

V 2896

REPORT NO. KAR-98-15

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

FRONTAL BARRIER IMPACT TEST

CHRYSLER CORPORATION
1998 DODGE NEON 4-DOOR
NHTSA NO. MW0309

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



JULY 8, 1998
FINAL REPORT

PREPARED FOR:
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<p>16. <i>Abstract</i></p> <p>A 30 mph (48.2 km/h) frontal barrier impact test was conducted on a 1998 Dodge Neon 4-Door at KARCO Engineering on June 30, 1998. This test was conducted to obtain data indicant of FMVSS 212, 219 (partial), 301 and footwell intrusion performance. The impact velocity was 48.7 km/h. The ambient temperature at the barrier face at the time of impact was 31.6°C. The vehicle's maximum post-test static crush was 490 mm, located to the right of the vehicle centerline. The test vehicle was equipped with a 3-point continuous belt system and second generation supplemental airbags at both frontal outboard-seating positions.</p> <p>With respect to "Occupant Crash Protection – Injury Criteria" the occupant injury response data summary is as follows:</p> <table border="1" data-bbox="261 1268 1365 1440"> <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>371.9</td> <td>619.7</td> </tr> <tr> <td>Chest Resultant Peak 3 msec clip</td> <td>60 G's</td> <td>46.0</td> <td>49.0</td> </tr> <tr> <td>Left Femur Force</td> <td>10009 N</td> <td>-5836.6</td> <td>-4437.0</td> </tr> <tr> <td>Right Femur Force</td> <td>10009 N</td> <td>-6672.1</td> <td>-4657.1</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	371.9	619.7	Chest Resultant Peak 3 msec clip	60 G's	46.0	49.0	Left Femur Force	10009 N	-5836.6	-4437.0	Right Femur Force	10009 N	-6672.1	-4657.1
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SECTION 1

PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST MW0309

1.1 PURPOSE

This 30 mph (48.2 km/h) frontal barrier impact test is part of the FY' 98 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, occupant restraint system performance and footwell intrusion data for frontal barrier impacts at a speed in excess of the current 30 mph (48 km/h) FMVSS 212/219/301 requirements.

1.2 TEST PROCEDURE

This 48.2 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 "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 June 30, 1998, at a speed of 48.7 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 47.4 to 49.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and sixteen (16) 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. 35) and the right-front passenger ATD (serial No. 34) were calibrated just prior to conducting this frontal impact test. 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 Dodge Neon 4-Door at a velocity of 48.7 km/h. The test weight, with two (2) 50th percentile male ATDs, was 1359 kg.

The driver's Head Injury Criteria (HIC) was 371.9, the maximum chest deceleration over three (3) milliseconds was 46.0 g and the left and right femur loads were -5836.6 and -6672.1 Newtons, respectively. Chest deflection for the driver ATD was -39.8 mm. The driver ATD head contacted the airbag and headrest, its chest and abdomen contacted the airbag, the left knee contacted the dash knee bolster and steering column, with the right knee contacting the knee bolster.

The right front passenger's HIC was 619.7, maximum chest deceleration over three (3) milliseconds was 49.0 g and the left and right femur loads were -4437.0 and -4657.1 Newtons respectively. Chest deflection for the passenger ATD was -31.4 mm. The passenger ATD head contacted the airbag, 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 85.0 mm for the driver ATD and 120.0 mm for the passenger ATD. Shoulder belt stretch was 0.50 mm/cm for the driver ATD and 0.10 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 490 mm to the right of the vehicle centerline. Both the driver side and the passenger side doors opened without the aid of tools.

1.4 GENERAL COMMENTS

The 1998 Dodge Neon 4-Door 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. 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 Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

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 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

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

Measurements in mm	Left Side	Centerline	Right Side
Vehicle Rebound	715	595	672

VEHICLE STATIC CRUSH

Measurements in mm	Left	Center	Right
Pre-test Measurements	4146	4306	4149
Post-test Measurements	3802	3892	3804
Static Crush	-344	-464	-345

DOOR OPENING AND SEAT TRACK INFORMATION

	Driver	Passenger
Door Opening (Front)	JAMMED	JAMMED
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 35)	50% Male Hybrid III (S/N 34)
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	KNEE BOLSTER	GLOVE BOX

DATA SHEET NO. 2

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

TEST VEHICLE INFORMATION			
Manufacturer	CHRYSLER CORPORATION	VIN	1B3E347C6WD567677
Manufacturing Date	10/97	Delivery Date	6/4/98
Dealer	ONTARIO DODGE/SUZU	NHTSA NO.	MW0309
Odometer Reading	000110.0 MI.	Fuel Type	UNLEADED
Engine Displacement	2.0 Liters	Cylinders	4
Transmission	AUTOMATIC	Final Drive	FRONT
Engine Placement	TRANSVERSE	Color	FLAME RED
Tire Press./Max. Cap. Front	220 kPa	Cold Tire Press. Front	220 kPa
Tire Press./Max. Cap. Rear	220 kPa	Cold Tire Press. Rear	220 kPa
Recommend Tire Size	P175/70R14 or P185/65R14	Type of Spare	TEMPORARY
Tire Size on Vehicle	P185/65R14	Manufacturer	GOODYEAR
GVWR	1590 kg	Cargo Capacity	52 kg
GAWR Front	884 kg	GAWR Rear	728 kg
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	AM/FM ONLY
Disc Brakes (Front)	YES	Disc Brakes (Rear)	NO
Power Windows	NO	Tilt Steering	NO
Anti-lock Brakes (ABS)	NO	Power Seats	NO
Driver Airbag	YES	Passenger Airbag	NO

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): 1160 kg

Data Sheet No. 2... (Continued)

VEHICLE CAPACITY WEIGHT (kg):
 Vehicle Capacity Weight 392 kg
 Occupant Weight 340 kg
 Rated Cargo/Luggage Weight (RCLW) 52 kg

	FRONT	REAR	TOTAL
Right	369	201	570
Left	381	209	590
Total	750	410	1160
Percent of Total	64.7	30.3	100%

CALCULATION OF TEST TARGET WEIGHT (kg):

Total Delivered Weight 1160 kg
 RCLW 52 kg
 Weight of 2 P572 ATDs 152 kg
 TARGET TEST WEIGHT 1364 kg

TEST WEIGHT OF VEHICLE WITH 2 ATDs AND BALLAST

	FRONT	REAR	TOTAL
Right	405	272	677
Left	411	271	682
Total	816	543	1359
Percent of Total	60.0	40.0	100%

Weight of Ballast secured in cargo area: 14 kg Does not include cameras, instrumentation, and brake abort system.

Vehicle Components Removed For Weight Reduction: Side mirrors, jack, tools, spare tire and paneling.

TEST VEHICLE ATTITUDE (mm)

	LF	RF	LR	RR
As Delivered	644	645	669	673
As Tested	630	640	645	646

Vehicle Wheelbase: 2646 mm

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 47.32 liters

Usable Capacity Figure Furnished by COTR = 47.32 liters

Test Volume Range (92 to 94% of Usable Capacity) = 43.53 to 44.48 liters

ACTUAL TEST VOLUME = 43.91 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: Key operated w/automatic shutoff.

DATA SHEET NO. 3

POST IMPACT DATA

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

REQUIRED IMPACT VELOCITY RANGE: 47.46 km/h to 49.07 km/h

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

Trap No. 1 = 48.74 km/h Trap No. 2 = 48.73 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)	4146	4306	4149
Post-test Measurements (mm)	3802	3892	3804
Static Crush (mm)	-344	-464	-345
Average	-384		

VEHICLE REBOUND: (from rigid barrier with rotational movement)

VEHICLE REBOUND MEASURED TO FRONT BUMPER: REBOUND ANGLE = 0°

Measurements in mm	Left Side	Centerline	Right Side
Vehicle Rebound	715	595	672

DATA SHEET NO. 4

TEST VEHICLE INFORMATION

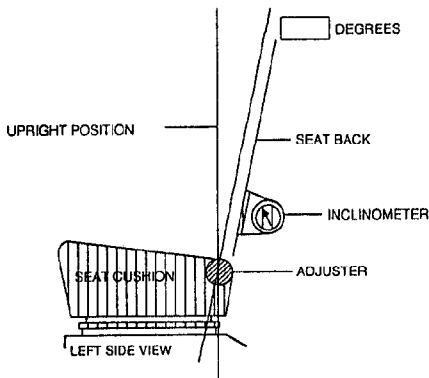
Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

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 = 18°

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 = 18°

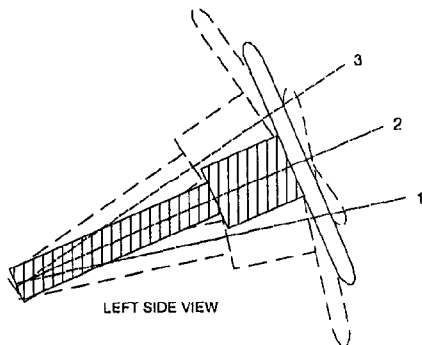
2. SEAT FORE & AFT POSITIONS:

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: 23 seating positions, set to 12th detent from the front.

Positioning of the passenger's seat (if applicable): 23 seating positions, set to 12th detent from the 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:

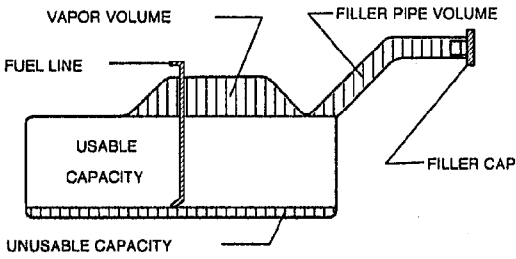
- Position No. 1 is at n/a°
- Position No. 2 is at 22°
- Position No. 3 is at n/a°

4. SEAT BELT UPPER ANCHORAGE:

Highest position, per manufacturers specifications.

DATA SHEET NO. 4 (continued)

5. FUEL TANK CAPACITY DATA



- 5.1 A. "Usable Capacity" of standard equipment fuel tank = 47.32 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 = 43.53 to 44.48 liters.

VEHICLE FUEL TANK ASSEMBLY

Operational Instructions:

5.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 43.91 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.

Key operated w/automatic shutoff.

DATA SHEET NO. 5

DUMMY POSITIONING IN VEHICLE

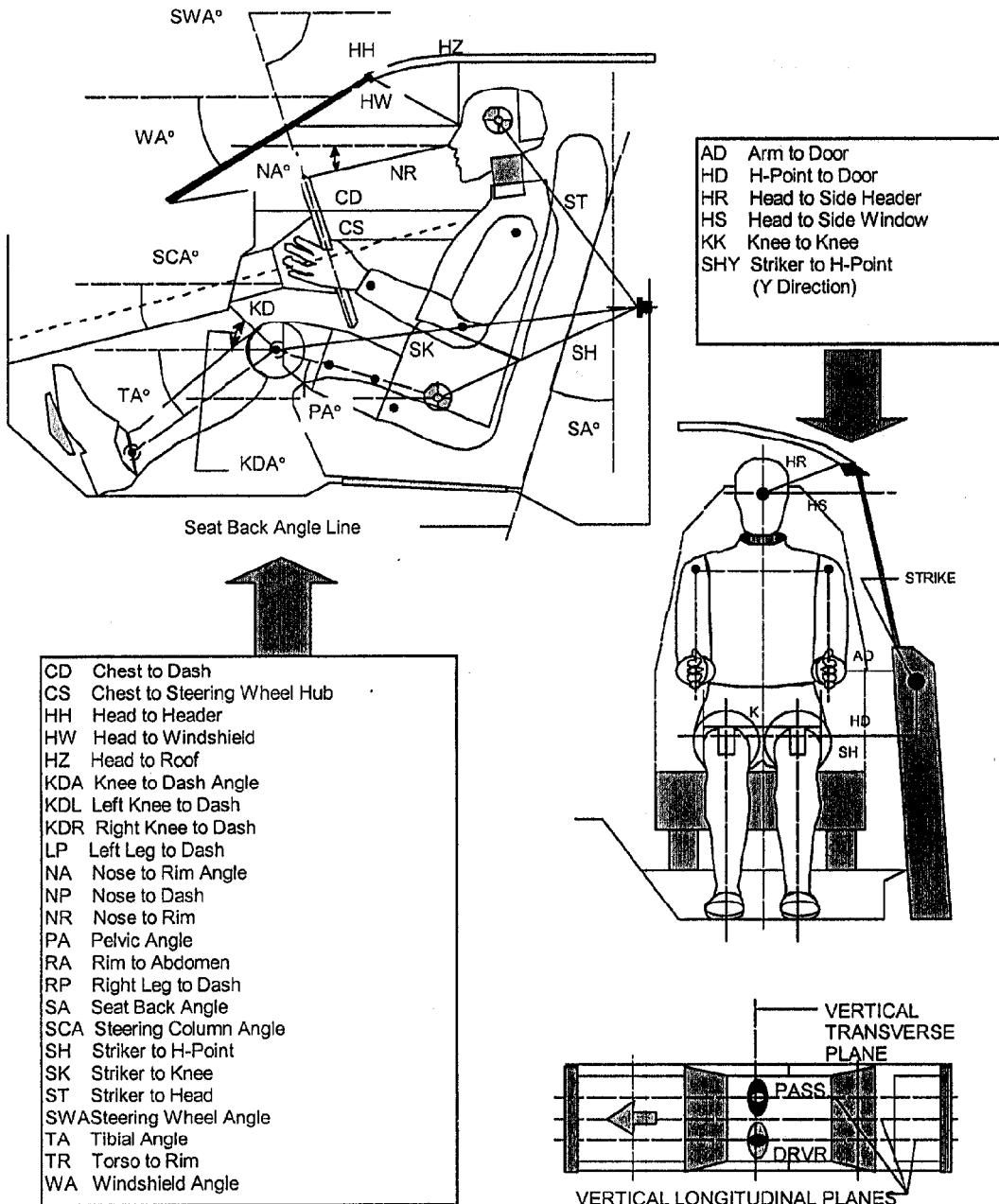
Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



DATA SHEET NO. 5...(continued)
DUMMY POSITIONING IN VEHICLE

FRONT SEAT MEASUREMENT TABLE

	DRIVER (Serial No. <u>35</u>)		PASS. (Serial No. <u>34</u>)	
	DISTANCE (mm)	ANGLE (°)	DISTANCE (mm)	ANGLE (°)
WA°		27		
SWA°		68		
SCA°		21		
SA°		18		18
HZ	200	90	195	90
HH	280	0	268	0
HW	585	0	565	0
HR	200		205	
NR	365	0		
CD	510		450	
CS	240	0		
RA	160	0		
KDL	145	30	145	
KDR	120		140	30
PA°		23		24
TA°		36		38
KK	260		215	
ST	560	14	540	11
SH	210	0	220	0
SHY	210		215	
HS	270		280	
HD	120		160	
AD	70		15	

DATA SHEET NO. 6

SEAT BELT POSITIONING DATA

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

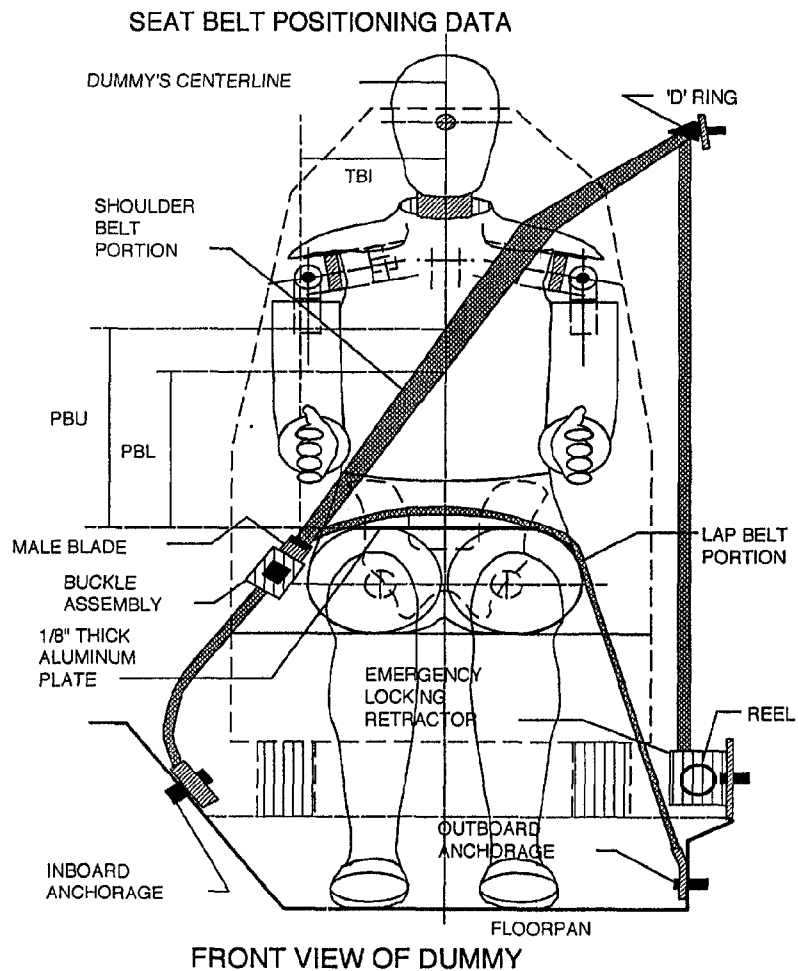
NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TCI - Dummy centerline to shoulder bolt	mm	170	175
PBU - Top surface of reference to belt upper edge	mm	275	260
PBL - Top surface of reference to belt lower edge	mm	200	180
Lap Belt tension	Newtons	10	10
Shoulder Belt tension	N/A	Retractor	Retractor



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

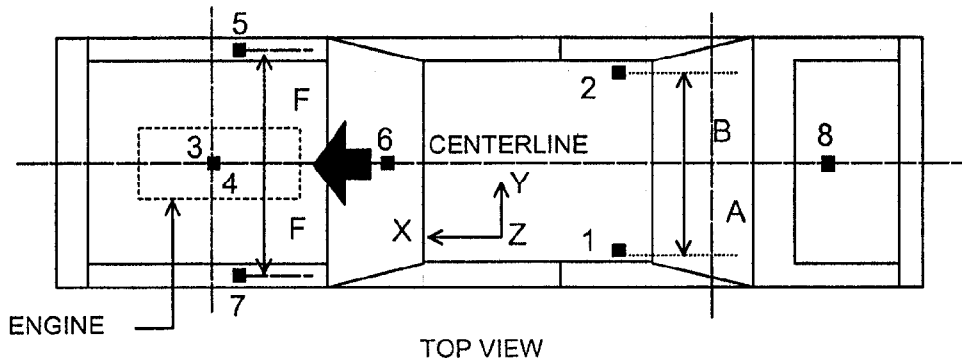
TEST VEHICLE: 1998 DODGE NEON 4 DOOR SEDAN NHTSA No.: MW0309
 TEST PROGRAM: 1998 30MPH FRONTAL W/50TH MALE TEST DATE: 6/30/98

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

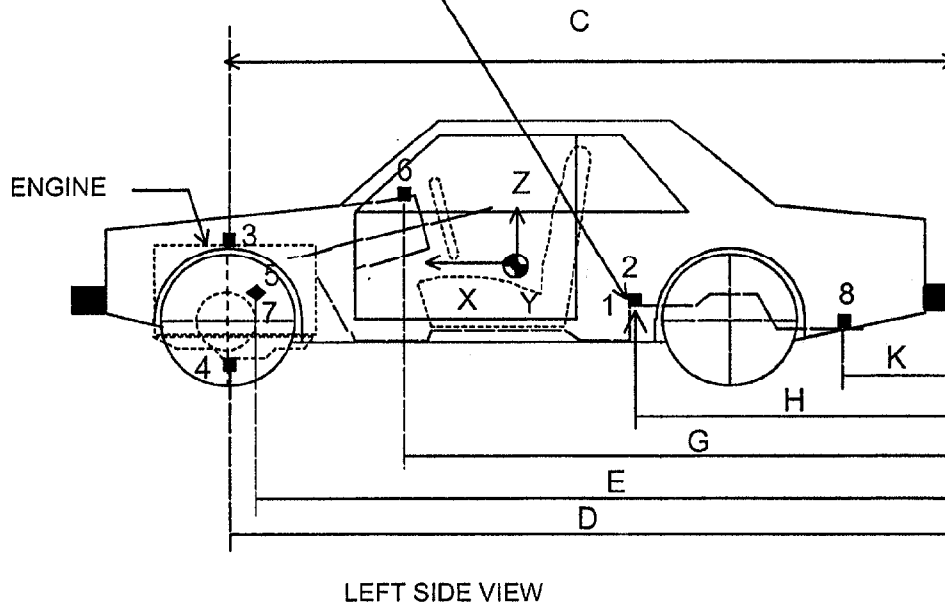
No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Sill X	1631	-622	338	G's	2.2	121.6	-38.7	33.7
2	Left Sill Y	1564	-633	338	G's	4.6	40.3	-4.1	74.4
3	Center Tunnel X	1687	0	250	G's	2.7	129.9	-42.4	33.4
4	Center Tunnel Y	1713	0	250	G's	3.8	42.2	-5.3	72.5
5	Right Sill X	1650	622	339	G's	2.5	122.3	-36.3	35.3
6	Right Sill Y	1584	622	339	G's	1.7	170.4	-6.2	71.1
7	Trunk X	342	34	410	G's	3.0	137.1	-36.1	37.4
8	Trunk Y	344	-27	410	G's	2.3	91.4	-5.9	51.5

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 DODGE NEON 4 DOOR SEDAN NHTSA No.: MW0309
 TEST PROGRAM: 1998 30MPH FRONTAL W/50TH MALE TEST DATE: 6/30/98

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	13.7	198.5	-48.6	73.5	14.9	220.2	-67.1	75.6
Head CG	Y	G's	10.5	78.2	-5.3	126.9	7.2	58.7	-5.8	86.1
Head CG	Z	G's	26.5	57.4	-8.6	105.9	35.0	62.1	-8.8	92.1
Head CG Resultant	N/A	G's	53.0	68.2			68.7	75.6		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.2	157.7	-45.8	59.7	3.8	194.6	-48.4	64.0
Chest CG	Y	G's	3.7	49.8	-4.1	74.2	7.6	66.2	-4.8	95.1
Chest CG	Z	G's	12.1	88.4	-14.5	56.0	8.2	97.9	-14.6	54.7
Chest CG Resultant	N/A	G's	47.5	59.6			50.2	64.1		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	114.0	21.7	-5836.6	48.9	143.5	45.0	-4437.0	49.4
Right Femur	Z	Newtons	671.3	19.1	-6672.1	53.7	92.0	14.2	-4657.1	52.1

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	4457.4	59.1	1.3	0.0	4407.0	58.0	-6.0	252.6
Shoulder Belt Force	N/A	Newtons	4608.8	68.8	-22.4	133.7	7921.1	72.1	-36.8	161.6
Shoulder Belt Spoolout	N/A	MM	86.5	92.0	-18.8	239.4	127.3	75.4	-8.8	299.9
Shoulder Belt Stretch	N/A	MM/CM	0.000	0.0	0.000	0.0	0.000	0.0	0.000	0.0

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	371.9	41.1	52.0	86.2	619.7	49.5	54.5	90.4

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	46.0	58.3	61.3	49.0	63.2	66.2

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1998 DODGE NEON 4 DOOR SEDAN NHTSA No.: MW0309
 TEST PROGRAM: 1998 30MPH FRONTAL W/50TH MALE TEST DATE: 6/30/98

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	2.8	118.3	-66.0	50.4	3.1	121.1	-59.6	49.8
Pelvis	Y	G's	8.1	48.6	-14.6	50.2	6.6	60.2	-4.6	44.2
Pelvis	Z	G's	11.0	41.4	-14.3	85.8	4.3	42.9	-17.1	61.8

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	298.6	124.4	-805.0	58.4	111.6	37.9	-770.7	67.7
Neck Force	Y	Newtons	175.1	227.1	-195.7	50.3	204.7	75.9	-151.8	210.1
Neck Force	Z	Newtons	1887.4	62.6	-460.9	102.3	1665.3	70.4	-221.8	108.8
Neck Moment	X	N•m	10.8	132.9	-13.9	51.4	11.1	60.8	-8.7	230.0
Neck Moment	Y	N•m	65.0	59.0	-14.7	235.8	47.8	65.2	-13.3	99.2
Neck Moment	Z	N•m	6.1	134.1	-16.7	83.2	11.3	123.3	-4.0	219.9

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	40.5	67.3	-156.5	38.8	14.1	54.1	-142.9	42.1
Left Foot Aft	Z	G's	54.4	38.7	-193.0	42.1	32.5	64.4	-121.8	41.1
Left Foot Fore	Z	G's	52.6	56.5	-275.9	42.2	31.1	63.7	-159.9	40.6
Right Foot Aft	X	G's	26.5	49.7	-102.8	42.4	16.3	56.8	-95.5	43.5
Right Foot Aft	Z	G's	45.6	59.9	-102.2	43.8	126.5	42.5	-27.3	60.0
Right Foot Fore	Z	G's	91.1	61.1	-162.6	40.3	157.7	42.7	-51.0	59.9

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Lower Moment	X	N•m	32.3	69.1	-123.2	42.4	27.5	41.2	-82.4	51.2
Left Lower Moment	Y	N•m	351.1	69.5	-19.5	37.0	21.5	36.8	-35.6	47.1
Left Lower Force	Z	Newtons	111.4	146.0	-7106.9	40.2	118.9	194.8	-4650.6	41.1
Left Upper Moment	X	N•m	46.7	46.6	-50.0	38.6	23.2	63.2	-47.5	41.9
Left Upper Moment	Y	N•m	193.5	46.4	-12.4	206.0	148.0	42.0	-13.6	151.6
Right Lower Moment	X	N•m	78.0	58.7	-5.8	42.7	93.2	49.9	-11.6	76.0
Right Lower Moment	Y	N•m	184.8	69.2	-35.4	44.4	67.0	70.2	-7.7	47.2
Right Lower Force	Z	Newtons	114.3	215.9	-5757.3	58.1	3568.6	37.7	-3060.6	48.6
Right Upper Moment	X	N•m	15.8	43.0	-52.7	60.2	17.0	36.9	-52.2	50.5
Right Upper Moment	Y	N•m	236.0	57.9	-11.6	219.6	178.7	47.9	-12.9	178.7

DATA SHEET NO. 9

SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	580	580
Shoulder belt length as measured on ATD	mm	780	800
Lap belt length as measured on ATD	mm	760	690
Remainder of belt on reel	mm	660	740
Total belt length for continuous webbing systems	mm	2780	2810

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm		
As determined electronically	mm	85.0	120.0

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically from shoulder belt load cell and "D" ring	mm/cm	0.50	0.10
Mechanically	mm/cm		

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1998 DODGE NEON 4 DOOR SEDAN NHTSA No.: MW0309
 TEST PROGRAM: 1998 30MPH FRONTAL W/50TH MALE TEST DATE: 6/30/98

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.1	2.1	-39.8	74.5	0.3	1.9	-31.4	78.1

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	13.3	198.9	-50.4	73.3	13.6	220.4	-65.5	75.6
Head CG	Y	G's	13.0	79.5	-6.0	122.4	6.9	58.8	-4.0	226.1
Head CG	Z	G's	26.5	57.6	-6.6	108.1	27.7	62.2	-7.5	97.1
Head CG Resultant	N/A	G's	53.5	73.3			67.3	75.6		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.7	143.9	-45.5	59.8	4.4	193.2	-49.3	64.0
Chest CG	Y	G's	3.9	49.8	-4.8	75.5	10.6	66.2	-6.4	95.0
Chest CG	Z	G's	11.8	96.5	-13.6	56.1	7.9	98.7	-14.4	55.0
Chest CG Resultant	N/A	G's	47.1	59.8			51.8	64.1		

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	383.6	42.2	52.6	85.7	565.6	48.8	56.2	90.1

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	45.6	58.4	61.4	50.6	63.4	66.4

DATA SHEET NO. 10

SUMMARY OF FMVSS 212 DATA

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

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

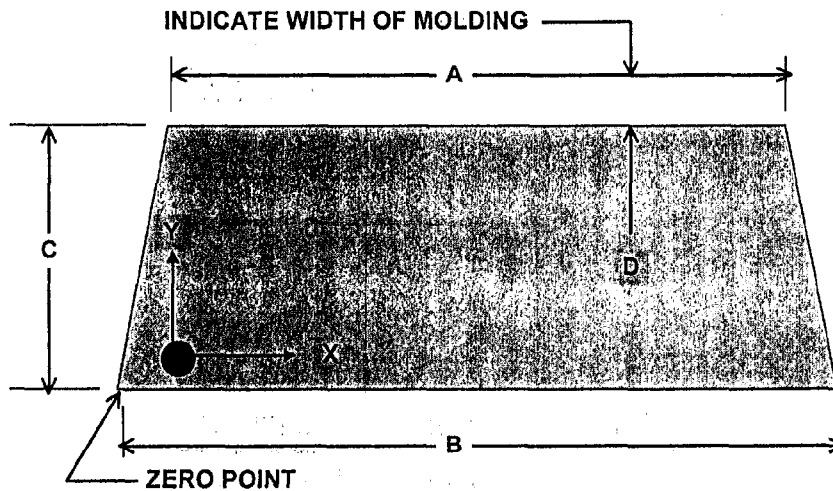
Windshield glass is secured to the vehicle frame with a rubber type adhesive, with rubber molding along the top and sides with rubber and plastic molding along the bottom.

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

	Units	Left Side	Right Side	Total
Pre-Test	mm	1941	1941	100%
Post-Test	mm	1941	1941	100%
Percent of retention	Percent	100%	100%	

Indicate area of retention failure.



FRONT VIEW OF WINDSHIELD

Width of molding: Top: 15 mm, Sides: 15 mm, Bottom: 10 mm

Temperature of windshield molding during test: 21.1 °C

DATA SHEET NO. 11

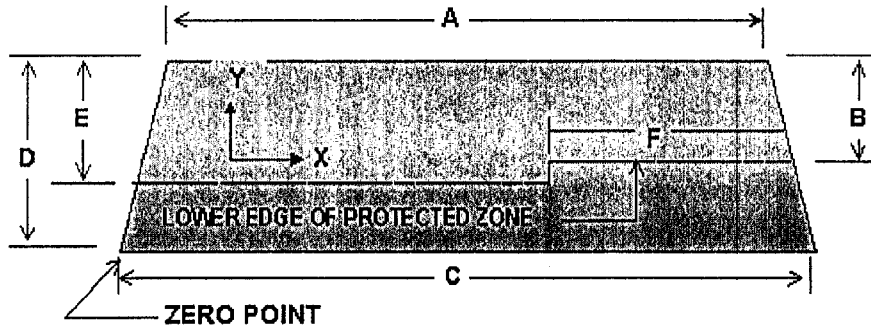
WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98



FRONT VIEW OF WINDSHIELD

Item	Units	Value
A	mm	1030
B	mm	392
C	mm	1490
D	mm	681
E	mm	521
F	mm	564

Provide all dimensions necessary to reproduce the protected area.

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 Dodge Neon 4-Door Sedan NHTSA No.: MW0309
Test Program: 1998 NHTSA 30 MPH Frontal Impact Test Date: 6/30/98
Test Time: 3:39 P.M. Temperature at Time of Impact: 31.6 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

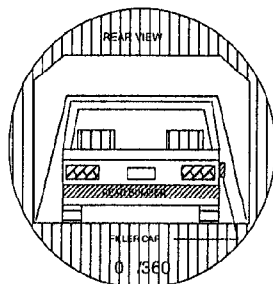
Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

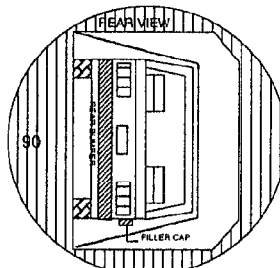
Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

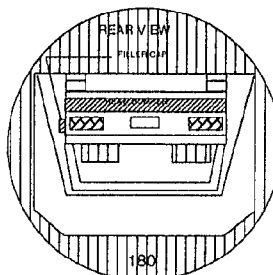
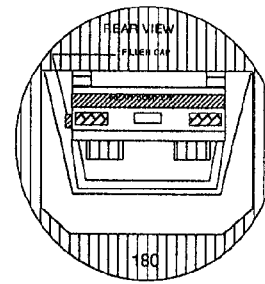
Time: 3:39 P.M. Temperature: 31.6 °C



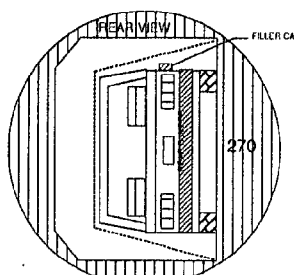
0° TO 90°



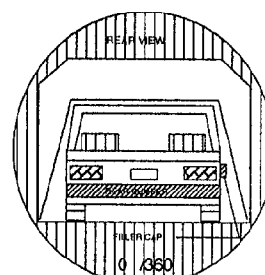
90° TO 180°



180° TO 270°



270° TO 360°



1. The specified fixture rollover rate for each 90° of rotation = 60 to 120 seconds.
2. The position hold time at each position = 300 seconds (minimum).
3. Provide details of Stoddard Solvent spillage locations:
No solvent leakage occurred during rollover testing.

TEST PHASE	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	84	300	0.0
90° TO 180°	81	300	0.0
180° TO 270°	78	300	0.0
270° TO 360°	81	300	0.0

DATA SHEET NO. 14

VEHICLE MEASUREMENTS

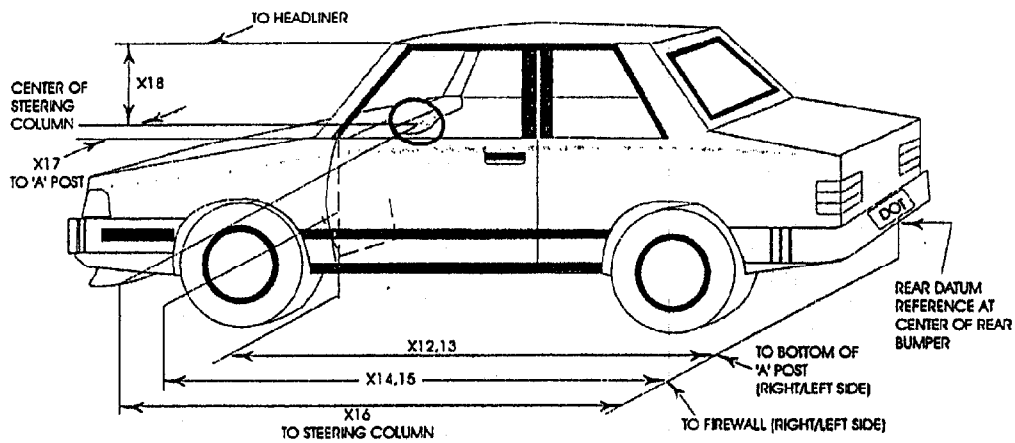
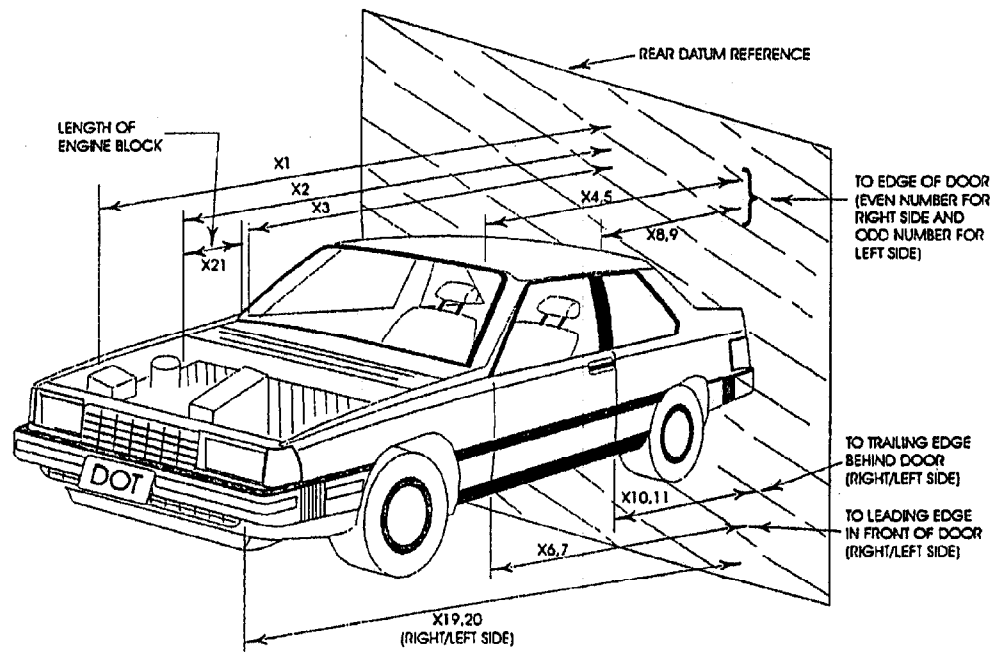
Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4356	3892	-464
2	RSOV to front of engine	mm	3803	3685	-118
3	RSOV to firewall centerline	mm	3375	3270	-105
4	RSOV to leading edge of right door	mm	2948	2946	-2
5	RSOV to leading edge of left door	mm	2959	2940	-19
6	RSOV to lower leading edge of right door	mm	3004	2991	-13
7	RSOV to lower leading edge of left door	mm	3012	2994	-18
8	RSOV to upper trailing edge of right door	mm	1960	1941	-19
9	RSOV to upper trailing edge of left door	mm	1956	1942	-14
10	RSOV to lower trailing edge of right door	mm	1949	1949	0
11	RSOV to lower trailing edge of left door	mm	1956	1936	-20
12	RSOV to bottom of right 'A' pillar	mm	2975	2966	-9
13	RSOV to bottom of left 'A' pillar	mm	2975	2960	-15
14	RSOV to firewall on right side	mm	3305	3284	-21
15	RSOV to firewall of left side	mm	3308	3270	-38
16	RSOV to steering column	mm	2544	2693	149
17	Center of steering column to left 'A' pillar	mm	376	412	36
18	Center of steering column to headlining	mm	428	467	39
19	RSOV to right side of front bumper	mm	4149	3804	-345
20	RSOV to left side of front bumper	mm	4146	3802	-344
21	Length of engine block	mm	250	200	-50
22	RSOV to right side of dash panel	mm	2692	2660	-32
23	RSOV to center of dash panel	mm	2667	2620	-47
24	RSOV to left side of dash panel	mm	2705	2645	-60



DATA SHEET NO. 15

CAMERA LOCATIONS

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

No.	Camera View	Location (mm)			Angle (°)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Side, Real Time	2134	8382	914	0	1651	Zoom	24
2	Left Side, No. 1	1397	8280	1016	3	7798	25	920
3	Left Side, No. 2	1092	9042	1448	1	8763	50	990
4	Left Side, No. 3	2921	3073	1956	21	2743	19	1000
5	Left Side, No. 4	1956	8306	3658	17	8052	25	1020
6	Left Side, No. 5	1956	8306	2642	15	8306	25	1020
7	Right Side, No. 1	1905	8001	1092	6	7798	13	1060
8	Right Side, No. 2	1651	8001	1549	0	7772	50	1180
9	Right Side, No. 3	4750	5385	2057	10	5258	40	960
10	Right Side, No. 4	2591	9398	914	1	9449	50	1100
11	Overhead Windshield	1422	0	6706	90	N/A	13	1300
12	Front View, Driver	-254	406	2515	41	N/A	19	1000
13	Front View, Passenger	-254	406	2515	42	N/A	19	1000
14	Pit Camera, Engine	610	0	660	65	N/A	13	870
15	Pit Camera, Fuel Tank	4394	0	406	89	N/A	19	1000
16	Onboard, Driver	3200	152	1143	3	1118	13	540
17	Onboard, Passenger	3200	152	1143	4	1143	13	470

* X - Barrier Face Y - Monorail Centerline Z - Ground

DATA SHEET NO. 16

REFERENCE PHOTOGRAPH TARGETS

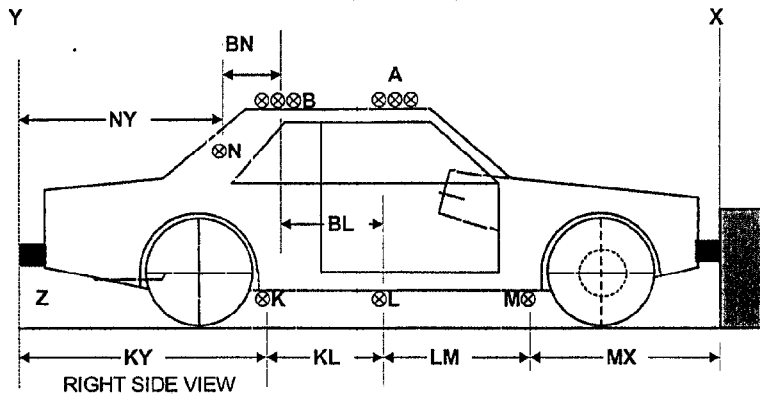
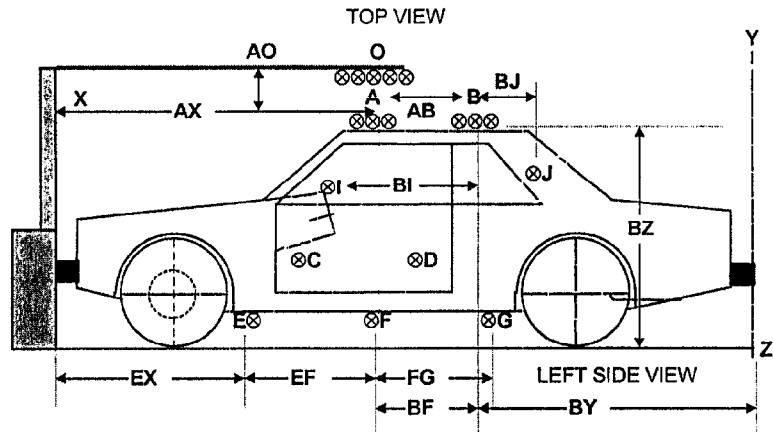
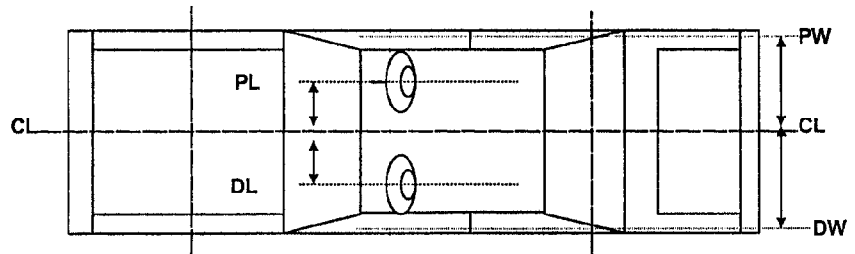
Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

Item	Value
AX	2201
AB	608
AO	153
BJ	516
BI	1034
BZ	1453
EX	1312
EF	895
FG	889
BF	670
BY	1544
NY	1011
BN	539
KY	1356
KL	890
BL	665
LM	885
MX	1314
CL/PL	350
CL/PW	726
CL/DL	350
CL/DW	726



DATA SHEET NO. 17

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

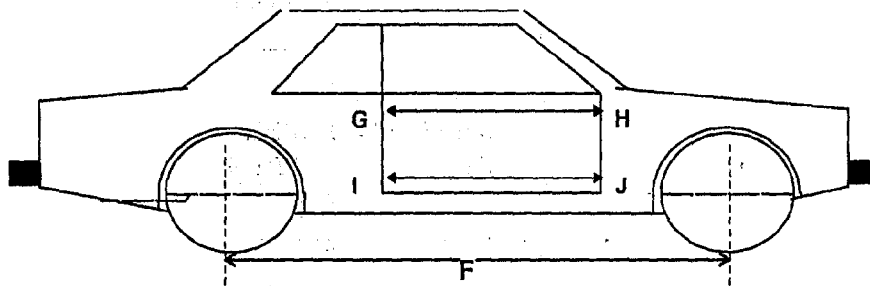
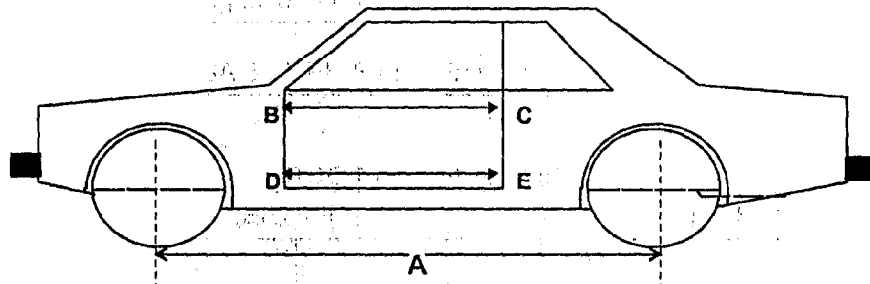
Test Date: 6/30/98

DOOR OPENING WIDTH

UNITS (mm)	LEFT SIDE		RIGHT SIDE	
	BC	DE	GH	IJ
PRE-TEST	963	913	965	915
POST-TEST	930	900	935	920
DIFFERENCE	-33	-13	-30	+5

VEHICLE WHEELBASE CHANGE

UNITS (mm)	A = LEFT SIDE WHEELBASE	F = RIGHT SIDE WHEELBASE
PRE-TEST	2641	2646
POST-TEST	2534	2526
DIFFERENCE	-107	-120



Data Sheet No. 17(Continued)

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

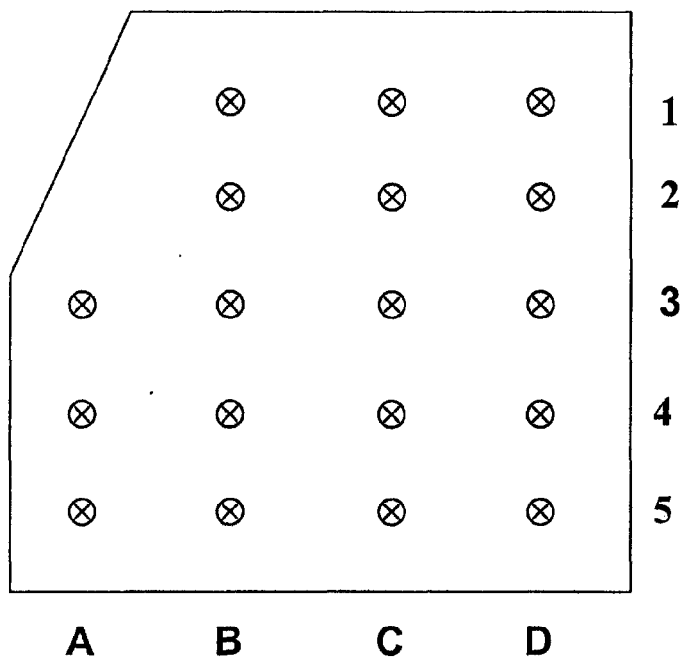
NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

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	790	650	790	662	790	649
2	N/A	N/A	690	560	690	572	690	636
3	590	580	590	566	590	570	590	576
4	460	455	460	455	460	455	460	451
5	330	328	330	328	330	328	330	326
REF. POINT	RSOV TO ANCHOR BOLT (PRE-TEST)		2431		RSOV TO ANCHOR BOLT (POST-TEST)		2410	



⊕ X
 LEFT FRONT SEAT ANCHOR BOLT
 ↓
 TO RSOV REFERENCE

DRIVER SIDE FLOOR PLAN

(Data Sheet No. 17Continued)

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

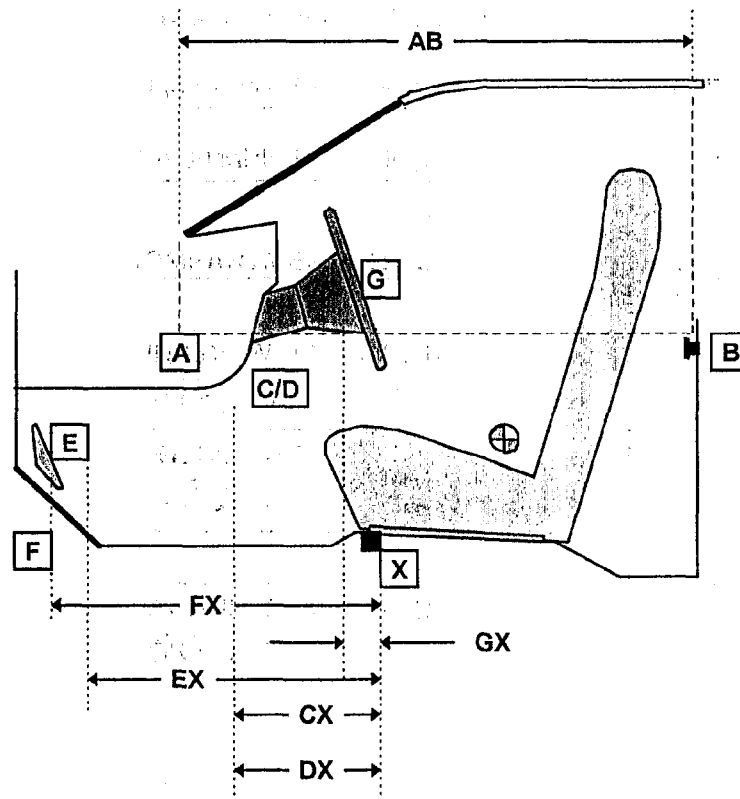
Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

DRIVER COMPARTMENT INTRUSION (Distances in mm)

REF.	DESCRIPTION	PRE-TEST	POST-TEST
AB	DOOR OPENING (INSIDE WINDOW JAM)	963	930
CX	LOWER LEFT KNEE BOLSTER TO X	370	355
DX	LOWER RIGHT KNEE BOLSTER TO X	395	320
EX	BRAKE PEDAL TO X	600	490
FX	FOOT REST TO X	660	605
GX	STEERING COLUMN HUB (CENTER) TO X	80	0

X = LEFT FRONT SEAT ANCHOR BOLT



DRIVER COMPARTMENT

DATA SHEET NO. 18

OFFSET BARRIER ORIENTATION

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

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 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98

VIN: 1B3E347C6WD567677 Wheelbase: 2646 mm Test Weight: 1359 kg

Vehicle Size Category: DODGE NEON 4-DOOR

ACCELEROMETER DATA:

LOCATION: Left and right rear floor pans

CALIBRATION PROCEDURE: 6 months/ drop test

LINEARITY: Good

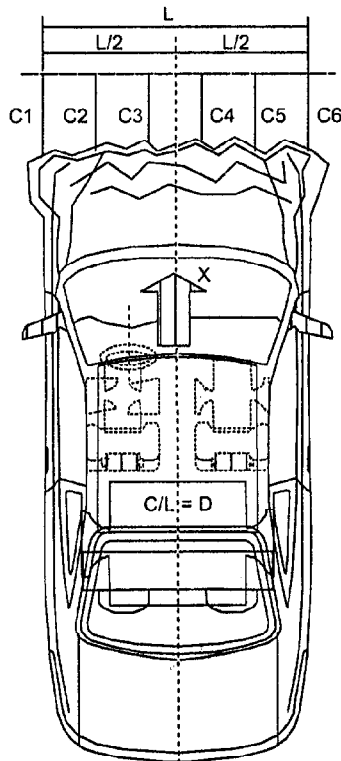
INTEGRATION ALGORITHM: NHTSA Standard

VEHICLE IMPACT SPEED: 48.7 km/h

TIME OF SEPARATION: 60.0 msec

VELOCITY CHANGE: 65.30 km/h

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



IMPACT MODE: Full Frontal

CRUSH DEPTH DIMENSIONS:

C1 = 347 mm

C2 = 428 mm

C3 = 488 mm

C4 = 490 mm

C5 = 428 mm

C6 = 352 mm

MIDPOINT OF DAMAGE: Vehicle Centerline

LENGTH OF DAMAGE REGION: 1390 mm

DATA SHEET NO. 20

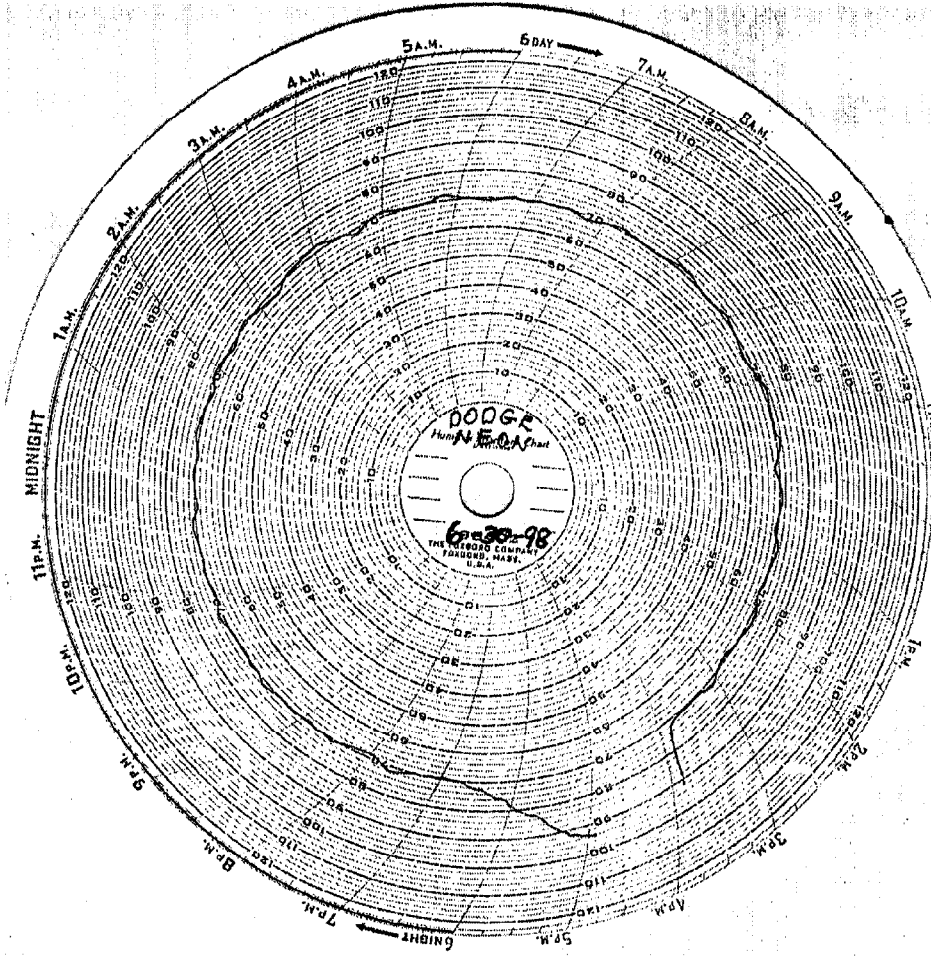
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 1998 Dodge Neon 4-Door Sedan

NHTSA No.: MW0309

Test Program: 1998 NHTSA 30 MPH Frontal Impact

Test Date: 6/30/98





APPENDIX A
PHOTOGRAPHS

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A-52	Post-test Passenger Dummy Contact Point	A-52
A-53	Vehicle During Impact	A-53



FIGURE A-1. LEFT FRONT AS RECEIVED

KAR98002-01

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FIGURE A-2. RIGHT REAR AS RECEIVED

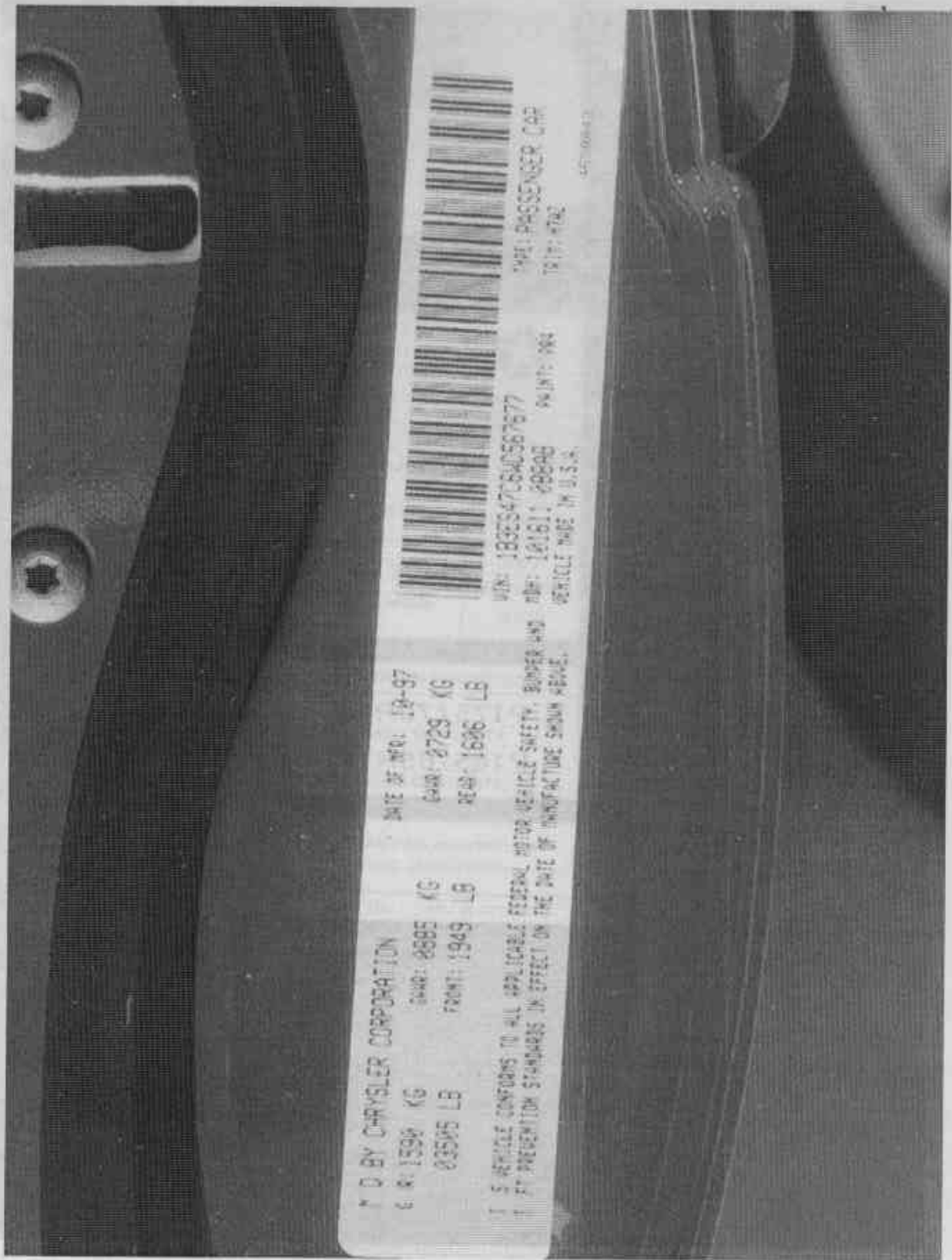


FIGURE A-3. VEHICLE CERTIFICATION LABEL



FIGURE A-4. VEHICLE TIRE PLACARD

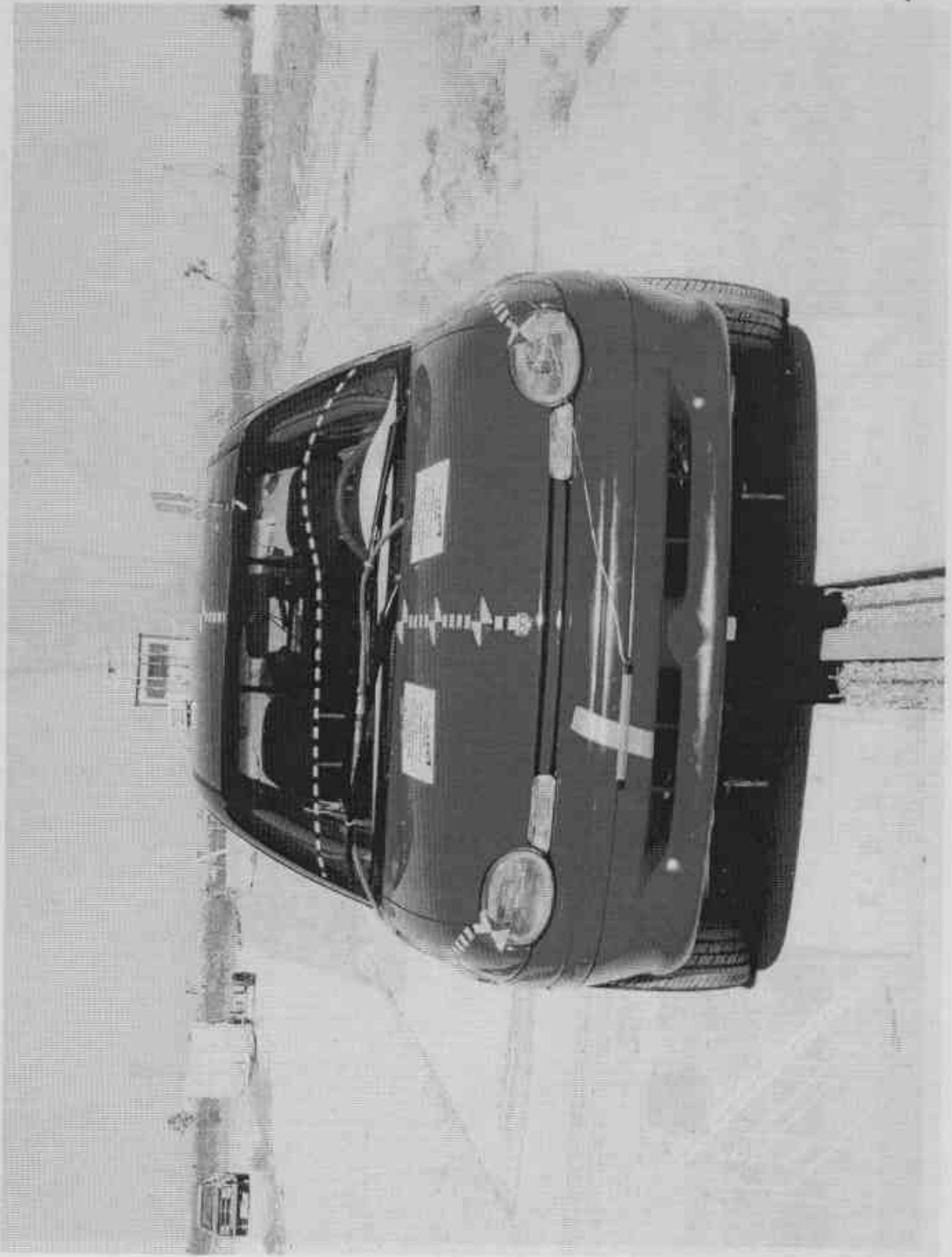


FIGURE A-5. PRE-TEST FRONT VIEW

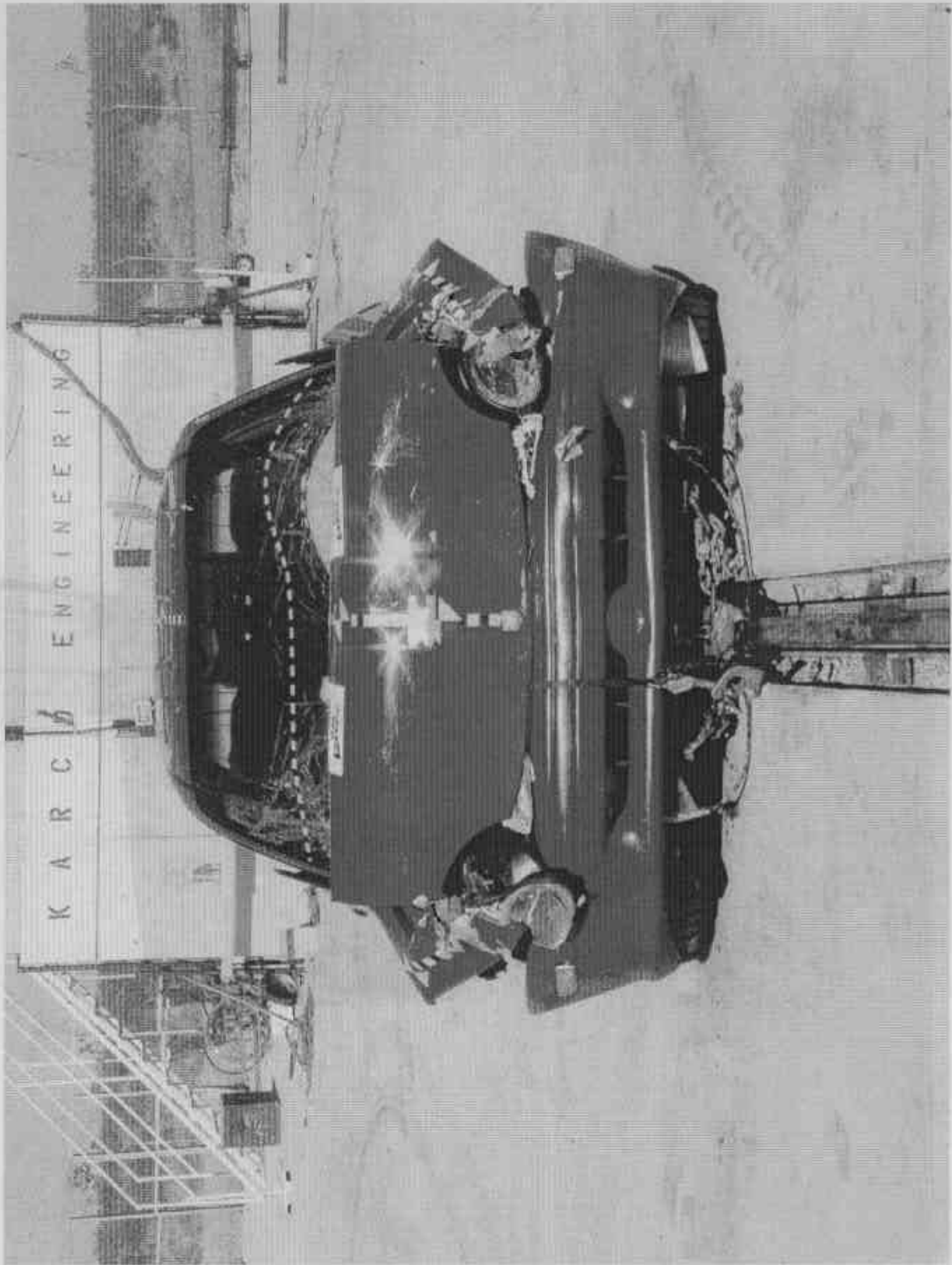


FIGURE A-6. POST-TEST FRONT VIEW

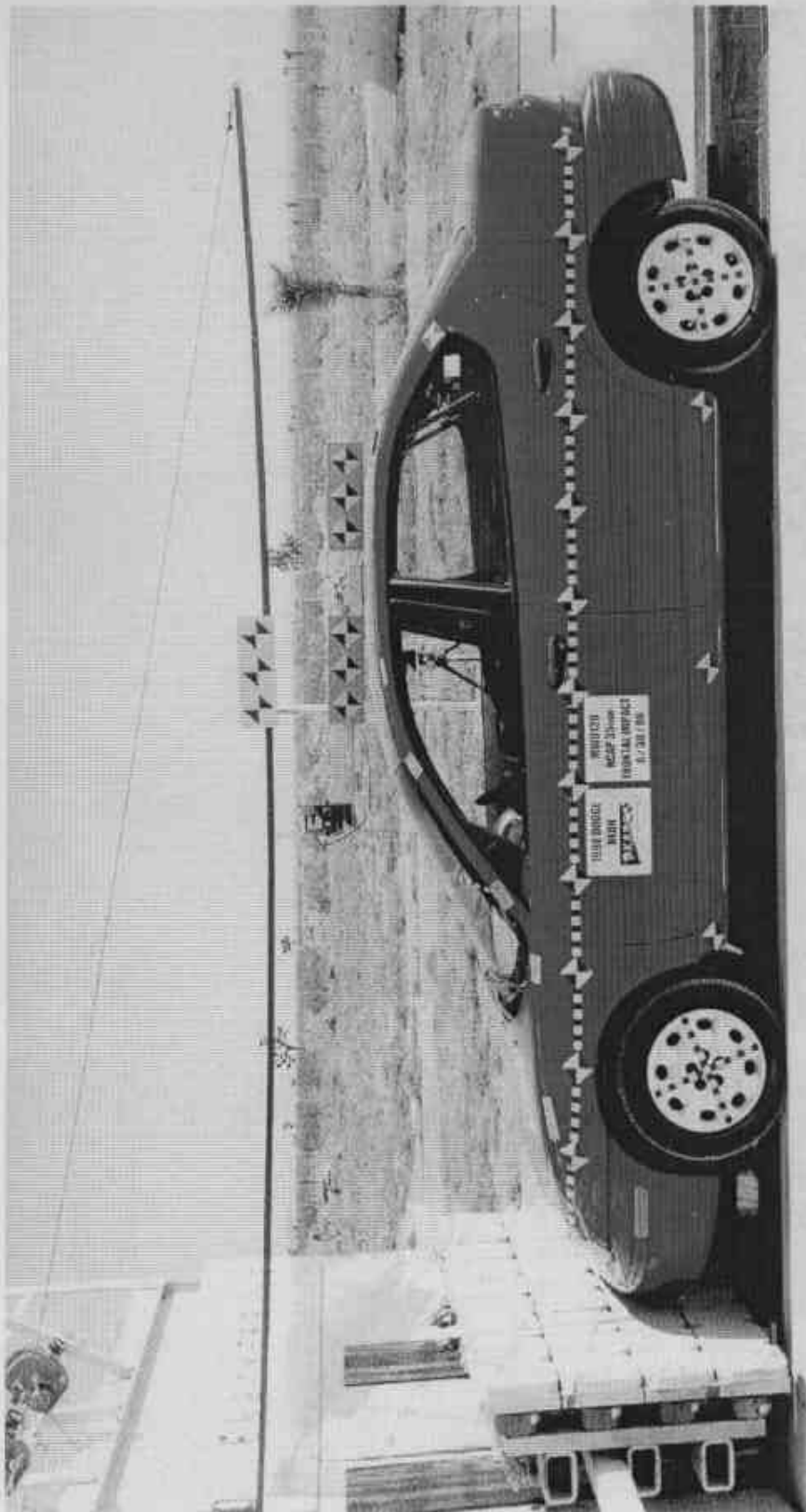


FIGURE A-7. PRE-TEST LEFT SIDE VIEW



FIGURE A-8. POST-TEST LEFT SIDE VIEW

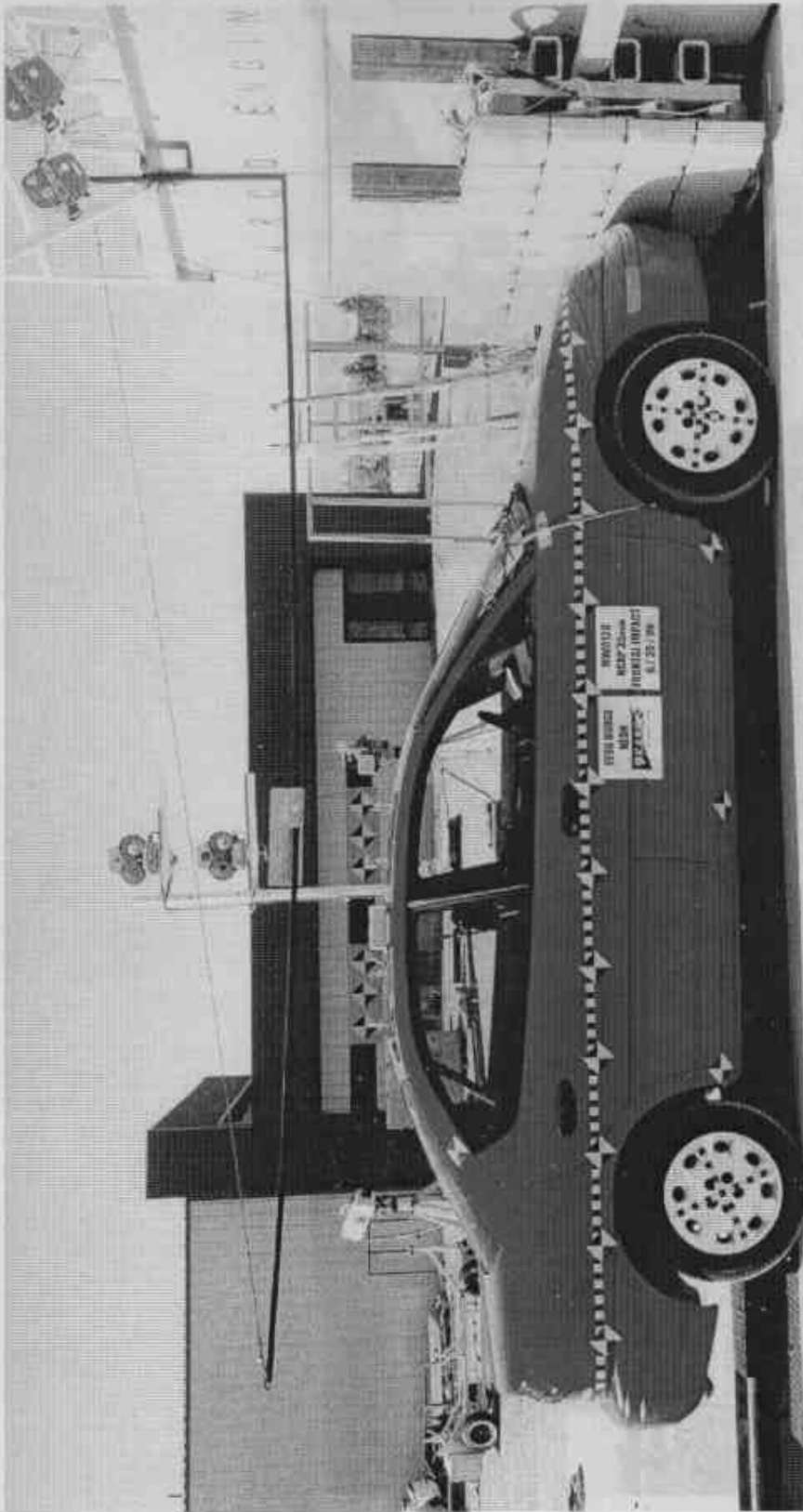


FIGURE A-9. PRE-TEST RIGHT SIDE VIEW

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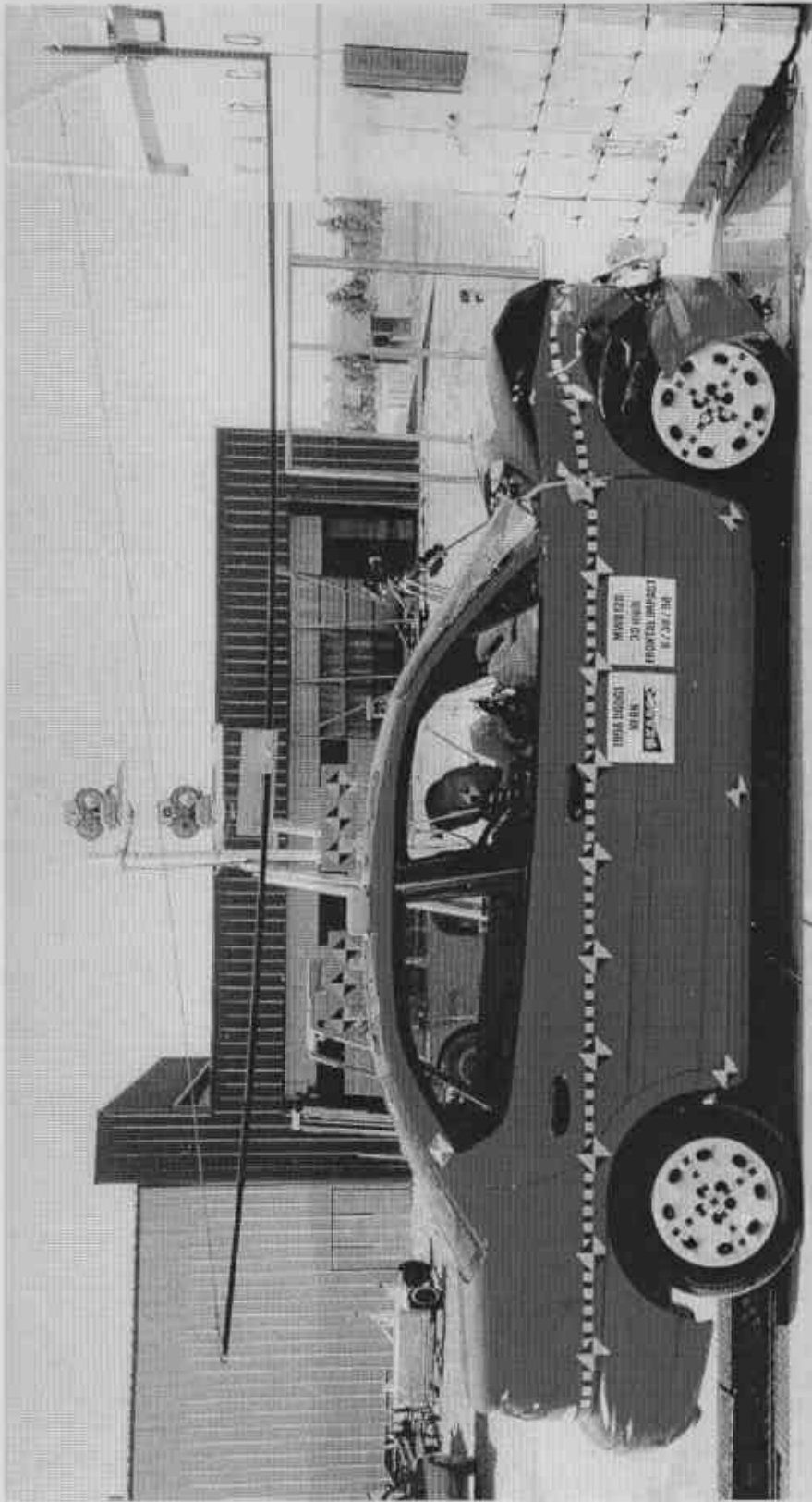


FIGURE A-10. POST-TEST RIGHT SIDE VIEW

A-10

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RD-120002A X



FIGURE A-11. PRE-TEST LEFT FRONT VIEW

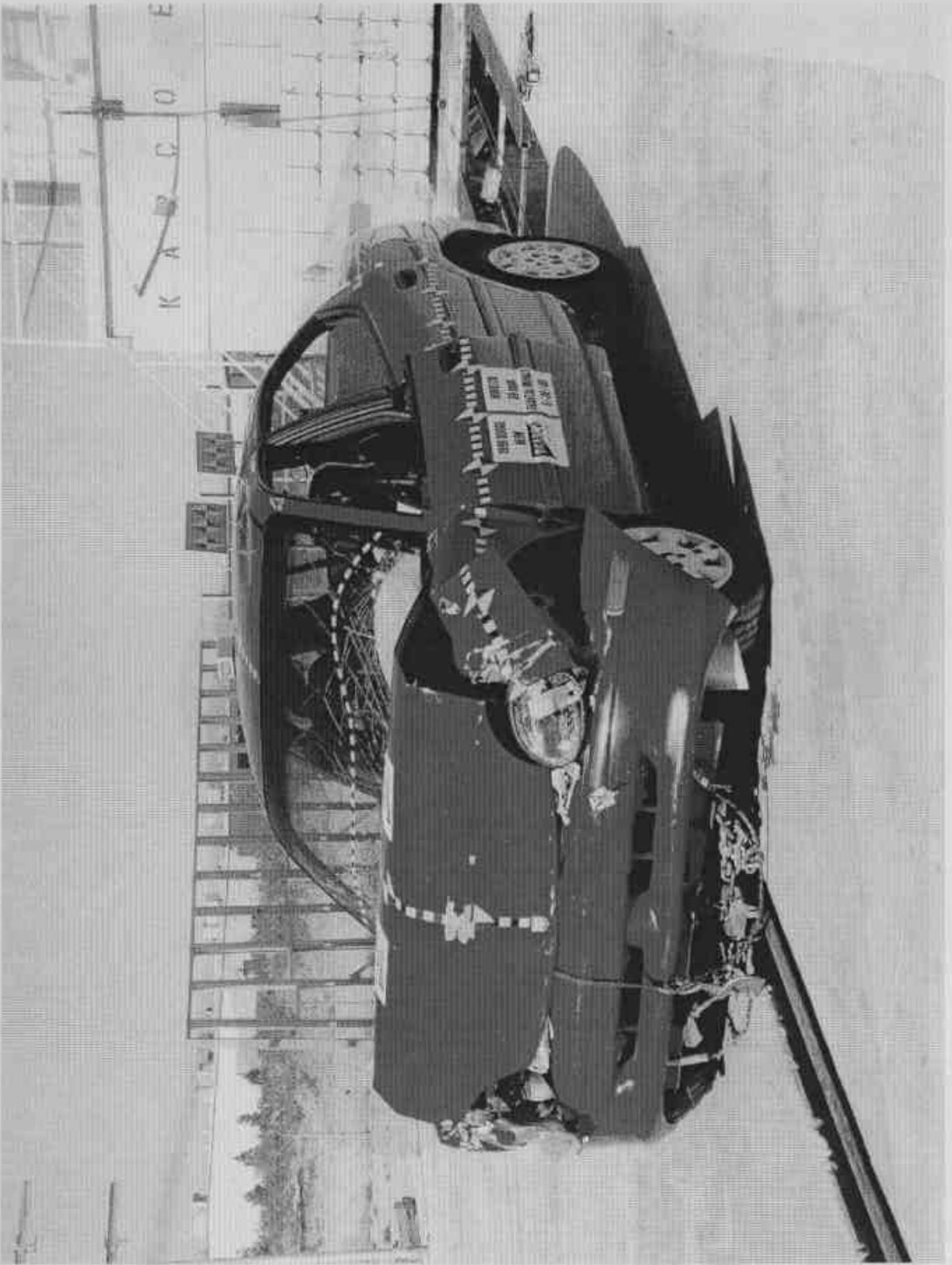


FIGURE A-12. POST-TEST LEFT FRONT VIEW



FIGURE A-13. PRE-TEST RIGHT REAR VIEW

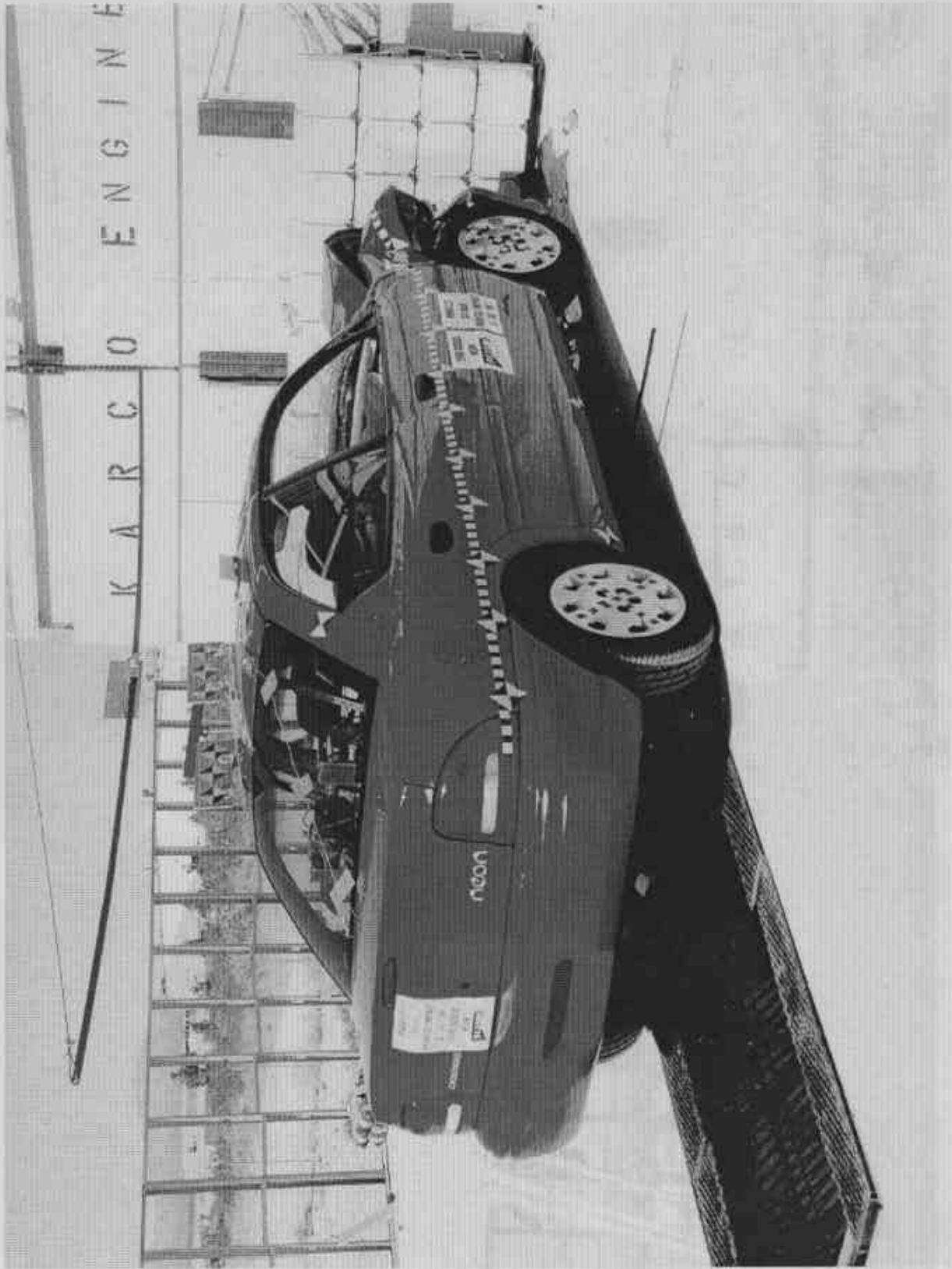


FIGURE A-14. POST-TEST RIGHT REAR VIEW



FIGURE A-15. PRE-TEST WINDSHIELD

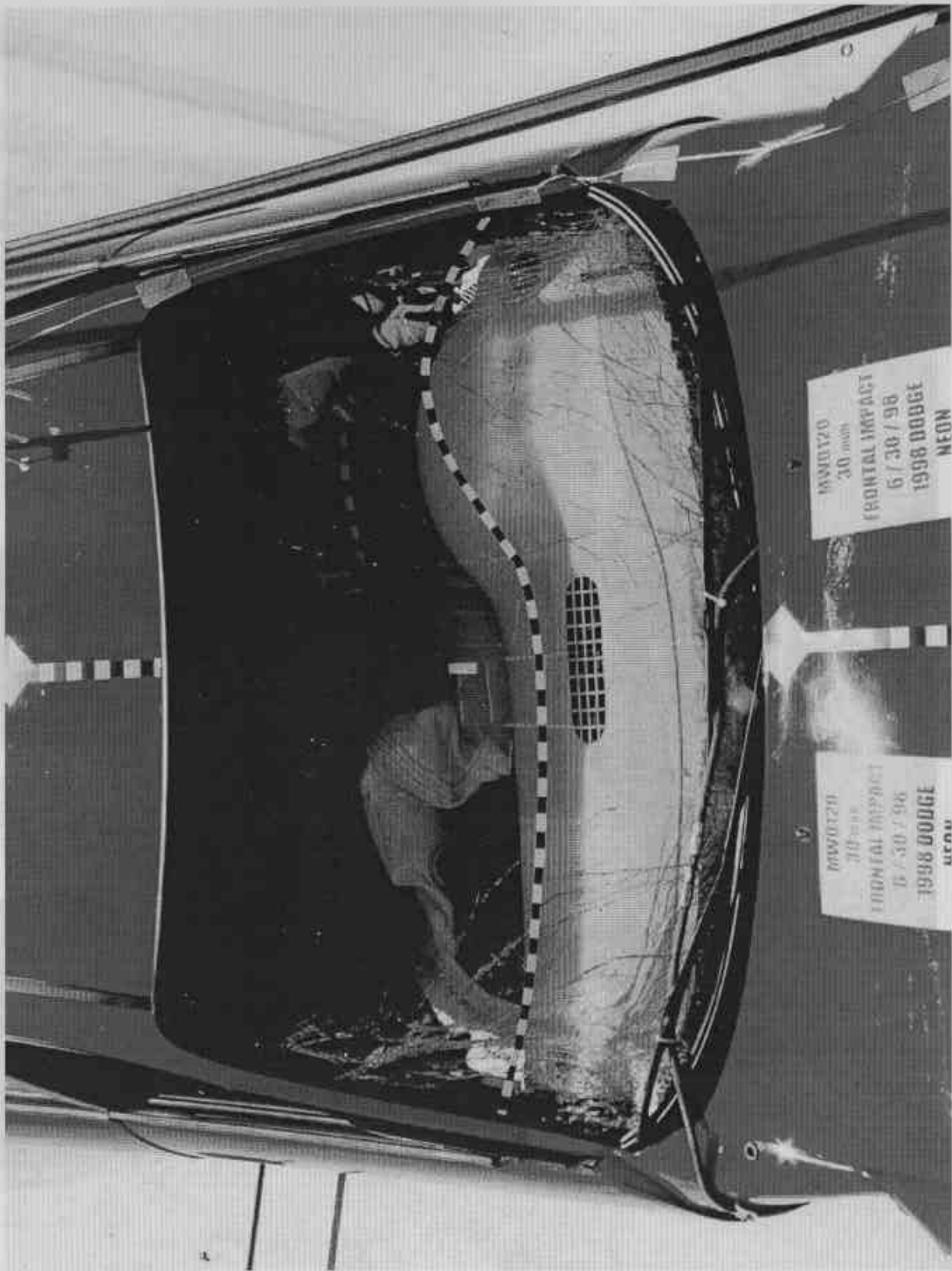


FIGURE A-16. POST-TEST WINDSHIELD

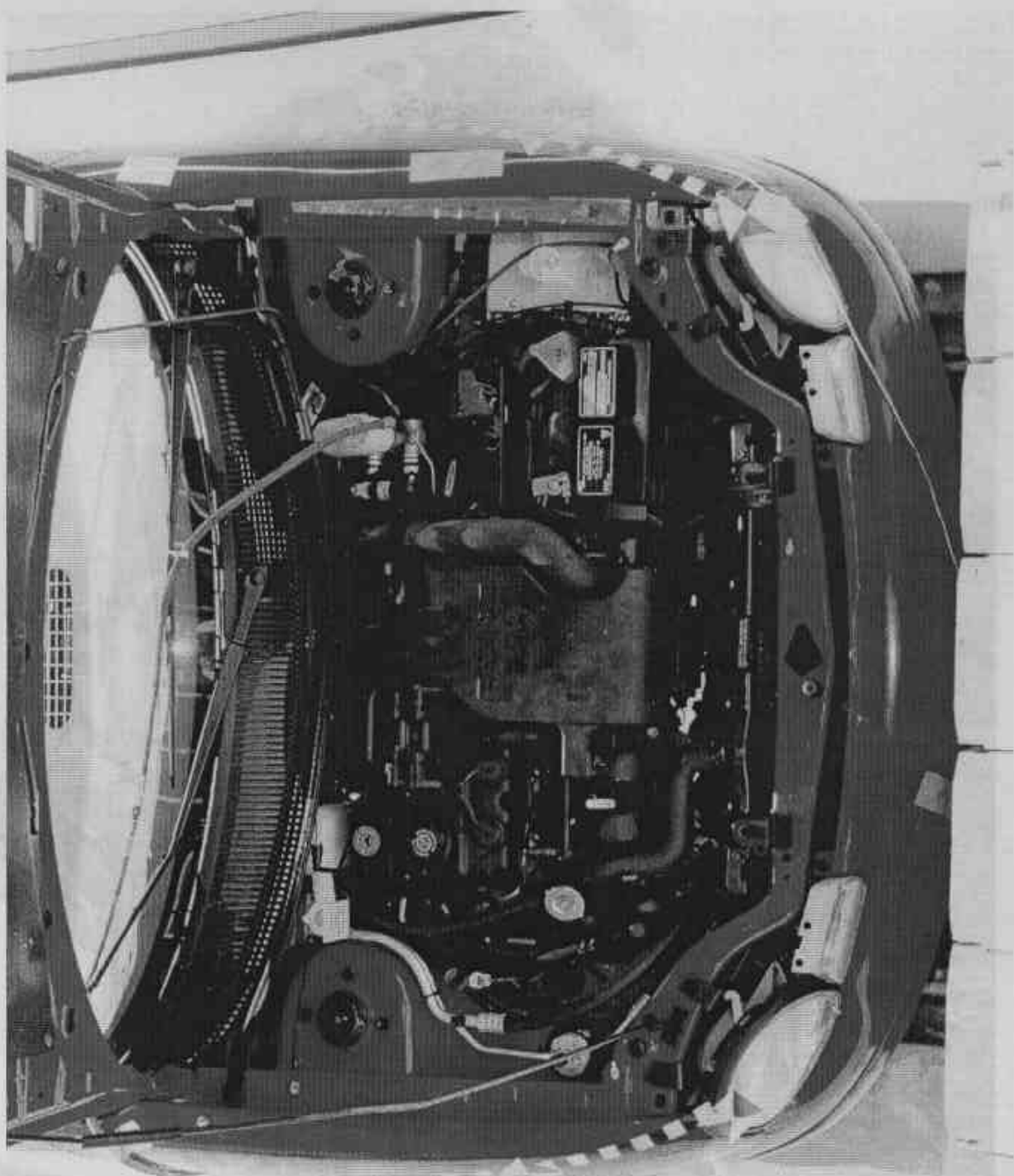


FIGURE A-17. PRE-TEST ENGINE COMPARTMENT

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A-17

KAR98002-01

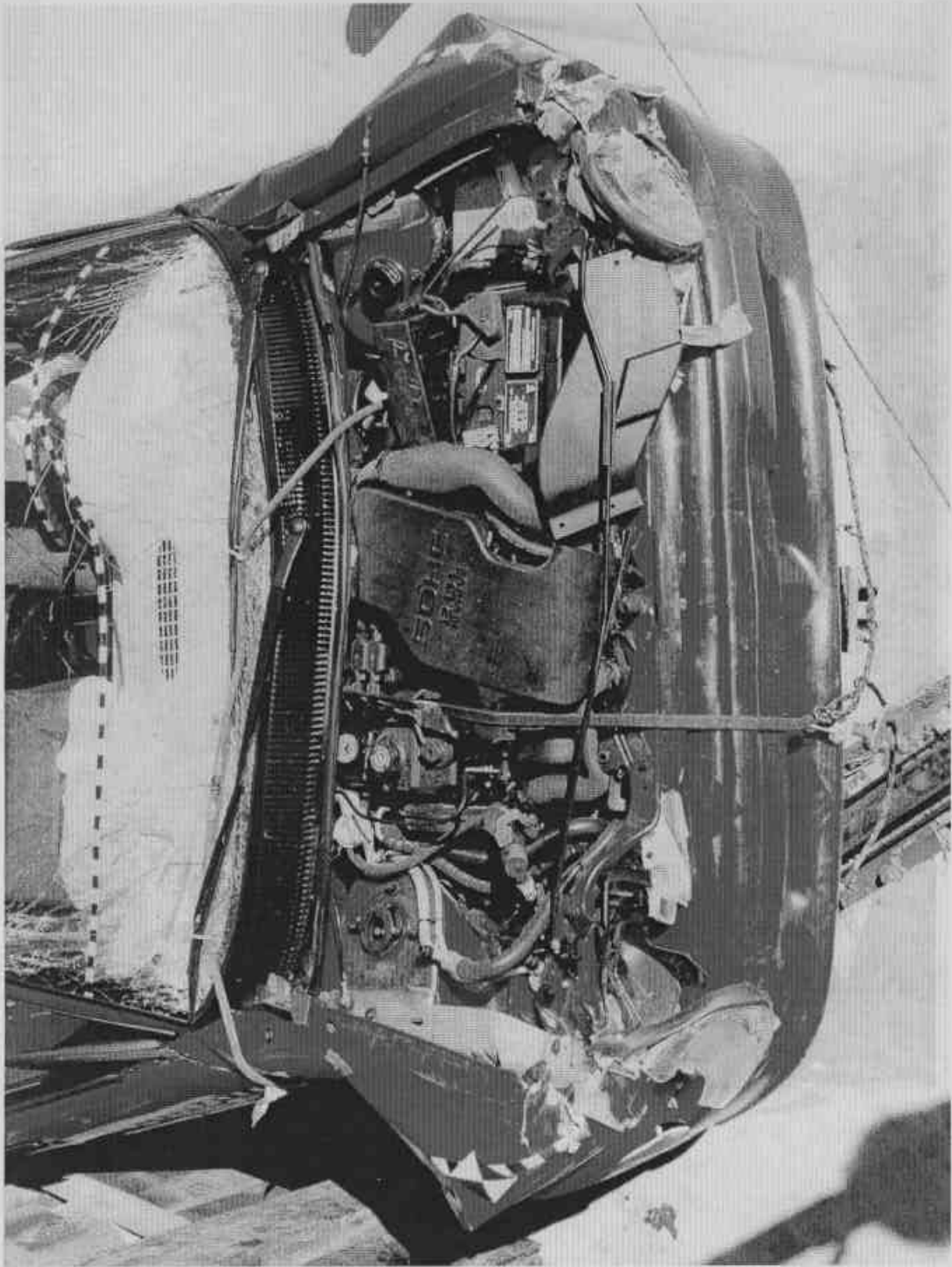


FIGURE A-18. POST-TEST ENGINE COMPARTMENT

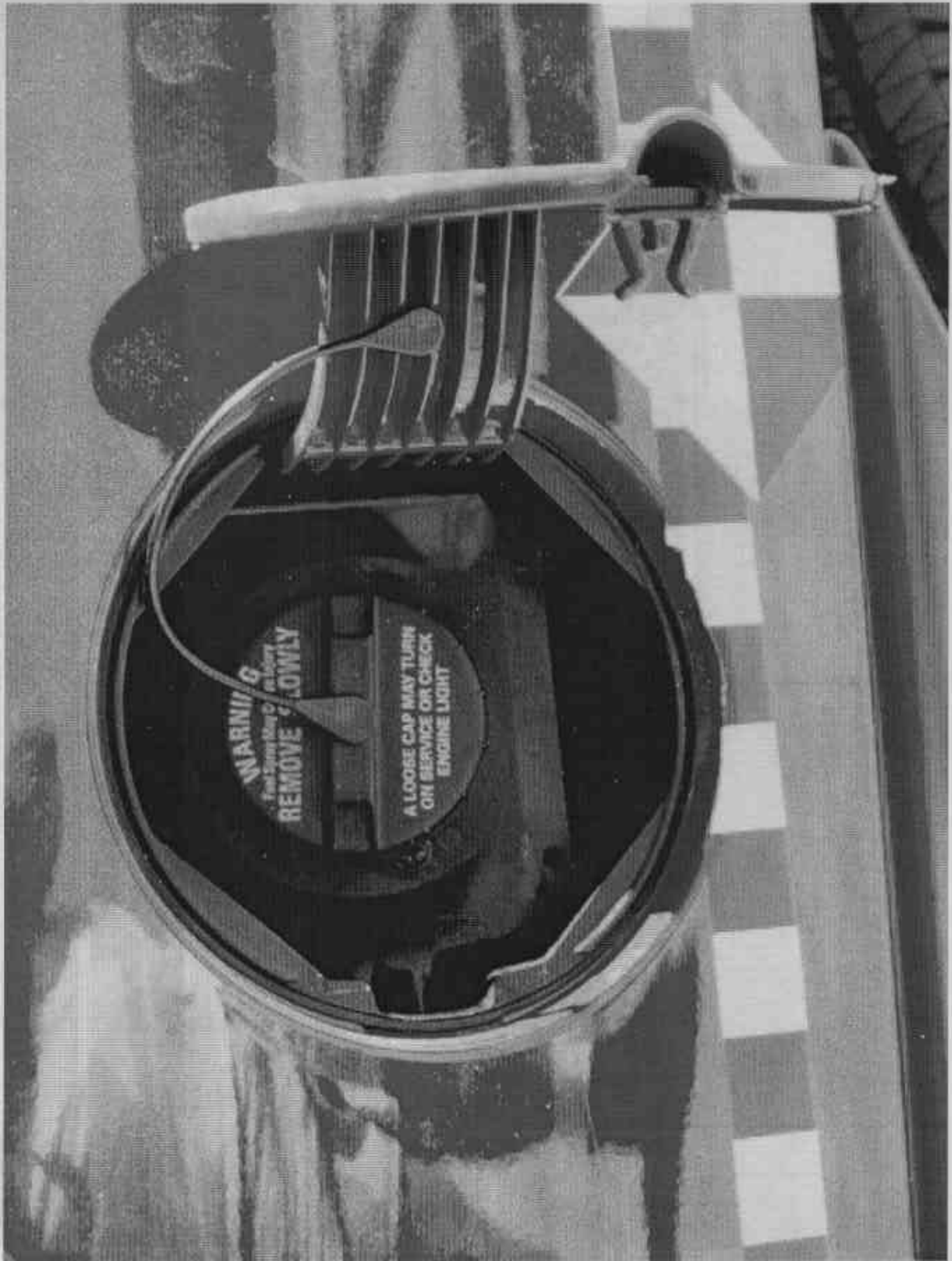


FIGURE A-19. PRE-TEST FUEL CAP



FIGURE A-20. VEHICLE ON ROLLOVER

A-20

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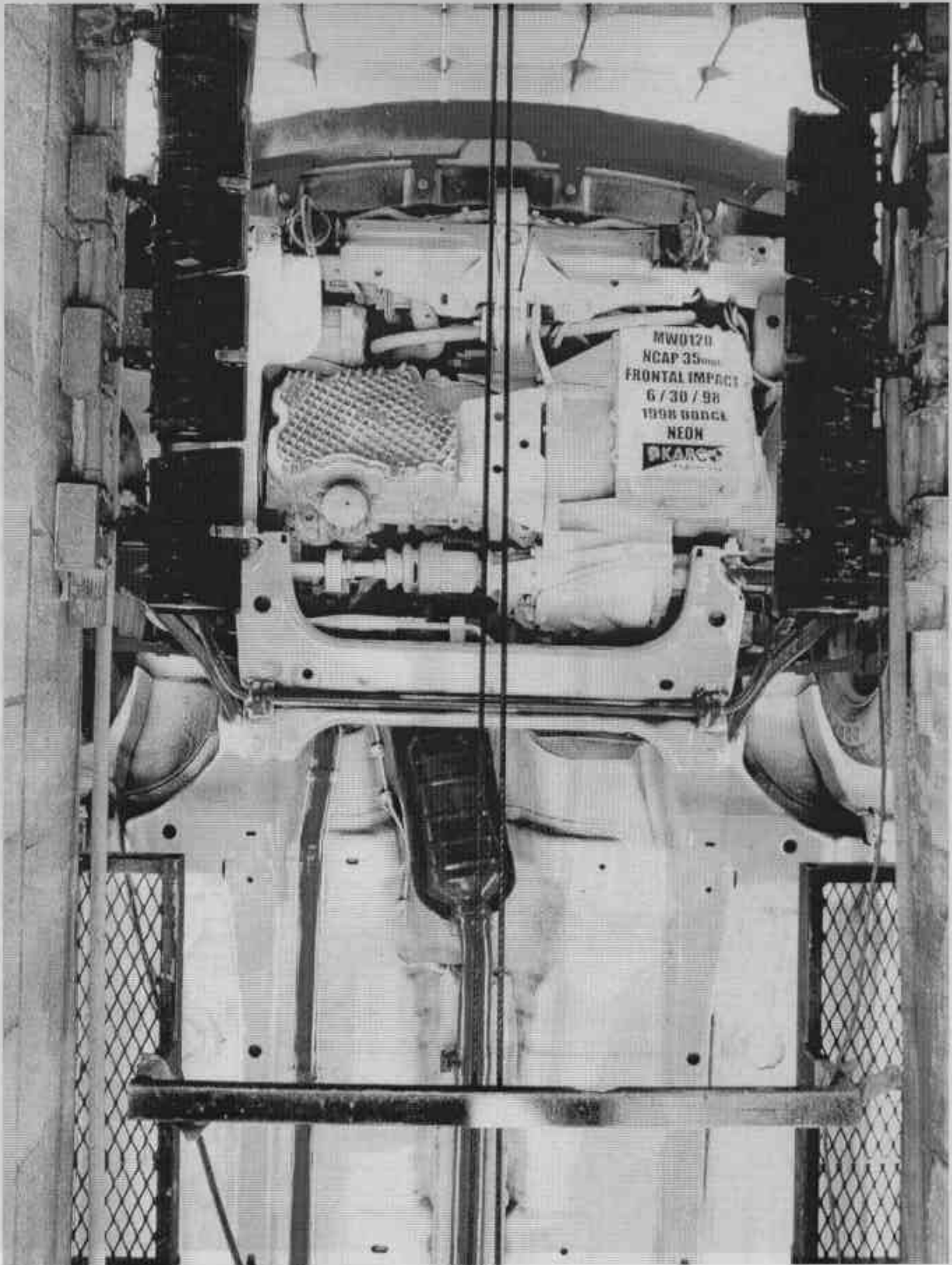


FIGURE A-21. PRE-TEST FRONT UNDERSIDE

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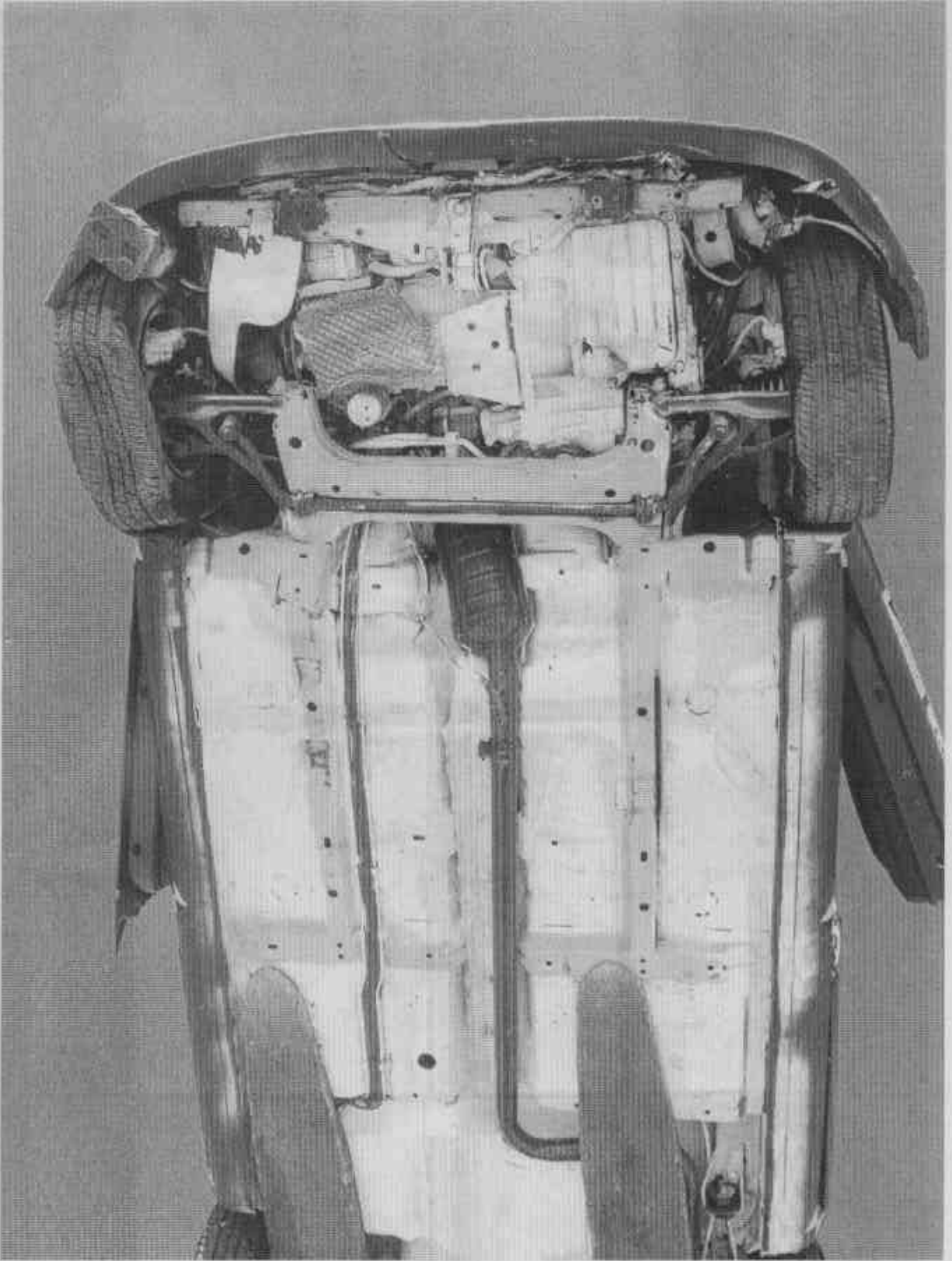


FIGURE A-22. POST-TEST FRONT UNDERSIDE

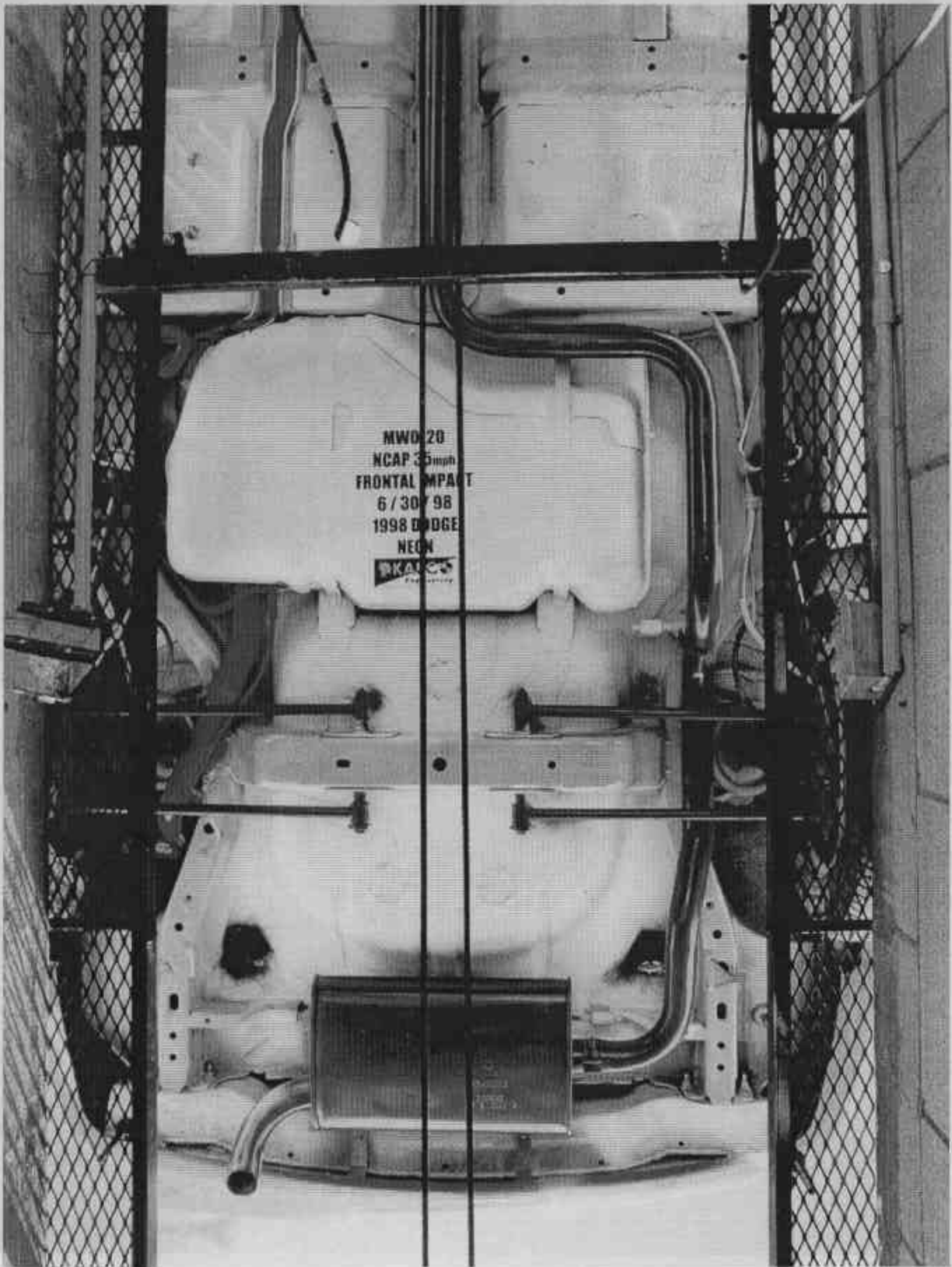


FIGURE A-23. PRE-TEST REAR UNDERSIDE

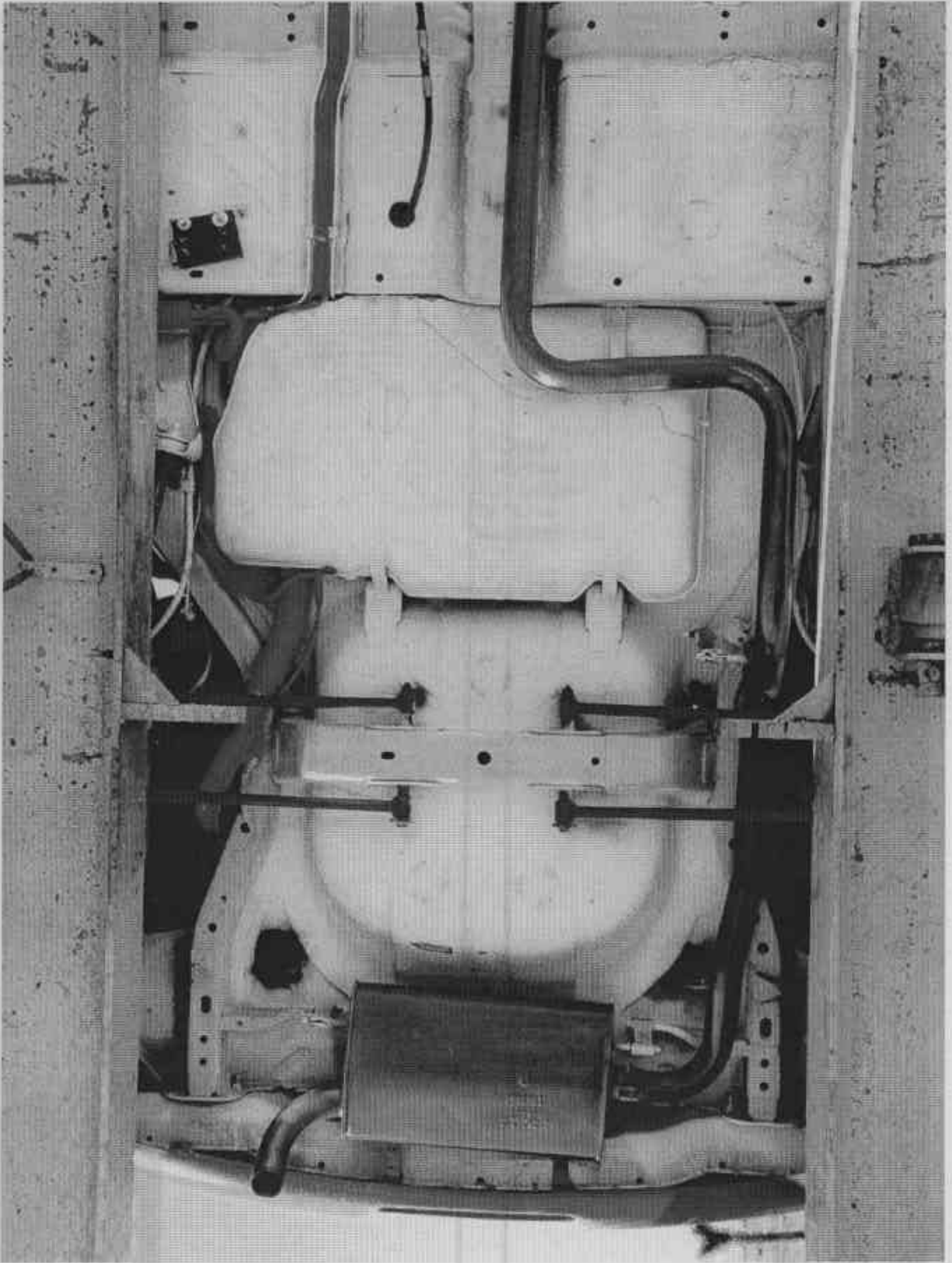


FIGURE A-24. POST-TEST REAR UNDERSIDE

A-24

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KAR98002-01

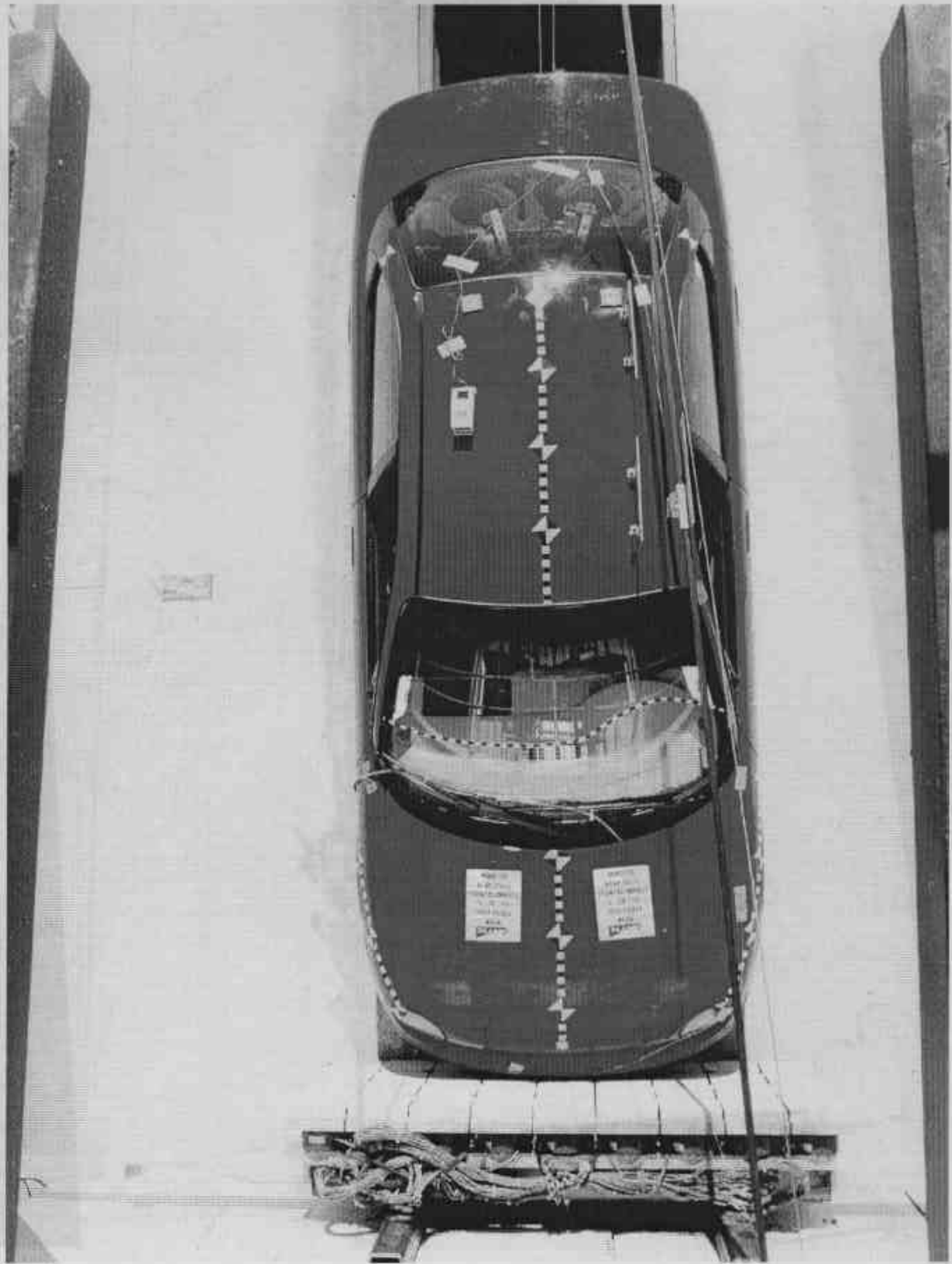


FIGURE A-25. PRE-TEST OVERHEAD OVERALL



FIGURE A-26. POST-TEST OVERHEAD OVERALL

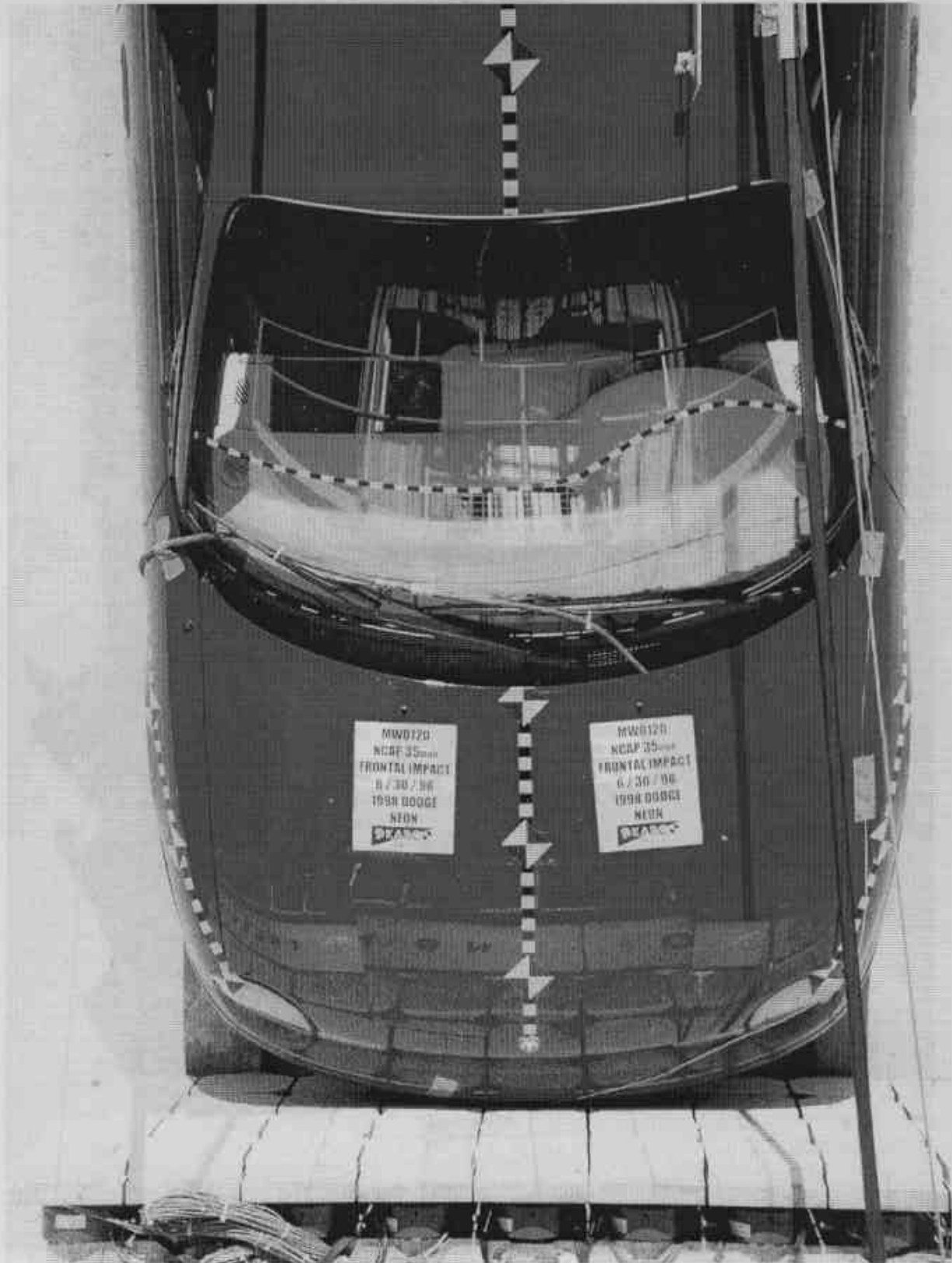


FIGURE A-27. PRE-TEST OVERHEAD CLOSE-UP

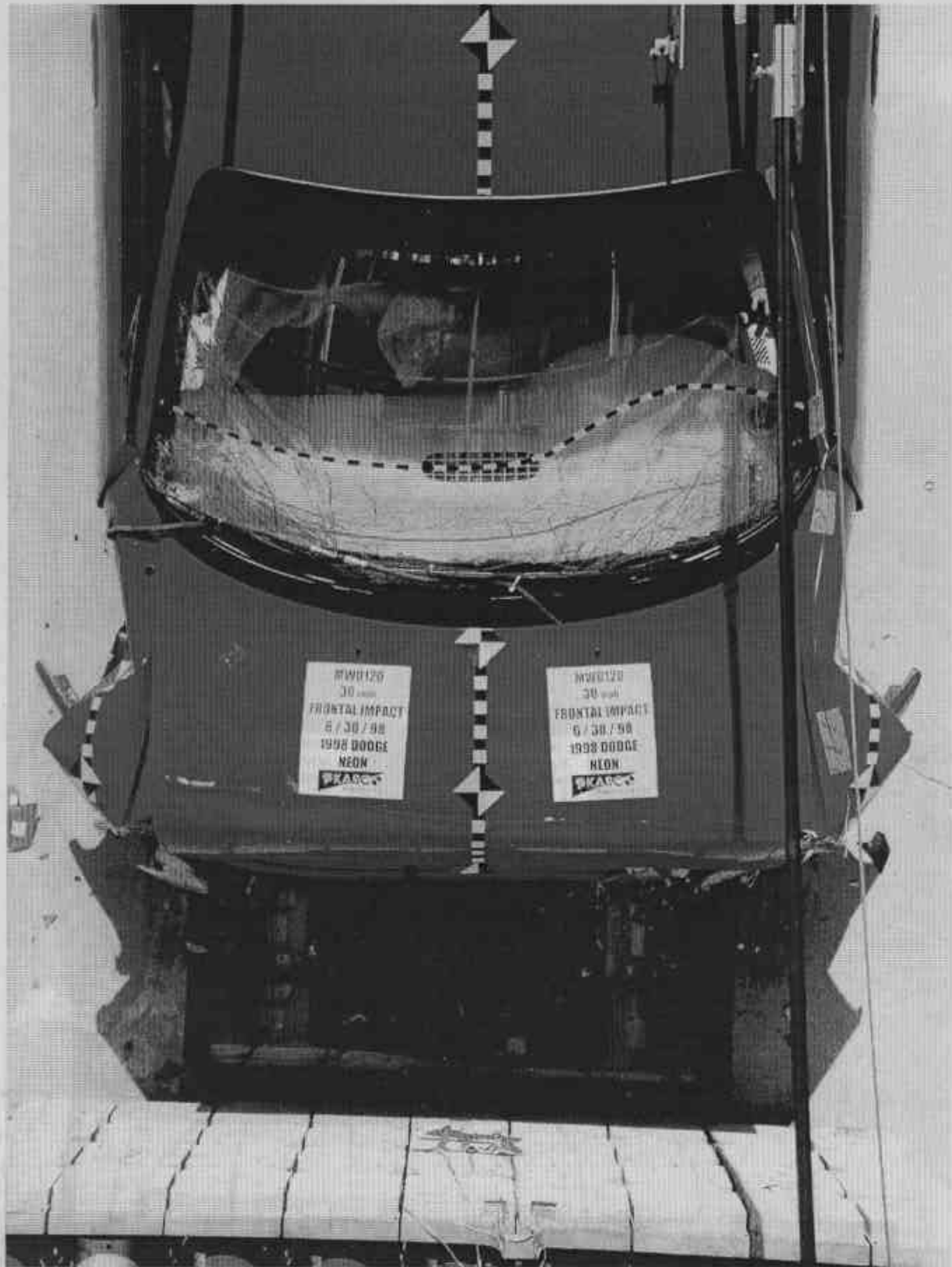


FIGURE A-28. POST-TEST OVERHEAD CLOSE-UP

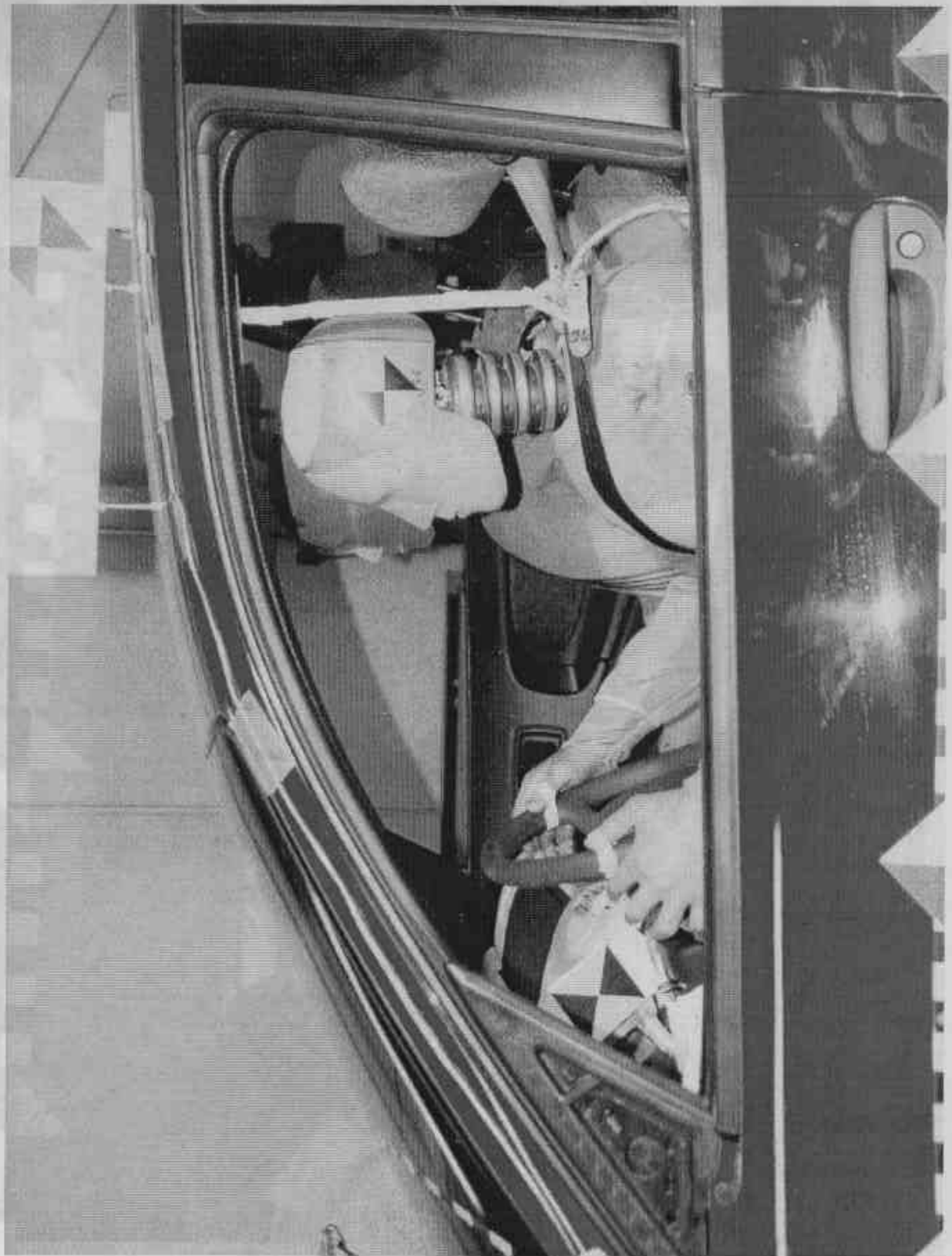


FIGURE A-29. PRE-TEST DRIVER DUMMY (THROUGH WINDOW)



