V2550

REPORT NUMBER: CAL-97-N03

NEW CAR ASSESSMENT PROGRAM (NCAP)
FRONTAL BARRIER IMPACT TEST

CHRYSLER CORPORATION
1997 DODGE DAKOTA CLUB CAB
PICKUP

NHTSA NUMBER: MV0305

CALSPAN TEST NUMBER: 8406-3

CALSPAN SRL CORPORATION
TRANSPORTATION SCIENCE CENTER
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February 25, 1997

FINAL REPORT

PREPARED FOR:

U. S. DEPARTMENT OF TRANSPORTATION
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Performance Standards
Office of Crashworthiness Standards
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NHTSA, Office of Crashworthiness Standards

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16. *Abstract*

A frontal load cell barrier test of a 1997 Dodge Dakota Club Cab Pickup was performed at Calspan SRL Corporation crash test facility in Buffalo, New York, on February 25, 1997.

The impact velocity was 56.6 kph and the temperature at the barrier face was 21°C. The maximum post-test vehicle crush was 652.3 mm. The test vehicle was equipped with a 3-point continuous belt system and supplemental airbags at both frontal outboard seating positions.

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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Section 1

PURPOSE AND TEST PROCEDURE

This 56.6 kph frontal barrier impact test is part of the Composite FY 92 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 56.6 kph frontal barrier impact test was conducted in accordance with the Office of Market Incentives (OMI) Laboratory Indicant Test procedure.

Section 2

SUMMARY OF TEST MV0305

A load cell barrier consisting of 36 load cells was impacted by a 1997 Dodge Dakota Club Cab Pickup at a velocity of 56.6 kph. The test was performed at the Calspan SRL Corporation on February 25, 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 14 high-speed cameras. Camera locations and other pertinent camera information can be found in this report.

Two Part 572, 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 and chest triaxial accelerometers and right/left femur load cells. 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. 150) and the right-front passenger (position 2) ATD (Serial No. 061) were used previously in tests MV5101 and MV0100. The injury criteria for ATD 150 and 061 were not exceeded in either test MV5101 or MV0100. Certification details, along with instrumentation calibration data, are found in Appendix C.

The 133 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.

The driver's HIC was 668.9. The maximum chest deceleration over 3 milliseconds was 52.3 g's and maximum chest deflection was -13.9 mm. Femur loads were -5765.0 newtons on the left and -3612.8 newtons on the right.

The right front passenger's HIC was 602.6. Maximum chest deceleration over 3 milliseconds was 55.5 g's and maximum chest deflection was -18.8 mm. Femur loads were -4583.5 newtons on the left and -1504.3 newtons on the right.

Driver and Passenger neck load cell data is noisy before T zero and from 90 to 170 msec. This was caused by a loose connector on the load cells. The data traces are accurate from 0 to 90 msec. Position 2 belt elongation did not record, therefore only manual data is available. In addition, data is not available for barrier load cell C7. Barrier load cell D9 did not record after 50 msec and therefore was not included in the load cell summation plots. An error occurred

when calculating the vehicle test weight. As a result, the vehicle weighed 5 kg over the desired test weight. Note that this is less than 0.25% of the total mass of the vehicle. With the tested vehicle weight (2015 kg) and the impact velocity of 56.6 kph, a total of 249459 Joules of kinetic energy was involved. This resultant energy is 3640 Joules less than the kinetic energy calculated using the test vehicle target weight (2010 kg) and the maximum allowable impact velocity of 57.1 kph.

Table 1

CRASH TEST SUMMARY

Vehicle NHTSA No. : MV0305 Test Mode : 56 kph Frontal Barrier

Test Date : February 25, 1997 Time: 11:15 Temperature : -4 °C

Vehicle Make/Model/Body Style : 1997 Dodge Dakota Club Cab Pickup

Vehicle Test Weight : 2017 kgs

Vehicle/Barrier Impact Angle : 0 °

Impact Velocity : 56.6 kph

Maximum Static Crush : 652.3 mm

Vehicle Rebound : 640 mm

DUMMIES:	DRIVER	PASSENGER
Type :	Part 572, 50% Male ATD	Part 572, 50% Male ATD
Restraint System :	3-Point Seat Belt, Airbag, Knee Bolster	3-Point Seat Belt, Airbag, Knee Bolster

Number of Data Channels : 133

Number of Cameras : 1 Real Time

14 High Speed

DOOR OPENING DATA : Closed/Operable - Left Front

Closed/Operable - Right Front

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

VISIBLE DUMMY CONTACT POINTS :	DRIVER	PASSENGER
Head :	Face to Airbag, Back of Head to Headrest	Face to Airbag, Back of Head to Headrest
Abdomen :	-	-
Chest	Airbag	Airbag
Knees	Knee Bolster	Knee Bolster

Table 2

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION :

Year/Make/Model/Body Style : 1997 Dodge Dakota Club Cab Pickup

NHTSA No. : MV0305 ; VIN: 1B7GL2SX6VS147669 ; Color : Red

Engine Data: 6 cylinders; - CID; 3.9 Liters; - cc

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

Transmission Data : 4 speeds; - Manual; X Automatic; - Overdrive

Final Drive : X Rear Wheel Drive; - 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 : 11/21/96 ; Odometer Reading 174 km

Selling Dealer : Marina Dodge, Inc.

& Address: 65 Pattonwood Drive Rochester, New York 14617

DATA FROM TIRE VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured by : Chrysler Corporation

Date of Manufacture 10/96

GVWR : 2341 kgs.; GAWR: 1361 kgs. FRONT; 1361 kgs. REAR

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load : 241 kpa FRONT

241 kpa REAR

Recommended Tire Size : P215/75R15

* Recommended Cold Tire Pressure : 241 kpa FRONT; 241 kpa REAR

Size of Tires on Test Vehicle: P215/75R15 ; Manufacturer: Goodyear

Vehicle Capacity Data :

Type of Front Seats: - Bench; - Bucket; X Split Bench

Number of Occupants: 3 Front; 3 Rear; 6 Total

Vehicle Capacity Weight (VCW) = 619 kgs.

No. of Occupants x 68 kgs. = 408 kgs.

Rated Cargo/Luggage Weight (RCLW) = 211 kgs.

*Tire pressure used for test

Table 2
GENERAL TEST AND VEHICLE PARAMETER DATA (cont.)

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

Right Front	=	504 kgs.	Right Rear	=	350 kgs.
Left Front	=	500 kgs.	Left Rear	=	368 kgs.
TOTAL FRONT	=	1,004 kgs.	TOTAL REAR	=	718 kgs.

TOTAL DELIVERED WEIGHT = 1,722.0 kgs.

% of Total Front of Vehicle Weight = 58.3 % of Total Rear Weight = 41.7 %

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT :

Total Delivered Weight (UDW)	=	1,722 kgs.
Rated Cargo/Luggage Weight (RCLW)	=	136 kgs.
Weight of 2 p.572 Dummies @ 76 each	=	152 kgs.
TARGET TEST WEIGHT	=	2,010 kgs.

WEIGHT OF TEST VEHICLE WITH TWO DUMMIES AND 141 KG OF CARGO WEIGHT:

Right Front	=	541 kgs.	Right Rear	=	540 kgs.
Left Front	=	472 kgs.	Left Rear	=	462 kgs.
TOTAL FRONT	=	1,013 kgs.	TOTAL REAR	=	1,002 kgs.

TOTAL TEST WEIGHT = 2,015.0 kgs.

% of Total Front Weight = 50.3 % % of Total Rear Weight = 49.7 %

Weight of Ballast Secured in Vehicle Trunk Area = 62.7 kgs.

Vehicle Components Removed for Weight Reduction: None.

VEHICLE ATTITUDE (all dimension in millimeters):

AS DELIVERED :	RF	832	LF	826	RR	892	LR	889
FULLY LOADED :	RF	822	LF	819	RR	864	LR	854
AS TESTED :	RF	819	LF	815	RR	847	LR	844

Vehicle's Wheel Base : 3327 mm

Location of Vehicle's C.G. : 1,653.5 mm rearward of front wheel center.

FUEL SYSTEM DATA :

Fuel System Capacity From Owner's Manual = 83.3 liters

Usable Capacity Figure Furnished by COTR = 83.3 liters

Test Volume Range (92 to 94% of Usable Capacity) = 76.6 to 78.3 liters

ACTUAL TEST VOLUME= 79.1 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 Door -Driver's side; Tank-Left Center Ahead of Rear Axle; Lines-Left Frame Rail

Table 3

POST IMPACT DATA

TYPE OF TEST:

Type of Test : Frontal Barrier Impact Angle : 0°

Test Date : February 25, 1997 Time: 11:15 Temperature: -4 °C

Vehicle NHTSA No. : MV0305

Required Impact Velocity Range : 55.7 to 57.1 kph

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

Trap No. 1 = 56.6 kph; Trap No. 2 = 56.6 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 =	5420	; C/L =	5455	; Left =	5420
Post-Test	Right =	4775	; C/L =	4775	; Left =	4788
Crush	Right =	645.0	; C/L =	680.0	; Left =	632.0
AVERAGE	=	652.3	mm			

VEHICLE REBOUND: (From rigid barrier only.)

Distance from front of test vehicle to impact point :

	Right =	635	; C/L =	643	; Left =	642
AVERAGE	=	640.0	mm			

Section 3

OCCUPANT AND VEHICLE INFORMATION

I. DATA

1. Test Vehicle Information
2. Dummy Positioning Data
3. Vehicle Accelerometer Data
4. Dummy Injury Criteria Data Summary
5. Seat Belt Performance Assessment Data
6. Test Vehicle Measurements
7. Vehicle Intrusion Measurements
8. Camera Locations
9. Vehicle Target Locations
10. Load Cell Barrier Data
11. Post Test Air Bag Data

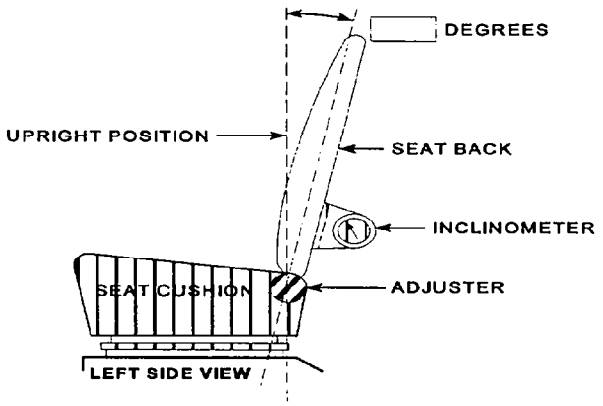
Figure 1

TEST VEHICLE INFORMATION

VEHICLE IDENTIFICATION:

Model Year : 1997 Vehicle Model: Dodge Dakota Body Style : Pickup

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 : 14°

Measurement instructions : With vehicle body on a level surface, lift the seat recliner mechanism to dump the seat full forward. Push the seat back to its full erect position. Cut away the seat cover and padding on the rear of the seat back next to the frame tube above the lower bend. Recline the seat back until the inclinometer angle reads 14°. This should result in a torso angle of 22°

Seat back angle for passenger's seat : 14°

Measurement instructions : Same as Driver's seat.

2. Seat Fore and Aft Positioning

Positioning of the driver's seat : For extended cab total seat travel is 220 mm. Position seat at mid-travel. Mid-travel position (110 mm) will locate directly in a notch. Numbering tracks from 0 to 22, mid-track is 11.

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 56.8 liters

B. "Usable Capacity" of the optional equipment fuel tank is 83.3 liters

C. "Usable Capacity" of the vehicle(s) used for certification testing to requirements of FMVSS 301 = 79.1 liters

3.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 76.5 vehicleliters

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.

Fuel pump operates when vehicle electrical system is activated.

Figure 1

TEST VEHICLE INFORMATION (cont.)

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.

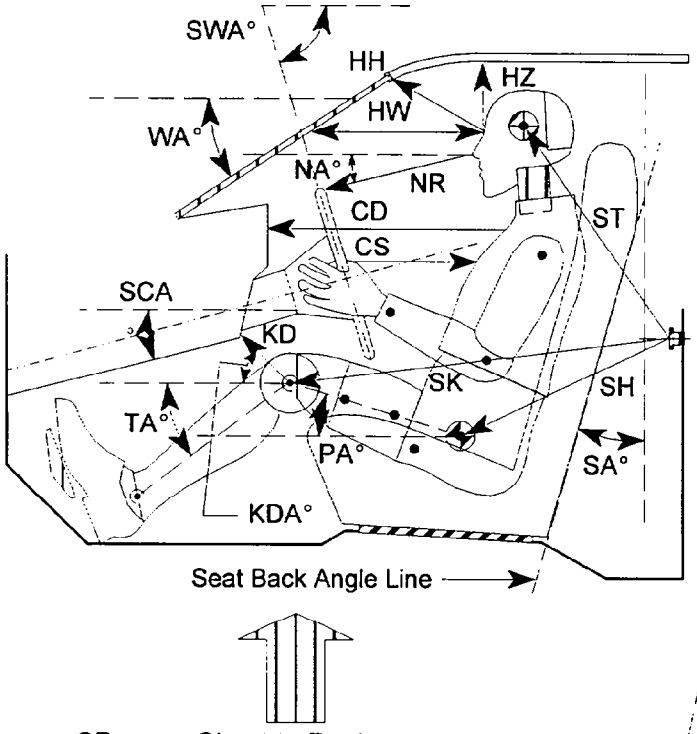
Operational Instructions: Vehicle was not equipped with a tilt wheel.

5. SEAT BELT UPPER ANCHORAGE

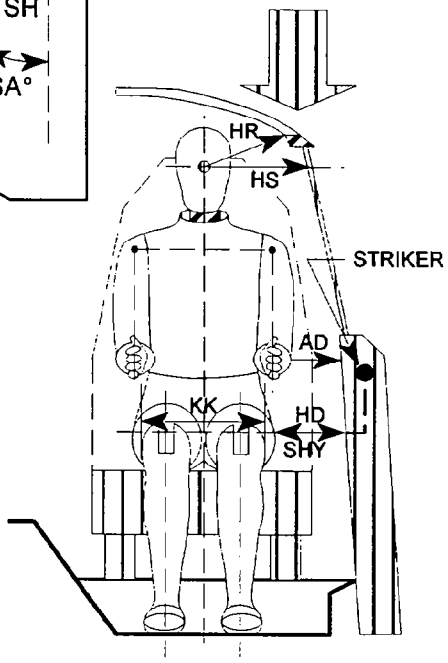
Nominal design riding position: Seat belts were placed in the mid-track position.

Figure 2

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

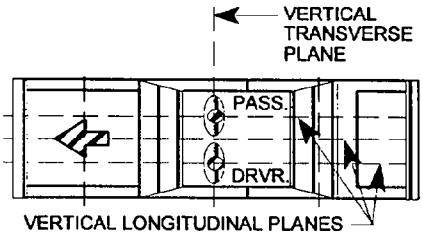


Table 4

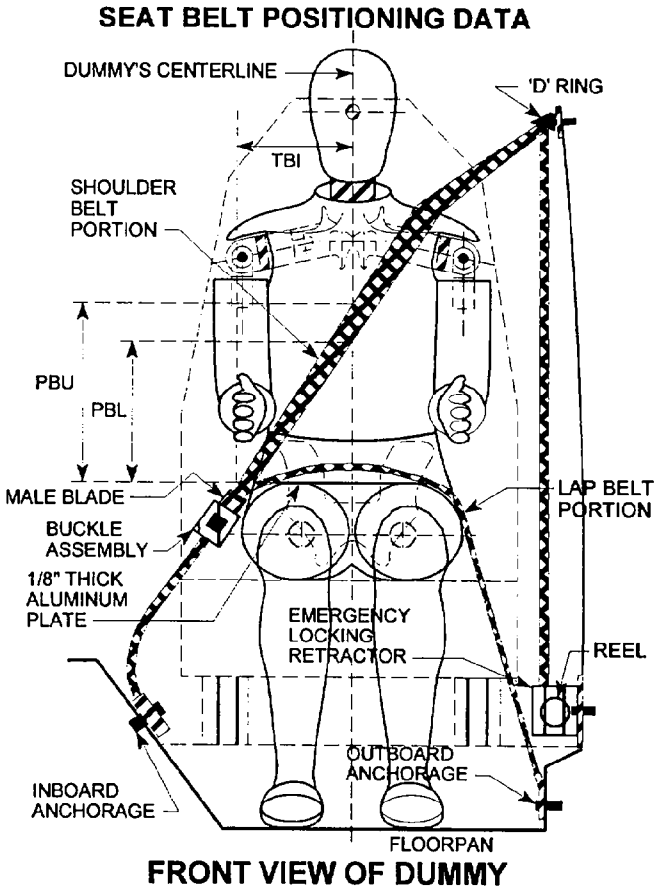
FRONT SEAT OCCUPANT MEASUREMENTS

	DRIVER (Serial #150)			PASS. (Serial # 061)		
WA°	33 deg.			N/A		
SWA°	65 deg.			N/A		
SCA°	25 deg.			N/A		
SA°	14 deg.			14 deg.		
HZ	193			196		
HH	433			447		
HW	571			582		
HR	224			242		
NR	372	Angle	-19 deg.	N/A		
CD	497			573		
CS	292			N/A		
RA	163			N/A		
KDL	142	Angle (KDA)	35 deg.	144		
KDR	133			166	Angle (KDA)	29 deg.
PA°	23 deg.			24 deg.		
TA°	-41 deg.			-42 deg.		
KK	269			230		
ST	635	Angle	17 deg.	630	Angle	14 deg.
SK	704	Angle	88 deg.	700	Angle	86 deg.
SH	294	Angle	96 deg.	303	Angle	99 deg.
SHY	242			257		
HS	267			313		
HD	162			174		
AD	90			113		

Dimensions in millimeters

Figure 3

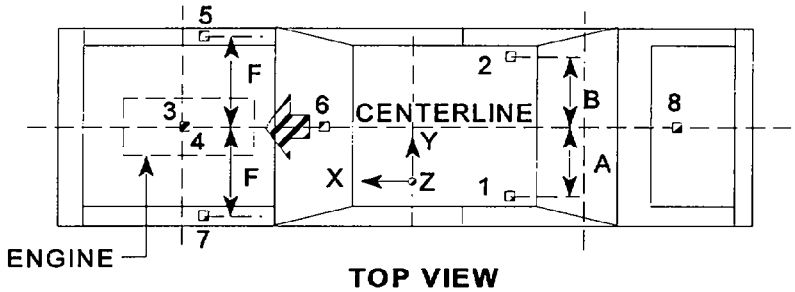
SEAT BELT POSITIONING DATA



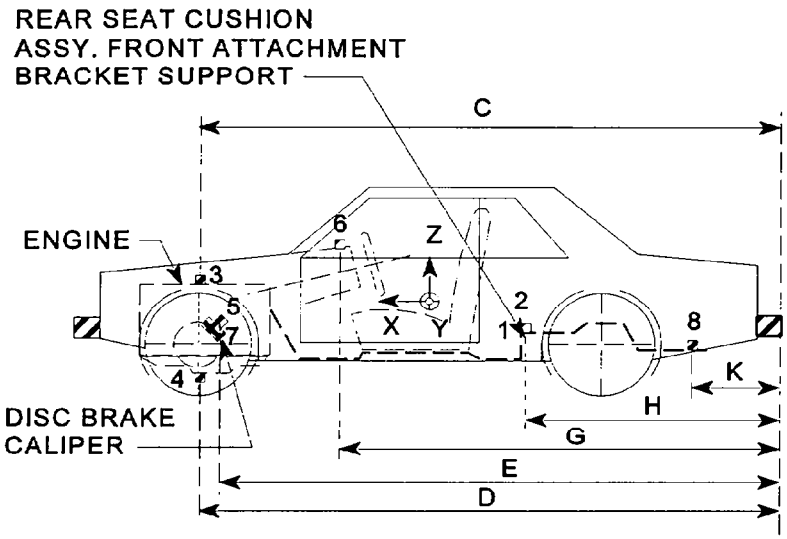
	DRIVER DUMMY (mm)	PASSENGER DUMMY (mm)
PBU -- Top surface of alum. plate to upper edge	296	295
PBL-- Top surface of alum. plate to belt lower edge	220	219
LAP BELT TENSION	10 Newtons	10 Newtons
SHOULDER BELT TENSION	Retractor	Retractor

Figure 4

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



TOP VIEW



LEFT SIDE VIEW

Table 5

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

DIMENSION	LENGTH (mm)
	PRE-TEST VALUES
A Left Rear Seat Crossmember Y	-565
B Right Rear Seat Crossmember Y	600
C Top of Engine X	4645
D Bottom of Engine X	4460
E Disc Brake Calipers X	4415
F Disc Brake Calipers Y	990
G Instrument Panel X	3670
H Rear Seat Crossmembers X	2965

LOCATION NUMBER	DESCRIPTION	MAXIMUM VALUE			
		Pos.	msec.	Neg.	msec.
1	Rear Seat X-Member @ Left Side	8.3	139.0	-38.2	54.7
2	Rear Seat X-Member @ Right Side	7.1	137.5	-39.8	52.9
3	Top of Engine Block	24.0	76.8	-112.4	33.8
4	Bottom of Engine	18.2	52.3	-74.6	36.2
5	Disc Brake Caliper @ Right Side	16.2	54.5	-75.5	41.6
6	Instrument Panel	13.1	63.3	-69.9	41.9
7	Disc Brake Caliper @ Left Side	53.2	40.2	-107.9	45.7
8	Rear Seat X-Member @ Left-Redundant	6.5	137.9	-36.6	15.6
9	Rear Seat X-Member @ Right-Redundant	5.3	137.3	-36.2	52.0

Table 6

DUMMY INJURY CRITERIA VALUES

NHTSA Test No.: MV0305 Vehicle: 1997 Dodge Dakota Club Cab Pickup

	MAXIMUM HEAD ACCELERATION (g's)			
	X	Y	Z	R
Position #1 - Driver	-61.1	-20.5	20.2	63.6
Position #2 - Passenger	-51.5	23.6	35.7	58.0

	MAXIMUM CHEST ACCELERATION (g's)			
	X	Y	Z	R*
Position #1 - Driver	-50.5	-14.8	15.7	52.3
Position #2 - Passenger	-51.5	21.4	19.9	55.5

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

	MAXIMUM FORCE - FEMUR LOAD (nwt)	
	LEFT FEMUR	RIGHT FEMUR
Position #1 - Driver	-5765.0	-3612.8
Position #2 - Passenger	-4583.5	-1504.3

	MAXIMUM FORCE - SEAT BELT LOADS (nwt)		
	SHOULDER STRAP UPPER BELT LOAD	LAP STRAP RIGHT BELT LOAD	LAP STRAP LEFT BELT LOAD
Position #1 - Driver	4342.4	-	5651.1
Position #2 - Passenger	7559.1	7184.0	-

	HEAD INJURY CRITERIA (HIC)			
	HIC**	t_1 (mSec)	t_2 (mSec)	Average Acceleration t_1 to t_2
Position #1 - Driver	668.9	55.8	91.8	51.0
Position #2 - Passenger	602.6	61.3	97.3	48.9

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

Table 7
HYBRID III NECK AND CHEST DATA SHEET

Vehicle Year/Make/Model/Body Style: 1997 Dodge Dakota Club Cab Pickup

NHTSA Test No.: MV0305 Test Date: February 25, 1997

MAXIMUM VALUES	DRIVER DUMMY	PASSENGER DUMMY
Neck Load X (nwt)	-586.9	-1148.6
Neck Load Y (nwt)	-306.9	727.7
Neck Load Z (nwt)	2630.1	-1750.8
Neck Moment X (nwt-m)	-25.3	28.1
Neck Moment Y (nwt-m)	-38.2	-63.1
Neck Moment Z (nwt-m)	28.2	-19.0
Chest Deflection X (mm.)	-13.9	-18.8
Time of Max. Occurrence (msec)	67.2	83.4

Note: All values listed occur during the primary impact event.

PELVIC DATA

MAXIMUM VALUES	DRIVER DUMMY	PASSENGER DUMMY
Pelvis X Acceleration (G's)	-69.2	-53.9
Pelvis Y Acceleration	-12.9	11.0
Pelvis Z Acceleration	17.9	19.8

LOWER LEG INSTRUMENTATION (ABBREVIATED)

MAXIMUM VALUES	DRIVER DUMMY		PASSENGER DUMMY	
TIBIA FORCES (Fz)	-3883.6	-2513.3	-2028.8	-4310.2
TIBIA MOMENTS (My)	-99.0	149.9	-181.1	-62.1

ANKLE ACCELERATIONS

MAXIMUM VALUES	DRIVER DUMMY		PASSENGER DUMMY	
X ACCEL.	-81.8	-186.1	-265.5	-83.3
Z ACCEL.	-54.0	177.3	-173.2	-94.3

Table 8

REDUNDANT DUMMY INJURY CRITERIA VALUES

NHTSA Test No.: MV0305 Vehicle: 1997 Dodge Dakota Club Cab Pickup

	MAXIMUM HEAD ACCELERATION (g's) **REDUNDANT**			
	X	Y	Z	R
Position #1 - Driver	-61.9	-22.3	21.2	64.8
Position #2 - Passenger	-56.5	24.3	33.8	68.0

	MAXIMUM CHEST ACCELERATION (g's) **REDUNDANT**			
	X	Y	Z	R*
Position #1 - Driver	-51.2	-15.1	16.1	53.2
Position #2 - Passenger	-52.1	28.3	19.7	58.5

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

	HEAD INJURY CRITERIA (HIC) **REDUNDANT**			
	HIC**	t_1 (mSec)	t_2 (mSec)	Average Acceleration t_1 to t_2
Position #1 - Driver	748.7	55.8	91.8	53.4
Position #2 - Passenger	710.1	61.4	97.4	52.2

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

Table 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.	2460	2425
Shoulder belt length as measured on Part 572 Dummy.	870	850
Lap belt length as measured on Part 572 Dummy.	870	855
SHOULDER BELT SPOOL-OFF DATA:		
As determined by film analysis.	-	-
As determined mechanically.	164 mm	104 mm
As determined electronically.	68.4 mm	24.8 mm
BELT STRETCH DATA:		
Measured electronically between shoulder belt load cell and the "D" ring.	20 mm/M	-
Measured mechanically.	1 mm/M	1 mm/M

Dimensions in millimeters

Figure 5

TEST VEHICLE MEASUREMENTS

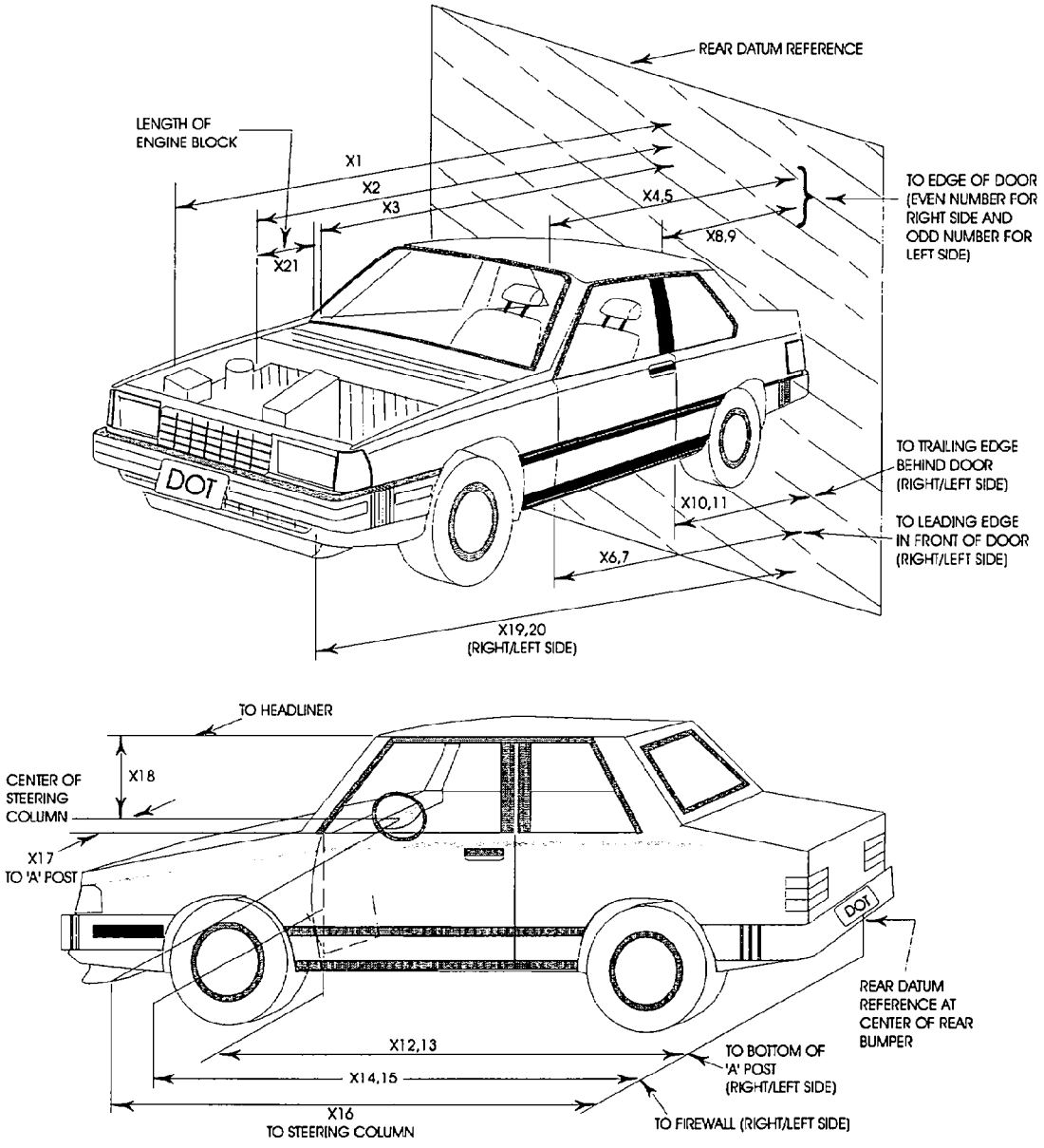


Table 10

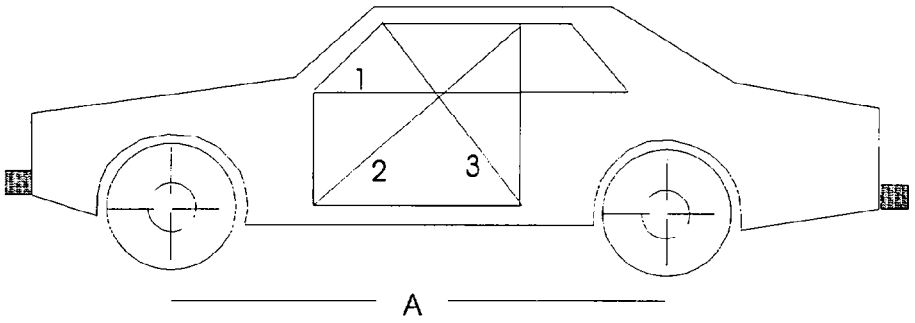
VEHICLE MEASUREMENTS

No.		All Dimensions in mm		
		Pre-Test	Post-Test	Differences
X1	Total Length of Vehicle at Centerline	5455	4775	680
X2	Rear Surface of Vehicle to Front of Engine	4650	4375	275
X3	Rear Surface of Vehicle to Firewall	4385	4250	135
X4	Rear Surface of Vehicle to Upper Leading Edge of Right Door	4110	4085	25
X5	Rear Surface of Vehicle to Upper Leading Edge of Left Door	4109	4074	35
X6	Rear Surface of Vehicle to Lower Leading Edge of Right Door	4030	3997	33
X7	Rear Surface of Vehicle to Lower Leading Edge of Left Door	4029	3998	31
X8	Rear Surface of Vehicle to Upper Trailing Edge of Right Door	2831	2815	16
X9	Rear Surface of Vehicle to Upper Trailing Edge of Left Door	2834	2803	31
X10	Rear Surface of Vehicle to Lower Trailing Edge of Right Door	2833	2806	27
X11	Rear Surface of Vehicle to Lower Trailing Edge of Left Door	2835	2805	30
X12	Rear Surface of Vehicle to Bottom of "A" Post of Right Side	4039	4040*	-1
X13	Rear Surface of Vehicle to Bottom of "A" Post of Left Side	4039	4002*	37
X14	Rear Surface of Vehicle to Firewall, Right Side	4400	4280	120
X15	Rear Surface of Vehicle to Firewall, Left Side	4380	4290	90
X16	Rear Surface of Vehicle to Steering Column	3500	3505	-5
X17	Center of Steering Column to "A" Post	420	440	-20
X18	Center of Steering Column to Headliner	460	325	135
X19	Rear Surface of Vehicle to Right Side of Front Bumper	5420	4775	645
X20	Rear Surface of Vehicle to Left Side of Front Bumper	5420	4788	632
X21	Length of Engine Block	400	400	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3790	3755	35
CD	Rear Surface of Vehicle to Center of Dash Panel	3775	3725	50
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3770	3715	55

* Post test dimensions are estimated

Figure 6

VEHICLE INTRUSION MEASUREMENTS
DOOR OPENING WIDTH

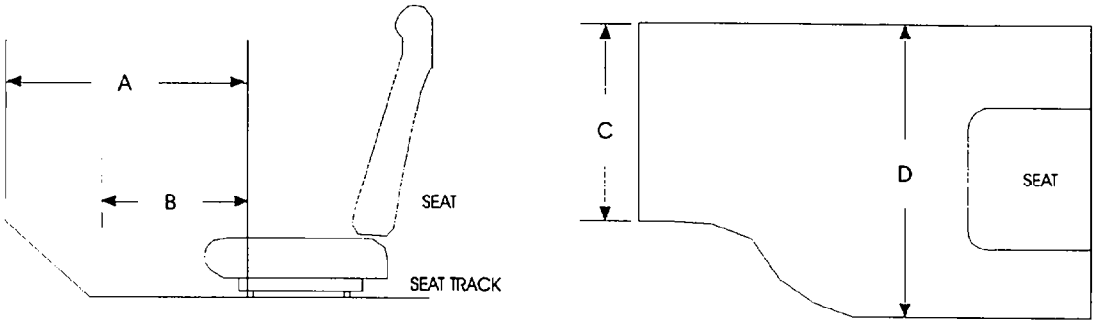


UNITS (mm)	LEFT			RIGHT		
MEASUREMENT	1	2	3	1	2	3
BEFORE TEST	1220	1570	1235	1220	1570	1235
AFTER TEST	1205	1580	1235	1215	1575	1230
DIFFERENCE	15	-10	0	5	-5	5

UNITS (mm)	A = WHEELBASE LEFT	A = WHEELBASE RIGHT
BEFORE TEST	3335	3320
AFTER TEST	3220	3210
DIFFERENCE	115	110

Figure 7

VEHICLE INTRUSION MEASUREMENTS
STATIC FOOTWELL DEFORMATION



DRIVER

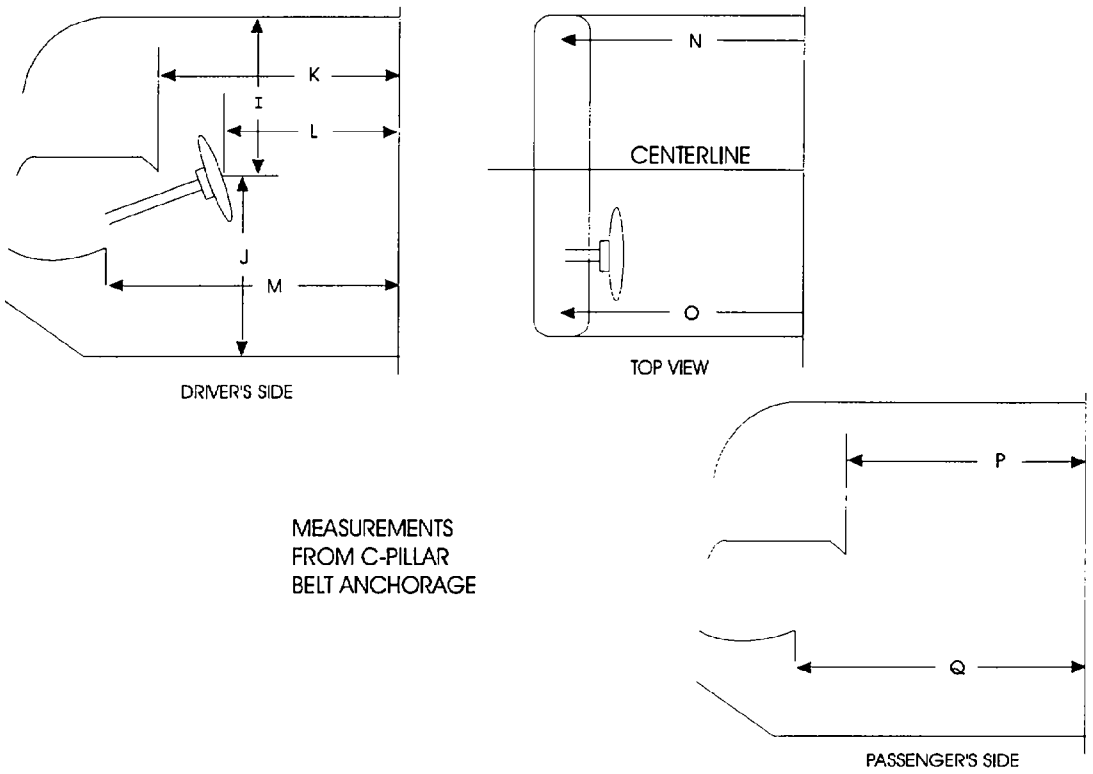
Measurement	Pre-Test	Post-Test	Difference
A	675	645	30
B	525	525	0
C	480	455	25
D	530	515	15

PASSENGER

Measurement	Pre-Test	Post-Test	Difference
A	655	650	5
B	510	500	10
C	330	320	10
D	435	425	10

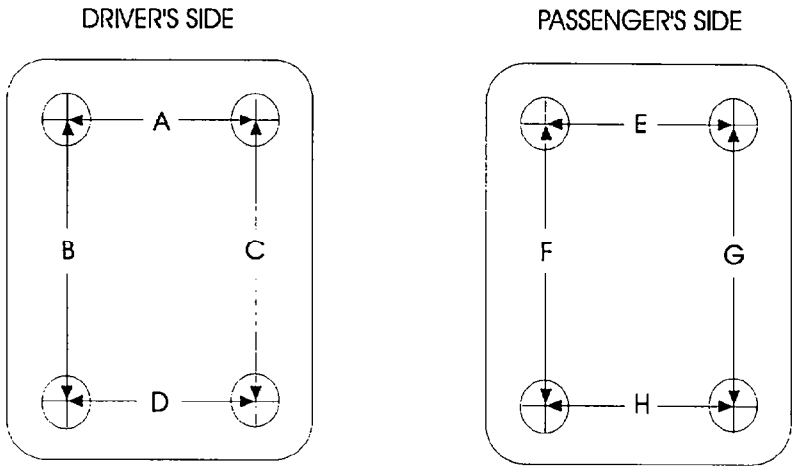
Figure 8

VEHICLE INTRUSION MEASUREMENTS
STATIC PASSENGER COMPARTMENT INTRUSION



Measurement	Pre-Test	Post-Test	Difference
I	440	300	140
J	660	830	-170
K	815	735	80
L	605	610	-5
M	820	795	25
N	895	860	35
O	875	820	55
P = K (PASS.)	970	930	40
Q = M (PASS.)	855	820	35

Figure 9
FLOORBOARD DEFORMATION



TOP VIEW THROUGH FLOOR PAN

Measurement	Pre-Test	Post-Test	Difference
A	30	28	2
B	300	297	3
C	300	300	0
D	30	30	0
E	30	29	1
F	300	298	2
G	300	299	1
H	30	28	2

Units = mm

Figure 10

CAMERA POSITIONS FOR FRONTAL IMPACTS

NOTE: Camera information shown in Table 11.

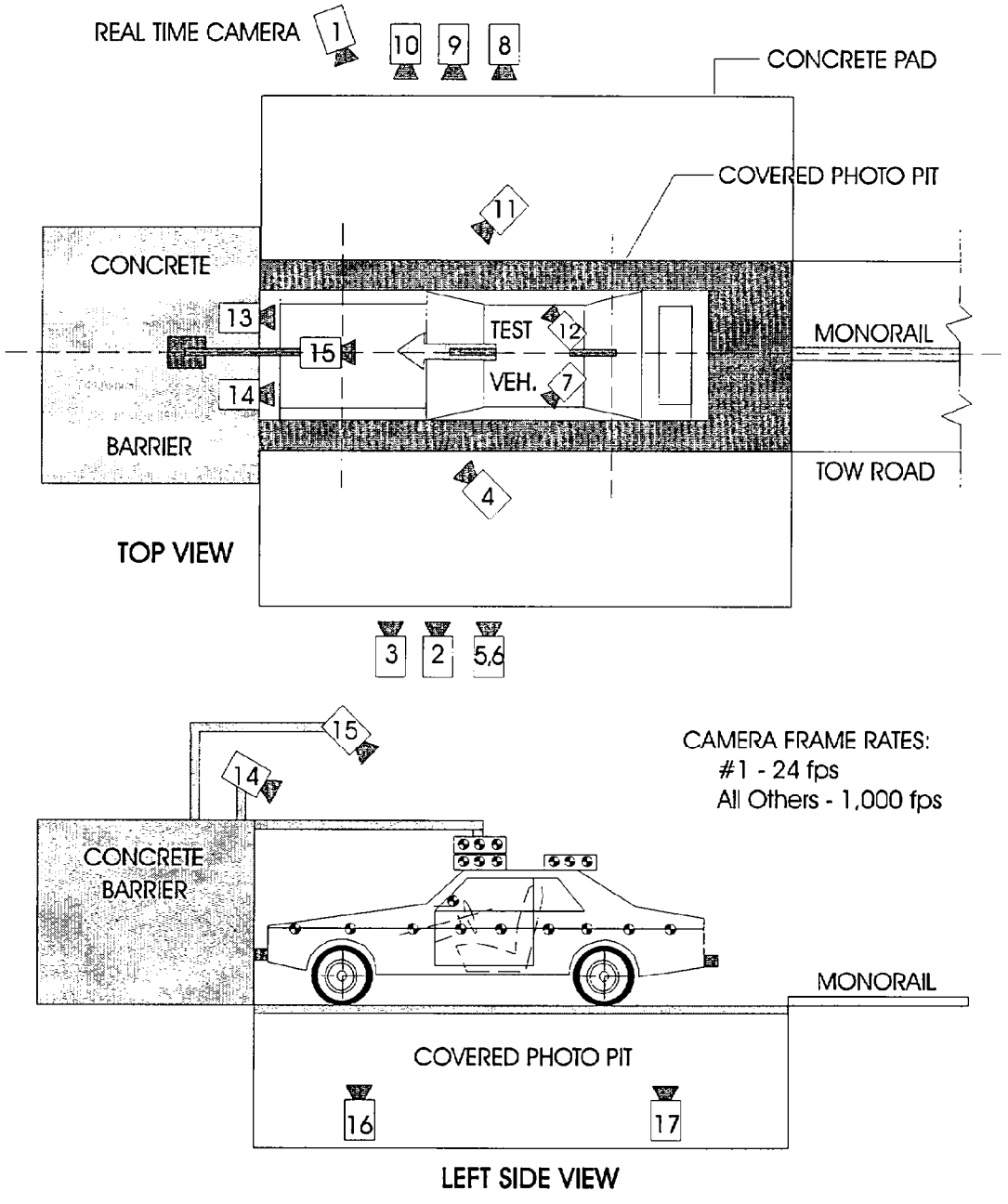


Table 11
HIGH-SPEED CAMERA LOCATIONS

NHTSA Test No.: MV0305 Vehicle: 1997 Dodge Dakota Club Cab Pickup

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	7214	2323	1133	-5	6936	13	1020
3	Left Side View	8280	1390	1135	-4	8002	25	1010
4	Driver and Interior View	5496	3235	1294	-12	-	25	980
5	Steering Column (Bottom)	8941	2013	1173	-3	8663	35	1020
6	Steering Column (Top)	8941	2013	1785	-7	8663	35	1050
7	Left Belt	-	-	-	-	-	-	-
8	Overall Right Side	7391	2550	1100	-2	7113	13	1120
9	Right Side View	8306	1963	1080	-2	8028	25	1160
10	Right Passenger View	8763	2666	1427	-4	8485	35	1030
11	Passenger and Interior View	5740	3615	1830	-11	-	25	1110
12	Right Belt	-	-	-	-	-	-	-
13	Passenger Front View	578	0	1925	-32	-	13	1060
14	Driver Front View	578	0	1925	-28	-	13	1090
15	Windshield View	0	-530	3048	-48	-	13	1030
16	Pit View of Engine	0	505	-3048	90	-	13	1020
17	Pit View of Fuel Tank	0	3432	-3048	90	-	13	990

*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

Figure 11

VEHICLE TARGET LOCATIONS

(Dimensions in millimeters)

A	354
B	611
C	2425
D	2100
E	1149
F	1149
G	140
H	1398
I	1289
J	1629
K	140
L	1149
M	1149
N	1629
O	1289
P	1398

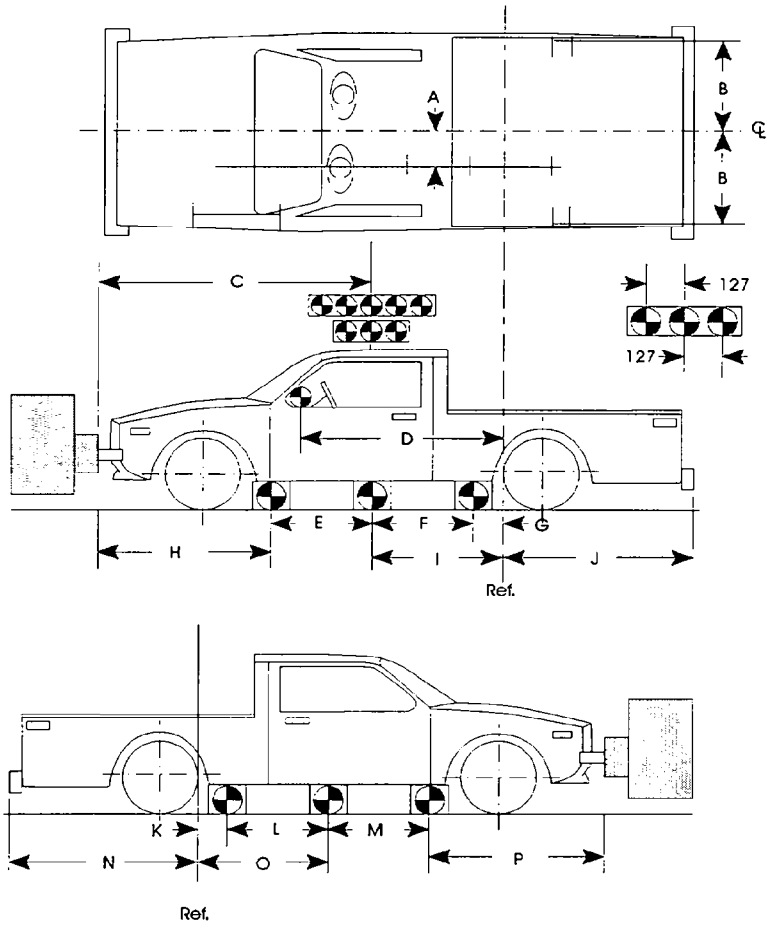
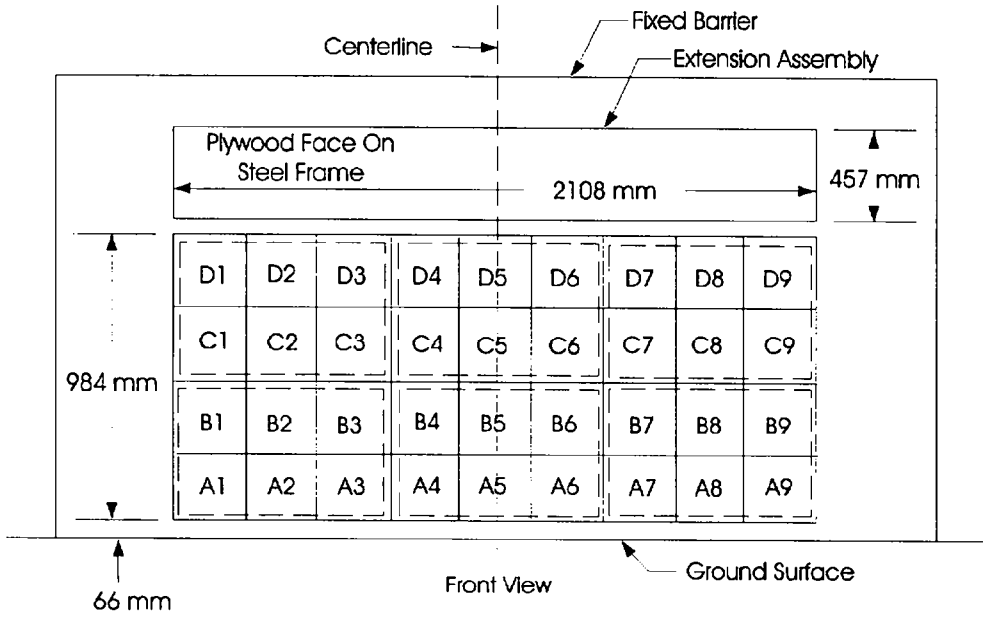


Figure 12

LOAD CELL LOCATIONS ON FIXED BARRIER

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)

Table 12

POST TEST AIR BAG DATA

NHTSA No. : MV0305; Test Date: February 25, 1997; Technician: Patrick MacDiarmid

Vehicle Model Year/Make/Model: 1997 Dodge Dakota Club Cab

A. No. of vent holes: 0 -Driver 0 -Passenger

B. Size of vent holes: ($In.^2$) - -Driver - -Passenger

C. Total vent area: ($In.^2$) 0 -Driver 0 -Passenger

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

Driver: 580 -Length; 650 -Width; 220 -Depth

Passenger: 450 -Height; 500 -Width; 710 -Depth

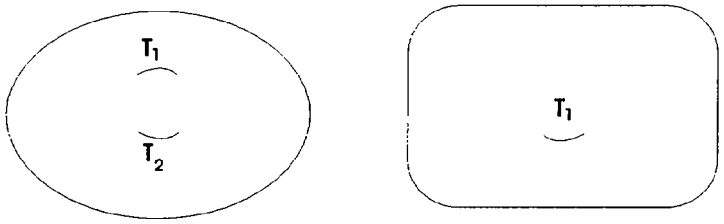
E. Is the air bag tethered?

Driver: X -Yes; ____ -No; If yes, record length of tether- 180

Passenger: X -Yes; ____ -No; If yes, record length of tether- 400

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: P115051-01K; TX962740053

Generator: CBJGX632CRQ; TCADM2886W0162; P5DY55JX8

Passenger: Air bag: P116814-03E; TMG2647D0302

Generator: 55314816; TCAPM2816T0937; P055314816; CPNGX34TAJT

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

Table 13

ACCIDENT INVESTIGATION DIVISION DATA

FOR 56.3 KPH FRONTAL BARRIER IMPACT

Vehicle Make/Model/Body Style: Dodge Dakota Club Cab Pickup

NHTSA Test No.: MV0305 VIN: 1B7-GL2SX6VS-147669

Model Year: 1997 Build Date: 10/96 Test Date: February 25, 1997

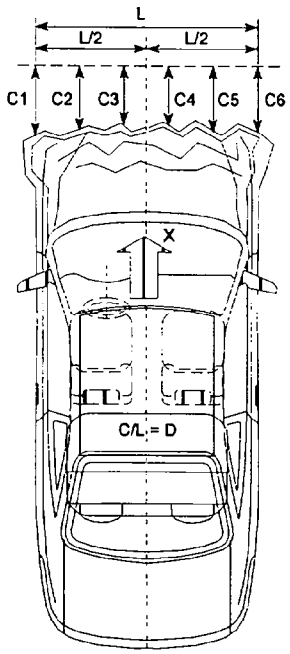
Vehicle Size Category: _____ Test Weight: 2017 Kgs

Vehicle Wheelbase: 3327 mm; Front Overhang: 1398 mm; Overall Width: 1816 mm

Collision Deformation Classification (CDC) Code: 12FDEW2

Crush Depth Dimensions:

	PRE	POST	DIFF	
C1 =	5300	4775	-525	mm
C2 =	5430	4790	-640	mm
C3 =	5455	4775	-680	mm
C4 =	5455	4770	-685	mm
C5 =	5430	4775	-655	mm
C6 =	5295	4750	-545	mm



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

Longitude Length of Damaged Region:

L1 = 1700 mm

L2 = 850 mm

L3 = 340 mm

Section 4

SUMMARY OF RESULTS OF FMVSS 212, 219 (Partial) AND 301

"Windshield Mounting" FMVSS No. 212 Data

"Windshield Zone Intrusion" FMVSS No. 219 Data

"Fuel System Integrity" FMVSS No. 301

Figure 13

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 23 mm molding.

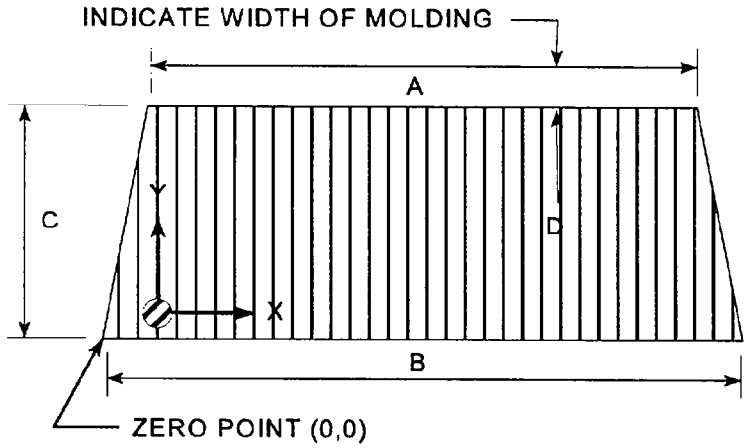
FMVSS 212 REQUIREMENTS:

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	2090	2090	100
LEFT SIDE	2090	2090	100
TOTAL	4,180	4,180	100

AREA OF RETENTION FAILURE:



FRONT VIEW OF WINDSHIELD

DIMENSIONS	
A	1236
B	1630
C	657
D	23

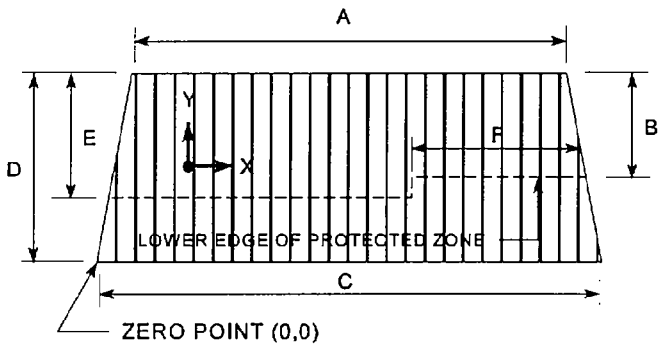
FAILURE DETAILS: None

Figure 14

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



FRONT VIEW OF WINDSHIELD

FMVSS 219 TEST DATA:
(Dimensions in mm)

DIMENSIONS	
A	1236
B	360
C	830
D	657
E	457
F	1630

DETAILS OF WINDSHIELD GLASS PENETRATION GREATER THAN 1/4": None

(Show location of penetration on the above sketch)

	COORDINATES	
	X	Y
1.		
2.		
3.		
4.		

Table 14

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

NHTSA TEST No.: MV0305 TEST DATE: February 25, 1997

VEHICLE MAKE/MODEL: 1997 Dodge Dakota Club Cab

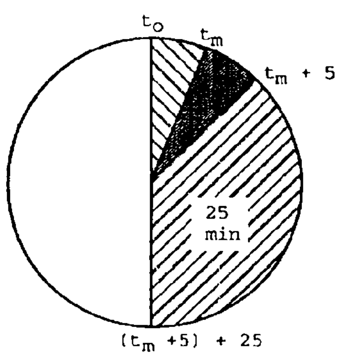
The test vehicle was filled from 92% to 94% of the manufacture's "usable" capacity. The electric fuel pump was operating if it will operate without engine operation. Two Part 572 anthropomorphic test devices were located at each of the front designated seating positions.

= =

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:



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

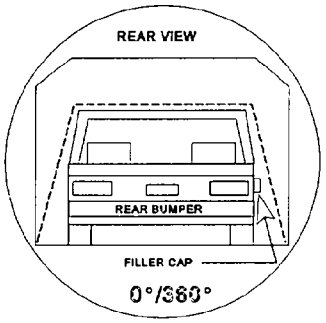
SOLVENT SPILLAGE DETAILS: None

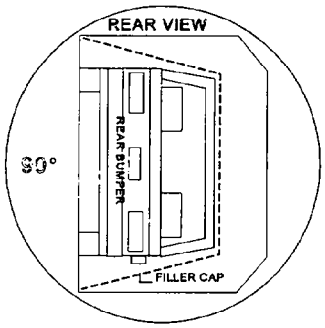
Table 15

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:

NHTSA Test No.:
MV0305





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	2	minutes	05	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	7	minutes	5	seconds
Next whole minute interval	8	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

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	0

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

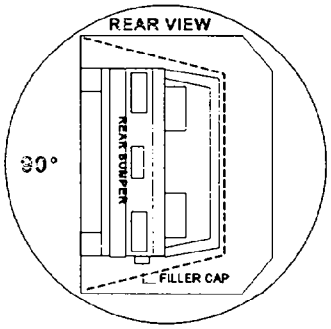
IV. SOLVENT SPILLAGE LOCATION(S): None

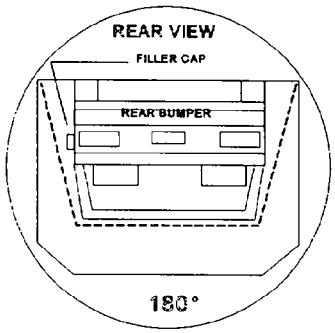
Table 15

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:

NHTSA Test No.:
MV0305





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	2	minutes	05	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	7	minutes	5	seconds
Next whole minute interval	8	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

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	0

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

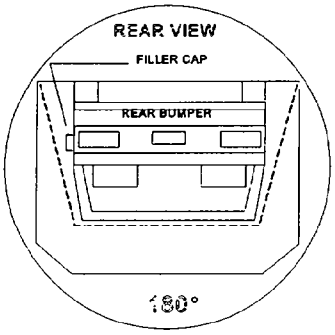
IV. SOLVENT SPILLAGE LOCATION(S): None

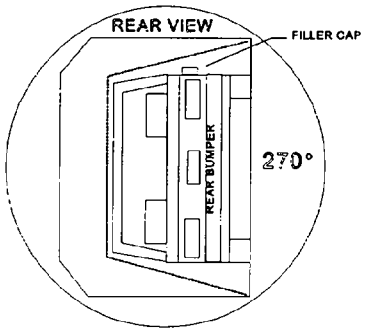
Table 15

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:

NHTSA Test No.:MV0305





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	2	minutes	13	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	7	minutes	13	seconds
Next whole minute interval	8	minutes	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

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	0

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

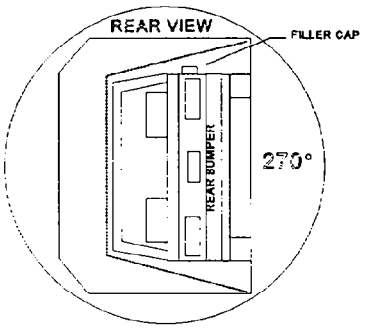
IV. SOLVENT SPILLAGE LOCATION(S): None

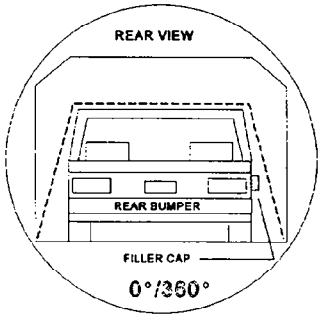
Table 15

FMVSS NO. 301 STATIC ROLLOVER DATA SHEET

TEST PHASE:

NHTSA Test No.:
MV0305





I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD:

Rollover Fixture 90 deg. Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	56	seconds
FMVSS 301 Position Hold Time +	5	minutes	00	seconds
TOTAL	6	minutes	56	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

5 ounces	1 ounce	1 ounce	1 ounce

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0	0	0	N/A

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

IV. SOLVENT SPILLAGE LOCATION(S): None.

Appendix A

PHOTOGRAPHS

PHOTOGRAPHS

PHOTOGRAPHS (continued)

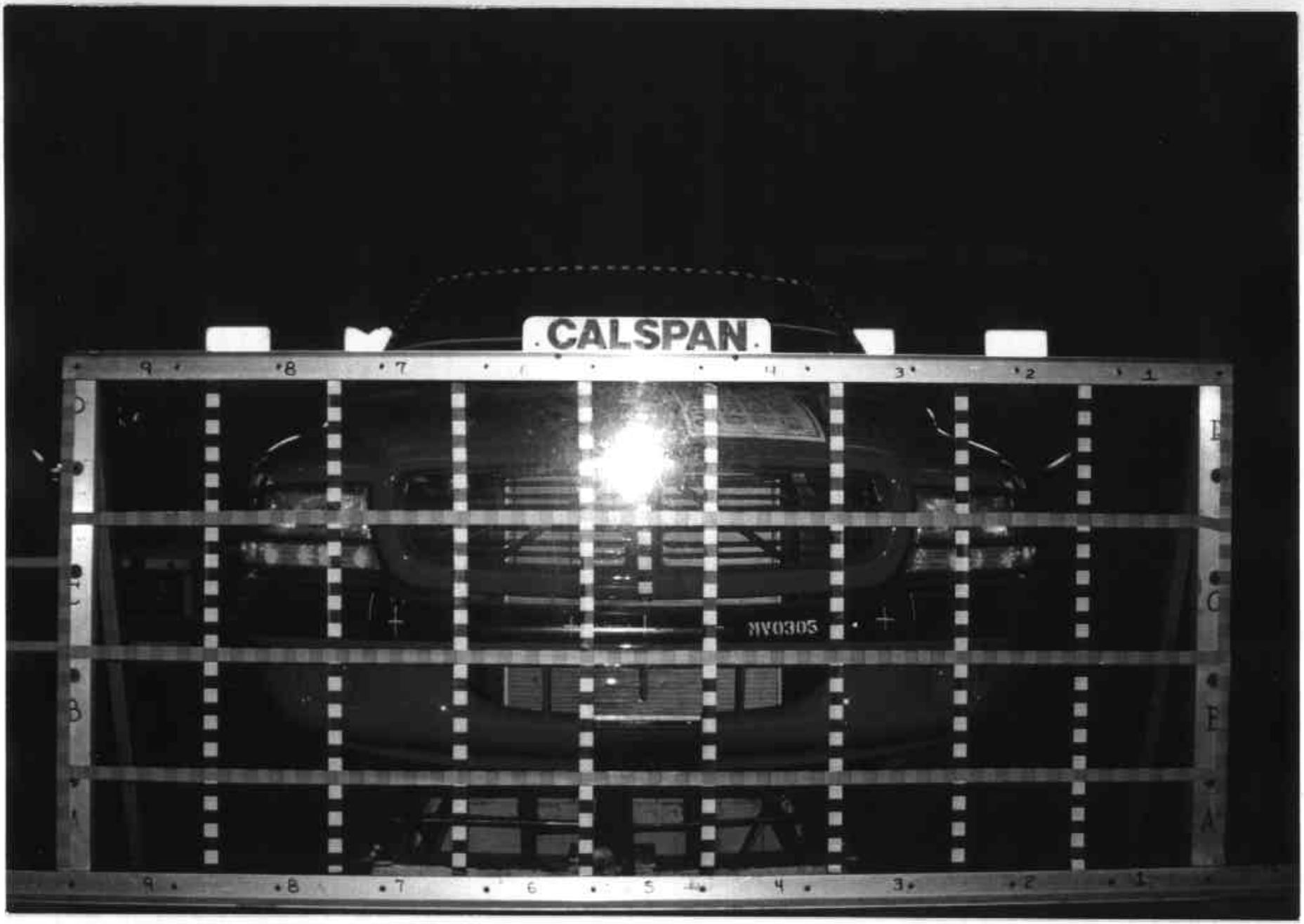


Figure A-1 LOAD CELL LOCATIONS

Figure A-2 PRE-TEST FRONT VIEW

Figure A-3 POST-TEST FRONT VIEW

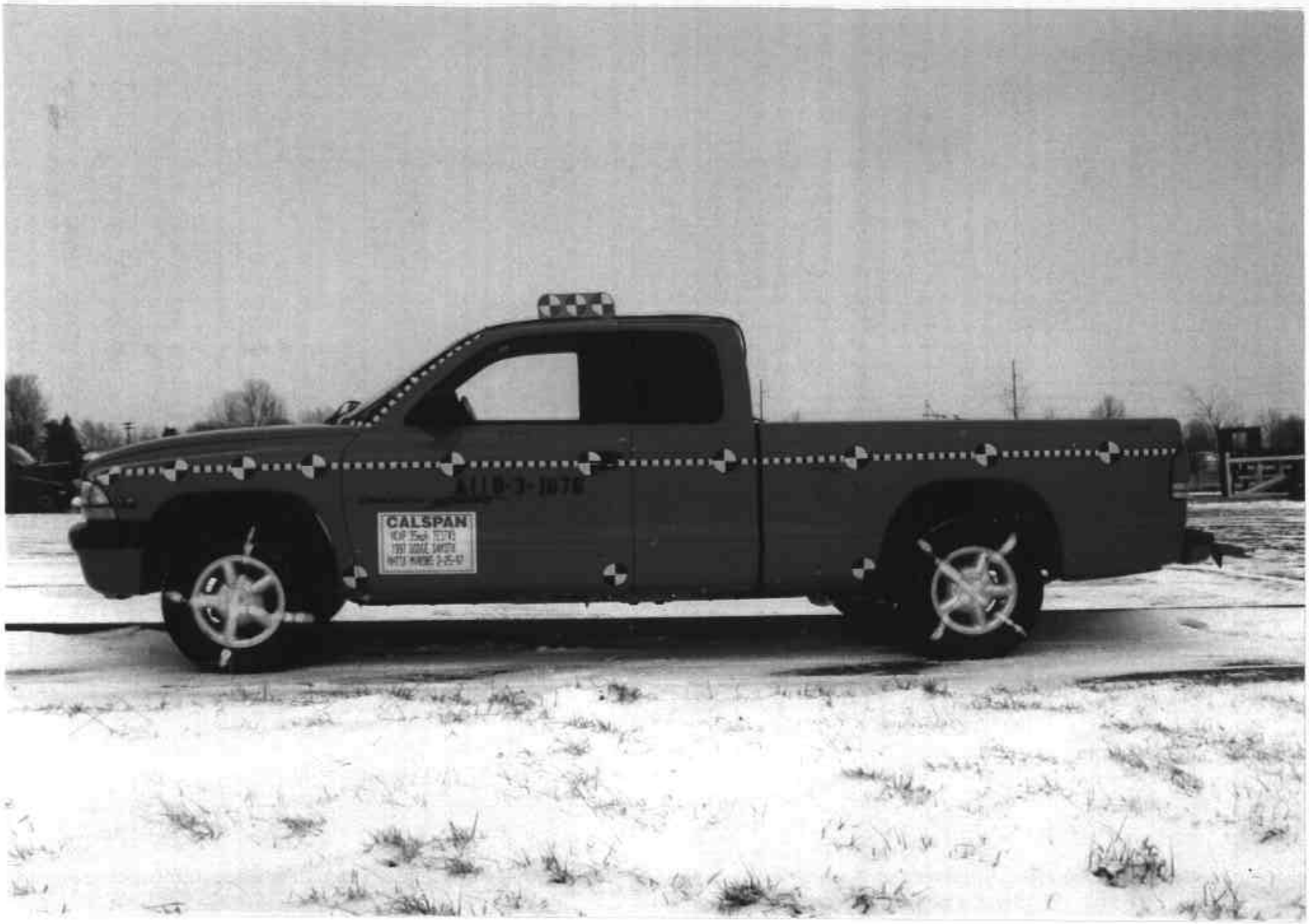


Figure A-4 PRE-TEST LEFT SIDE VIEW

Figure A-5 POST-TEST LEFT SIDE VIEW

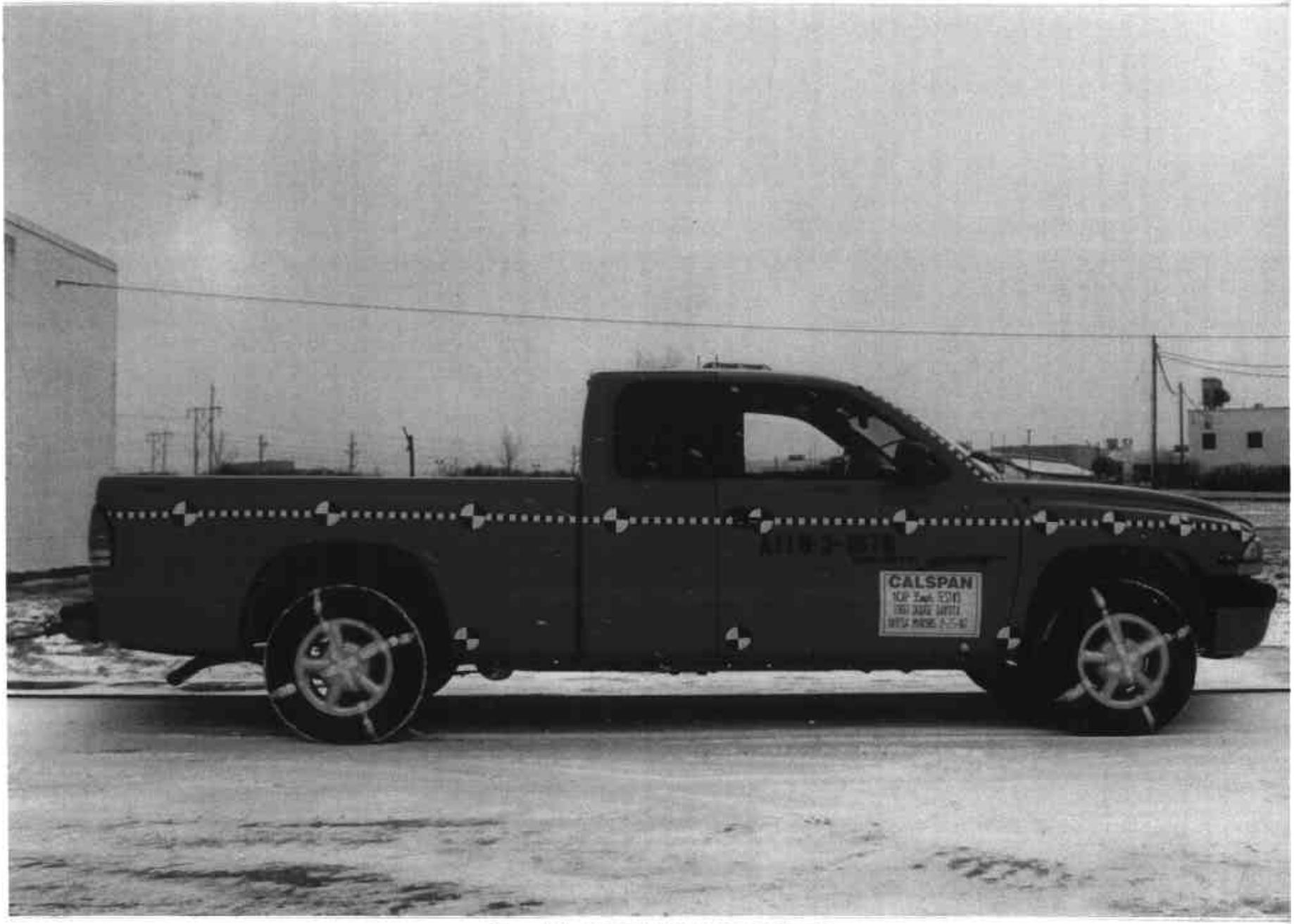


Figure A-6 PRE-TEST RIGHT SIDE VIEW

Figure A-7 POST-TEST RIGHT SIDE VIEW

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

PHOTOGRAPH NOT AVAILABLE

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

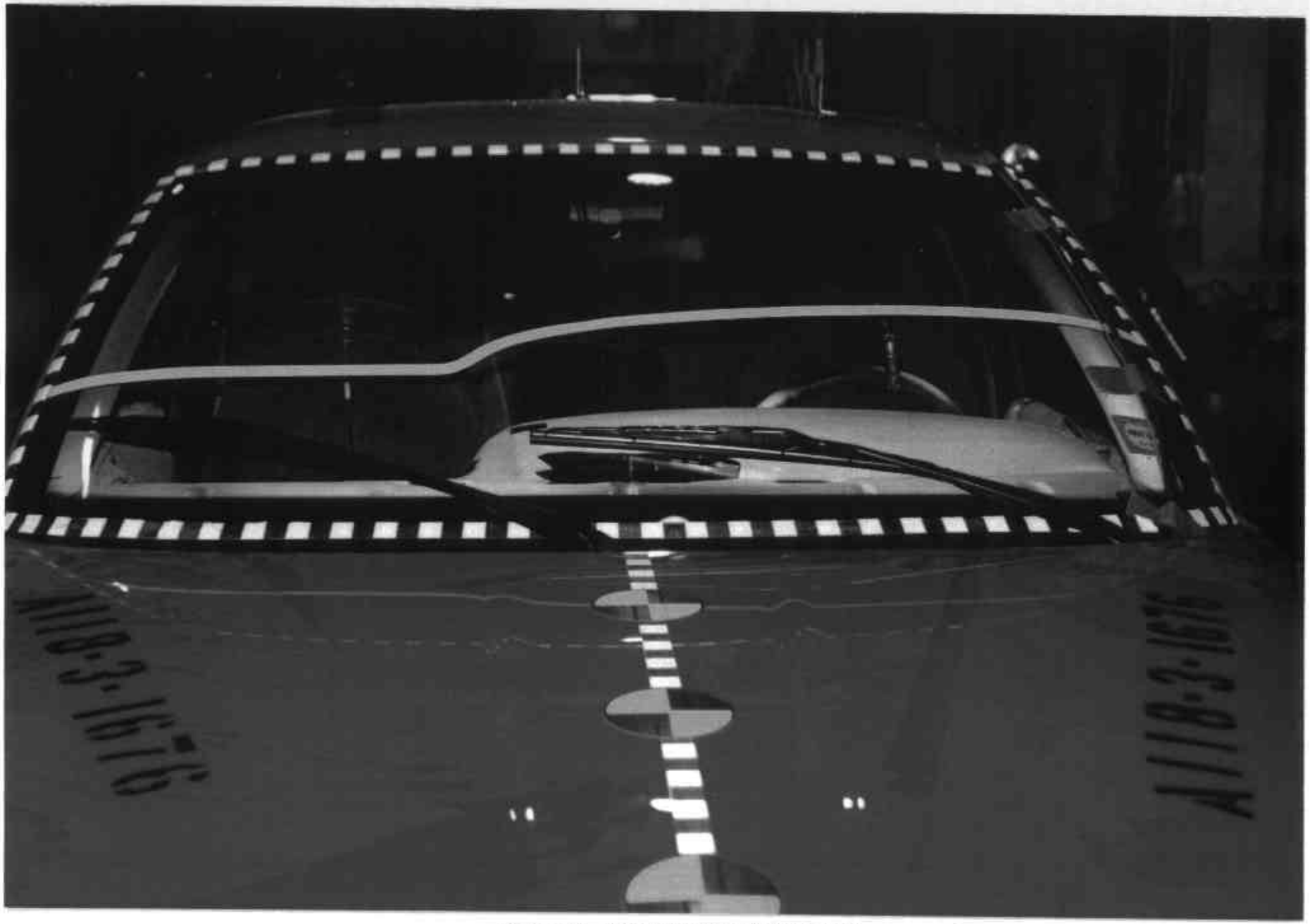


Figure A-12 PRE-TEST WINDSHIELD VIEW

Figure A-13 POST-TEST WINDSHIELD VIEW

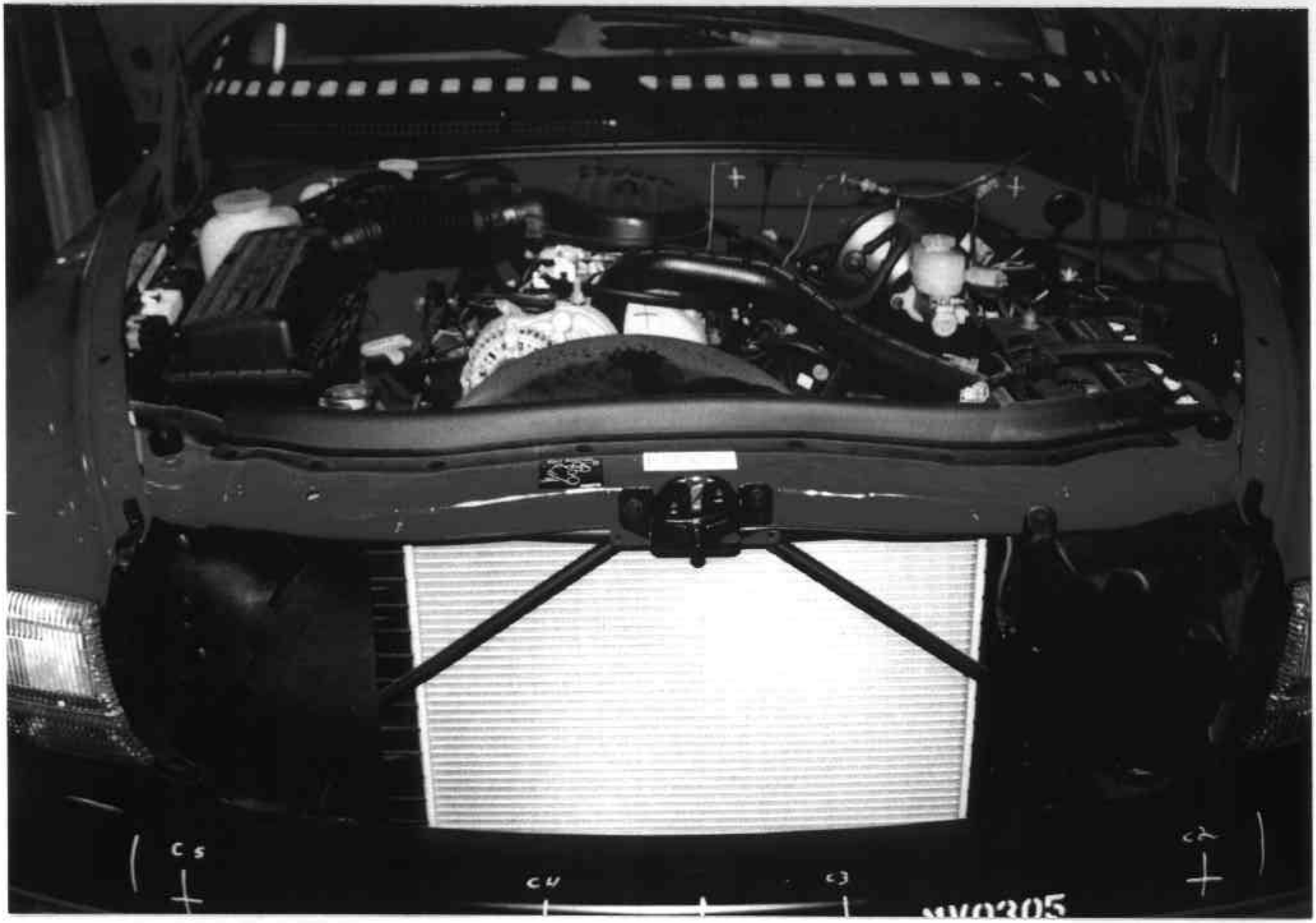
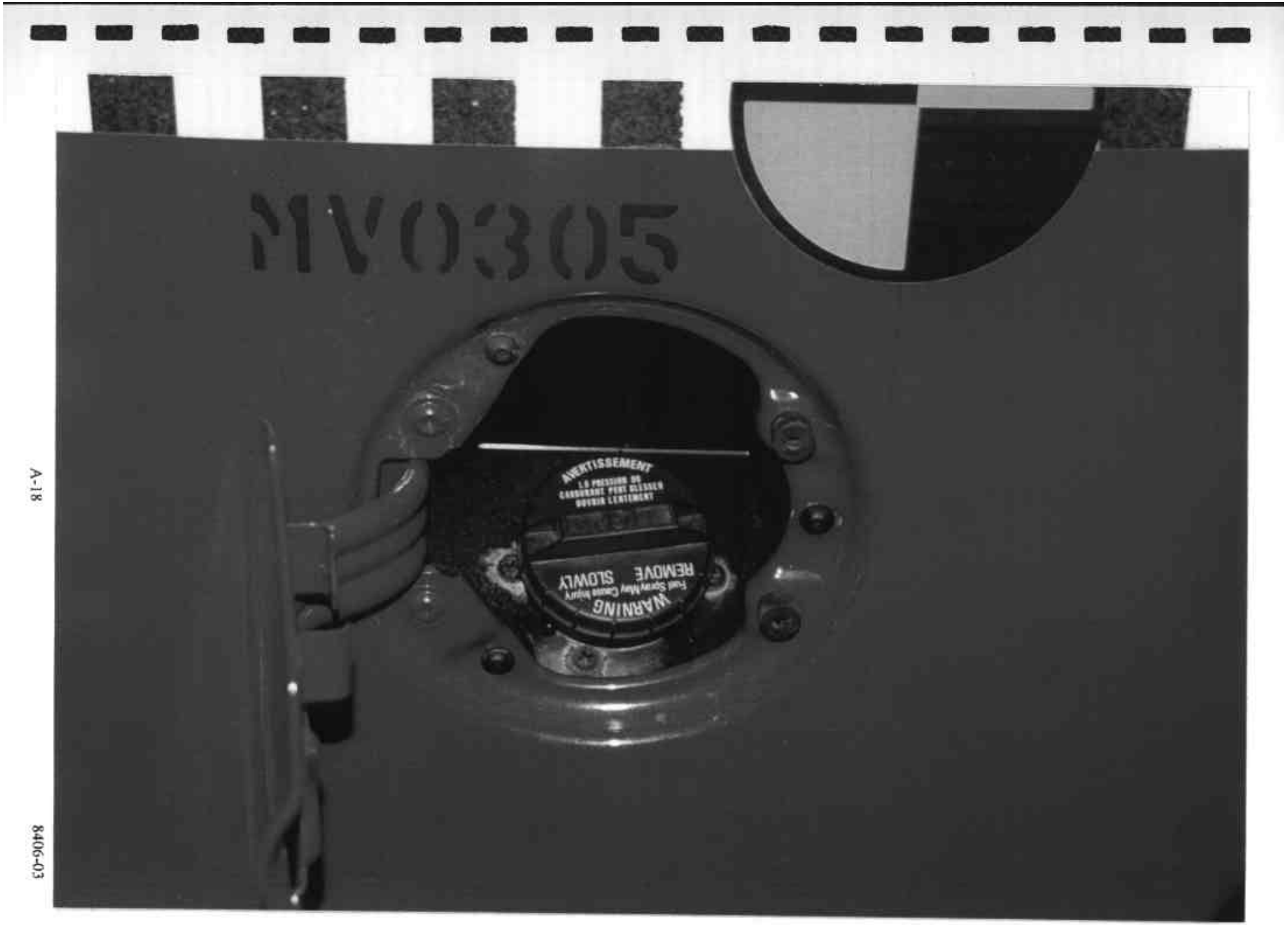


