

V3005

REPORT NO. KAR-99-10

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

CHRYSLER CORPORATION  
1999 DODGE INTREPID 4-DOOR SEDAN  
NHTSA NO. MX0304

PREPARED BY:  
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FEBRUARY 5, 1999  
FINAL REPORT

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16. <i>Abstract</i>  A 35 mph (56.3 km/h) frontal barrier impact test was conducted on a 1999 DODGE INTREPID 4-DOOR SEDAN at KARCO Engineering on January 19, 1999. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301 and footwell intrusion performance. The impact velocity was 56.3 km/h. The ambient temperature at the barrier face at the time of impact was 17.7°C. The vehicle's maximum post-test static crush was 505 mm, located to the left 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.  With respect to FMVSS 208 "Occupant Crash Protection – Injury Criteria" the occupant injury response data summary is as follows:  <table border="1"> <thead> <tr> <th><u>Injury Criteria</u></th> <th><u>Threshold Value</u></th> <th><u>Driver Dummy</u></th> <th><u>Passenger Dummy</u></th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC)</td> <td>1000</td> <td>727.3</td> <td>542.1</td> </tr> <tr> <td>Chest Resultant Peak 3 msec clip</td> <td>60 G's</td> <td>53.2</td> <td>51.3</td> </tr> <tr> <td>Left Femur Force</td> <td>10009 N</td> <td>-7497.2</td> <td>-5620.6</td> </tr> <tr> <td>Right Femur Force</td> <td>10009 N</td> <td>-6798.0</td> <td>-5630.8</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	727.3	542.1	Chest Resultant Peak 3 msec clip	60 G's	53.2	51.3	Left Femur Force	10009 N	-7497.2	-5620.6	Right Femur Force	10009 N	-6798.0	-5630.8
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## SECTION 1

### PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST MX0304

#### 1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the FY' 99 New Car Assessment Program (NCAP) frontal barrier crash worthiness evaluation program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract Number DTNH22-97-D-02007. The purpose of this test was to obtain vehicle crashworthiness, occupant restraint system performance data and lower leg data for frontal barrier impacts. The velocity used in this test was in excess of the current 30 mph (48 km/h) FMVSS 208/212/219/301 requirements.

#### 1.2 TEST PROCEDURE

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

The test was conducted at KARCO Engineering on January 19, 1999 at a speed of 56.3 km/h. The test vehicle was instrumented with seven (7) accelerometers to measure longitudinal axis accelerations. The driver and passenger's restraint systems were instrumented with four (4) seat belt load cells to measure lap and shoulder belt tension. The specified impact velocity range was 55.5 to 57.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and 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, chest and, 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. 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 re-calibrated for this NCAP test. Injury criteria were not exceeded by either ATD during this frontal barrier impact test.

### 1.3 SUMMARY OF FRONTAL BARRIER IMPACT TEST

An immovable barrier was impacted by a 1999 DODGE INTREPID 4-DOOR SEDAN at a velocity of 56.3 km/h. The test weight, with two (2) 50<sup>th</sup> percentile male ATDs, was 1770 kg. Twenty four (24) load cell barrier data channels were obtained in conducting the January 13, 1999 NCAP test. The test vehicle was equipped with a longitudinally mounted 2.7 liter, 6 cyl. engine and a 4-speed automatic transmission.

The driver's Head Injury Criteria (HIC) was 727.3, the maximum chest deceleration over three (3) milliseconds was 53.2 g and the left and right femur loads were -7497.2 and -6798.0 Newtons, respectively. Chest deflection for the driver ATD was -31.9 mm. The driver ATD head contacted the airbag and headrest, its chest and abdomen contacted the airbag, the left and right knees contacted the knee bolster.

The right front passenger's HIC was 542.1, maximum chest deceleration over three (3) milliseconds was 51.3 g and the left and right femur loads were -5620.6 and -5630.8 Newtons respectively. Chest deflection for the passenger ATD was -23.8 mm. The passenger ATD head contacted the airbag, and headrest, the chest and abdomen contacted the airbag and both knees contacted the glove box and dashboard.

Seat belt spoolout, measured by on-board pullout potentiometers was 181.8 mm for the driver ATD and 251.4 mm for the passenger ATD. Shoulder belt stretch was 0.312 mm/cm for the driver ATD and 0.0 mm/cm for the passenger ATD. Channel failed for the passenger, no data available.

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 505 mm located to the right of the vehicle centerline. Both the driver side doors and the passenger side doors opened without the aid of tools.

### 1.4 GENERAL COMMENTS

The 1999 DODGE INTREPID 4-DOOR SEDAN passed the requirements of FMVSS 208, 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: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

**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: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

**VEHICLE REBOUND**

Measurements in mm	Left	Center	Right
Vehicle Rebound	790	600	665

**VEHICLE STATIC CRUSH**

Measurements in mm	Left	Center	Right
Pre-test Measurements	4761	5167	4761
Post-test Measurements	4477	4662	4514
Static Crush	-284	-505	-247
Average	-345		

**DOOR OPENING AND SEAT TRACK INFORMATION**

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

**DUMMY INFORMATION**

	Driver	Passenger
Dummy Type/No.	50% Male Hybrid III (S/N 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	AIRBAG
Abdomen	AIRBAG	AIRBAG
Left Knee	KNEE BOLSTER	GLOVE BOX/DASHBOARD
Right Knee	KNEE BOLSTER	GLOVE BOX/DASHBOARD

**DATA SHEET NO. 2**

**GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

TEST VEHICLE INFORMATION			
Manufacturer	CHRYSLER CORPORATION	VIN	2B3HD46R2XH557696
Manufacturing Date	9/98	Delivery Date	1/12/99
Dealer	ONTARIO DODGE	NHTSA NO.	MX0304
Odometer Reading	85.0 mi	Fuel Type	UNLEADED
Engine Displacement	2.6 Liters	Cylinders	6
Transmission	AUTOMATIC	Final Drive	FRONT
Engine Placement	LONGITUDINAL	Color	WHITE
Tire Press./Max. Cap. Front	224 kpa	Cold Tire Press. Front	224 kpa
Tire Press./Max. Cap. Rear	224 kpa	Cold Tire Press. Rear	224 kpa
Recommend Tire Size	P225/60R16	Type of Spare	P225/60R16
Tire Size on Vehicle	P225/60R16	Manufacturer	GOODYEAR
GVWR	2064 kg	Cargo Capacity	52 kg
GAWR Front	1177 kg	GAWR Rear	921 kg
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	YES
Disc Brakes (Front)	YES	Disc Brakes (Rear)	NO
Power Windows	YES	Tilt Steering	YES
Anti-lock Brakes (ABS)	YES	Power Seats	NO
Driver Airbag	YES	Passenger Airbag	YES

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	497	273	770
Left	505	299	804
Total	1002	572	1574
Percent of Total	63.6	36.4	100%

**CALCULATION OF TEST TARGET WEIGHT (kg):**

Total Delivered Weight 1574 kg  
 RCLW 52 kg  
 Weight of 2 P572 ATDs 152 kg  
**TARGET TEST WEIGHT 1778 kg**

**TEST WEIGHT OF VEHICLE WITH 2 ATDs AND BALLAST**

	FRONT	REAR	TOTAL
Right	532	342	874
Left	530	366	896
Total	1062	708	1770
Percent of Total	60.0	40.0	100%

Weight of Ballast secured in cargo area: 24 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	738	736	743	745
As Tested	727	722	715	720

Vehicle Wheelbase: 2876 mm

**FUEL SYSTEM DATA:**

Fuel System Capacity From Owner's Manual = 64.3 liters

Usable Capacity Figure Furnished by COTR = 64.3 liters

Test Volume Range (92 to 94% of Usable Capacity) = 59.2 to 60.4 liters

ACTUAL TEST VOLUME = 59.8 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  Mechanical

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

DETAILS OF FUEL SYSTEM: Key operated w/automatic shut off after a few seconds.

**DATA SHEET NO. 3**

**POST IMPACT DATA**

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

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

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

Trap No. 1 = 56.3 km/h      Trap No. 2 = 56.4 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)	4761	5167	4761
Post-test Measurements (mm)	4477	4662	4514
Static Crush (mm)	-284	-505	-247

VEHICLE REBOUND: (from rigid barrier with rotational movement offsets only)

Measurements in mm		Left Front	Right Front	Left Rear	Right Rear
Vehicle Rebound	X axis	N/A	N/A	N/A	N/A
Vehicle Rebound	Y axis	N/A	N/A	N/A	N/A
Average	X axis	N/A			
Average	Y axis	N/A			

**DATA SHEET NO. 4**

**TEST VEHICLE INFORMATION**

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

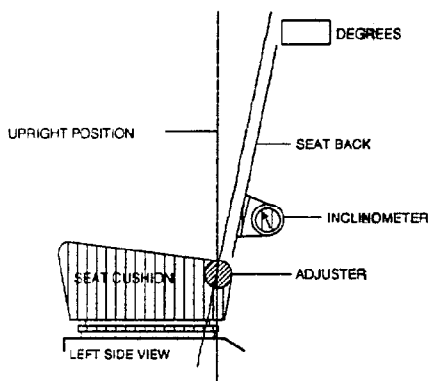
NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

**1. NOMINAL DESIGN RIDING POSITION -**

For adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent if applicable. Indicate, if applicable, how the detents are numbered (Is the first detent "0" or "1"?).



**FRONT SEAT ASSEMBLY**

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 = 24° w/seated dummy, taken at seat back cushion.

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 = 24° w/seated dummy, taken at seat back cushion.

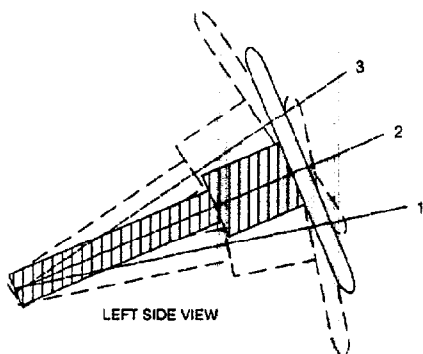
**2. SEAT FORE & AFT POSITIONS:**

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 the 12<sup>th</sup> detent location 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:

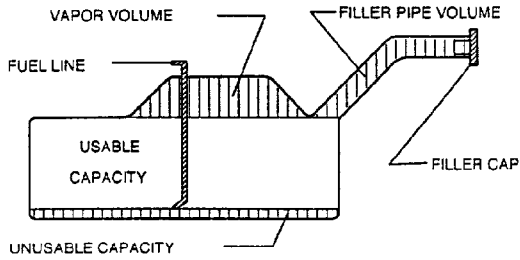
- Position No. 1 is at 17.5°
- Position No. 2 is at 19°
- Position No. 3 is at 21°

**4. SEAT BELT UPPER ANCHORAGE:**

5 Positions, set at the mid position #3.

DATA SHEET NO. 4 (continued)

5. FUEL TANK CAPACITY DATA



5.1 A. "Usable Capacity" of standard equipment fuel tank = 64.3 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 = 59.2 to 60.4 liters.

VEHICLE FUEL TANK ASSEMBLY

Operational Instructions:

5.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 59.8 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.

See manufacturers data.

DATA SHEET NO. 5

DUMMY POSITIONING IN VEHICLE

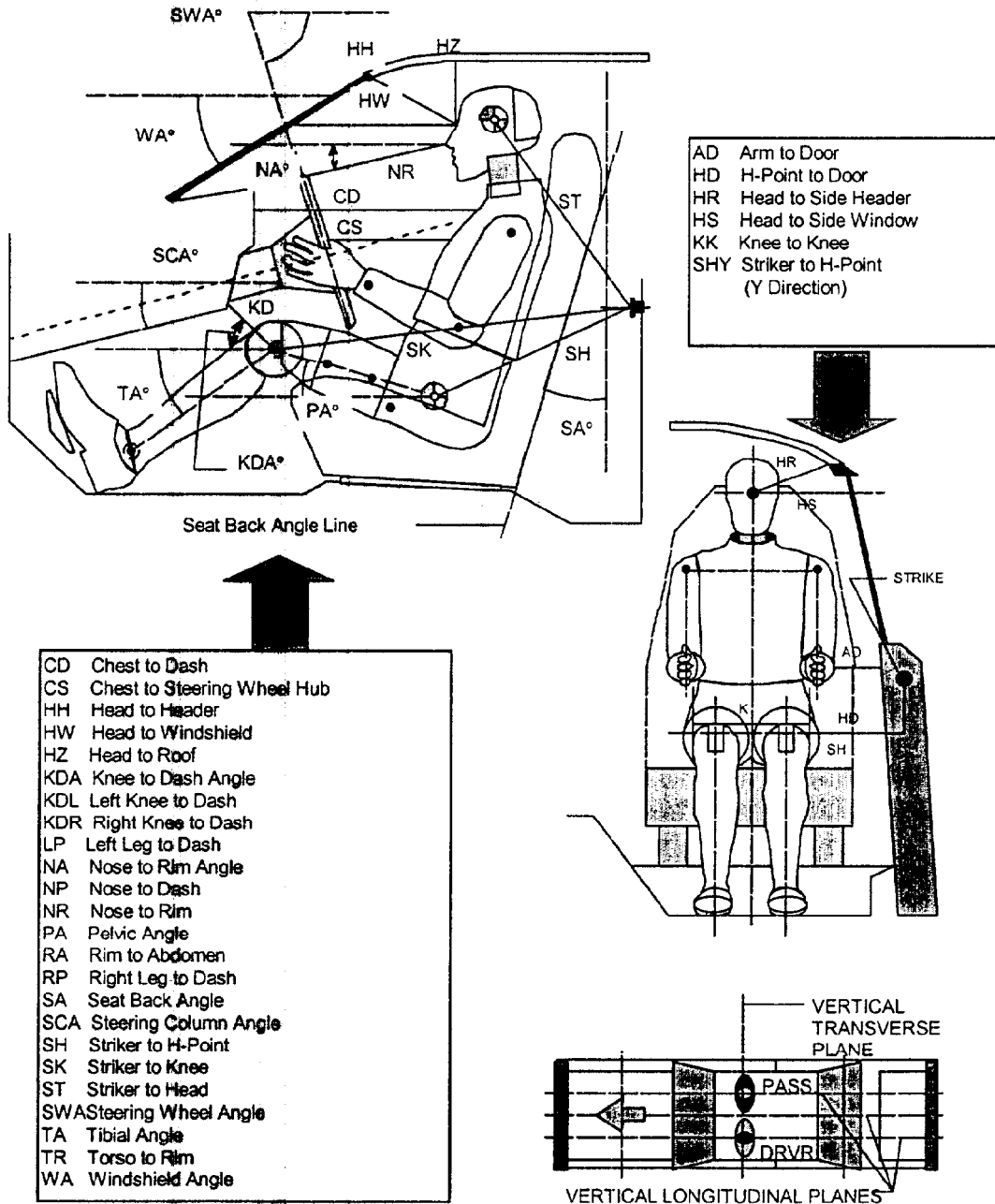
Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

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°		24		
SWA°		70		
SCA°		20		
SA°		24		24
HZ	170	90	170	90
HH	307	0	310	0
HW	635	0	647	0
HR	250		220	
NR	390	11		
CD	505		530	
CS	290	0		
RA	175	0		
KDL	155	30	165	
KDR	157		160	20
PA°		24		22
TA°		40		46
KK	260		215	
ST	553	8	533	7
SH	222	36	230	33
SHY	264		250	
HS	270		270	
HD	171		135	
AD	120		40	

DATA SHEET NO. 6

SEAT BELT POSITIONING DATA

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

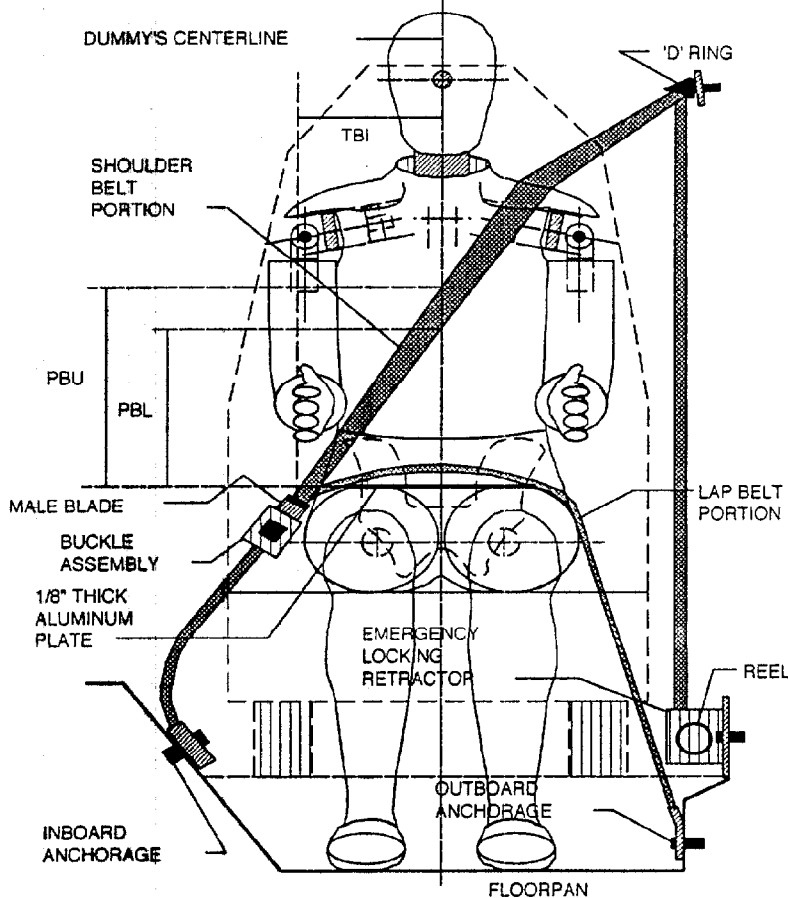
Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TCI - Dummy centerline to shoulder bolt	mm	190	185
PBU - Top surface of reference to belt upper edge	mm	330	315
PBL - Top surface of reference to belt lower edge	mm	256	231
Lap Belt tension	Newtons	10	10
Shoulder Belt tension	N/A	Retractor	Retractor

