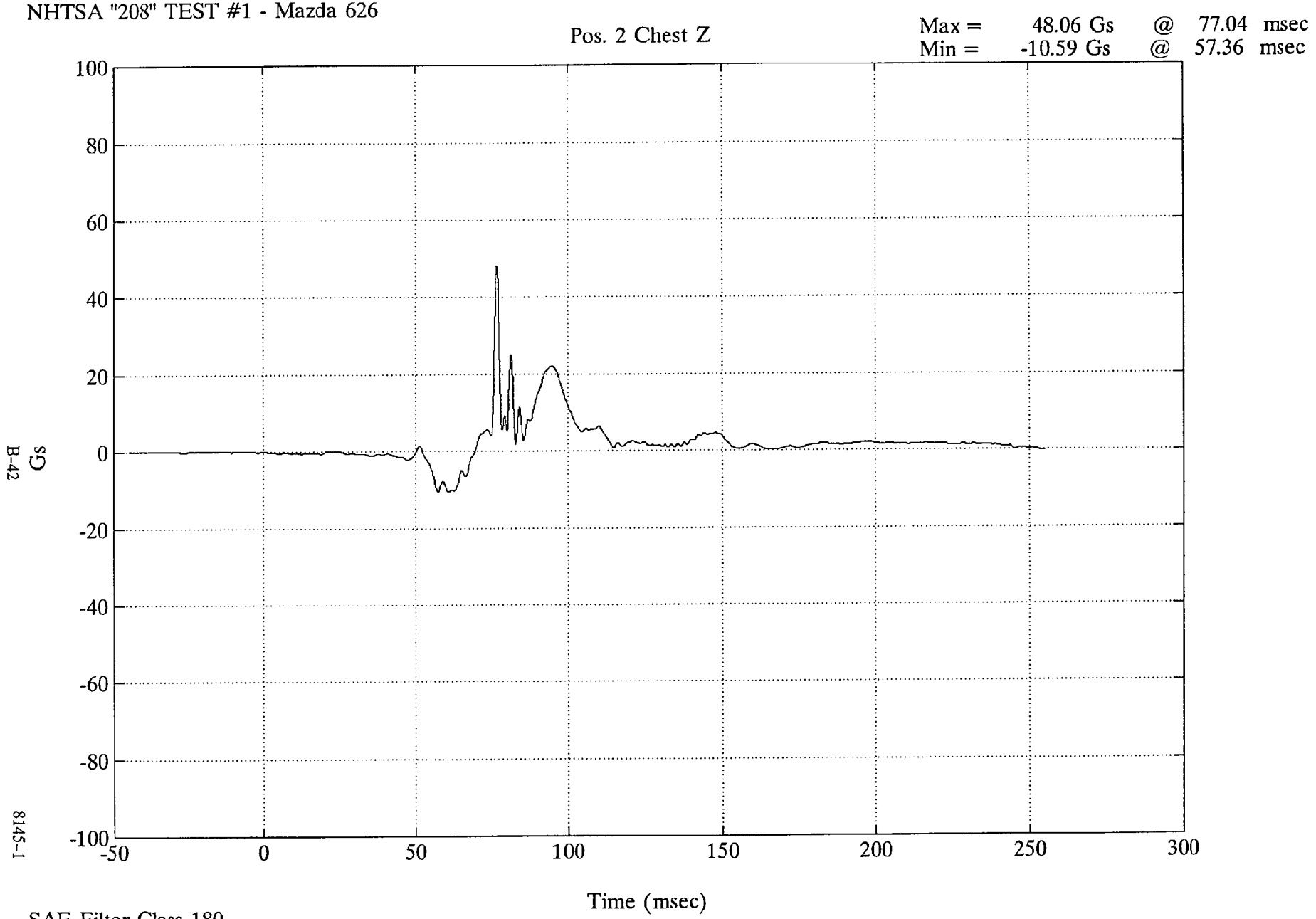
SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626



SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626

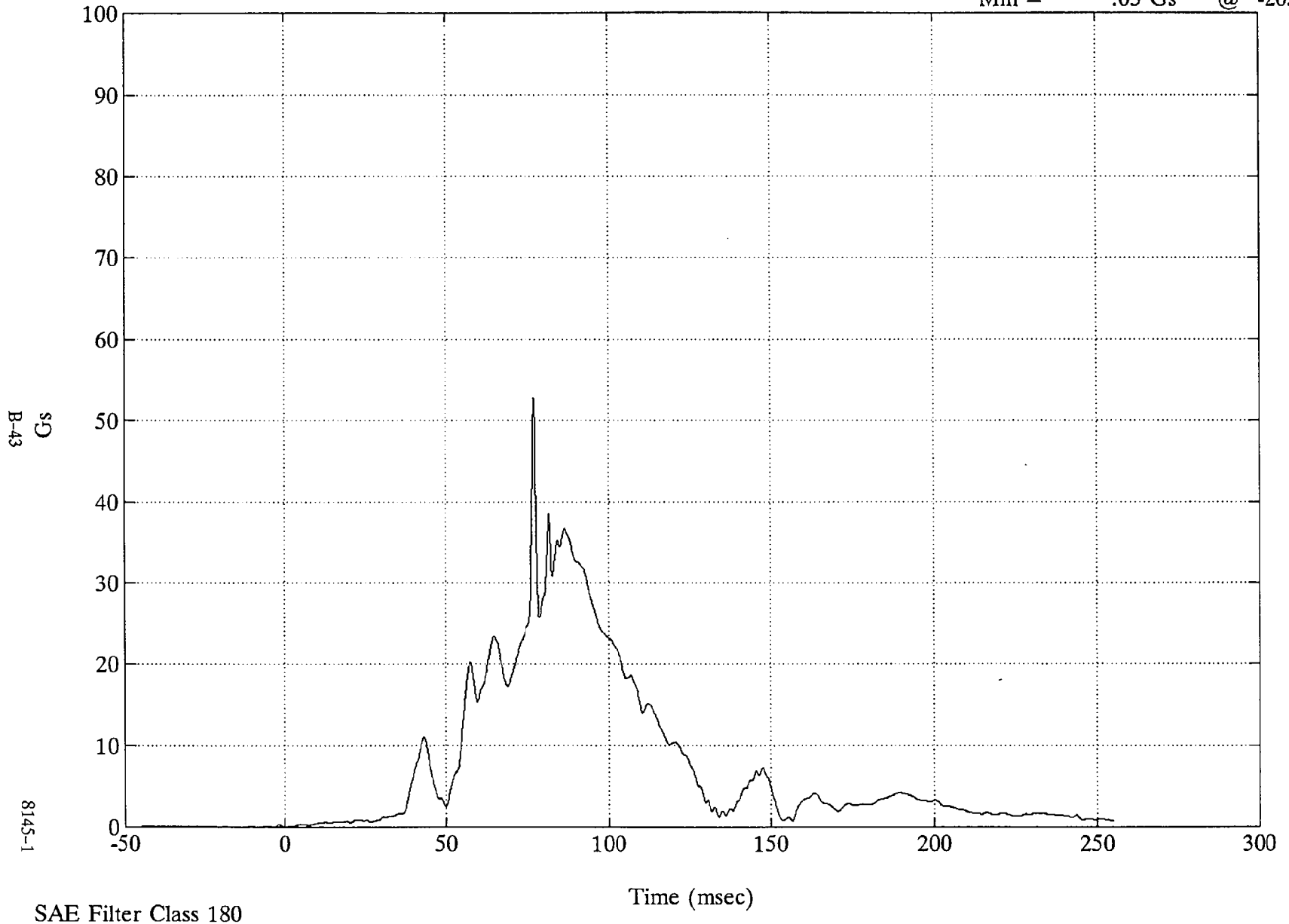


SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626

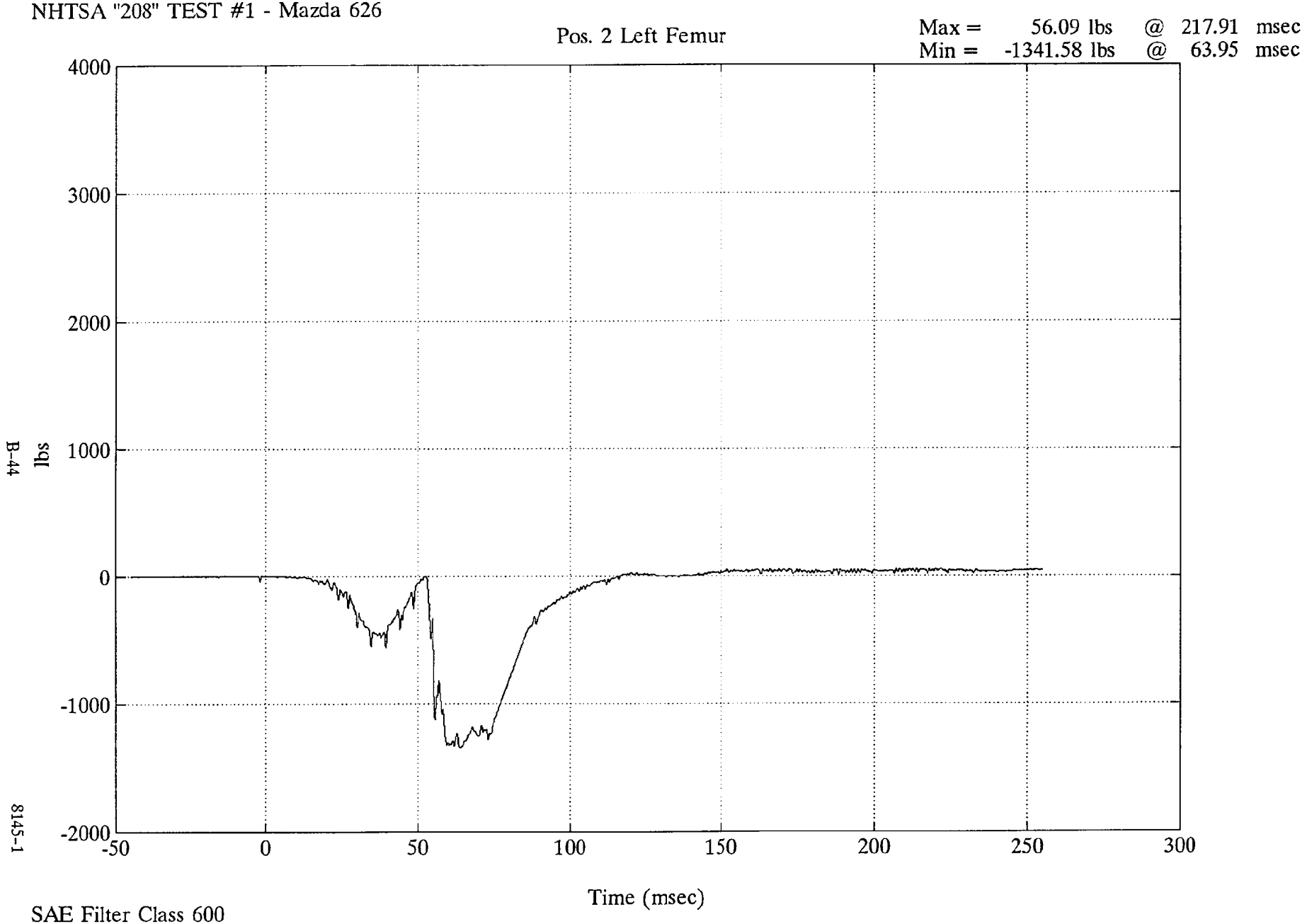
Pos. 2 Chest Resultant

Max = 52.84 Gs @ 77.04 msec
Min = .03 Gs @ -20.64 msec



