V2709

REPORT NUMBER: CAL-98-08

NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

CHRYSLER CORPORATION
1998 DODGE NEON
4 DOOR SEDAN

NHTSA NUMBER: MW0300

CALSPAN TEST NUMBER: 8413-7

CALSPAN SRL CORPORATION
TRANSPORTATION SCIENCE CENTER
P.O. BOX 400
BUFFALO, NEW YORK 14225

October 24, 1997

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
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Washington, DC 20590

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FINAL REPORT ACCEPTANCE BY OCS:

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Manager, New Car Assessment Program (NCAP)
NHTSA, Office of Crashworthiness Standards

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NHTSA, Office of Crashworthiness Standards

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Date of Report Acceptance

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15. *Supplementary Notes*		

16. *Abstract*

A frontal barrier test of a 1998 Dodge Neon 4 Door Sedan was performed at Calspan SRL Corporation crash test facility in Buffalo, New York, on October 24, 1997.

The impact velocity was 56.3 kph and the temperature at the barrier face was 20°C. The maximum post-test vehicle crush was 585.0 mm. The test vehicle was equipped with a 3-point restraint system and supplemental airbags at each outboard seating position. This vehicle was equipped with dual front Next Generation depowered airbags.

With respect to FMVSS 208 "Occupant Crash Protection - Injury Criteria"both the driver and passenger appear to comply with head, chest and femur requirements.

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TABLE OF CONTENTS

Section 1

PURPOSE AND SUMMARY OF TEST MW0300

PURPOSE

This 56.3 kph frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-96-D-02010. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 48.3 kph requirements.

The 56.3 kph frontal barrier impact test was conducted in accordance with the Office of Market Incentives (OMI) Laboratory Indicant Test procedure.

SUMMARY

A frontal barrier consisting was impacted by a 1998 Dodge Neon 4 Door Sedan at a velocity of 56.3 kph. The test was performed at the Calspan SRL Corporation on October 24, 1997. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The frontal barrier impact event was documented by 1 real-time camera and 16 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

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

Both ATDs were fully instrumented with head, chest, and pelvis triaxial accelerometers, chest displacement potentiometers, upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 245) was used in two previous tests (MW0210 and MW0201) where it did not exceed FMVSS 208 injury criteria. The right-front passenger (position 2) ATD (Serial No. 150) was calibrated prior to this test. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 97 channels of data were recorded on a P.C. based data acquisition system. Appendix B contains the vehicle, load cell barrier and dummy response data traces. Load Cell Barrier data was not requested for this test.

The driver's HIC was 654.77. The maximum chest deceleration over 3 milliseconds was 56.536 g's and maximum chest deflection was 38.7 mm. Femur loads were -5305.0 Newtons on the left and -5351.3 Newtons on the right.

The right front passenger's HIC was 533.01. Maximum chest deceleration over 3 milliseconds was 50.305 g's and maximum chest deflection was 34.5 mm. Femur loads were -5566.3 Newtons on the left and -3238.6 Newtons on the right.

The vehicle's windshield was cracked throughout. The doors had to be pried open after the test due to bending in the lower sill and roof.

The vehicle bottom of engine accelerometer (#4) is not accurate after 40 ms. The left side disc brake caliper accelerometer (#5) is not accurate after 50 ms. Noise is present on position 2 neck between 62 and 75 ms possibly due to a loose connector. The passenger right ankle z data is not accurate after 60 ms.

SECTION 2

GENERAL TEST AND VEHICLE PARAMETER DATA

DATA SHEET NO. 1 CRASH TEST SUMMARY

Vehicle NHTSA No. : MW0300 Test Mode : 56 kph Frontal Barrier

Test Date : October 24, 1997 Time: 11:30 Temperature : 4.4 °C

Vehicle Make/Model/Body Style : 1998 Dodge Neon 4 Door Sedan

Vehicle Test Weight : 1342 kg

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.3 kph

Maximum Static Crush : 585.0 mm

Vehicle Rebound : 396.0 mm

DUMMIES:	DRIVER	PASSENGER
Type :	572E	572E
Restraint System :	Airbag, Seatbelt, Knee Bolster	Airbag, Seatbelt, Knee Bolster

Number of Data Channels : 97

Number of Cameras : 1 Real Time

16 High Speed

DOOR OPENING DATA : Closed/Inoperable - Left Front

Closed/Inoperable - Right Front

Front Seat(s) Data :	DRIVER	PASSENGER
Seat Track Failure :(mm of shift)	0	0
Seat Back Failure :	None	None

VISIBLE DUMMY CONTACT POINTS :	DRIVER	PASSENGER
Head :	Face to Airbag; Back of head to left (outboard) side of headrest	Face to Airbag; Back of head to right (outboard) side of headrest
Abdomen :	-	-
Chest	Airbag, Seatbelt	Airbag, Seatbelt
Knees	Knee Bolster	Knee Bolster

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1998 Dodge Neon 4 Door Sedan

NHTSA No. : MW0300 ; VIN: 1B3ES4769WD507540 ; Color : Green

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

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

Transmission Data : 3 speeds; - Manual; X 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; - Tilt Wheel

Date Received : 09/18/97 ; Odometer Reading 84 km

Selling Dealer : Northtown Dodge Inc.

& Address: 2020 Niagara Falls Boulevard Tonawanda, New York 14150-5599

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : Chrysler Corporation

Date of Manufacture 08/97

GVWR : 1569 kg; GAWR: 862 kg FRONT; 731 kg REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 220 kpa FRONT

220 kpa REAR

Recommended Tire Size : P185/65R14

* Recommended Cold Tire Pressure : 220 kpa FRONT; 220 kpa REAR

Size of Tires on Test Vehicle: P185/60R14 ; Manufacturer: Goodyear

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) = 392 kg

No. of Occupants x 68 kg = 340 kg

Rated Cargo/Luggage Weight (RCLW) = 52 kg

*Tire pressure used for test

DATA SHEET NO. 2 GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

WEIGHT OF TEST VEHICLE AS RECEIVED FROM DEALER (with maximum fluids)= UDW:

Right Front	=	353.5 kg	Right Rear	=	209.5 kg
Left Front	=	375.0 kg	Left Rear	=	205.0 kg
TOTAL FRONT	=	728.5 kg	TOTAL REAR	=	414.5 kg

TOTAL DELIVERED WEIGHT = 1,143.0 kg

% of Total Front of Vehicle Weight = 63.7 % of Total Rear Weight = 36.3 %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	1,143.0 kg
Rated Cargo/Luggage Weight (RCLW)	=	52.0 kg
Weight of 2 p.572 Dummies @ 76 each	=	152 kg
TARGET TEST WEIGHT	=	1,347.0 kg

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 47 KG OF CARGO WEIGHT:

Right Front	=	394.0 kg	Right Rear	=	259.0 kg
Left Front	=	418.0 kg	Left Rear	=	271.0 kg
TOTAL FRONT	=	812.0 kg	TOTAL REAR	=	530.0 kg

TOTAL TEST WEIGHT = 1,342.0 kg

% of Total Front Weight = 60.5 % % of Total Rear Weight = 39.5 %

Weight of Ballast Secured in Vehicle Trunk Area = 0 kg

Vehicle Components Removed for Weight Reduction: Trunk Lid and Hinges, Muffler, Tail Lights, Side Mirrors, Rear Door Skins, Rear Bumper

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	663	LF	663	RR	682	LR 676
FULLY LOADED :	RF	651	LF	652	RR	657	LR 650
AS TESTED :	RF	657	LF	655	RR	660	LR 655

Vehicle's Wheel Base : 2635 mm

Location of Vehicle's C.G. : 1,040.6 mm rearward of front wheel center.

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual = 47.3 liters

Usable Capacity Figure Furnished by COTR = 47.3 liters

Test Volume Range (92 to 94% of Usable Capacity) = 43.0 to 44.5 liters

ACTUAL TEST VOLUME= 43.5 liters (with entire fuel system filled)

Test Fluid Type: Stoddard Solution ; Spec. Grav. = 0.764

Kinematic Viscosity = 0.96 centistokes; Color = Orange

Type of Fuel Pump: Electric- X ; Mechanical- -

Does Electric Pump operate with ignition switch "ON" & engine "OFF" Yes- X No- -

Details of Fuel System Filler - Right Side; Tank - Center, Ahead of rear axle; Lines - Right Frame Rail

DATA SHEET NO. 3 POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°

Test Date : October 24, 1997 Time: 11:30 Temperature: 4.4 °C

Vehicle NHTSA No. : MW0300

Required Impact Velocity Range : 55.7 to 57.1 kph

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

Trap No. 1 = 56.3 kph; Trap No. 2 = 56.3 kph

Distance from vehicle to barrier : (1) entering trap = 1321 mm

(2) exiting trap = 305 mm

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

Vehicle Length:

Pre-Test	Right =	4280	; C/L =	4355	; Left =	4285	
Post-Test	Right =	3785	; C/L =	3770	; Left =	3795	
Crush	Right =	495.0	; C/L =	585.0	; Left =	490.0	
AVERAGE	=	523.3	mm				

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

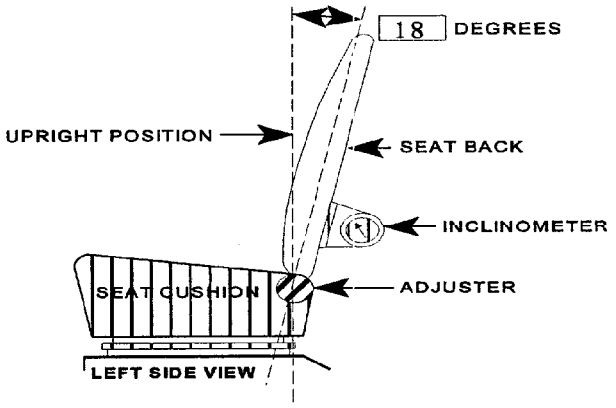
	Right =	380	; C/L =	398	; Left =	410	
AVERAGE	=	396.0	mm				

DATA SHEET NO. 4 TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1998 Vehicle Model: Dodge Neon Body Style : 4 Door Sedan

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



FRONT SEAT ASSEMBLY

Seat back angle for driver's seat : 18°

Measurement instructions : No Dummy in seat. Slide seat forward and remove recliner shield. Put seatback in full upright position. Insert a 6 mm pin in gage hole at the forward edge of the recliner mechanism. Rotate seatback until selector gear touches pin.

Seat back angle for passenger's seat : 18°

Measurement instructions : Same as driver's seat.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : Front seats are adjusted to the mid-track fore-aft location. Seat tracks are numbered from 0 to 22, position 11 is mid-position. The seat was placed at mid-position

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

3. Fuel Tank Capacity Data

3.1

A. "Usable Capacity" of the standard equipment fuel tank is 47.3 liters

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

C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = 47.3 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 43.9 liters

3.3 Is vehicle equipped with electric fuel pump? Yes- X ; No- -

If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

The pump operates when the vehicle ignition is turned on.

4. STEERING COLUMN ADJUSTMENTS :

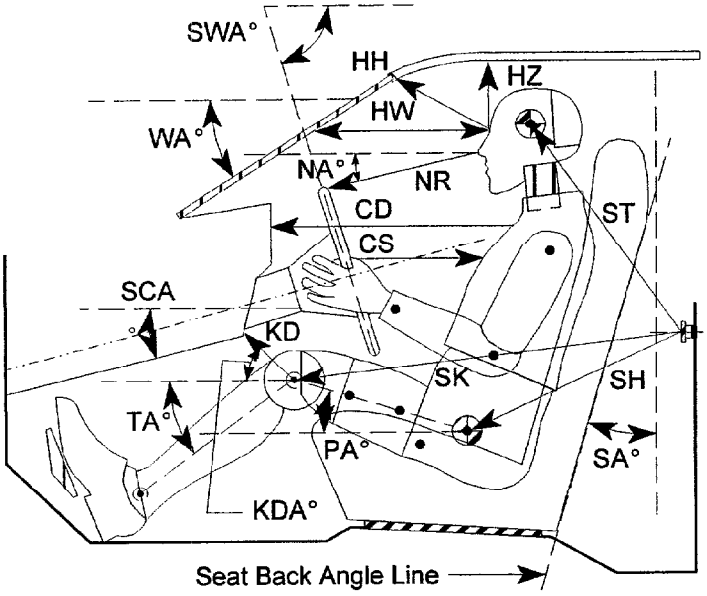
Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when it is moved through its full range of driving positions. If the tested vehicle has any of these adjustments, does your company use any specific procedures to determine the geometric center.

Operational Instructions: This vehicle was not equipped with a tilt steering column.

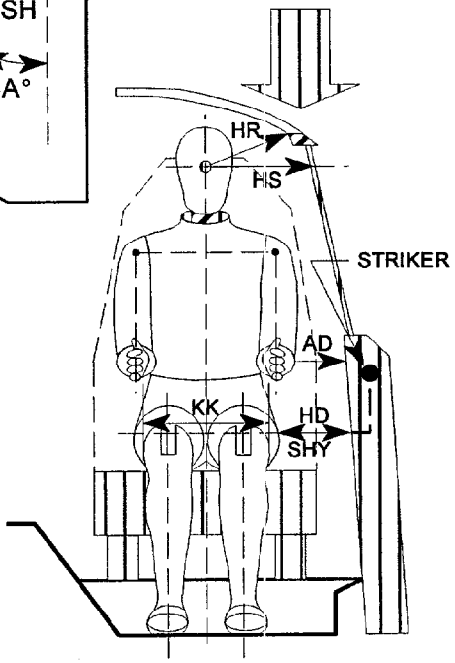
5. SEAT BELT UPPER ANCHORAGE

Nominal design riding position: The anchorage has six different adjustments 20 mm apart on the four door models. The highest adjustment is considered location number one. The recommended location for the 50th percentile male at mid-track seating position is location number four. The anchorage was placed in position four.

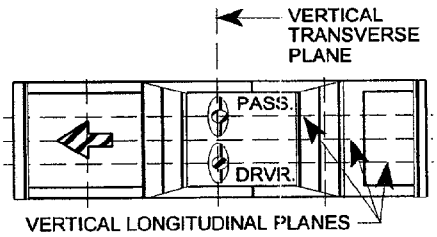
DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



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



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



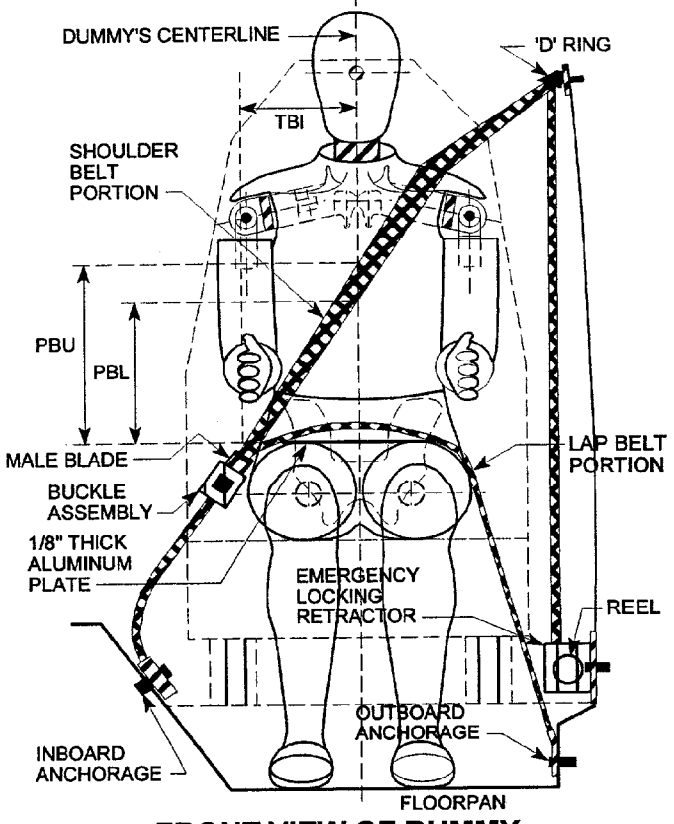
DATA SHEET NO. 5 FRONT SEAT DUMMY POSITIONING MEASUREMENTS IN VEHICLE

	DRIVER (Serial #245)			PASS. (Serial # 150)		
WA°	27 deg.			N/A		
SWA°	70 deg.			N/A		
SCA°	27 deg.			N/A		
SA°	18 deg.			18 deg.		
HZ	140			160		
HH	280			286		
HW	567			556		
HR	235			235		
NR	317	Angle	-15 deg.	N/A		
CD	488			448		
CS	258			N/A		
RA	158			N/A		
KDL	136	Angle (KDA)	44 deg.	120		
KDR	118			134	Angle (KDA)	46 deg.
PA°	23.5 deg.			22.5 deg.		
TA°	-35 deg.			-38 deg.		
KK	285			272		
ST	545	Angle	12 deg.	568	Angle	10 deg.
SK	587	Angle	96 deg.	592	Angle	94 deg.
SH	236	Angle	125 deg.	230	Angle	127 deg.
SHY	240			240		
HS	290			304		
HD	177			188		
AD	80			96		

Dimensions in millimeters

DATA SHEET NO. 6 SEAT BELT POSITIONING DATA

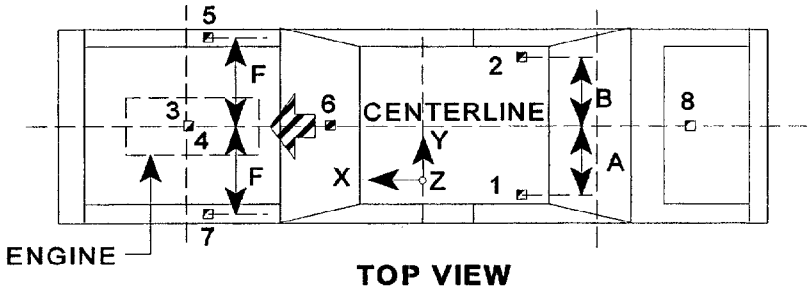
SEAT BELT POSITIONING DATA



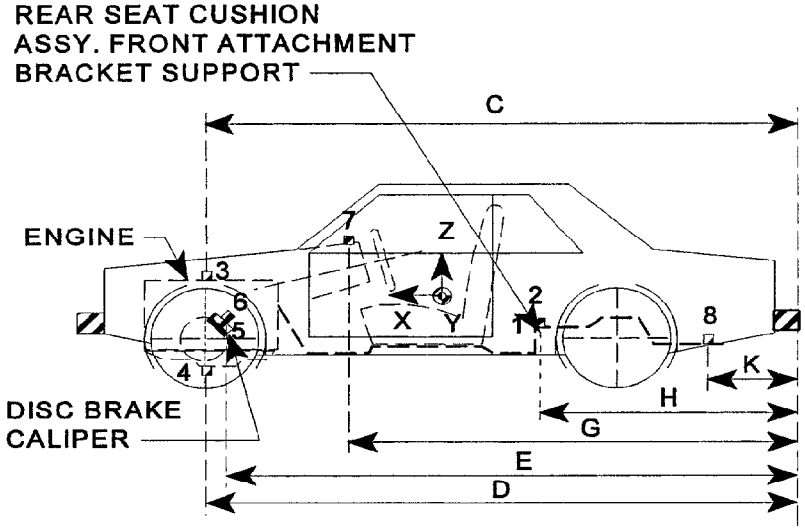
FRONT VIEW OF DUMMY

	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	310	295
PBL-- Top surface of alum. plate to belt lower edge	230	220
LAP BELT TENSION	10 Newtons	10 Newtons
SHOULDER BELT TENSION	Retractor	Retractor

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



TOP VIEW



LEFT SIDE VIEW

Note: Vehicle accelerometer location and data summary shown in DATA SHEET NO. 7

DATA SHEET NO. 7 VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

DIMENSION	LENGTH (mm)
	PRE-TEST VALUES
A Left Rear Seat Crossmember Y	600
B Right Rear Seat Crossmember Y	-600
C Top of Engine X	3484
D Bottom of Engine X	3512
E Disc Brake Calipers X	3313
F Disc Brake Calipers Y	±555
G Instrument Panel X	2471
H Rear Seat Crossmembers X	1353

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE (g's)			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	6.9	120.4	-35.2	67.8
2	Rear Seat X-Member @ Right Side	3.9	116.4	-41.0	35.0
3	Top of Engine Block	67.6	41.4	-129.7	31.6
4	Bottom of Engine	61.6	36.2	-117.4	27.8
5	Disc Brake Caliper @ Left Side	*	*	*	*
6	Disc Brake Caliper @ Right Side	36.6	59.1	-97.3	45.8
7	Instrument Panel	19.4	30.1	-56.4	38.0
8	Rear Seat X-Member @ Left-Redundant	5.4	120.7	-34.8	32.1
9	Rear Seat X-Member @ Right-Redundant	2.4	141.3	-41.5	34.8

* Data is not accurate after 50 ms.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES

NHTSA Test No.: MW0300 Vehicle: 1998 Dodge Neon 4 Door Sedan

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
Pos. 1 Head X	**g's**	10.6	184.3	-63.4	67.8
Pos. 1 Head Y	**g's**	3.3	171.7	-14.3	70.3
Pos. 1 Head Z	**g's**	31.2	63.4	-11.5	104.4
Pos. 1 Head Resultant	**g's**	71.3	67.8	0.0	-25.0
Pos. 2 Head X	**g's**	7.7	234.5	-55.3	70.8
Pos. 2 Head Y	**g's**	6.2	52.4	-6.1	96.1
Pos. 2 Head Z	**g's**	27.8	68.6	-6.7	94.0
Pos. 2 Head Resultant	**g's**	60.9	68.5	0.1	-25.6
Pos. 1 Chest X	**g's**	3.2	144.8	-54.9	59.5
Pos. 1 Chest Y	**g's**	4.2	104.3	-11.0	64.3
Pos. 1 Chest Z	**g's**	18.5	53.5	-14.6	101.0
Pos. 1 Chest Resultant	**g's**	57.0	59.3	0.0	-30.7
Pos. 1 Chest Displacement	**mm**	0.0	-25.7	-38.7	72.2
Pos. 2 Chest X	**g's**	2.7	293.2	-48.2	60.1
Pos. 2 Chest Y	**g's**	7.0	55.2	-7.8	87.4
Pos. 2 Chest Z	**g's**	16.1	62.6	-9.7	91.7
Pos. 2 Chest Resultant	**g's**	50.7	60.2	0.0	9.3
Pos. 2 Chest Displacement	**mm**	0.0	-26.2	-34.5	73.8
Pos. 1 Left Femur	**N**	246.7	91.6	-5305.0	44.1
Pos. 1 Right Femur	**N**	149.5	94.2	-5351.3	67.1
Pos. 2 Left Femur	**N**	81.4	95.1	-5566.3	66.5
Pos. 2 Right Femur	**N**	107.1	225.6	-3238.6	67.4
Pos. 1 Left Belt Load	**N**	4744.3	58.1	-7.4	-27.1
Pos. 1 Torso Belt Load	**N**	5346.6	66.9	-62.6	242.2
Pos. 2 Right Belt Load	**N**	5231.0	63.2	-2.4	-1.2
Pos. 2 Torso Belt Load	**N**	6611.9	69.4	-34.3	247.3

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)

NHTSA Test No.: MW0300 Vehicle: 1998 Dodge Neon 4 Door Sedan

	HEAD INJURY CRITERIA (HIC)			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	654.77	48.800	84.800	50.57
Position #2 - Passenger	533.01	52.900	87.800	47.16

** HIC is as defined in FMVSS 208. The maximum time interval from t_1 to t_2 is 36 milliseconds.

	CLIP SUMMARY*			
	CLIP (g's)	t_1 (msec)	t_2 (msec)	CSI
Position #1 - Driver	56.536	58.6168	61.8355	574.875
Position #2 - Passenger	50.305	59.4203	62.4203	489.692

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
HYBRID III NECK AND PELVIC DATA SHEET

Vehicle Year/Make/Model/Body Style: 1998 Dodge Neon 4 Door Sedan

NHTSA Test No.: MW0300 Test Date: October 24, 1997

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Upper Neck Fx	N	978.6	76.4	-252.9	129.8
Pos. 1 Upper Neck Fy	N	322.5	81.4	-156.2	62.1
Pos. 1 Upper Neck Fz	N	1904.9	68.2	-404.7	104.0
Pos. 1 Neck Force Result	N	2008.5	68.2	4.4	23.1
Pos. 1 Upper Neck Mx	N-m	4.9	48.4	-22.9	78.4
Pos. 1 Upper Neck My	N-m	83.0	75.9	-17.3	226.3
Pos. 1 Upper Neck Mz	N-m	20.3	95.7	-6.8	136.6
Pos. 1 Neck Moment Result	N-m	86.8	76.7	0.0	-30.9
Pos. 2 Upper Neck Fx	N	305.4	56.4	-534.6	131.3
Pos. 2 Upper Neck Fy	N	535.5	71.7	-328.3	81.4
Pos. 2 Upper Neck Fz	N	2405.6	68.4	-140.3	113.4
Pos. 2 Neck Force Result	N	2443.0	68.4	4.4	-23.5
Pos. 2 Upper Neck Mx	N-m	12.5	62.1	-11.8	176.9
Pos. 2 Upper Neck My	N-m	34.4	141.1	-16.6	91.6
Pos. 2 Upper Neck Mz	N-m	17.4	101.7	-4.4	59.6
Pos. 2 Neck Moment Result	N-m	34.5	141.1	0.0	-38.6
Pos. 1 Pelvic (X)	g's	4.7	136.3	-56.1	44.3
Pos. 1 Pelvic (Y)	g's	12.1	98.9	-16.9	47.6
Pos. 1 Pelvic (Z)	g's	7.7	40.9	-15.3	97.0
Pos. 1 Pelvic (R)	g's	57.0	44.2	0.1	-31.5
Pos. 2 Pelvic (X)	g's	5.3	137.7	-56.1	65.4
Pos. 2 Pelvic (Y)	g's	12.5	51.8	-6.6	109.8
Pos. 2 Pelvic (Z)	g's	3.4	174.3	-11.7	91.7
Pos. 2 Pelvic (R)	g's	56.7	64.6	0.1	-31.1

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
HYBRID III LOWER LEG DATA SHEET

Vehicle Year/Make/Model/Body Style: 1998 Dodge Neon 4 Door Sedan

NHTSA Test No.: MW0300 Test Date: October 24, 1997

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
P1 Lt Upper Tibia Mx	N-m	102.9	39.4	-105.9	44.6
P1 Lt Upper Tibia My	N-m	34.4	65.0	-359.7	42.3
P1 Lt Lower Tibia Fx	N	144.4	178.1	-2458.5	42.6
P1 Lt Lower Tibia Fz	N	457.7	68.9	-10552.3	40.2
P1 Lt Lower Tibia My	N-m	212.7	63.0	-43.0	68.8
P1 Rt Upper Tibia Mx	N-m	99.7	53.3	-66.9	46.2
P1 Rt Upper Tibia My	N-m	253.2	42.4	-9.9	230.2
P1 Rt Lower Tibia Fx	N	191.9	129.5	-2293.7	61.7
P1 Rt Lower Tibia Fz	N	439.6	193.7	-6647.2	56.6
P1 Rt Lower Tibia My	N-m	277.6	62.0	-98.0	42.6
Pos. 2 Lt Upper Tibia Mx	N-m	106.3	44.6	-42.9	49.5
Pos. 2 Lt Upper Tibia My	N-m	7.8	146.3	-253.8	44.0
Pos. 2 Lt Lower Tibia Fx	N	193.9	194.7	-1779.8	44.1
Pos. 2 Lt Lower Tibia Fz	N	364.6	162.1	-4724.2	43.6
Pos. 2 Lt Lower Tibia My	N-m	222.7	59.6	-78.8	44.3
Pos. 2 Rt Upper Tibia Mx	N-m	56.5	51.8	-86.6	44.3
Pos. 2 Rt Upper Tibia My	N-m	19.4	156.6	-216.3	46.3
Pos. 2 Rt Lower Tibia Fx	N	8548.4	67.1	-1815.5	47.3
Pos. 2 Rt Lower Tibia Fz	N	437.2	167.0	-5591.3	44.3
Pos. 2 Rt Lower Tibia My	N-m	71.9	70.3	-28.5	43.1

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
HYBRID III ANKLE DATA SHEET

Vehicle Year/Make/Model/Body Style: 1998 Dodge Neon 4 Door Sedan

NHTSA Test No.: MW0300 Test Date: October 24, 1997

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Left Ankle X	g's	108.7	39.2	-209.7	39.7
Pos. 1 Left Ankle Z	g's	143.7	62.1	-195.5	39.6
Pos. 1 Left Toe Z	g's	259.7	62.4	-203.2	39.3
Pos. 1 Right Ankle X	g's	25.7	60.5	-116.6	41.3
Pos. 1 Right Ankle Z	g's	56.7	51.2	-159.9	42.6
Pos. 1 Right Toe Z	g's	120.7	54.2	-222.9	40.5
Pos. 2 Left Ankle X	g's	77.3	48.5	-162.9	49.0
Pos. 2 Left Ankle Z	g's	294.0	48.3	-121.9	49.0
Pos. 2 Left Toe Z	g's	384.7	48.4	-265.4	49.0
Pos. 2 Right Ankle X	g's	21.6	70.1	-176.1	41.8
Pos. 2 Right Ankle Z	g's	*	*	*	*
Pos. 2 Right Toe Z	g's	101.0	65.7	-97.2	38.2

* Data is not accurate after 60 ms.

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
REDUNDANT DUMMY DATA

NHTSA Test No.: MW0300 Vehicle: 1998 Dodge Neon 4 Door Sedan

DESCRIPTION	UNIT	MAXIMUM VALUE			
		Pos.	msec	Neg.	msec
Pos. 1 Head X(R)	**g's**	10.0	192.9	-65.7	68.1
Pos. 1 Head Y(R)	**g's**	3.8	44.0	-14.3	71.9
Pos. 1 Head Z(R)	**g's**	38.1	51.4	-11.6	106.7
Pos. 1 Head Resultant(RR)	**g's**	75.1	67.8	0.0	-23.2
Pos. 2 Head X(R)	**g's**	7.6	241.5	-54.1	72.4
Pos. 2 Head Y(R)	**g's**	50.5	59.9	-35.9	60.9
Pos. 2 Head Z(R)	**g's**	32.3	60.9	-8.3	116.4
Pos. 2 Head Resultant(RR)	**g's**	65.0	60.9	0.1	-25.9
Pos. 1 Chest X(R)	**g's**	5.2	148.5	-59.1	59.0
Pos. 1 Chest Y(R)	**g's**	4.4	94.7	-7.0	62.6
Pos. 1 Chest Z(R)	**g's**	18.8	59.9	-14.4	100.9
Pos. 1 Chest Resultant(RR)	**g's**	61.5	59.8	0.0	-22.6
Pos. 2 Chest X(R)	**g's**	3.0	291.8	-50.5	62.3
Pos. 2 Chest Y(R)	**g's**	8.9	59.6	-6.9	88.4
Pos. 2 Chest Z(R)	**g's**	16.5	68.8	-9.5	95.0
Pos. 2 Chest Resultant(RR)	**g's**	52.5	62.3	0.0	-31.7

DATA SHEET NO. 8 DUMMY INJURY CRITERIA VALUES (cont.)
REDUNDANT DUMMY DATA

NHTSA Test No.: MW0300 Vehicle: 1998 Dodge Neon 4 Door Sedan

	HEAD INJURY CRITERIA (HIC) **REDUNDANT**			
	HIC**	t_1 (msec)	t_2 (msec)	Average Acceleration t_1 to t_2
Position #1 - Driver	728.66	48.300	84.300	52.78
Position #2 - Passenger	550.99	50.500	86.500	47.20

** HIC is as defined in FMVSS 208. The maximum time interval from t_1 to t_2 is 36 milliseconds.

	CLIP SUMMARY* **REDUNDANT**			
	CLIP (g's)	t_1 (msec)	t_2 (msec)	CSI
Position #1 - Driver	59.201	58.2443	61.2443	634.831
Position #2 - Passenger	52.121	59.5889	62.9289	494.211

* The maximum chest resultant acceleration is defined as the maximum acceleration which exceeds 0.003 seconds in duration.

DATA SHEET NO. 9 SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

BELT LENGTH DATA:	Driver	Passenger
Belt length from trim panel exit to bolt hole anchor point for continuous webbing systems.	2055	2060
Shoulder belt length as measured on Part 572 Dummy.	850	840
Lap belt length as measured on Part 572 Dummy.	770	785
SHOULDER BELT SPOOL-OFF DATA:		
As determined by film analysis.	76.2	101.6
As determined mechanically.	84	107
As determined electronically.	80.9	110.6
BELT STRETCH DATA:		
Measured electronically between shoulder belt load cell and the "D" ring.	15.8 mm/M	27.7 mm/M
Measured mechanically.	1 mm/M	1 mm/M

Dimensions in millimeters

DATA SHEET NO.10 SUMMARY OF FMVSS 212 DATA

FMVSS NO. 212 - "WINDSHIELD MOUNTING" DATA

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

Windshield is bonded in place and covered with 15 mm molding.

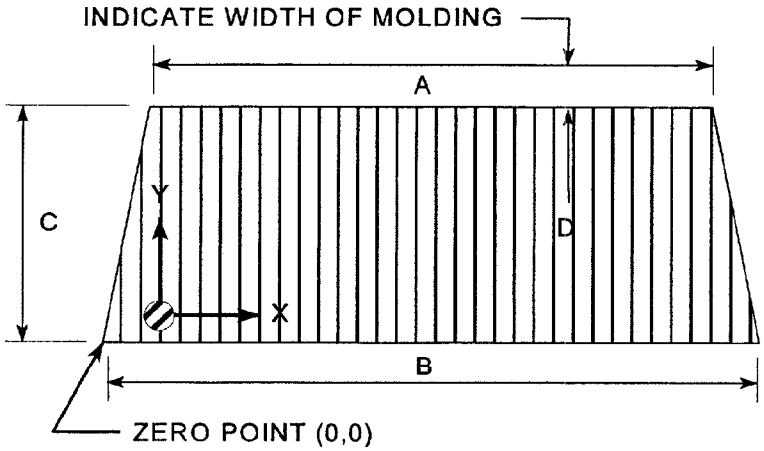
FMVSS 212 REQUIREMENTS:

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

FMVSS 212 TEST DATA

	WINDSHIELD PERIPHERY		
	PRE-TEST (mm)	POST-TEST(mm)	% OF RETENTION
RIGHT SIDE	2023.5	2023.5	100
LEFT SIDE	2023.5	2023.5	100
TOTAL	4,047	4,047	100

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

DIMENSIONS (mm)	
A	1062
B	1575
C	705
D	15

FAILURE DETAILS: None.

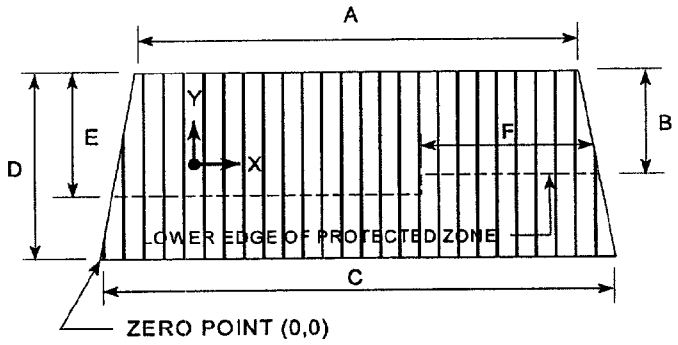
DATA SHEET NO. 11 FMVSS NO. 219 (PARTIAL) - "WINDSHIELD ZONE INTRUSION" DATA

PROTECTED ZONE LOWER EDGE REQUIREMENT:

The lower edge of the protected zone is determined by placing a 165 mm diameter rigid sphere weighing 6.8 kg 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, then draw a line on the inner surface of the windshield below and 13 mm 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 mm)



FRONT VIEW OF WINDSHIELD

DIMENSIONS	
A	1062
B	786
C	1575
D	705
E	497
F	552

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 6 mm: None.

(Show location of penetration on the above sketch)

	COORDINATES	
	X	Y
1.	-	-
2.	-	-
3.	-	-
4.	-	-

DATA SHEET NO. 12 FMVSS NO. 301-75 "FUEL SYSTEM INTEGRITY" POST IMPACT TEST DATA

NHTSA TEST No.: MW0300 TEST DATE: October 24, 1997

VEHICLE MAKE/MODEL: 1998 Dodge Neon

The test vehicle was filled from 92% to 94% of the manufacture's "usable" capacity. The electric fuel pump was operating if it will operate without engine operation. Two Part 572 anthropomorphic test devices were located at each of the front designated seating positions.

= =

TEST VEHICLE IMPACT TYPE:

X Frontal (56 kph)

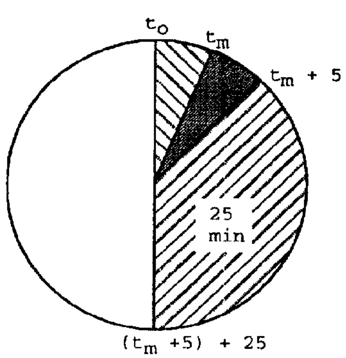
Oblique (48 kph) with ________ deg. barrier face first contacting ________

\- (driver/passenger) side

\- Rear Moving Barrier (48 kph)

\- Lateral Moving Barrier (32 kph)

FUEL SPILLAGE MEASUREMENT:



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

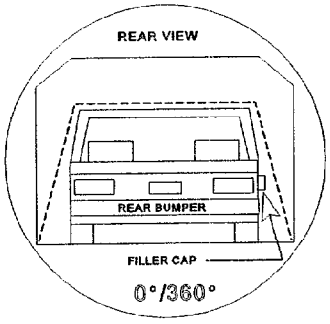
	ACTUAL	MAX ALLOWED
1.	0	28 g
2.	0	141 g
3.	0	28 g/min.

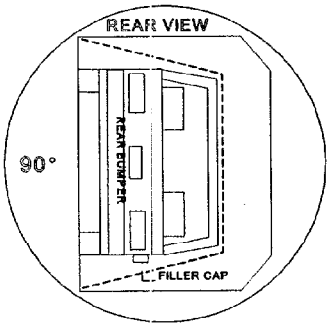
SOLVENT SPILLAGE DETAILS: None.

DATA SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:
0-90 deg.

NHTSA Test No.:
MW0300





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	14	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	14	seconds
Next whole minute interval	7	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A

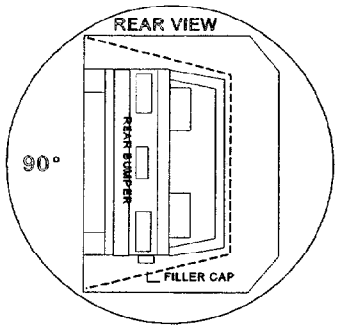
Note: Record spillage for whole minute intervals only as determined above.

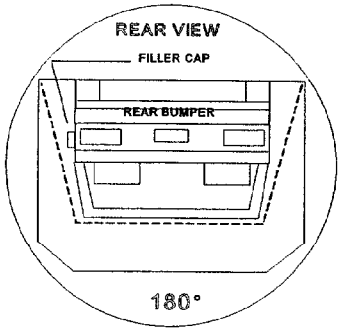
IV. SOLVENT SPILLAGE LOCATION(S): None.

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
90-180 deg.

NHTSA Test No.:
MW0300





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	17	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	17	seconds
Next whole minute interval	7	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A

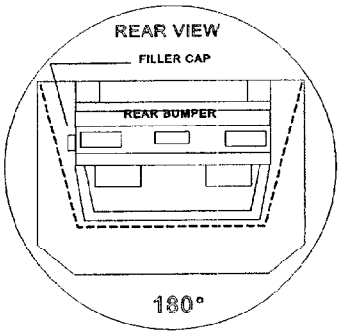
Note: Record spillage for whole minute intervals only as determined above.

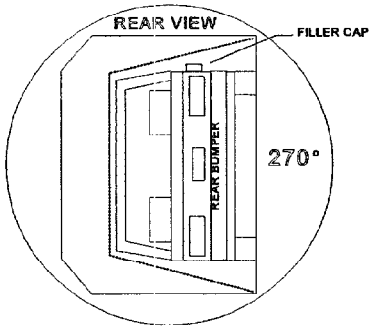
IV. SOLVENT SPILLAGE LOCATION(S): None.

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
180-270 deg.

NHTSA Test No.:
MW0300





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	00	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	0	seconds
Next whole minute interval	7	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A

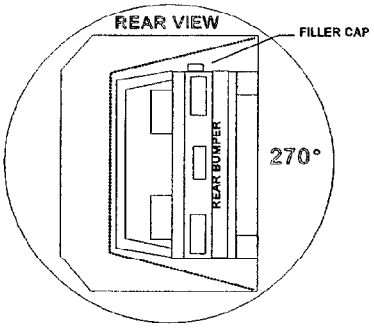
Note: Record spillage for whole minute intervals only as determined above.

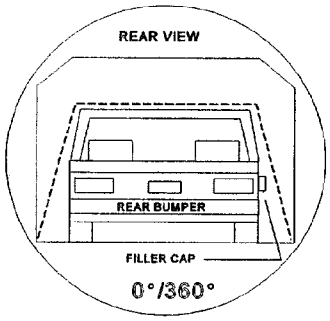
IV. SOLVENT SPILLAGE LOCATION(S): None.

TEST SHEET NO. 13 FMVSS NO. 301 STATIC ROLLOVER DATA SHEET (cont.)

TEST PHASE:
270-360 deg.

NHTSA Test No.:
MW0300





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	11	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	11	seconds
Next whole minute interval	7	minutes	00	seconds

II. FMVSS 301 REQUIREMENTS:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

141 g	28 g	28 g	28 g

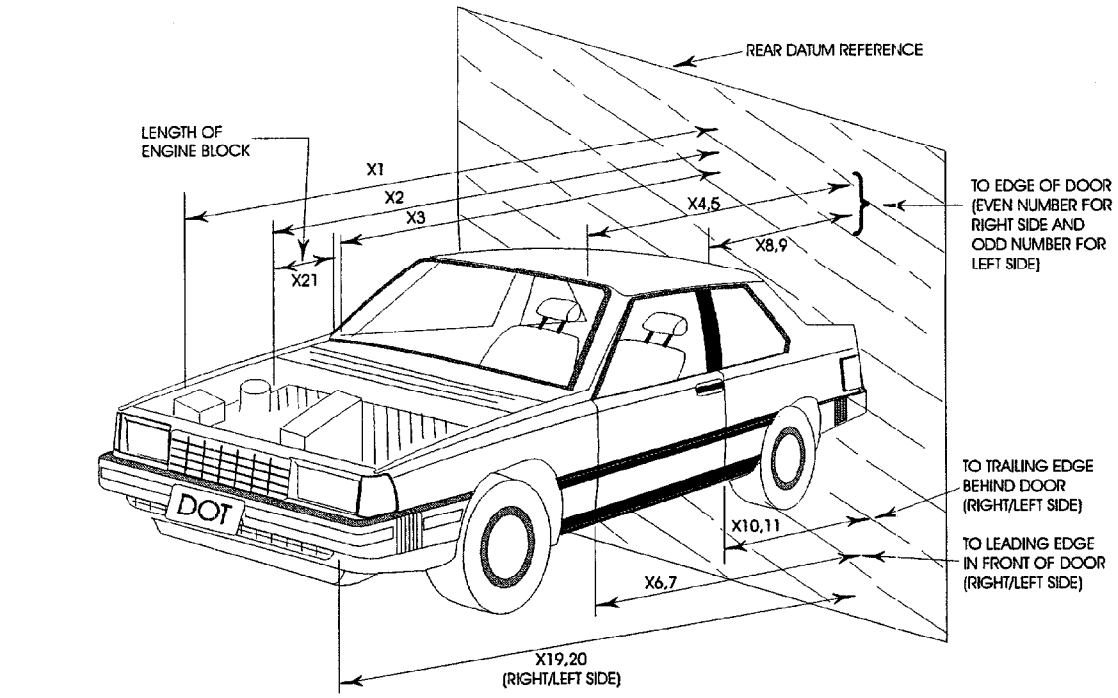
III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

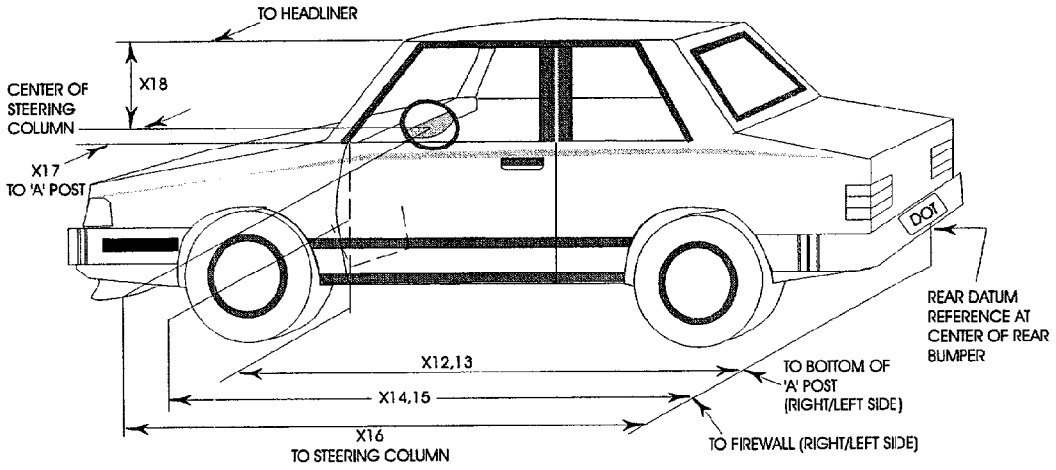
0	0	0	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S): None.

TEST VEHICLE MEASUREMENTS





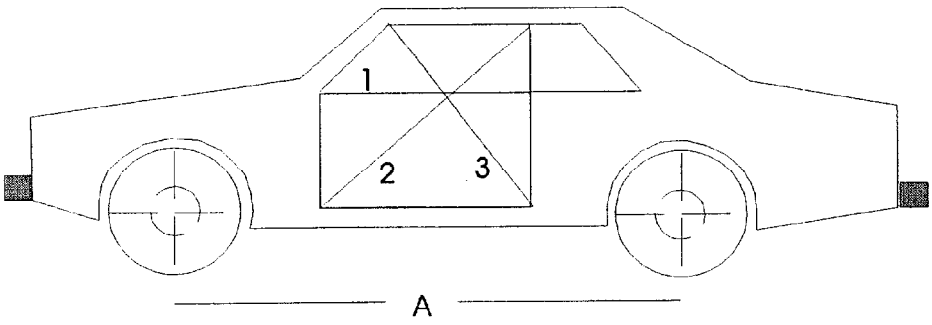
DATA SHEET NO.14 VEHICLE MEASUREMENTS

No.		All Dimensions in mm		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	4355	3770	585
X2	Rear Surface of Vehicle to Front of Engine	3630	3360	270
X3	Rear Surface of Vehicle to Firewall	3400	3255	145
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	2978	2968	10
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	2962	2935	27
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	3030	3011	19
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	3020	2977	43
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	1976	1941	35
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	1961	1922	39
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	1963	1950	13
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	1949	1915	34
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	2978	2972	6
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	2968	2925	43
X14	Rear Surface of Vehicle to Firewall, Right Side	3335	3240	95
X15	Rear Surface of Vehicle to Firewall, Left Side	3345	3275	70
X16	Rear Surface of Vehicle to Steering Column	2530	2485	45
X17	Center of Steering Column to "A" Post	380	400	-20
X18	Center of Steering Column to Headliner	425	450	-25
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4280	3785	495
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4285	3795	490
X21	Length of Engine Block	470	470	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	2705	2665	40
CD	Rear Surface of Vehicle to Center of Dash Panel	2710	2665	45
LD	Rear Surface of Vehicle to Left Side of Dash Panel	2730	2690	40

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

DOOR OPENING WIDTH



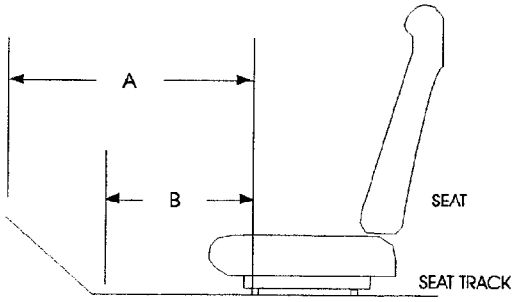
UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	965	1395	965	965	1410	970
AFTER TEST	935	1410	1000	910	1435	1010
DIFFERENCE	30	-15	-35	55	-25	-40

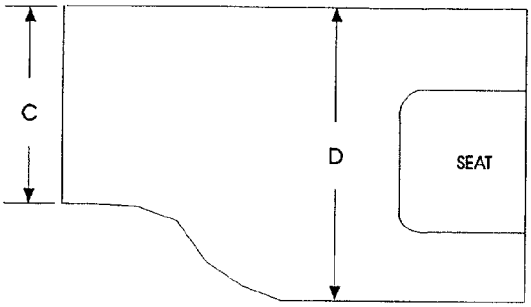
UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	2635	2635
AFTER TEST	2485	2490
DIFFERENCE	150	145

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC FOOTWELL DEFORMATION





DRIVER

Measurement	Pre-Test	Post-Test	Difference
A	645	560	85
B	580	560	20
C	430	425	5
D	480	470	10

PASSENGER

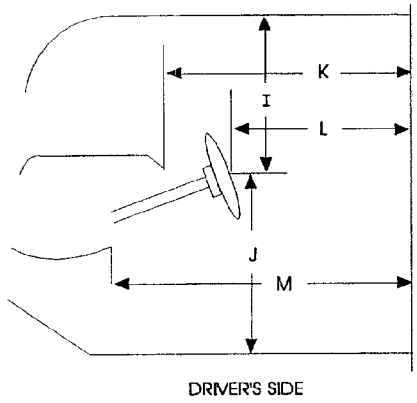
Measurement	Pre-Test	Post-Test	Difference
A	640	575	65
B	530	530	0
C	400	390	10
D	450	440	10

Units = mm

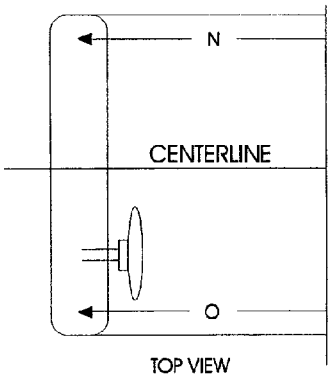
DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

VEHICLE INTRUSION MEASUREMENTS

STATIC PASSENGER COMPARTMENT INTRUSION

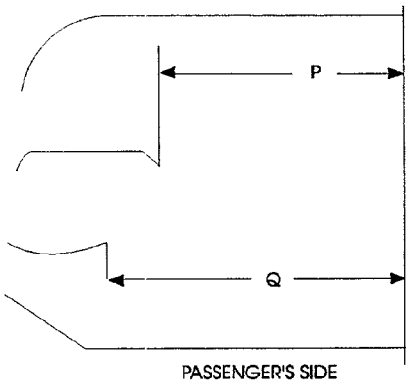


DRIVER'S SIDE



TOP VIEW

MEASUREMENTS FROM C-PILLAR BELT ANCHORAGE



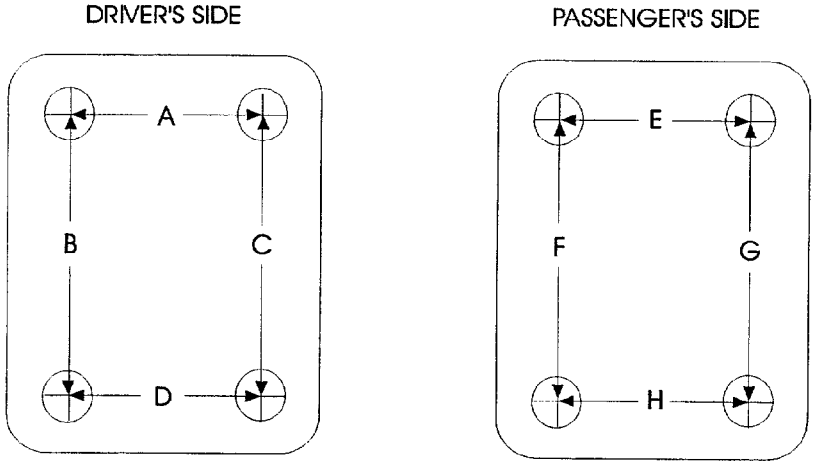
PASSENGER'S SIDE

Measurement	Pre-Test	Post-Test	Difference
I	410	430	-20
J	620	600	20
K	780	755	25
L	525	480	45
M	710	685	25
N	700	660	40
O	725	685	40
P = K (PASS.)	710	670	40
Q = M (PASS.)	705	655	50

Units = mm

DATA SHEET NO.14 VEHICLE MEASUREMENTS (cont.)

FLOORBOARD DEFORMATION



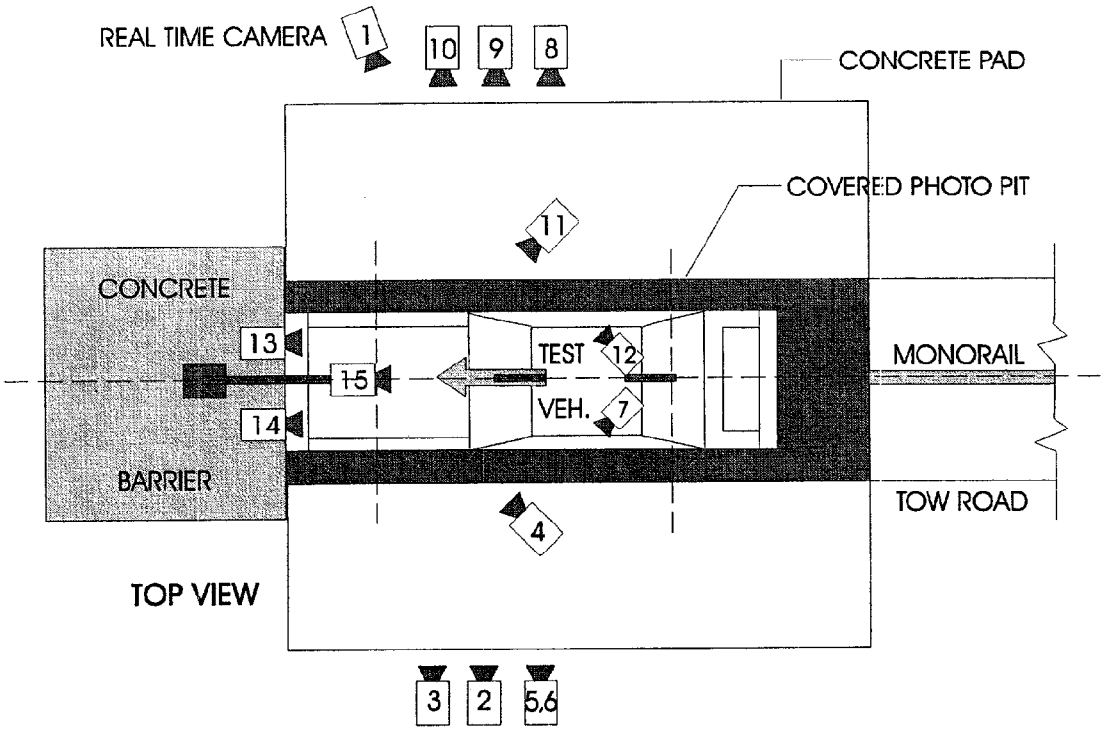
TOP VIEW THROUGH FLOOR PAN

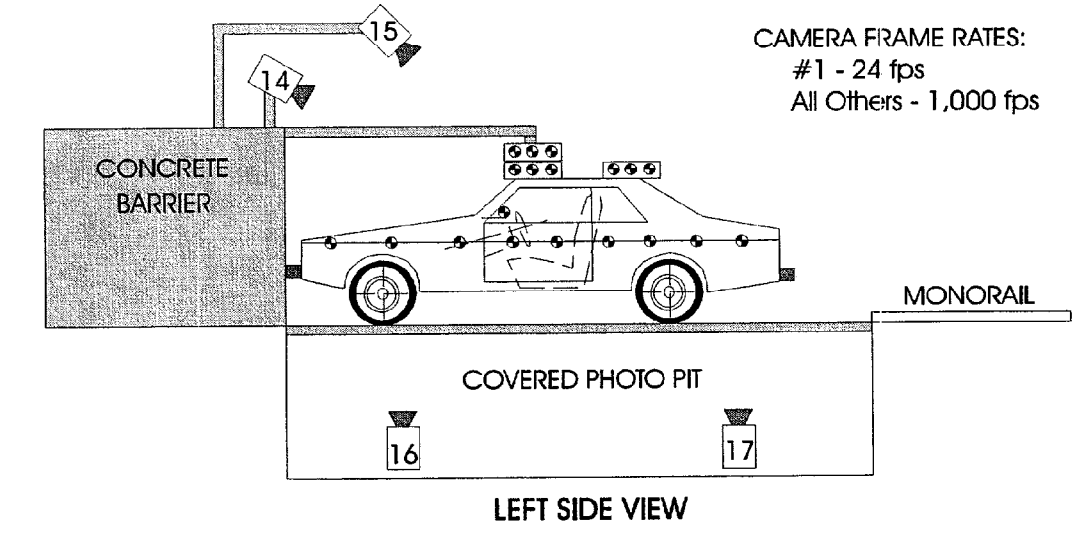
Measurement	Pre-Test	Post-Test	Difference
A	187	182	5
B	295	282	13
C	300	292	8
D	193	185	8
E	180	176	4
F	300	295	5
G	308	295	13
H	182	177	5

Units = mm

CAMERA POSITIONS FOR FRONTAL IMPACTS

NOTE: Camera information shown in DATA SHEET NO. 15.





DATA SHEET NO.15 HIGH-SPEED CAMERA LOCATIONS

NHTSA Test No.: MW0300 Vehicle: 1998 Dodge Neon 4 Door Sedan

CAMERA NO.	VIEW	CAMERA POSITIONS (mm)* X	Y	Z	ANGLE** (deg)	FILM PLANE TO HEAD TARGET	LENS (mm)	SPEED (fps)
1	Real-Time Camera	-	-	-	-	-	-	24
2	Overall Left Side	6096	1618	1092	-5	5762	12.5	1000
3	Left Side View	7330	1013	1107	-4	6996	25	1000
4	Driver and Interior View	5200	2815	1921	-11	-	25	1000
5	Steering Column (Bottom)	7320	2000	1174	-5	6986	25	1000
6	Steering Column (Top)	7320	2000	1778	-8	6986	25	1000
7	Left Belt	-	-	-	-	-	13	810
8	Overall Right Side	6452	1950	1055	-4	6786	13	1000
9	Right Side View	7575	1335	1088	-4	7909	25	1000
10	Right Passenger View	7820	1715	1400	-5	8154	35	1000
11	Passenger and Interior View	5180	3175	1878	-12	-	25	1000
12	Right Belt	-	-	-	-	-	13	950
13	Passenger Front View	590	-60	1089	-55	-	13	1000
14	Driver Front View	590	-60	1093	-53	-	13	1000
15	Windshield View	0	0	3374	-64	-	13	1010
16	Pit View of Engine	0	875	-3048	90	-	13	1000
17	Pit View of Fuel Tank	0	2965	-3048	90	-	13	1000

*X = film plane to monorail centerline

Y = film plane to impact location

Z = film plane to ground

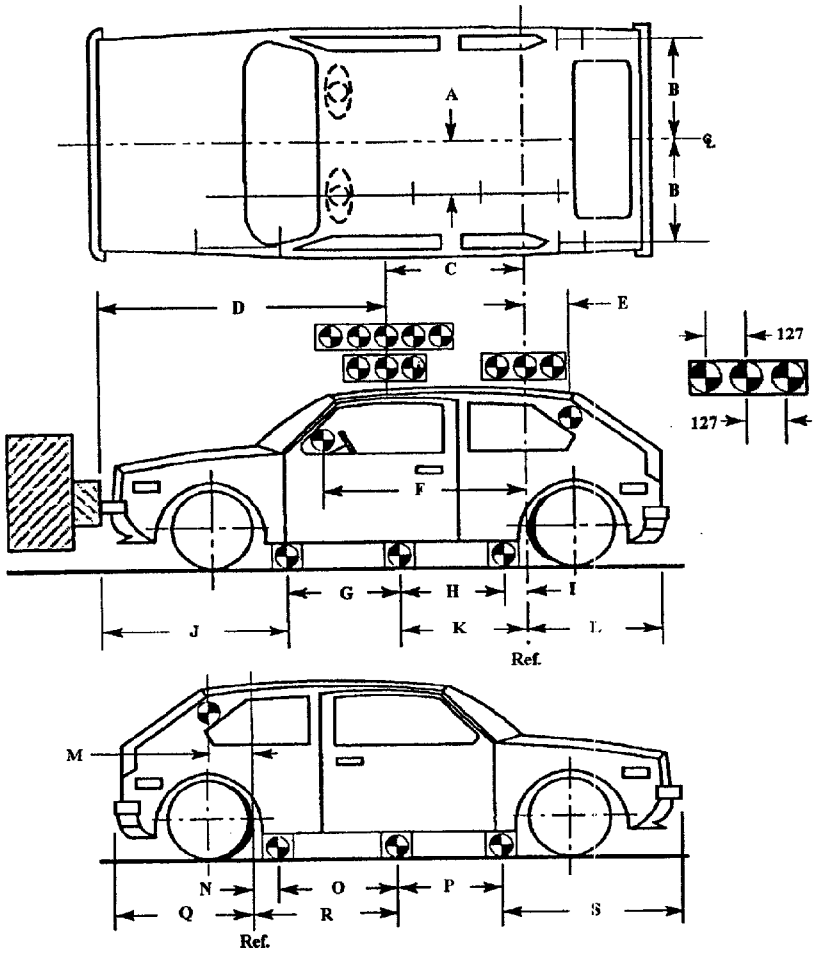
** = referenced to horizontal plane

N.T. indicates No Timing

DATA SHEET NO. 16 VEHICLE REFERENCE PHOTO TARGET LOCATIONS

(Dimensions in millimeters)

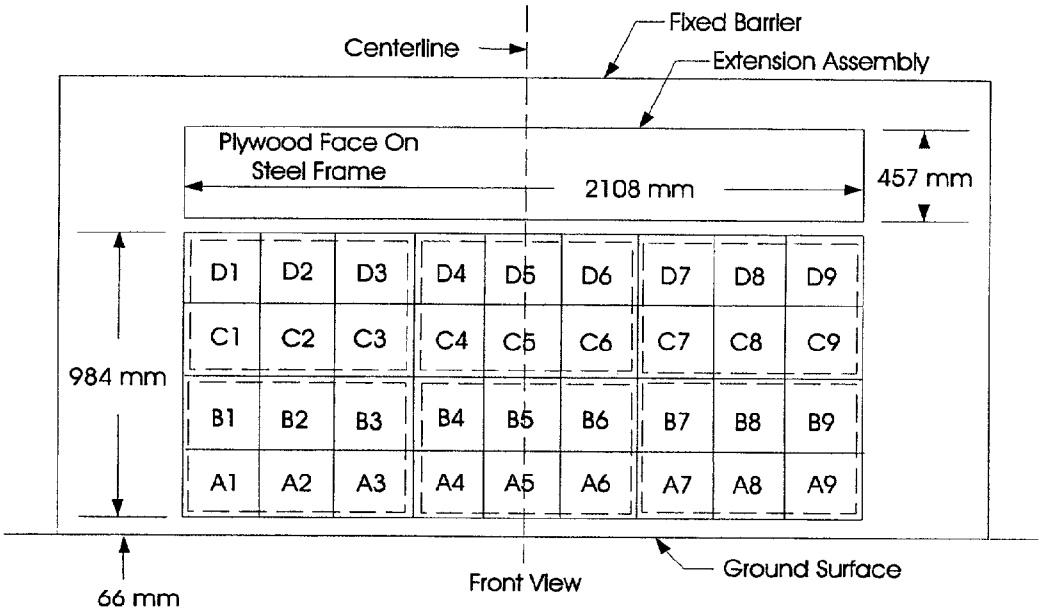
A	258
B	473
C	1218
D	1894
E	290
F	1588
G	902
H	902
I	160
J	1148
K	1062
L	1243
M	290
N	160
O	902
P	902
Q	1243
R	1062
S	1148



DATA SHEET NO. 17 LOAD CELL LOCATIONS ON FIXED BARRIER

Load Cell Barrier Data was not requested for this test

36 Load Cells
4 Rows
9 Columns
6 Groupings (6 cells/group)



6 GROUPS OF 6 LOAD CELLS EACH

Group 4 C1 thru D3	Group 5 C4 thru D6	Group 6 C7 thru D9
Group 1 A1 thru B3	Group 2 A4 thru B6	Group 3 A7 thru B9

The following data is presented in Appendix B:

(1)Data from 36 individual load cells
(2)Total or Sum of 36 individual load cells
(3)Data from 6 Groupings shown above (6 cells/group)

DATA SHEET NO. 18 POST TEST AIR BAG DATA

NHTSA No. : MW0300; Test Date: October 24, 1997; Technician: Patrick MacDiarmid

Vehicle Model Year/Make/Model: 1998 Dodge Neon

A. No. of vent holes: 2 -Driver 1 -Passenger

B. Size of vent holes: (mm^2) 490.9 -Driver 3848.5 -Passenger

C. Total vent area: (mm^2) 981.7 -Driver 3848.5 -Passenger

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

Driver: 525 -Height; 600 -Width; 380 -Depth

Passenger: 855 -Height; 705 -Width; 585 -Depth

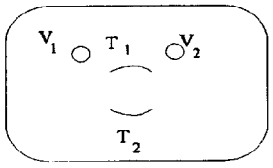
E. Is the air bag tethered?

Driver: X -Yes; - -No; If yes, record length of tether- 285

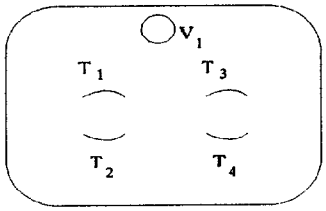
Passenger: X -Yes; - -No; If yes, record length of tether- 350

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_n = Vent hole$_n$, T_n = Tether$_n$).

Driver



Passenger



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

Driver: Air bag: X

Generator: 2021148B7FU00926 1301056B TX9DT1987P0881 P0QG15LAZAC

Passenger: Air bag: -

Generator: TCOPT2067J1235 P0RN82LAZAC 04464208 5718540796 2003544

DATA SHEET NO.19 ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Dodge Neon 4 Door Sedan

NHTSA Test No.: MW0300 VIN: 1B3ES4769WD507540

Model Year: 1998 Build Date: 08/97 Test Date: October 24, 1997

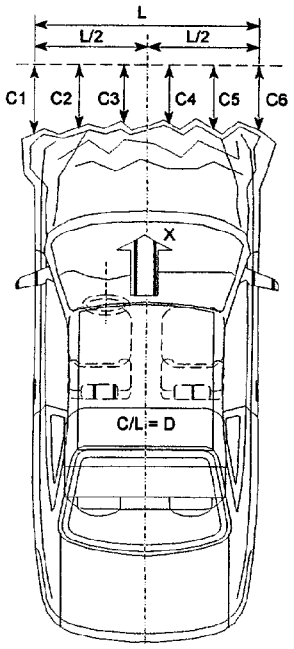
Vehicle Size Category: Compact Test Weight: 1342 kg

Vehicle Wheelbase: 2635 mm; Front Overhang: 1148 mm; Overall Width: 1715 mm

Collision Deformation Classification (CDC) Code: 12FDEW3

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	4120	3700	-420	mm
C2 =	4315	3810	-505	mm
C3 =	4355	3800	-555	mm
C4 =	4355	3800	-555	mm
C5 =	4315	3800	-515	mm
C6 =	4130	3710	-420	mm



Midpoint of Damage: D = Vehicle Centerline (Longitud.)