SEAT BELT POSITIONING DATA



FRONT VIEW OF DUMMY

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

TEST VEHICLE: 1999 DODGE INTREPID 4 DOOR SEDAN NHTSA No.: MX0304  
 TEST PROGRAM: 1999 NHTSA 35 MPH NCAP TEST DATE: 1/19/99

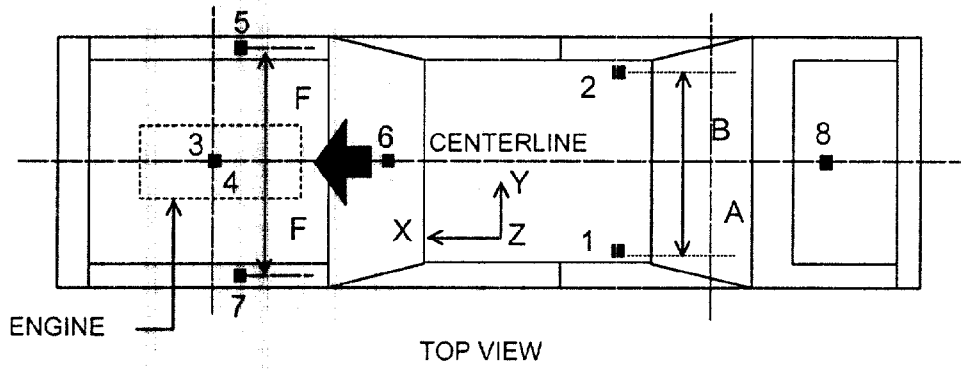
**VEHICLE X-AXIS ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS**

No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member (Pri.)	2097	-656	382	G's	2.0	130.2	-39.2	51.2
2	Right Rear X-Member (Pri.)	2030	639	391	G's	2.4	130.8	-39.8	48.9
3	Engine Top	4615	248	728	G's	44.3	36.7	-184.8	26.1
4	Engine Bottom	0	0	0	G's	0.0	0.0	0.0	0.0*
5	Left Brake Caliper	4195	-715	292	G's	71.9	57.6	-120.5	35.4
6	Right Brake Caliper	4198	717	291	G's	39.8	53.0	-131.0	34.6
7	Instrument Panel	3405	-20	956	G's	15.2	21.9	-46.5	68.2
8	Left Rear X-Member (Rednt.)	2095	-559	392	G's	2.2	130.6	-37.5	50.9

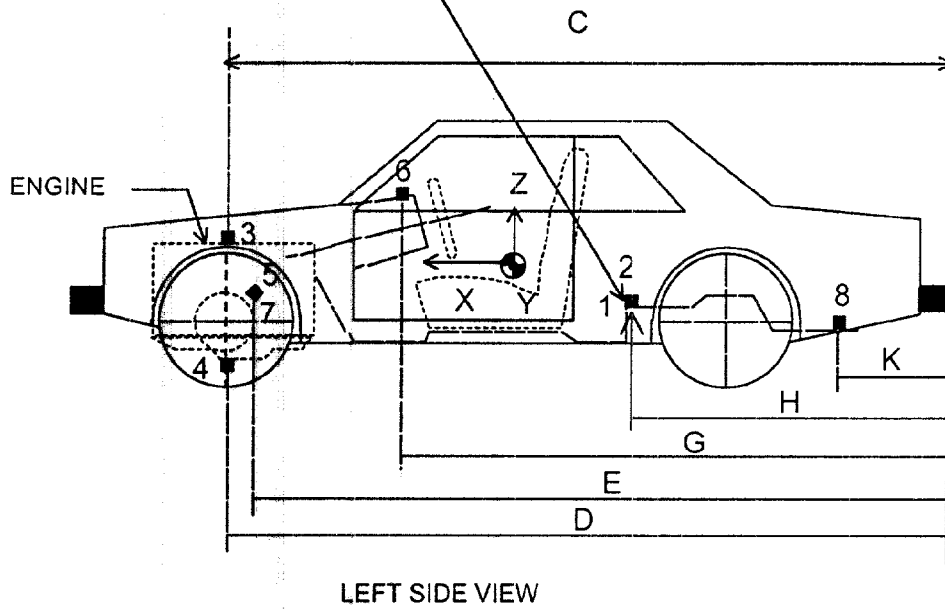
Reference Points      X - From Rear Surface of Vehicle      Y - Vehicle Centerline      Z - Ground Plane

\*Channel not used.

## 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: 1999 DODGE INTREPID 4 DOOR SEDAN NHTSA No.: MX0304

TEST PROGRAM: 1999 NHTSA 35 MPH NCAP TEST DATE: 1/19/99

**HEAD PRIMARY PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	33.0	169.7	-68.8	77.6	11.0	256.9	-60.9	81.7
Head CG	Y	G's	5.3	74.4	-4.2	170.5	3.6	61.5	-6.7	72.9
Head CG	Z	G's	24.0	45.2	-14.3	81.0	26.5	60.3	-8.3	91.5
Head CG Resultant	N/A	G's	69.8	78.3			61.1	81.7		

**CHEST PRIMARY PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	7.1	172.5	-53.1	66.2	3.5	147.7	-52.1	67.0
Chest CG	Y	G's	3.9	23.7	-4.2	54.6	6.2	76.0	-3.2	39.5
Chest CG	Z	G's	17.6	43.7	-2.6	100.1	19.6	58.0	-6.9	104.4
Chest CG Resultant	N/A	G's	53.7	66.1			52.5	67.0		

**FEMUR PEAK FORCES**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	294.2	22.1	-7497.2	49.4	739.1	42.7	-5620.6	54.5
Right Femur	Z	Newtons	187.0	191.6	-6798.0	54.6	528.4	43.6	-5630.8	52.5

**SEAT BELT SENSOR PEAK VALUES**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	4415.9	63.1	-28.0	207.0	7789.1	57.6	17.6	0.0
Shoulder Belt Force	N/A	Newtons	3328.9	69.8	-38.3	211.5	5293.4	89.2	-16.2	243.6
Shoulder Belt Spoolout	N/A	MM	181.8	92.9	0.0	0.0	251.4	96.7	-0.1	0.0
Shoulder Belt Stretch	N/A	MM/CM	0.312	49.0	0.002	0.0	0.000	0.0	0.000	0.0

\* No data collected on passenger belt stretch.

**HEAD INJURY CRITERIA (HIC)**

Location	Driver				Passenger			
	HIC	Avg G's	T <sup>1</sup>	T <sup>2</sup>	HIC	Avg G's	T <sup>1</sup>	T <sup>2</sup>
Head CG Primary	727.3	55.1	56.8	89.0	542.1	46.9	62.7	98.6

**CHEST CLIP (3MSEC)**

Location	Driver			Passenger		
	CLIP	T <sup>1</sup>	T <sup>2</sup>	CLIP	T <sup>1</sup>	T <sup>2</sup>
Chest CG Primary	53.2	63.0	66.0	51.3	66.1	69.1

**DATA SHEET NO. 8...(continued)**

TEST VEHICLE: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

TEST PROGRAM: 1999 NHTSA 35 MPH NCAP

TEST DATE: 1/19/99

**PELVIC PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	2.8	250.9	-73.7	53.6	4.0	101.1	-84.7	52.4
Pelvis	Y	G's	5.7	44.1	-19.6	53.8	12.4	62.0	-8.9	48.7
Pelvis	Z	G's	11.7	41.6	-30.1	68.0	7.9	38.2	-29.0	72.2

**UPPER NECK PEAK FORCES AND MOMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	465.8	61.2	-280.5	46.0	520.7	65.0	-448.2	130.6
Neck Force	Y	Newtons	80.0	80.0	-143.2	54.3	285.1	78.8	-123.1	149.3
Neck Force	Z	Newtons	2789.0	63.6	-175.2	181.0	1165.4	59.5	-182.6	93.1
Neck Moment	X	N·m	4.7	61.8	-5.3	96.9	8.7	107.9	-15.1	60.6
Neck Moment	Y	N·m	31.7	61.8	-16.7	231.6	43.7	64.7	-29.1	101.0
Neck Moment	Z	N·m	4.5	105.1	-6.5	231.1	15.5	69.6	-6.9	124.9

**FOOT PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	47.4	61.0	-85.1	42.4	25.8	43.0	-223.0	36.7
Left Foot Aft	Z	G's	11.0	61.6	-139.1	42.5	57.9	41.6	-253.0	35.9
Left Foot Fore	Z	G's	44.3	54.8	-159.9	44.2	91.1	43.0	-454.5	35.3
Right Foot Aft	X	G's	24.9	57.2	-151.8	44.7	10.6	76.8	-74.9	38.7
Right Foot Aft	Z	G's	53.8	58.6	-287.3	41.7	13.5	66.8	-64.9	50.4
Right Foot Fore	Z	G's	113.7	56.1	-435.3	41.6	35.3	62.5	-117.3	38.5

**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	138.3	45.7	-40.1	43.2	77.6	43.2	-88.7	38.4
Left Lower Moment	Y	N·m	267.9	74.5	-44.6	42.0	121.7	91.6	-69.9	36.5
Left Lower Force	Z	Newtons	989.5	45.7	-5840.0	64.2	144.5	225.8	-7968.6	37.8
Left Upper Moment	X	N·m	73.8	51.9	-52.8	43.8	29.0	101.3	-150.6	74.2
Left Upper Moment	Y	N·m	25.6	83.1	-186.9	48.5	15.6	98.3	-274.8	37.5
Right Lower Moment	X	N·m	181.5	41.0	-21.9	59.4	12.3	82.8	-18.6	52.4
Right Lower Moment	Y	N·m	191.1	62.3	-83.0	45.4	31.8	65.8	-47.6	39.9
Right Lower Force	Z	Newtons	140.4	102.4	-8914.7	41.8	623.4	52.3	-1462.0	92.4
Right Upper Moment	X	N·m	93.3	41.3	-34.2	44.5	21.1	172.9	-44.7	56.5
Right Upper Moment	Y	N·m	117.5	53.6	-293.8	43.2	13.2	269.3	-86.4	39.8

**DATA SHEET NO. 8...(continued)**

TEST VEHICLE: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

TEST PROGRAM: 1999 NHTSA 35 MPH NCAP

TEST DATE: 1/19/99

**CHEST PEAK DISPLACEMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.1	0.6	-31.9	83.2	0.7	25.8	-23.8	94.7

**HEAD REDUNDANT PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	31.8	169.9	-67.1	77.7	10.7	258.1	-58.6	80.7
Head CG	Y	G's	8.1	73.8	-7.1	170.1	4.3	99.6	-6.9	71.4
Head CG	Z	G's	22.9	45.3	-17.6	80.5	29.9	59.8	-10.0	98.2
Head CG Resultant	N/A	G's	68.9	78.1			59.1	80.7		

**CHEST REDUNDANT PEAK ACCELERATIONS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	6.6	172.6	-53.4	77.3	3.2	147.6	-51.4	66.9
Chest CG	Y	G's	2.4	93.2	-4.1	54.6	8.5	76.1	-3.0	38.4
Chest CG	Z	G's	16.5	43.8	-2.0	70.3	17.3	57.9	-6.2	109.5
Chest CG Resultant	N/A	G's	53.5	77.3			51.7	66.9		

**REDUNDANT HEAD INJURY CRITERIA (HIC)**

Location	Driver				Passenger			
	HIC	Avg G's	T <sup>1</sup>	T <sup>2</sup>	HIC	Avg G's	T <sup>1</sup>	T <sup>2</sup>
Head CG Redundant	707.3	54.9	57.0	88.6	510.8	45.8	62.6	98.5

**REDUNDANT CHEST CLIP (3MSEC)**

Location	Driver			Passenger		
	CLIP	T <sup>1</sup>	T <sup>2</sup>	CLIP	T <sup>1</sup>	T <sup>2</sup>
Chest CG Redundant	52.6	63.3	66.3	50.5	65.9	68.9

DATA SHEET NO. 9

SEAT BELT PERFORMANCE ASSESSMENT TEST DATA

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	660	660
Shoulder belt length as measured on ATD	mm	840	835
Lap belt length as measured on ATD	mm	780	740
Remainder of belt on reel	mm	610	610
Total belt length for continuous webbing systems	mm	2890	2845

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	180.0	222.0
As determined electronically	mm	181.8	251.4

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically from shoulder belt load cell and "D" ring	mm/cm	0.31	no data
Mechanically	mm/cm	1.00	1.00

DATA SHEET NO. 10

SUMMARY OF FMVSS 212 DATA

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

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

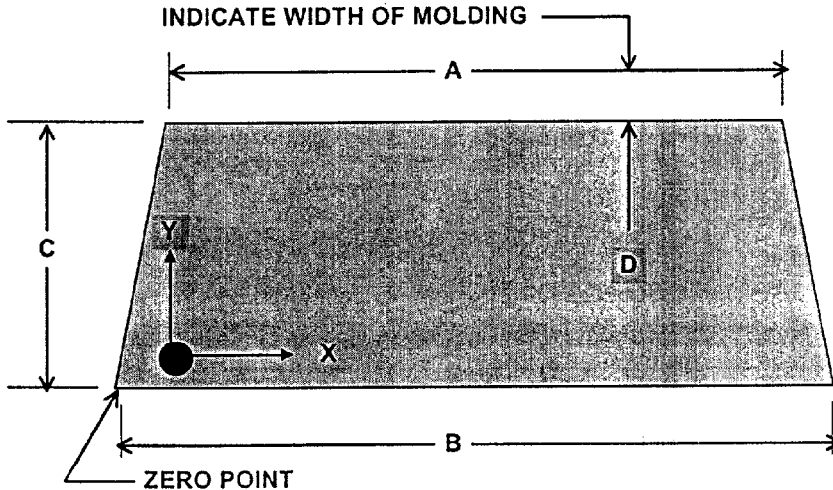
Windshield glass is secured to the vehicle frame with a rubber type adhesive, with rubber molding along the top and sides with rubber and plastic molding along the bottom.

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	2250	2250	100%
Post-Test	mm	2250	2250	100%
Percent of retention	Percent	100%	100%	

Indicate area of retention failure.



FRONT VIEW OF WINDSHIELD

Width of molding: Top: 8 mm, Sides: 20 mm, Bottom: 0 mm

Temperature of windshield molding during test: 21.1 °C

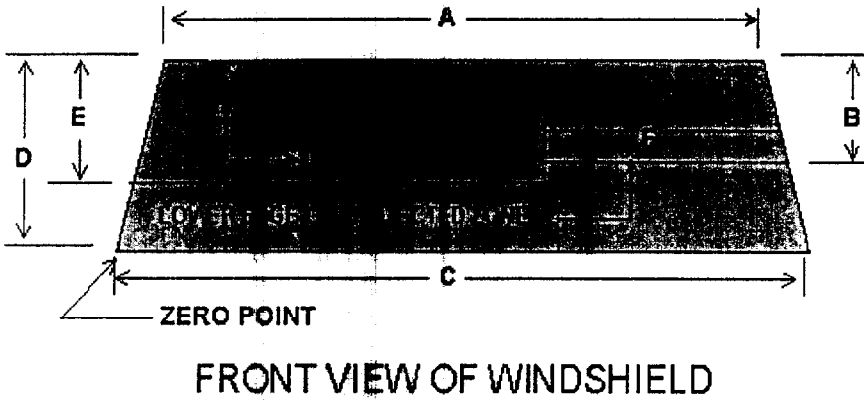
**DATA SHEET NO. 11**  
**WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA**

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99



Item	Units	Value
A	mm	1255
B	mm	426
C	mm	1635
D	mm	805
E	mm	545
F	mm	681

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: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

Test Time: 12:35 PM      Temperature at Time of Impact: 17.7° 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 leakage occurred.