SAE Filter Class 180

NHTSA "208" TEST #1 - Mazda 626

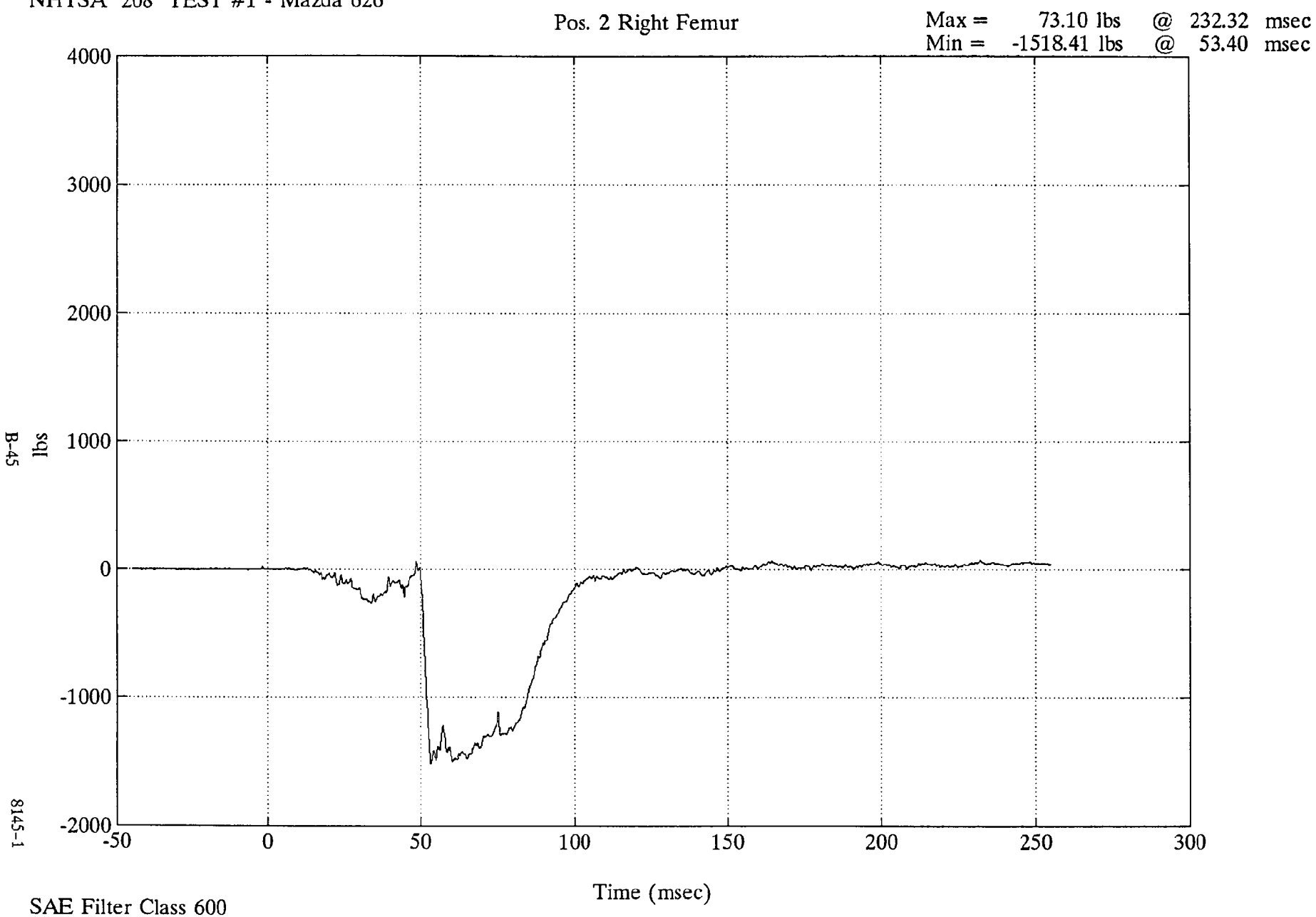


B-44

8145-1

SAE Filter Class 600

NHTSA "208" TEST #1 - Mazda 626



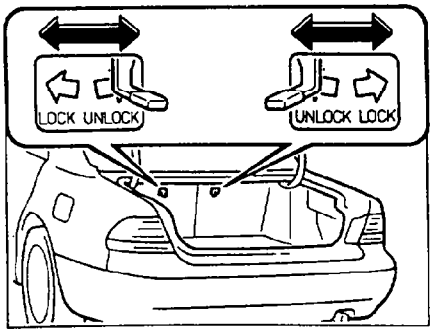
SAE Filter Class 600

Appendix C

VEHICLE OWNERS MANUAL OCCUPANT RESTRAINT SYSTEM INSTRUCTIONS

⚠WARNING

Folding Rear Seat Latch:
The folding rear seat cannot be unlatched from inside the trunk. If children playing with the folded seat backs should climb inside the trunk and close the backs, they would be locked in the trunk. Keep children away from folded seat backs.