Longitude Length of Damaged Region:

L1 = 1590 mm

L2 = 795 mm

L3 = 318 mm

Appendix A

PHOTOGRAPHS

PHOTOGRAPHS

PHOTOGRAPHS (continued)

PHOTOGRAPH NOT AVAILABLE

Figure A-1 LOAD CELL LOCATIONS

8413-7

Figure A-2 PRE-TEST FRONT VIEW

Figure A-3 POST-TEST FRONT VIEW

Figure A-4 PRE-TEST LEFT SIDE VIEW

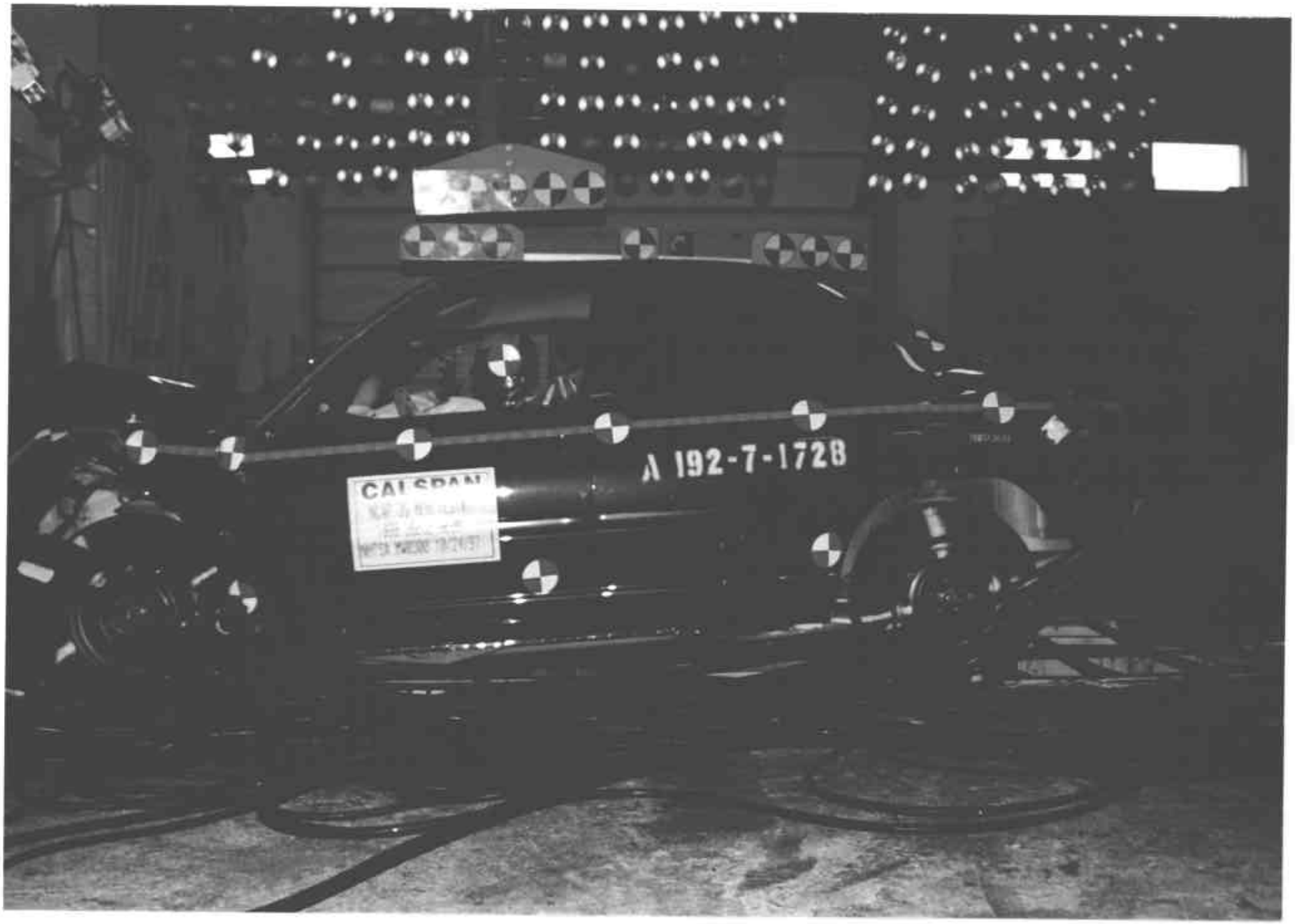


Figure A-5 POST-TEST LEFT SIDE VIEW

Figure A-6 PRE-TEST RIGHT SIDE VIEW

Figure A-7 POST-TEST RIGHT SIDE VIEW

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

Figure A-9 POST-TEST RIGHT FRONT THREE-QUARTER VIEW

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

Figure A-11 POST-TEST LEFT REAR THREE-QUARTER VIEW

Figure A-12 PRE-TEST WINDSHIELD VIEW

Figure A-13 POST-TEST WINDSHIELD VIEW

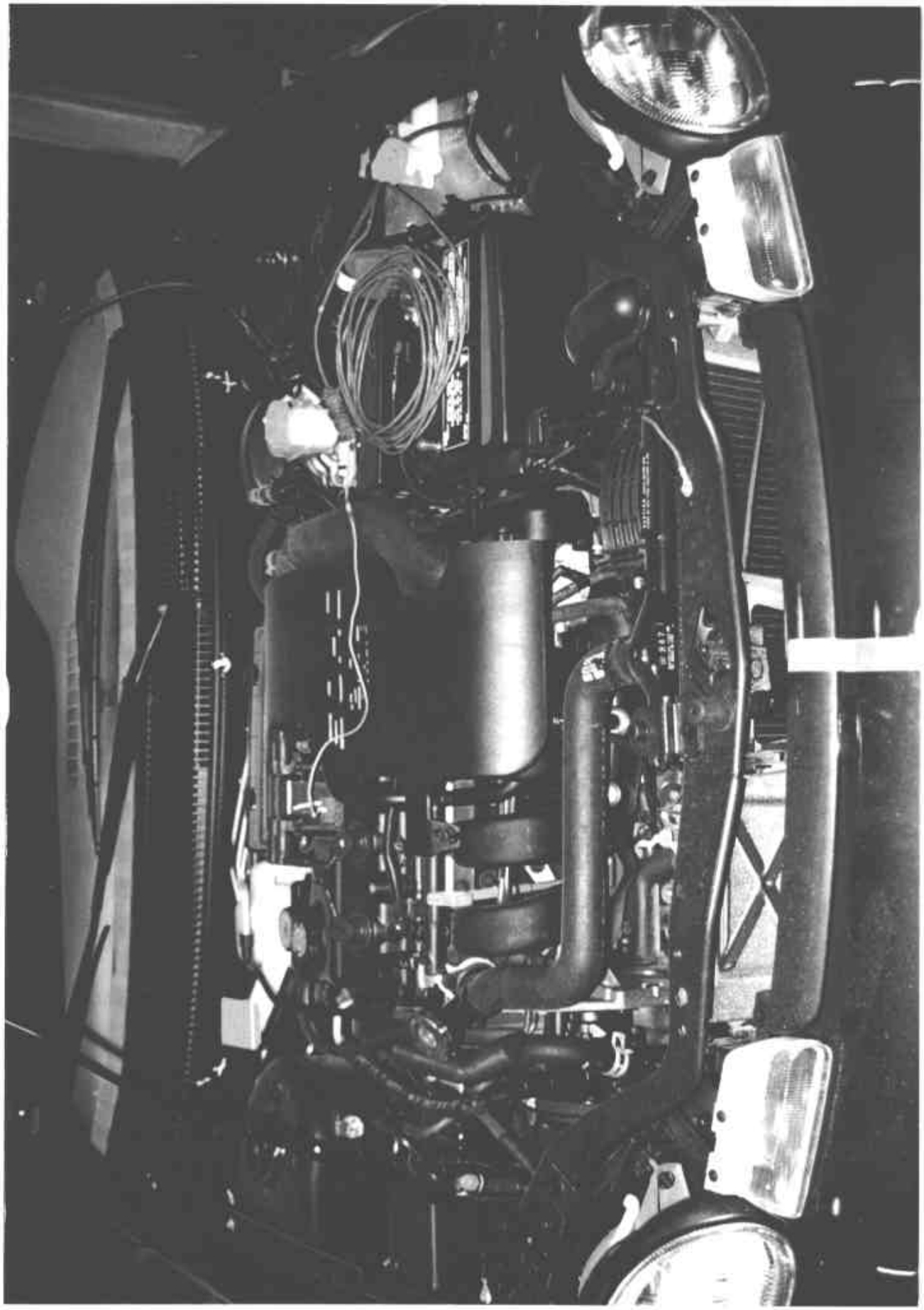


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW

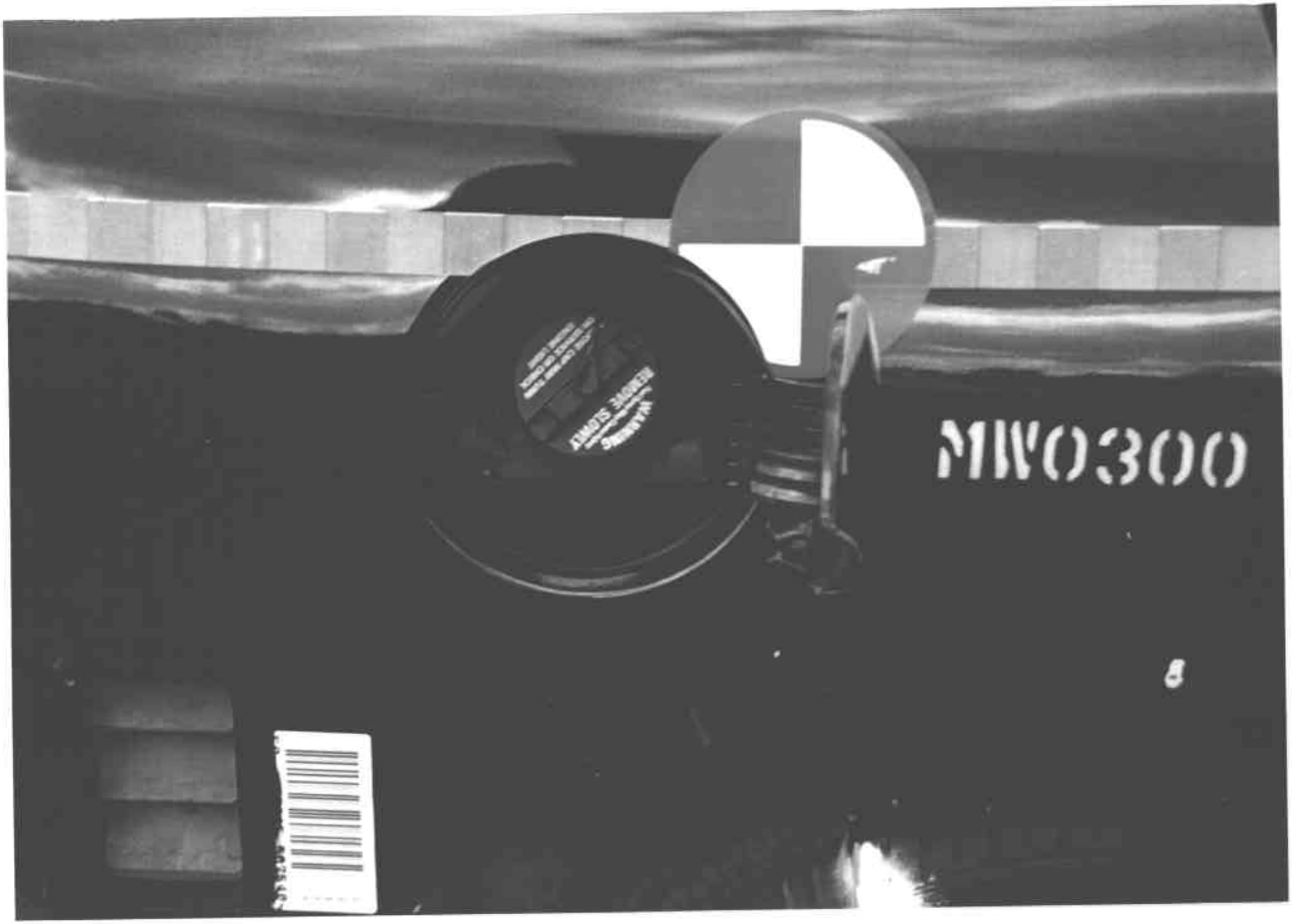


Figure A-15 FUEL CAP VIEW

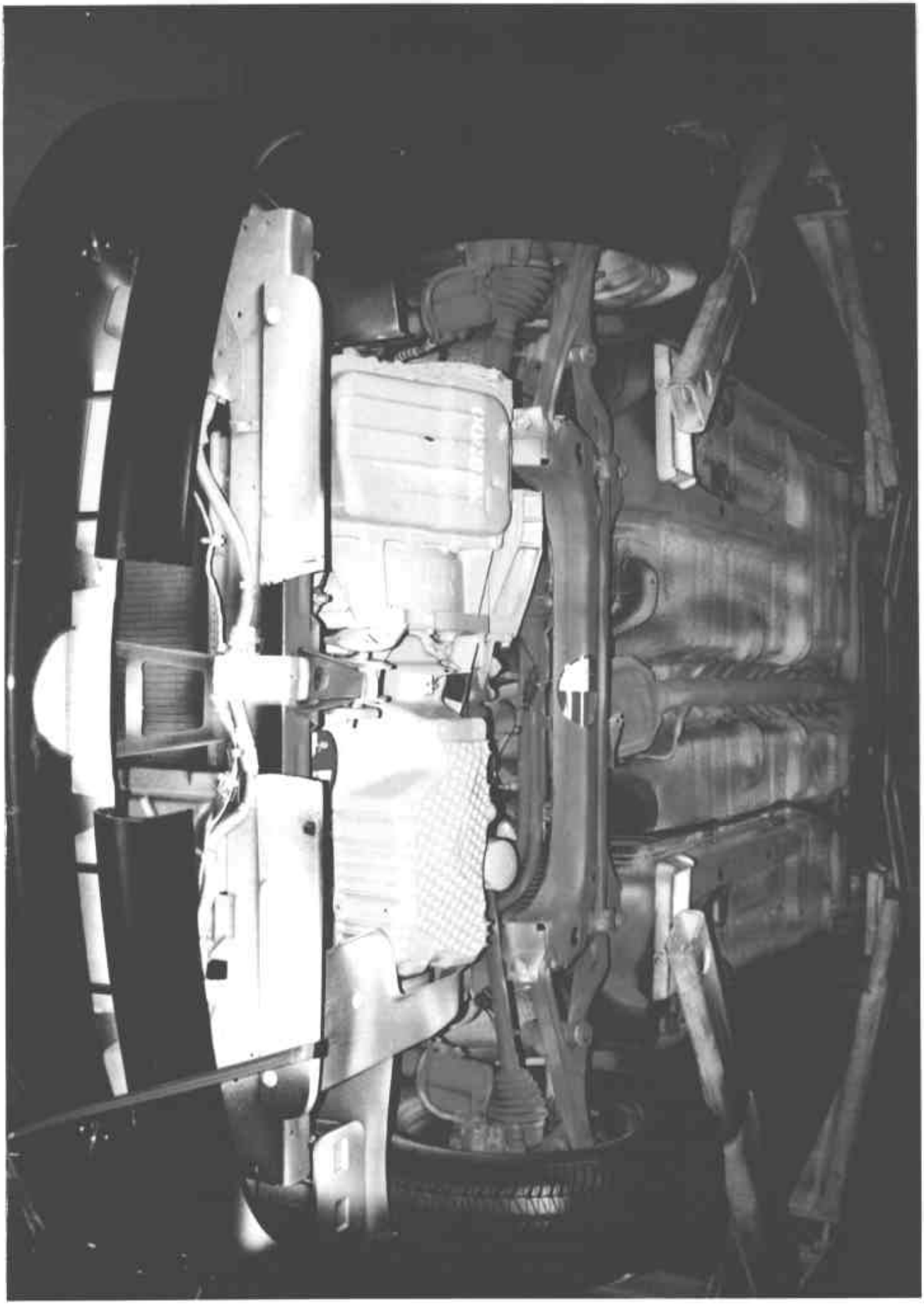


Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

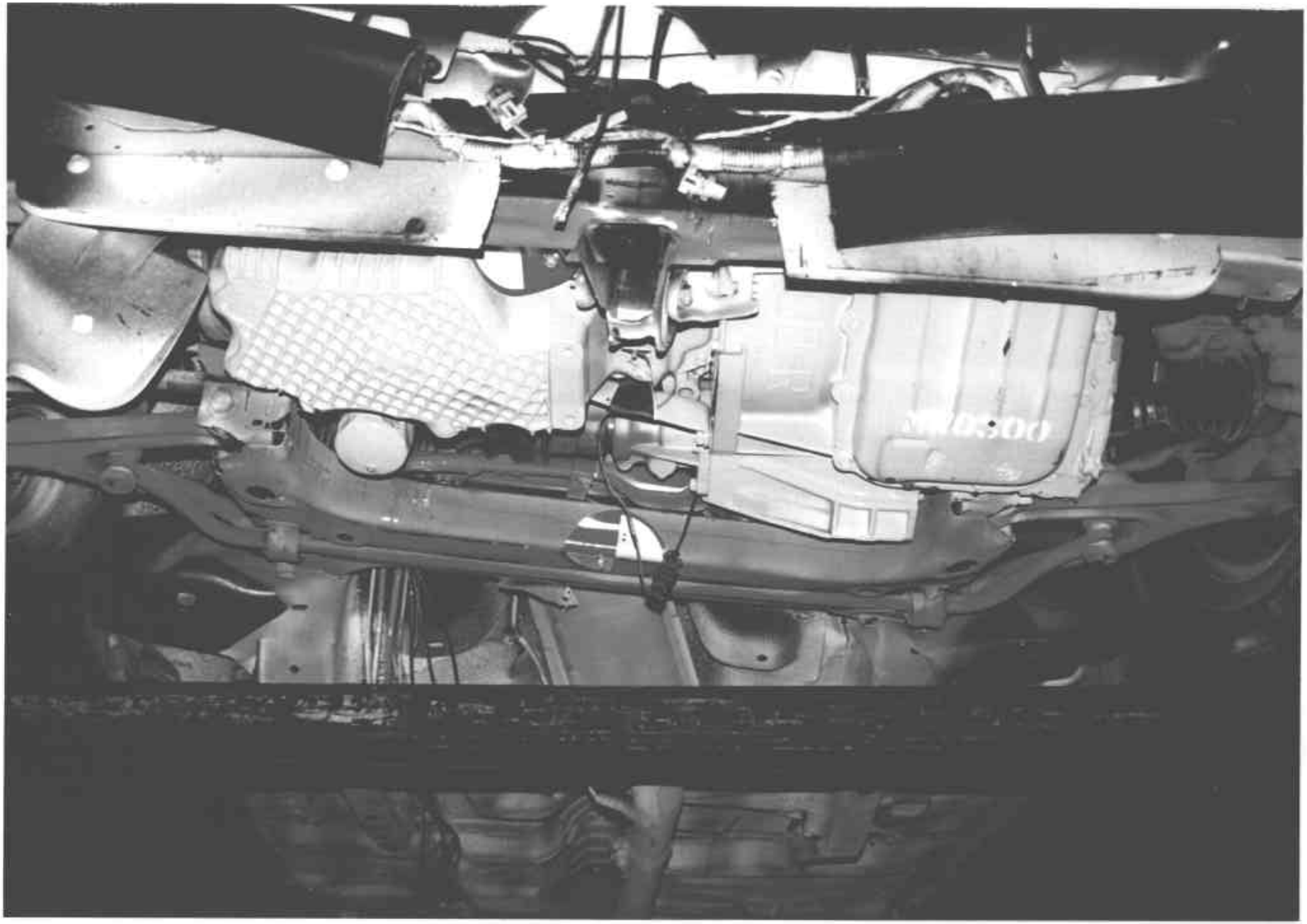


Figure A-17 POST-TEST FRONT UNDERBODY VIEW

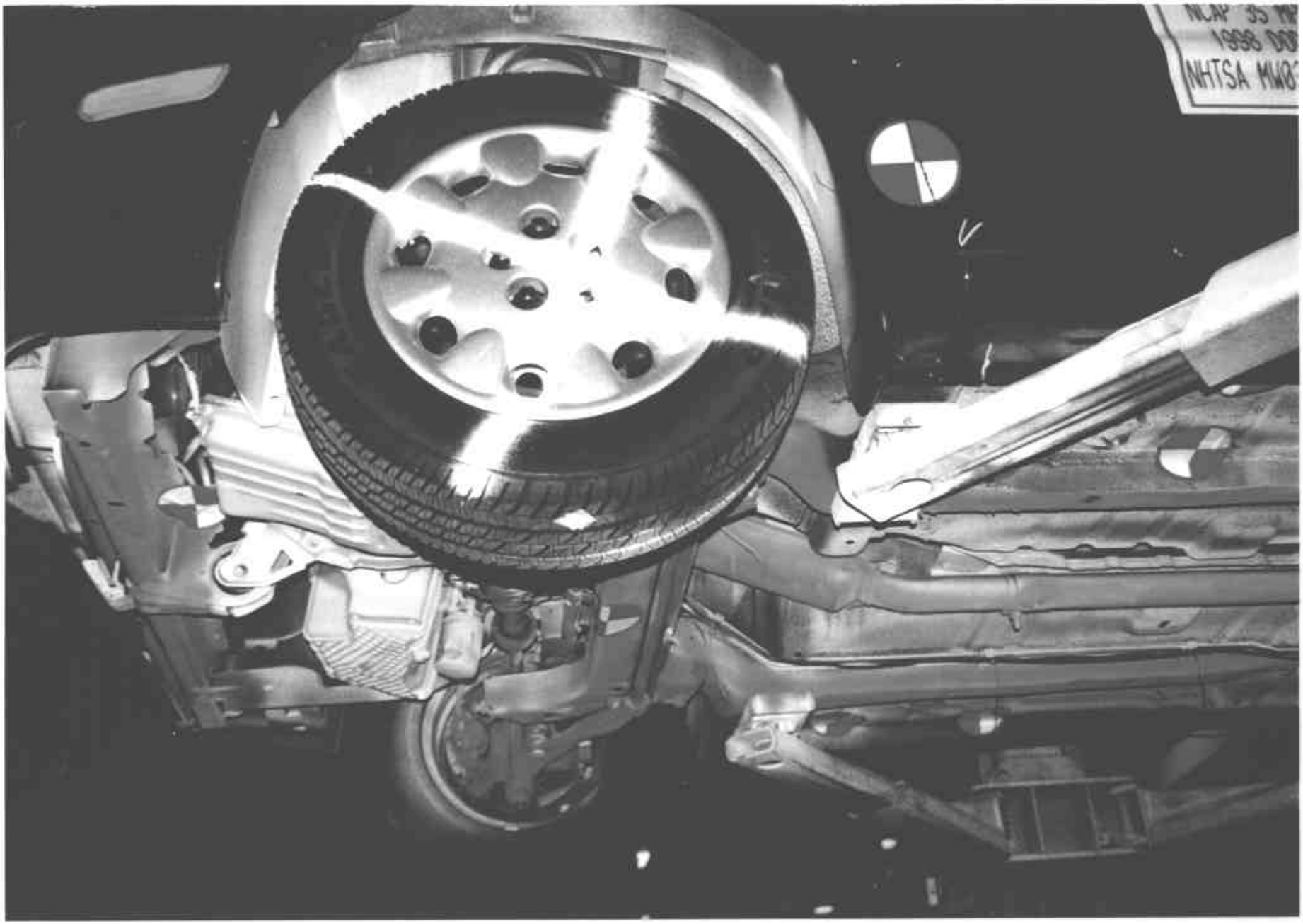


Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW

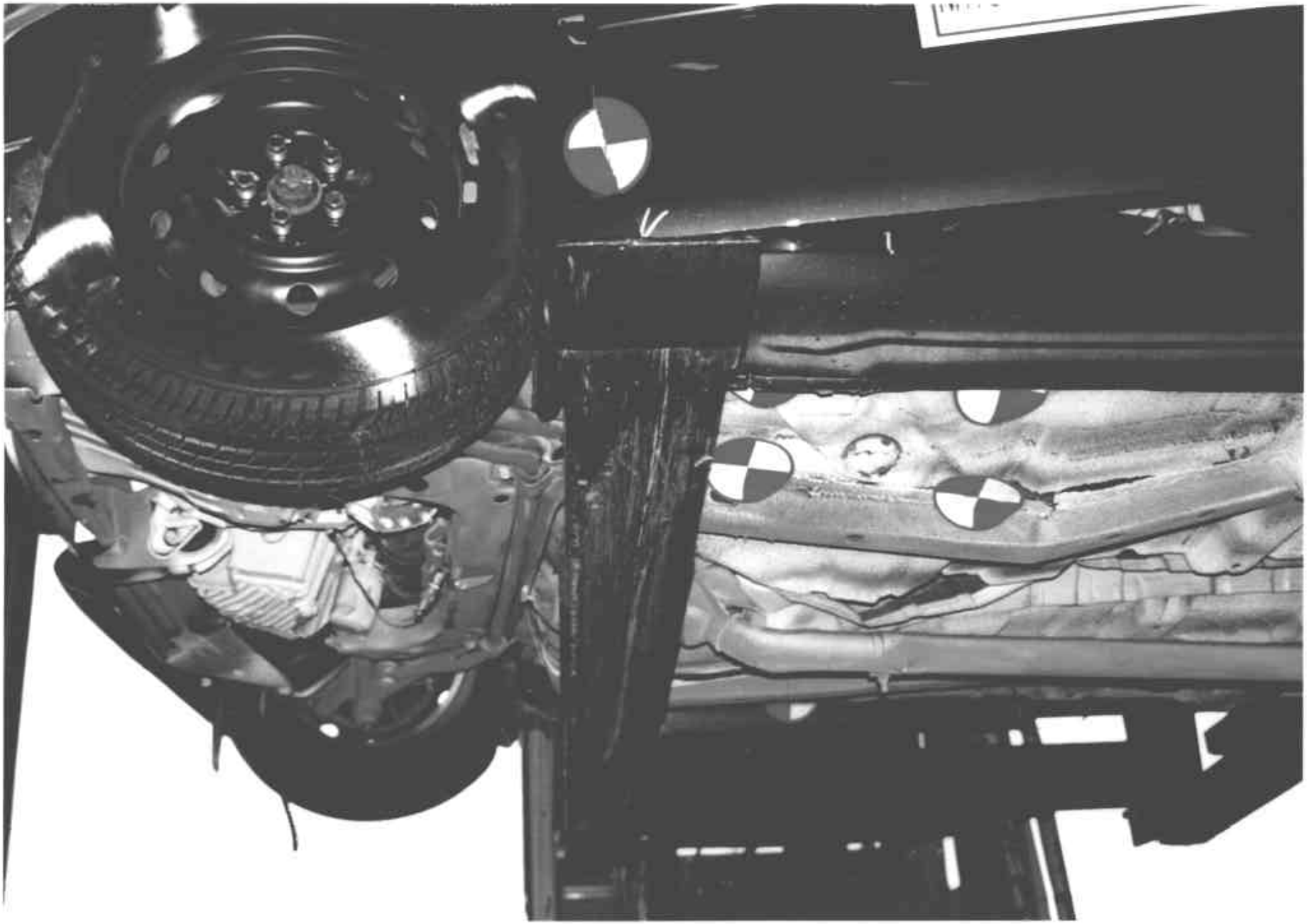


Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW

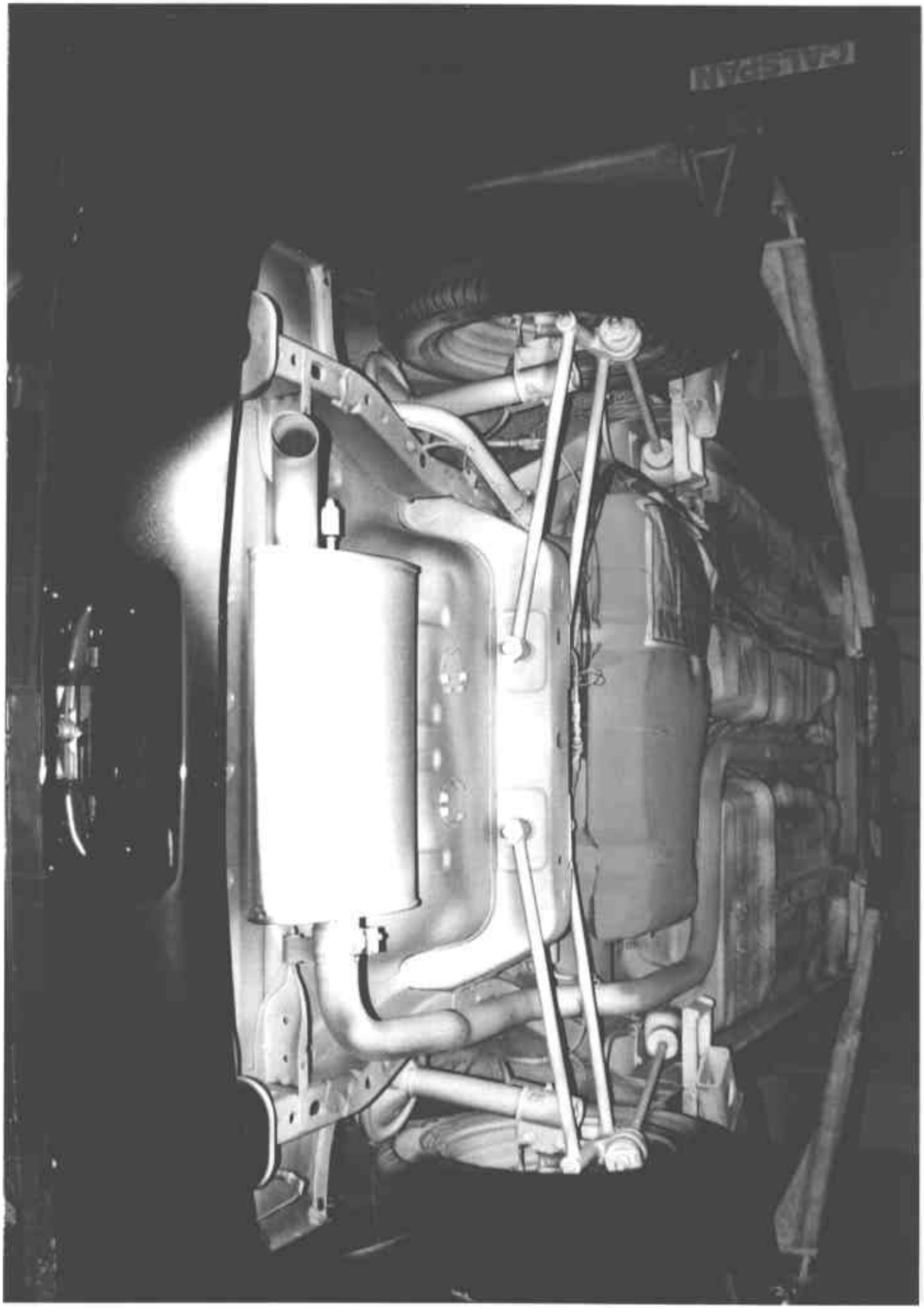


Figure A-20 PRE-TEST REAR UNDERBODY VIEW

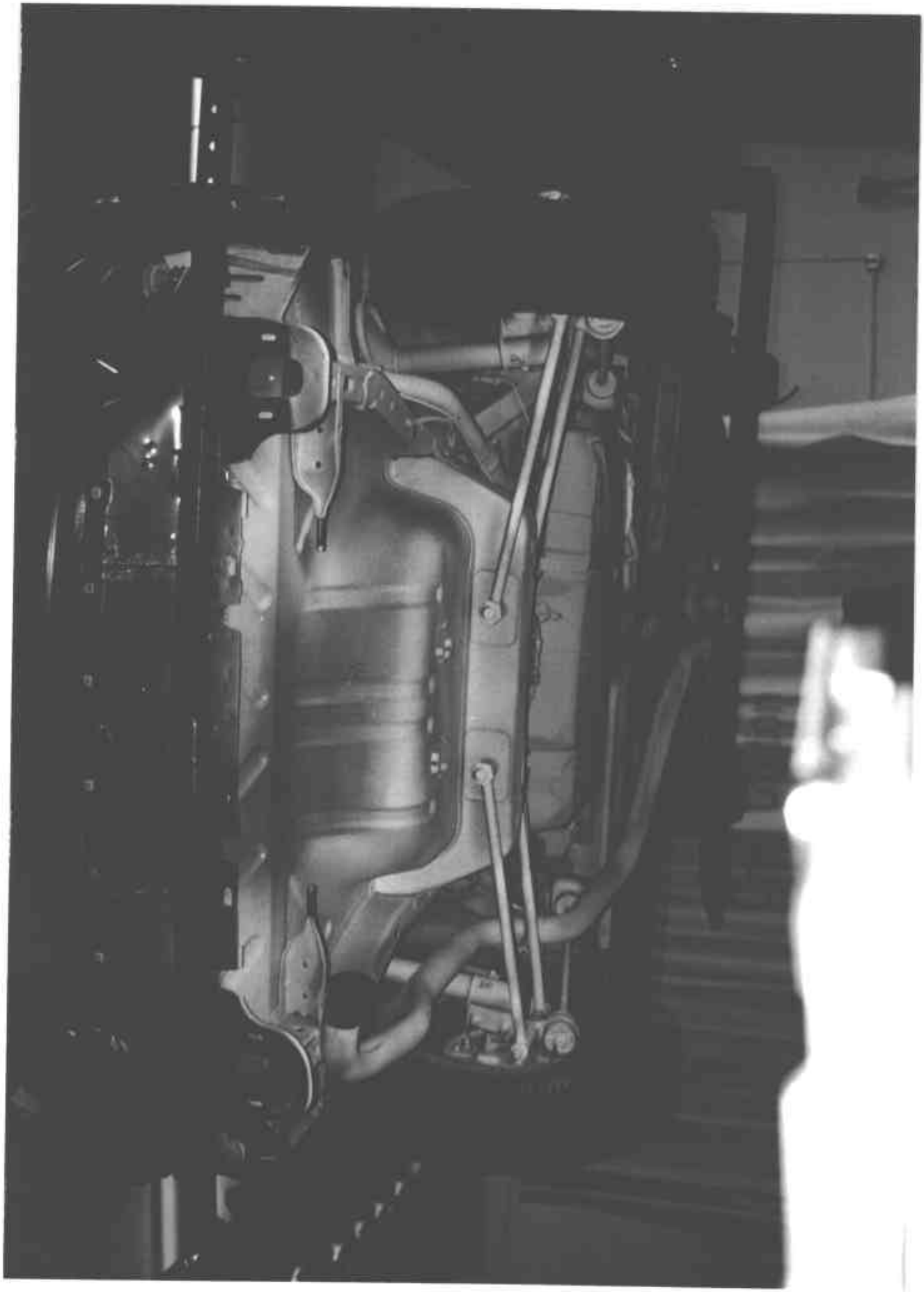


Figure A-21 POST-TEST REAR UNDERBODY VIEW

Figure A-22 PRE-TEST DRIVER POSITION VIEW

Figure A-23 POST-TEST DRIVER POSITION VIEW

Figure A-24 PRE-TEST PASSENGER POSITION VIEW

Figure A-25 POST-TEST PASSENGER POSITION VIEW

Figure A-26 PRE-TEST DRIVER AND INTERIOR VIEW

Figure A-27 POST-TEST DRIVER AND INTERIOR VIEW

Figure A-28 PRE-TEST PASSENGER AND INTERIOR VIEW

Figure A-29 POST-TEST PASSENGER AND INTERIOR VIEW

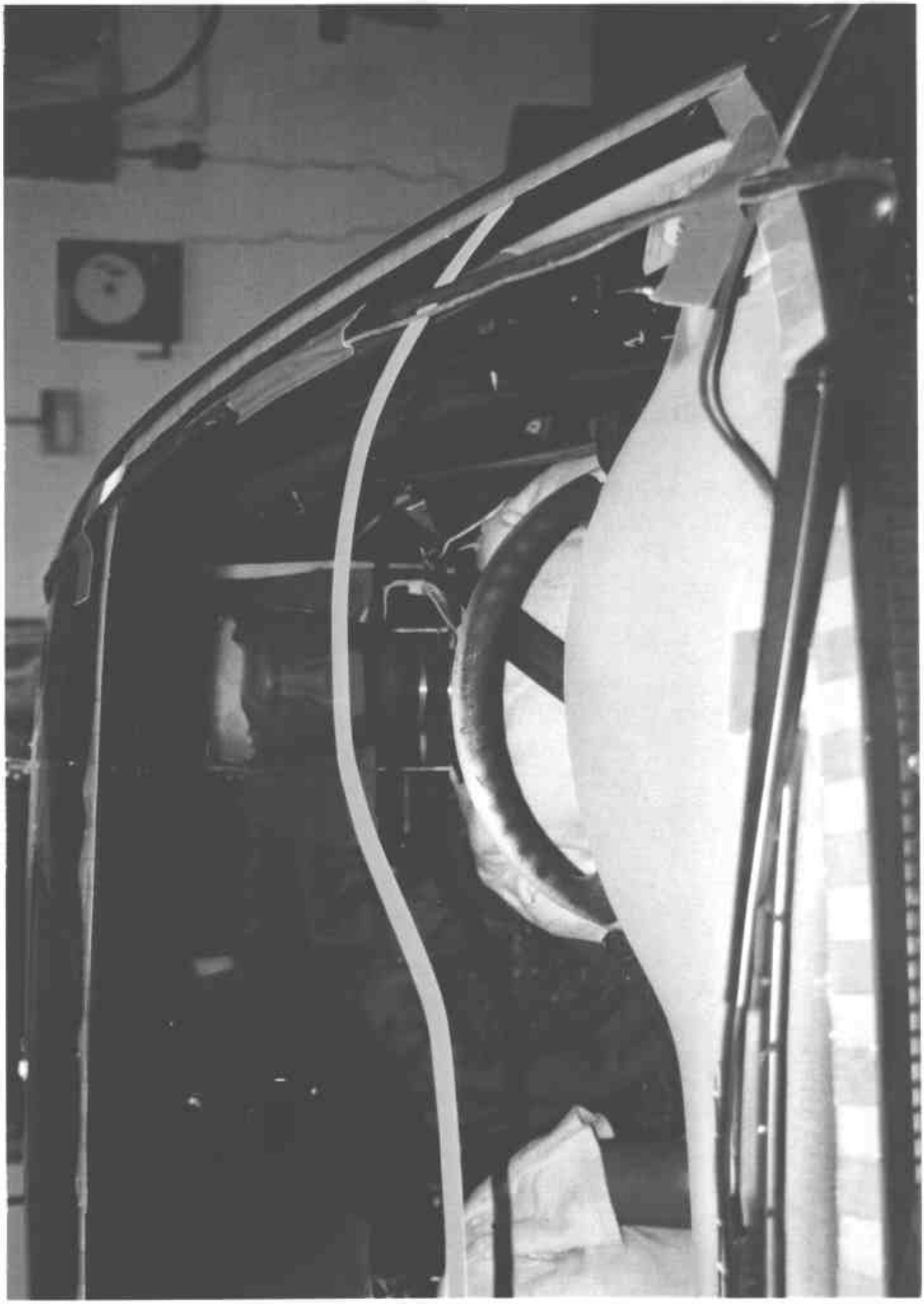


Figure A-30 PRE-TEST DRIVER HEAD LOCATION

Figure A-31 POST-TEST DRIVER HEAD LOCATION

Figure A-32 PRE-TEST PASSENGER HEAD LOCATION

Figure A-33 POST-TEST PASSENGER HEAD LOCATION

Figure A-34 PRE-TEST DRIVER FLOOR PAN VIEW

Figure A-35 POST-TEST DRIVER FLOOR PAN VIEW

Figure A-36 PRE-TEST PASSENGER FLOOR PAN VIEW

Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW

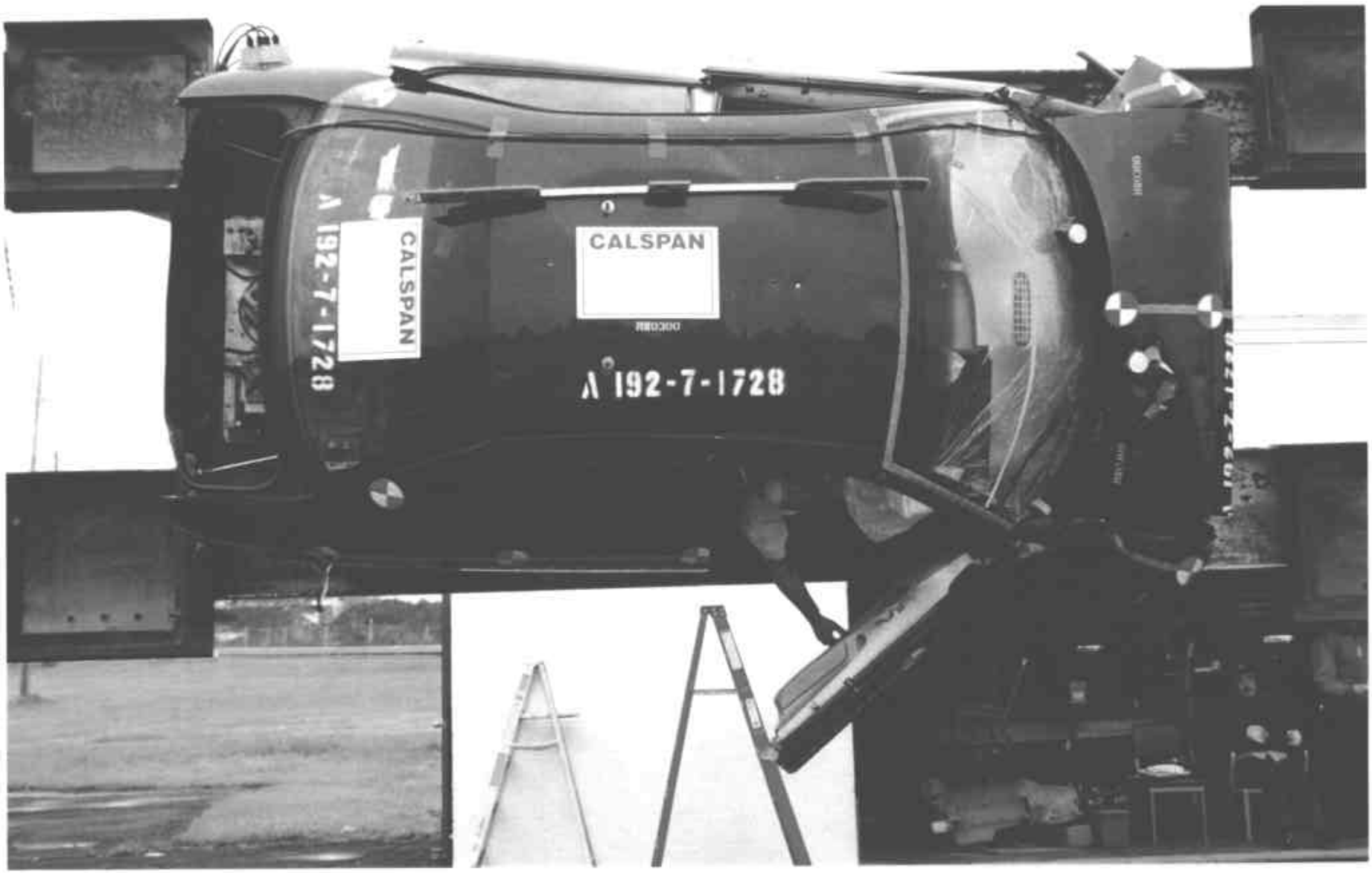


Figure A-38 ROLLOVER VIEW

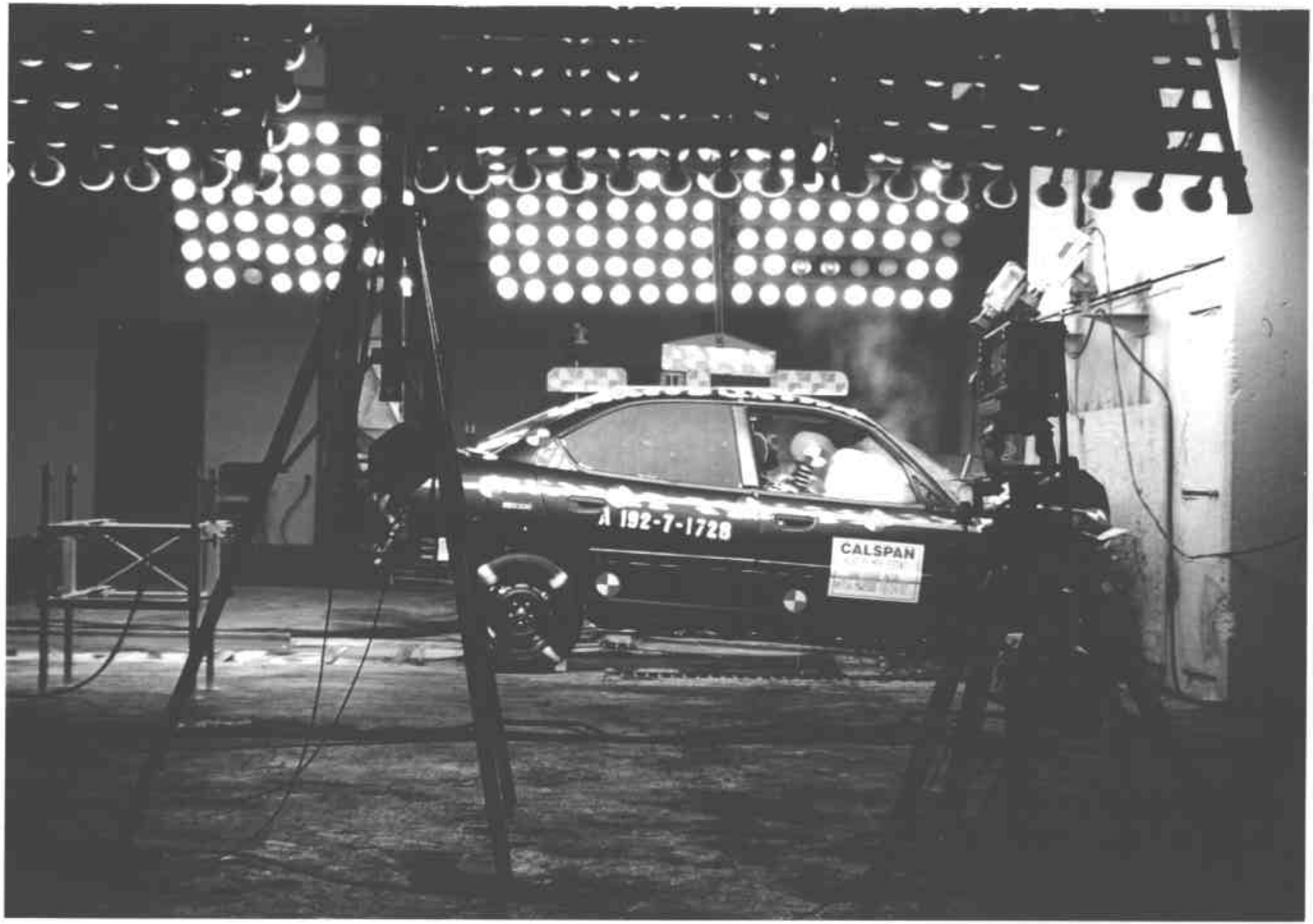


Figure A-39 IMPACT VIEW

Appendix B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

Hybrid III Dummy Sign Conventions
Load Cells and Special Transducers

Transducer	DOT/NHTSA Sign Convention (positive unless noted)
Upper Neck Load Cell	Fx Head forward Fy Head left Fz Neck in tension Mx Right ear to right shoulder My Chin to chest (flexion) Mz Chin to left shoulder (look left)
Chest Displacement Potentiometer	Compression is negative
Pelvic Load Cell (Lower Lumbar)	Fx Chest forward Fy Chest left Fz Spine in tension
Femur Load Cell	Compression is negative
Upper Tibia Load Cell (right and left leg)	Mx Support tibia, load right side center My Support tibia, load front (shin) center
Lower Tibia Load Cell (right and left leg)	Fy Foot right w/r to left Fz Tibia in tension Mx Support tibia, press right side center

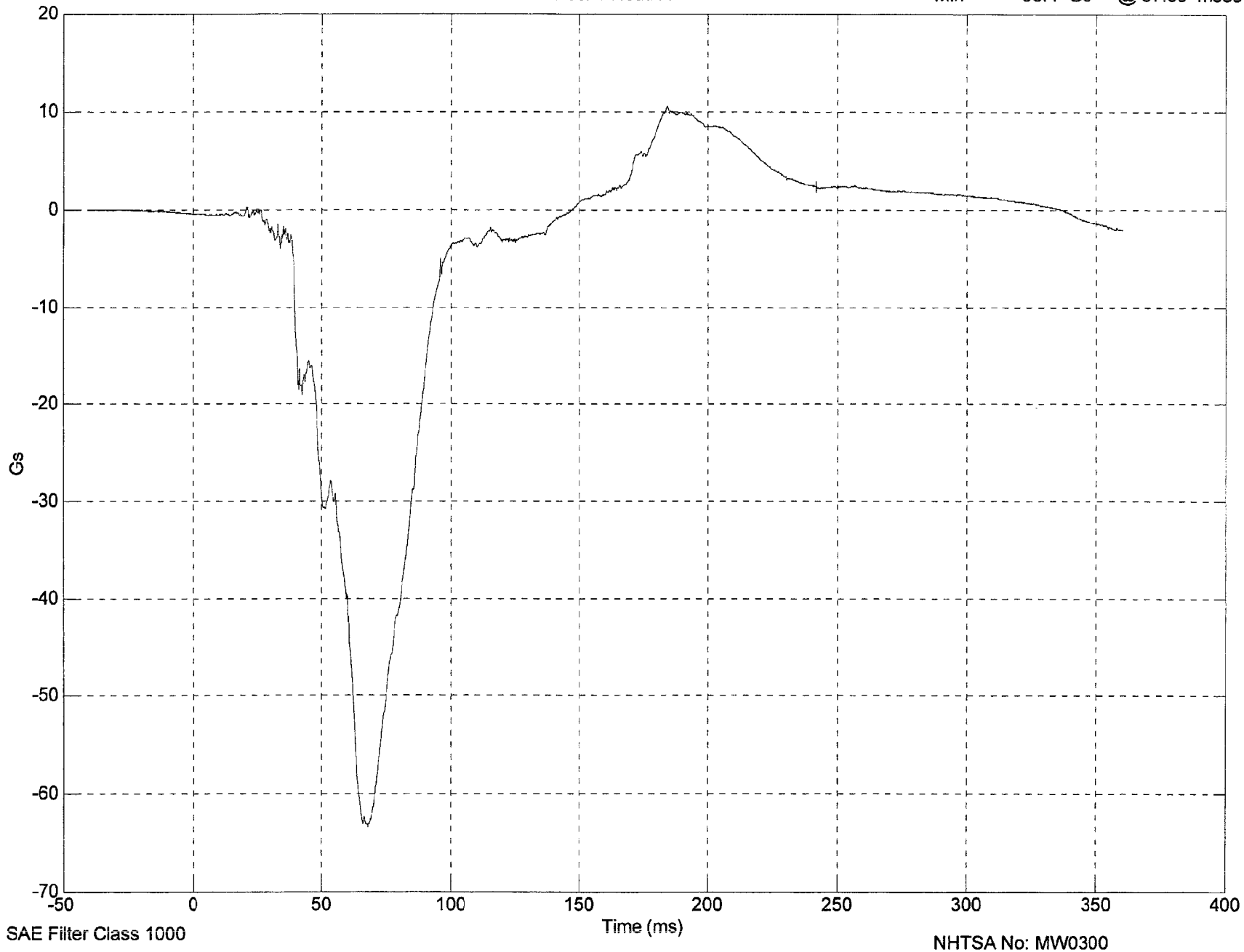
NHTSA TEST NO. MW0300

DUMMY DATA

CLASS	FILTER CHANNEL
Head Accelerations	1000
Chest Accelerations	180
Chest Displacements	60
Femur Forces	600
Belt Loads	60
Belt Displacements	180
Neck Forces	1000
Neck Moments	600

NCAP TEST #7 - 1998 DODGE NEON

Max = 10.6 Gs @ 184.40 msec
Min = -63.4 Gs @ 67.90 msec



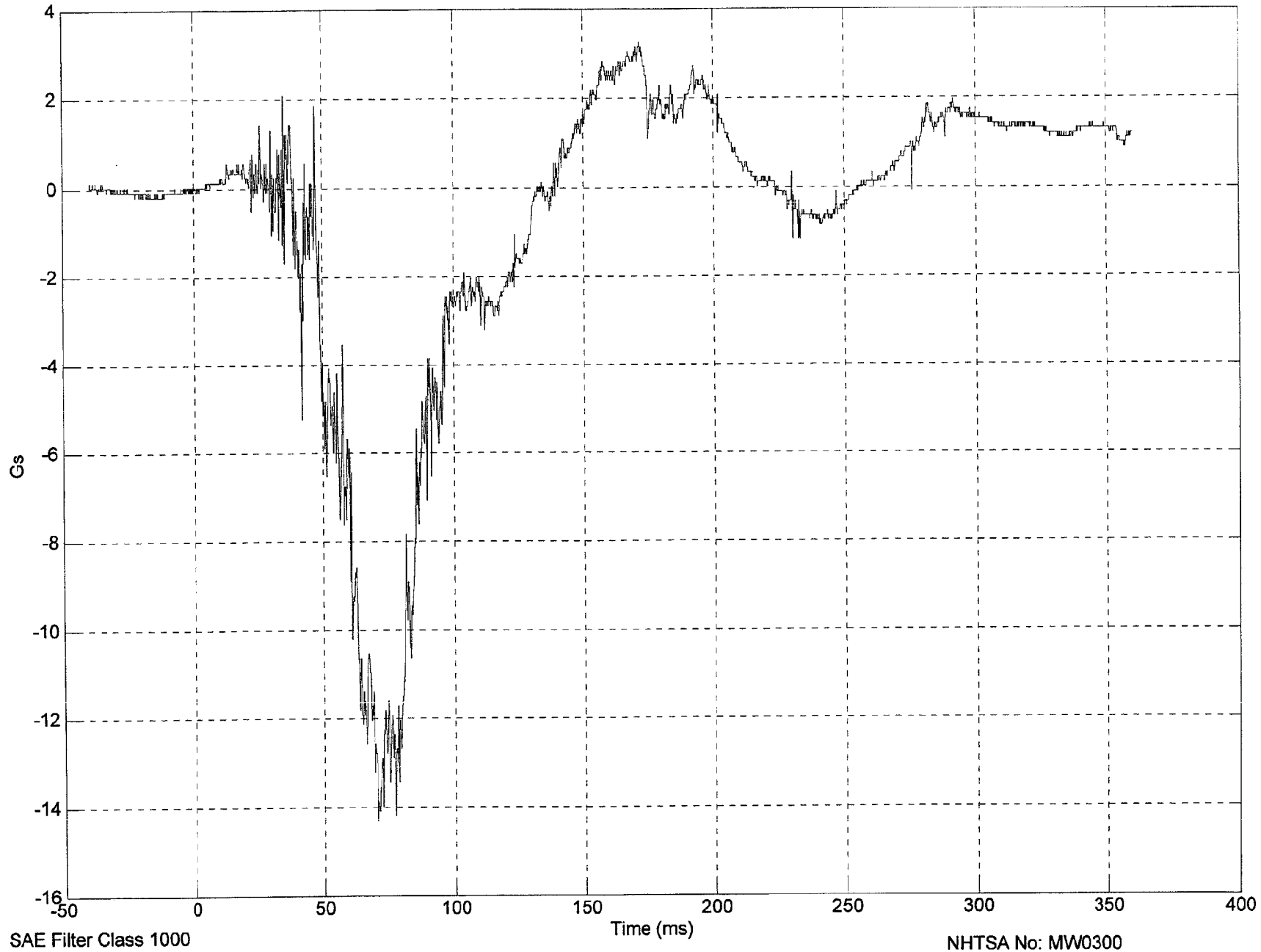
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 3.26 Gs @ 171.70 msec
Min = -14.3 Gs @ 70.40 msec



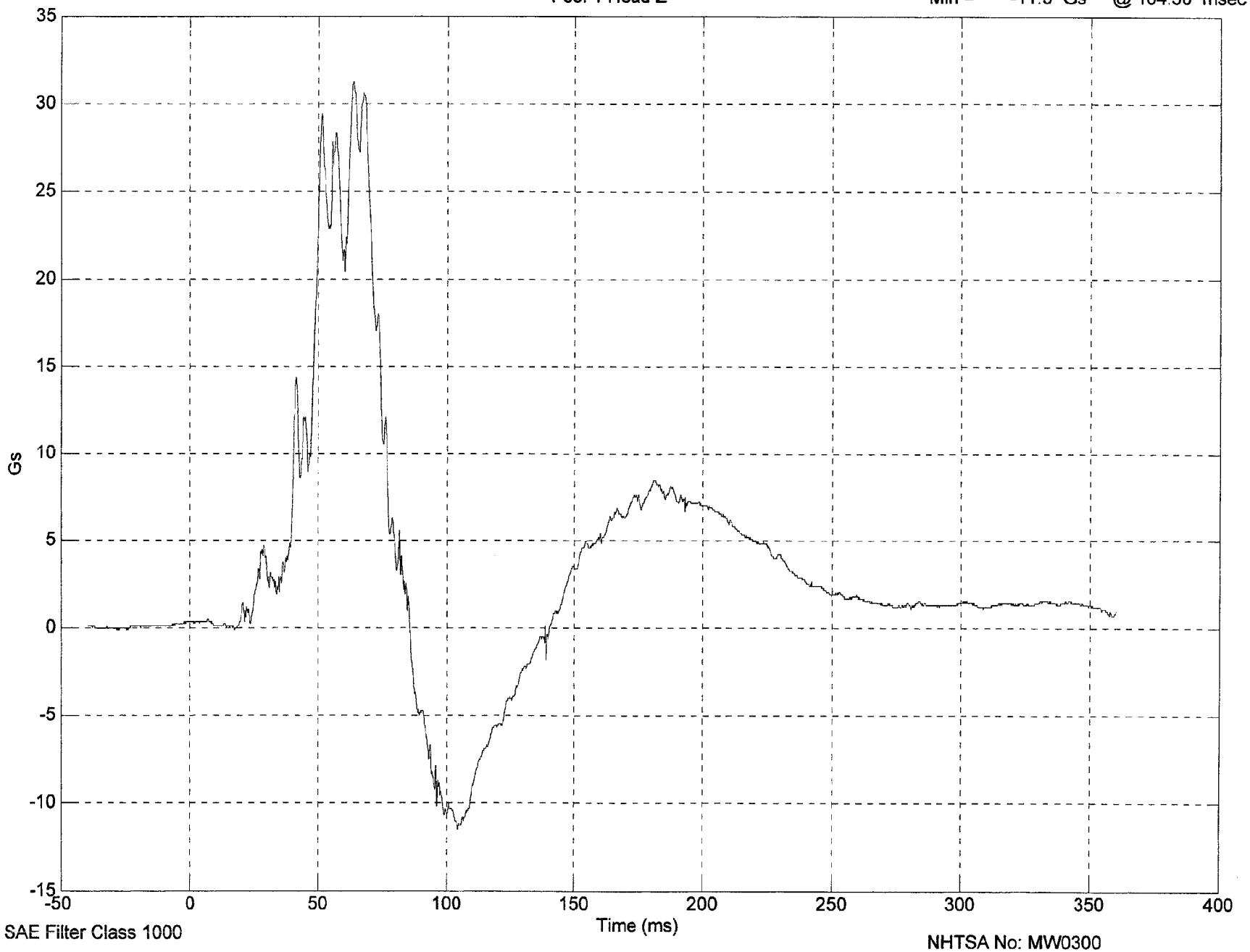
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Head Z

Max = 31.2 Gs @ 63.40 msec
Min = -11.5 Gs @ 104.50 msec



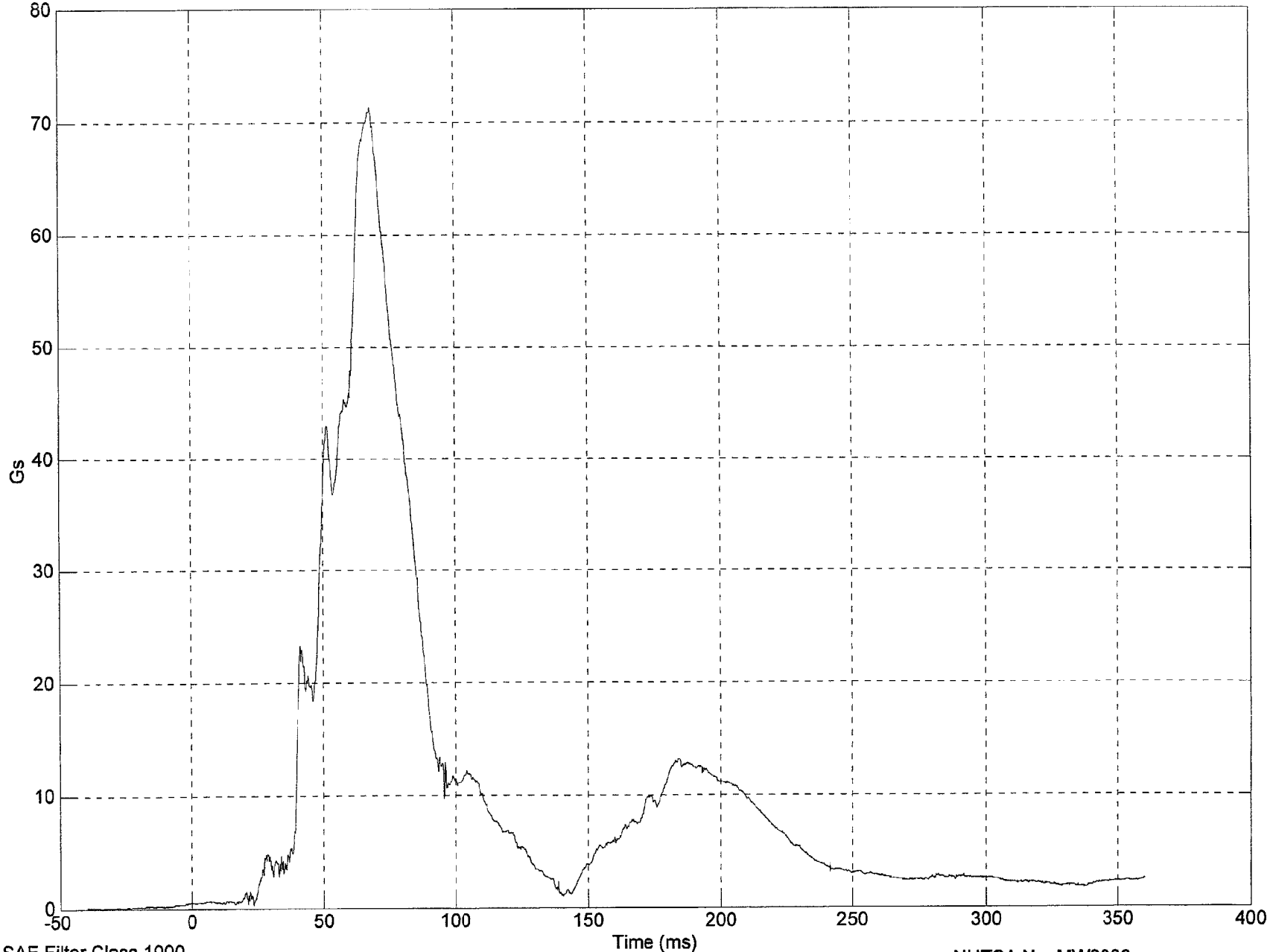
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Head Resultant

Max = 71.3 Gs @ 67.90 msec
Min = 0.0351 Gs @ -38.00 msec

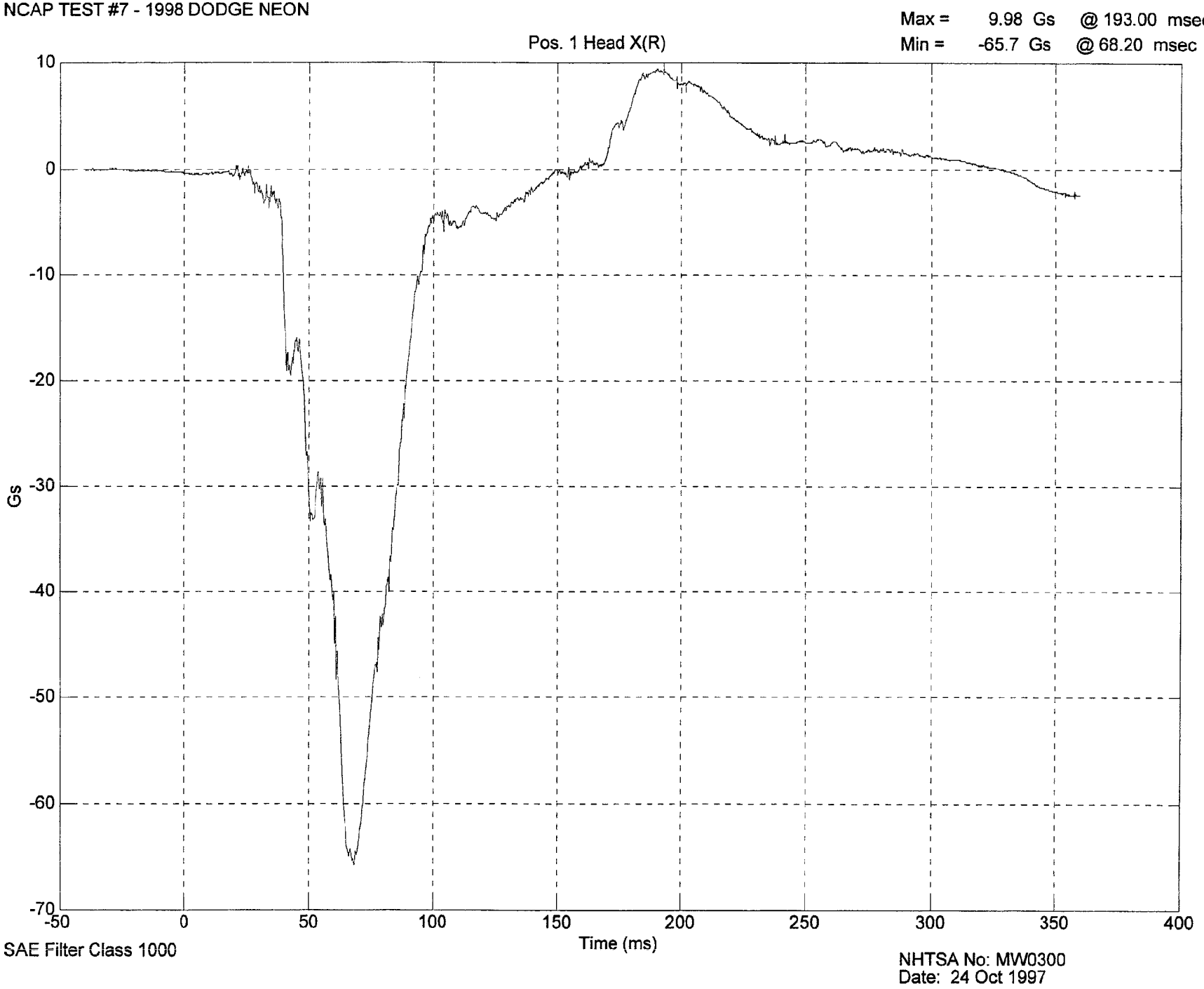


SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

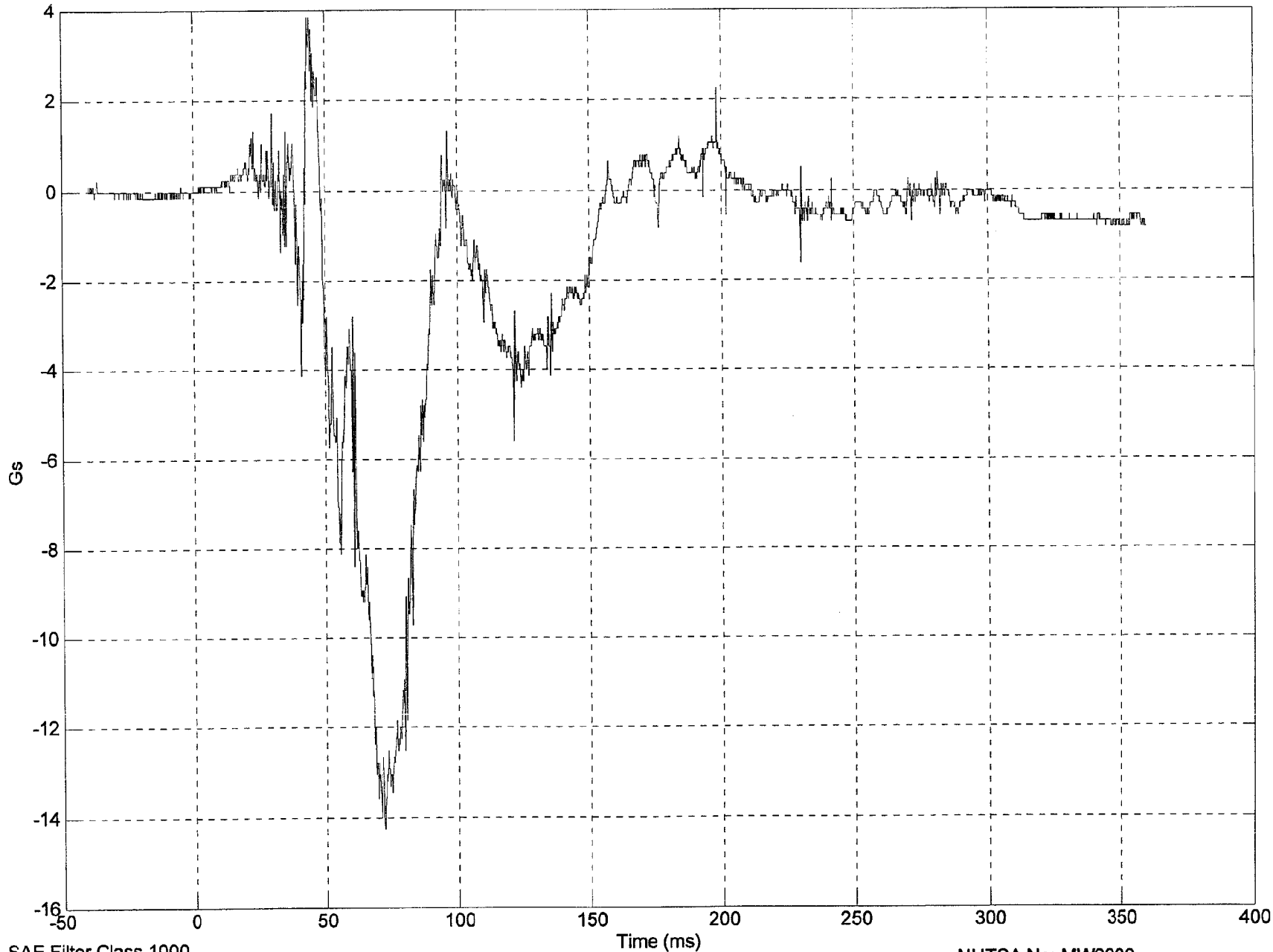
8413-7

NCAP TEST #7 - 1998 DODGE NEON



NCAP TEST #7 - 1998 DODGE NEON

Max = 3.85 Gs @ 43.40 msec
Min = -14.3 Gs @ 71.80 msec



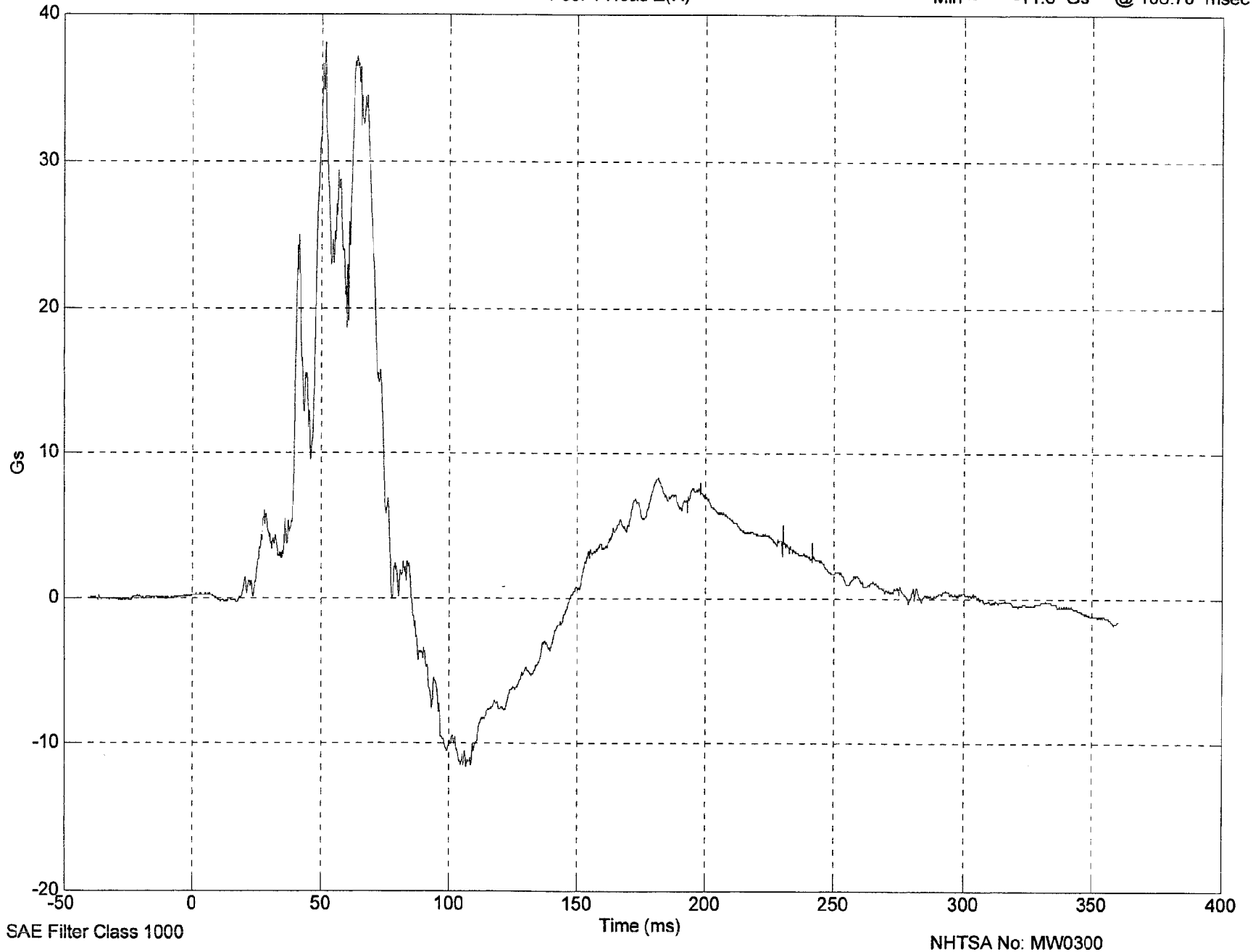
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 38.1 Gs @ 51.50 msec
Min = -11.6 Gs @ 106.70 msec



SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

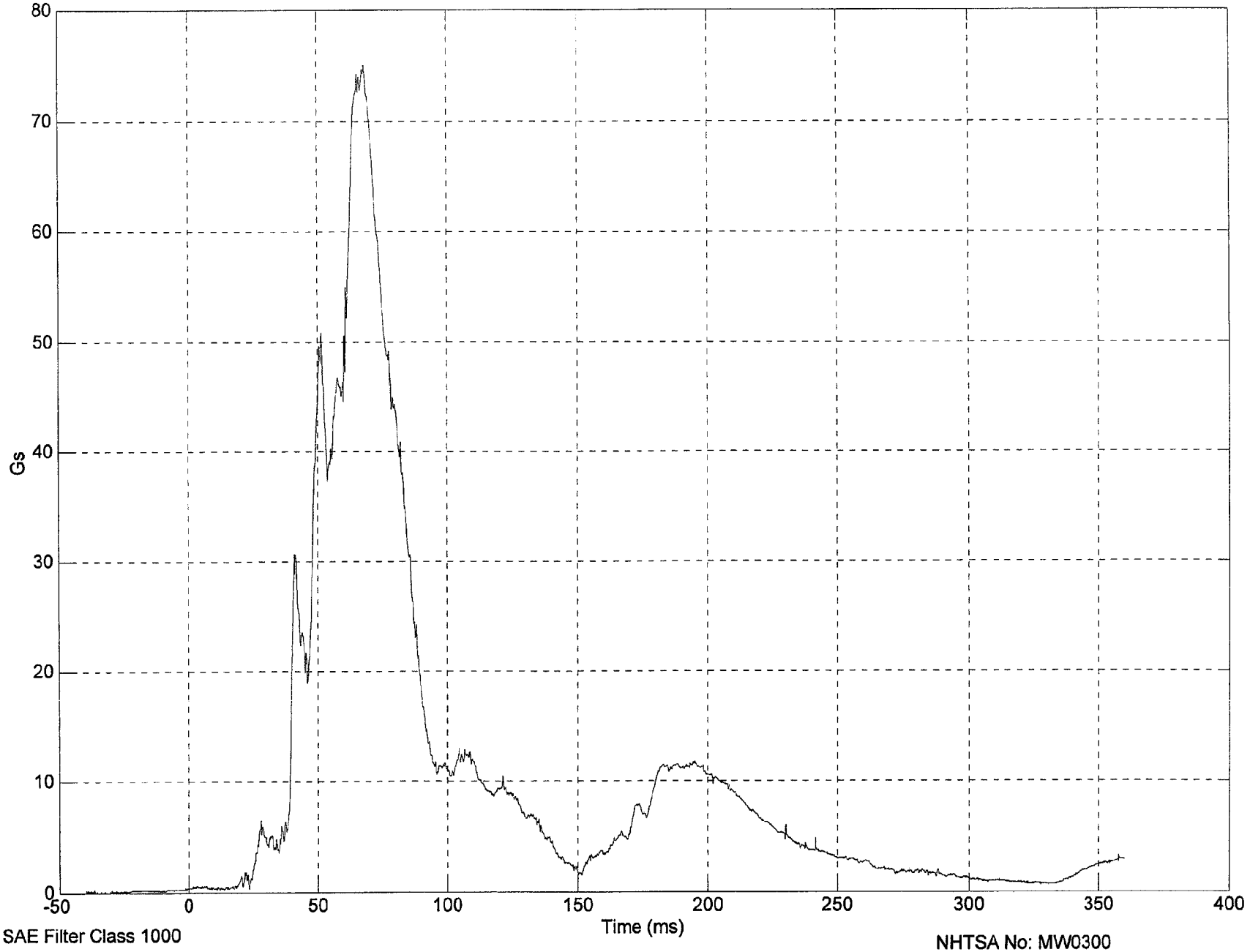
B-10

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Head Resultant(RR)

Max = 75.1 Gs @ 67.90 msec
Min = 0.0116 Gs @ -39.60 msec



SAE Filter Class 1000

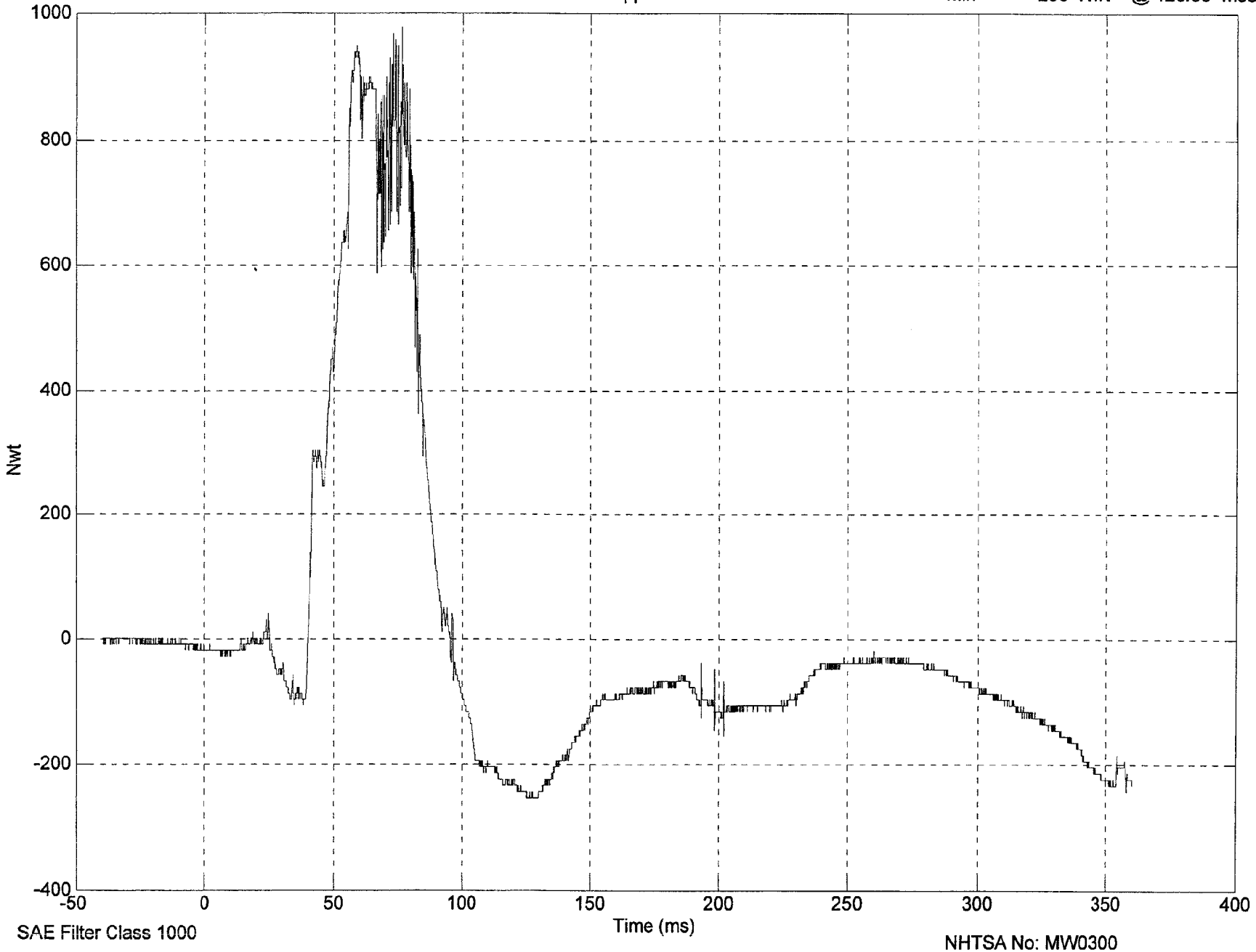
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Upper Neck Fx

Max = 979 Nwt @ 76.50 msec
Min = -253 Nwt @ 125.30 msec

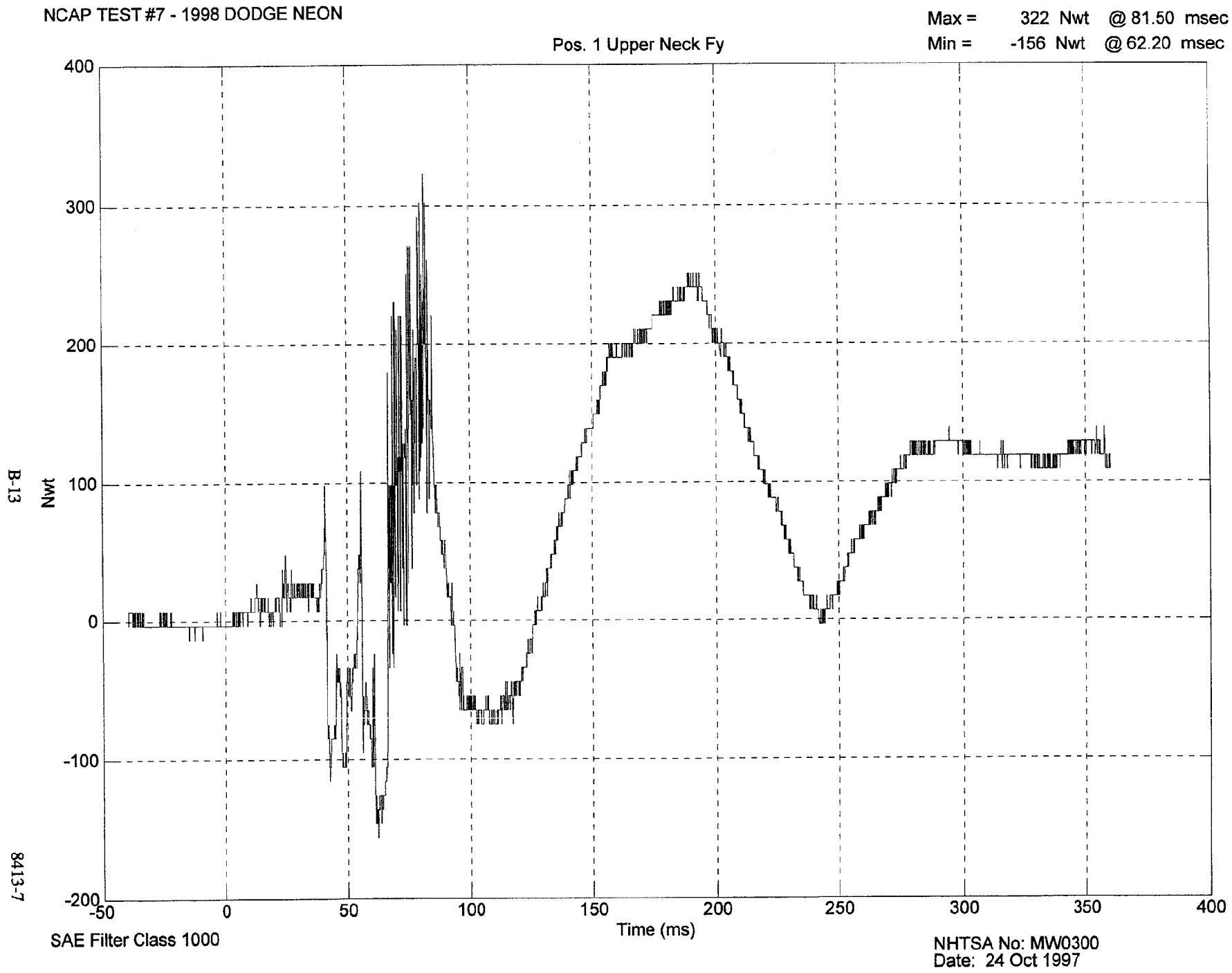


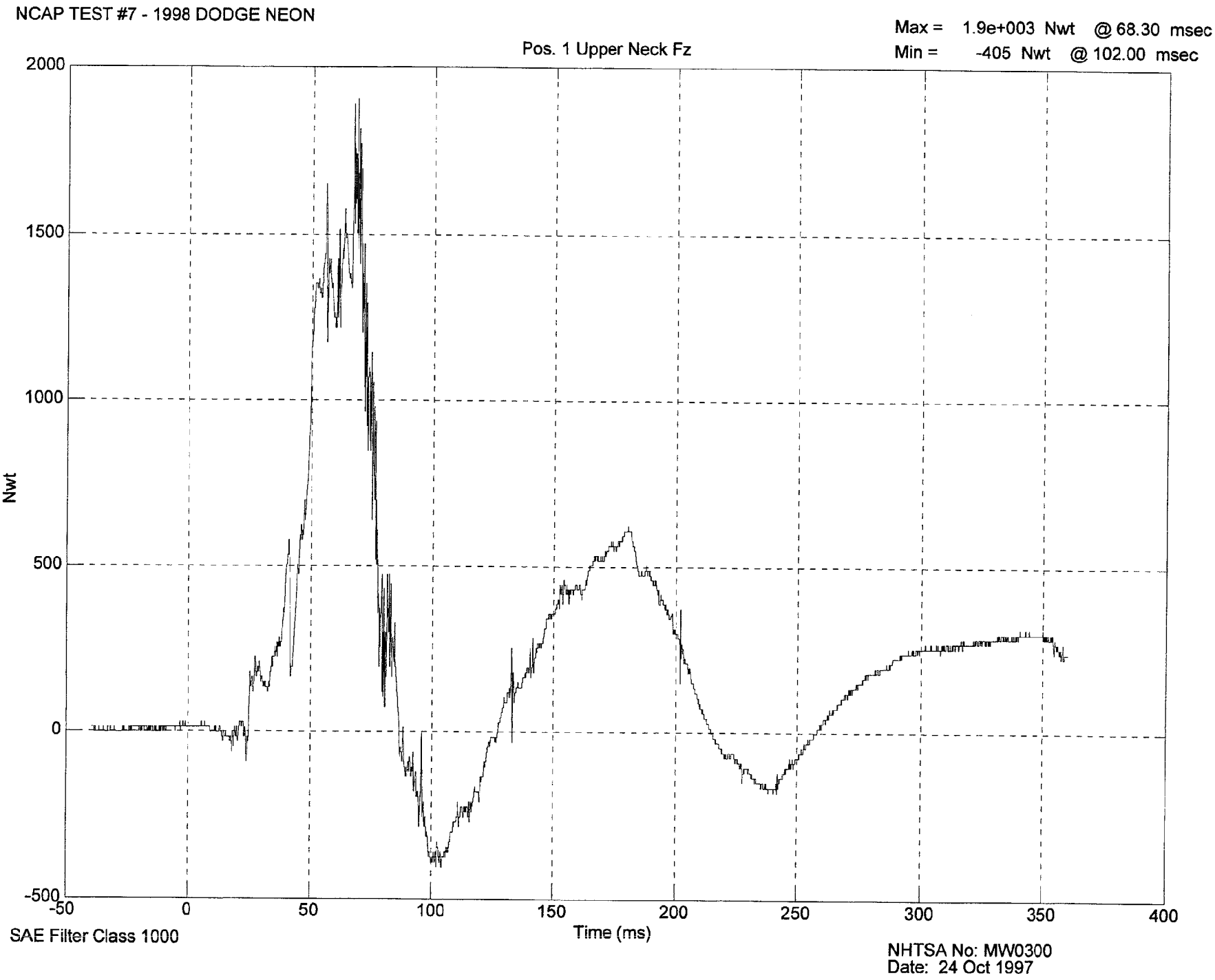
SAE Filter Class 1000

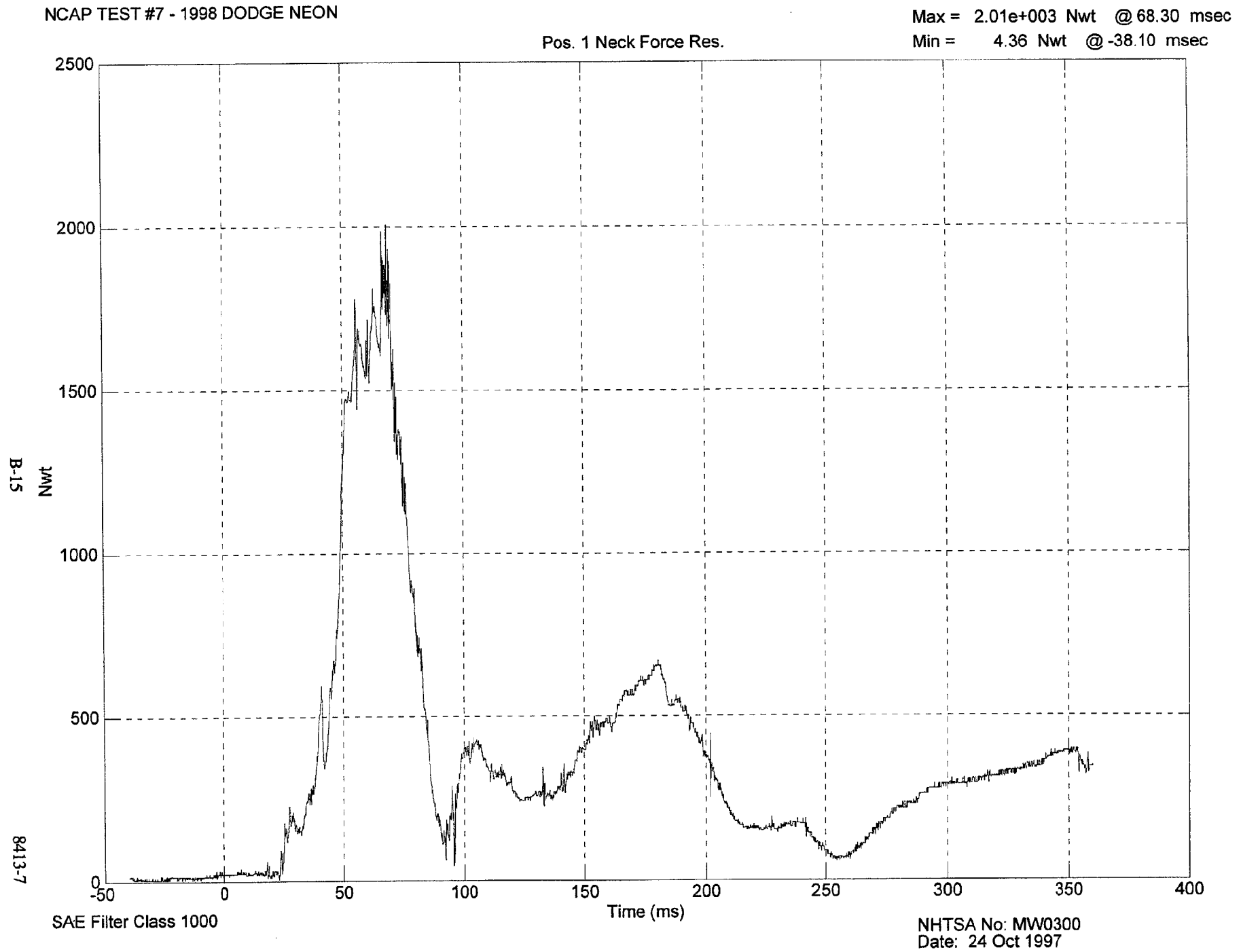
NHTSA No: MW0300
Date: 24 Oct 1997

B-12

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Upper Neck Fy
Max = 322 Nwt @ 81.50 msec
Min = -156 Nwt @ 62.20 msec
400
300
200
100
0
-100
-200
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997
B-13
8413-7