DATA SHEET NO. 13

FMVSS 301 STATIC ROLLOVER DATA SHEET

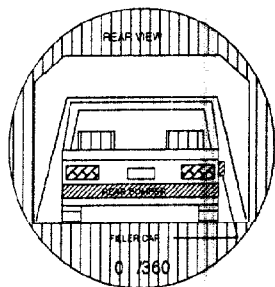
Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

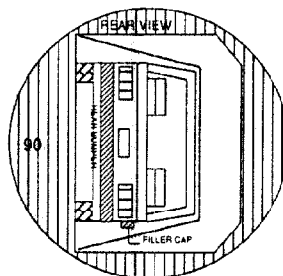
Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

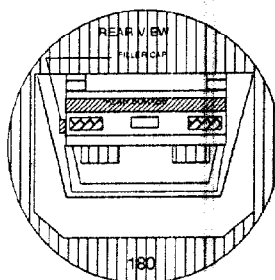
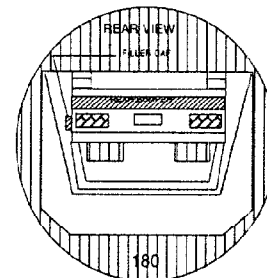
Time: 12:35 PM Temperature: 17.7 °C



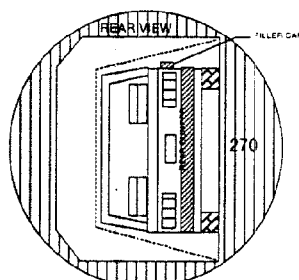
0° TO 90°



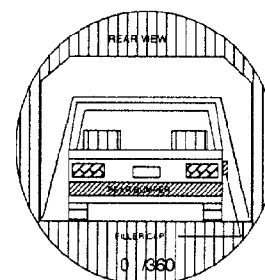
90° TO 180°



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°	82	300	0.0
180° TO 270°	77	300	0.0
270° TO 360°	82	300	0.0

**DATA SHEET NO. 14**

**VEHICLE MEASUREMENTS**

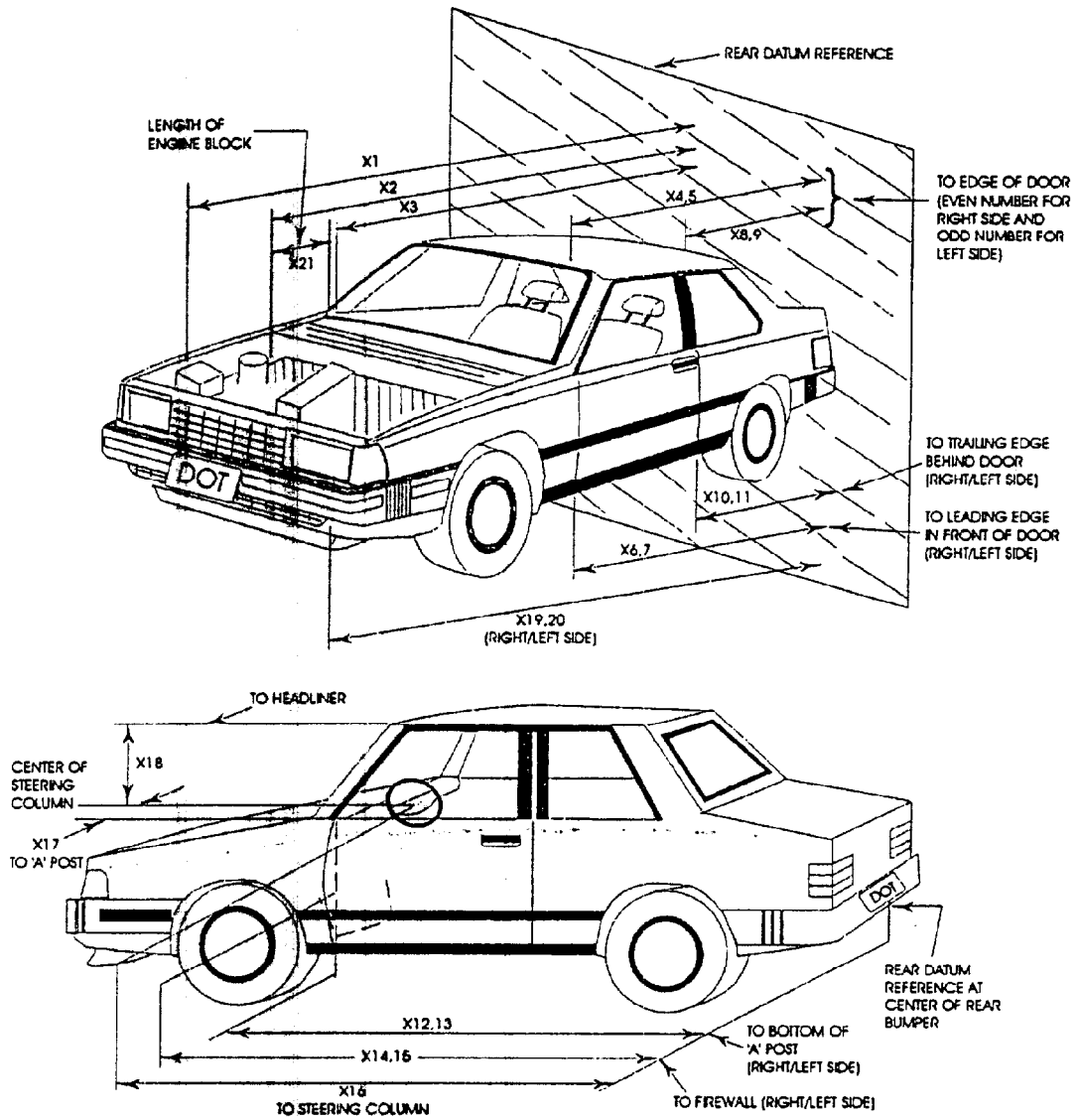
Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	5167	4662	-505
2	RSOV to front of engine	mm	4693	4402	-291
3	RSOV to firewall centerline	mm	3947	3825	-122
4	RSOV to leading edge of right door	mm	3660	3647	-13
5	RSOV to leading edge of left door	mm	3660	3644	-16
6	RSOV to lower leading edge of right door	mm	3575	3577	2
7	RSOV to lower leading edge of left door	mm	3575	3582	7
8	RSOV to upper trailing edge of right door	mm	2520	2510	-10
9	RSOV to upper trailing edge of left door	mm	2520	2512	-8
10	RSOV to lower trailing edge of right door	mm	2516	2511	-5
11	RSOV to lower trailing edge of left door	mm	2514	2514	0
12	RSOV to bottom of right 'A' pillar	mm	3529	3516	-13
13	RSOV to bottom of left 'A' pillar	mm	3531	3521	-10
14	RSOV to firewall on right side	mm	3917	3862	-55
15	RSOV to firewall of left side	mm	3807	3835	28
16	RSOV to steering column	mm	3008	3073	65
17	Center of steering column to left 'A' pillar	mm	455	397	-58
18	Center of steering column to headlining	mm	405	395	-10
19	RSOV to right side of front bumper	mm	4761	4514	-247
20	RSOV to left side of front bumper	mm	4761	4477	-284
21	Length of engine block	mm	475	475	0
RD	RSOV to right side of dash panel	mm	3275	3270	-5
CD	RSOV to center of dash panel	mm	3388	3356	-32
LD	RSOV to left side of dash panel	mm	3280	3248	-32



**DATA SHEET NO. 15**

**CAMERA LOCATIONS**

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

No.	Camera View	Location (mm)			Angle (°)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Side, Real Time	3454	10973	1245	0	1651	Zoom	24
2	Left Side, No. 1	2057	8230	1143	1	7874	13	900
3	Left Side, No. 2	1118	6274	1473	2	6071	25	930
4	Left Side, No. 3	3327	3124	2083	19	3048	19	890
5	Left Side, No. 4	2134	3265	2578	16	8077	19	920
6	Left Side, No. 5	2134	8153	3048	14	8052	19	900
7	Right Side, No. 1	1321	8255	991	0	7696	19	910
8	Right Side, No. 2	1676	8331	1524	2	7722	40	830
9	Right Side, No. 3	3759	3150	2045	20	2972	19	890
10	Right Side, No. 4	2261	7747	1308	3	7188	35	960
11	Overhead Overall	1041	0	5791	90	N/A	13	900
12	Front View Driver	-279	406	2667	46	N/A	13	920
13	Front View, Passenger	-279	406	267	46	N/A	13	1000
14	Pit Camera, Engine	737	0	-1829	89	N/A	10	760
15	Pit Camera, Fuel Tank	4674	0	-1524	52	N/A	12	800
16	Onboard, Driver	3708	279	1092	1	1372	13	560
17	Onboard, Passenger	3708	279	1092	2	1384	13	400

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

**DATA SHEET NO. 16**  
**REFERENCE PHOTOGRAPH TARGETS**

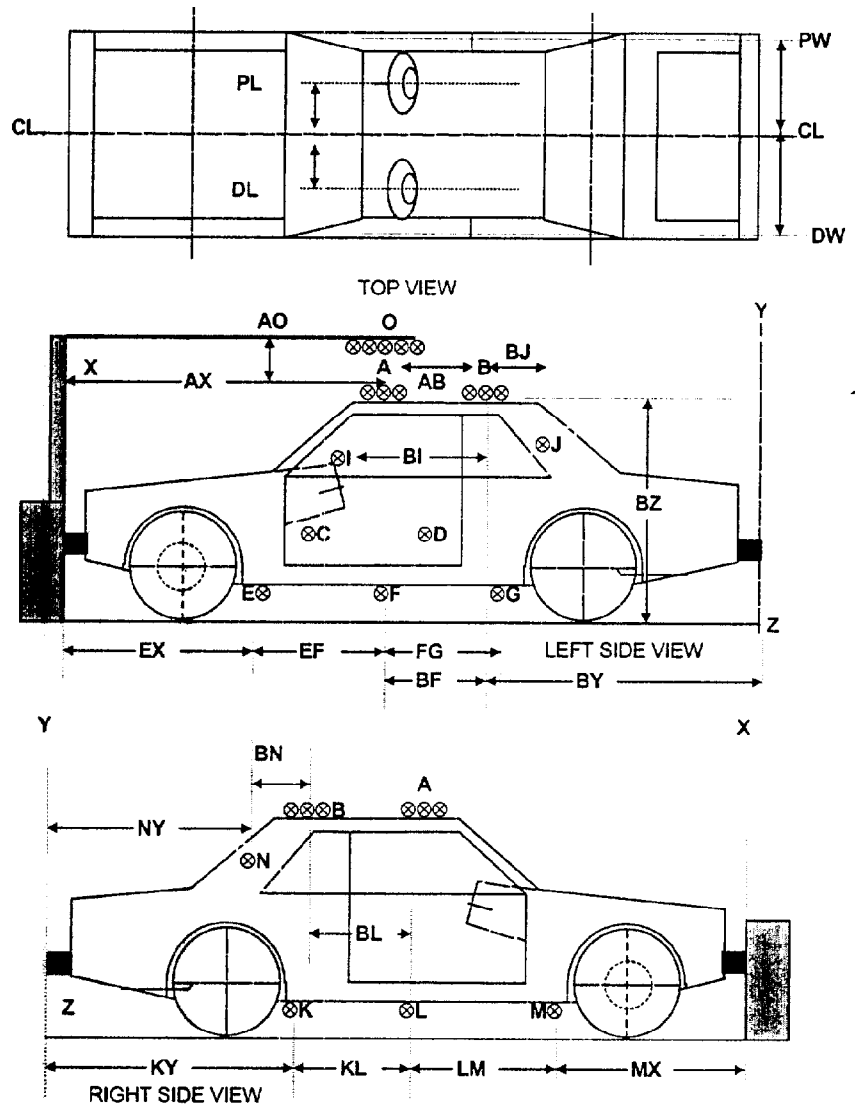
Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

Item	Value
AX	2257
AB	606
AO	112
BJ	677
BI	1128
BZ	1149
EX	1154
EF	975
FG	950
BF	635
BY	2219
NY	1348
BN	732
KY	1689
KL	965
BL	576
LM	965
MX	1547
CL/PL	385
CL/PW	842.5
CL/DL	385
CL/DW	842.5



DATA SHEET NO. 17

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

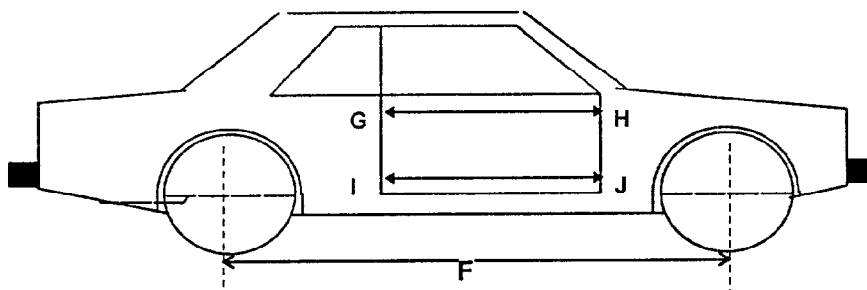
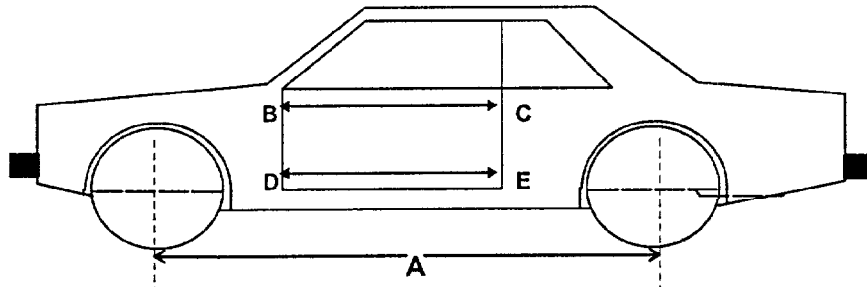
Test Date: 1/19/99

DOOR OPENING WIDTH

UNITS (mm)	LEFT SIDE		RIGHT SIDE	
MEASUREMENT	BC	DE	GH	IJ
PRE-TEST	961	938	962	941
POST-TEST	959	940	950	935
DIFFERENCE	-2	+2	-12	-6

VEHICLE WHEELBASE CHANGE

UNITS (mm)	A = LEFT SIDE WHEELBASE	F = RIGHT SIDE WHEELBASE
PRE-TEST	2876	2876
POST-TEST	2780	2745
DIFFERENCE	-94	-131



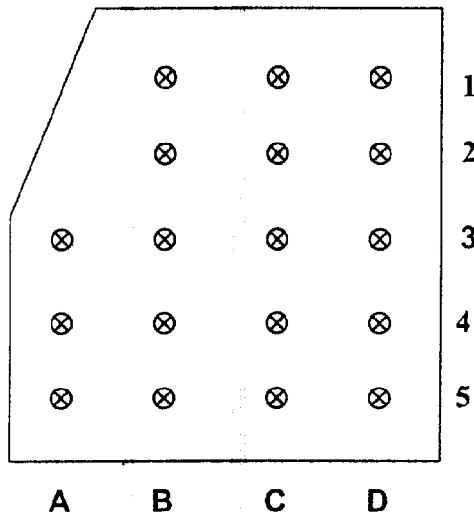
Data Sheet No. 17 .....(Continued)

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

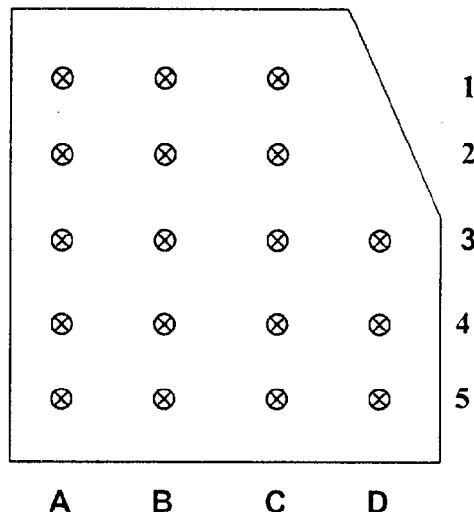
Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99



⊕ X  
LEFT FRONT SEAT ANCHOR BOLT  
↓  
TO RSOV REFERENCE

**DRIVER SIDE FLOOR PLAN**



RIGHT FRONT SEAT ANCHOR BOLT  
⊕ X  
↓  
TO RSOV REFERENCE

**PASSENGER SIDE FLOORPAN**

(Data Sheet No. 17 .....Continued)