Figure A-14 PRE-TEST ENGINE COMPARTMENT VIEW



A-18

8406-03

Figure A-15 FUEL CAP VIEW

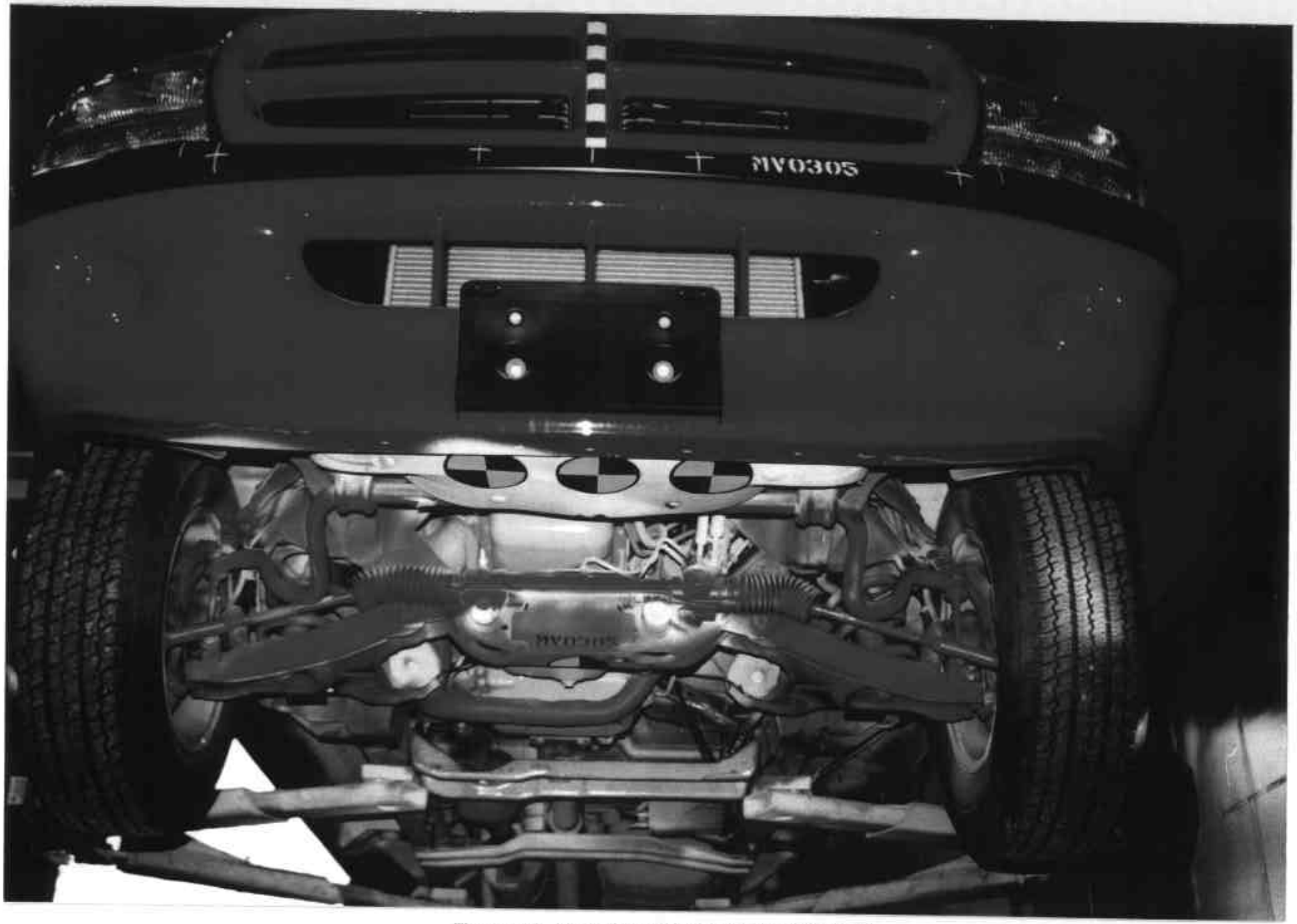


Figure A-16 PRE-TEST FRONT UNDERBODY VIEW

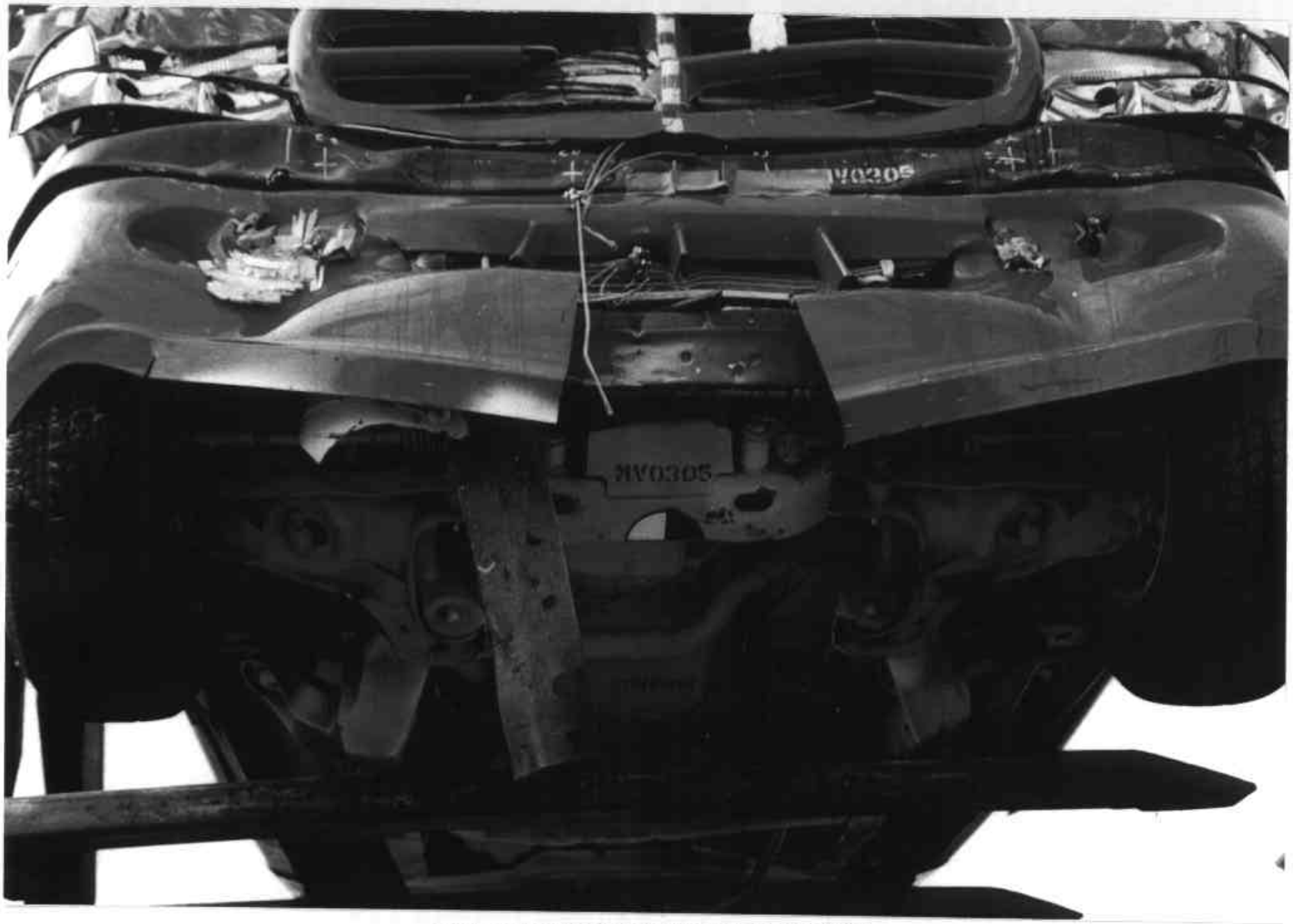


Figure A-17 POST-TEST FRONT UNDERBODY VIEW

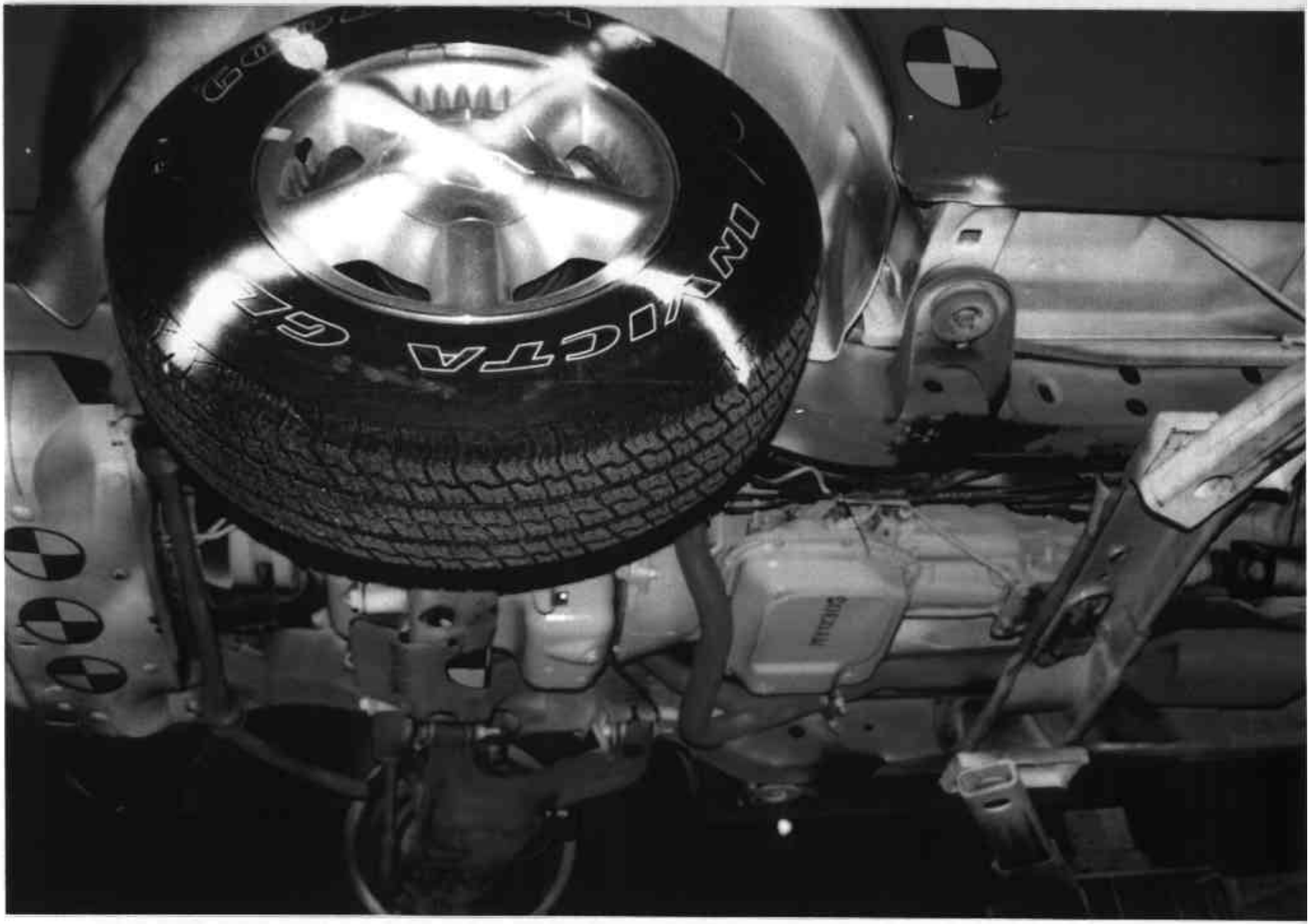


Figure A-18 PRE-TEST FRONT SIDE UNDERBODY VIEW

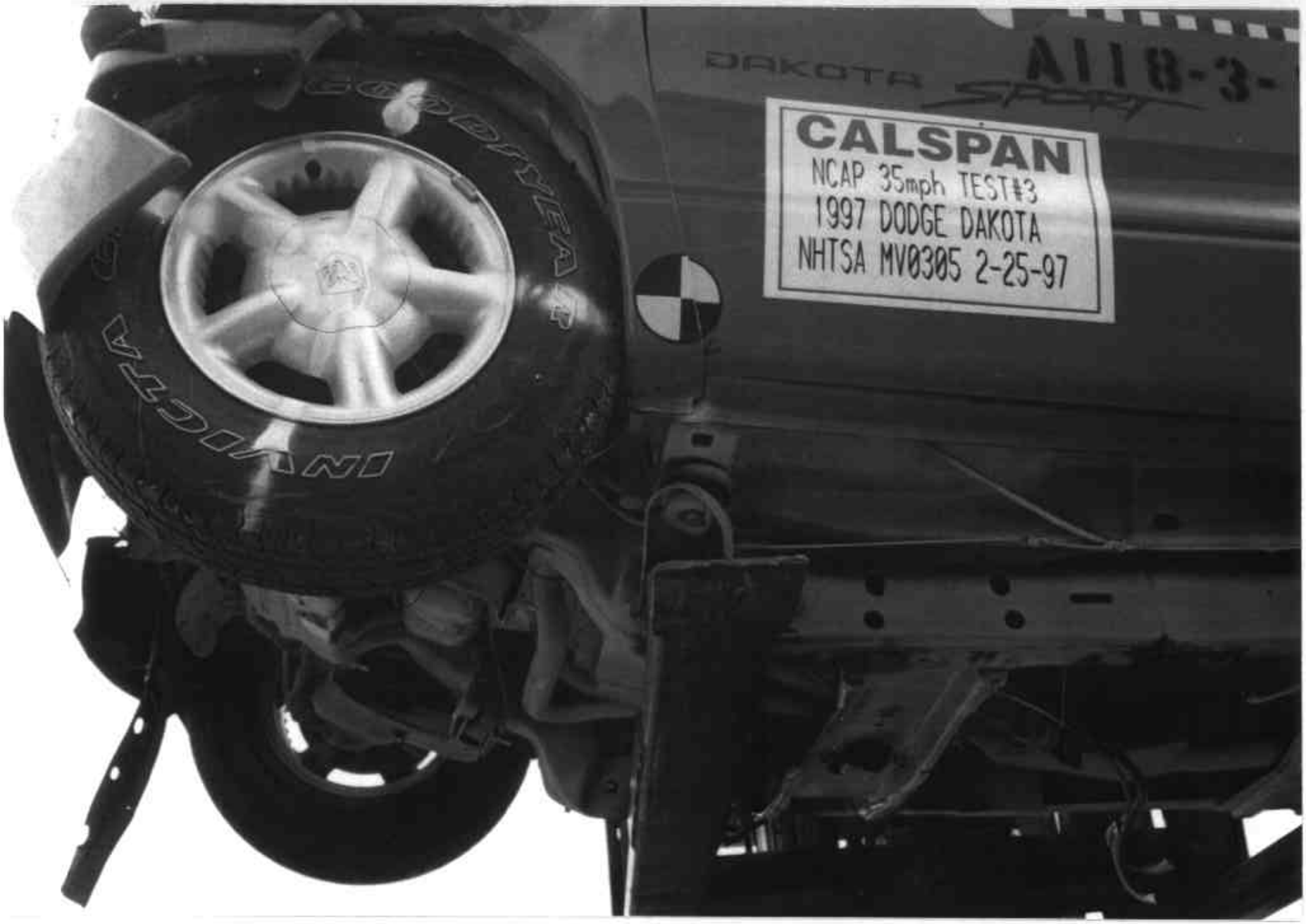


Figure A-19 POST-TEST FRONT SIDE UNDERBODY VIEW

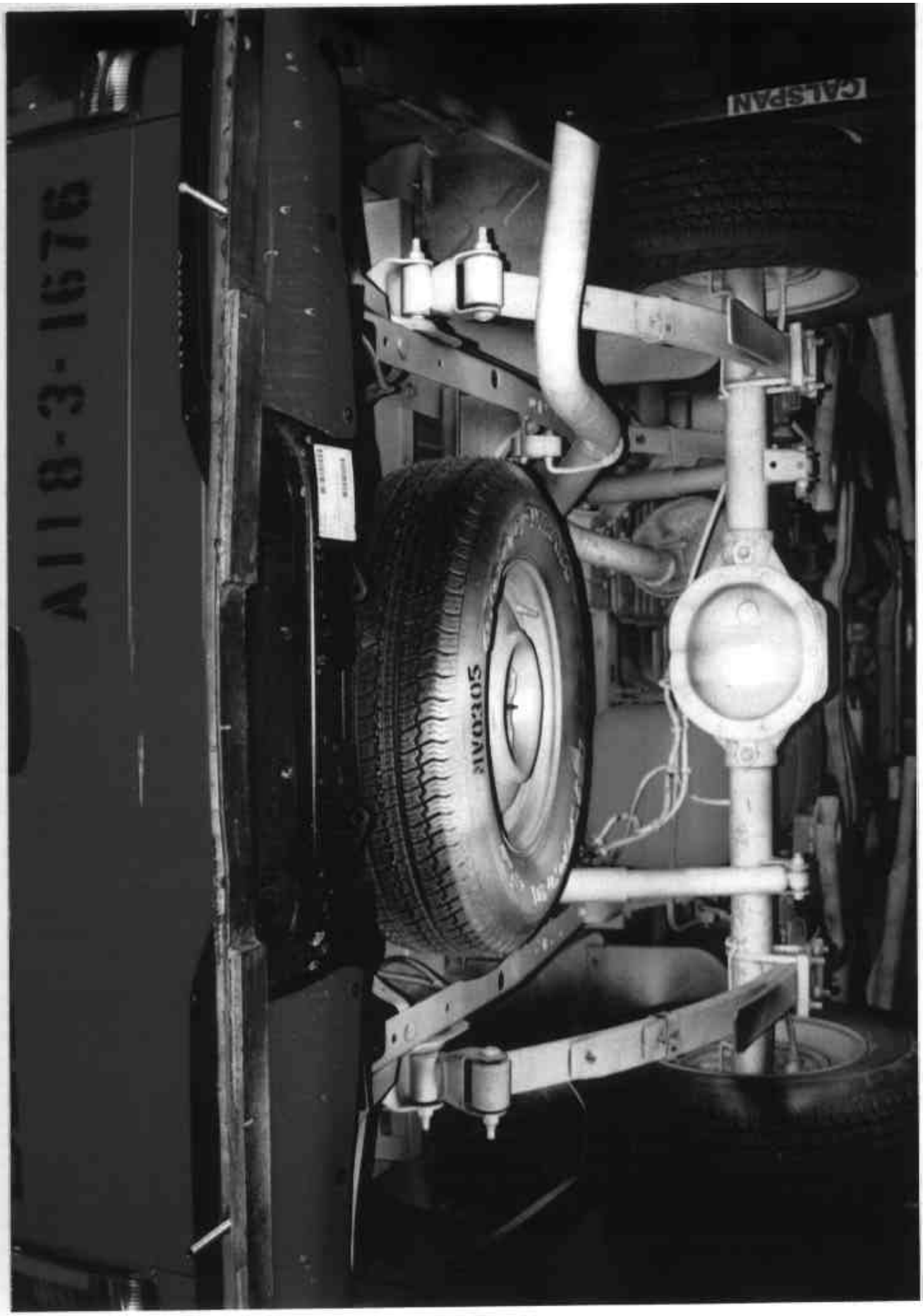


Figure A-20 PRE-TEST REAR UNDERBODY VIEW

Figure A-21 POST-TEST REAR UNDERBODY VIEW

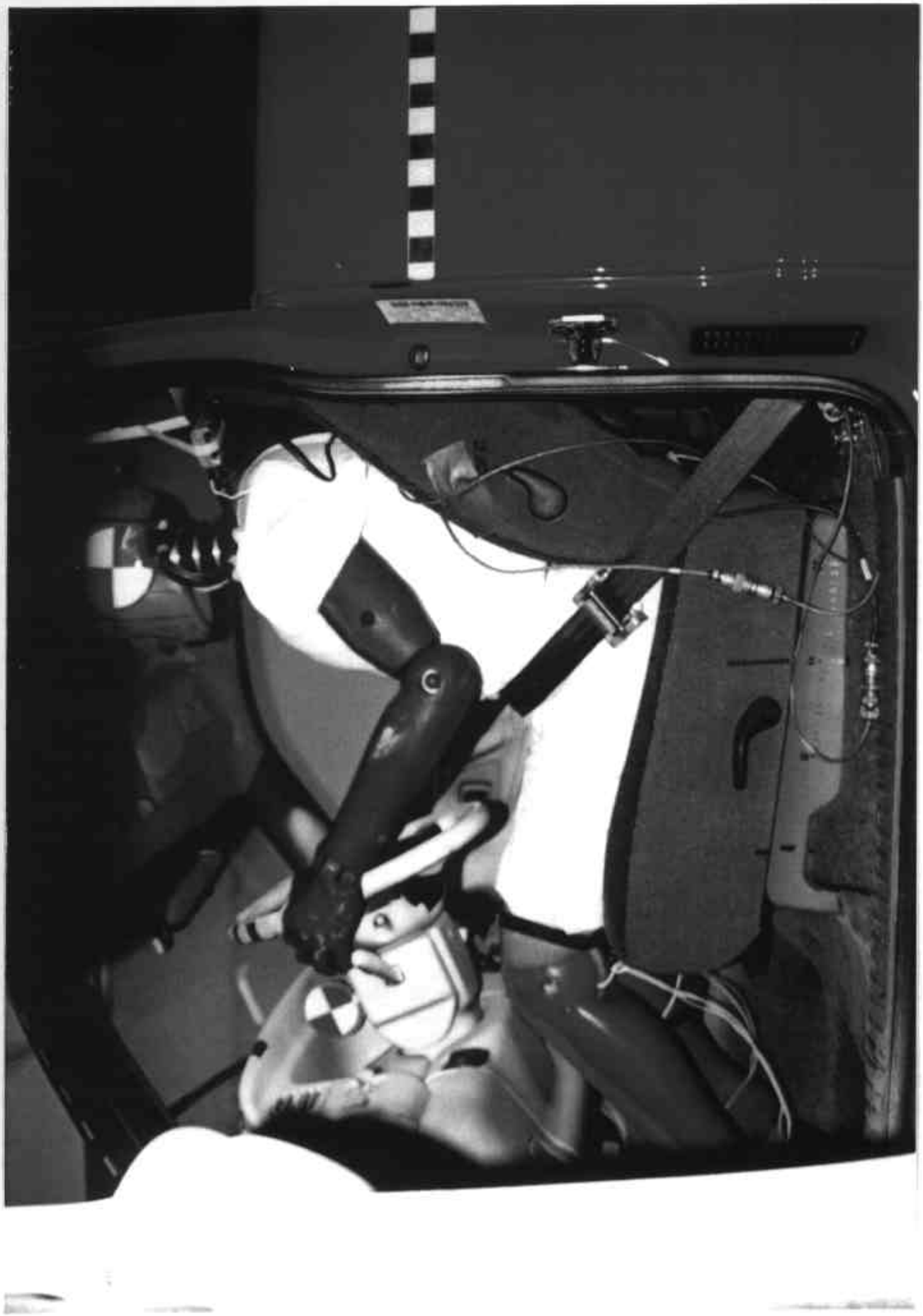


Figure A-22 PRE-TEST DRIVER POSITION VIEW

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

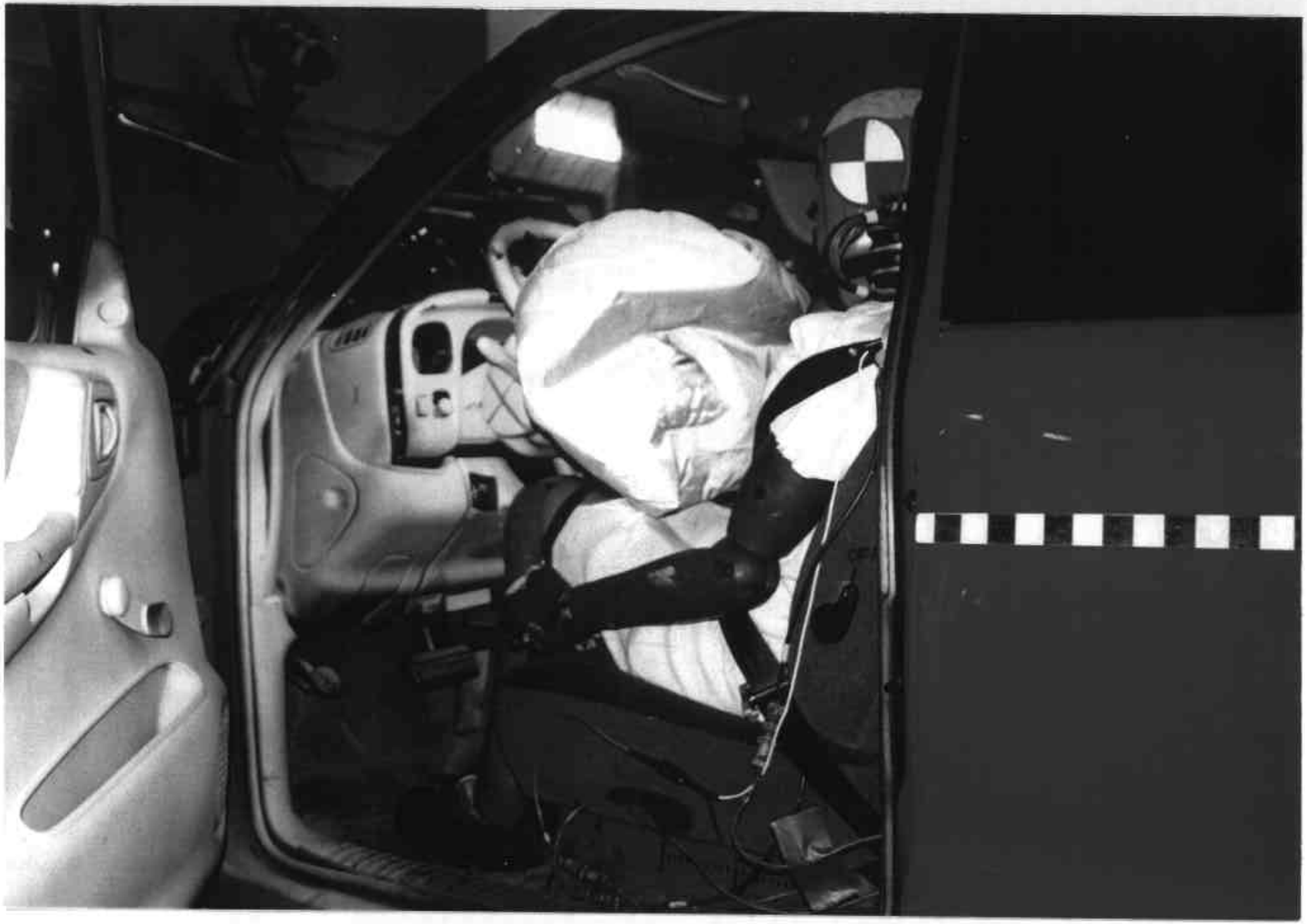


Figure A-27 POST-TEST DRIVER AND INTERIOR VIEW

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

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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

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Figure A-37 POST-TEST PASSENGER FLOOR PAN VIEW

Figure A-38 ROLLOVER VIEW

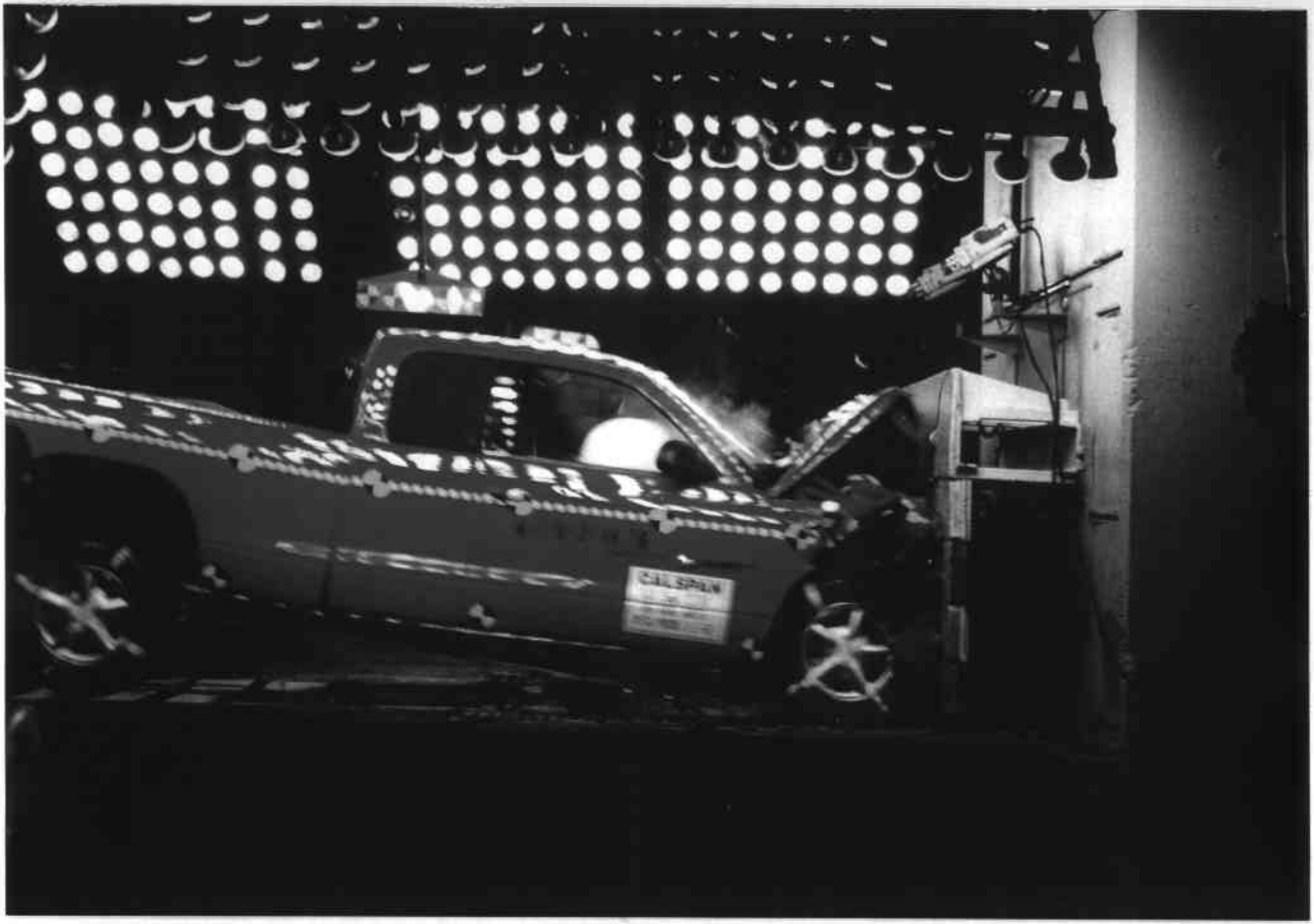


Figure A-39 IMPACT VIEW

Appendix B

DUMMY, VEHICLE AND LOAD CELL BARRIER RESPONSE DATA

NHTSA TEST NO. MV0305

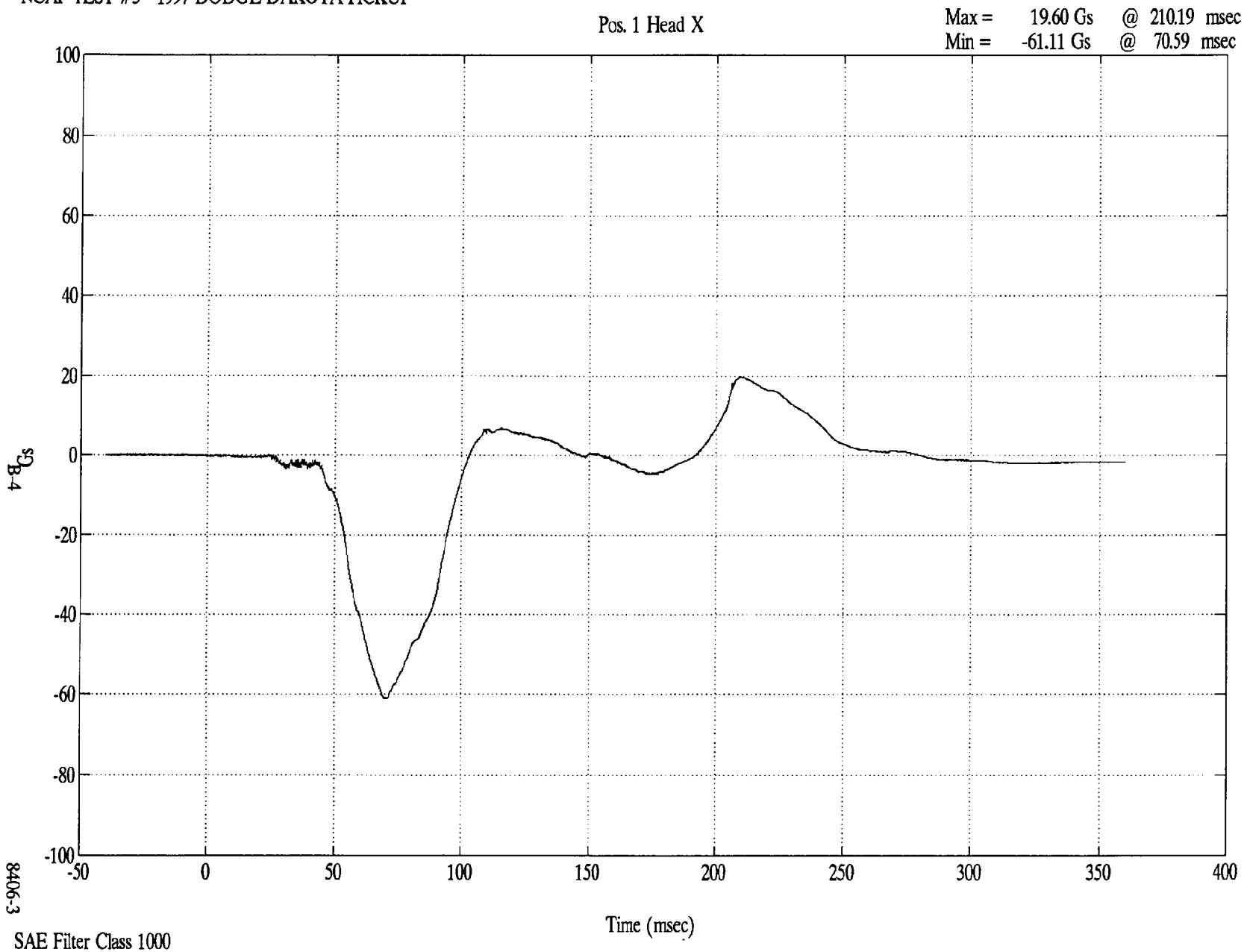
DUMMY DATA

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

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

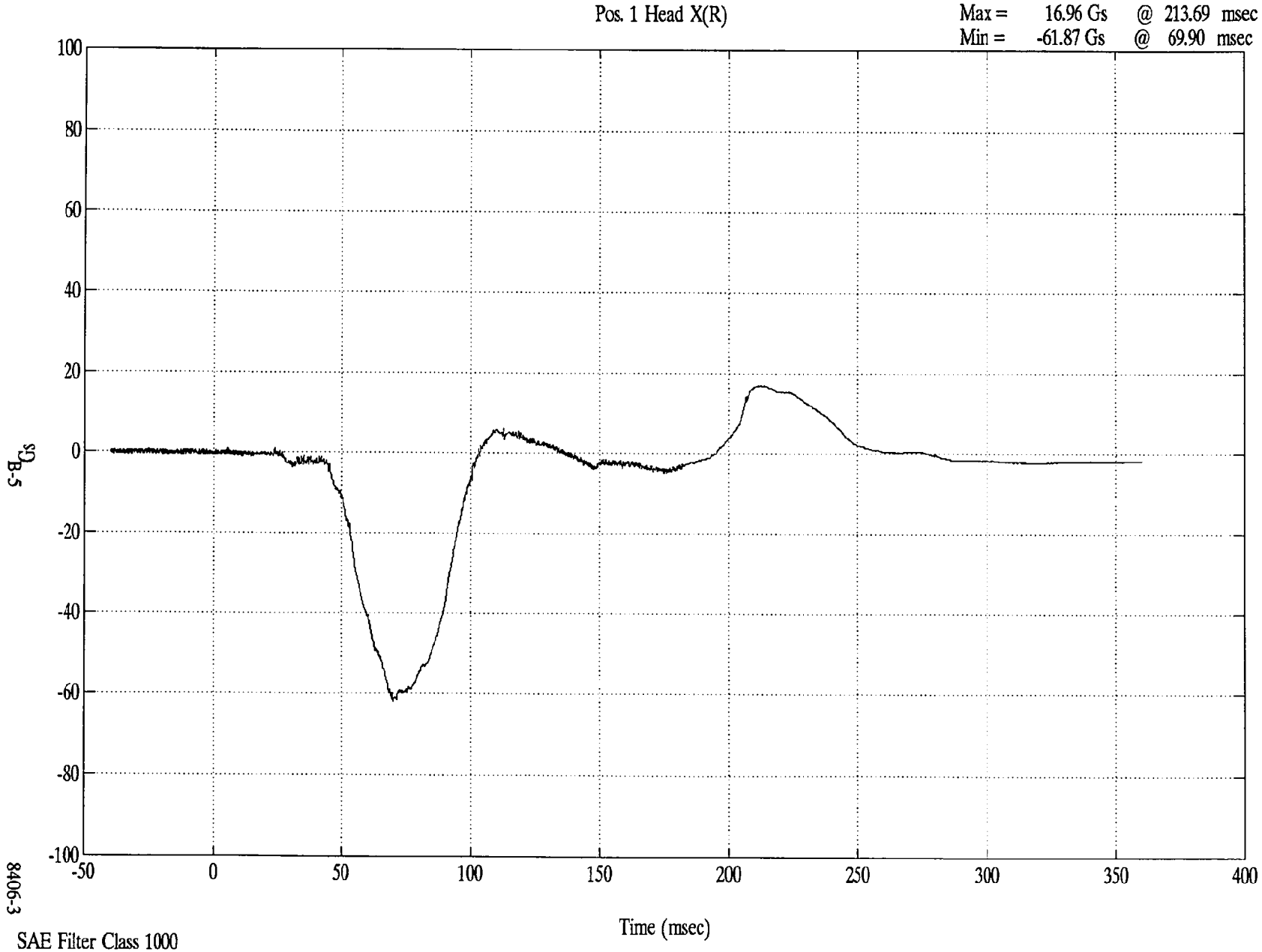
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 1000

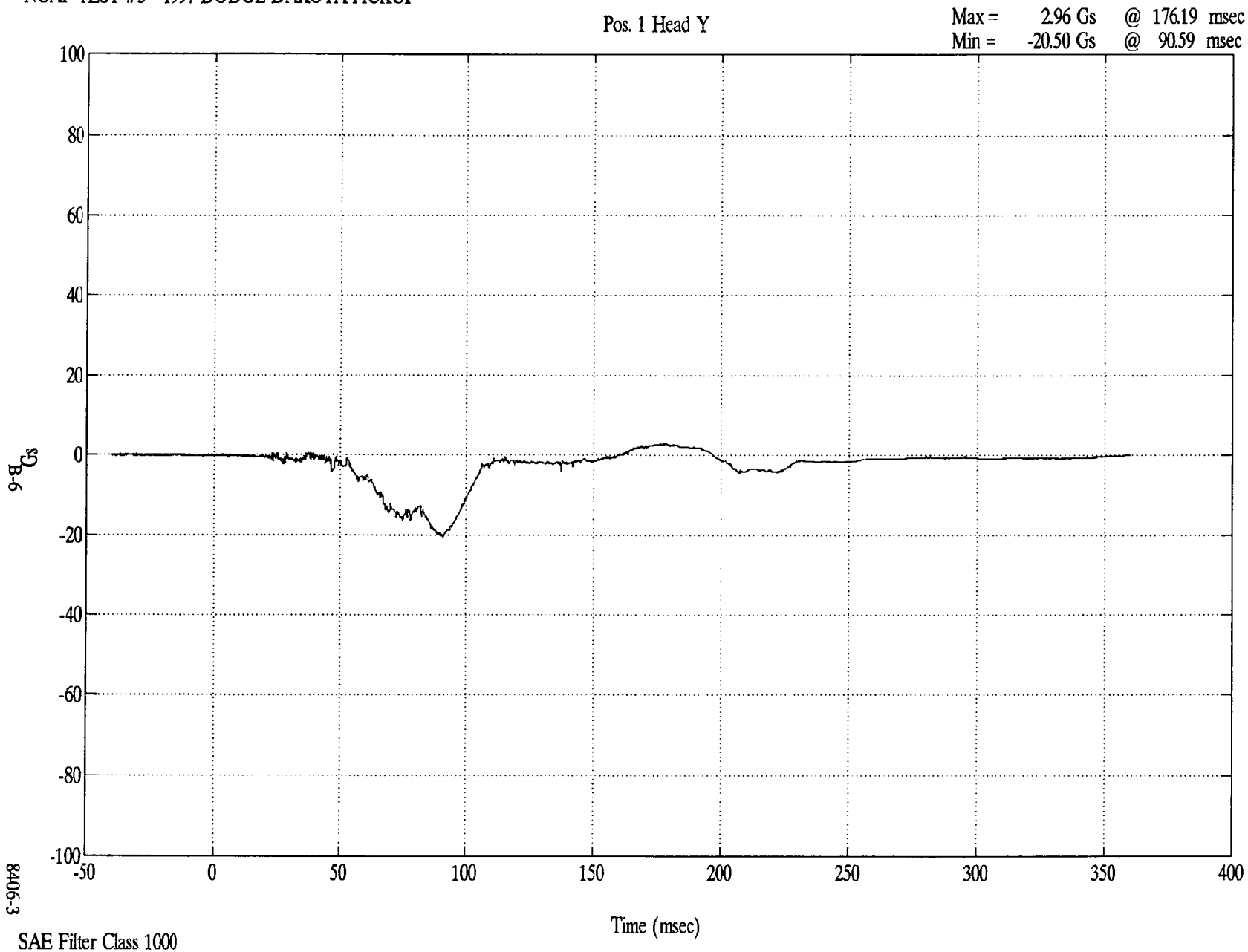
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 1000

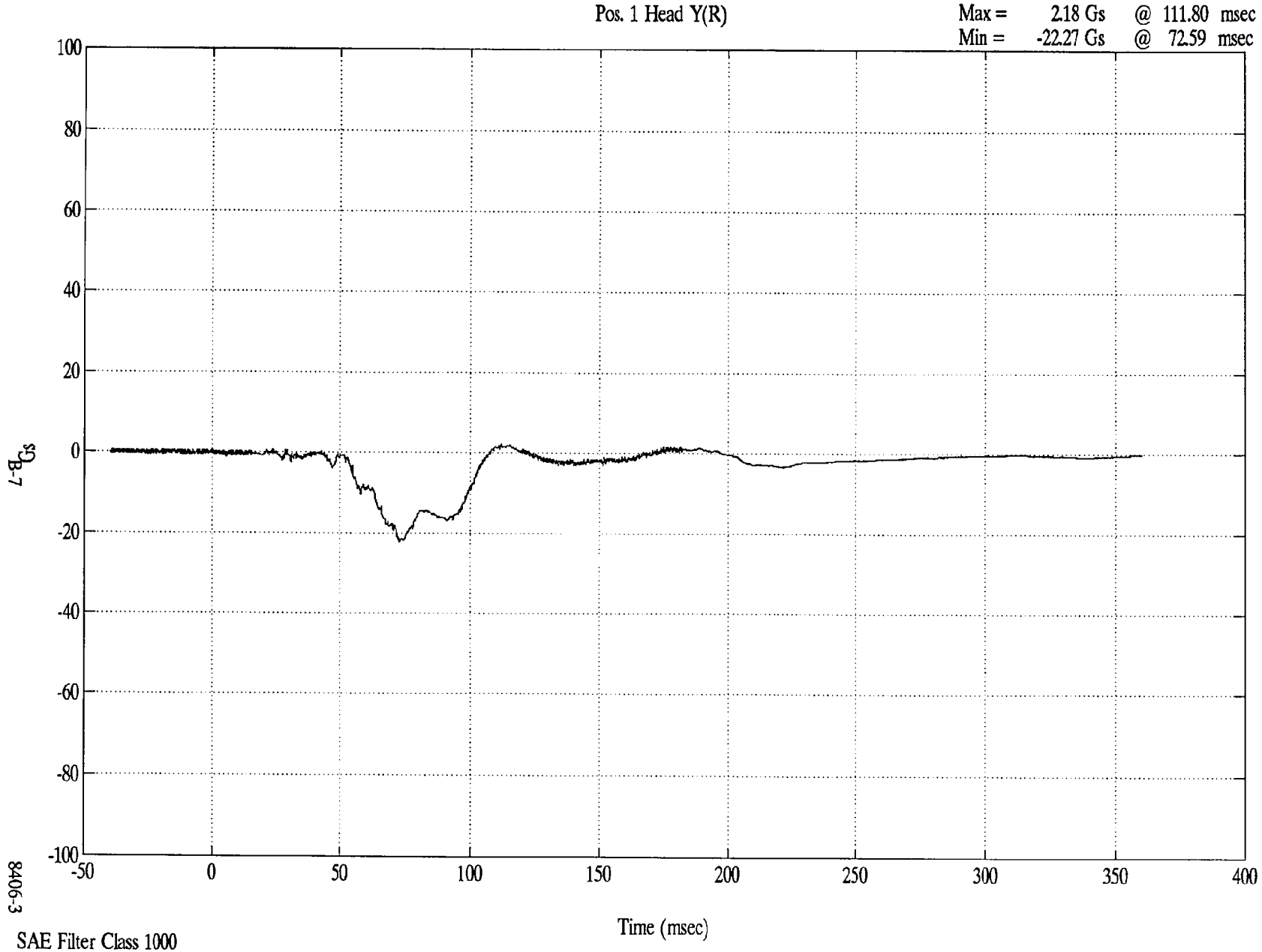
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 1000

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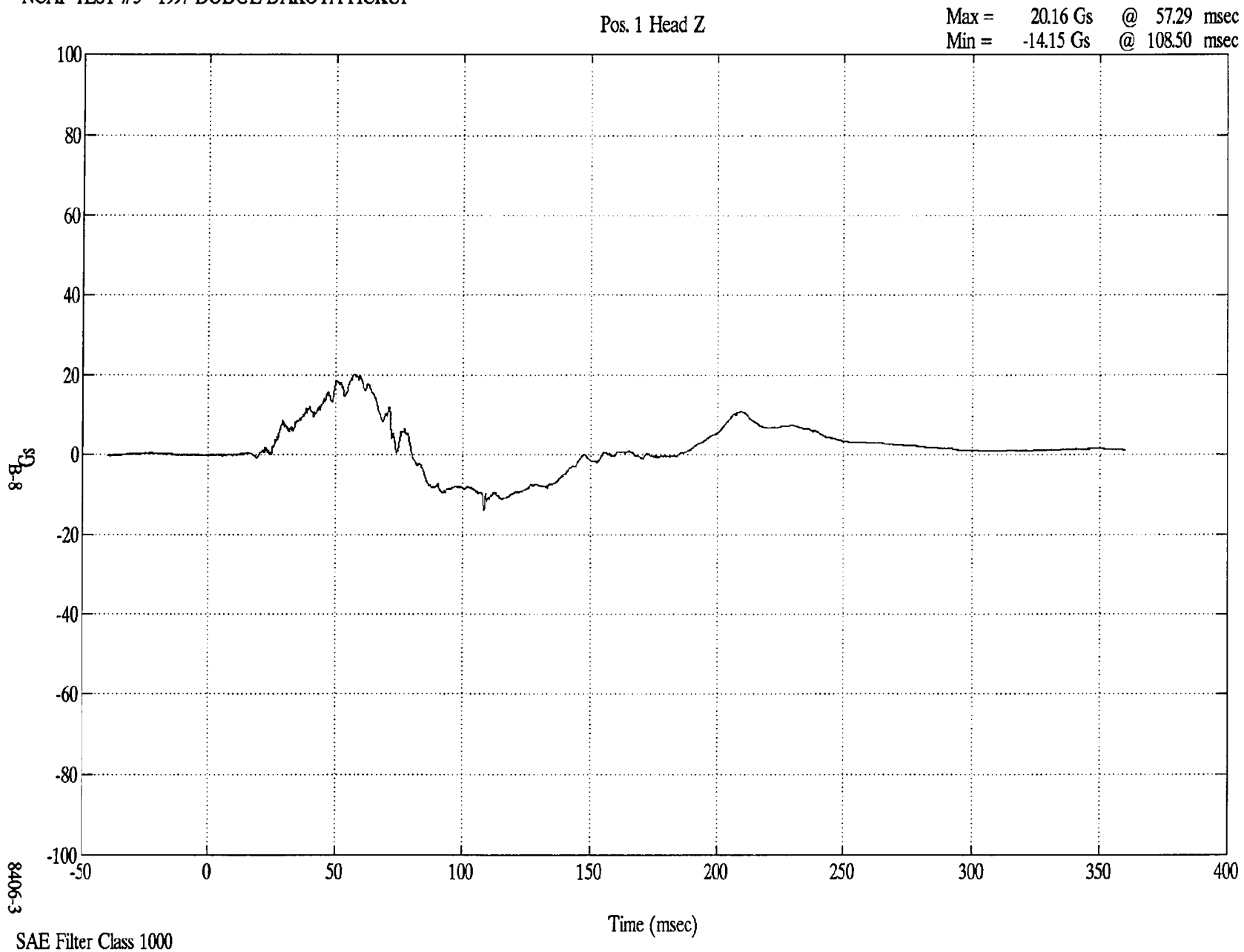

8406-3

SAE Filter Class 1000

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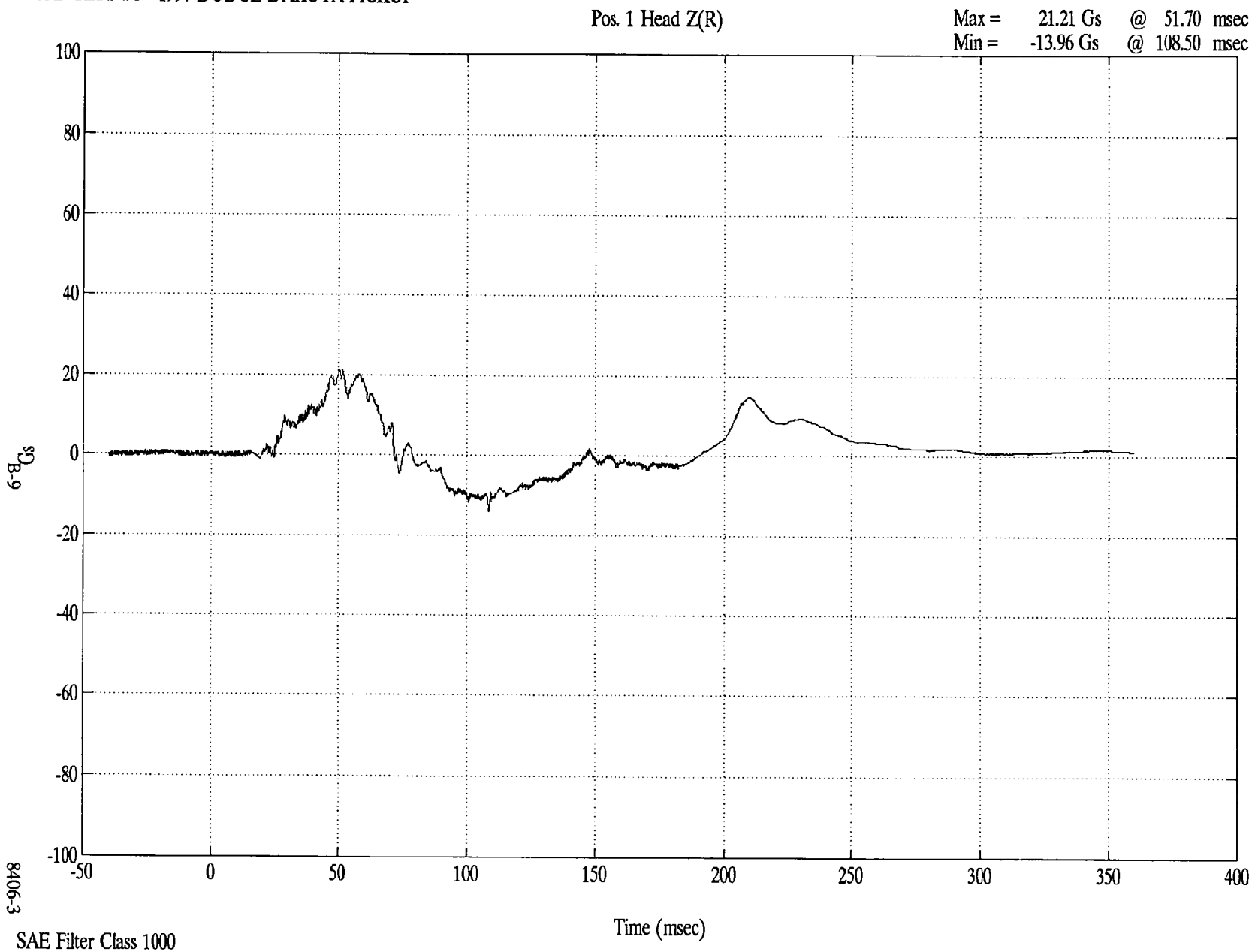

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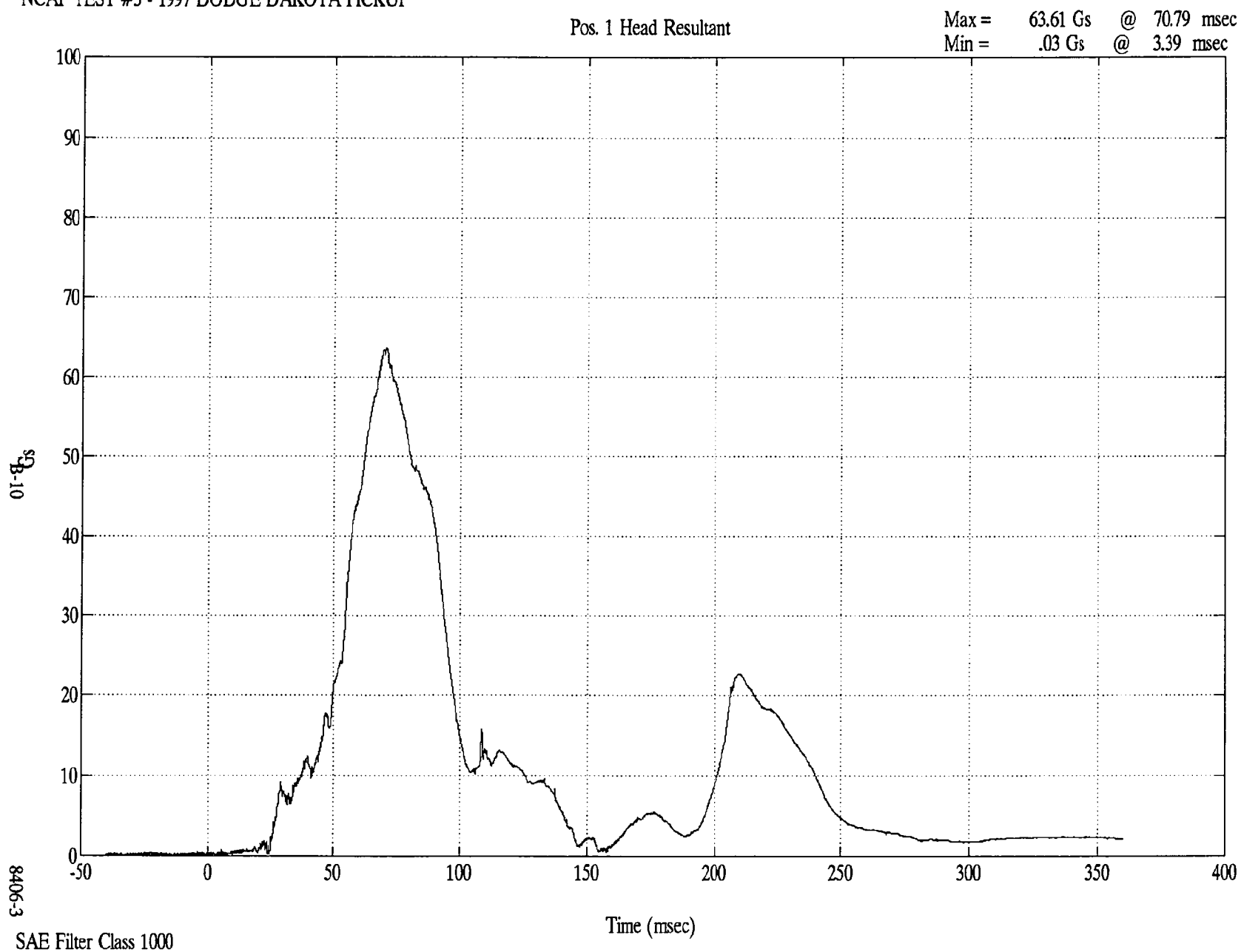

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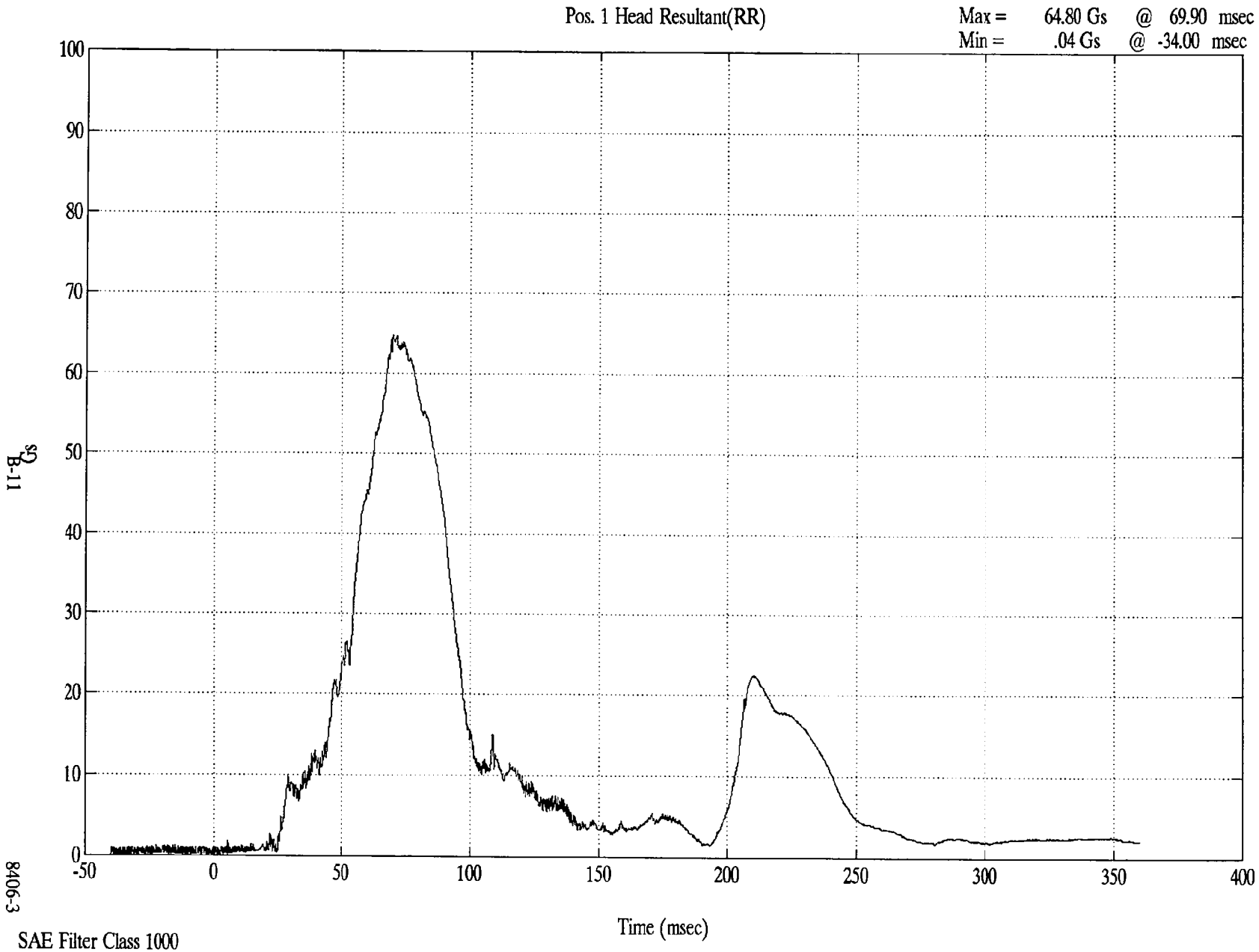

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SAE Filter Class 1000

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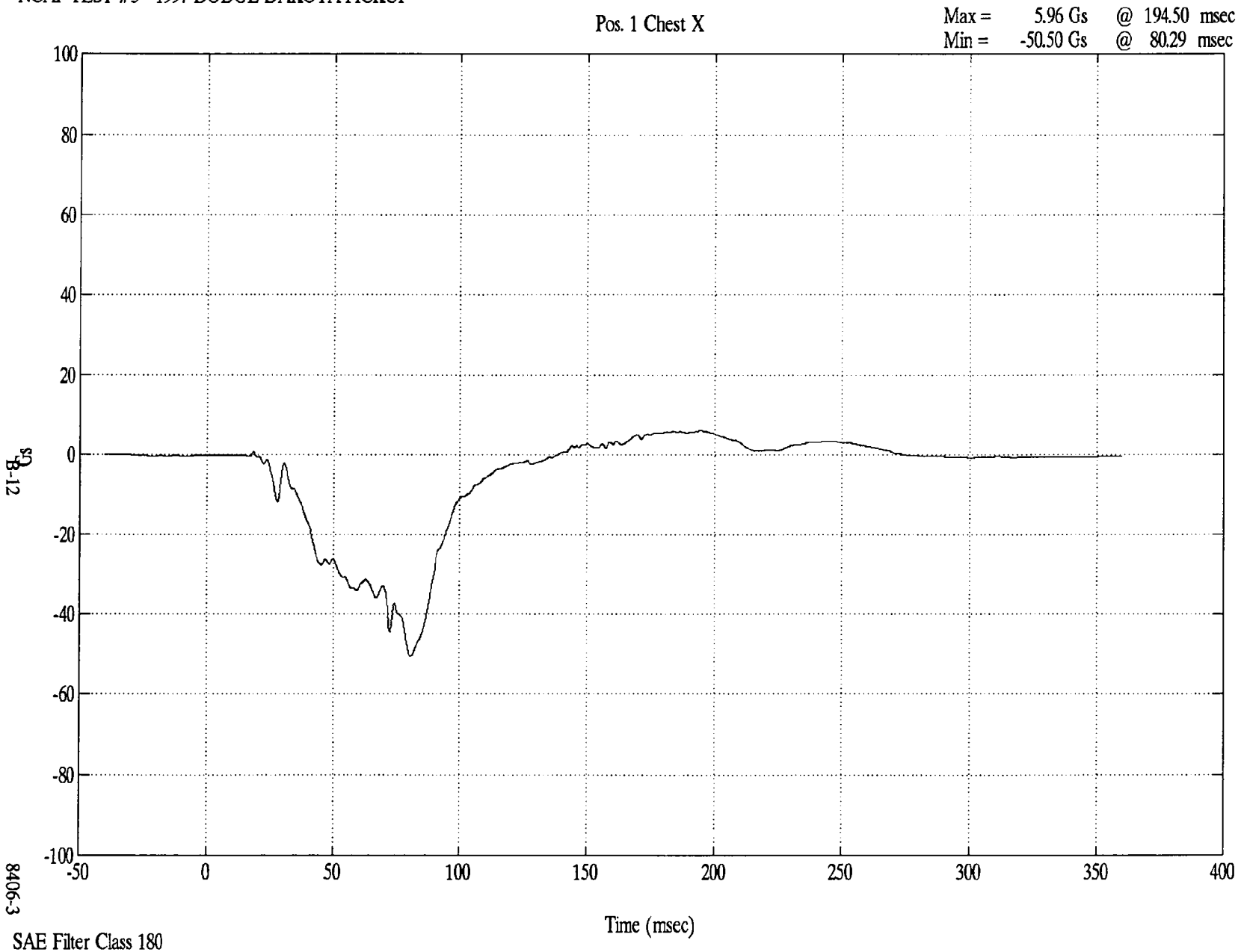

SAE Filter Class 180

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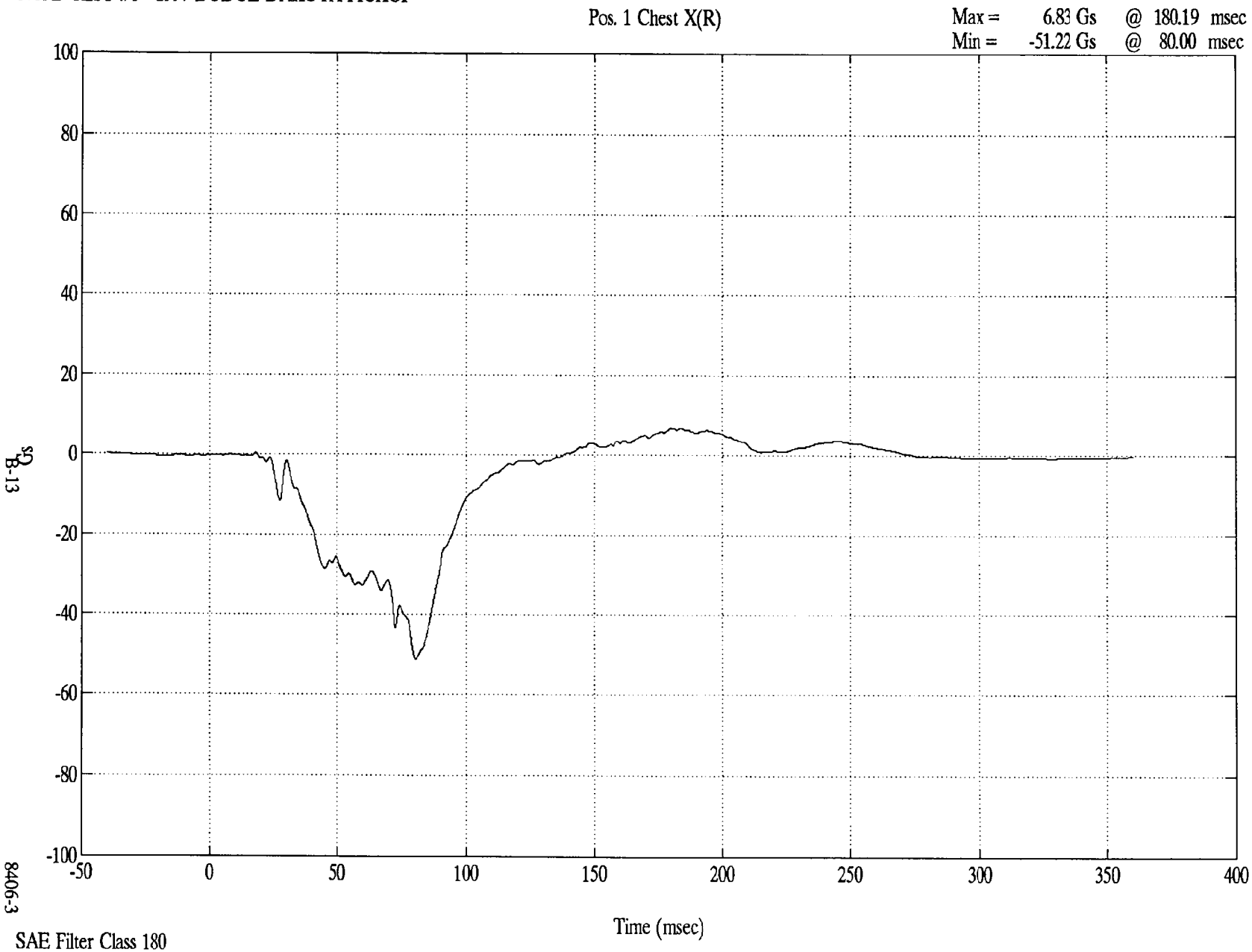

SAE Filter Class 180

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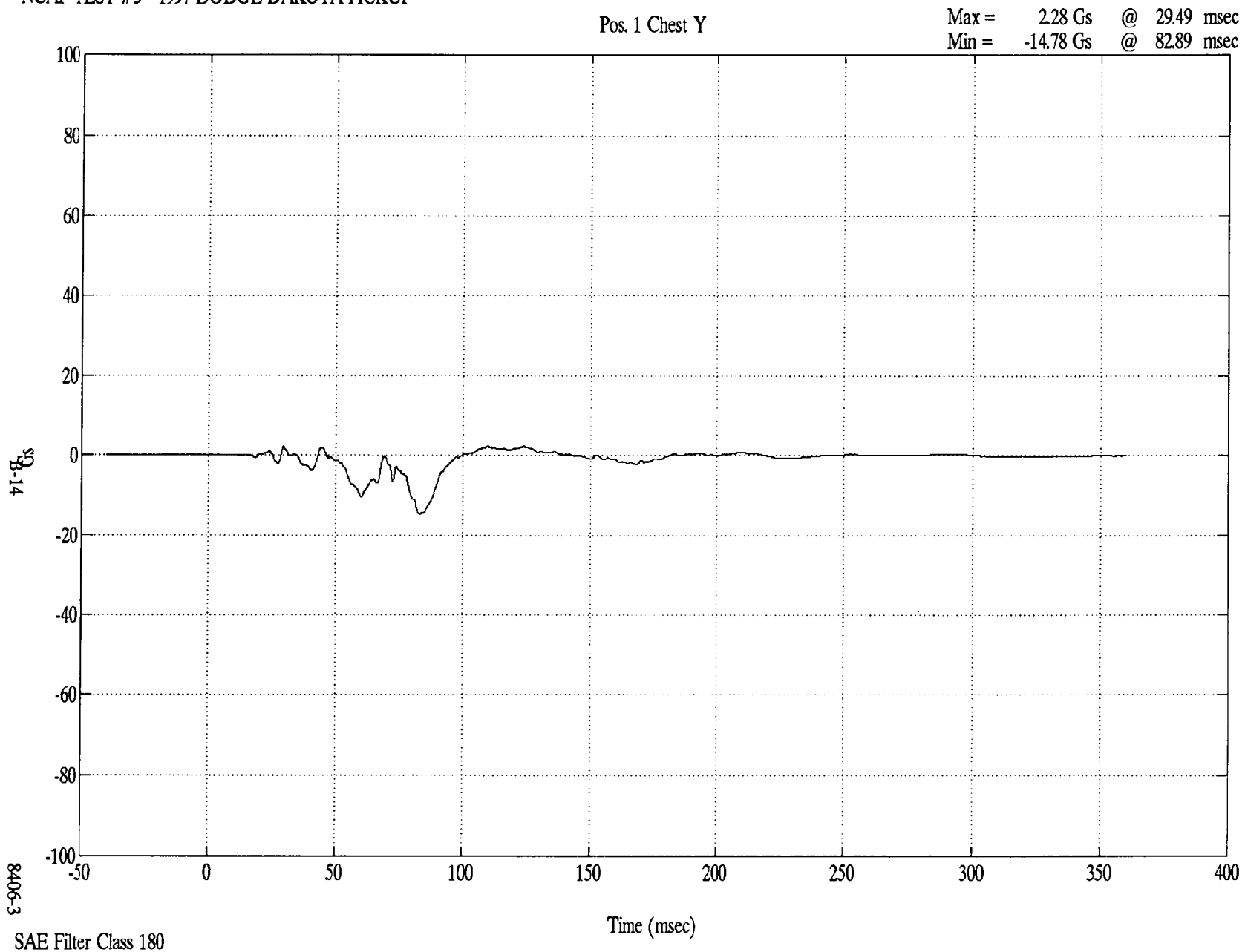

SAE Filter Class 180

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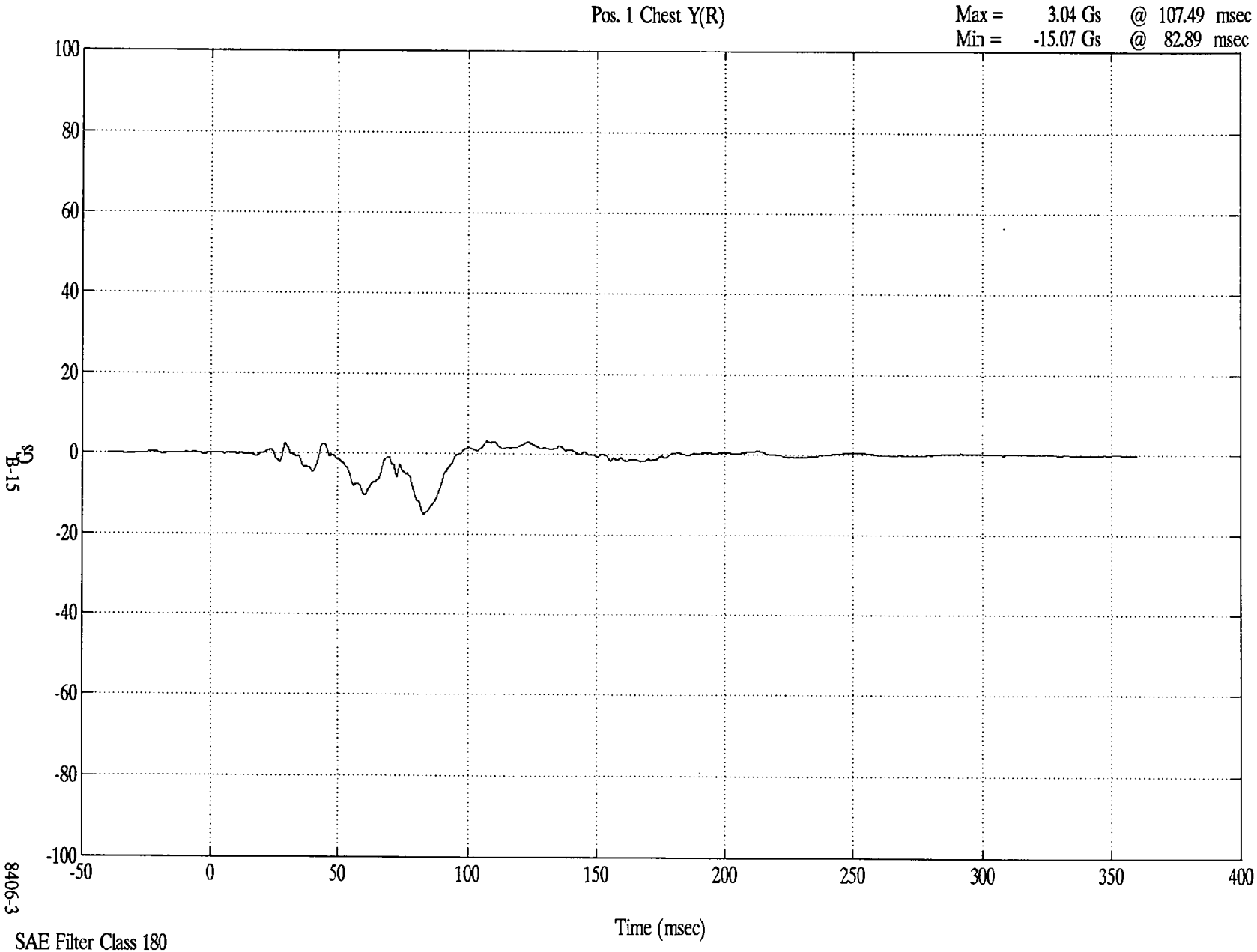

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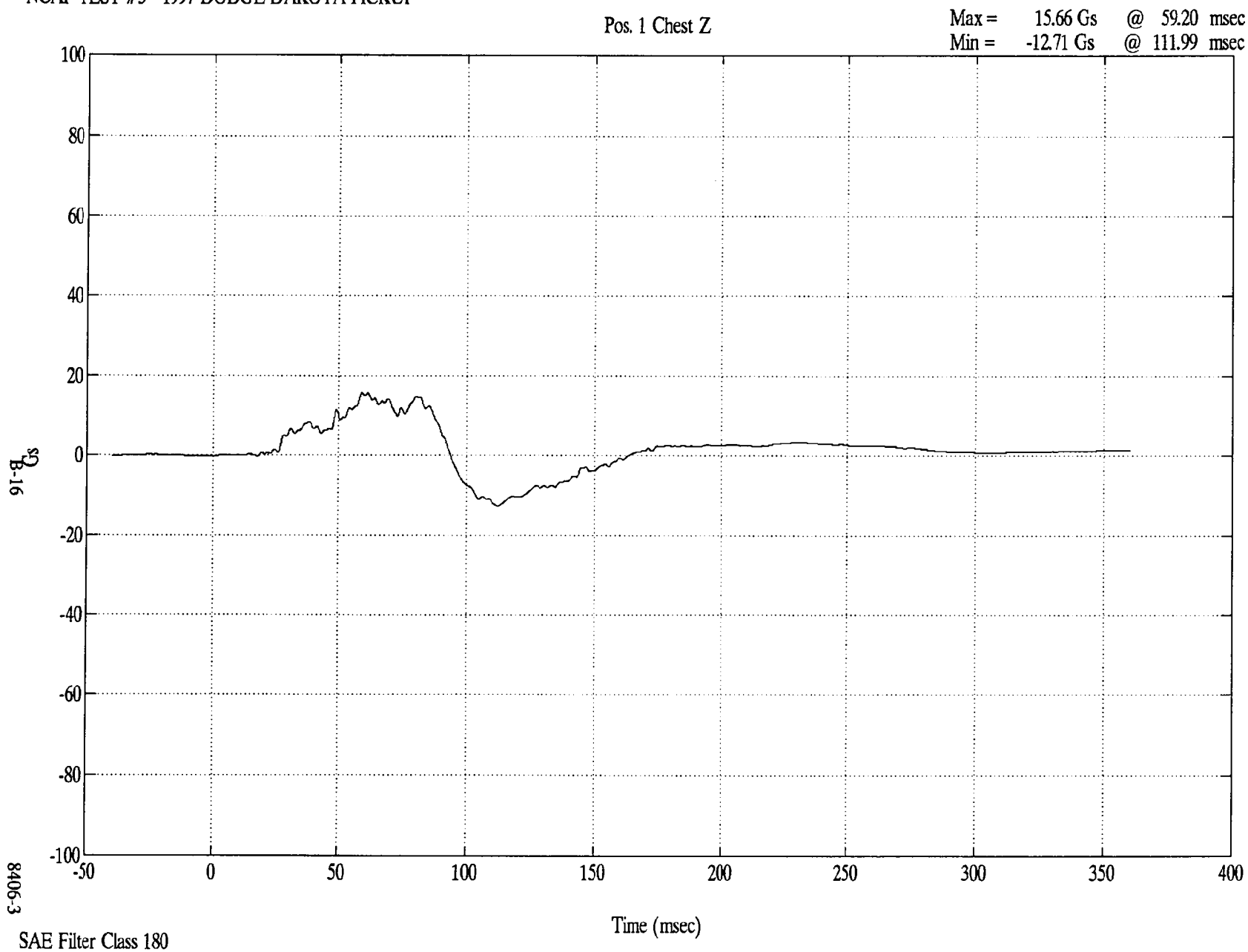

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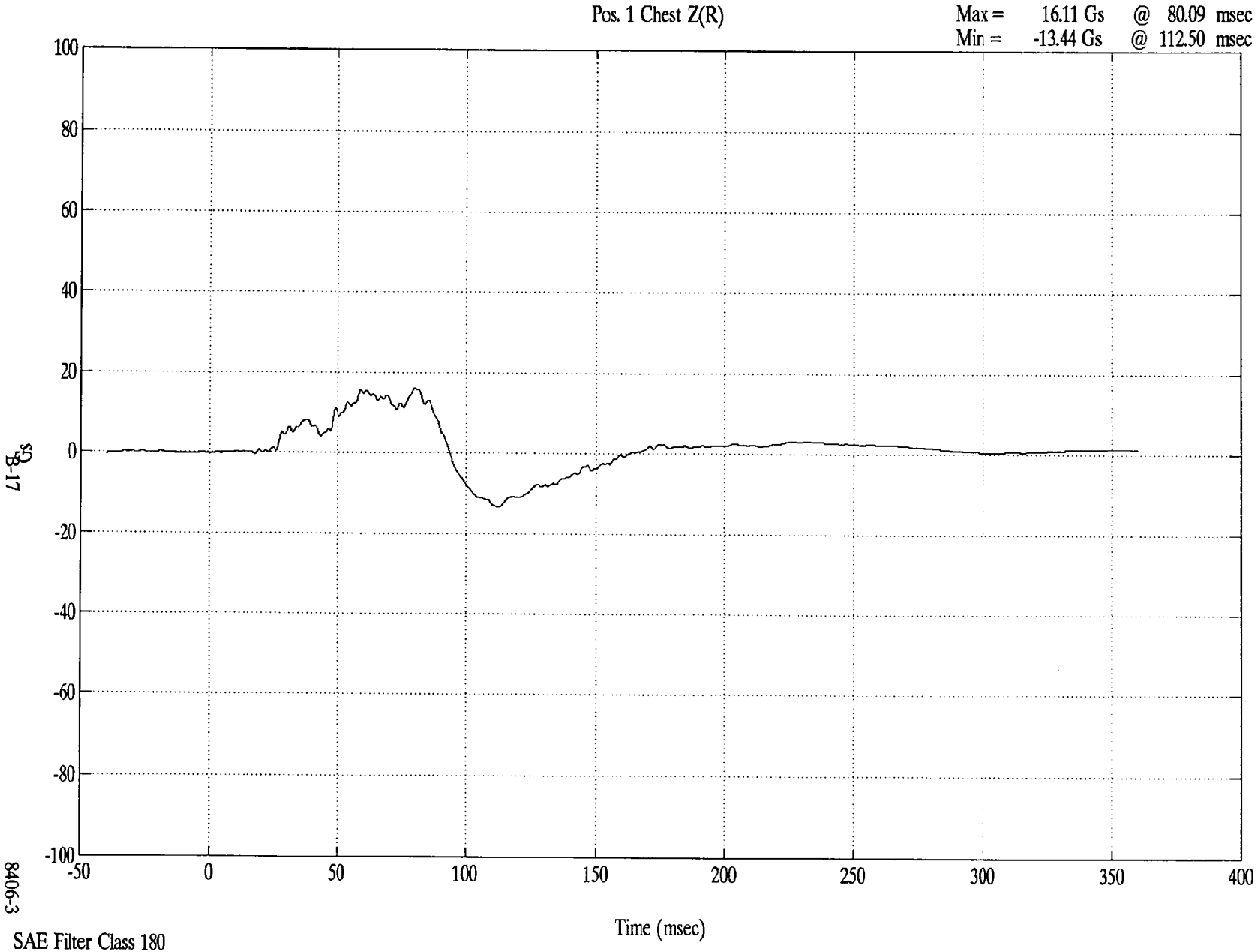

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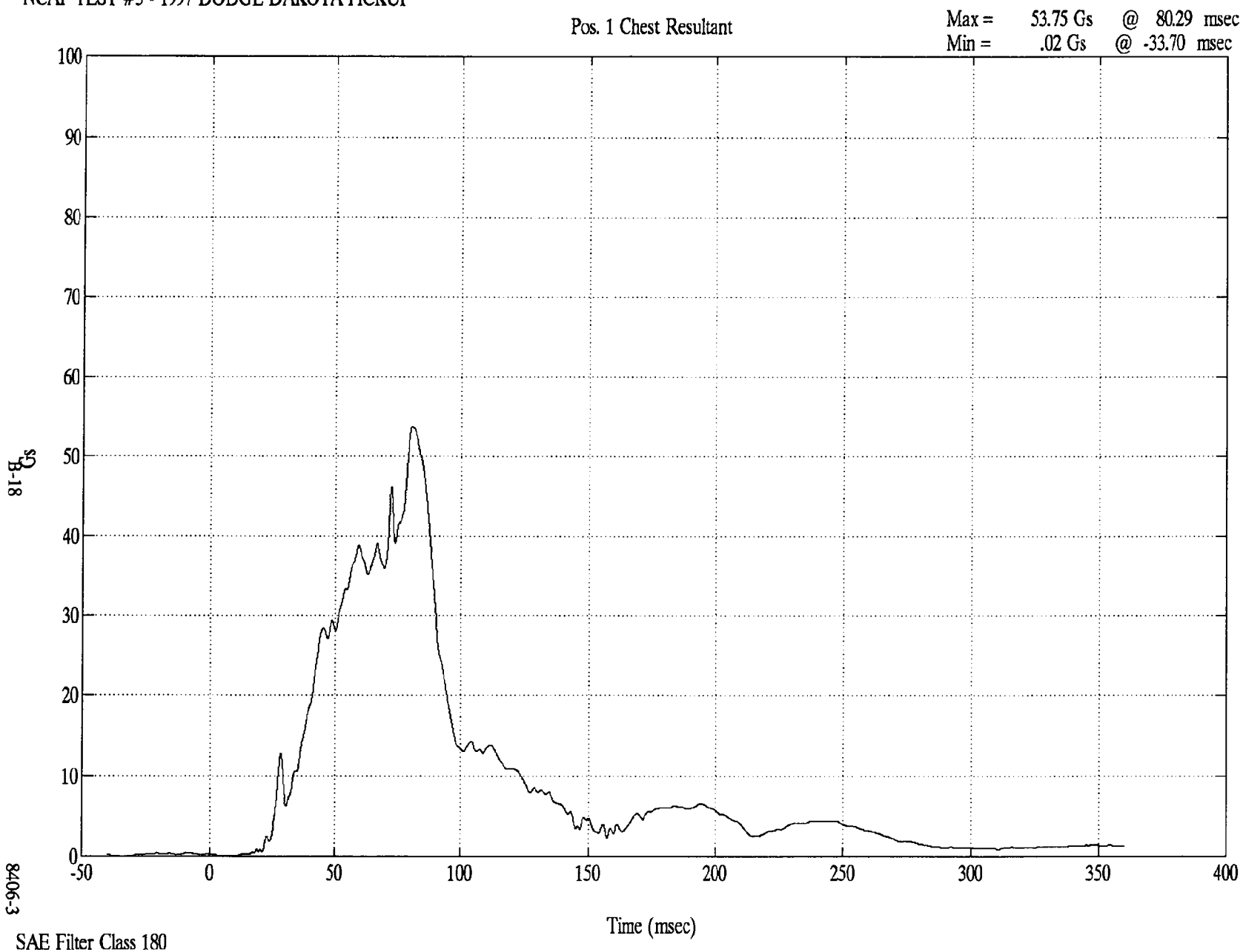

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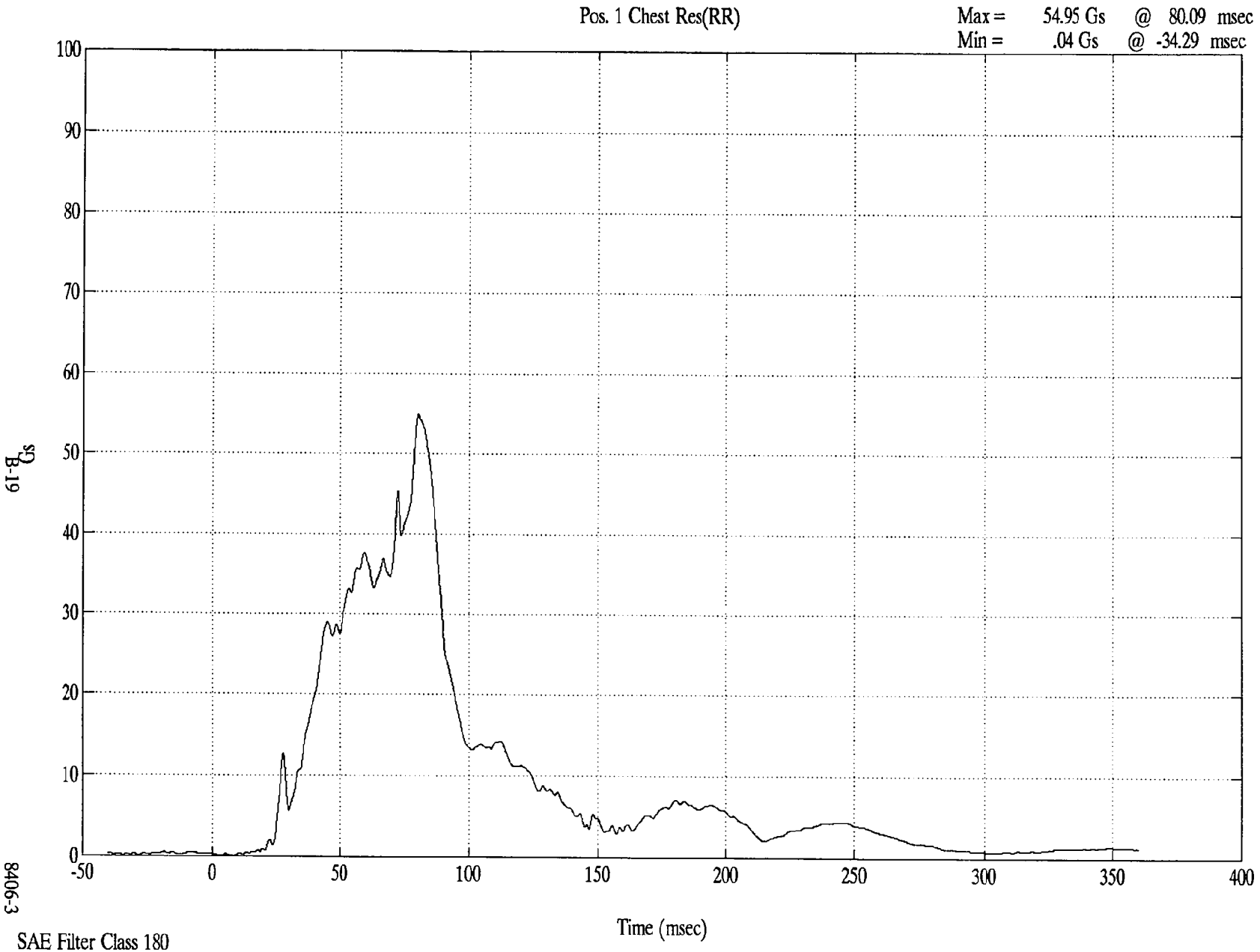

B-19

8406-3

SAE Filter Class 180

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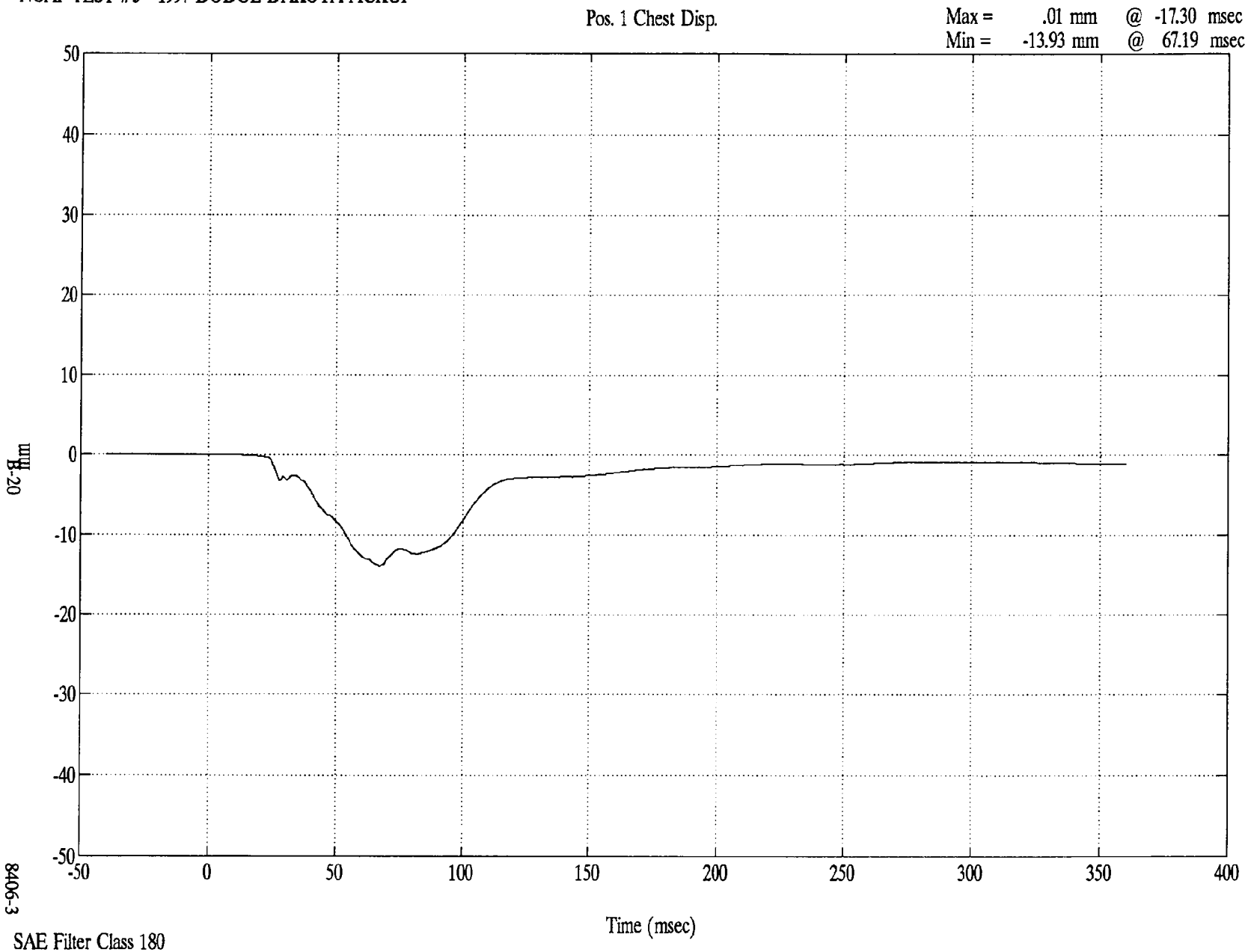

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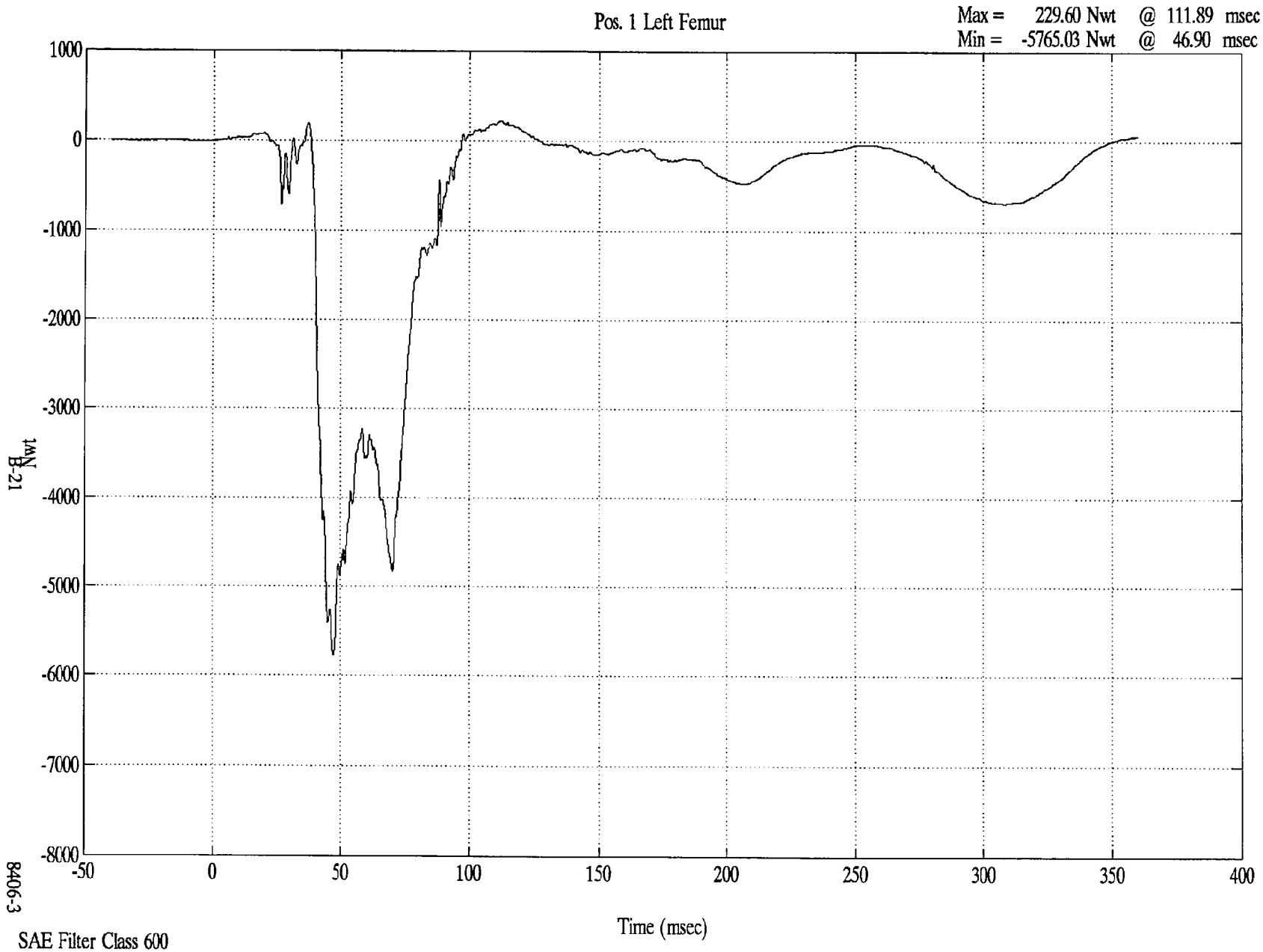

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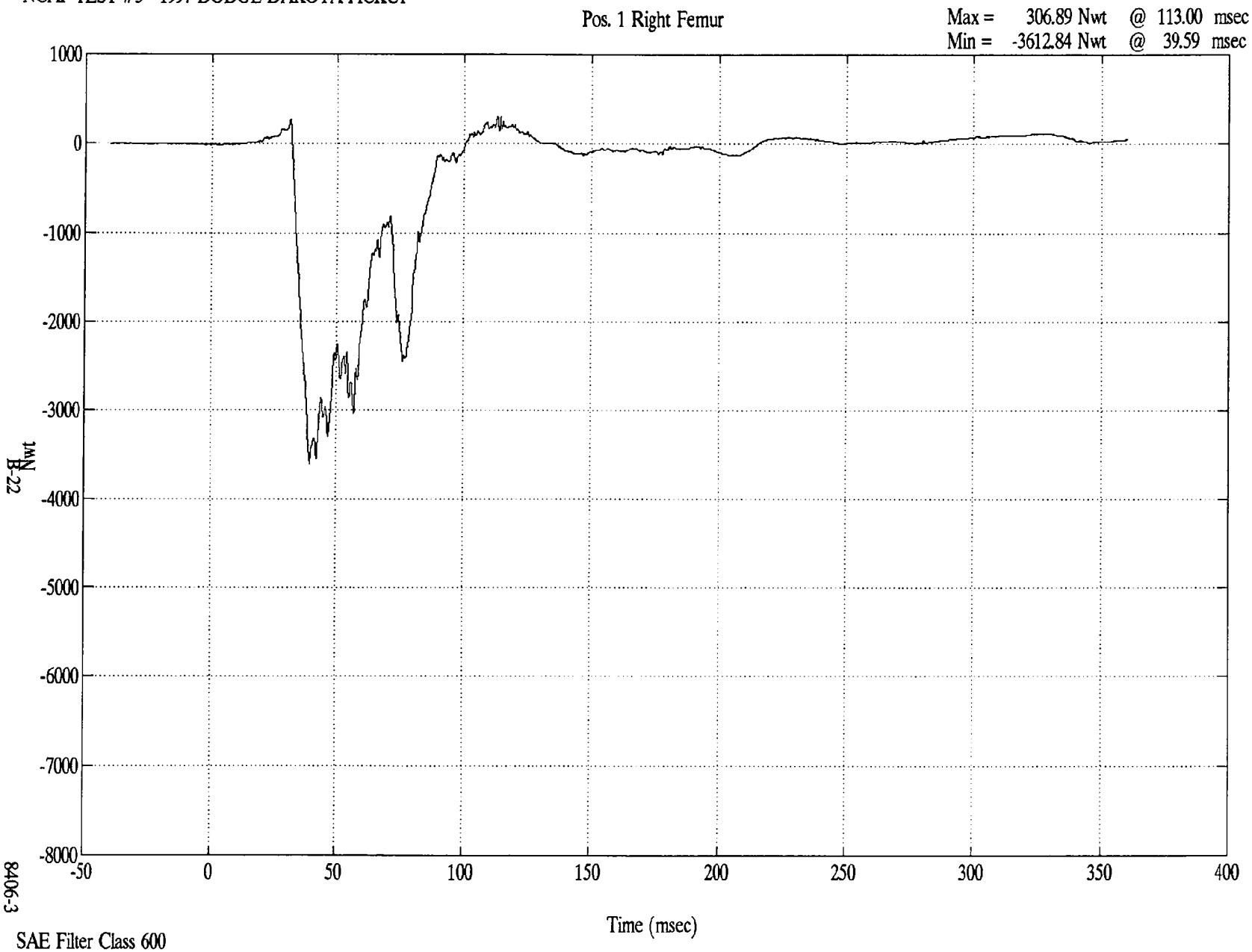

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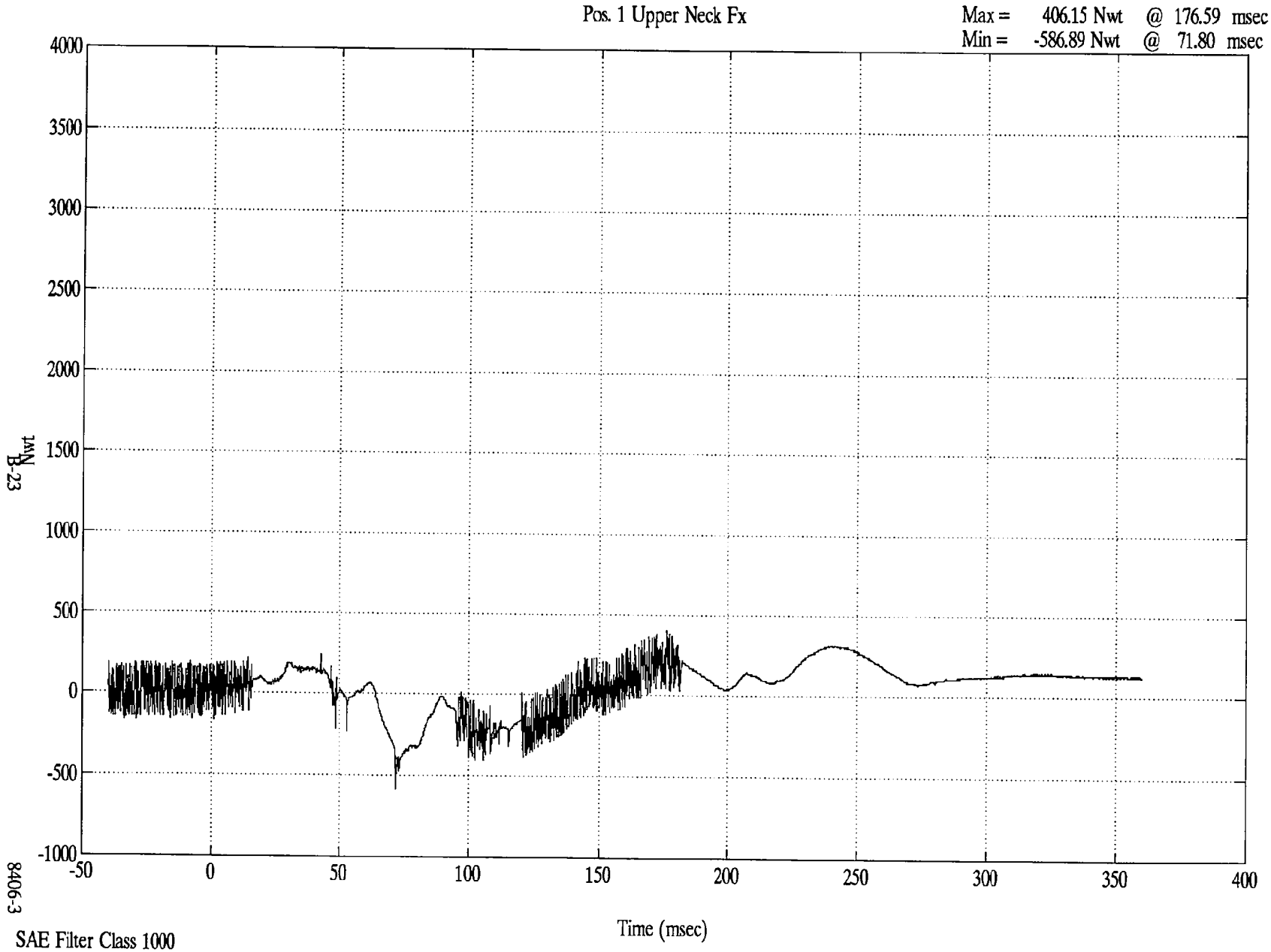

B-23

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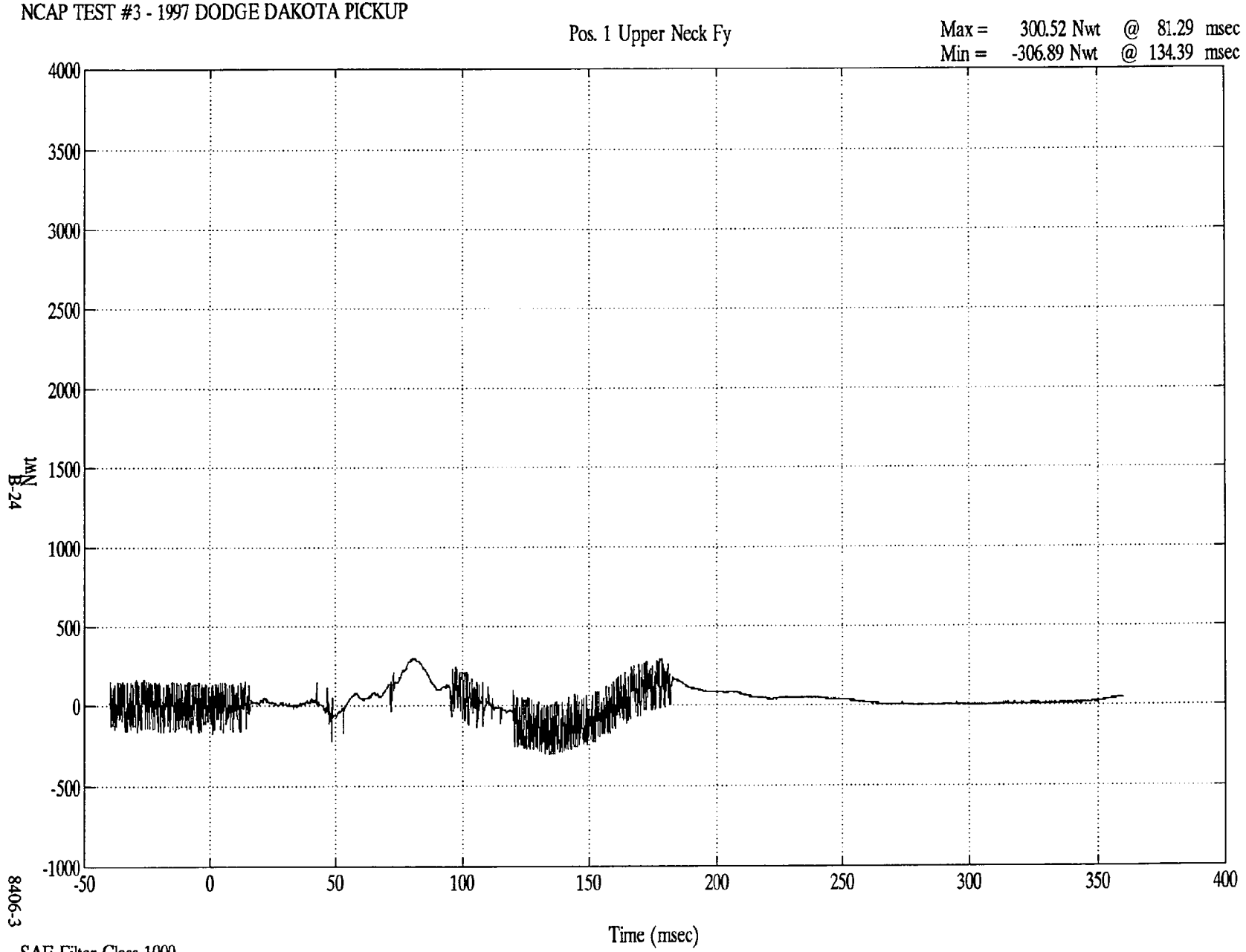