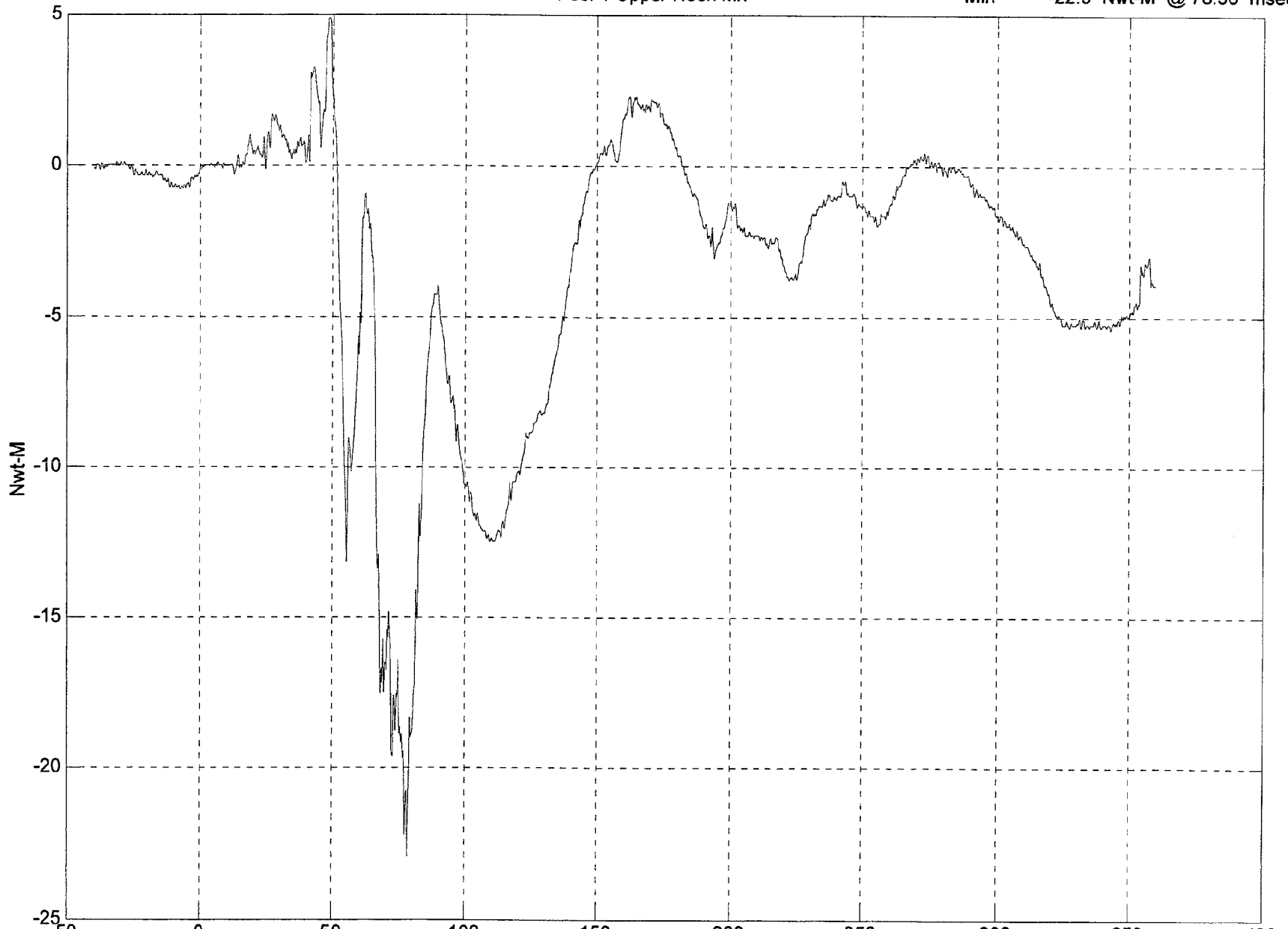

NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Upper Neck Fz
Max = 1.9e+003 Nwt @ 68.30 msec
Min = -405 Nwt @ 102.00 msec
2000
1500
1000
500
0
-500
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Neck Force Res.
Max = 2.01e+003 Nwt @ 68.30 msec
Min = 4.36 Nwt @ -38.10 msec
2500
2000
1500
1000
500
0
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997
B-15
8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Upper Neck Mx

Max = 4.9 Nwt-M @ 48.50 msec
Min = -22.9 Nwt-M @ 78.50 msec



SAE Filter Class 600

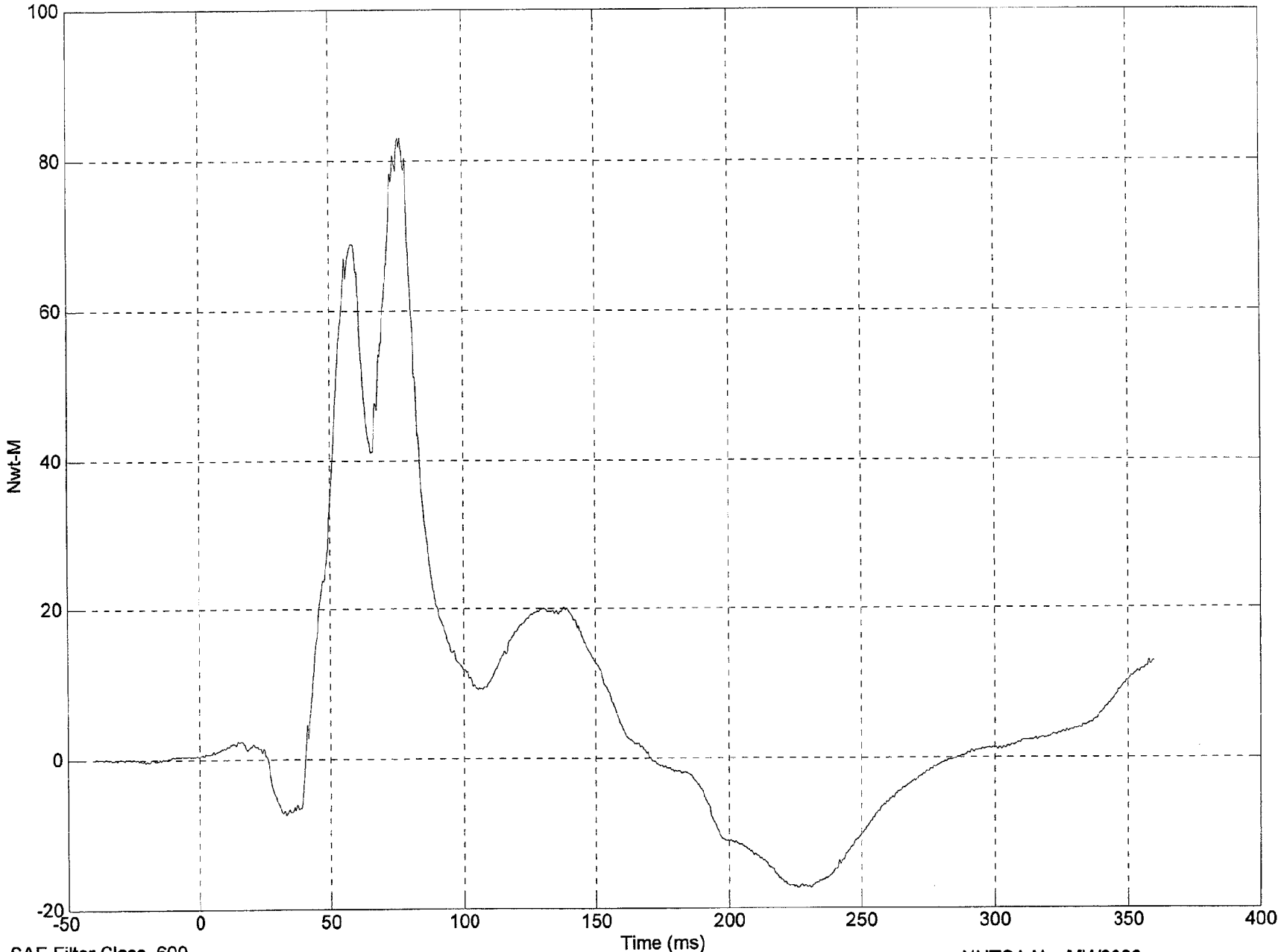
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Upper Neck My

Max = 83 Nwt-M @ 76.00 msec
Min = -17.3 Nwt-M @ 226.40 msec



SAE Filter Class 600

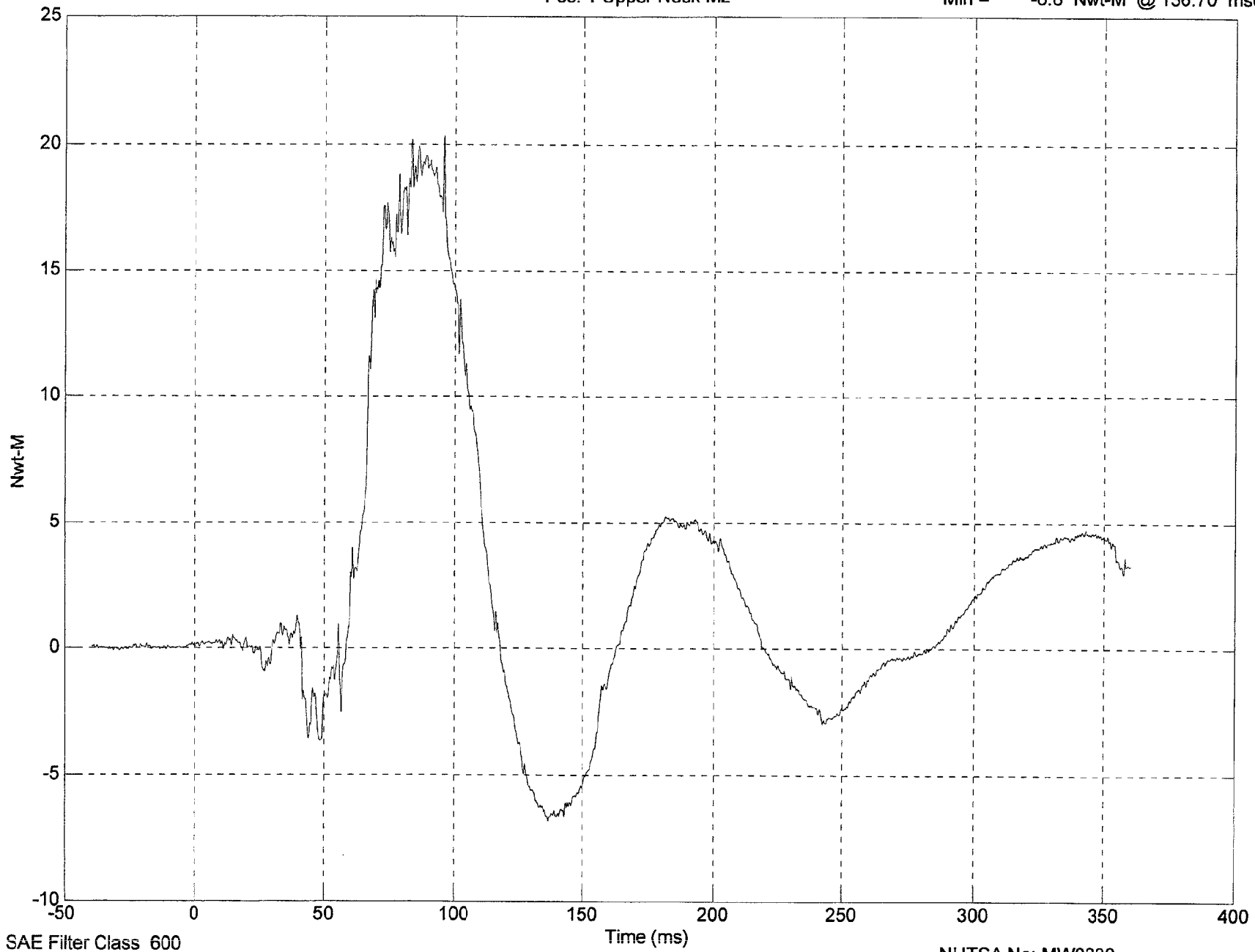
NHTSA No: MW0300
Date: 24 Oct 1997

B-17

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 20.3 Nwt-M @ 95.80 msec
Min = -6.8 Nwt-M @ 136.70 msec



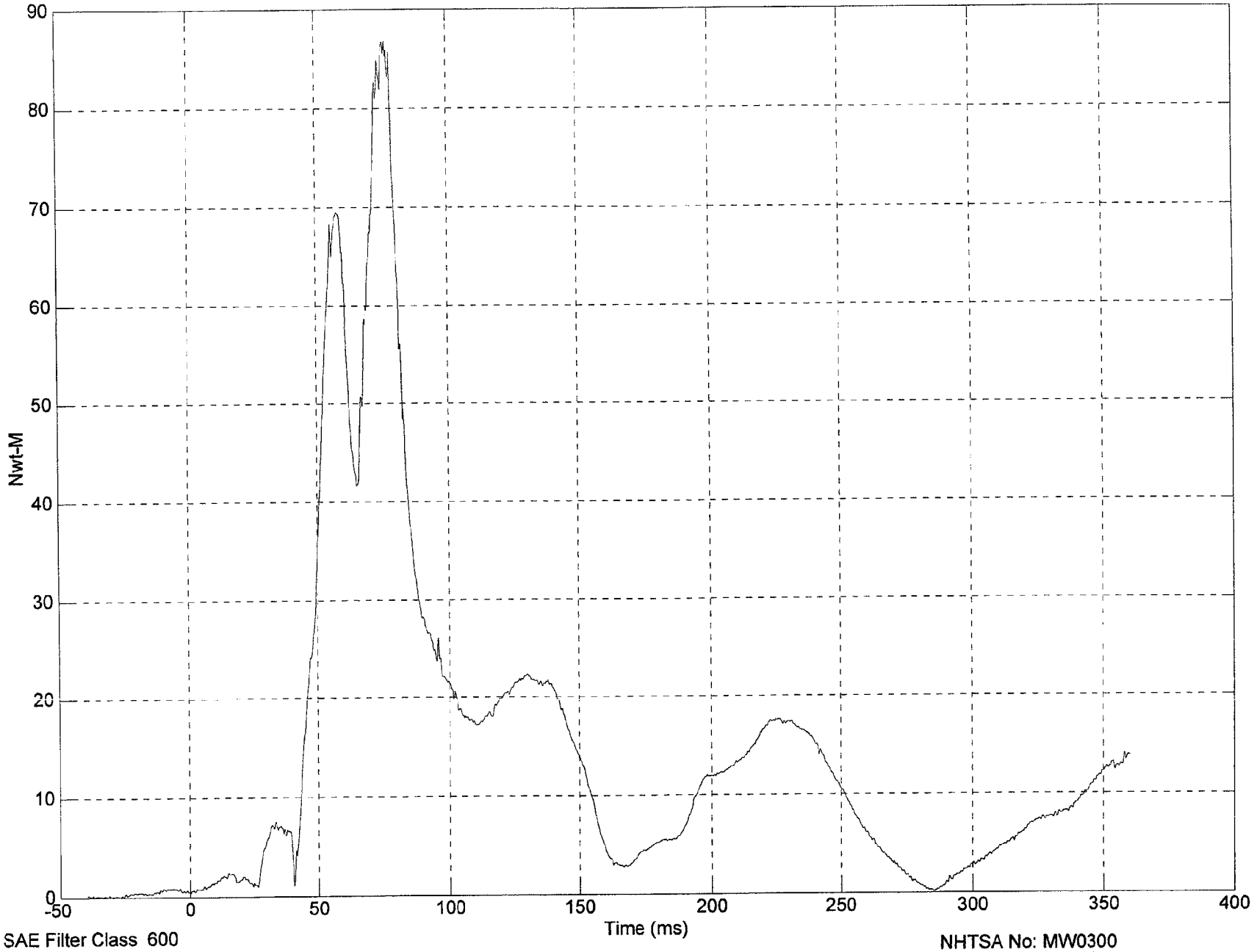
SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 86.8 Nwt-M @ 76.80 msec
Min = 0.0147 Nwt-M @ -30.80 msec



SAE Filter Class 600

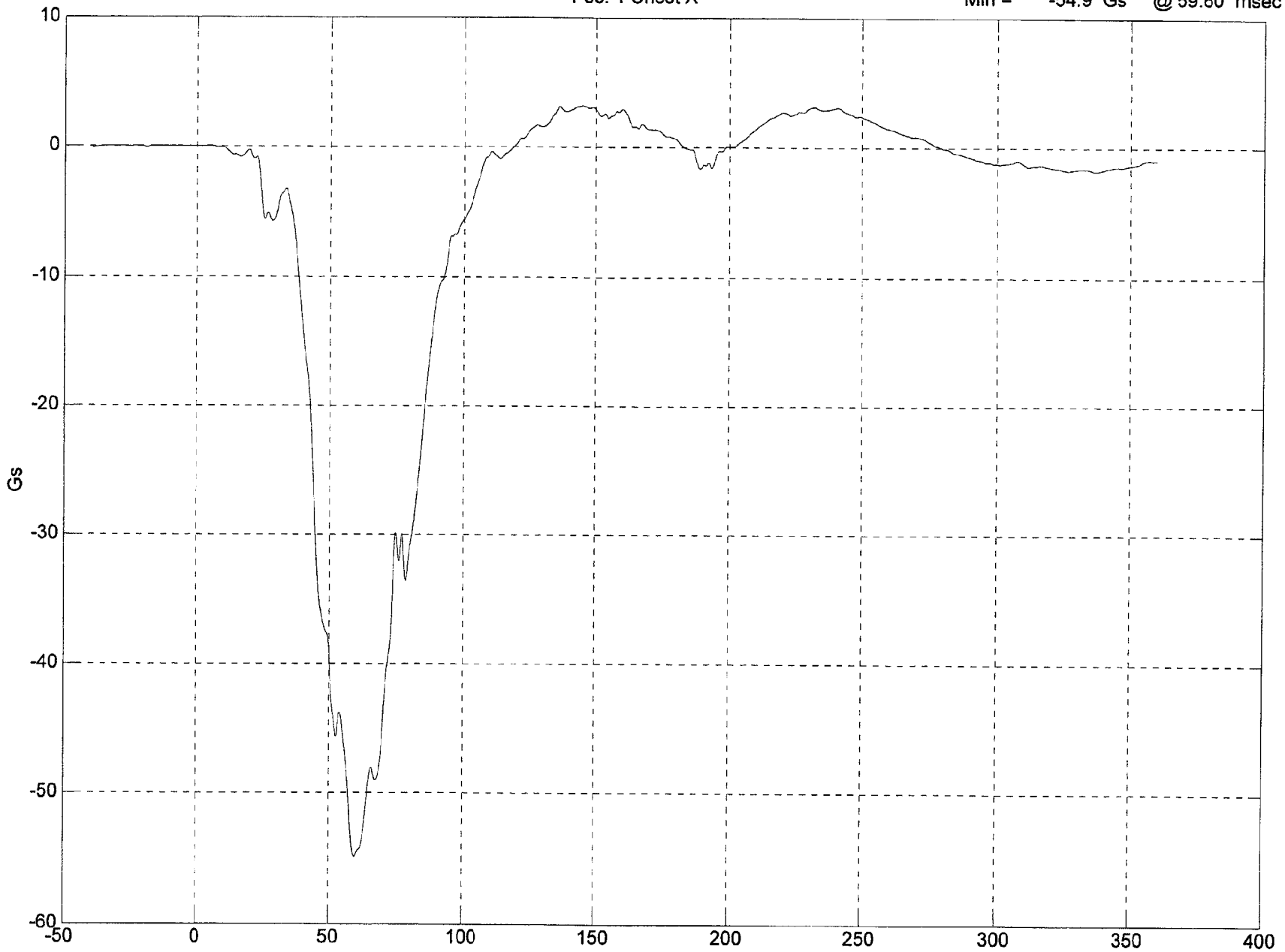
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Chest X

Max = 3.2 Gs @ 144.90 msec
Min = -54.9 Gs @ 59.60 msec



SAE Filter Class 180

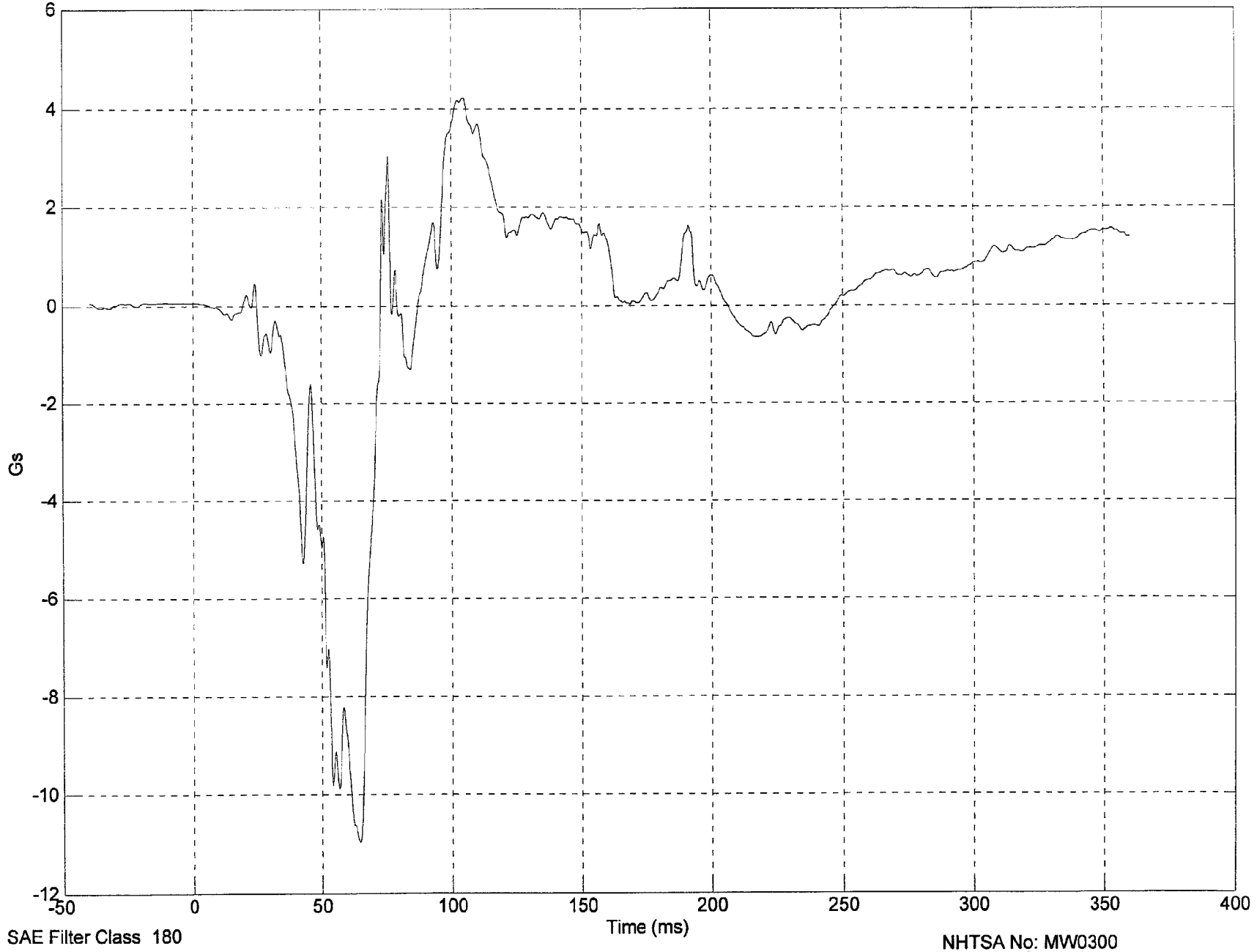
NHTSA No: MW0300
Date: 24 Oct 1997

B-20

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 4.22 Gs @ 104.40 msec
Min = -11 Gs @ 64.40 msec



SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

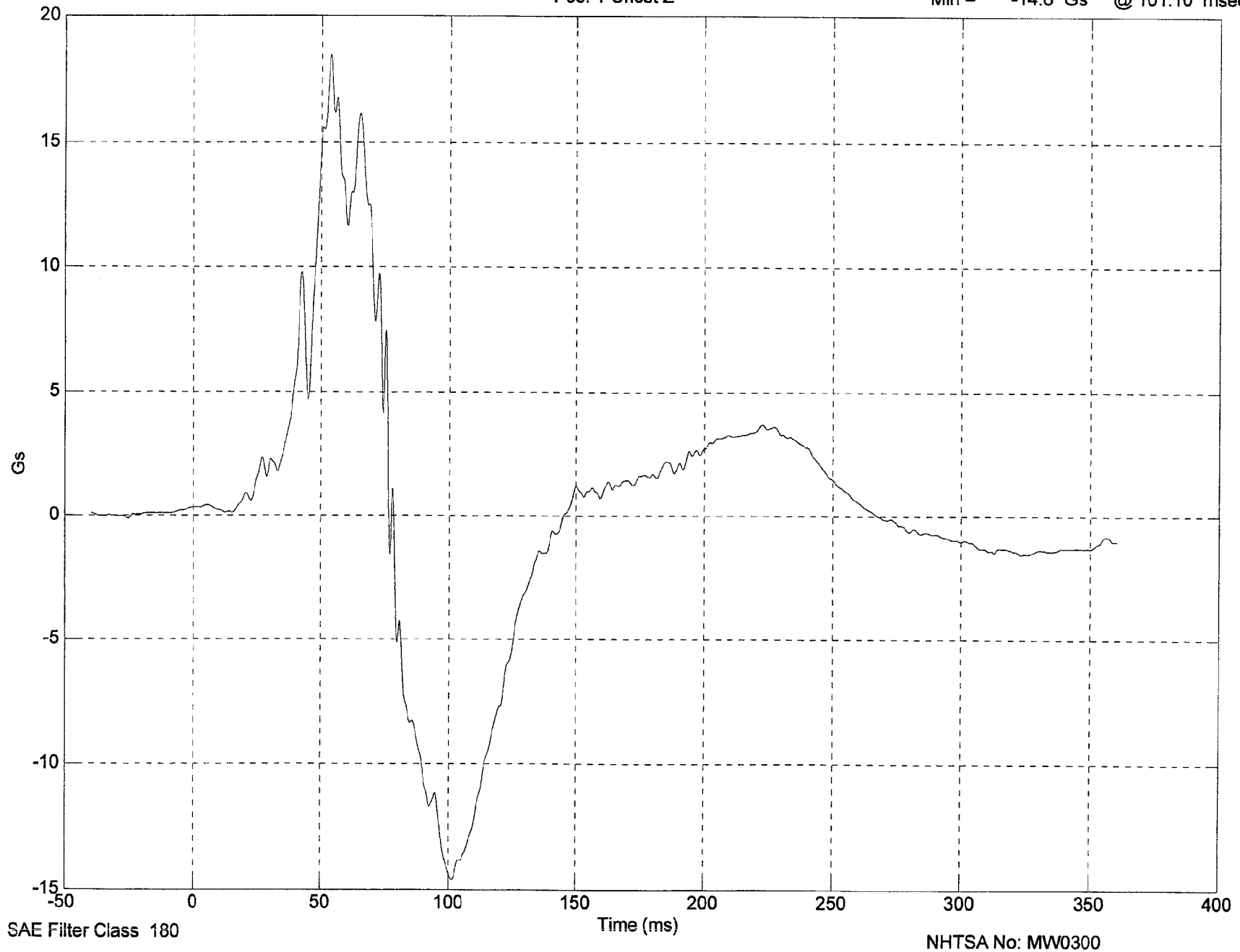
B-21

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Chest Z

Max = 18.5 Gs @ 53.60 msec
Min = -14.6 Gs @ 101.10 msec

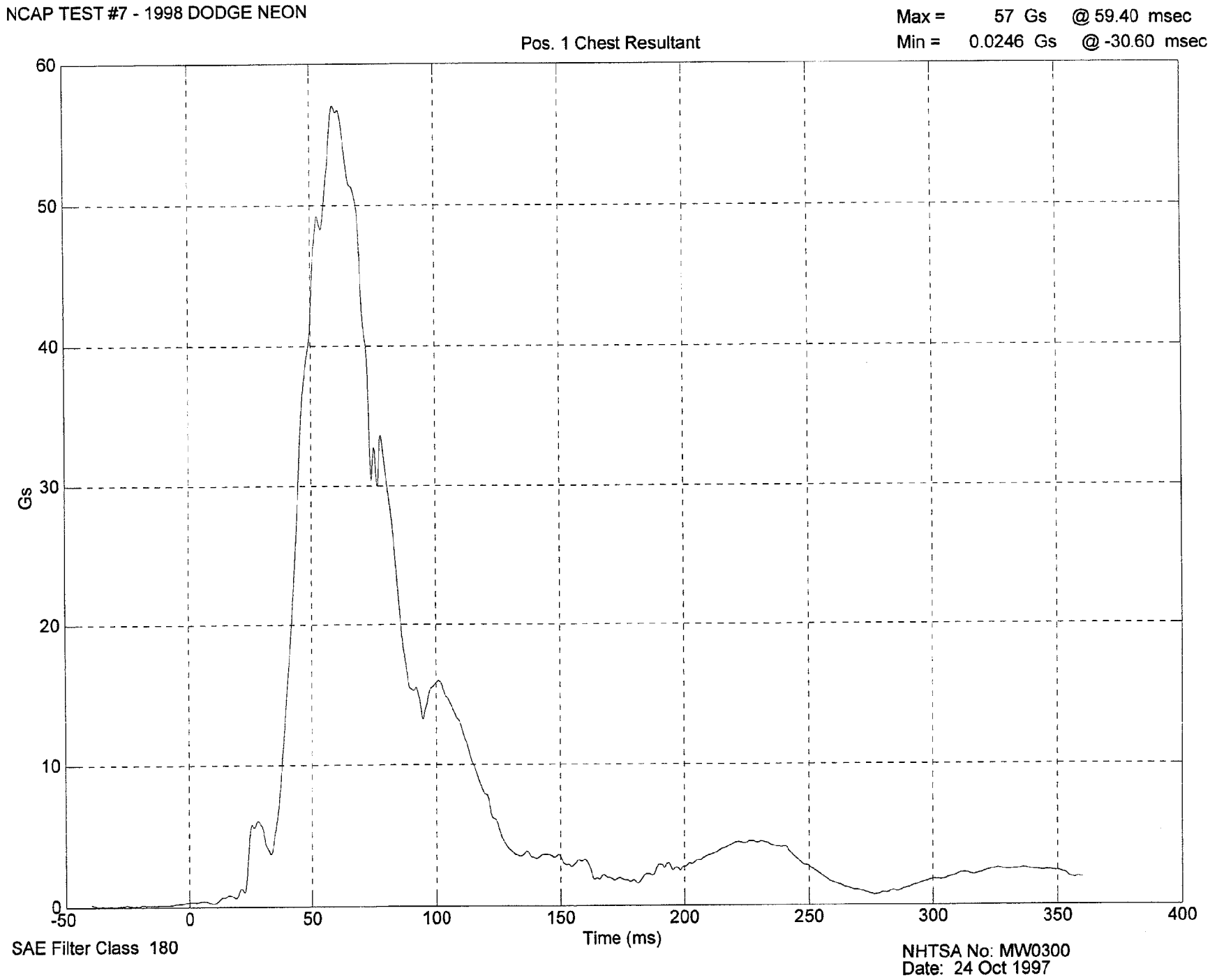


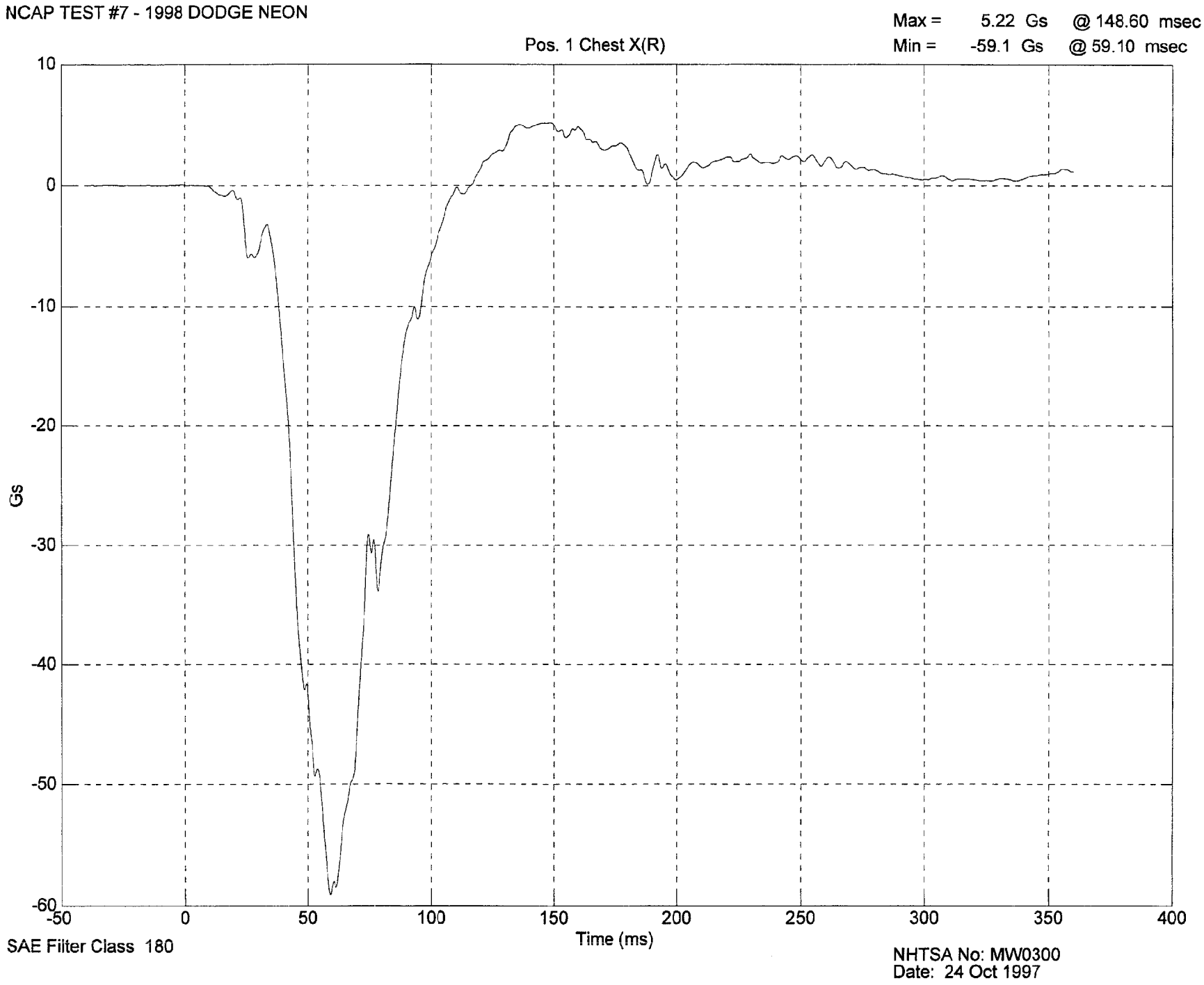
SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

B-22

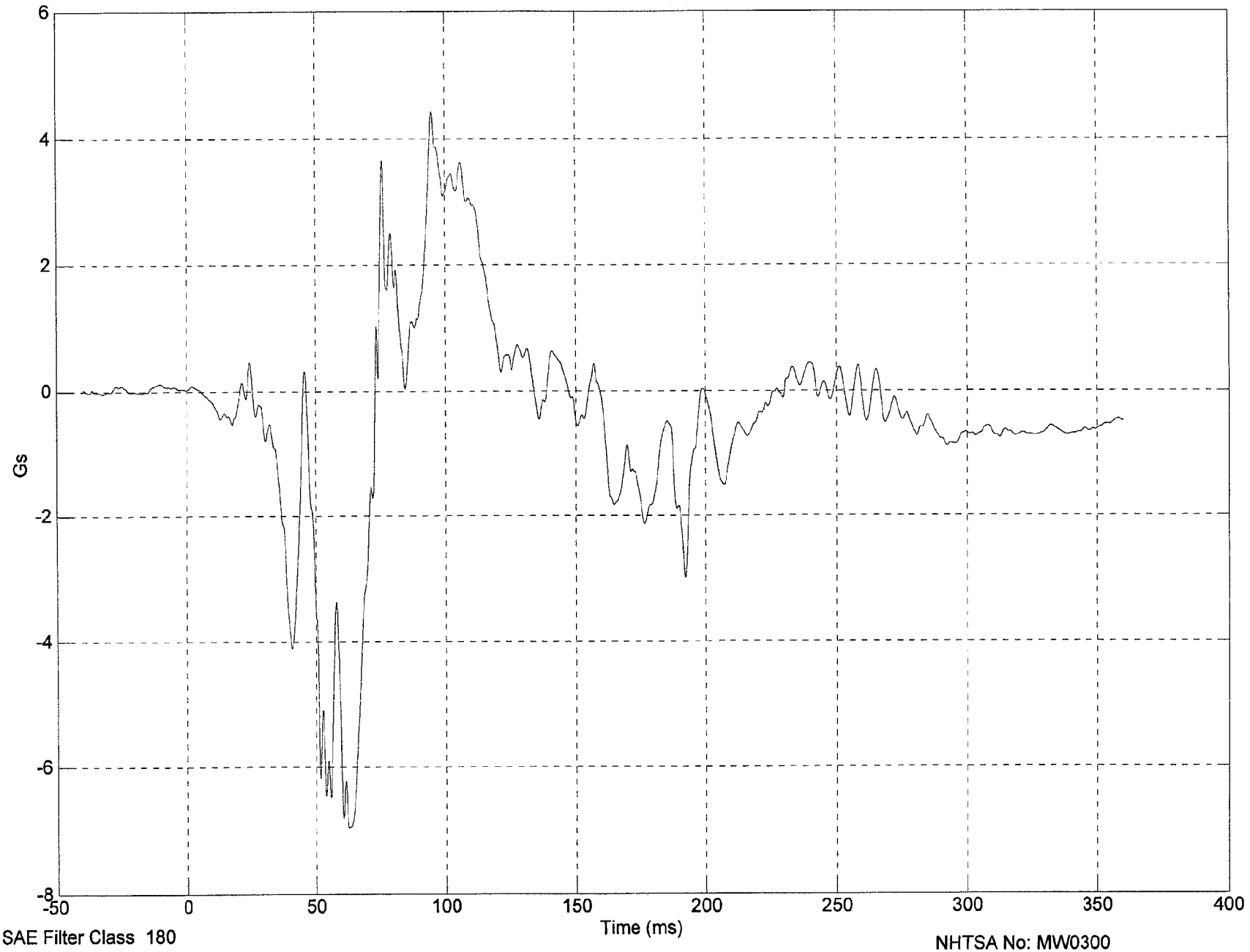
8413-7


NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Chest Resultant
Max = 57 Gs @ 59.40 msec
Min = 0.0246 Gs @ -30.60 msec
60
50
40
30
20
10
0
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 5.22 Gs @ 148.60 msec
Min = -59.1 Gs @ 59.10 msec
Pos. 1 Chest X(R)
10
0
-10
-20
-30
-40
-50
-60
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 4.43 Gs @ 94.80 msec
Min = -6.95 Gs @ 62.70 msec



SAE Filter Class 180

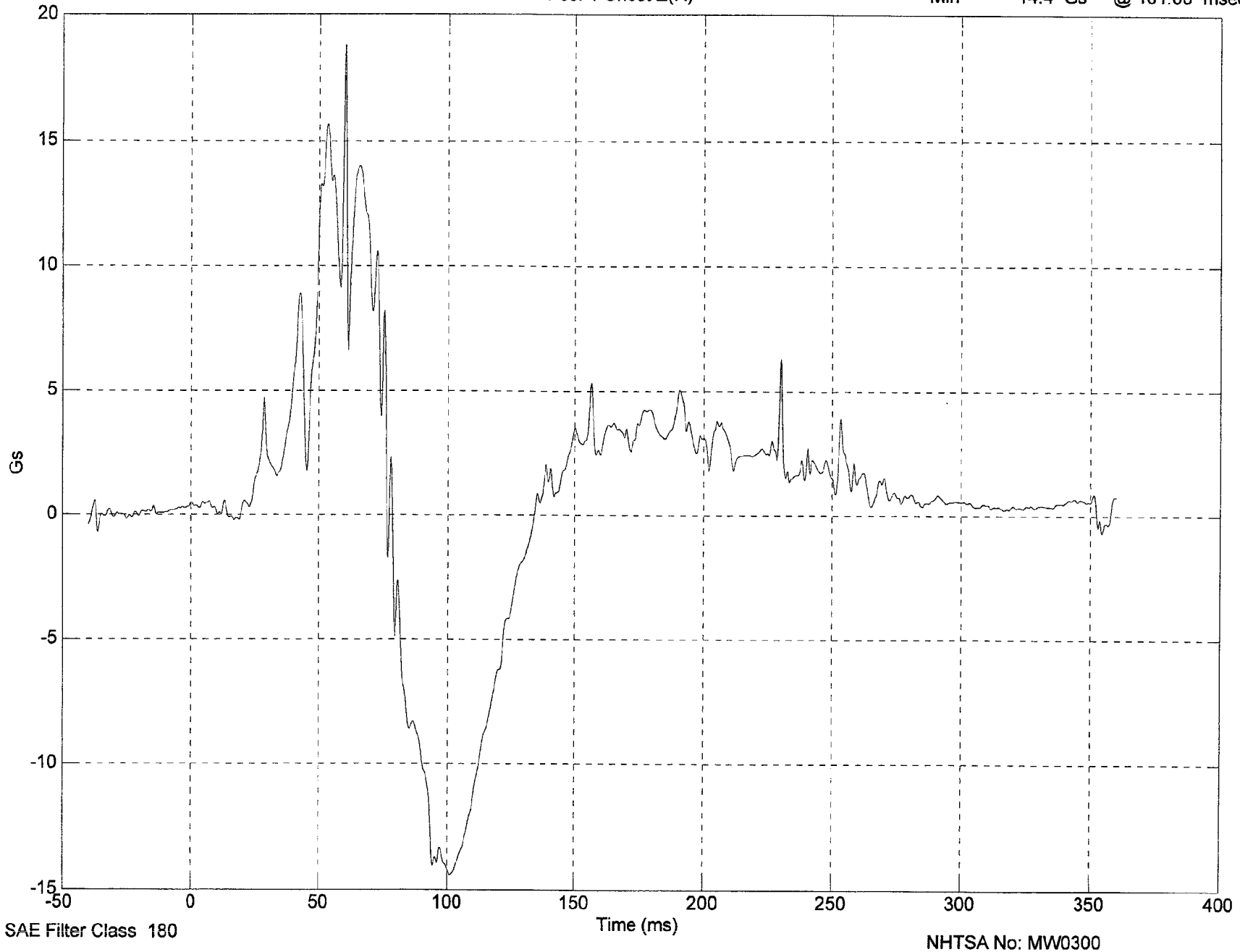
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Chest Z(R)

Max = 18.8 Gs @ 60.00 msec
Min = -14.4 Gs @ 101.00 msec



SAE Filter Class 180

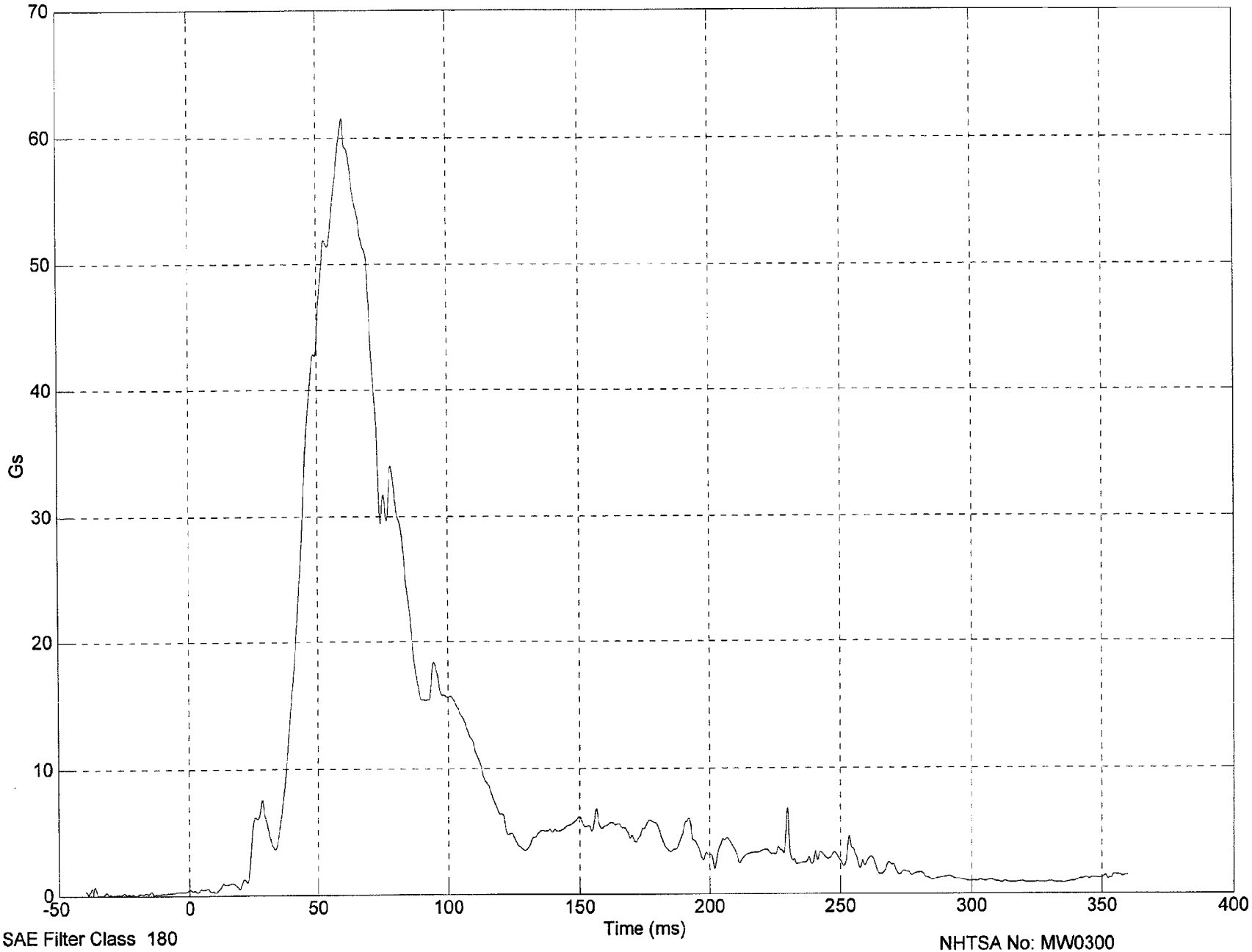
NHTSA No: MW0300
Date: 24 Oct 1997

B-26

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 61.5 Gs @ 59.90 msec
Min = 0.0107 Gs @ -22.50 msec



SAE Filter Class 180

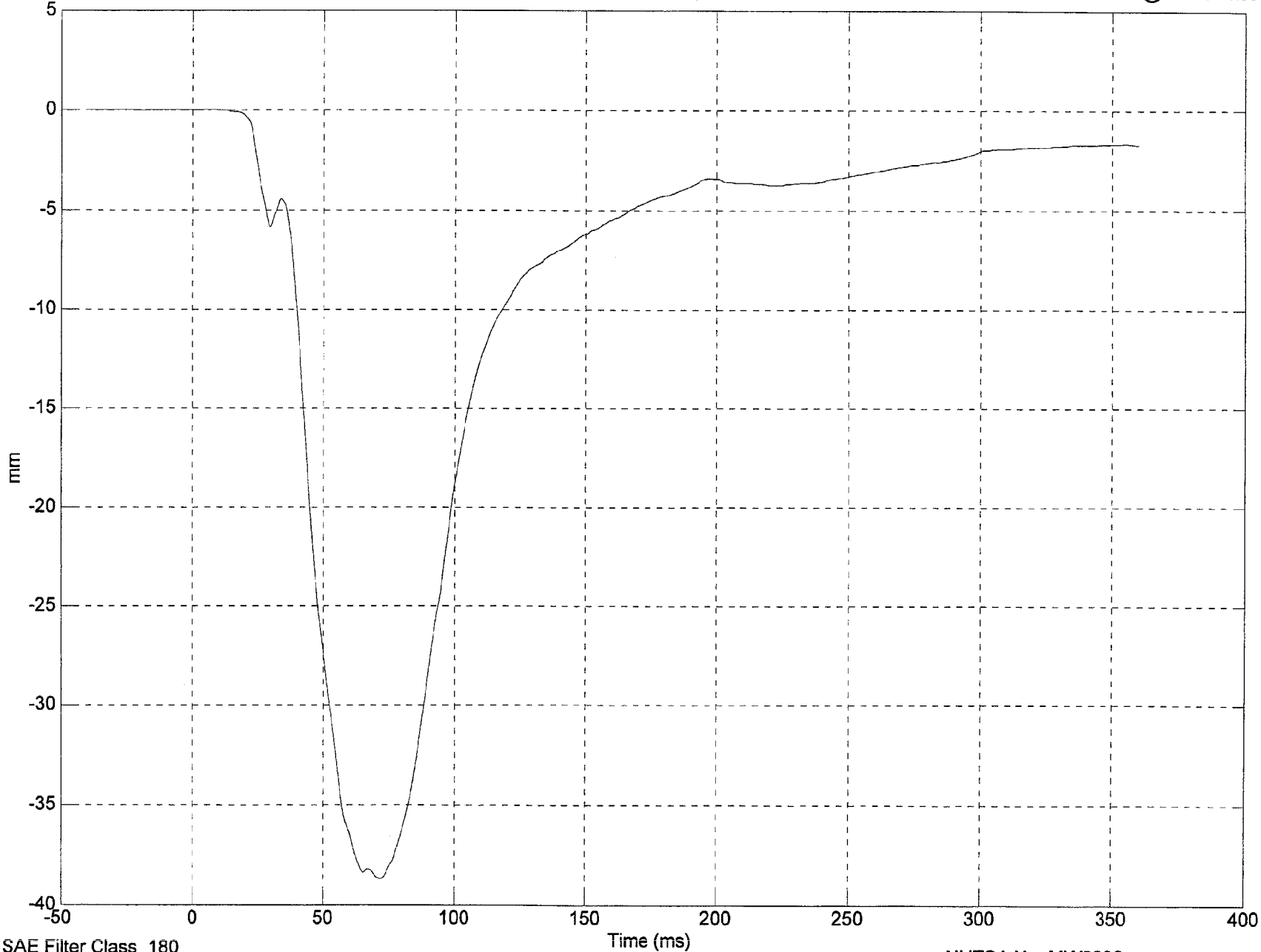
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Chest Disp.

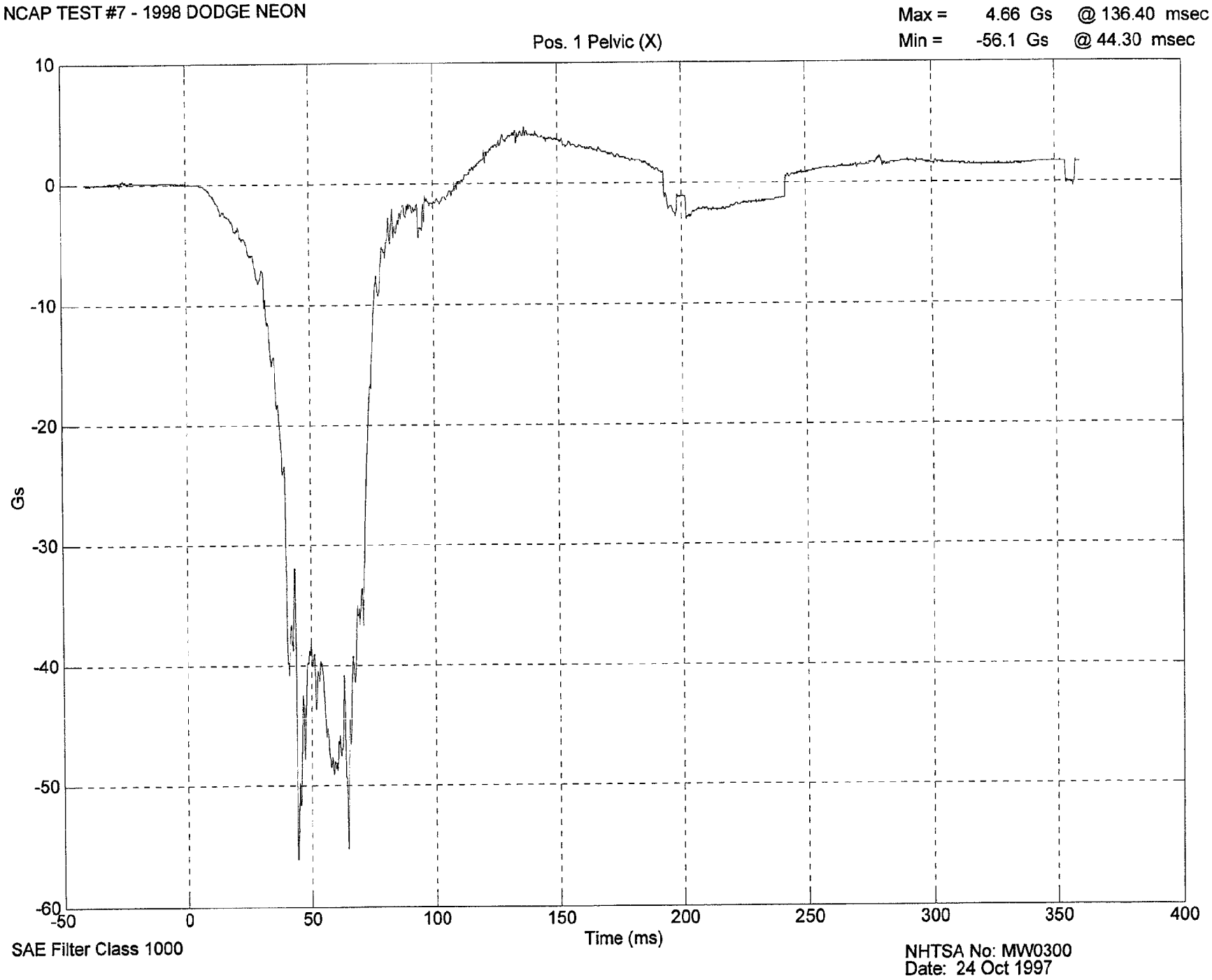
Max = 0.0159 mm @ -25.60 msec
Min = -38.7 mm @ 72.30 msec



SAE Filter Class 180

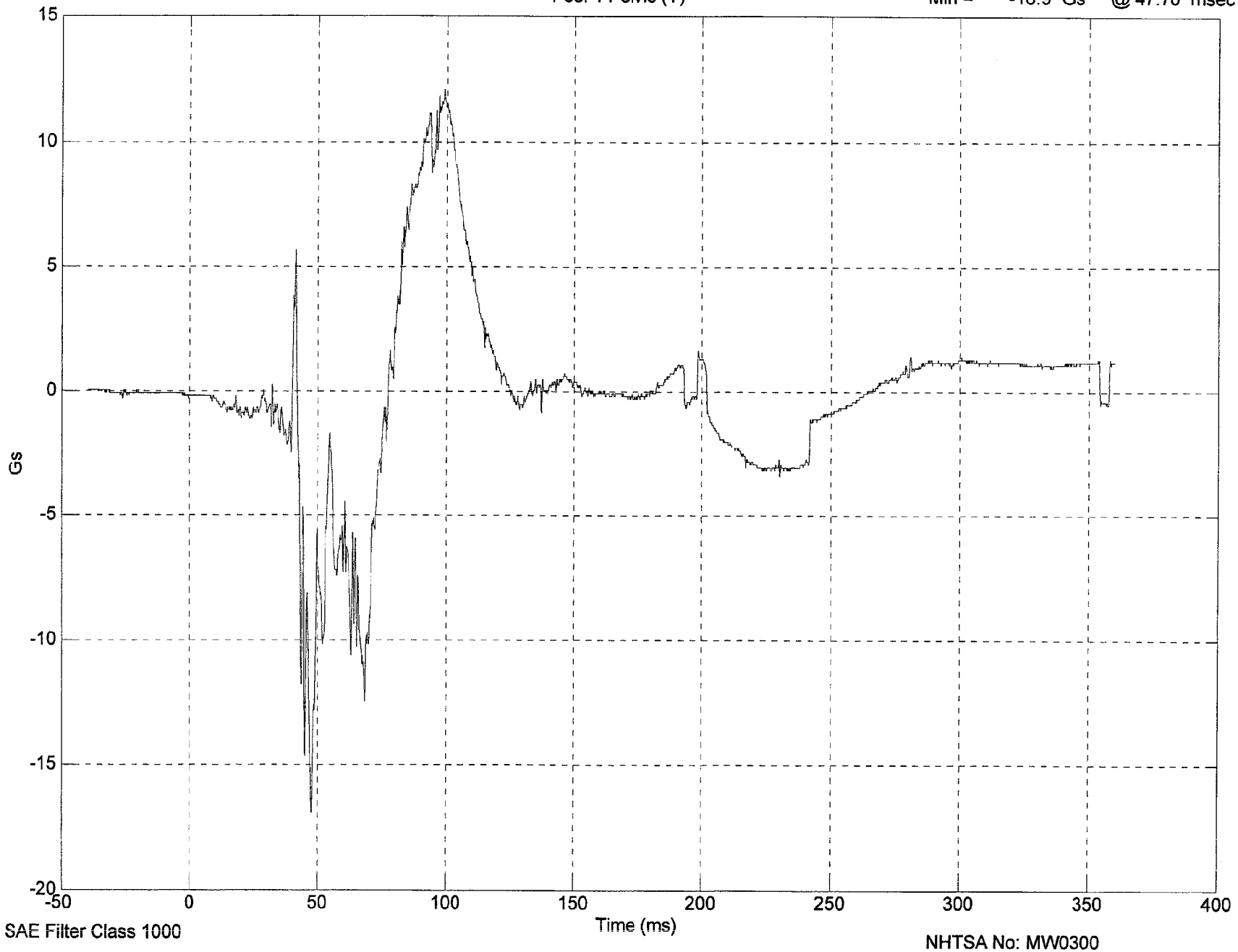
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 4.66 Gs @ 136.40 msec
Min = -56.1 Gs @ 44.30 msec
Pos. 1 Pelvic (X)
10
0
-10
-20
-30
-40
-50
-60
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

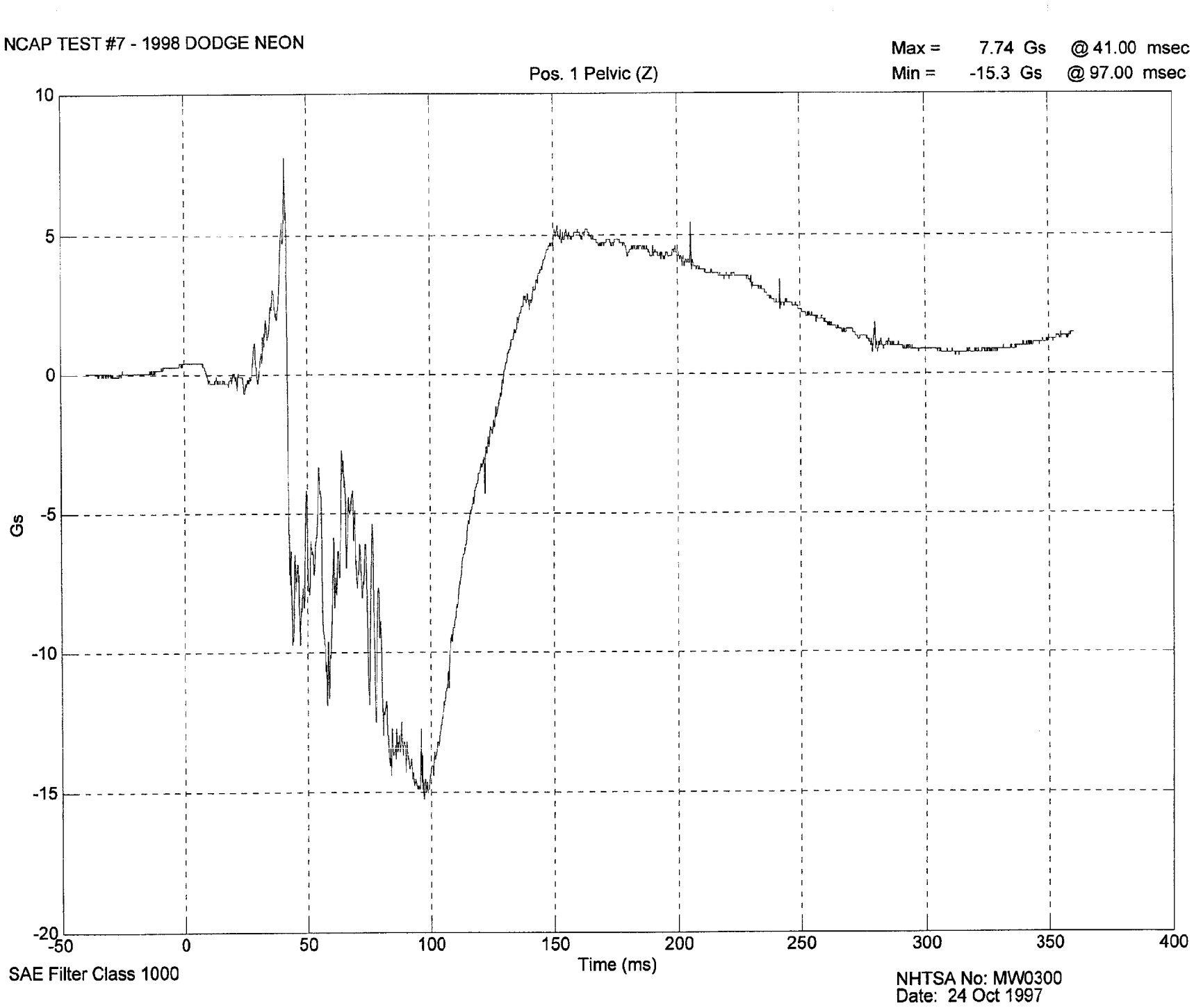
Max = 12.1 Gs @ 99.00 msec
Min = -16.9 Gs @ 47.70 msec



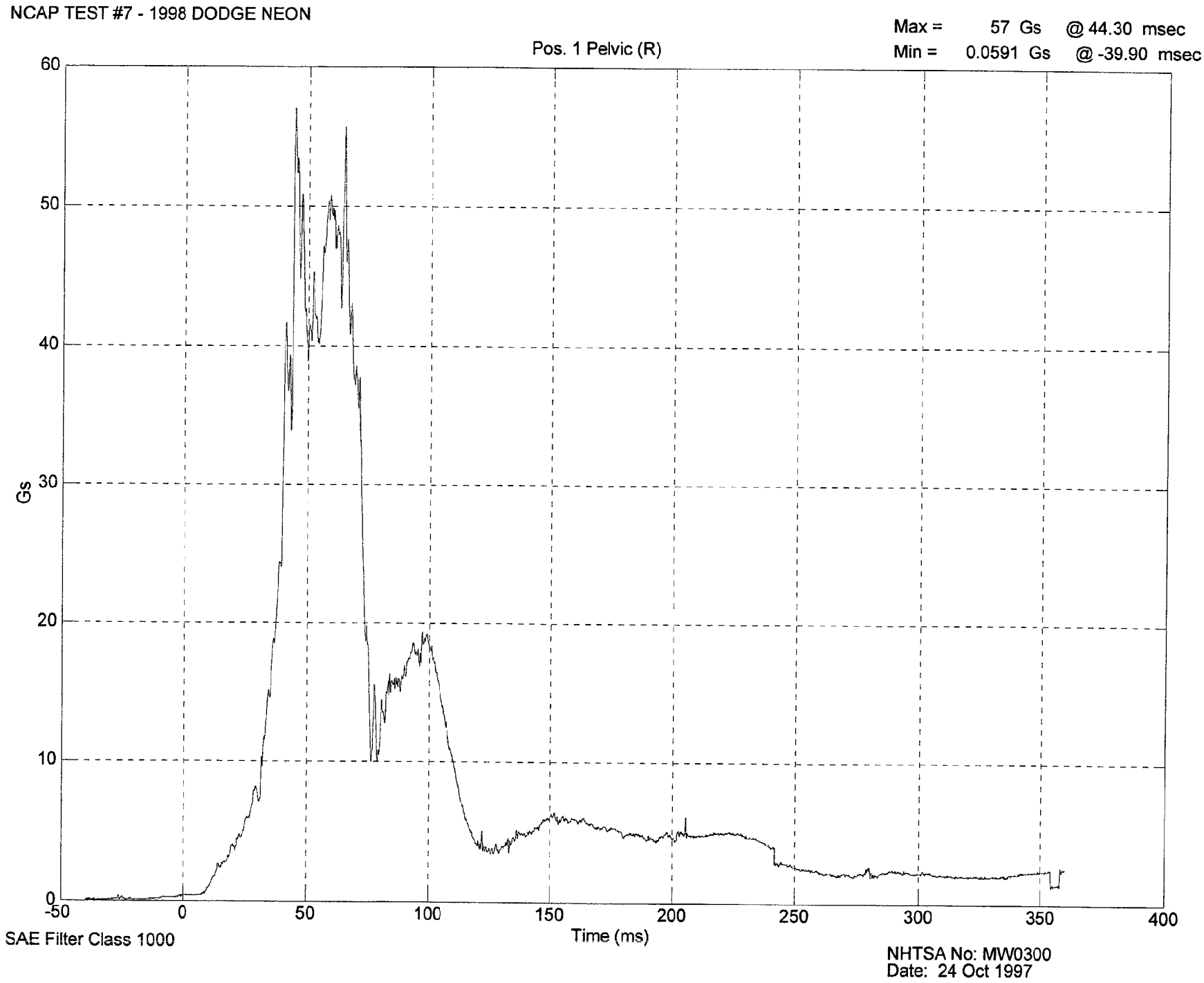
SAE Filter Class 1000

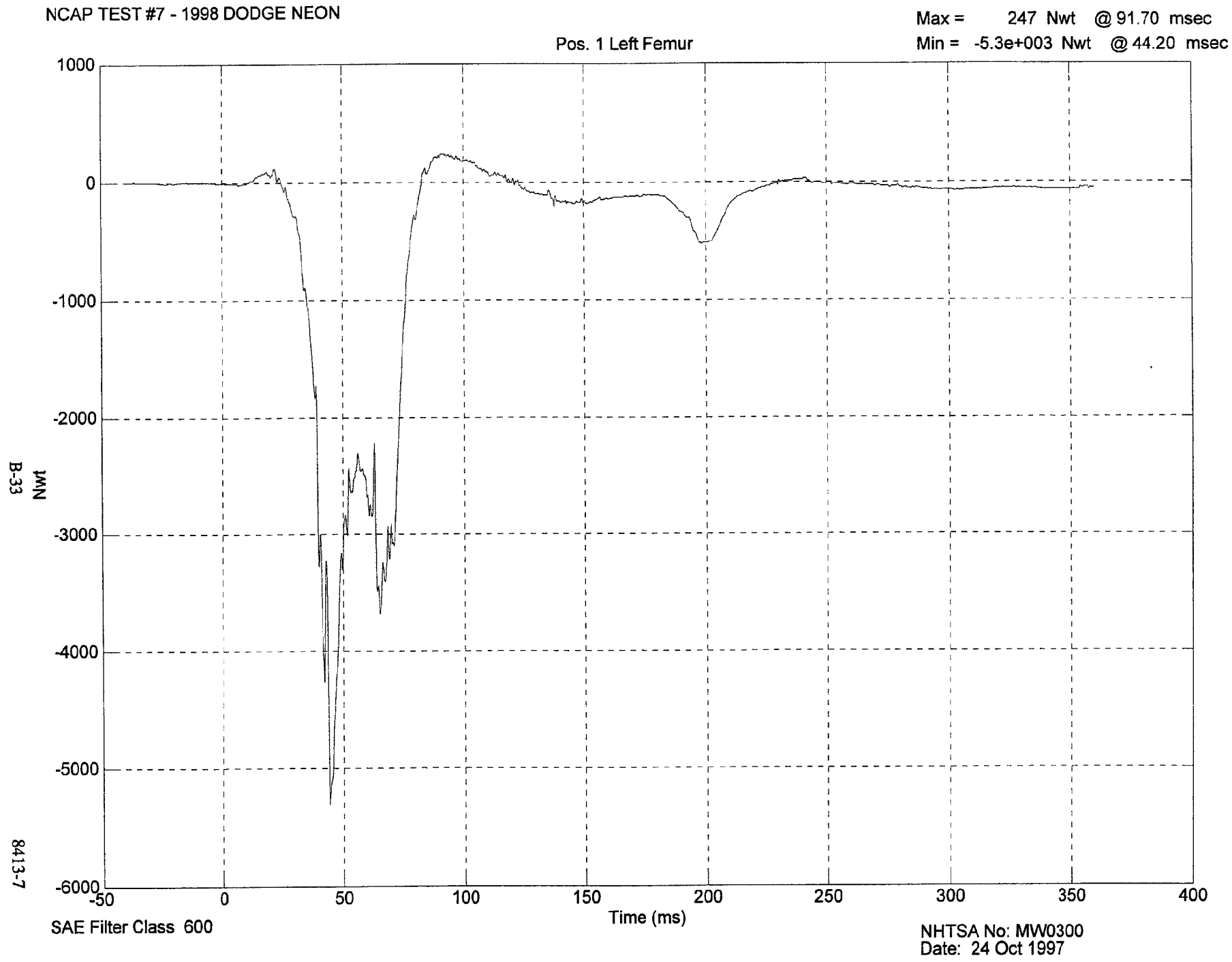
NHTSA No: MW0300
Date: 24 Oct 1997

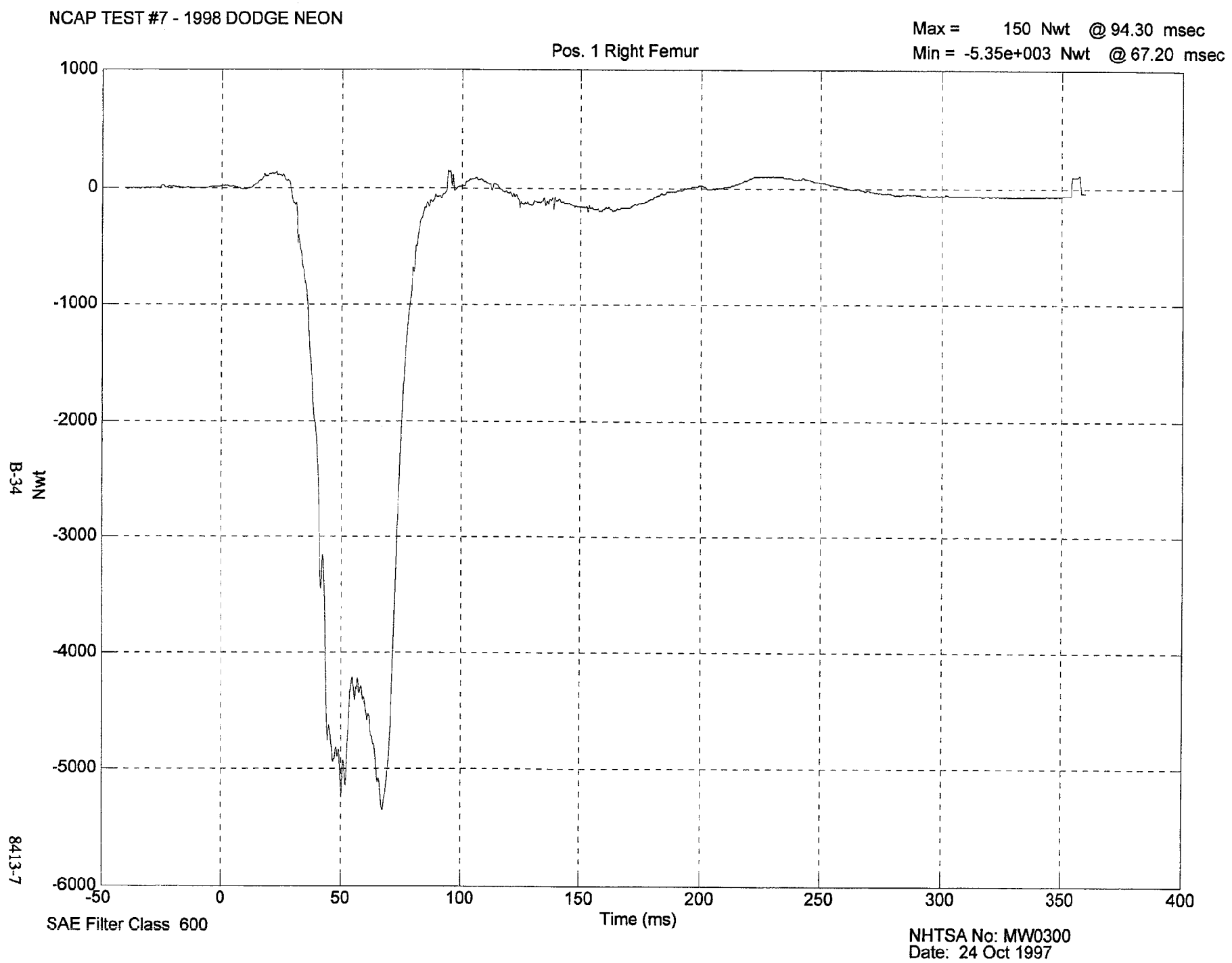
8413-7

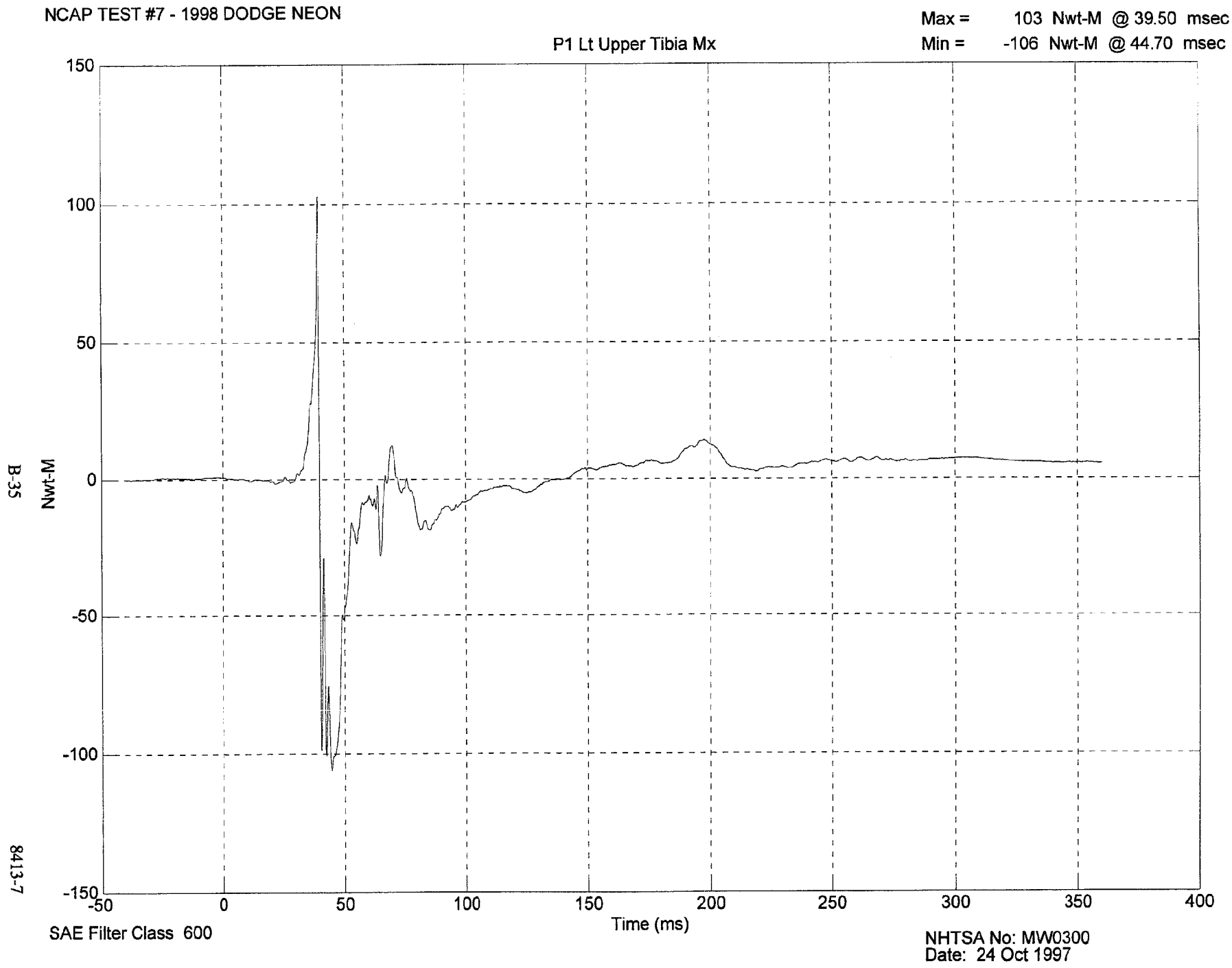

NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Pelvic (Z)
Max = 7.74 Gs @ 41.00 msec
Min = -15.3 Gs @ 97.00 msec
10
5
0
-5
-10
-15
-20
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Pelvic (R)
Max = 57 Gs @ 44.30 msec
Min = 0.0591 Gs @ -39.90 msec
60
50
40
30
20
10
0
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Left Femur
Max = 247 Nwt @ 91.70 msec
Min = -5.3e+003 Nwt @ 44.20 msec
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-33
8413-7
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997

