

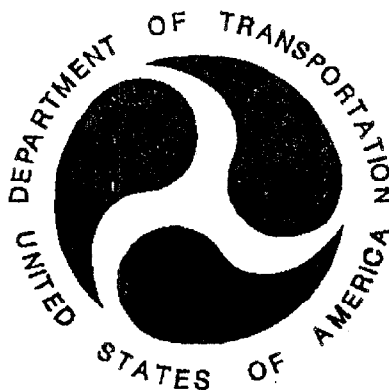
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2002

REPORT NO. KAR-98-11

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST

NISSAN MOTOR COMPANY
1998 NISSAN MAXIMA 4-DOOR SEDAN
NHTSA NO. MW5203

PREPARED BY:
KARCO ENGINEERING
9270 HOLLY ROAD
ADELANTO, CALIFORNIA 92301



MARCH 23, 1998
FINAL REPORT

PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY PERFORMANCE STANDARDS
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NPS-10
400 SEVENTH STREET, SW, ROOM 5313
WASHINGTON, D.C. 20590

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-97-D-02007.

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Date of Acceptance

Technical Report Documentation Page

1. <i>Report No.</i> KAR-98-11	2. <i>Government Accession No.</i>	3. <i>Recipient's Catalog No.</i>																					
4. <i>Title and Subtitle</i> Final Report of New Car Assessment Program (NCAP) Frontal Barrier Impact Test Testing of a 1998 Nissan Maxima 4-Door Sedan NHTSA No. MW5203		5. <i>Report Date</i> March 23, 1998																					
		6. <i>Performing Organization Code</i> KARCO																					
7. <i>Author(s)</i> Mr. James E. Gorth, Project Engineer, KARCO Mr. Frank D. Richardson, Program Manager, KARCO		8. <i>Performing Organization Report No.</i> KAR-98-R98050-11																					
9. <i>Performing Organization Name and Address</i> KARCO Engineering 9270 Holly Road Adelanto, California 92301		10. <i>Work unit No.</i>																					
		11. <i>Contract or Grant No.</i> DTNH22-97-D-02007																					
12. <i>Sponsoring Agency Name and Address</i> U.S. Department of Transportation National Highway Traffic Safety Administration Safety Performance Standards Office of Crashworthiness Standards Mail Code: NPS-10 400 Seventh Street, SW, Room 5313 Washington, D.C. 20590		13. <i>Type of report and Period Covered</i> Final Report-Option Year 1																					
		14. <i>Sponsoring Agency Code</i> DOT/NHTSA/NRM/OCS																					
15. <i>Supplementary Notes</i>																							
16. <i>Abstract</i> A 35 mph (56.3 km/h) frontal barrier impact test was conducted on a 1998 Nissan Maxima 4-Door Sedan at KARCO Engineering on February 17, 1998. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301 and footwell intrusion performance. The impact velocity was 56.47 km/h. The ambient temperature at the barrier face at the time of impact was 8.8°C. The vehicle's maximum post-test static crush was 556 mm, located at the centerline of the vehicle. The test vehicle was equipped with a 3-point continuous belt system and second generation supplemental airbags at both frontal outboard-seating positions. With respect to FMVSS 208 "Occupant Crash Protection -- Injury Criteria" the occupant injury response data summary is as follows: <table border="1"> <thead> <tr> <th><u>Injury Criteria</u></th><th><u>Threshold Value</u></th><th><u>Driver Dummy</u></th><th><u>Passenger Dummy</u></th></tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC)</td><td>1000</td><td>569.6</td><td>647.2</td></tr> <tr> <td>Chest Resultant Peak 3 msec clip</td><td>60 G's</td><td>47.7</td><td>54.3</td></tr> <tr> <td>Left Femur Force</td><td>10009 N</td><td>-5142.0</td><td>-4801.9</td></tr> <tr> <td>Right Femur Force</td><td>10009 N</td><td>-4329.3</td><td>-1899.7</td></tr> </tbody> </table>				<u>Injury Criteria</u>	<u>Threshold Value</u>	<u>Driver Dummy</u>	<u>Passenger Dummy</u>	Head Injury Criteria (HIC)	1000	569.6	647.2	Chest Resultant Peak 3 msec clip	60 G's	47.7	54.3	Left Femur Force	10009 N	-5142.0	-4801.9	Right Femur Force	10009 N	-4329.3	-1899.7
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17. <i>Key Words</i> 56.3 km/h NCAP Frontal Barrier Impact Test 1998 Nissan Maxima 4-Door Sedan NHSTA No. MW5203		18. <i>Distribution Statement</i> Copies of this report are available from: Technical Reference Division National Highway Traffic Safety Admin. Room 5108, Nassif Building 400 7th St., SW Washington, DC 20590																					
19. <i>Security Classification (of this report)</i> UNCLASSIFIED	20. <i>Security Classification (of this page)</i> UNCLASSIFIED	21. <i>No. of Pages</i> 318	22. <i>Price</i>																				

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SECTION 1

PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST MW5203

1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the FY' 98 New Car Assessment Program (NCAP) frontal barrier crash worthiness evaluation program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract Number DTNH22-97-D-02007. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for frontal barrier impacts at a speed in excess of the current 30 mph (48 km/h) FMVSS 208/212/219/301 requirements.

1.2 TEST PROCEDURE

This 56.3 km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Indicant Test Procedure, dated 01 October 1996 and corresponding KARCO Engineering Test Procedure KTP-001, dated October 18, 1996. Data was obtained indicant of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion (Partial)"; and FMVSS 301 "Fuel System Integrity" performance. Procedures for receiving, inspection testing and reporting of test results are described in the test procedures and are not repeated in this report.

The test was conducted at KARCO Engineering on February 17, 1998, at a speed of 56.47 km/h. The test vehicle was instrumented with eight (8) accelerometers to measure longitudinal axis accelerations. The driver and passenger's restraint systems were instrumented with four (4) seat belt load cells to measure lap and shoulder belt tension. The specified impact velocity range was 55.5 to 57.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and seventeen (17) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The test vehicle contained two (2) part 572E 50th percentile adult male anthropomorphic test devices (ATDs). Both ATDs were instrumented with head and chest primary and redundant tri-axial accelerometers, pelvic tri-axial accelerometers, left/right femur load cells, left/right lower leg sensors and left/right foot accelerometers. In addition, chest displacement and neck six-axis load and moment sensors were utilized. Seat belt load cells were also placed on the driver and passenger shoulder and lap belts to measure torso and pelvic section loading. The ATDs were positioned in the front outboard seating positions according to the dummy placement procedures specified in the Laboratory Indicant Test Procedure. Ninety-six channels of data were recorded with a PC based (TDAS) on-board data acquisition system. The data was digitally sampled at 10,000 samples per second and processed per section IP11 of the Laboratory Indicant Test Procedure.

The Driver ATD (serial No. 34) and the right-front passenger ATD (serial No. 35) were used in one previous NCAP frontal impact test since their last calibration. Injury criteria were not exceeded by either ATD during this NCAP frontal impact test.

1.3 SUMMARY OF FRONTAL BARRIER IMPACT TEST

An immovable barrier was impacted by a 1998 Nissan Maxima 4-Door Sedan at a velocity of 56.47 km/h. The test weight, with two (2) 50th percentile male ATDs, was 1616 kg.

The driver's Head Injury Criteria (HIC) was 569.6, the maximum chest deceleration over three (3) milliseconds was 47.7 g and the left and right femur loads were -5142.0 and -4329.3 Newtons, respectively. Chest deflection for the driver ATD was -29.5 mm. The driver ATD head contacted the airbag and headrest, its chest and abdomen contacted the airbag, and both knees contacted the lower dash knee bolster and the steering column.

The right front passenger's HIC was 647.2, maximum chest deceleration over three (3) milliseconds was 54.3 g and the left and right femur loads were -4801.9 and -1899.7 Newtons respectively. Chest deflection for the passenger ATD was -29.7 mm. The passenger ATD head contacted the airbag and headrest, the chest and abdomen contacted the airbag and both knees contacted the glove box.

Seat belt spoolout, measured by on-board pullout potentiometers was 56.4 mm for the driver ATD and 57.1 mm for the passenger ATD. Shoulder belt stretch was .50 mm/cm for the driver ATD and .37 mm/cm for the passenger ATD.

There was 100 percent windshield retention (minimum 50 percent required for passive restraint systems), no intrusion into the protected or unprotected zone of the windshield, and no Stoddard solvent leakage occurred after impact or during any phase of the rollover.

The test vehicle sustained a maximum static crush of 556 mm at the vehicle centerline. Both the driver side and the passenger side doors required the aid of tools to open.

1.4 GENERAL COMMENTS

The 1998 Nissan Maxima 4-Door Sedan passed the requirements of FMVSS 212, FMVSS 219 and FMVSS 301-75. Data pertaining to these standards are presented in the data sheets.

The vehicle, occupant, camera and measurement data are presented in Section 2. Appendix A contains the still photograph prints. Appendix B contains the dummy, vehicle and response data traces. Appendix C contains Load Cell Barrier information, which is not applicable to this test. Appendix D contains the instrumentation data channel assignments. Appendix E contains the dummy calibration data and Appendix F contains the owner's manual instructions for the occupant restraint systems.

SECTION 2.

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

TEST MODE: 56.3 km/h New Car Assessment Program (NCAP) Frontal Barrier Impact

CONVERSION FACTORS USED IN THIS REPORT:

2.2 pounds (lb.)	=	1 kilogram (kg)
1 mile (mi.)	=	1.609 kilometer (km)
1 gallon (gal.)	=	3.785 liters (L)
1 pound/square inch (psi)	=	7000 Pascal (7 kPa)

DATA SHEET NO. 1

CRASH TEST SUMMARY

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

TEST MODE: 56.3 km/h NCAP Frontal Barrier Impact

TEST DATE: February 17, 1998

TIME: 12:30 PM

TEMPERATURE: 8.8° C

TEST WEIGHT: 1616 kg

IMPACT VELOCITY: 56.4 km/h

VEHICLE REBOUND AT CENTER OF EACH WHEEL; REBOUND ANGLE = 0°

Measurements in mm	Left Side	Centerline	Right Side
Vehicle Rebound	700	610	700

VEHICLE STATIC CRUSH

Measurements in mm	Left	Center	Right
Pre-test Measurements	4663	4808	4664
Post-test Measurements	4131	4252	4114
Static Crush	-532	-556	-550

DOOR OPENING AND SEAT TRACK INFORMATION

	Driver	Passenger
Door Opening (Front)	OPENED	OPENED
Door Opening (Rear)	OPENED	OPENED
Seat Track Shift (mm of shift)	NONE	NONE
Seat Back Failure	NONE	NONE

DUMMY INFORMATION

	Driver	Passenger
Dummy Type/No.	50% Male Hybrid III (S/N 34)	50% Male Hybrid III (S/N 35)
Data Channels	44	44
Visible Contact Points		
Head	AIR BAG, HEADREST	AIR BAG, HEADREST
Chest	AIR BAG	AIR BAG
Abdomen	AIR BAG	AIR BAG
Left Knee	STEERING COLUMN/KNEE BOLSTER	GLOVE BOX
Right Knee	STEERING COLUMN/KNEE BOLSTER	GLOVE BOX

DATA SHEET NO. 2

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

TEST VEHICLE INFORMATION			
Manufacturer	NISSAN MOTOR COMPANY	VIN	JN1CA21D8WT519542
Manufacturing Date	12/97	Delivery Date	2/11/98
Dealer	RANCHO MOTOR COMPANY	NHTSA NO.	MW5203
Odometer Reading	000032 MI.	Fuel Type	UNLEADED
Engine Displacement	3.0 Liter	Cylinders	6
Transmission	AUTOMATIC	Final Drive	FRONT
Engine Placement	TRANSVERSE	Color	SILVER
Tire Press./Max. Cap. Front	200 kpa	Cold Tire Press. Front	200 kpa
Tire Press./Max. Cap. Rear	200 kpa	Cold Tire Press. Rear	200 kpa
Recommend Tire Size	P205/65R15 92H	Type of Spare	TEMPORARY T125/70D16
Tire Size on Vehicle	P205/65R15 92H	Manufacturer	GOODYEAR
GVWR	1938 kg	Cargo Capacity	68 kg
GAWR Front	1067 kg	GAWR Rear	886 kg
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	YES
Disc Brakes (Front)	YES	Disc Brakes (Rear)	YES
Power Windows	YES	Tilt Steering	YES
Anti-lock Brakes (ABS)	NO	Power Seats	DRIVER ONLY
Driver Airbag	YES	Passenger Airbag	YES

VEHICLE CAPACITY DATA:

TYPE OF FRONT SEATS BUCKET SEATS

TOTAL NUMBER OF OCCUPANTS 5 OCCUPANTS x 68 kg. 340 kg

WEIGHT OF VEHICLE AS RECEIVED AT KARCO (with maximum fluids): 1401 kg

Data Sheet No. 2... (Continued)

VEHICLE CAPACITY WEIGHT (kg):

Vehicle Capacity Weight 408 kg
 Occupant Weight 340 kg
 Rated Cargo/Luggage Weight (RCLW) 68 kg

	FRONT	REAR	TOTAL
Right	432	266	698
Left	448	255	703
Total	880	521	1401
Percent of Total	62.8	37.2	100%

CALCULATION OF TEST

TARGET WEIGHT (kg):

Total Delivered Weight 1401 kg
 RCLW 68 kg
 Weight of 2 P572 ATDs 152 kg
 TARGET TEST WEIGHT 1621 kg

TEST WEIGHT OF VEHICLE WITH 2 ATDs AND BALLAST

	FRONT	REAR	TOTAL
Right	456	342	798
Left	473	345	818
Total	929	687	1616
Percent of Total	57.5	42.5	100%

Weight of Ballast secured in cargo area: 24 kg

Includes cameras, instrumentation, brake
 abort and bags containing lead shot secured
 in the cargo area.

Vehicle Components Removed For Weight Reduction:

Side mirrors, jack, tools, spare tire,
 rear seat and paneling.

TEST VEHICLE ATTITUDE (mm)

ATTITUDE	LF	RF	LR	RR
As Delivered	726	717	735	735
As Tested	696	693	708	704

Vehicle Wheelbase: 2716 mm

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 70.0 liters

Usable Capacity Figure Furnished by COTR = 66.6 liters

Test Volume Range (92 to 94% of Usable Capacity) = 61.2 to 62.6 liters

ACTUAL TEST VOLUME = 62.4 liters (With entire fuel system filled)

Test Fluid Type = Stoddard Solvent

Specific Gravity = 0.764

Kinematic Viscosity = as per ASTM Standard D484-71

Color = Red

Type of Fuel Pump = Electric X Mechanical

Does electric pump operate with ignition switch "ON" & engine "OFF"? Yes X No

DETAILS OF FUEL SYSTEM: Fuel pump operates for approximately two (2) seconds in the "on" position with the engine off.

DATA SHEET NO. 3

POST IMPACT DATA

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

TEST MODE: 56.3 km/h New Car Assessment Program (NCAP) Frontal Barrier Impact

TEST DATE: February 17, 1998

TIME: 12:30 PM

TEMPERATURE: 8.8 ° C

REQUIRED IMPACT VELOCITY RANGE: 55.51 km/h to 57.11 km/h

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

Trap No. 1 = 56.47 km/h

Trap No. 2 = 56.46 km/h

Distance from vehicle to barrier - -

A. entering trap = 1524 mm

B. leaving trap = 305 mm

VEHICLE STATIC CRUSH: (for Frontal and Rear Impacts Only)

Vehicle Length	Left	Center	Right
Pre-test Measurements (mm)	4663	4808	4664
Post-test Measurements (mm)	4131	4252	4114
Static Crush (mm)	-532	-556	-550
Average	-546		

VEHICLE REBOUND: (from rigid barrier with rotational movement)

VEHICLE REBOUND AT CENTER OF EACH WHEEL: REBOUND ANGLE = 0°

Measurements in mm	Left Side	Centerline	Right Side
Vehicle Rebound	700	610	700

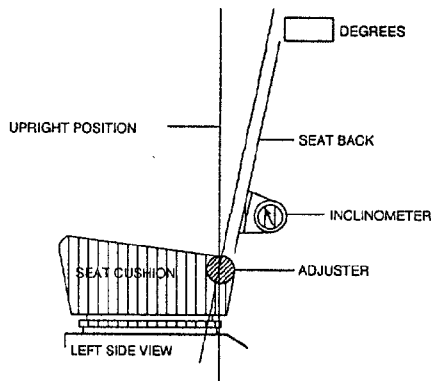
DATA SHEET NO. 4

TEST VEHICLE INFORMATION

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

1. NOMINAL DESIGN RIDING POSITION -



FRONT SEAT ASSEMBLY

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. Indicate, if applicable, how the detents are numbered (Is the first detent "0" or "1"?).

Measurement Instructions: A special application tool with pointed probes was inserted through the fabric to make contact with the rigid portion of the lower seat frame assembly approximately 13 inches above the pivot point of the seat back. The inclinometer was placed against the flat surface of the tool and the seat back angle was measured directly from the dial face. For reference purposes the first detent from the front of the seat was identified as number "1".

Seat back angle for driver's seat = 23°

Measurement Instructions: A special application tool with pointed probes was inserted through the fabric to make contact with the rigid portion of the lower seat frame assembly approximately 13 inches above the pivot point of the seat back. The inclinometer was placed against the flat surface of the tool and the seat back angle was measured directly from the dial face. For reference purposes the first detent from the front of the seat was identified as number "1".

Seat back angle for passenger's seat = 23°

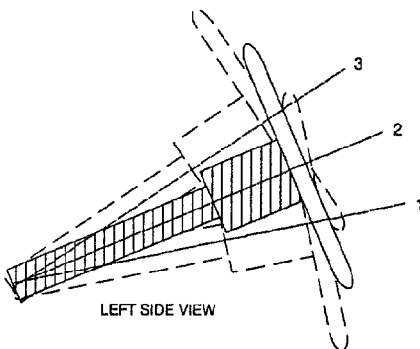
2. SEAT FORE & AFT POSITIONS -

Provide instructions for positioning the driver and front outboard passenger seat(s) in the center of fore and aft travel. For example, provide information to locate the detent in which the seat track is to be locked.

Positioning of the driver's seat: Electric seat, 228mm fore/aft travel, set at 114mm.

Positioning of the passenger's seat (if applicable): 21 seating positions, set at 11th detent from front.

3. STEERING COLUMN ADJUSTMENTS:



STEERING COLUMN ASSEMBLY

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:

Position No. 1 is at 24°

Position No. 2 is at 24°

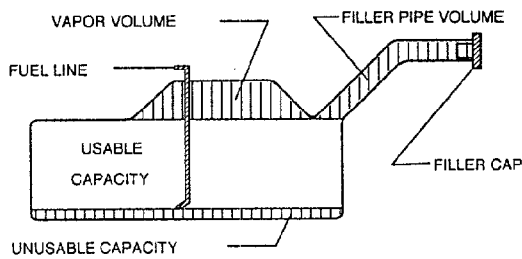
Position No. 3 is at 27°

4. SEAT BELT UPPER ANCHORAGE:

Placed in full up position, manufacturer identifies as 0.

DATA SHEET NO. 4 (continued)

5. FUEL TANK CAPACITY DATA



5.1 A. "Usable Capacity" of standard equipment fuel tank = 66.6 liters.

B. "Usable Capacity" of optional equipment fuel tank = N/A liters.

C. "Usable Capacity" of vehicle(s) used for certification testing to requirements of FMVSS 301 = 61.2 to 62.6 liters.

VEHICLE FUEL TANK ASSEMBLY

Operational Instructions:

5.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 62.4 liters

5.3 Is vehicle equipped with electric fuel pump?

Yes X No

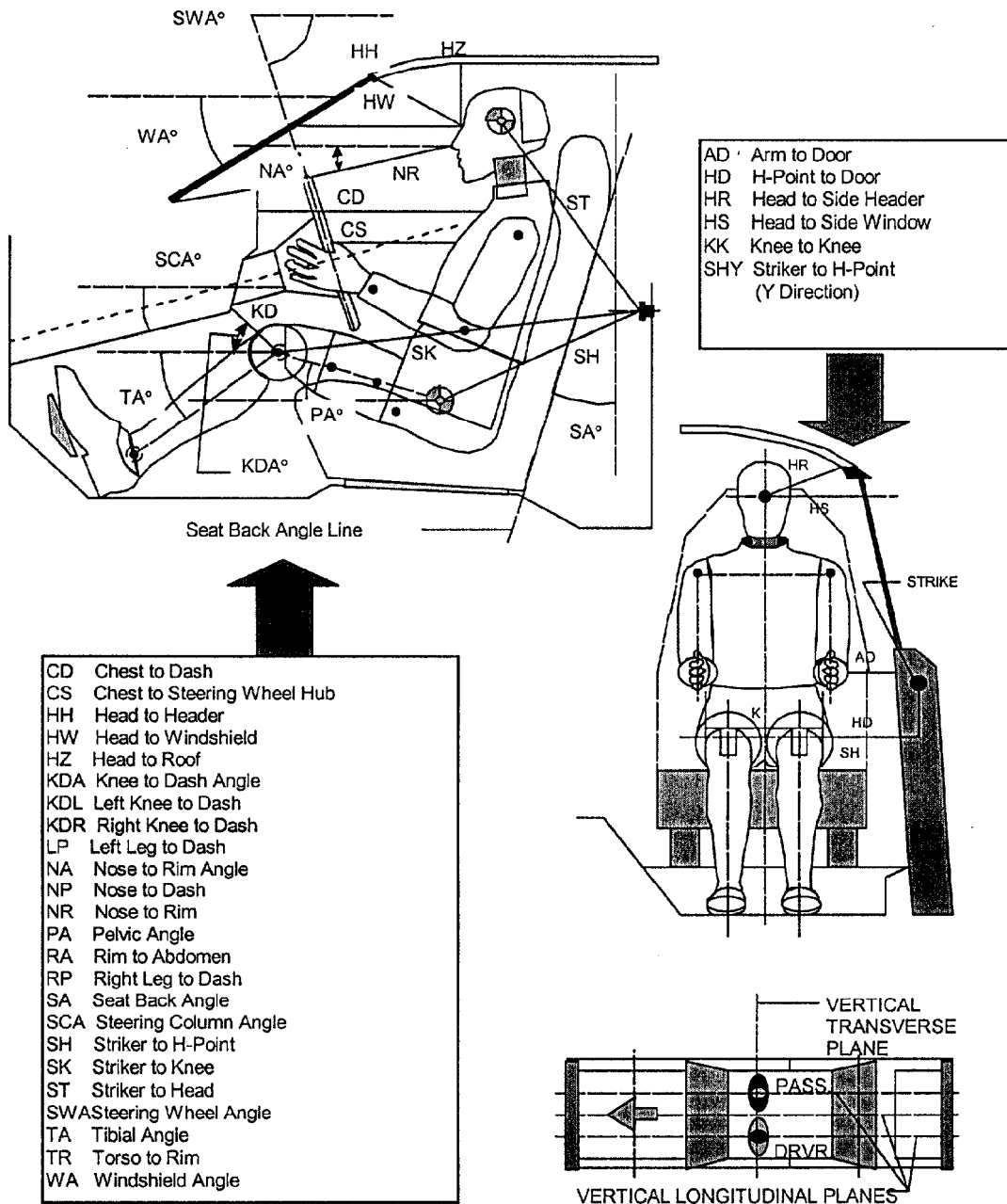
If YES, explain the vehicle operating conditions under which the fuel pump will pump fuel.

Fuel pump operates for approximately two (2) seconds in the "on" position with the engine off.

DATA SHEET NO. 5

DUMMY POSITIONING IN VEHICLE

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



DATA SHEET NO. 5...(continued)

DUMMY POSITIONING IN VEHICLE

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

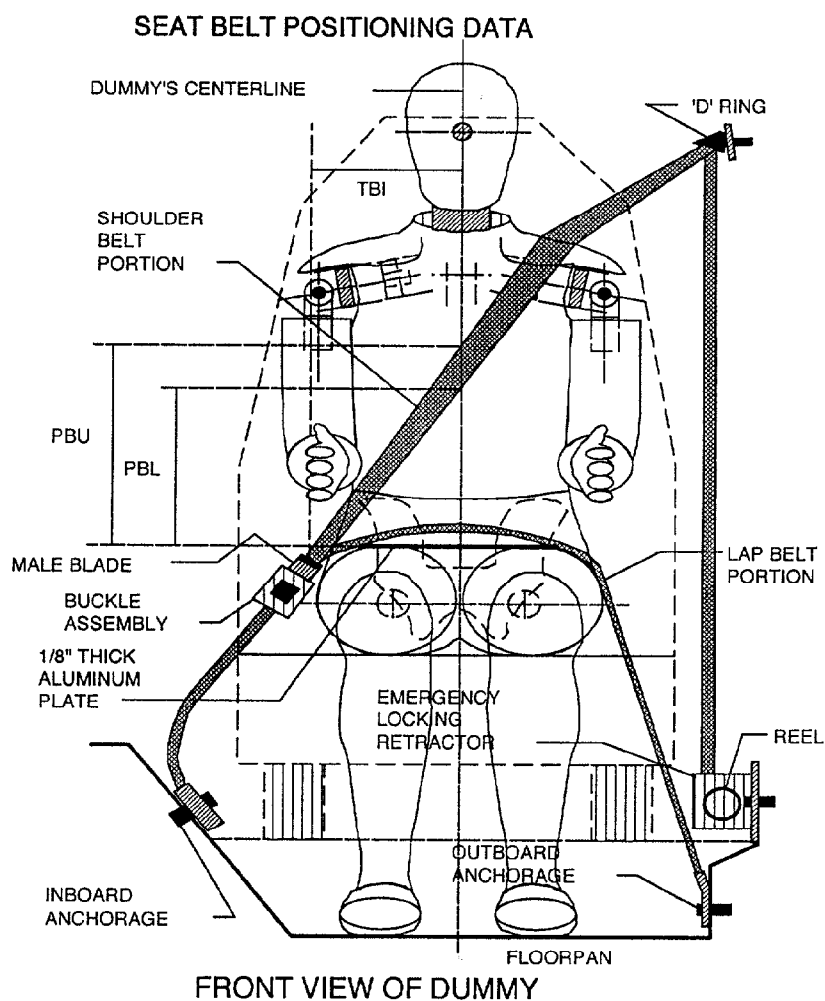
FRONT SEAT MEASUREMENT TABLE

	DRIVER (Serial No. <u>34</u>)		PASS. (Serial No. <u>35</u>)	
	DISTANCE (mm)	ANGLE (°)	DISTANCE (mm)	ANGLE (°)
WA°		27		
SWA°		66		
SCA°		24		
SA°		23		23
HZ	210	90	180	90
HH	320	0	285	0
HW	595	0	580	0
HR	200		220	
NR	425	15		
CD	560		540	
CS	300	0		
RA	190	0		
KDL	170	24	182	
KDR	120		190	26
PA°		25		25
TA°		35		38
KK	240		210	
ST	530	18	530	14
SH	200	0	170	0
SHY	260		240	
HS	290		320	
HD	200		170	
AD	110		20	

DATA SHEET NO. 6

SEAT BELT POSITIONING DATA

SEATING POSITION	DRIVER	PASSENGER
TCI -- Dummy centerline to shoulder bolt	200	200
PBU--Top surface of aluminum plate to belt upper edge	315	315
PBL--Top surface of aluminum plate to belt lower edge	240	230
Lap Belt tension	10 Newtons	10 Newtons
Shoulder Belt tension	Retractor	Retractor



DATA SHEET NO. 7 - VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

TEST VEHICLE: 1998 NISSAN MAXIMA GXE 4 DOOR SEDAN NHTSA No.: MW5203

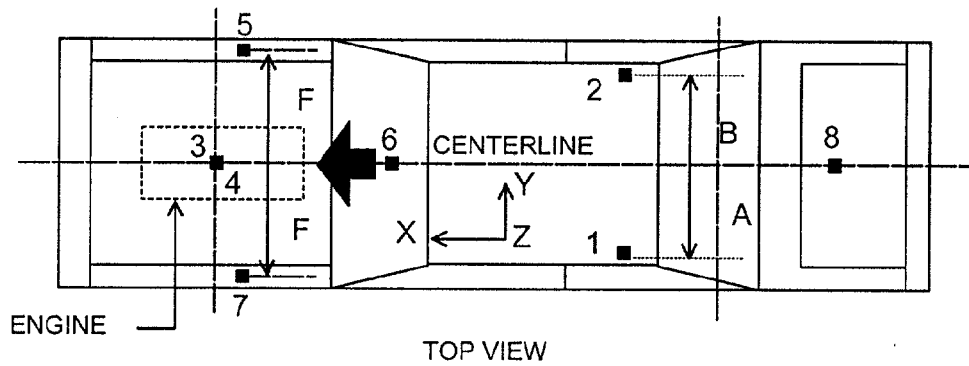
TEST PROGRAM: 1998 NHTSA 35 MPH NCAP TEST DATE: 2/17/98

VEHICLE X-AXIS ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

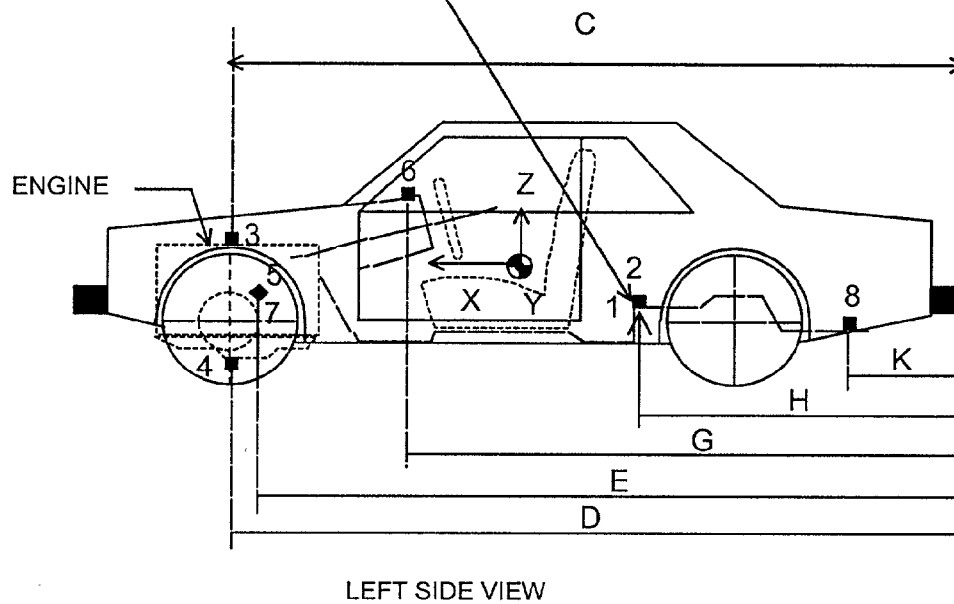
No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member (Pri.)	1918	-640	260	G's	3.0	126.8	-35.8	34.4
2	Right Rear X-Member (Pri.)	1918	640	266	G's	3.5	126.1	-37.5	69.3
3	Engine Top	4220	-71	794	G's	17.9	41.3	-97.9	34.5
4	Engine Bottom	3956	228	128	G's	24.7	55.6	-114.9	31.0
5	Left Brake Caliper	3939	-682	275	G's	91.2	60.7	-108.0	36.2
6	Right Brake Caliper	3939	682	308	G's	3.2	49.2	-125.4	41.8
7	Instrument Panel	3096	0	870	G's	20.4	50.6	-78.5	57.8
8	Left Rear X-Member (Rednt.)	1510	-595	402	G's	3.3	125.4	-29.2	34.3

Reference Points X - From Rear Surface of Vehicle Y - Vehicle Centerline Z - Ground Plane

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



REAR SEAT CUSHION
ASSY. FRONT ATTACHMENT
BRACKET SUPPORT



DATA SHEET NO. 8 - HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

TEST VEHICLE: 1998 NISSAN MAXIMA GXE 4 DOOR SEDAN

NHTSA No.: MW5203

TEST PROGRAM: 1998 NHTSA 35 MPH NCAP

TEST DATE: 2/17/98

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	14.3	213.1	-59.0	71.5	17.0	181.8	-59.8	77.3
Head CG	Y	G's	4.3	91.1	-4.7	68.2	12.2	30.9	-11.6	69.2
Head CG	Z	G's	22.8	65.8	-11.0	83.1	27.3	64.8	-5.5	32.6
Head CG Resultant	N/A	G's	62.1	70.5			63.6	74.7		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.8	242.5	-47.9	66.2	6.2	157.1	-55.8	63.4
Chest CG	Y	G's	6.0	96.5	-10.3	55.7	8.4	50.1	-13.2	73.2
Chest CG	Z	G's	13.9	84.9	-10.8	45.6	7.4	85.4	-10.0	43.4
Chest CG Resultant	N/A	G's	48.0	66.3			56.0	63.4		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	800.3	45.0	-5142.0	60.9	628.9	43.9	-4801.9	48.7
Right Femur	Z	Newtons	1755.6	70.6	-4329.3	42.6	682.6	46.0	-1899.7	61.1

SEAT BELT PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt	N/A	Newtons	7825.0	59.7	-1.2	299.9	9790.8	60.2	-0.6	0.2
Shoulder Belt	N/A	Newtons	10675.0	74.3	-17.0	169.2	10743.6	65.2	-46.1	185.6

HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	Avg G's	T ¹	T ²	HIC	Avg G's	T ¹	T ²
Head CG Primary	569.6	47.6	53.7	89.6	647.2	51.5	55.4	88.2

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	47.7	64.1	67.1	54.3	61.7	64.7

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1998 NISSAN MAXIMA GXE 4 DOOR SEDAN

NHTSA No.: MW5203

TEST PROGRAM: 1998 NHTSA 35 MPH NCAP

TEST DATE: 2/17/98

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	5.8	103.7	-54.6	59.8	3.7	104.2	-81.9	48.8
Pelvis	Y	G's	14.9	47.5	-19.1	41.8	9.5	48.9	-10.2	63.3
Pelvis	Z	G's	4.8	42.2	-26.1	62.4	4.1	189.2	-18.0	63.1

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	338.5	129.7	-248.8	67.5	682.2	53.1	-236.4	31.9
Neck Force	Y	Newtons	86.5	49.5	-134.0	80.6	104.8	68.3	-256.6	197.5
Neck Force	Z	Newtons	1502.3	65.5	-156.5	114.1	2459.5	74.3	-459.5	32.5
Neck Moment	X	Joules	17.5	87.8	-6.4	150.8	9.7	119.5	-17.7	76.4
Neck Moment	Y	Joules	25.2	124.2	-22.5	90.0	10.8	33.0	-36.1	53.8
Neck Moment	Z	Joules	3.3	62.6	-5.0	82.8	5.3	135.4	-14.0	81.7

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	64.2	48.5	-63.1	60.7	255.9	38.7	-49.9	51.4
Left Foot Aft	Z	G's	31.9	59.4	-86.1	47.4	60.4	51.7	-180.7	38.6
Left Foot Fore	Z	G's	46.0	60.0	-130.9	48.4	82.6	54.4	-223.4	37.6
Right Foot Aft	X	G's	212.7	40.5	-32.4	47.3	113.8	37.9	-26.4	58.5
Right Foot Aft	Z	G's	32.1	68.9	-306.1	40.4	17.0	54.4	-128.9	37.9
Right Foot Fore	Z	G's	53.8	68.2	-317.2	42.3	98.7	52.3	-261.9	37.9

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Lower Force	X	Newtons	49.0	161.5	-1146.9	55.6	111.5	53.5	-1793.0	41.8
Left Lower Force	Z	Newtons	83.2	130.0	-2792.3	54.7	173.2	171.3	-9973.3	41.2
Left Lower Moment	Y	Joules	64.7	47.0	-206.4	61.3	54.0	38.1	-157.8	73.8
Left Upper Moment	X	Joules	71.7	46.7	-15.3	51.0	63.7	42.3	-24.4	71.3
Left Upper Moment	Y	Joules	115.7	46.4	-12.6	61.3	269.7	42.0	-81.0	74.7
Right Lower Force	X	Newtons	156.1	53.9	-3005.9	42.6	125.4	135.5	-2017.4	64.0
Right Lower Force	Z	Newtons	317.5	93.5	-13365.9	42.0	204.8	156.1	-4403.7	36.2
Right Lower Moment	Y	Joules	34.1	38.4	-70.2	46.6	67.6	38.4	-392.7	65.8
Right Upper Moment	X	Joules	104.8	41.9	-123.0	44.4	17.6	52.0	-23.7	49.1
Right Upper Moment	Y	Joules	351.4	42.1	-68.5	53.4	159.8	38.5	-18.2	149.0

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1998 NISSAN MAXIMA GXE 4 DOOR SEDAN

NHTSA No.: MW5203

TEST PROGRAM: 1998 NHTSA 35 MPH NCAP

TEST DATE: 2/17/98

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.1	1.5	-29.5	76.9	0.2	7.9	-29.7	72.1

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	13.9	211.4	-58.8	72.1	17.4	176.9	-59.9	76.5
Head CG	Y	G's	2.6	141.9	-4.5	84.3	7.3	31.0	-11.1	69.3
Head CG	Z	G's	22.3	55.8	-13.9	83.0	25.4	65.3	-6.1	32.7
Head CG Resultant	N/A	G's	60.8	71.3			63.5	76.5		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.9	240.4	-48.5	66.3	6.5	157.2	-56.0	63.5
Chest CG	Y	G's	5.4	96.3	-10.1	55.7	8.5	49.9	-12.1	73.0
Chest CG	Z	G's	12.0	84.6	-9.8	45.5	8.0	104.1	-10.3	43.4
Chest CG Resultant	N/A	G's	48.7	66.4			56.2	63.5		

REDUNDANT HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	Avg G's	T ¹	T ²	HIC	Avg G's	T ¹	T ²
Head CG Redundant	551.9	46.9	54.6	90.5	622.5	50.8	55.1	87.9

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	48.0	64.4	67.4	54.6	61.8	64.8

DATA SHEET NO. 9

SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

BELT LENGTH DATA (mm)	DRIVER	PASSENGER
Total belt length for continuous webbing systems.	2940	2940
Retractor reel to 'D' ring	680	680
Shoulder belt length as measured on Part 572 Dummy	860	860
Lap belt length as measured on Part 572 Dummy	740	740
Remainder of belt on reel	660	660

SHOULDER BELT SPOOL-OFF DATA (mm)	DRIVER	PASSENGER
As determined mechanically	41	32
As determined electronically	56.4	57.1

BELT STRETCH DATA (mm/cm)	DRIVER	PASSENGER
Measured electronically between shoulder belt load cell and the "D" ring	.50	.37
Measured mechanically	0.9	0.6

DATA SHEET NO. 10

SUMMARY OF FMVSS 212 DATA

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. _____

MW5203

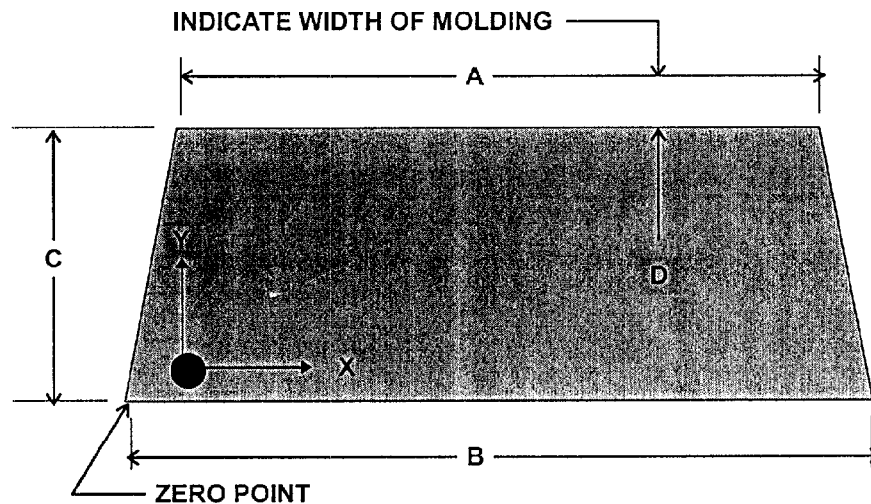
Details of windshield mounting (method of retention, type of trim, etc.):

Windshield glass is secured to the vehicle frame with a rubber type adhesive, with rubber molding along the top and sides with rubber and plastic molding along the bottom.

The standard requires that the post test retention measurement be a minimum of 75 percent of the pretest total periphery measurement for vehicles not equipped with occupant passive restraints and 50 percent for each side of the windshield for vehicles which are equipped with occupant passive restraints.

WINDSHIELD PERIPHERY MEASUREMENTS (mm)			
	PRETEST	POST TEST	PERCENT RETENTION
Right Side	2161	2161	100%
Left Side	2161	2161	100%
Total	4322	4322	100%

Indicate area of retention failure.



FRONT VIEW OF WINDSHIELD

Width of molding = Top 19 mm , Sides 26 mm, Bottom 24 mm.

Temperature of windshield molding during test = 21.1 °C

DATA SHEET NO. 11

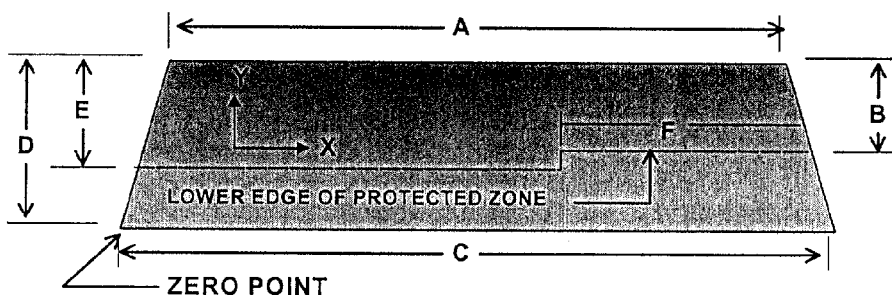
WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

SKETCH OF FRONT VIEW OF WINDSHIELD:

Provide all dimensions necessary to reproduce the protected area.



	DIMENSION mm
A	1168
B	501
C	1479
D	787
E	529
F	599

FRONT VIEW OF WINDSHIELD

AREA OF PROTECTED ZONE FAILURES:

A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 in. by a vehicle component other than one which is normally in contact with the windshield.

X	Y
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

B. Provide coordinates of the area beneath the protected zone template that the inner surface of the windshield was penetrated by a vehicle component

X	Y
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

DATA SHEET NO. 12

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN NHTSA NO. MW5203

TEST MODE: 56.3 km/h New Car Assessment Program (NCAP) Frontal Barrier Impact

TEST DATE: February 17, 1998 TIME: 12:30 PM TEMPERATURE 8.8 C

STODDARD SOLVENT SPILLAGE MEASUREMENT:

- A. From impact until vehicle motion ceases - -
Actual = 0.0 oz. (Maximum Allowable = 1 ounce)
- B. For 5 minute period after vehicle motion ceases - -
Actual = 0.0 oz. (Maximum Allowable = 5 ounces)
- C. For next 25 minutes - -
Actual = 0.0 oz. (Maximum Allowable = 1 oz./minute)
- D. Provide Spillage Details: No solvent spillage occurred

DATA SHEET NO. 13

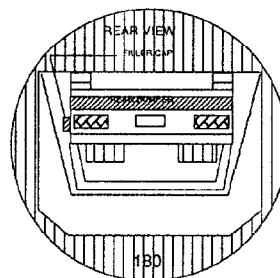
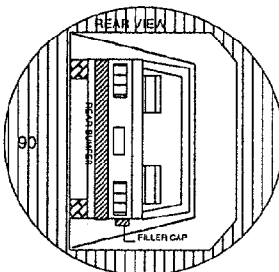
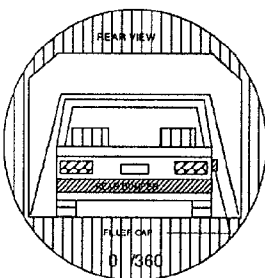
FMVSS 301 STATIC ROLLOVER DATA SHEET

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

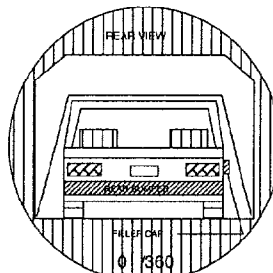
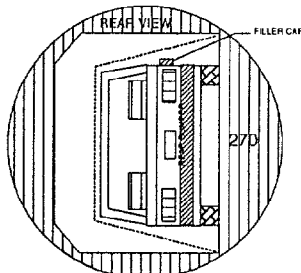
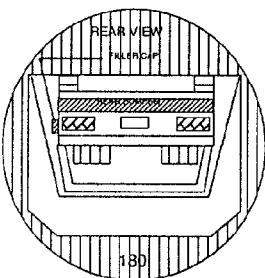
TEST MODE: 56.3 km/h New Car Assessment Program (NCAP) Frontal Barrier Impact

TEST DATE: February 17, 1998 TIME: 12:30 PM TEMPERATURE: 8.8C



0° TO 90°

90° TO 180°



180° TO 270°

270° TO 0°

1. The specified fixture rollover rate for each 90° of rotation = 1 to 3 minutes.
2. The position hold time at each position = 5 minutes (minimum)

TEST PHASE	ROTATION TIME (sec.)	POSITION HOLD TIME (sec)	STODDARD SPILLAGE (oz.)
0° TO 90°	82	300	0
90° TO 180°	84	300	0
180° TO 270°	82	300	0
270° TO 360°	82	300	0

3. Provide Details of Stoddard Solvent Spillage Locations--

No solvent leakage occurred during rollover tests.

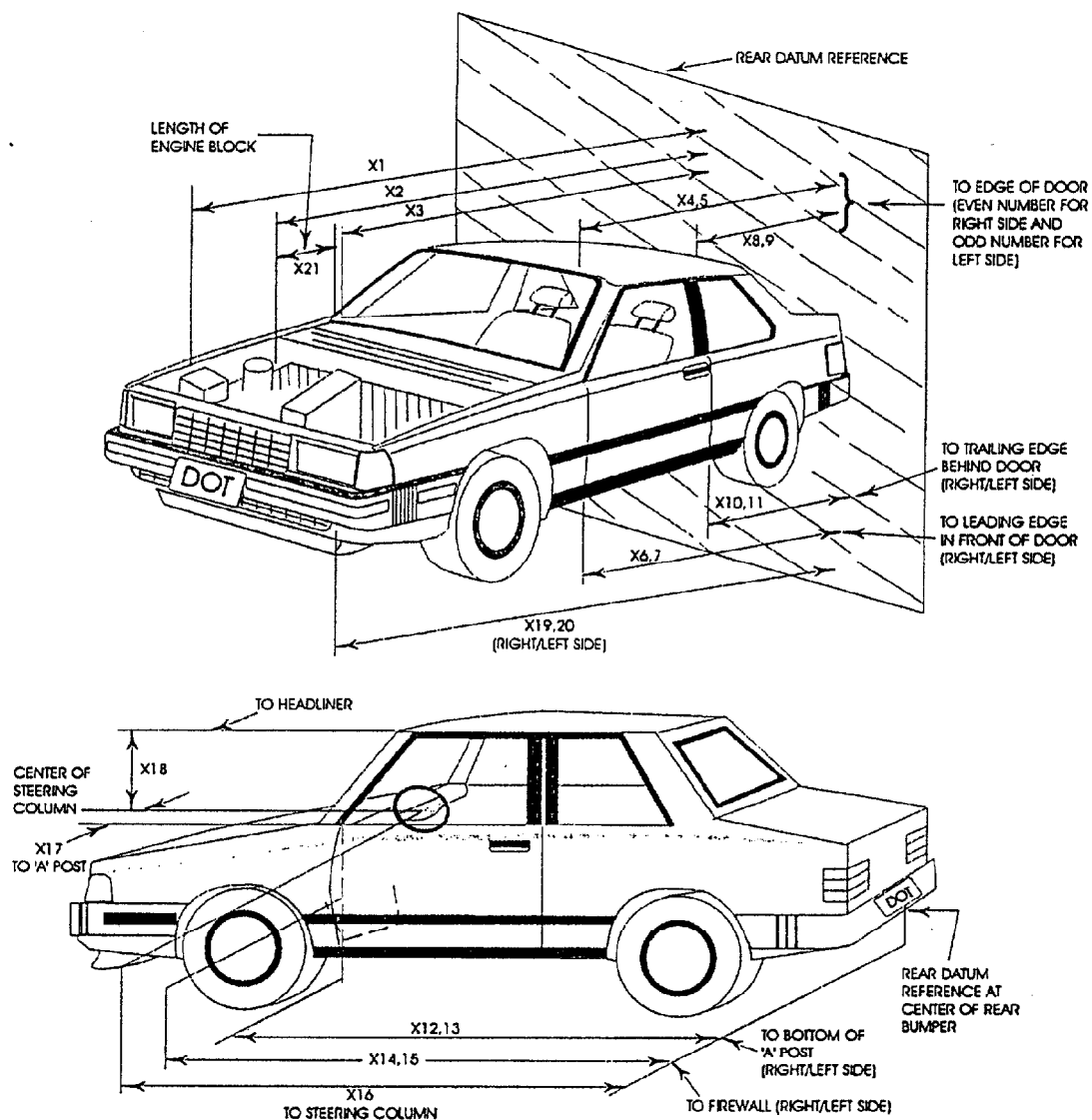
DATA SHEET NO. 14

VEHICLE MEASUREMENTS

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

NO.	MEASUREMENT DESCRIPTION	DIMENSIONS IN MM		
		PRE-TEST	POST-TEST	DIFFERENCE
1	Total length of vehicle at centerline	4808	4252	-556
2	Rear surface of vehicle (RSOV) to front of engine	4272	4044	-28
3	RSOV to firewall centerline	3575	3400	-175
4	RSOV to leading edge of right door	3292	3274	-18
5	RSOV to leading edge of left door	3304	3240	-64
6	RSOV to lower leading edge of right door	3288	33285	-3
7	RSOV to lower leading edge of left door	3305	3280	-25
8	RSOV to upper trailing edge of right door	2200	2199	-1
9	RSOV to upper trailing edge of left door	2206	2192	-14
10	RSOV to lower trailing edge of right door	2185	2167	-18
11	RSOV to lower trailing edge of left door	2194	2174	-20
12	RSOV to bottom of right 'A' pillar	3280	3242	-38
13	RSOV to bottom of left 'A' pillar	3268	33252	-16
14	RSOV to firewall on right side	3582	3542	-40
15	RSOV to firewall of left side	3555	3448	-107
16	RSOV to steering column	2822	2756	-6
17	Center of steering column to left 'A' pillar	415	404	-11
18	Center of steering column to headlining	480	418	-62
19	RSOV to right side of front bumper	4664	4114	-550
20	RSOV to left side of front bumper	4663	4131	-532
21	Length of engine block	410	610	0
22	RSOV to right side of dash panel	3138	3106	-32
23	RSOV to center of dash panel	3188	3180	-8
24	RSOV to left side of dash panel	3146	3091	-55



DATA SHEET NO. 15

CAMERA LOCATIONS

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

CAMERA NO.	VIEW	CAMERA POSITIONS (mm) *			ANGLE (Deg.)	FILM PLANE TO HEAD TARGET (mm)	LENS (mm)	SPEED (fps)
		X	Y	Z				
1	Right Side View-Real Time	2083	8331	914	0	1651	Zoom	24
2A	Left Side View No. 1	1321	-8382	864	3	7722	13	200
2B	Left Side View No. 2	1499	-9855	1270	1	7899	25	960
3	Left Side View No. 3	991	-10,566	1486	0	9652	50	1040
4	Left Side View No. 4	2896	2845	1854	20	2540	19	1000
5	Left Side View No. 5	1905	-8306	2515	14	8026	25	1030
6	Left Side View No. 6	1880	-8382	1092	9	7950	25	1010
7	Right Side View No. 1	1295	10,160	1168	4	7849	13	1090
8	Right Side View No. 2	1372	10,490	1346	0	9652	50	1200
9	Right Side View No. 3	6832	11,633	1321	5	10,289	80	870
10	Right Side View No. 4	2870	10,719	1372	0	10,007	50	1200
11	Overhead Windshield	914	0	5715	90	11,989	13	1220
12	Front View No. 1 Driver	-356	356	2540	40	2845	19	1040
13	Front View No. 2 Passenger	-356	508	2540	44	2845	19	920
14	Pit Camera Engine View	610	0	-660	90	N/A	13	970
15	Pit Camera Fuel Tank View	5029	0	406	45	N/A	19	1000
16	Driver Side Onboard	3556	357	1168	10	1270	13	500
17	Passenger Side Onboard	3556	357	1168	5	1219	13	400

* X - film plane to barrier face Y - film plane to monorail centerline Z - film plane to ground

DATA SHEET NO. 16

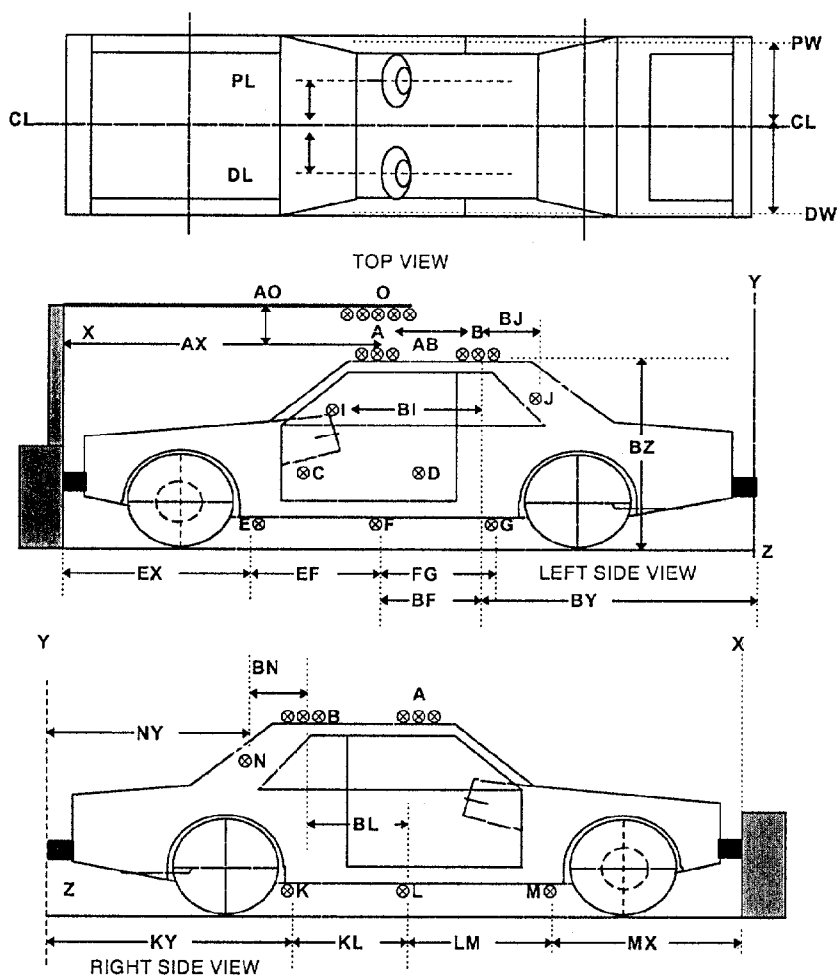
REFERENCE PHOTOGRAPH TARGETS

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

ITEM	DESCRIPTION	VALUE	ITEM	DESCRIPTION	VALUE
AX	TARGET A TO BARRIER	2385	NY	TARGET N TO REAR BUMPER	1123
AB	TARGET A TO TARGET B	614	BN	TARGET B TO TARGET N	585
AO	VERTICAL DISTANCE A TO O	180	KY	TARGET K TO REAR BUMPER	1605
BJ	TARGET B TO TARGET J	671	KL	TARGET K TO TARGET L	846
BI	TARGET B TO STEERING COLUMN	976	BL	TARGET B TO TARGET L	569
BZ	TARGET B TO GROUND LEVEL	1494	LM	TARGET L TO TARGET M	837
EX	TARGET E TO BARRIER	1526	MX	TARGET M TO BARRIER	1588
EF	TARGET E TO TARGET F	843	CL/PL	VEHICLE CENTERLINE TO PASSENGER	356
FG	TARGET F TO TARGET G	843	CL/PW	VEHICLE CENTERLINE TO RIGHT SILL	717
BF	TARGET B TO TARGET F	628	CL/DL	VEHICLE CENTERLINE TO DRIVER	407
BY	TARGET B TO REAR BUMPER	1792	CL/DW	VEHICLE CENTERLINE TO LEFT SILL	717

Distances in mm



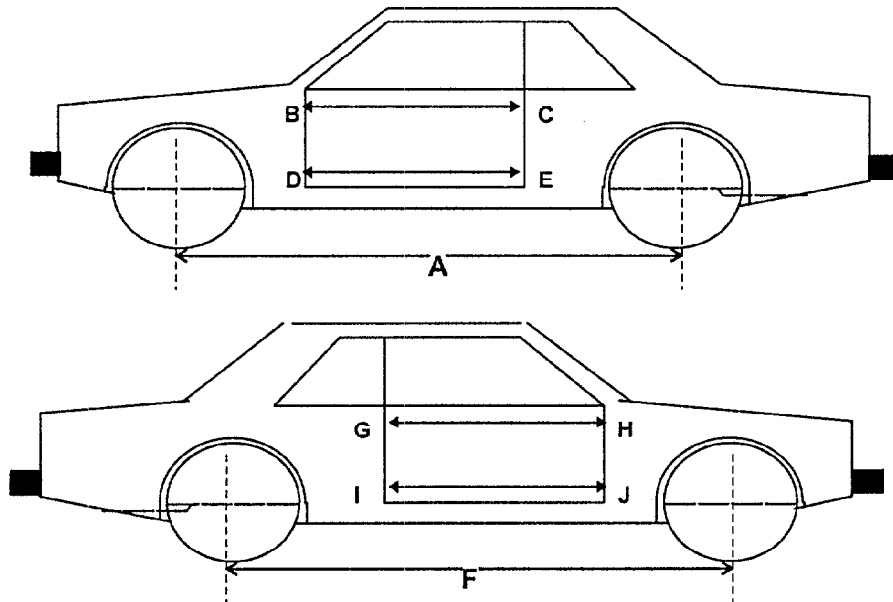
DATA SHEET NO. 17

VEHICLE INTRUSION MEASUREMENTS

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

DOOR OPENING WIDTH



UNITS (mm)	LEFT SIDE		RIGHT SIDE	
MEASUREMENT	BC	DE	GH	IJ
PRE-TEST	1098	1111	1092	1103
POST-TEST	1048	1106	1075	1118
DIFFERENCE	-50	-5	-17	+15

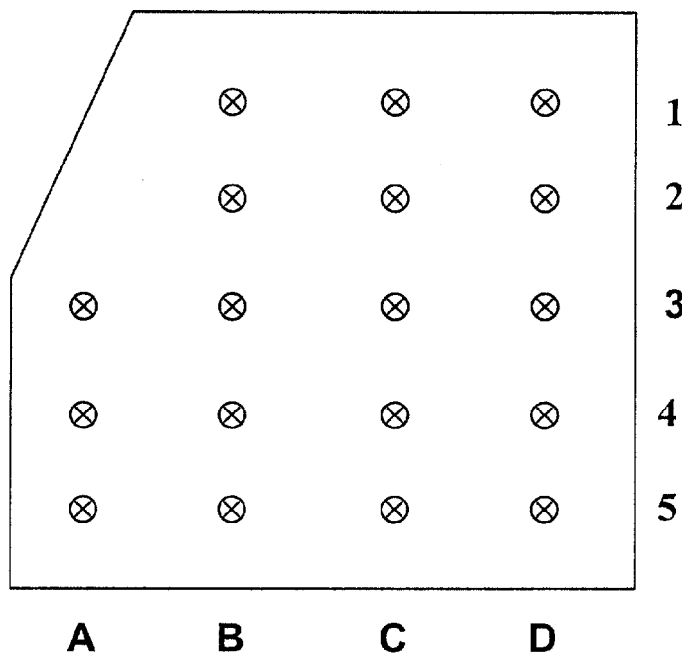
VEHICLE WHEELBASE CHANGE

UNITS (mm)	A = LEFT SIDE WHEELBASE	F = RIGHT SIDE WHEELBASE
PRE-TEST	2716	2716
POST-TEST	2606	2576
DIFFERENCE	-110	-140

Data Sheet No. 17(Continued)

FLOOR PAN INTRUSION (Distances in mm)

TARGET COLUMN	A		B		C		D	
TARGET ROW	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
1	N/A	N/A	750	590	750	570	750	530
2	N/A	N/A	600	475	600	450	600	434
3	450	435	450	423	450	440	450	450
4	300	268	300	262	300	294	300	293
5	150	125	150	131	150	150	150	150
REF. POINT	RSOV TO ANCHOR BOLT (PRE-TEST)		2777		RSOV TO ANCHOR BOLT (POST-TEST)		2777	



⊕ X —————
 ↓
 LEFT FRONT SEAT ANCHOR BOLT
 ↓
 TO RSOV REFERENCE

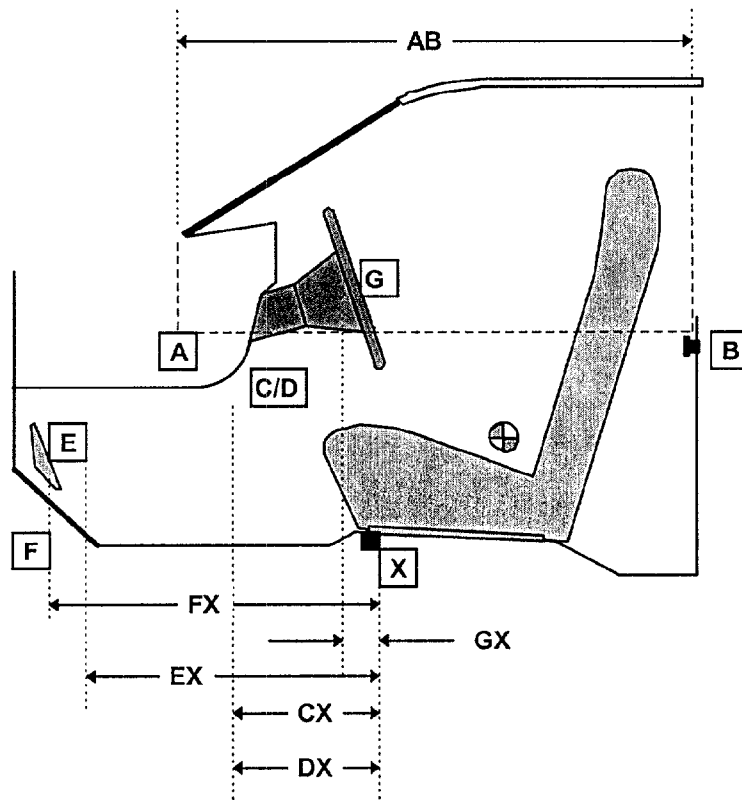
DRIVER SIDE FLOOR PLAN

(Data Sheet No. 17Continued)

DRIVER COMPARTMENT INTRUSION (Distances in mm)

REF.	DESCRIPTION	PRE-TEST	POST-TEST
AB	DOOR OPENING (INSIDE WINDOW JAM)	1028	1024
CX	LOWER LEFT KNEE BOLSTER TO X	354	317
DX	LOWER RIGHT KNEE BOLSTER TO X	360	308
EX	BRAKE PEDAL TO X	520	345
FX	FOOT REST TO X	600	518
GX	STEERING COLUMN HUB (CENTER) TO X	0	21

X = LEFT FRONT SEAT ANCHOR BOLT



DATA SHEET NO. 18

OFFSET BARRIER ORIENTATION

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN NHTSA NO. MW5203

A = VEHICLE WIDTH MEASURED AT WIDEST POINT N/A mm

B = 40% OFFSET FROM LEFT EDGE OF VEHICLE N/A mm

ACTUAL OFFSET DURING TEST N/A mm = N/A %

(NO OFFSET REQUIRED FOR THIS TEST)

DATA SHEET NO. 19

ACCIDENT INVESTIGATION DIVISION DATA

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

VIN: JN1CA21D8WT519542

TEST DATE: 2/17/98

WHEELBASE: 2716 mm

TEST WEIGHT: 1616 kg

VEHICLE SIZE CATEGORY: NISSAN MAXIMA 4-DOOR SEDAN

ACCELEROMETER DATA:

LOCATION: Left and right rear floor pans

CALIBRATION PROCEDURE: 6 months/ drop test

LINEARITY: Good

INTEGRATION ALGORITHM: NHTSA Standard

VEHICLE IMPACT SPEED: 56.4 km/h

TIME OF SEPARATION: 71.54 msec

VELOCITY CHANGE: 73.20 km/h

COLLISION DEFORMATION CLASSIFICATION (CDC) CODE: F (frontal)

IMPACT MODE: Full Frontal

CRUSH DEPTH DIMENSIONS:

C1 = 440 mm

C2 = 503 mm

C3 = 548 mm

C4 = 551 mm

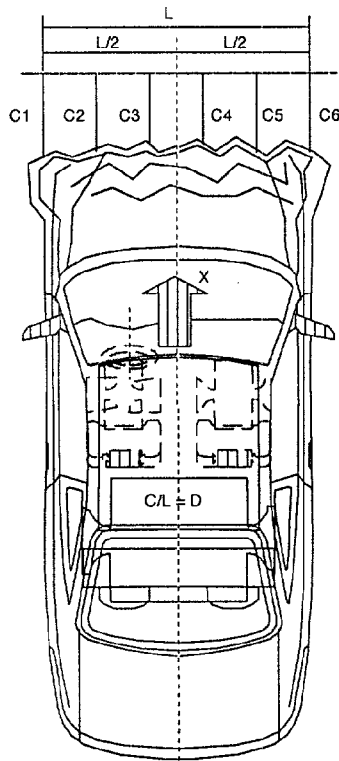
C5 = 527 mm

C6 = 486 mm

MIDPOINT OF DAMAGE: D = vehicle centerline 790 MM

LENGTH OF DAMAGE REGION:

L = 1580 mm



DATA SHEET NO. 20

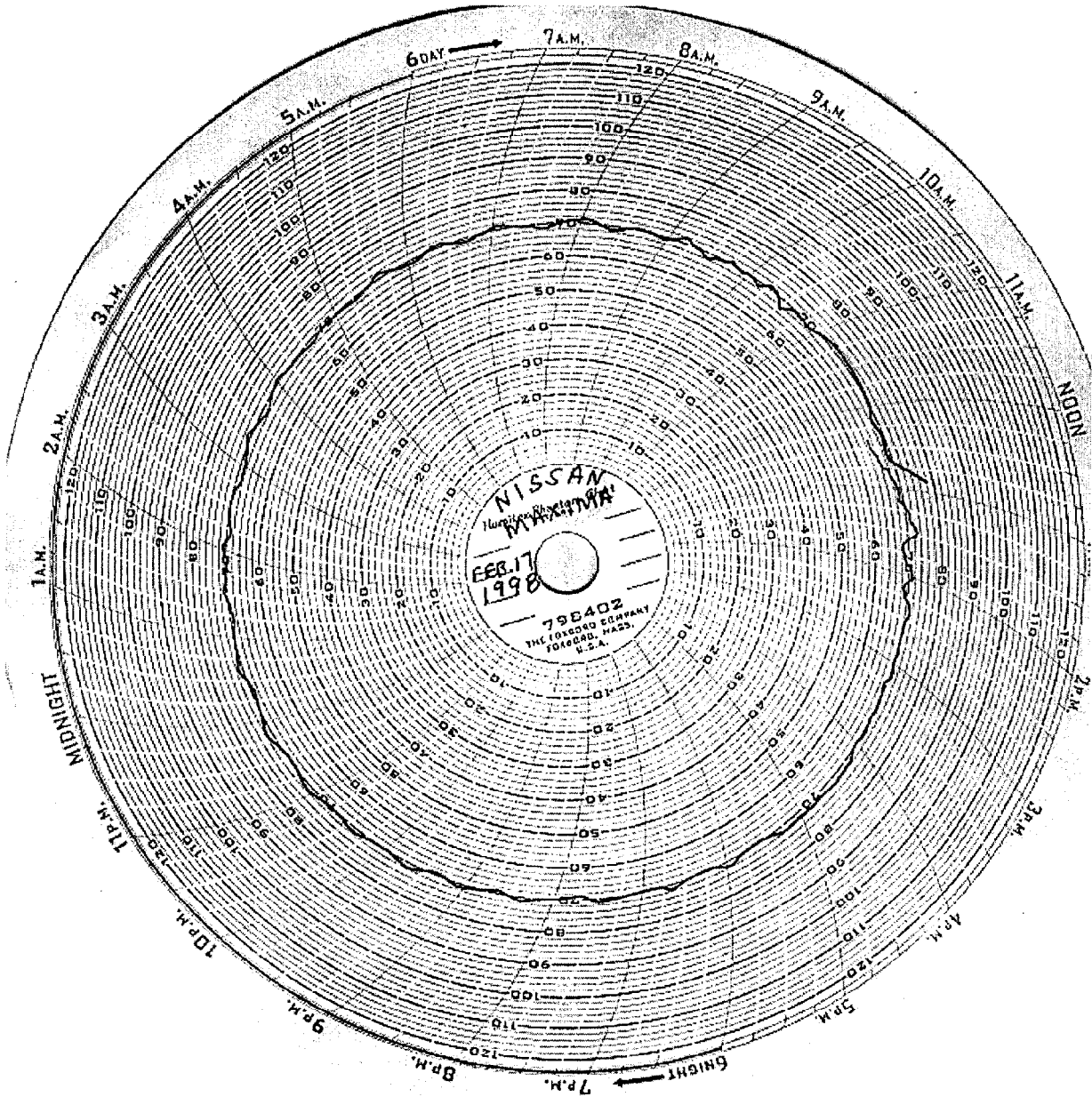
DUMMY/VEHICLE TEMPERATURE STABILIZATION

TEST VEHICLE: 1998 NISSAN MAXIMA 4-DOOR SEDAN

NHTSA NO. MW5203

VIN: JN1CA21D8WT519542

TEST DATE: 2/17/98



APPENDIX A
PHOTOGRAPHS

KAR-98-R98050-11

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FIGURE A-1. RIGHT FRONT AS RECEIVED



FIGURE A-2. LEFT REAR AS RECEIVED

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A-2

KAR-98-R98050-11



FIGURE A-3. VEHICLE CERTIFICATION LABEL

VEHICLE CAPACITY WEIGHT	900 lbs	SEATING CAPACITY	FRONT AVANT	2	TOTAL TOTAL	SPARE TIRE ROUE DE SECOURS	kPa (psi)
POIDS UTILE DU VEHICULE	408 kg	NOMBRE DE PLACES	REAR ARRIERE	3	5	T125/70 D16	420 (60)
RECOMMENDED COLD TIRE INFLATION PRESSURE. PRESSION DE GONFLAGE RECOMMANDEE DES PNEUS FROIDS.							
TIRE SIZE DIMENSIONS	FRONT kPa AVANT (psi)	REAR kPa ARRIERE (psi)					
P205/65 R15 92H	200 (29)	200 (29)					
DO NOT USE IN EXCESS OF 50 MPH 80 km/h SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION UTILISATION A UNE VITESSE MAX 50 MPH 80 km/h POUR LES DETAILS SE REFERER AU MANUEL DU CONDUCTEUR							

40U01

FIGURE A-4. VEHICLE TIRE PLACARD



FIGURE A-5. PRETEST FRONT VIEW

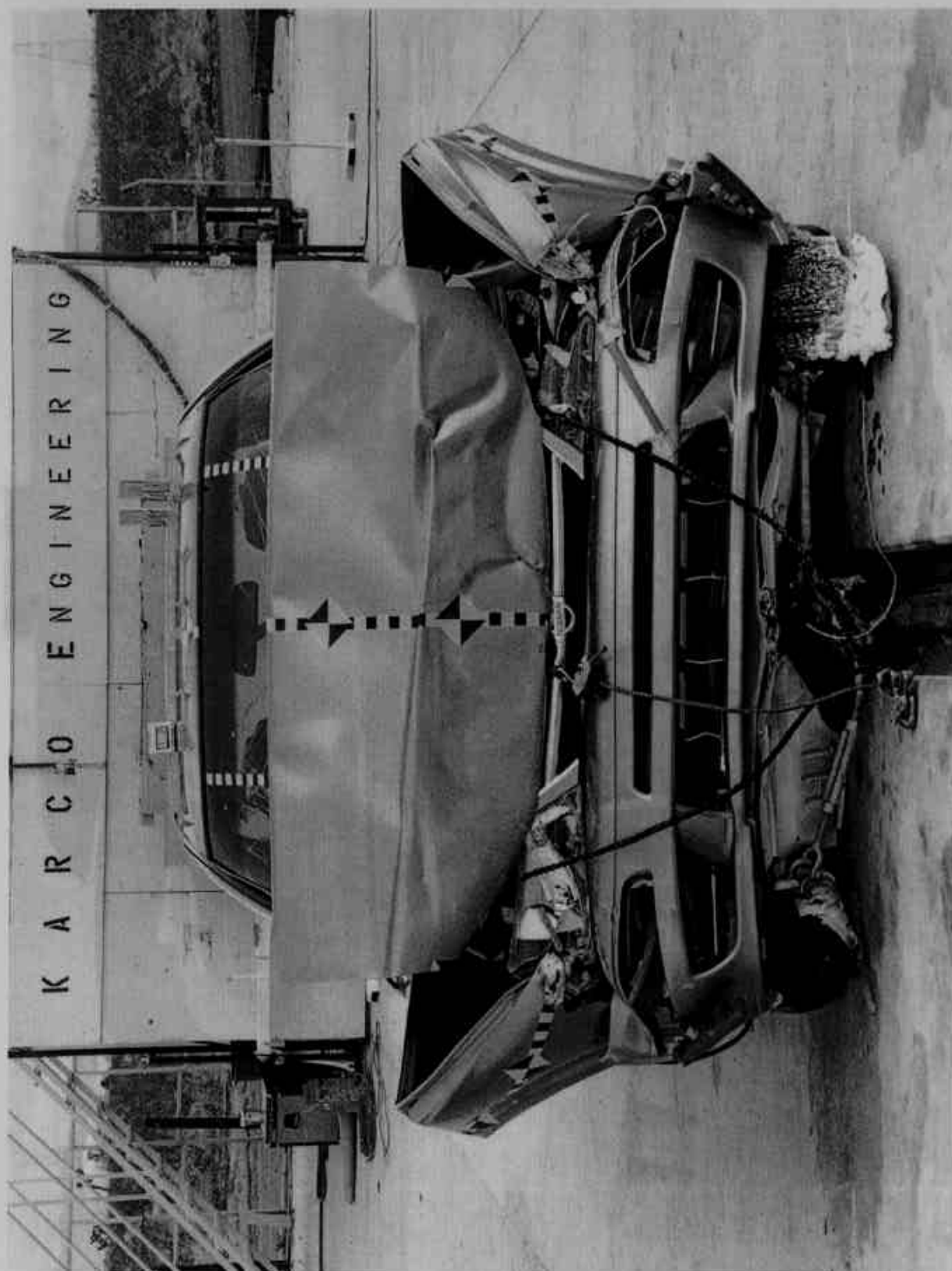


FIGURE A-6. POST TEST FRONT VIEW



FIGURE A-7. PRETEST LEFT SIDE VIEW



FIGURE A-8. POST TEST LEFT SIDE VIEW

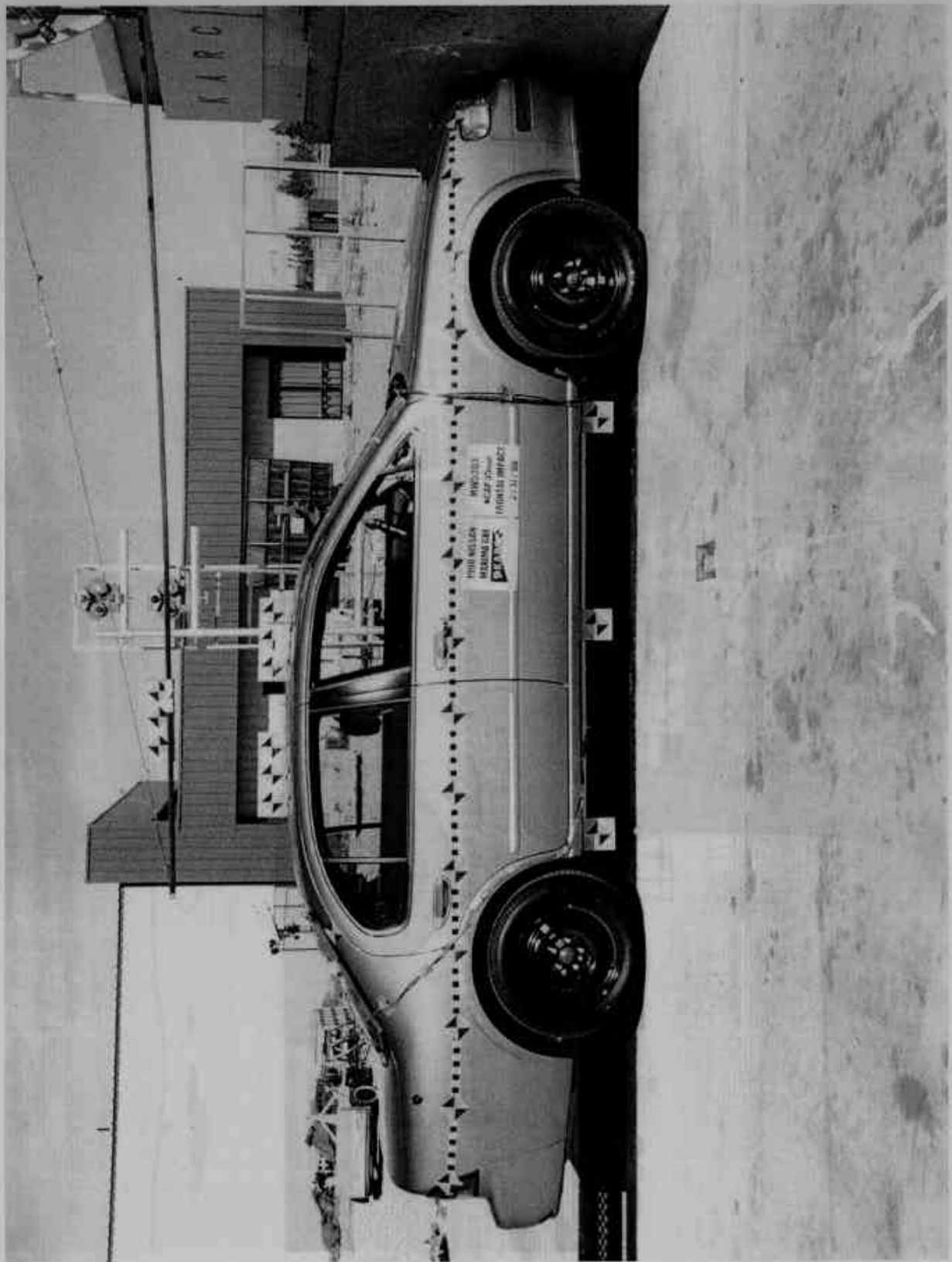


FIGURE A-9. PRETEST RIGHT SIDE VIEW



FIGURE A-10. POST TEST RIGHT SIDE VIEW

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A-10

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FIGURE A-11. PRETEST RIGHT FRONT VIEW

11-000000-00-00-00

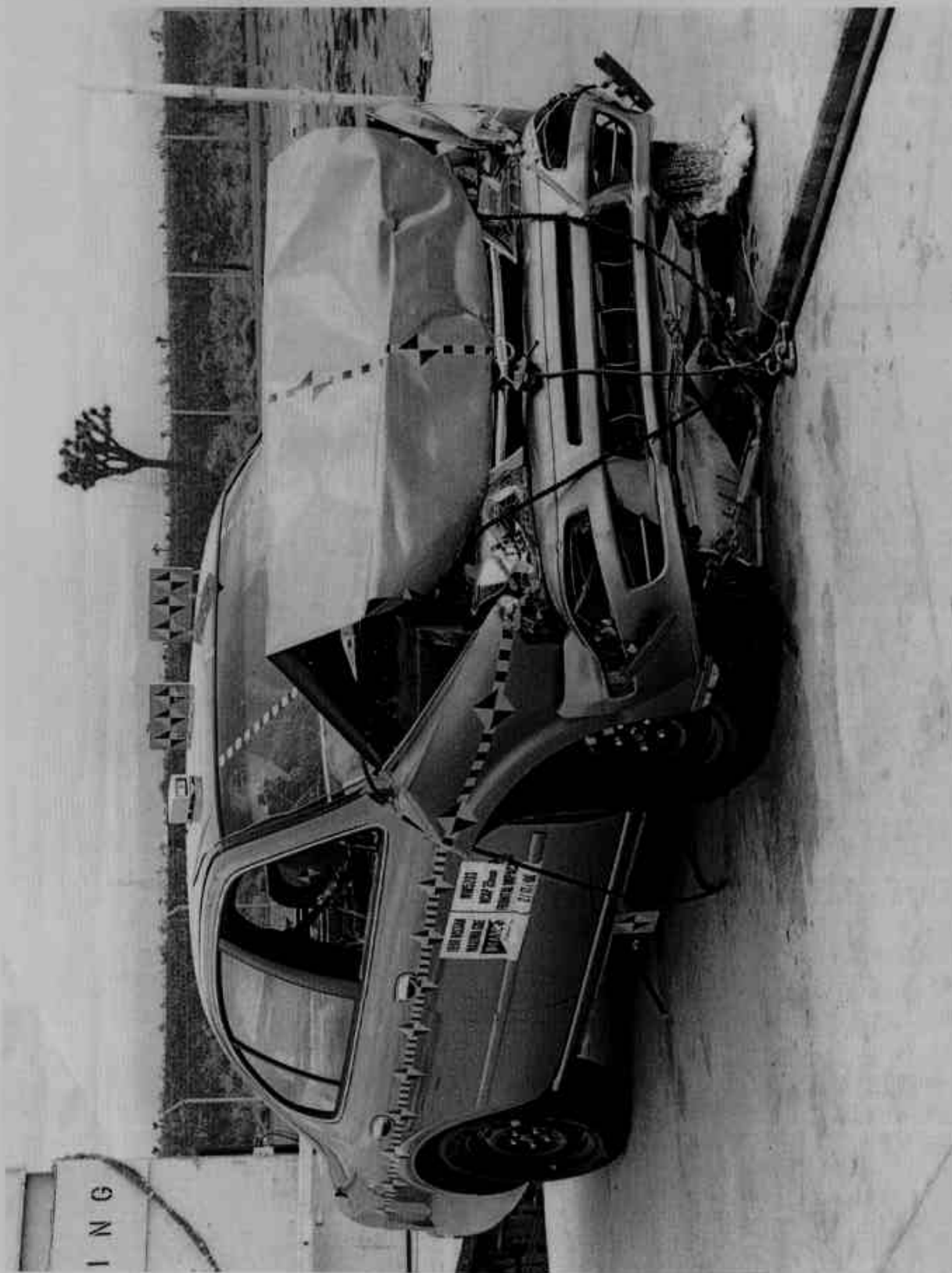


FIGURE A-12. POST TEST RIGHT FRONT VIEW

KAR-98-R98050-11

A-12

KAR-98-R98050-11



FIGURE A-13. PRETEST LEFT REAR VIEW



FIGURE A-14. POST TEST LEFT REAR VIEW

KAR-98-R98050-11

A-14

KAR-98-R98050-11

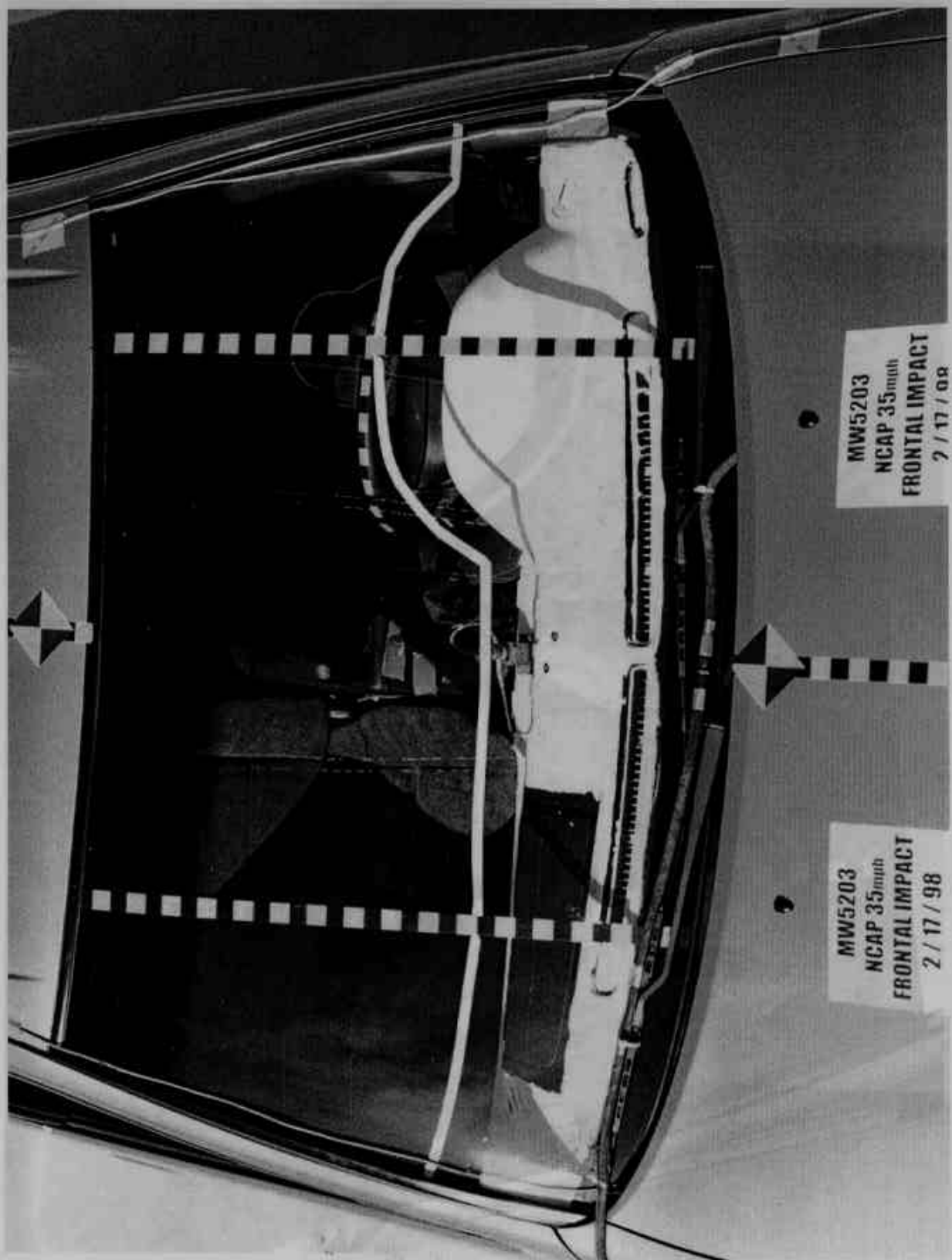


FIGURE A-15. PRETEST WINDSHIELD



FIGURE A-16. POST TEST WINDSHIELD

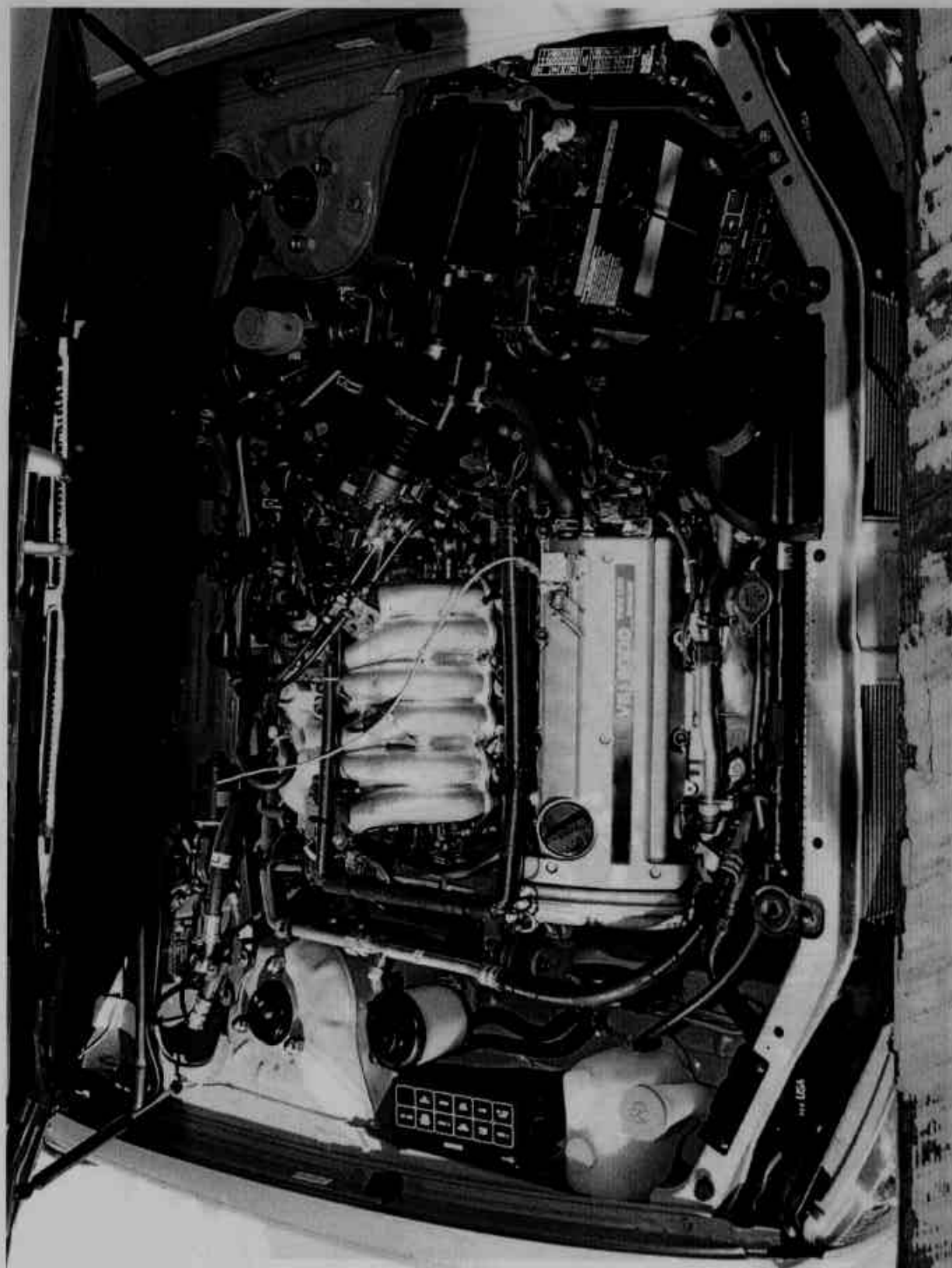


FIGURE A-17. PRETEST ENGINE COMPARTMENT

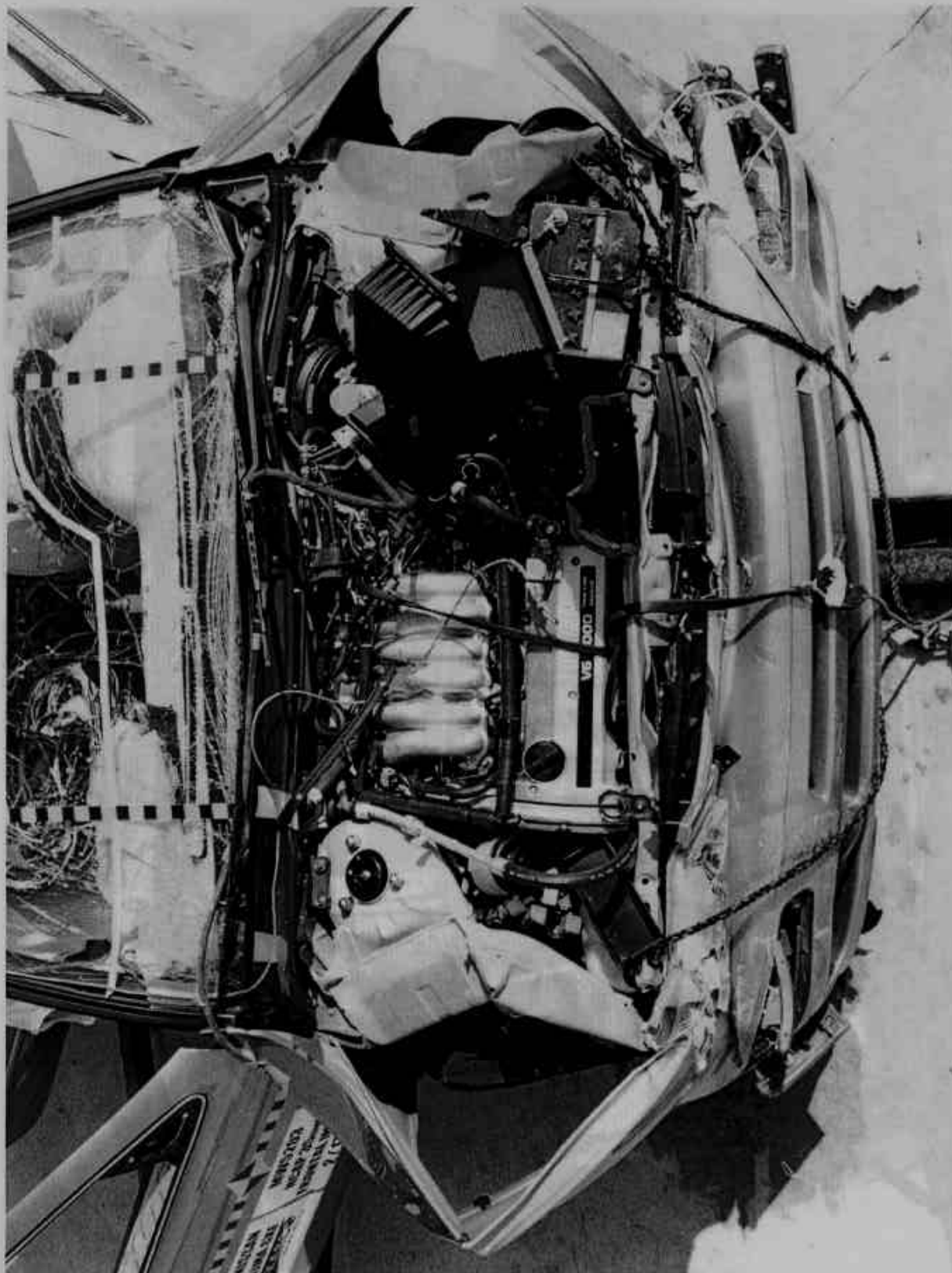


FIGURE A-18. POST TEST ENGINE COMPARTMENT

KAR-98-R98050-11

A-18

KAR-98-R98050-11



FIGURE A-19. PRETEST FUEL CAP



FIGURE A-20. POST TEST FUEL CAP

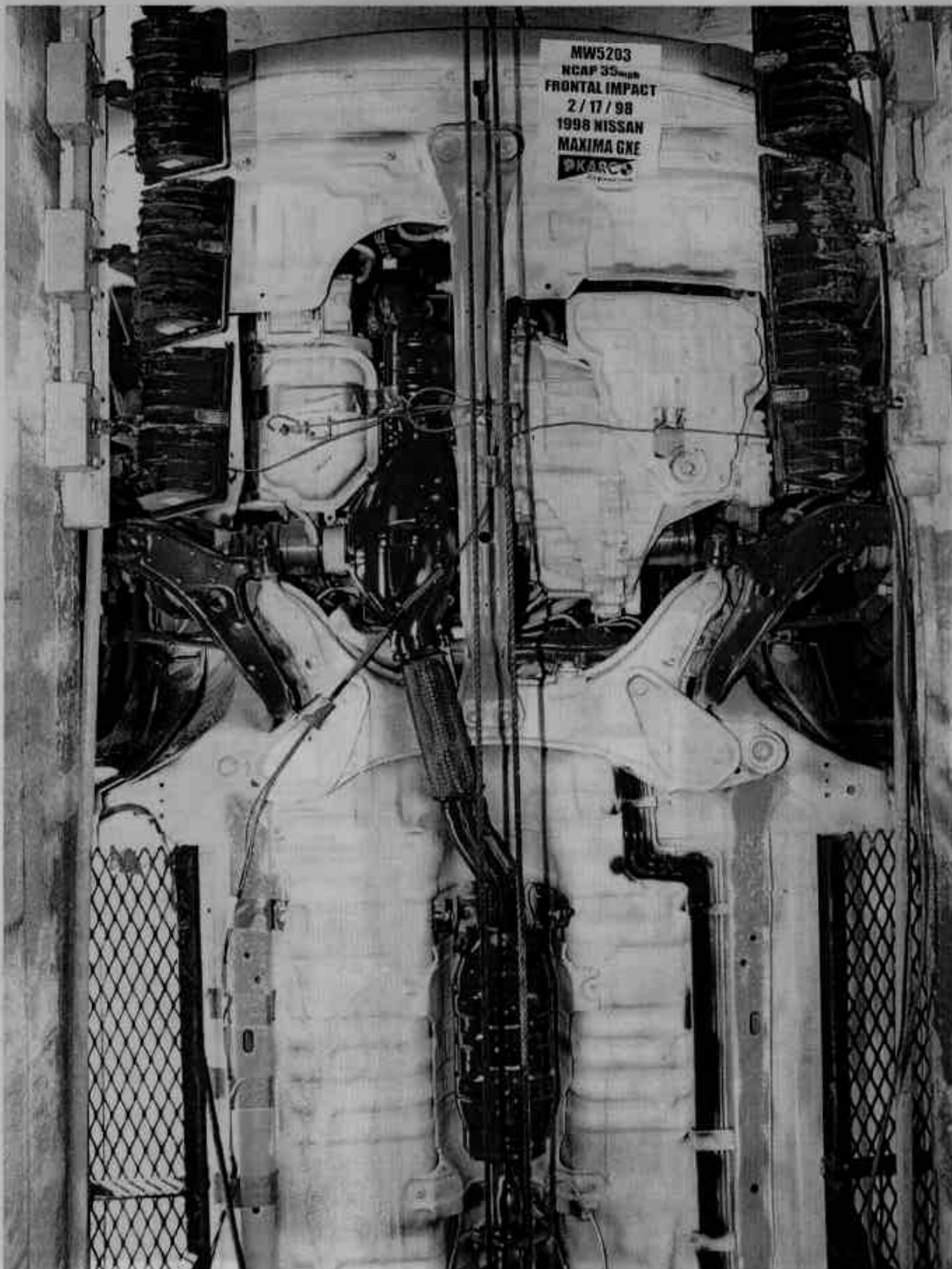


FIGURE A-21. PRETEST FRONT UNDERSIDE

17-0803MR-88 RAY

A-21

KAR-98-R98050-11

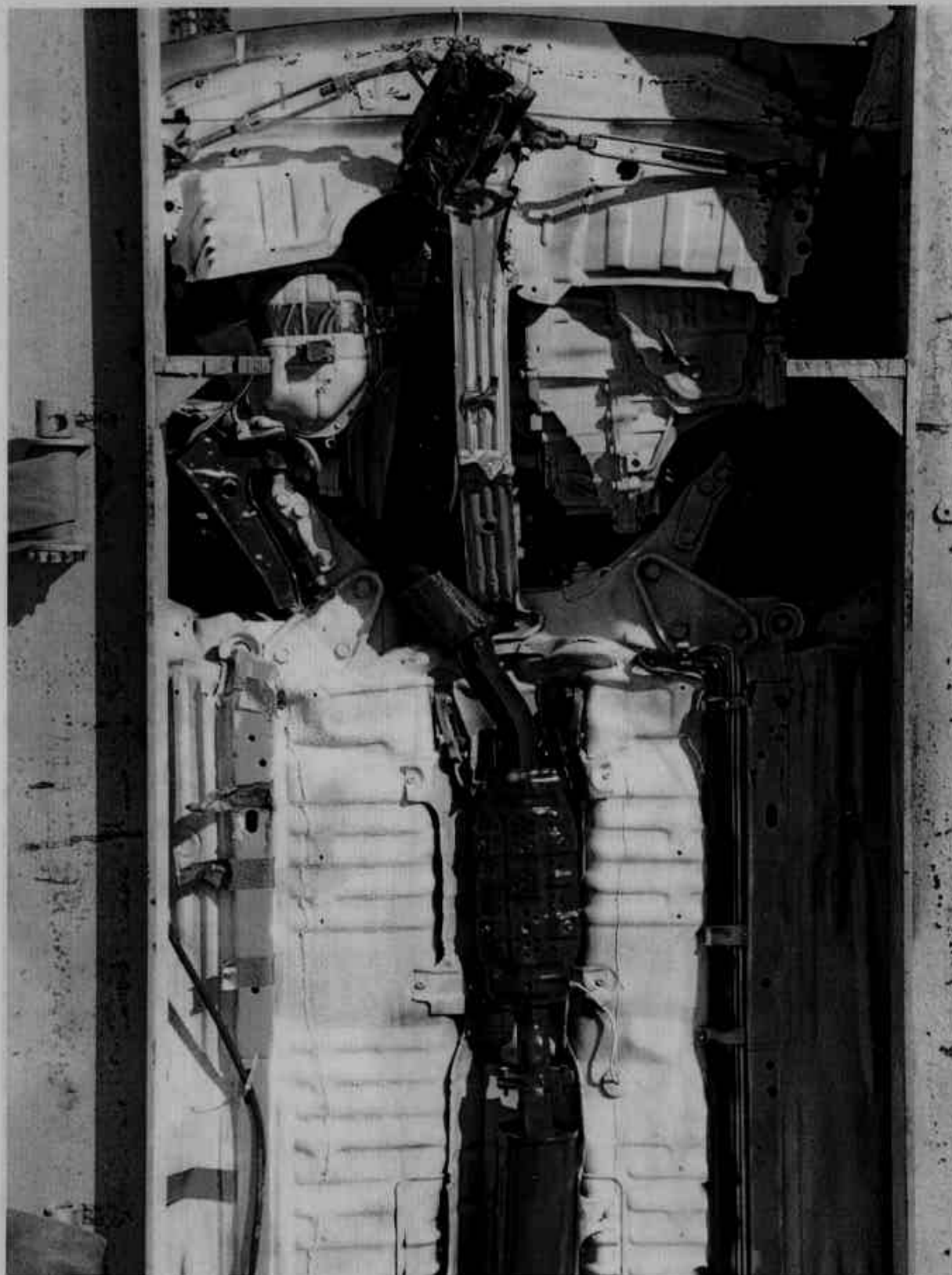


FIGURE A-22. POST TEST FRONT UNDERSIDE

11-030601-08-BAH

A-22

KAR-98-R98050-11

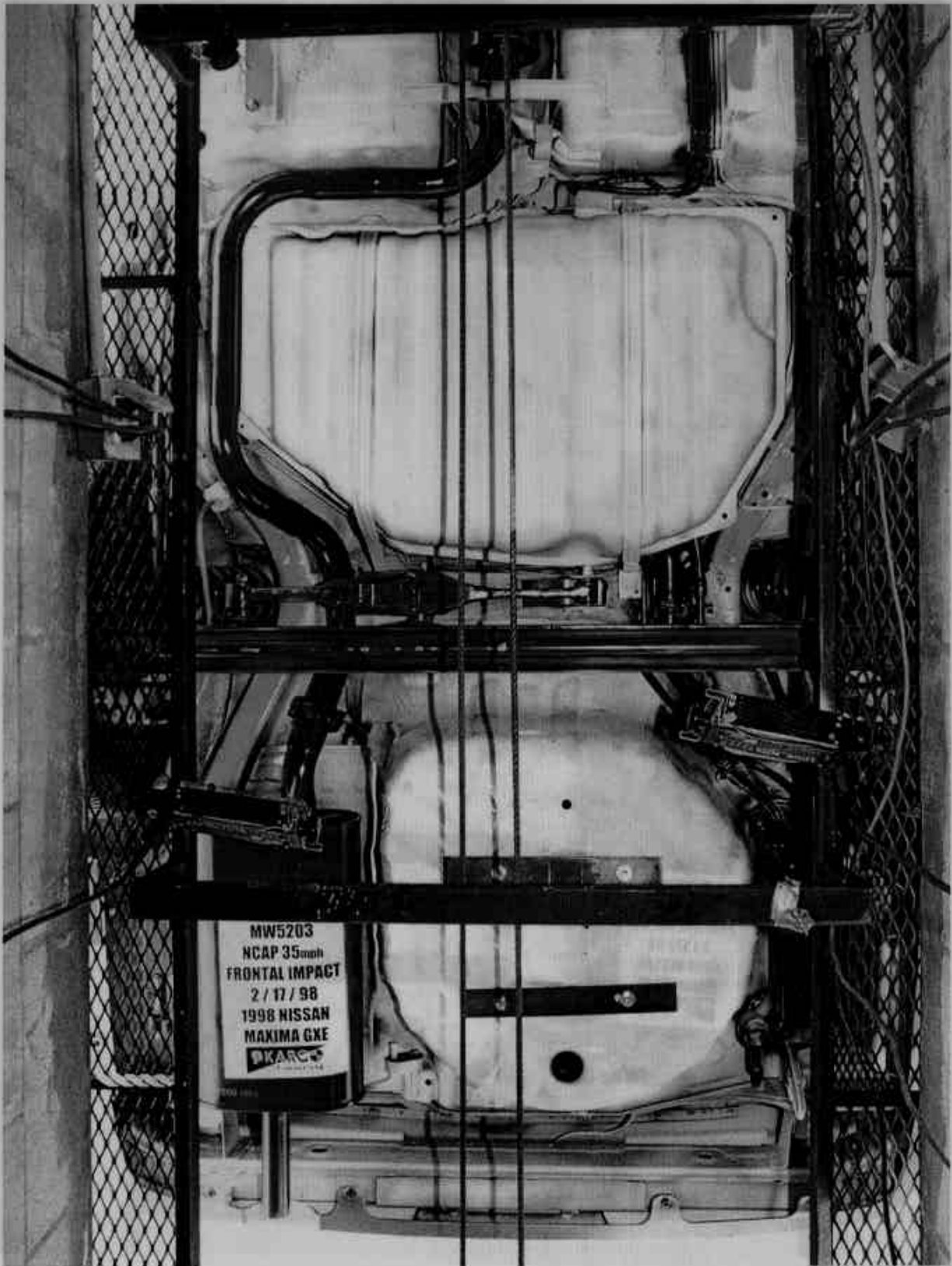


FIGURE A-23. PRETEST REAR UNDERSIDE

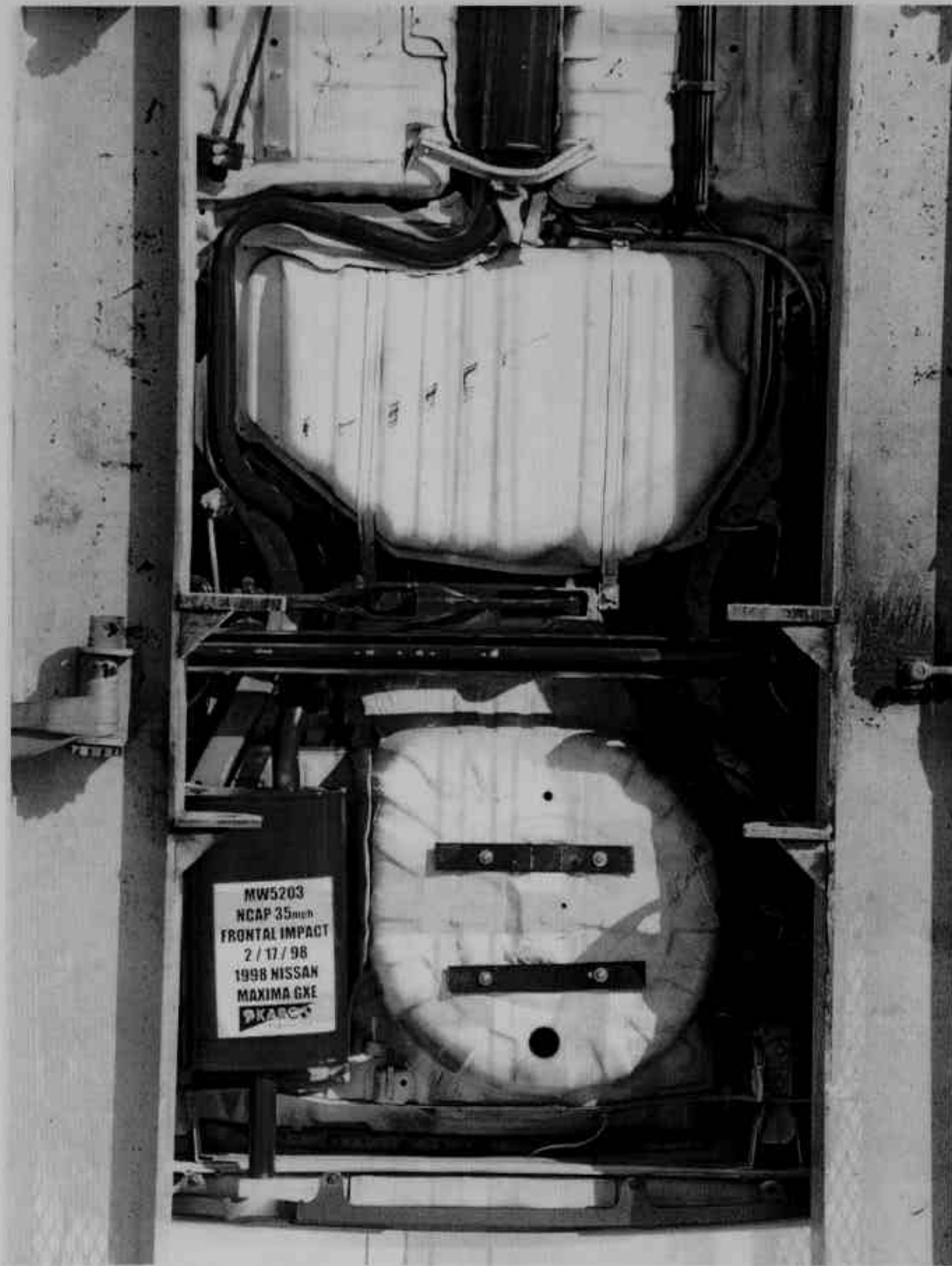


FIGURE A-24. POST TEST REAR UNDERSIDE

KAR-98-R98050-11

A-24

KAR-98-R98050-11

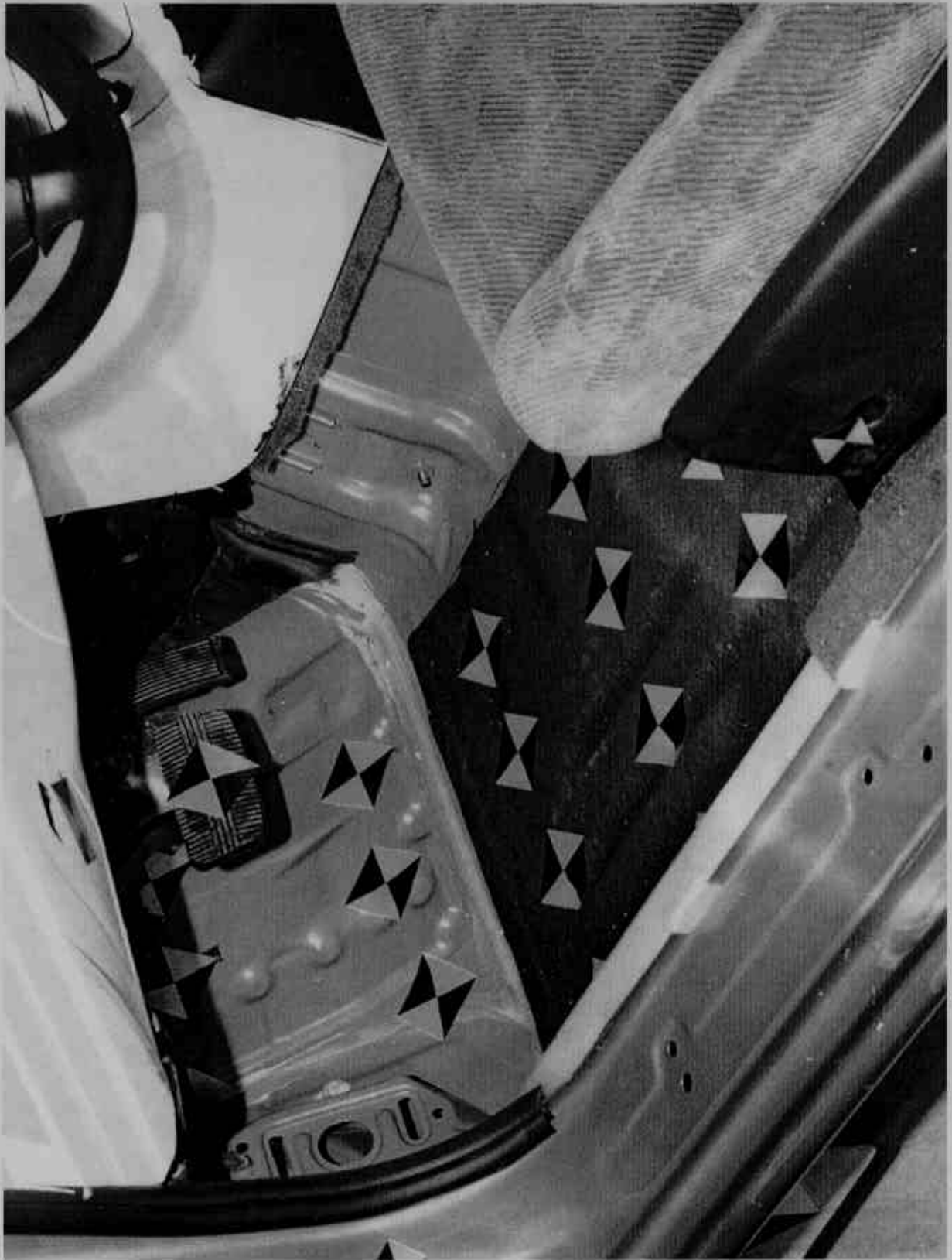


FIGURE A-25. PRETEST DRIVER FLOOR PAN

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A-25

KAR-98-R98050-11



FIGURE A-26. POST TEST DRIVER FLOOR PAN

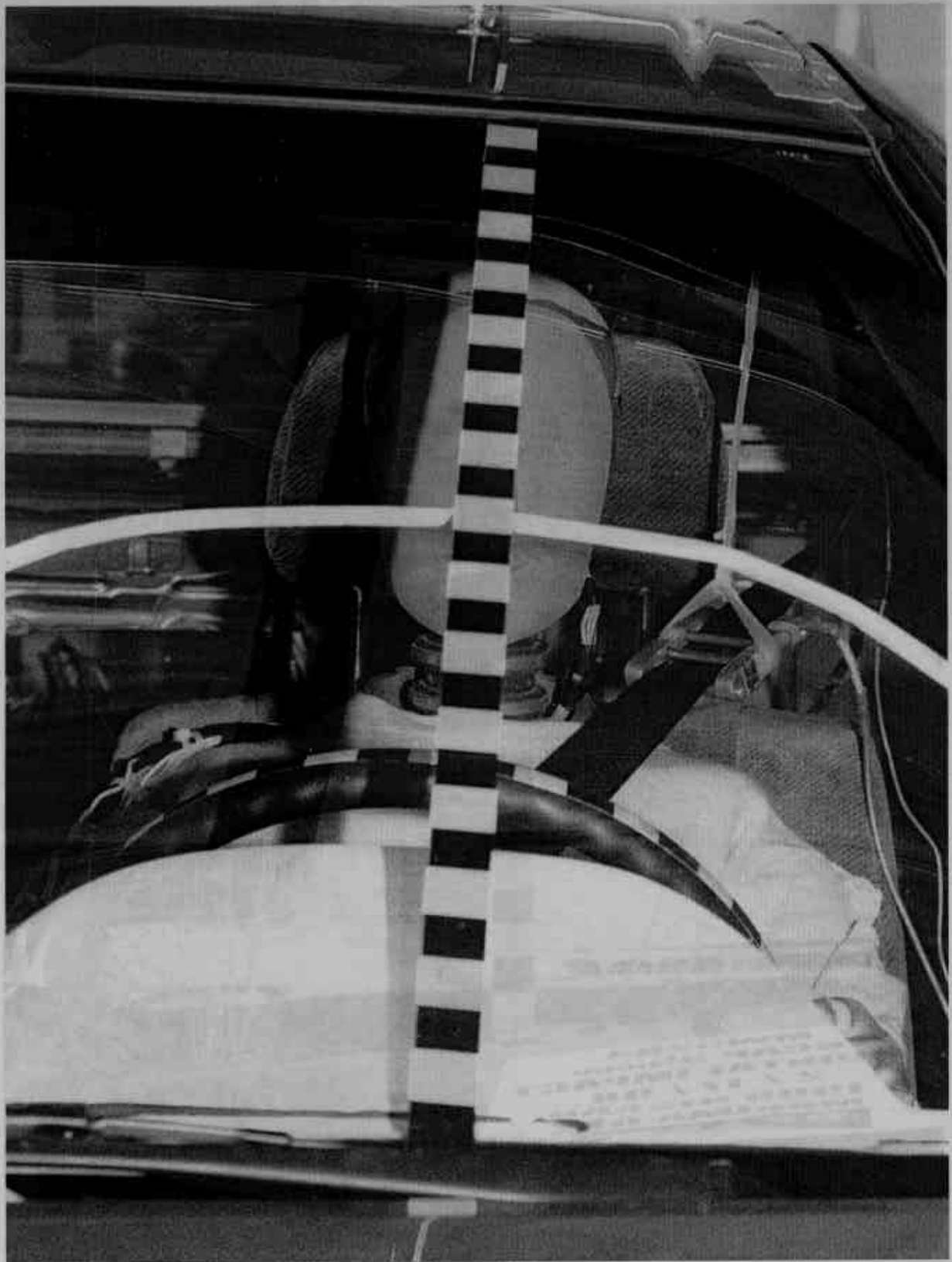


FIGURE A-27. PRETEST DRIVER DUMMY (FRONT VIEW)