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



FIGURE A-31. PRE-TEST DRIVER DUMMY (DOOR OPEN)



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



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

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A-33

KAR98002-01



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

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FD-5000 (Rev. 11-83)



FIGURE A-35. PRE-TEST DRIVER DUMMY FEET



FIGURE A-36. POST-TEST DRIVER DUMMY FEET

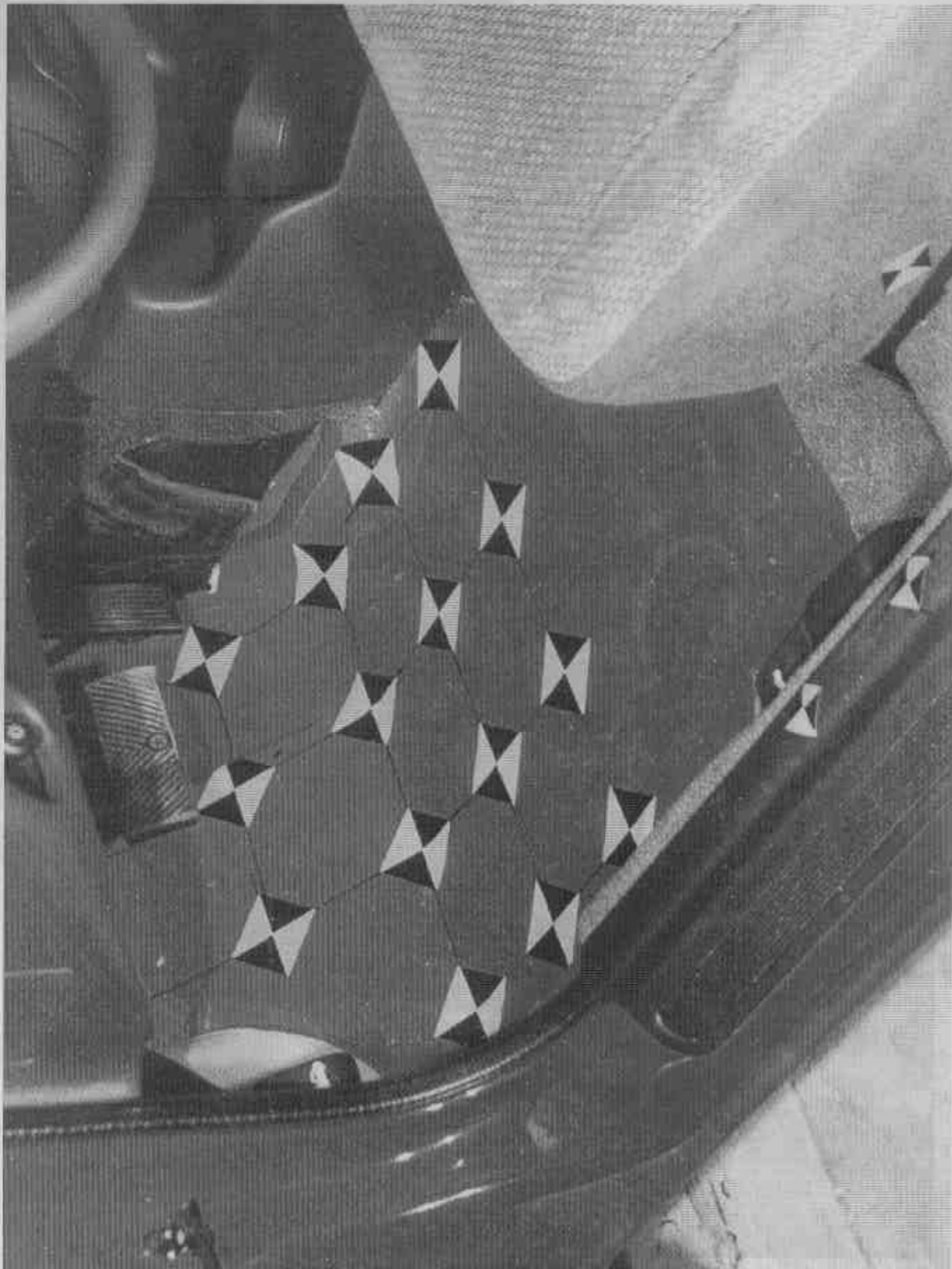


FIGURE A-37. PRE-TEST DRIVER SIDE FLOOR PAN

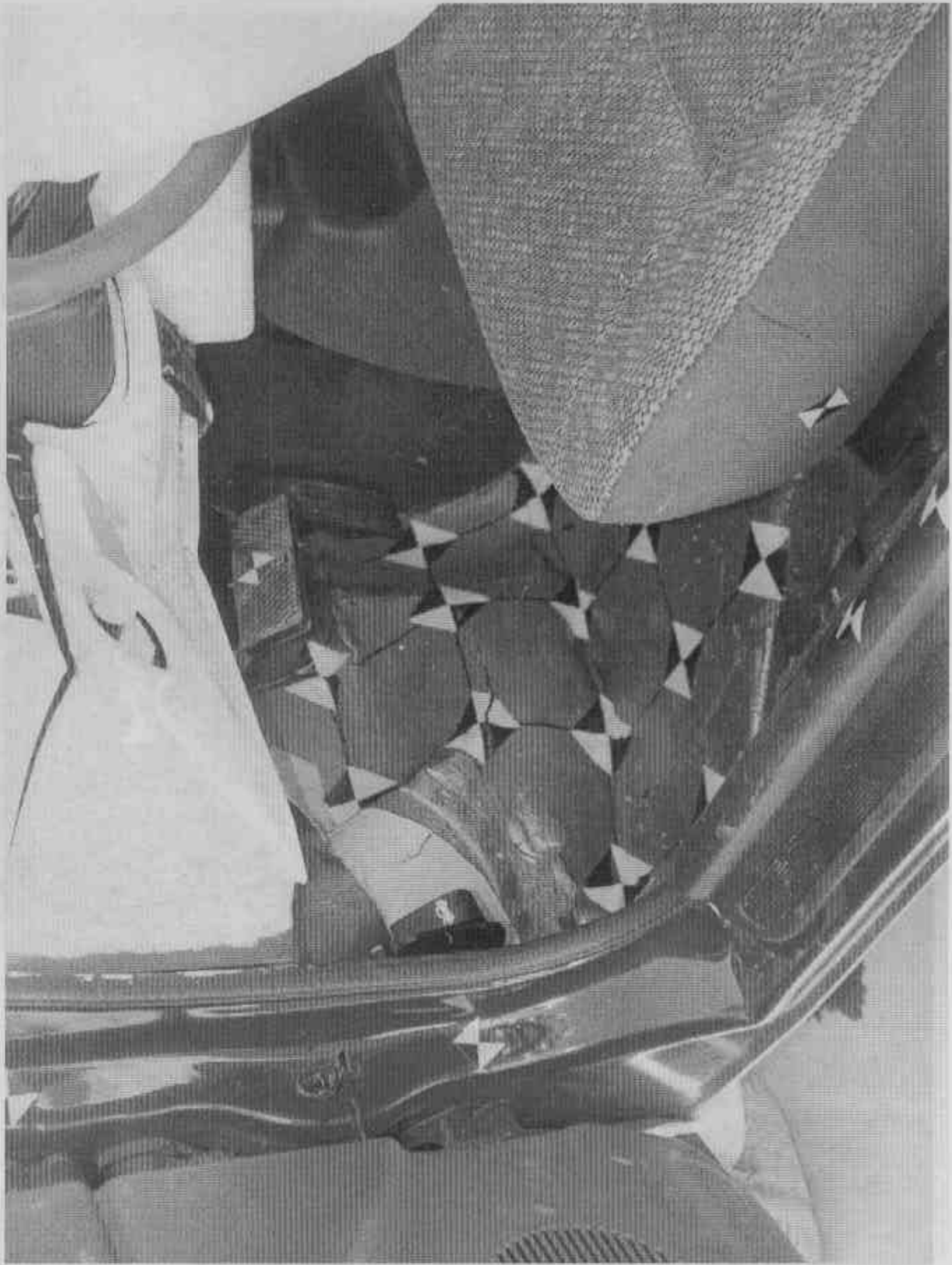


FIGURE A-38. POST-TEST DRIVER SIDE FLOOR PAN



FIGURE A-39. PRE-TEST DRIVER SIDE KNEE BOLSTER



FIGURE A-40. POST-TEST DRIVER KNEE BOLSTER AND DUMMY CONTACT

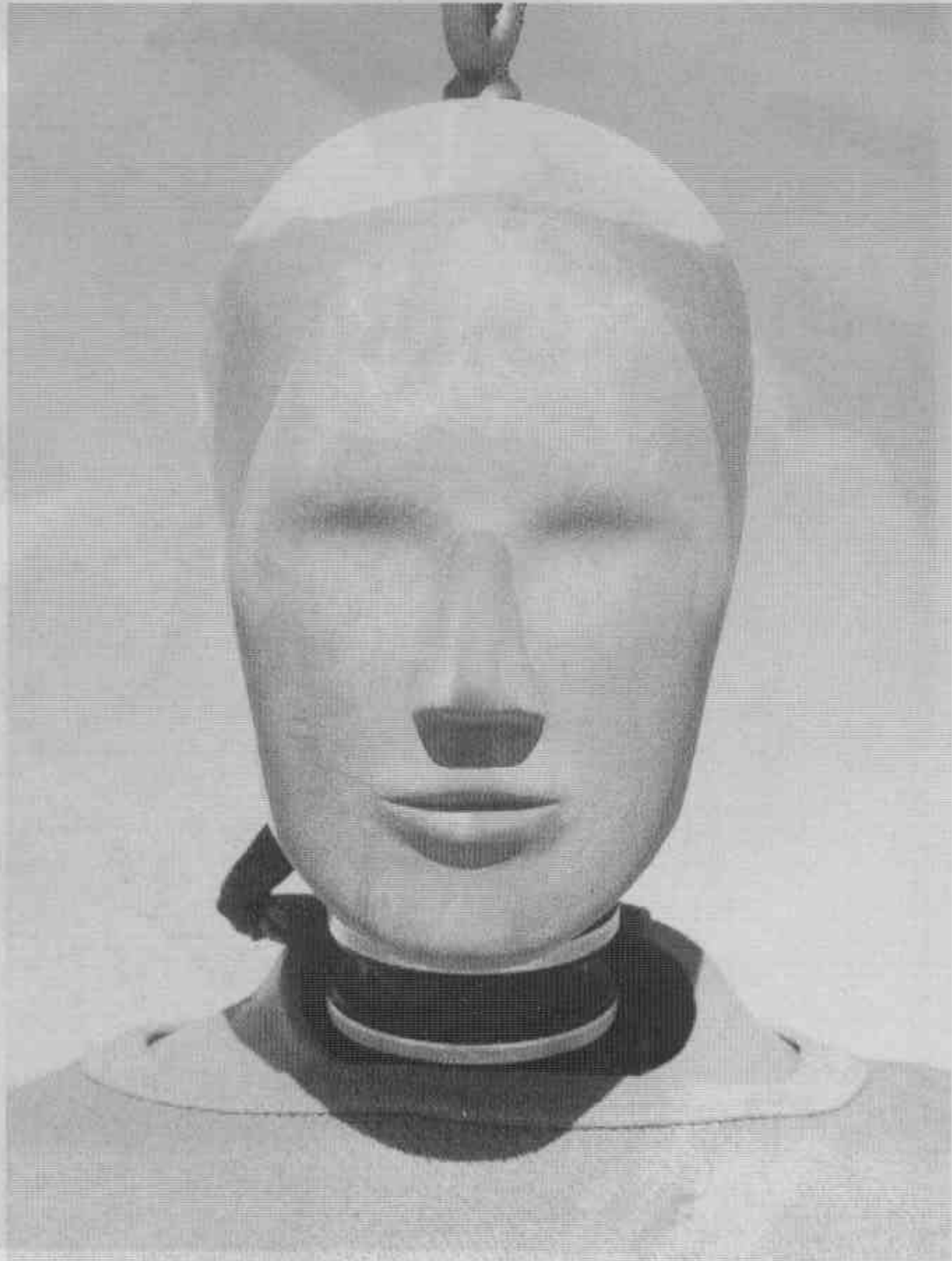


FIGURE A-41. POST-TEST DRIVER DUMMY HEAD

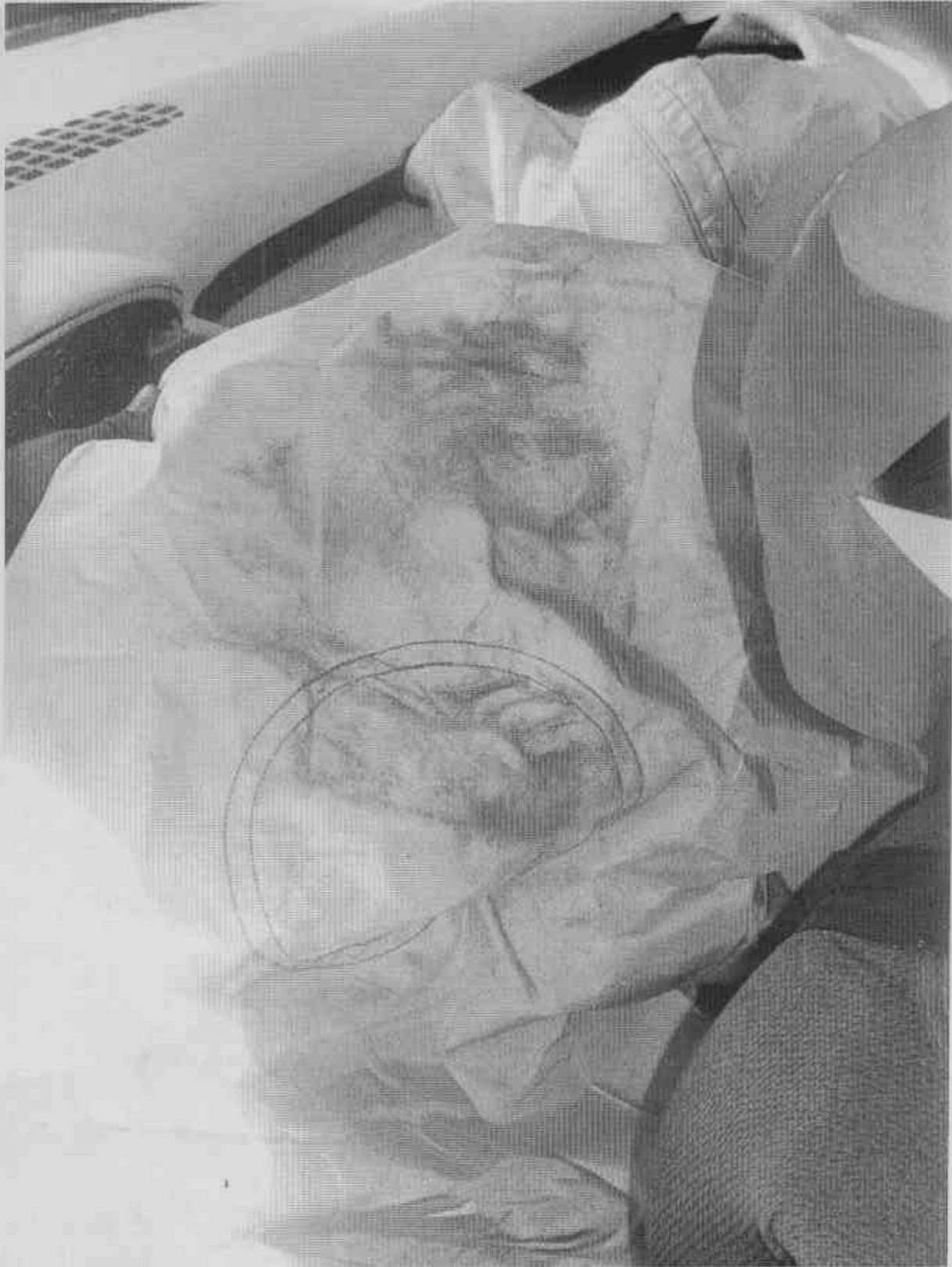


FIGURE A-42. POST-TEST DRIVER DUMMY CONTACT POINT



FIGURE A-43. PRE-TEST PASSENGER DUMMY (THROUGH WINDOW)

FIGURE A-43

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KAR98002-01



FIGURE A-44. POST-TEST PASSENGER DUMMY (THROUGH WINDOW)



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



FIGURE A-46. POST-TEST PASSENGER DUMMY (DOOR OPEN)



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

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FIGURE A-48. POST-TEST PASSENGER DUMMY (90° TO VEHICLE)

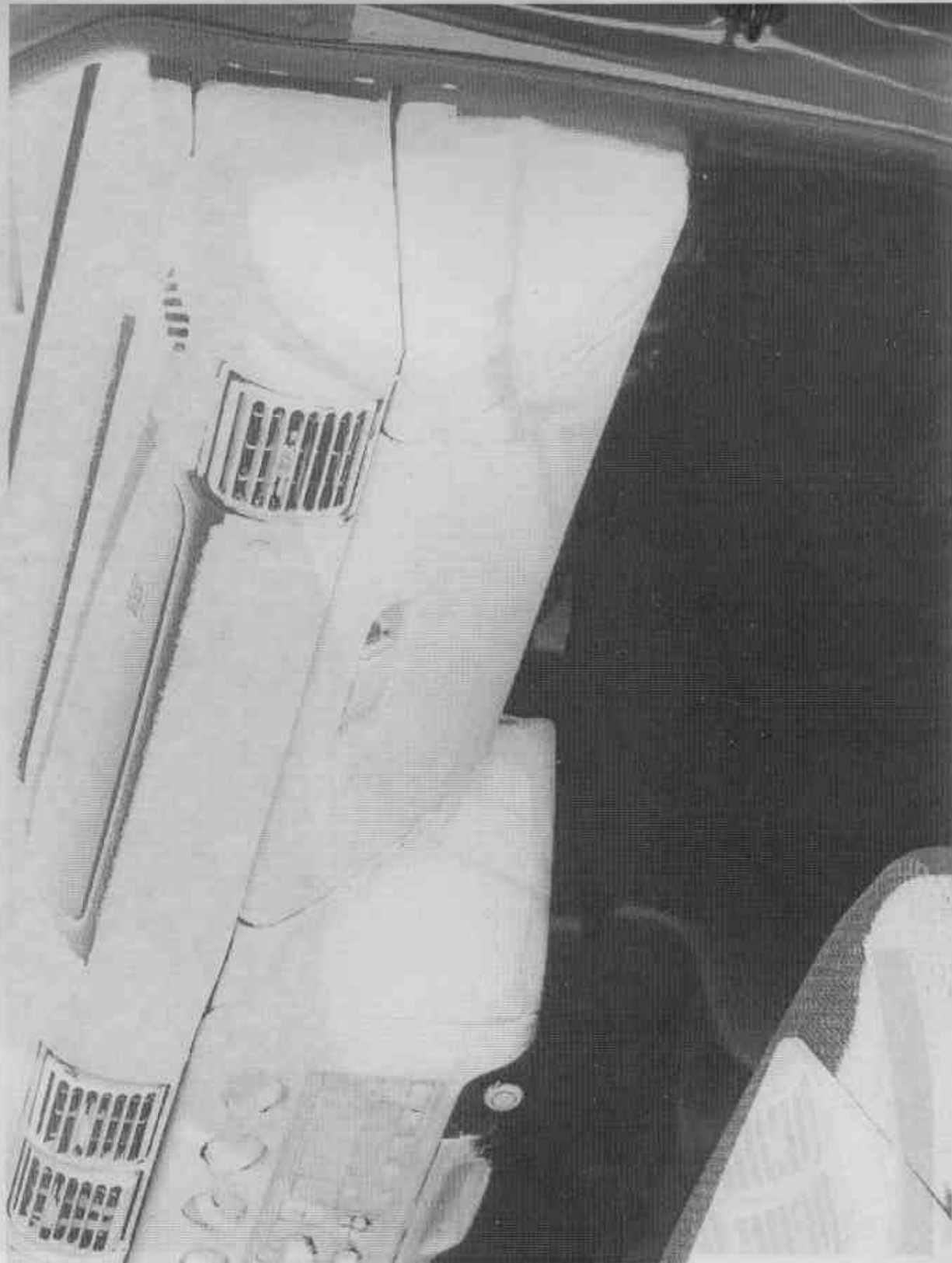


FIGURE A-49. PRE-TEST PASSENGER SIDE KNEE BOLSTER

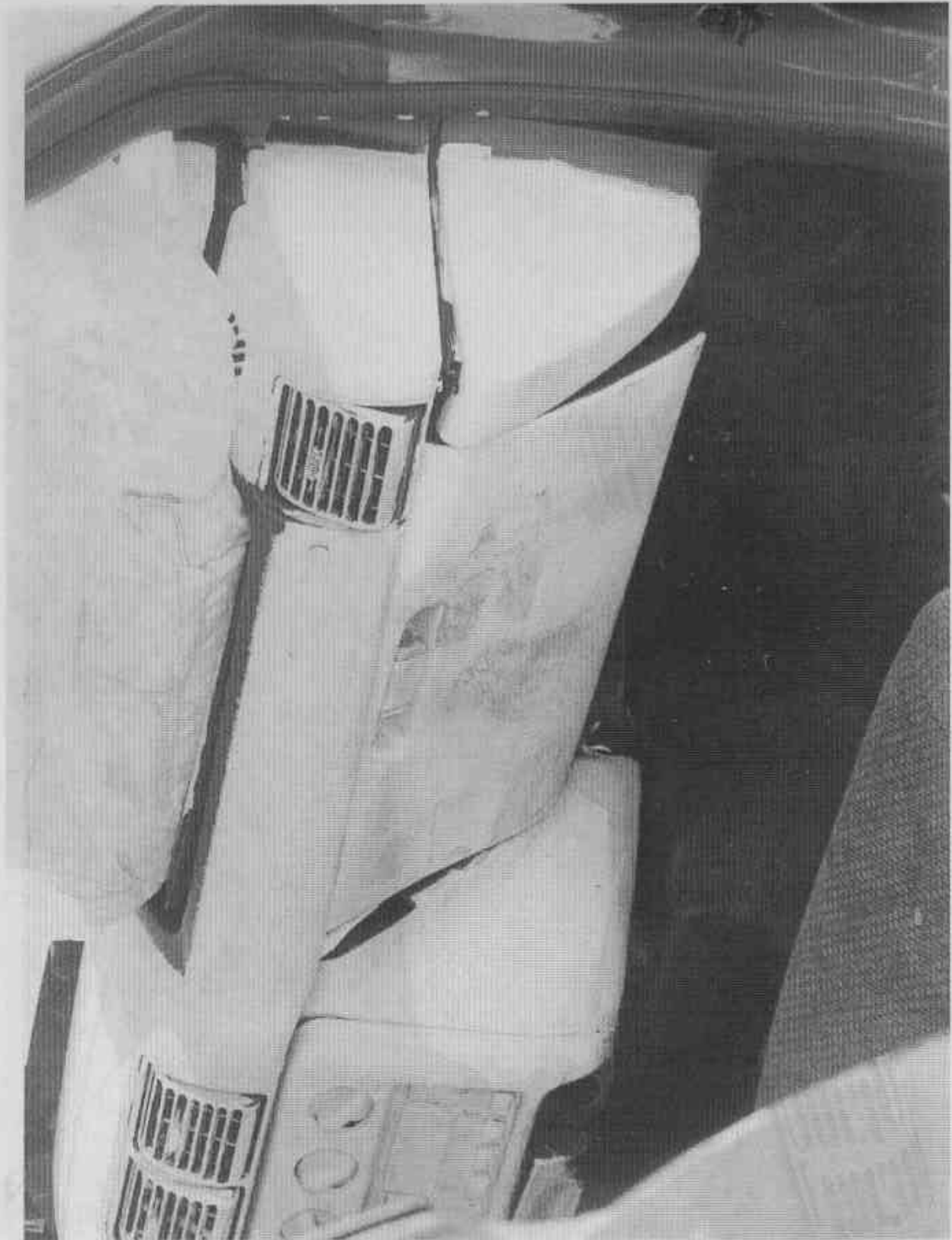


FIGURE A-50. POST-TEST PASSENGER KNEE BOLSTER AND DUMMY CONTACT

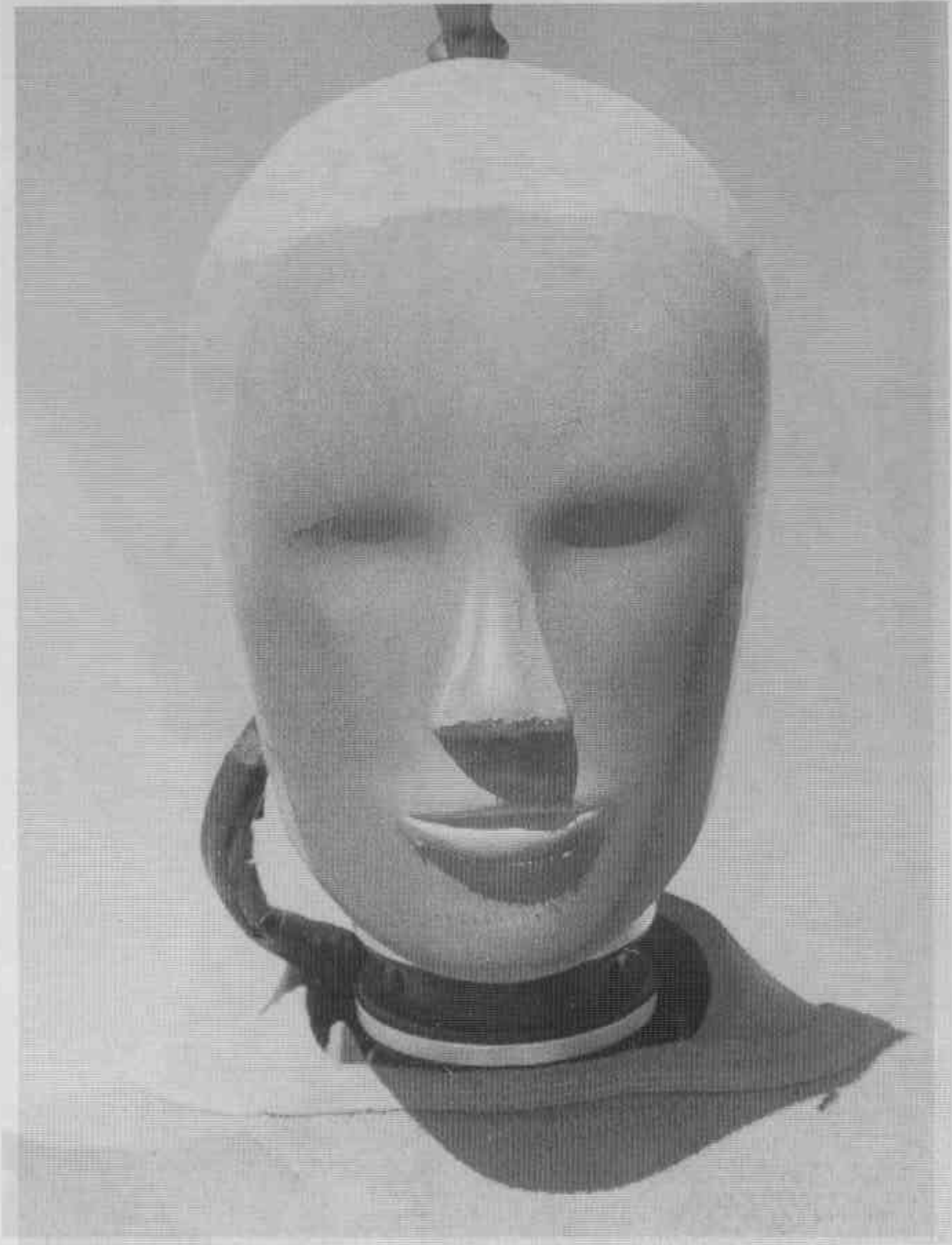


FIGURE A-51. POST-TEST PASSENGER DUMMY HEAD

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FIGURE A-52. POST-TEST PASSENGER DUMMY CONTACT POINT



FIGURE A-53. VEHICLE DURING IMPACT

APPENDIX B

DUMMY, VEHICLE AND RESPONSE DATA TRACES

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B-4	Driver Head Primary Y	B-4
B-5	Driver Head Primary Z	B-5
B-6	Driver Head Resultant Primary	B-6
B-7	Driver Head Redundant X	B-7
B-8	Driver Head Redundant X Velocity	B-8
B-9	Driver Head Redundant X Displacement	B-9
B-10	Driver Head Redundant Y	B-10
B-11	Driver Head Redundant Z	B-11
B-12	Driver Head Resultant Redundant	B-12
B-13	Driver Neck Force X	B-13
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B-16	Driver Neck Force Resultant	B-16
B-17	Driver Neck Moment X	B-17
B-18	Driver Neck Moment Y	B-18
B-19	Driver Neck Moment Z	B-19
B-20	Driver Neck Moment Resultant	B-20
B-21	Driver Chest Primary X	B-21
B-22	Driver Chest Primary X Velocity	B-22
B-23	Driver Chest Primary X Displacement	B-23
B-24	Driver Chest Primary Y	B-24
B-25	Driver Chest Primary Z	B-25
B-26	Driver Chest Resultant Primary	B-26
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B-28	Driver Chest Redundant X Velocity	B-28
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B-42	Driver Left Upper Tibia Moment X	B-42
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B-44	Driver Right Upper Tibia Moment X	B-44
B-45	Driver Right Upper Tibia Moment Y	B-45
B-46	Driver Left Lower Tibia Force X	B-46
B-47	Driver Left Lower Tibia Moment Y	B-47
B-48	Driver Left Lower Tibia Force Z	B-48
B-49	Driver Right Lower Tibia Moment X	B-49
B-50	Driver Right Lower Tibia Moment Y	B-50
B-51	Driver Right Lower Tibia Force Z	B-51
B-52	Driver Left Foot Aft X	B-52
B-53	Driver Left Foot Aft Z	B-53
B-54	Driver Left Foot Fore Z	B-54
B-55	Driver Right Foot Aft X	B-55
B-56	Driver Right Foot Aft Z	B-56
B-57	Driver Right Foot Fore Z	B-57
B-58	Driver Lap Belt Force	B-58
B-59	Driver Shoulder Belt Force	B-59
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B-63	Passenger Head Primary X Velocity	B-63
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B-66	Passenger Head Primary Z	B-66
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B-68	Passenger Head Redundant X	B-68
B-69	Passenger Head Redundant X Velocity	B-69
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LIST OF DATA PLOTS...(Continued)

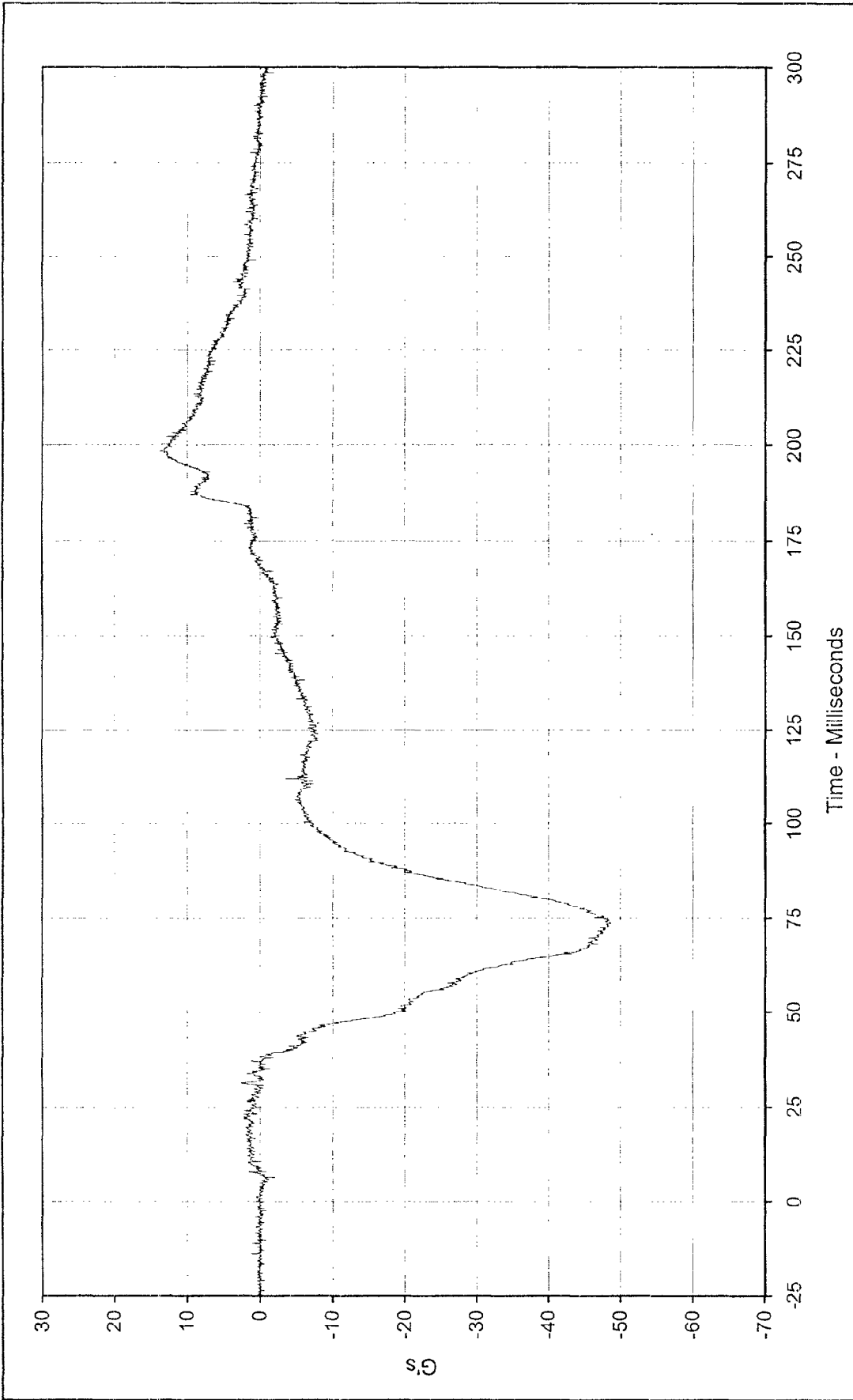
Data Plot		Page
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B-74	Passenger Neck Force X	B-74
B-75	Passenger Neck Force Y	B-75
B-76	Passenger Neck Force Z	B-76
B-77	Passenger Neck Force Resultant	B-77
B-78	Passenger Neck Moment X	B-78
B-79	Passenger Neck Moment Y	B-79
B-80	Passenger Neck Moment Z	B-80
B-81	Passenger Neck Moment Resultant	B-81
B-82	Passenger Chest Primary X	B-82
B-83	Passenger Chest Primary X Velocity	B-83
B-84	Passenger Chest Primary X Displacement	B-84
B-85	Passenger Chest Primary Y	B-85
B-86	Passenger Chest Primary Z	B-86
B-87	Passenger Chest Resultant Primary	B-87
B-88	Passenger Chest Redundant X	B-88
B-89	Passenger Chest Redundant X Velocity	B-89
B-90	Passenger Chest Redundant X Displacement	B-90
B-91	Passenger Chest Redundant Y	B-91
B-92	Passenger Chest Redundant Z	B-92
B-93	Passenger Chest Resultant Redundant	B-93
B-94	Passenger Chest Displacement X	B-94
B-95	Passenger Pelvis X	B-95
B-96	Passenger Pelvis X Velocity	B-96
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B-99	Passenger Pelvis Z	B-99
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B-102	Passenger Right Femur Force	B-102
B-103	Passenger Left Upper Tibia Moment X	B-103
B-104	Passenger Left Upper Tibia Moment Y	B-104
B-105	Passenger Right Upper Tibia Moment X	B-105

LIST OF DATA PLOTS...(Continued)

Data Plot		Page
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B-107	Passenger Left Lower Tibia Moment X	B-107
B-108	Passenger Left Lower Tibia Moment Y	B-108
B-109	Passenger Left Lower Tibia Force Z	B-109
B-110	Passenger Right Lower Tibia Moment X	B-110
B-111	Passenger Right Lower Tibia Moment Y	B-111
B-112	Passenger Right Lower Tibia Force Z	B-112
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
B-118	Passenger Right Foot Fore Z	B-118
B-119	Passenger Lap Belt Force	B-119
B-120	Passenger Shoulder Belt Force	B-120
B-121	Passenger Shoulder Belt Pullout	B-121
B-122	Passenger Shoulder Belt Elongation	B-122
B-123	Vehicle Left Sill X	B-123
B-124	Vehicle Left Sill X Velocity	B-124
B-125	Vehicle Left Sill X Displacement	B-125
B-126	Vehicle Left Sill Y	B-126
B-127	Vehicle Left Sill Y Velocity	B-127
B-128	Vehicle Left Sill Y Displacement	B-128
B-129	Vehicle Center Tunnel X	B-129
B-130	Vehicle Center Tunnel X Velocity	B-130
B-131	Vehicle Center Tunnel X Displacement	B-131
B-132	Vehicle Center Tunnel Y	B-132
B-133	Vehicle Center Tunnel Y Velocity	B-133
B-134	Vehicle Center Tunnel Y Displacement	B-134
B-135	Vehicle Right Sill X	B-135
B-136	Vehicle Right Sill X Velocity	B-136
B-137	Vehicle Right Sill X Displacement	B-137
B-138	Vehicle Right Sill Y	B-138
B-139	Vehicle Right Sill Y Velocity	B-139
B-140	Vehicle Right Sill Y Displacement	B-140

LIST OF DATA PLOTS...(Continued)

Data Plot		Page
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B-143	Vehicle Trunk X Displacement	B-143
B-144	Vehicle Trunk Y	B-144
B-145	Vehicle Trunk Y Velocity	B-145
B-146	Vehicle Trunk Y Displacement	B-146



Curve Description: Driver Head Primary X

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 13.7 at 198.5 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

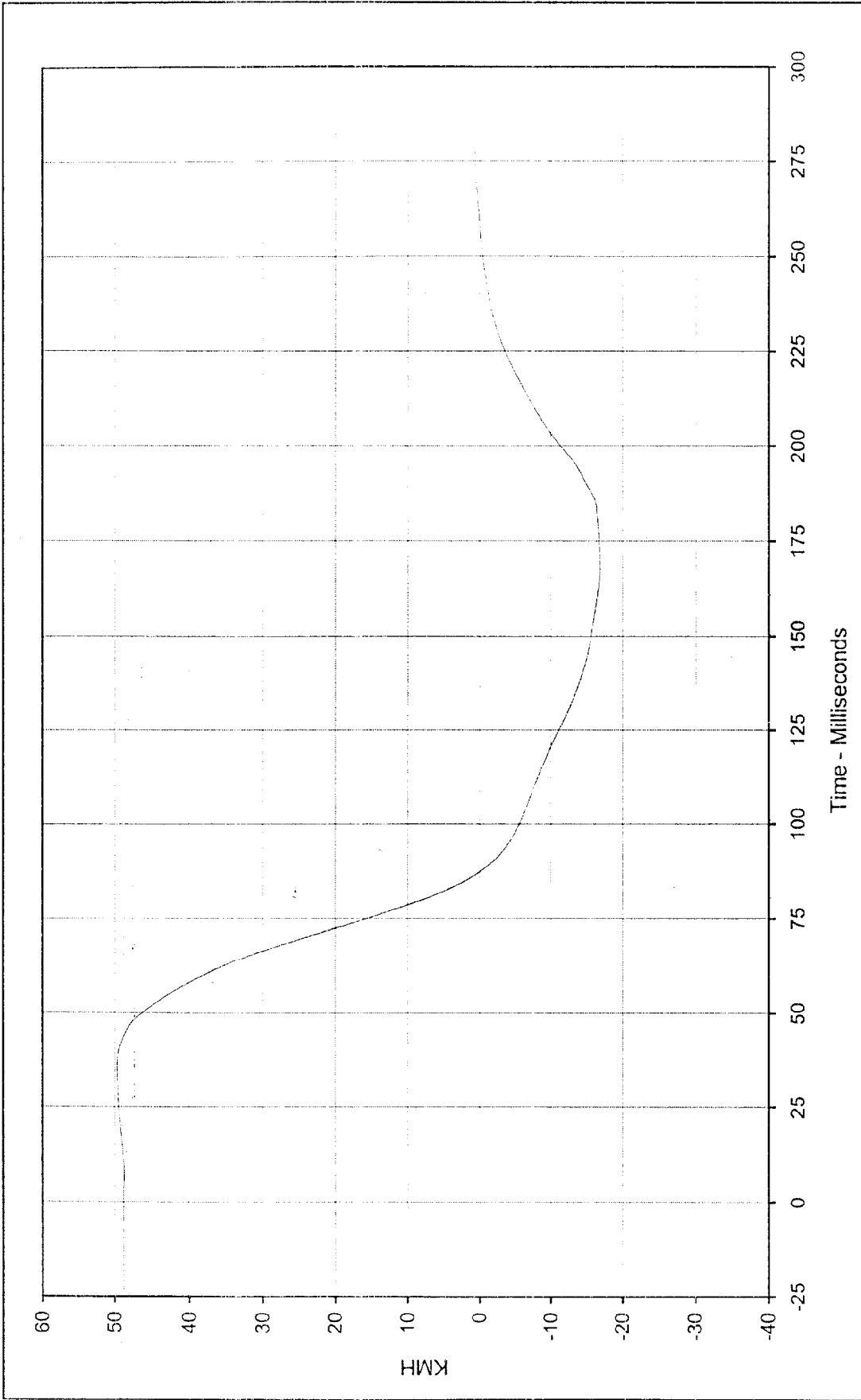
Minimum Value: -48.6 at 73.5 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-001

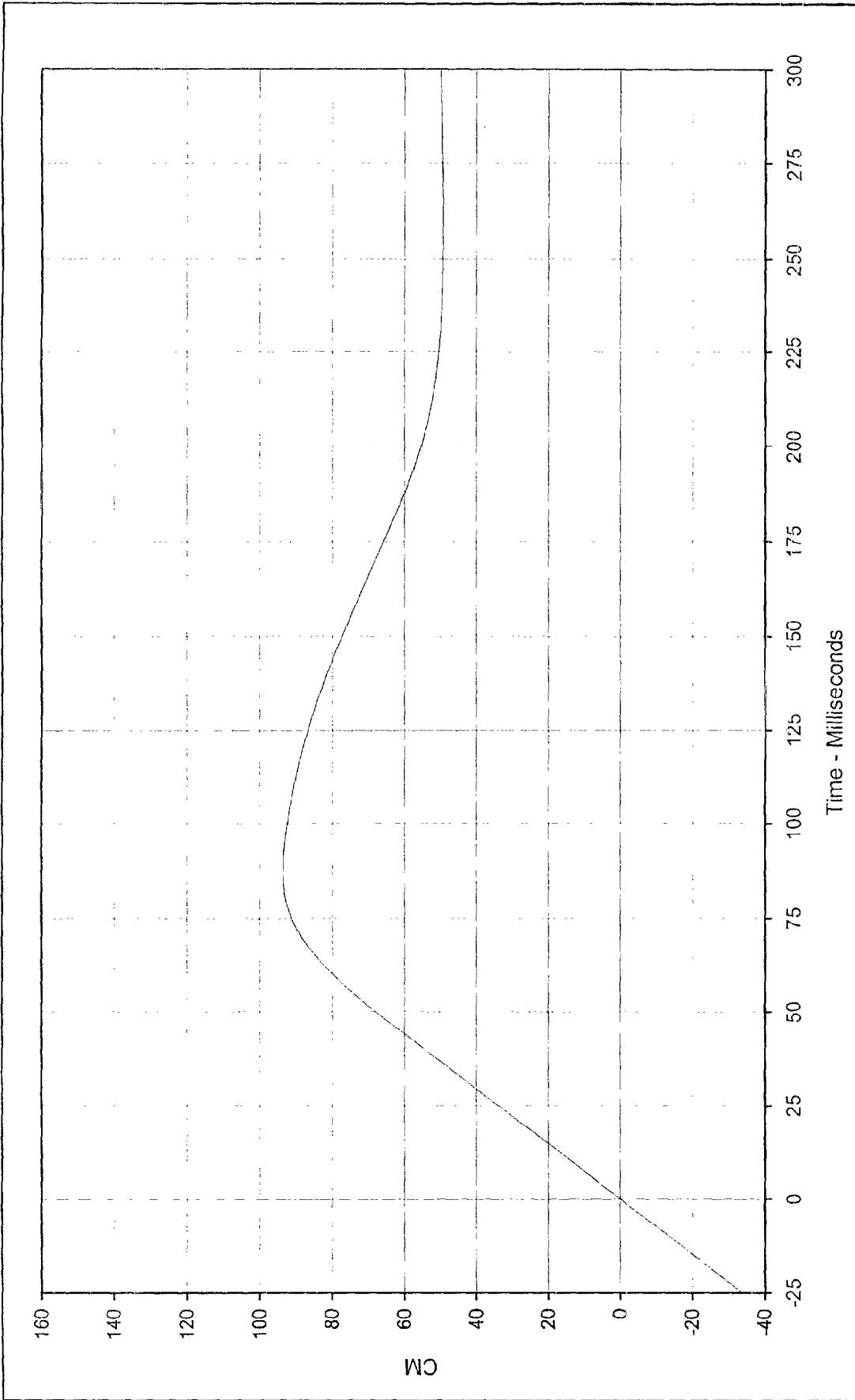




Curve Description: Driver Head Primary X Velocity
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Maximum Value: 49.7 at 34.9 Milliseconds
 Minimum Value: -16.9 at 168.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN1-001

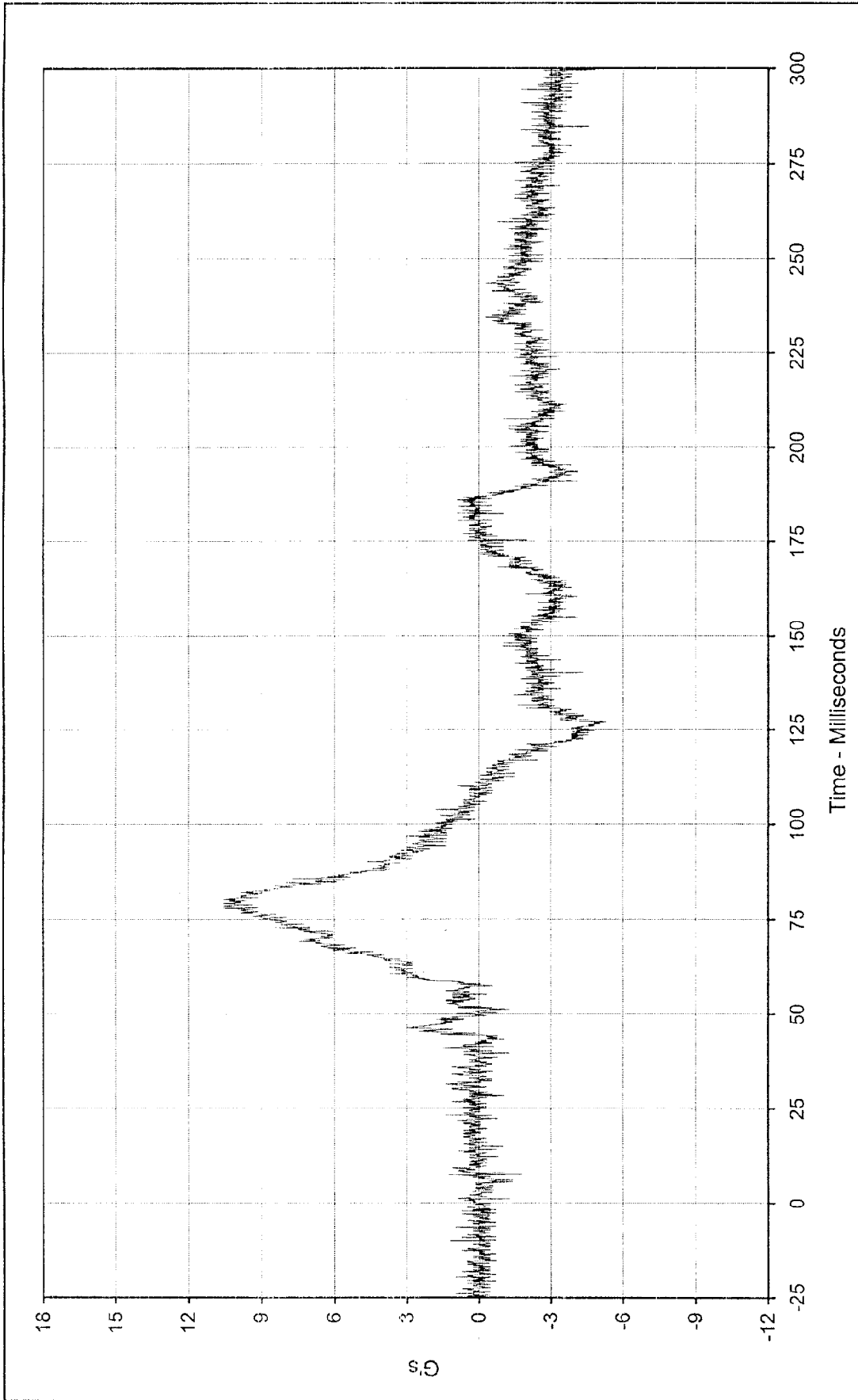




Curve Description: Driver Head Primary X Displ.
 Maximum Value: 93.6 at 87.3 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-001

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Head Primary Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 10.5 at 78.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

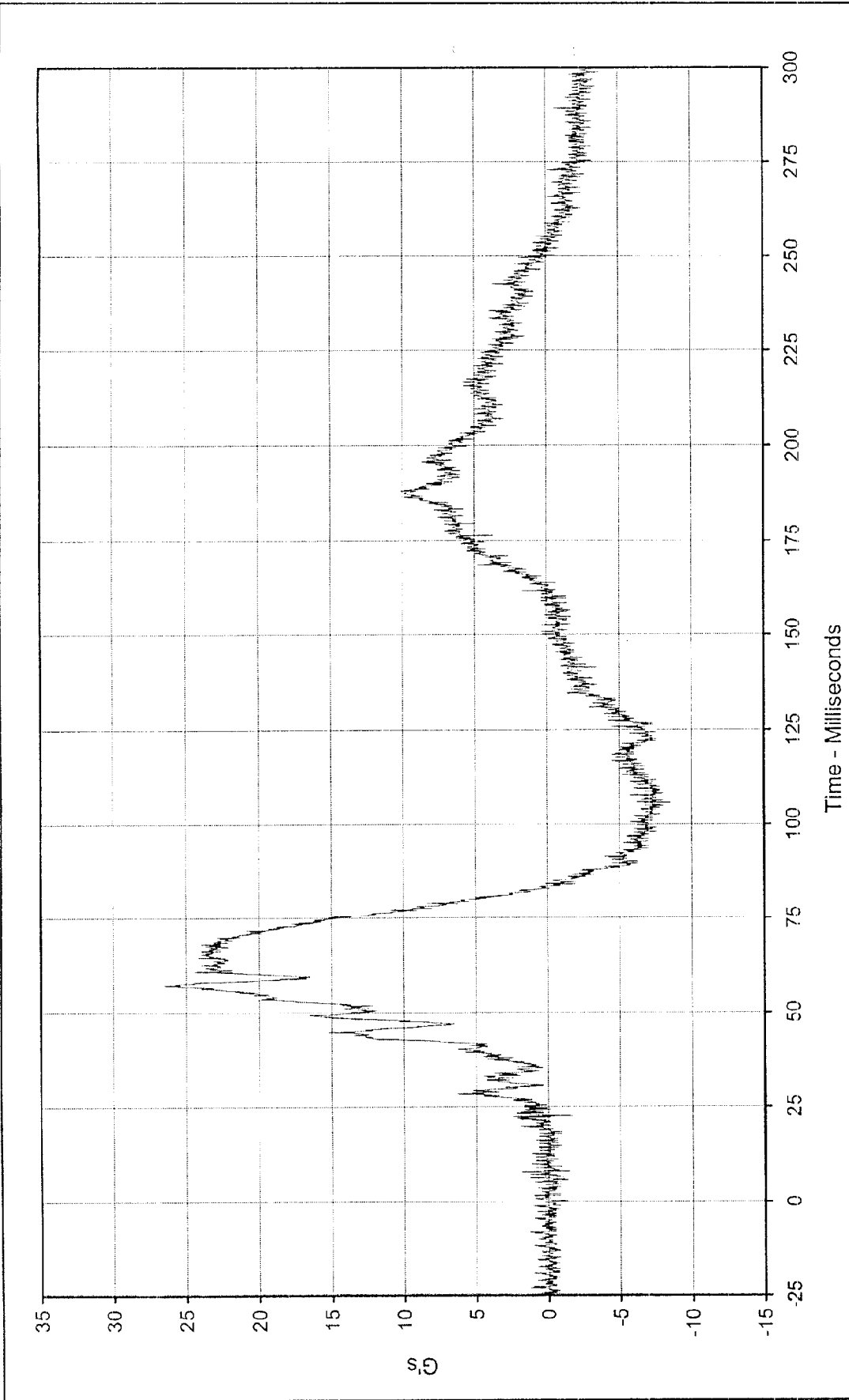
Minimum Value: -5.3 at 126.9 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

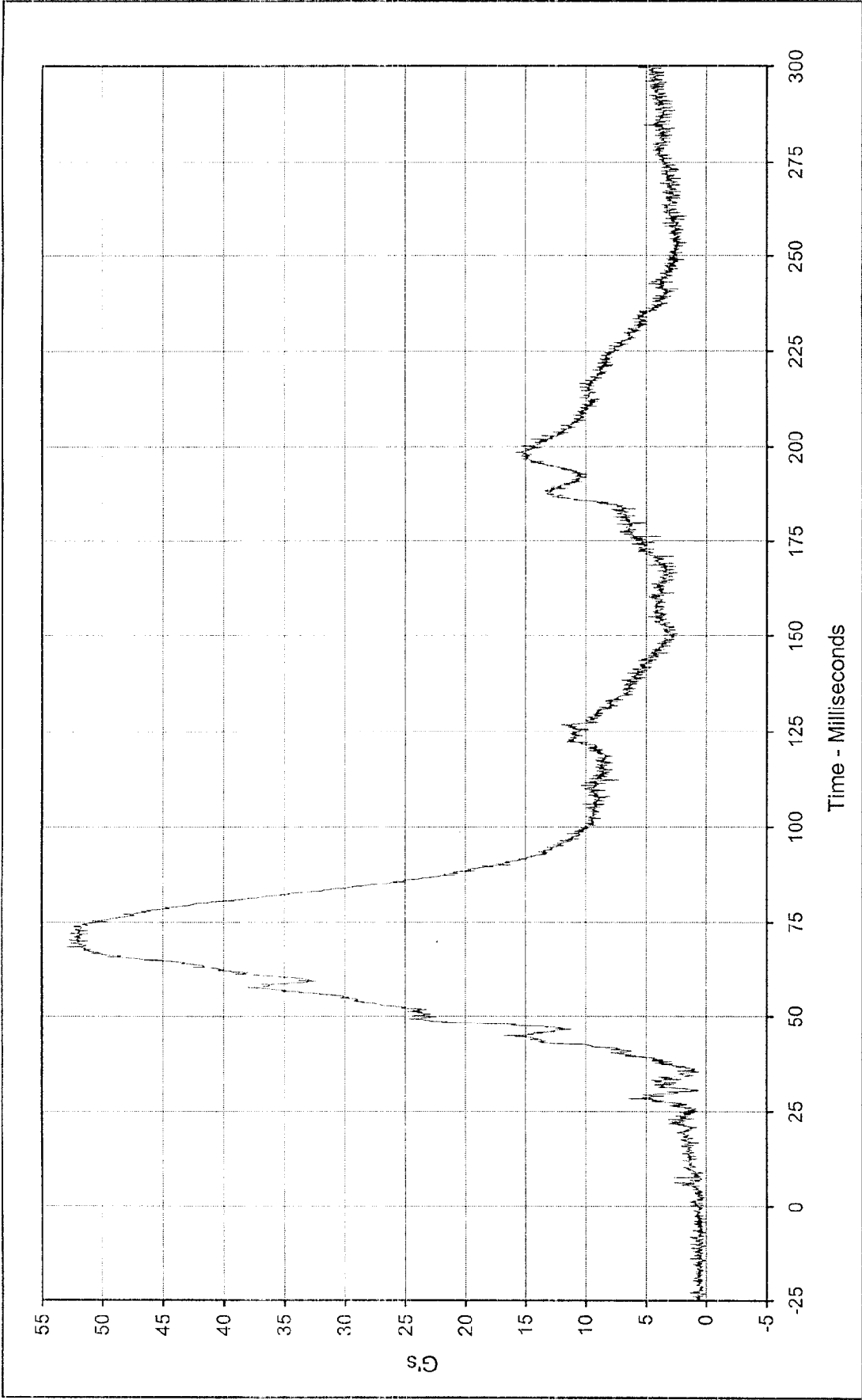
Curve Number: FIL-002





Curve Description: Driver Head Primary Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 26.5 at 57.4 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -8.6 at 105.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-003





Curve Description: Driver Head Resultant Primary Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 53.0 at 68.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

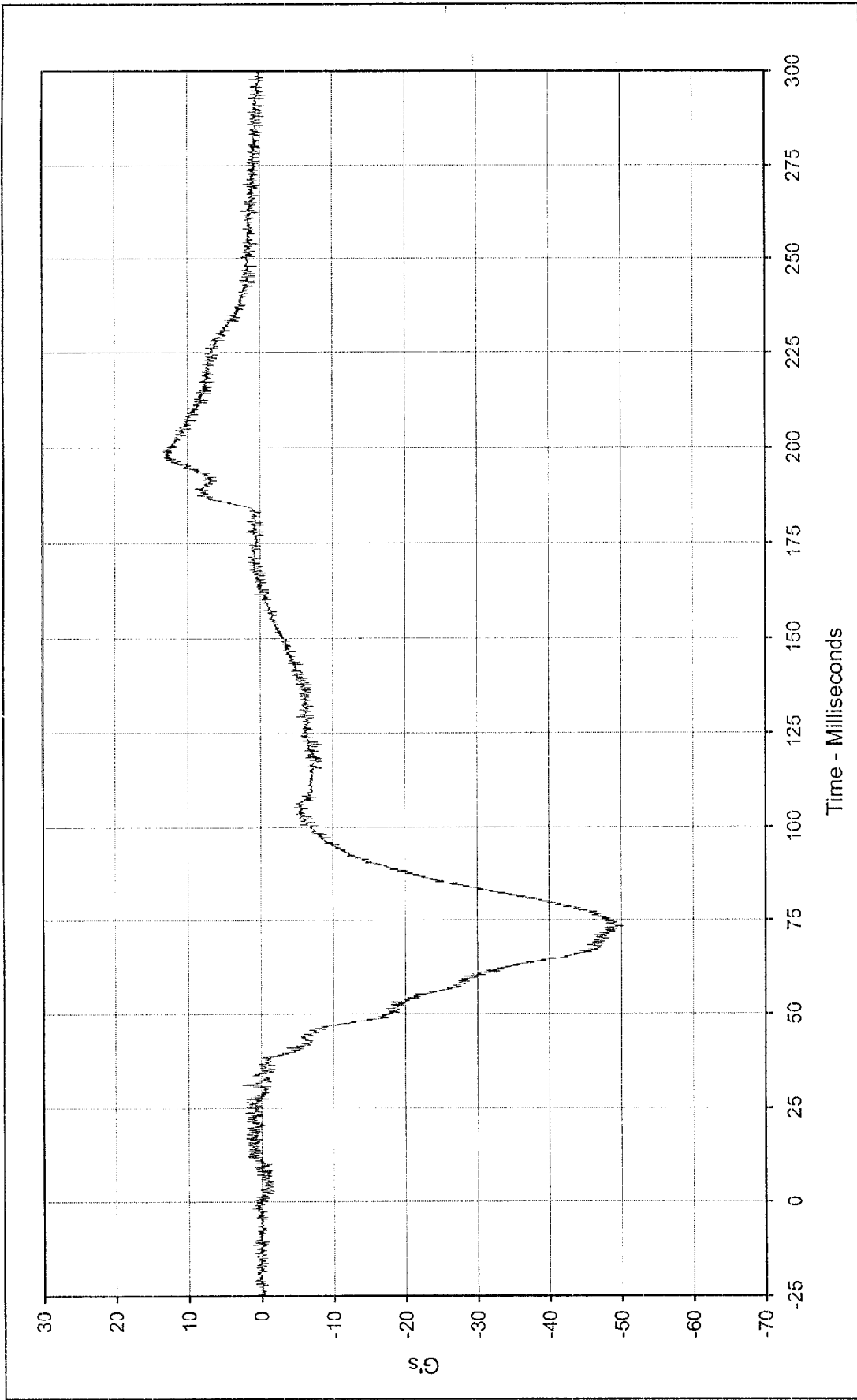
Minimum Value: 0.2 at 2.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: RES-001

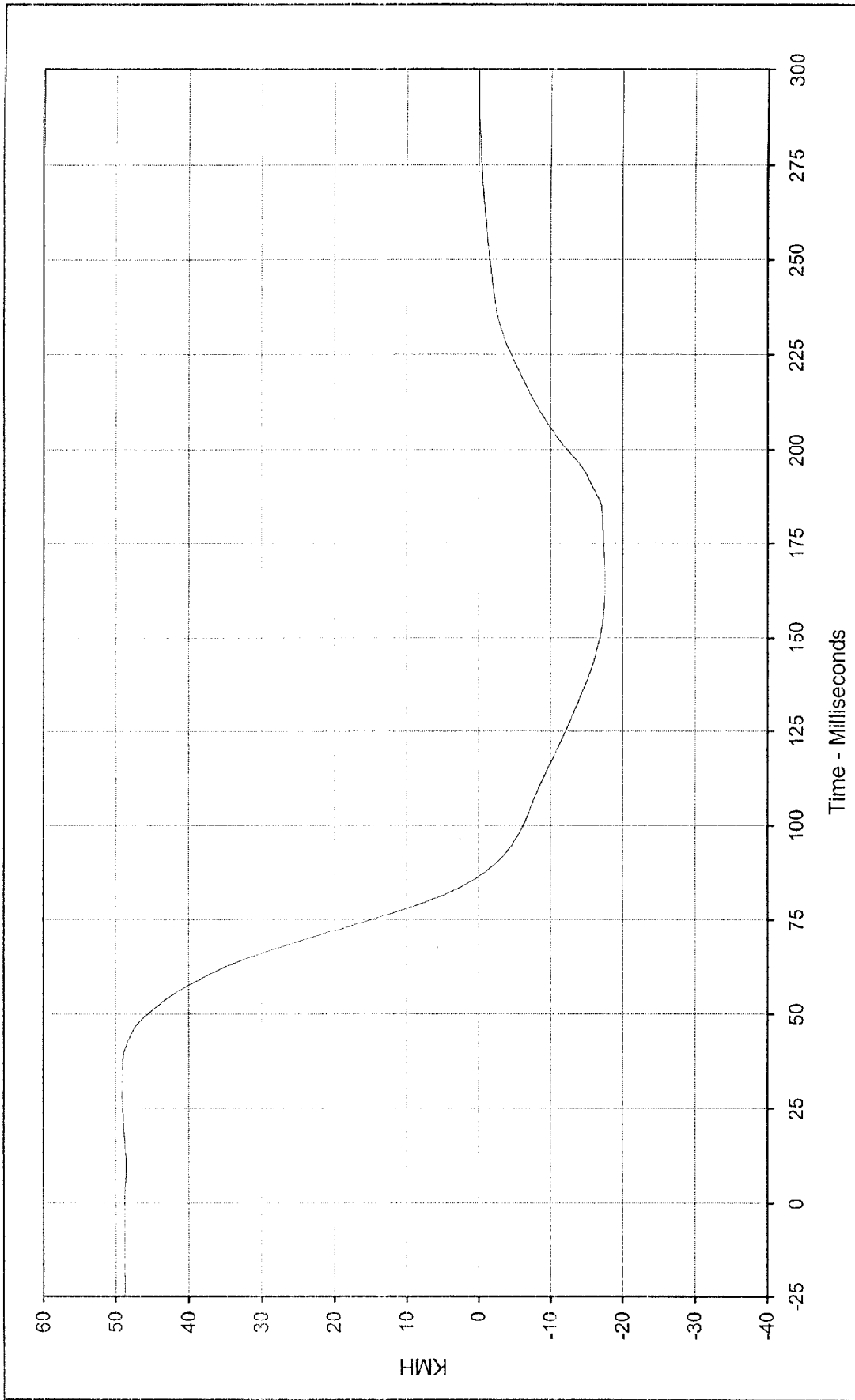




Curve Description: Driver Head Redundant X
 Maximum Value: 13.3 at 198.9 Milliseconds
 Minimum Value: -50.4 at 73.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-004

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Head Redundant X Velocity

Maximum Value: 49.1 at 28.3 Milliseconds

Minimum Value: -17.5 at 163.4 Milliseconds

SAE Filter Class: 180

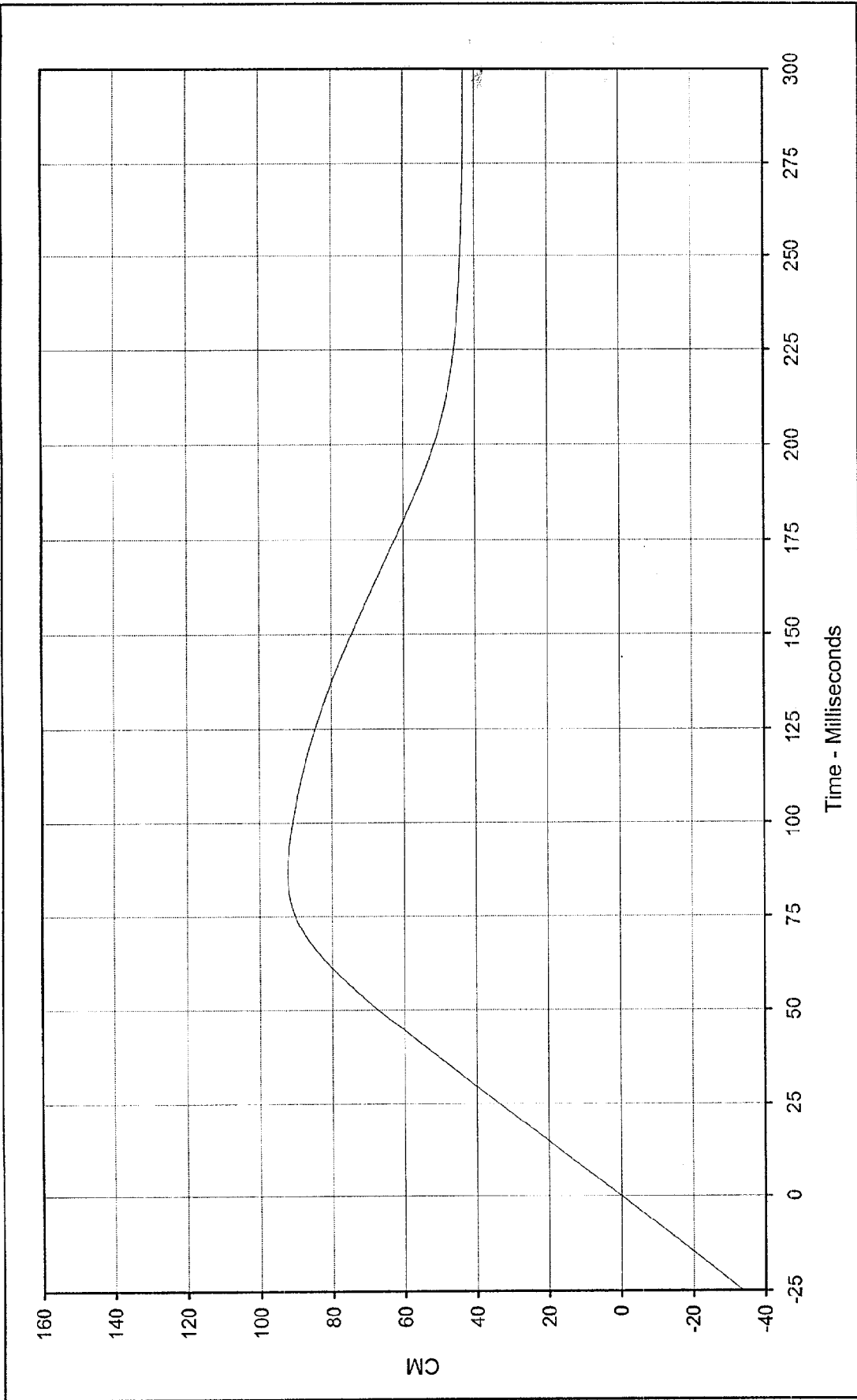
Date of Test: 6/30/98

Curve Number: IN1-004

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

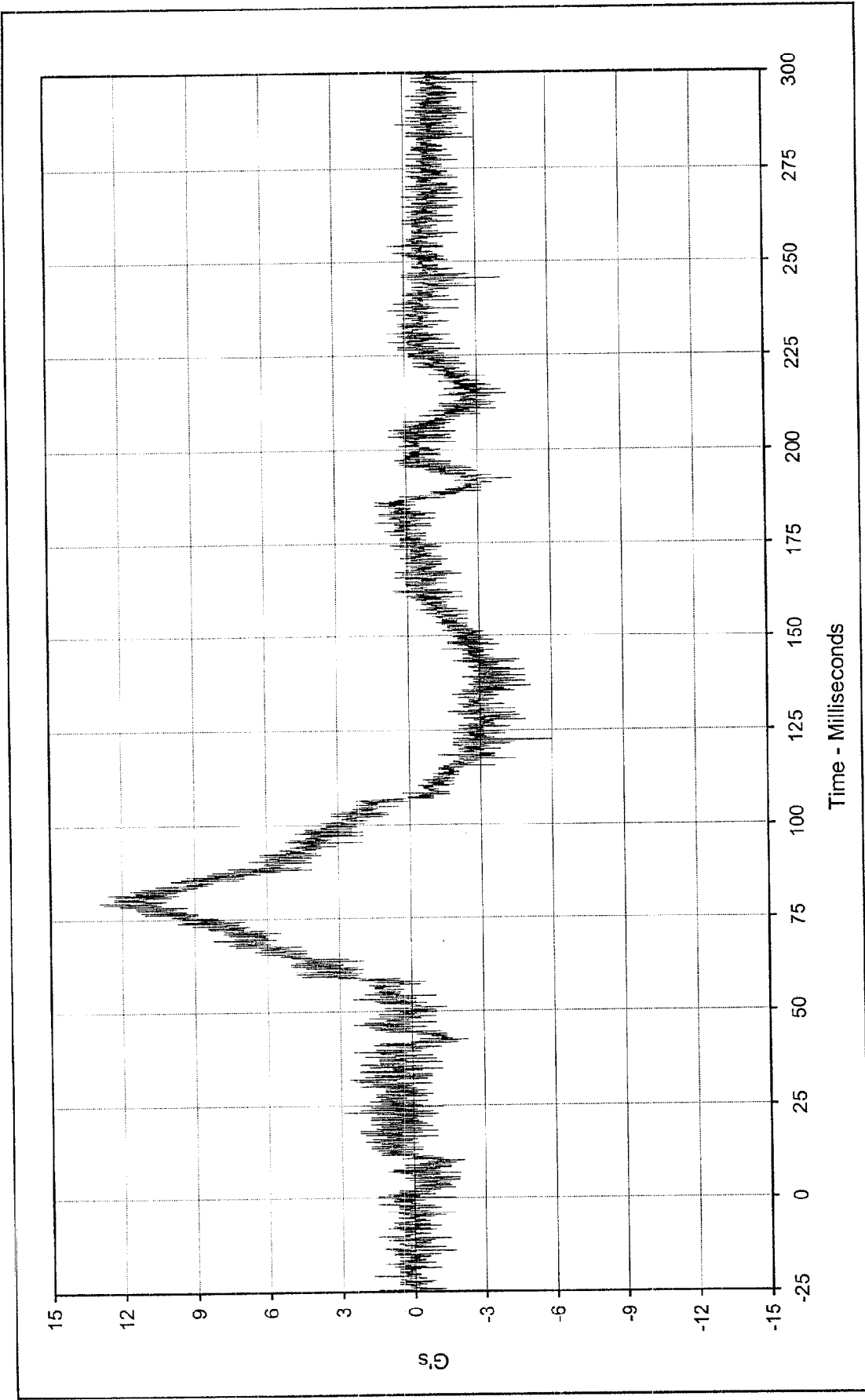
Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Head Redundant X Displ.
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 92.3 at 86.4 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-004





Curve Description: Driver Head Redundant Y

Maximum Value: 13.0 at 79.5 Milliseconds

Minimum Value: -6.0 at 122.4 Milliseconds

SAE Filter Class: 1000

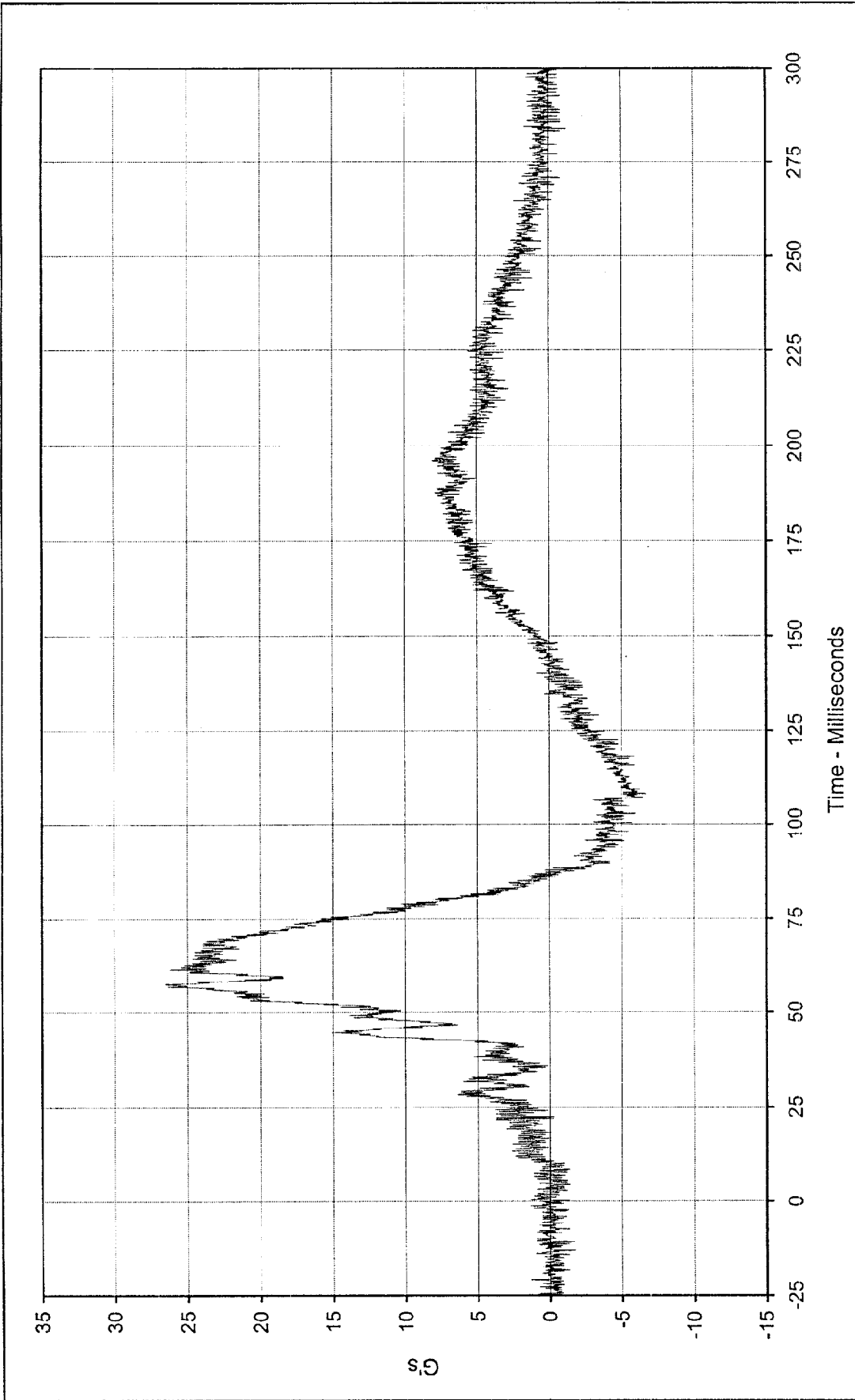
Date of Test: 6/30/98

Curve Number: FIL-005

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

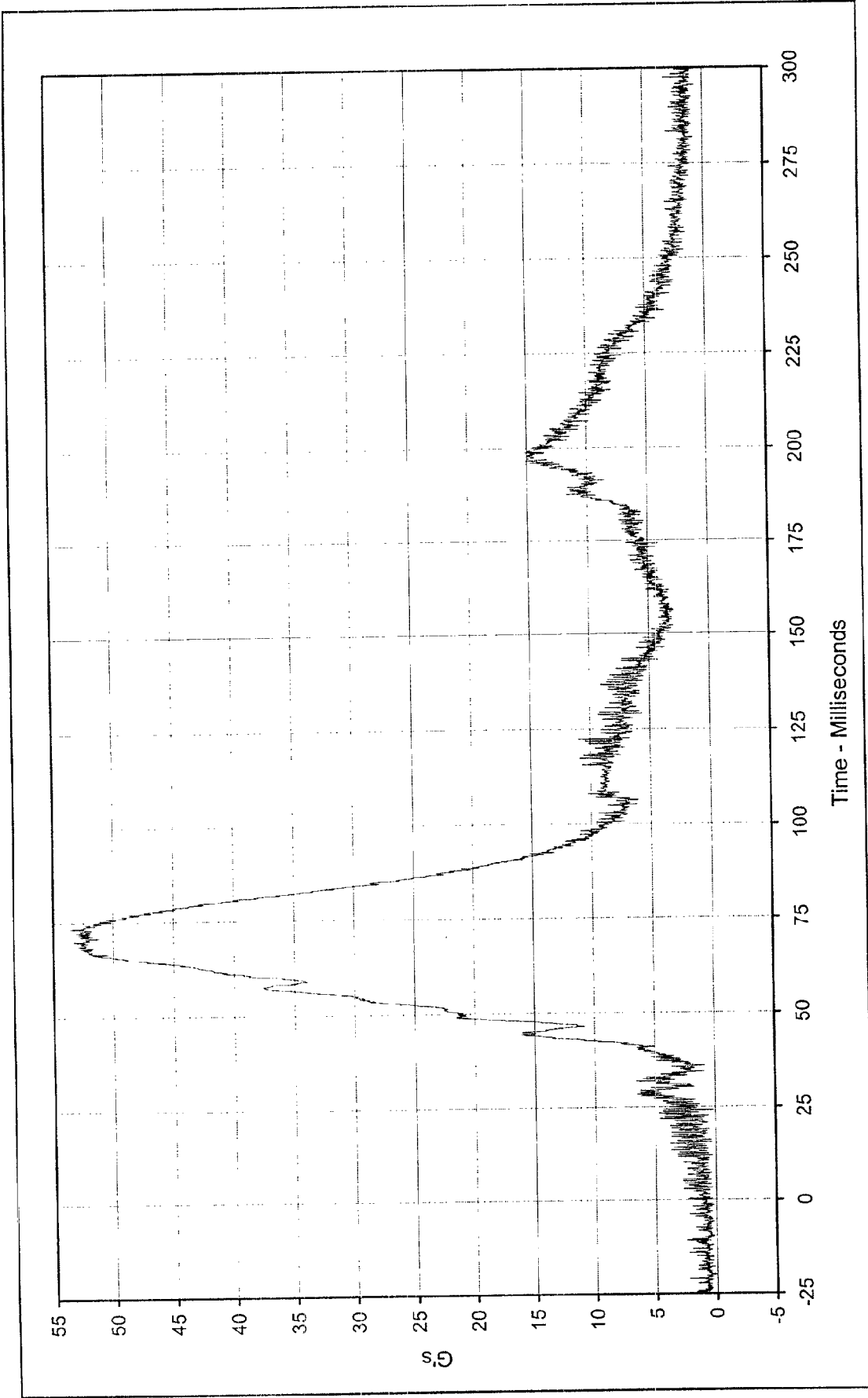




Curve Description: Driver Head Redundant Z
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 26.5 at 57.6 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -6.6 at 108.1 Milliseconds



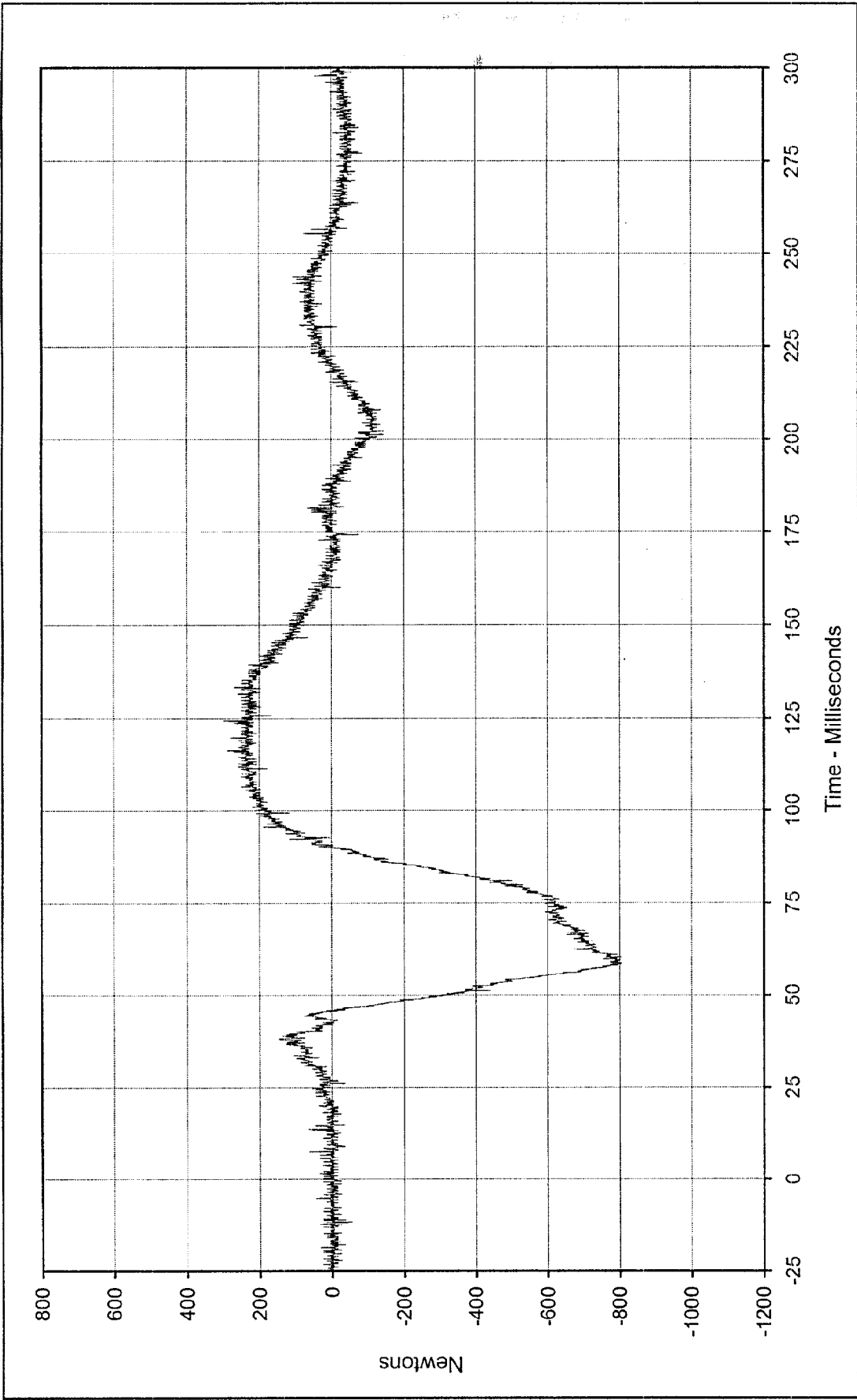
SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-006



Curve Description: Driver Head Resultant Redundant
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Maximum Value: 53.5 at 73.3 Milliseconds
 Minimum Value: 0.2 at 24.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: RES-004

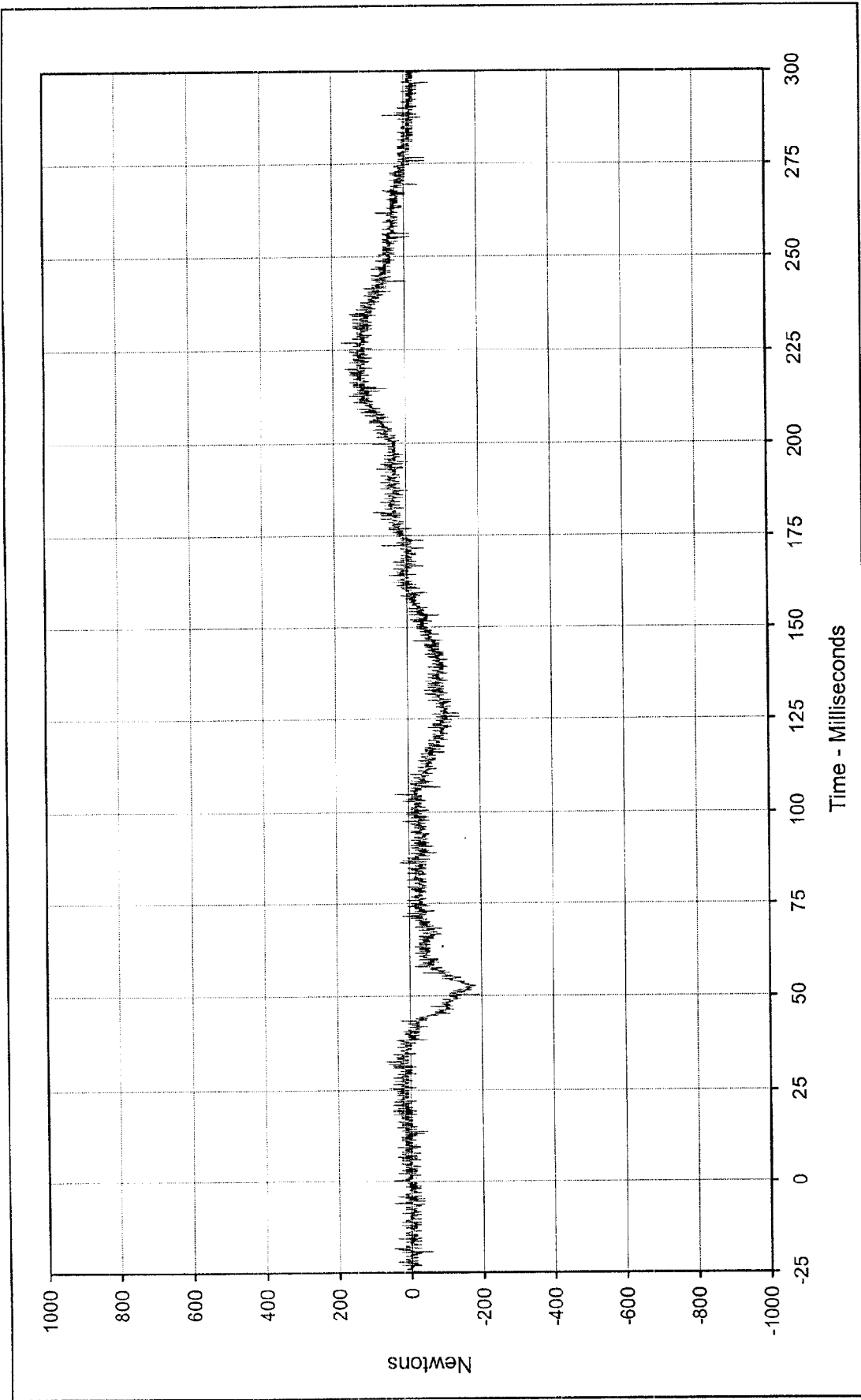




Curve Description: Driver Neck Force X
 Maximum Value: 298.6 at 124.4 Milliseconds
 Minimum Value: -805.0 at 58.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-007

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Neck Force Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 175.1 at 227.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

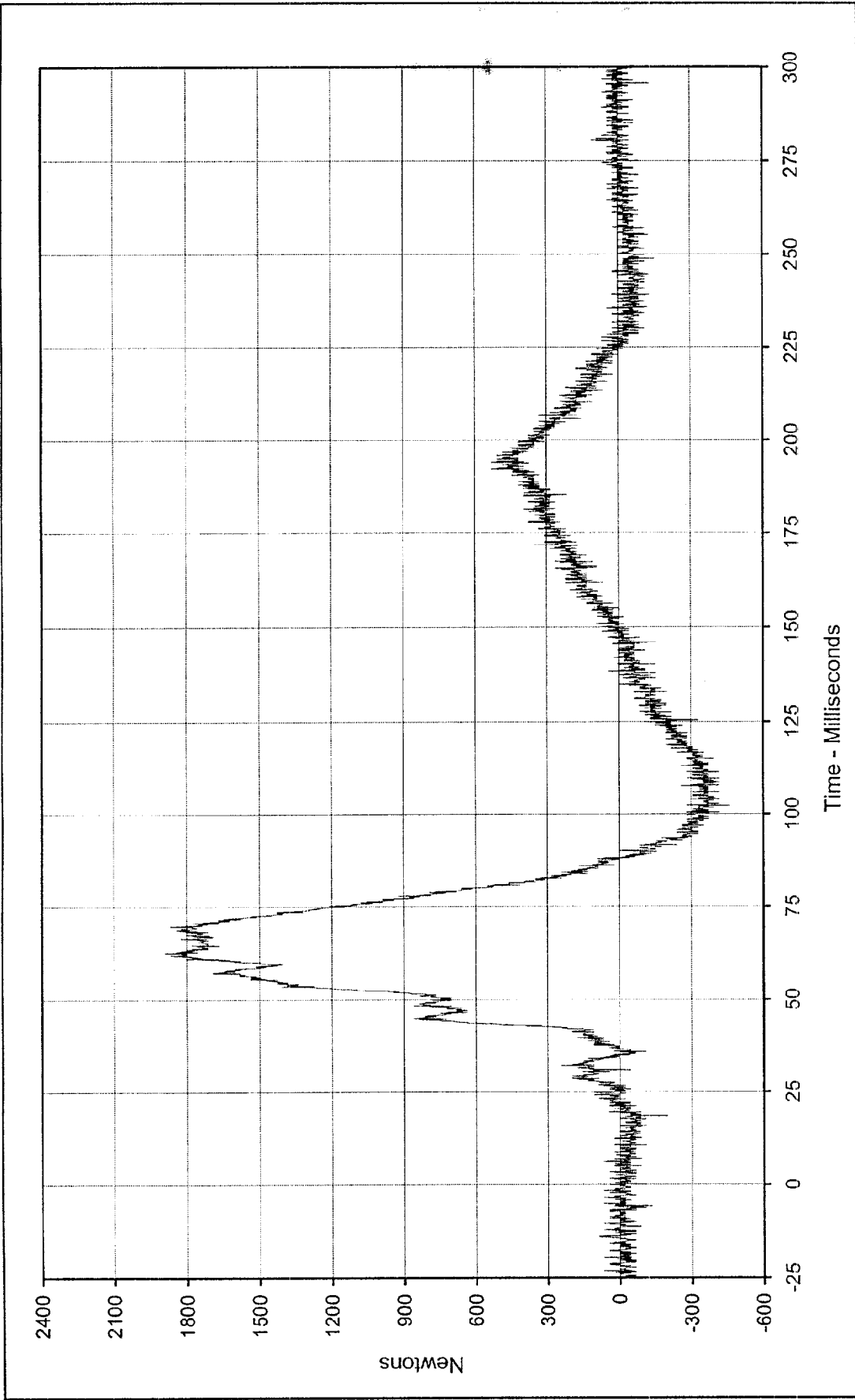
Minimum Value: -195.7 at 50.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-008

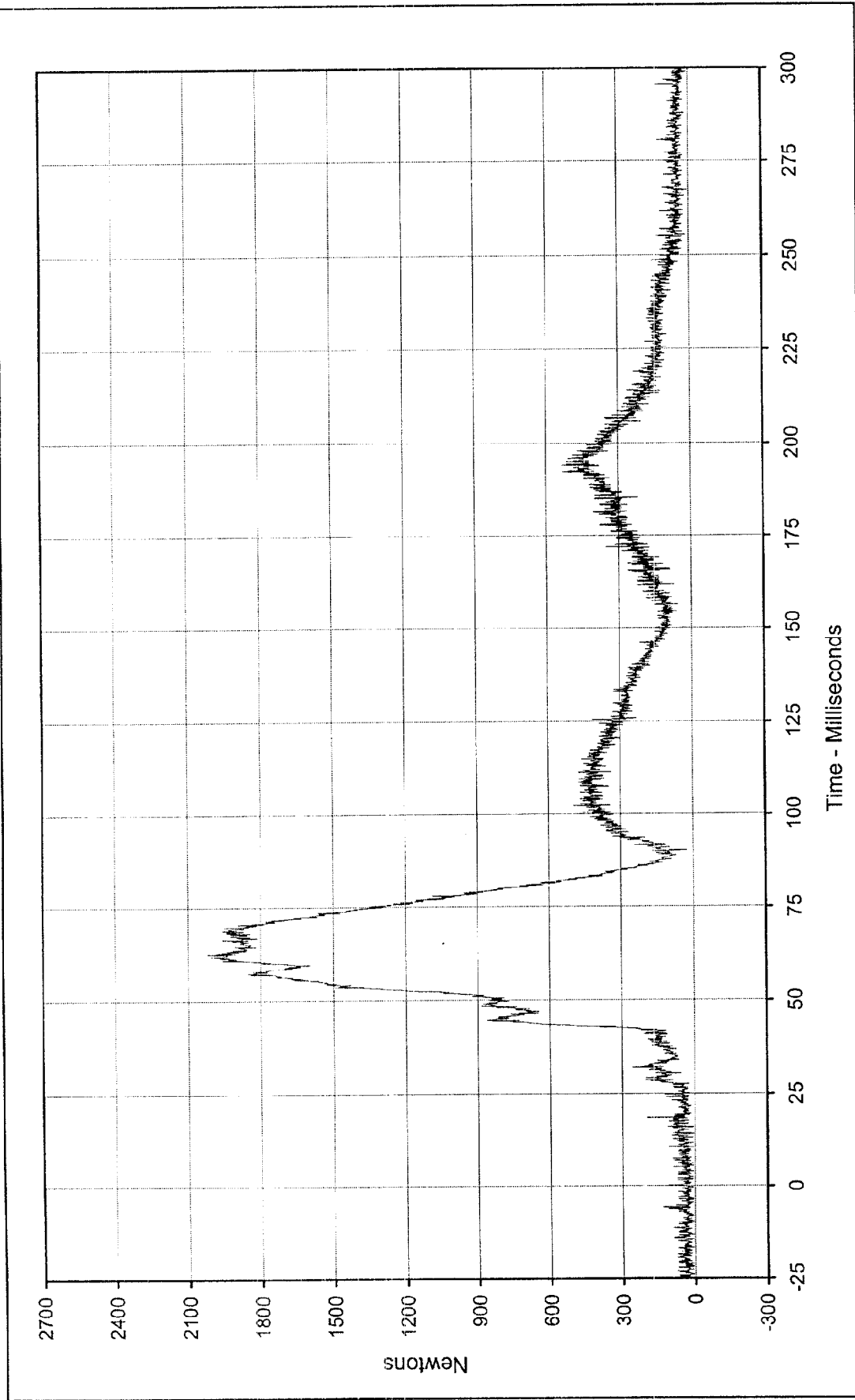




Curve Description: Driver Neck Force Z
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Maximum Value: 1887.4 at 62.6 Milliseconds
 Minimum Value: -460.9 at 102.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-009





Curve Description: Driver Neck Force Resultant Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 2018.4 at 62.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

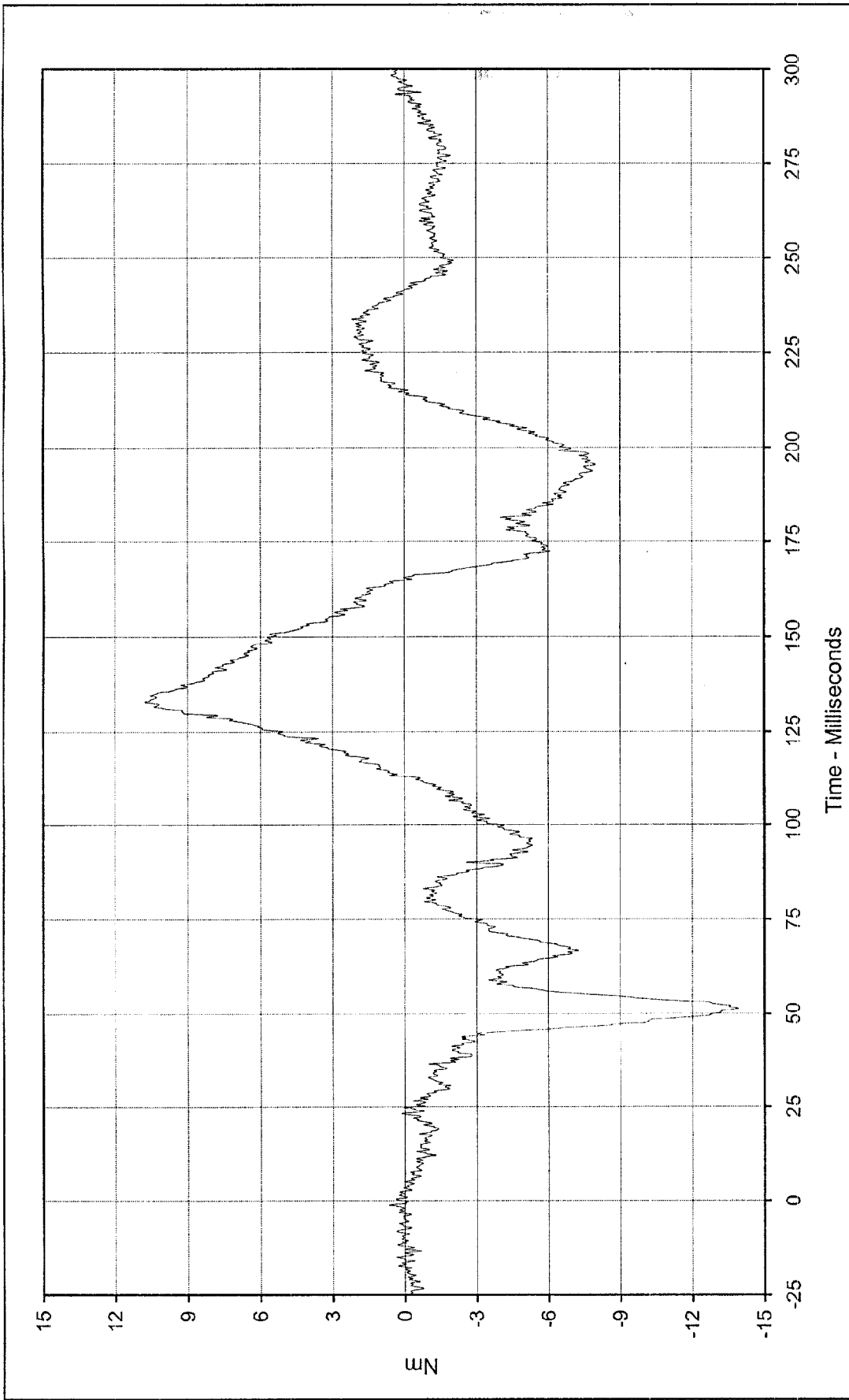
Minimum Value: 7.1 at 4.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: RES-007





Curve Description: Driver Neck Moment X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 10.8 at 132.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

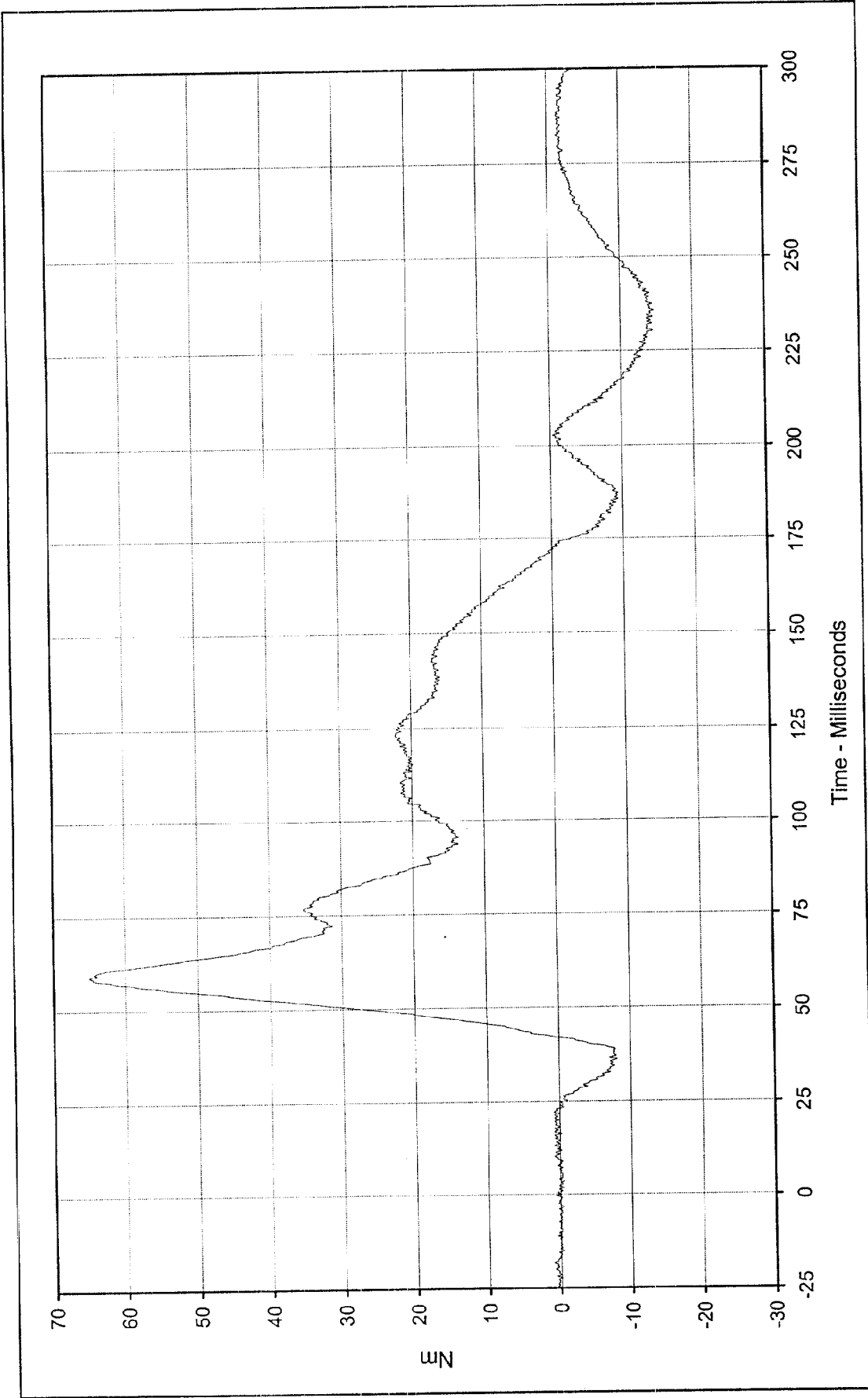
Minimum Value: -13.9 at 51.4 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-010

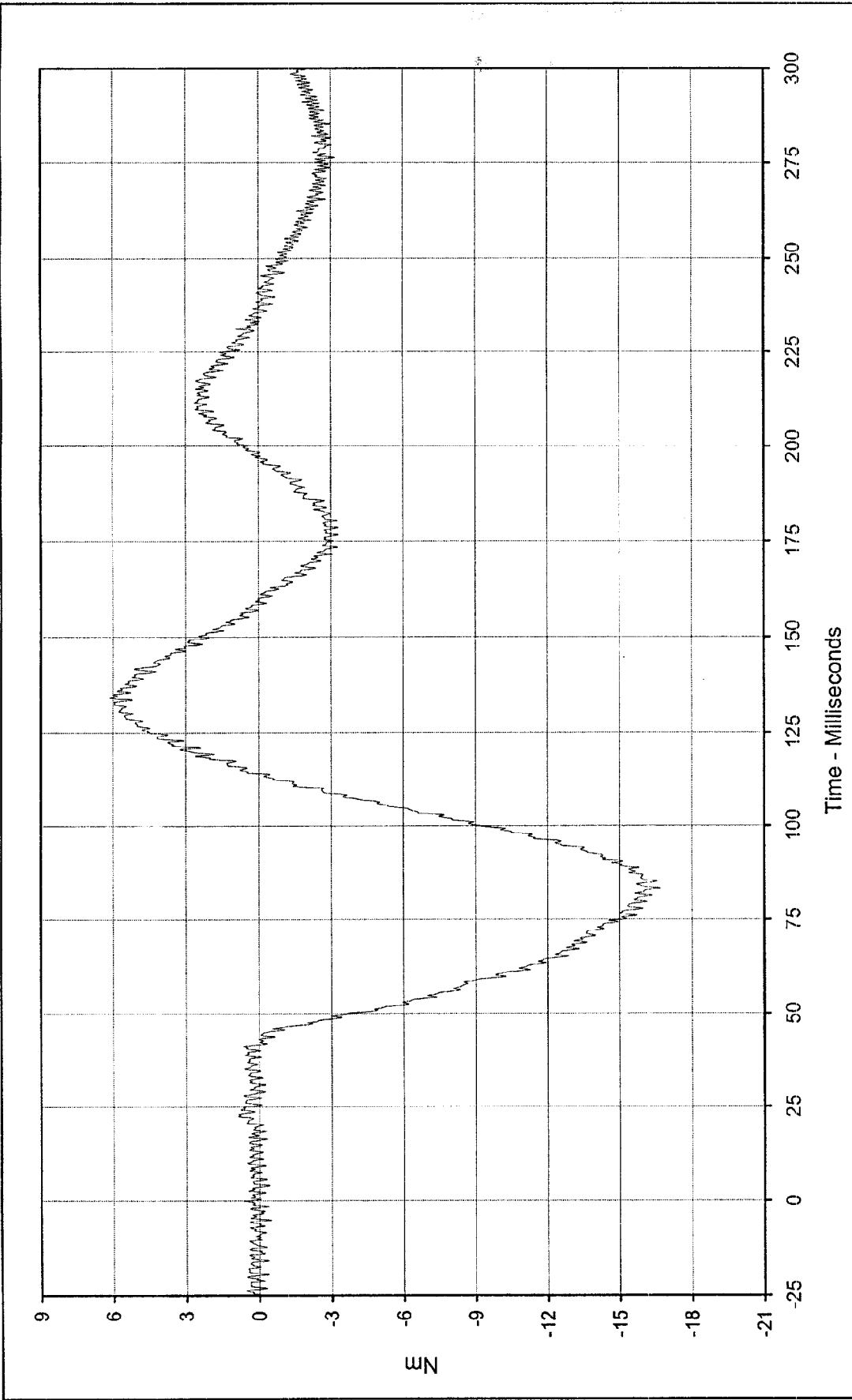




Curve Description: Driver Neck Moment Y
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 65.0 at 59.0 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -14.7 at 235.8 Milliseconds

SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-011

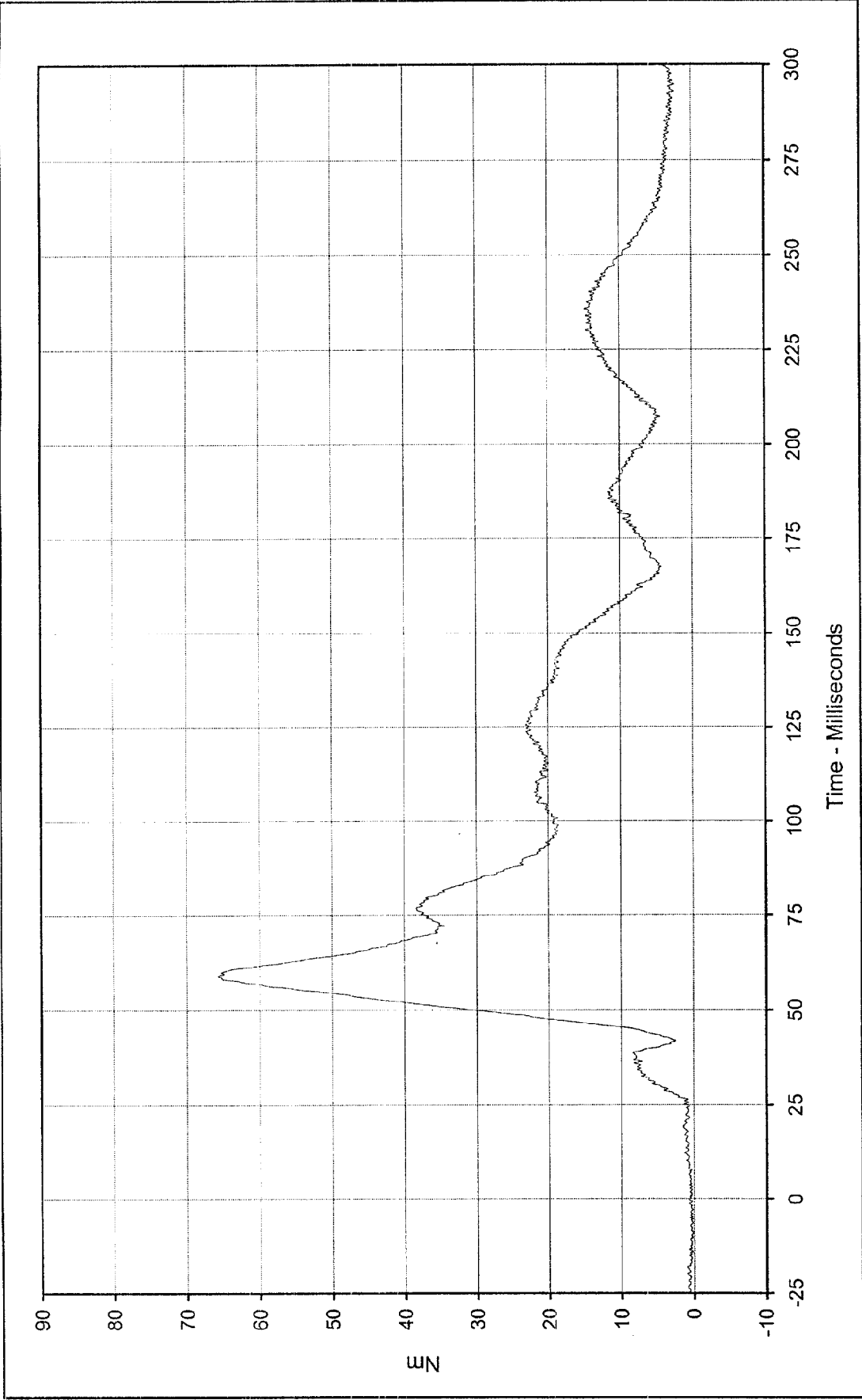




Curve Description: Driver Neck Moment Z
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 6.1 at 134.1 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -16.7 at 83.2 Milliseconds



SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-012



Curve Description: Driver Neck Moment Resultant

Maximum Value: 65.7 at 59.0 Milliseconds

Minimum Value: 0.2 at 2.4 Milliseconds

SAE Filter Class: 600

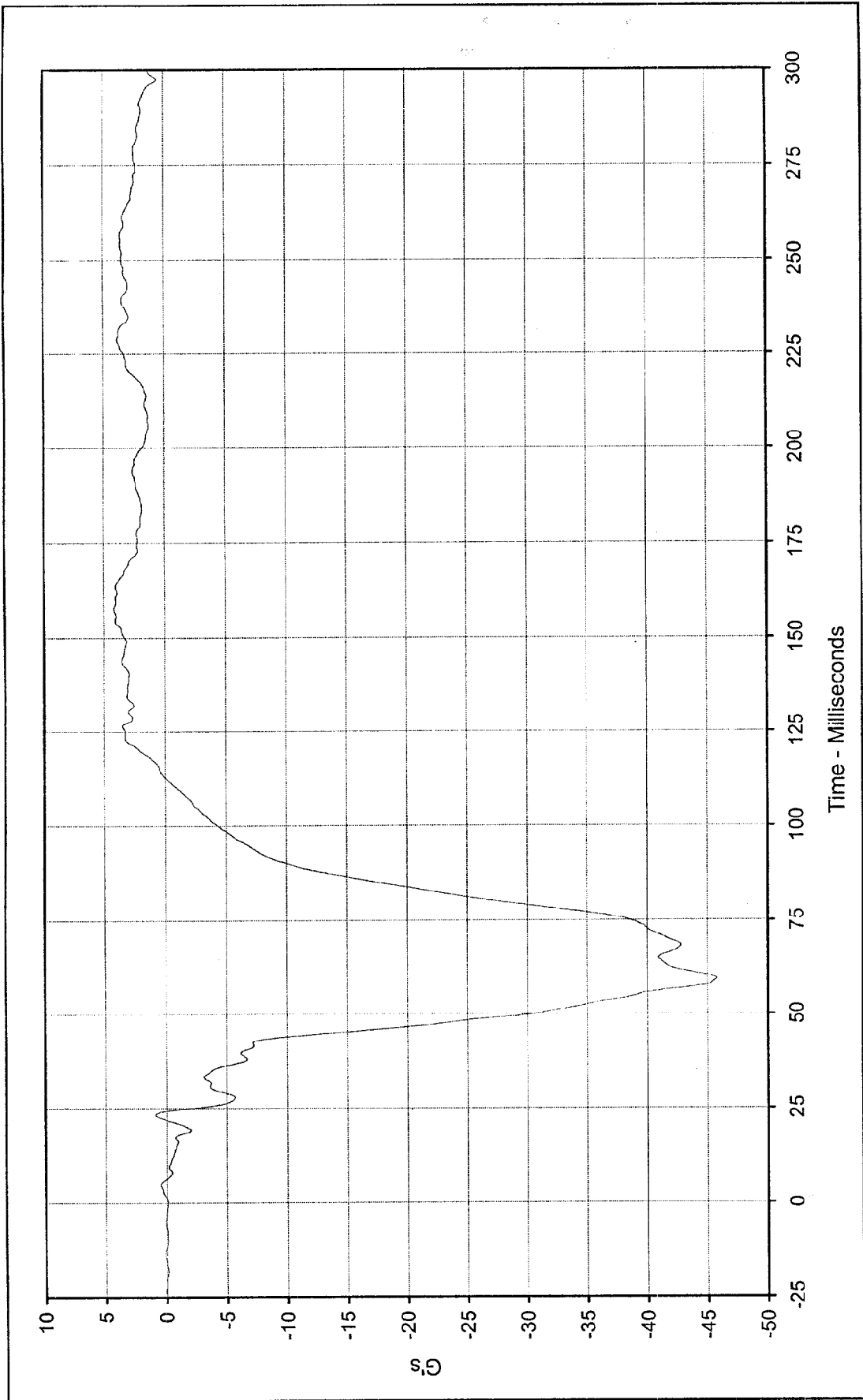
Date of Test: 6/30/98

Curve Number: RES-010

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Chest Primary X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 4.2 at 157.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