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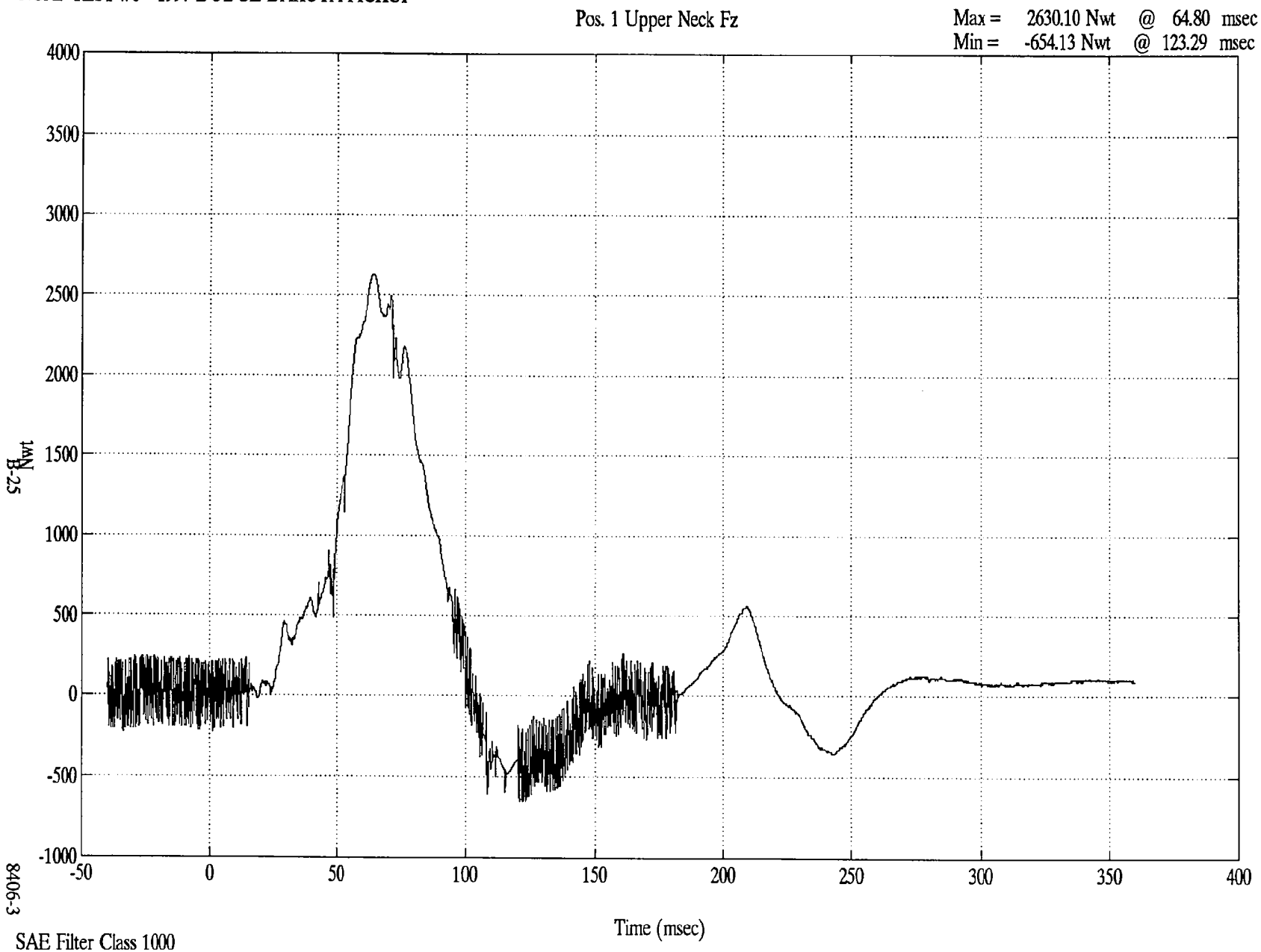

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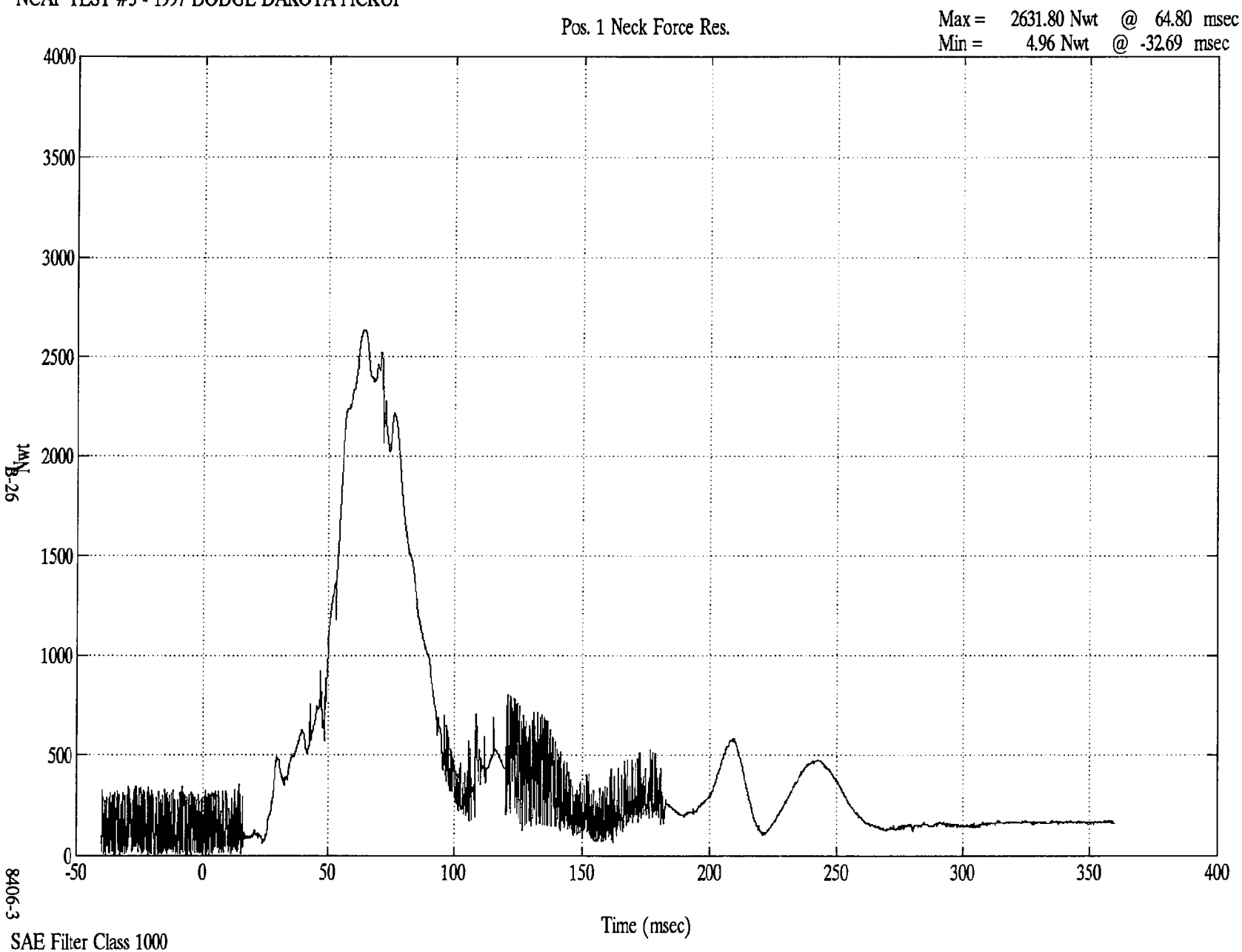

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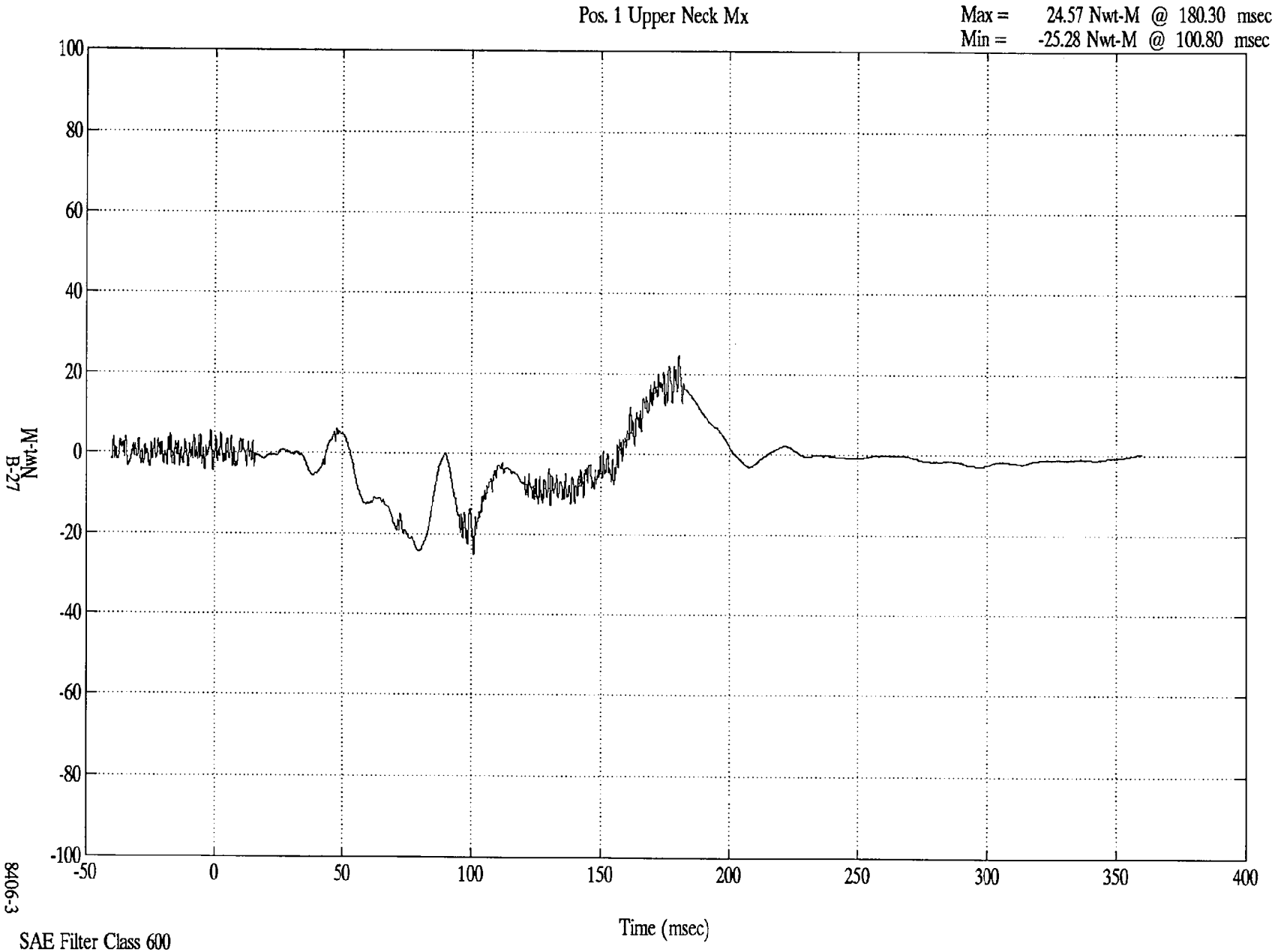

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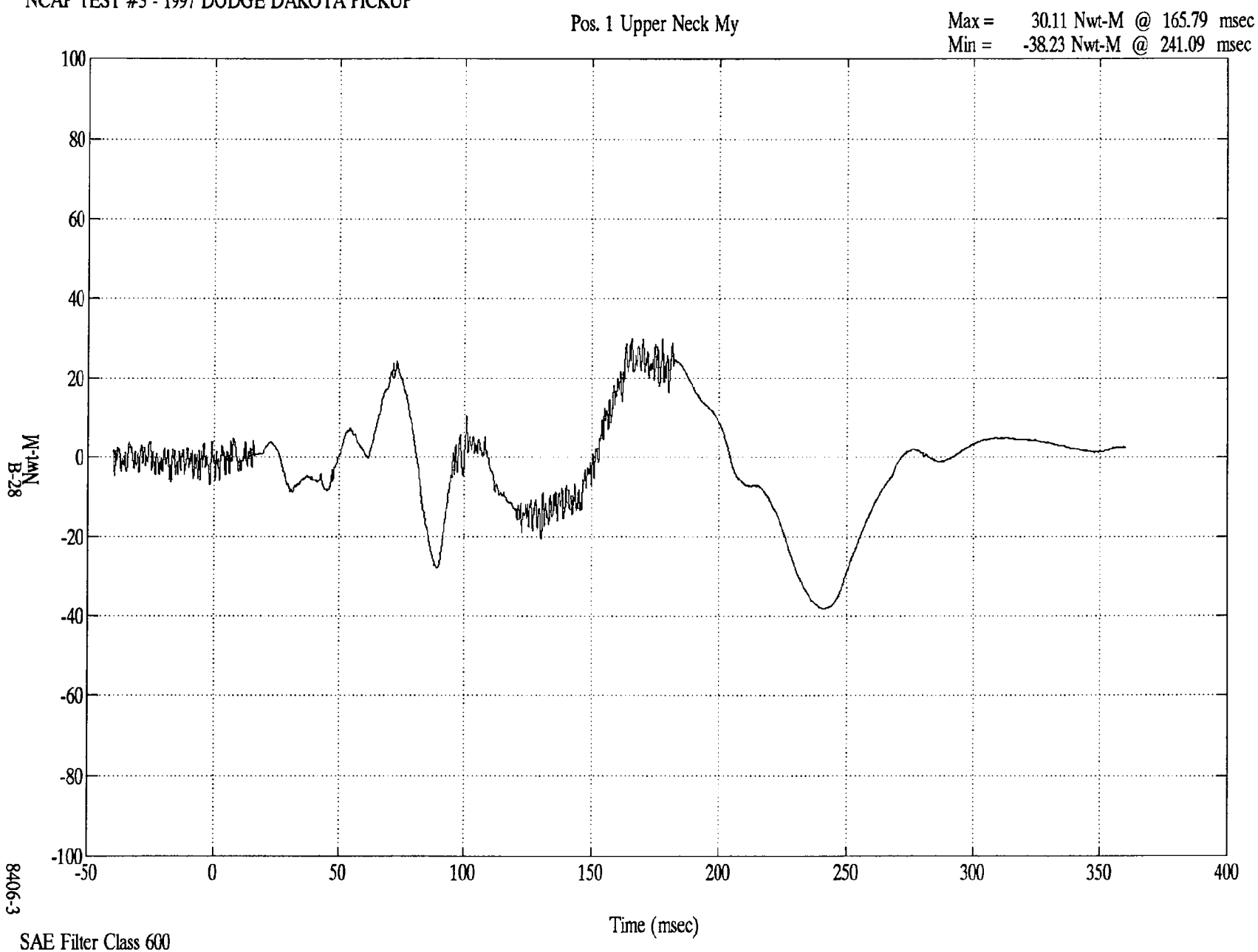

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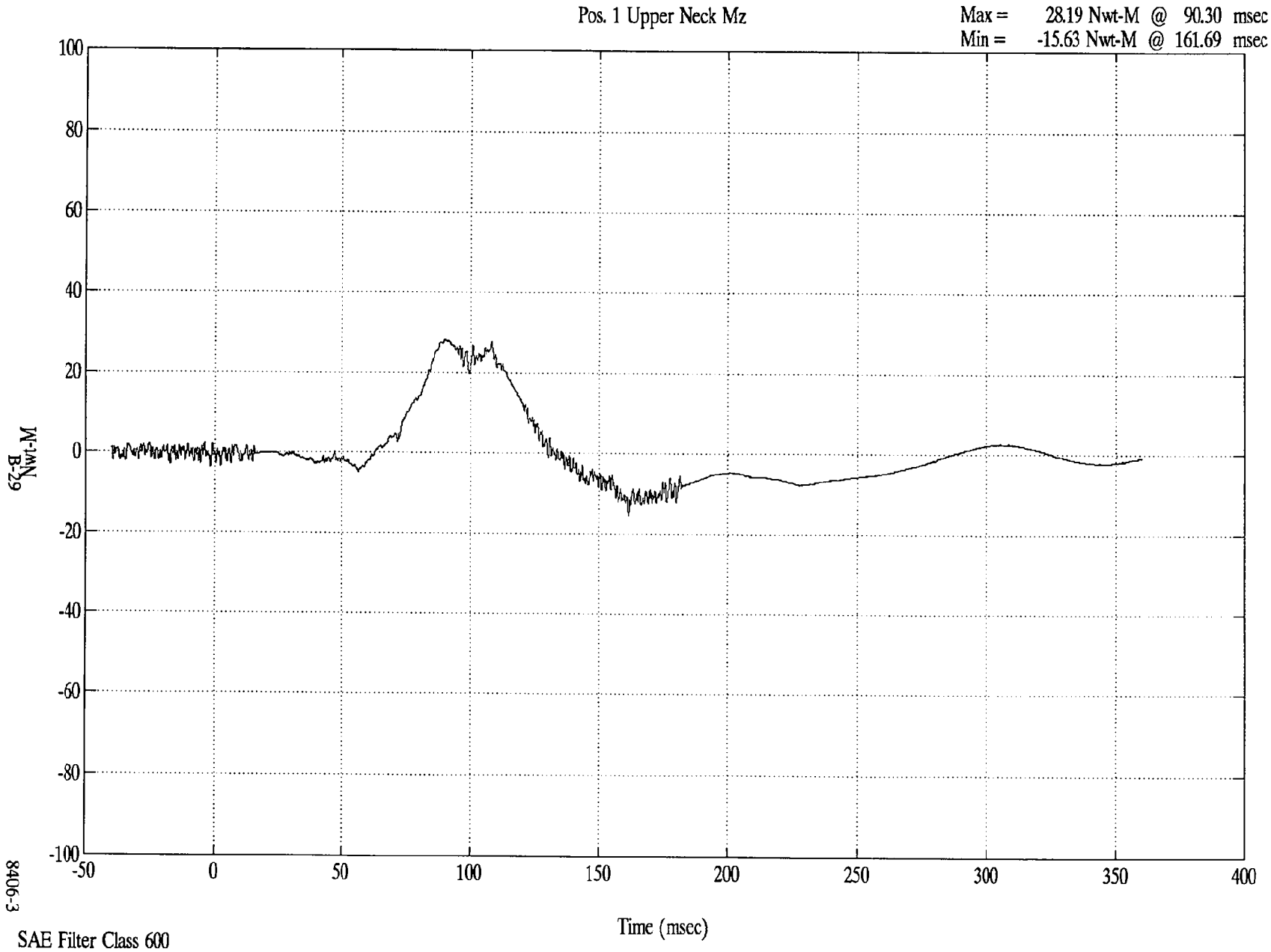

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SAE Filter Class 600

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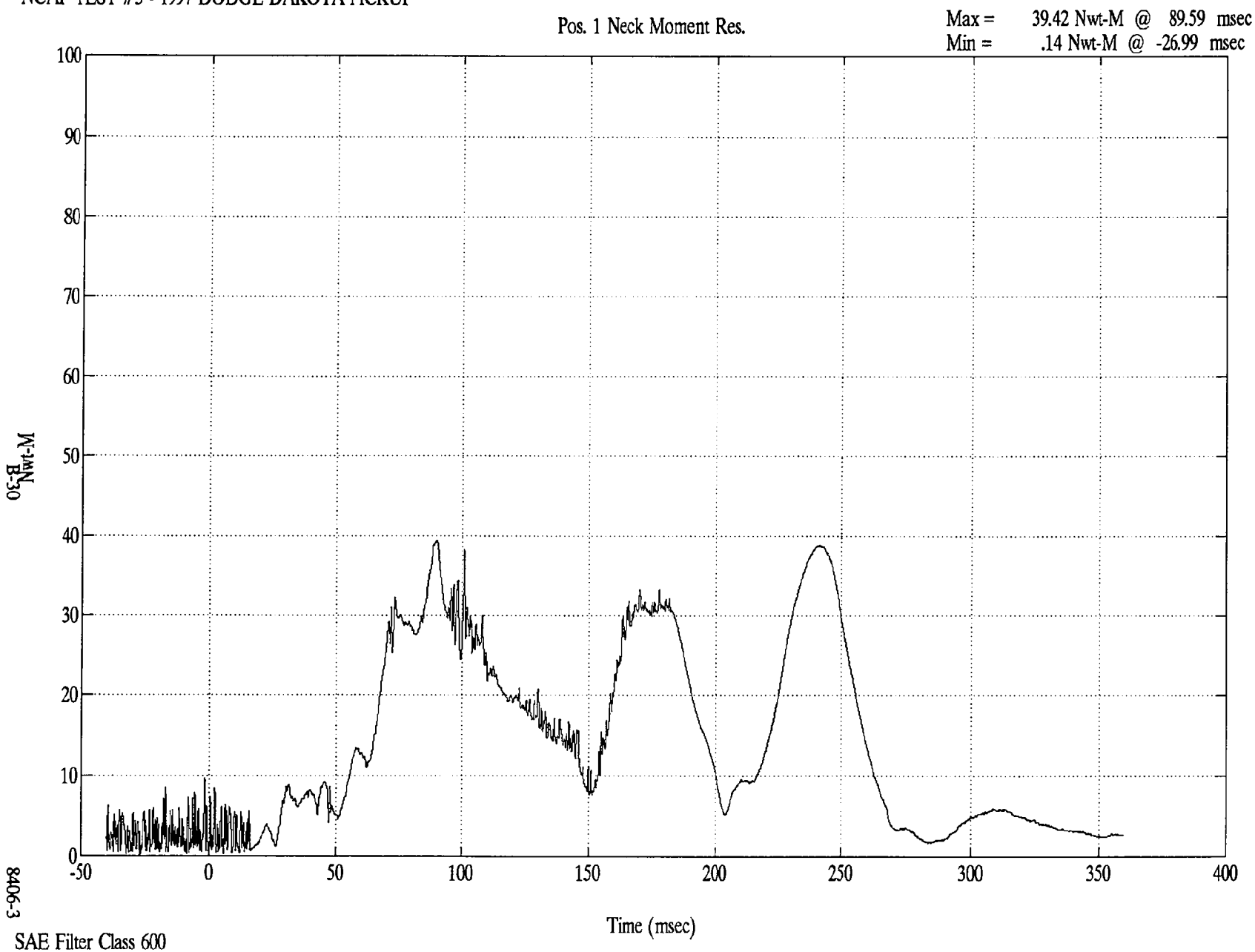

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SAE Filter Class 600

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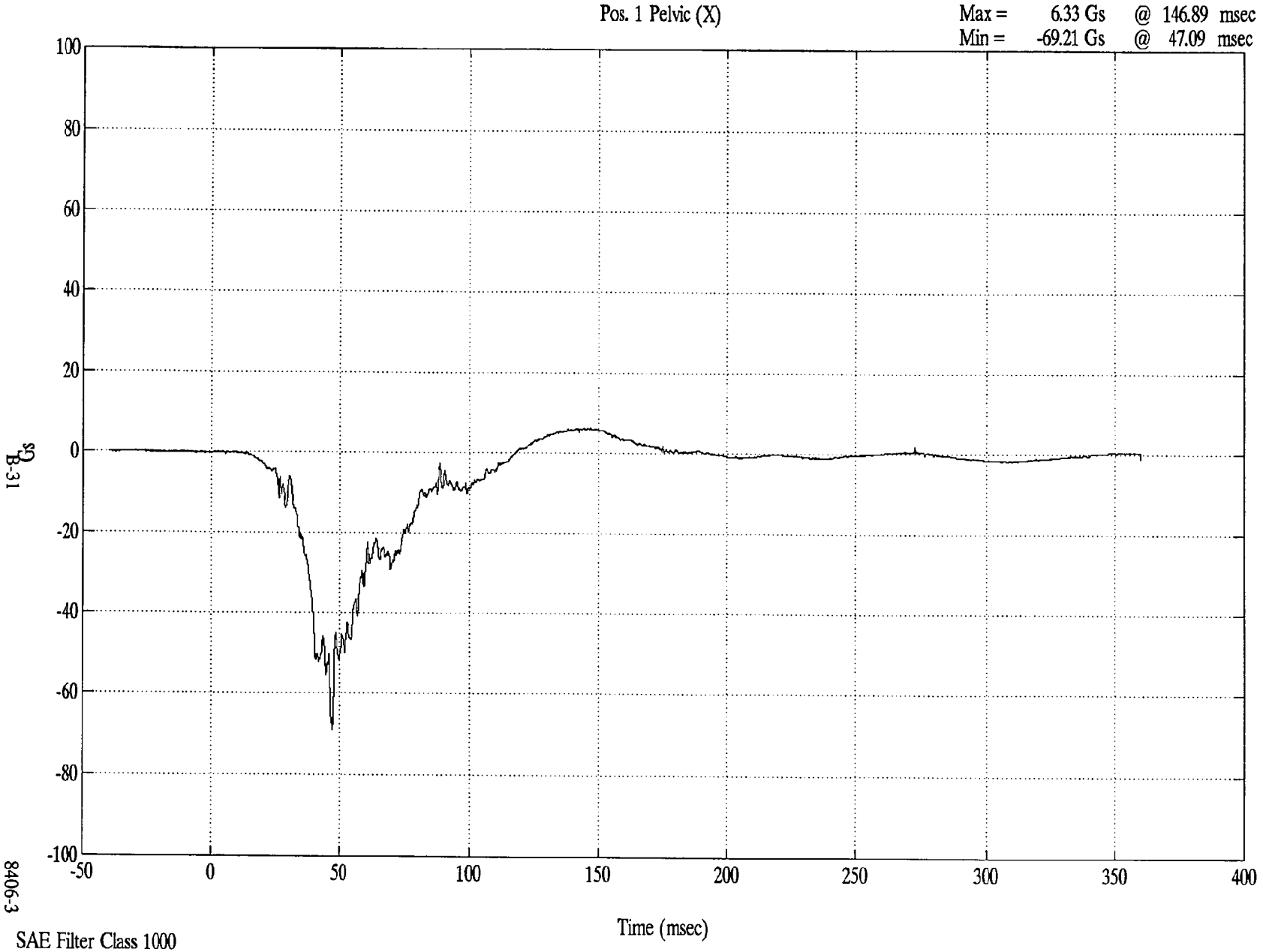

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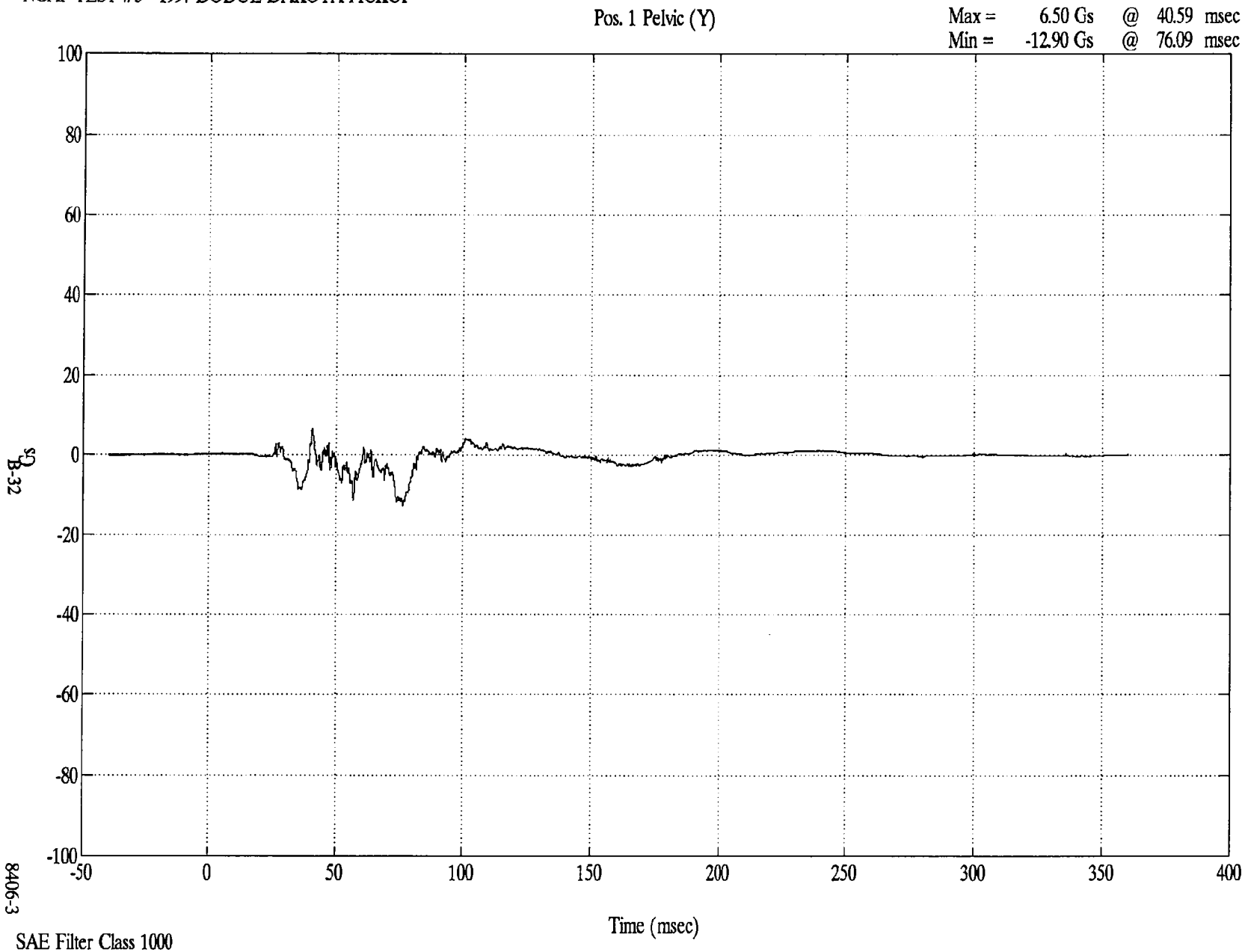

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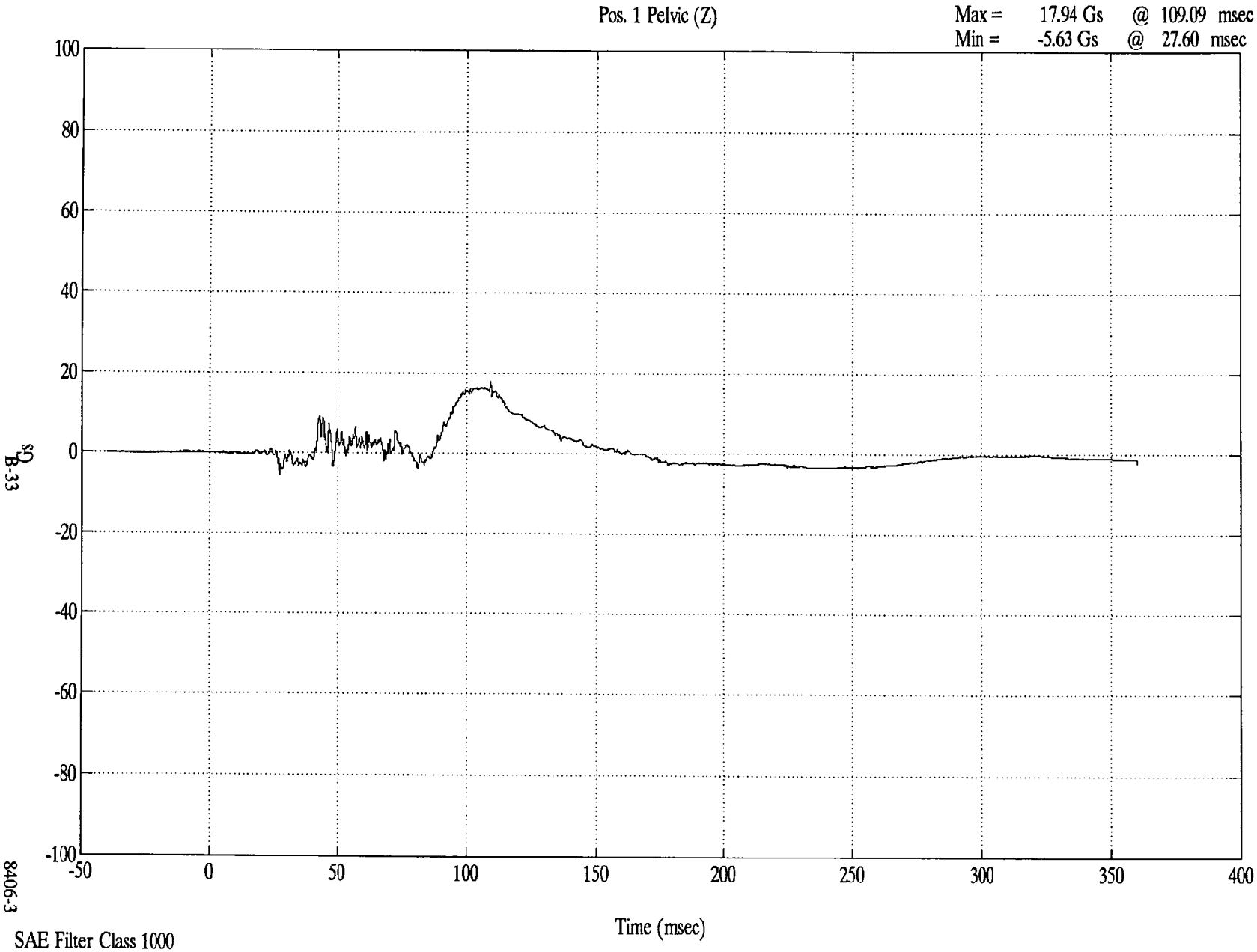

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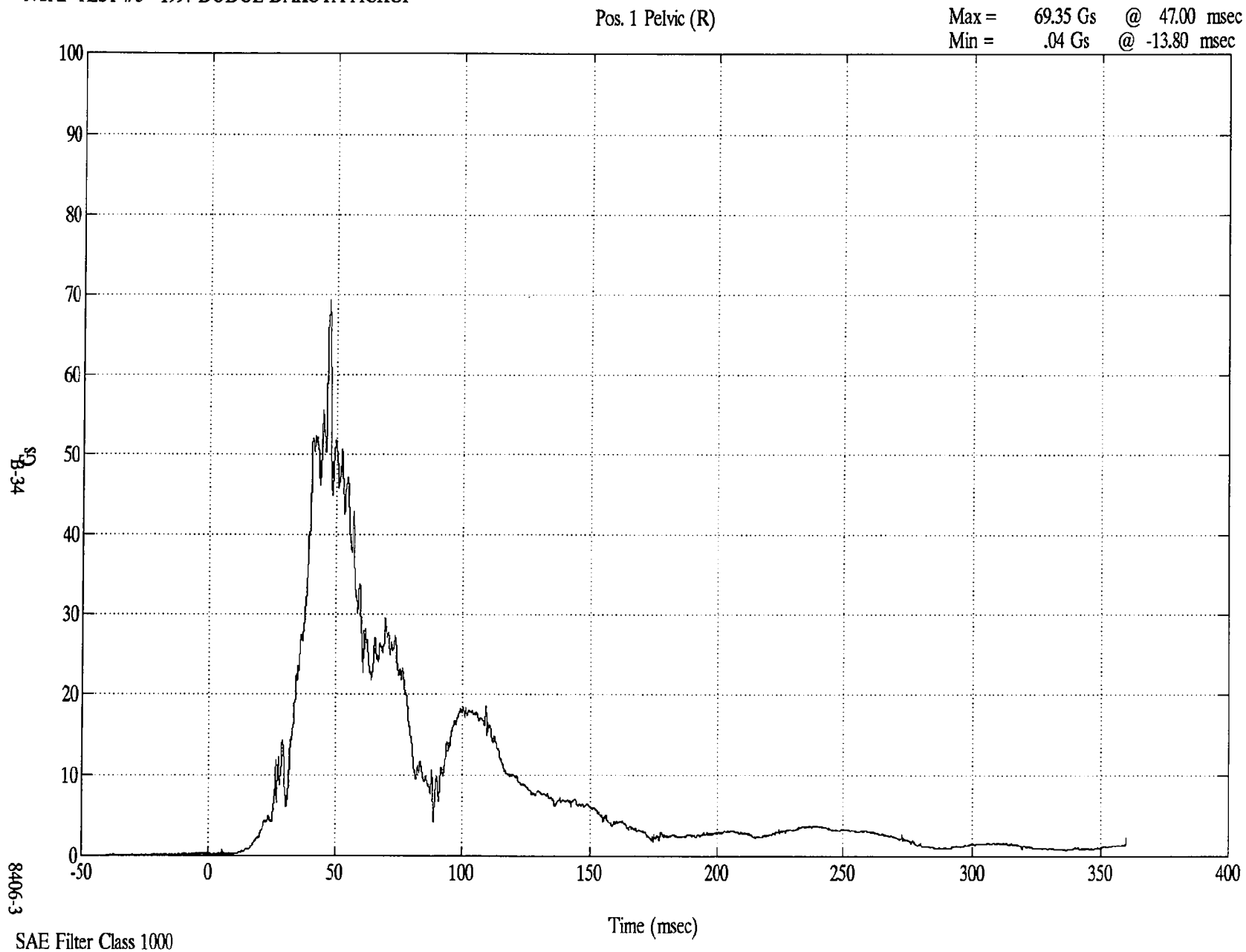

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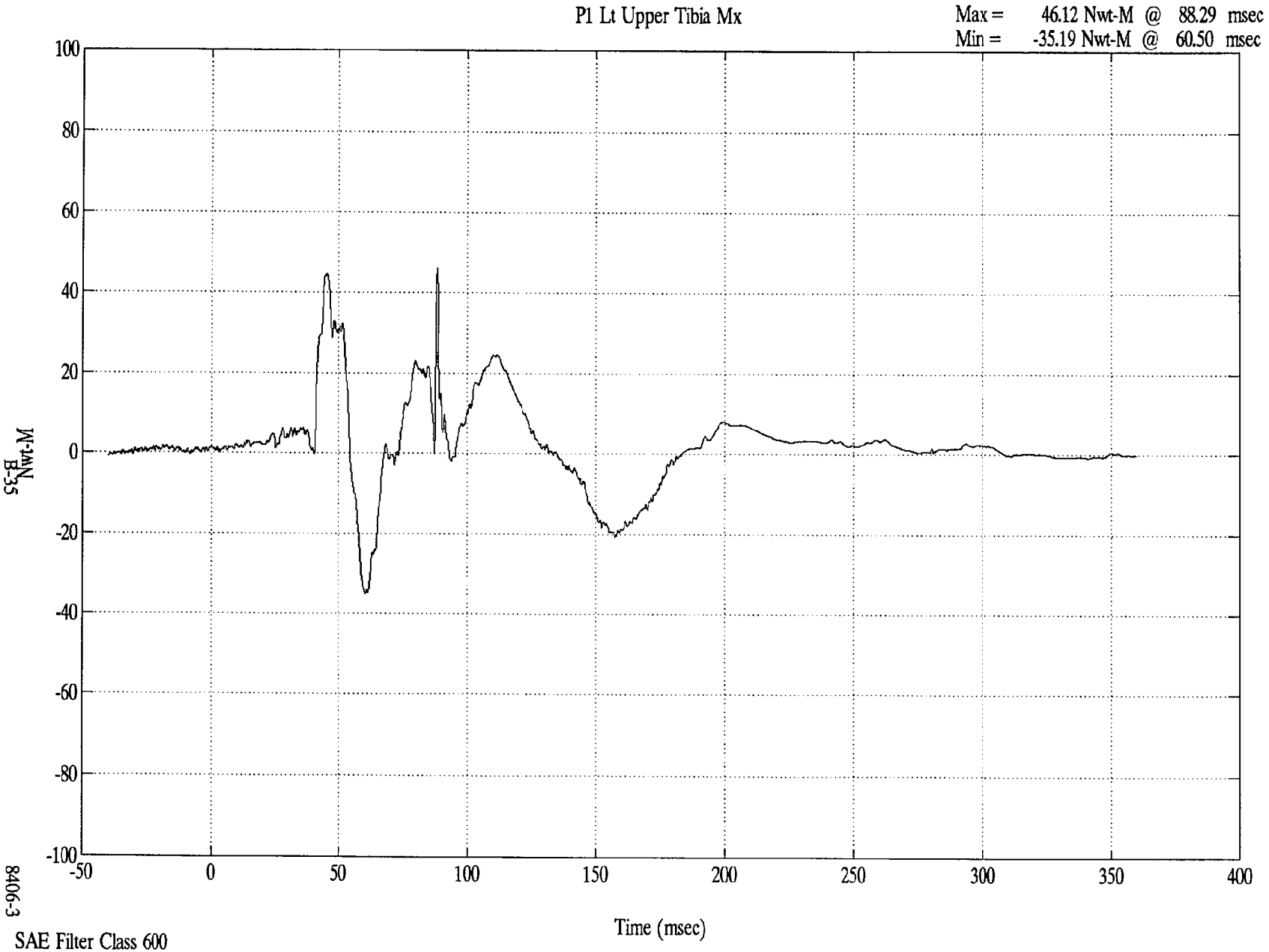

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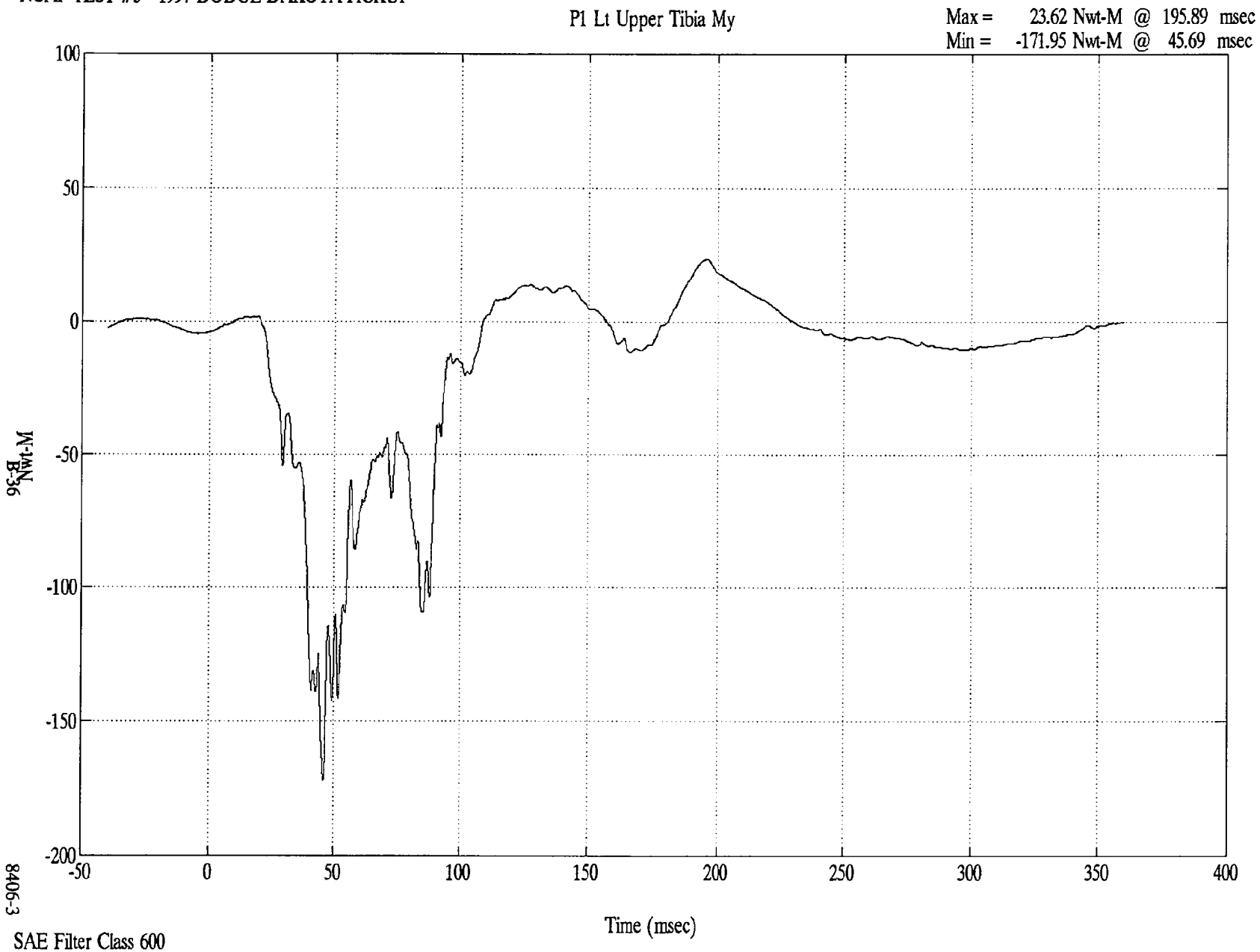
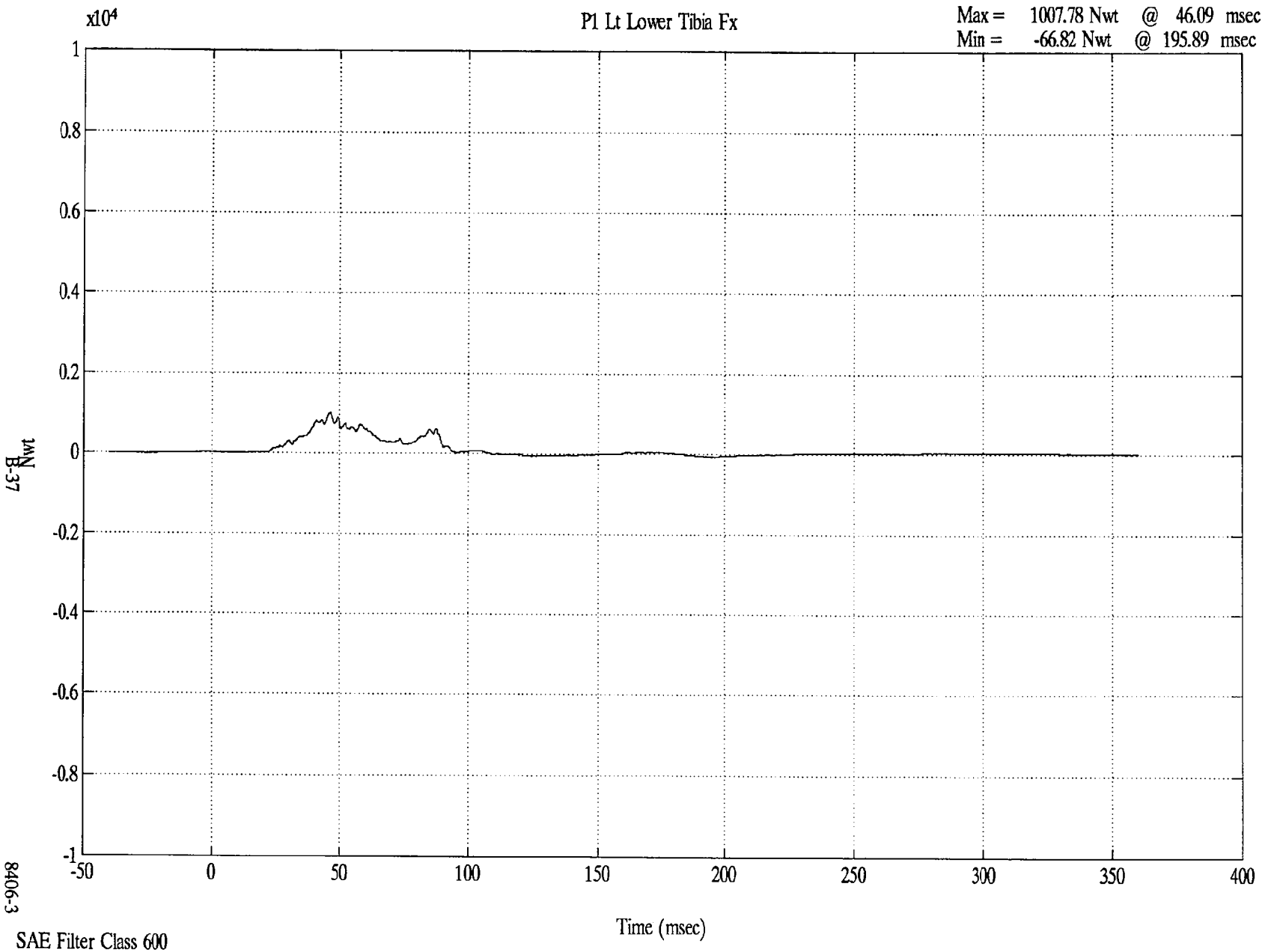


8406-3

SAE Filter Class 600

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

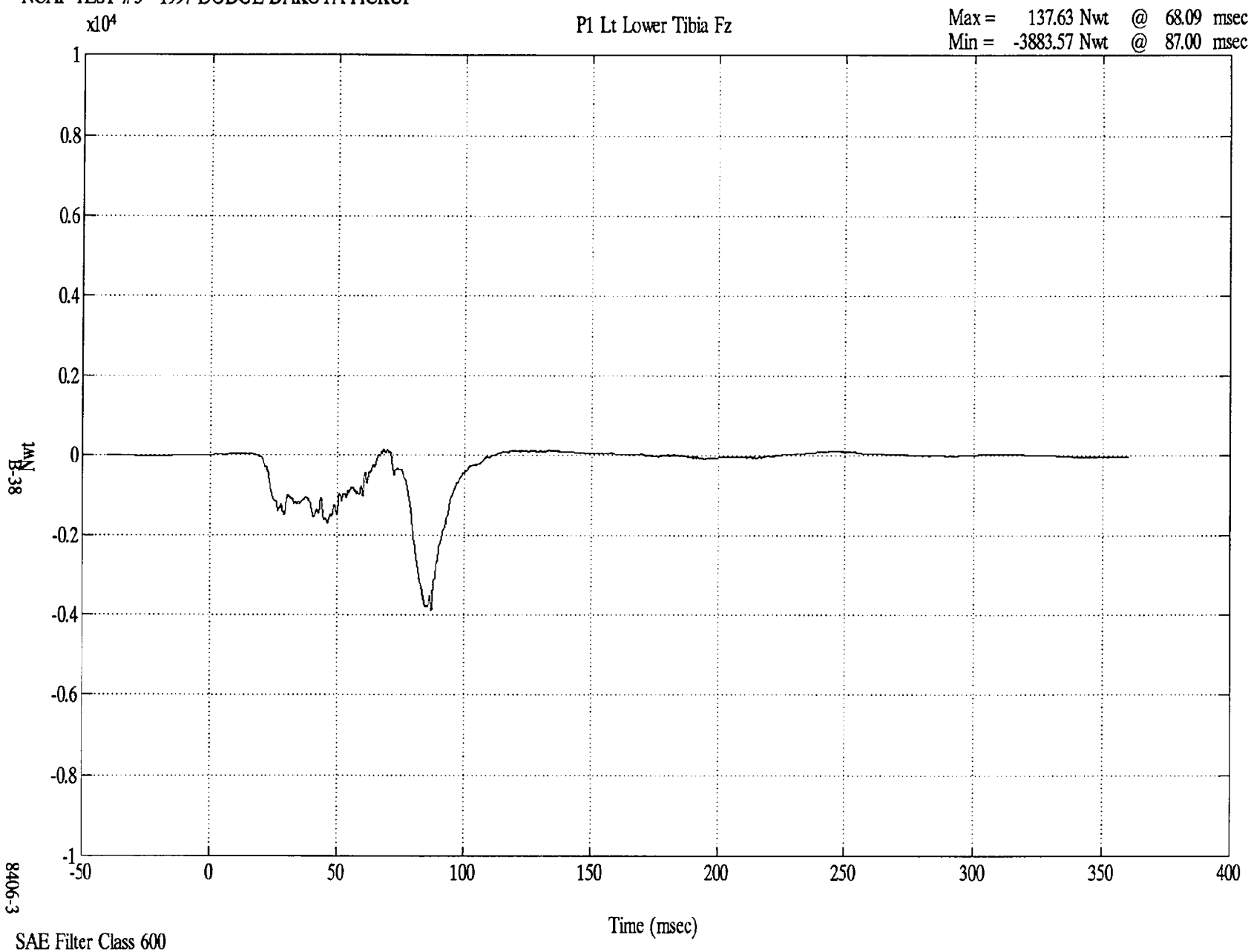


B-37

8406-3

SAE Filter Class 600

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 600

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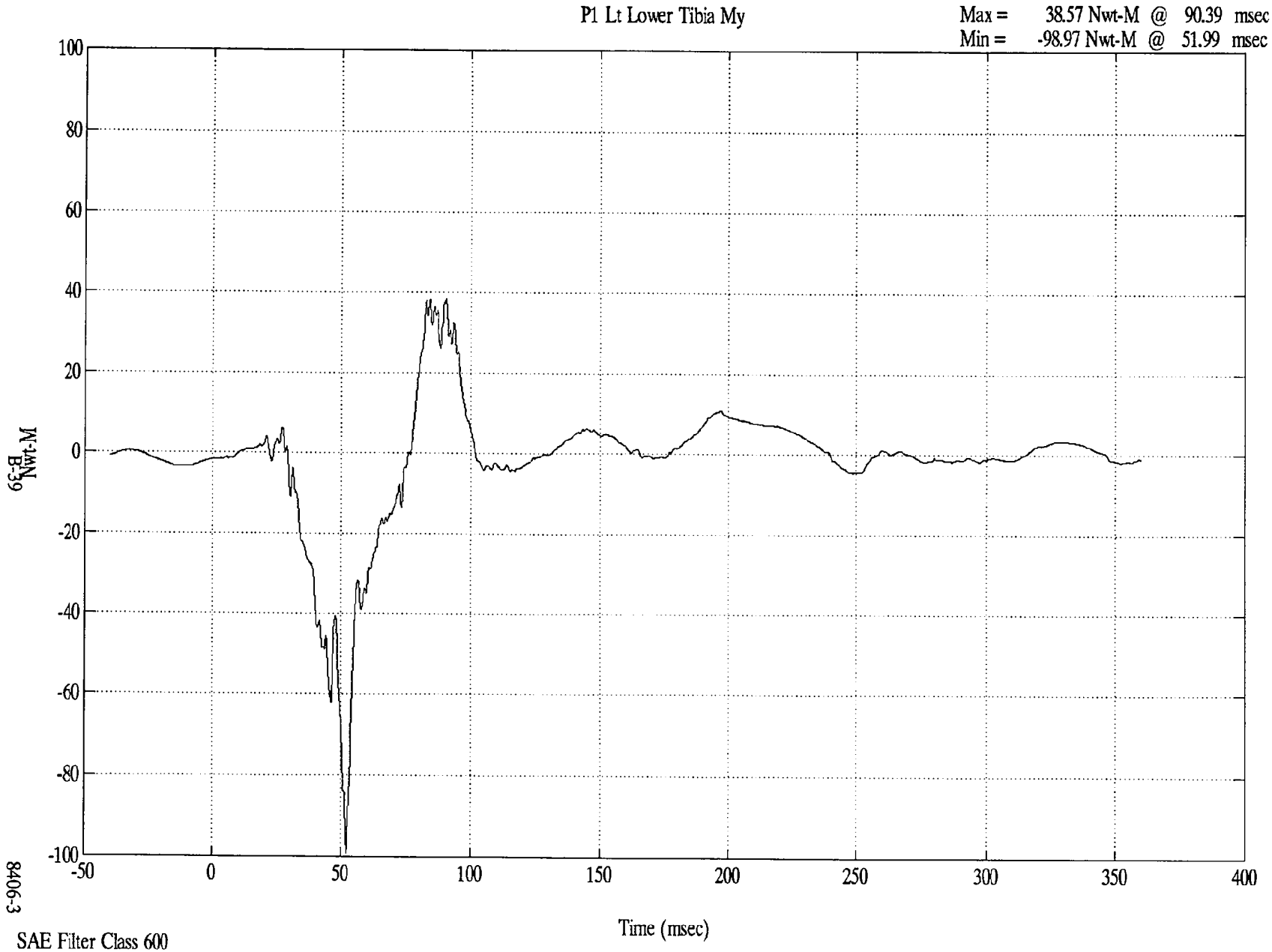
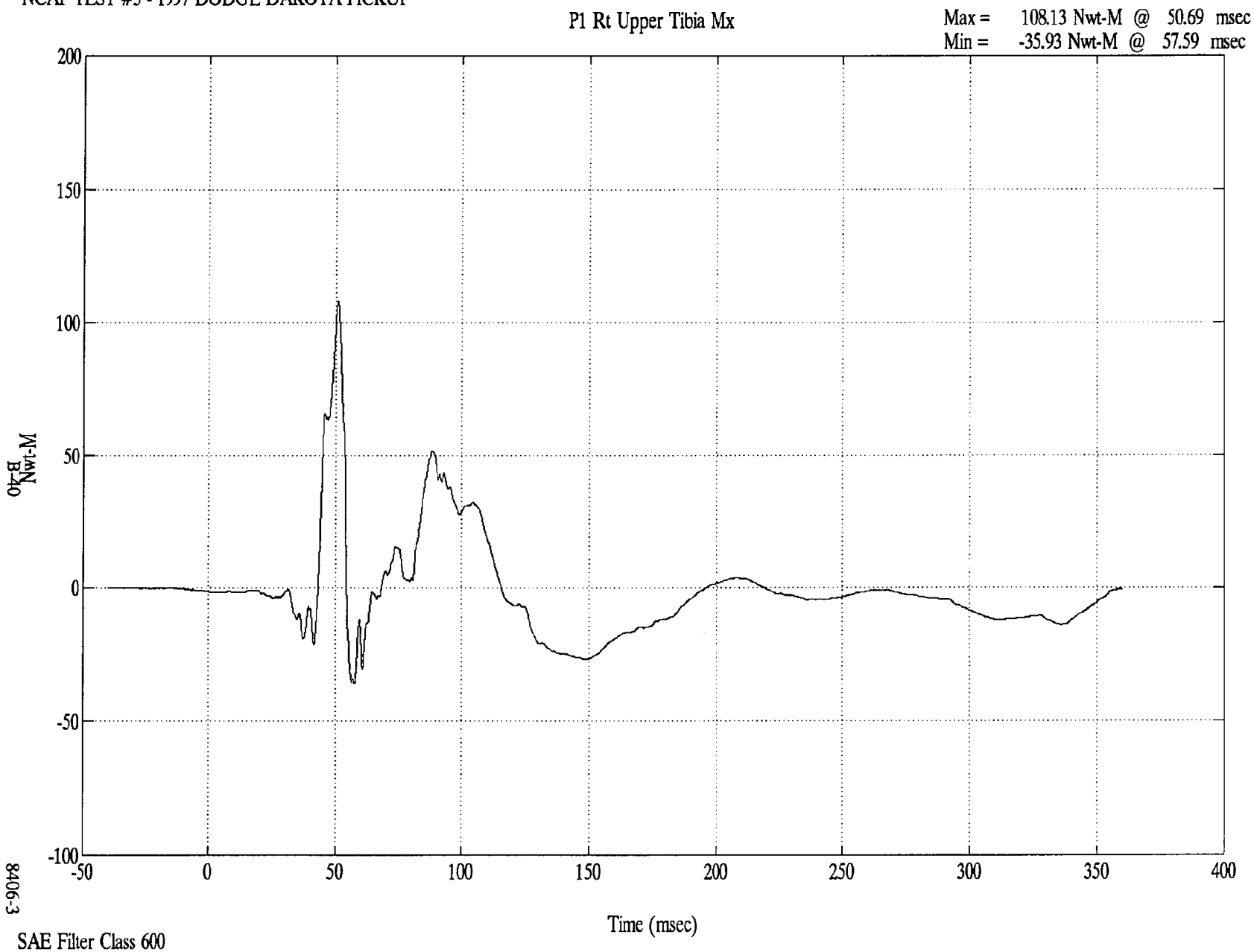


8406-3

SAE Filter Class 600

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 600

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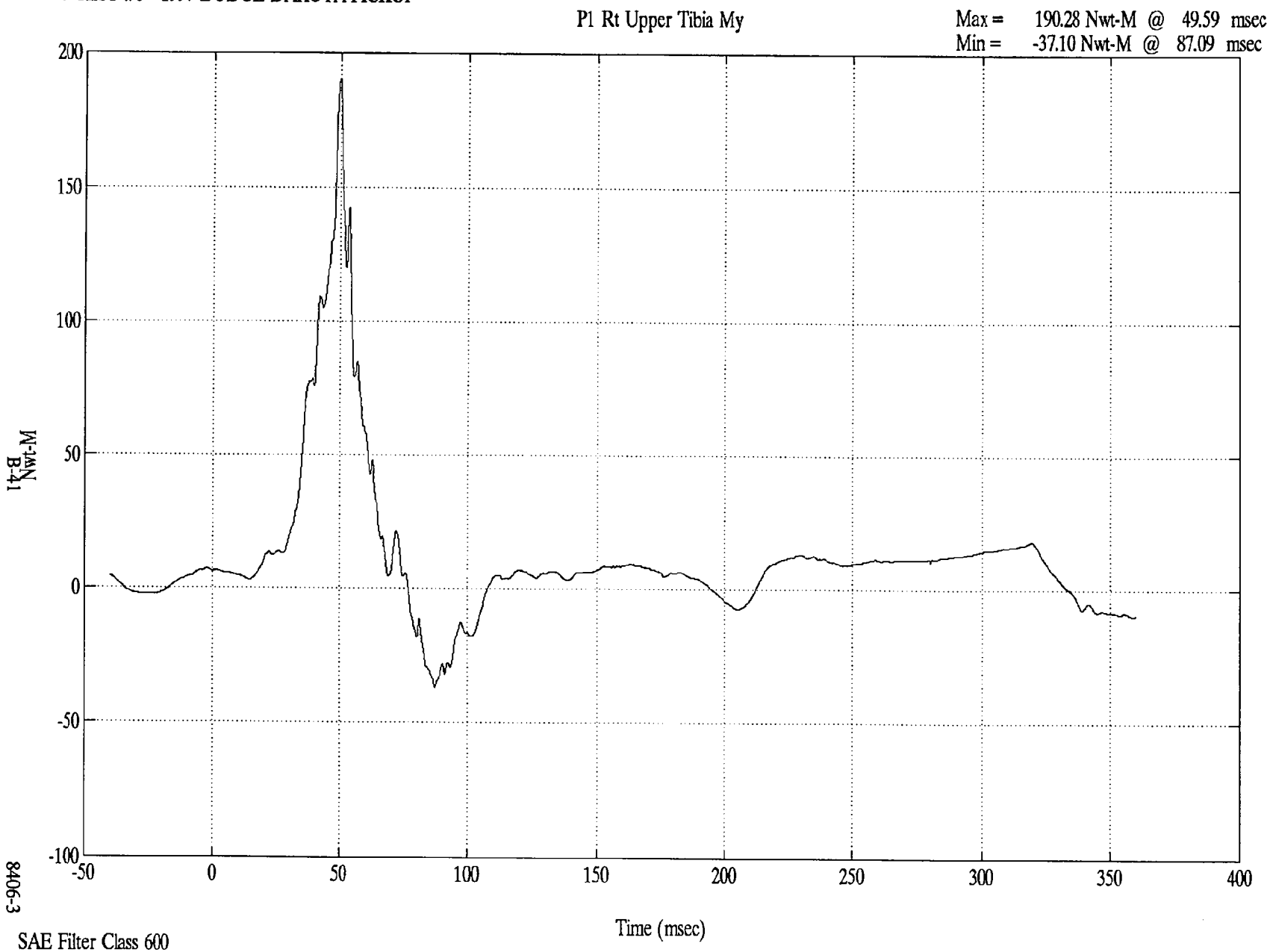
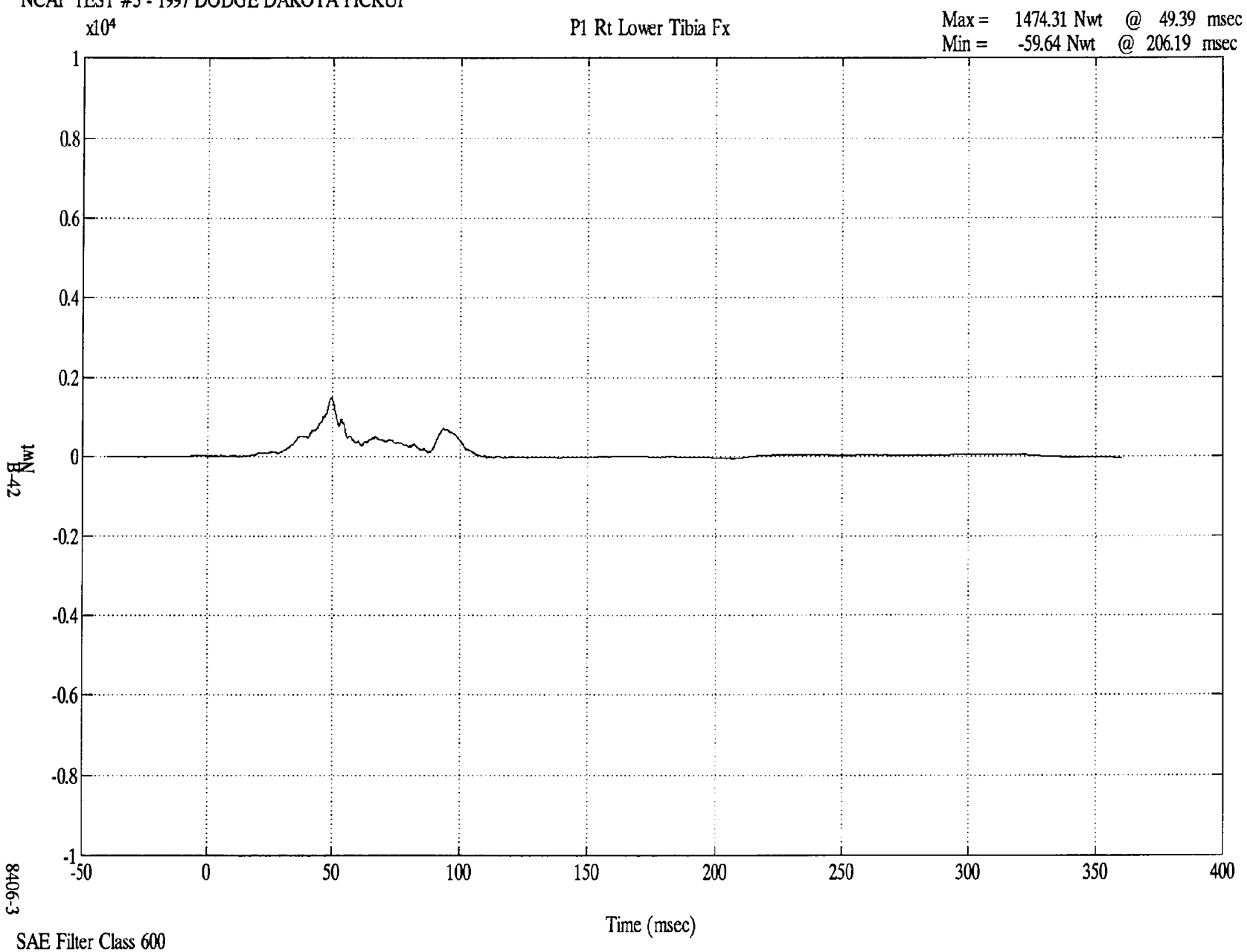


8406-3

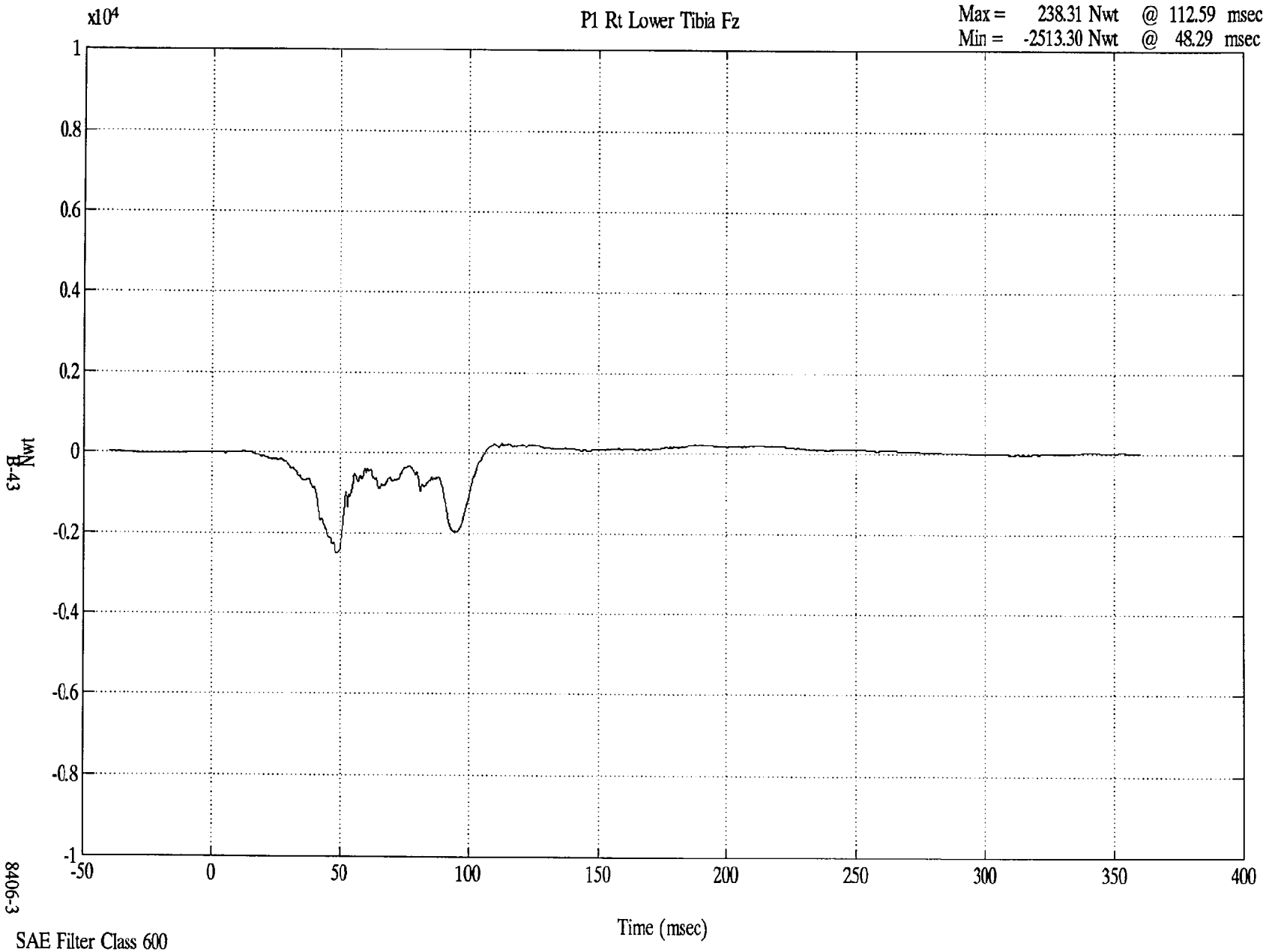
SAE Filter Class 600

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



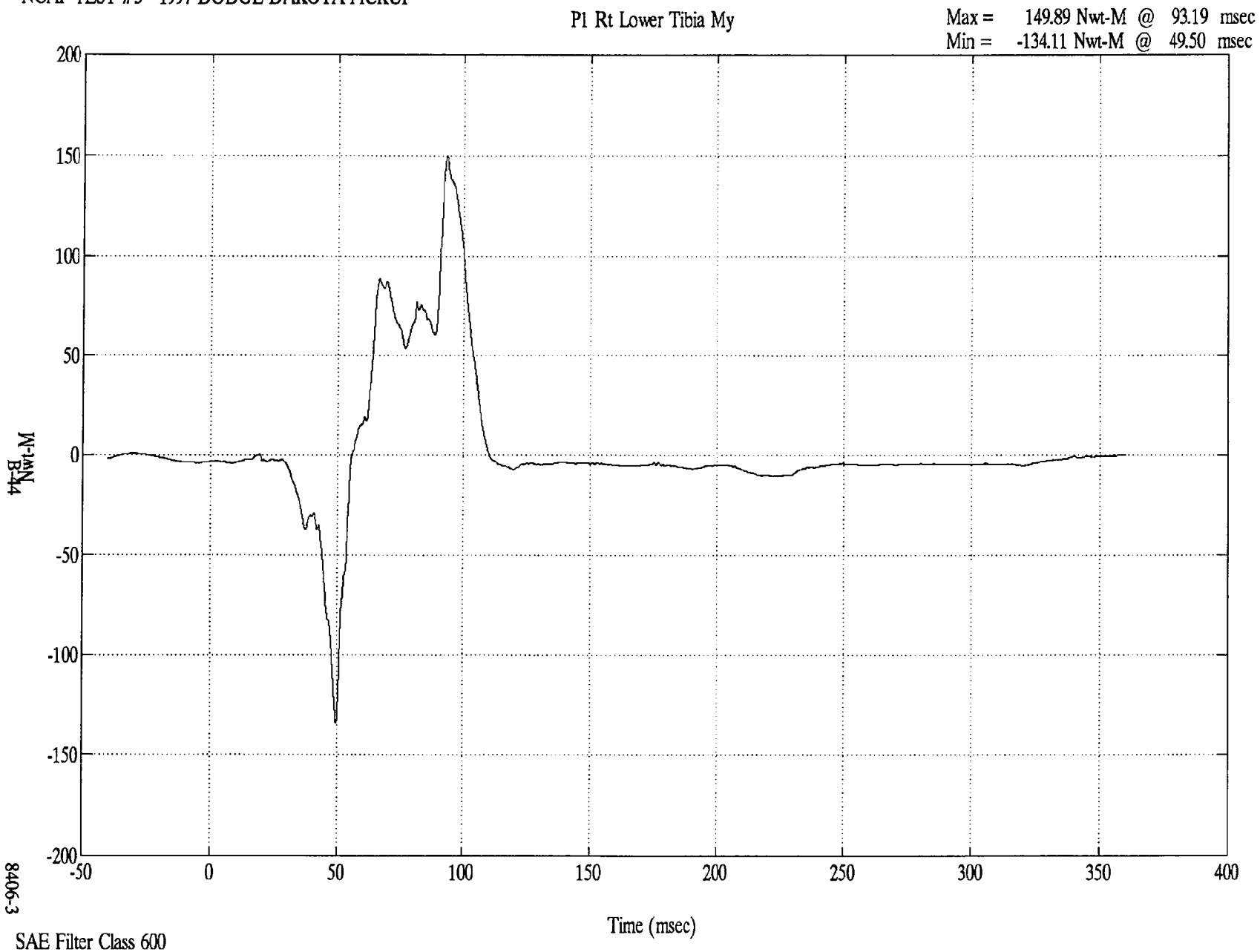
SAE Filter Class 600

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 600

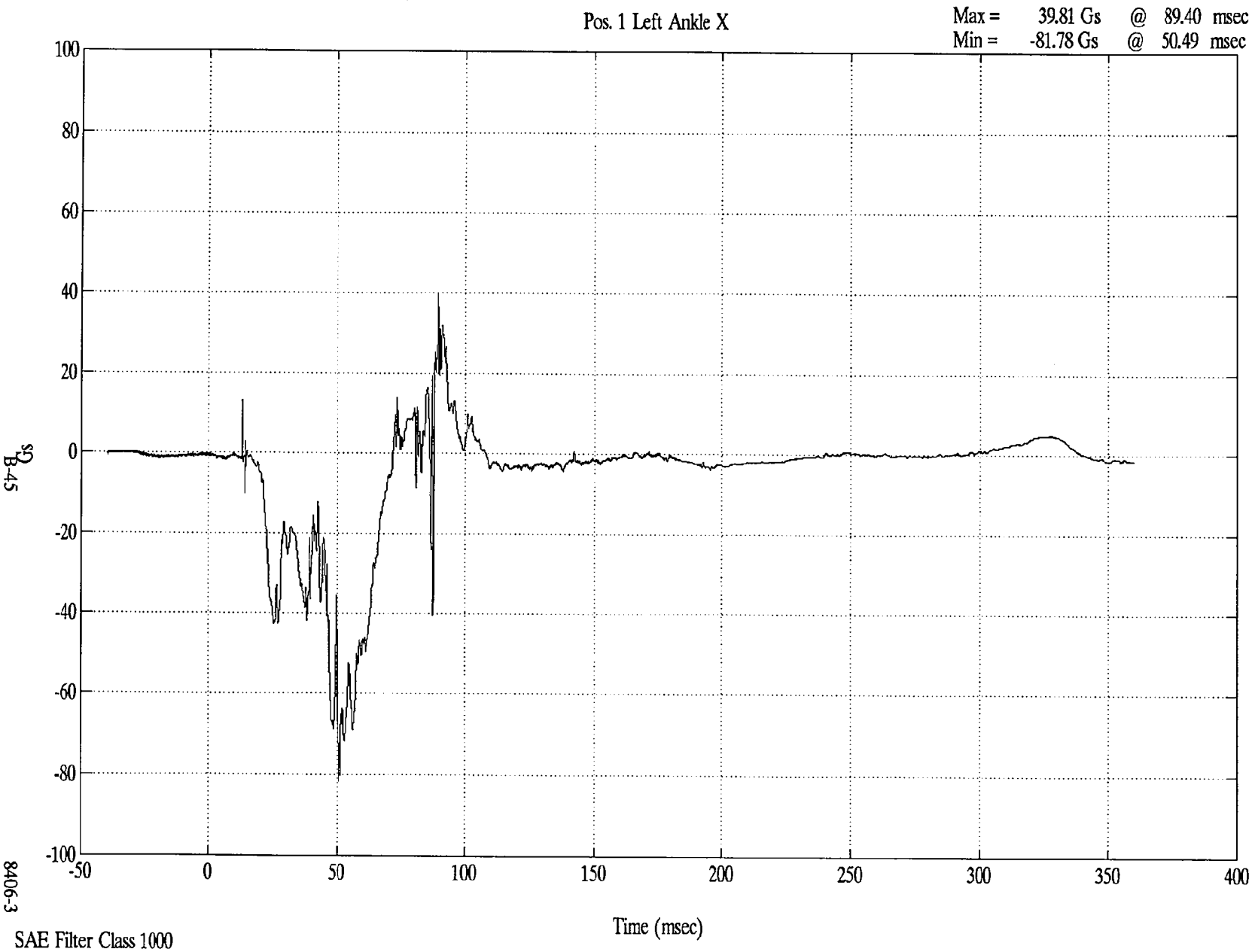
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

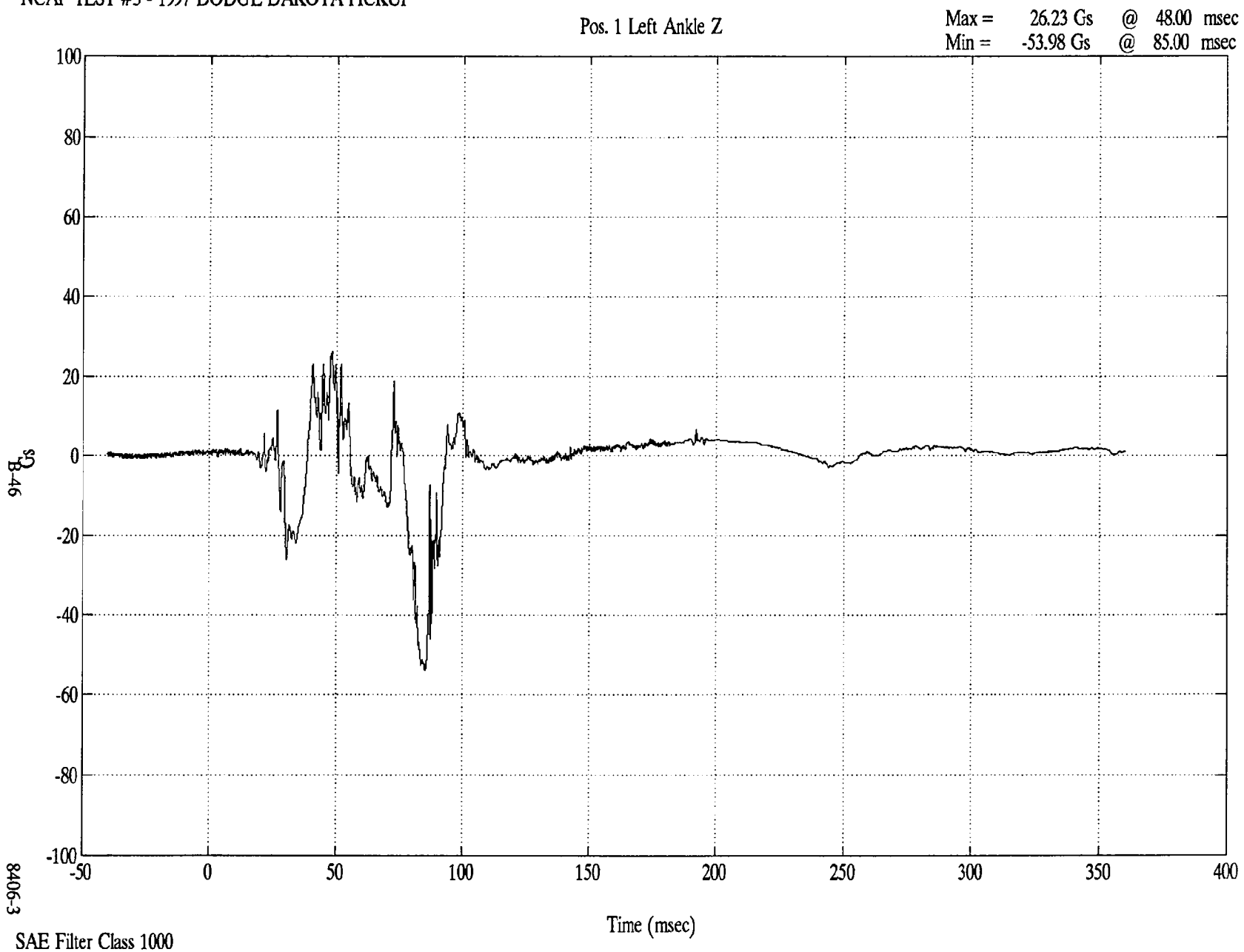
SAE Filter Class 600

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

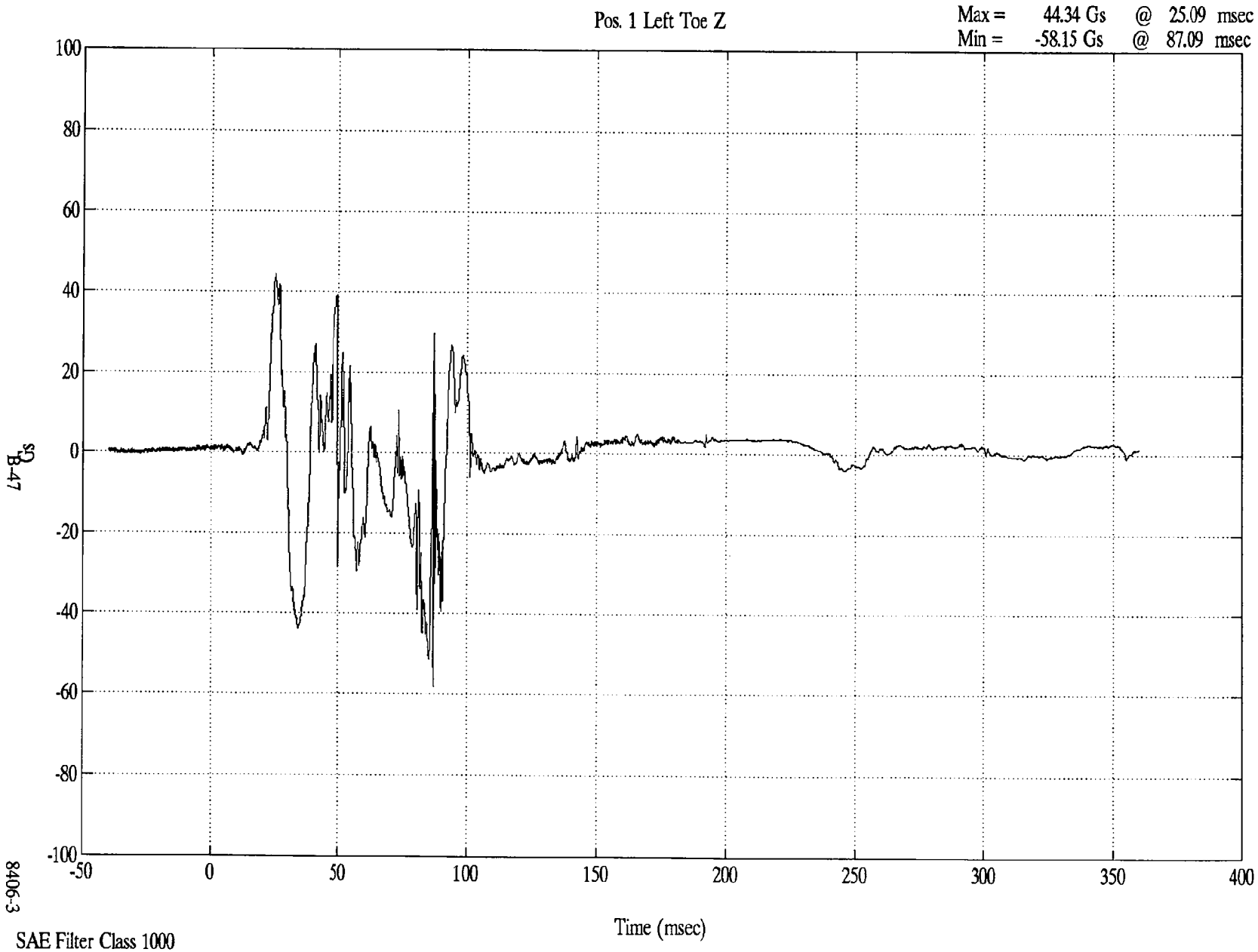


B-46

8406-3

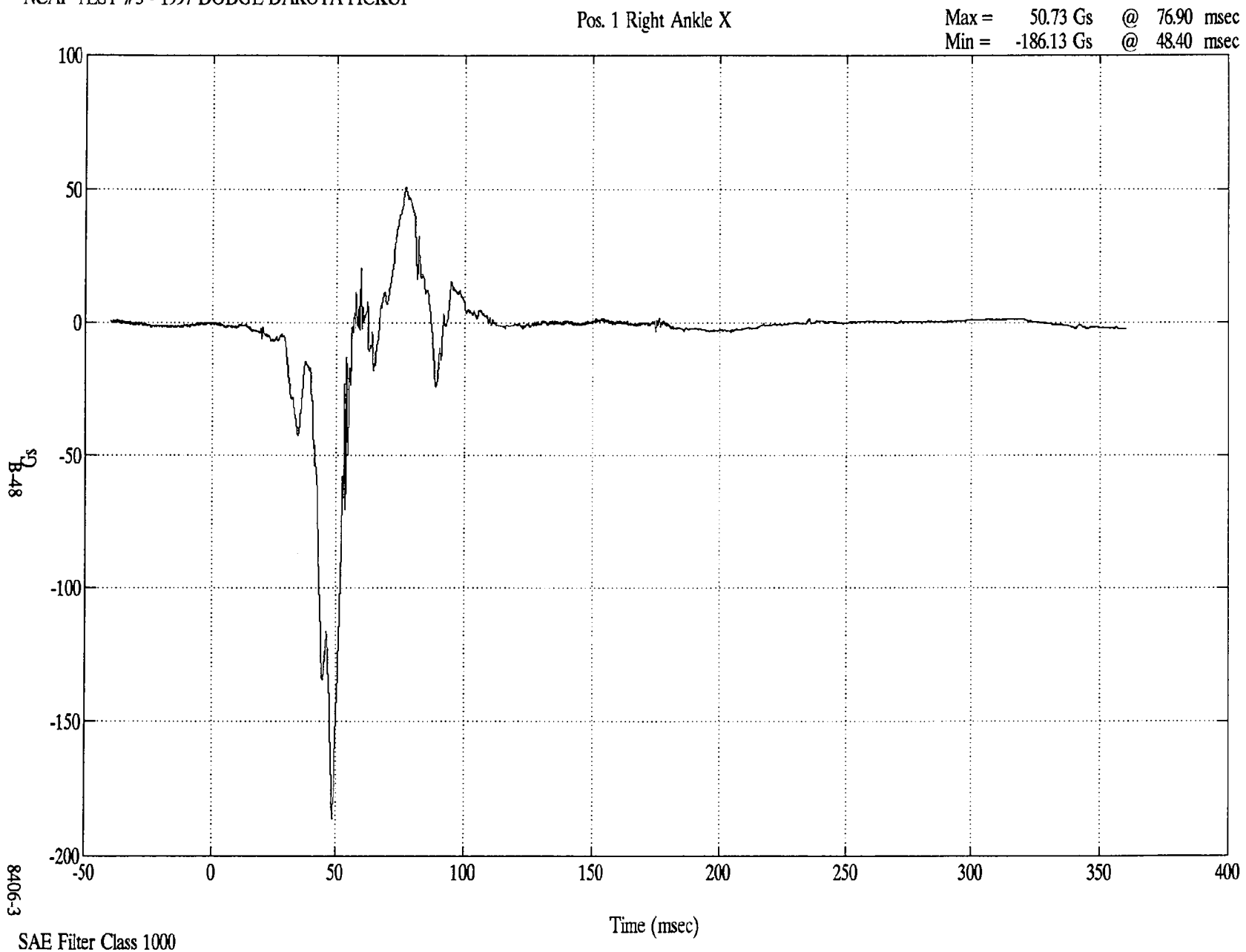
SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 1000

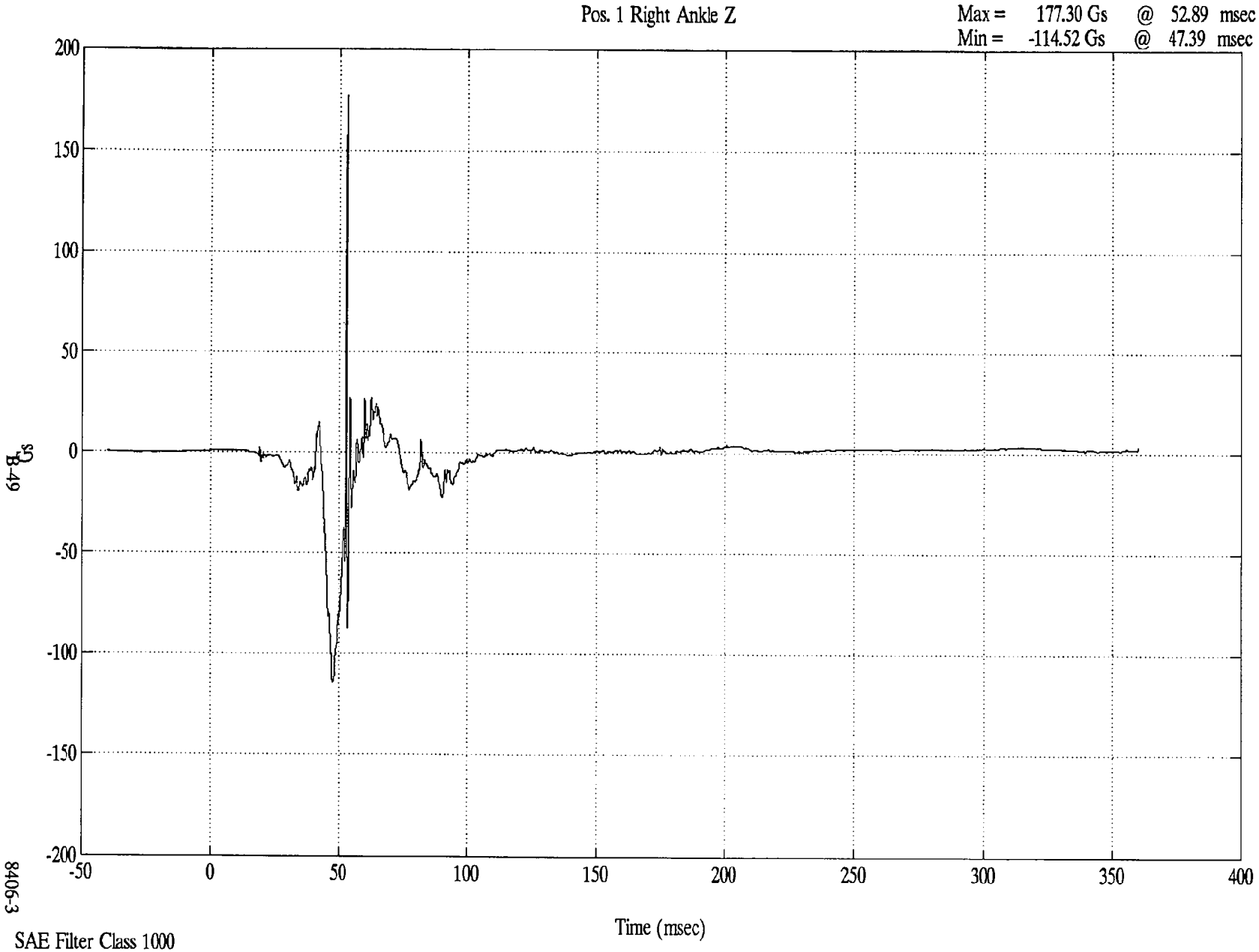
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