FIGURE A-28. POST TEST DRIVER DUMMY (FRONT VIEW)



FIGURE A-29. PRETEST DRIVER DUMMY (THRU WINDOW)



FIGURE A-30. POST TEST DRIVER DUMMY (THRU WINDOW)



FIGURE A-31. PRETEST DRIVER DUMMY (DOOR OPEN)



FIGURE A-32. POST TEST DRIVER DUMMY (DOOR OPEN)



FIGURE A-33. PRETEST DRIVER DUMMY (90° TO VEHICLE)

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A-33

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FIGURE A-34. POST TEST DRIVER DUMMY (90° TO VEHICLE)



FIGURE A-35. POST TEST DRIVER DUMMY HEAD



FIGURE A-36. POST TEST DRIVER DUMMY CONTACT POINT



FIGURE A-37. POST TEST DRIVER DUMMY CONTACT POINT



FIGURE A-38. PRETEST DRIVER SIDE KNEE BOLSTER

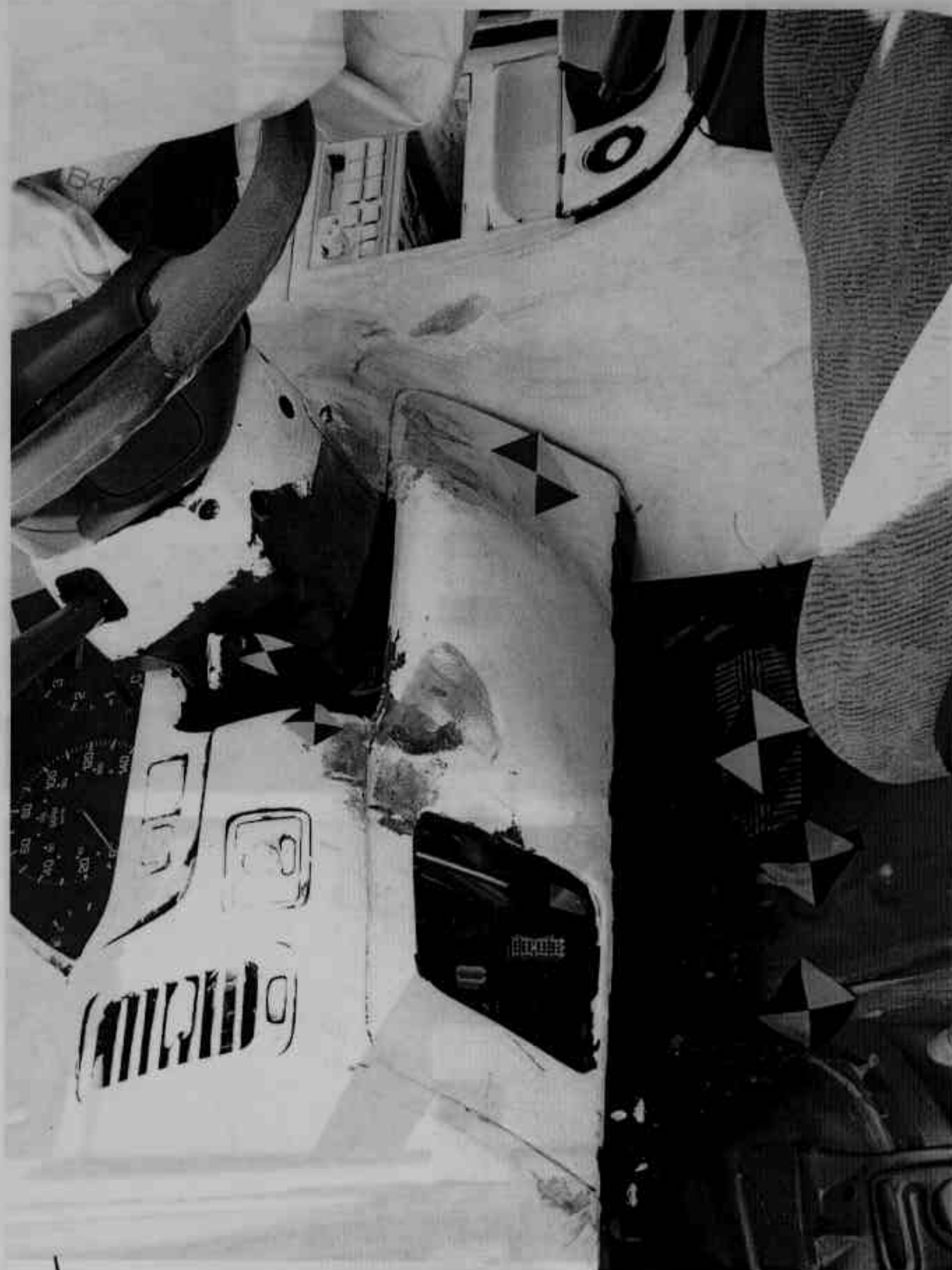


FIGURE A-39. POST TEST DRIVER KNEE BOLSTER

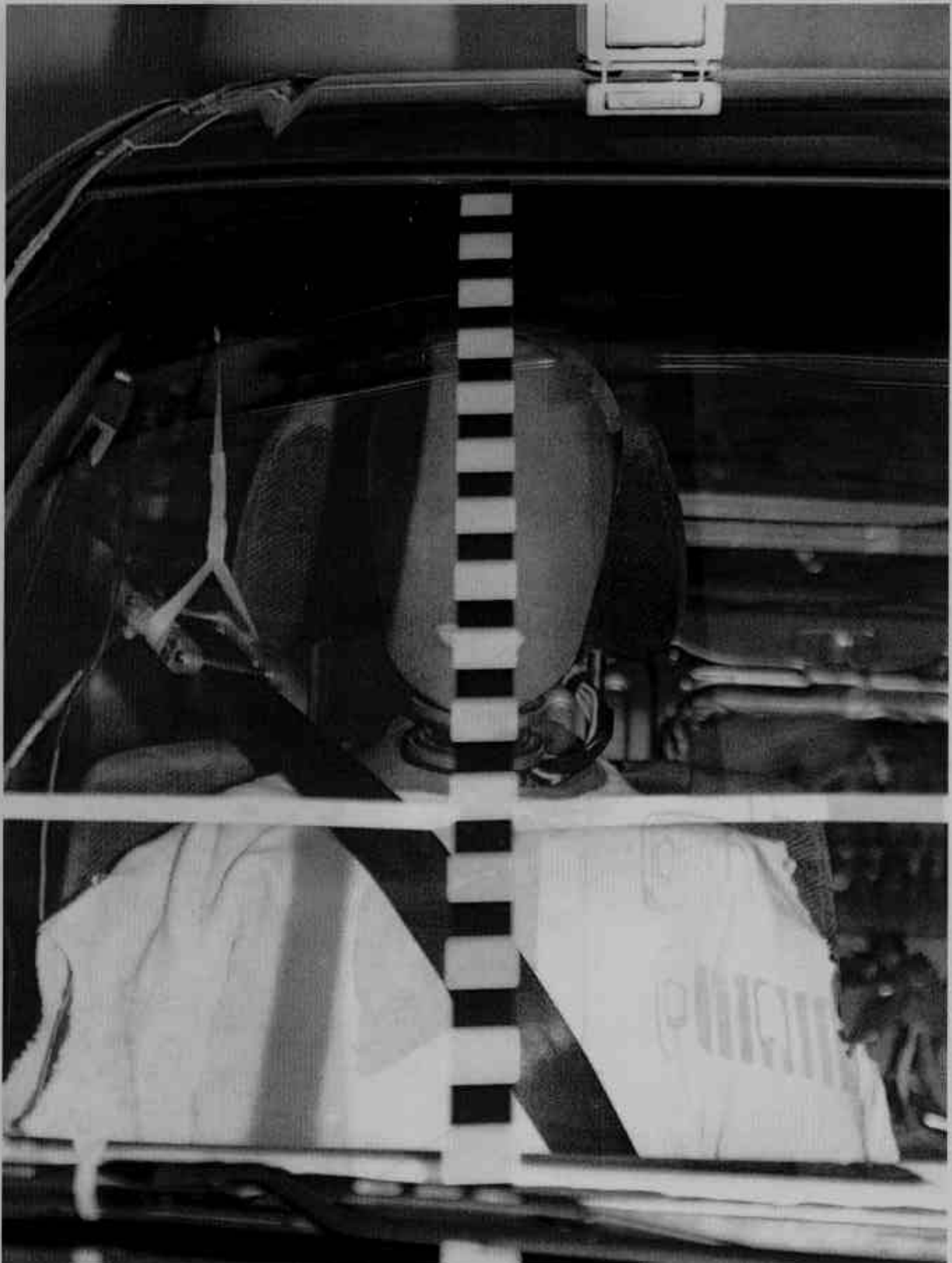


FIGURE A-40. PRETEST PASSENGER DUMMY (FRONT VIEW)



FIGURE A-41. POST TEST PASSENGER DUMMY (FRONT VIEW)



FIGURE A-42. PRETEST PASSENGER DUMMY (THRU WINDOW)



FIGURE A-43. POST TEST PASSENGER DUMMY (THRU WINDOW)



FIGURE A-44. PRETEST PASSENGER DUMMY (DOOR OPEN)

KAR-98-R98050-11

A-44

KAR-98-R98050-11



FIGURE A-45. POST TEST PASSENGER DUMMY (DOOR OPEN)

KAR-98-R98050-11

A-45

KAR-98-R98050-11



FIGURE A-46. PRETEST PASSENGER DUMMY (90° TO VEHICLE)

KAR-98-R98050-11

A-46

KAR-98-R98050-11



FIGURE A-47. POST TEST PASSENGER DUMMY (90° TO VEHICLE)



FIGURE A-48. POST TEST PASSENGER DUMMY HEAD

A-48

KAR-98-R98050-11

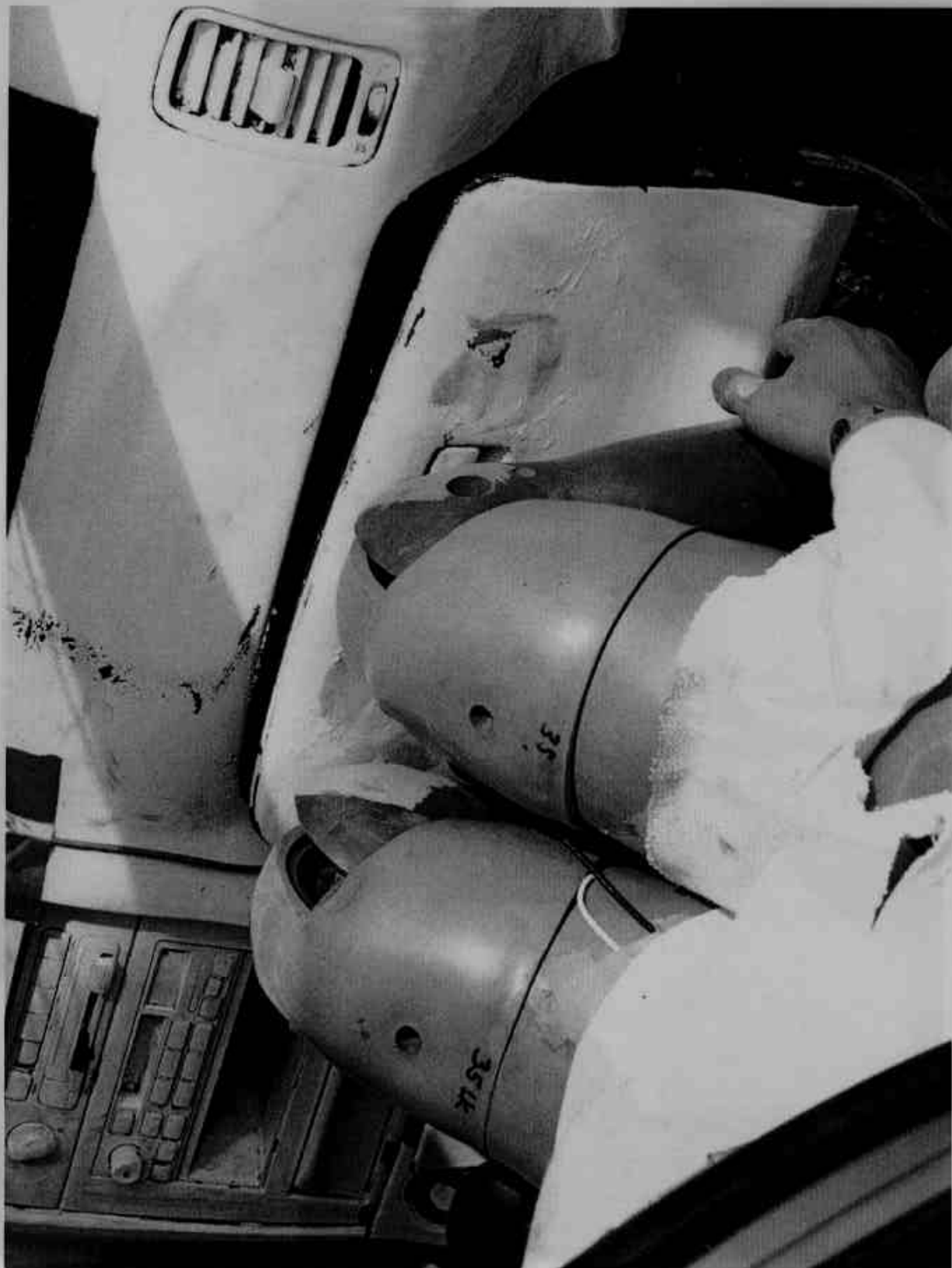


FIGURE A-49. POST TEST PASSENGER DUMMY CONTACT POINT



FIGURE A-50. POST TEST PASSENGER DUMMY CONTACT POINT

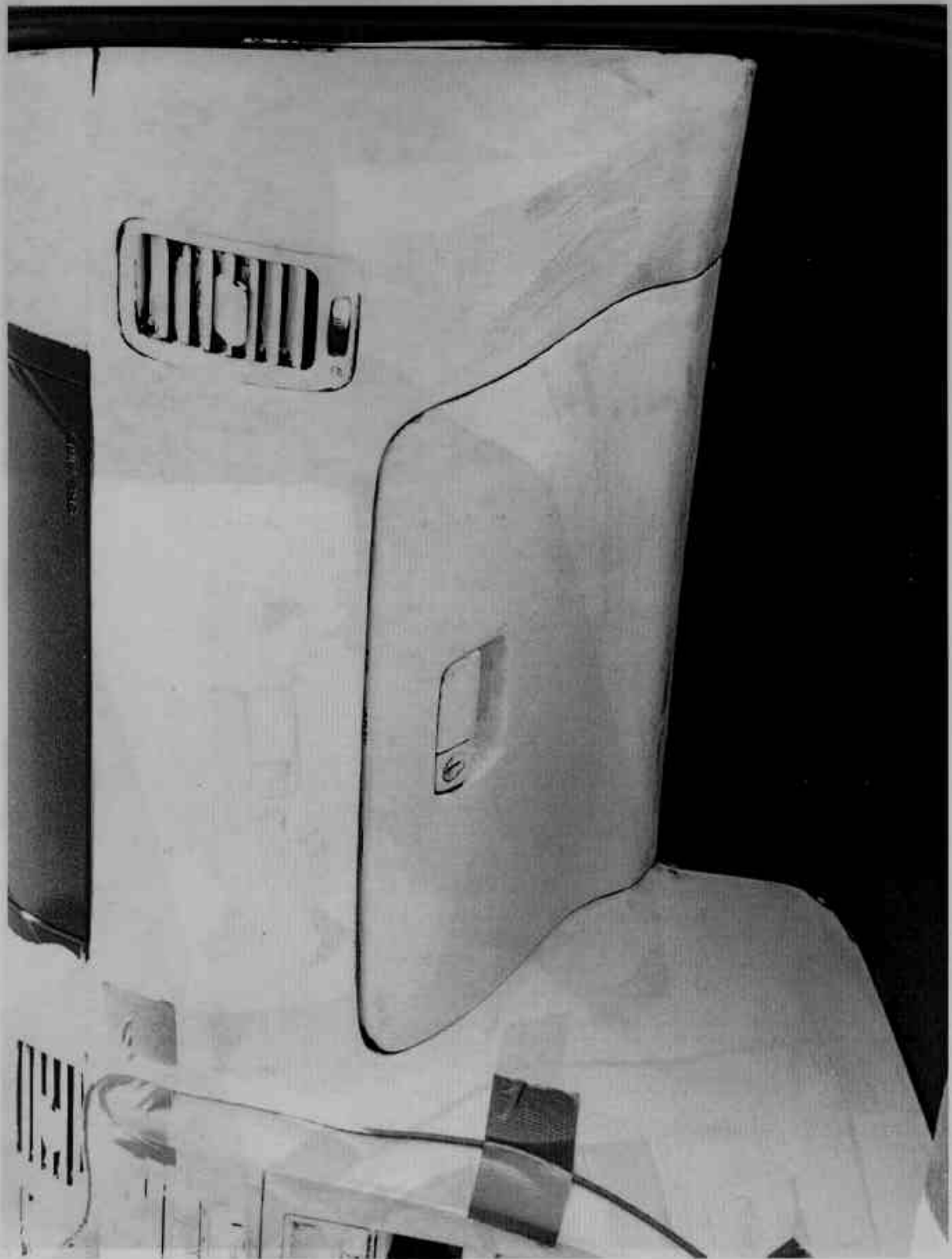


FIGURE A-51. PRETEST PASSENGER SIDE KNEE BOLSTER

11-090809-80-31A1

A-51

KAR-98-R98050-11



FIGURE A-52. POST TEST PASSENGER SIDE KNEE BOLSTER

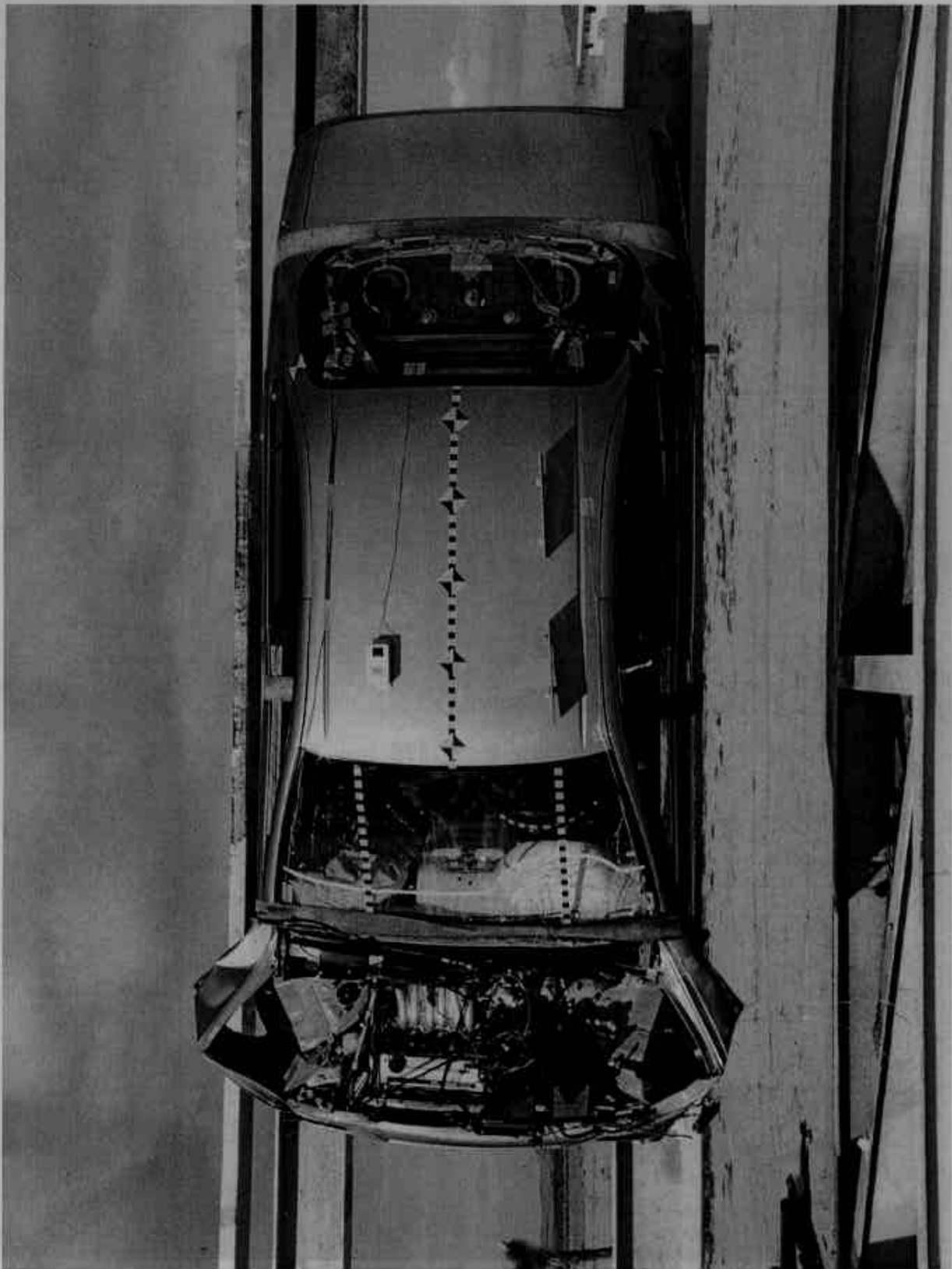


FIGURE A-53. VEHICLE ON ROLLOVER

17-060309-80-PAX

A-53

KAR-98-R98050-11

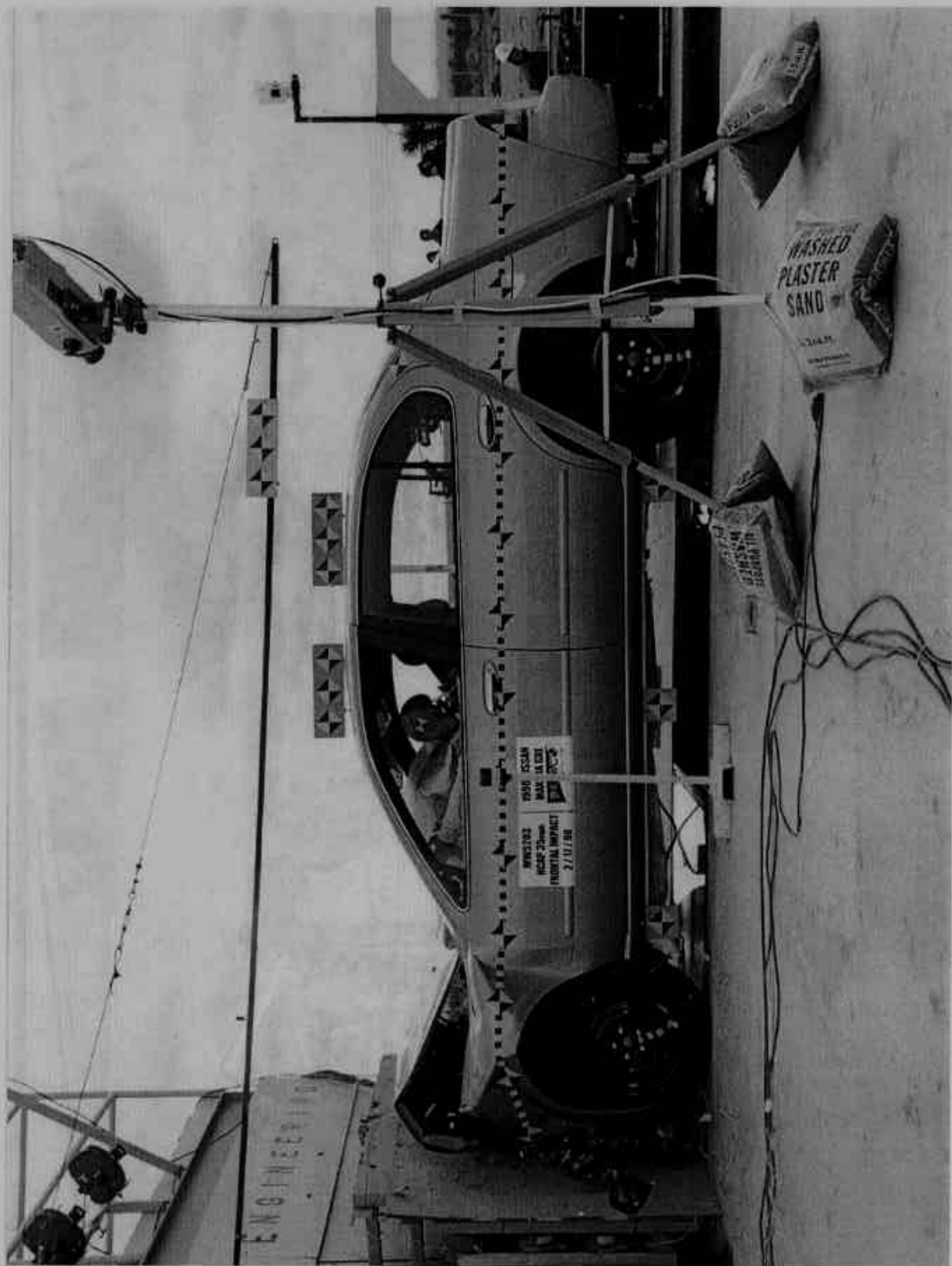


FIGURE A-54. VEHICLE DURING IMPACT

APPENDIX B
DUMMY, VEHICLE AND RESPONSE DATA TRACES

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B-45	Driver Right Upper Tibia Moment Y	B-45
B-46	Driver Left Lower Tibia Force X	B-46
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LIST OF DATA PLOTS...(Continued)

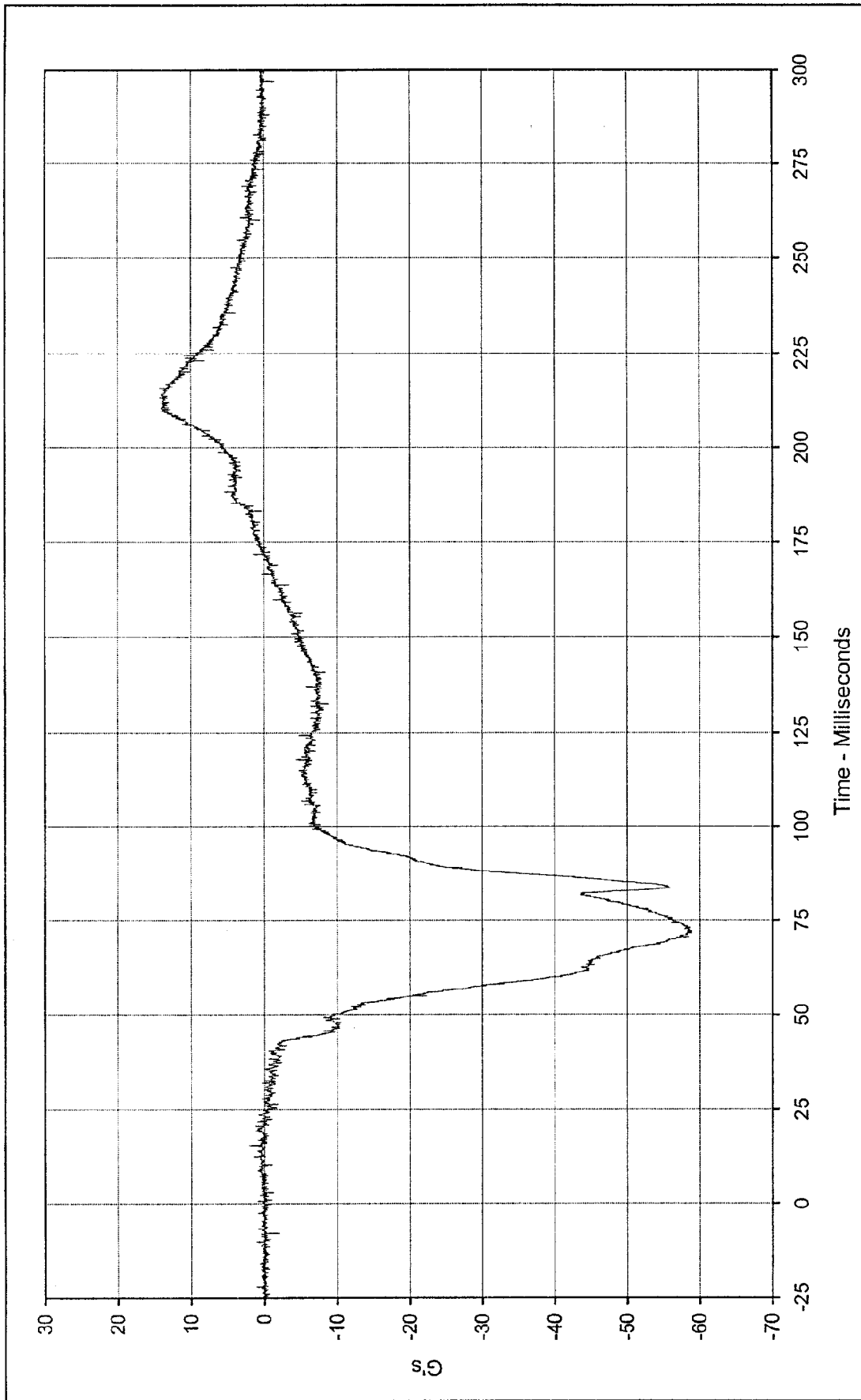
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LIST OF DATA PLOTS...(Continued)

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B-109	Passenger Left Lower Tibia Moment Y	B-109
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B-113	Passenger Left Foot Aft X	B-113
B-114	Passenger Left Foot Aft Z	B-114
B-115	Passenger Left Foot Fore Z	B-115
B-116	Passenger Right Foot Aft X	B-116
B-117	Passenger Right Foot Aft Z	B-117
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B-119	Passenger Lap Belt Force	B-119
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B-121	Passenger Shoulder Belt Pullout	B-121
B-122	Passenger Shoulder Belt Elongation	B-122
B-123	Vehicle Left Rear Primary X	B-123
B-124	Vehicle Left Rear Primary Velocity X	B-124
B-125	Vehicle Left Rear Primary Displacement	B-125
B-126	Vehicle Right Rear Primary X	B-126
B-127	Vehicle Right Rear Primary Velocity X	B-127
B-128	Vehicle Right Rear Primary Displacement	B-128
B-129	Vehicle Engine Top X	B-129
B-130	Vehicle Engine Top Velocity X	B-130
B-131	Vehicle Engine Top Displacement	B-131
B-132	Vehicle Engine Bottom X	B-132
B-133	Vehicle Engine Bottom Velocity X	B-133
B-134	Vehicle Engine Bottom Displacement	B-134
B-135	Vehicle Left Brake Caliper X	B-135
B-136	Vehicle Left Brake Caliper Velocity X	B-136
B-137	Vehicle Left Brake Caliper Displacement	B-137
B-138	Vehicle Right Brake Caliper X	B-138
B-139	Vehicle Right Brake Caliper Velocity X	B-139
B-140	Vehicle Right Brake Caliper Displacement	B-140

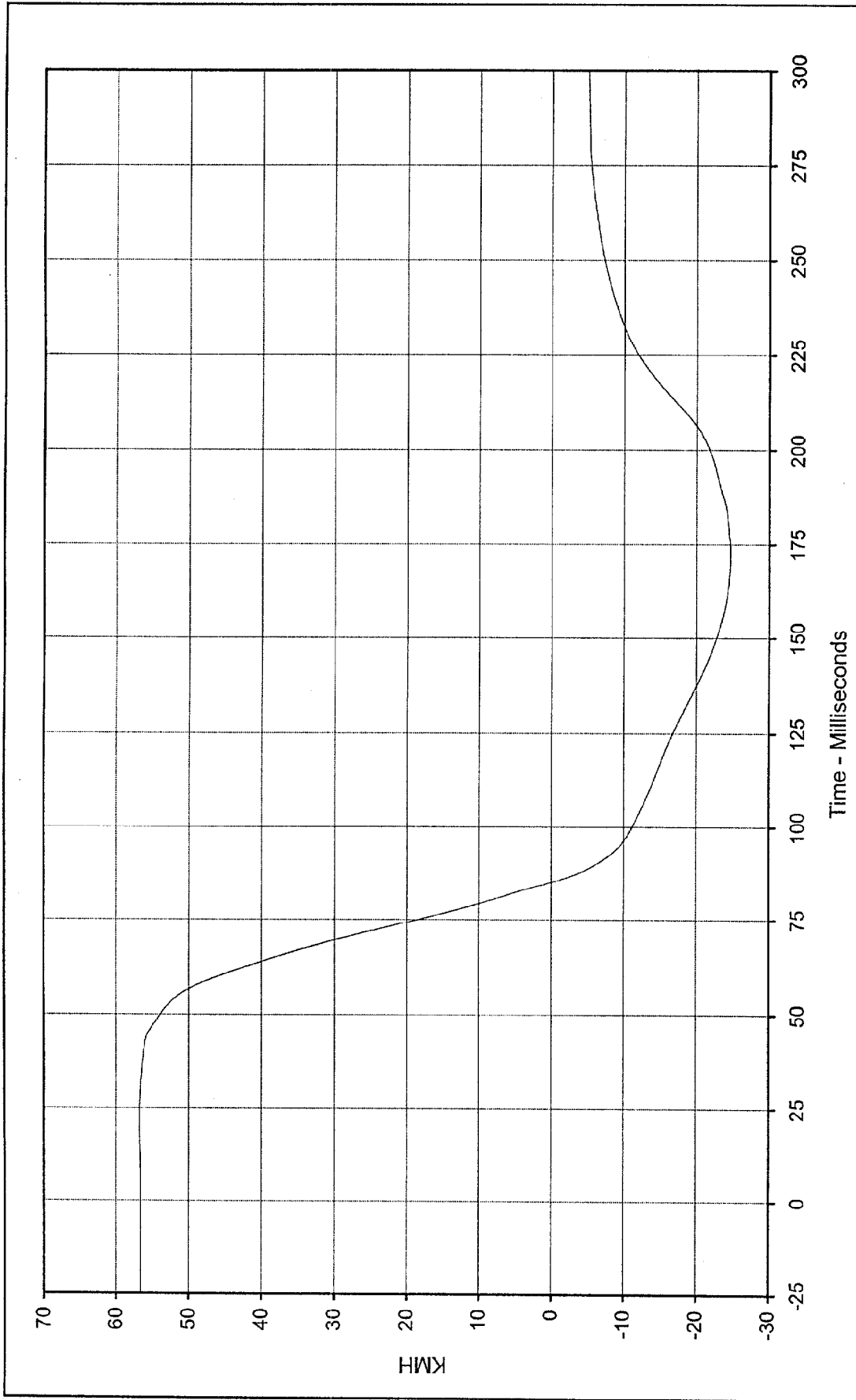
LIST OF DATA PLOTS...(Continued)

Data Plot		Page
B-141	Vehicle Instrument Panel X	B-141
B-142	Vehicle Instrument Panel Velocity X	B-142
B-143	Vehicle Instrument Panel Displacement	B-143
B-144	Vehicle Left Rear Redundant X	B-144
B-145	Vehicle Left Rear Redundant Velocity X	B-145
B-146	Vehicle Left Rear Redundant Displacement	B-146



Curve Description:		Driver Head Primary X		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	14.3	at	213.1	Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan
Minimum Value:	-59.0	at	71.5	Milliseconds		
SAE Filter Class:	1000					
Date of Test:	2/17/98					
Curve Number:	FIL-001					





Curve Description: Driver Head Primary X Velocity

Maximum Value: 56.8 at 21.5 Milliseconds

Minimum Value: -24.7 at 171.3 Milliseconds

SAE Filter Class: 180

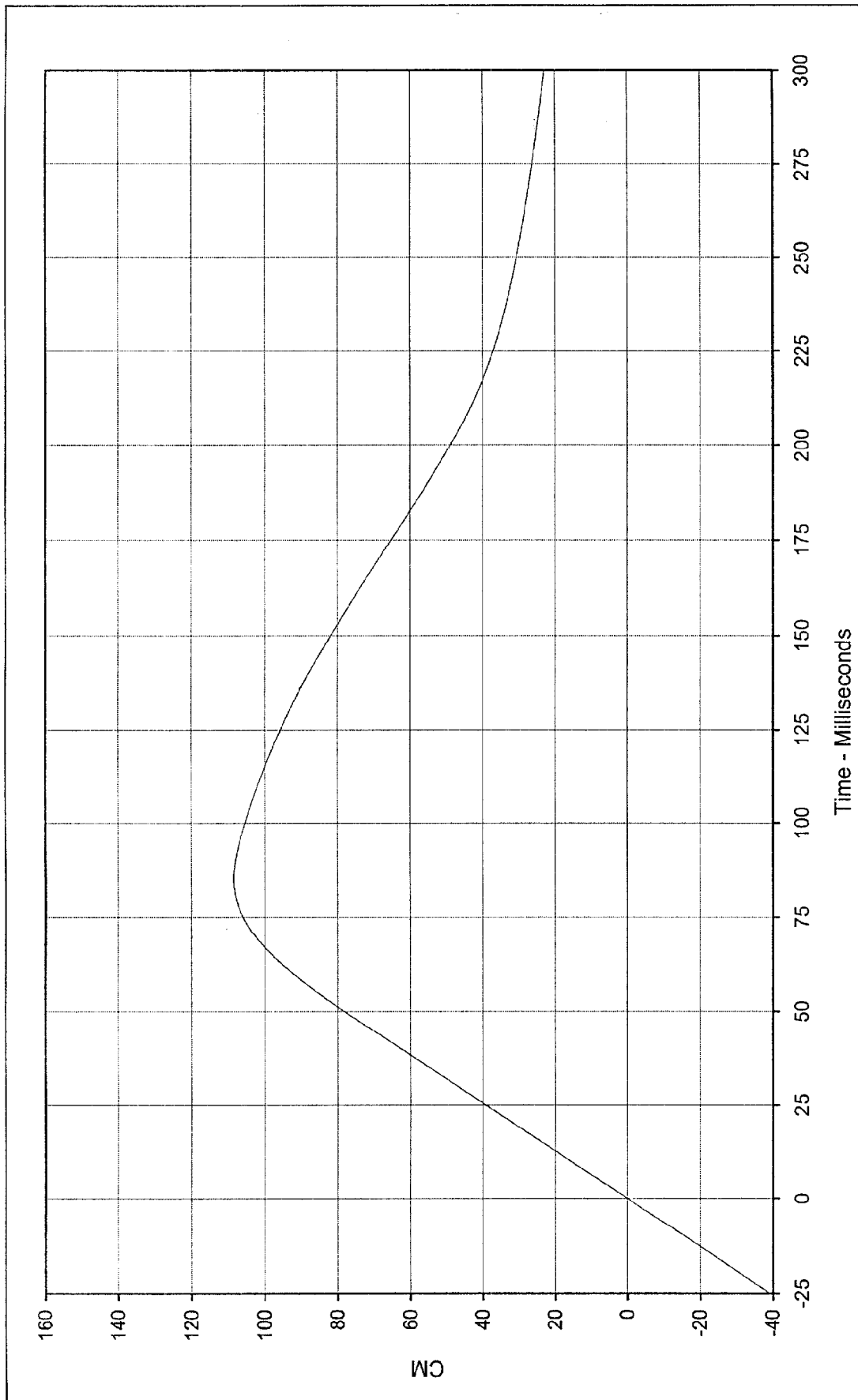
Date of Test: 2/17/98

Curve Number: IN1-001

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

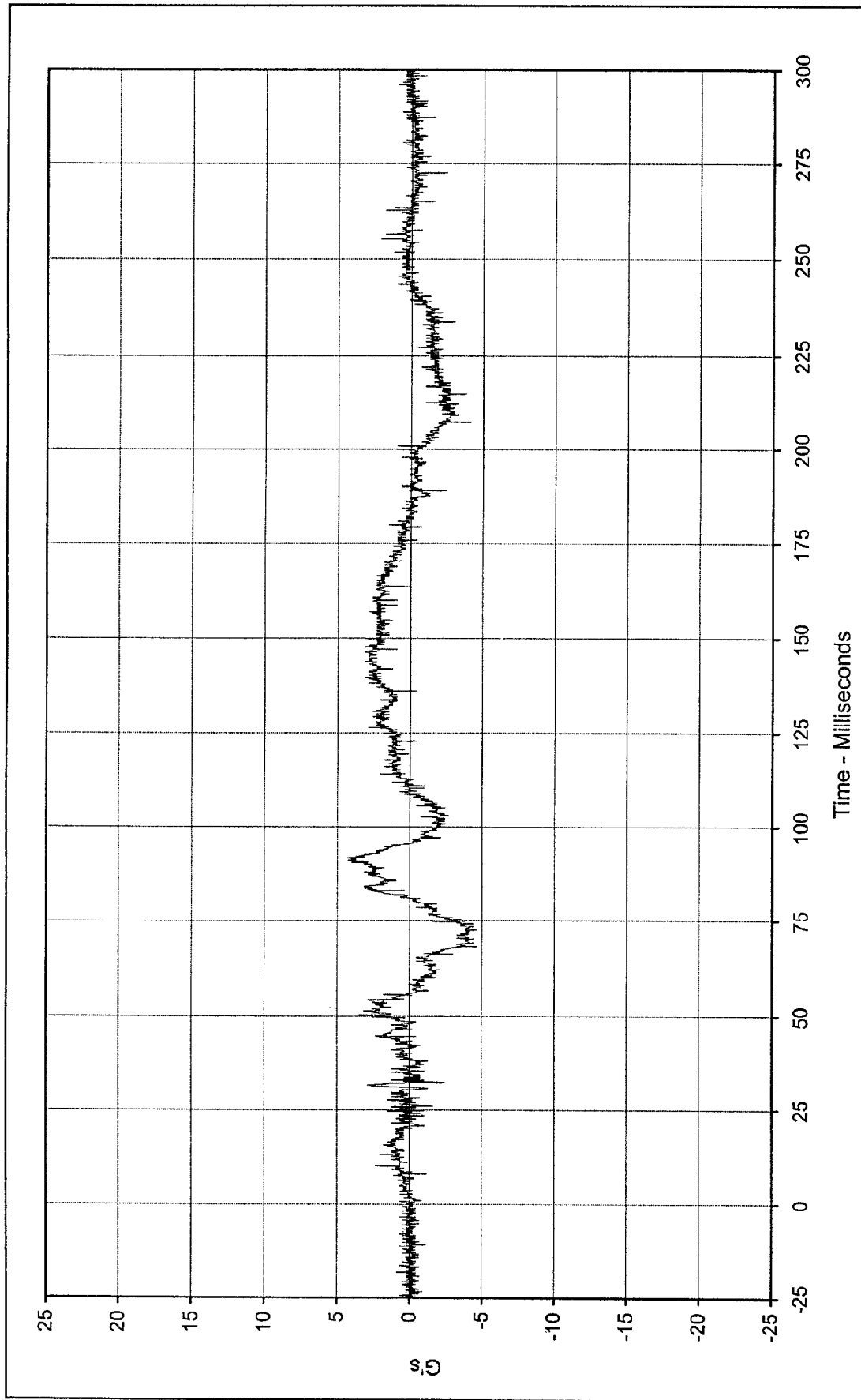




Curve Description: Driver Head Primary X Displ.
 Maximum Value: 108.4 at 85.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN2-001

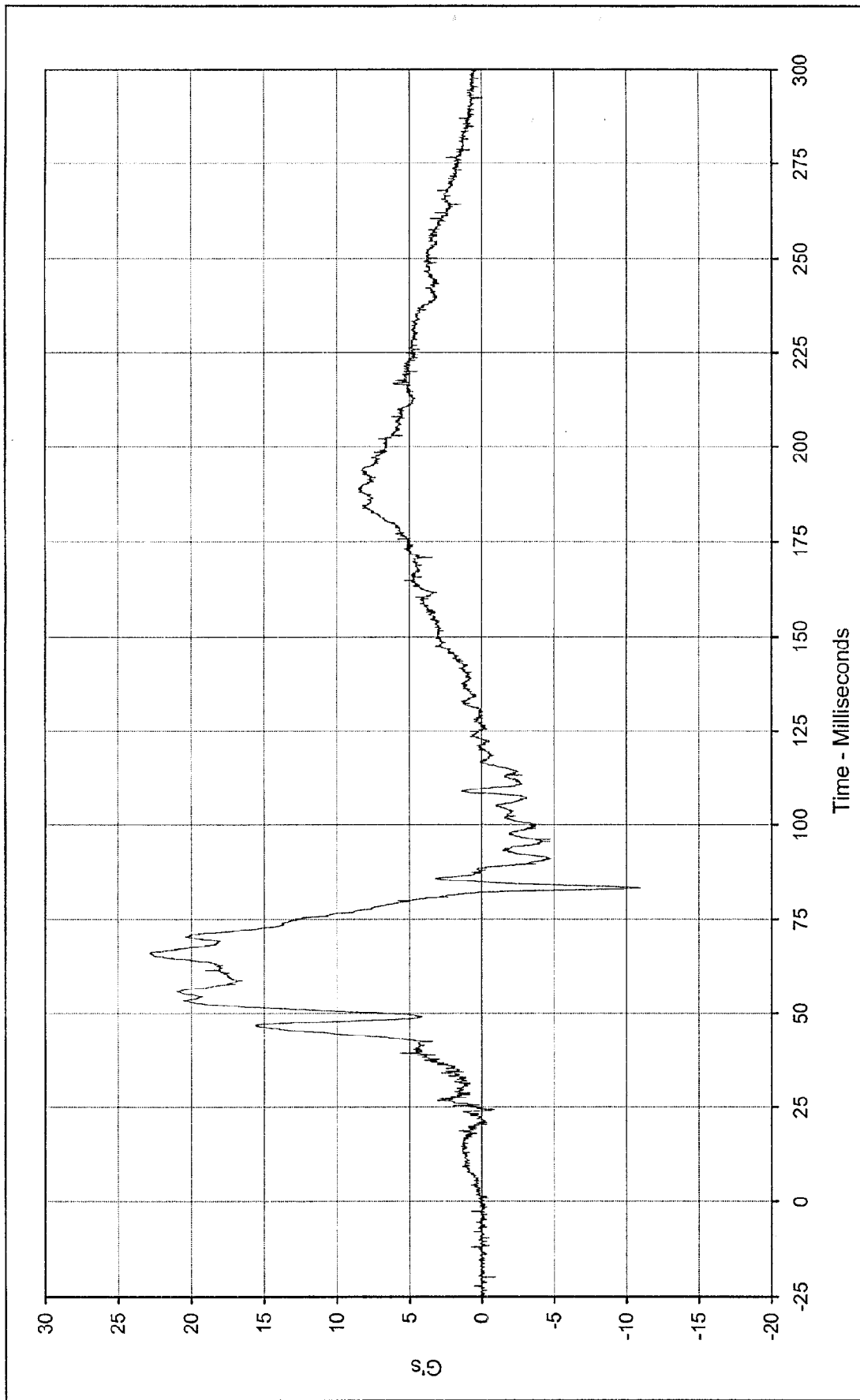
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Head Primary Y	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	4.3 at 91.1 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-4.7 at 68.2 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	2/17/98			
Curve Number:	FIL-002			

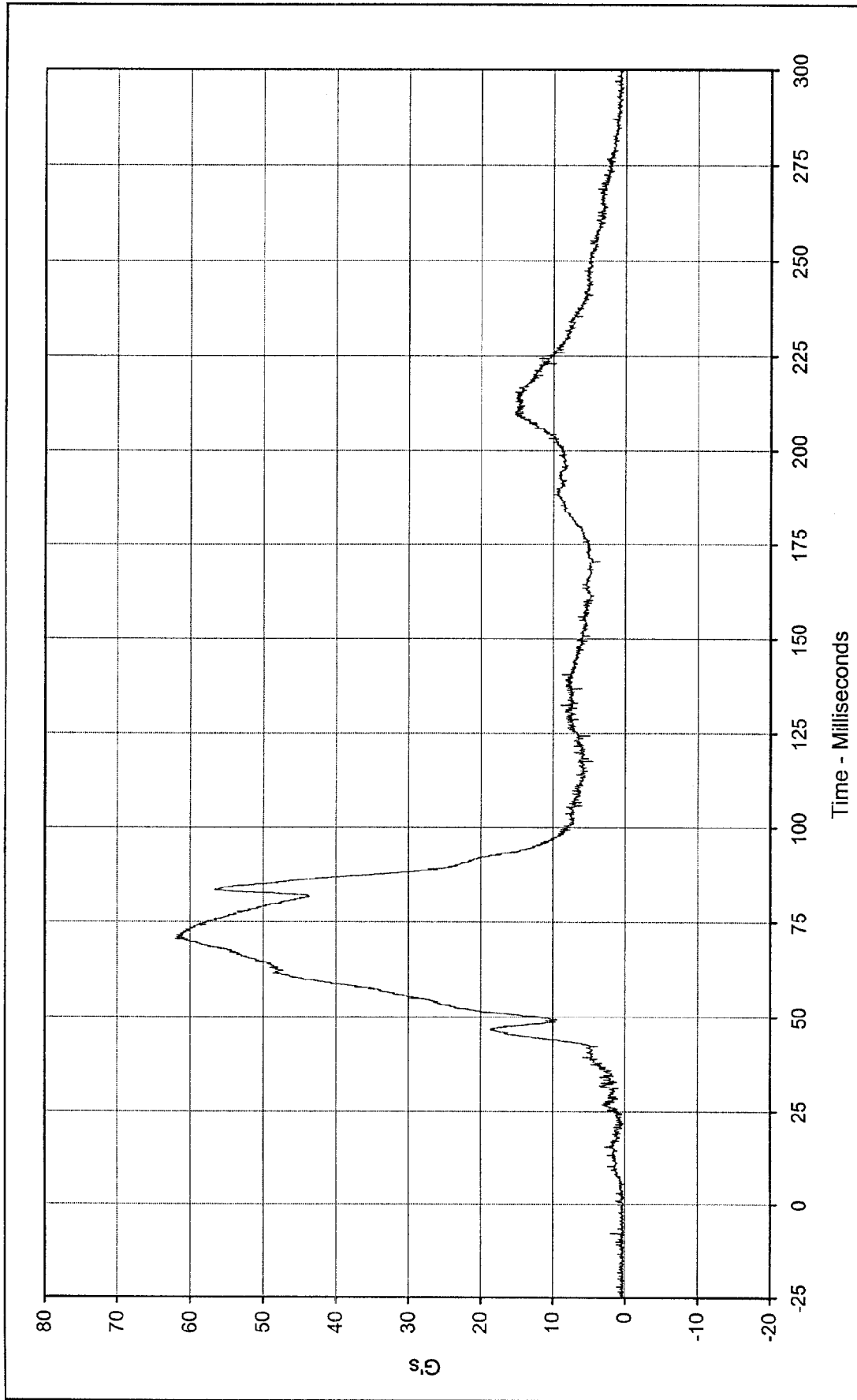




Curve Description: Driver Head Primary Z
 Maximum Value: 22.8 at 65.8 Milliseconds
 Minimum Value: -11.0 at 83.1 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-003

Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Head Resultant Primary

Maximum Value: 62.1 at 70.5 Milliseconds

Minimum Value: 0.1 at 5.4 Milliseconds

SAE Filter Class: 1000

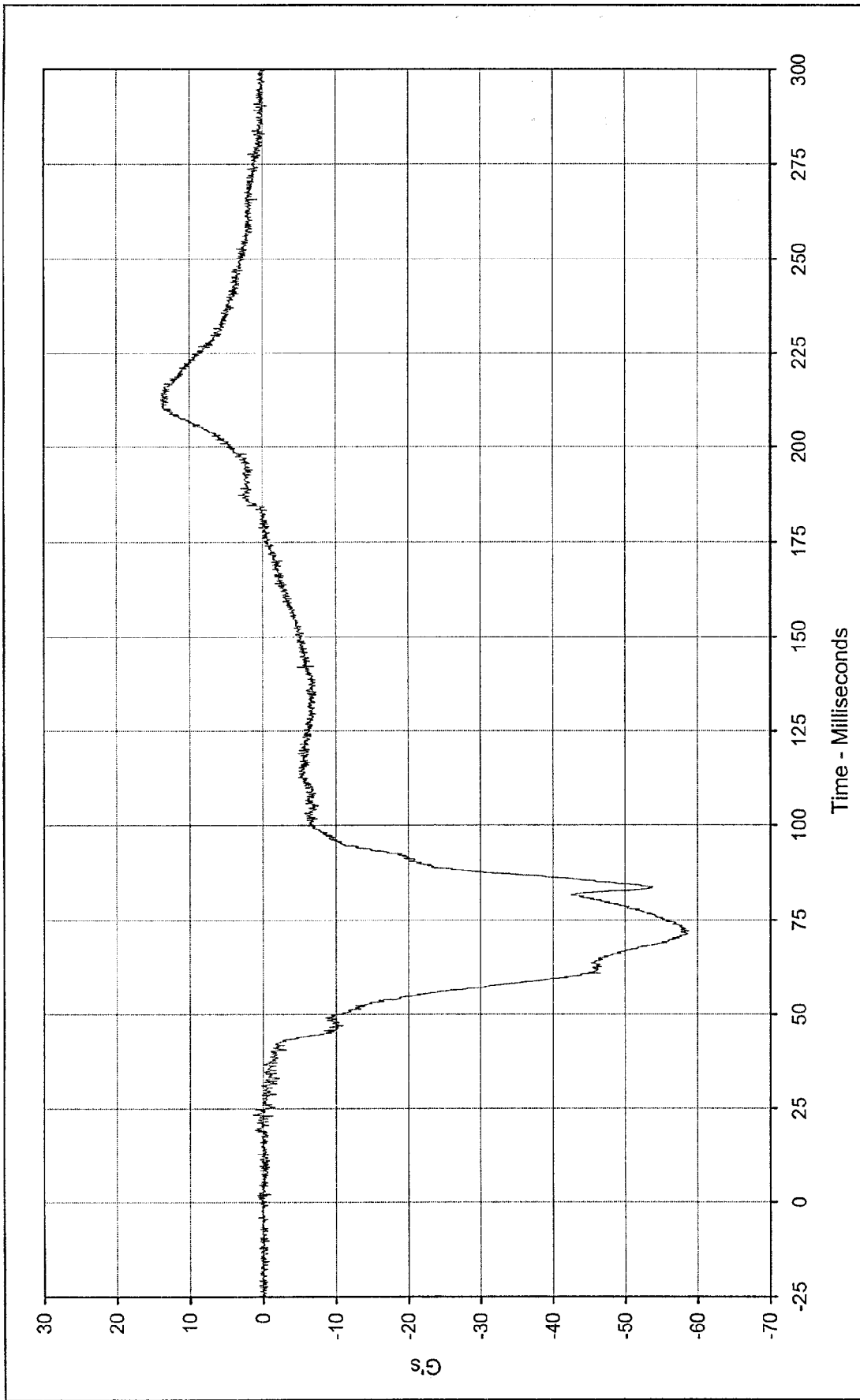
Date of Test: 2/17/98

Curve Number: RES-001

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

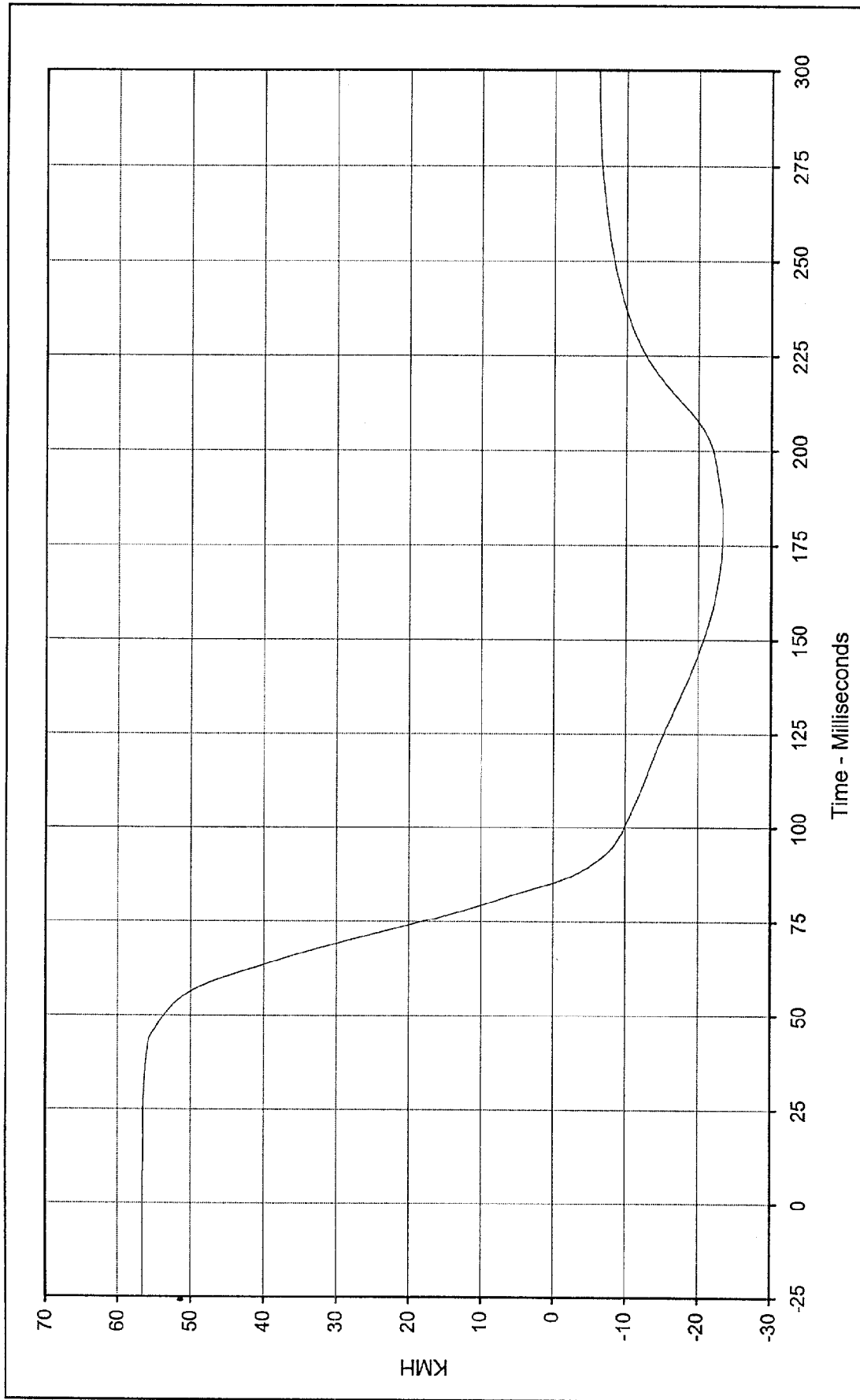




Curve Description:	Driver Head Redundant X		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	13.9	at 211.4	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-58.8	at 72.1			
SAE Filter Class:	1000				
Date of Test:	2/17/98				
Curve Number:	FIL-004				

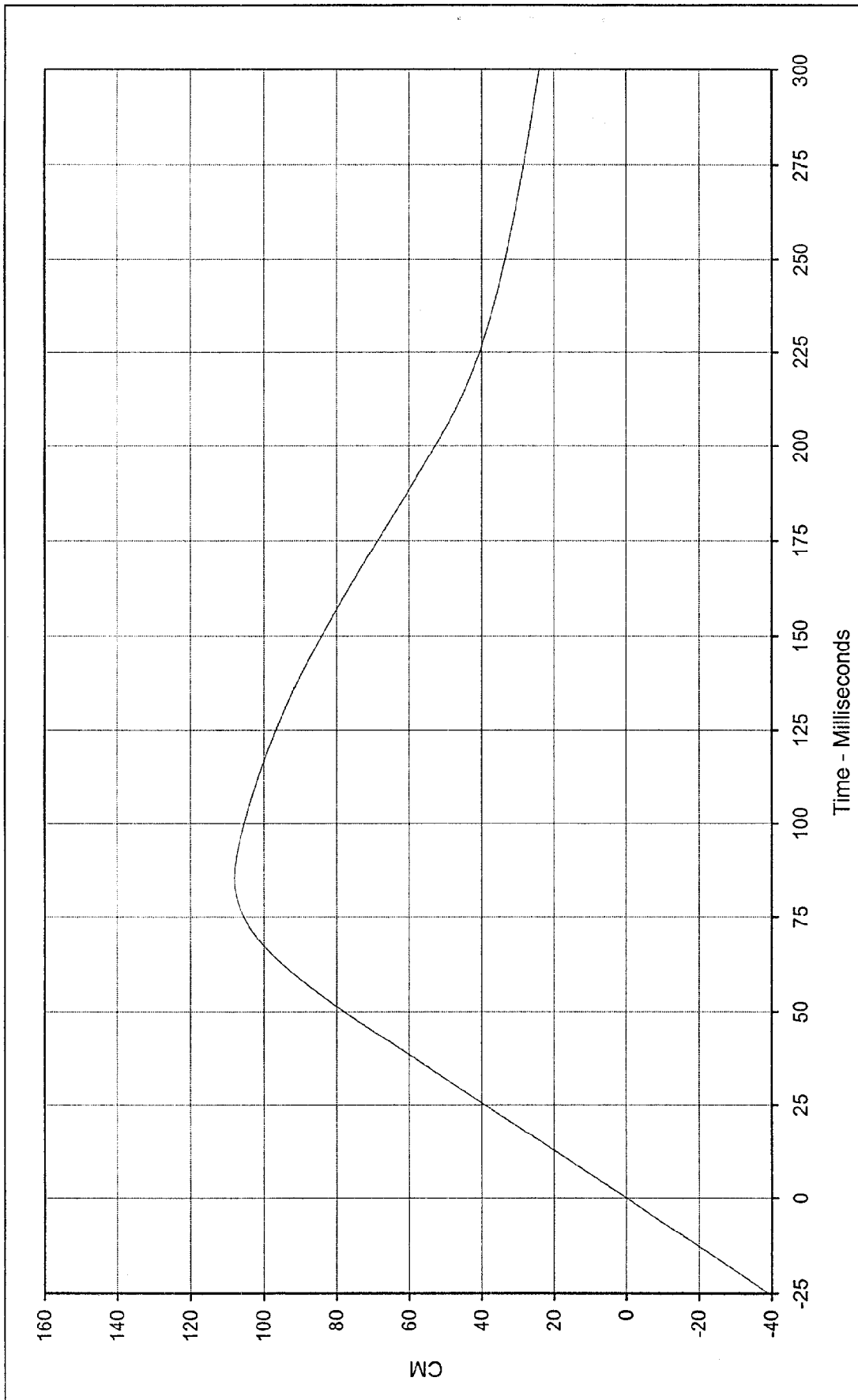






Curve Description:	Driver Head Redundant X Velocity	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	56.6	at	3.0	Milliseconds
Minimum Value:	-23.4	at	182.4	Milliseconds
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	IN1-004	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	

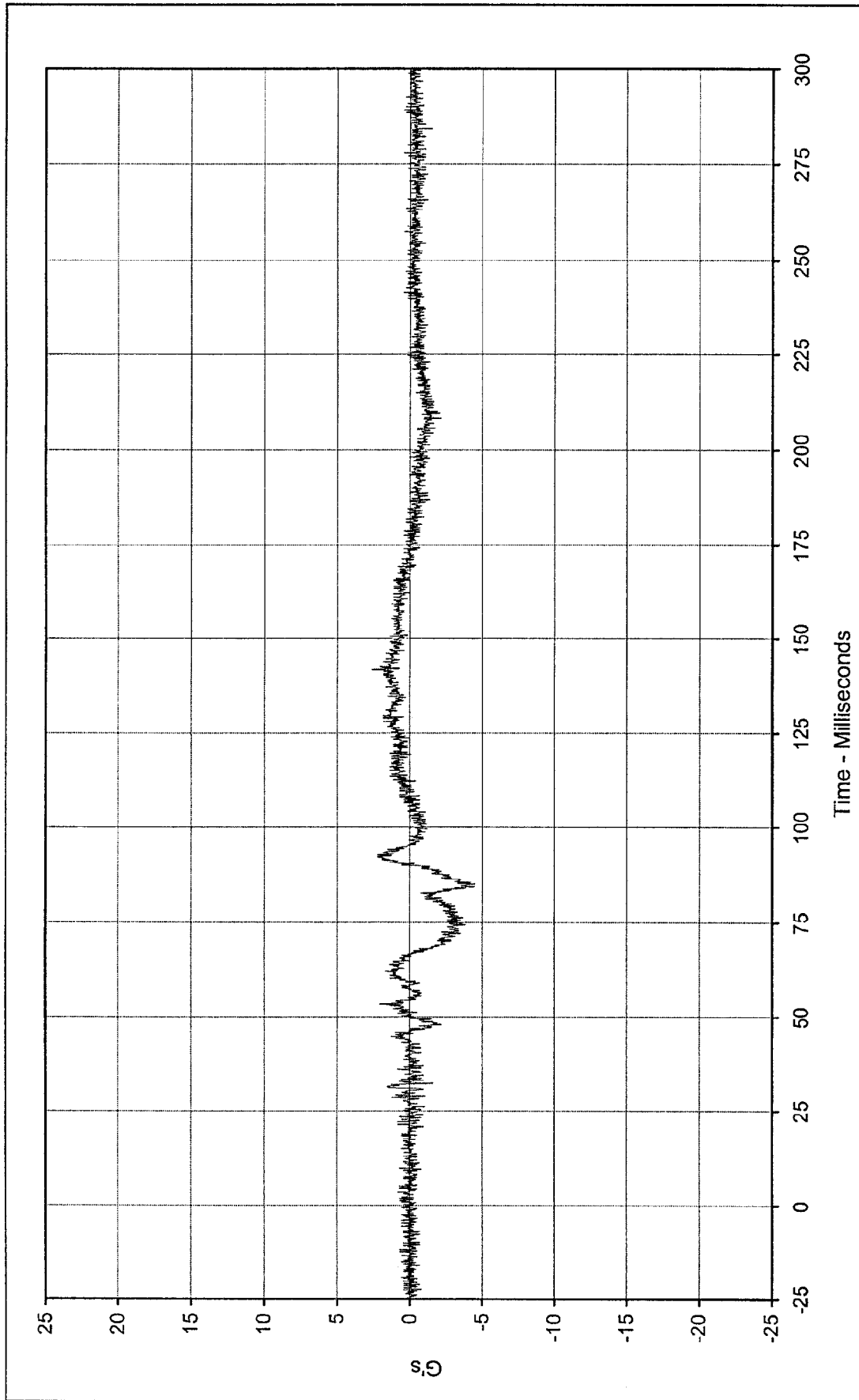




Curve Description: Driver Head Redundant X Displ.
 Maximum Value: 108.0 at 85.3 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN2-004

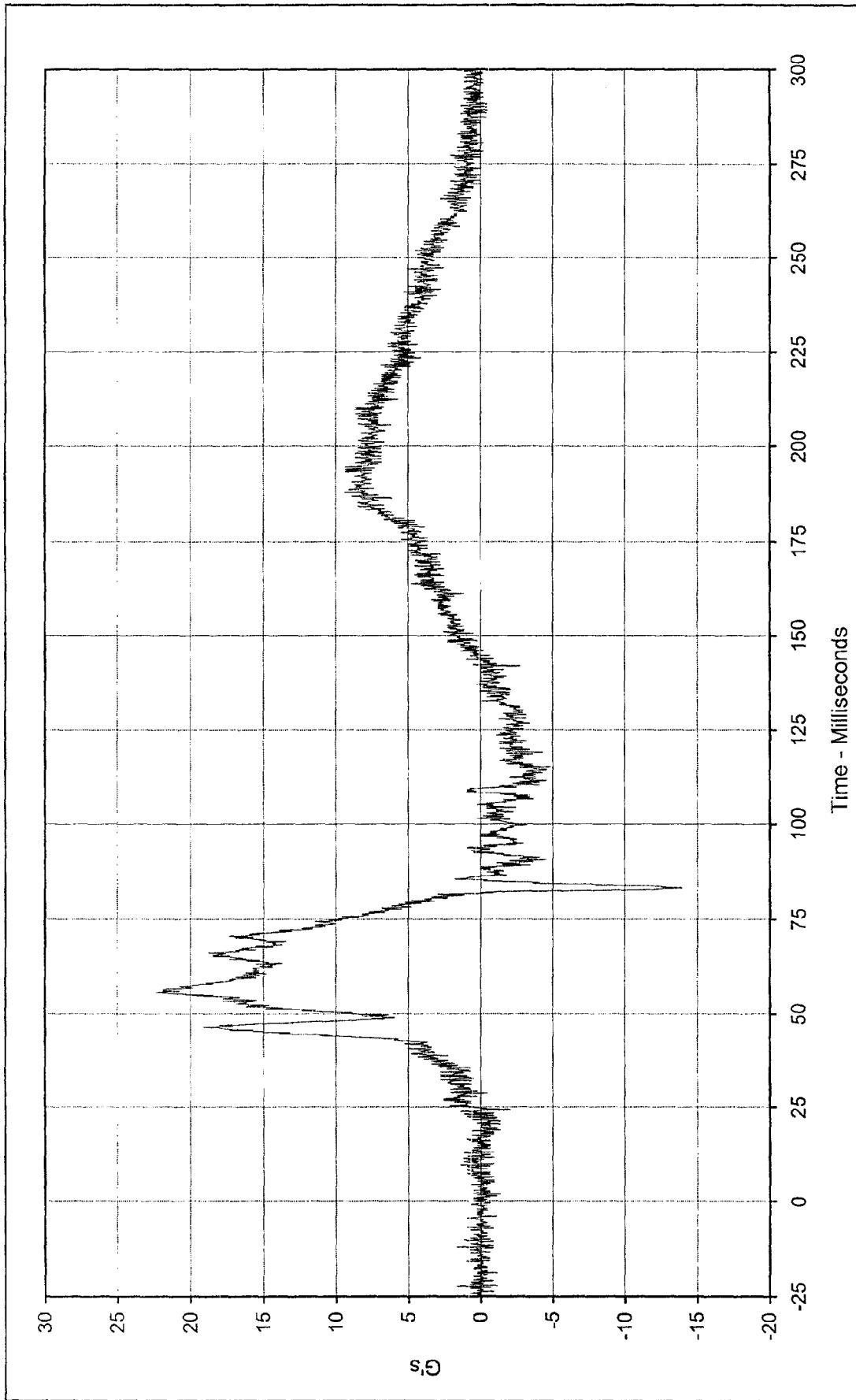
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Head Redundant Y	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	2.6	at	141.9	Milliseconds
Minimum Value:	-4.5	at	84.3	Milliseconds
SAE Filter Class:	1000			
Date of Test:	2/17/98	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Curve Number:	FIL-005			

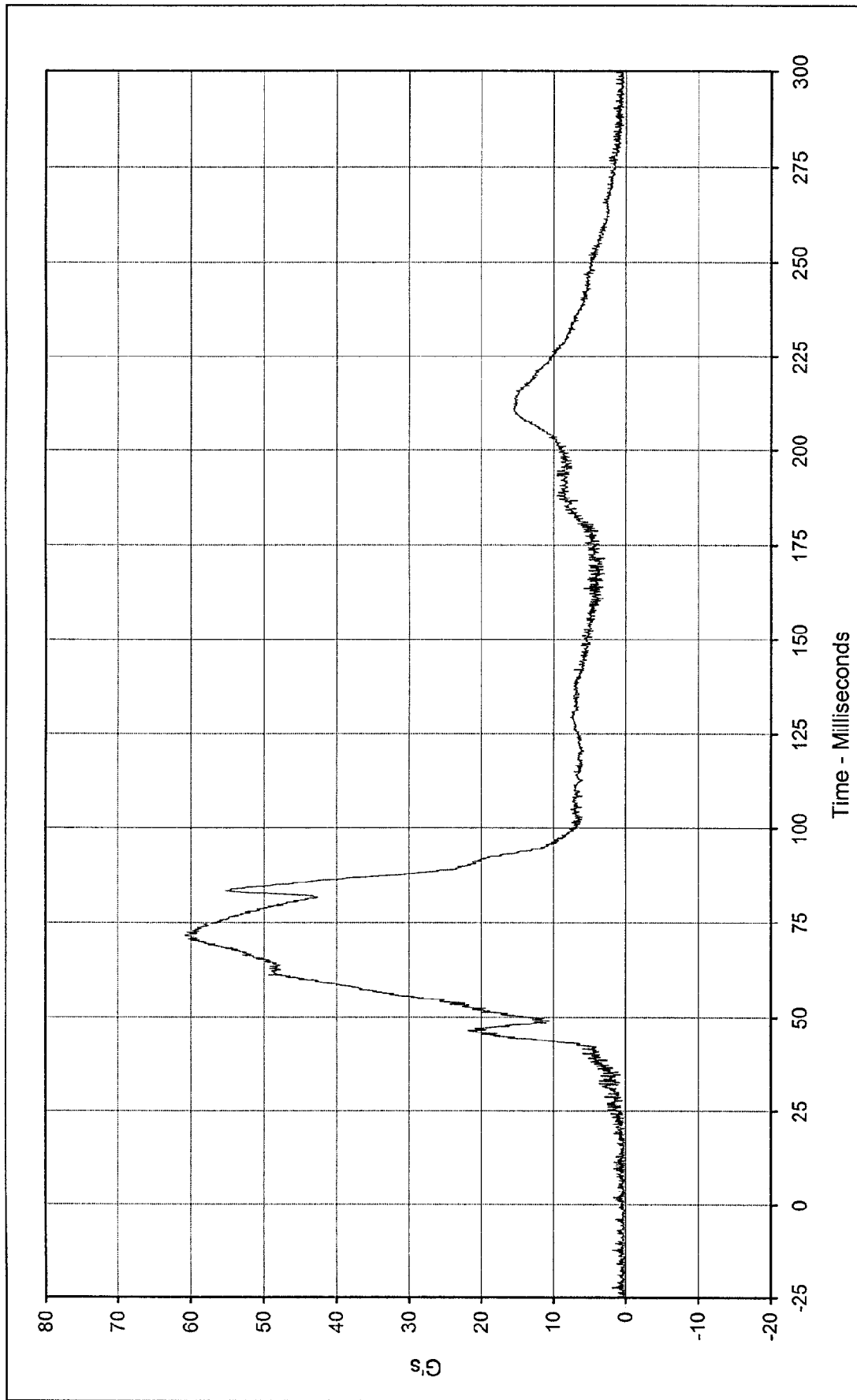




Curve Description: Driver Head Redundant Z
 Maximum Value: 22.3 at 55.8 Milliseconds
 Minimum Value: -13.9 at 83.0 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-006

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Head Resultant Redundant

Maximum Value: 60.8 at 71.3 Milliseconds

Minimum Value: 0.0 at 6.4 Milliseconds

SAE Filter Class: 1000

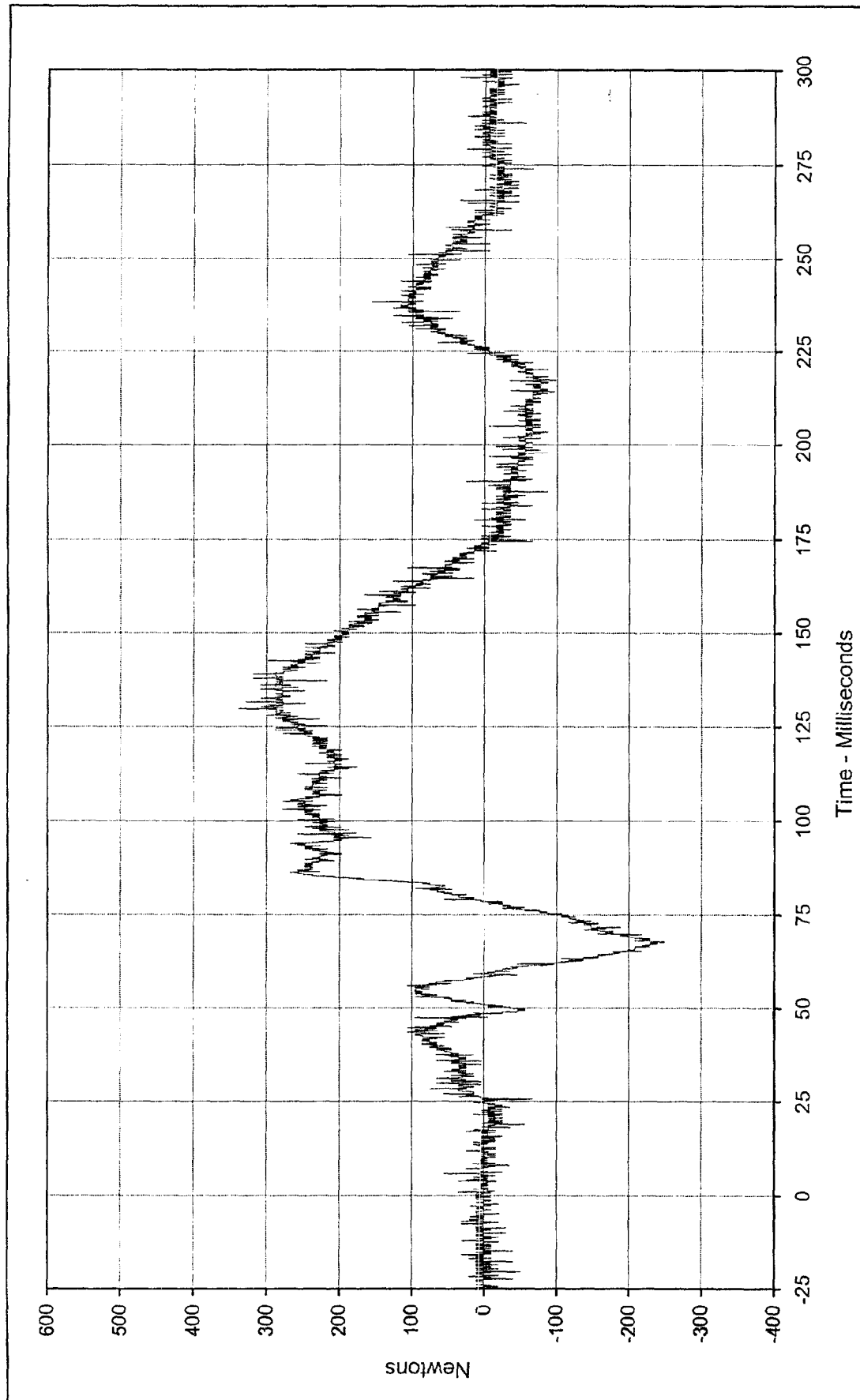
Date of Test: 2/17/98

Curve Number: RES-004

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

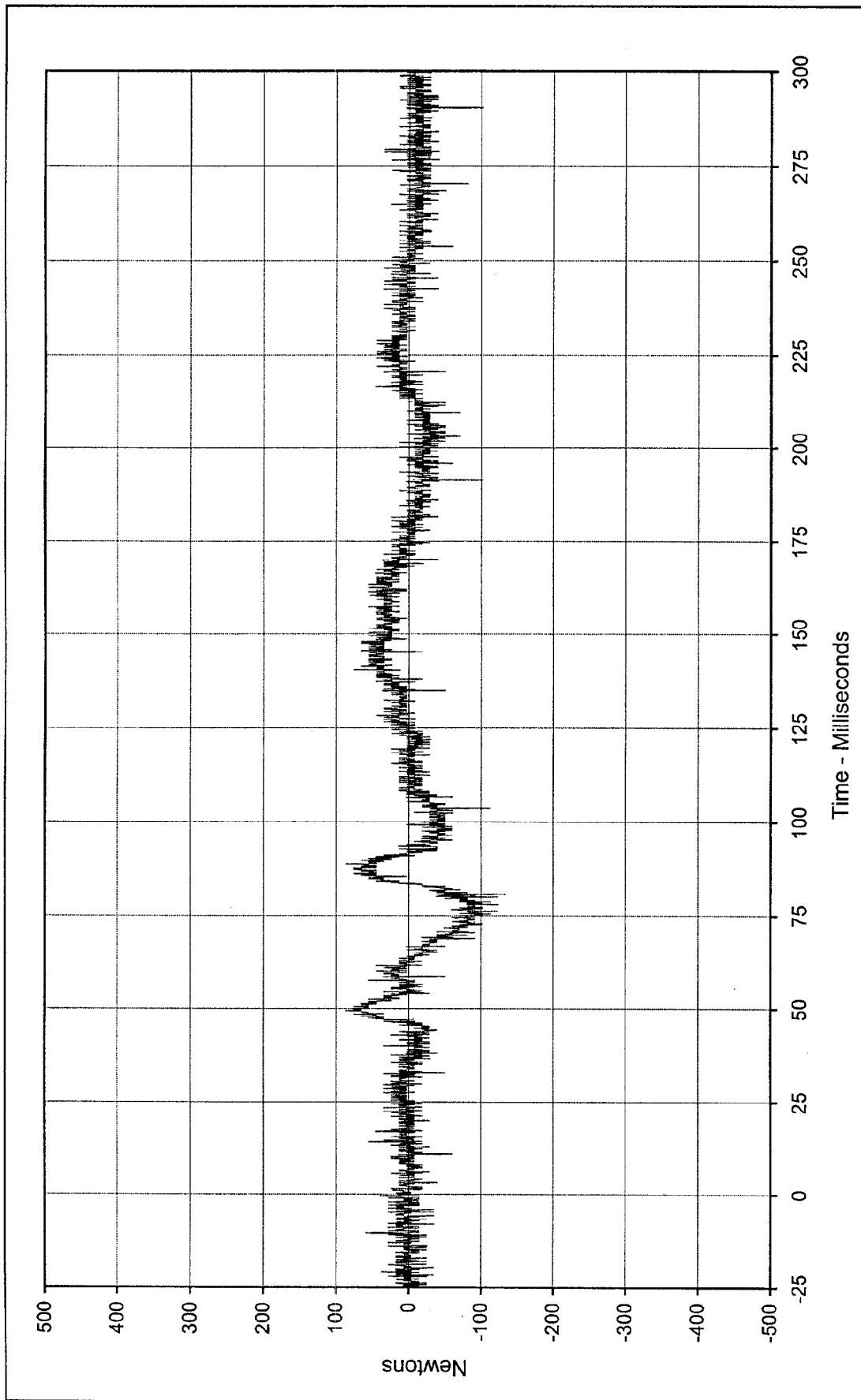




Curve Description: Driver Neck Force X
 Maximum Value: 338.5 at 129.7 Milliseconds
 Minimum Value: -248.8 at 67.5 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-007

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

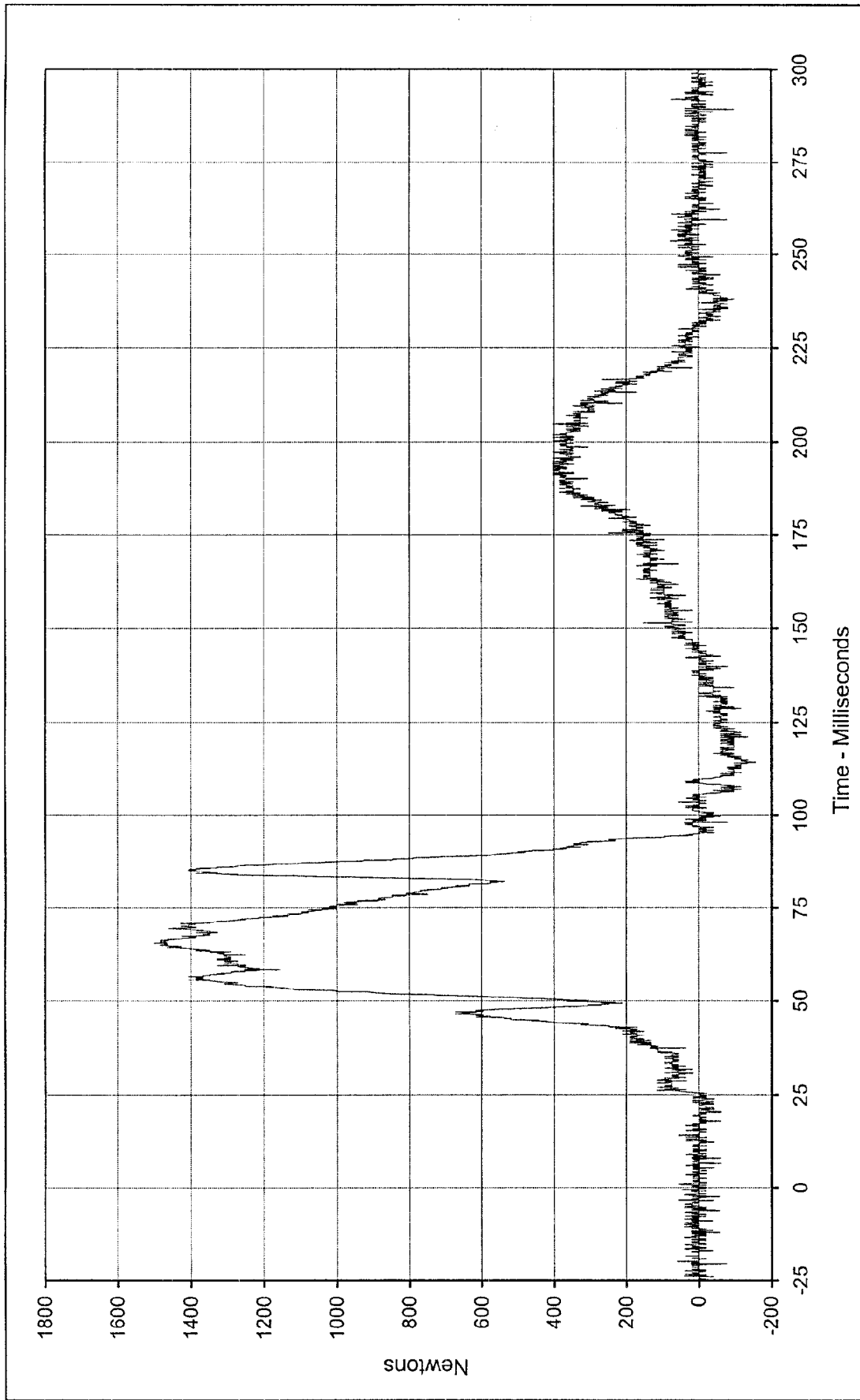




Curve Description:	Driver Neck Force Y		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	86.5	at 49.5	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-134.0	at 80.6			
SAE Filter Class:	1000				
Date of Test:	2/17/98				
Curve Number:	FIL-008				

The logo for AKARCO Engineering features the word "AKARCO" in a large, bold, sans-serif font. The letter "A" is stylized with a checkered flag pattern. To the right of "AKARCO", the word "Engineering" is written in a smaller, italicized, sans-serif font. The entire logo is set against a dark background with a diagonal line.

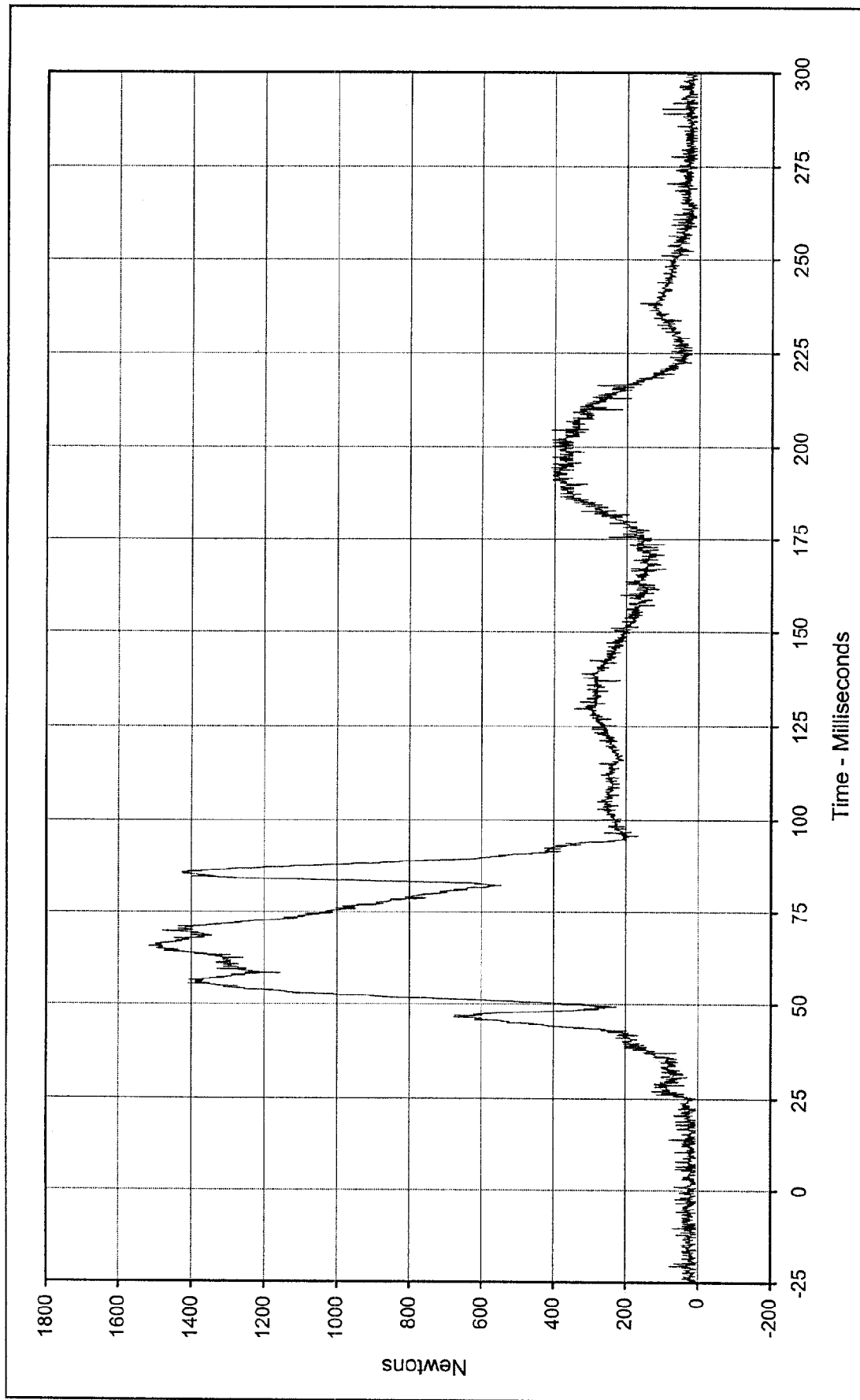




Curve Description: 1998 NHTSA 35 mph NCAP No.: MW5203
 Testing Program
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Driver Neck Force Z
 Maximum Value: 1502.3 at 65.5 Milliseconds
 Minimum Value: -156.5 at 114.1 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-009



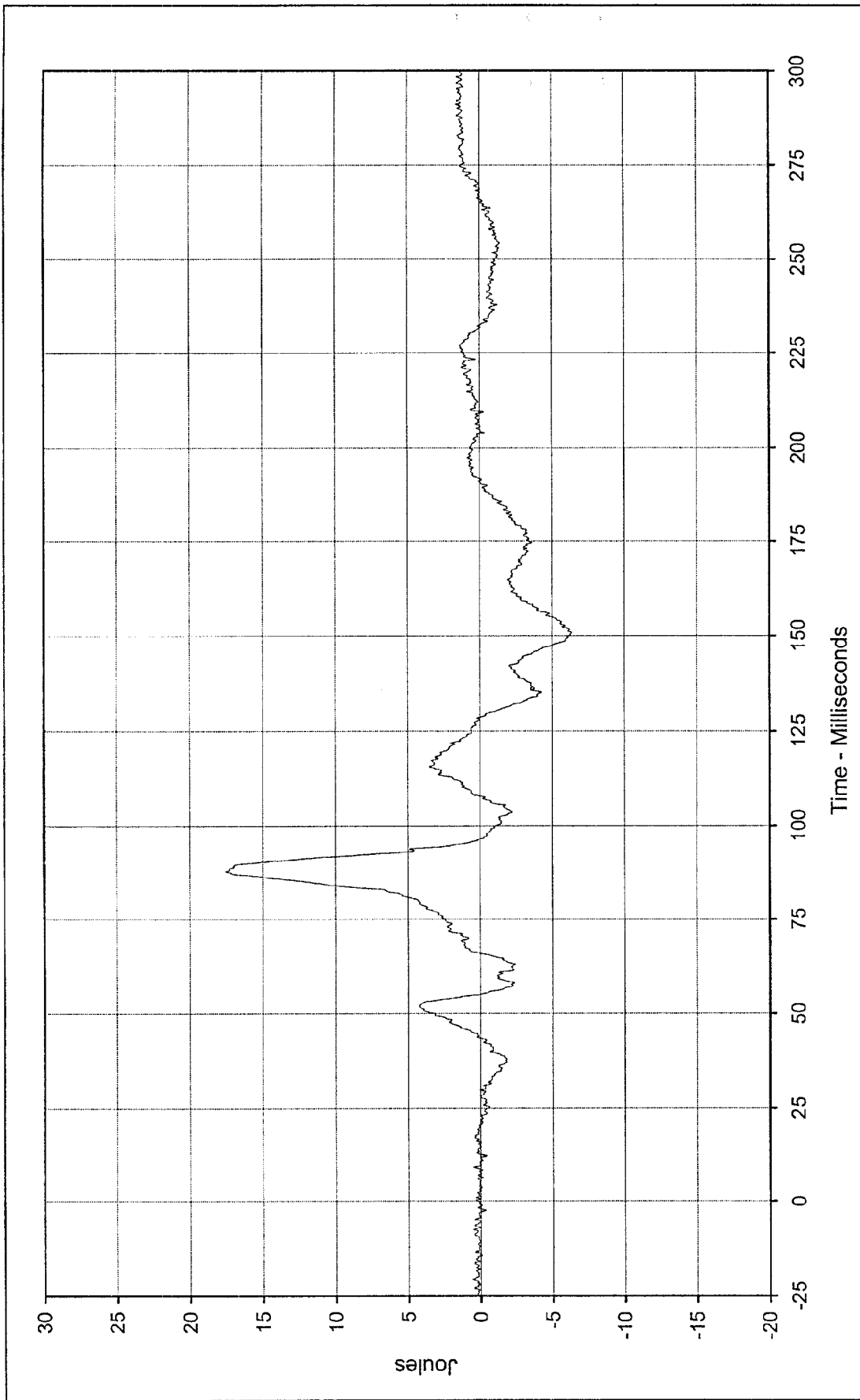


Curve Description:		Driver Neck Force Resultant		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	1516.7	at	65.5	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	4.0	at	0.6			
SAE Filter Class:	1000					
Date of Test:	2/17/98					
Curve Number:	RES-007					



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Curve Description: Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 17.5 at 87.8 Milliseconds

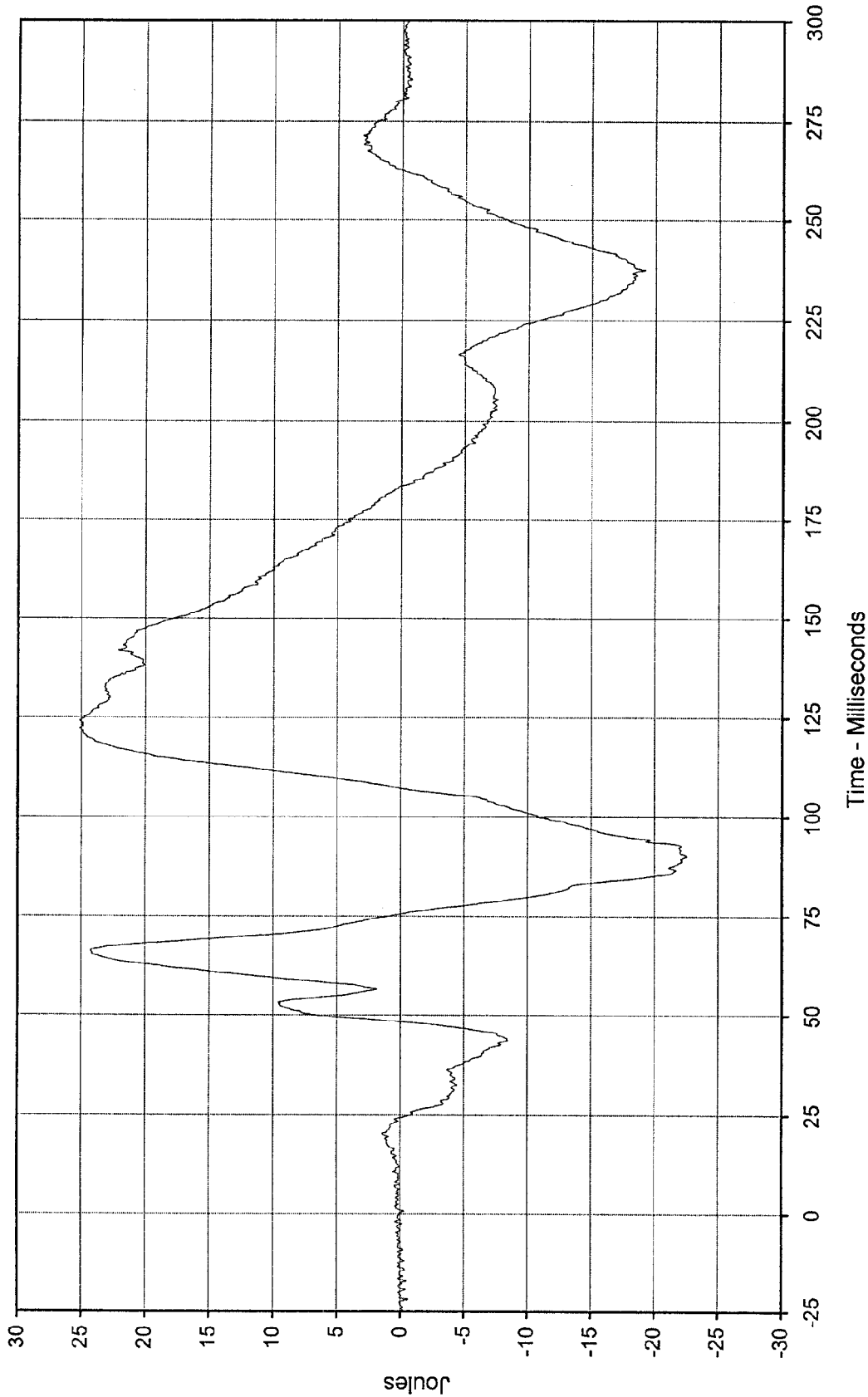
Minimum Value: -6.4 at 150.8 Milliseconds

SAE Filter Class: 600

Date of Test: 2/17/98

Curve Number: FIL-010





Curve Description: Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 25.2 at 124.2 Milliseconds

Minimum Value: -22.5 at 90.0 Milliseconds

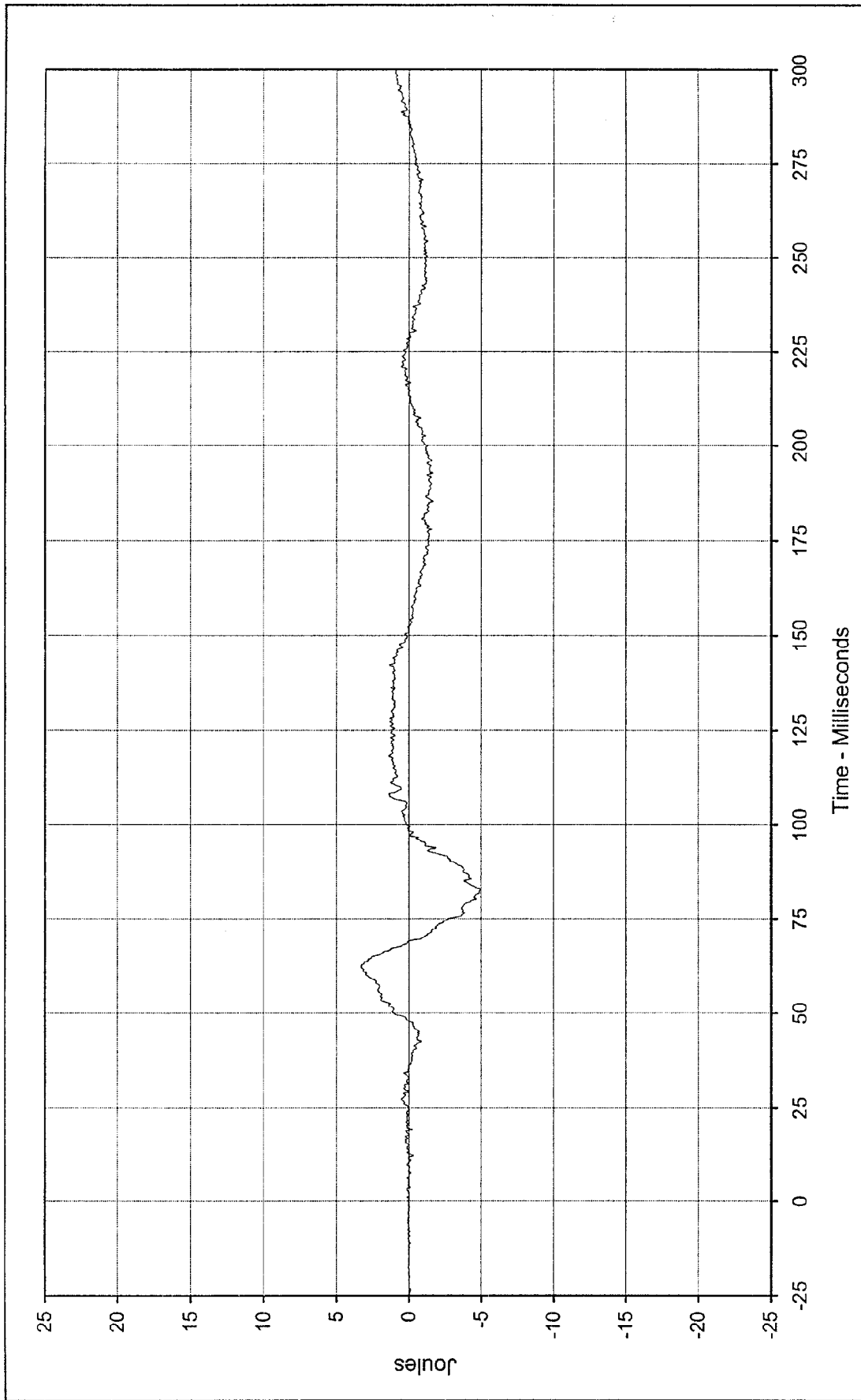
SAE Filter Class: 600

Date of Test: 2/17/98

Curve Number: FIL-011

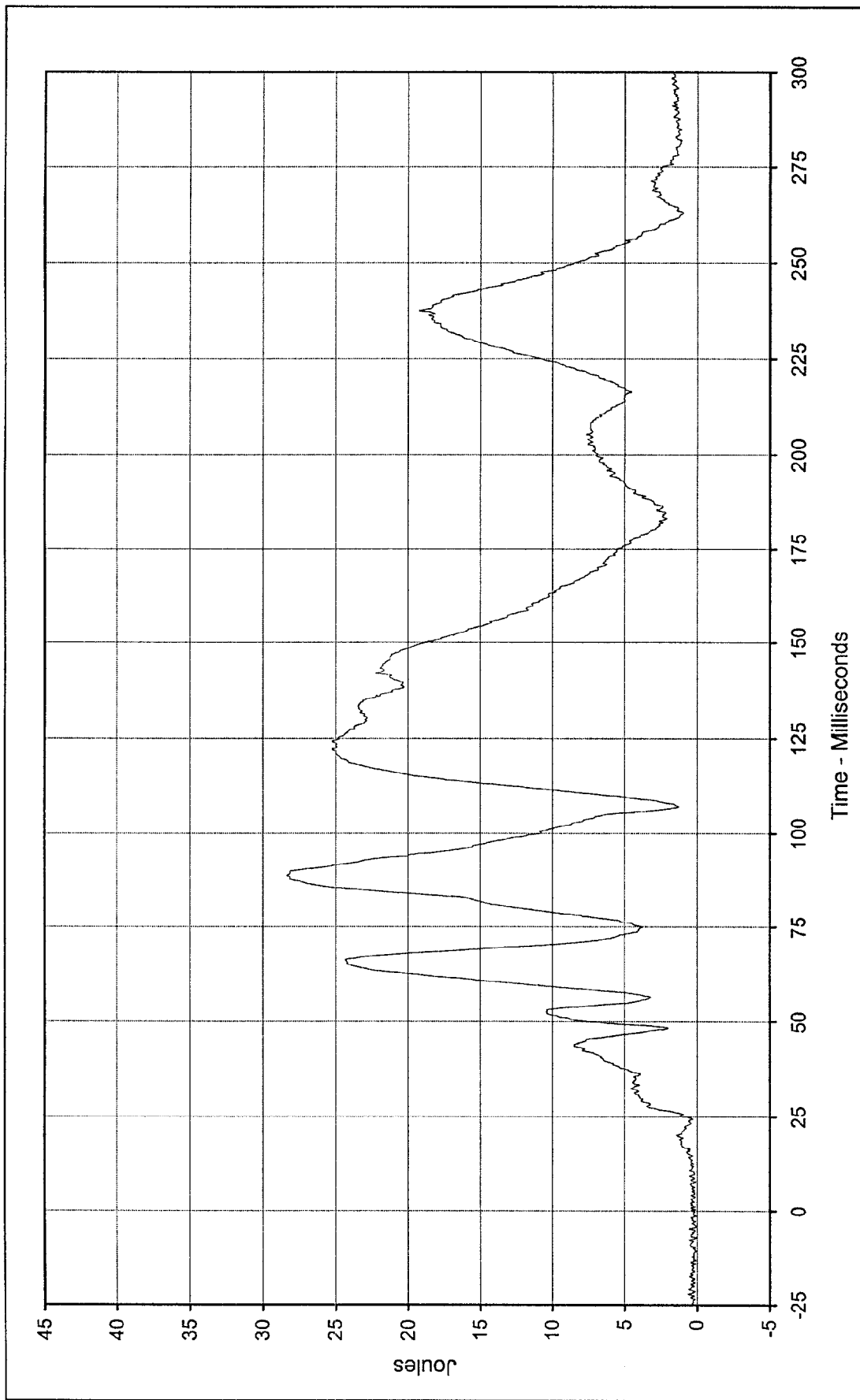
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Neck Moment Z	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	3.3 at 62.6 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-5.0 at 82.8 Milliseconds			
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	FIL-012			