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

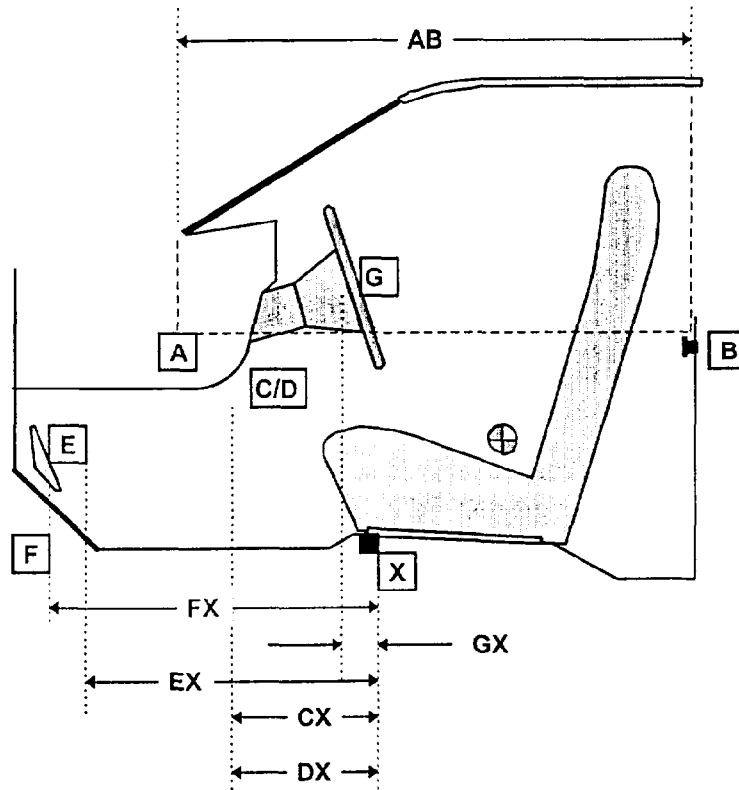
Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

**DRIVER COMPARTMENT INTRUSION (Distances in mm)**

REF.	DESCRIPTION	PRE-TEST	POST-TEST
AB	DOOR OPENING (INSIDE WINDOW JAM)	961	959
CX	LOWER LEFT KNEE BOLSTER TO X	297	295
DX	LOWER RIGHT KNEE BOLSTER TO X	314	240
EX	BRAKE PEDAL TO X	626	475
FX	FOOT REST TO X	592	587
GX	STEERING COLUMN HUB (CENTER) TO X	80	81

X = LEFT FRONT SEAT ANCHOR BOLT



**DRIVER COMPARTMENT**

(Data Sheet No. 17 .....Continued)

DRIVER SIDE "X"

	A			B			C			D		
	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.
1				774	605	-169	769	622	-147	769	619	-150
2				674	557	-117	670	540	-130	670	549	-121
3	569	570	1	568	570	2	568	531	-37	570	474	-96
4	469	465	-4	469	464	-5	469	466	-3	469	459	-10
5	369	367	-2	370	367	-3	369	365	-4	369	364	-5

DRIVER SIDE "Z"

	A			B			C			D		
	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.
1				81	156	75	80	137	57	82	130	48
2				4	36	32	2	35	33	4	32	28
3	-50	-57	-7	-50	-78	-28	-50	-79	-29	-49	-43	6
4	-45	-55	-10	-51	-78	-27	-55	-81	-26	-51	-79	-28
5	-49	-58	-9	-55	-82	-27	-55	-92	-37	-54	-99	-45

PASSENGER SIDE "X"

	A			B			C			D		
	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.
1	697	528	-169	700	534	-166	699	569	-130			
2	595	425	-170	594	461	-133	599	524	-75			
3	495	410	-85	495	444	-51	494	487	-7	494	490	-4
4	395	367	-28	394	376	-18	397	386	-11	395	390	-5
5	291	294	3	294	290	-4	295	287	-8	305	292	-13

PASSENGER SIDE "Z"

	A			B			C			D		
	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.	PRE-TEST	POST-TEST	DIFF.
1	112	189	77	108	190	82	111	174	63			
2	10	82	72	2	70	68	3	54	51			
3	-55	-25	30	-55	-35	20	-60	-25	35	-40	-27	13
4	-60	-85	-25	-55	-105	-50	-60	-70	-10	-40	-25	15
5	-57	-95	-38	-60	-95	-35	-55	-81	-26	-44	-51	-7

RSOV to anchor bolt  
Ground level to anchor bolt

DRIVER		
PRE	POST	DIFF.
3015	3015	0
N/A	N/A	

PASSENGER		
PRE	POST	DIFF.
3015	3015	0
N/A	N/A	

DATA SHEET NO. 18

OFFSET BARRIER ORIENTATION

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

NOT APPLICABLE TO THIS TEST

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

DATA SHEET NO. 19

ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99

VIN: 2B3HD46R2XH557696 Wheelbase: 2876 mm Test Weight: 1770 kg

Vehicle Size Category: DODGE INTREPID 4 DOOR SEDAN

ACCELEROMETER DATA:

LOCATION: Left and right rear floor pans

CALIBRATION PROCEDURE: 6 months/ drop test

LINEARITY: Good

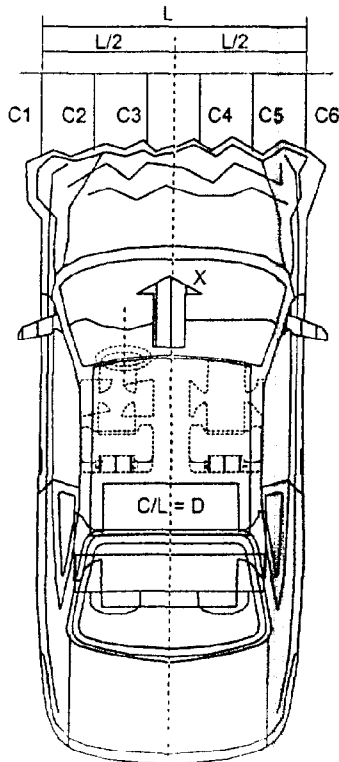
INTEGRATION ALGORITHM: NHTSA Standard

VEHICLE IMPACT SPEED: 56.3 km/h

TIME OF SEPARATION: 76.8 msec

VELOCITY CHANGE: 63.64 km/h

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



IMPACT MODE: Full Frontal

CRUSH DEPTH DIMENSIONS:

C1 = 284 mm

C2 = 433 mm

C3 = 500 mm

C4 = 505 mm

C5 = 440 mm

C6 = 250 mm

MIDPOINT OF DAMAGE: Vehicle Centerline

LENGTH OF DAMAGE REGION: 1633 mm

DATA SHEET NO. 20

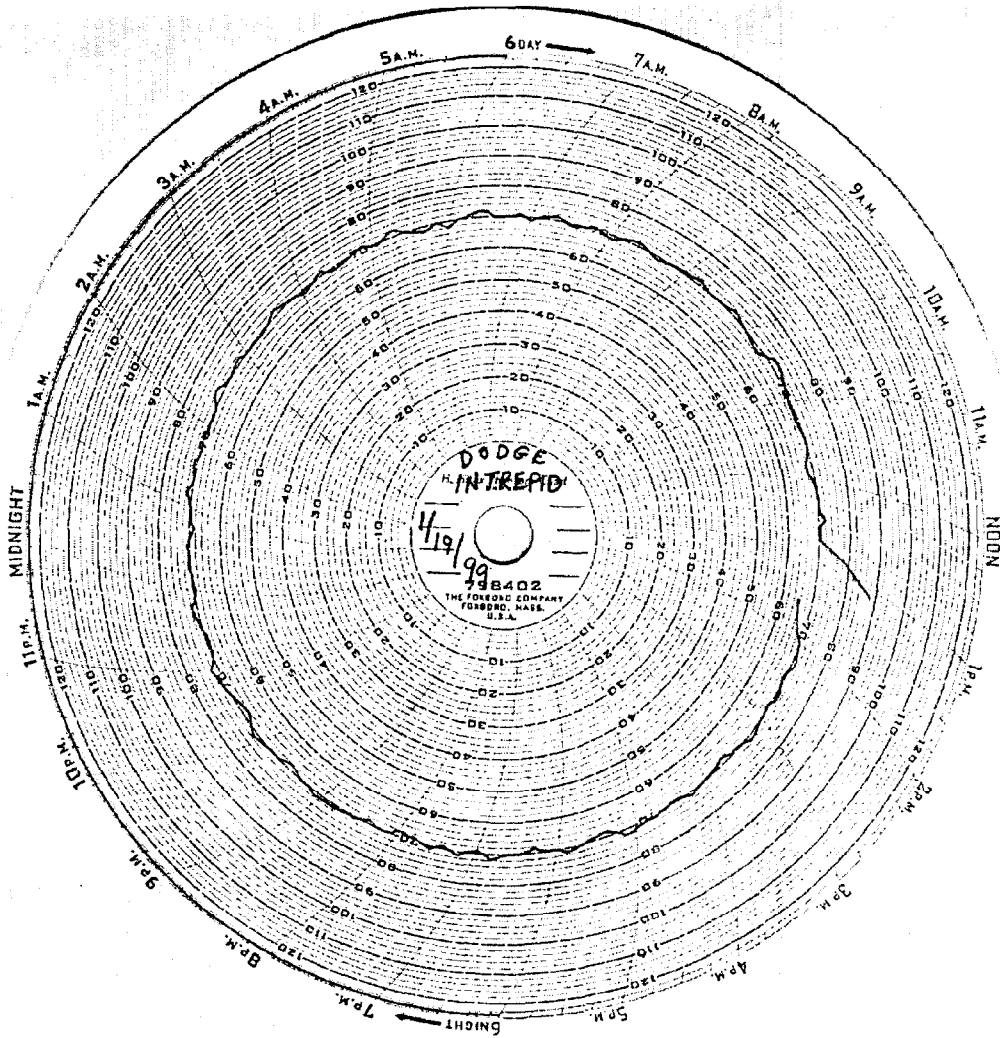
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 1999 DODGE INTREPID 4 DOOR SEDAN

NHTSA No.: MX0304

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/19/99



**APPENDIX A**  
**PHOTOGRAPHS**

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A-38	Post-test Driver Side Floorpan	A-38
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A-54	Post-test Passenger Side Knee Bolster and Dummy Contact	A-54
A-55	Post-test Passenger Head	A-55
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A-57	Vehicle on Rollover Device	A-57
A-58	Vehicle During Rollover	A-58



FIGURE A-1. RIGHT FRONT AS RECEIVED

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A-1

KAR99001-10

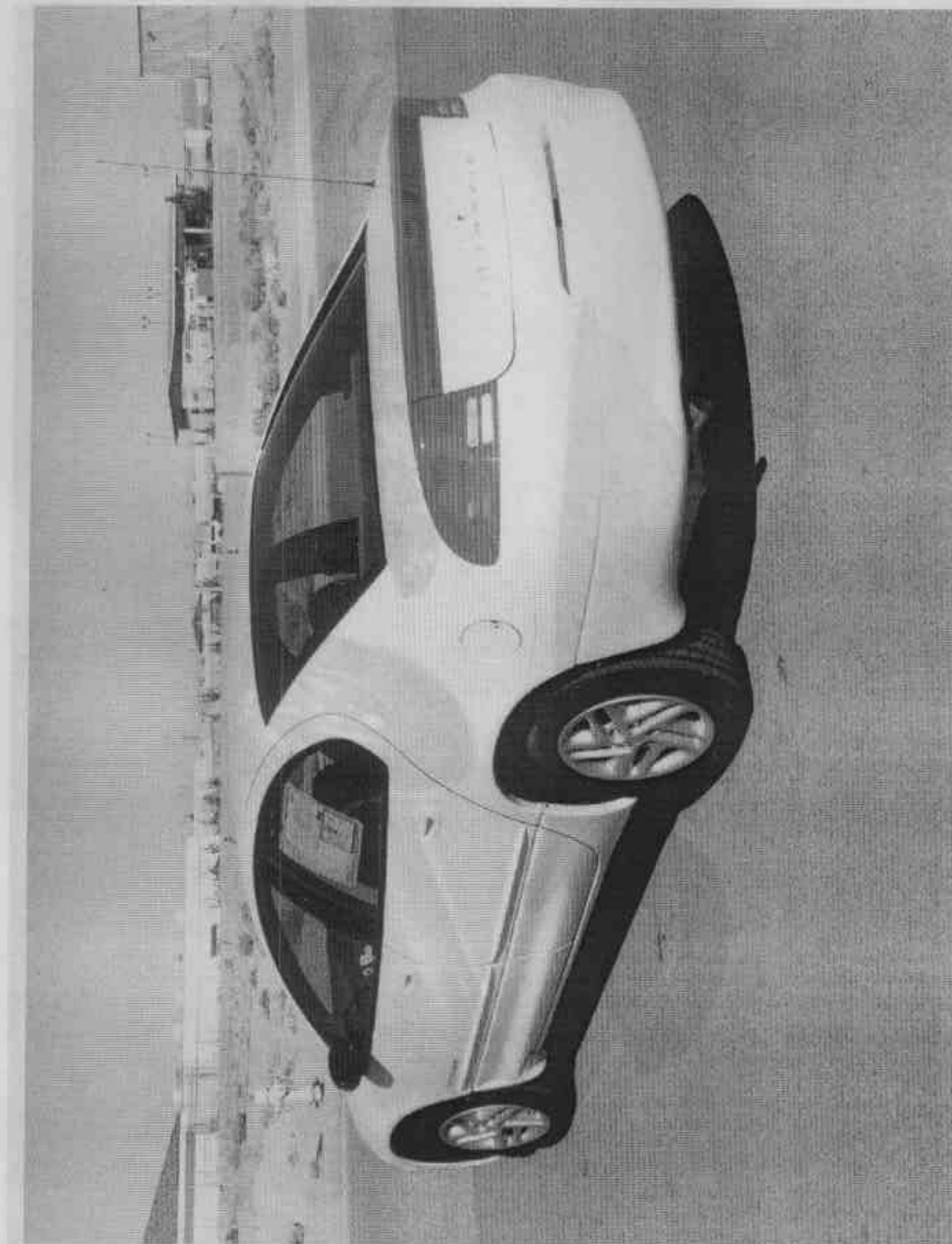


FIGURE A-2. LEFT REAR AS RECEIVED

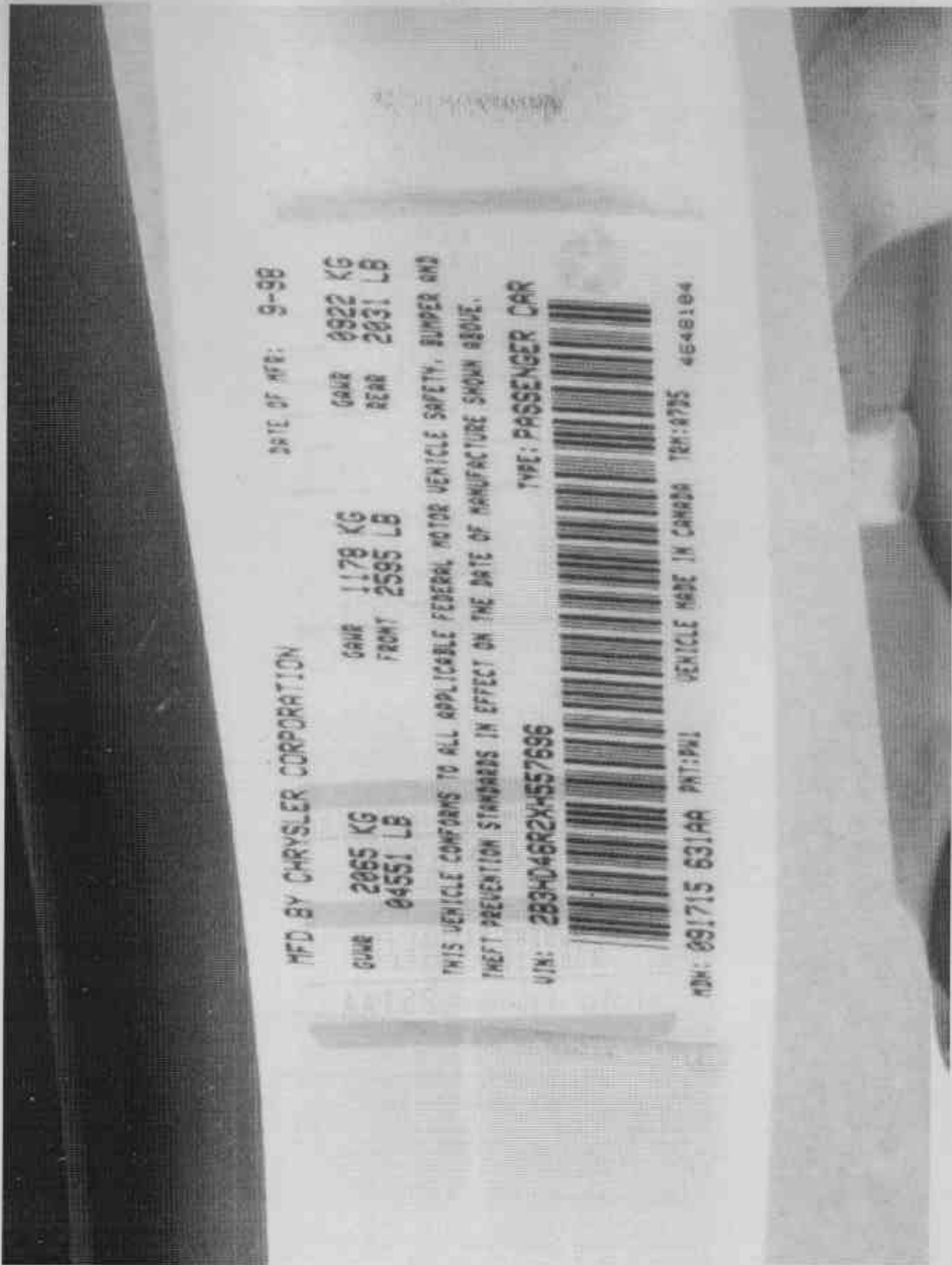


FIGURE A-3. VEHICLE CERTIFICATION LABEL



VEHICLE  
CAPACITY  
OR LESS

1ST SEAT	2 PASS
2ND SEAT	3 PASS
LUGGAGE	110 LBS-50 kg.
TOTAL	5 PASS
GROSS WEIGHT	895 LBS-402 kg.
TIRE PRESSURE COLD	32 PSI 220 kPa FRONT AND REAR

MINIMUM TIRE SIZE

P225/60R16 97T

STANDARD EQU.