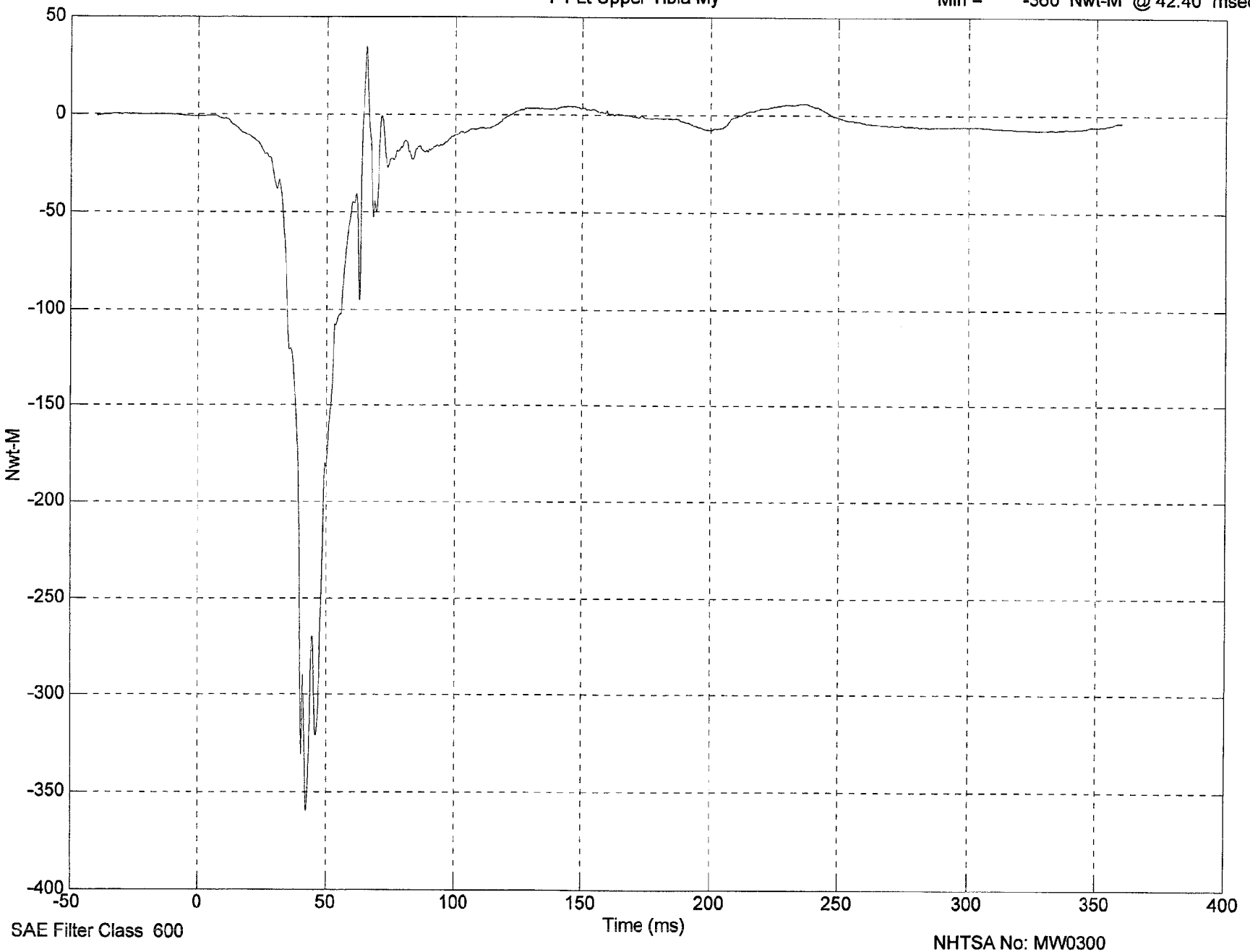

NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Right Femur
Max = 150 Nwt @ 94.30 msec
Min = -5.35e+003 Nwt @ 67.20 msec
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997
B-34
8413-7


NCAP TEST #7 - 1998 DODGE NEON
P1 Lt Upper Tibia Mx
Max = 103 Nwt-M @ 39.50 msec
Min = -106 Nwt-M @ 44.70 msec
150
100
50
0
-50
-100
-150
Nwt-M
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997
B-35
8413-7

NCAP TEST #7 - 1998 DODGE NEON

P1 Lt Upper Tibia My

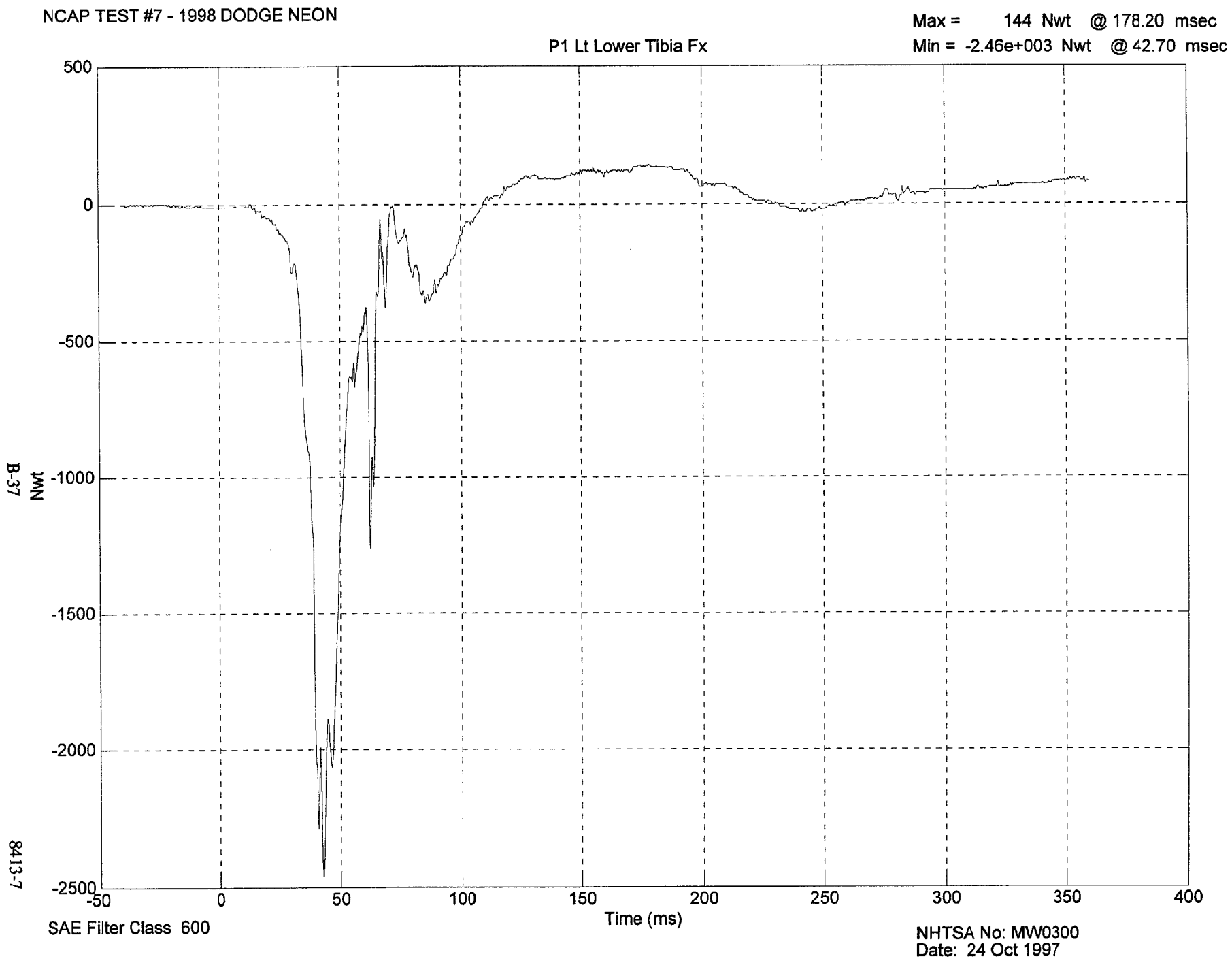
Max = 34.4 Nwt-M @ 65.10 msec
Min = -360 Nwt-M @ 42.40 msec



SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

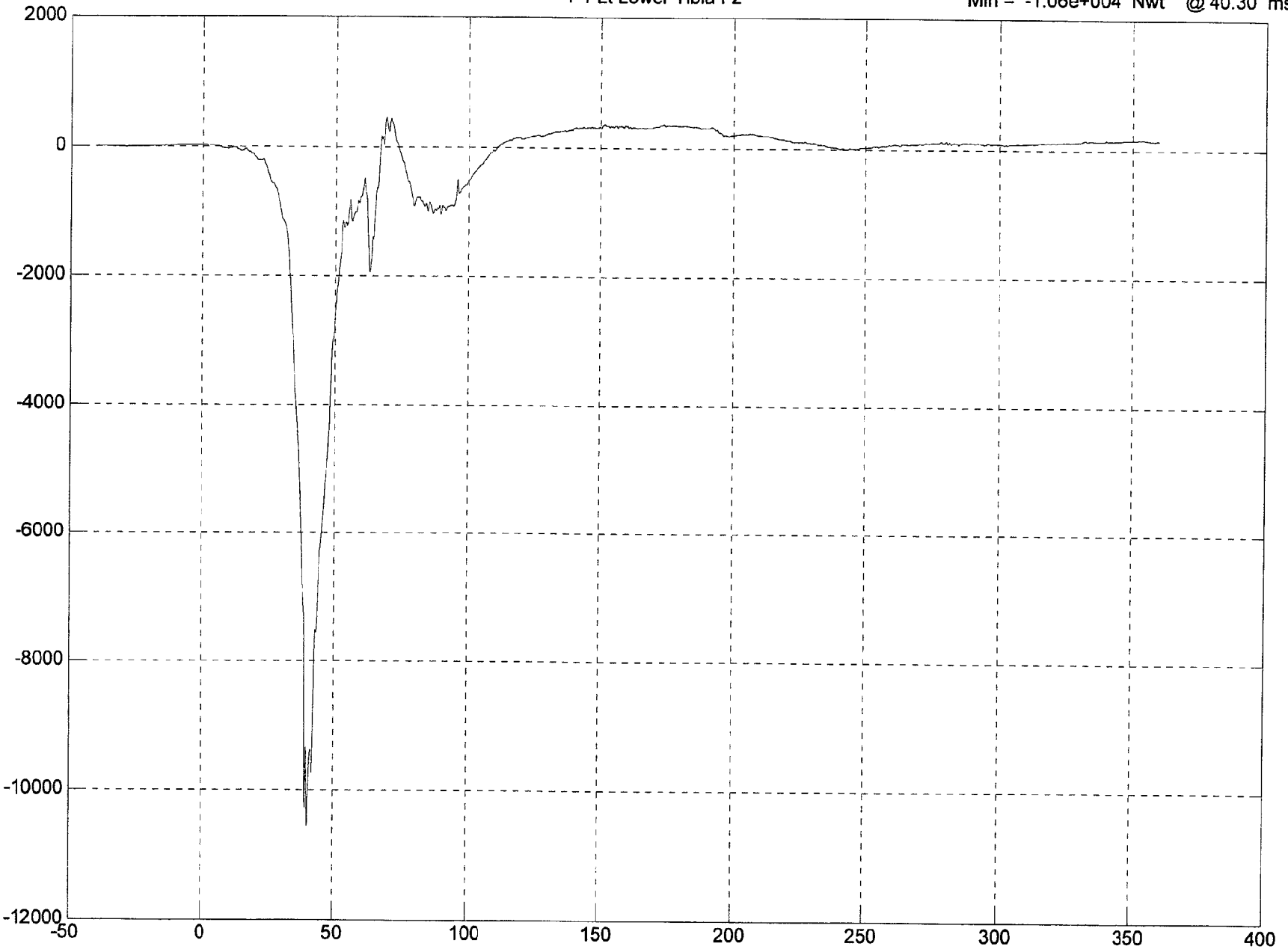
8413-7


NCAP TEST #7 - 1998 DODGE NEON
P1 Lt Lower Tibia Fx
Max = 144 Nwt @ 178.20 msec
Min = -2.46e+003 Nwt @ 42.70 msec
500
0
-500
-1000
-1500
-2000
-2500
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-37
8413-7
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

P1 Lt Lower Tibia Fz

Max = 458 Nwt @ 69.00 msec
Min = -1.06e+004 Nwt @ 40.30 msec



NWF B-38

8413-7

SAE Filter Class 600

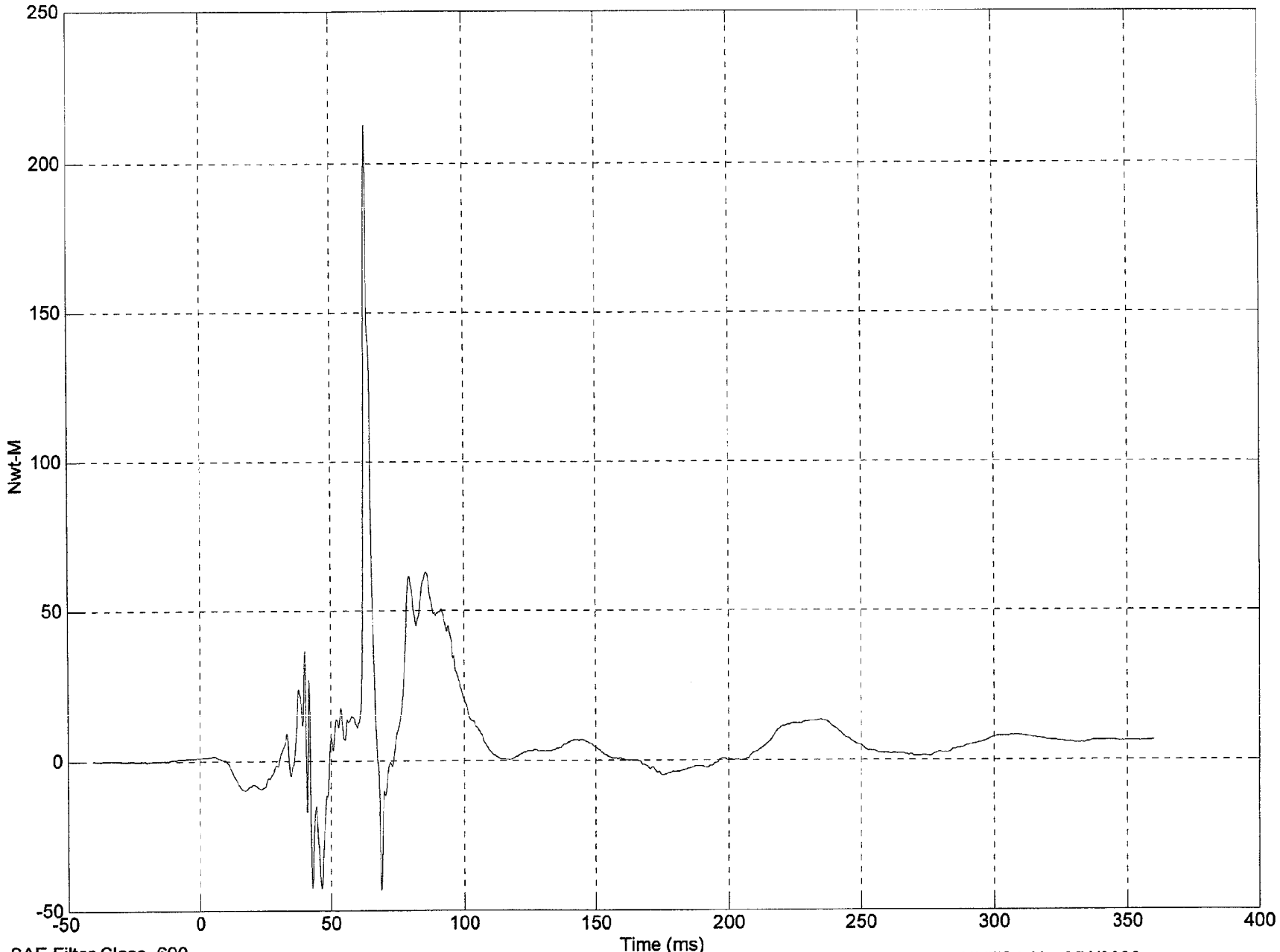
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

P1 Lt Lower Tibia My

Max = 213 Nwt-M @ 63.10 msec

Min = -43 Nwt-M @ 68.90 msec



SAE Filter Class 600

NHTSA No: MW0300

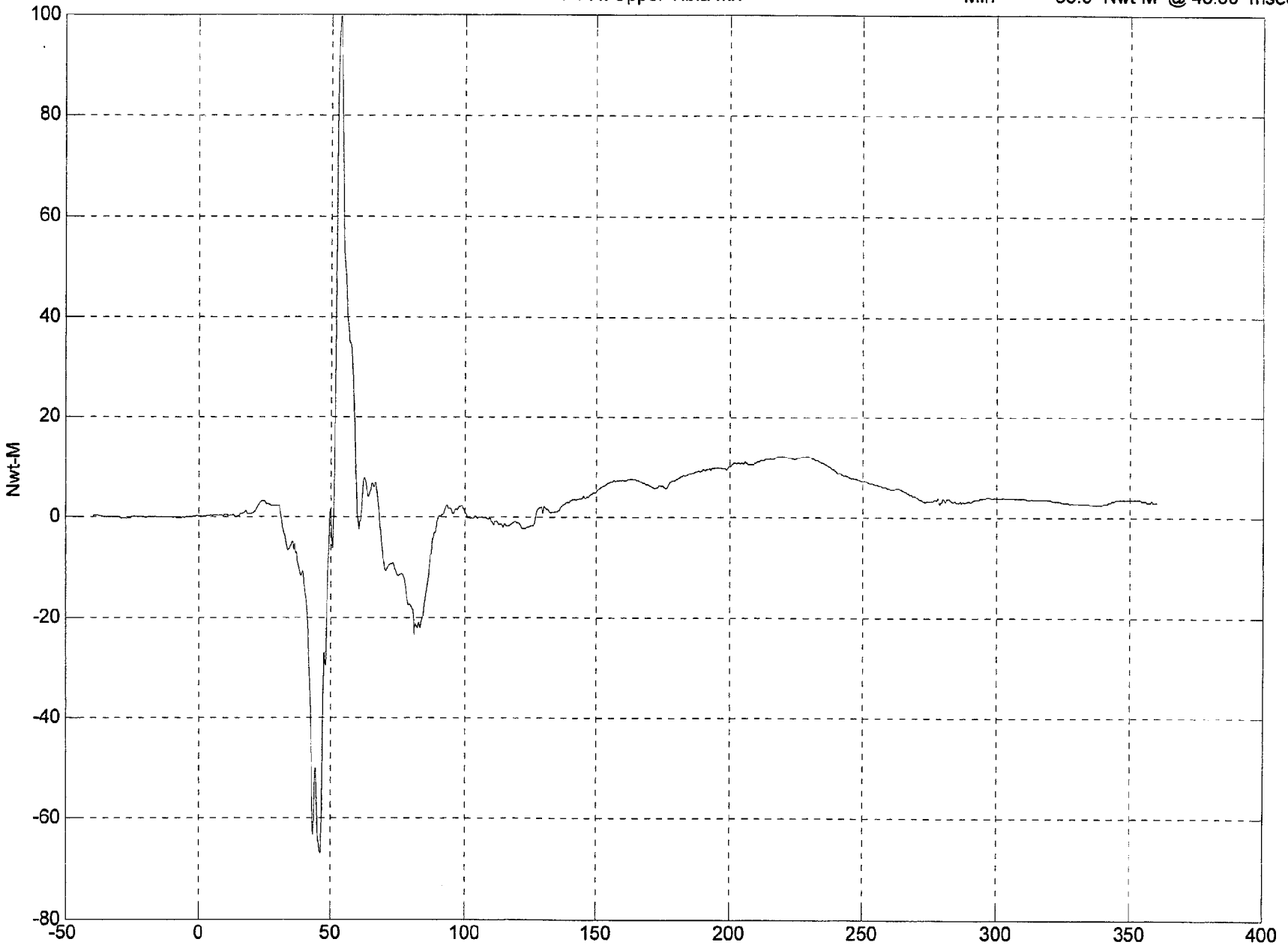
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

P1 Rt Upper Tibia Mx

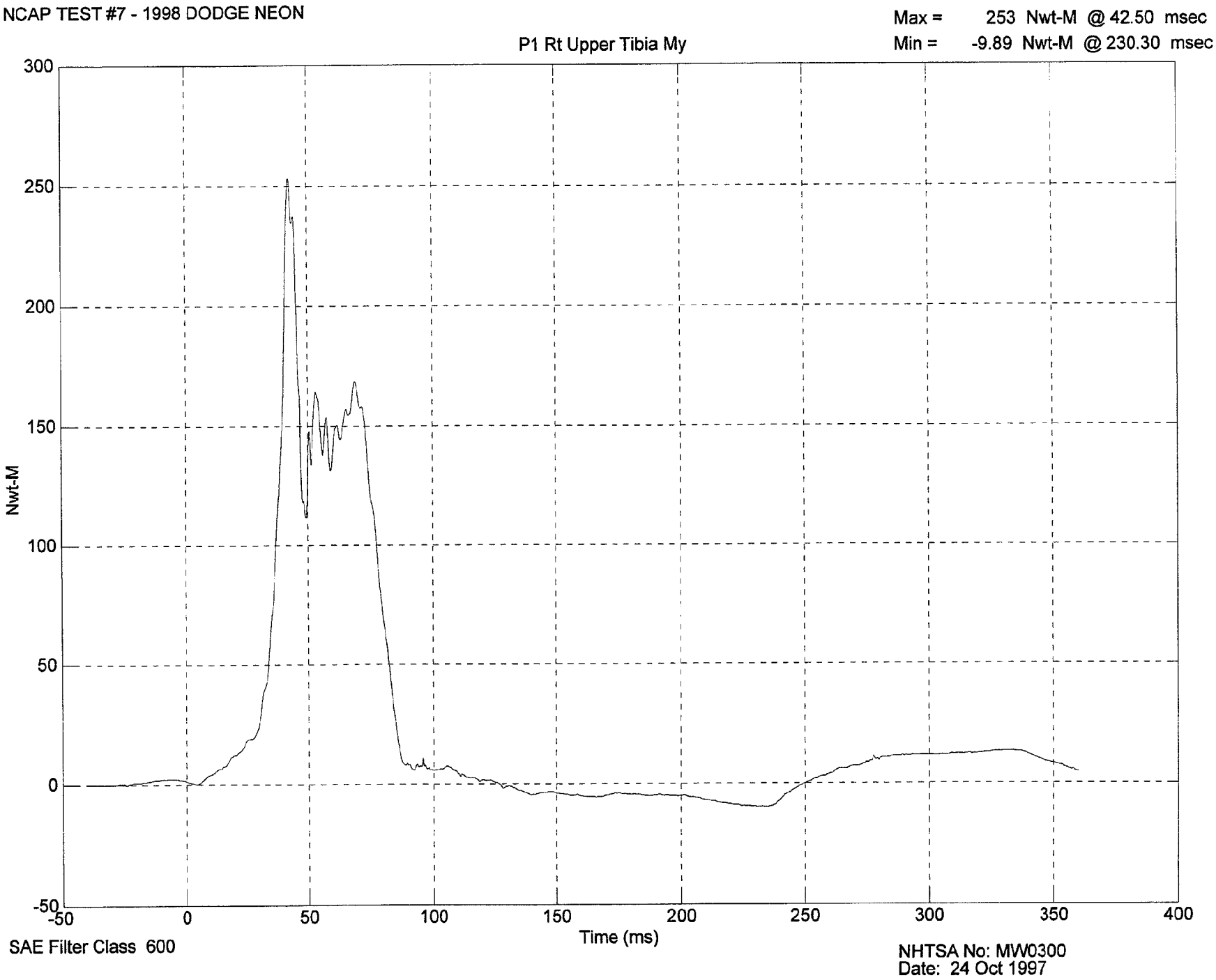
Max = 99.7 Nwt-M @ 53.40 msec
Min = -66.9 Nwt-M @ 46.30 msec



SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

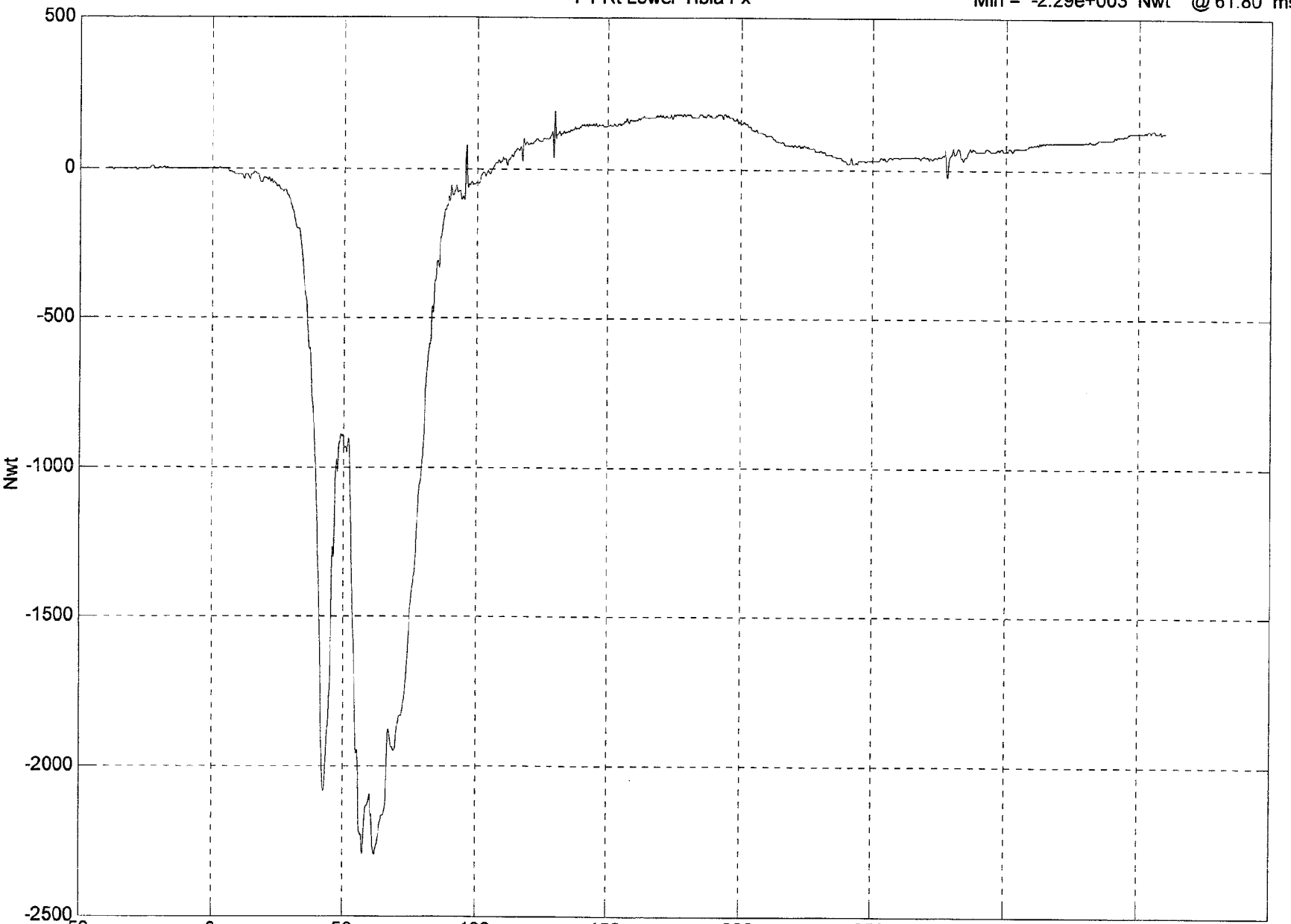
8413-7


NCAP TEST #7 - 1998 DODGE NEON
P1 Rt Upper Tibia My
Max = 253 Nwt-M @ 42.50 msec
Min = -9.89 Nwt-M @ 230.30 msec
300
250
200
150
100
50
0
-50
Nwt-M
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

P1 Rt Lower Tibia Fx

Max = 192 Nwt @ 129.60 msec
Min = -2.29e+003 Nwt @ 61.80 msec

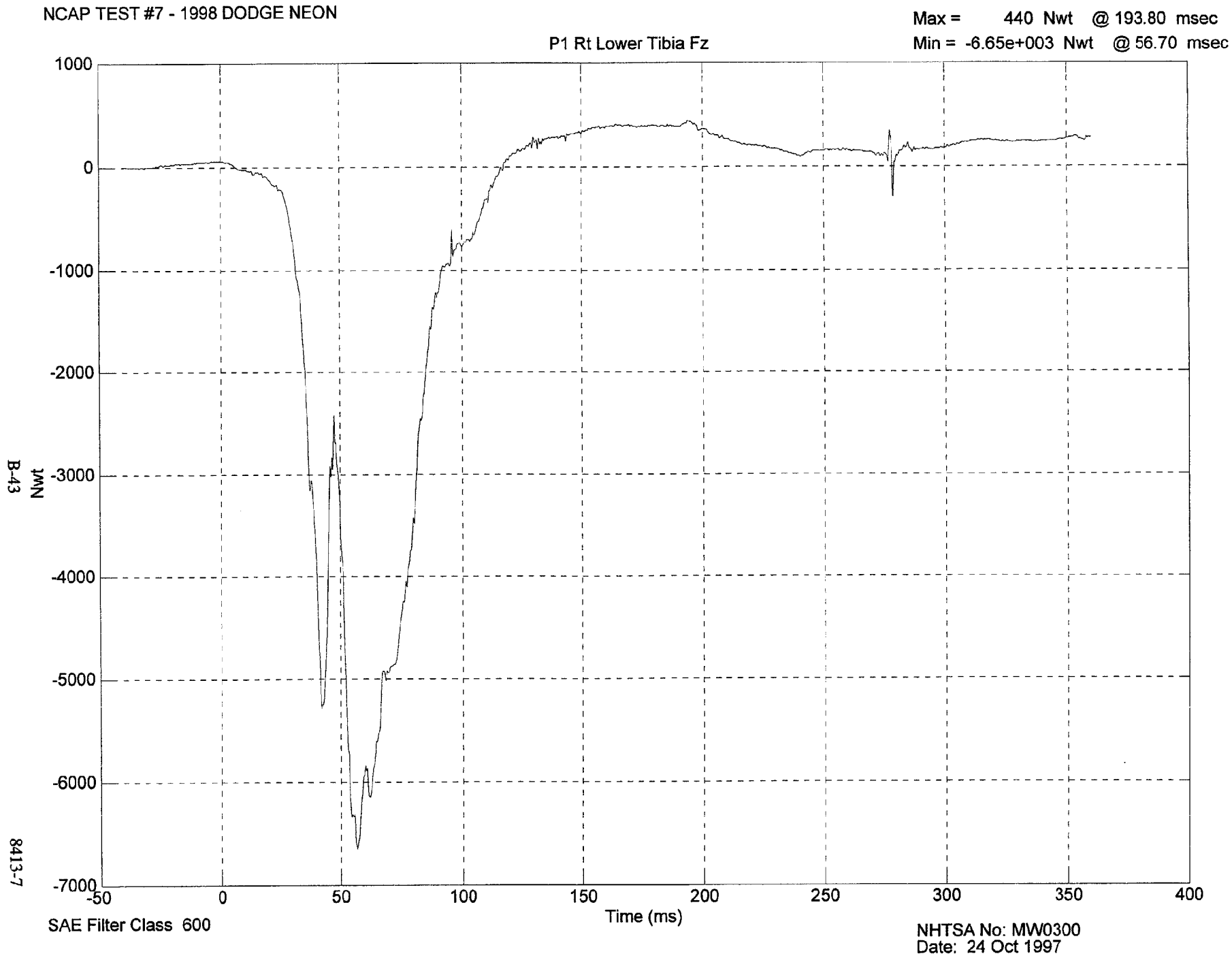


B-42

8413-7

SAE Filter Class 600

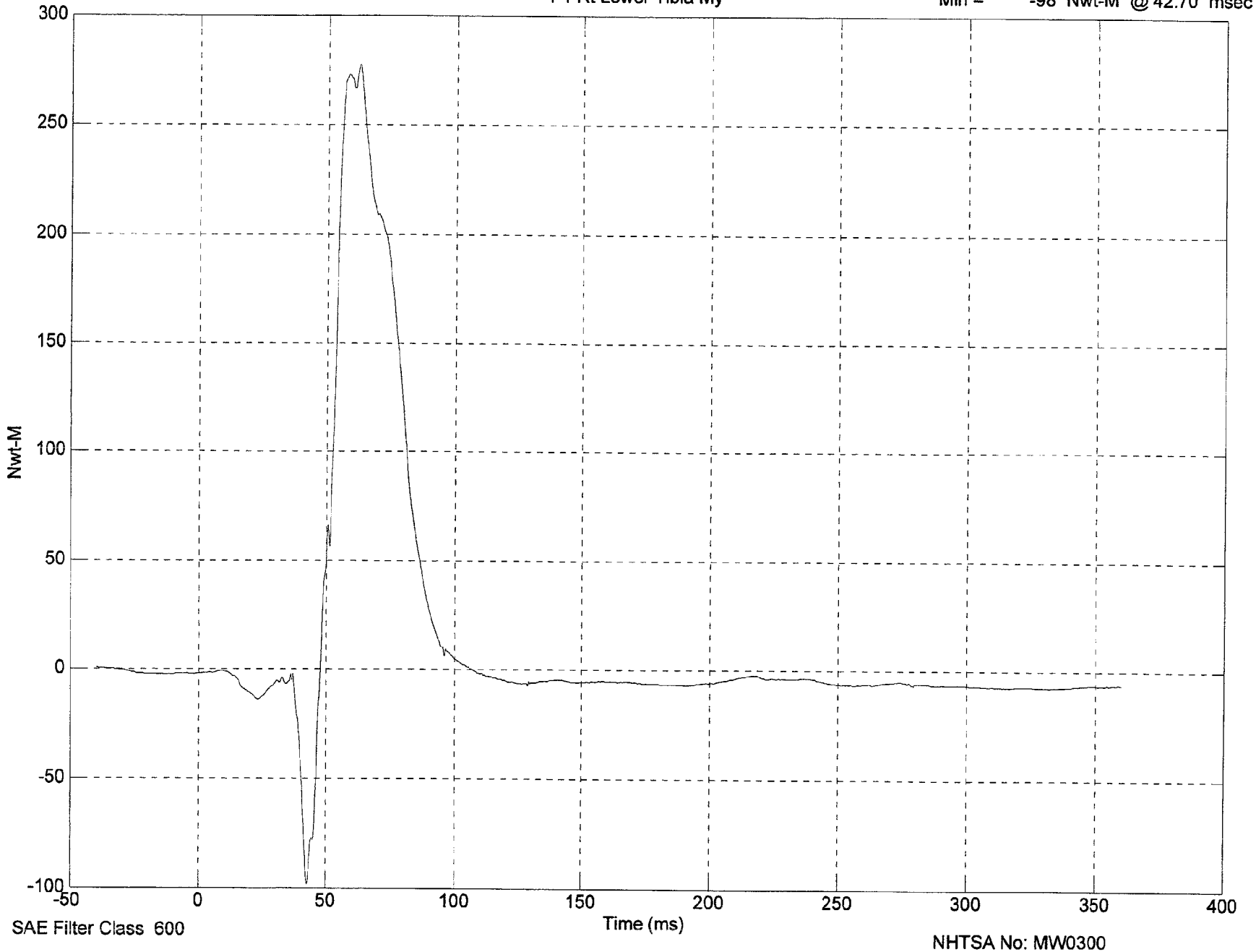
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
P1 Rt Lower Tibia Fz
Max = 440 Nwt @ 193.80 msec
Min = -6.65e+003 Nwt @ 56.70 msec
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997
B-43
8413-7

NCAP TEST #7 - 1998 DODGE NEON

P1 Rt Lower Tibia My

Max = 278 Nwt-M @ 62.10 msec
Min = -98 Nwt-M @ 42.70 msec

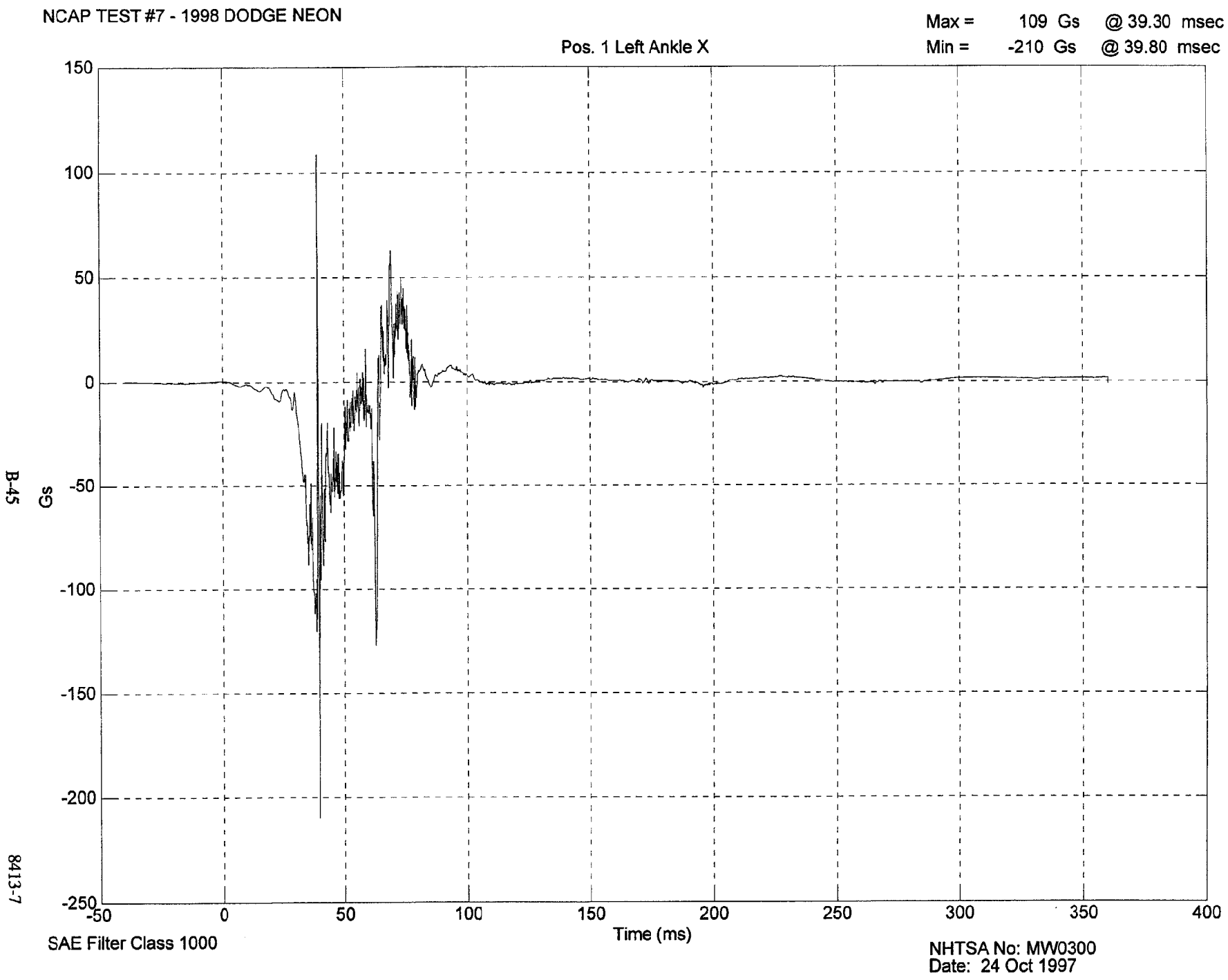


SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

B-44

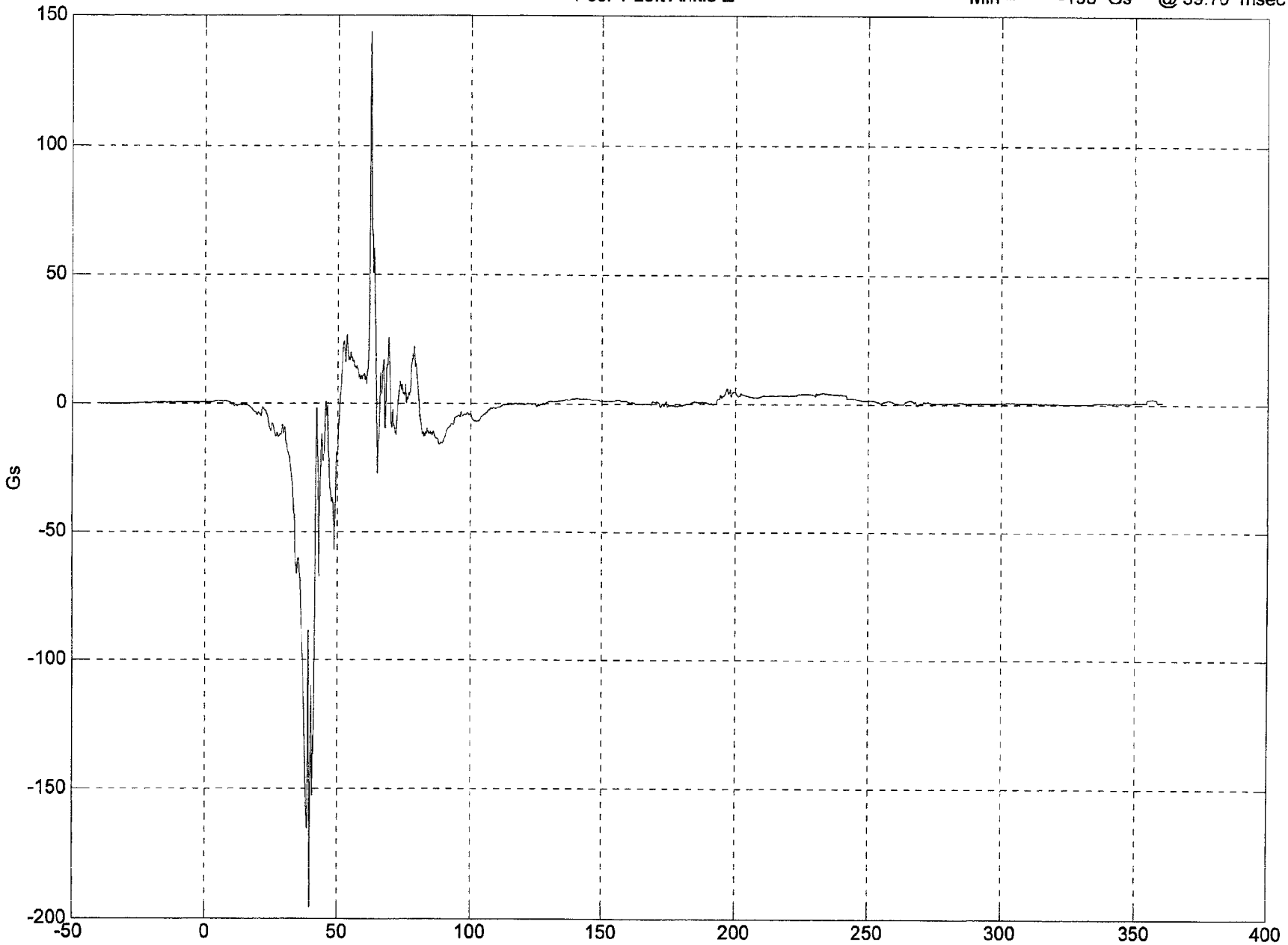
8413-7


NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Left Ankle X
Max = 109 Gs @ 39.30 msec
Min = -210 Gs @ 39.80 msec
150
100
50
0
-50
-100
-150
-200
-250
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Left Ankle Z

Max = 144 Gs @ 62.20 msec
Min = -195 Gs @ 39.70 msec

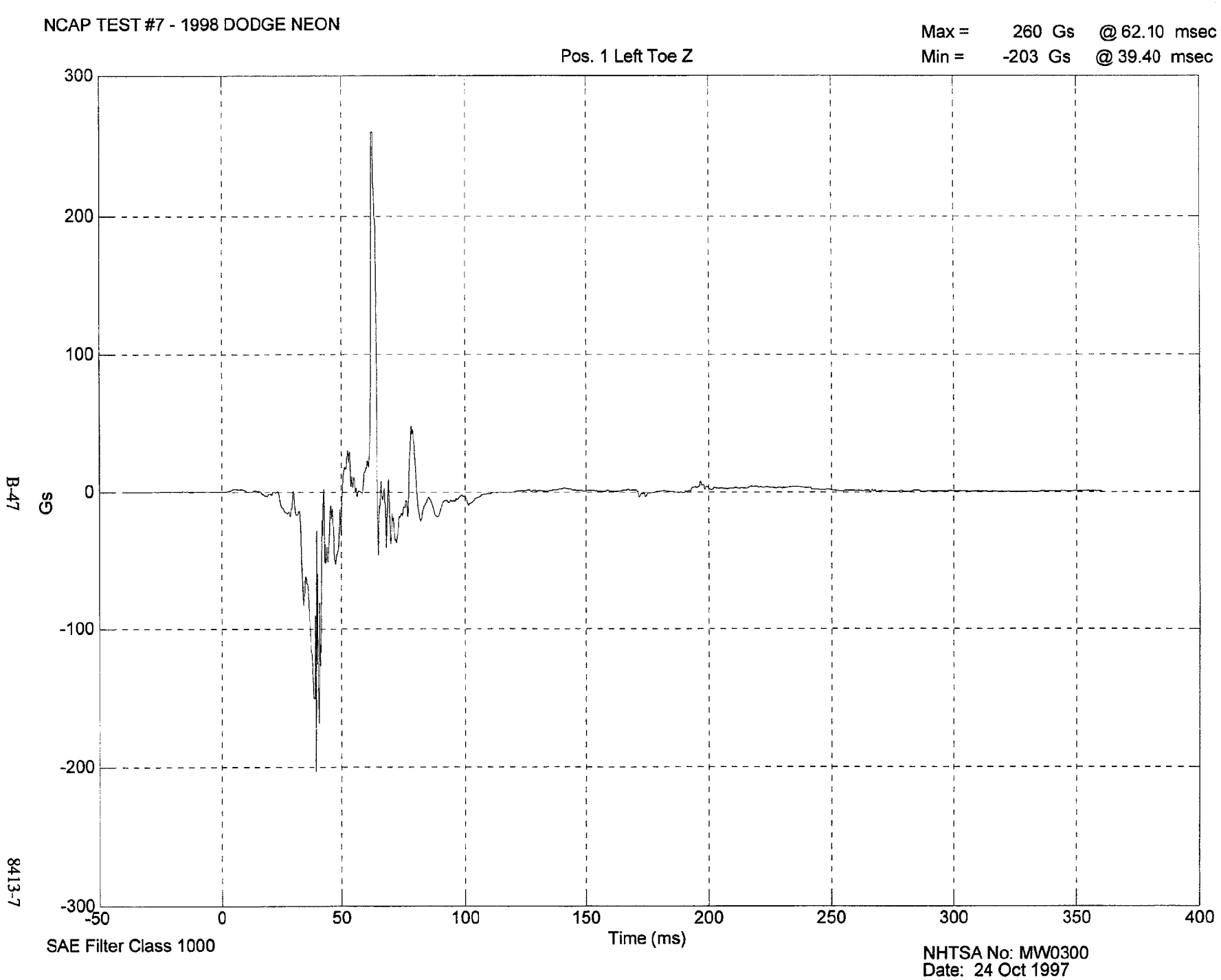


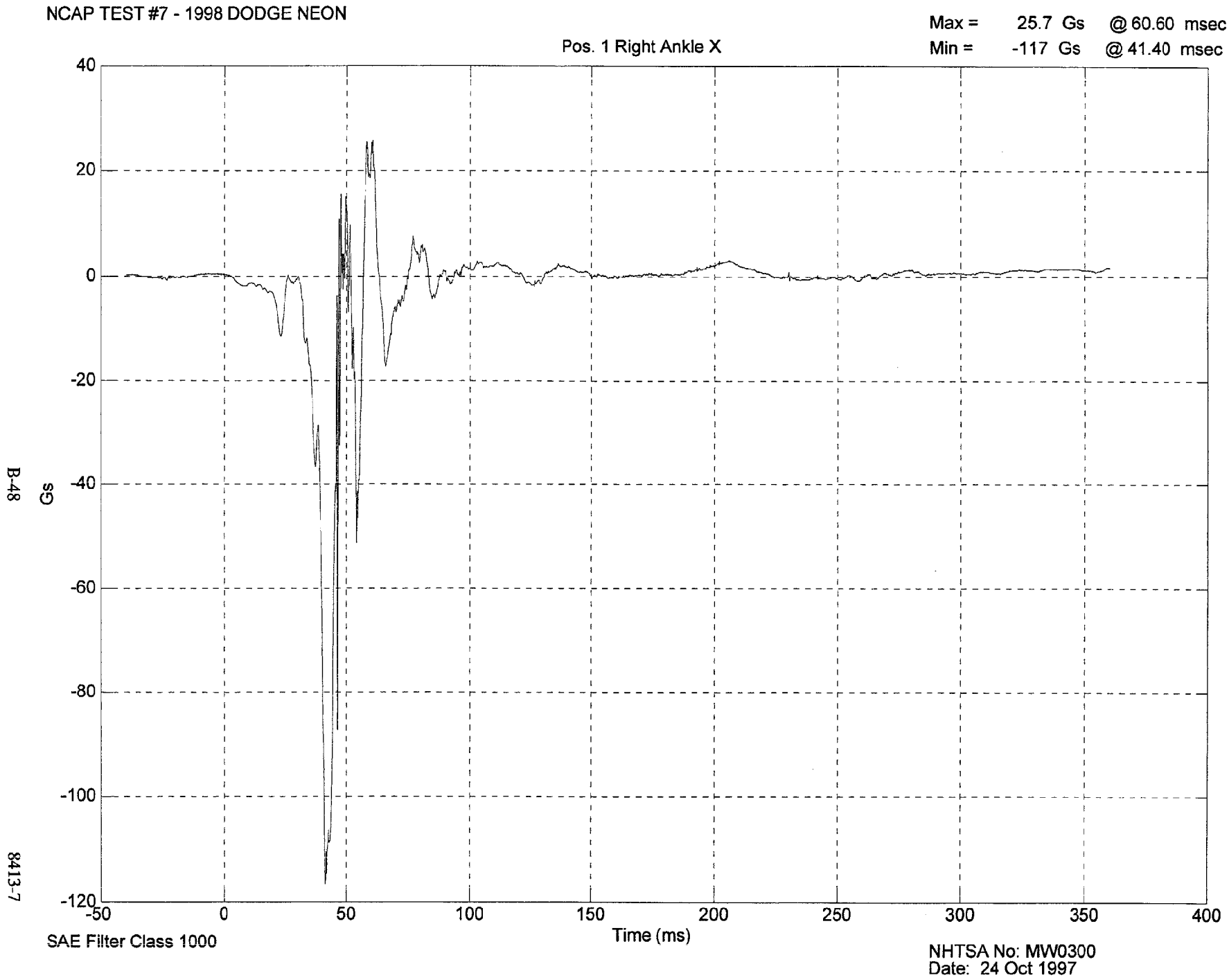
SAE Filter Class 1000

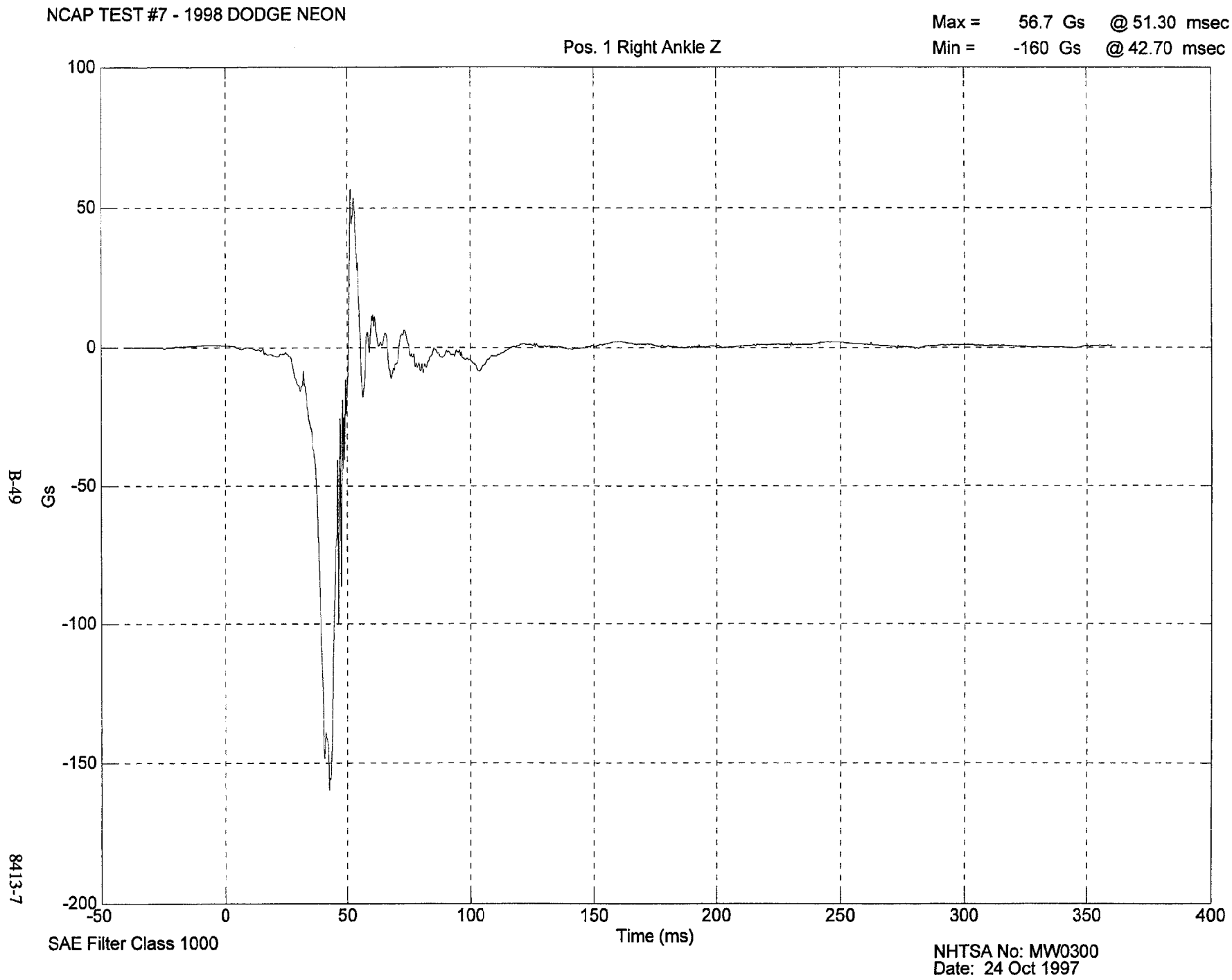
NHTSA No: MW0300
Date: 24 Oct 1997

B-46

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Left Toe Z
Max = 260 Gs @ 62.10 msec
Min = -203 Gs @ 39.40 msec
300
200
100
0
-100
-200
-300
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997
B-47
8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 25.7 Gs @ 60.60 msec
Min = -117 Gs @ 41.40 msec
Pos. 1 Right Ankle X
40
20
0
-20
-40
-60
-80
-100
-120
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

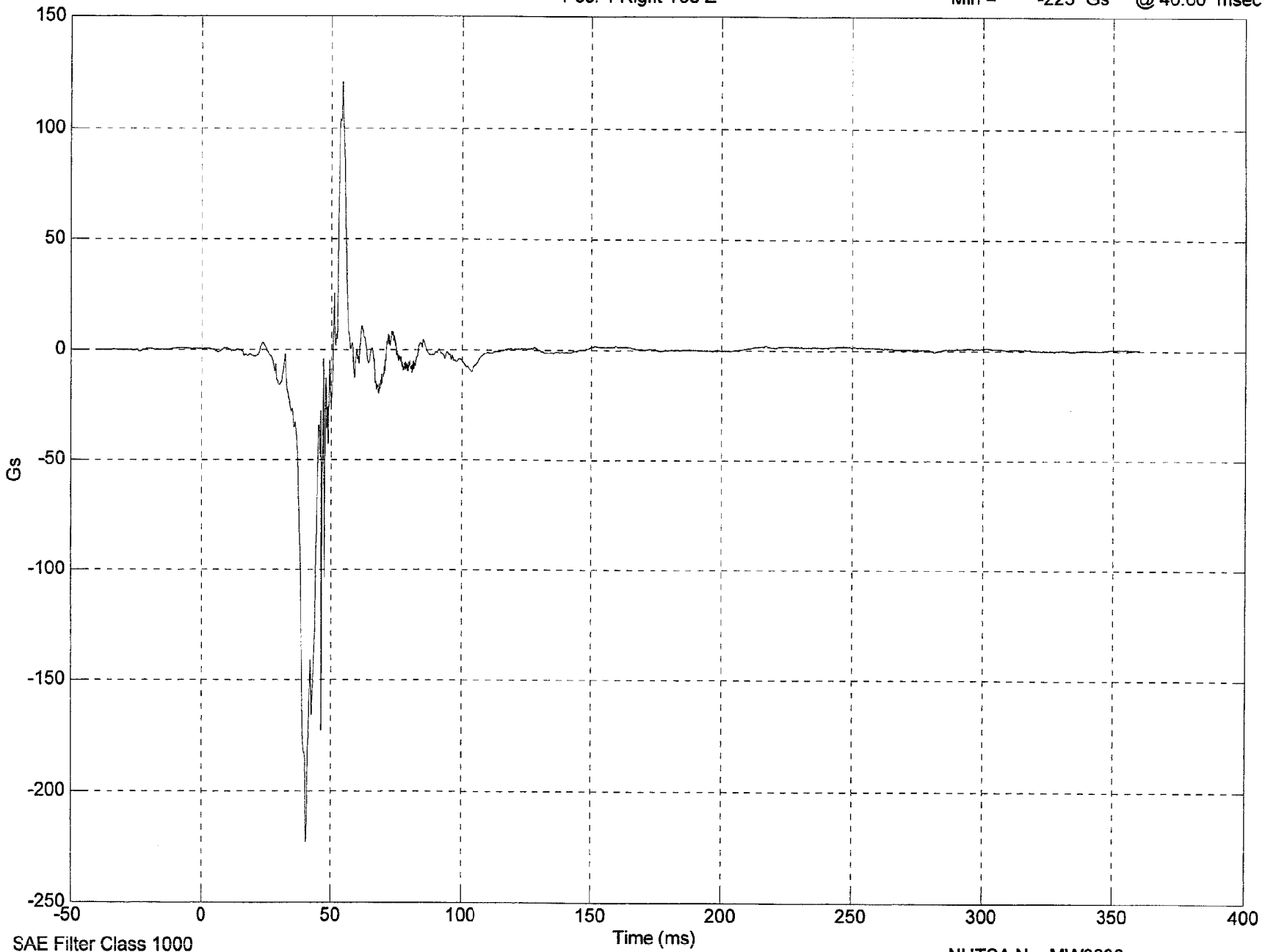

NCAP TEST #7 - 1998 DODGE NEON
Pos. 1 Right Ankle Z
Max = 56.7 Gs @ 51.30 msec
Min = -160 Gs @ 42.70 msec
100
50
0
-50
-100
-150
-200
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Right Toe Z

Max = 121 Gs @ 54.30 msec
Min = -223 Gs @ 40.60 msec



B-50

8413-7

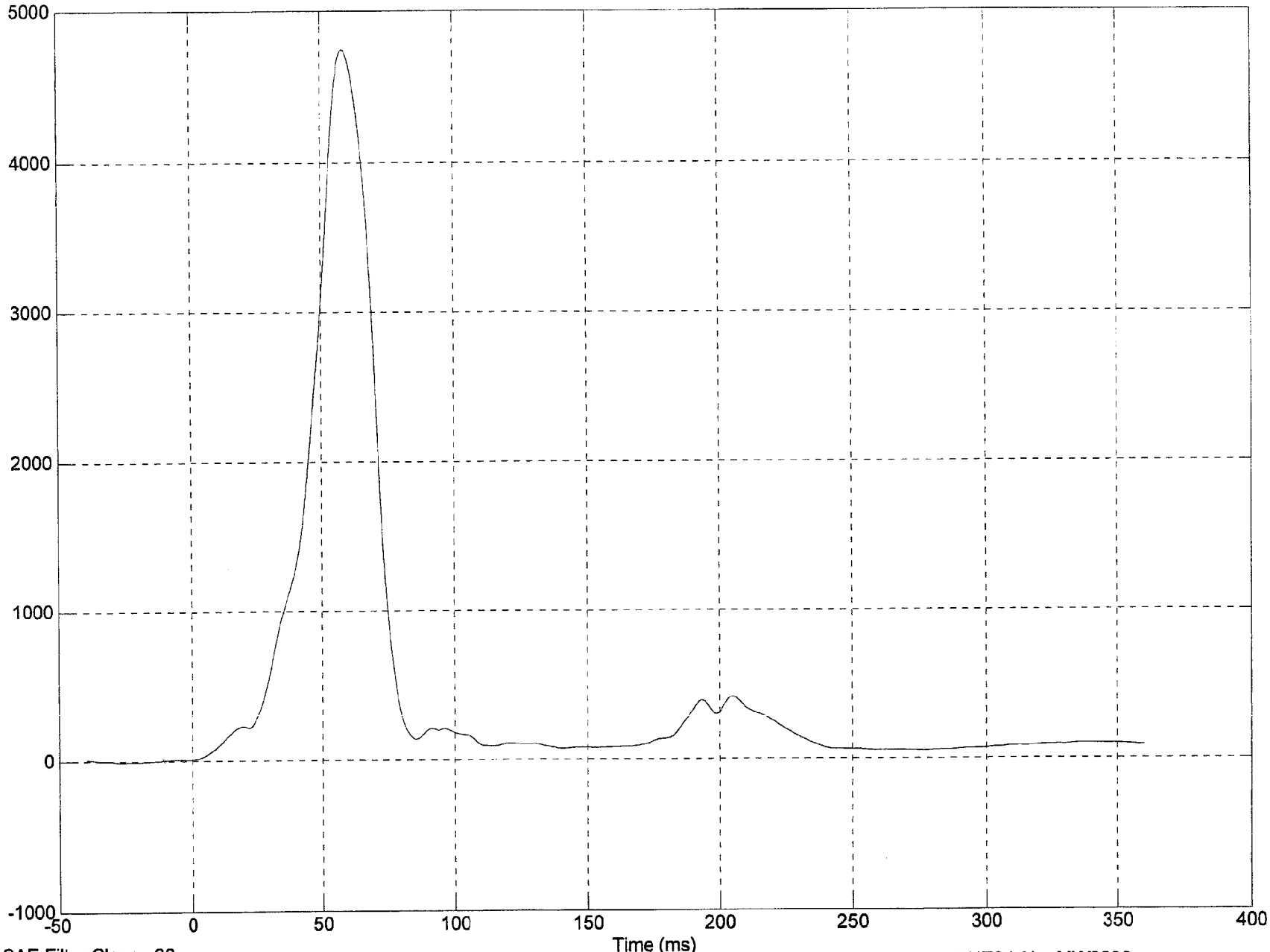
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Left Belt Load

Max = 4.74e+003 Nwt @ 58.20 msec
Min = -7.42 Nwt @ -27.00 msec



B-51

8413-7

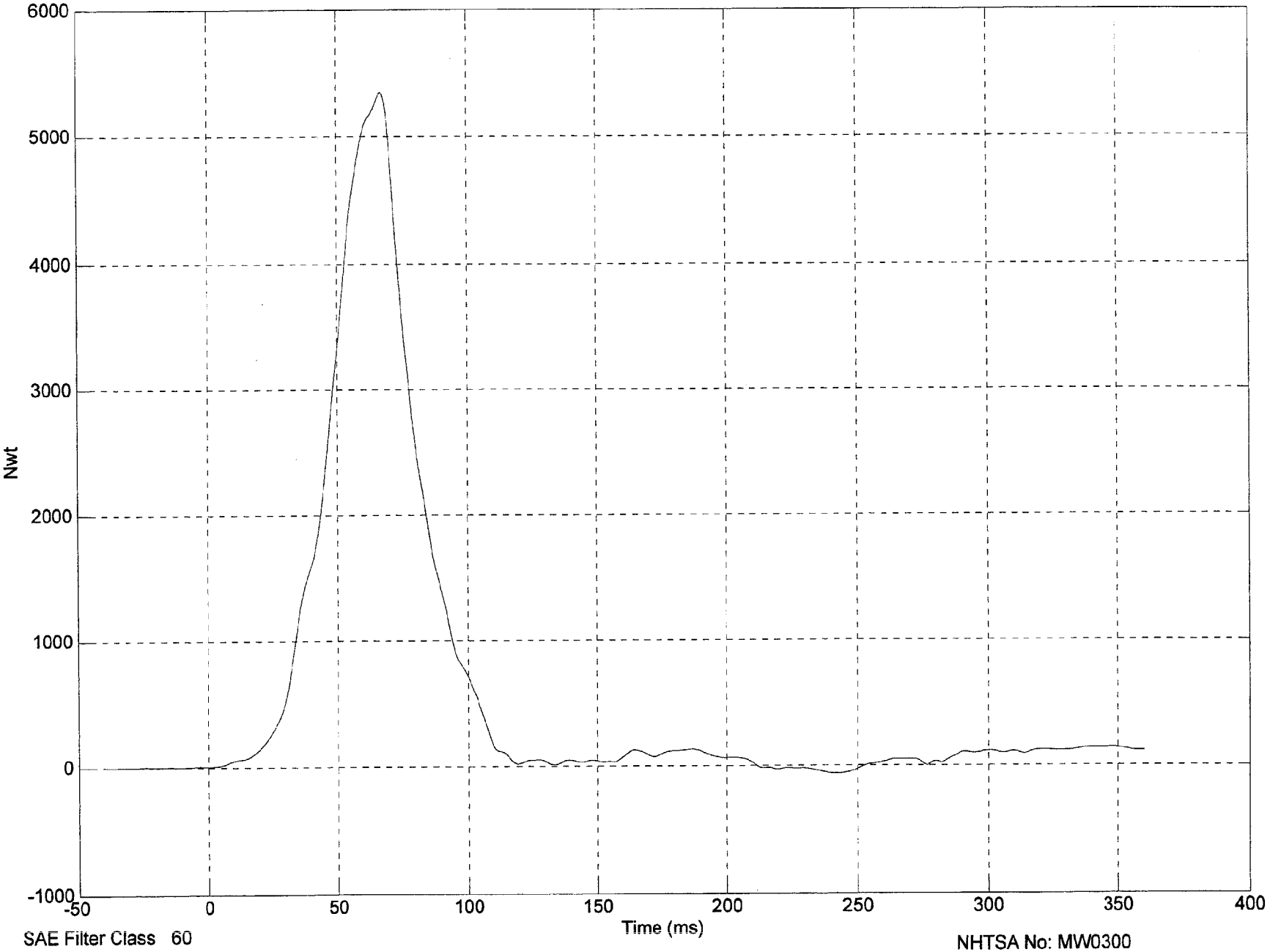
SAE Filter Class 60

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 1 Torso Belt Load

Max = 5.35e+003 Nwt @ 66.90 msec
Min = -62.6 Nwt @ 242.30 msec



B-52

8413-7

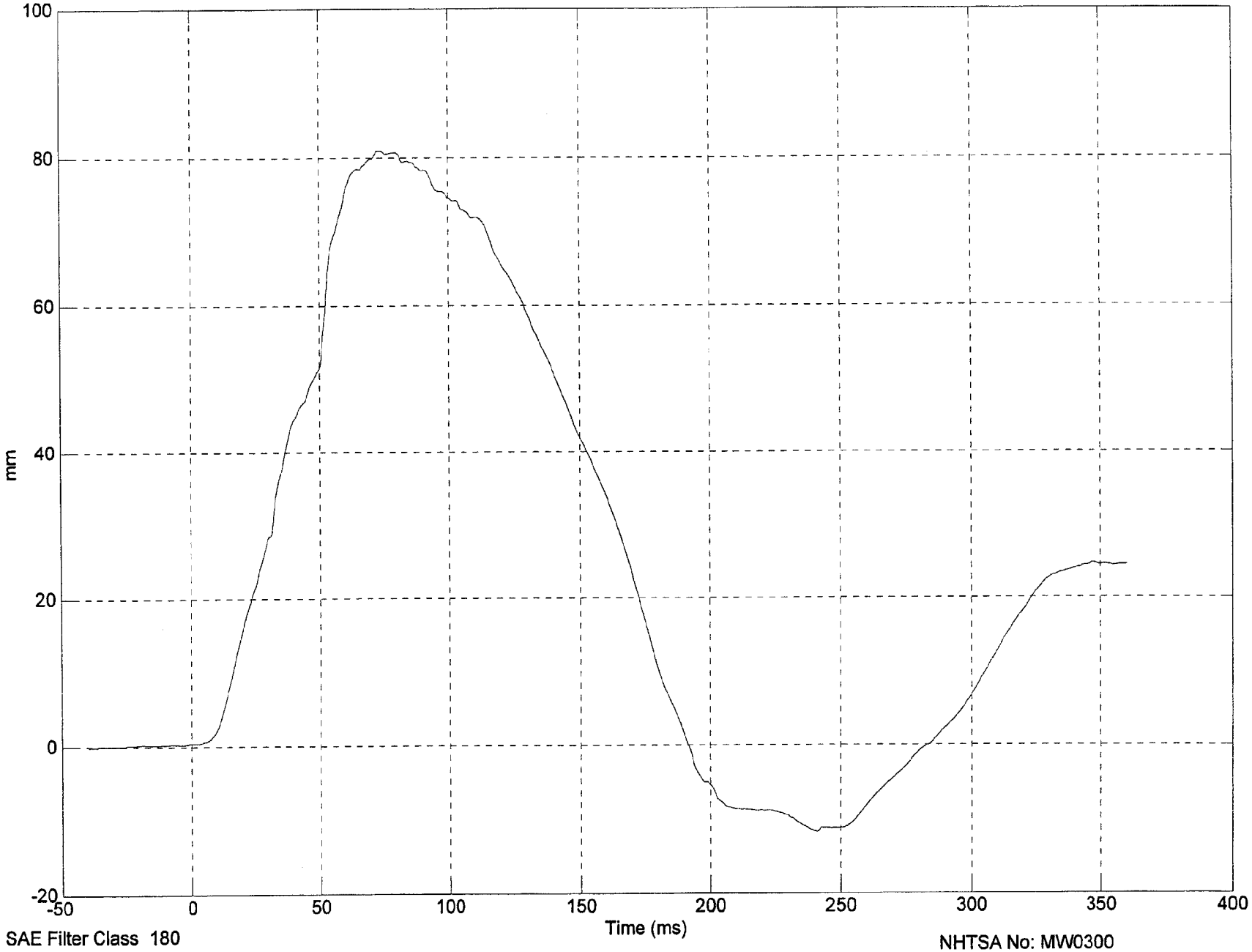
SAE Filter Class 60

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 80.9 mm @ 74.00 msec
Min = -11.9 mm @ 240.60 msec

Pos. 1 Belt Spool Out



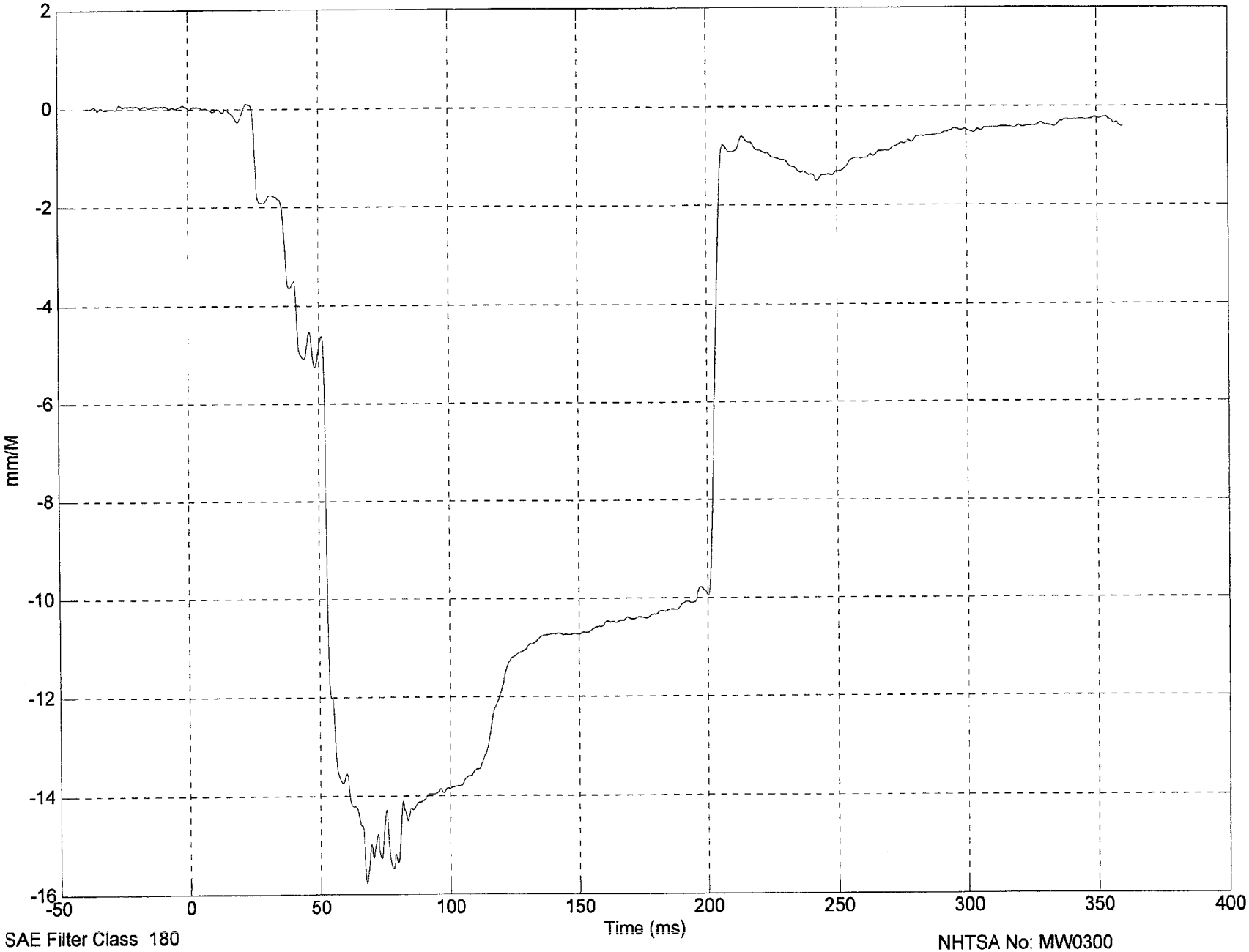
SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 0.0994 mm/M @ 22.20 msec
Min = -15.8 mm/M @ 67.80 msec



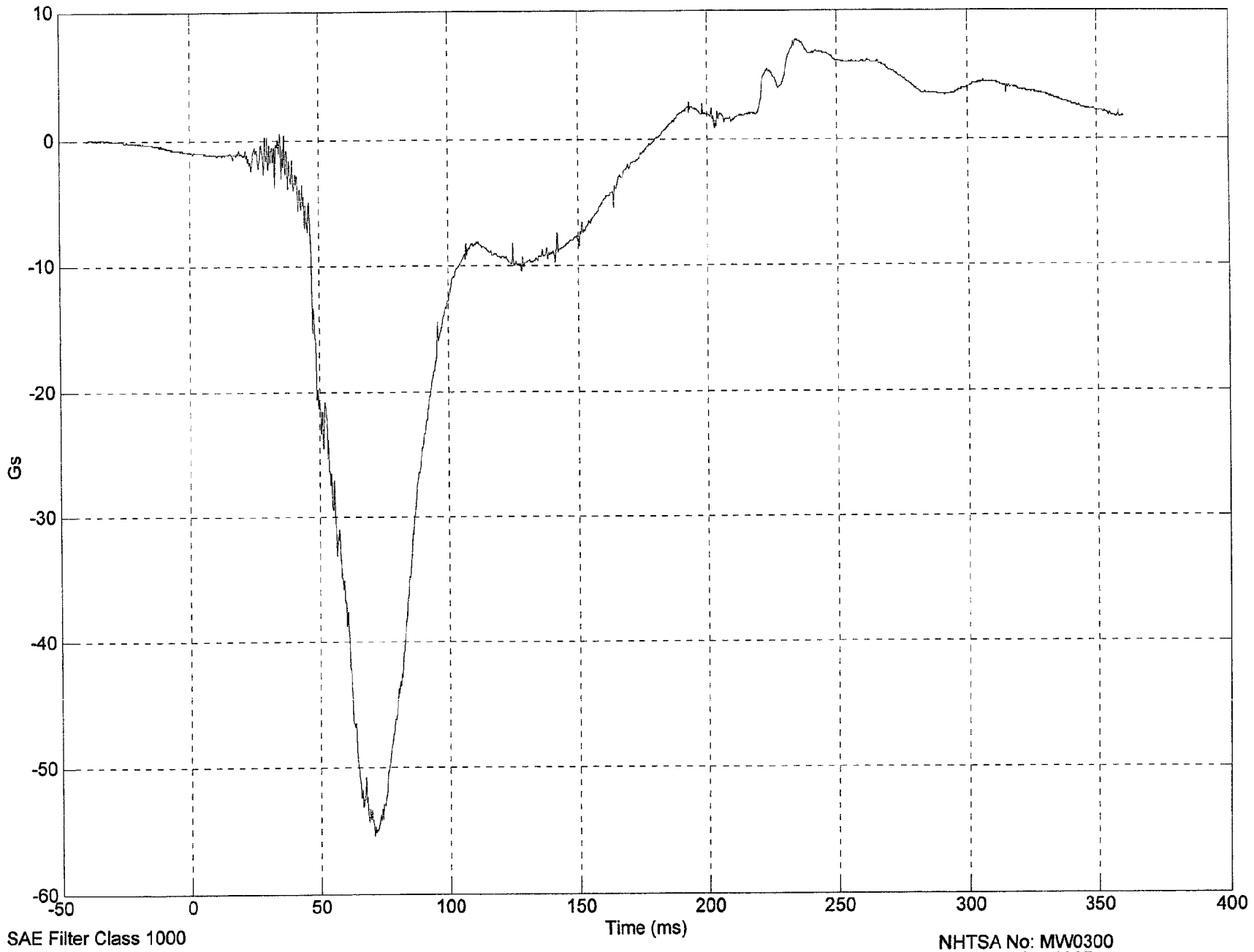
SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 7.75 Gs @ 234.00 msec
Min = -55.3 Gs @ 70.90 msec