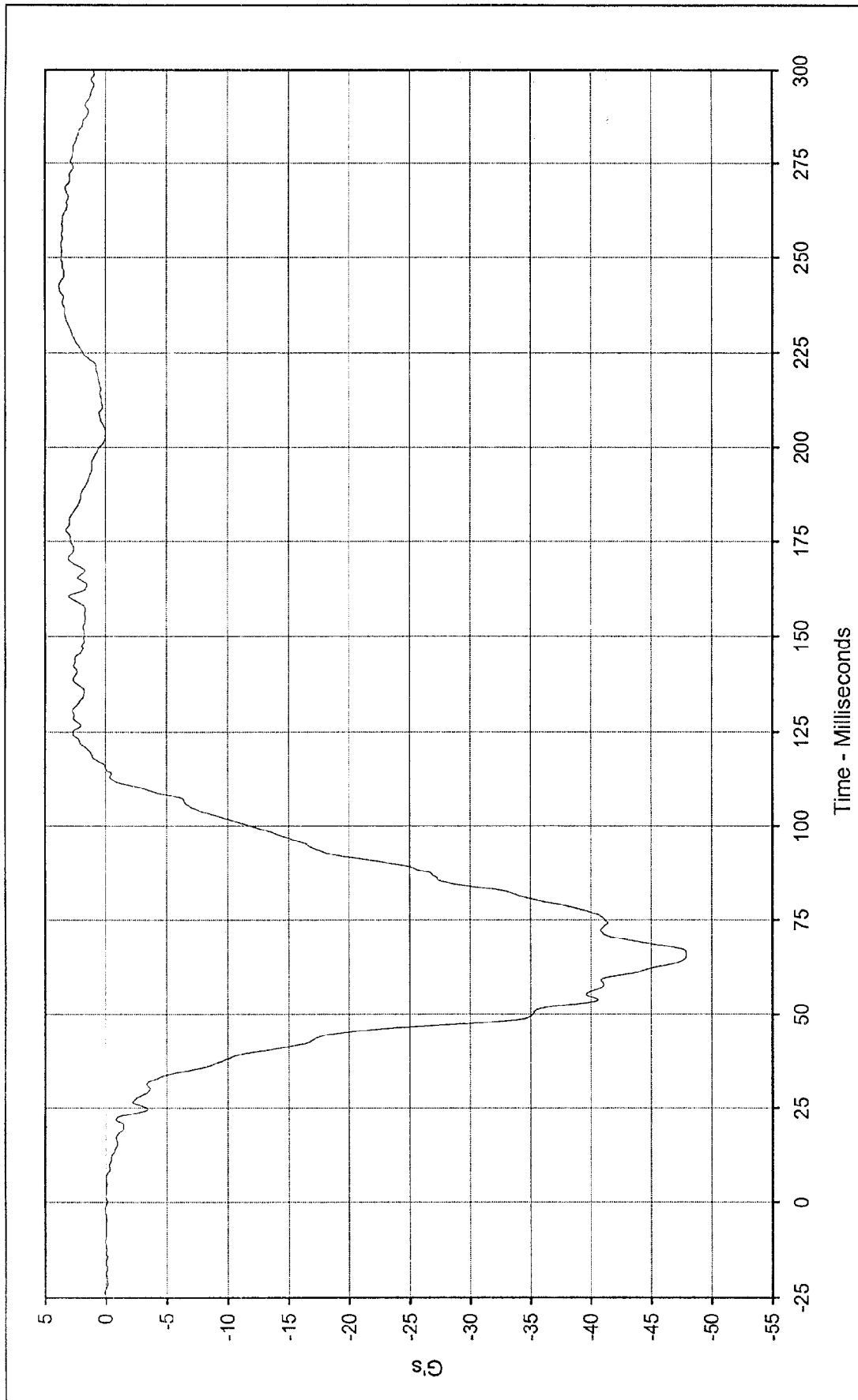
Curve Description: Driver Neck Moment Resultant

Maximum Value:	28.3	at	88.6	Milliseconds
Minimum Value:	0.1	at	7.8	Milliseconds
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	RES-010			

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Chest Primary X

Maximum Value: 3.8 at 242.5 Milliseconds

Minimum Value: -47.9 at 66.2 Milliseconds

SAE Filter Class: 180

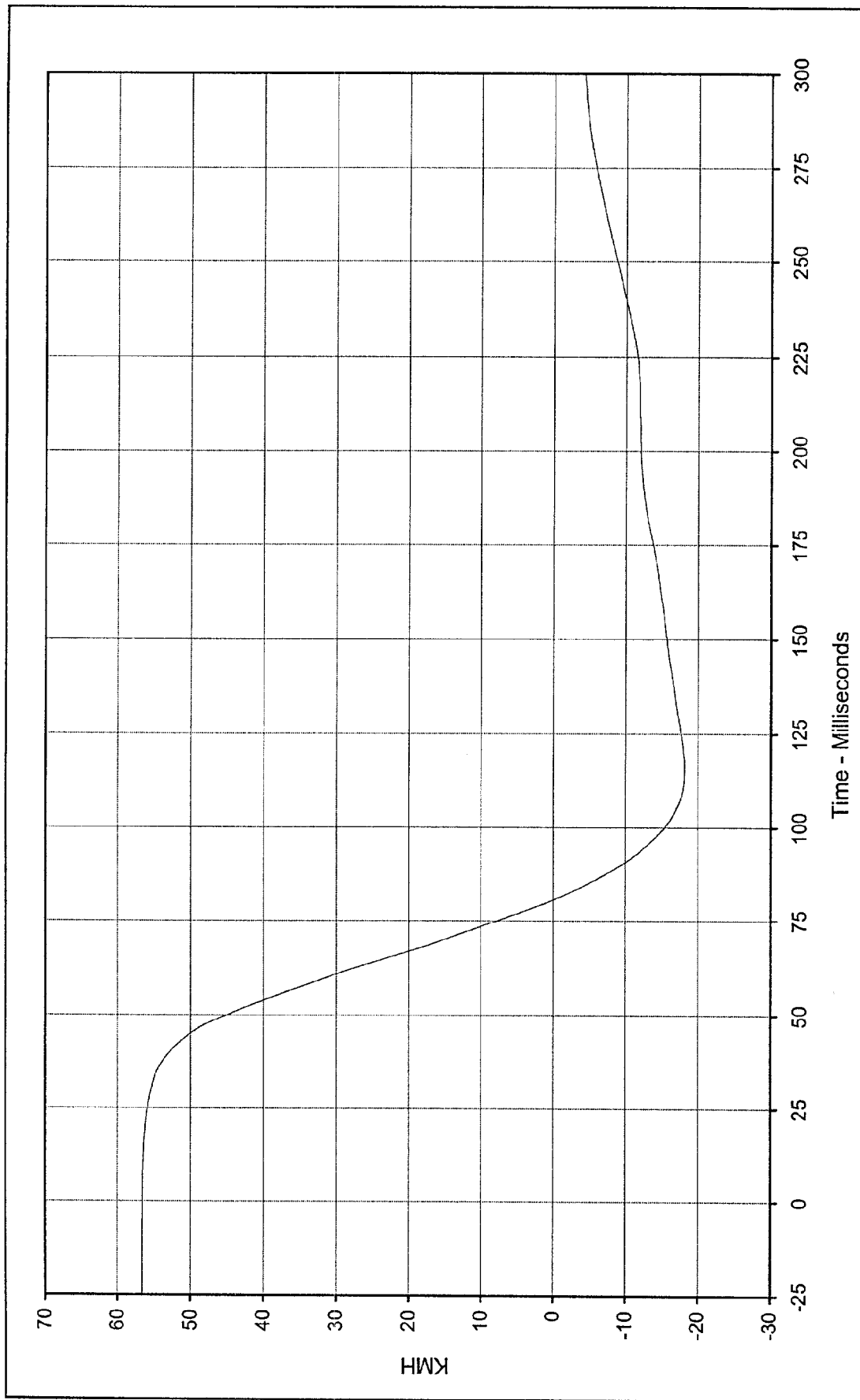
Date of Test: 2/17/98

Curve Number: FIL-013

Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Chest Primary X Velocity Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 56.5 at 0.0 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

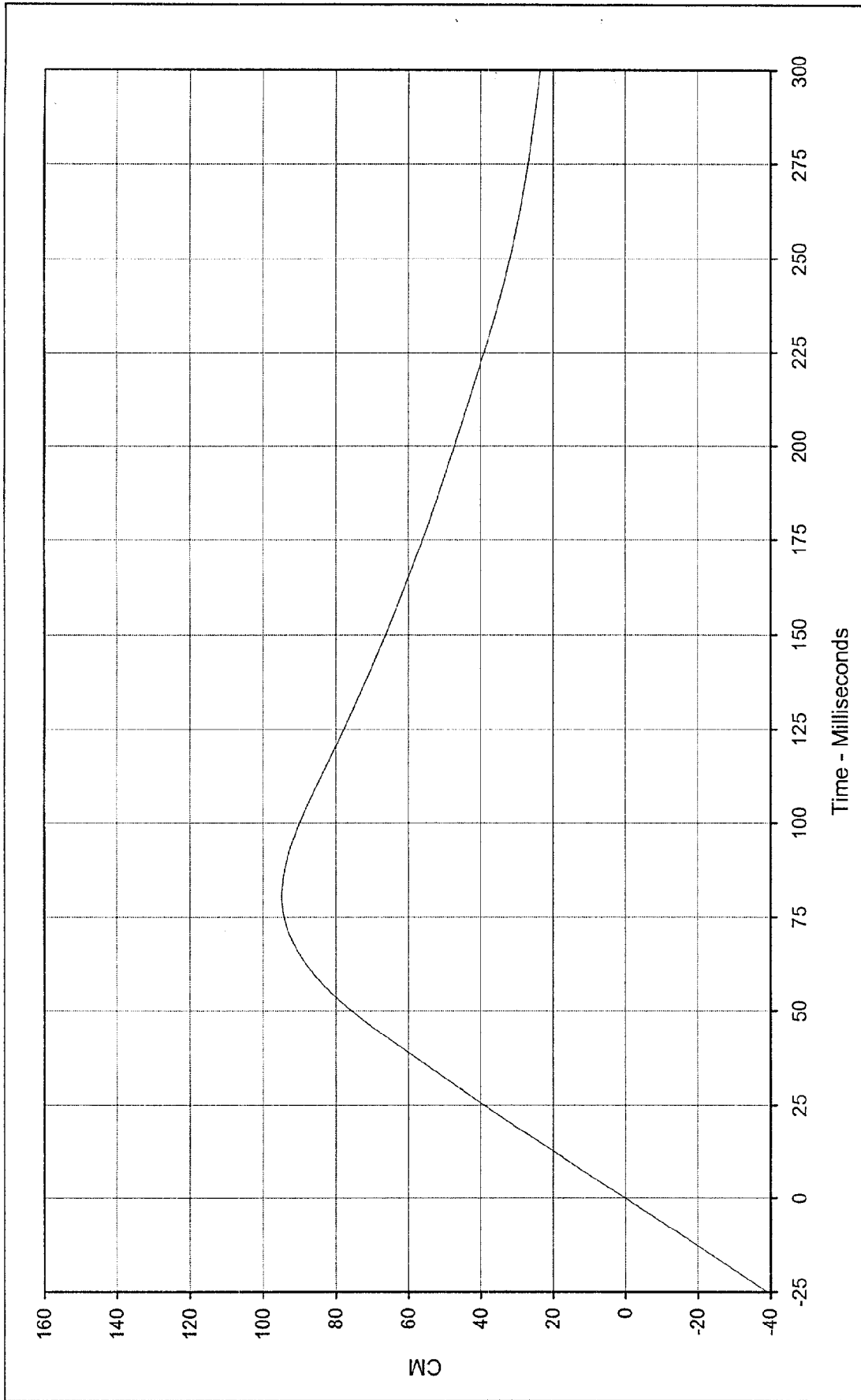
Minimum Value: -18.2 at 115.4 Milliseconds

SAE Filter Class: 180

Date of Test: 2/17/98

Curve Number: IN1-013

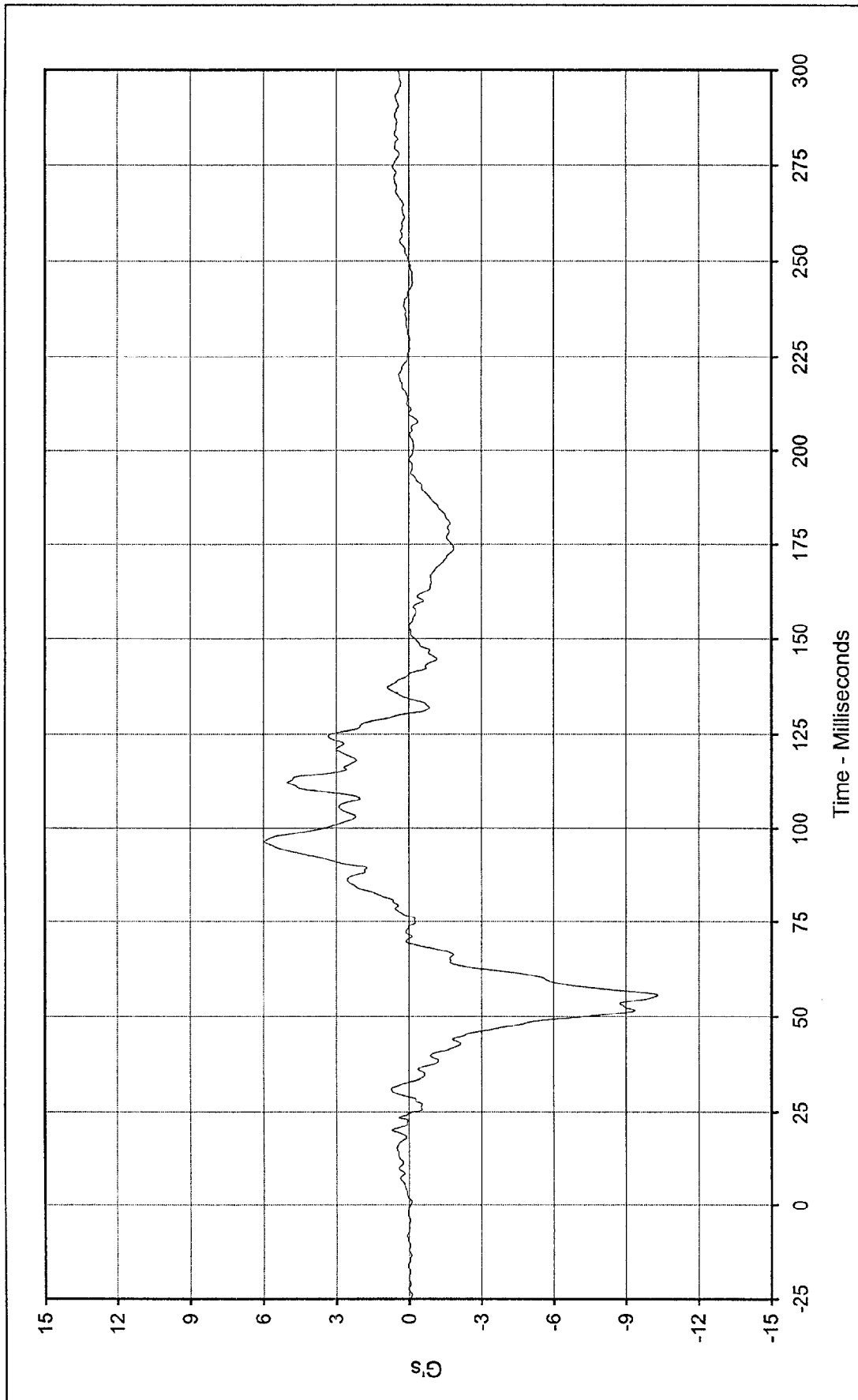




Curve Description: Driver Chest Primary X Displ.
Maximum Value: 94.8 at 80.6 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 2/17/98
Curve Number: IN2-013

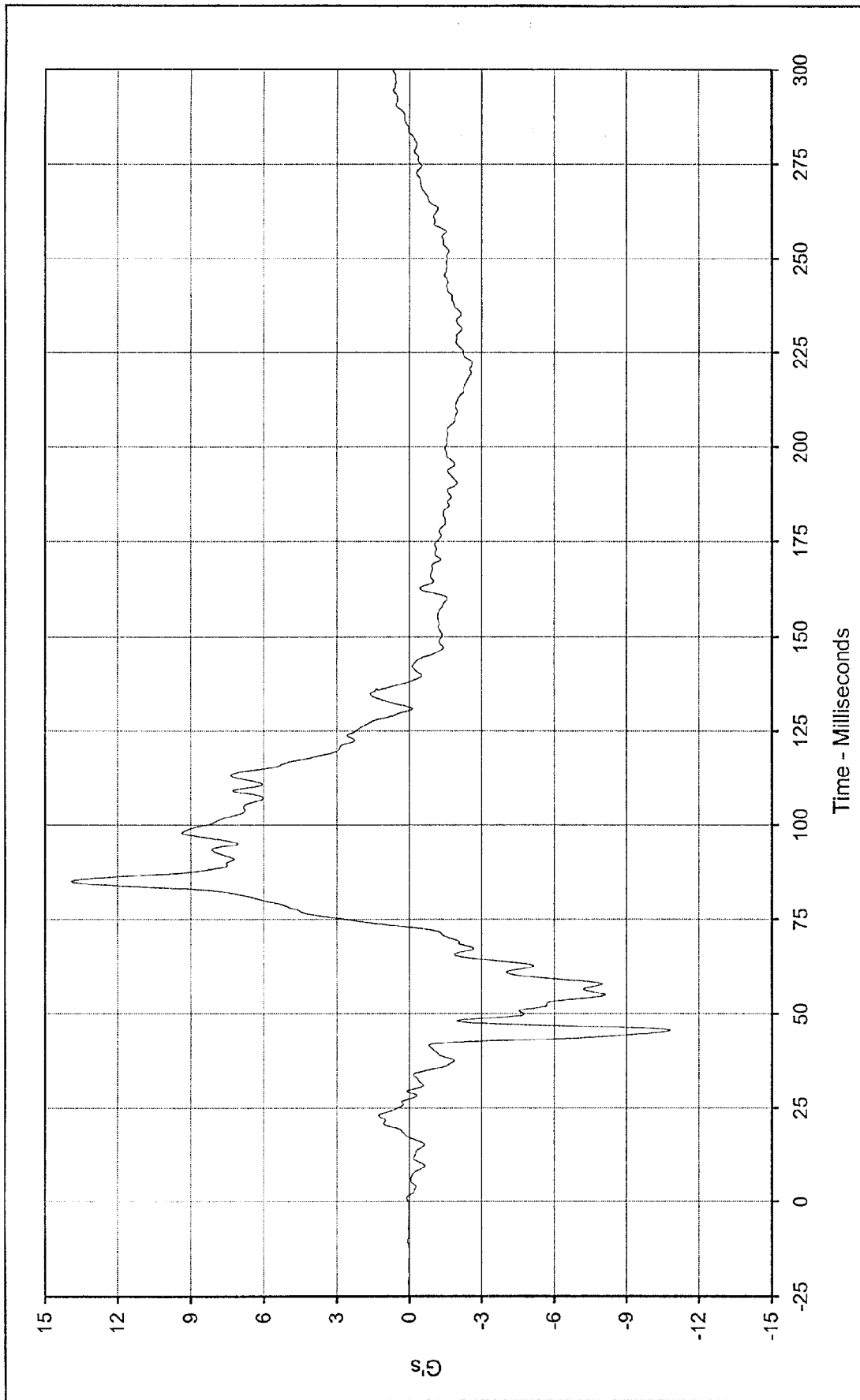
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Chest Primary Y	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	6.0 at 96.5 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-10.3 at 55.7 Milliseconds			
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	FIL-014			

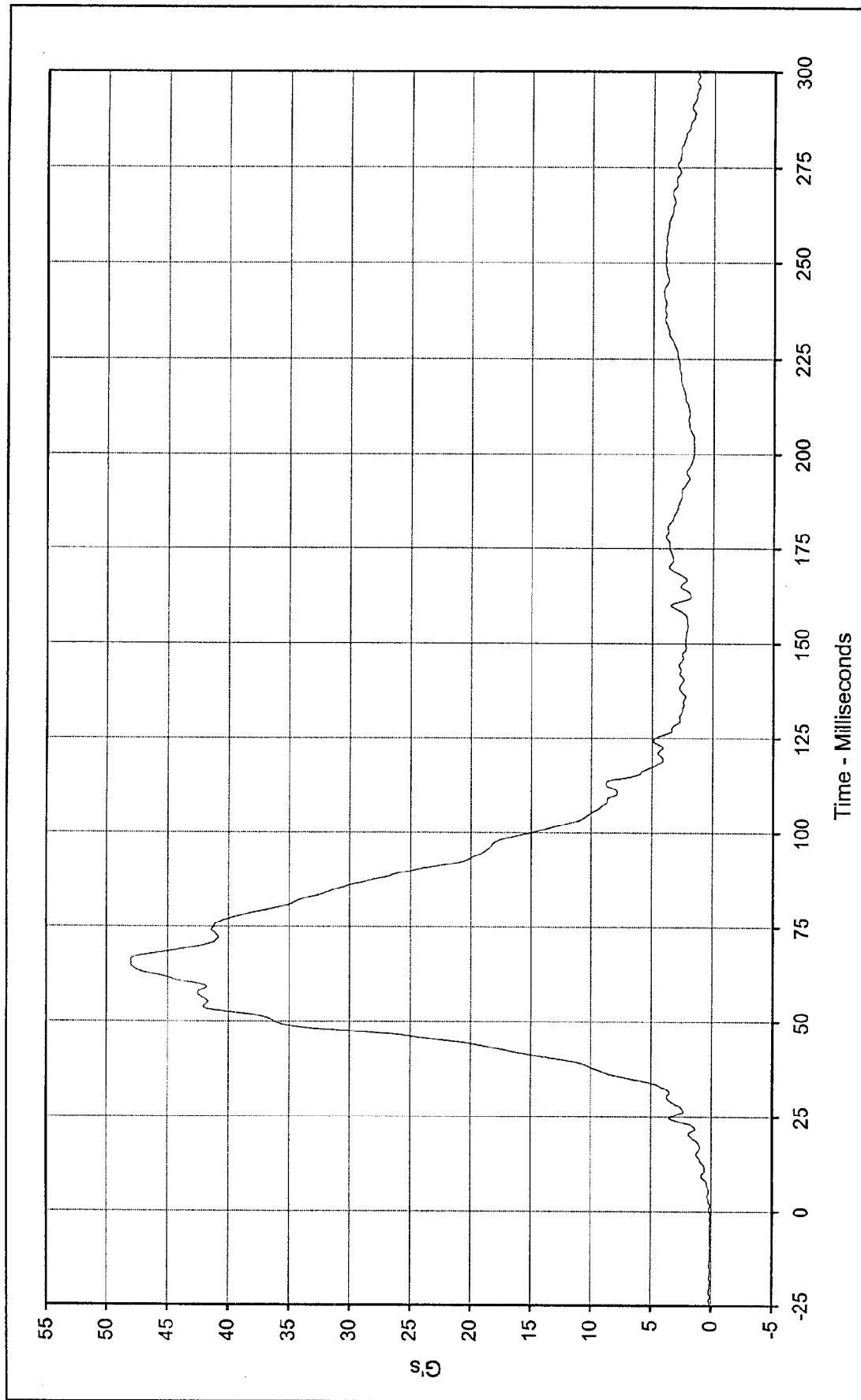




Curve Description: Driver Chest Primary Z
 Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Maximum Value: 13.9 at 84.9 Milliseconds
 Minimum Value: -10.8 at 45.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: FIL-015





Curve Description: Driver Chest Resultant Primary

Maximum Value: 48.0 at 66.3 Milliseconds

Minimum Value: 0.0 at 1.7 Milliseconds

SAE Filter Class: 180

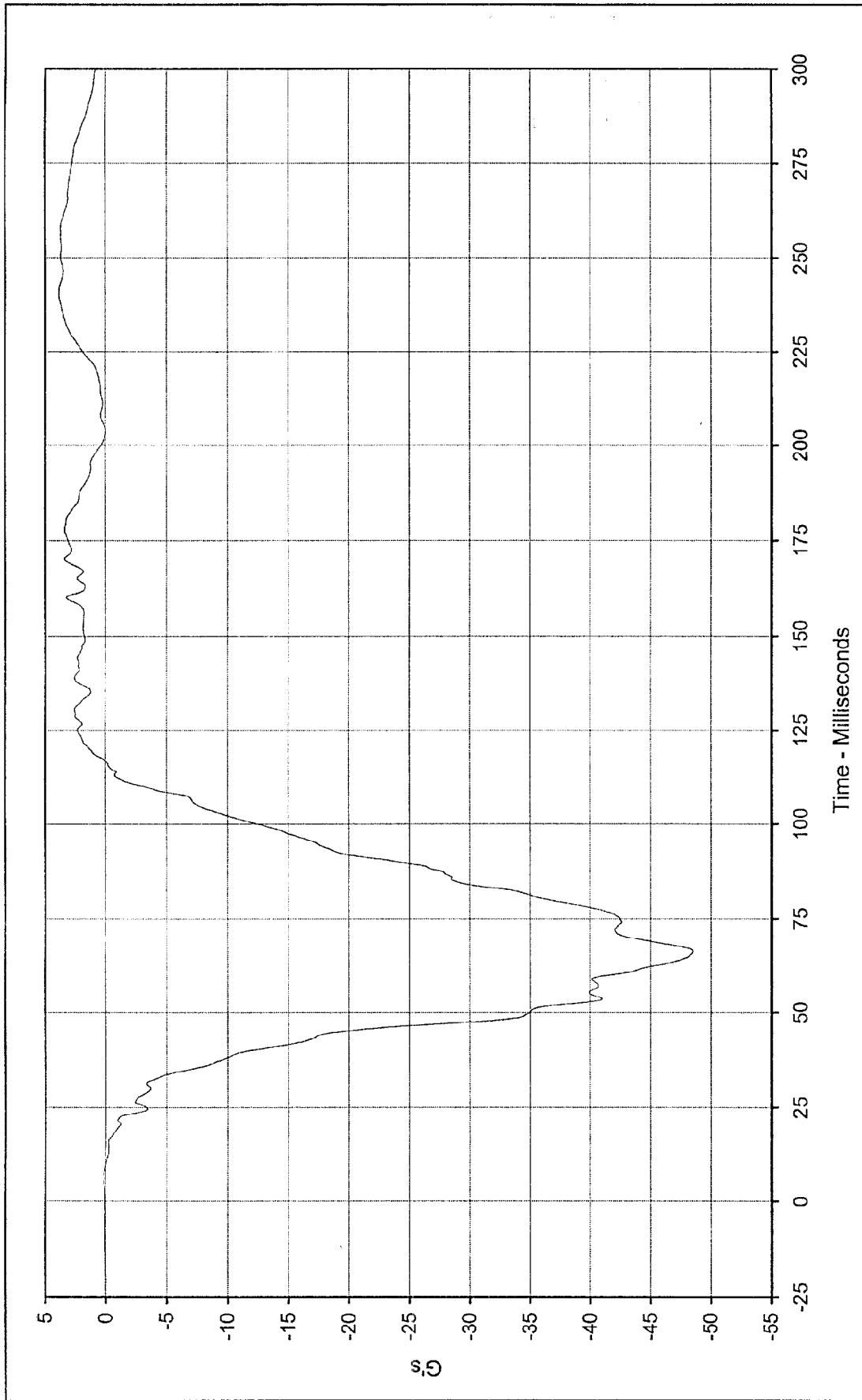
Date of Test: 2/17/98

Curve Number: RES-013

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

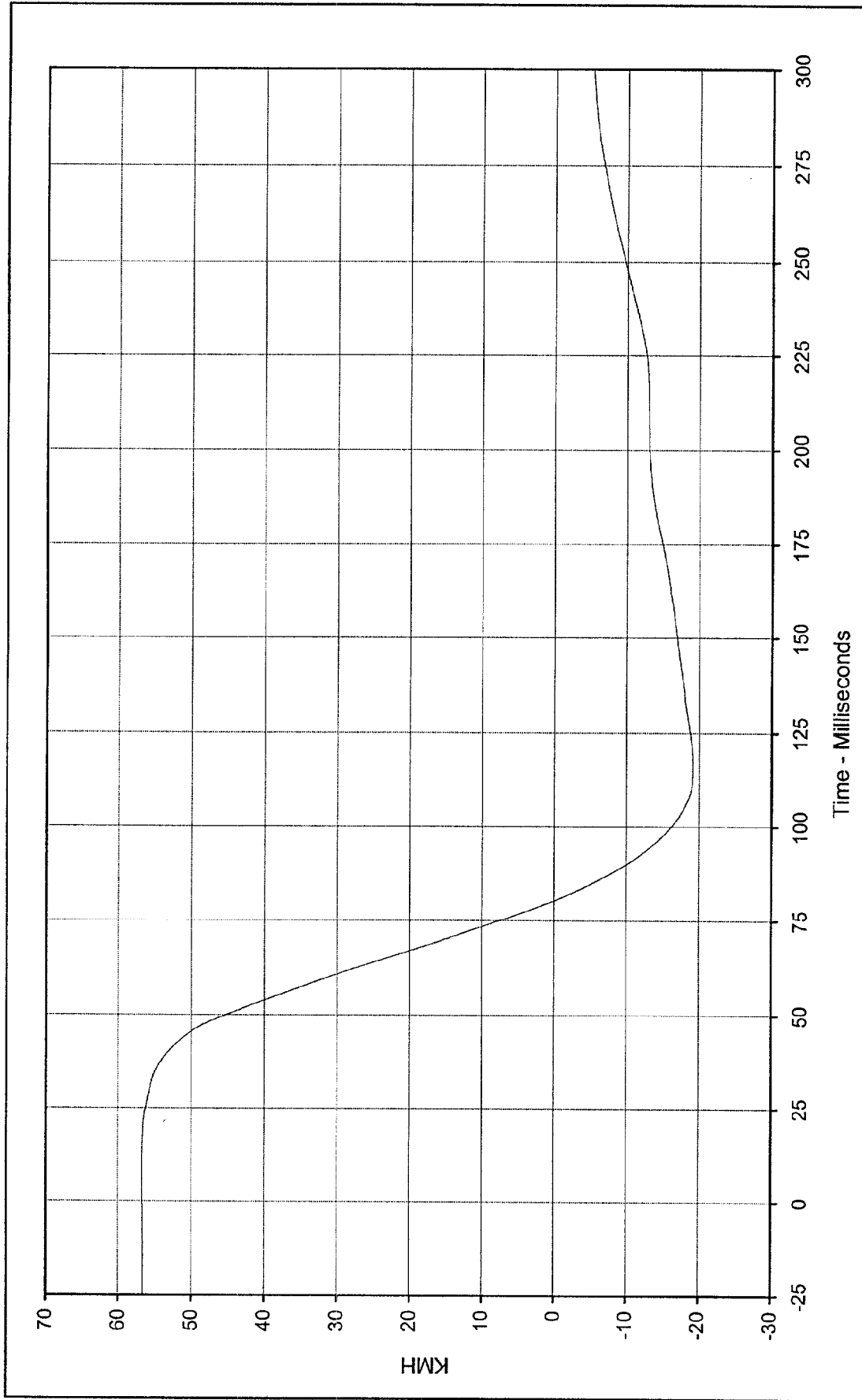
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





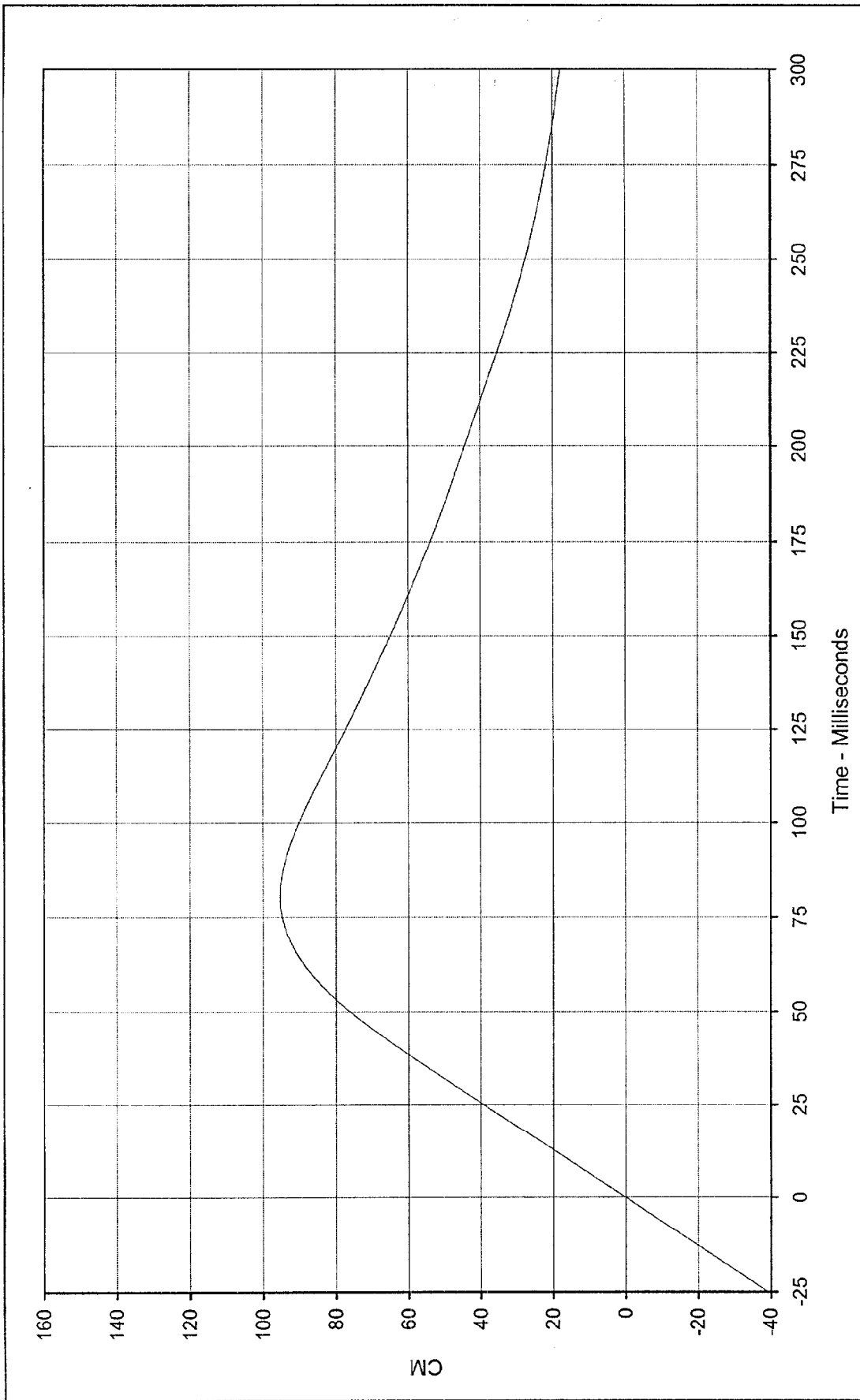
Curve Description:	Driver Chest Redundant X	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	3.9 at 240.4 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-48.5 at 66.3 Milliseconds			
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	FIL-016			





Curve Description:	Driver Chest Redundant X Velocity	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	56.7	at	10.0	Milliseconds
Minimum Value:	-19.2	at	116.7	Milliseconds
SAE Filter Class:	180			
Date of Test:	2/17/98	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Curve Number:	IN1-016			

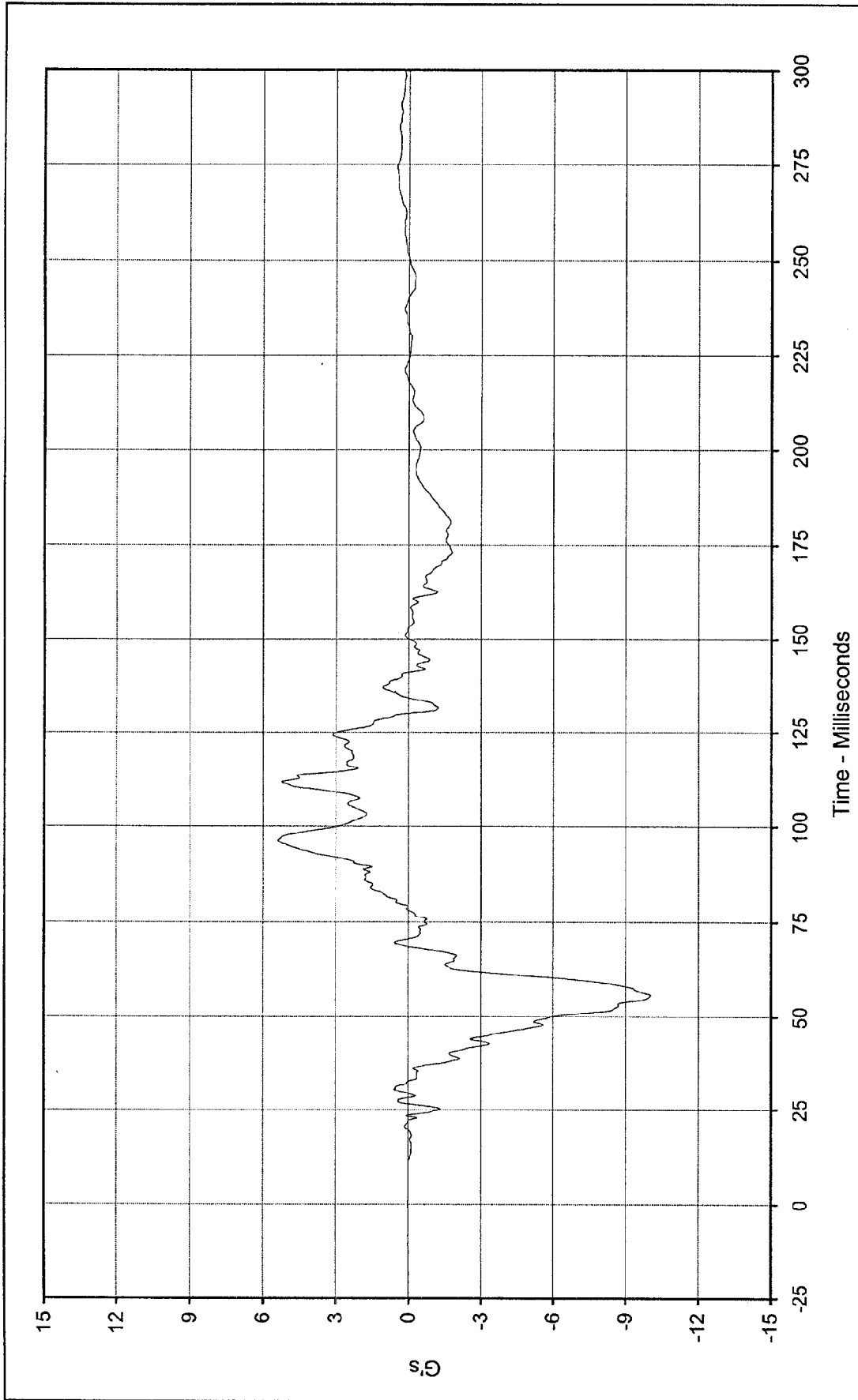




Curve Description: Driver Chest Redundant X Displ.
 Maximum Value: 95.3 at 80.4 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN2-016

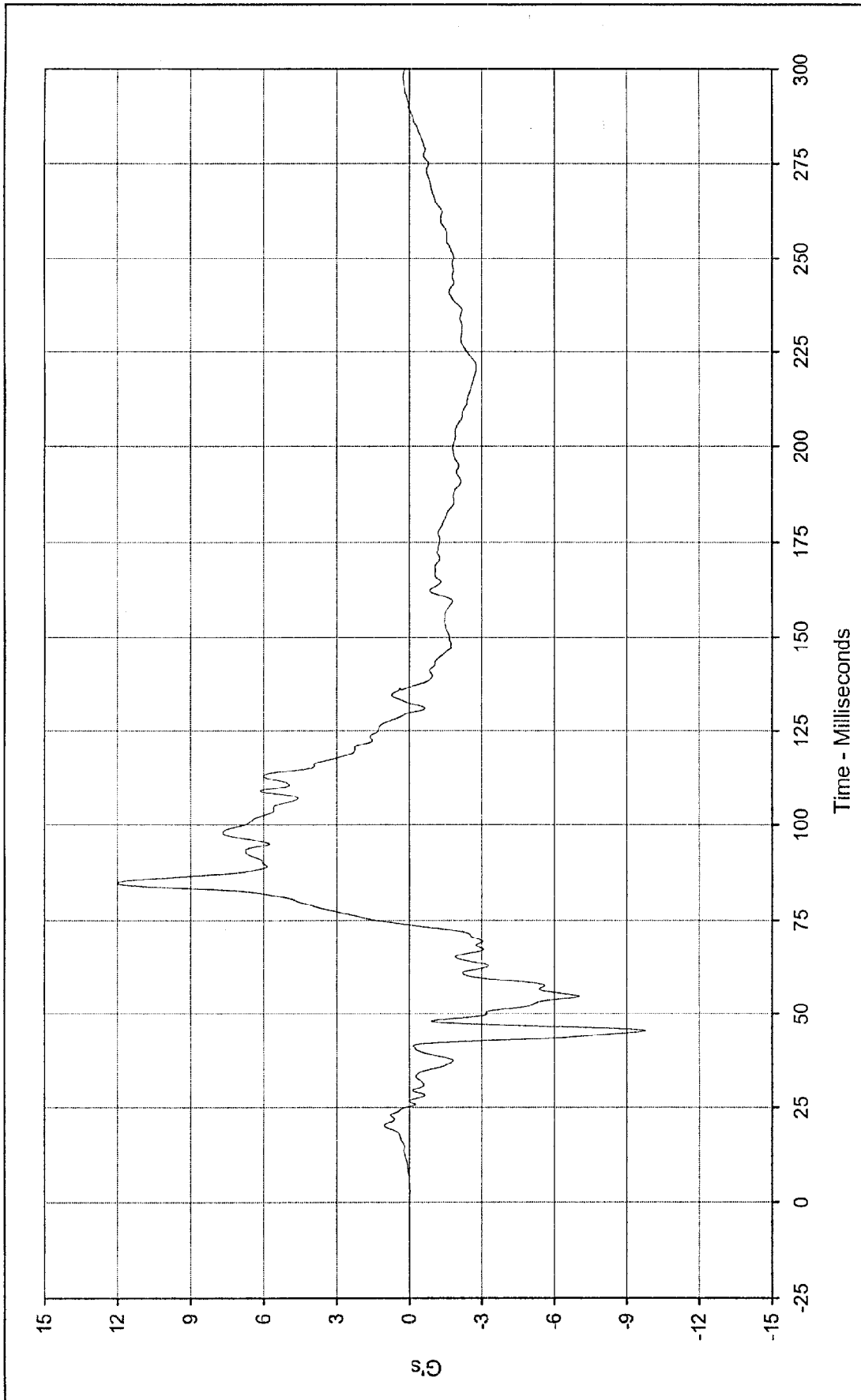
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:		Driver Chest Redundant Y		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	5.4	at	96.3	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-10.1	at	55.7			
SAE Filter Class:	180					
Date of Test:	2/17/98					
Curve Number:	FIL-017					





Curve Description: Driver Chest Redundant Z

Maximum Value: 12.0 at 84.6 Milliseconds

Minimum Value: -9.8 at 45.5 Milliseconds

SAE Filter Class: 180

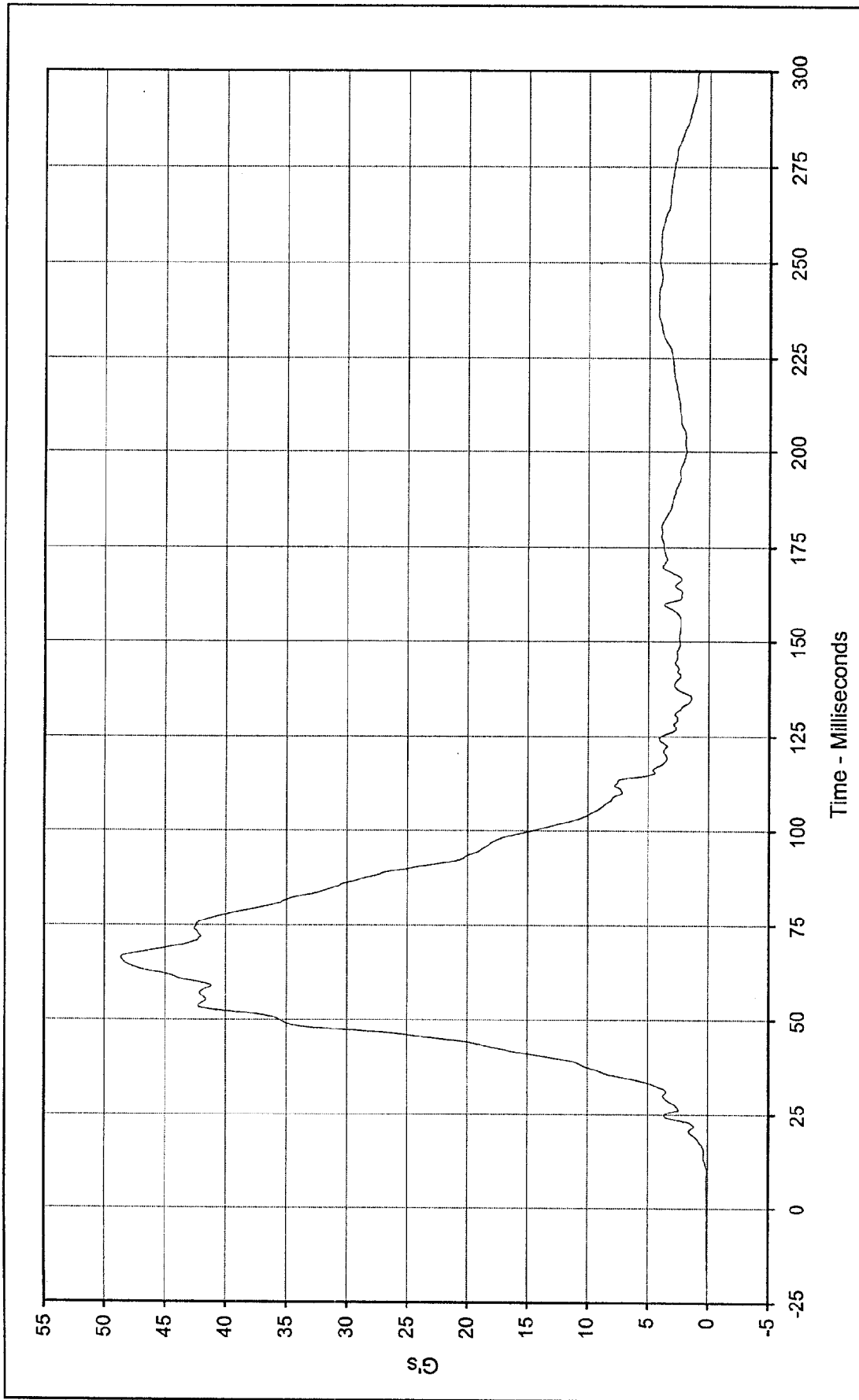
Date of Test: 2/17/98

Curve Number: FIL-018

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Chest Resultant Redundant Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 48.7 at 66.4 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

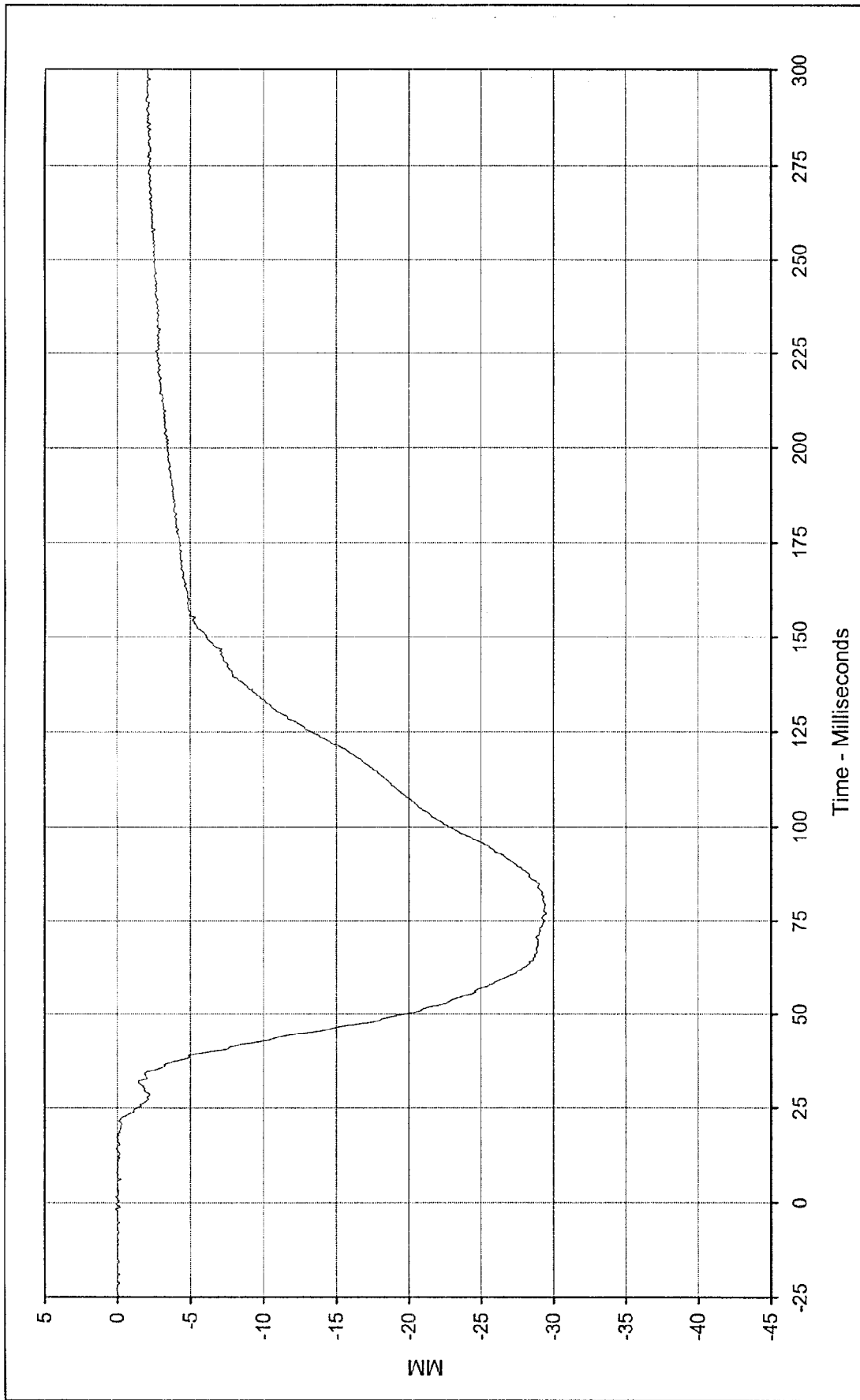
Minimum Value: 0.1 at 9.8 Milliseconds

SAE Filter Class: 180

Date of Test: 2/17/98

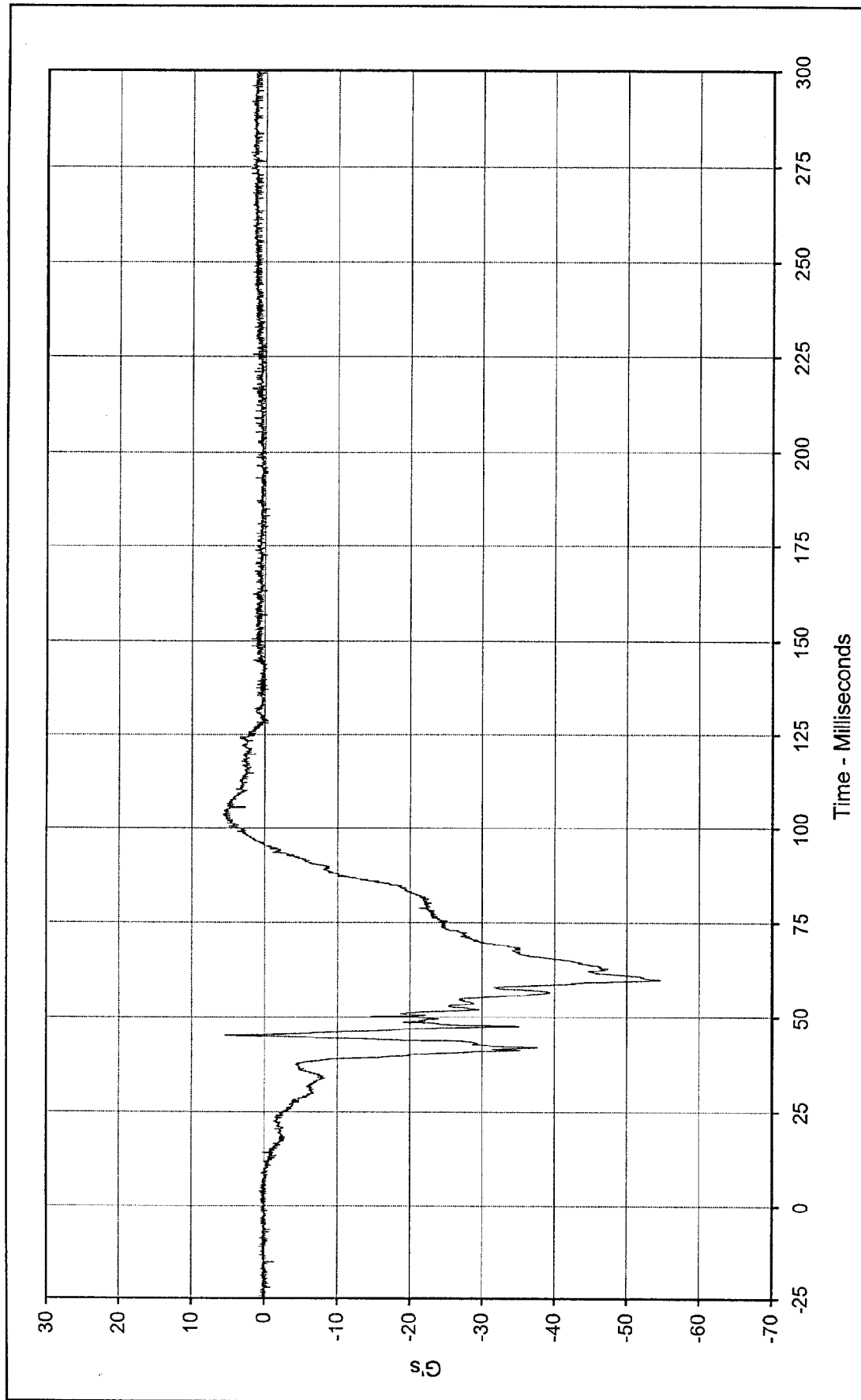
Curve Number: RES-016





Curve Description:	Driver Chest Displacement X	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	0.1	at	1.5	Milliseconds
Minimum Value:	-29.5	at	76.9	Milliseconds
SAE Filter Class:	600			
Date of Test:	2/17/98	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Curve Number:	FIL-019			



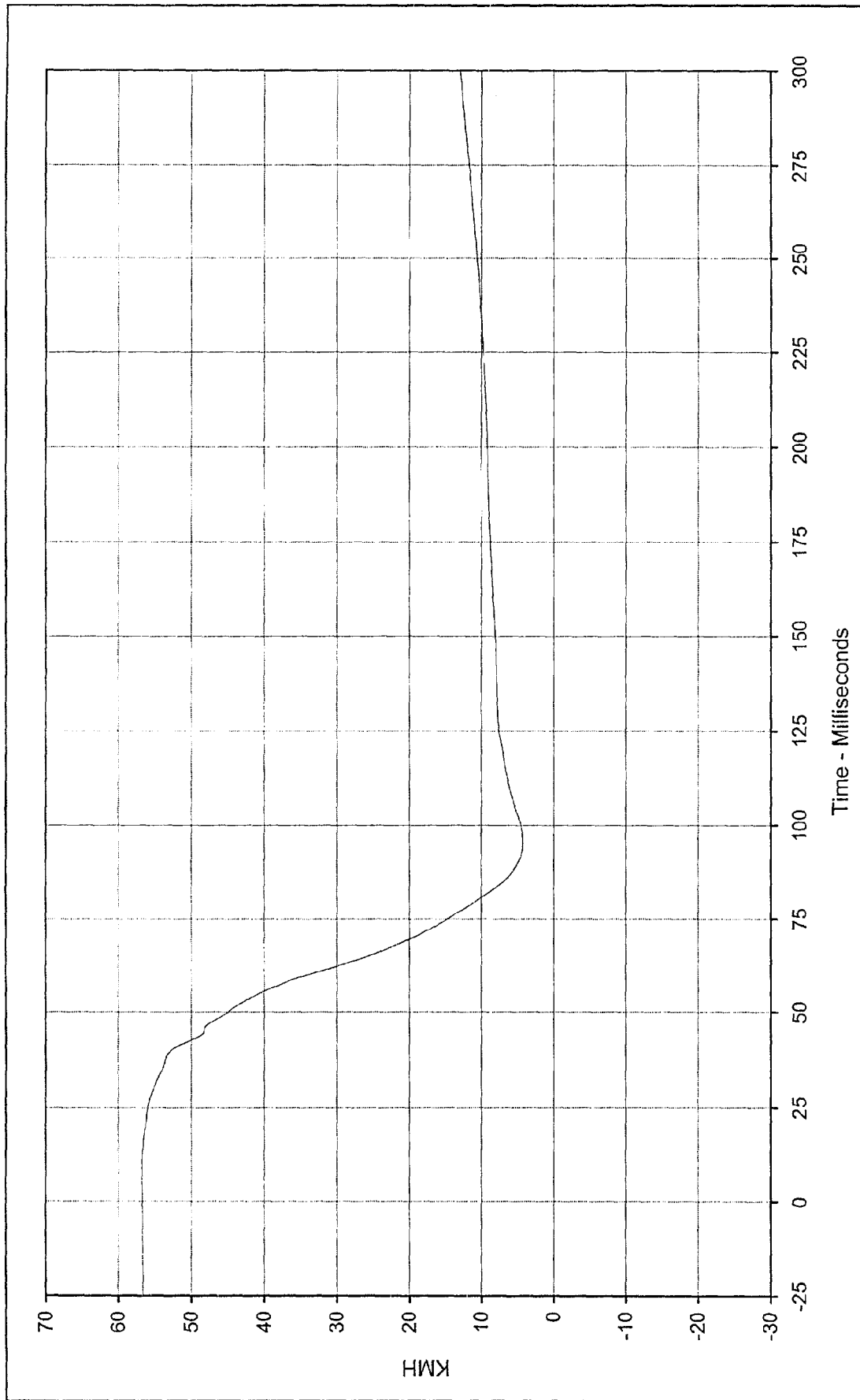


Curve Description:		Driver Pelvis X		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	5.8	at	103.7	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-54.6	at	59.8			
SAE Filter Class:	1000					
Date of Test:	2/17/98					
Curve Number:	FIL-020					



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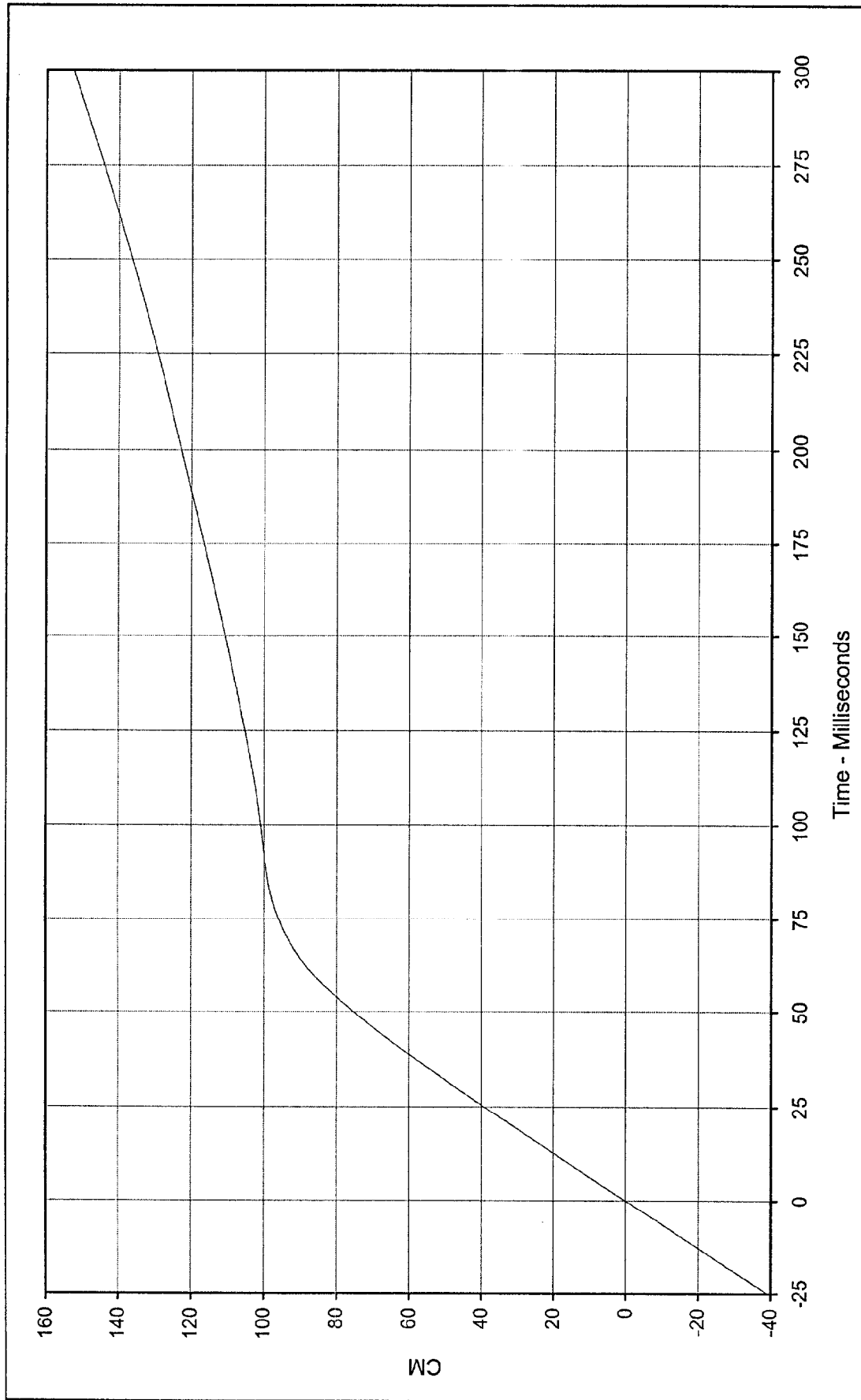




Curve Description: 1998 NHTSA 35 mph NCAP No.: MW5203
 Testing Program: 1998 Nissan Maxima GXE 4 Door Sedan
 Test Vehicle:

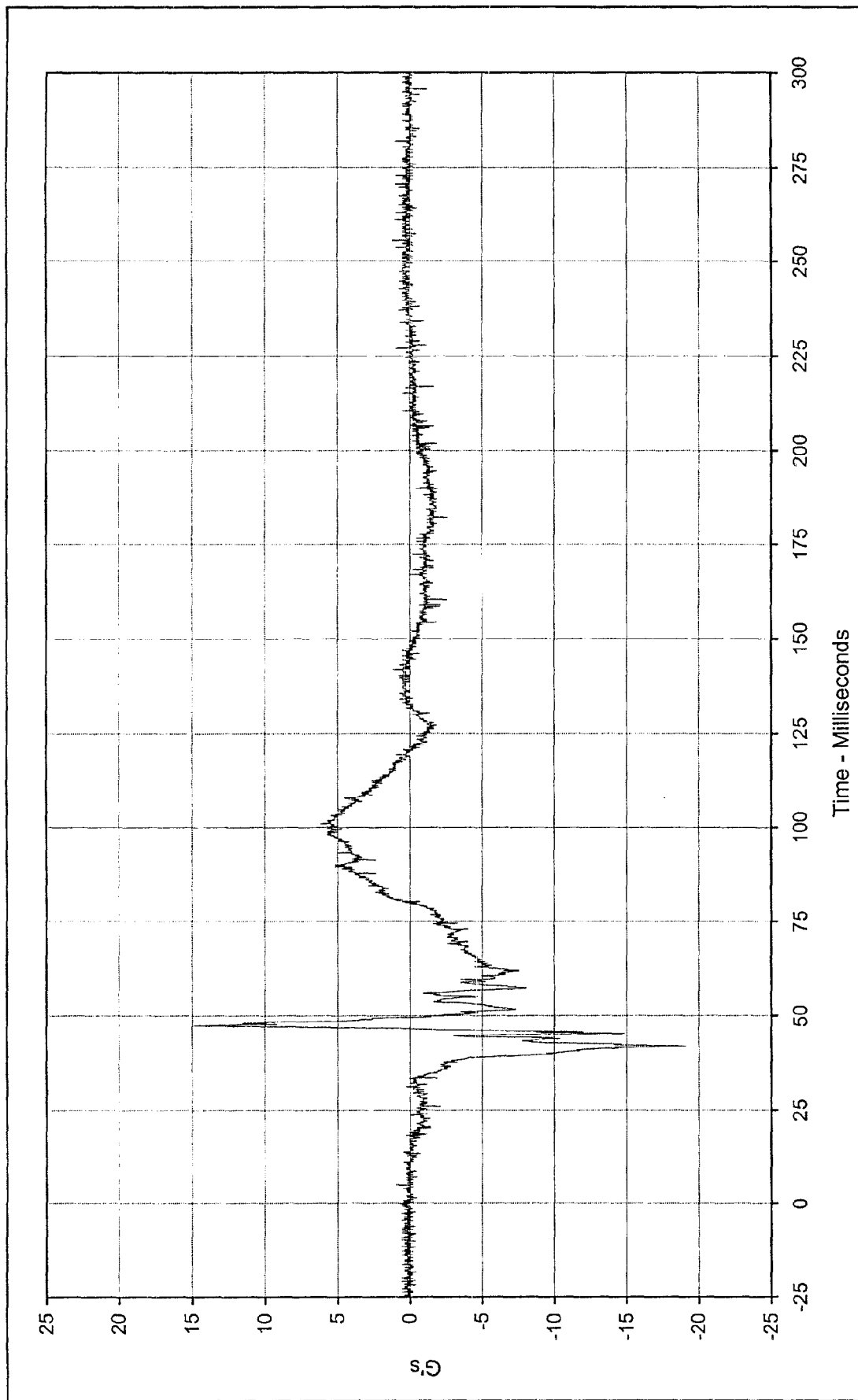
Driver Pelvis X Velocity
 Maximum Value: 56.7 at 7.4 Milliseconds
 Minimum Value: 4.2 at 95.7 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN1-020





Curve Description:	Driver Pelvis X Displ.	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	152.6	at	299.9	Milliseconds
Minimum Value:	0.0	at	0.0	Milliseconds
SAE Filter Class:	180			
Date of Test:	2/17/98	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Curve Number:	IN2-020			

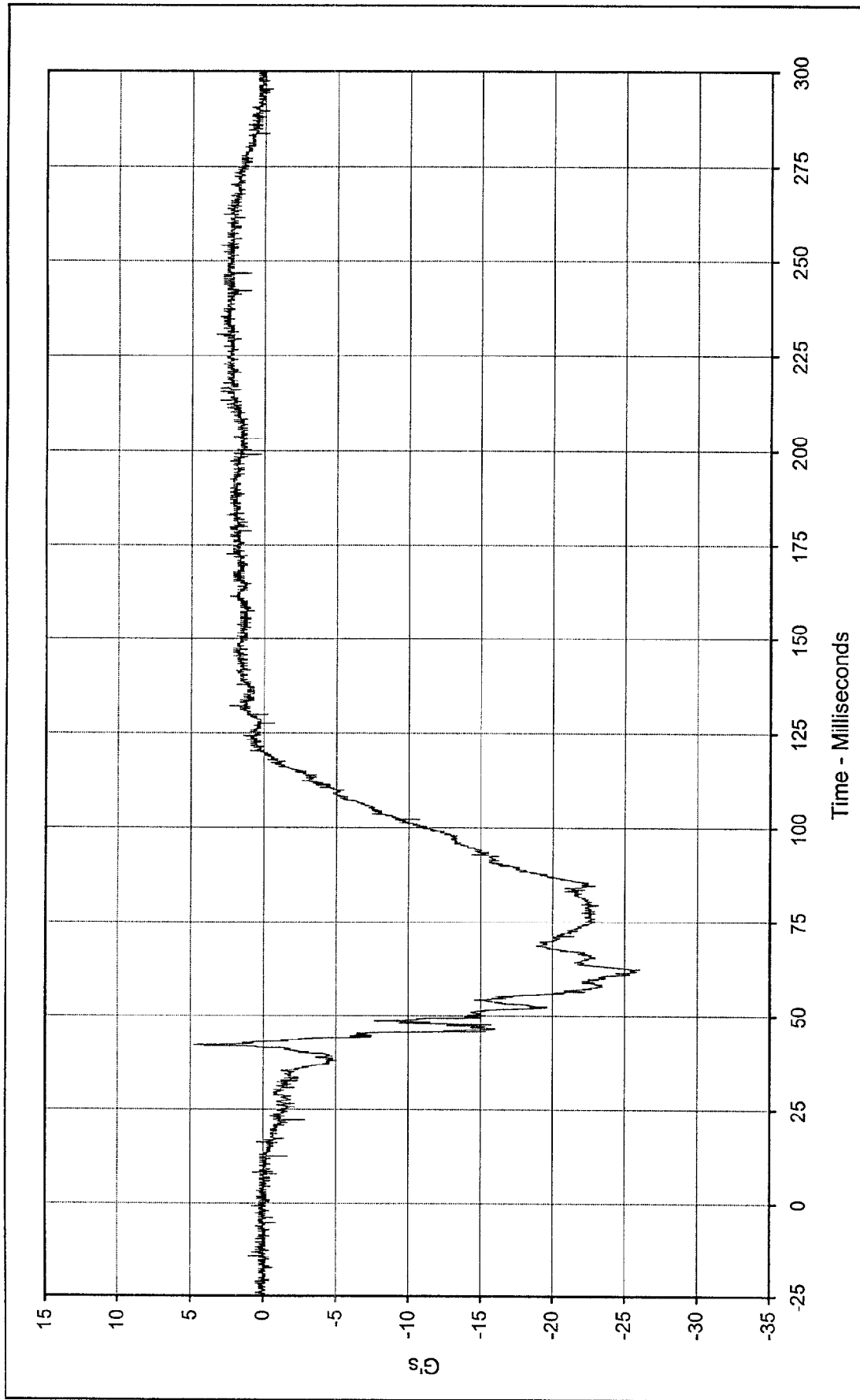




Curve Description: Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

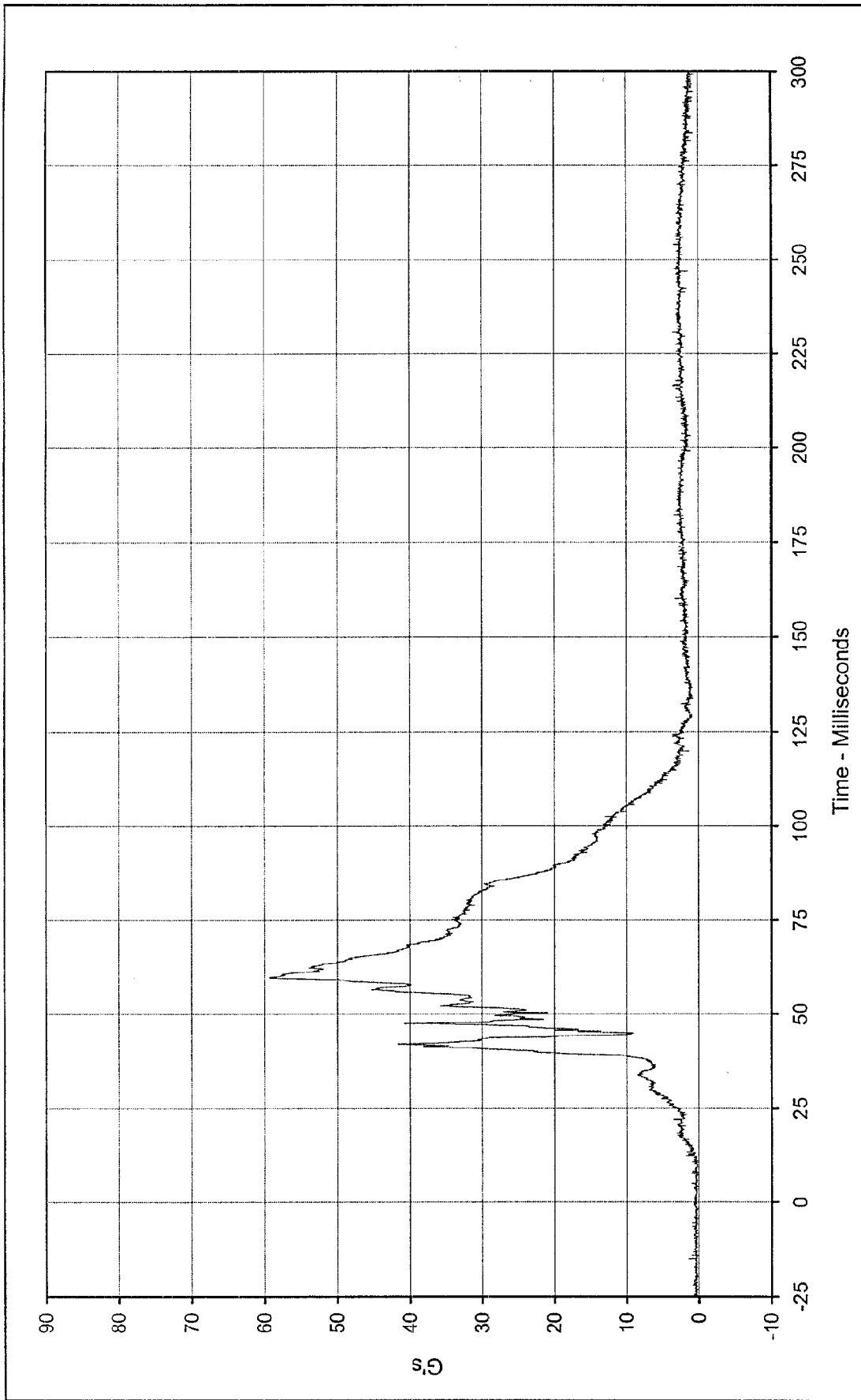
Driver Pelvis Y
 Maximum Value: 14.9 at 47.5 Milliseconds
 Minimum Value: -19.1 at 41.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-021





Curve Description:	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	4.8	at	42.2 Milliseconds
Minimum Value:	-26.1	at	62.4 Milliseconds
SAE Filter Class:	1000		
Date of Test:	2/17/98		
Curve Number:	FIL-022		
	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	





Curve Description: Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 59.4 at 59.8 Milliseconds

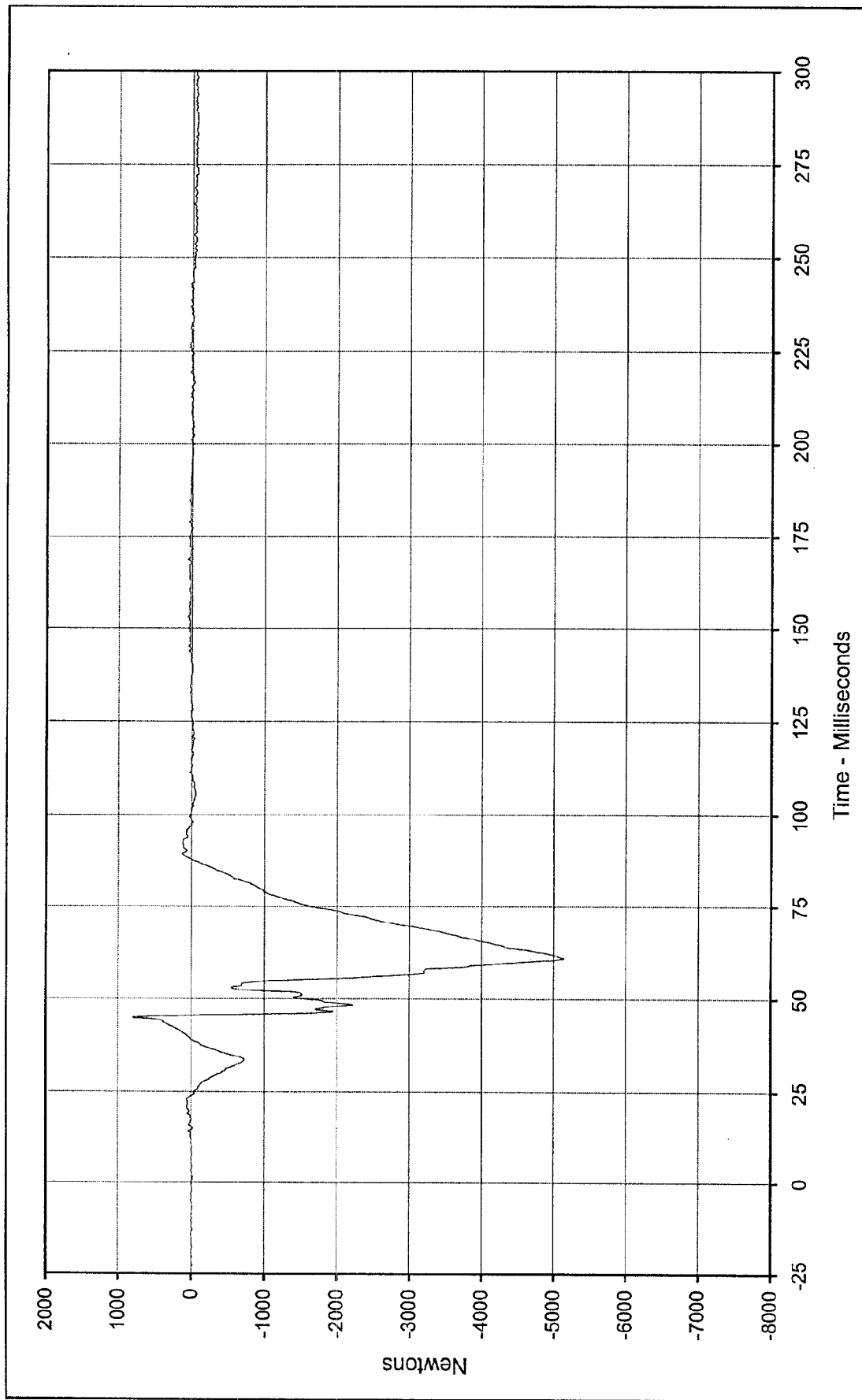
Minimum Value: 0.1 at 4.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 2/17/98

Curve Number: RES-020





Curve Description: Driver Left Femur Force

Maximum Value: 800.3 at 45.0 Milliseconds

Minimum Value: -5142.0 at 60.9 Milliseconds

SAE Filter Class: 600

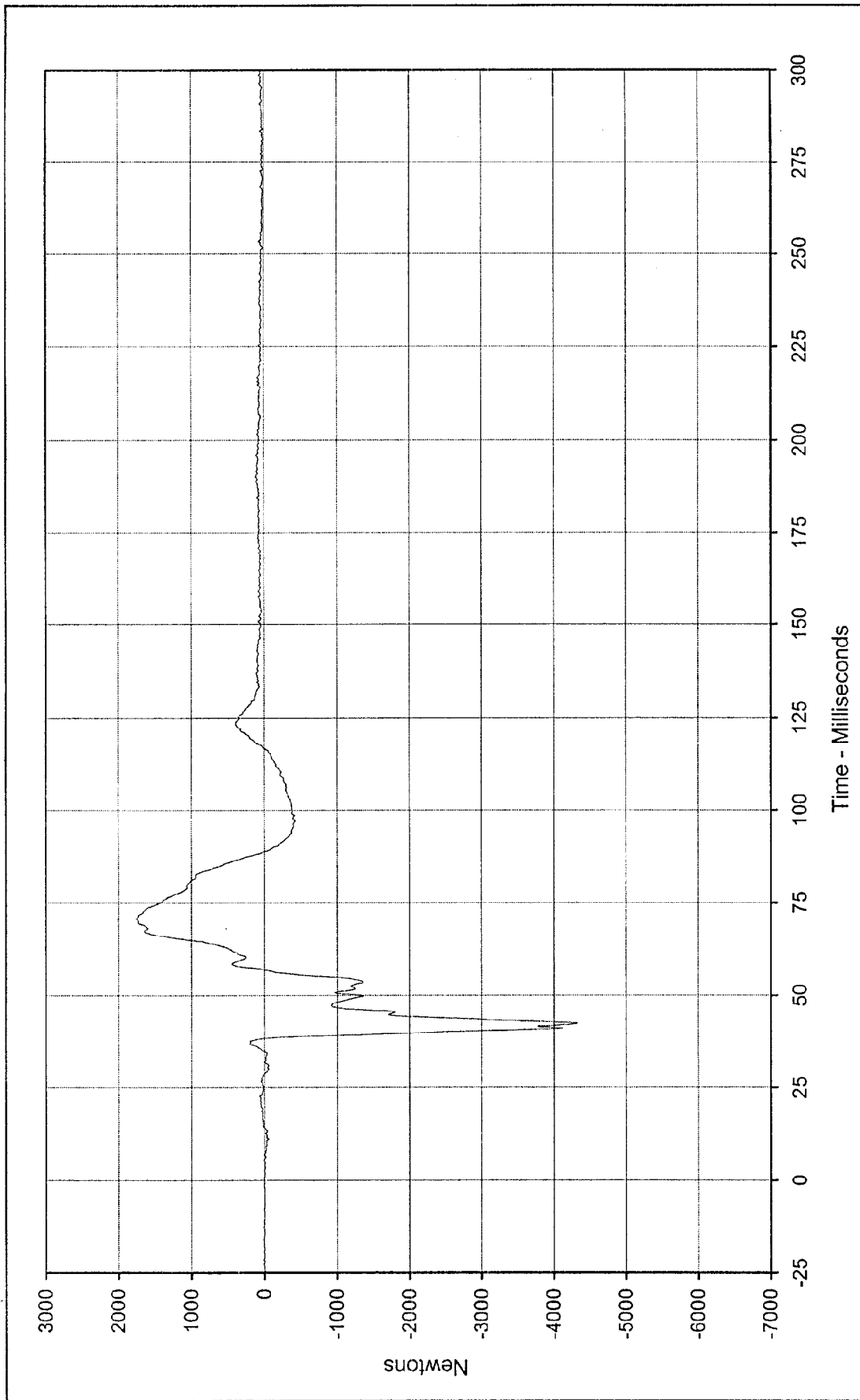
Date of Test: 2/17/98

Curve Number: FIL-023

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Driver Right Femur Force
Maximum Value: 1755.6 at 70.6 Milliseconds

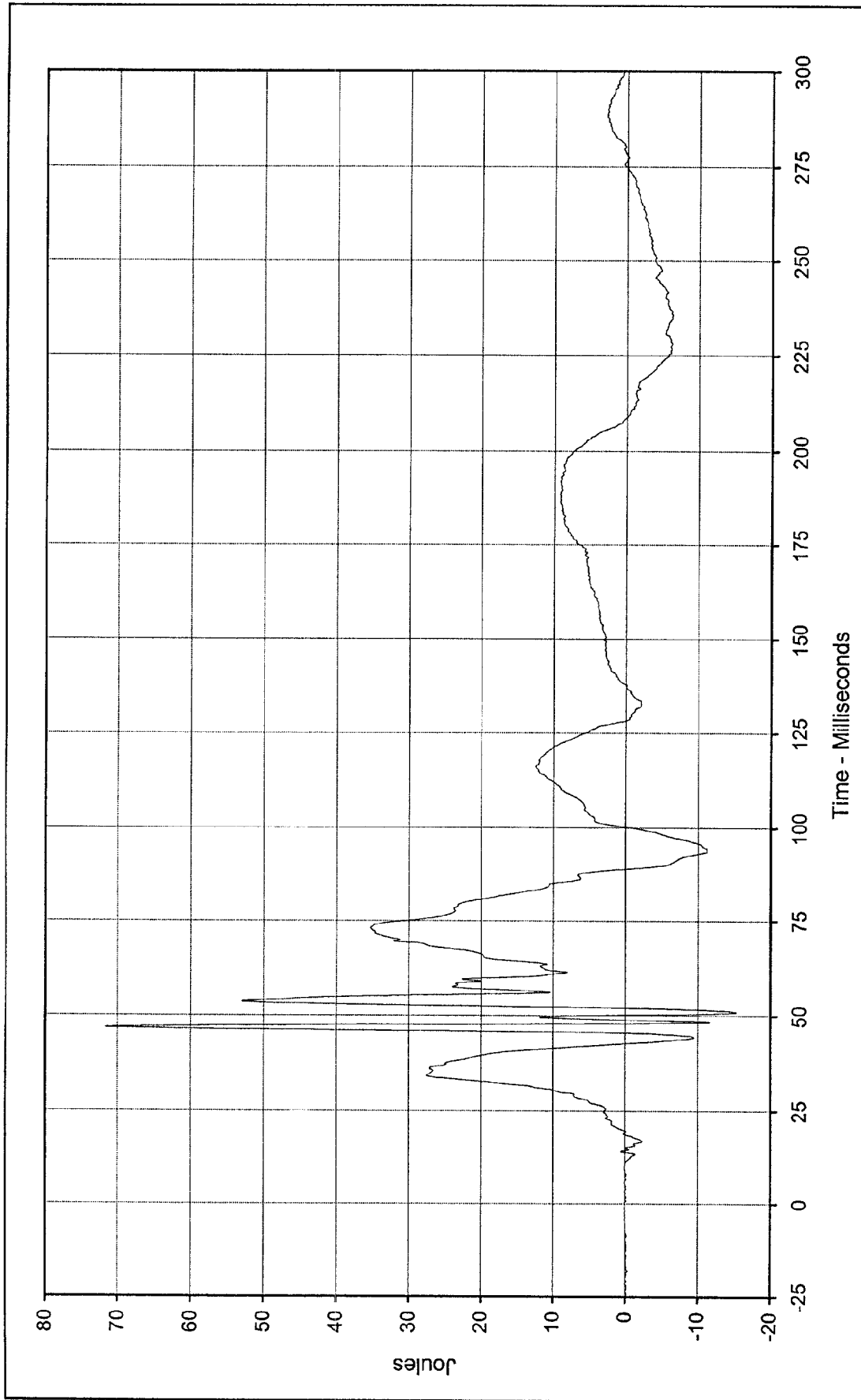
Minimum Value: -4329.3 at 42.6 Milliseconds

SAE Filter Class: 600

Date of Test: 2/17/98

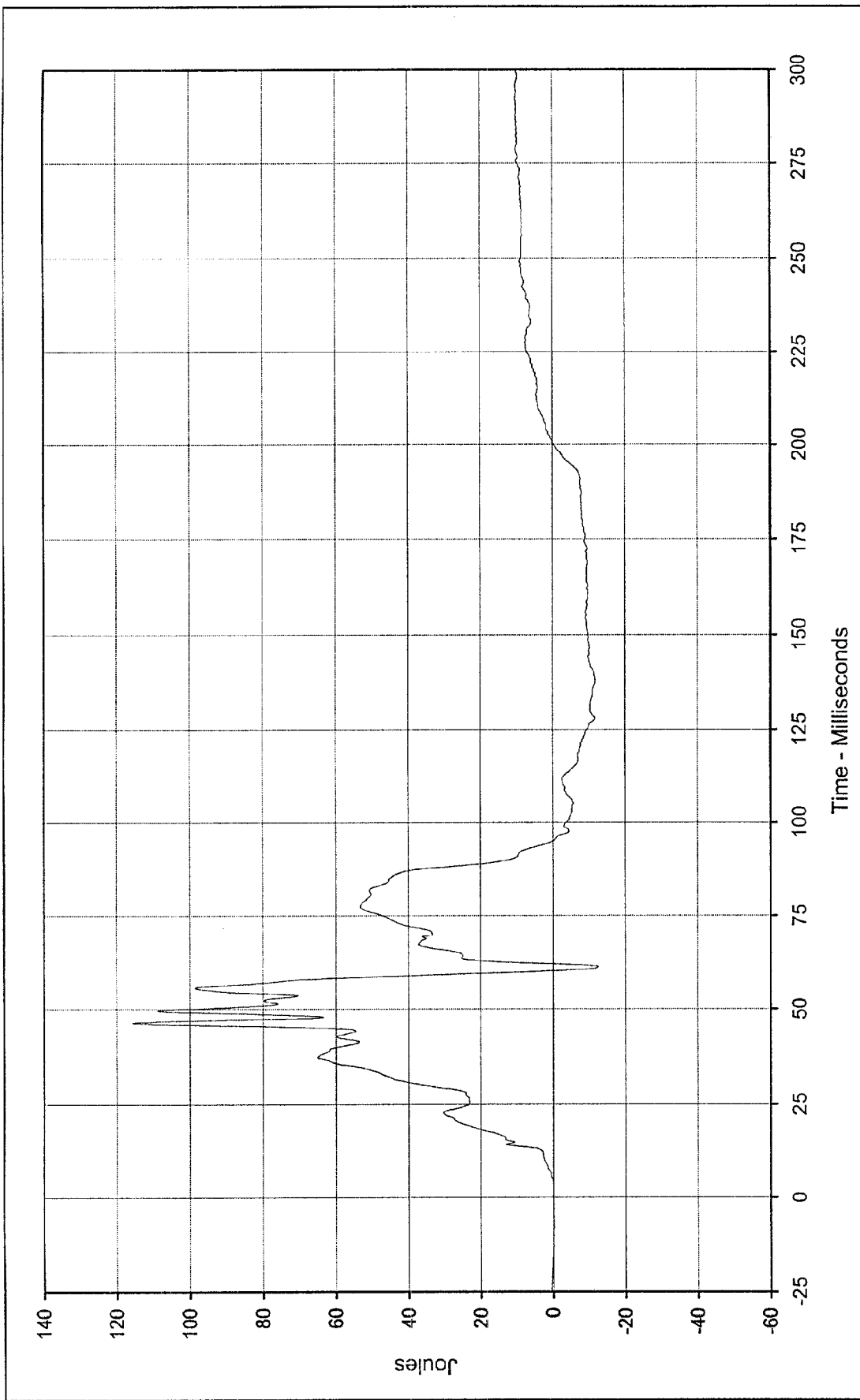
Curve Number: FIL-024





Curve Description:	Driver Left Upper Tibia Moment X	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	71.7	at	46.7	Milliseconds
Minimum Value:	-15.3	at	51.0	Milliseconds
SAE Filter Class:	600	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Date of Test:	2/17/98			
Curve Number:	FIL-025			





Curve Description: Driver Left Upper Tibia Moment Y

Maximum Value: 115.7 at 46.4 Milliseconds

Minimum Value: -12.6 at 61.3 Milliseconds

SAE Filter Class: 600

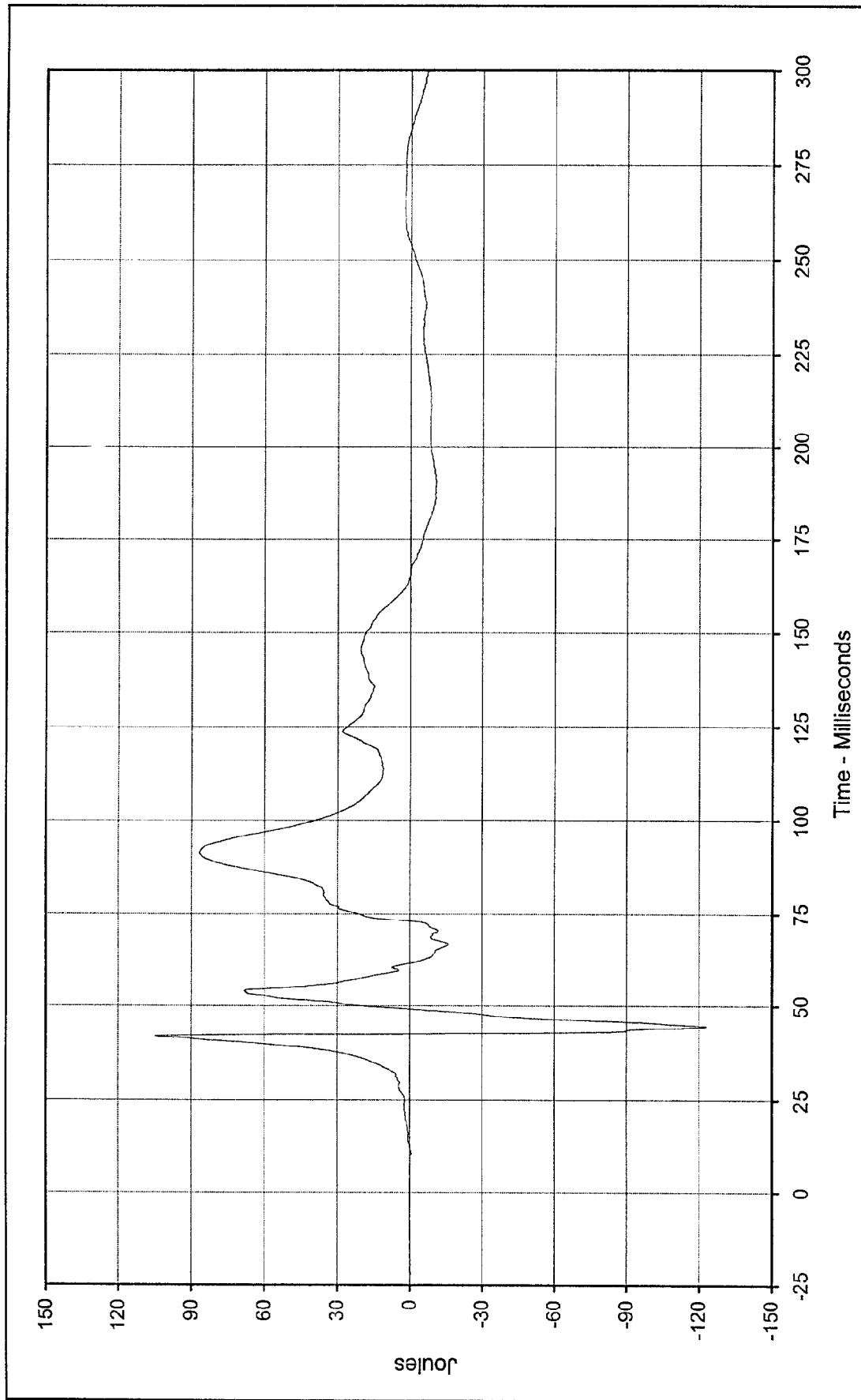
Date of Test: 2/17/98

Curve Number: FIL-026

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Right Upper Tibia Moment X

Maximum Value: 104.8 at 41.9 Milliseconds

Minimum Value: -123.0 at 44.4 Milliseconds

SAE Filter Class: 600

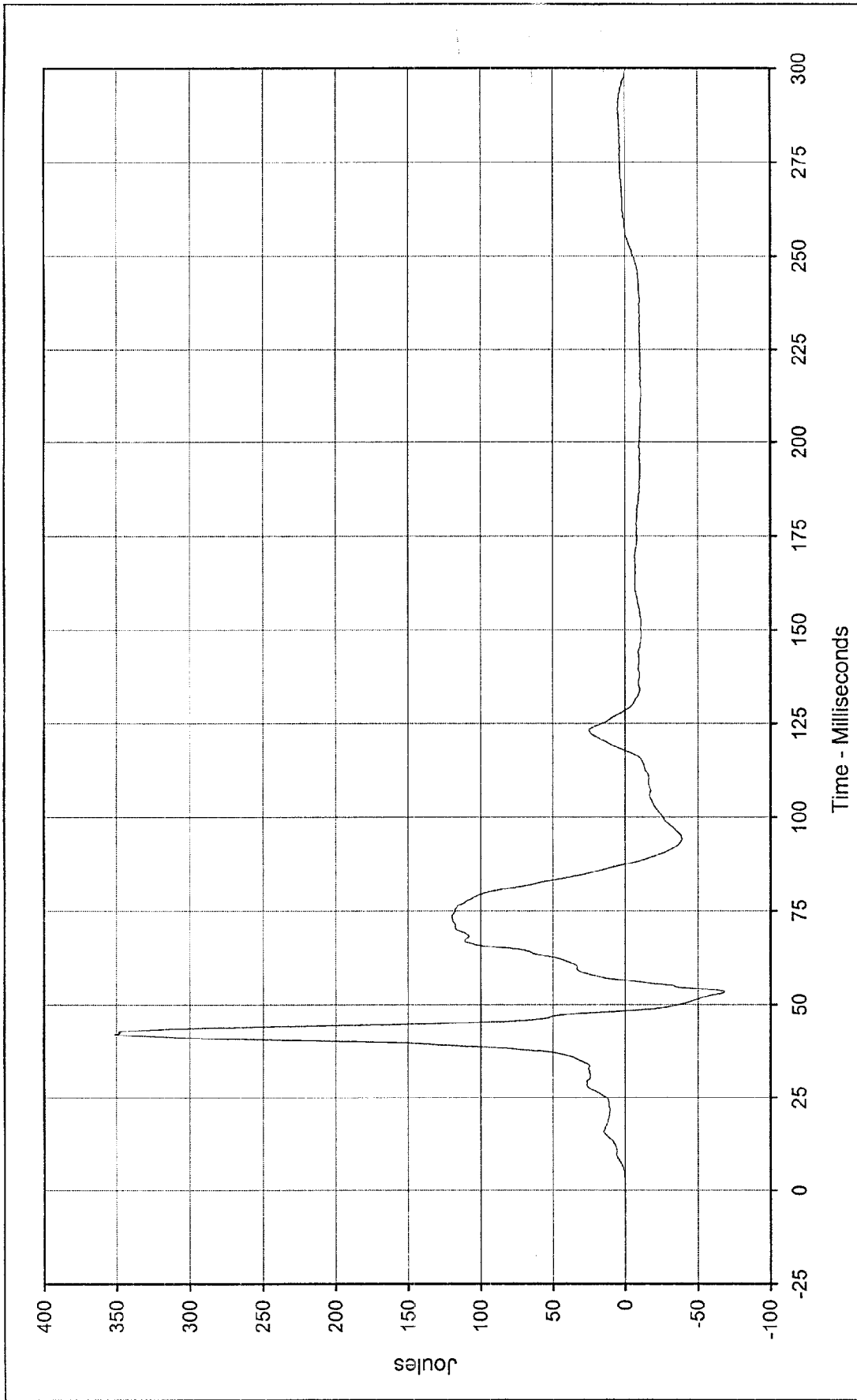
Date of Test: 2/17/98

Curve Number: FIL-027

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

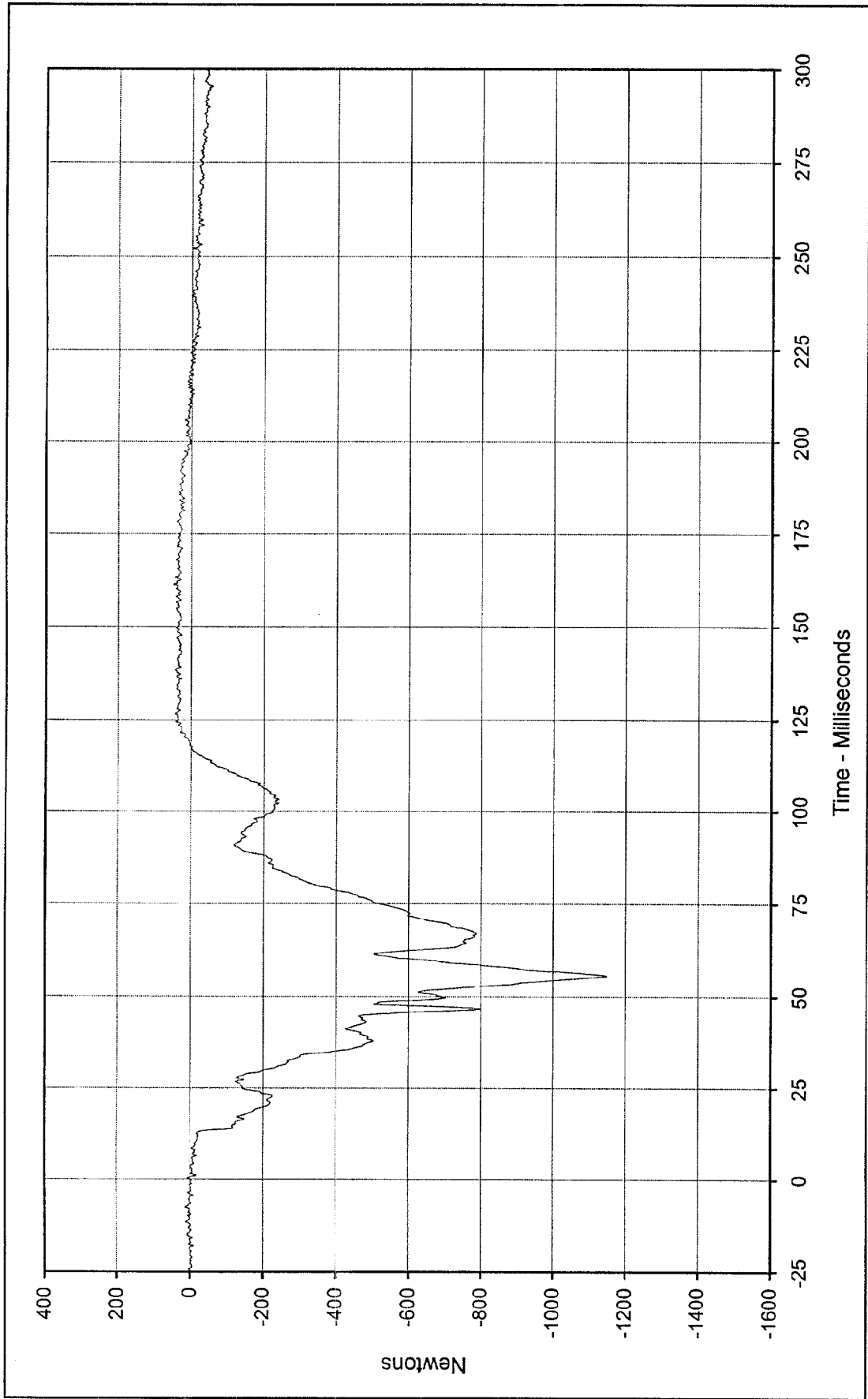




Curve Description: Driver Right Upper Tibia Moment Y
 Maximum Value: 351.4 at 42.1 Milliseconds
 Minimum Value: -68.5 at 53.4 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/17/98
 Curve Number: FIL-028

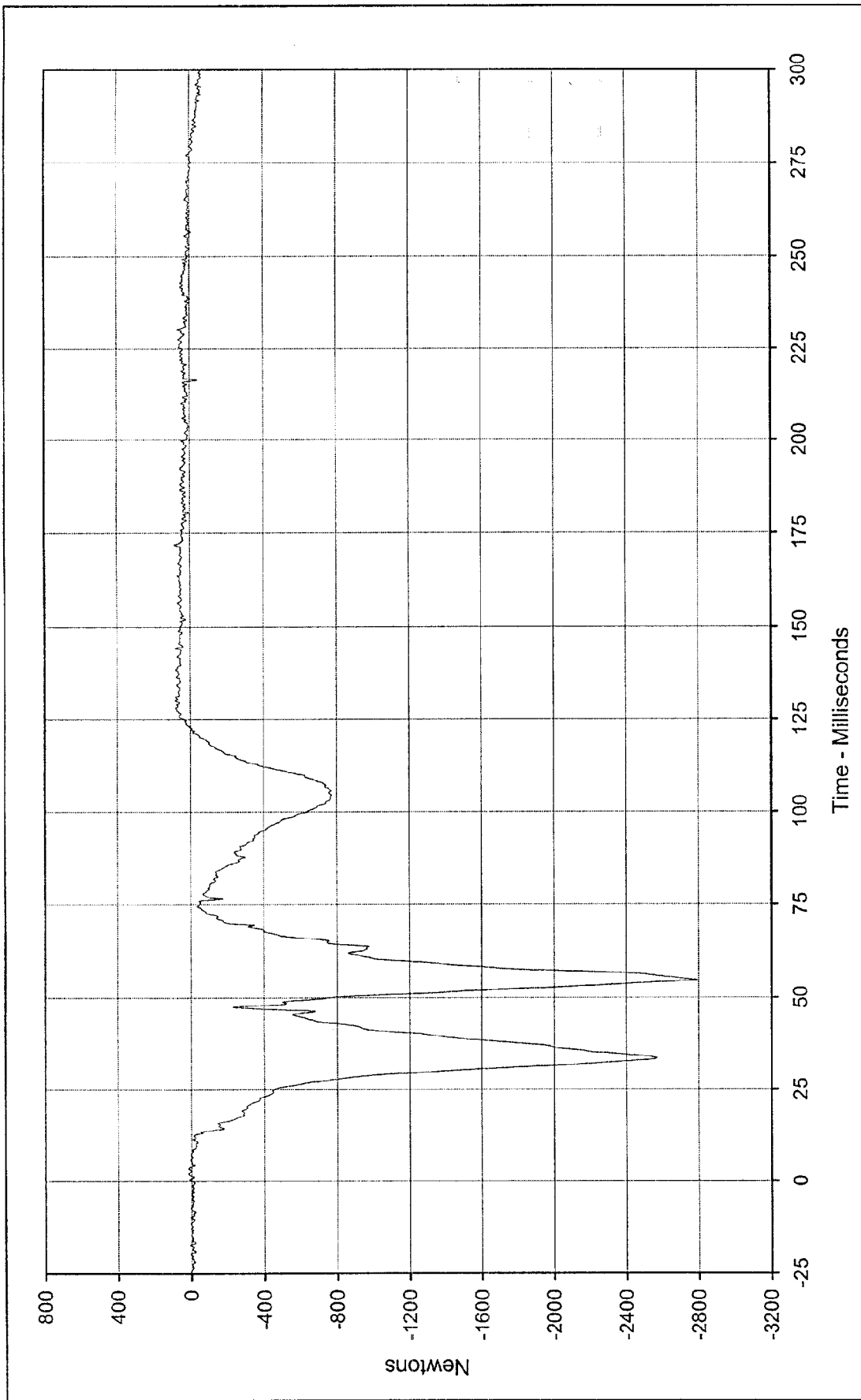
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Left Lower Tibia Force X	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	49.0 at 161.5 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-1146.9 at 55.6 Milliseconds			
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	FIL-029			

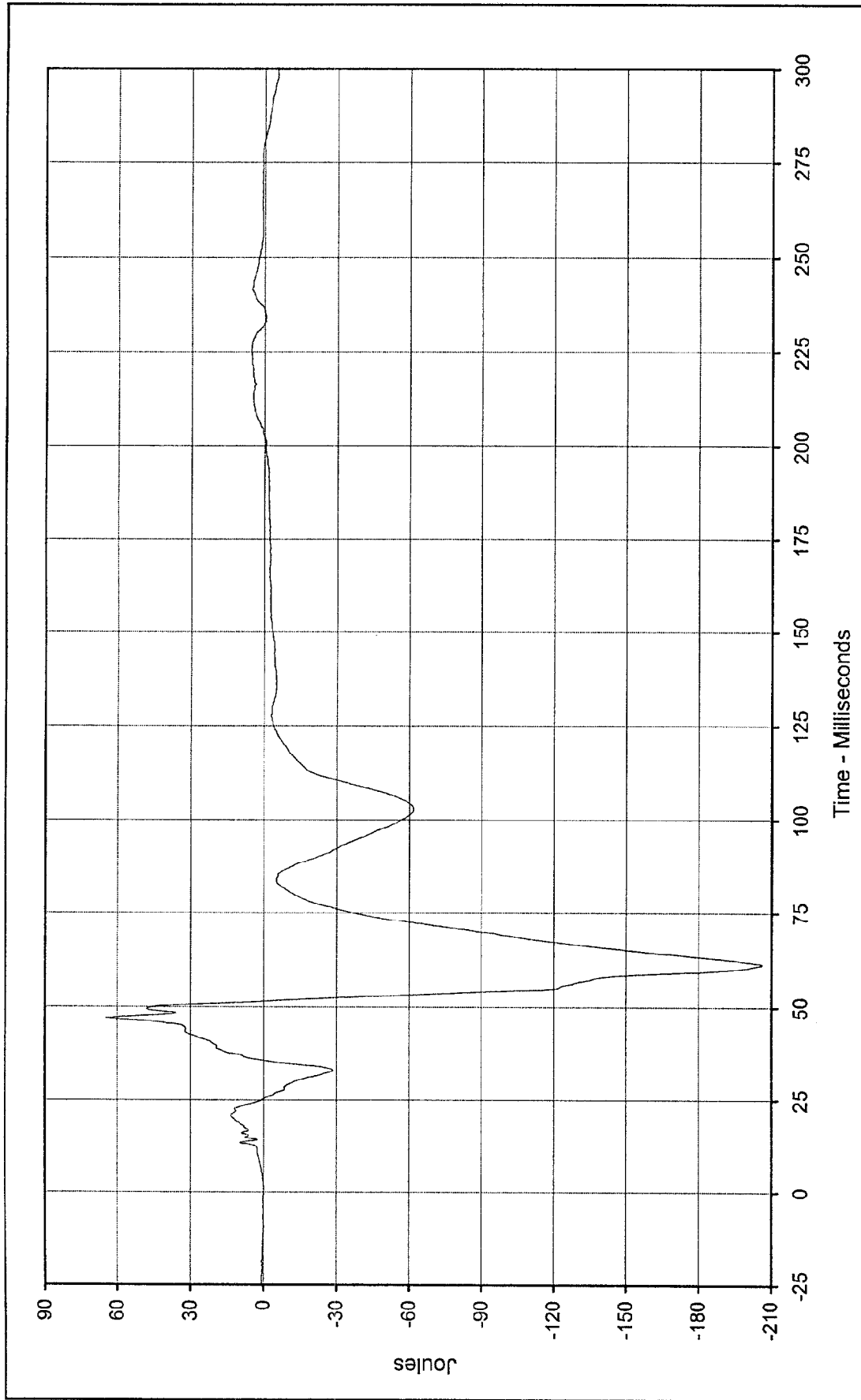




Curve Description: Driver Left Lower Tibia Force Z
 Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Maximum Value: 83.2 at 130.0 Milliseconds
 Minimum Value: -2792.3 at 54.7 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/17/98
 Curve Number: FIL-030

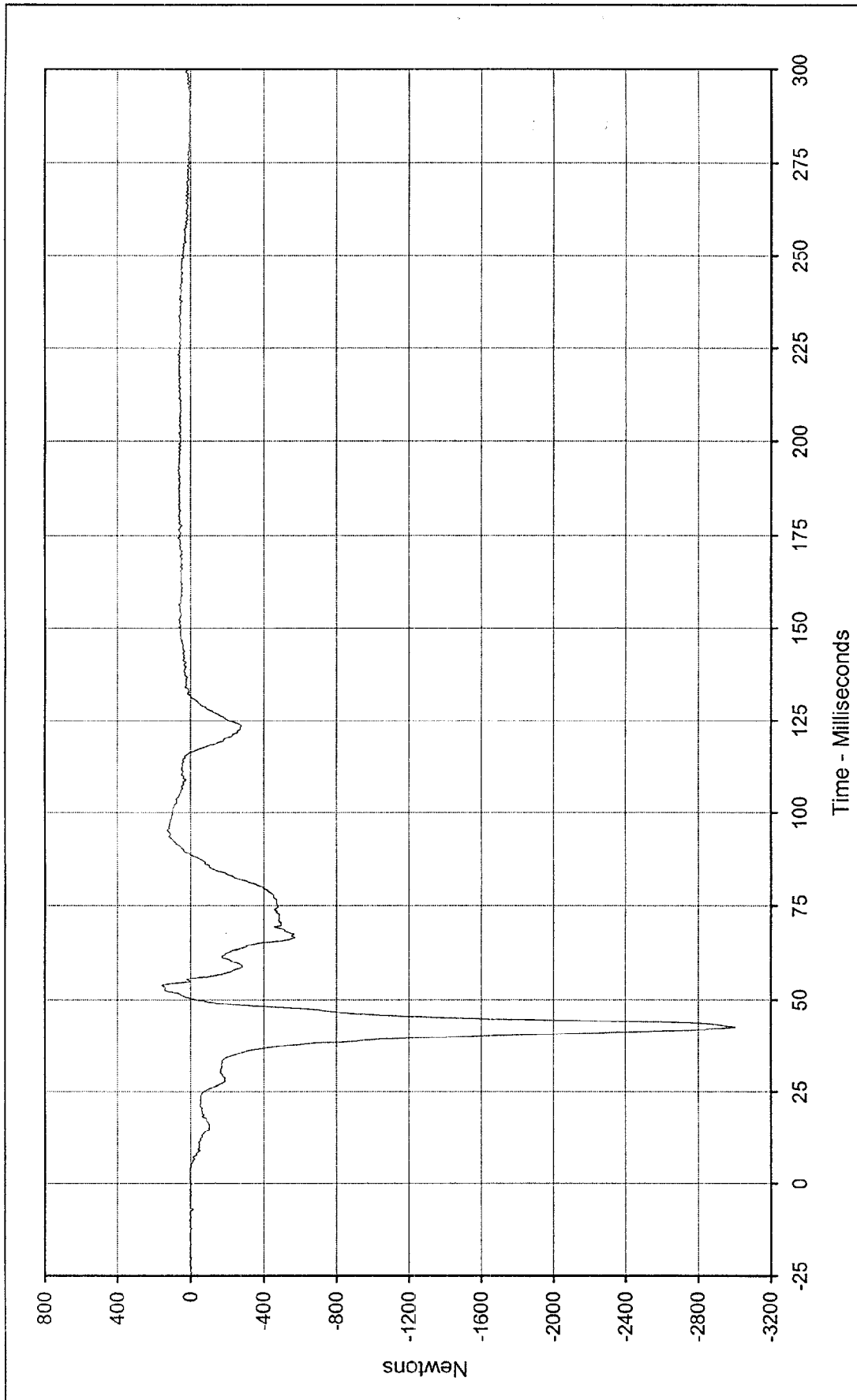




Curve Description:	Driver Left Lower Tibia Moment Y		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	64.7	at 47.0	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-206.4	at 61.3			
SAE Filter Class:	600				
Date of Test:	2/17/98				
Curve Number:	FIL-031				

The logo for AKARCO Engineering features the word "AKARCO" in a large, bold, sans-serif font. A stylized lightbulb is integrated into the letter "A". To the right of "AKARCO", the word "Engineering" is written in a smaller, italicized, sans-serif font. The entire logo is set against a dark, rectangular background.