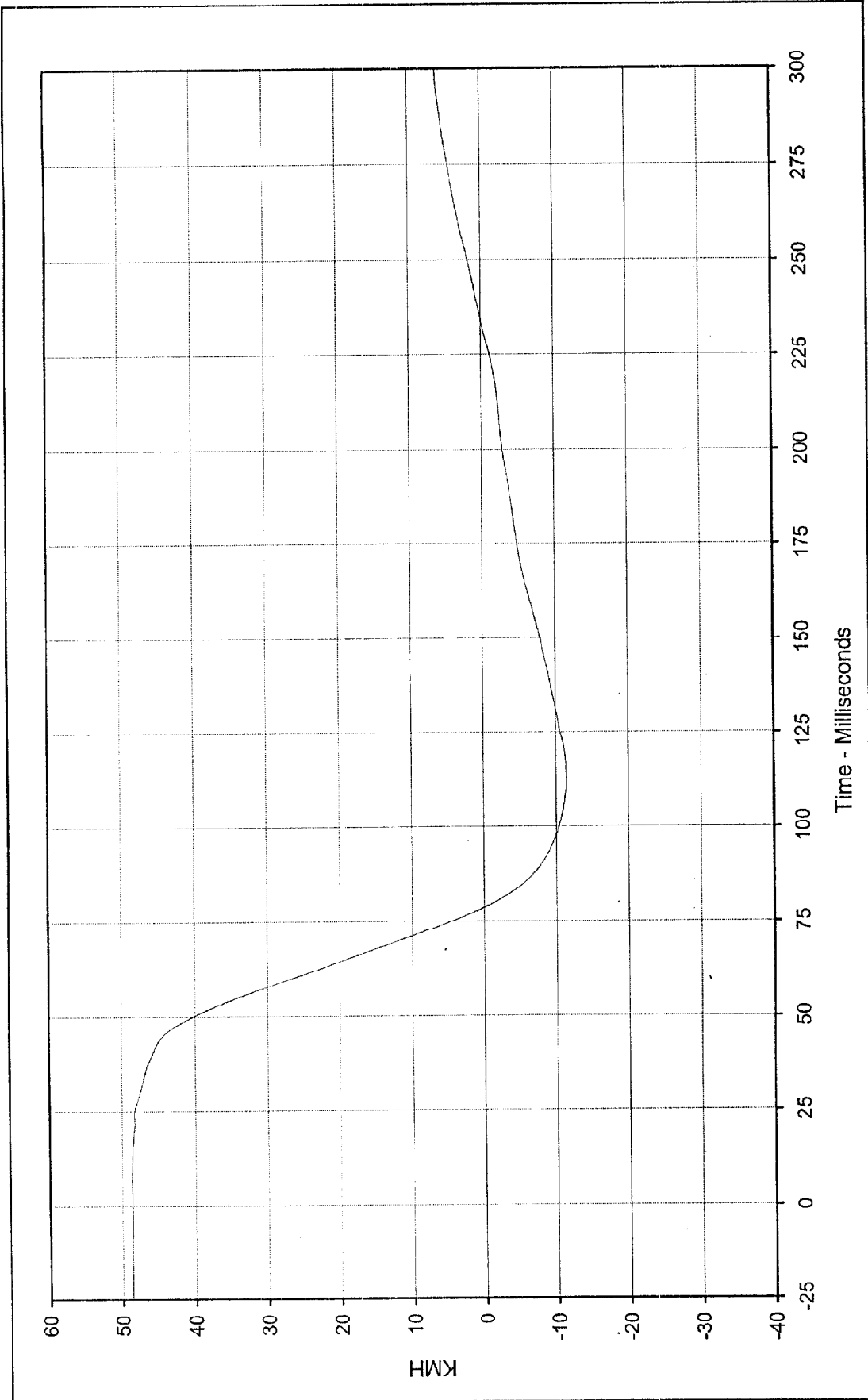
Minimum Value: -45.8 at 59.7 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: FIL-013

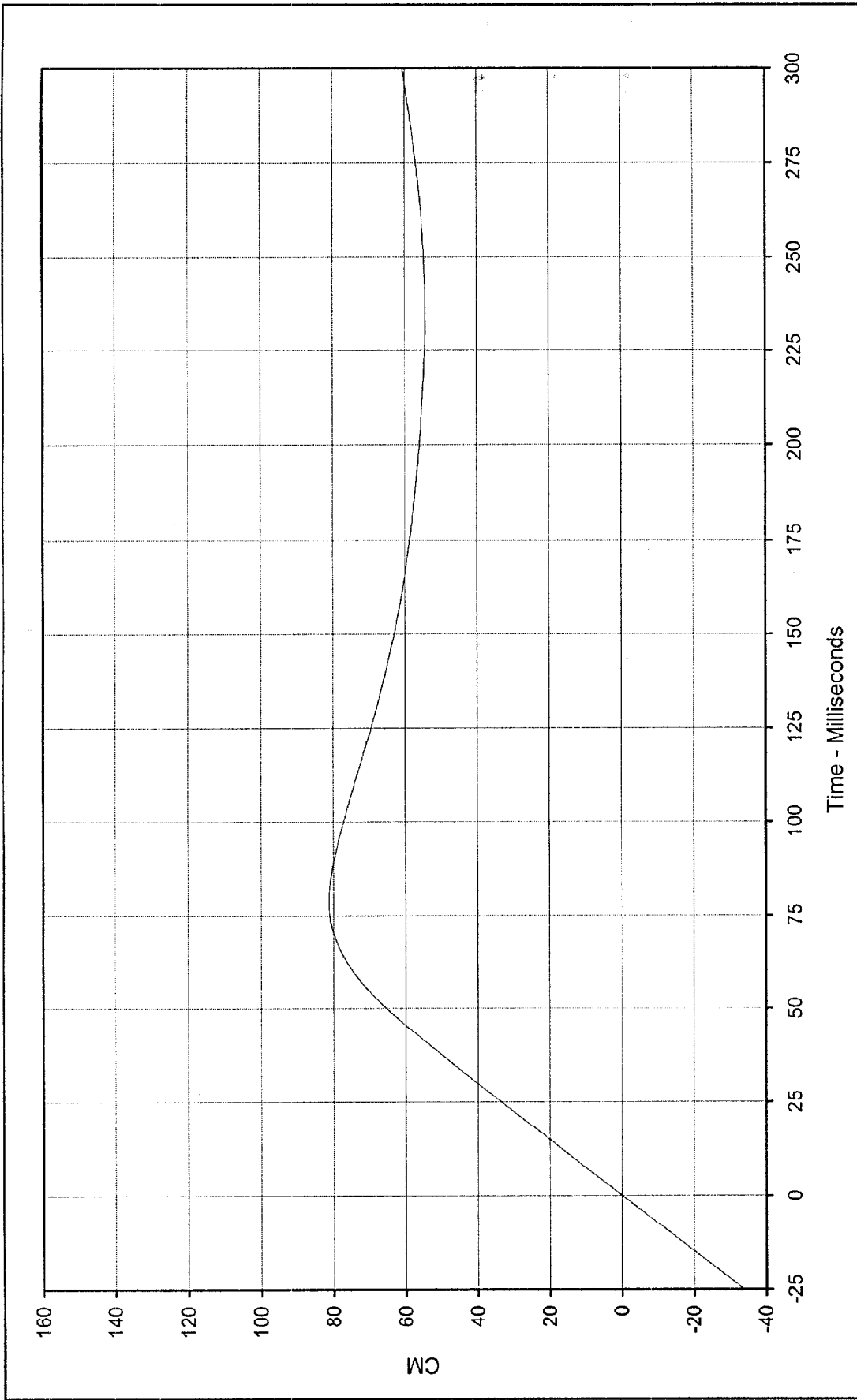




Curve Description: Driver Chest Primary X Velocity
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 48.7 at 6.3 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -11.4 at 112.7 Milliseconds

SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN1-013





Curve Description: Driver Chest Primary X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 81.2 at 78.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

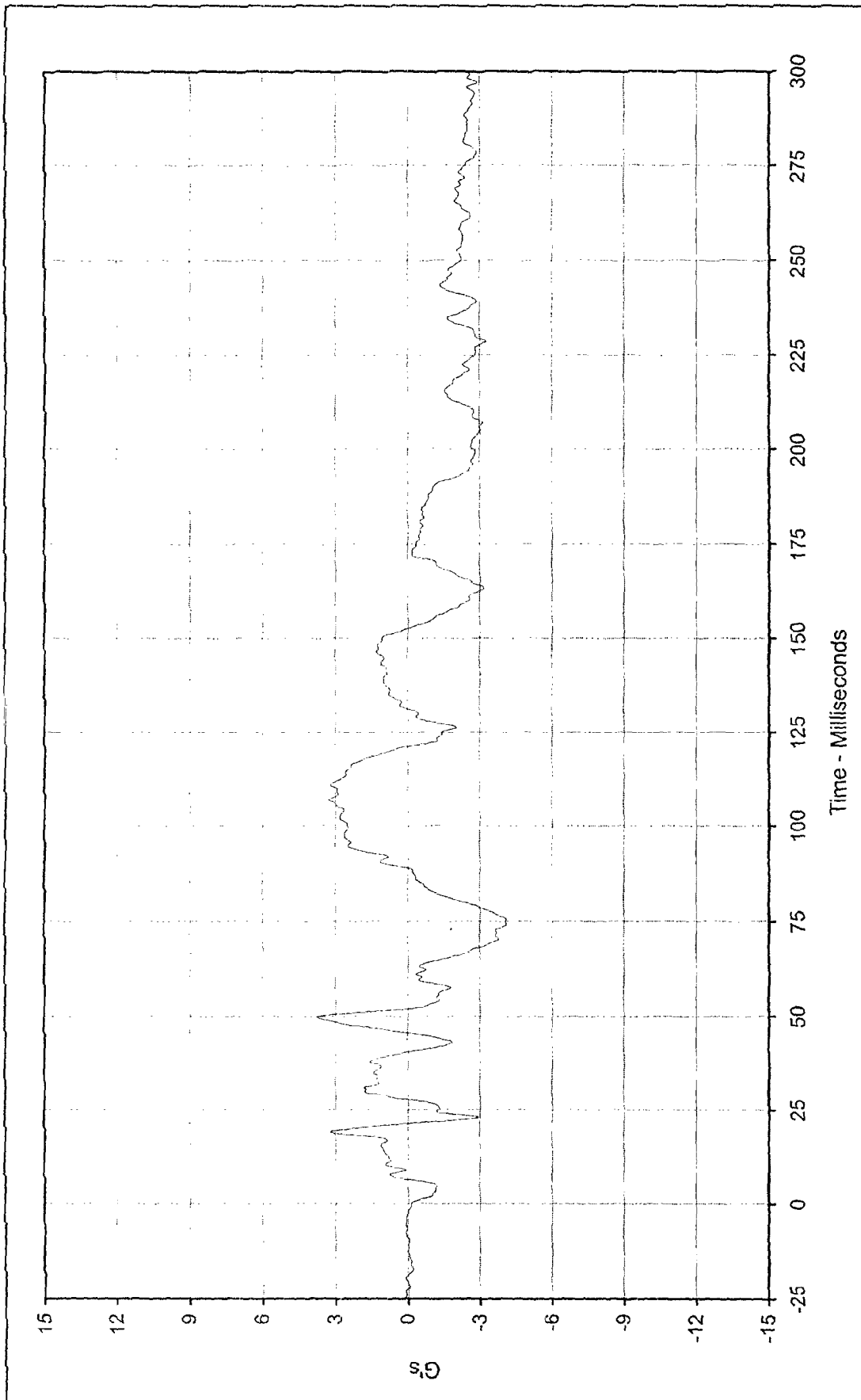
Minimum Value: -0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-013





Curve Description: Driver Chest Primary Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 3.7 at 49.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

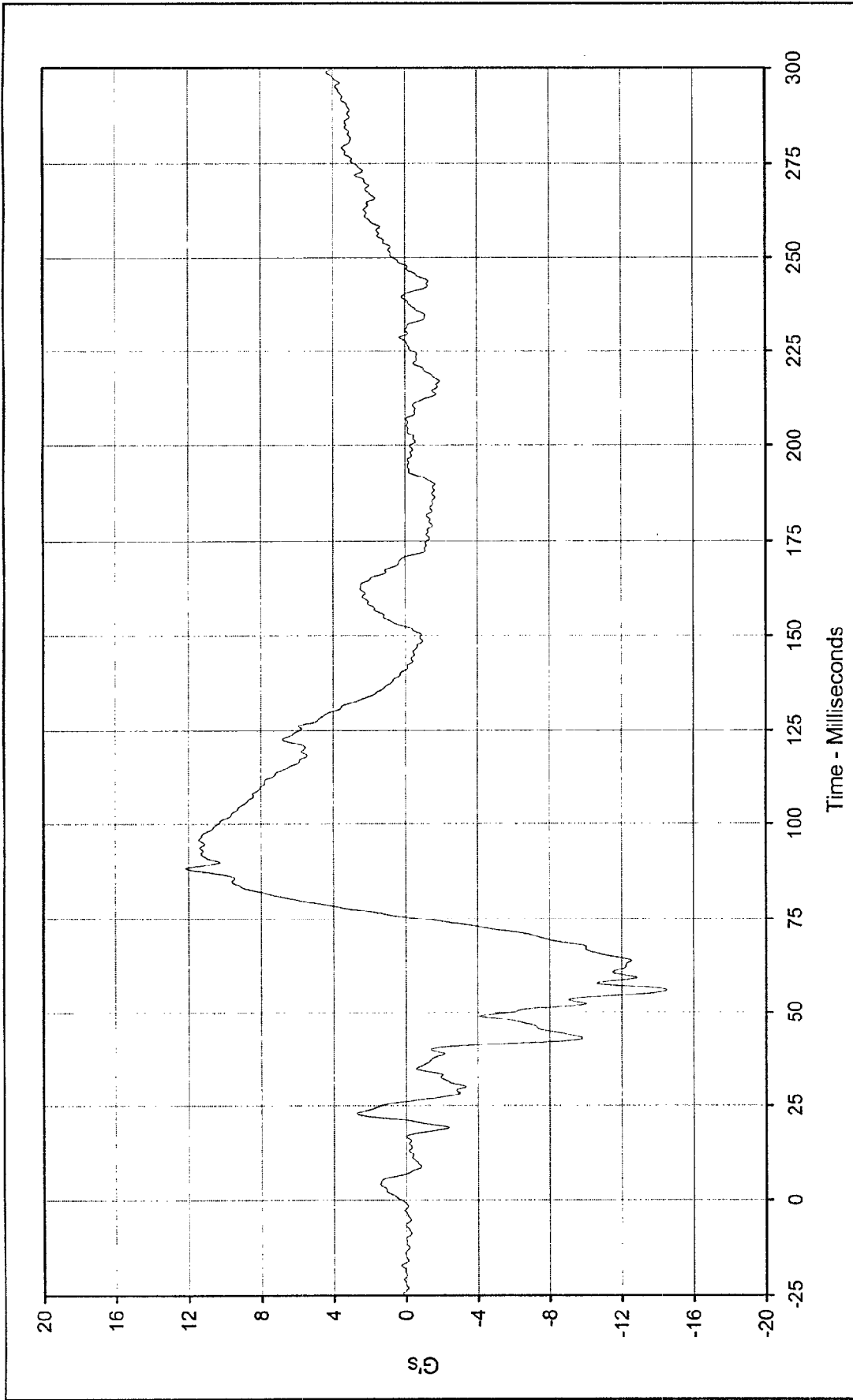
Minimum Value: -4.1 at 74.2 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: FIL-014





Curve Description: Driver Chest Primary Z

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 12.1 at 88.4 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

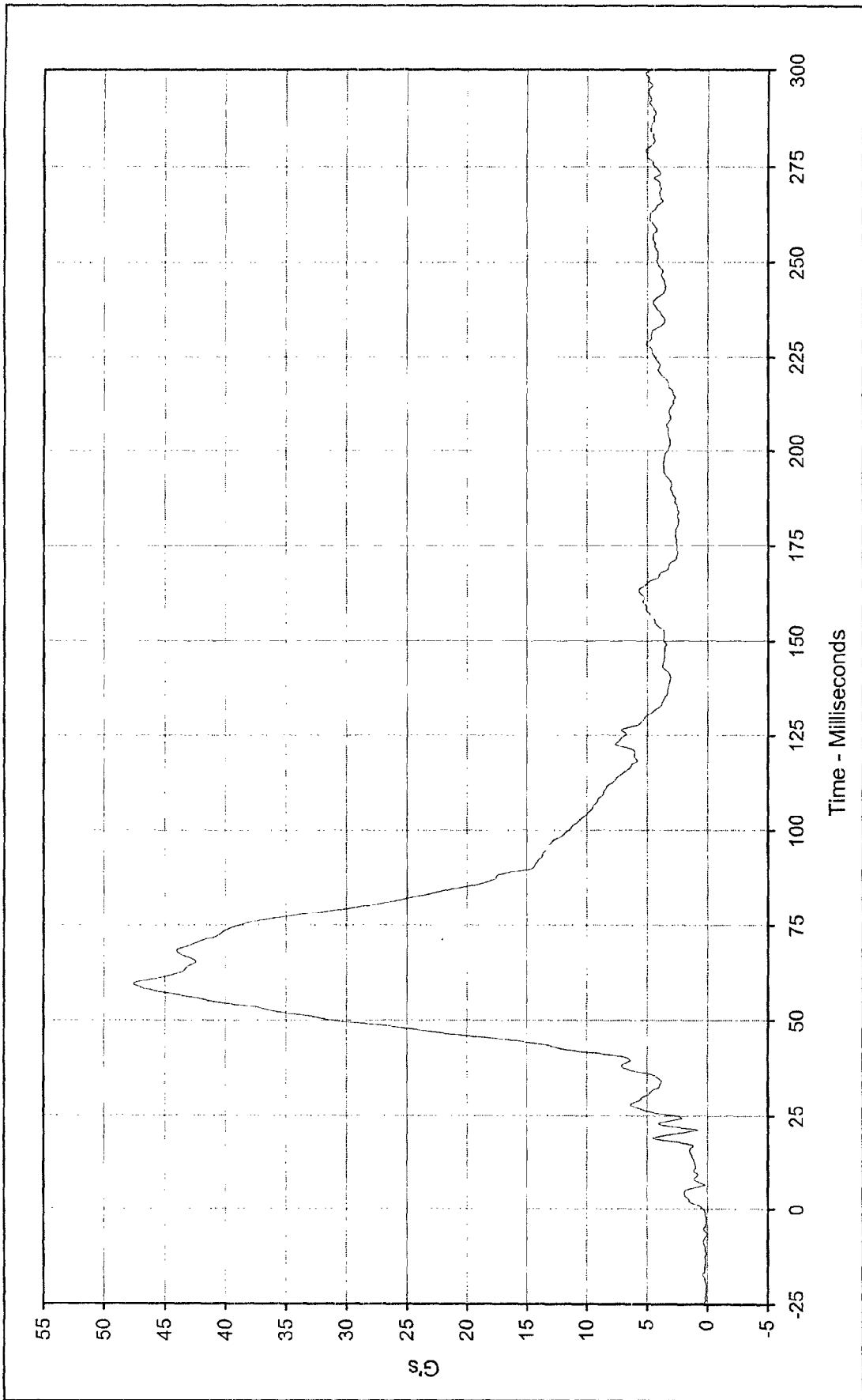
Minimum Value: -14.5 at 56.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: FIL-015

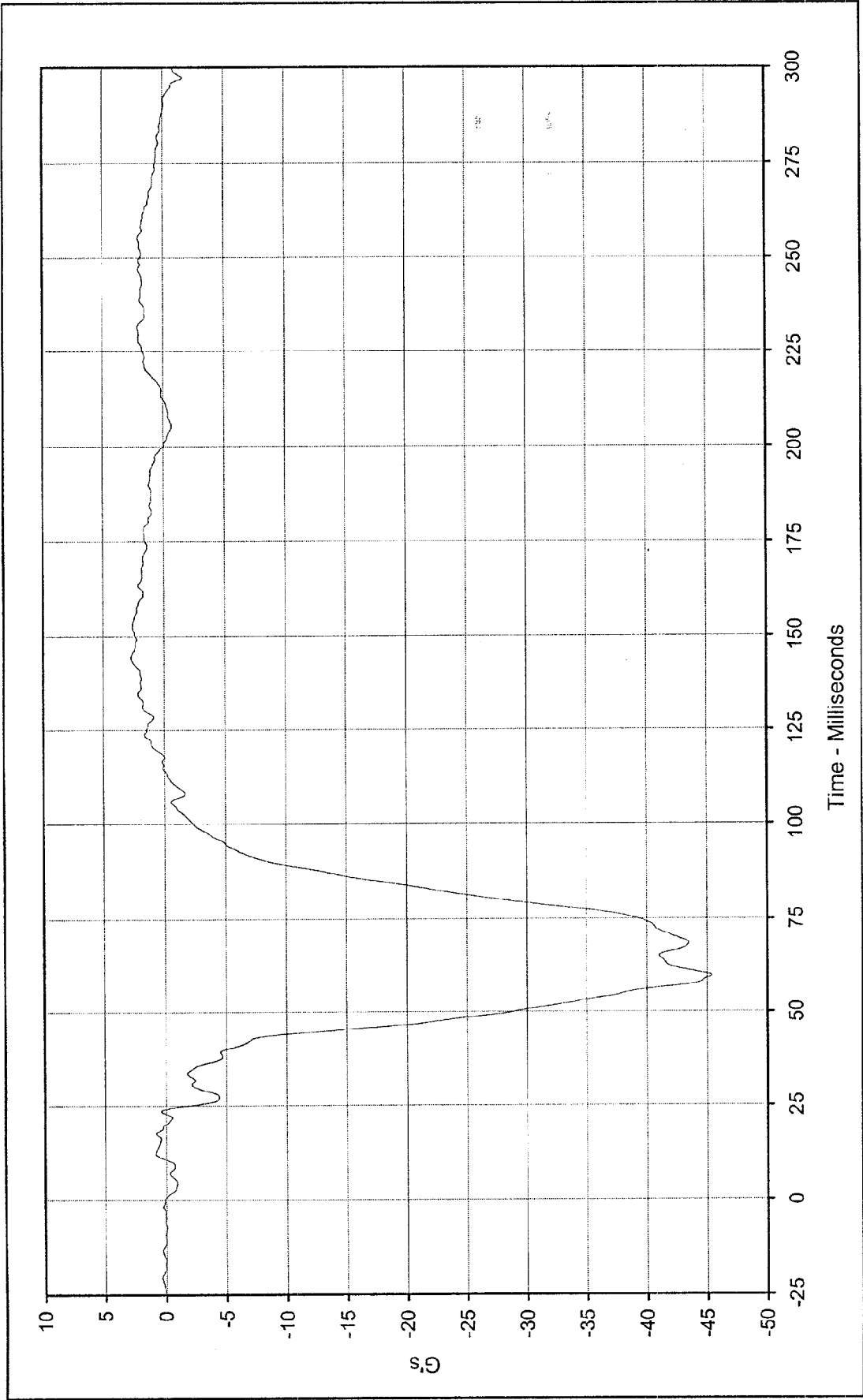




Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Curve Description: Driver Chest Resultant Primary
 Maximum Value: 47.5 at 59.6 Milliseconds
 Minimum Value: 0.2 at 6.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: RES-013

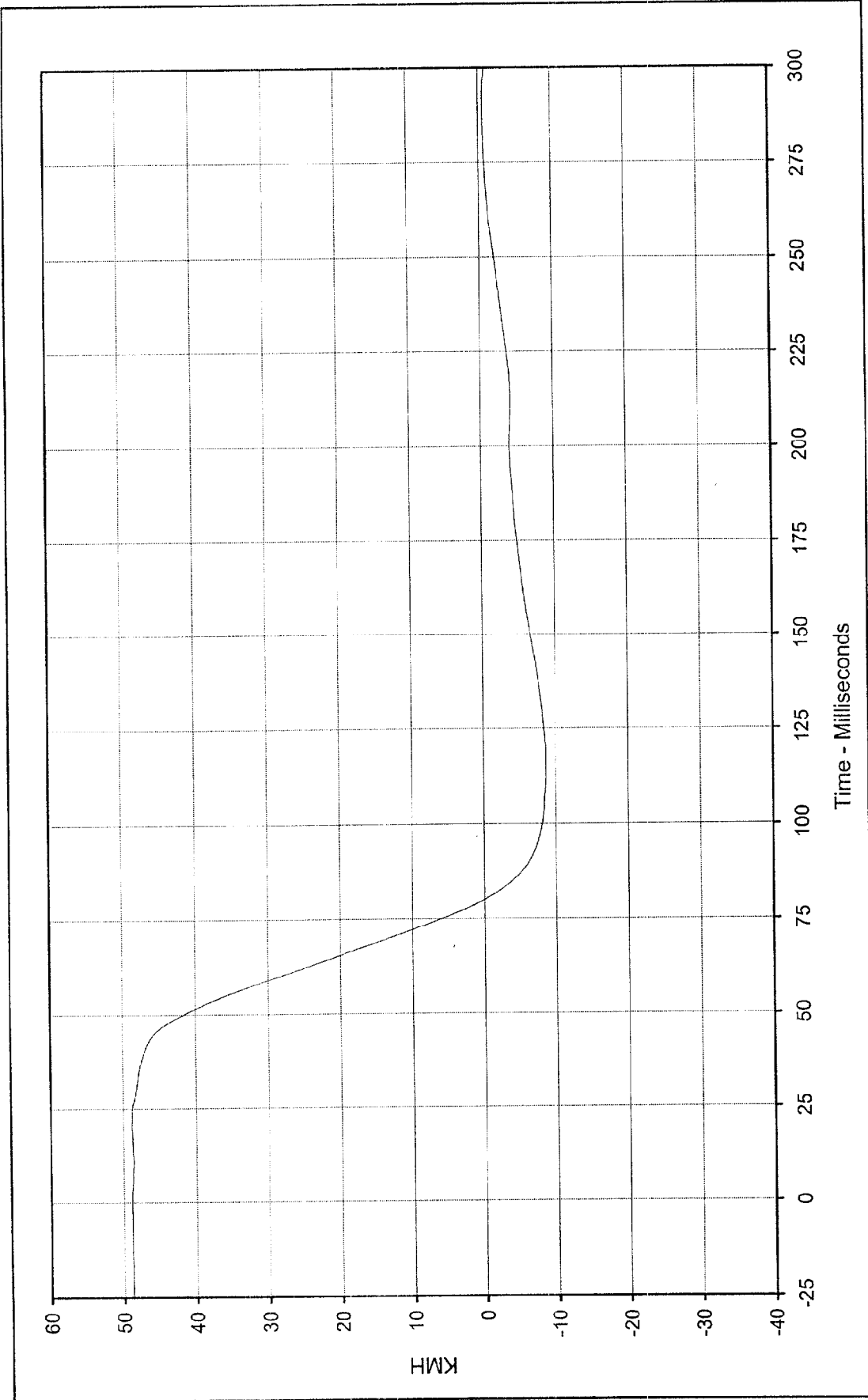




Curve Description: Driver Chest Redundant X
 Maximum Value: 2.7 at 143.9 Milliseconds
 Minimum Value: -45.5 at 59.8 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: FIL-016

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Chest Redundant X Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 48.9 at 0.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

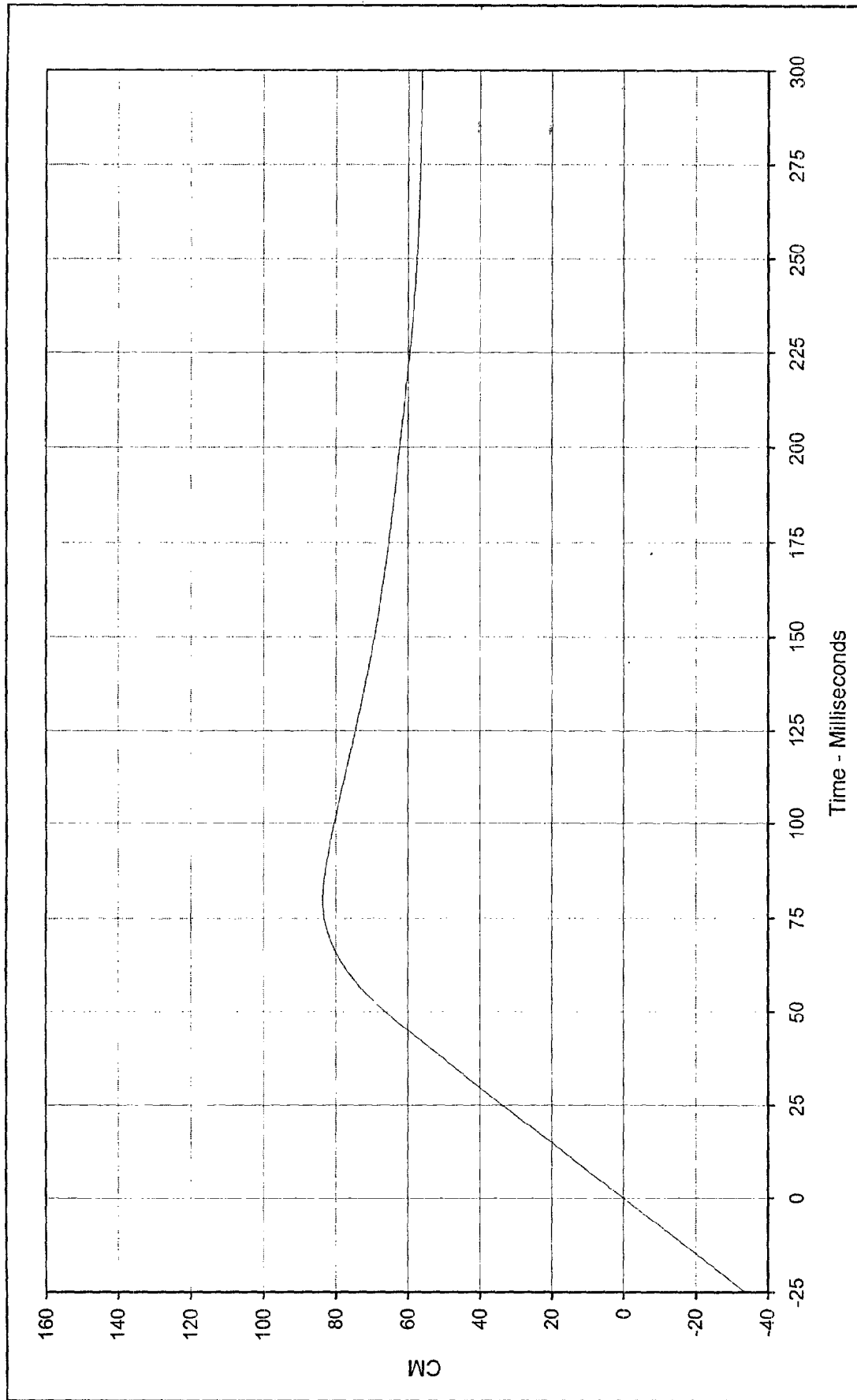
Minimum Value: -8.6 at 114.1 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

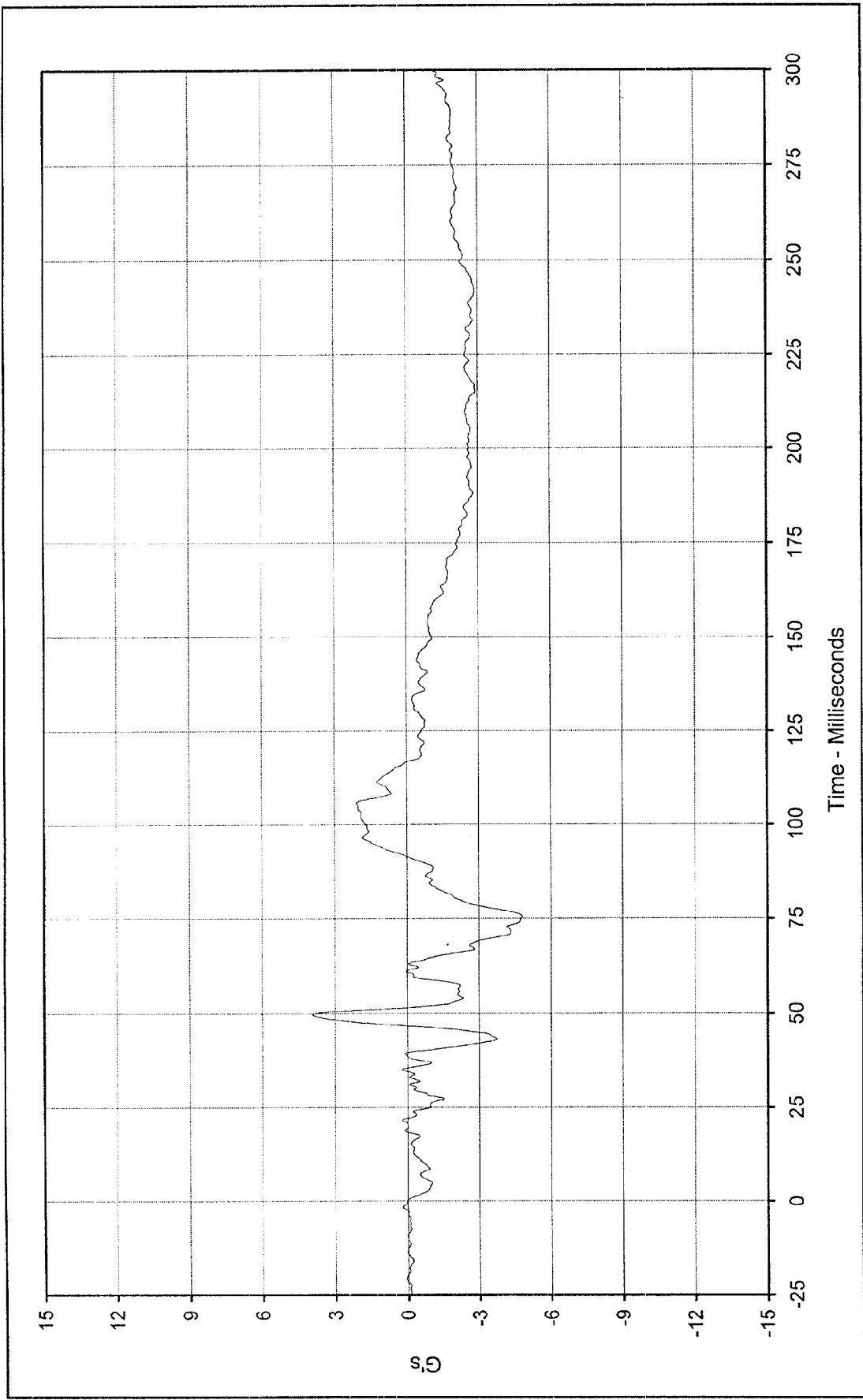
Curve Number: IN1-016





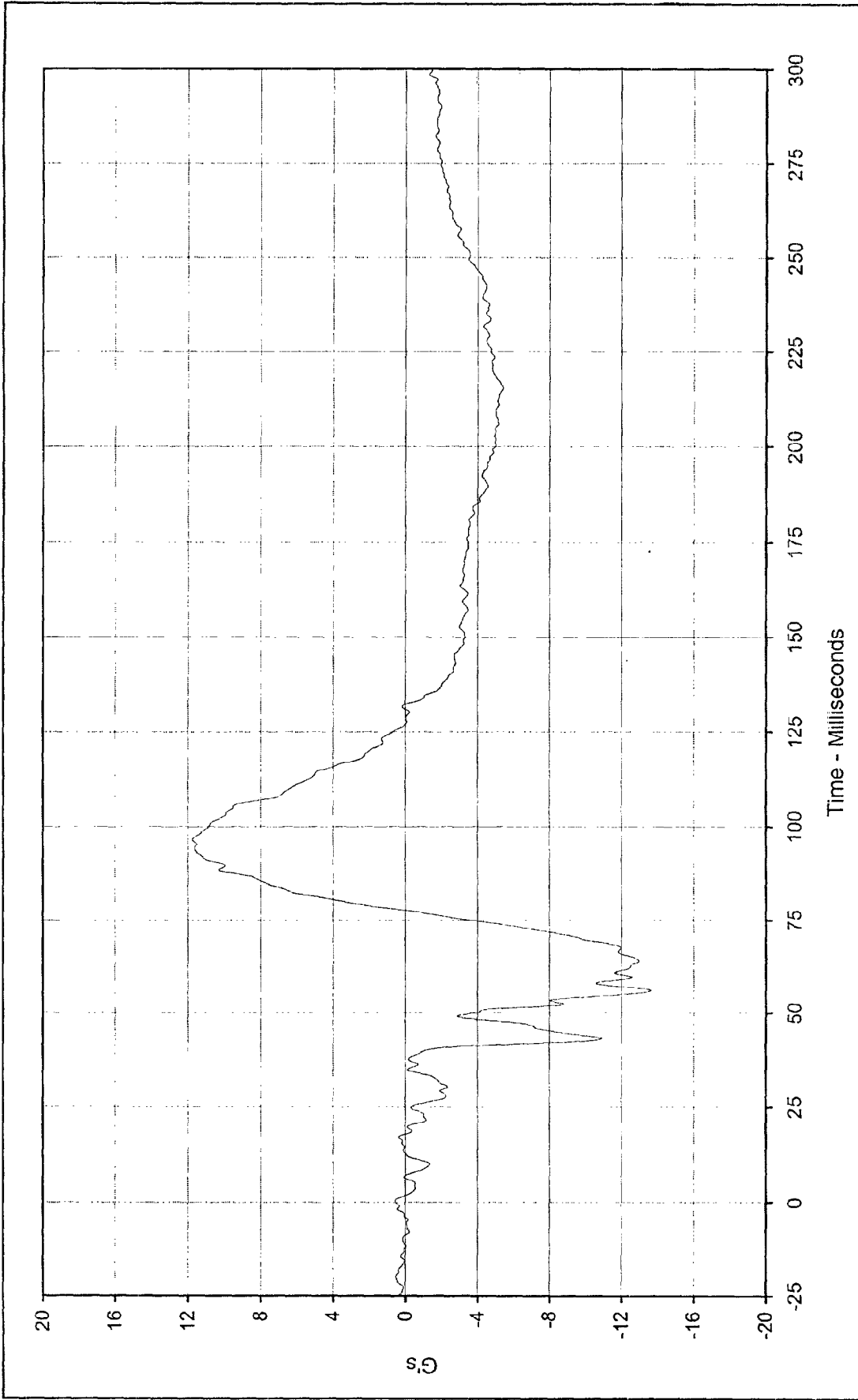
Curve Description: Driver Chest Redundant X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 83.5 at 79.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-016





Curve Description: Driver Chest Redundant Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 3.9 at 49.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -4.8 at 75.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: FIL-017

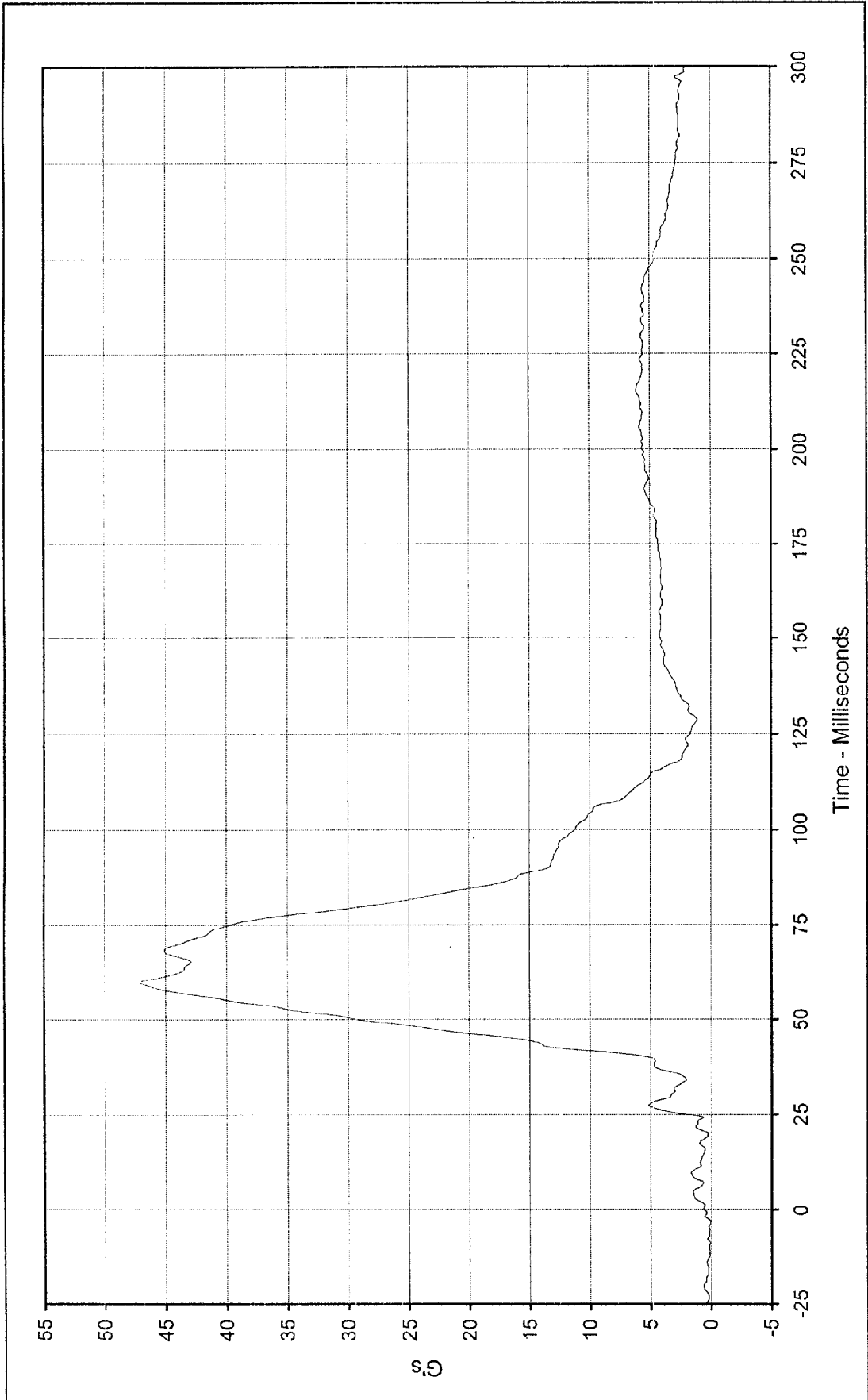




Curve Description: Driver Chest Redundant Z
 Maximum Value: 11.8 at 96.5 Milliseconds
 Minimum Value: -13.6 at 56.1 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: FIL-018

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Chest Resultant Redundant Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 47.1 at 59.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

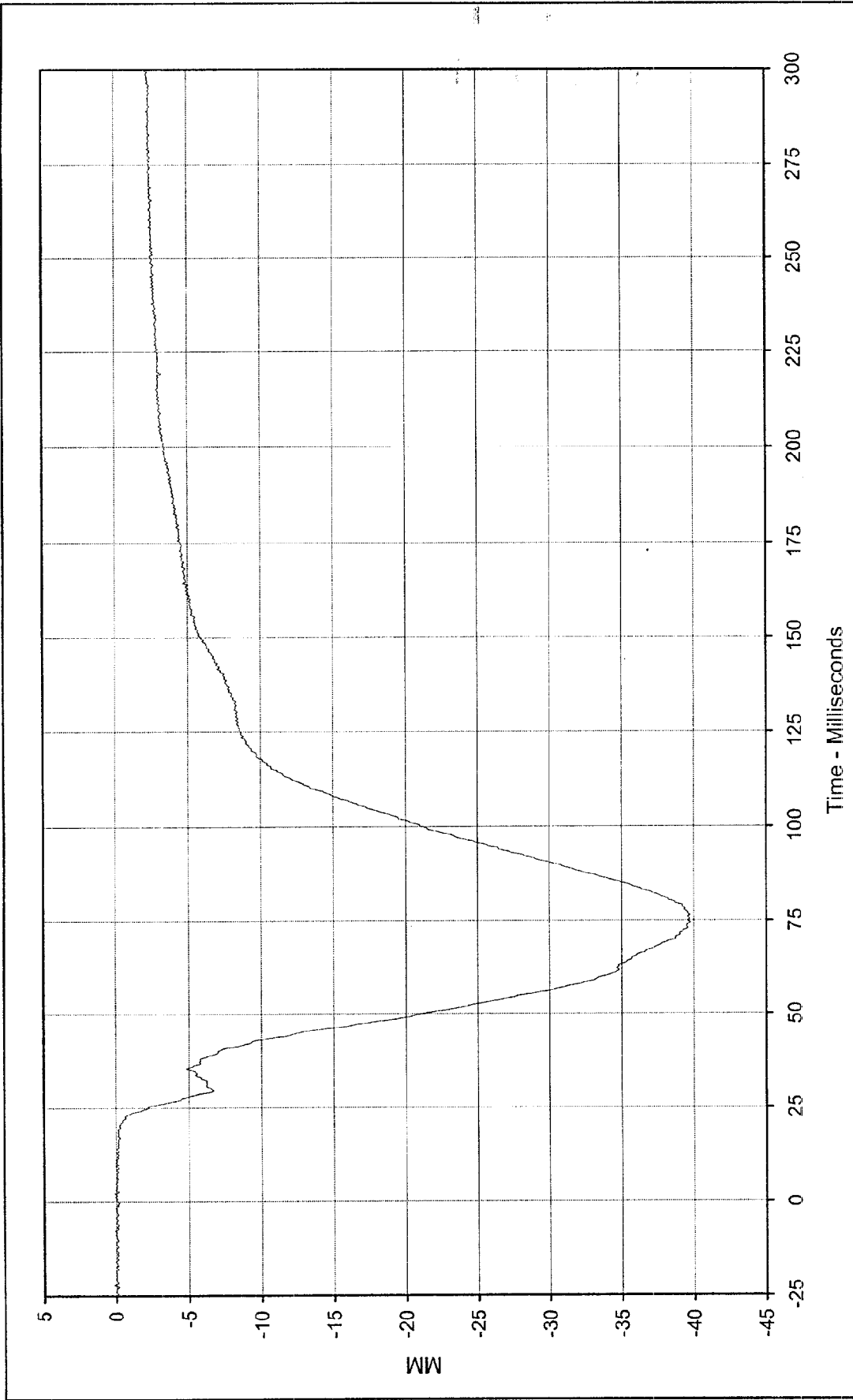
Minimum Value: 0.2 at 19.8 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: RES-016





Curve Description: Driver Chest Displacement X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 0.1 at 2.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

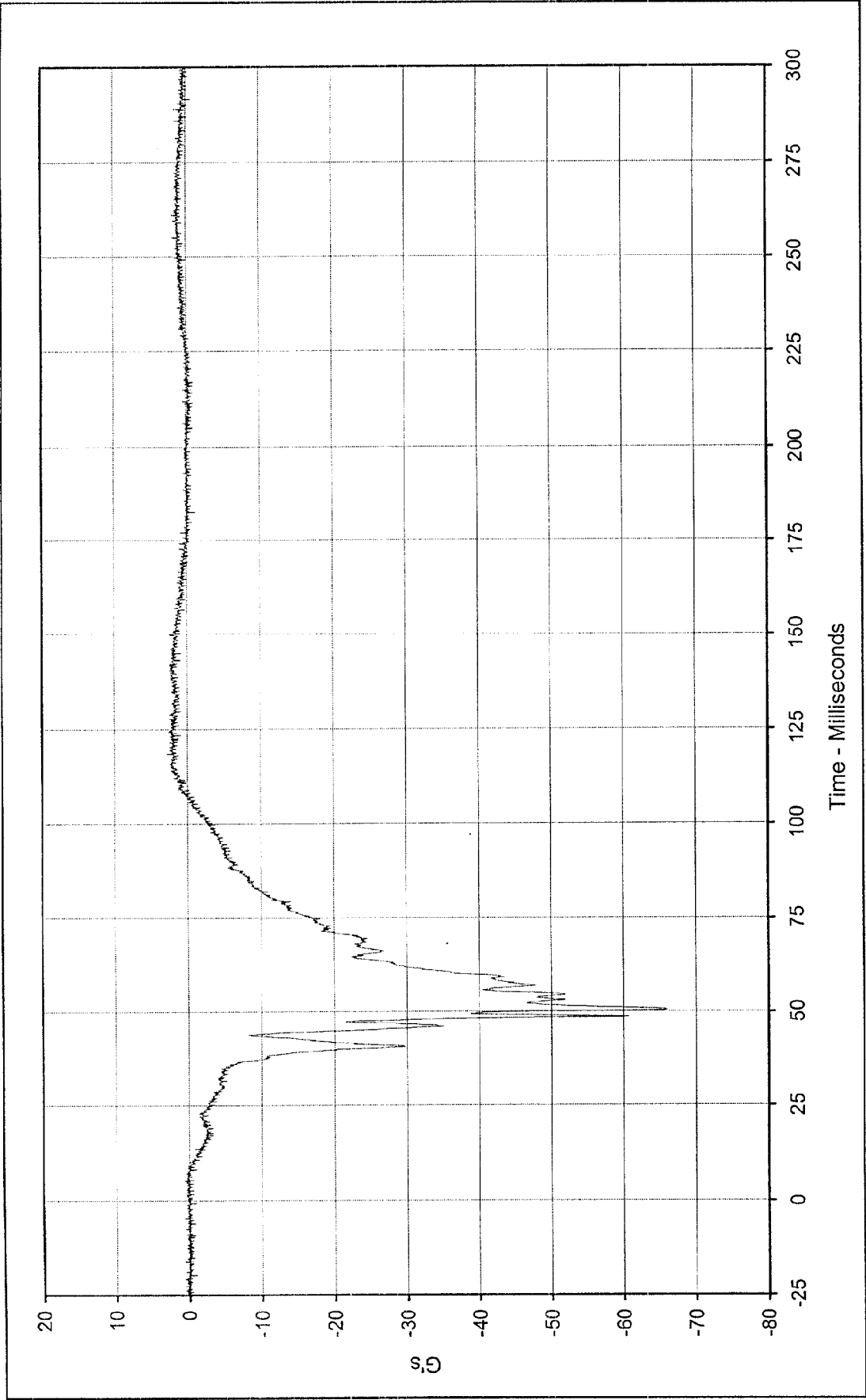
Minimum Value: -39.8 at 74.5 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-019





Curve Description: Driver Pelvis X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 2.8 at 118.3 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

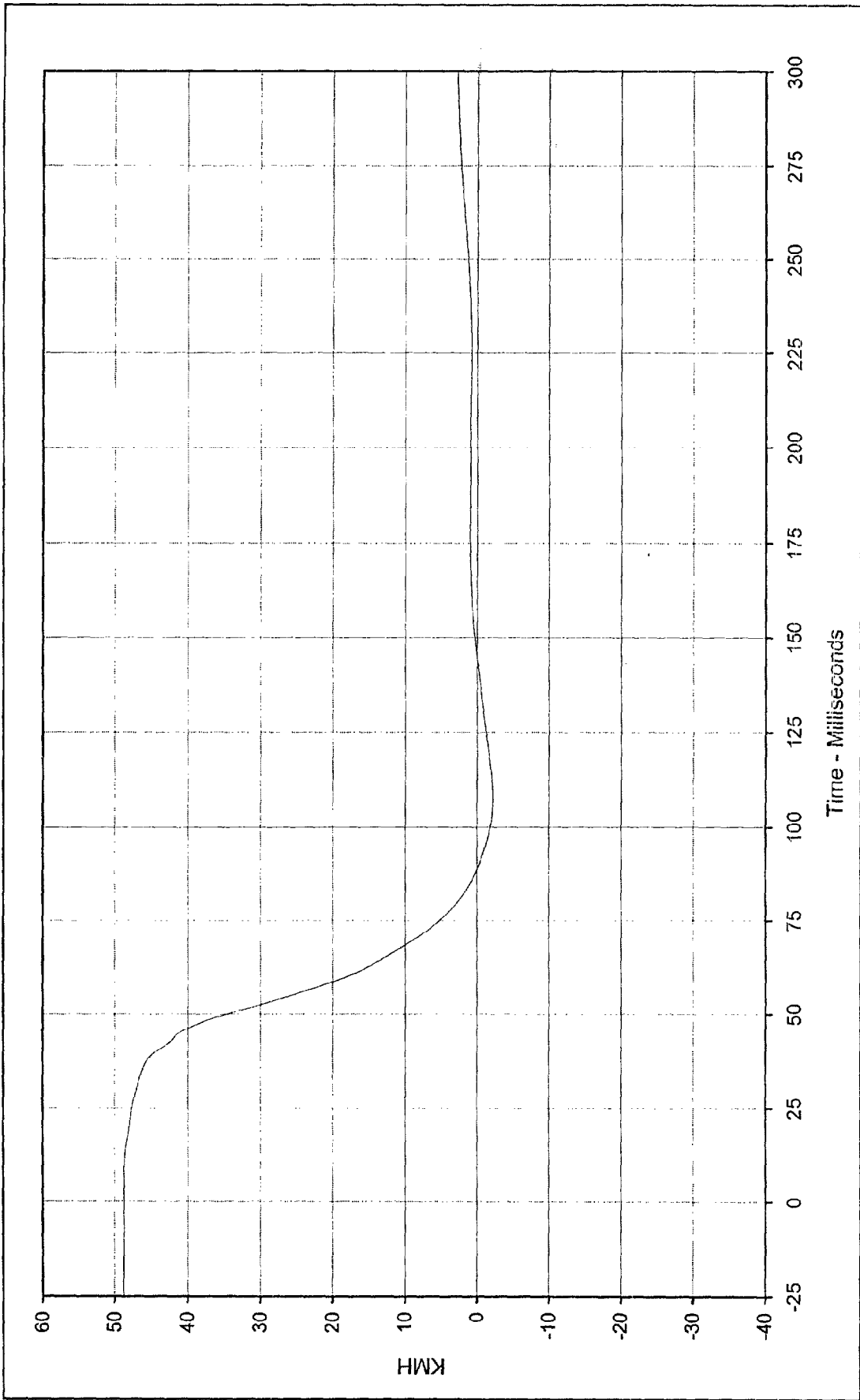
Minimum Value: -66.0 at 50.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-020

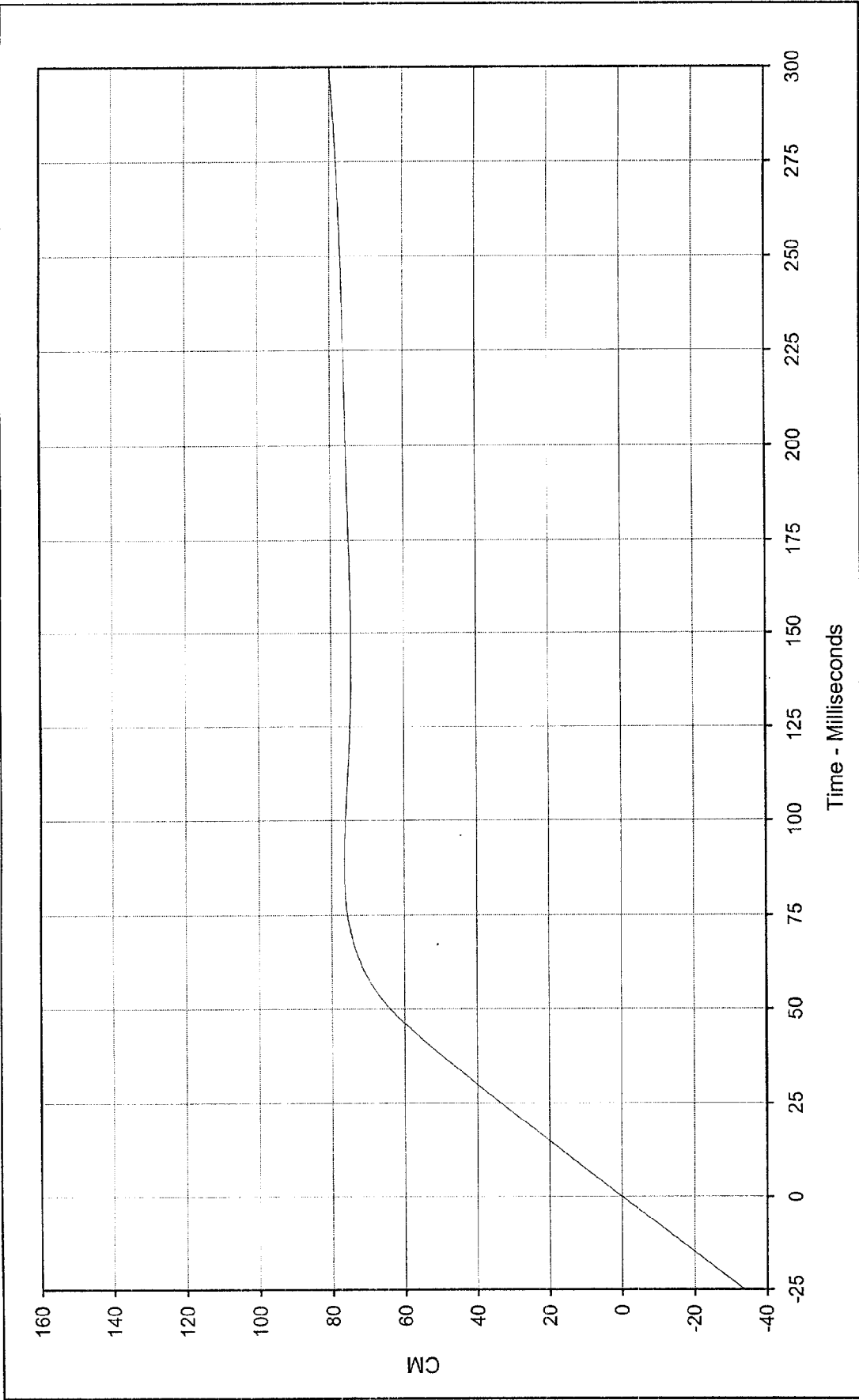




Curve Description: Driver Pelvis X Velocity
 Maximum Value: 48.7 at 7.5 Milliseconds
 Minimum Value: -2.2 at 107.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN1-020

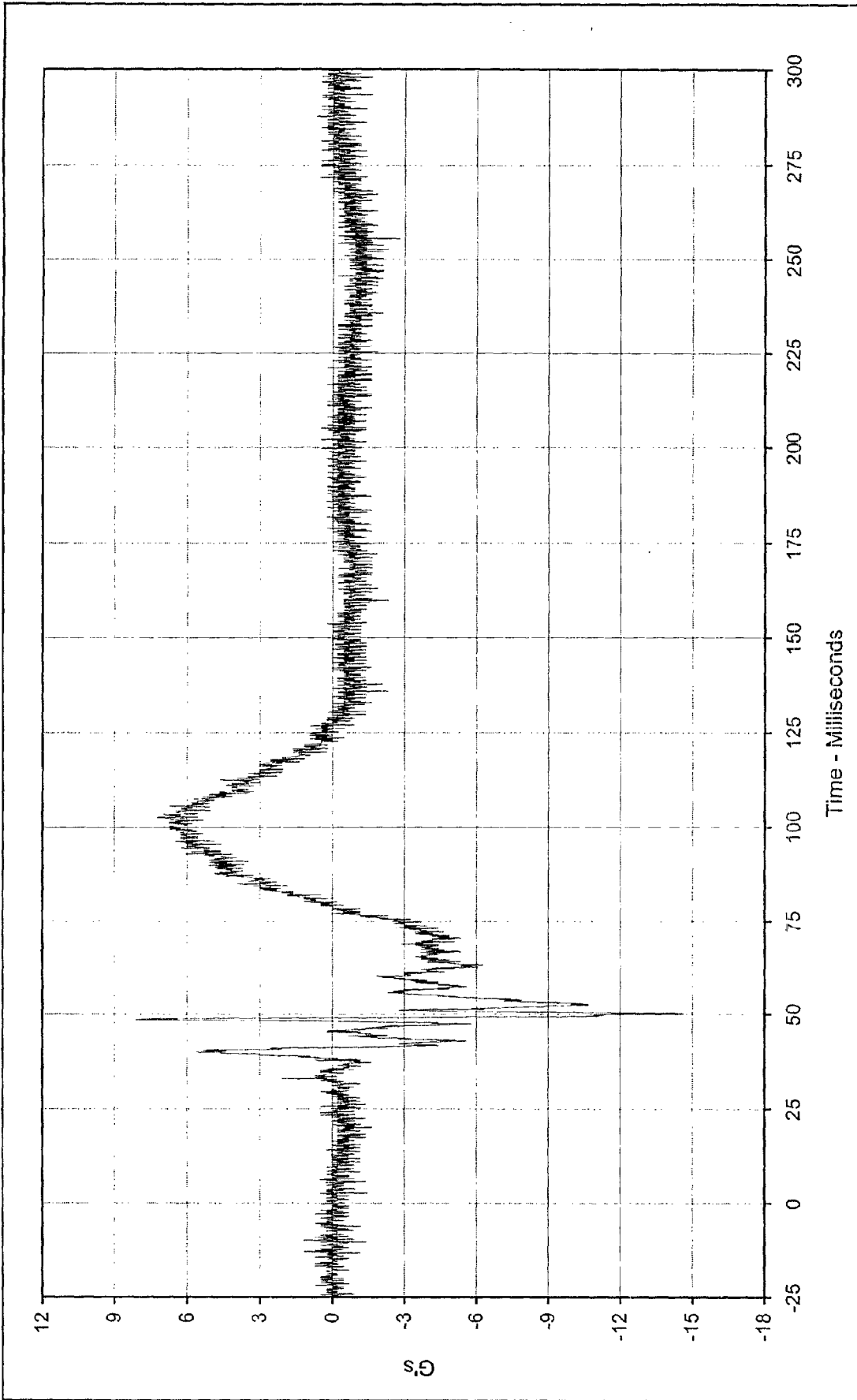
Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





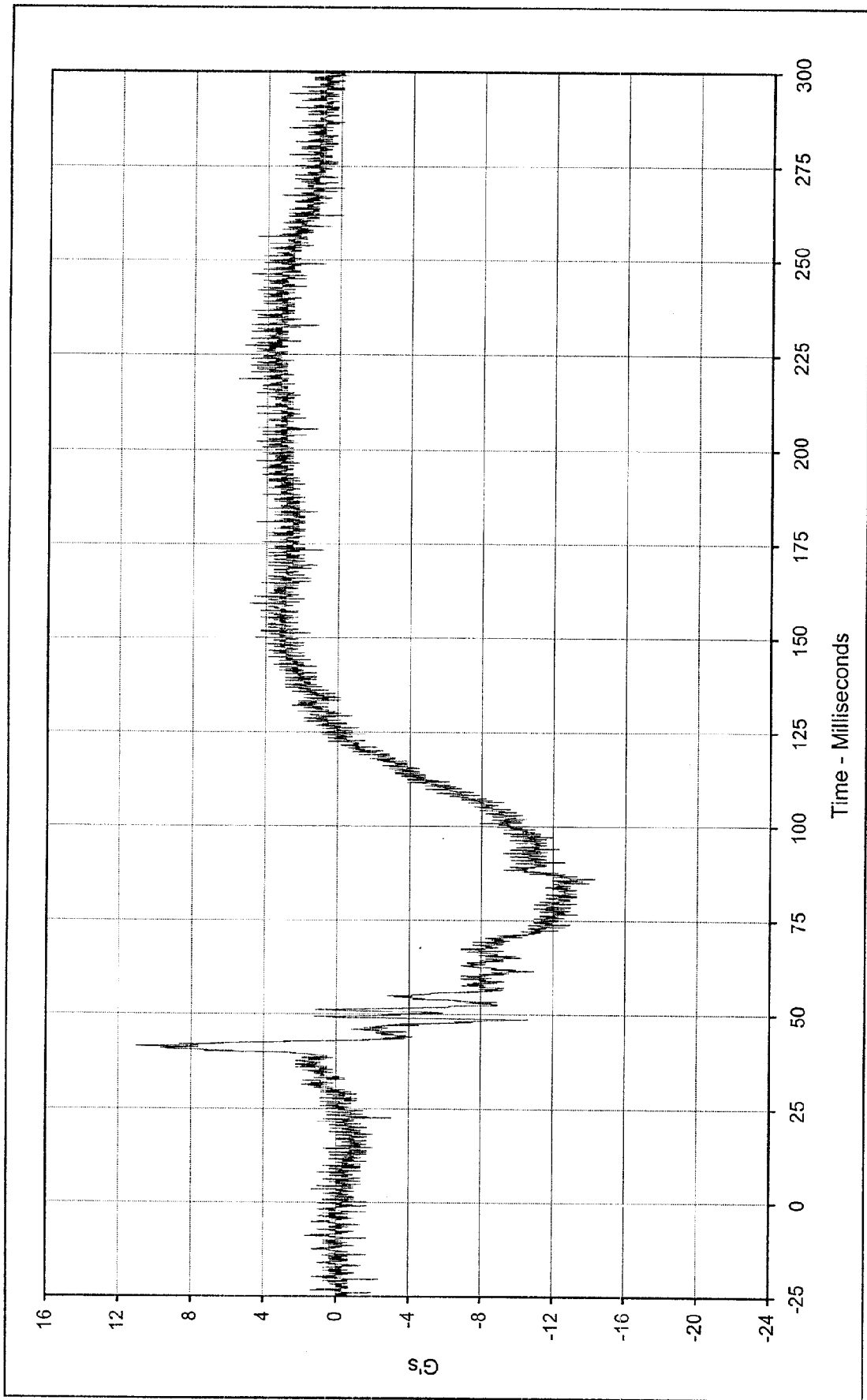
Curve Description: Driver Pelvis X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 80.0 at 299.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -0.1 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-020





Curve Description: Driver Pelvis Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 8.1 at 48.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -14.6 at 50.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-021

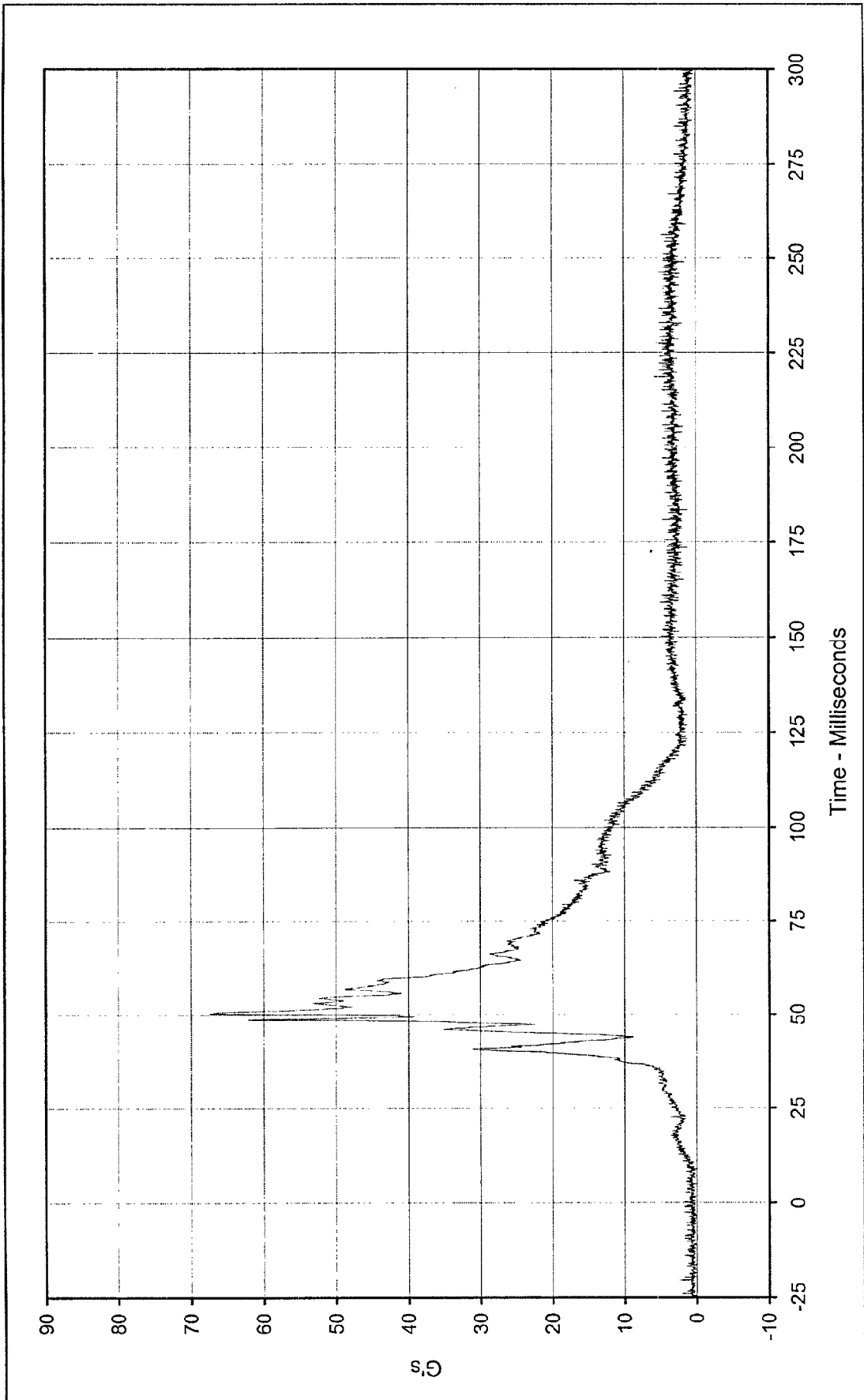




Curve Description: Driver Pelvis Z
 Maximum Value: 11.0 at 41.4 Milliseconds
 Minimum Value: -14.3 at 85.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-022

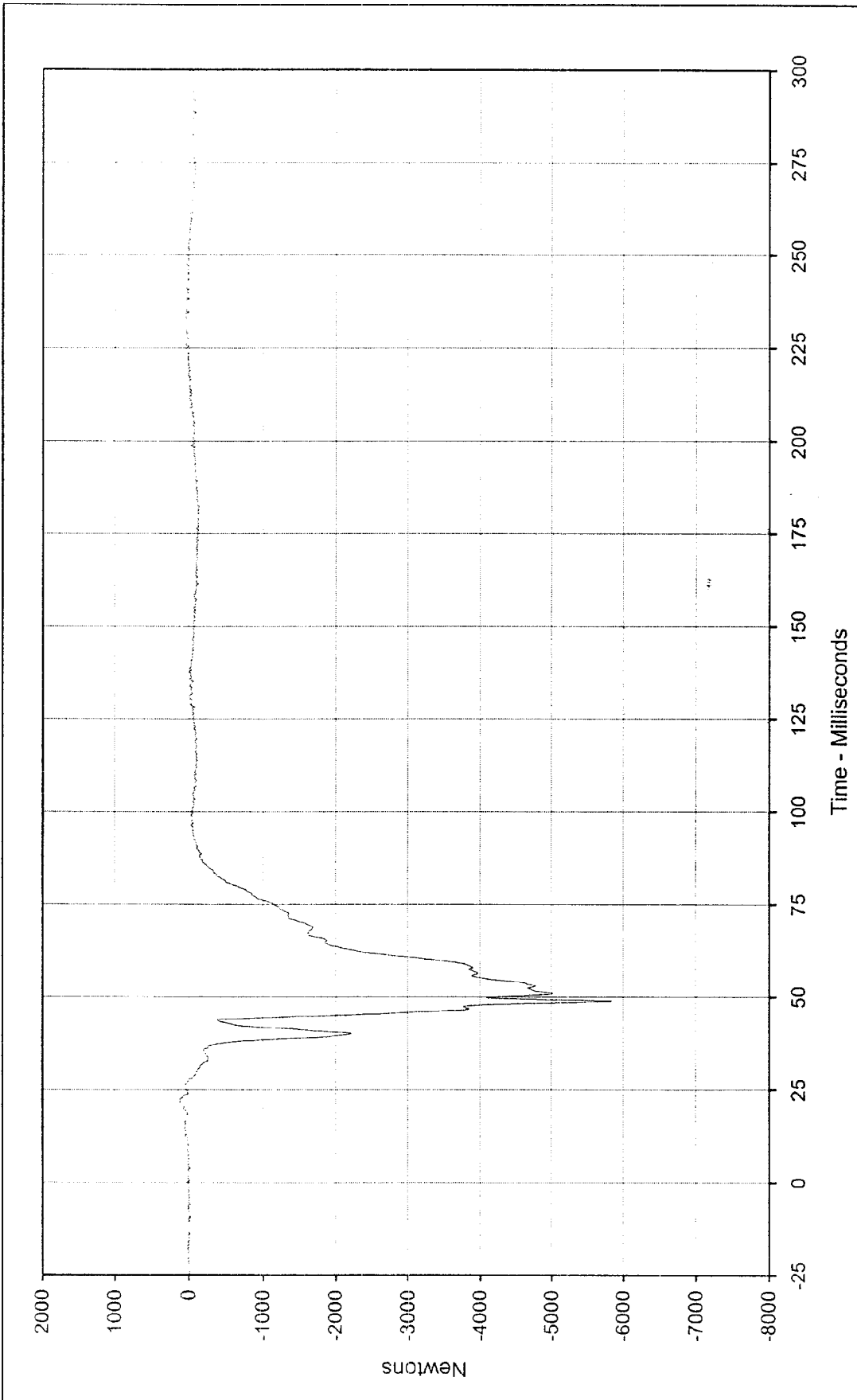
Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Pelvis Resultant
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 67.4 at 50.4 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: 0.0 at 8.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: RES-020





Curve Description: Driver Left Femur Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 114.0 at 21.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

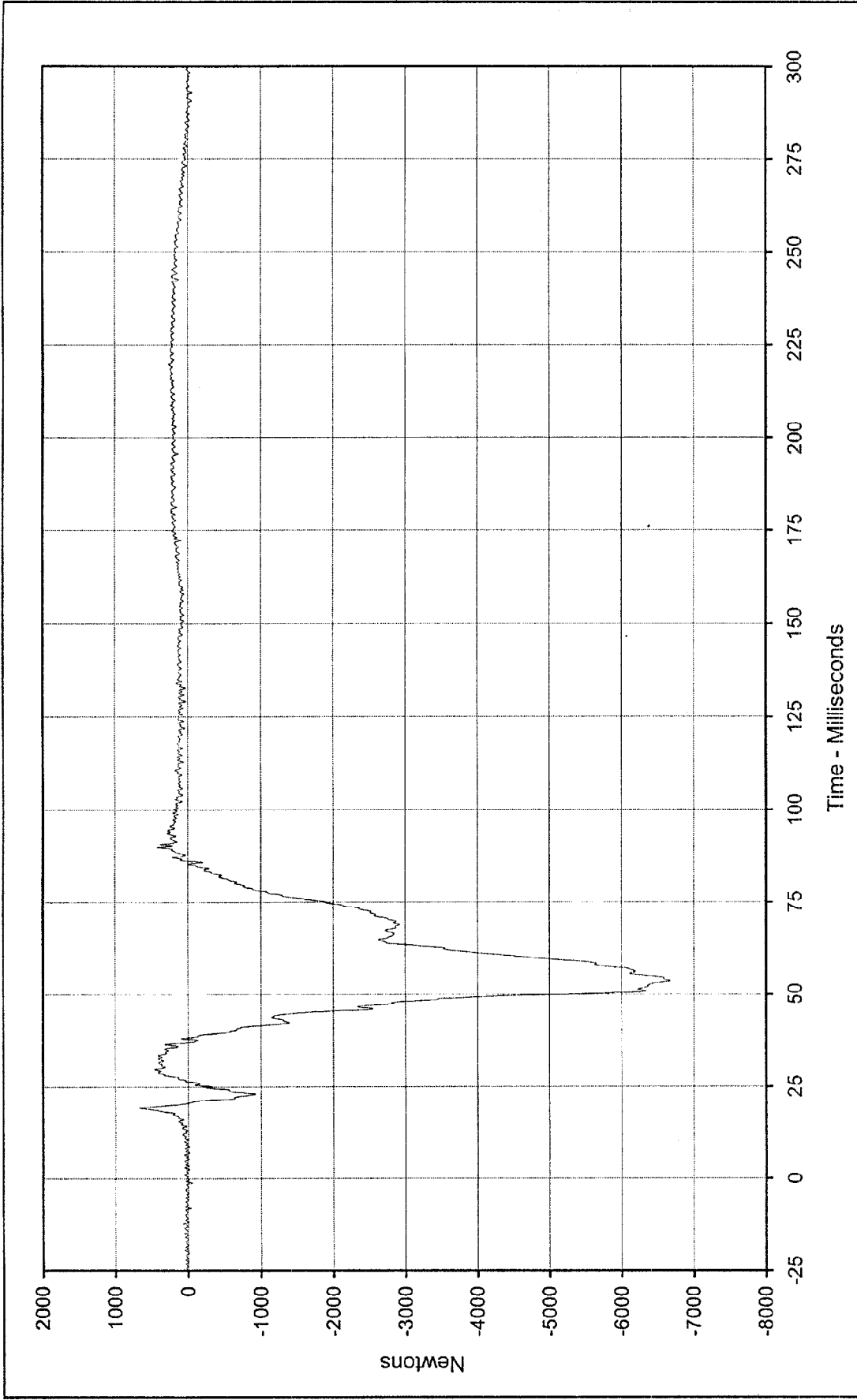
Minimum Value: -5836.6 at 48.9 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

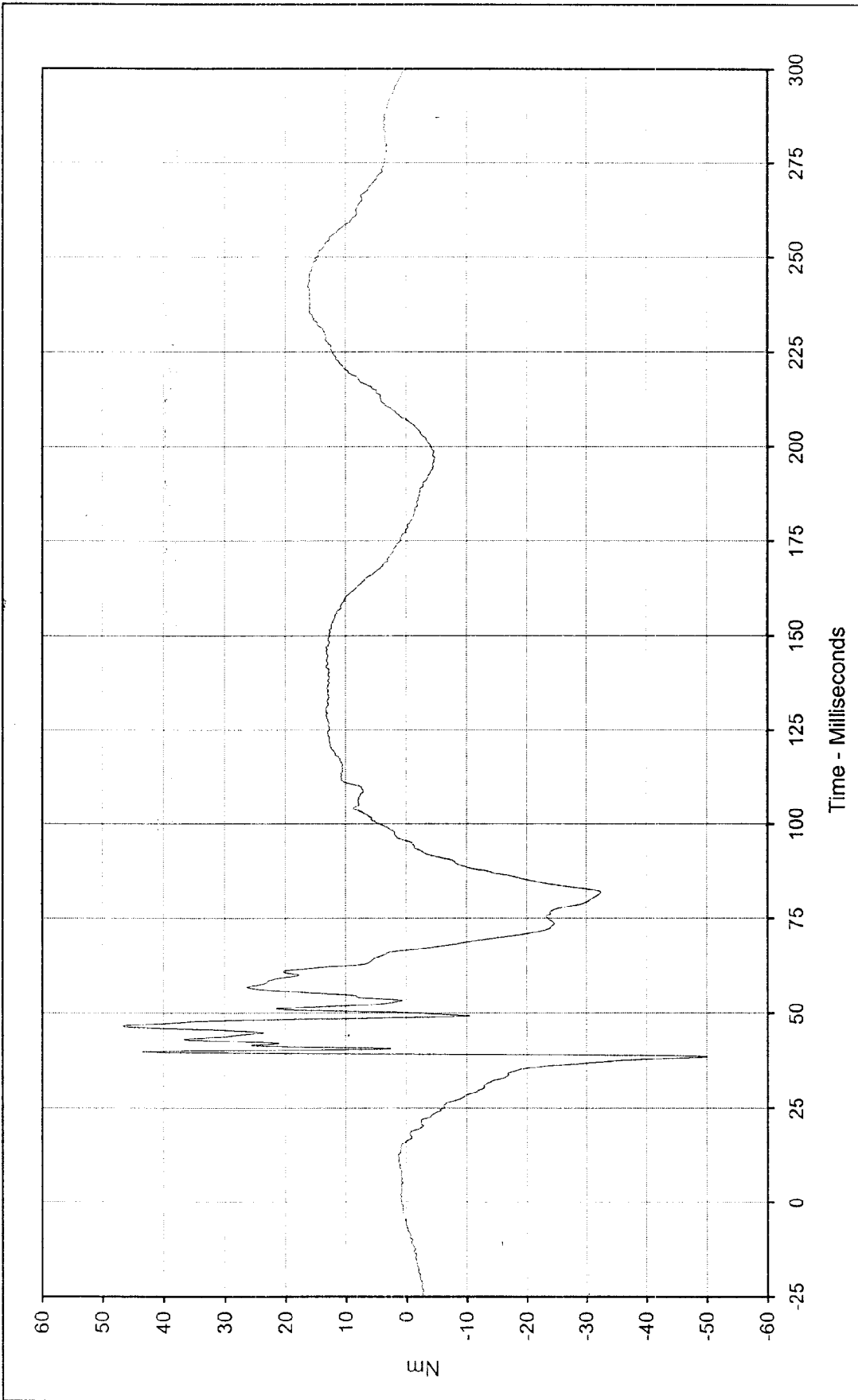
Curve Number: FIL-023





Curve Description: Driver Right Femur Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 671.3 at 19.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -6672.1 at 53.7 Milliseconds
 SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-024





Curve Description: Driver Left Upper Tibia Moment X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 46.7 at 46.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

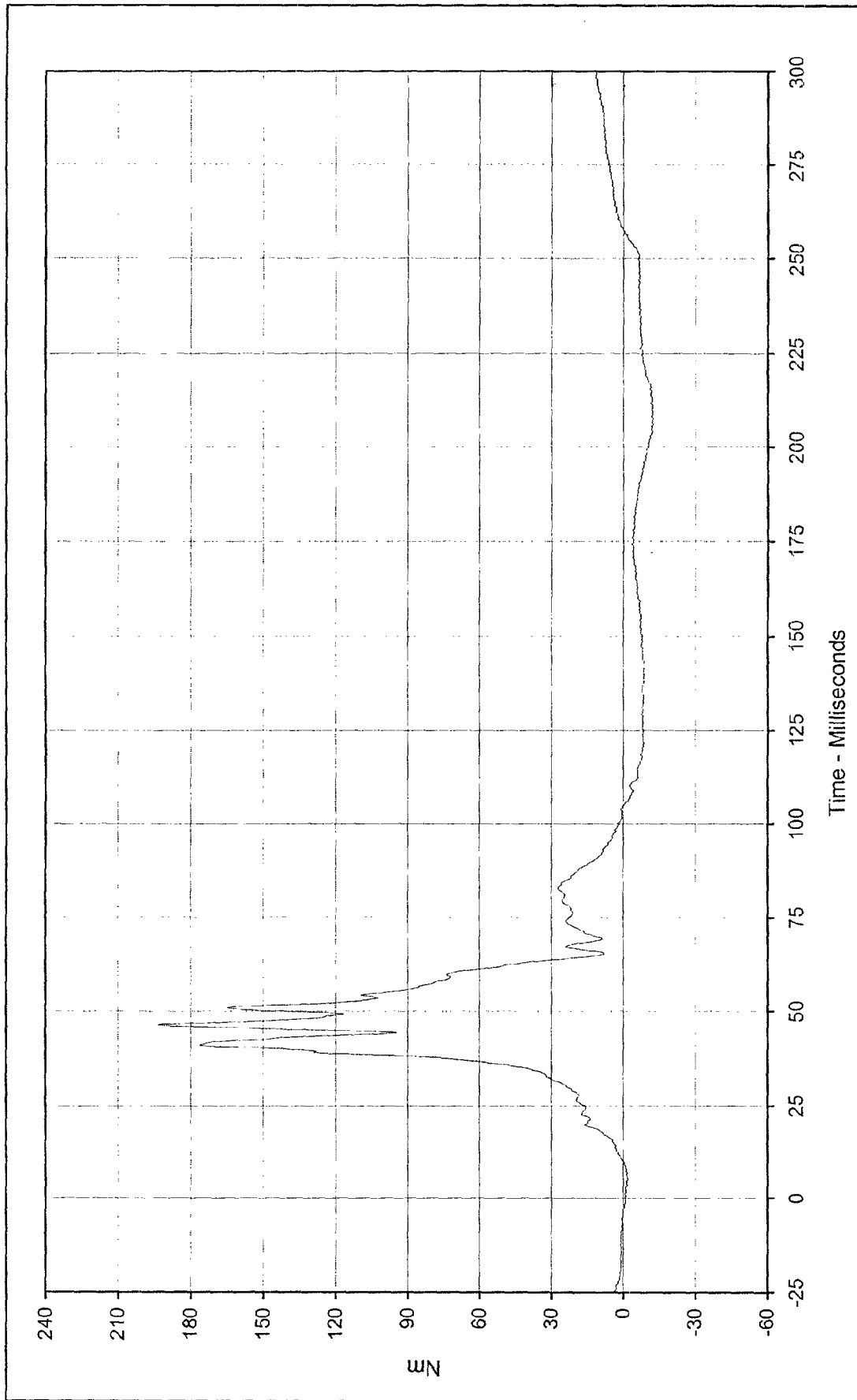
Minimum Value: -50.0 at 38.6 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-025

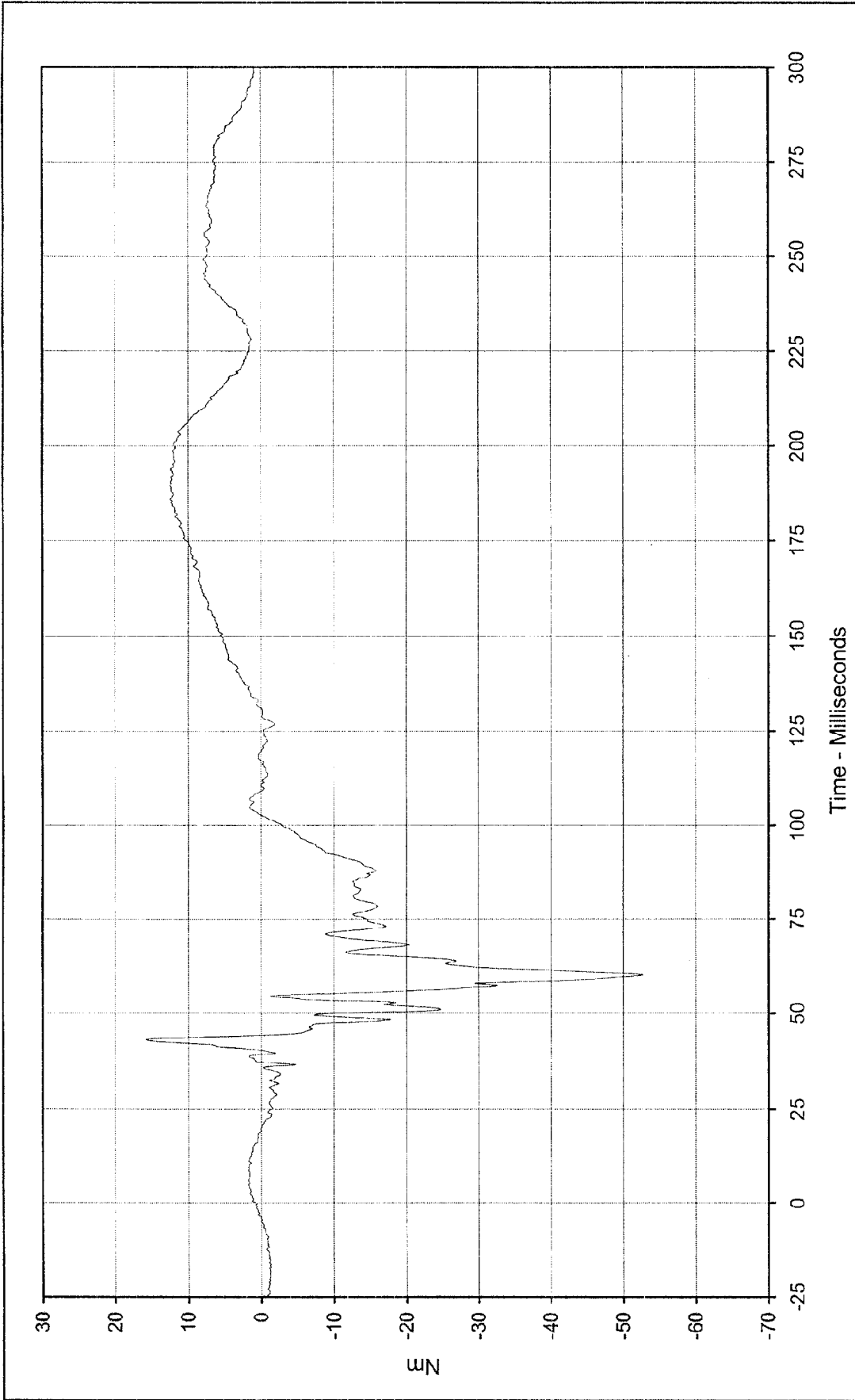




Curve Description: Driver Left Upper Tibia Moment Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 193.5 at 46.4 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -12.4 at 206.0 Milliseconds



SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-026



Curve Description: Driver Right Upper Tibia Moment X

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 15.8 at 43.0 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

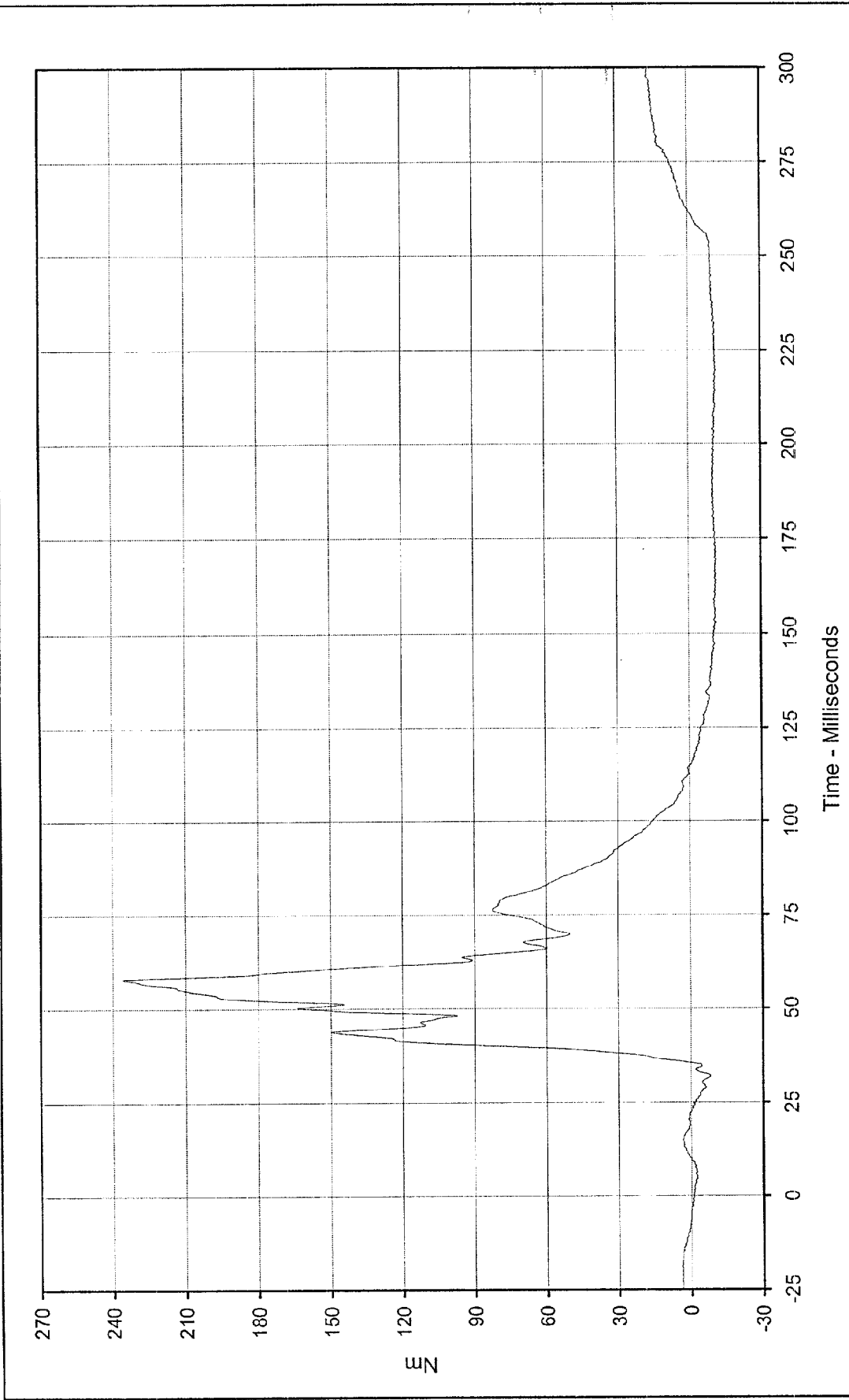
Minimum Value: -52.7 at 60.2 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-027





Curve Description: Driver Right Upper Tibia Moment Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 236.0 at 57.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

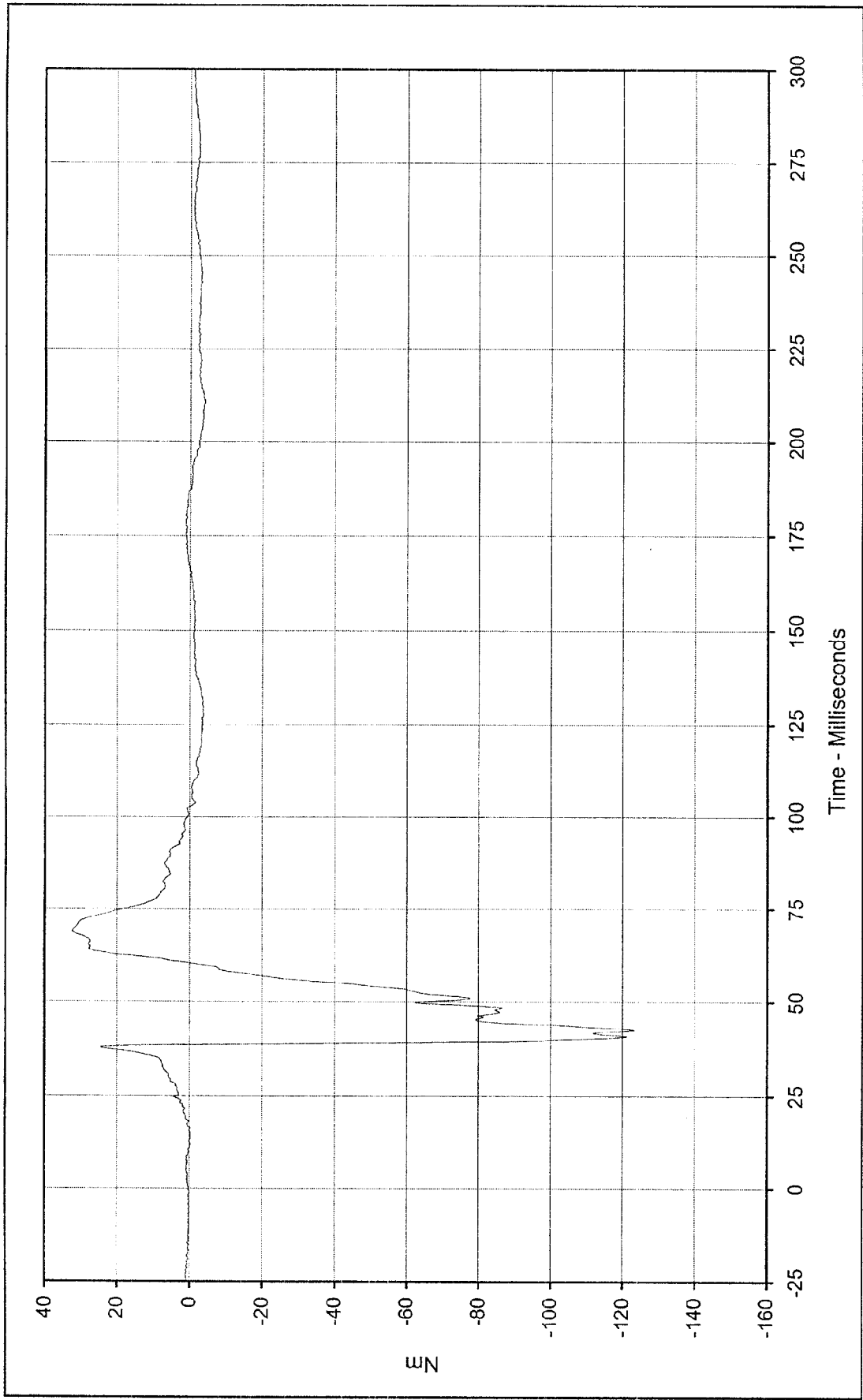
Minimum Value: -11.6 at 219.6 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-028





Curve Description: Driver Left Lower Tibia Moment X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 32.3 at 69.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

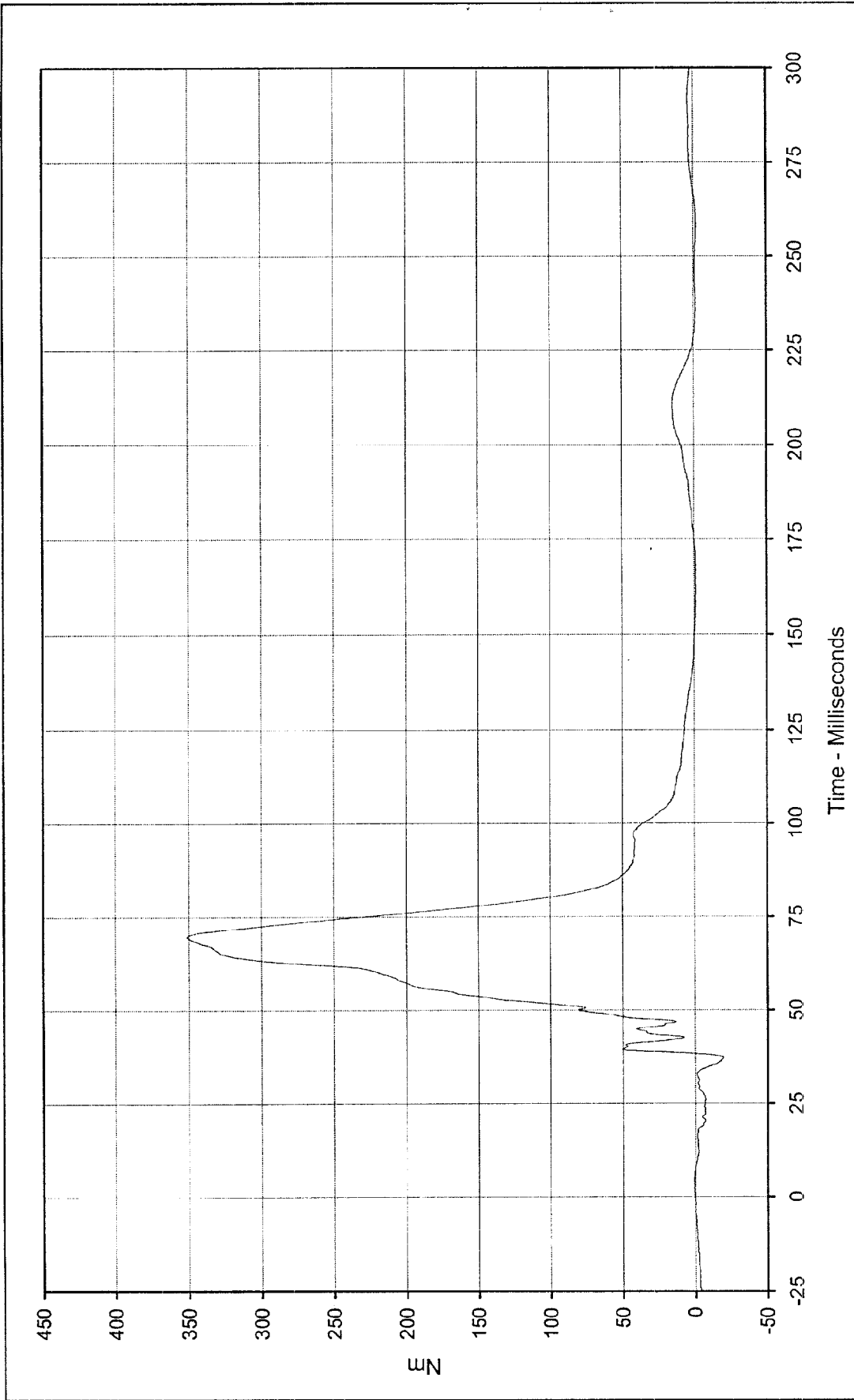
Minimum Value: -123.2 at 42.4 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-029





Curve Description: Driver Left Lower Tibia Moment Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 351.1 at 69.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

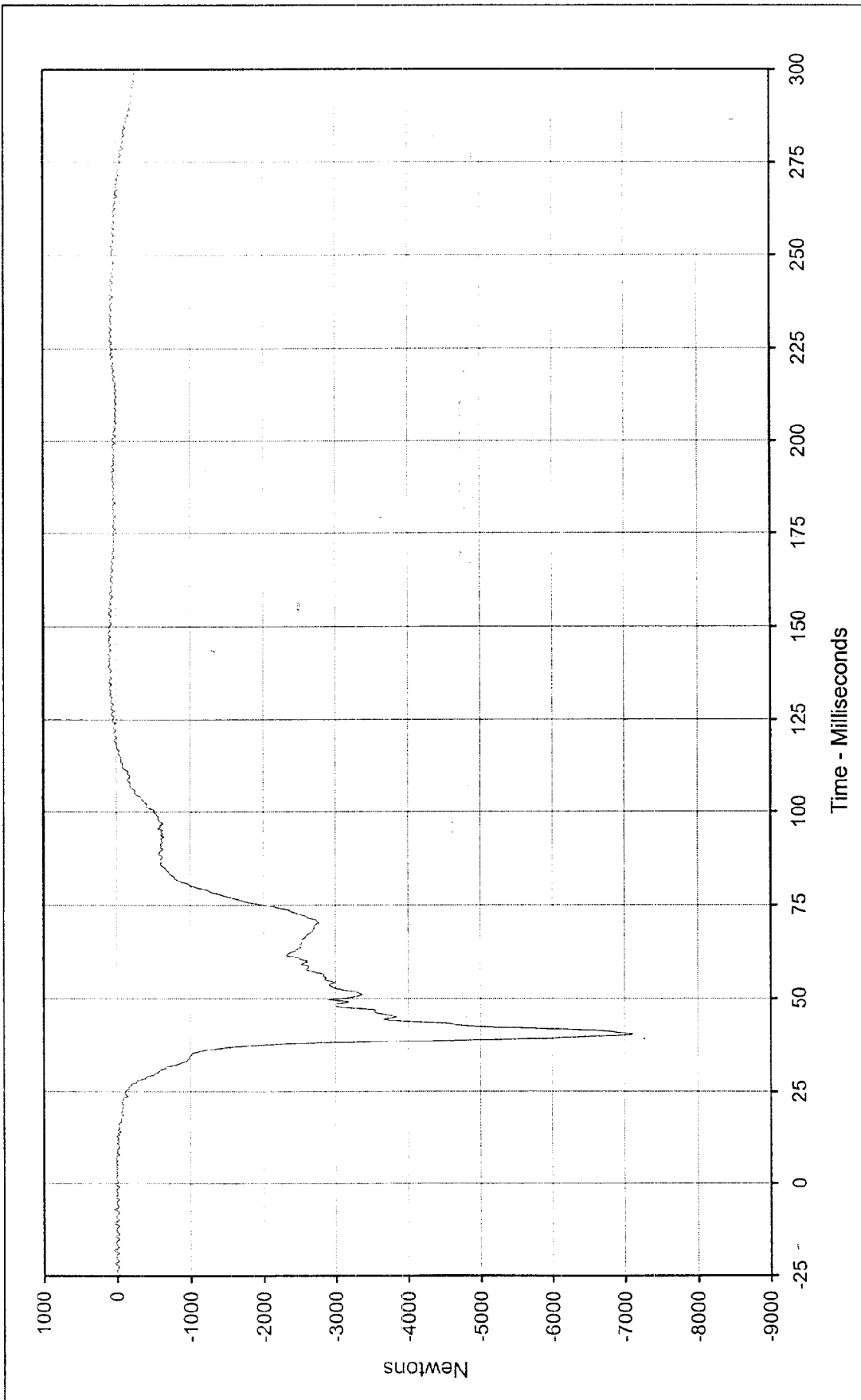
Minimum Value: -19.5 at 37.0 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-030





Curve Description: Driver Left Lower Tibia Force Z

Maximum Value: 111.4 at 146.0 Milliseconds

Minimum Value: -7106.9 at 40.2 Milliseconds

SAE Filter Class: 600

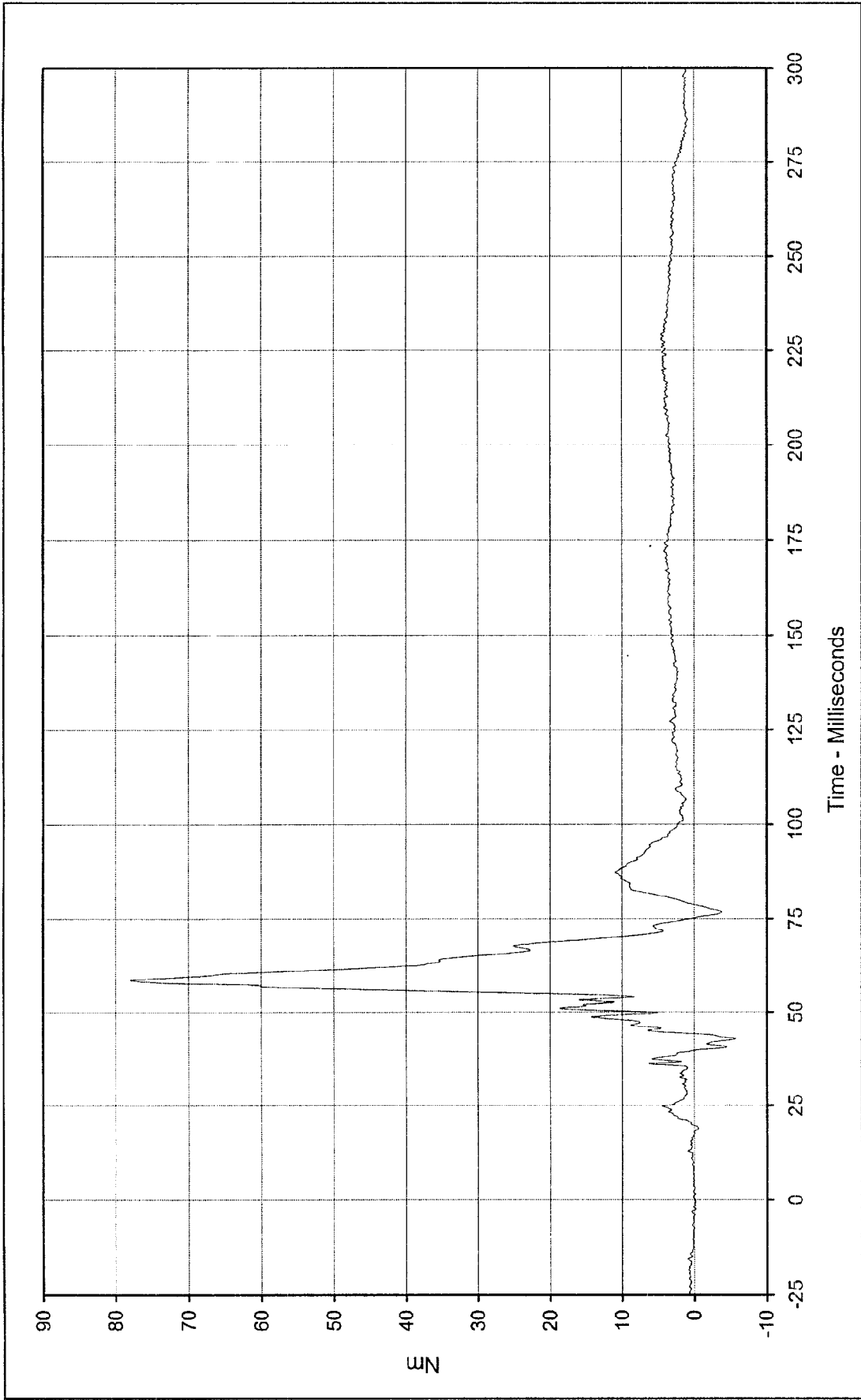
Date of Test: 6/30/98

Curve Number: FIL-031

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

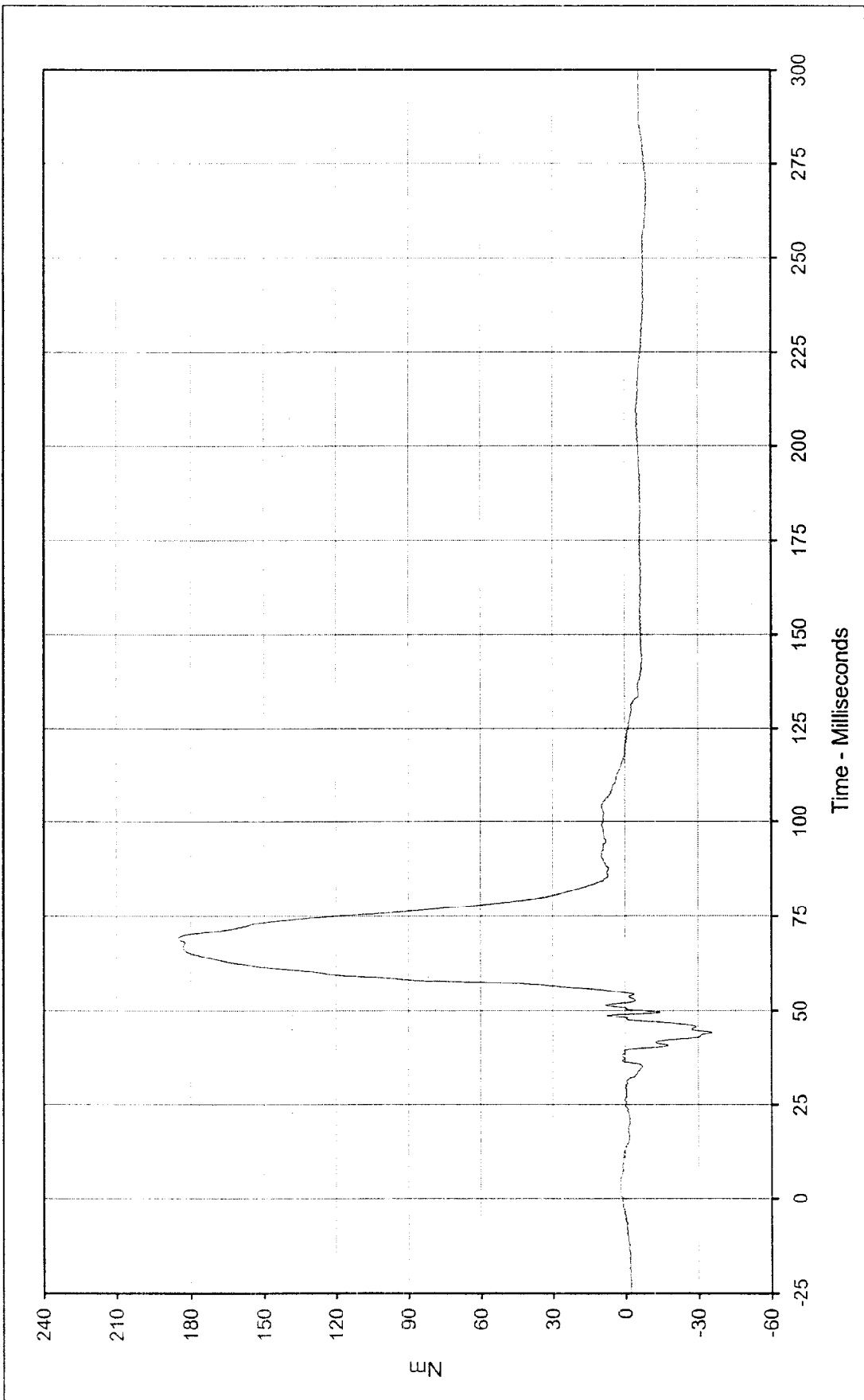




Curve Description: Driver Right Lower Tibia Moment X
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 78.0 at 58.7 Milliseconds
 Minimum Value: -5.8 at 42.7 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan



SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-032



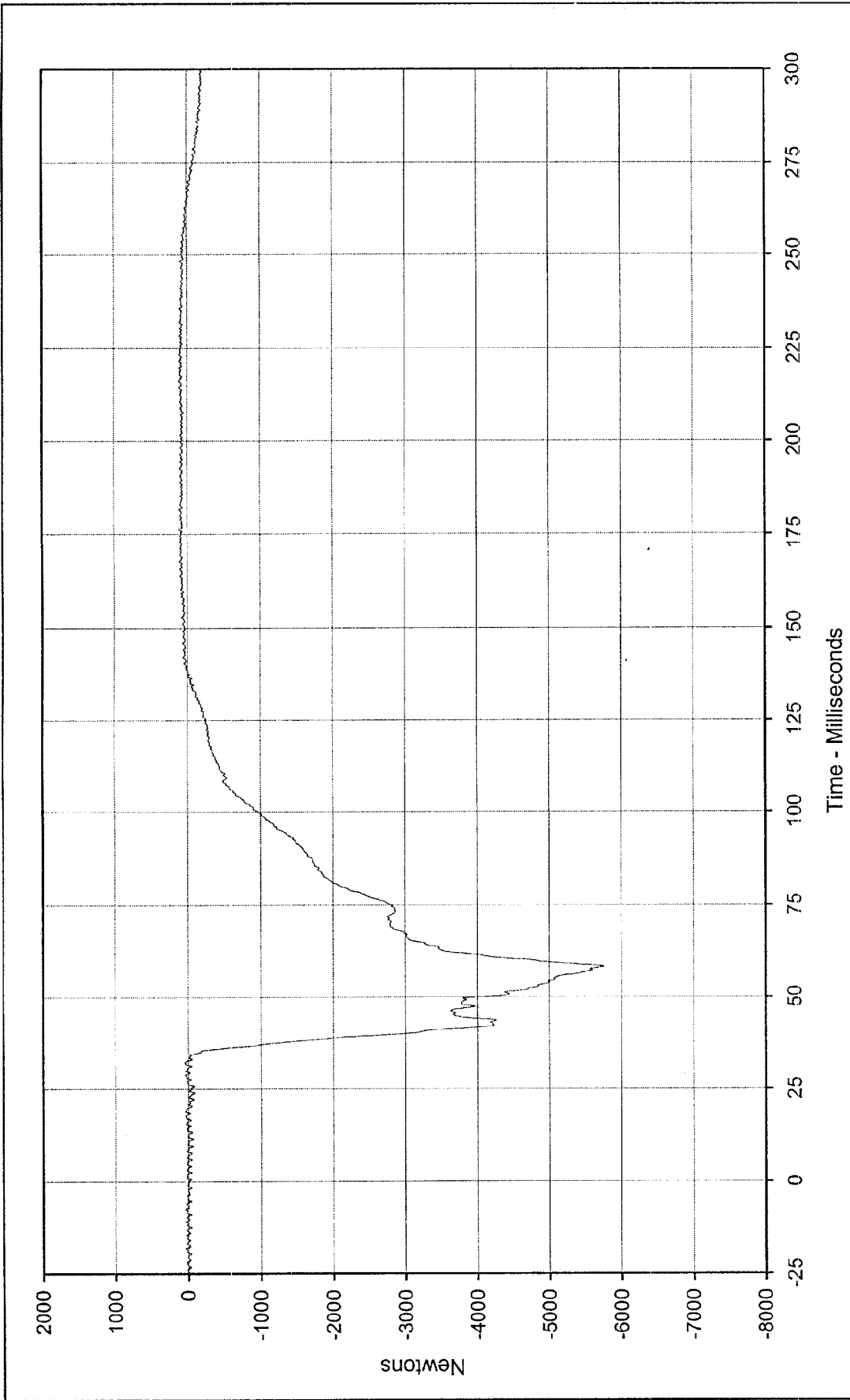
Curve Description: Driver Right Lower Tibia Moment Y

Maximum Value: 184.8 at 69.2 Milliseconds
 Minimum Value: -35.4 at 44.4 Milliseconds
 SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-033

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

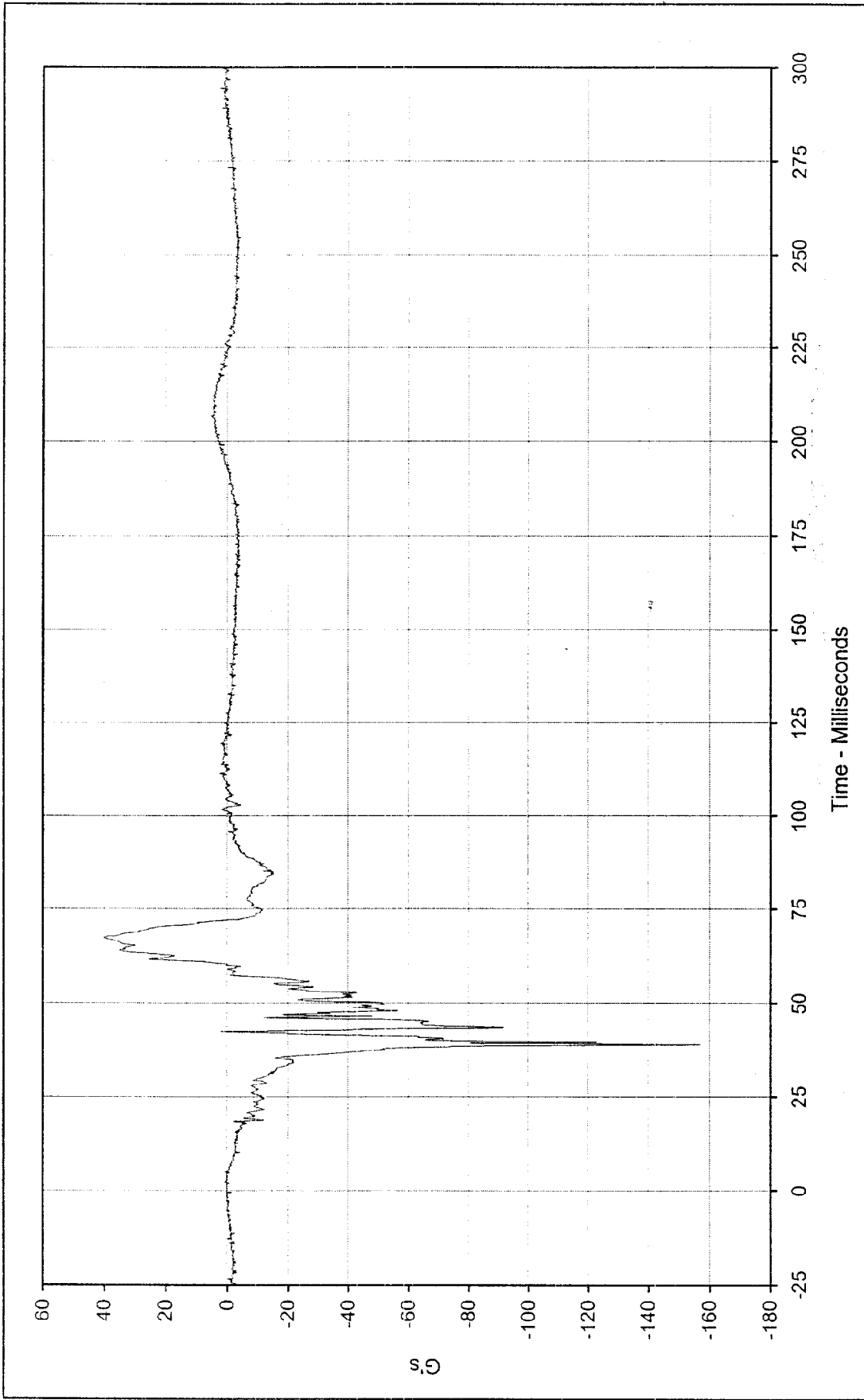




Curve Description: Driver Right Lower Tibia Force Z
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 114.3 at 215.9 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -5757.3 at 58.1 Milliseconds



SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-034



Curve Description: Driver Left Foot Aft X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 40.5 at 67.3 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

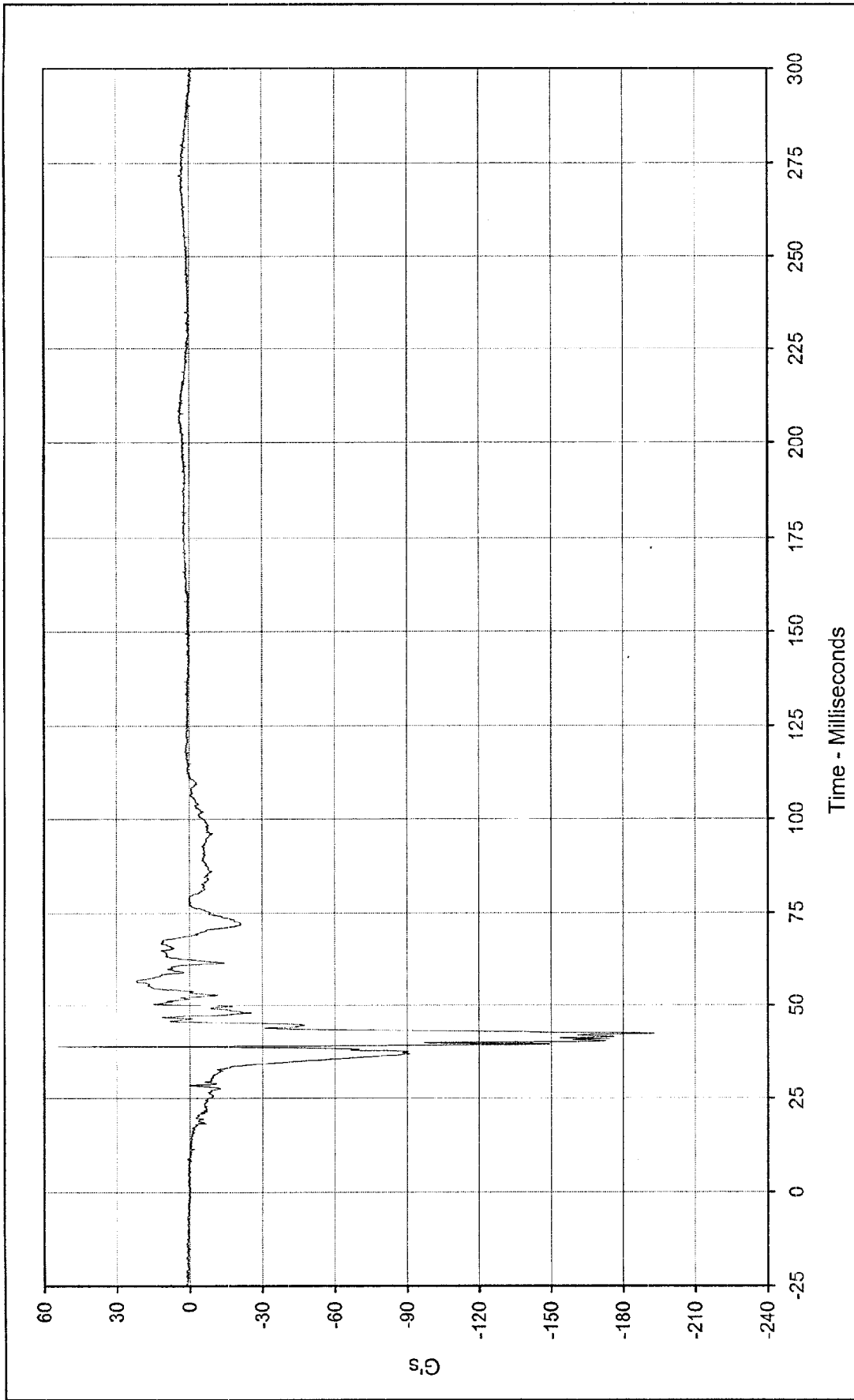
Minimum Value: -156.5 at 38.8 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-035

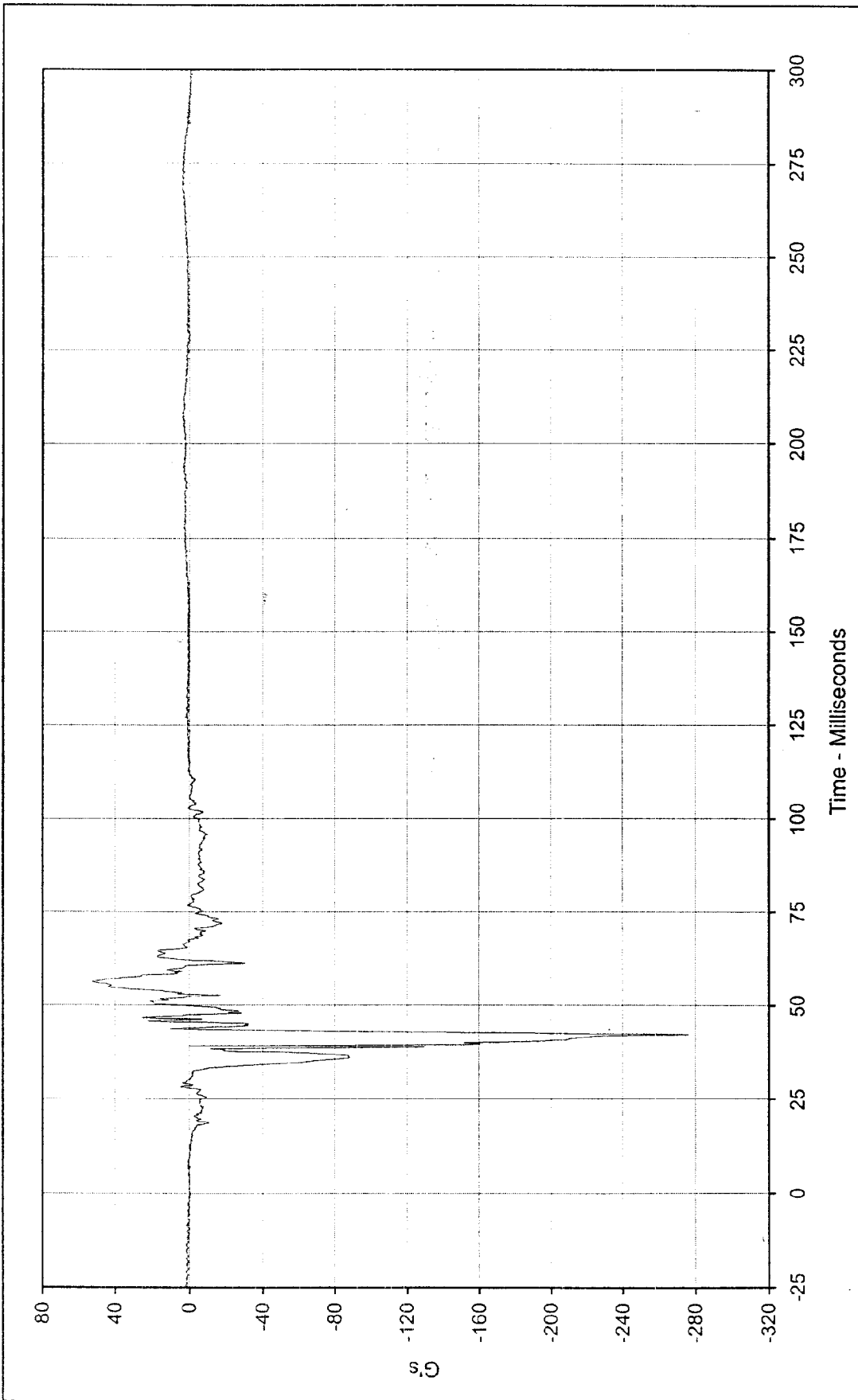




Curve Description: Driver Left Foot Aft Z
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 54.4 at 38.7 Milliseconds
 Minimum Value: -193.0 at 42.1 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan



SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-036



Curve Description: Driver Left Foot Fore Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 52.6 at 56.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

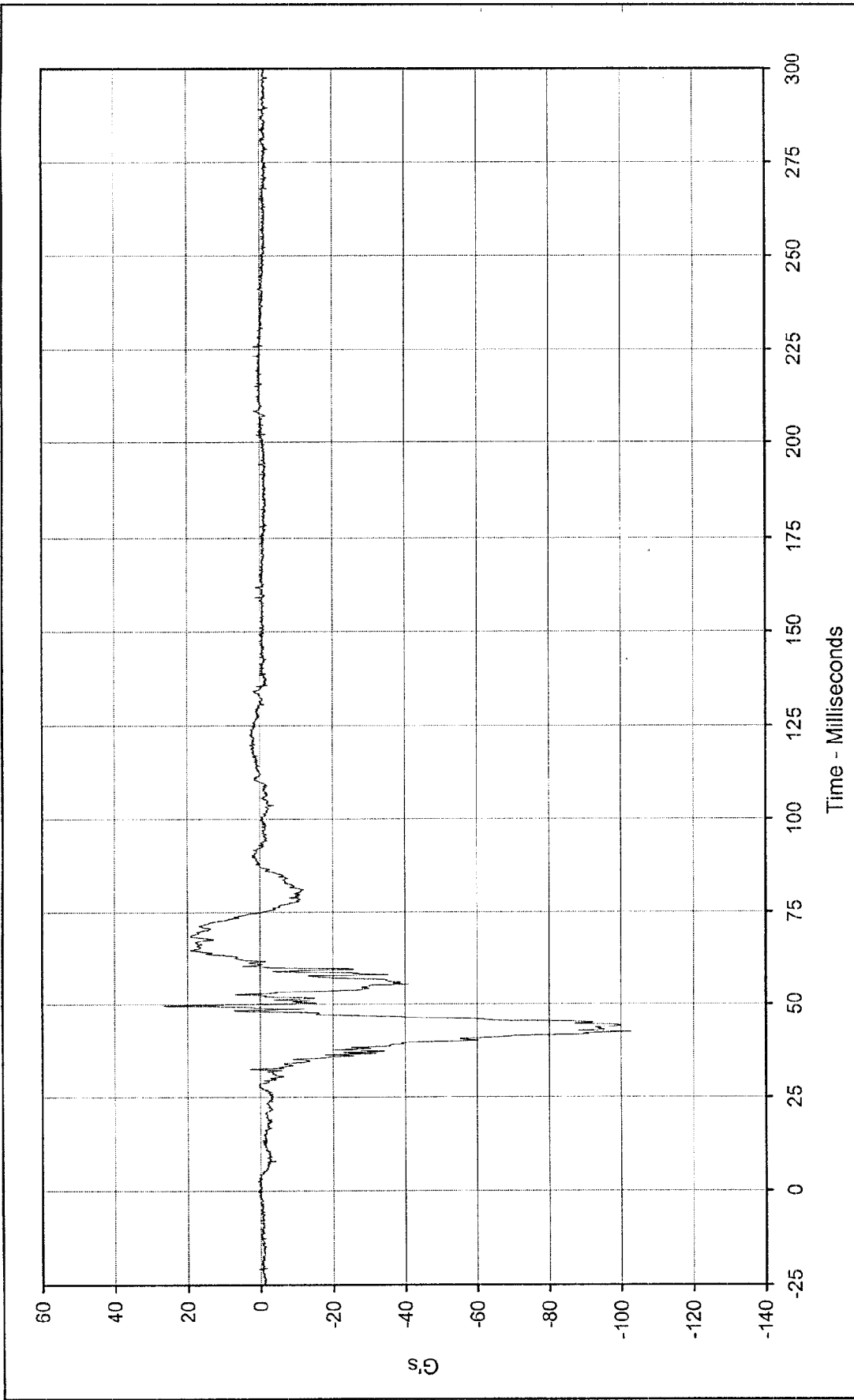
Minimum Value: -275.9 at 42.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-037





Curve Description: Driver Right Foot Aft X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 26.5 at 49.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

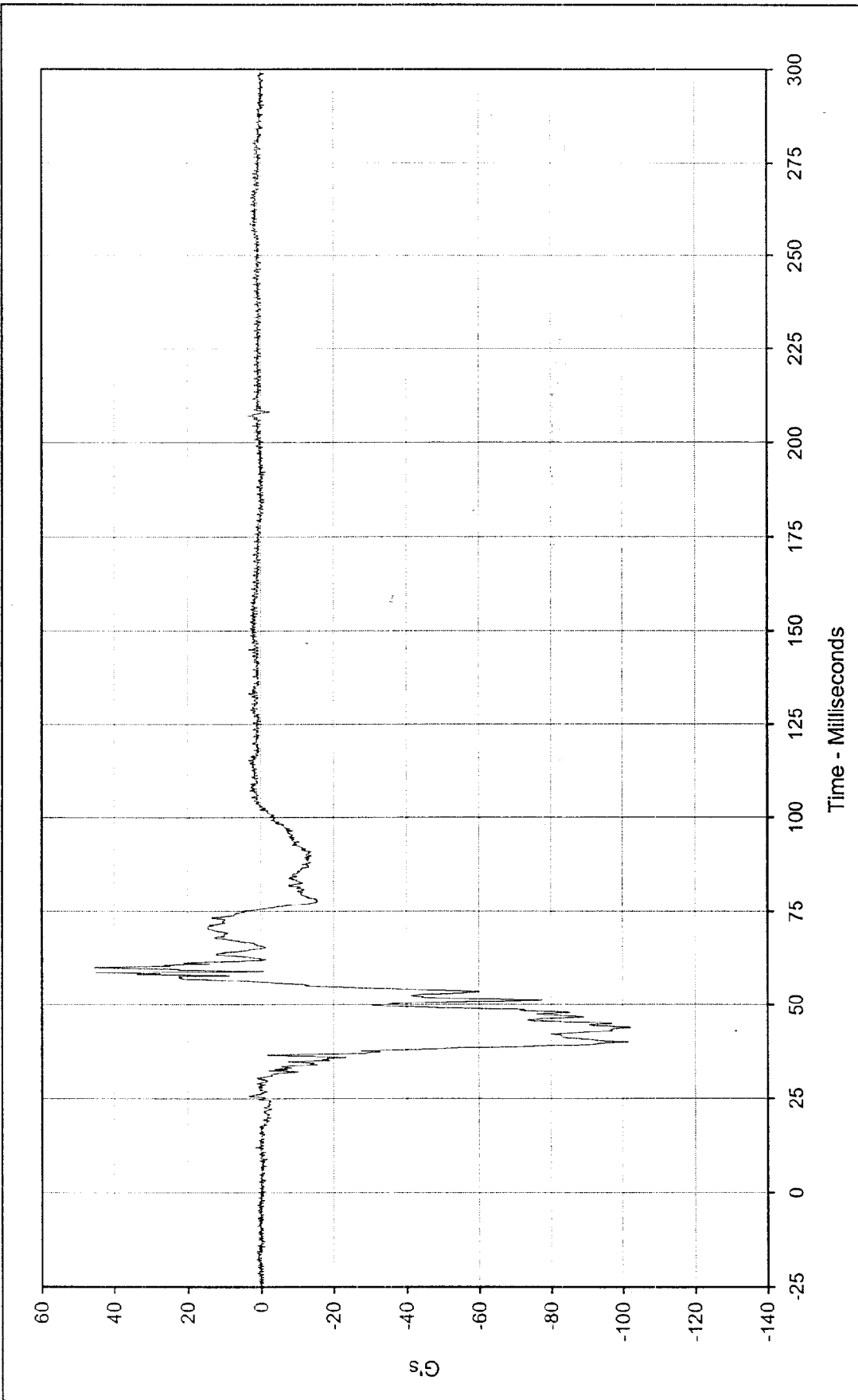
Minimum Value: -102.8 at 42.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-038





Curve Description: Driver Right Foot Aft Z

Maximum Value: 45.6 at 59.9 Milliseconds

Minimum Value: -102.2 at 43.8 Milliseconds

SAE Filter Class: 1000

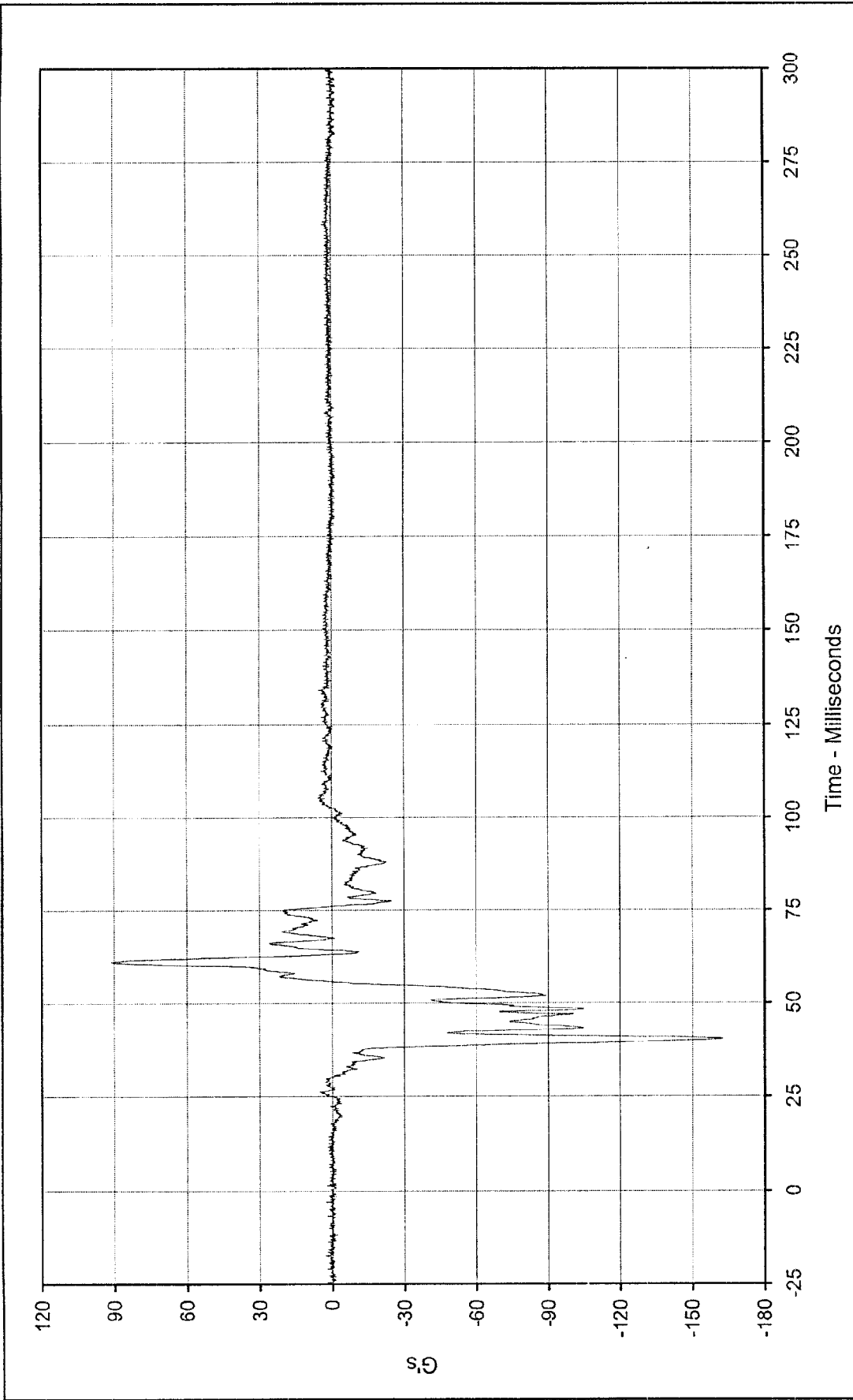
Date of Test: 6/30/98

Curve Number: FIL-039

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

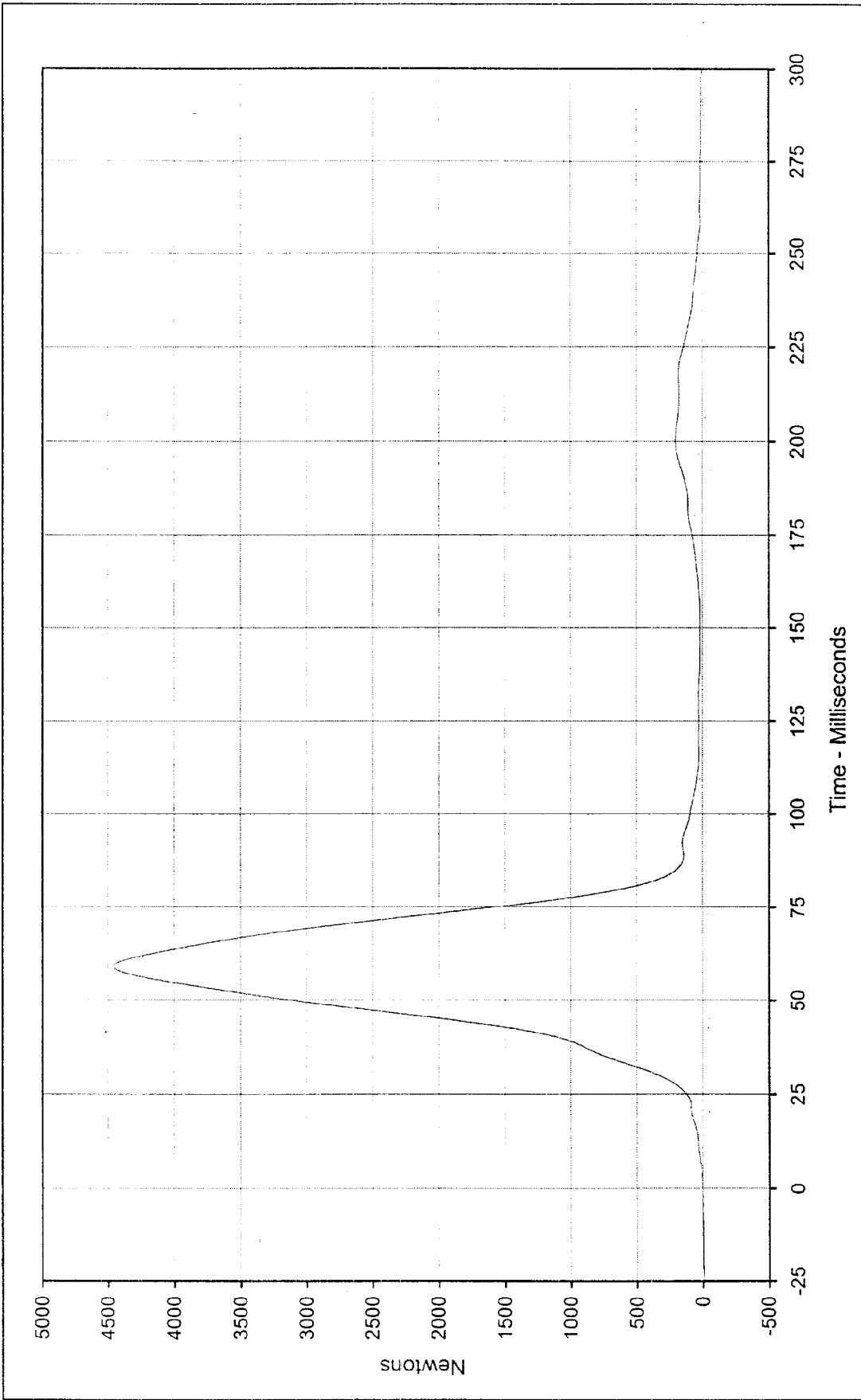




Curve Description: Driver Right Foot Fore Z
 Maximum Value: 91.1 at 61.1 Milliseconds
 Minimum Value: -162.6 at 40.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-040

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Driver Lap Belt Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 4457.4 at 59.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

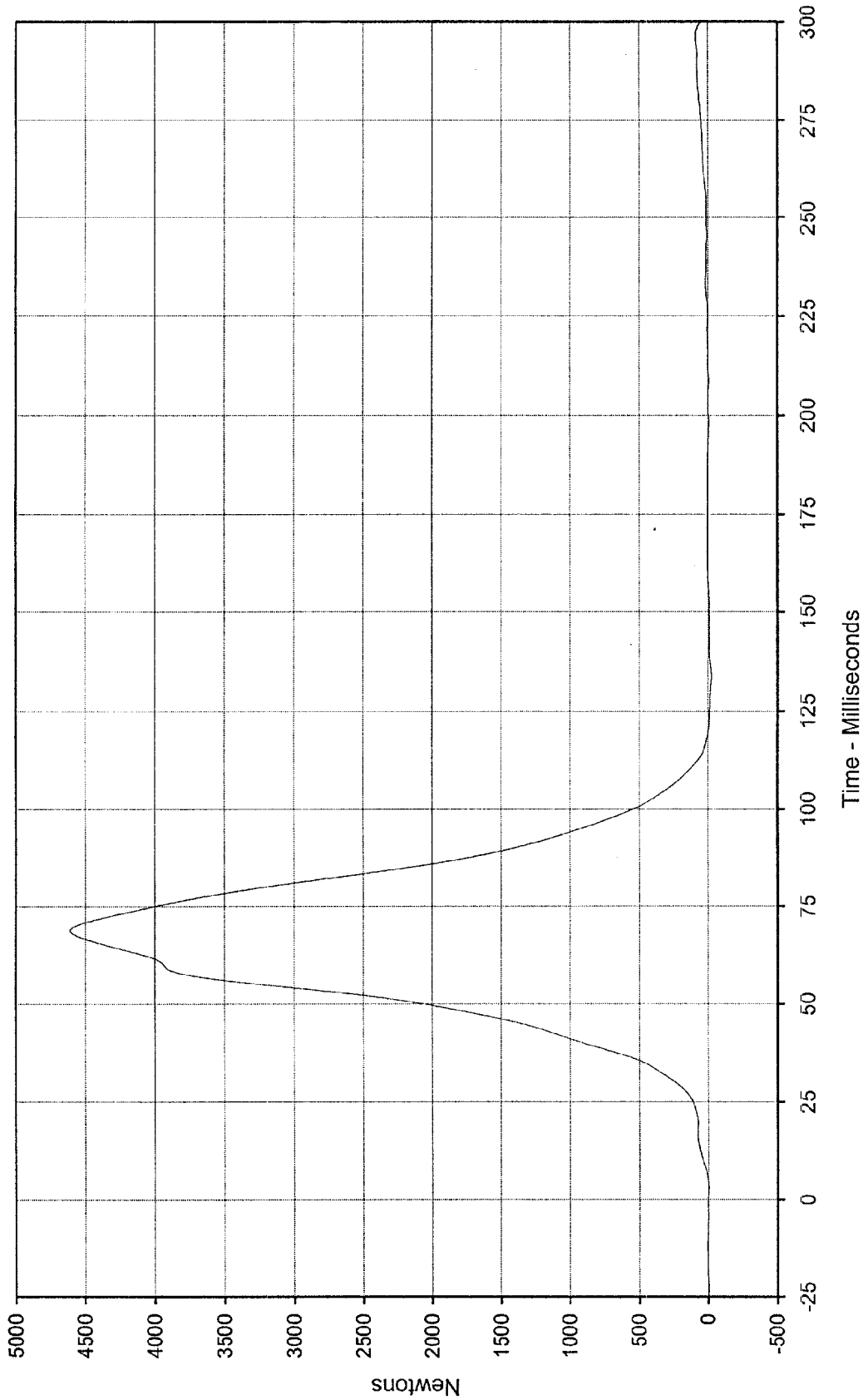
Minimum Value: 1.3 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-041





Curve Description: Driver Shoulder Belt Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 4608.8 at 68.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

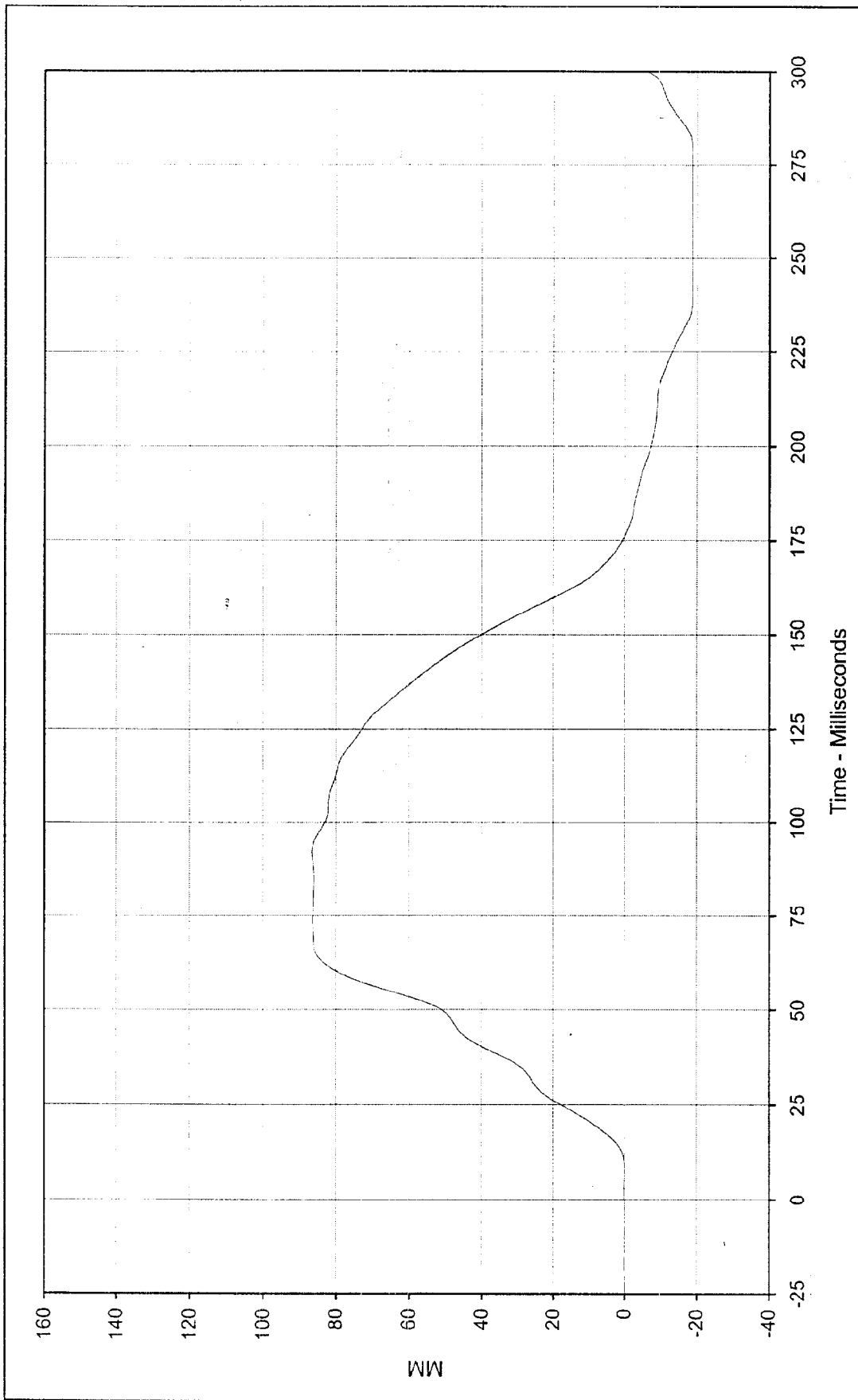
Minimum Value: -22.4 at 133.7 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-042





Curve Description: Driver Shoulder Belt Pullout Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 86.5 at 92.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

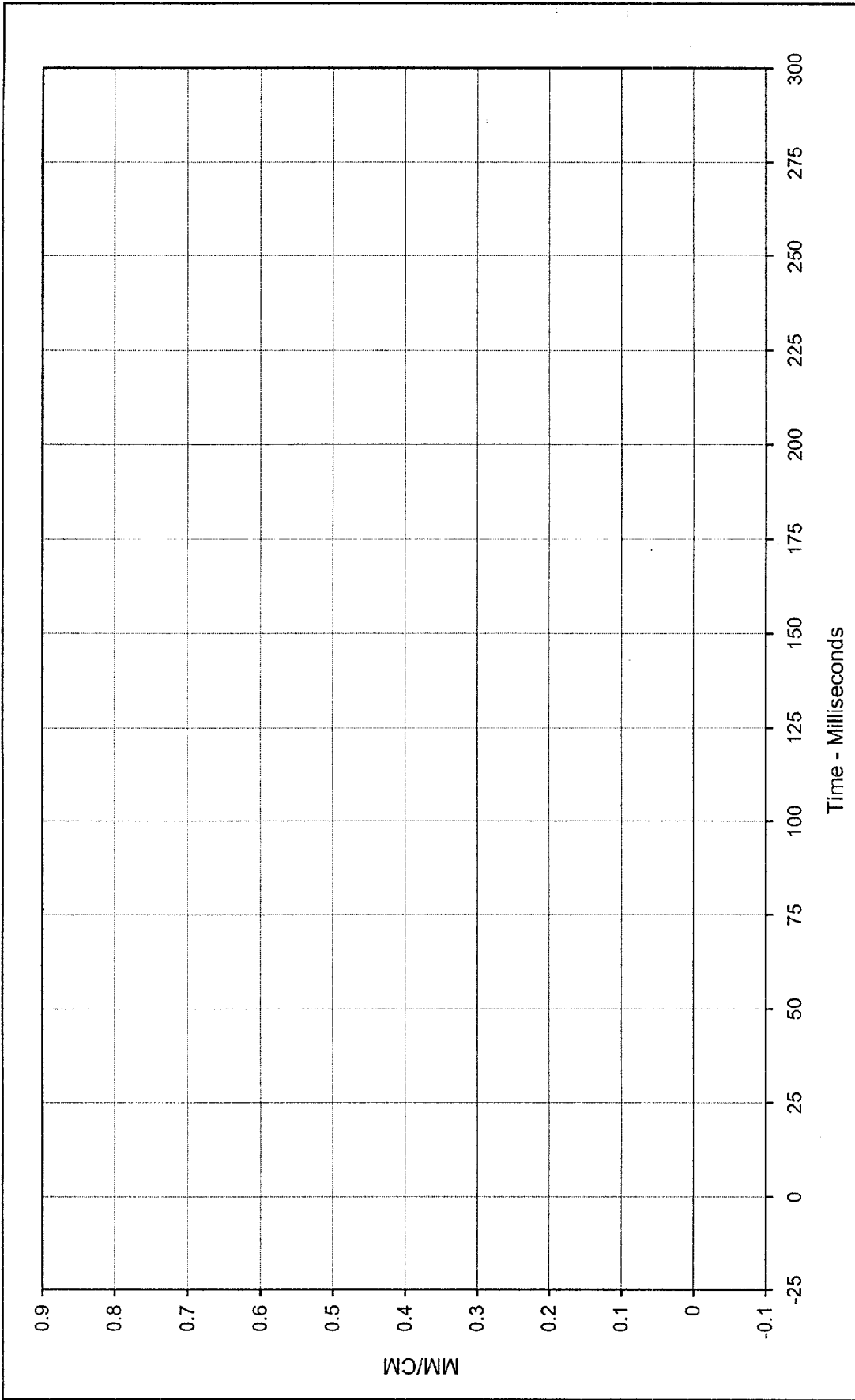
Minimum Value: -18.8 at 239.4 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-043





Curve Description: Driver Shoulder Belt Elongation * Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 0.00 at 0.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Minimum Value: 0.00 at 0.0 Milliseconds

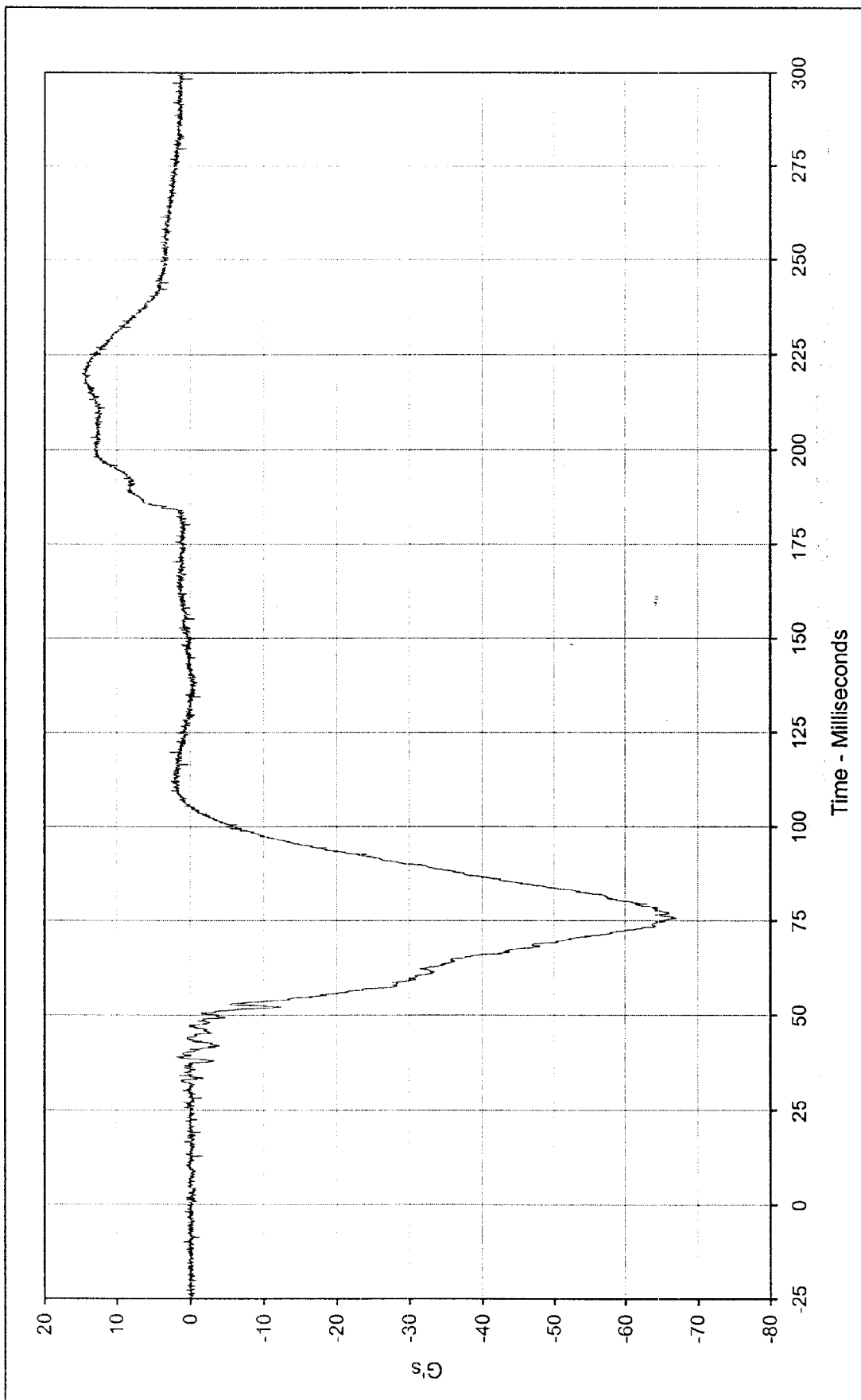
SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-044



* Channel failed, No Data



Curve Description: Passenger Head Primary X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 14.9 at 220.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

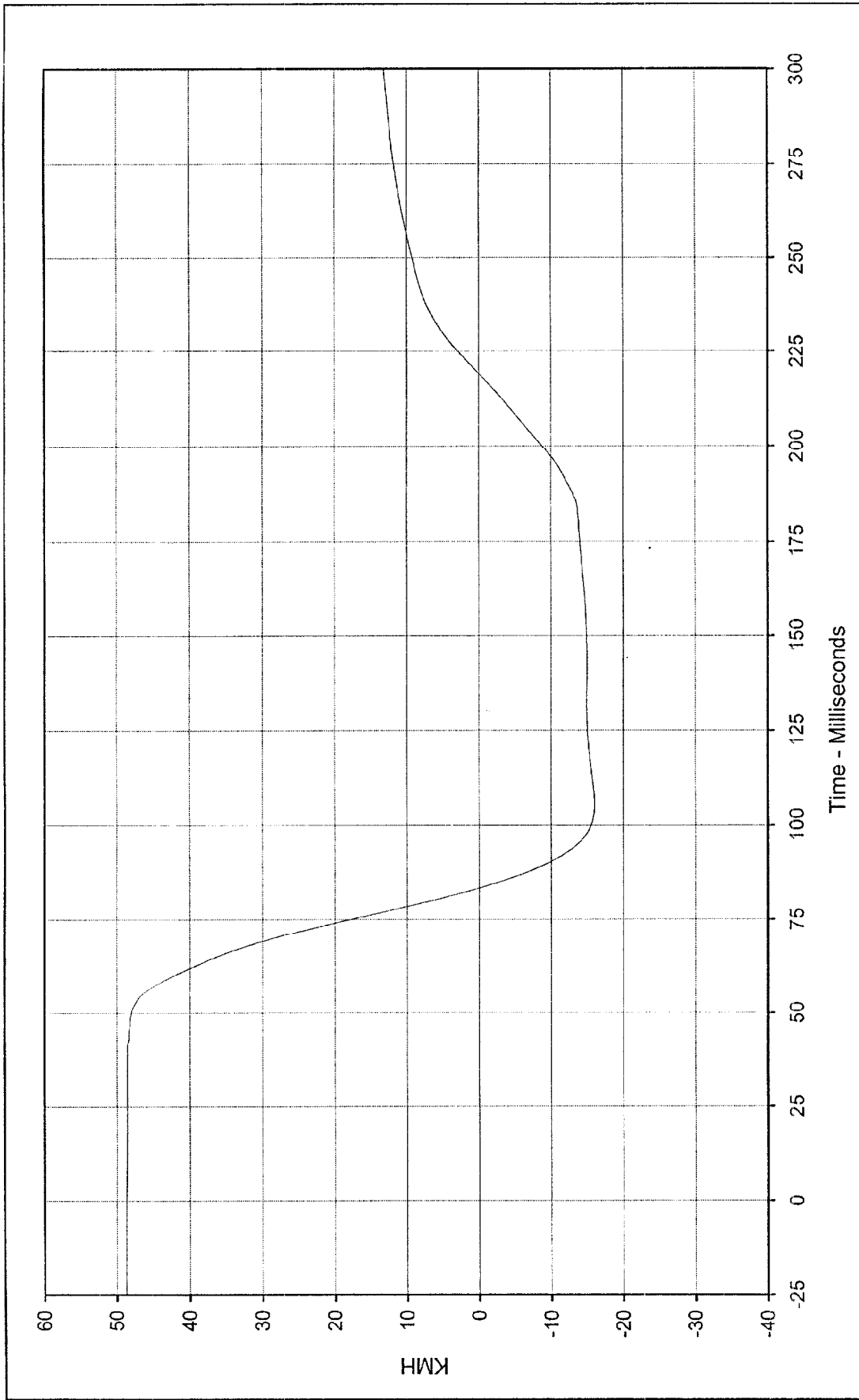
Minimum Value: -67.1 at 75.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-045





Curve Description: Passenger Head Primary X Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 48.7 at 0.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

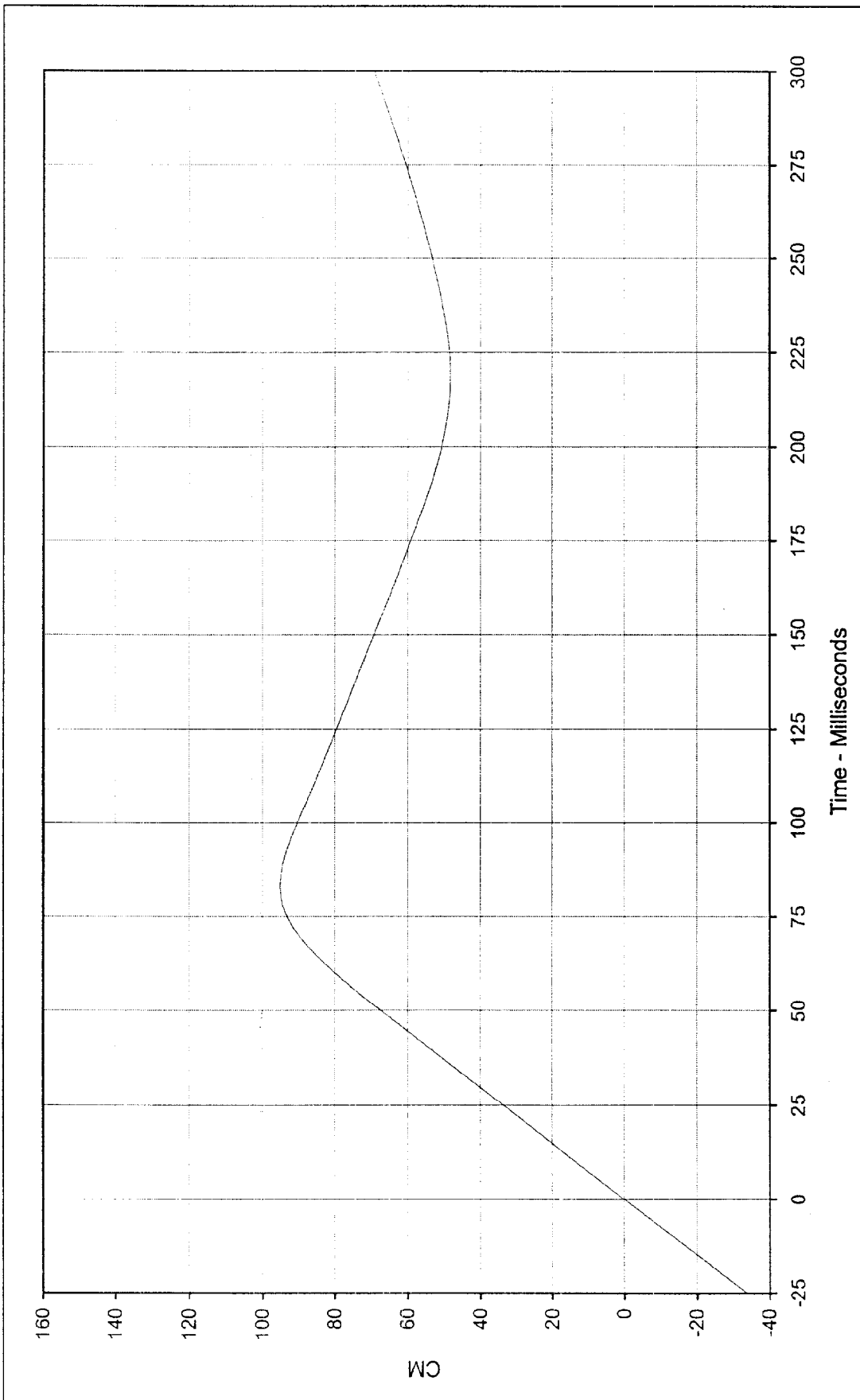
Minimum Value: -16.0 at 105.4 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN1-045





Curve Description: Passenger Head Primary X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 95.0 at 83.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

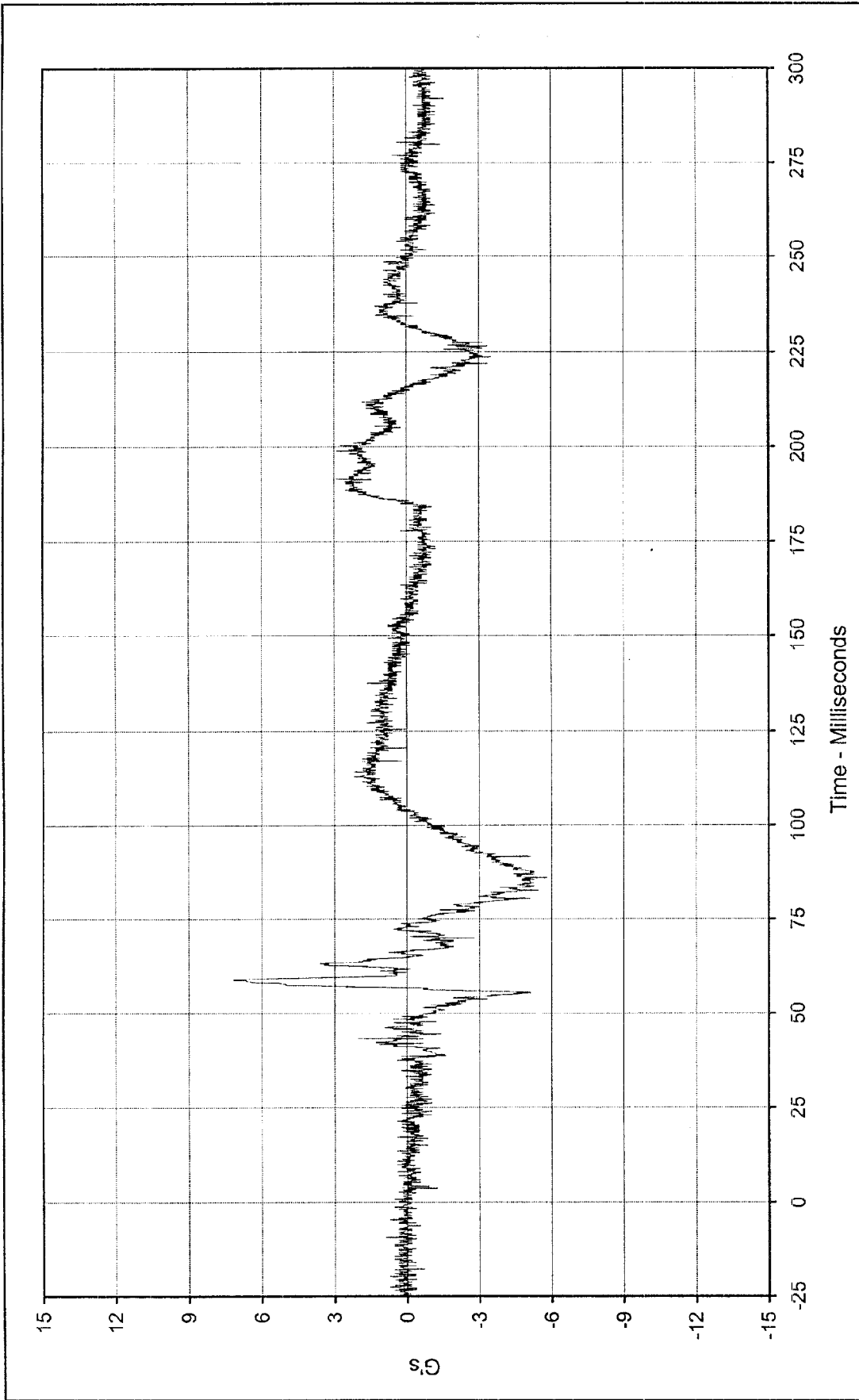
Minimum Value: -0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-045





Curve Description: Passenger Head Primary Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 7.2 at 58.7 Milliseconds

Minimum Value: -5.8 at 86.1 Milliseconds

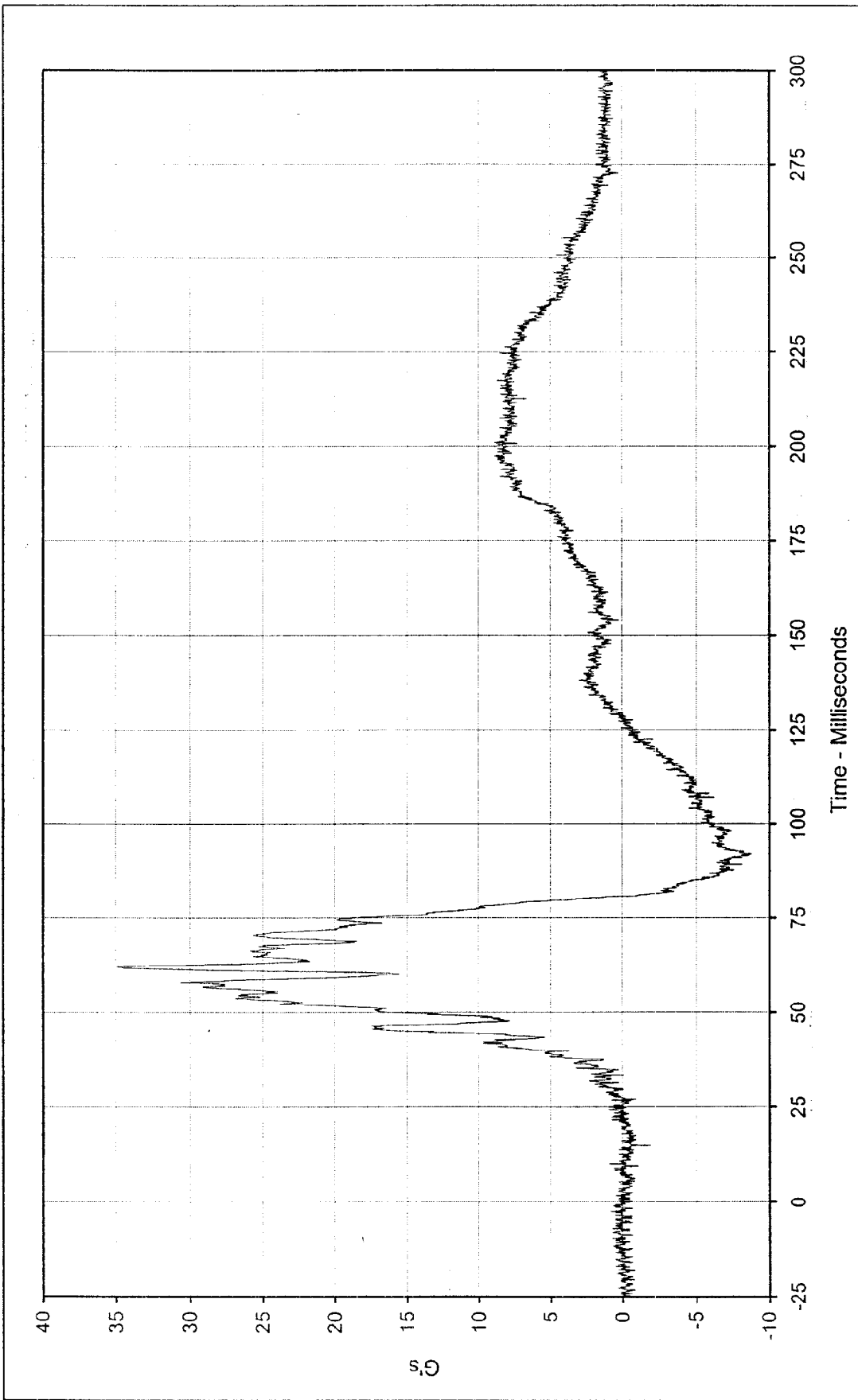
SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-046

Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Head Primary Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 35.0 at 62.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

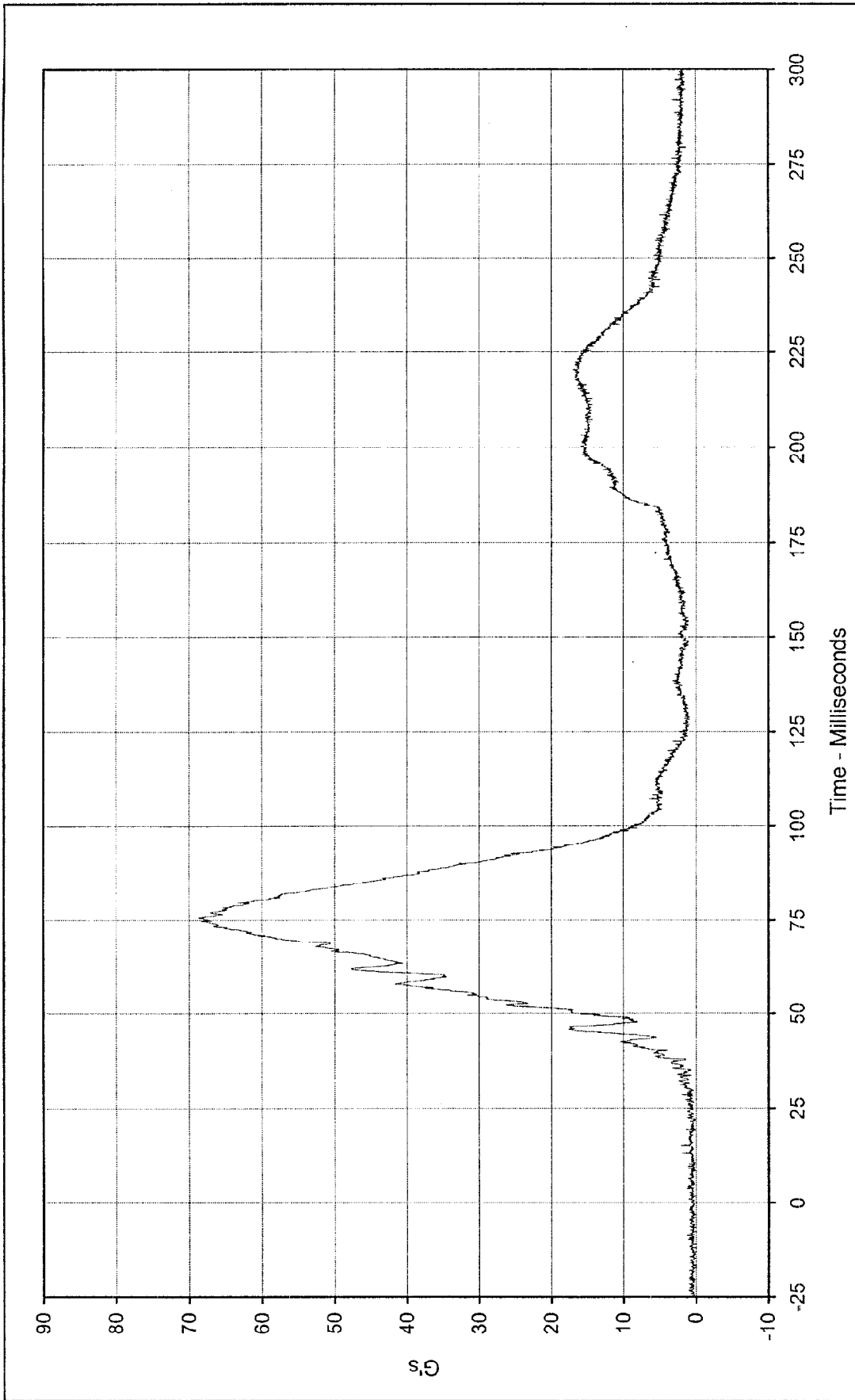
Minimum Value: -8.8 at 92.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-047





Curve Description: Passenger Head Resultant Primary Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 68.7 at 75.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

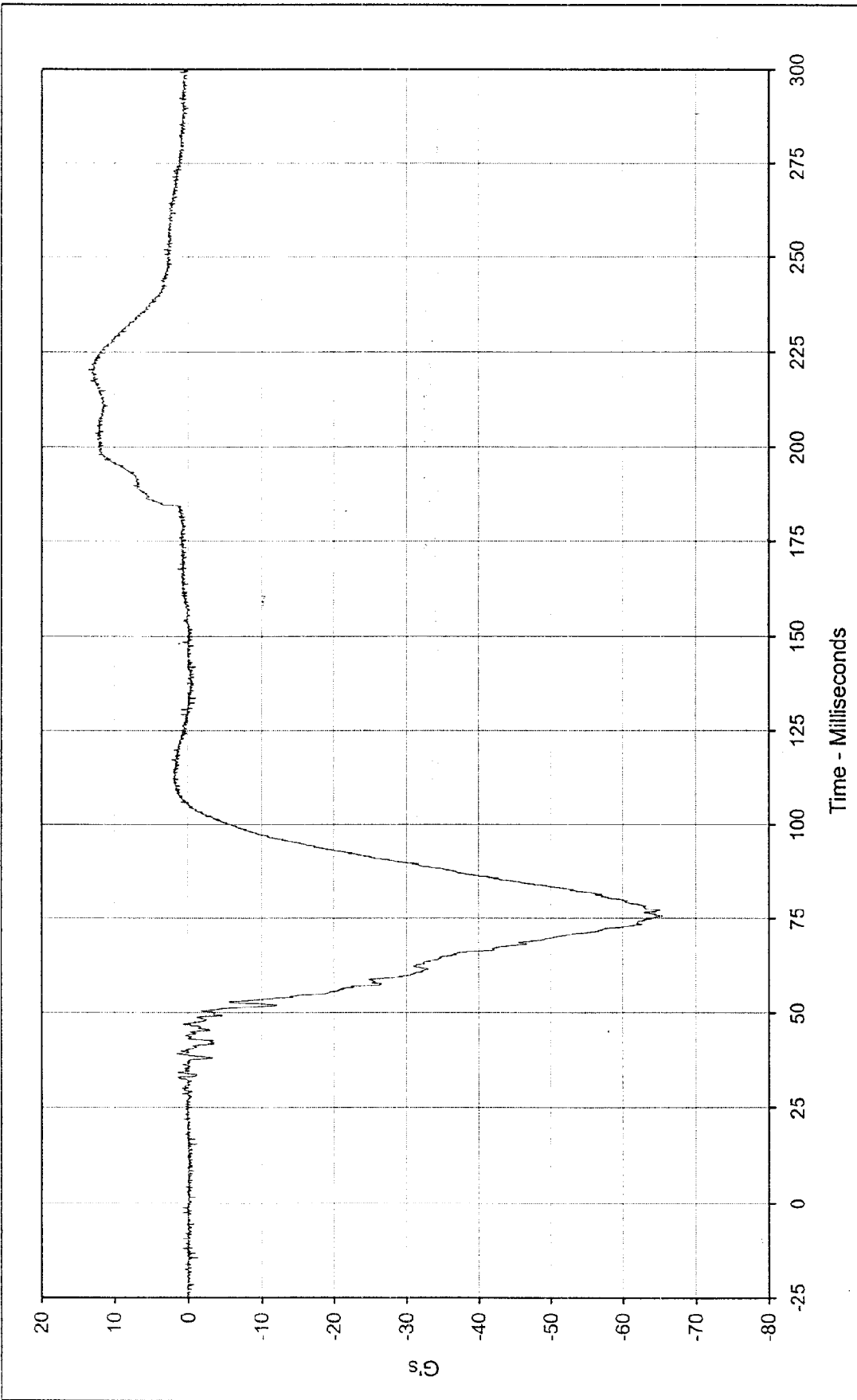
Minimum Value: 0.1 at 8.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: RES-045





Curve Description: Passenger Head Redundant X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 13.6 at 220.4 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

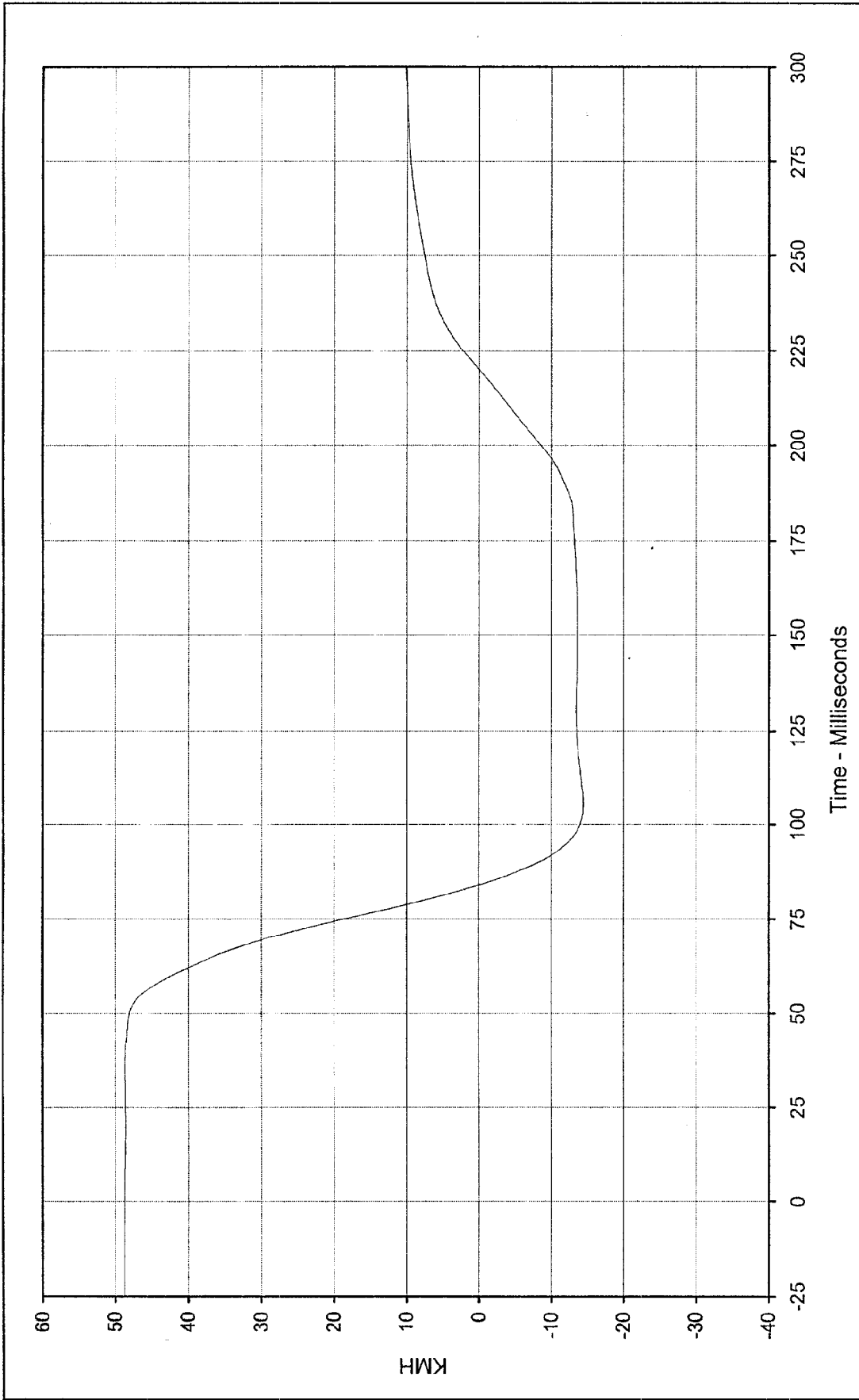
Minimum Value: -65.5 at 75.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

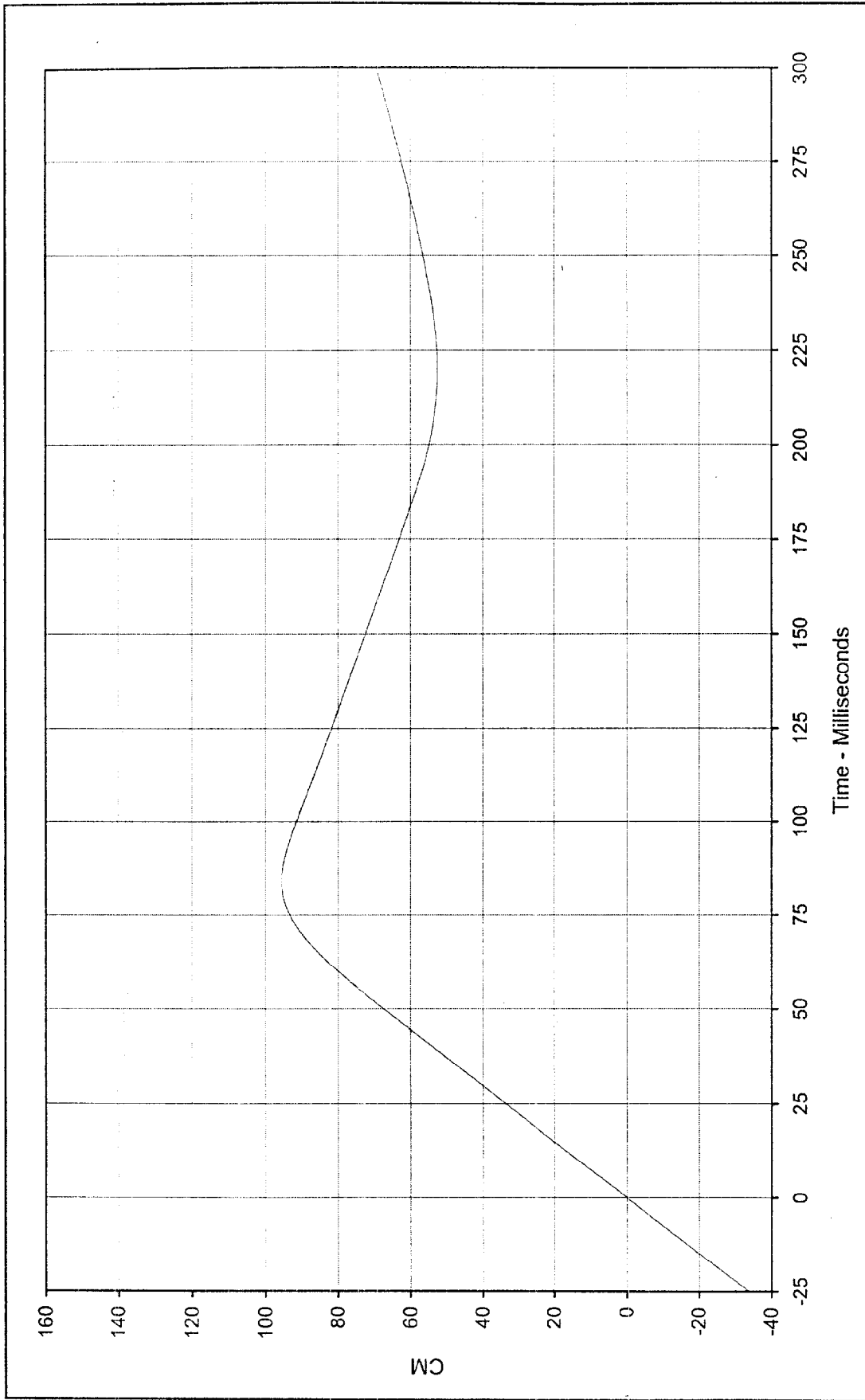
Curve Number: FIL-048





Curve Description: Passenger Head Redundant X Velocity
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 48.7 at 0.0 Milliseconds
 Minimum Value: -14.4 at 105.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN1-048





Curve Description: Passenger Head Redundant X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 95.6 at 83.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

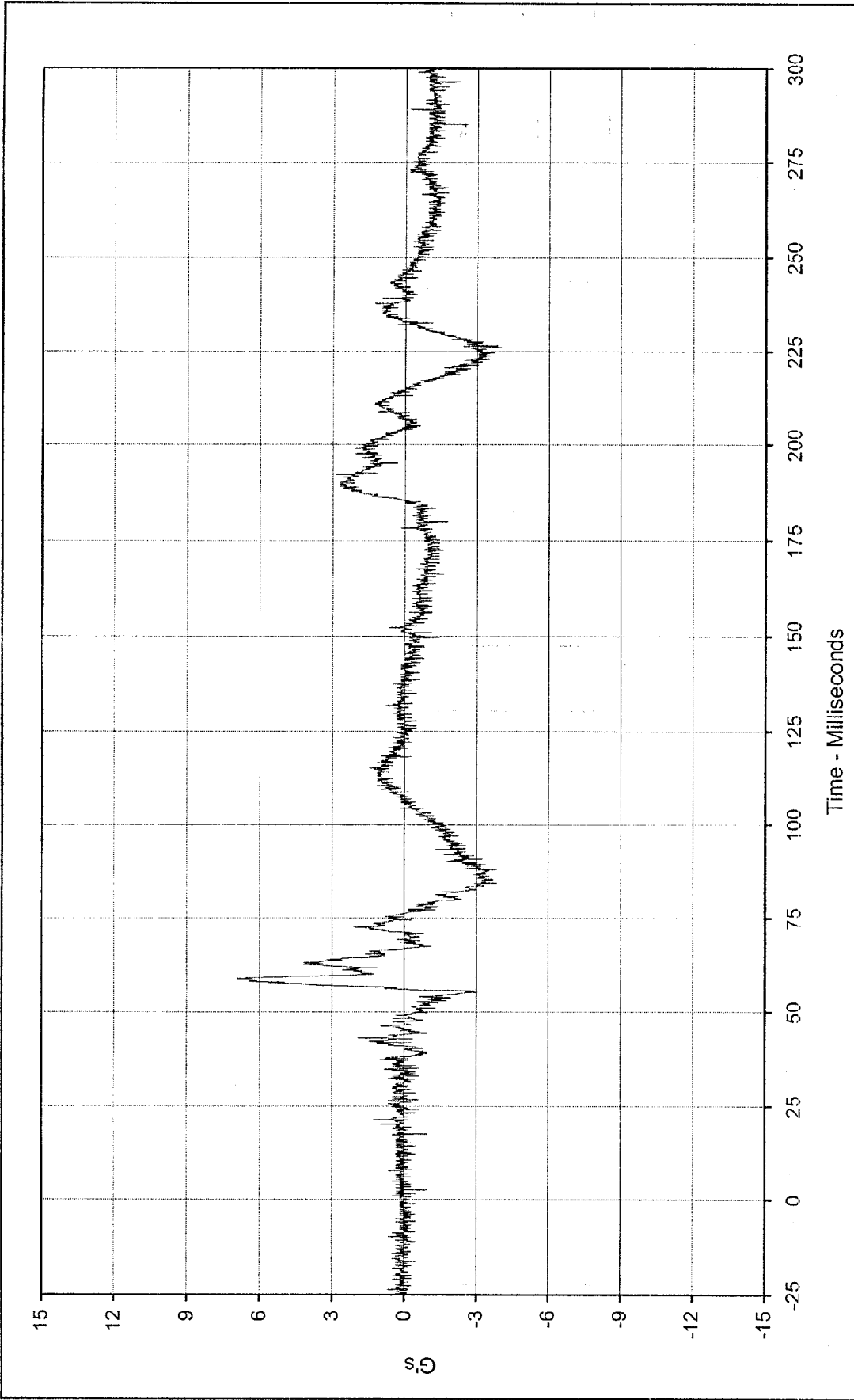
Minimum Value: -0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-048





Curve Description: Passenger Head Redundant Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 6.9 at 58.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

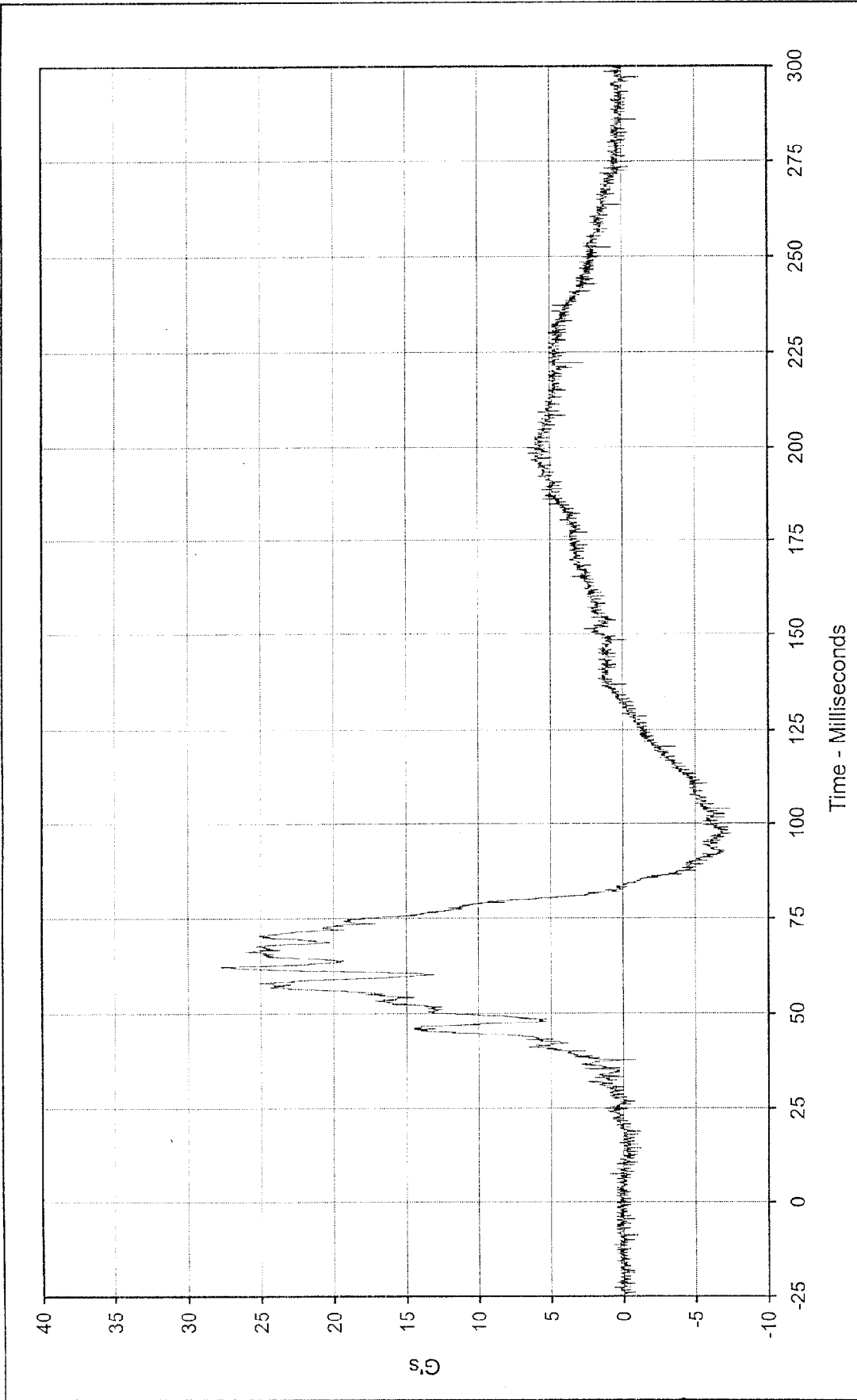
Minimum Value: -4.0 at 226.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-049





Curve Description: Passenger Head Redundant Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 27.7 at 62.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

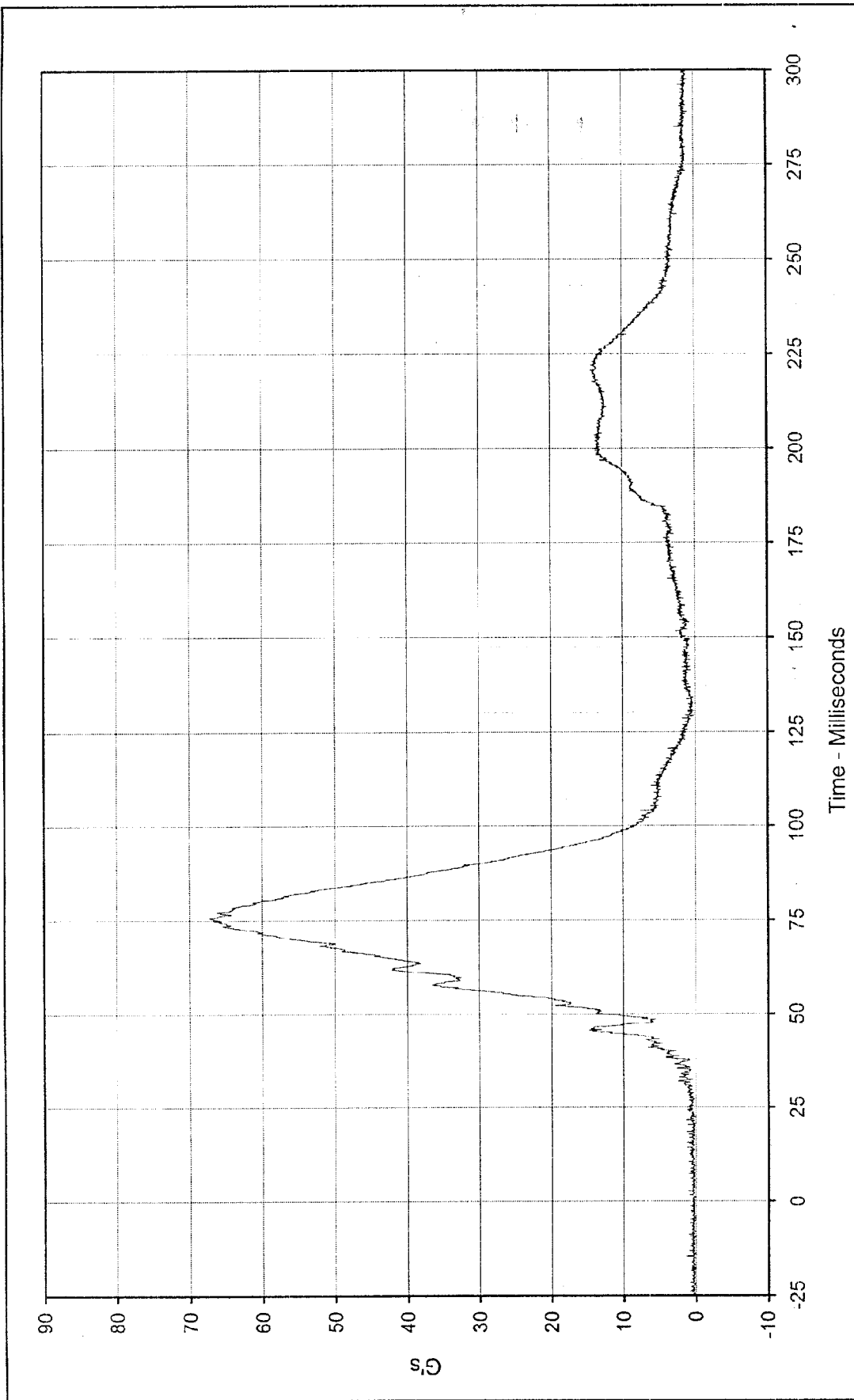
Minimum Value: -7.5 at 97.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-050





Curve Description: Passenger Head Resultant Redundant

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 67.3 at 75.6 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

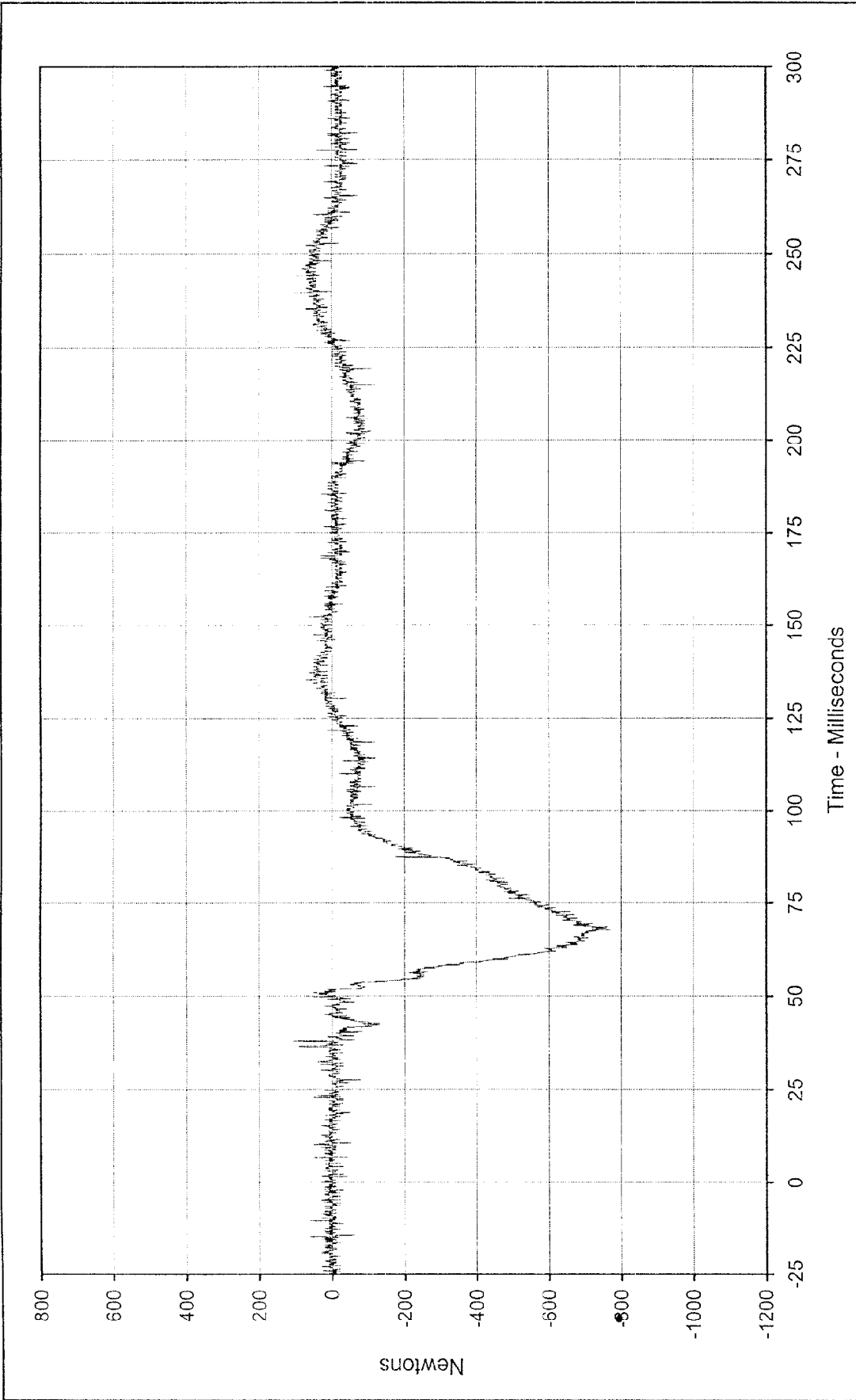
Minimum Value: 0.0 at 1.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

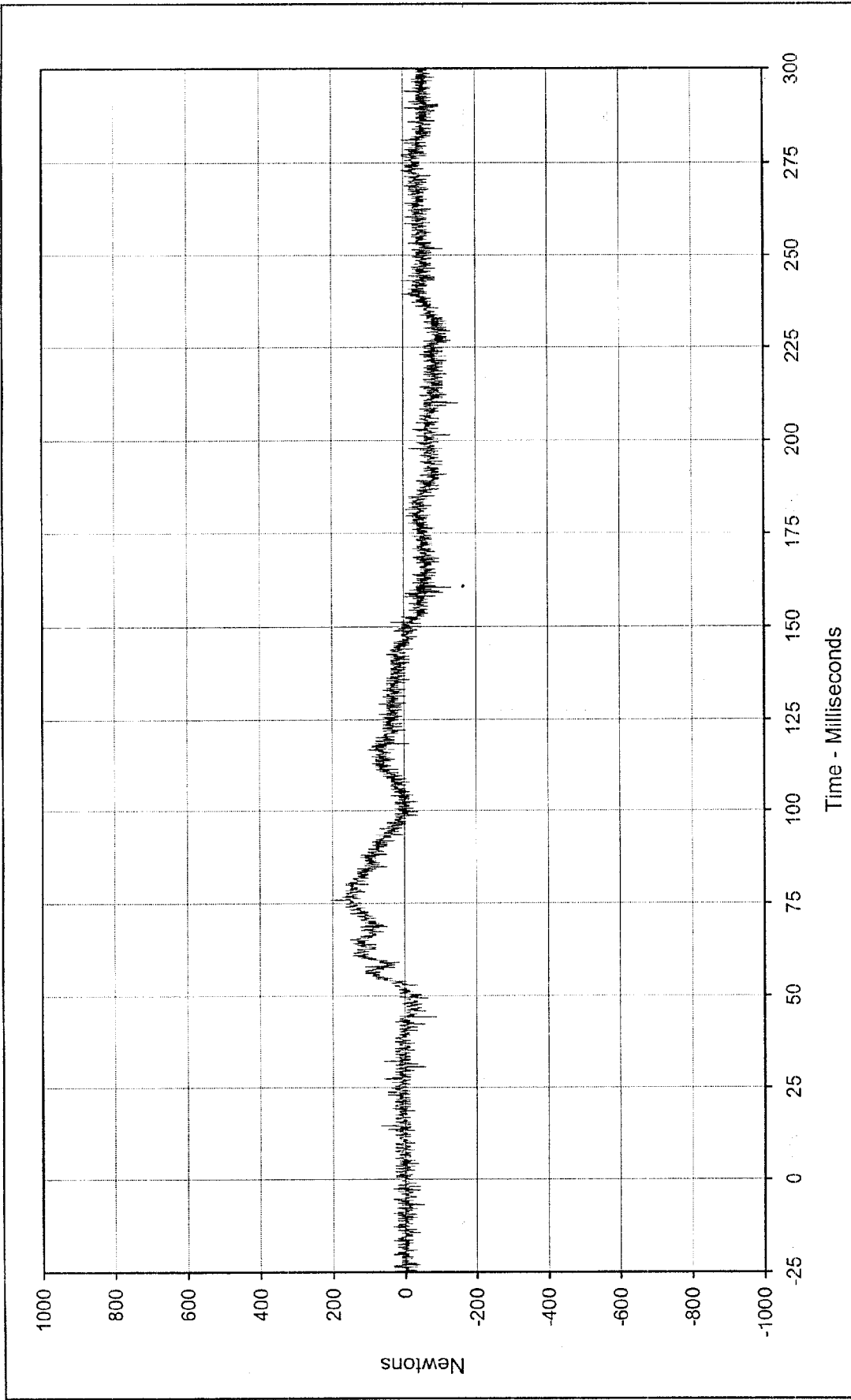
Curve Number: RES-048





Curve Description: Passenger Neck Force X
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 111.6 at 37.9 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -770.7 at 67.7 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-051





Curve Description: Passenger Neck Force Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 204.7 at 75.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

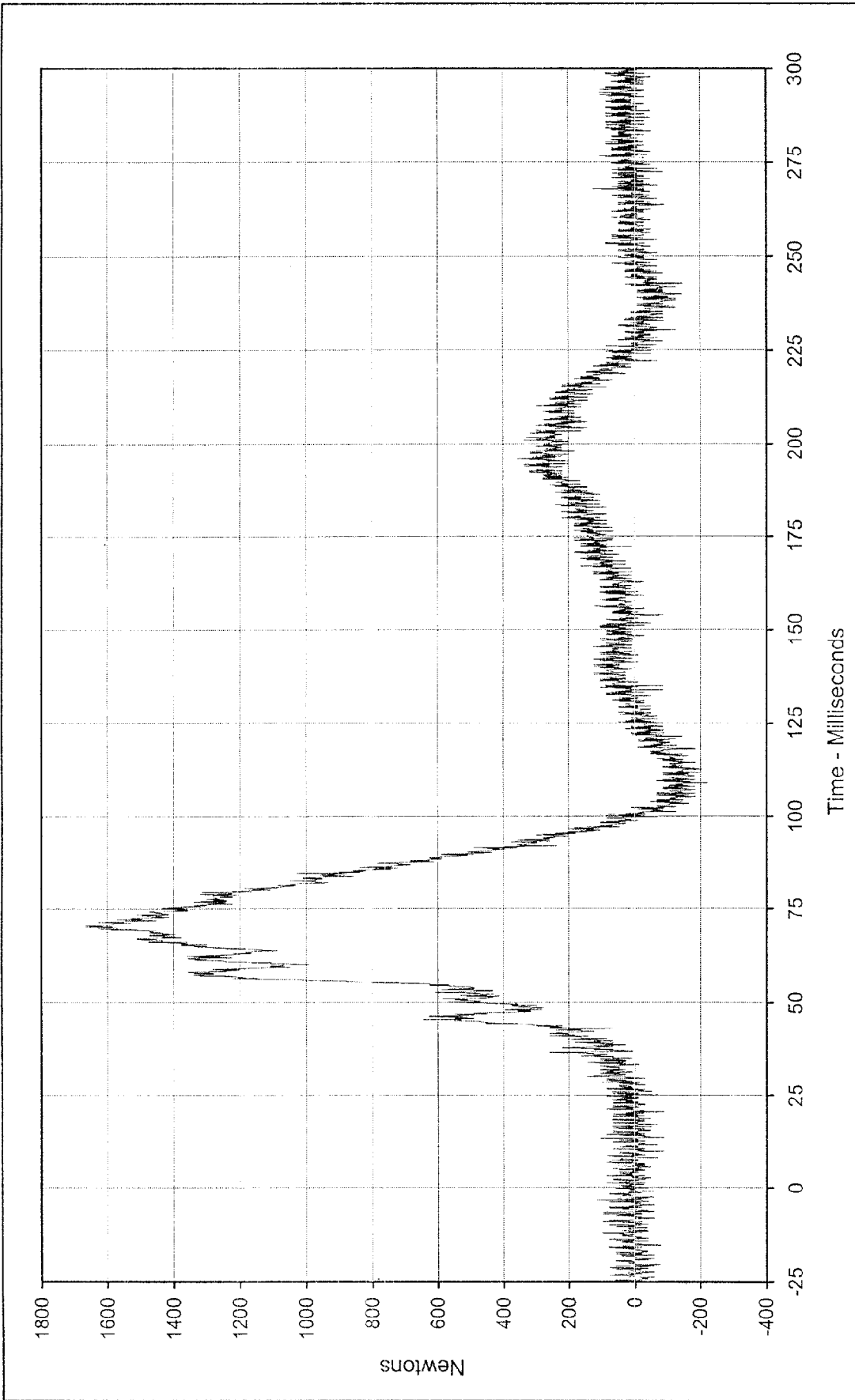
Minimum Value: -151.8 at 210.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-052





Curve Description: Passenger Neck Force Z

Maximum Value: 1665.3 at 70.4 Milliseconds

Minimum Value: -221.8 at 108.8 Milliseconds

SAE Filter Class: 1000

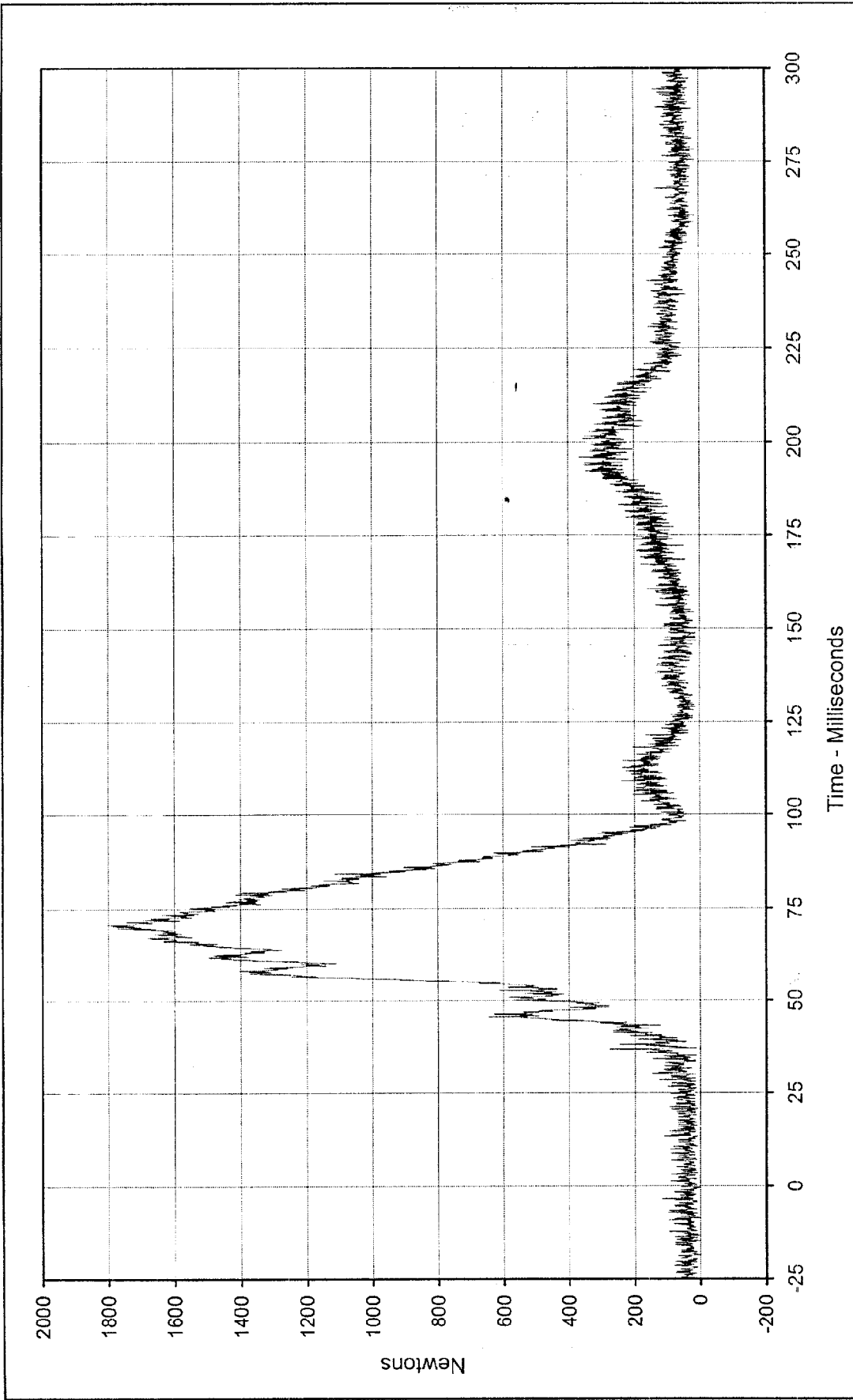
Date of Test: 6/30/98

Curve Number: FIL-053

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

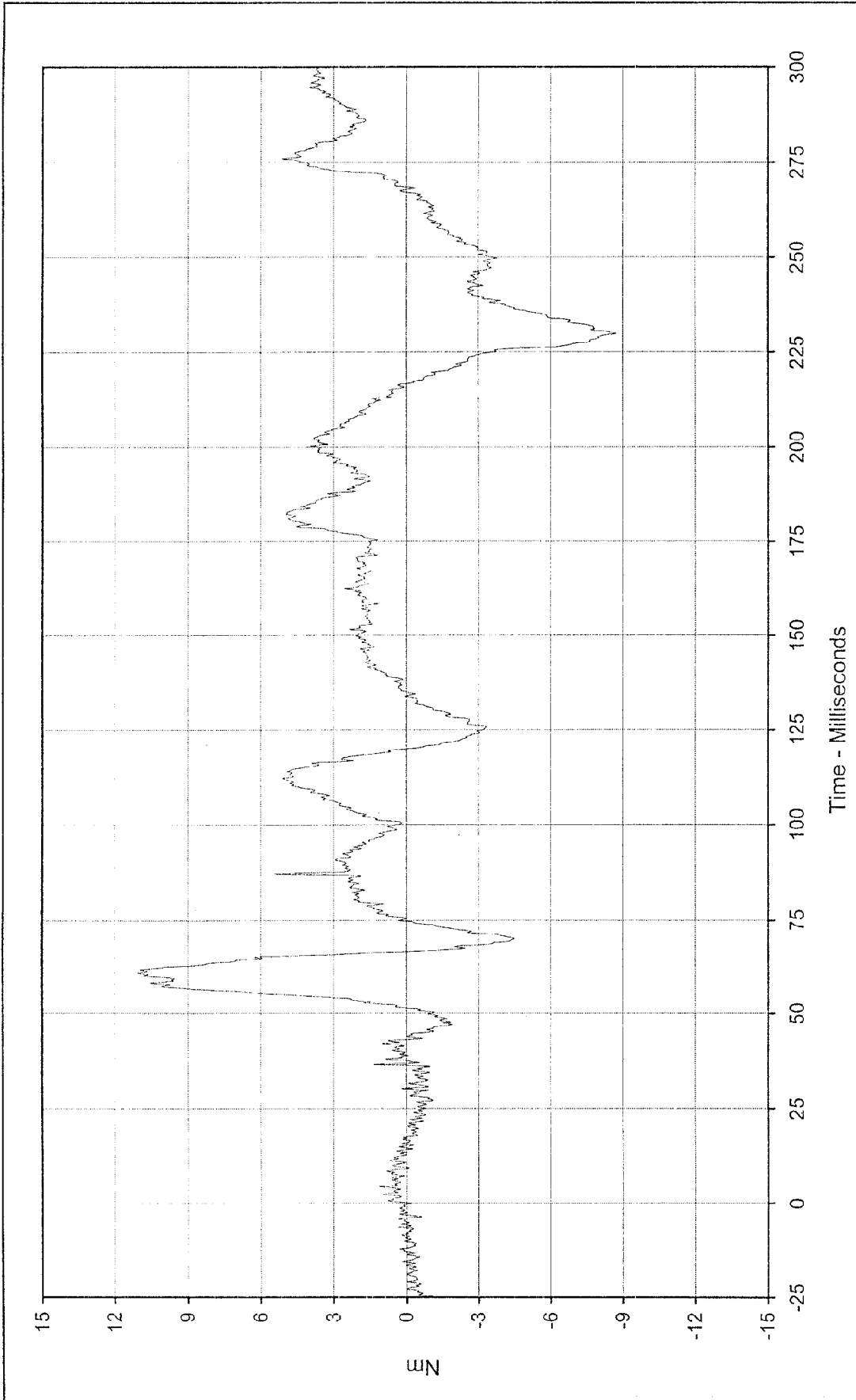




Curve Description: Passenger Neck Force Resultant
 Maximum Value: 1801.9 at 70.8 Milliseconds
 Minimum Value: 10.5 at 0.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: RES-051

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Neck Moment X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 11.1 at 60.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

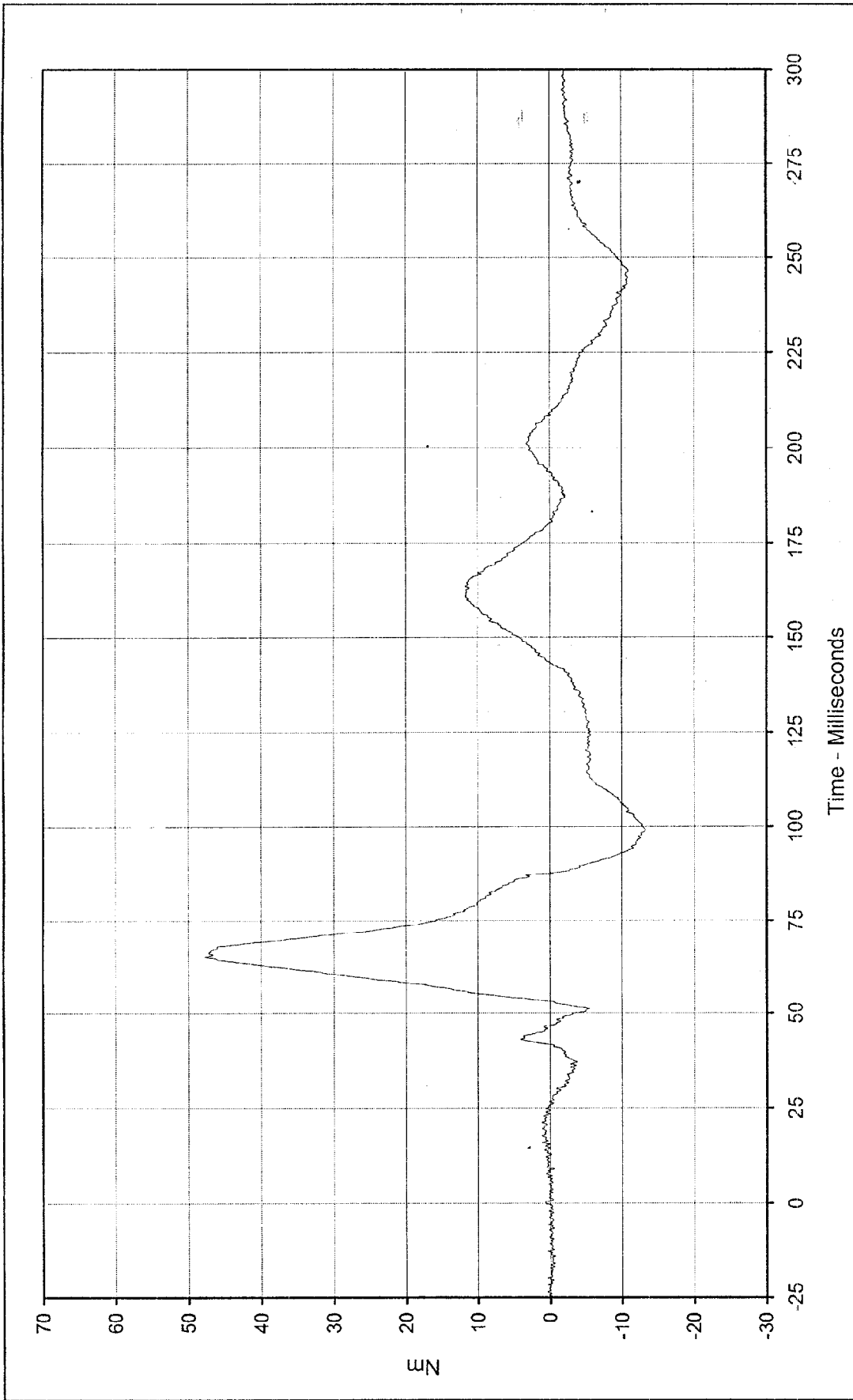
Minimum Value: -8.7 at 230.0 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

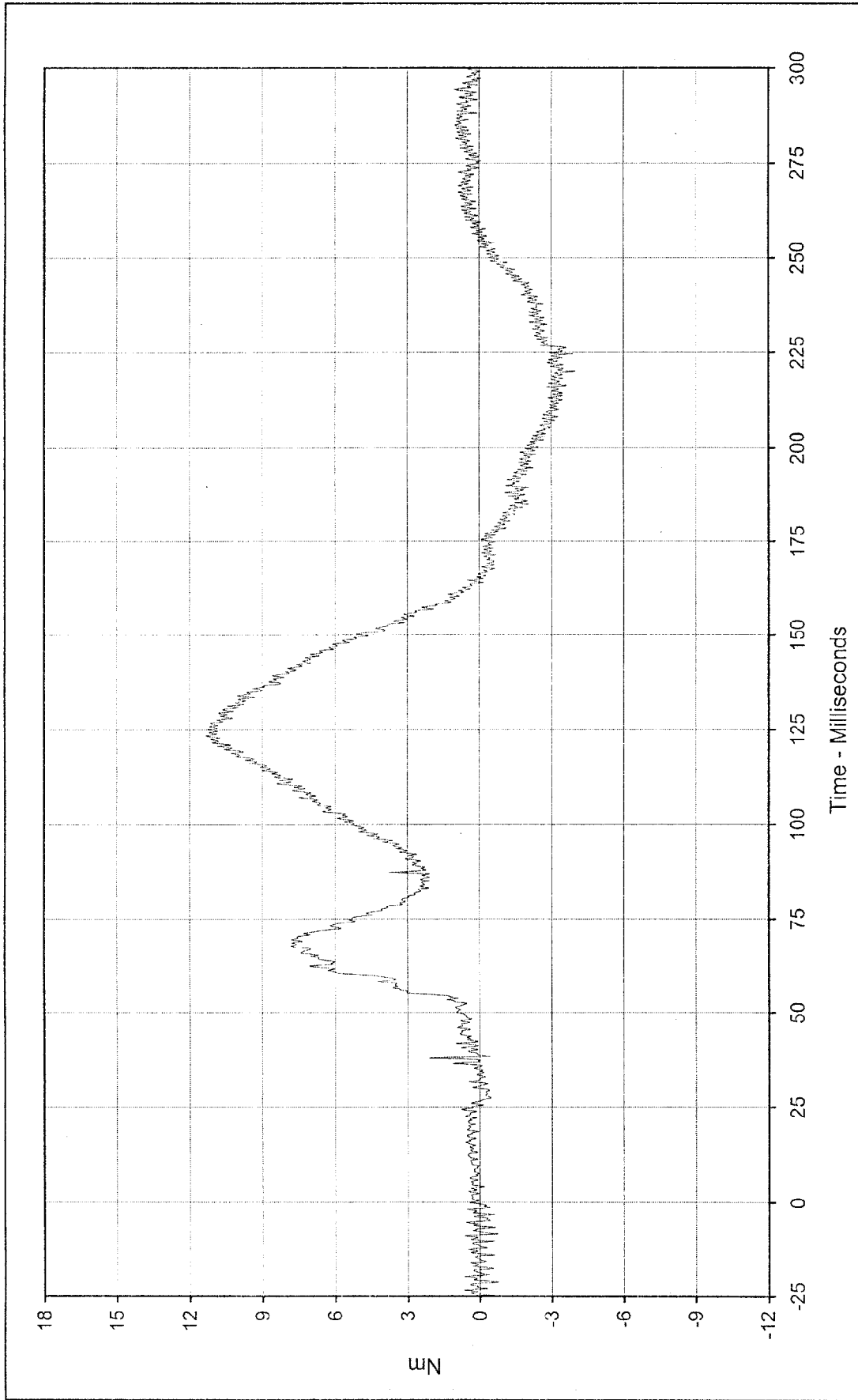
Curve Number: FIL-054





Curve Description: Passenger Neck Moment Y
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 47.8 at 65.2 Milliseconds
 Minimum Value: -13.3 at 99.2 Milliseconds
 SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-055
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

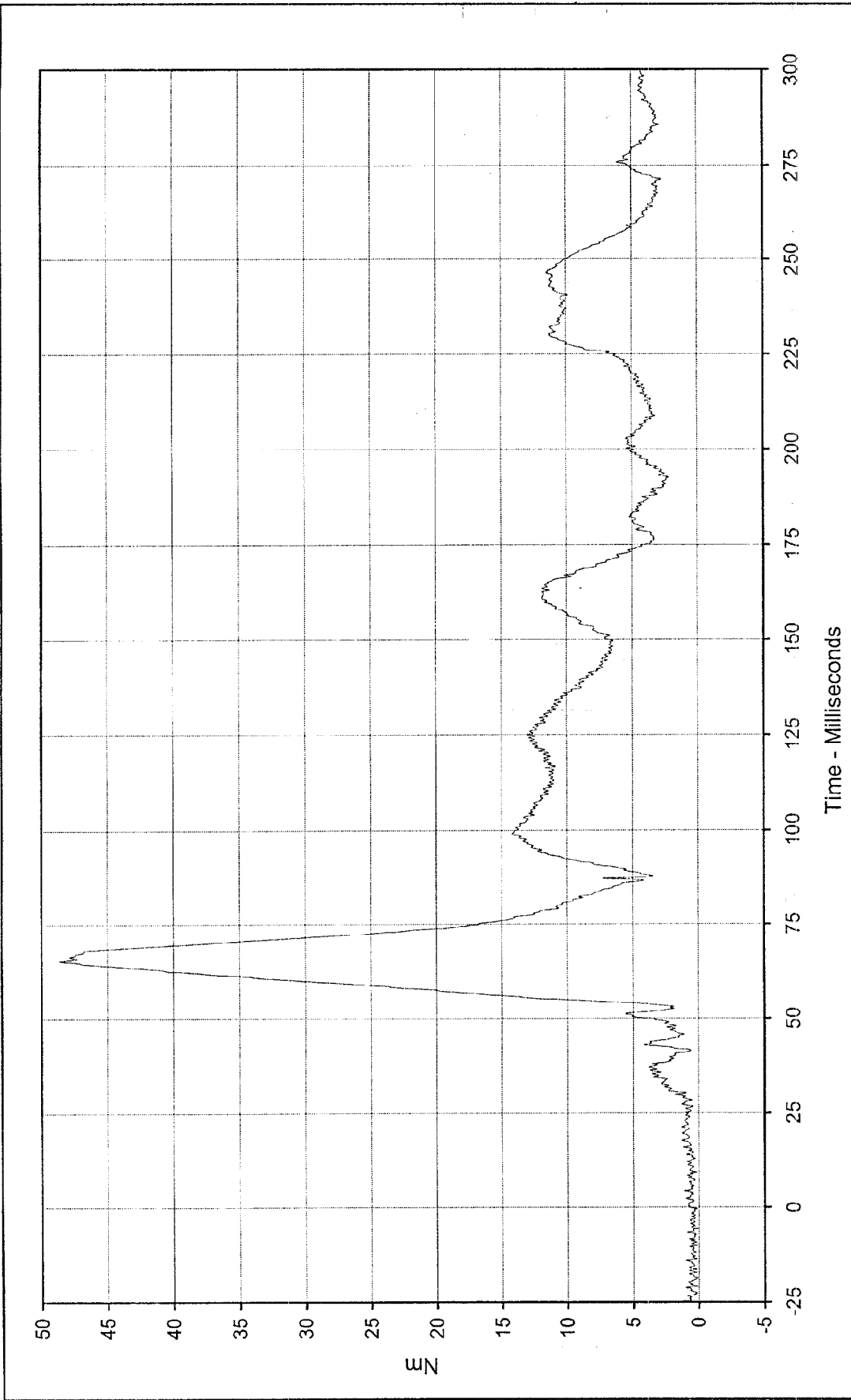




Curve Description: Passenger Neck Moment Z
 Maximum Value: 11.3 at 123.3 Milliseconds
 Minimum Value: -4.0 at 219.9 Milliseconds
 SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-056

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Neck Moment Resultant

Maximum Value: 48.6 at 65.2 Milliseconds

Minimum Value: 0.1 at 9.3 Milliseconds

SAE Filter Class: 600

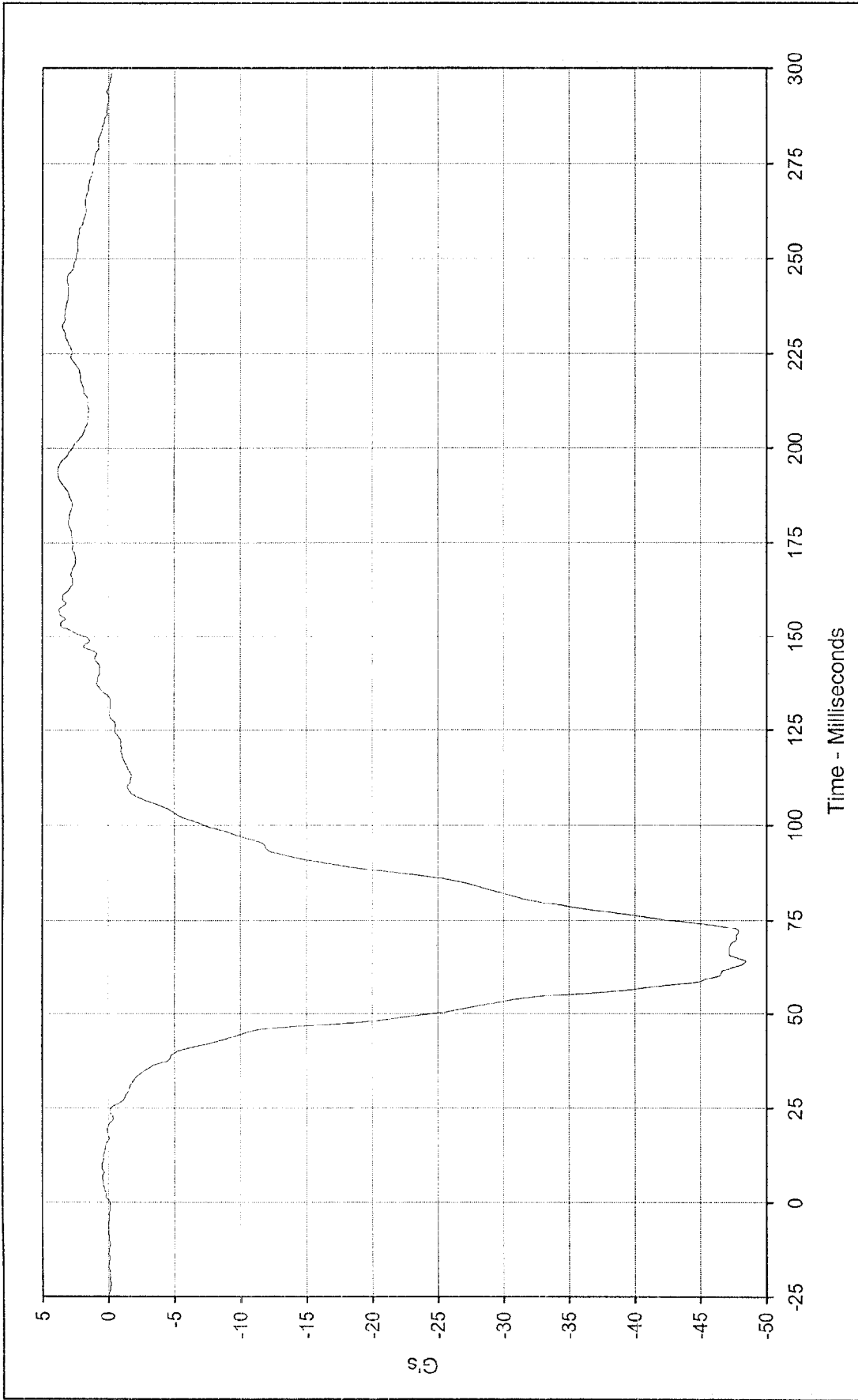
Date of Test: 6/30/98

Curve Number: RES-054

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Chest Primary X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 3.8 at 194.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

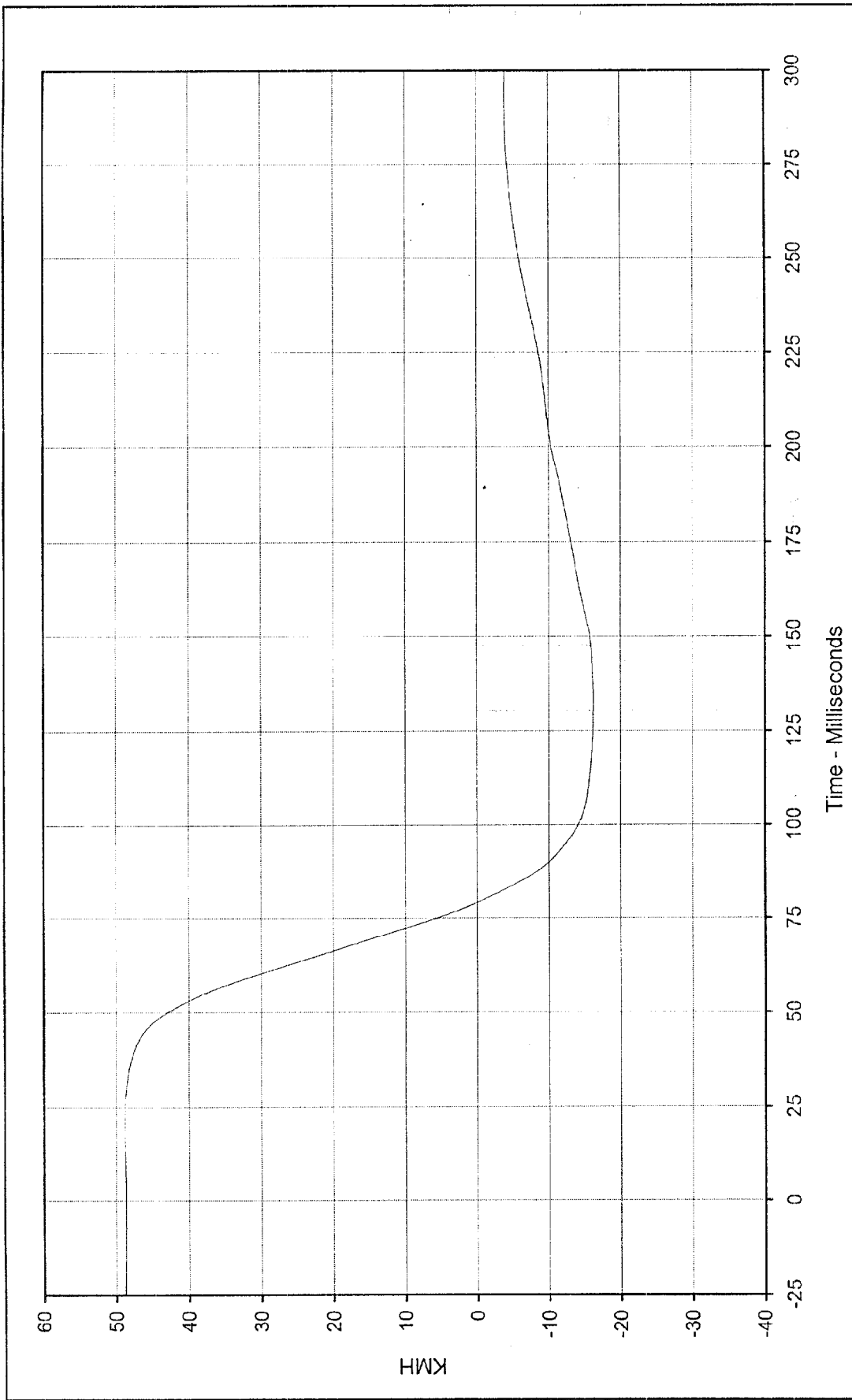
Minimum Value: -48.4 at 64.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: FIL-057





Curve Description: Passenger Chest Primary X Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 48.8 at 20.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

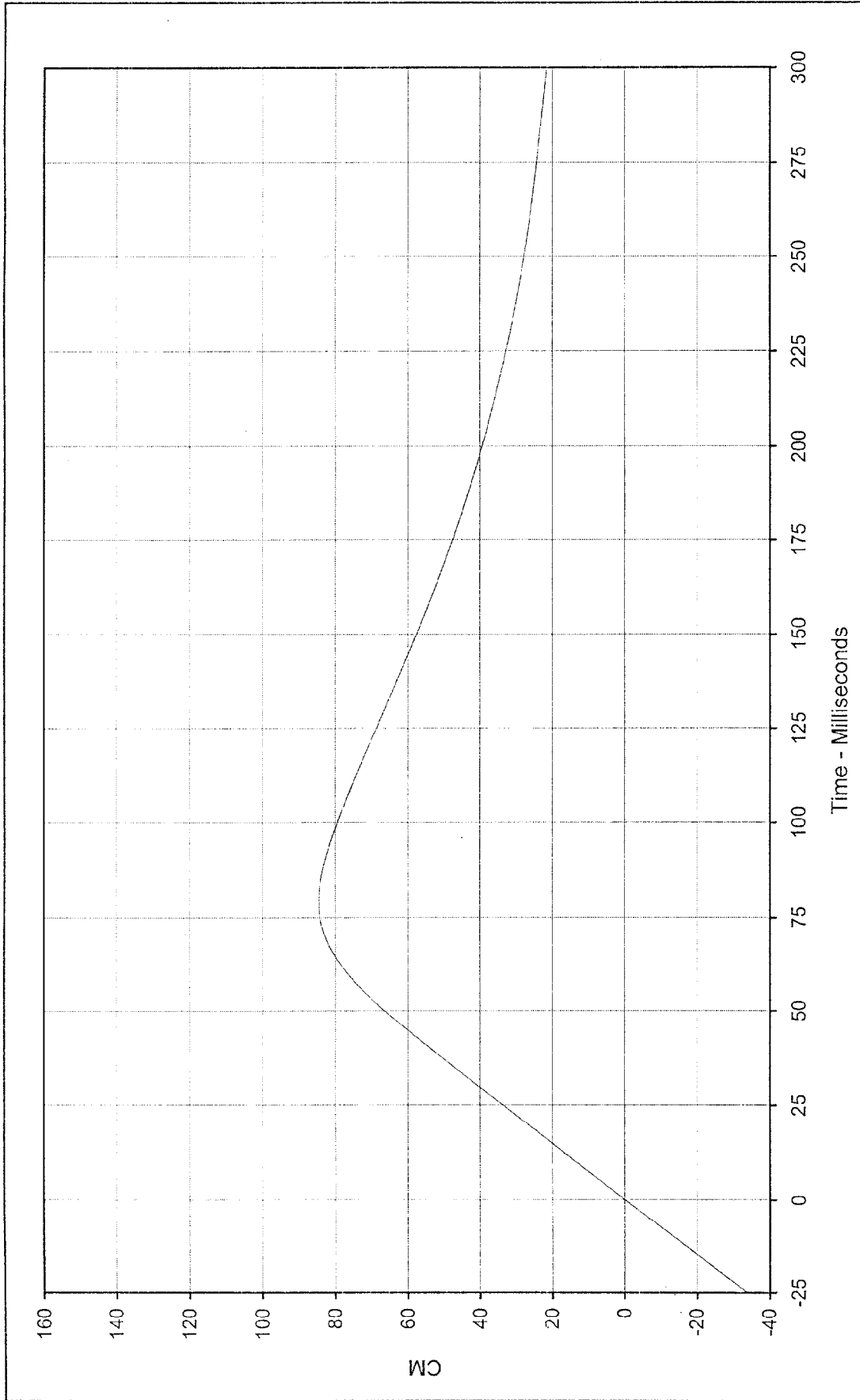
Minimum Value: -16.2 at 134.1 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

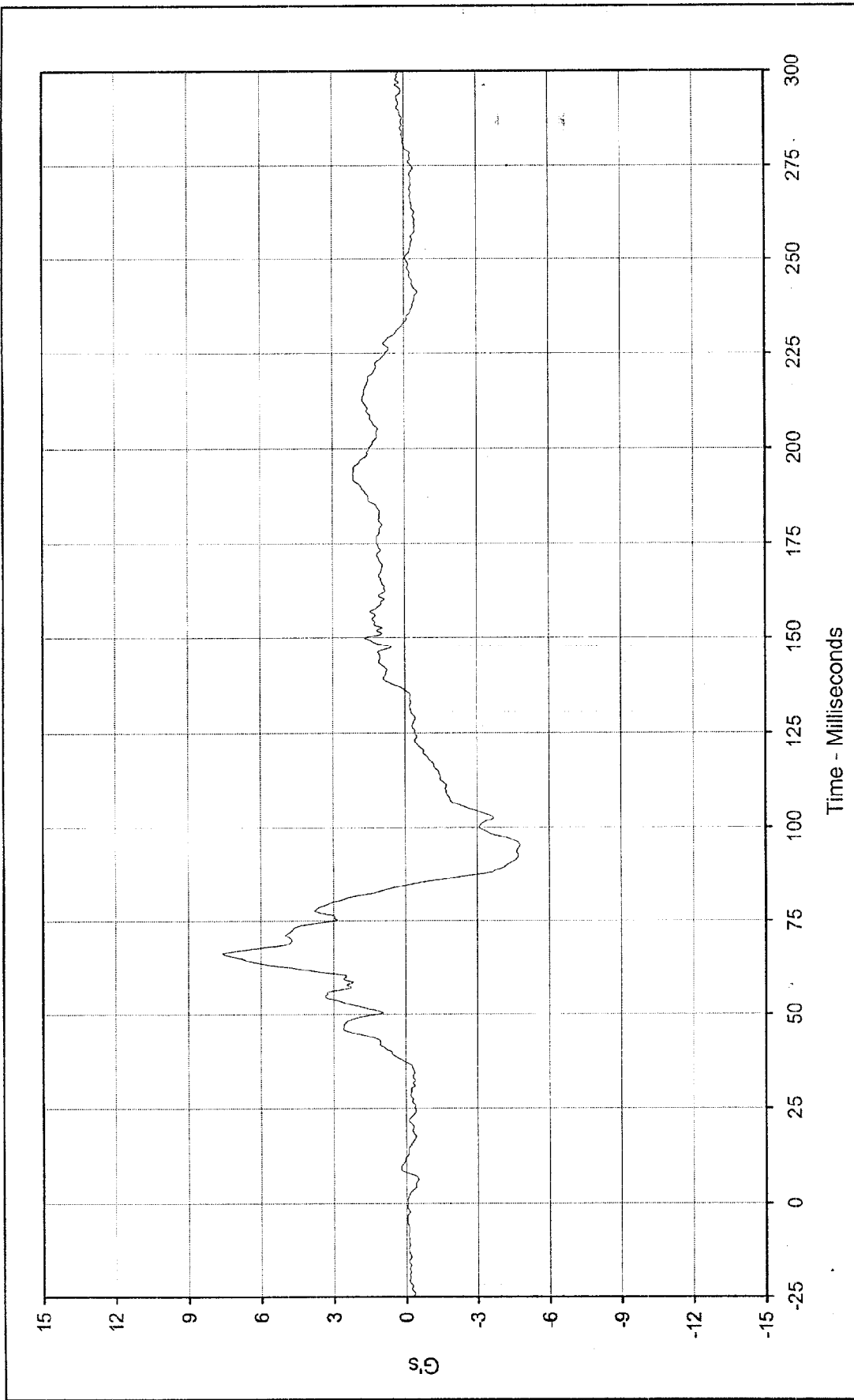
Curve Number: IN1-057





Curve Description: Passenger Chest Primary X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 84.5 at 79.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -0.1 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-057





Curve Description: Passenger Chest Primary Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 7.6 at 66.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

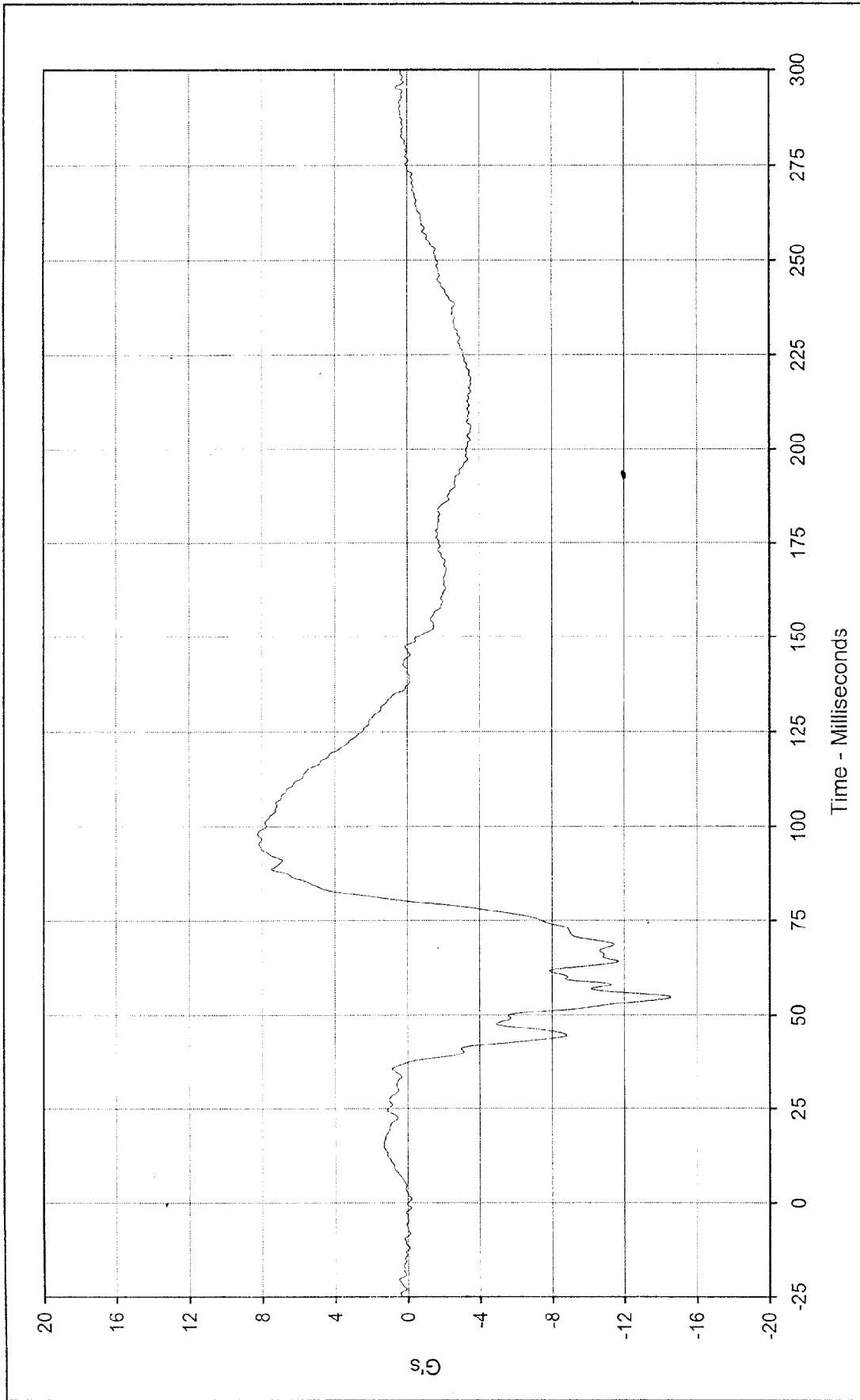
Minimum Value: -4.8 at 95.1 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: FIL-058