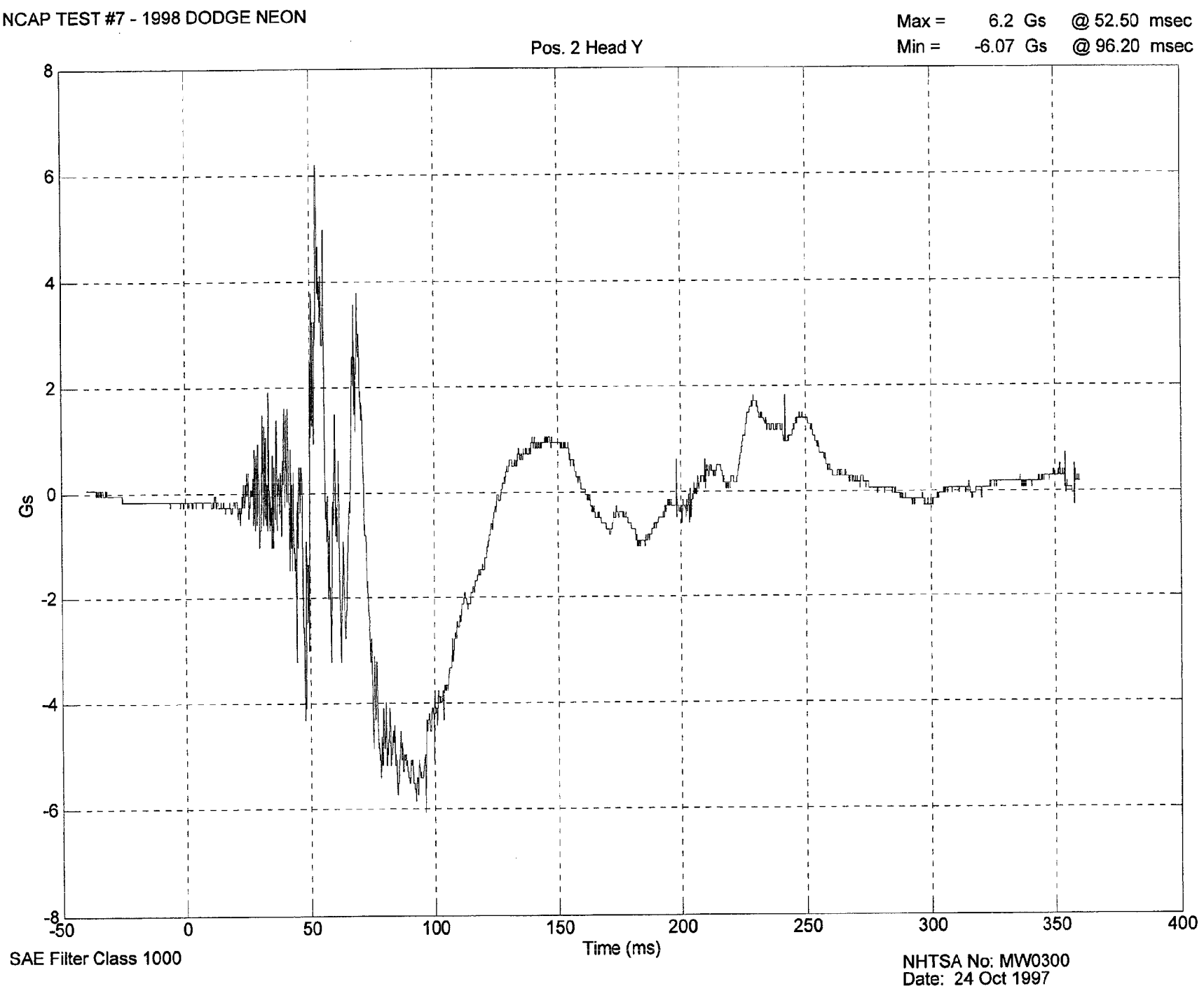


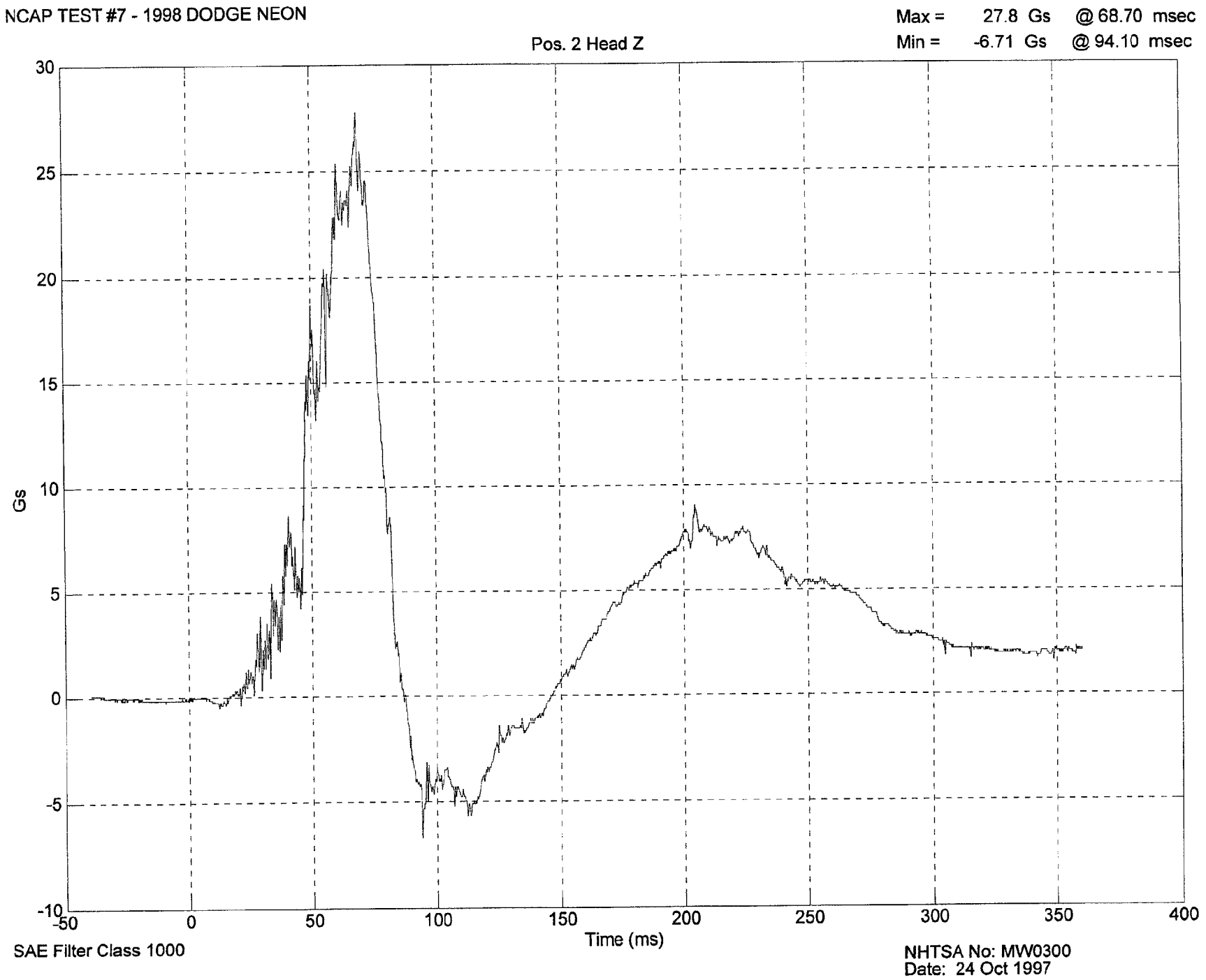
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

B-55

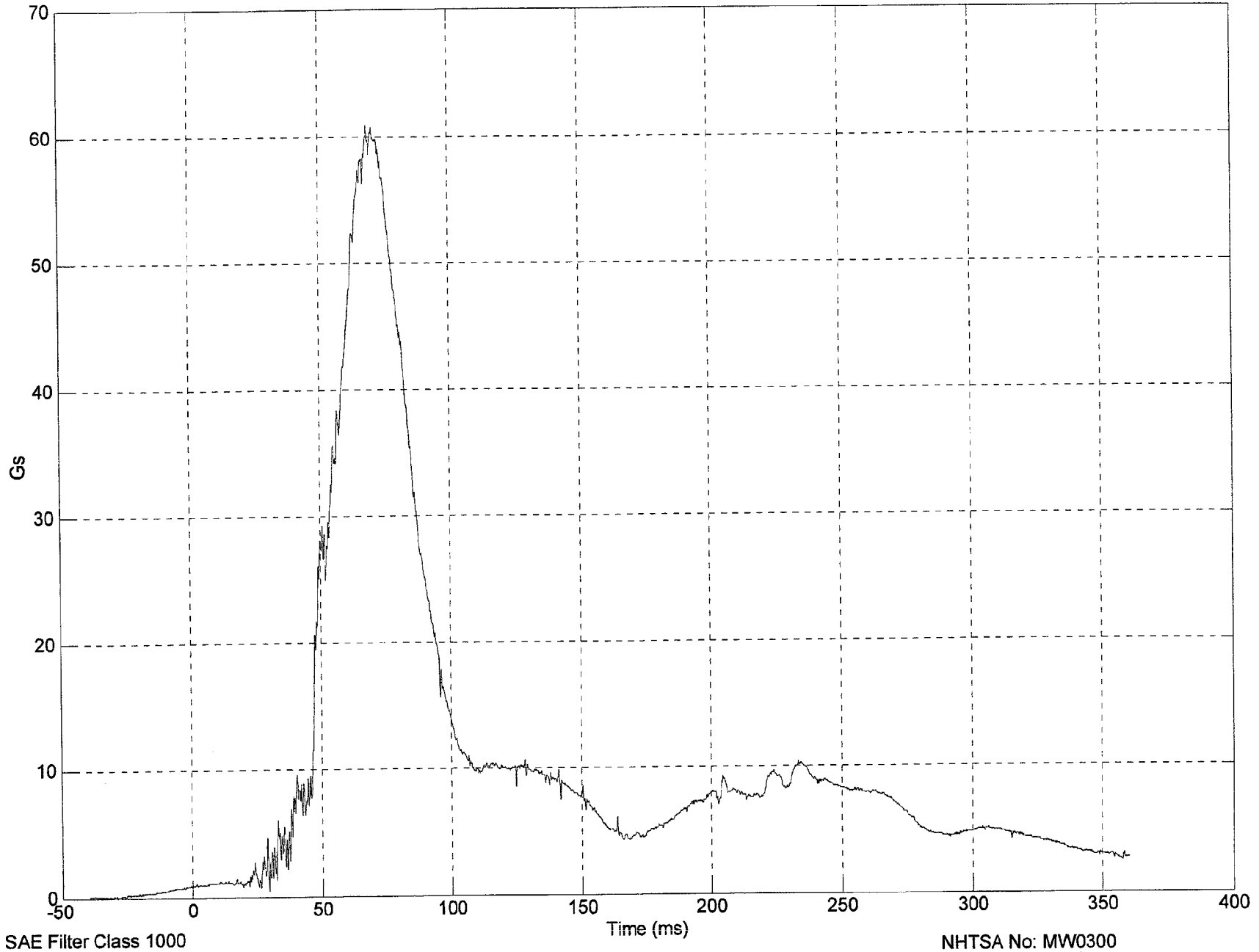
8413-7


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Head Y
Max = 6.2 Gs @ 52.50 msec
Min = -6.07 Gs @ 96.20 msec
Gs
Time (ms)
8
6
4
2
0
-2
-4
-6
-8
-50
0
50
100
150
200
250
300
350
400
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 27.8 Gs @ 68.70 msec
Min = -6.71 Gs @ 94.10 msec
Pos. 2 Head Z
Gs
Time (ms)
30
25
20
15
10
5
0
-5
-10
-50
0
50
100
150
200
250
300
350
400
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 60.9 Gs @ 68.60 msec
Min = 0.0776 Gs @ -35.70 msec



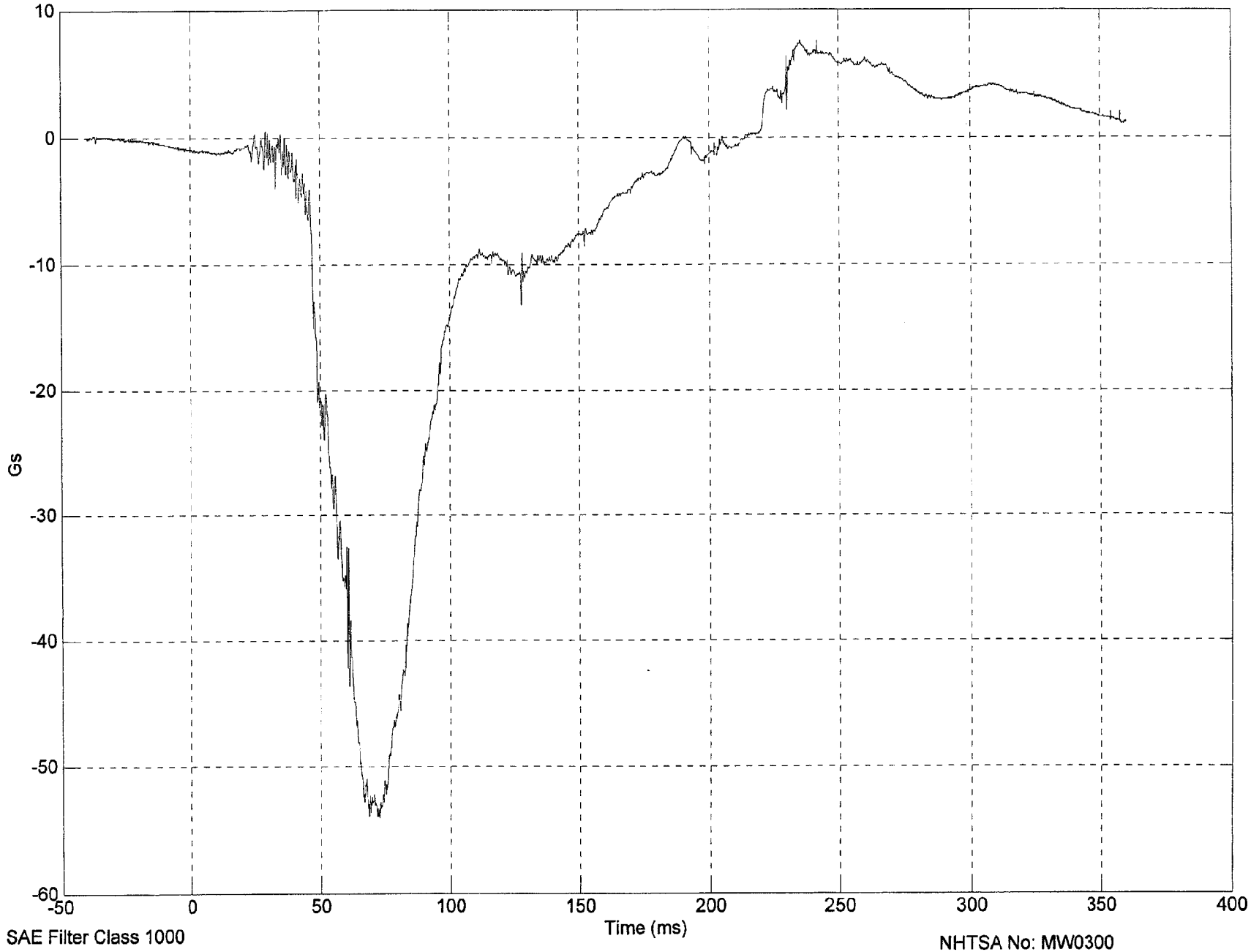
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 7.57 Gs @ 235.10 msec
Min = -54.1 Gs @ 72.50 msec



SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

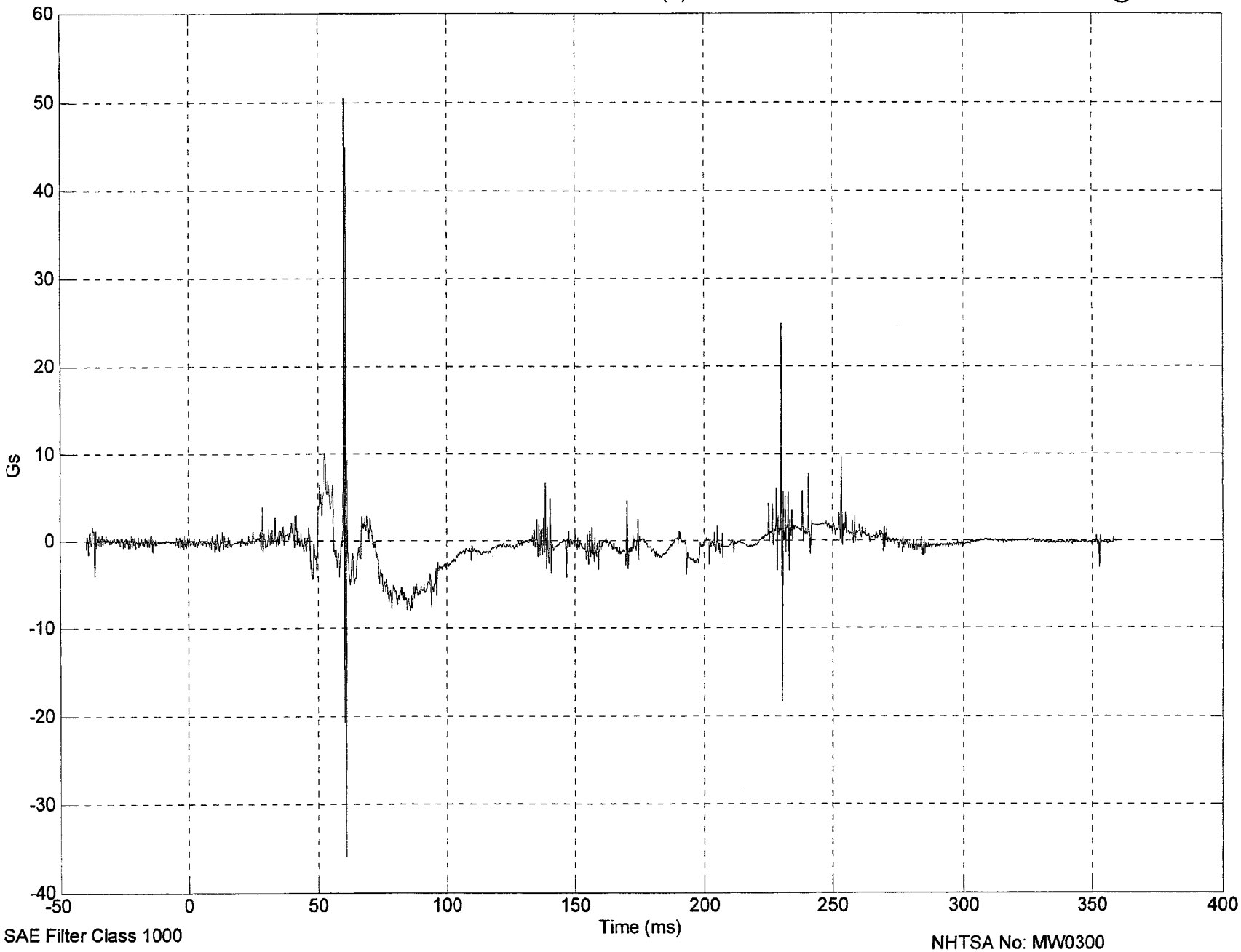
B-59

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Head Y(R)

Max = 50.5 Gs @ 60.00 msec
Min = -35.9 Gs @ 61.00 msec



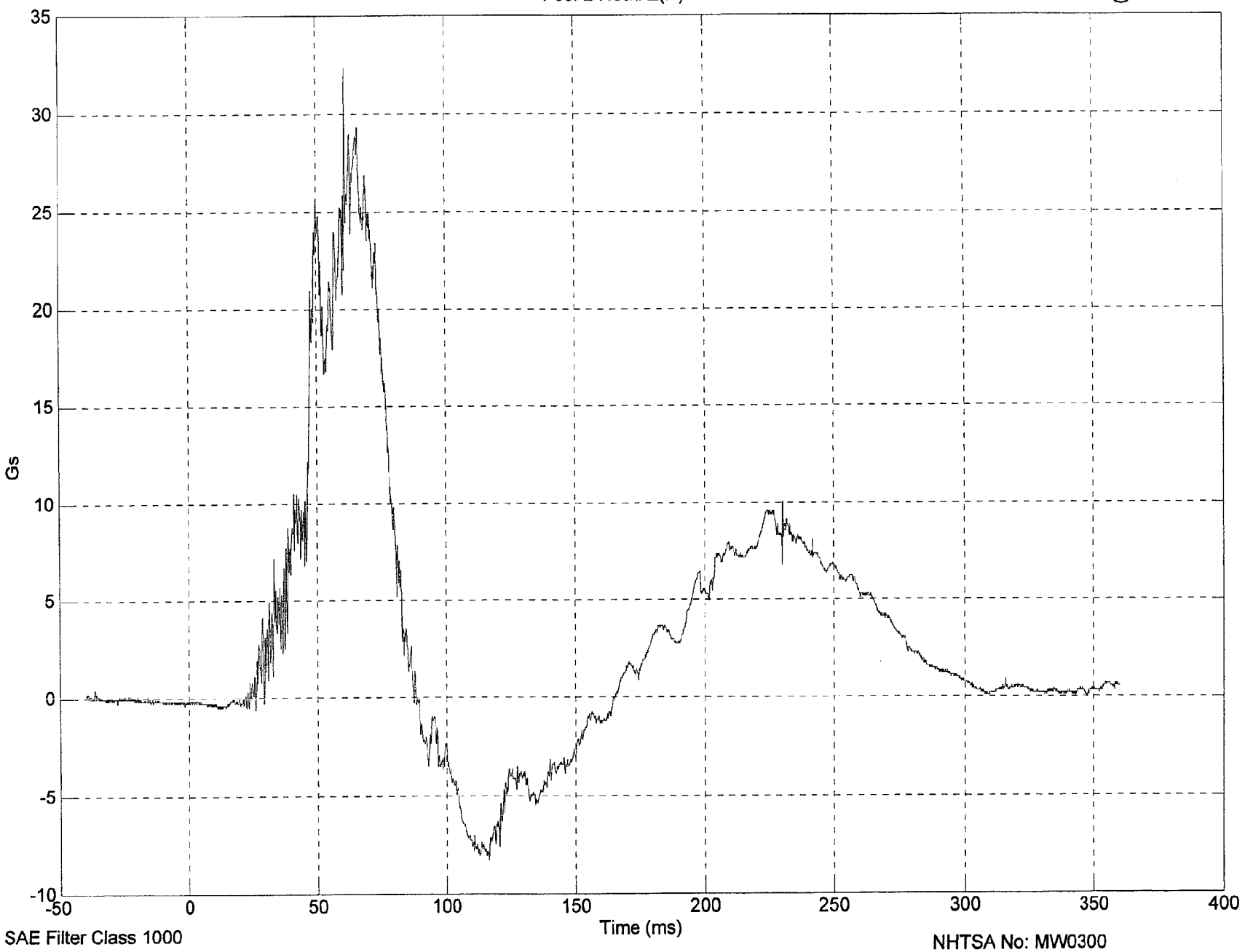
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 32.3 Gs @ 61.00 msec
Min = -8.28 Gs @ 116.40 msec



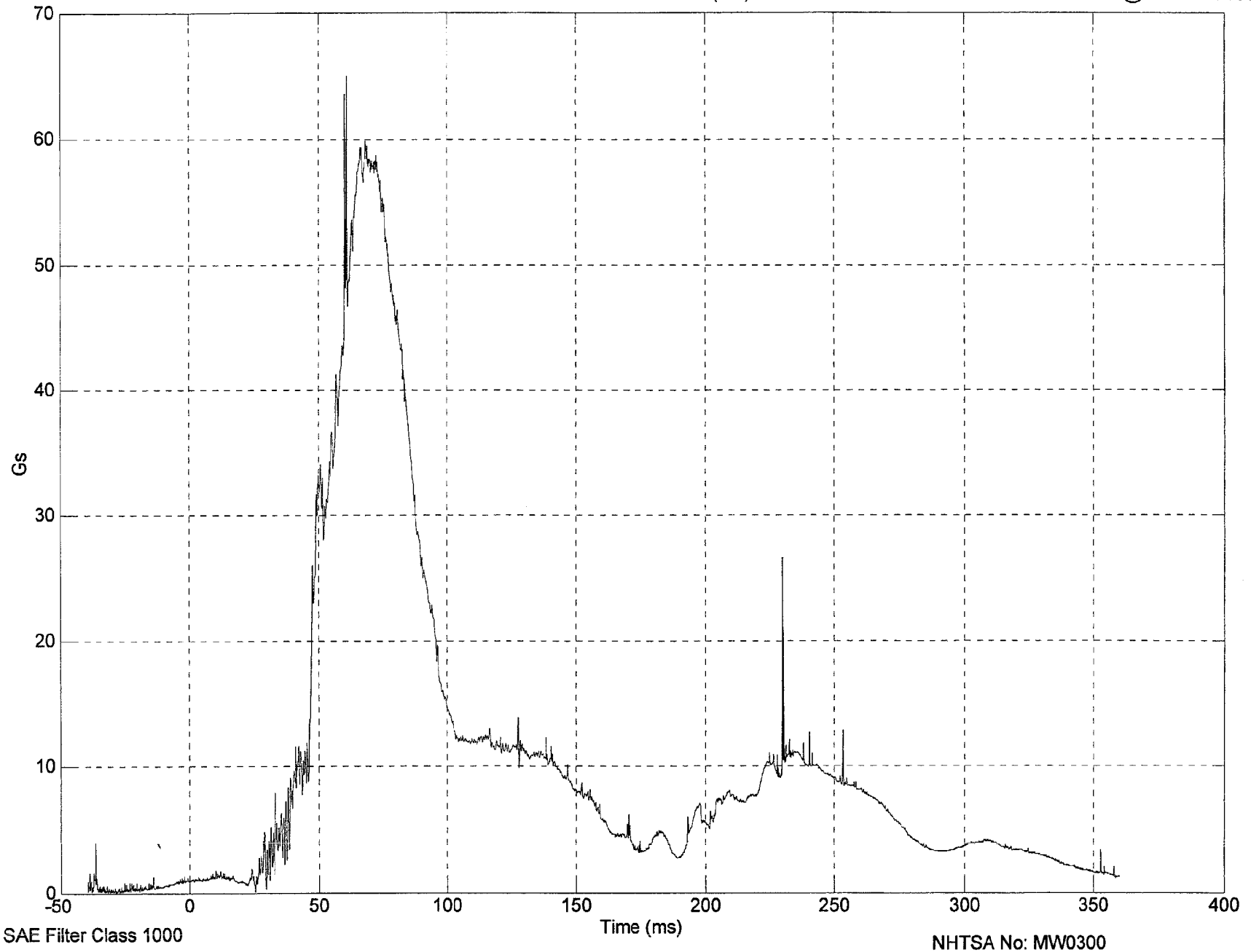
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 65 Gs @ 61.00 msec
Min = 0.0628 Gs @ -30.80 msec



SAE Filter Class 1000

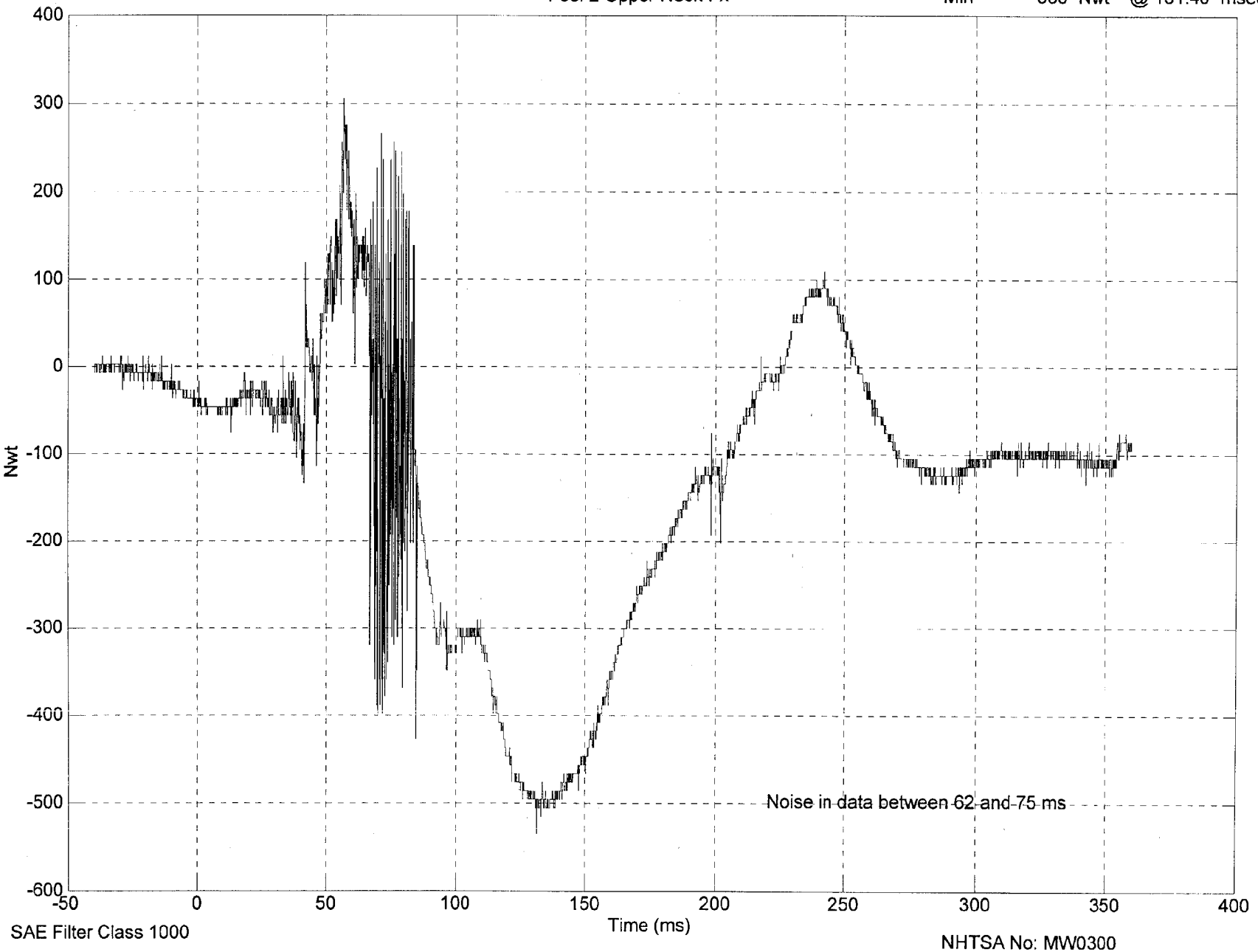
NHTSA No: MW0300
Date: 24 Oct 1997

B-62

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 305 Nwt @ 56.50 msec
Min = -535 Nwt @ 131.40 msec

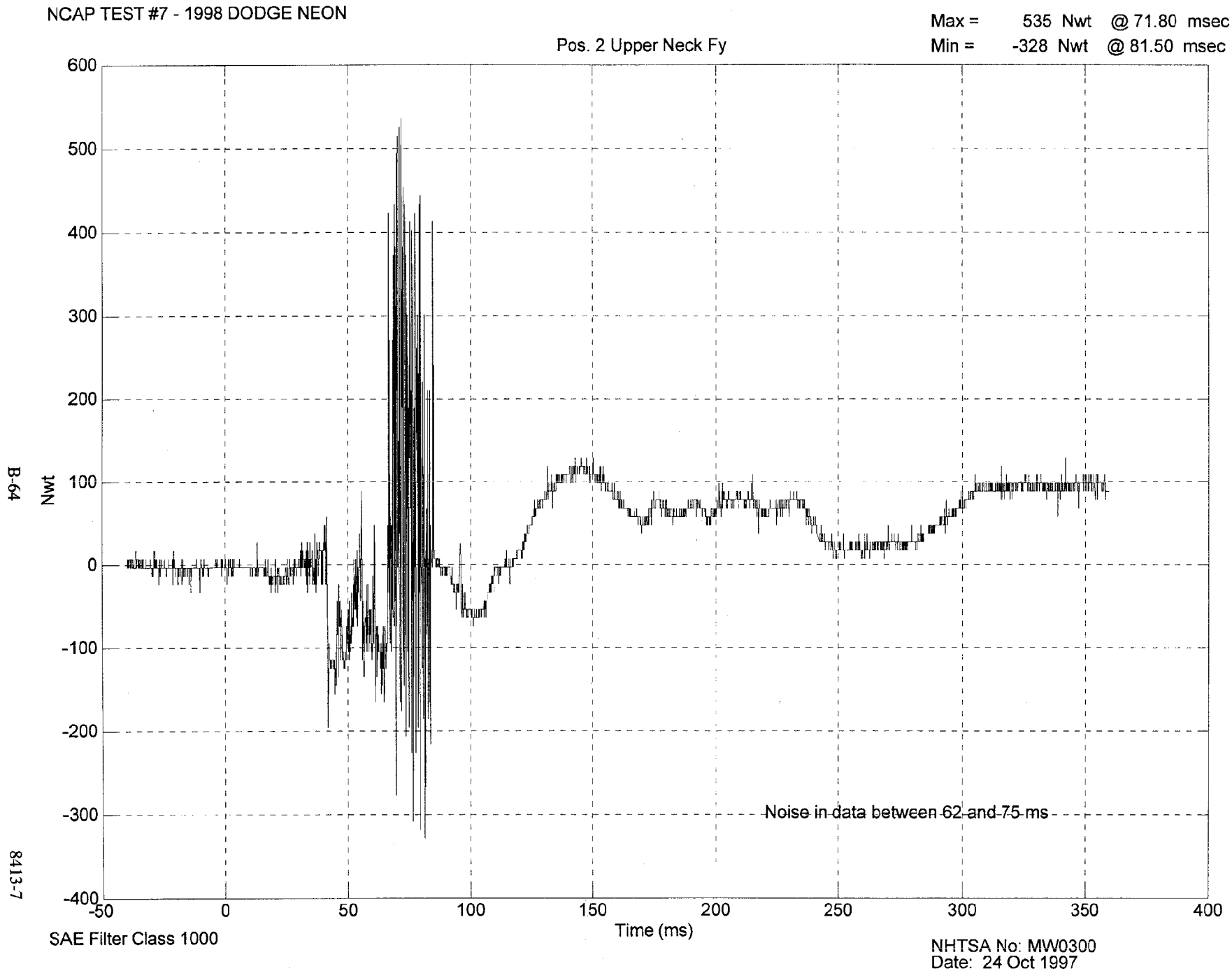


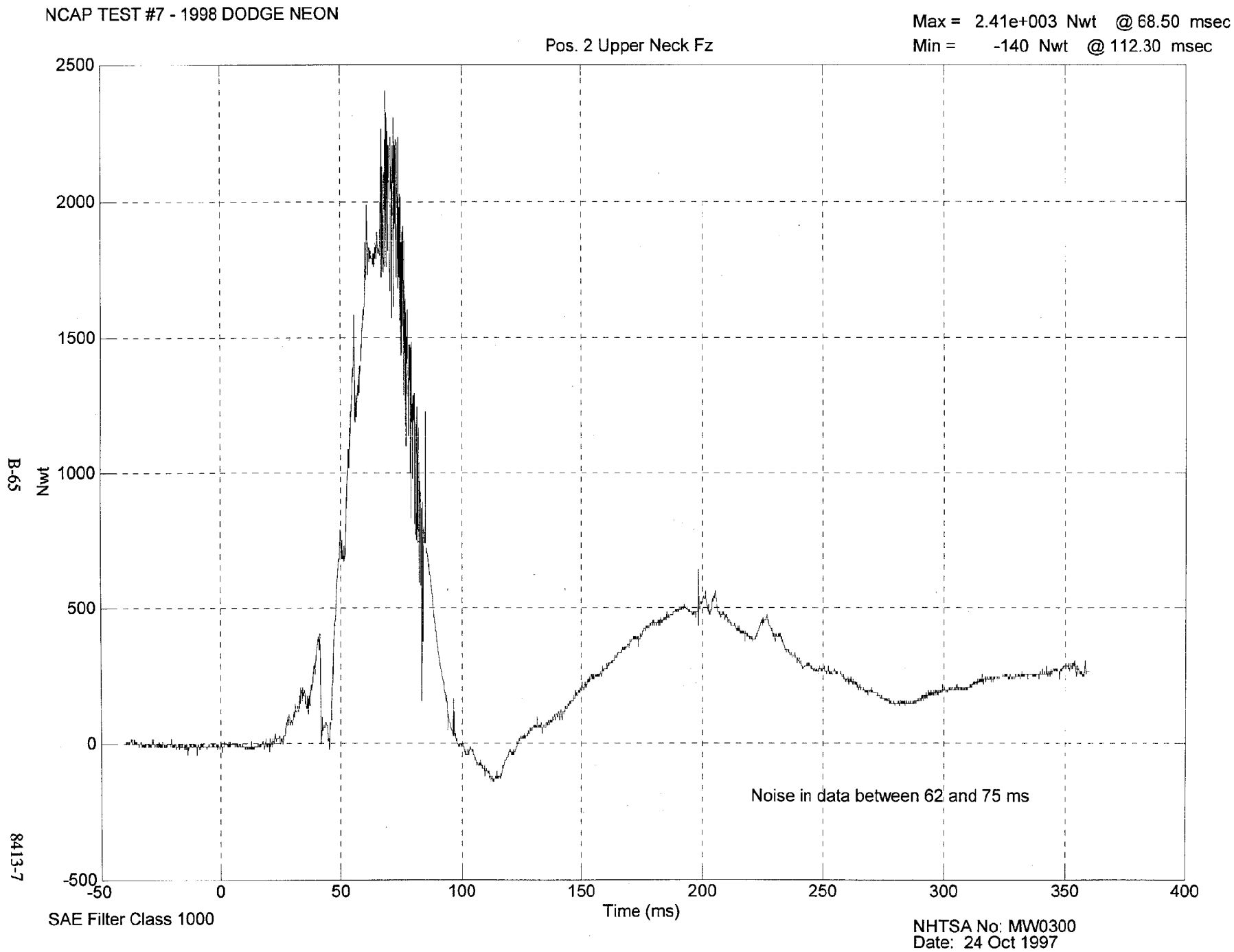
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

B-63

8413-7

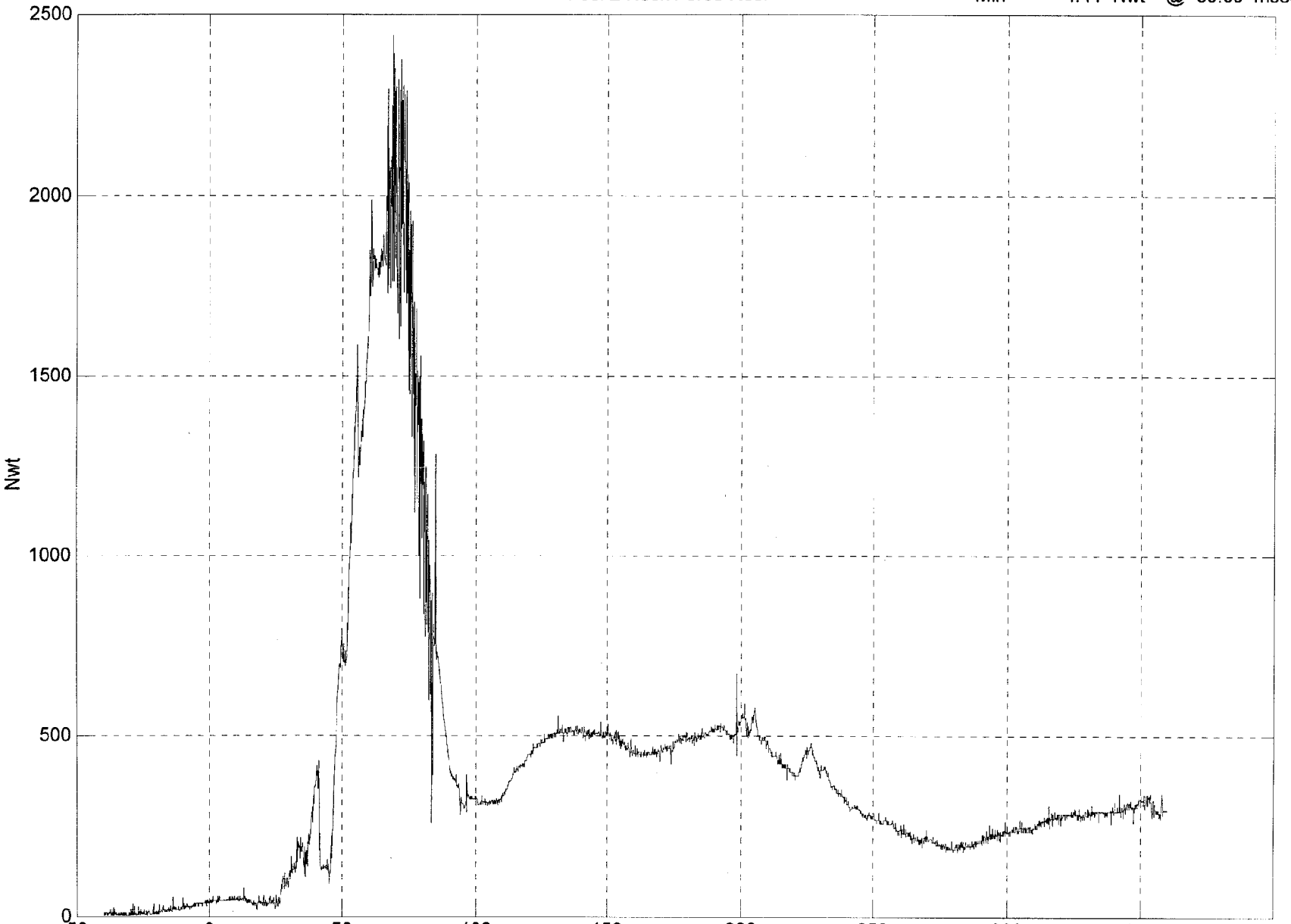

NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Upper Neck Fy
Max = 535 Nwt @ 71.80 msec
Min = -328 Nwt @ 81.50 msec
600
500
400
300
200
100
0
-100
-200
-300
-400
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
Noise in data between 62 and 75 ms
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Upper Neck Fz
Max = 2.41e+003 Nwt @ 68.50 msec
Min = -140 Nwt @ 112.30 msec
2500
2000
1500
1000
500
0
-500
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
Noise in data between 62 and 75 ms
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997
B-65
8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Neck Force Res.

Max = 2.44e+003 Nwt @ 68.50 msec
Min = 4.41 Nwt @ -39.90 msec



B-66

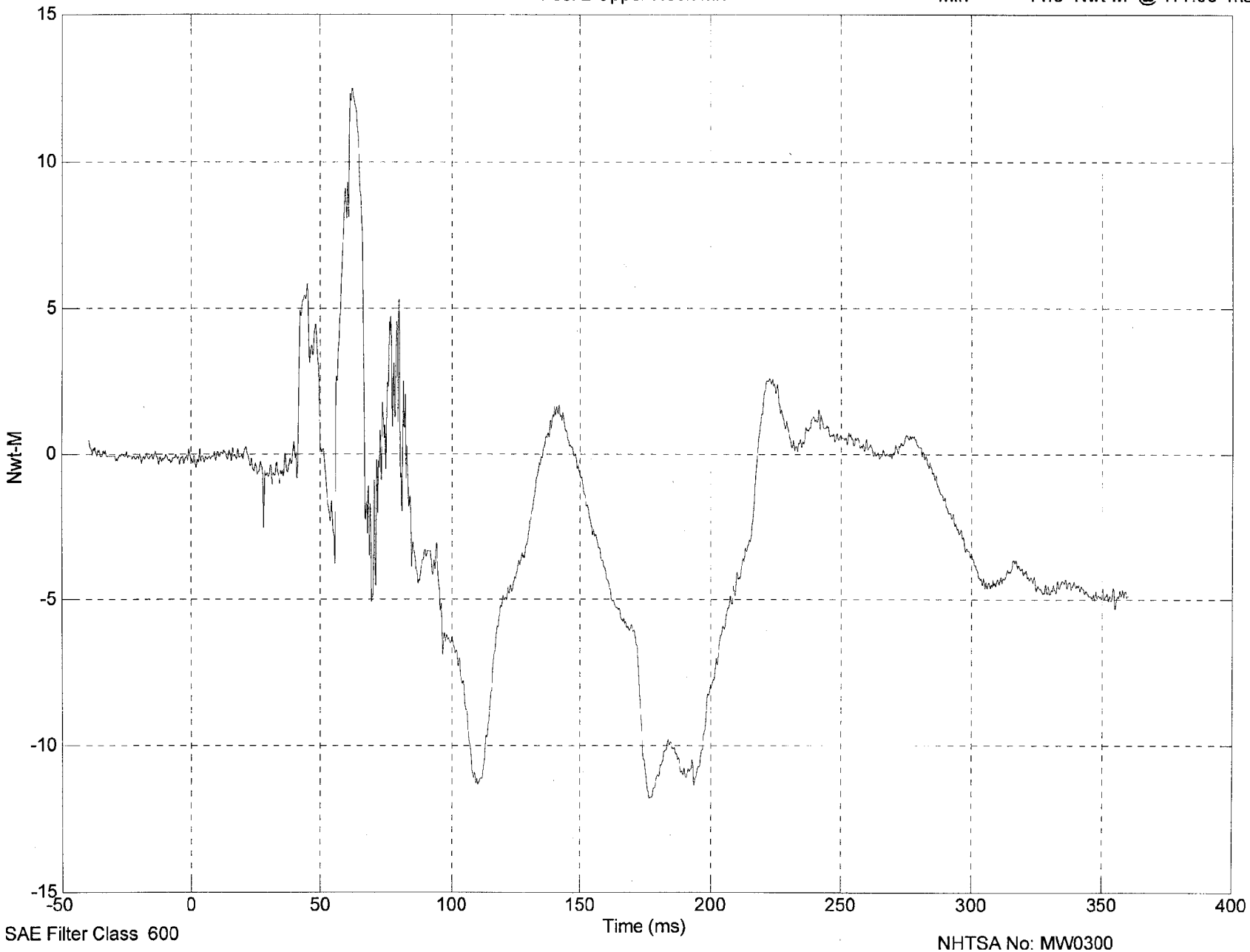
8413-7

SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 12.5 Nwt-M @ 62.20 msec
Min = -11.8 Nwt-M @ 177.00 msec



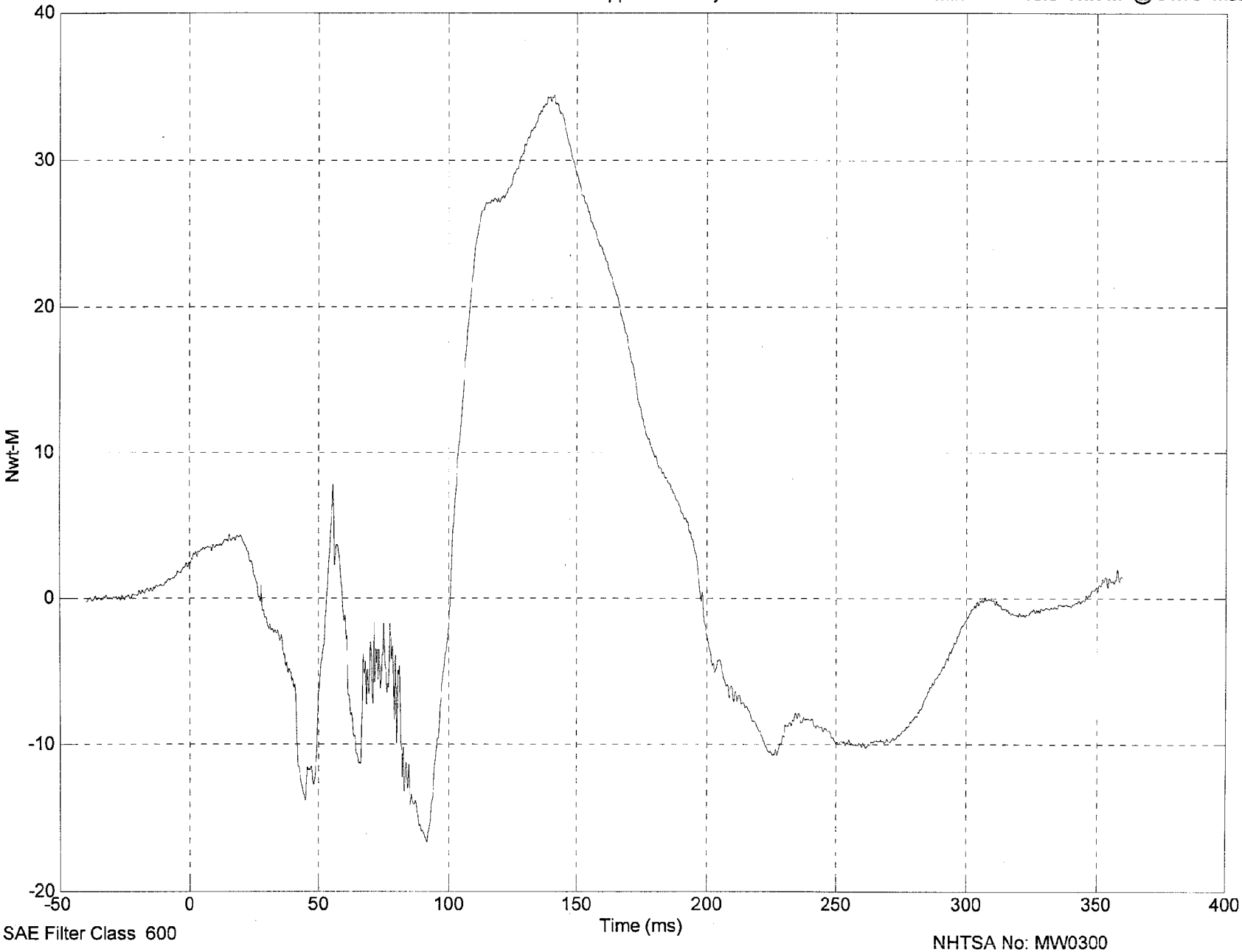
SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 34.4 Nwt-M @ 141.20 msec
Min = -16.6 Nwt-M @ 91.70 msec



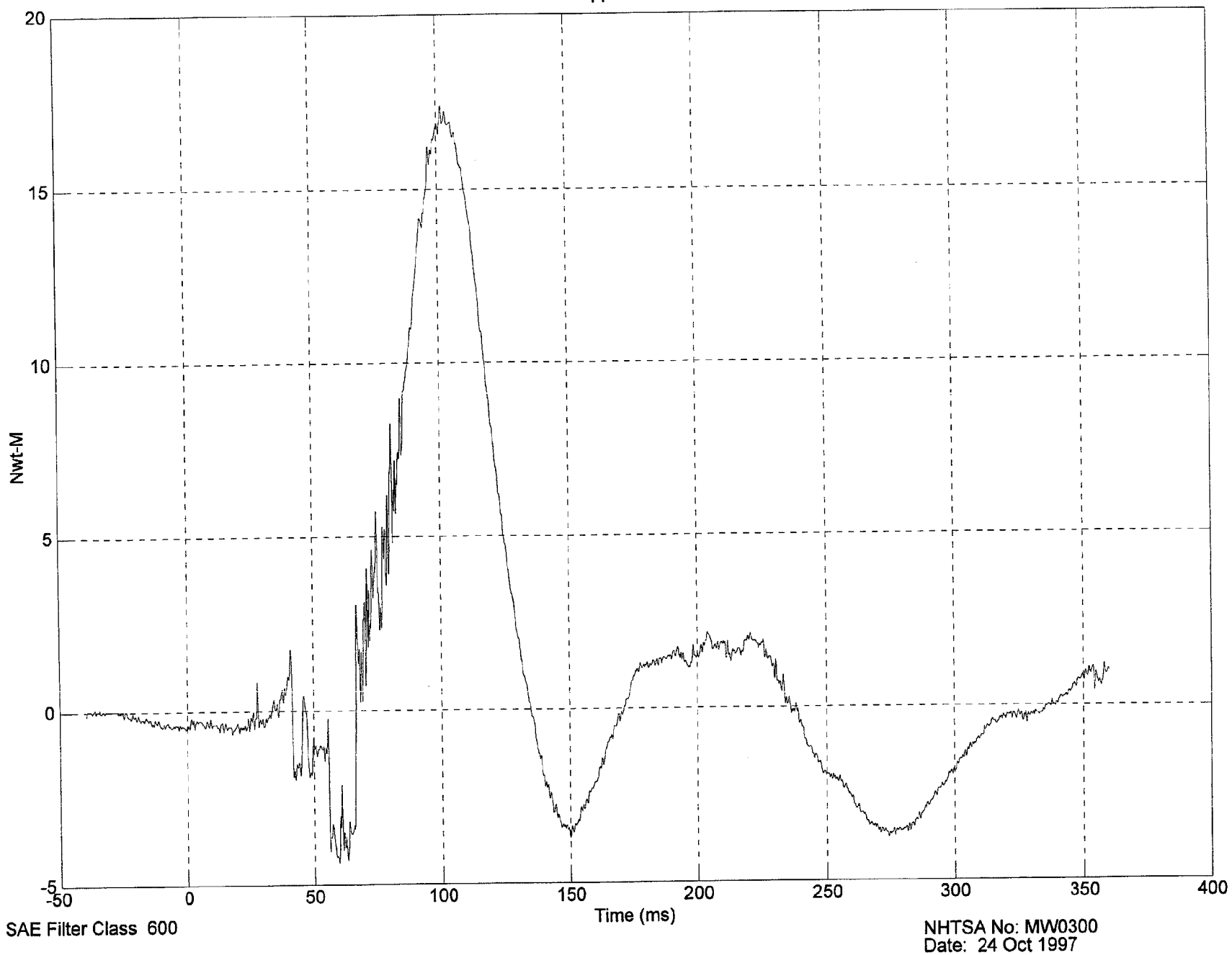
SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 17.4 Nwt-M @ 101.80 msec
Min = -4.37 Nwt-M @ 59.70 msec



SAE Filter Class 600

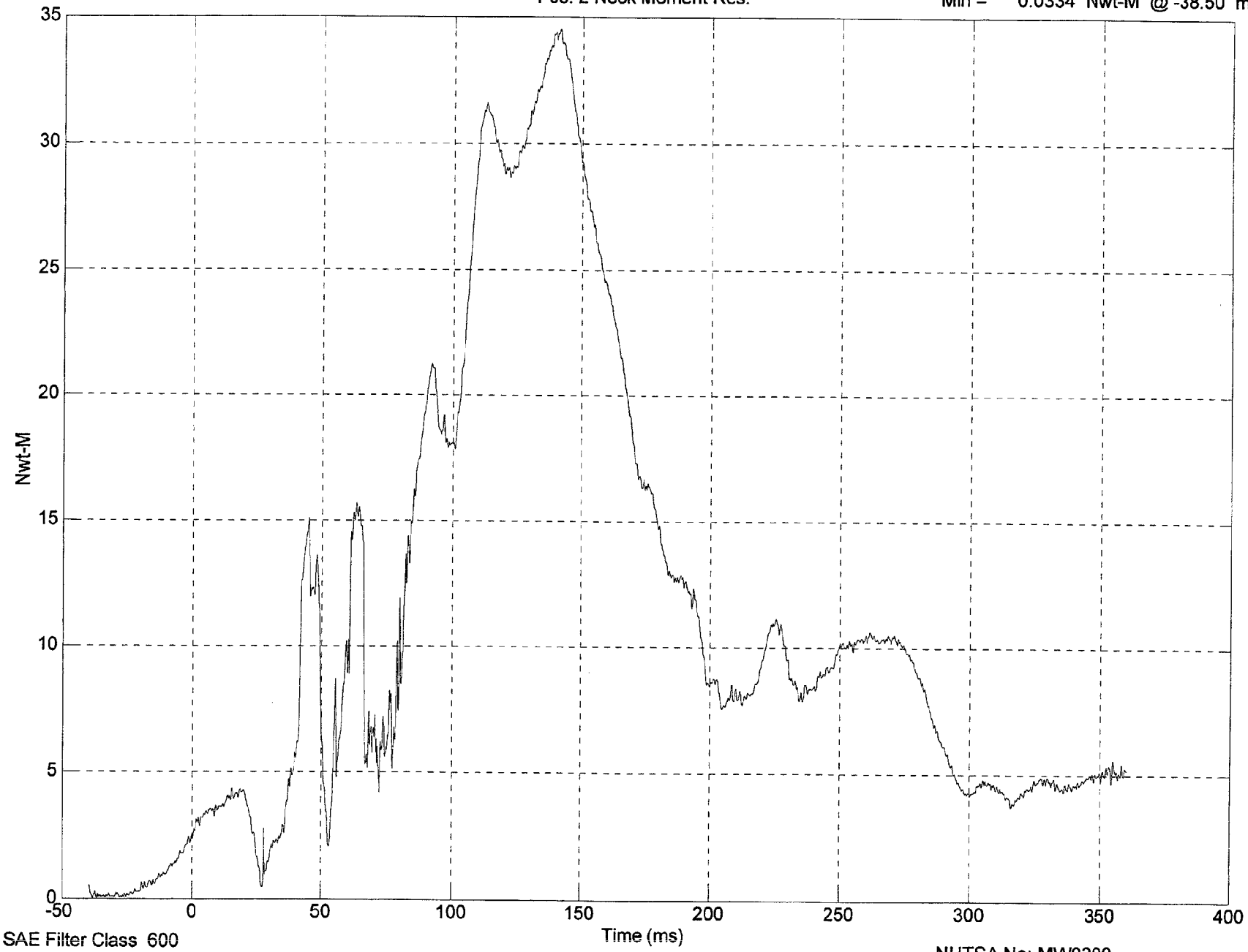
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

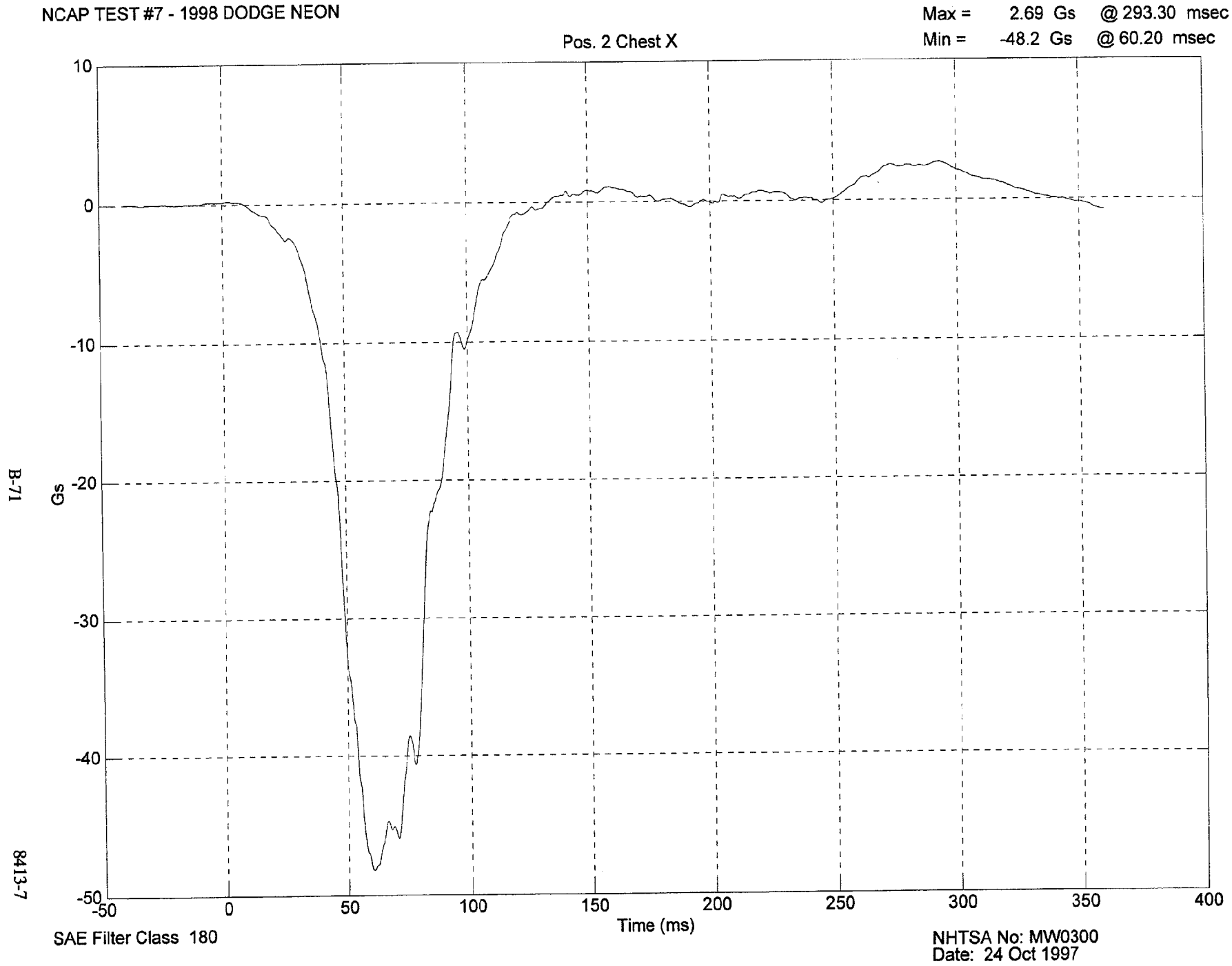
Pos. 2 Neck Moment Res.

Max = 34.5 Nwt-M @ 141.20 msec
Min = 0.0334 Nwt-M @ -38.50 msec



SAE Filter Class 600

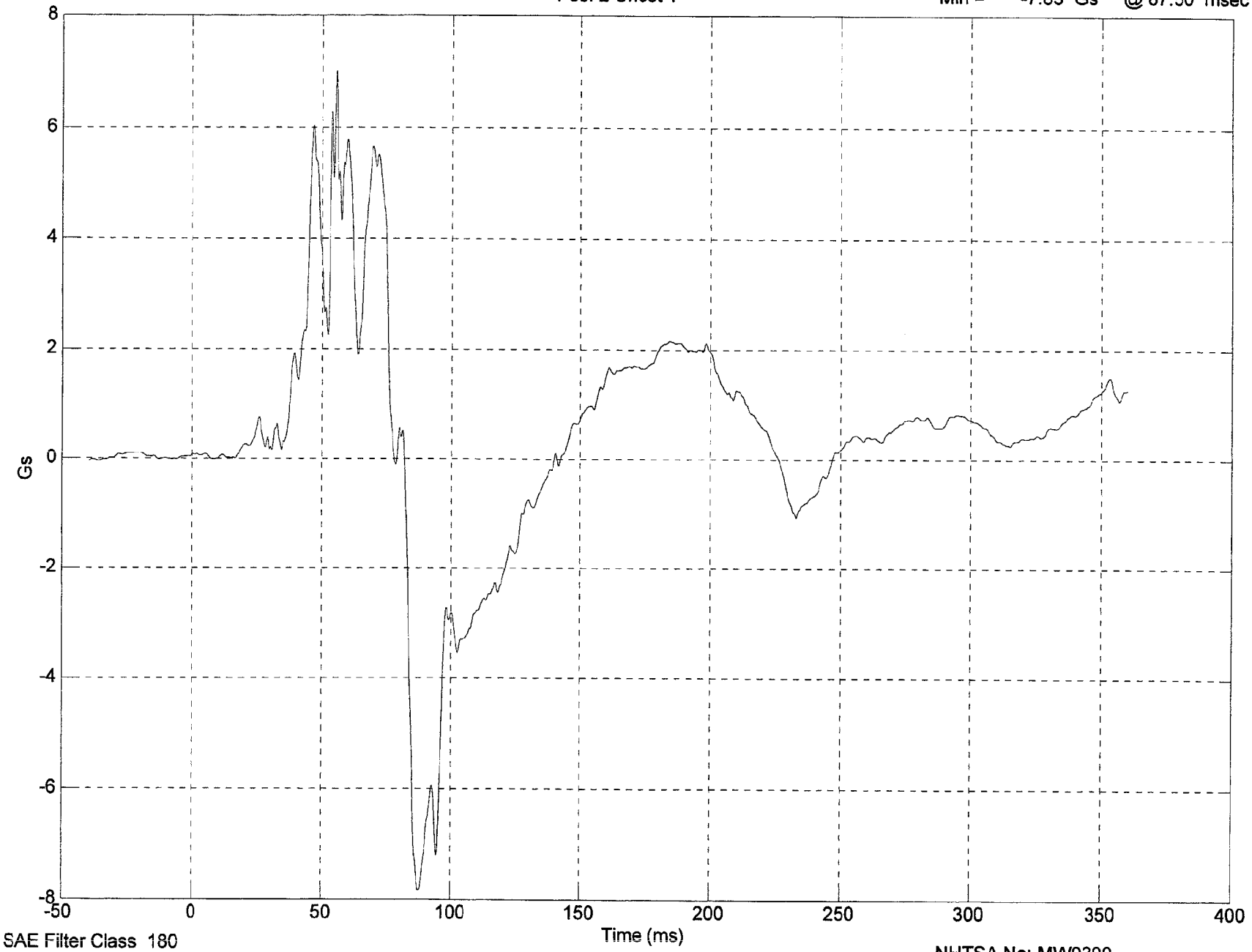
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Chest X
Max = 2.69 Gs @ 293.30 msec
Min = -48.2 Gs @ 60.20 msec
10
0
-10
-20
-30
-40
-50
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Chest Y

Max = 7 Gs @ 55.30 msec
Min = -7.83 Gs @ 87.50 msec

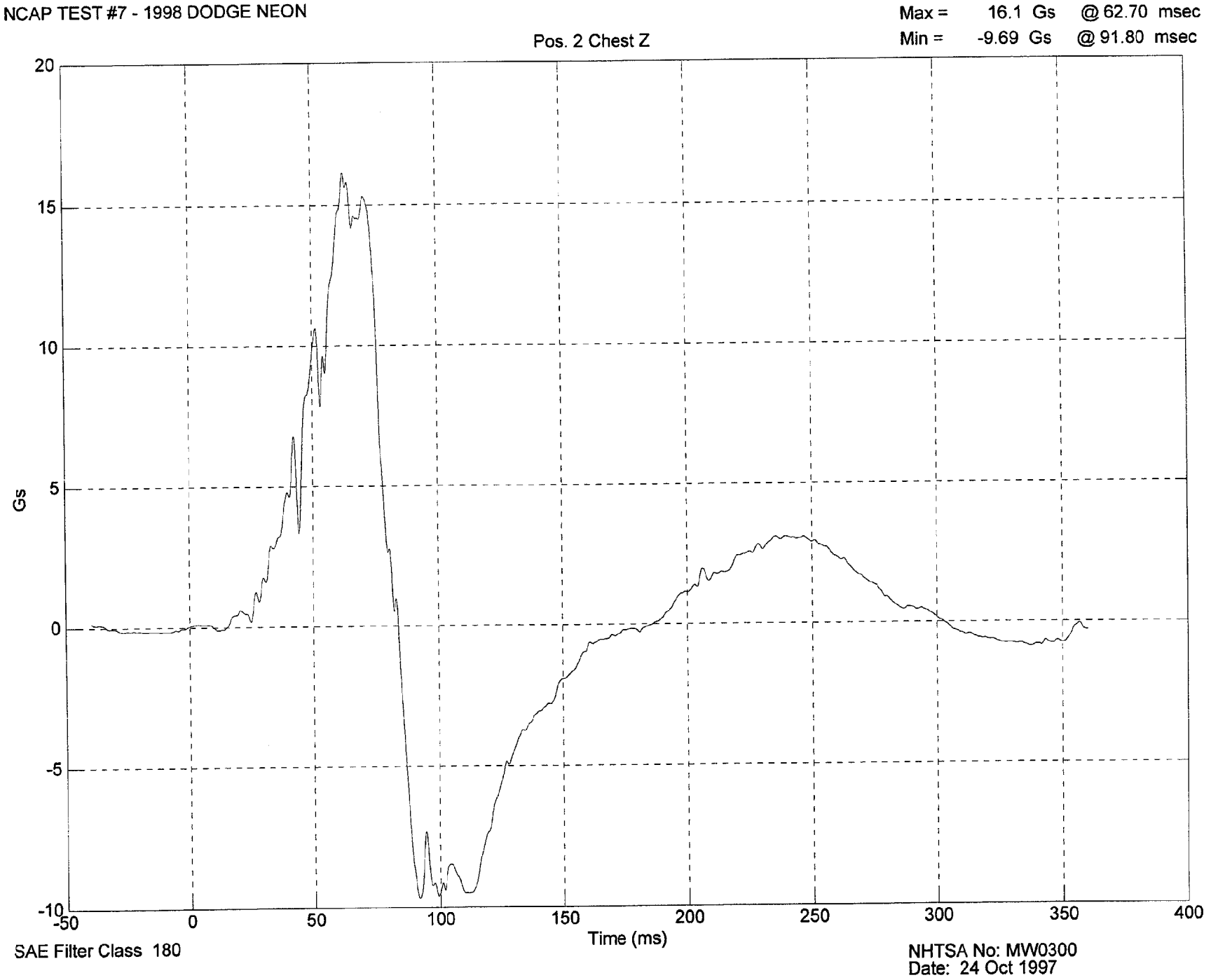


SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

B-72

8413-7

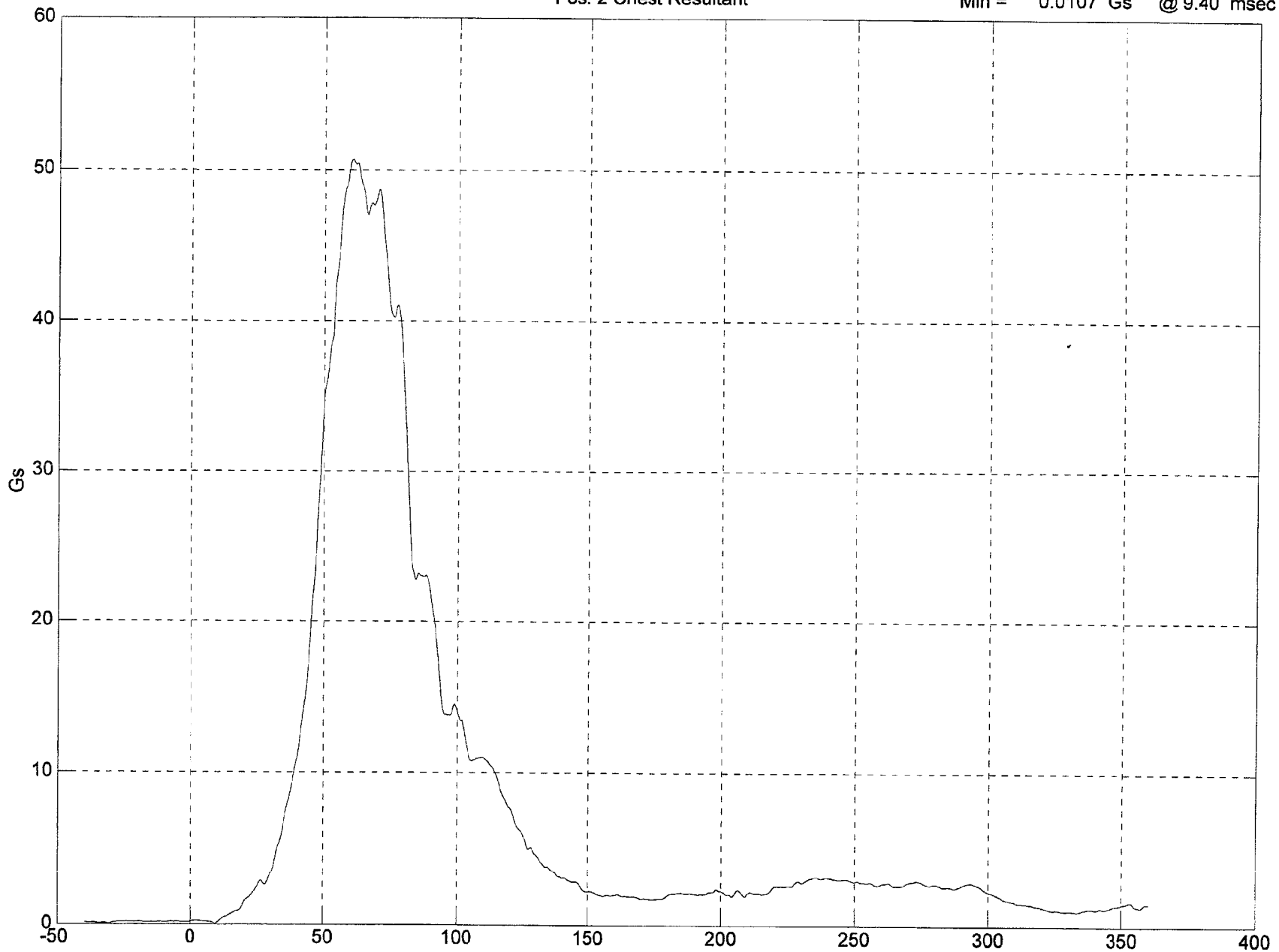

NCAP TEST #7 - 1998 DODGE NEON
Max = 16.1 Gs @ 62.70 msec
Min = -9.69 Gs @ 91.80 msec
Pos. 2 Chest Z
20
15
10
5
0
-5
-10
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Chest Resultant

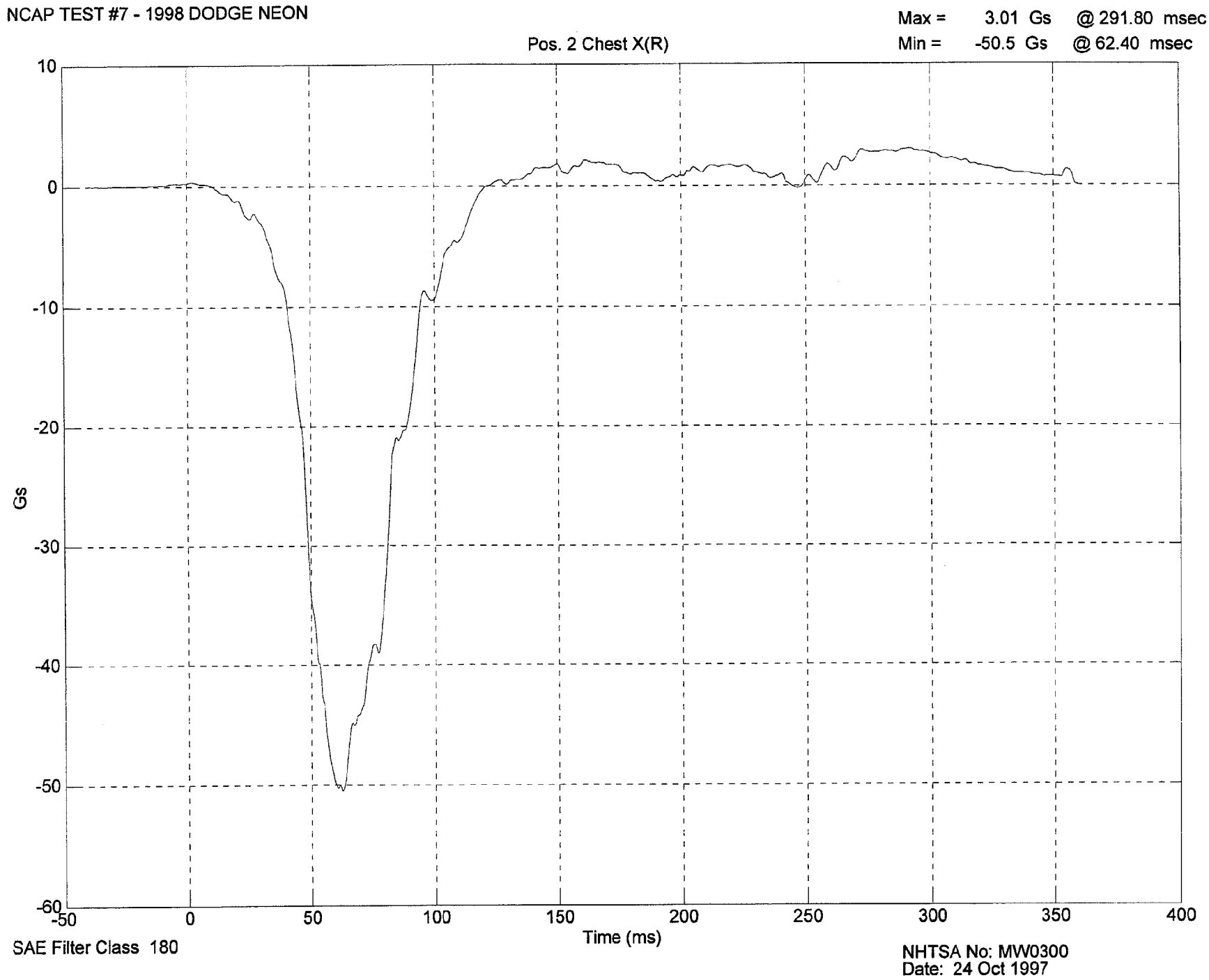
Max = 50.7 Gs @ 60.30 msec
Min = 0.0107 Gs @ 9.40 msec



SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

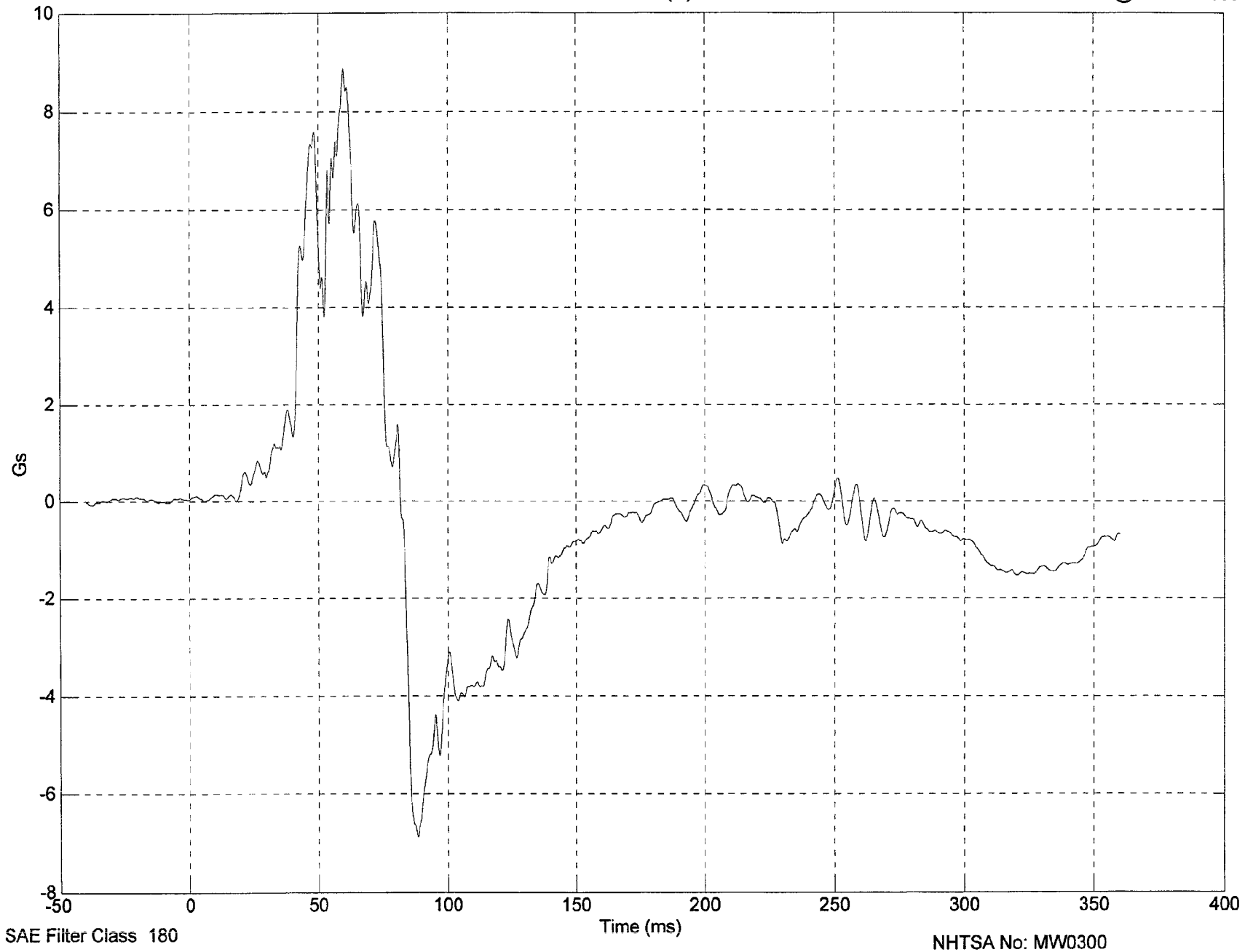
8413-7


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Chest X(R)
Max = 3.01 Gs @ 291.80 msec
Min = -50.5 Gs @ 62.40 msec
10
0
-10
-20
-30
-40
-50
-60
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