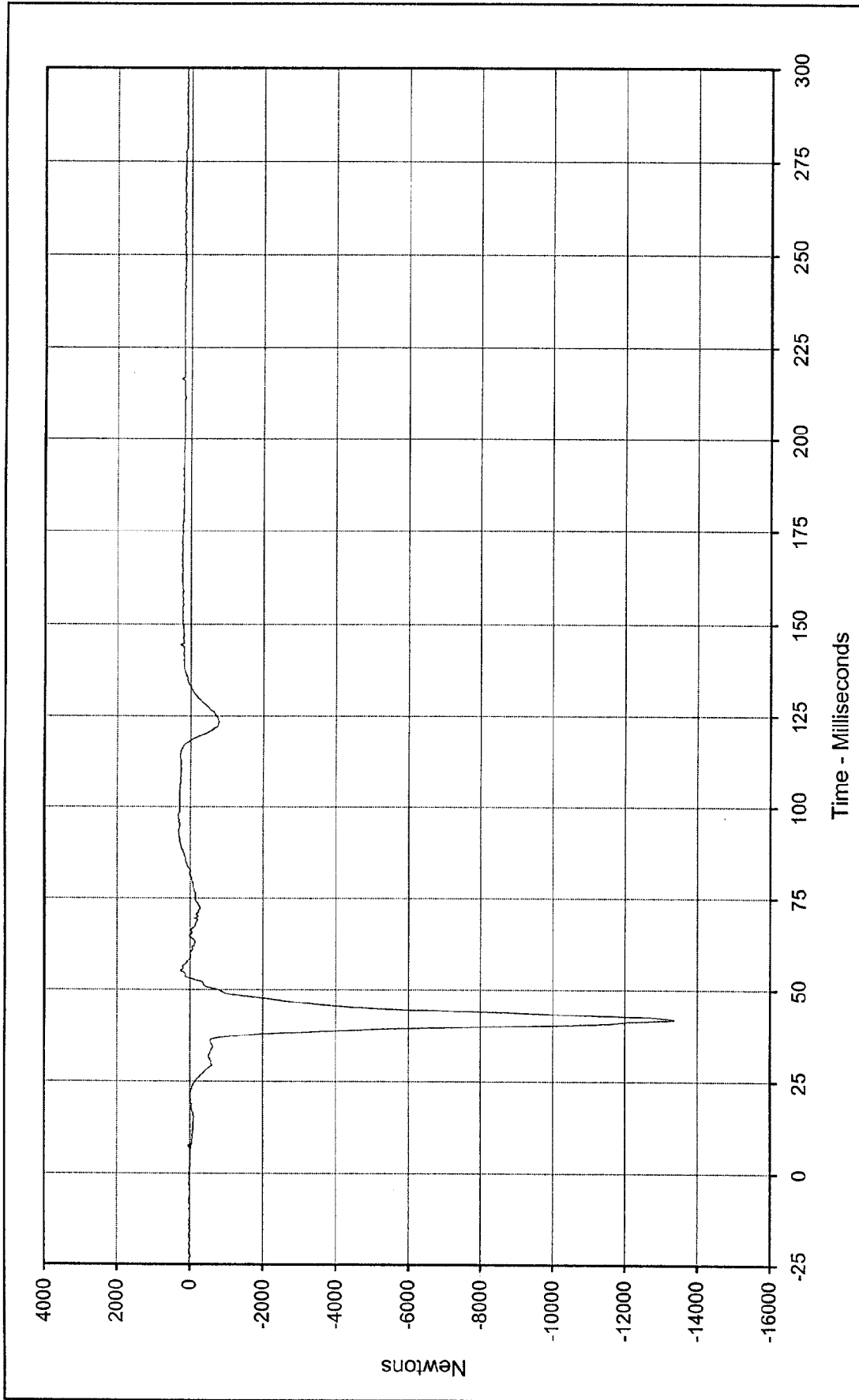




Curve Description: Driver Right Lower Tibia Force X
 Maximum Value: 156.1 at 53.9 Milliseconds
 Minimum Value: -3005.9 at 42.6 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/17/98
 Curve Number: FIL-032

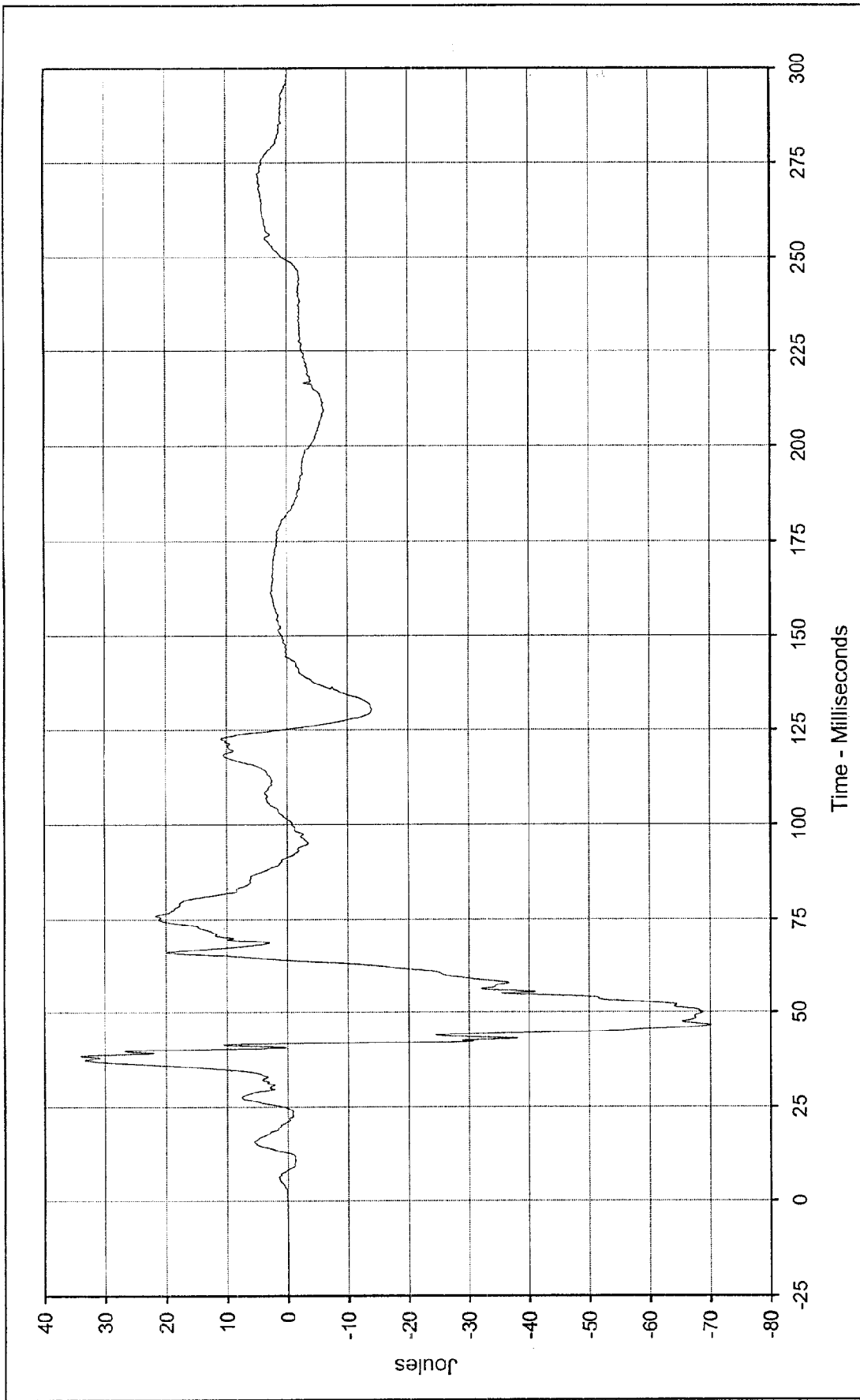
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Right Lower Tibia Force Z	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	317.5	at	93.5	Milliseconds
Minimum Value:	-13365.9	at	42.0	Milliseconds
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	FIL-033	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	





Curve Description: Driver Right Lower Tibia Moment Y

Maximum Value: 34.1 at 38.4 Milliseconds

Minimum Value: -70.2 at 46.6 Milliseconds

SAE Filter Class: 600

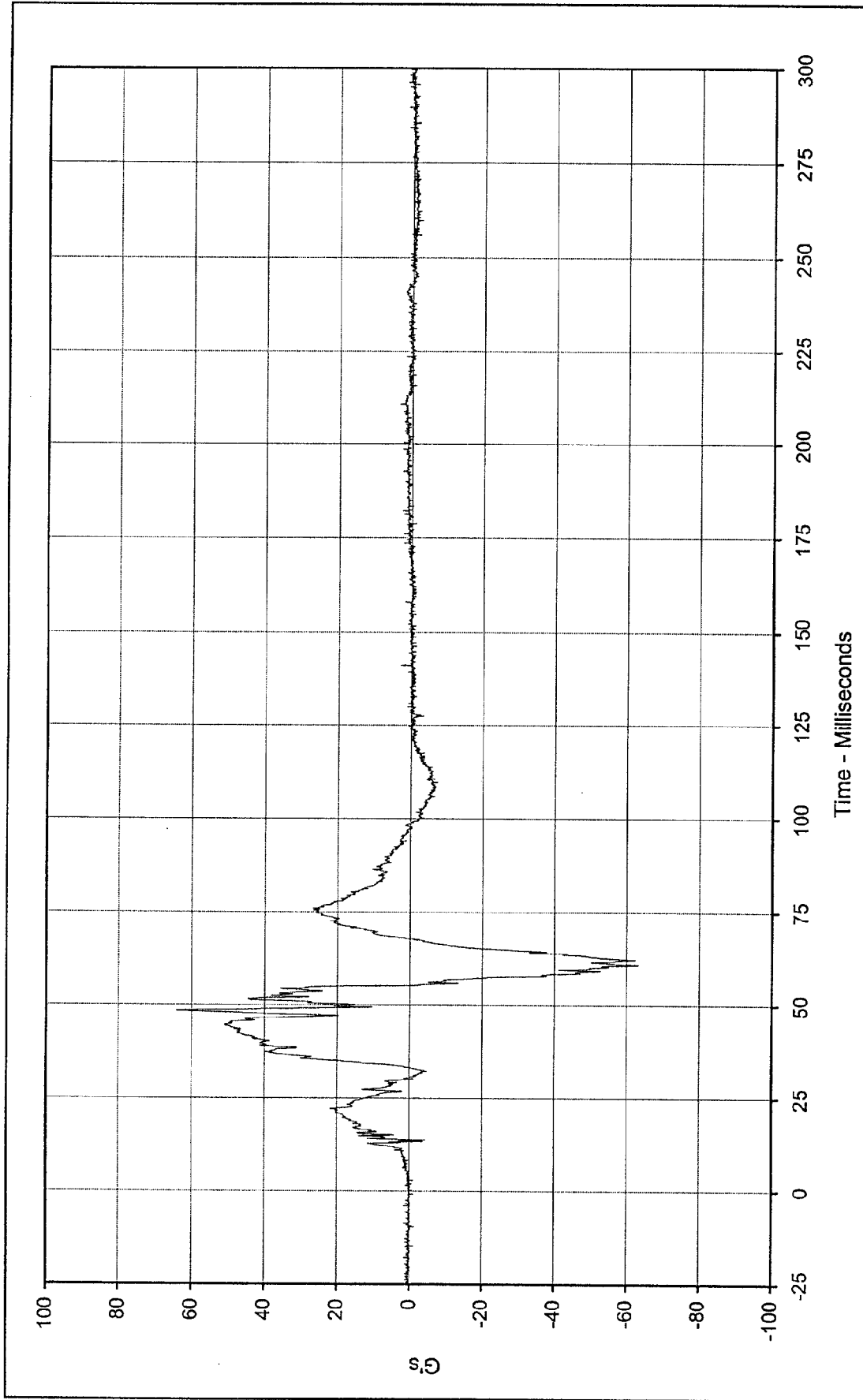
Date of Test: 2/17/98

Curve Number: FIL-034

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

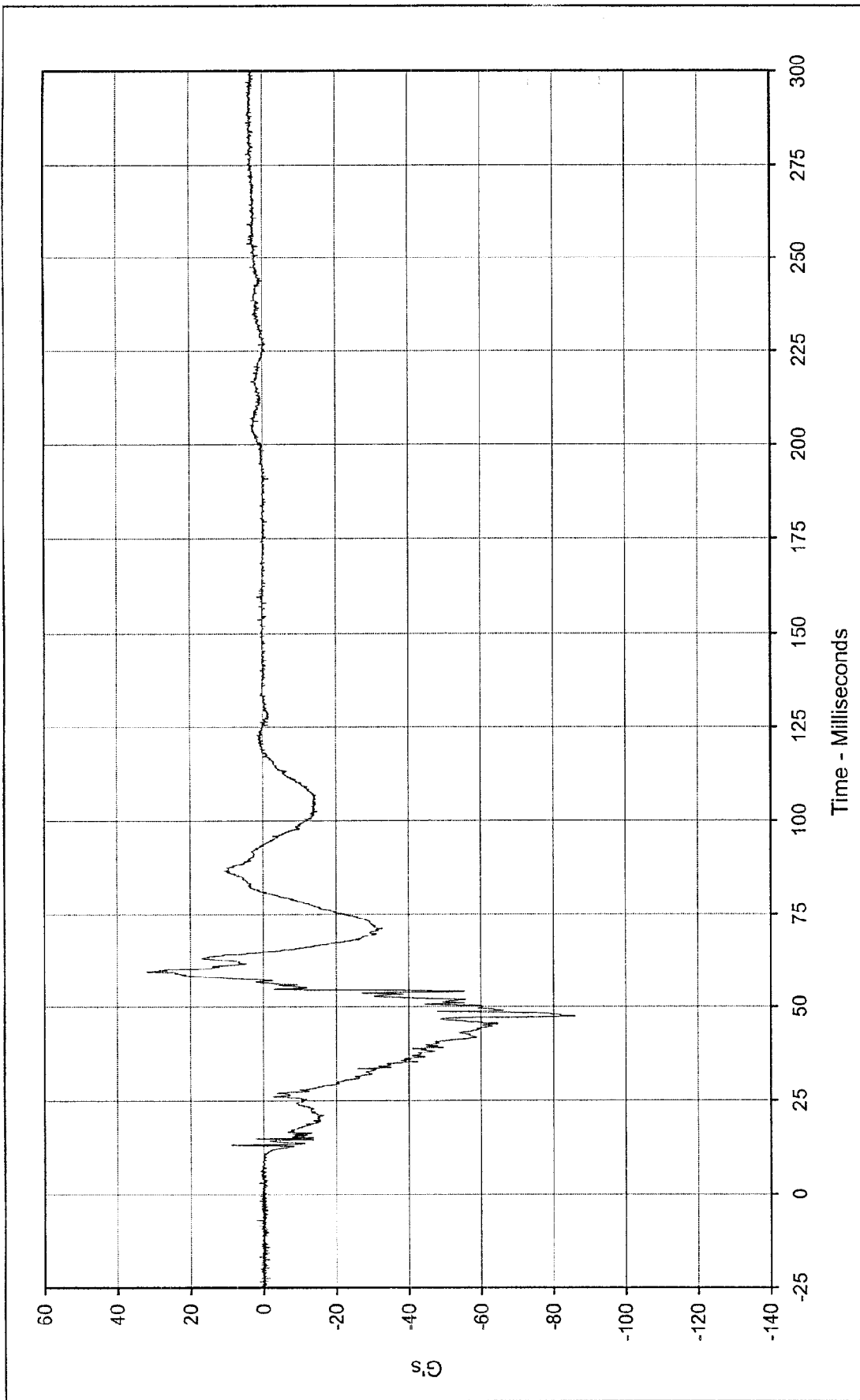
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Left Foot Aft X		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	64.2	at 48.5	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-63.1	at 60.7			
SAE Filter Class:	1000				
Date of Test:	2/17/98				
Curve Number:	FIL-035				

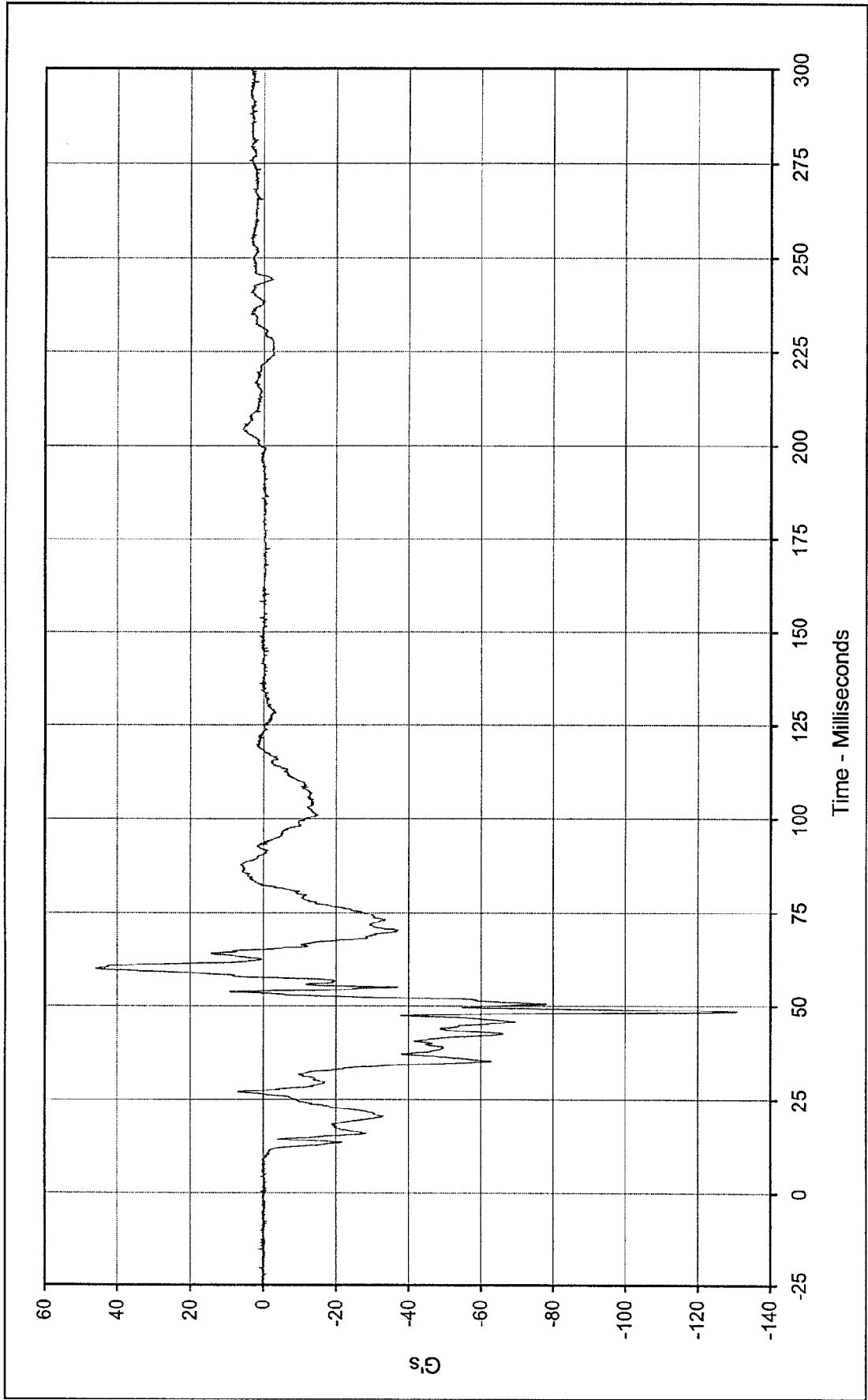




Curve Description: Driver Left Foot Aft Z
 Maximum Value: 31.9 at 59.4 Milliseconds
 Minimum Value: -86.1 at 47.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-036

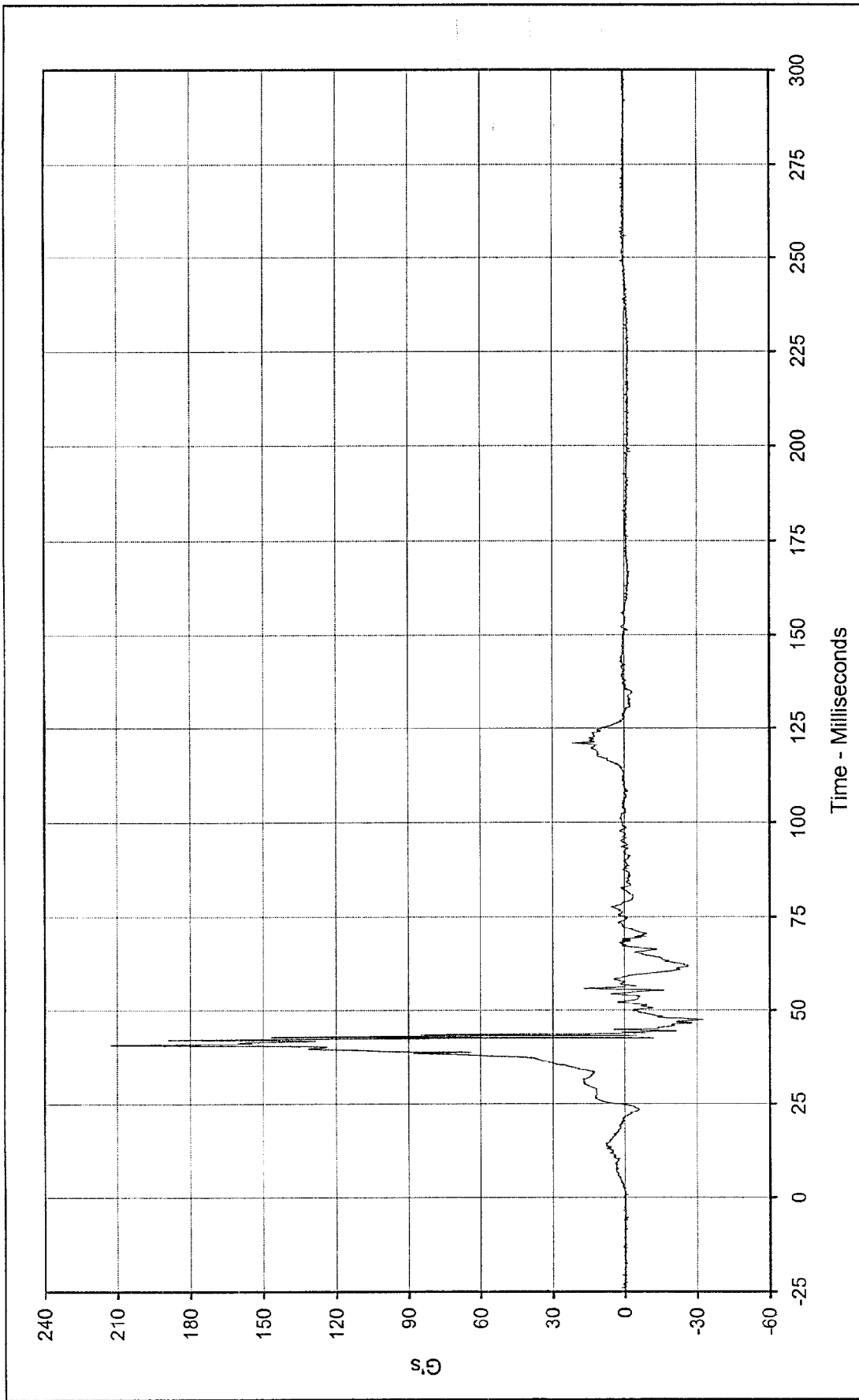
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Driver Left Foot Fore Z		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	46.0	at 60.0 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-130.9	at 48.4 Milliseconds			
SAE Filter Class:	1000				
Date of Test:	2/17/98				
Curve Number:	FIL-037				





Curve Description: Driver Right Foot Aft X

Maximum Value: 212.7 at 40.5 Milliseconds

Minimum Value: -32.4 at 47.3 Milliseconds

SAE Filter Class: 1000

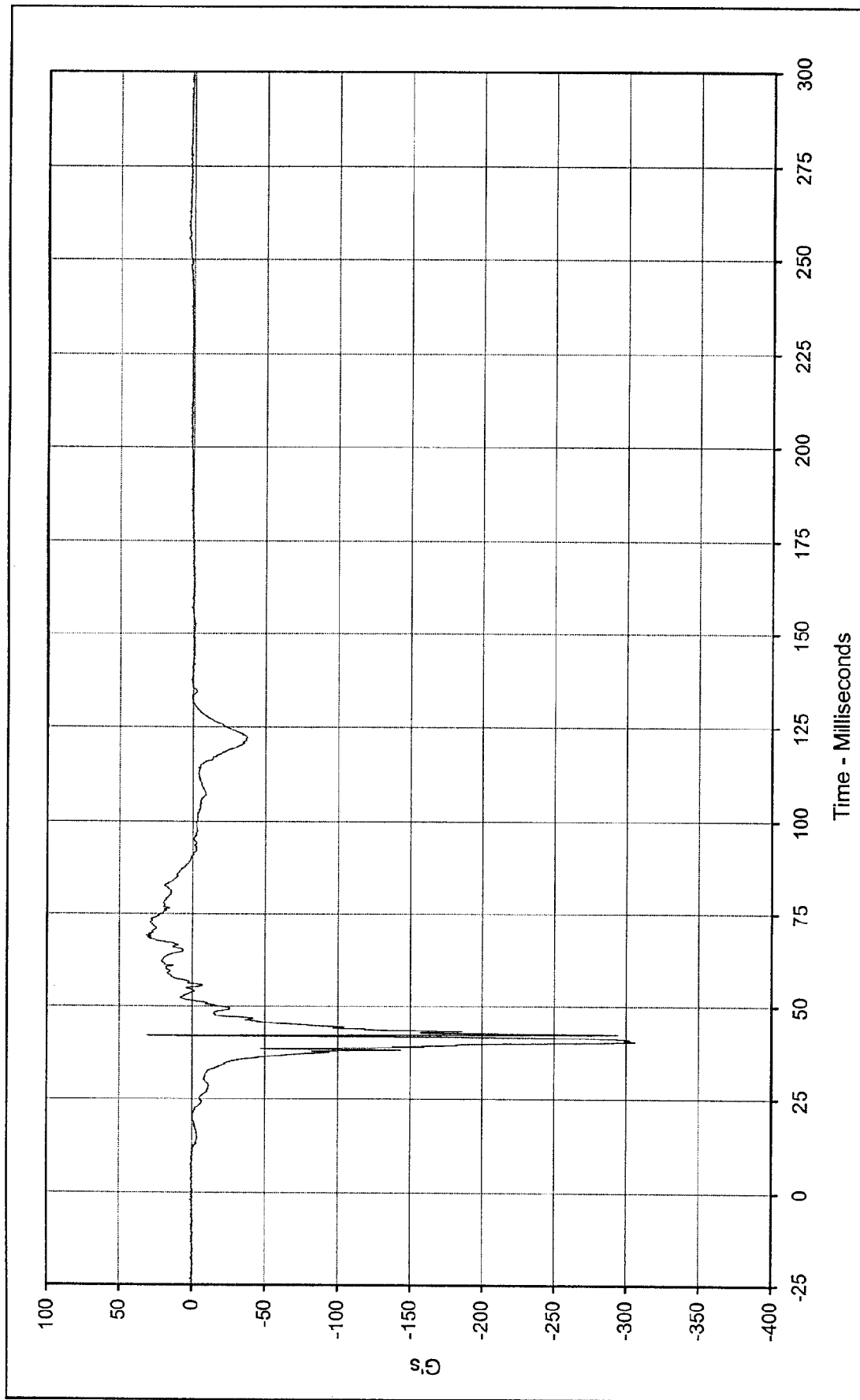
Date of Test: 2/17/98

Curve Number: FIL-038

Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Right Foot Aft Z

Maximum Value: 32.1 at 68.9 Milliseconds

Minimum Value: -306.1 at 40.4 Milliseconds

SAE Filter Class: 1000

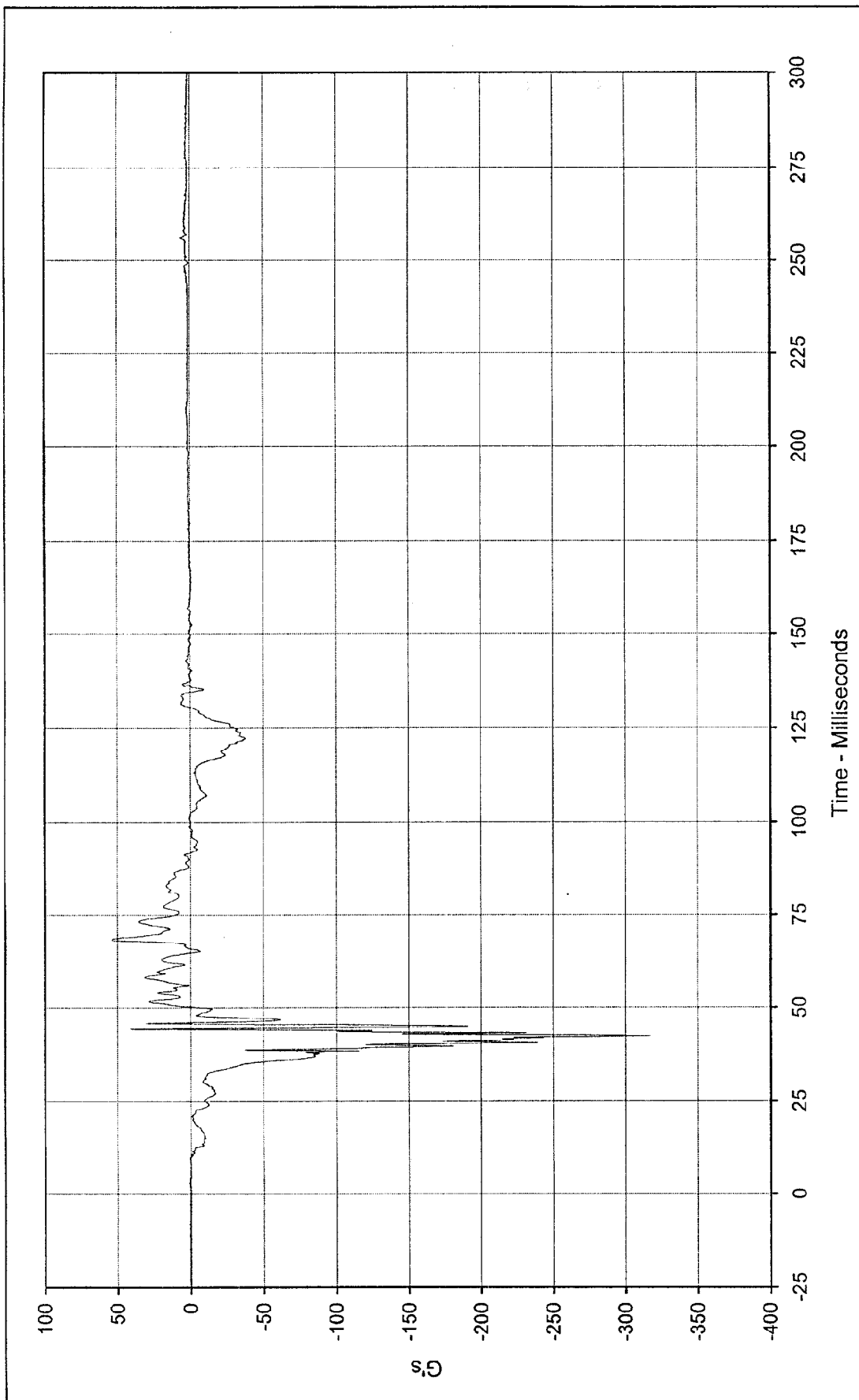
Date of Test: 2/17/98

Curve Number: FIL-039

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

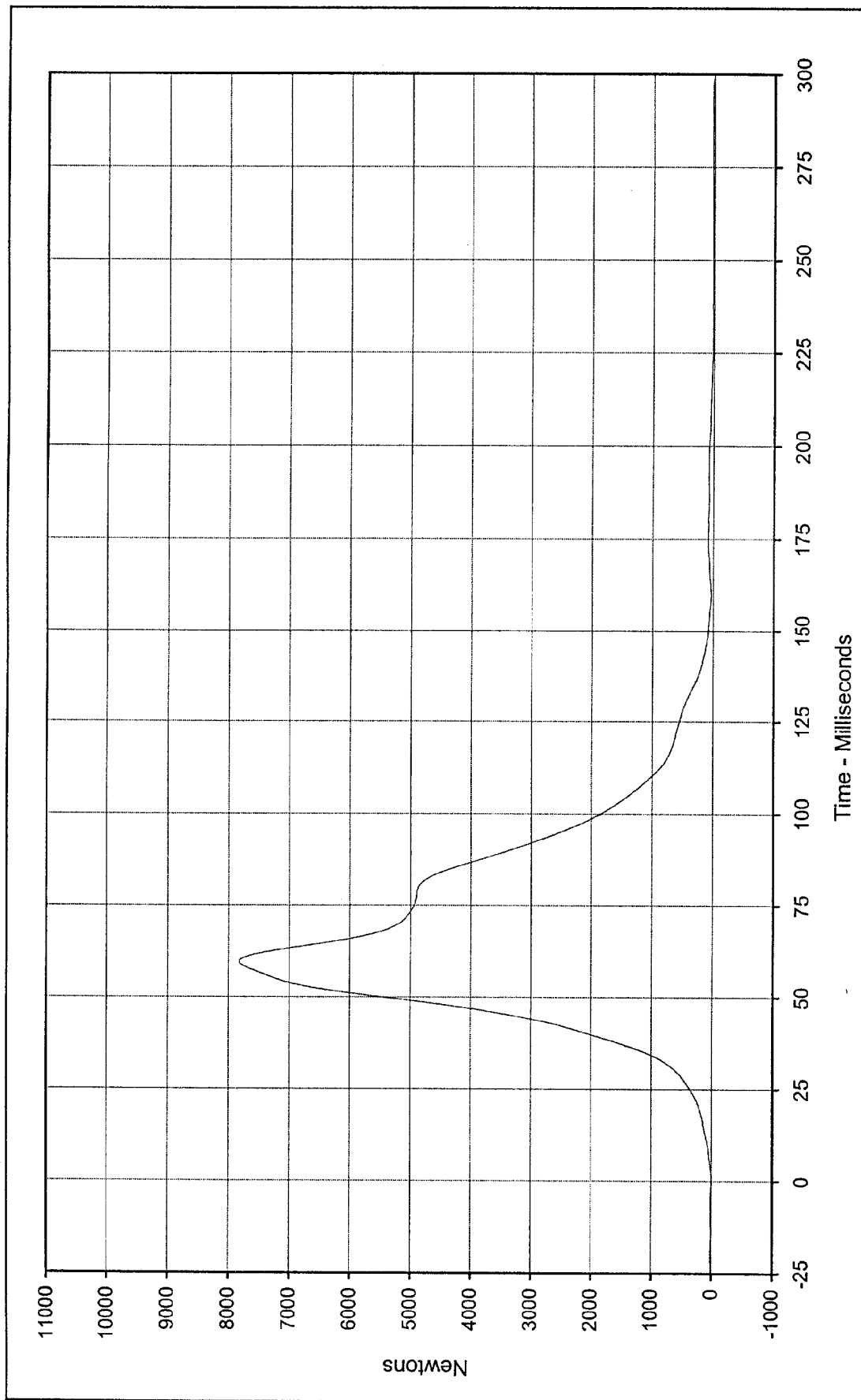




Curve Description: Driver Right Foot Fore Z
 Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

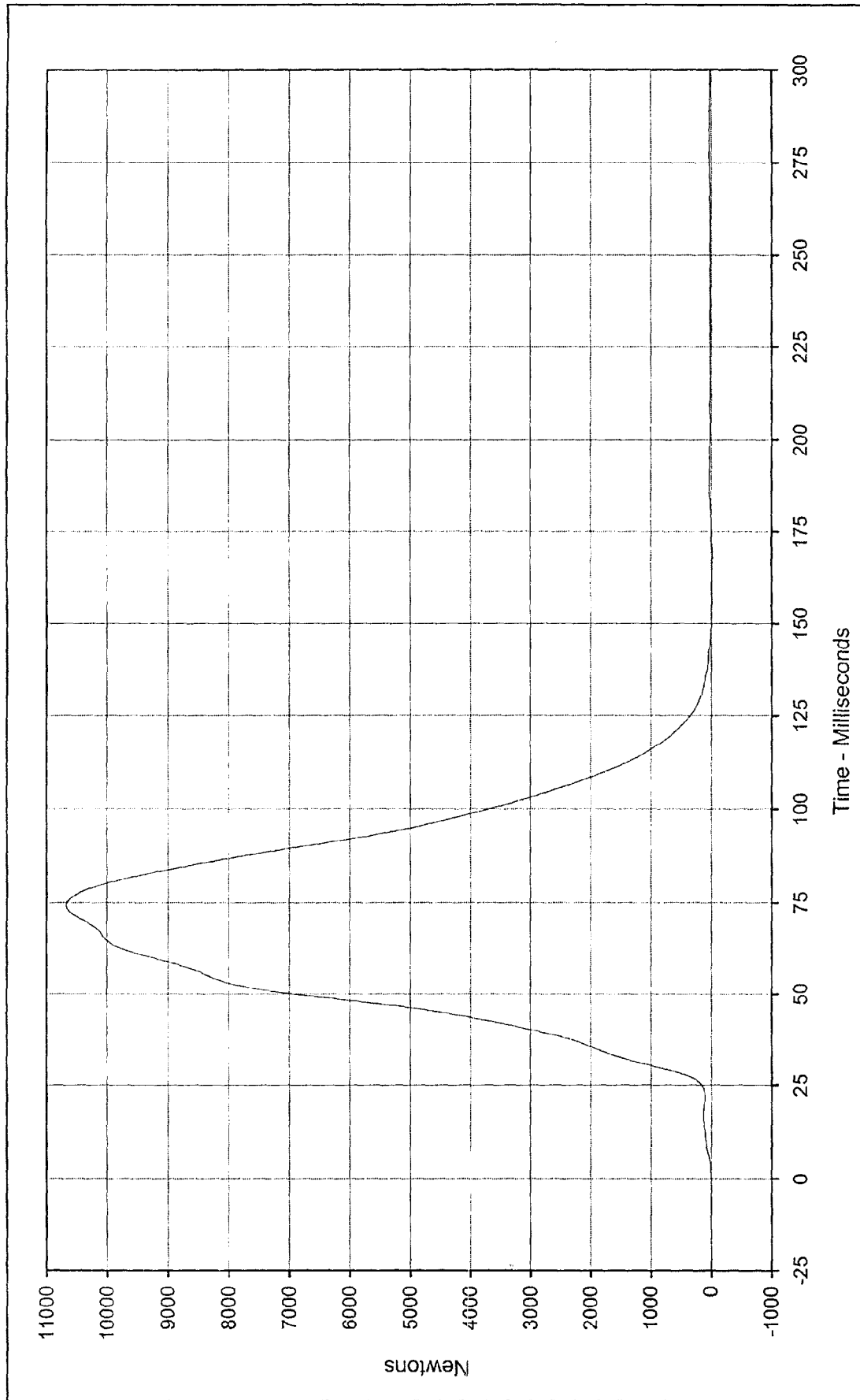
Maximum Value: 53.8 at 68.2 Milliseconds
 Minimum Value: -317.2 at 42.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-040





Curve Description:	Driver Lap Belt Force	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	7825.0 at 59.7 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-1.2 at 299.9 Milliseconds			
SAE Filter Class:	60			
Date of Test:	2/17/98			
Curve Number:	FIL-041			

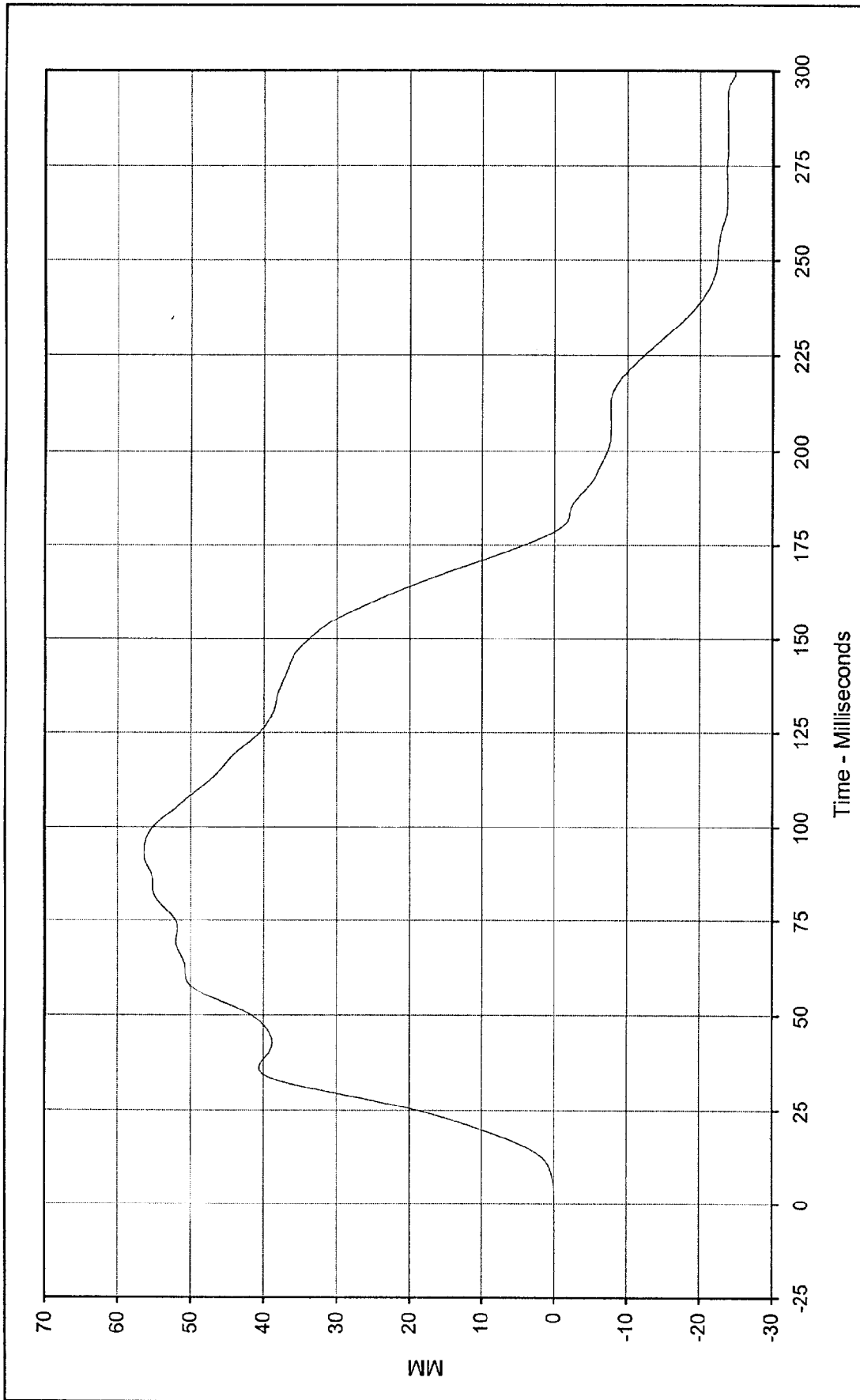




Curve Description: Driver Shoulder Belt Force
 Maximum Value: 10675.0 at 74.3 Milliseconds
 Minimum Value: -17.0 at 169.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/17/98
 Curve Number: FIL-042

Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Driver Shoulder Belt Pullout

Maximum Value: 56.4 at 93.2 Milliseconds

Minimum Value: -24.9 at 299.2 Milliseconds

SAE Filter Class: 60

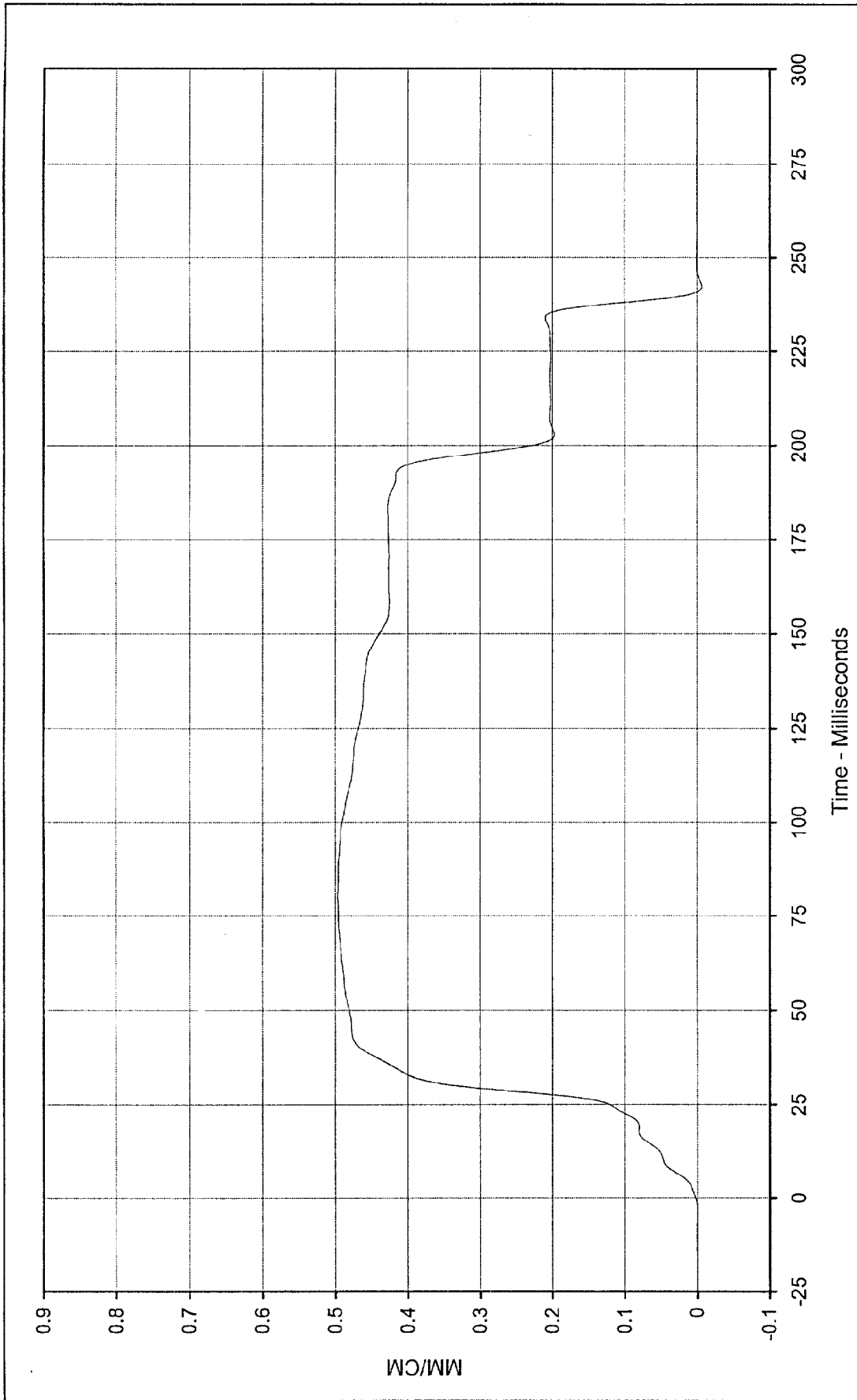
Date of Test: 2/17/98

Curve Number: FIL-043

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

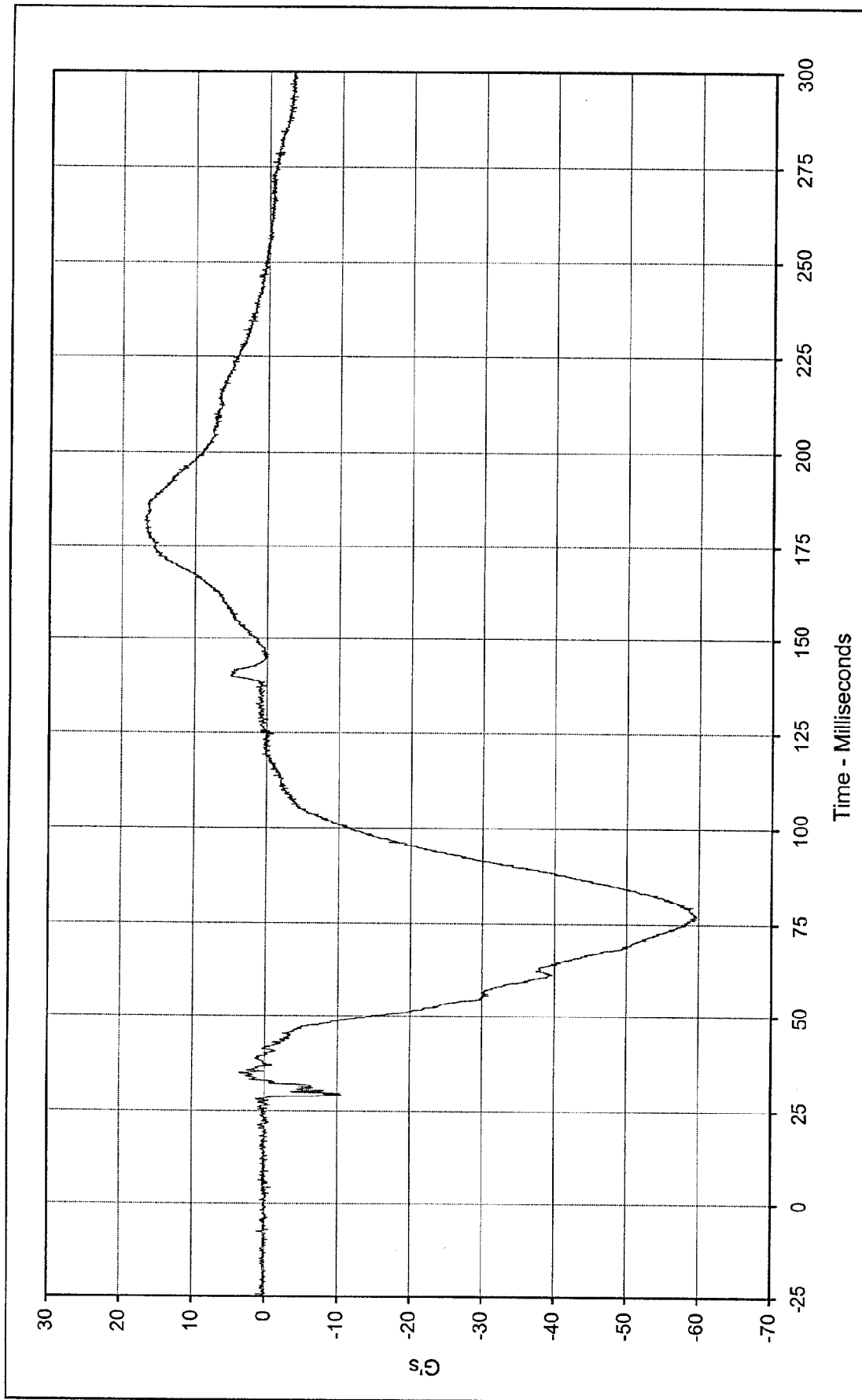




Curve Description: Driver Shoulder Belt Elongation * Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
Maximum Value: 0.50 at 80.2 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan
Minimum Value: -0.01 at 242.2 Milliseconds
SAE Filter Class: 60
Date of Test: 2/17/98
Curve Number: FIL-044

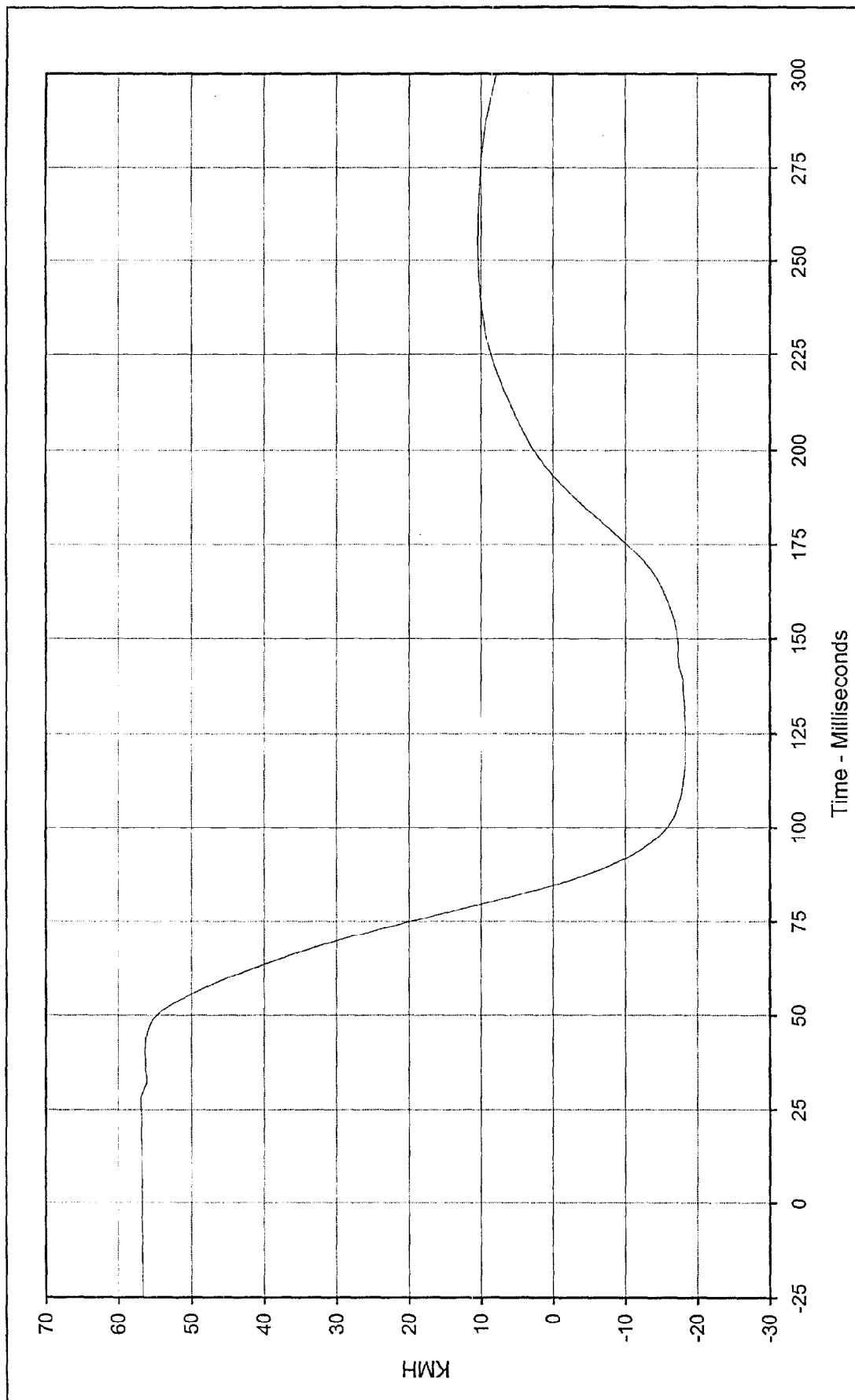


* Channel Failed at 238.0 Msec



Curve Description:	Passenger Head Primary X	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	17.0 at 181.8 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-59.8 at 77.3 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	2/17/98			
Curve Number:	FIL-045			

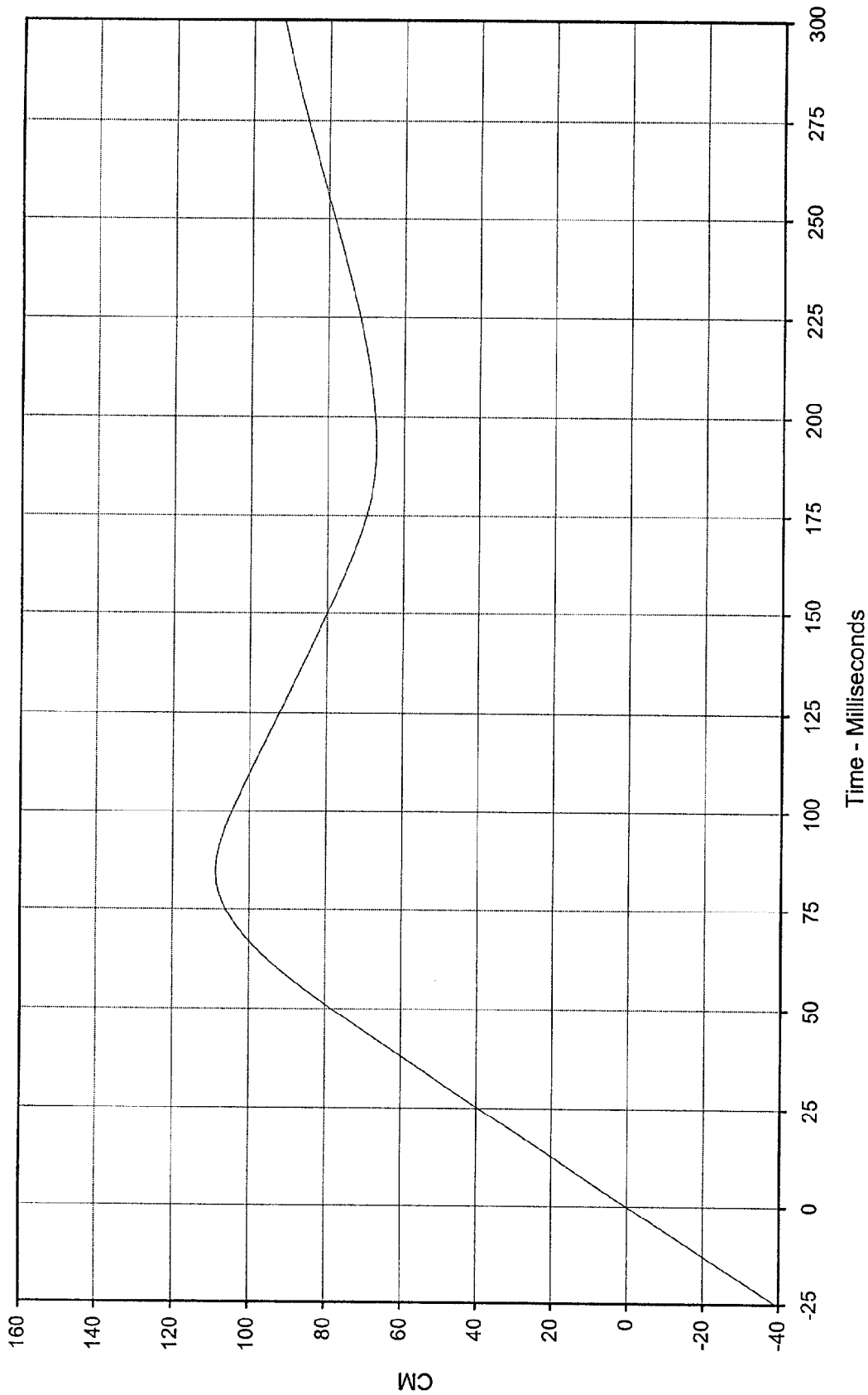




Curve Description: Passenger Head Primary X Velocity
 Maximum Value: 56.9 at 27.9 Milliseconds
 Minimum Value: -18.3 at 119.4 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN1-045

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

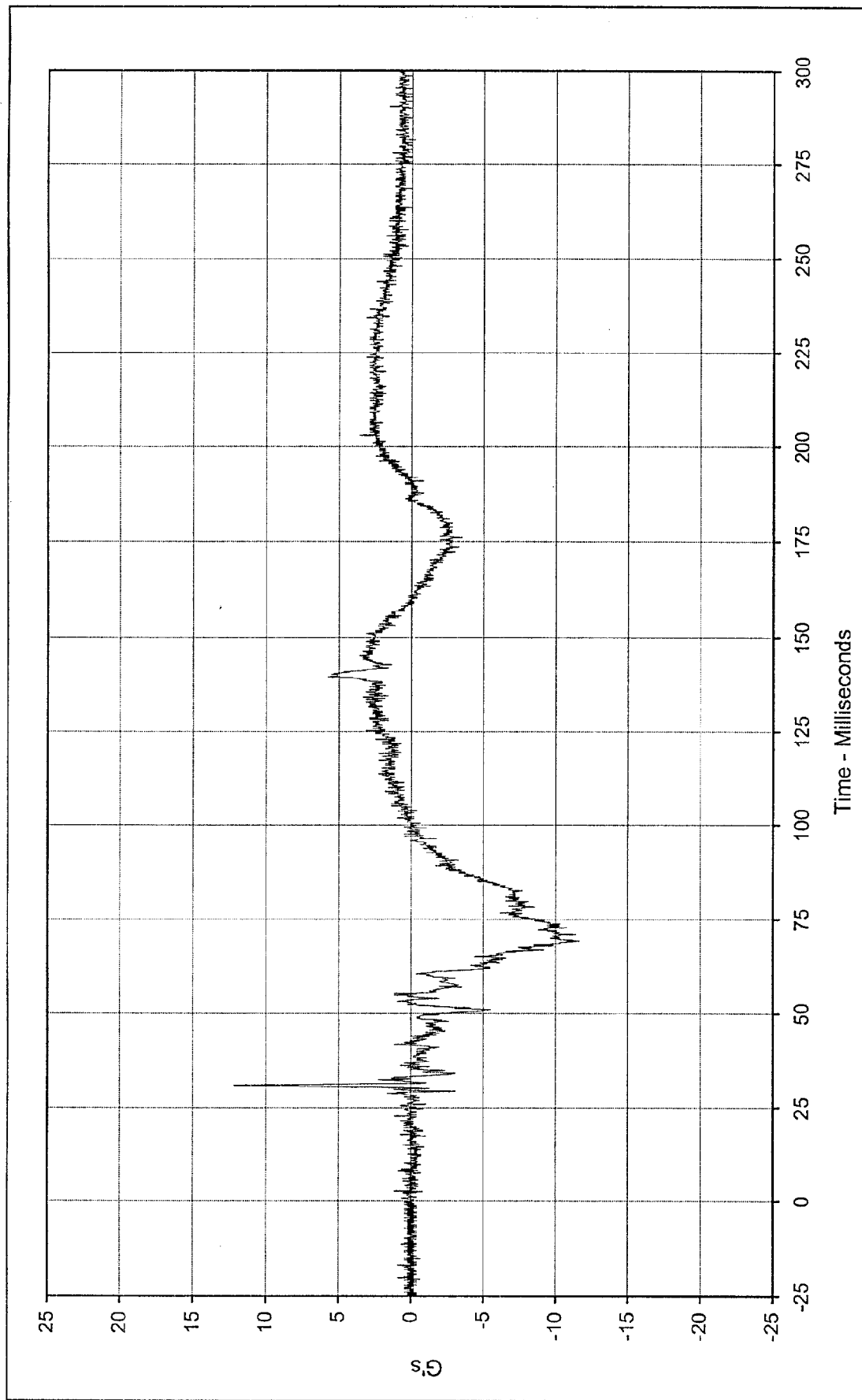




Curve Description: Passenger Head Primary X Displ.
 Maximum Value: 108.7 at 84.7 Milliseconds
 Minimum Value: 0.1 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN2-045

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

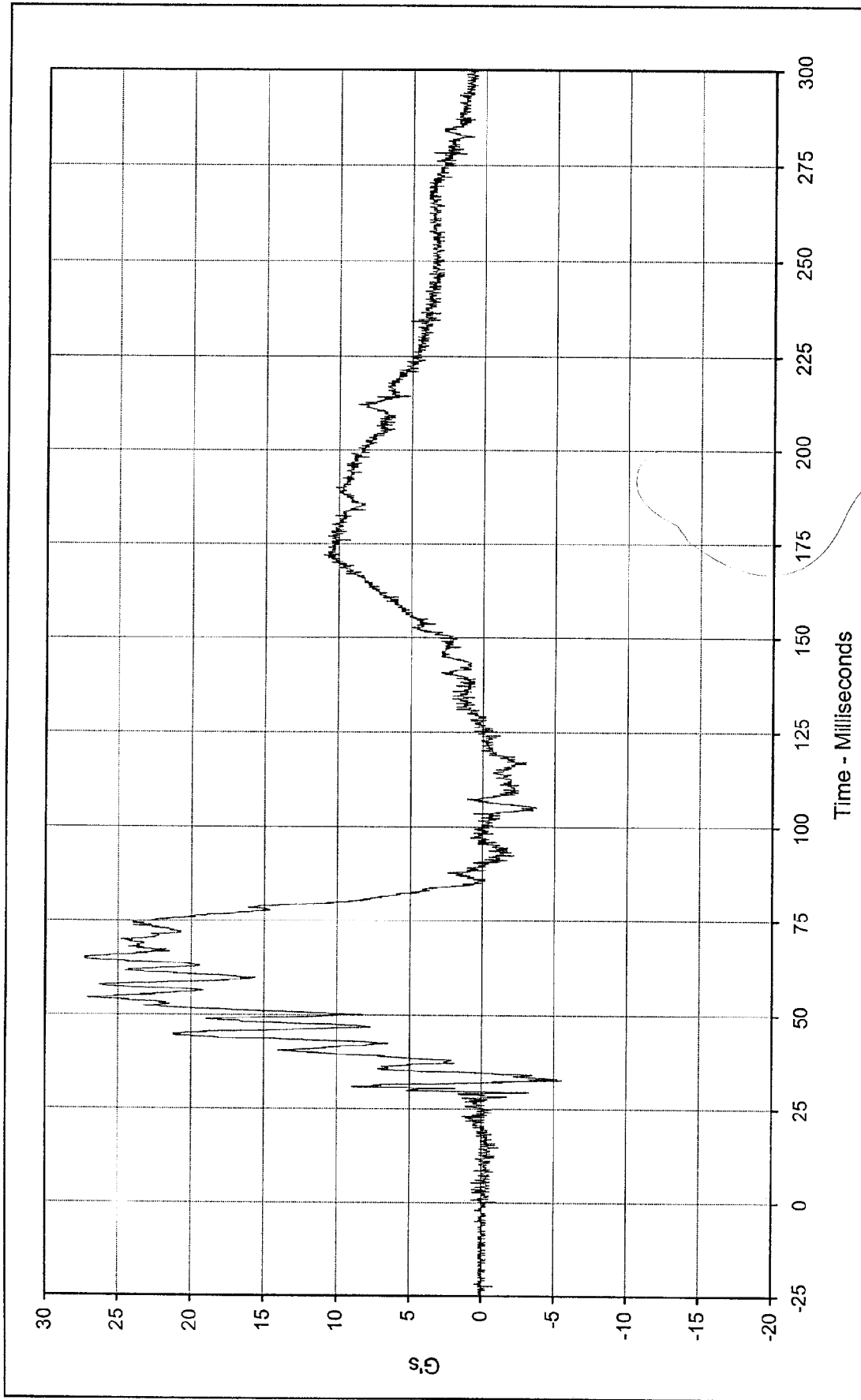




Curve Description: Passenger Head Primary Y
 Maximum Value: 12.2 at 30.9 Milliseconds
 Minimum Value: -11.6 at 69.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-046

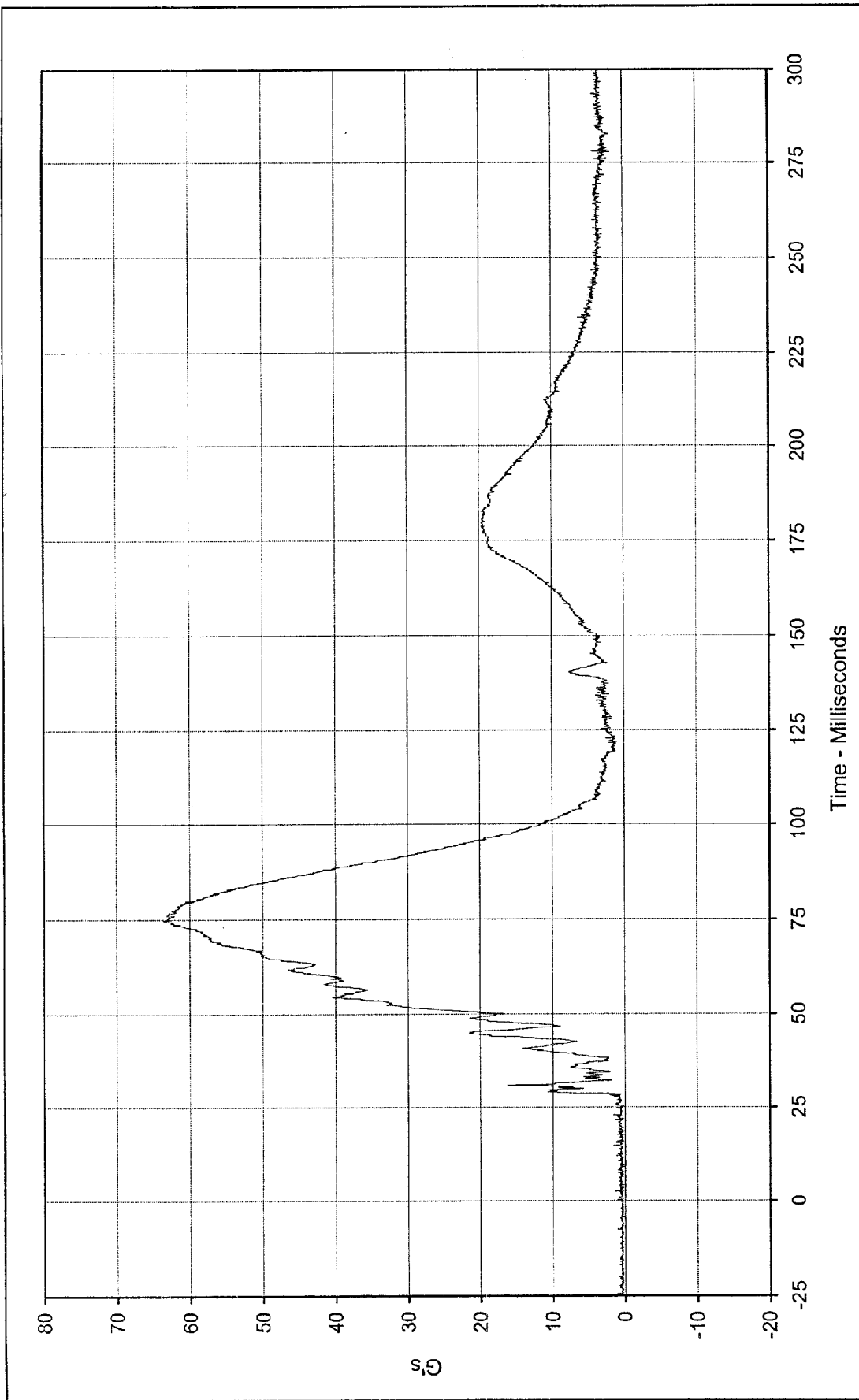
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Passenger Head Primary Z	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	27.3 at 64.8 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-5.5 at 32.6 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	2/17/98			
Curve Number:	FIL-047			





Curve Description: Passenger Head Resultant Primary

Maximum Value: 63.6 at 74.7 Milliseconds

Minimum Value: 0.1 at 15.5 Milliseconds

SAE Filter Class: 1000

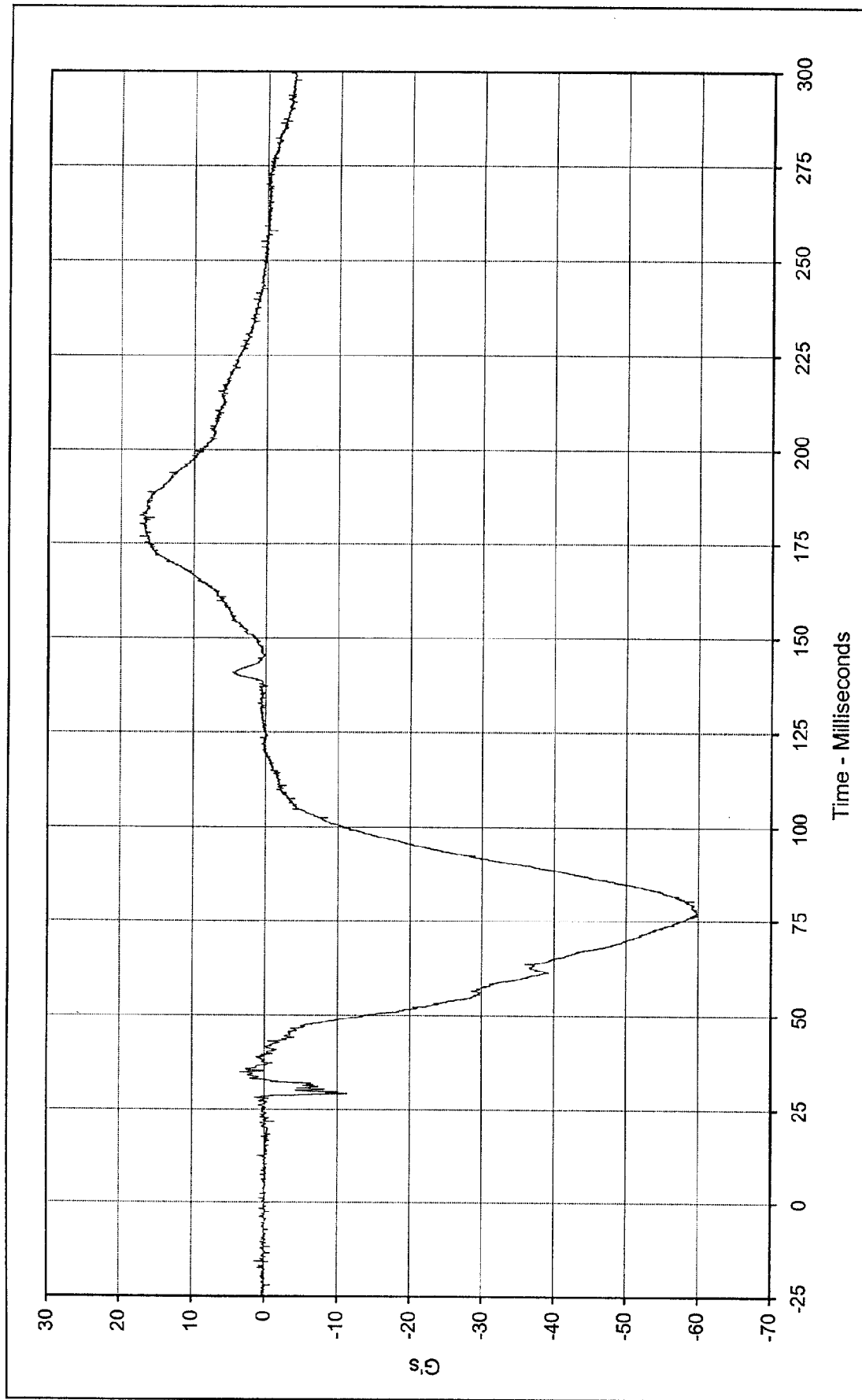
Date of Test: 2/17/98

Curve Number: RES-045

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

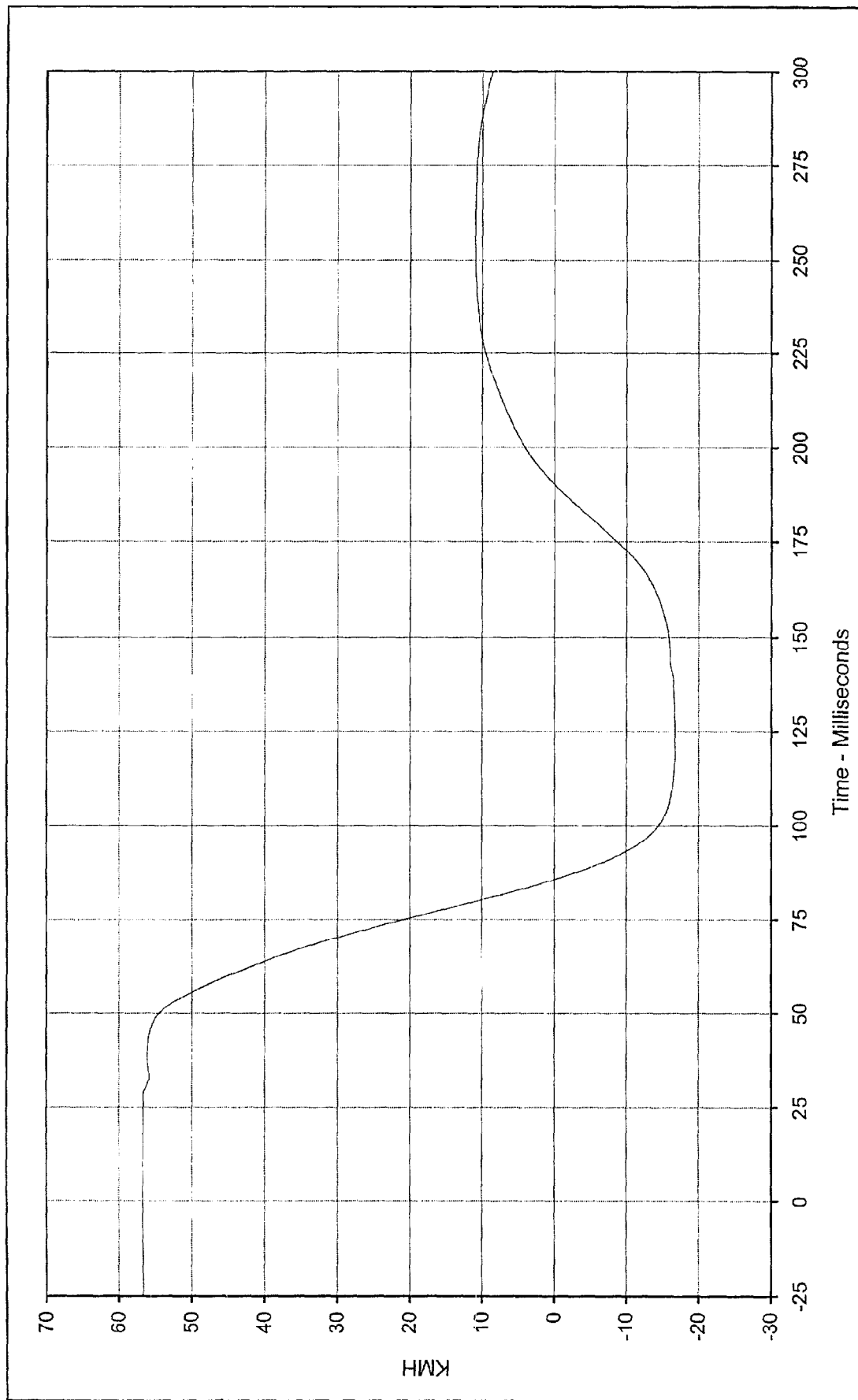
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Passenger Head Redundant X	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	17.4 at 176.9 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-59.9 at 76.5 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	2/17/98			
Curve Number:	FIL-048			





Curve Description: Passenger Head Redundant X Velocity

Maximum Value: 56.7 at 3.9 Milliseconds

Minimum Value: -16.8 at 119.8 Milliseconds

SAE Filter Class: 180

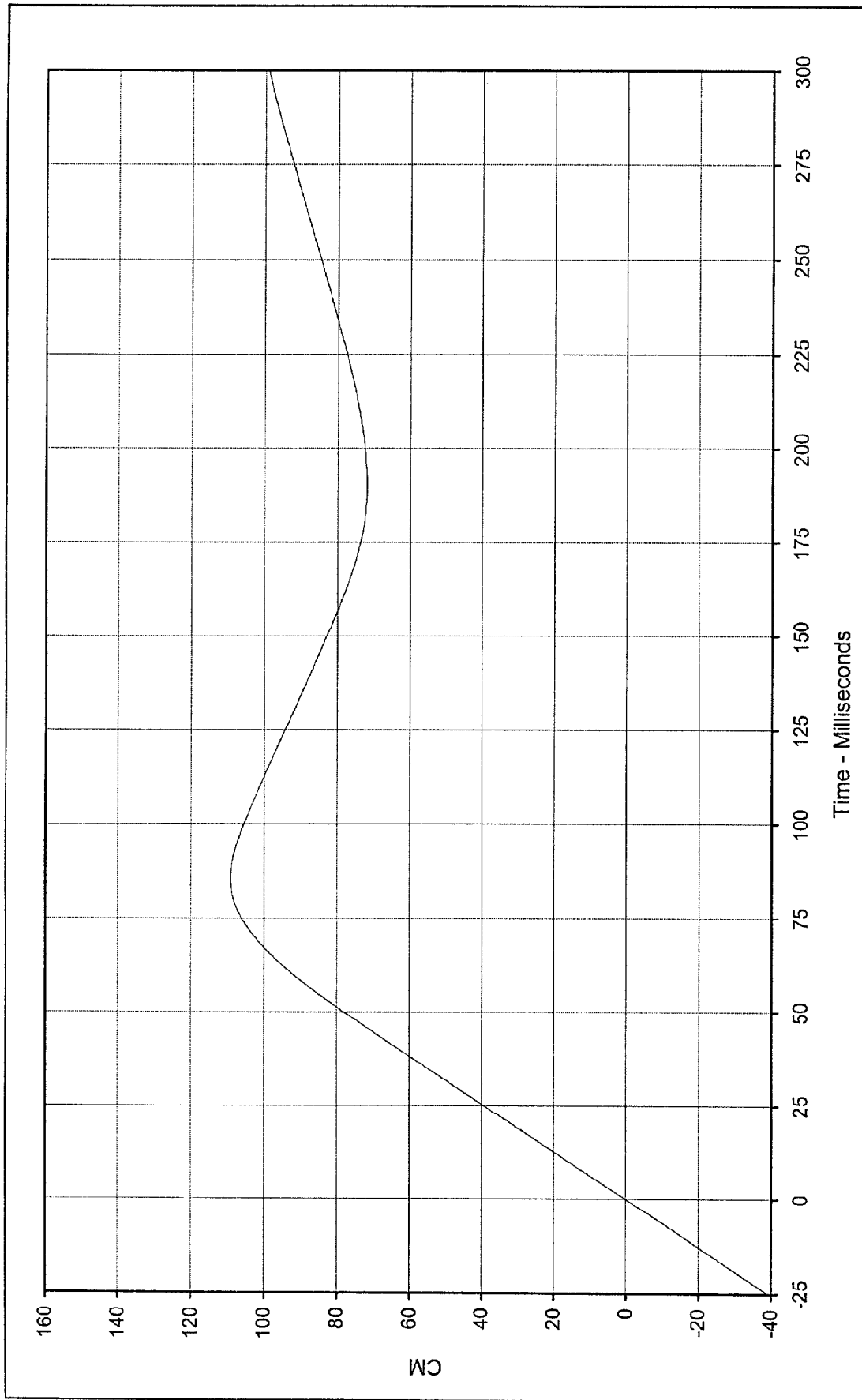
Date of Test: 2/17/98

Curve Number: IN1-048

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Head Redundant X Displ.

Maximum Value: 109.1 at 85.4 Milliseconds

Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

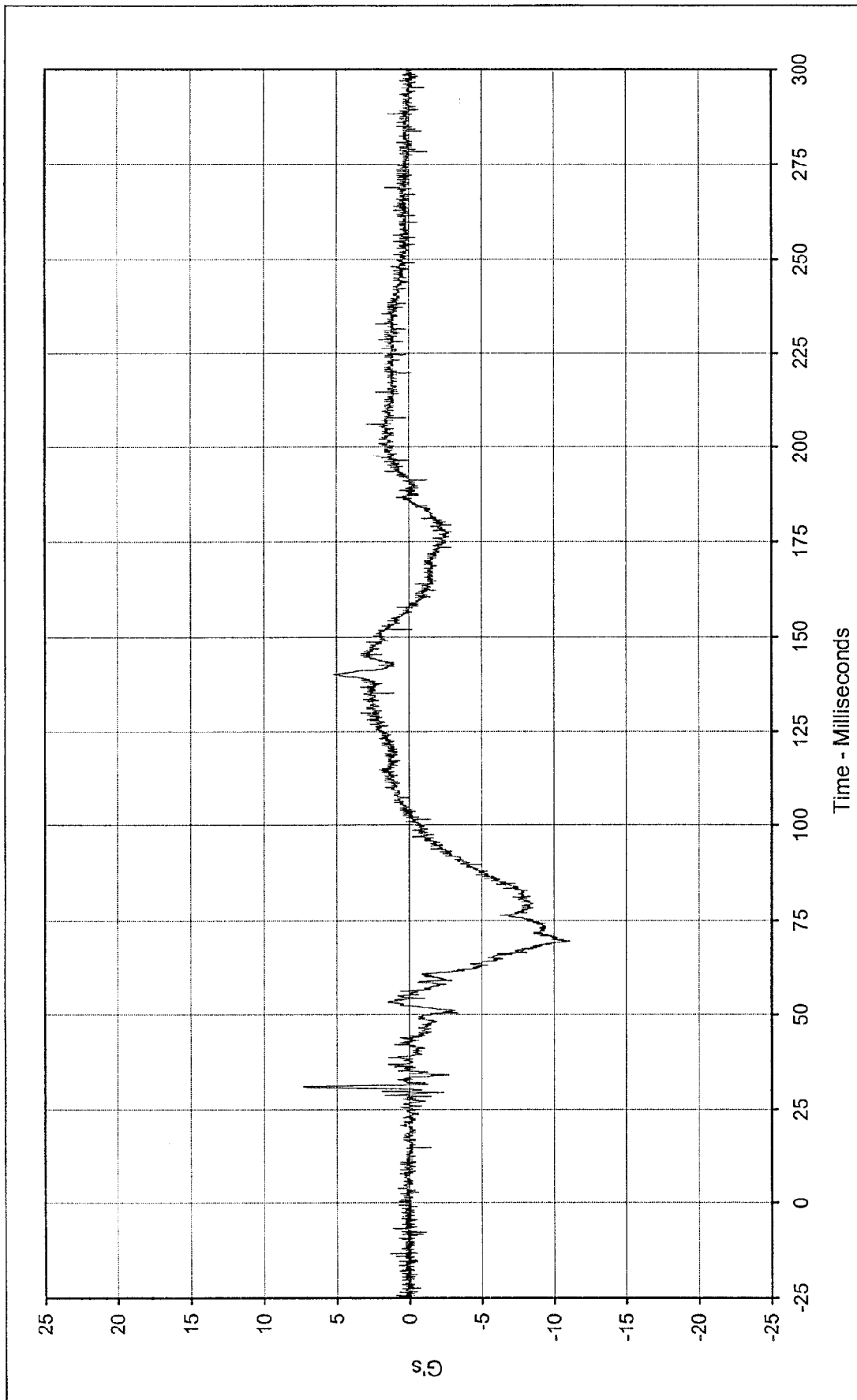
Date of Test: 2/17/98

Curve Number: IN2-048

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

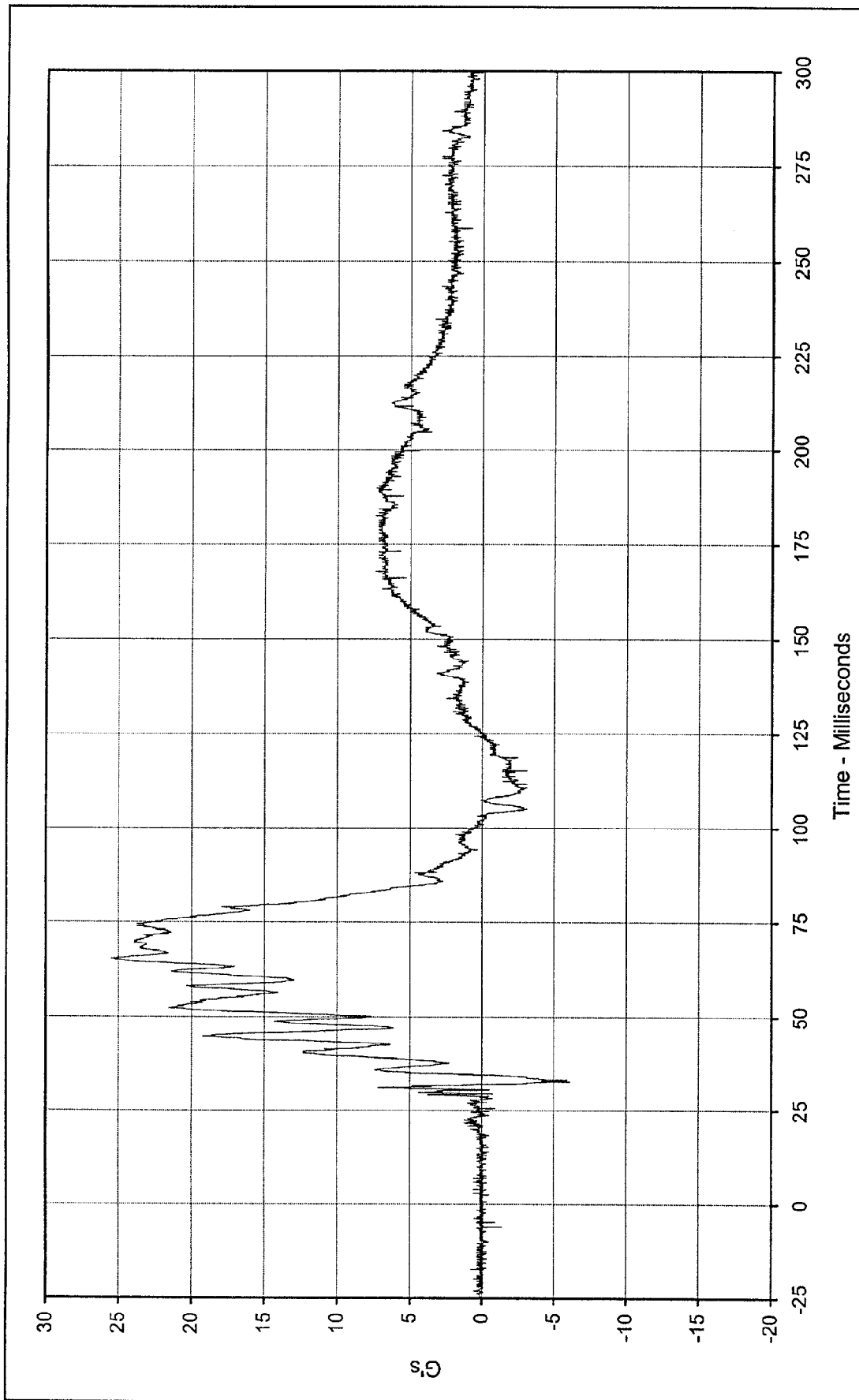




Curve Description: Passenger Head Redundant Y
 Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Maximum Value: 7.3 at 31.0 Milliseconds
 Minimum Value: -11.1 at 69.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-049

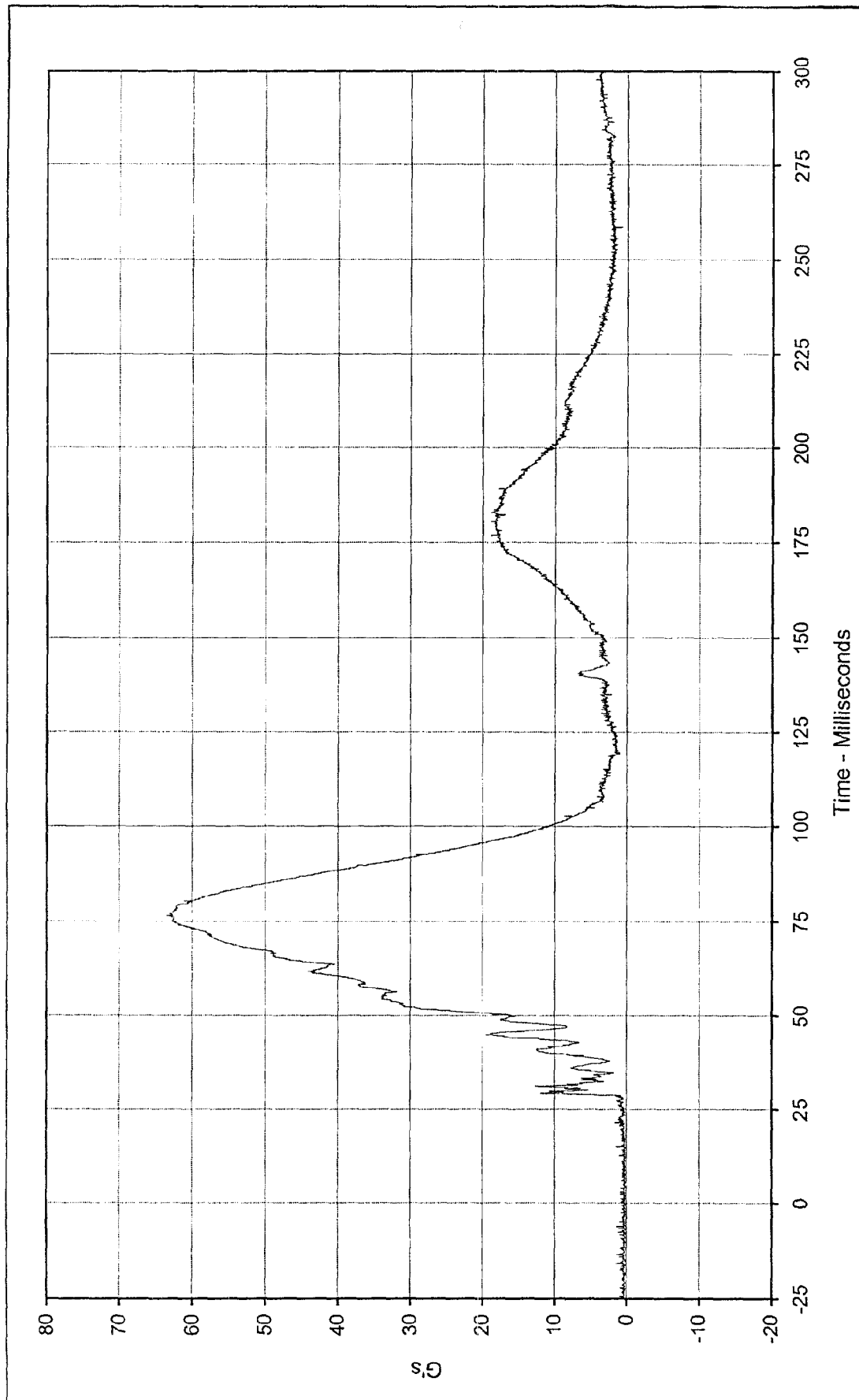




Curve Description: Passenger Head Redundant Z
 Maximum Value: 25.4 at 65.3 Milliseconds
 Minimum Value: -6.1 at 32.7 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-050

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

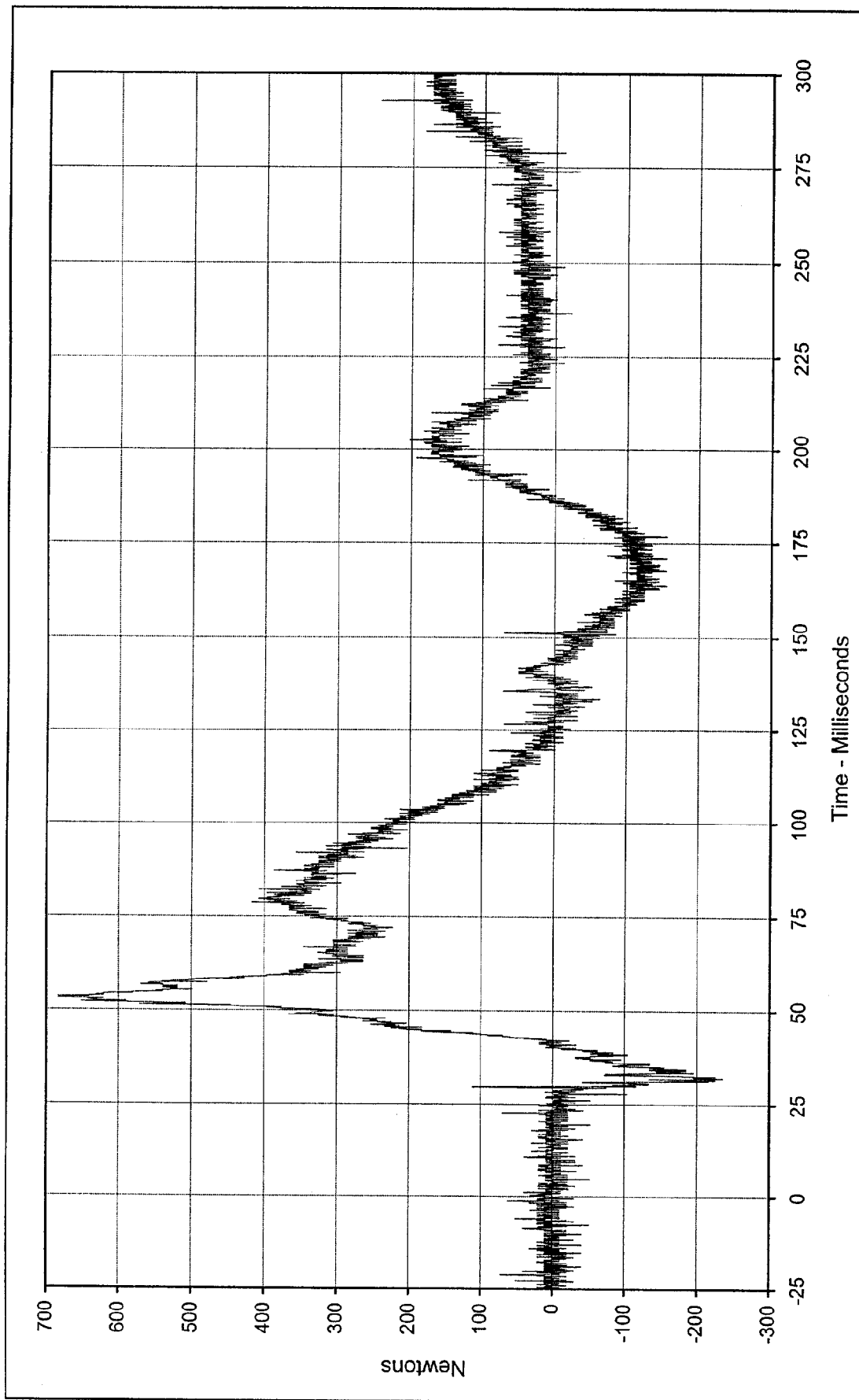




Curve Description: Passenger Head Resultant Redundant
 Maximum Value: 63.5 at 63.5 Milliseconds
 Minimum Value: 0.1 at 4.1 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: RES-048

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Neck Force X

Maximum Value: 682.2 at 53.1 Milliseconds

Minimum Value: -236.4 at 31.9 Milliseconds

SAE Filter Class: 1000

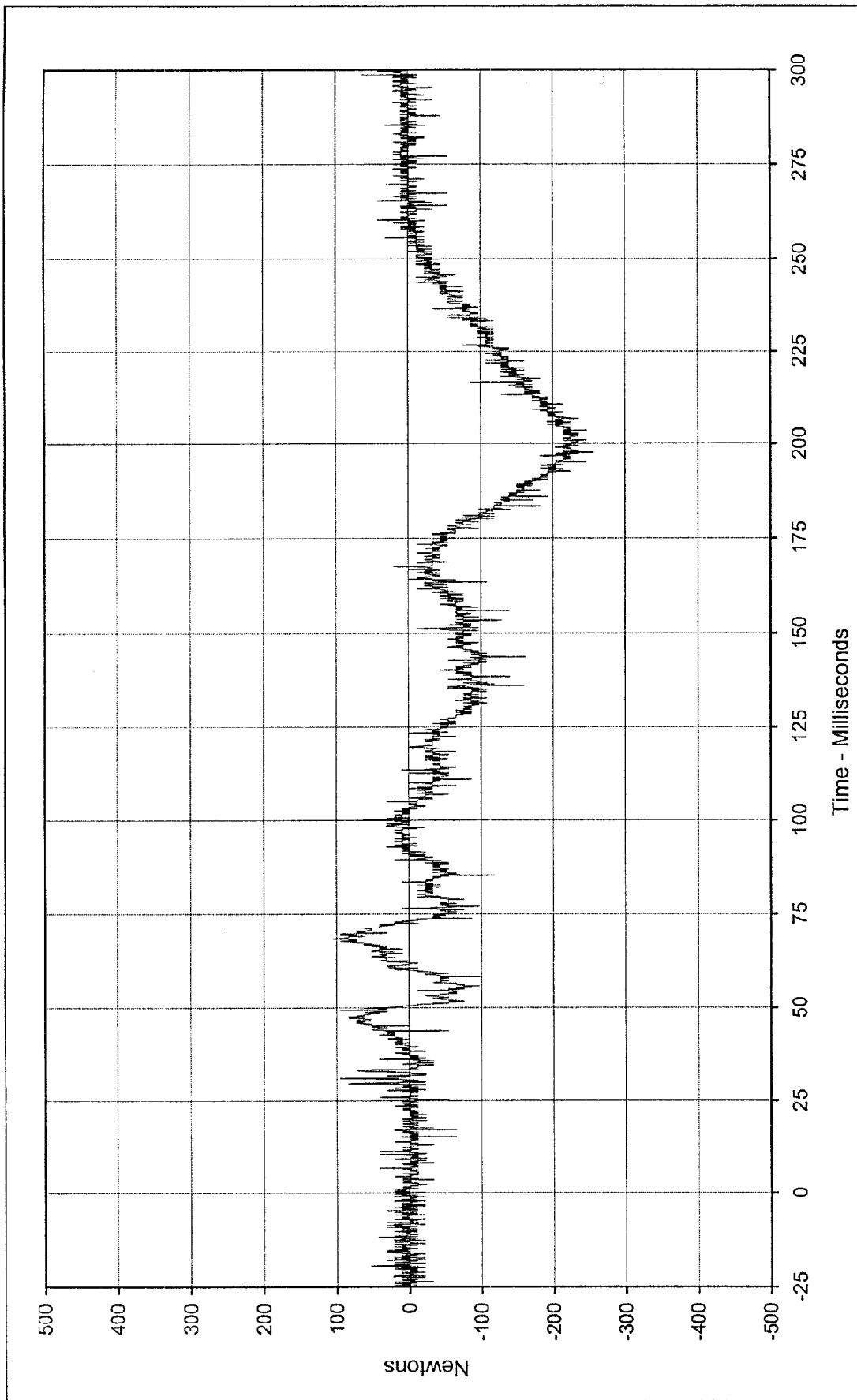
Date of Test: 2/17/98

Curve Number: FIL-051

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

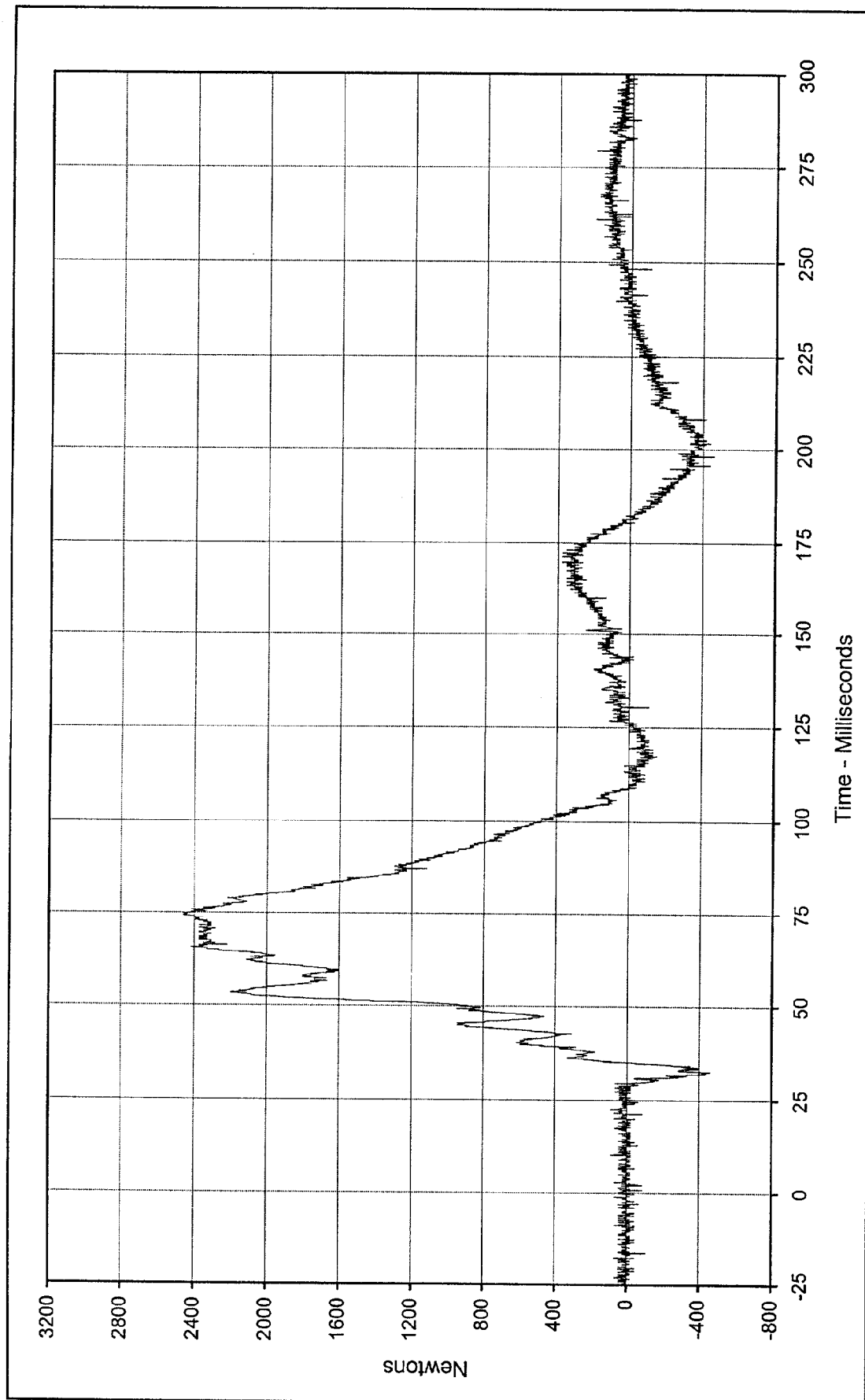




Curve Description: Passenger Neck Force Y
 Maximum Value: 104.8 at 68.3 Milliseconds
 Minimum Value: -256.6 at 197.5 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-052