■ Rear Seat Back Lock

To lock or unlock a seat back, move the lever.

If you must leave your Mazda with another person, such as a parking attendant, protect valuables in the trunk by locking the rear seat backs and trunk. Give the other person only the secondary key, which does not open the trunk.

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

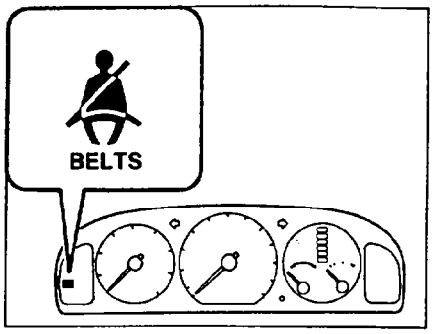
Damaged Seat Belts:
An accident can damage a seat belt in use. The belt webbing can be weakened and retractors and anchors can be bent or broken. Therefore a damaged seat belt may not provide adequate protection in a collision. Have a professional inspect all seat belt systems in use during an accident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

⚠WARNING

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.

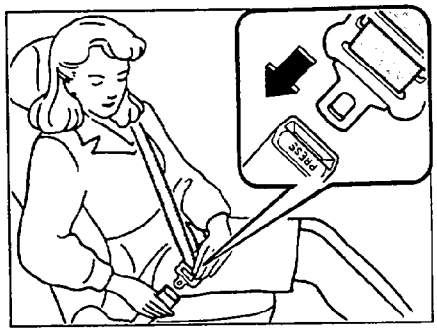
⚠WARNING

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.



■ 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 4-25).



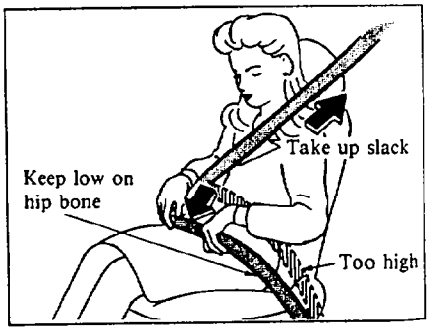
■ Front Seat Belts

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.

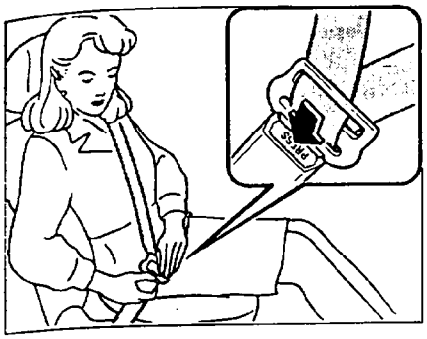
⚠WARNING

Wearing the Shoulder Belt:
An improperly worn shoulder belt can be dangerous. In a collision, a shoulder belt worn under the arm will transfer the full force of impact to the ribs and cause serious injury. A shoulder belt worn behind the neck and over the inside shoulder provides no protection. Never wear a shoulder belt under the arm or place it behind the neck and over the inside shoulder.



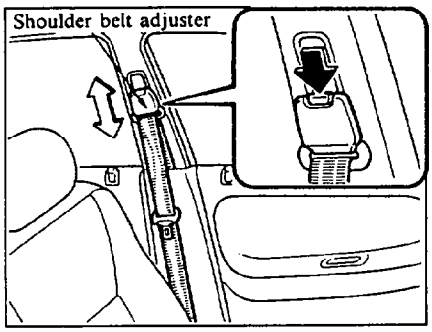
⚠WARNING

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.