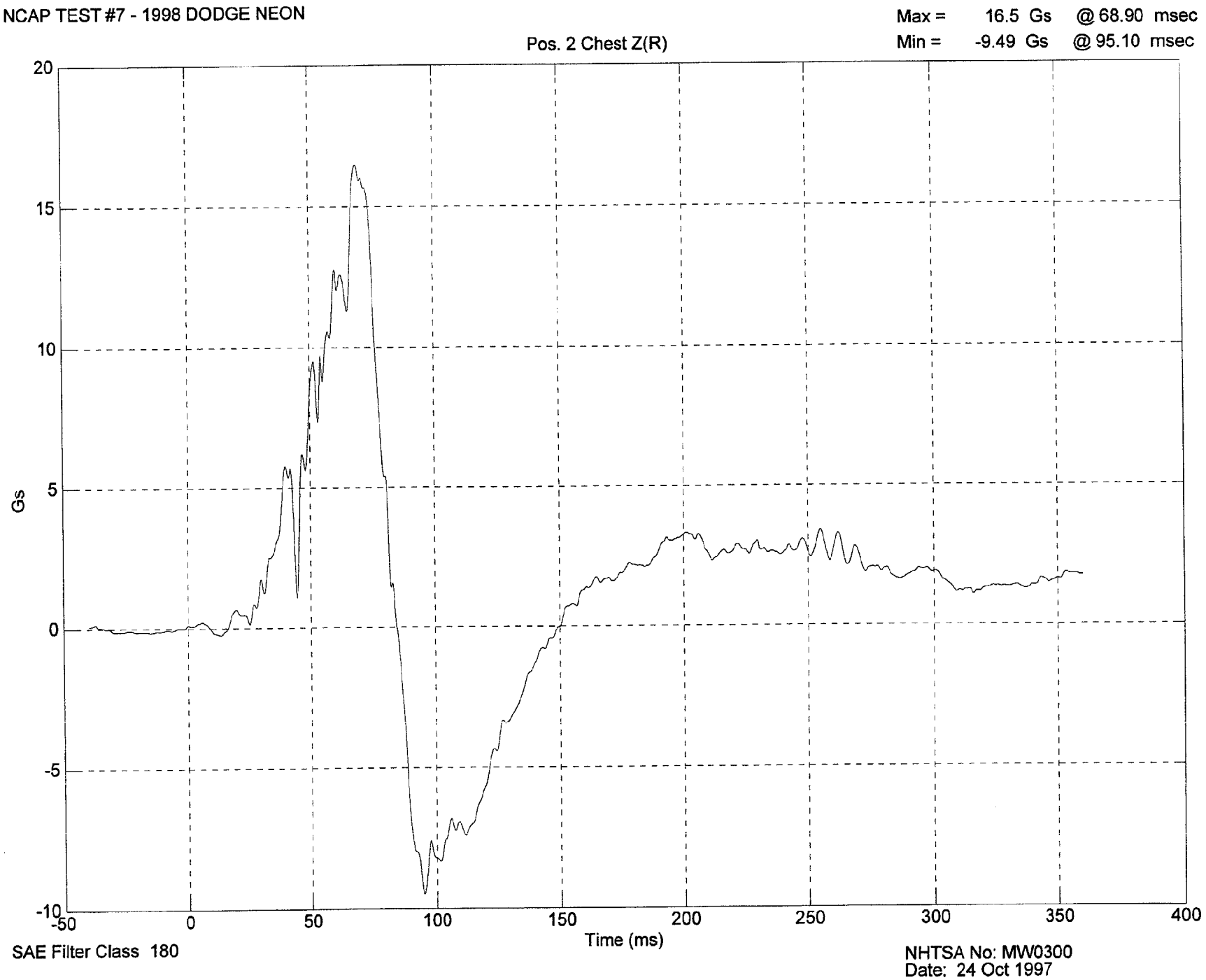
NCAP TEST #7 - 1998 DODGE NEON

Max = 8.88 Gs @ 59.70 msec
Min = -6.87 Gs @ 88.50 msec



SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

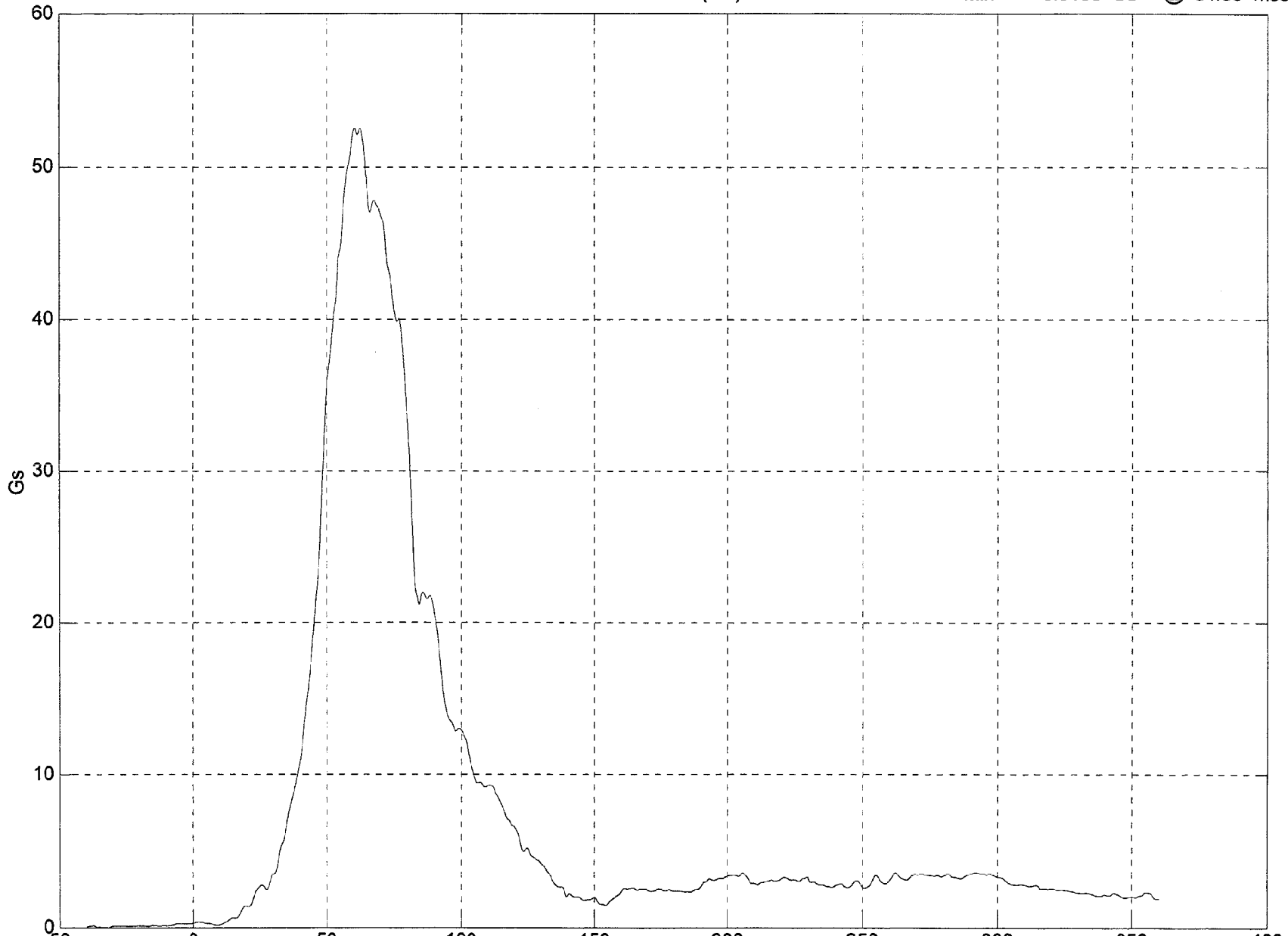

NCAP TEST #7 - 1998 DODGE NEON
Max = 16.5 Gs @ 68.90 msec
Min = -9.49 Gs @ 95.10 msec
Pos. 2 Chest Z(R)
20
15
10
5
0
-5
-10
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Chest Res(RR)

Max = 52.5 Gs @ 62.40 msec
Min = 0.0108 Gs @ -31.60 msec



SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

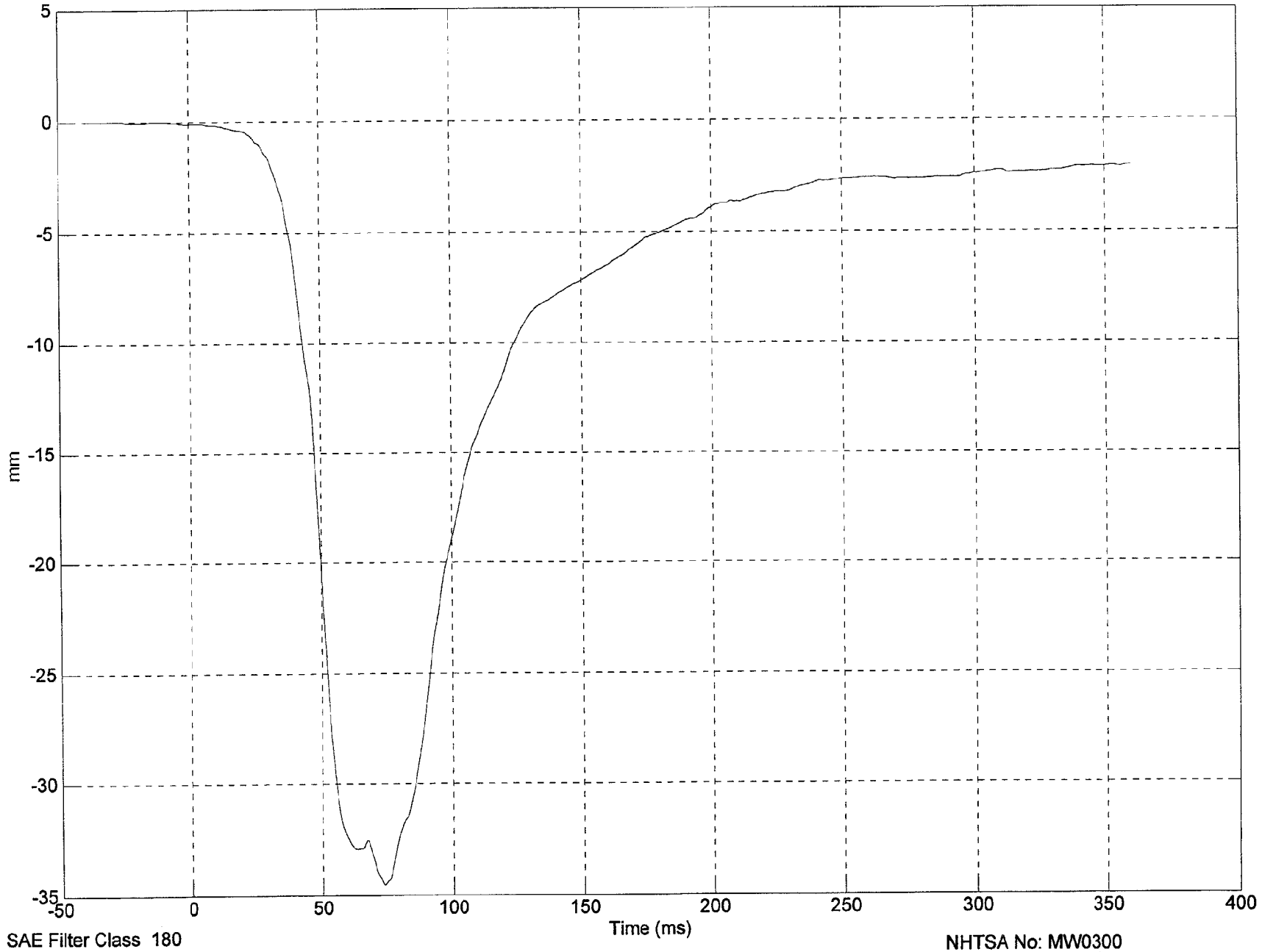
B-78

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Chest Disp.

Max = 0.00233 mm @ -26.10 msec
Min = -34.5 mm @ 73.90 msec



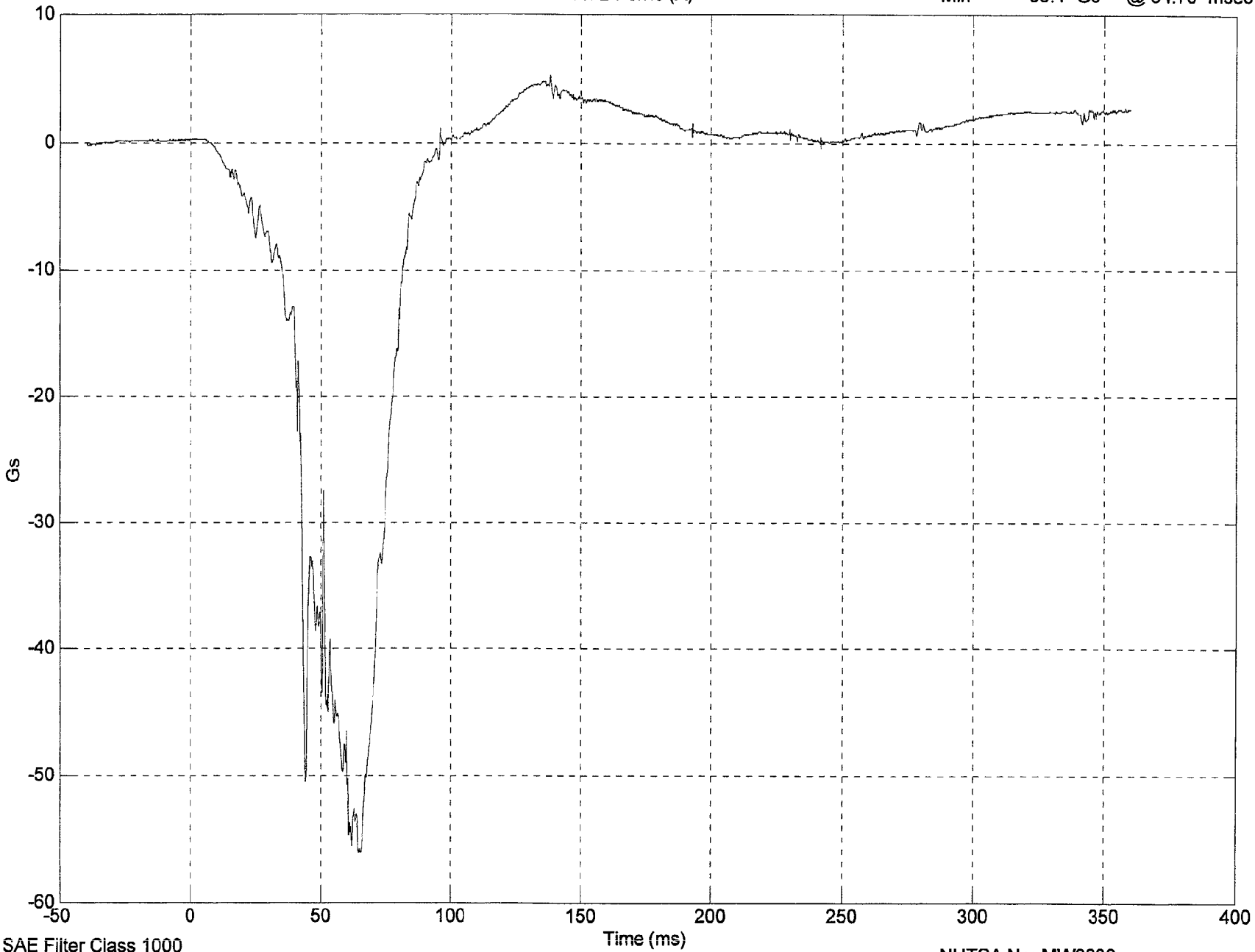
SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 5.29 Gs @ 137.80 msec
Min = -56.1 Gs @ 64.70 msec

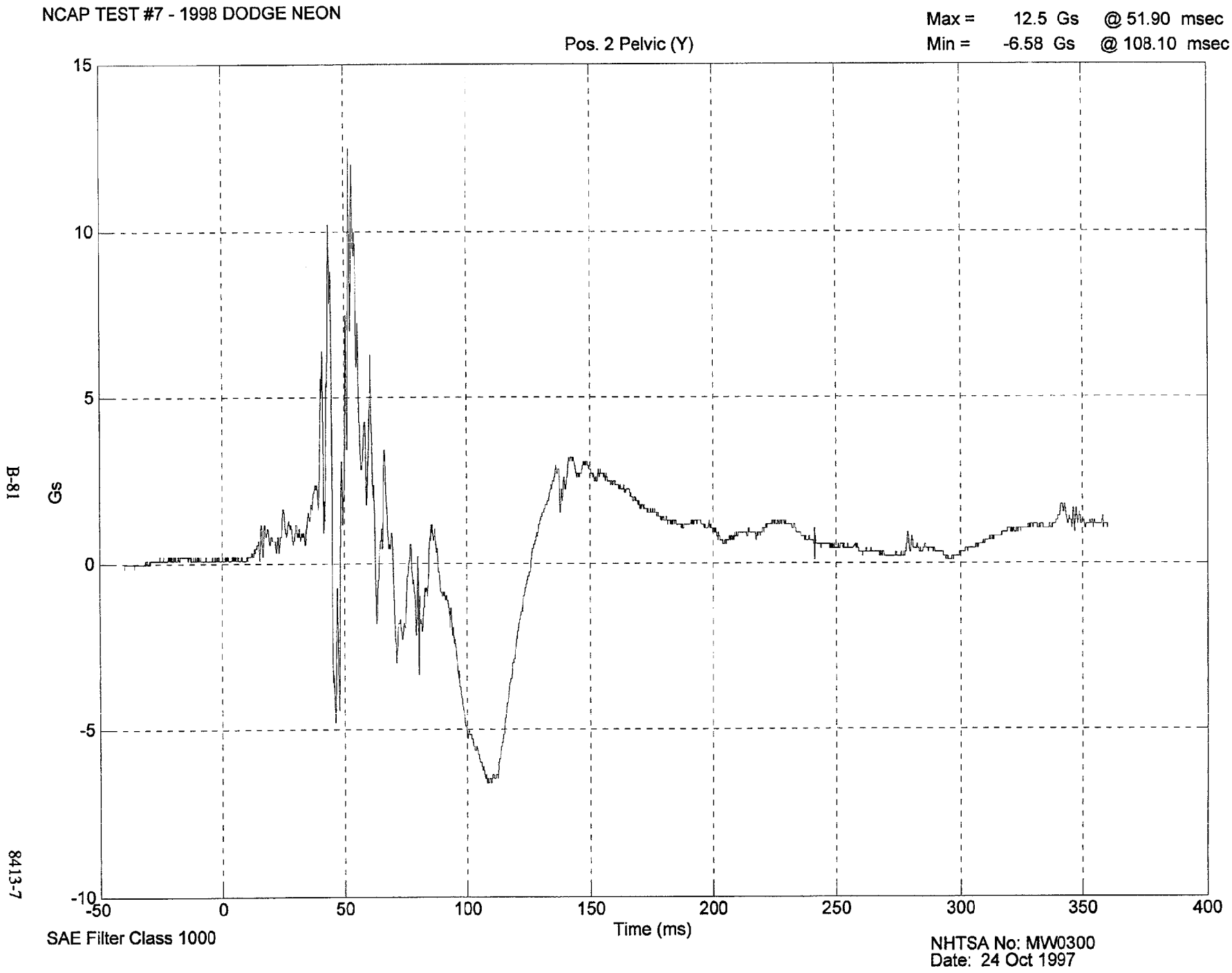


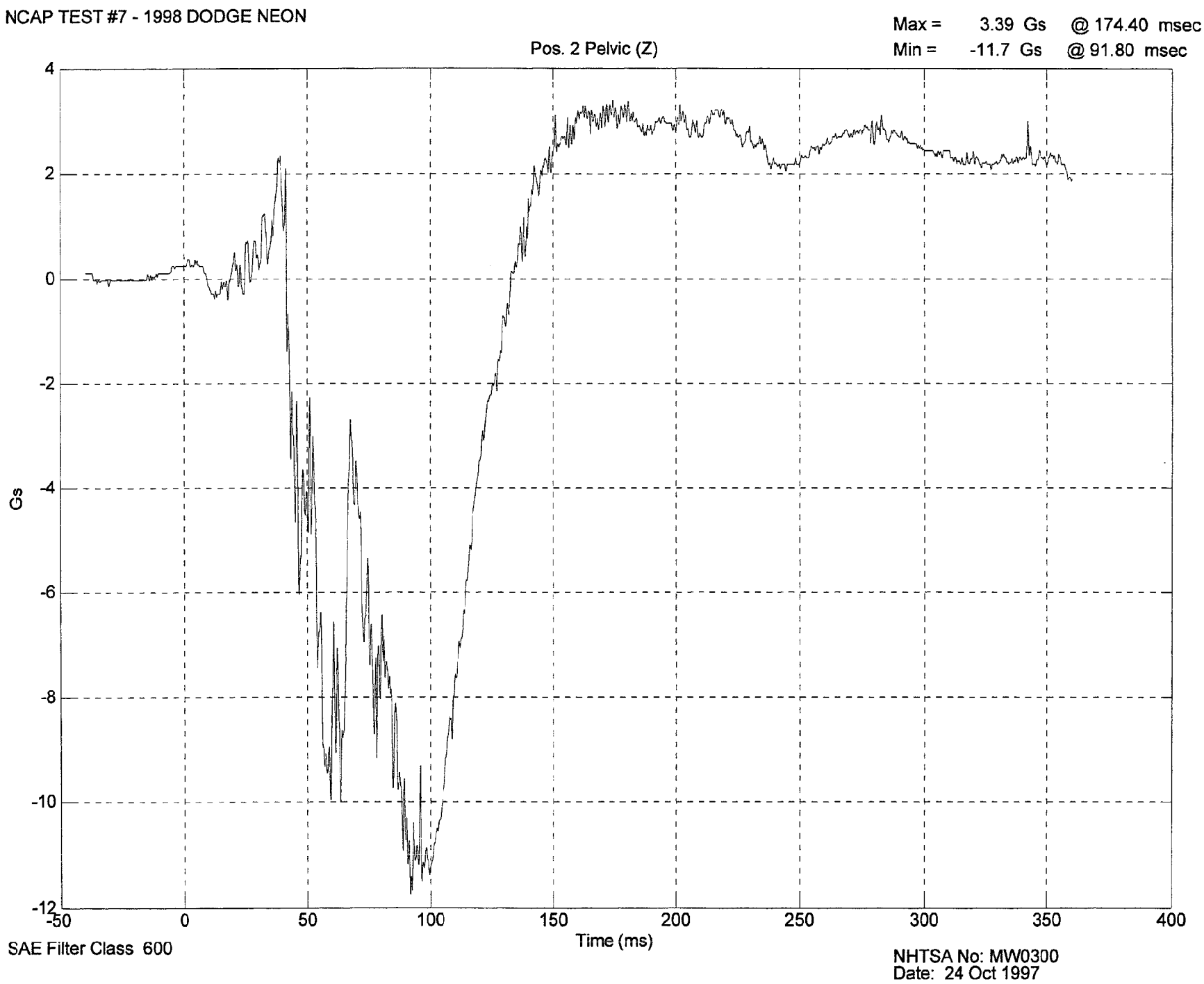
SAE Filter Class 1000

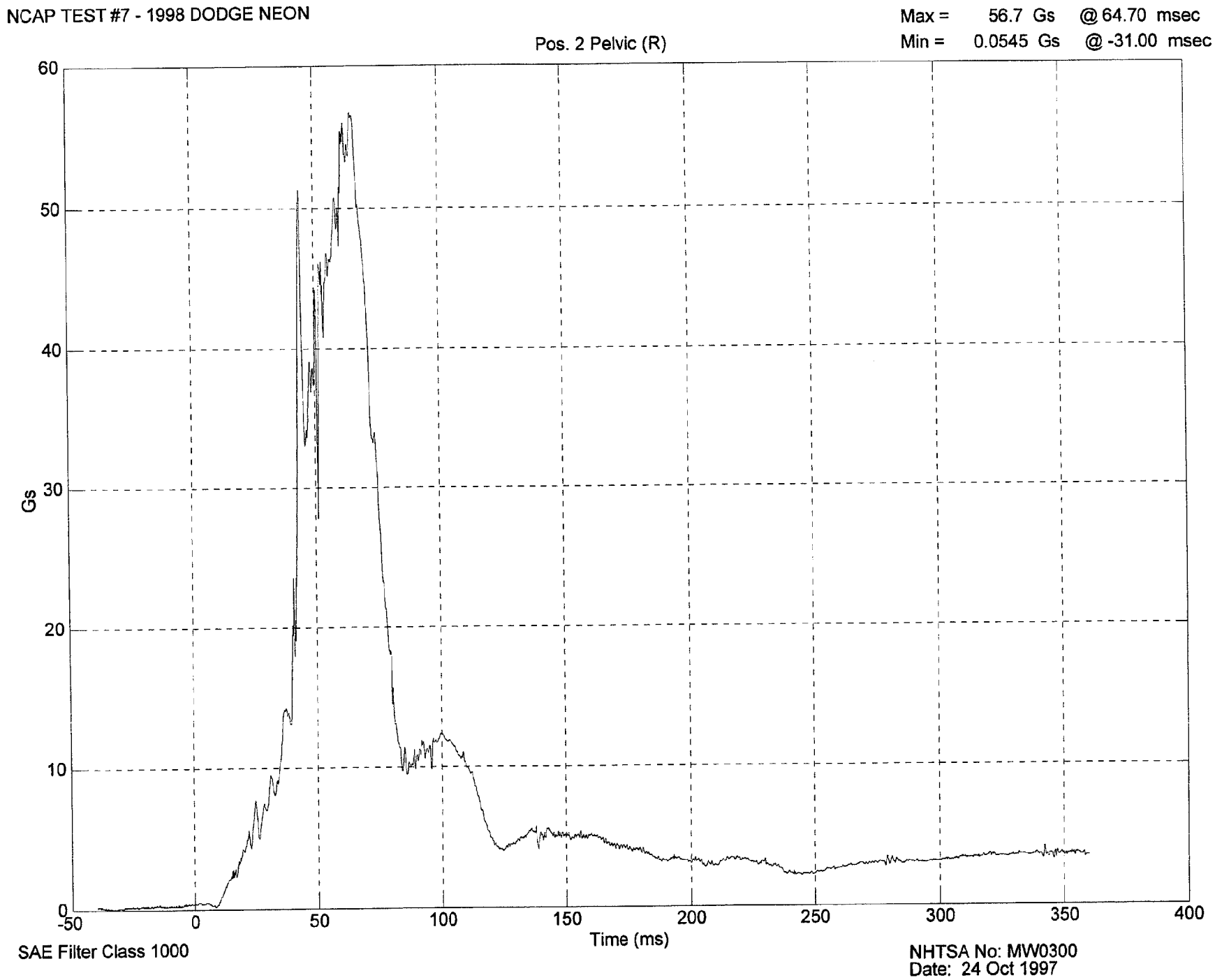
NHTSA No: MW0300
Date: 24 Oct 1997

B-80

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 12.5 Gs @ 51.90 msec
Min = -6.58 Gs @ 108.10 msec
Pos. 2 Pelvic (Y)
15
10
5
0
-5
-10
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997
B-81
8413-7

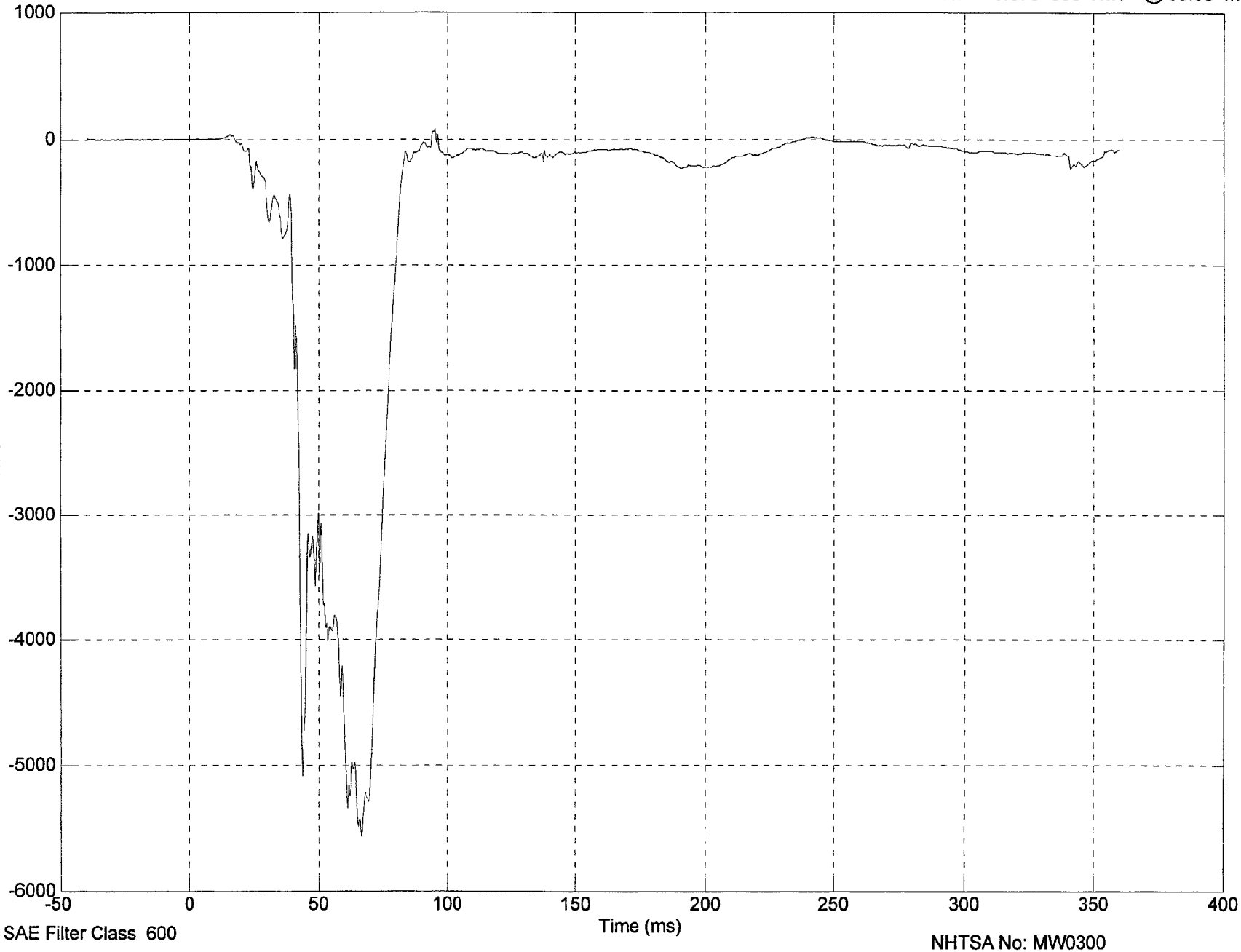

NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Pelvic (Z)
Max = 3.39 Gs @ 174.40 msec
Min = -11.7 Gs @ 91.80 msec
Gs
4
2
0
-2
-4
-6
-8
-10
-12
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 56.7 Gs @ 64.70 msec
Min = 0.0545 Gs @ -31.00 msec
Pos. 2 Pelvic (R)
Gs
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 81.4 Nwt @ 95.20 msec
Min = -5.57e+003 Nwt @ 66.60 msec

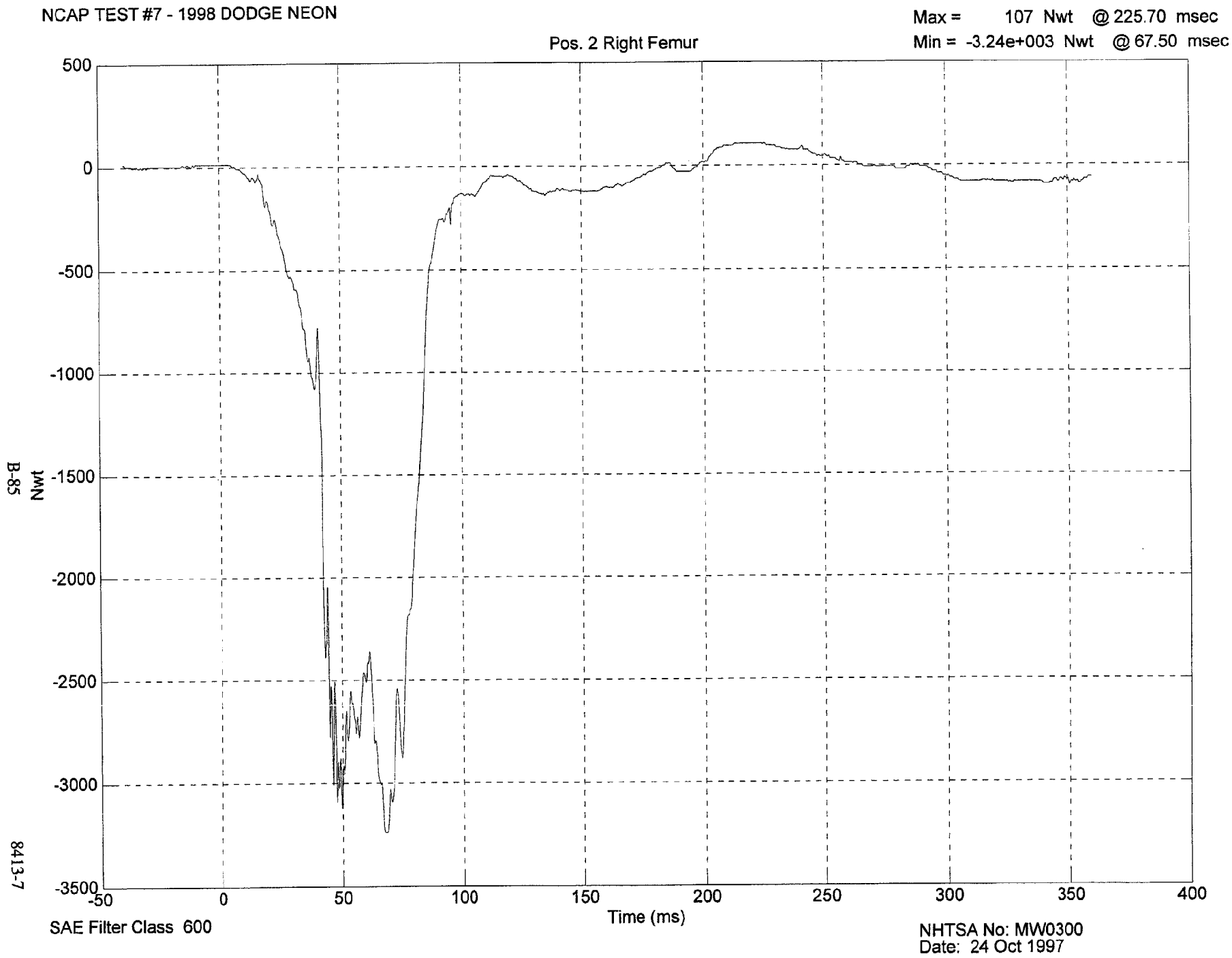


B-84

8413-7

SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

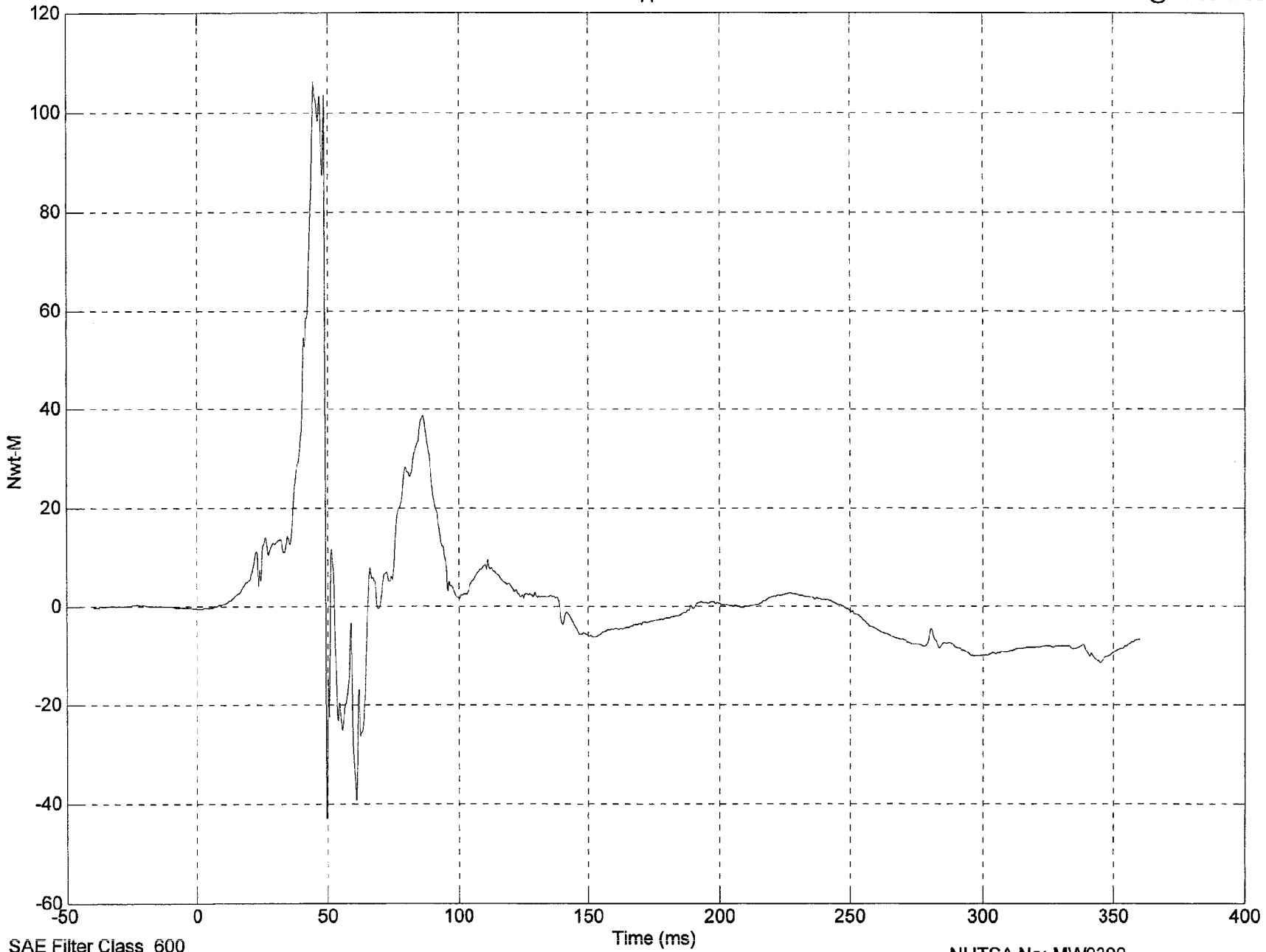

NCAP TEST #7 - 1998 DODGE NEON
Max = 107 Nwt @ 225.70 msec
Pos. 2 Right Femur
Min = -3.24e+003 Nwt @ 67.50 msec
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
Nwt
B-85
8413-7
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Lt Upper Tibia Mx

Max = 106 Nwt-M @ 44.70 msec

Min = -42.9 Nwt-M @ 49.60 msec

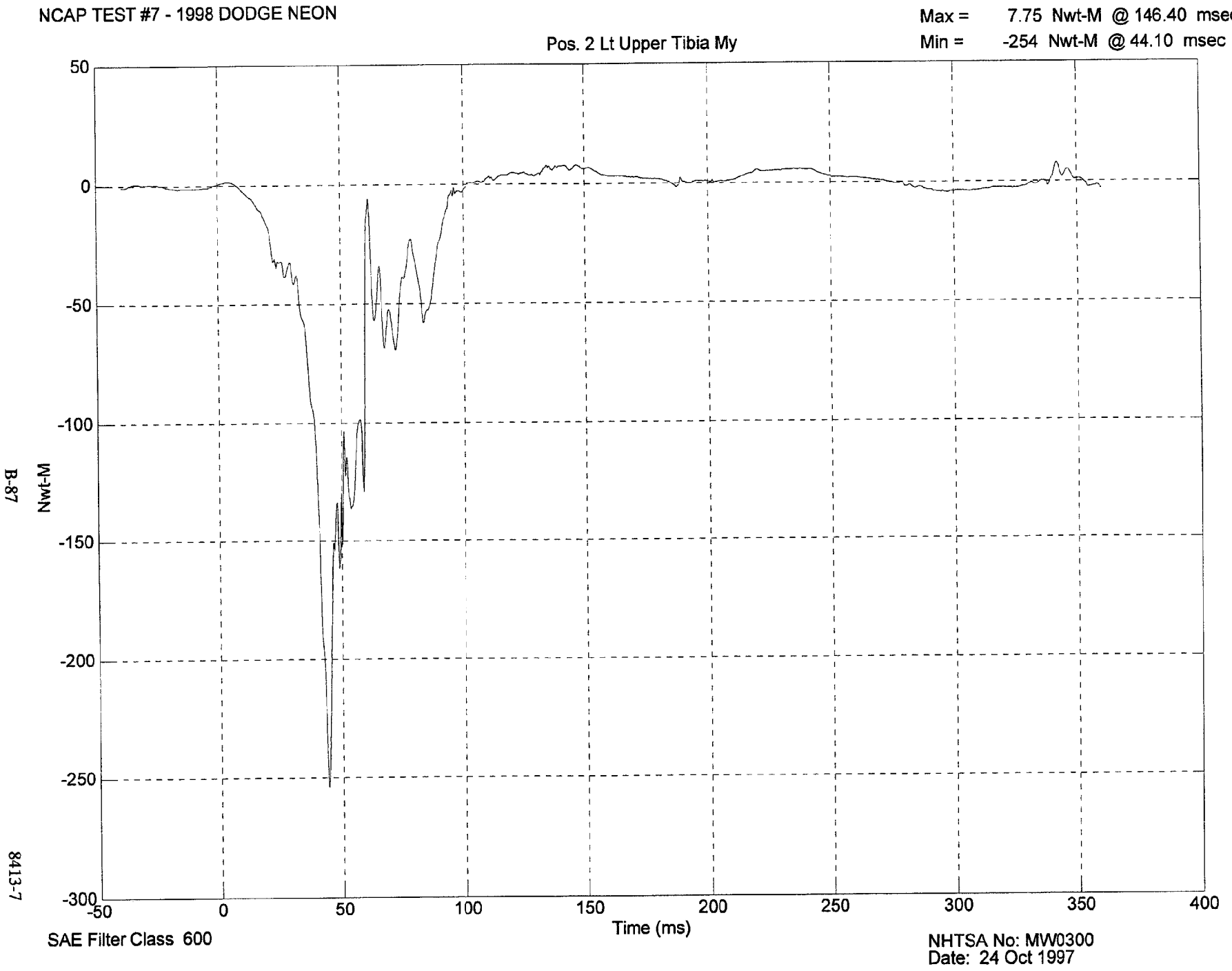


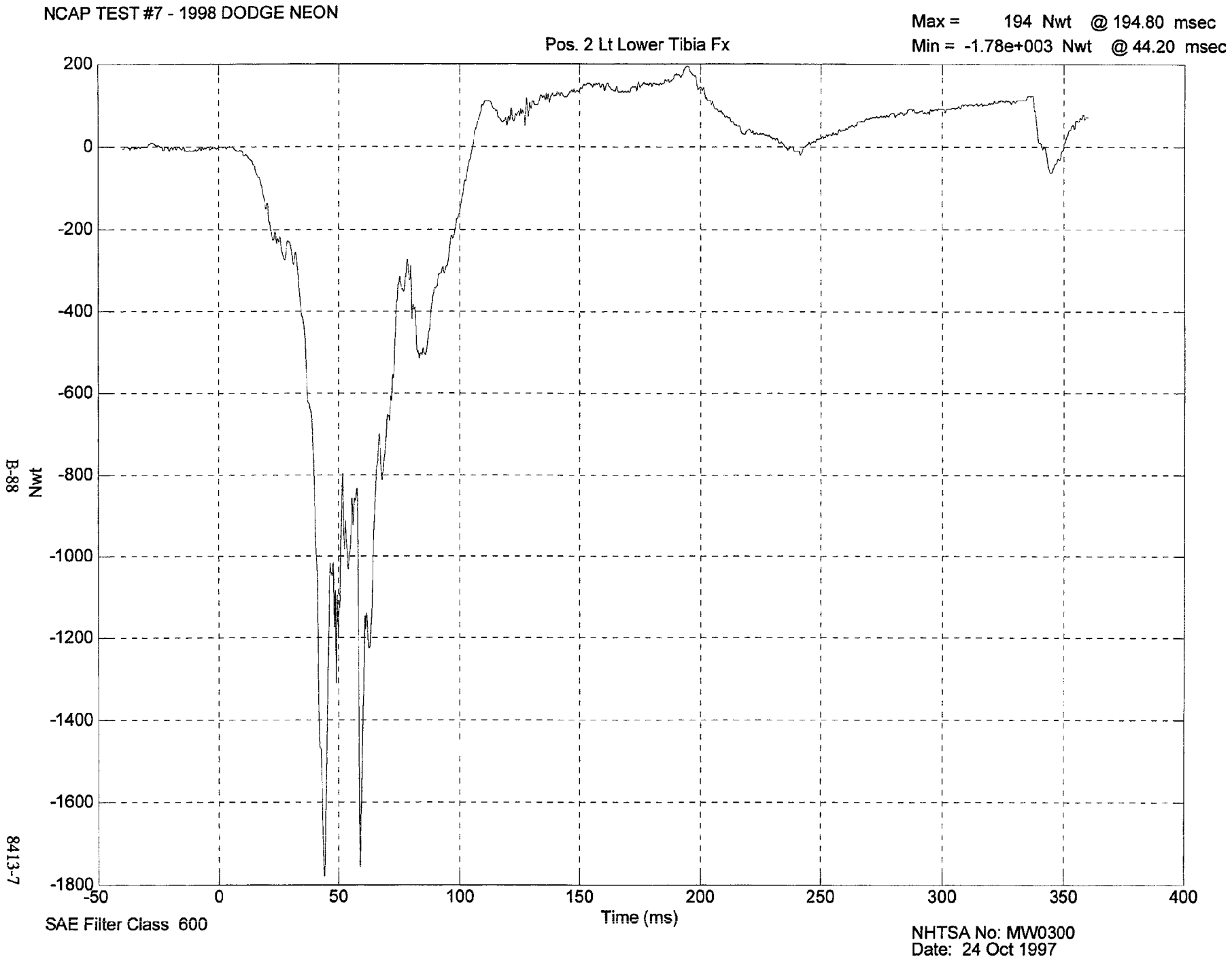
SAE Filter Class 600

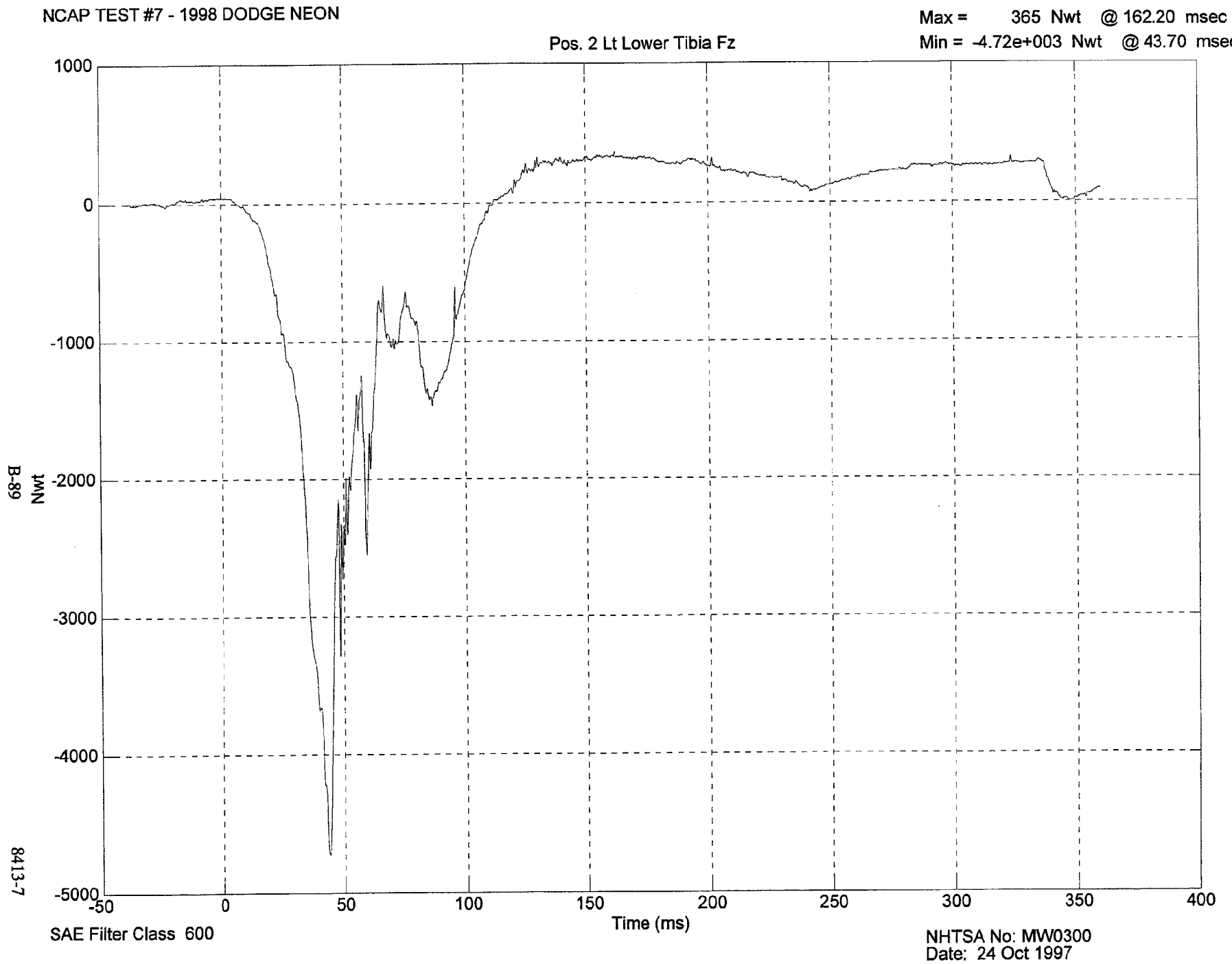
NHTSA No: MW0300

Date: 24 Oct 1997

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 7.75 Nwt-M @ 146.40 msec
Min = -254 Nwt-M @ 44.10 msec
Pos. 2 Lt Upper Tibia My
50
0
-50
-100
-150
-200
-250
-300
Nwt-M
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997
B-87
8413-7

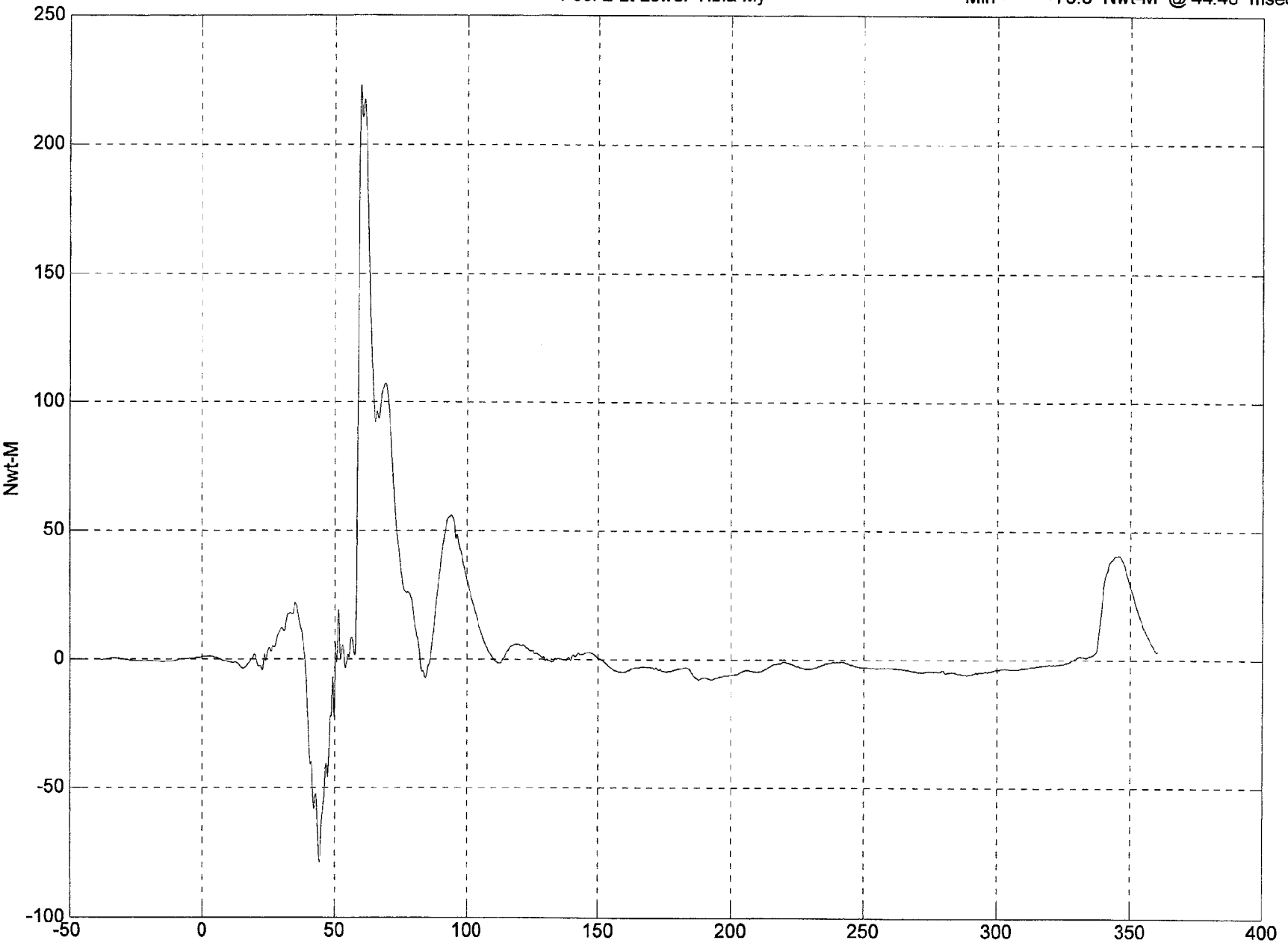

NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Lt Lower Tibia Fx
Max = 194 Nwt @ 194.80 msec
Min = -1.78e+003 Nwt @ 44.20 msec
200
0
-200
-400
-600
-800
-1000
-1200
-1400
-1600
-1800
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-88
8413-7
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Lt Lower Tibia Fz
Max = 365 Nwt @ 162.20 msec
Min = -4.72e+003 Nwt @ 43.70 msec
1000
0
-1000
-2000
-3000
-4000
-5000
Nwt
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-89
8413-7
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Lt Lower Tibia My

Max = 223 Nwt-M @ 59.70 msec
Min = -78.8 Nwt-M @ 44.40 msec

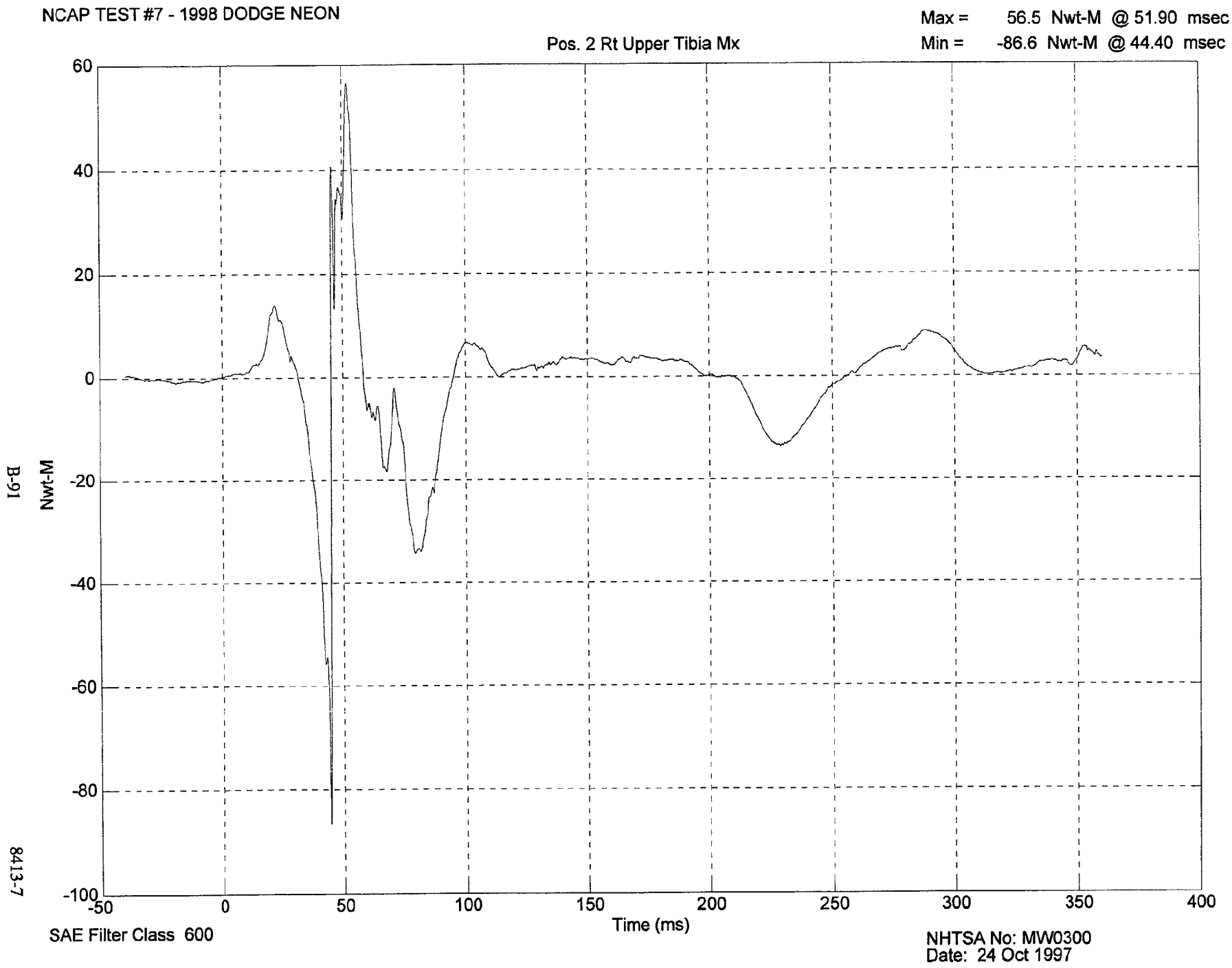


B-90

8413-7

SAE Filter Class 600

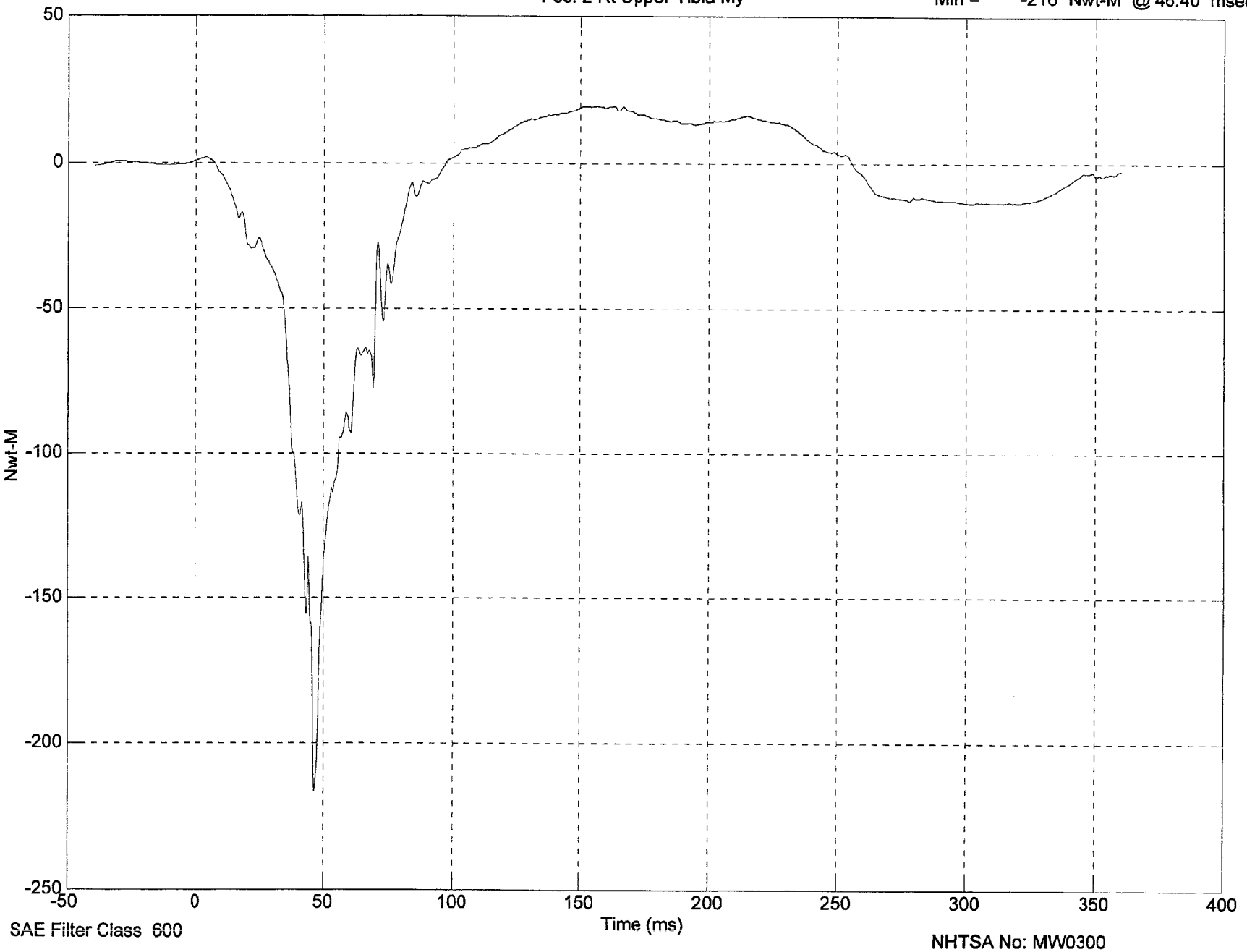
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Rt Upper Tibia Mx
Max = 56.5 Nwt-M @ 51.90 msec
Min = -86.6 Nwt-M @ 44.40 msec
60
40
20
0
-20
-40
-60
-80
-100
Nwt-M
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 600
NHTSA No: MW0300
Date: 24 Oct 1997
B-91
8413-7

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Rt Upper Tibia My

Max = 19.4 Nwt-M @ 156.70 msec
Min = -216 Nwt-M @ 46.40 msec



B-92

8413-7

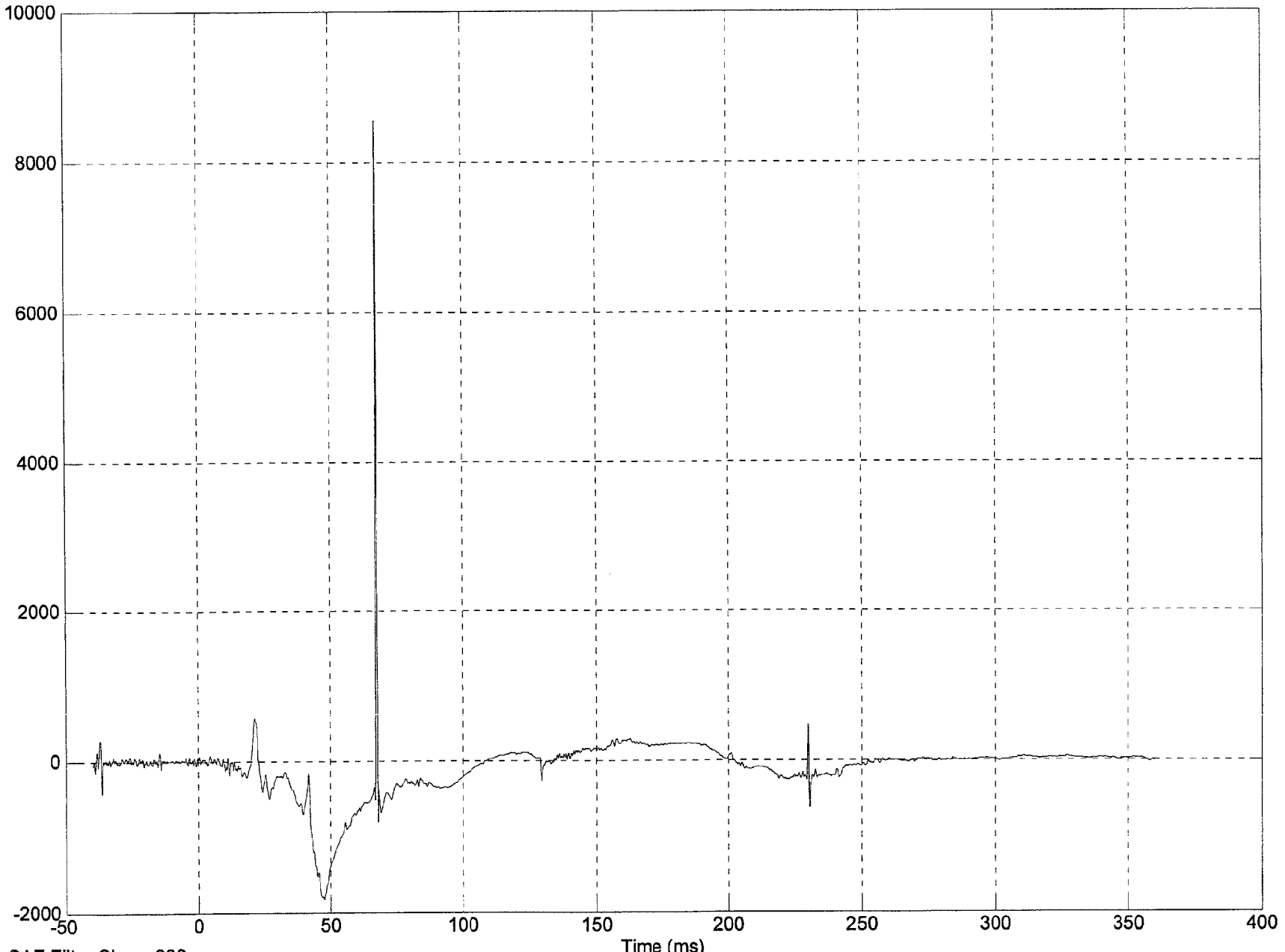
SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Rt Lower Tibia Fx

Max = 8.55e+003 Nwt @ 67.20 msec
Min = -1.82e+003 Nwt @ 47.40 msec



B-93

8413-7

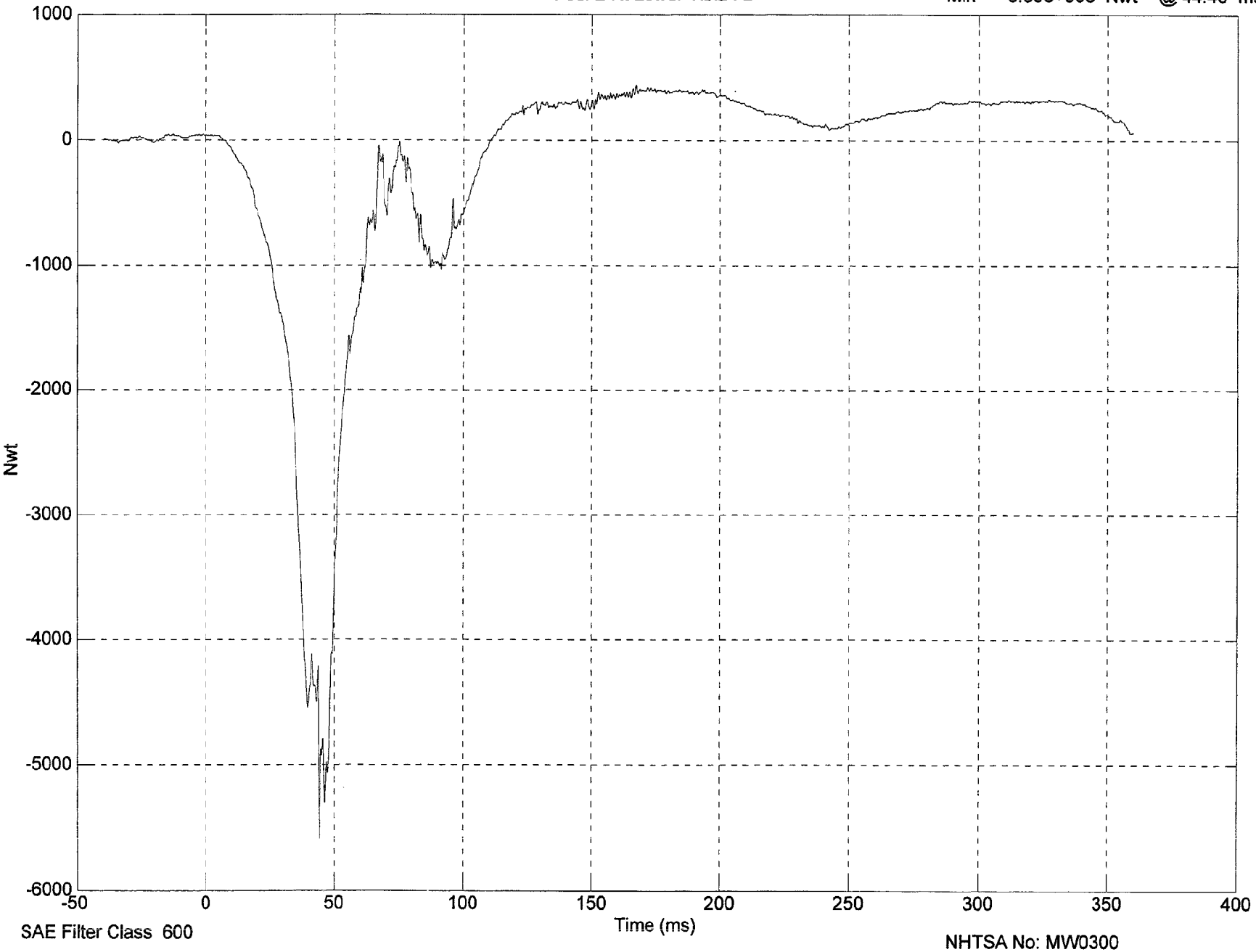
SAE Filter Class 600

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Rt Lower Tibia Fz

Max = 437 Nwt @ 167.10 msec
Min = -5.59e+003 Nwt @ 44.40 msec



B-94

8413-7

SAE Filter Class 600

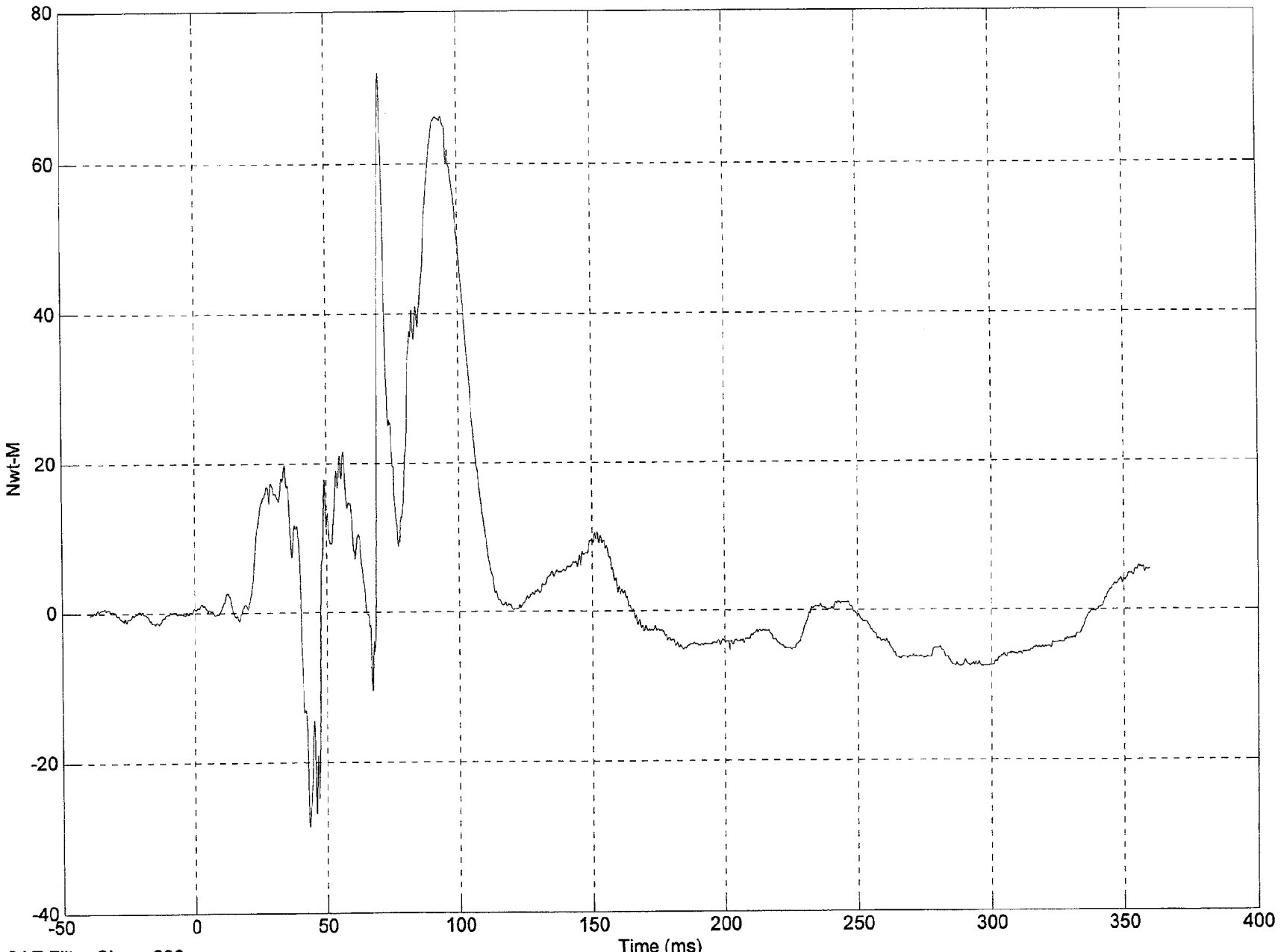
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Rt Lower Tibia My