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

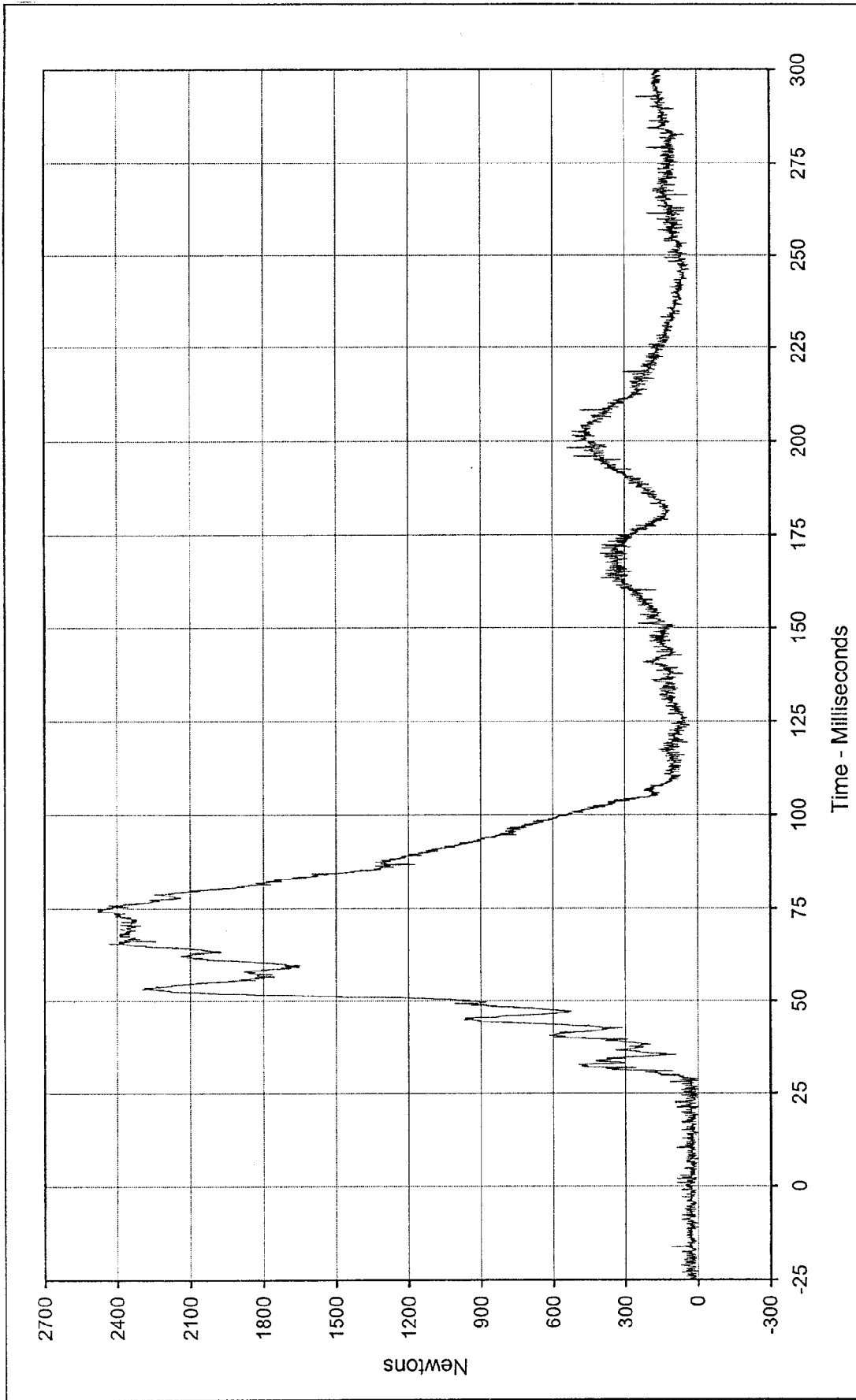




Curve Description:	Passenger Neck Force Z		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	2459.5	at 74.3	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-459.5	at 32.5			
SAE Filter Class:	1000				
Date of Test:	2/17/98				
Curve Number:	FIL-053				







Curve Description: Passenger Neck Force Resultant

Maximum Value: 2479.8 at 74.3 Milliseconds

Minimum Value: 2.6 at 6.2 Milliseconds

SAE Filter Class: 1000

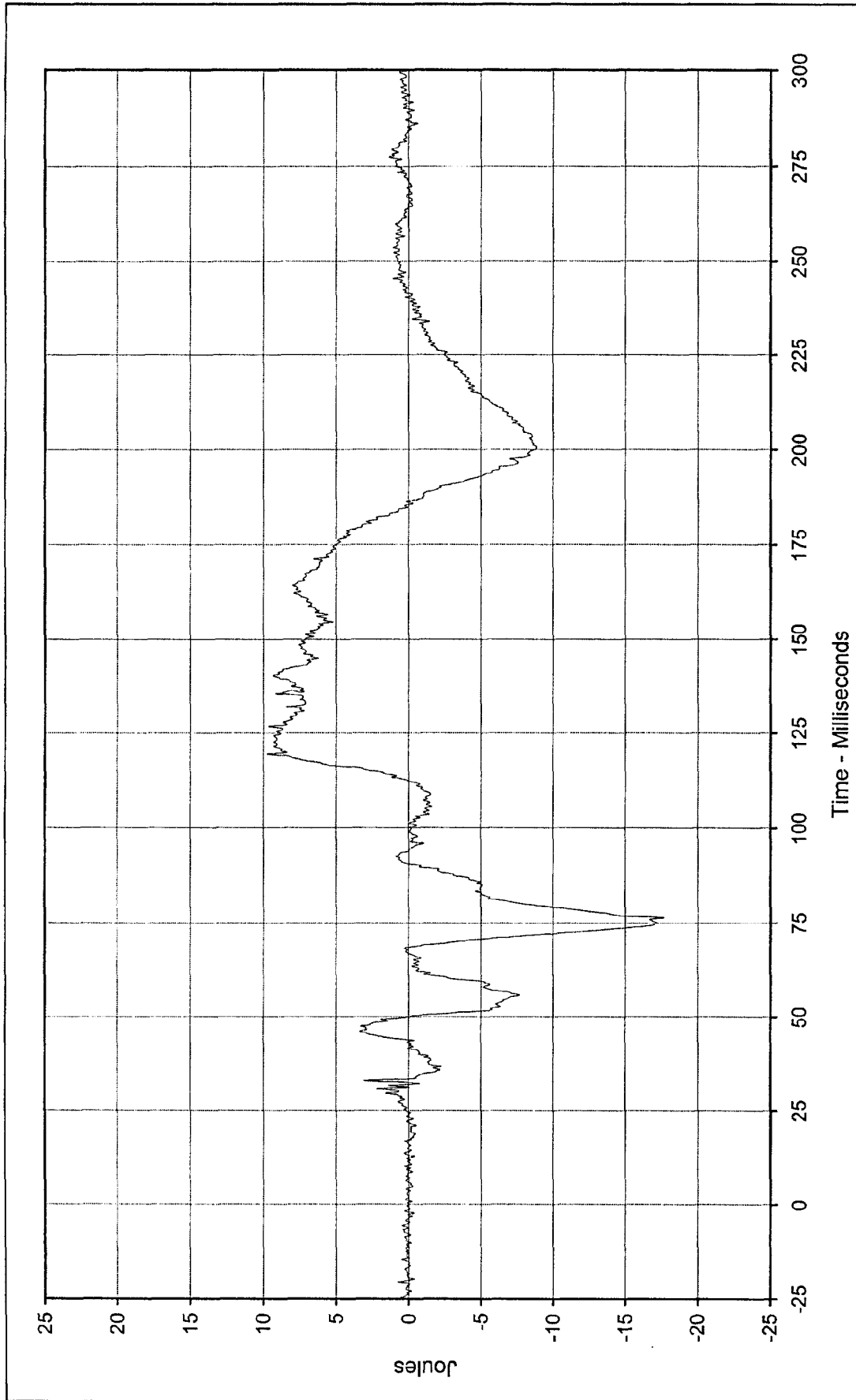
Date of Test: 2/17/98

Curve Number: RES-051

Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Neck Moment X Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 9.7 at 119.5 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

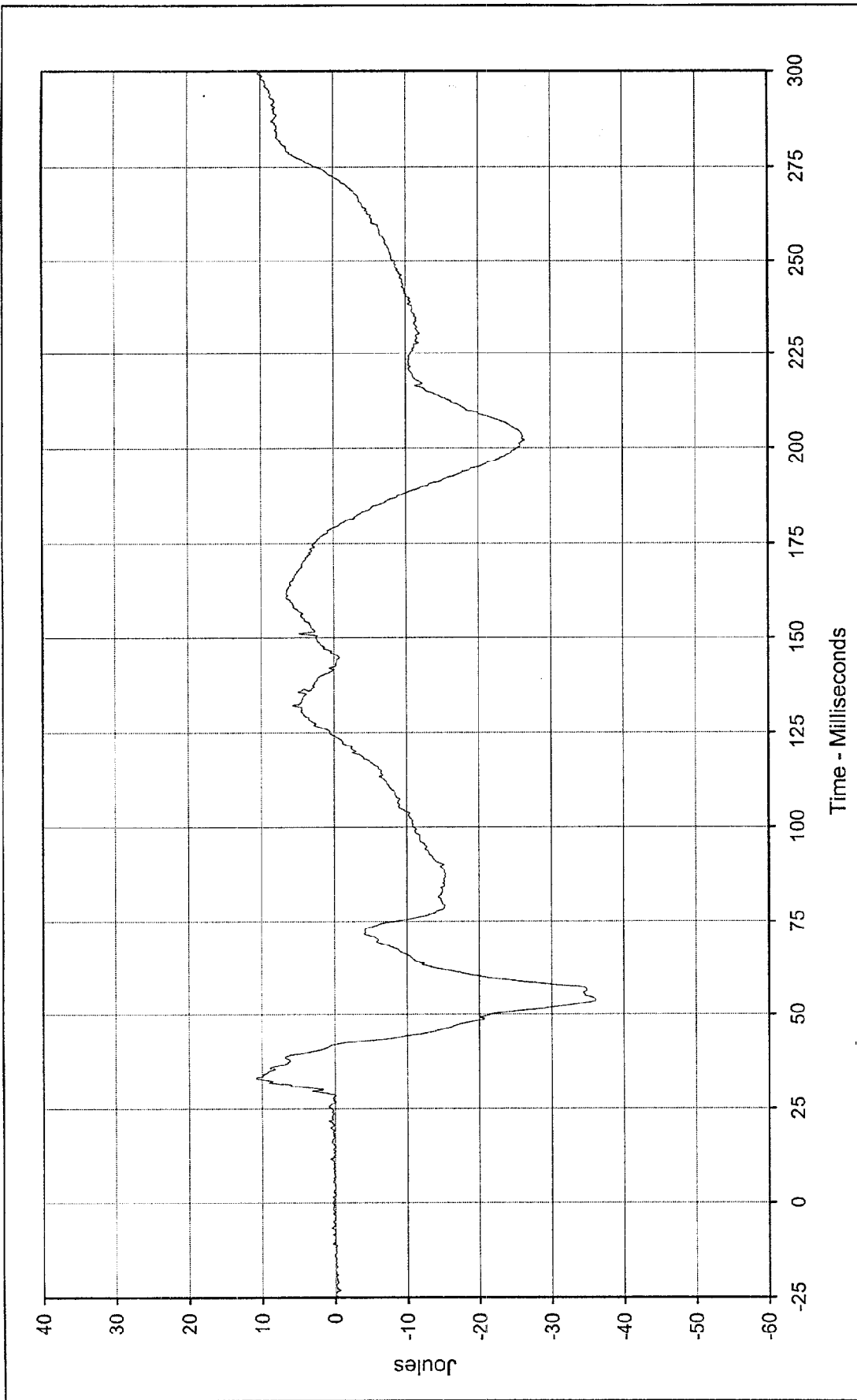
Minimum Value: -17.7 at 76.4 Milliseconds

SAE Filter Class: 600

Date of Test: 2/17/98

Curve Number: FIL-054





Curve Description: Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 10.8 at 33.0 Milliseconds

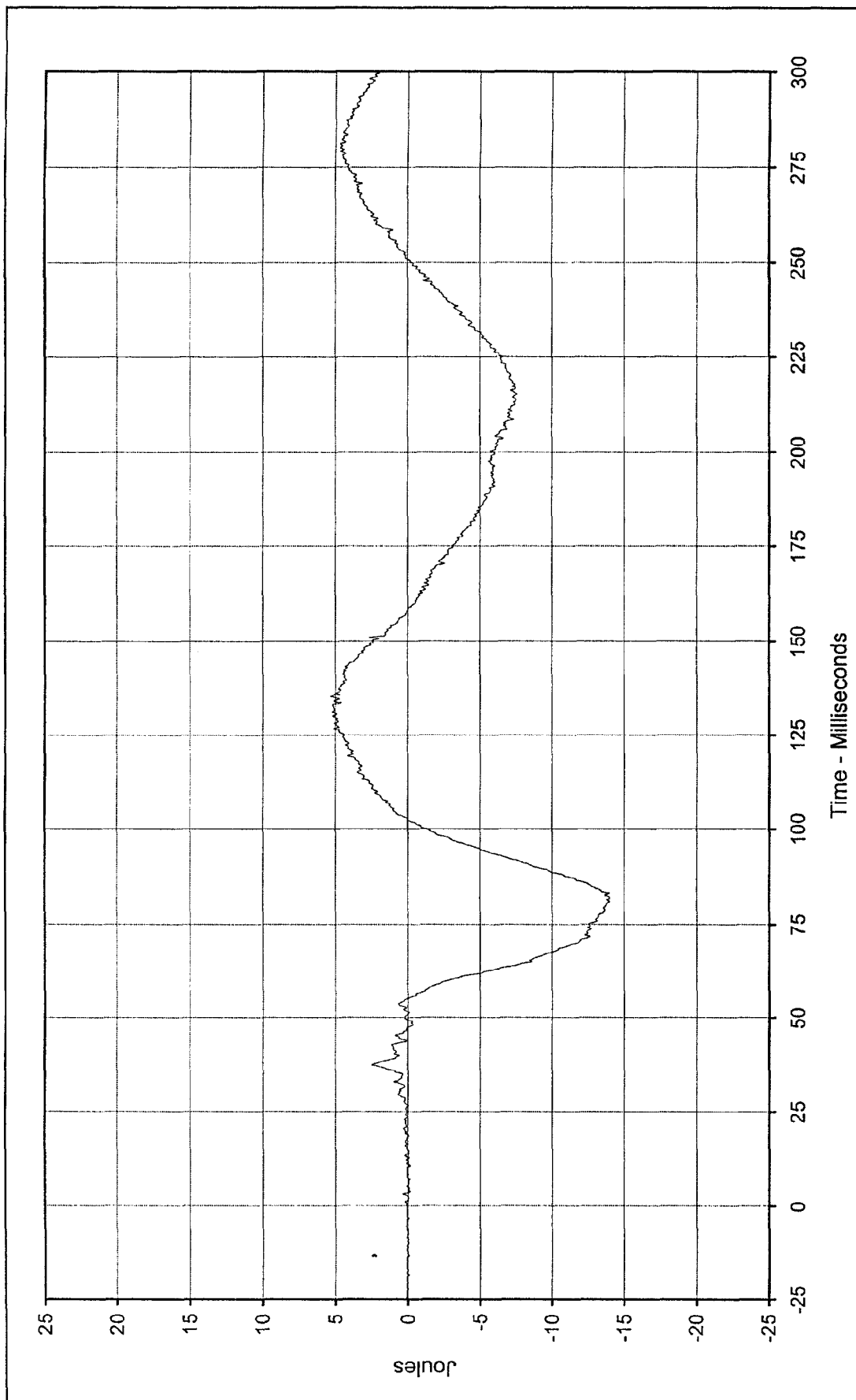
Minimum Value: -36.1 at 53.8 Milliseconds

SAE Filter Class: 600

Date of Test: 2/17/98

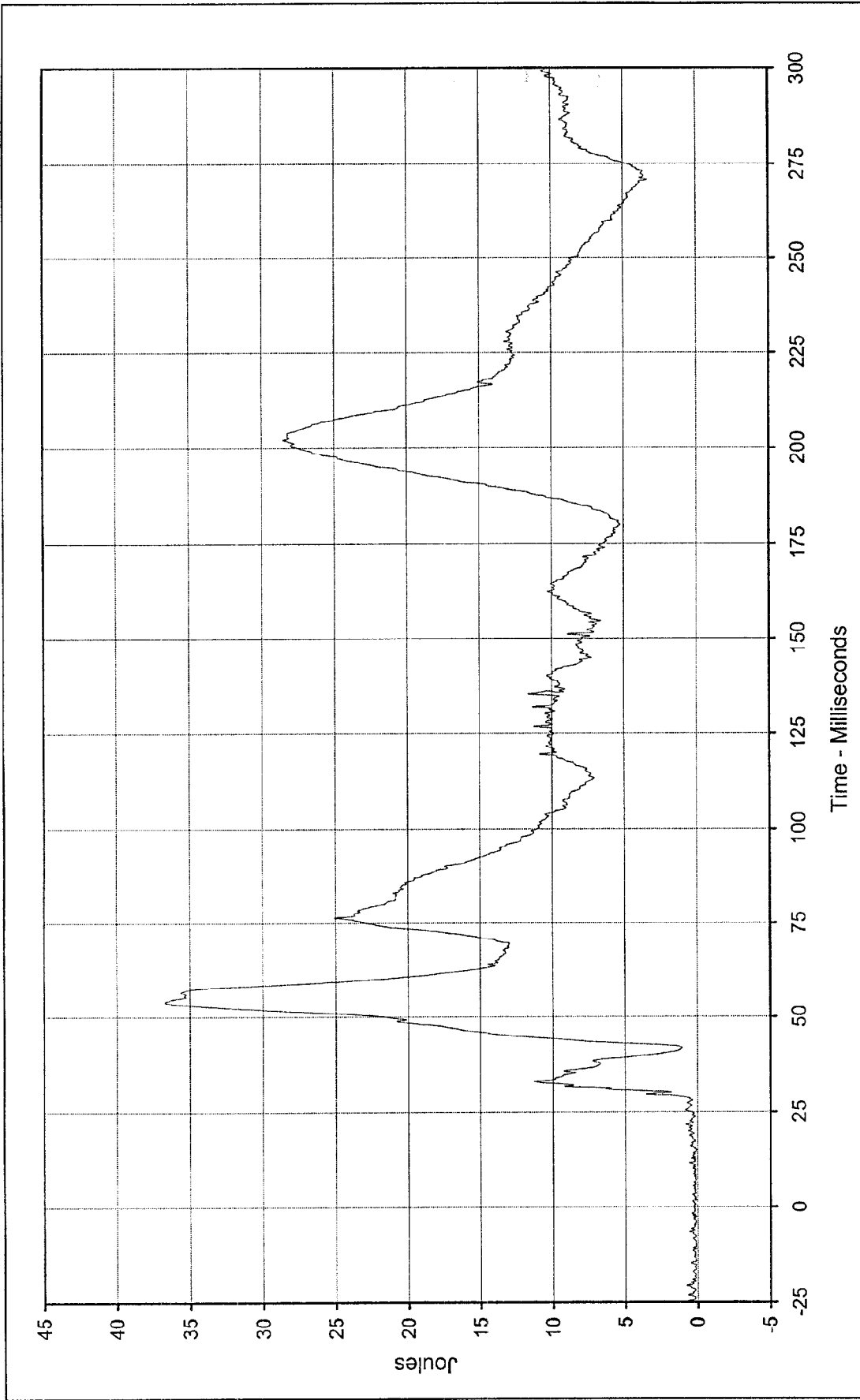
Curve Number: FIL-055





Curve Description:	Passenger Neck Moment Z	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	5.3 at 135.4 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-14.0 at 81.7 Milliseconds			
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	FIL-056			





Curve Description: Passenger Neck Moment Resultant

Maximum Value: 36.7 at 53.9 Milliseconds

Minimum Value: 0.0 at 1.8 Milliseconds

SAE Filter Class: 600

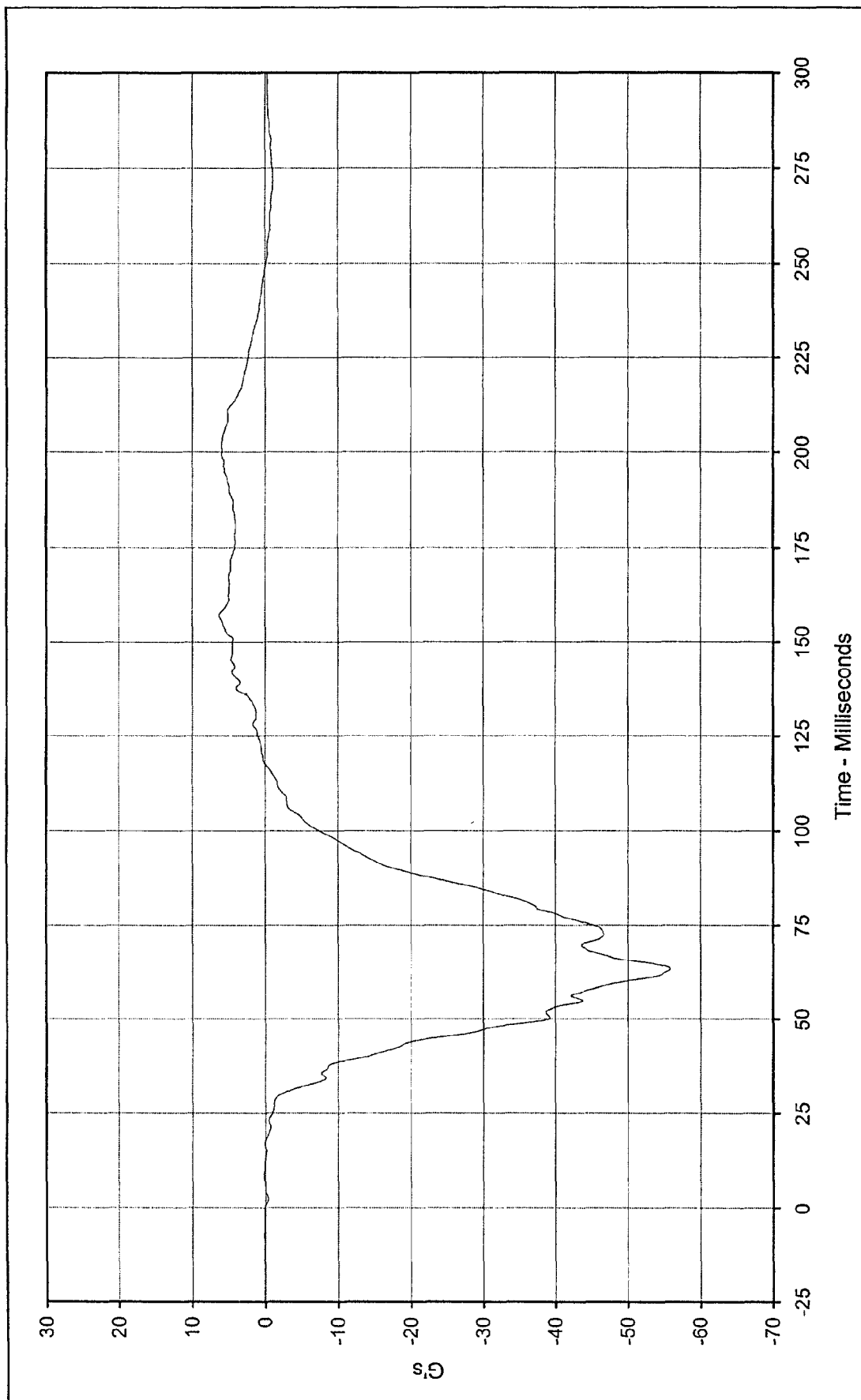
Date of Test: 2/17/98

Curve Number: RES-054

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Chest Primary X

Maximum Value: 6.2 at 157.1 Milliseconds

Minimum Value: -55.8 at 63.4 Milliseconds

SAE Filter Class: 180

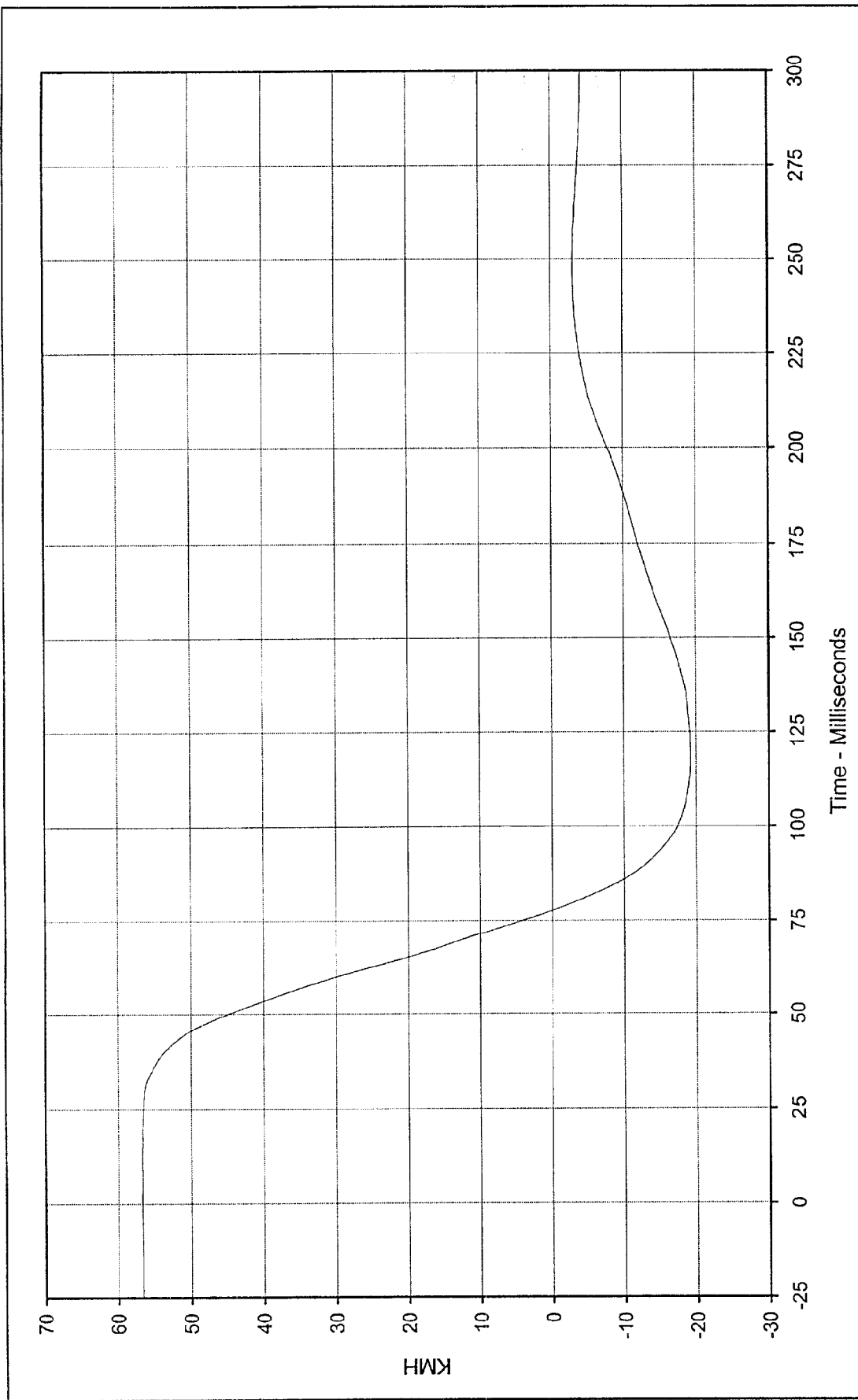
Date of Test: 2/17/98

Curve Number: FIL-057

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Chest Primary X Velocity

Maximum Value: 56.7 at 0.7 Milliseconds

Minimum Value: -19.3 at 117.8 Milliseconds

SAE Filter Class: 180

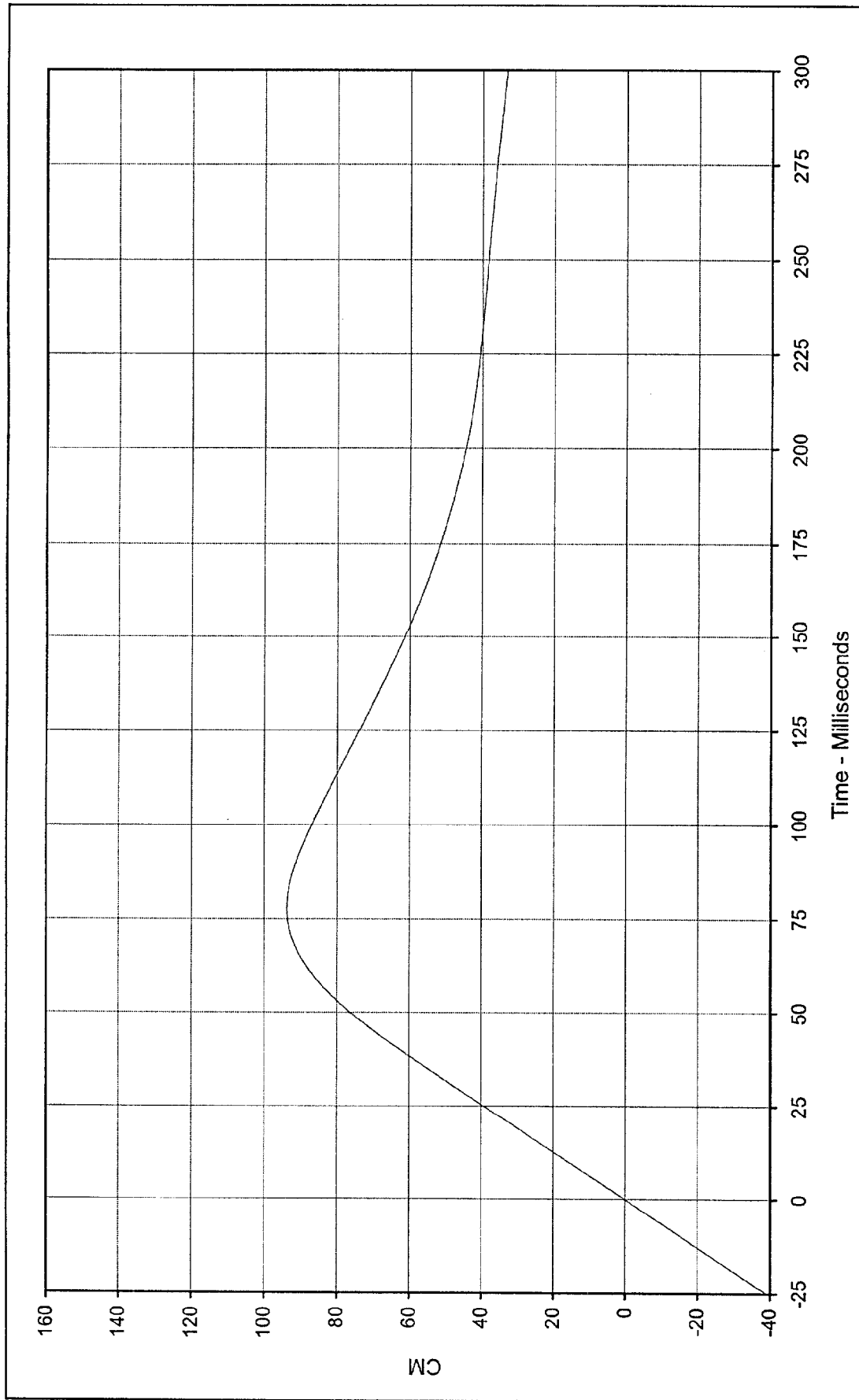
Date of Test: 2/17/98

Curve Number: IN1-057

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan



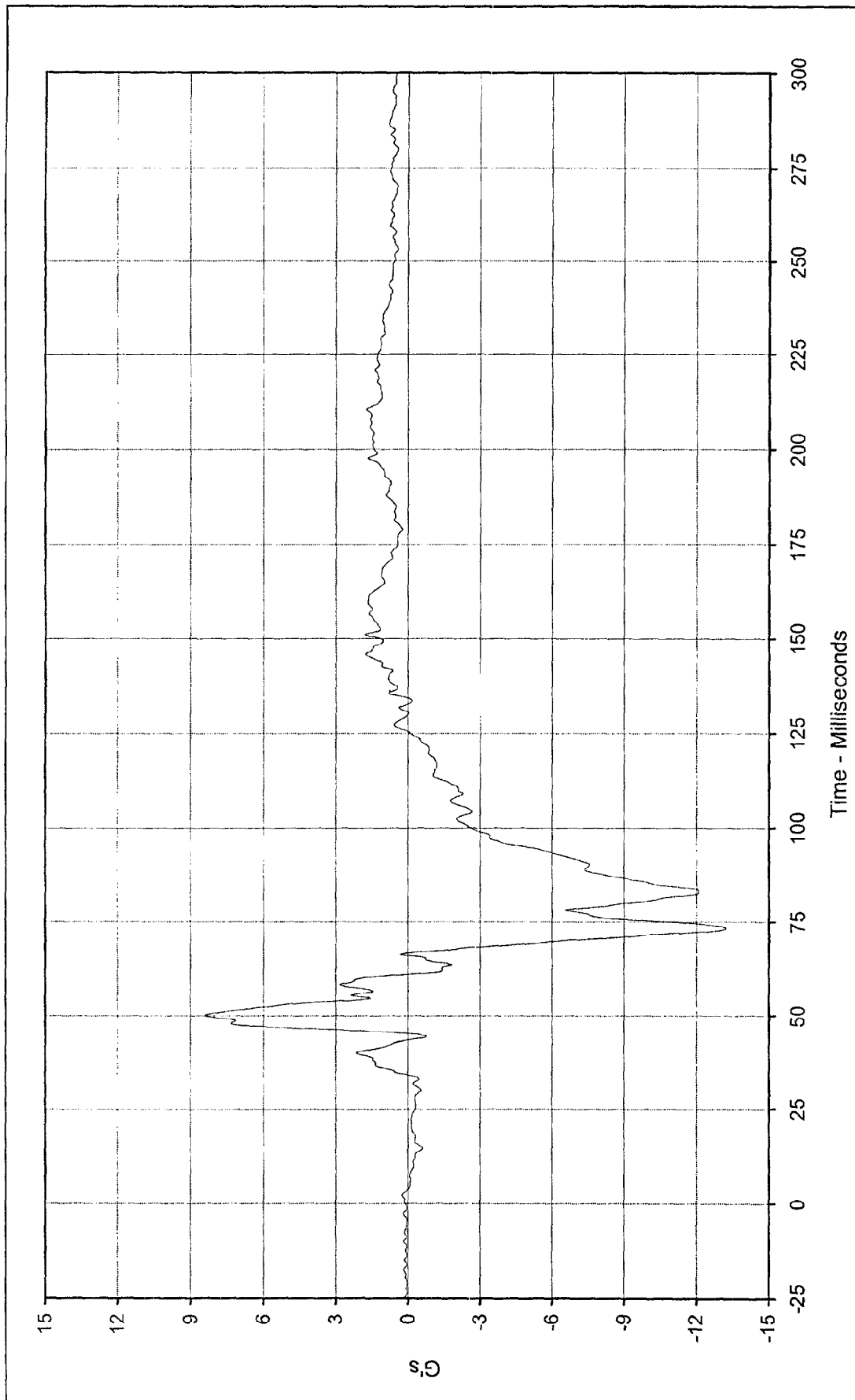


Curve Description: Passenger Chest Primary X Displ.
 Maximum Value: 93.8 at 77.7 Milliseconds
 Minimum Value: 0.1 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN2-057

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

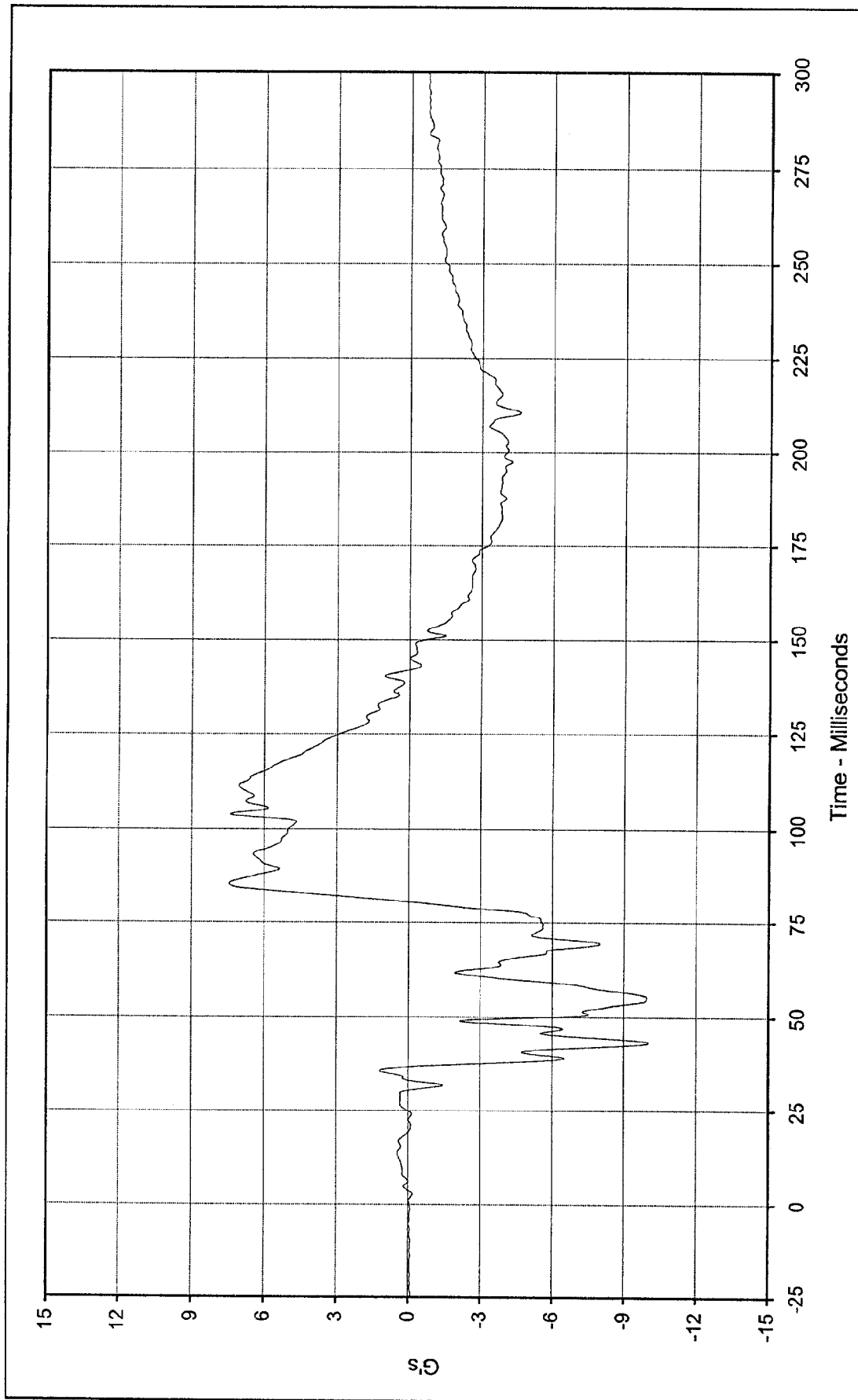




Curve Description: Passenger Chest Primary Y
 Maximum Value: 8.4 at 50.1 Milliseconds
 Minimum Value: -13.2 at 73.2 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: FIL-058

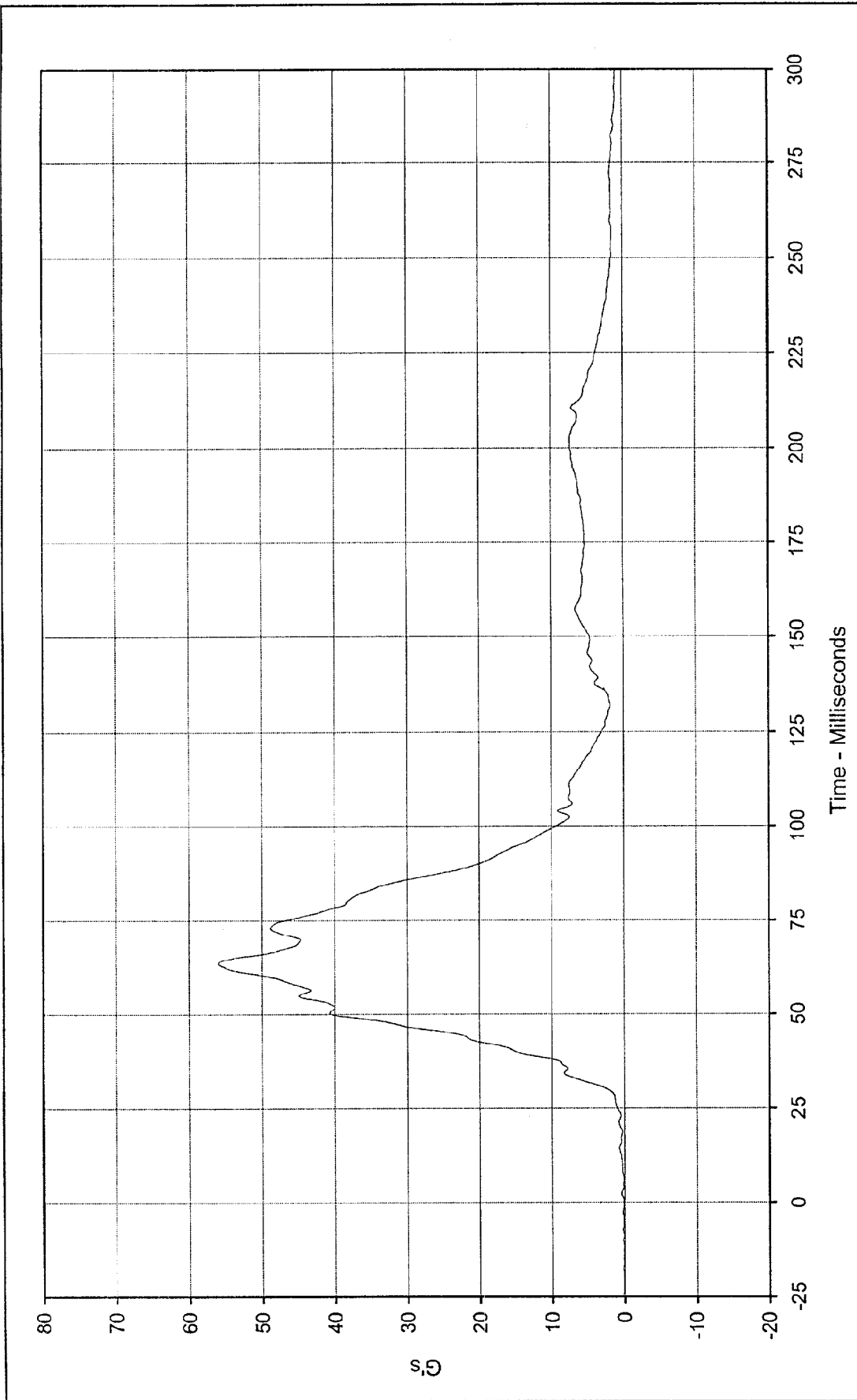
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Passenger Chest Primary Z	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	7.4 at 85.4 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-10.0 at 43.4 Milliseconds			
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	FIL-059			

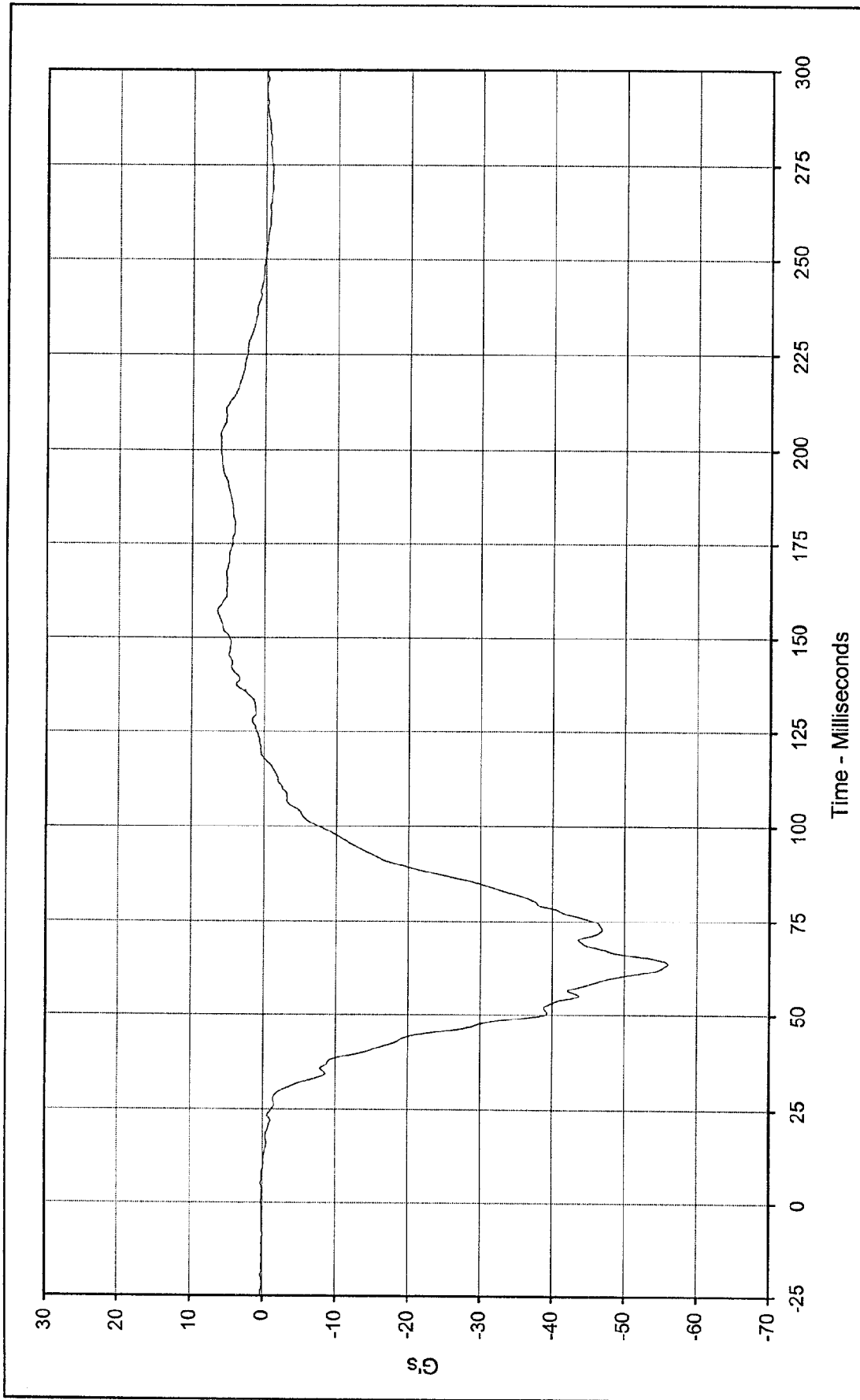




Curve Description: Passenger Chest Resultant Primary
 Maximum Value: 56.0 at 63.4 Milliseconds
 Minimum Value: 0.1 at 5.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: RES-057

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Chest Redundant X

Maximum Value: 6.5 at 157.2 Milliseconds

Minimum Value: -56.0 at 63.5 Milliseconds

SAE Filter Class: 180

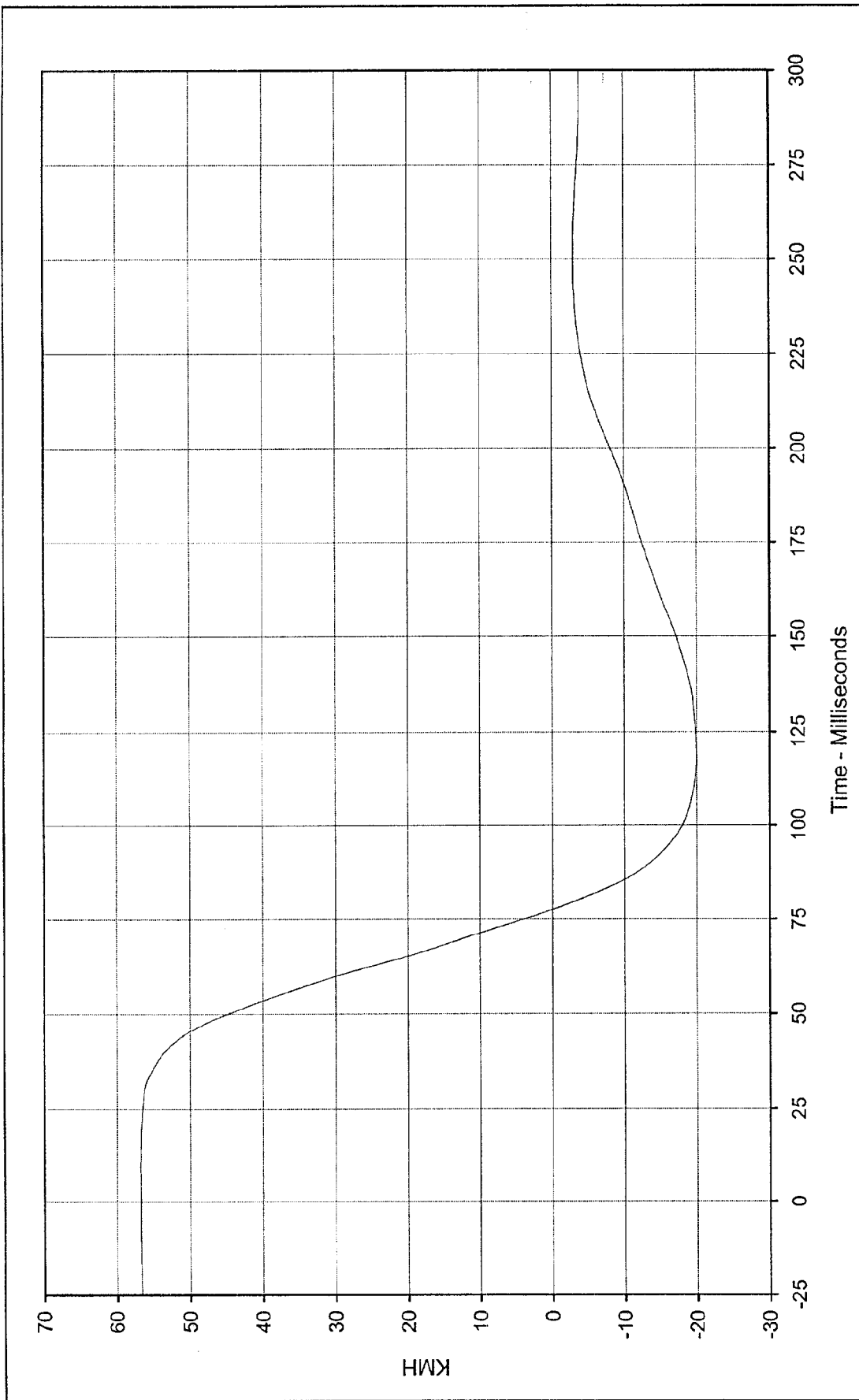
Date of Test: 2/17/98

Curve Number: FIL-060

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

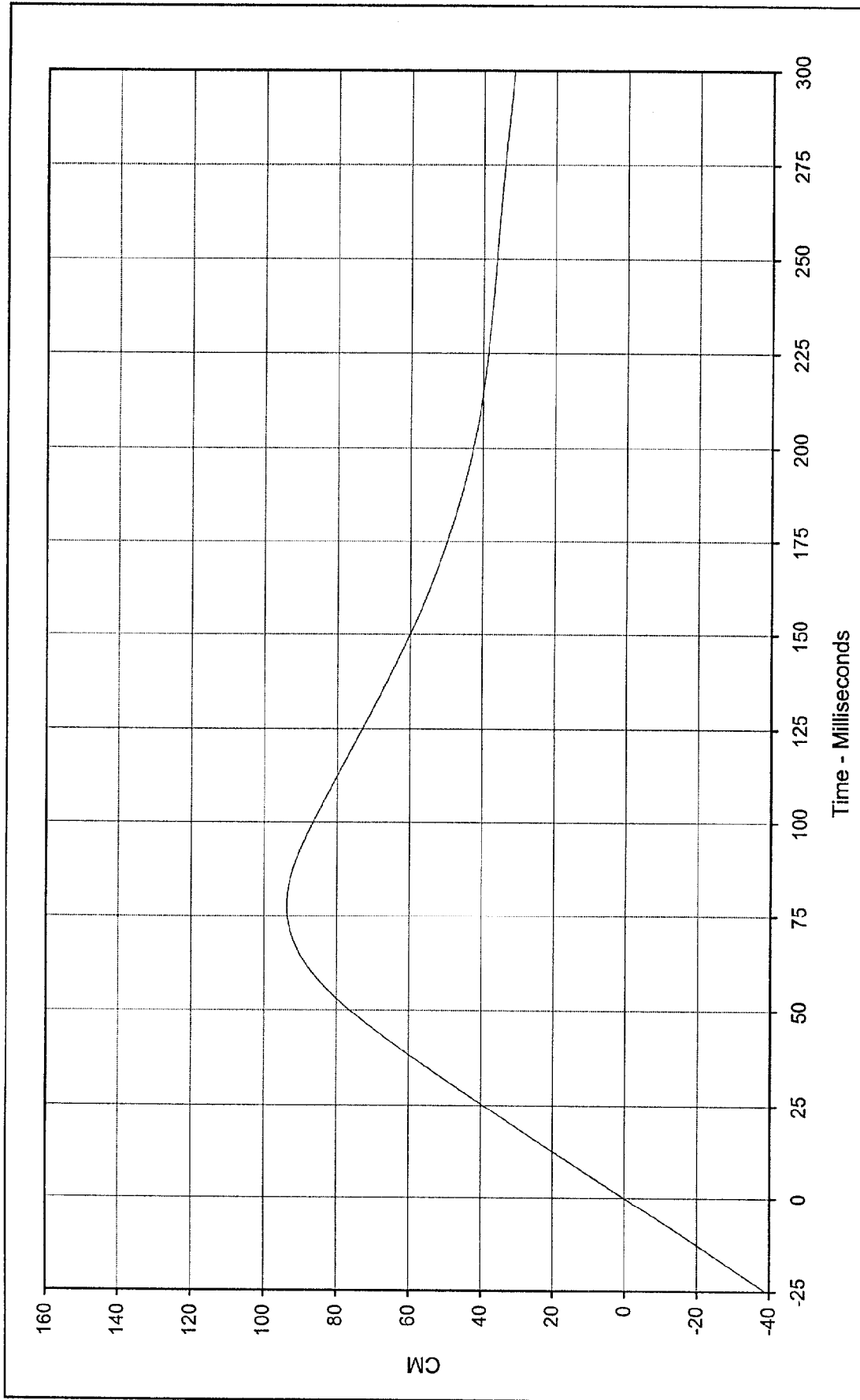




Curve Description: Passenger Chest Redundant X Velocity
 Maximum Value: 56.8 at 9.1 Milliseconds
 Minimum Value: -20.0 at 117.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN1-060

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Chest Redundant X Displ.

Maximum Value: 93.7 at 77.6 Milliseconds

Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

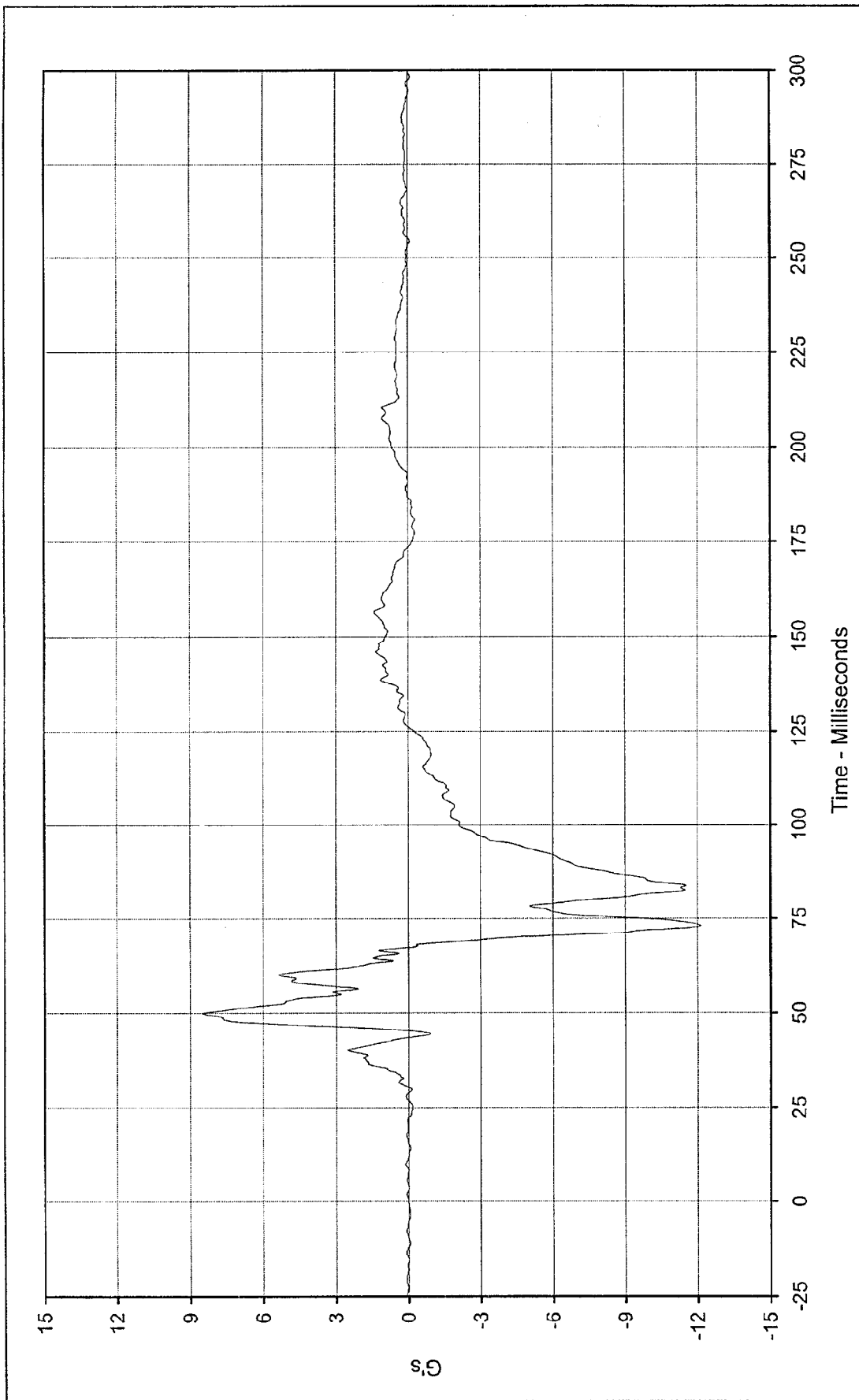
Date of Test: 2/17/98

Curve Number: IN2-060

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

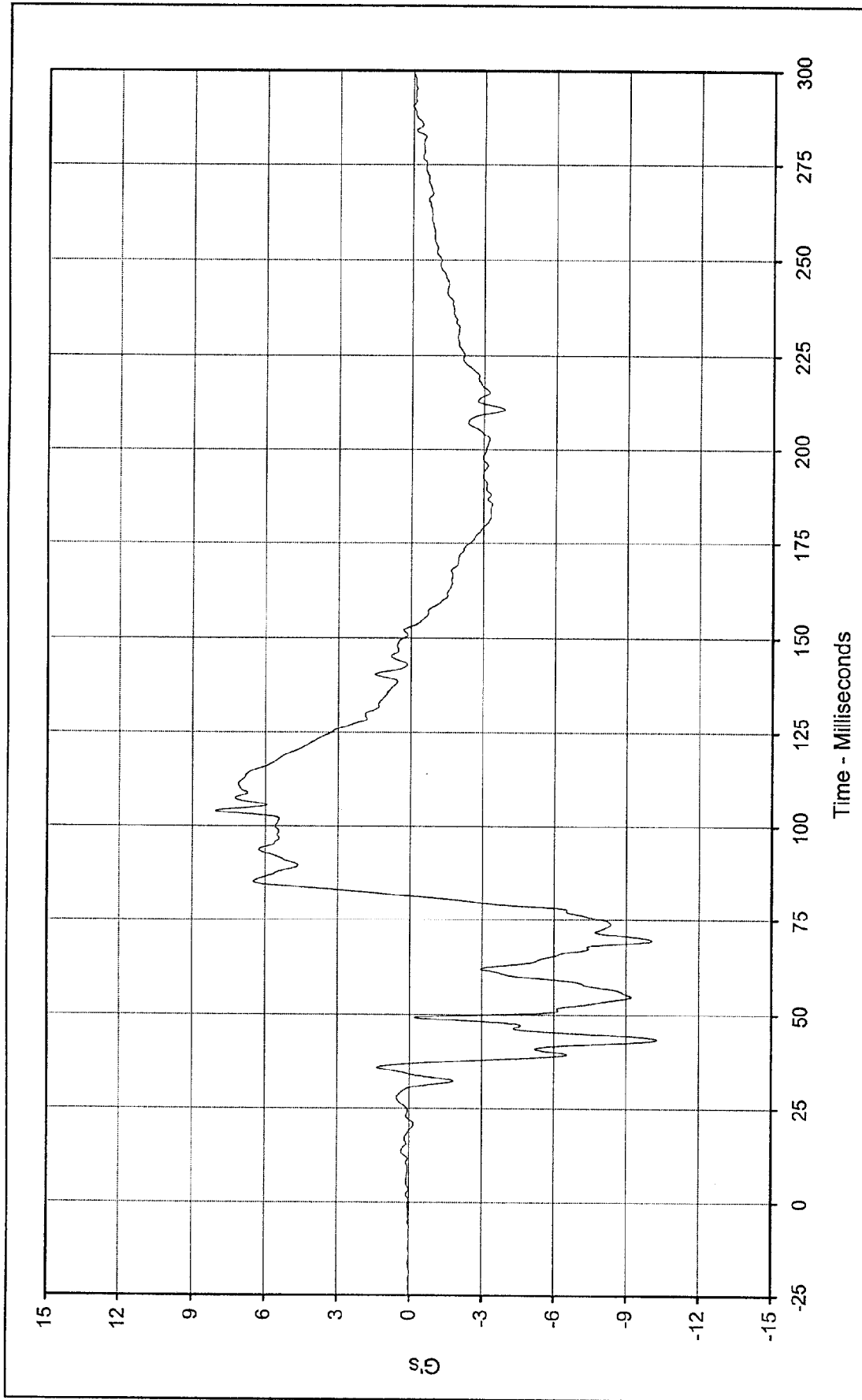




Curve Description: Passenger Chest Redundant Y
 Maximum Value: 8.5 at 49.9 Milliseconds
 Minimum Value: -12.1 at 73.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: FIL-061

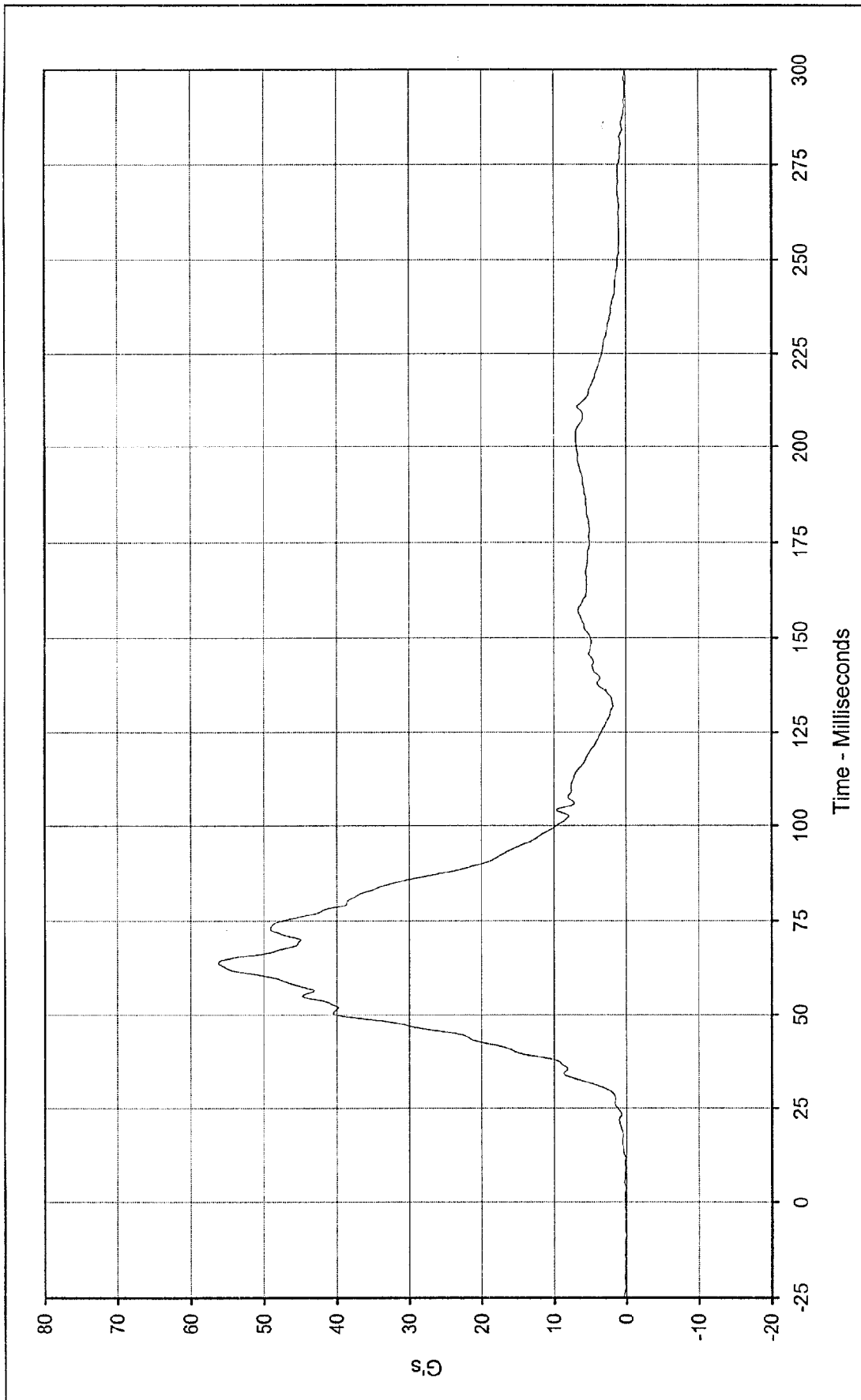
Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Passenger Chest Redundant Z	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	8.0 at 104.1 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-10.3 at 43.4 Milliseconds			
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	FIL-062			

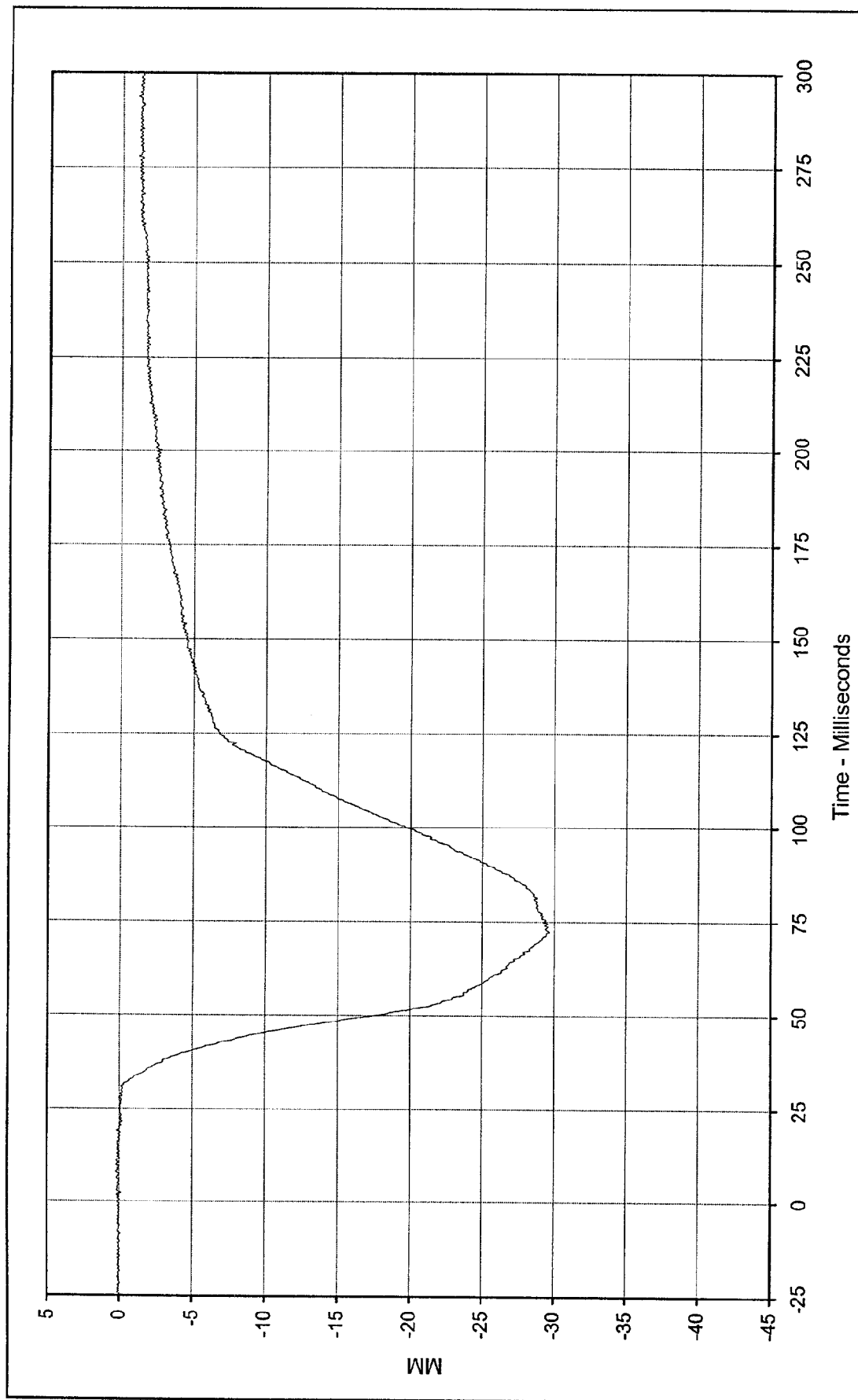




Curve Description: Passenger Chest Resultant Redundant
 Maximum Value: 56.2 at 63.5 Milliseconds
 Minimum Value: 0.1 at 3.8 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: RES-060

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

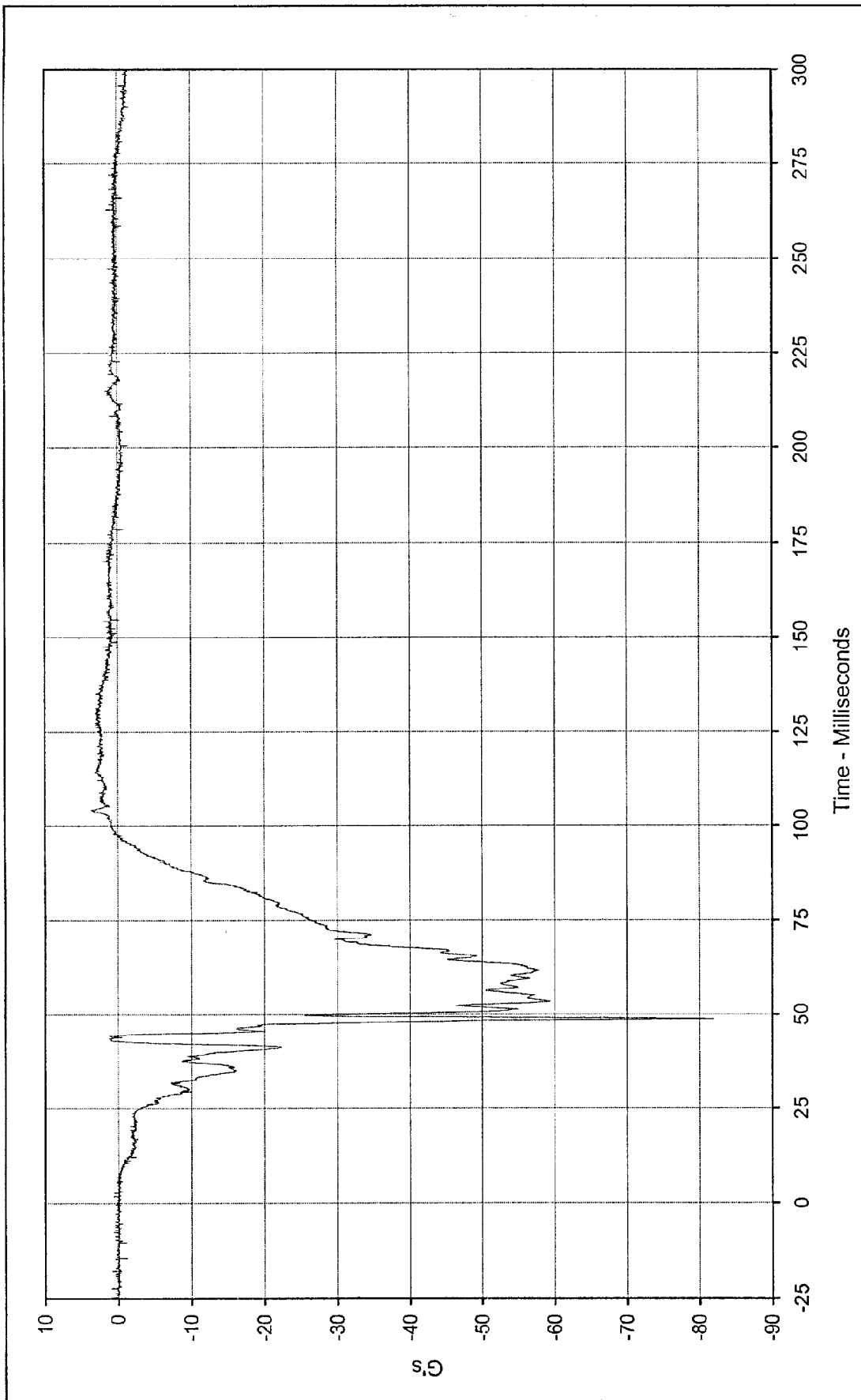




Curve Description: Passenger Chest Displacement X
 Maximum Value: 0.2 at 7.9 Milliseconds
 Minimum Value: -29.7 at 72.1 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/17/98
 Curve Number: FIL-063

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan



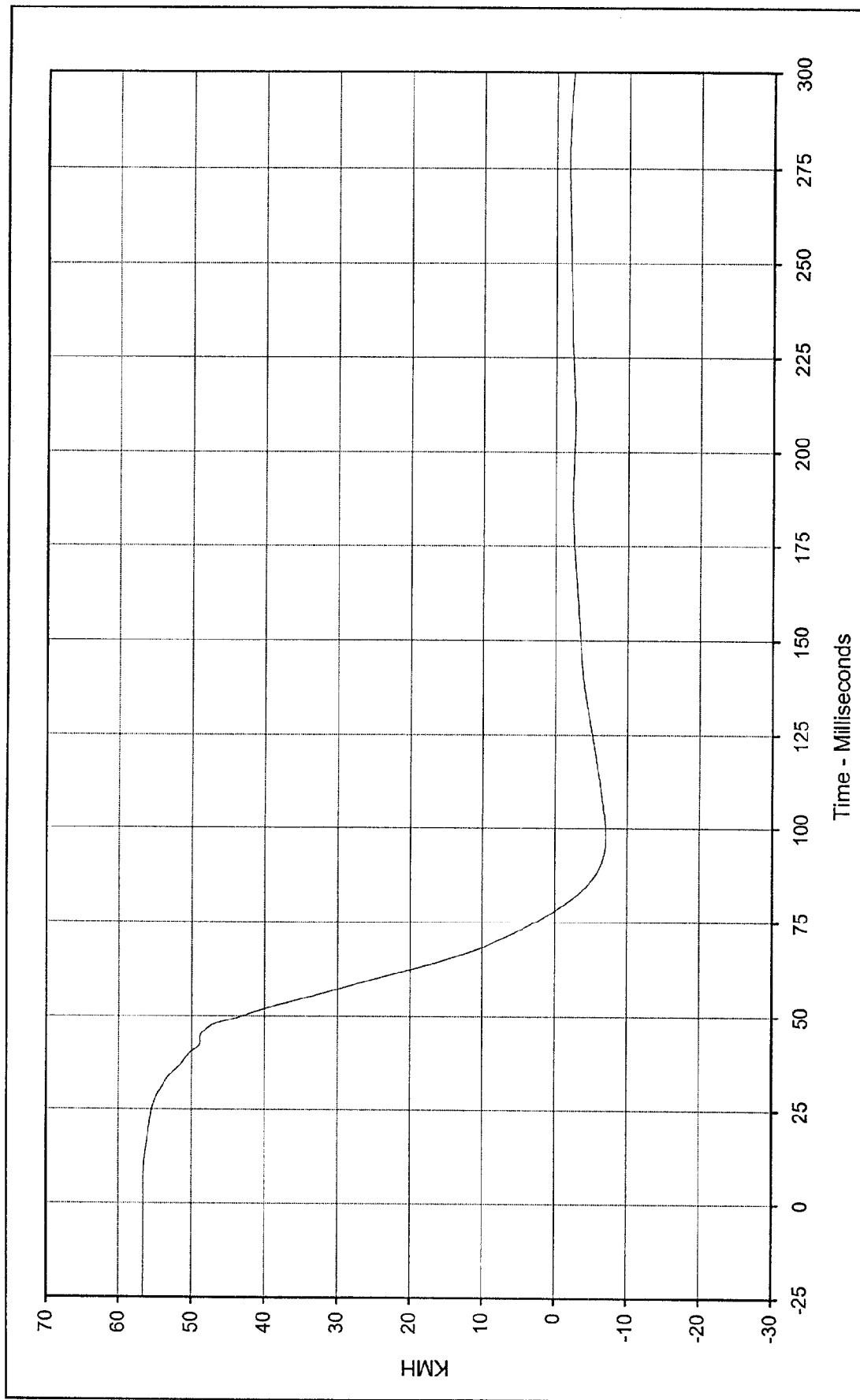


Curve Description:	Passenger Pelvis X		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	3.7	at 104.2	Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan
Minimum Value:	-81.9	at 48.8	Milliseconds		
SAE Filter Class:	1000				
Date of Test:	2/17/98				
Curve Number:	FIL-064				



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Engineering





Curve Description: Passenger Pelvis X Velocity Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 56.6 at 0.0 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

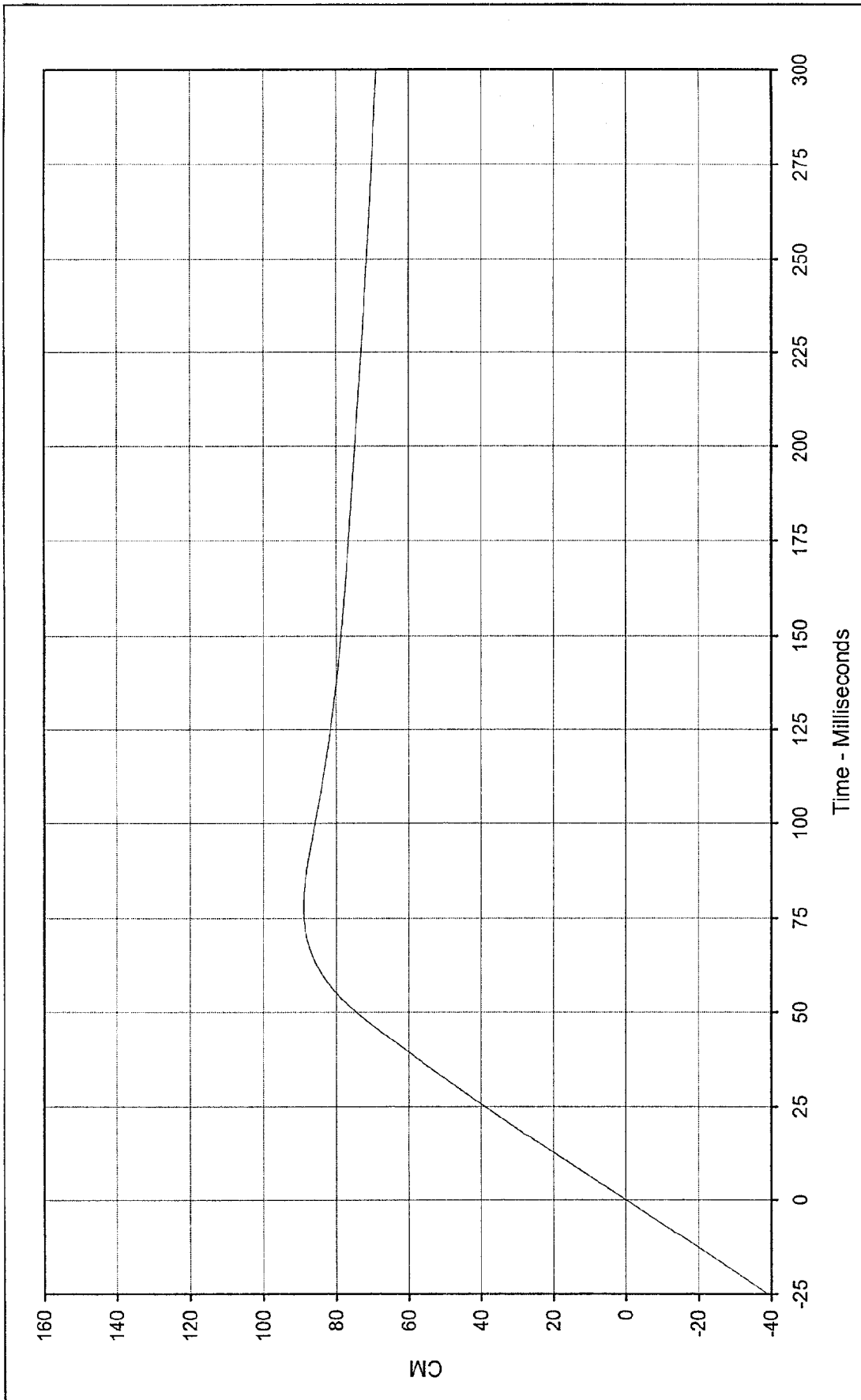
Minimum Value: -7.1 at 97.6 Milliseconds

SAE Filter Class: 180

Date of Test: 2/17/98

Curve Number: IN1-064





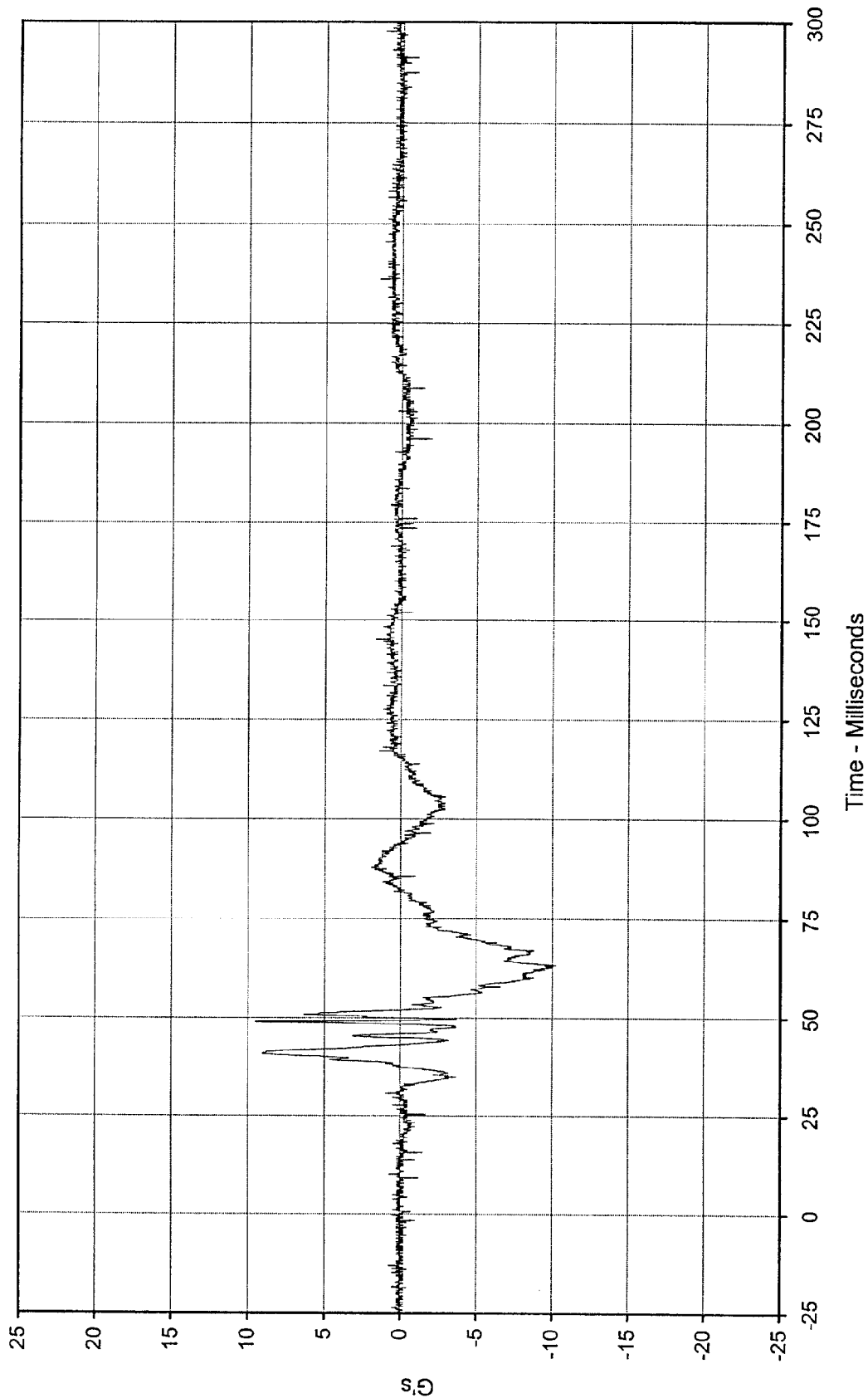
Curve Description: Passenger Pelvis X Displ.

Maximum Value:	89.0	at	78.1	Milliseconds
Minimum Value:	0.0	at	0.0	Milliseconds
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	IN2-064			

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Pelvis Y Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 9.5 at 48.9 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

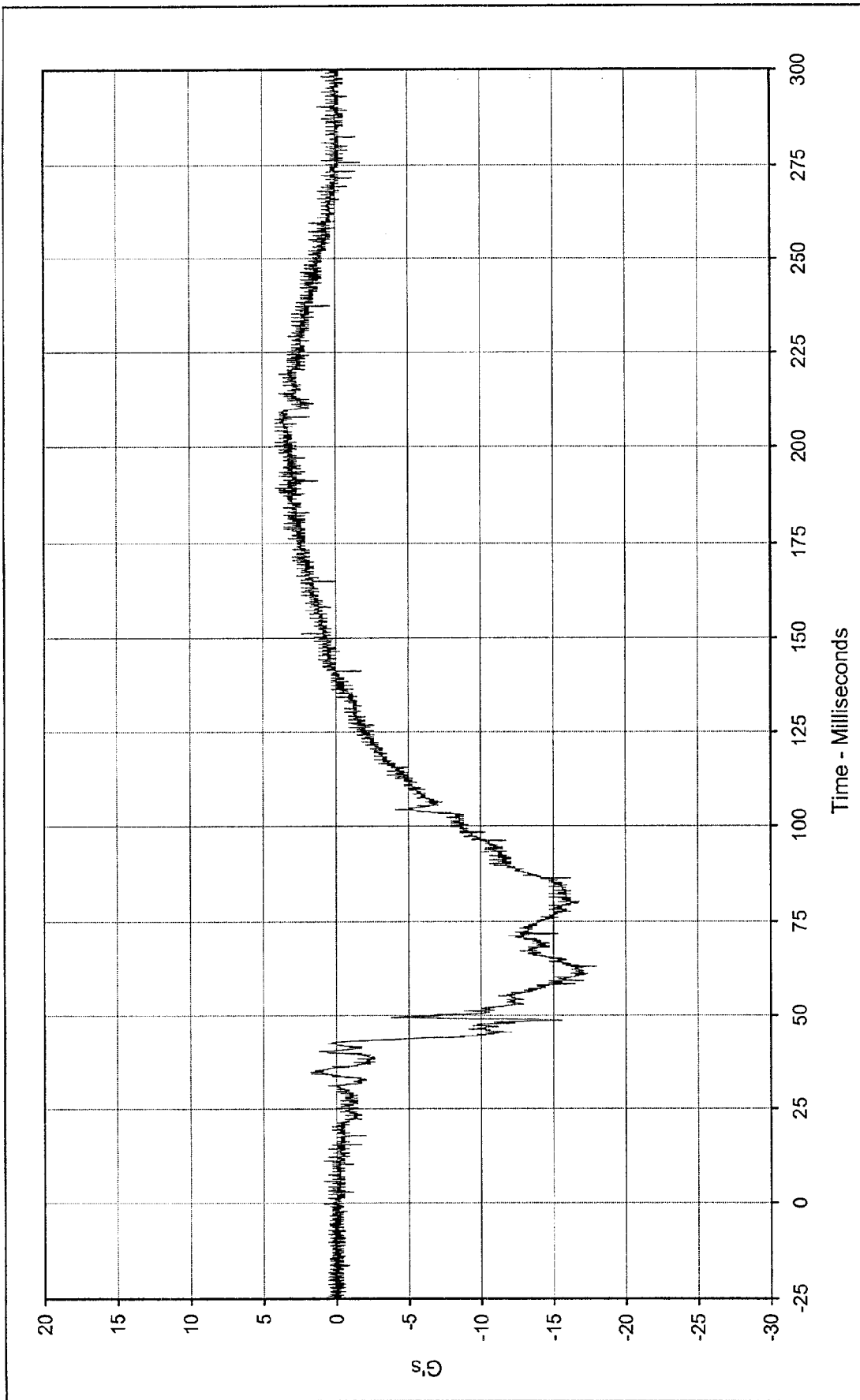
Minimum Value: -10.2 at 63.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 2/17/98

Curve Number: FIL-065





Curve Description: Passenger Pelvis Z

Maximum Value: 4.1 at 189.2 Milliseconds

Minimum Value: -18.0 at 63.1 Milliseconds

SAE Filter Class: 1000

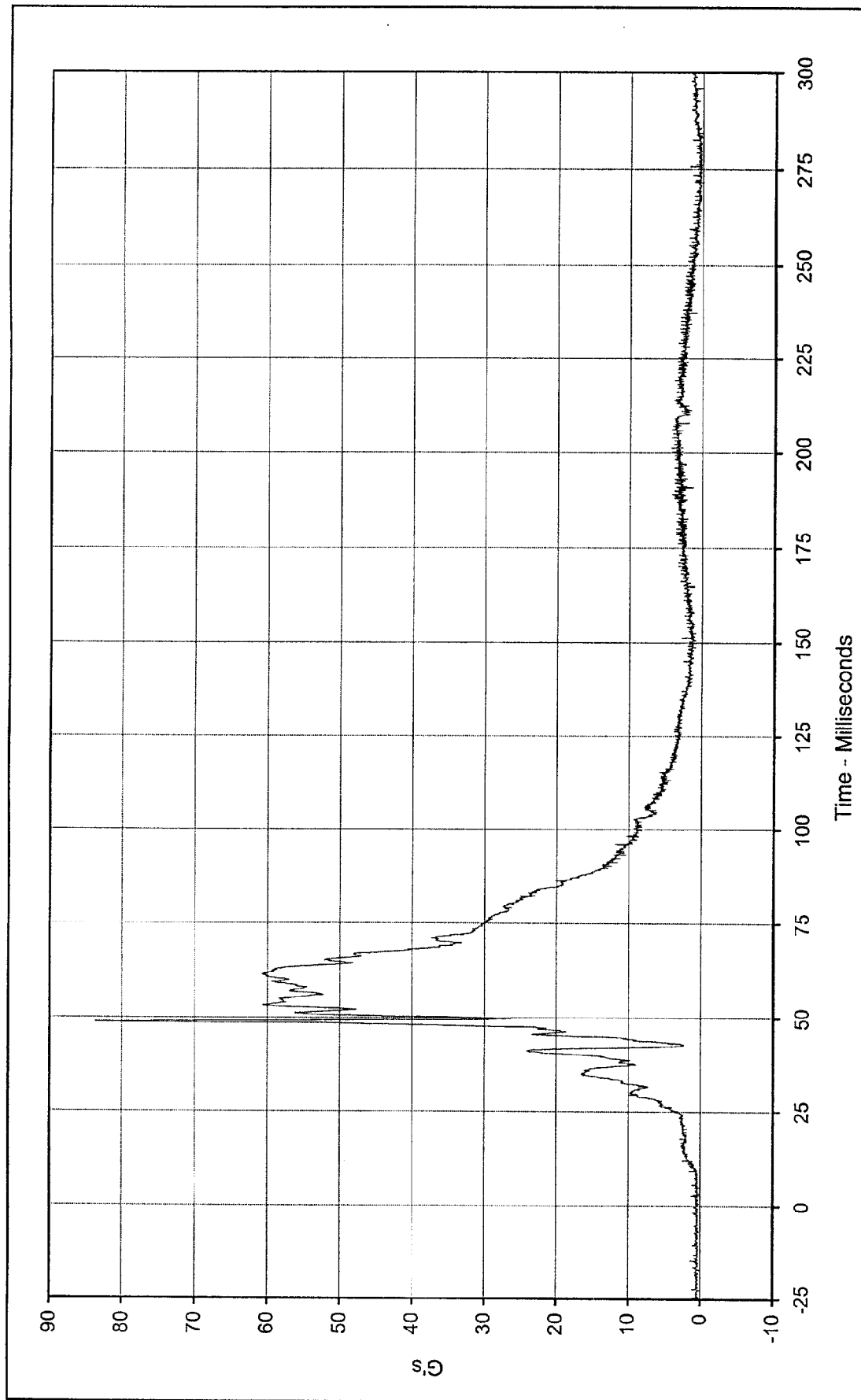
Date of Test: 2/17/98

Curve Number: FIL-066

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Pelvis Resultant Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 83.6 at 48.8 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

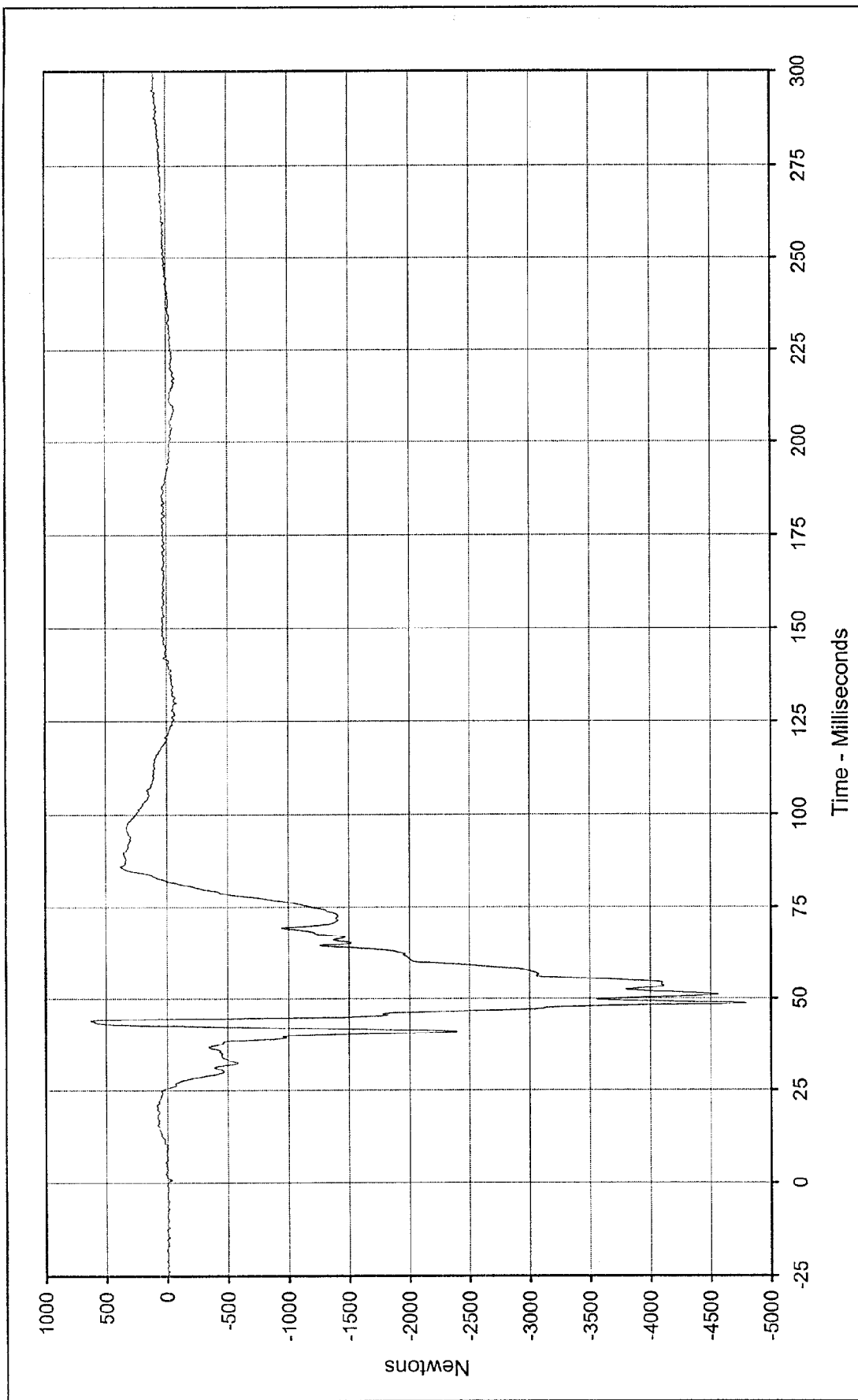
Minimum Value: 0.0 at 3.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 2/17/98

Curve Number: RES-064





Curve Description: Passenger Left Femur Force

Maximum Value: 628.9 at 43.9 Milliseconds

Minimum Value: -4801.9 at 48.7 Milliseconds

SAE Filter Class: 600

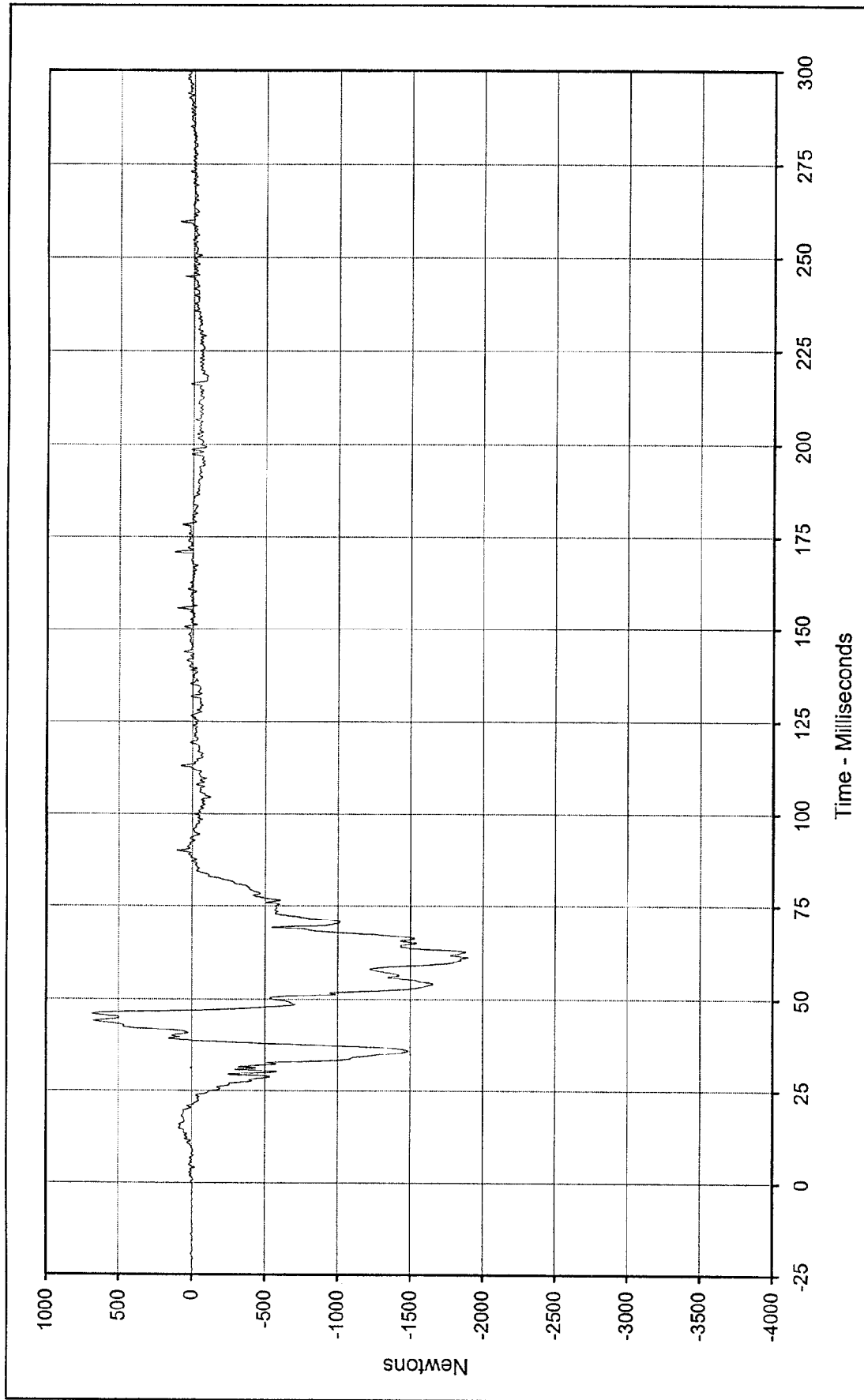
Date of Test: 2/17/98

Curve Number: FIL-067

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

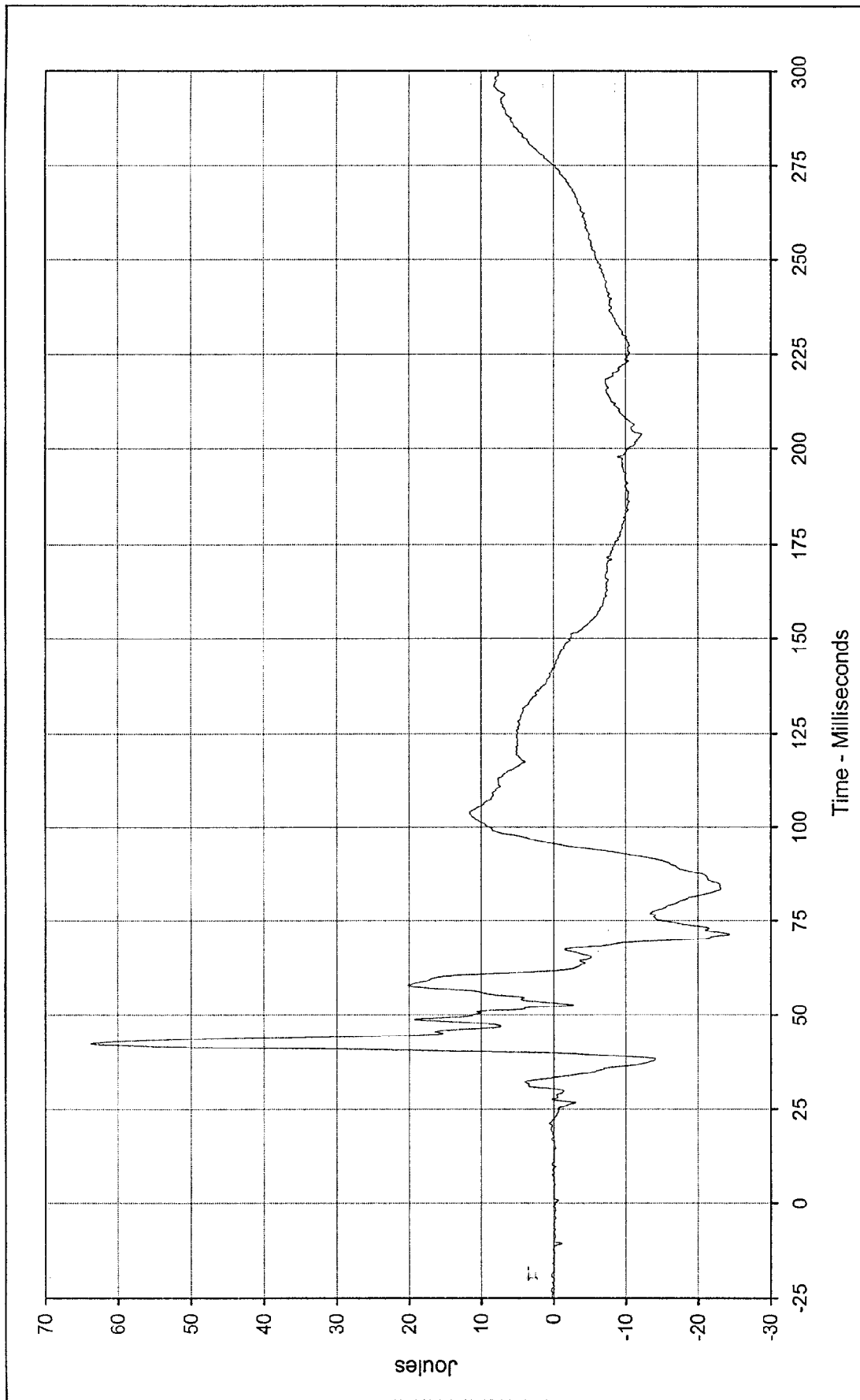
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description:	Passenger Right Femur Force	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	682.6 at 46.0 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-1899.7 at 61.1 Milliseconds			
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	FIL-068			

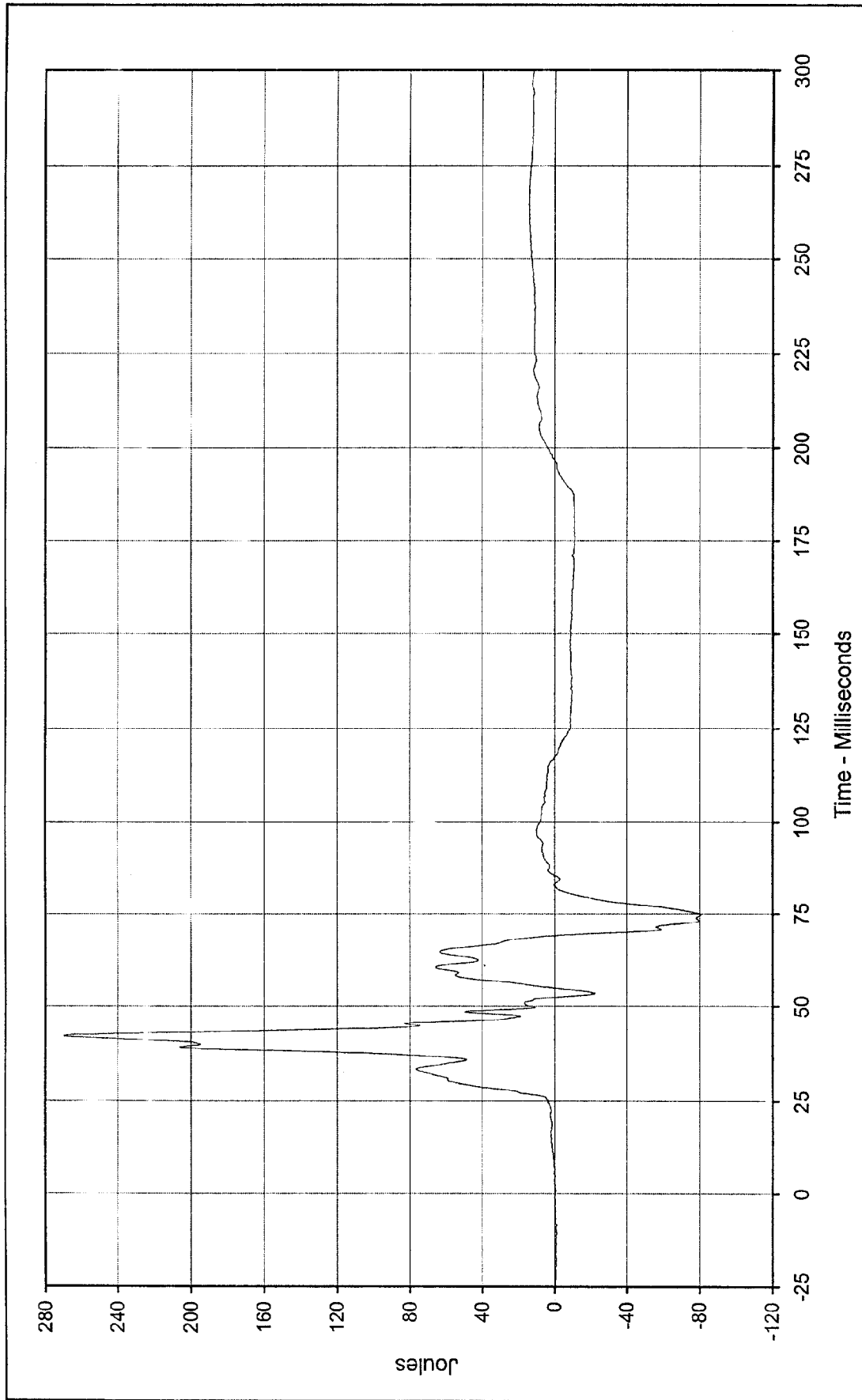




Curve Description: Passenger Left Upper Tibia Moment X
Maximum Value: 63.7 at 42.3 Milliseconds
Minimum Value: -24.4 at 71.3 Milliseconds
SAE Filter Class: 600
Date of Test: 2/17/98
Curve Number: FIL-069