SEE OWNERS MANUAL FOR  
ADDITIONAL DATA

PRINTED IN USA 02/81 251AA

FIGURE A-4. VEHICLE TIRE PLACARD

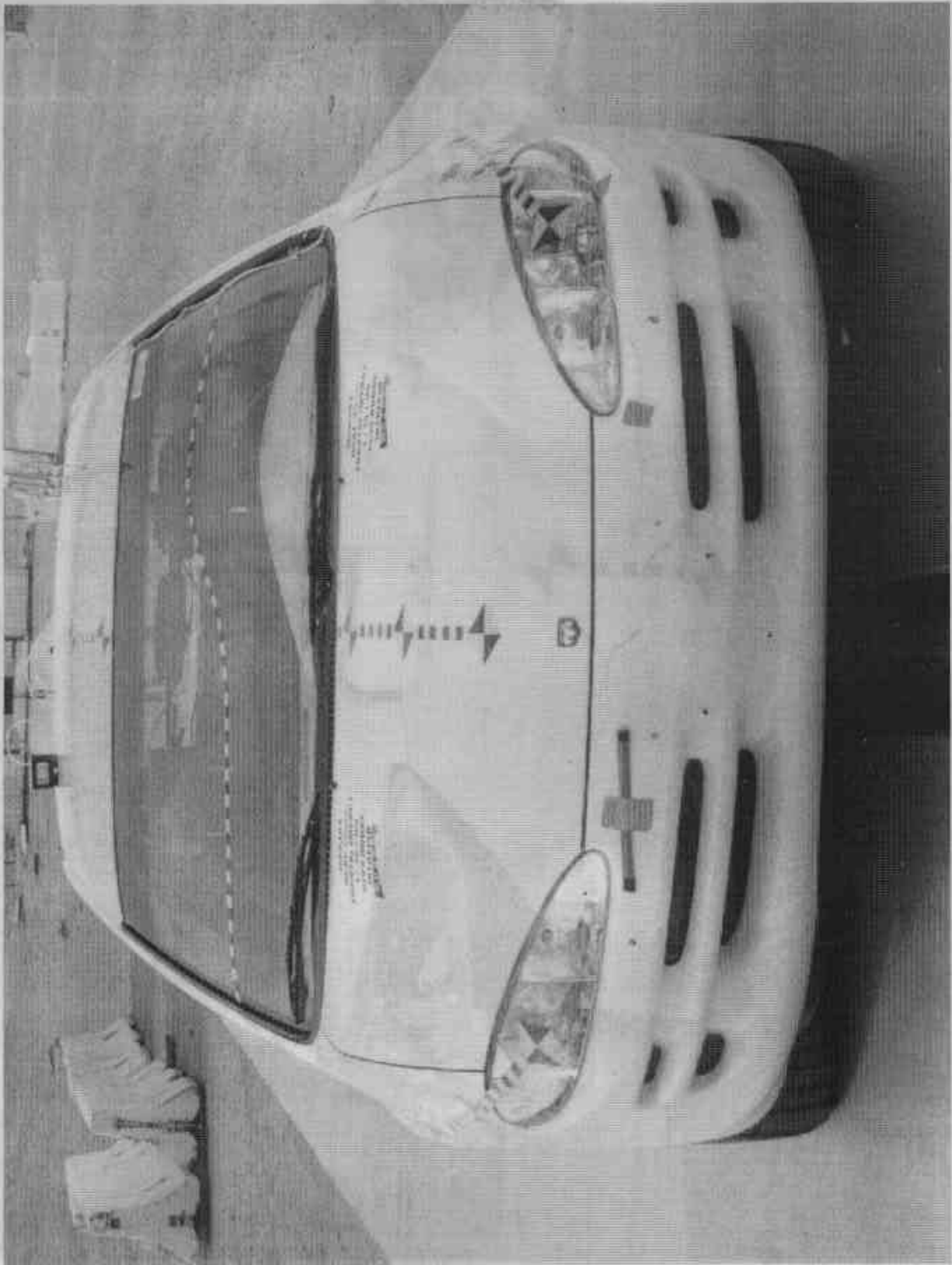


FIGURE A-5. PRETEST FRONT VIEW

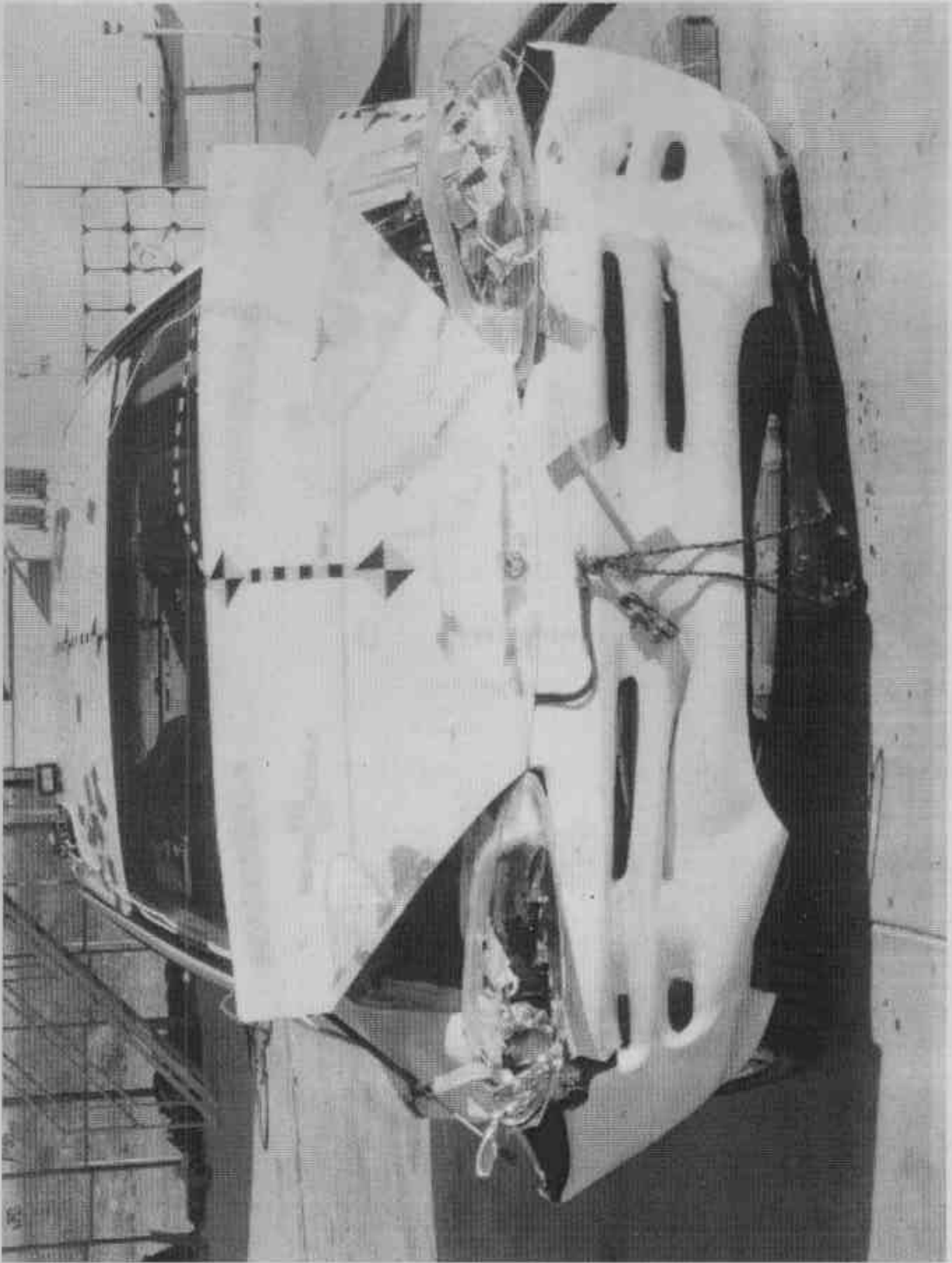


FIGURE A-6. POST TEST FRONT VIEW

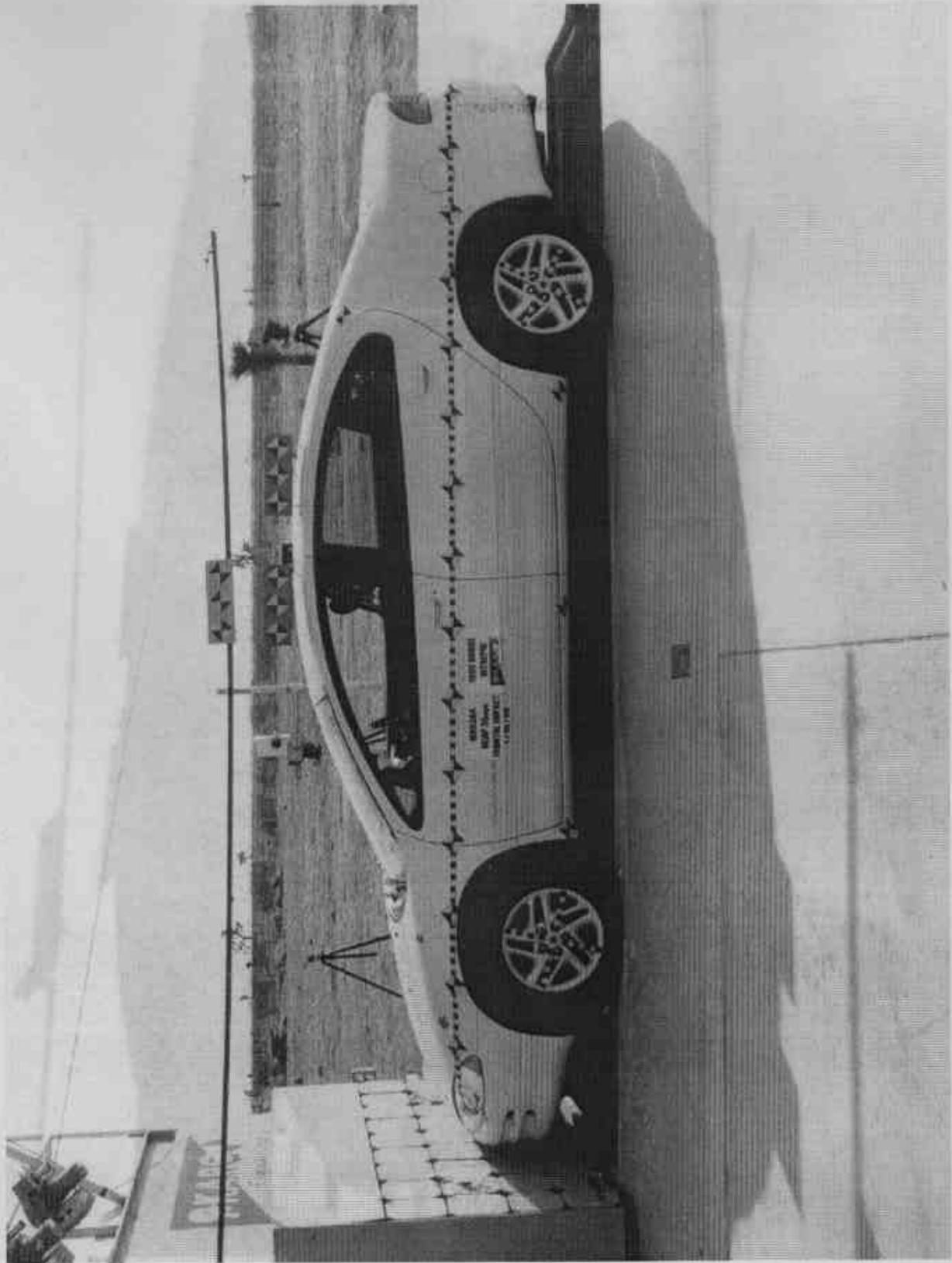


FIGURE A-7. PRETEST LEFT SIDE VIEW



FIGURE A-8. POST TEST LEFT SIDE VIEW



W FIGURE A-9. PRETEST RIGHT SIDE VIEW

KAR99001-10

A-9

KAR99001-10



FIGURE A-10. POST TEST RIGHT SIDE VIEW

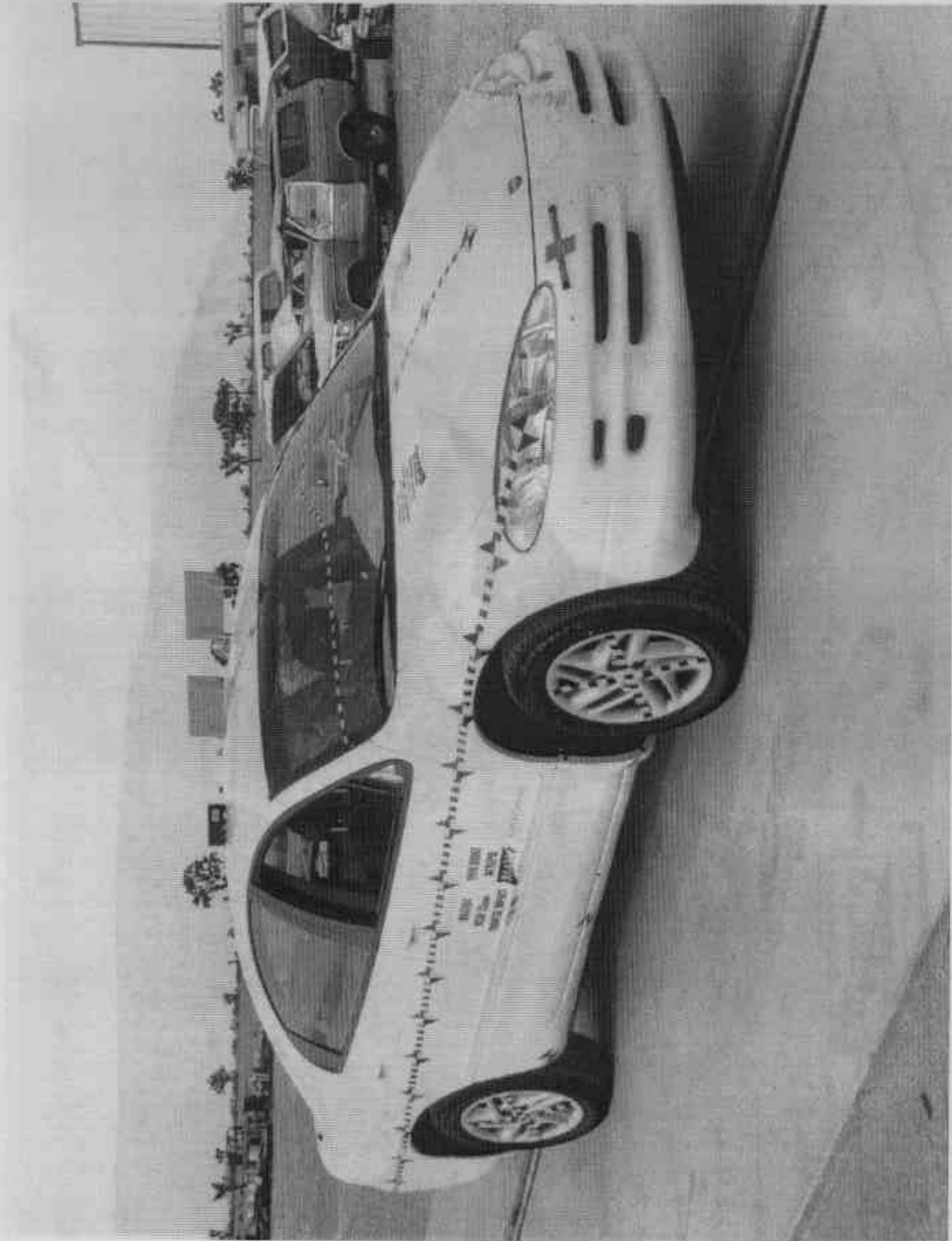


FIGURE A-11. PRETEST RIGHT FRONT VIEW

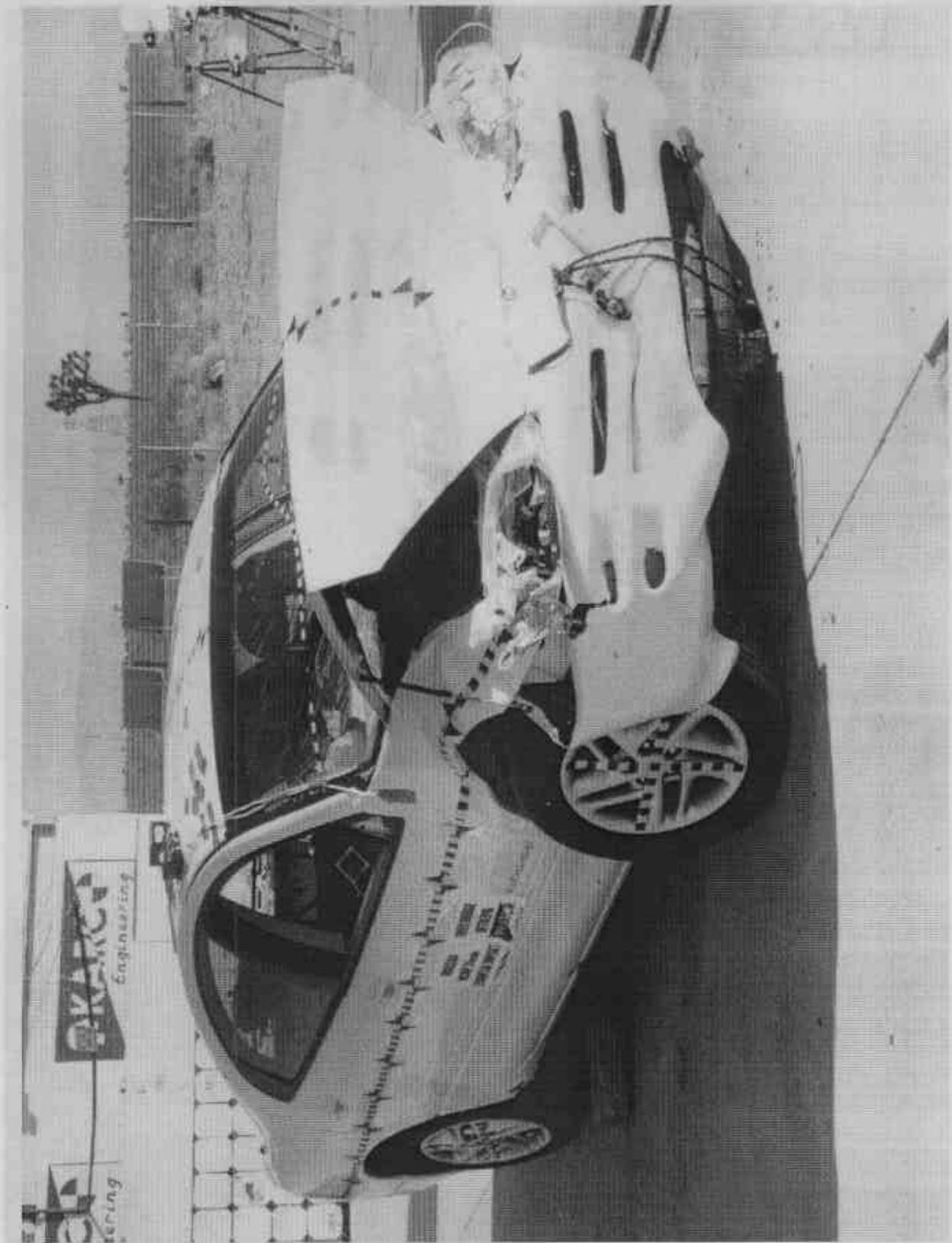