Curve Description: Passenger Chest Primary Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 8.2 at 97.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

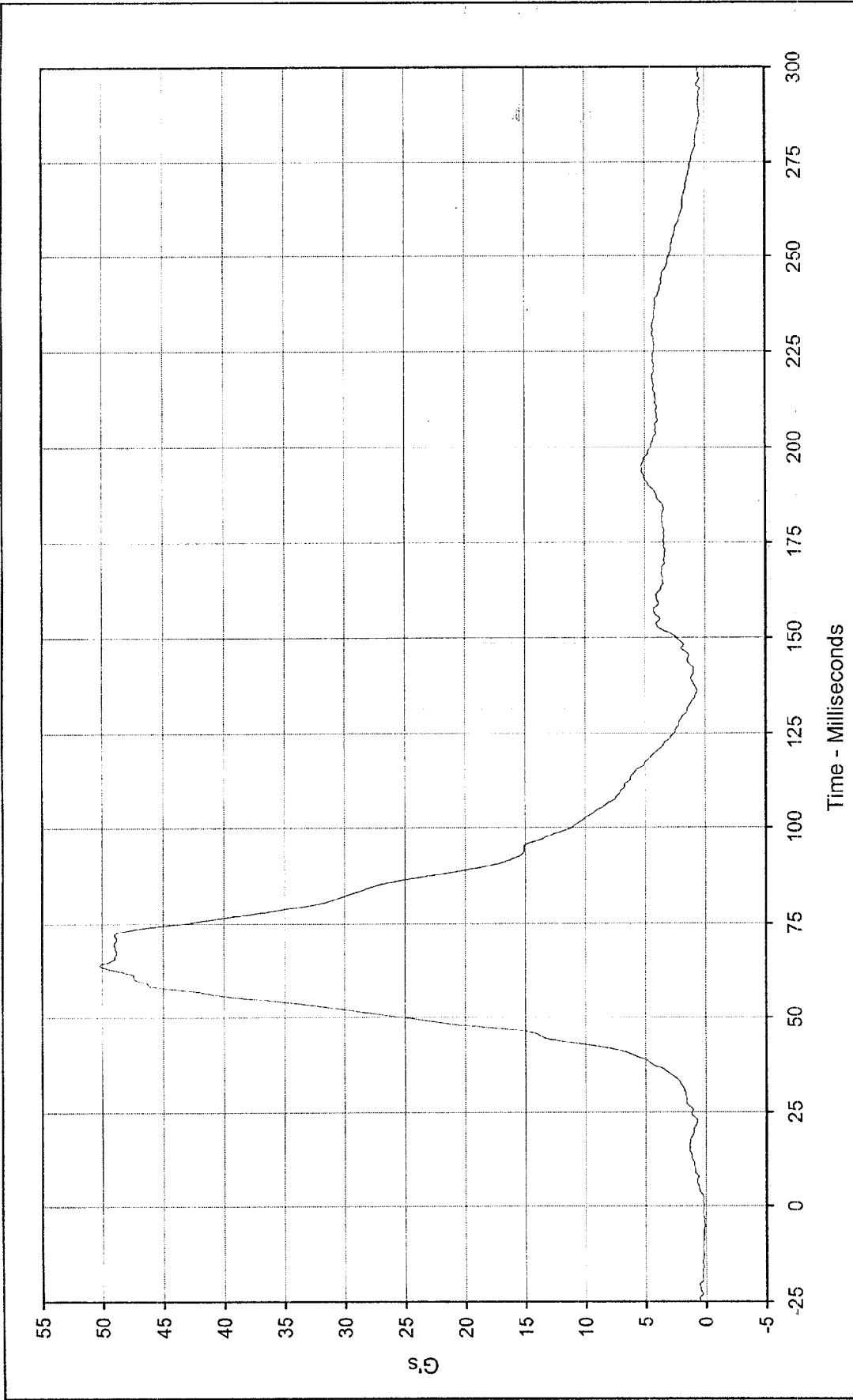
Minimum Value: -14.6 at 54.7 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: FIL-059





Curve Description: Passenger Chest Resultant Primary Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 50.2 at 64.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

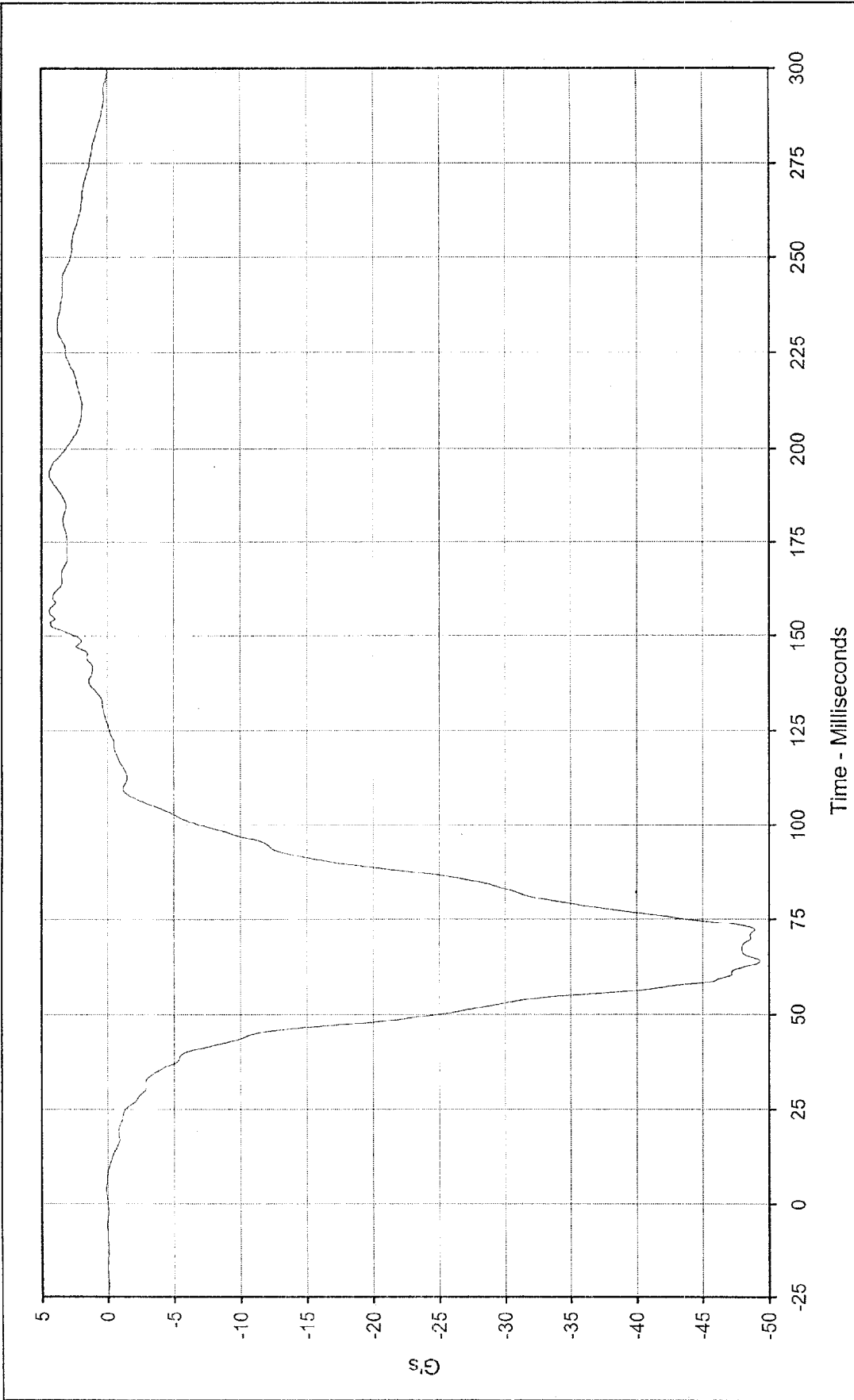
Minimum Value: 0.1 at 0.4 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

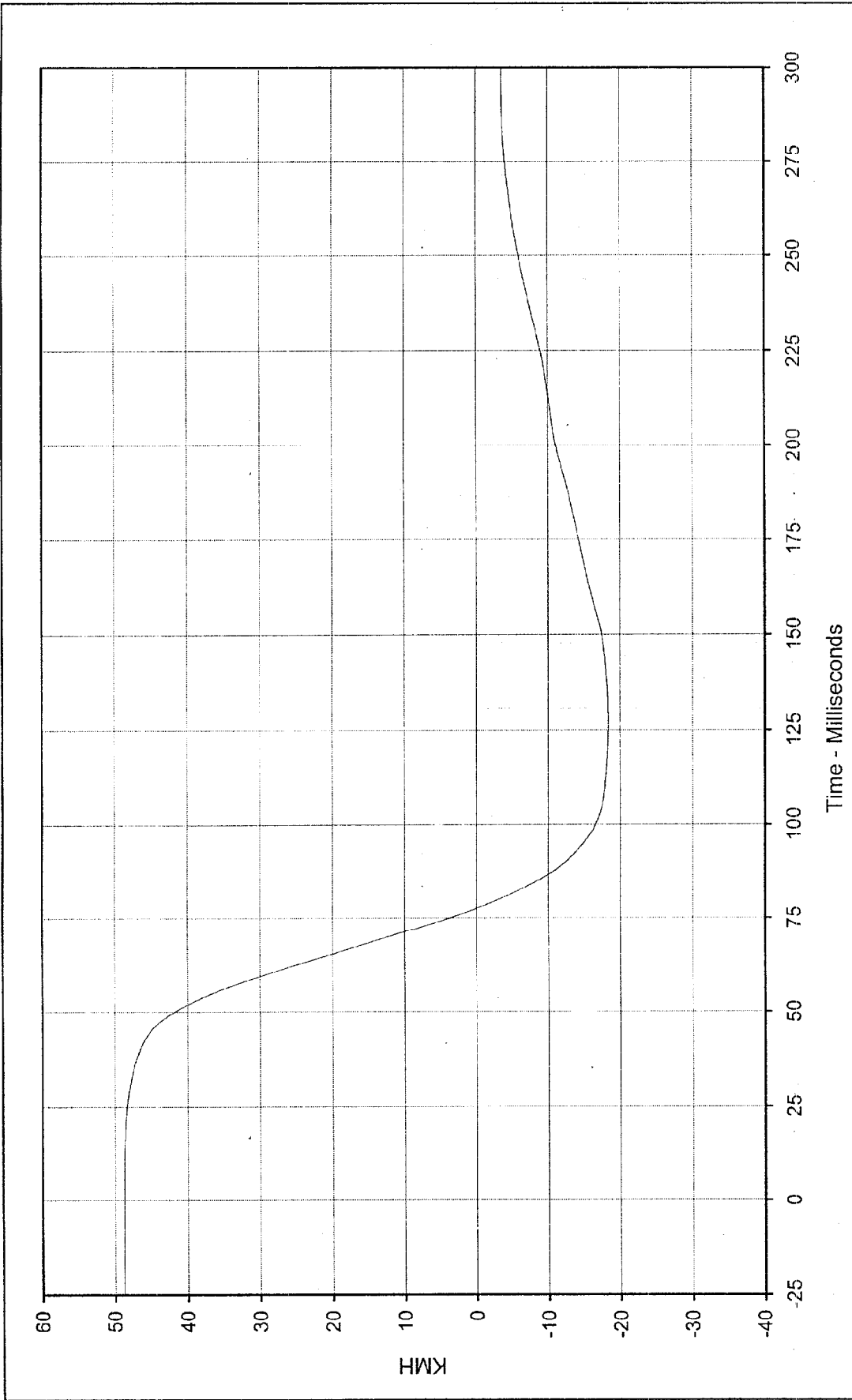
Curve Number: RES-057





Curve Description: Passenger Chest Redundant X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 4.4 at 193.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -49.3 at 64.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: FIL-060





Curve Description: Passenger Chest Redundant X Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 48.7 at 8.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

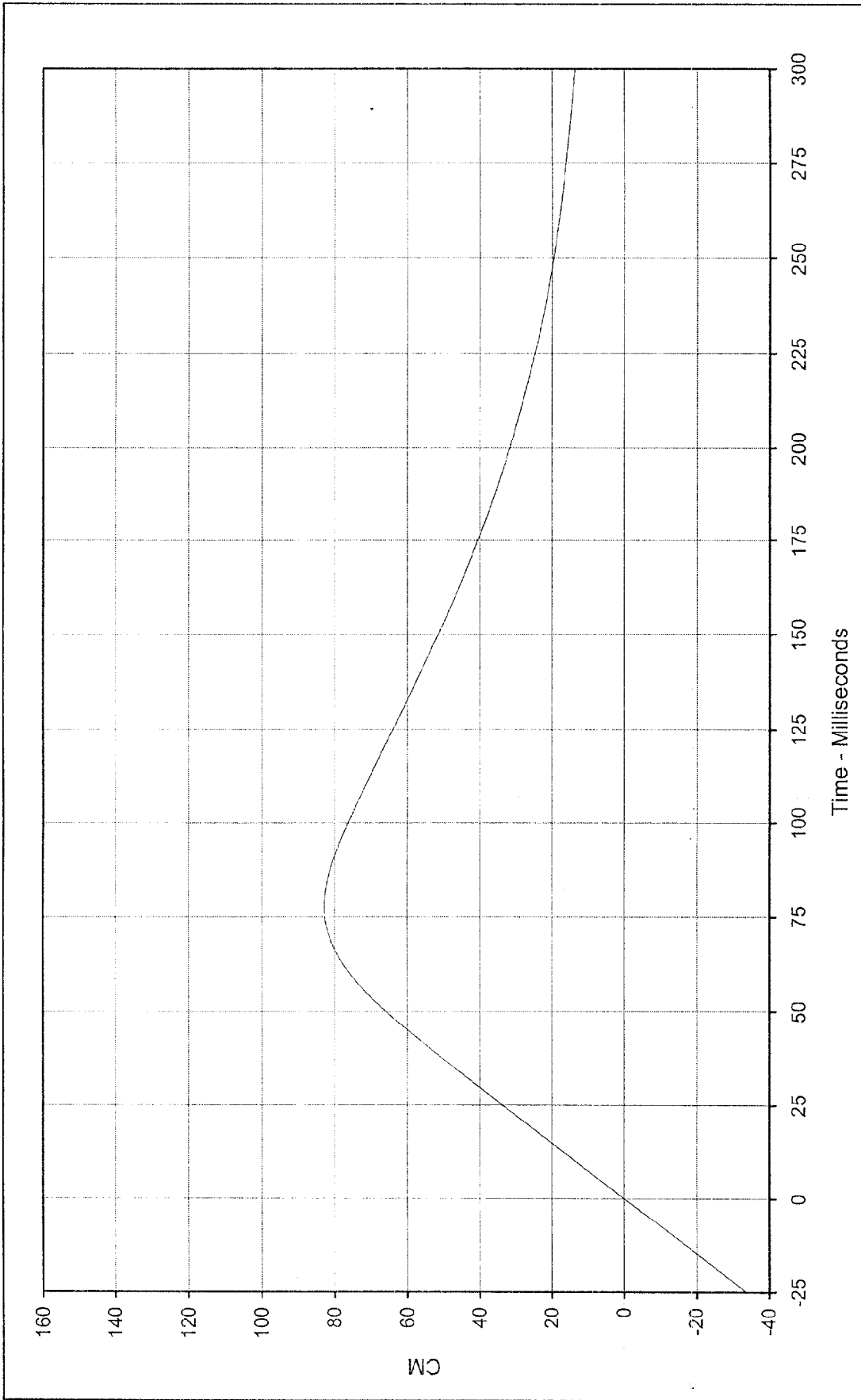
Minimum Value: -18.3 at 127.3 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN1-060





Curve Description: Passenger Chest Redundant X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 82.8 at 77.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

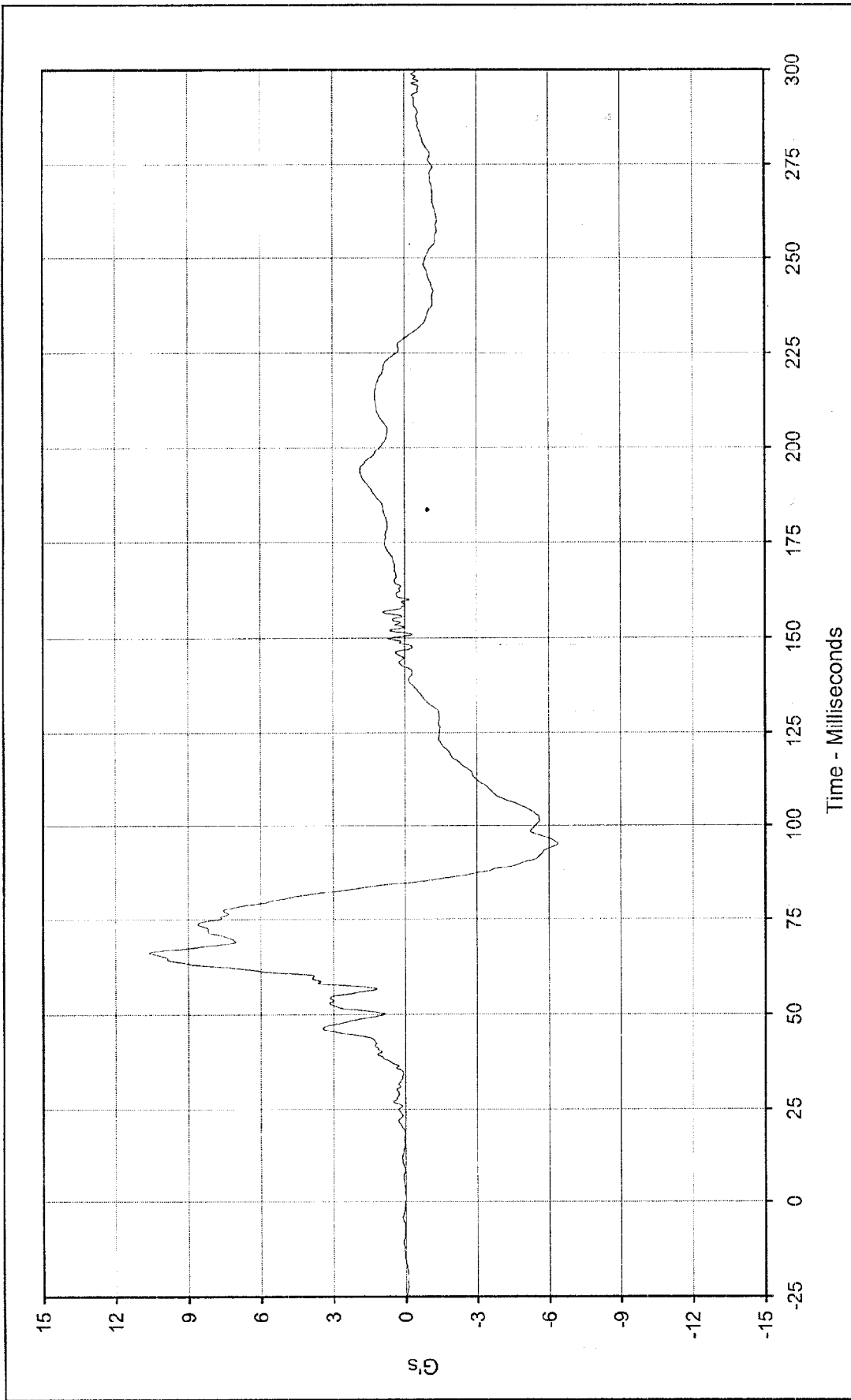
Minimum Value: -0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-060





Curve Description: Passenger Chest Redundant Y

Maximum Value: 10.6 at 66.2 Milliseconds

Minimum Value: -6.4 at 95.0 Milliseconds

SAE Filter Class: 180

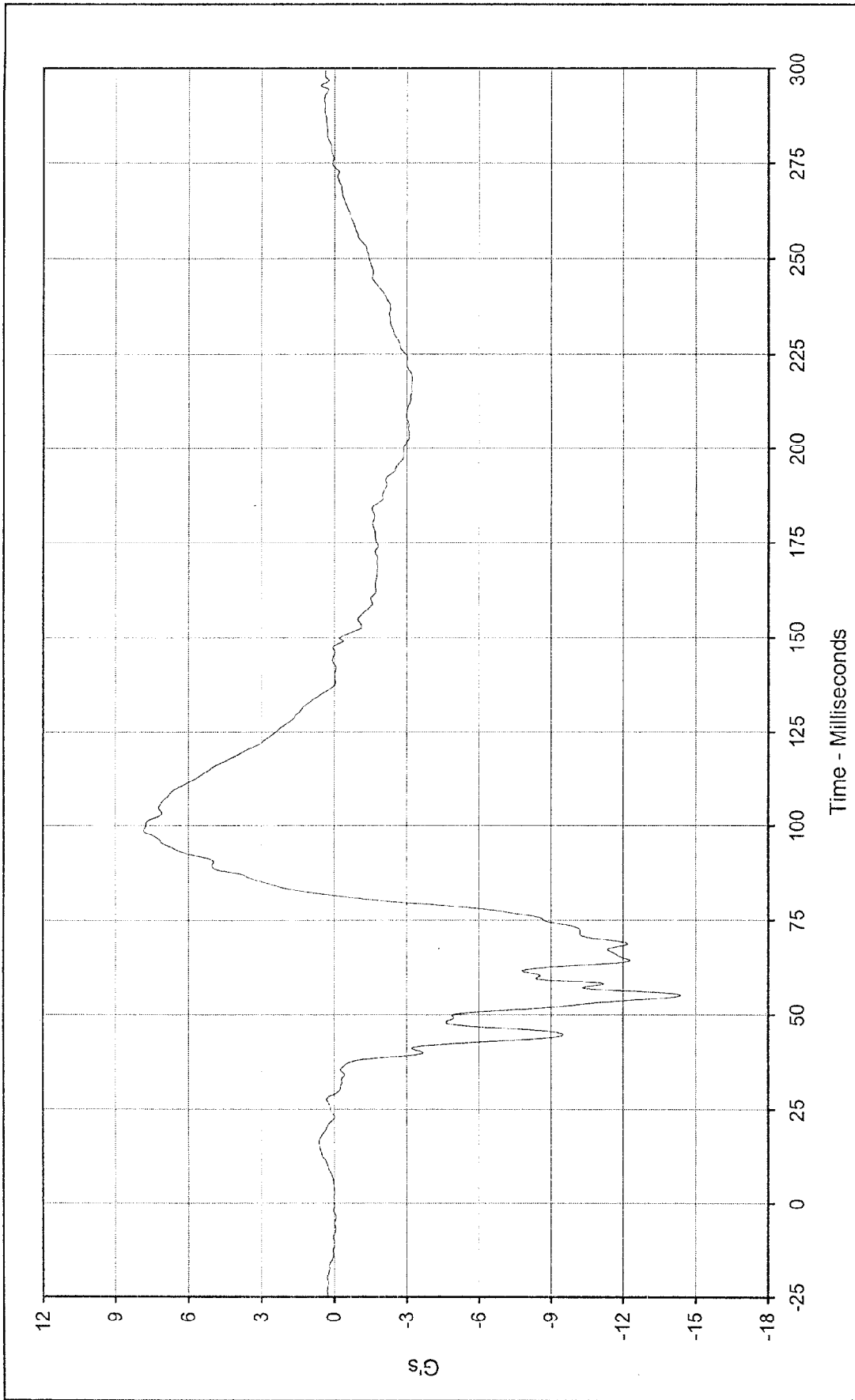
Date of Test: 6/30/98

Curve Number: FIL-061

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Chest Recalcitrant Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 7.9 at 98.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

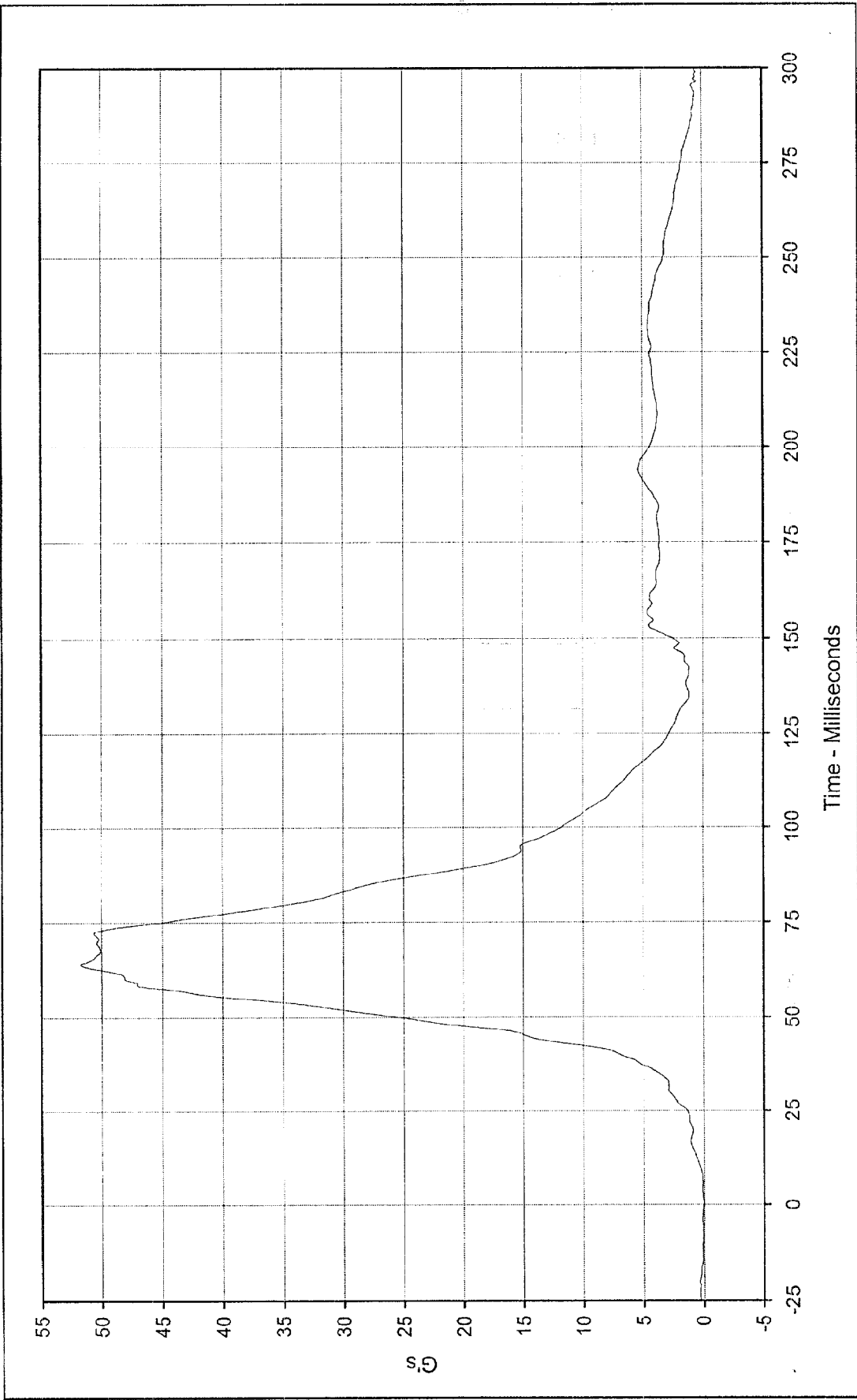
Minimum Value: -14.4 at 55.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: FIL-062





Curve Description: Passenger Chest Resultant Redundant Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 51.8 at 64.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

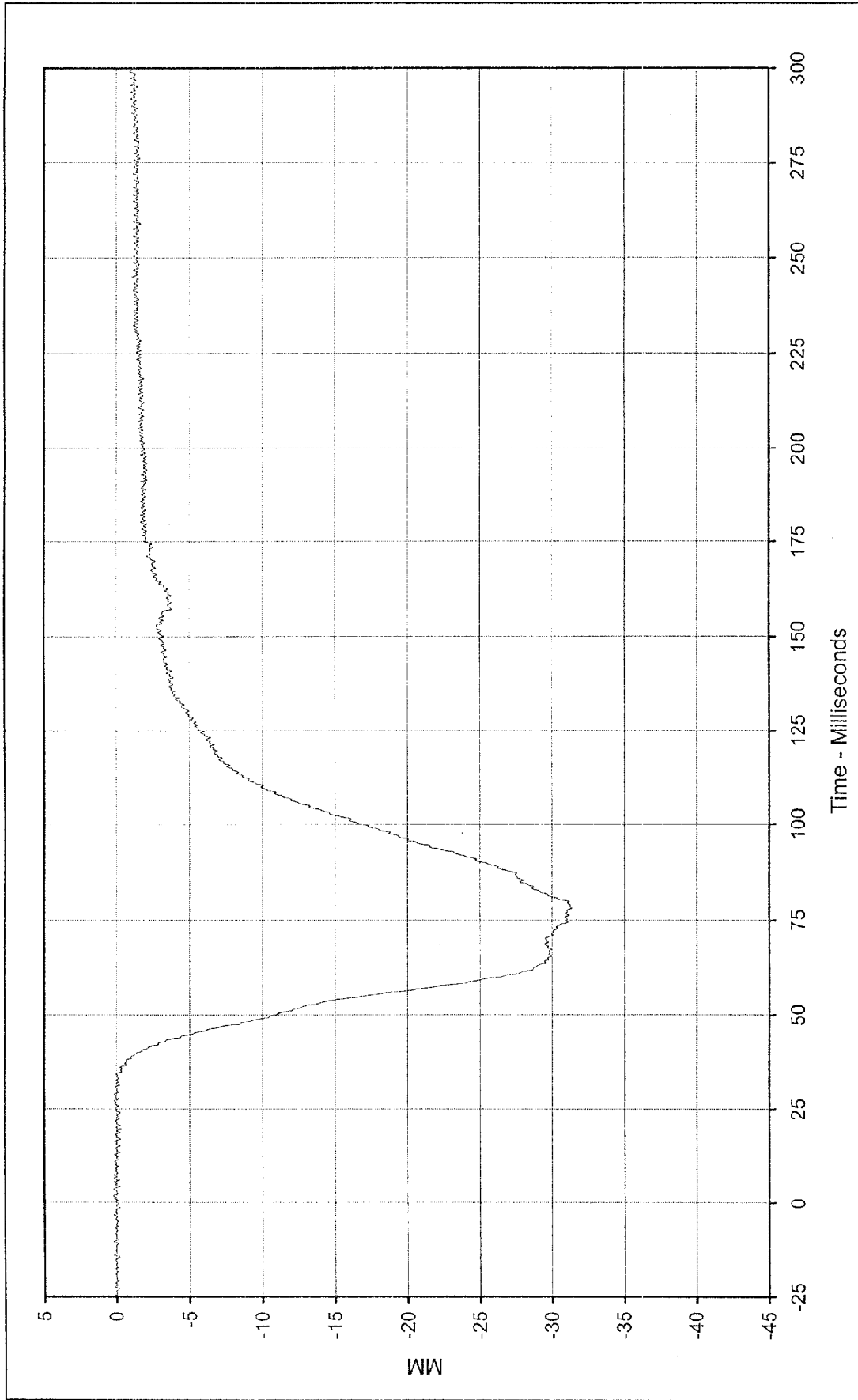
Minimum Value: 0.0 at 0.4 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: RES-060





Curve Description: Passenger Chest Displacement X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 0.3 at 1.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

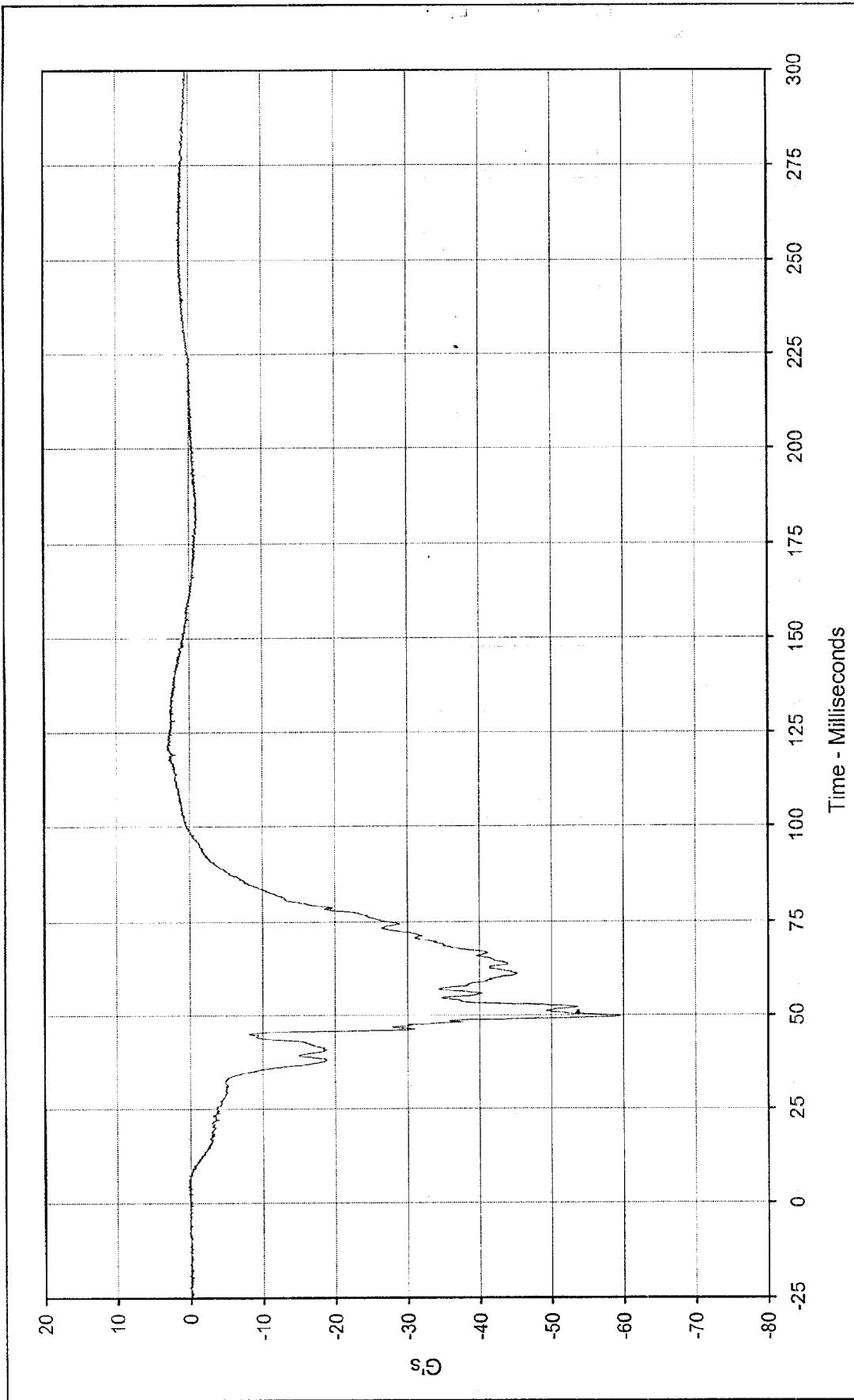
Minimum Value: -31.4 at 78.1 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-063





Curve Description: Passenger Pelvis X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 3.1 at 121.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

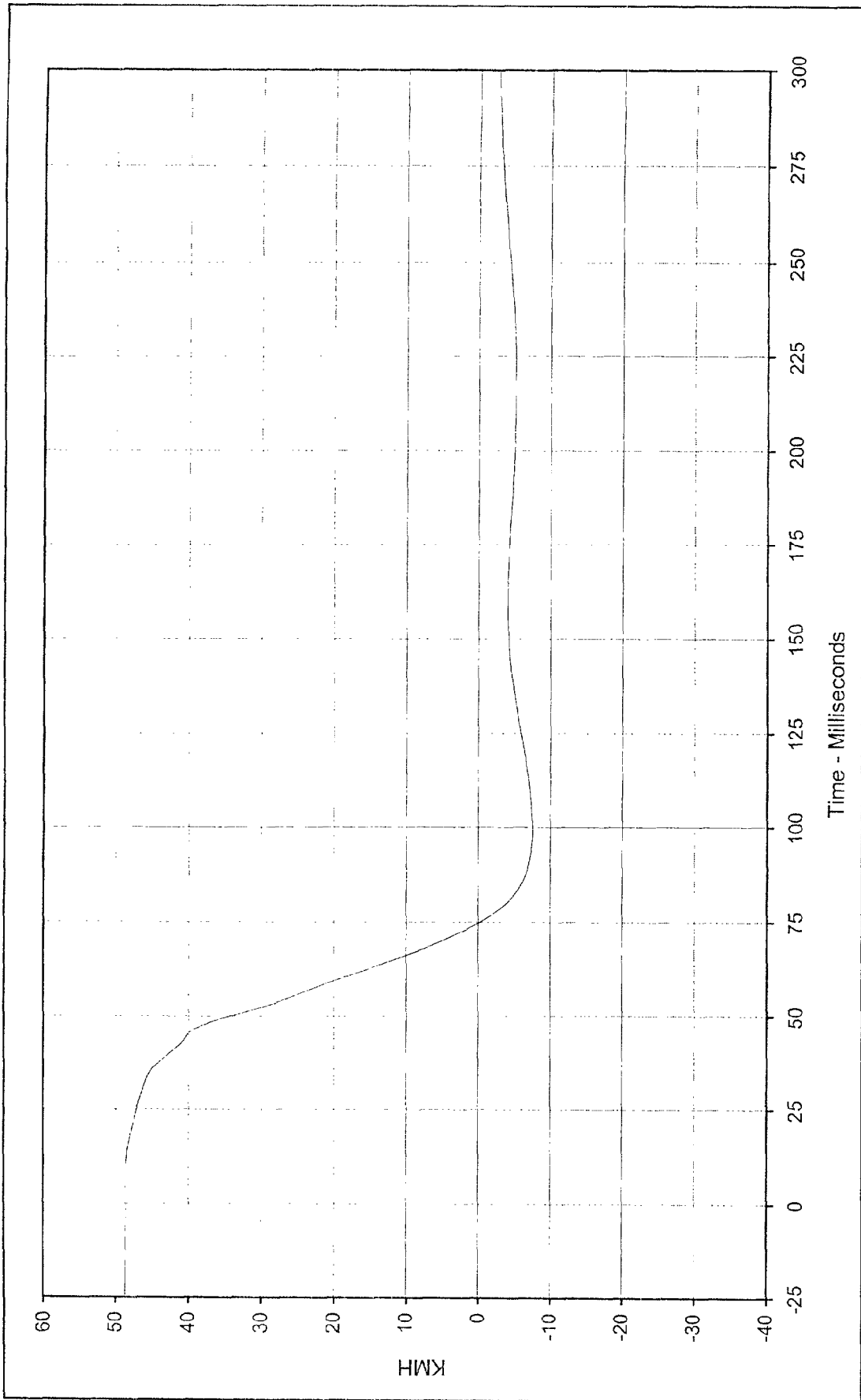
Minimum Value: -59.6 at 49.8 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-064

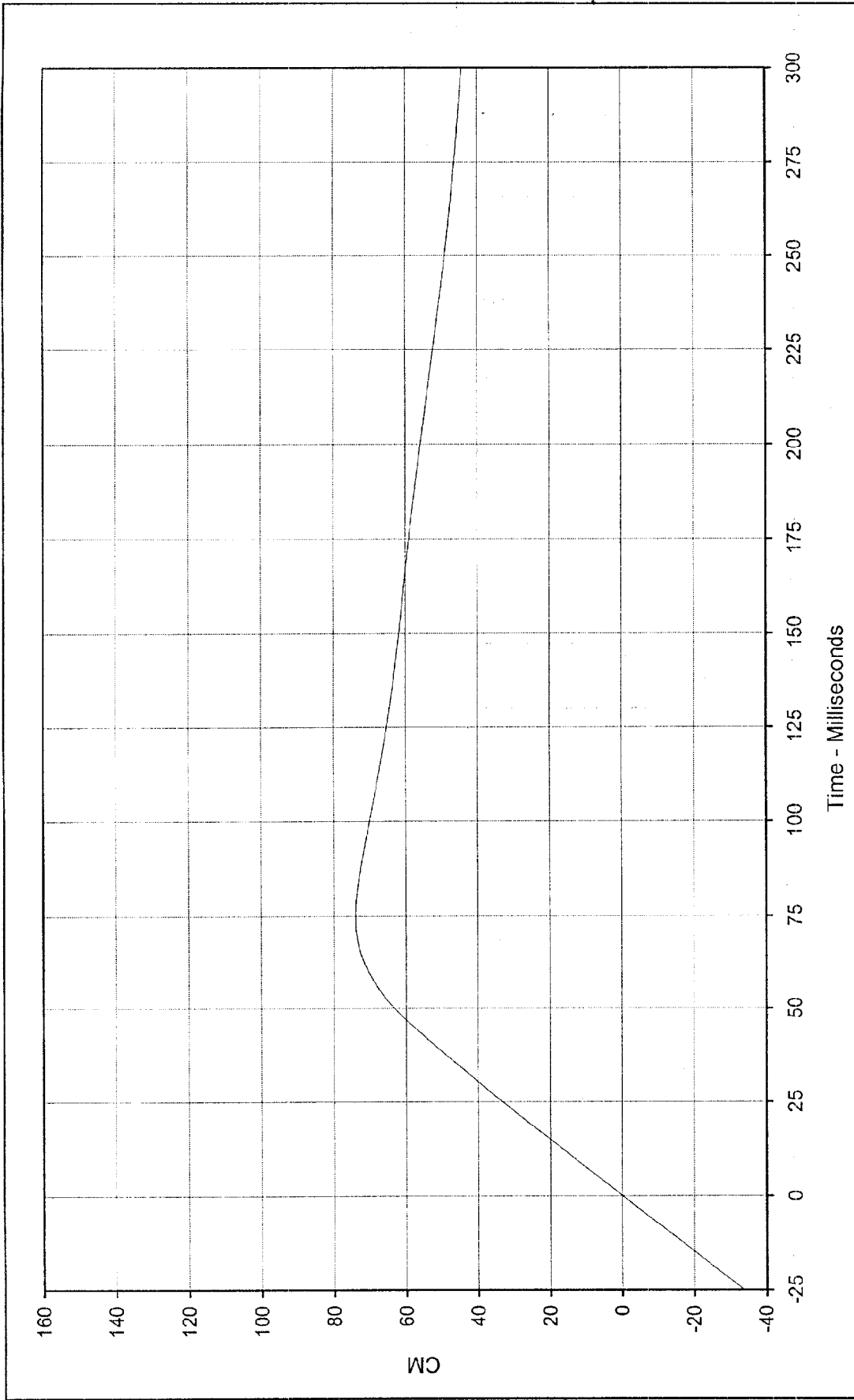




Curve Description: Passenger Pelvis X Velocity
 Maximum Value: 48.6 at 6.8 Milliseconds
 Minimum Value: -7.5 at 98.8 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN1-064

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Pelvis X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 74.0 at 74.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

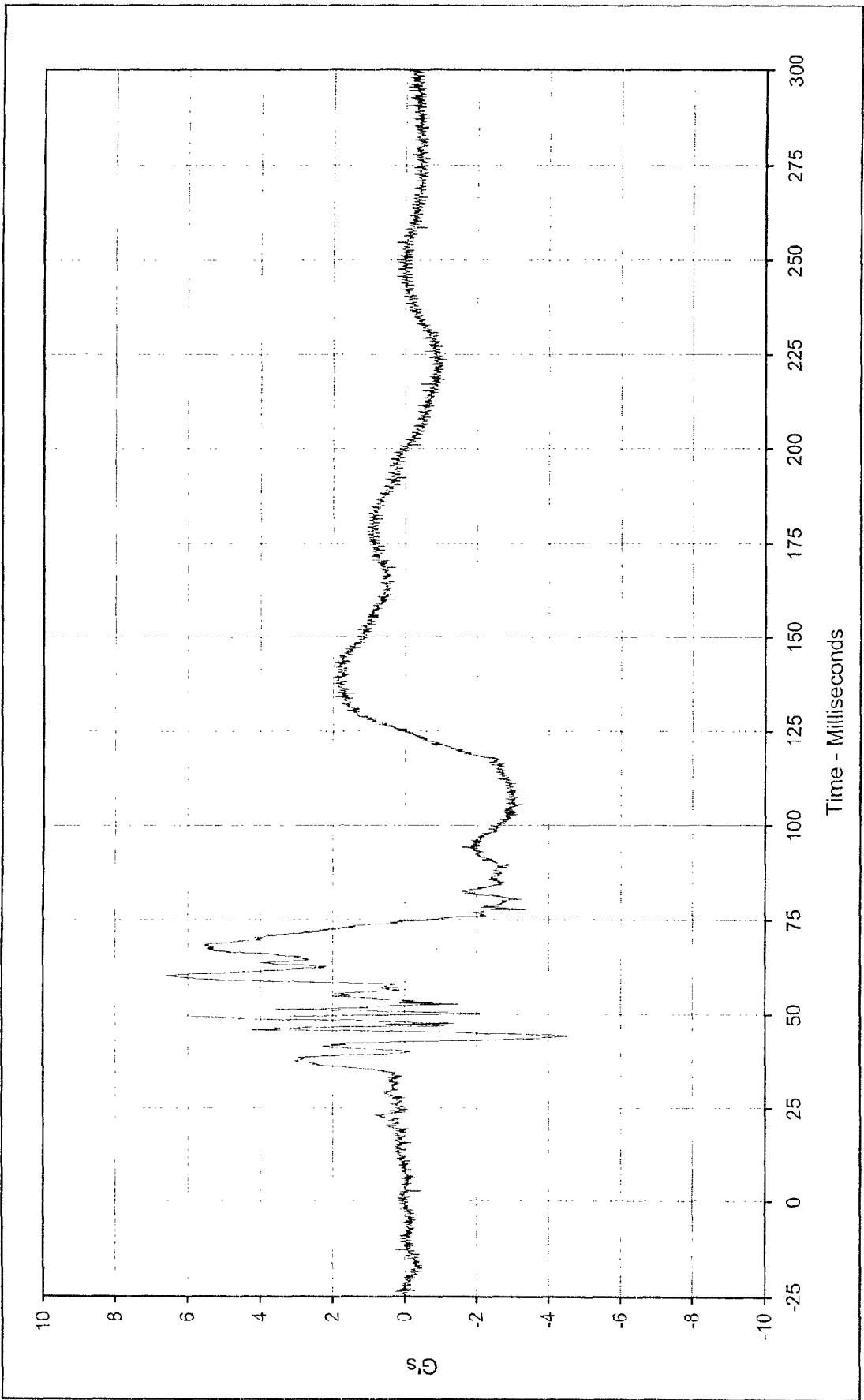
Minimum Value: -0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-064

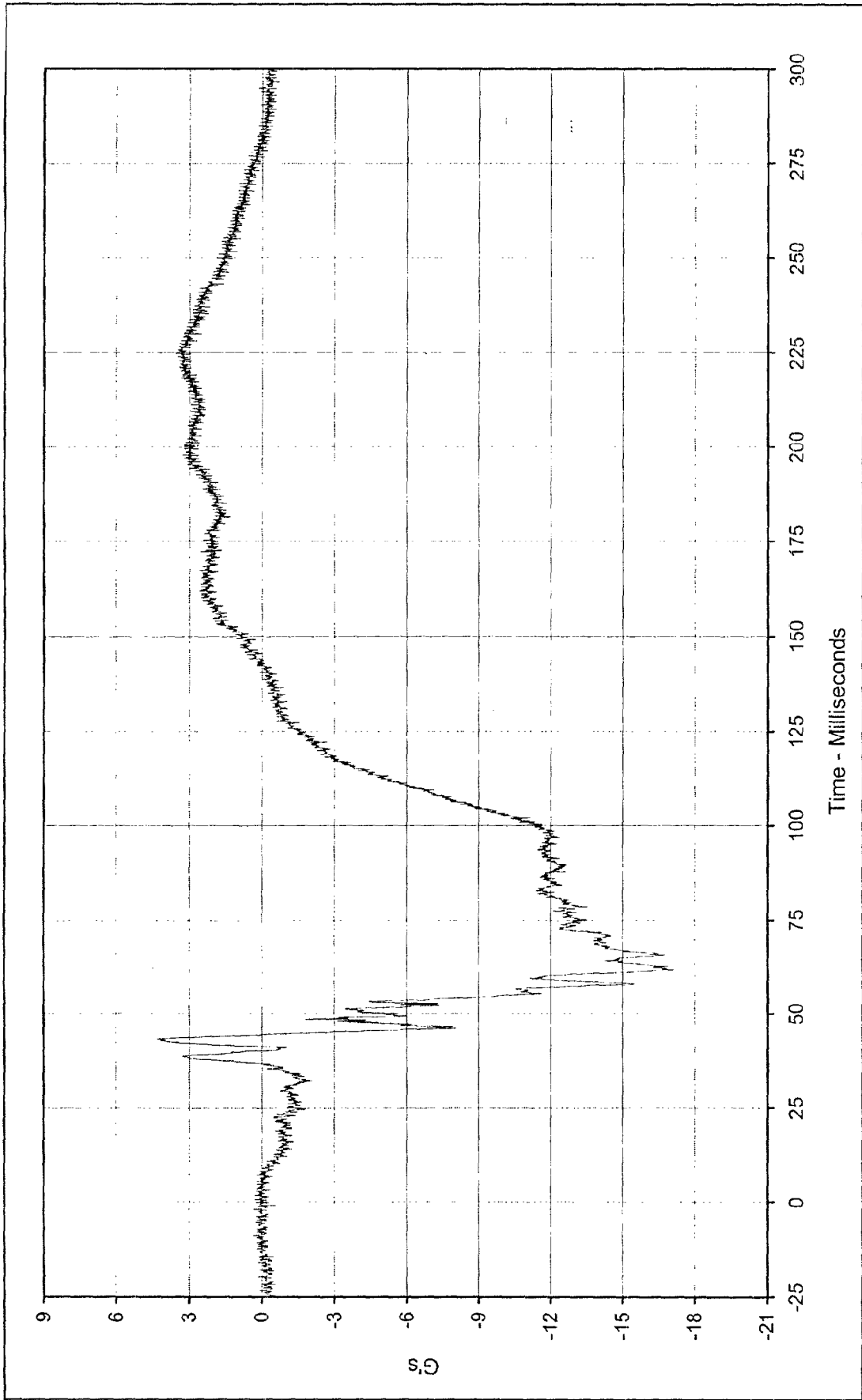




Curve Description: Passenger Pelvis Y
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Maximum Value: 6.6 at 60.2 Milliseconds
 Minimum Value: -4.6 at 44.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-065

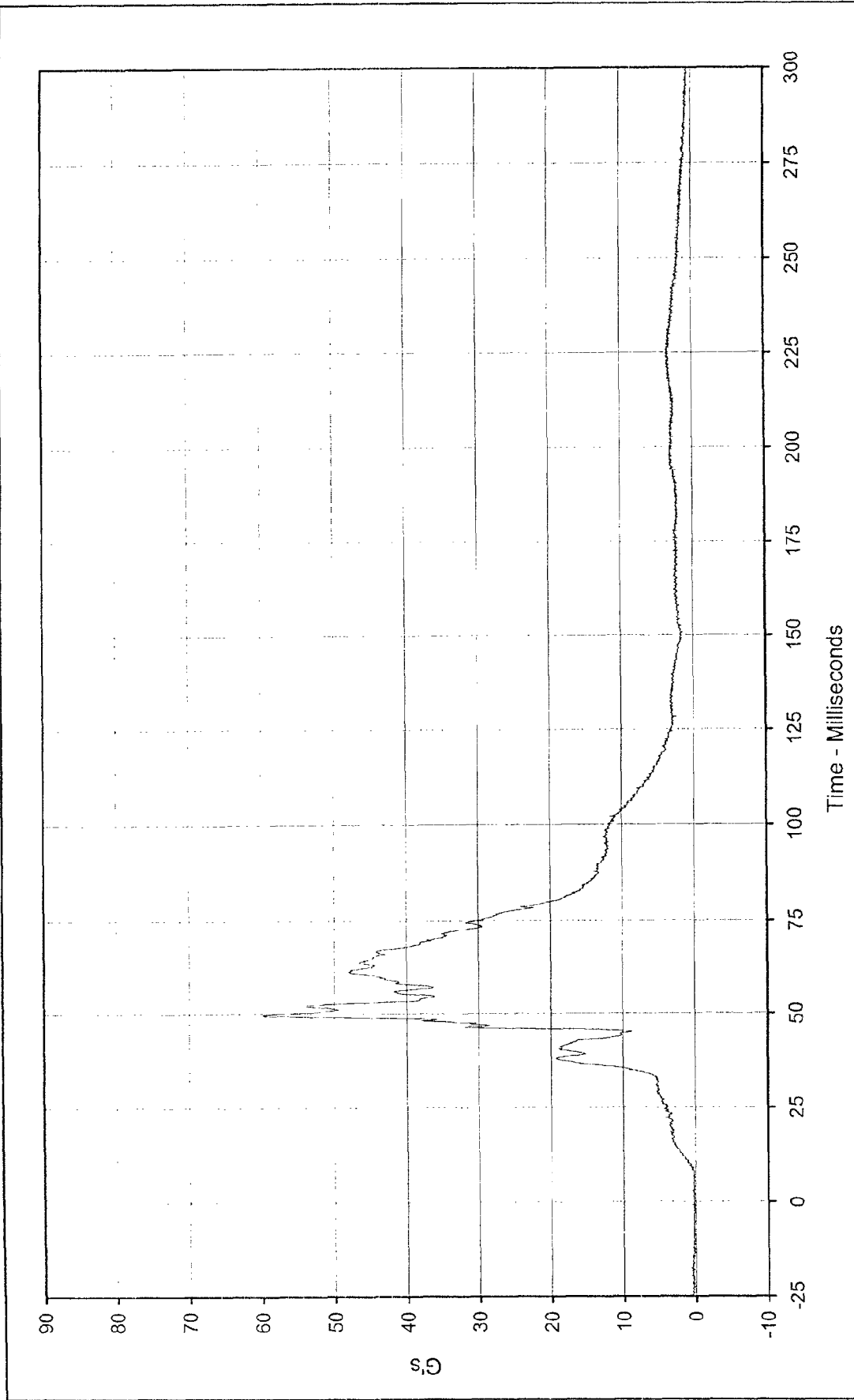




Curve Description: Passenger Pelvis Z
 Maximum Value: 4.3 at 42.9 Milliseconds
 Minimum Value: -17.1 at 61.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-066

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Pelvis Resultant Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 59.9 at 49.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

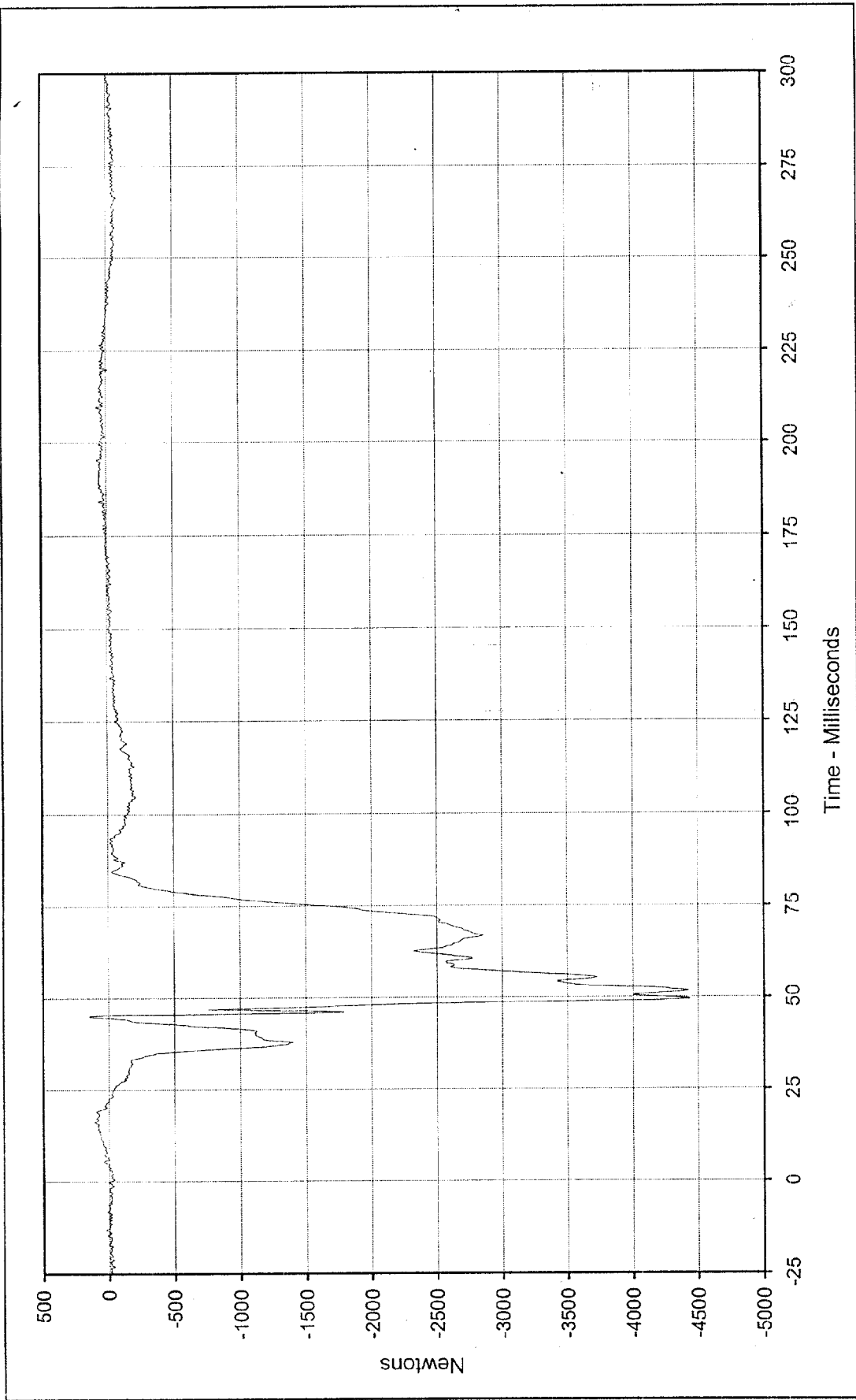
Minimum Value: 0.0 at 2.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: RES-064





Curve Description: Passenger Left Femur Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 143.5 at 45 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

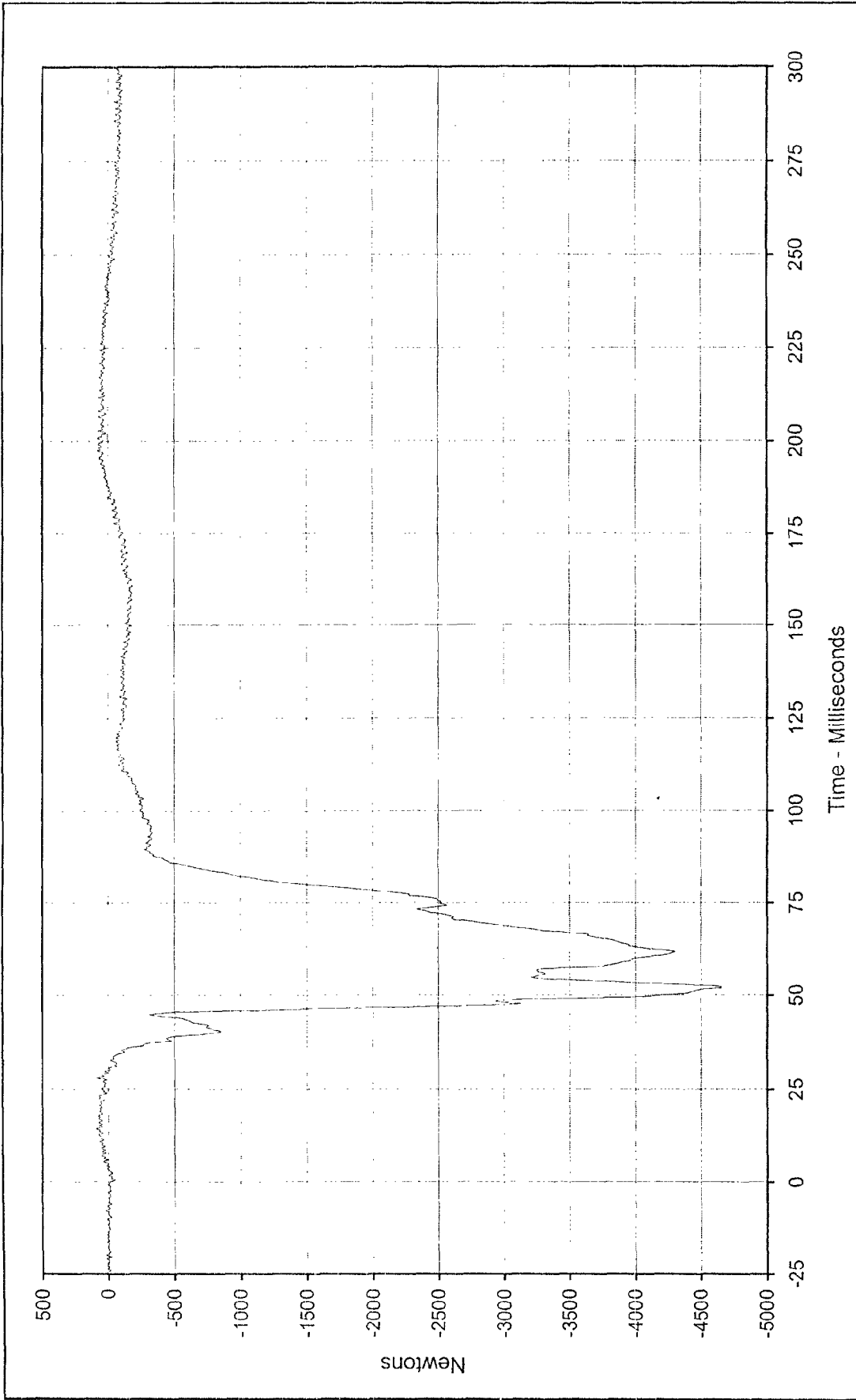
Minimum Value: -4437.0 at 49.4 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-067





Curve Description: Passenger Right Femur Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 92.0 at 14.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

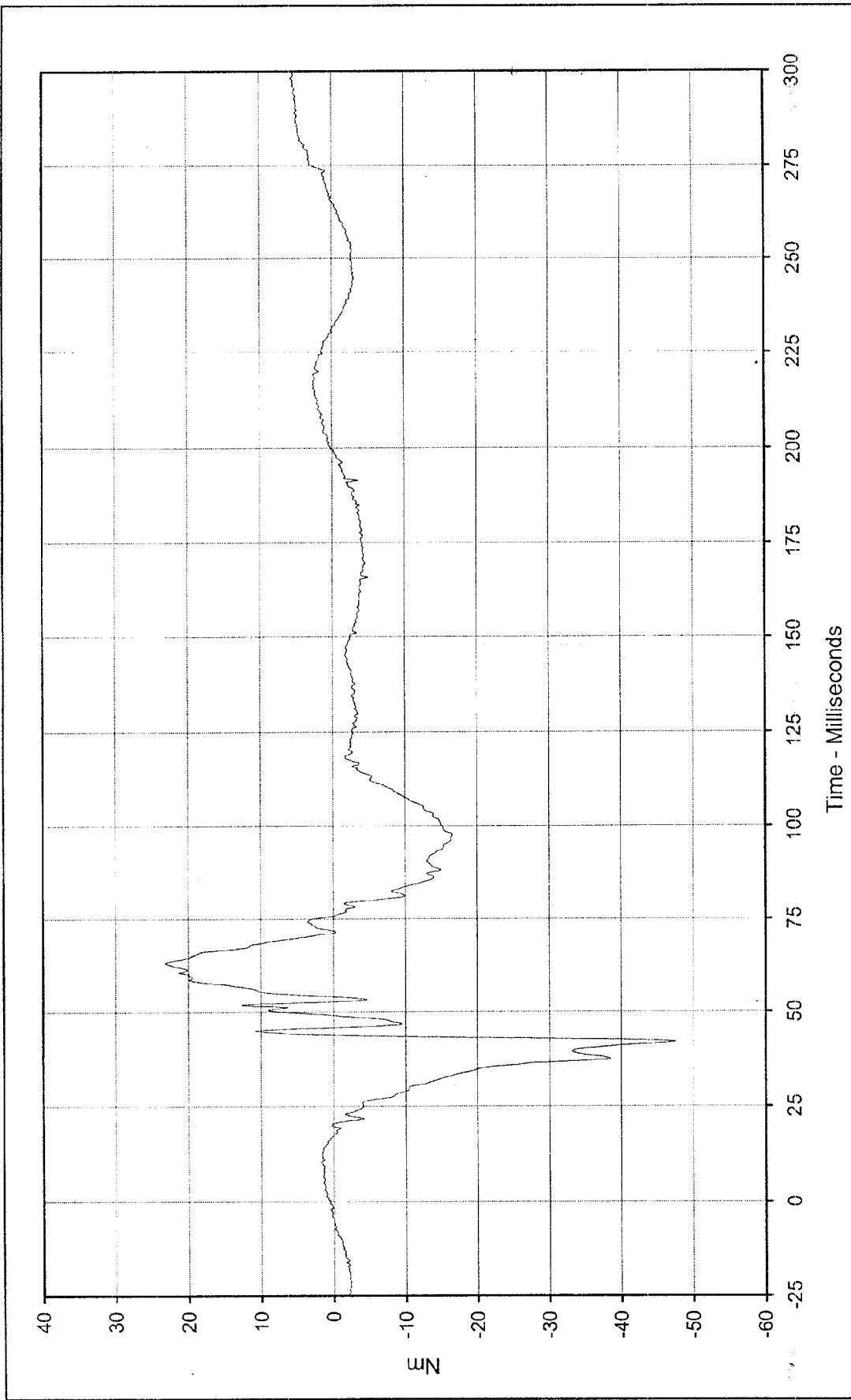
Minimum Value: -4657.1 at 52.1 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-068





Curve Description: Passenger Left Upper Tibia Moment X

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 23.2 at 63.2 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

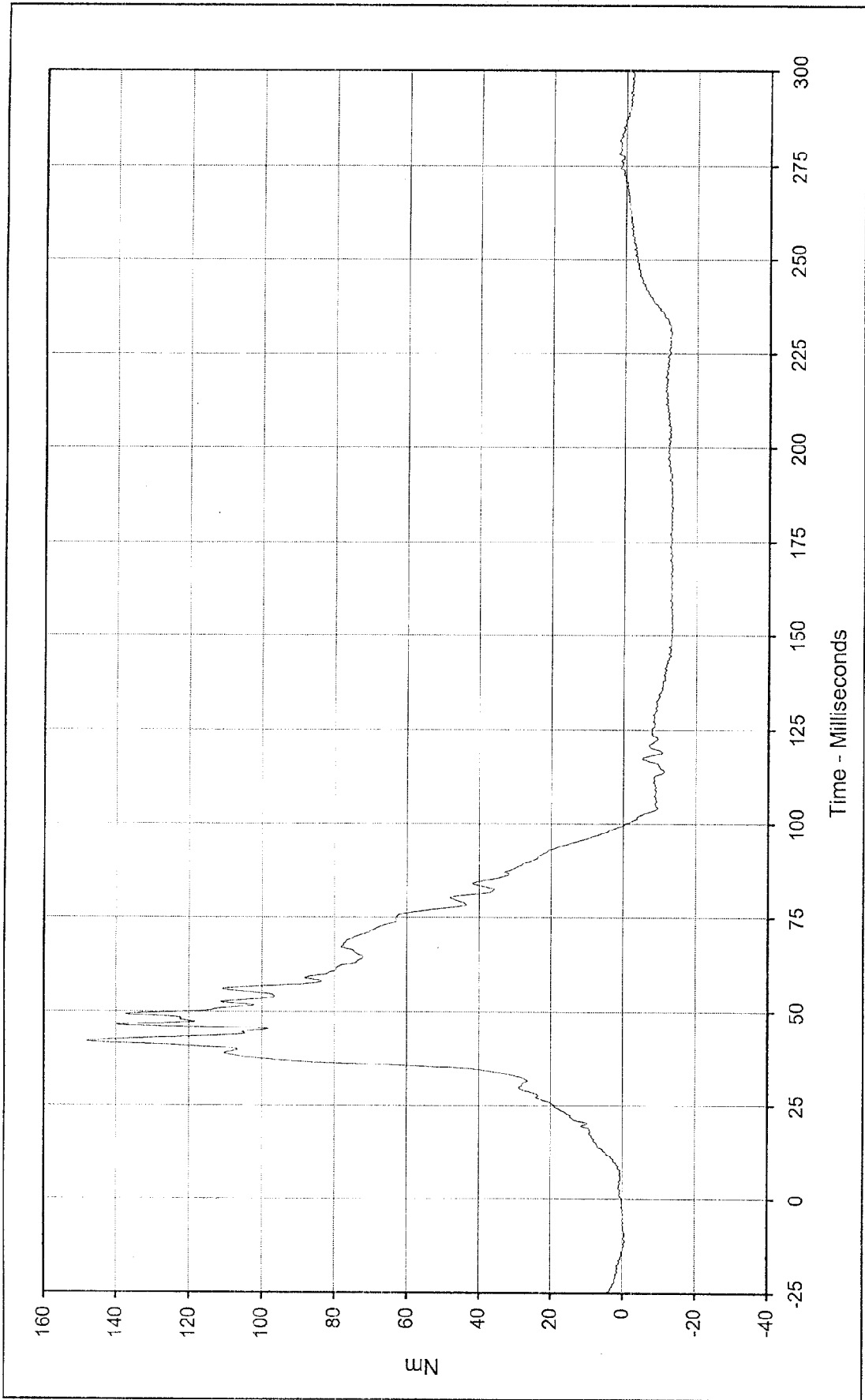
Minimum Value: -47.5 at 41.9 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-069

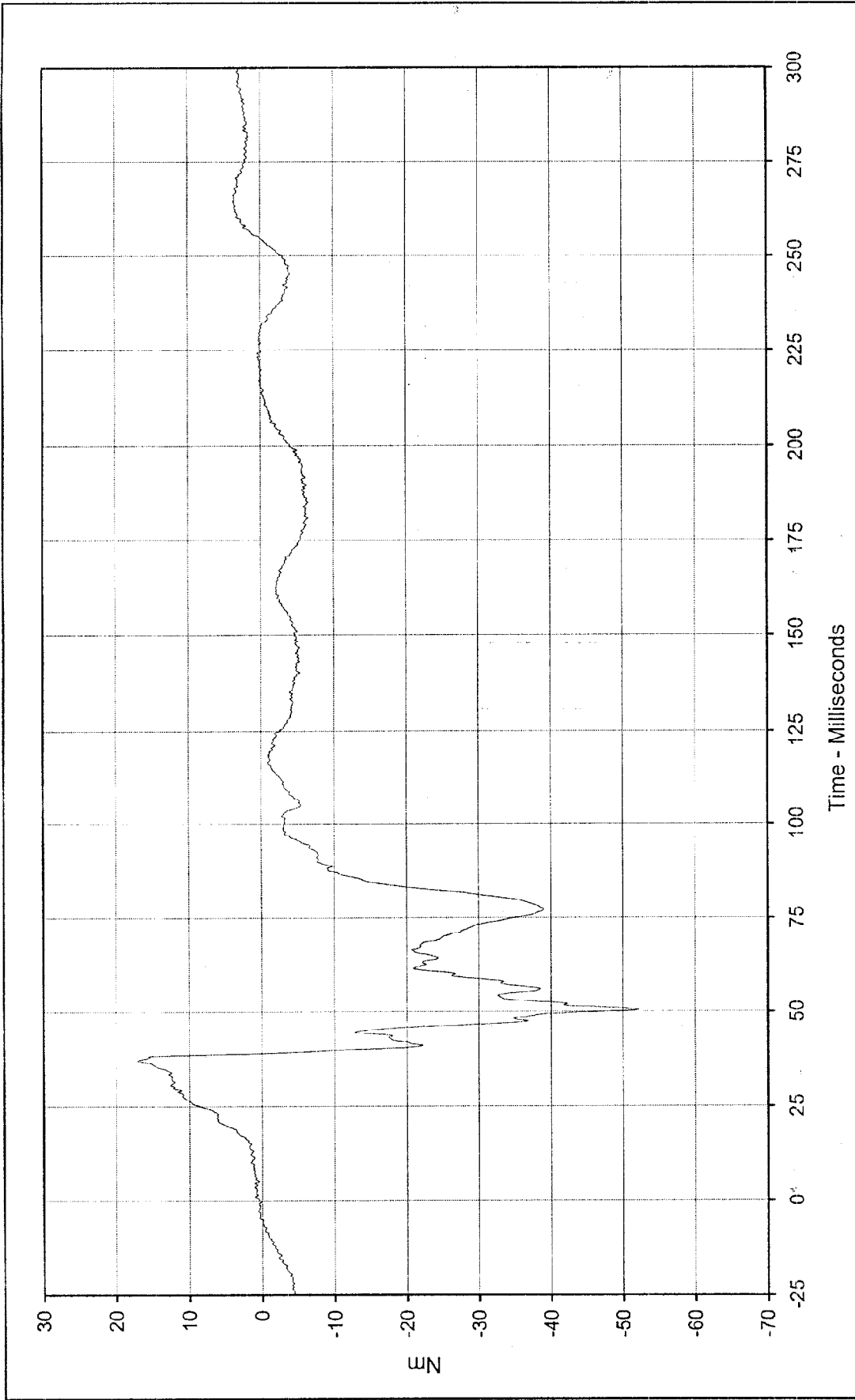




Curve Description: Passenger Left Upper Tibia Moment Y
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Maximum Value: 148.0 at 42.0 Milliseconds
 Minimum Value: -13.6 at 151.6 Milliseconds
 SAE Filter Class: 600
 Date of Test: 6/30/98
 Curve Number: FIL-070





Curve Description: Passenger Right Upper Tibia Moment X

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 17.0 at 36.9 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

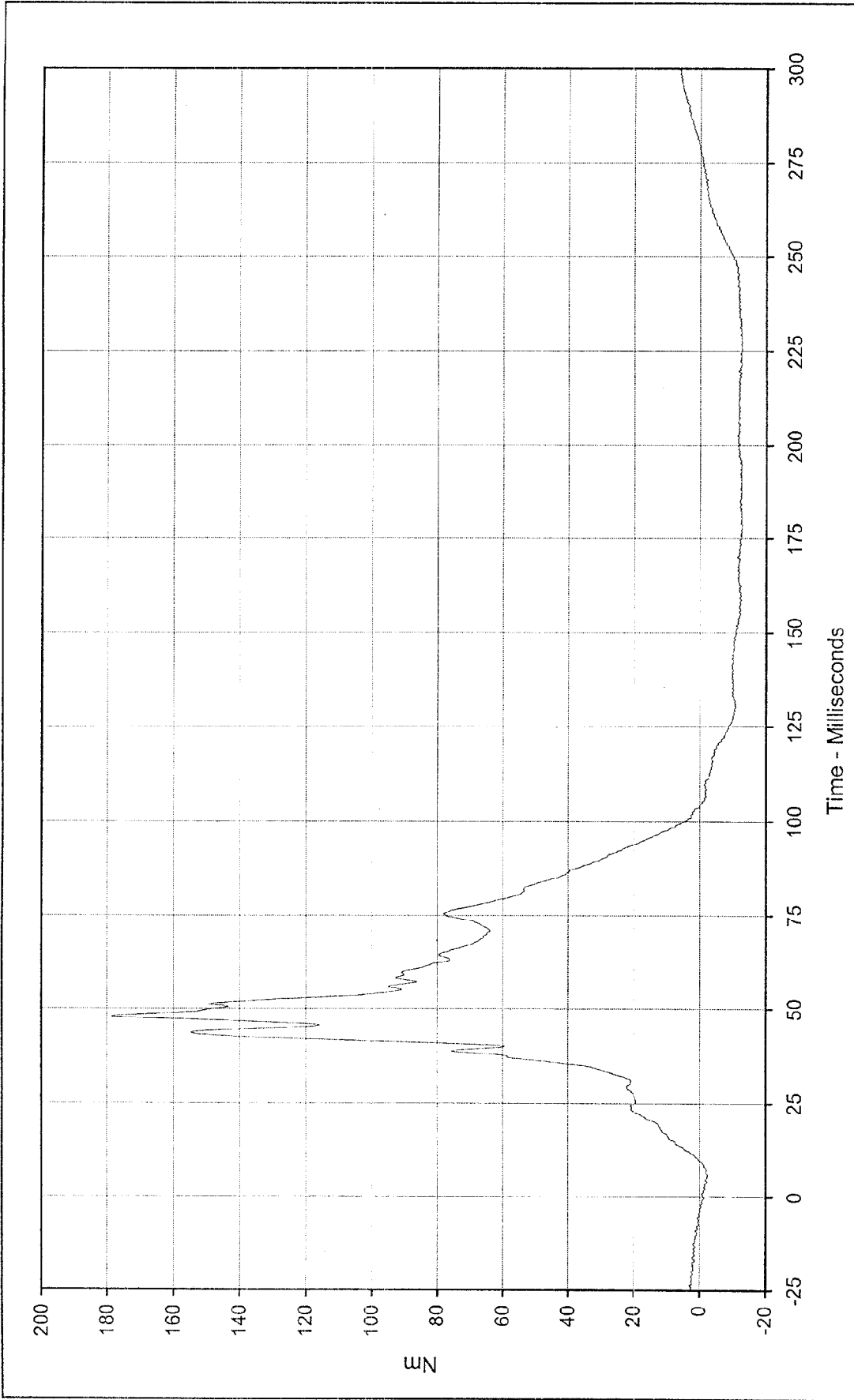
Minimum Value: -52.2 at 50.5 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-071





Curve Description: Passenger Right Upper Tibia Moment Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 178.7 at 47.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

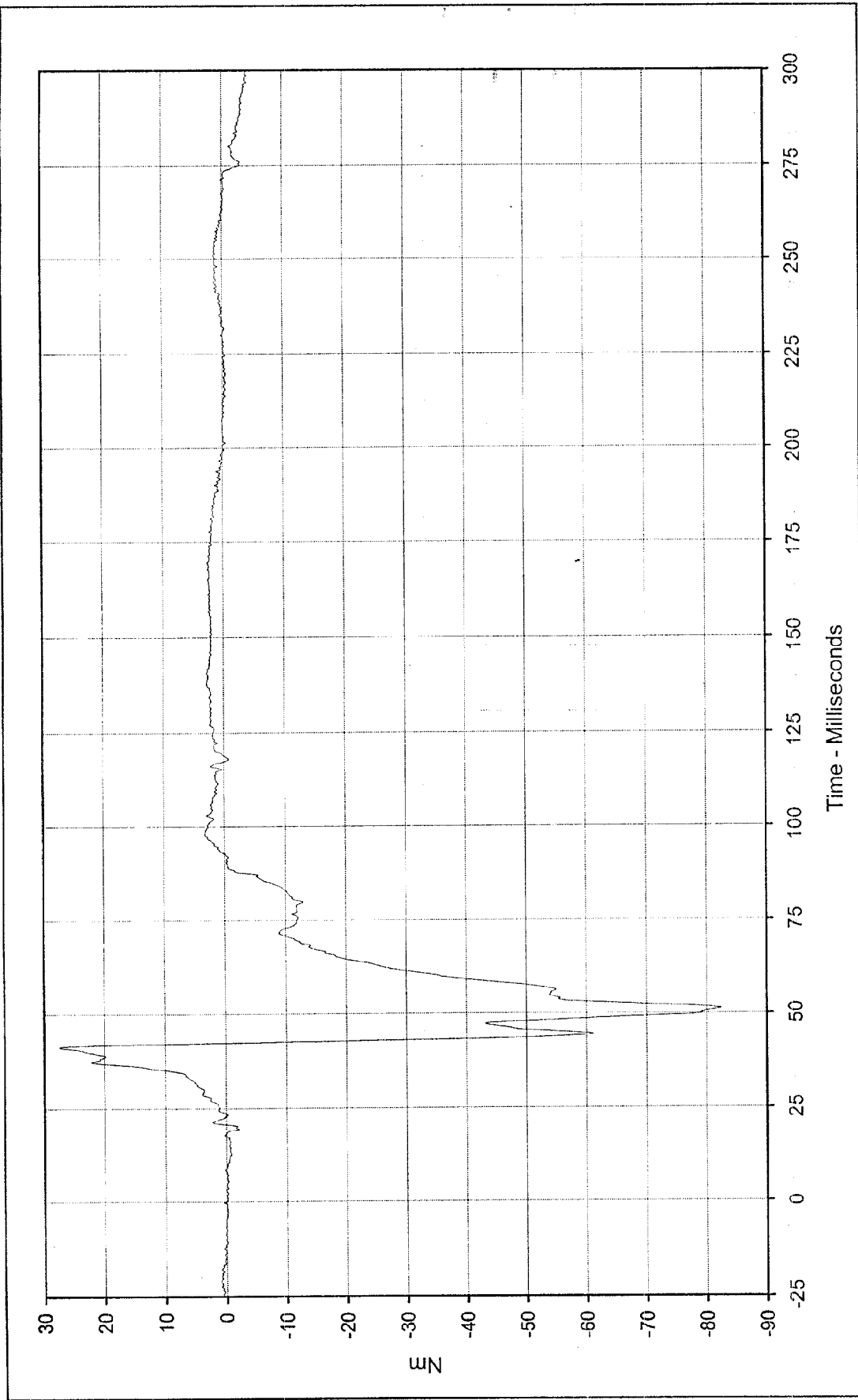
Minimum Value: -12.9 at 178.7 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-072





Curve Description: Passenger Left Lower Tibia Moment X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 27.5 at 41.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

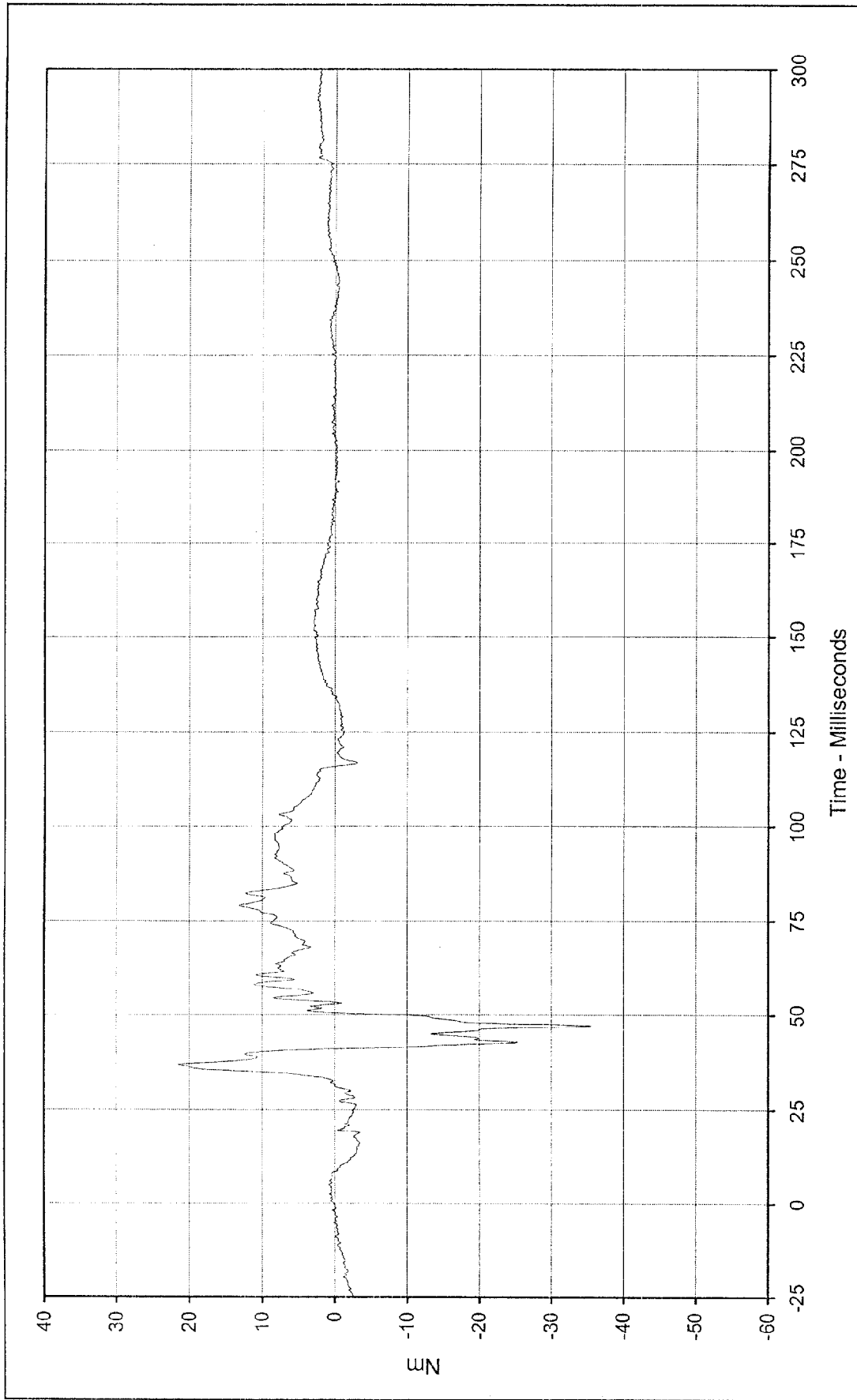
Minimum Value: -82.4 at 51.2 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-073





Curve Description: Passenger Left Lower Tibia Moment Y

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 21.5 at 36.8 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

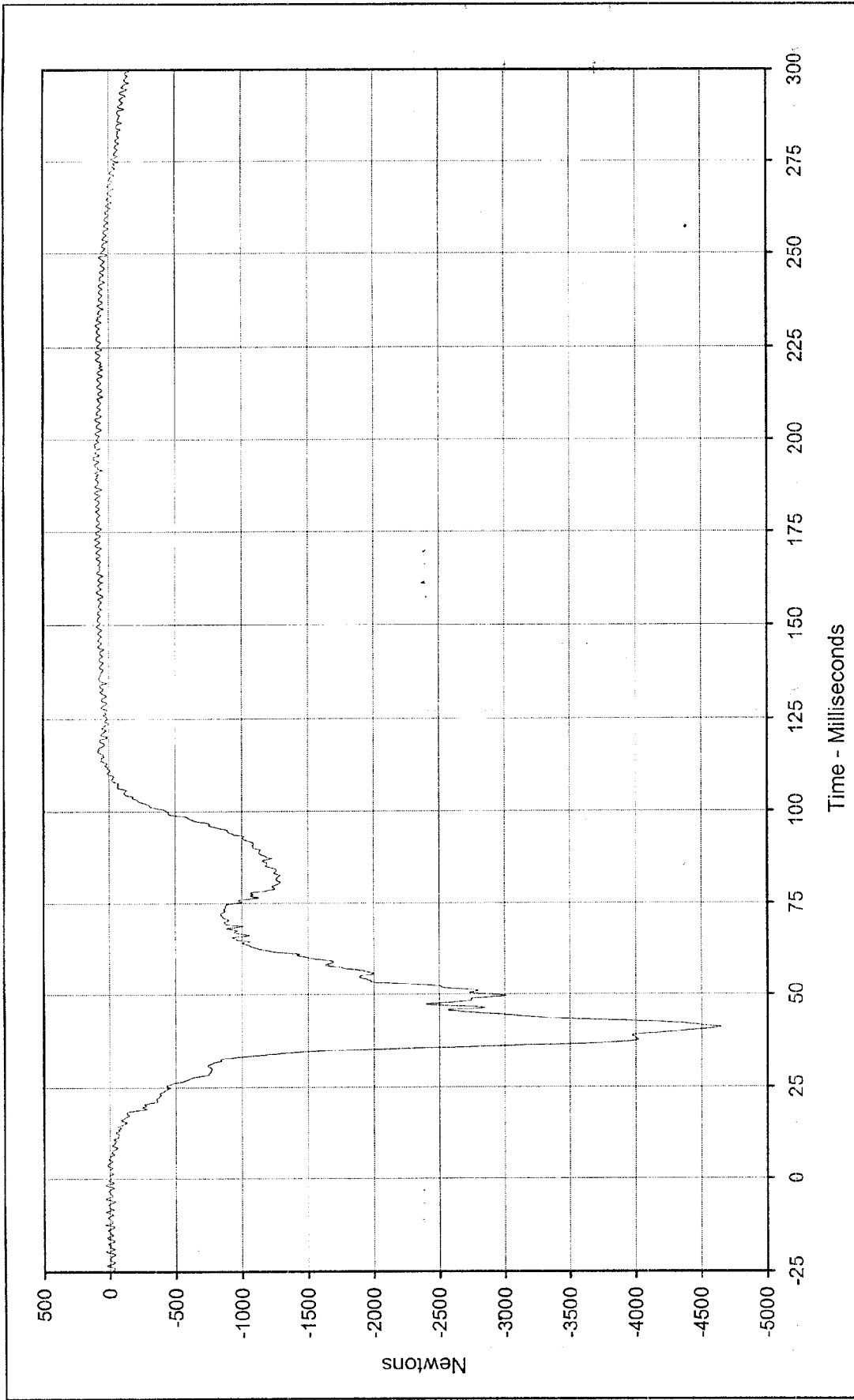
Minimum Value: -35.6 at 47.1 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-074





Curve Description: Passenger Left Lower Tibia Force Z

Maximum Value: 118.9 at 194.8 Milliseconds

Minimum Value: -4650.6 at 41.1 Milliseconds

SAE Filter Class: 600

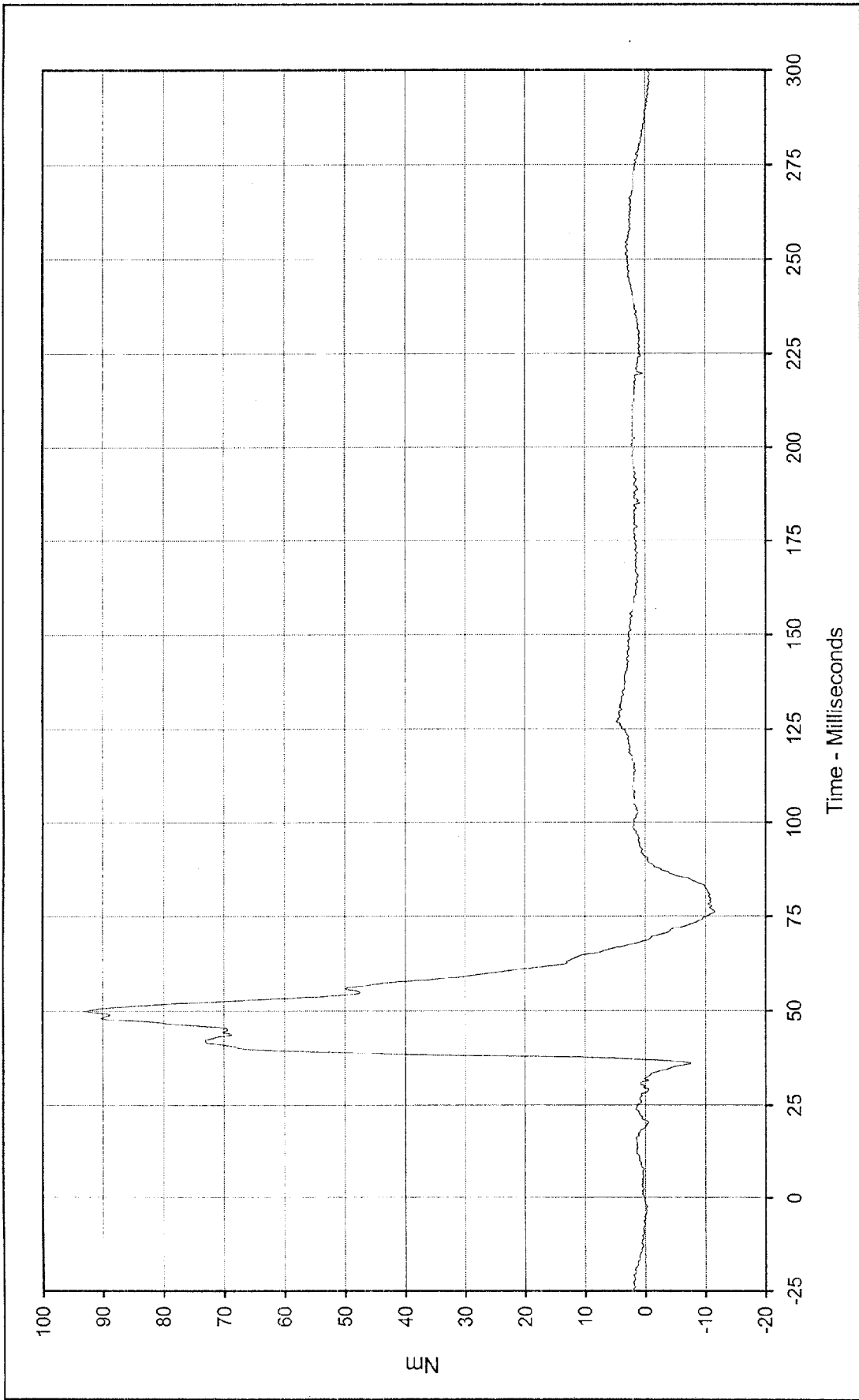
Date of Test: 6/30/98

Curve Number: FIL-075

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Passenger Right Lower Tibia Moment X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 93.2 at 49.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

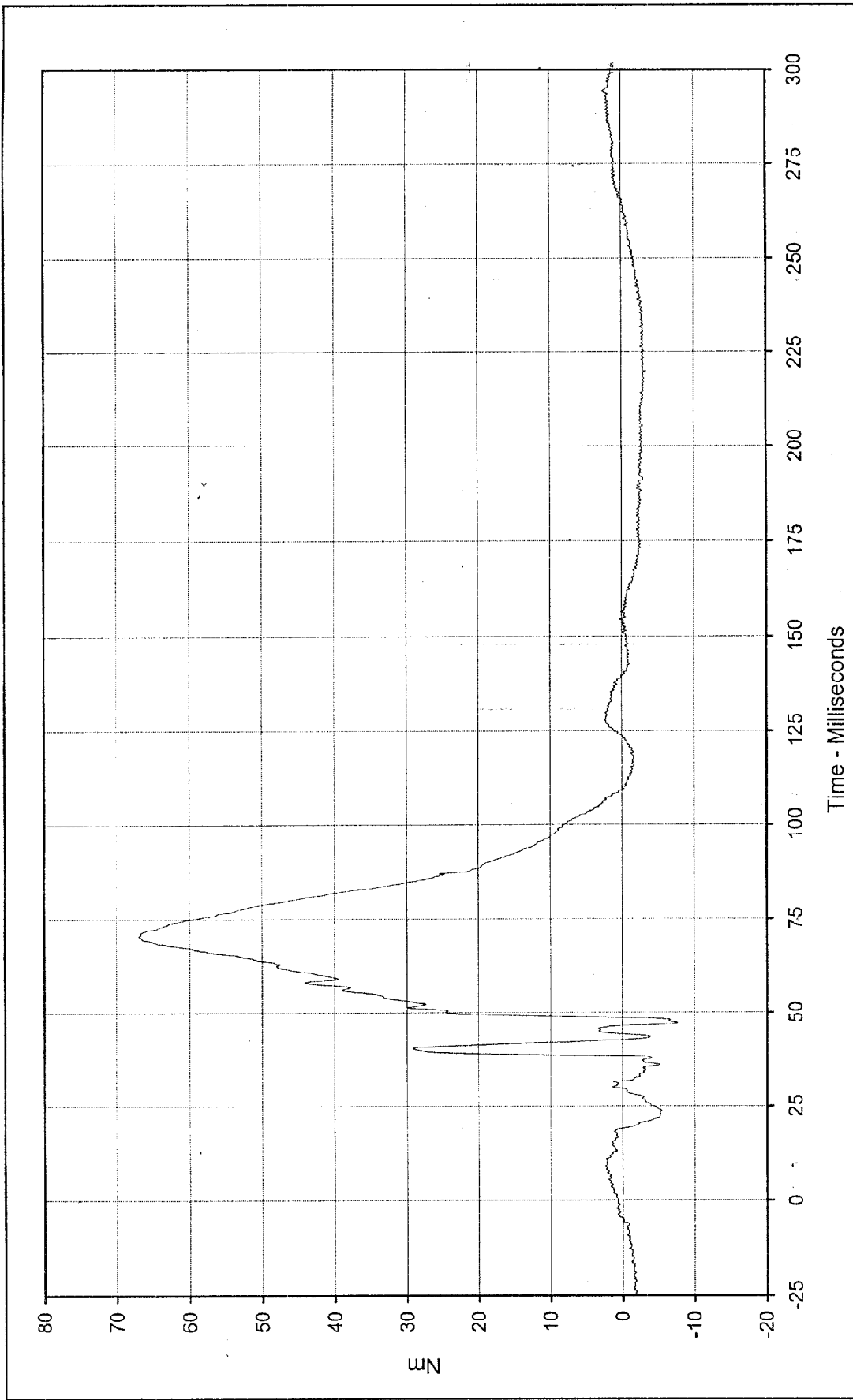
Minimum Value: -11.6 at 76.0 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-076





Curve Description: Passenger Right Lower Tibia Moment Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 67.0 at 70.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

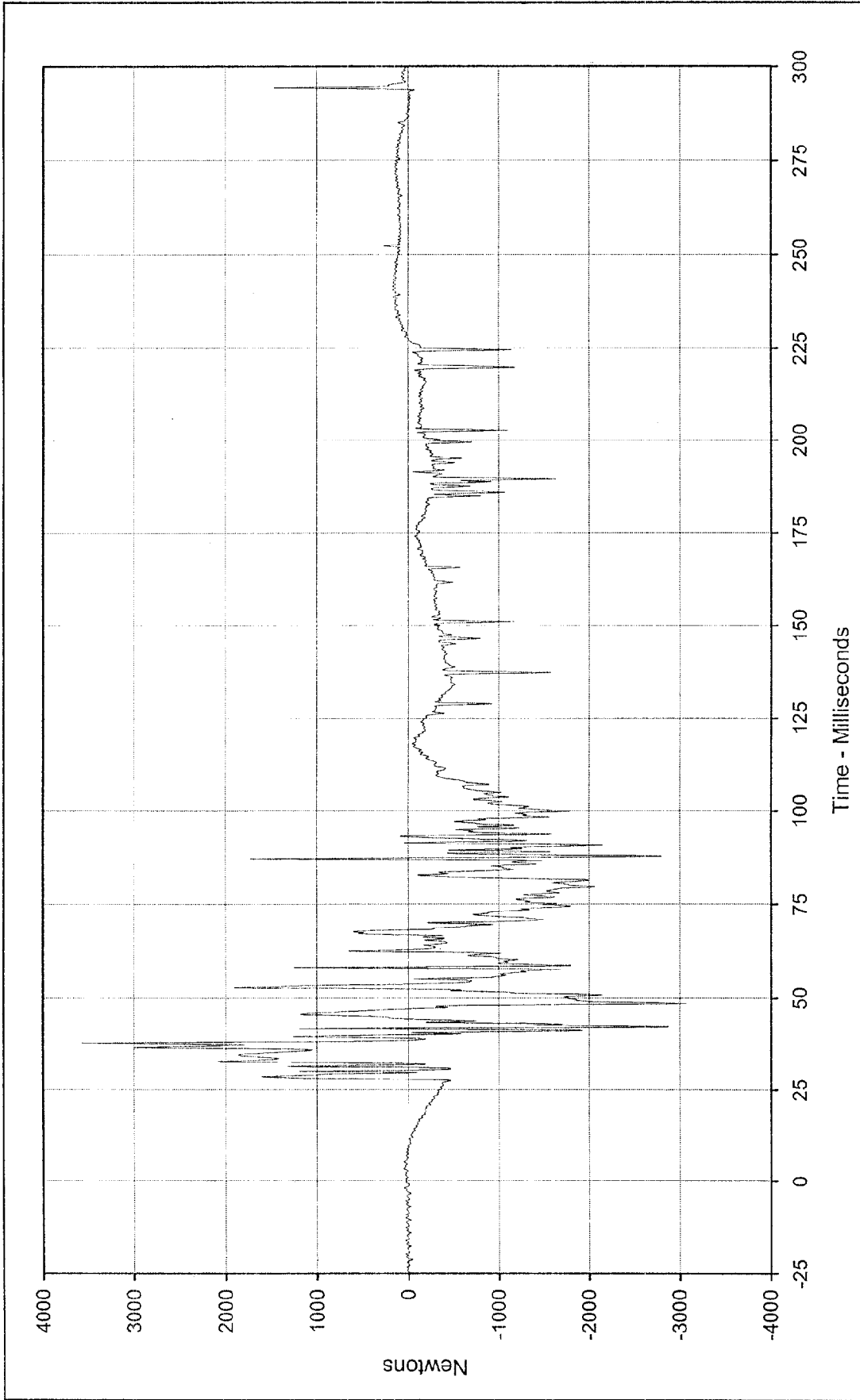
Minimum Value: -7.7 at 47.2 Milliseconds

SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-077





Curve Description: Passenger Right lower Tibia Force Z * Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 3568.6 at 37.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Minimum Value: -3060.6 at 48.6 Milliseconds

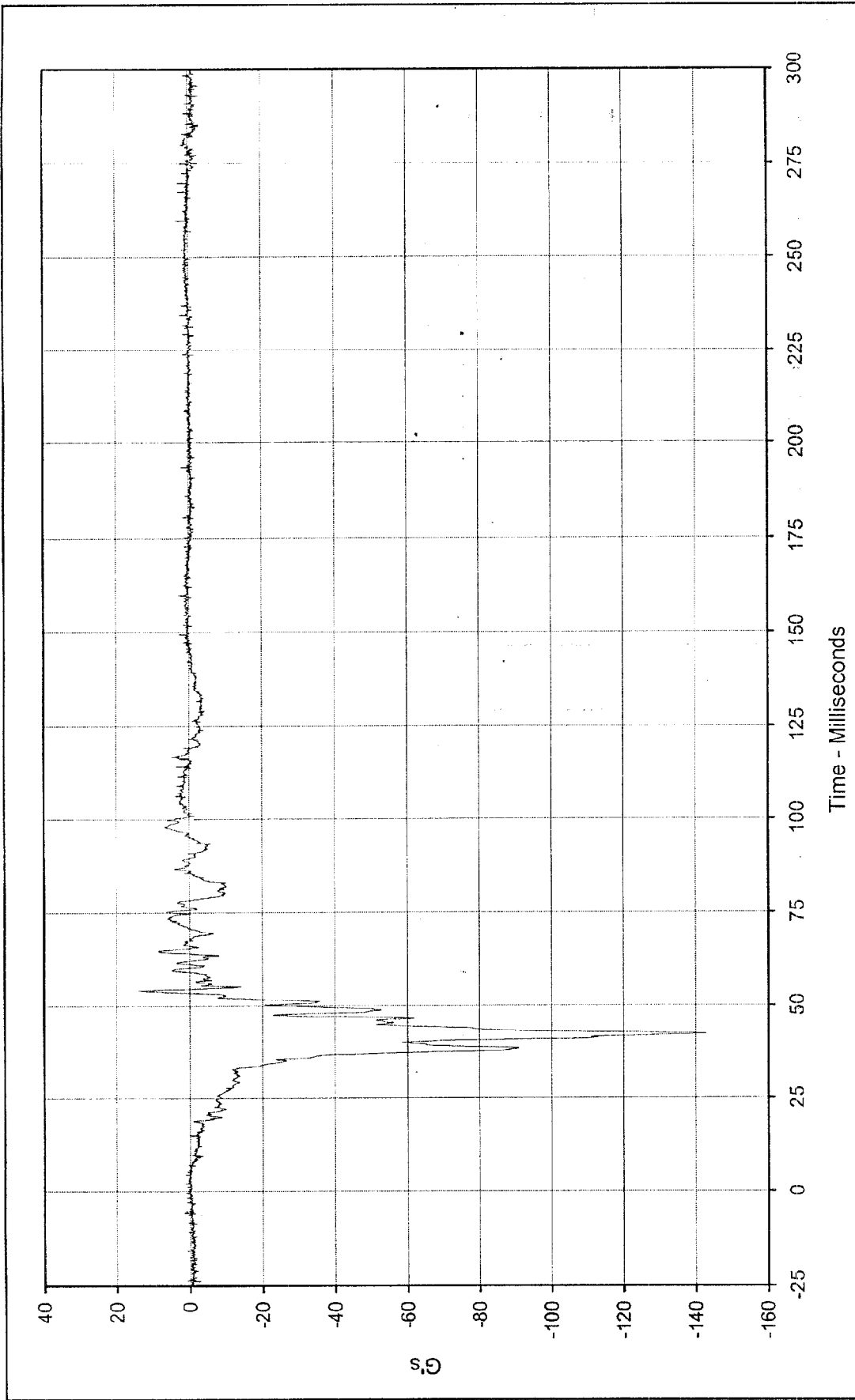
SAE Filter Class: 600

Date of Test: 6/30/98

Curve Number: FIL-078



* Questionable Data



Curve Description: Passenger Left Foot Aft X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 14.1 at 54.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

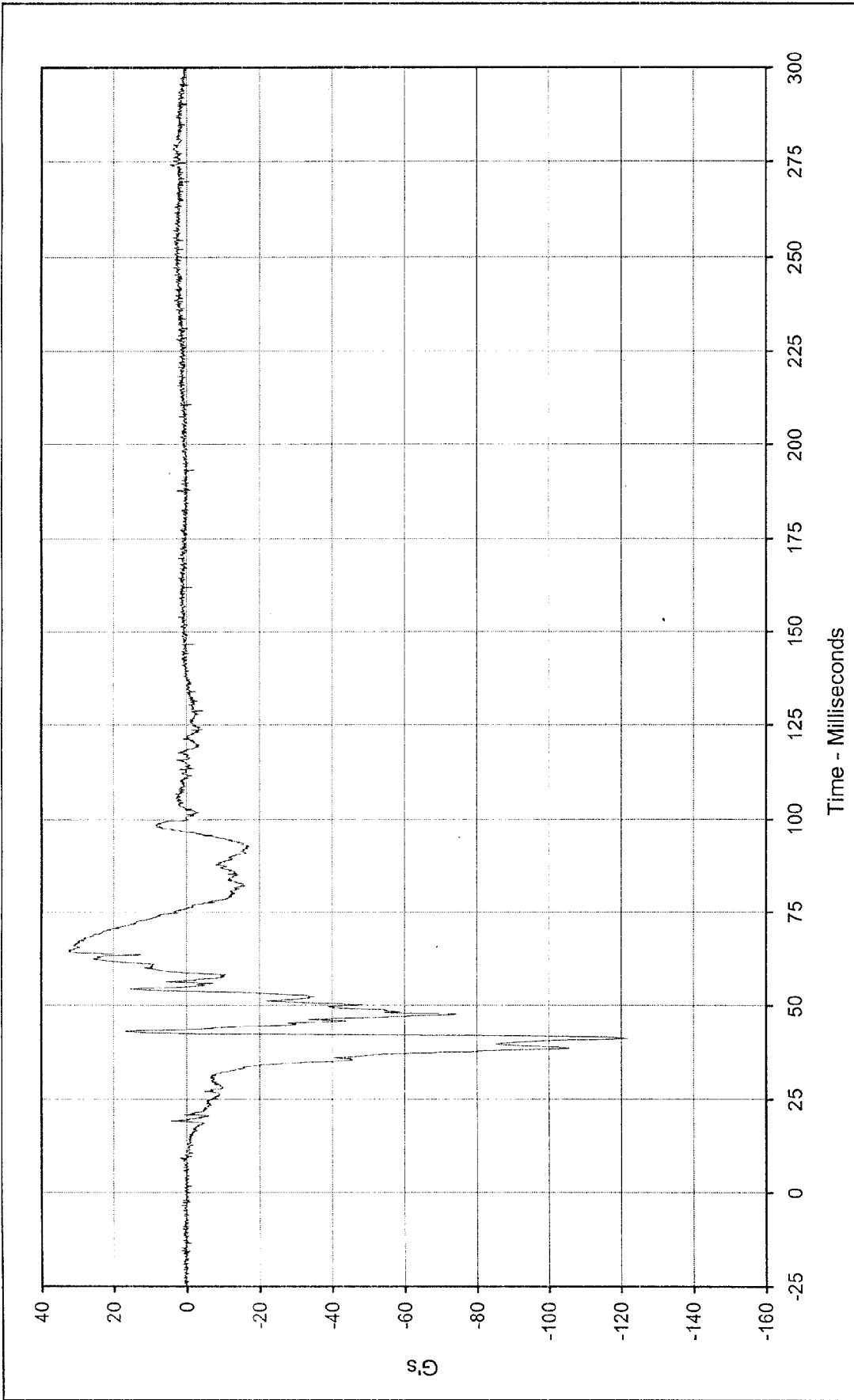
Minimum Value: -142.9 at 42.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-079





Curve Description: Passenger Left Foot Aft Z

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 32.5 at 64.4 Milliseconds

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

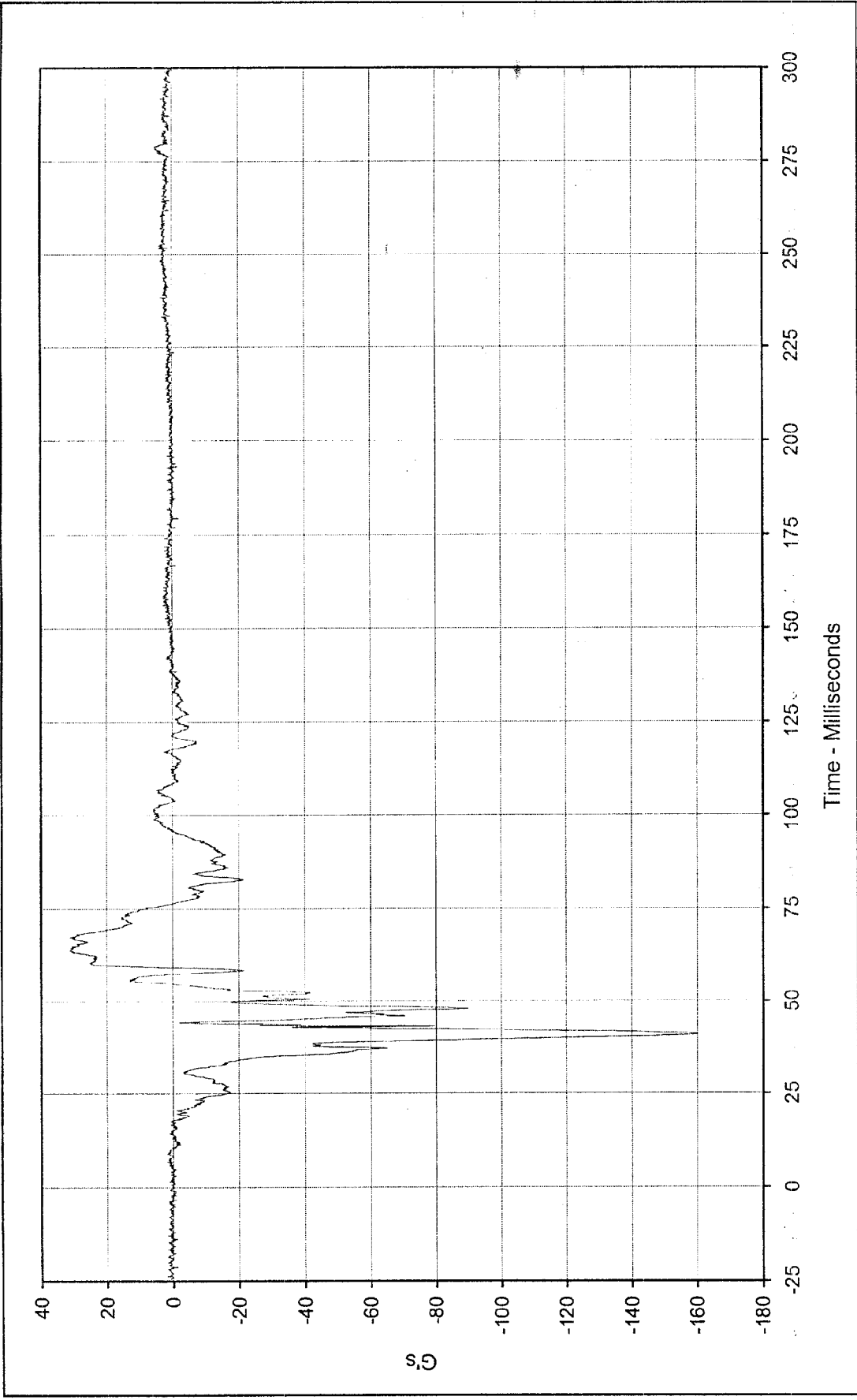
Minimum Value: -121.8 at 41.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-080

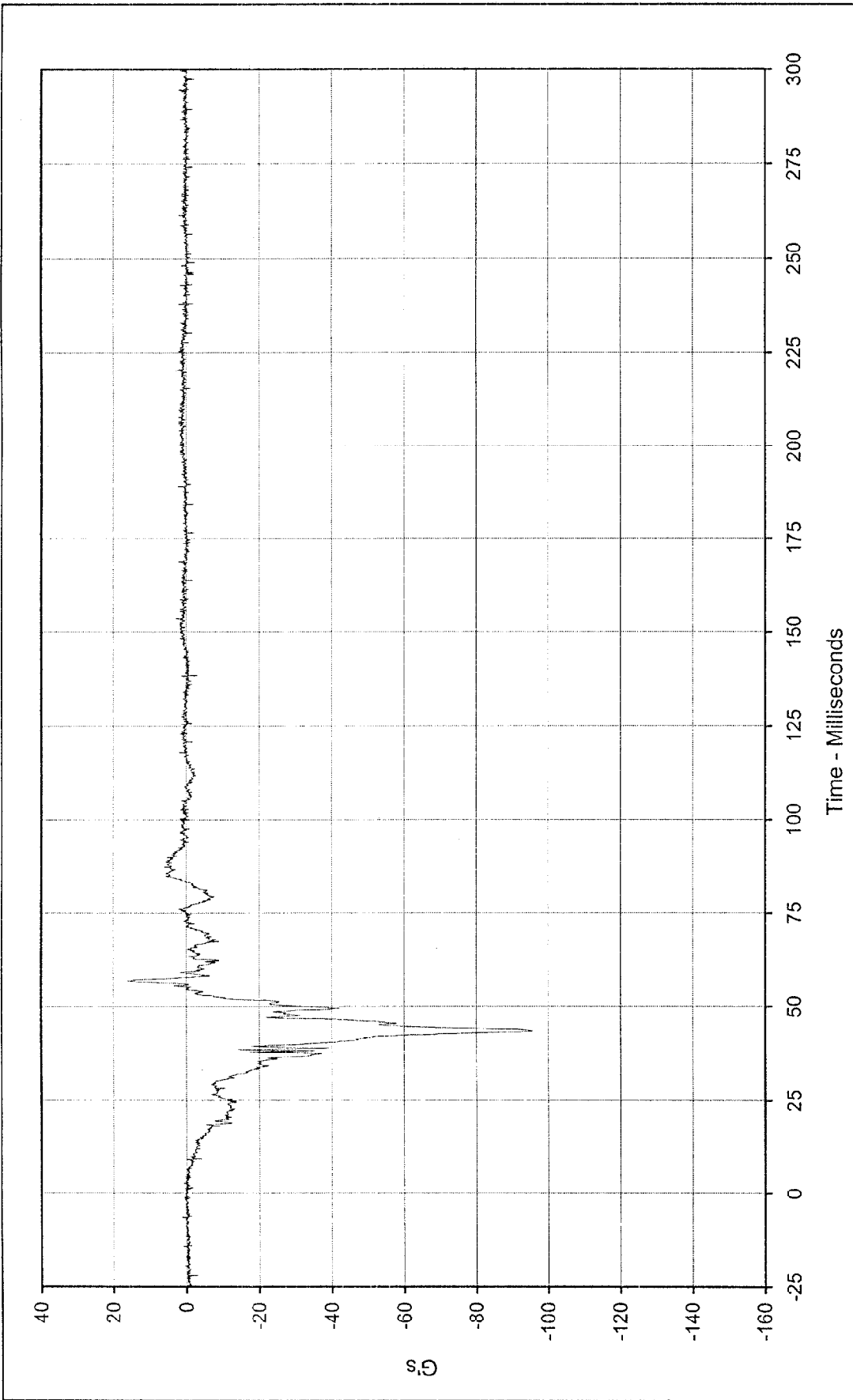




Curve Description: Passenger Left Foot Fore Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 31.1 at 63.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -159.9 at 40.6 Milliseconds



SAE Filter Class: 1000
 Date of Test: 6/30/98
 Curve Number: FIL-081



Curve Description: Passenger Right Foot Aft X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 16.3 at 56.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

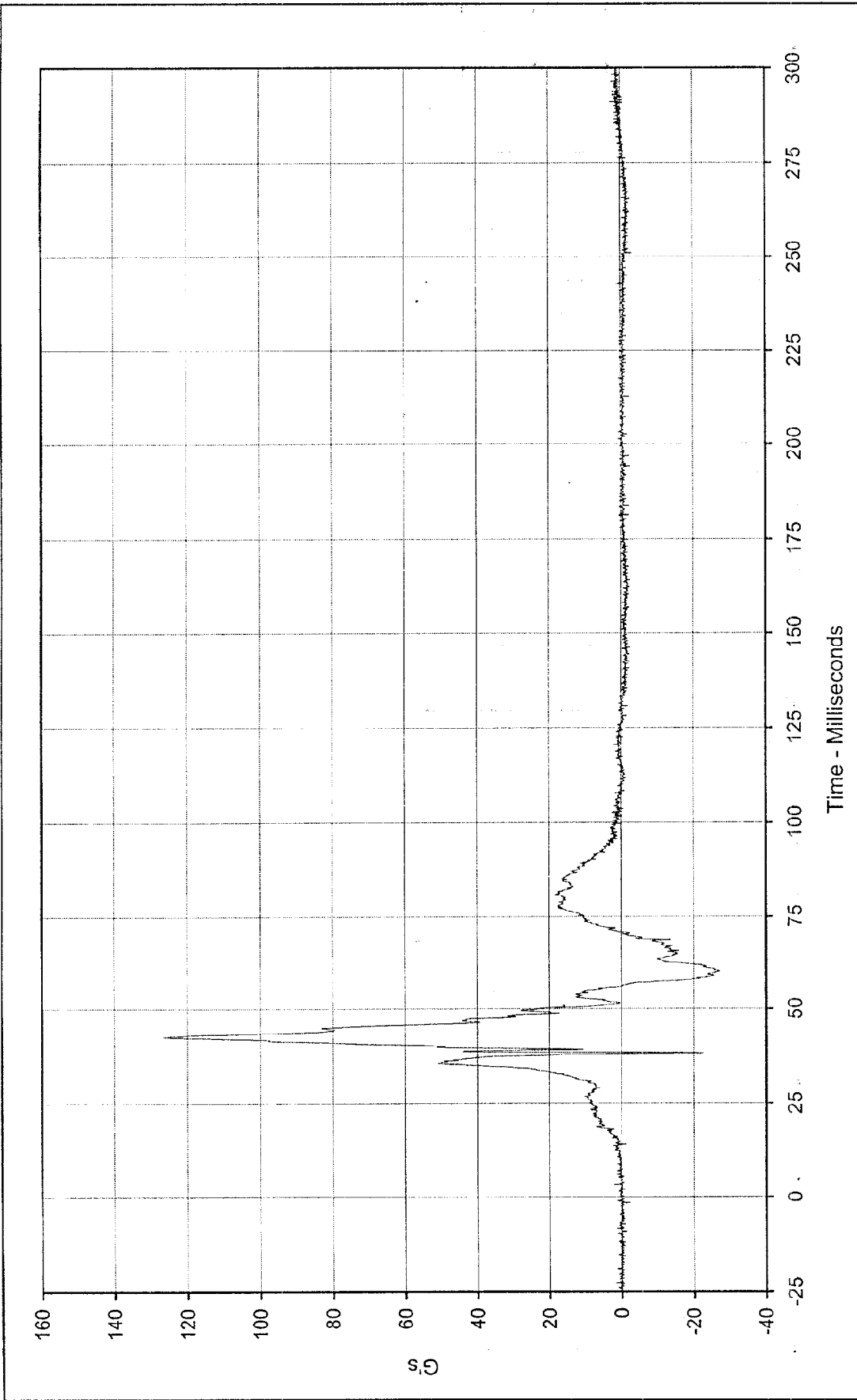
Minimum Value: -95.5 at 43.5 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-082





Curve Description: Passenger Right Foot Aft Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 126.5 at 42.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

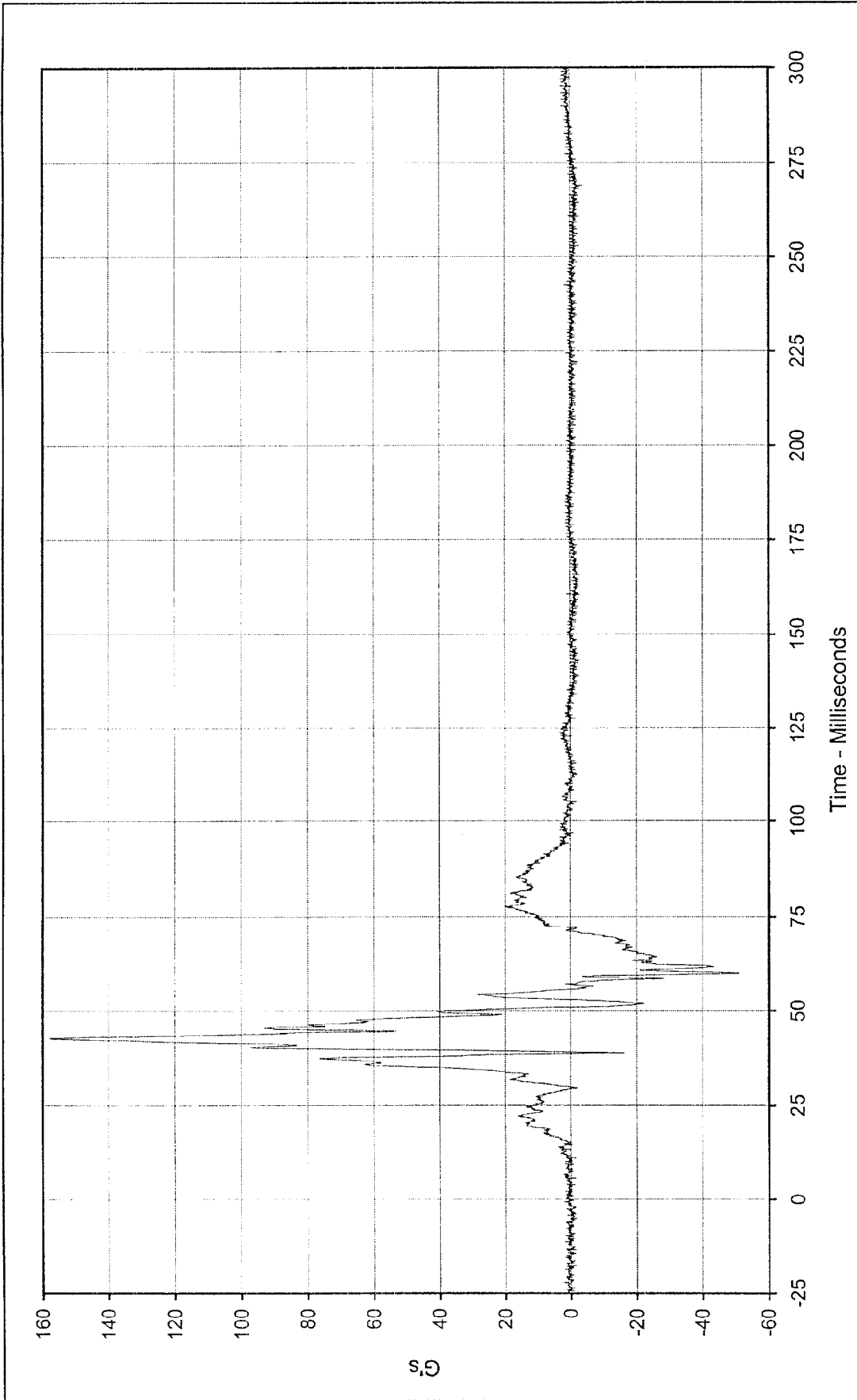
Minimum Value: -27.3 at 60.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-083