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Left Upper Tibia Moment Y

Maximum Value: 269.7 at 42.0 Milliseconds

Minimum Value: -81.0 at 74.7 Milliseconds

SAE Filter Class: 600

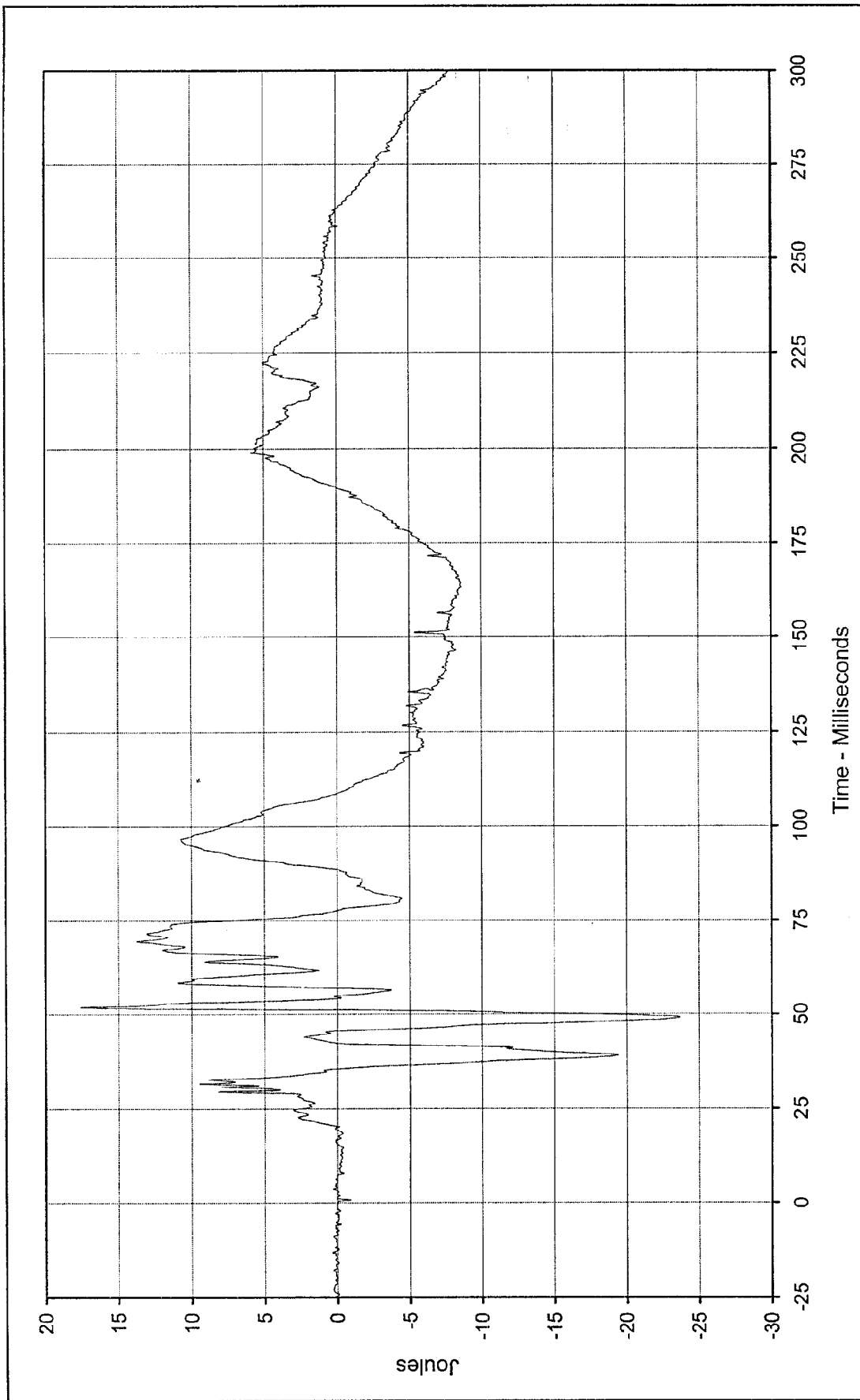
Date of Test: 2/17/98

Curve Number: FIL-070

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

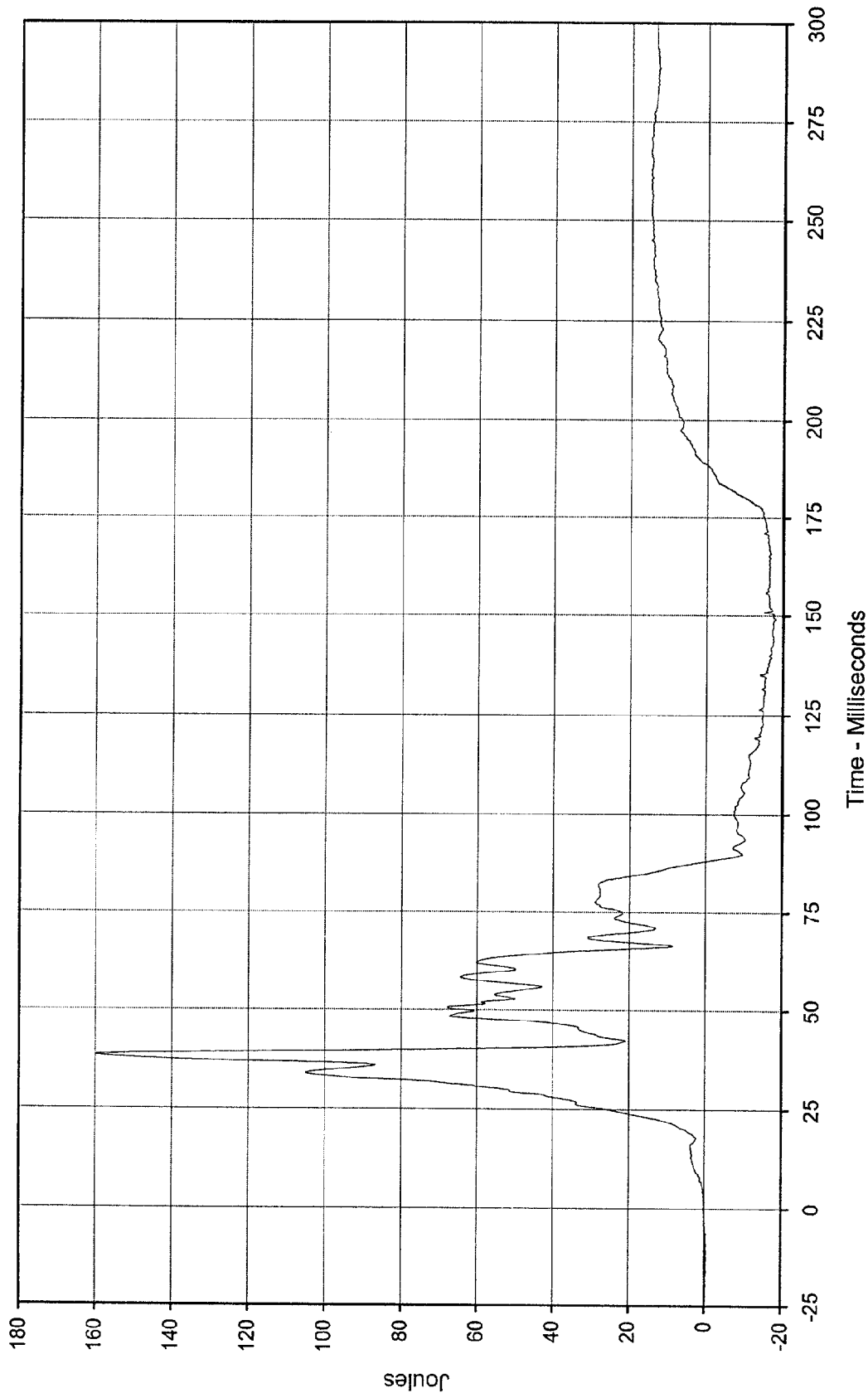




Curve Description: Passenger Right Upper Tibia Moment X
 Maximum Value: 17.6 at 52.0 Milliseconds
 Minimum Value: -23.7 at 49.1 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/17/98
 Curve Number: FIL-071

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment Y

Maximum Value: 159.8 at 38.5 Milliseconds

Minimum Value: -18.2 at 149.0 Milliseconds

SAE Filter Class: 600

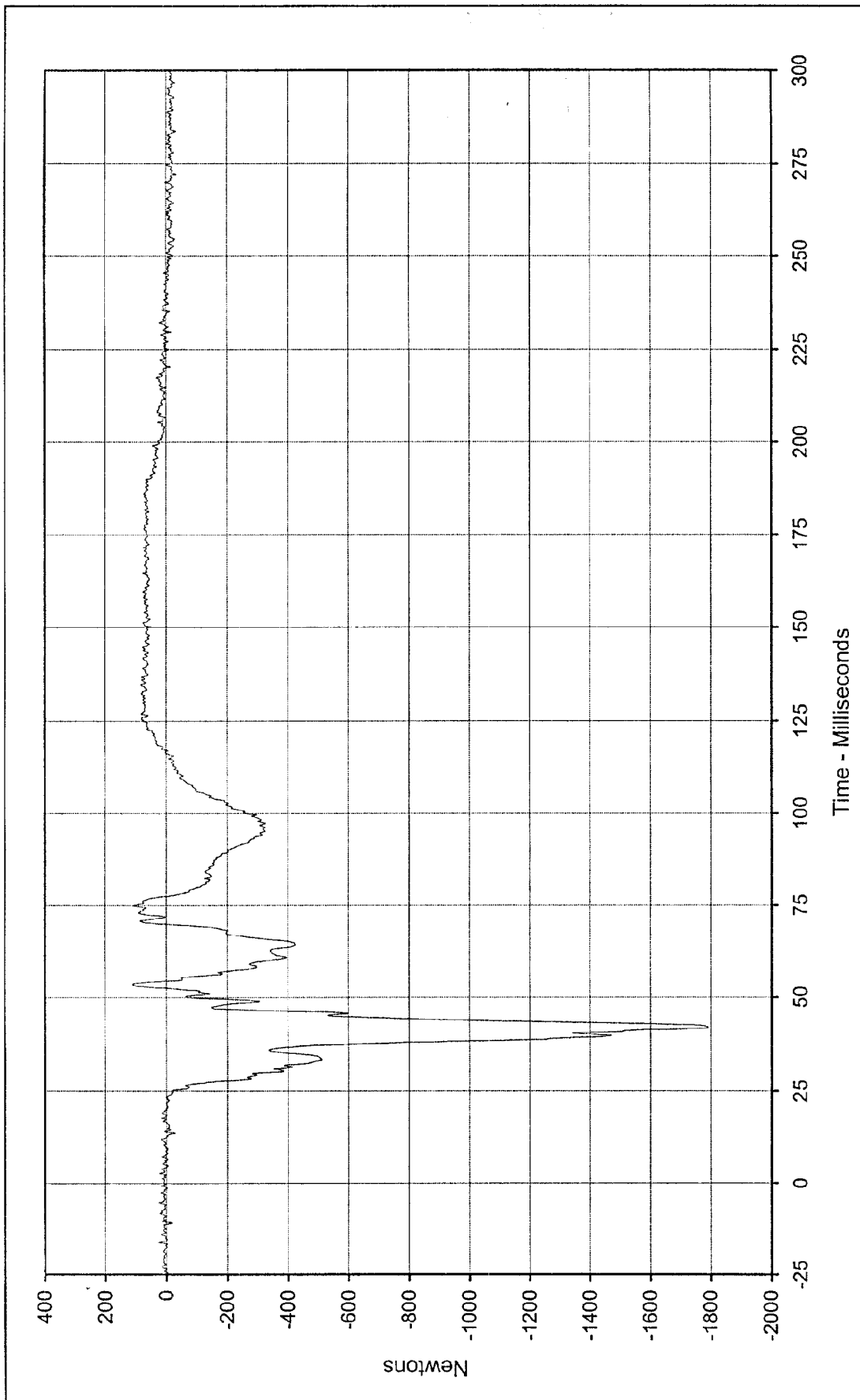
Date of Test: 2/17/98

Curve Number: FIL-072

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Force X

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 111.5 at 53.5 Milliseconds

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

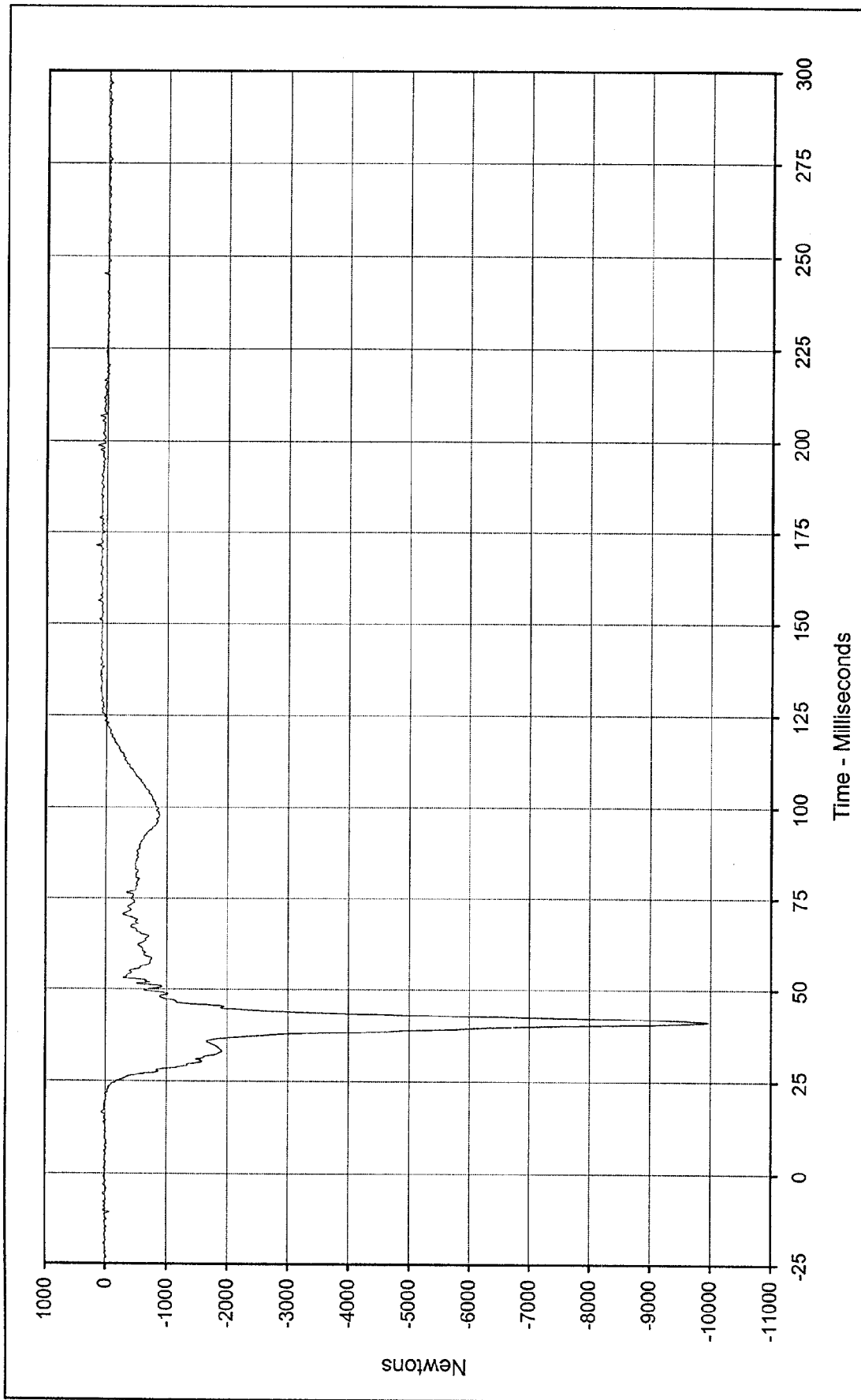
Minimum Value: -1793.0 at 41.8 Milliseconds

SAE Filter Class: 600

Date of Test: 2/17/98

Curve Number: FIL-073





Curve Description: Passenger Left Lower Tibia Force Z Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 173.2 at 171.3 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

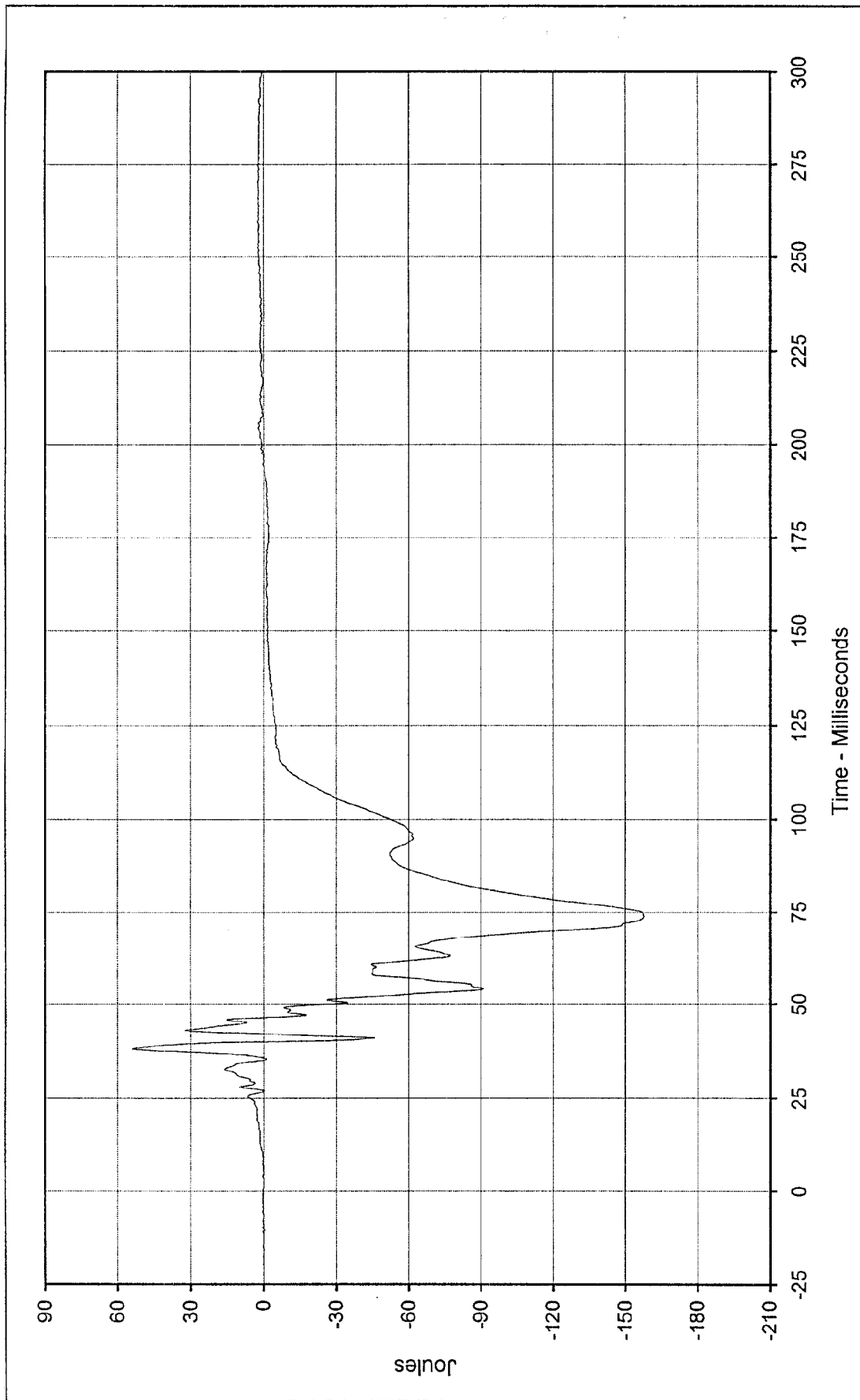
Minimum Value: -9973.3 at 41.2 Milliseconds

SAE Filter Class: 600

Date of Test: 2/17/98

Curve Number: FIL-074

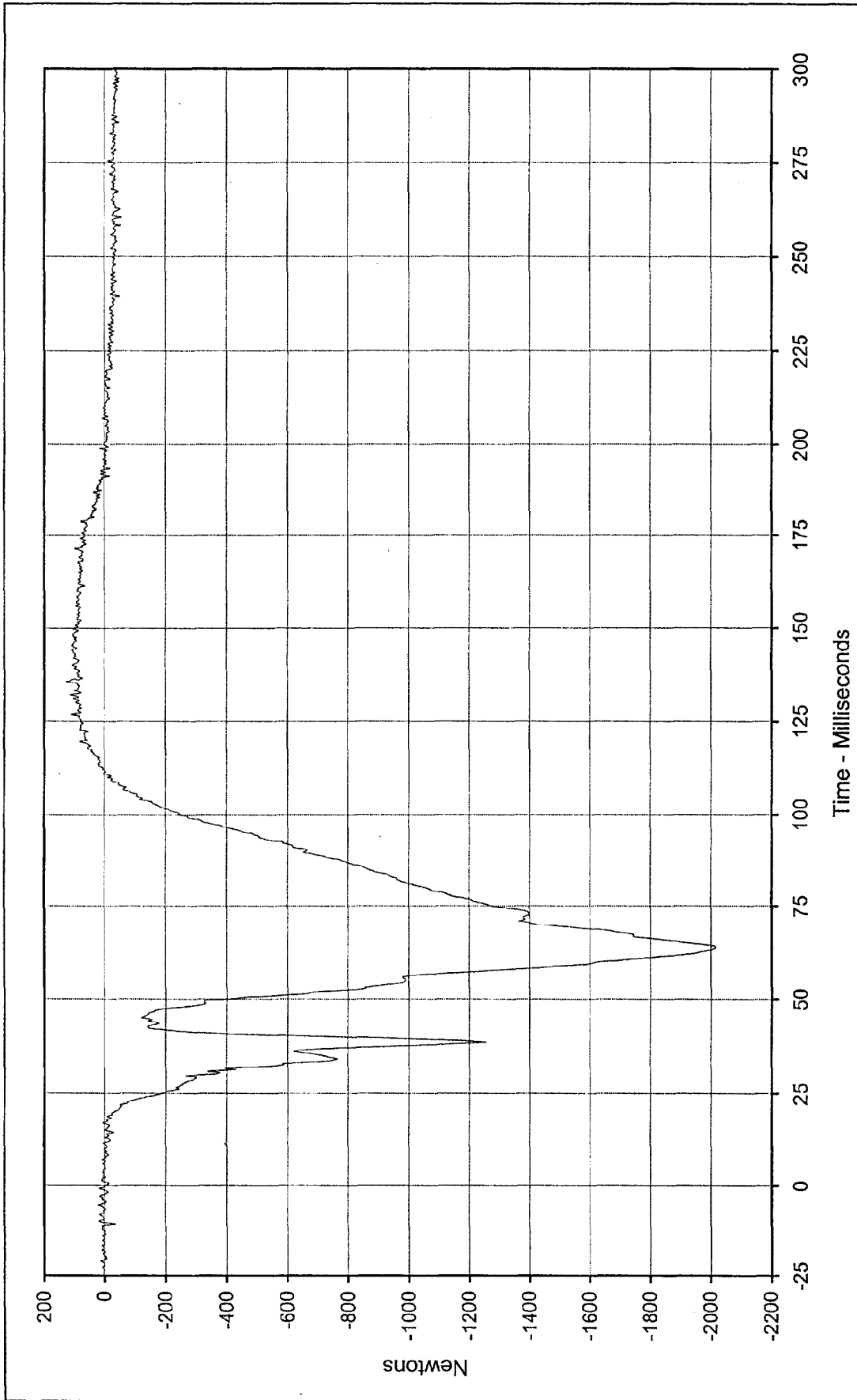




Curve Description: Passenger Left Lower Tibia Moment Y
 Maximum Value: 54.0 at 38.1 Milliseconds
 Minimum Value: -157.8 at 73.8 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/17/98
 Curve Number: FIL-075

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

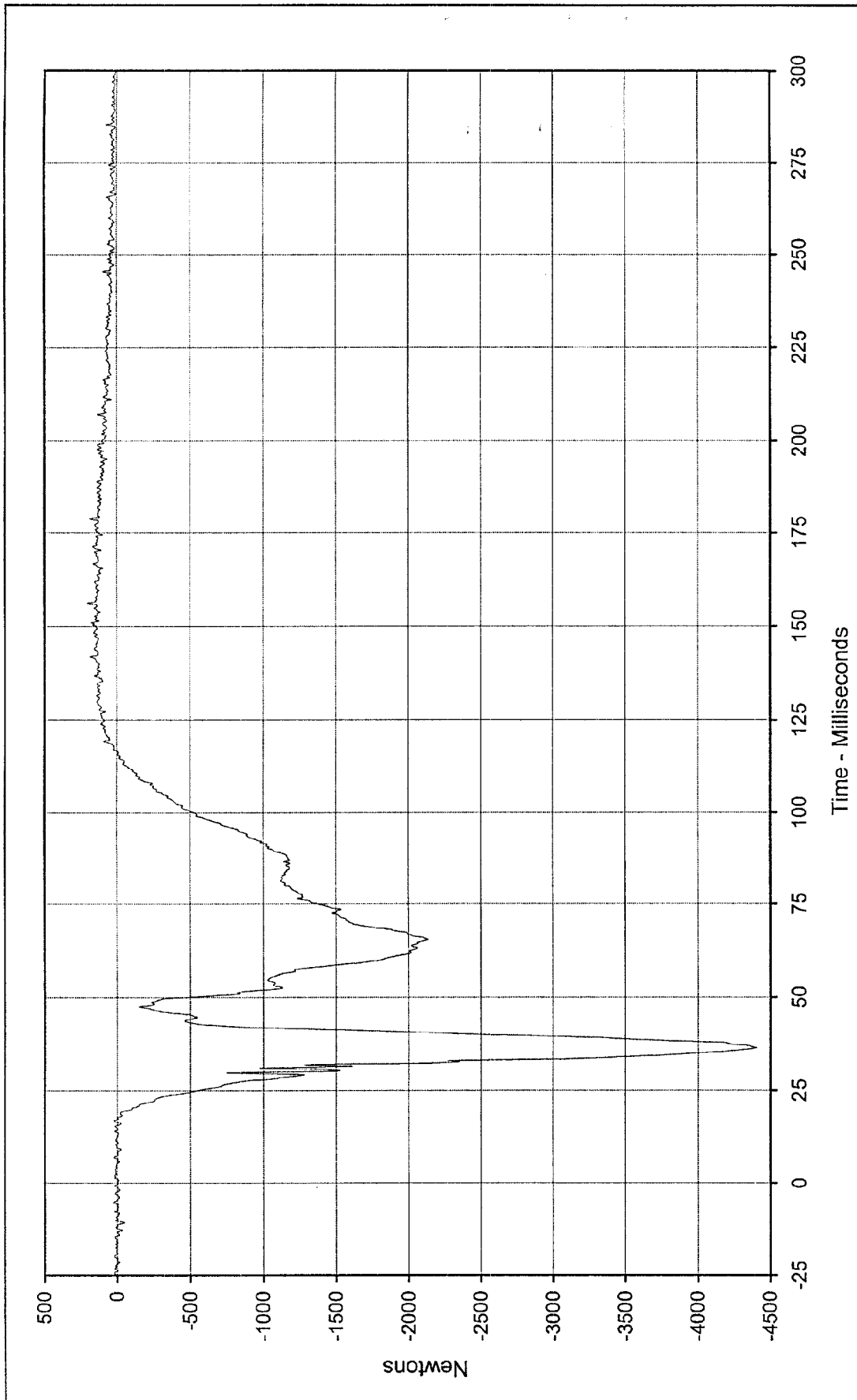




Curve Description: Passenger Right Lower Tibia Force X
 Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Maximum Value: 125.4 at 135.5 Milliseconds
 Minimum Value: -2017.4 at 64.0 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/17/98
 Curve Number: FIL-076





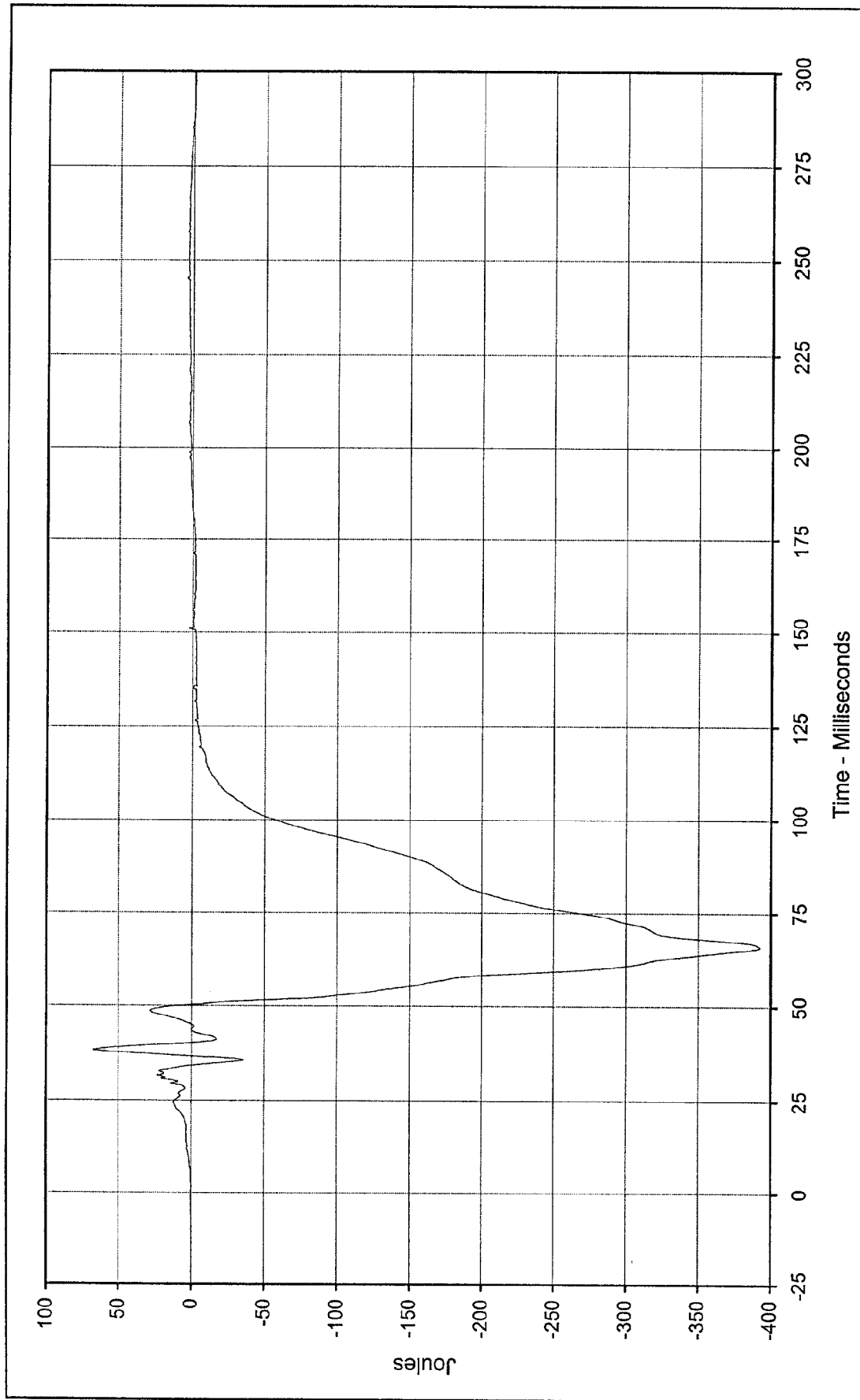
Curve Description: Passenger Right Lower Tibia Force Z

Maximum Value:	204.8	at	156.1	Milliseconds
Minimum Value:	-4403.7	at	36.2	Milliseconds
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	FIL-077			

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

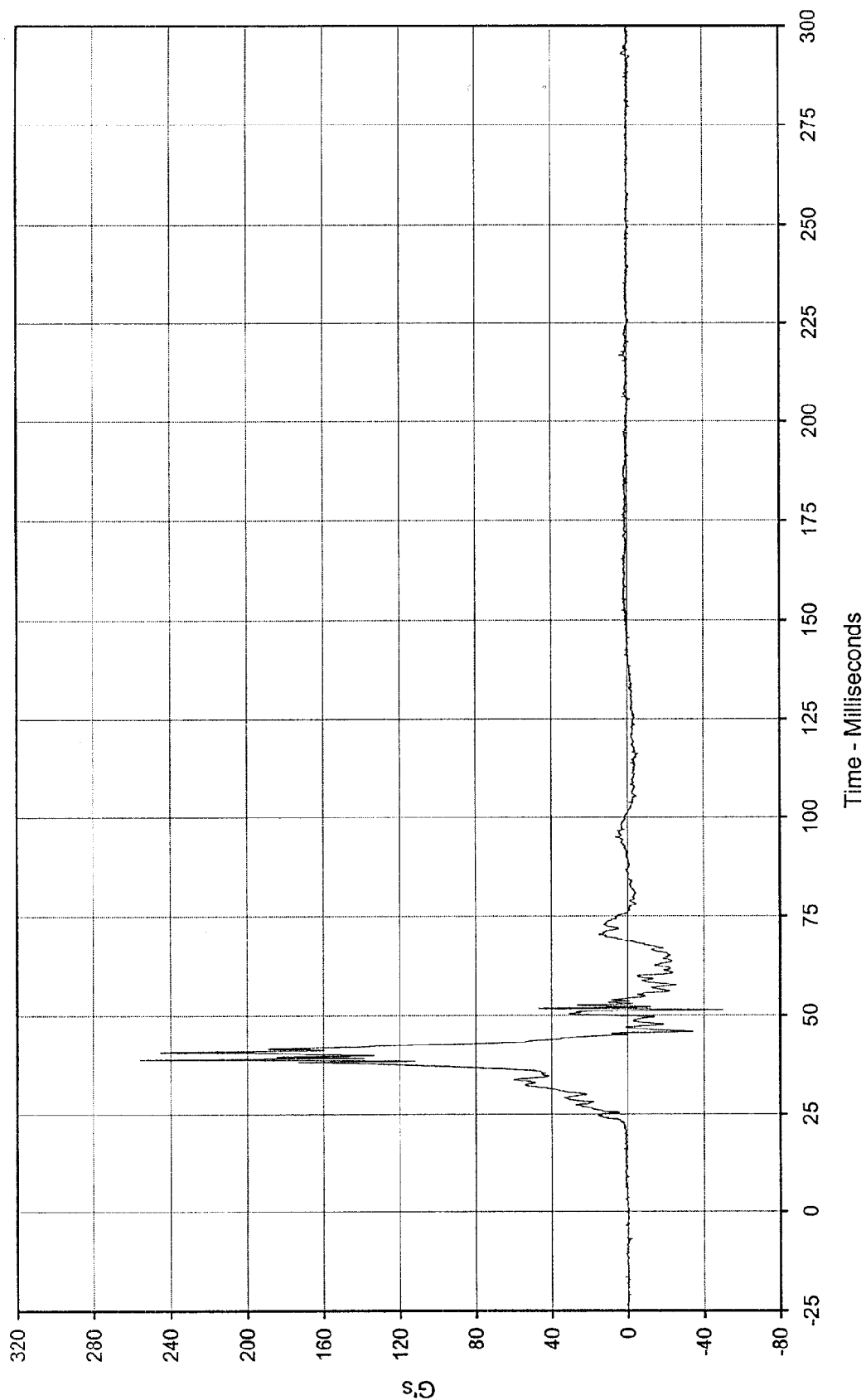
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Right lower Tibia Moment Y		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	67.6	at	38.4	Milliseconds
Minimum Value:	-392.7	at	65.8	Milliseconds
SAE Filter Class:	600			
Date of Test:	2/17/98			
Curve Number:	FIL-078			
		Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	

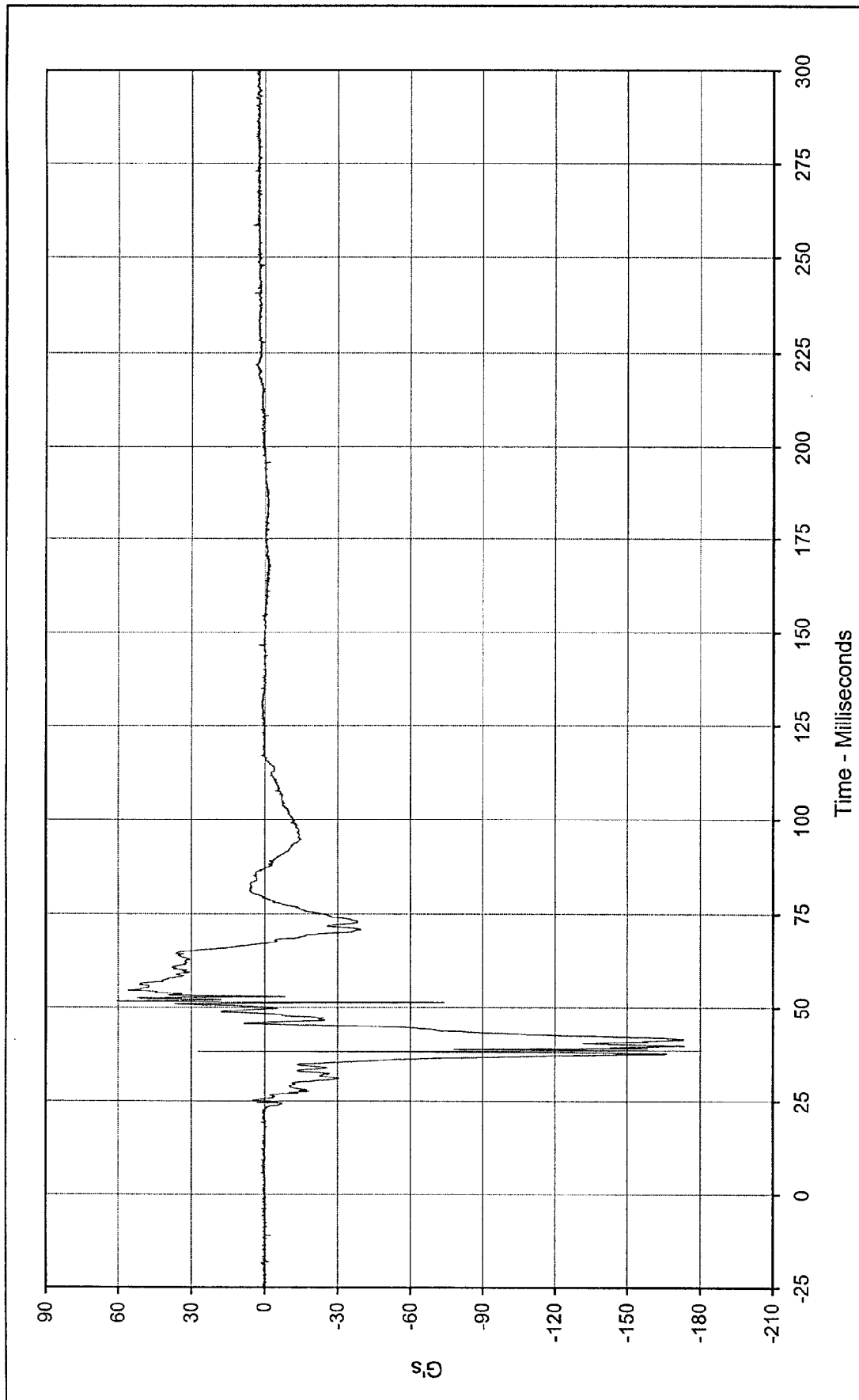




Curve Description: Passenger Left Foot Aft X
 Maximum Value: 255.9 at 38.7 Milliseconds
 Minimum Value: -49.9 at 51.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-079

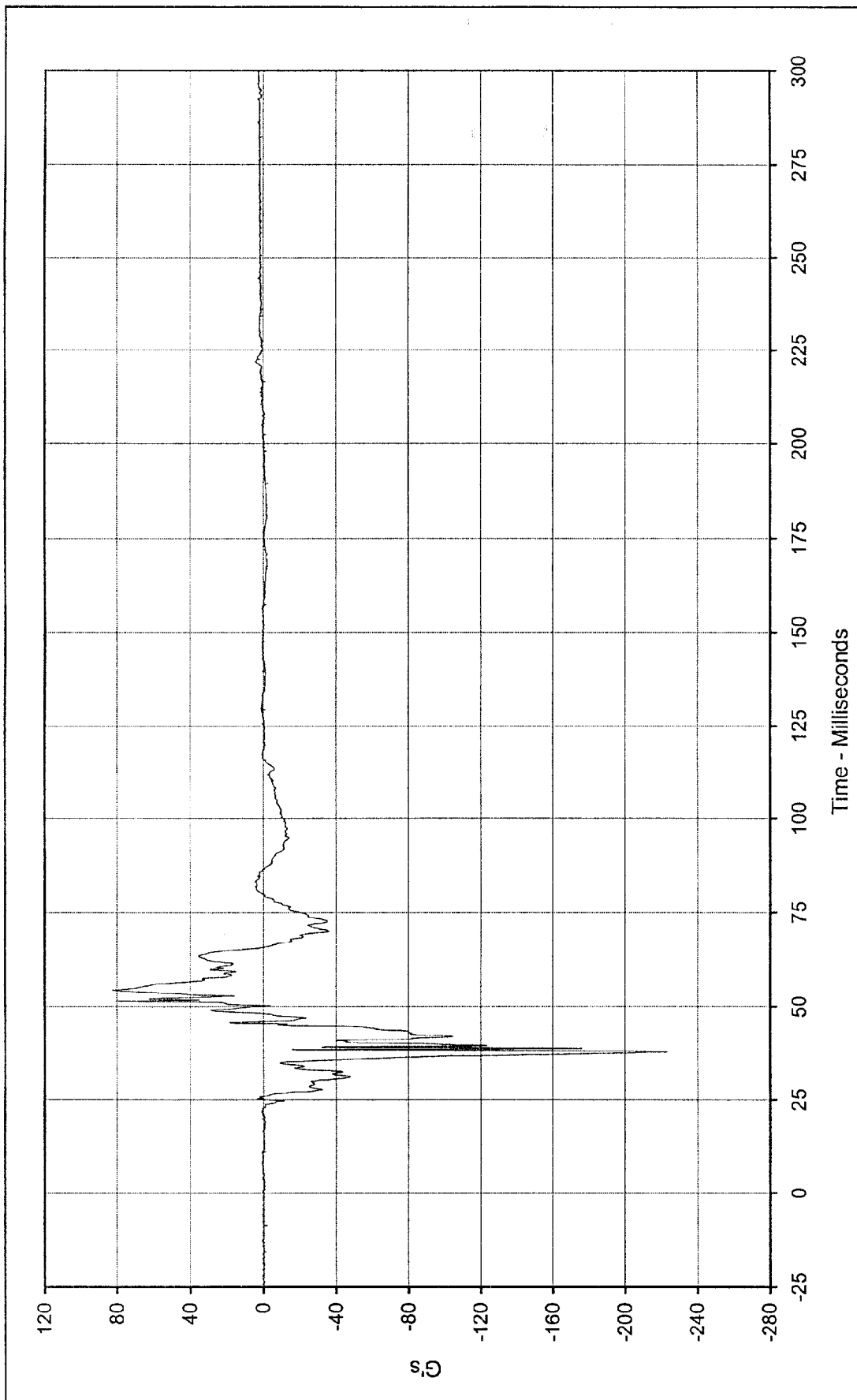
Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





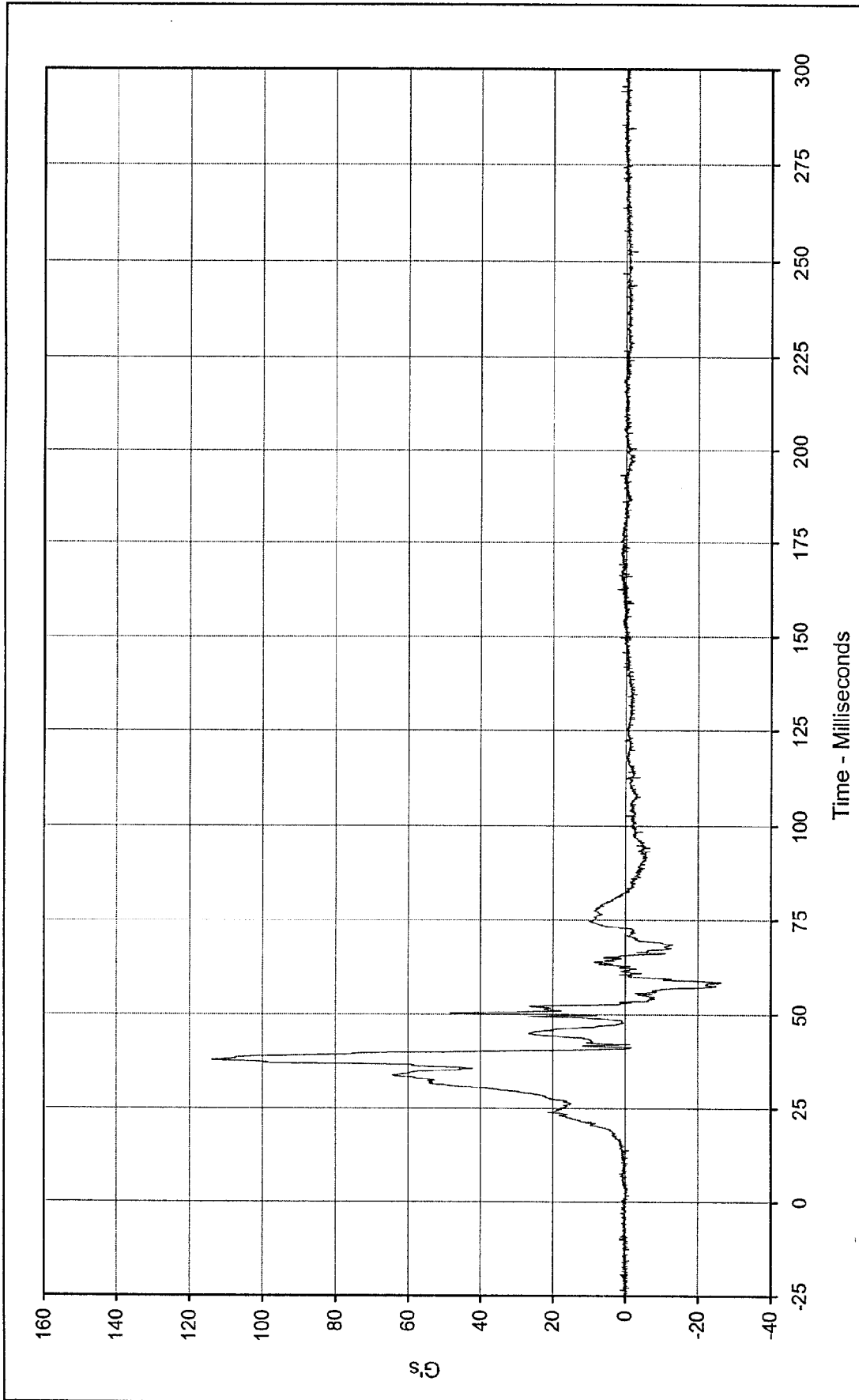
Curve Description: Passenger Left Foot Aft Z
 Maximum Value: 60.4 at 51.7 Milliseconds
 Minimum Value: -180.7 at 38.6 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-080





Curve Description:	Passenger Left Foot Fore Z	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	82.6 at 54.4 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-223.4 at 37.6 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	2/17/98			
Curve Number:	FIL-081			





Curve Description: Passenger Right Foot Aft X Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 113.8 at 37.9 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

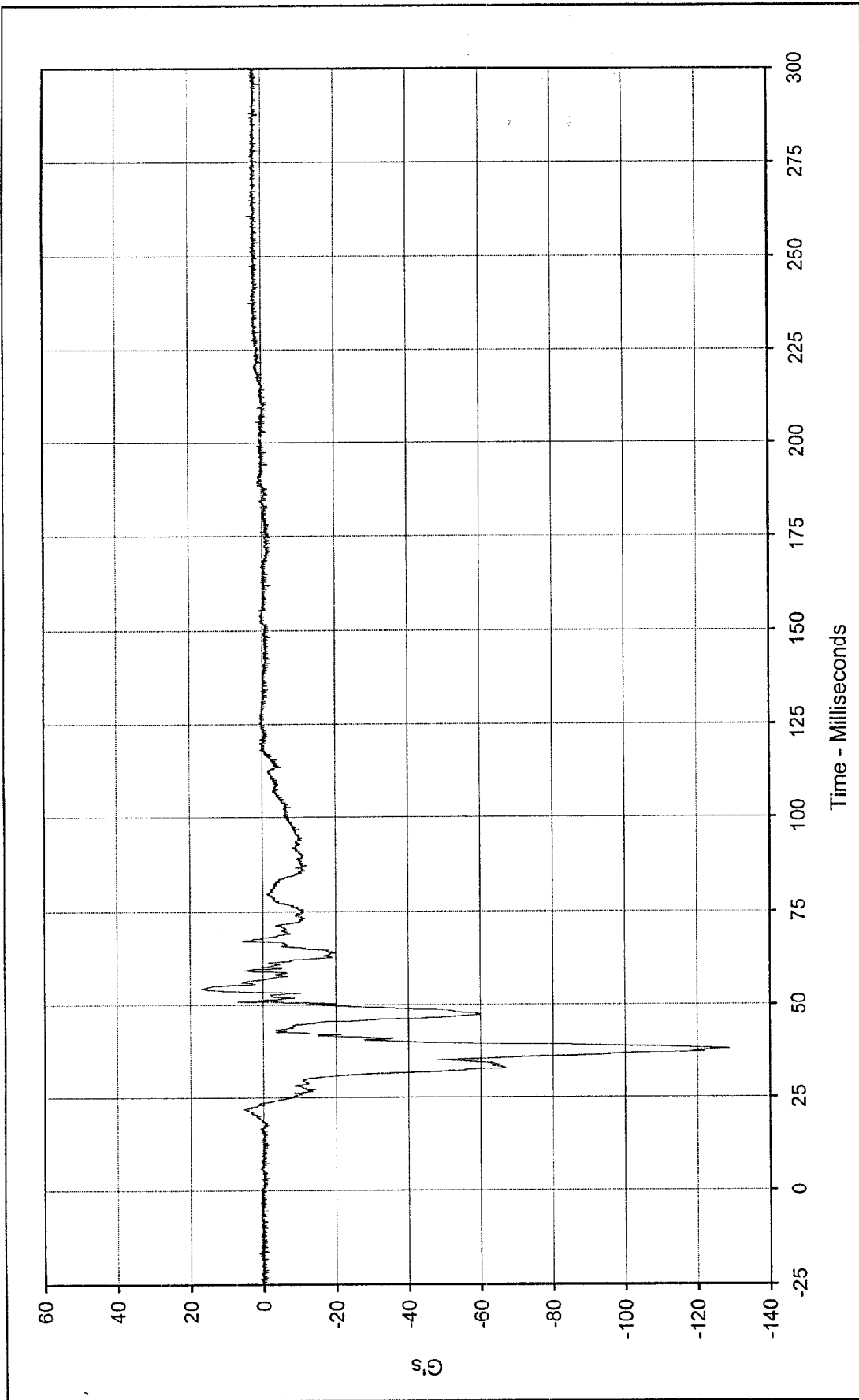
Minimum Value: -26.4 at 58.5 Milliseconds

SAE Filter Class: 1000

Date of Test: 2/17/98

Curve Number: FIL-082

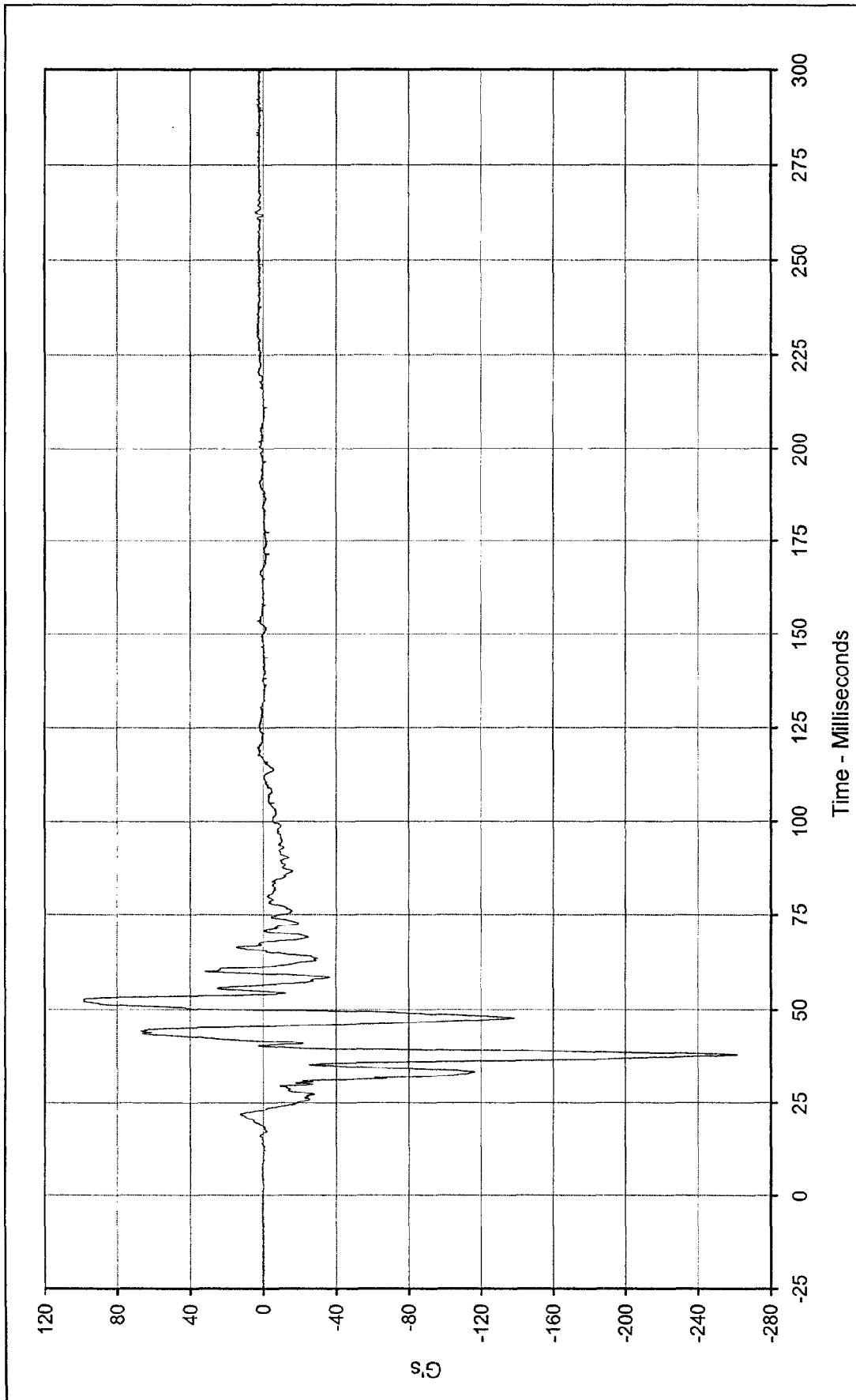




Curve Description: Passenger Right Foot Aft Z
 Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

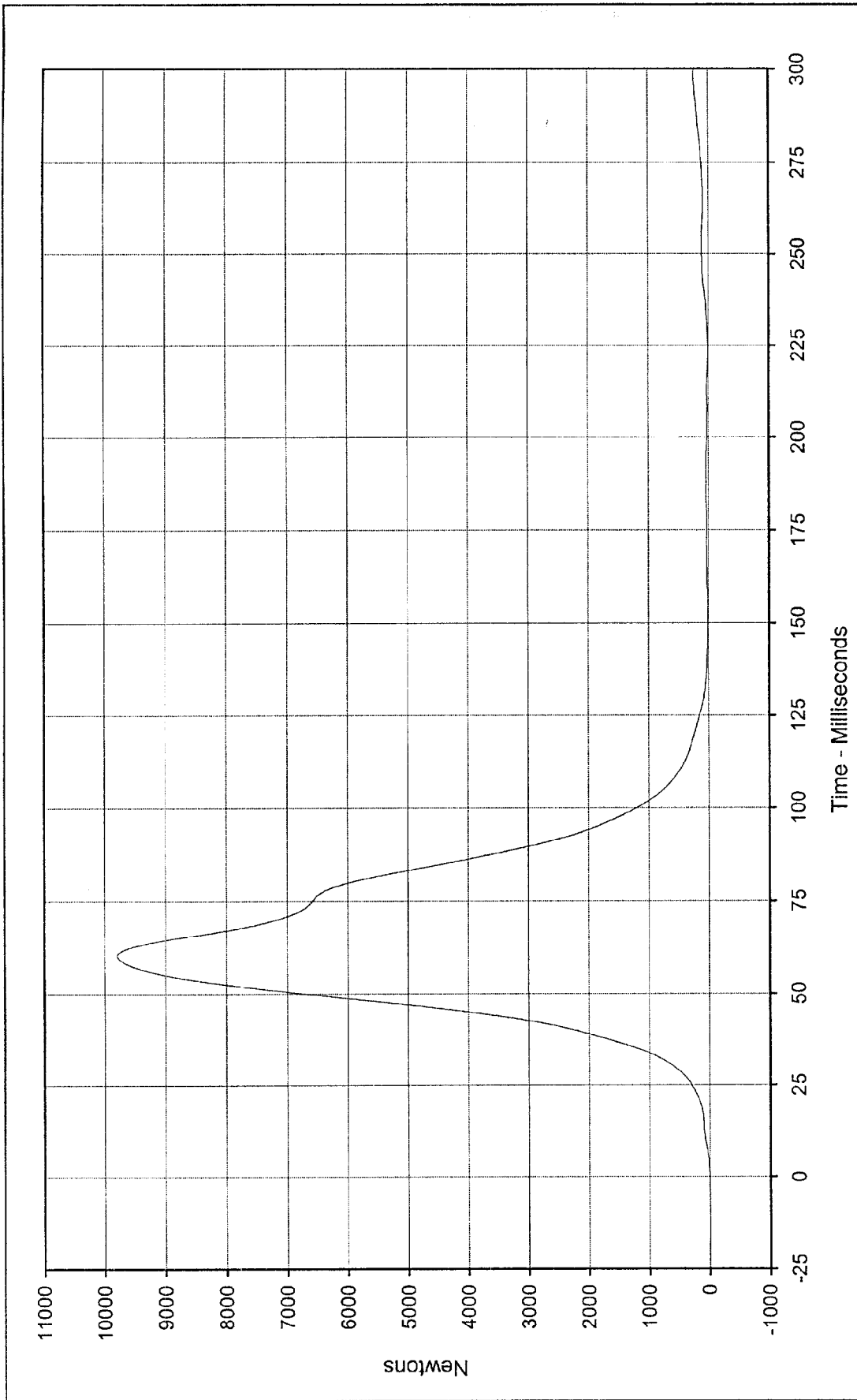
Maximum Value: 17.0 at 54.4 Milliseconds
 Minimum Value: -128.9 at 37.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-083





Curve Description: Passenger Right Foot Fore Z
 Maximum Value: 98.7 at 52.3 Milliseconds
 Minimum Value: -261.9 at 37.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/17/98
 Curve Number: FIL-084

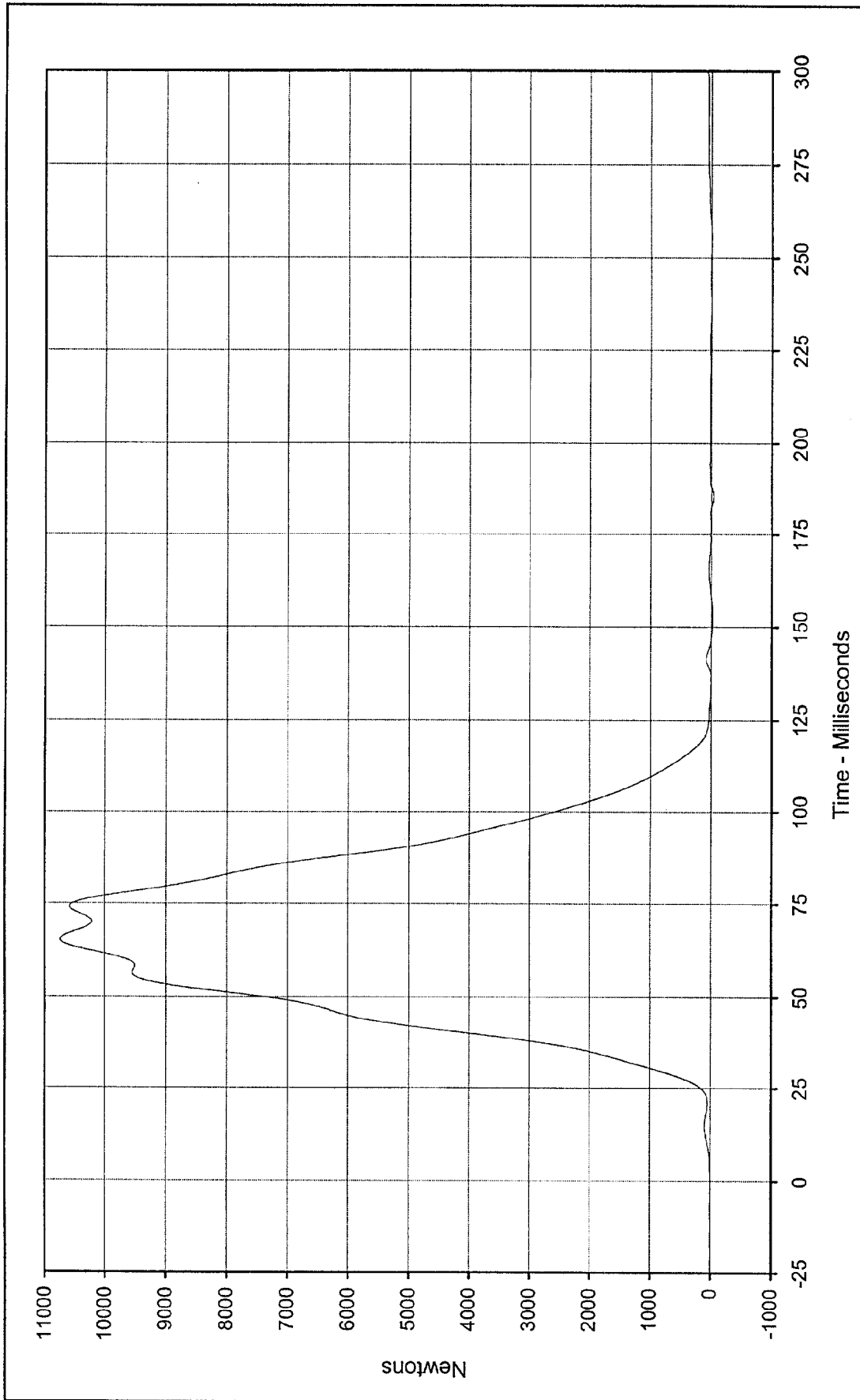




Curve Description: Passenger Lap Belt Force
 Maximum Value: 9790.8 at 60.2 Milliseconds
 Minimum Value: -0.6 at 0.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/17/98
 Curve Number: FIL-085

Testing Program: 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

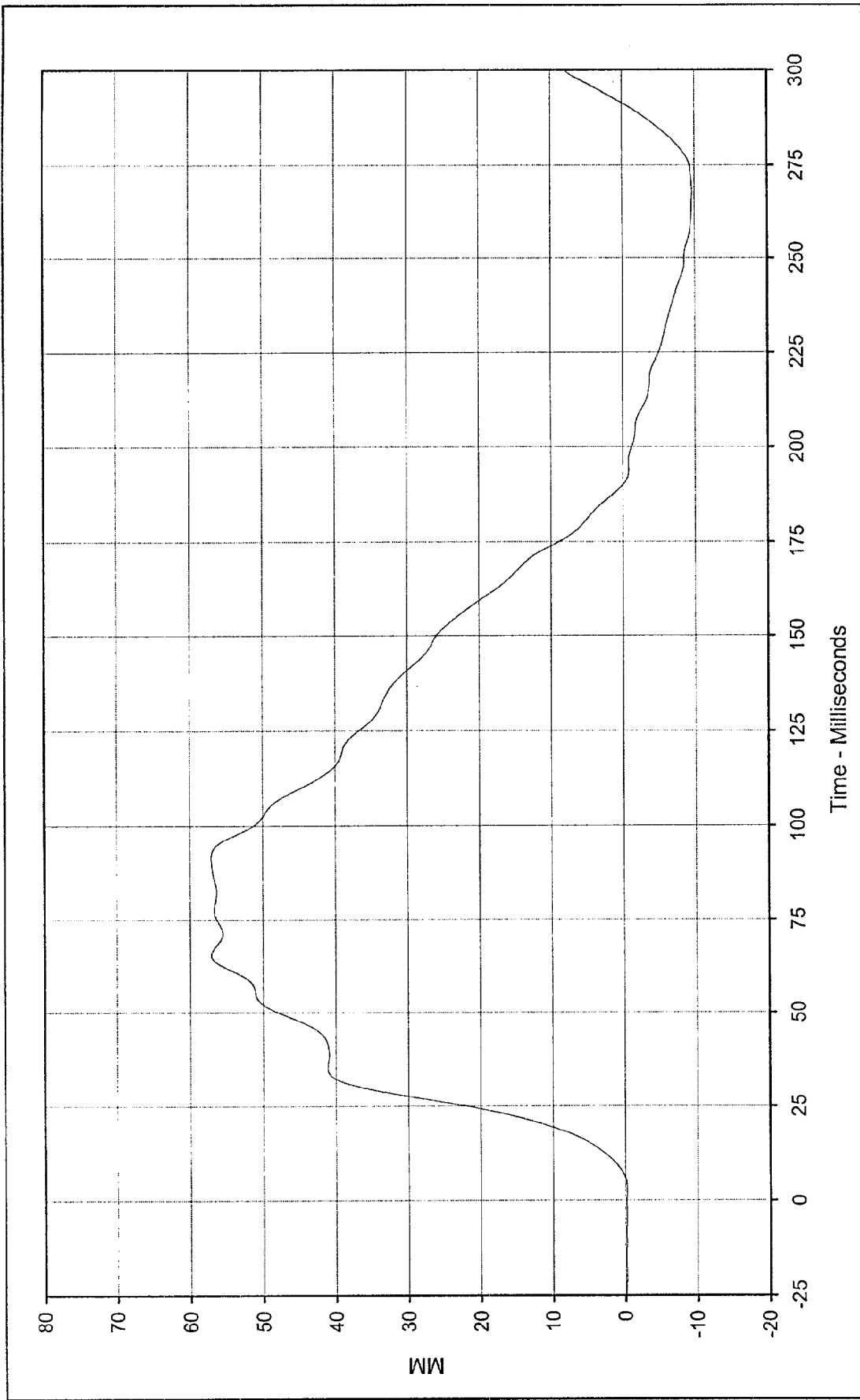




Curve Description: Passenger Shoulder Belt Force
 Maximum Value: 10743.6 at 65.2 Milliseconds
 Minimum Value: -46.1 at 185.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/17/98
 Curve Number: FIL-086

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Shoulder Belt Pullout

Maximum Value: 57.1 at 65.4 Milliseconds

Minimum Value: -9.7 at 267.7 Milliseconds

SAE Filter Class: 60

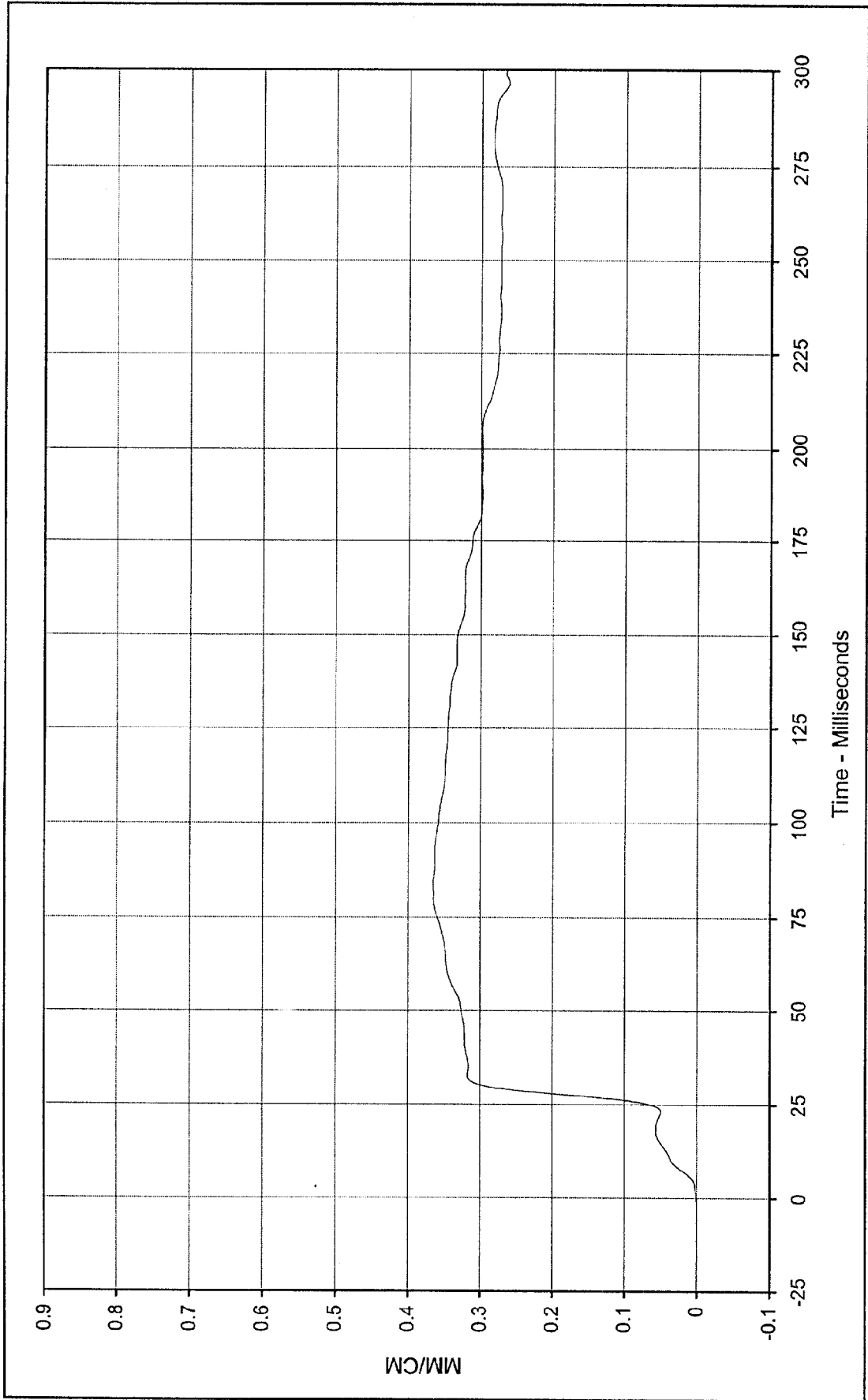
Date of Test: 2/17/98

Curve Number: FIL-087

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

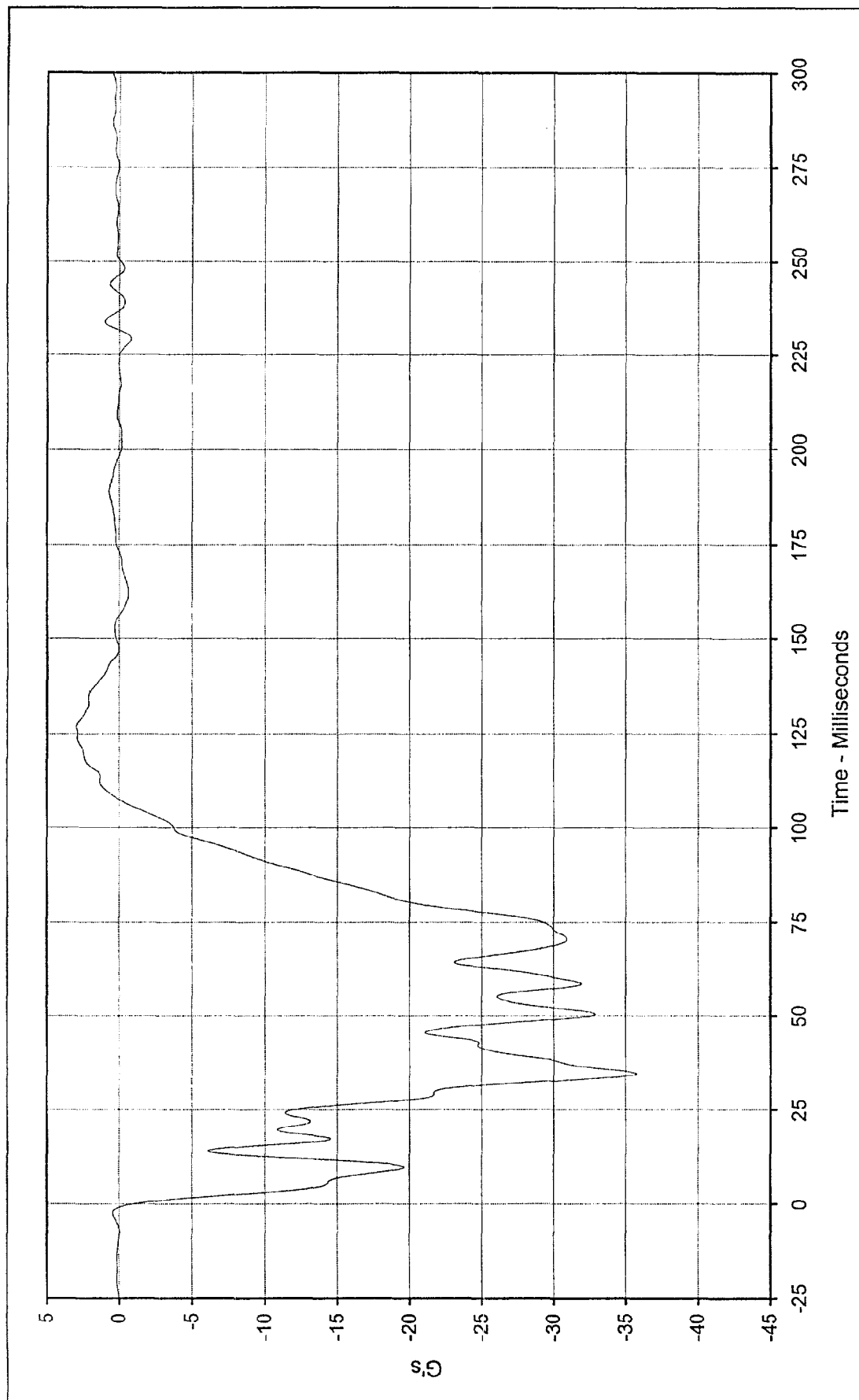
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Passenger Shoulder Belt Elongation
 Maximum Value: 0.37 at 84.0 Milliseconds
 Minimum Value: 0.00 at 0.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/17/98
 Curve Number: FIL-088

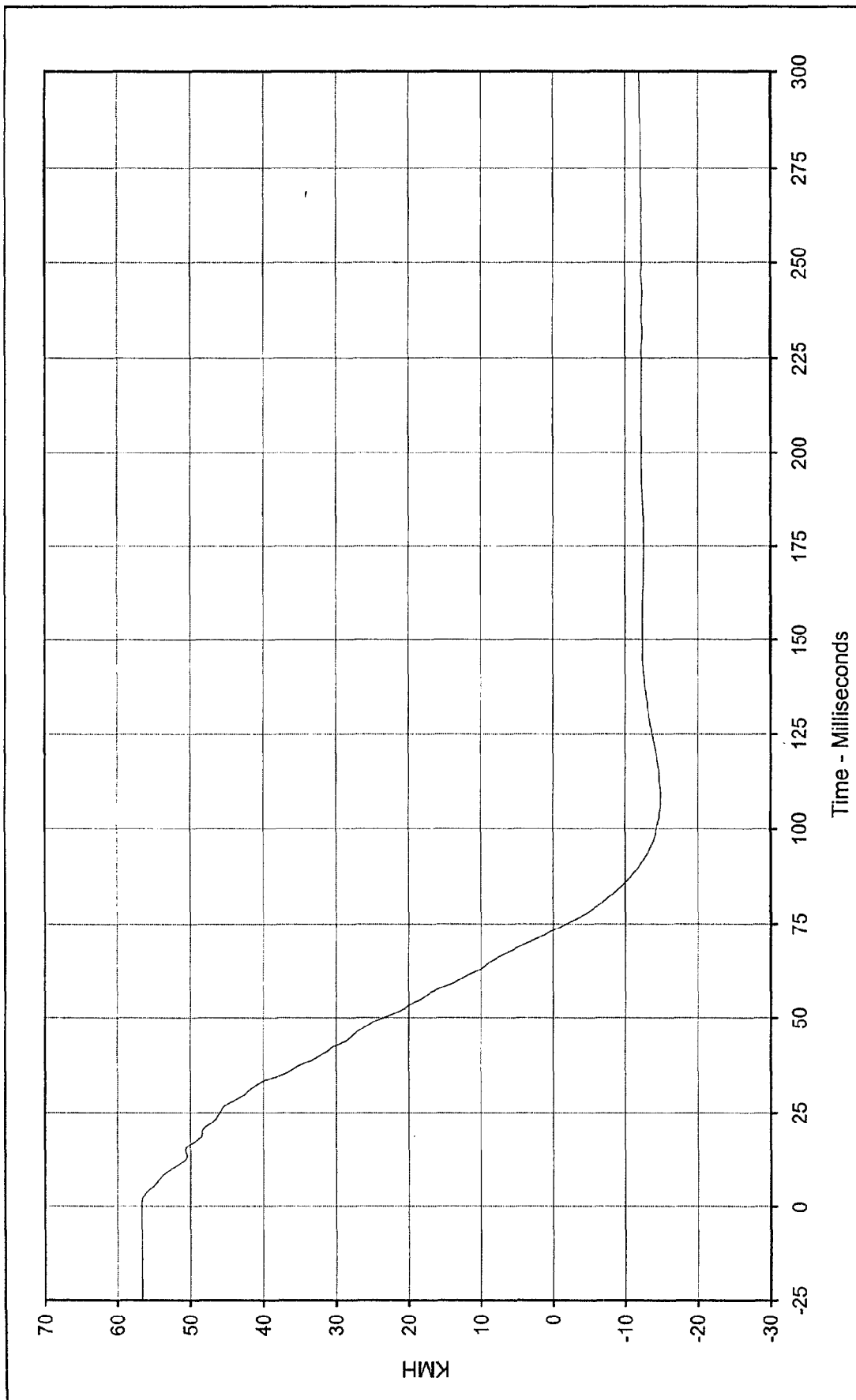




Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Curve Description: Vehicle Left Rear Primary
 Maximum Value: 3.0 at 126.8 Milliseconds
 Minimum Value: -35.8 at 34.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/17/98
 Curve Number: FIL-089





Curve Description: Vehicle Left Rear Primary Velocity Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 56.7 at 0.0 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

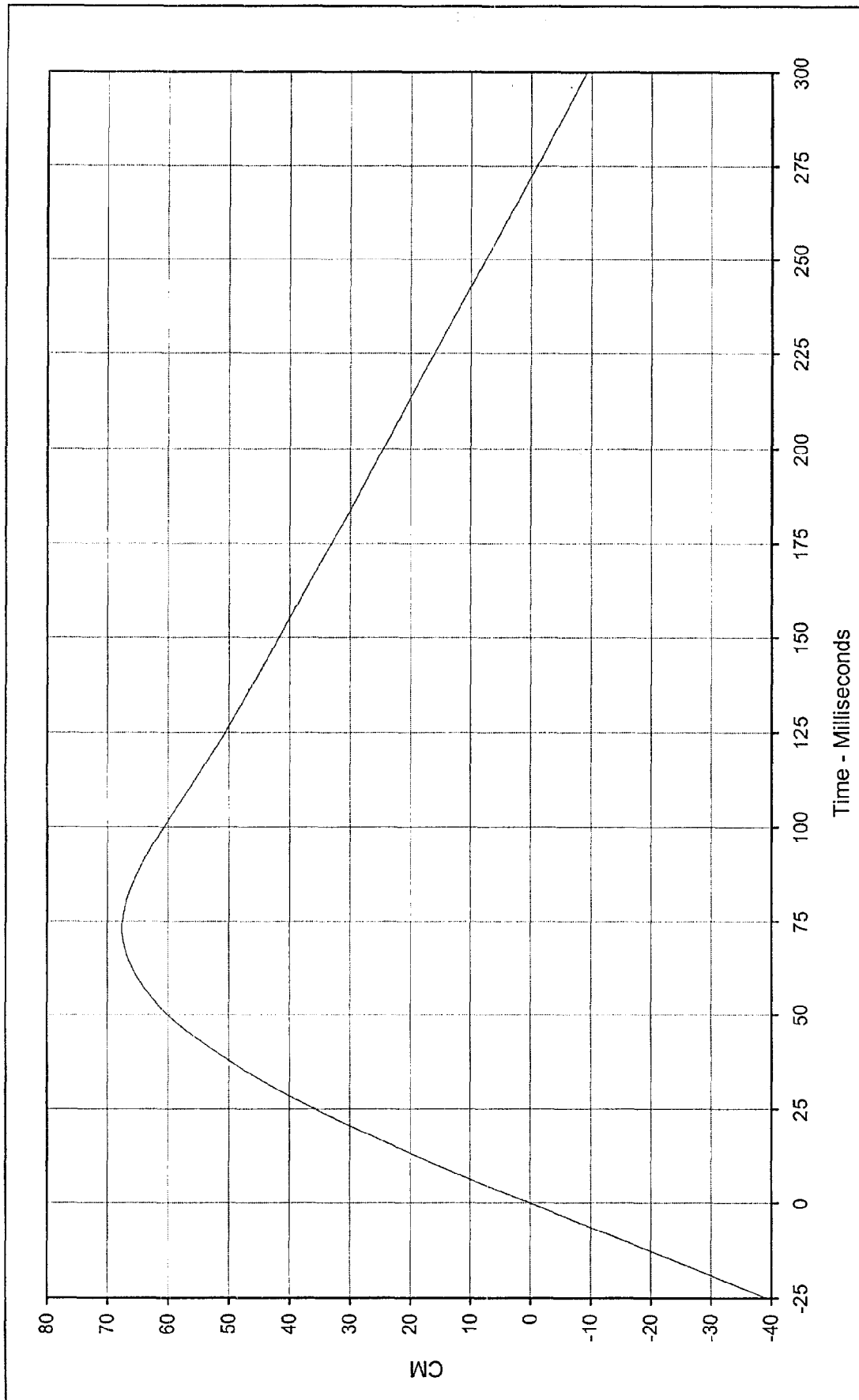
Minimum Value: -14.9 at 107.6 Milliseconds

SAE Filter Class: 180

Date of Test: 2/17/98

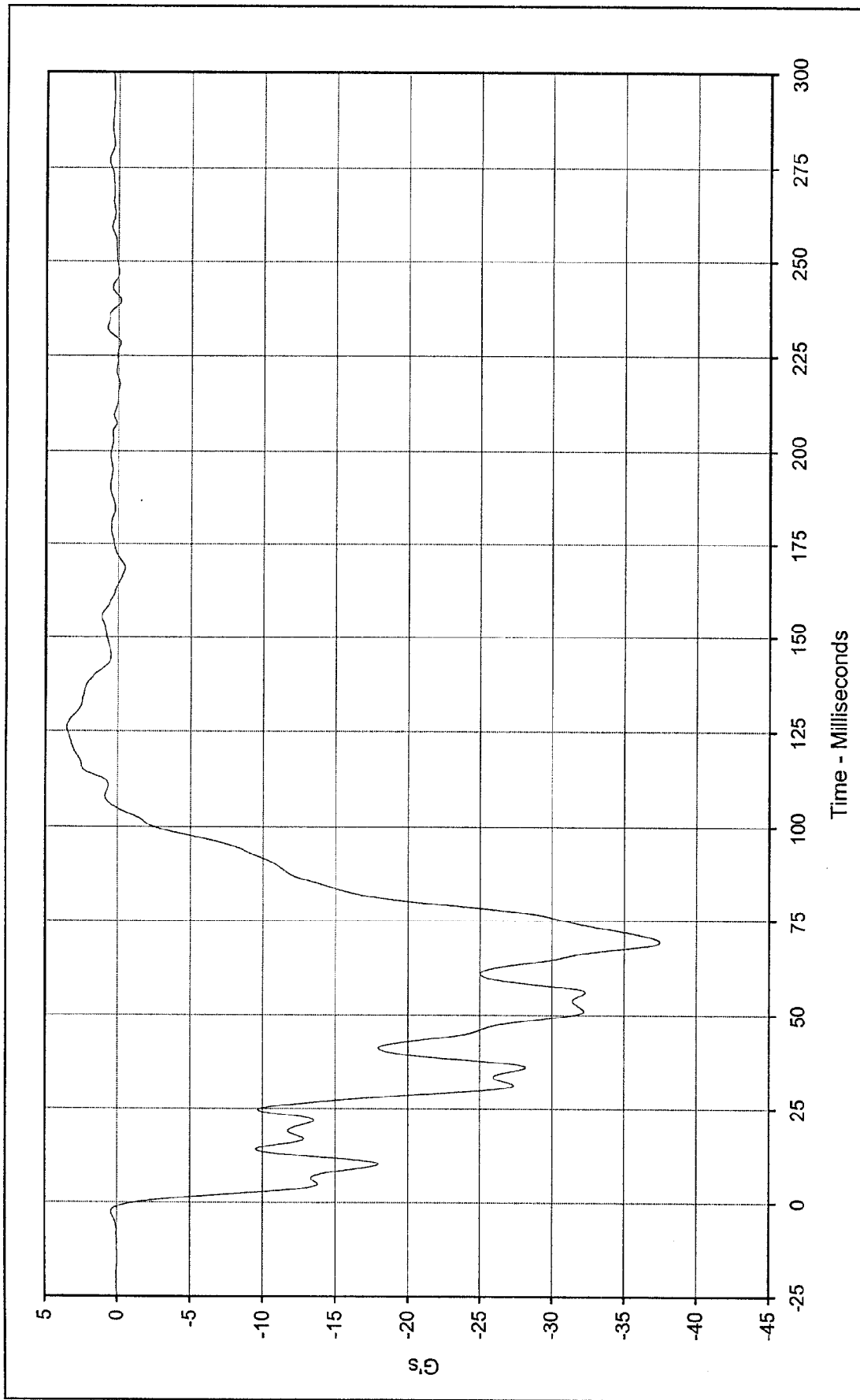
Curve Number: IN1-089





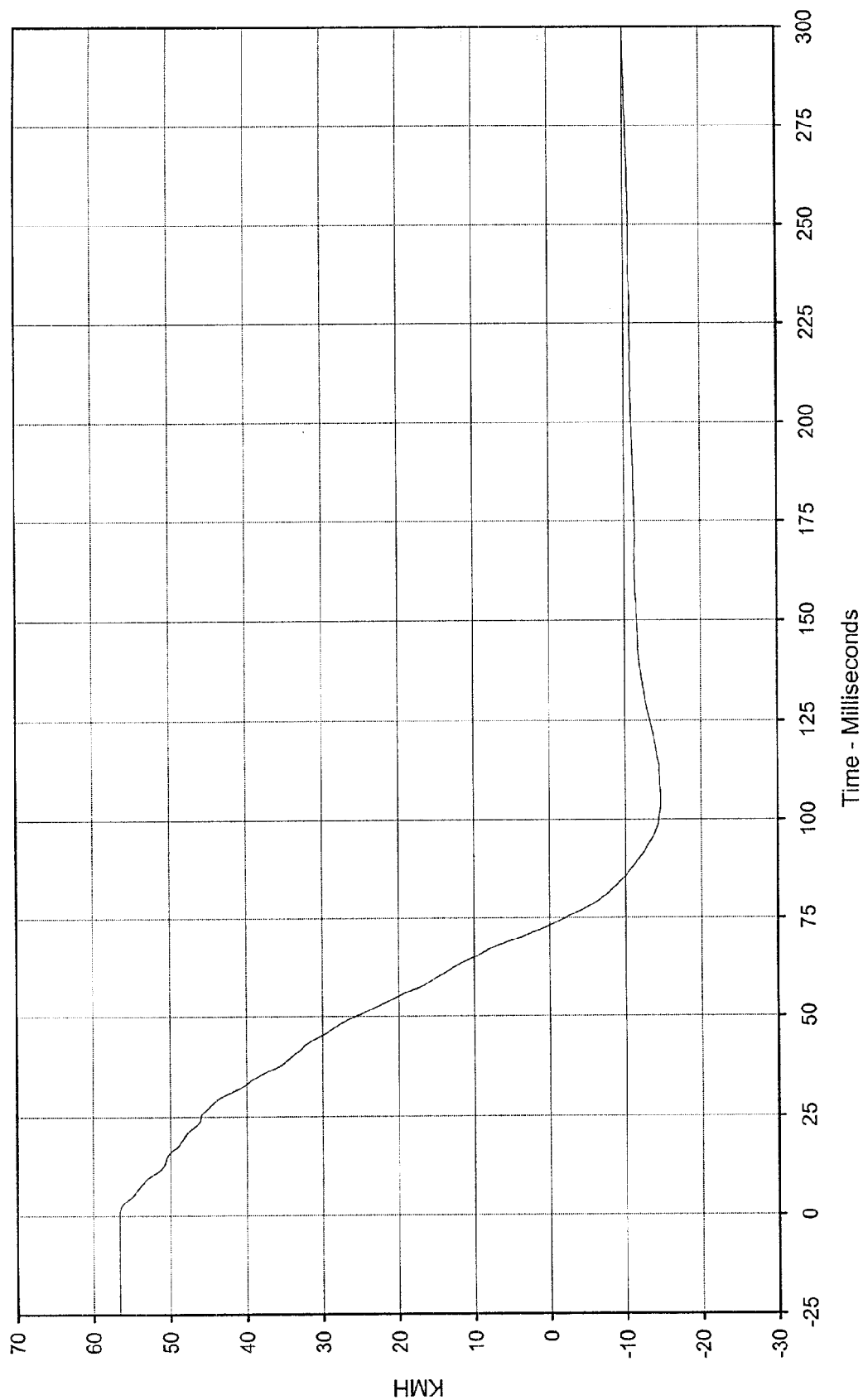
Curve Description:	Vehicle Left Rear Primary Displ.	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	67.6 at 73.3 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-9.2 at 299.9 Milliseconds			
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	IN2-089			





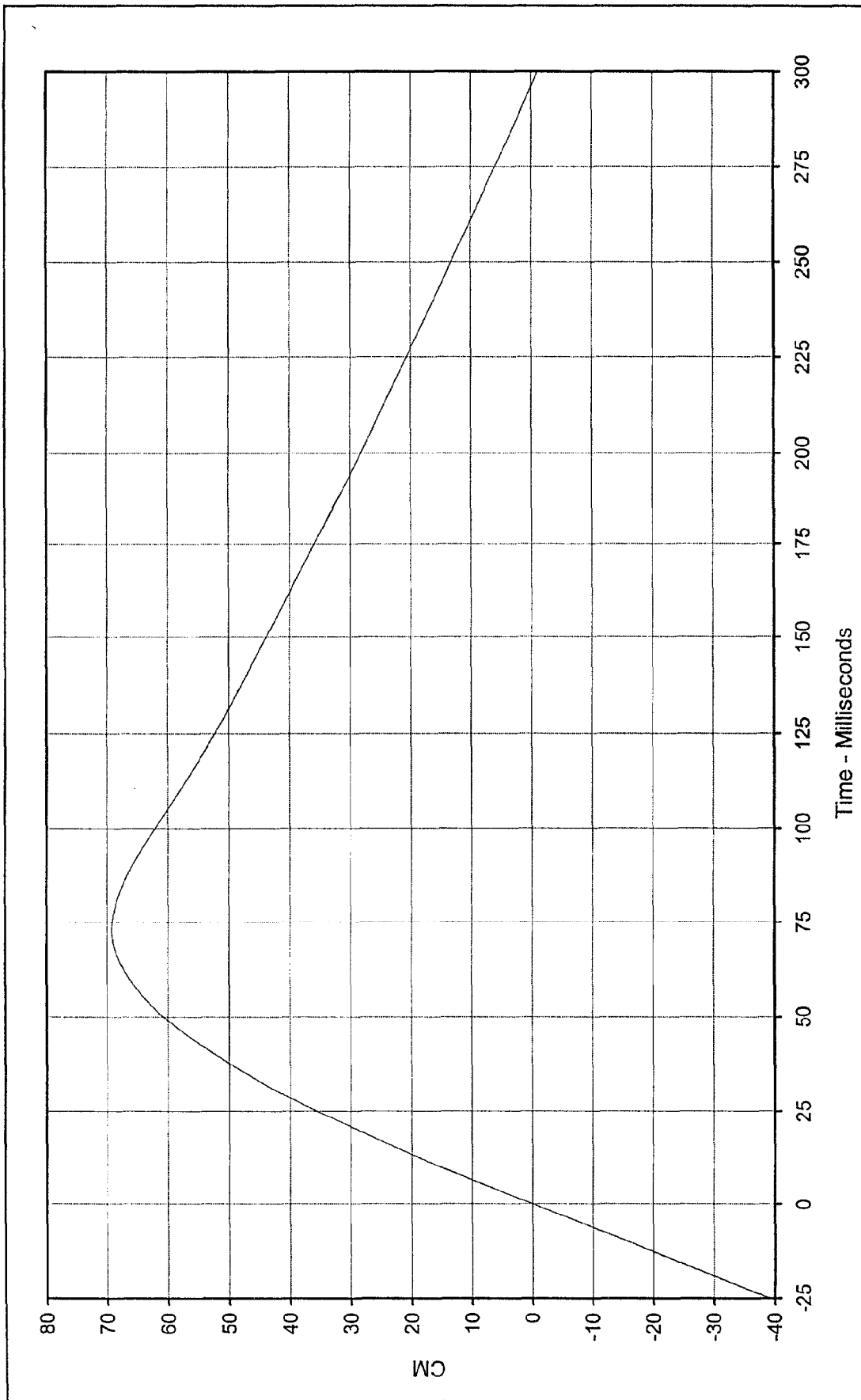
Curve Description:	Vehicle Right Rear Primary	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	3.5 at 126.1 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-37.5 at 69.3 Milliseconds			
SAE Filter Class:	60			
Date of Test:	2/17/98			
Curve Number:	FIL-090			





Curve Description:	Vehicle Right Rear Primary Velocity	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	56.6 at 0.0 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-14.7 at 104.0 Milliseconds			
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	IN1-090			

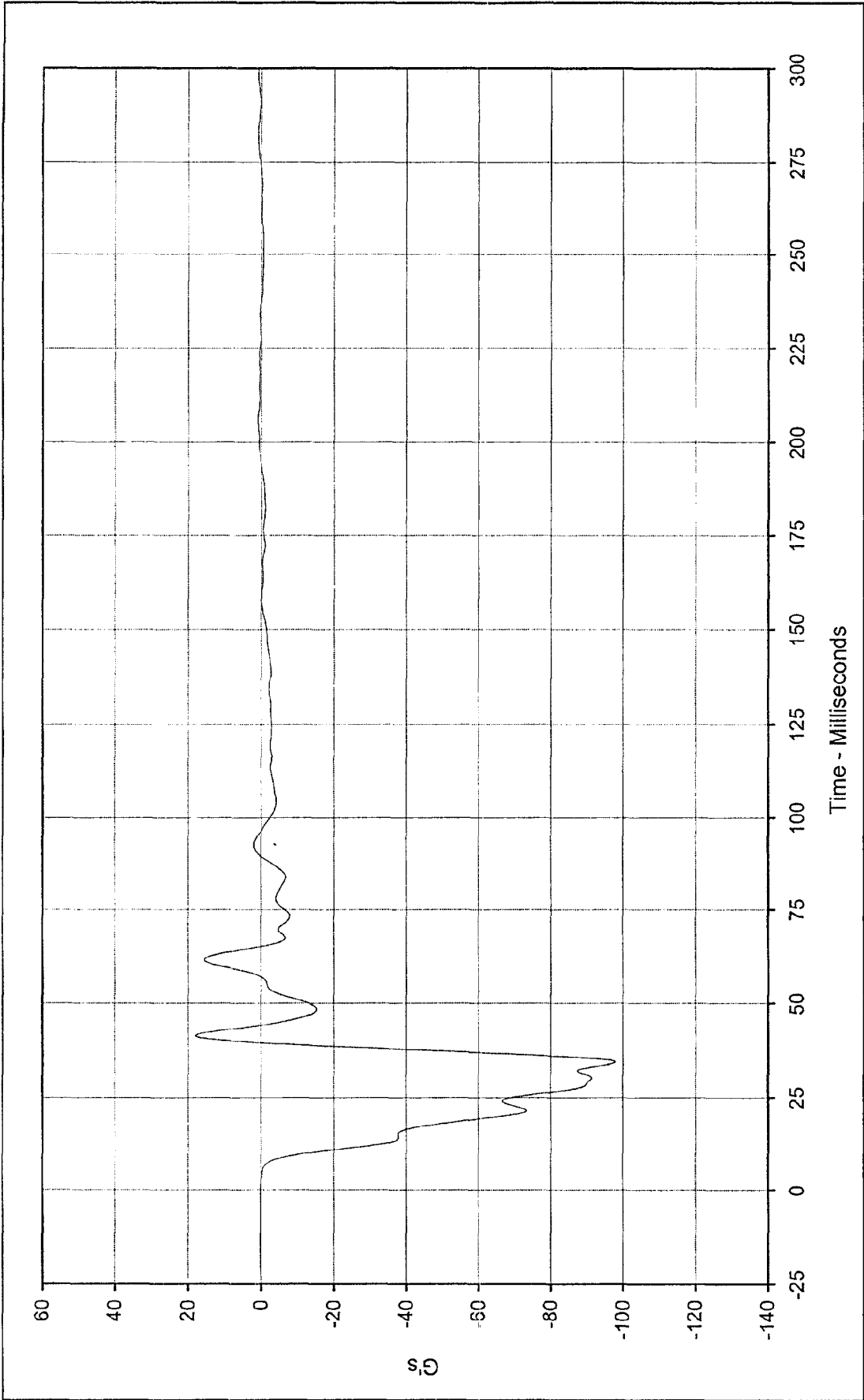




Curve Description:	Vehicle Right Rear Primary Displ.	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	69.2 at 73.1 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-1.0 at 299.9 Milliseconds			



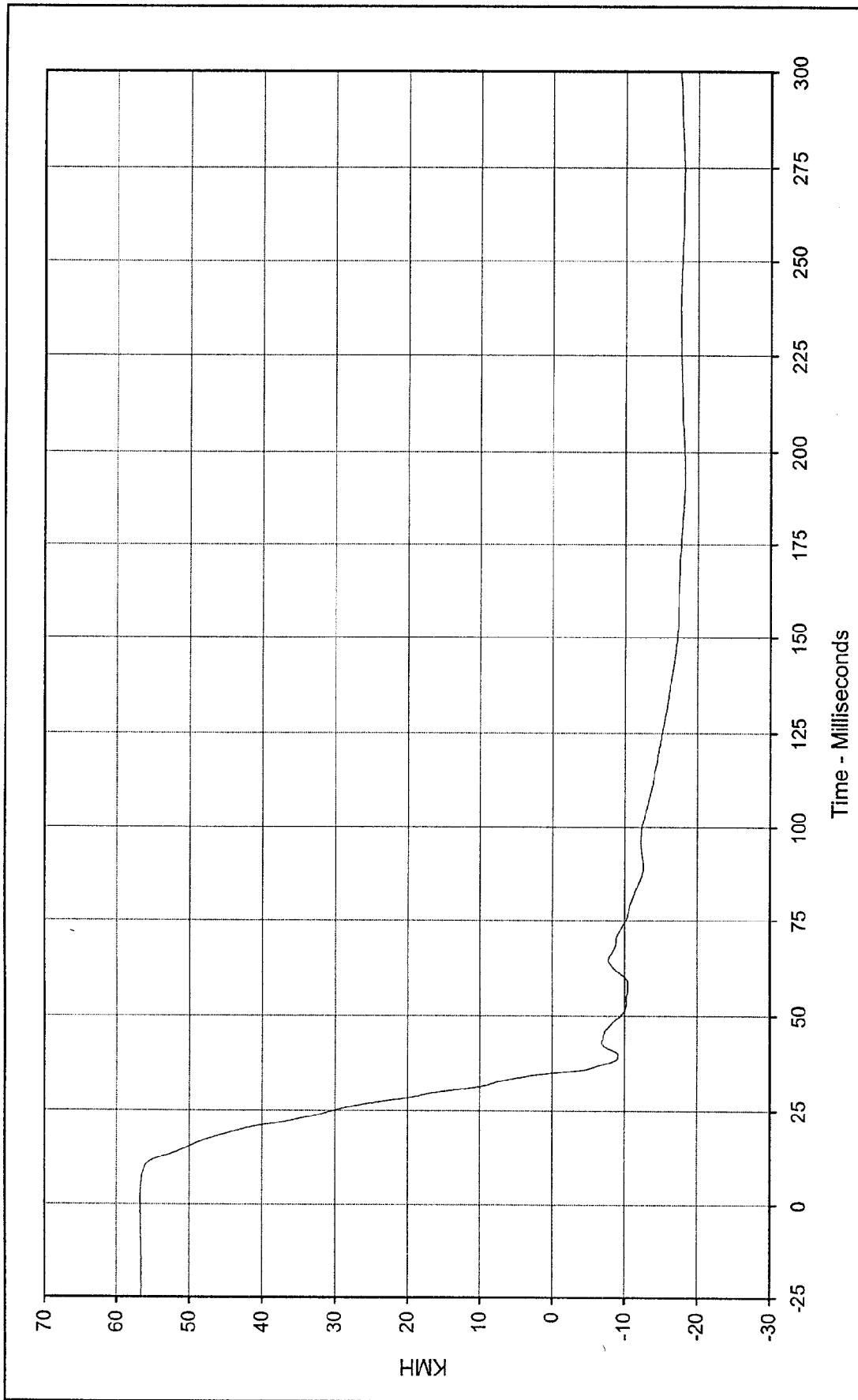
SAE Filter Class:	180
Date of Test:	2/17/98
Curve Number:	IN2-090



Curve Description: Vehicle Engine Top
Maximum Value: 17.9 at 41.3 Milliseconds
Minimum Value: -97.9 at 34.5 Milliseconds
SAE Filter Class: 60
Date of Test: 2/17/98
Curve Number: FIL-091

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 56.7 at 1.2 Milliseconds

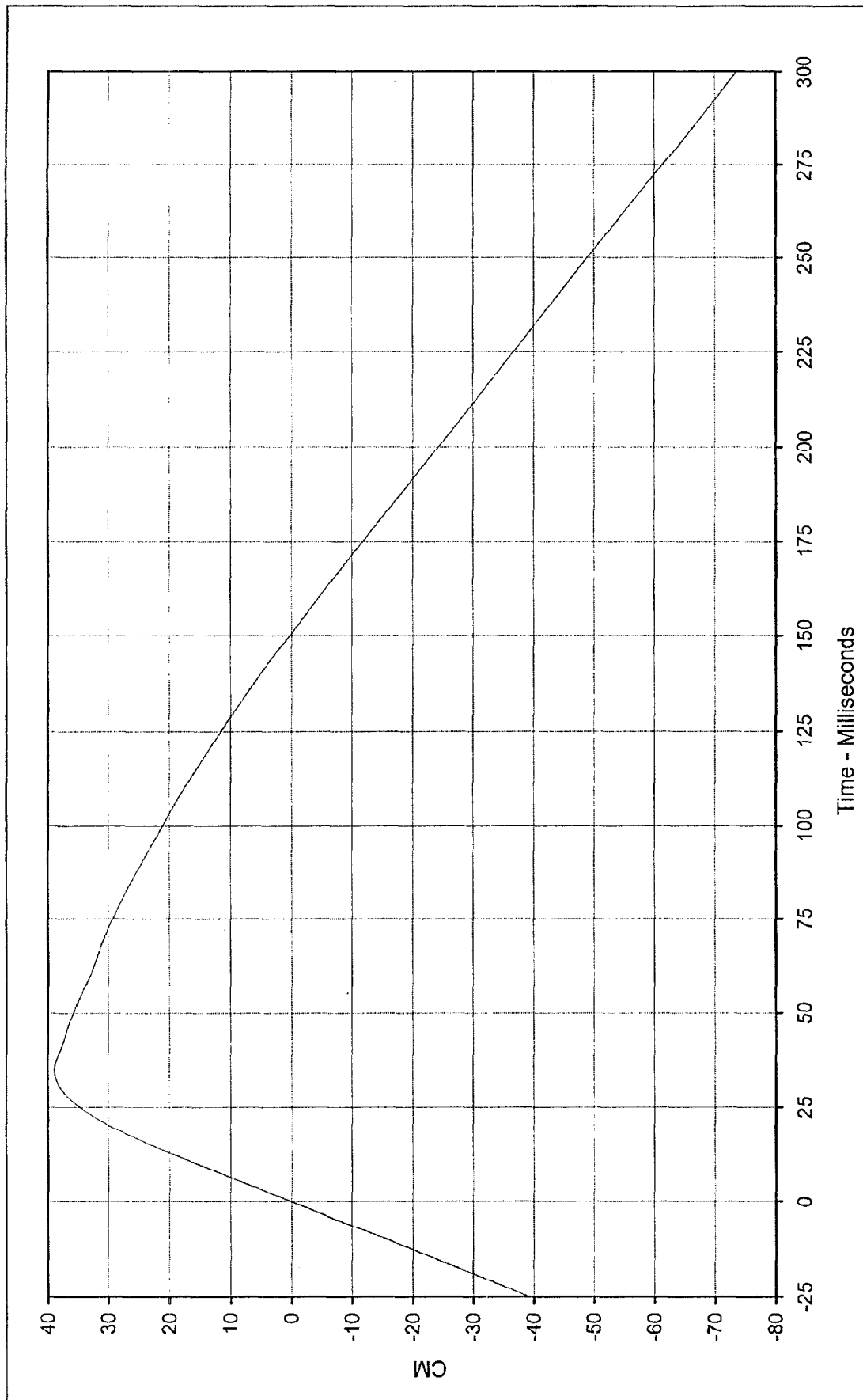
Minimum Value: -18.2 at 194.0 Milliseconds

SAE Filter Class: 180

Date of Test: 2/17/98

Curve Number: IN1-091

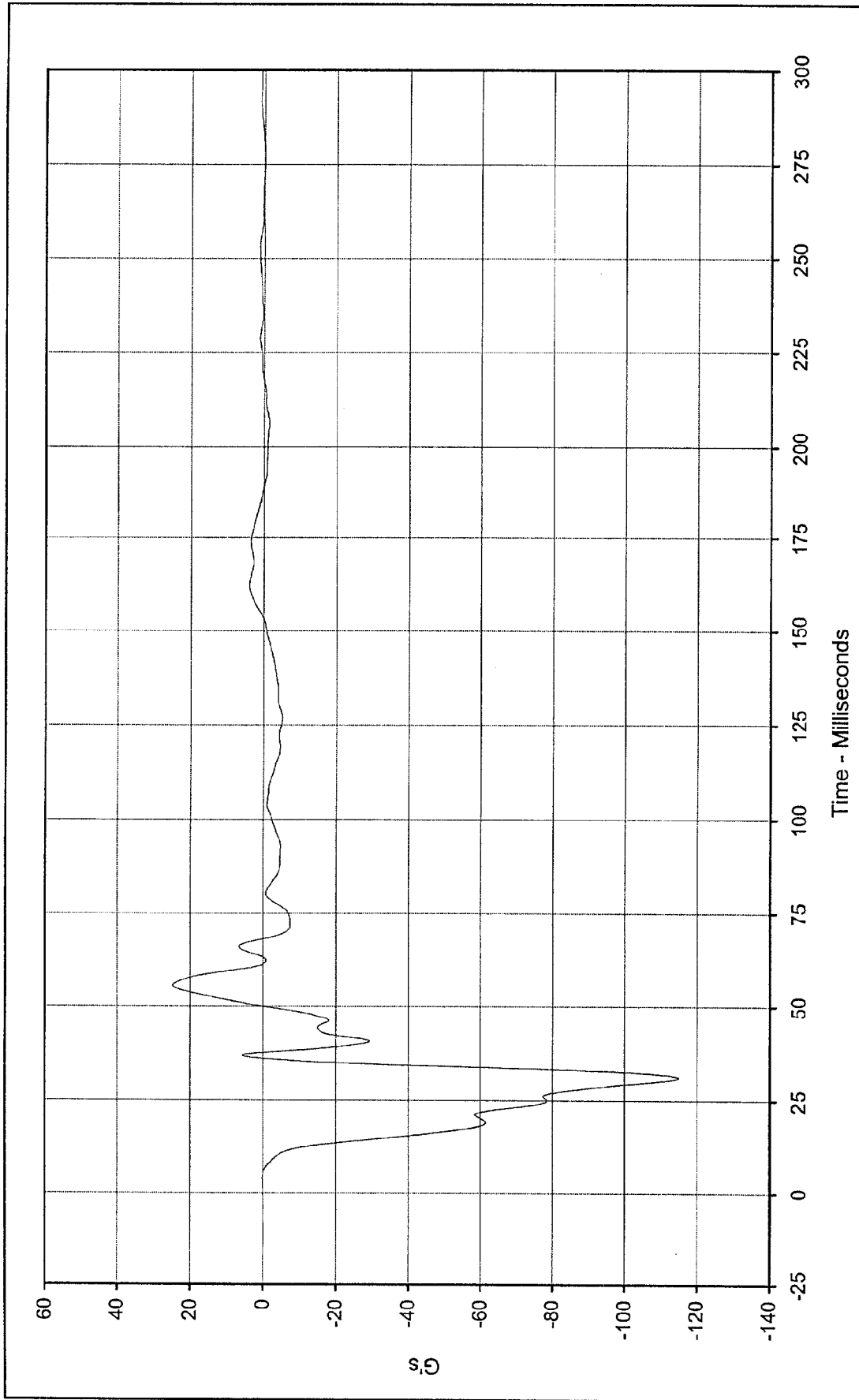




Curve Description: _____ Vehicle Engine Top Displ. _____
 Maximum Value: 38.9 at 34.8 Milliseconds
 Minimum Value: -73.6 at 299.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN2-091

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Vehicle Engine Bottom Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 24.7 at 55.6 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

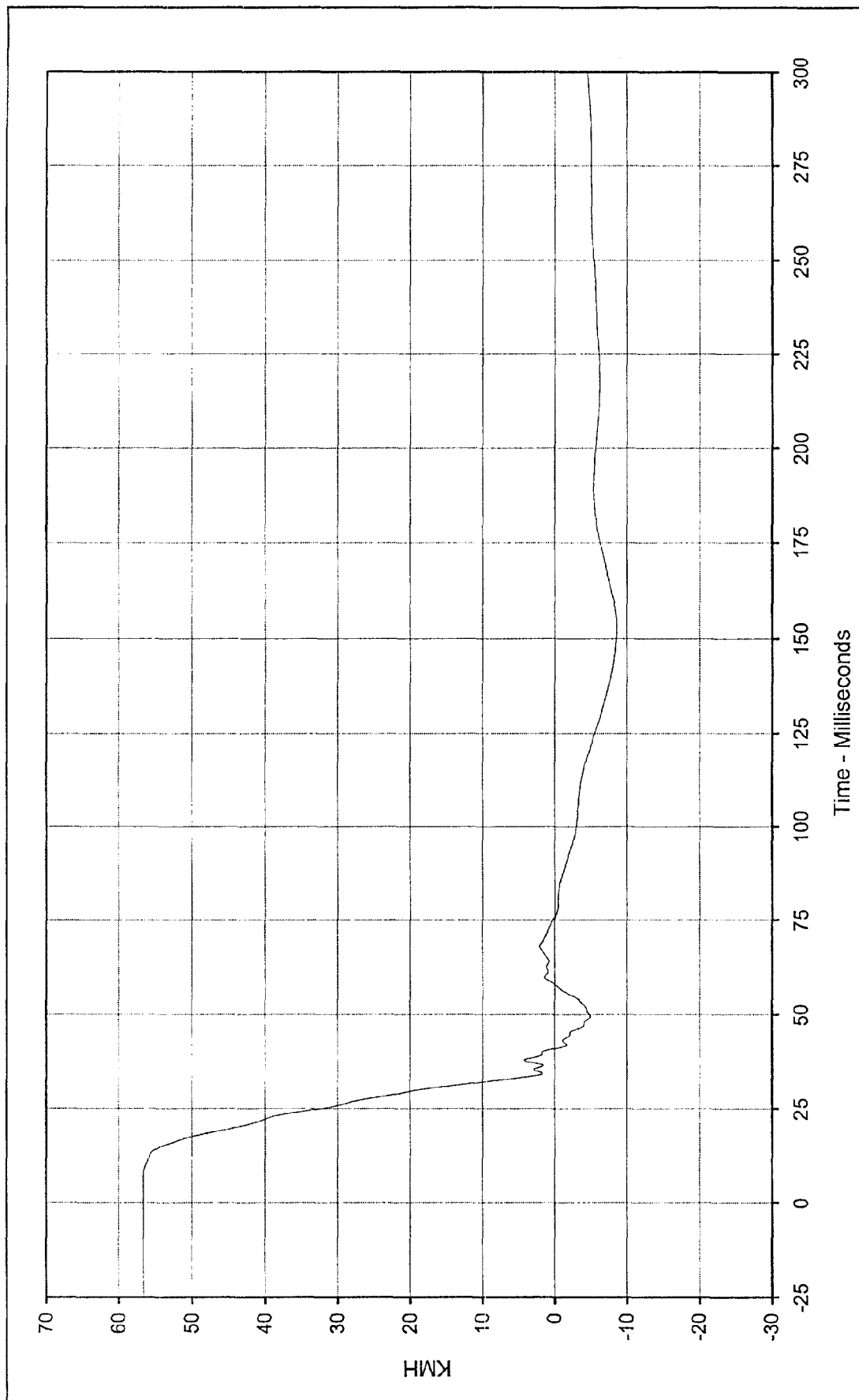
Minimum Value: -114.9 at 31.0 Milliseconds

SAE Filter Class: 60

Date of Test: 2/17/98

Curve Number: FIL-092



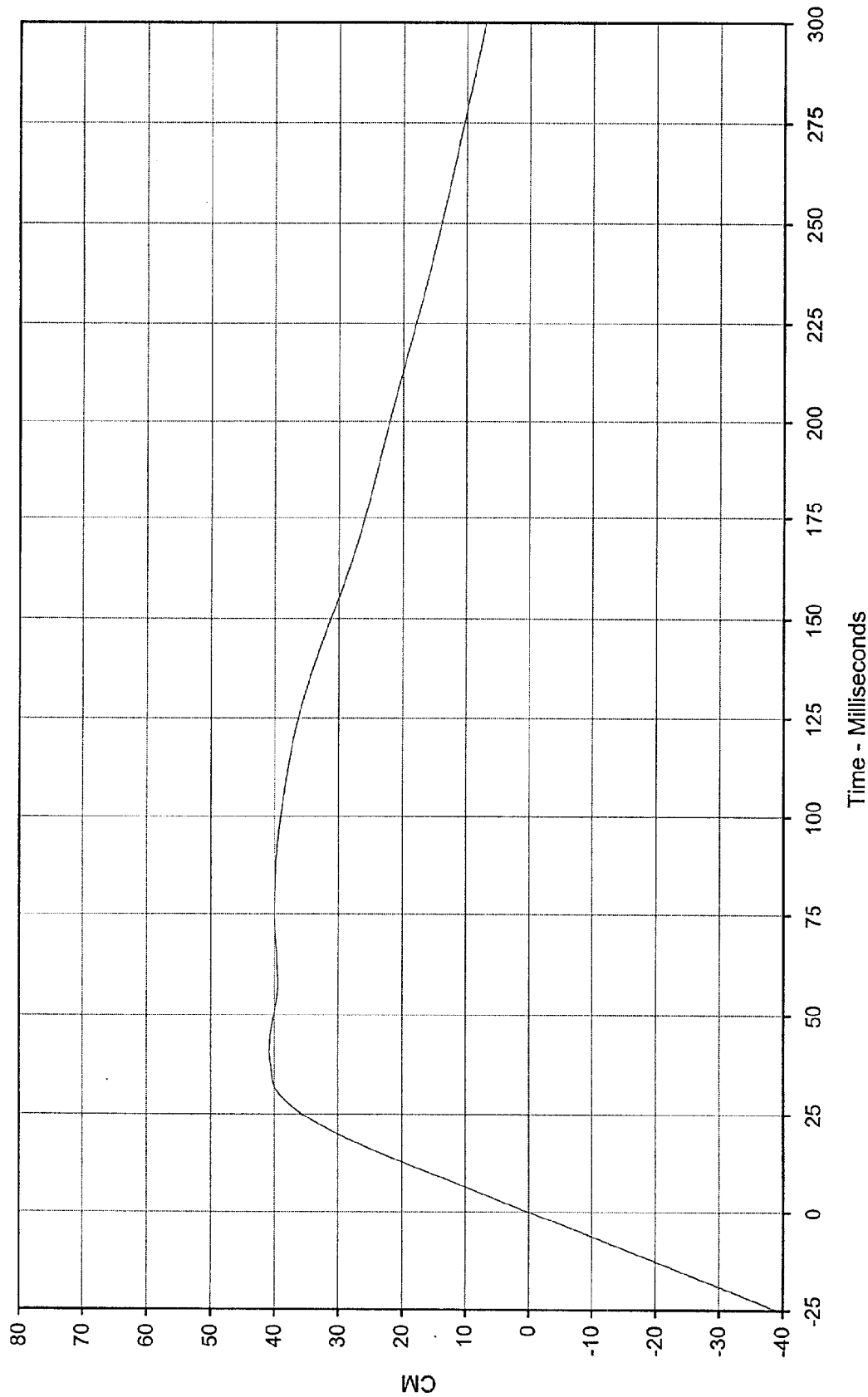


Curve Description: Vehicle Engine Bottom Velocity
 Maximum Value: 56.6 at 5.5 Milliseconds
 Minimum Value: -8.6 at 154.1 Milliseconds

SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN1-092

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Vehicle Engine Bottom Displ.