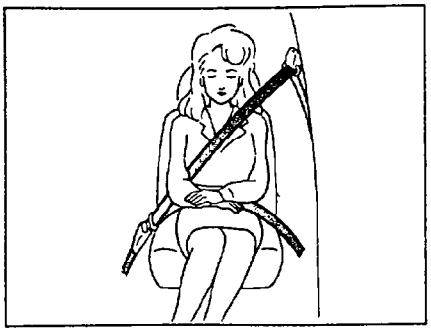
To unfasten:

Depress the buckle release.



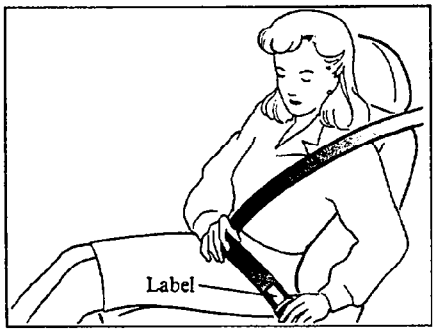
▼ Shoulder belt adjuster

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

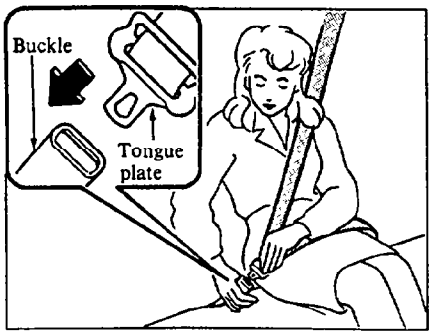


■ Seat Belt Caution Label

A caution label is inside the sleeve of each 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.

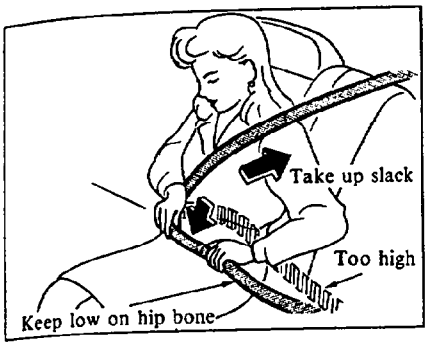
NOTE

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

⚠ *WARNING*

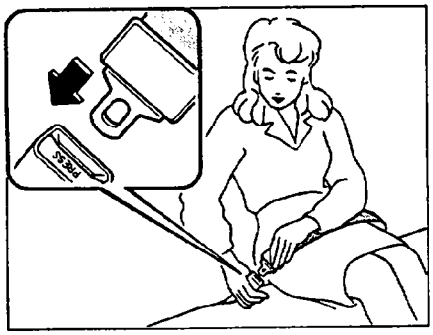
Wearing the Shoulder Belt:

An improperly worn shoulder belt can be dangerous. In a collision, a shoulder belt worn under the arm will transfer the full force of impact to the ribs and cause serious injury. A shoulder belt worn behind the neck and over the inside shoulder provides no protection. Never wear a shoulder belt under the arm or place it behind the neck and over the inside shoulder.



⚠WARNING

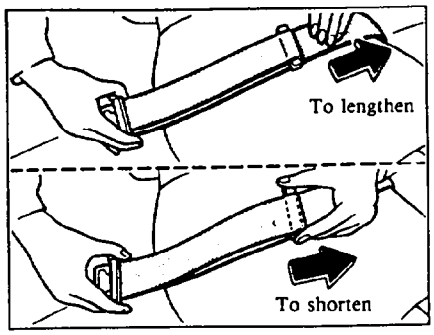
Wearing the Lap Belt:
A lap belt worn too high can be dangerous. In a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap belt snugly and as low as possible.



▼ **Lap belt**

To fasten:

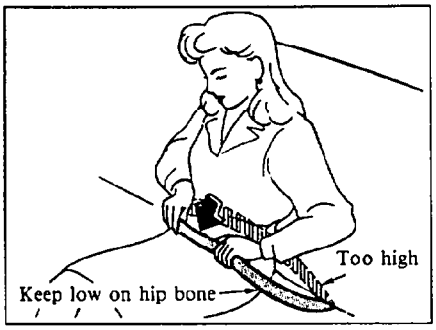
1. Pull the tongue to the desired length.
2. Insert it into the buckle until you hear a click.



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.



⚠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.

■ 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.

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.