Curve Description: Passenger Right Foot Fore Z Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 157.7 at 42.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

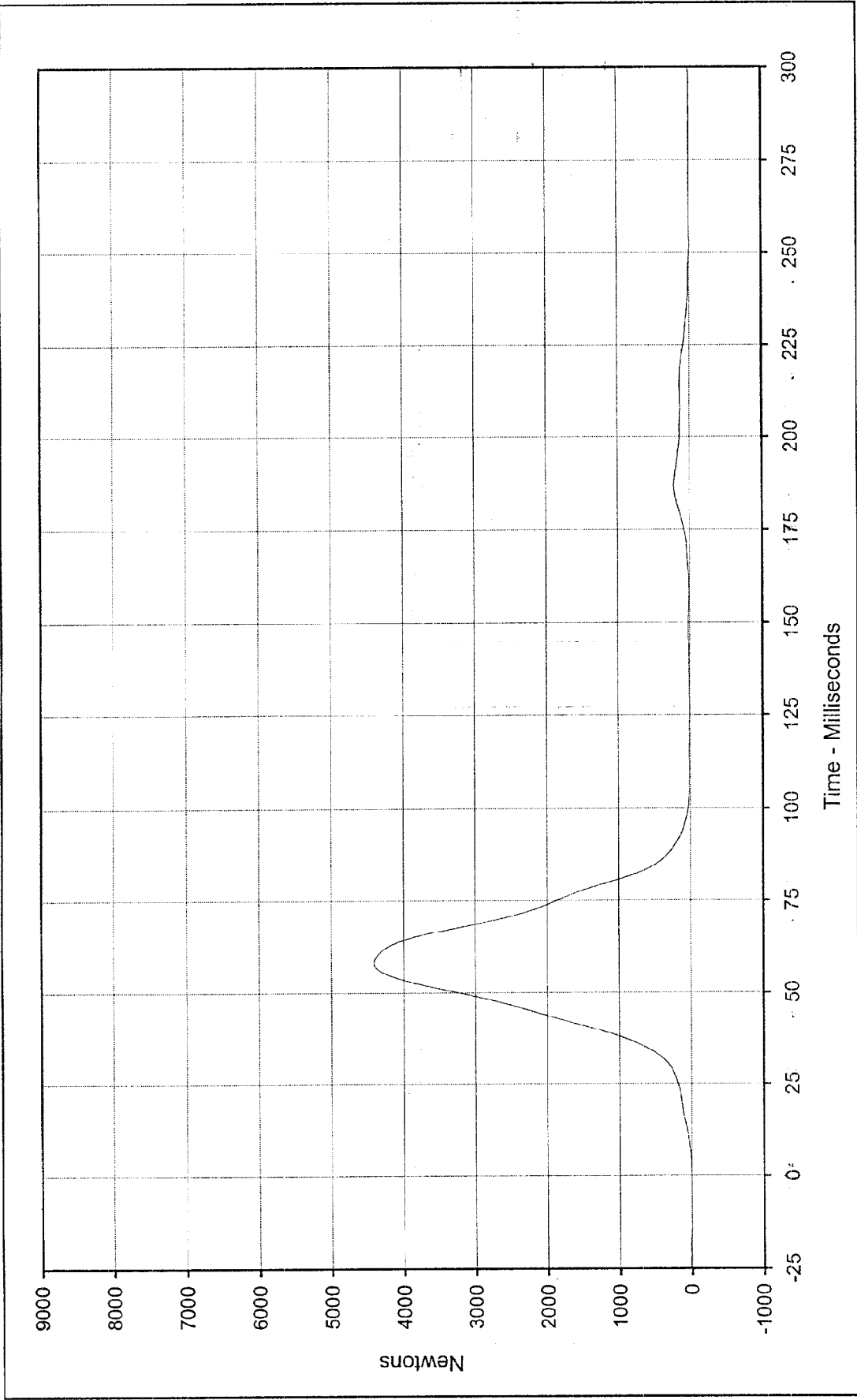
Minimum Value: -51.0 at 59.9 Milliseconds

SAE Filter Class: 1000

Date of Test: 6/30/98

Curve Number: FIL-084





Curve Description: Passenger Lap Belt Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 4407.0 at 58.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

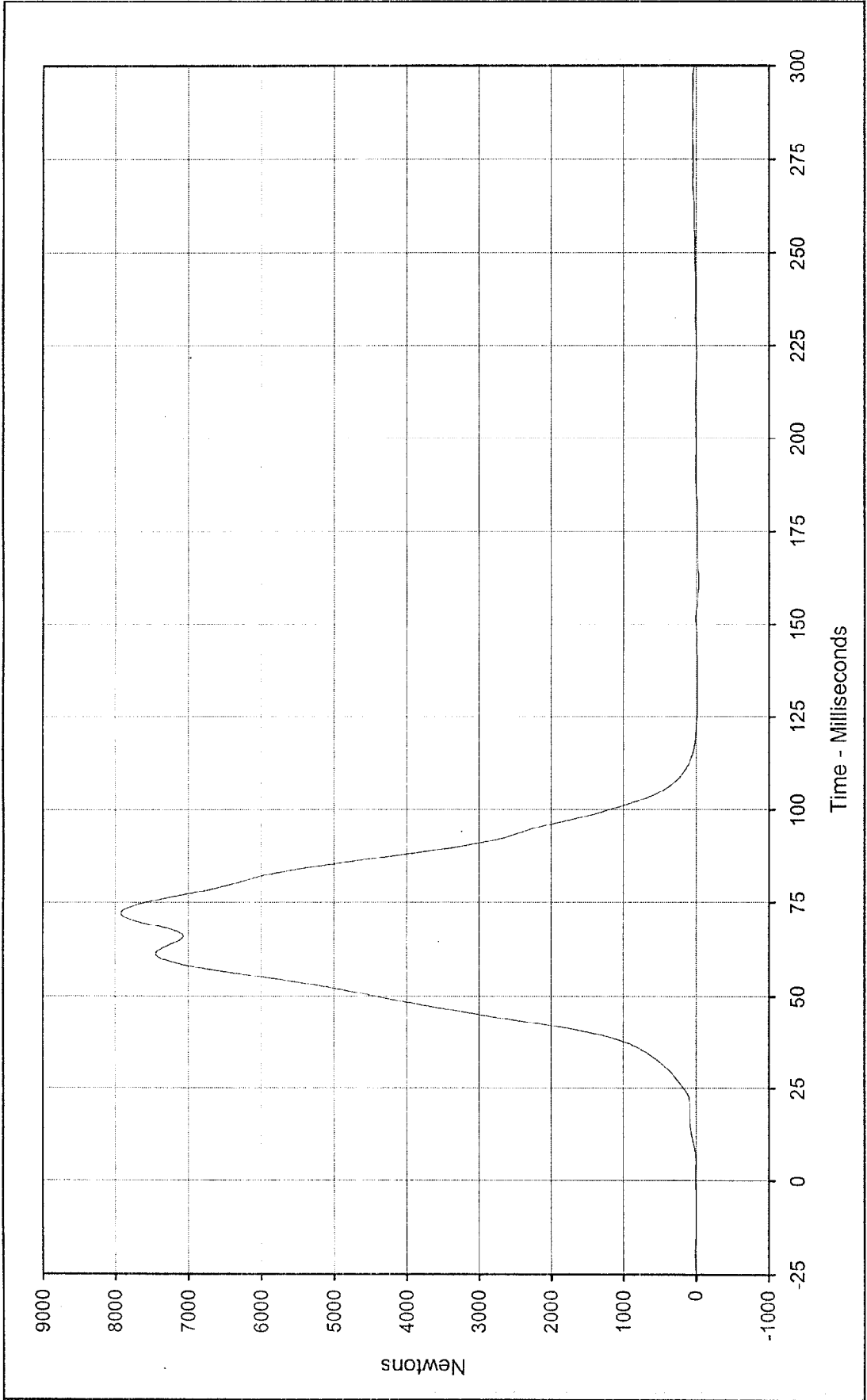
Minimum Value: -6.0 at 252.6 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-085





Curve Description: Passenger Shoulder Belt Force Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 7921.1 at 72.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

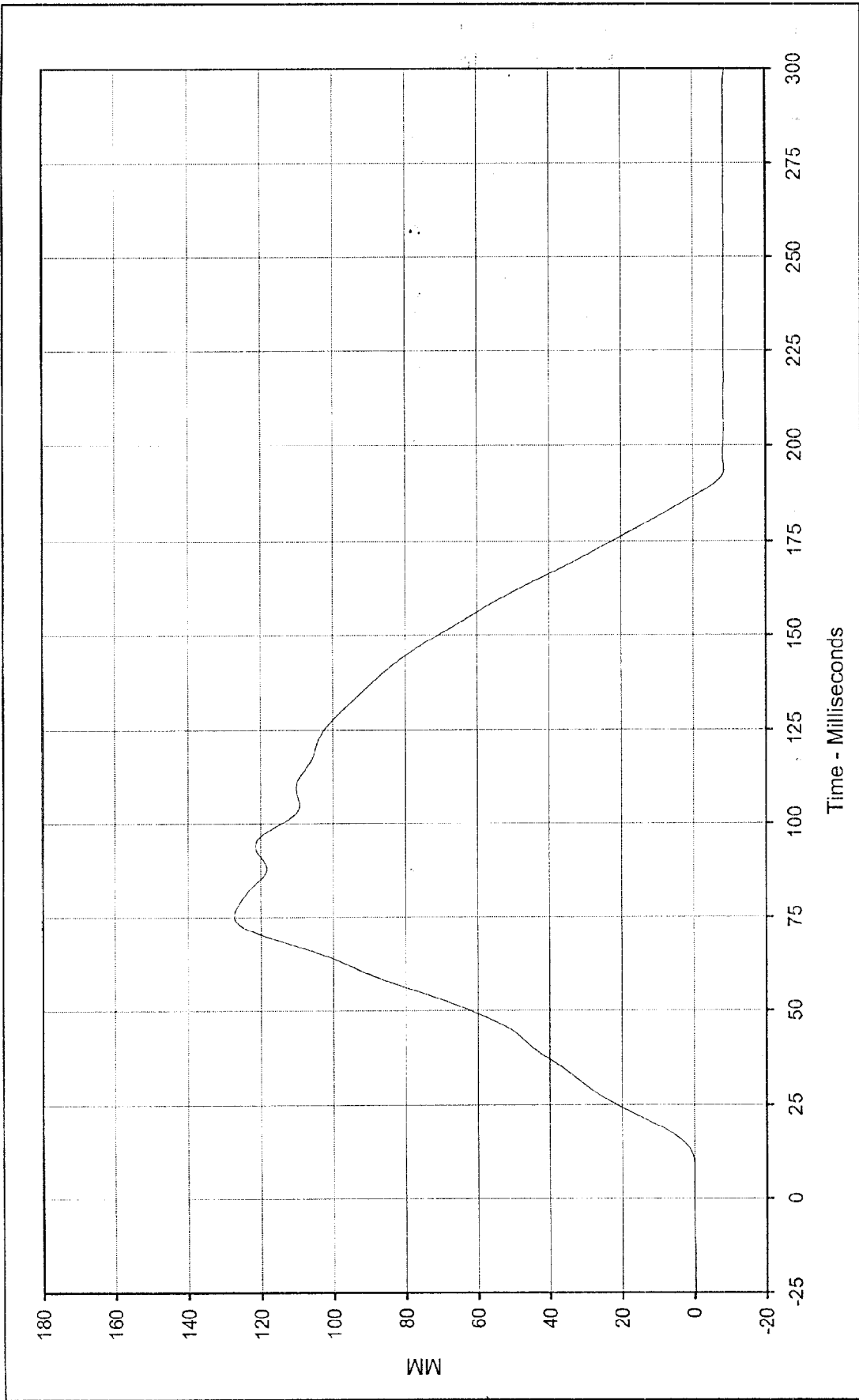
Minimum Value: -36.8 at 161.6 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-086

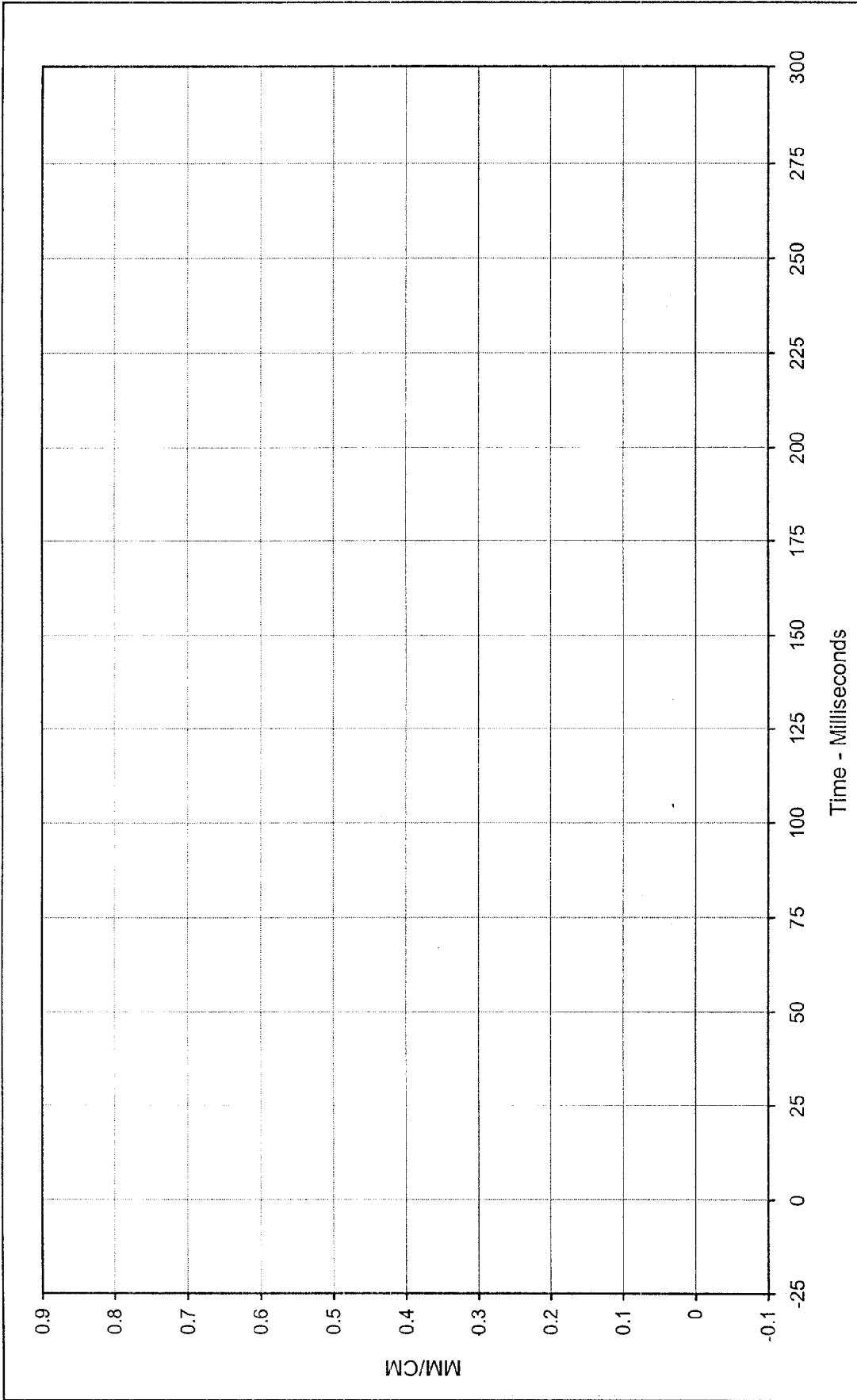




Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan



Curve Description: Passenger Shoulder Belt Pullout
 Maximum Value: 127.3 at 75.4 Milliseconds
 Minimum Value: -8.8 at 299.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-087



Curve Description: Passenger Shoulder Belt Elongation * Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 0.00 at 0.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Minimum Value: 0.00 at 0.0 Milliseconds

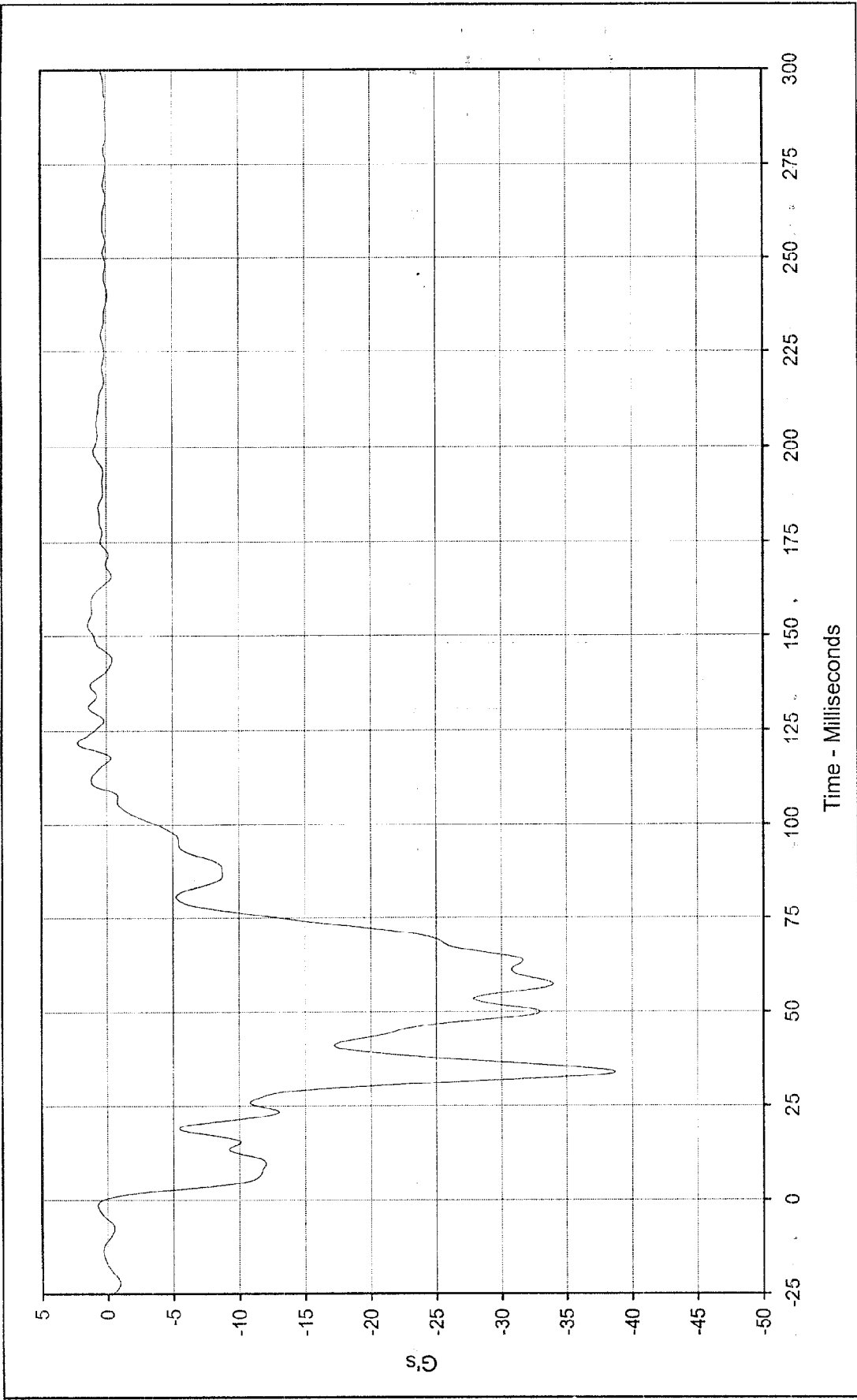
SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-088



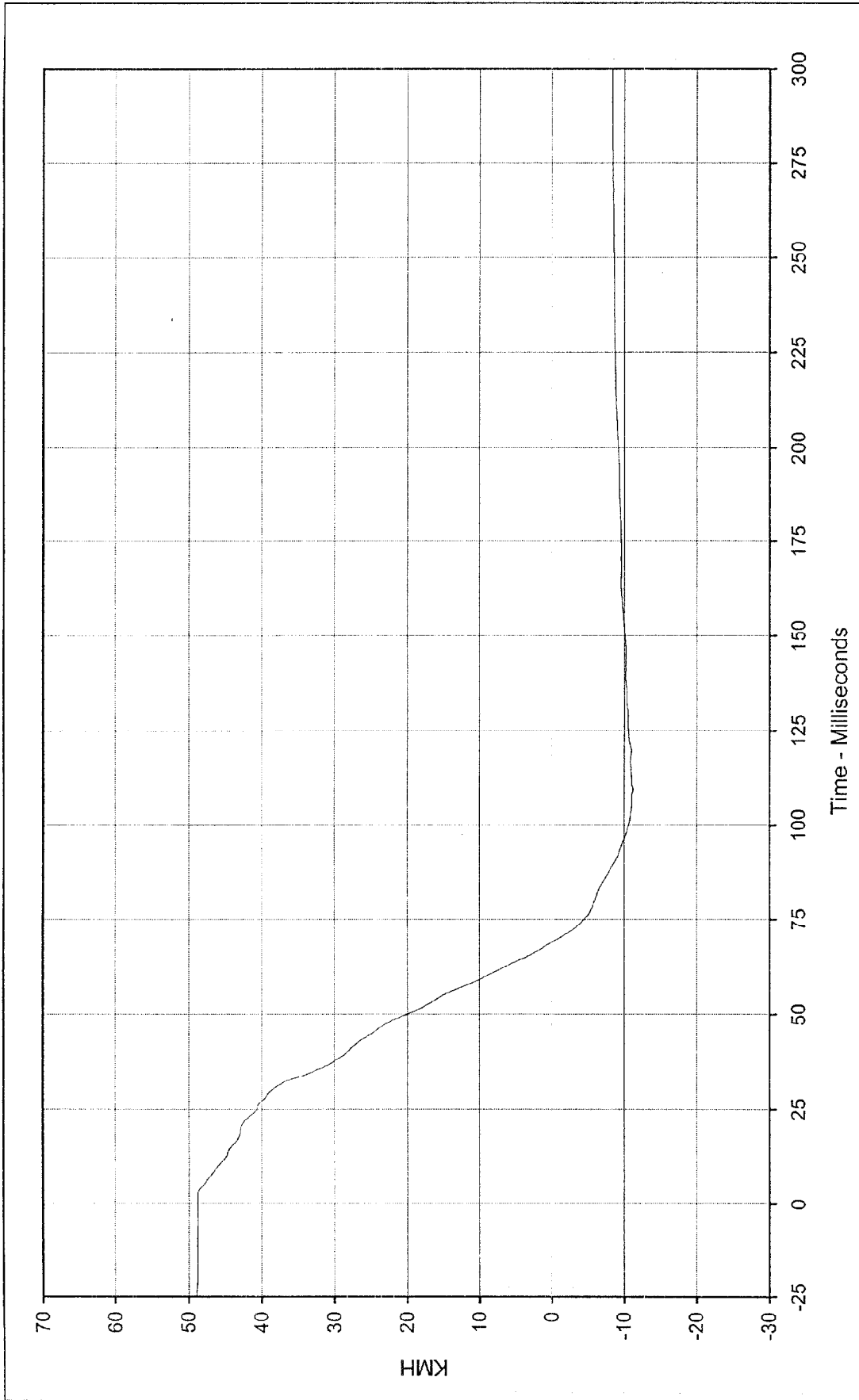
*Channel Failed, No Data



Curve Description: Vehicle Left Sill X
 Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

Maximum Value: 2.2 at 121.6 Milliseconds
 Minimum Value: -38.7 at 33.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-089





Curve Description: Vehicle Left Sill X Velocity

Maximum Value: 48.8 at 2.2 Milliseconds

Minimum Value: -11.2 at 109.4 Milliseconds

SAE Filter Class: 180

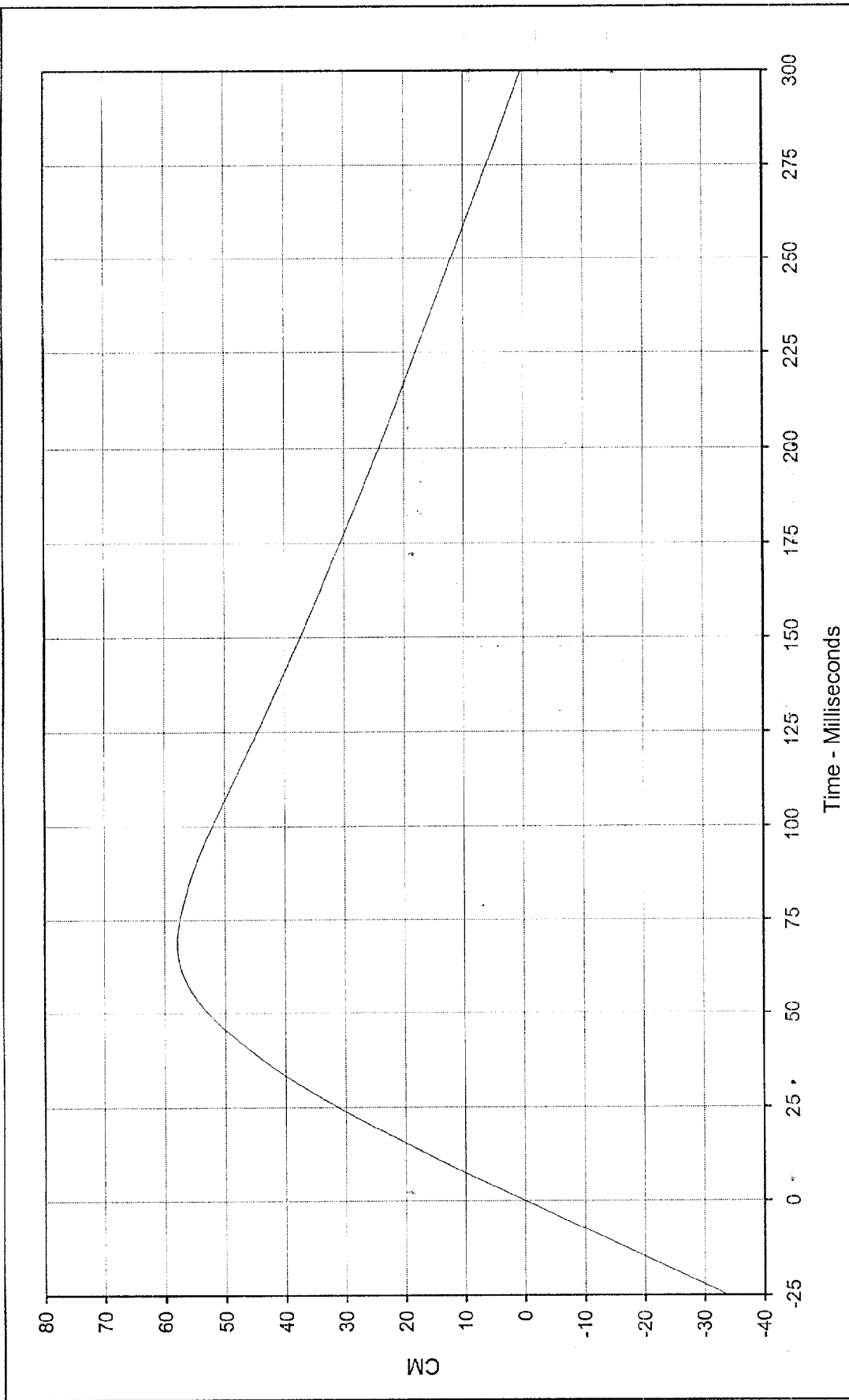
Date of Test: 6/30/98

Curve Number: IN1-089

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Vehicle Left Sill X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 57.9 at 68.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

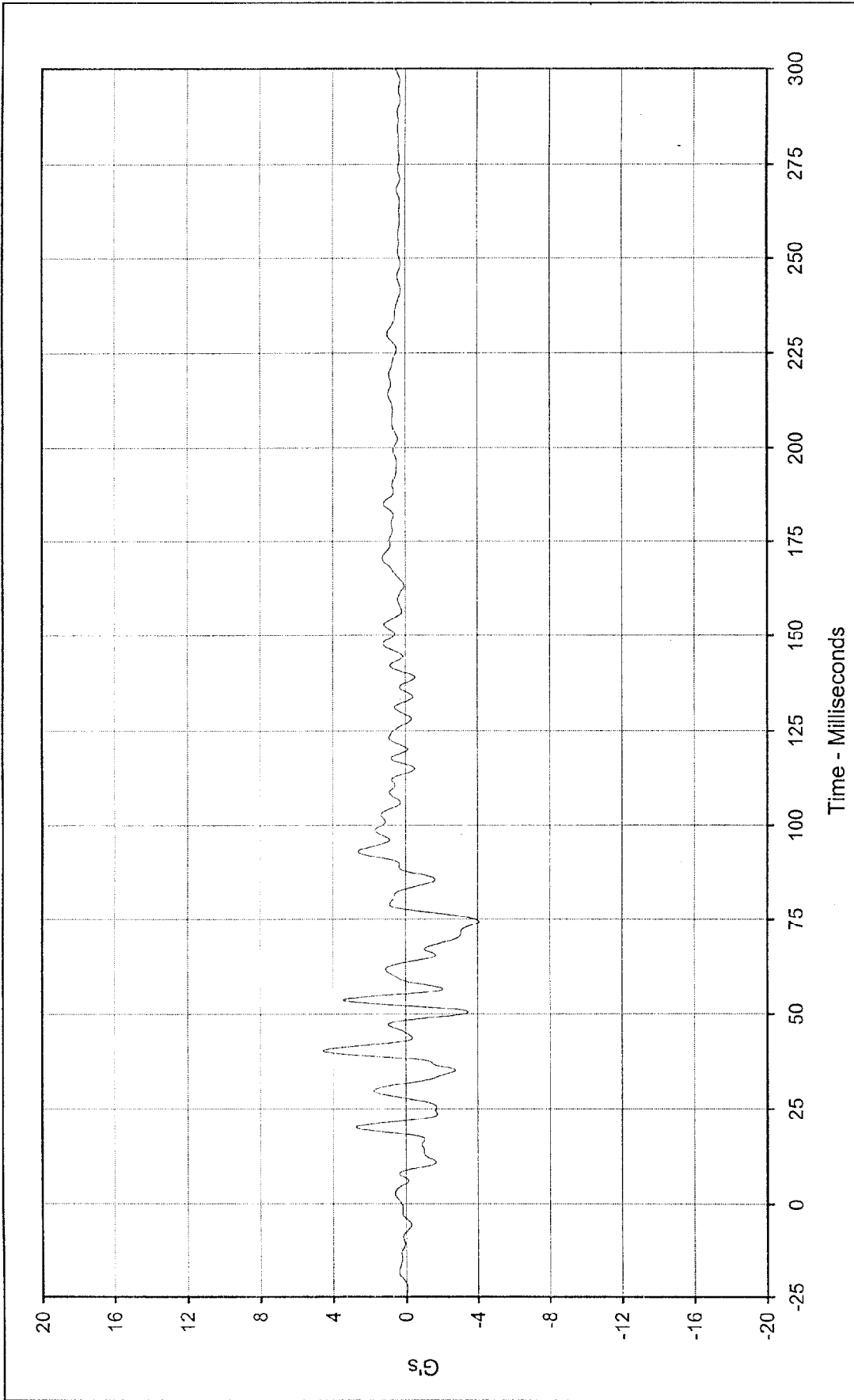
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-089





Curve Description: Vehicle Left Sill Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 4.6 at 40.3 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

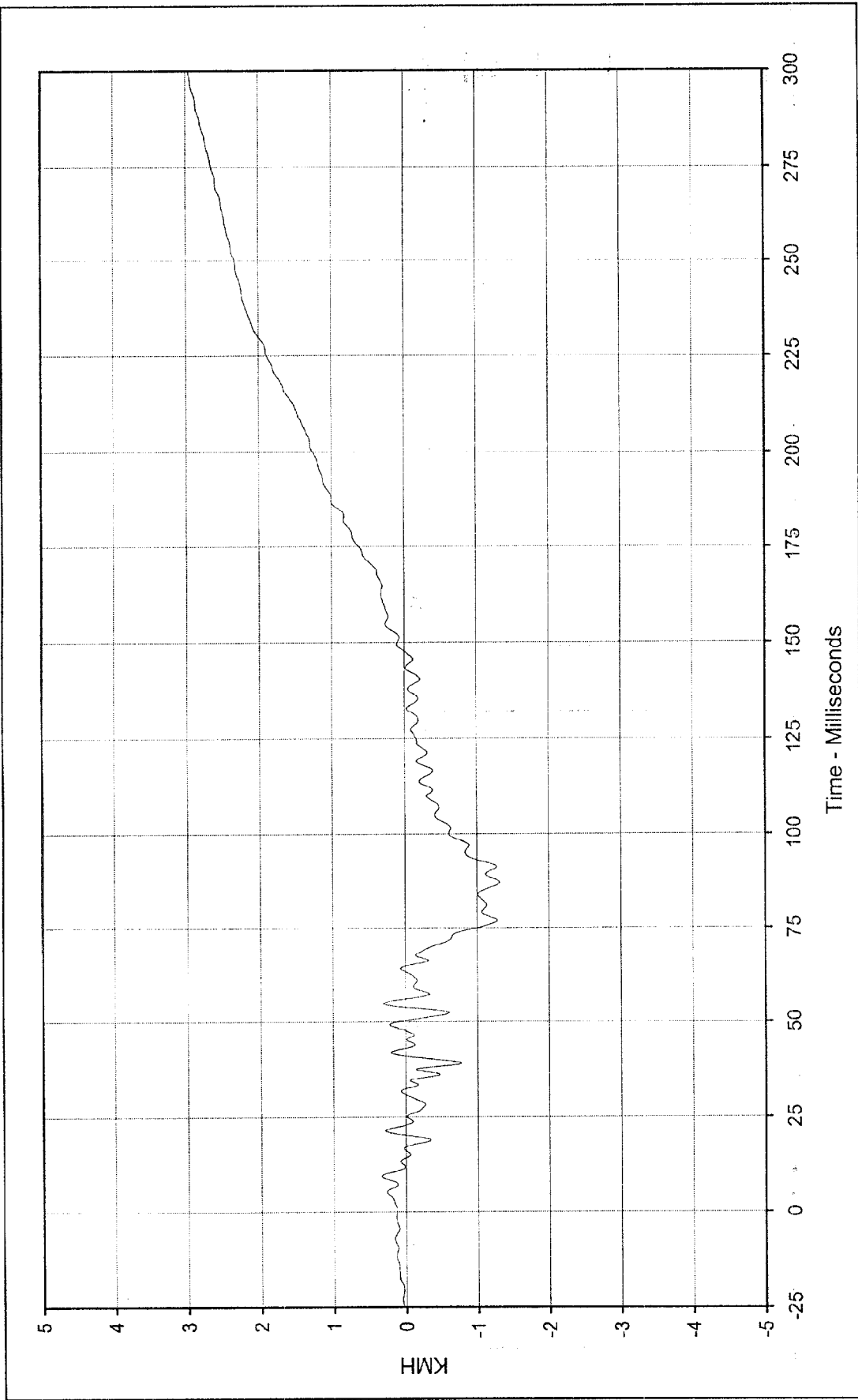
Minimum Value: -4.1 at 74.4 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-090





Curve Description: Vehicle Left Sill Y Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 3.0 at 299.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

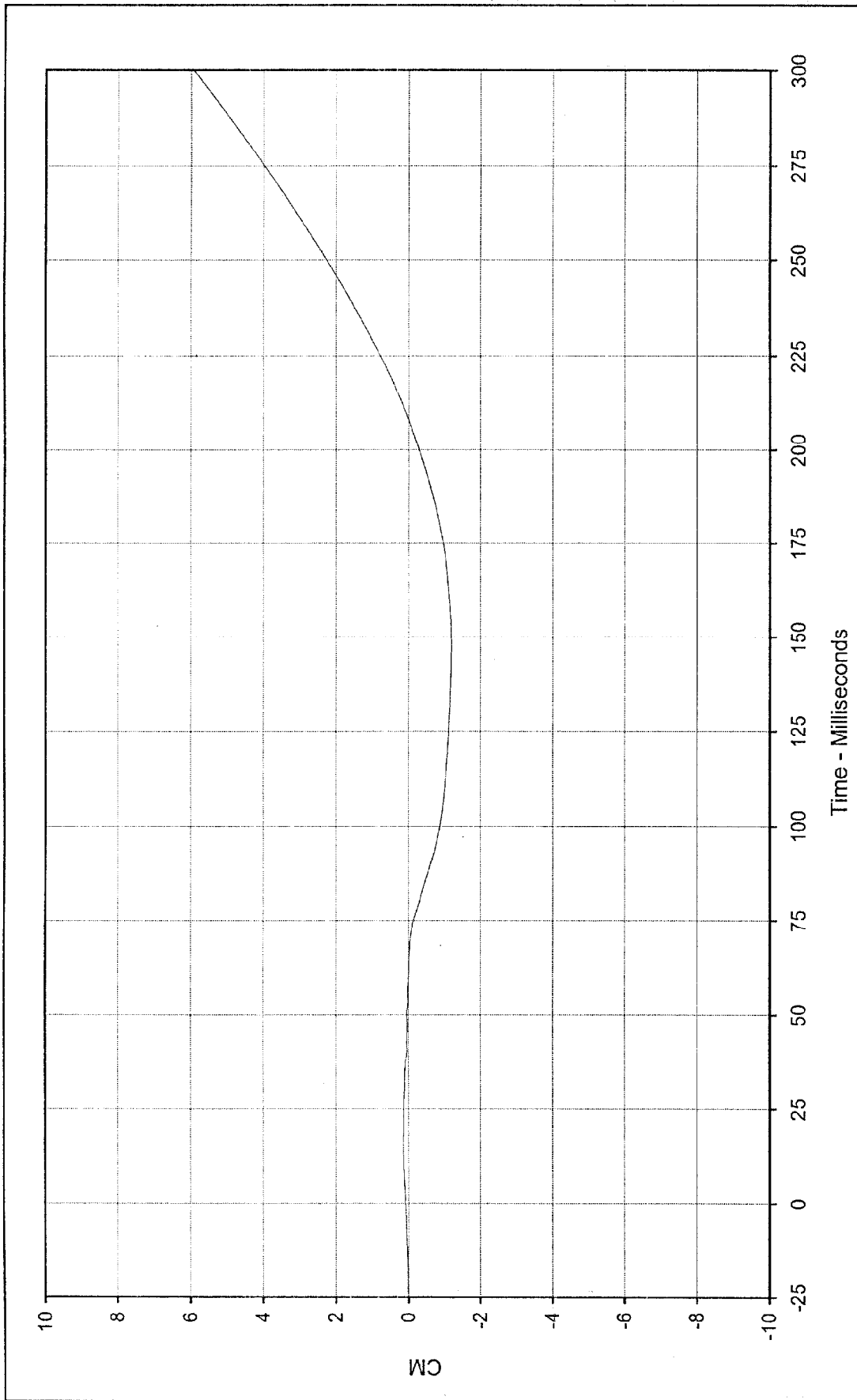
Minimum Value: -1.3 at 87.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN1-090





Curve Description: Vehicle Left Sill Y Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 5.9 at 299.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

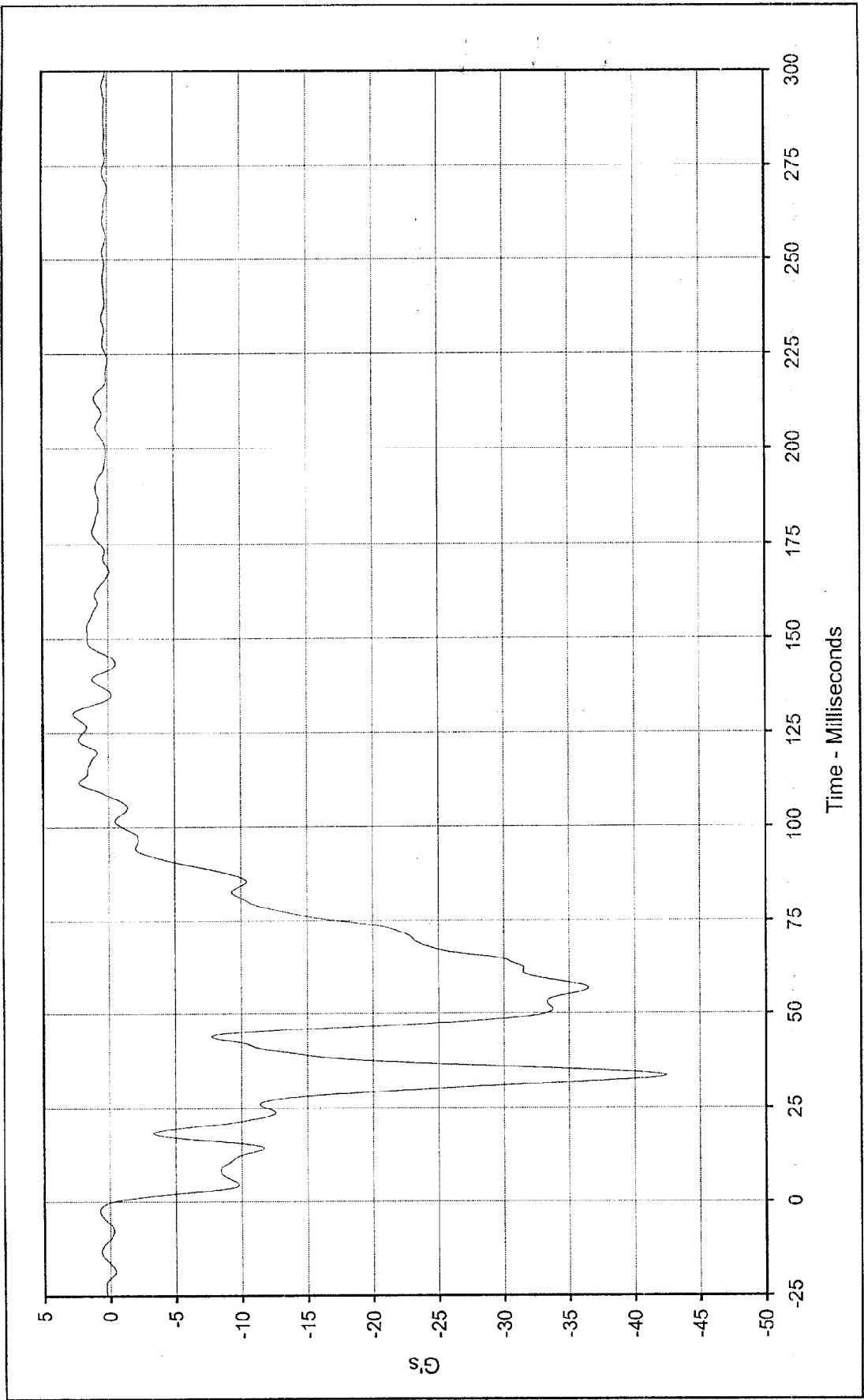
Minimum Value: -1.2 at 147.7 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-090

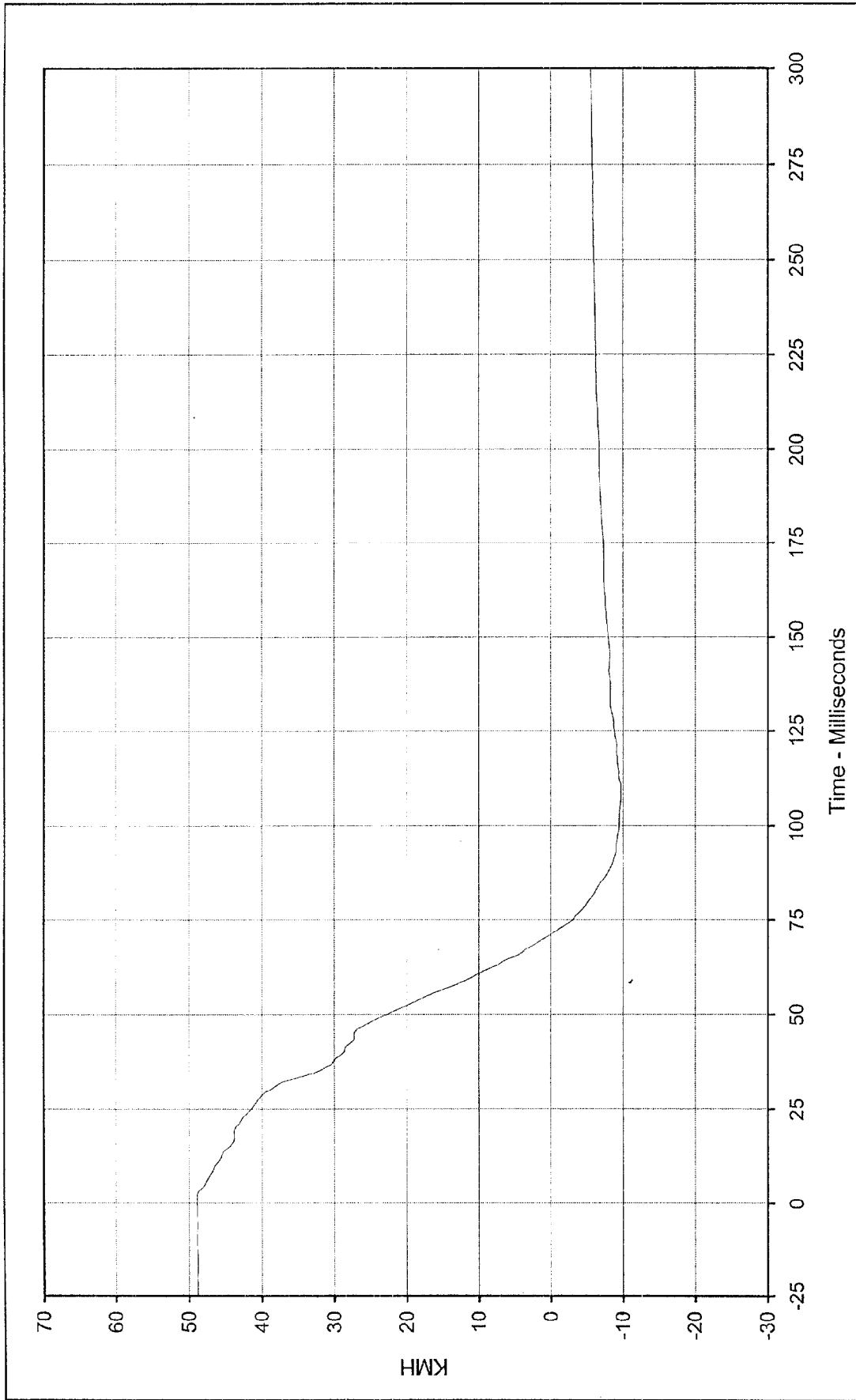




Curve Description: Vehicle Center Tunnel X
 Maximum Value: 2.7 at 129.9 Milliseconds
 Minimum Value: -42.4 at 33.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-091

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Vehicle Center Tunnel X Velocity

Maximum Value: 48.9 at 1.6 Milliseconds

Minimum Value: -9.7 at 107.7 Milliseconds

SAE Filter Class: 180

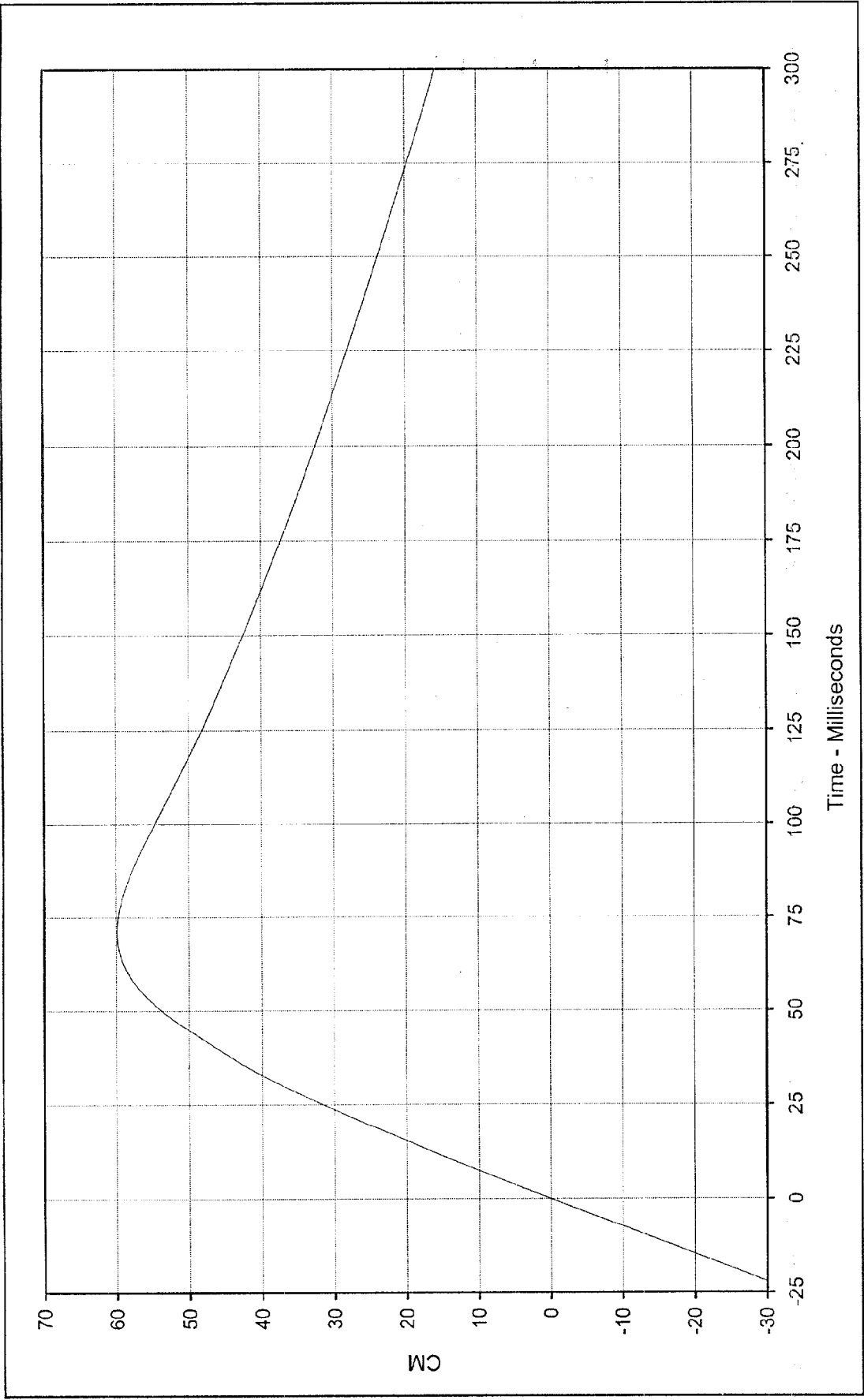
Date of Test: 6/30/98

Curve Number: IN1-091

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Test Vehicle: 1998 Dodge Neon 4 Door Sedan

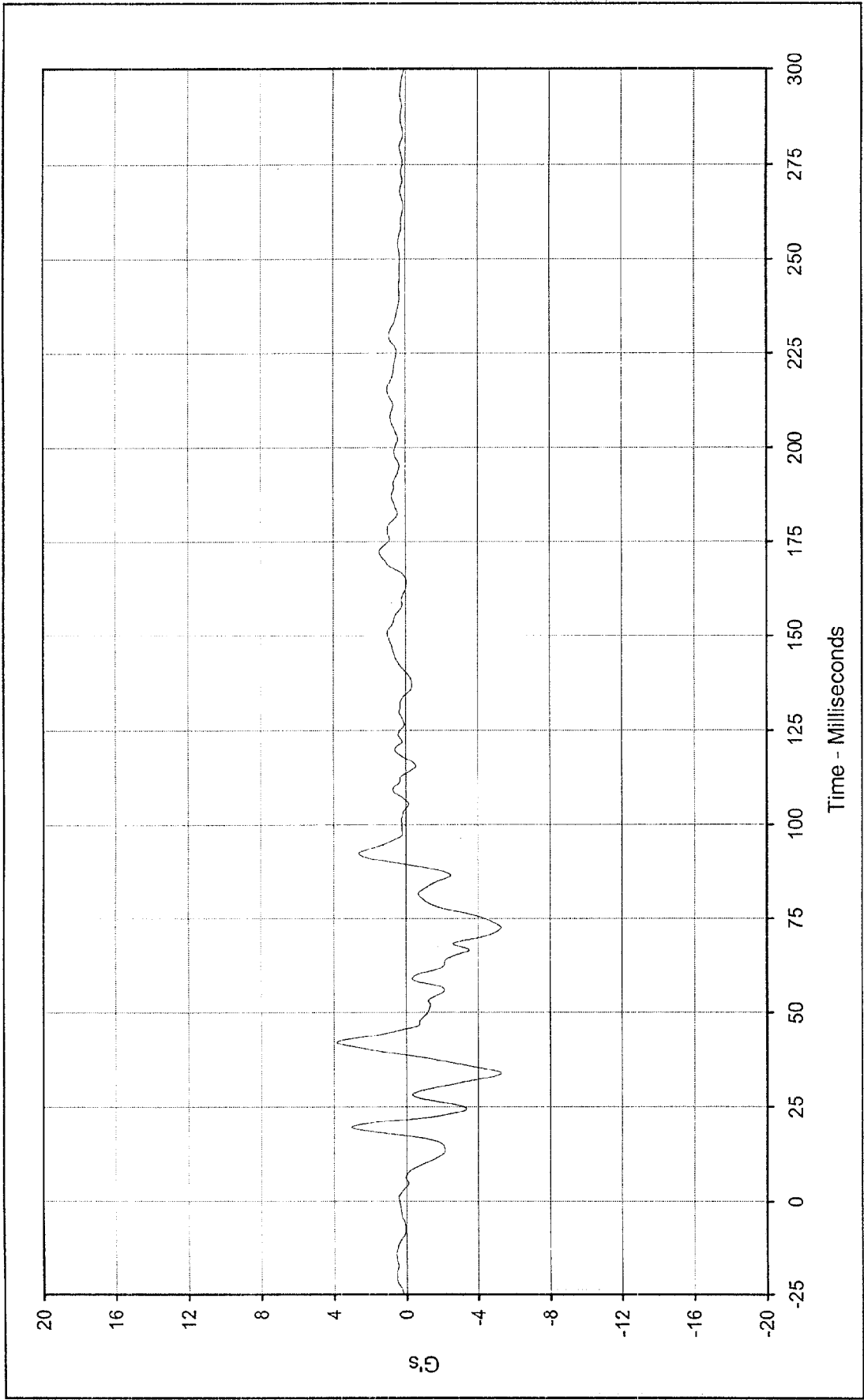




Curve Description: Vehicle Center Tunnel X Displ.
 Maximum Value: 59.9 at 71.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-091

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

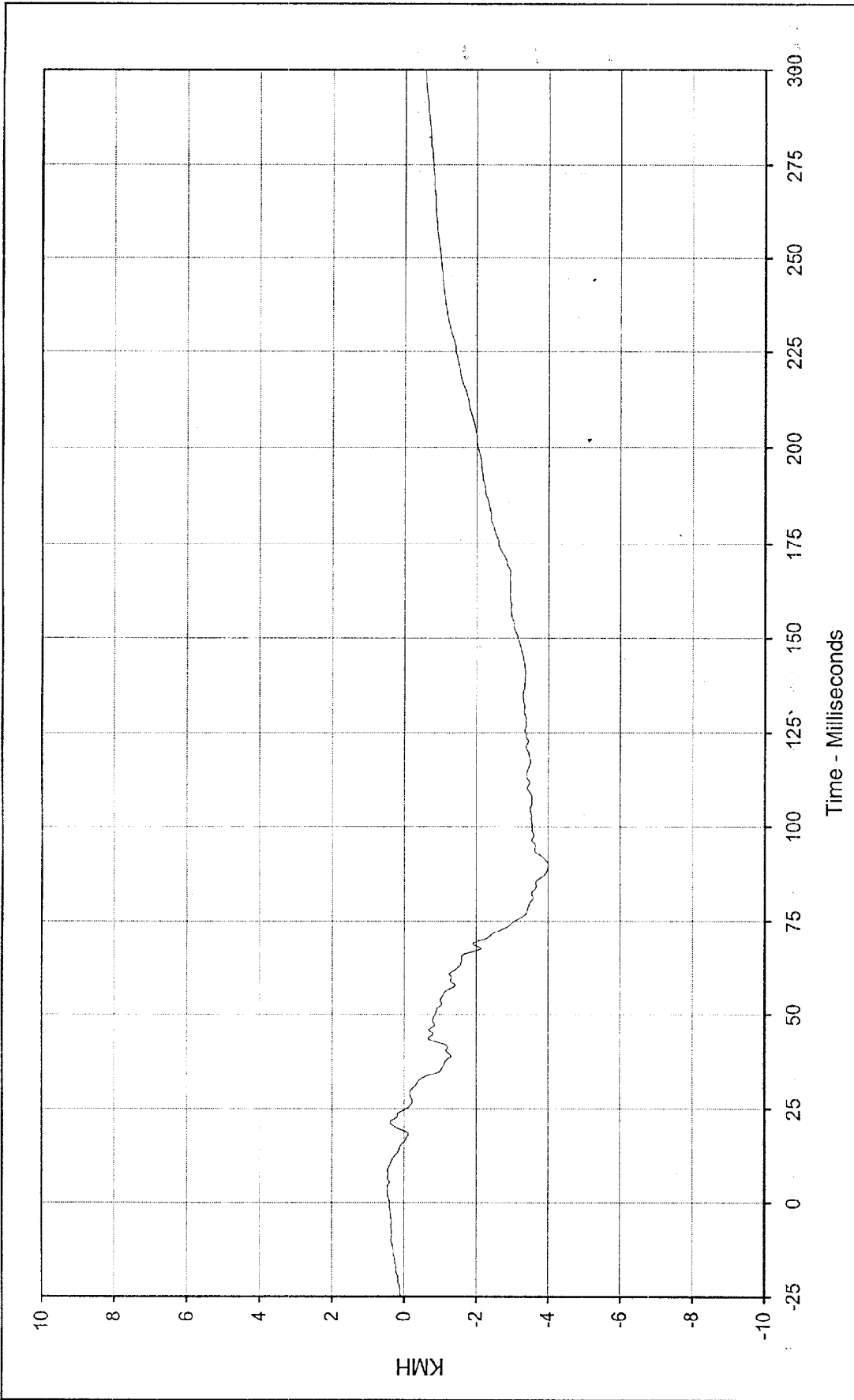




Curve Description: _____ Vehicle Center Tunnel Y
 Maximum Value: 3.8 at 42.2 Milliseconds
 Minimum Value: -5.3 at 72.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-092

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan

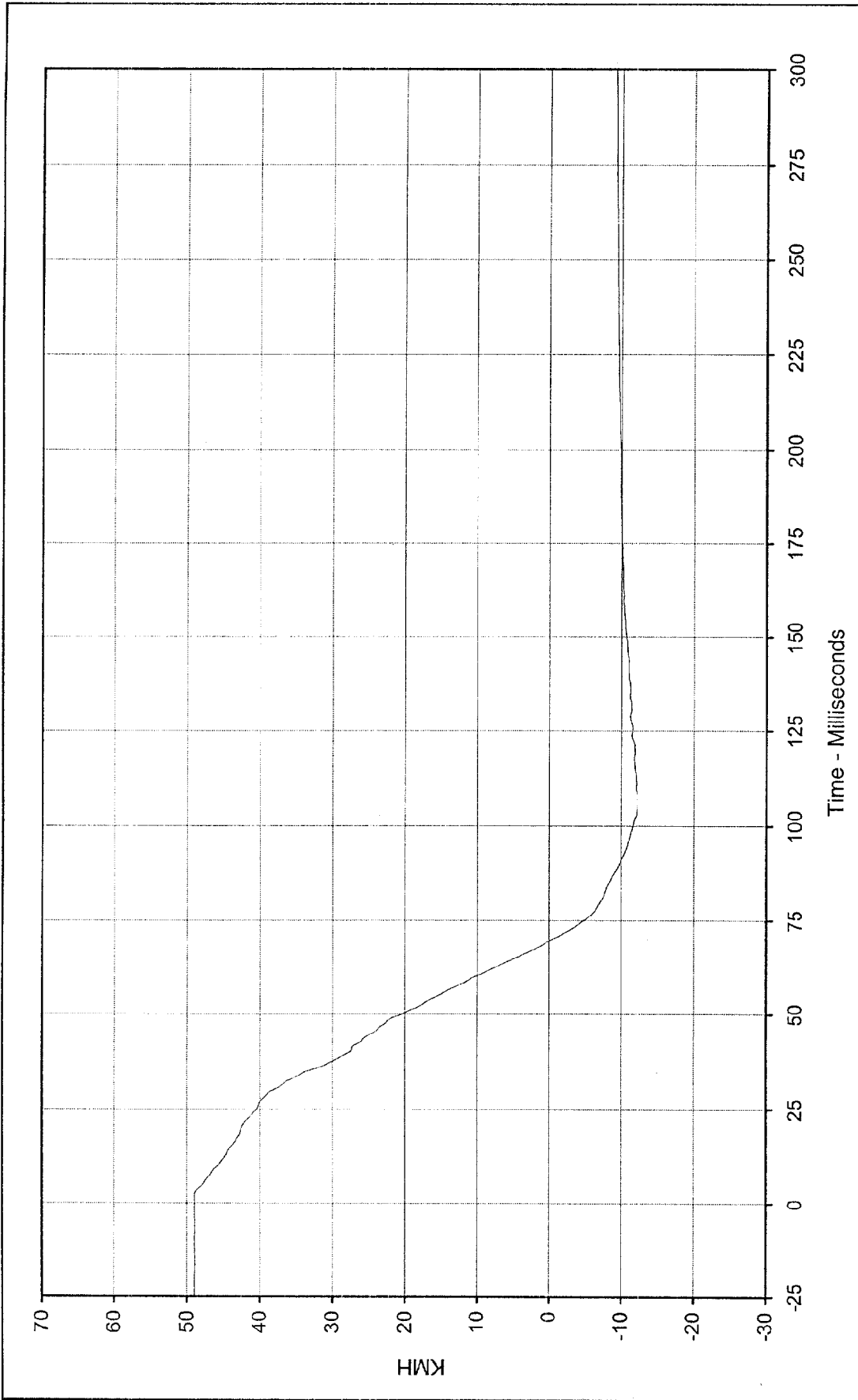




Curve Description: Vehicle Center Tunnel Y Velocity
 Maximum Value: 0.5 at 4.0 Milliseconds
 Minimum Value: -4.0 at 89.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN1-092

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Vehicle Right Sill X Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 48.9 at 1.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

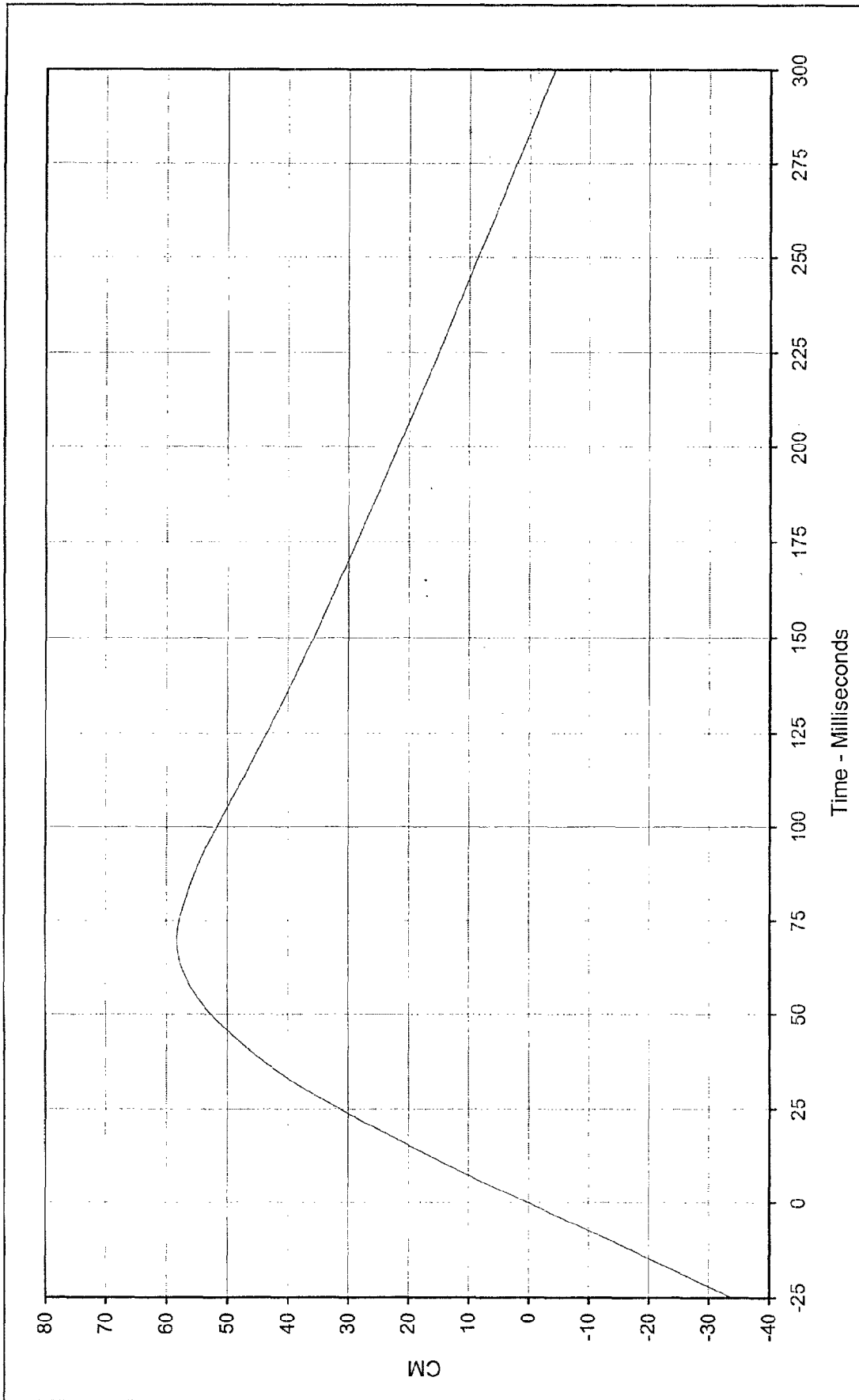
Minimum Value: -12.2 at 107.8 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

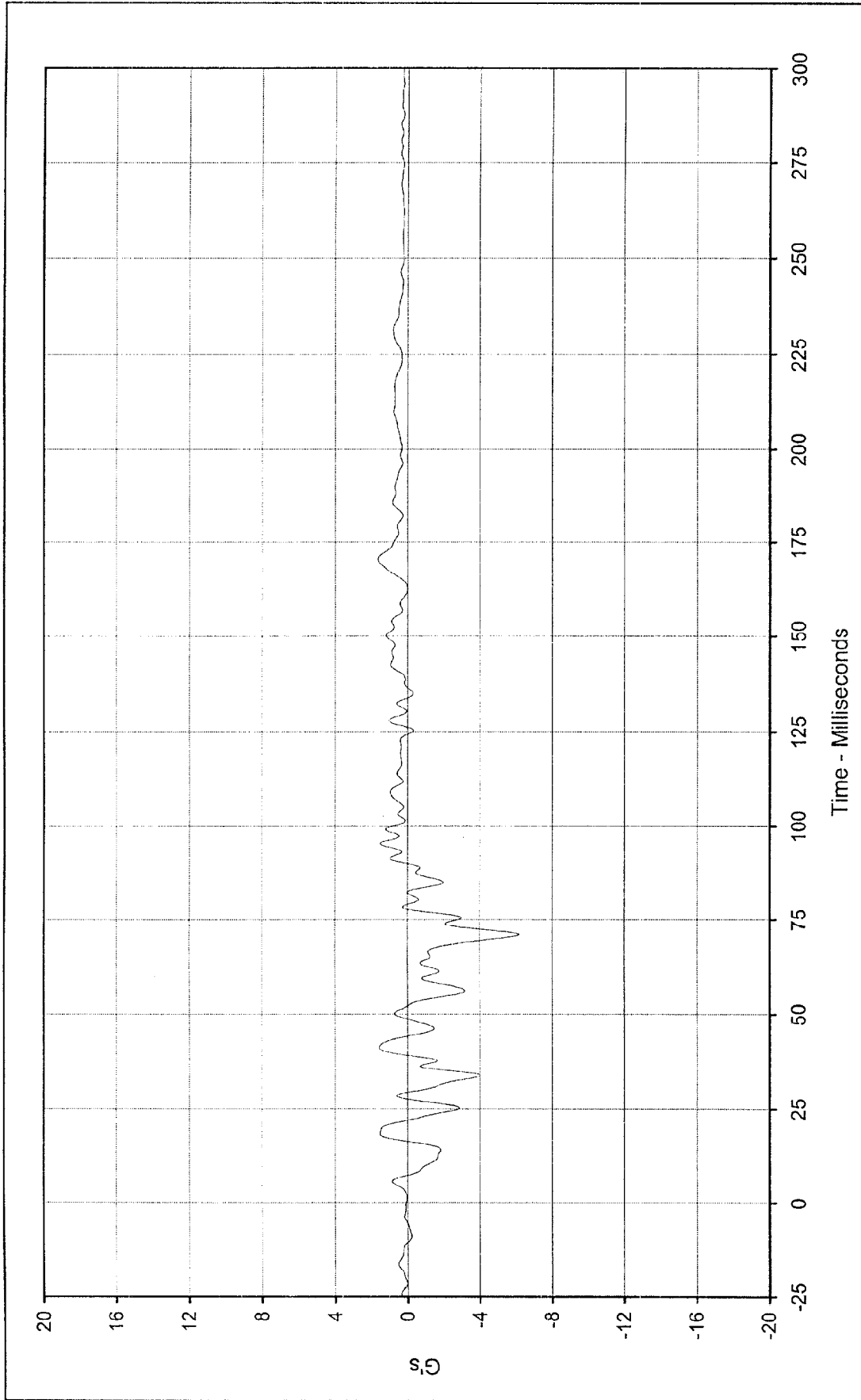
Curve Number: IN1-093





Curve Description: Vehicle Right Sill X Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 58.3 at 69.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -4.2 at 299.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-093

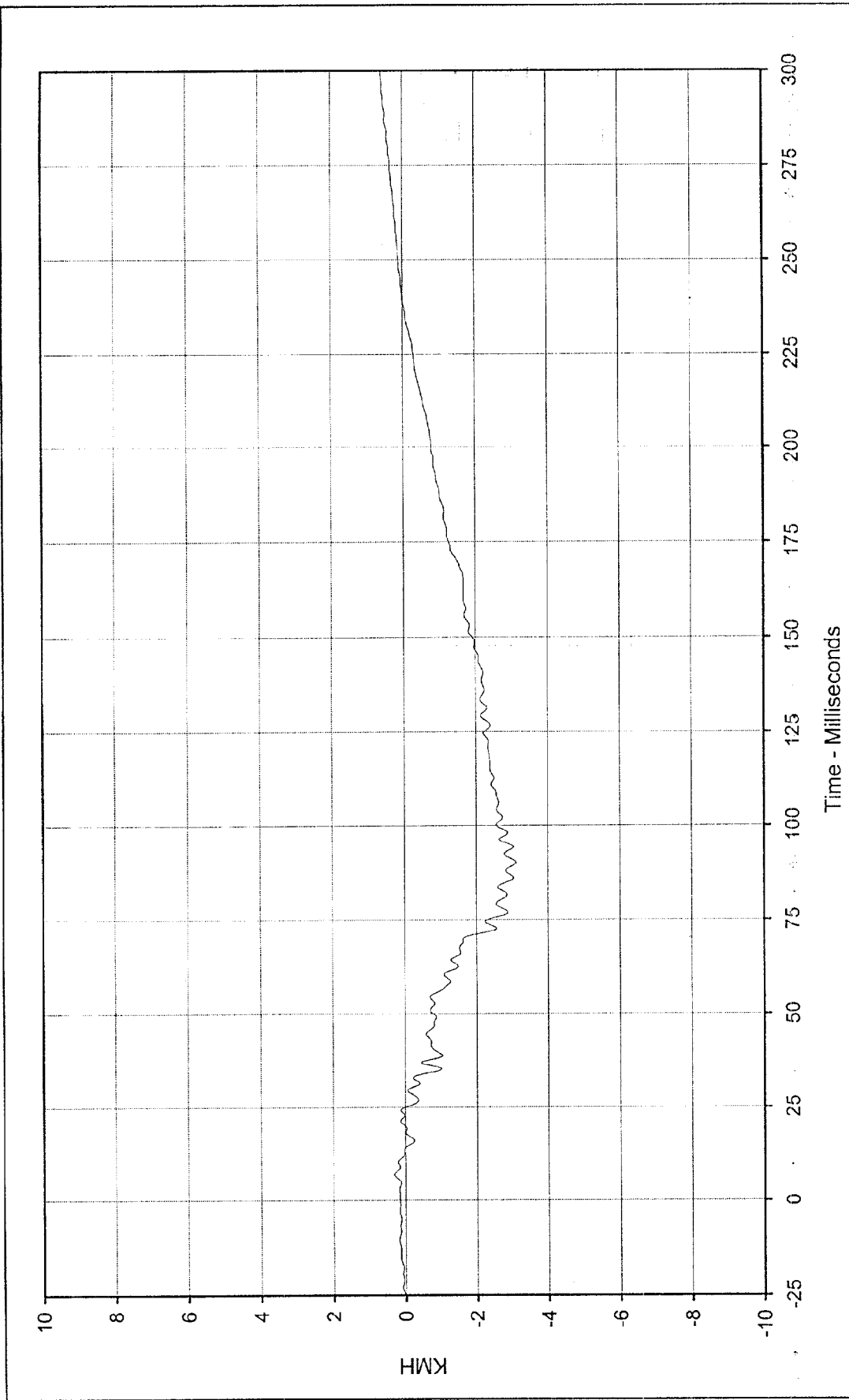




Curve Description: Vehicle Right Sill Y
 Maximum Value: 1.7 at 170.4 Milliseconds
 Minimum Value: -6.2 at 71.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-094

Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Vehicle Right Sill Y Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 0.6 at 299.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

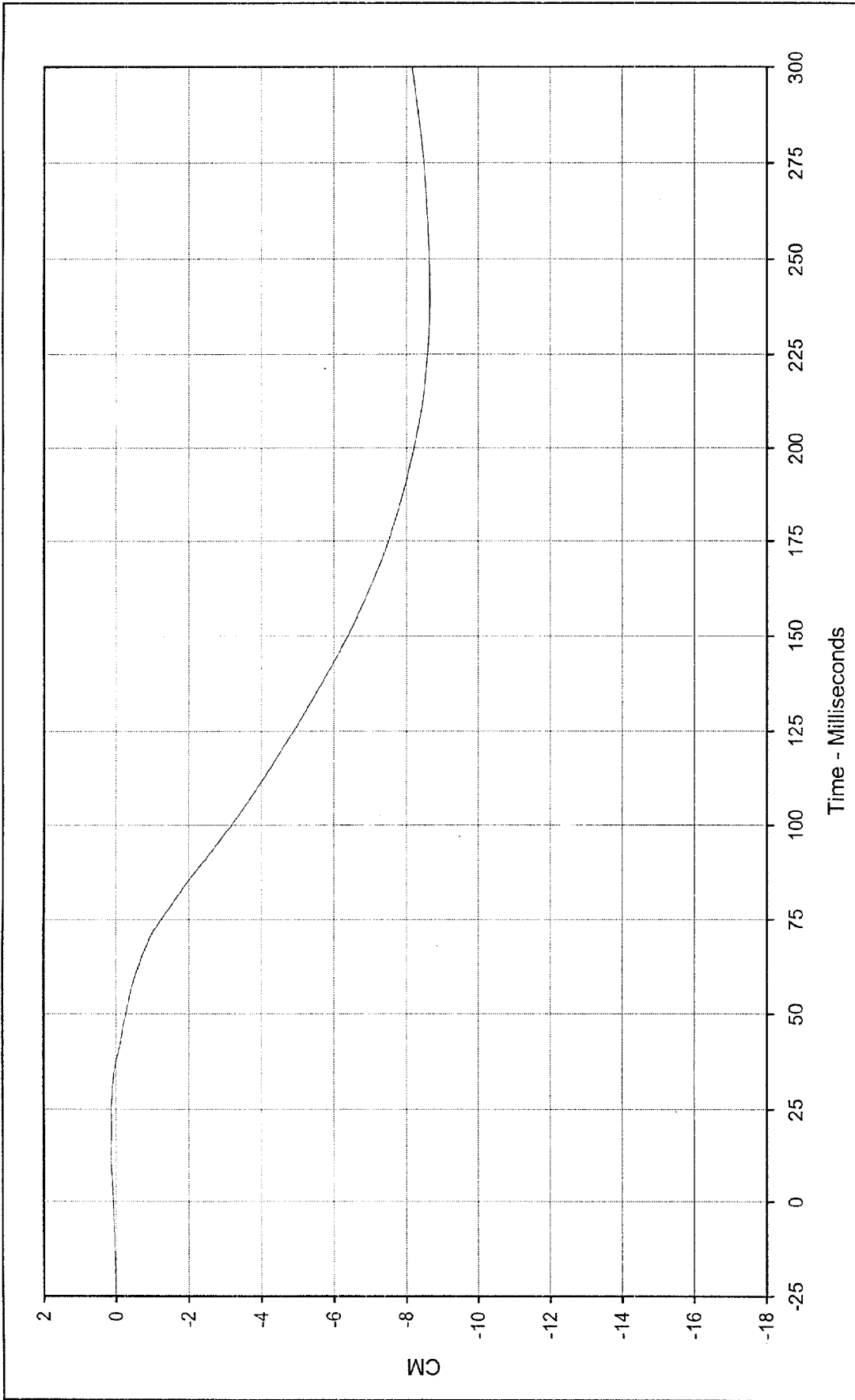
Minimum Value: -3.1 at 90.1 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN1-094





Curve Description: Vehicle Right Sill Y Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 0.1 at 14.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

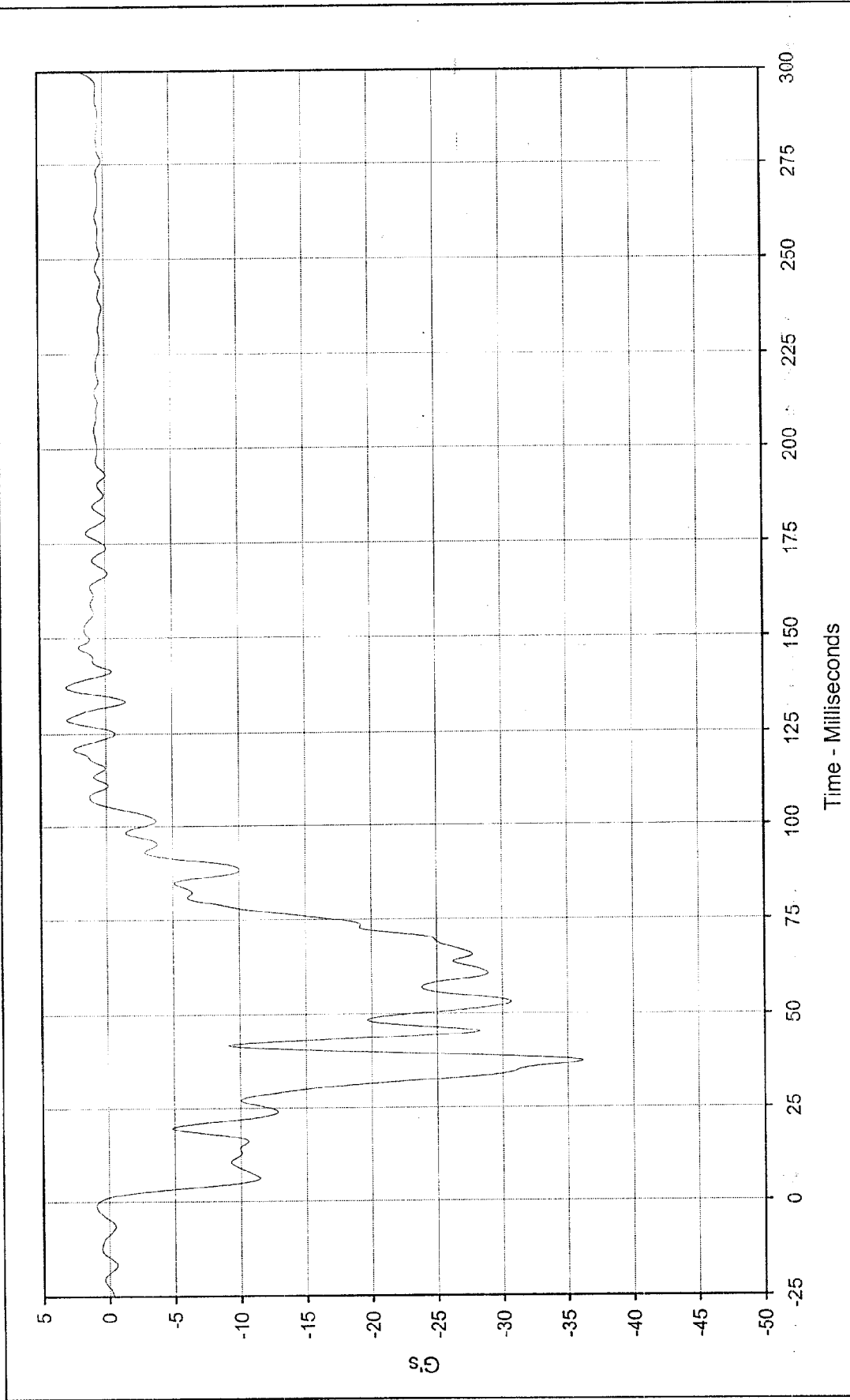
Minimum Value: -8.7 at 239.6 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN2-094





Curve Description: Vehicle Trunk X Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 3.0 at 137.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

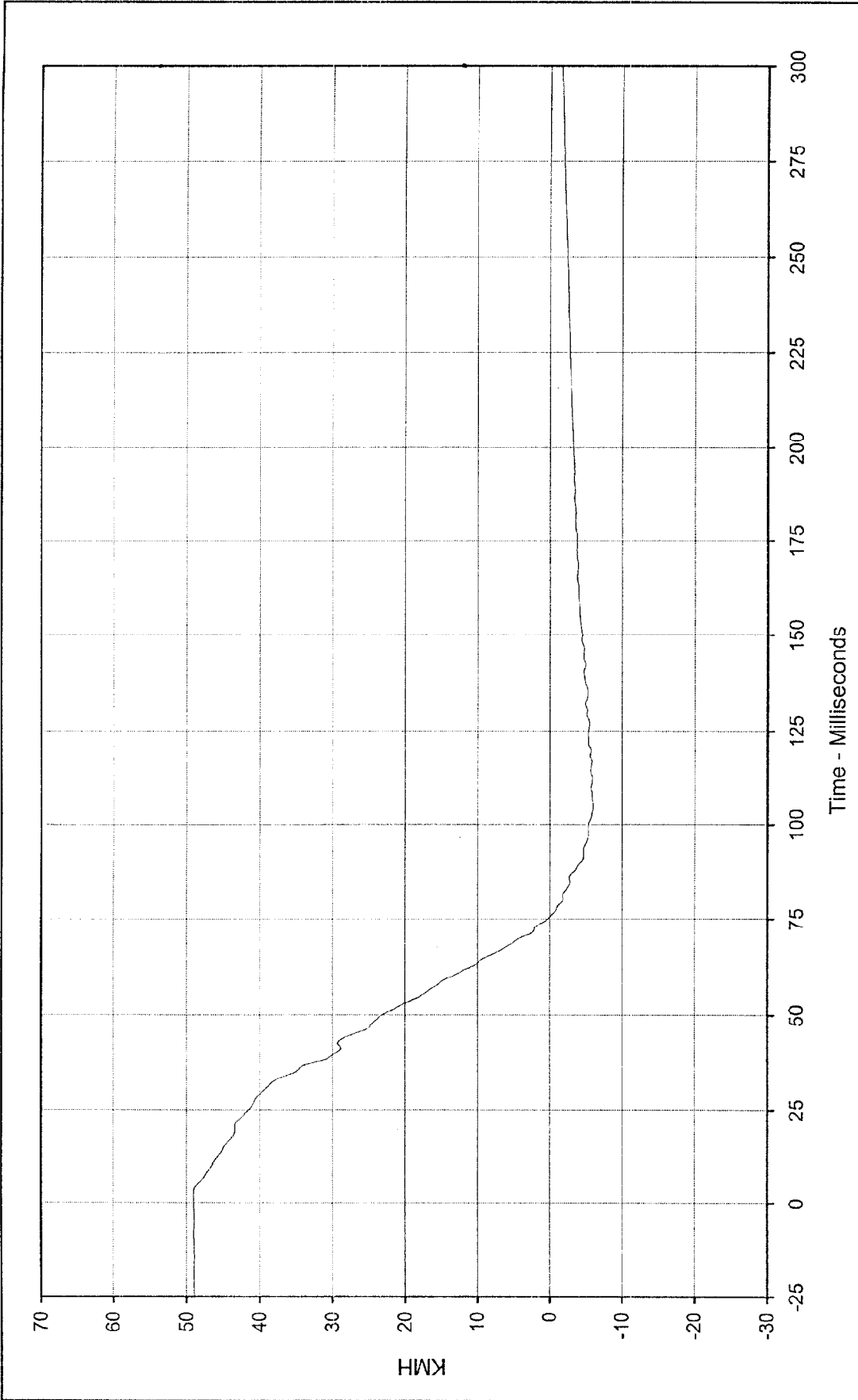
Minimum Value: -36.1 at 37.4 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-095





Curve Description: Vehicle Trunk X Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 49.0 at 1.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

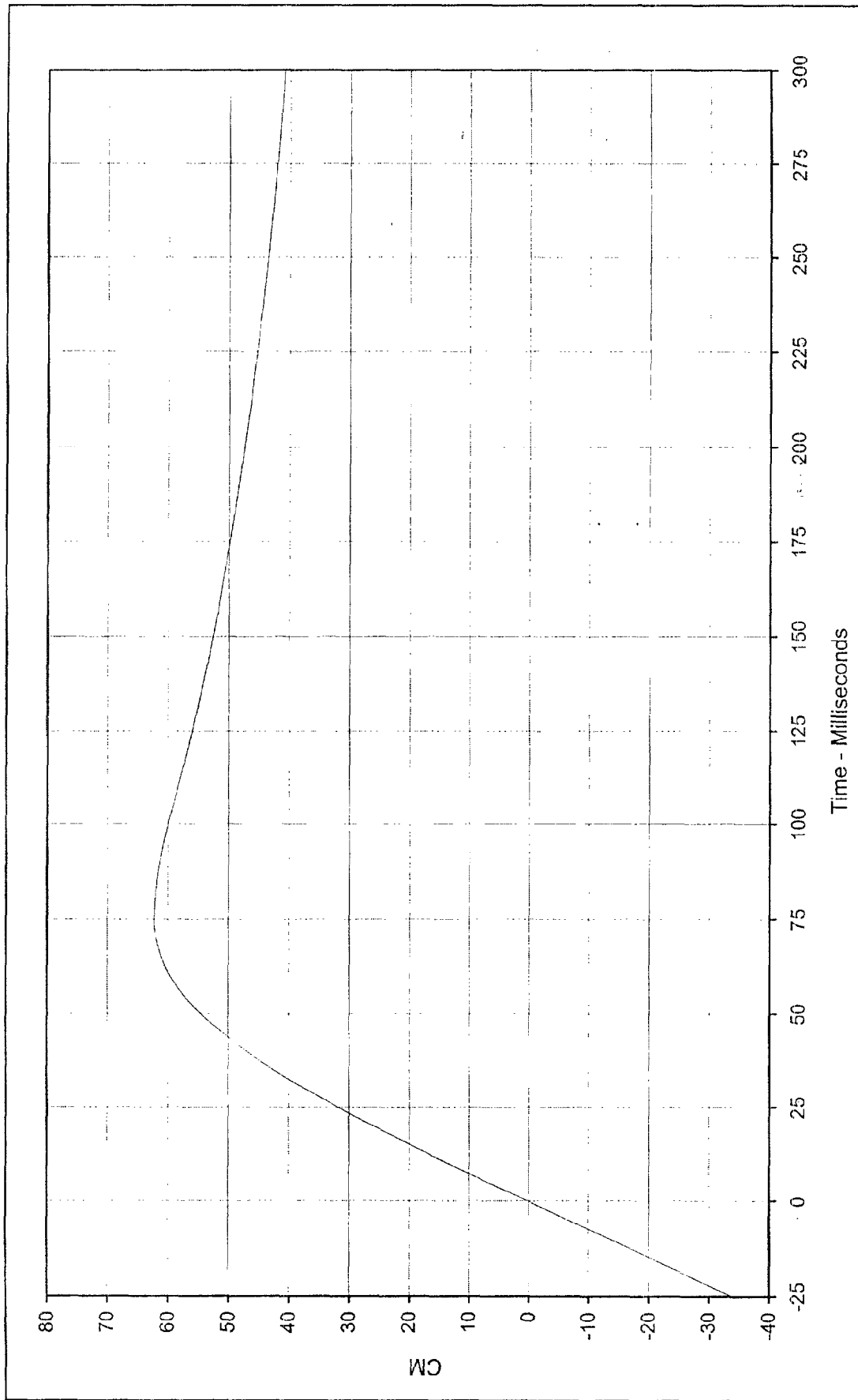
Minimum Value: -6.0 at 104.8 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN1-095

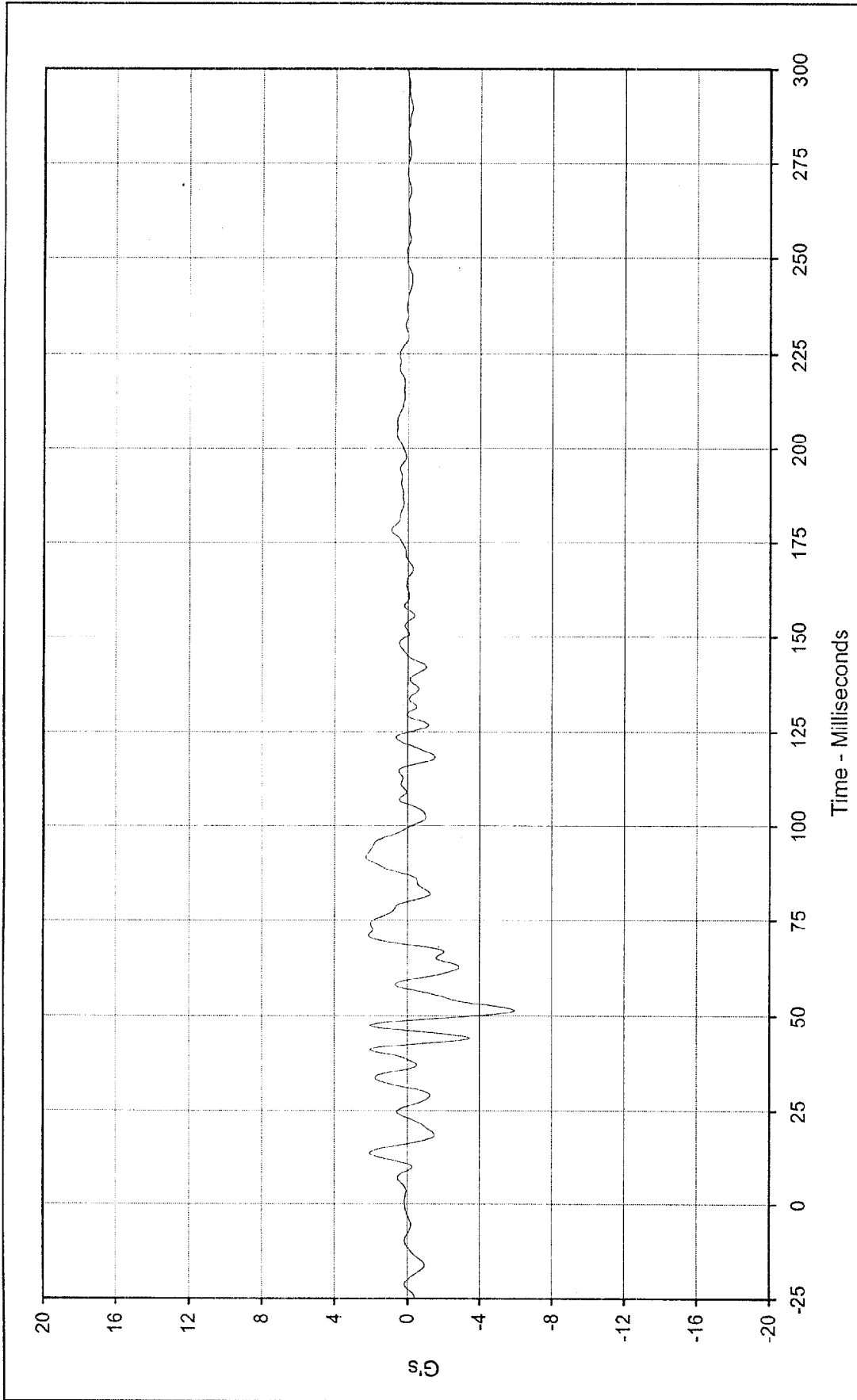




Curve Description: Vehicle Trunk X Displ.
 Maximum Value: 62.2 at 75.5 Milliseconds
 Minimum Value: 0.1 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-095

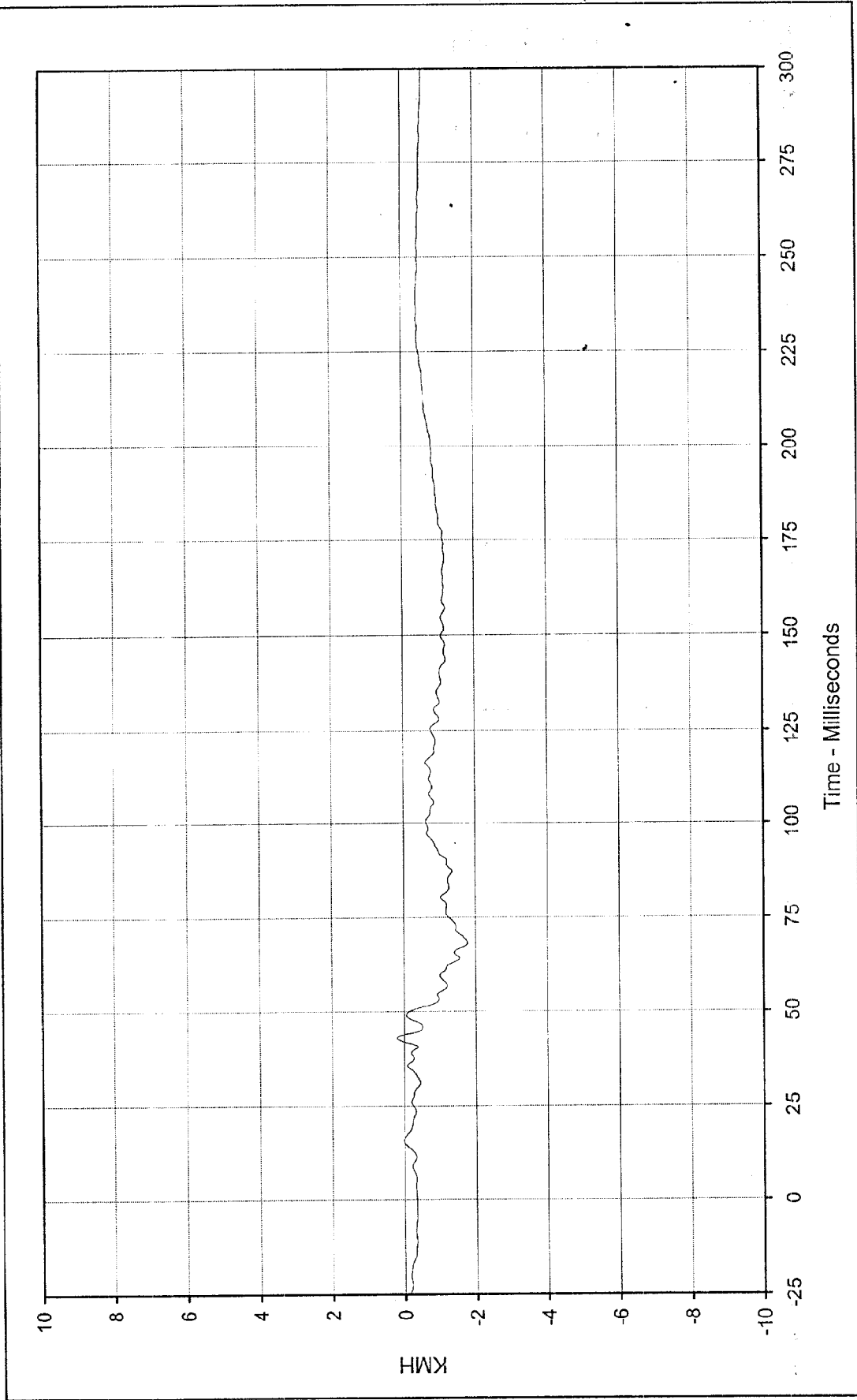
Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan





Curve Description: Vehicle Trunk Y Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: 2.3 at 91.4 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -5.9 at 51.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-096





Curve Description: Vehicle Trunk Y Velocity Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309

Maximum Value: 0.2 at 42.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

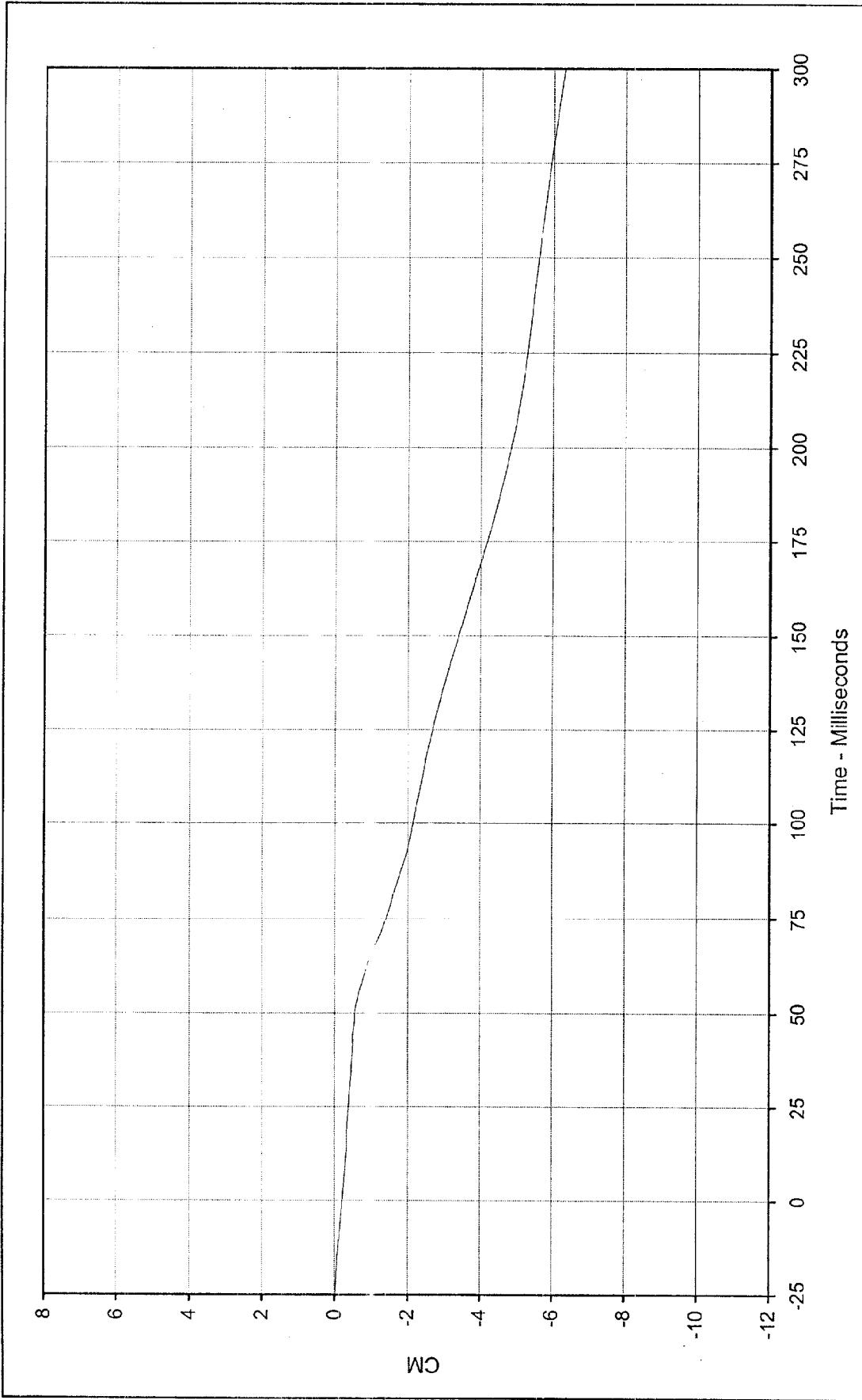
Minimum Value: -1.8 at 68.2 Milliseconds

SAE Filter Class: 180

Date of Test: 6/30/98

Curve Number: IN1-096

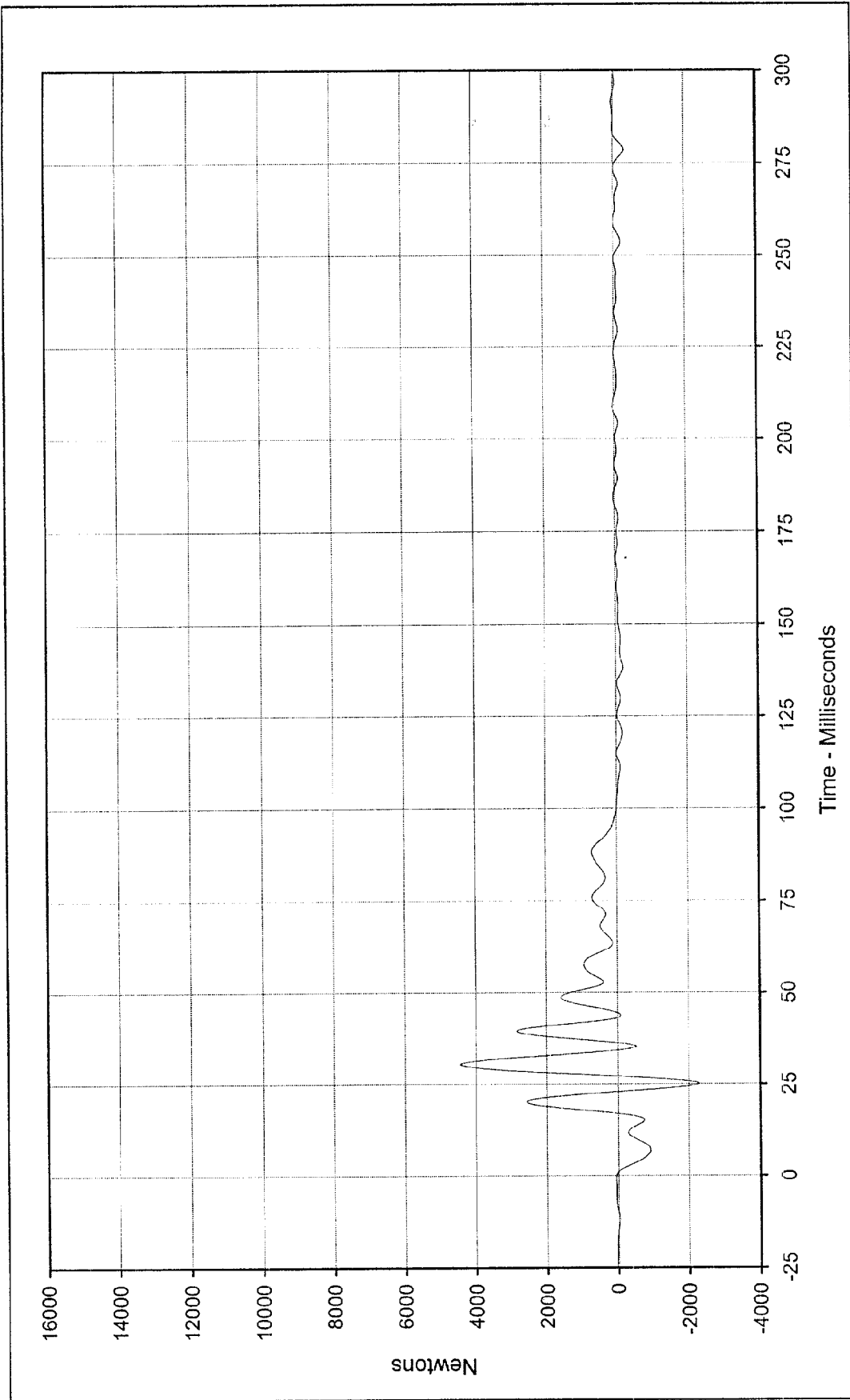




Curve Description: Vehicle Trunk Y Displ. Testing Program: 1998 30mph Frontal w/50th Male No.: MW0309
 Maximum Value: -0.2 at 0.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -6.3 at 299.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/30/98
 Curve Number: IN2-096



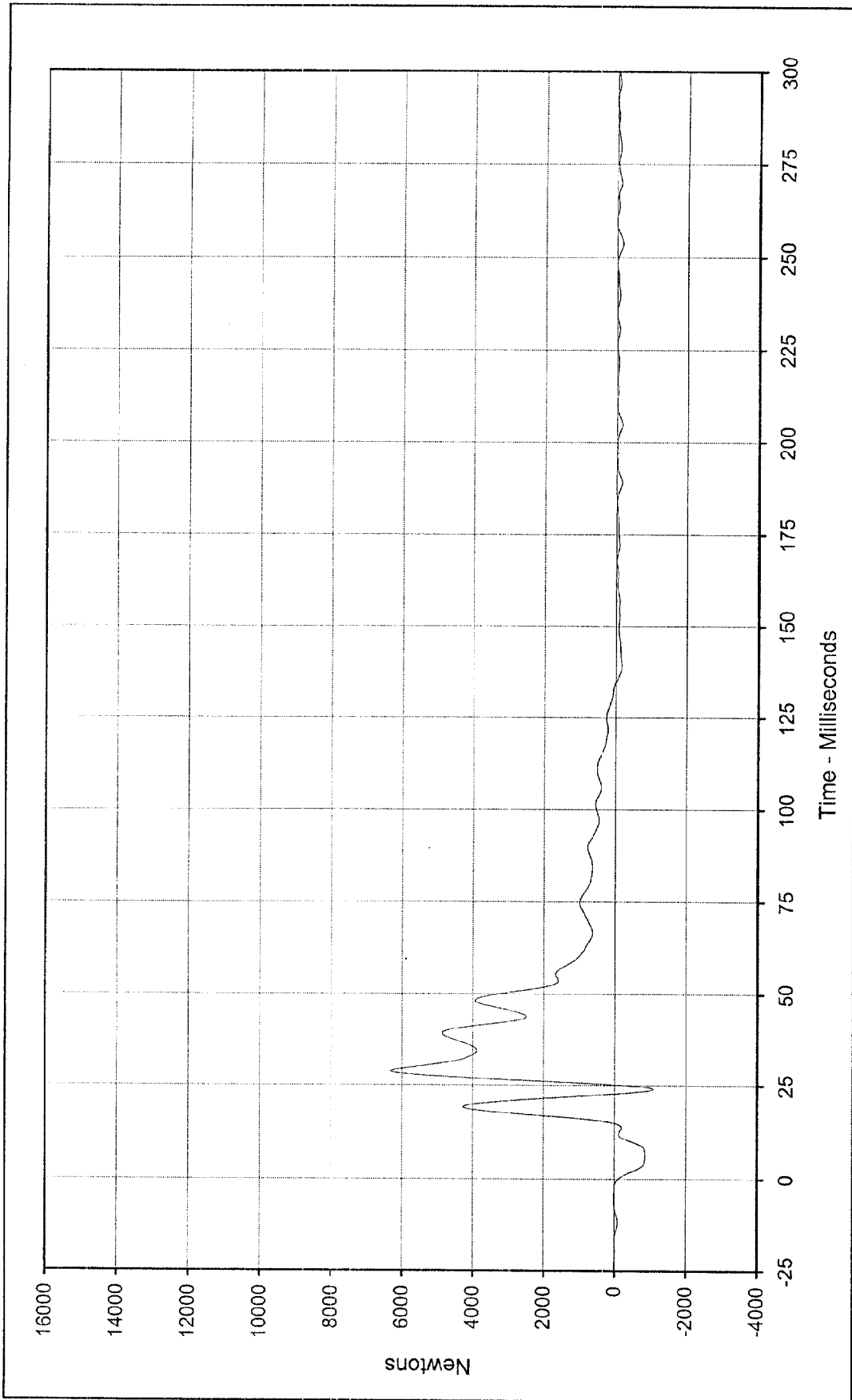
APPENDIX C
LOAD CELL BARRIER INFORMATION



Curve Description: Barrier Force A2 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 4434.5 at 30.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2291.6 at 25.2 Milliseconds

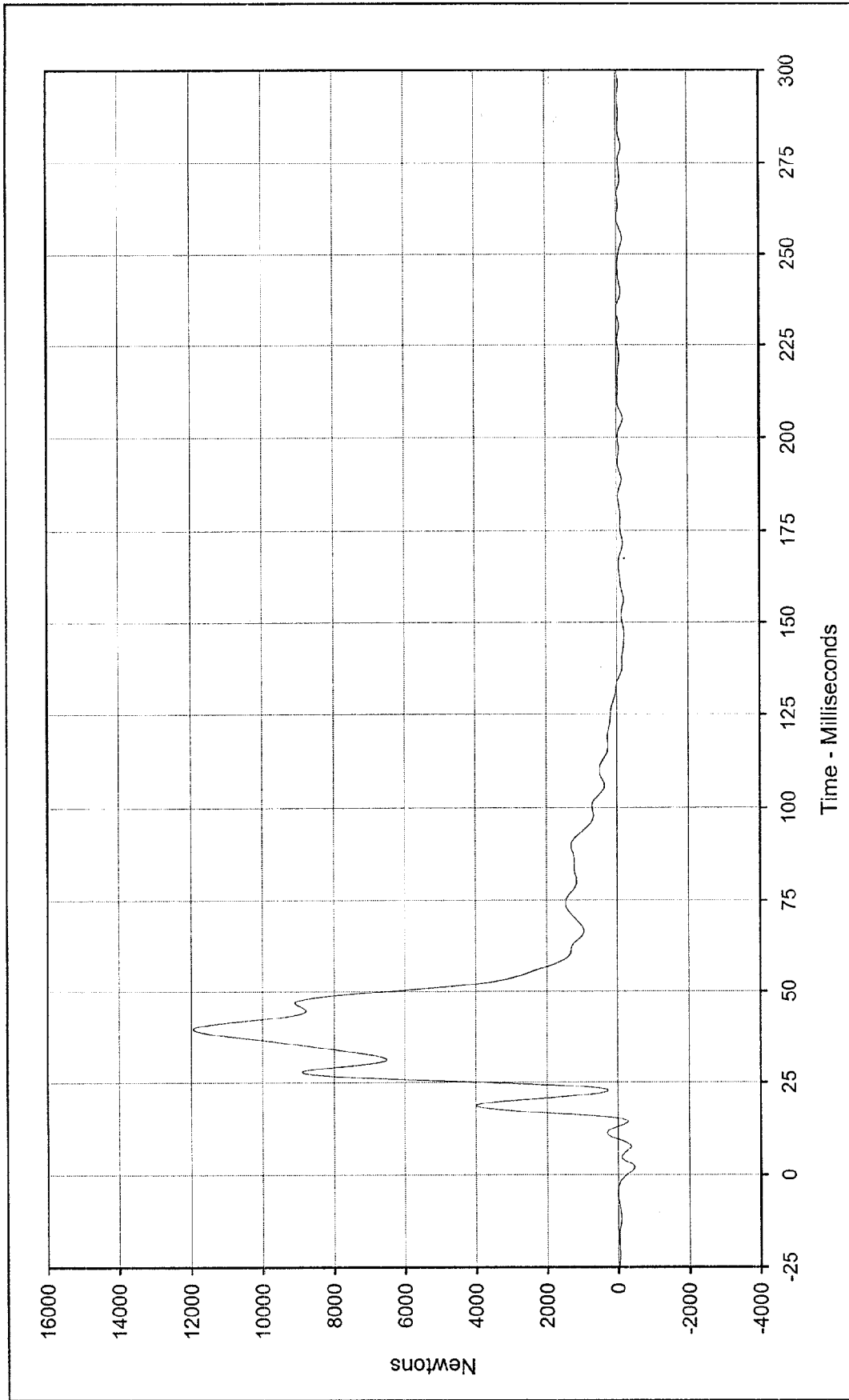


SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-099



Curve Description: Barrier Force A3 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 6315.2 at 28.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -1092.1 at 24.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-100

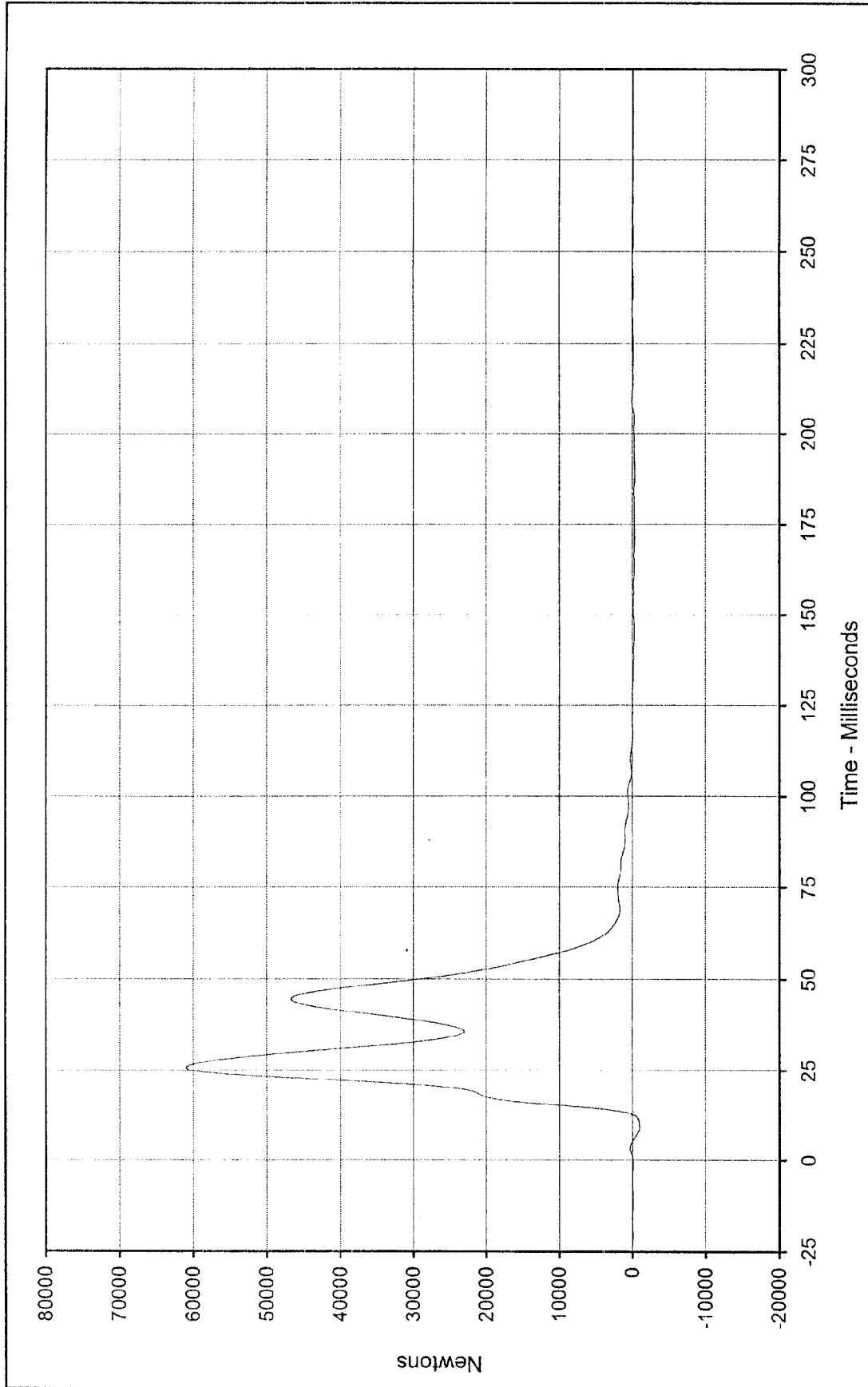




Curve Description: Barrier Force A4 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 11939.6 at 39.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -463.8 at 2.0 Milliseconds

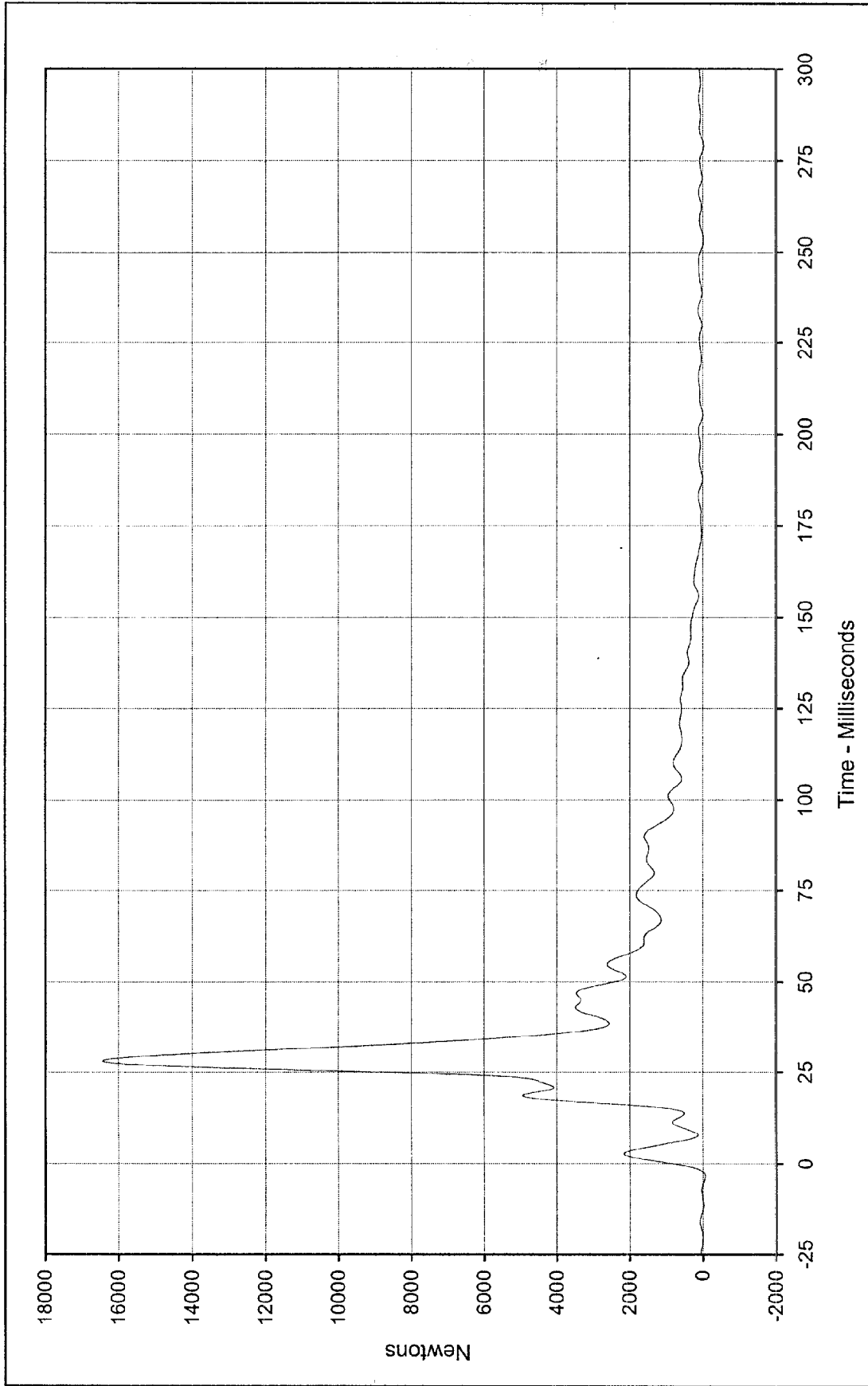


SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-101



Curve Description: Barrier Force A5 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 60971.3 at 25.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -980.4 at 9.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-102





Curve Description: Barrier Force A6 Testing Program: 1998 30mph Frontal w/50th Male

Maximum Value: 16433.4 at 28.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

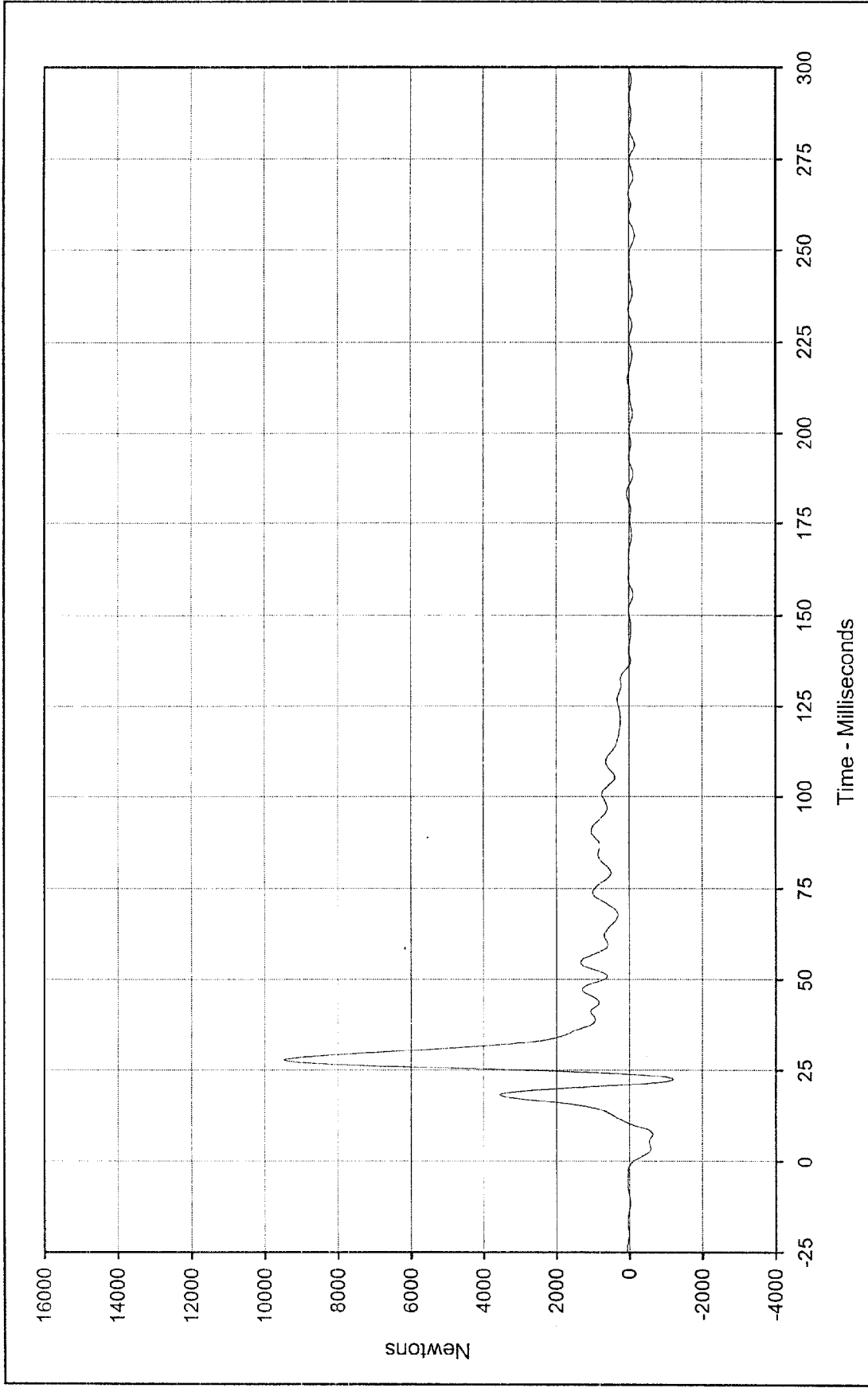
Minimum Value: -34.2 at 279.3 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