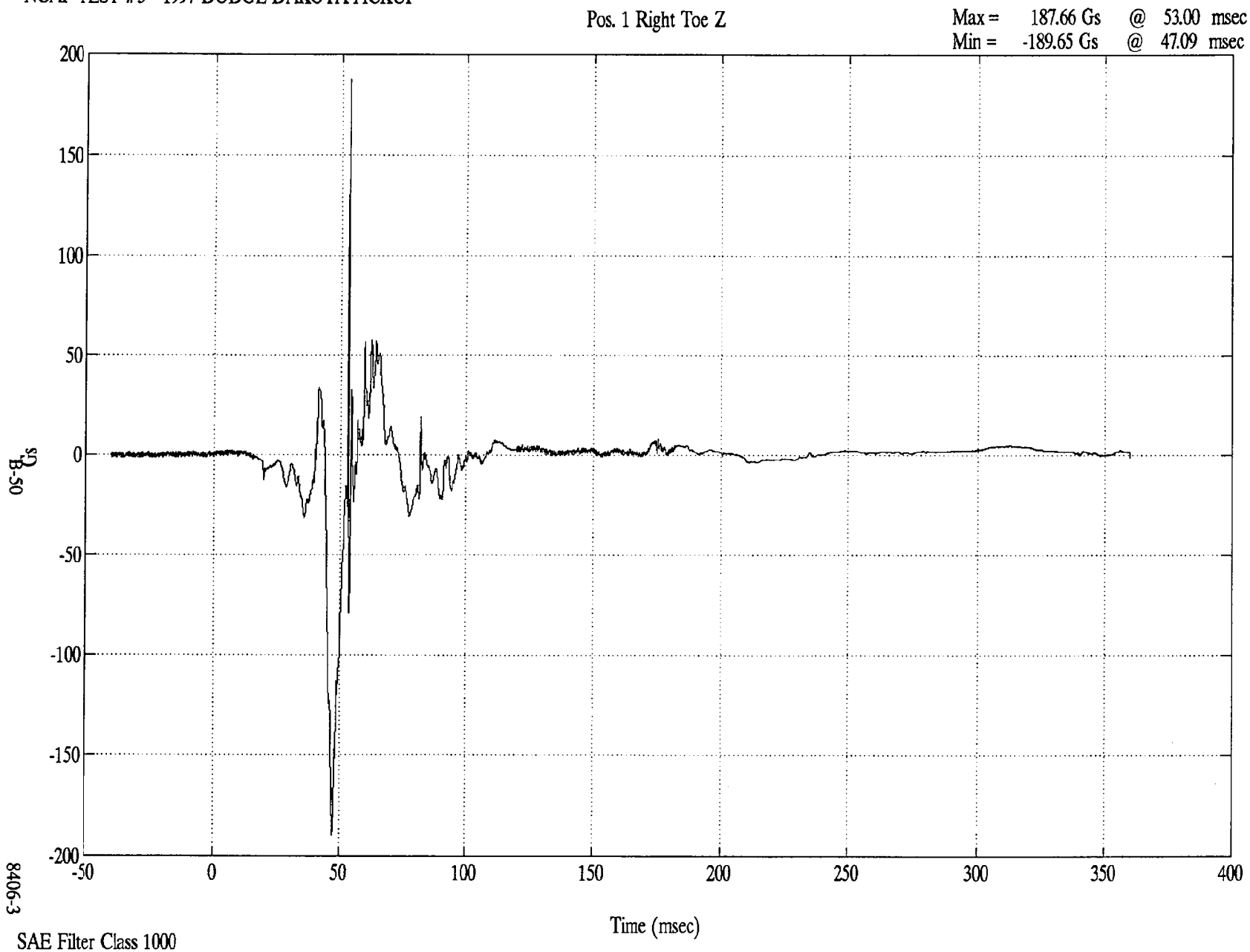
SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 1000

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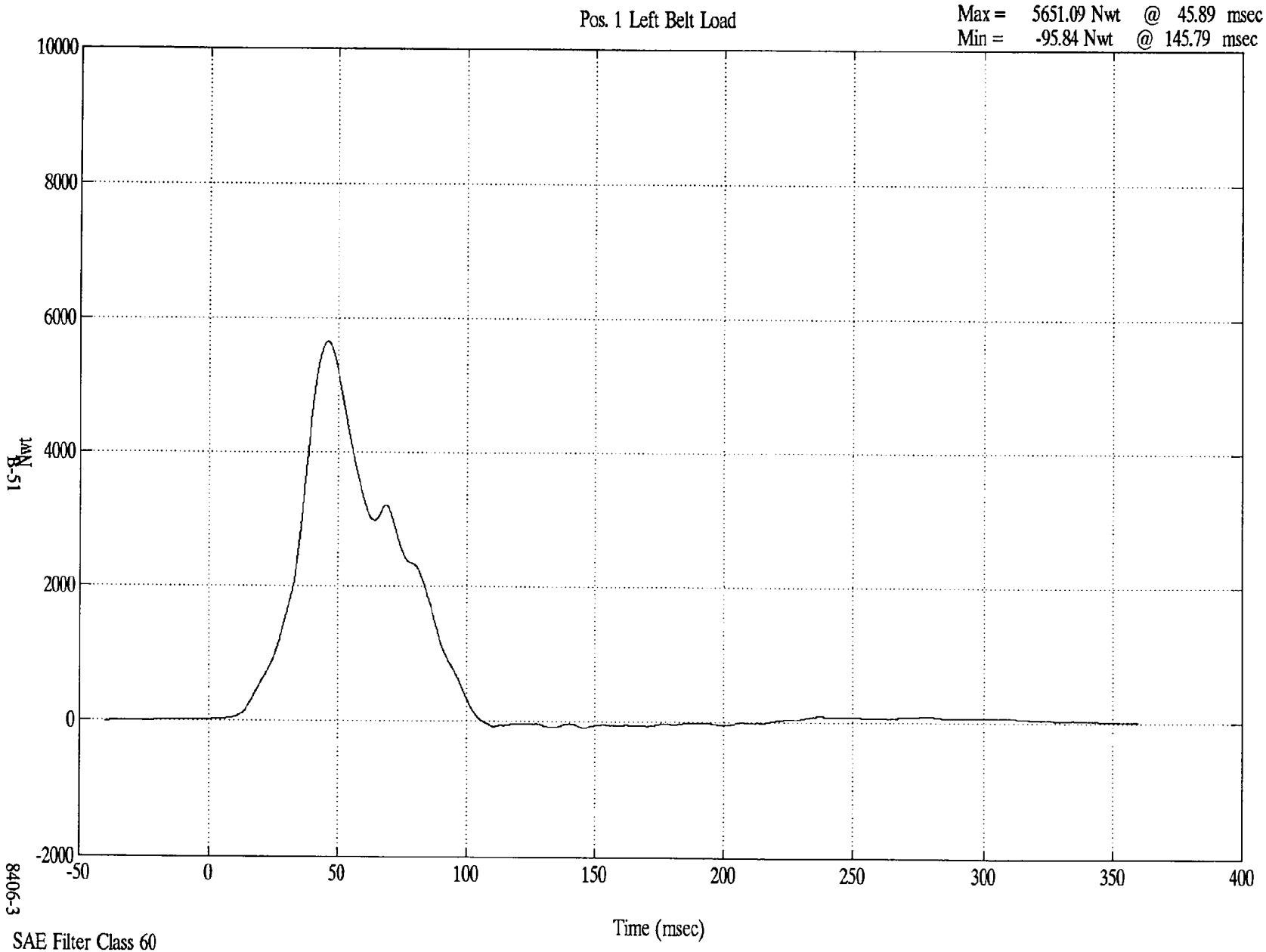
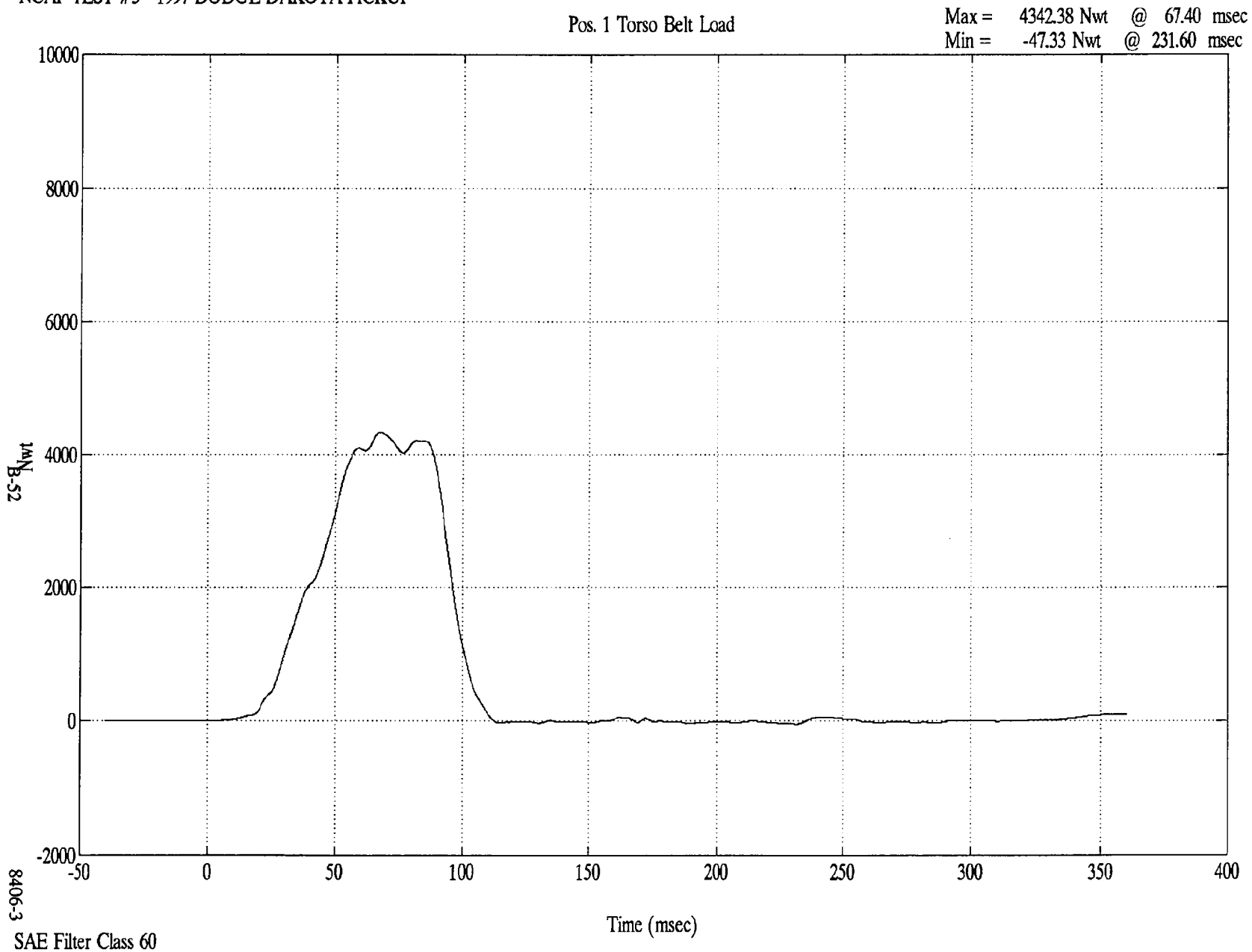


NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



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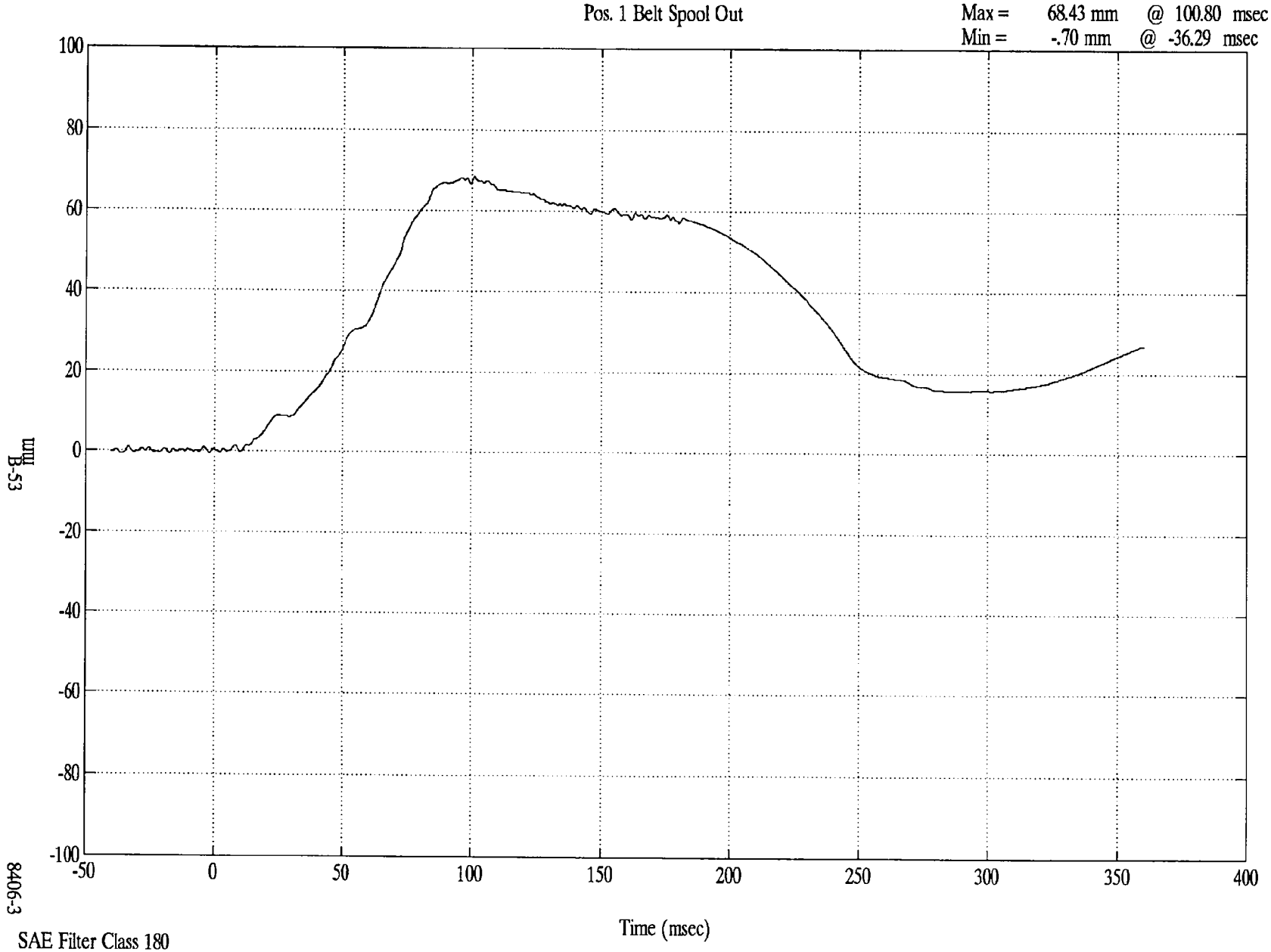
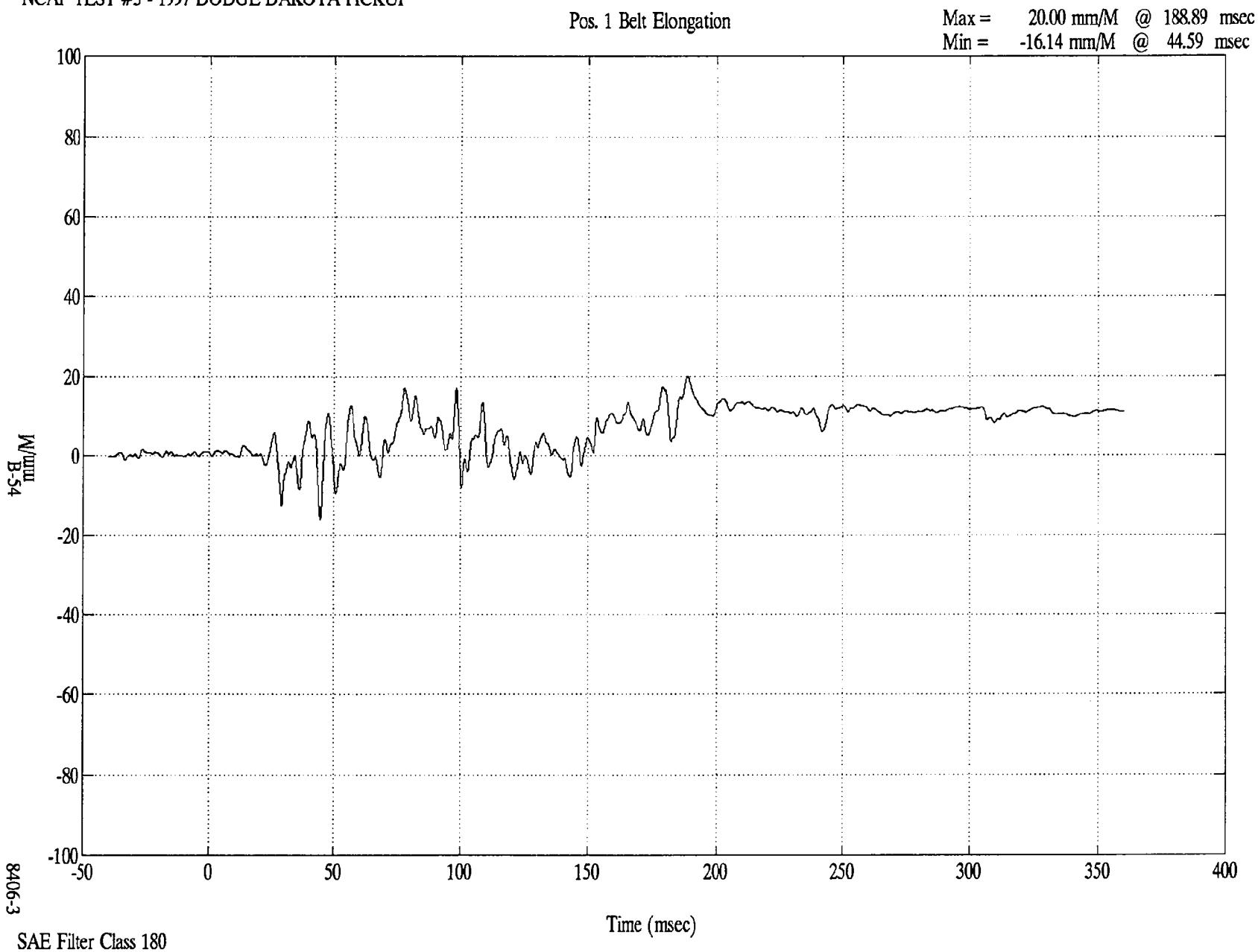
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



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SAE Filter Class 180

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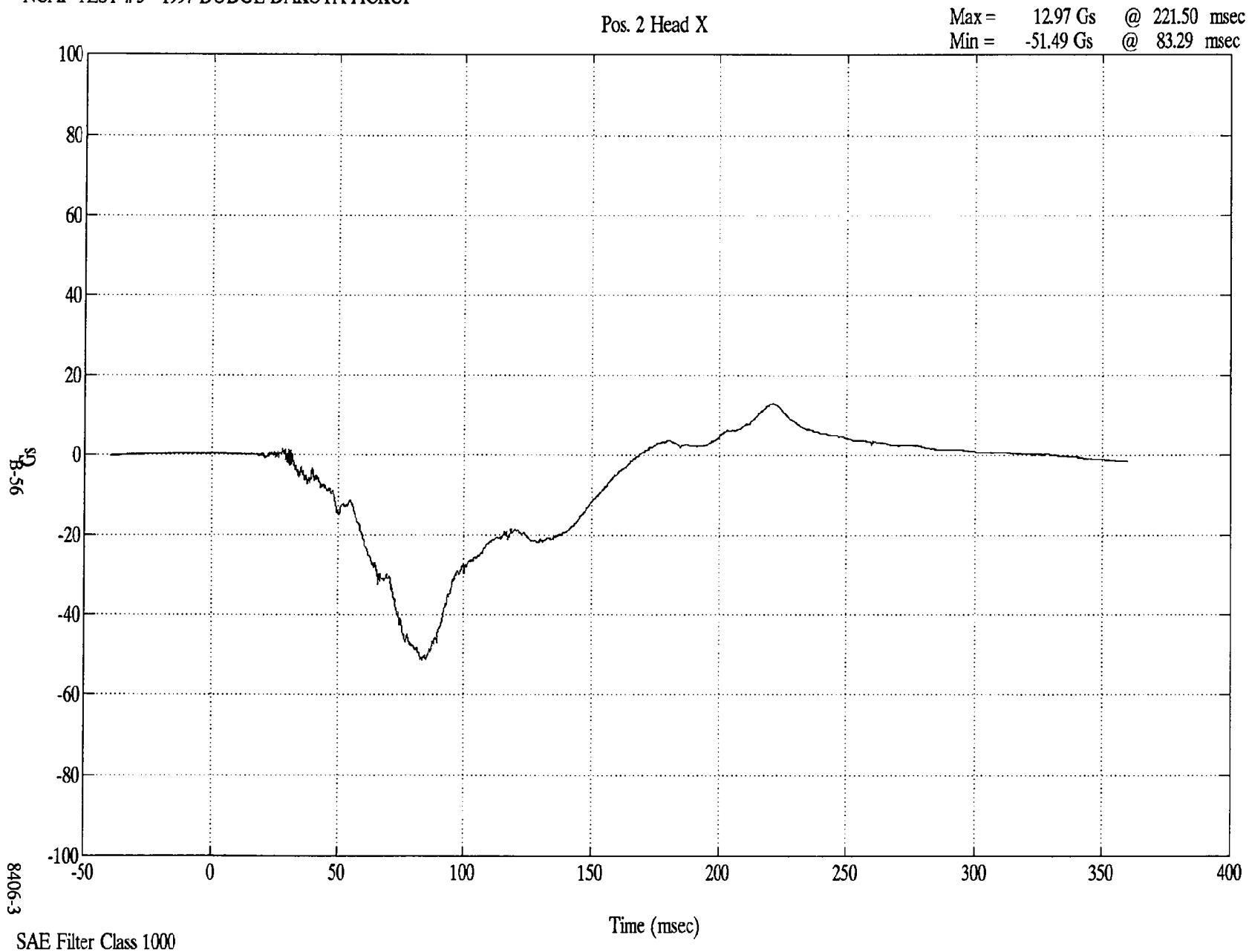
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 1000

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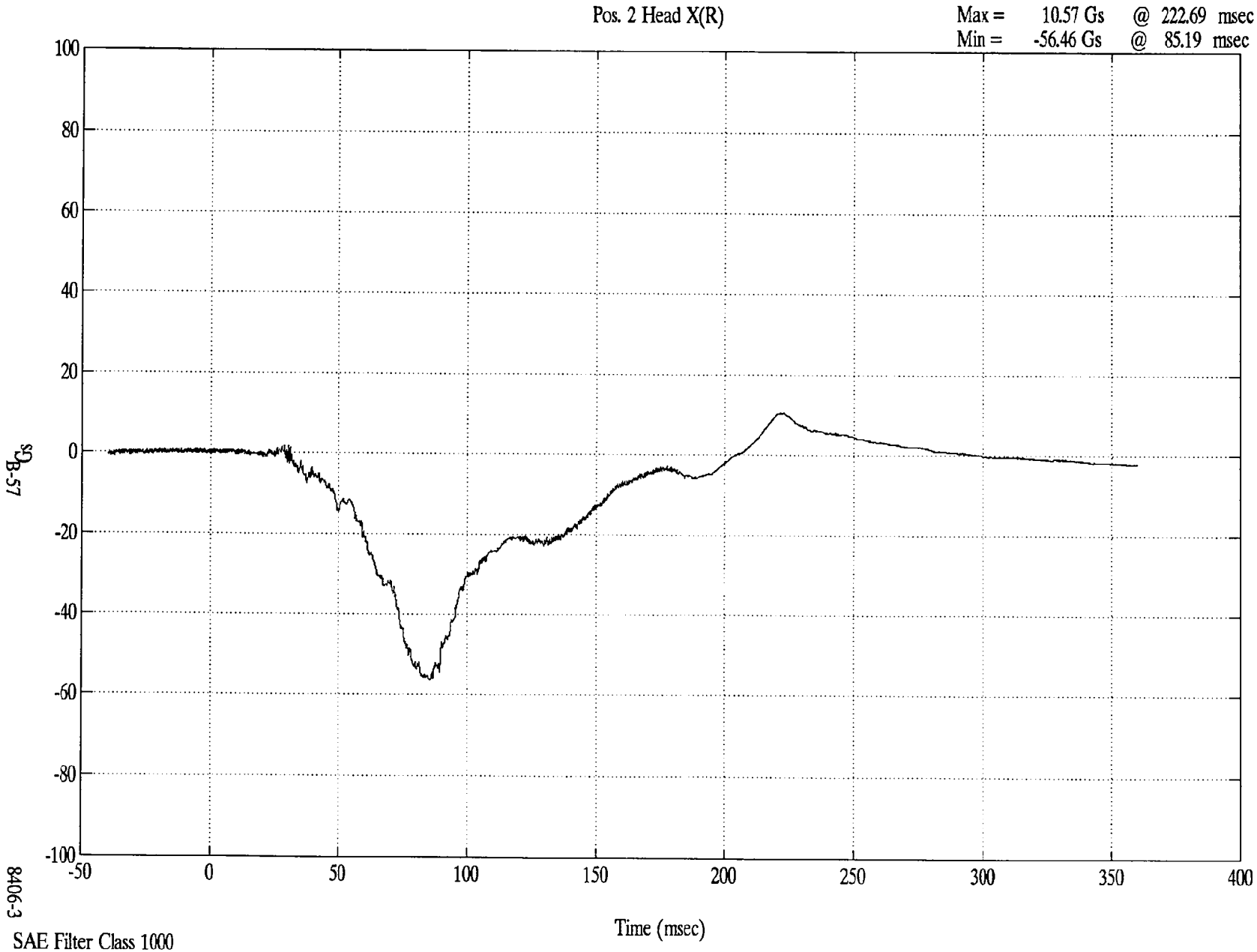

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SAE Filter Class 1000

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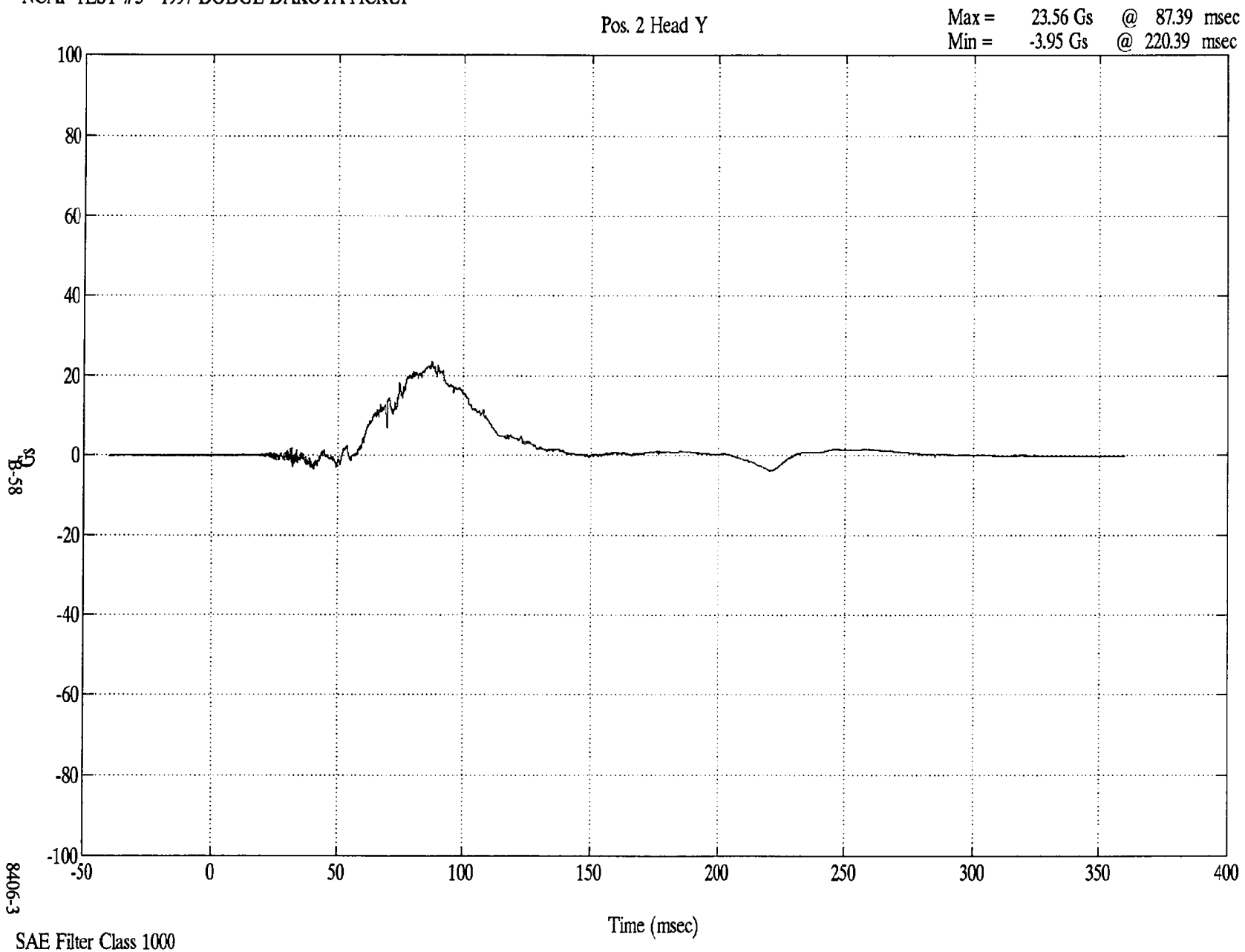

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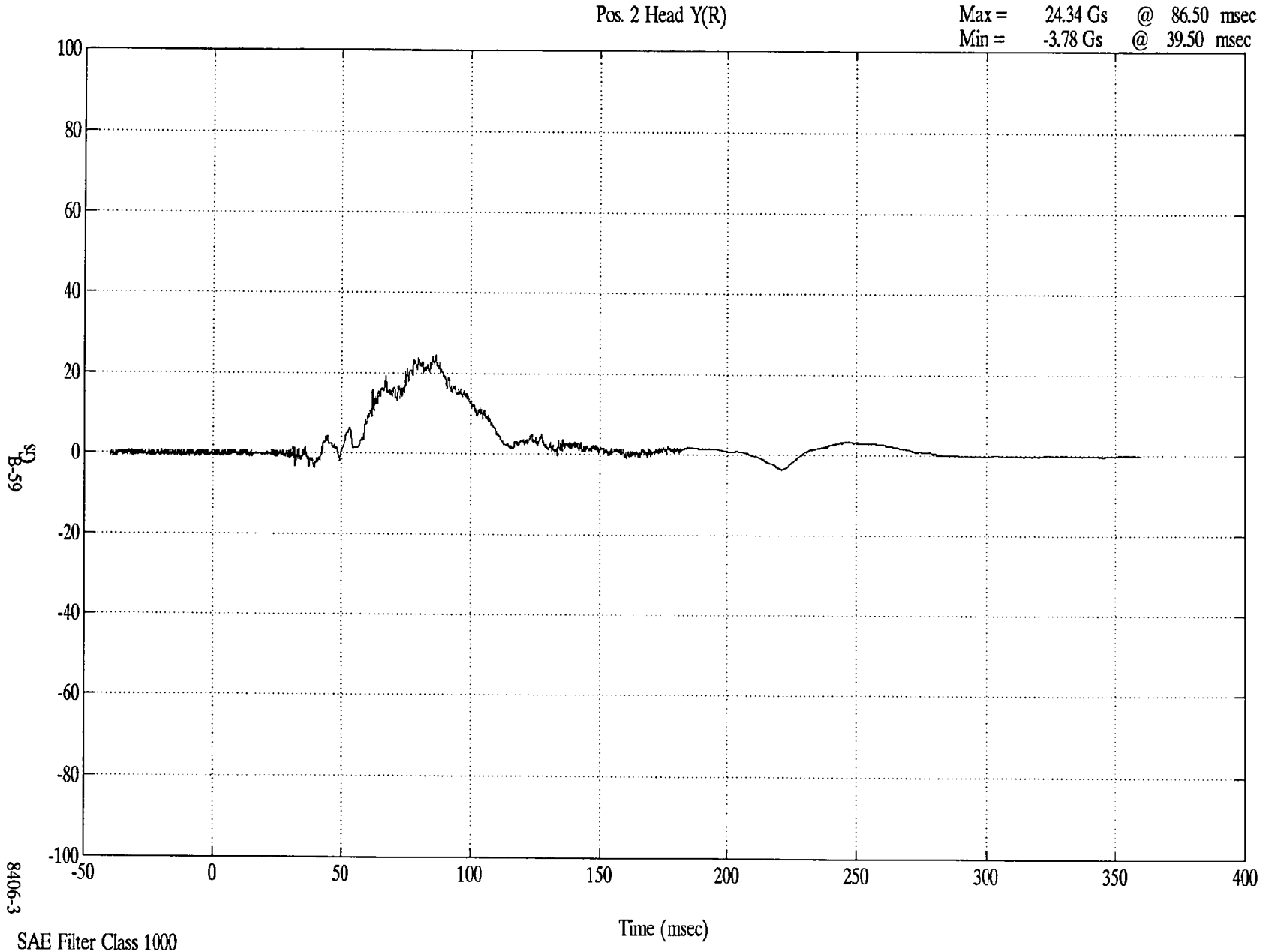

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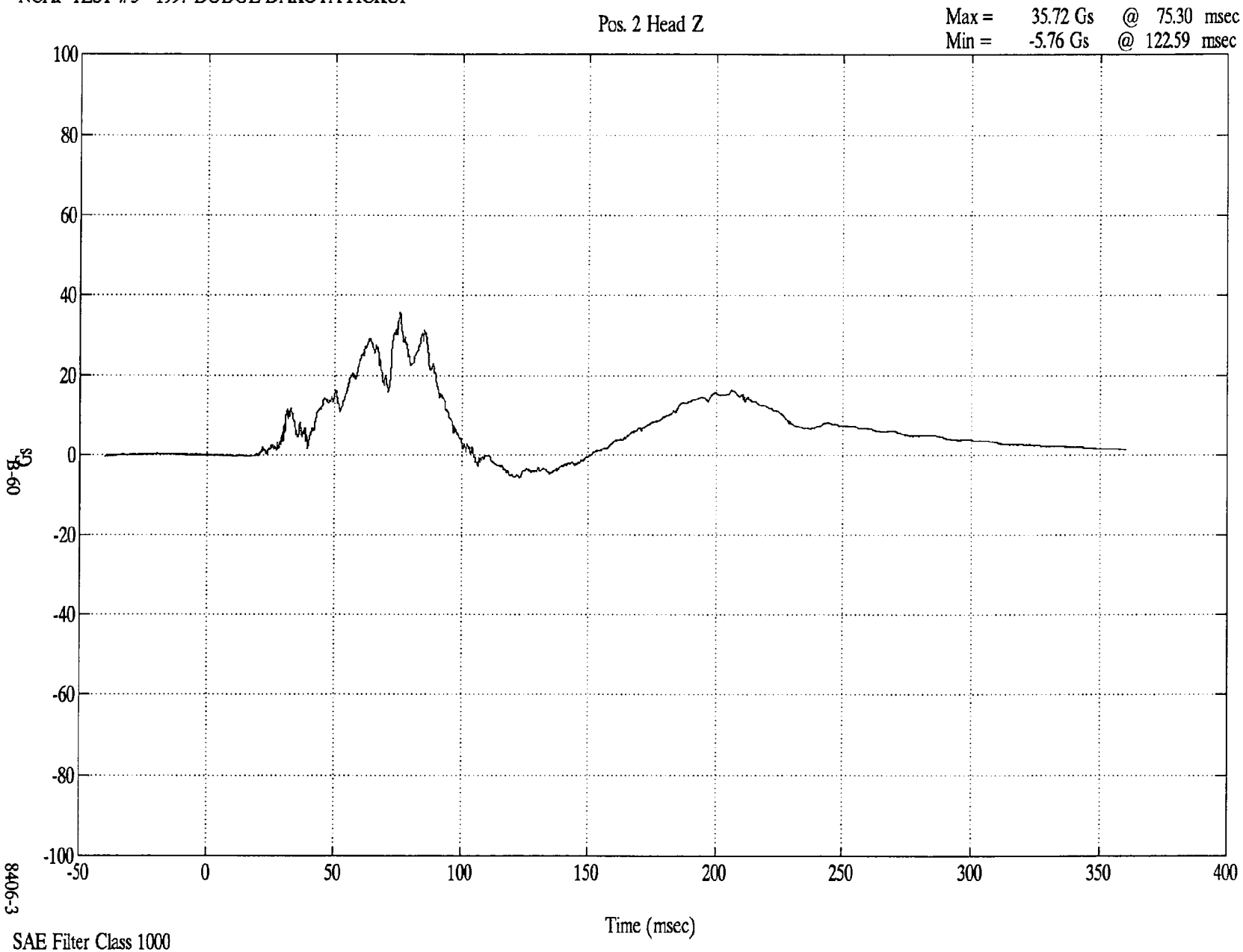

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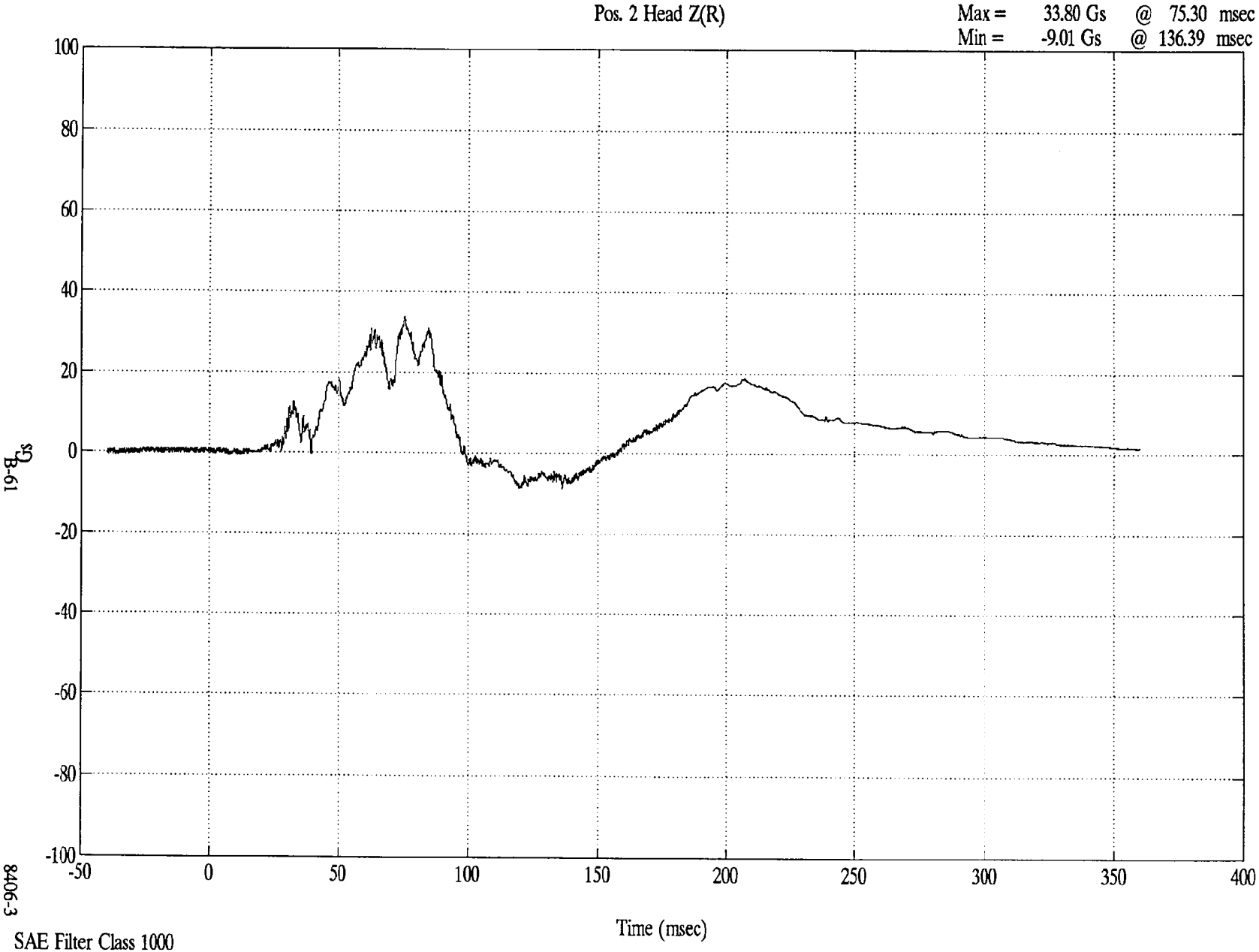

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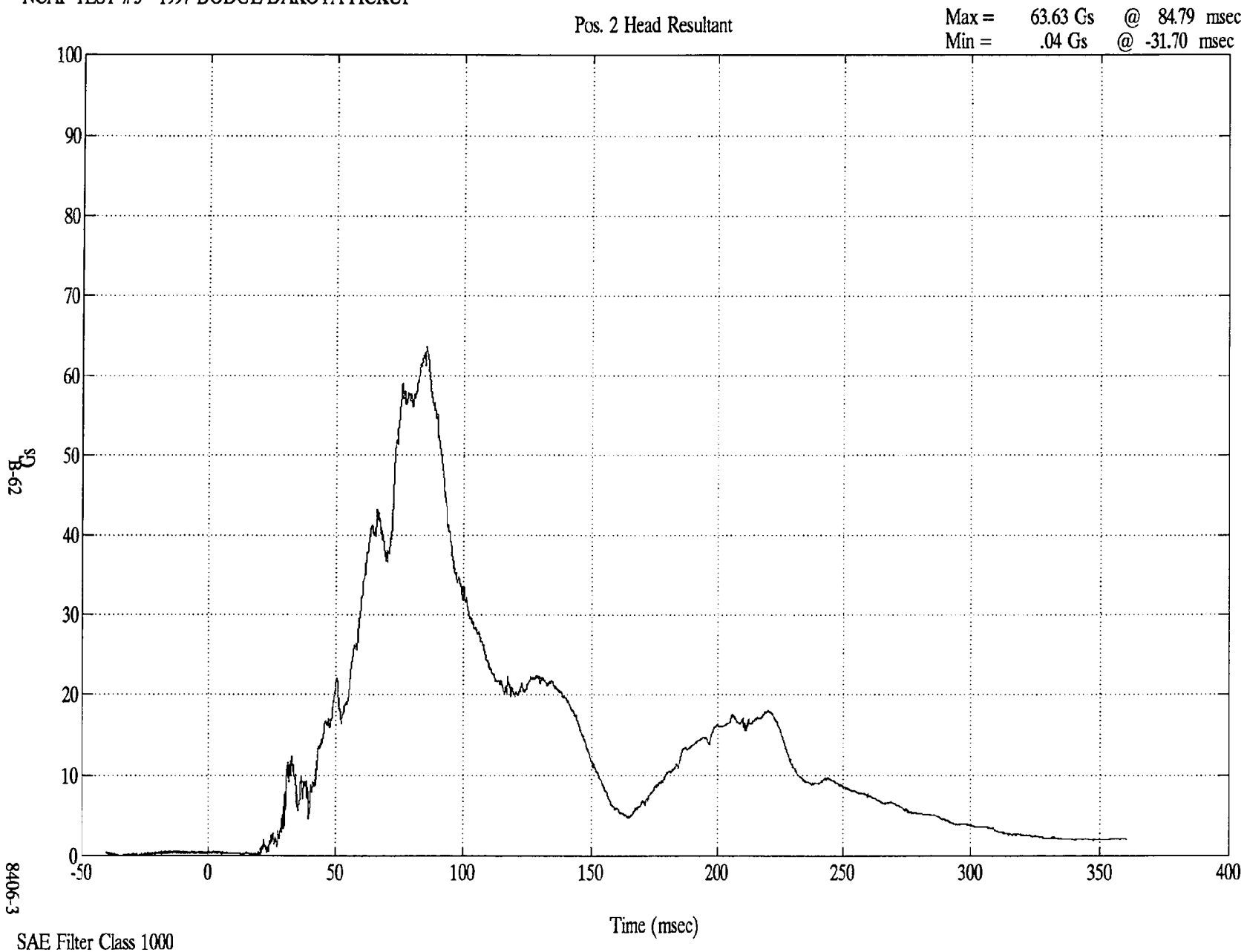

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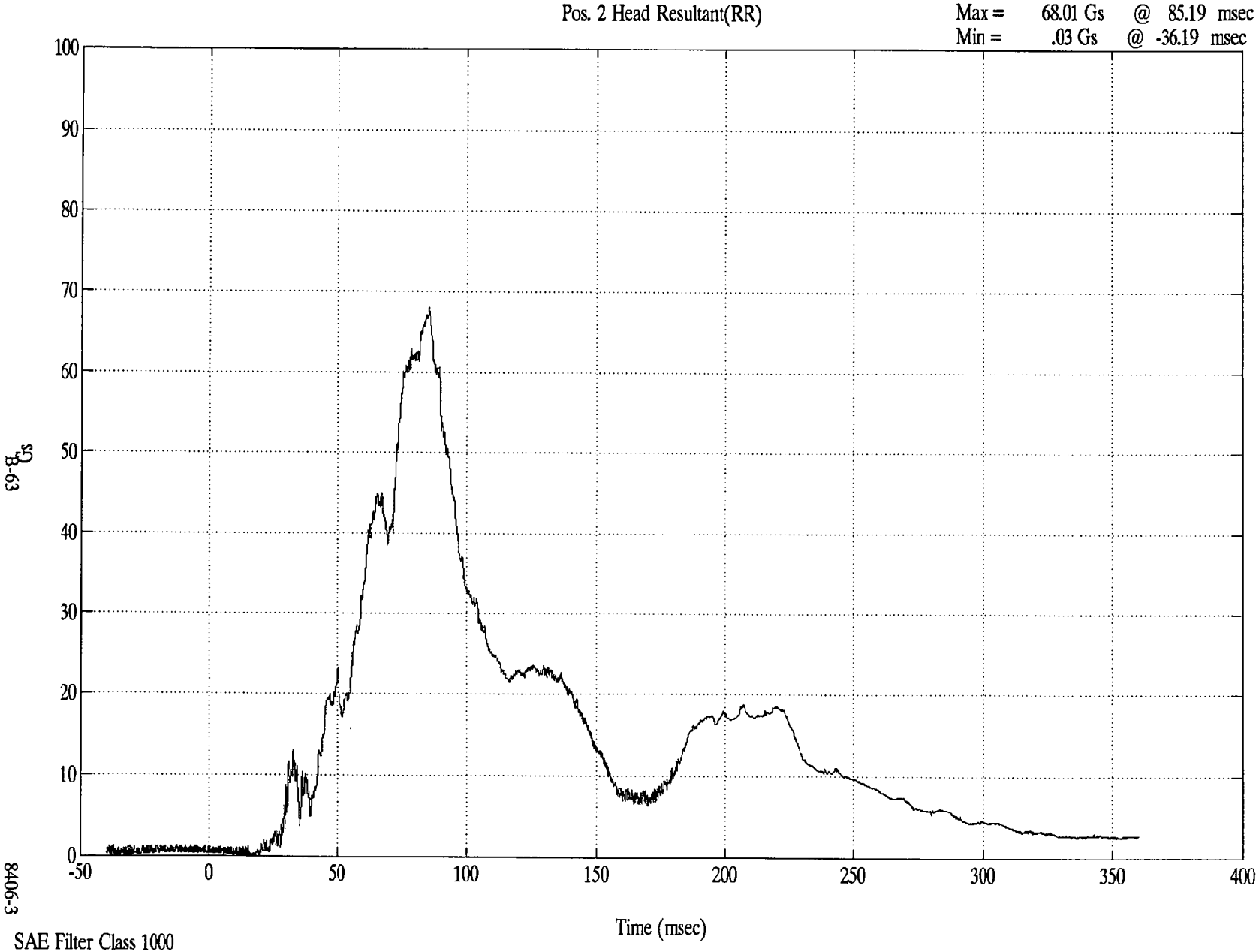

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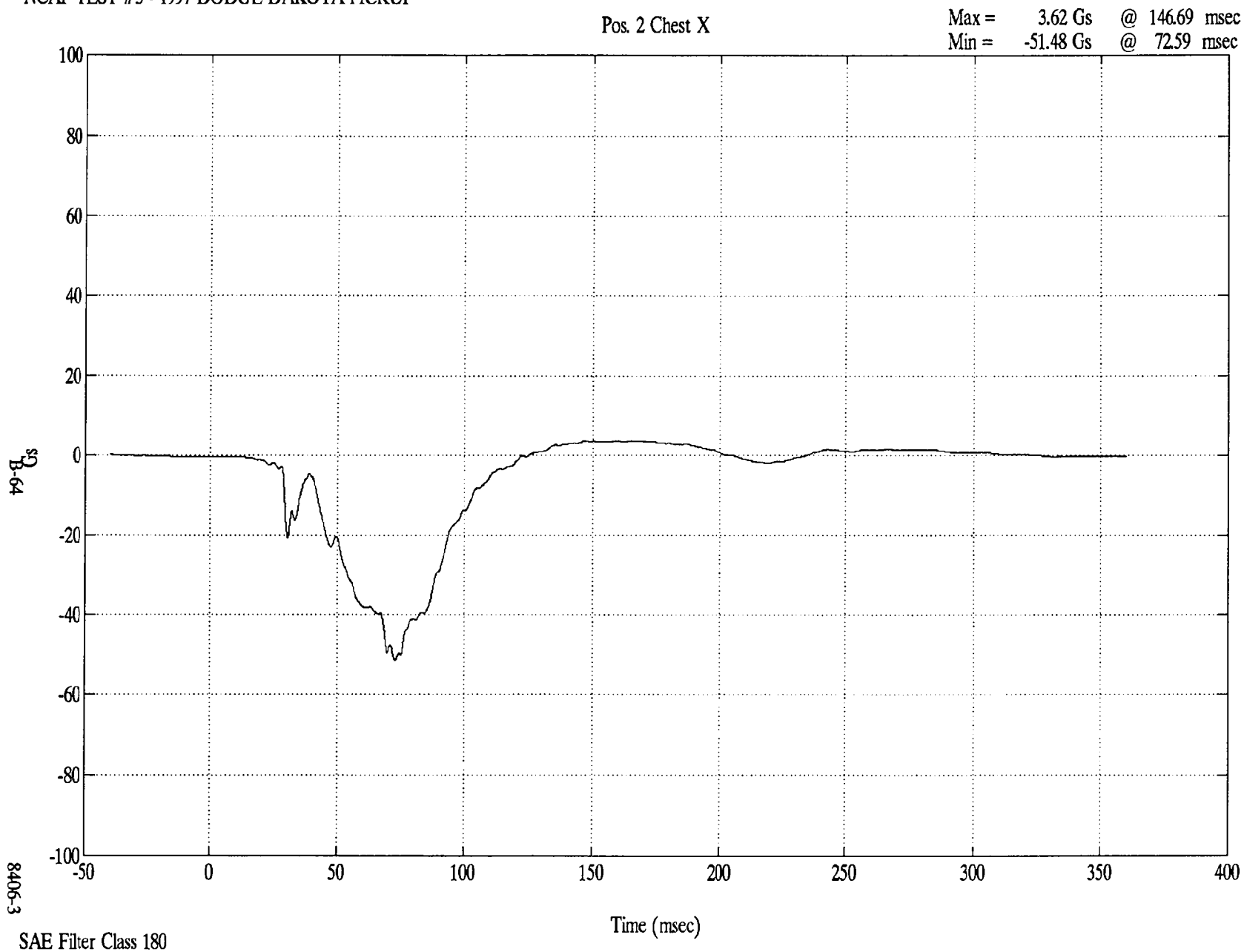

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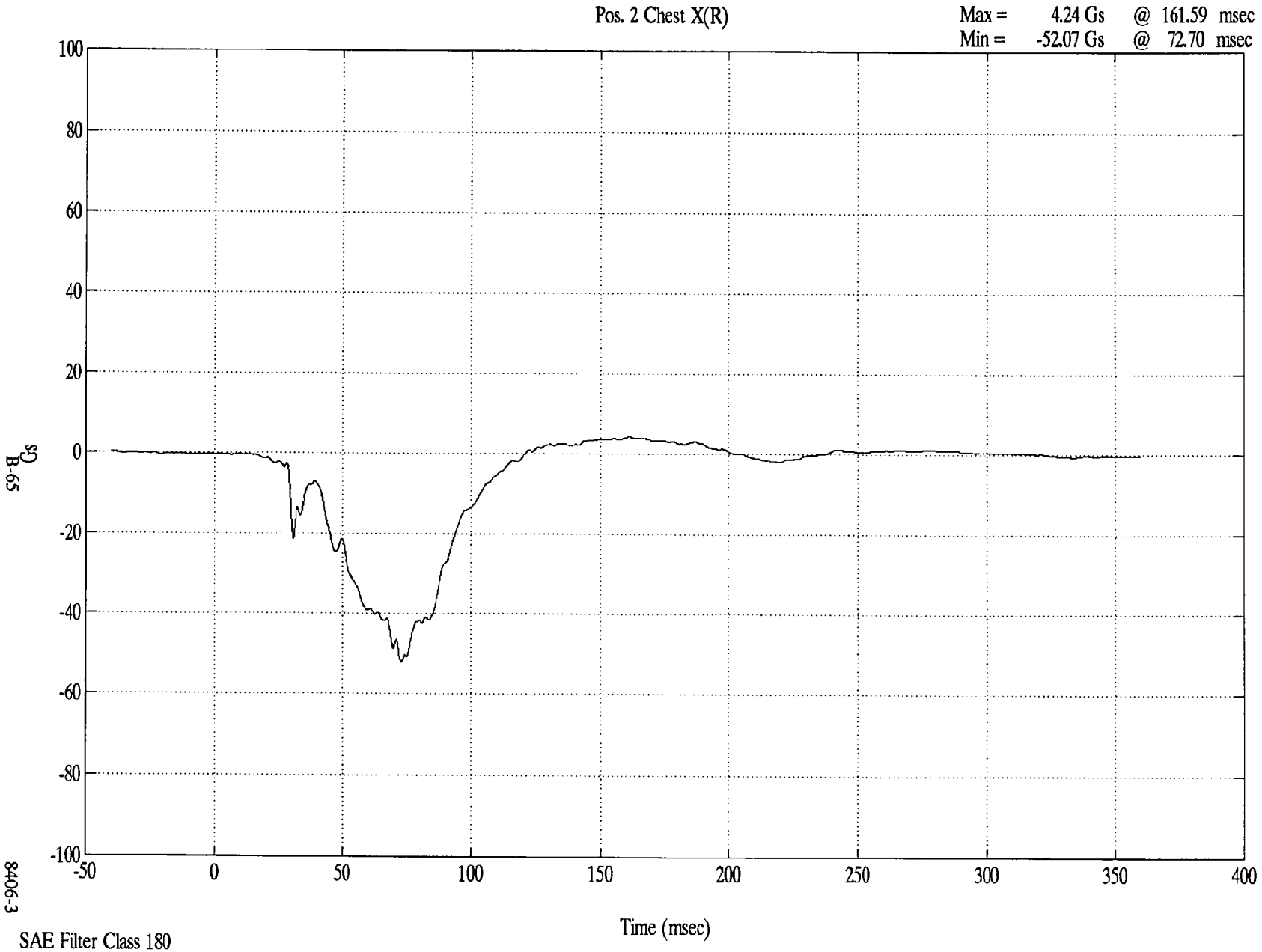

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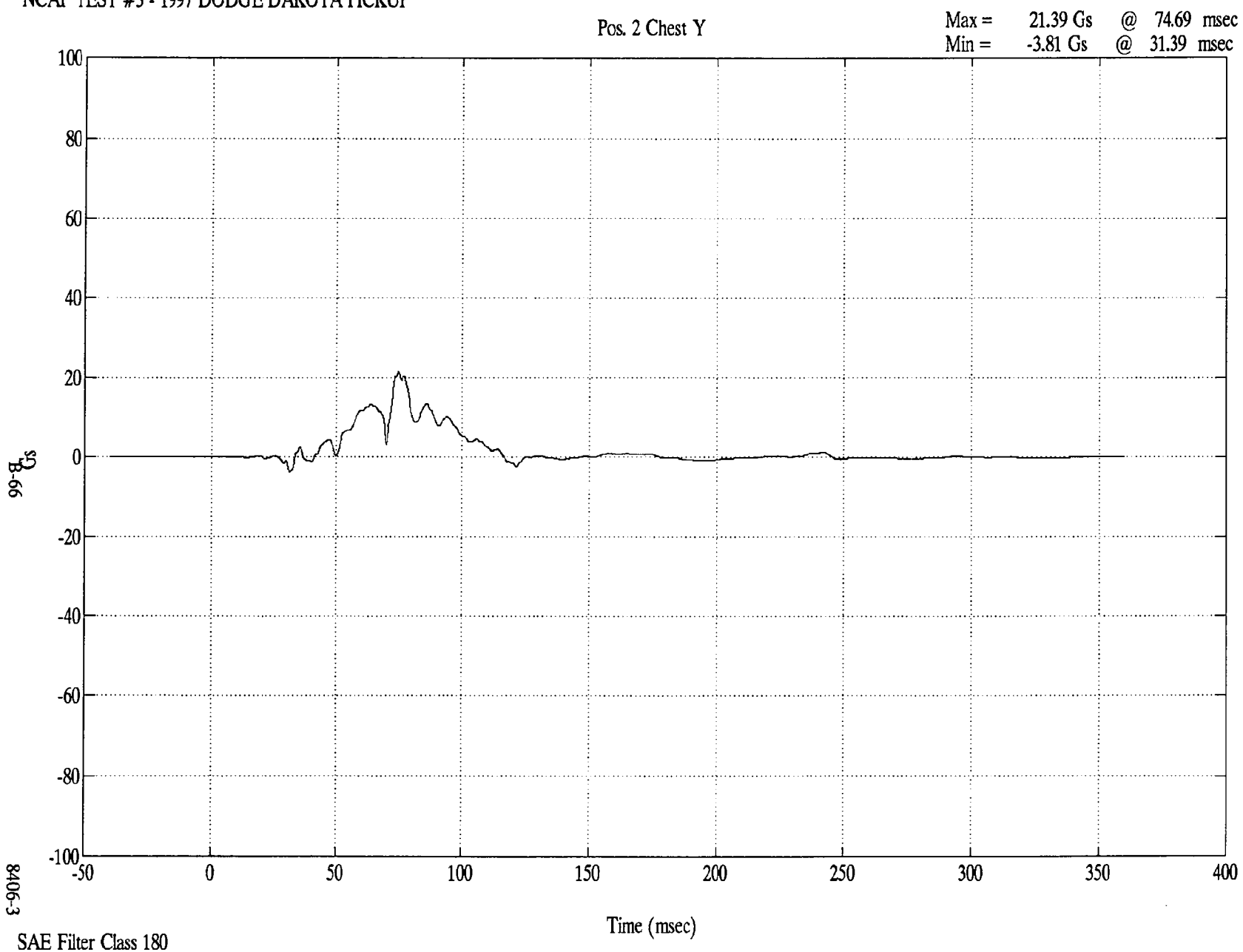

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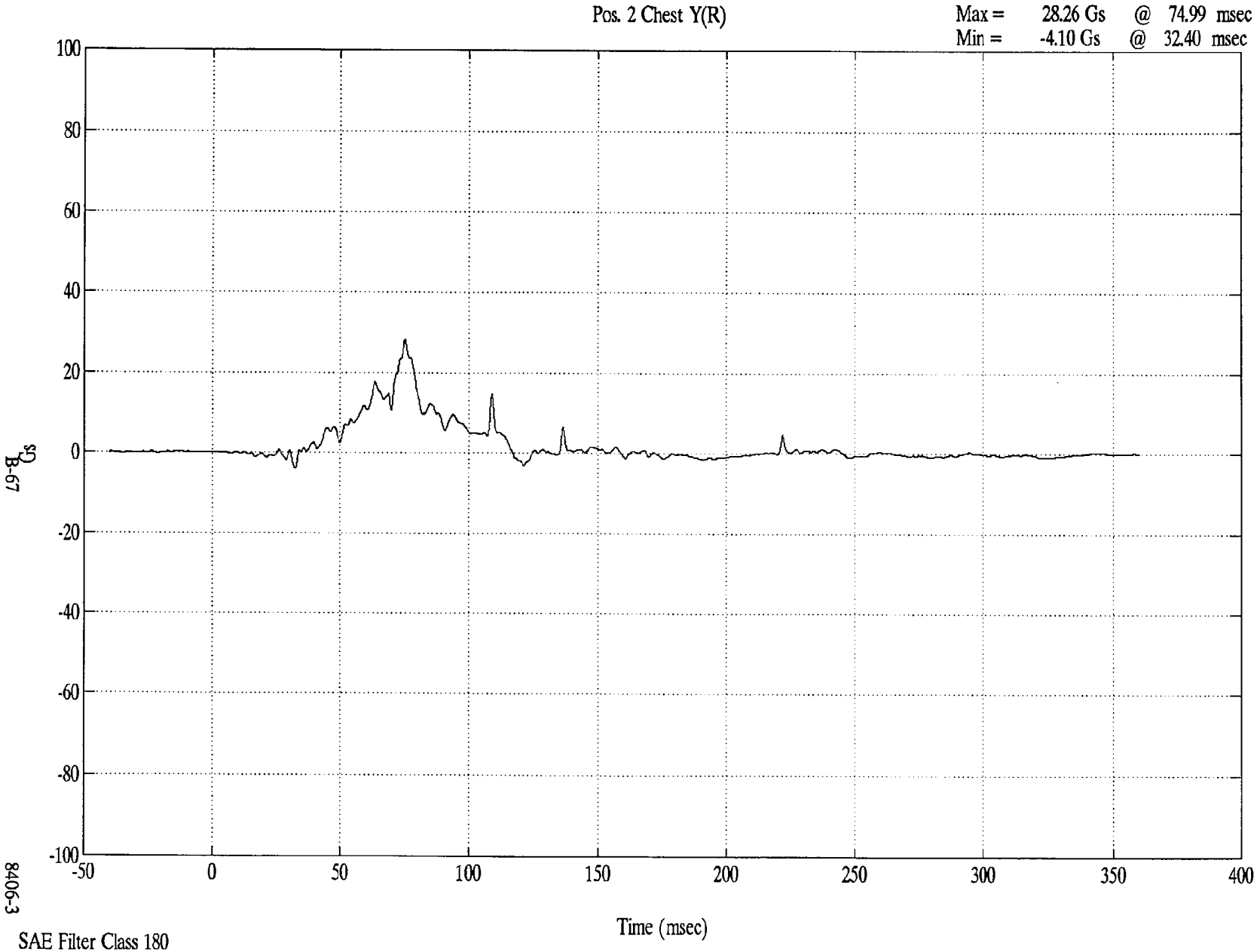

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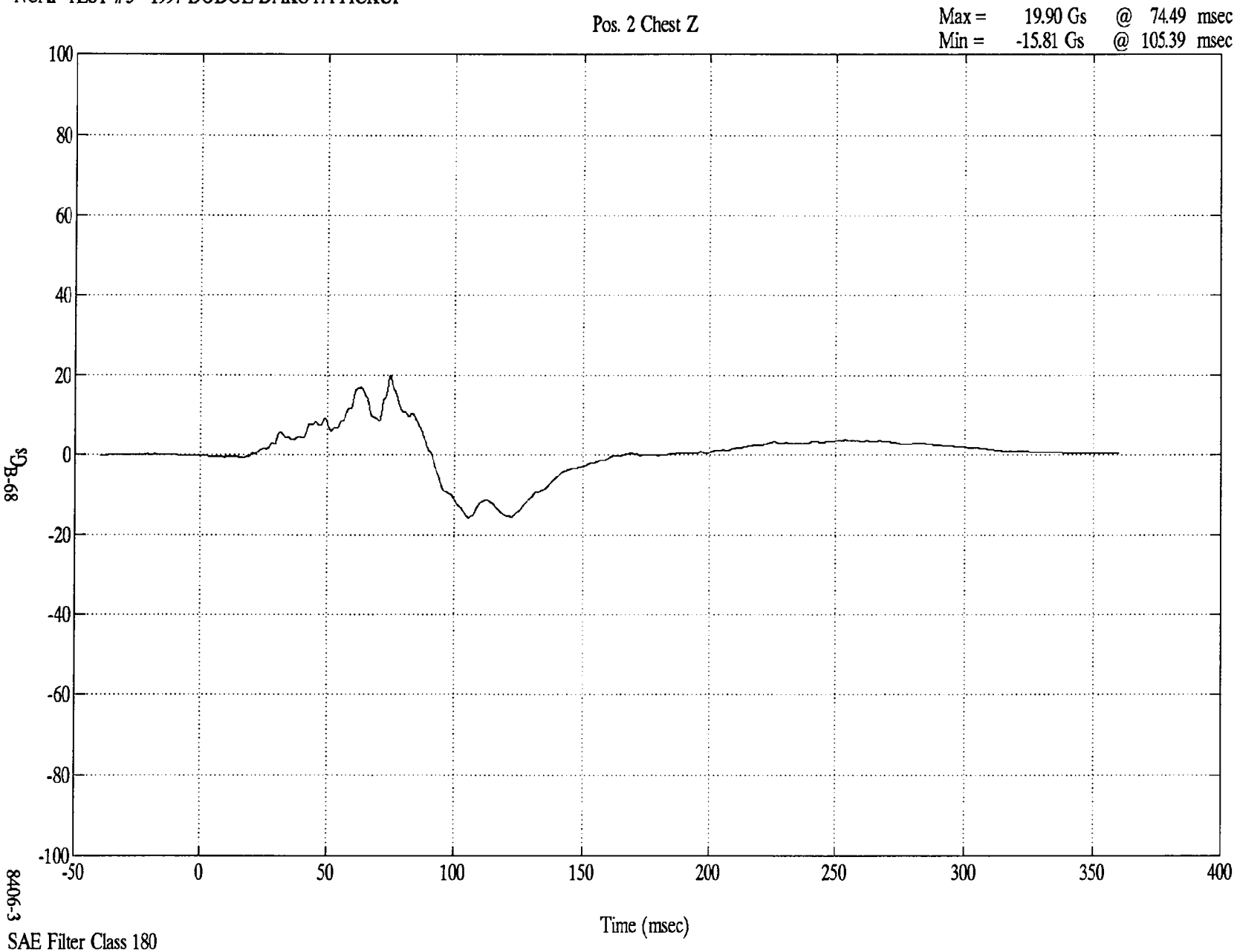

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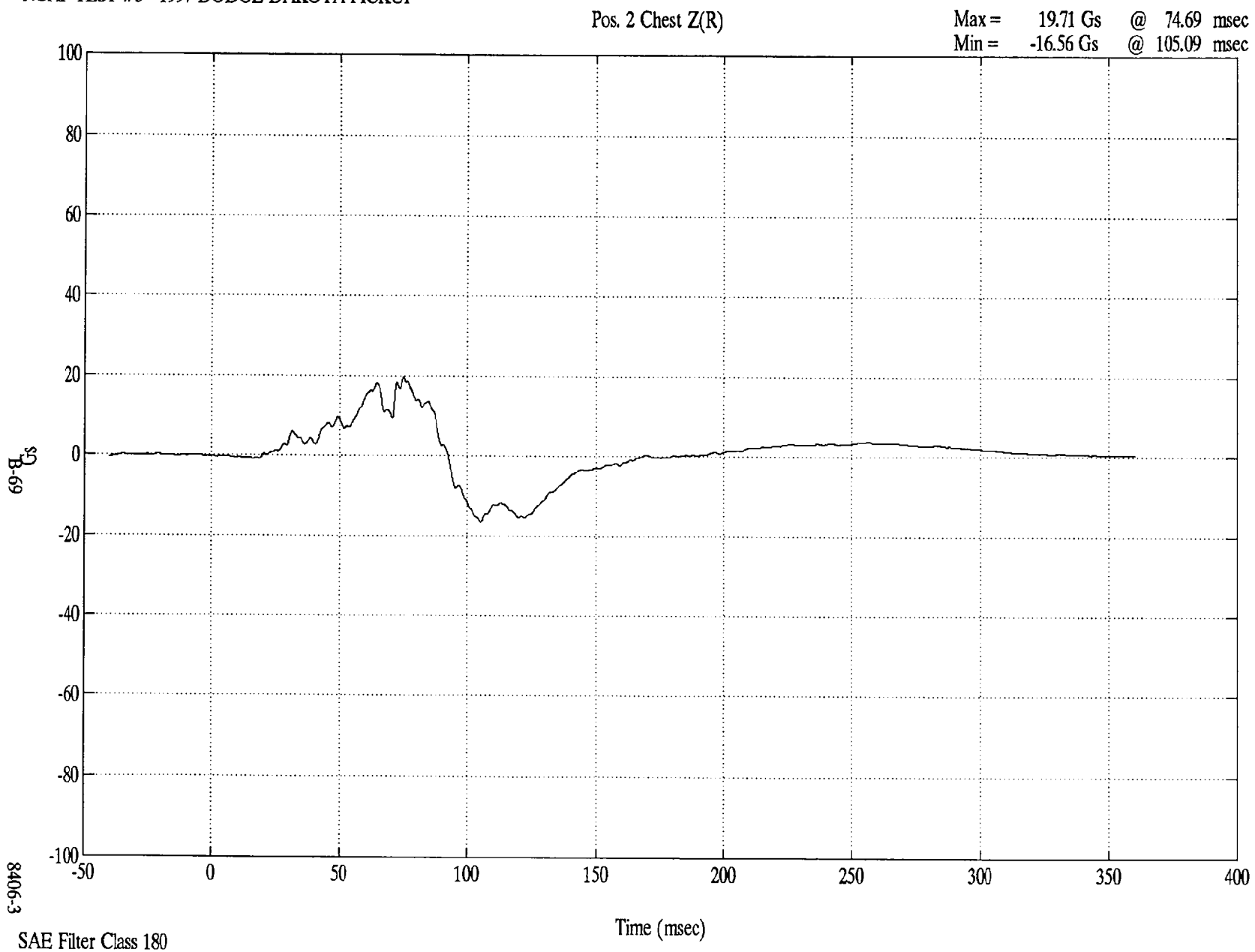

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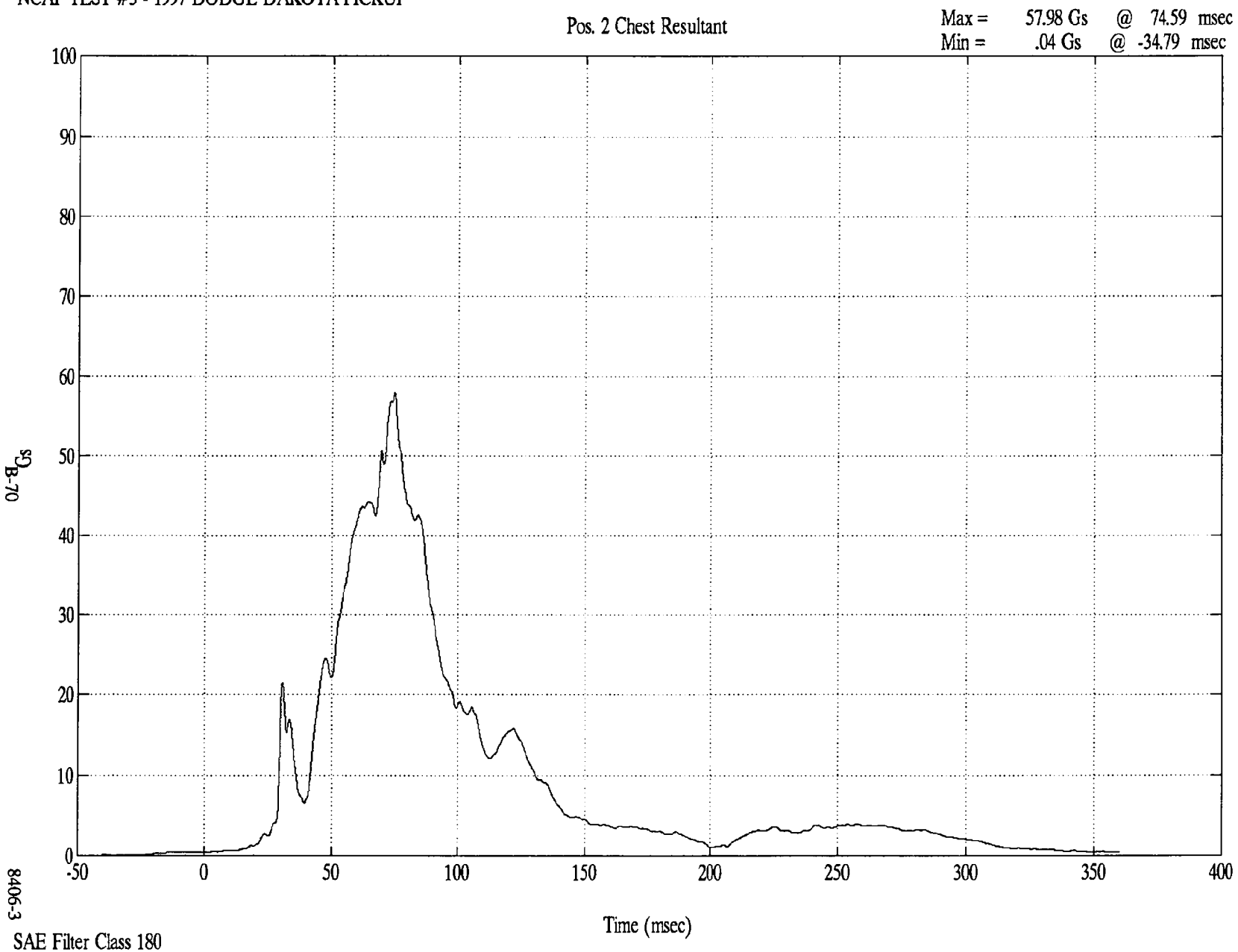

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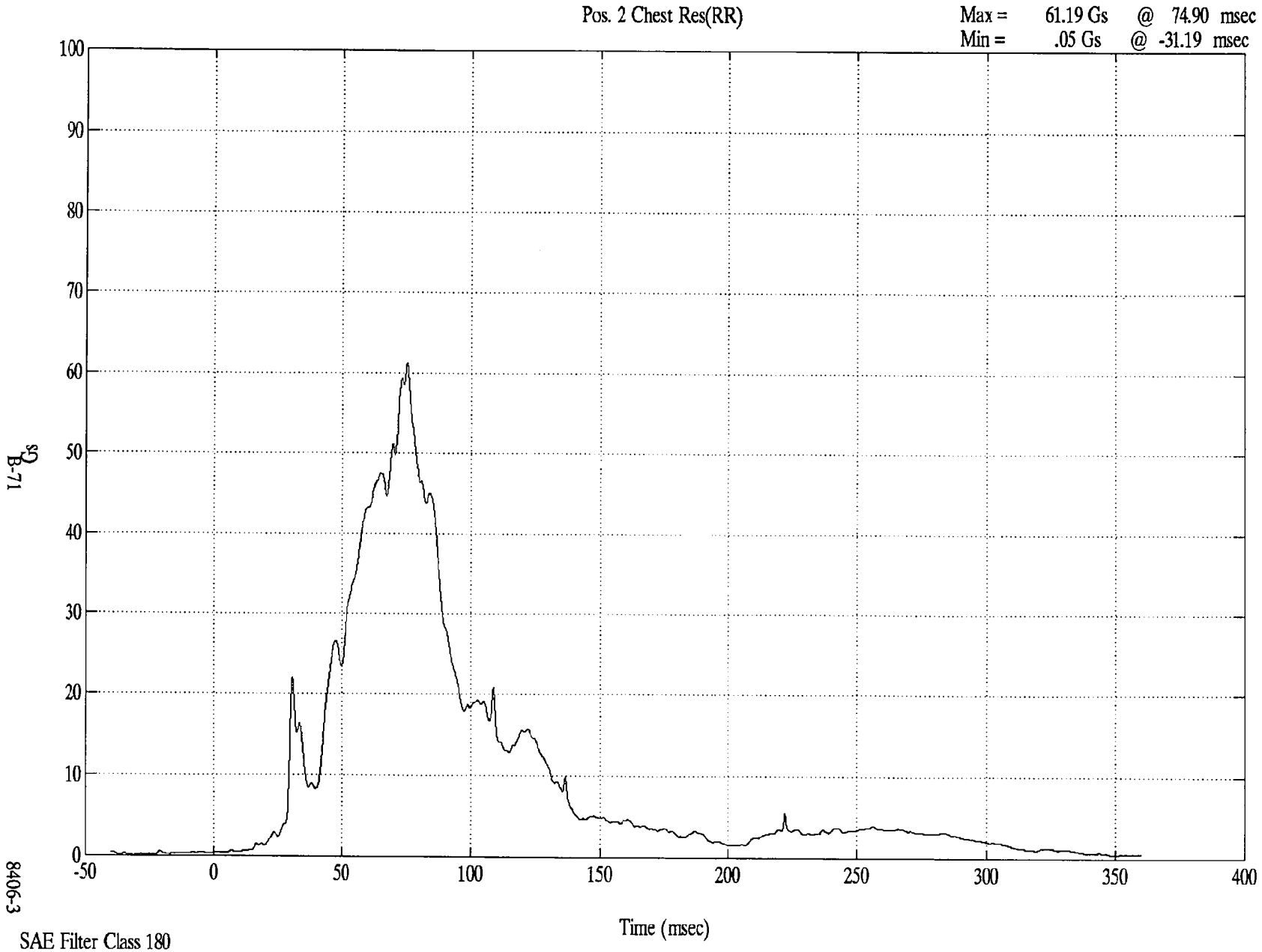

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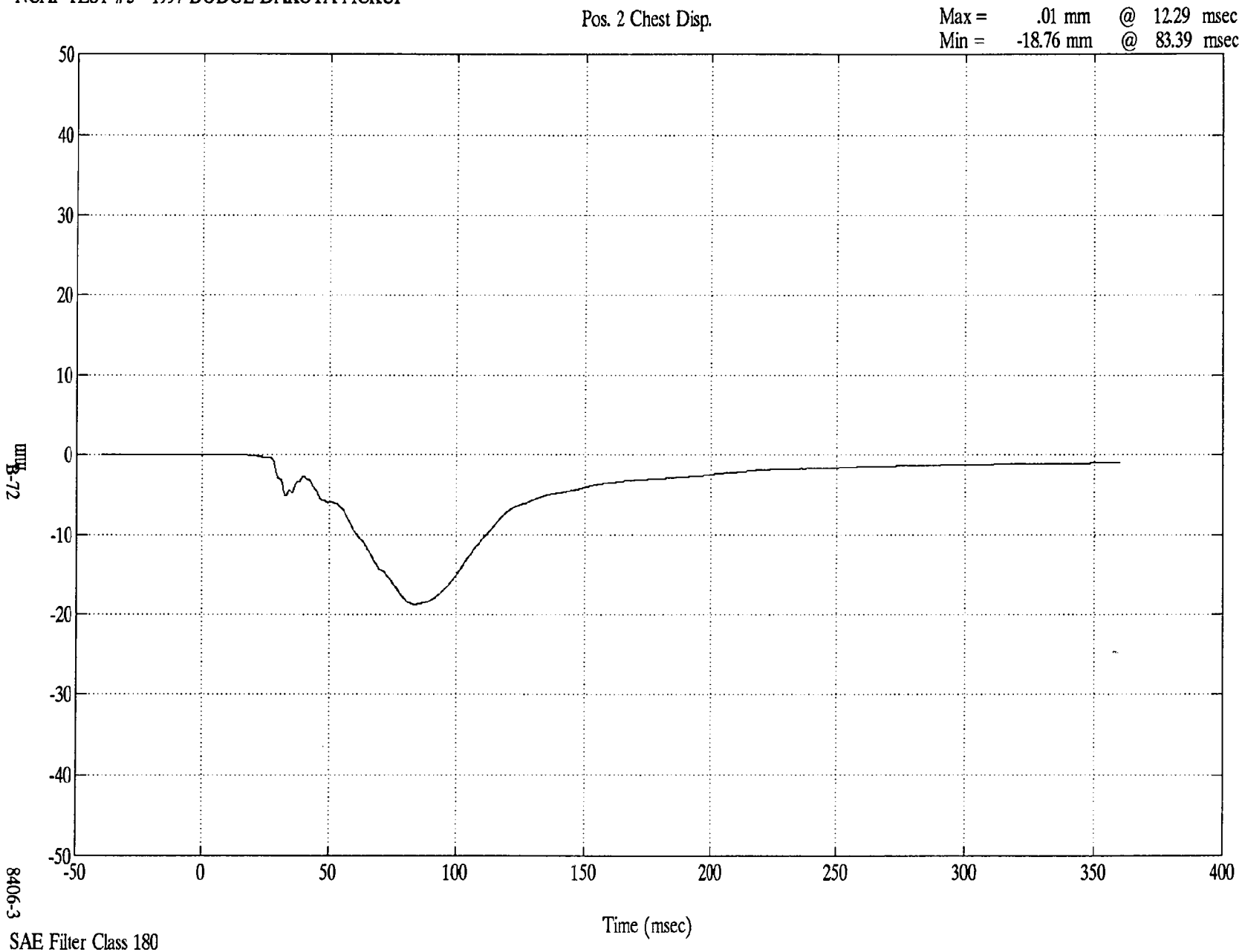

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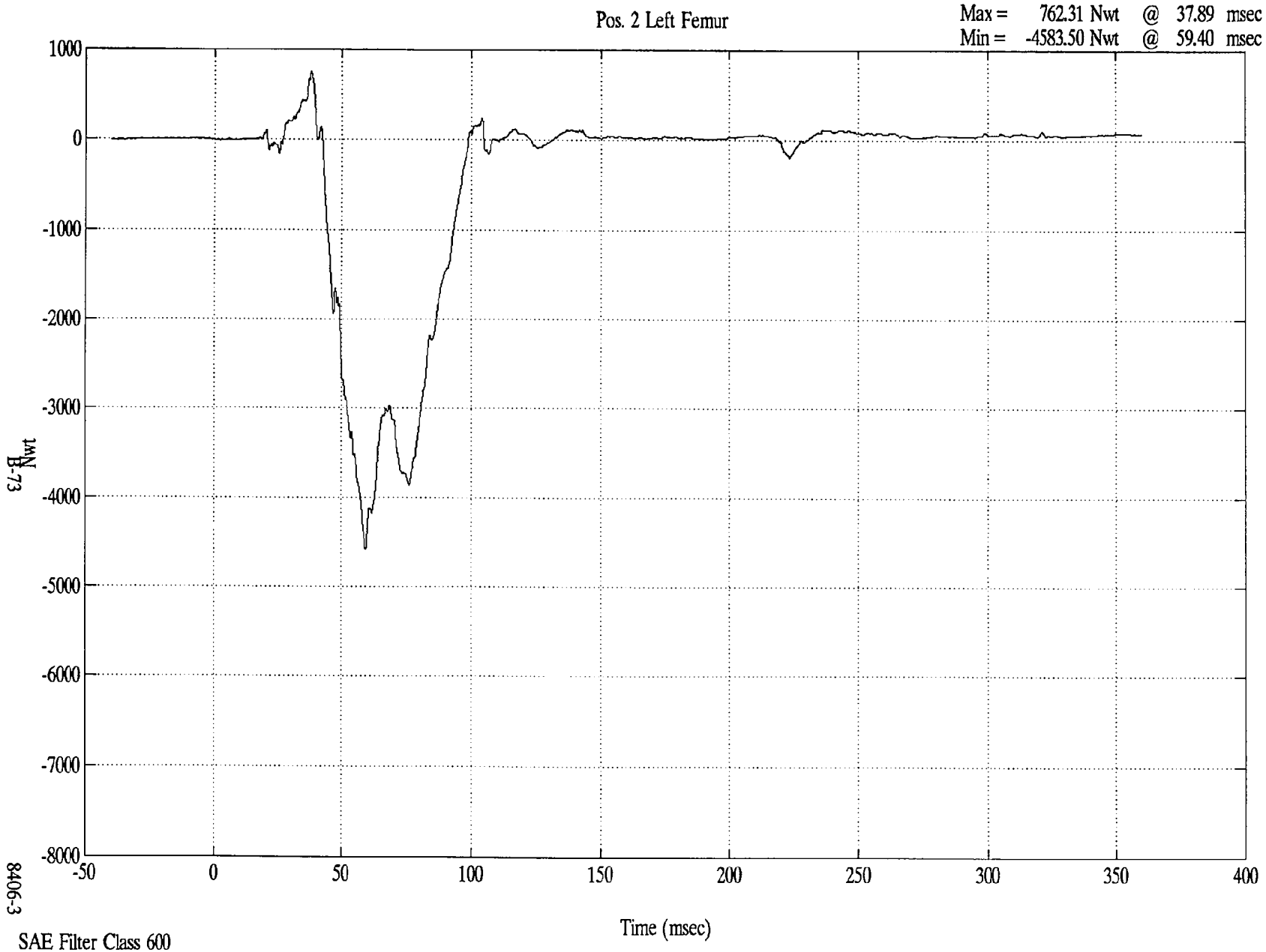

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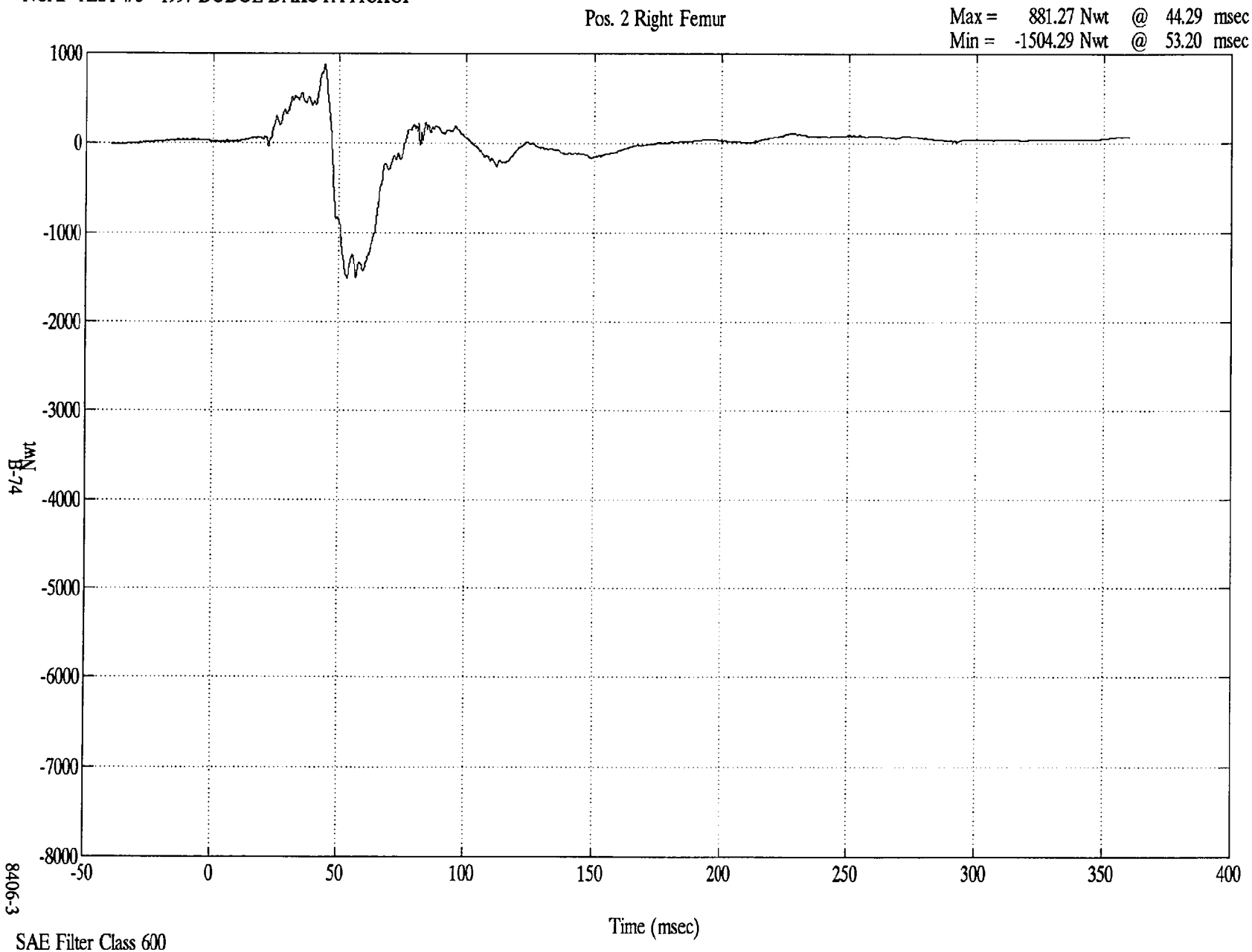

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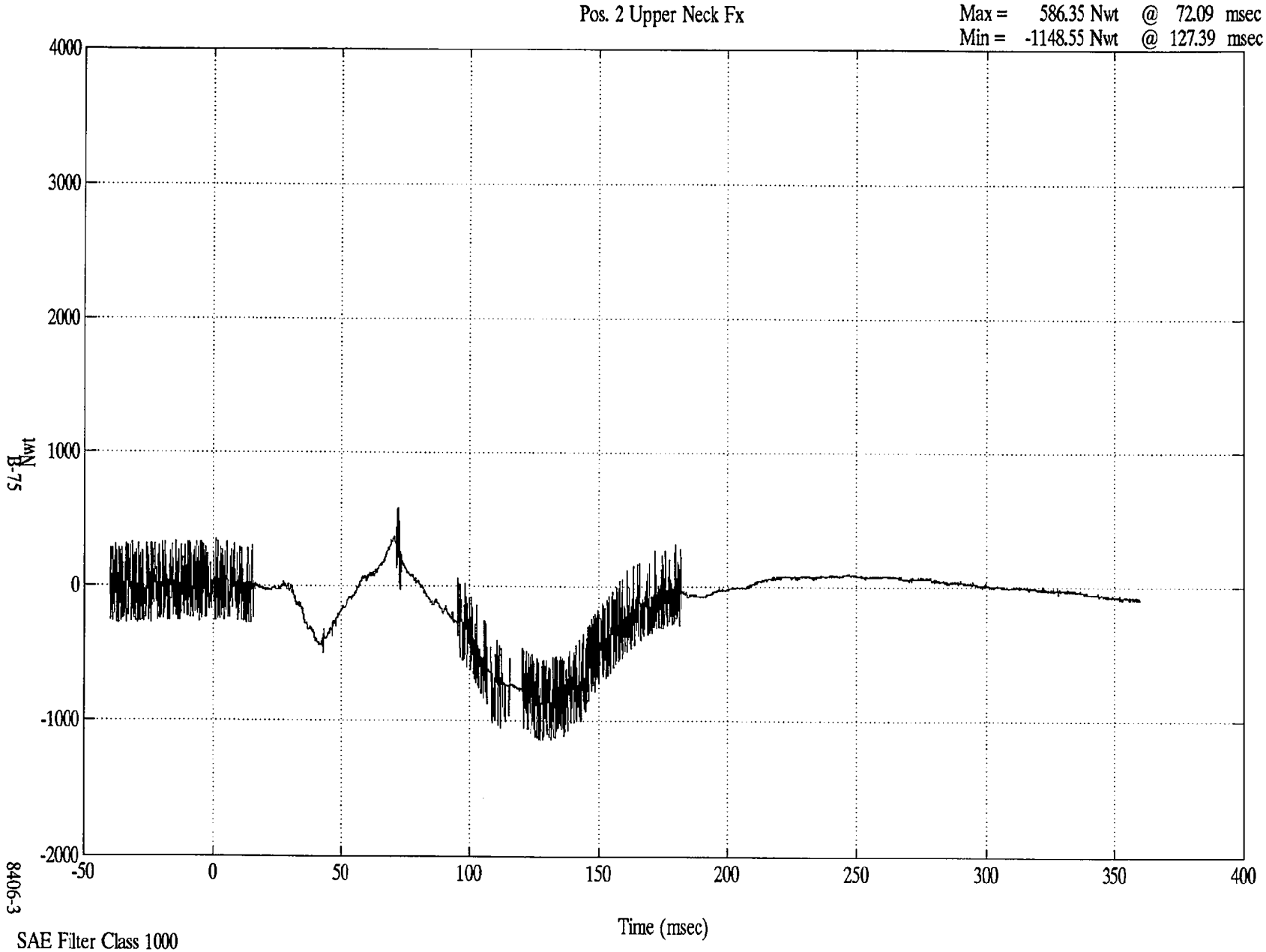
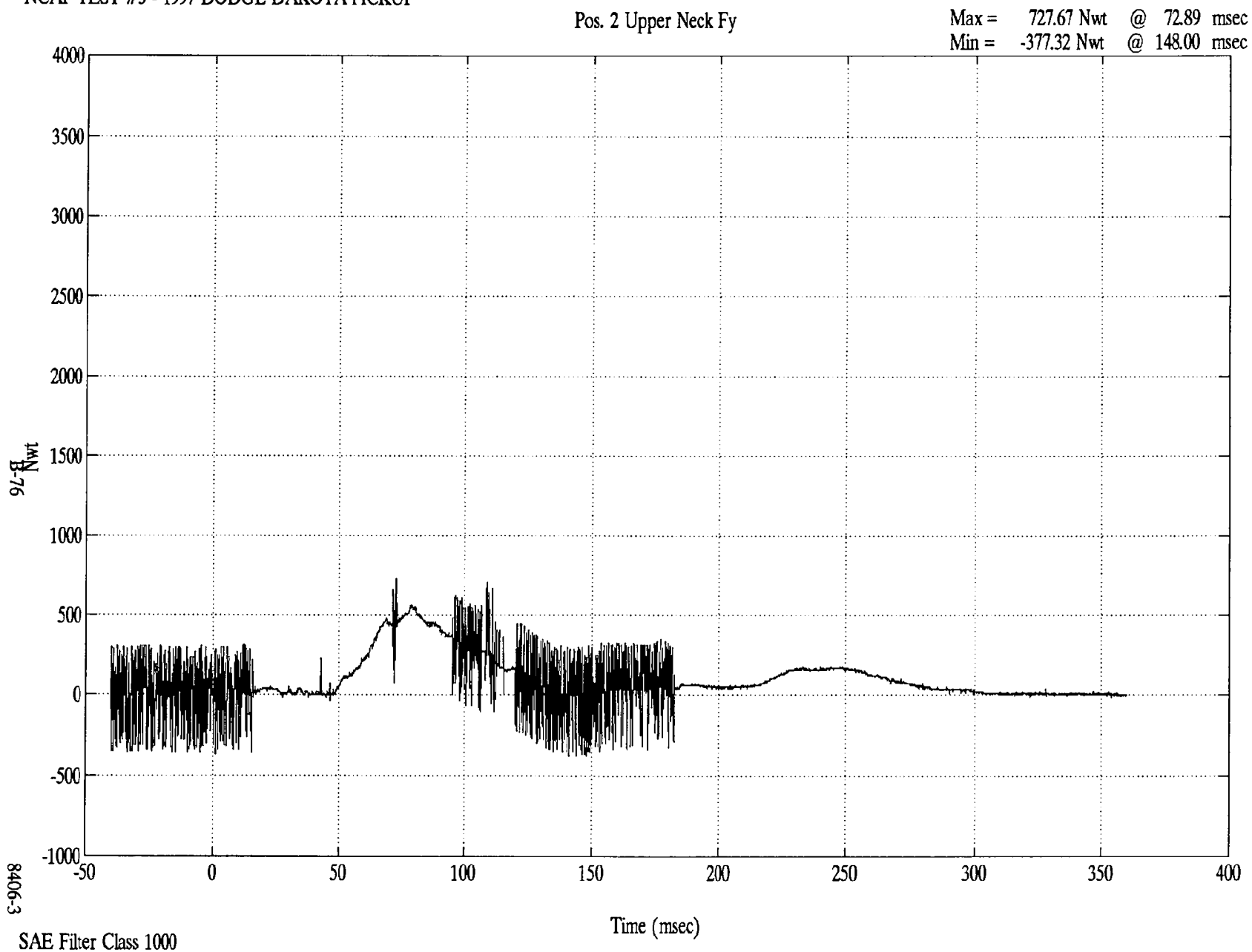


SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



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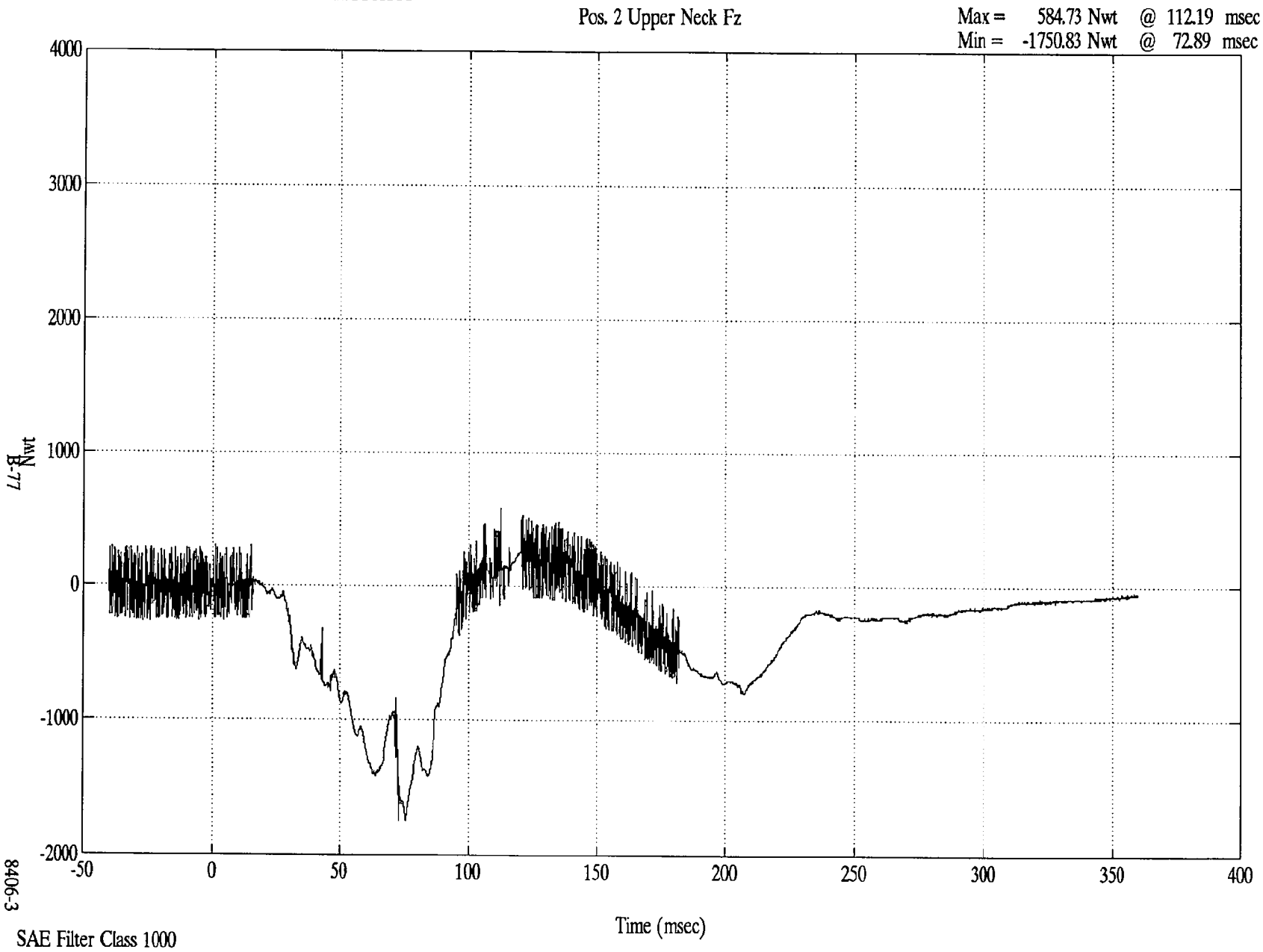

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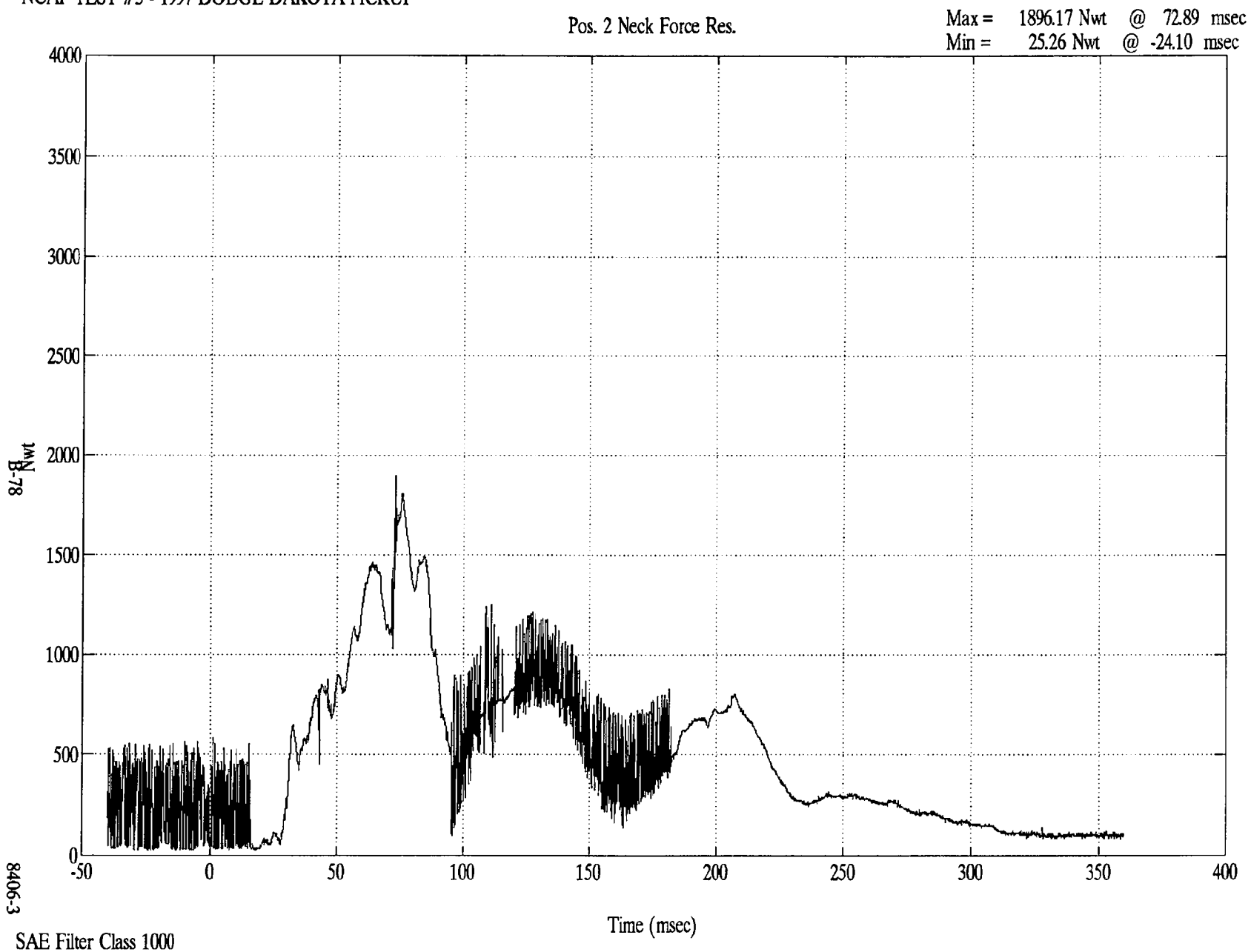

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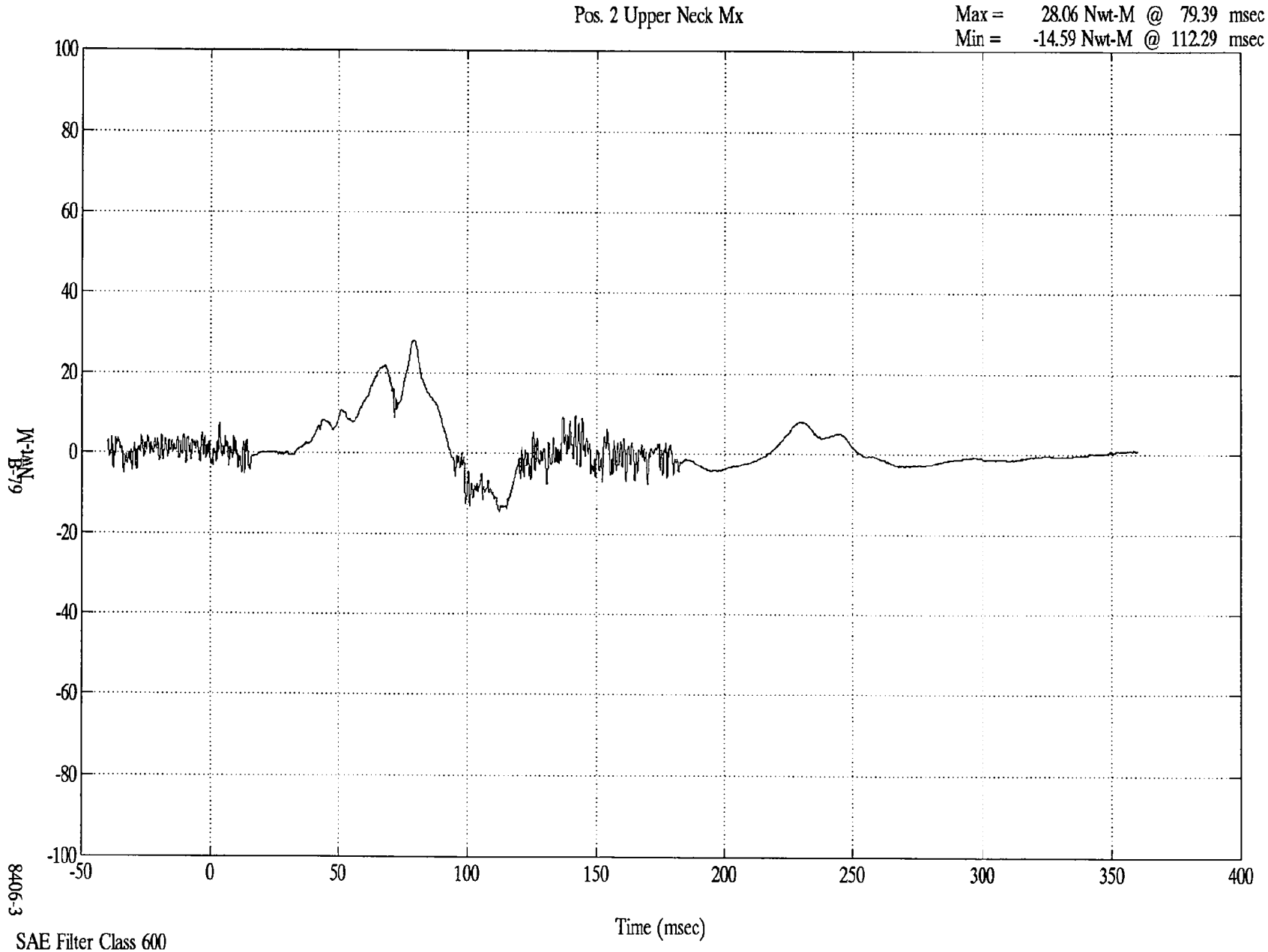

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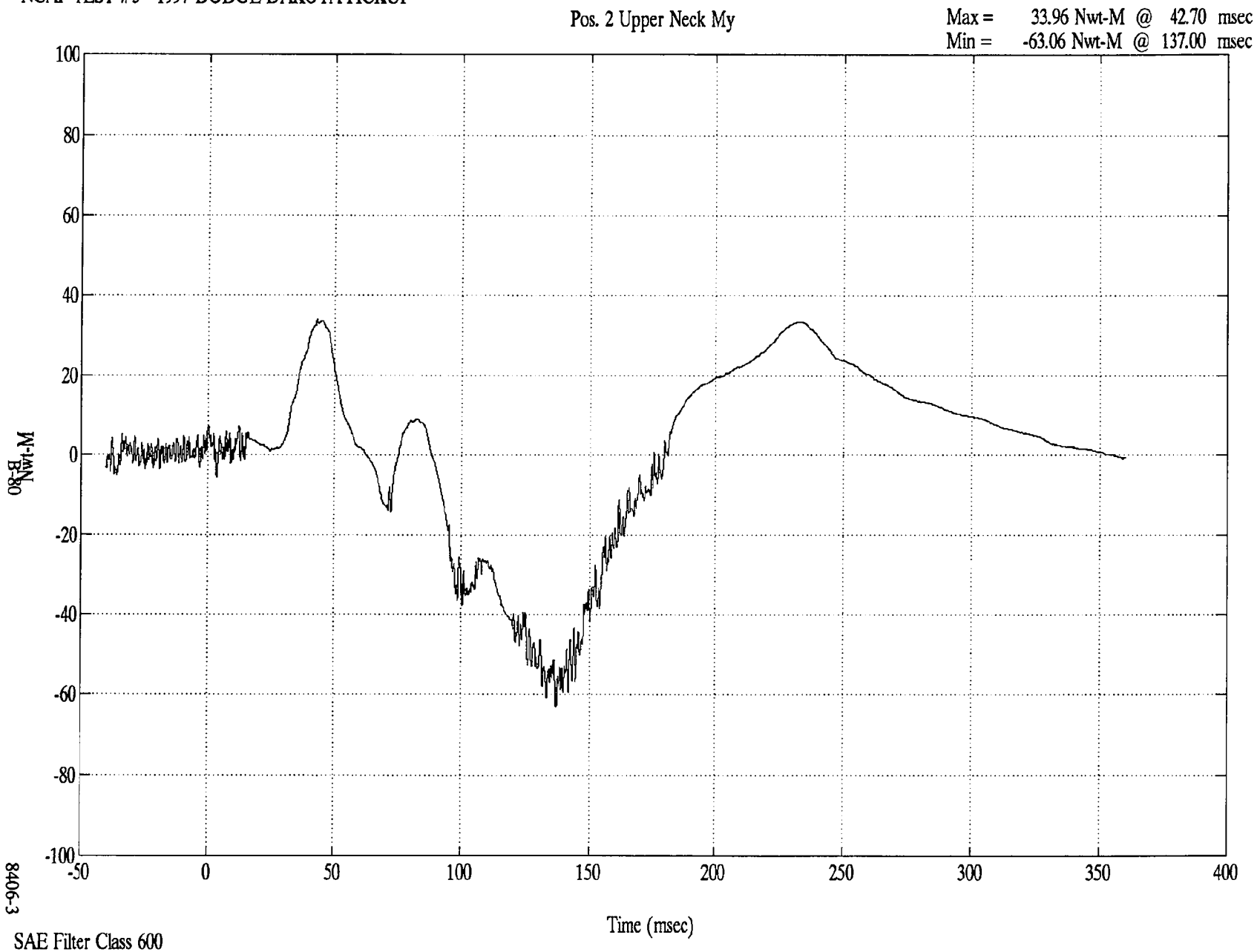

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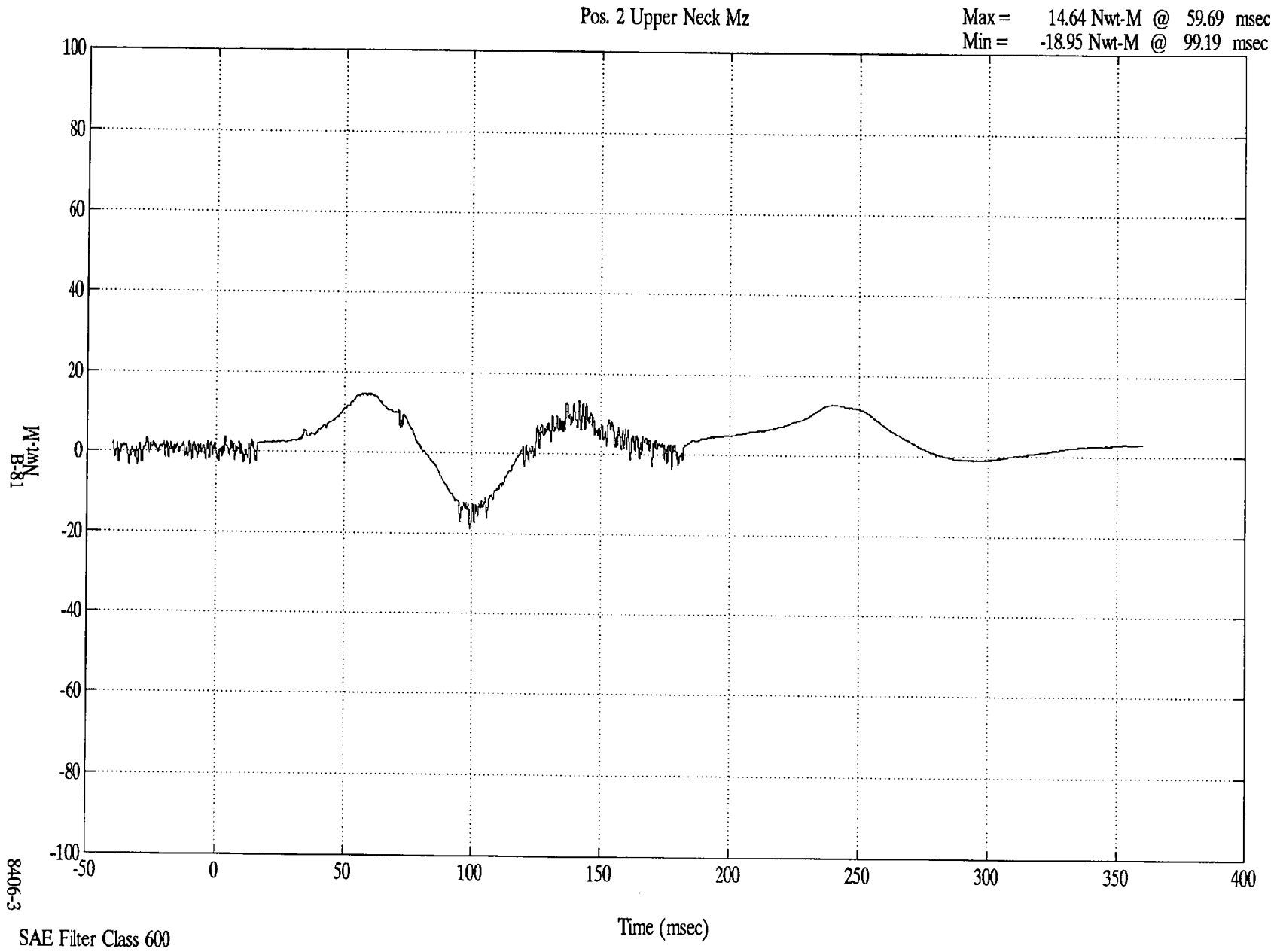

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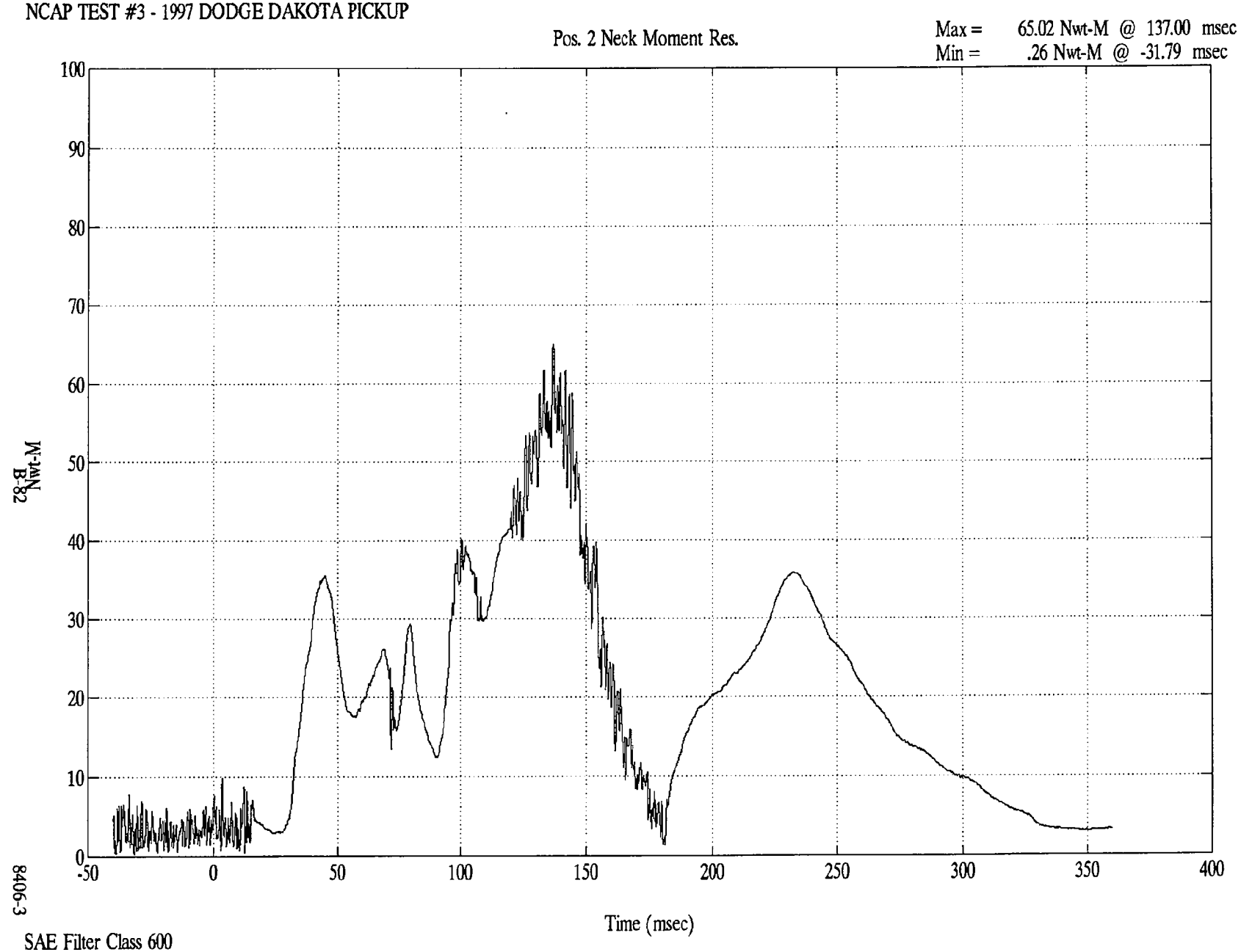

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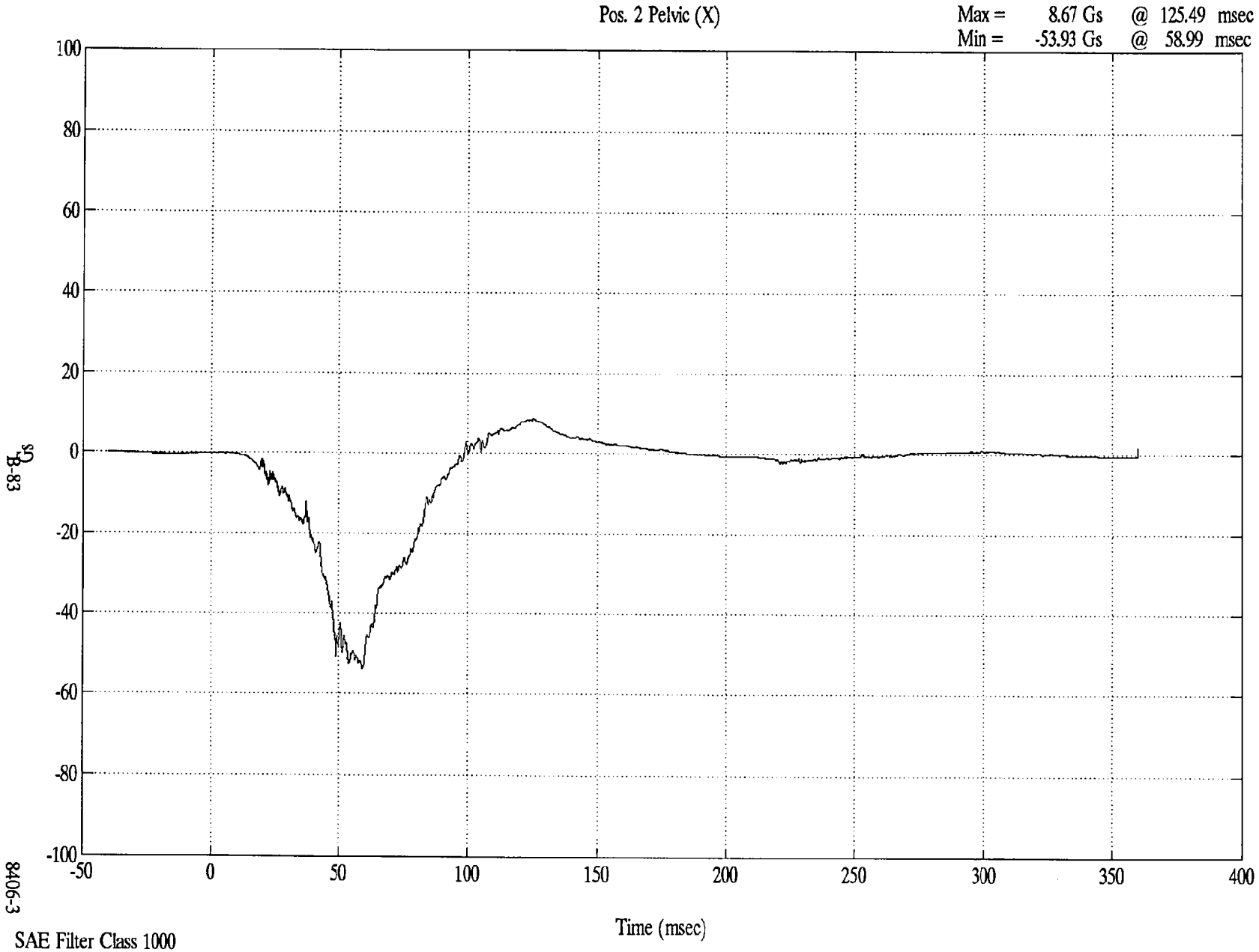

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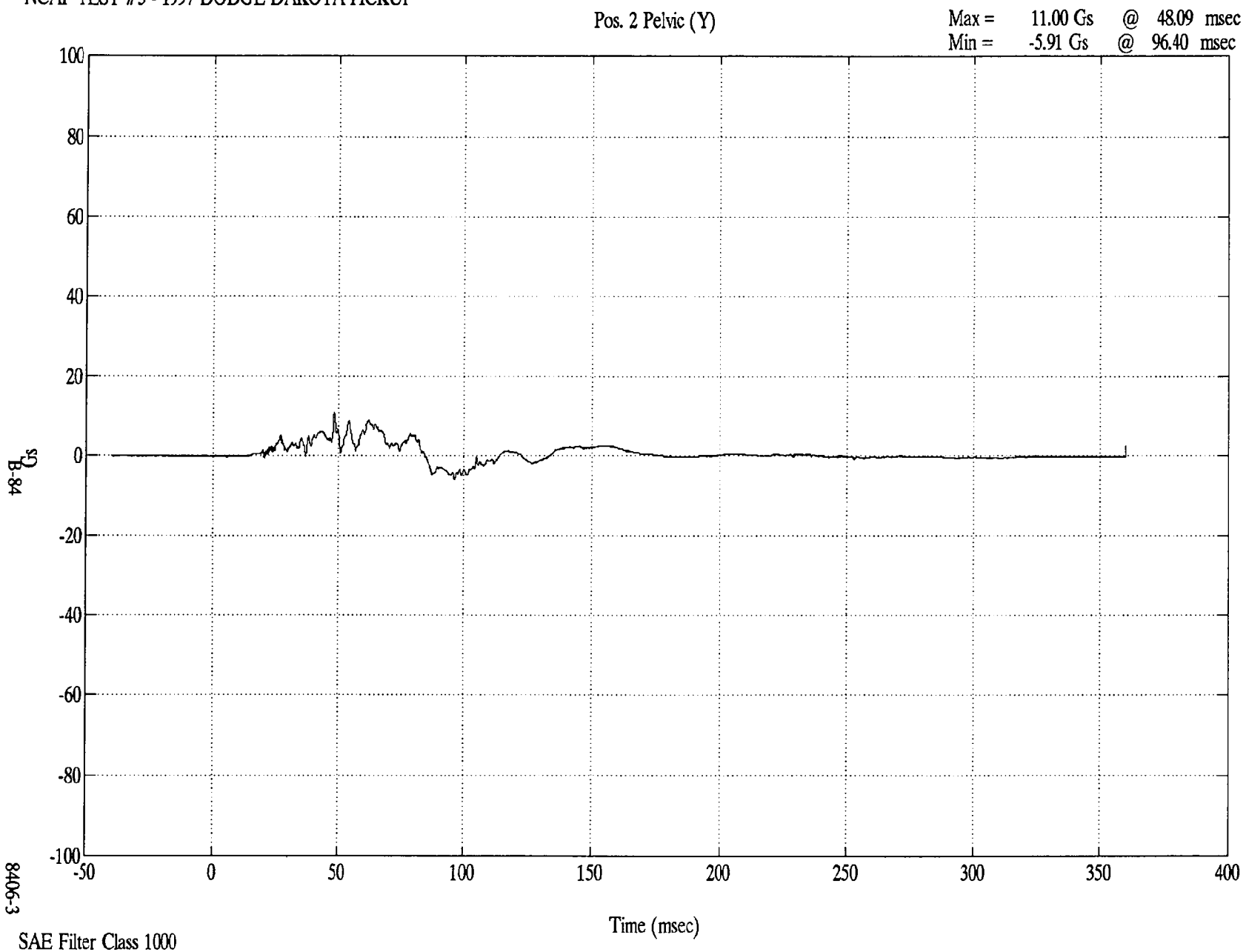

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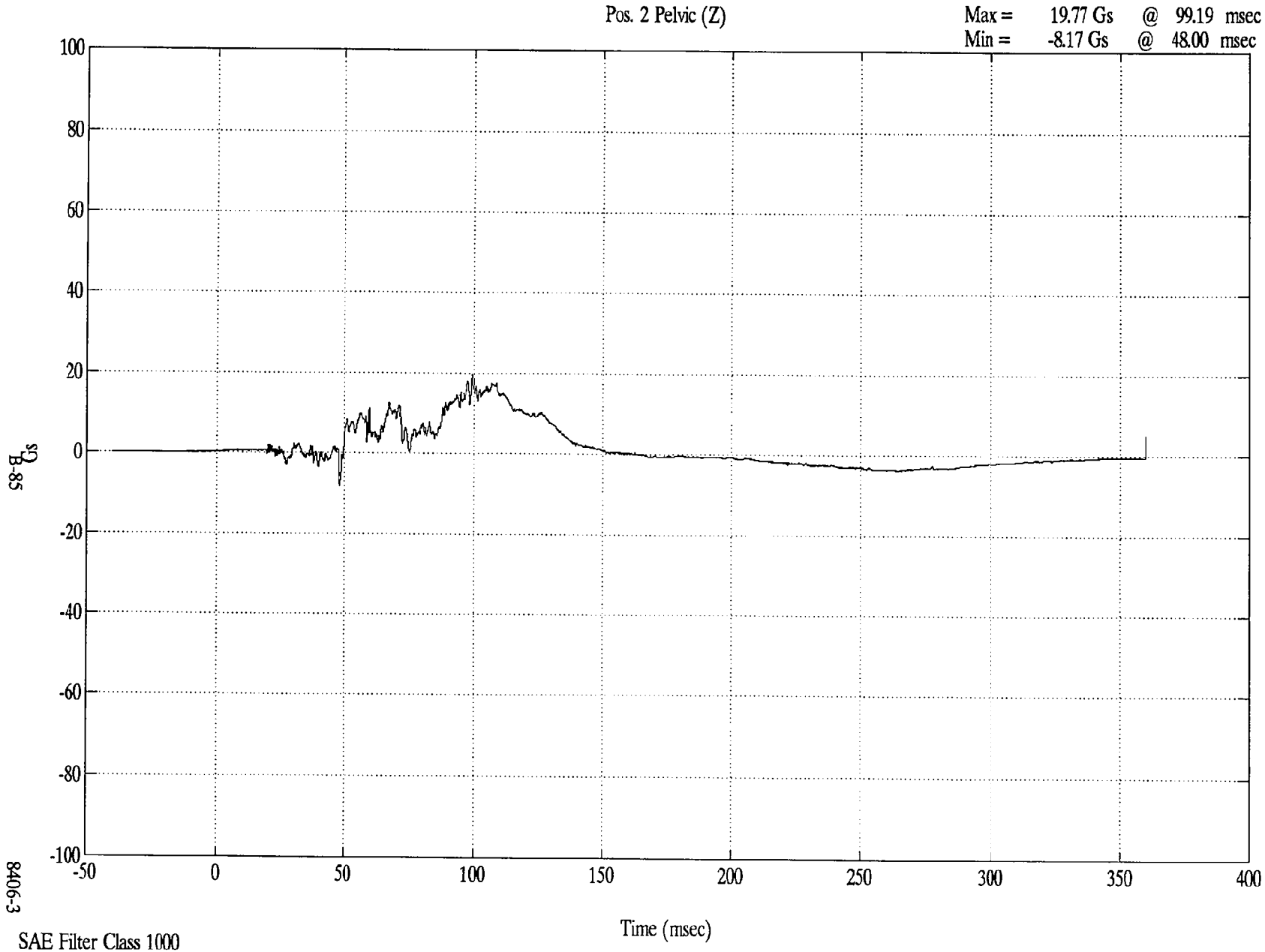

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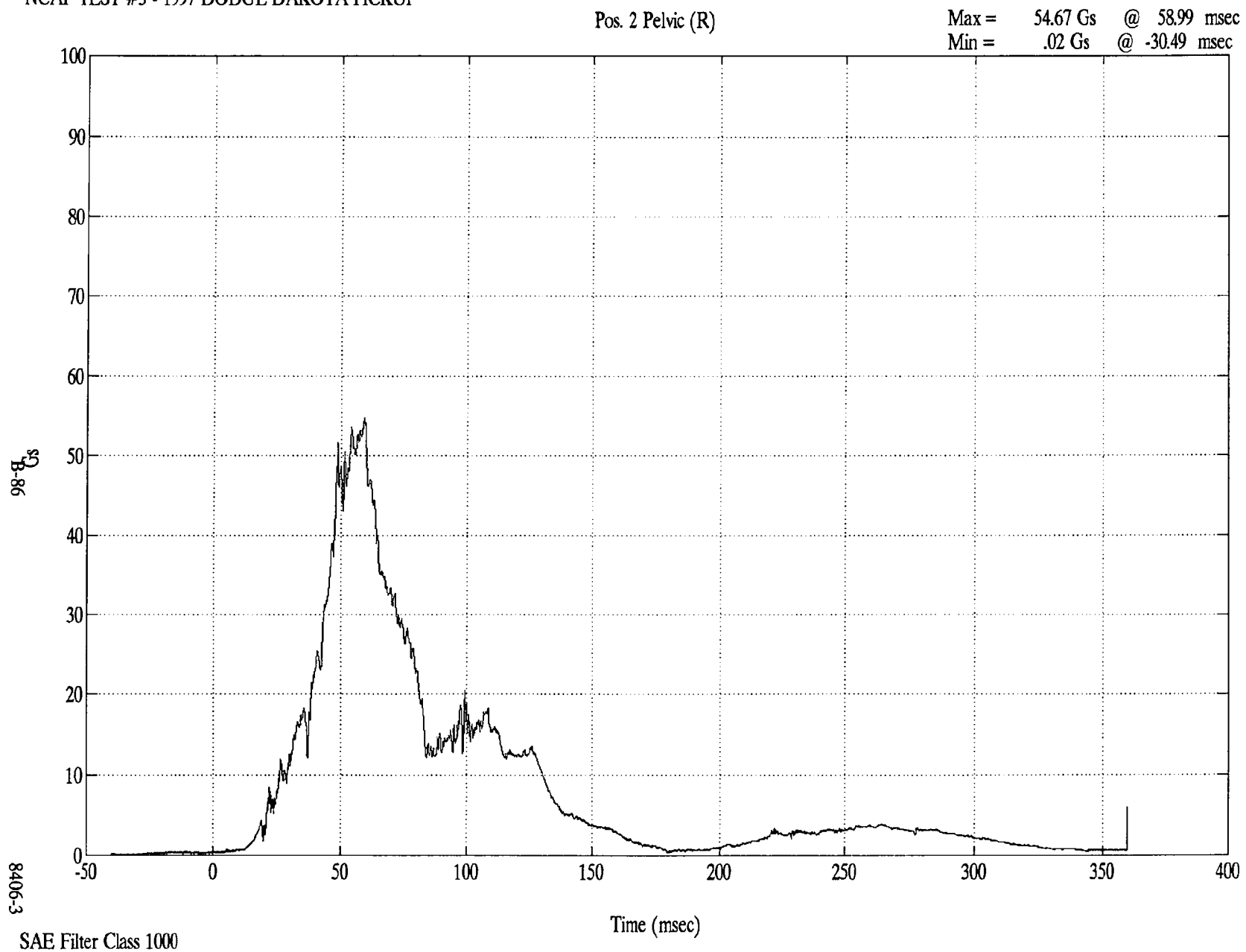

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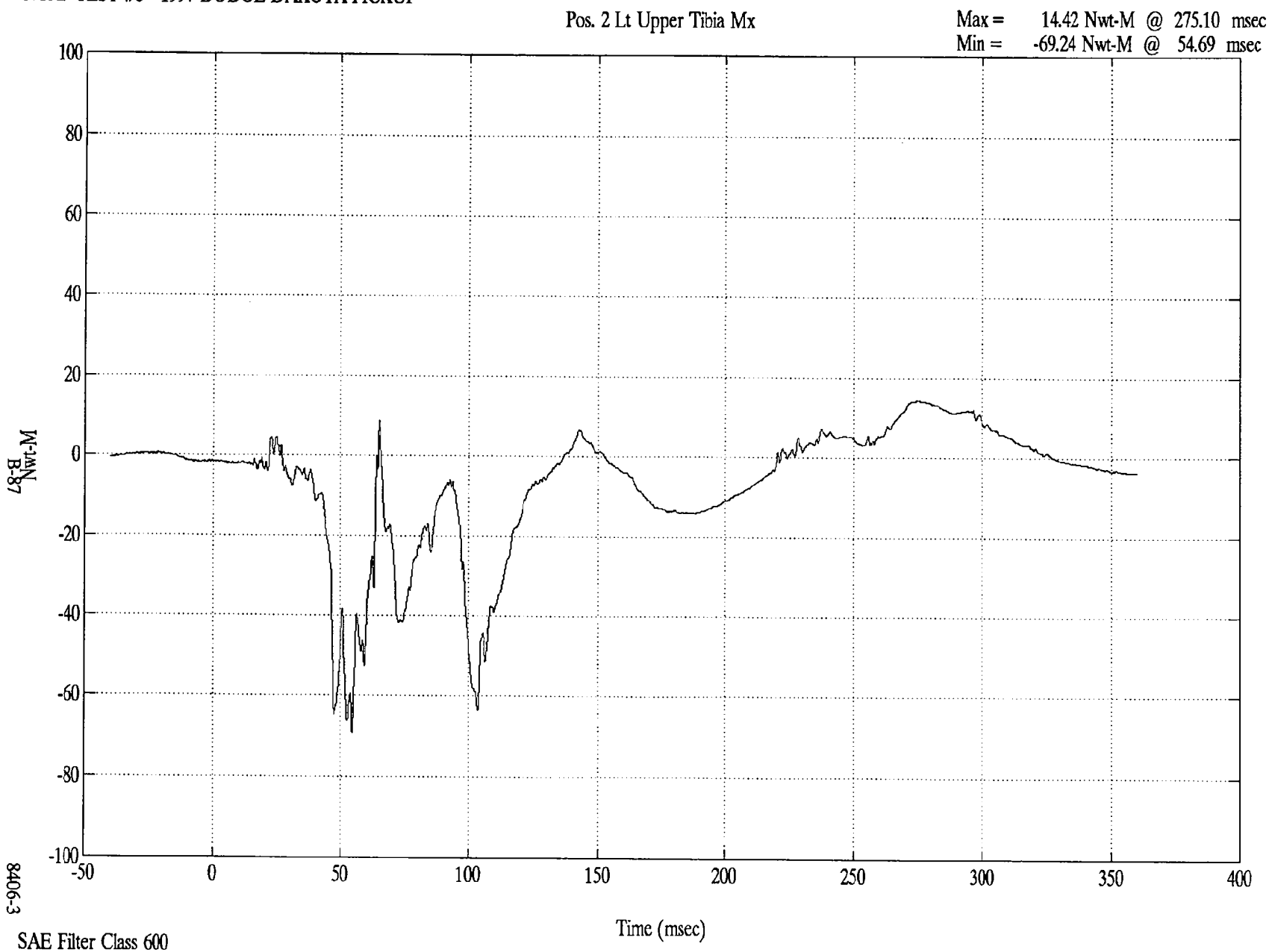

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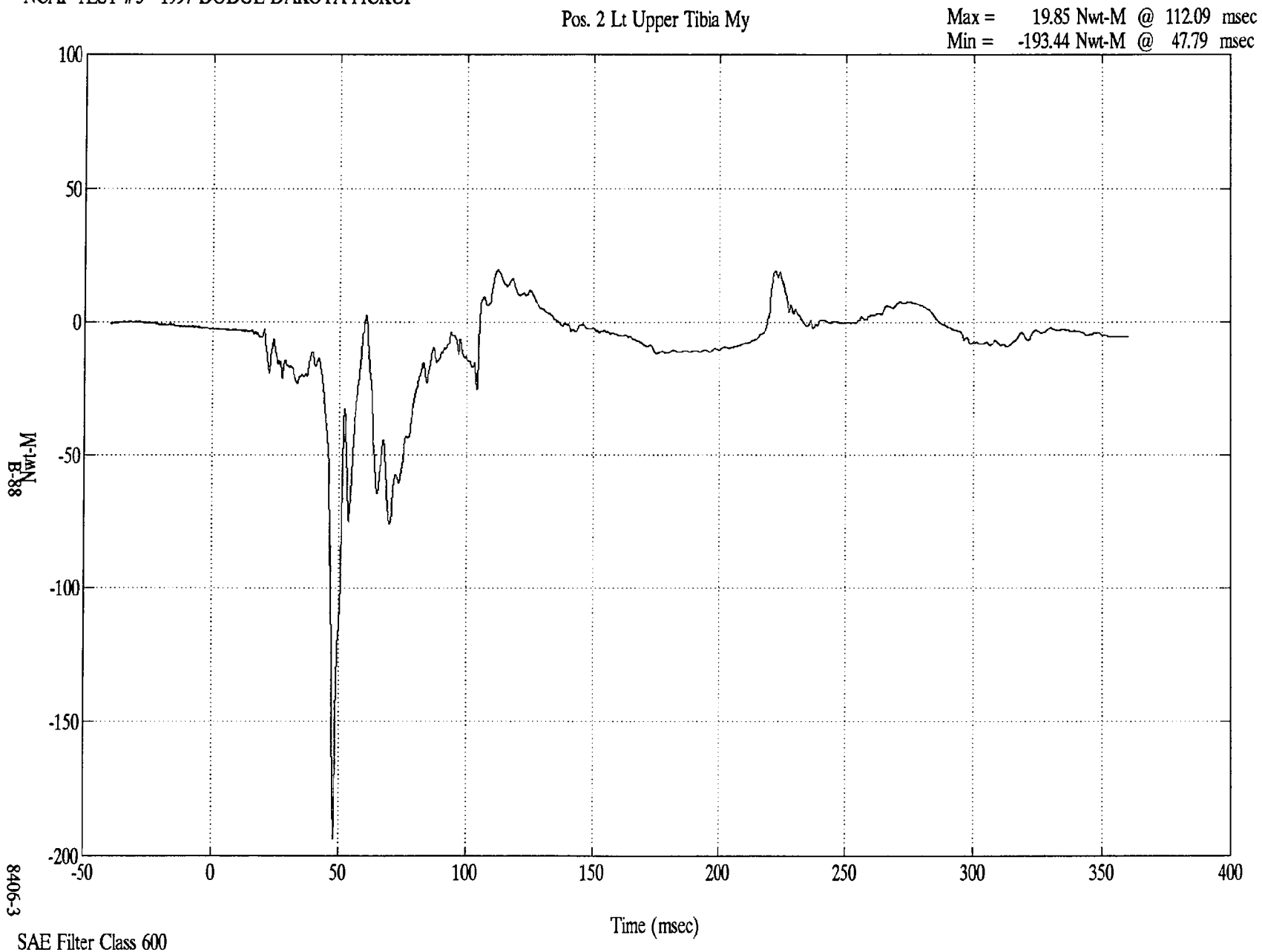

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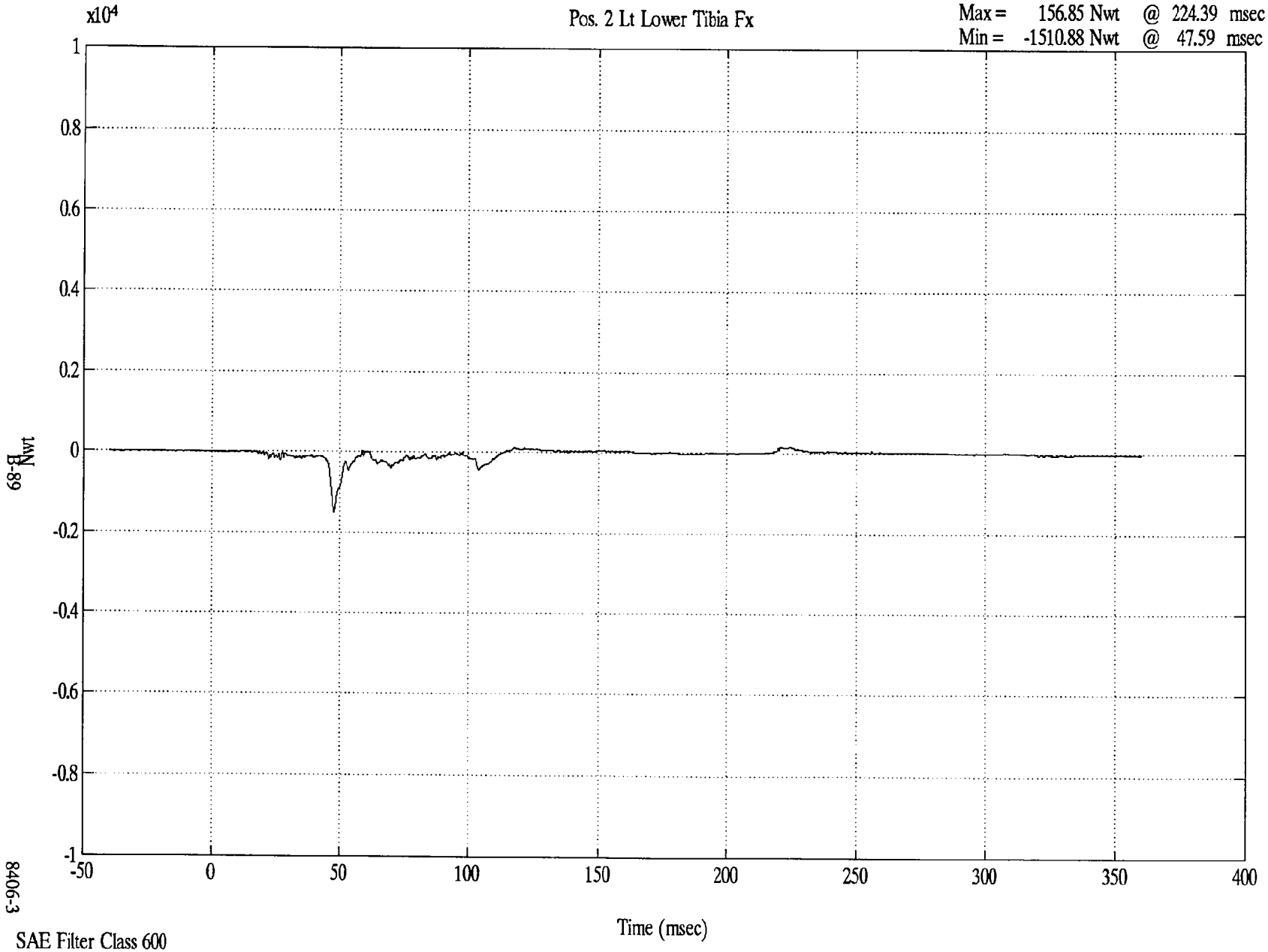

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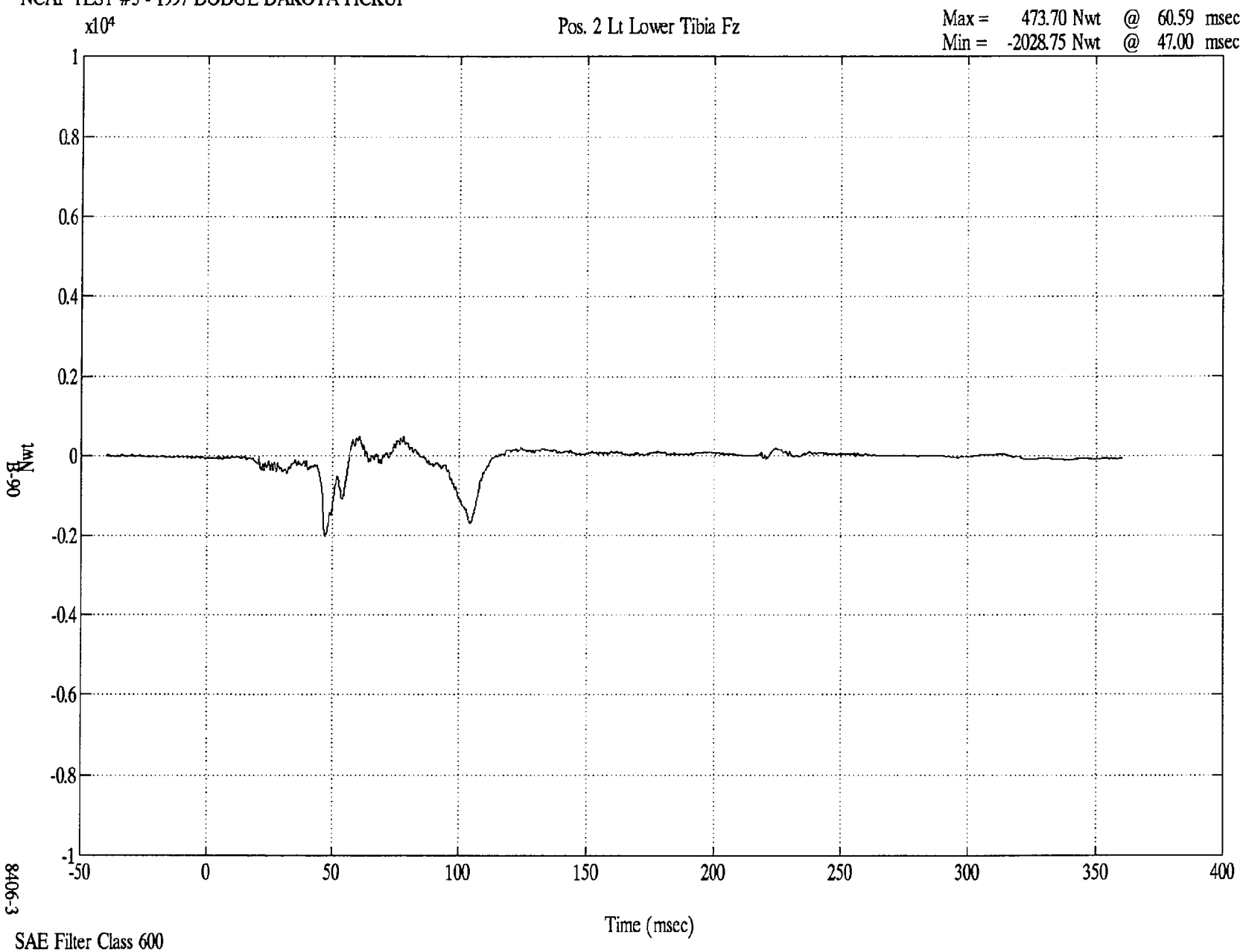

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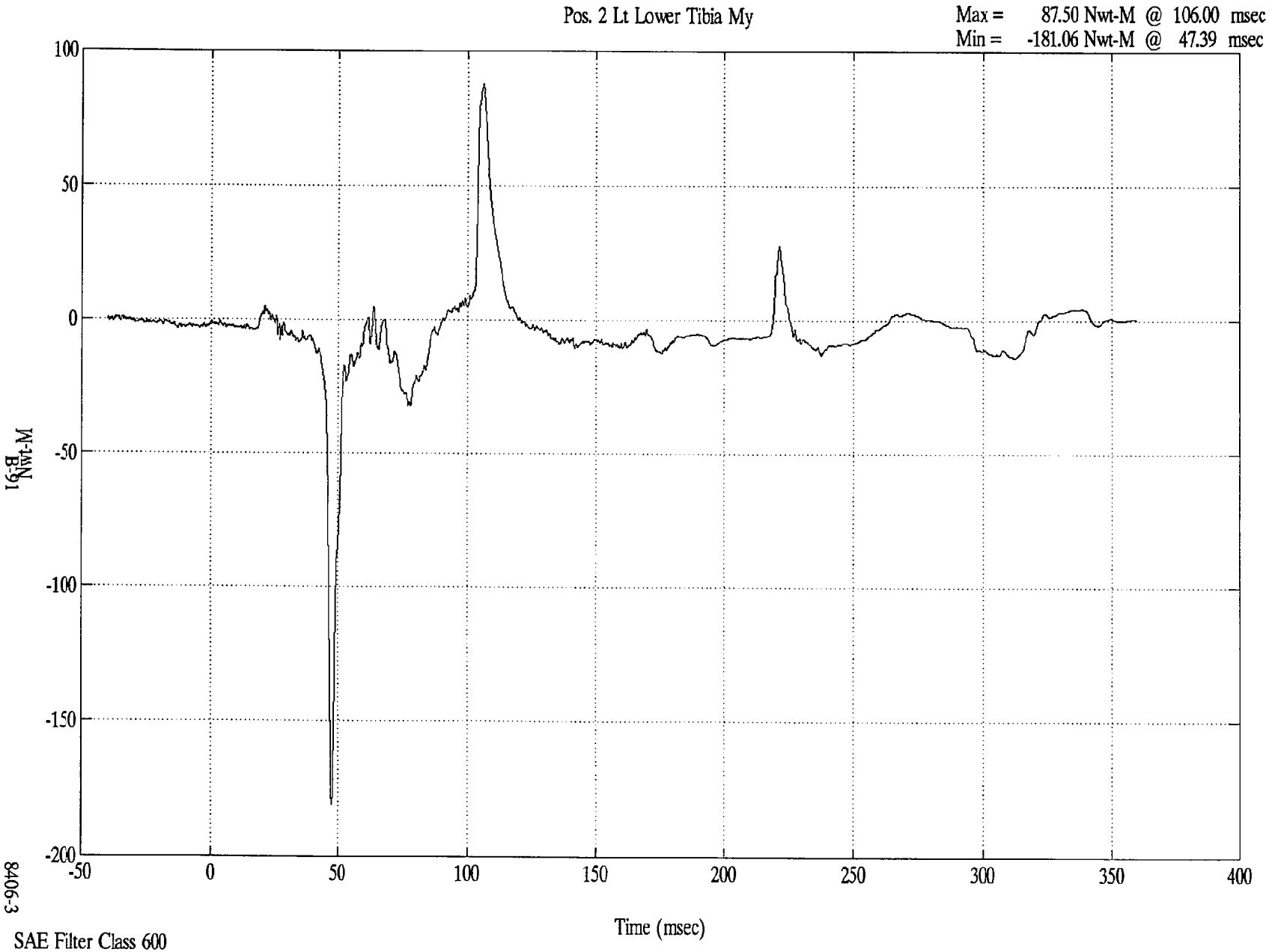

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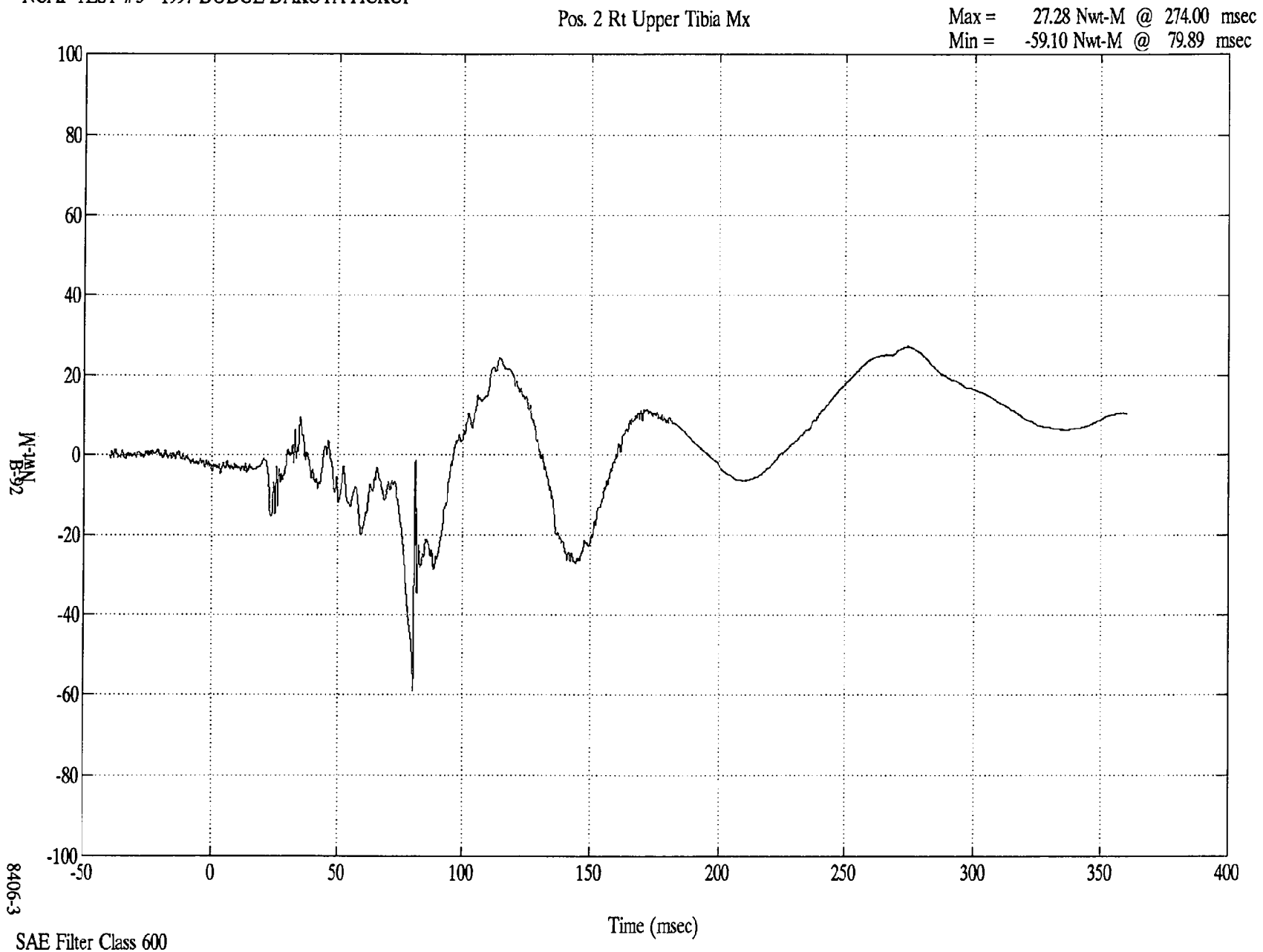

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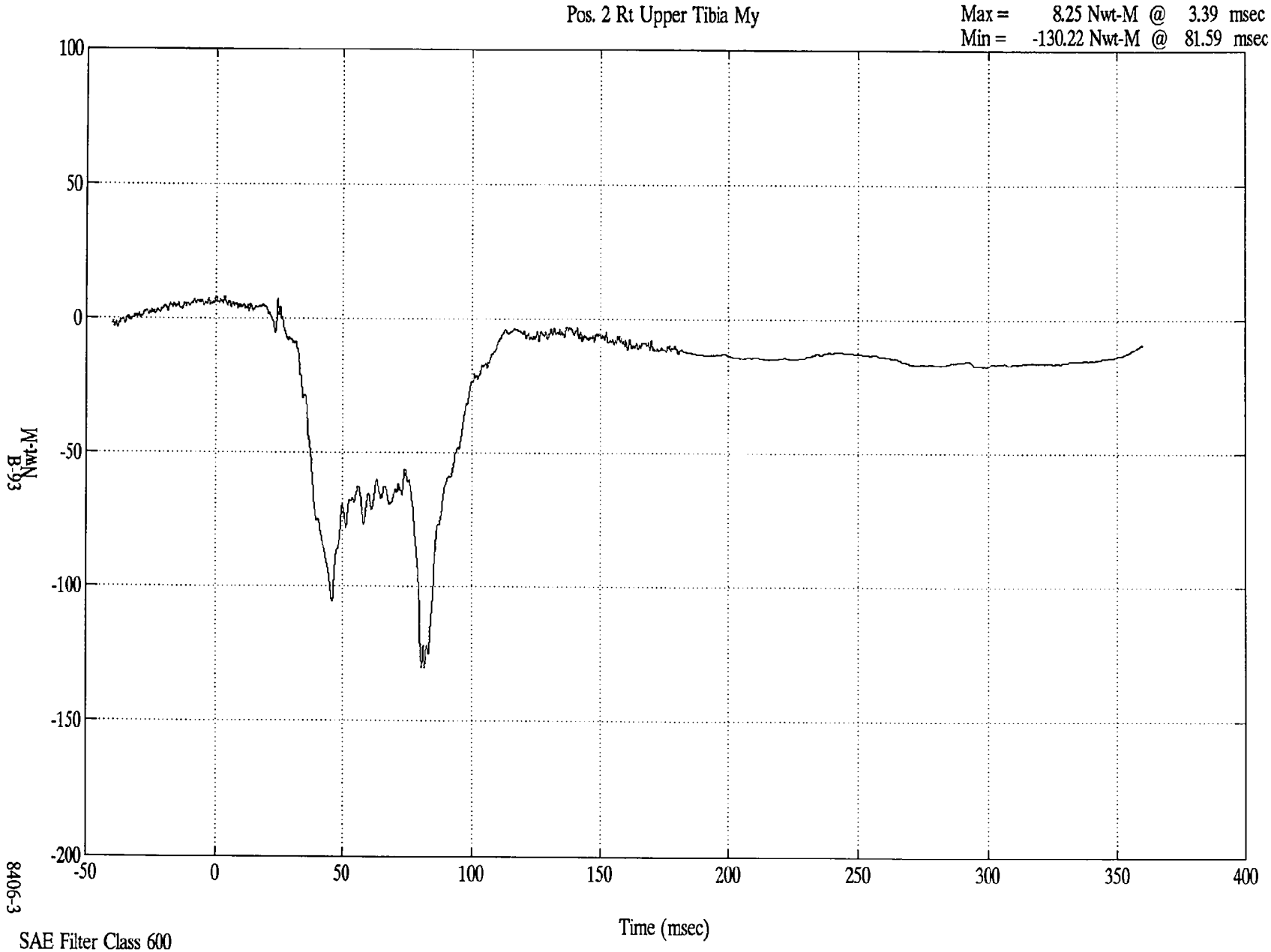

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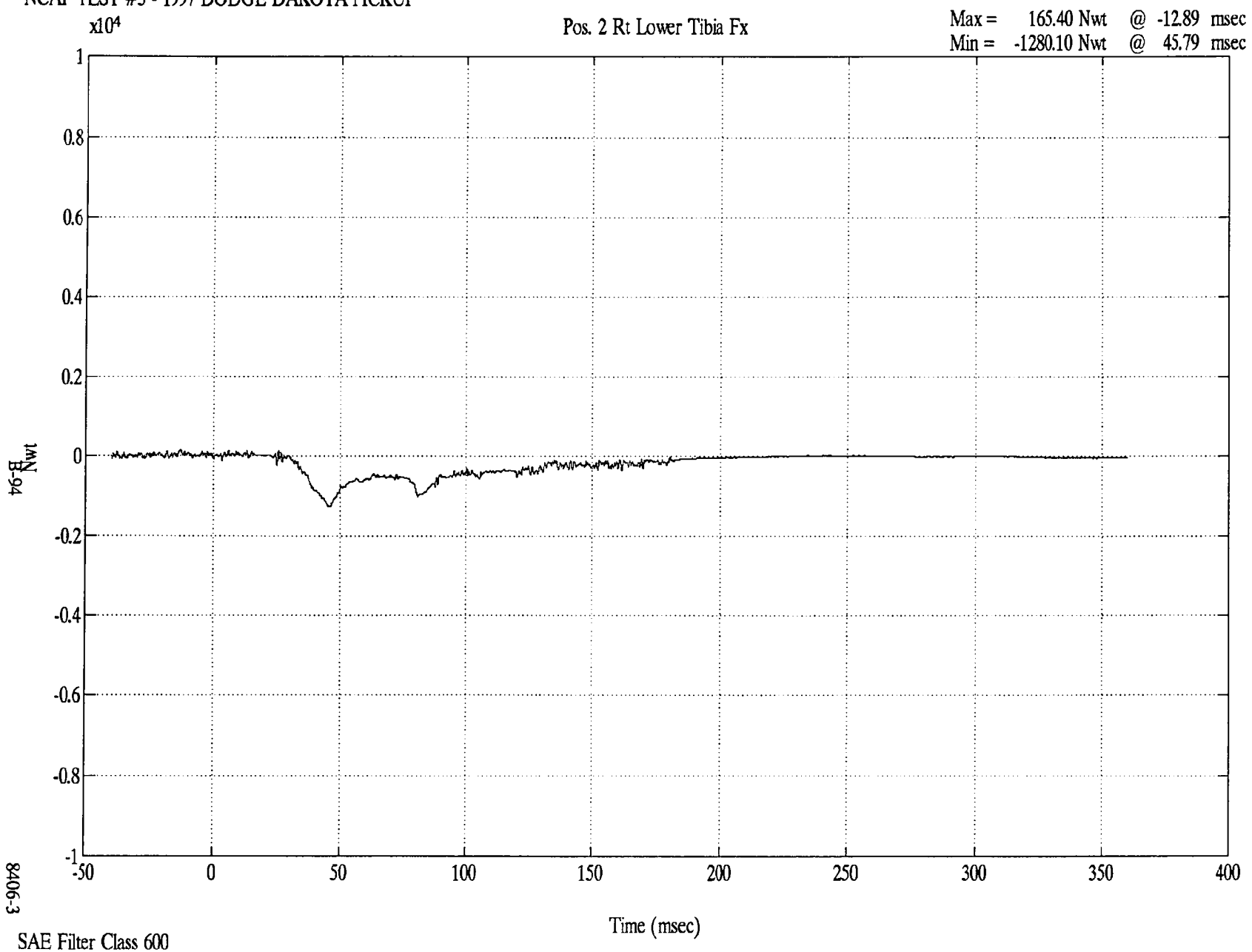

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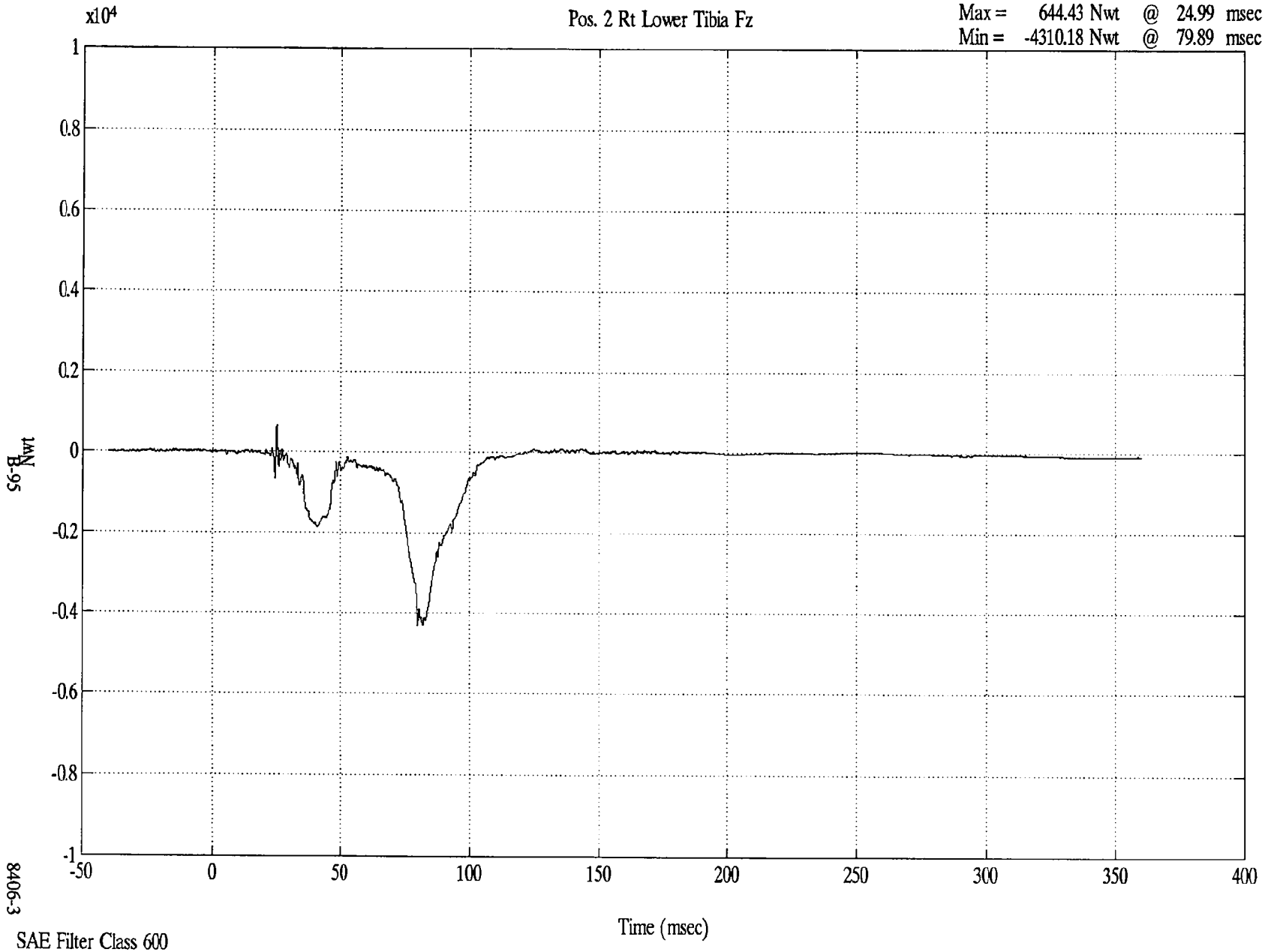
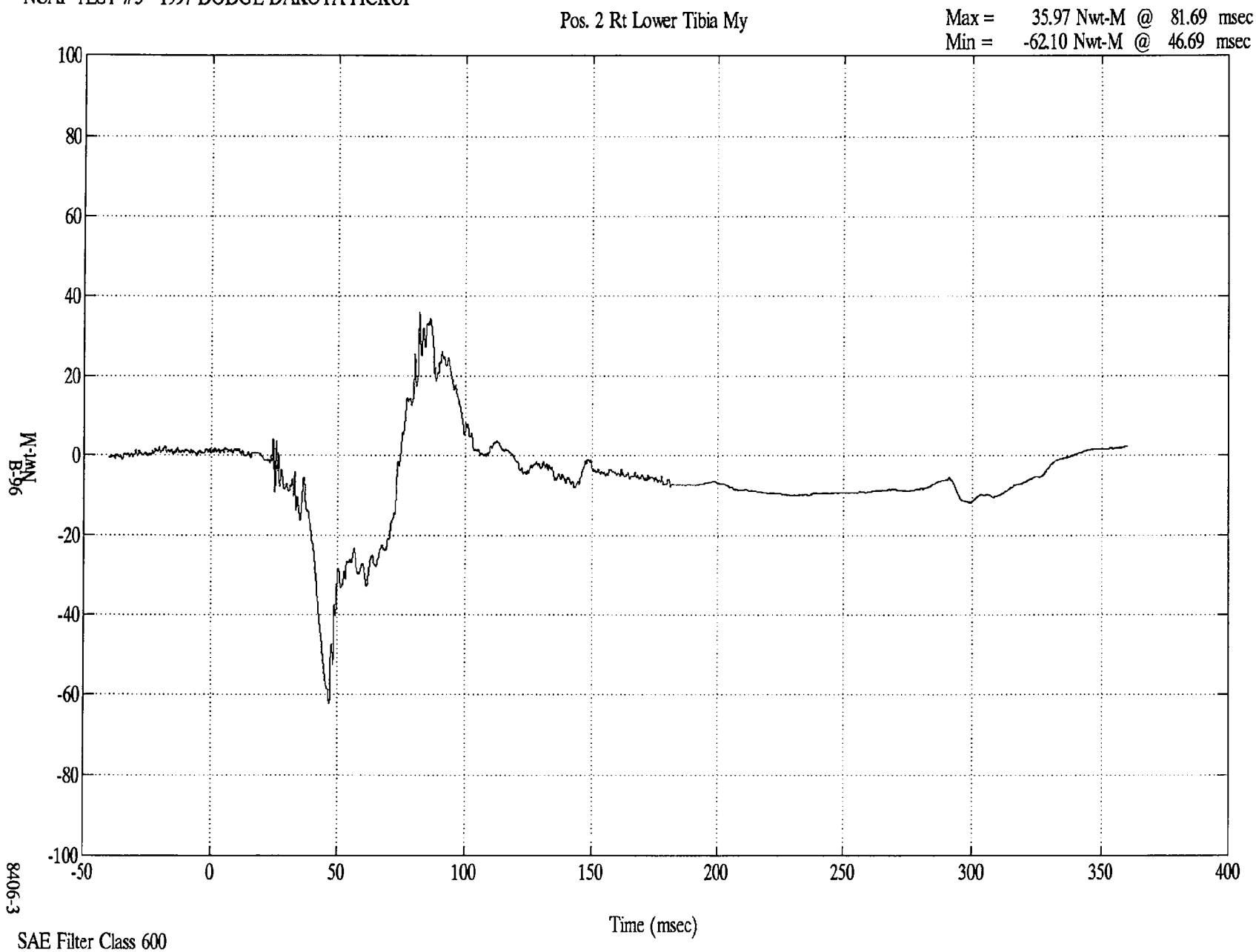


SAE Filter Class 600

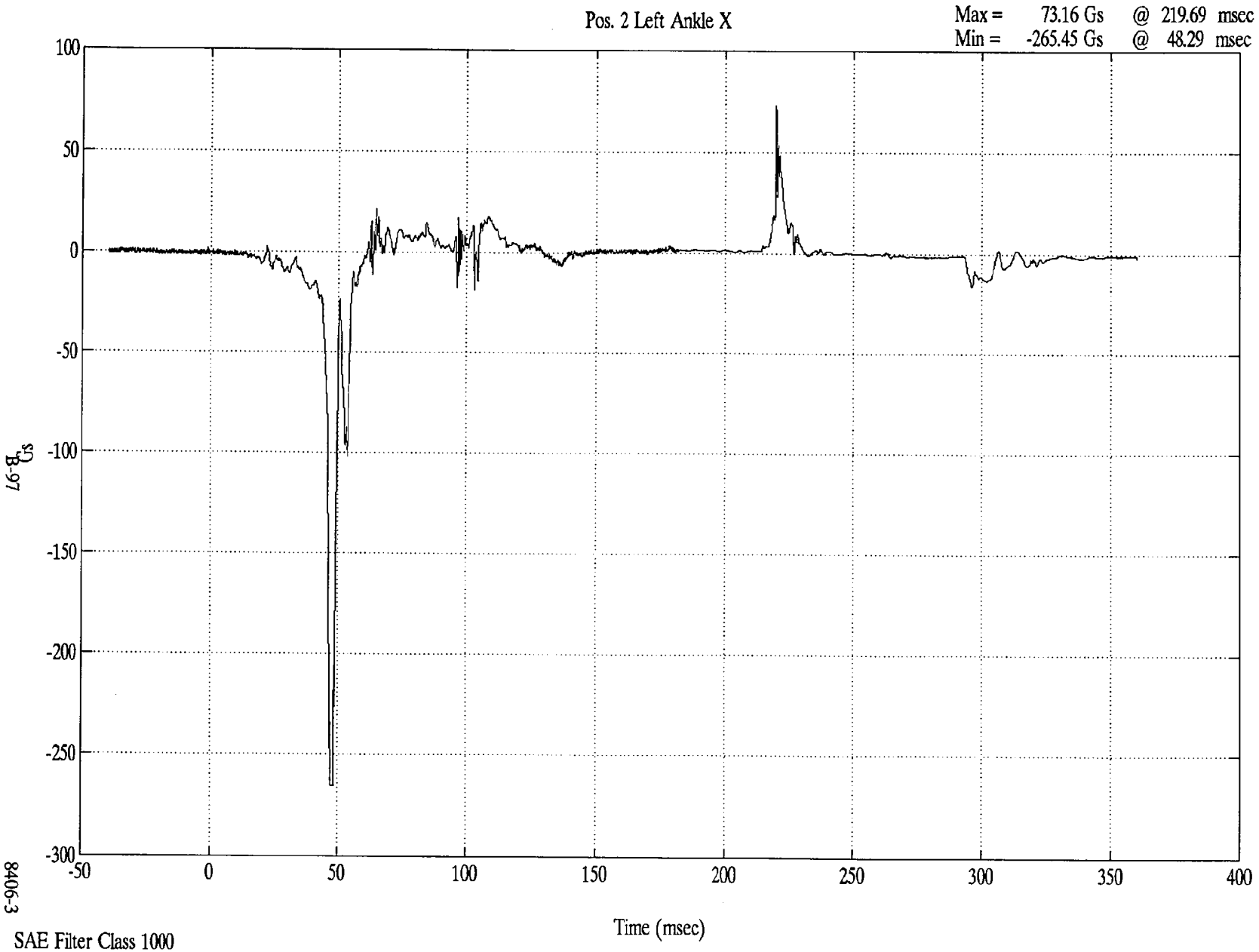
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 600

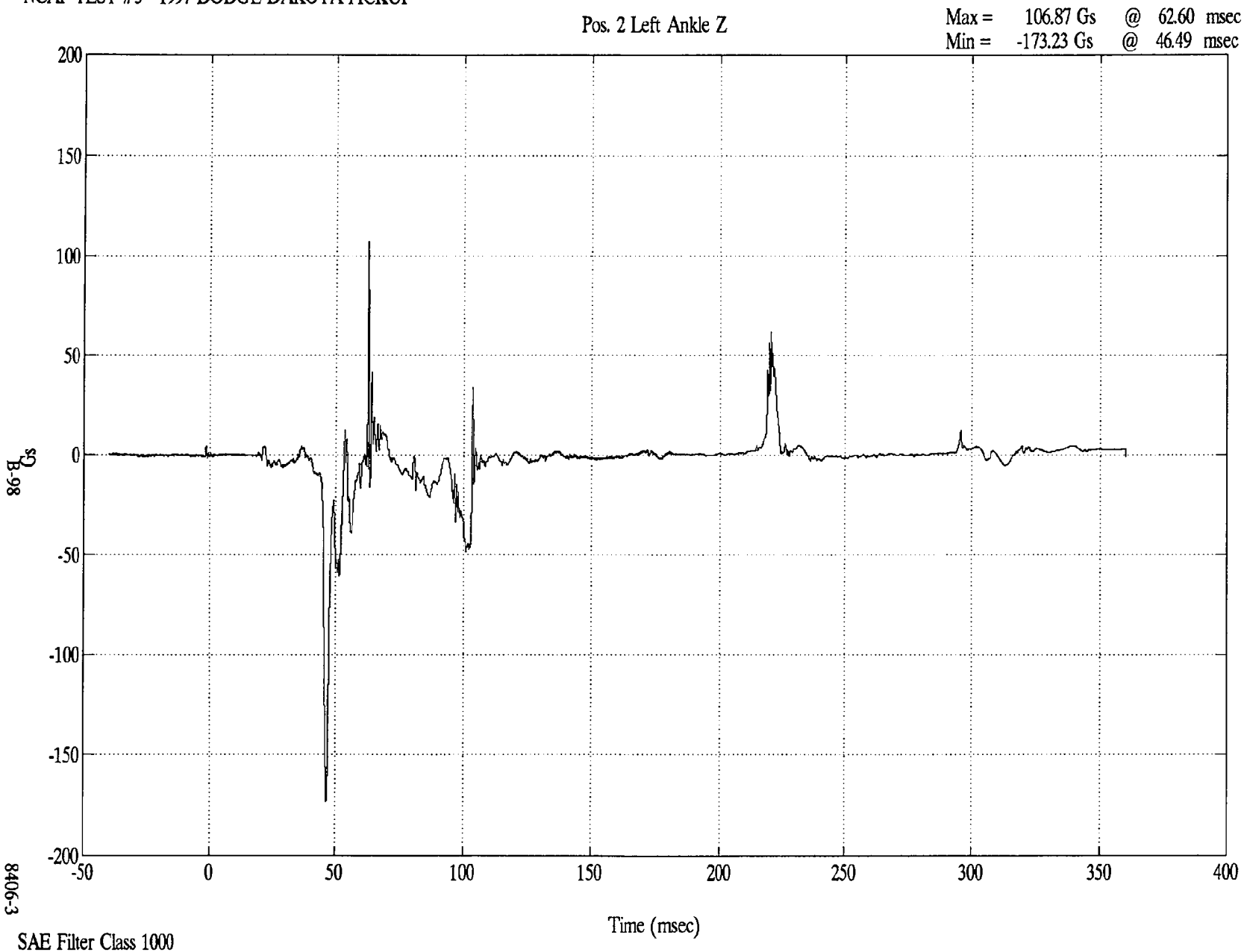
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 1000

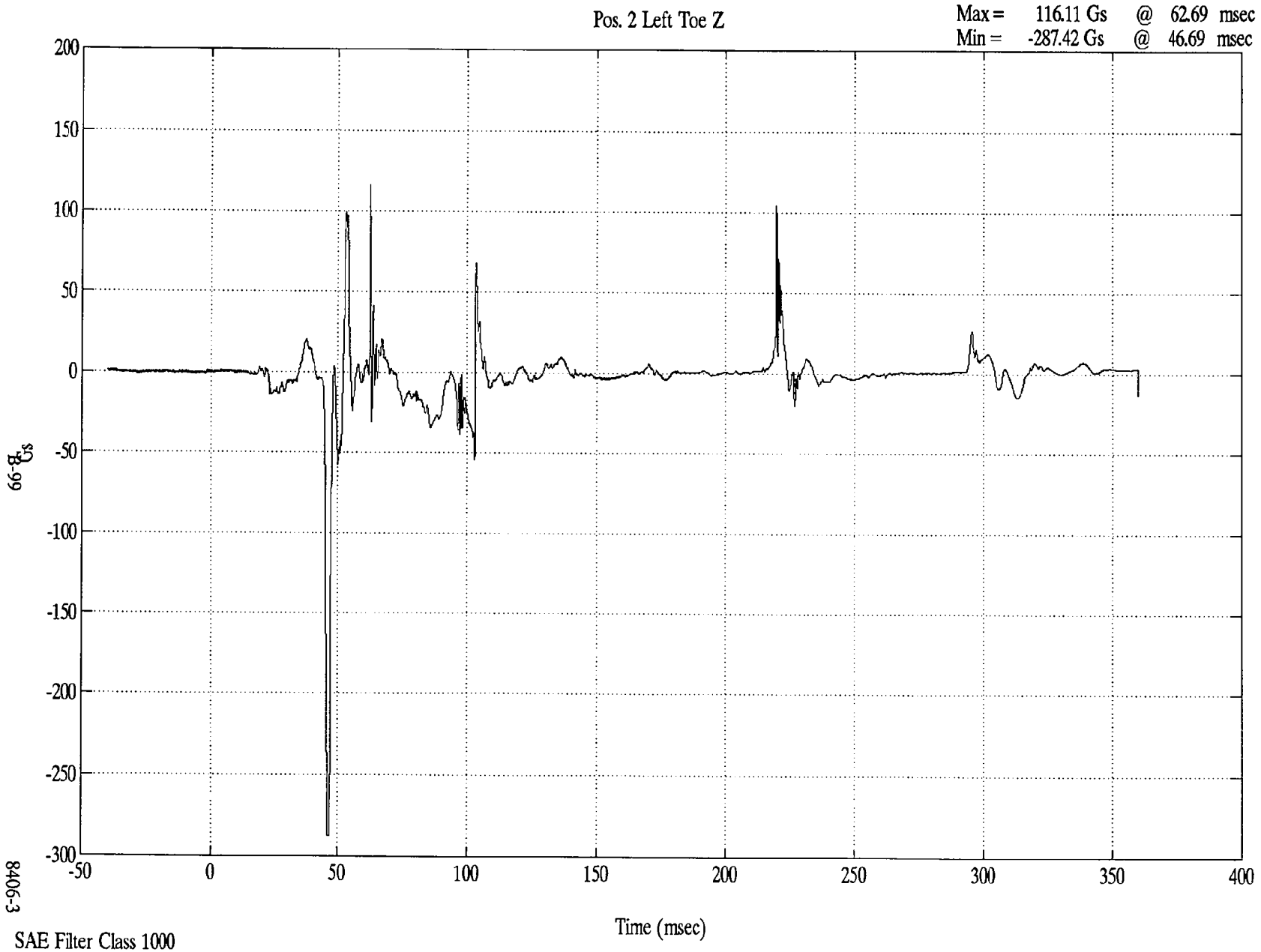
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



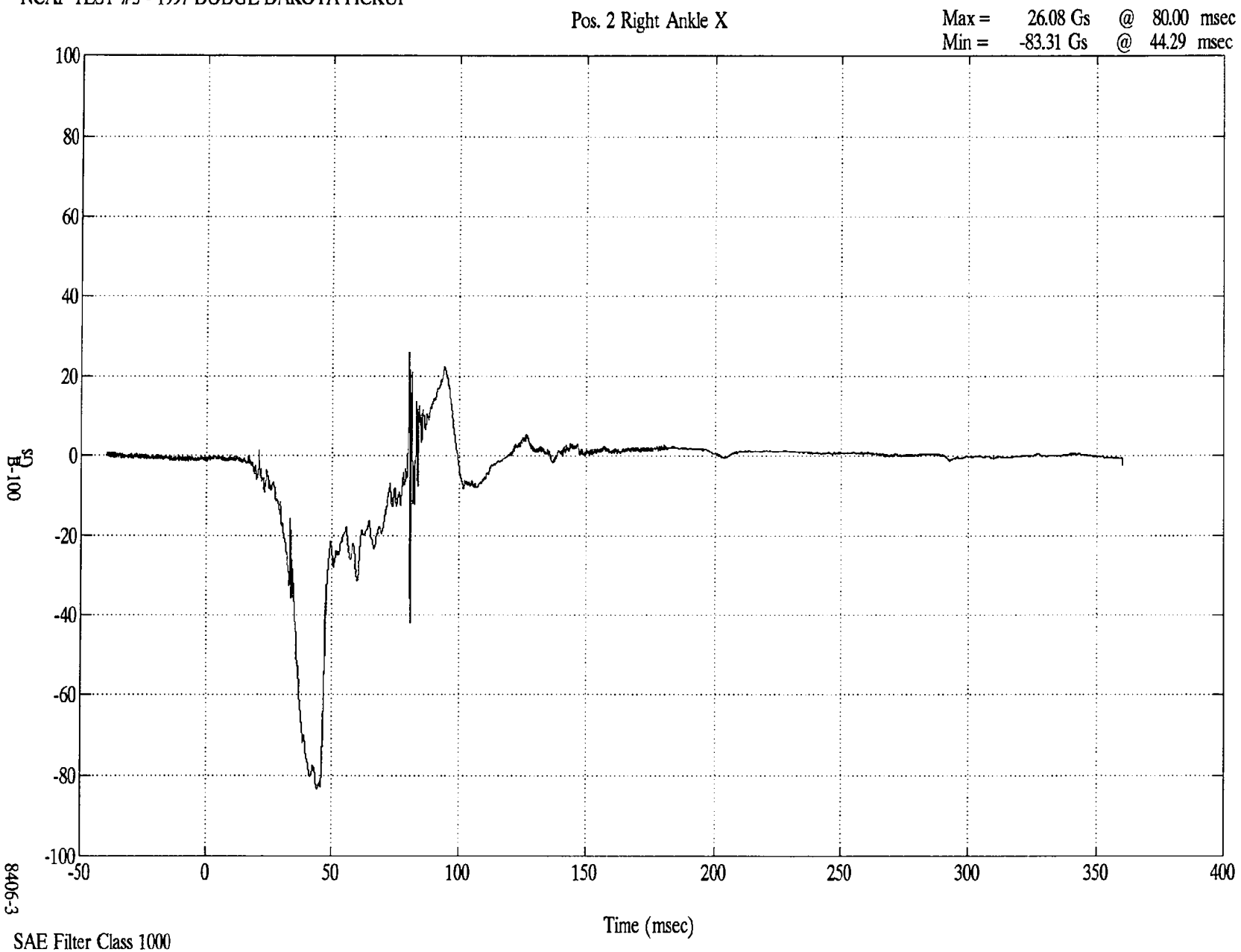
8406-3

SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



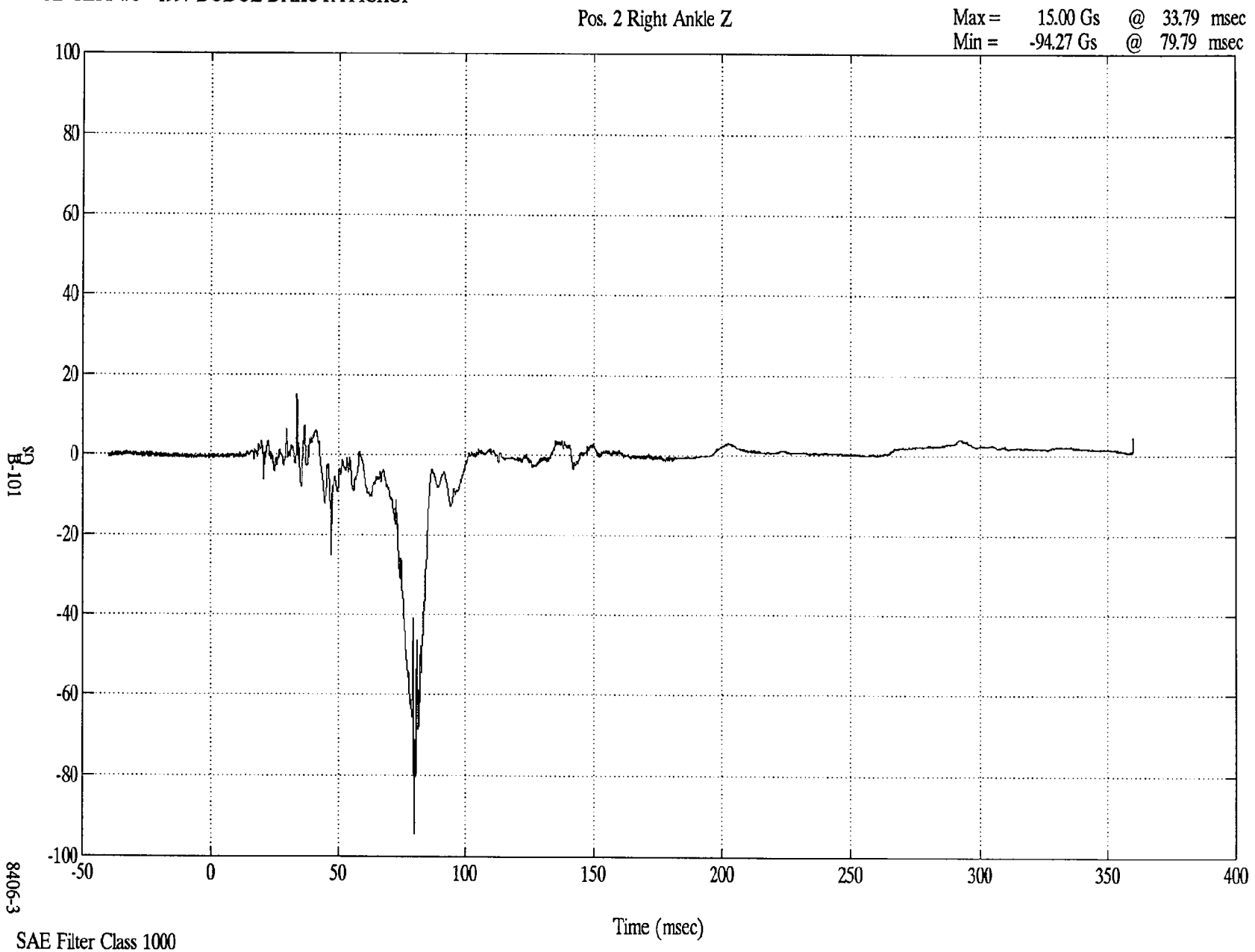
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

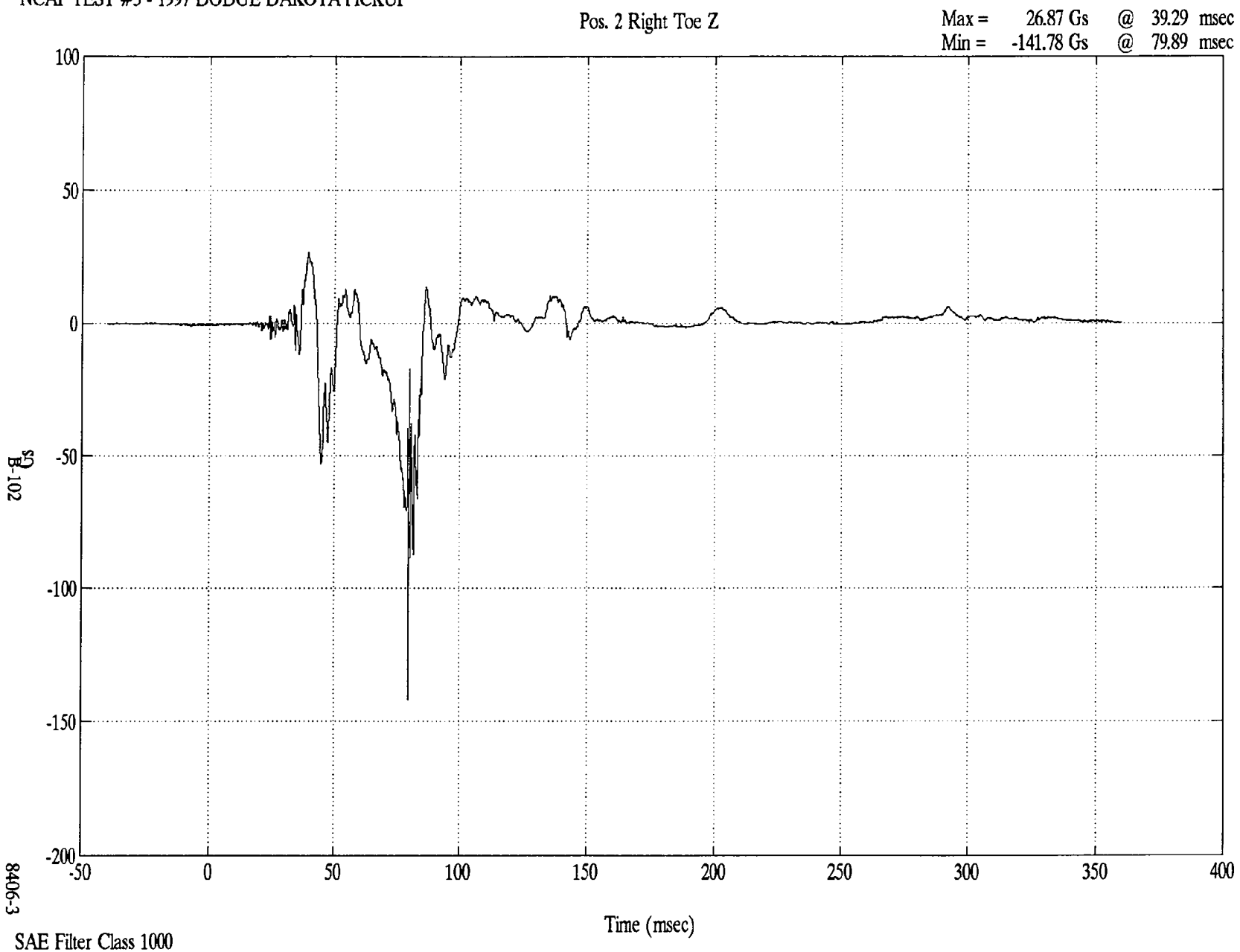
SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