Maximum Value: 40.8 at 40.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

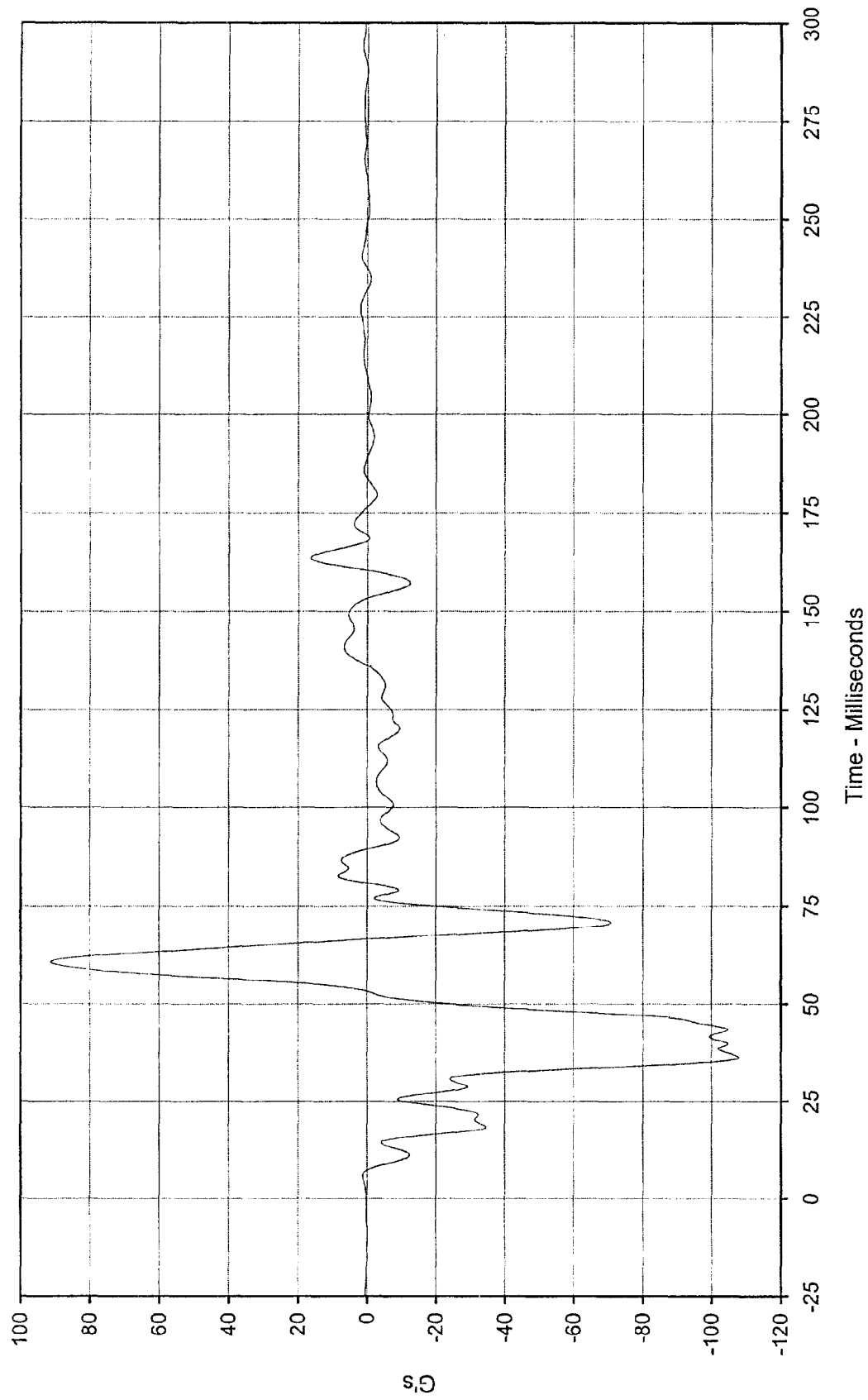
Date of Test: 2/17/98

Curve Number: IN2-092

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

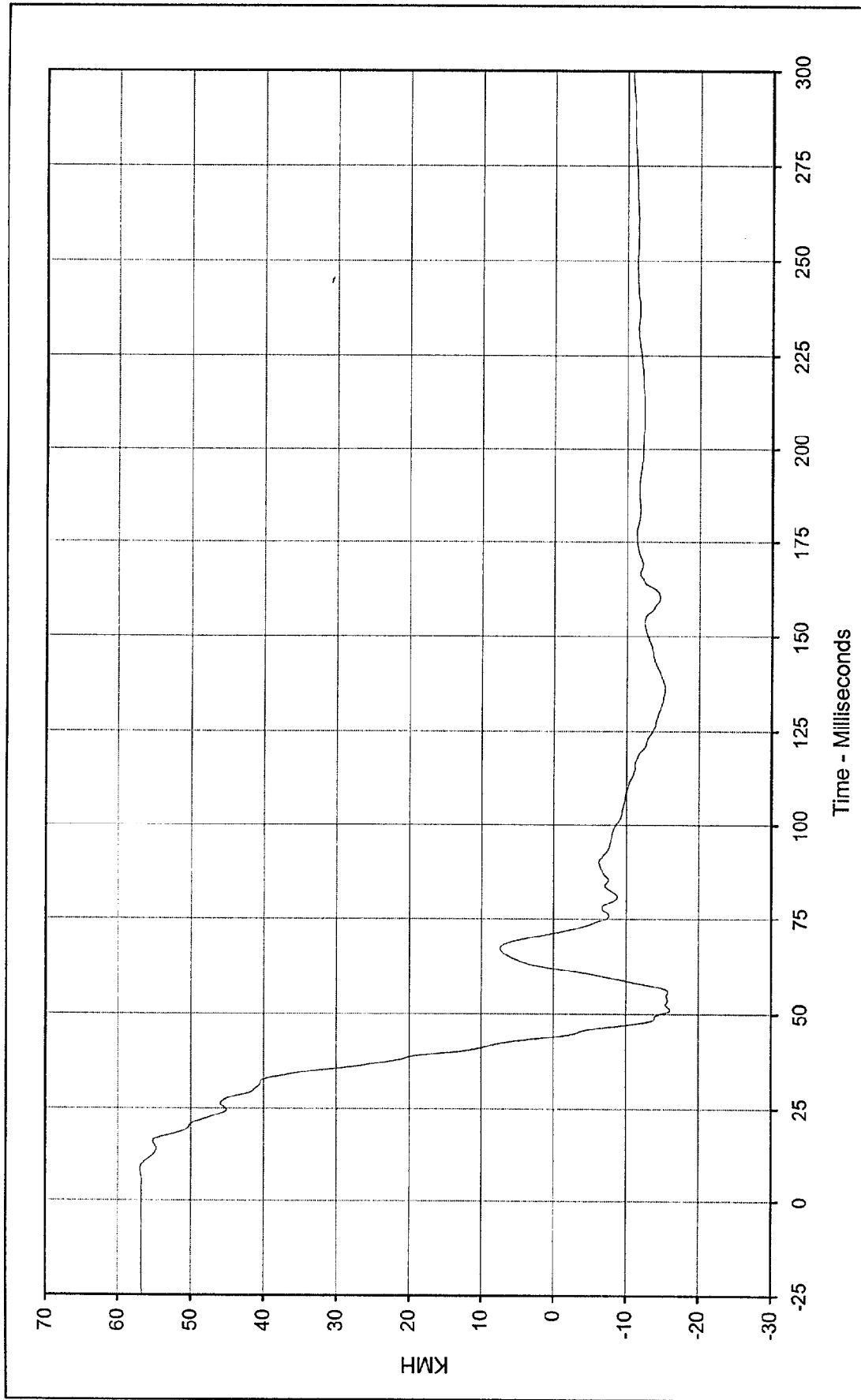




Curve Description: Vehicle Left Brake Caliper
 Maximum Value: 91.2 at 60.7 Milliseconds
 Minimum Value: -108.0 at 36.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/17/98
 Curve Number: FIL-093

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Vehicle Left Brake Caliper Velocity Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 57.0 at 8.4 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

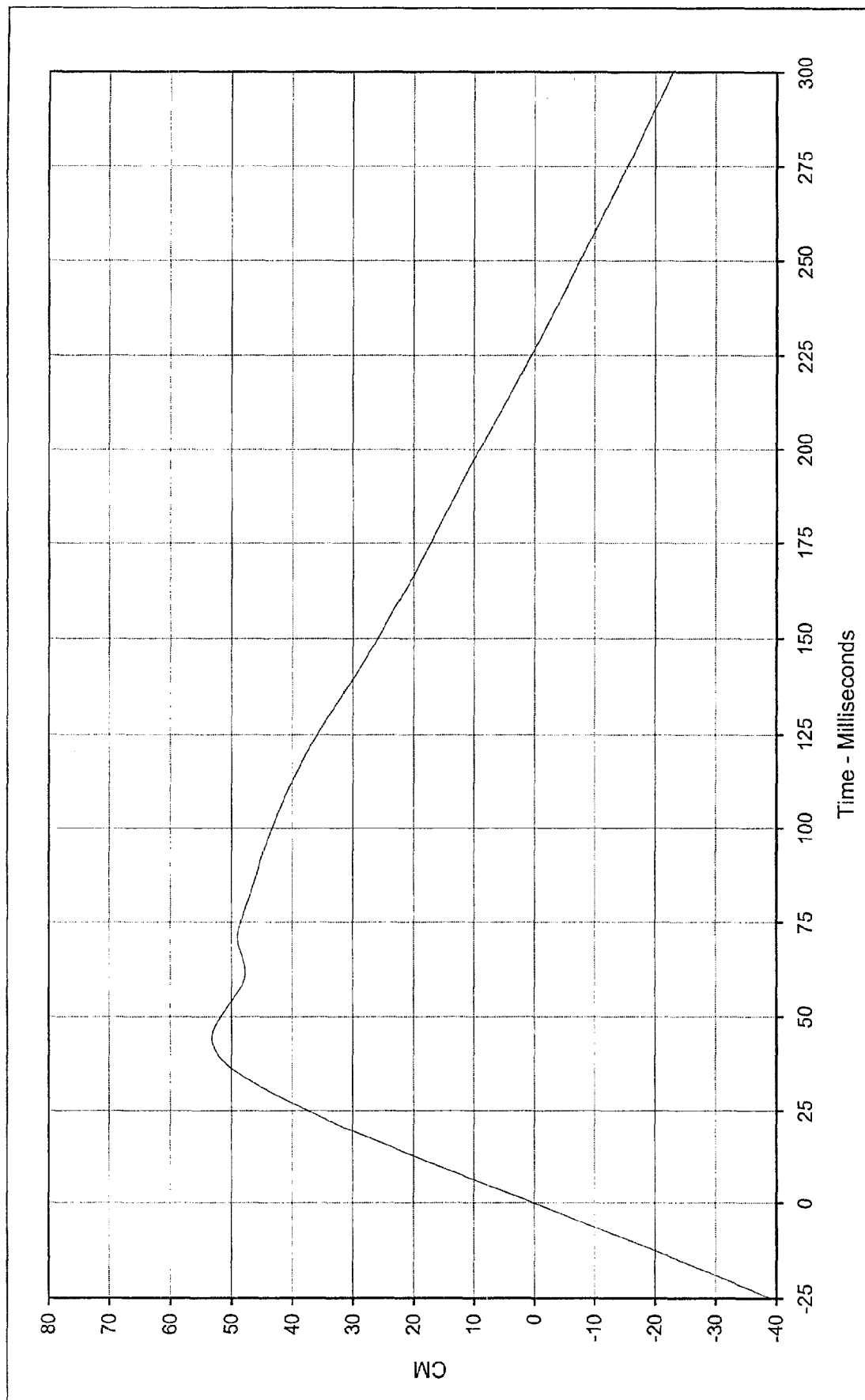
Minimum Value: -16.1 at 51.2 Milliseconds

SAE Filter Class: 180

Date of Test: 2/17/98

Curve Number: IN1-093





Curve Description: Vehicle Left Brake Caliper Displ.

Maximum Value: 53.2 at 44.0 Milliseconds

Minimum Value: -22.9 at 299.9 Milliseconds

SAE Filter Class: 180

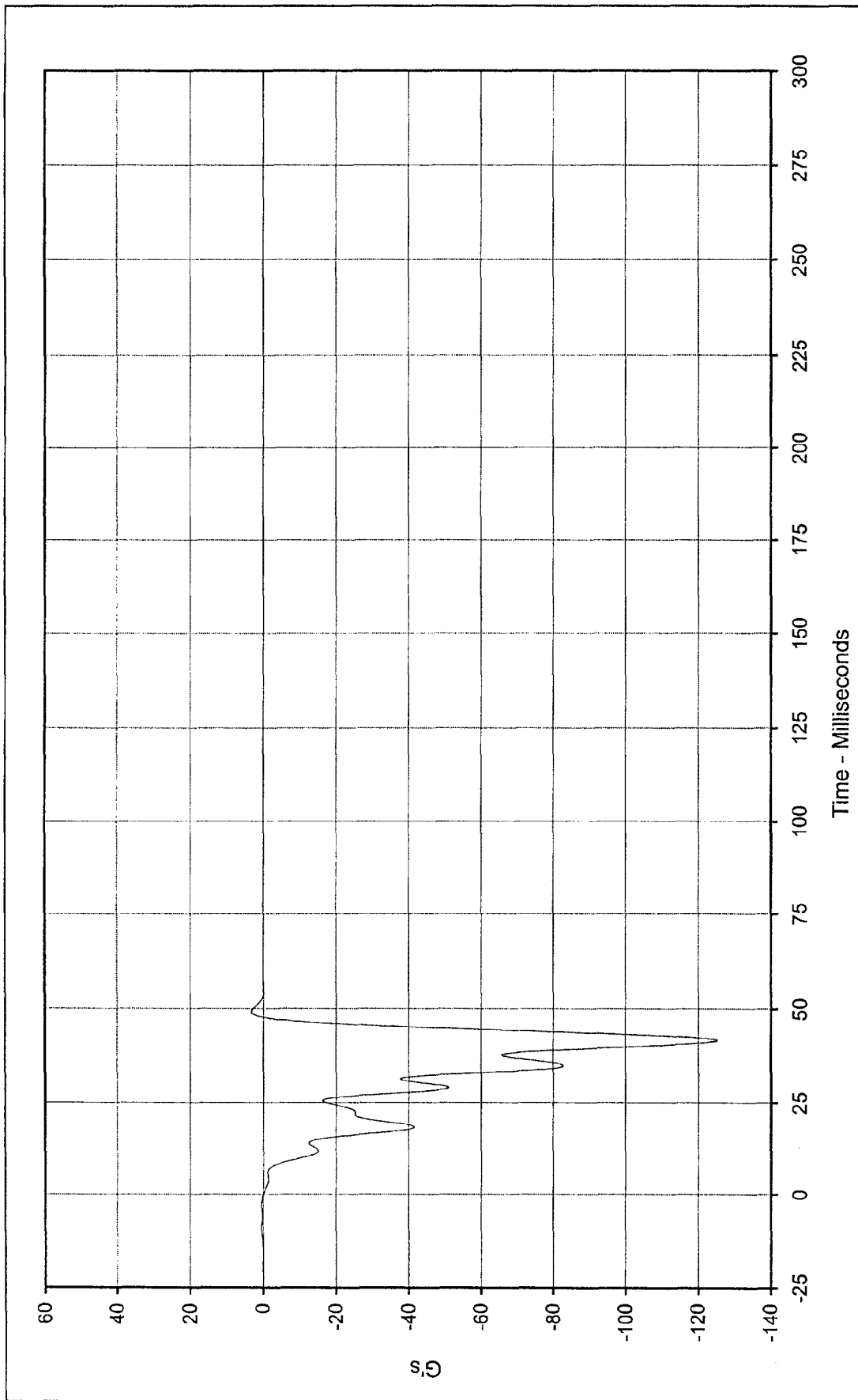
Date of Test: 2/17/98

Curve Number: IN2-093

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Vehicle Right Brake Caliper * Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 3.2 at 49.2 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Minimum Value: -125.4 at 41.8 Milliseconds

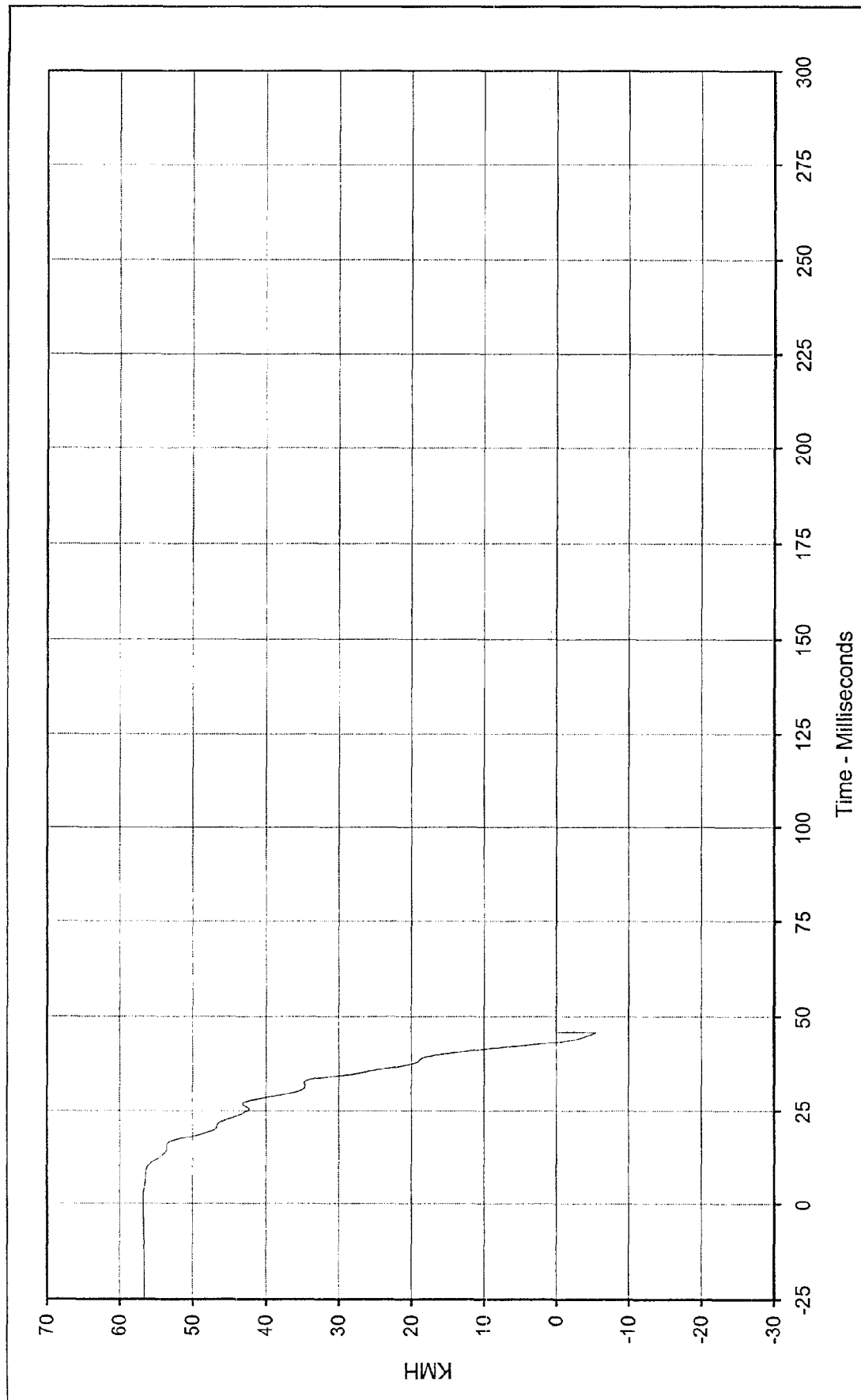
SAE Filter Class: 60

Date of Test: 2/17/98

Curve Number: FIL-094



* Channel Failed at 46.0 Msec.

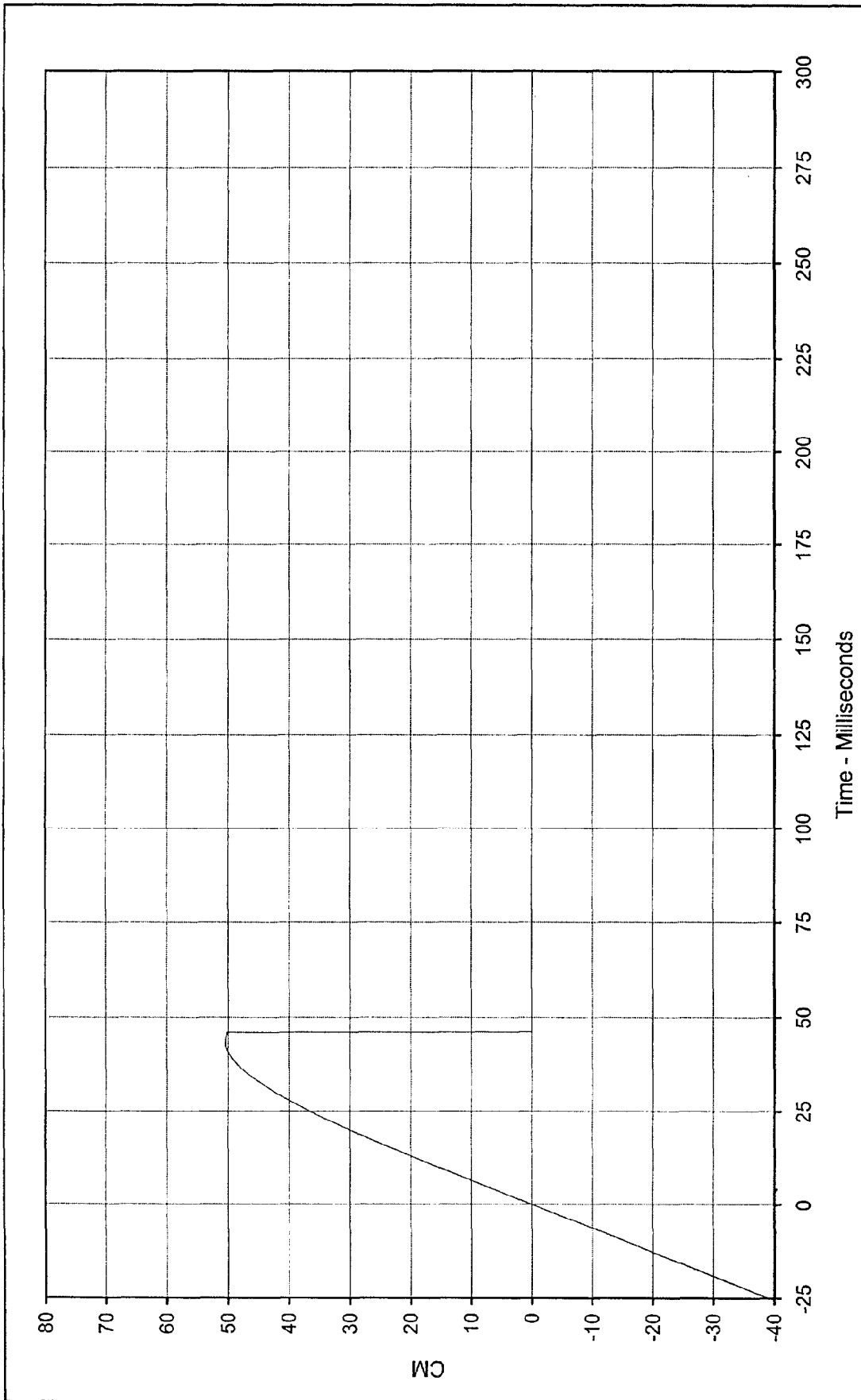


Curve Description: Vehicle Right Brake Caliper Velocity *
 Maximum Value: 56.8 at 0.3 Milliseconds
 Minimum Value: -5.5 at 45.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN1-094

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan



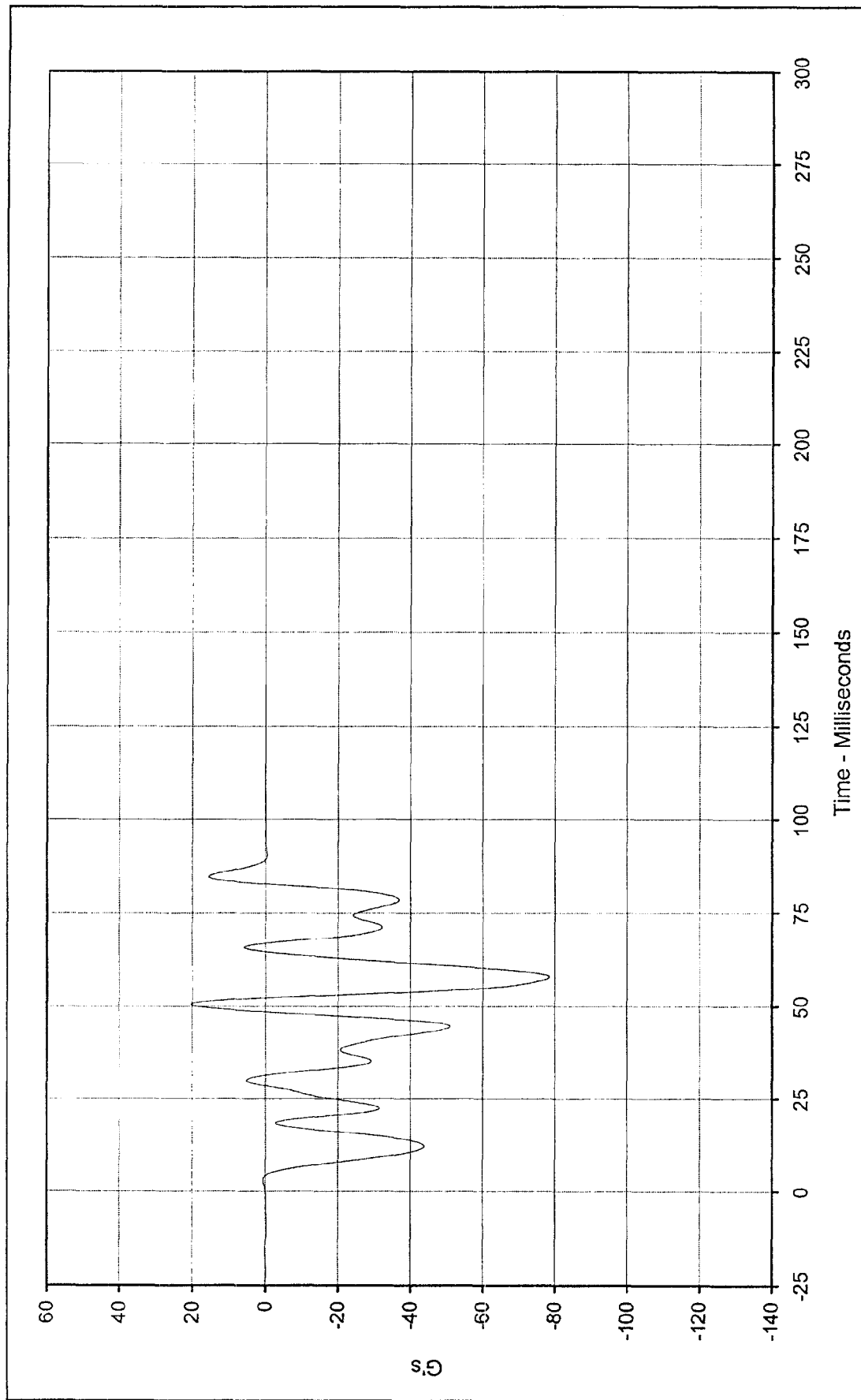
* Channel Failed at 46.0 Msec.



Curve Description:	Vehicle Right Brake Caliper Displ. *	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	50.4 at 43.1 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	0.0 at 46.0 Milliseconds			
SAE Filter Class:	180			
Date of Test:	2/17/98			
Curve Number:	IN2-094			



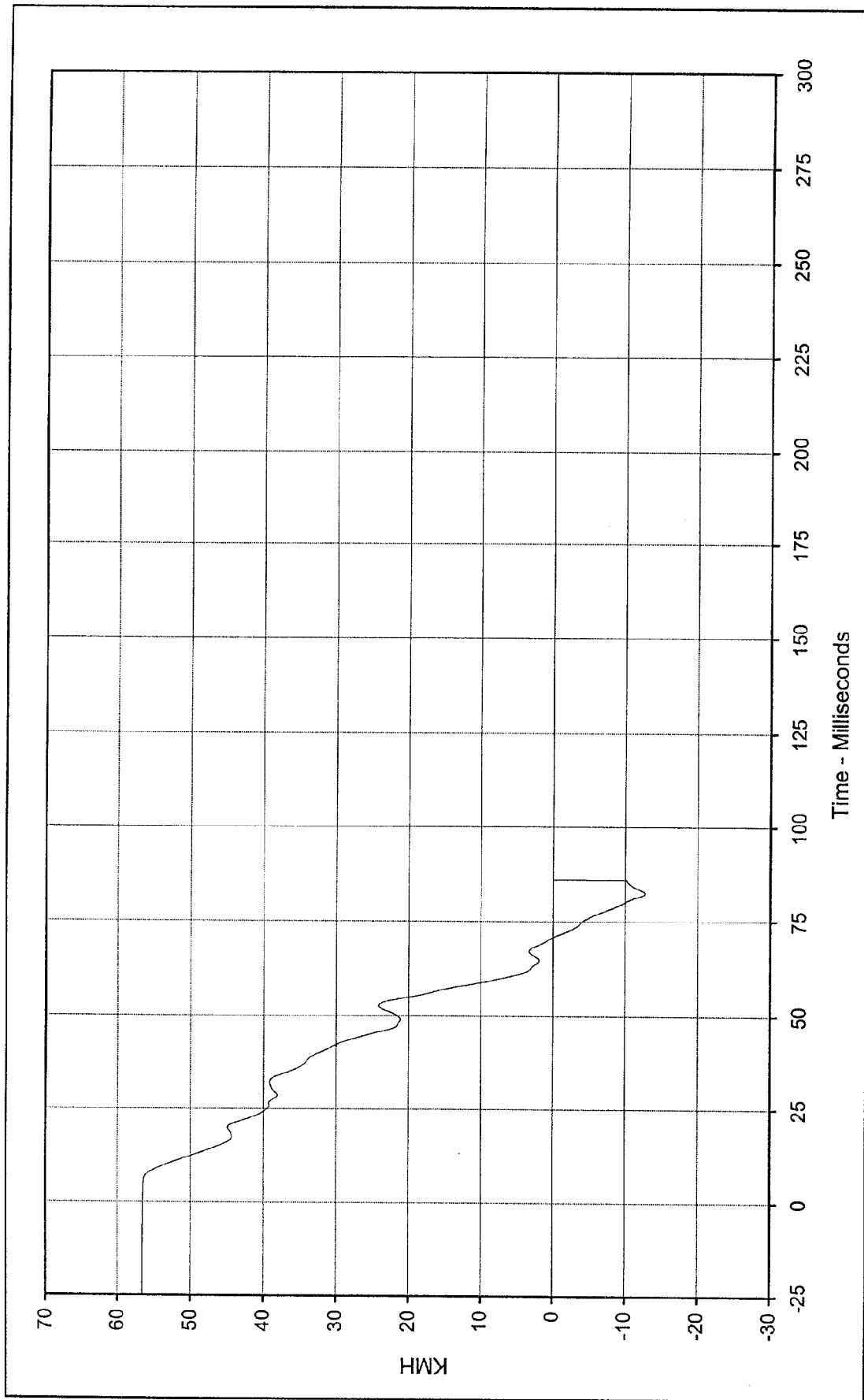
* Channel Failed at 46.0 Msec.



Curve Description: 1998 NHTSA 35 mph NCAP No.: MW5203
 Maximum Value: 20.4 at 50.6 Milliseconds
 Minimum Value: -78.5 at 57.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/17/98
 Curve Number: FIL-095



* Channel Failed at 86.0 Msec.



Curve Description: Vehicle Instrument Panel Velocity * Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Maximum Value: 56.5 at 0.0 Milliseconds Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan

Minimum Value: -12.8 at 82.3 Milliseconds

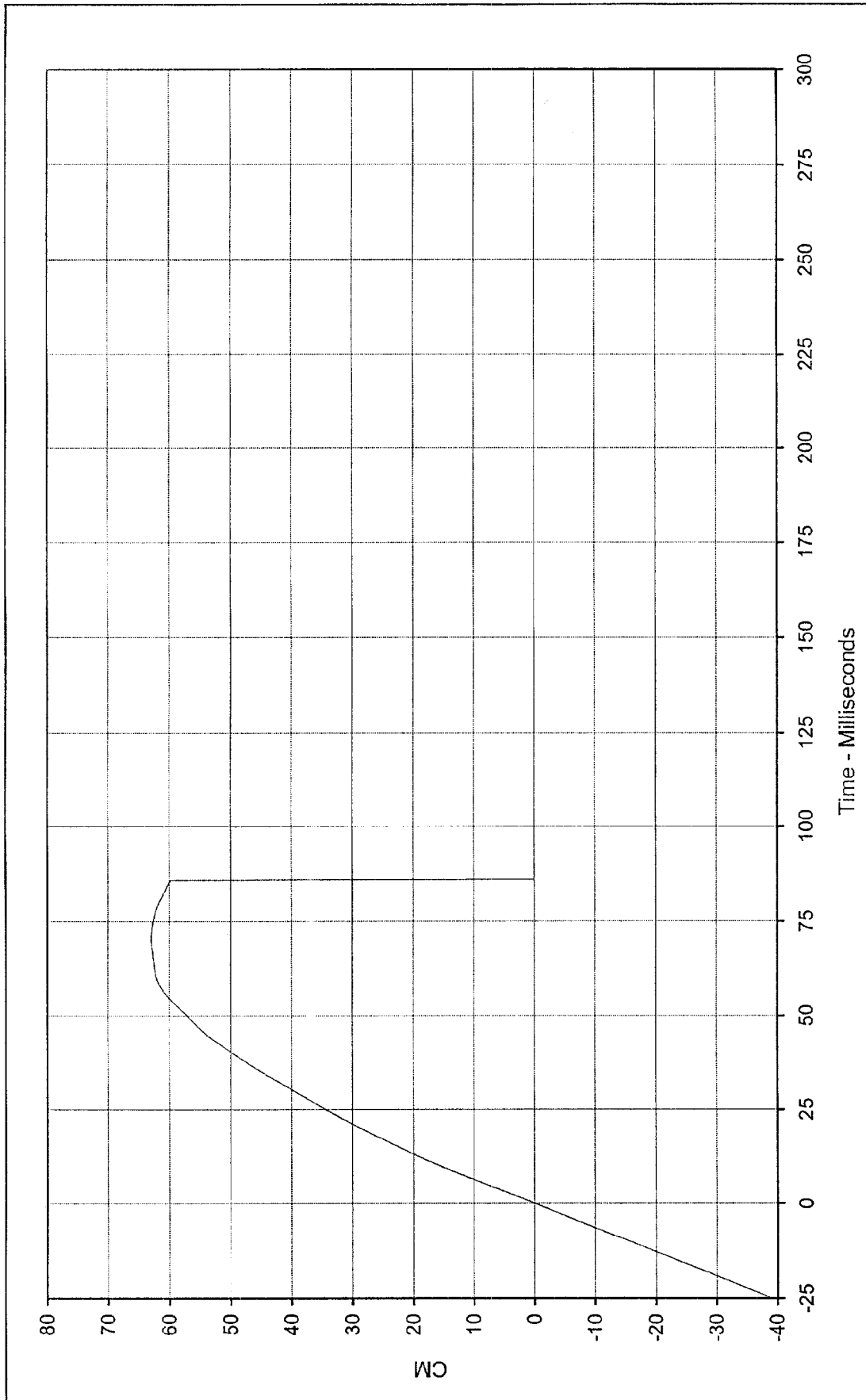
SAE Filter Class: 180

Date of Test: 2/17/98

Curve Number: IN1-095



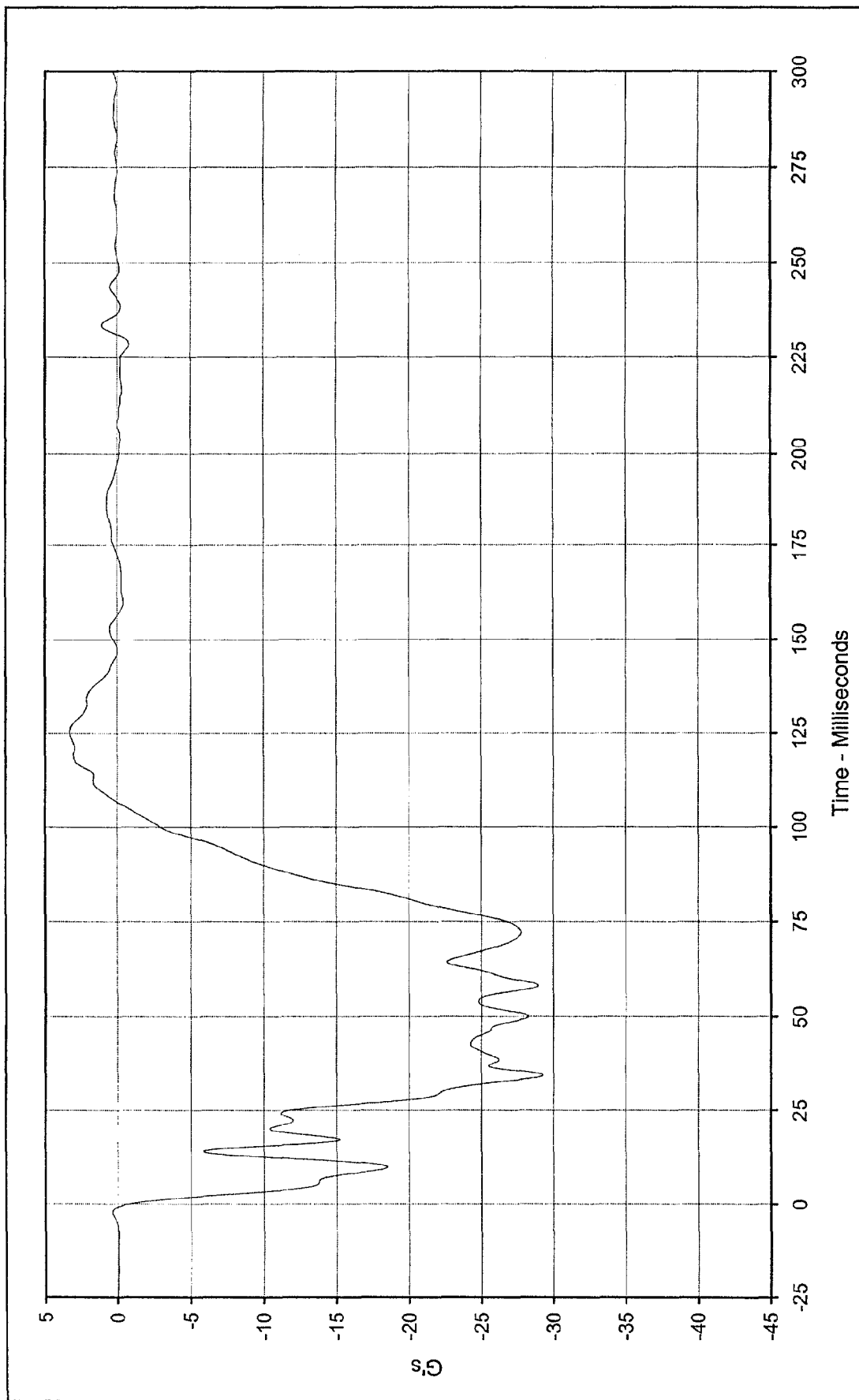
* Channel Failed at 86.0 Msec.



Curve Description:		Vehicle Instrument Panel Displ. *		Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	62.9	at	70.7	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	0.0	at	0.0			
SAE Filter Class:	180					
Date of Test:	2/17/98					
Curve Number:	IN2-095					

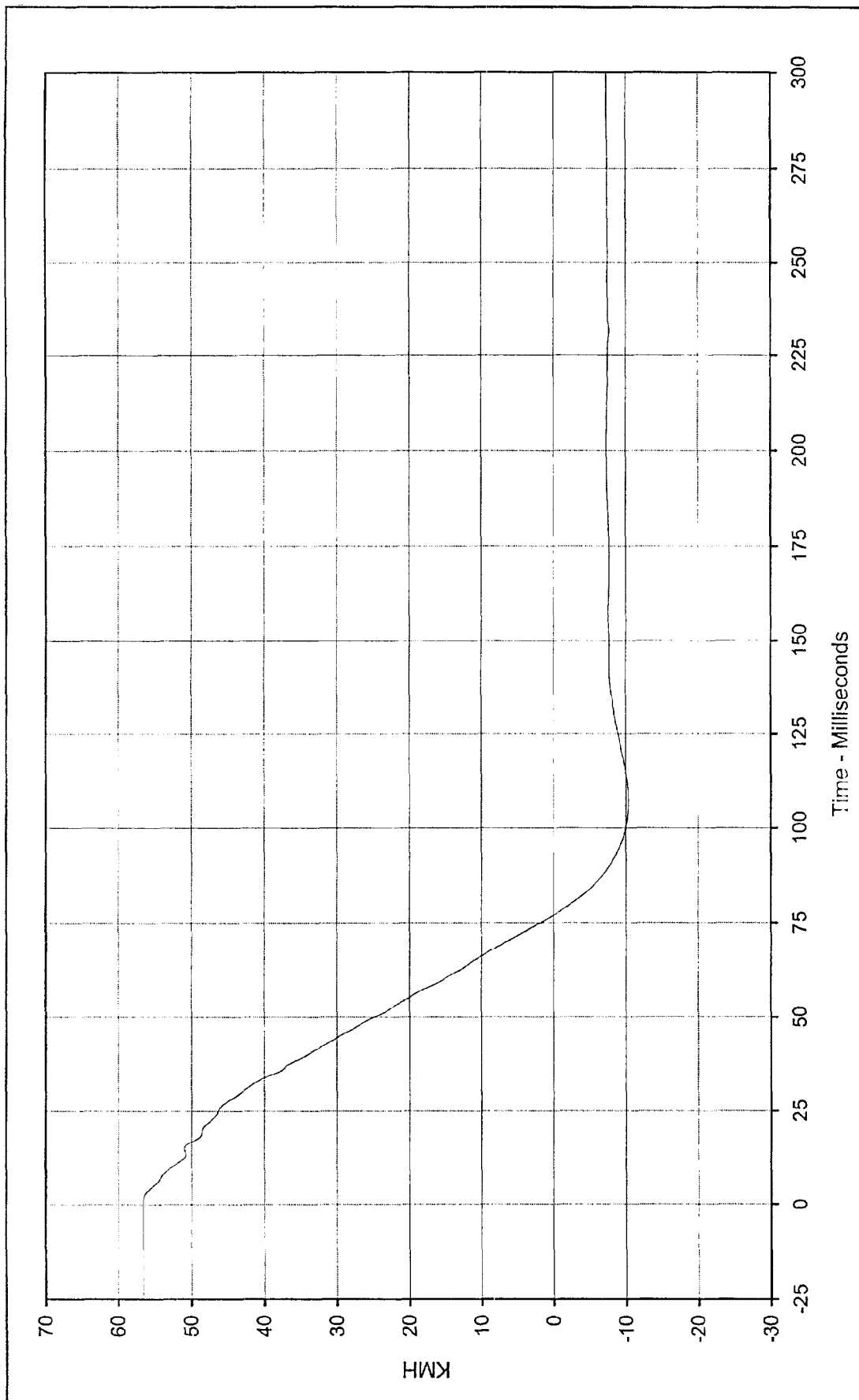


* Channel Failed at 86.0 Msec.



Curve Description:	Vehicle Left Rear Redundant	Testing Program	1998 NHTSA 35 mph NCAP	No.: MW5203
Maximum Value:	3.3 at 125.4 Milliseconds	Test Vehicle:	1998 Nissan Maxima GXE 4 Door Sedan	
Minimum Value:	-29.2 at 34.3 Milliseconds			
SAE Filter Class:	60			
Date of Test:	2/17/98			
Curve Number:	FIL-096			

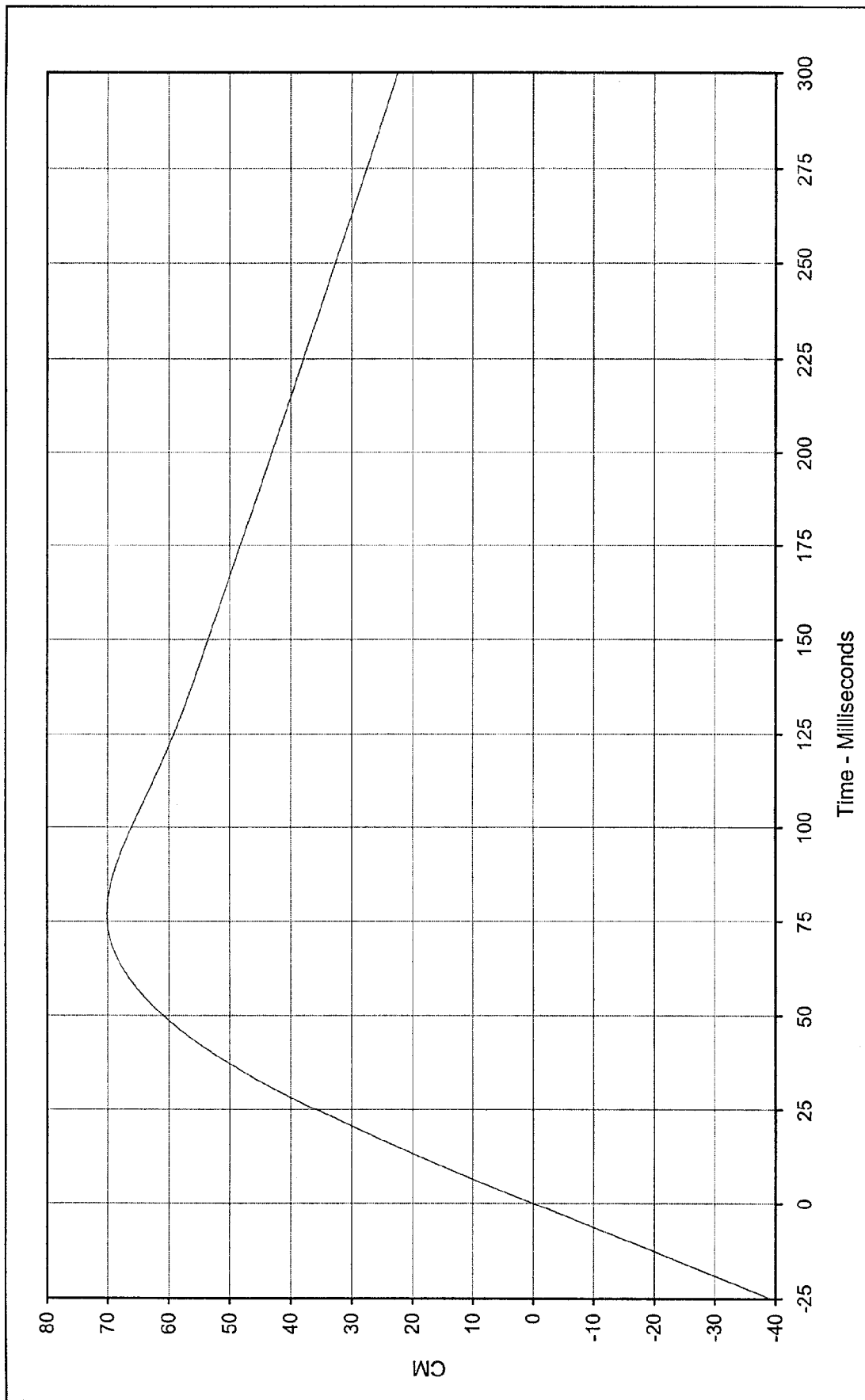




Curve Description: Vehicle Left Rear Redundant Velocity
 Maximum Value: 56.6 at 0.0 Milliseconds
 Minimum Value: -10.4 at 106.4 Milliseconds
 SAE Filter Class: 180
 Date of Test: 2/17/98
 Curve Number: IN1-096

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203
 Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan





Curve Description: Vehicle Left Rear Redundant Displ.

Maximum Value: 70.2 at 76.9 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 2/17/98

Curve Number: IN2-096

Testing Program 1998 NHTSA 35 mph NCAP No.: MW5203

Test Vehicle: 1998 Nissan Maxima GXE 4 Door Sedan



APPENDIX C

LOAD CELL BARRIER INFORMATION (NOT APPLICABLE FOR THIS TEST)

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**Ncap Test With Hybrid III Male 50th Percentile ATD
Instrumentation Data Channel Assignments**

Driver A.T.D Serial Number 34

Test Date: 2/17/98

Vehicle: 1998 Nissan Maxima

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	KEAC039	Accel., 1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	KEAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	KEAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	KEAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	KEAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	N.m
11	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	N.m
12	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	N.m
13	CHEST, PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST, PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST, PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST, REDUNDANT	X	KEAC023	Accel., 1/2 bridge	Endevco	7264-200	G
17	CHEST, REDUNDANT	Y	KEAC022	Accel., 1/2 bridge	Endevco	7264-200	G
18	CHEST, REDUNDANT	Z	KEAC024	Accel., 1/2 bridge	Endevco	7264-200	G
19	CHEST DISPLACEMENT	X	GPRP002	Potentiometer, Rotary	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	GPAC009	Accel., 1/2 bridge	Endevco	7264-2000	G
21	PELVIS, PRIMARY	Y	GPAC017	Accel., 1/2 bridge	Endevco	7264-2000	G
22	PELVIS, PRIMARY	Z	GPAC018	Accel., 1/2 bridge	Endevco	7264-2000	G
23	LEFT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N

Ncap Test With Hybrid III Male 50th Percentile ATD
Instrumentation Data Channel Assignments
Driver A.T.D Serial Number 34
Test Date: 2/17/98
Vehicle: 1998 Nissan Maxima

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPOT03MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
26	UP. TIBIA LEFT MOM.	Y	GPOT03MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
27	UP. TIBIA RIGHT MOM.	X	GPOT04MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
28	UP. TIBIA RIGHT MOM.	Y	GPOT04MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
29	LWR. TIBIA LEFT FORCE	Y	GPLT03FY	3 ch., lower tibia gage	R. A. Denton	1584	N
30	LWR. TIBIA LEFT FORCE	Z	GPLT03FZ	3 ch., lower tibia gage	R. A. Denton	1584	N
31	LWR. TIBIA LEFT MOM.	X	GPLT03MX	3 ch., lower tibia gage	R. A. Denton	1584	N.m
32	LWR. TIBIA RIGHT FORCE	Y	GPLT04FY	3 ch., lower tibia gage	R. A. Denton	1584	N
33	LWR. TIBIA RIGHT FORCE	Z	GPLT04FZ	3 ch., lower tibia gage	R. A. Denton	1584	N
34	LWR. TIBIA RIGHT MOM.	X	GPLT04MX	3 ch., lower tibia gage	R. A. Denton	1584	N.m
35	FOOT LEFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT	Y	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT	Y	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	KELC003	Load cell, Seat belt	Lebow	3371	N
42	SHOULDER BELT FORCE	X	KELC004	Load cell, Seat belt	Lebow	3371	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

Ncap Test With Hybrid III Male 50th Percentile ATD

Instrumentation Data Channel Assignments

Passenger A.T.D Serial Number 35

Test Date: 2/17/98

Vehicle: 1998 Nissan Maxima

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	N.m
55	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	N.m
56	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	N.m
57	CHEST, PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST, PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST, PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST, REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
61	CHEST, REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
62	CHEST, REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
63	CHEST DISPLACEMENT	X	GPRP001	Potentiometer, Rotary	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
65	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
66	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
67	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	GPLC001	Load cell, Femur	G.S.E.	2430	N

Ncap Test With Hybrid III Male 50th Percentile ATD
Instrumentation Data Channel Assignments
Passenger A.T.D Serial Number 35
Test Date: 2/17/98
Vehicle: 1998 Nissan Maxima

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPU01MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
70	UP. TIBIA LEFT MOM.	Y	GPU01MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
71	UP. TIBIA RIGHT MOM.	X	GPU02MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
72	UP. TIBIA RIGHT MOM.	Y	GPU02MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
73	LWR. TIBIA LEFT FORCE	Y	GPT01FY	3 ch., lower tibia gage	R. A. Denton	1584	N
74	LWR. TIBIA LEFT FORCE	Z	GPT01FZ	3 ch., lower tibia gage	R. A. Denton	1584	N
75	LWR. TIBIA LEFT MOM.	X	GPT01MX	3 ch., lower tibia gage	R. A. Denton	1584	N.m
76	LWR. TIBIA RIGHT FORCE	Y	GPT02FY	3 ch., lower tibia gage	R. A. Denton	1584	N
77	LWR. TIBIA RIGHT FORCE	Z	GPT02FZ	3 ch., lower tibia gage	R. A. Denton	1584	N
78	LWR. TIBIA RIGHT MOM.	X	GPT02MX	3 ch., lower tibia gage	R. A. Denton	1584	N.m
79	FOOT LEFT	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT	Y	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT	Y	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	KELC001	Load cell, Seat belt	Lebow	3371	N
86	SHOULDER BELT FORCE	X	KELC002	Load cell, Seat belt	Lebow	3371	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**Ncap Test With Hybrid III Male 50th Percentile ATD
Instrumentation Data Channel Assignments**

Vehicle Accelerometers

Test Date: 2/17/98

Vehicle: 1998 Nissan Maxima

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
89	LEFT REAR PRIMARY	X	KEVA005	Accel., Vehicle block	I.C. Sensor	3031-500	G
90	RIGHT REAR PRIMARY	X	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
91	ENGINE TOP	X	KEVA001	Accel., Vehicle block	I.C. Sensor	3031-500	G
92	ENGINE BOTTOM	X	KEVA009	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	LEFT BRAKE CALIPER	X	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	RIGHT BRAKE CALIPER	X	KEVA004	Accel., Vehicle block	I.C. Sensor	3031-500	G
95	INSTUMENT PANEL	X	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-200	G
96	LEFT REAR REDUNDANT	X	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G

APPENDIX E
DUMMY CALIBRATION DATA



Hybrid III Calibration Data Sheet

50TH Percentile Male

Left Knee Impact Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: K1000

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.132	Pass
Peak Probe Force	Newtons	4715 to 5782	5045.8	Pass
Overall Test Results				Pass

N 2090
Laboratory Technician

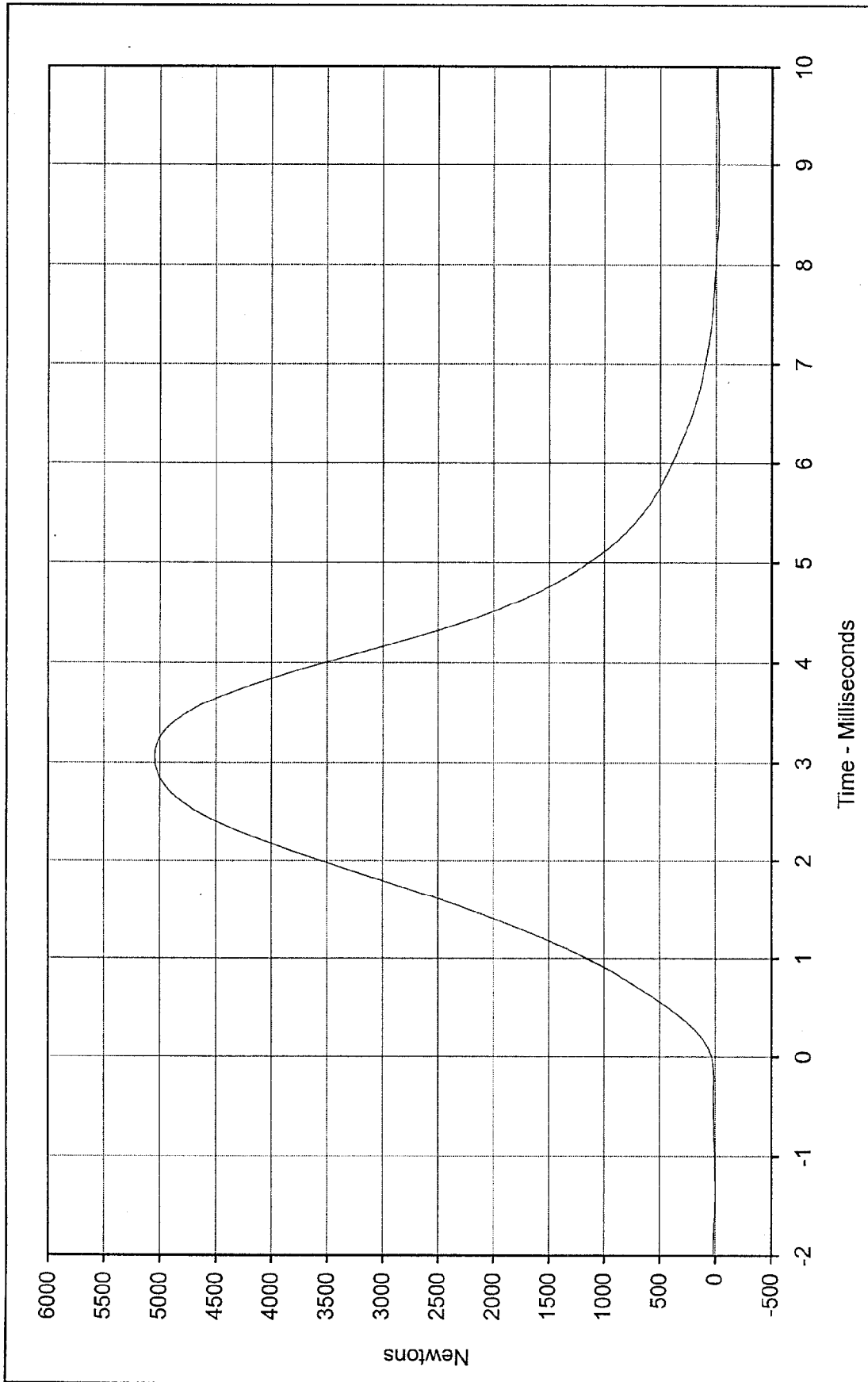
J A Richardson
Approved By

February 4, 1998

Test Date

2/4/98

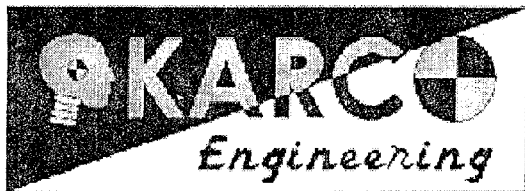
Date



Testing Program: Hybrid III Left Knee Impact Test
 Test Information: Part S/N: n/a Test I.D.: K1000

Curve Description: Probe Force
 Maximum Value: 5045.8 at 3.1 Milliseconds
 Minimum Value: -1.1 at -1.4 Milliseconds
 SAE Filter Class: 600
 Date of Test: 2/4/98
 ATD Serial No.: 034





Hybrid III Calibration Data Sheet

50TH Percentile Male

Right Knee Impact Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: K2000

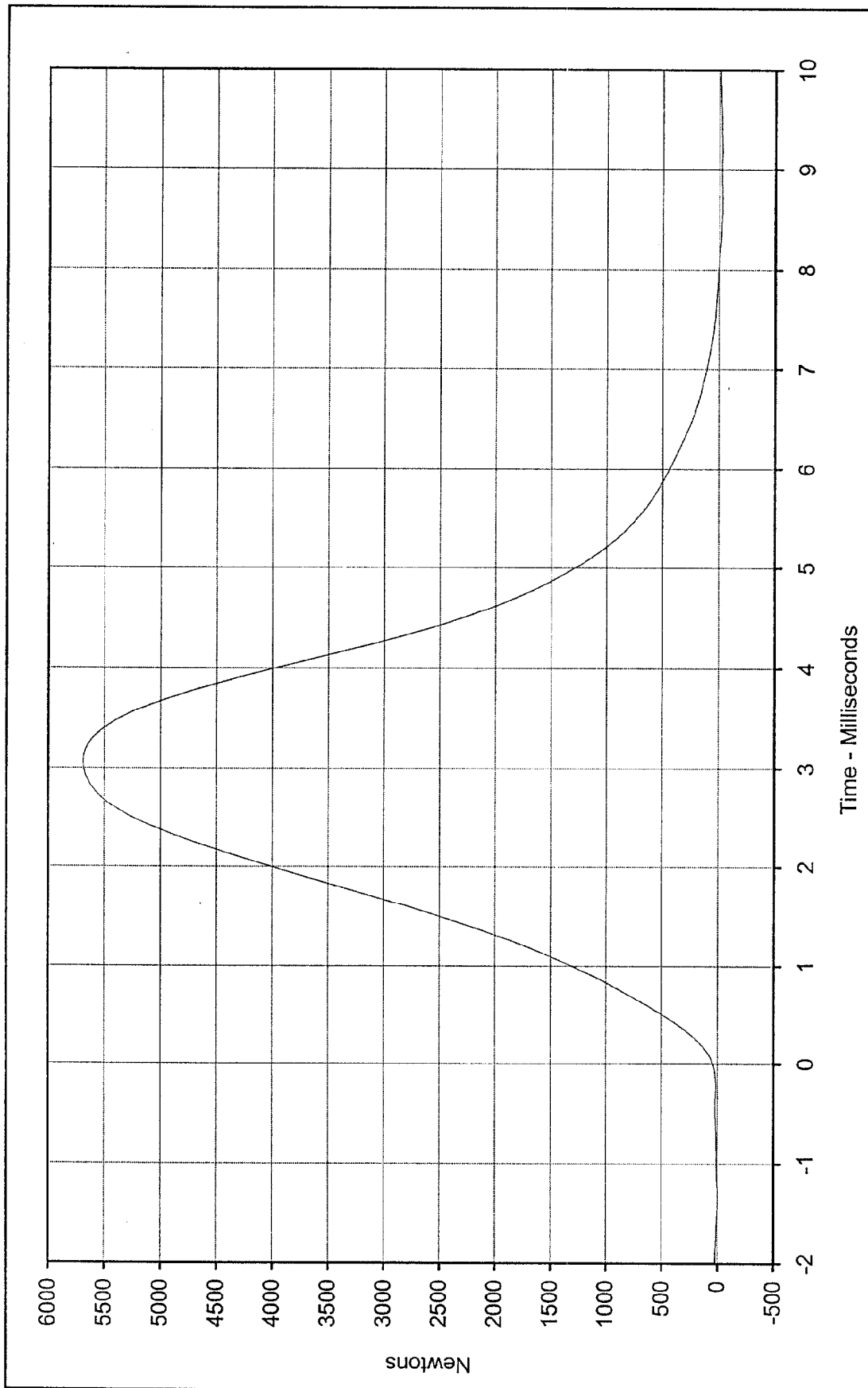
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.120	Pass
Peak Probe Force	Newtons	4715 to 5782	5686.6	Pass
Overall Test Results				Pass

N2000
Laboratory Technician

J. W. Anderson
Approved By

February 4, 1998
Test Date

2/4/98
Date



Curve Description:		Testing Program	Hybrid III Right Knee Impact Test
Maximum Value:	5686.6	at	3.1
Minimum Value:	-1.3	at	-1.4
SAE Filter Class:	600		
Date of Test:	2/4/98		
ATD Serial No.:	034		
Test Information:		Part S/N:	n/a
		Test I.D.:	K2000





Hybrid III Calibration Data Sheet

50TH Percentile Male

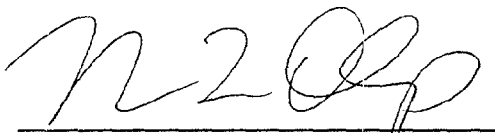
Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: H5000

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	272.9	Pass
Peak Lateral Acceleration	G's	≤15.0	14.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

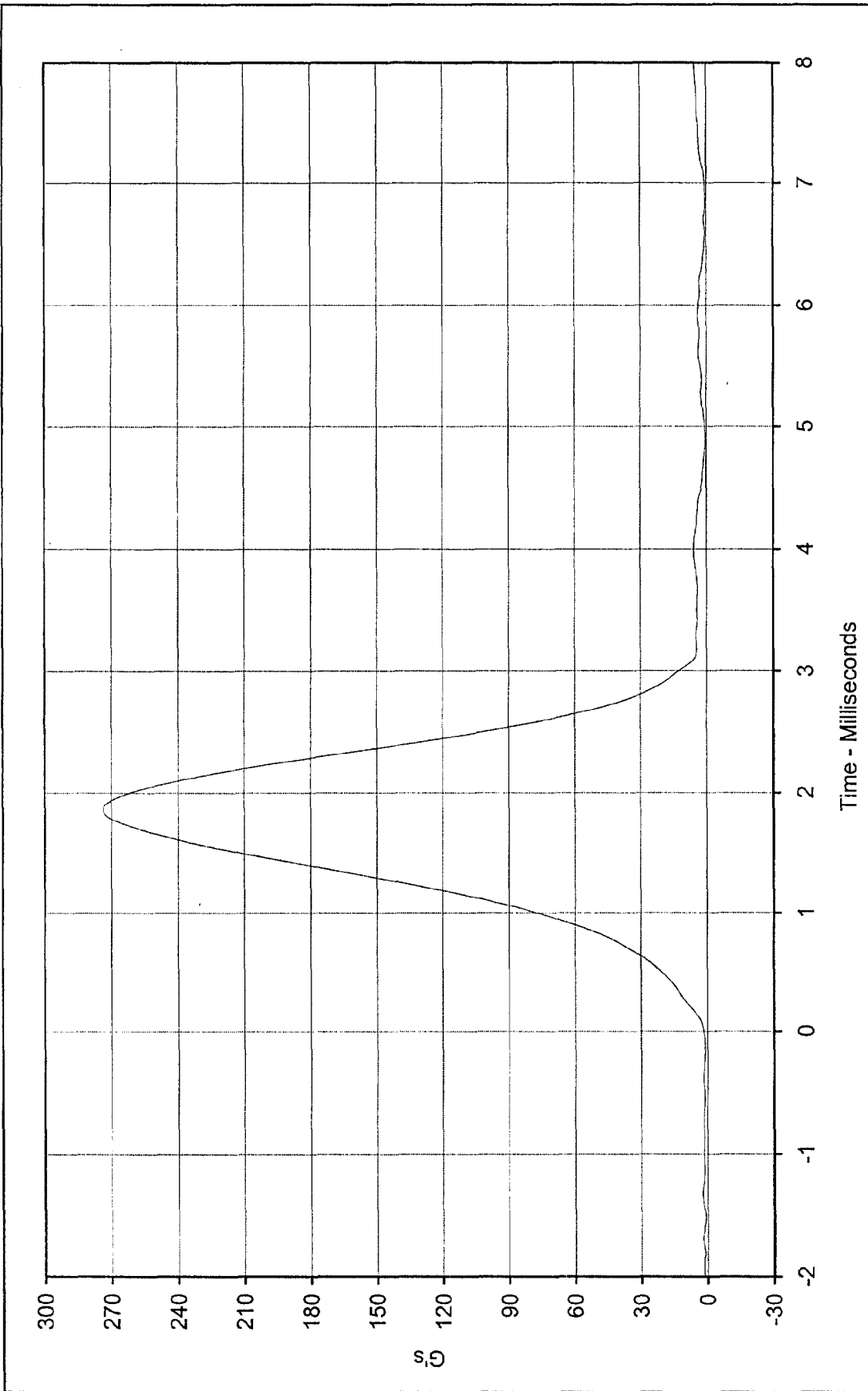

Approved By

February 4, 1998

Test Date

2/4/98

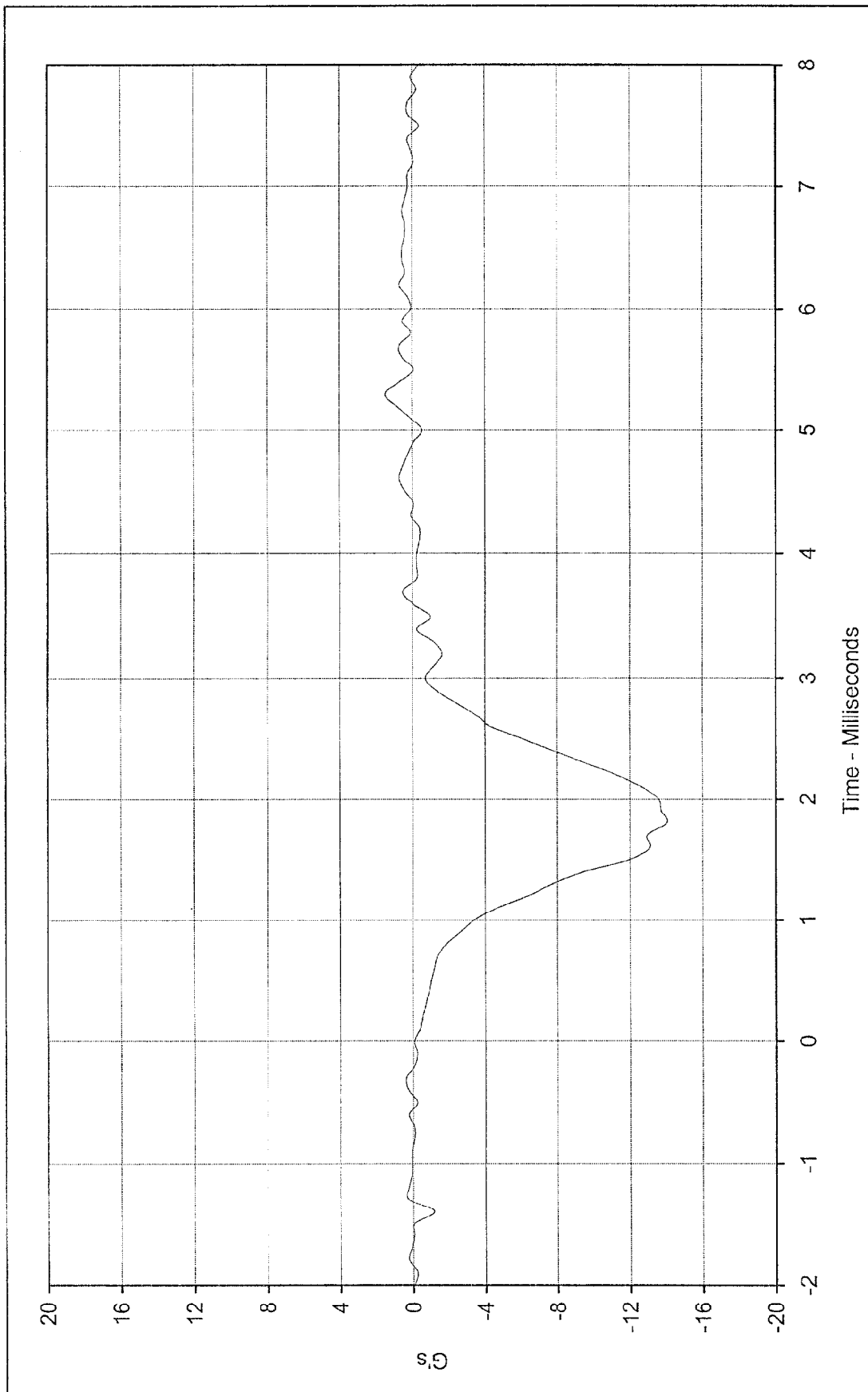
Date



Testing Program Hybrid III Head Drop Calibration (Male)
 Test Information: S/N of Part: n/a Test I.D.: H5000

Curve Description: Head Resultant Acceleration
 Maximum Value: 272.9 at 1.9 Milliseconds
 Minimum Value: 0.4 at 4.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/4/98
 ATD Serial No.: 034

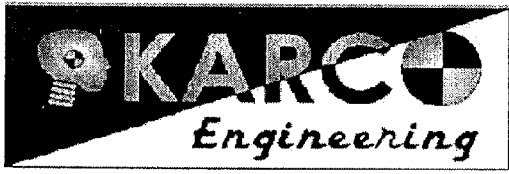




Curve Description: _____ Testing Program: Hybrid III Head Drop Calibration (Male)
 Test Information: S/N of Part: n/a Test I.D.: H5000

Head Acceleration Y Axis
 Maximum Value: 1.5 at 5.3 Milliseconds
 Minimum Value: -14.0 at 1.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/4/98
 ATD Serial No.: 034





Hybrid III Calibration Data Sheet

50TH Percentile Male

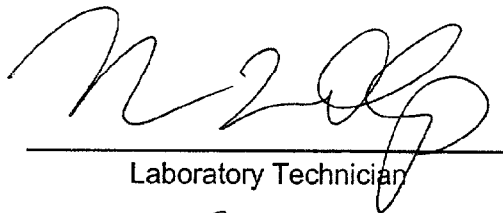
Thorax Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: CHST1

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Probe Velocity	m/s	6.58 to 6.82	6.68	Pass
Peak Probe Force	Newtons	5159 to 5893	5327	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.58	Pass
Internal Hysteresis	%	69 to 85	73.0	Pass
Overall Test Results				Pass


Laboratory Technician

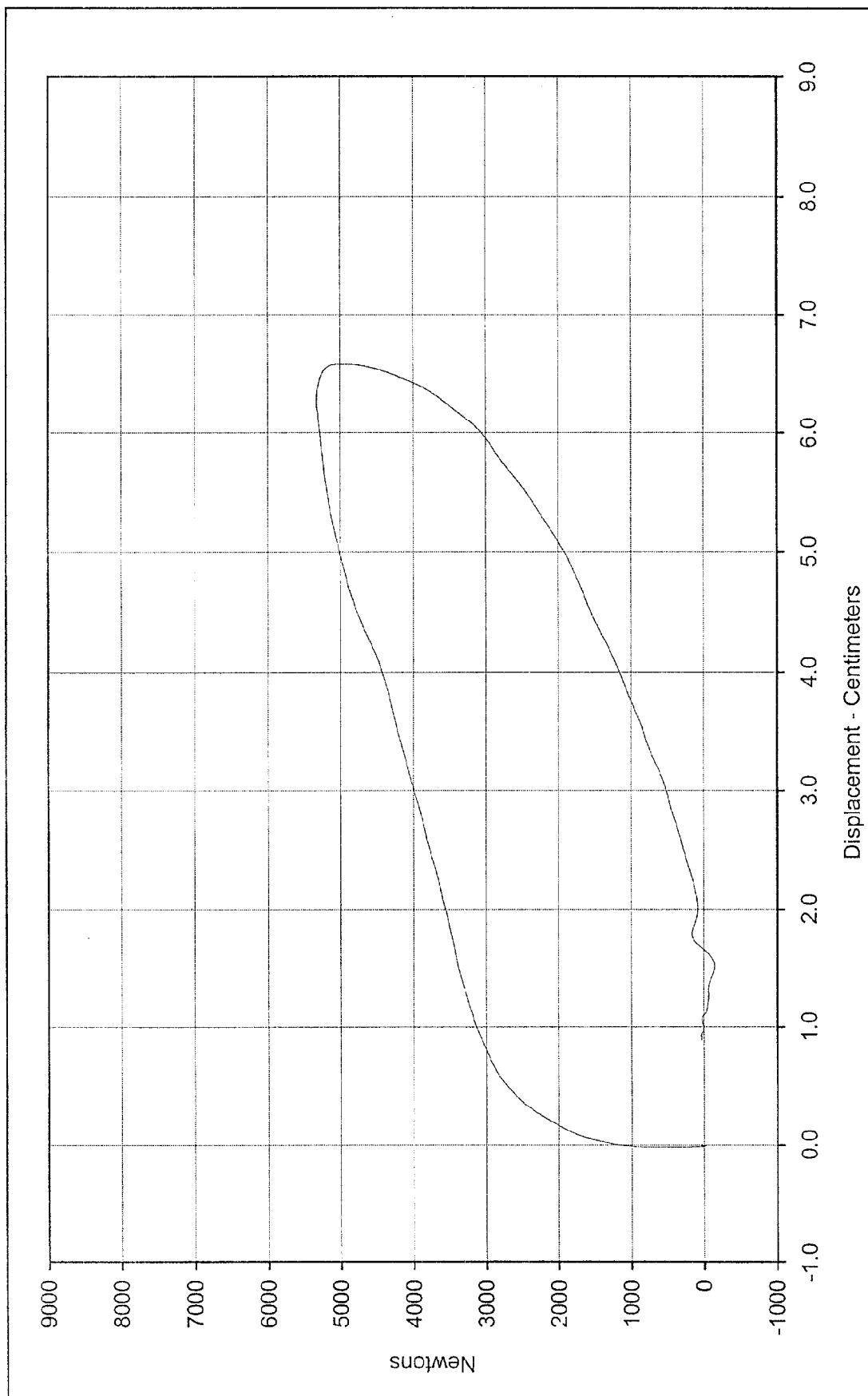

Approved By

February 4, 1998

Test Date

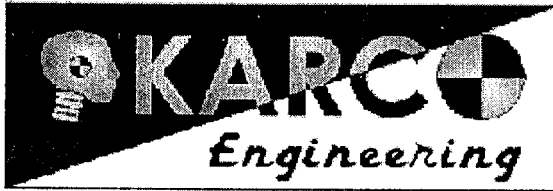
2/4/98

Date



Curve Description:	Probe Force vs. Chest Displacement	Testing Program	Hybrid III Thorax Impact Test
Probe Force:	5327.2 Newtons	Test Information:	S/N of Part: N/A Test I.D.: CHST1
Chest Displ.:	6.58 Centimeters		
SAE Filter Class:	180		
Date of Test:	2/4/98		
ATD Serial No.:	034		





Hybrid III Calibration Data Sheet

50TH Percentile Male

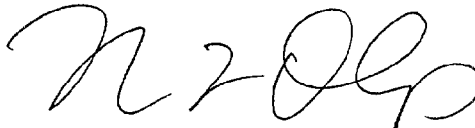
Neck Flexion Test

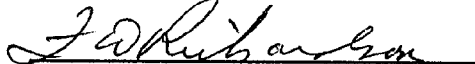
ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: NF700

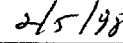
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	36	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.94	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.5	Pass
	20 Msec.	G's	17.6 to 22.6	19.3	Pass
	30 Msec.	G's	12.5 to 18.5	18.3	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.3	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	38.9	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	76.7	Pass
	Time	Msec.	57.0 to 64.0	62.2	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	122.1	Pass
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	90.6	Pass
	Time	Msec.	47.0 to 58.0	52.5	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	103.0	Pass
Overall Test Results					Pass


 Laboratory Technician

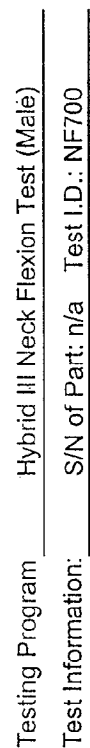

 Approved By

February 5, 1998

Test Date

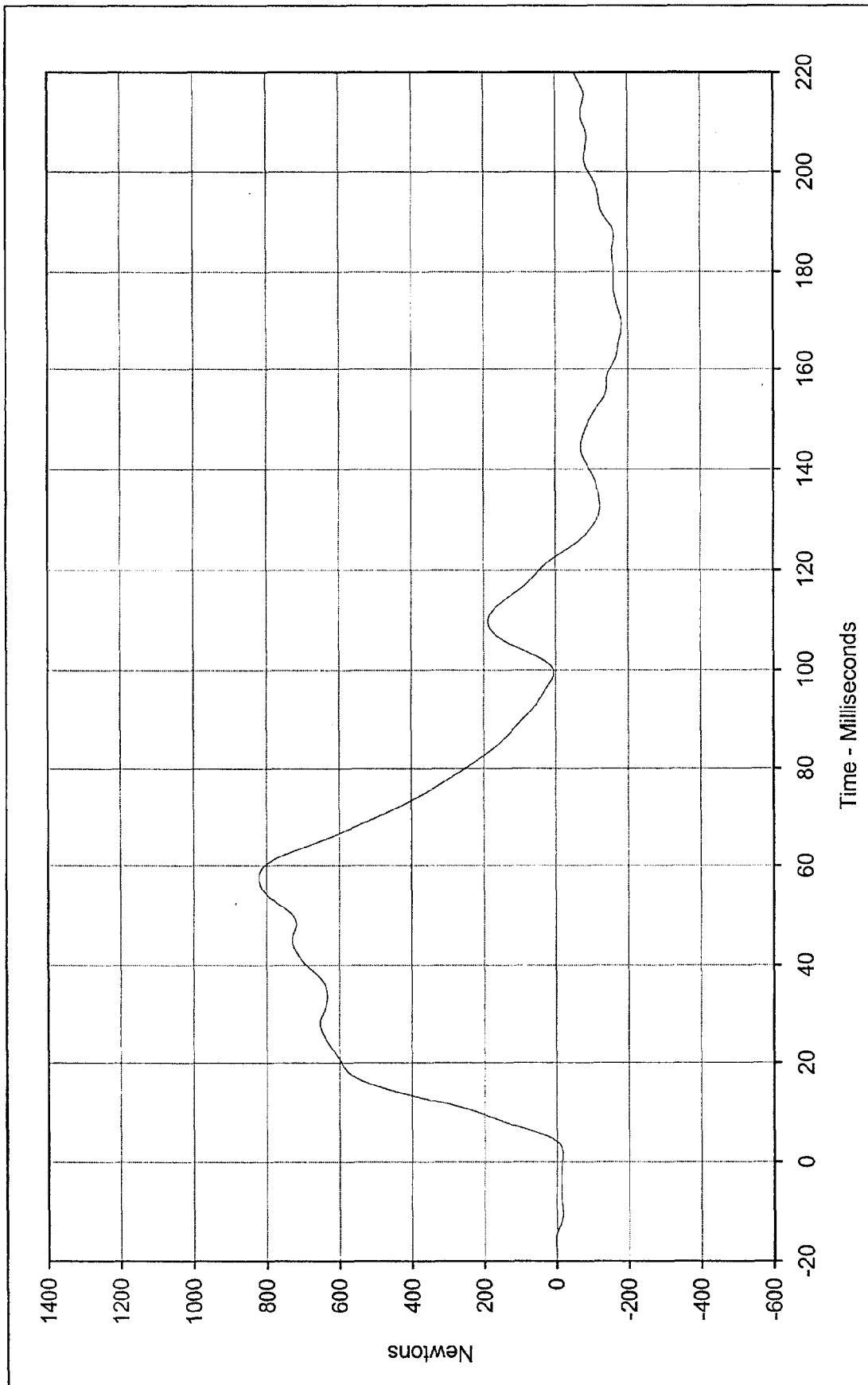


Date



Curve Description:	Pendulum Deceleration	
Maximum Value:	23.1	at 6.1 Milliseconds
Minimum Value:	-2.9	at 87.9 Milliseconds
SAE Filter Class:	60	
Date of Test:	2/5/98	
ATD Serial No.:	034	





Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: n/a Test I.D.: NF700

Curve Description: Neck Force X

Maximum Value: 819.8 at 57.5 Milliseconds

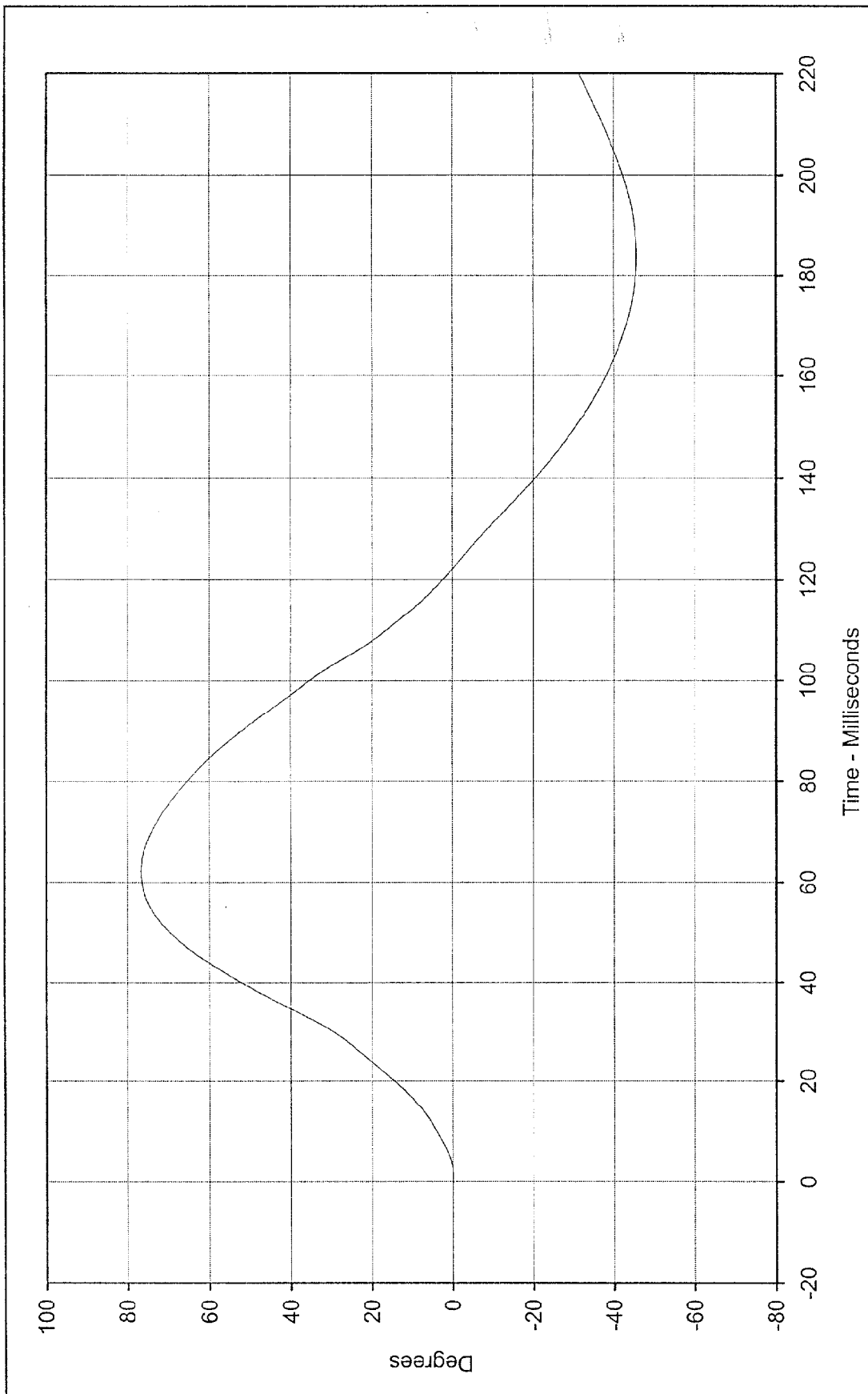
Minimum Value: -183.3 at 169.2 Milliseconds

SAE Filter Class: 60

Date of Test: 2/5/98

ATD Serial No.: 034

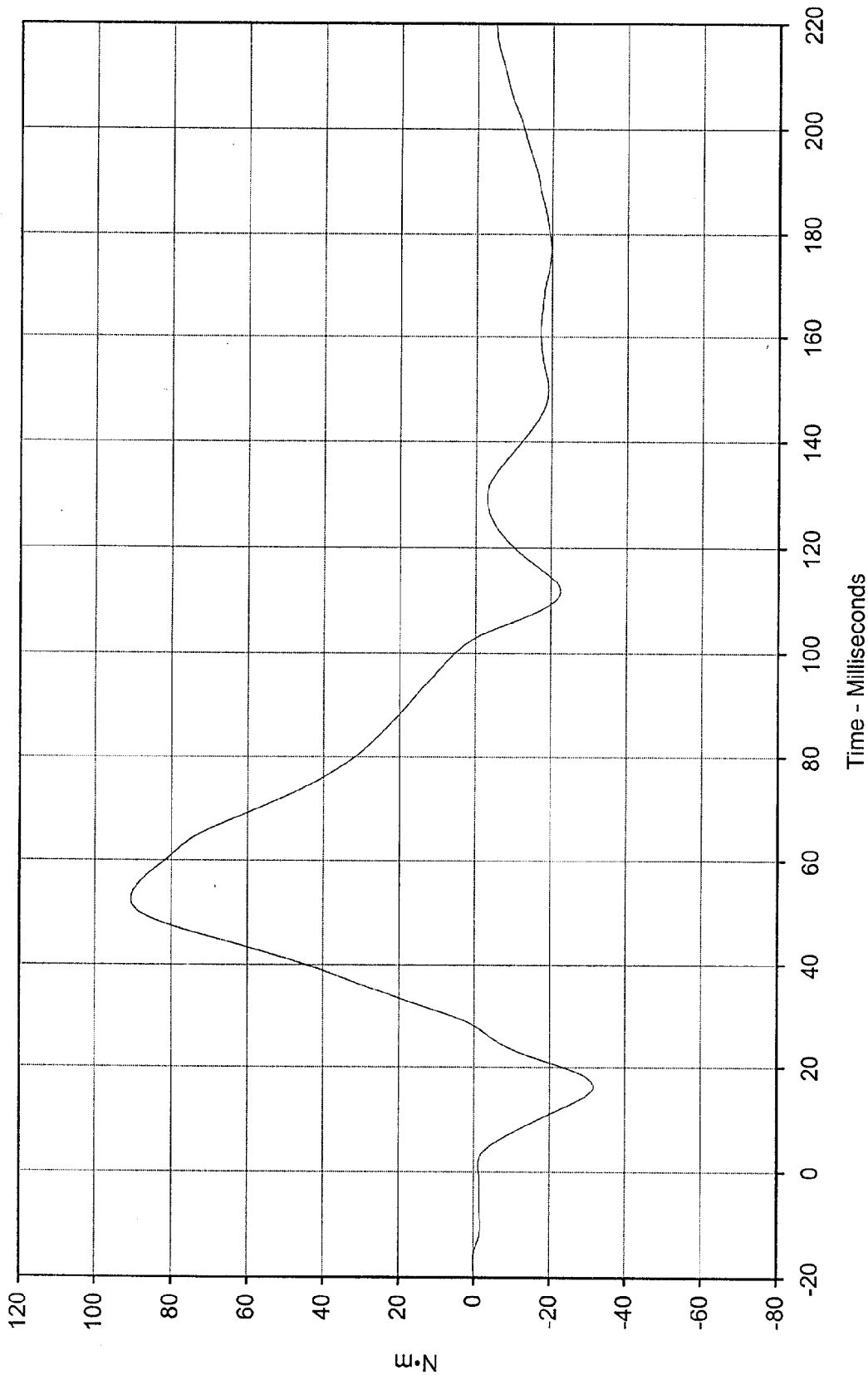




Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NF700

Curve Description: "D" Plane Rotation
 Maximum Value: 76.7 at 62.2 Milliseconds
 Minimum Value: -45.6 at 183.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 034

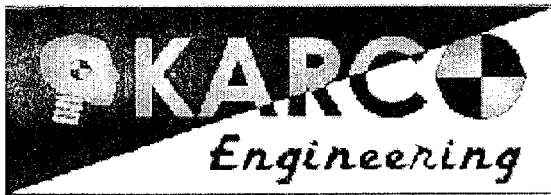




Curve Description: Moment About Occipital Condyles
 Maximum Value: 90.6 at 52.5 Milliseconds
 Minimum Value: -31.6 at 16.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NF700





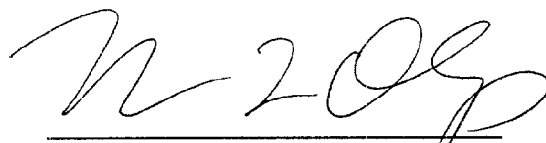
Hybrid III Calibration Data Sheet

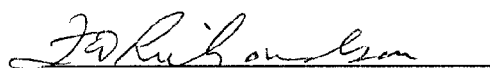
50TH Percentile Male

Neck Extension Test

ATD Serial No.: 034Part Serial No.: n/aTest I.D.: NE200

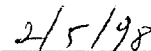
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	36	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.11	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.5	Pass
	20 Msec.	G's	14.0 to 19.0	17.6	Pass
	30 Msec.	G's	11.0 to 16.0	15.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	38.9	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	96.7	Pass
	Time	Msec.	72.0 to 82.0	73.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	154.6	Pass
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-78.8	Pass
	Time	Msec.	65.0 to 79.0	66.2	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	143.8	Pass
Overall Test Results				Pass	


Laboratory Technician

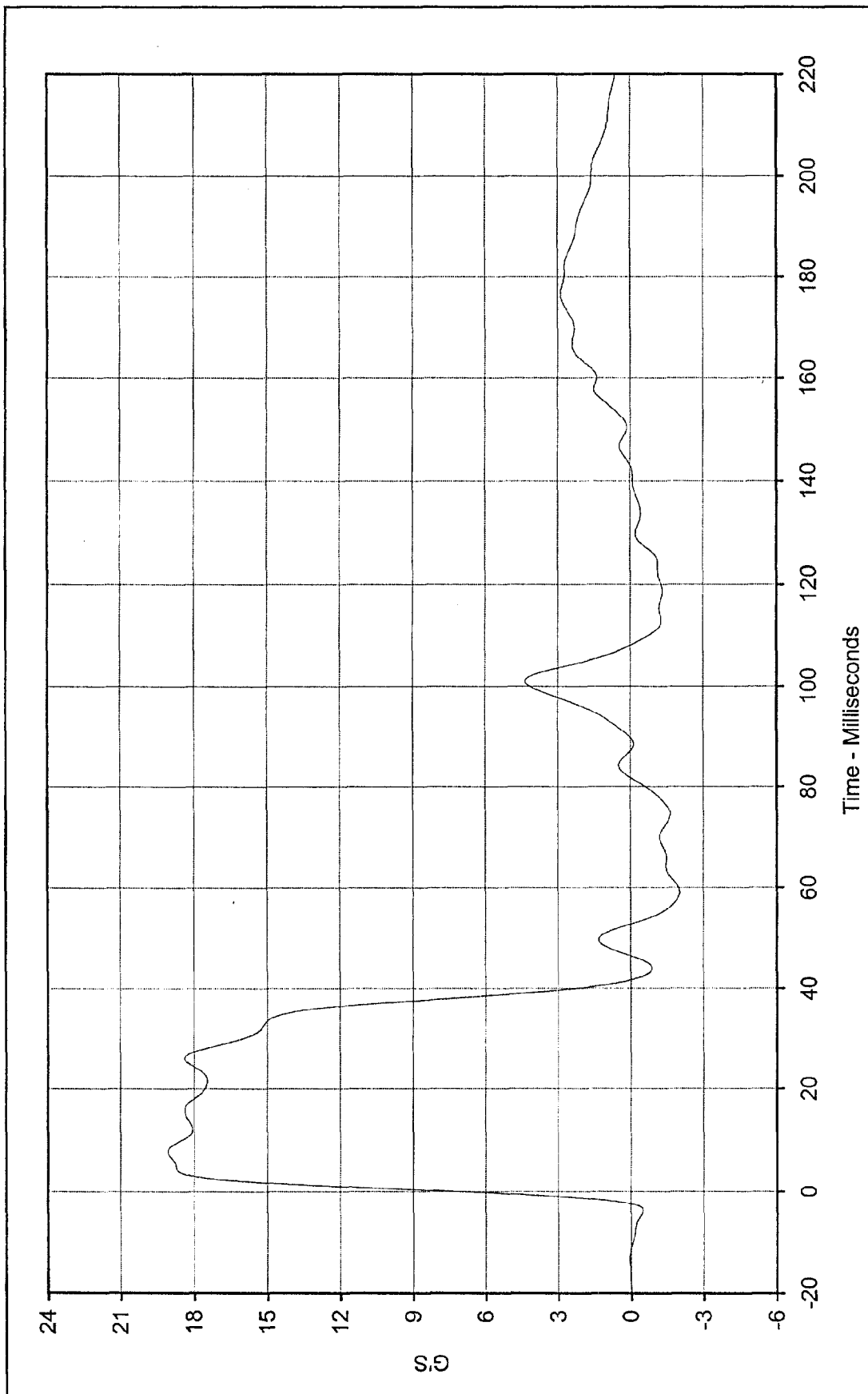

Approved By

February 5, 1998

Test Date

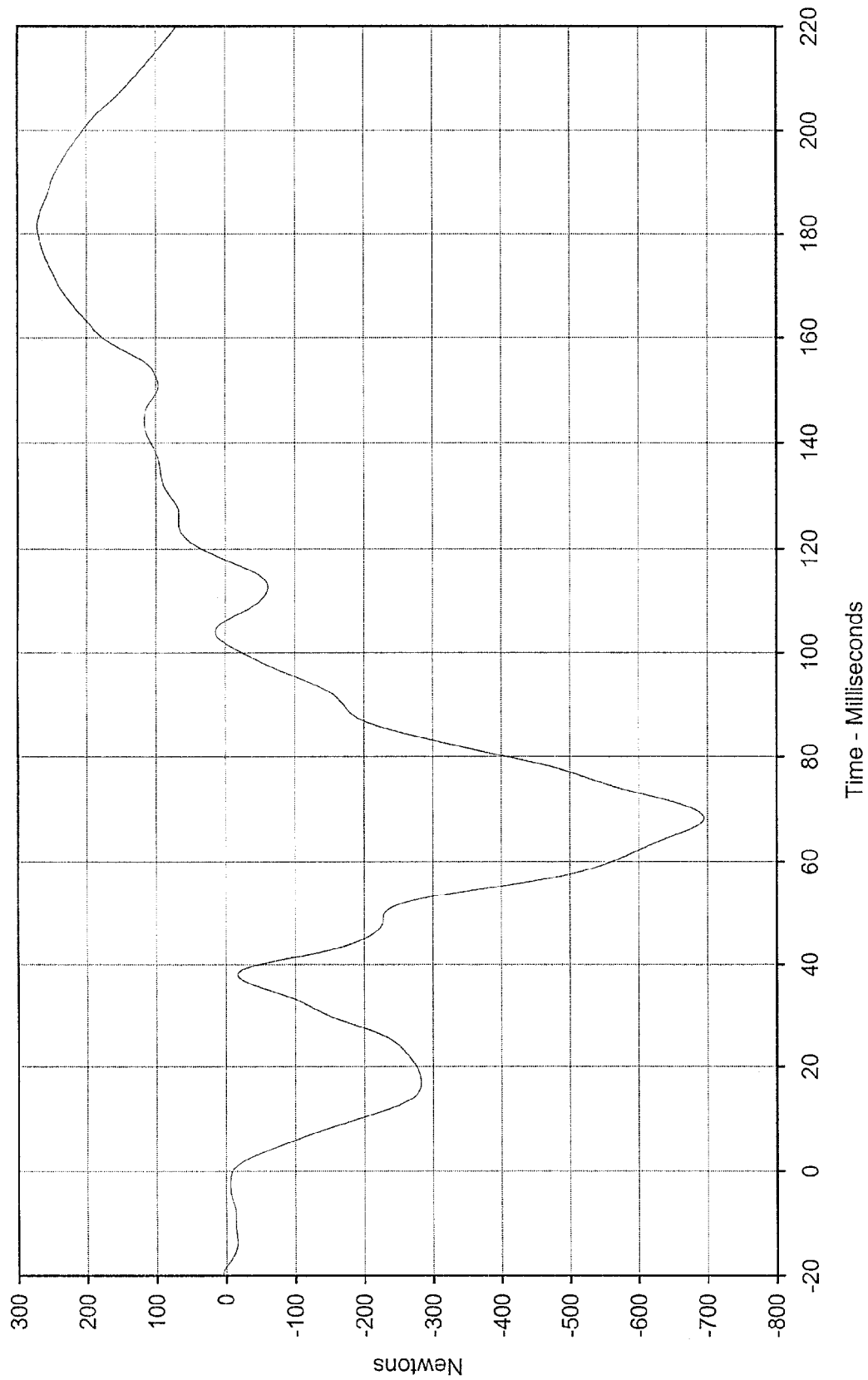


Date



Curve Description: Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: 19.1 at 7.7 Milliseconds
 Minimum Value: -2.0 at 59.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 034

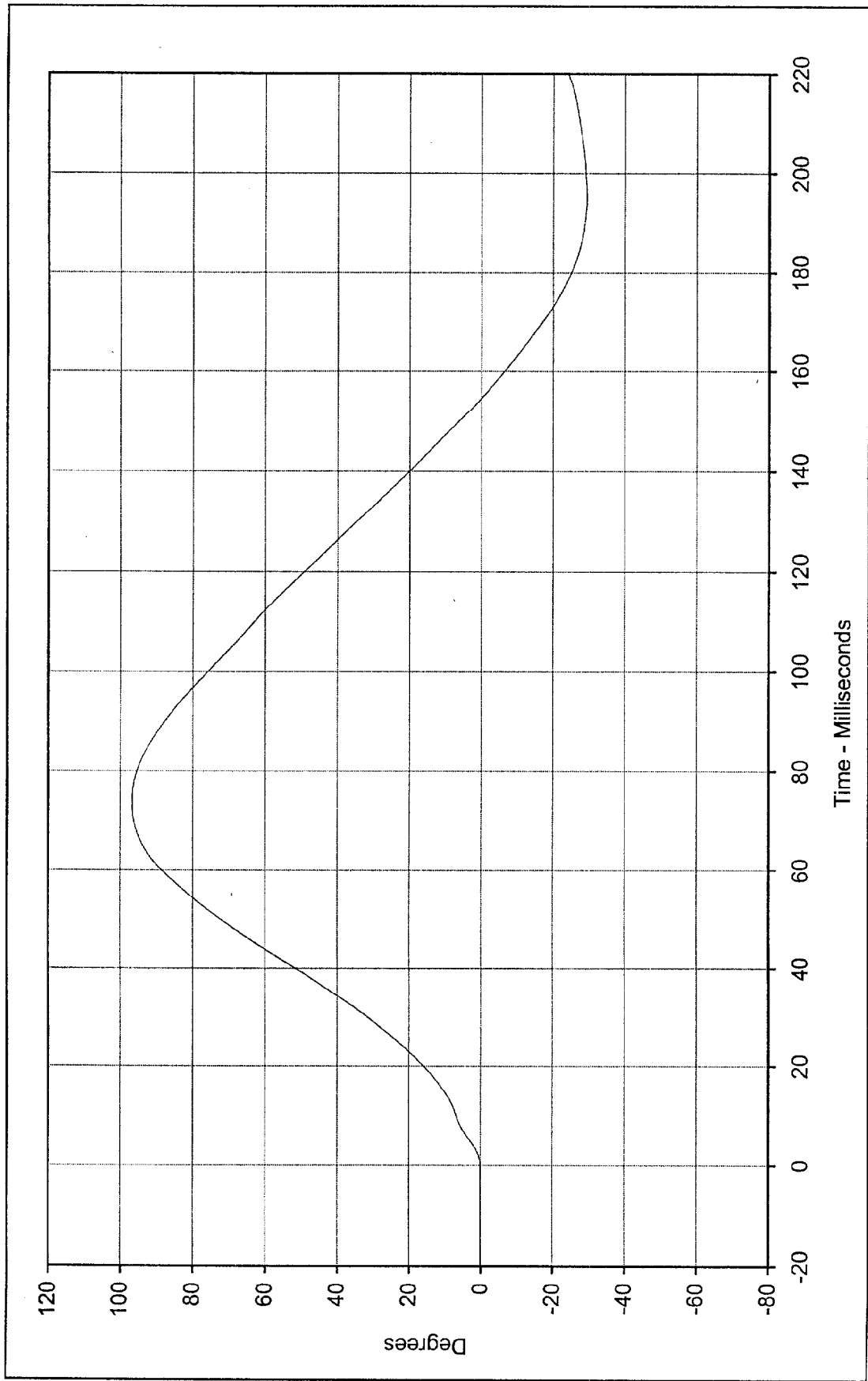




Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NE200

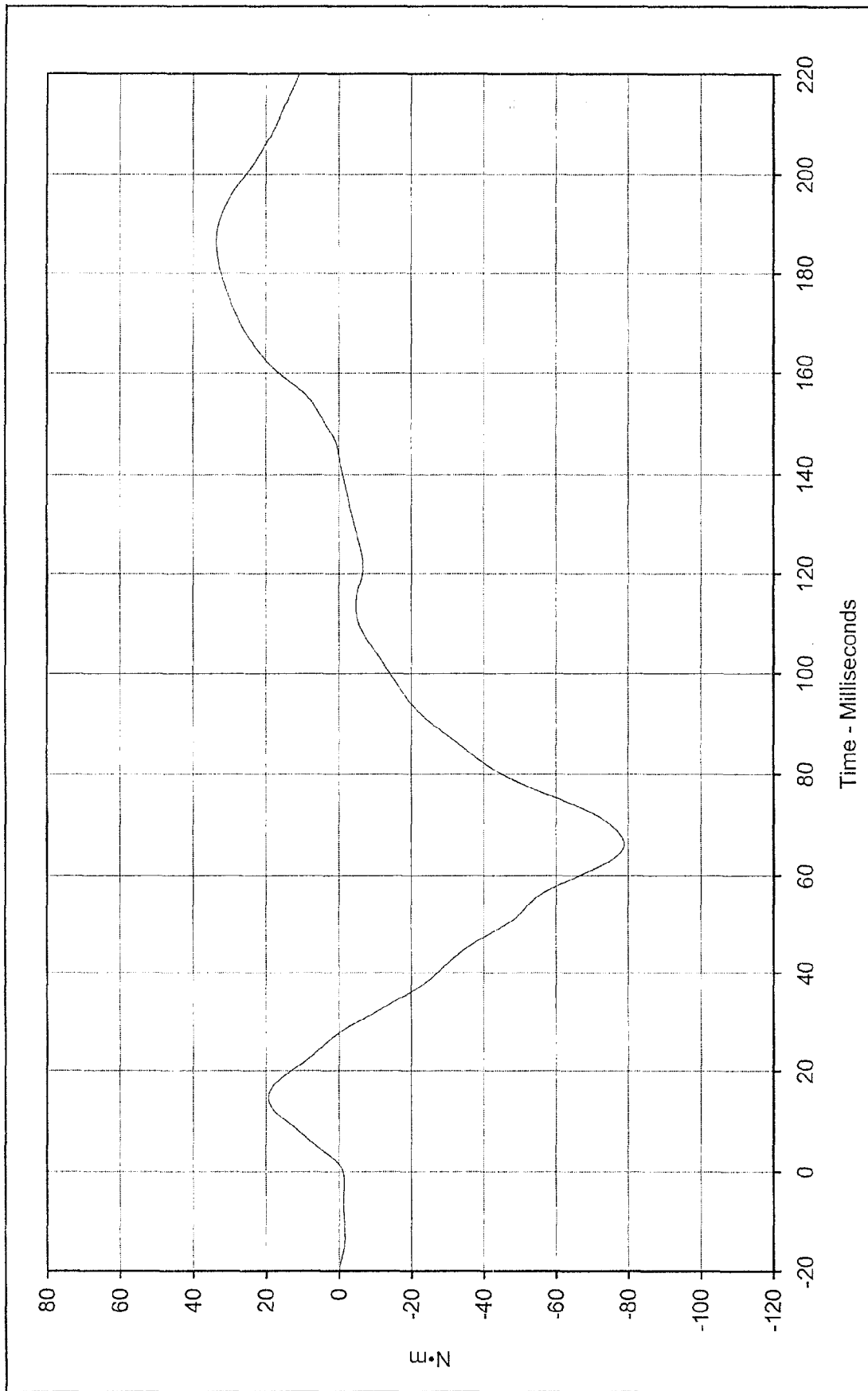
Curve Description: Neck Force X
 Maximum Value: 271.6 at 181.5 Milliseconds
 Minimum Value: -695.4 at 68.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 034