FIGURE A-12. POST TEST RIGHT FRONT VIEW

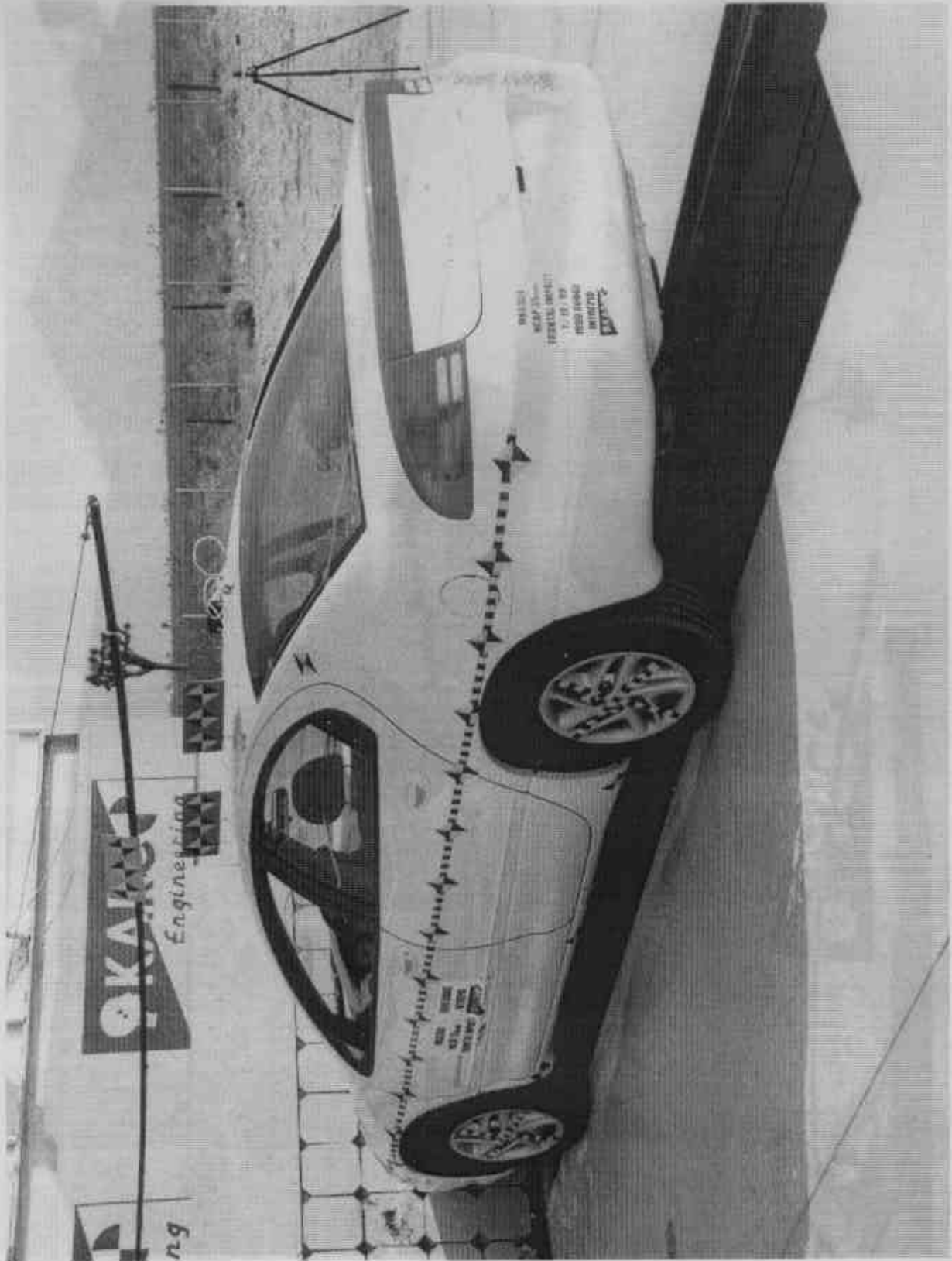


FIGURE A-13. PRETEST LEFT REAR VIEW

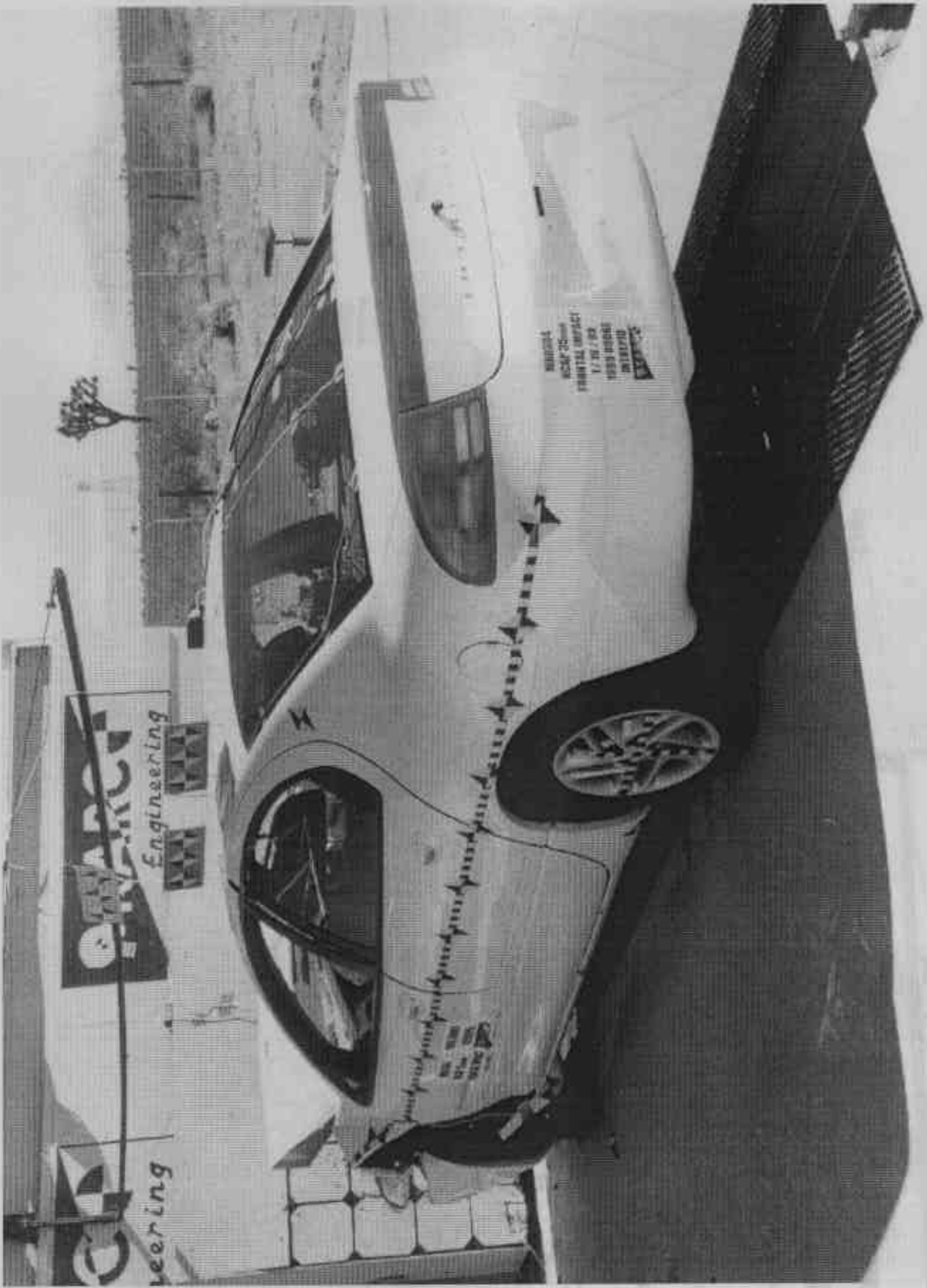


FIGURE A-14. POST TEST LEFT REAR VIEW

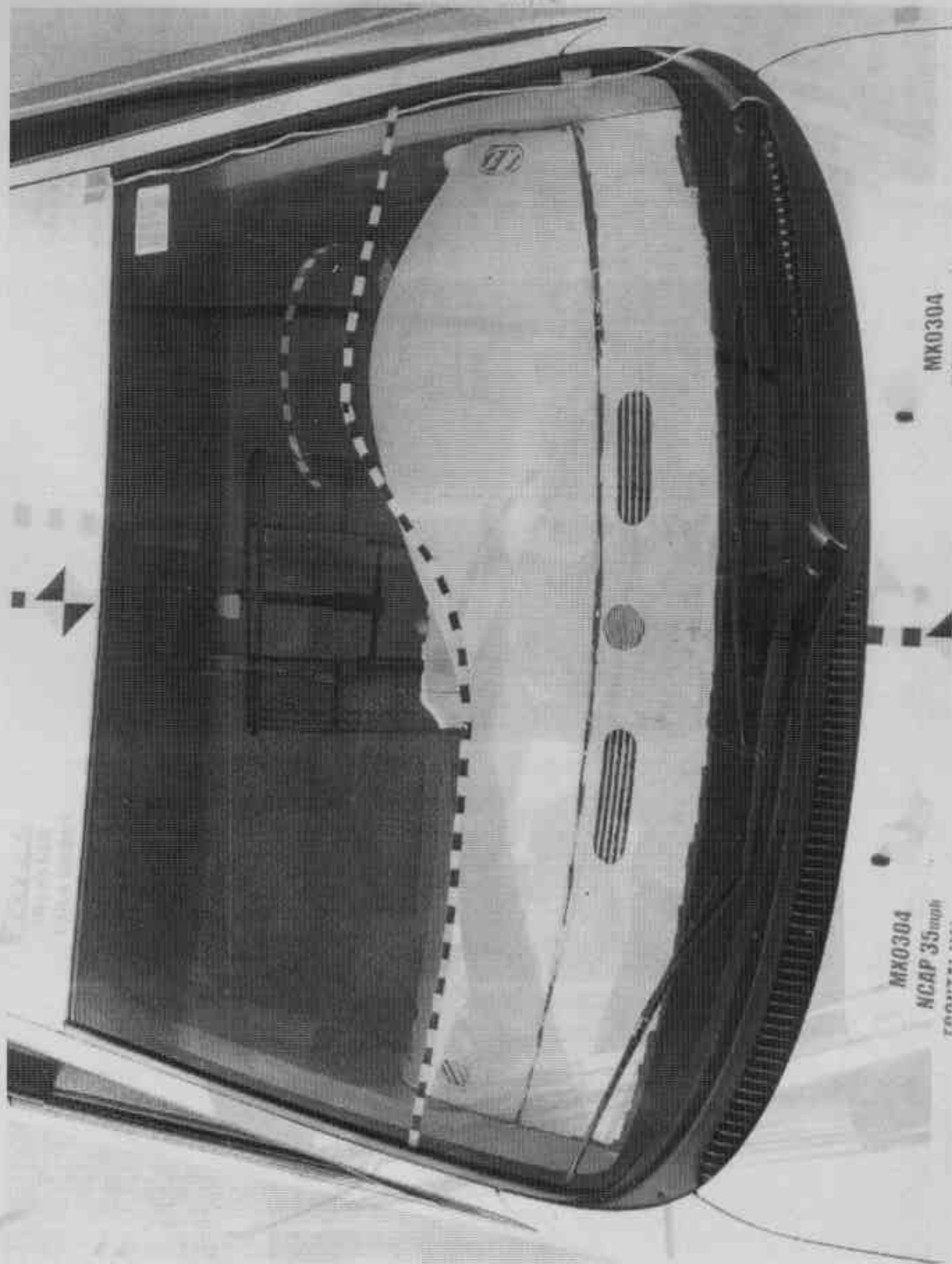


FIGURE A-15. PRETEST WINDSHIELD

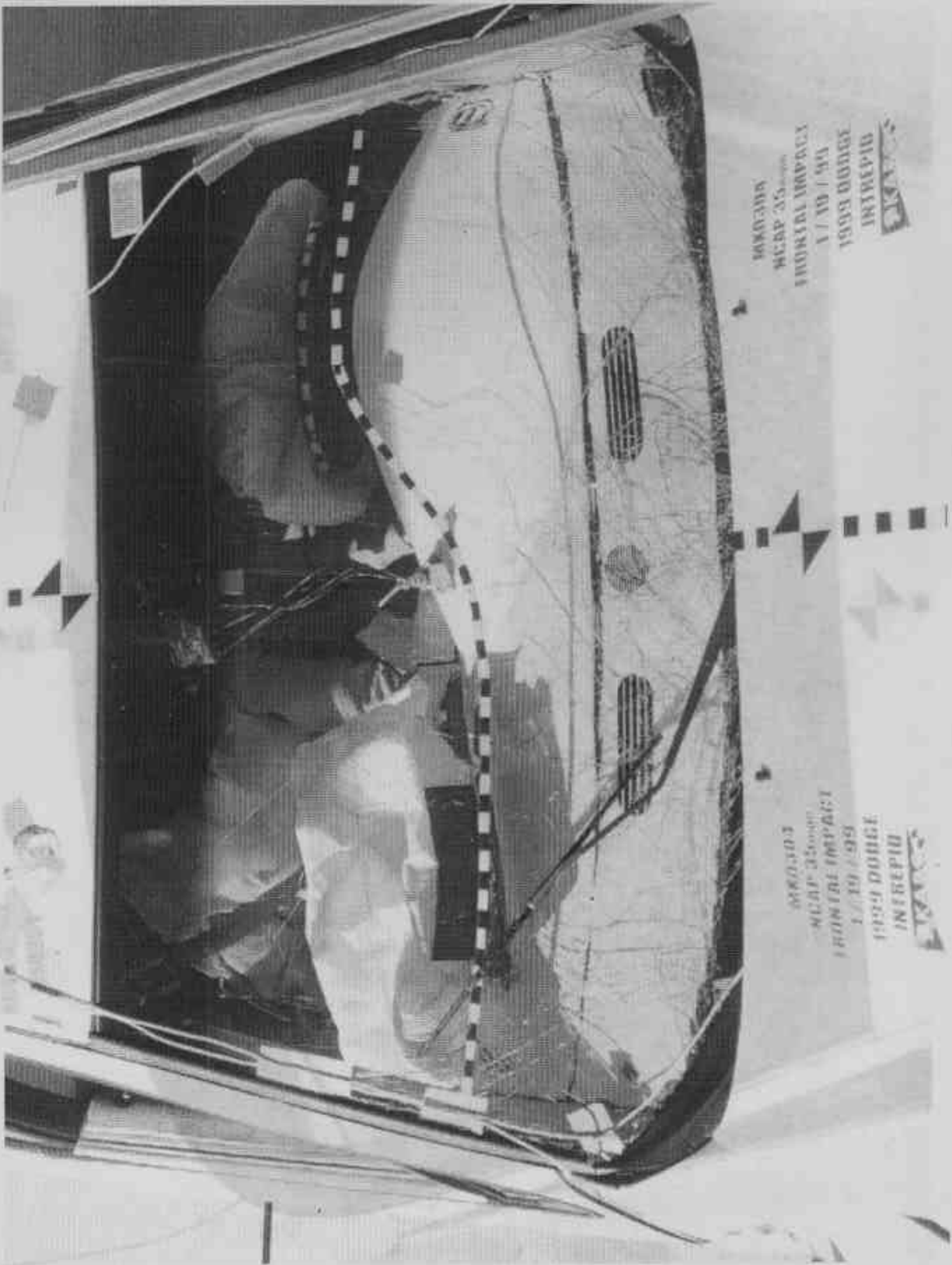


FIGURE A-16. POST TEST WINDSHIELD

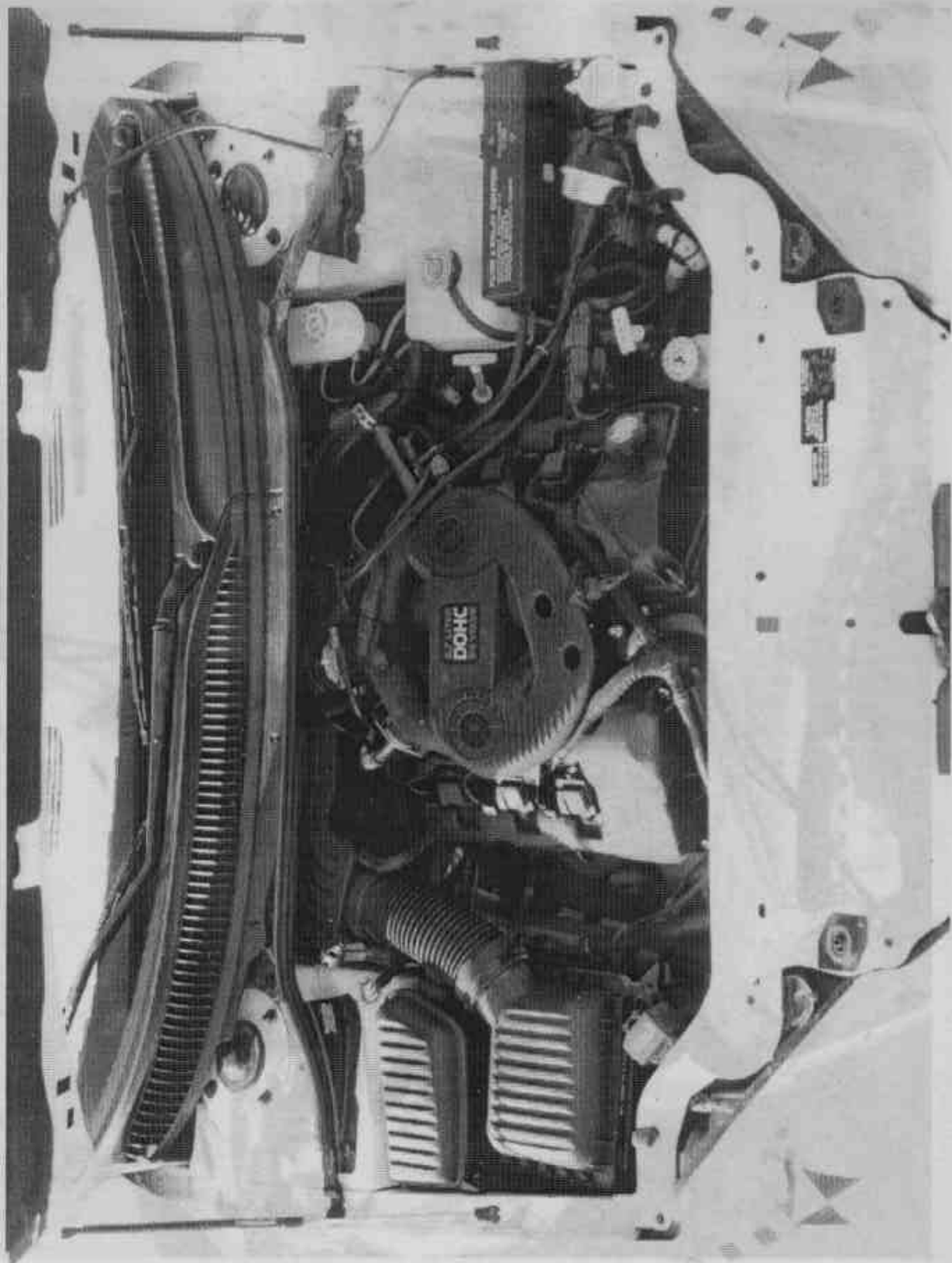


FIGURE A-17. PRETEST ENGINE COMPARTMENT

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A-17

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FIGURE A-18. POST TEST ENGINE COMPARTMENT