Curve Number: FIL-103

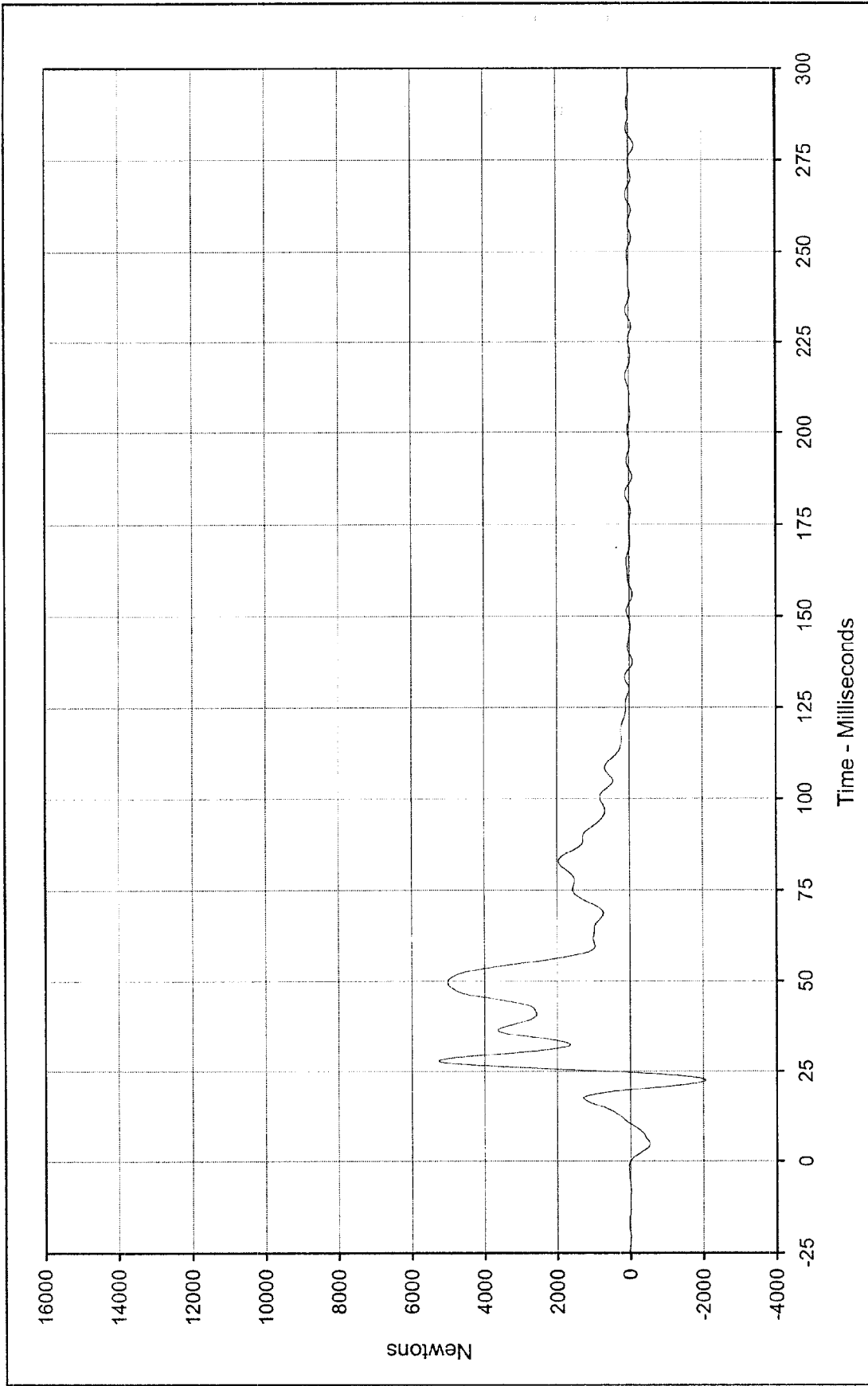




Curve Description: Barrier Force A7 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 9476.1 at 27.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -1199.5 at 22.4 Milliseconds



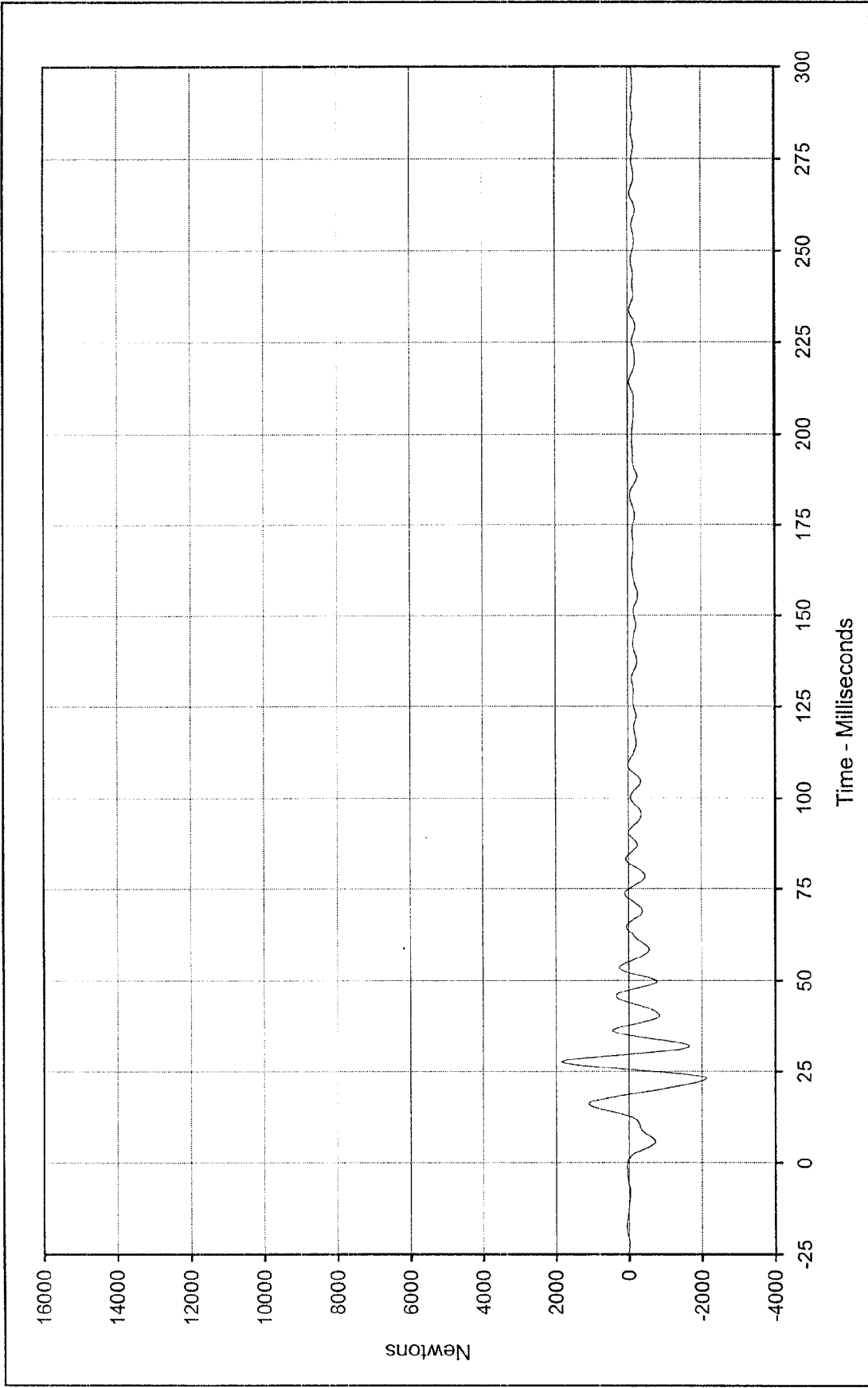
SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-104



Curve Description: Barrier Force A8 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 5257.6 at 27.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2064.0 at 22.5 Milliseconds



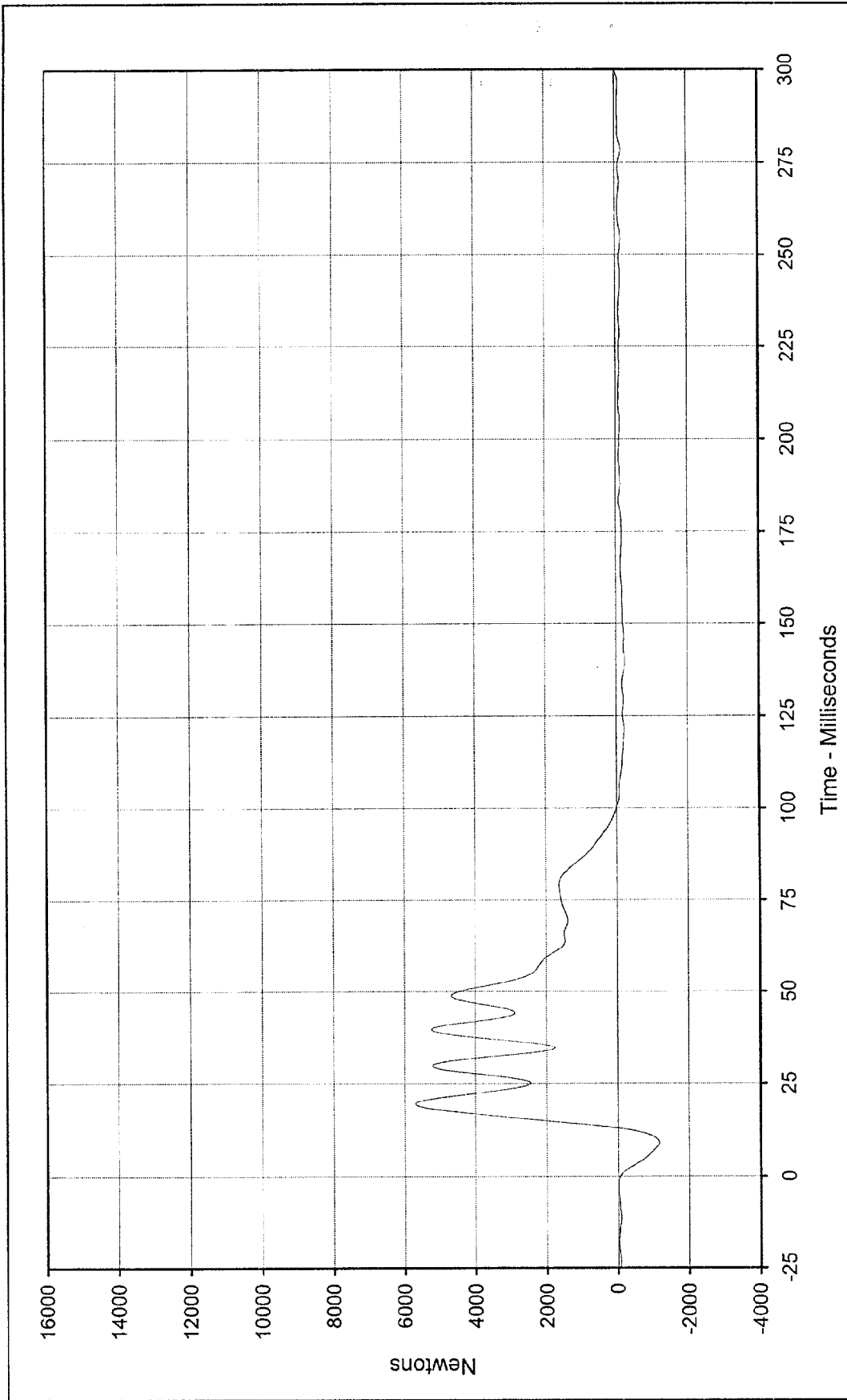
SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-105



Curve Description: Barrier Force A9 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 1838.3 at 27.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2118.5 at 23.0 Milliseconds



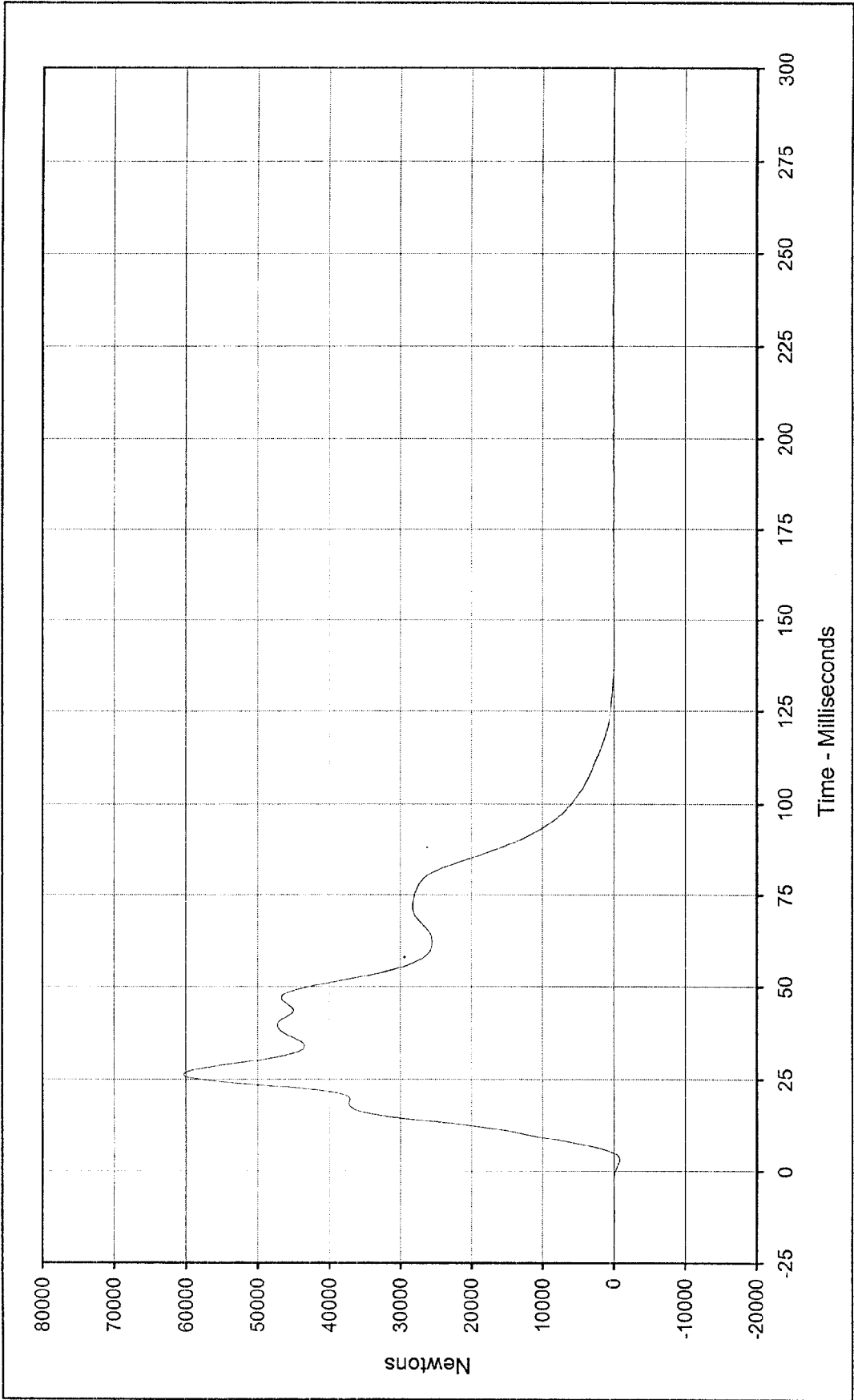
SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-106



Curve Description: Barrier Force B2 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 5697.6 at 19.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -1158.4 at 9.1 Milliseconds

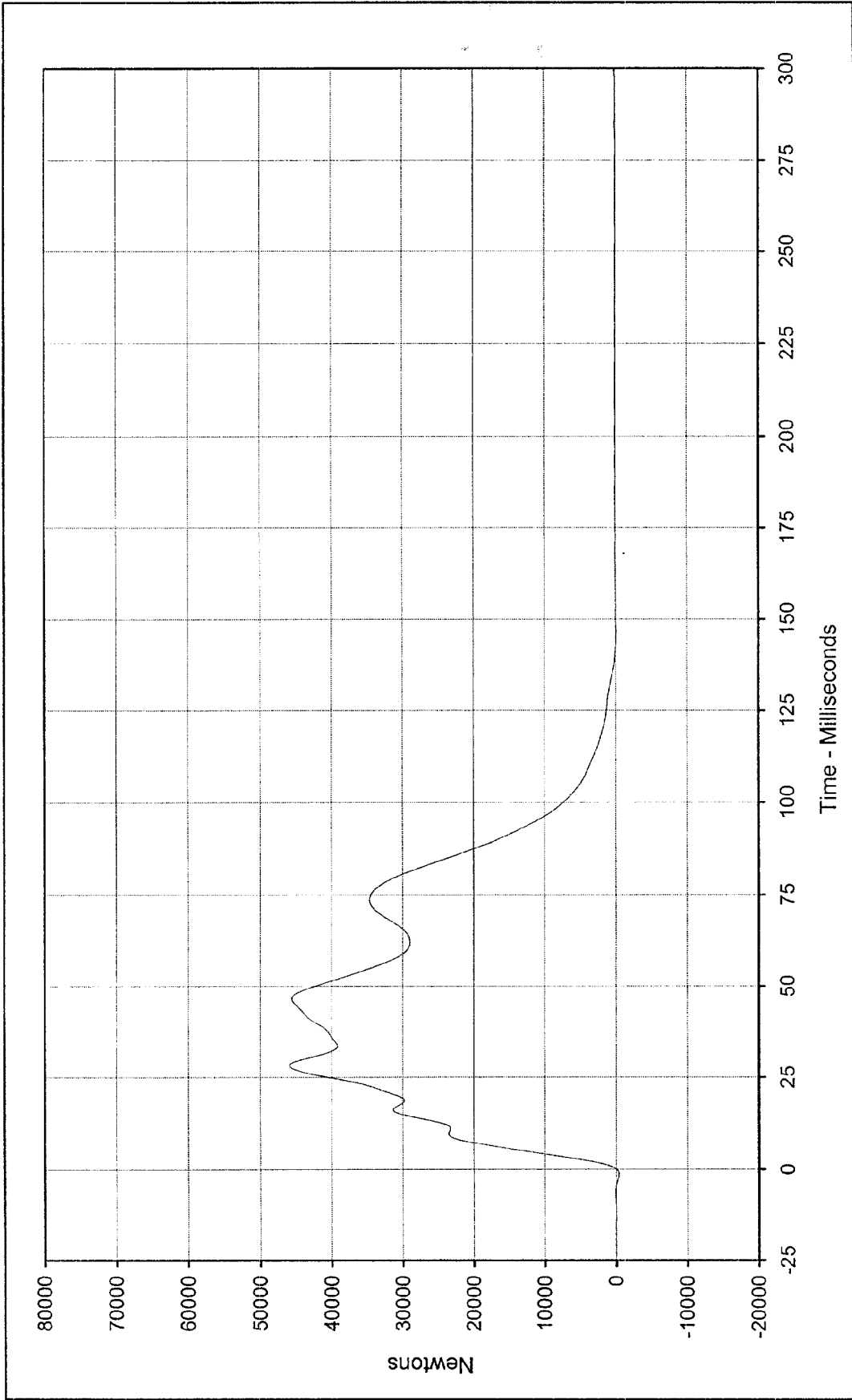


SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-108



Curve Description: Barrier Force B3 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 60327.8 at 26.3 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -828.4 at 3.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-109

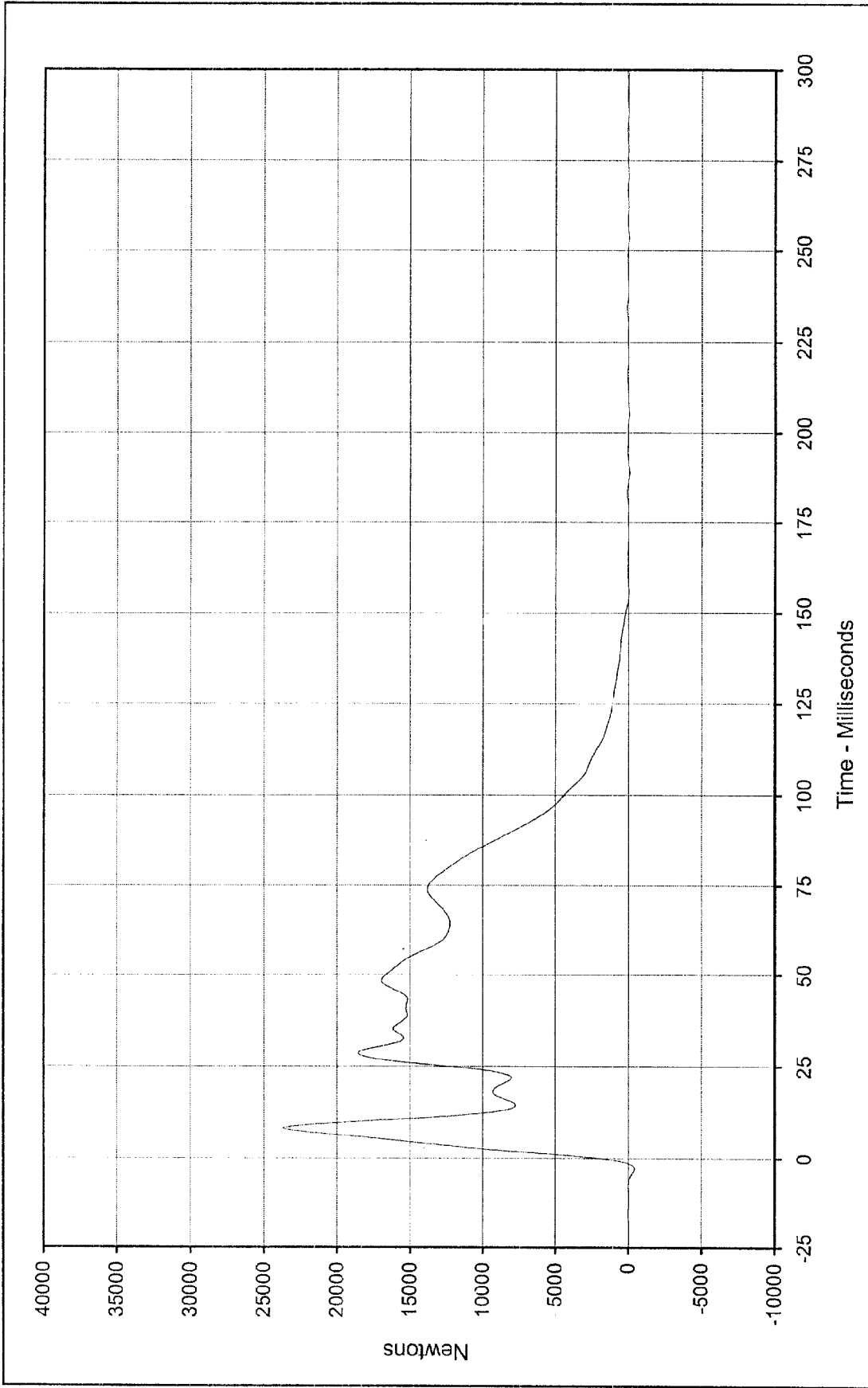




Curve Description: Barrier Force B4
 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 45924.8 at 28.1 Milliseconds
 Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -97.7 at 279.1 Milliseconds

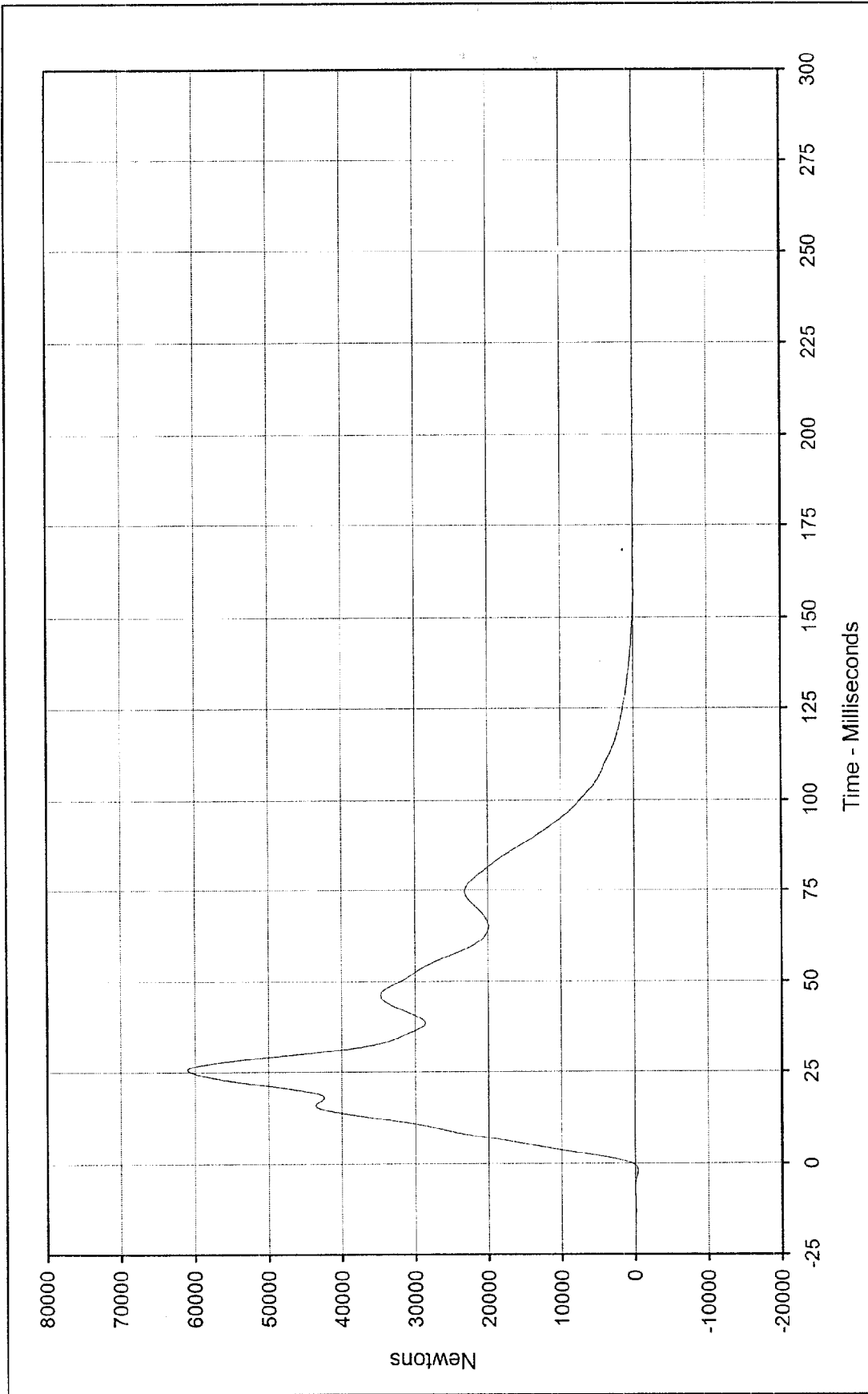


SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-110



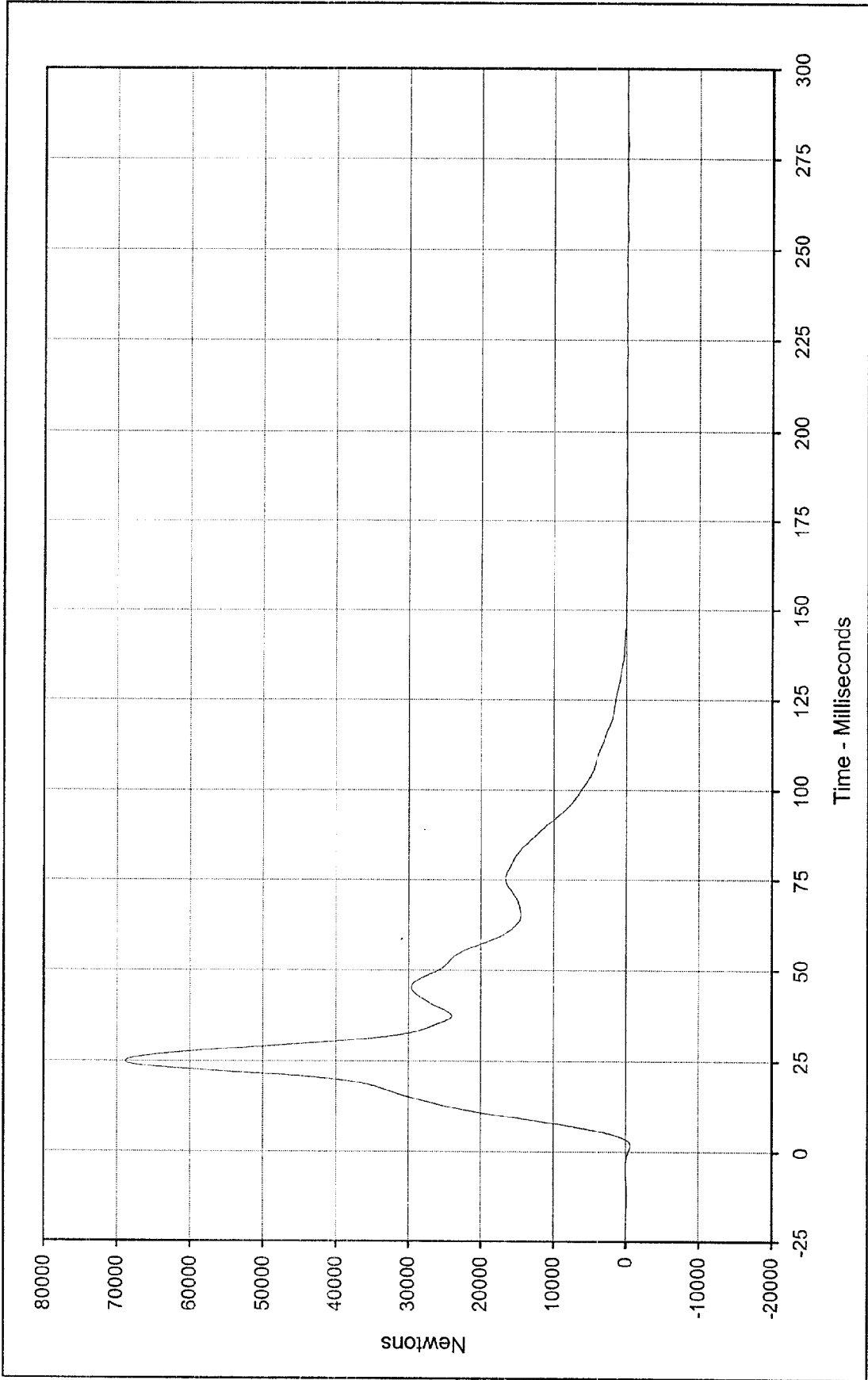
Curve Description: Barrier Force B5 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 23676.8 at 8.3 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -50.5 at 189.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-111





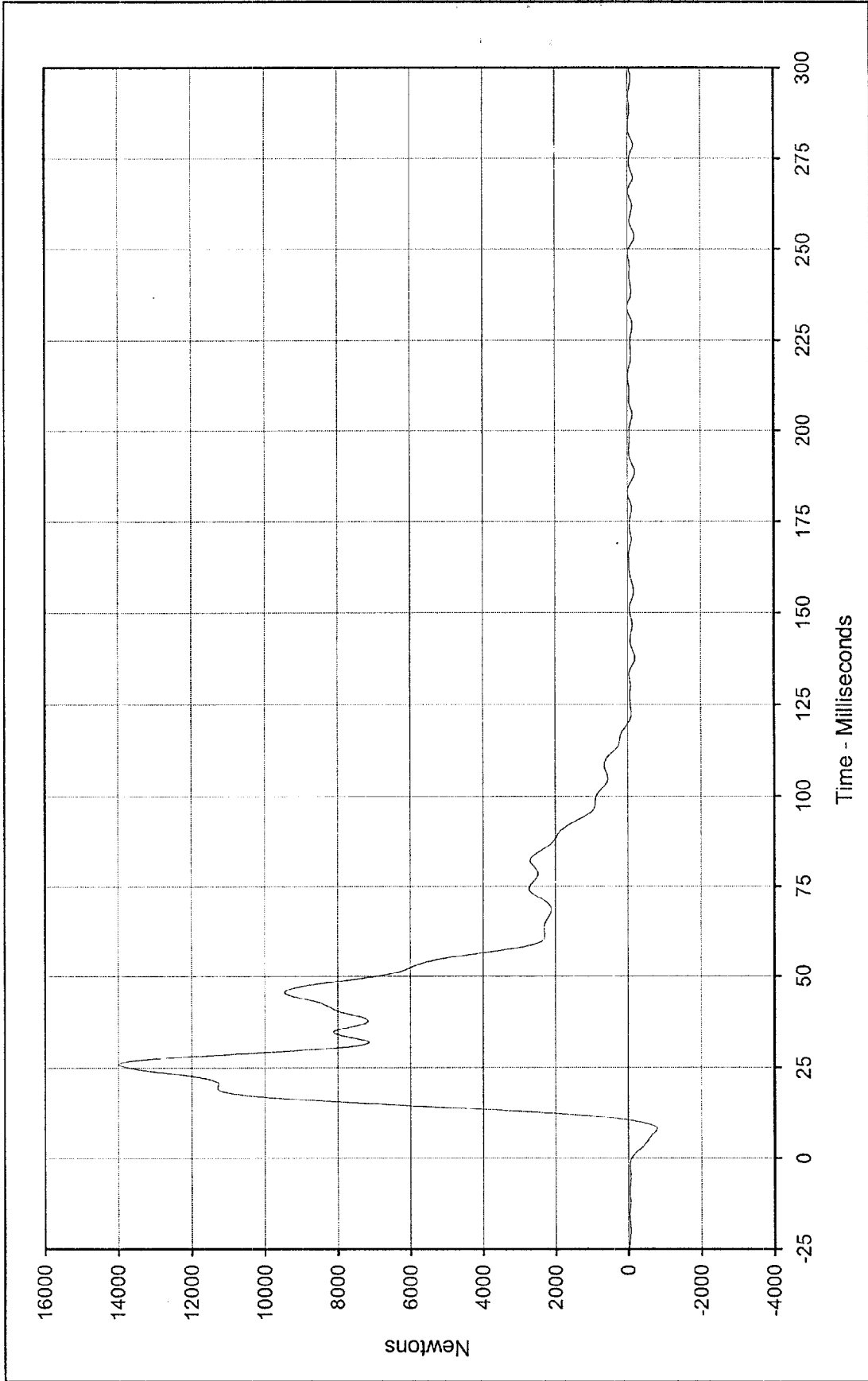
Curve Description: Barrier Force B6 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 60955.3 at 25.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -65.0 at 156.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-112





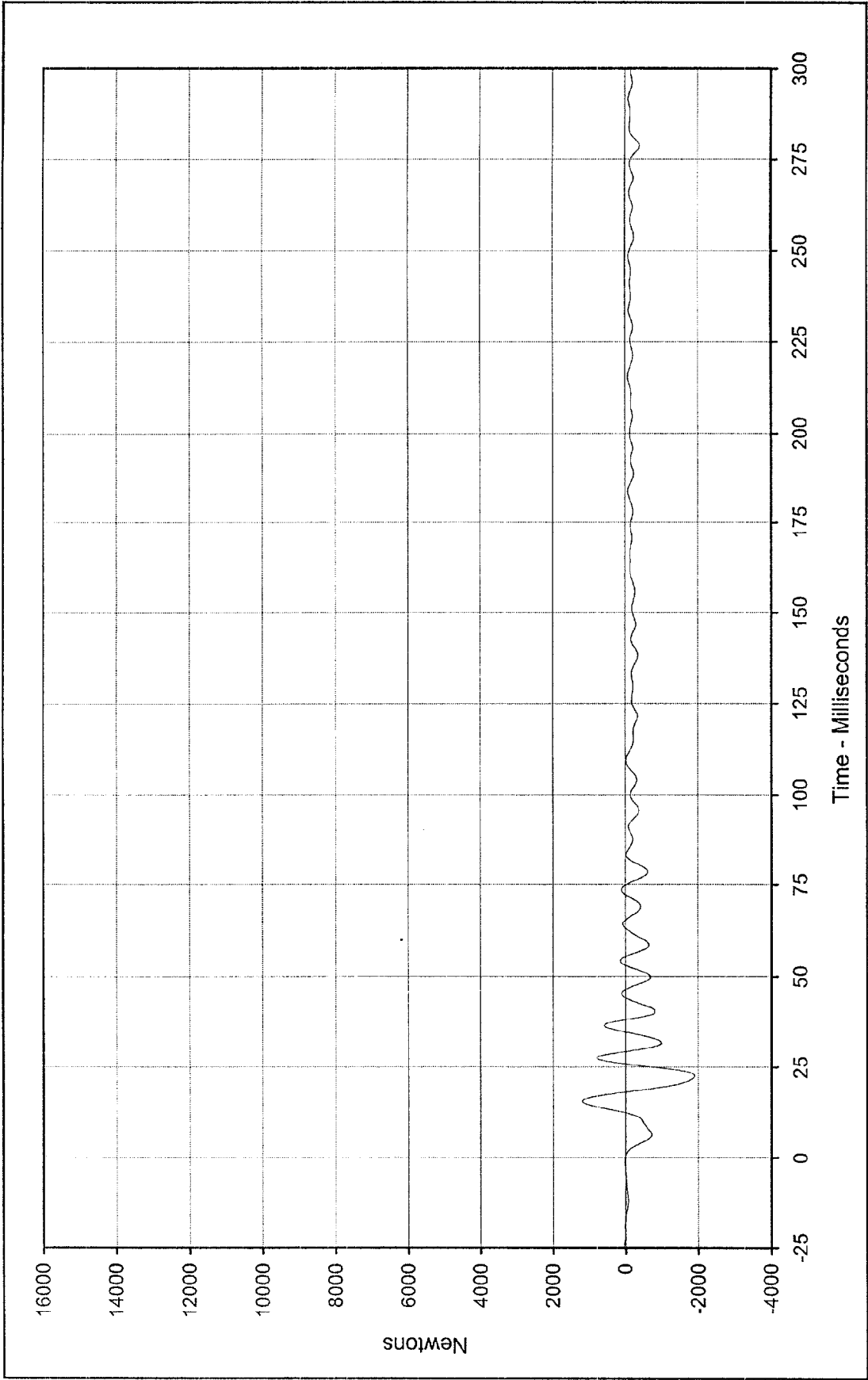
Curve Description: Barrier Force B7 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 68804.1 at 24.9 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -594.1 at 1.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-113





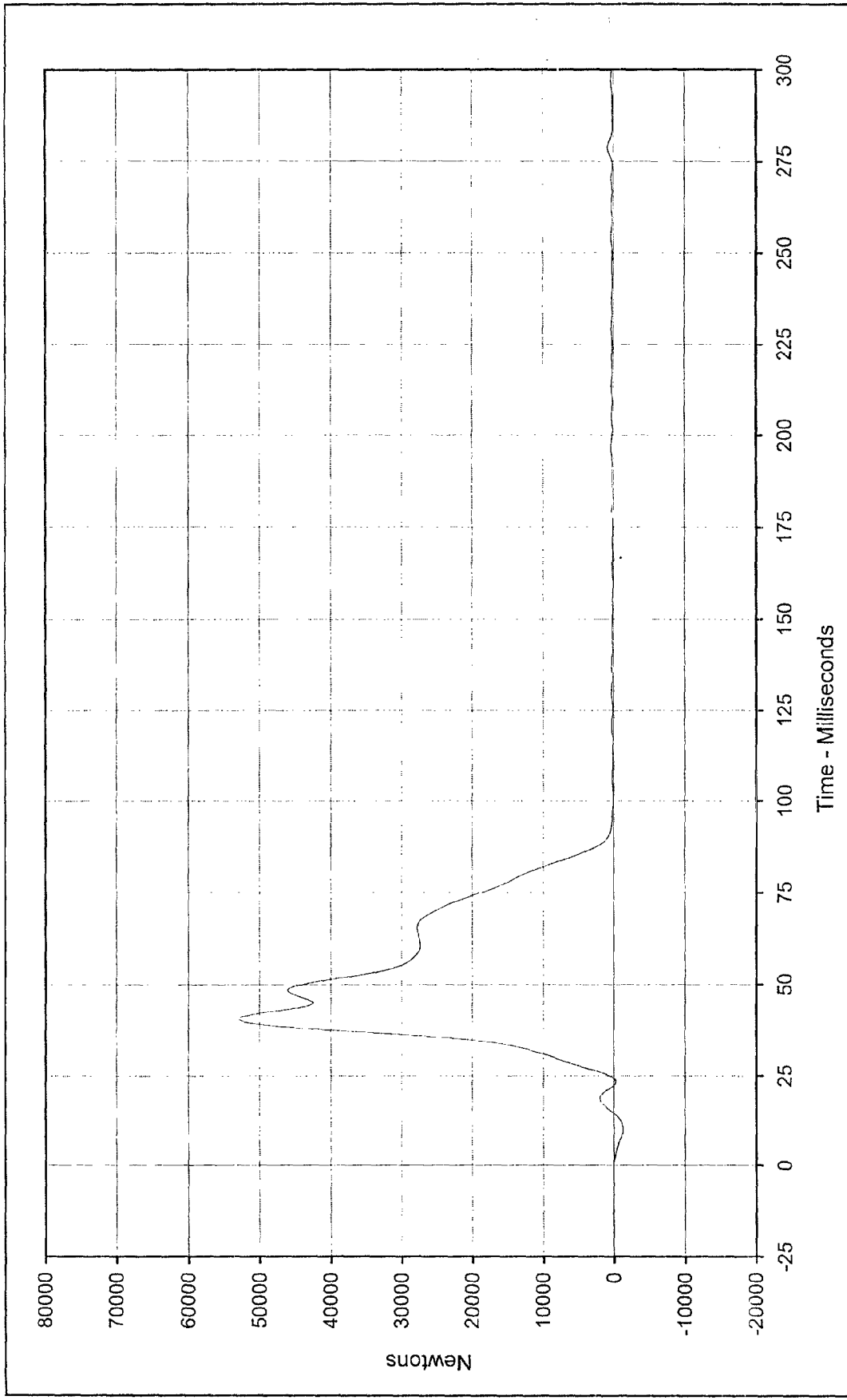
Curve Description: Barrier Force B8 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 13999.9 at 26.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -782.5 at 8.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-114





Curve Description: Barrier Force B9 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 1194.8 at 15.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -1893.3 at 22.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-115

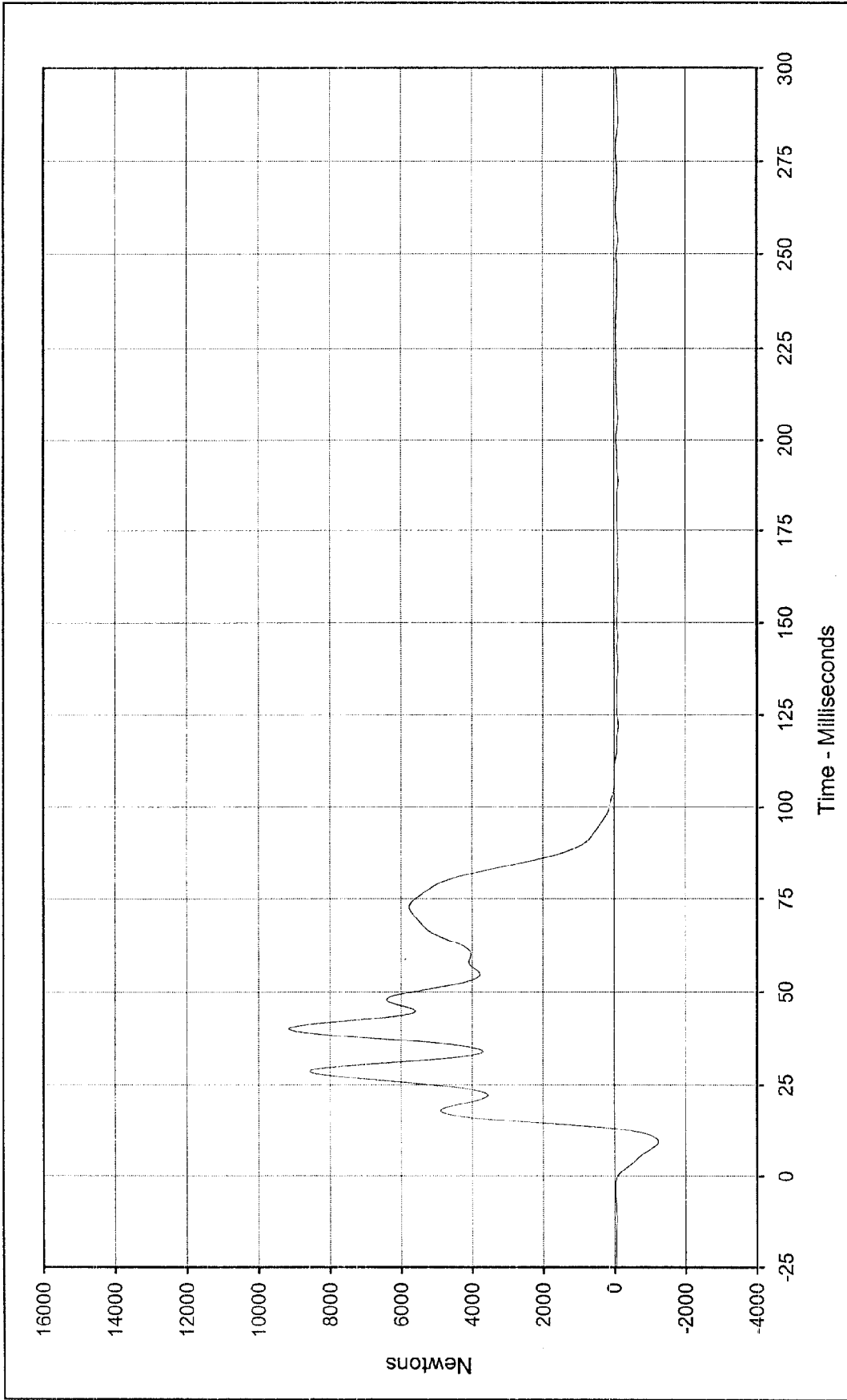




Curve Description: Barrier Force C2 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 52955.5 at 40.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -12696 at 10.0 Milliseconds



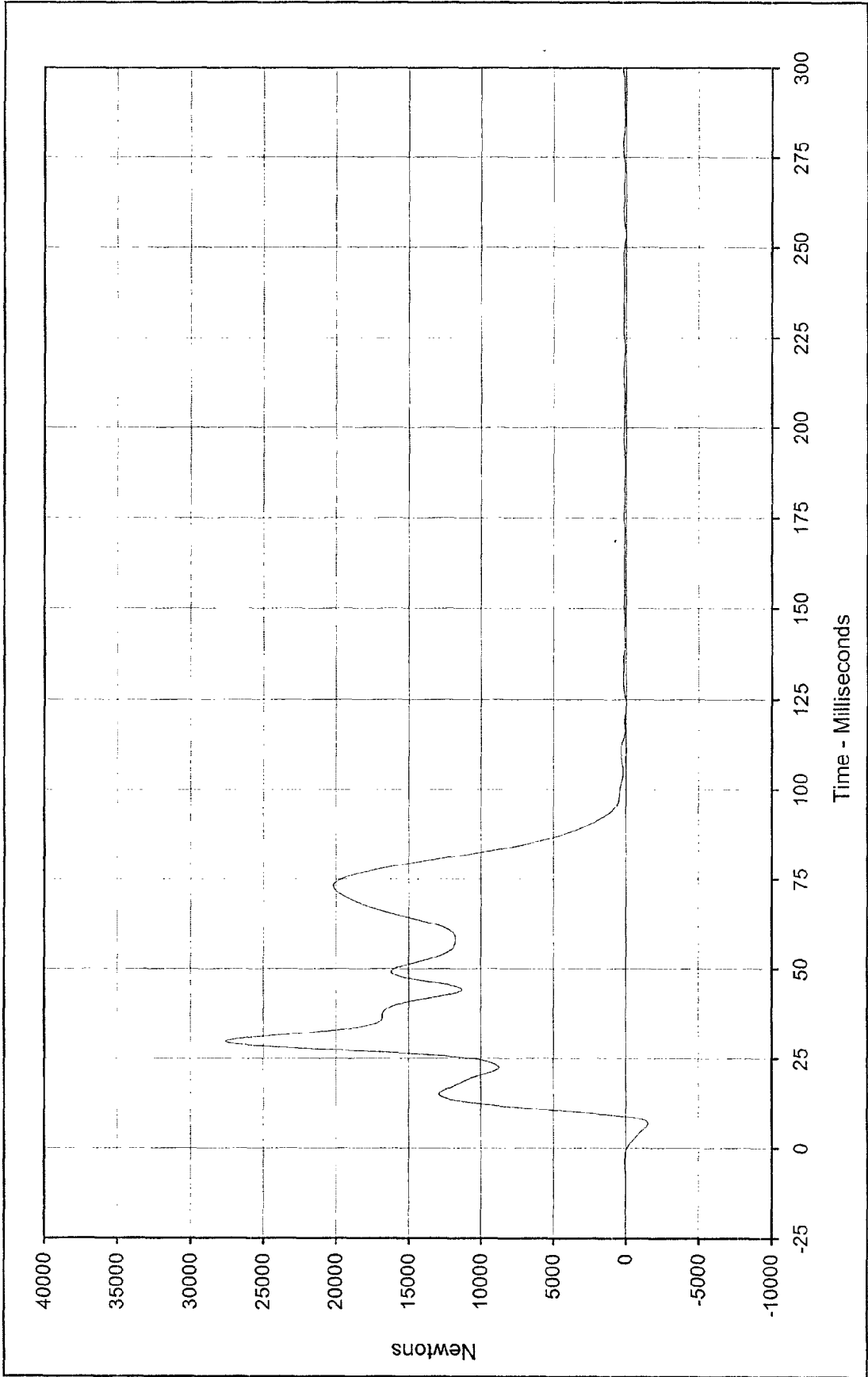
SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-117



Curve Description: Barrier Force C3 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 9155.4 at 40.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -1227.3 at 9.4 Milliseconds



SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-118



Curve Description: Barrier Force C4 Testing Program 1998 30mph Frontal w/50th Male

Maximum Value: 27617.4 at 29.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan

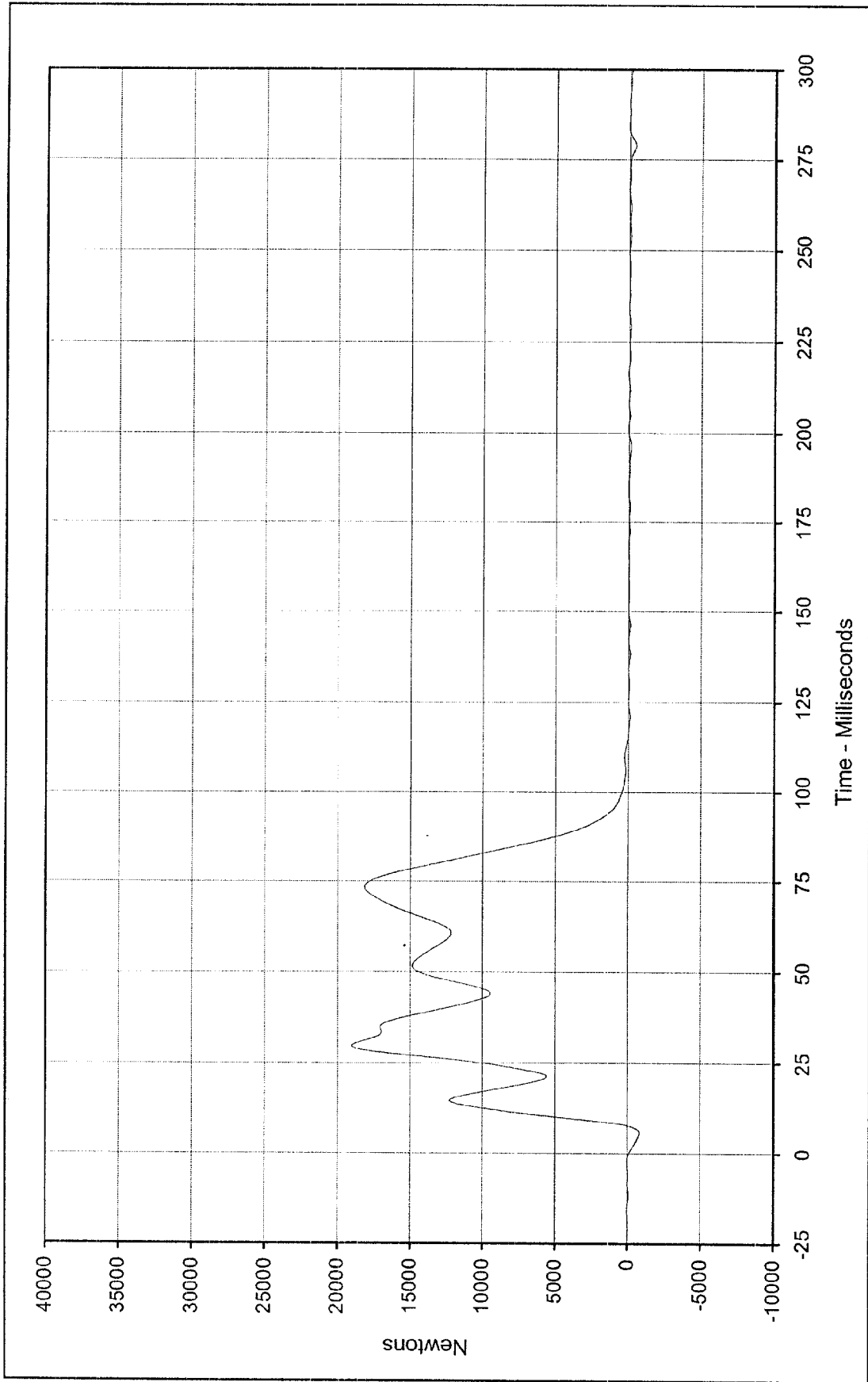
Minimum Value: -1535.3 at 6.8 Milliseconds

SAE Filter Class: 60

Date of Test: 6/30/98

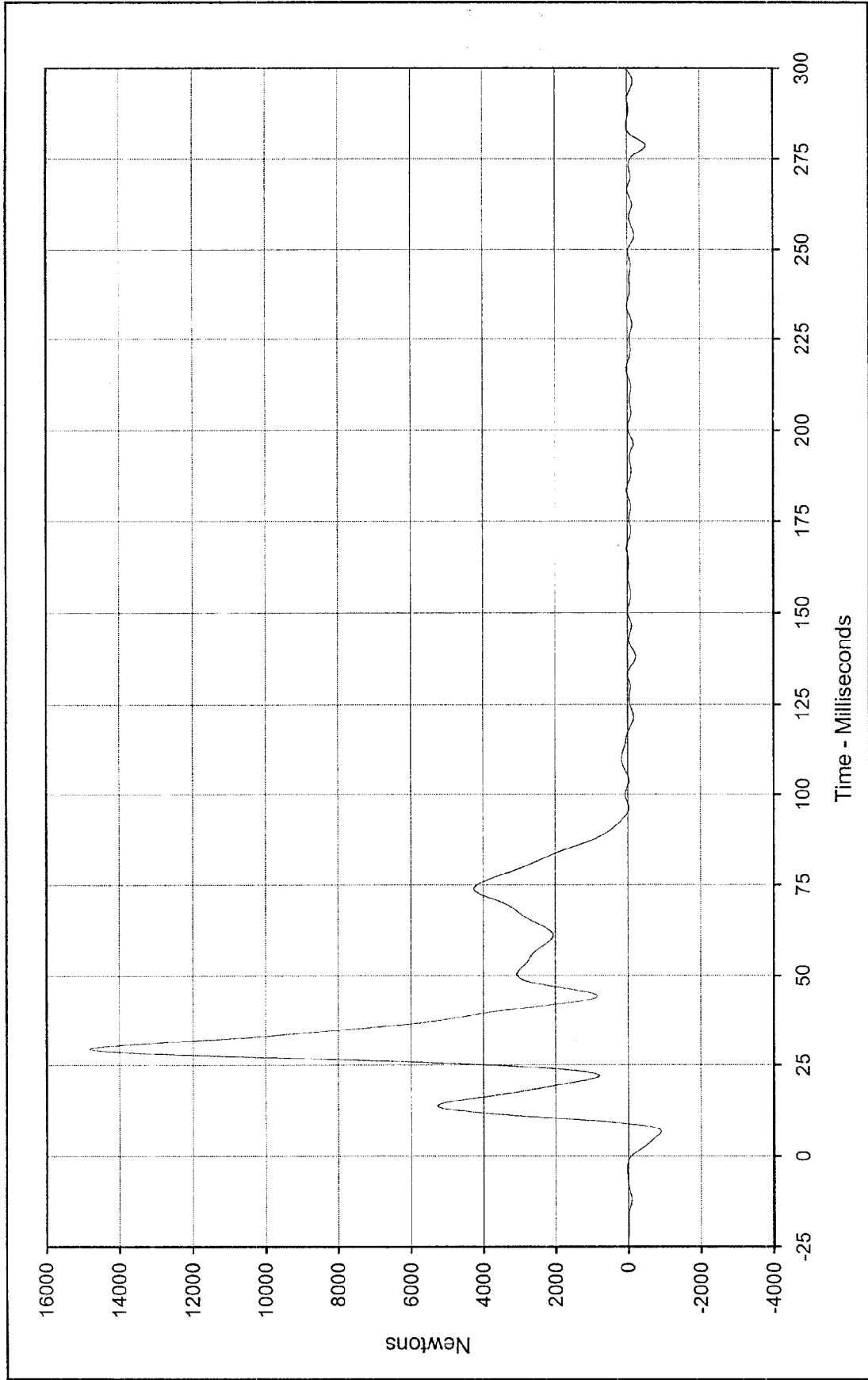
Curve Number: FIL-119





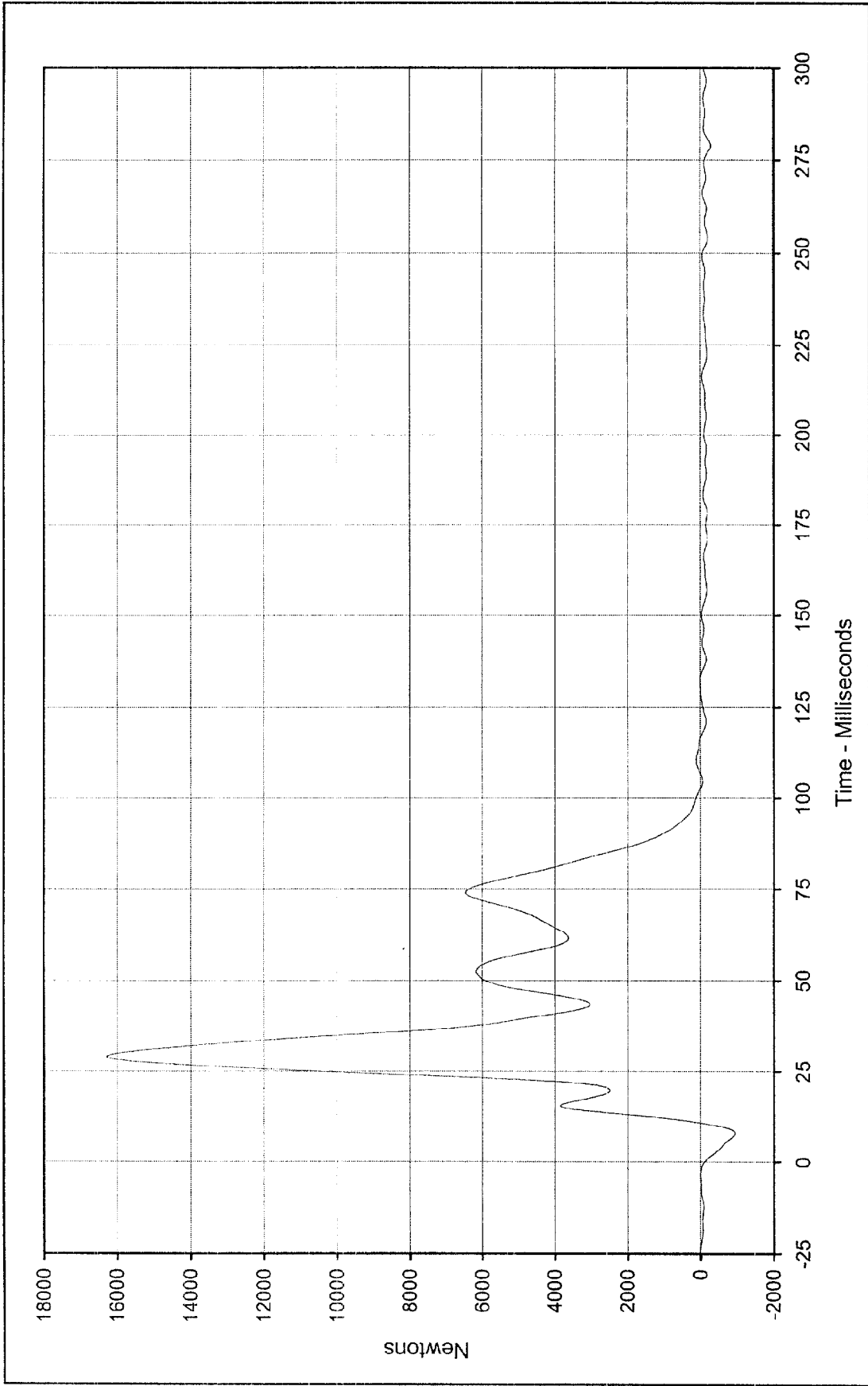
Curve Description: Barrier Force C5 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 19047.0 at 29.5 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -799.9 at 5.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-120





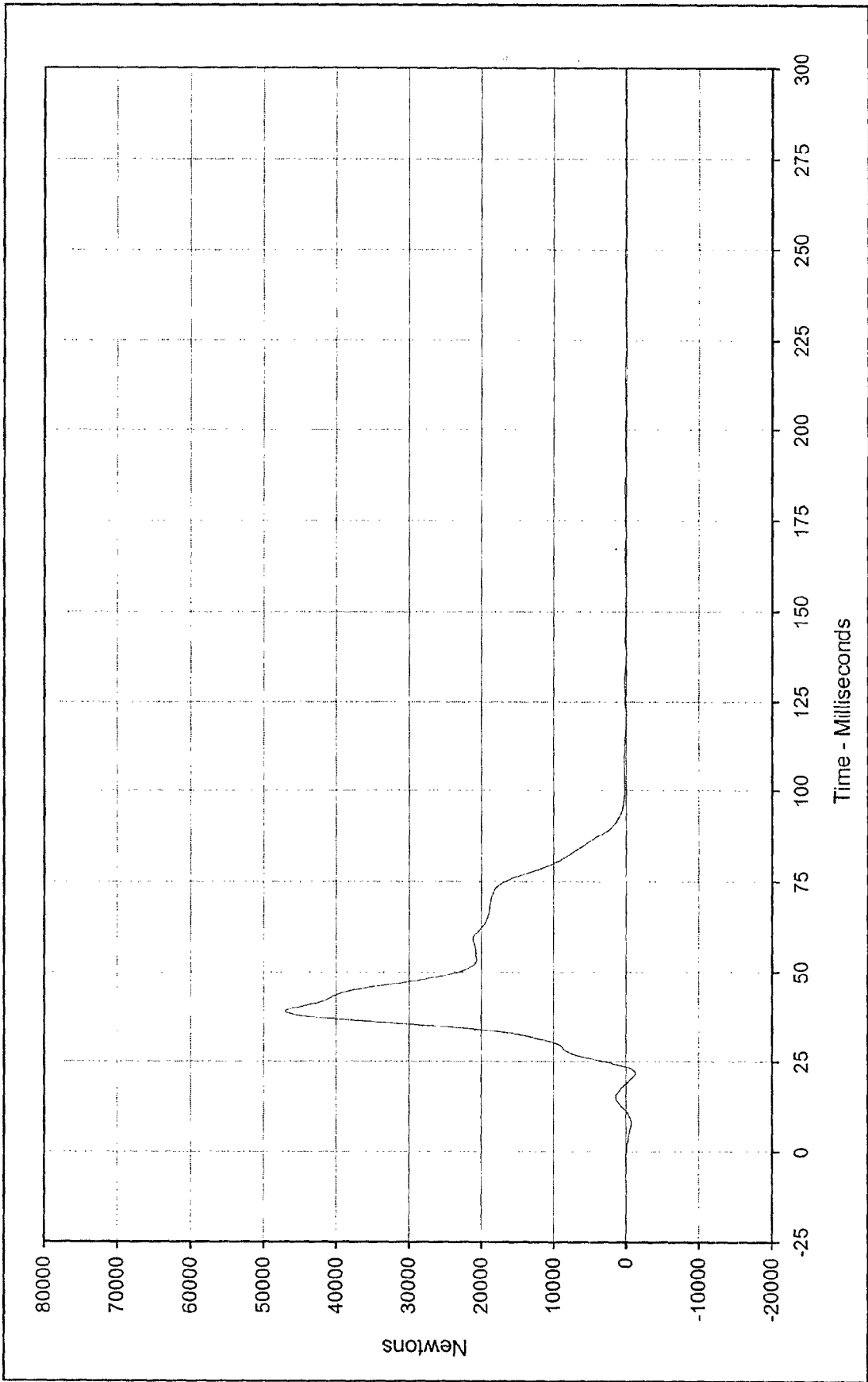
Curve Description: Barrier Force C6 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 14818.9 at 29.4 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -898.5 at 6.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-121





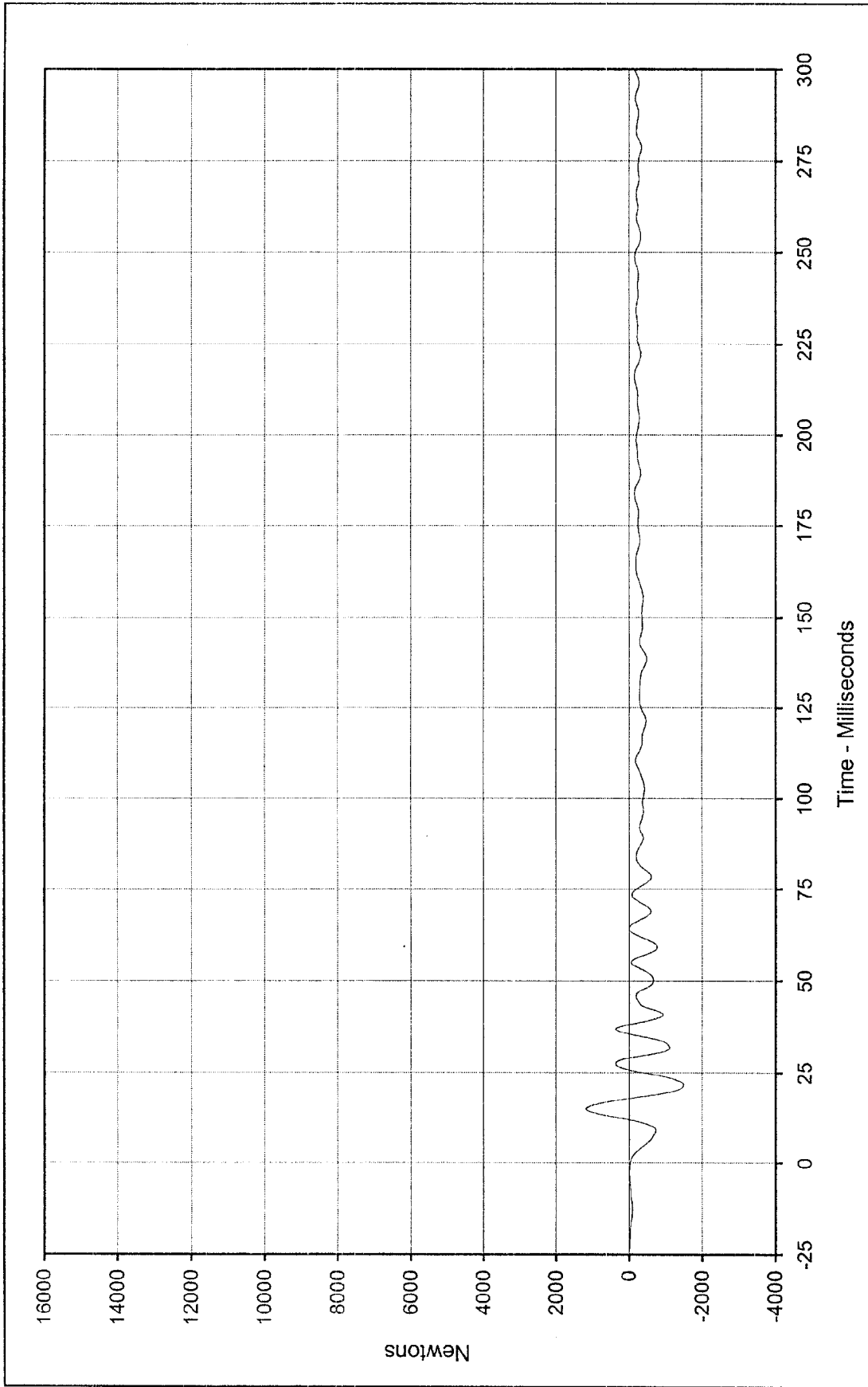
Curve Description: Barrier Force C7 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 16296.1 at 29.0 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -954.1 at 7.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FIL-122





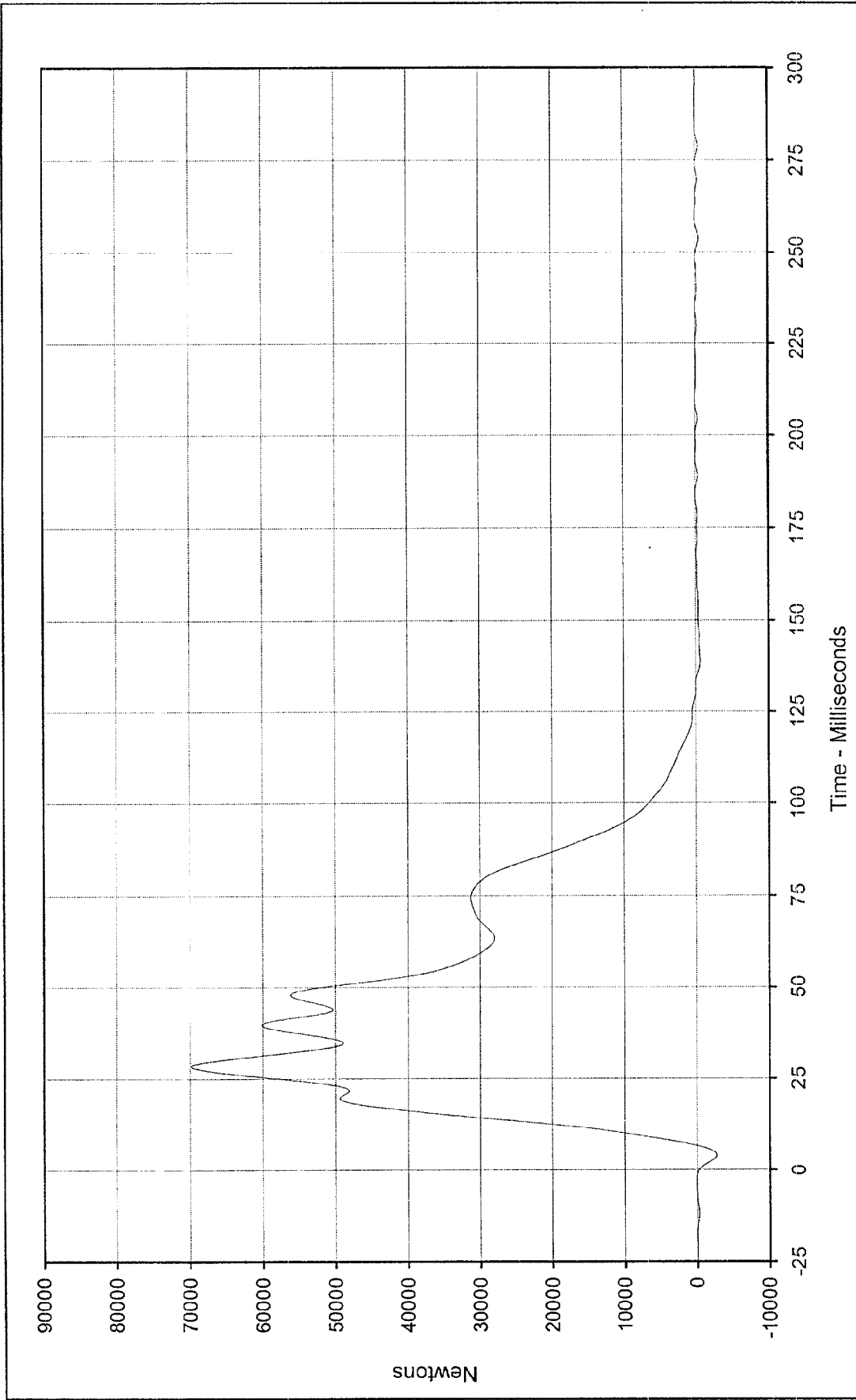
Curve Description: Barrier Force C8 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 47052.1 at 39.2 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -1250.9 at 21.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: FII -123





Curve Description: Barrier Force C9 Testing Program 1998 30mph Frontal w/50th Male
Maximum Value: 1189.6 at 15.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
Minimum Value: -1496.2 at 21.6 Milliseconds
SAE Filter Class: 60
Date of Test: 6/30/98
Curve Number: FIL-124

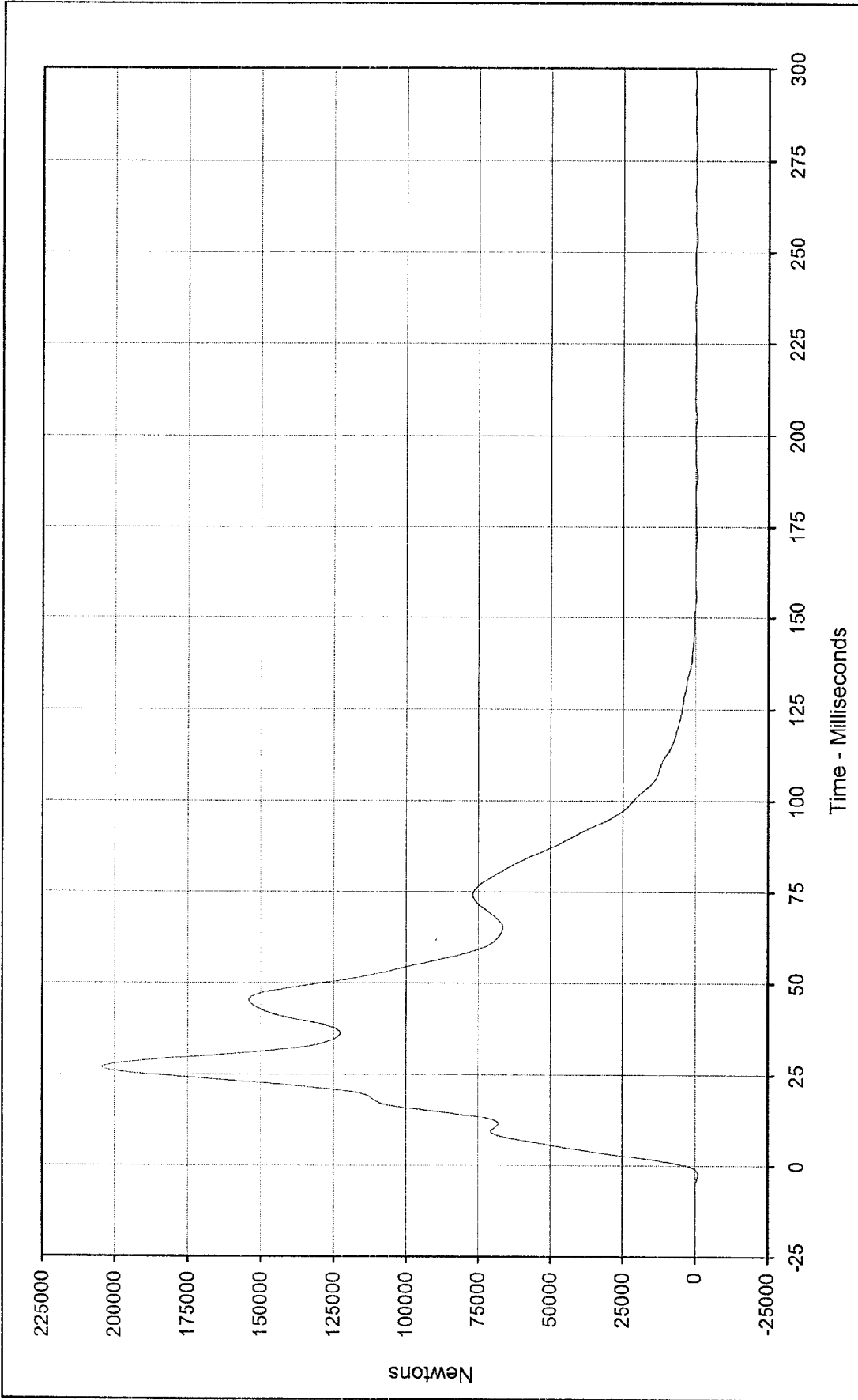




Curve Description: Barrier Force Sum No.1 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 69865.6 at 28.4 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2721.6 at 4.0 Milliseconds

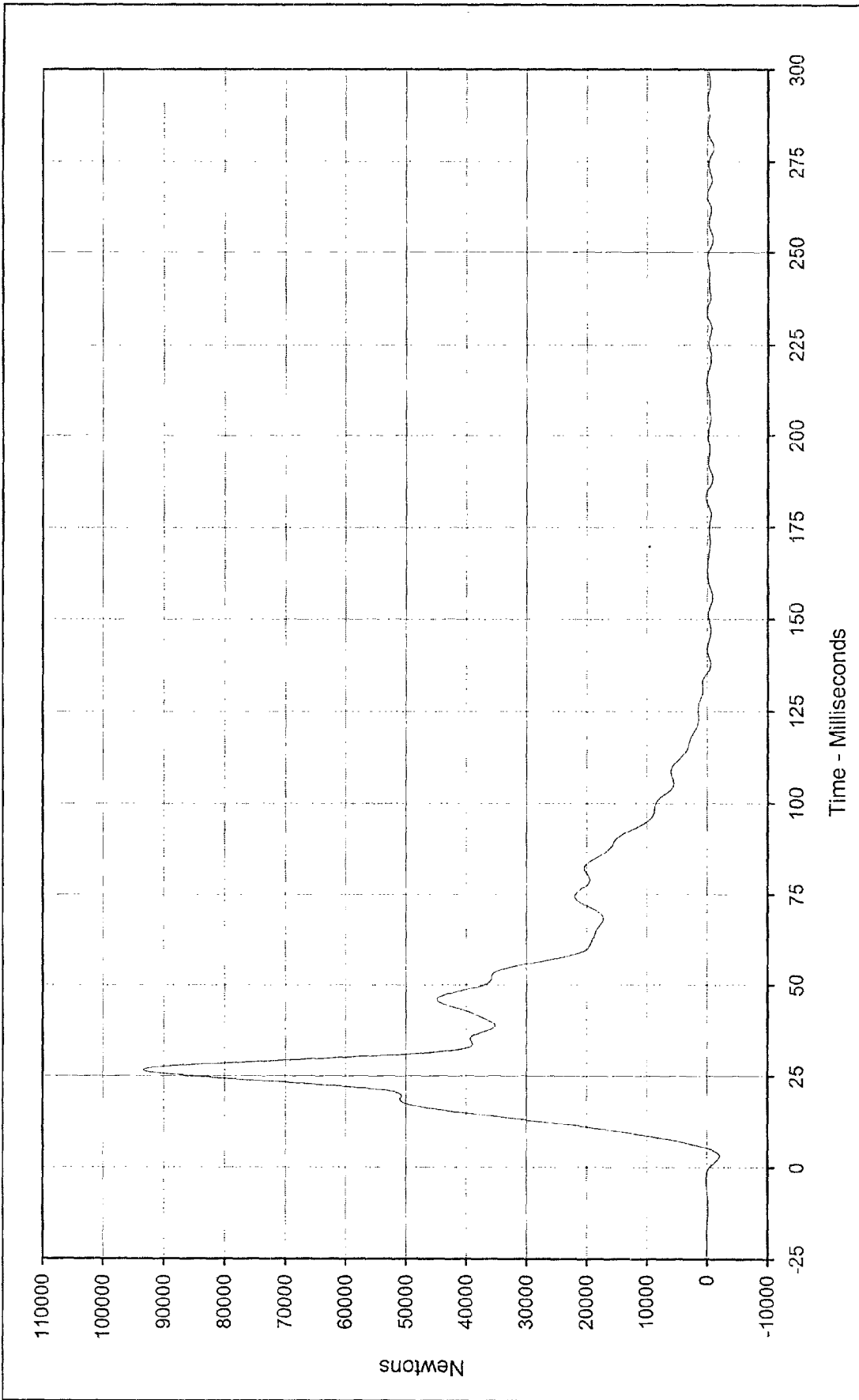


SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: SUM-001



Curve Description: Barrier Force Sum No.2 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 204340.7 at 27.1 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -562.1 at 188.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: SUM-002

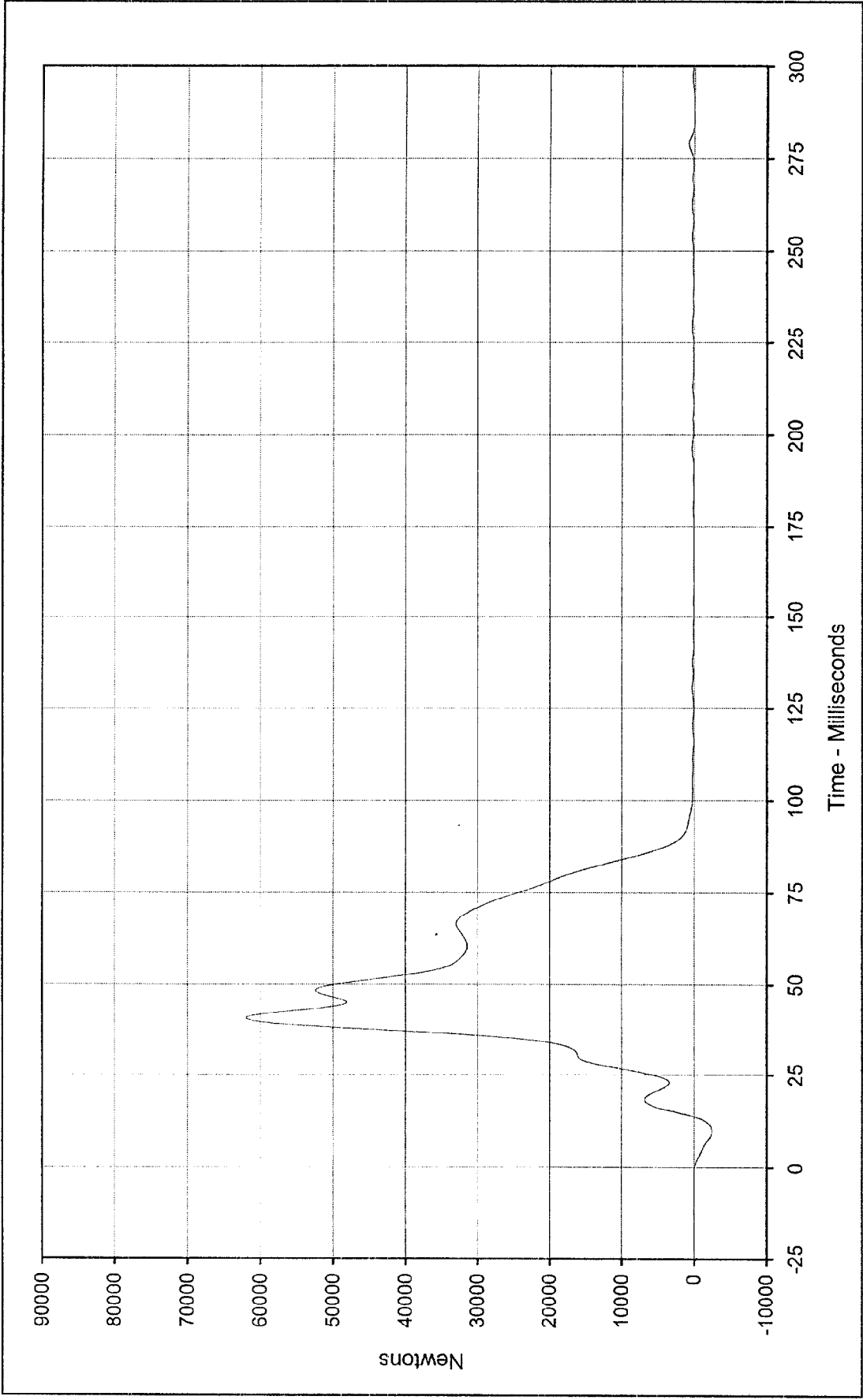




Curve Description: Barrier Force Sum No.3 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 93420.8 at 26.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2112.3 at 3.2 Milliseconds

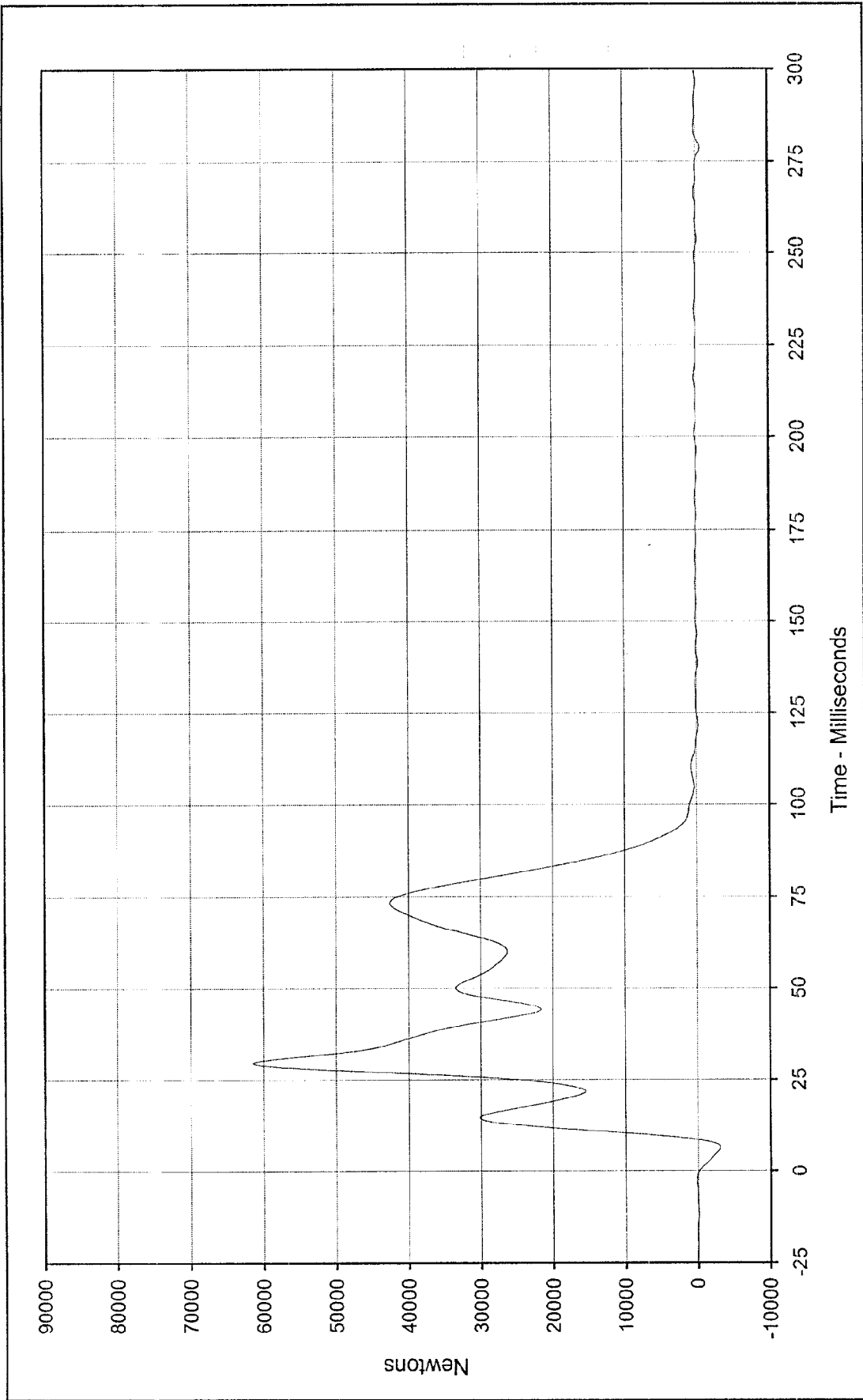
SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: SUM-003





Curve Description: Barrier Force Sum No.4 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 61963.2 at 40.7 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2486.2 at 9.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: SUM-004

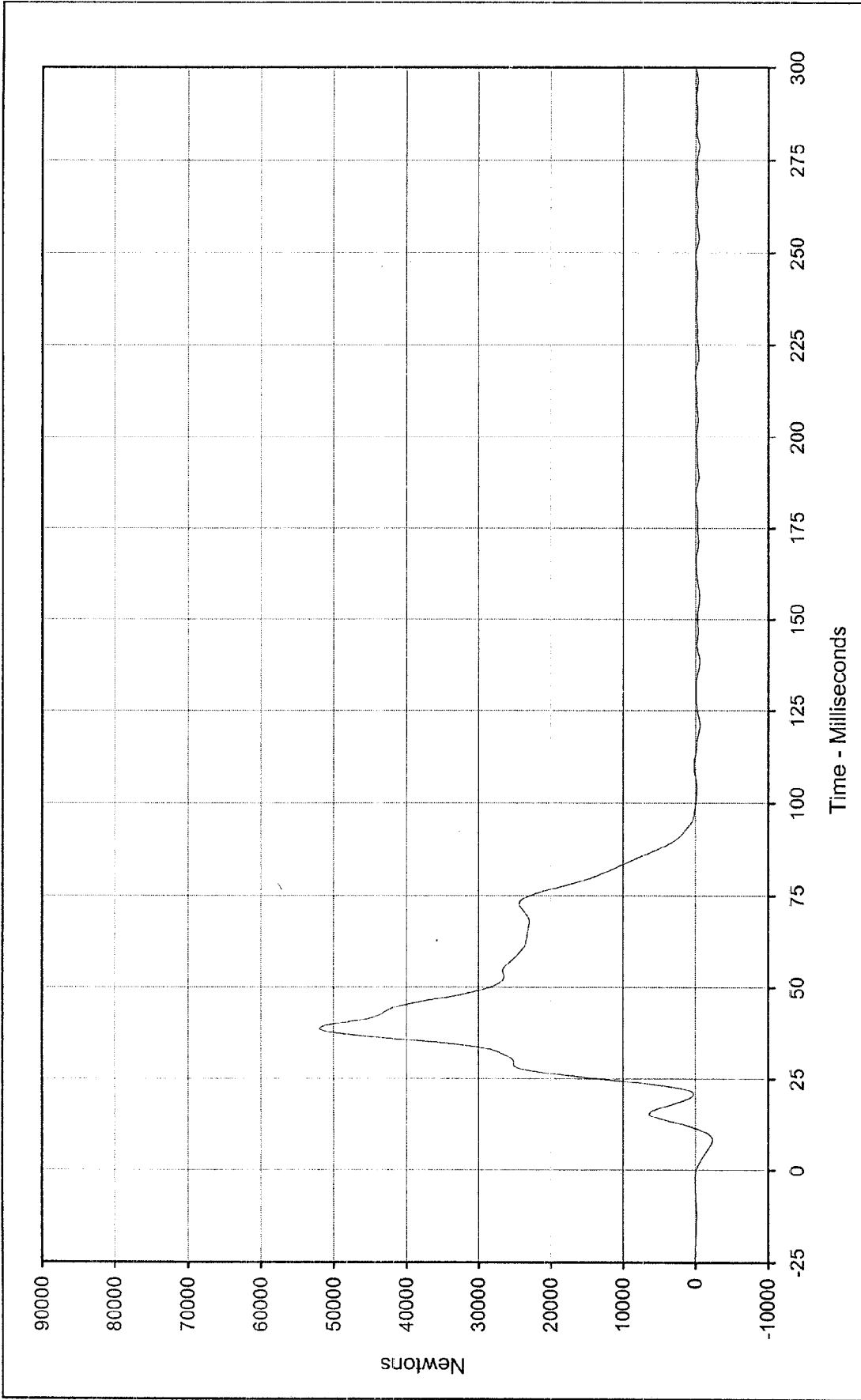




Curve Description: Barrier Force Sum No.5 Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 61448.5 at 29.6 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -3119.1 at 6.4 Milliseconds

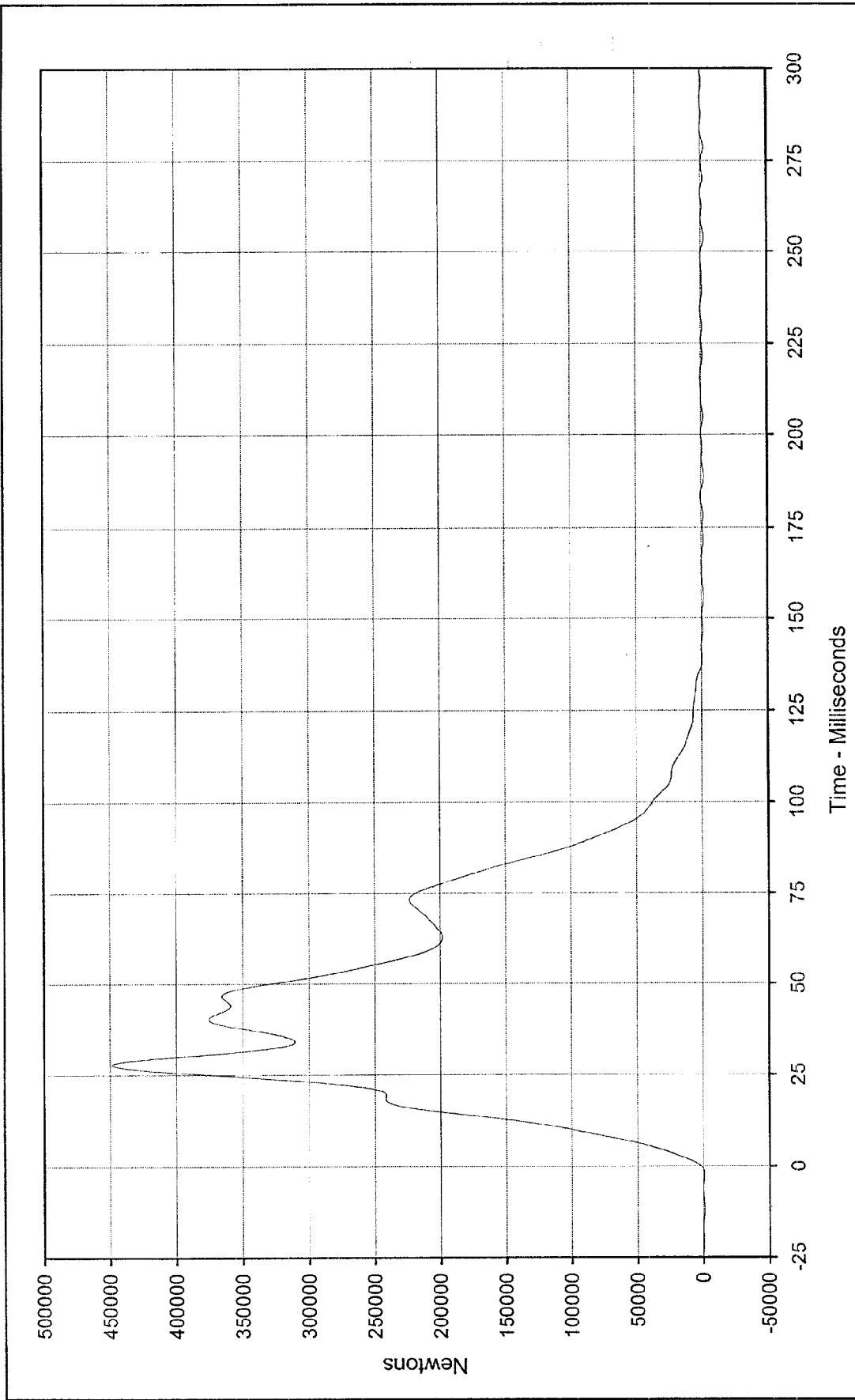
SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: SUM-005





Curve Description: Barrier Force Sum No.6 Testing Program: 1998 30mph Frontal w/50th Male
 Maximum Value: 51917.7 at 38.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2383.9 at 8.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: SUM-006

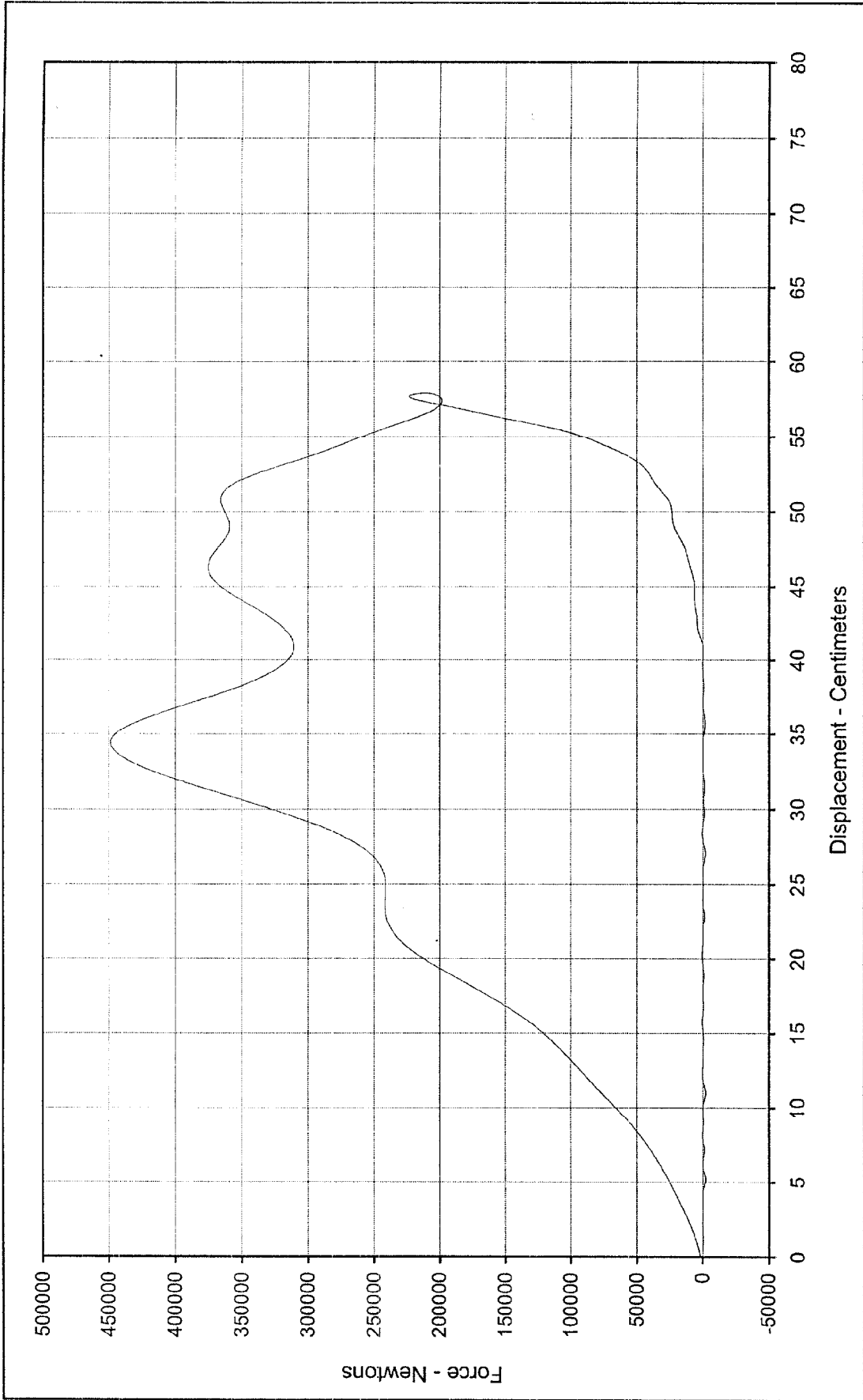




Curve Description: Barrier Force Sum Total Testing Program 1998 30mph Frontal w/50th Male
 Maximum Value: 448568.9 at 27.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Minimum Value: -2349.1 at 278.9 Milliseconds



SAE Filter Class: 60
 Date of Test: 6/30/98
 Curve Number: SUM-007



Curve Description: Sum Force Total vs. Dynamic Crush Testing Program 1998 30mph Frontal w/50th Male
 Maximum Displ.: 57.9 at 68.8 Milliseconds Test Vehicle: 1998 Dodge Neon 4 Door Sedan
 Maximum Force: 448568.9 at 27.8 Milliseconds
 SAE Filter Class: N/A
 Date of Test: 6/30/98
 Curve Number: XVY-001



BARRIER LOAD CELL SUMMARY DATA

TEST VEHICLE: 1998 DODGE NEON 4 DOOR SEDAN

NHTSA No.: MW0120

TEST PROGRAM: 1998 30 MPH FRONTAL W/ 50TH MALE

TEST DATE: 6/30/98

BARRIER LOAD CELL PEAK FORCES

Location	Units	Max	Time	Min	Time
Barrier Force A2	Newtons	4434.5	30.5	-2291.6	25.2
Barrier Force A3	Newtons	6315.2	28.8	-1092.1	24.1
Barrier Force A4	Newtons	11939.6	39.8	-463.8	2.0
Barrier Force A5	Newtons	60971.3	25.7	-980.4	9.1
Barrier Force A6	Newtons	16433.4	28.0	-34.2	279.3
Barrier Force A7	Newtons	9476.1	27.8	-1199.5	22.4
Barrier Force A8	Newtons	5257.6	27.8	-2064.0	22.5
Barrier Force A9	Newtons	1838.3	27.6	-2118.5	23.0
Barrier Force B2	Newtons	5697.6	19.6	-1158.4	9.1
Barrier Force B3	Newtons	60327.8	26.3	-828.4	3.1
Barrier Force B4	Newtons	45924.8	28.1	-97.7	279.1
Barrier Force B5	Newtons	23676.8	8.3	-50.5	189.0
Barrier Force B6	Newtons	60955.3	25.6	-65.0	156.7
Barrier Force B7	Newtons	68804.1	24.9	-594.1	1.8
Barrier Force B8	Newtons	13999.9	26.0	-782.5	8.2
Barrier Force B9	Newtons	1194.8	15.6	-1893.3	22.5
Barrier Force C2	Newtons	52955.5	40.8	-1269.6	10.0
Barrier Force C3	Newtons	9155.4	40.2	-1227.3	9.4
Barrier Force C4	Newtons	27617.4	29.7	-1535.3	6.8
Barrier Force C5	Newtons	19047.0	29.5	-799.9	5.7
Barrier Force C6	Newtons	14818.9	29.4	-898.5	6.7
Barrier Force C7	Newtons	16296.1	29.0	-954.1	7.9
Barrier Force C8	Newtons	47052.1	39.2	-1250.9	21.8
Barrier Force C9	Newtons	1189.6	15.1	-1496.2	21.6
Barrier Force Sum No.1	Newtons	69865.6	28.4	-2721.6	4.0
Barrier Force Sum No.2	Newtons	204340.7	27.1	-562.1	188.7
Barrier Force Sum No.3	Newtons	93420.8	26.7	-2112.3	3.2
Barrier Force Sum No.4	Newtons	61963.2	40.7	-2486.2	9.7
Barrier Force Sum No.5	Newtons	61448.5	29.6	-3119.1	6.4
Barrier Force Sum No.6	Newtons	51917.7	38.8	-2383.9	8.2
Barrier Force Sum Total	Newtons	448568.9	27.8	-2349.1	278.9

Barrier Load cells A1,B1,C1, and D1 through D9 (12 locations) were not recorded.

APPENDIX D
INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**1998 30mph Frontal w/50th Male
Instrumentation Data Channel Assignments
Driver A.T.D Serial Number 35
6/30/98
1998 Dodge Neon 4 Door Sedan**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	N.m
11	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	N.m
12	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	N.m
13	CHEST, PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST, PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST, PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST, REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
17	CHEST, REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
18	CHEST, REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
19	CHEST DISPLACEMENT	X	GPCP002	Rotary Pot Chest	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
21	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
22	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
23	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	GPLC001	Load cell, Femur	G.S.E.	2430	N

1998 30mph Frontal w/50th Male
Instrumentation Data Channel Assignments
Driver A.T.D Serial Number 35
6/30/98

1998 Dodge Neon 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
26	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
27	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
28	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
29	LWR. TIBIA LEFT MOM.	X	GPUT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
30	LWR. TIBIA LEFT MOM.	Y	GPUT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
31	LWR. TIBIA LEFT FORCE	Z	GPUT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
32	LWR. TIBIA RIGHT MOM.	X	GPUT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
33	LWR. TIBIA RIGHT MOM.	Y	GPUT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
34	LWR. TIBIA RIGHT FORCE	Z	GPUT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
35	FOOT LEFT	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT	Y	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT	Y	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	KELC001	Load cell, Seat belt	Lebow	3371	N
42	SHOULDER BELT FORCE	X	KELC002	Load cell, Seat belt	Lebow	3371	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celisco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**208 Test With Hybrid III Male 50th Percentile ATD
Instrumentation Data Channel Assignments
Passenger A.T.D Serial Number 34
6/30/98**

1998 Dodge Neon 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	KEAC039	Accel., 1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	KEAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	KEAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	KEAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	KEAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	N.m
55	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	N.m
56	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	N.m
57	CHEST, PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST, PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST, PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST, REDUNDANT	X	KEAC023	Accel., 1/2 bridge	Endevco	7264-200	G
61	CHEST, REDUNDANT	Y	KEAC022	Accel., 1/2 bridge	Endevco	7264-200	G
62	CHEST, REDUNDANT	Z	KEAC024	Accel., 1/2 bridge	Endevco	7264-200	G
63	CHEST DISPLACEMENT	X	GPCP001	Rotary Pot Chest	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	KEAC019	Accel., 1/2 bridge	Endevco	7264-200	G
65	PELVIS, PRIMARY	Y	KEAC020	Accel., 1/2 bridge	Endevco	7264-200	G
66	PELVIS, PRIMARY	Z	KEAC021	Accel., 1/2 bridge	Endevco	7264-200	G
67	LEFT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N

208 Test With Hybrid III Male 50th Percentile ATD

Instrumentation Data Channel Assignments

Passenger A.T.D Serial Number 34

6/30/98

1998 Dodge Neon 4 Door Sedan

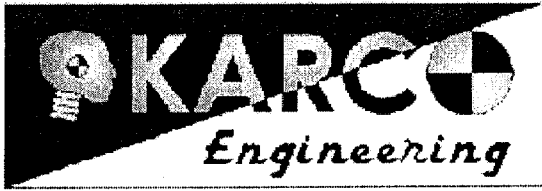
CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPU09MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
70	UP. TIBIA LEFT MOM.	Y	GPU09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
71	UP. TIBIA RIGHT MOM.	X	GPU09MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
72	UP. TIBIA RIGHT MOM.	Y	GPU09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
73	LWR. TIBIA LEFT MOM.	X	GPT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
74	LWR. TIBIA LEFT MOM.	Y	GPT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
75	LWR. TIBIA LEFT FORCE	Z	GPT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
77	LWR. TIBIA RIGHT MOM.	Y	GPT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
78	LWR. TIBIA RIGHT FORCE	Z	GPT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT	Y	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT	Y	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	KELC003	Load cell, Seat belt	Lebow	3371	N
86	SHOULDER BELT FORCE	X	KELC004	Load cell, Seat belt	Lebow	3371	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	CM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

208 Test With Hybrid III Male 50th Percentile ATD
Instrumentation Data Channel Assignments
Vehicle Accelerometers Measurements
6/30/98

1998 Dodge Neon 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
89	Left Rear Sill	X	KEVA005	Accel., Vehicle block	I.C. Sensor	3031-500	G
90	Left Rear Sill	Y	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
91	Center Tunnel	X	KEVA009	Accel., Vehicle block	I.C. Sensor	3031-500	G
92	Center Tunnel	Y	KEVA008	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	Right Sill	X	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	Right Sill	Y	KEVA004	Accel., Vehicle block	I.C. Sensor	3031-500	G
95	Trunk	X	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-200	G
96	Trunk	Y	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G

APPENDIX E
DUMMY CALIBRATION DATA



Hybrid III Calibration Data Sheet

50TH Percentile Male

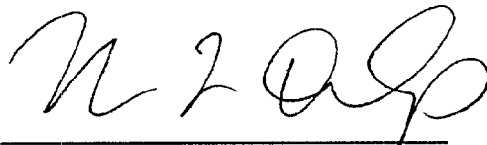
Left Knee Impact Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: KI003

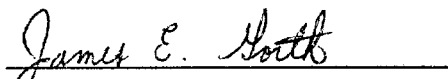
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	2.073 to 2.134	2.082	Pass
Peak Probe Force	Newtons	4715 to 5782	5526.5	Pass
Overall Test Results				Pass



Laboratory Technician

May 18, 1998

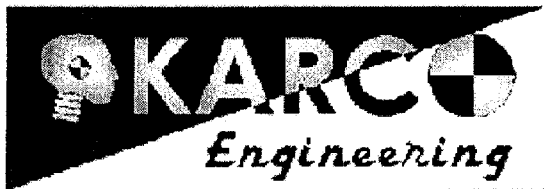
Test Date



Approved By

8/12/98

Date



Hybrid III Calibration Data Sheet
50TH Percentile Male
Right Knee Impact Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: KI002

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	2.073 to 2.134	2.082	Pass
Peak Probe Force	Newtons	4715 to 5782	5721.3	Pass
Overall Test Results				Pass



Laboratory Technician

May 18, 1998

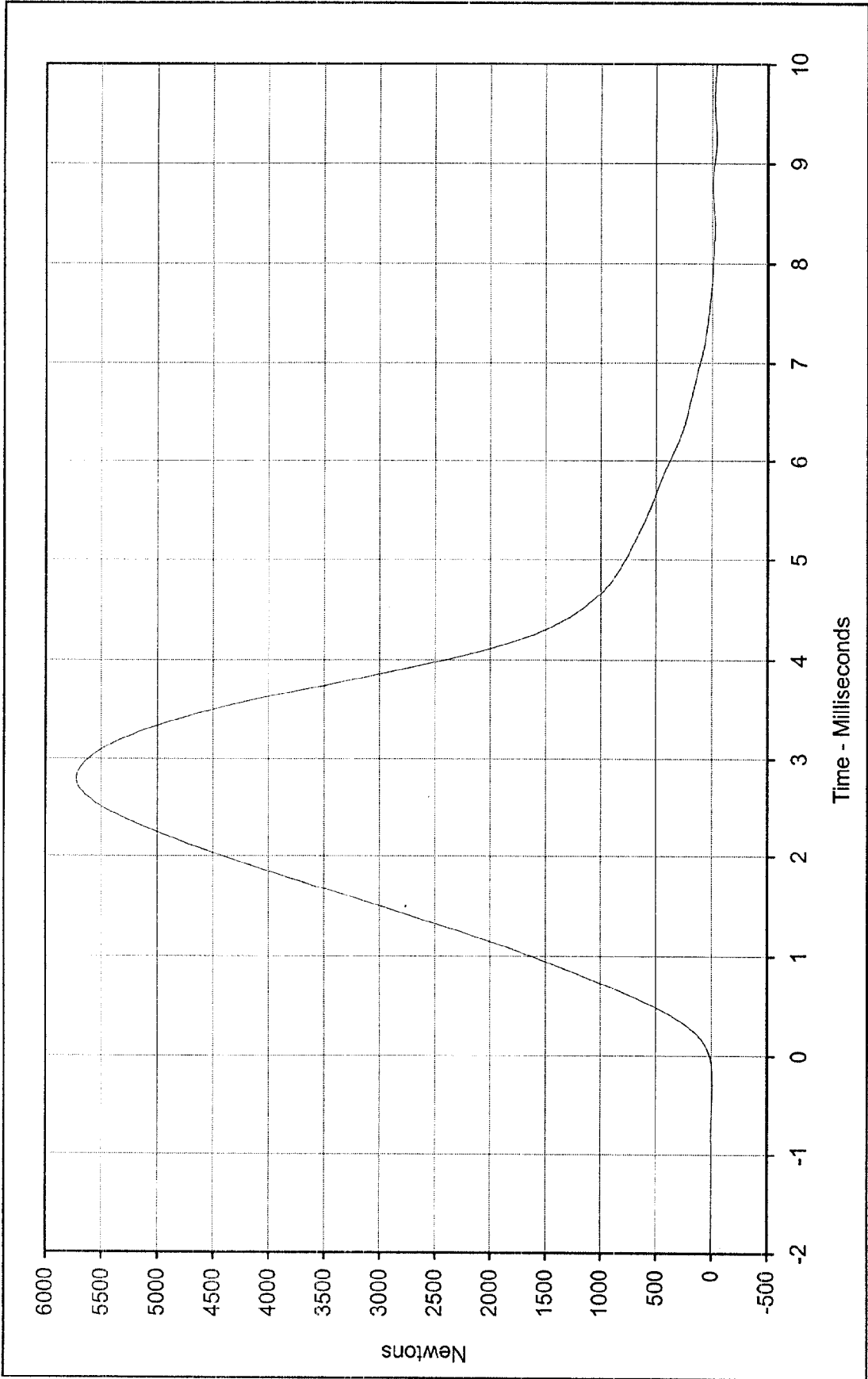
Test Date



Approved By

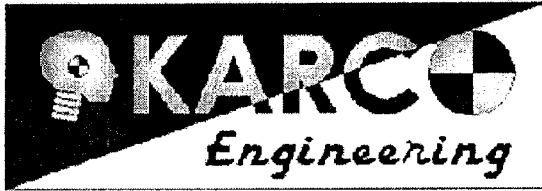
5/12/98

Date



Curve Description: Hybrid III Right Knee Impact Test
 Testing Program: Hybrid III Right Knee Impact Test
 Part S/N: n/a Test I.D.: KI002
 Maximum Value: 5721.3 at 2.8 Milliseconds
 Minimum Value: -11.2 at 8.0 Milliseconds
 SAE Filter Class: 600
 Date of Test: 5/18/98
 ATD Serial No.: 034





Hybrid III Calibration Data Sheet

50TH Percentile Male

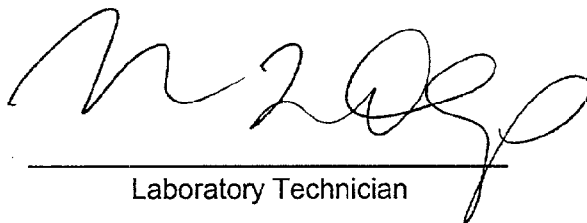
Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: H0005

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	257.6	Pass
Peak Lateral Acceleration	G's	≤15.0	2.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



Laboratory Technician

May 18, 1998

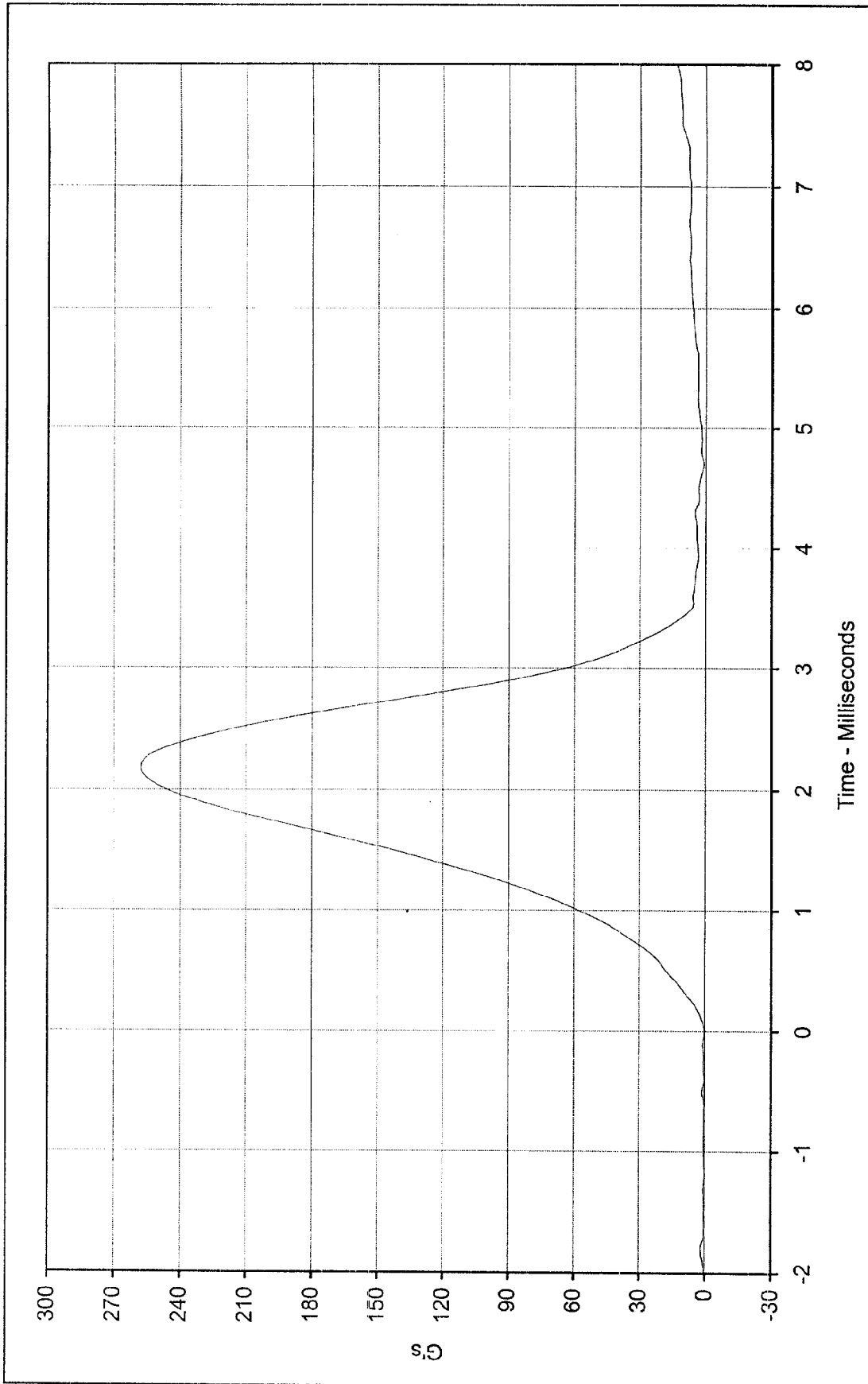
Test Date



Approved By

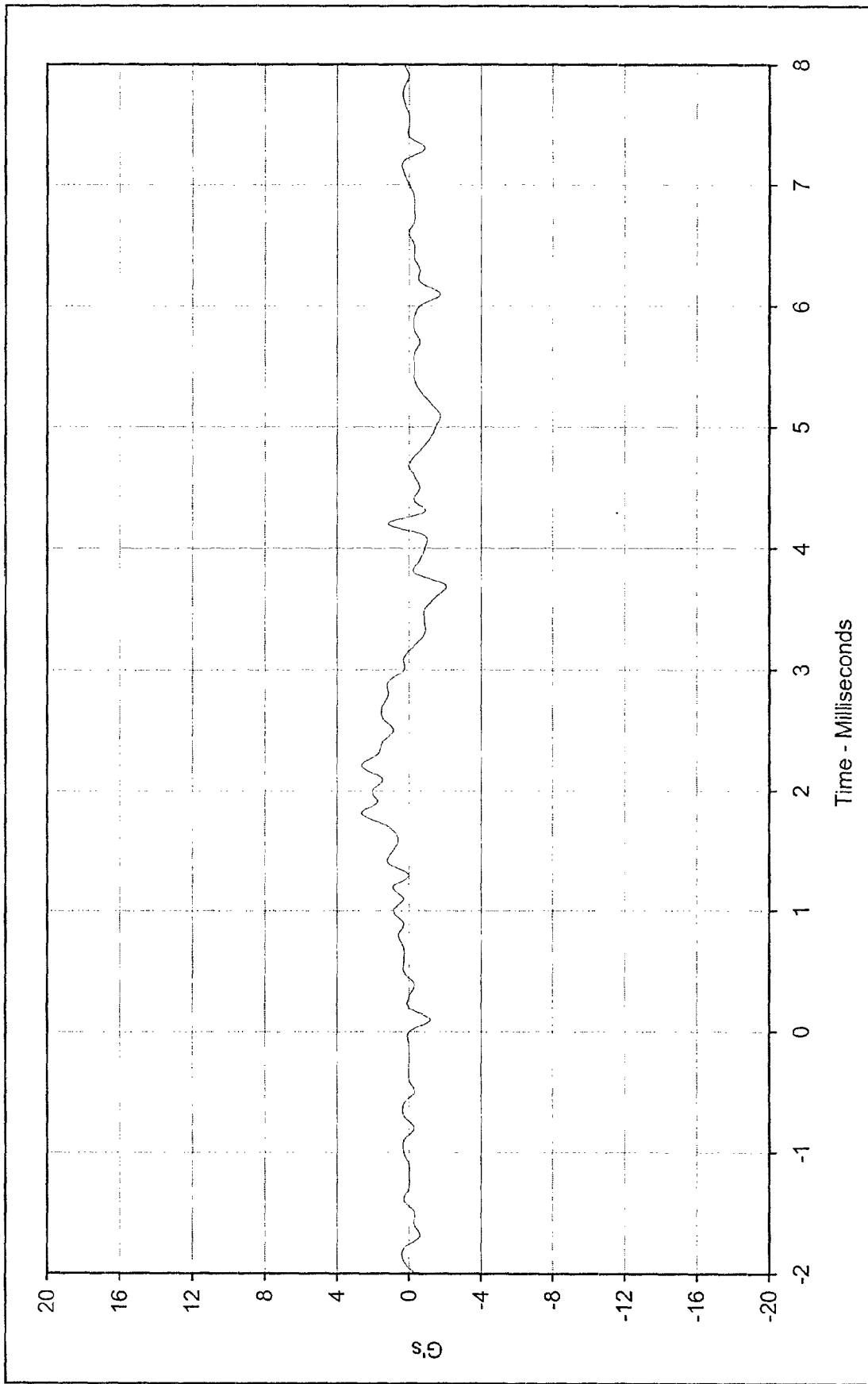
5/12/98

Date



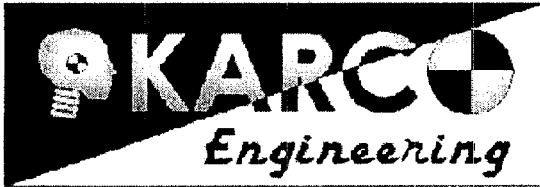
Curve Description: Head Resultant Acceleration Testing Program Hybrid III Head Drop Calibration (Male)
 Maximum Value: 257.6 at 2.2 Milliseconds Test Information: S/N of Part: n/a Test I.D.: H0005
 Minimum Value: 0.0 at -1.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 5/18/98
 ATD Serial No.: 034





Curve Description:	Head Acceleration Y Axis	Testing Program	Hybrid III Head Drop Calibration (Male)
Maximum Value:	2.6 at 1.8 Milliseconds	Test Information:	S/N of Part: n/a Test I.D.: H0005
Minimum Value:	-2.0 at 3.7 Milliseconds		
SAE Filter Class:	1000		
Date of Test:	5/18/98		
ATD Serial No.:	034		





Hybrid III Calibration Data Sheet

50TH Percentile Male

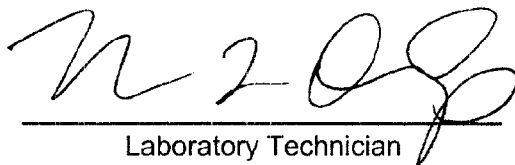
Thorax Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: 34CH1

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	6.77	Pass
Peak Probe Force	Newtons	5159 to 5893	5732	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.76	Pass
Internal Hysteresis	%	69 to 85	75.8	Pass
Overall Test Results				Pass