Curve Description:	"D" Plane Rotation		Testing Program	Hybrid III Neck Extension Test (Male)
Maximum Value:	96.7	at 73.9 Milliseconds	Test Information:	S/N of Part: n/a Test I.D.: NE200
Minimum Value:	-29.3	at 195.2 Milliseconds		
SAE Filter Class:	60			
Date of Test:	2/5/98			
ATD Serial No.:	034			





Curve Description: Moment About Occipital Condyles
 Maximum Value: 33.6 at 186.3 Milliseconds
 Minimum Value: -78.8 at 66.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 034

Testing Program Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: n/a Test I.D.: NE200





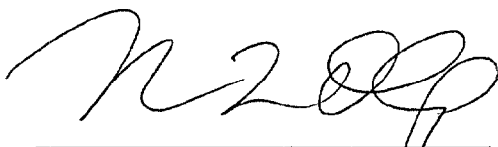
Hybrid III Calibration Data Sheet

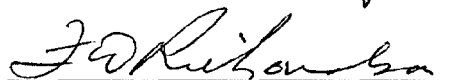
50TH Percentile Male

External Measurements

ATD Serial No.: 034Part Serial No.: N/ATest I.D.: N/A

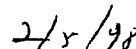
External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.9	Pass
Laboratory relative humidity	%	10 to 70	43.0	Pass
A - Total sitting height	mm	878.8 to 889.0	884.0	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	516.0	Pass
C - "H" point height	mm	83.8 to 88.9	88.0	Pass
D - "H" point from seat back	mm	134.6 to 139.7	138.0	Pass
E - Shoulder pivot from back	mm	83.8 to 94.0	86.0	Pass
F - Thigh clearance	mm	139.7 to 154.9	151.0	Pass
G - Elbow back to wrist pivot	mm	289.6 to 304.8	302.0	Pass
H - Skull cap to back line	mm	40.6 to 45.7	44.0	Pass
I - Shoulder to elbow length	mm	330.2 to 345.4	330.0	Pass
J - Elbow rest height	mm	190.5 to 210.8	209.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	600.0	Pass
L - Popliteal length	mm	429.3 to 454.7	450.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	486.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	475.0	Pass
O - Chest depth	mm	213.4 to 228.6	225.0	Pass
P - Foot length	mm	251.5 to 266.7	265.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	434.0	Pass
W - Foot breadth	mm	91.4 to 106.7	105.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	980.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	860.0	Pass
AA - Location for chest circumference	mm	429.3 to 434.3	433.0	Pass
BB - Location for waist circumference	mm	226.1 to 231.1	229.0	Pass
Overall Test Results				Pass


Laboratory Technician

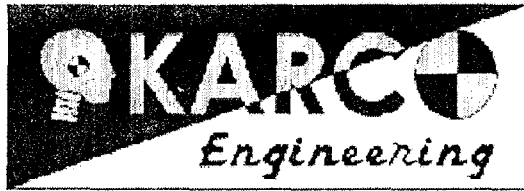

Approved By

February 5, 1998

Test Date



Date



Hybrid III Calibration Data Sheet

50TH Percentile Male

Left Knee Impact Test

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: K3000

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.127	Pass
Peak Probe Force	Newtons	4715 to 5782	5572.9	Pass
Overall Test Results				Pass


Laboratory Technician

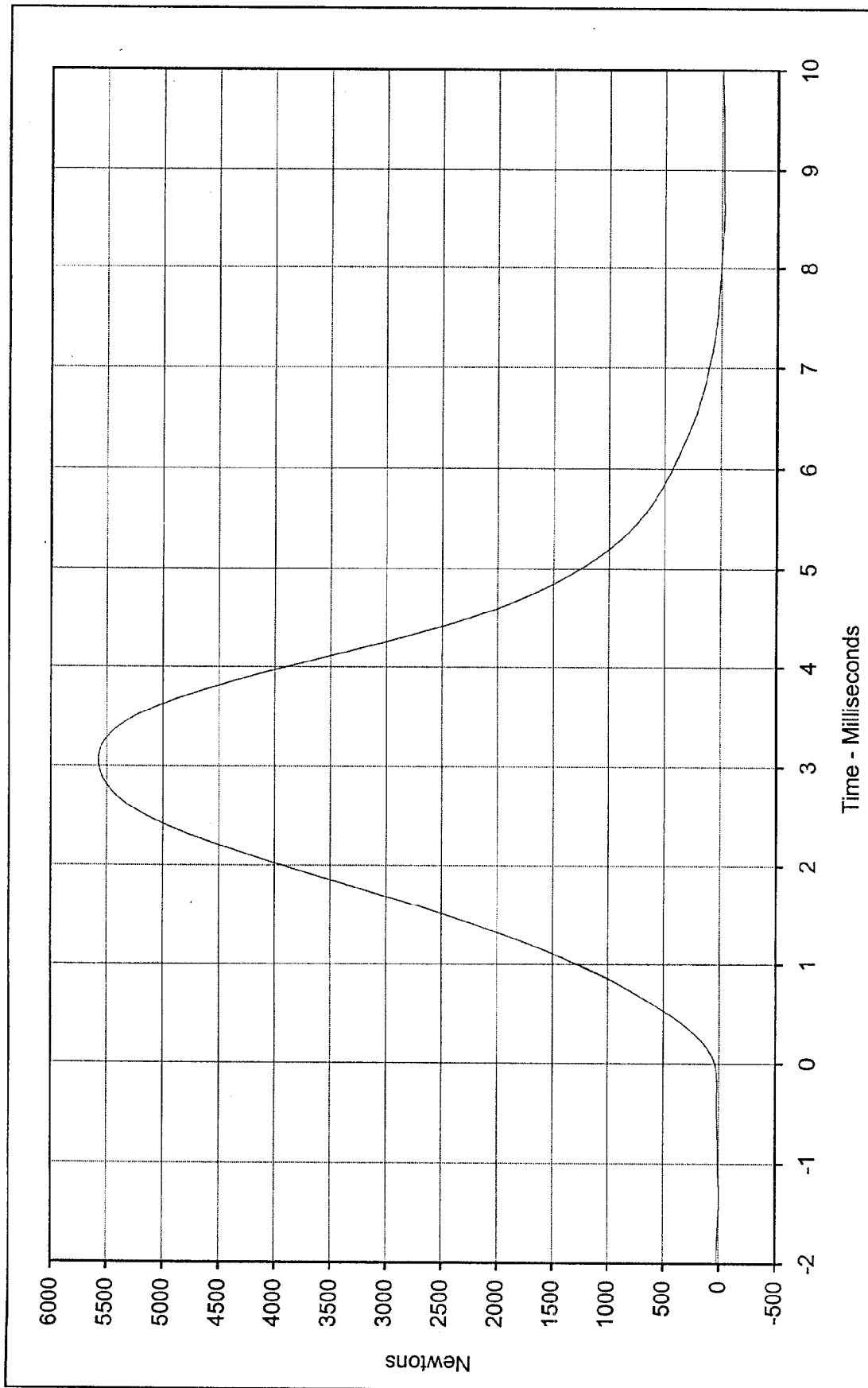

Approved By

February 4, 1998

Test Date

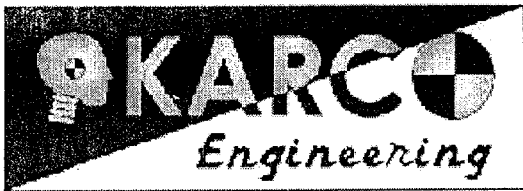
2/4/98

Date



Curve Description:	Testing Program	Hybrid III Left Knee Impact Test
Maximum Value: 5572.9	Part S/N:	n/a
Minimum Value: -1.3	Test I.D.:	K3000
SAE Filter Class: 600		
Date of Test: 2/4/98		
ATD Serial No.: 035		





Hybrid III Calibration Data Sheet

50TH Percentile Male

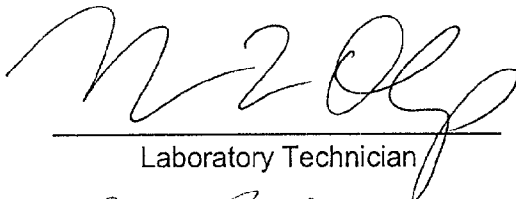
Right Knee Impact Test

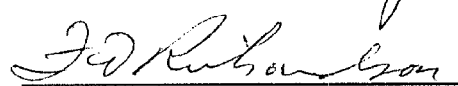
ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: K4000

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.118	Pass
Peak Probe Force	Newtons	4715 to 5782	5517.1	Pass
Overall Test Results				Pass


Laboratory Technician

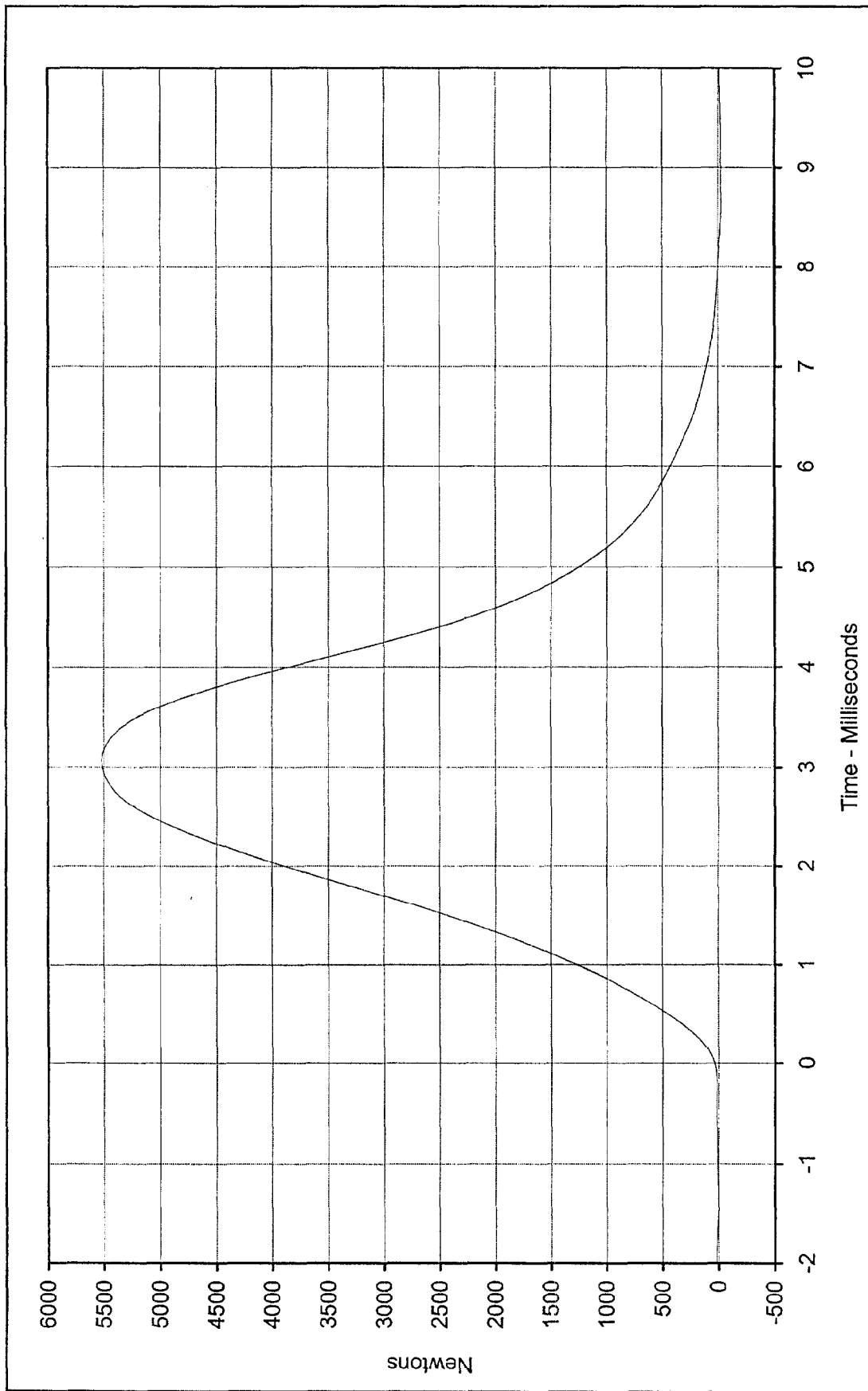

Approved By

February 5, 1998

Test Date

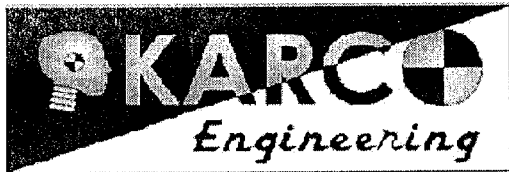
2/5/98

Date



Curve Description:	Testing Program	Hybrid III Right Knee Impact Test
Maximum Value: 5517.1	Test Information:	Part S/N: n/a Test I.D.: K4000
Minimum Value: -1.2		
SAE Filter Class: 600		
Date of Test: 2/5/98		
ATD Serial No.: 035		





Hybrid III Calibration Data Sheet

50TH Percentile Male

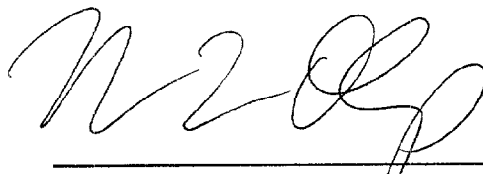
Head Drop Calibration

ATD Serial No.: 035

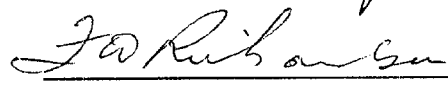
Part Serial No.: n/a

Test I.D.: H6000

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	253.5	Pass
Peak Lateral Acceleration	G's	≤15.0	2.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



Laboratory Technician



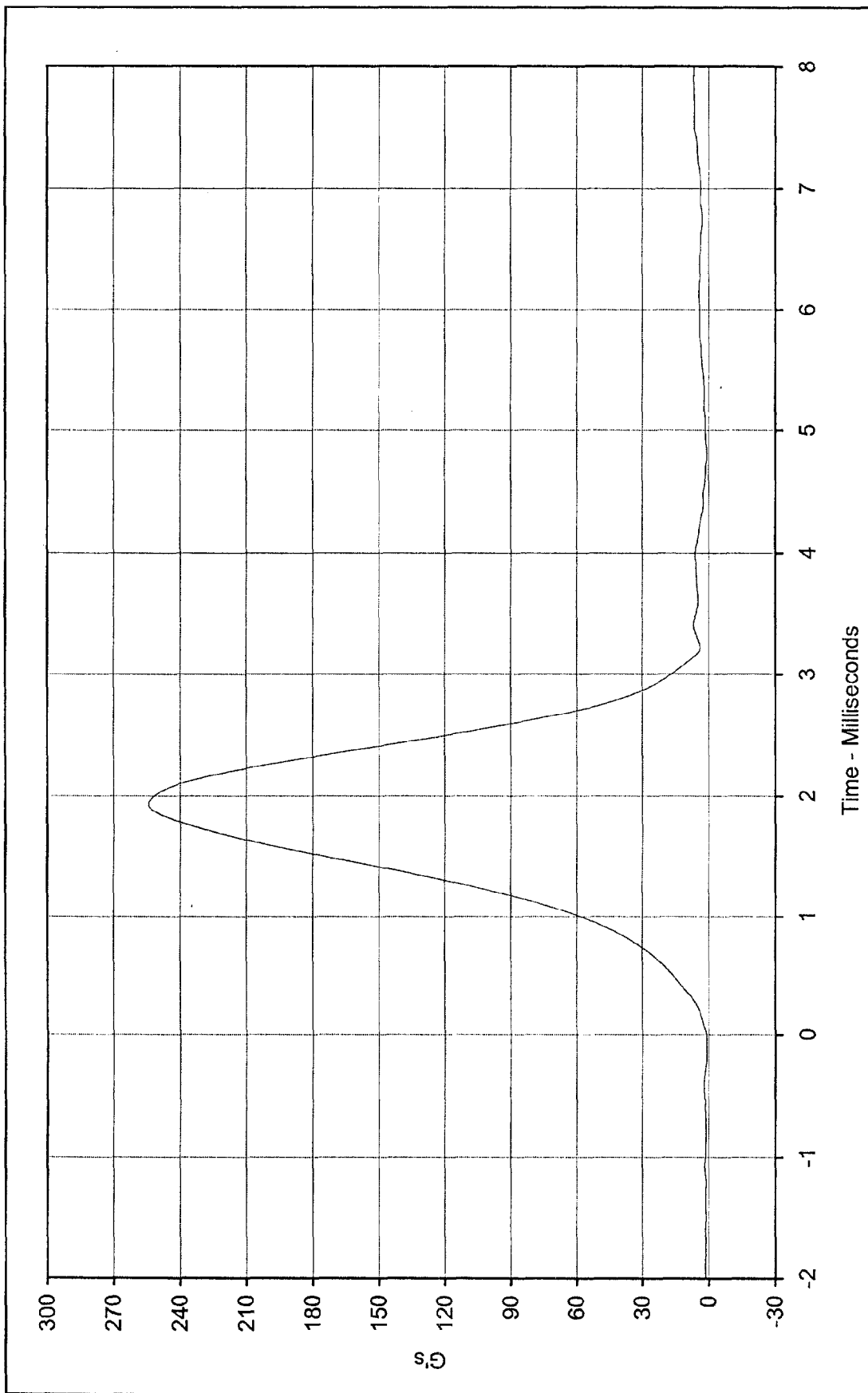
Approved By

February 4, 1998

Test Date

2/4/98

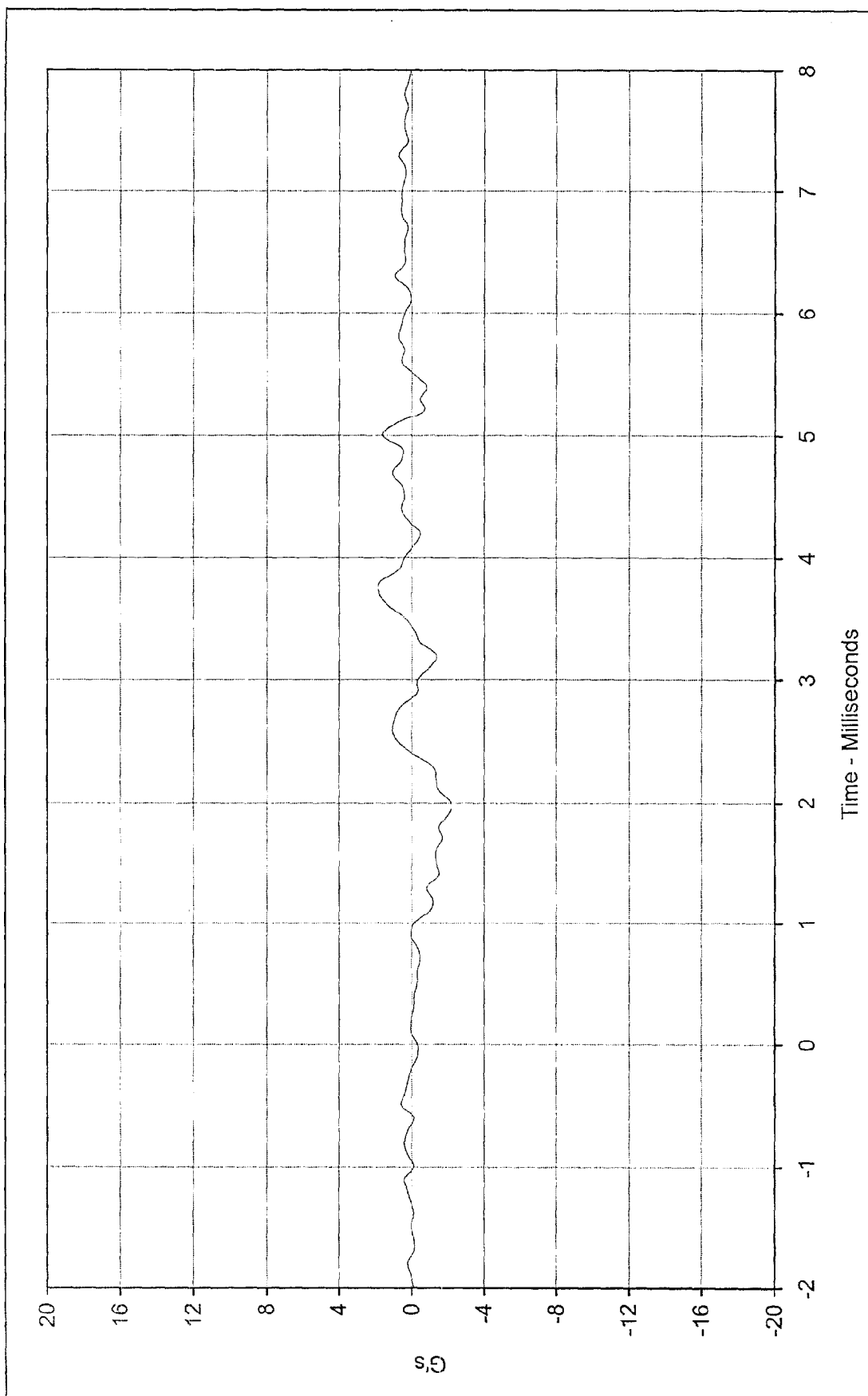
Date



Curve Description: Head Resultant Acceleration
 Maximum Value: 253.5 at 1.9 Milliseconds
 Minimum Value: 0.9 at 4.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/4/98
 ATD Serial No.: 035

Testing Program: Hybrid III Head Drop Calibration (Male)
 Test Information: S/N of Part: n/a Test I.D.: H6000

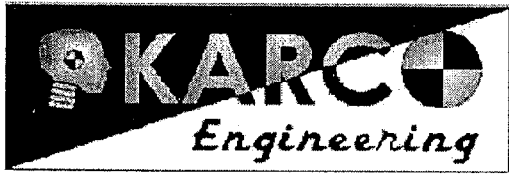




Testing Program Hybrid III Head Drop Calibration (Male)
 Test Information: S/N of Part: n/a Test I.D.: H6000

Curve Description: Head Acceleration Y Axis
 Maximum Value: 1.8 at 3.7 Milliseconds
 Minimum Value: -2.2 at 2.0 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 2/4/98
 ATD Serial No.: 005





Hybrid III Calibration Data Sheet

50TH Percentile Male

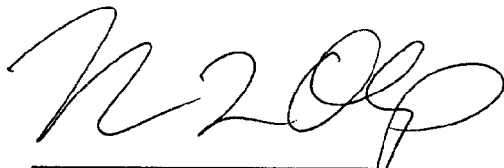
Thorax Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: CHST2

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Probe Velocity	m/s	6.58 to 6.82	6.68	Pass
Peak Probe Force	Newtons	5159 to 5893	5797	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.90	Pass
Internal Hysteresis	%	69 to 85	77.9	Pass
Overall Test Results				Pass


Laboratory Technician

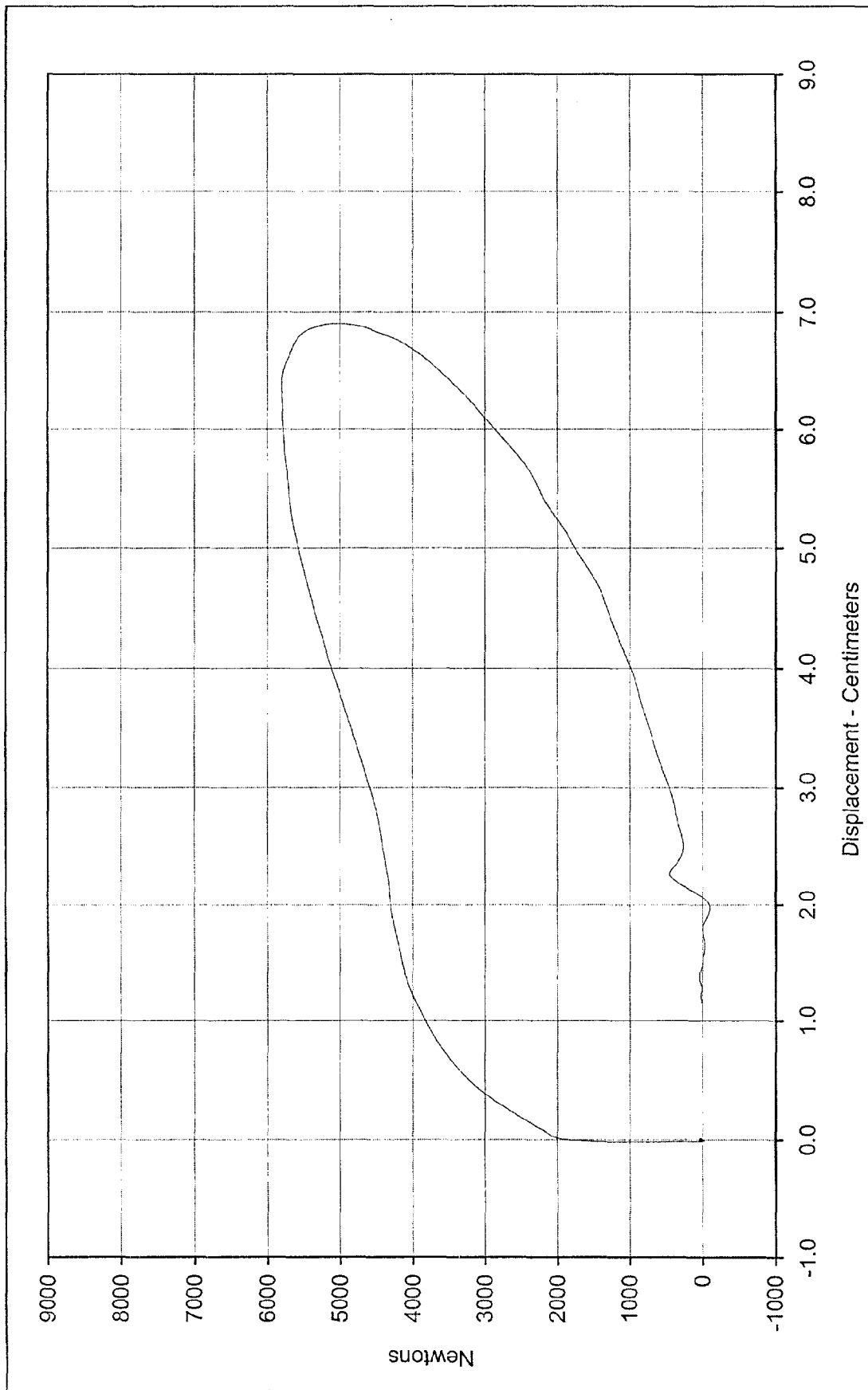

Approved By

February 4, 1998

Test Date

2/4/98

Date



Curve Description:	Probe Force vs. Chest Displacement	Testing Program	Hybrid III Thorax Impact Test
Probe Force:	5797.2 Newtons	Test Information:	S/N of Part: N/A Test I.D.: CHST2
Chest Displ.:	6.90 Centimeters		
SAE Filter Class:	180		
Date of Test:	2/4/98		
ATD Serial No.:	035		





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: NF900

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	36	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.93	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.9	Pass
	20 Msec.	G's	17.6 to 22.6	21.3	Pass
	30 Msec.	G's	12.5 to 18.5	14.2	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	14.2	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	41.5	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	74.4	Pass
	Time	Msec.	57.0 to 64.0	60.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	119.4	Pass
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	88.7	Pass
	Time	Msec.	47.0 to 58.0	55.6	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	101.3	Pass
Overall Test Results					Pass


 Laboratory Technician

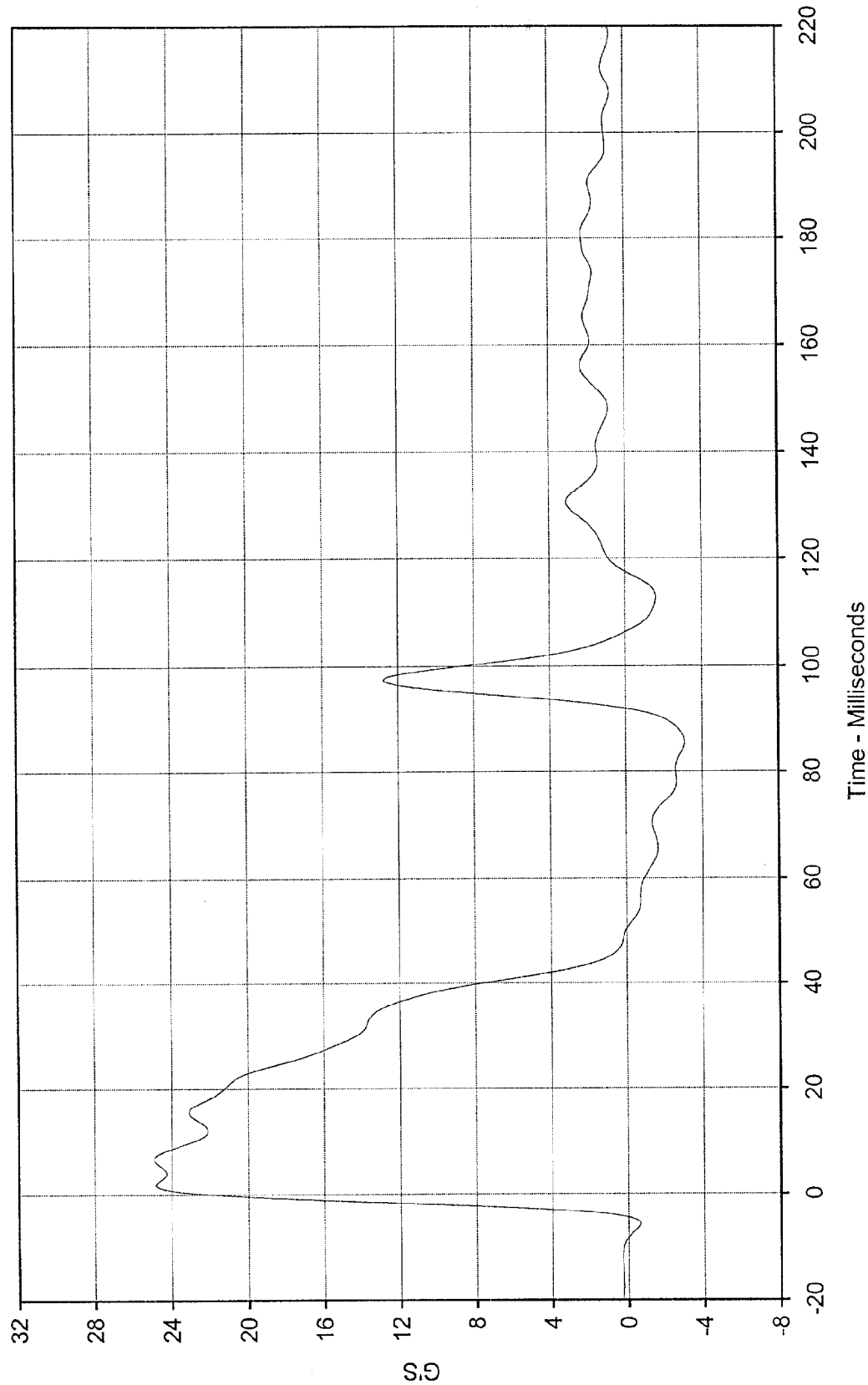
 Approved By

February 5, 1998

Test Date

2/5/98

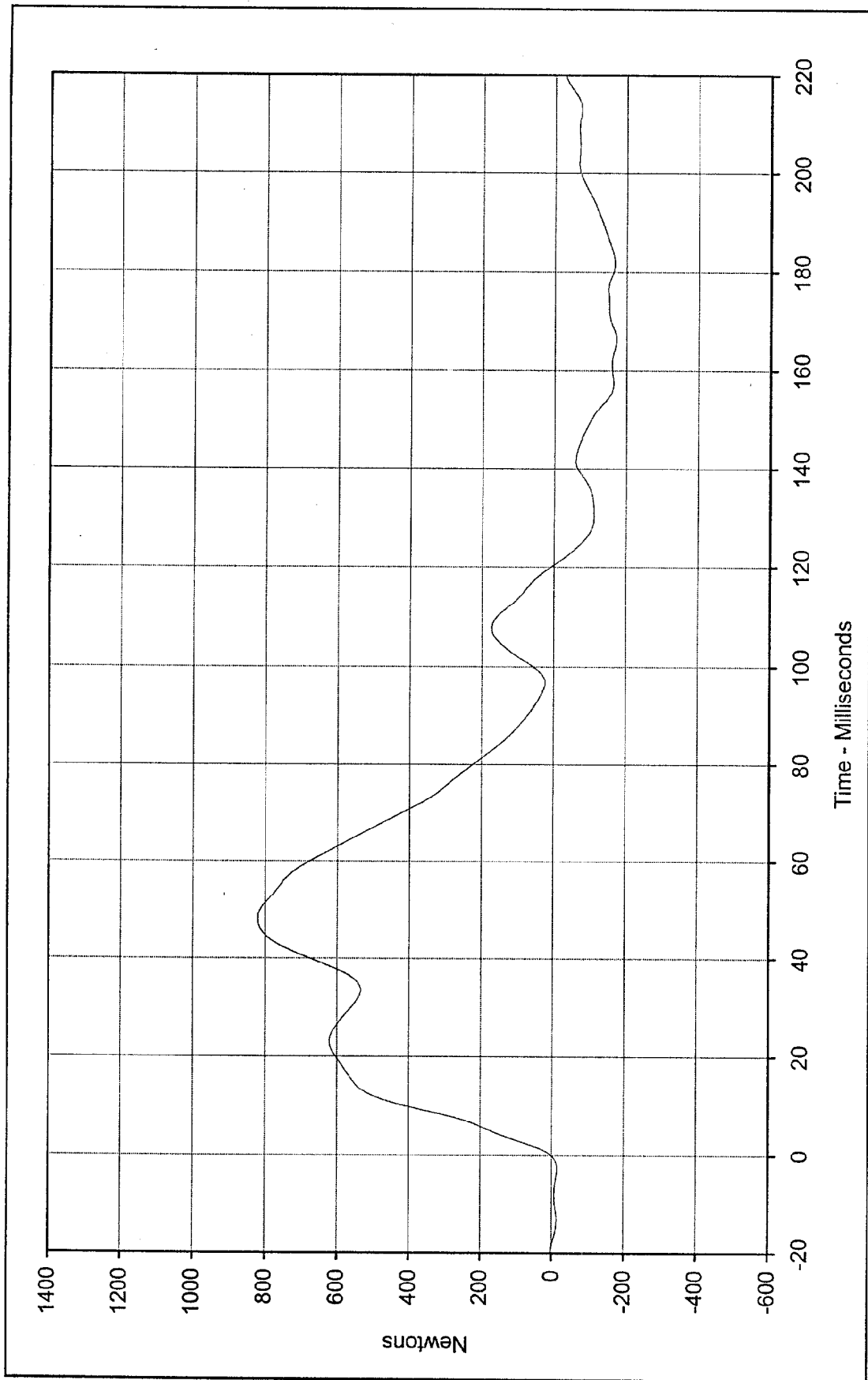
Date



Curve Description: Pendulum Deceleration
 Maximum Value: 24.9 at 6.7 Milliseconds
 Minimum Value: -3.1 at 85.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NF900

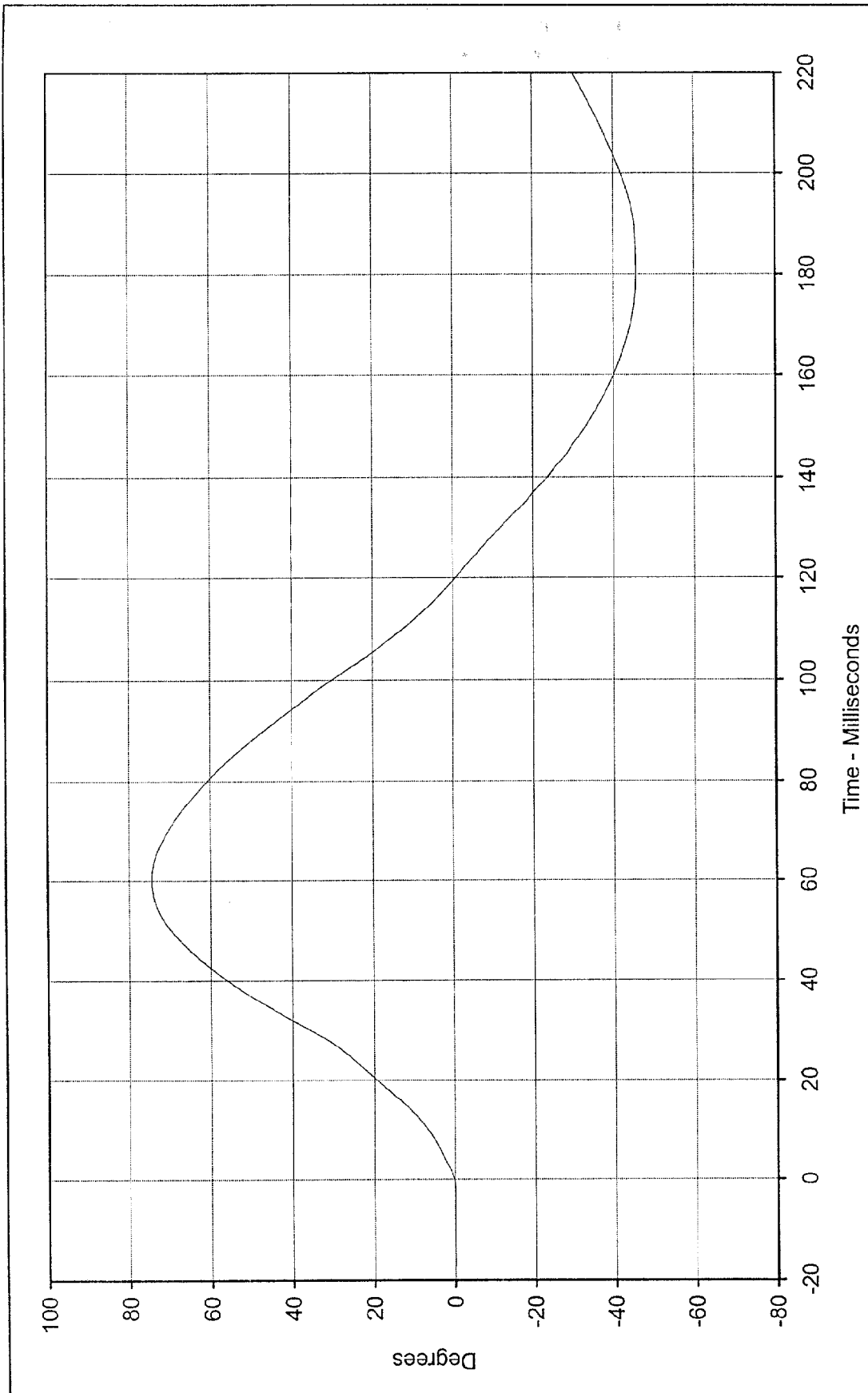




Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NF900

Curve Description: Neck Force X
 Maximum Value: 820.4 at 48.0 Milliseconds
 Minimum Value: -171.4 at 166.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 035





Curve Description: _____ Testing Program: Hybrid III Neck Flexion Test (Male)

Maximum Value: 74.4 at 60.1 Milliseconds Test Information: S/N of Part: n/a Test I.D.: NF900

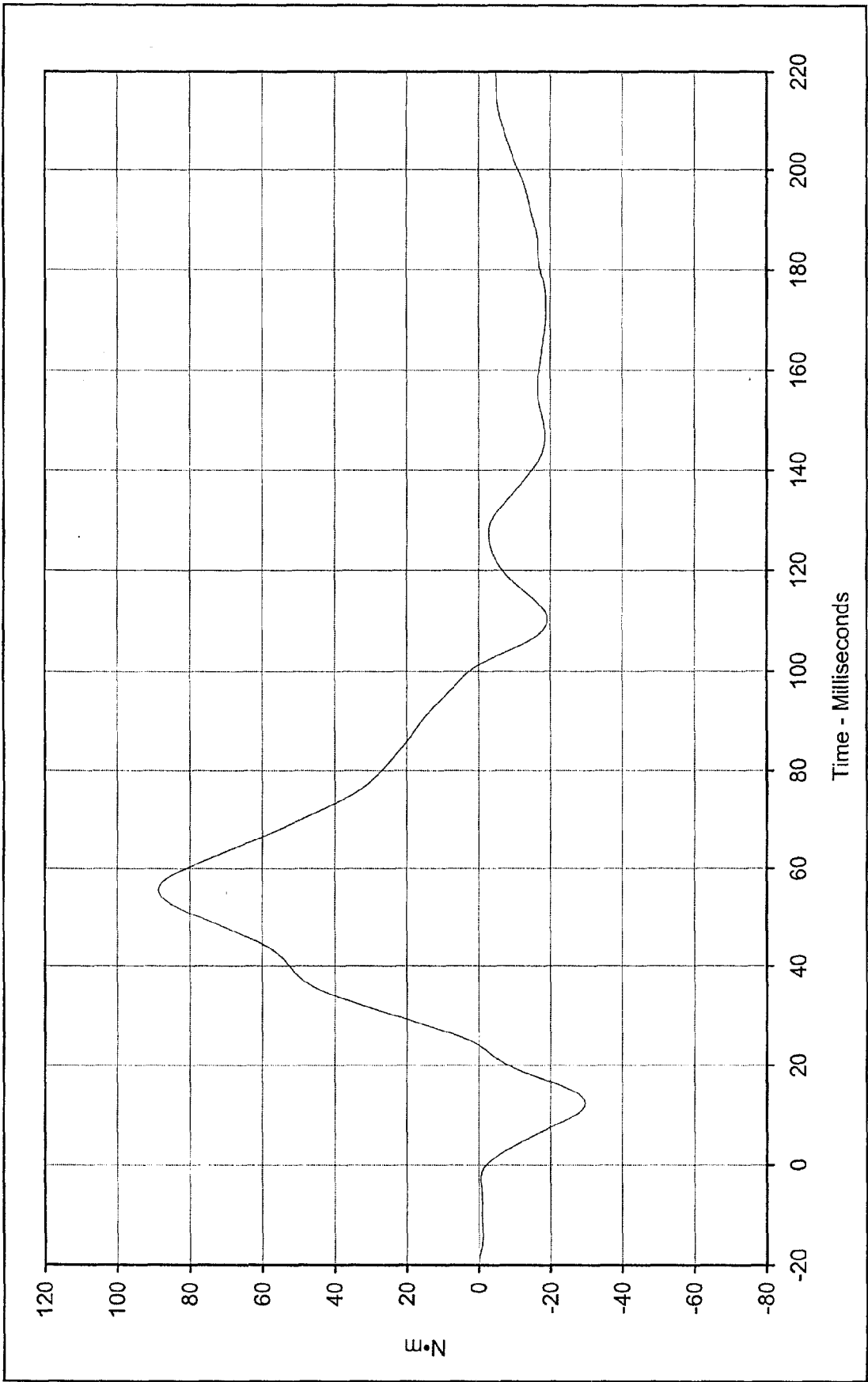
Minimum Value: -45.7 at 180.4 Milliseconds



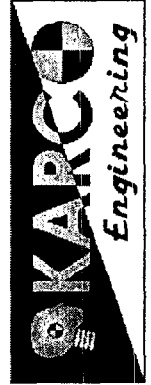
SAE Filter Class: 60

Date of Test: 2/5/98

ATD Serial No.: 035



Curve Description:		Testing Program	
Moment About Occipital Condyles		Hybrid III Neck Flexion Test (Male)	
Maximum Value:	88.7	Test Information:	
	at 55.6	S/N of Part: n/a	
Minimum Value:	-29.6	Test I.D.: NF900	
	at 12.2		



SAE Filter Class:	60
Date of Test:	2/5/98
ATD Serial No.:	035



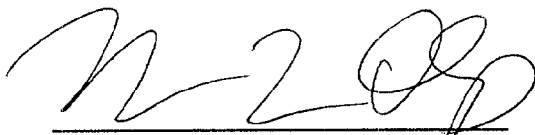
Hybrid III Calibration Data Sheet

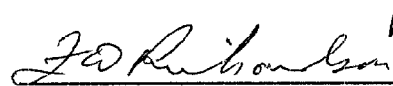
50TH Percentile Male

Neck Extension Test

ATD Serial No.: 035Part Serial No.: n/aTest I.D.: NE300

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	36	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.15	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.6	Pass
	20 Msec.	G's	14.0 to 19.0	17.3	Pass
	30 Msec.	G's	11.0 to 16.0	15.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	40.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	93.6	Pass
	Time	Msec.	72.0 to 82.0	77.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	153.7	Pass
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-77.1	Pass
	Time	Msec.	65.0 to 79.0	66.4	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	145.5	Pass
Overall Test Results					Pass


Laboratory Technician

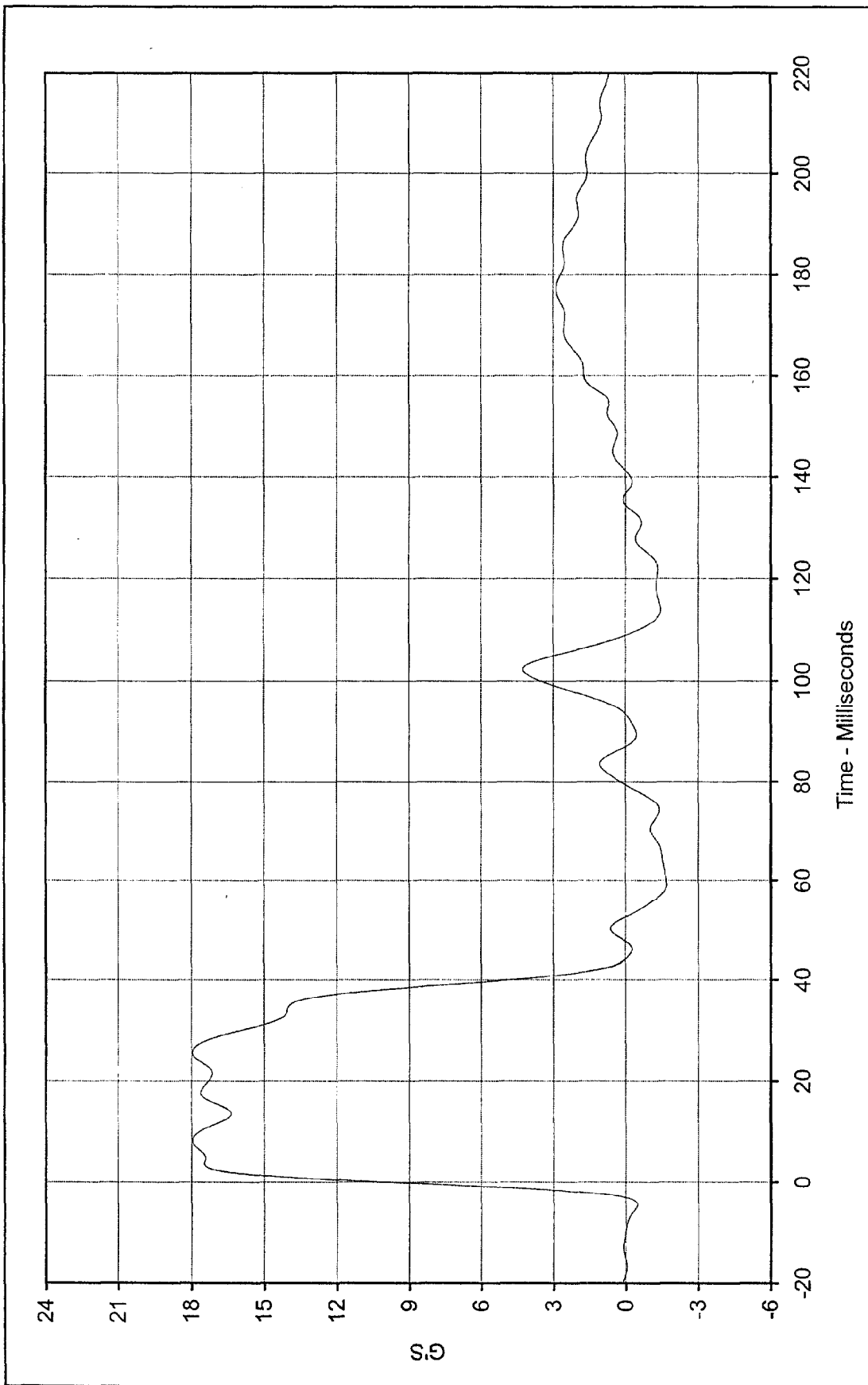

Approved By

February 5, 1998

Test Date

2/5/98

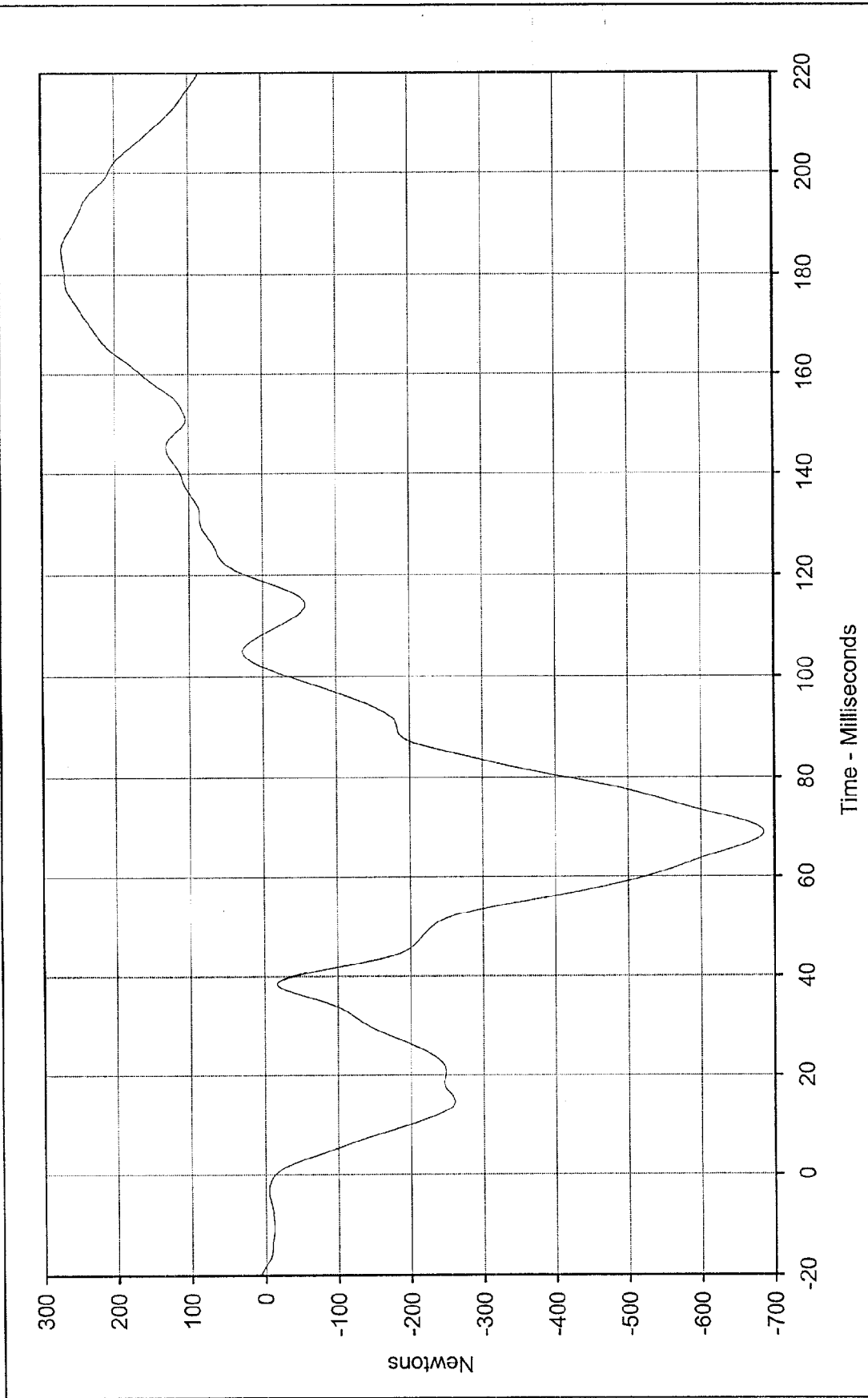
Date



Curve Description: Pendulum Deceleration Testing Program Hybrid III Neck Extension Test (Male)
Maximum Value: 18.0 at 25.6 Milliseconds Test Information: S/N of Part: n/a Test I.D.: NE300
Minimum Value: -1.7 at 59.4 Milliseconds



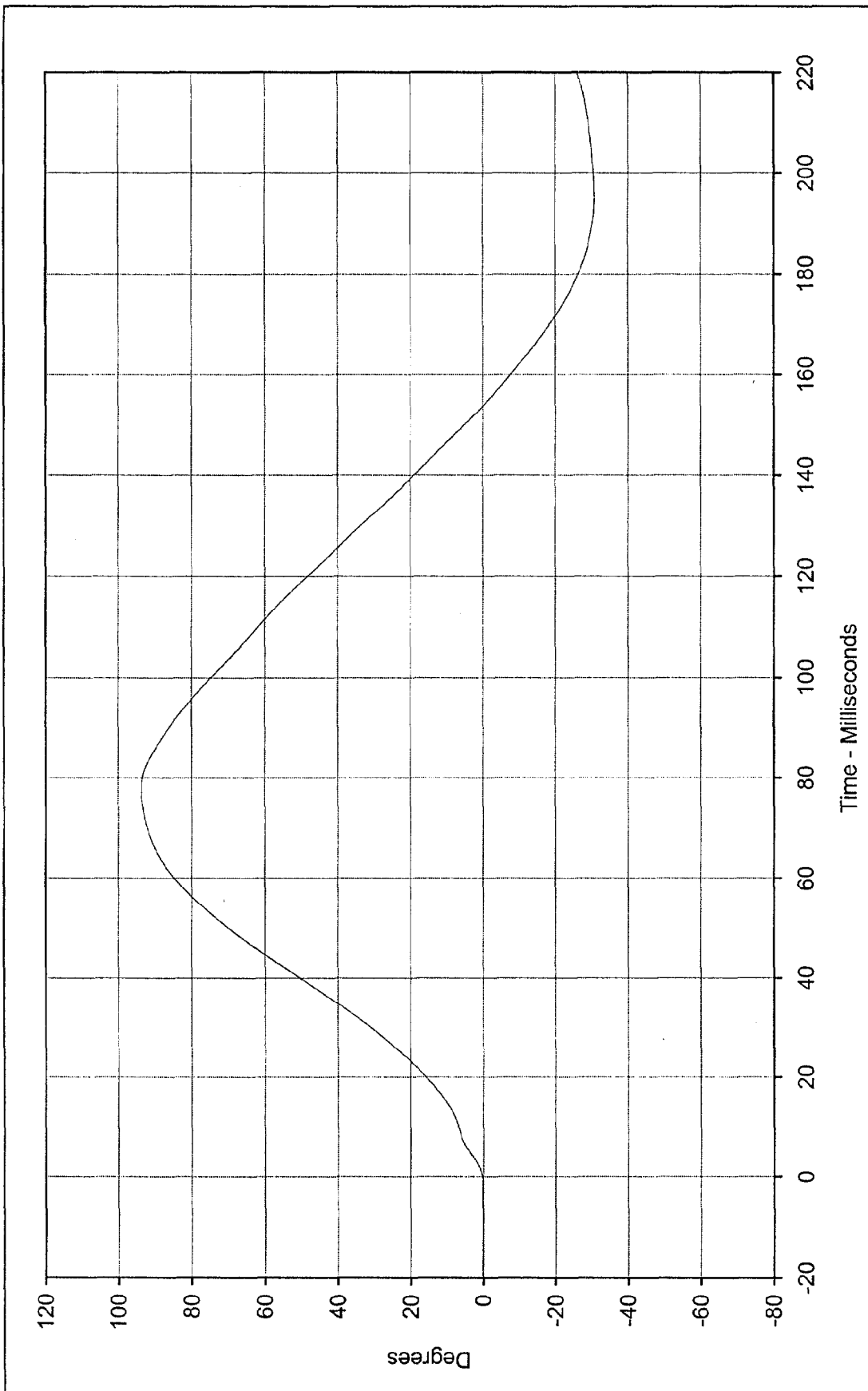
SAE Filter Class: 60
Date of Test: 2/5/98
ATD Serial No.: 035



Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NE300

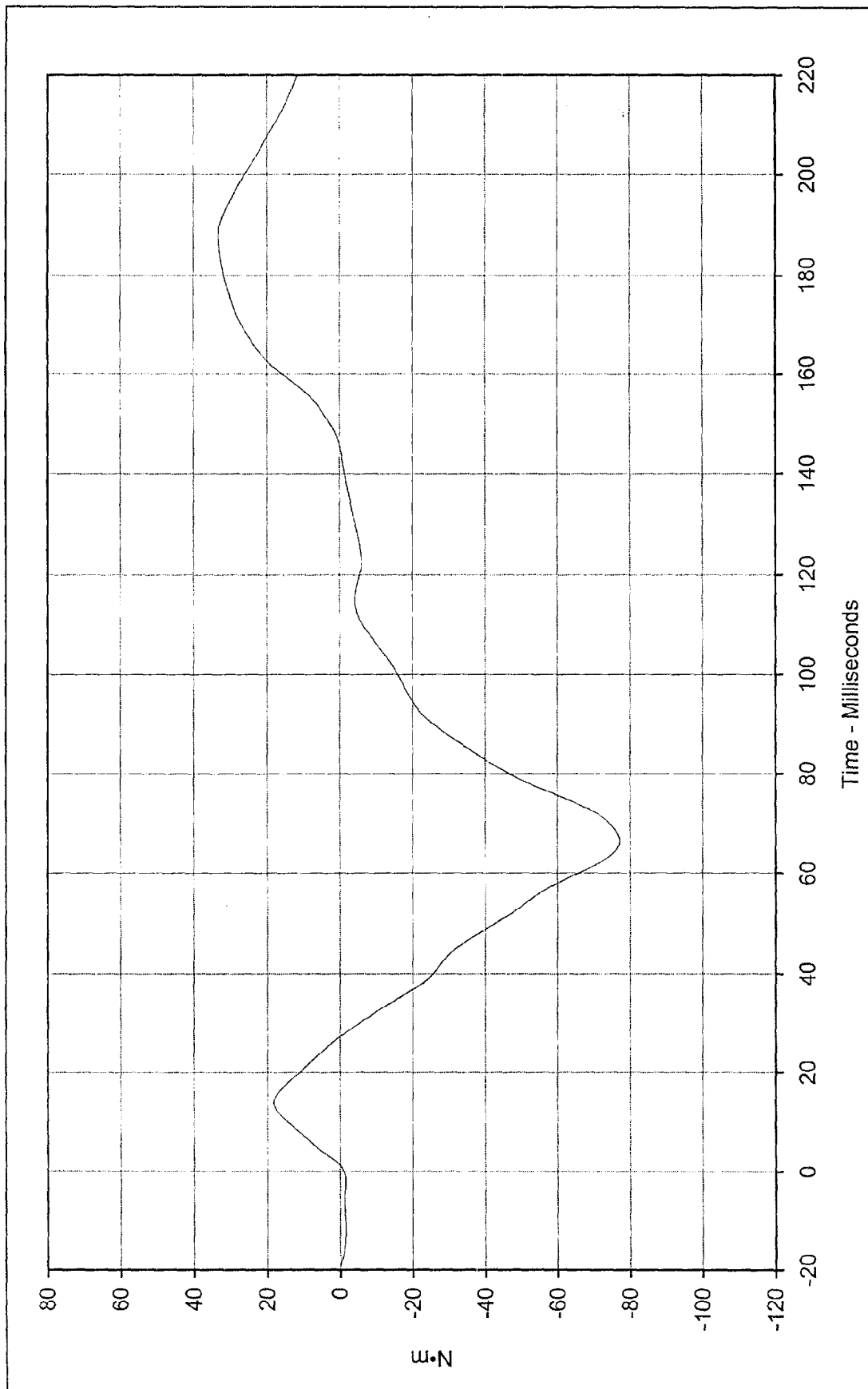


Curve Description: Neck Force X
 Maximum Value: 272.8 at 184.8 Milliseconds
 Minimum Value: -686.1 at 68.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 035



Curve Description: _____ Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: 93.6 at 77.7 Milliseconds
 Minimum Value: -30.8 at 194.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 2/5/98
 ATD Serial No.: 035





Curve Description:		Moment About Occipital Condyles	
Maximum Value:	33.2	at	187.6 Milliseconds
Minimum Value:	-77.1	at	66.4 Milliseconds
SAE Filter Class:	60		
Date of Test:	2/5/98		
ATD Serial No.:	035		

Testing Program Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NE300





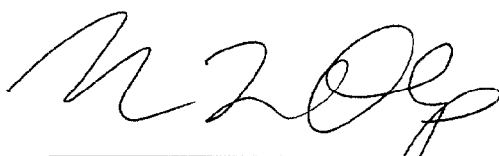
Hybrid III Calibration Data Sheet

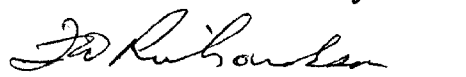
50TH Percentile Male

External Measurements

ATD Serial No.: 035Part Serial No.: N/ATest I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.9	Pass
Laboratory relative humidity	%	10 to 70	43.0	Pass
A - Total sitting height	mm	878.8 to 889.0	885.0	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	520.0	Pass
C - "H" point height	mm	83.8 to 88.9	86.0	Pass
D - "H" point from seat back	mm	134.6 to 139.7	136.0	Pass
E - Shoulder pivot from back	mm	83.8 to 94.0	90.0	Pass
F - Thigh clearance	mm	139.7 to 154.9	153.0	Pass
G - Elbow back to wrist pivot	mm	289.6 to 304.8	300.0	Pass
H - Skull cap to back line	mm	40.6 to 45.7	44.0	Pass
I - Shoulder to elbow length	mm	330.2 to 345.4	335.0	Pass
J - Elbow rest height	mm	190.5 to 210.8	200.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	600.0	Pass
L - Popliteal length	mm	429.3 to 454.7	450.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	490.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	477.0	Pass
O - Chest depth	mm	213.4 to 228.6	226.0	Pass
P - Foot length	mm	251.5 to 266.7	260.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	430.0	Pass
W - Foot breadth	mm	91.4 to 106.7	100.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	1000.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	860.0	Pass
AA - Location for chest circumference	mm	429.3 to 434.3	430.0	Pass
BB - Location for waist circumference	mm	226.1 to 231.1	230.0	Pass
Overall Test Results				Pass


Laboratory Technician


Approved By

February 5, 1998

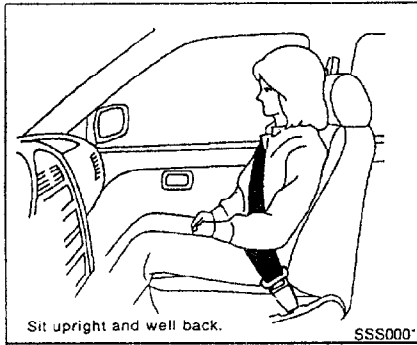
Test Date

2/5/98

Date

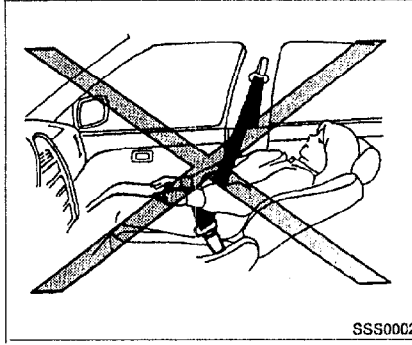
APPENDIX F
VEHICLE OWNER'S MANUAL
OCCUPANT RESTRAINT INSTRUCTIONS

SEATS



WARNING

- Do not ride in a moving vehicle when the seatback is reclined. This can be dangerous. The shoulder belt will not be against your body, in an accident you could be thrown into it and receive neck or other serious injuries. You could also slide under the lap belt and receive serious internal injuries.



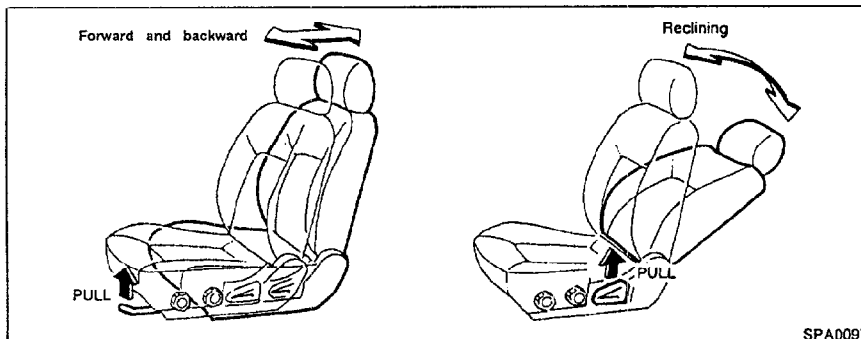
- For most effective protection when the vehicle is in motion, the seat should be upright. Always sit well back in the seat and adjust the seat belt properly. See "Precautions on seat belt usage" later in this section.

FRONT MANUAL SEAT ADJUSTMENT

WARNING

- Do not adjust the driver's seat while driving. The seat may move suddenly and could cause loss of control of the vehicle.
- After adjustment, gently rock in the seat to make sure it is securely locked.

1-2 Seats, restraints and supplemental air bag systems

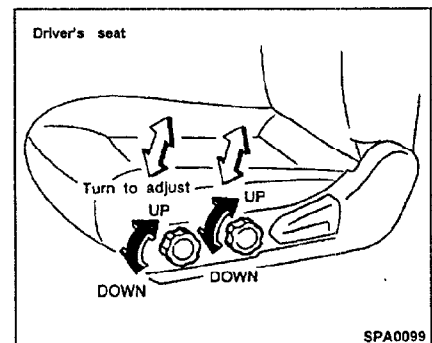


Forward and backward

Pull the lever up while you slide the seat forward or backward to the desired position. Release the lever to lock the seat in position.

Reclining

To recline the seatback, pull the lever up and lean back. To bring the seatback forward again, pull the lever and move your body forward. The seatback moves forward.



Seat lifter (Driver's seat)

Turn either dial to adjust the angle and height of the seat cushion to the desired position.

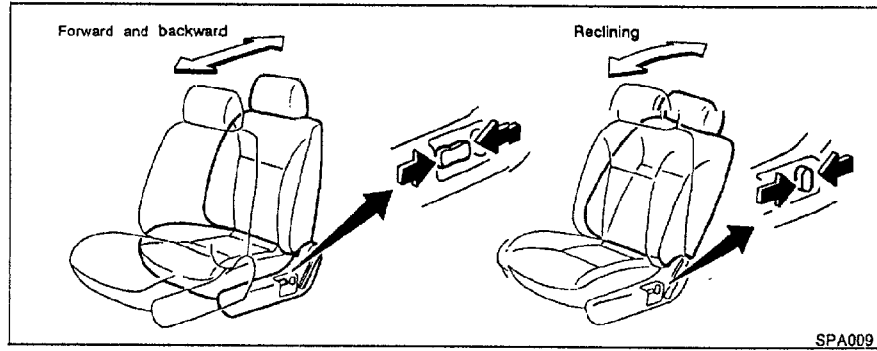
FRONT POWER SEAT ADJUSTMENT

⚠ WARNING

- Do not adjust the driver's seat while driving in order that full attention may be given to the driving operations.
- Do not leave children unattended inside the vehicle. They could unknowingly activate switches or controls. Unattended children could become involved in serious accidents.

Operating tips

- The motor has an auto-reset overload protection circuit. If the motor stops during operation, wait 30 seconds, then re-activate the switch.
- Do not operate the power support seat for a long period of time when the engine is off. This will discharge the battery.



SPA009

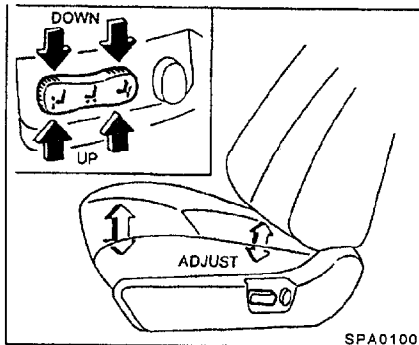
Forward and backward

Moving the switch forward or backward will slide the seat forward or backward to the desired position.

Reclining

Move the recline switch backward until the desired angle is obtained. To bring the seatback forward again, move the switch forward and move your body forward. The seatback will move forward.

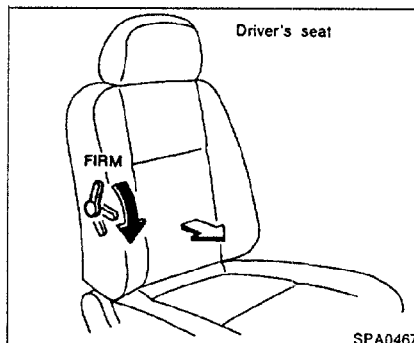
1-4 Seats, restraints and supplemental air bag systems



SPA0100

Seat lifter (Driver's seat)

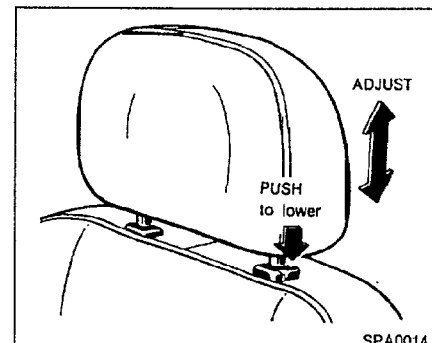
Push the front or rear end of the switch up or down to adjust the angle and height of the seat cushion.



SPA0467

Lumbar support (Driver's seat)

The lumbar support feature provides lower back support to the driver. Move the lever up or down to adjust the seat lumbar area.



SPA0014

HEAD RESTRAINT ADJUSTMENT

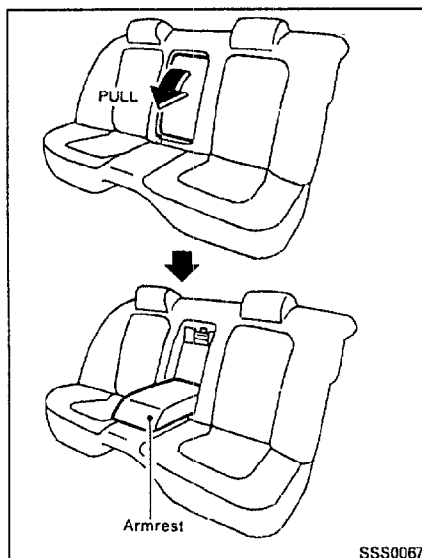
To raise the head restraint, simply pull it up. To lower, push the lock knob and push the head restraint down.

Adjust the head restraints so the top is level with the top of your ears.

⚠ WARNING

Head restraints should be adjusted properly as they may provide significant protection against injury in an accident. Do

not remove them. **Check** the adjustment after someone else uses the seat.



it from sliding or shifting. Do not place cargo higher than the seatbacks. In a sudden stop or collision, unsecured cargo could cause personal injury.

Pull the armrest forward until it is horizontal.

ARMREST



Properly secure all cargo to help prevent

I-6 Seats, restraints and supplemental air bag systems

SUPPLEMENTAL RESTRAINT SYSTEM

PRECAUTIONS ON SUPPLEMENTAL RESTRAINT SYSTEM

This Supplemental Restraint System (SRS) section contains important information concerning the driver and passenger supplemental air bags and supplemental side air bags.

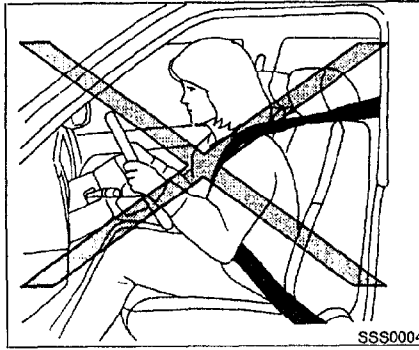
Supplemental air bag system: This system can help cushion the impact force to the face and chest of the driver and front passenger in certain frontal collisions.

Supplemental side air bag system (if so equipped): This system can help cushion the impact force to the chest area of the driver and front passenger in certain side impact collisions. The supplemental side air bag is designed to inflate on the side where the vehicle is impacted.

These supplemental restraint systems are designed to **supplement** the crash protection provided by the driver and front passenger seat belts and are **not a substitute** for them. Seat belts should always be correctly worn and the driver and front passenger seated a suitable distance away from the steering wheel, instrument panel and front door finishers. (See "Seat belts" later in this section for instructions and precau-

tions on seat belt usage.)

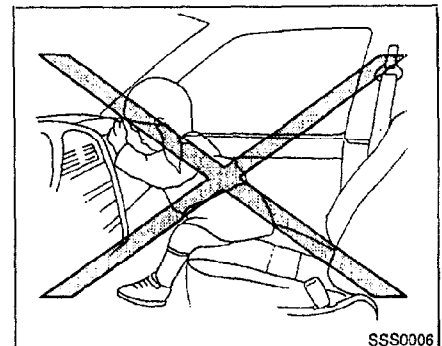
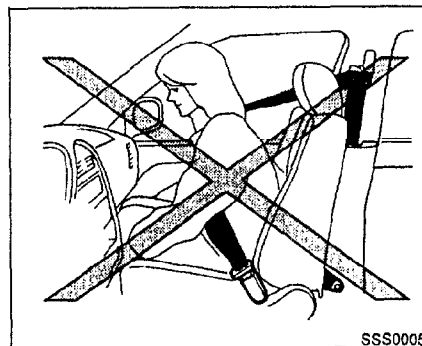
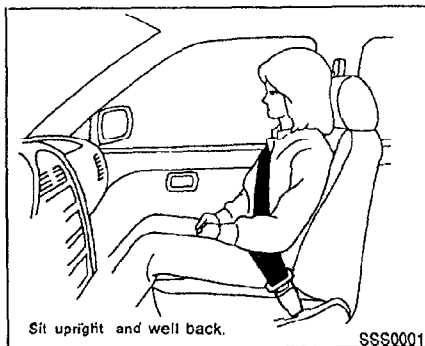
After turning the ignition key to the ON position, the supplemental air bag warning light illuminates. The supplemental air bag warning light will turn off after about 7 seconds if the system is operational.



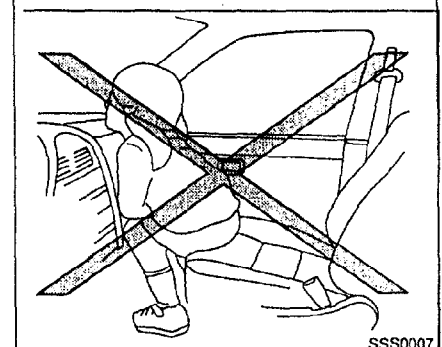
⚠ WARNING

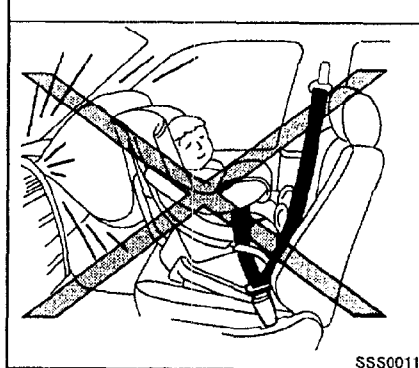
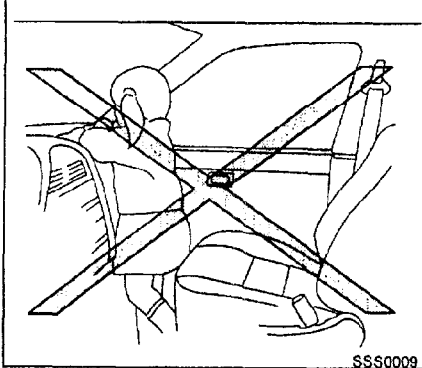
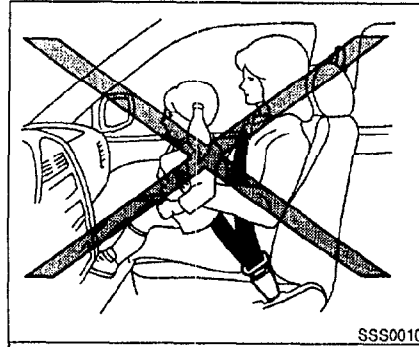
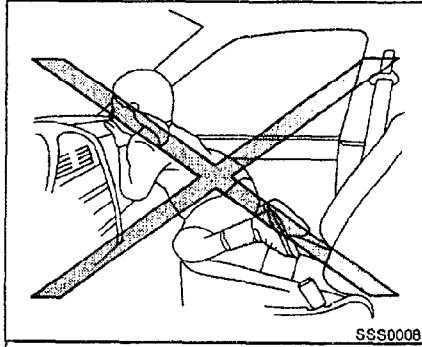
- The supplemental air bags ordinarily will not inflate in the event of a side impact, rear impact, roll over, or lower severity frontal collision. Always wear your seat belts to help reduce the risk or severity of injury in various kinds of accidents.
- The seat belts and the supplemental air bags are most effective when you are sitting well back and upright in the seat. Supplemental air bags inflate with great force. If you are unrestrained, leaning forward, sitting sideways or out of position in any way, you are at greater risk of injury or death in a crash and may also receive serious or fatal injuries from the supplemental air bag if you are up against it when it inflates. Always sit back against the seatback and use the seat belts.

1-8 Seats, restraints and supplemental air bag systems



- Keep hands on the outside of the steering wheel. Placing them inside the steering wheel rim could increase the risk that they are injured when the supplemental air bag inflates.

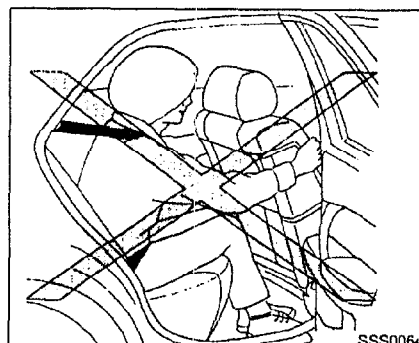
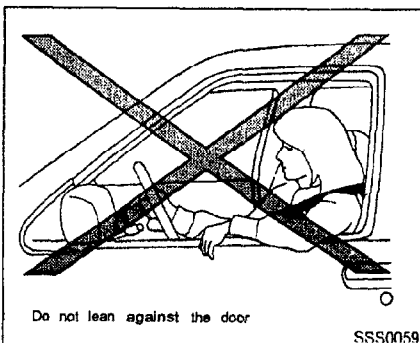




⚠ WARNING

- Never let children ride unrestrained or extend their hands or face out of the window. Do not attempt to hold them in your lap or arms. Some examples of dangerous riding positions are shown in the previous illustrations.
- Children may be severely injured or killed when the supplemental air bag or supplemental side air bag inflates if they are not properly restrained.
- Also never install a rear facing child restraint in the front seat. An inflating supplemental air bag could seriously injure or kill your child. For additional information, see "Child restraints" later in this section.

H 0 Seats, restraints and supplemental air bag systems



Inflates, the occupant may be seriously injured. Be especially careful with children, who should always be properly restrained.

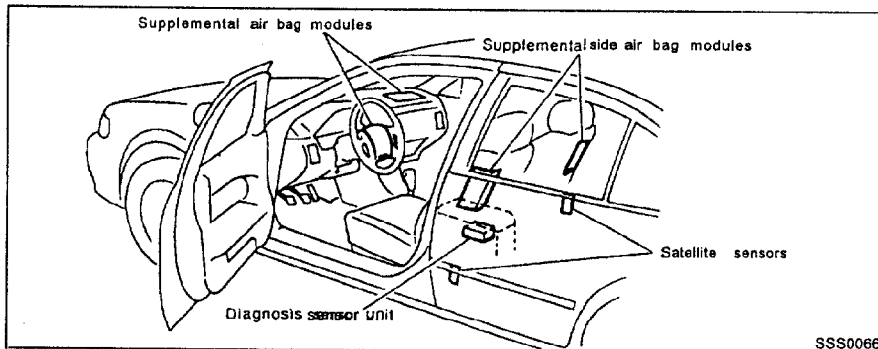
- Do not use seat covers on the front seatbacks. They may interfere with supplemental side air bag inflation.

⚠ WARNING

Supplemental side air bag equipped models:

- The supplemental side air bag ordinarily will not inflate in the event of a frontal impact, rear impact or lower severity side collision. Always wear your seat belts to help reduce the risk or severity of injury in various kinds of accidents.

- The seat belts and the supplemental side air bag are most effective when you are sitting well back and upright in the seat. Supplemental side air bag inflates with great force. Do not allow anyone to place their hand, leg or face near the supplemental side air bag on the side of the seatback of the front seat. Do not allow anyone sitting in the front seat to extend their hand out of the window or lean against the door. When sitting in the rear seat, do not hold onto the seatback of the front seat. If the supplemental side air bag



Supplemental air bag system

The driver supplemental air bag is located in the center of the steering wheel; the front passenger supplemental air bag is mounted in the dashboard above the glove box. The supplemental air bags are designed to inflate in higher severity frontal collisions, although they may inflate if the forces in another type of collision are similar to those of a higher severity frontal impact. They may not inflate in certain frontal collisions. Vehicle damage (or lack of it) is not always an indication of proper supplemental air bag operation.

I-2 Seats, restraints and supplemental air bag systems

When the supplemental air bag inflates, a fairly loud noise may be heard, followed by release of smoke. This smoke is not harmful and does not indicate a fire, but care should be taken not to inhale it, as it may cause irritation and choking. Those with a history of a breathing condition should get fresh air promptly.

Supplemental air bags along with the use of seat belts, helps to cushion the impact force on the face and chest of the front occupants. They can help save lives and reduce serious injuries. However, an inflating supplemental air bag may cause facial abrasions

or other injuries. Supplemental air bags do not provide restraint to the lower body.

The seat belts should be correctly worn and the driver and passenger seated upright as far as practical away from the steering wheel or dash board. Since the supplemental air bags inflate quickly in order to help protect the front occupants, the force of the supplemental air bag inflating can increase the risk of injury if the occupant is too close to or is against the supplemental air bag module during inflation. The supplemental air bag will deflate quickly after the collision is over.

After turning the ignition key to the ON position, the supplemental air bag warning light illuminates. The supplemental air bag warning light will turn off after about 7 seconds if the system is operational.

WARNING

- Do not place any objects on the steering wheel pad or on the instrument panel. Also, do not place any objects between any occupant and the steering wheel or instrument panel. Such objects may become dangerous pro-

jectiles and cause injury if the supplemental air bag inflates.

- Right after inflation, several supplemental air bag system components will be hot. Do not touch them; you may severely burn yourself.
- No unauthorized changes should be made to any components or wiring of the supplemental air bag system. This is to prevent accidental inflation of the supplemental air bag or damage to the supplemental air bag system.
- Do not make unauthorized changes to your vehicle's electrical system, suspension system or front end structure. This could affect proper operation of the supplemental air bag system.
- Tampering with the supplemental air bag system may result in serious personal injury. Tampering includes changes to the steering wheel and the instrument panel assembly by placing material over the steering wheel pad, above the dashboard, or by installing additional trim material around the

supplemental air bag system.

- Work around and on the supplemental air bag system should be done by an authorized NISSAN dealer. Installation of electrical equipment should also be done by an authorized NISSAN dealer. The SRS wiring harnesses* should not be modified or disconnected. Unauthorized electrical test equipment and probing devices should not be used on the supplemental air bag system.
- * The SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or over the complete harness for easy identification.

When selling your vehicle, we request that you inform the buyer about the supplemental air bag system and guide the buyer to the appropriate sections in this Owner's Manual.

Supplemental side air bag system

The supplemental side air bags are located

in the outside of the seatback of the front seats. The supplemental side air bag (on the driver or front passenger seat) is designed to inflate in higher severity side collisions, although it may inflate if the forces in another type of collision are similar to those of a higher severity side impact. It is designed to inflate on the side where the vehicle is impacted. It may not inflate in certain side collisions. Vehicle damage (or lack of it) is not always an indication of proper supplemental side air bag operation.

When the supplemental side air bag inflates, a fairly loud noise may be heard, followed by release of smoke. This smoke is not harmful and does not indicate a fire, but care should be taken not to inhale it, as it may cause irritation and choking. Those with a history of a breathing condition should get fresh air promptly.

Supplemental side air bags along with the use of seat belts, help to cushion the impact force on the chest of the front occupants. They can help save lives and reduce serious injuries. However, an inflating supplemental side air bag may cause abrasions or other injuries.

The seat belts should be correctly worn and

the driver and passenger seated upright as far as practical away from the supplemental side air bag. Since the supplemental side air bag inflates quickly in order to help protect the front occupants, the force of the supplemental side air bag inflating can increase the risk of injury if the occupant is too close to or is against the supplemental side air bag module during inflation. The supplemental side air bag will deflate quickly after the collision is over.

After turning the ignition key to the ON position, the supplemental air bag warning light illuminates. The supplemental air bag warning light will turn off after about 7 seconds if the system is operational.

WARNING

- Do not place any objects near the seatback of the front seats. Also, do not place any objects (an umbrella, bag, etc.) between the front door finisher and the front seat. Such objects may become dangerous projectiles and cause injury if the supplemental side air bag inflates.

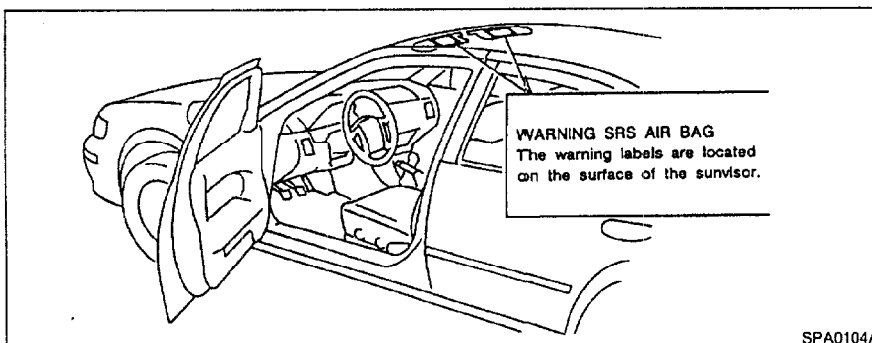
- Right after inflation, several supplemental side air bag system components will be hot. Do not touch them; you may severely burn yourself.
- No unauthorized changes should be made to any components or wiring of the supplemental side air bag system. This is to prevent accidental inflation of the supplemental side air bag or damage to the supplemental side air bag system.
- Do not make unauthorized changes to your vehicle's electrical system, suspension system or side panel. This could affect proper operation of the supplemental side air bag system.
- Tampering with the supplemental side air bag system may result in serious personal injury. Tampering includes changes to the front seats assembly by placing material near the seatback of the front seat, or by installing additional trim material around the supplemental side air bag system.

- Work around and on the supplemental side air bag system should be done by an authorized NISSAN dealer. Installation of electrical equipment should also be done by an authorized NISSAN dealer. The SRS wiring harnesses* should not be modified or disconnected. Unauthorized electrical test equipment and probing devices should not be used on the supplemental side air bag system.

* The SRS wiring harnesses are covered with yellow insulation either just before the harness connectors or over the complete harness for easy identification.

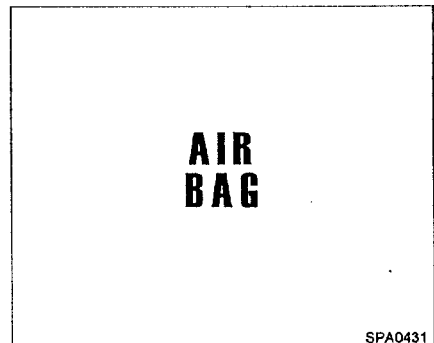
When selling your vehicle, we request that you inform the buyer about the supplemental side air bag system and guide the buyer to the appropriate sections in this Owner's Manual.

1-14 Seats, restraints and supplemental air bag systems



SUPPLEMENTAL AIR BAG WARNING LABELS

Warning labels about the supplemental air bag system are placed in the vehicle as shown in the illustration.



SUPPLEMENTAL AIR BAG WARNING LIGHT

The supplemental air bag warning light, displaying AIR BAG in the instrument panel, monitors the circuits of the supplemental air bag and supplemental side air bag systems. The circuits monitored by the supplemental air bag warning light are the diagnosis sensor unit, satellite sensors, supplemental air bag modules, supplemental side air bag modules and all related wiring.

After turning the ignition key to the ON, the supplemental air bag warning light illuminates.

nates. The supplemental air bag warning light will turn off after about 7 seconds if the system is operational.

If any of the following conditions occur, the supplemental air bag and supplemental side air bag systems need servicing:

- The supplemental air bag warning light does not come on and remain on for 7 seconds and then go off as described above.
- The supplemental air bag light flashes intermittently or remains on (after 7 seconds).
- The supplemental air bag light does not come on at all.

Under these conditions, the supplemental air bags or supplemental side air bags may not operate properly. It must be checked and repaired. Take your vehicle to the nearest authorized NISSAN dealer.

WARNING

If the supplemental air bag warning light is on, it could mean that the supplemental air bag or supplemental side air bag system will not operate in an accident.

Repair and replacement procedure

The supplemental air bags or supplemental side air bags are designed to inflate on a one-time-only basis. As a reminder, unless it is damaged, the supplemental air bag warning light will remain illuminated after inflation has occurred. Repair and replacement of these supplemental systems should be done only by authorized NISSAN dealers.

To ensure long-term functioning, these systems must be inspected 10 years after the date of manufacture noted on the certification label located on the driver side center pillar.

When maintenance work is required on the vehicle, the supplemental air bags, supplemental side air bags and related parts should be pointed out to the person conducting the maintenance. The ignition key should always be in the LOCK position when working under the hood or inside the vehicle.

WARNING

- Once the supplemental air bag or

supplemental side air bag has inflated, the supplemental air bag module or supplemental side air bag module will not function again and must be replaced. The supplemental air bag module or supplemental side air bag module should be replaced by an authorized NISSAN dealer. The supplemental air bag module or supplemental side air bag module cannot be repaired.

- The supplemental air bag and supplemental side air bag systems should be inspected by an authorized NISSAN dealer if there is any damage to the front end or side portion of the vehicle.
- If you need to dispose of these supplemental systems or scrap the vehicle, contact an authorized NISSAN dealer.

Correct disposal procedures are set forth in the appropriate NISSAN Service Manual. Incorrect disposal procedures could cause personal injury.

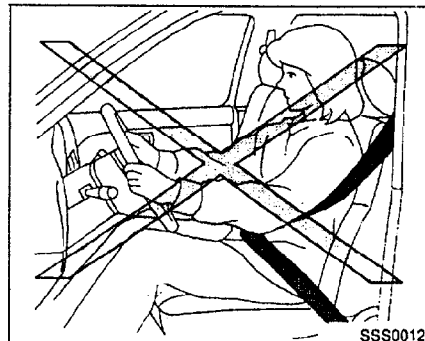
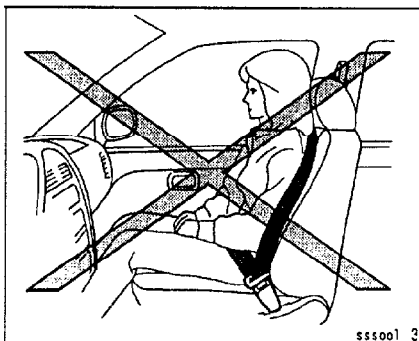
I-6 Seats, restraints and supplemental air bag systems

SEAT BELTS

PRECAUTIONS ON SEAT BELT USAGE

Your chances of being injured or killed in an accident and/or the severity of injury may be greatly reduced if you are wearing your seat belt and it is properly adjusted. NISSAN strongly encourages you and all of your passengers to buckle up every time you drive, even if your seating position includes a supplemental air bag.

Most states, provinces or territories require that seat belts be worn at all times when a vehicle is being driven.

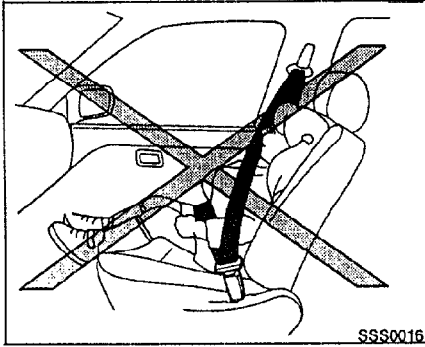


WARNING

- Every person who drives or rides in this vehicle should use a seat belt at all times. Children should be properly restrained and, if appropriate, in a child restraint.
- The belt should be properly adjusted to a snug fit. Failure to do so may reduce the effectiveness of the entire restraint system and increase the

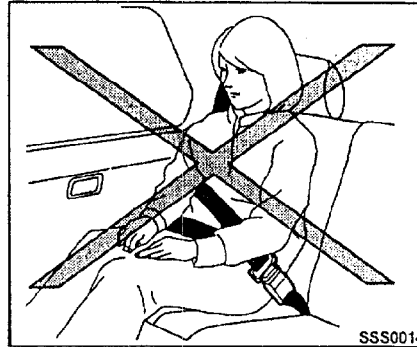
chance or severity of injury in an accident. Serious injury or death can occur if the seat belt is not worn properly.

- Always route the shoulder belt over your shoulder and across your chest. Never run the belt behind your backs under your arm or across your neck. The belt should be away from your face and neck, but not falling off your shoulder.
- Position the lap belt as low and snug



as possible around the hips, not the waist. A lap belt worn too high could increase the risk of internal injuries in an accident.

- Be sure the seat belt tongue is securely fastened to the proper buckle.
- Do not wear the belt inside out or twisted. Doing so may reduce its effectiveness.
- Do not allow more than one person to use the same belt.



- Never carry more people in the vehicle than there are seat belts.
- If the seat belt warning light glows continuously while the ignition is turned ON with all doors closed and all seat belts fastened, it may indicate a malfunction in the system. Have the system checked by your NISSAN dealer.
- a All seat belt assemblies including retractors and attaching hardware should be inspected after any collision by your NISSAN dealer. NISSAN

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bones. In an accident, an improperly fitting seat belt could cause serious or fatal injury. Always use appropriate child restraints.

All US states and provinces of Canada require the use of approved child restraints for infants and small children. (See "Child restraints" later in this section.)

In addition, there are many types of child restraints available for larger children which should be used for maximum protection.

NISSAN recommends that all teenagers and children be restrained in the rear seat if possible. According to accident statistics, children are safer when properly restrained in the rear seat than in the front seat.

This is especially important because your vehicle has a supplemental restraint system (air bag system) for the front passenger (see "Supplemental Restraint System" earlier in this section for precautions).

Infants and small children

NISSAN recommends that infants and small children be placed in child restraints that

comply with Federal Motor Vehicle Safety Standards or Canadian Motor Vehicle Safety Standards. You should choose a child restraint that fits your vehicle and always follow the manufacturer's instructions for installation and use.

Larger children

Children who are too large for child restraint systems should be seated and restrained by the seat belts which are provided.

If the child's seating position has a shoulder belt that fits close to the face or neck, the use of a booster seat (commercially available) may help overcome this. The booster seat should raise the child so that the shoulder belt is properly positioned across the top, middle portion of the shoulder and the lap belt is low on the hips. The booster seat should fit the vehicle seat and have a label certifying that it complies with Federal Motor Vehicle Safety Standards or Canadian Motor Vehicle Safety Standards. Once the child has grown so the shoulder belt is no longer on or near the face and neck, use the shoulder belt without the booster seat.

recommends that all seat belt assemblies in use during a collision be replaced unless the collision was minor and the belts show no damage and continue to operate properly. Seat belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.

CHILD SAFETY

Children need adults to help protect them. They need to be properly restrained.

The proper restraint depends on the child's size. Generally, infants (up to about 1 year and less than 25 lb (11 kg) should be placed in rear facing child restraints. Front facing child restraints are available for children who outgrow rear facing child restraints.

WARNING

Infants and children need special protection. The vehicle's seat belts may not fit them properly. The shoulder belt may come too close to the face or neck. The lap belt may not fit over their small hip

WARNING

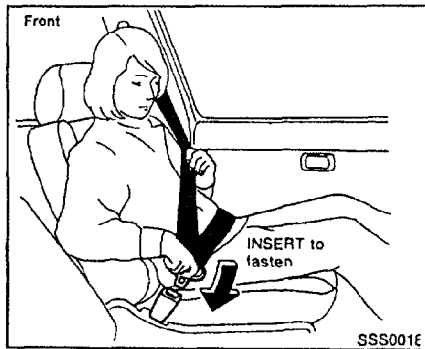
Never let a child stand or kneel on any seat and do not allow a child in the cargo areas while the vehicle is moving. The child could be seriously injured or killed in an accident.

PREGNANT WOMEN

NISSAN recommends that pregnant women use seat belts. Contact your doctor for specific recommendations. The lap belt should be worn snug and positioned as low as possible around the hips, not the waist.

INJURED PERSONS

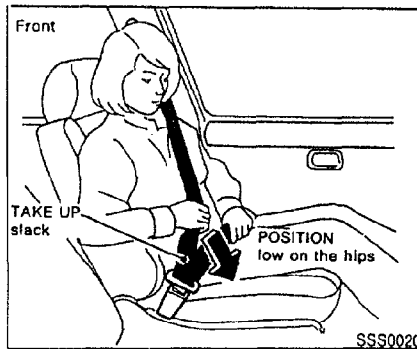
NISSAN recommends that injured persons use seat belts, depending on the injury. Check with your doctor for specific recommendations.



THREE-POINT TYPE SEAT BELT WITH RETRACTOR

WARNING

- Every person who drives or rides in this vehicle should use a seat belt at all times.
- Do not ride in a moving vehicle when the seatback is reclined. This can be dangerous. The shoulder belt will not be against your body. In an accident

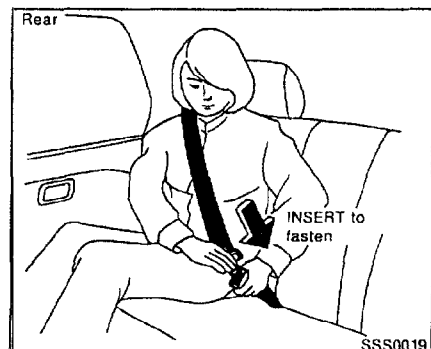


you could be thrown into it and receive neck or other serious injuries. You could also slide under the lap belt and receive serious internal injuries.

- For most effective protection when the vehicle is in motion, the seat should be upright. Always sit well back in the seat and adjust the seat belt properly.

Fastening the seat belts

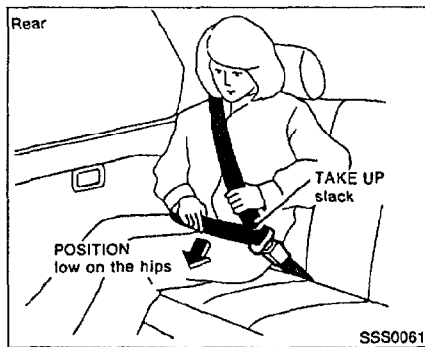
1. Adjust the seat.



2. Slowly pull the seat belt out of the retractor and insert the tongue into the buckle until it snaps.

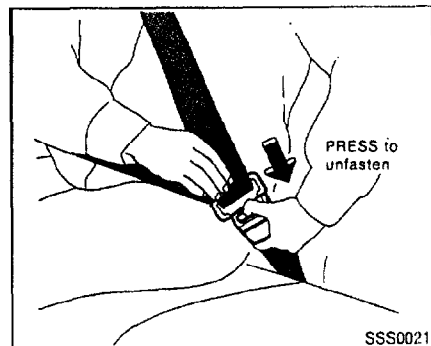
The retractor is designed to lock during a sudden stop or on impact. A slow pulling motion will permit the belt to move, and allow you some freedom of movement in the seat.

1-20 Seats, restraints and supplemental air bag systems



tional information, see "Child restraints" later in this section.

The automatic locking mode should be used only for child restraint installation. During normal seat belt use by a passenger, the locking mode should not be activated. If it is activated it may cause uncomfortable seat belt tension.



3. Position the lap belt portion low and snug on the hips as shown.

4. Pull the shoulder belt portion toward the retractor to take up extra slack.

The front passenger side seat belt and rear three-point seat belts have a cinching mechanism for child restraint installation. It is referred to as the automatic locking mode.

When the cinching mechanism is activated the seat belt cannot be withdrawn again until the seat belt tongue is detached from the buckle and fully retracted. For addi-

Unfastening the seat belts

To unfasten the belt, press the button on the buckle. The seat belt will automatically retract.

Checking seat belt operation

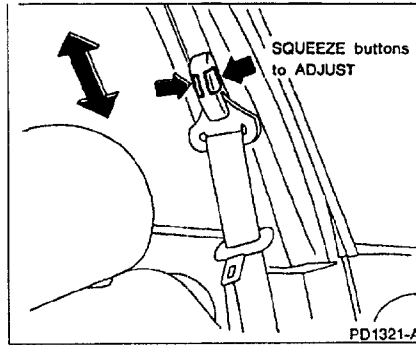
Your seat belt retractors are designed to lock belt movement using two separate methods:

- when the belt is pulled quickly from the retractor.
- when the vehicle slows down rapidly.

You can check their operation as follows:

- grasp the shoulder belt and pull quickly forward. The retractor should lock and restrict further belt movement.

If the retractor does not lock during this check or if you have any questions about belt operation, see your NISSAN dealer.



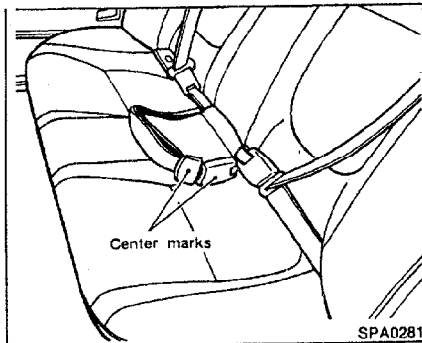
Shoulder belt height adjustment (For front seats)

The shoulder belt anchor height should be adjusted to the position best for you. (See "Precautions on seat belt usage" earlier in this section.) To adjust, squeeze the release buttons, and then move the shoulder belt anchor to the desired position, so that the belt passes over the center of the shoulder. The belt should be away from your face and neck, but not falling off of your shoulder. Release the adjustment buttons to lock the shoulder belt anchor into position.

WARNING

- After adjustment, release the buttons and try to move the shoulder belt anchor up and down to make sure it is securely fixed in position.
- The shoulder belt anchor height should be adjusted to the position best for you. Failure to do so may reduce the effectiveness of the entire restraint system and increase the chance or severity of injury in an accident.

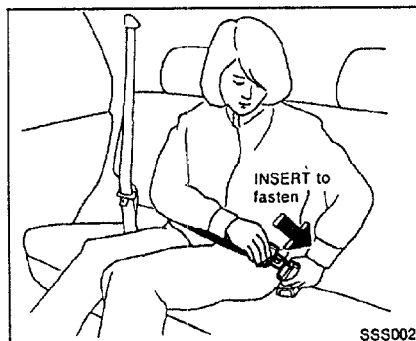
I-22 Seats, restraints and supplemental air bag systems



TWO-POINT TYPE SEAT BELT WITHOUT RETRACTOR (CENTER OF REAR SEAT)

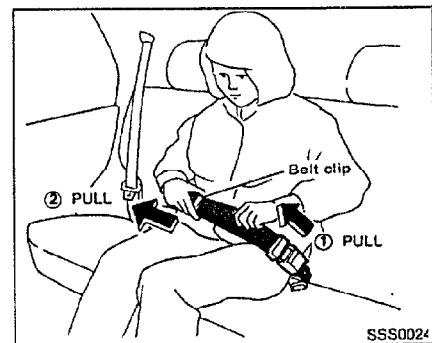
Selecting correct set of seat belts

The center seat belt buckle and tongue are identified by the CENTER mark. The center seat belt tongue can be fastened **only** into the center seat belt buckle.

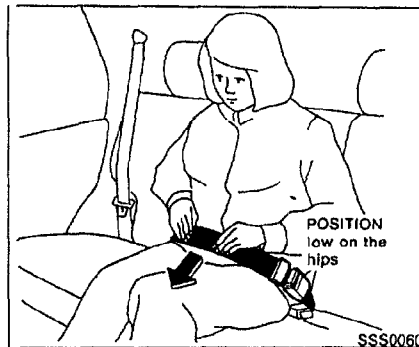
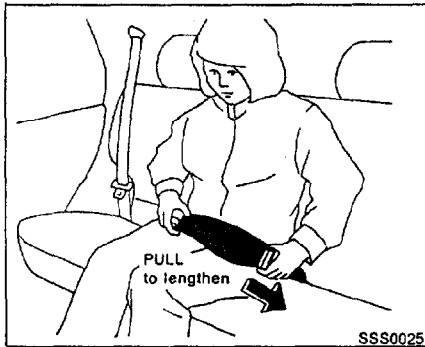


Fastening the seat belts

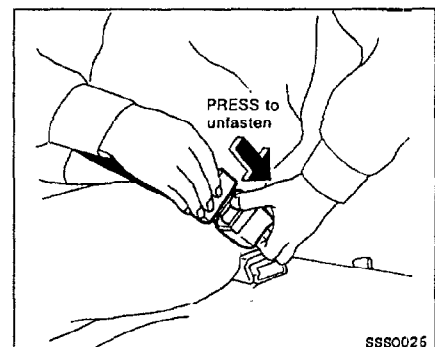
1. Insert the tongue into the buckle marked CENTER until it snaps.



2. To lengthen, hold the tongue at a right angle to the belt and pull on the belt. To shorten, pull the end of the belt attached to the belt clip away from the tongue, and then pull the belt clip to take up the slack.



3. Position the lap belt low and snug on the hips as illustrated.



Unfastening the seat belts

To unfasten the belt, press the button on the buckle.

SEAT BELT EXTENDERS

If, because of body size or driving position, it is not possible to properly fit the lap-shoulder belt and fasten it, an extender is available which is compatible with the installed seat belts. The extender adds approximately 8 inches (200 mm) of length and may be used for either the driver or front passenger seating position. See your NISSAN dealer for assistance if the extender is required.

WARNING

- Only NISSAN belt extenders, made by the same company which made the original equipment belts, should be used with NISSAN belts.
- Persons who can use the standard seat belt should not use an extender. Such unnecessary use could result in serious personal injury in the event of an accident.

SEAT BELT MAINTENANCE

- To clean the seat belt webbings, apply a mild soap solution or any solution recommended for cleaning upholstery or carpets. Then brush the webbing, wipe it with a cloth and allow it to dry in the shade. Do not allow the seat belts to retract until they are completely dry.
- If dirt builds up in the shoulder belt guide of the seat belt anchors, the seat belts may retract slowly. Wipe the shoulder belt guide with a clean, dry cloth.
- Periodically check to see that the seat belt and the metal components such as buckles, tongues, retractors, flexible wires and anchors work properly. If loose parts, deterioration, cuts or other damage on the webbing is found, the entire belt assembly should be replaced.

CHILD RESTRAINTS

PRECAUTIONS ON CHILD RESTRAINTS

WARNING

- Infants and small children should always be placed in an appropriate child restraint while riding in the vehicle. Failure to use a child restraint can result in serious injury or death.
- Infants and small children should never be carried on your lap. It is not possible for even the strongest adult to resist the forces of a severe accident. The child could be crushed between the adult and parts of the vehicle. Also, do not put the same seat belt around both your child and yourself.
- Never install a rear facing child restraint in the front seat. An inflating supplemental air bag could seriously injure or kill your child. A rear facing child restraint must only be used in the rear seat.