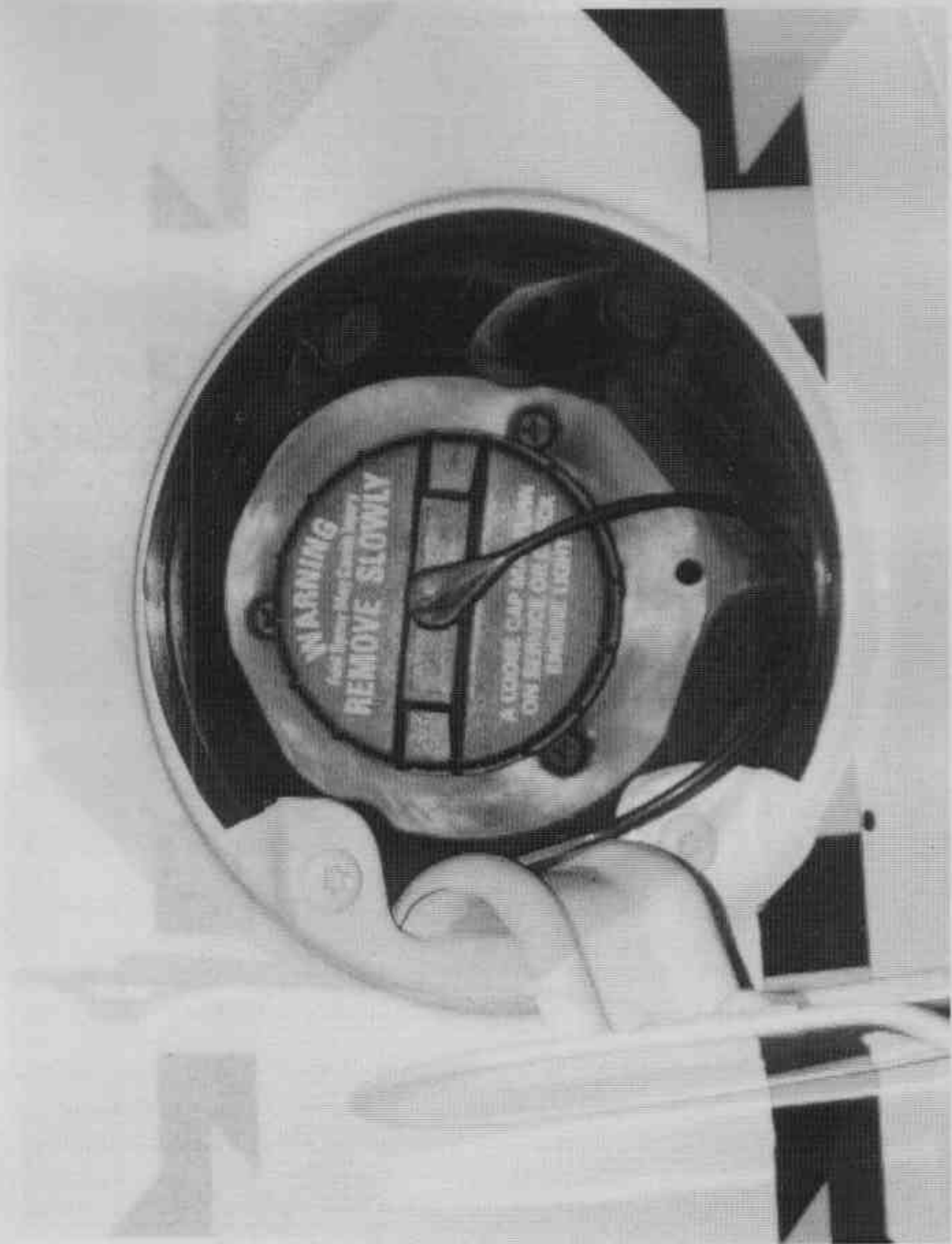


FIGURE A-19. PRETEST FUEL CAP



FIGURE A-20. POST TEST FUEL CAP

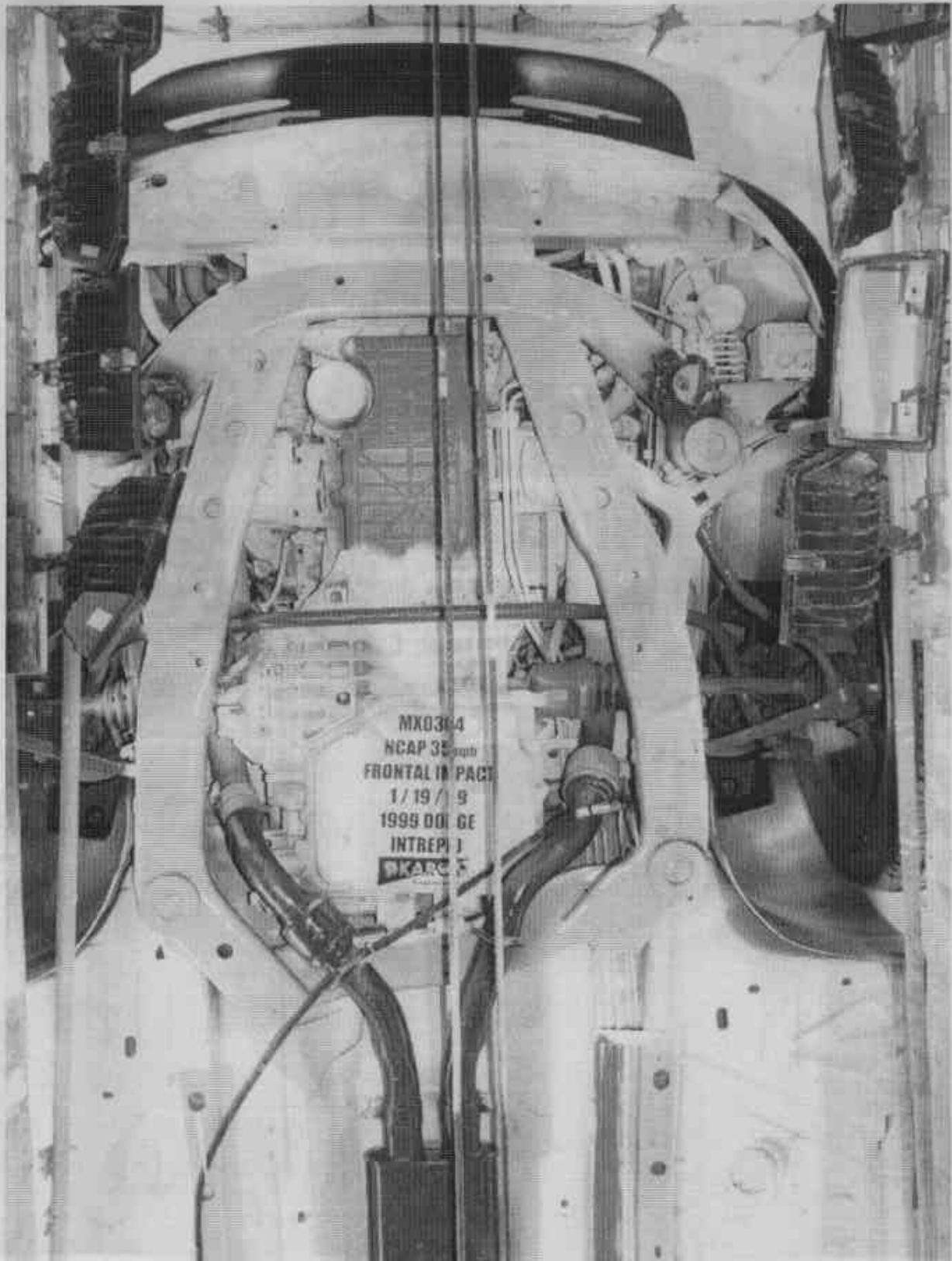


FIGURE A-21. PRETEST FRONT UNDERSIDE

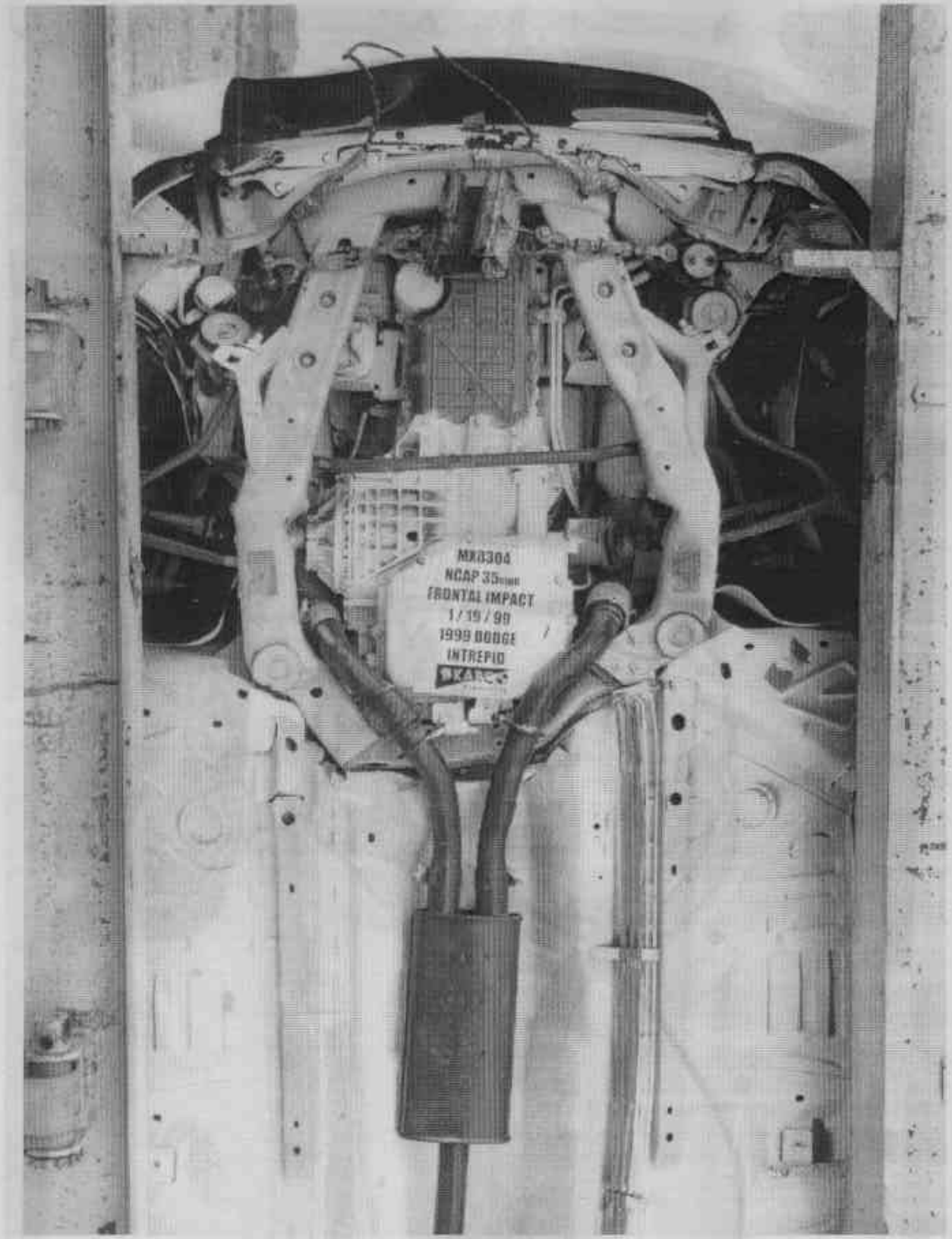


FIGURE A-22. POST TEST FRONT UNDERSIDE

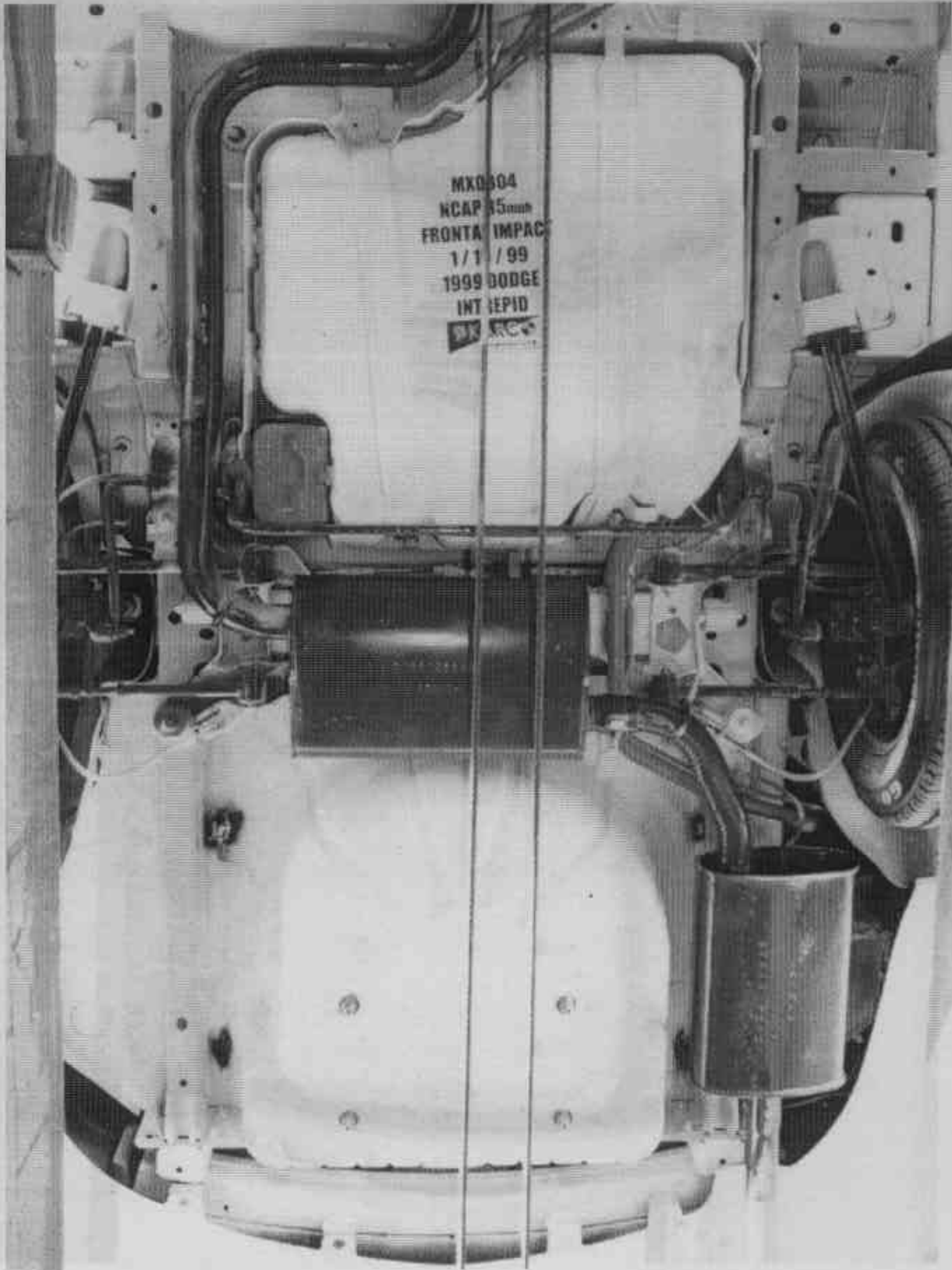


FIGURE A-23. PRETEST REAR UNDERSIDE

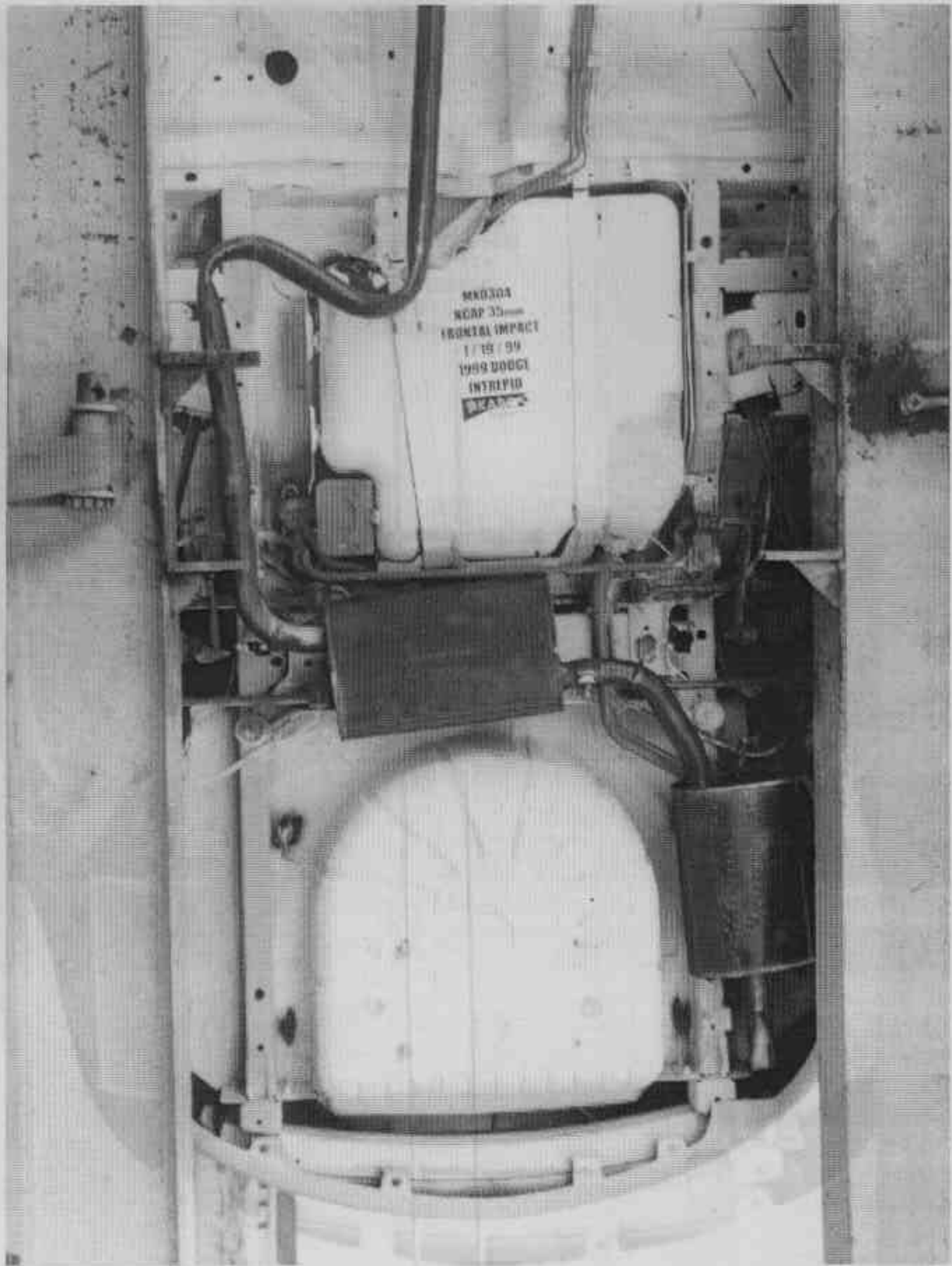


FIGURE A-24. POST TEST REAR UNDERSIDE

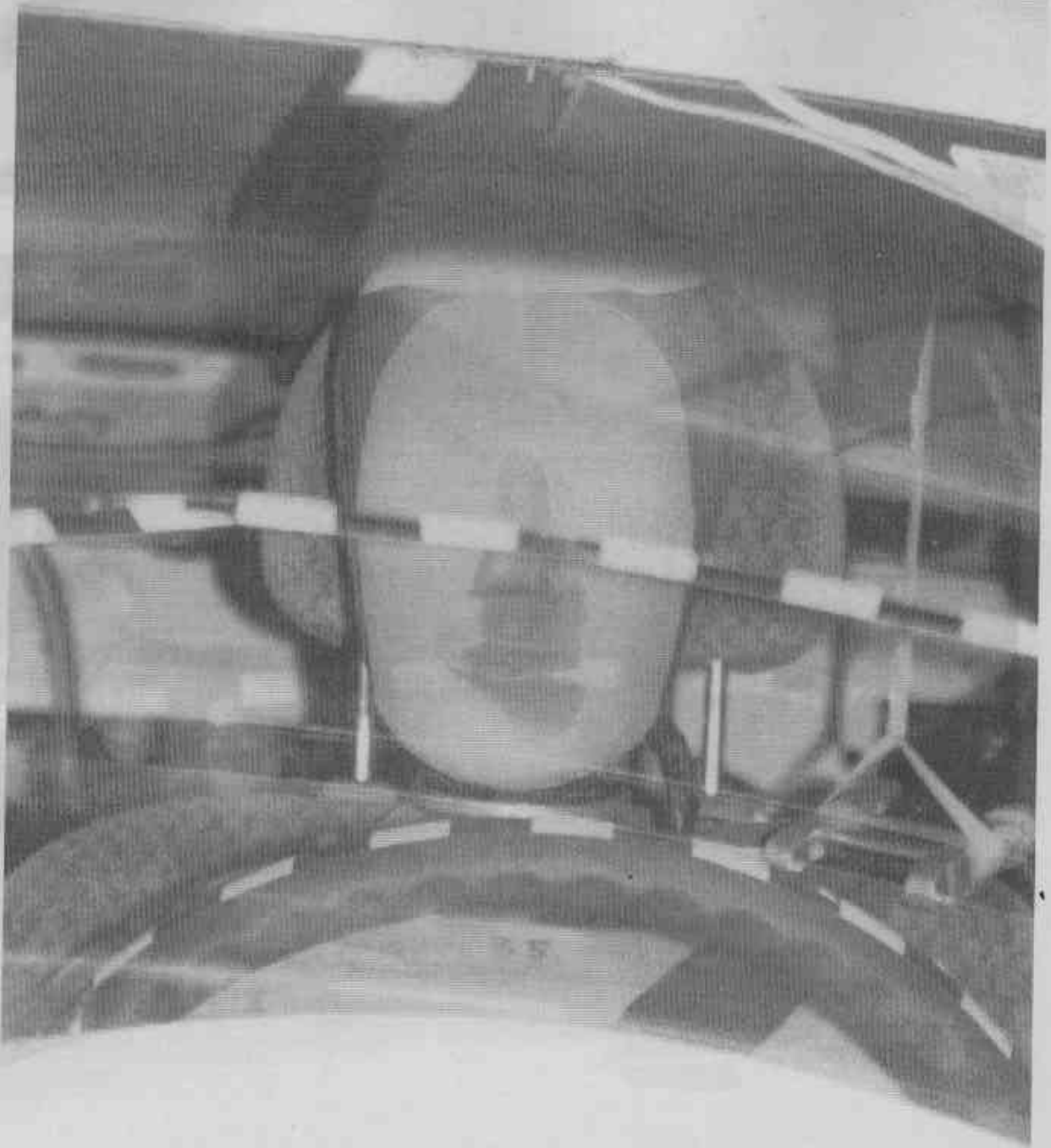


FIGURE A-25. PRETEST DRIVER DUMMY (FRONT VIEW)