Max = 71.9 Nwt-M @ 70.40 msec

Min = -28.5 Nwt-M @ 43.20 msec



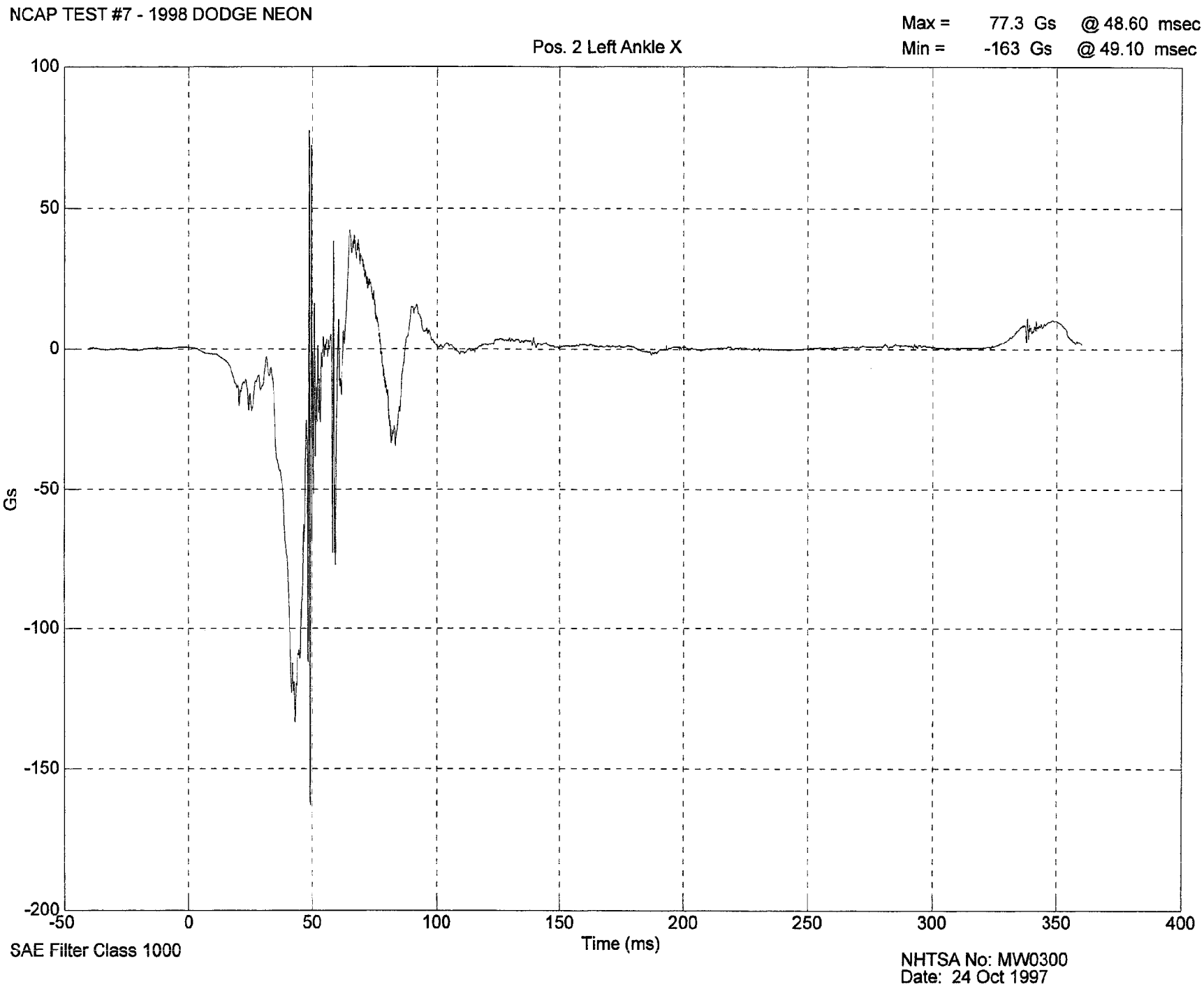
B-95

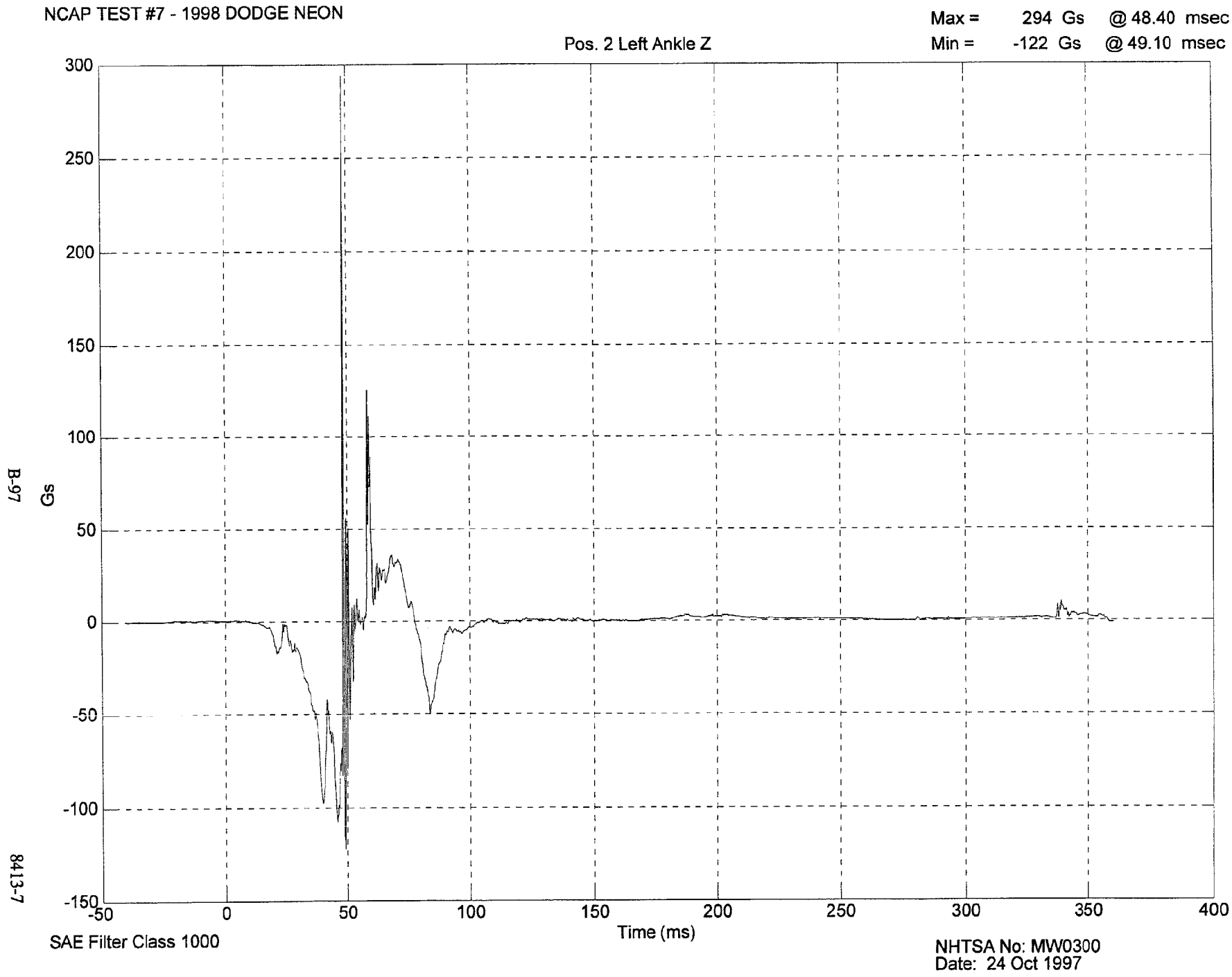
8413-7

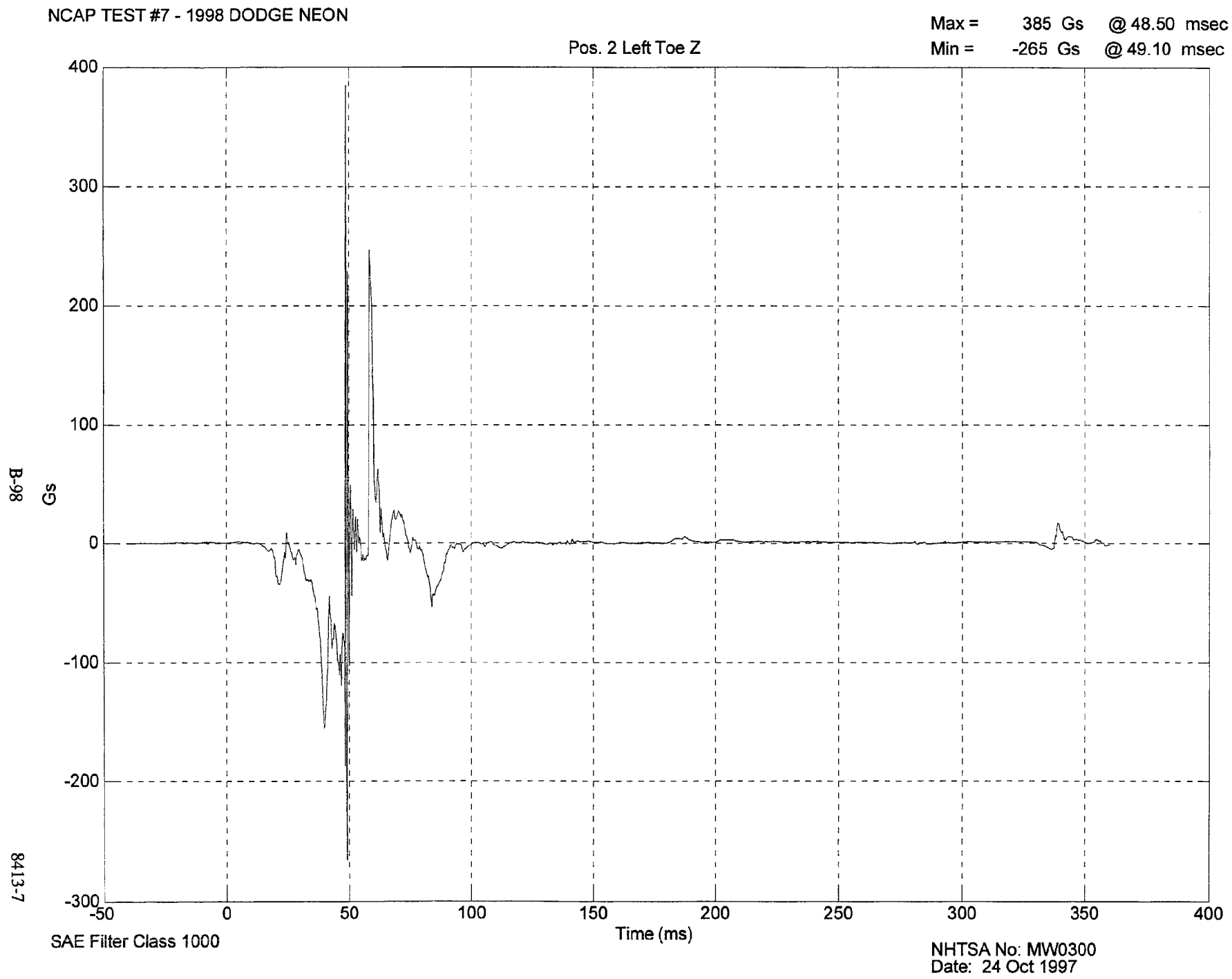
SAE Filter Class 600

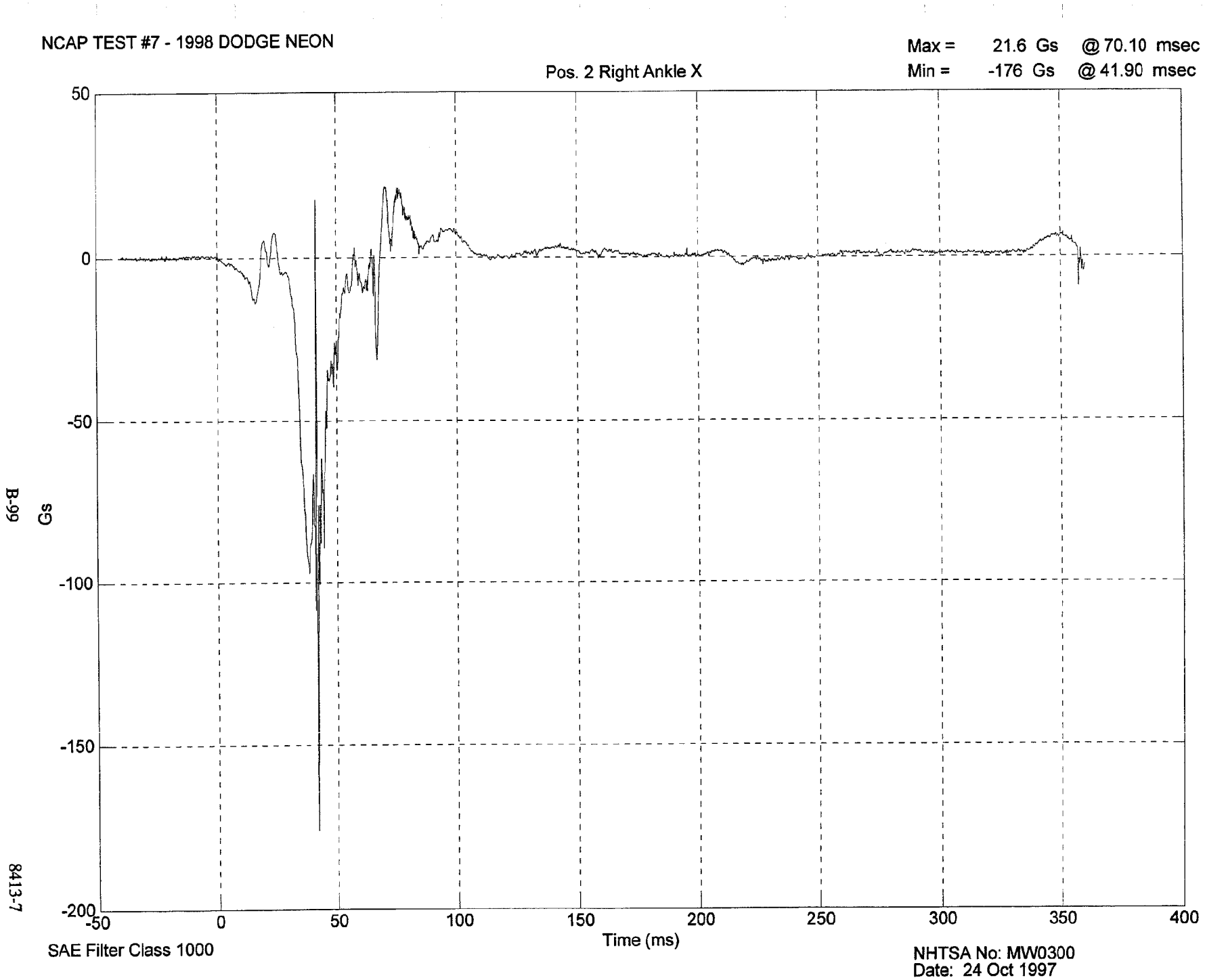
NHTSA No: MW0300

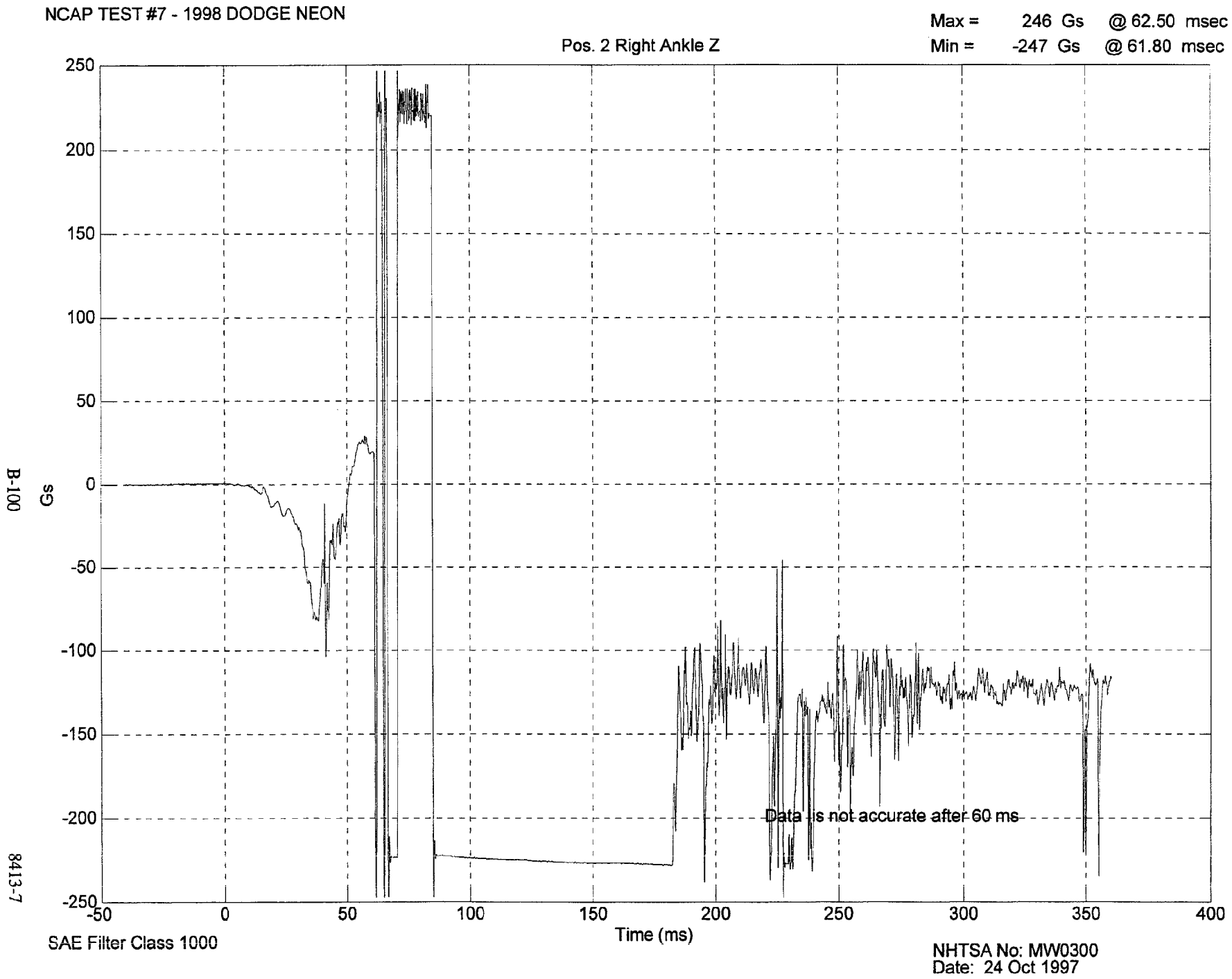
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Left Ankle X
Max = 77.3 Gs @ 48.60 msec
Min = -163 Gs @ 49.10 msec
100
50
0
-50
-100
-150
-200
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 294 Gs @ 48.40 msec
Min = -122 Gs @ 49.10 msec
Pos. 2 Left Ankle Z
300
250
200
150
100
50
0
-50
-100
-150
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-97
8413-7
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

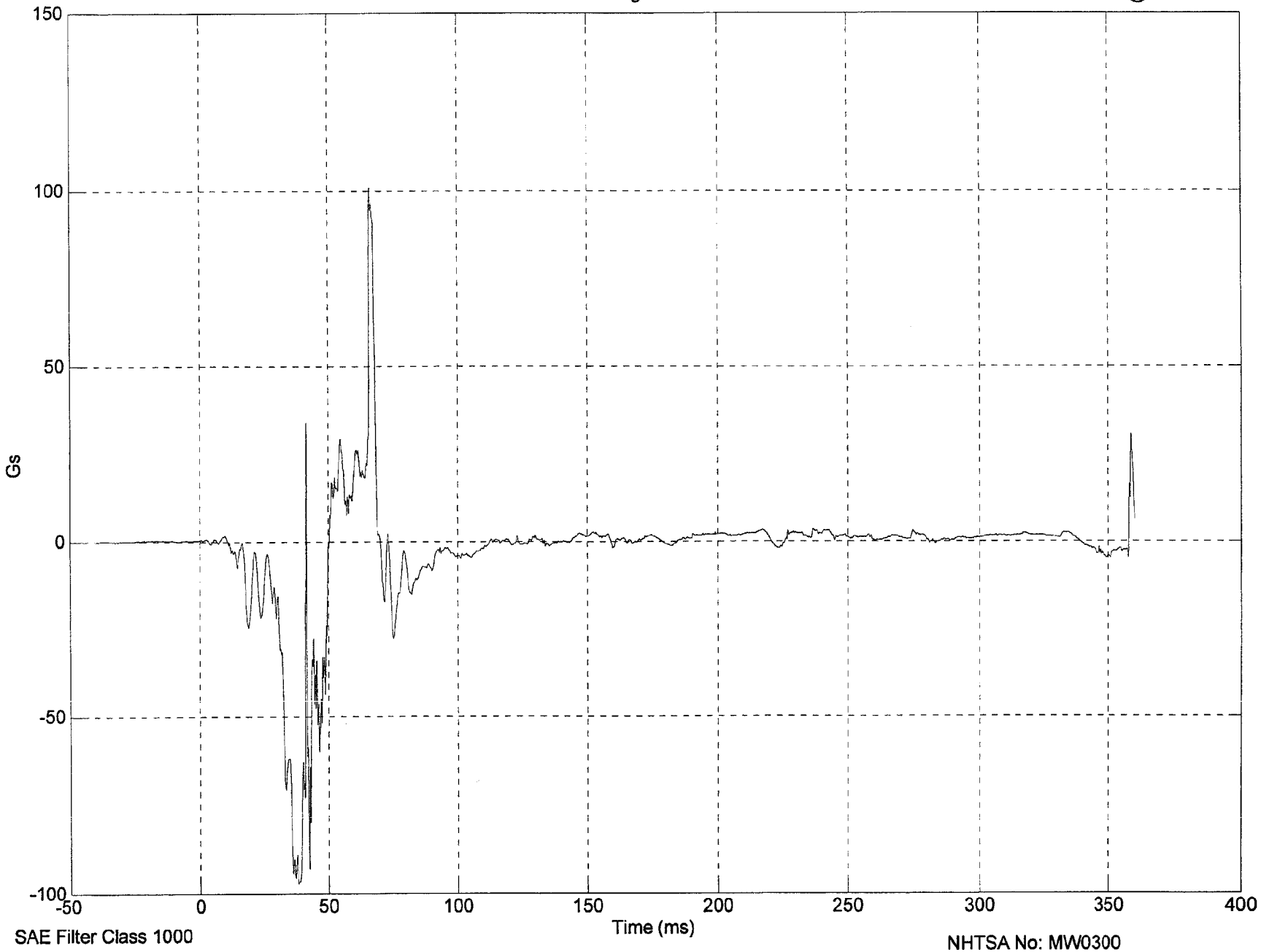

NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Left Toe Z
Max = 385 Gs @ 48.50 msec
Min = -265 Gs @ 49.10 msec
400
300
200
100
0
-100
-200
-300
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-98
8413-7
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Pos. 2 Right Ankle X
Max = 21.6 Gs @ 70.10 msec
Min = -176 Gs @ 41.90 msec
50
0
-50
-100
-150
-200
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-99
8413-7
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 246 Gs @ 62.50 msec
Pos. 2 Right Ankle Z
Min = -247 Gs @ 61.80 msec
250
200
150
100
50
0
-50
-100
-150
-200
-250
Gs
B-100
8413-7
-50
0
50
100
150
200
250
300
350
400
Time (ms)
Data is not accurate after 60 ms
SAE Filter Class 1000
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 101 Gs @ 65.80 msec
Min = -97.2 Gs @ 38.30 msec



B-101

8413-7

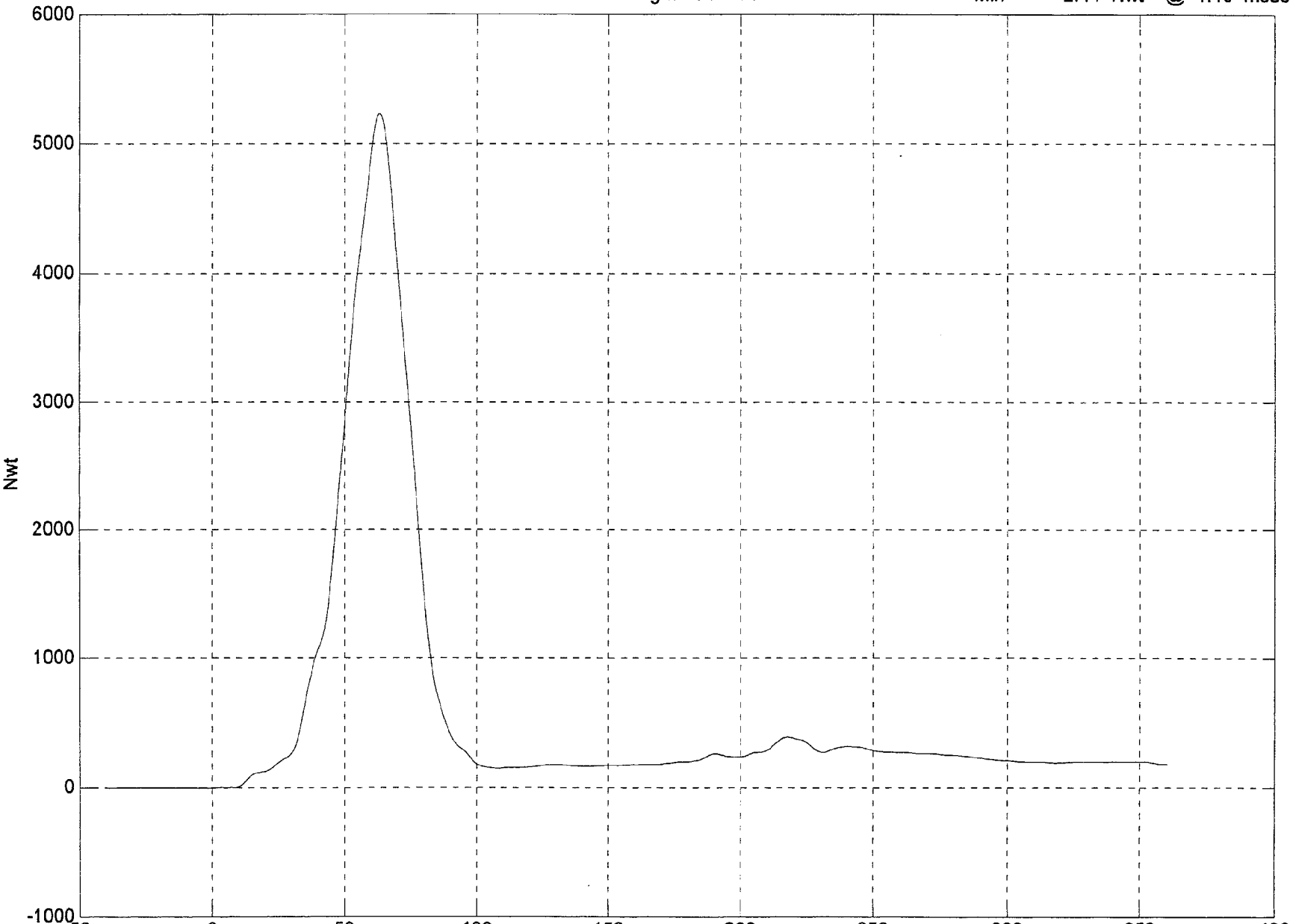
SAE Filter Class 1000

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Pos. 2 Right Belt Load

Max = 5.23e+003 Nwt @ 63.30 msec
Min = -2.44 Nwt @ -1.10 msec



B-102

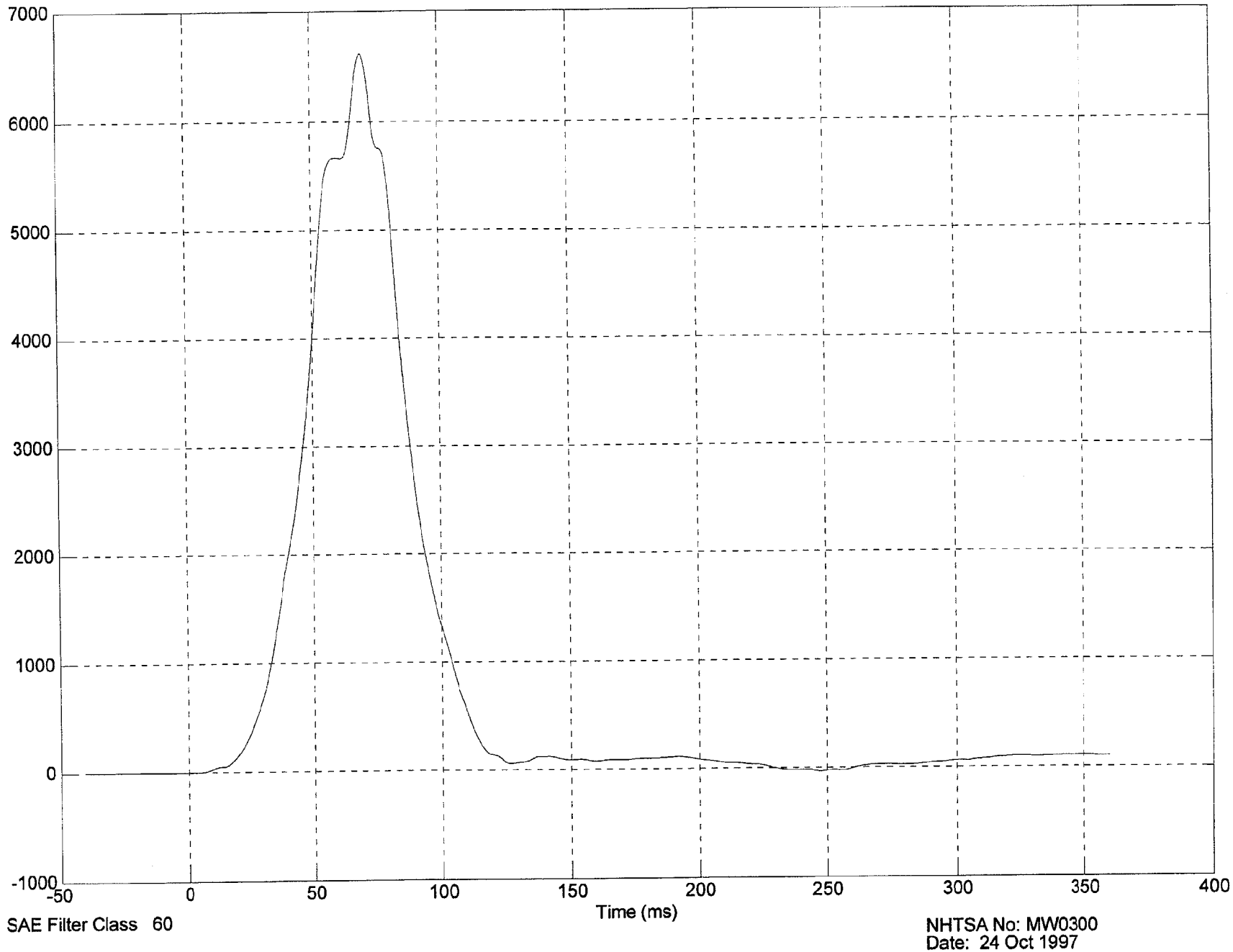
8413-7

SAE Filter Class 60

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 6.61e+003 Nwt @ 69.50 msec
Min = -34.2 Nwt @ 247.40 msec

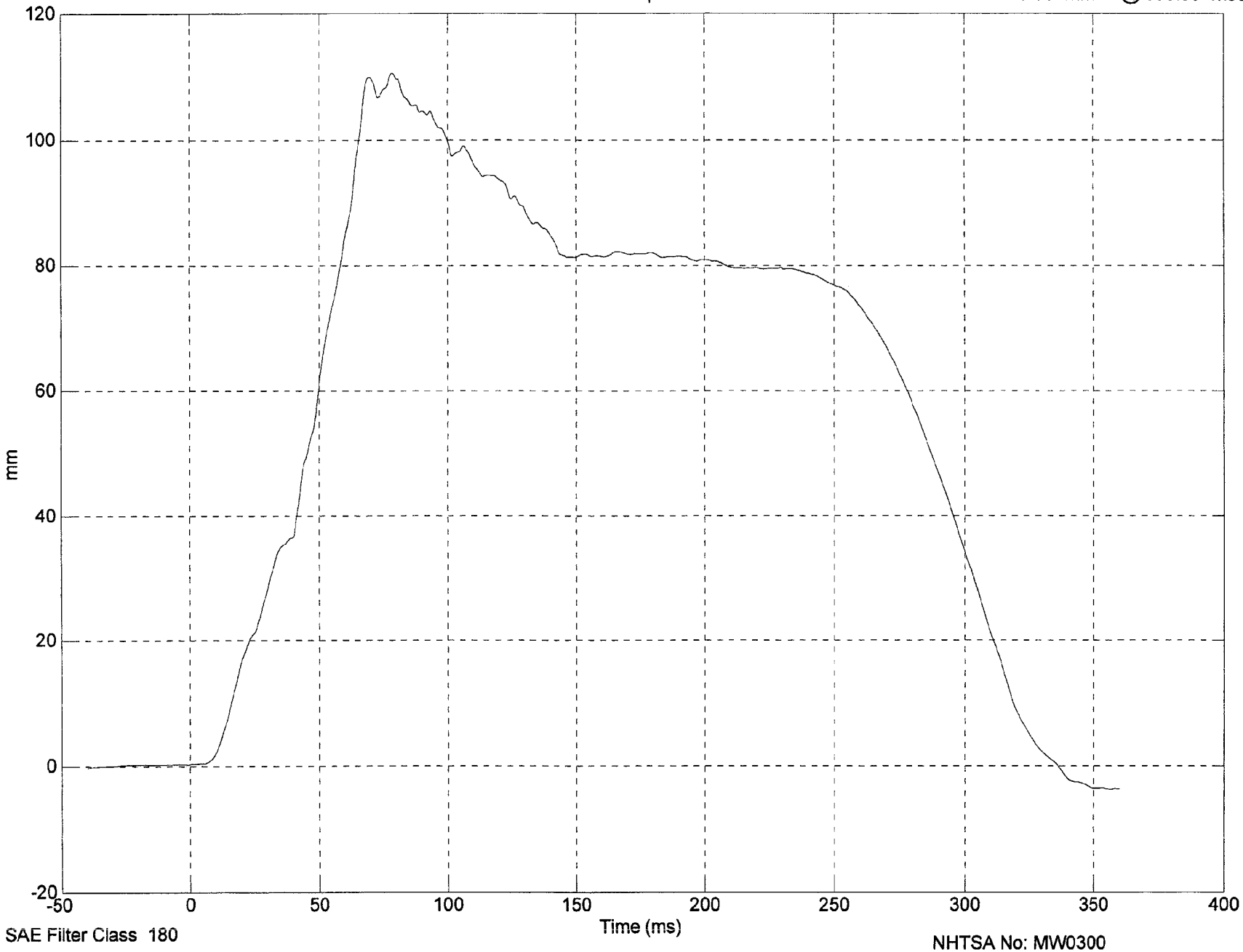


SAE Filter Class 60

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 111 mm @ 78.50 msec
Min = -3.66 mm @ 356.50 msec



B-104

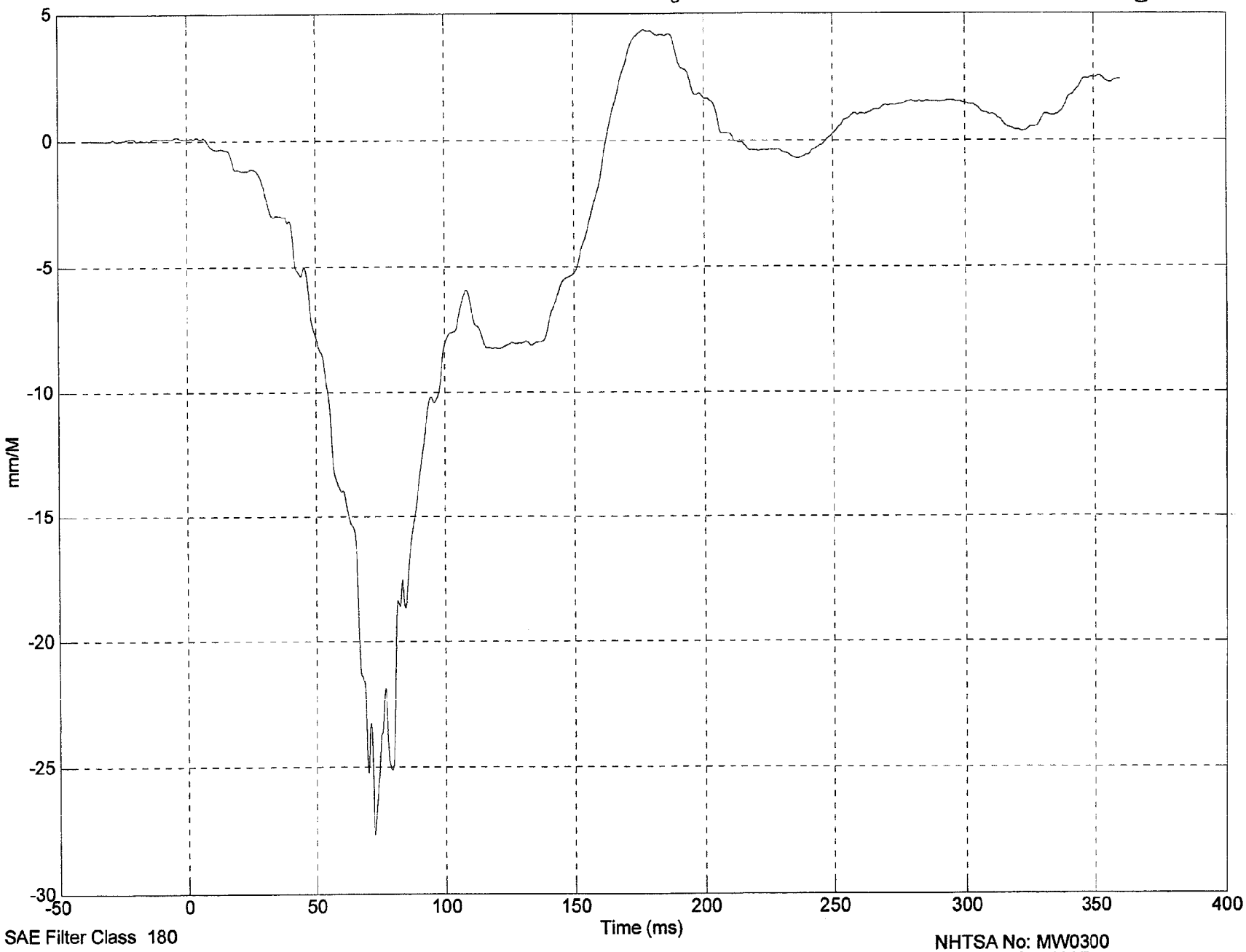
8413-7

SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 4.36 mm/M @ 176.90 msec
Min = -27.7 mm/M @ 72.50 msec



B-105

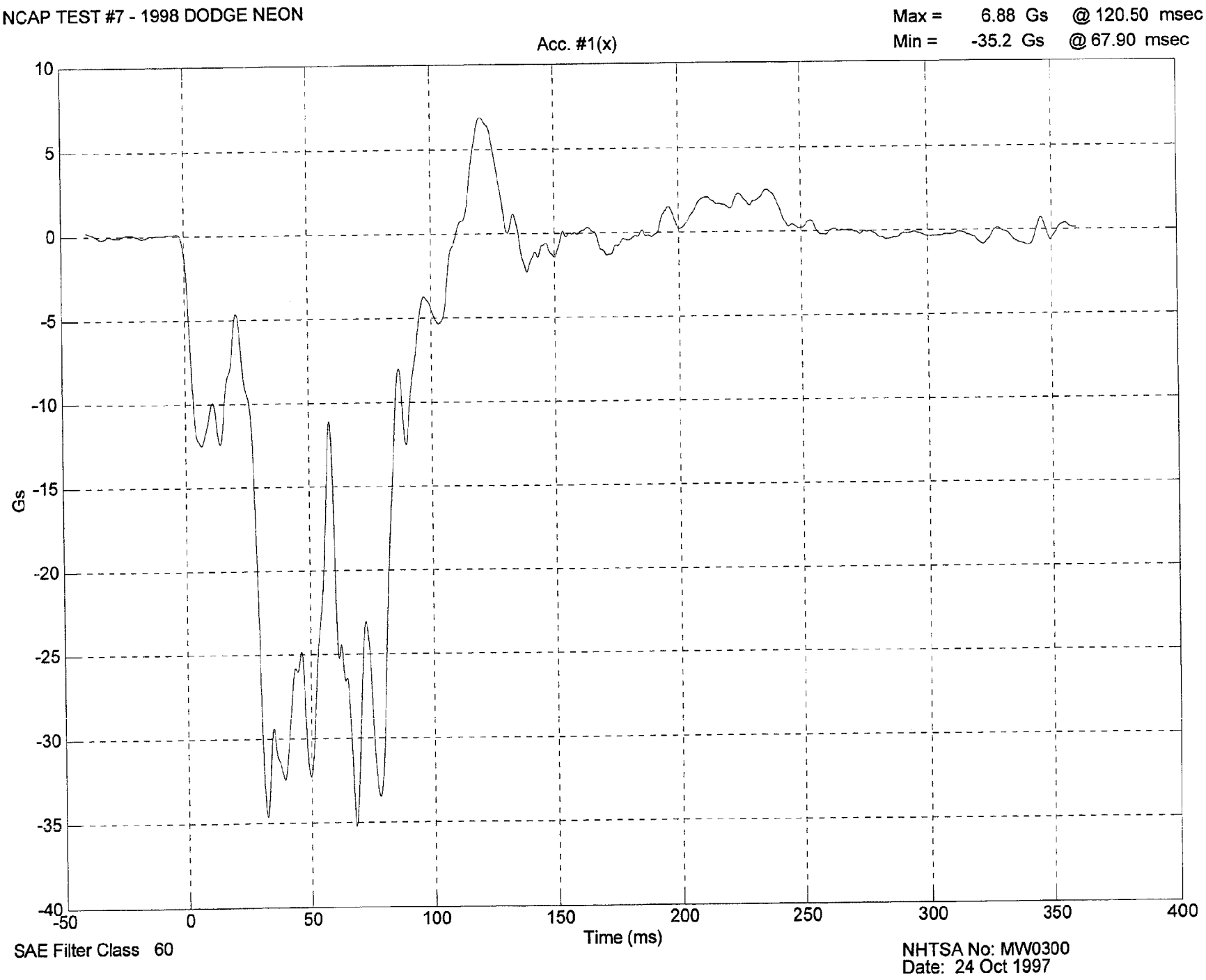
8413-7

SAE Filter Class 180

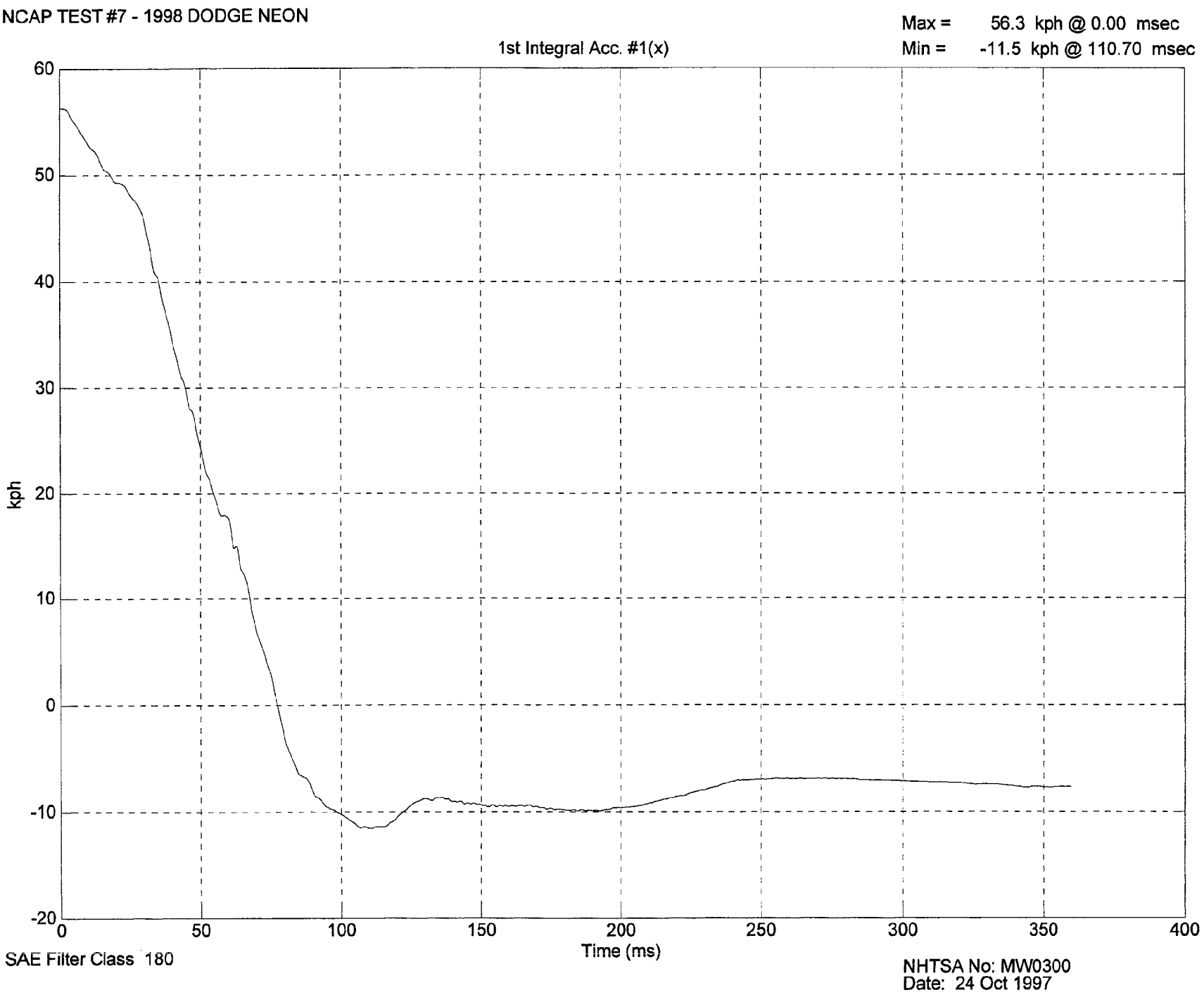
NHTSA No: MW0300
Date: 24 Oct 1997

NHTSA TEST NO. MW0300

VEHICLE DATA	FILTER CHANNEL CLASS
Acceleration	60
Velocity	180
Displacement	180

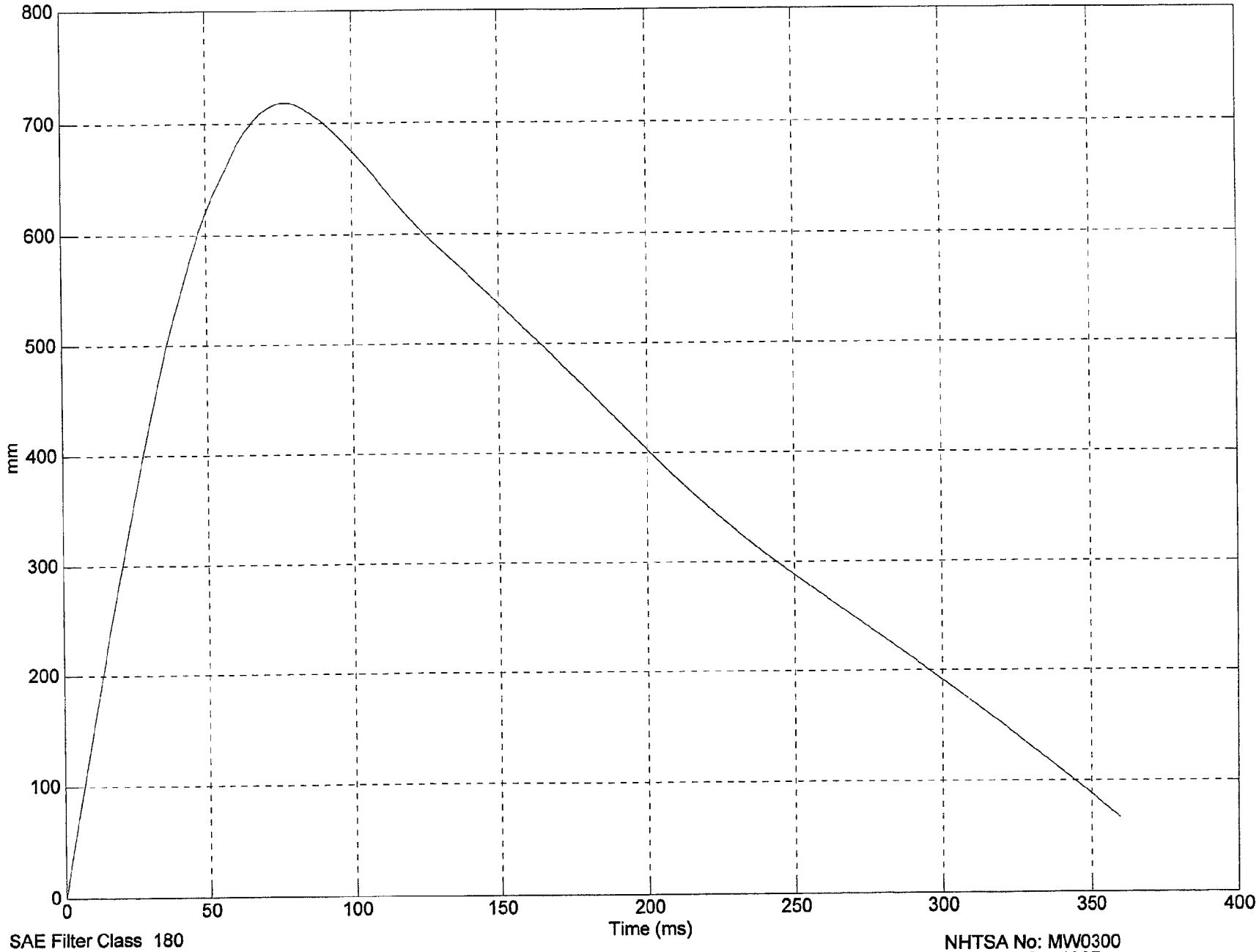

NCAP TEST #7 - 1998 DODGE NEON
Max = 6.88 Gs @ 120.50 msec
Min = -35.2 Gs @ 67.90 msec
Acc. #1(x)
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7


NCAP TEST #7 - 1998 DODGE NEON
1st Integral Acc. #1(x)
Max = 56.3 kph @ 0.00 msec
Min = -11.5 kph @ 110.70 msec
60
50
40
30
20
10
0
-10
-20
kph
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 719 mm @ 77.40 msec
Min = 0 mm @ 0.00 msec



SAE Filter Class 180

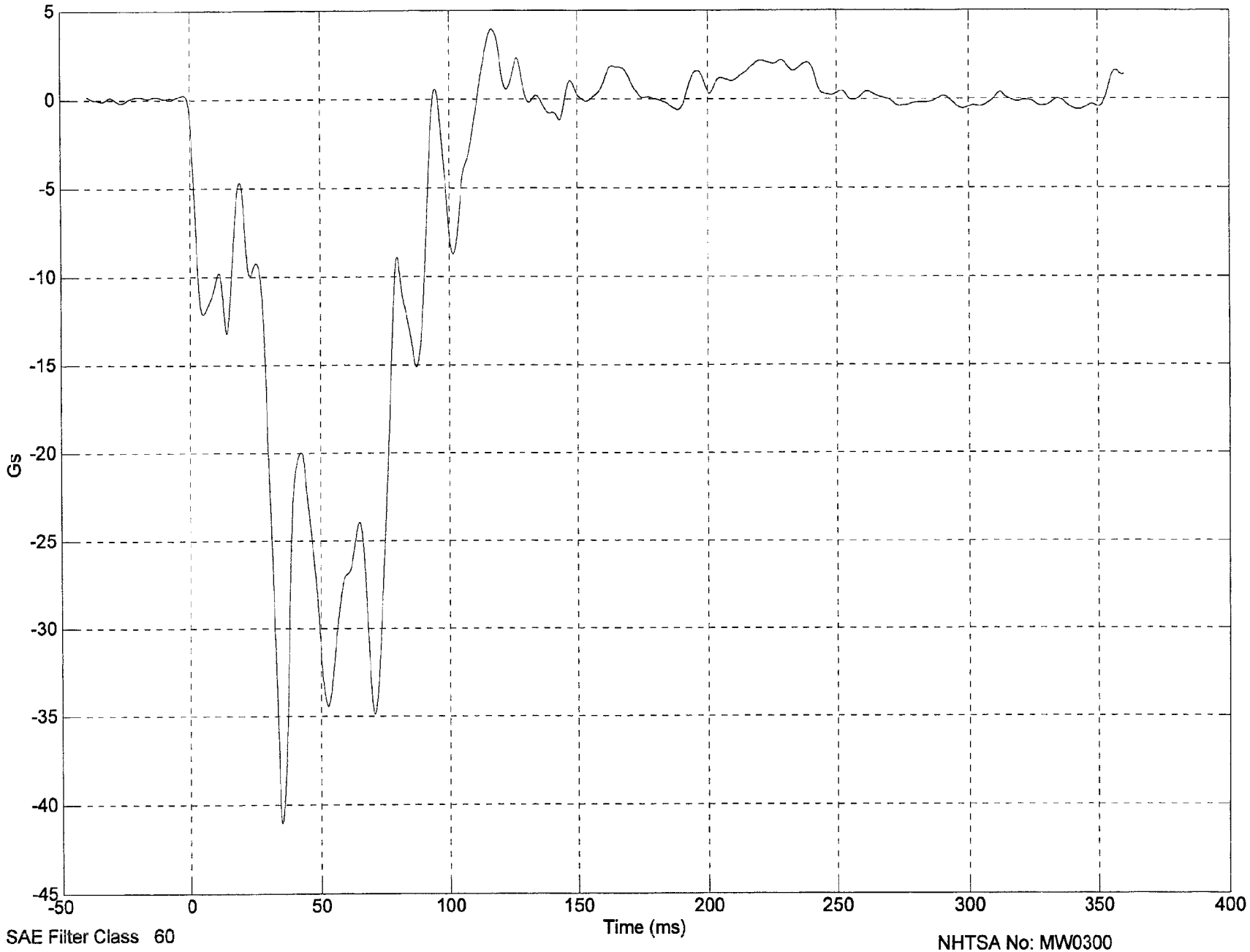
NHTSA No: MW0300
Date: 24 Oct 1997

B-109

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 3.93 Gs @ 116.50 msec
Min = -41 Gs @ 35.10 msec



SAE Filter Class 60

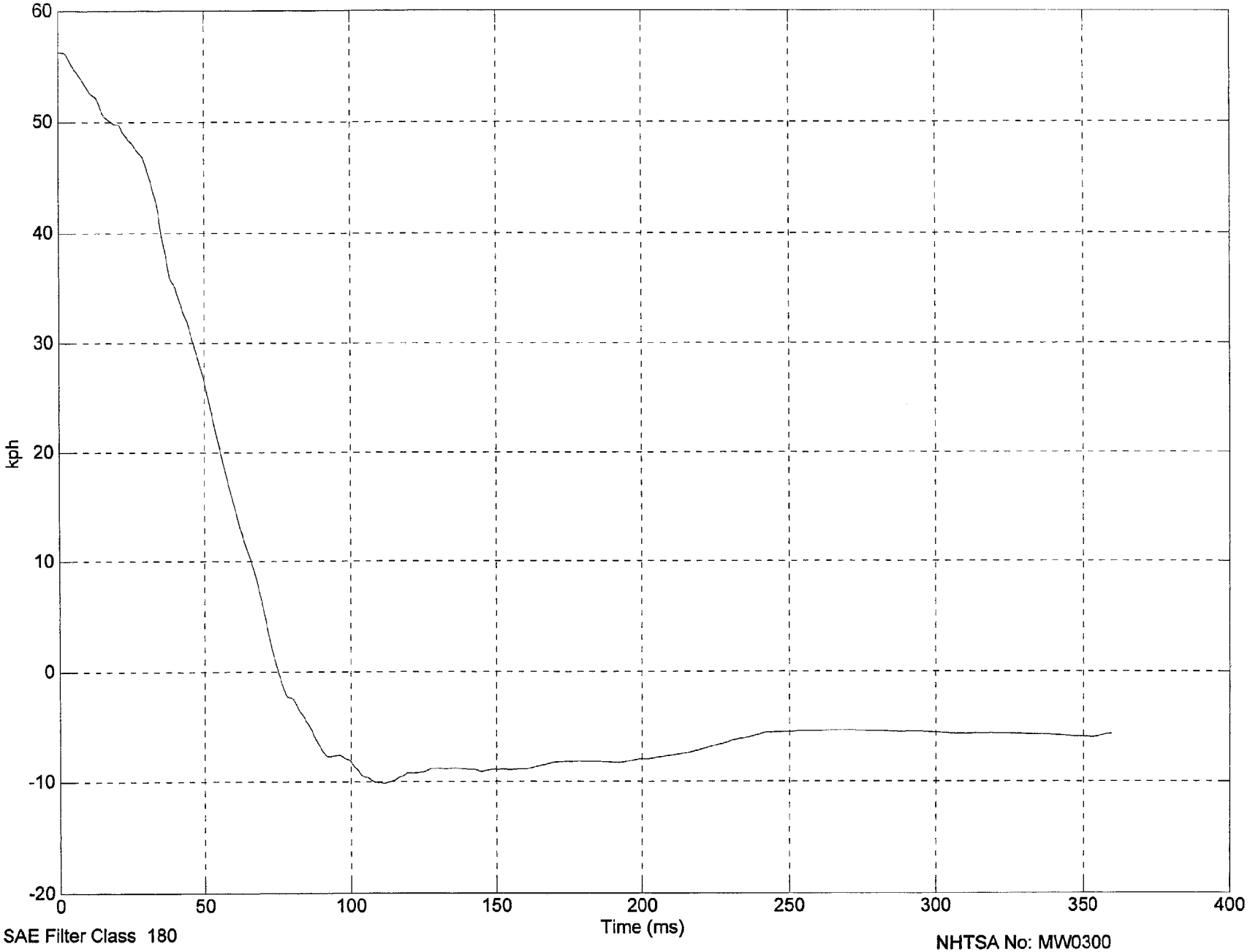
NHTSA No: MW0300
Date: 24 Oct 1997

B-110

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 56.3 kph @ 0.00 msec
Min = -10.1 kph @ 111.60 msec

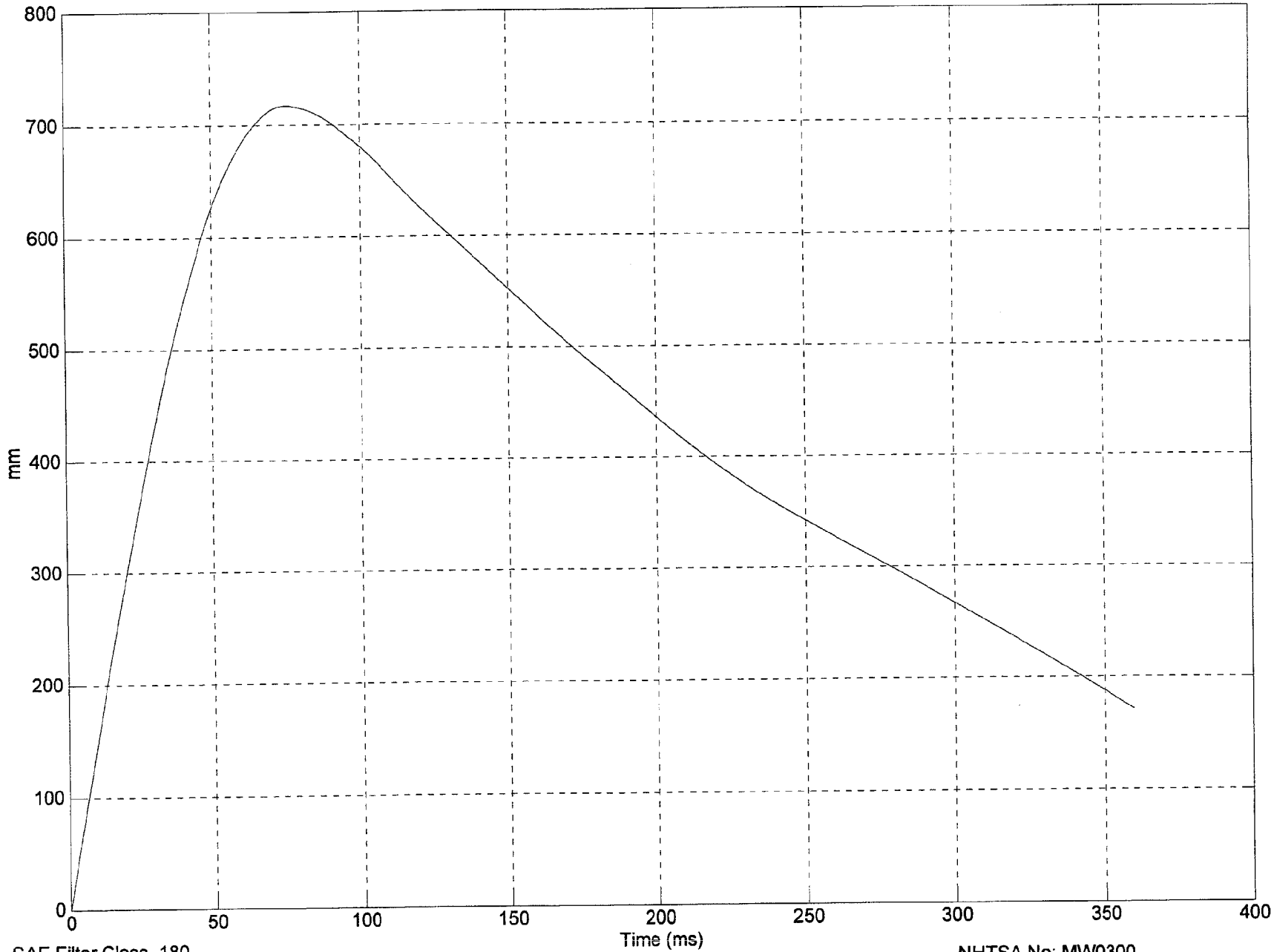


SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 717 mm @ 75.20 msec
Min = 0 mm @ 0.00 msec

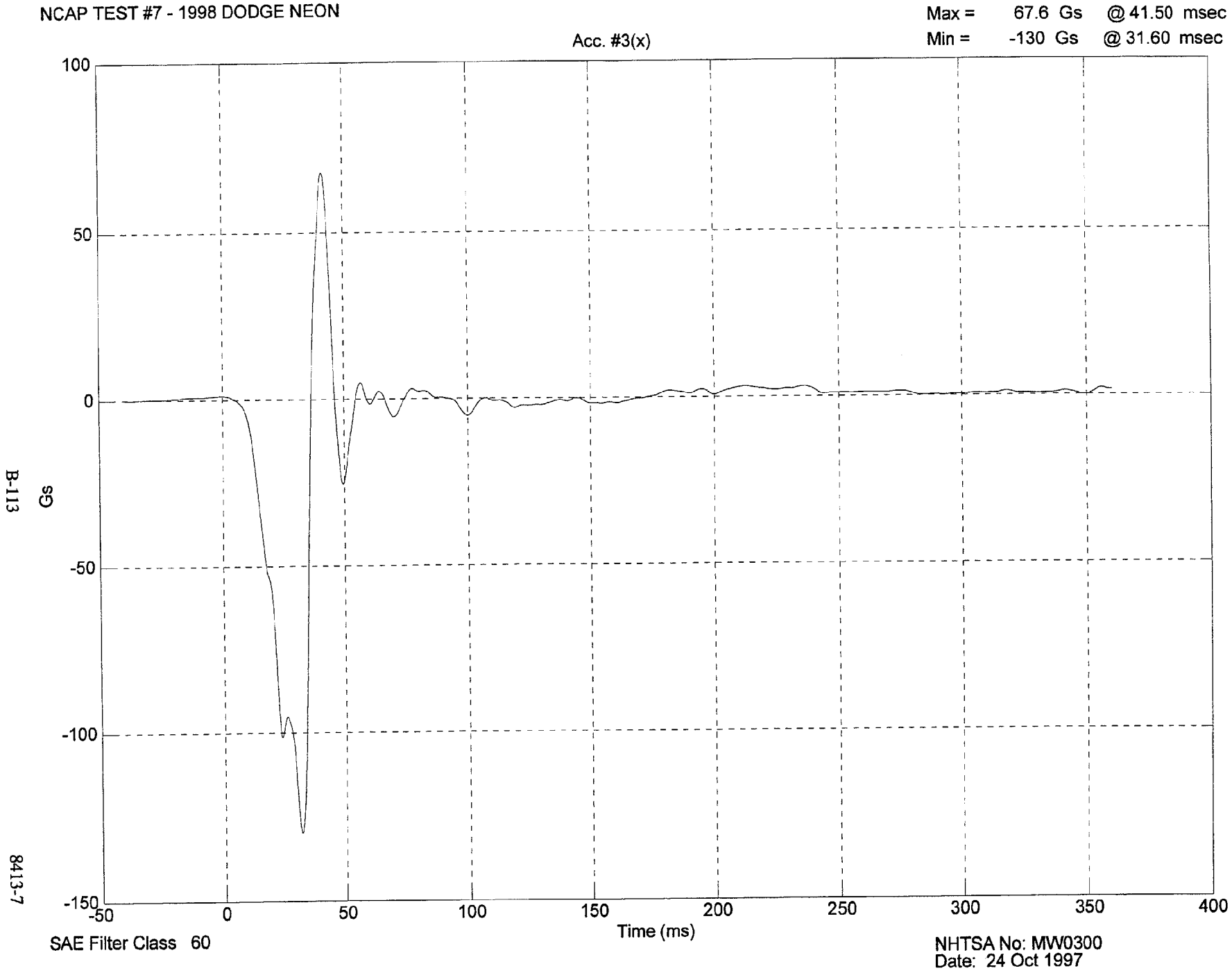


SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

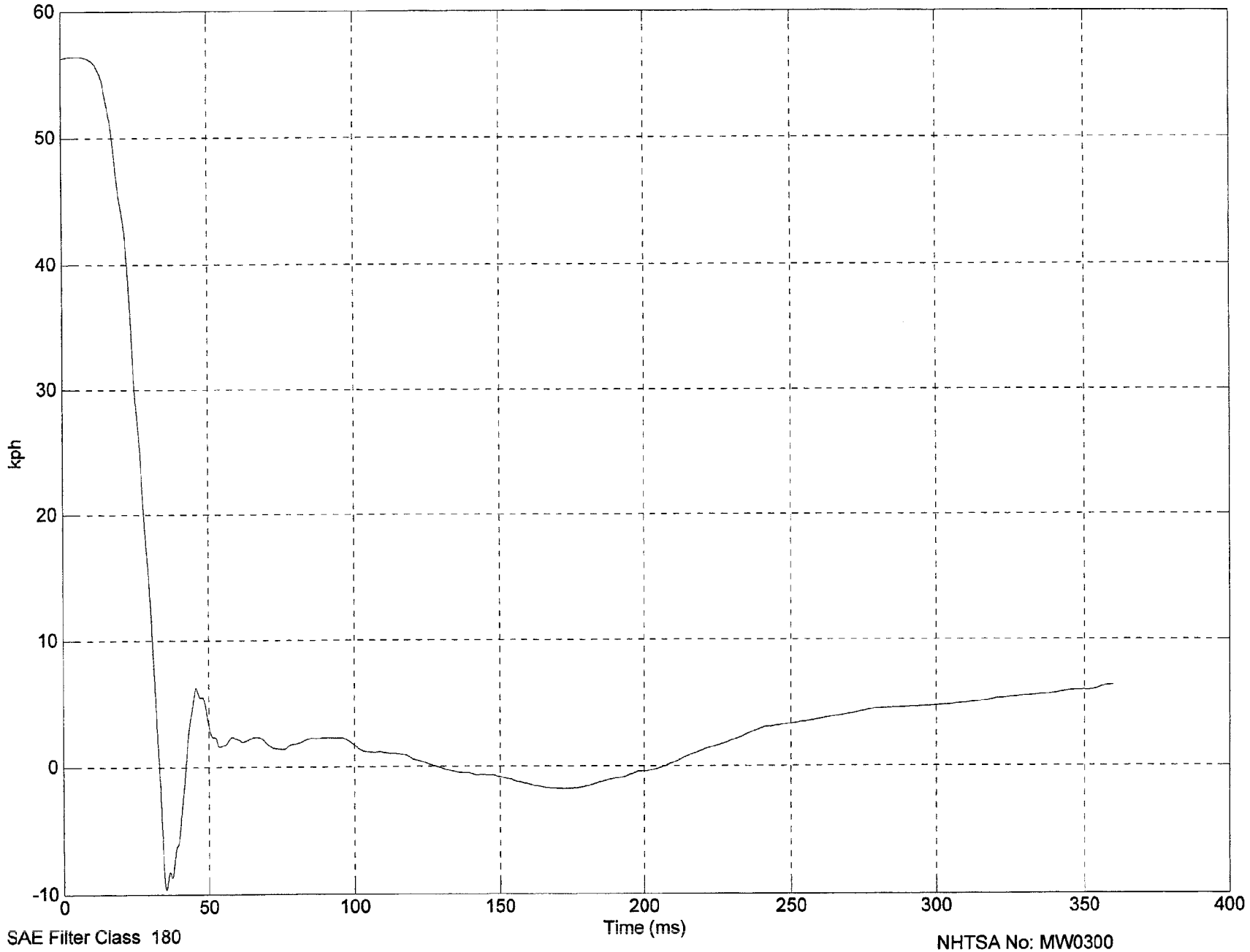
B-112

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 67.6 Gs @ 41.50 msec
Min = -130 Gs @ 31.60 msec
Acc. #3(x)
100
50
0
-50
-100
-150
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
B-113
8413-7
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 56.4 kph @ 5.30 msec
Min = -9.63 kph @ 35.10 msec



SAE Filter Class 180

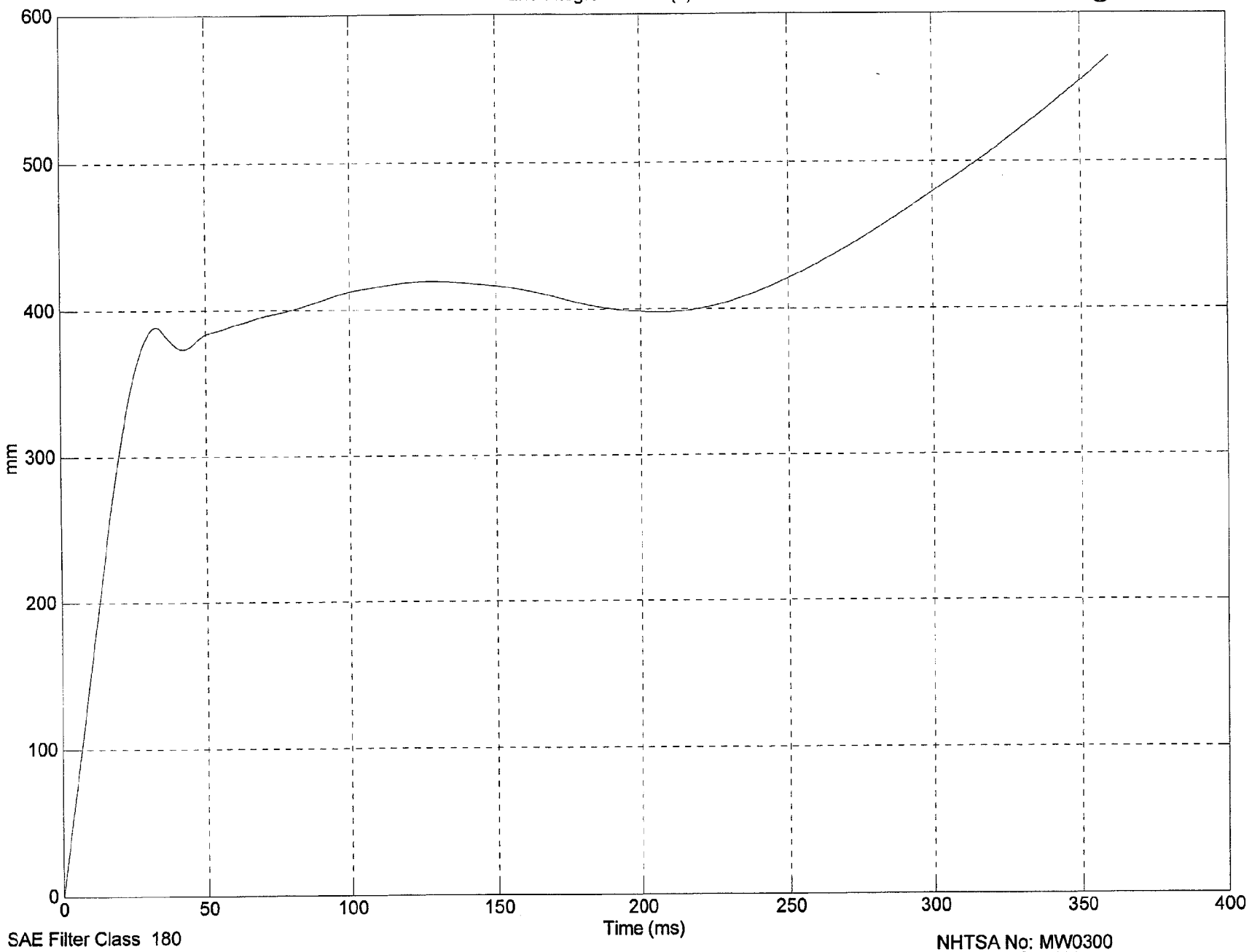
NHTSA No: MW0300
Date: 24 Oct 1997

B-114

8413-7

NCAP TEST #7 - 1998 DODGE NEON

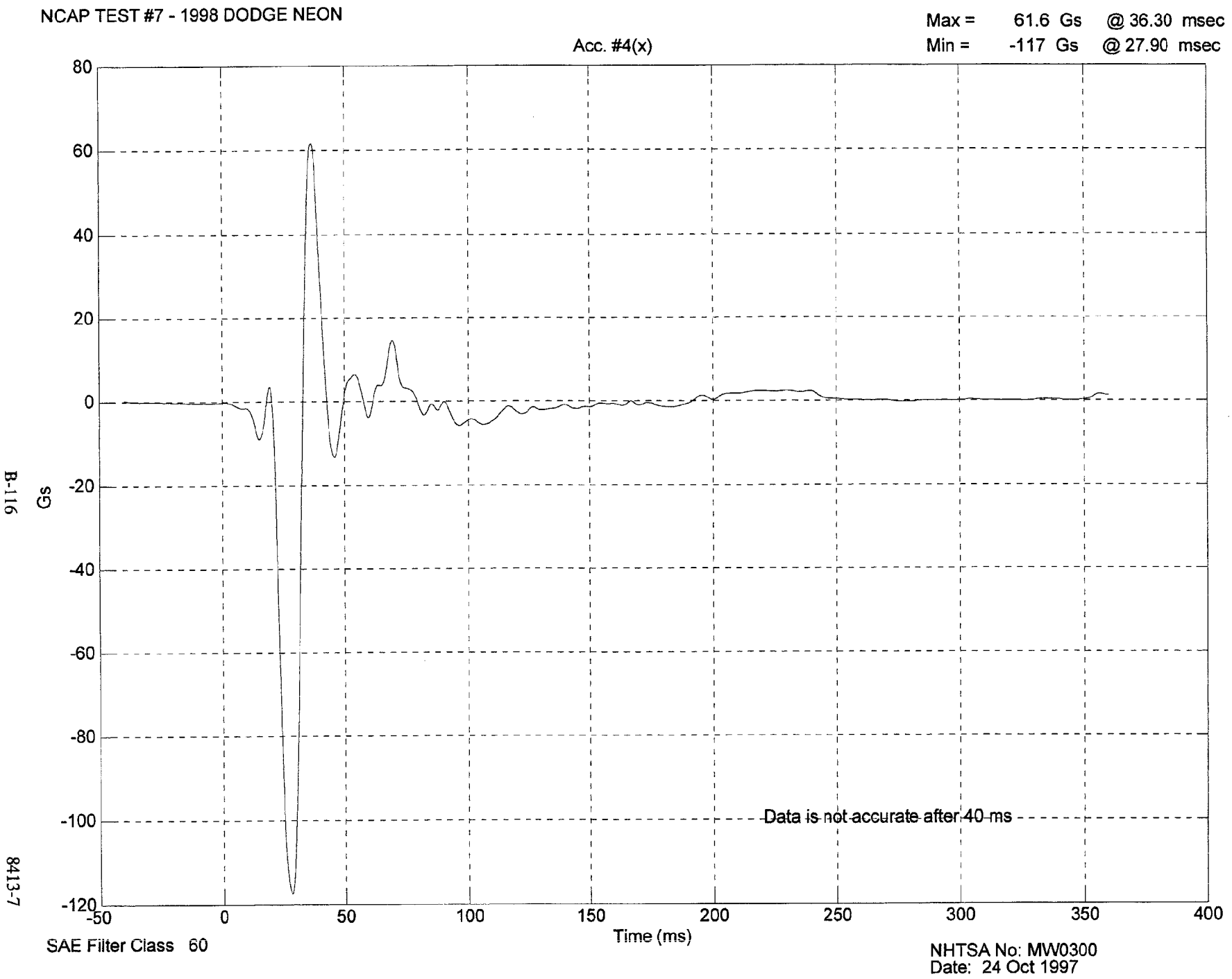
Max = 571 mm @ 360.00 msec
Min = 0 mm @ 0.00 msec



SAE Filter Class 180

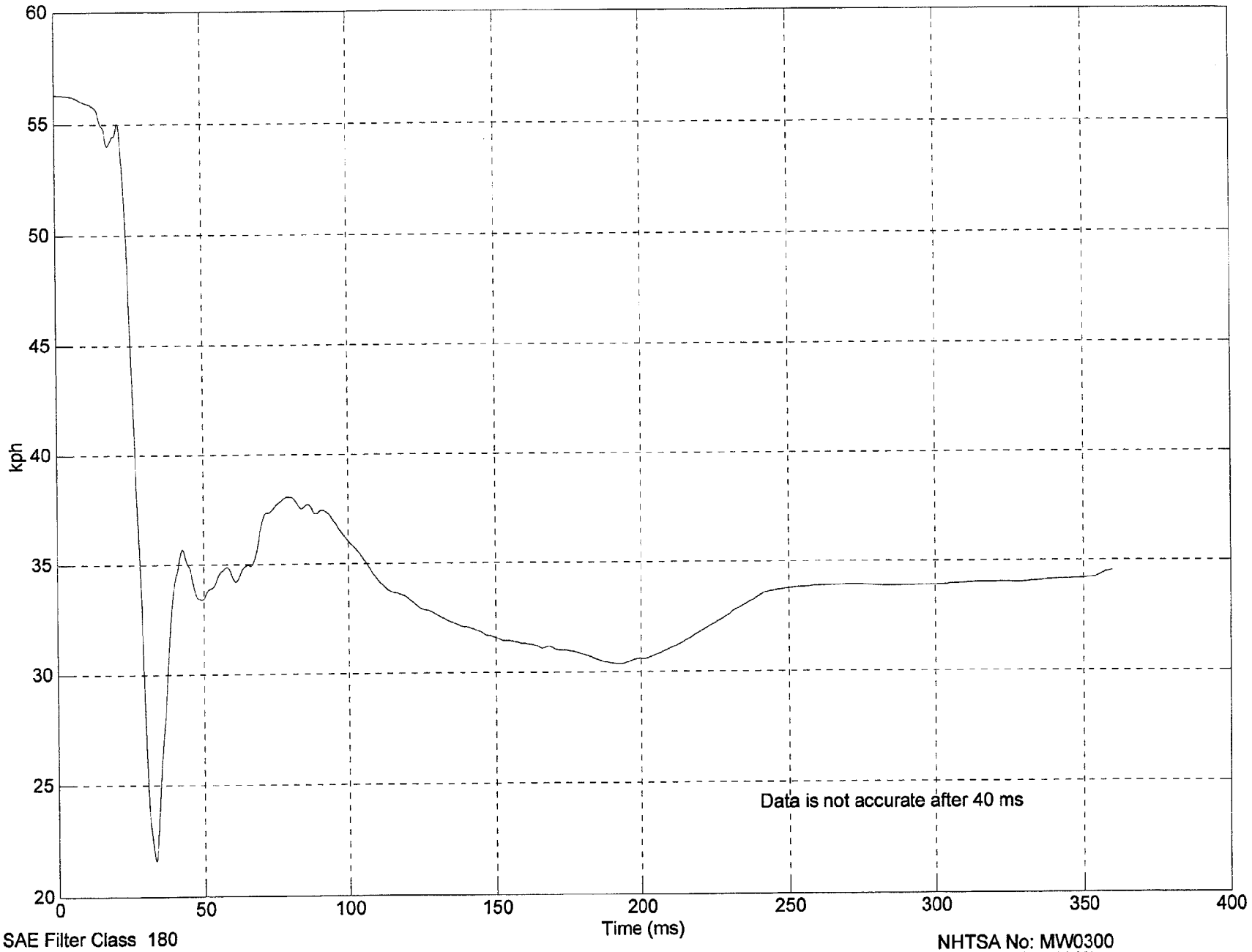
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 61.6 Gs @ 36.30 msec
Min = -117 Gs @ 27.90 msec
Acc. #4(x)
80
60
40
20
0
-20
-40
-60
-80
-100
-120
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
Data is not accurate after 40 ms
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