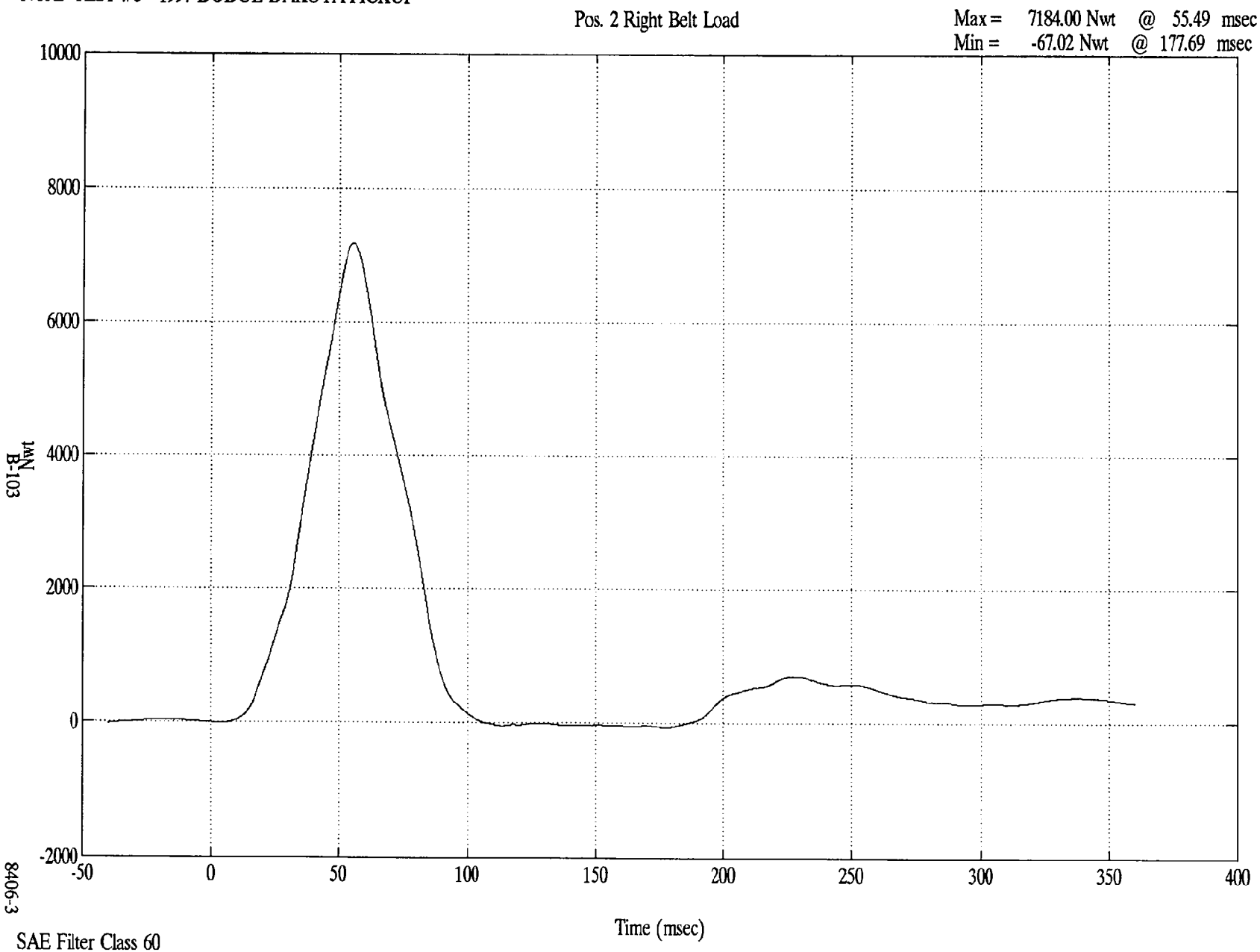
SAE Filter Class 1000

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 1000

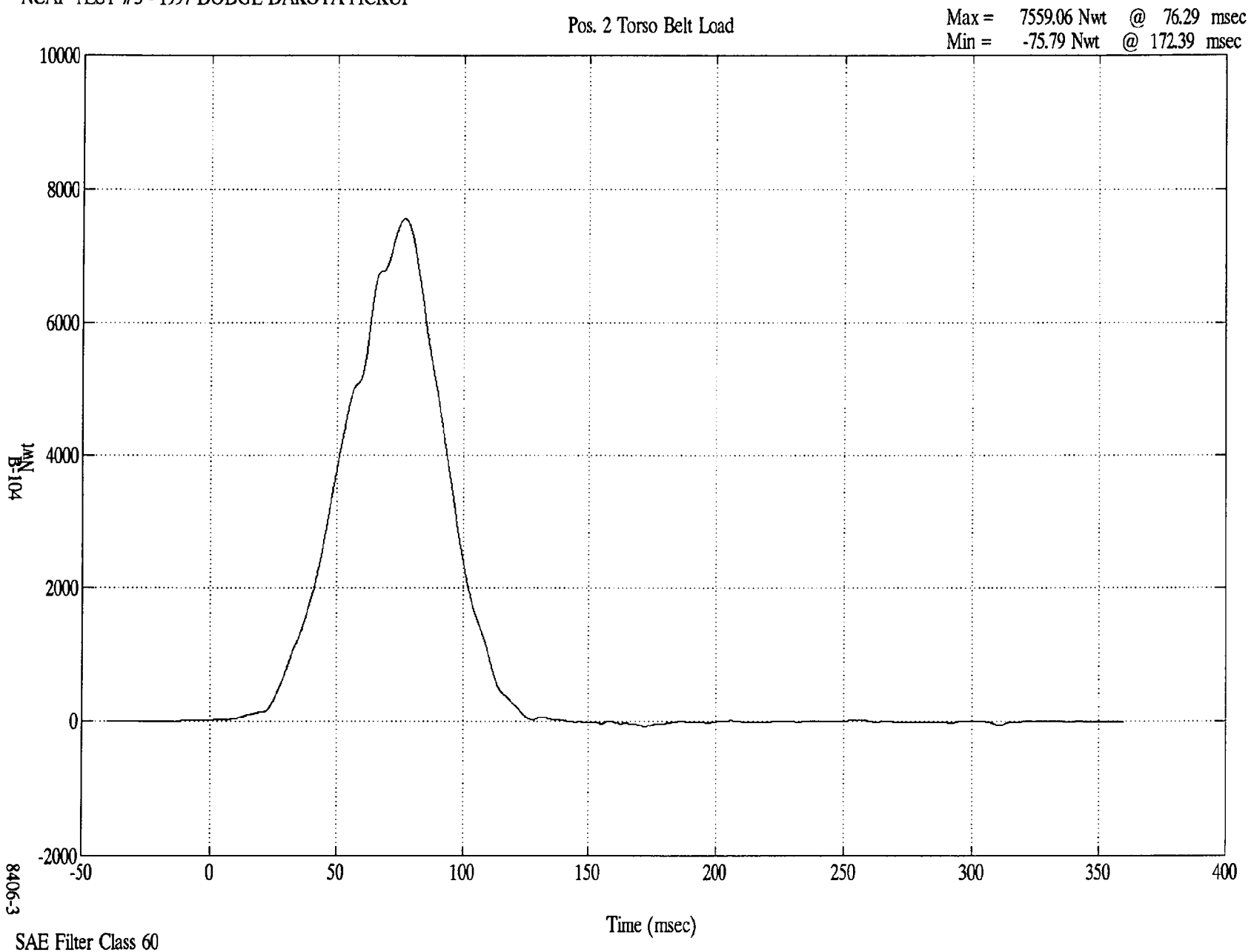
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



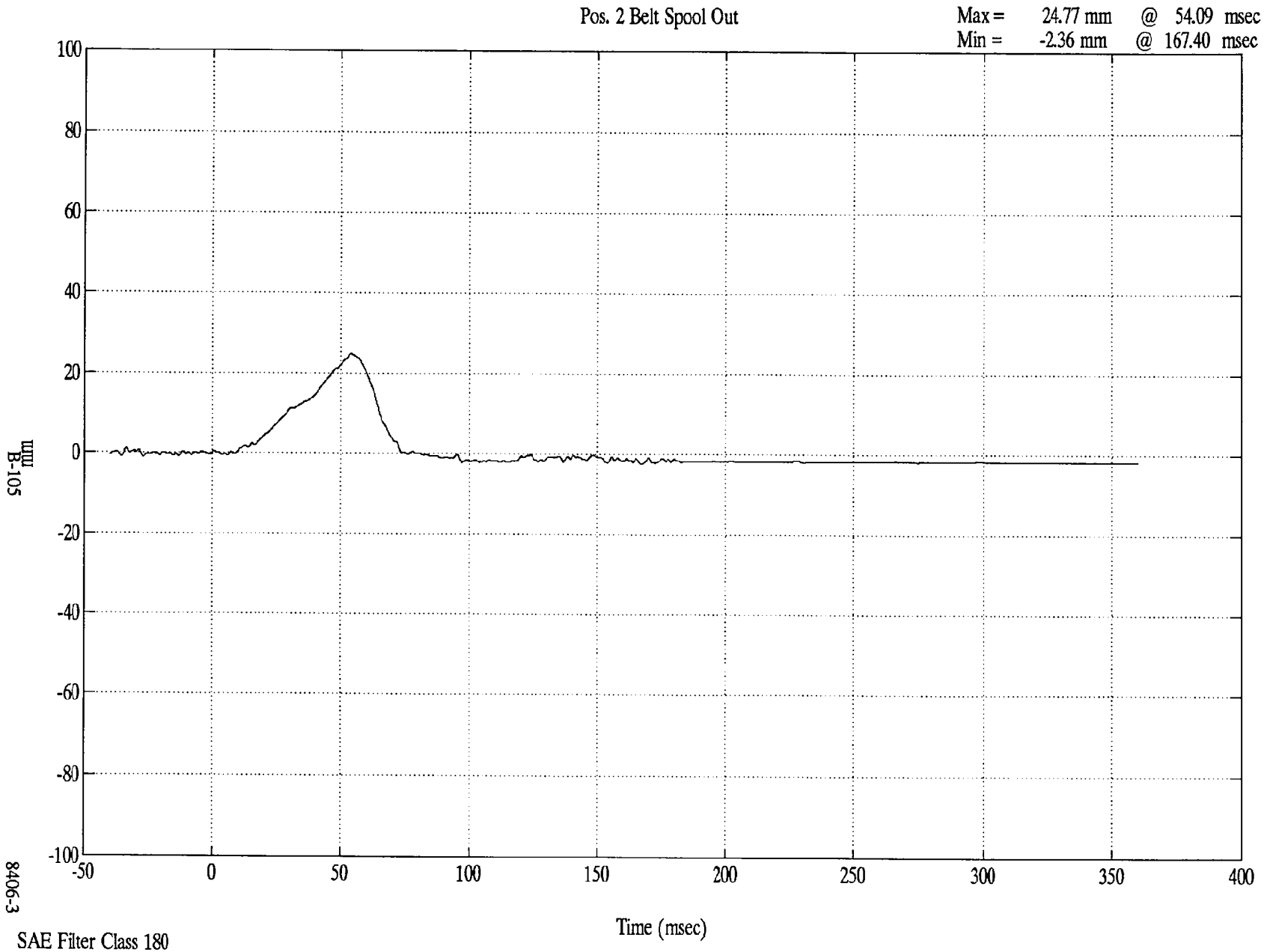
8406-3

SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

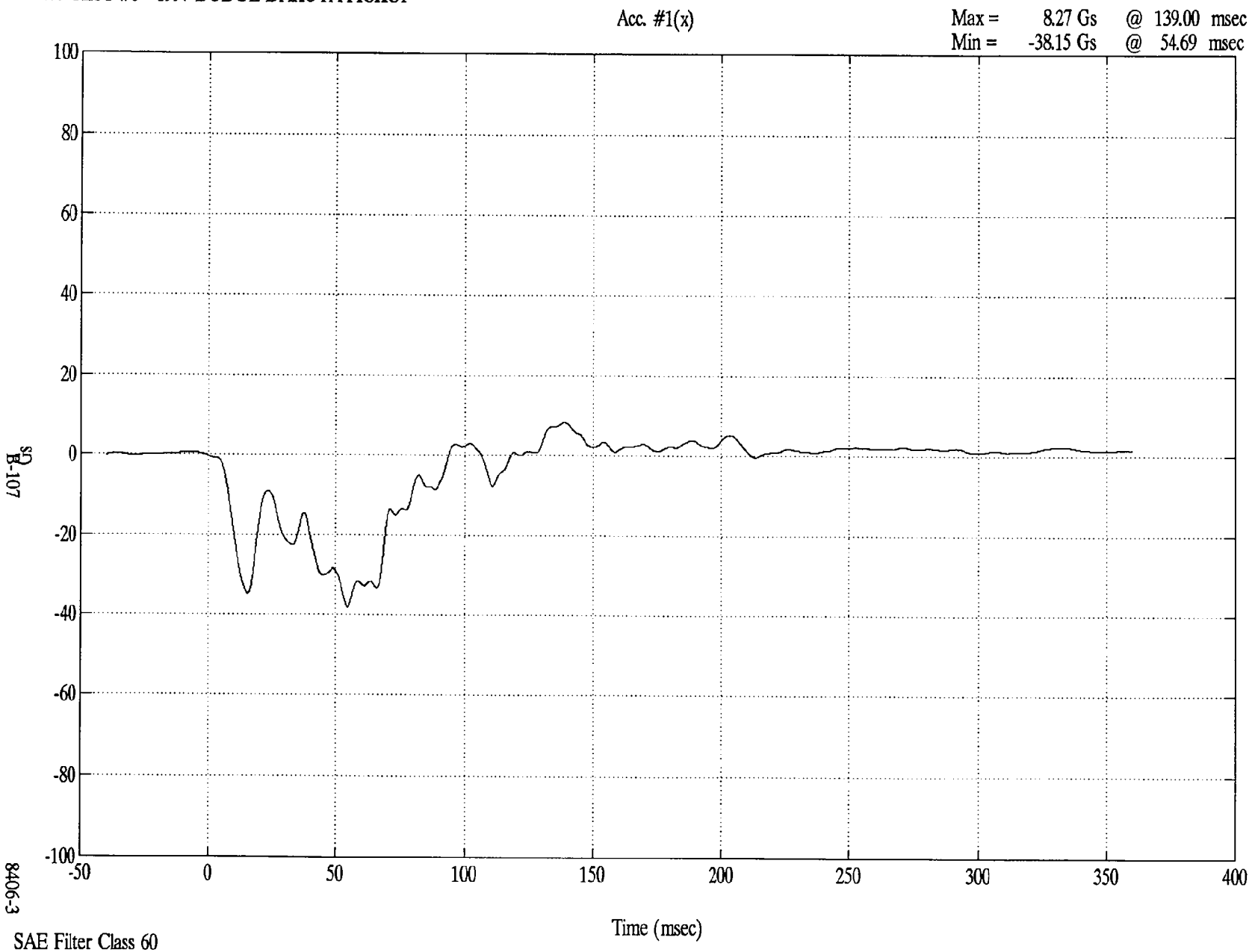


SAE Filter Class 180

NHTSA TEST NO. MV0305

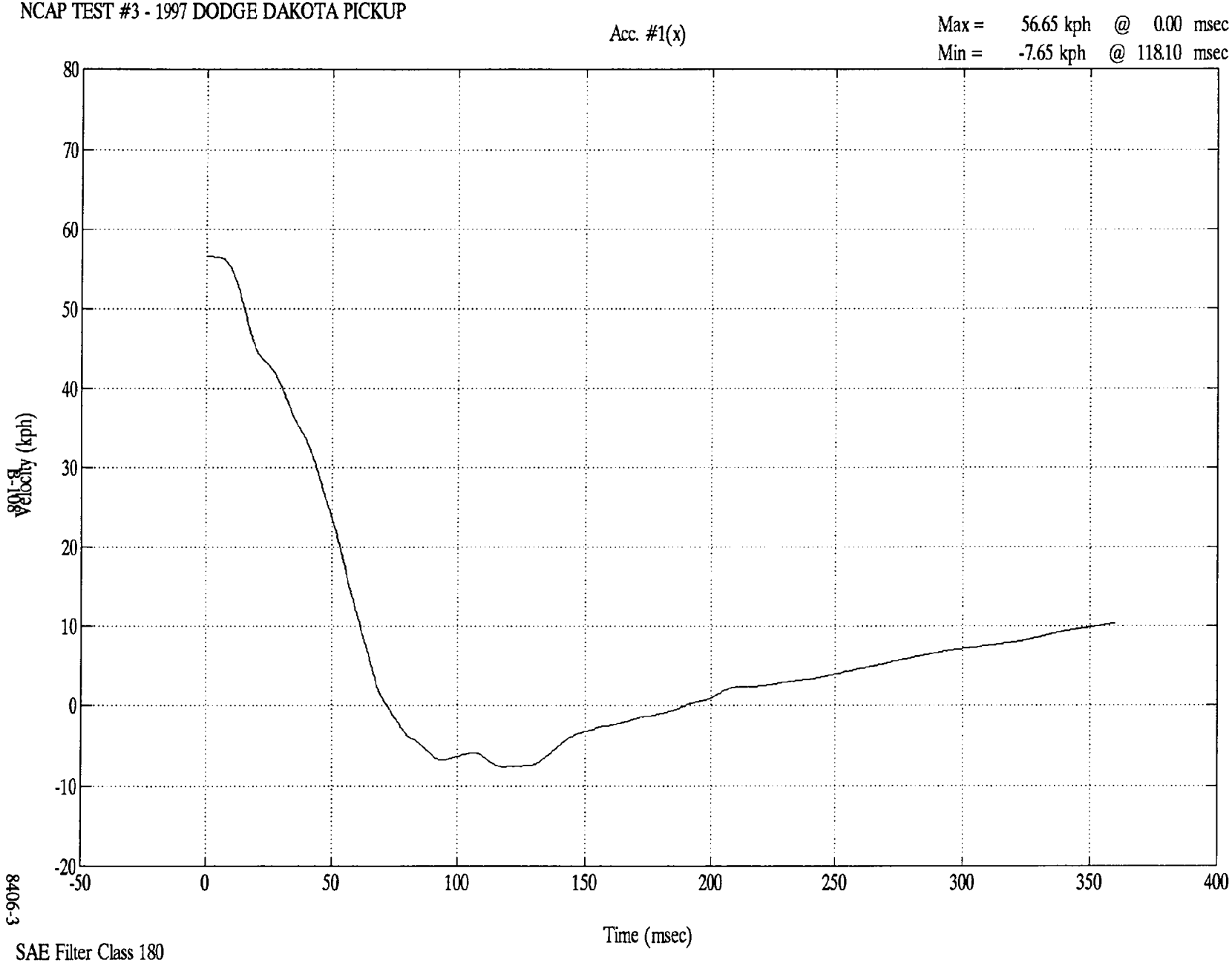
VEHICLE DATA	FILTER CHANNEL CLASS
Acceleration	60
Velocity	180
Displacement	180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

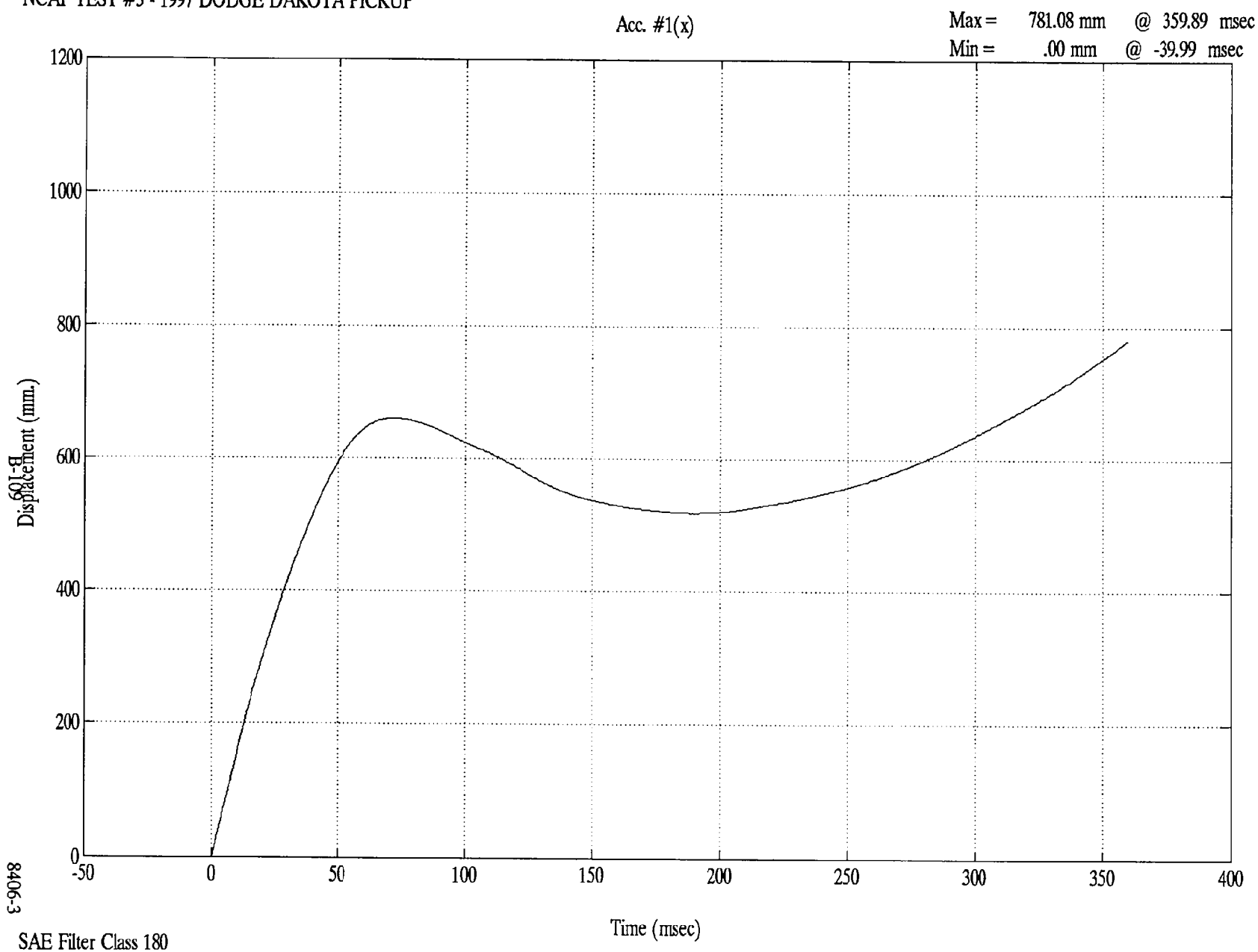
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

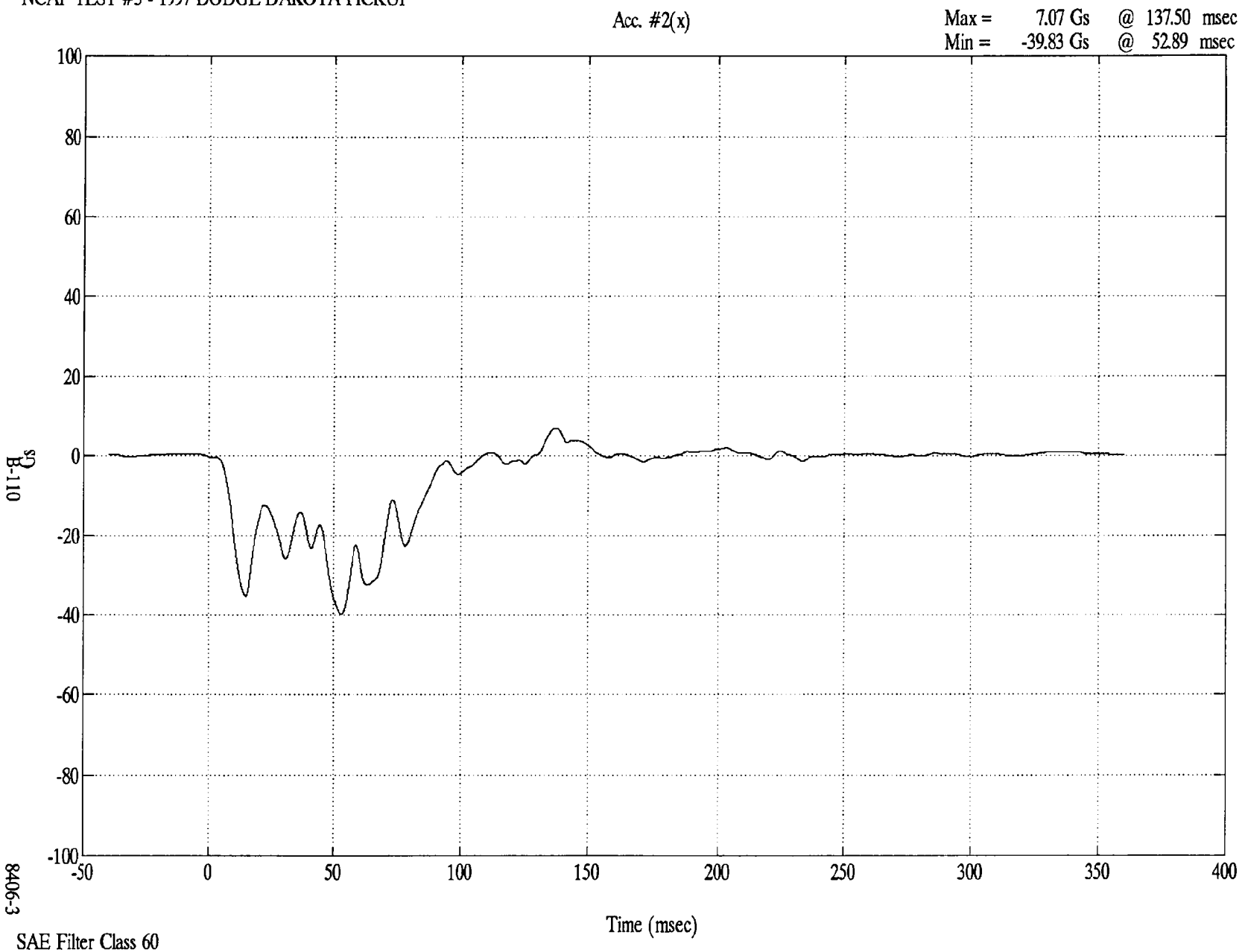


B-109

8406-3

SAE Filter Class 180

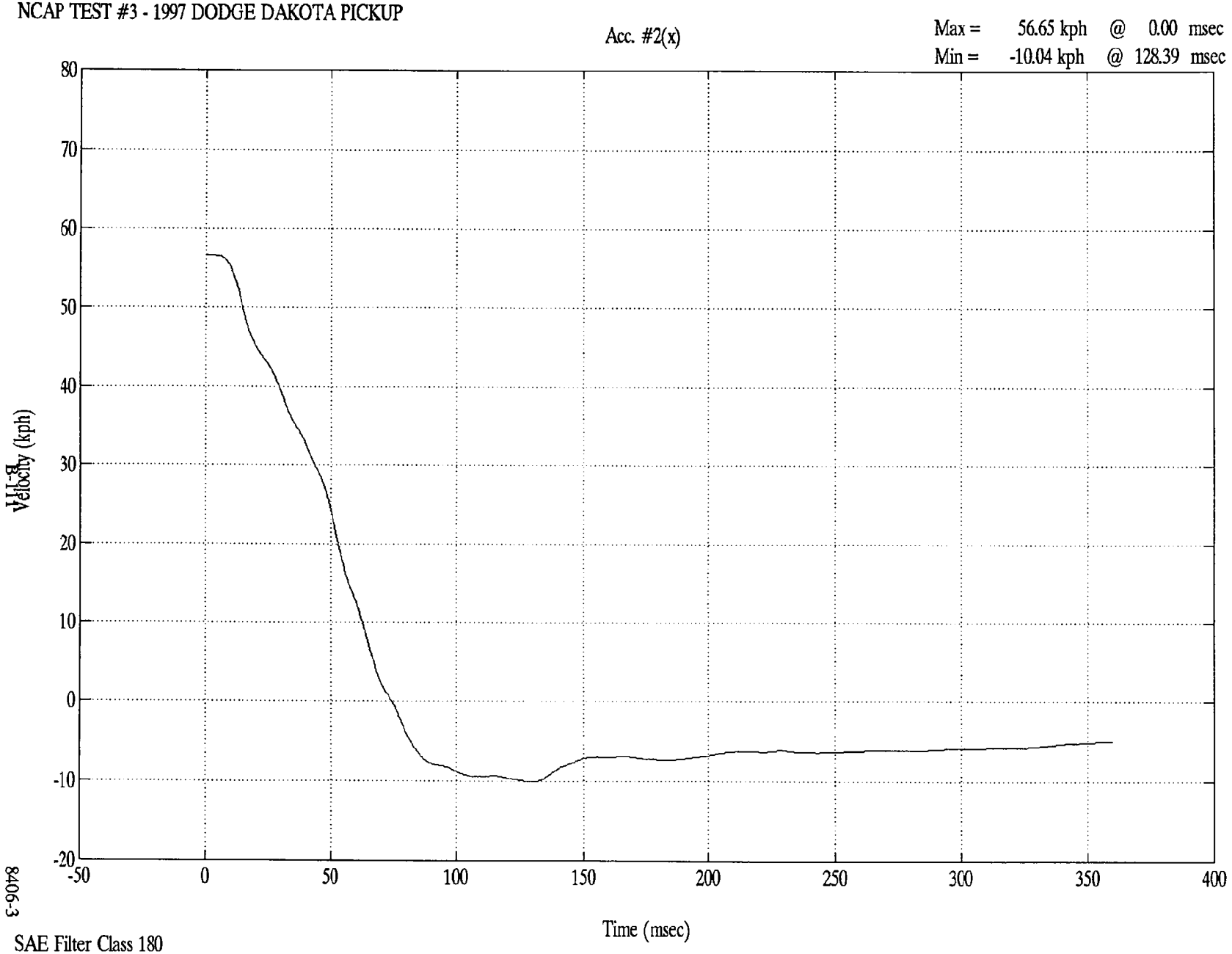
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 60

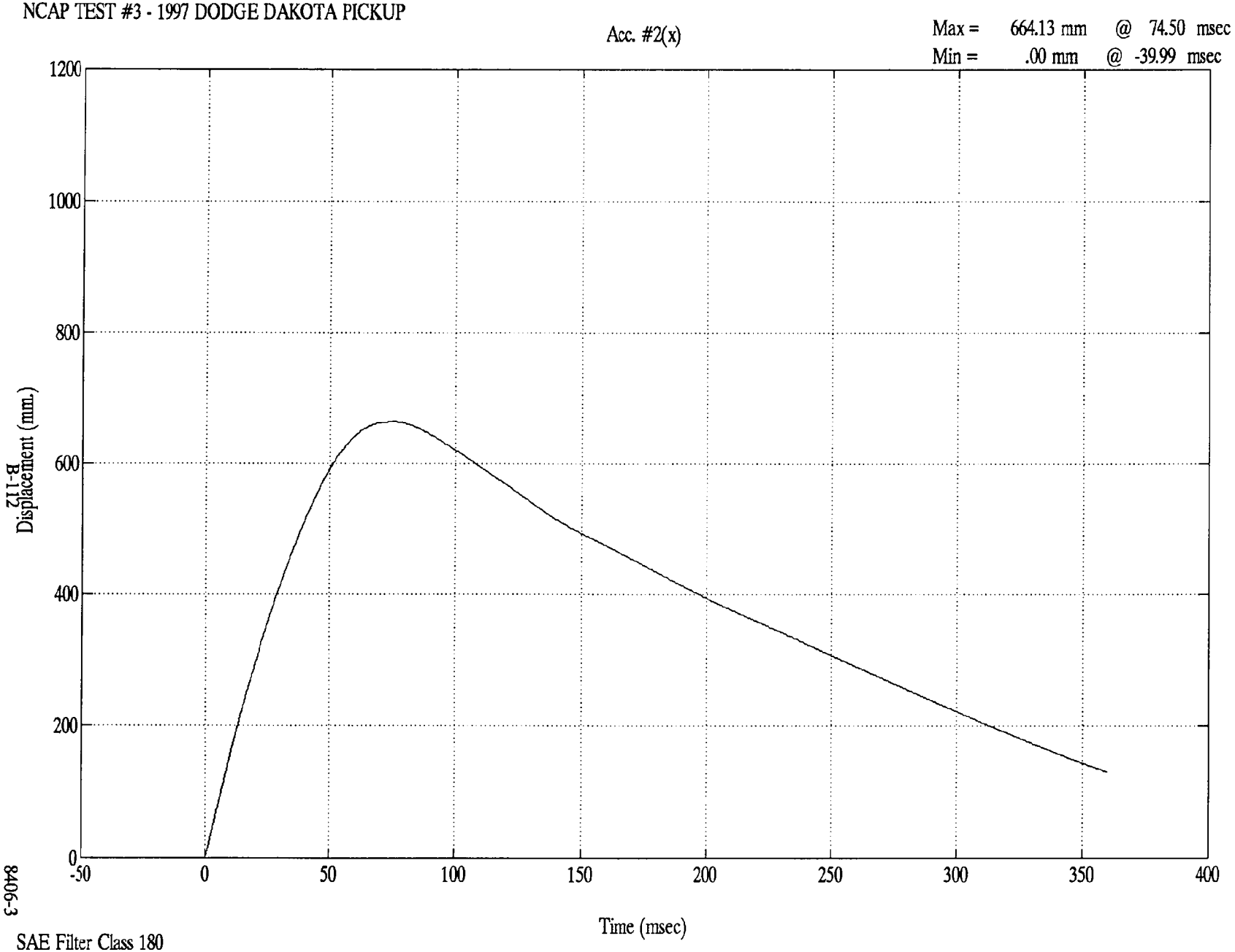
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

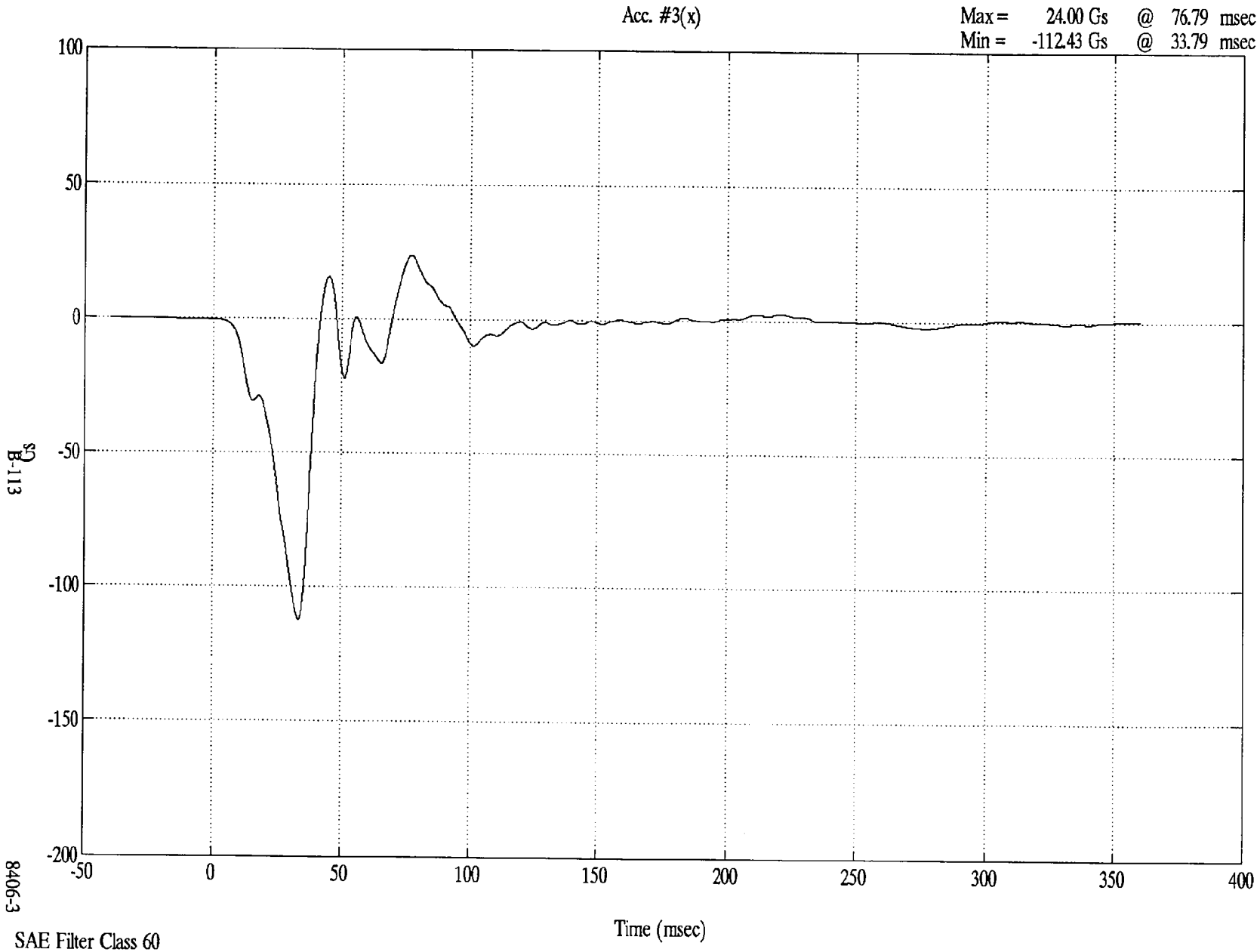
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

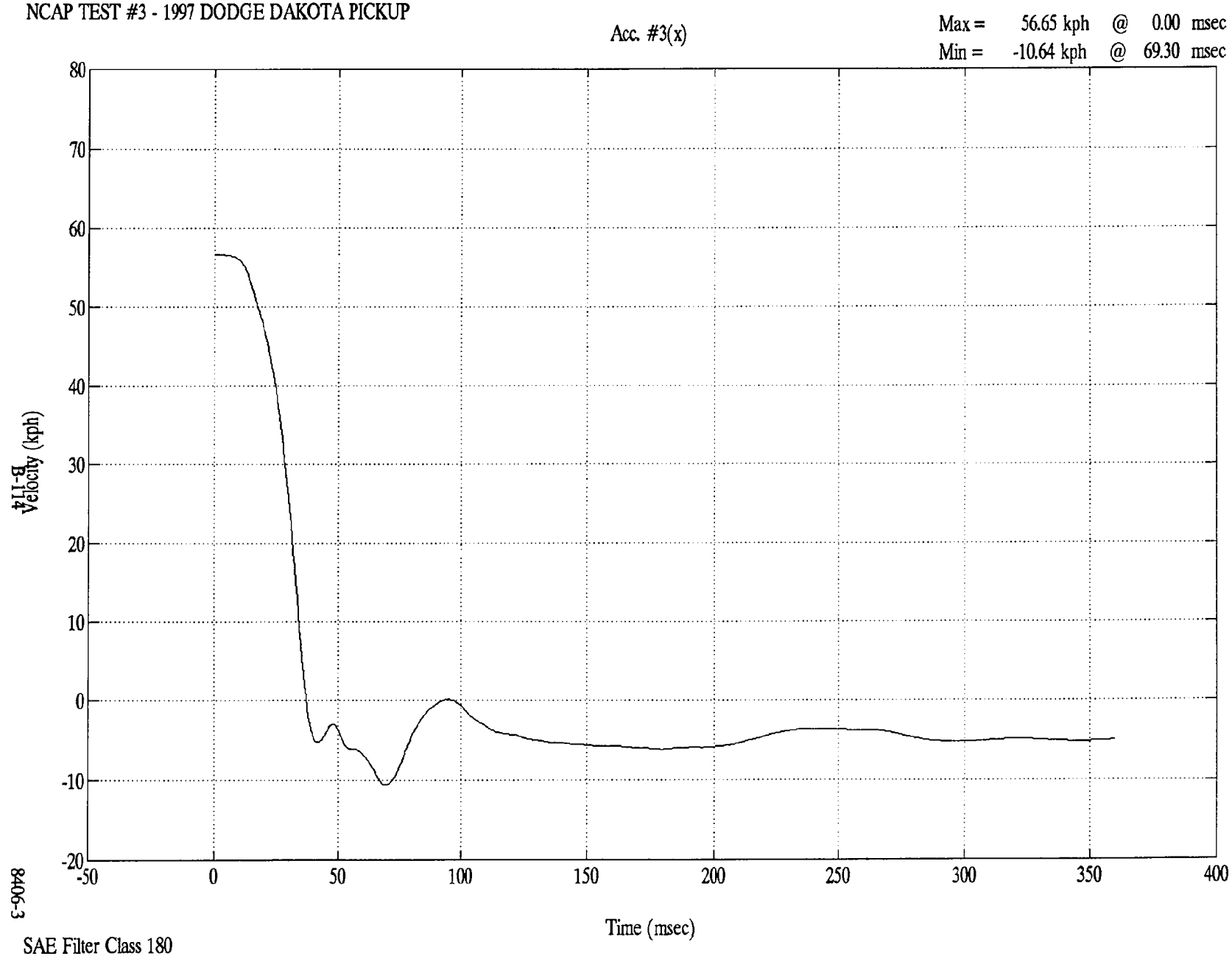
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

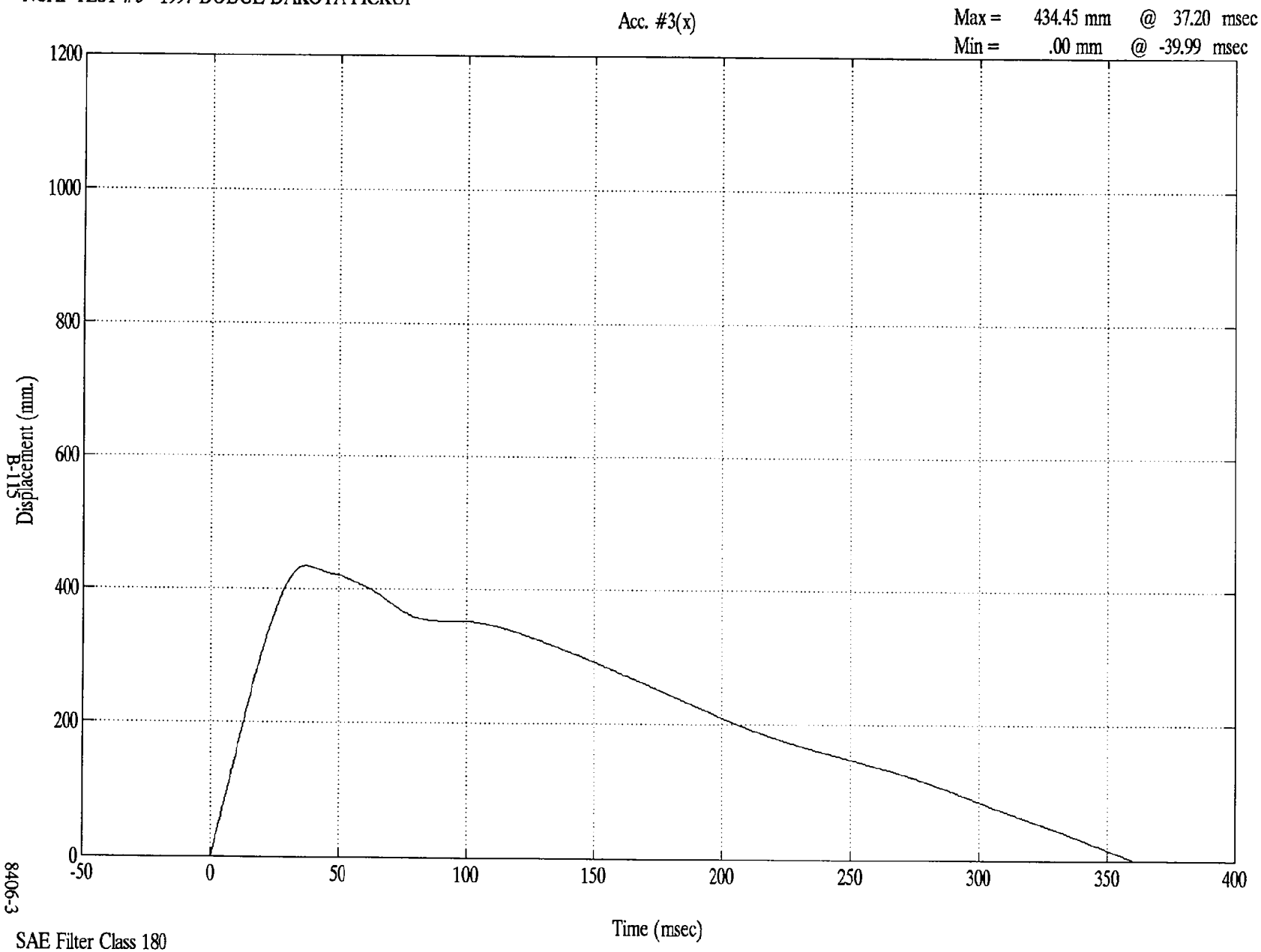


B-114

8406-3

SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

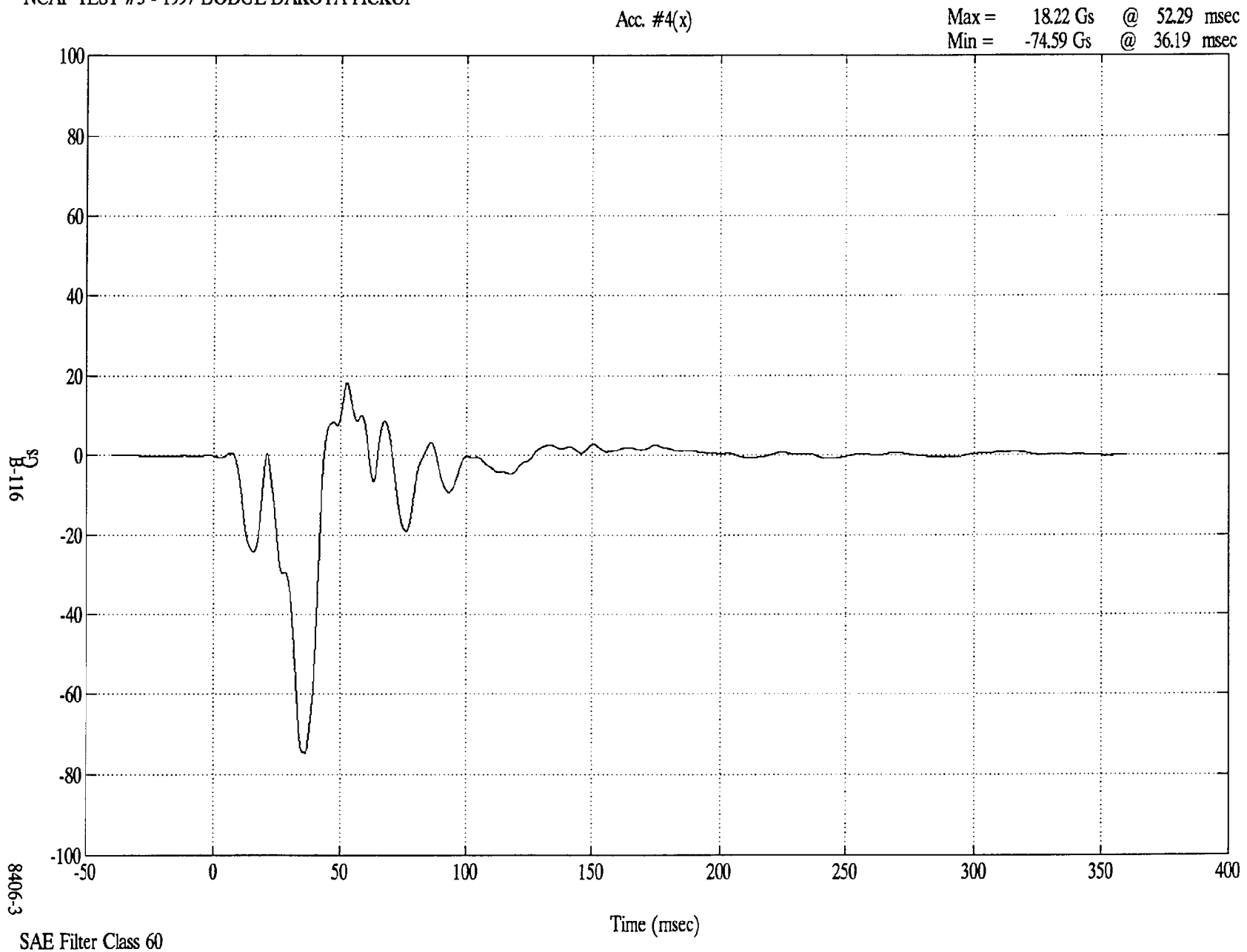


B-115

8406-3

SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

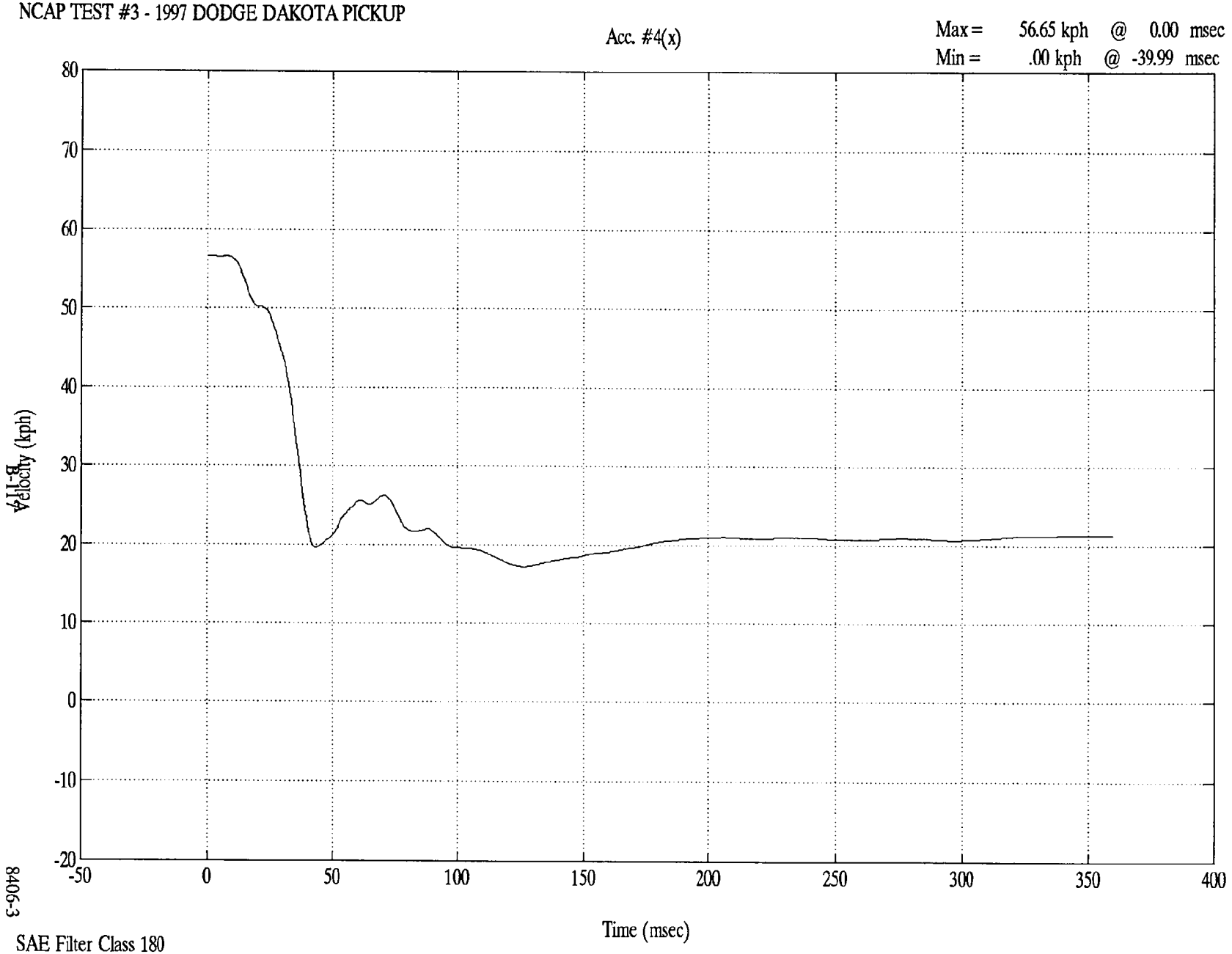


B-116

84063

SAE Filter Class 60

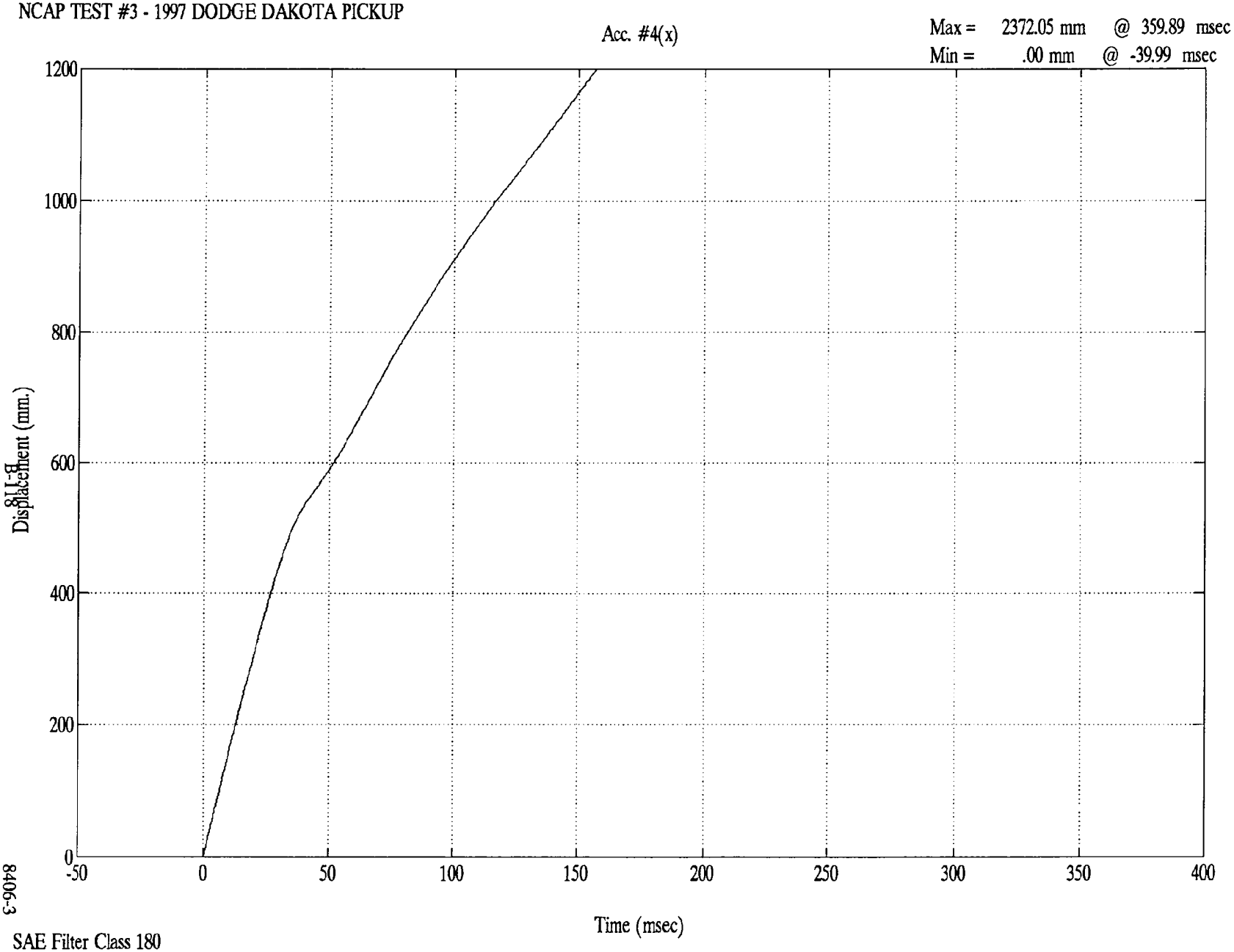
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

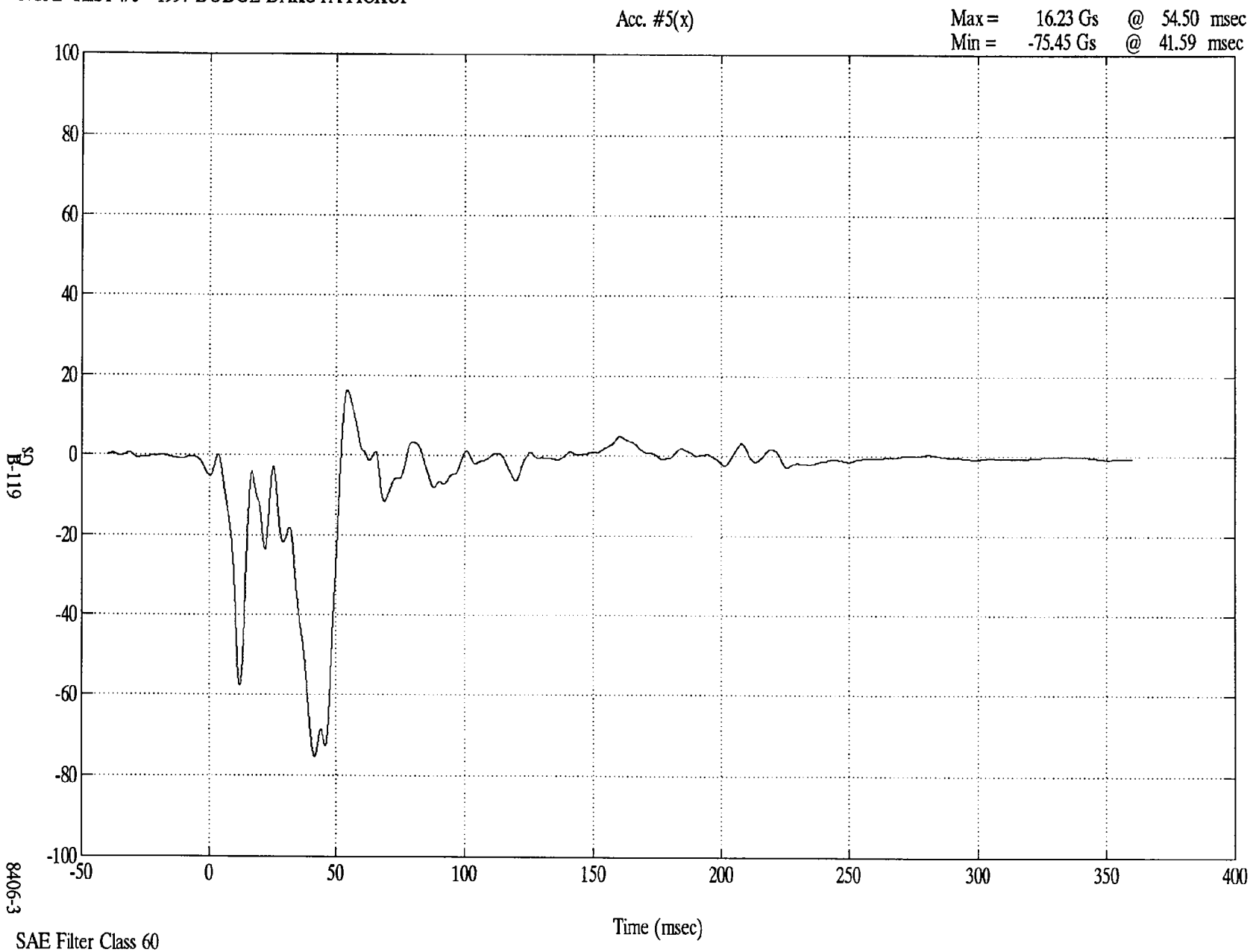
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

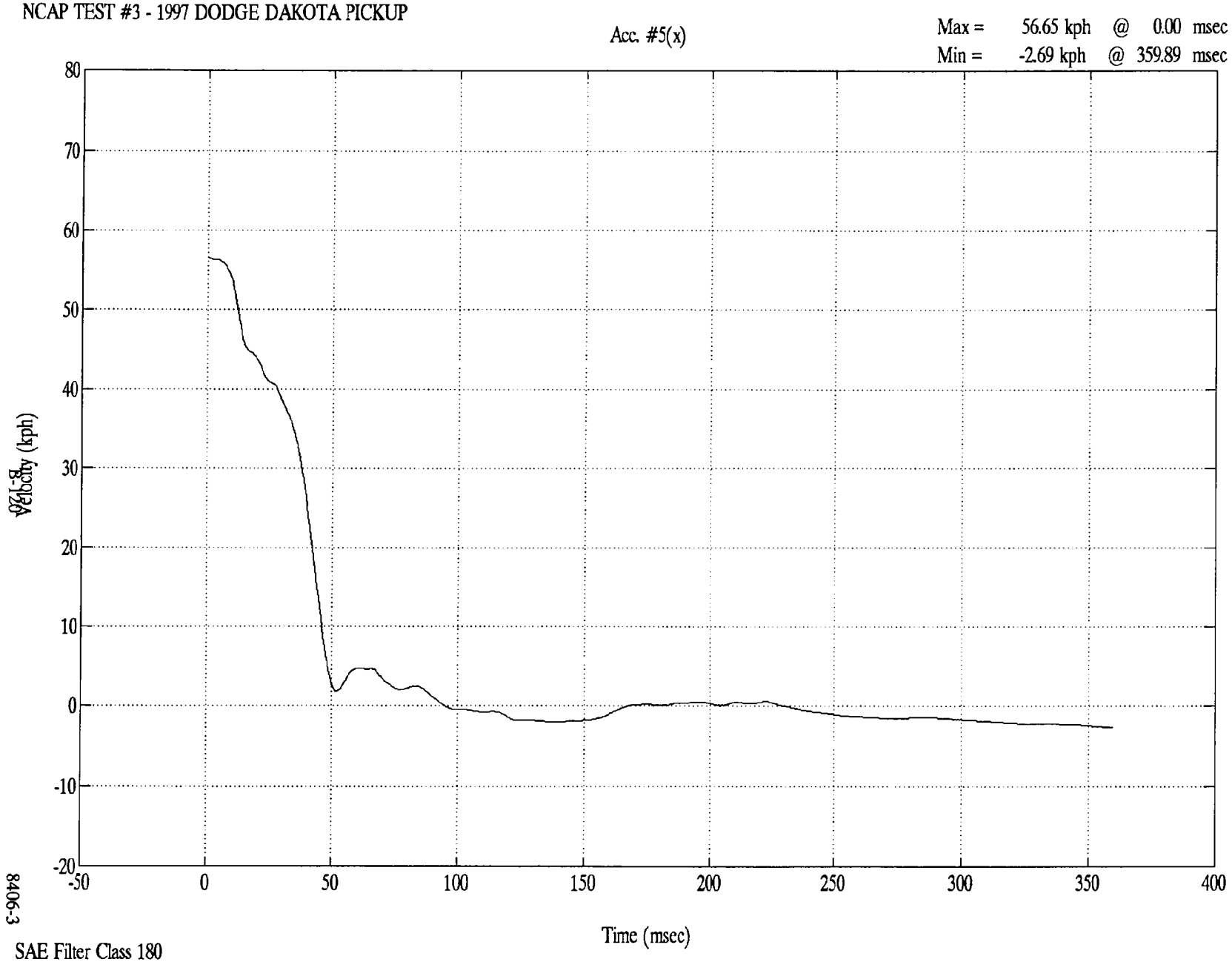
SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

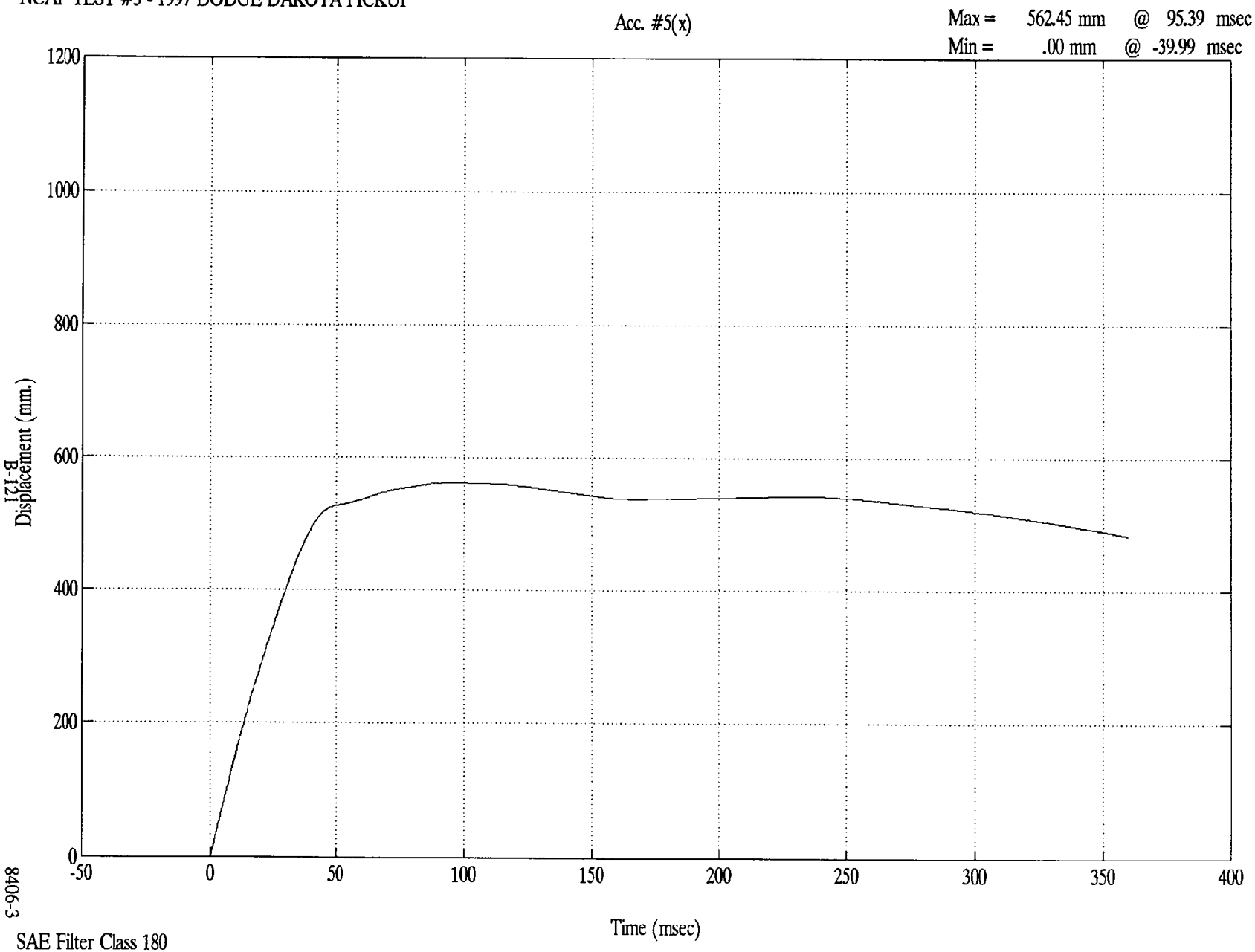
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

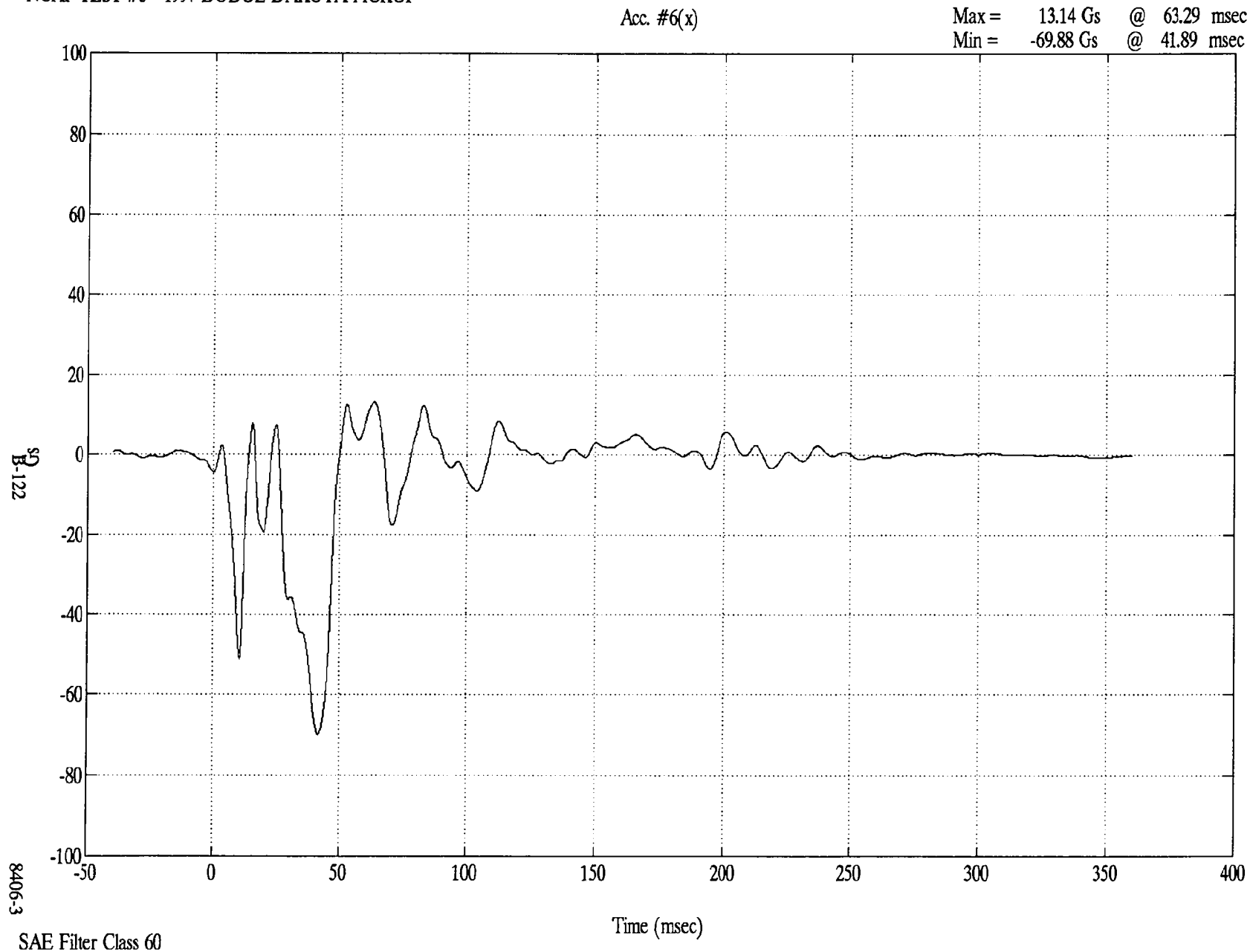


B-121

8406-3

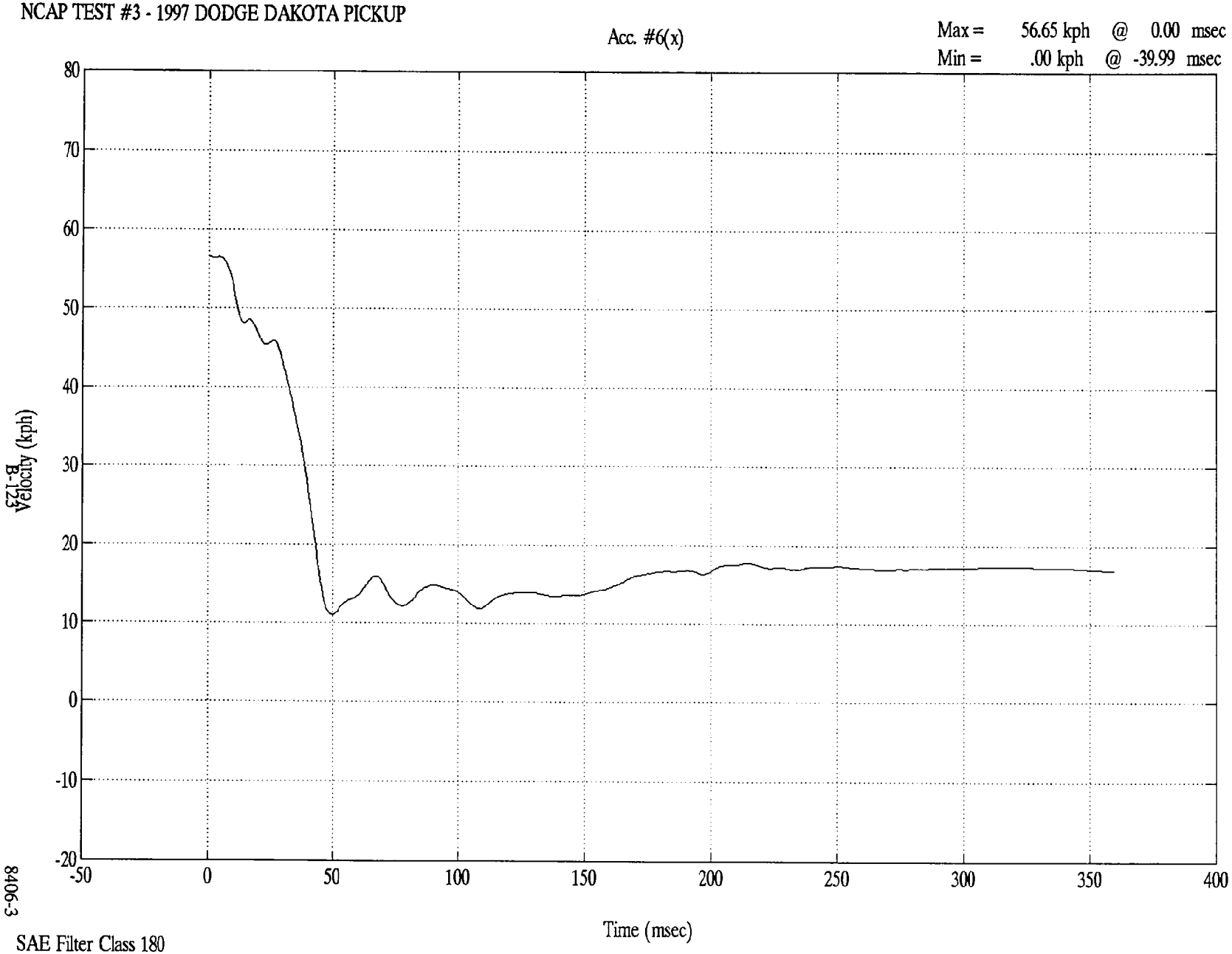
SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

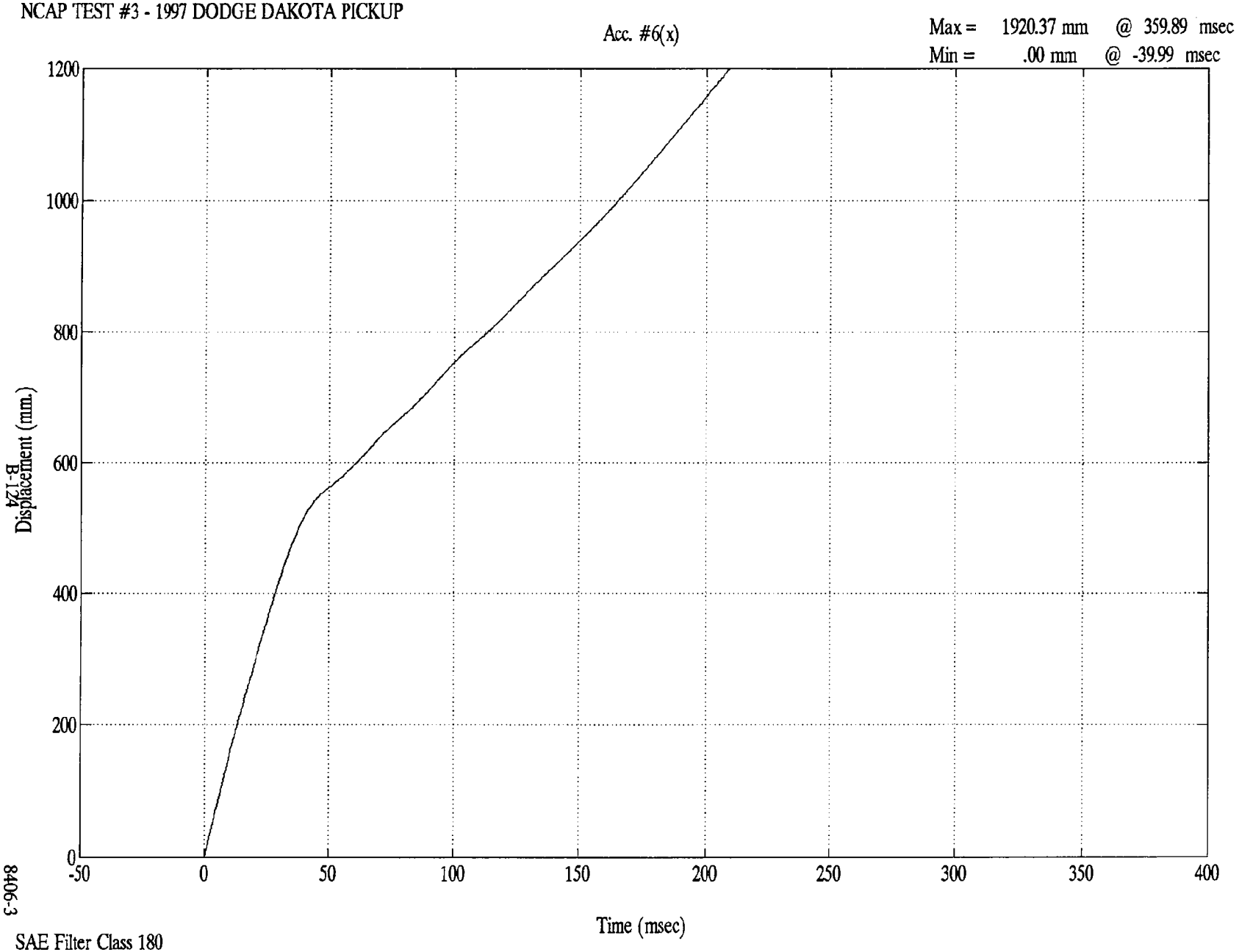
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

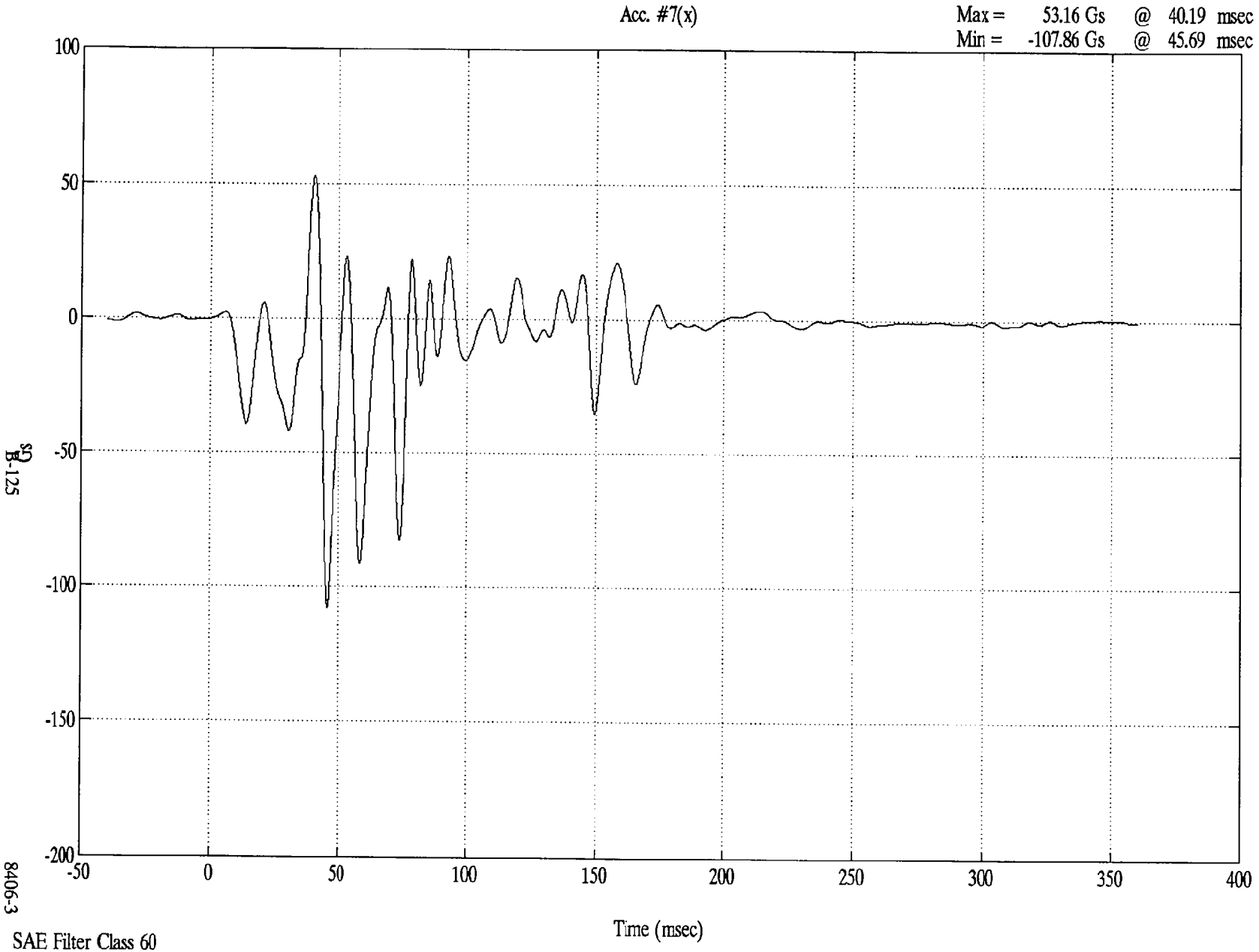


B-124

8406-3

SAE Filter Class 180

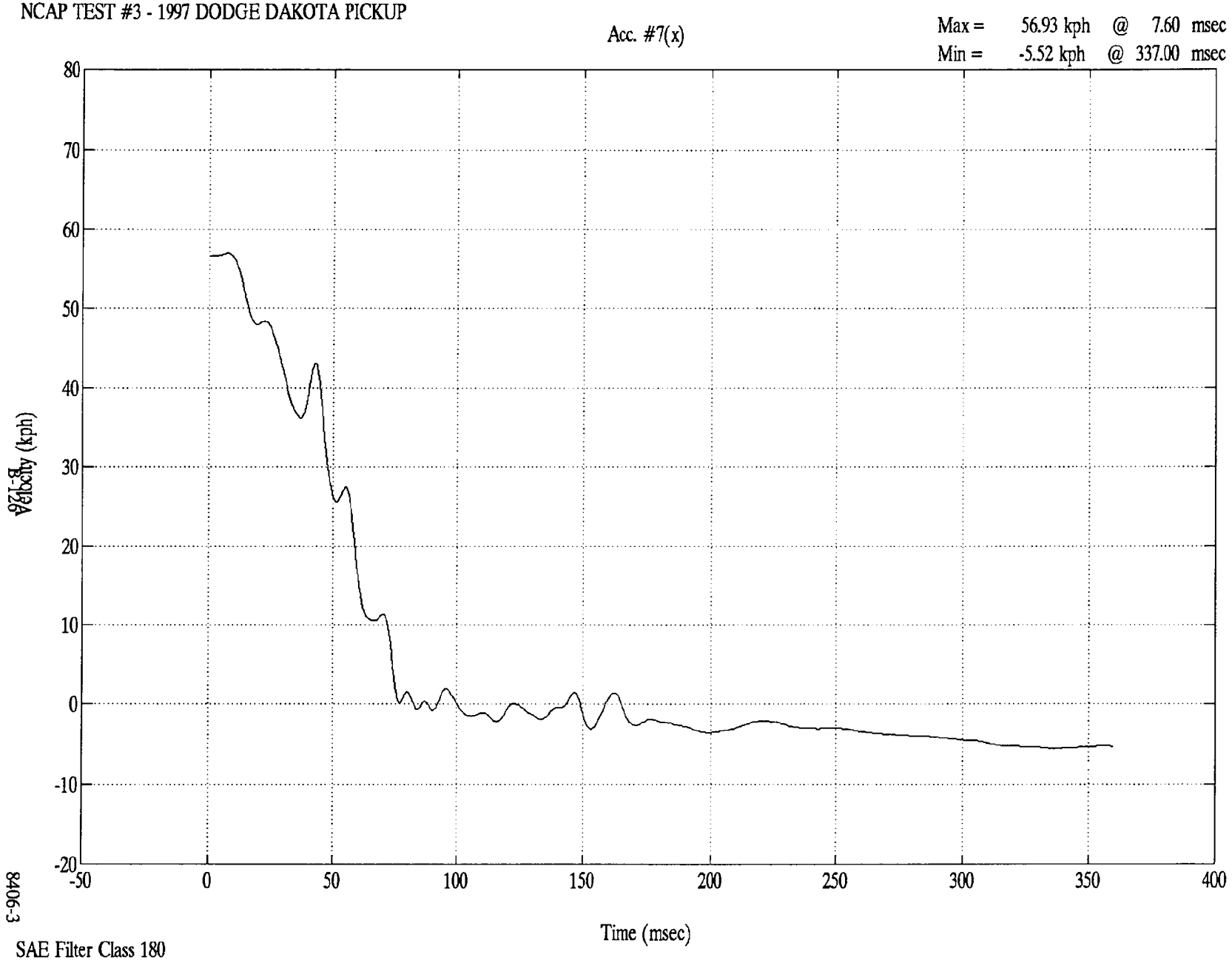
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 60

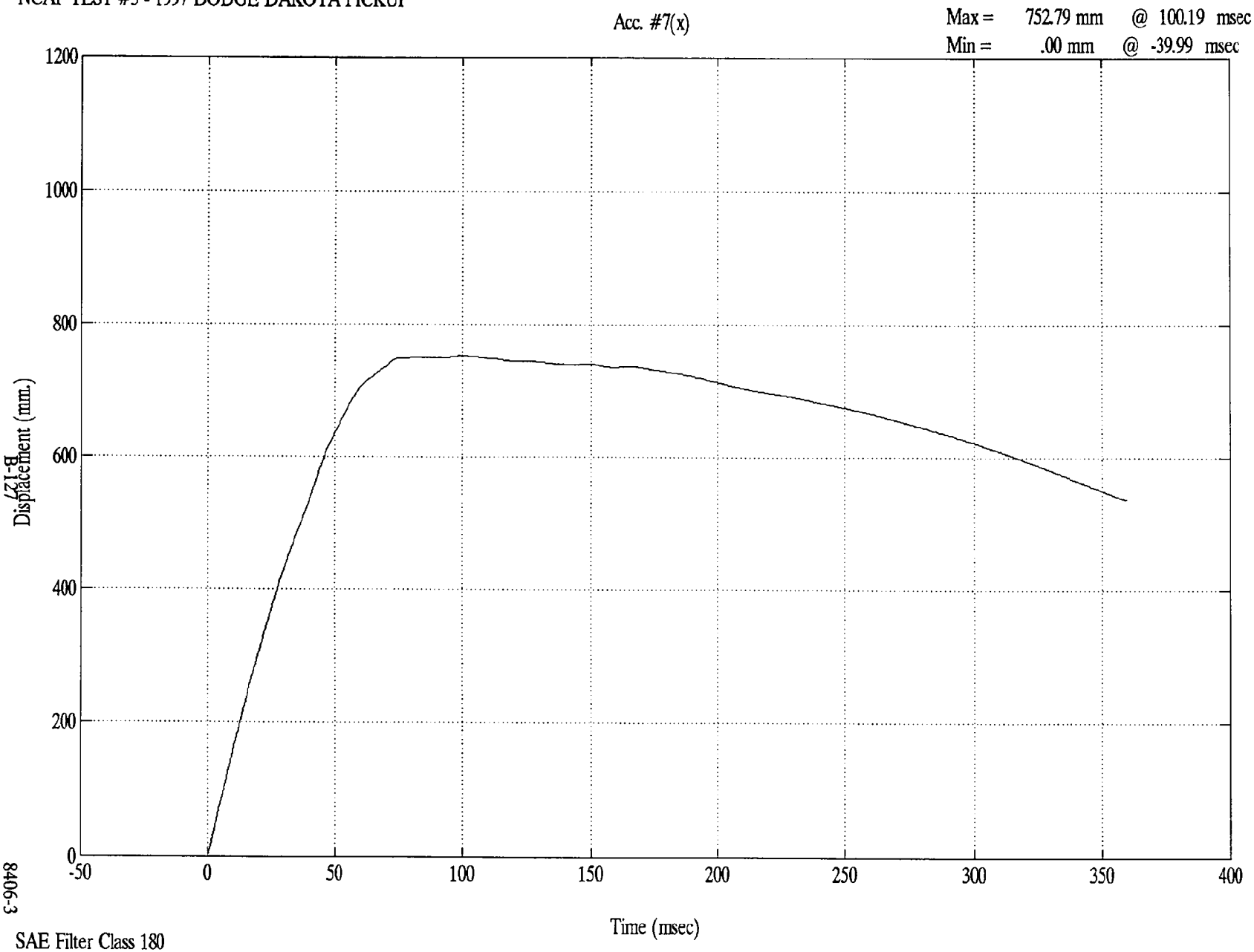
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

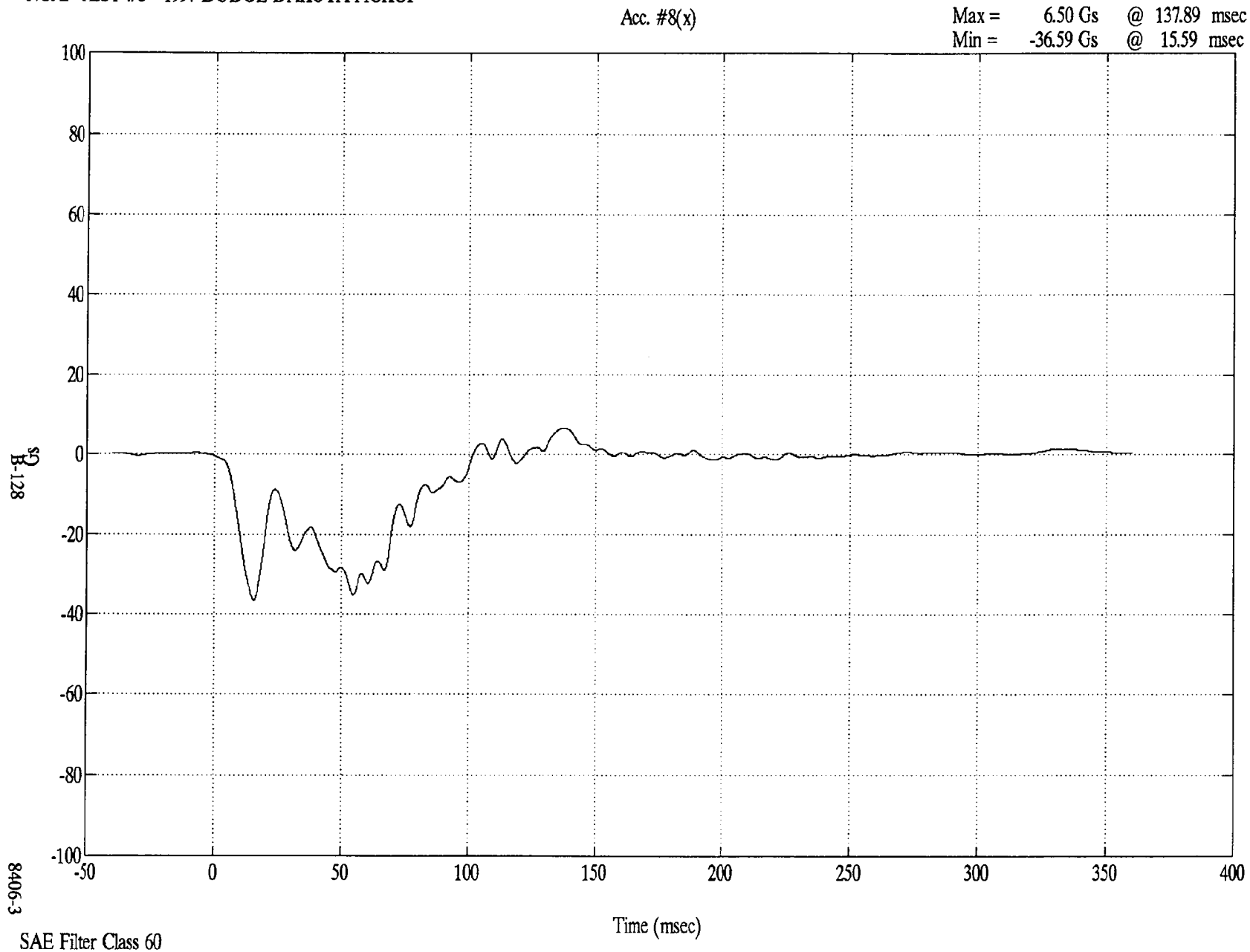
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

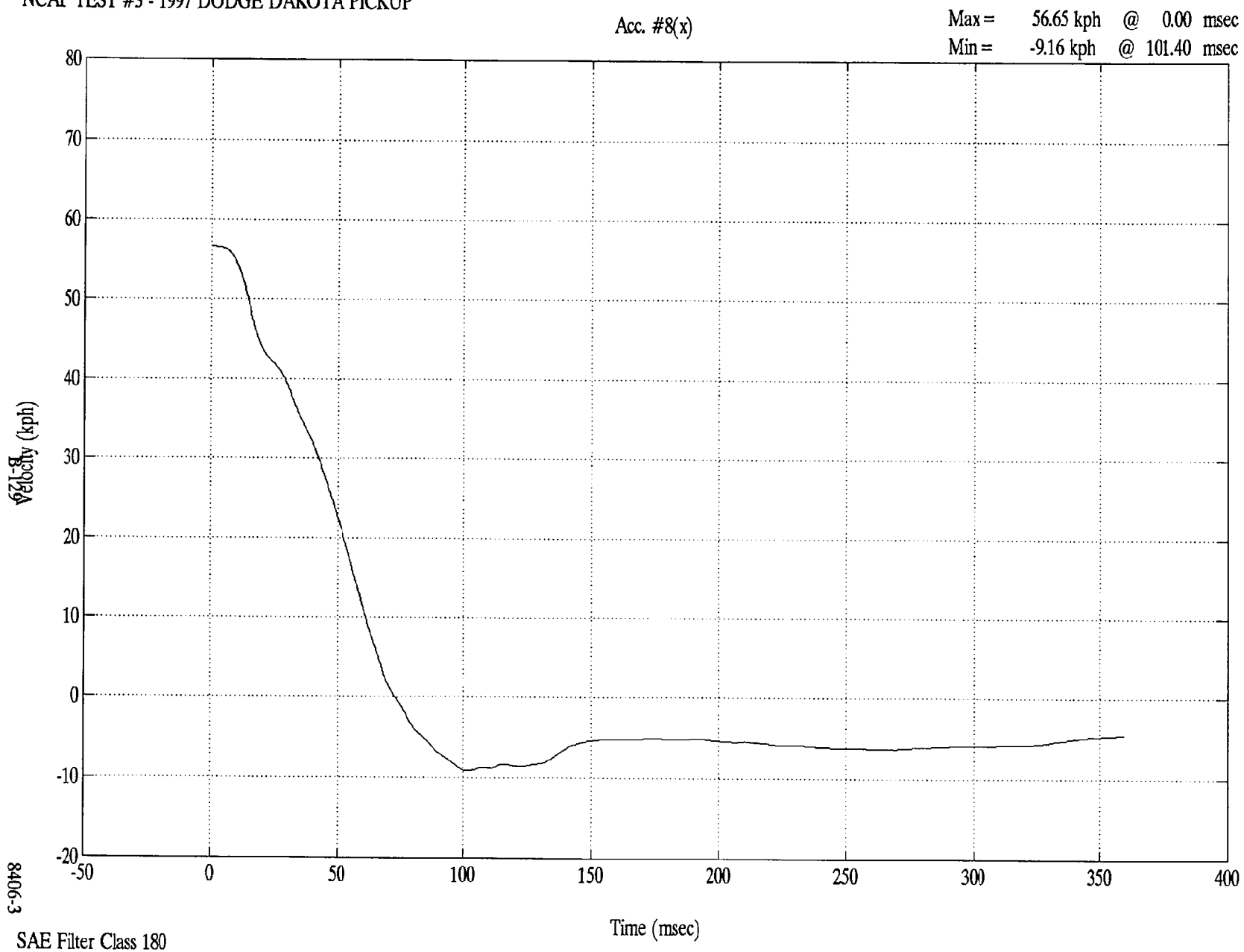
SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