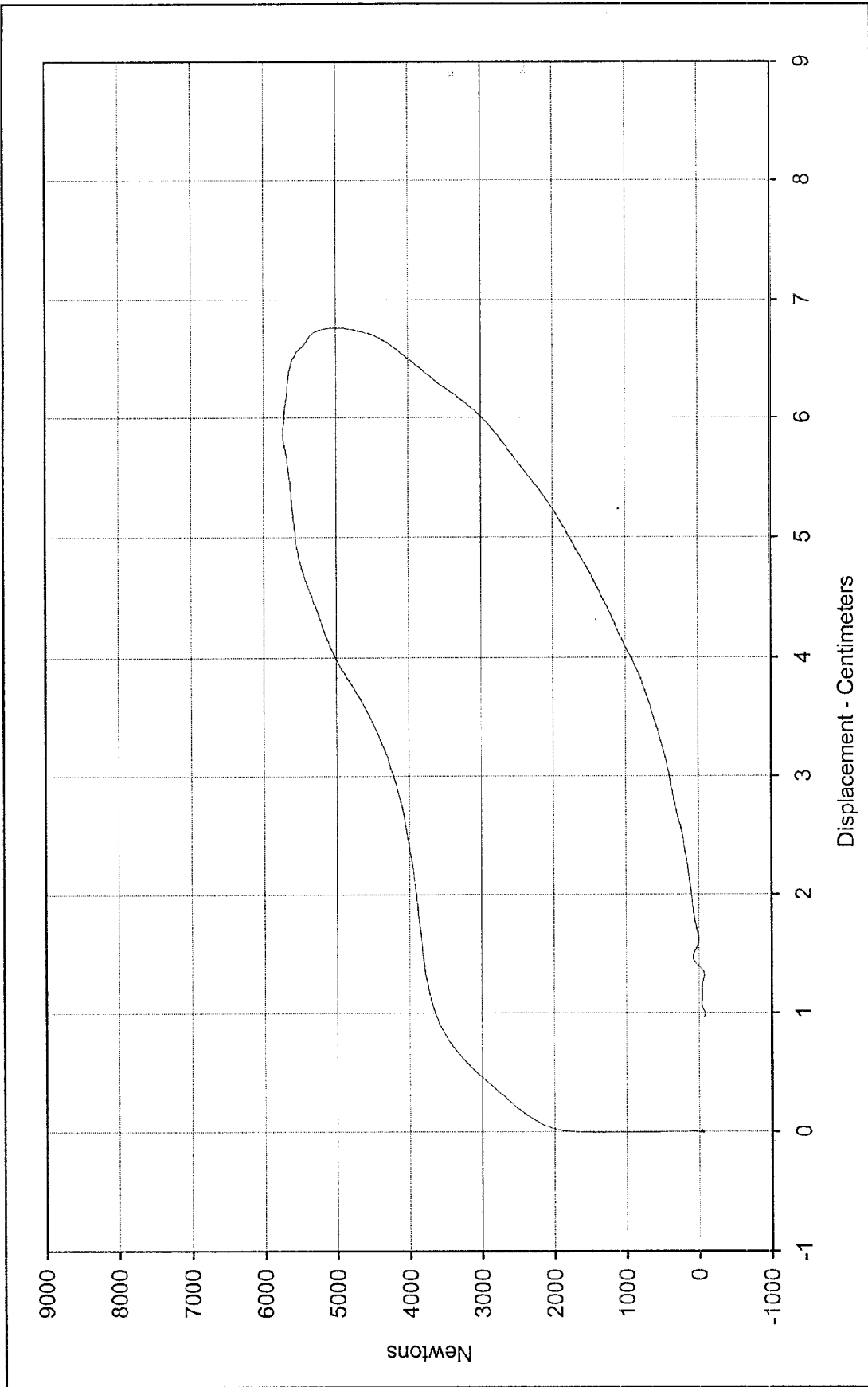
Laboratory Technician

May 28, 1998
Test Date



Approved By

5/12/98
Date



Curve Description: Probe Force vs. Chest Displacement Testing Program: Hybrid III Thorax Impact Test
 Probe Force: 5731.6 Newtons Test Information: S/N of Part: N/A Test I.D.: 34CH1

Chest Displ.: 6.76 Centimeters
 SAE Filter Class: 180
 Date of Test: 5/28/98
 ATD Serial No.: 034





Hybrid III Calibration Data Sheet

50TH Percentile Male

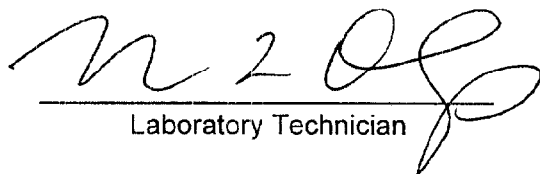
Neck Flexion Test


ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: N0011

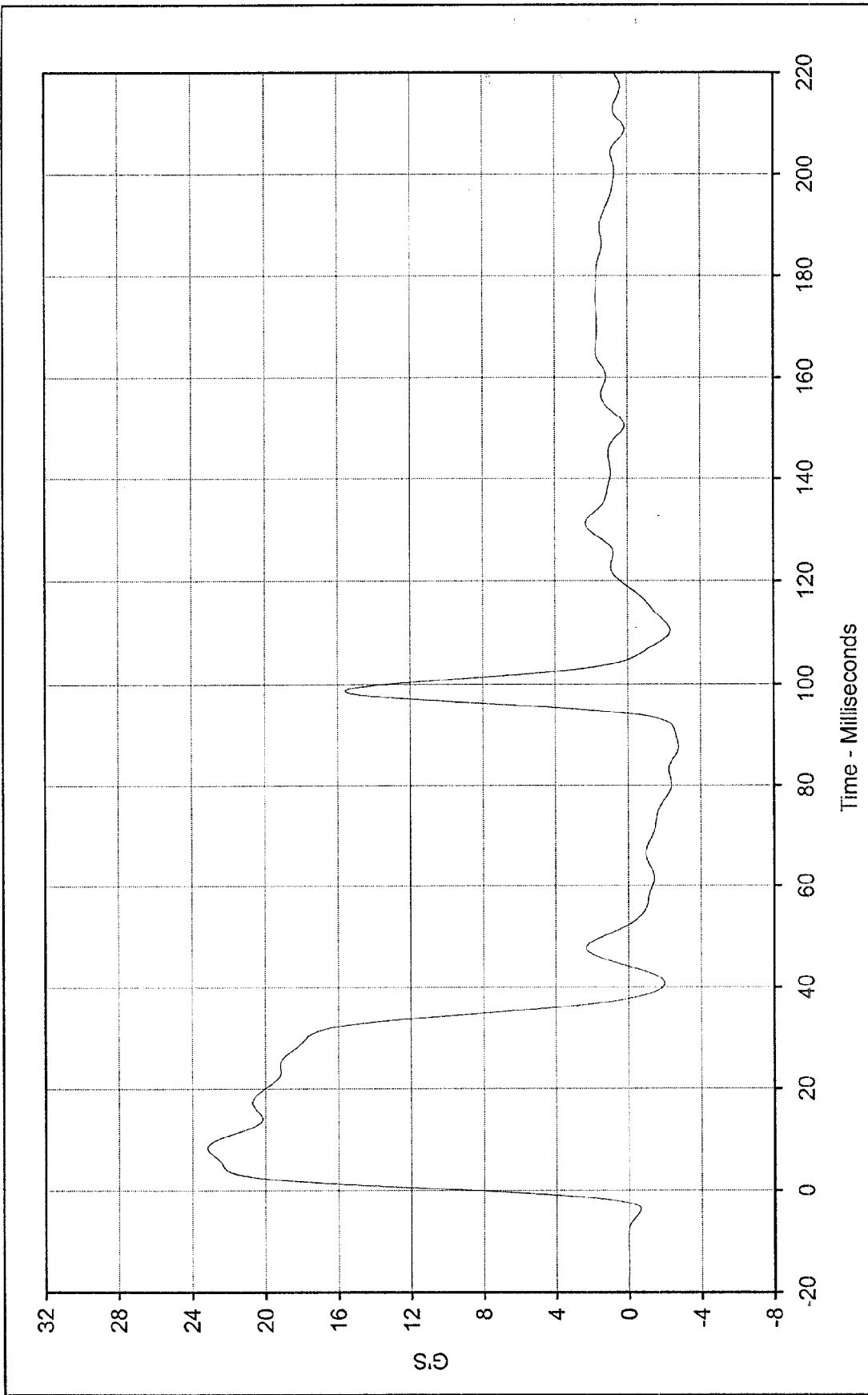
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	40	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	7.13	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.7	Pass
	20 Msec.	G's	17.6 to 22.6	20.1	Pass
	30 Msec.	G's	12.5 to 18.5	17.7	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	17.7	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	35.6	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	70.7	Pass
	Time	Msec.	57.0 to 64.0	61.4	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	124.1	Pass	
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	90.0	Pass
	Time	Msec.	47.0 to 58.0	54.5	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	102.3	Pass	
Overall Test Results				Pass	


 Laboratory Technician


 Approved By

May 21, 1998
 Test Date

8/12/98
 Date



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

Maximum Value: 23.2 at 8.5 Test Information: S/N of Part: n/a Test I.D.: N0011

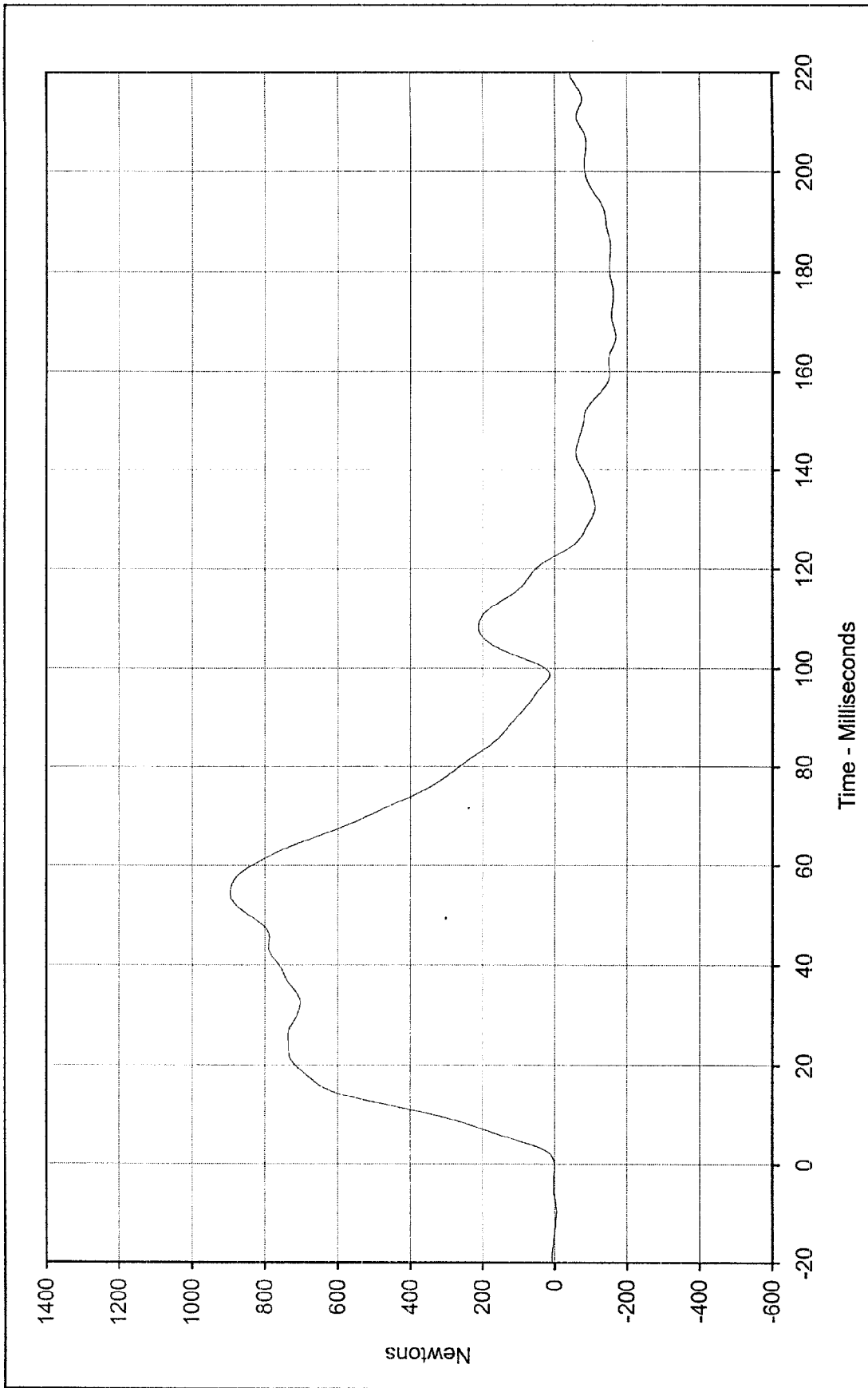
Minimum Value: -2.8 at 87.6

SAE Filter Class: 60

Date of Test: 5/21/98

ATD Serial No.: 034





Curve Description: Neck Force X

Maximum Value: 895.0 at 54.4 Milliseconds
 Minimum Value: -167.2 at 166.9 Milliseconds

SAE Filter Class: 60

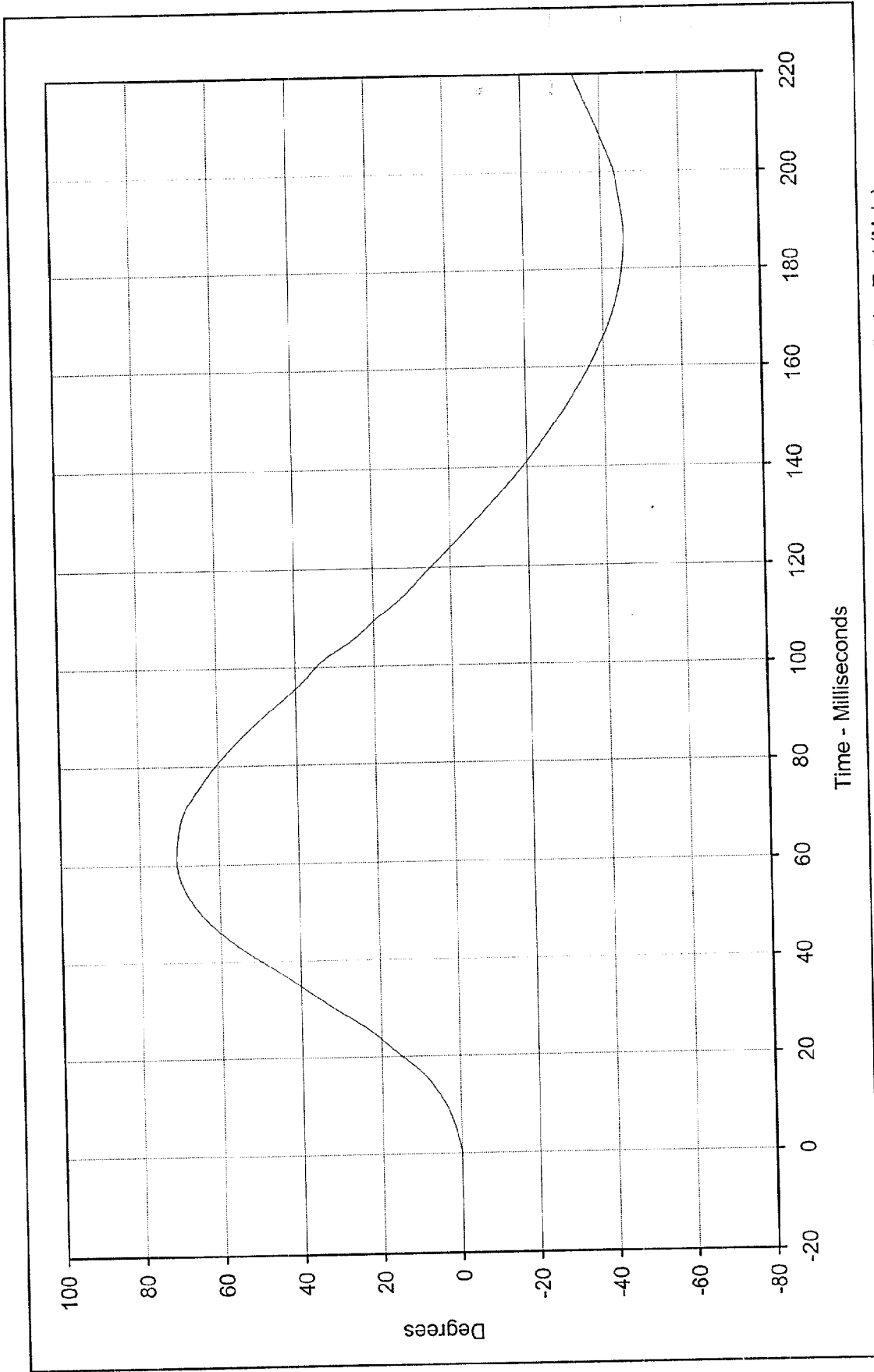
Date of Test: 5/21/98

ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: n/a Test I.D.: N0011

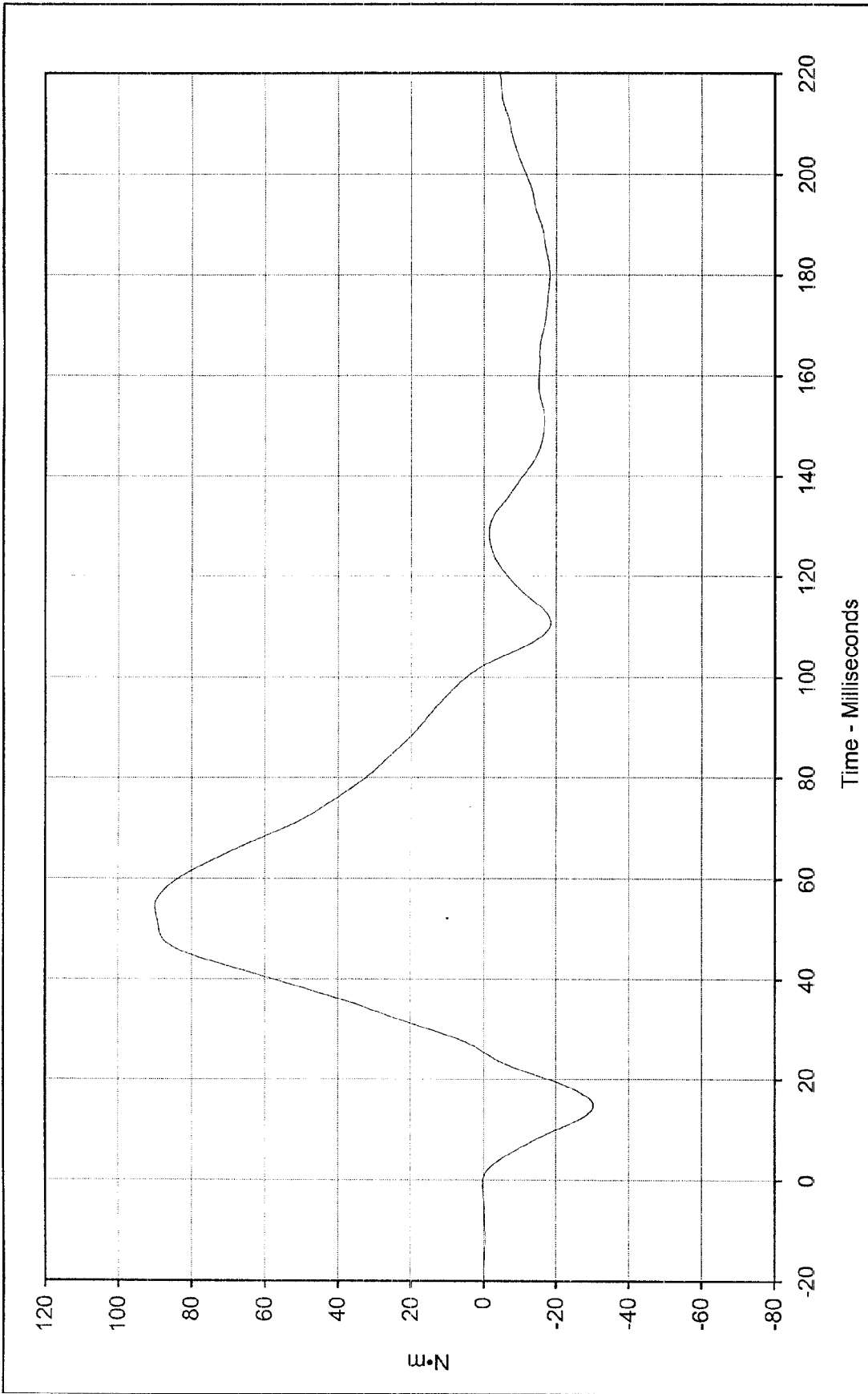




Testing Program Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: N0011

Curve Description: "D" Plane Rotation
 Maximum Value: 70.7 at 61.4 Milliseconds
 Minimum Value: -45.6 at 186.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 034





Curve Description: Moment About Occipital Condyles
 Maximum Value: 90.0 at 54.5 Milliseconds
 Minimum Value: -30.3 at 14.6 Milliseconds

Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: N0011
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 034





Hybrid III Calibration Data Sheet

50TH Percentile Male

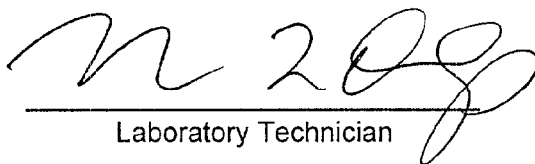
Neck Extension Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: N0010

Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	40	Pass	
Pendulum Velocity	m/s	5.95 to 6.19	6.17	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.4	Pass
	20 Msec.	G's	14.0 to 19.0	15.6	Pass
	30 Msec.	G's	11.0 to 16.0	13.5	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	13.5	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	41.1	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	96.0	Pass
	Time	Msec.	72.0 to 82.0	74.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	155.8	Pass	
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-73.1	Pass
	Time	Msec.	65.0 to 79.0	66.0	Pass
Negative Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	142.2	Pass	
Overall Test Results				Pass	


 Laboratory Technician

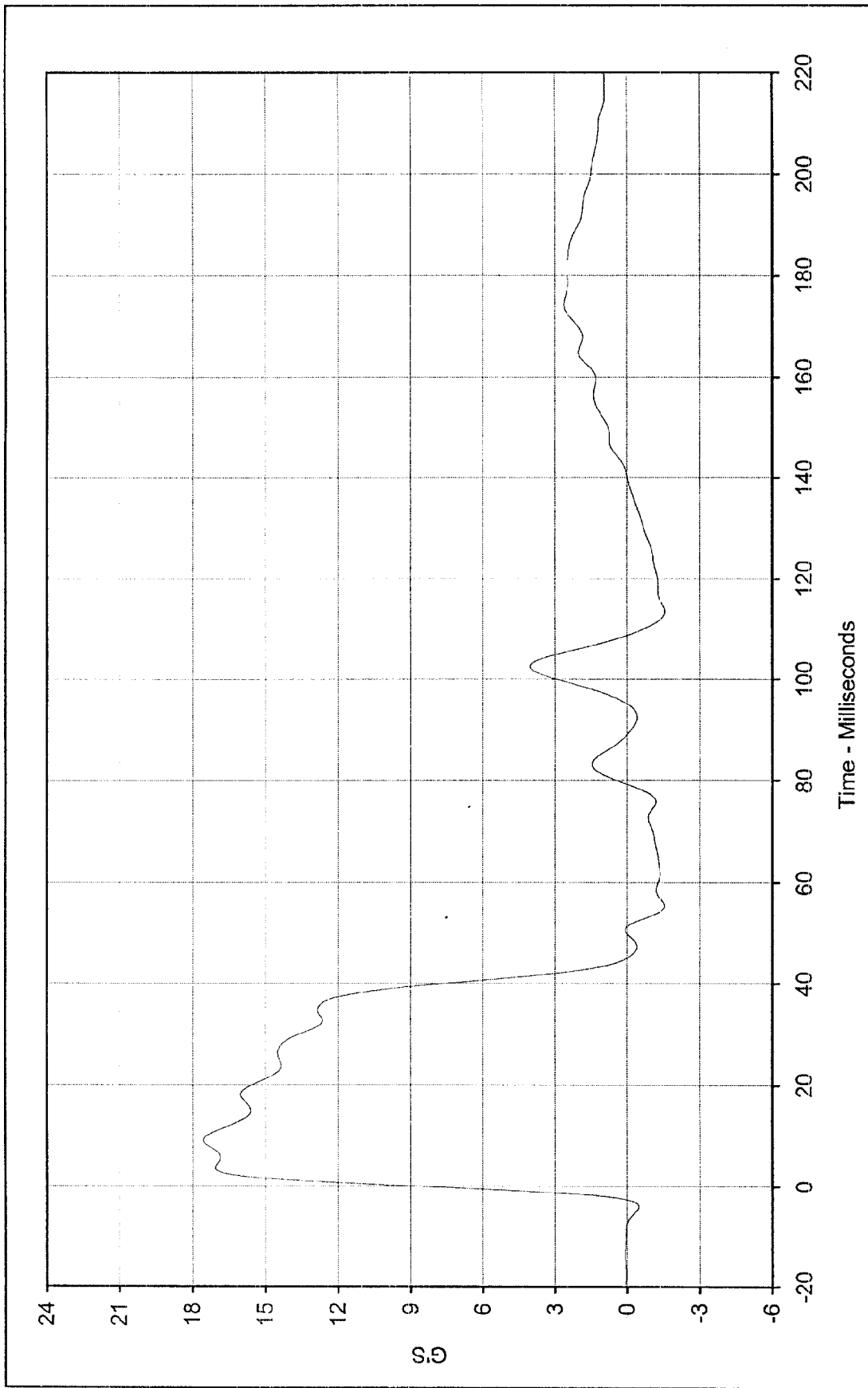
May 21, 1998

Test Date


 Approved By

5/12/98

Date



Curve Description: Pendulum Deceleration Testing Program Hybrid III Neck Extension Test (Male)

Maximum Value: 17.6 at 9.2 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0010

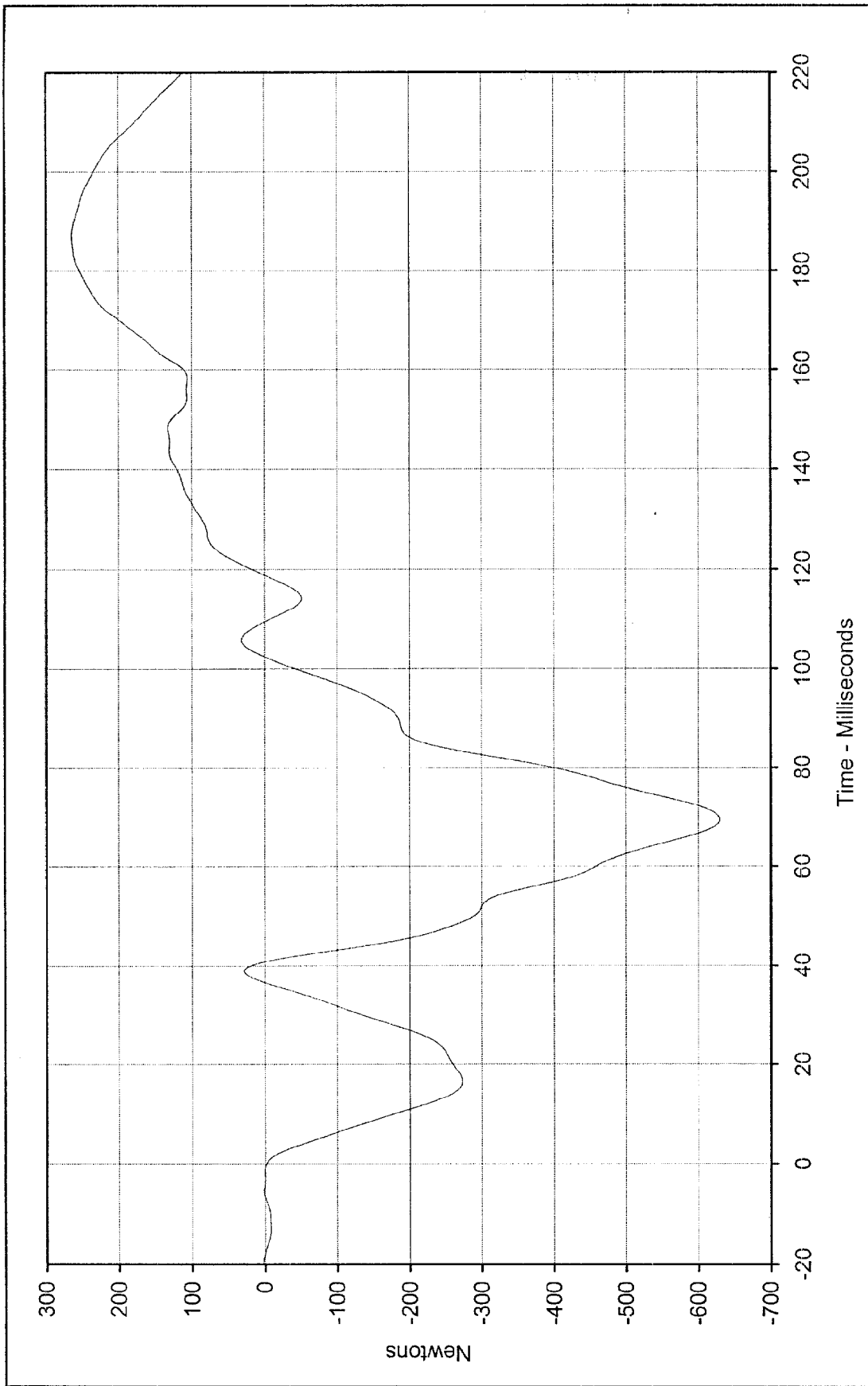
Minimum Value: -1.6 at 113.4 Milliseconds

SAE Filter Class: 60

Date of Test: 5/21/98

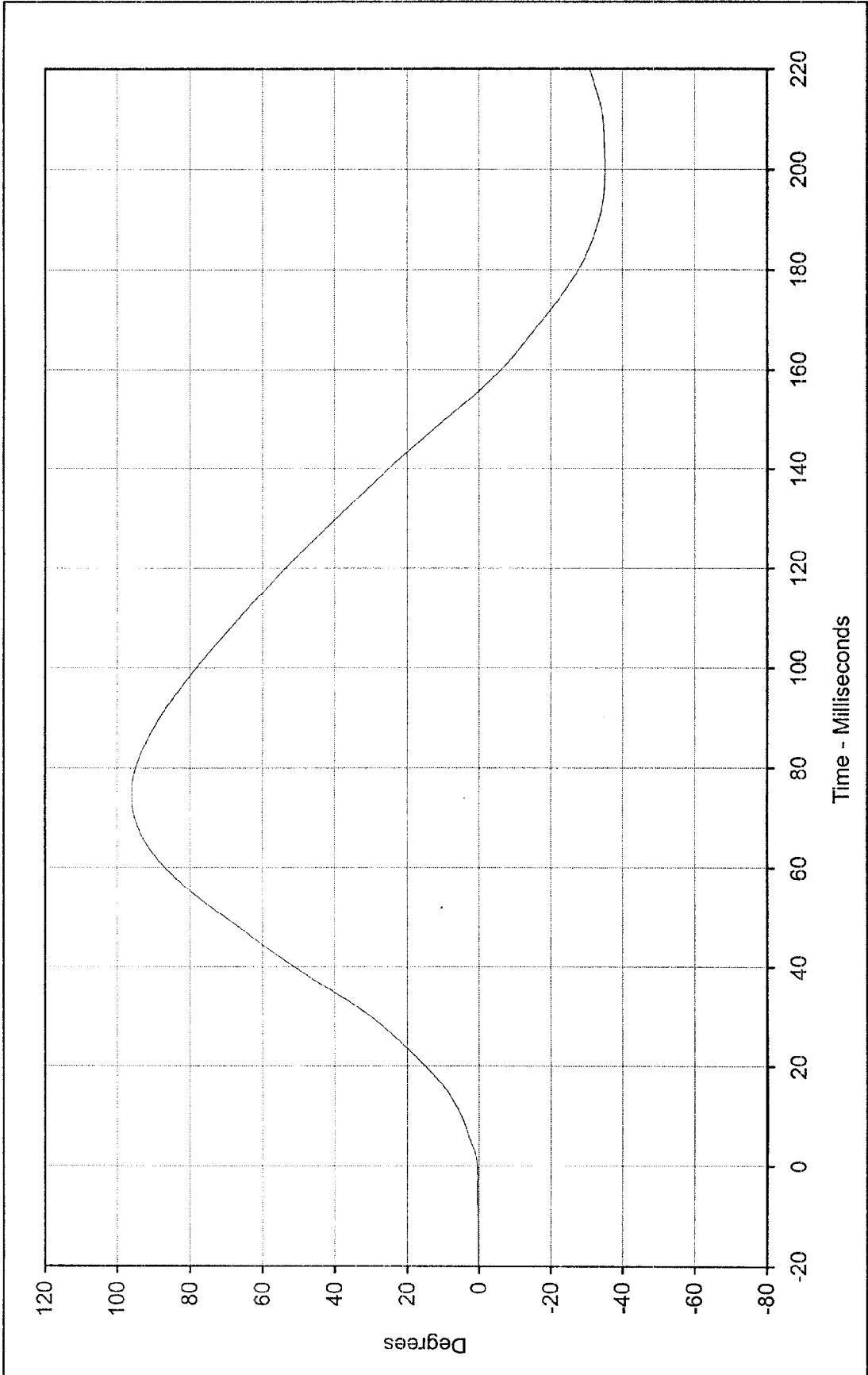
ATD Serial No.: 034





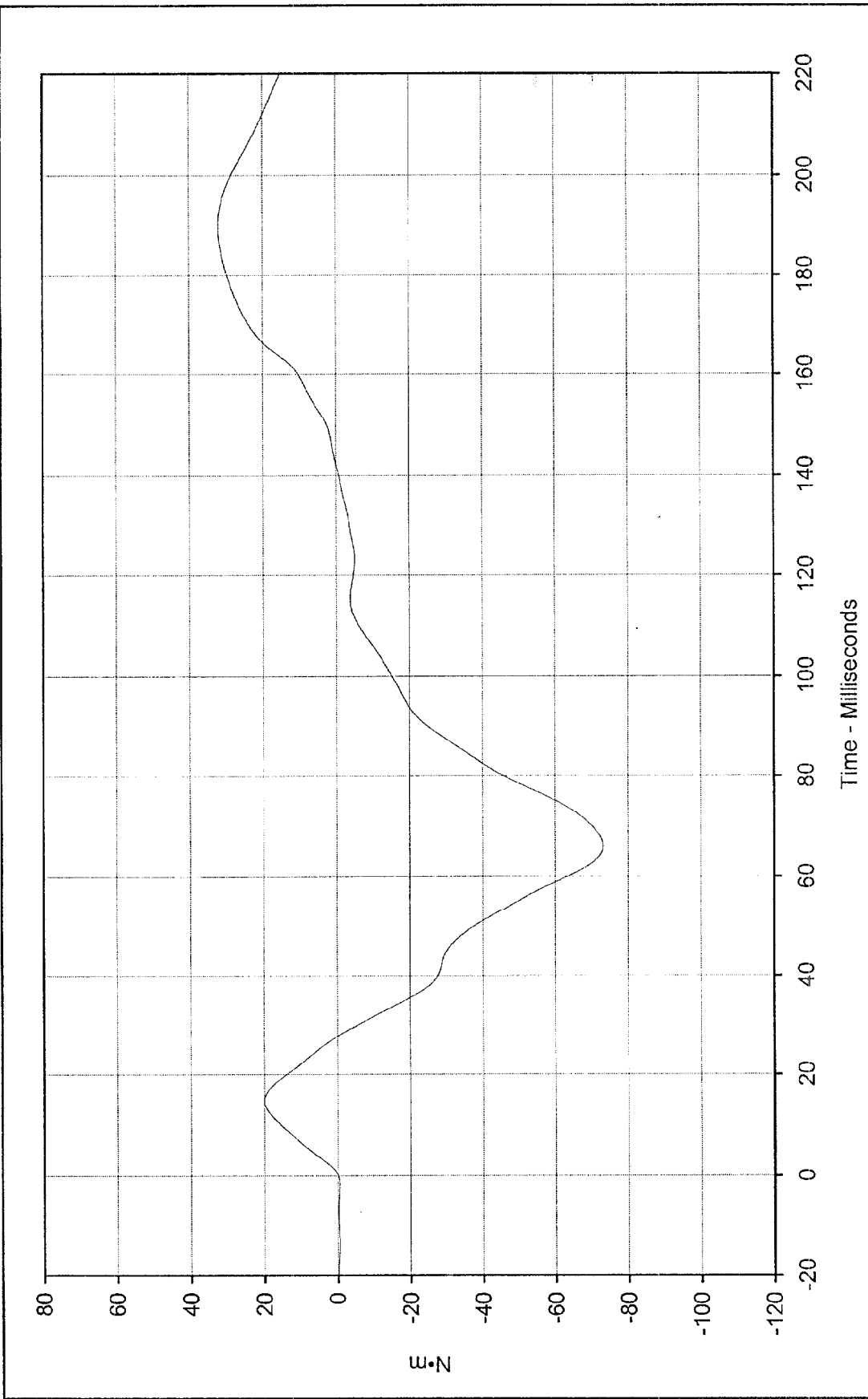
Curve Description: Neck Force X Testing Program: Hybrid III Neck Extension Test (Male)
 Maximum Value: 264.5 at 187.0 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0010
 Minimum Value: -630.1 at 69.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 034





Curve Description: "D" Plane Rotation Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: 96.0 at 74.5 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0010
 Minimum Value: -35.2 at 200.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 034





Curve Description: Moment About Occipital Condyles Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: 32.1 at 189.9 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0010
 Minimum Value: -73.1 at 66.0 Milliseconds



SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 034



Hybrid III Calibration Data Sheet

50TH Percentile Male

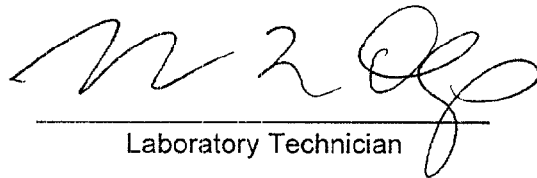
External Measurements

ATD Serial No.: 034

Part Serial No.: N/A

Test 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	Pass
A - Total sitting height	mm	878.8 to 889.0	888.1	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	506.0	Pass
C - "H" point height	mm	83.8 to 88.9	87.1	Pass
D - "H" point from seat back	mm	134.6 to 139.7	137.0	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	300.4	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	207.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	603.1	Pass
L - Popliteal length	mm	429.3 to 454.7	451.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	500.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	476.0	Pass
O - Chest depth	mm	213.4 to 228.6	225.0	Pass
P - Foot length	mm	251.5 to 266.7	255.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	429.0	Pass
W - Foot breadth	mm	91.4 to 106.7	103.2	Pass
Y - Chest circumference	mm	970.3 to 1000.8	980.3	Pass
Z - Waist circumference	mm	835.7 to 866.1	865.0	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	229.0	Pass
Overall Test Results				Pass



 Laboratory Technician

May 30, 1998

Test Date



 Approved By

8/12/98

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.: KI005

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	2.073 to 2.134	2.133	Pass
Peak Probe Force	Newtons	4715 to 5782	5436.7	Pass
Overall Test Results				Pass

Laboratory Technician

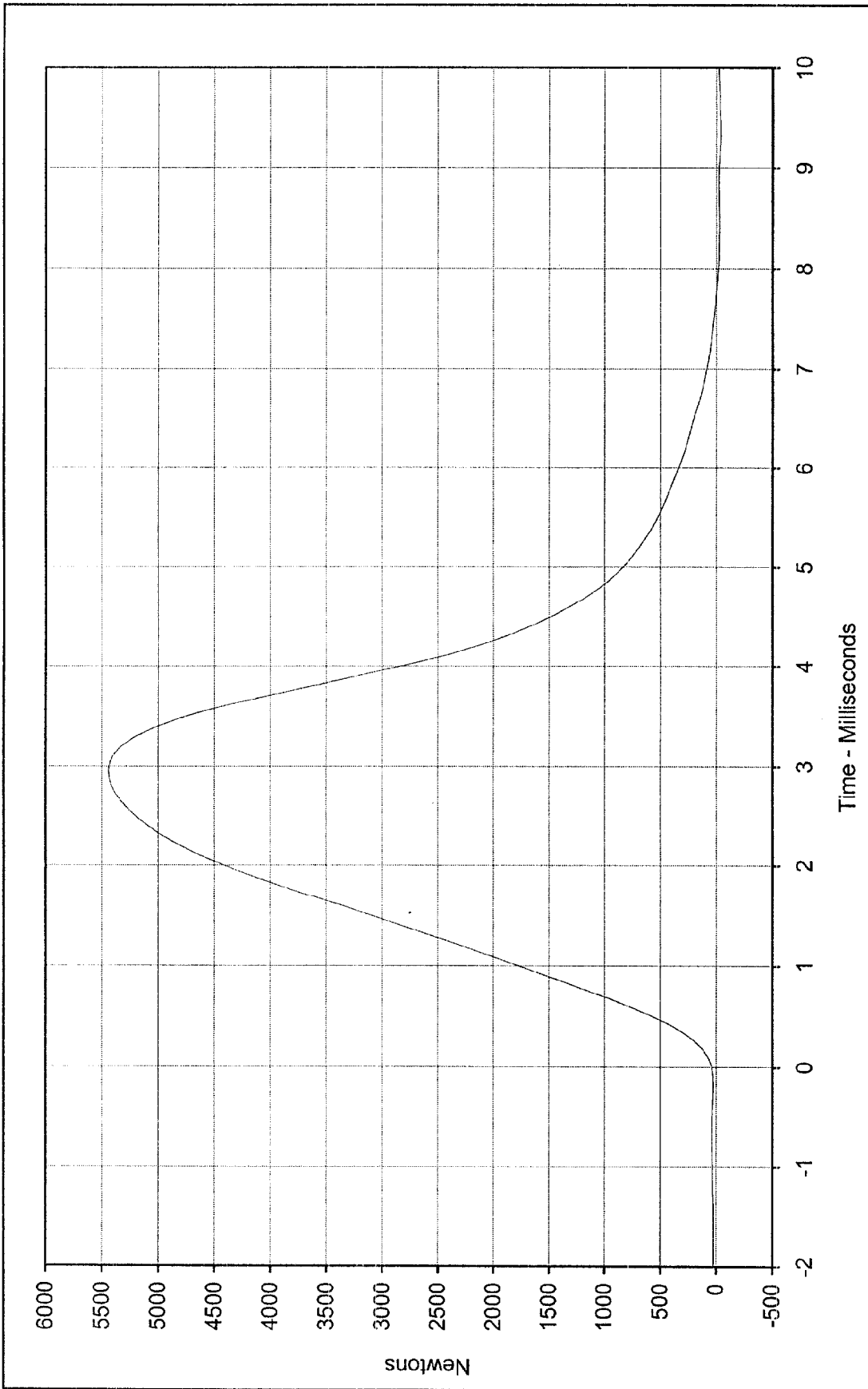
May 18, 1998

Test Date

Approved By

8/12/98

Date



Curve Description: Hybrid III Left Knee Impact Test
 Testing Program: Part S/N: n/a Test I.D.: K1005

Probe Force
 Maximum Value: 5436.7 at 2.9 Milliseconds
 Minimum Value: -16.7 at 8.0 Milliseconds
 SAE Filter Class: 600
 Date of Test: 5/18/98
 ATD Serial No.: 035





Hybrid III Calibration Data Sheet

50TH Percentile Male

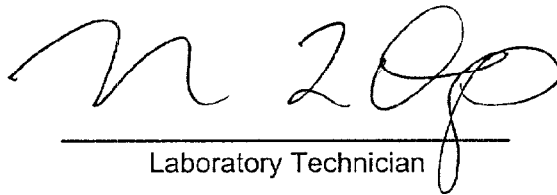
Right Knee Impact Test

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: KI007

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	34	Pass
Probe Velocity	m/s	2.073 to 2.134	2.101	Pass
Peak Probe Force	Newtons	4715 to 5782	5553.8	Pass
Overall Test Results				Pass



Laboratory Technician



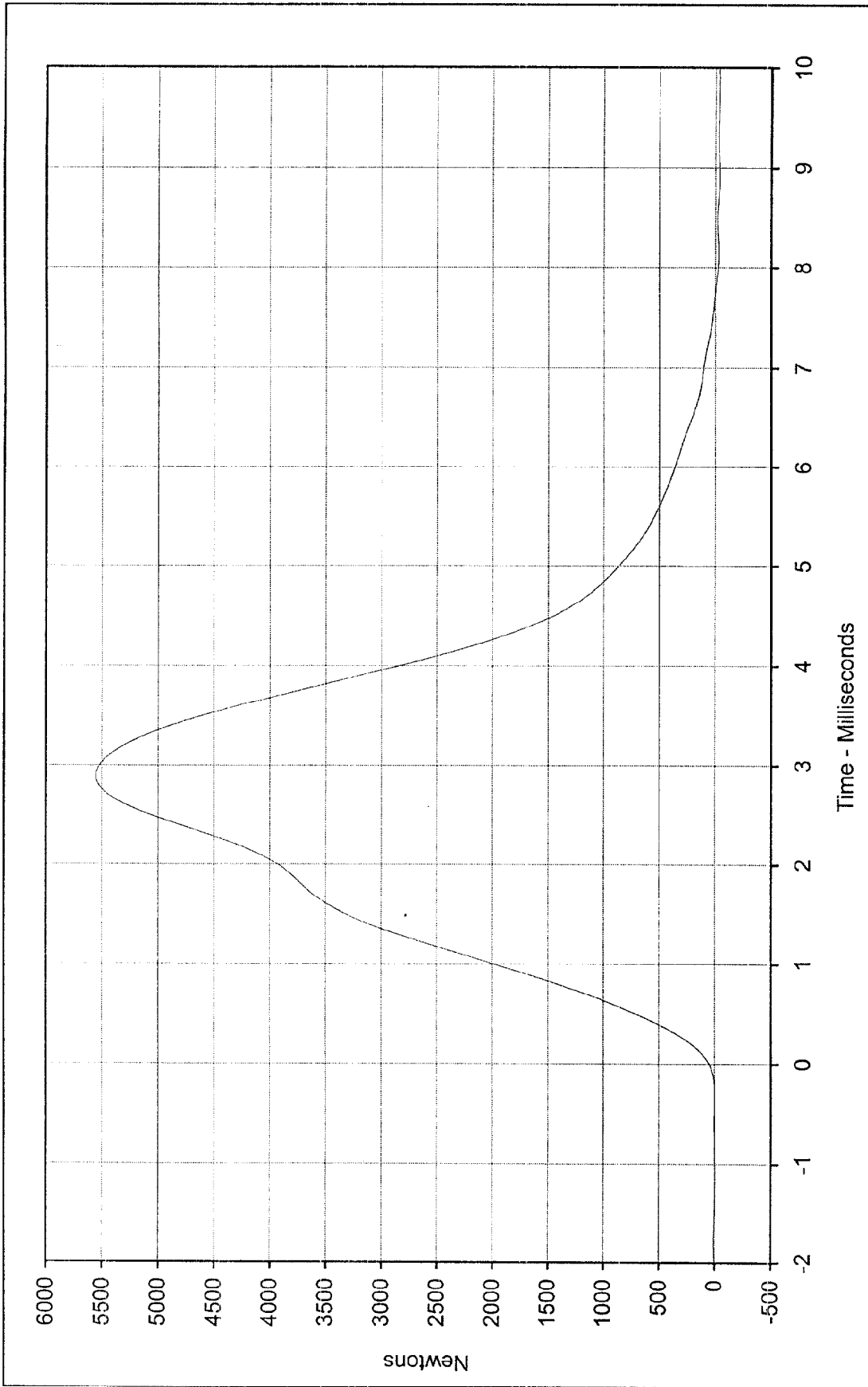
Approved By

May 18, 1998

Test Date

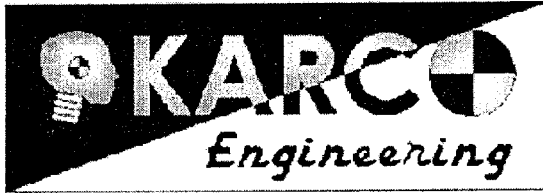
5/12/98

Date



Curve Description: Hybrid III Right Knee Impact Test
 Testing Program: Hybrid III Right Knee Impact Test
 Test Information: Part S/N: n/a Test I.D.: KI007
 Probe Force
 Maximum Value: 5553.8 at 2.9 Milliseconds
 Minimum Value: -26.1 at 8.0 Milliseconds
 SAE Filter Class: 600
 Date of Test: 5/18/98
 ATD Serial No.: 035





Hybrid III Calibration Data Sheet

50TH Percentile Male

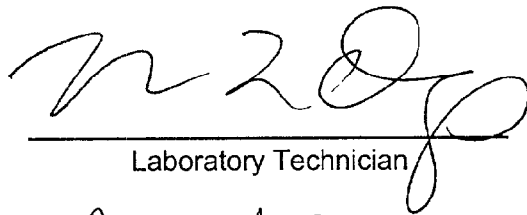
Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: H0006

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	41	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	256.6	Pass
Peak Lateral Acceleration	G's	≤15.0	2.3	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



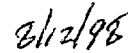
Laboratory Technician



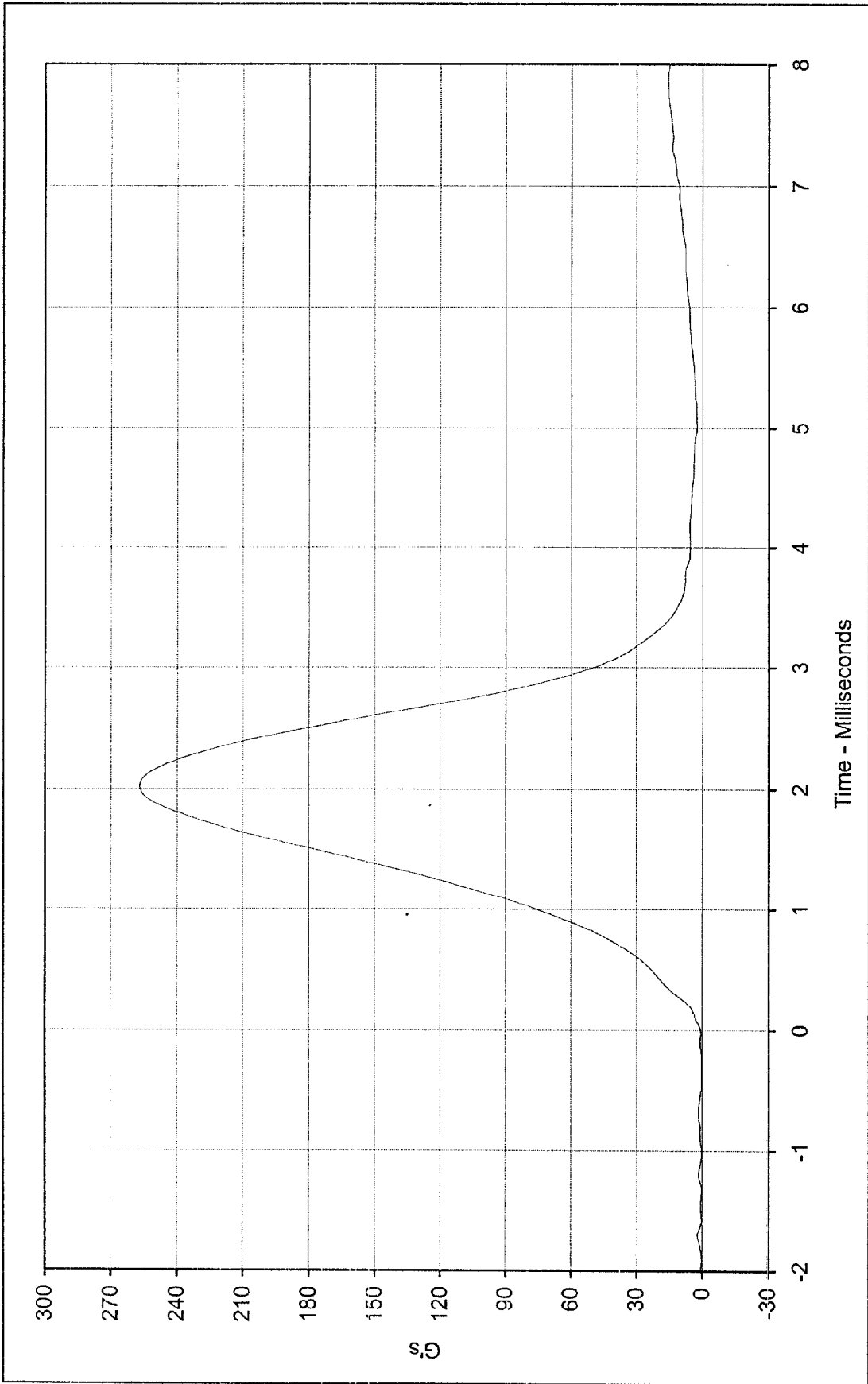
Approved By

May 18, 1998

Test Date



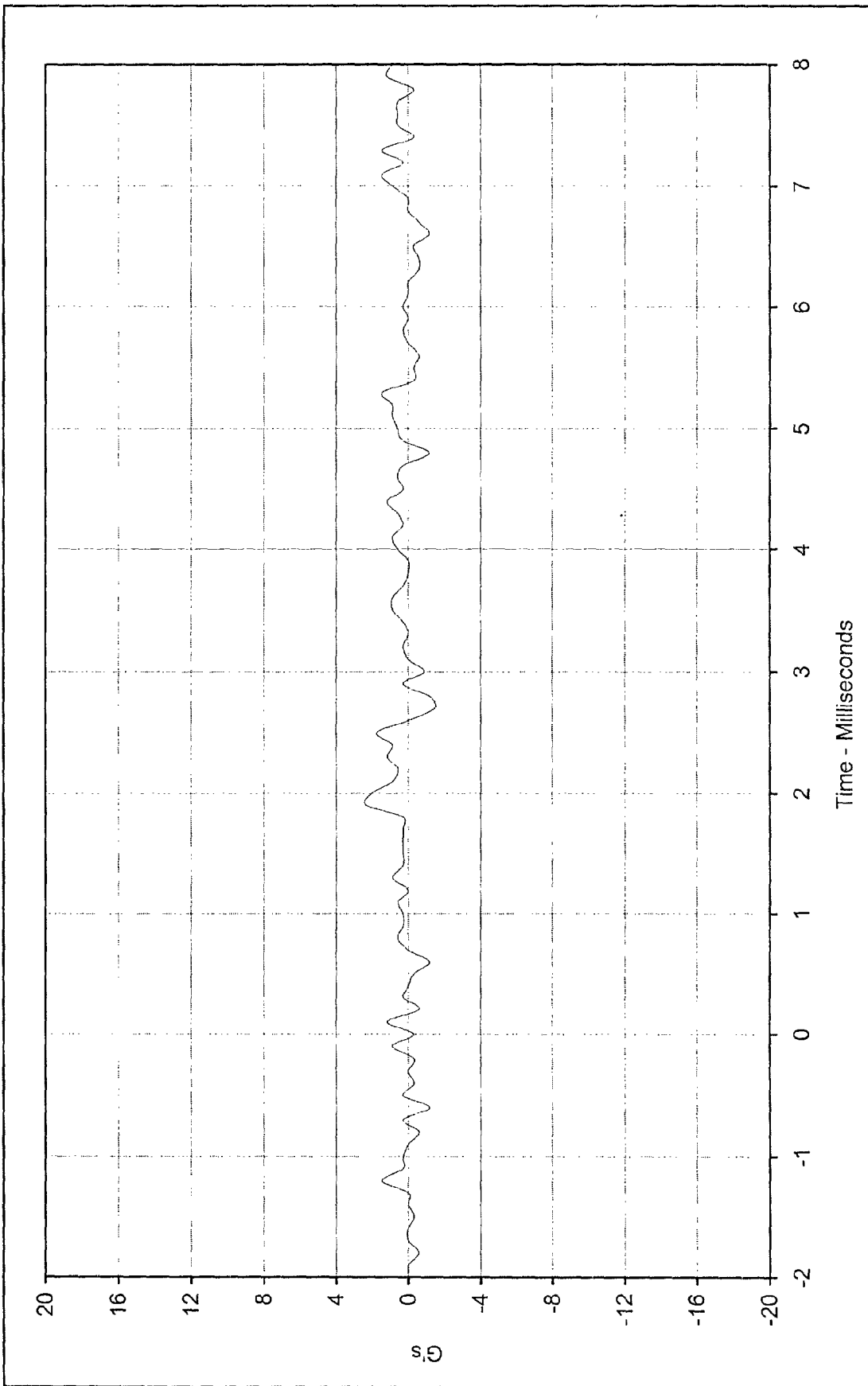
Date



Curve Description: Head Resultant Acceleration
 Maximum Value: 256.6 at 2.0 Milliseconds
 Minimum Value: 0.3 at -1.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 5/18/98
 ATD Serial No.: 035

Testing Program: Hybrid III Head Drop Calibration (Male)
 Test Information: S/N of Part: n/a Test I.D.: H0006





Curve Description: Head Acceleration Y Axis Testing Program Hybrid III Head Drop Calibration (Male)

Maximum Value: 2.3 at 1.9 Milliseconds Test Information: S/N of Part: n/a Test I.D.: H0006

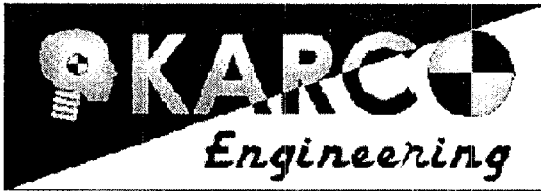
Minimum Value: -1.5 at 2.7 Milliseconds

SAE Filter Class: 1000

Date of Test: 5/18/98

ATD Serial No.: 035





Hybrid III Calibration Data Sheet

50TH Percentile Male

Thorax Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: 35CH1

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	6.72	Pass
Peak Probe Force	Newtons	5159 to 5893	5889	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.91	Pass
Internal Hysteresis	%	69 to 85	71.7	Pass
Overall Test Results				Pass



Laboratory Technician

May 28, 1998

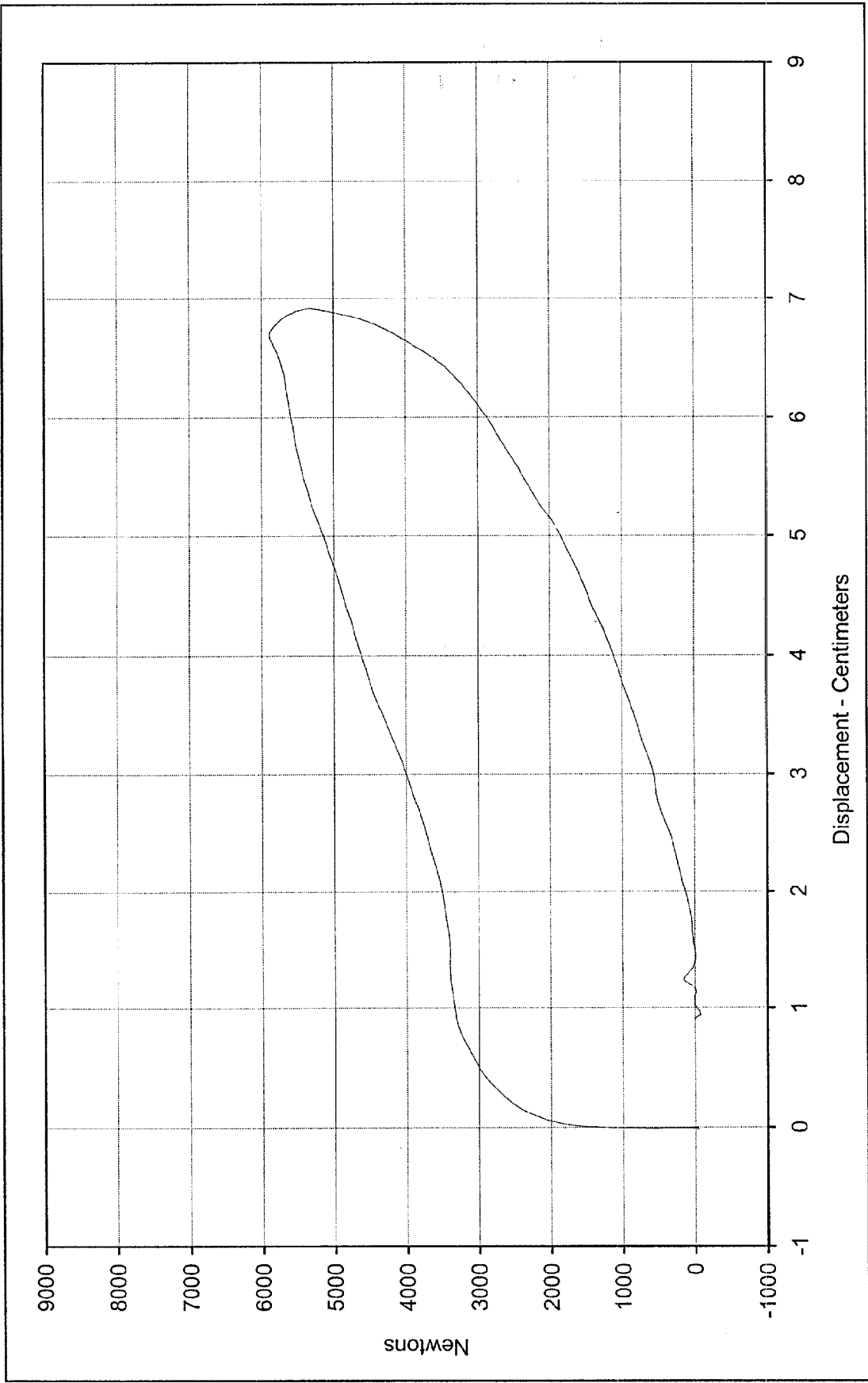
Test Date



Approved By

8/12/98

Date



Curve Description: Probe Force vs. Chest Displacement Testing Program: Hybrid III Thorax Impact Test
 Probe Force: 5889.0 Newtons Test Information: S/N of Part: N/A Test I.D.: 35CH1
 Chest Displ.: 6.91 Centimeters
 SAE Filter Class: 180
 Date of Test: 5/28/98
 ATD Serial No.: 035





Hybrid III Calibration Data Sheet

50TH Percentile Male

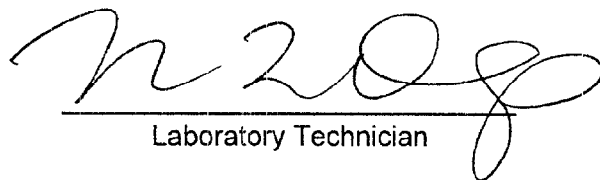
Neck Flexion Test

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: N0012

Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	40	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	6.96	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.2	Pass
	20 Msec.	G's	17.6 to 22.6	20.7	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	39.3	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	64.3	Pass
	Time	Msec.	57.0 to 64.0	58.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	113.5	Pass	
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	84.2	Pass
	Time	Msec.	47.0 to 58.0	55.4	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	99.5	Pass	
Overall Test Results				Pass	



Laboratory Technician

May 21, 1998

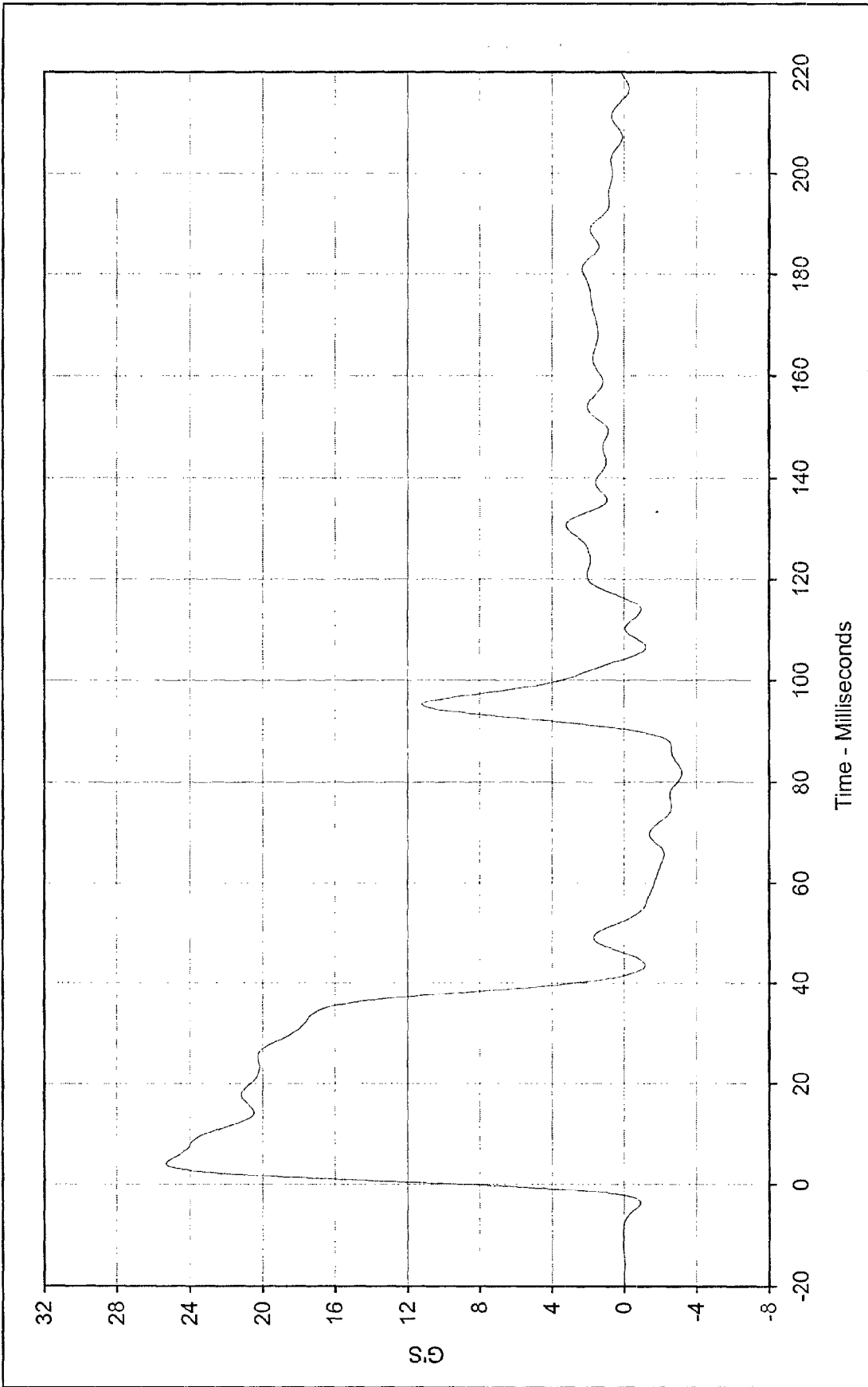
Test Date



Approved By

8/12/98

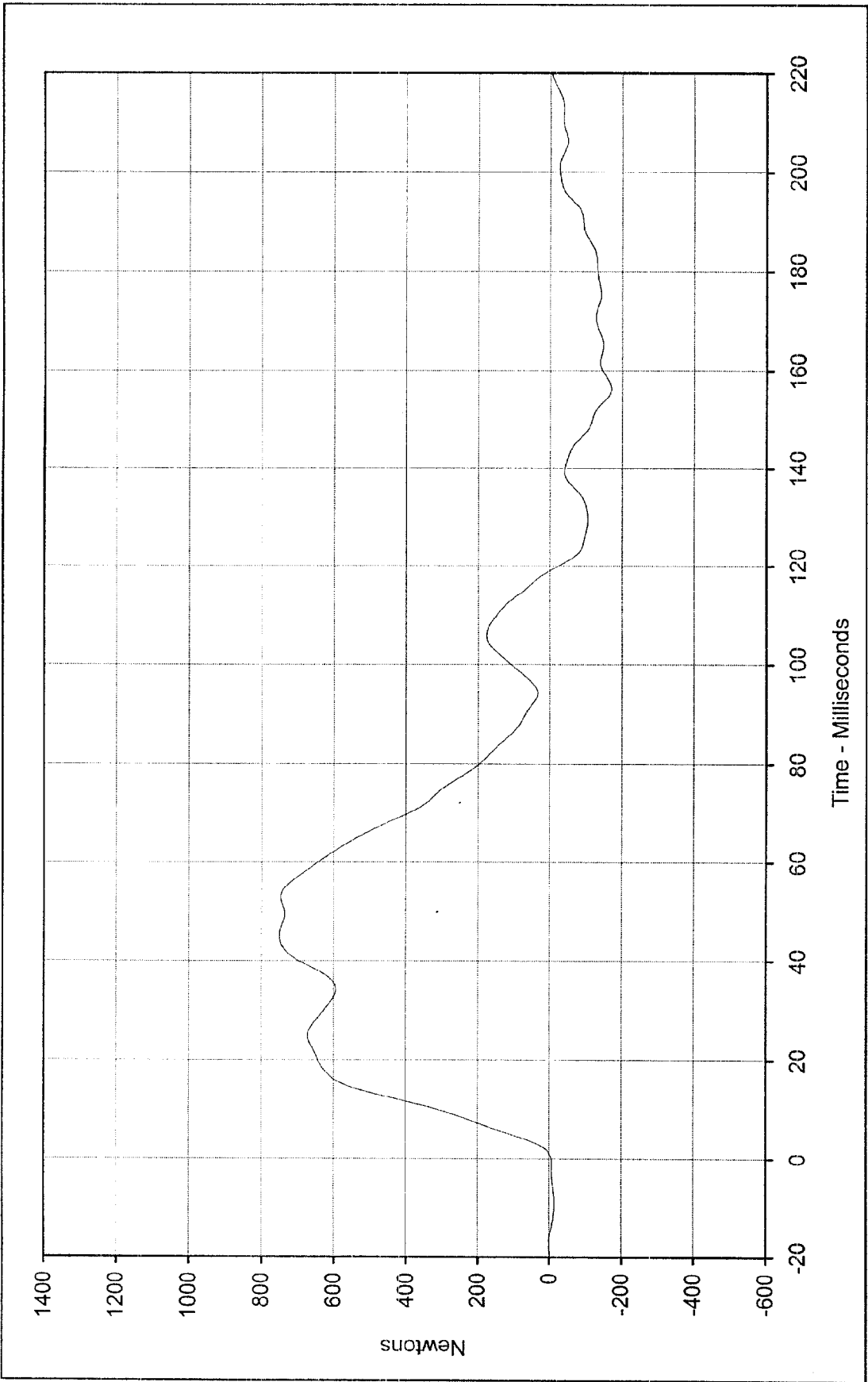
Date



Curve Description: Hybrid III Neck Flexion Test (Male)
 Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: N0012

Curve Description: Pendulum Deceleration
 Maximum Value: 25.3 at 4.1 Milliseconds
 Minimum Value: -3.2 at 81.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 035





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

Maximum Value: 749.1 at 45.0 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0012

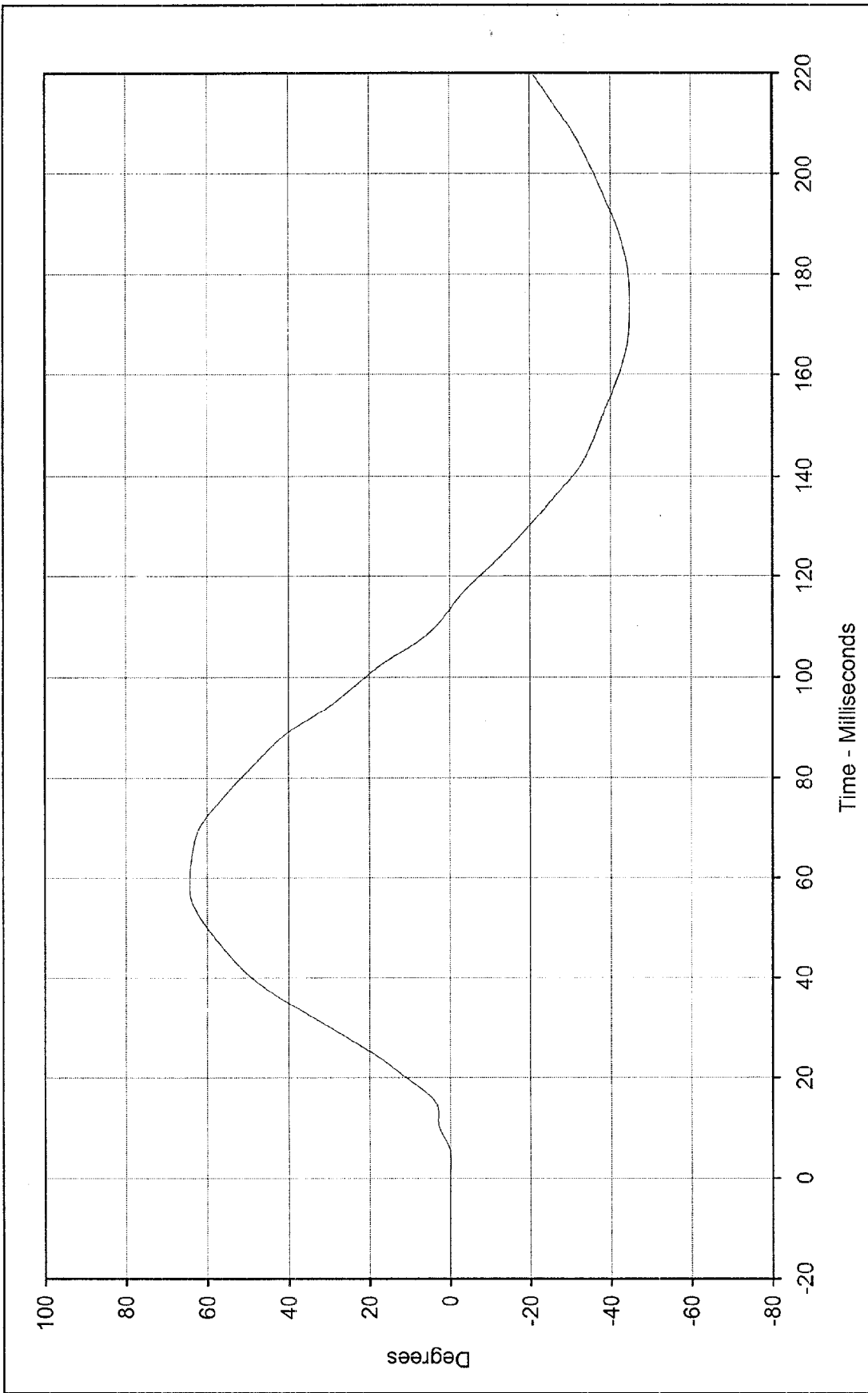
Minimum Value: -169.7 at 156.4 Milliseconds

SAE Filter Class: 60

Date of Test: 5/21/98

ATD Serial No.: 035

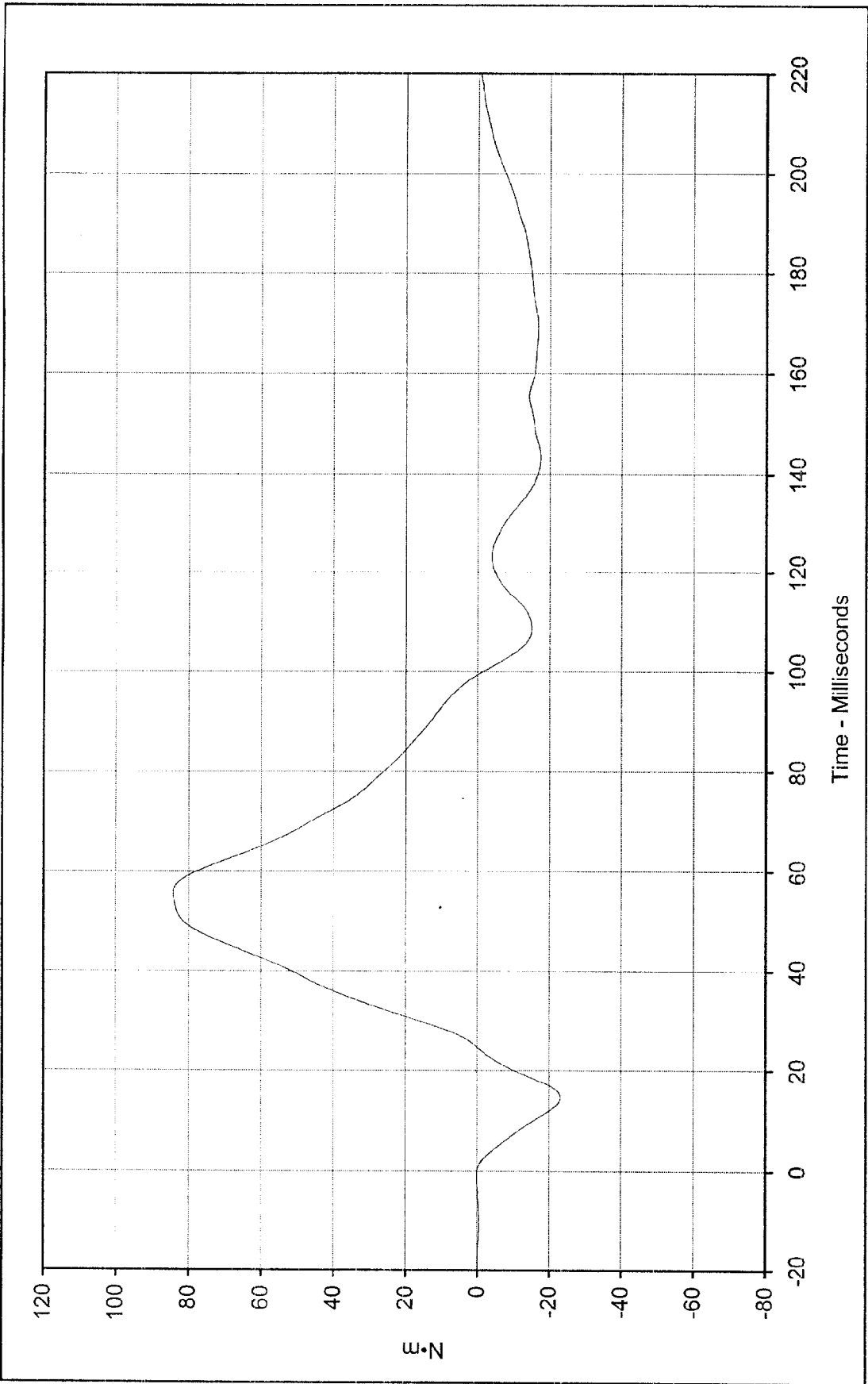




Curve Description: "D" Plane Rotation
 Maximum Value: 64.3 at 58.6 Milliseconds
 Minimum Value: -44.8 at 174.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: N0012





E-34

Curve Description: Moment About Occipital Condyles Testing Program: Hybrid III Neck Flexion Test (Male)
 Maximum Value: 84.2 at 55.4 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0012
 Minimum Value: -23.1 at 14.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 035



KAR98002-1



Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: N0013

Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	40	Pass	
Pendulum Velocity	m/s	5.95 to 6.19	6.03	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.5	Pass
	20 Msec.	G's	14.0 to 19.0	16.9	Pass
	30 Msec.	G's	11.0 to 16.0	15.4	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	15.4	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	45.1	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	91.7	Pass
	Time	Msec.	72.0 to 82.0	76.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	150.3	Pass	
Moment About Occipital Condyle	Maximum	N • m	-52.9 to -79.9	-68.1	Pass
	Time	Msec.	65.0 to 79.0	65.9	Pass
Negative Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	139.7	Pass	
Overall Test Results				Pass	

[Handwritten Signature]

 Laboratory Technician

May 21, 1998

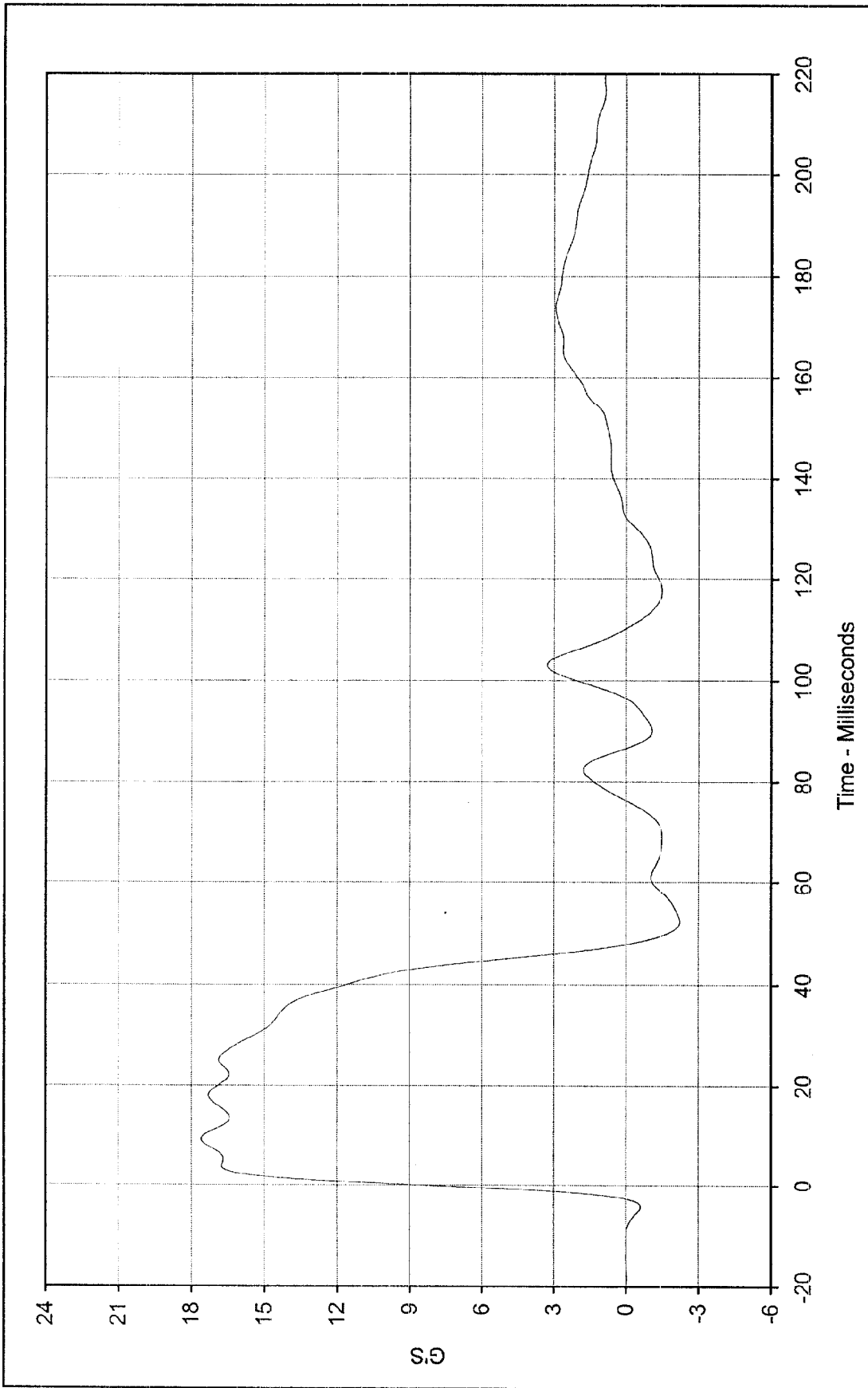
Test Date

[Handwritten Signature]

 Approved By

[Handwritten Signature]

Date



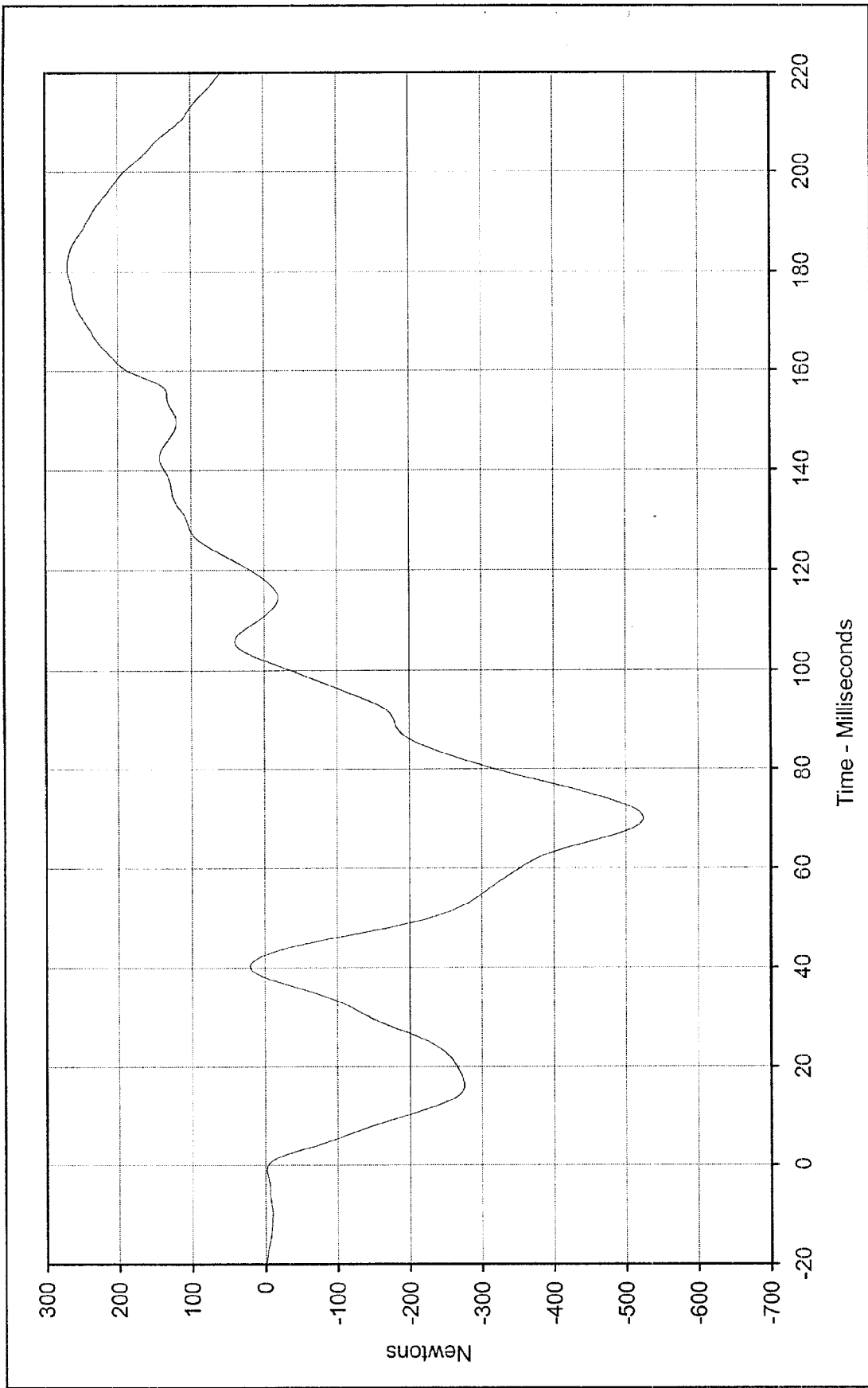
E-36

Curve Description: Pendulum Deceleration Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: 17.6 at 9.2 Milliseconds Test Information: SIN of Part: n/a Test I.D.: N0013
 Minimum Value: -2.2 at 52.3 Milliseconds

SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 035

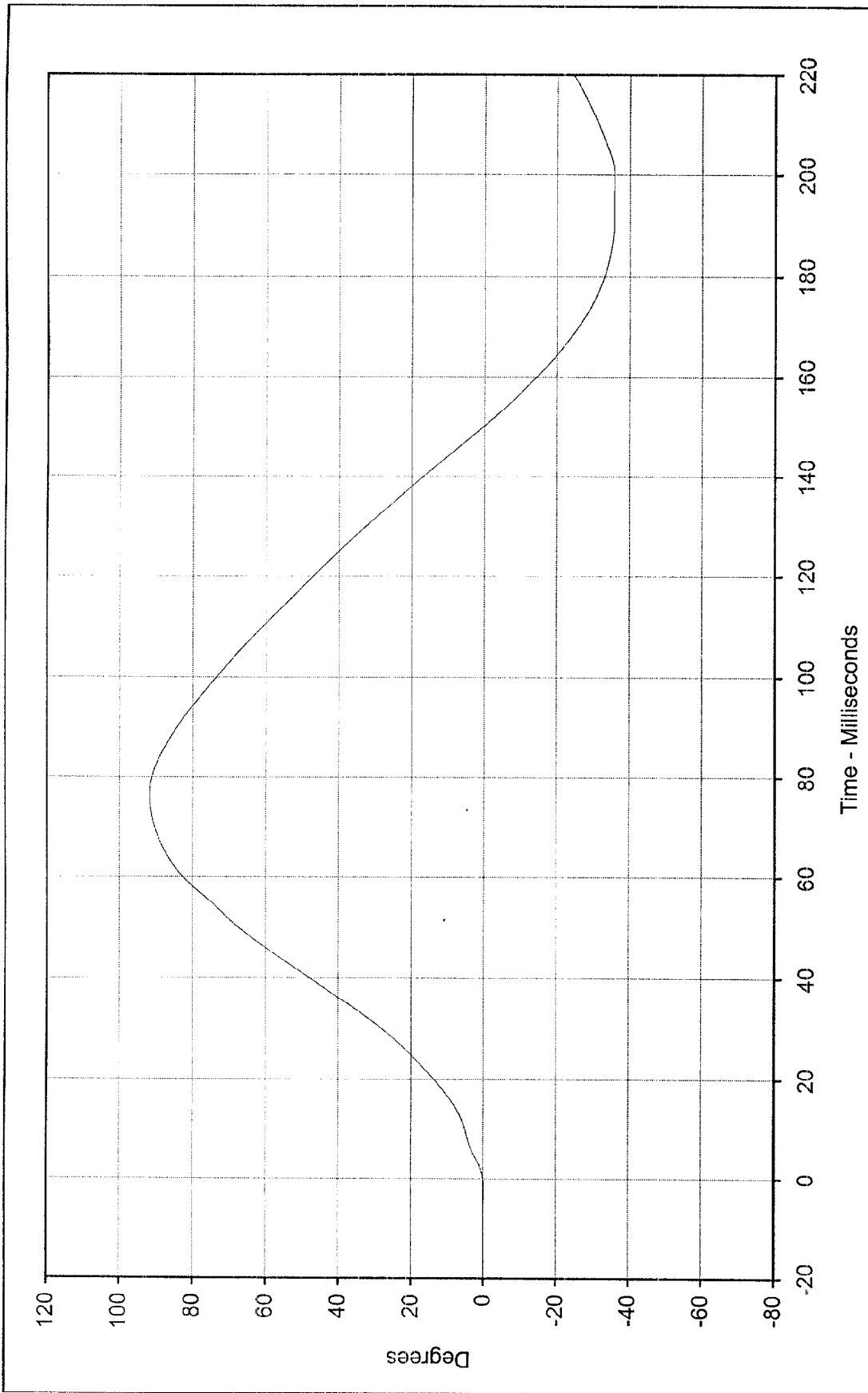


KAR98002-1



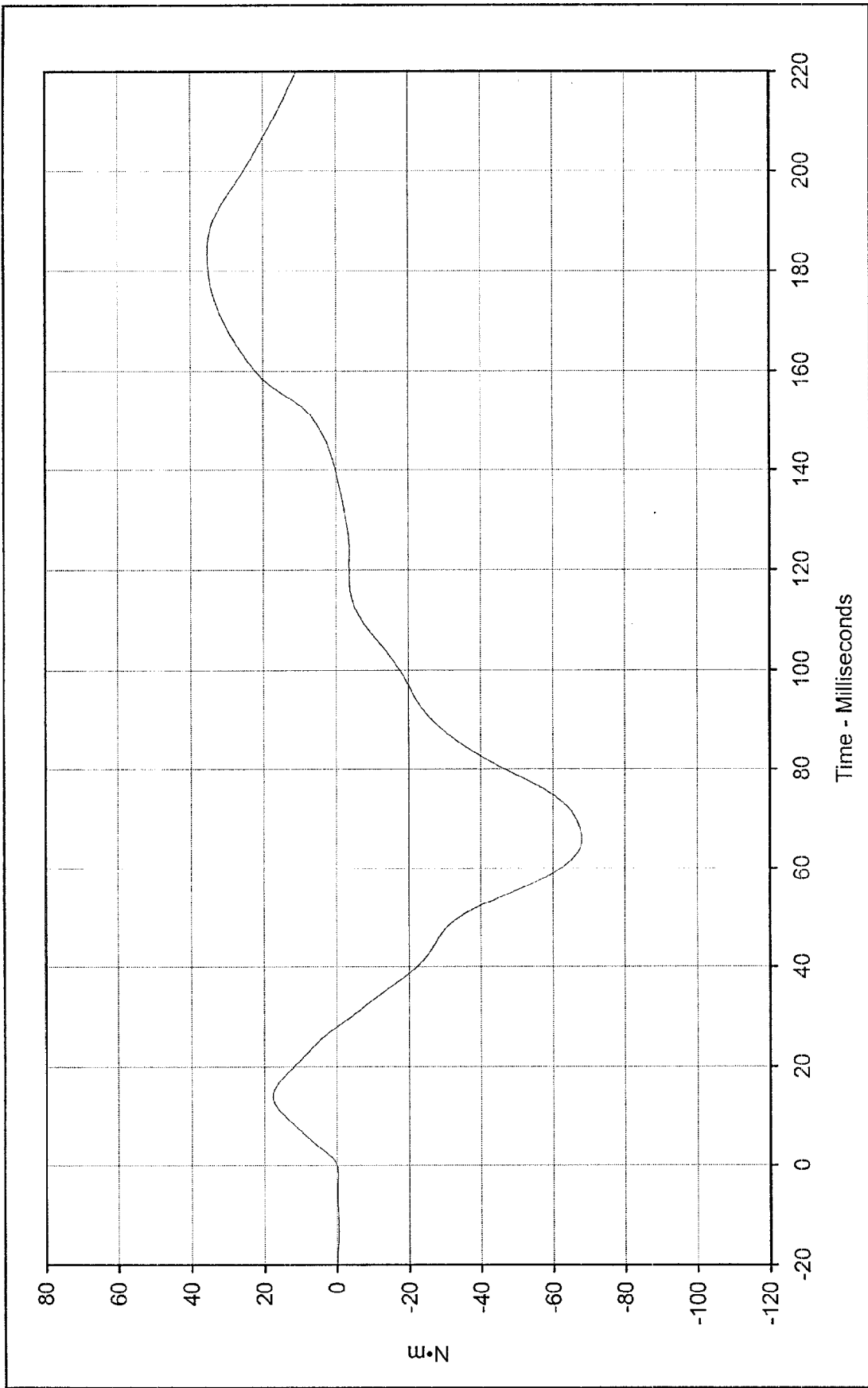
Curve Description: Neck Force X Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: 269.1 at 180.7 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0013
 Minimum Value: -523.9 at 69.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 035





Curve Description: "D" Plane Rotation Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: 91.7 at 76.5 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0013
 Minimum Value: -35.8 at 199.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 5/21/98
 ATD Serial No.: 035





Curve Description: Moment About Occipital Condyles Testing Program Hybrid III Neck Extension Test (Male)
 Maximum Value: at Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0013
 Minimum Value: at Milliseconds
 SAE Filter Class:
 Date of Test:
 ATD Serial No.:





Hybrid III Calibration Data Sheet

50TH Percentile Male

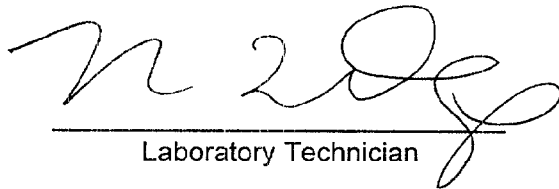
External Measurements

ATD Serial No.: 035

Part Serial No.: N/A

Test 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	Pass
A - Total sitting height	mm	878.8 to 889.0	885.0	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	519.0	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	90.0	Pass
F - Thigh clearance	mm	139.7 to 154.9	152.0	Pass
G - Elbow back to wrist pivot	mm	289.6 to 304.8	303.0	Pass
H - Skull cap to back line	mm	40.6 to 45.7	45.0	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	208.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	602.0	Pass
L - Popliteal length	mm	429.3 to 454.7	436.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	490.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	470.0	Pass
O - Chest depth	mm	213.4 to 228.6	218.0	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	105.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	990.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	860.0	Pass
AA - Location for chest circumference	mm	429.3 to 434.3	432.0	Pass
BB - Location for waist circumference	mm	226.1 to 231.1	228.0	Pass
Overall Test Results				Pass



 Laboratory Technician

May 30, 1998

Test Date



 Approved By

5/12/98

Date

APPENDIX F
VEHICLE OWNER'S MANUAL
OCCUPANT RESTRAINT INSTRUCTIONS

OCCUPANT RESTRAINTS

One of the most important safety features in your vehicle is the restraint system. This system includes the front and rear seat belts, and airbags for the driver and right front passenger. Your seat belts also can be used to hold infant and child restraint systems if you will be carrying children too small for adult-size belts.

Please pay careful attention to the information in this section. It tells you how to use your restraint system properly to keep you and your passengers as safe as possible.

WARNING!

In a collision, you and your passengers can suffer much greater injuries if you are not properly buckled up. You can strike the interior of your vehicle or other passengers, or you can be thrown out of the vehicle. Always be sure you and others in your vehicle are buckled up properly.

Buckle up even though you are an excellent driver. Even on short trips. Someone on the road may be a poor driver and cause a collision which includes you. And this can happen far away from home or on your own street.

Research has shown that seat belts save lives. And they can reduce the seriousness of injuries in a collision. Some of the worst injuries happen when people are thrown from the vehicle. Seat belts provide protection from that, and they reduce the risk of injury caused by striking the inside of the vehicle. Everyone in a motor vehicle needs to be buckled up all the time.

Unibelts

The seats next to the front and rear doors of your vehicle are equipped with Unibelts.

Each unibelt is a combined lap/shoulder belt system. The belt webbing retractor will lock only during very sudden stops or impacts. This feature allows the shoulder part of the belt to move freely with you under normal conditions. But in a collision, the belt will lock and reduce the risk of your striking the inside of the vehicle or being thrown out.

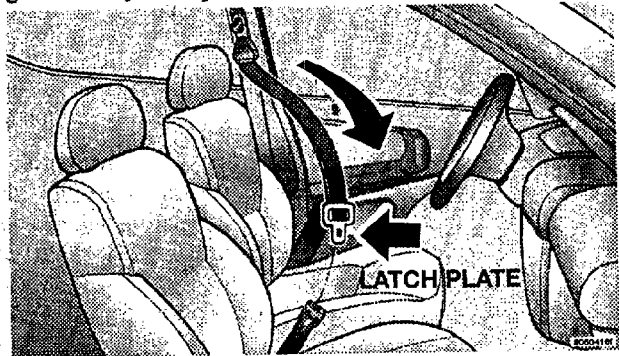
WARNING!

- Wearing a seat belt incorrectly is dangerous. Seat belts are designed to go around the large bones of your body. These are the strongest parts of your body and can take the forces of a collision the best.
- Belting two people into one seat belt can lead to greater injury. People belted together can crash into one another in an accident, hurting one another badly. Never use a unibelt or a lap belt for more than one person, no matter what their size.
- Wearing your belt in the wrong place could make your injuries in a collision much worse. You might suffer internal injuries, or you could even slide out of part of the belt. Follow these instructions to wear your seat belt safely and to keep your passengers safe, too.

Unibelt Operating Instructions

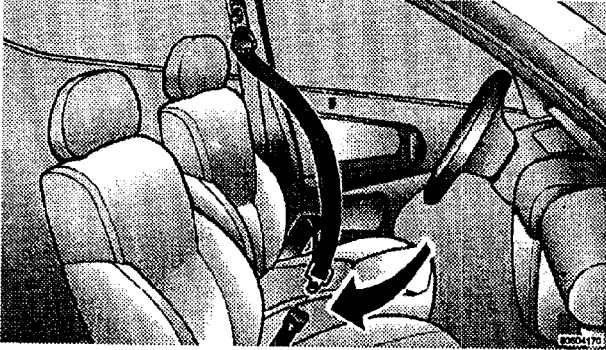
1. Enter the vehicle and close the door. Sit back and adjust the seat.
2. The seat belt latch plate is above the back of your seat. Grasp the latch plate and pull out the belt. Slide the latch plate up the webbing as far as necessary to make the belt go around your lap.

2



18 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

3. When the belt is long enough to fit, insert the latch plate into the buckle until you hear a “click”.

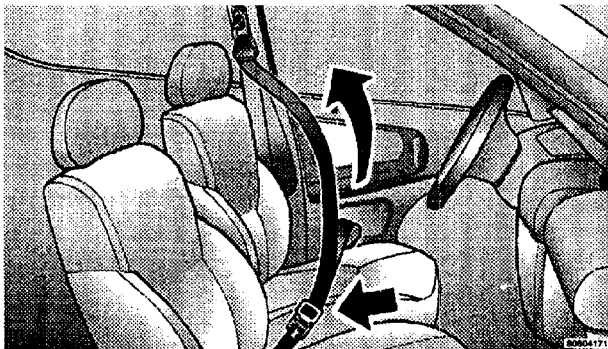


WARNING!

- A belt that is buckled into the wrong buckle will not protect you properly. The lap portion could ride too high on your body, possibly causing internal injuries. Always buckle your belt into the buckle nearest you.
- A belt that is too loose will not protect you as well. In a sudden stop you could move too far forward, increasing the possibility of injury. Wear your seat belt snugly.
- A belt that is worn under your arm is very dangerous. Your body could fall into the inside surfaces of the vehicle in a collision, increasing head and neck injury. And a belt worn under the arm can cause internal injuries. Ribs aren't as strong as shoulder bones. Wear the belt over your shoulder so that your strongest bones will take the force in a collision.

THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 19

4. Position the lap belt across your thighs, below your abdomen. To remove slack in the lap belt portion, pull up a bit on the shoulder belt, as shown. To loosen the lap belt if it is too tight, tilt the latch plate and pull on the lap belt. A snug belt reduces the risk of sliding under the belt in a collision.



WARNING!

- A lap belt worn too high can increase the risk of internal injury in a collision. The belt forces won't be at the strong hip and pelvic bones, but across your abdomen. Always wear the lap belt as low as possible and keep it snug.
- A twisted belt can't do its job as well. In a collision it could even cut into you. Be sure the belt is straight. Use the Unibelt Untwisting Procedure. If you can't straighten a belt in your vehicle, take it to your dealer and have it fixed.

2

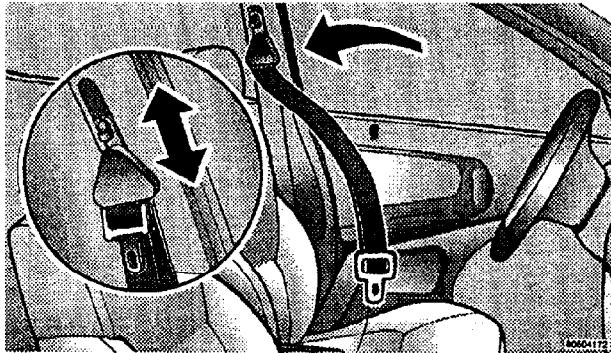
5. Position the shoulder belt on your chest so that it is comfortable and not resting on your neck. The retractor will withdraw any slack in the belt.

6. To release the belt, push the red button marked PRESS on the buckle. The belt will automatically retract to its stowed position. If necessary, slide the latch plate down the webbing to allow it to retract fully.

Adjustable Upper Shoulder Belt Anchorage

4 Door Models

In the front seat, the shoulder belt can be adjusted upward or downward to position the belt away from your neck. Push up or down on the anchorage control to release the anchorage, and move it up or down to the position that serves you best.



As a guide, if you are shorter than average, you will prefer a lower position, and if you are taller than average, you'll prefer a higher position. When you release the anchorage, try to move it up or down to make sure that it is locked in position.

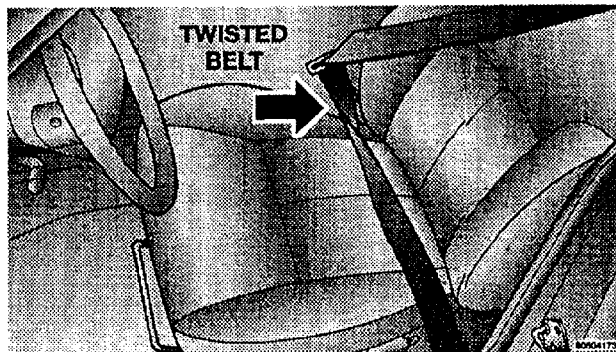
In the rear seat, move toward the center of the seat to position the belt away from your neck.

2 Door Models

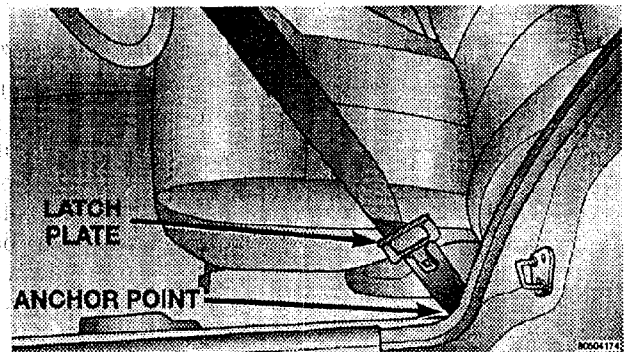
In the front seats, the shoulder belt upper anchorage adjusts automatically to your height as you position the shoulder belt on your chest. If the belt is not comfortable, pull the shoulder-belt webbing forward from the retractor and guide it over the desired point on your shoulder belt as it retracts.

Unibelt Untwisting Procedure

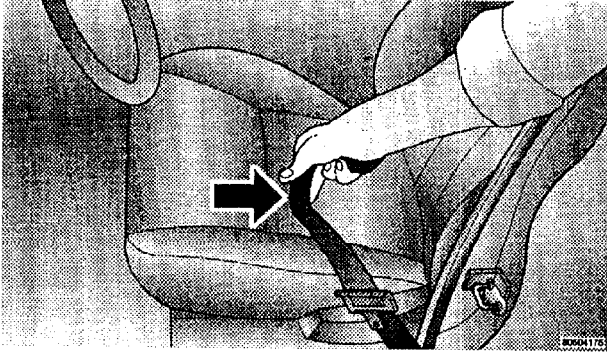
Use the following procedure to untwist a twisted unibelt.



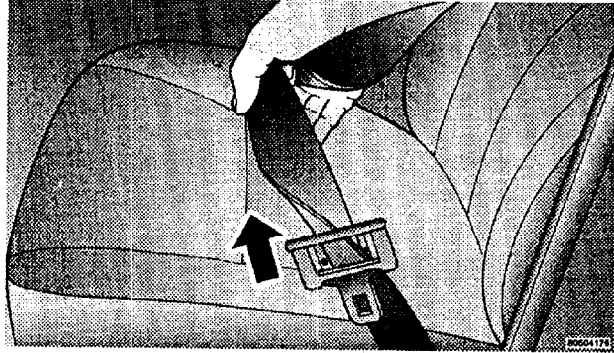
1. Position the latchplate as close as possible to the anchor point.



2. At about 6 to 12 inches above the latchplate, grasp and twist the belt webbing 180° to create a fold that begins immediately above the latchplate.



3. Slide the latchplate upward over the folded webbing. The folded webbing must enter the slot at the top of the latchplate.



4. Continue to slide the latchplate up until it clears the folded webbing.

Seat Belts And Pregnant Women

We recommend that pregnant women use the seat belts throughout their pregnancy. Keeping the mother safe is the best way to keep the baby safe.

Pregnant women should wear the lap part of the belt across the thighs and as snug across the hips as possible. Keep the belt low so that it does not come across the abdomen. That way the strong bones of the hips will take the force if there is a collision.

Rear Center Lap Belts

The center rear seating position has a lap belt only. To fasten a lap belt, slip the latch plate into the buckle.

To lengthen a lap belt, tilt the latch plate and pull. To remove slack, pull the loose end of the webbing. Wear the belt snug against the hips. Sit back and erect in the seat, then adjust the belt as tightly as is comfortable.

WARNING!

A lap belt worn too loose or too high is dangerous. A belt worn too loose can allow you to slip down and under the belt in a collision. A belt that is too high will apply crash forces to the abdomen, not to the stronger hip bones. In either case, the risk of internal injuries is greater. Wear the lap belt low and snug.

2

WARNING!

A frayed or torn belt could rip apart in a collision and leave you with no protection. Inspect the belt system periodically, checking for cuts, frays, or loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system. Seat belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc.).

Seat Belt Extender

If a seat belt is too short, even when fully extended, your dealer can provide you with a seat belt extender. This extender should be used only if the existing belt is not long enough.

WARNING!

Using a seat belt extender when not needed can increase the risk of injury in a collision. Only use the extender when a lap belt is not long enough. When it is worn low and snug, and in the recommended seating positions. Remove and stow the seat belt extender when it is not needed.

Child Restraint

Everyone in your vehicle needs to be buckled up all the time, babies and children, too.

WARNING!

In a collision, an unrestrained child, even a tiny baby, can become a missile inside the vehicle. The force required to hold even an infant on your lap could become so great that you could not hold the child, no matter how strong you are. The child and others could be badly injured. Any child riding in your vehicle should be in a proper restraint for the child's size. All states and Canadian provinces require small children to ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

Chrysler Integrated Child Seat Optional Operating Instructions for this seat are included with the seat. If the instructions are not with the seat or in the owner's manual package, replacement instructions can be obtained.

To obtain replacement instructions:

Use the order form at the rear of this manual and specify publication N-016-9470.

Infants And Small Children

There are different sizes and types of restraints for children from newborn size to the bigger child almost large enough for an adult safety belt. Use the restraint that is correct for your child.

Two different child restraint systems are generally available:

- The infant carrier for babies weighing up to 20 lbs. (9kg.)
- The child seat for small children over 20 lbs.

In addition, some manufacturers make systems that can be first used as an infant carrier, and then converted to a child seat as the child grows.

Here are some tips on getting the most out of your child restraint:

- Before buying any restraint system, make sure that it has a label certifying that it meets Motor Vehicle Safety Standard 213. Chrysler also recommends that before you buy a child restraint, you try it in the vehicle seats where you will use it.
- The restraint must be appropriate for your child's weight and height. Check the label on the restraint for this too.

WARNING!

- A rearward facing infant restraint should only be used in a rear seat. A rearward facing infant restraint in the front seat may be struck by a deploying passenger airbag which may cause severe or fatal injury to the infant.
- Improper installation can lead to failure of an infant or child restraint. It could come loose in a collision. The child could be badly injured or killed. Follow the manufacturer's directions exactly when installing an infant or child restraint.

26 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

- If possible, install the restraint in the rear seat. According to accident statistics, children are safer when properly restrained in the rear seats than in the front.
- Carefully follow the instructions that come with the restraint. If you install the restraint improperly, it may not work when you need it.
- Infant and child restraints are secured in the vehicle seats by the lap belt or the lap part of the lap/shoulder belt.
- In the center rear seat if the belt still can't be tightened, or if pulling and pushing on the restraint loosens the belt, you may need to do something more. Disconnect the latch plate from the buckle, turn it over, and reconnect it to the buckle. If you still can't make the child restraint secure, try a different seating position.
- Some child seat manufacturers recommend the use of a top anchorage (tether) strap in addition to the lap belt. Your vehicle has tether strap anchorages behind the rear seating positions for use with these child seats. Your dealer can provide you with anchorage hardware and installation instructions.
- Buckle the child into the seat exactly as the seat manufacturer's directions tell you. The seat belt is equipped with a cinching latch plate which is designed to keep the belt tight around the child seat. Pull up on the shoulder portion to tighten the belt. The cinching latch plate will keep the belt tight.
- When your infant carrier or child seat is not in use, secure it with the seat belt or remove it from the vehicle. Don't leave it loose in the vehicle. In a sudden stop or collision, it could strike occupants and injure them.

Children Too Large For Child Seats

Children who are too large for child seats and who can sit upright by themselves should use the available lap/shoulder belts for best protection.

- Make sure that the child is seated upright in the seat.
- The lap belt should be fastened low on the hips and as snug as possible.
- Check belt fit periodically. A child's squirming or slouching can move the belt out of position.

THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 2

If the shoulder belt contacts the face or neck, move the child closer to the middle of the vehicle. If this doesn't solve the problem, move the child to the center rear seating position and use the lap belt.

Belt-positioning booster seats that may help overcome this problem are also available for use with lap/shoulder belts. Before buying a booster seat, make sure that it has a label certifying that it meets applicable Motor Vehicle Safety Standards. Make sure that it is satisfactory for use in this vehicle.

Driver and Right Front Passenger Supplemental Restraint System (SRS) - Airbag

This vehicle has airbags for the driver and right front passenger as a supplement to the seat belt restraint systems. The driver's airbag is mounted in the steering wheel. The passenger side airbag is mounted in the instrument panel, above the glove compartment, under a cover marked SRS/AIRBAG. These airbags inflate in higher speed impacts. They work with the instrument panel knee bolsters and the seat belts to provide improved protection for the driver and right front passenger.

The seat belts are designed to protect you in many types of collisions. The airbags deploy only in frontal collisions and will not deploy in collisions at slow speed. But even in collisions where the airbags work, you need the seat belts to keep you in the right position for the airbags to protect you properly.

WARNING!

- Relying on the airbags alone could lead to more severe injuries in a collision. The airbags work with your seat belt to restrain you properly. In some collisions the airbags won't deploy at all. Wear your seat belts even though you have airbags.
- Being too close to the steering wheel or instrument panel during airbag deployment could cause serious injury. Airbags need room to inflate.

Here are four simple steps you can take to minimize the risk of harm from a deploying airbag.

28 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

1. Children **12 years old and under** should ride buckled up in a rear seat.

Infants in rear facing child safety seats designed for children up to one year or 20 pounds (9 kg) should NEVER ride in the front seat of a vehicle with a passenger side airbag. An airbag deployment can cause severe injury or death to infants in this position.

Children up to 60 pounds (27 kg) should be secured in the rear seat in child safety seats or booster seats. If the booster seat is not equipped with a front shield, the child should be seated in either rear outboard seat to take advantage of the added safety of the available lap and shoulder belt.

Older children who do not use child safety seats or booster seats should ride properly buckled up in the rear seat; in the outboard seat if possible.

Never allow children to slide the shoulder belt behind them or under the arm.

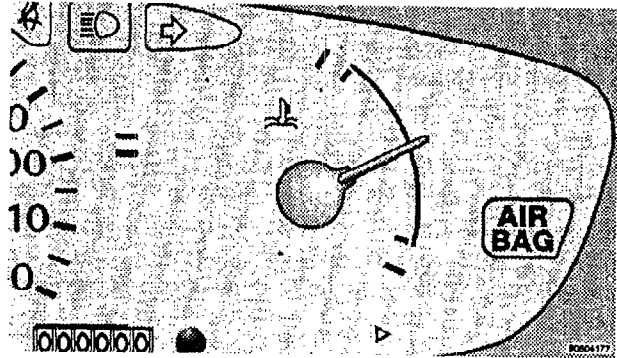
2. All occupants should wear their lap and shoulder belts properly.

3. The driver and front passenger seats should be moved back as far as practical to allow the airbags room to inflate.

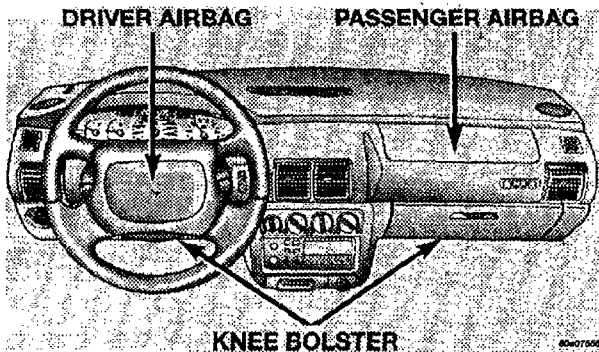
4. You should read the instructions provided with your child safety or booster seat to make sure that you are using it properly.

The airbag system consists of the following:

- Airbag Electronic Control Module (AECM)
- AIRBAG Readiness Light.



- Driver and Passenger Airbag/Inflator Units
- Unique Steering Wheel and Column
- Unique Instrument Panel
- Interconnecting Wiring
- Knee Impact Bolster.



How The Airbag System Works

- The Airbag Electronic Control Module (AECM) in the front of the vehicle and in the occupant compartment determines if a frontal impact is severe enough to

THINGS TO KNOW BEFORE STARTING YOUR VEHICLE E 29

require the airbags. The AECM will not detect side, roll over, or rear impacts. The AECM is connected to the airbag/inflator units.

- The AECM monitors the readiness of the electronic parts of the system whenever the ignition switch is in the START or RUN positions. These include all of the items listed previously except the knee bolster, instrument panel, and steering column. The AECM also turns on the AIRBAG light in the instrument panel for 6 to 8 seconds when the ignition is first turned on, then turns the light off. If it detects a malfunction in any part of the system, it turns on the light either momentarily or continuously.

2

WARNING!

Ignoring the AIRBAG light in your instrument panel could mean you won't have the airbags to protect you in a collision. If the light does not come on, stays on after you start the vehicle, or if it comes on as you drive, have the airbag system checked right away.

- The **Airbag/Inflator Units** are in the center of the steering wheel and in the instrument panel. The words SRS/AIRBAG are embossed on the airbag covers.

WARNING!

Do not put anything on or around the airbag covers or attempt to manually open them. You may damage the airbags and you could be injured because the airbags are not there to protect you. These protective covers for the airbag cushions are designed to open only when the airbags are inflating.

- When the AECM detects an impact requiring the airbags, it signals the inflator units. A large quantity of non toxic nitrogen gas is generated to inflate the airbags. The airbag covers separate and fold out of the way as the airbags inflate to their full size. The airbags fully inflate in about 50 milliseconds. This is only about half of the time it takes you to blink your eyes. The airbags then quickly deflate while helping to restrain the driver and right front passenger. The airbag gas is vented through the airbag material

towards the instrument panel. In this way the airbags do not interfere with your control of the vehicle.

- The **Knee Impact Bolsters** help protect the knees and position you for the best interaction with the airbags.

If A Deployment Occurs

The airbag system is designed to deploy when the AECM detects a moderate-to-severe frontal collision, to help restrain the driver and right front passenger, and then to immediately deflate.

NOTE: A frontal collision that is not severe enough to need airbag protection will not activate the system. This does not mean something is wrong with the airbag system.

If you do have a collision which deploys the airbags, any or all of the following may occur:

- The nylon airbag material may sometimes cause abrasions and/or skin reddening to the driver and right front passenger as the airbags deploy and unfold. The abrasions are similar to friction rope burns or those you might get sliding along a carpet or gymnasium floor. They are not caused by contact with chemicals.

They are not permanent and normally heal quickly. However, if you haven't healed significantly within a few days, or if you have any blistering, see your doctor immediately.

- As the airbags deflate you may see some smoke-like particles. The particles are a normal by-product of the process that generates the non toxic nitrogen gas used for airbag inflation. These airborne particles may irritate the skin, eyes, nose, or throat. If you have skin or eye irritation, rinse the area with cool water. For nose or throat irritation, move to fresh air. If the irritation continues, see your doctor. If these particles settle on your clothing, follow the garment manufacturer's instructions for cleaning.
- Your vehicle may be drivable after the airbags deploy. If so, you can tuck the deployed airbags inside the opening in the steering wheel hub and instrument panel trim covers to make driving somewhat easier.

WARNING!

Deployed airbags can't protect you in another collision. Have the airbags replaced by an authorized dealer as soon as possible.

2

Transporting Pets

Airbags deploying in the front seat could harm your pet. An unrestrained pet will be thrown about and possibly injured, or injure a passenger during panic braking or in a collision.

Pets should be restrained in the rear seat in pet harnesses or pet carriers that are secured by seat belts.

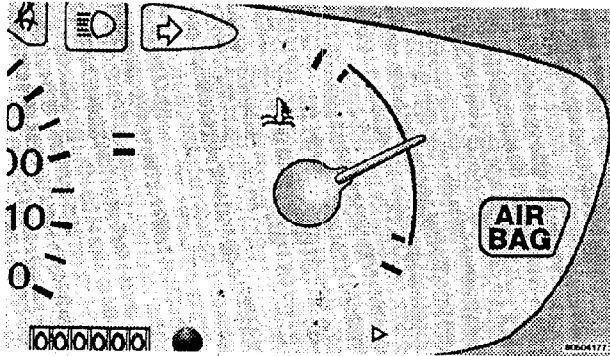
Maintaining Your Airbag System

WARNING!
<ul style="list-style-type: none"> • Modifications to any part of the airbag system could cause it to fail when you need it. You could be injured because the airbag is not there to protect you. Do not modify the components or wiring, including adding any kind of badges or stickers to the airbag covers. Do not modify the front bumper or vehicle body structure. • You need proper knee impact protection in a collision. Do not mount or locate any aftermarket equipment on or behind the knee bolsters. • It is dangerous to try to repair any part of the airbag system yourself. Don't try to repair the airbag system. Be sure to tell anyone who works on your vehicle that it has airbags.

You will want to have the airbags ready for your protection in a collision. The airbag Supplemental Restraint System (SRS) is designed to be maintenance free.

If any of the following occurs, have an authorized dealer service the system immediately.

- The AIRBAG light does not come on or flickers during the 6 to 8 seconds when the ignition switch is first turned on.



- The light remains on or flickers after the 6 to 8 second interval.
- The light flickers or comes on and remains on while driving.

ENGINE BREAK-IN RECOMMENDATIONS

The engine in your new vehicle does not require a long break-in period.

Drive moderately during the first 300 miles (500 km). After the initial 60 miles (100 km), speeds up to 50 or 55 mph (80 or 90 km/h) are desirable.

While cruising, brief full-throttle acceleration, within the limits of local traffic laws, contributes to a good break-in.

Wide open throttle acceleration in low gear can be detrimental and should be avoided.

The crankcase oil installed in the engine at the factory is a high quality energy conserving type lubricant. Oil changes should be consistent with expected climate conditions under which vehicle operations will occur. The recommended viscosity and quality grades are in Section 7 of this manual.

Do not use non-detergent or straight mineral oils.

A new engine may consume some oil during its first few thousand miles of operation. This is a normal part of the break-in and not an indication of a problem.

SAFETY TIPS

Exhaust Gas

2

WARNING!
<p>Exhaust gases can injure or kill. They contain carbon monoxide (CO) which is colorless and odorless. Breathing it can make you unconscious and can eventually poison you. To avoid breathing (CO) follow the safety tips below.</p>

Do not run the engine in a closed garage or in confined areas any longer than needed to move your vehicle in or out of the area.

If it is necessary to sit in a parked vehicle with the engine running, adjust your heating or cooling controls to force outside air into the vehicle. Set the blower at high speed.

To avoid drawing exhaust gases into the vehicle, close the trunk while driving. However, if for some reason it must remain open, close all windows. Adjust the heating or cooling system to force outside air into the vehicle. Set the blower at high speed.

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Safety Checks You Should Make Inside The Vehicle

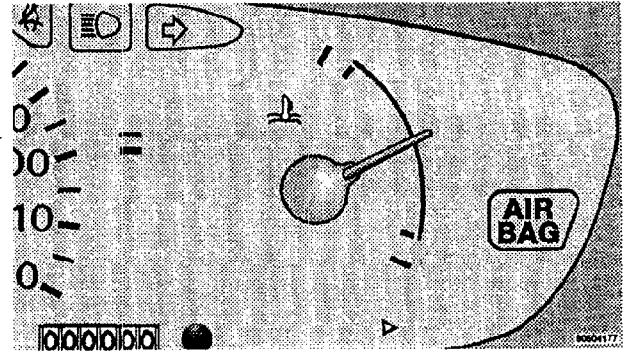
Seat Belts

Inspect the belt system periodically, checking for cuts, frays and loose parts. Damaged parts must be replaced immediately. Do not disassemble or modify the system.

Safety belt assemblies must be replaced after an accident if they have been damaged (bent retractor, torn webbing, etc.). If there is any question regarding belt or retractor condition, replace the belt.

Airbag Light

The light should come on and remain on for 6 to 8 seconds as a bulb check when the ignition switch is first turned ON. If the bulb is not lit during starting, have it replaced. If the light stays on or comes on while driving, have the system checked by an authorized dealer.



Defrosters

Check operation by selecting the defrost mode and place the blower control on high speed. You should be able to feel the air directed against the windshield.