Max = 56.3 kph @ 0.00 msec
Min = 21.6 kph @ 33.10 msec

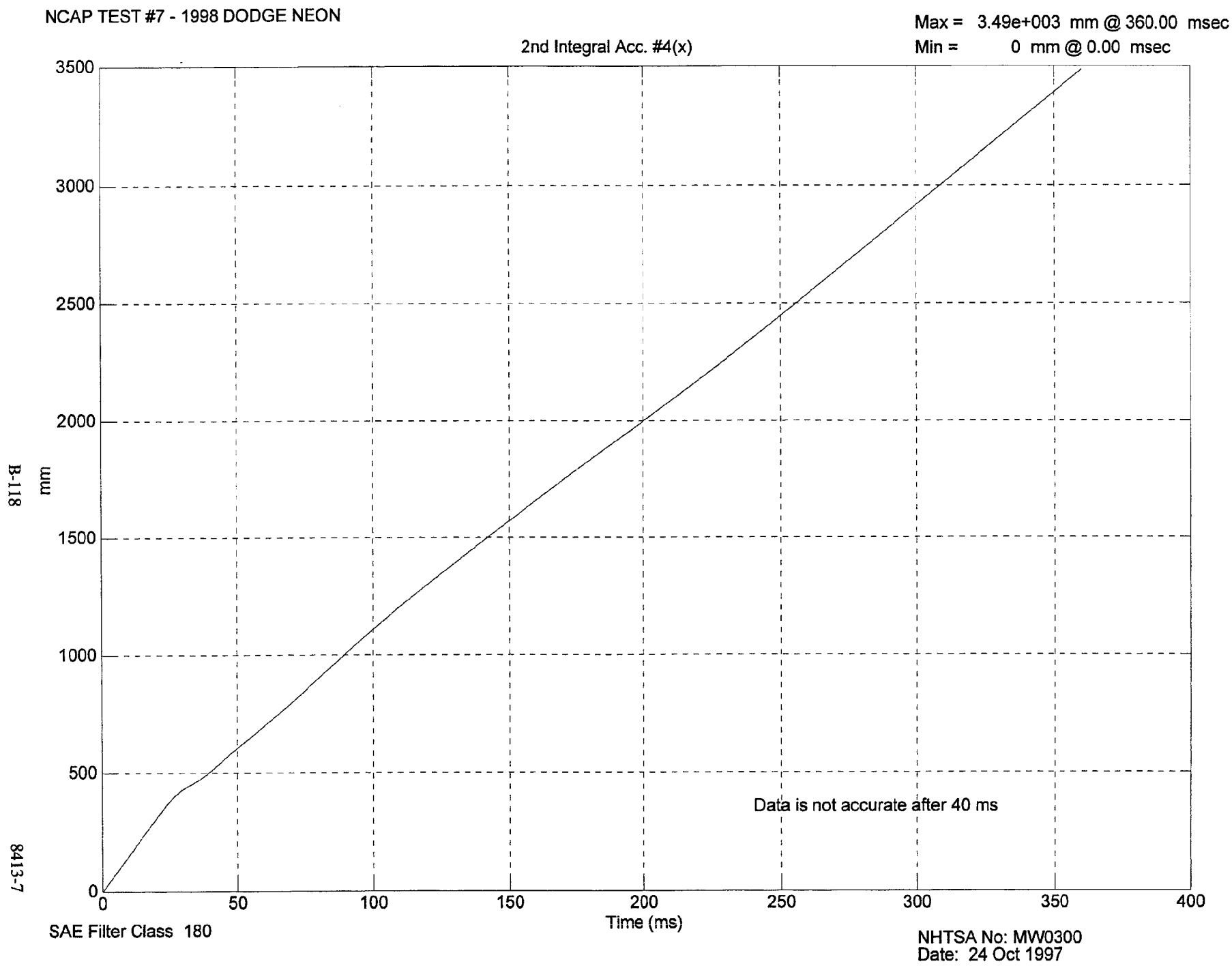


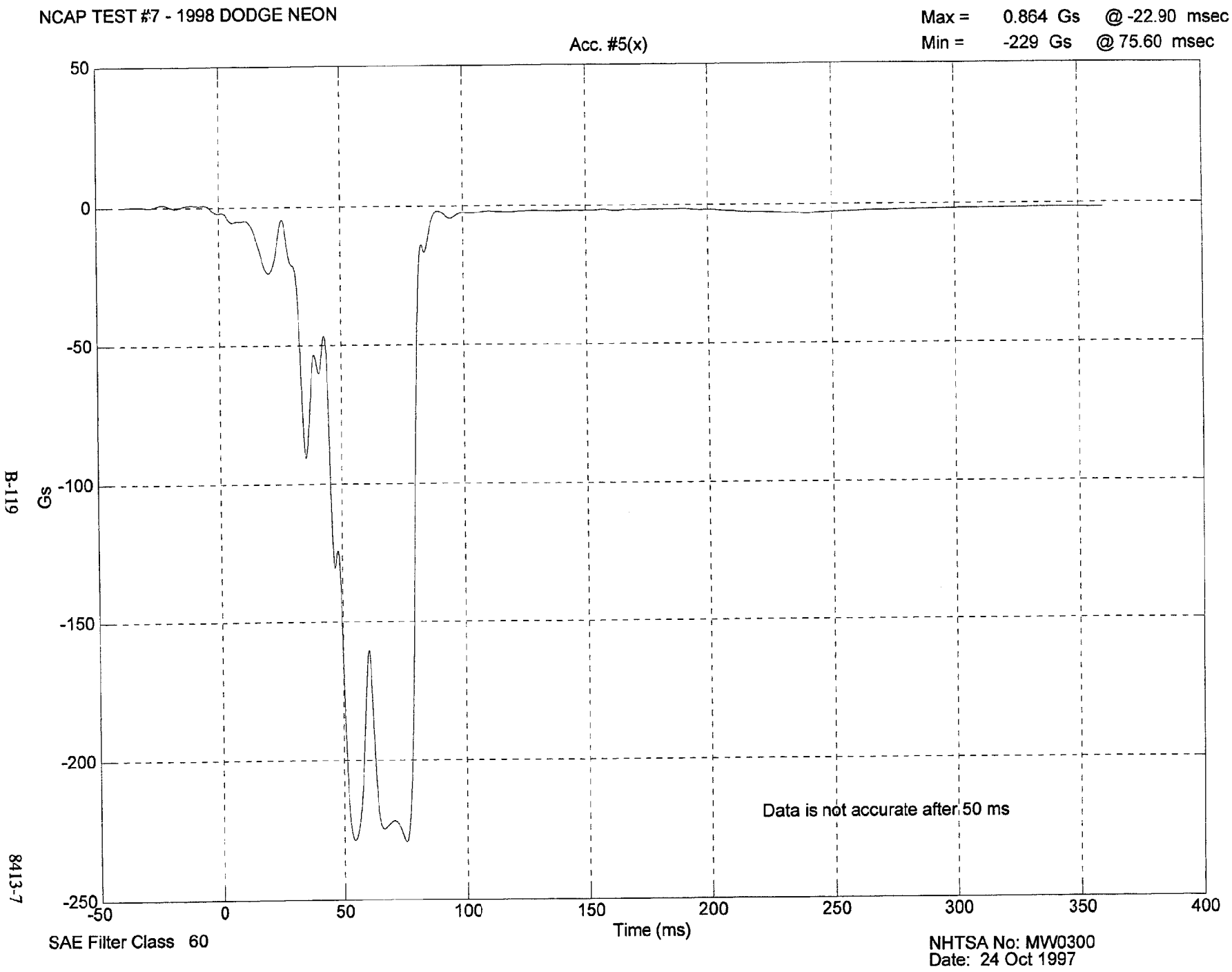
SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

B-117

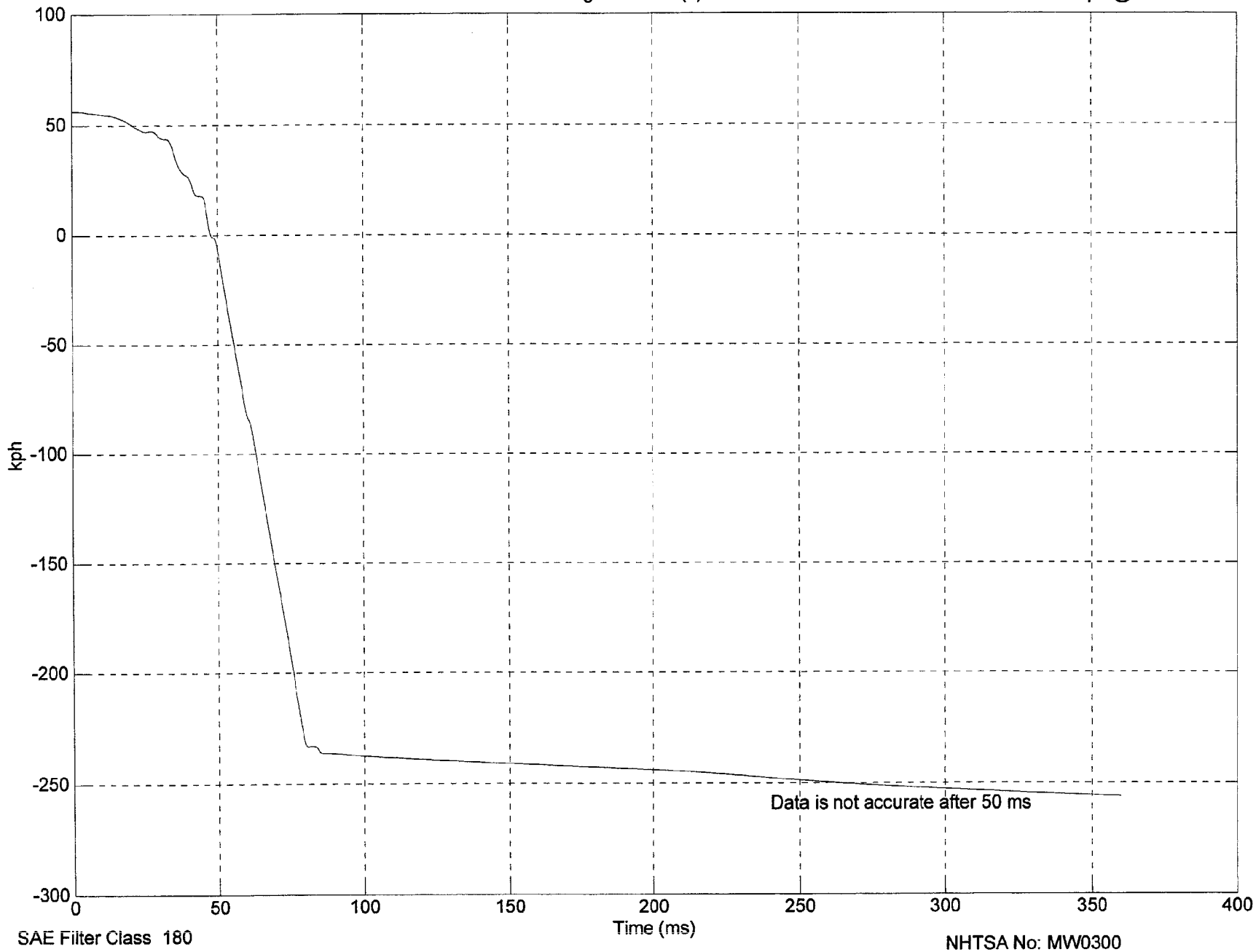
8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 3.49e+003 mm @ 360.00 msec
Min = 0 mm @ 0.00 msec
2nd Integral Acc. #4(x)
3500
3000
2500
2000
1500
1000
500
0
mm
0
50
100
150
200
250
300
350
400
Time (ms)
Data is not accurate after 40 ms
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 0.864 Gs @ -22.90 msec
Min = -229 Gs @ 75.60 msec
Acc. #5(x)
50
0
-50
-100
-150
-200
-250
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
Data is not accurate after 50 ms
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997
B-119
8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 56.3 kph @ 0.00 msec
Min = -256 kph @ 360.00 msec

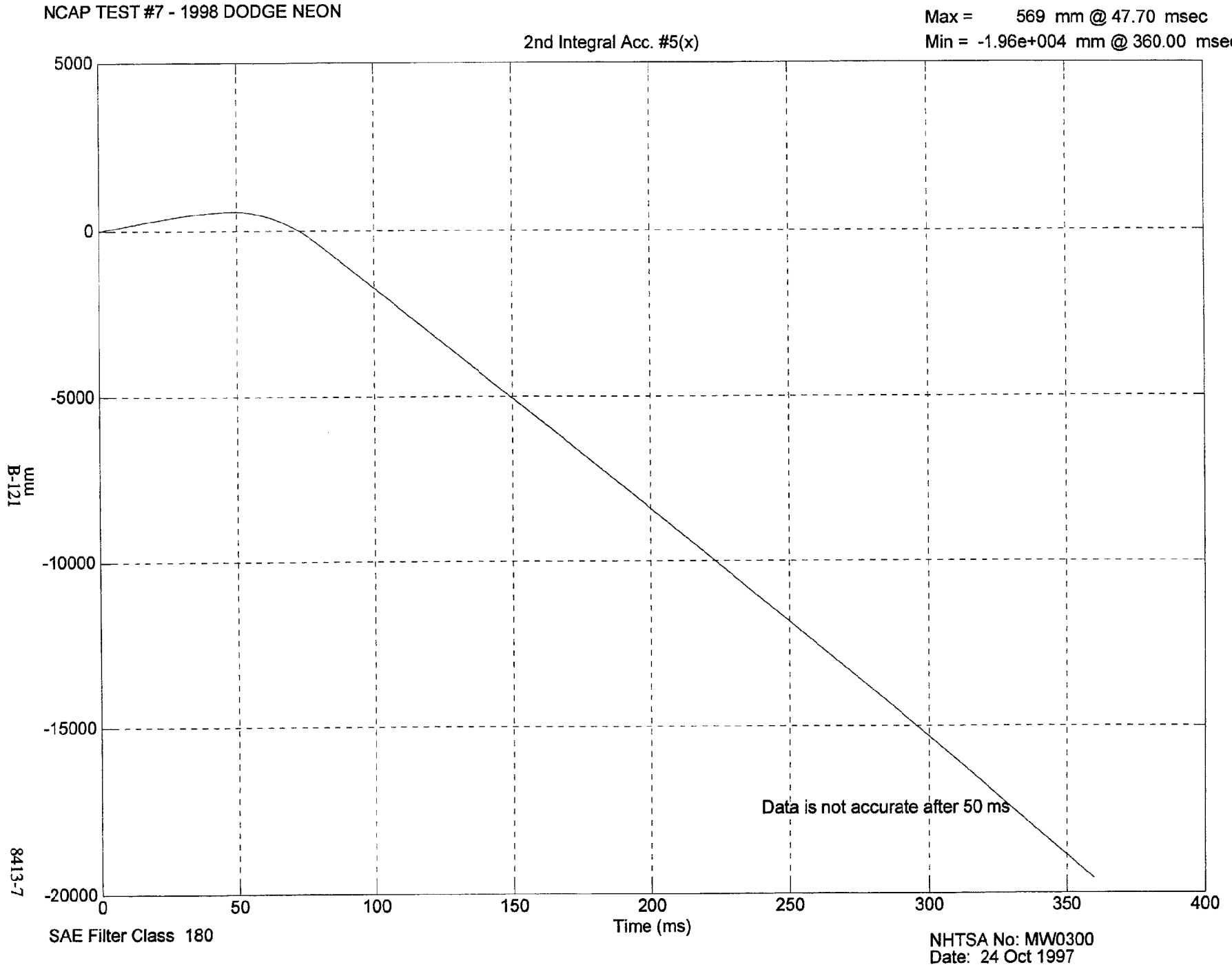


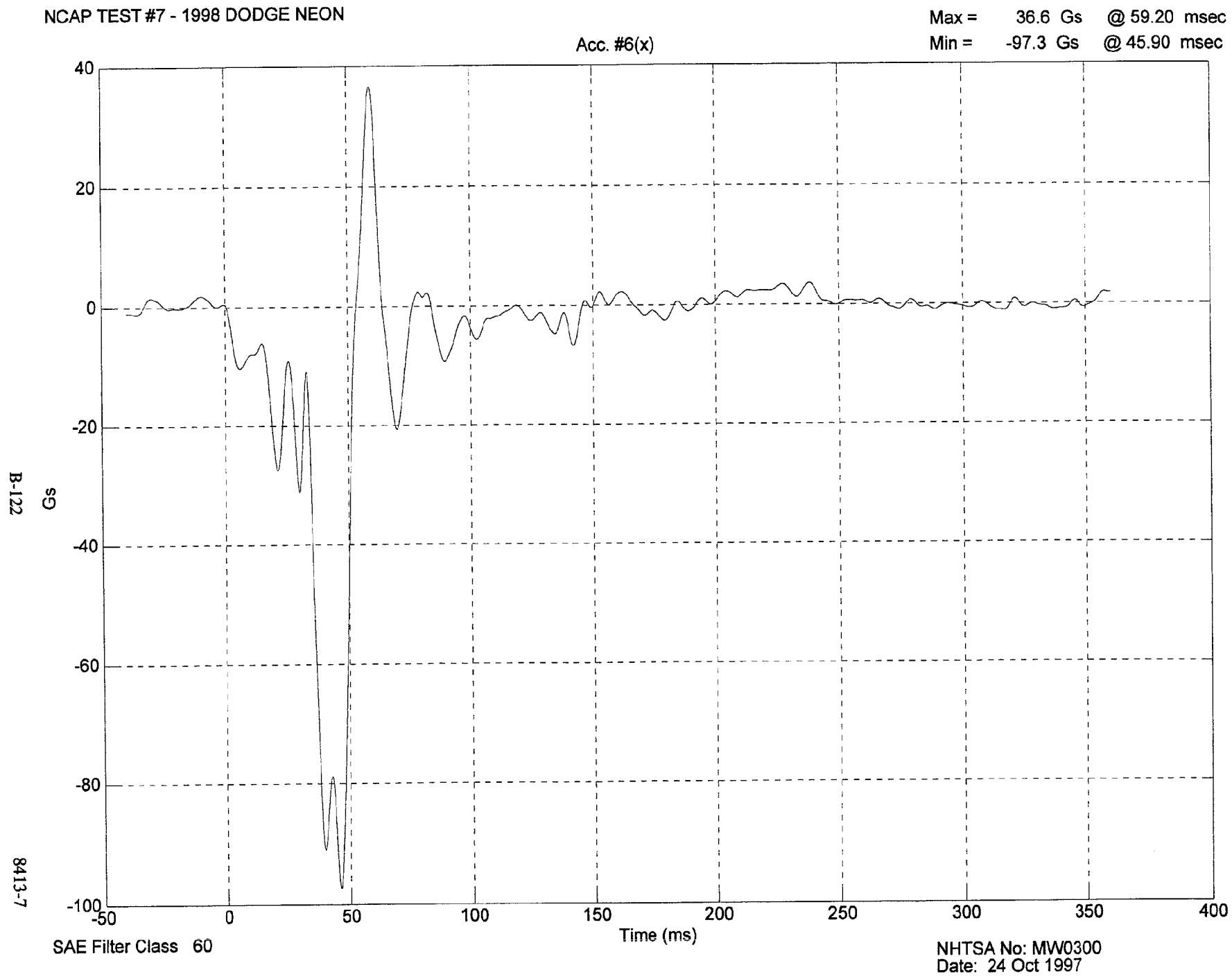
B-120

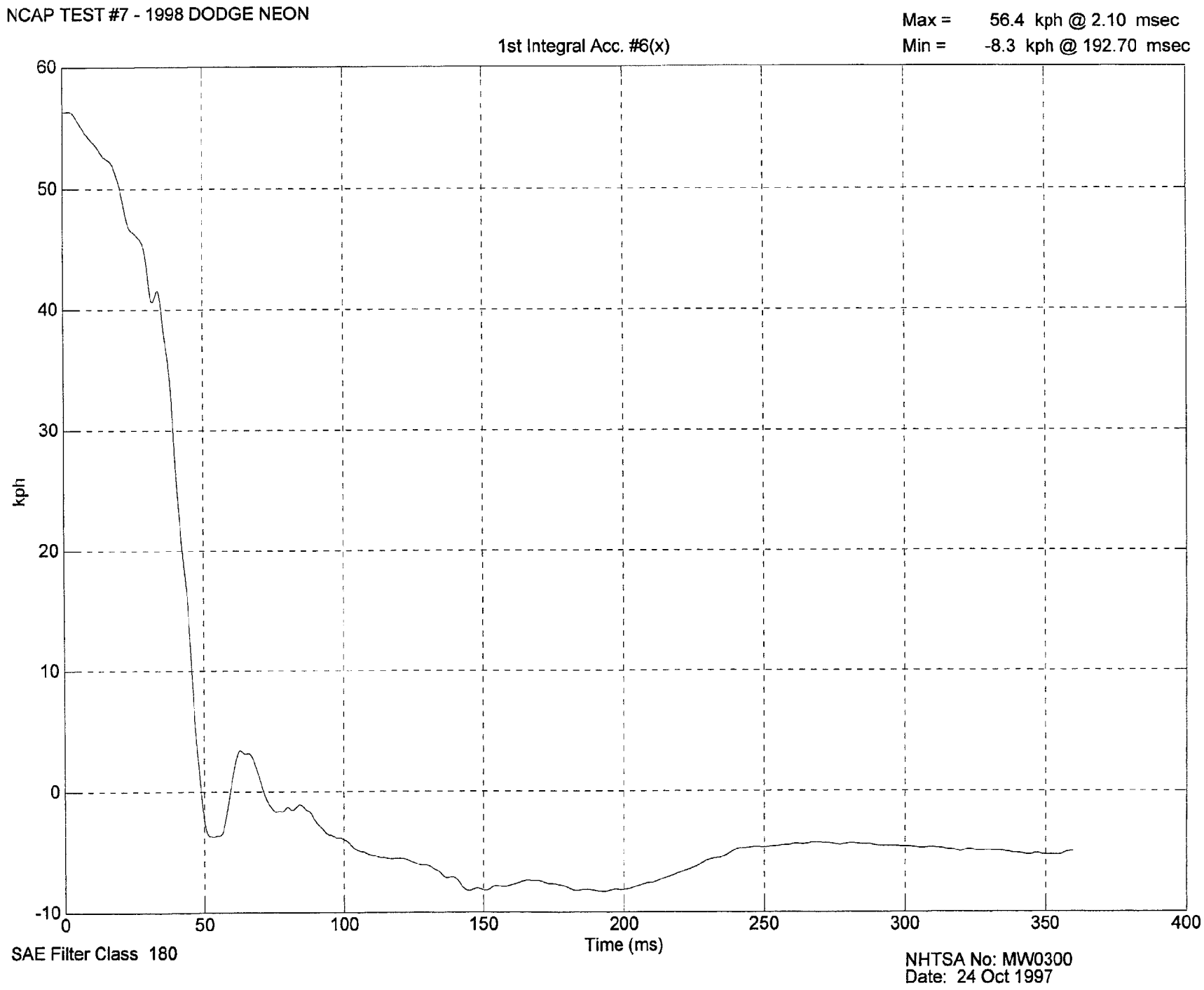
8413-7

SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 569 mm @ 47.70 msec
2nd Integral Acc. #5(x)
Min = -1.96e+004 mm @ 360.00 msec
5000
0
-5000
-10000
-15000
-20000
mm
B-121
8413-7
0
50
100
150
200
250
300
350
400
Time (ms)
Data is not accurate after 50 ms
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 36.6 Gs @ 59.20 msec
Min = -97.3 Gs @ 45.90 msec
Acc. #6(x)
40
20
0
-20
-40
-60
-80
-100
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997
B-122
8413-7

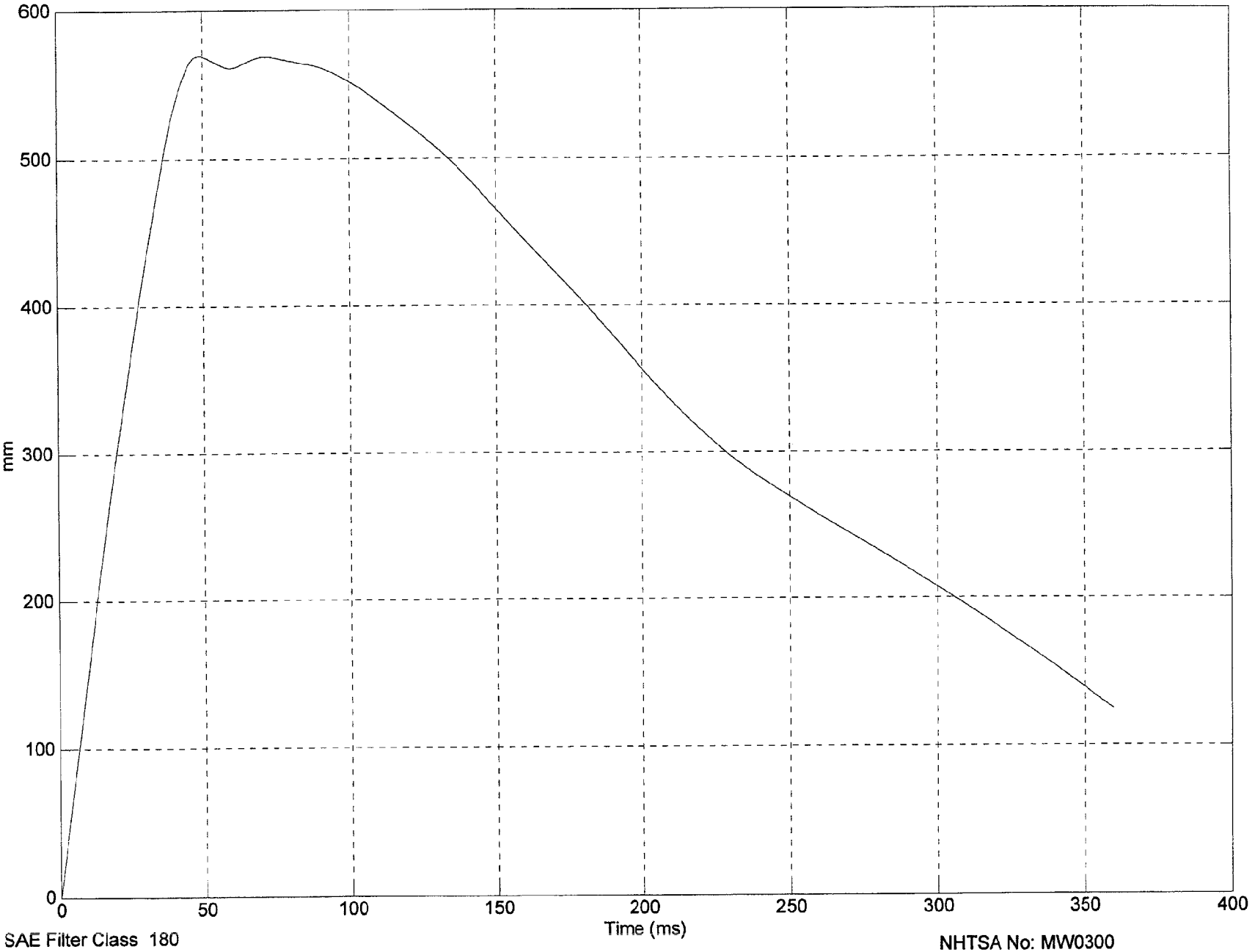

NCAP TEST #7 - 1998 DODGE NEON
1st Integral Acc. #6(x)
Max = 56.4 kph @ 2.10 msec
Min = -8.3 kph @ 192.70 msec
60
50
40
30
20
10
0
-10
kph
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997

B-123

8413-7

NCAP TEST #7 - 1998 DODGE NEON

Max = 569 mm @ 48.90 msec
Min = 0 mm @ 0.00 msec

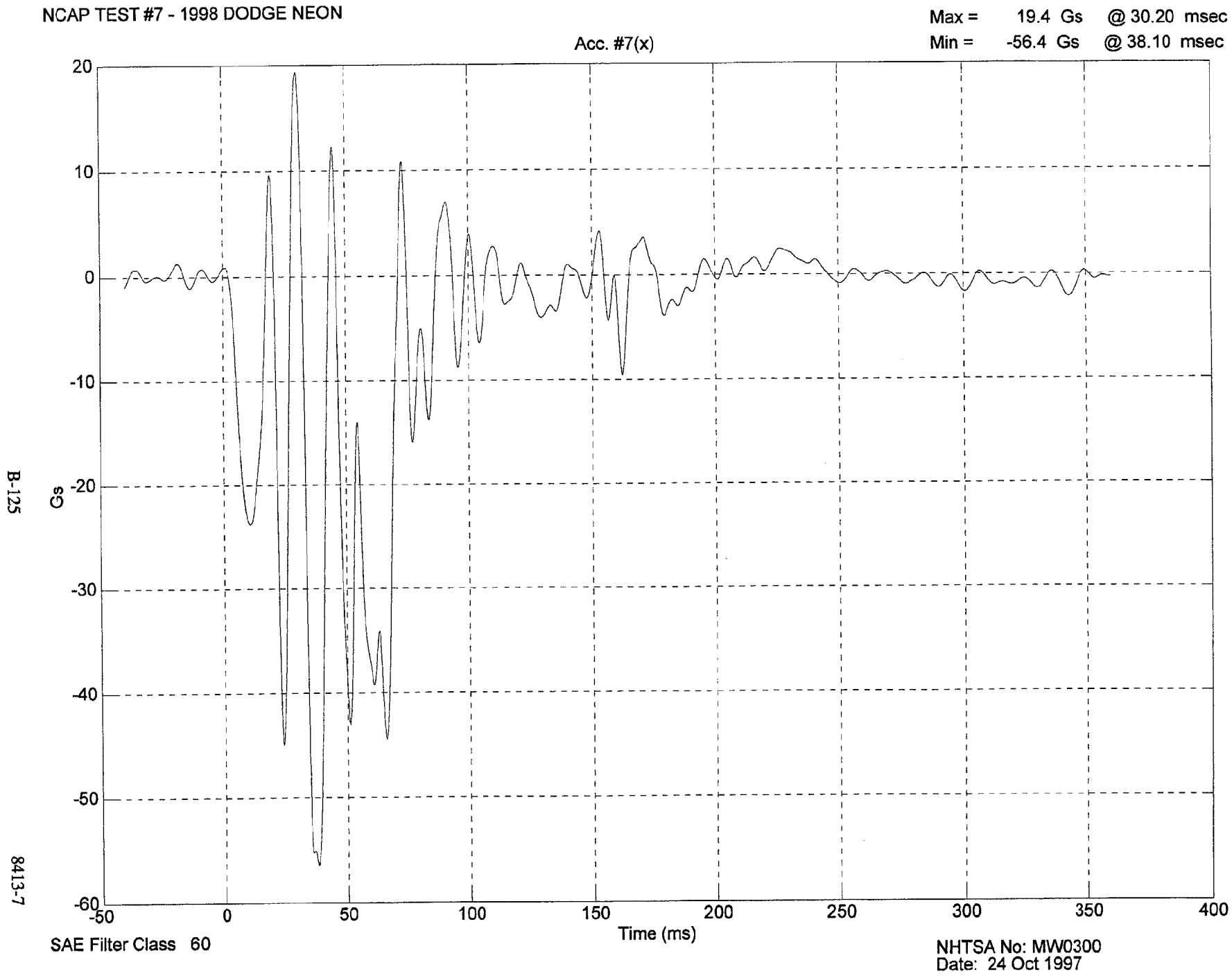


SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

B-124

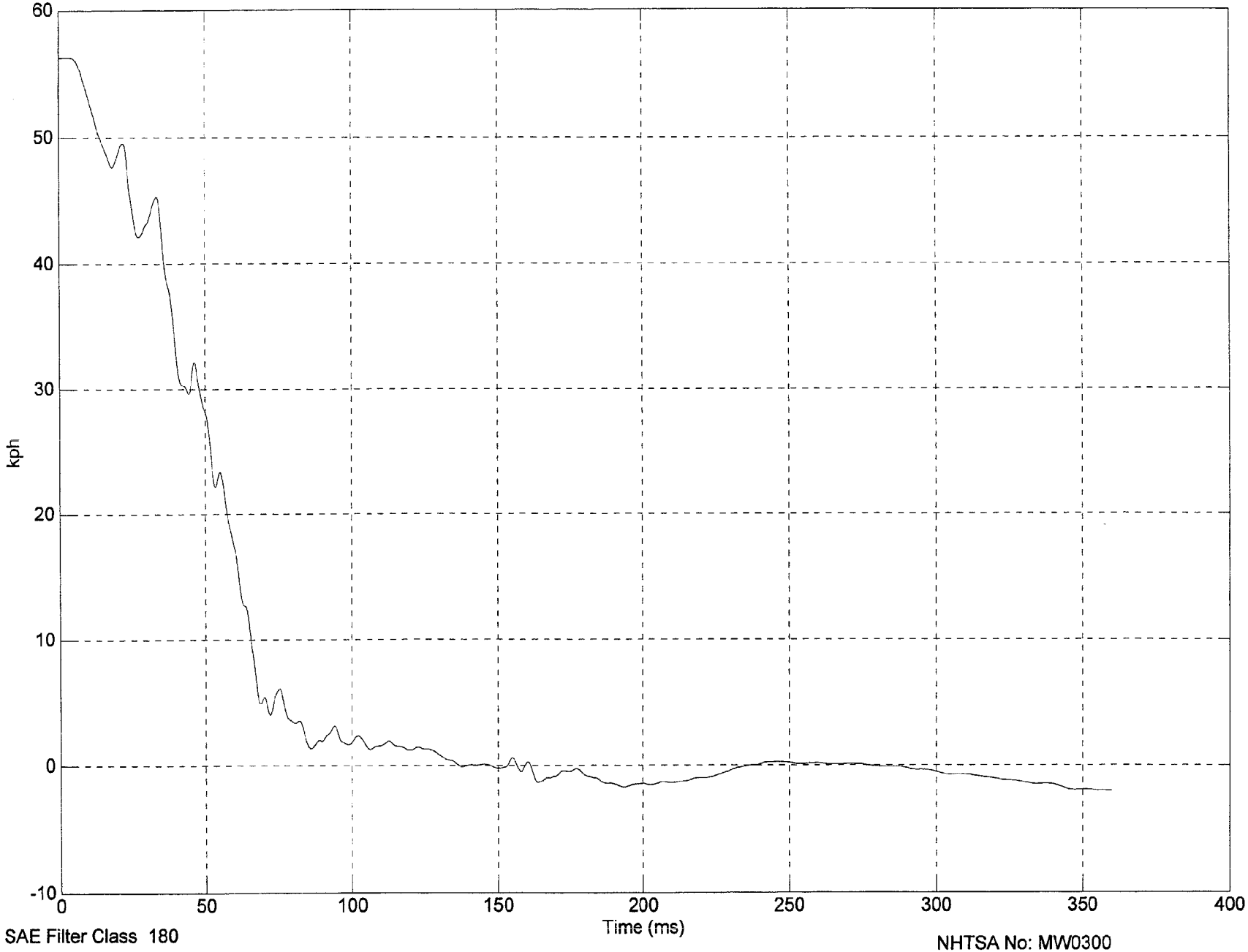
8413-7


NCAP TEST #7 - 1998 DODGE NEON
Max = 19.4 Gs @ 30.20 msec
Min = -56.4 Gs @ 38.10 msec
Acc. #7(x)
20
10
0
-10
-20
-30
-40
-50
-60
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON

1st Integral Acc. #7(x)

Max = 56.3 kph @ 2.40 msec
Min = -2.01 kph @ 360.00 msec

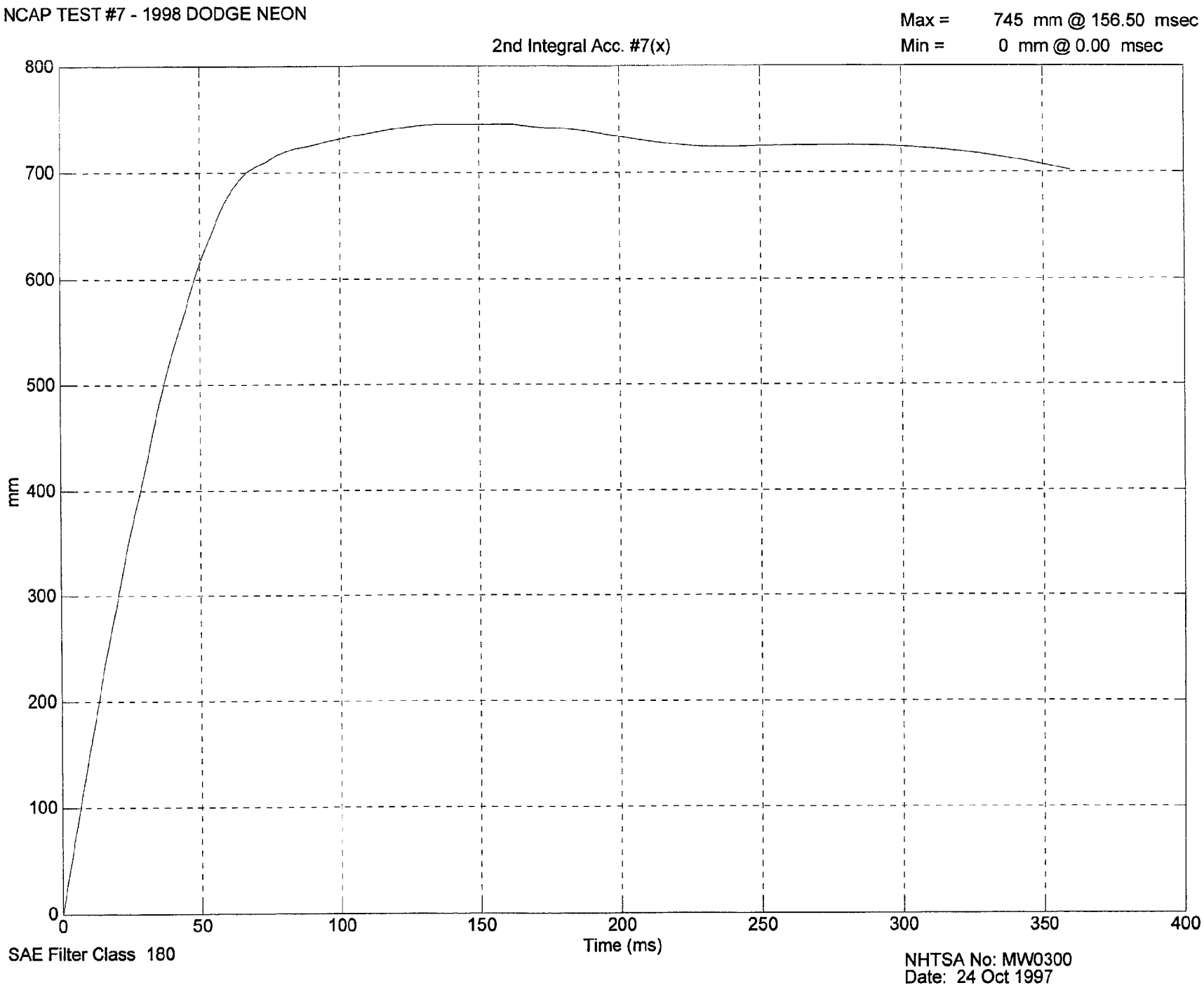


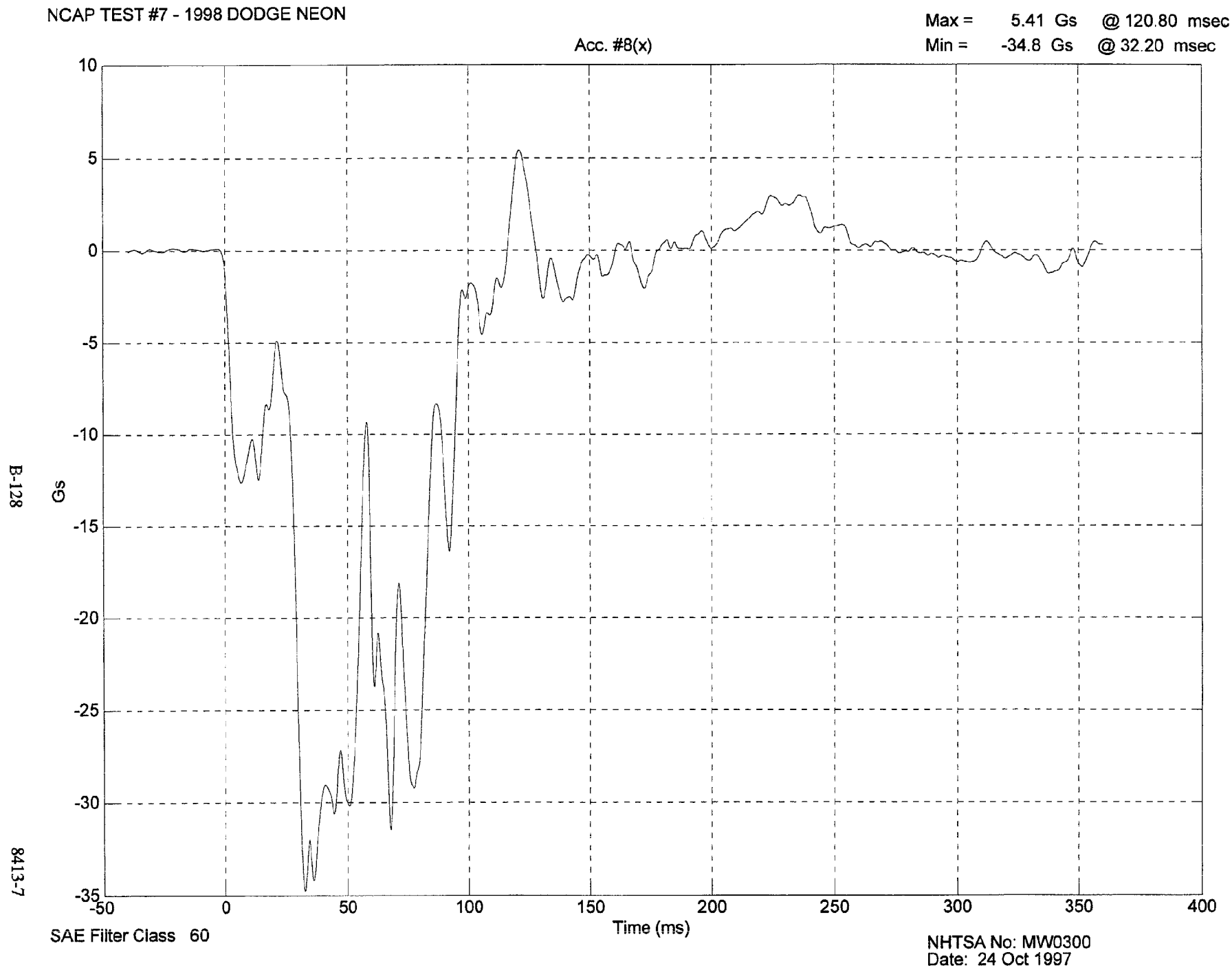
B-126

8413-7

SAE Filter Class 180

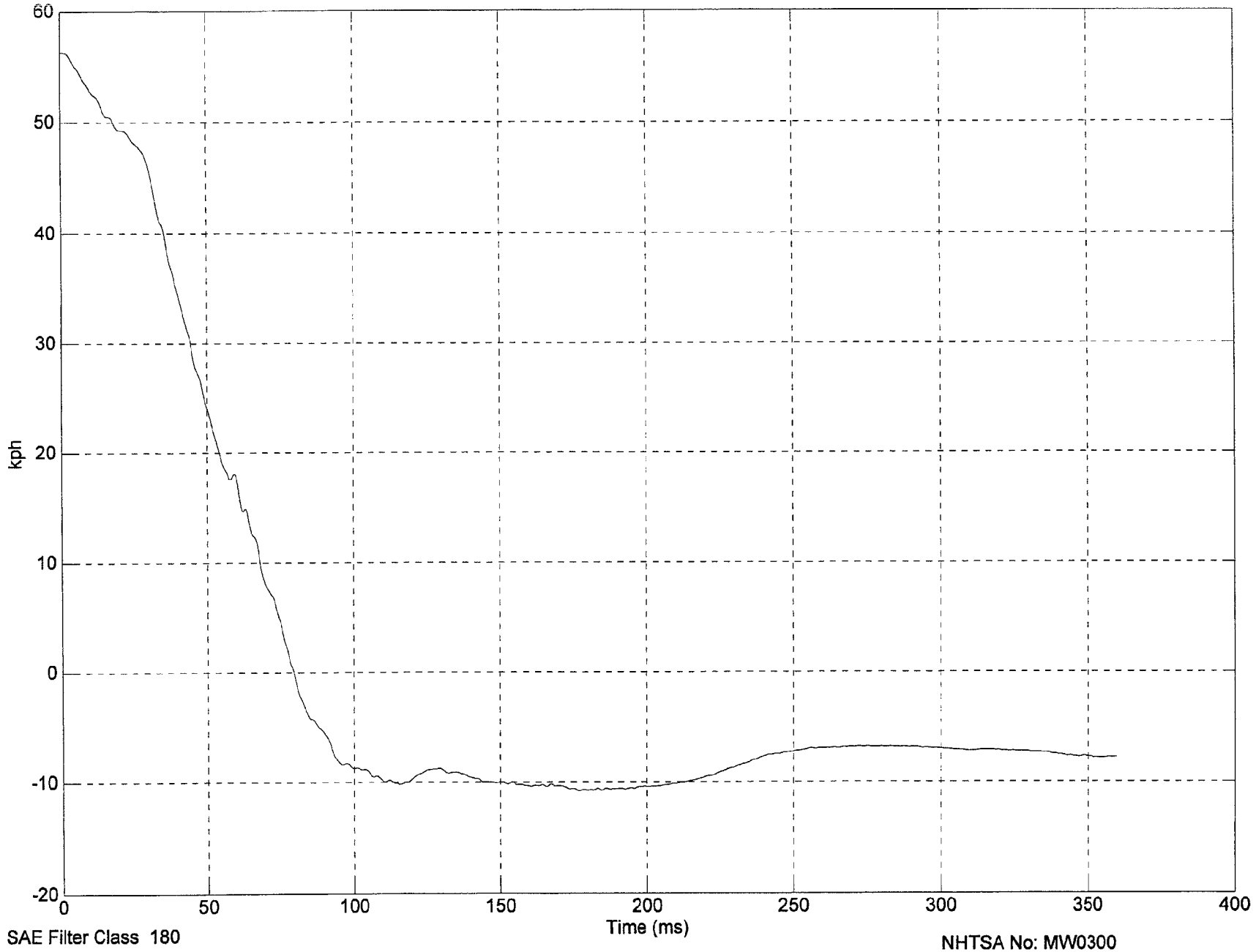
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
2nd Integral Acc. #7(x)
Max = 745 mm @ 156.50 msec
Min = 0 mm @ 0.00 msec
800
700
600
500
400
300
200
100
0
mm
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 5.41 Gs @ 120.80 msec
Min = -34.8 Gs @ 32.20 msec
Acc. #8(x)
10
5
0
-5
-10
-15
-20
-25
-30
-35
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997
B-128
8413-7

NCAP TEST #7 - 1998 DODGE NEON

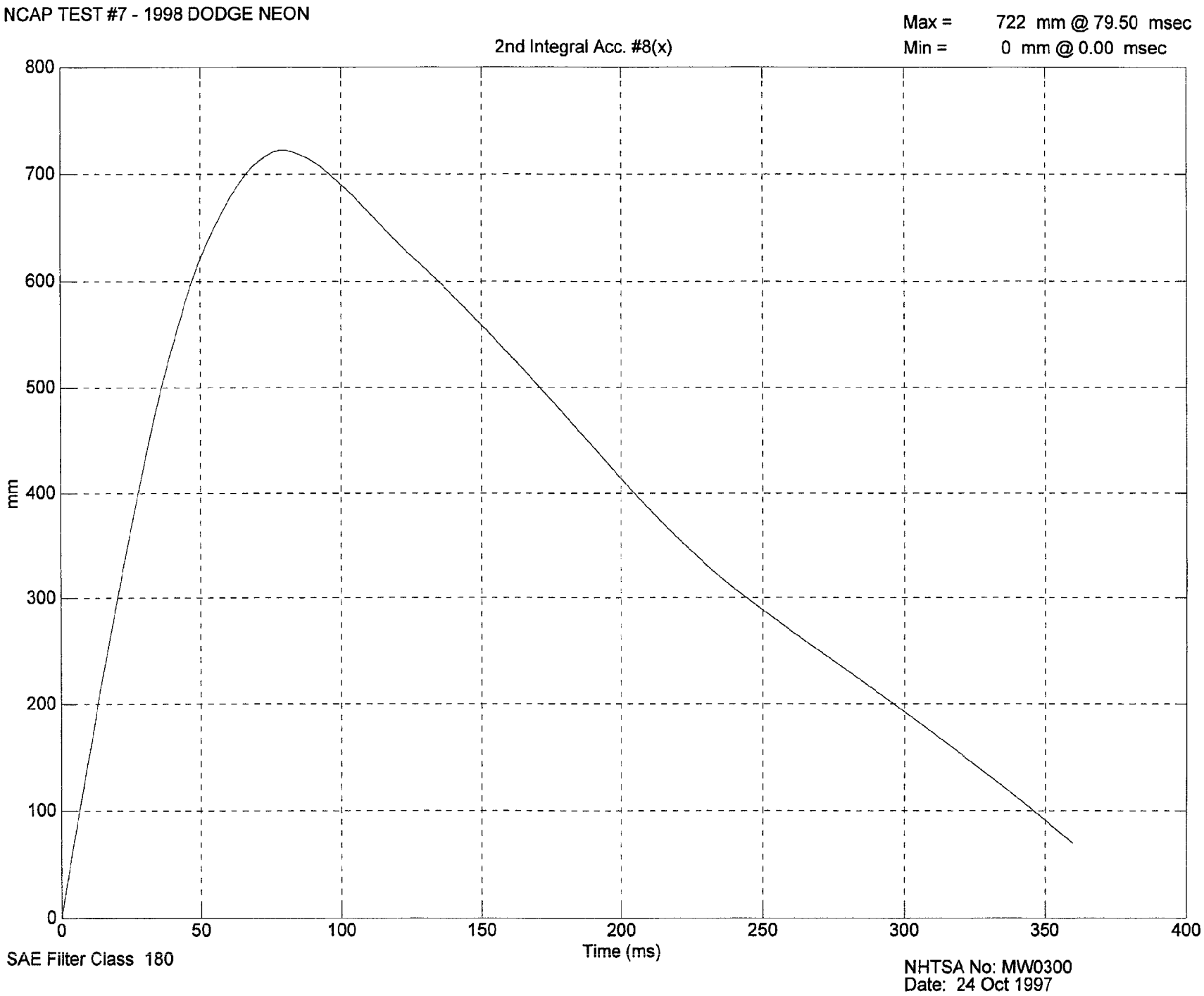
Max = 56.3 kph @ 0.00 msec
Min = -10.8 kph @ 176.80 msec

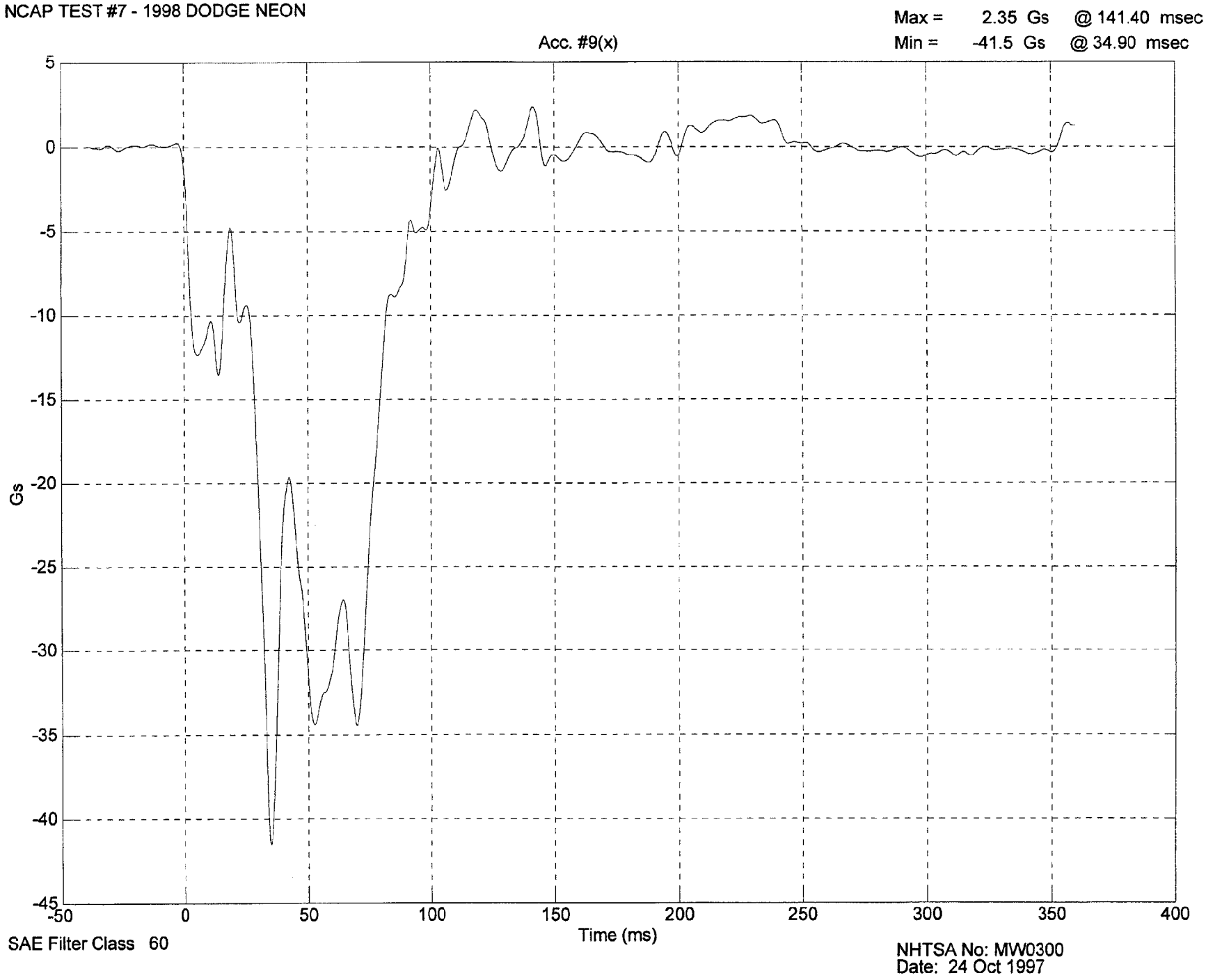


SAE Filter Class 180

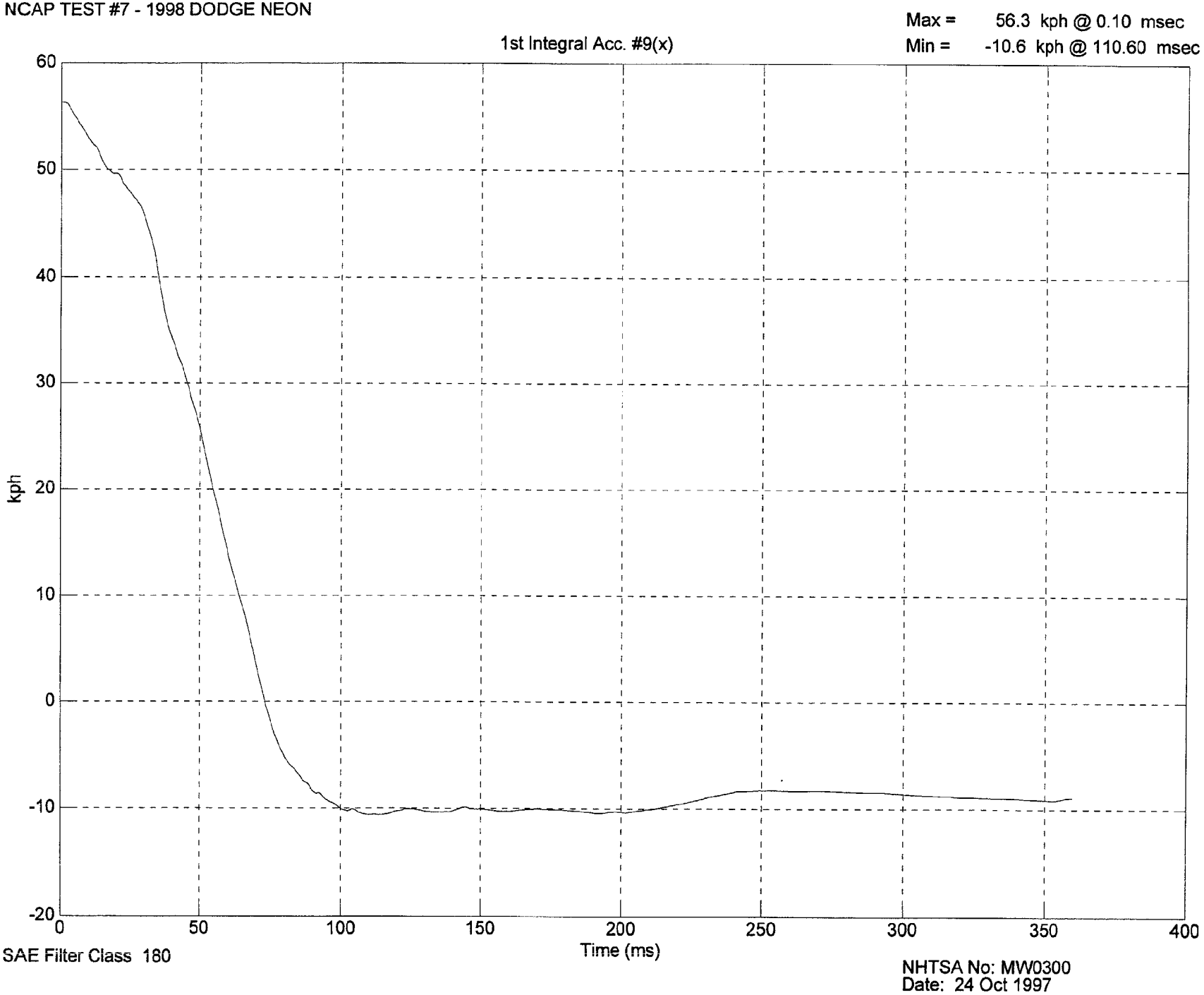
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7


NCAP TEST #7 - 1998 DODGE NEON
2nd Integral Acc. #8(x)
Max = 722 mm @ 79.50 msec
Min = 0 mm @ 0.00 msec
800
700
600
500
400
300
200
100
0
mm
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 180
NHTSA No: MW0300
Date: 24 Oct 1997


NCAP TEST #7 - 1998 DODGE NEON
Max = 2.35 Gs @ 141.40 msec
Min = -41.5 Gs @ 34.90 msec
Acc. #9(x)
5
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
Gs
-50
0
50
100
150
200
250
300
350
400
Time (ms)
SAE Filter Class 60
NHTSA No: MW0300
Date: 24 Oct 1997

NCAP TEST #7 - 1998 DODGE NEON



SAE Filter Class 180

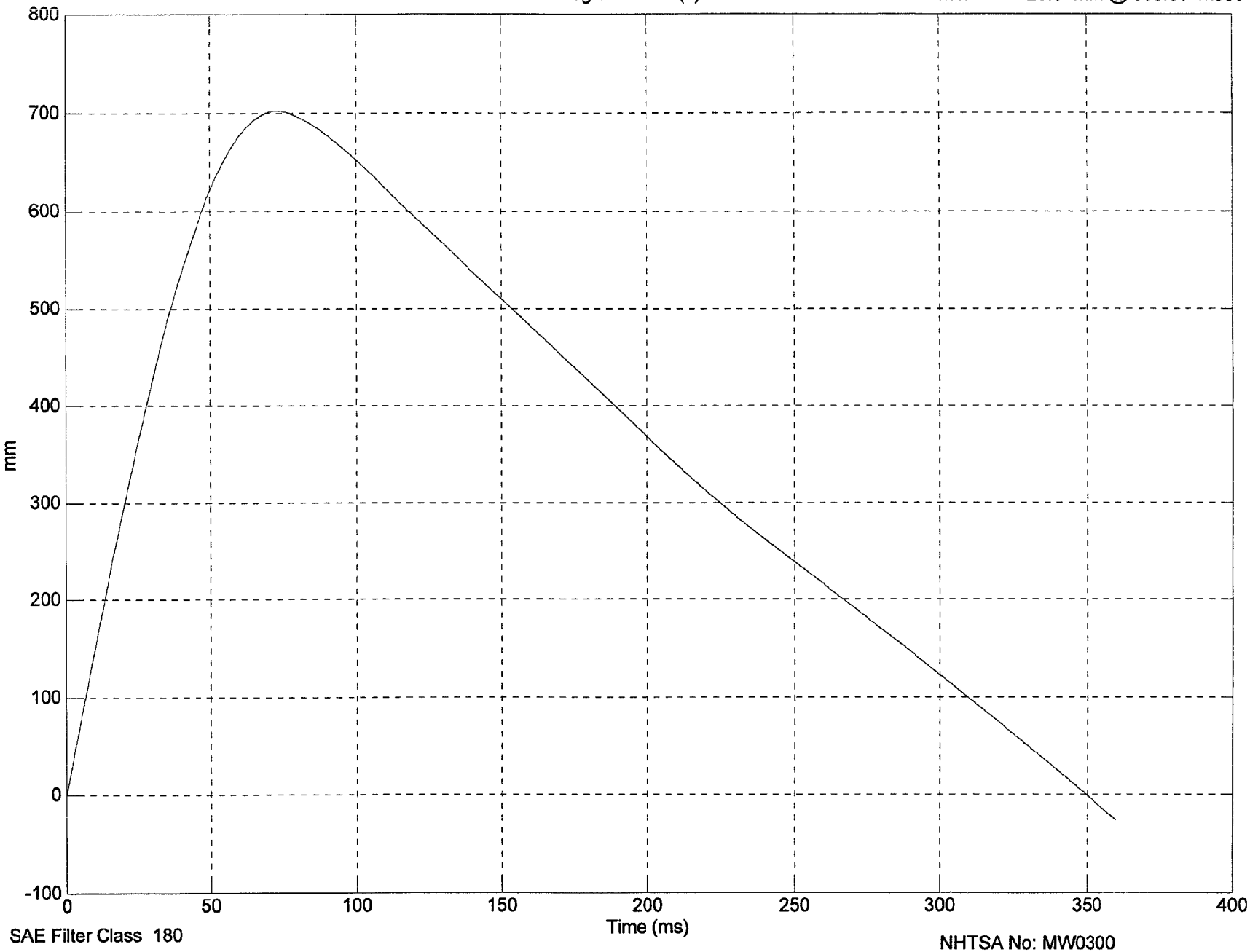
NHTSA No: MW0300
Date: 24 Oct 1997

8413-7

NCAP TEST #7 - 1998 DODGE NEON

2nd Integral Acc. #9(x)

Max = 702 mm @ 72.90 msec
Min = -26.3 mm @ 360.00 msec



SAE Filter Class 180

NHTSA No: MW0300
Date: 24 Oct 1997

B-133

8413-7

Appendix C

PART 572B/E DUMMY CONFIGURATION

AND PERFORMANCE VERIFICATION DATA SHEETS

Appendix C contains the results from certification tests performed on the 50th percentile male anthropomorphic test devices utilized for this crash test. The results indicate that the dummies meet all of the performance requirements of the six standard tests as specified in 49 CFR Part 572, Federal Register, Volume 42, No. 25, dated February 7, 1977.

The tests were conducted at the Dummy Certification Test Facility of Calspan SRL Corporation. A summary of the test results, and Part 572 specifications are included in this Appendix.

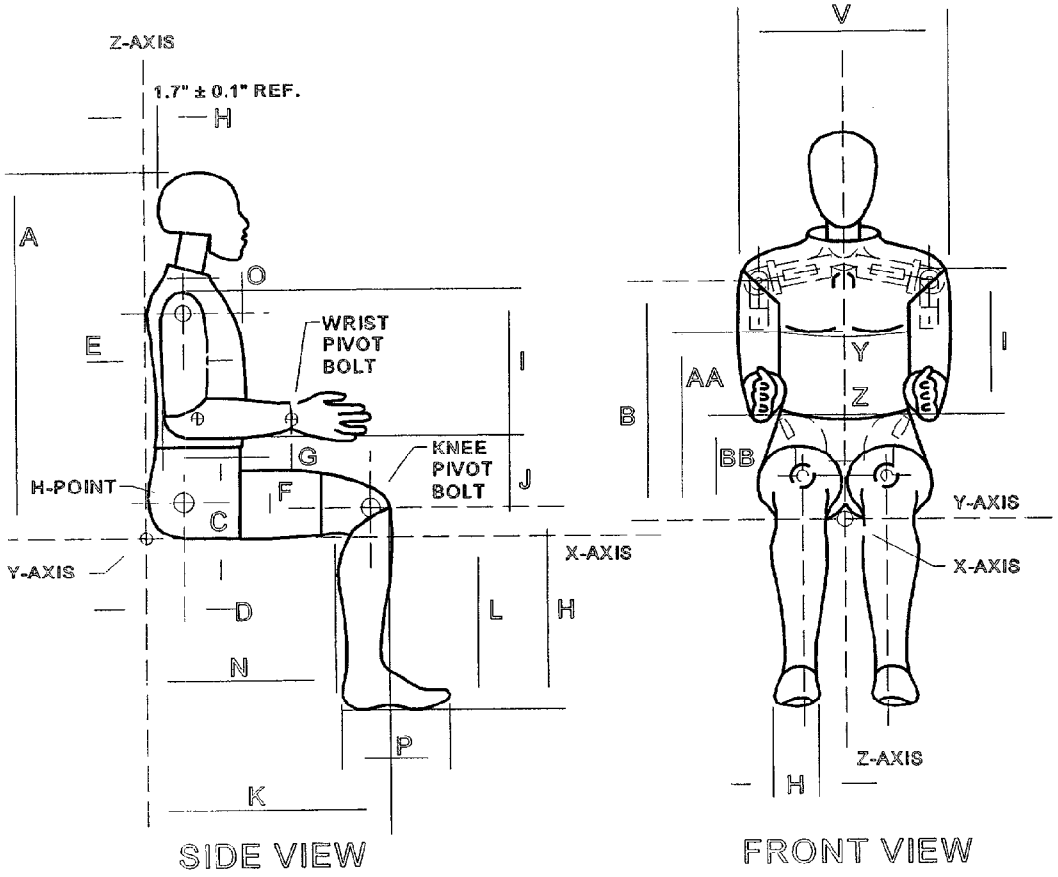
Dummy serial numbers and certification dates are:

Position No./Location	Serial No.	Completion Date
#1/Driver	245	10/08/97
#2/Right Front Passenger	150	10/22/97

Electronic Test Equipment

The complement of signal conditioning, recording and display equipment, in conjunction with dummy certification testing, can be found in New Car Assessment and Standards Indicant Testing Final Report No. 6525-V-1.

EXTERNAL DIMENSIONS SPECIFICATIONS



NOTE: Figure is referenced to the erect seated position. The curved lumbar does not allow the Hybrid III to be positioned in a perfect erect attitude. (REF: S572.31(A)(6))

PART 572E
HEAD DROP TEST

Dummy Serial Number	245
Calspan Sequential Test Number	4
Date	10/06/97
Workfile	245497.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	73
Relative Humidity	10% - 70%	33
Peak Resultant Acceleration	225-275 G's	242.5
Peak Lateral Acceleration	15 G's Max	2.8
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	245
Calspan Sequential Test Number	4
Date	10/07/97
Workfile	245497.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	42
Impact Velocity		22.60 - 23.40 Ft/s	23.17
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	24.47
	20 ms	17.60 - 22.60 G's	19.71
	30 ms	12.50 - 18.50 G's	15.25
Max Pendulum G's Above 30 ms		29 G's Max	15.25
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	40.25
D Plane Rotation	Max	64 - 78 Deg	69.63
	Time	57 - 64 ms	62.13
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	71.57
	Time	47 - 58 ms	54.75
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	123.13
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	97.25

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	245
Calspan Sequential Test Number	4
Date	10/07/97
Workfile	245497.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	71
Relative Humidity		10% - 70%	33
Impact Velocity		19.50 - 20.30 Ft/s	19.65
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.11
	20 ms	14.00 - 19.00 G's	17.35
	30 ms	11.00 - 16.00 G's	14.26
Max Pendulum G's Above 30 ms		22 G's Max	14.26
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	42.88
D Plane Rotation	Max	81 - 106 Deg	96.09
	Time	72 - 82 ms	74.13
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-50.48
	Time	65 - 79 ms	69.75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	151.75
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	133.50

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	245
Calspan Sequential Test Number	4
Date	10/08/97
Workfile	245497.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	71
Relative Humidity	10% - 70%	33
Pendulum Velocity	21.6 - 22.4 Ft/s	21.74
Maximum Deflection	2.50 - 2.86 in	2.52
Maximum Resistive Force	1160 - 1325 Lbs	1284.65
Internal Hysteresis	69 - 85 %	75.5

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	245
Calspan Sequential Test Number	4
Date	10/08/97
Workfile	245497

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	33
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1113.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	33
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 - 1300 Lbs	1160.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 245
Calspan Sequential Test Number 4
Date 10/08/97

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			71
Relative Humidity			33
Location for Chest Circumference	AA	16.9 -17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.0
Waist Circumference	Z	32.9 - 34.1 in	33.7
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.9
Thigh Clearance	F	5.5 - 6.1 in	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.4
Buttock Popliteal Length	N	17.8 - 18.8 in	18.3
Popliteal Height	L	16.9 - 17.9 in	17.5
Knee Pivot Height	M	19.1 - 19.7 in	19.2
Foot Length	P	9.9 - 10.5 in	10.2
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
HEAD DROP TEST

Dummy Serial Number	150
Calspan Sequential Test Number	5
Date	10/21/97
Workfile	150597.hdp

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	32
Peak Resultant Acceleration	225-275 G's	272.4
Peak Lateral Acceleration	15 G's Max	10.7
Is Acceleration Curve Unimodal?	YES	YES

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK FLEXION TEST

Dummy Serial Number	150
Calspan Sequential Test Number	5
Date	10/22/97
Workfile	150597.nfl

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	31
Impact Velocity		22.60 - 23.40 Ft/s	22.92
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	27.49
	20 ms	17.60 - 22.60 G's	21.36
	30 ms	12.50 - 18.50 G's	16.78
Max Pendulum G's Above 30 ms		29 G's Max	16.78
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	36.38
D Plane Rotation	Max	64 - 78 Deg	71.29
	Time	57 - 64 ms	60.88
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	71.29
	Time	47 - 58 ms	48.63
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	118.88
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	101.00

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150
Calspan Sequential Test Number	5
Date	10/22/97
Workfile	150597.nex

6 Axis Neck Transducer

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	32
Impact Velocity		19.50 - 20.30 Ft/s	19.52
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	19.42
	20 ms	14.00 - 19.00 G's	16.91
	30 ms	11.00 - 16.00 G's	12.36
Max Pendulum G's Above 30 ms		22 G's Max	12.36
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	43.75
D Plane Rotation	Max	81 - 106 Deg	100.10
	Time	72 - 82 ms	75.75
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	54.44
	Time	65 - 79 ms	69.50
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	153.00
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	140.00

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	150
Calspan Sequential Test Number	5
Date	10/22/97
Workfile	150597.th3

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	71
Relative Humidity	10% - 70%	33
Pendulum Velocity	21.6 - 22.4 Ft/s	21.65
Maximum Deflection	2.50 - 2.86 in	2.53
Maximum Resistive Force	1160 - 1325 Lbs	1207.28
Internal Hysteresis	69 - 85 %	71.4

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	150
Calspan Sequential Test Number	5
Date	10/22/97
Workfile	150597

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	33
Probe Velocity	6.8 - 7.0 Ft/s	6.92
Peak Knee Impact Force	1060 - 1300 Lbs	1155.0
RIGHT KNEE		
Temperature	66 - 78 Deg F	71
Relative Humidity	10% - 70%	33
Probe Velocity	6.8 - 7.0 Ft/s	6.90
Peak Knee Impact Force	1060 - 1300 Lbs	1165.0

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Calspan Sequential Test Number 5
Date 10/22/97

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			71
Relative Humidity			33
Location for Chest Circumference	AA	16.9 -17.1 in	17.0
Location for Waist Circumference	BB	8.9 - 9.1 in	9.0
Chest Circumference (With Jacket)	Y	38.2 - 39.4 in	39.2
Waist Circumference	Z	32.9 - 34.1 in	34.0
Chest Depth	O	8.4 - 9.0 in	8.4
H-Point Height	C	3.3 - 3.5 in	3.4
H-Point from Backline	D	5.3 - 5.5 in	5.4
Skull Cap to Backline	H	1.6 - 1.8 in	1.7
Total Sitting Height	A	34.6 - 35.0 in	34.8
Thigh Clearance	F	5.5 - 6.1 in	5.7
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.5
Popliteal Height	L	16.9 - 17.9 in	17.8
Knee Pivot Height	M	19.1 - 19.7 in	19.6
Foot Length	P	9.9 - 10.5 in	10.1
Foot Breadth	W	3.6 - 4.2 in	3.8
Shoulder Pivot from Backline	E	3.3 - 3.7 in	3.7
Shoulder Breadth	V	16.6 - 17.2 in	16.9
Shoulder Pivot Height	B	19.9 - 20.5 in	20.2
Elbow Rest Height	J	7.5 - 8.3 in	8.1
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.2
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.5

Remarks:

Laboratory Technician: B. Swiecicki

Appendix D

DUMMY, VEHICLE AND LABORATORY INSTRUMENT CALIBRATION

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY (S/N 245)		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X	ADL98	ENDEVCO	8/97	2/98
	Y	AEK80	ENDEVCO	8/97	2/98
	Z	ADMB6	ENDEVCO	8/97	2/98
Chest	X	A26A	ENDEVCO	8/97	2/98
	Y	A27A	ENDEVCO	8/97	2/98
	Z	A51A	ENDEVCO	8/97	2/98
Right Femur Load Cell		952	GSE	9/97	3/98
Left Femur Load Cell		951	GSE	9/97	3/98
Neck Load Cell	X	440	DENTON	8/97	2/98
	Y	440	DENTON	8/97	2/98
	Z	440	DENTON	8/97	2/98
Neck Moment	X	440	DENTON	8/97	2/98
	Y	440	DENTON	8/97	2/98
	Z	440	DENTON	8/97	2/98
Chest Deflection Gauge		245	HUMANOID	10/97	4/98
Hybrid III Use Only					
Lap Belt Load Cells		706	LEBOW	6/96	12/97
Shoulder Belt Load Cells		707	LEBOW	6/96	12/97
Spool-Out Potentiometer		M7	MAGNETEK	9/97	3/98
Belt Stretch Transducer		E1	CALSPAN	9/97	3/98

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X (R)	AP1A0	ENDEVCO	8/97	2/98
	Y (R)	AC8F6	ENDEVCO	8/97	2/98
	Z (R)	ACCW0	ENDEVCO	8/97	2/98
Chest	X (R)	AHRC9	ENDEVCO	8/97	2/98
	Y (R)	AC7W8	ENDEVCO	8/97	2/98
	Z (R)	ACC06	ENDEVCO	8/97	2/98
Pelvic	X	AL6N5	ENDEVCO	8/97	2/98
	Y	AL6R7	ENDEVCO	8/97	2/98
	Z	A12C	ENDEVCO	8/97	2/98
Left Upper Tibia	Mx	038	DENTON	4/97	10/97
Left Upper Tibia	My	038	DENTON	4/97	10/97
Left Lower Tibia	Fy	032	DENTON	4/97	10/97
Left Lower Tibia	Fz	032	DENTON	4/97	10/97
Left Lower Tibia	Mx	032	DENTON	4/97	10/97
Right Upper Tibia	Mx	045	DENTON	4/97	10/97
Right Upper Tibia	My	045	DENTON	4/97	10/97
Right Lower Tibia	Fy	041	DENTON	4/97	10/97
Right Lower Tibia	Fz	041	DENTON	4/97	10/97
Right Lower Tibia	Mx	041	DENTON	4/97	10/97

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY		Serial #	Manufacture	Calibration	
				Last	Next
Left Foot Front	Z	A14058	ENDEVCO	9/97	3/98
Left Foot Rear	X	A13929	ENDEVCO	9/97	3/98
Left Foot Rear	Z	A14150	ENDEVCO	9/97	3/98
Right Foot Front	Z	A14124	ENDEVCO	9/97	3/98
Right Foot Rear	X	A14181	ENDEVCO	9/97	3/98
Right Foot Rear	Z	A14126	ENDEVCO	9/97	3/98

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 150)		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X	AH5M9	ENDEVCO	8/97	2/98
	Y	AGHF5	ENDEVCO	8/97	2/98
	Z	AL6K2	ENDEVCO	8/97	2/98
Chest	X	A33A	ENDEVCO	8/97	2/98
	Y	FB32L	ENDEVCO	8/97	2/98
	Z	AD395	ENDEVCO	8/97	2/98
Right Femur Load Cell		232	GSE	9/97	3/98
Left Femur Load Cell		231	GSE	9/97	3/98
Neck Load Cell	X	205	DENTON	8/97	2/98
	Y	205	DENTON	8/97	2/98
	Z	205	DENTON	8/97	2/98
Neck Moment	X	205	DENTON	8/97	2/98
	Y	205	DENTON	8/97	2/98
	Z	205	DENTON	8/97	2/98
Chest Deflection Gauge		150	HUMANOID	10/97	4/98
Hybrid III Use Only					
Lap Belt Load Cells		635	LEBOW	6/97	12/97
Shoulder Belt Load Cells		711	LEBOW	6/97	12/97
Spool-Out Potentiometer		M11	MAGNETEK	9/97	3/98
Belt Stretch Transducer		E2	CALSPAN	9/97	3/98

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X (R)	APBF4	ENDEVCO	8/97	2/98
	Y (R)	APBD7	ENDEVCO	8/97	2/98
	Z (R)	AN967	ENDEVCO	8/97	2/98
Chest	X (R)	J18406	ENDEVCO	8/97	2/98
	Y (R)	AP1B5	ENDEVCO	8/97	2/98
	Z (R)	AY60	ENDEVCO	8/97	2/98
Pelvic	X	AF480	ENDEVCO	8/97	2/98
	Y	AL508	ENDEVCO	8/97	2/98
	Z	AF5C1	ENDEVCO	8/97	2/98
Left Upper Tibia	Mx	015	DENTON	4/97	10/97
Left Upper Tibia	My	015	DENTON	4/97	10/97
Left Lower Tibia	Fy	011	DENTON	4/97	10/97
Left Lower Tibia	Fz	011	DENTON	4/97	10/97
Left Lower Tibia	Mx	011	DENTON	4/97	10/97
Right Upper Tibia	Mx	016	DENTON	4/97	10/97
Right Upper Tibia	My	016	DENTON	4/97	10/97
Right Lower Tibia	Fy	012	DENTON	4/97	10/97
Right Lower Tibia	Fz	012	DENTON	4/97	10/97
Right Lower Tibia	Mx	012	DENTON	4/97	10/97

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY		Serial #	Manufacture	Calibration	
				Last	Next
Left Foot Front	Z	A13011	ENDEVCO	9/97	3/98
Left Foot Rear	X	A13506	ENDEVCO	9/97	3/98
Left Foot Rear	Z	A12268	ENDEVCO	9/97	3/98
Right Foot Front	Z	J18418	ENDEVCO	8/97	2/98
Right Foot Rear	X	AEWK1	ENDEVCO	8/97	2/98
Right Foot Rear	Z	AKD92	ENDEVCO	8/97	2/98

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Serial #	Manufacturer	Calibration	
			Last	Next
Left Seat Rear Crossmember	D22	ICS	10/97	4/98
Right Rear Seat Crossmember	Y112	ICS	9/97	3/98
Top of Engine	D36	ICS	9/97	3/98
Bottom of Engine	D32	ICS	9/97	3/98
Left Disc Brake Caliper	A156	CEC	10/97	4/98
Right Disc Brake Caliper	A56	CEC	10/97	4/98
Instrument Panel	A129	CEC	5/97	11/97
Left Seat Rear Crossmember (R)	D25	ICS	10/97	4/98
Right Seat Rear Crossmember (R)	D31	ICS	10/97	4/98