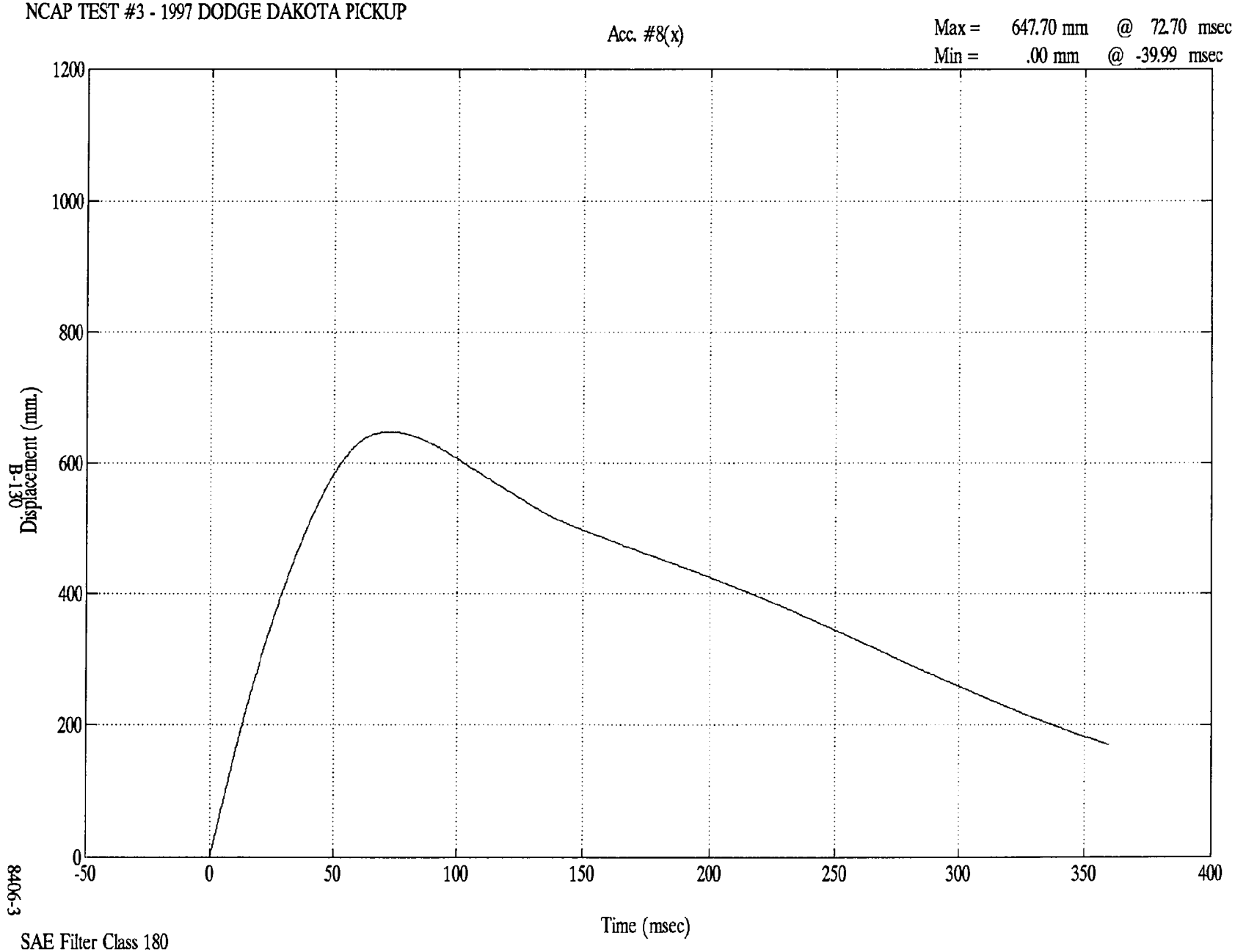
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 180

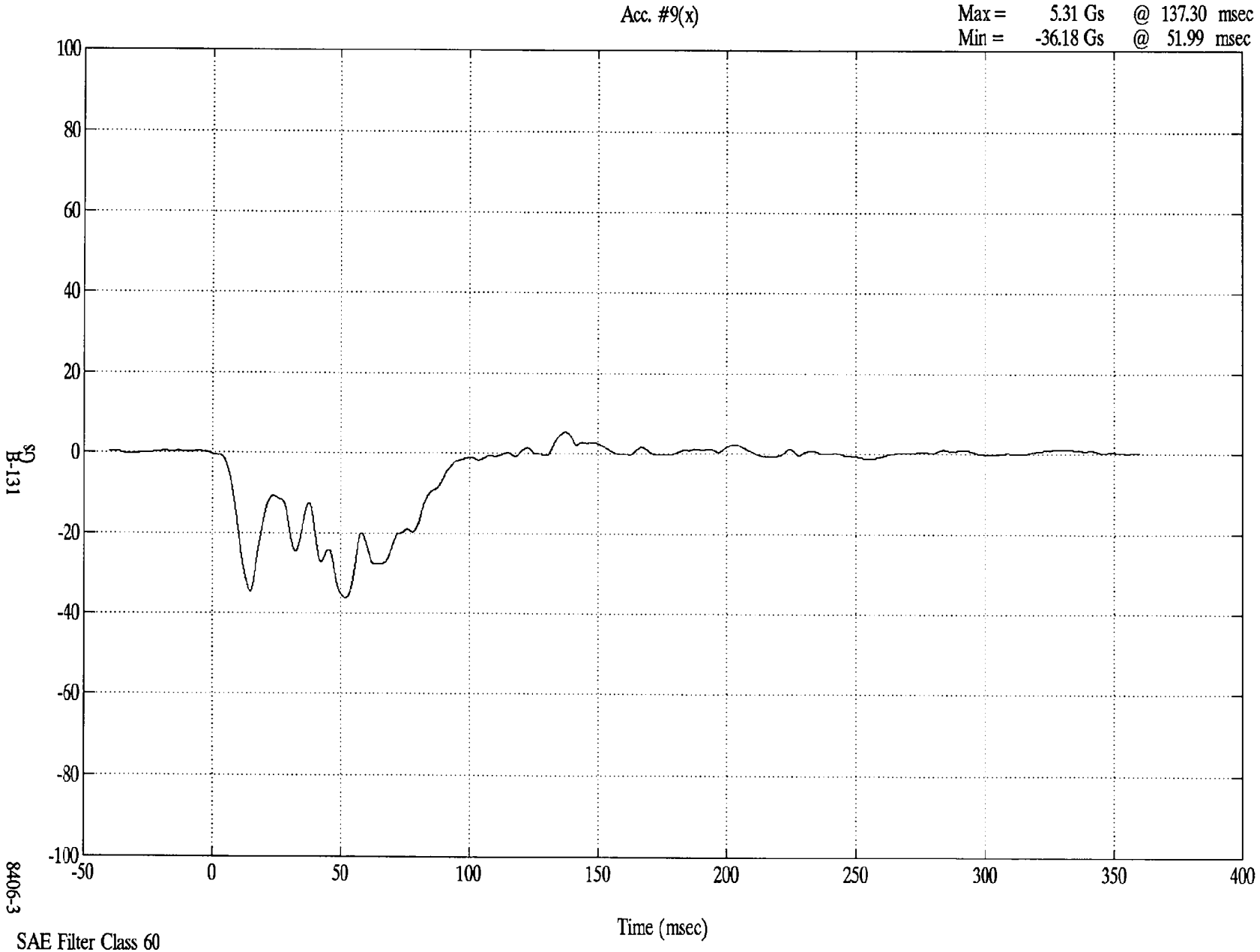
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

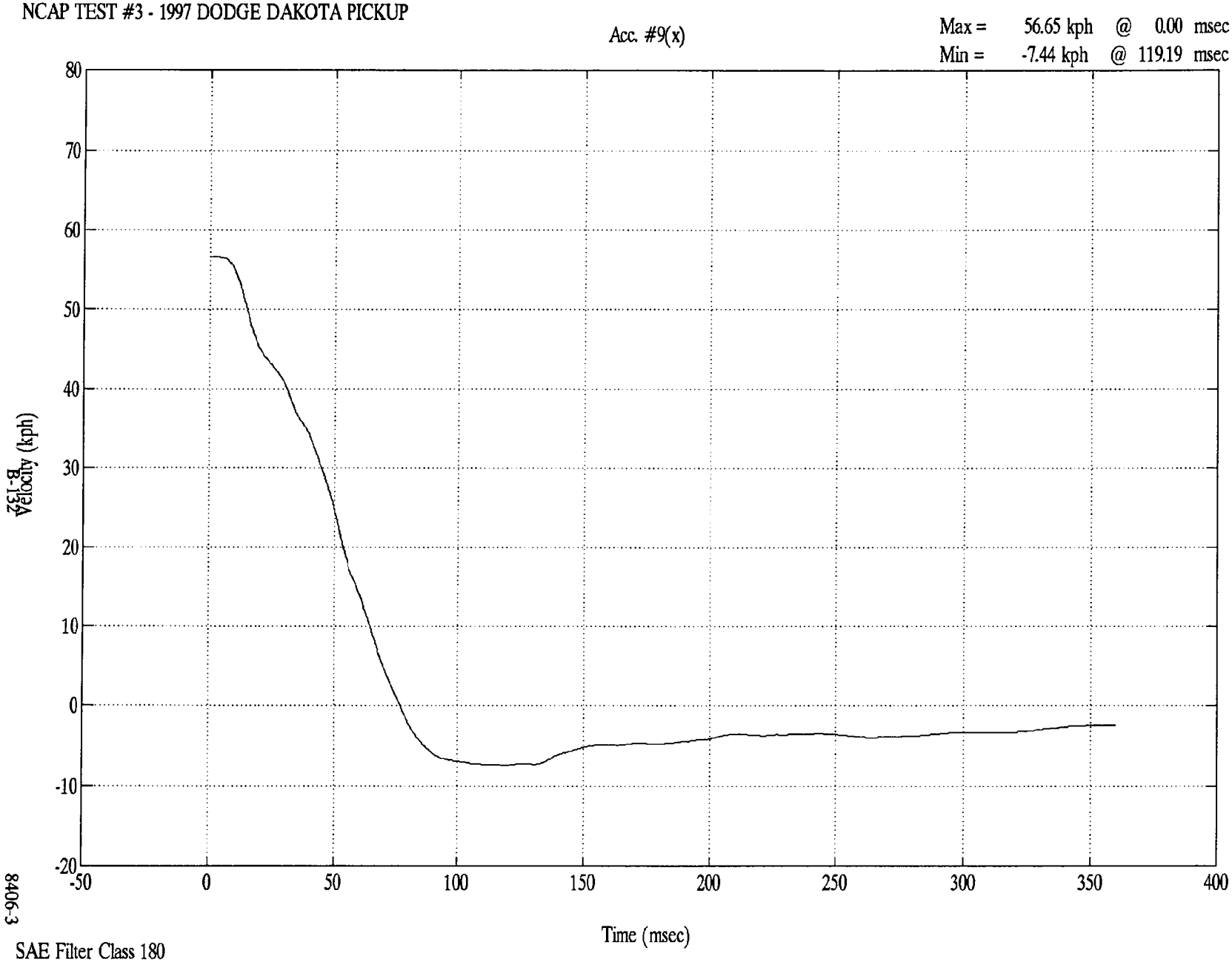
SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

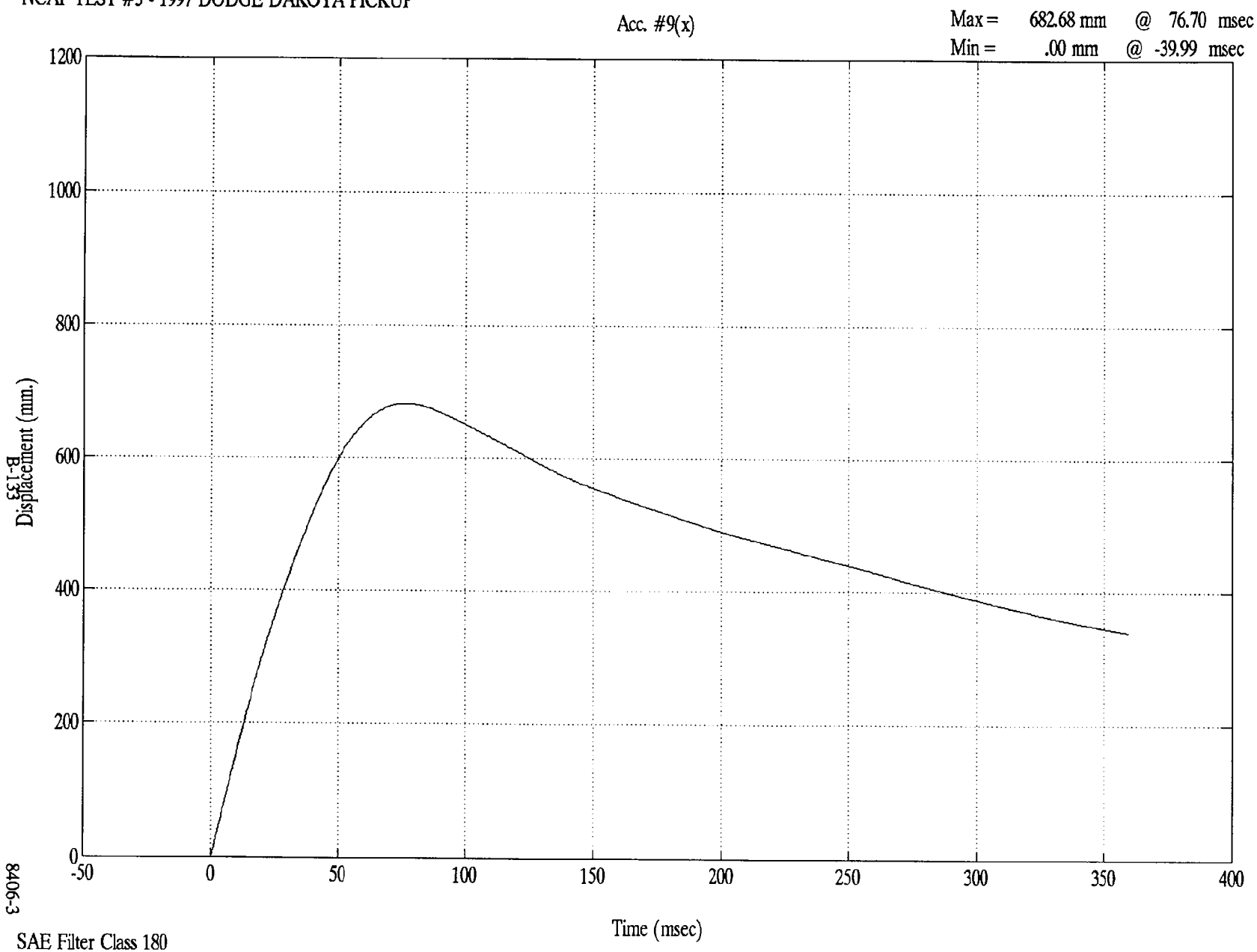


B-132

8406-3

SAE Filter Class 180

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 180

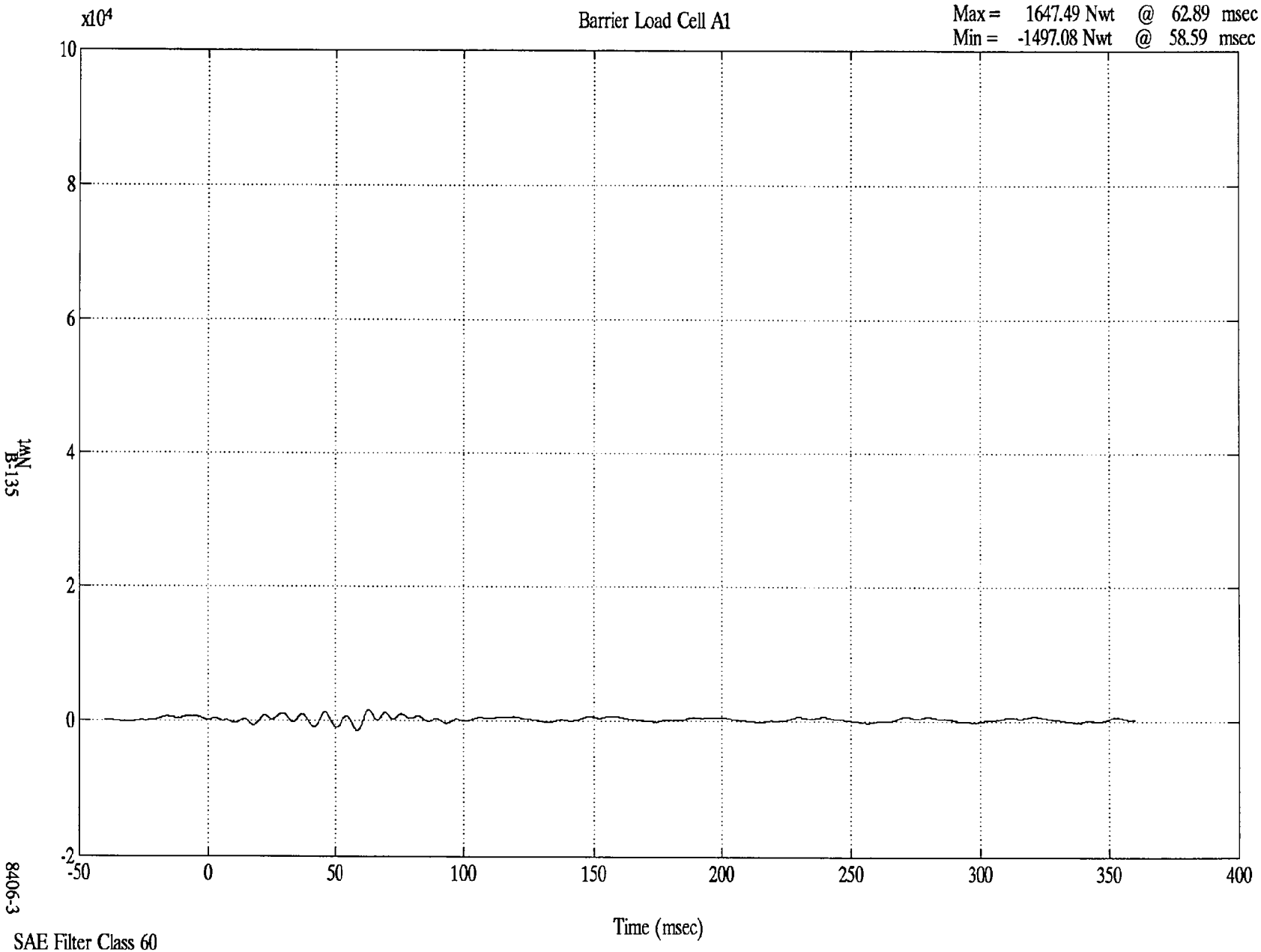
NHTSA TEST NO. MV0305

LOAD CELL BARRIER DATA

FILTER CHANNEL CLASS

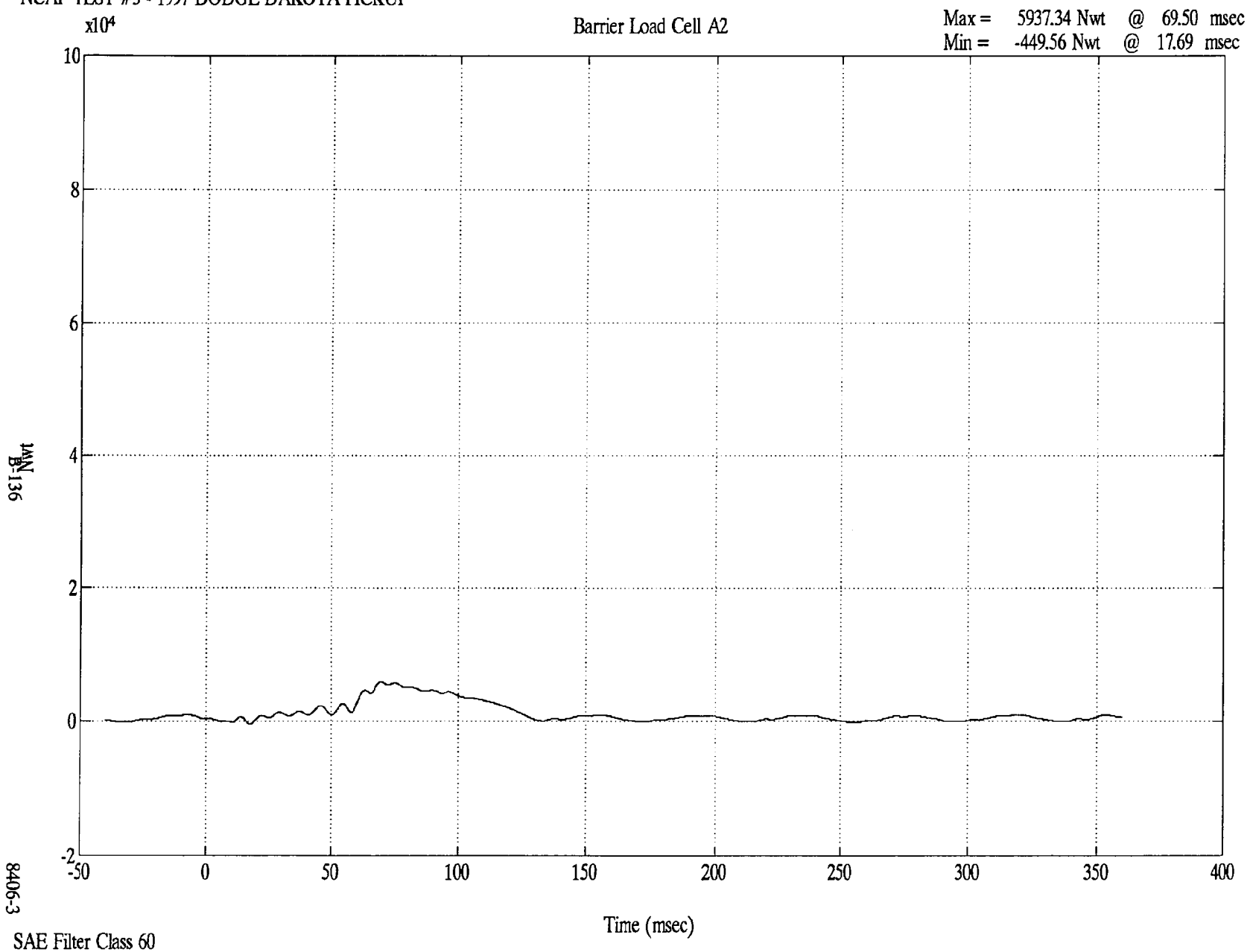
60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



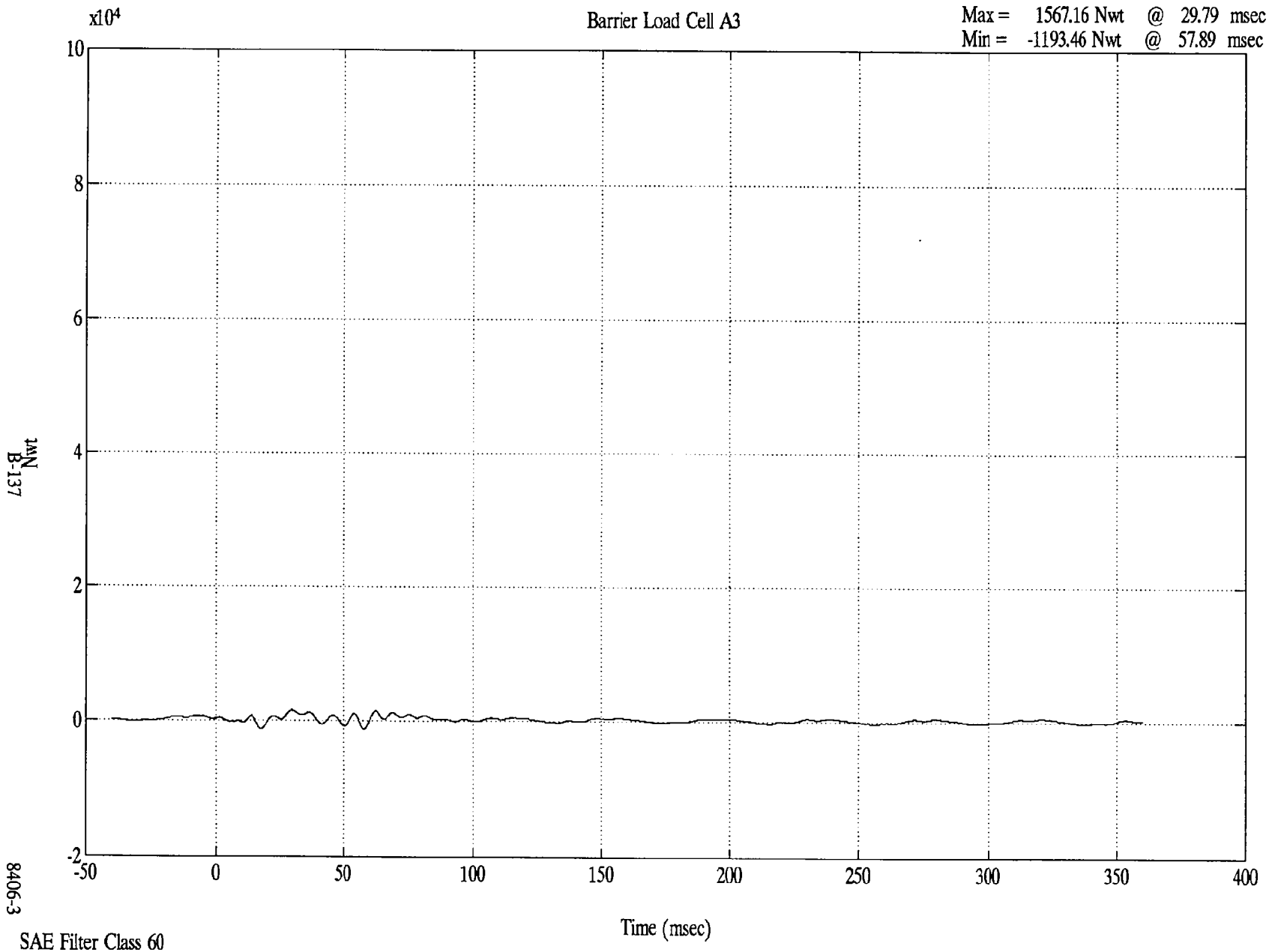
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



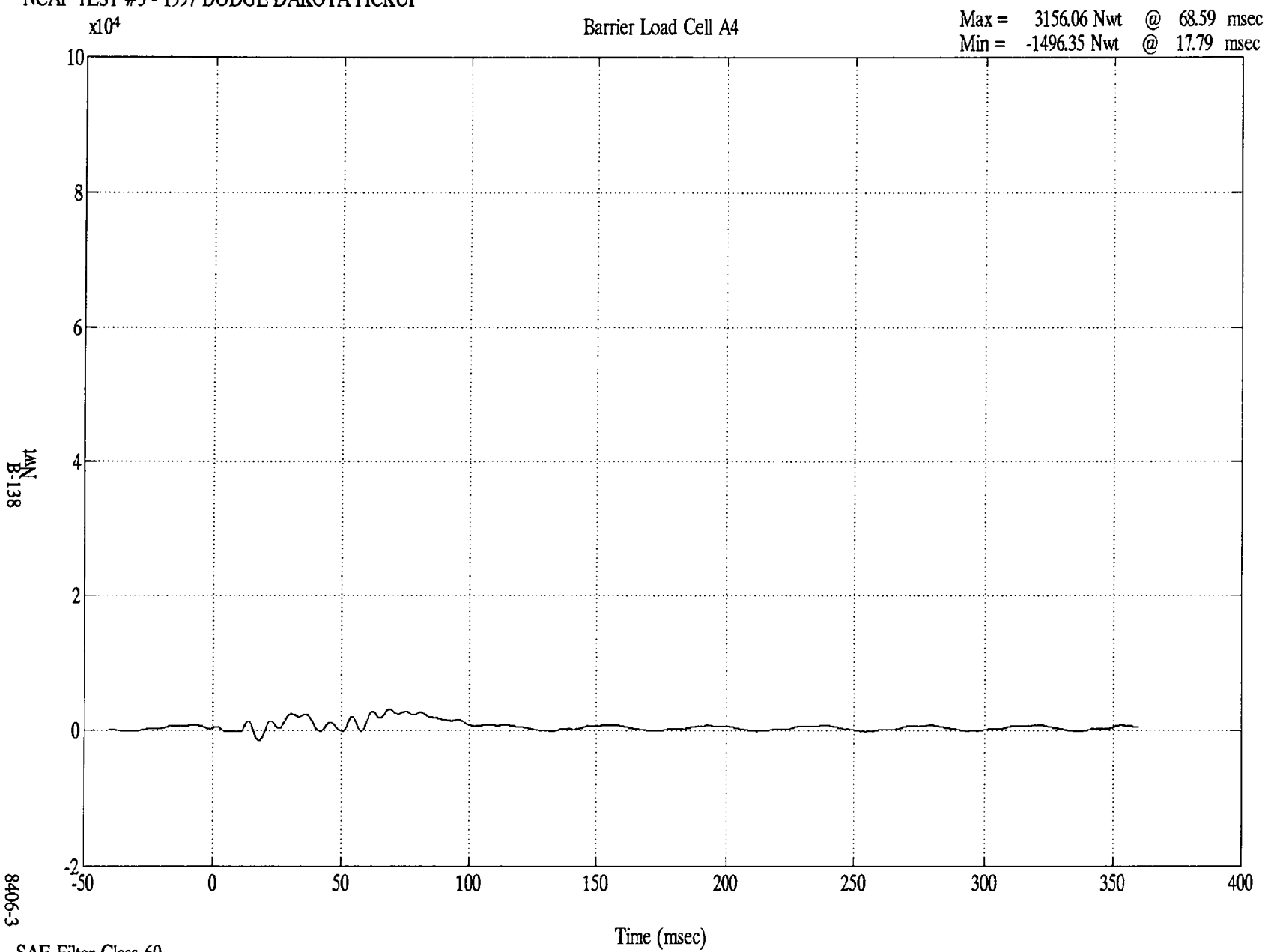
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



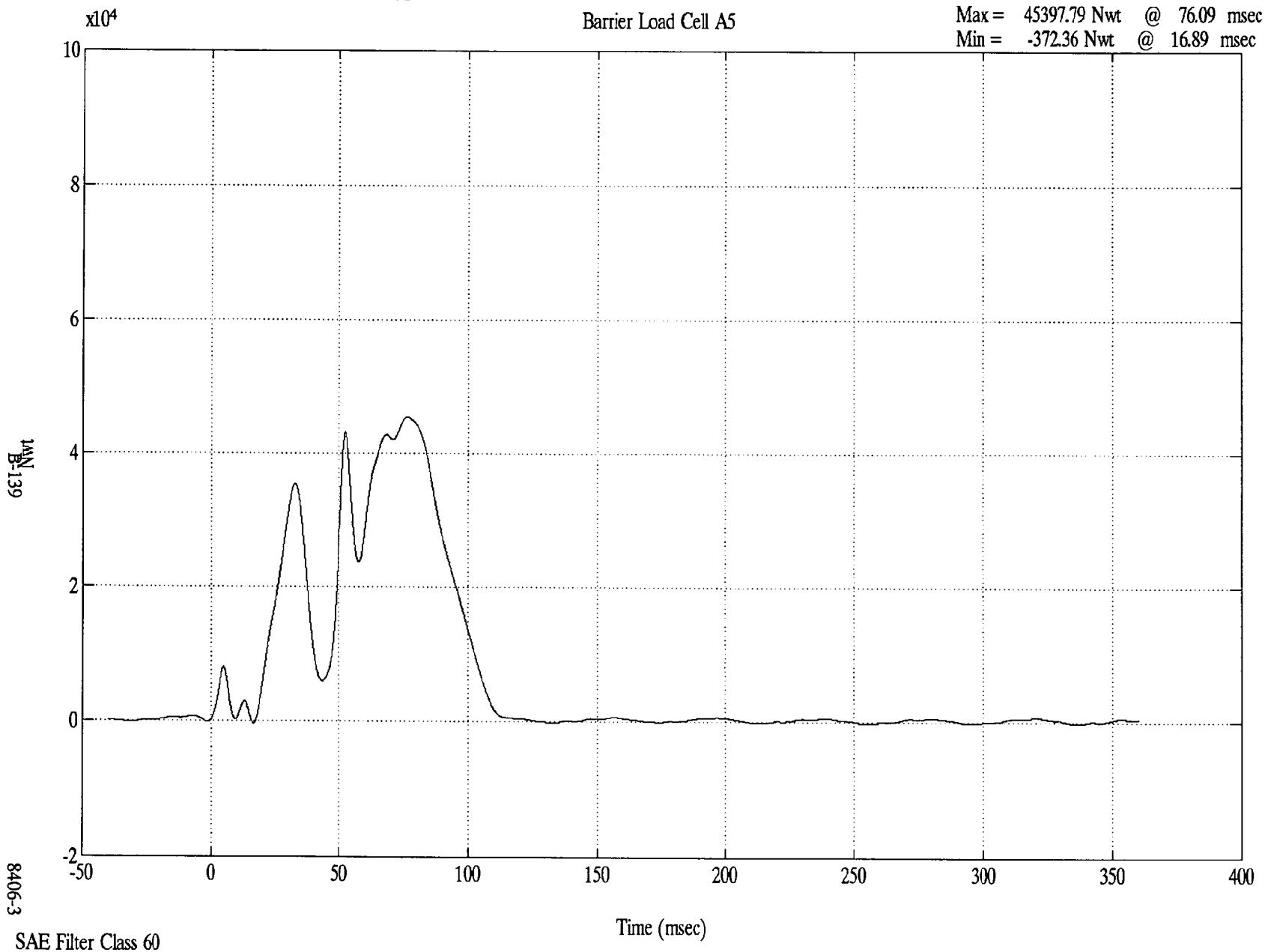
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

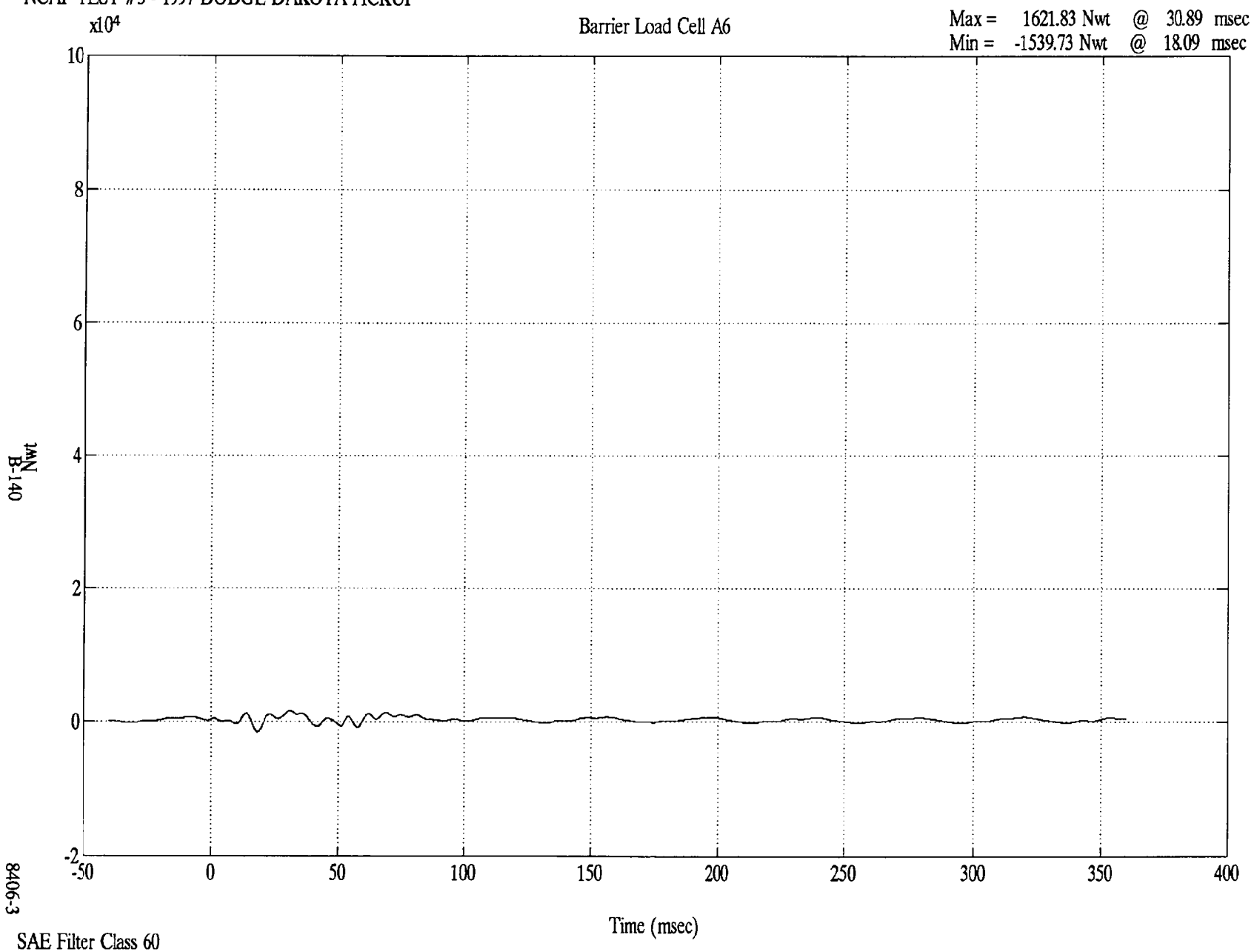


SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



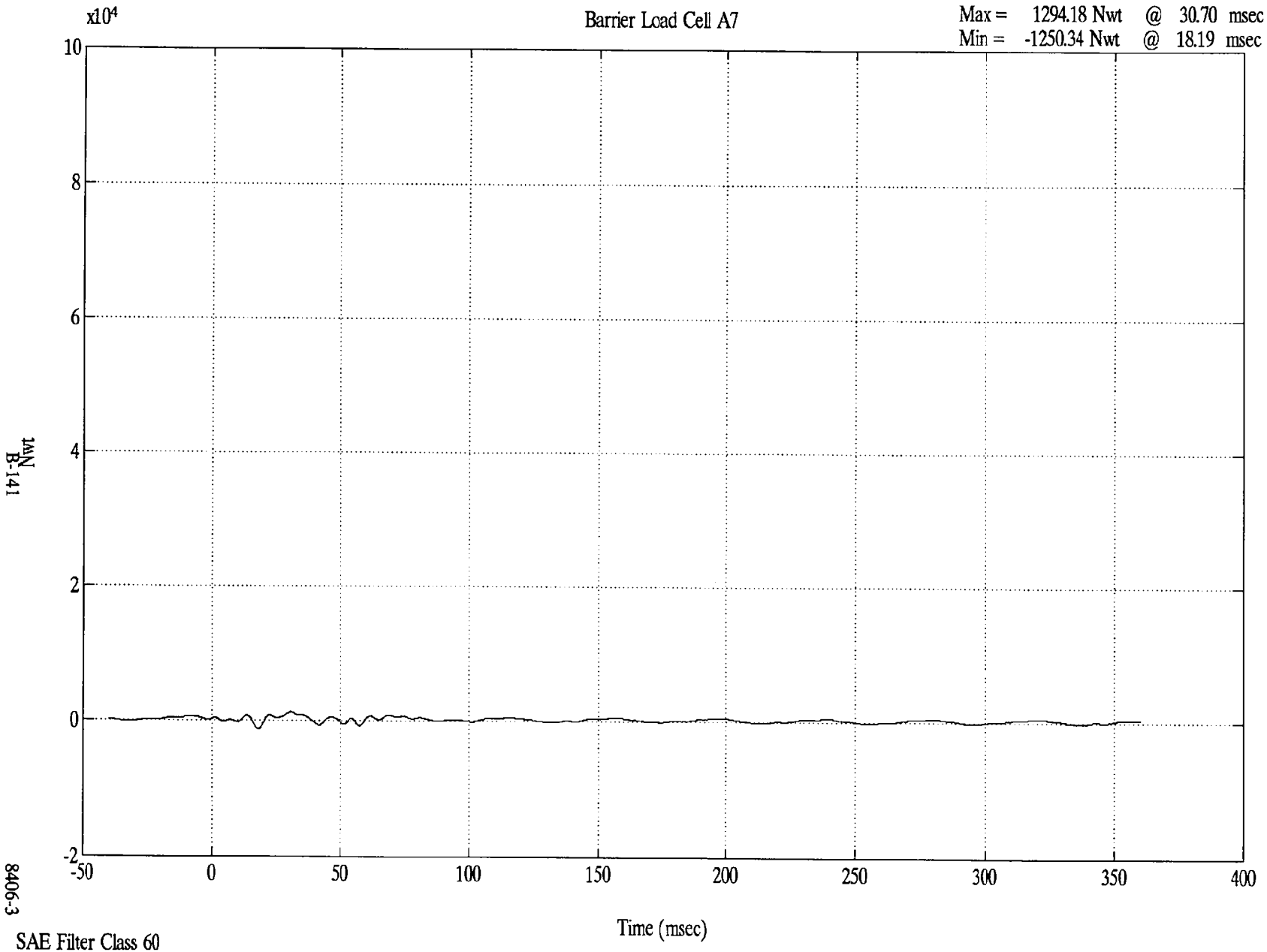
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

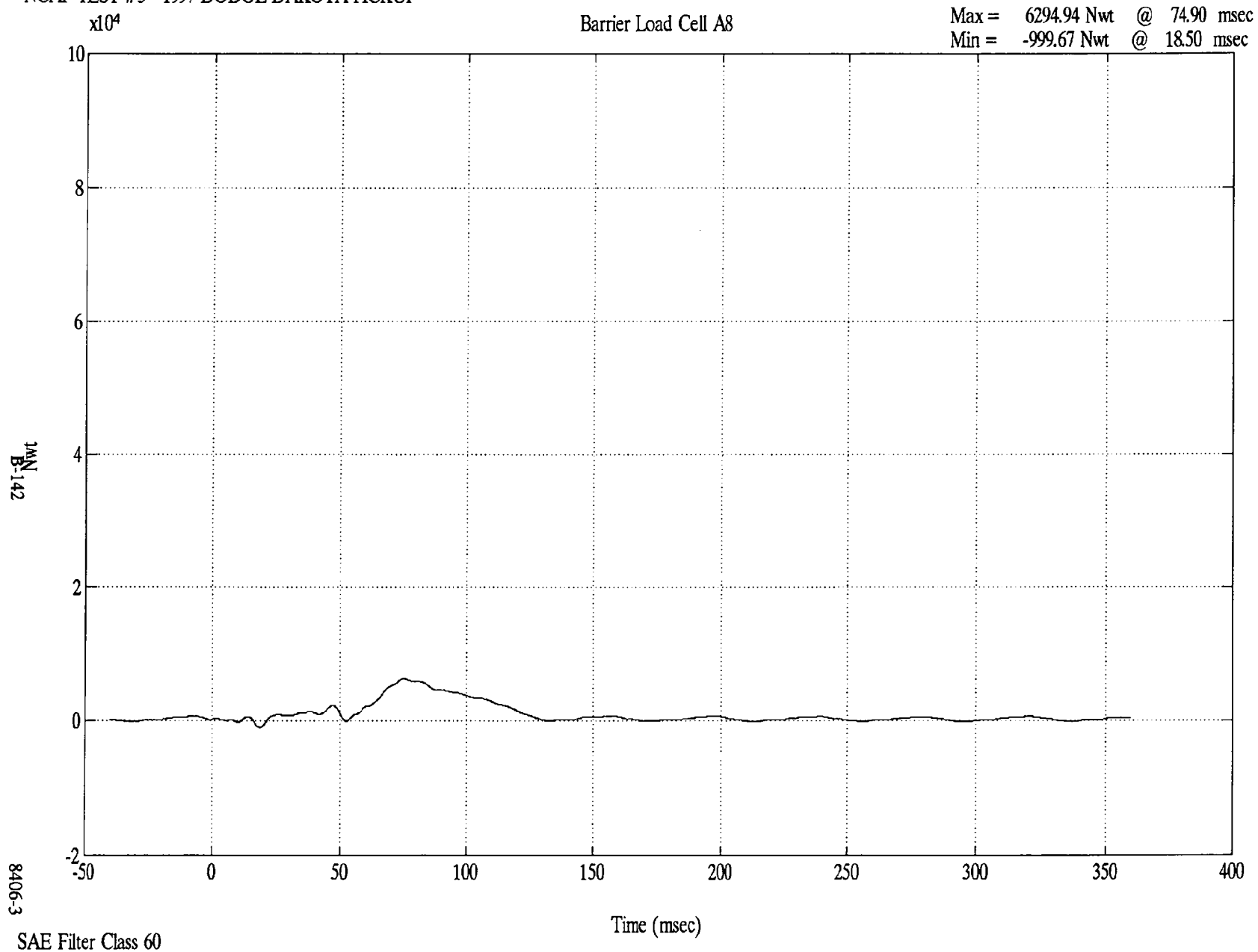
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

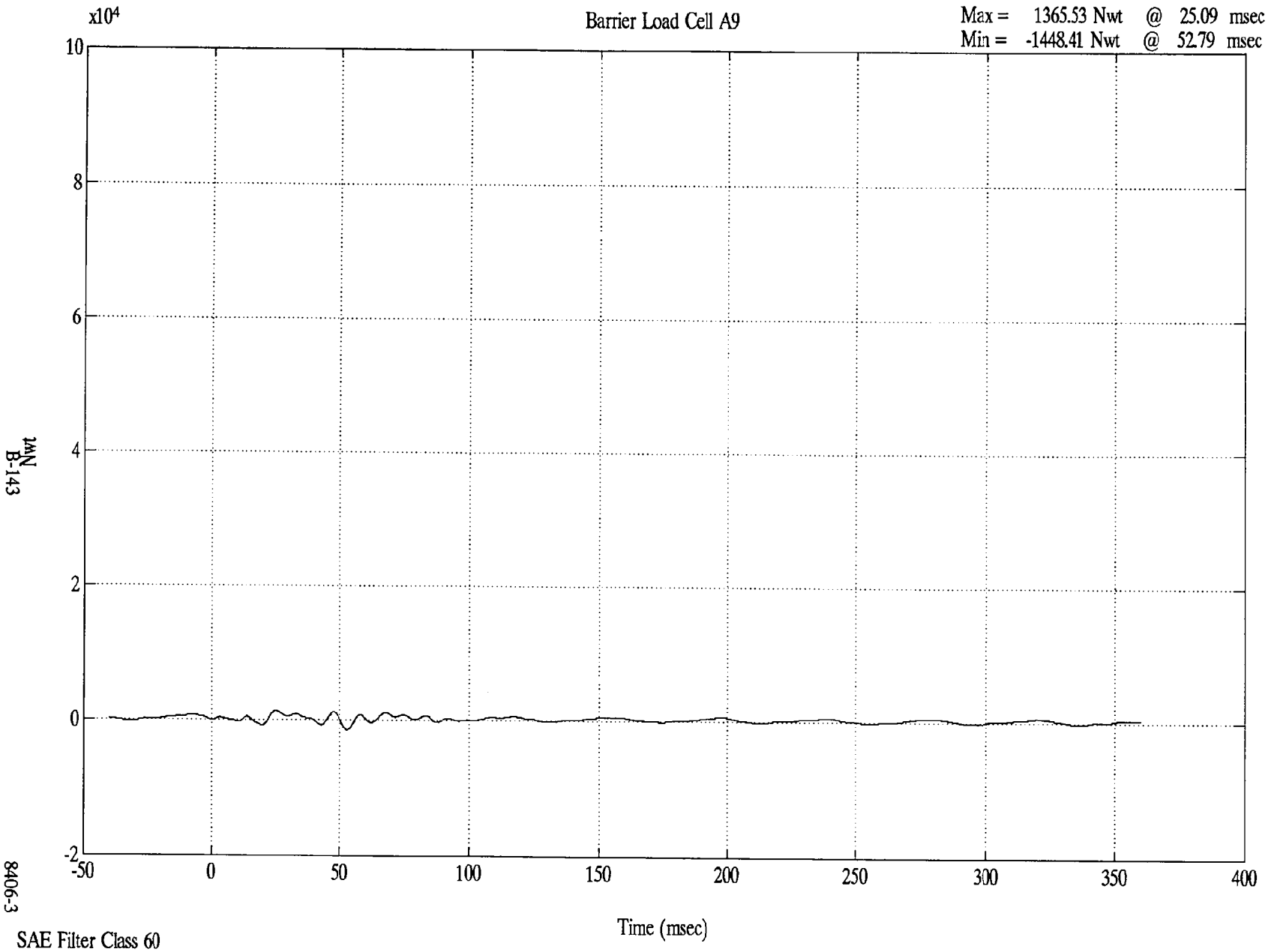


1MN
B-142

8406-3

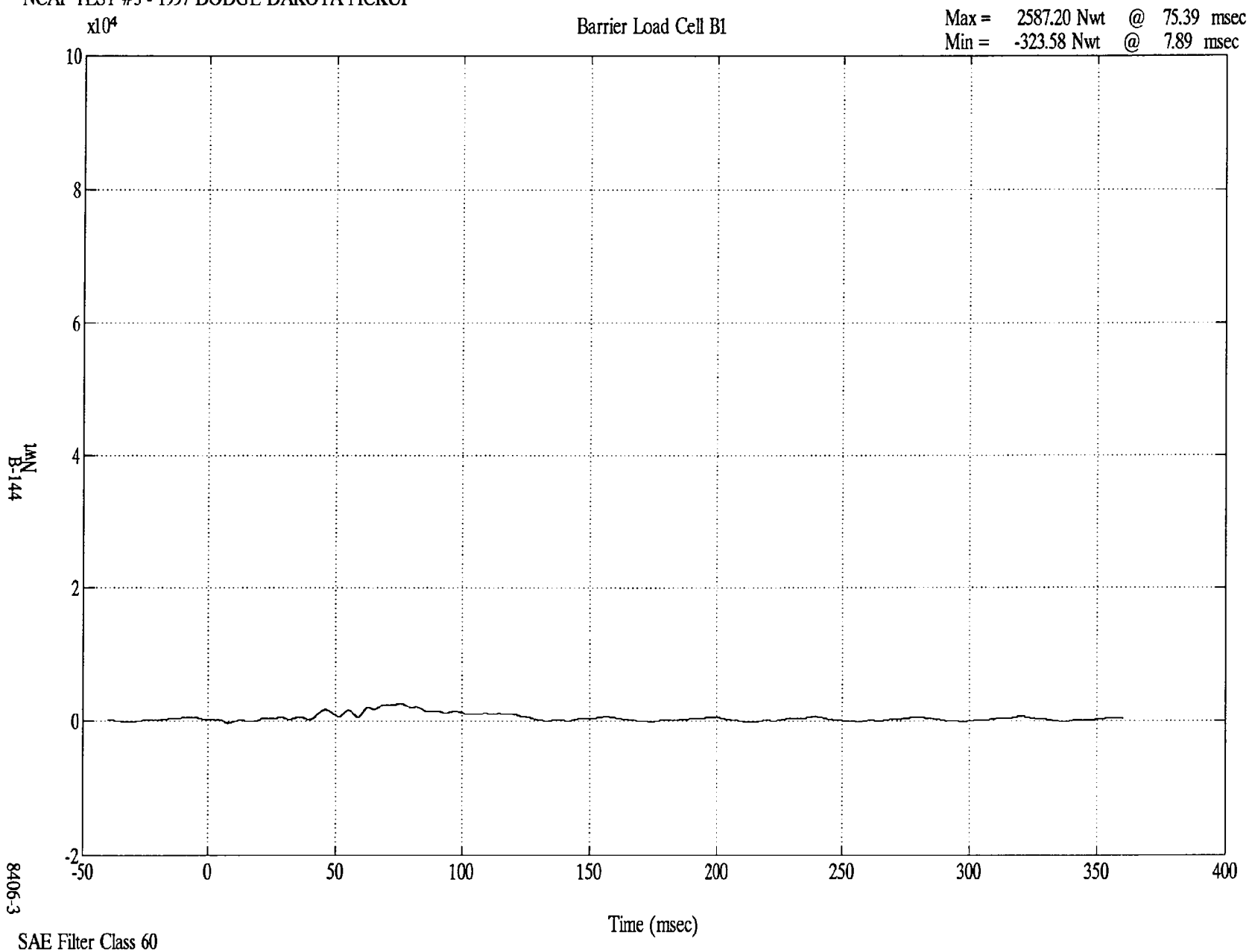
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



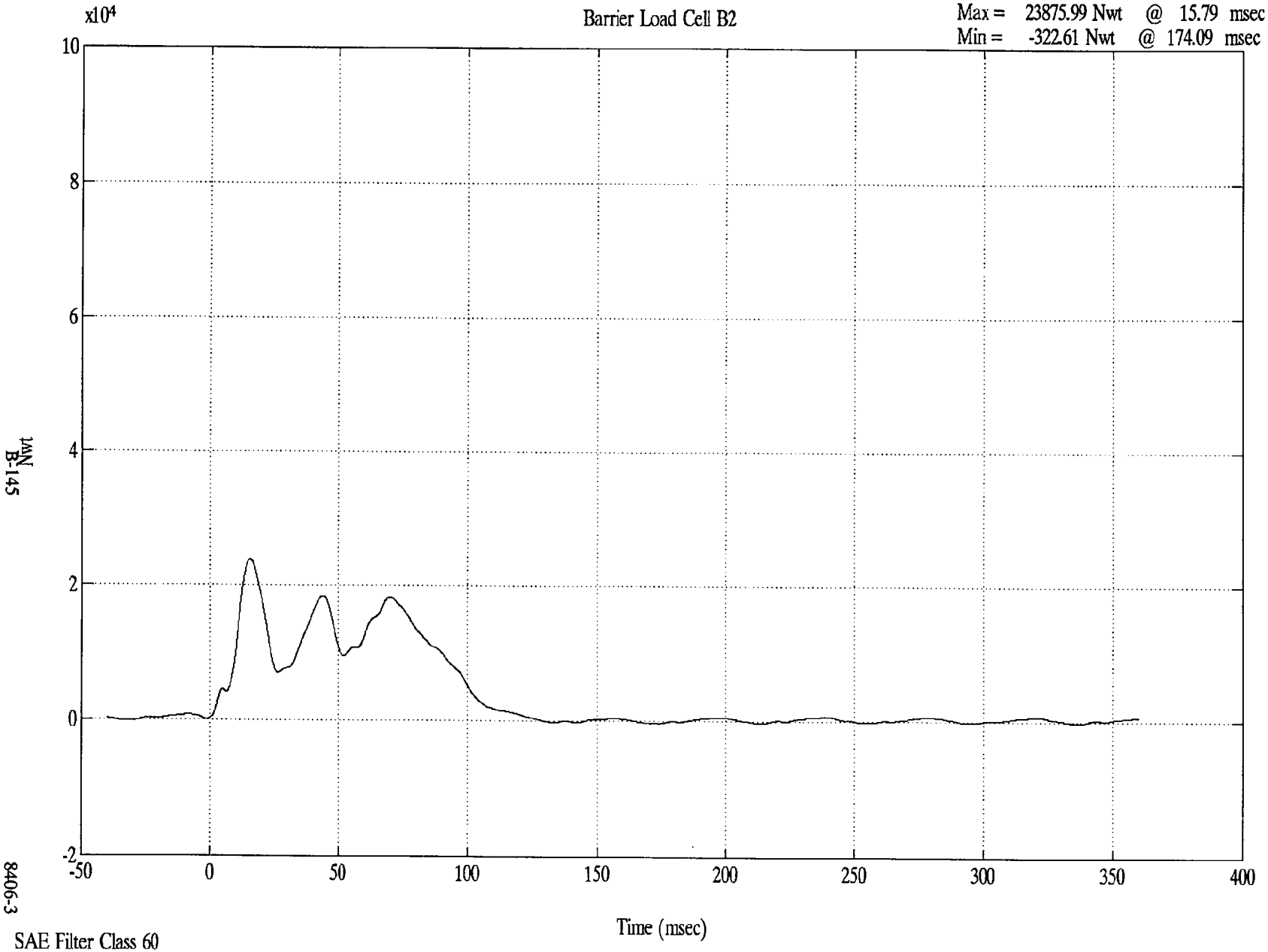
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



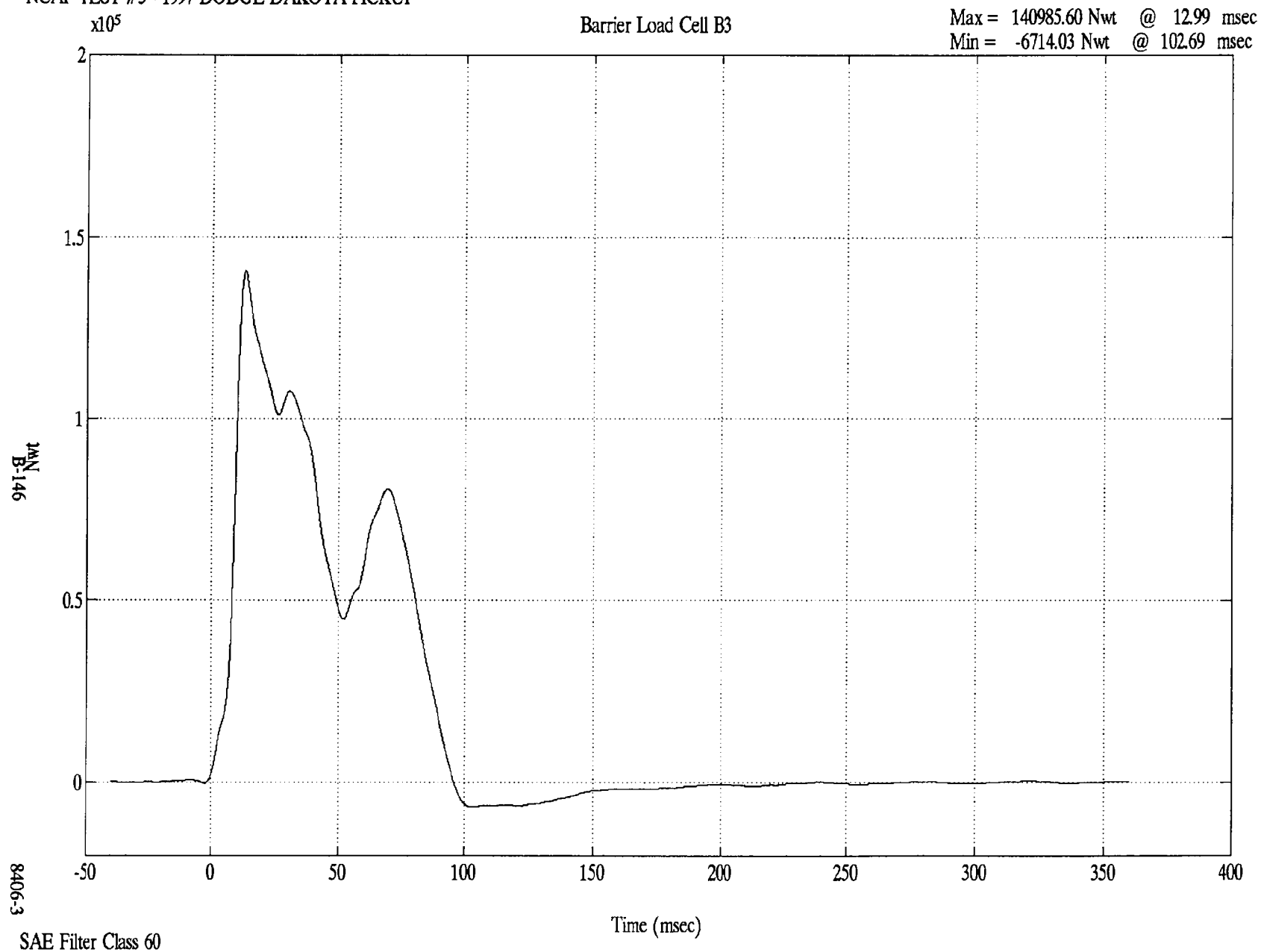
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

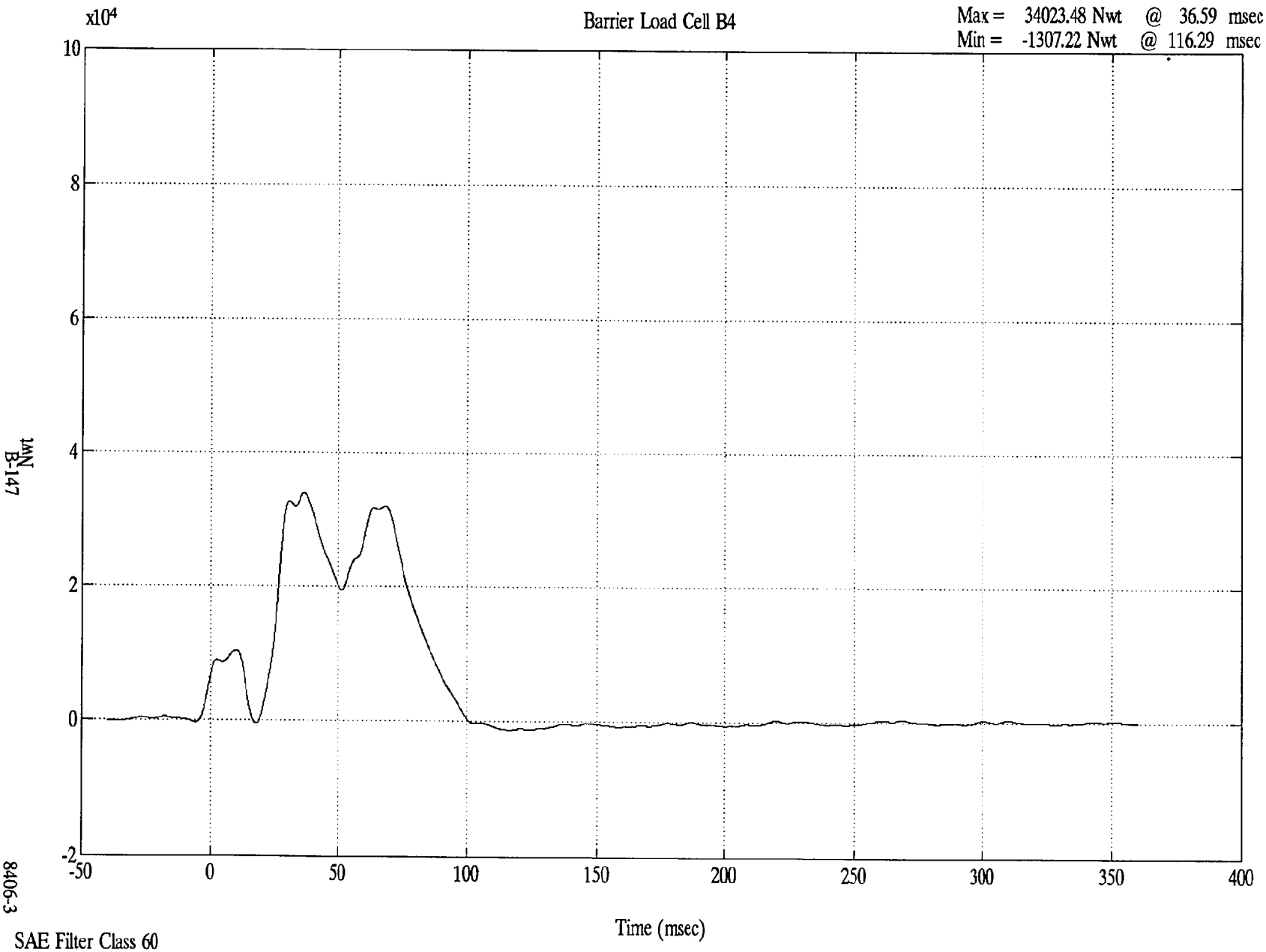
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



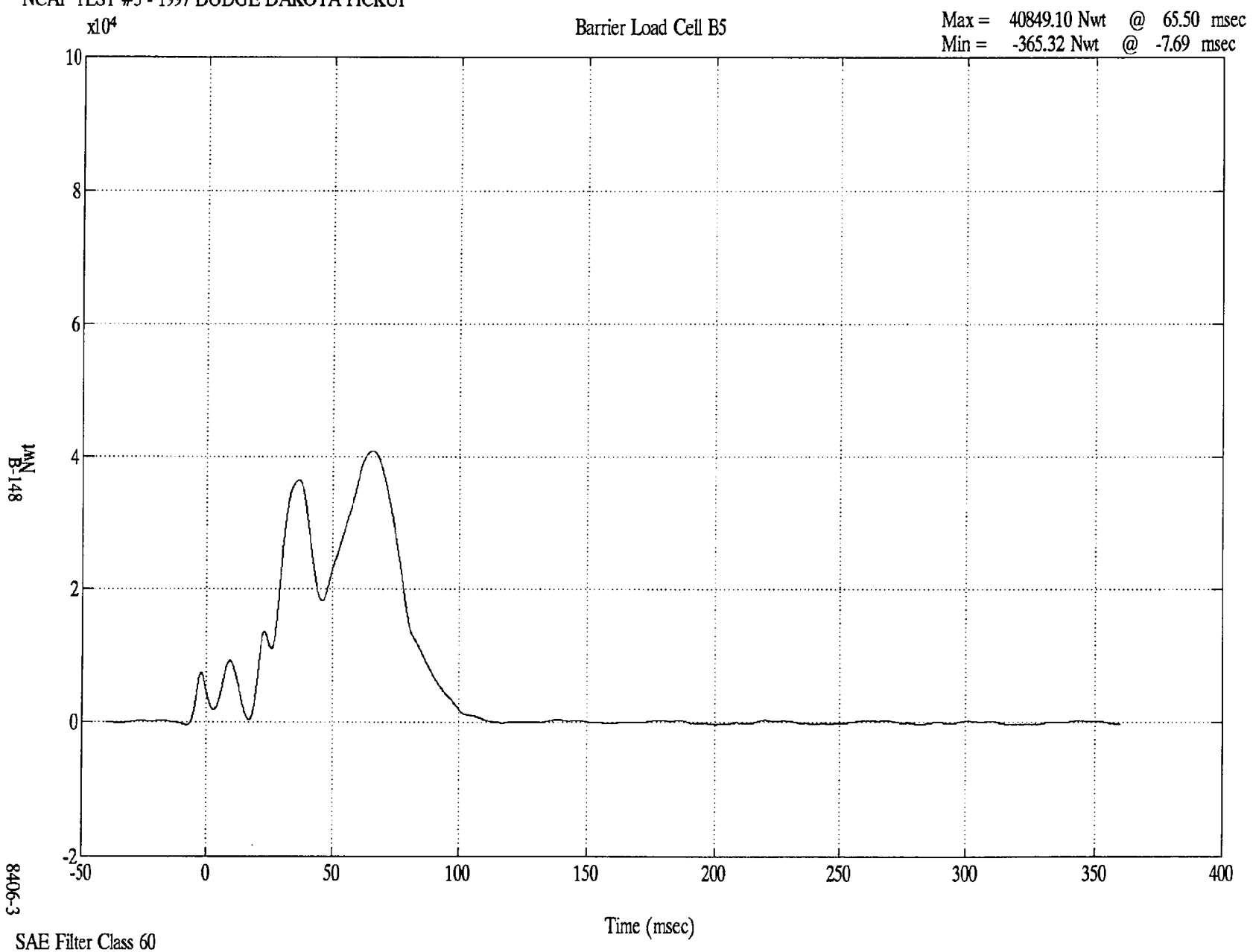
8406-3

SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



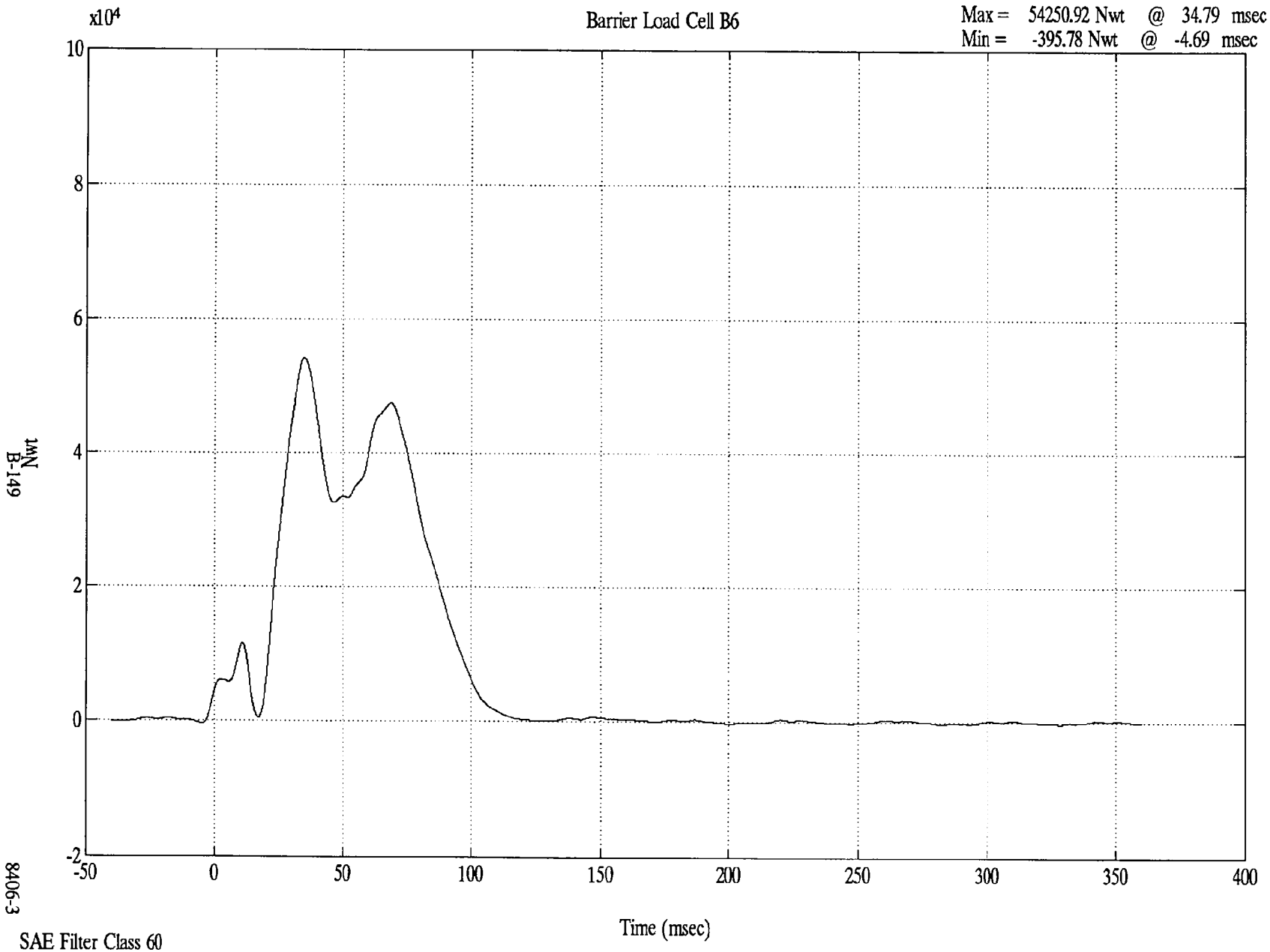
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

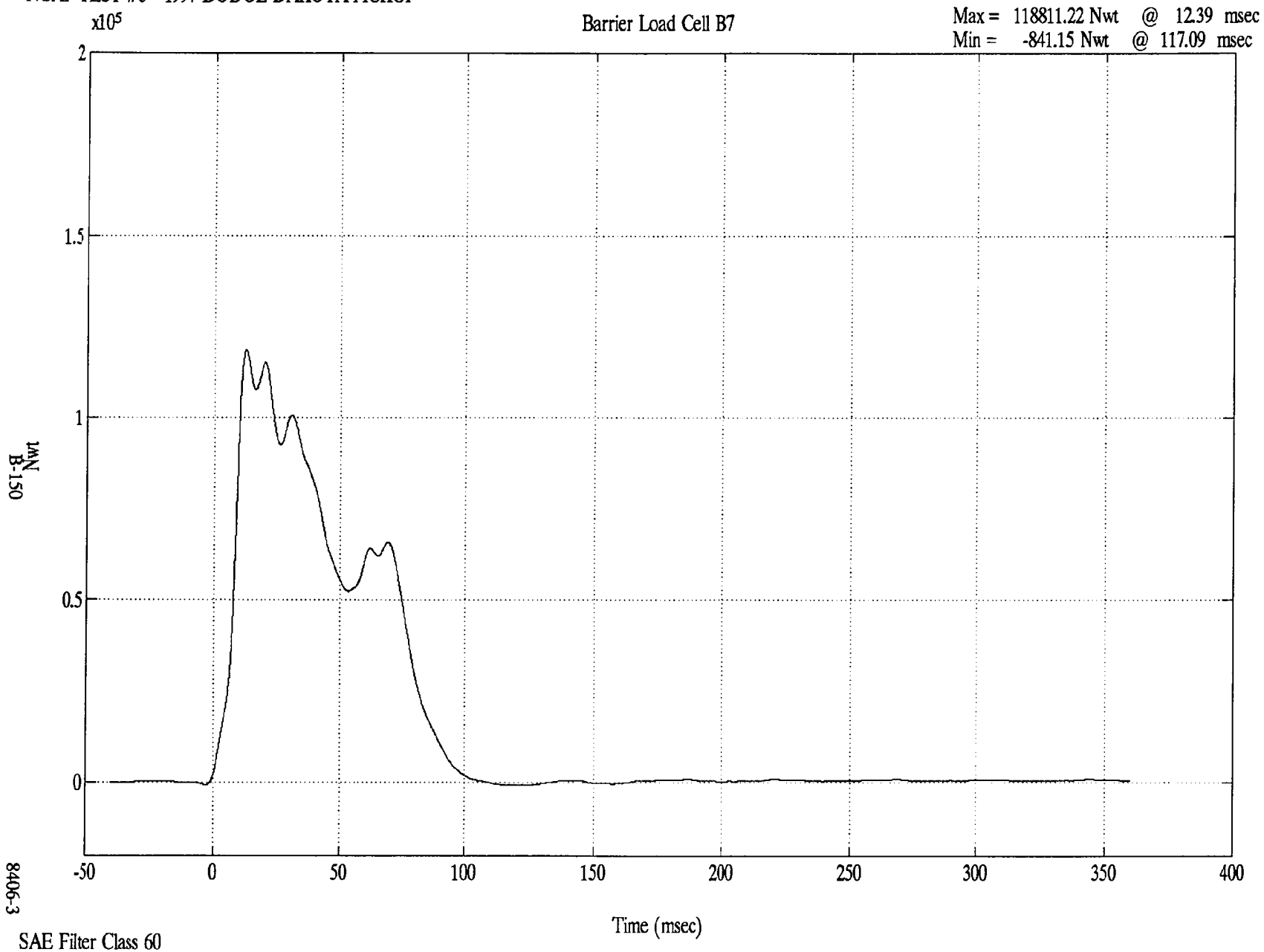
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



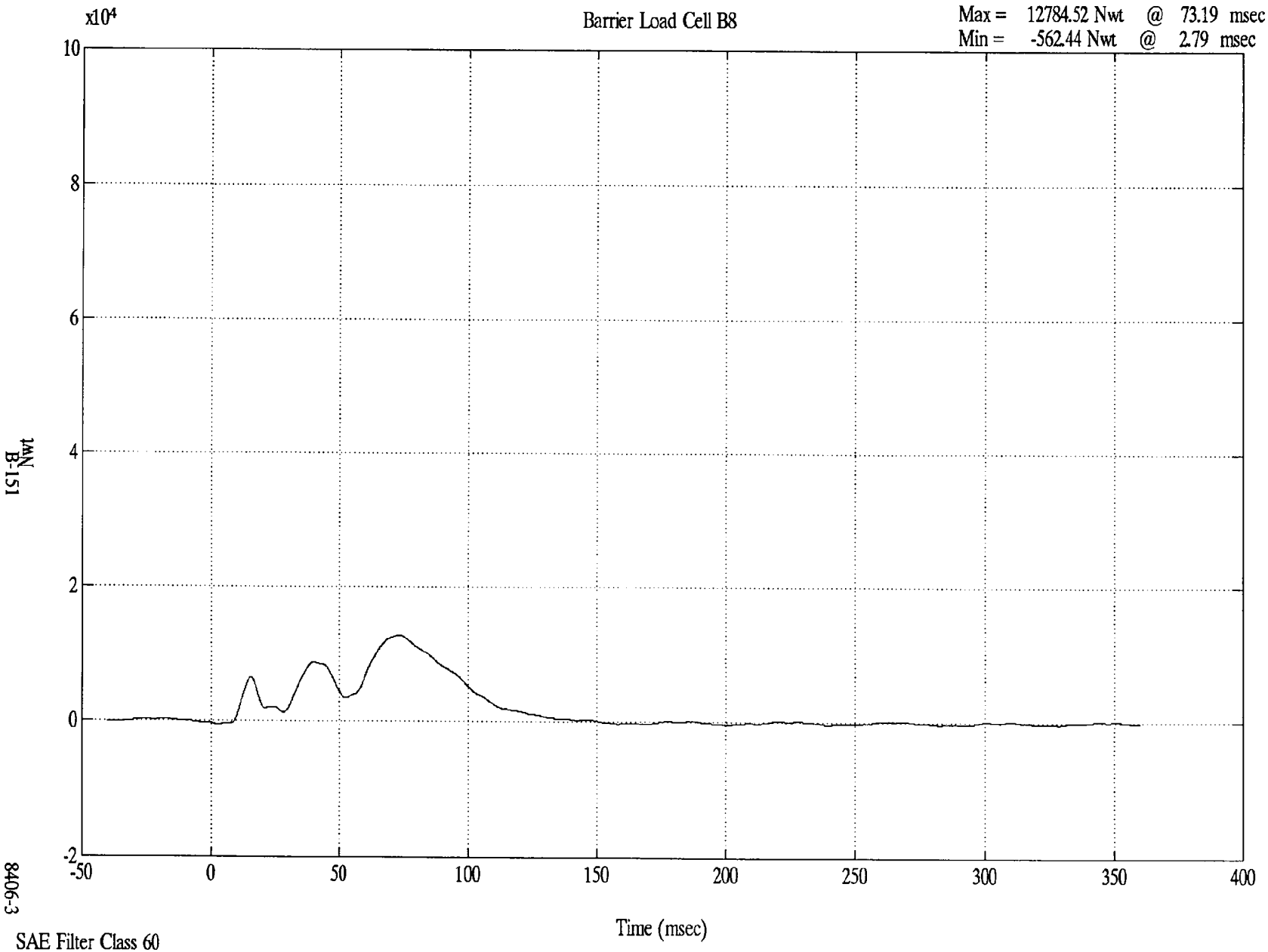
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



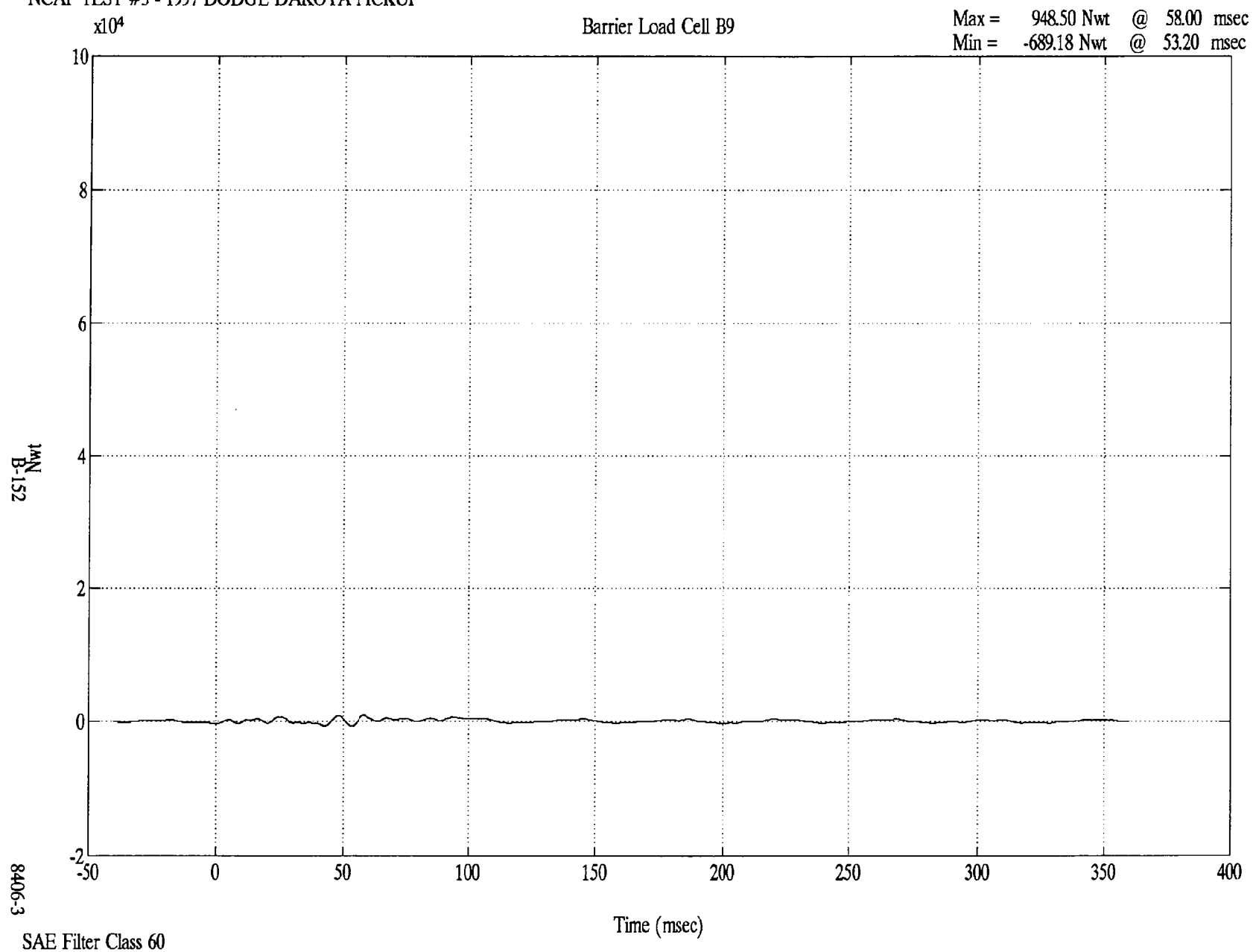
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



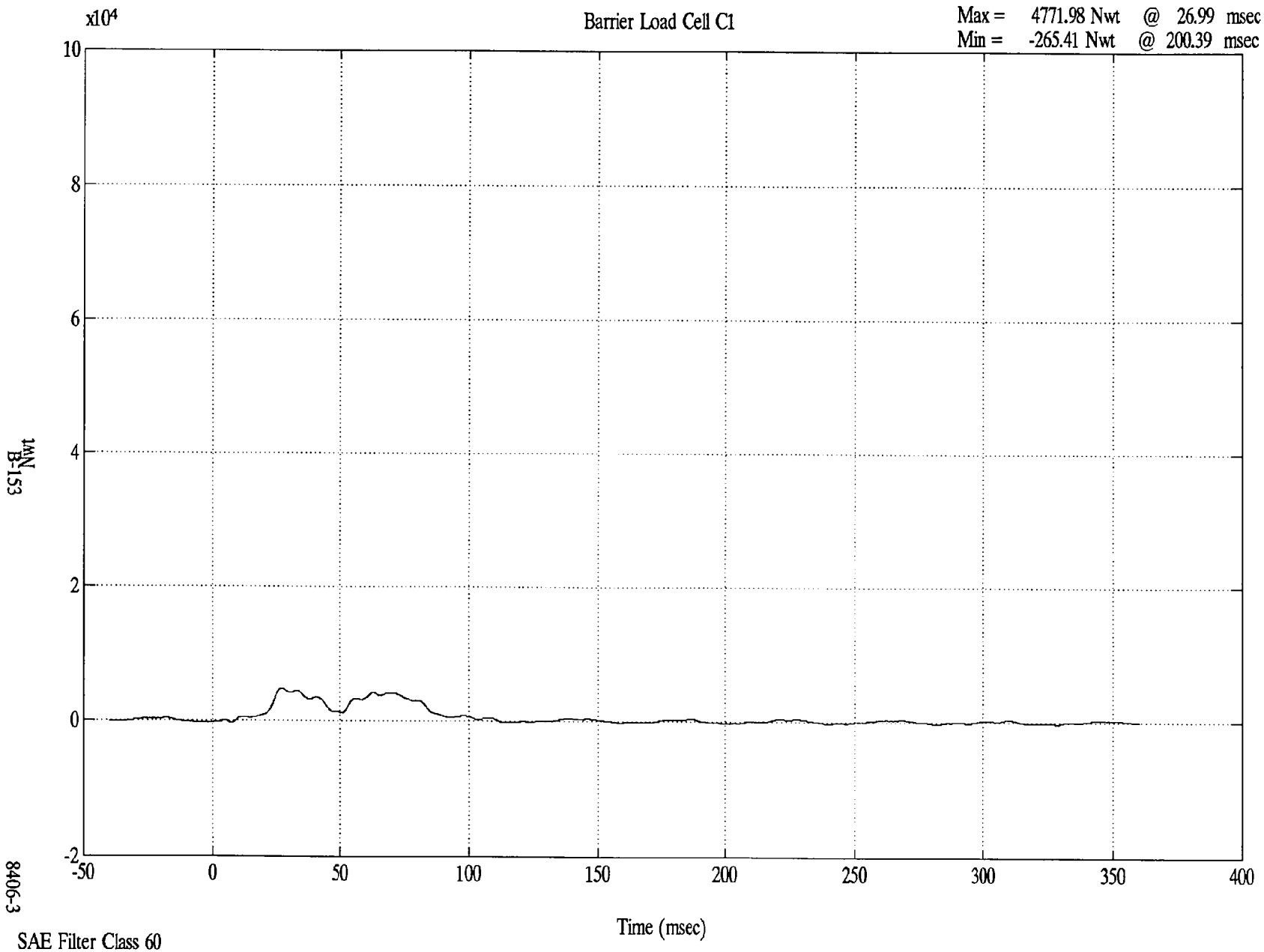
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

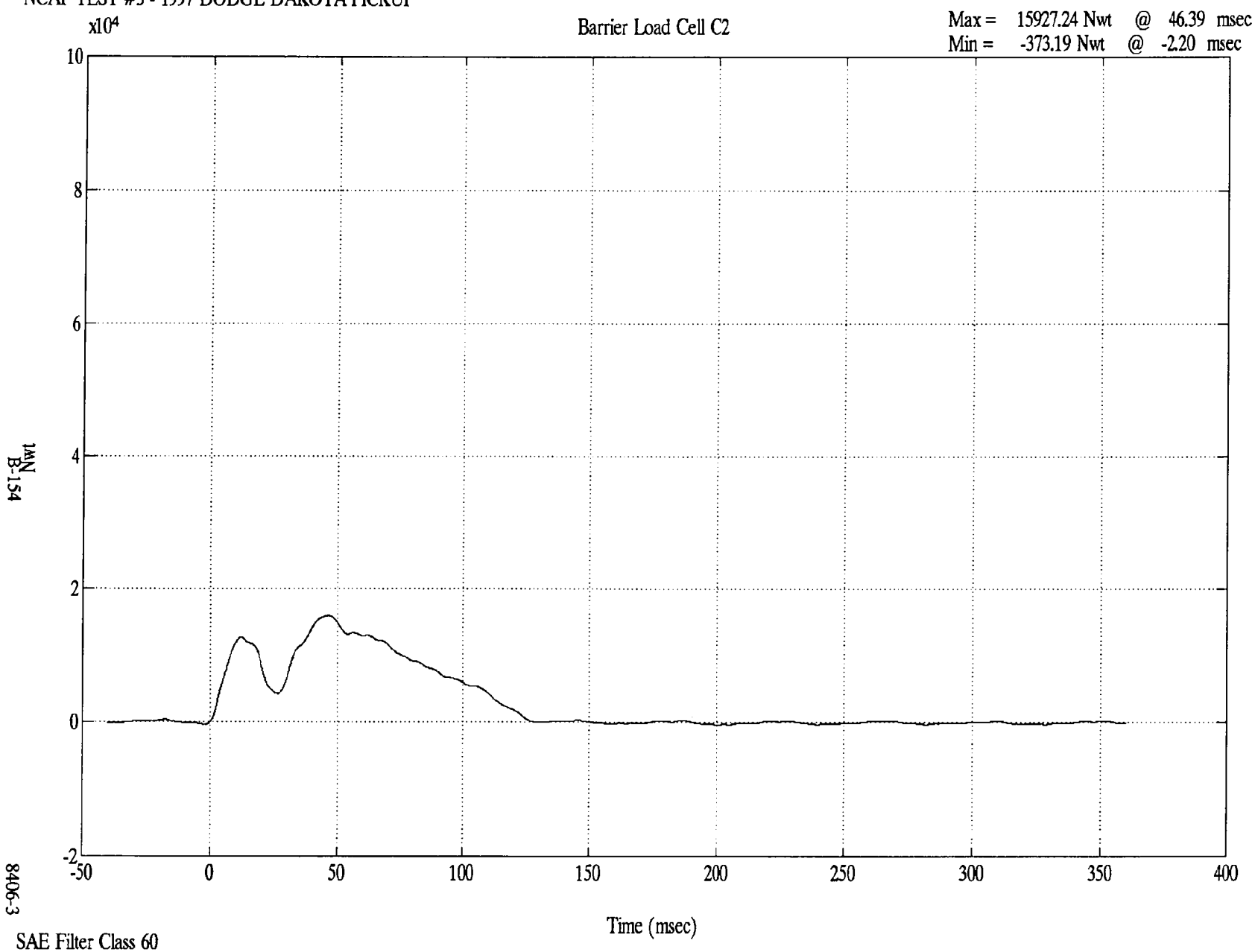


SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



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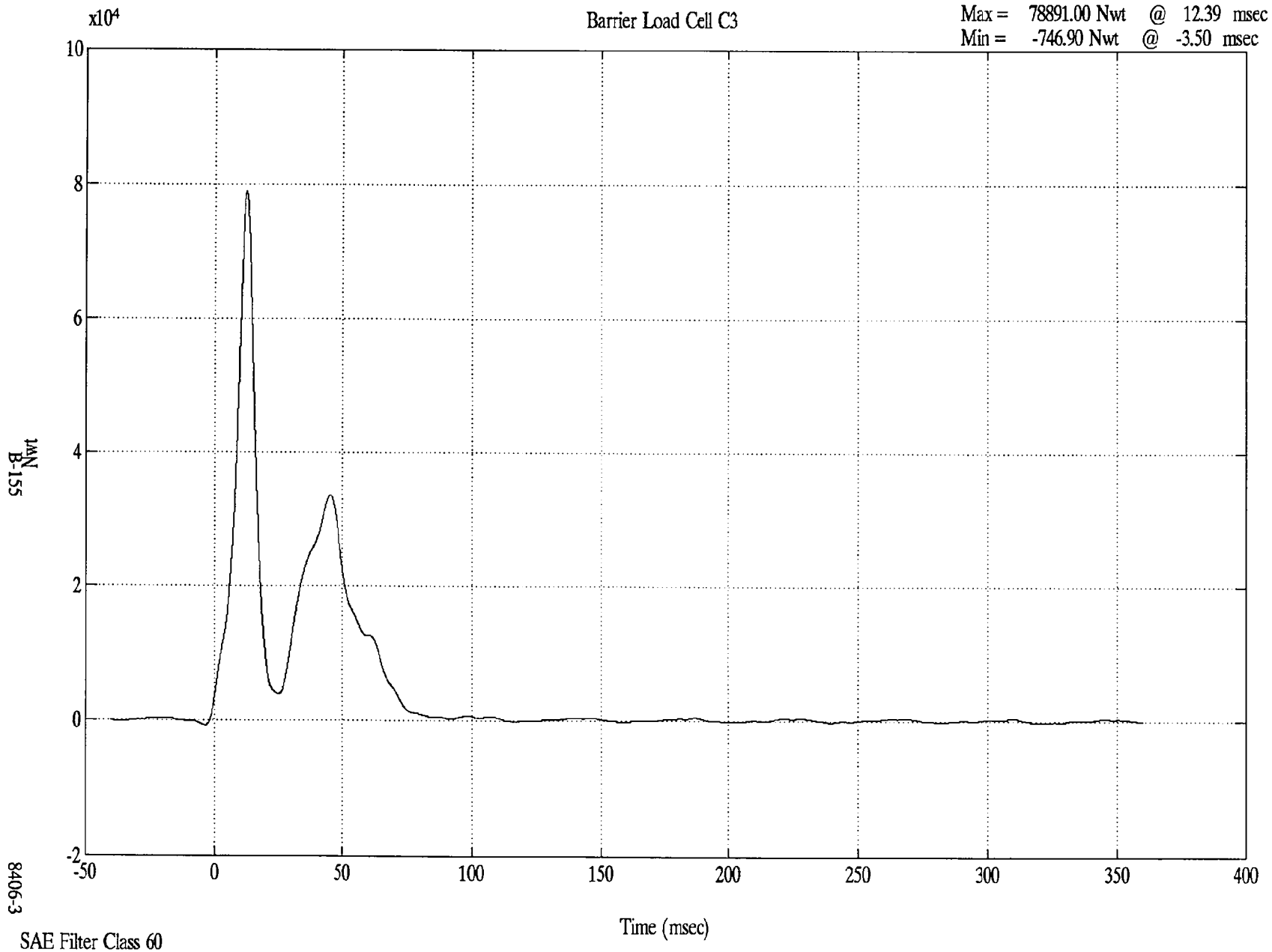
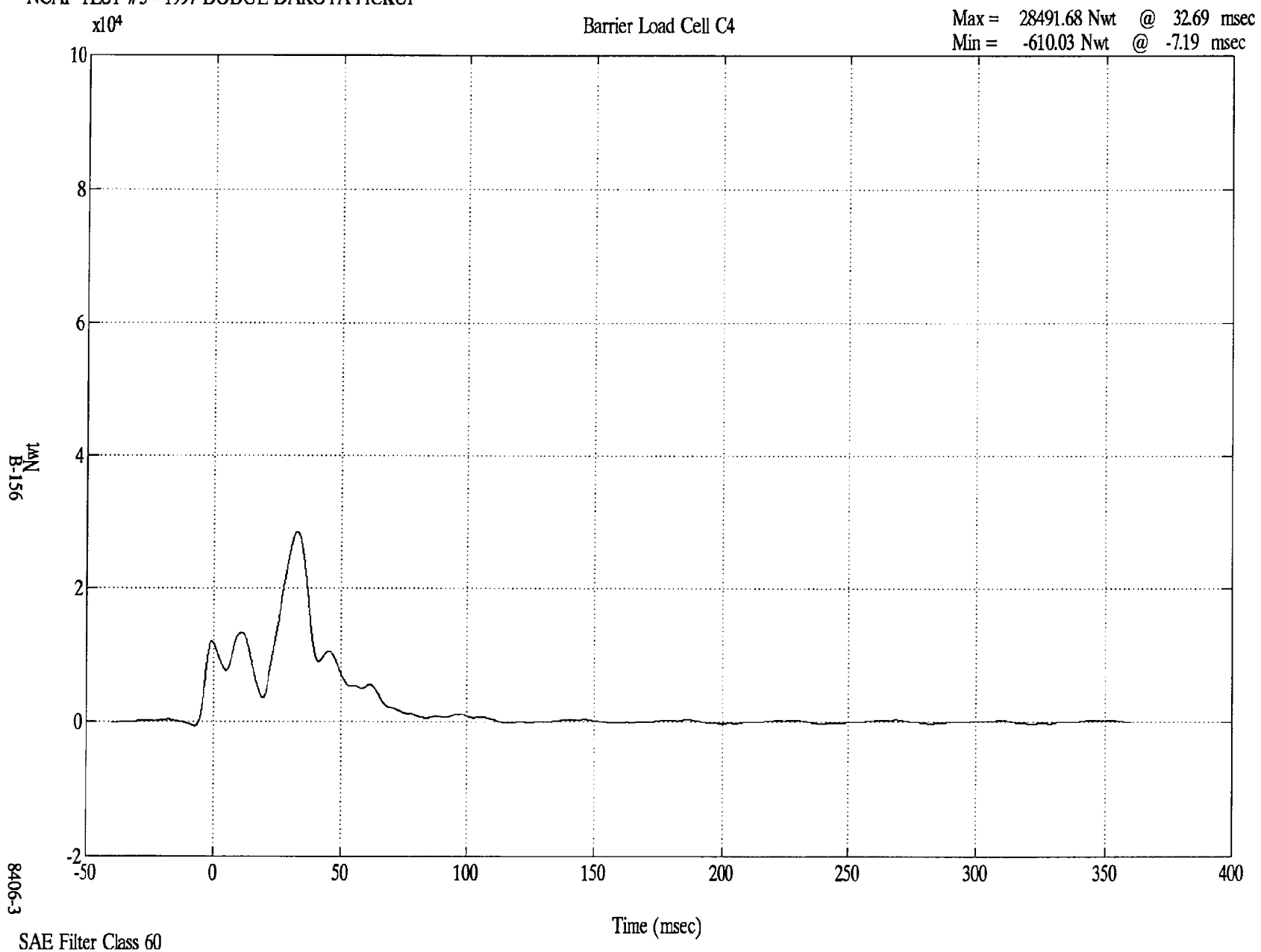
8406-3

SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

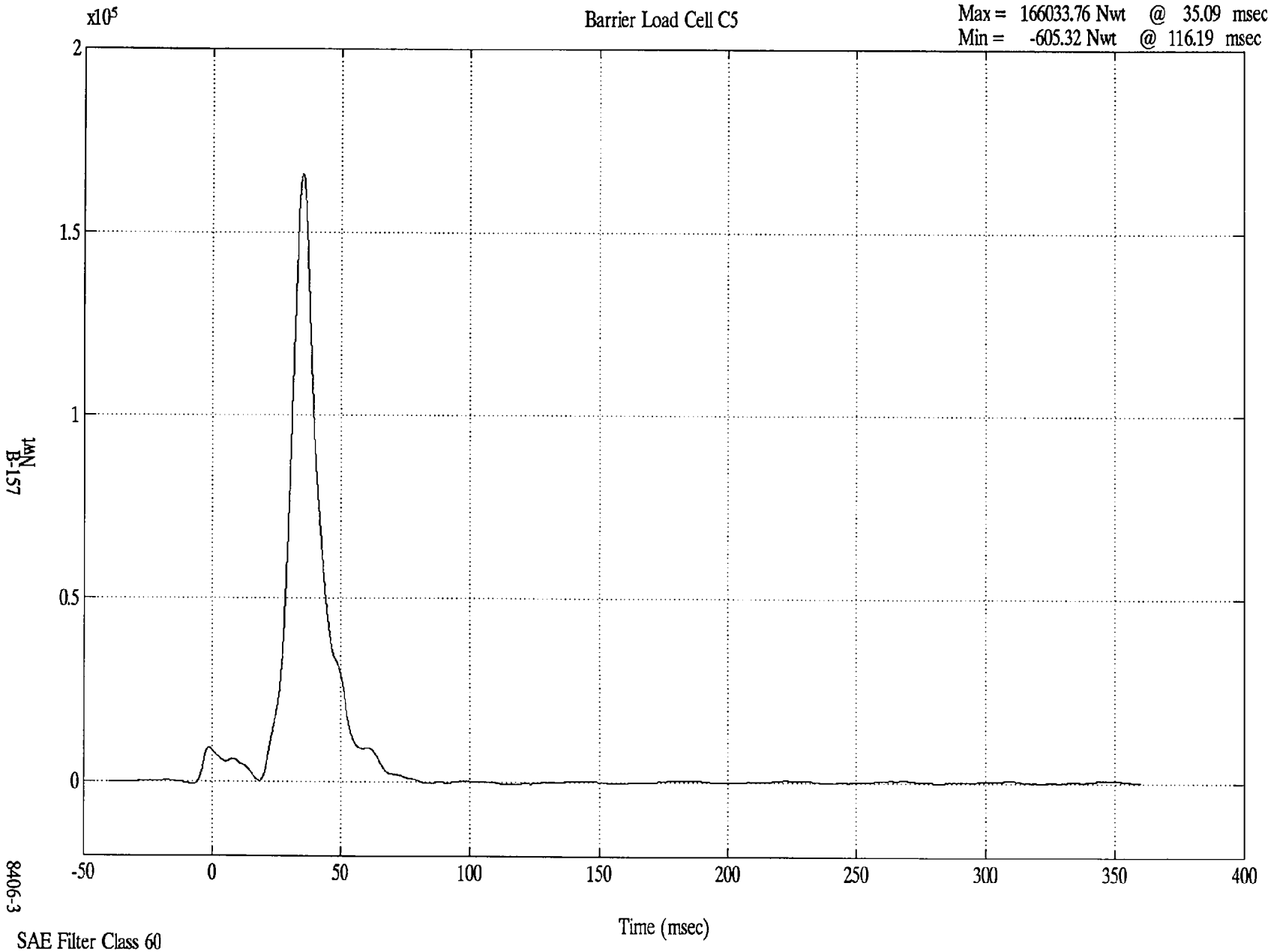


NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



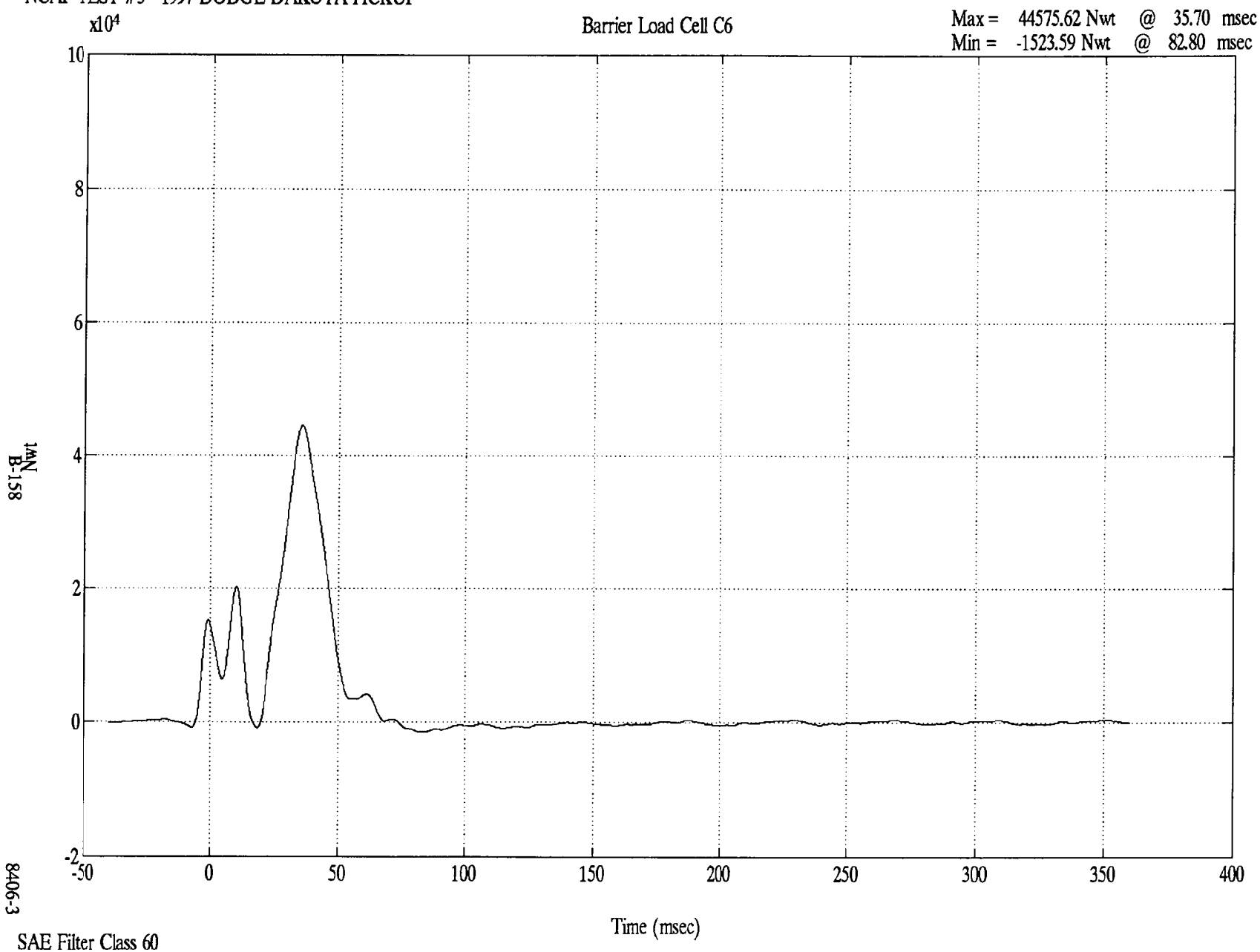
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

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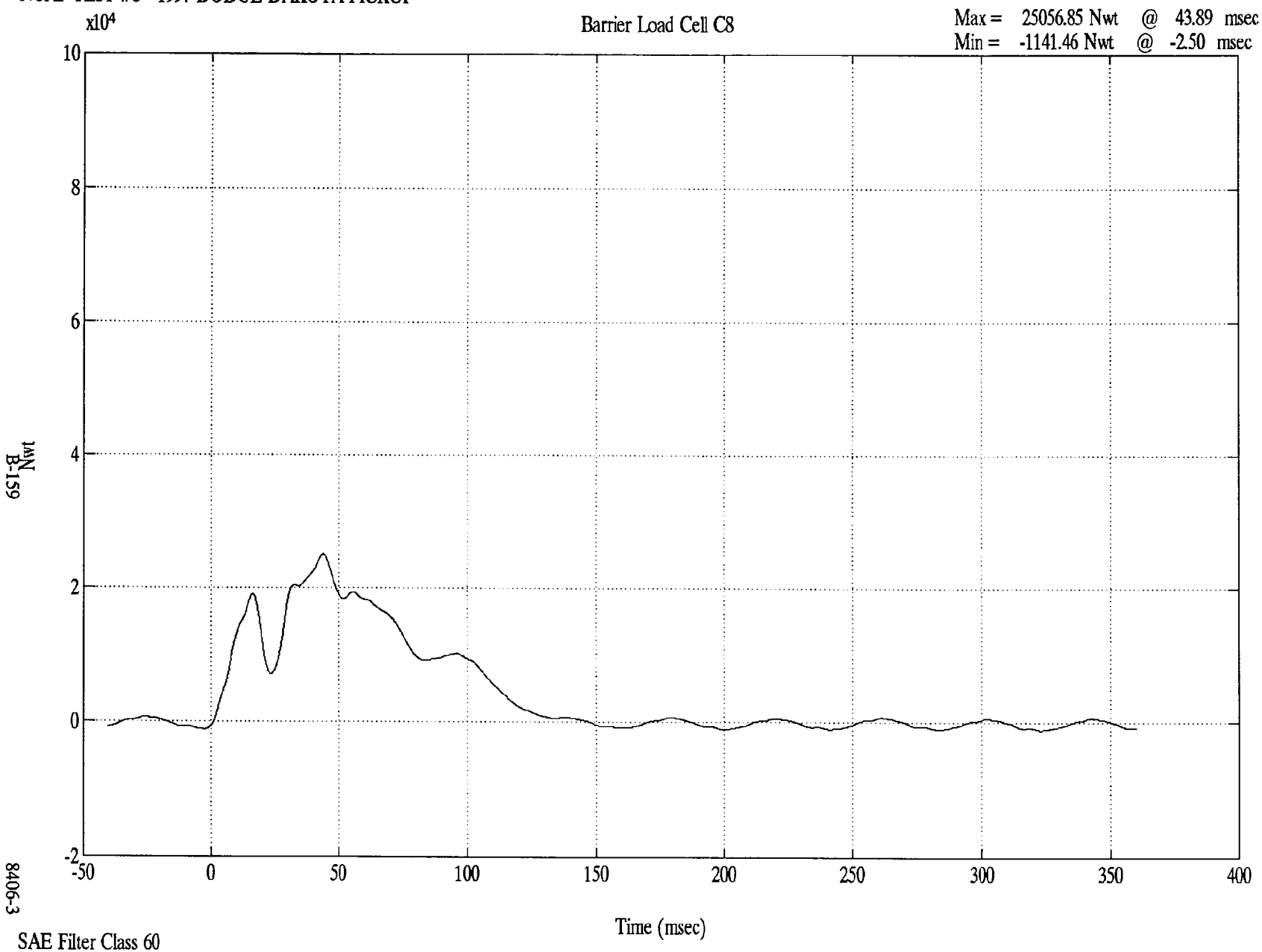
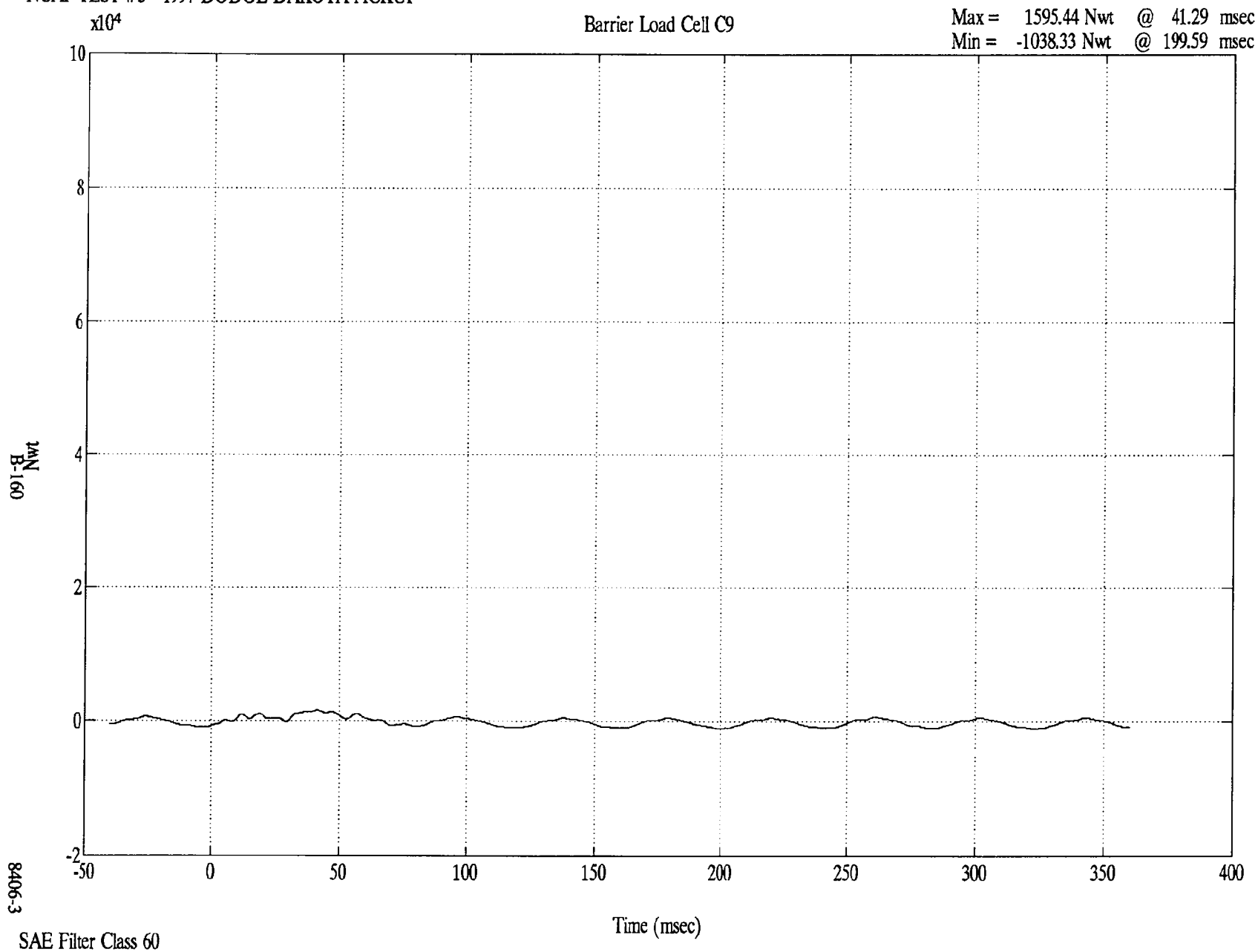


SAE Filter Class 60

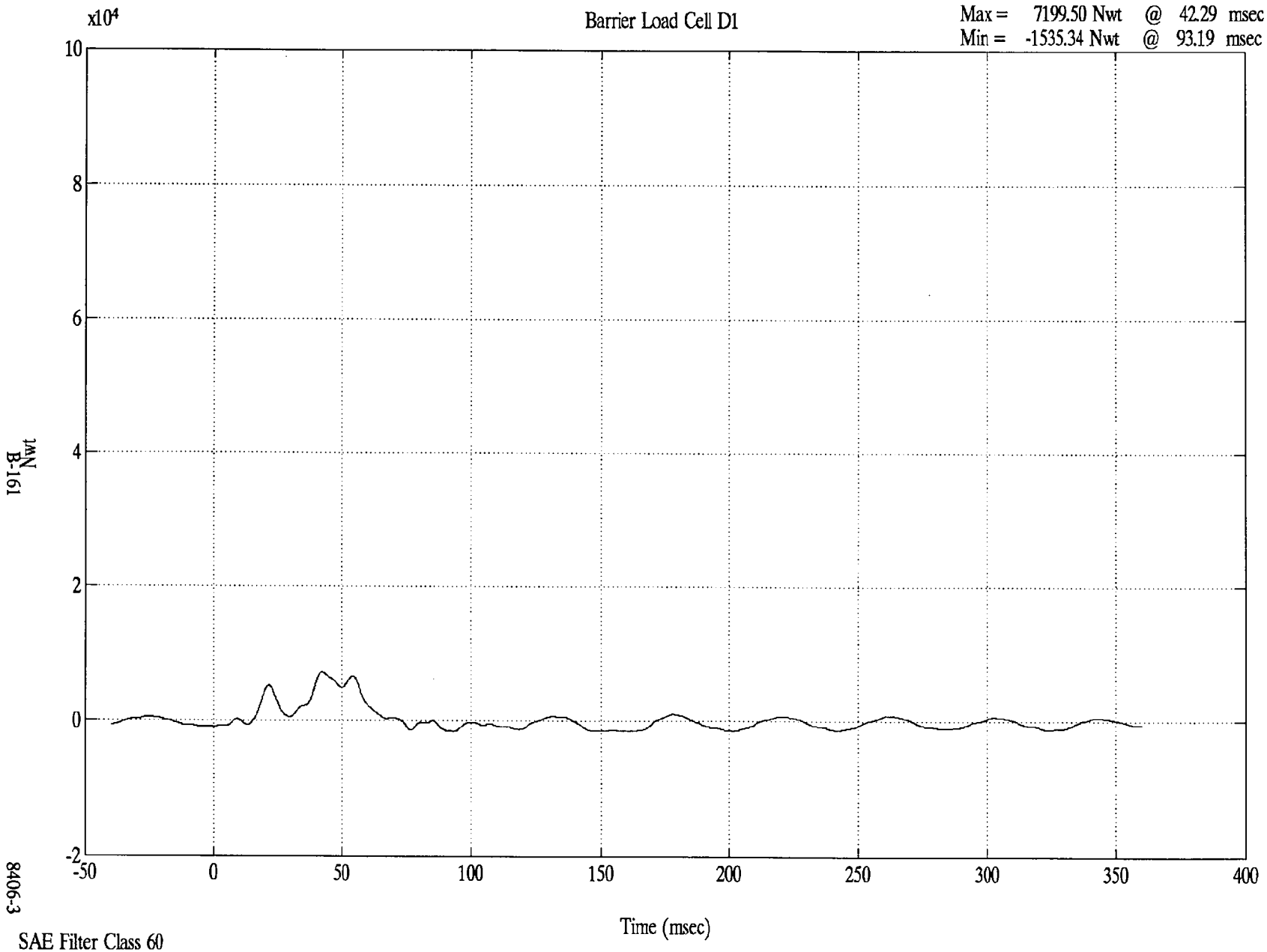
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

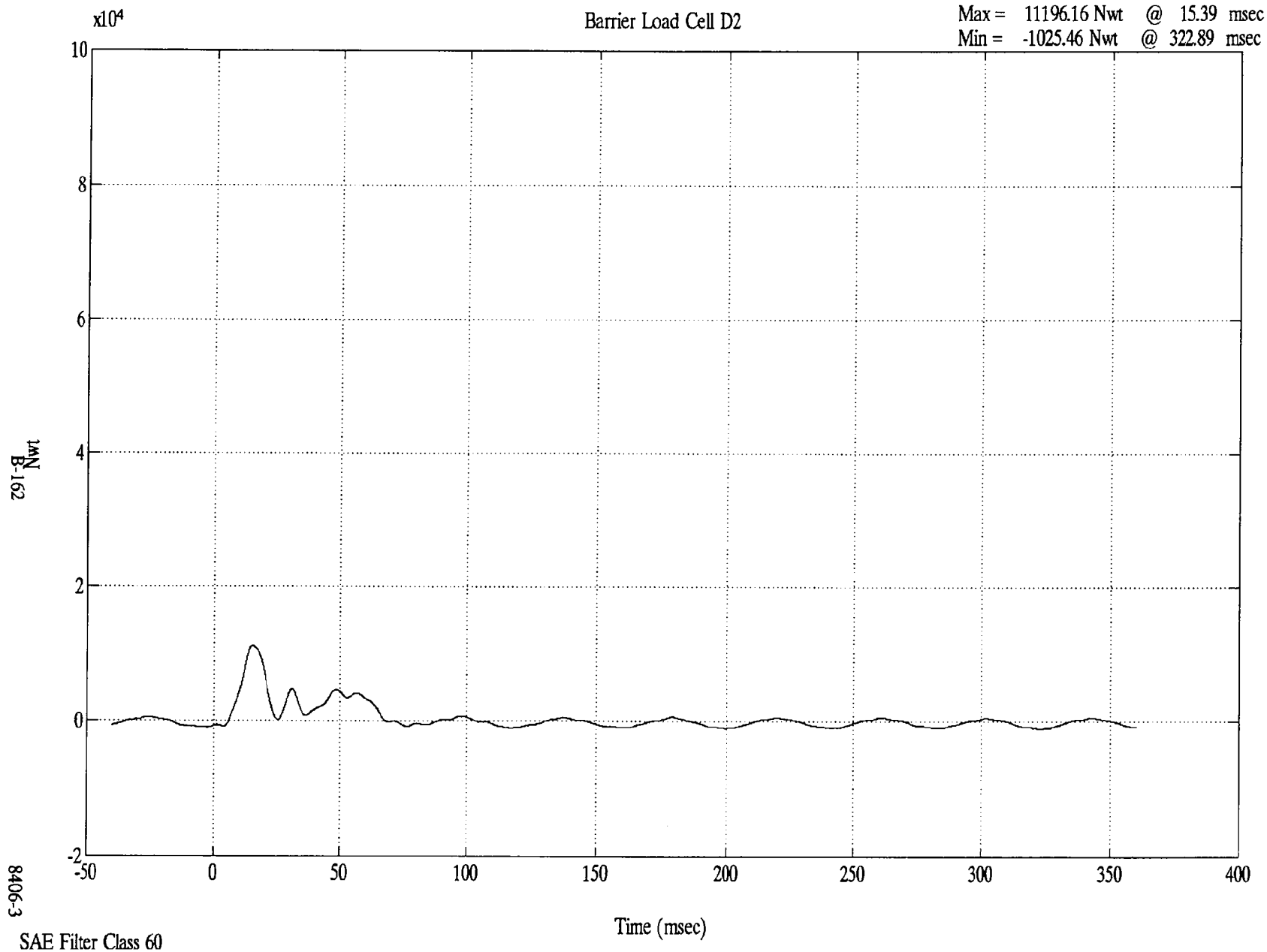
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



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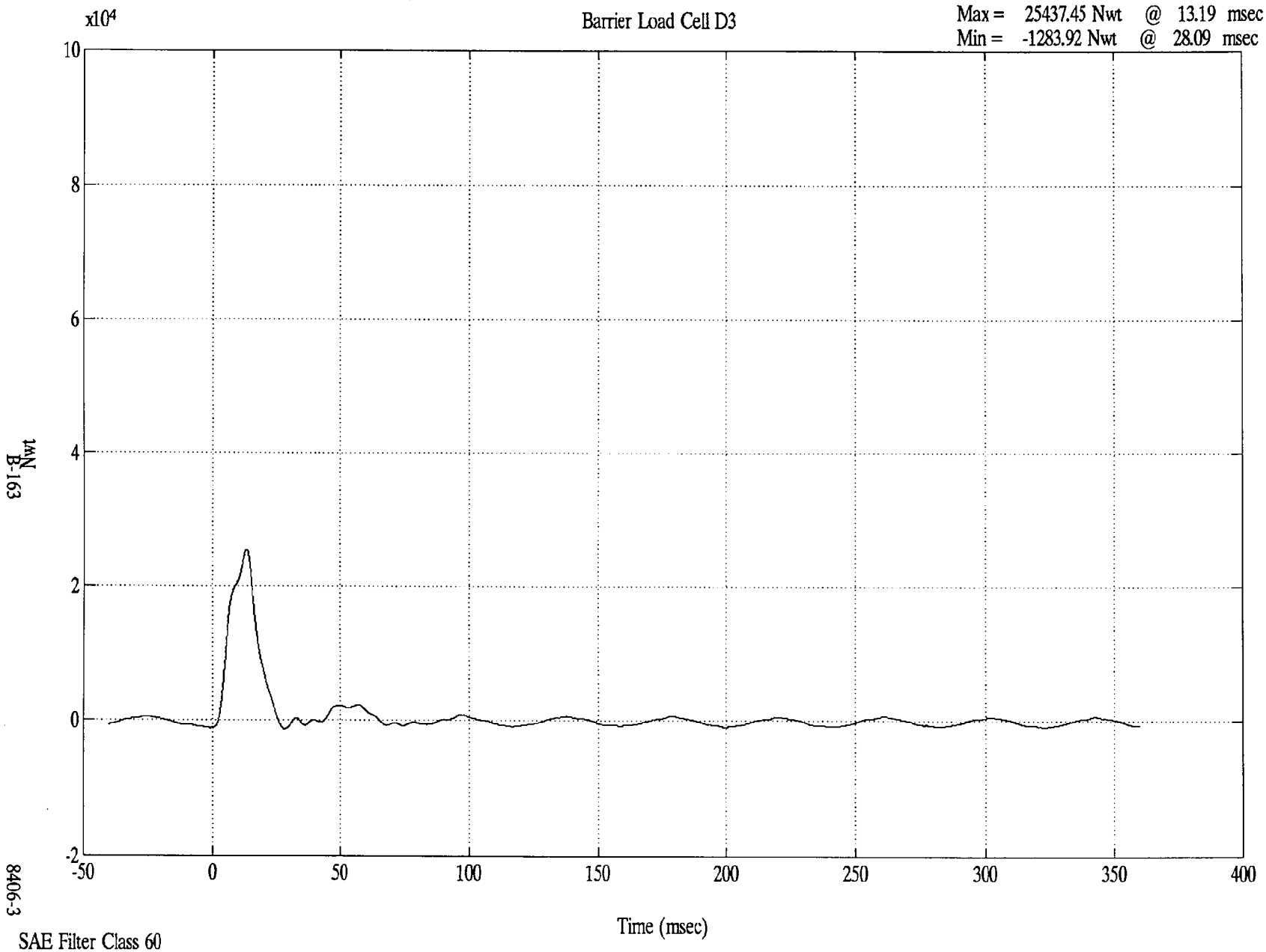
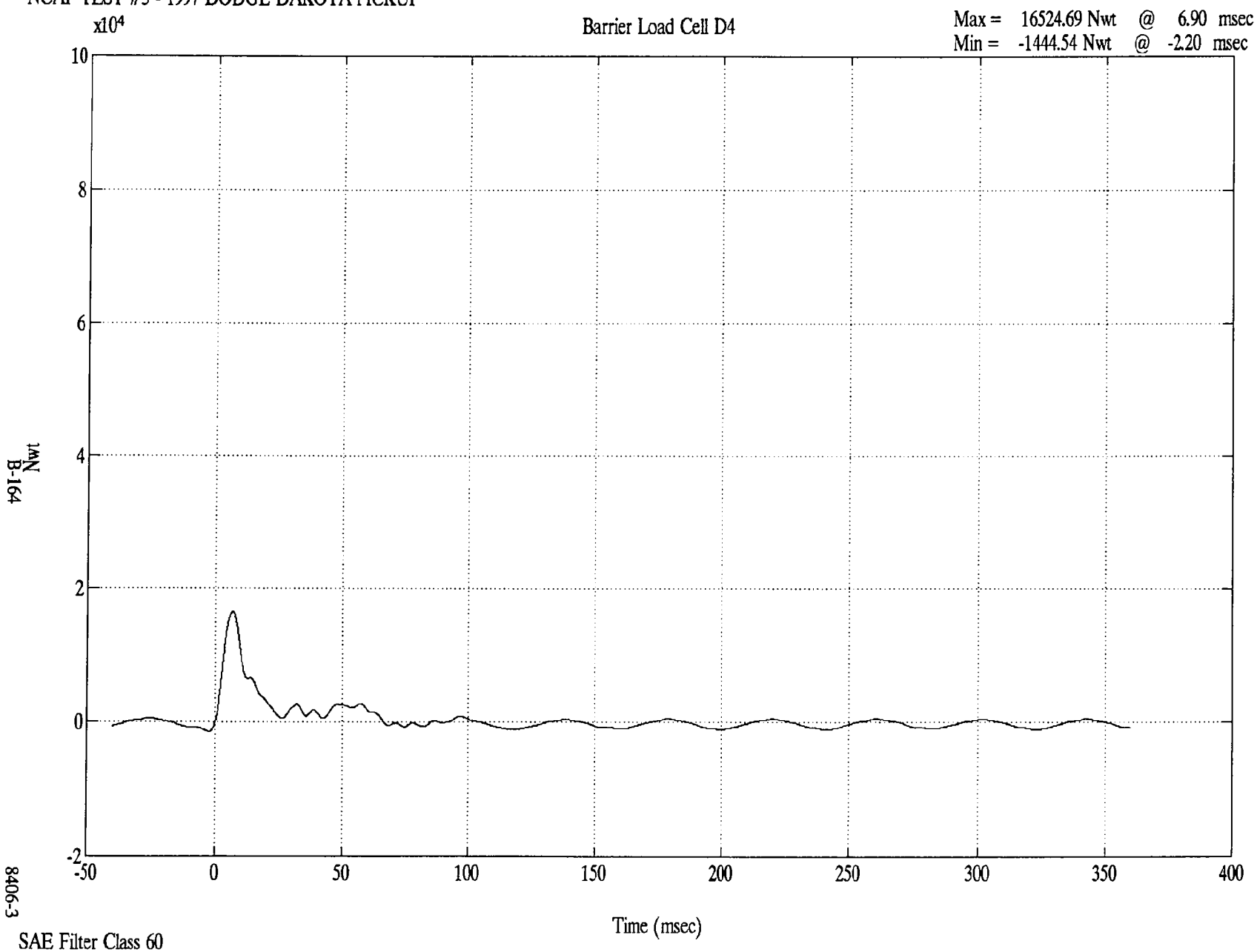
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



SAE Filter Class 60

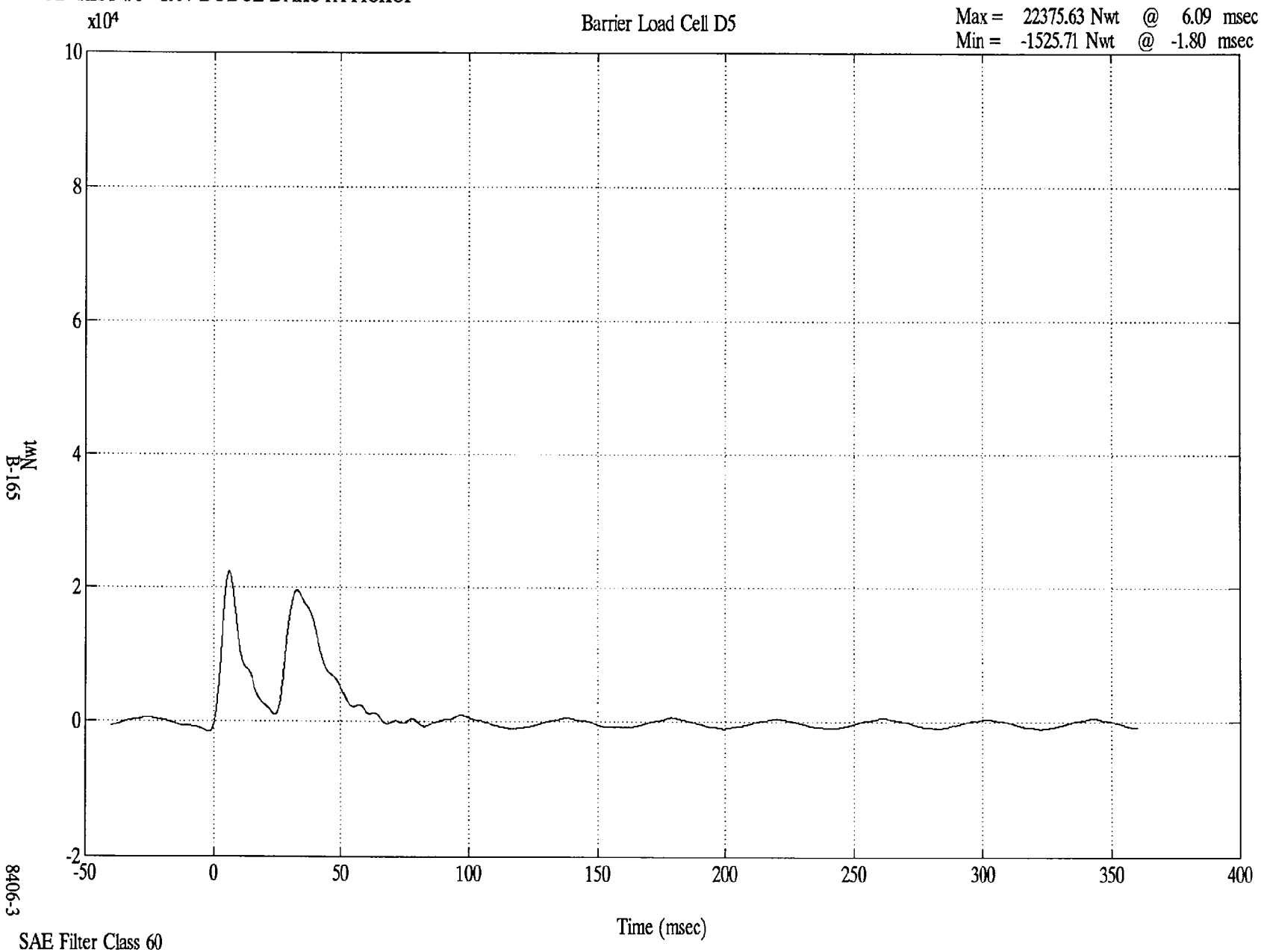
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 60

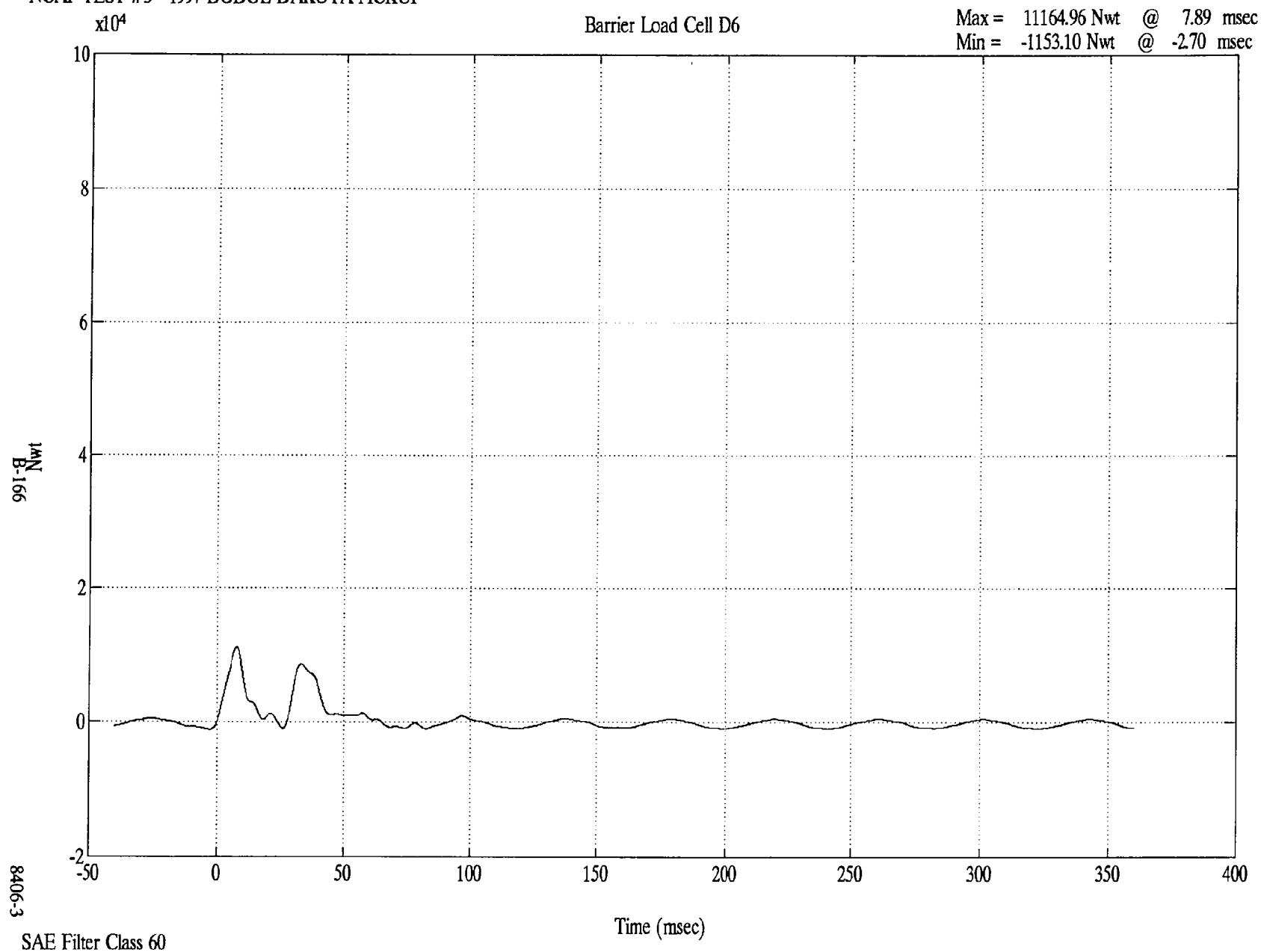
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



8406-3

SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



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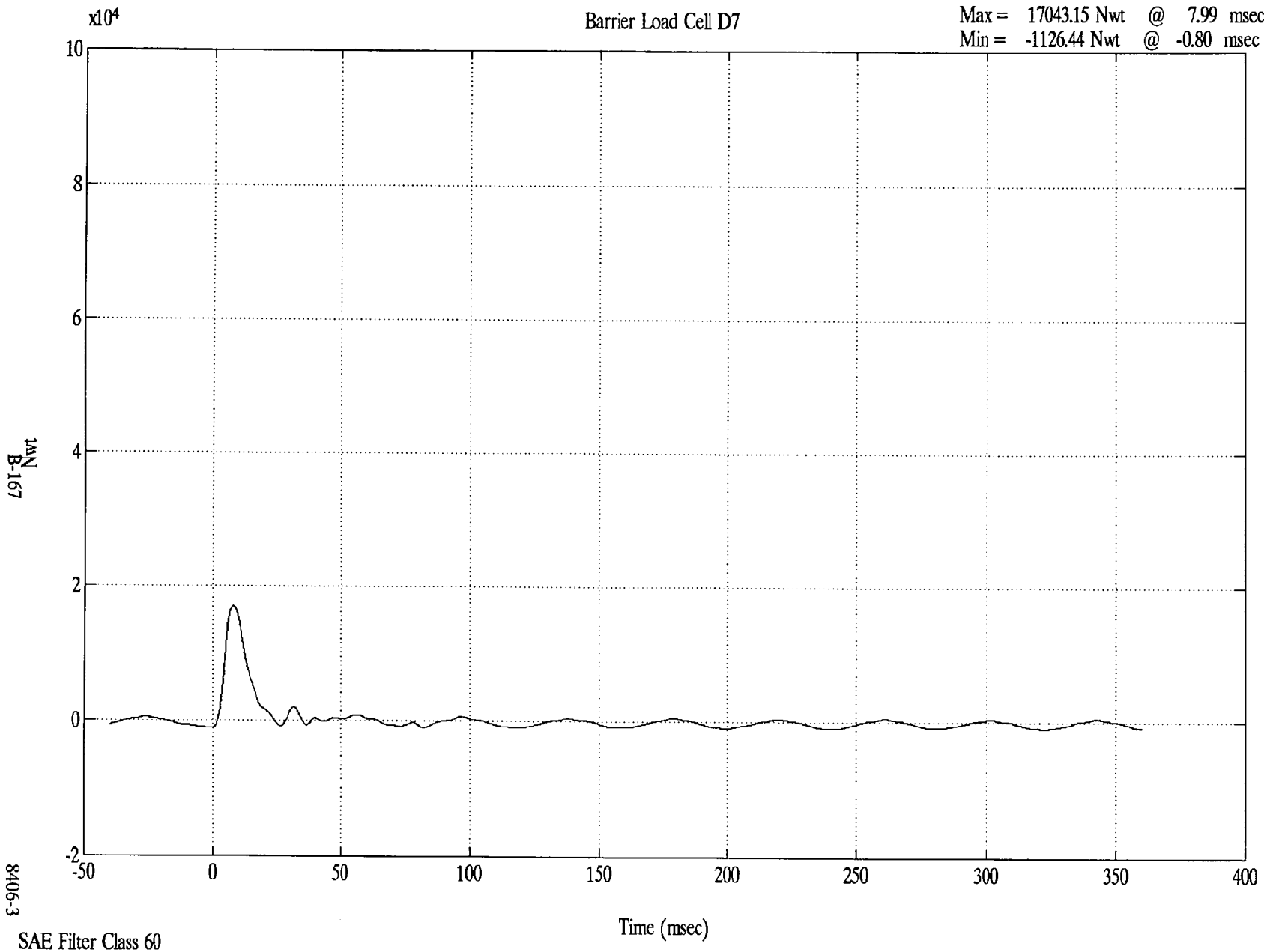
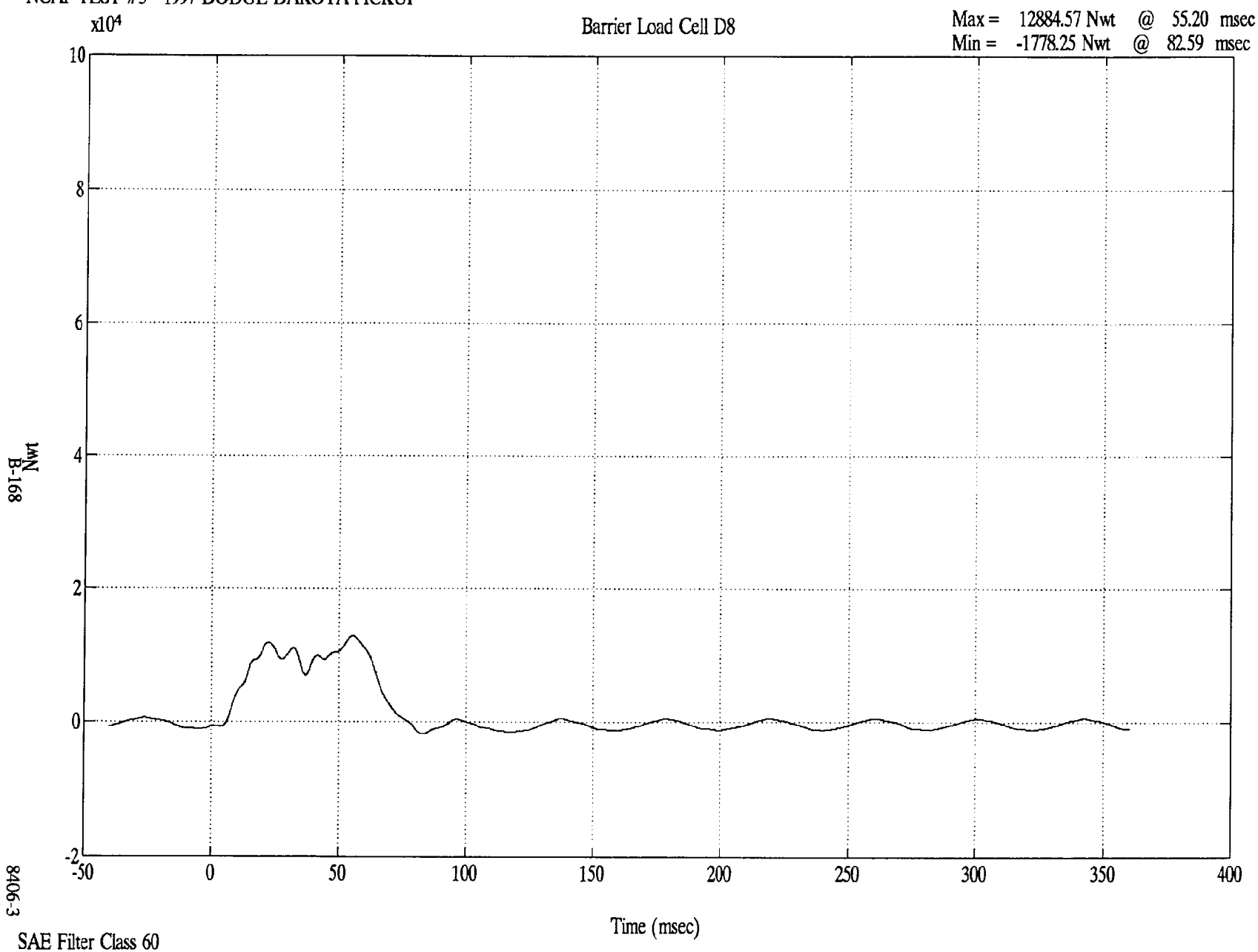
8406-3

SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

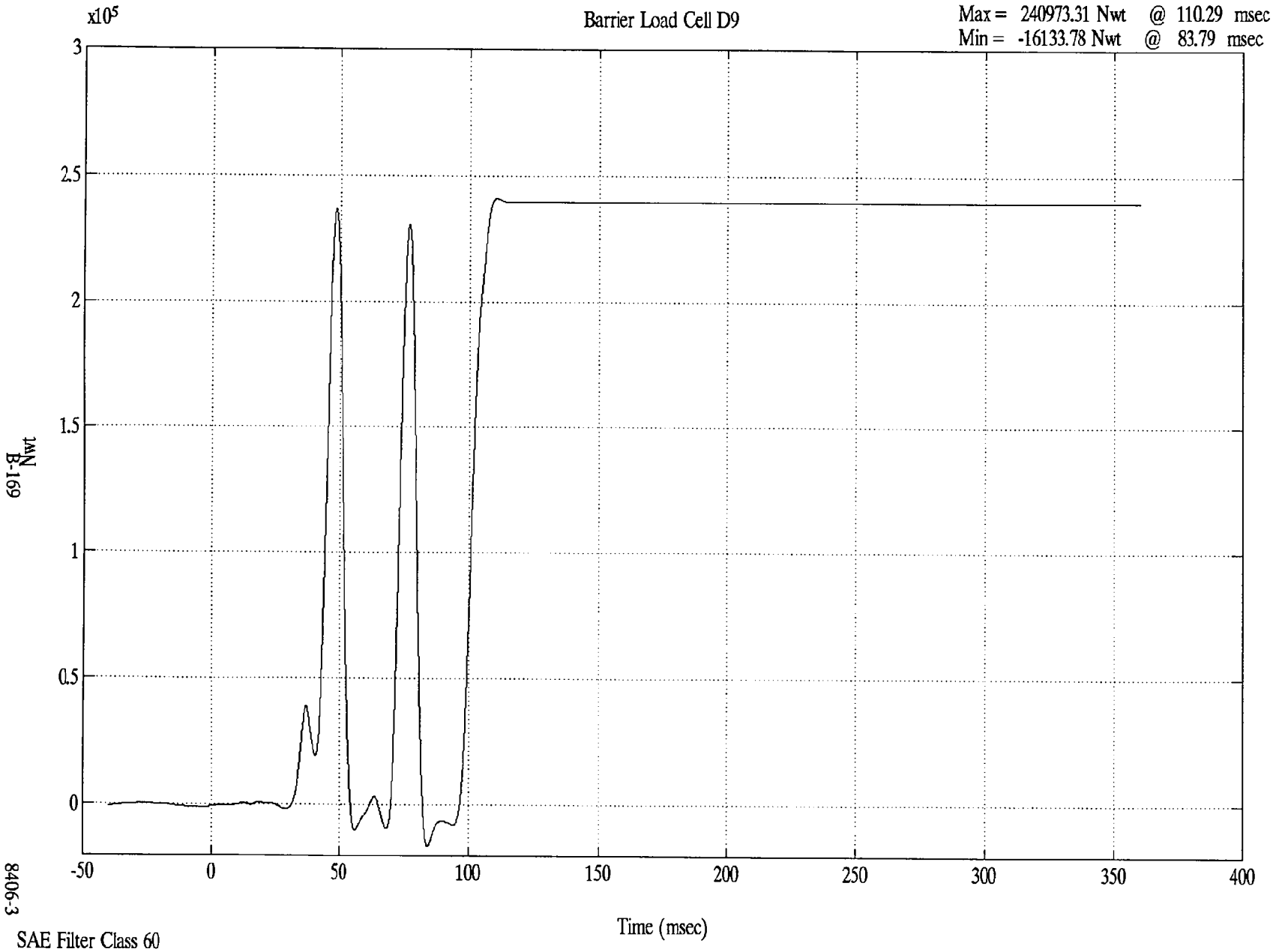


NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



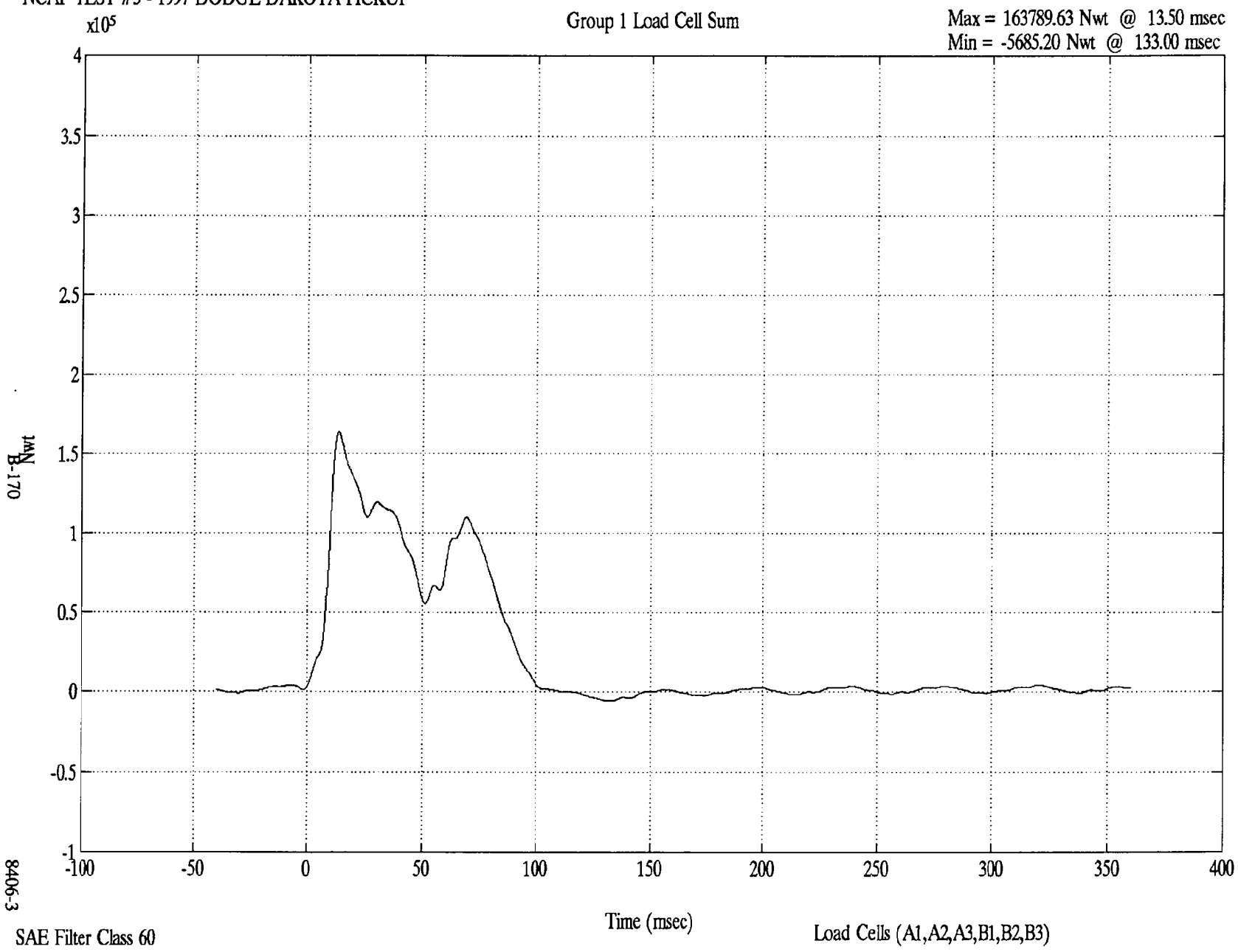
SAE Filter Class 60

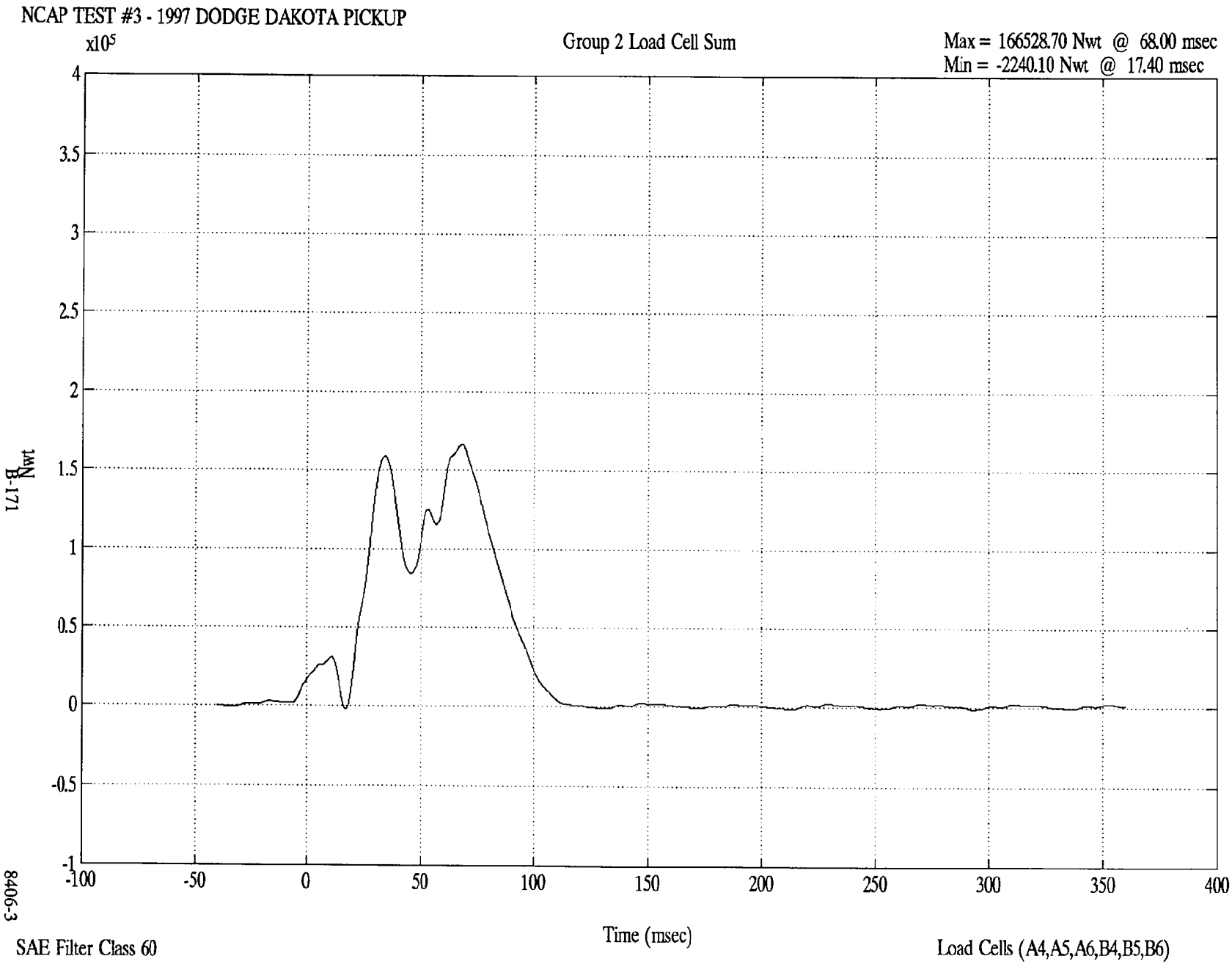
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



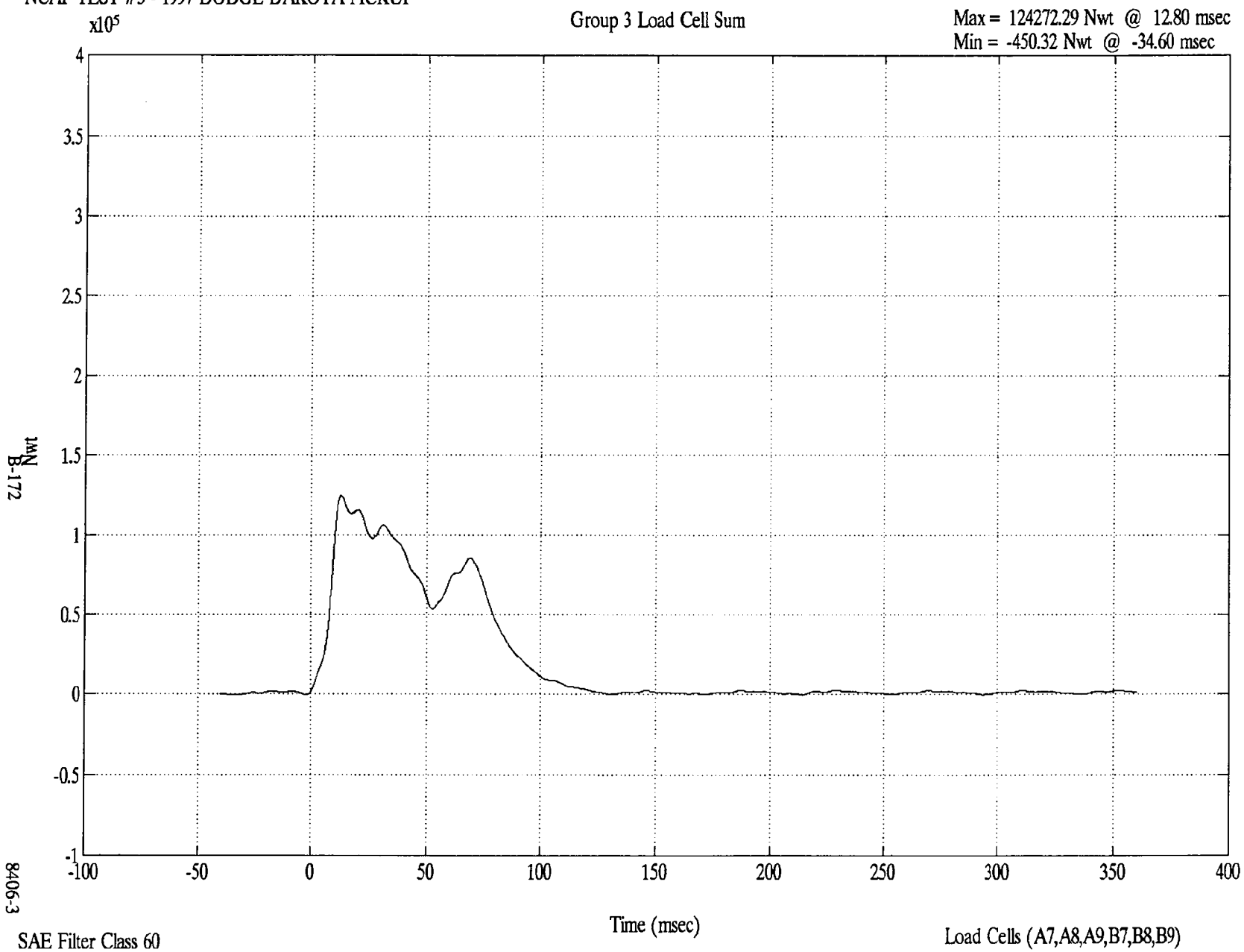
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP

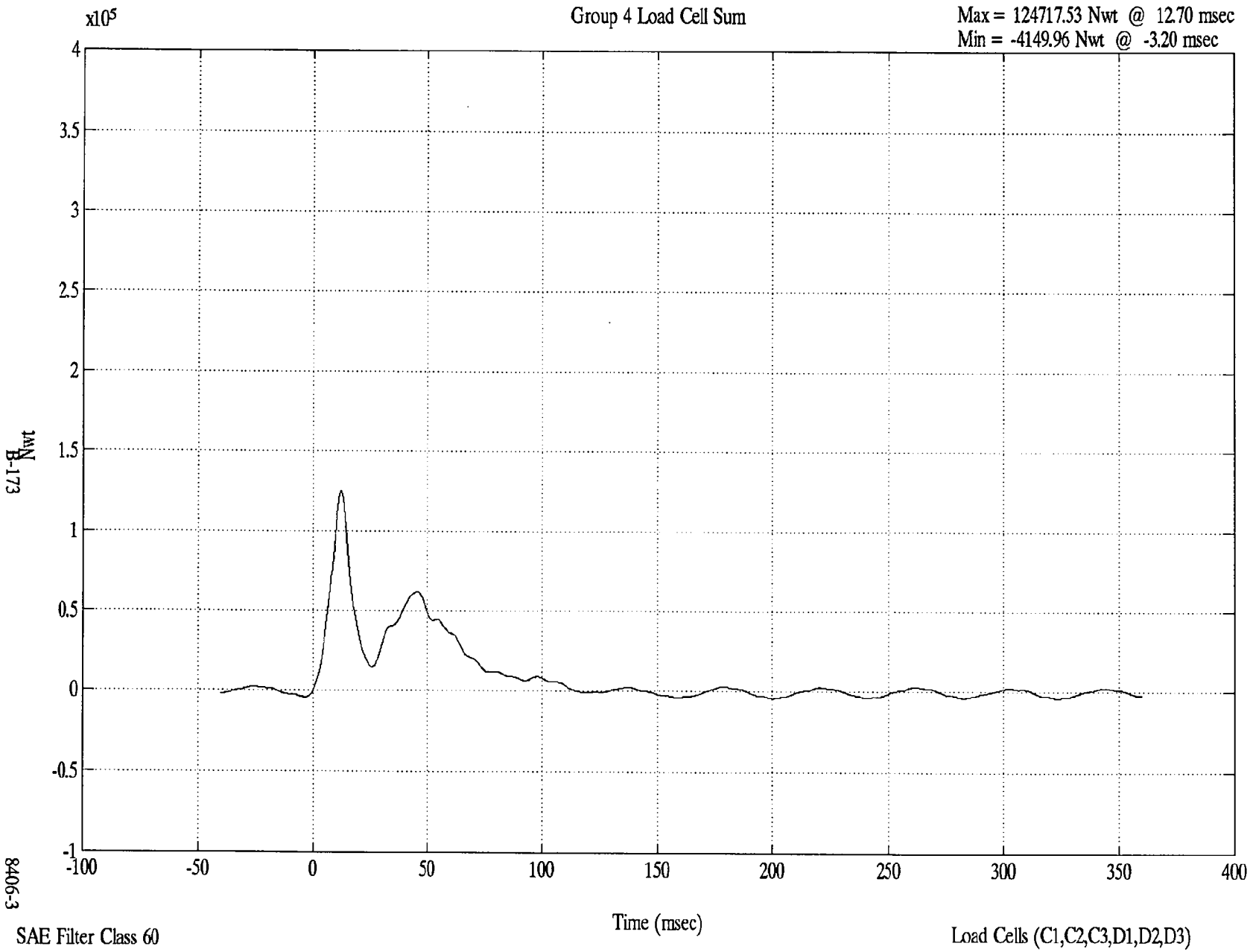



NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP
x10^5
Group 2 Load Cell Sum
Max = 166528.70 Nwt @ 68.00 msec
Min = -2240.10 Nwt @ 17.40 msec
4
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-100
-50
0
50
100
150
200
250
300
350
400
Time (msec)
B-171
Nwt
8406-3
SAE Filter Class 60
Load Cells (A4,A5,A6,B4,B5,B6)

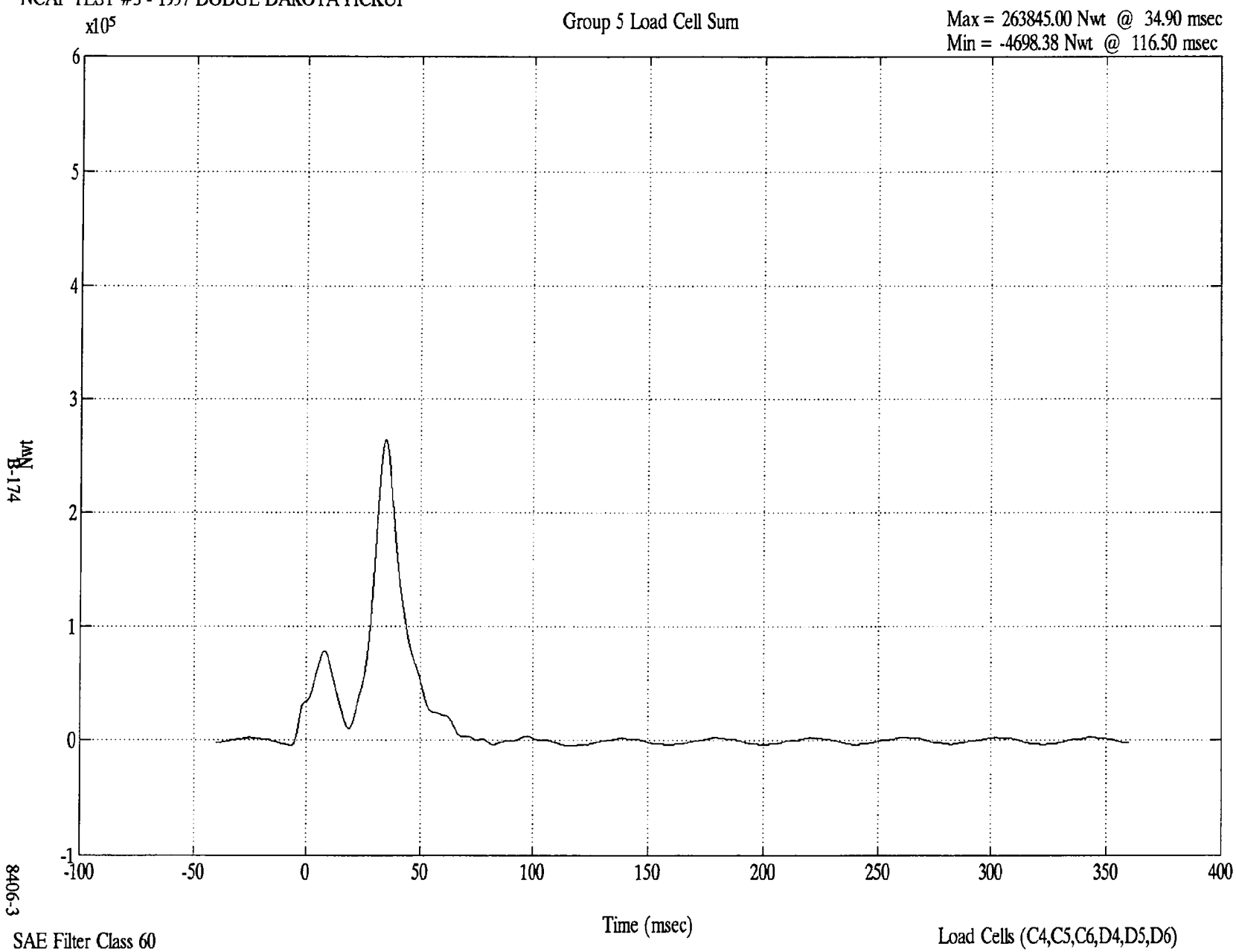
NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



NWA B-174

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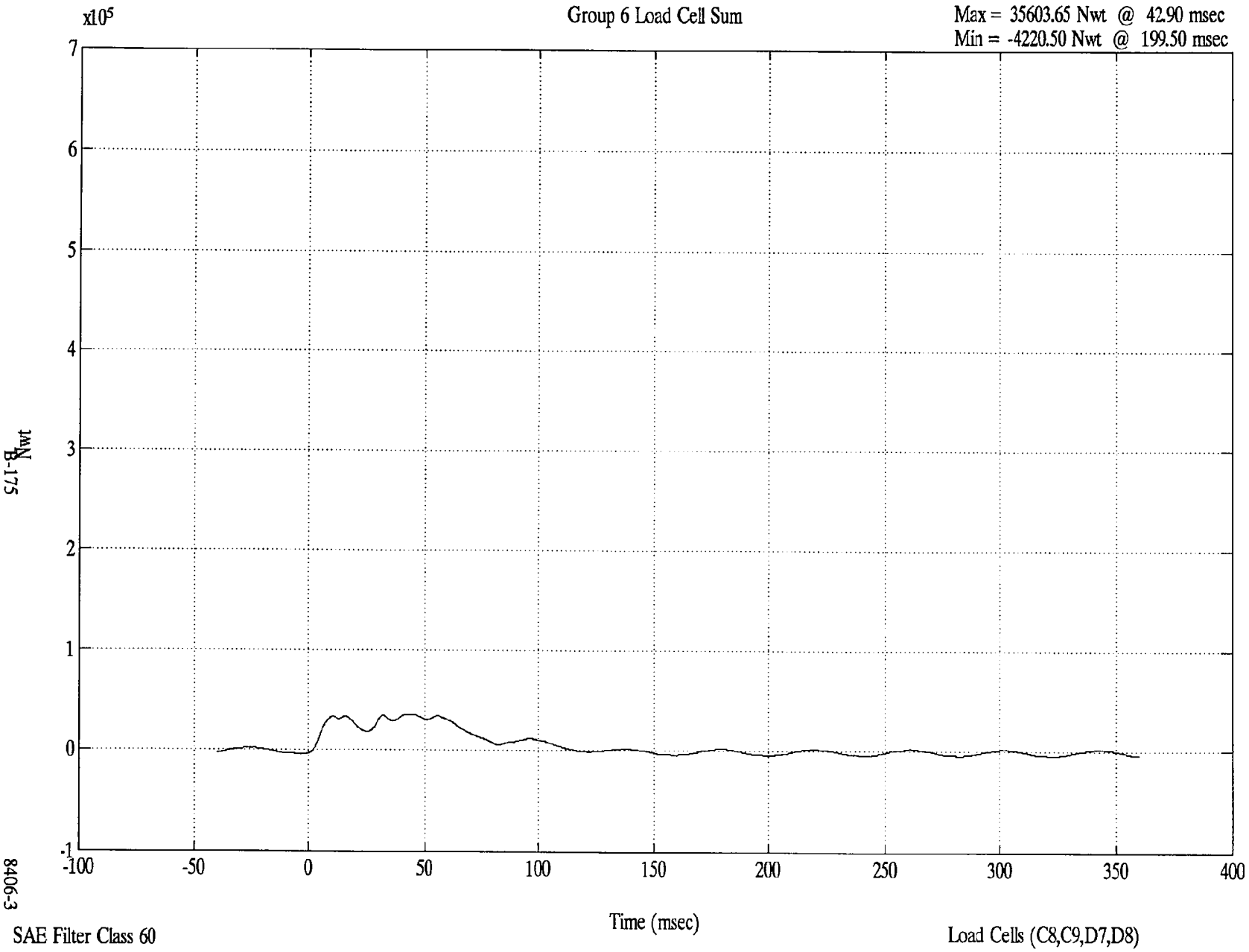
SAE Filter Class 60

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



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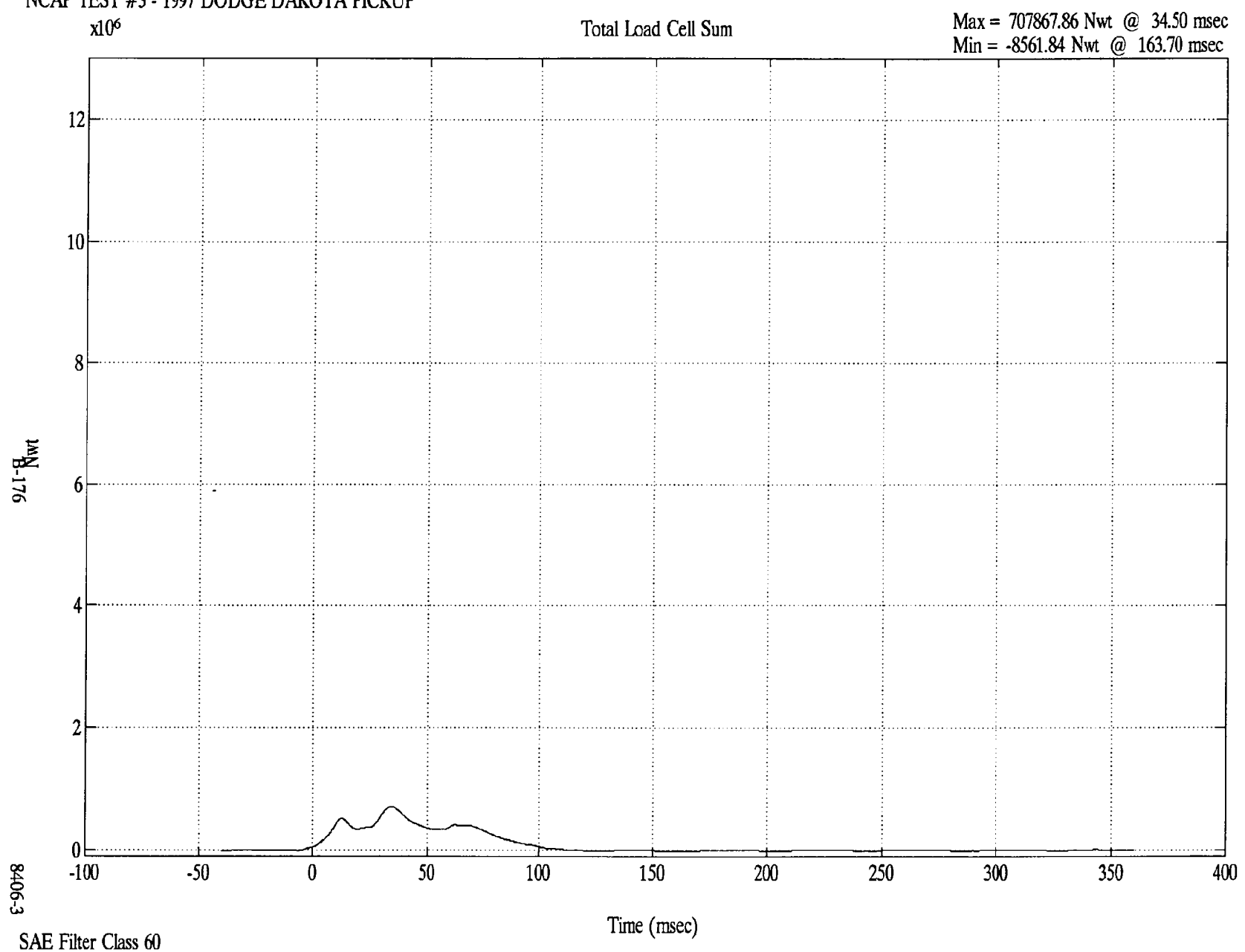
SAE Filter Class 60

Load Cells (C8,C9,D7,D8)

NCAP TEST #3 - 1997 DODGE DAKOTA PICKUP



B-176

8406-3

SAE Filter Class 60

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	150	9/19/96
#2/Right Front Passenger	061 (064 Head)	9/19/96

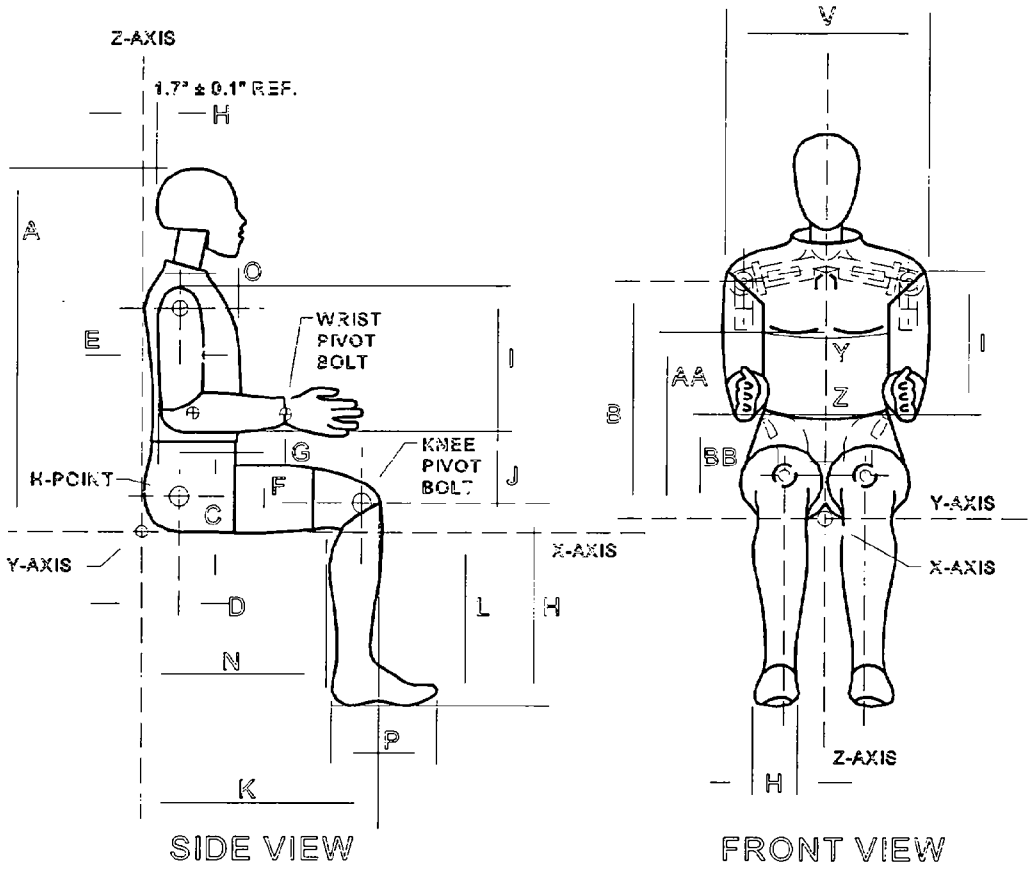
Electronic Test Equipment

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.

Figure 15

DUMMY CONFIGURATION DIMENSIONS

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)(8))

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
HEAD DROP TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	9/17/96
Workfile	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	55
Peak Resultant Acceleration	225-275 G's	255.5
Peak Lateral Acceleration	15 G's Max	14.8
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
NECK FLEXION TEST

Dummy Serial Number 150
Calspan Sequential Test Number 1
Date 9/16/96 6 Axis Neck Transducer
Workfile

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	45
Impact Velocity		22.60 - 23.40 Ft/s	23.2
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	23.66
	20 ms	17.60 - 22.60 G's	19.89
	30 ms	12.50 - 18.50 G's	16.24
Max Pendulum G's Above 30 ms		29 G's Max	16.24
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	35.88
D Plane Rotation	Max	64 - 78 Deg	68.08
	Time	57 - 64 ms	62.25
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	66.09
	Time	47 - 58 ms	49.88
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	121.13
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	99.00

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
NECK EXTENSION TEST

Dummy Serial Number	150	
Calspan Sequential Test Number	1	
Date	9/16/96	6 Axis Neck Transducer
Workfile		

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	45
Impact Velocity		19.50 - 20.30 Ft/s	19.70
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.63
	20 ms	14.00 - 19.00 G's	15.68
	30 ms	11.00 - 16.00 G's	13.81
Max Pendulum G's Above 30 ms		22 G's Max	13.81
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	38.63
D Plane Rotation	Max	81 - 106 Deg	92.29
	Time	72 - 82 ms	78.13
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	43.80
	Time	65 - 79 ms	71.75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	155.50
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	140.13

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	9/17/96
Workfile	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	53
Pendulum Velocity	21.6 - 22.4 Ft/s	22.00
Maximun Deflection	2.50 - 2.86 in	2.69
Maximum Resistive Force	1160 - 1325 Lbs	1260.42
Internal Hysteresis	69 - 85 %	70.99

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
KNEE IMPACT TEST

Dummy Serial Number	150
Calspan Sequential Test Number	1
Date	9/16/96
Workfile	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	55
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 -1300 Lbs	1147
RIGHT KNEE		
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	55
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 -1300 Lbs	1144

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number 150
Calspan Sequential Test Number 1
Date 9/19/96

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			45
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	23.4
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

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
HEAD DROP TEST

Dummy Serial Number	064
Calspan Sequential Test Number	1
Date	9/19/96
Workfile	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	45
Peak Resultant Acceleration	225-275 G's	271.2
Peak Lateral Acceleration	15 G's Max	2.0
Is Acceleration Curve Unimodal?	YES	Yes

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
NECK FLEXION TEST

Dummy Serial Number	061	
Calspan Sequential Test Number	1	
Date	9/20/96	6 Axis Neck Transducer
Workfile		

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	45
Impact Velocity		22.60 - 23.40 Ft/s	23.20
Pendulum Deceleration	10 ms	22.50 - 27.50 G's	22.62
	20 ms	17.60 - 22.60 G's	19.31
	30 ms	12.50 - 18.50 G's	15.03
Max Pendulum G's Above 30 ms		29 G's Max	15.03
Deceleration - Time Curve Decay Time to 5 G's		34 - 42 ms	41.38
D Plane Rotation	Max	64 - 78 Deg	64.29
	Time	57 - 64 ms	60.88
Moment About Occipital Condyle	Max	65 - 80 Ft-Lbs	70.32
	Time	47 - 58 ms	53.63
Rotation Angle - Time Curve Decay Time to Zero		113 - 128 ms	114.88
Positive Moment - Time Curve Decay Time to Zero		97 - 107 ms	102.00

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
NECK EXTENSION TEST

Dummy Serial Number 061
Calspan Sequential Test Number 1
Date 9/20/96 6 Axis Neck Transducer
Workfile

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature		69-72 Deg F	70
Relative Humidity		10% - 70%	45
Impact Velocity		19.50 - 20.30 Ft/s	19.70
Pendulum Deceleration	10 ms	17.20 - 21.20 G's	17.44
	20 ms	14.00 - 19.00 G's	16.07
	30 ms	11.00 - 16.00 G's	12.88
Max Pendulum G's Above 30 ms		22 G's Max	12.88
Deceleration - Time Curve Decay Time to 5 G's		38 - 46 ms	41.00
D Plane Rotation	Max	81 - 106 Deg	89.88
	Time	72 - 82 ms	77.50
Moment About Occipital Condyle	Max	-59.0 - -39.0 Ft-Lbs	-39.94
	Time	65 - 79 ms	71.75
Rotation Angle - Time Curve Decay Time to Zero		147 - 174 ms	154.38
Positive Moment - Time Curve Decay Time to Zero		120 - 148 ms	146.00

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
THORAX IMPACT TEST

Dummy Serial Number	061
Calspan Sequential Test Number	1
Date	9/20/96
Workfile	

TEST PARAMETER	SPECIFICATION	TEST RESULTS
Temperature	69-72 Deg F	70
Relative Humidity	10% - 70%	45
Pendulum Velocity	21.6 - 22.4 Ft/s	22.00
Maximun Deflection	2.50 - 2.86 in	2.51
Maximum Resistive Force	1160 - 1325 Lbs	1280.37
Internal Hysteresis	69 - 85 %	72.5

Remarks:

Laboratory Technician: B. Swiecicki

CALSPAN CORPORATION
Transportation Sciences Center

PART 572E
KNEE IMPACT TEST

Dummy Serial Number 061
Calspan Sequential Test Number 1
Date 9/19/96
Workfile

TEST PARAMETER	SPECIFICATION	TEST RESULTS
LEFT KNEE		
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	45
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 -1300 Lbs	1169
RIGHT KNEE		
Temperature	66-78 Deg F	70
Relative Humidity	10% - 70%	45
Probe Velocity	6.8 - 7.0 Ft/s	7.00
Peak Knee Impact Force	1060 -1300 Lbs	1154

Remarks:

Laboratory Technician: B. Swiecicki

PART 572E
EXTERNAL DIMENSIONS

Dummy Serial Number	061
Calspan Sequential Test Number	1
Date	9/19/96

TEST PARAMETER		SPECIFICATION	TEST RESULTS
Temperature			70
Relative Humidity			45
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	38.8
Waist Circumference	Z	32.9 - 34.1 in	33.3
Chest Depth	O	8.4 - 9.0 in	8.6
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	6.0
Buttock Knee Length	K	22.8 - 23.8 in	23.6
Buttock Popliteal Length	N	17.8 - 18.8 in	18.4
Popliteal Height	L	16.9 - 17.9 in	17.3
Knee Pivot Height	M	19.1 - 19.7 in	19.4
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	3.6
Shoulder Breadth	V	16.6 - 17.2 in	16.8
Shoulder Pivot Height	B	19.9 20.5 in	20.4
Elbow Rest Height	J	7.5 - 8.3 in	8.0
Shoulder - Elbow Length	I	13.0 - 13.6 in	13.3
Back of Elbow to Wrist Pivot	G	11.4 - 12.0 in	11.6

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 150)		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X	ADL98	ENDEVCO	1/97	7/97
	Y	AE8K0	ENDEVCO	1/97	7/97
	Z	ADMB6	ENDEVCO	1/97	7/97
Chest	X	A26A	ENDEVCO	1/97	7/97
	Y	A27A	ENDEVCO	1/97	7/97
	Z	A51A	ENDEVCO	1/97	7/97
Right Femur Load Cell		952	GSE	1/97	7/97
Left Femur Load Cell		951	GSE	1/97	7/97
Neck Load Cell	X	440	DENTON	1/97	7/97
	Y	440	DENTON	1/97	7/97
	Z	440	DENTON	1/97	7/97
Neck Moment	X	440	DENTON	1/97	7/97
	Y	440	DENTON	1/97	7/97
	Z	440	DENTON	1/97	7/97
Chest Deflection Gauge		150	HUMANOID	1/97	7/97
Hybrid III Use Only					
Lap Belt Load Cells		706	LEBOW	12/96	6/97
Shoulder Belt Load Cells		707	LEBOW	12/96	6/97
Spool-Out Potentiometer		M11	MAGNETEK	1/97	7/97
Belt Stretch Transducer		E1	CALSPAN	1/97	7/97

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X (R)	AP1A0	ENDEVCO	1/97	7/97
	Y (R)	AC8F6	ENDEVCO	1/97	7/97
	Z (R)	ACCW0	ENDEVCO	1/97	7/97
Chest	X (R)	AHRC9	ENDEVCO	1/97	7/97
	Y (R)	AC7W8	ENDEVCO	1/97	7/97
	Z (R)	ACC06	ENDEVCO	1/97	7/97
Pelvic	X	AL6N5	ENDEVCO	1/97	7/97
	Y	AL6R7	ENDEVCO	1/97	7/97
	Z	A12C	ENDEVCO	1/97	7/97
Left Upper Tibia	Mx	038	DENTON	9/96	3/97
Left Upper Tibia	My	038	DENTON	9/96	3/97
Left Lower Tibia	Fy	032	DENTON	9/96	3/97
Left Lower Tibia	Fz	032	DENTON	9/96	3/97
Left Lower Tibia	Mx	032	DENTON	9/96	3/97
Right Upper Tibia	Mx	045	DENTON	9/96	3/97
Right Upper Tibia	My	045	DENTON	9/96	3/97
Right Lower Tibia	Fy	041	DENTON	9/96	3/97
Right Lower Tibia	Fz	041	DENTON	9/96	3/97
Right Lower Tibia	Mx	041	DENTON	9/96	3/97

INSTRUMENT CALIBRATION FOR DRIVER DUMMY

(6 Month Calibration Minimum)

DRIVER DUMMY		Serial #	Manufacture	Calibration	
				Last	Next
Left Foot Front	Z	J18439	ENDEVCO	12/96	6/97
Left Foot Rear	X	J18624	ENDEVCO	1/97	7/97
Left Foot Rear	Z	J18408	ENDEVCO	1/97	7/97
Right Foot Front	Z	J18418	ENDEVCO	12/96	6/97
Right Foot Rear	X	AEWK1	ENDEVCO	1/97	7/97
Right Foot Rear	Z	AKD92	ENDEVCO	1/97	7/97

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY (S/N 061 (064 Head))		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X	AH5M9	ENDEVCO	1/97	7/97
	Y	AGHF5	ENDEVCO	1/97	7/97
	Z	AL6K2	ENDEVCO	1/97	7/97
Chest	X	A33A	ENDEVCO	1/97	7/97
	Y	FB32L	ENDEVCO	1/97	7/97
	Z	AD395	ENDEVCO	1/97	7/97
Right Femur Load Cell		232	GSE	1/97	7/97
Left Femur Load Cell		231	GSE	1/97	7/97
Neck Load Cell	X	076	DENTON	9/96	3/97
	Y	076	DENTON	9/96	3/97
	Z	076	DENTON	9/96	3/97
Neck Moment	X	076	DENTON	9/96	3/97
	Y	076	DENTON	9/96	3/97
	Z	076	DENTON	9/96	3/97
Chest Deflection Gauge		061	HUMANOID	10/96	4/97
Hybrid III Use Only					
Lap Belt Load Cells		635	LEBOW	12/96	6/97
Shoulder Belt Load Cells		711	LEBOW	12/96	6/97
Spool-Out Potentiometer		M10	MAGNETEK	1/97	7/97
Belt Stretch Transducer		E2	CALSPAN	1/97	7/97

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY
(6 Month Calibration Minimum)

PASSENGER DUMMY		Serial #	Manufacturer	Calibration	
				Last	Next
Head	X (R)	APBF4	ENDEVCO	1/97	7/97
	Y (R)	APBD7	ENDEVCO	1/97	7/97
	Z (R)	AN967	ENDEVCO	1/97	7/97
Chest	X (R)	APA30	ENDEVCO	1/97	7/97
	Y (R)	AP1B5	ENDEVCO	1/97	7/97
	Z (R)	AP057	ENDEVCO	1/97	7/97
Pelvic	X	AF480	ENDEVCO	1/97	7/97
	Y	AL508	ENDEVCO	1/97	7/97
	Z	AF5C1	ENDEVCO	1/97	7/97
Left Upper Tibia	Mx	015	DENTON	9/96	3/97
Left Upper Tibia	My	015	DENTON	9/96	3/97
Left Lower Tibia	Fy	011	DENTON	9/96	3/97
Left Lower Tibia	Fz	011	DENTON	9/96	3/97
Left Lower Tibia	Mx	011	DENTON	9/96	3/97
Right Upper Tibia	Mx	016	DENTON	9/96	3/97
Right Upper Tibia	My	016	DENTON	9/96	3/97
Right Lower Tibia	Fy	012	DENTON	9/96	3/97
Right Lower Tibia	Fz	012	DENTON	9/96	3/97
Right Lower Tibia	Mx	012	DENTON	9/96	3/97

INSTRUMENT CALIBRATION FOR PASSENGER DUMMY

(6 Month Calibration Minimum)

PASSENGER DUMMY		Serial #	Manufacture	Calibration	
				Last	Next
Left Foot Front	Z	J18400	ENDEVCO	12/96	6/97
Left Foot Rear	X	J18649	ENDEVCO	1/97	7/97
Left Foot Rear	Z	J17965	ENDEVCO	1/97	7/97
Right Foot Front	Z	J18406	ENDEVCO	12/96	6/97
Right Foot Rear	X	J18465	ENDEVCO	12/96	6/97
Right Foot Rear	Z	J18623	ENDEVCO	12/96	6/97

INSTRUMENT CALIBRATION FOR VEHICLE ACCELEROMETERS

(6 Month Calibration Minimum)

	Serial #	Manufacturer	Calibration	
			Last	Next
Left Seat Rear Crossmember	X92	ICS	1/97	7/97
Right Rear Seat Crossmember	Y89	ICS	12/96	6/97
Top of Engine	X83	ICS	10/96	4/97
Bottom of Engine	X80	ICS	1/97	7/97
Left Disc Brake Caliper	A164	CEC	9/96	3/97
Right Disc Brake Caliper	A115	CEC	11/96	6/97
Instrument Panel	A129	CEC	11/96	6/97
Left Seat Rear Crossmember (R)	X84	ICS	11/96	6/97
Right Seat Rear Crossmember (R)	Y05	ICS	1/97	7/97