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A-25

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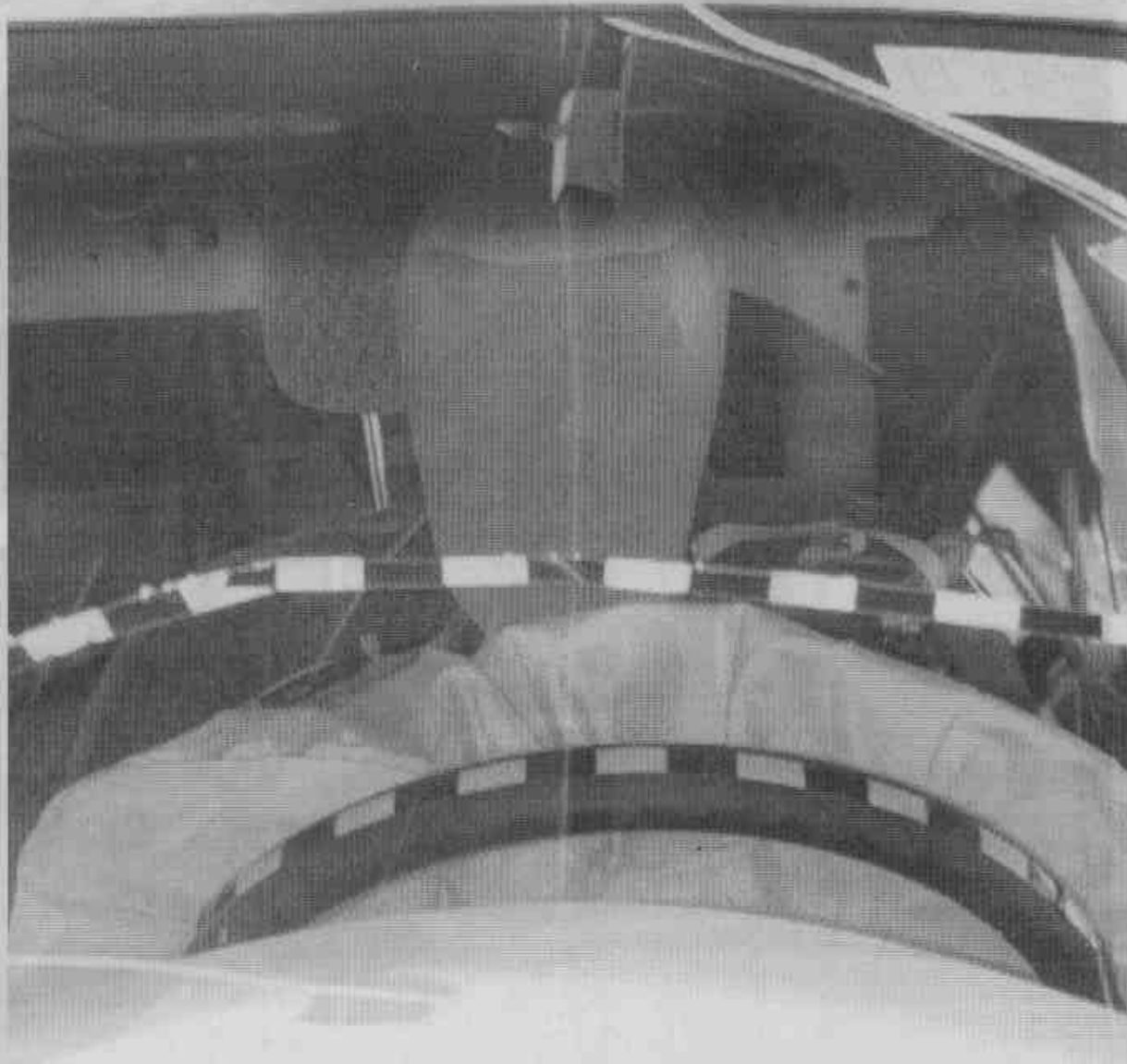


FIGURE A-26. POST TEST DRIVER DUMMY (FRONT VIEW)



FIGURE A-27. PRETEST DRIVER DUMMY (THRU WINDOW)



FIGURE A-28. POST TEST DRIVER DUMMY (THRU WINDOW)



FIGURE A-29. PRETEST DRIVER DUMMY (DOOR OPEN)



FIGURE A-30. POST TEST DRIVER DUMMY (DOOR OPEN)



FIGURE A-31. PRETEST DRIVER DUMMY (90° TO VEHICLE)



FIGURE A-32. POST TEST DRIVER DUMMY (90° TO VEHICLE)

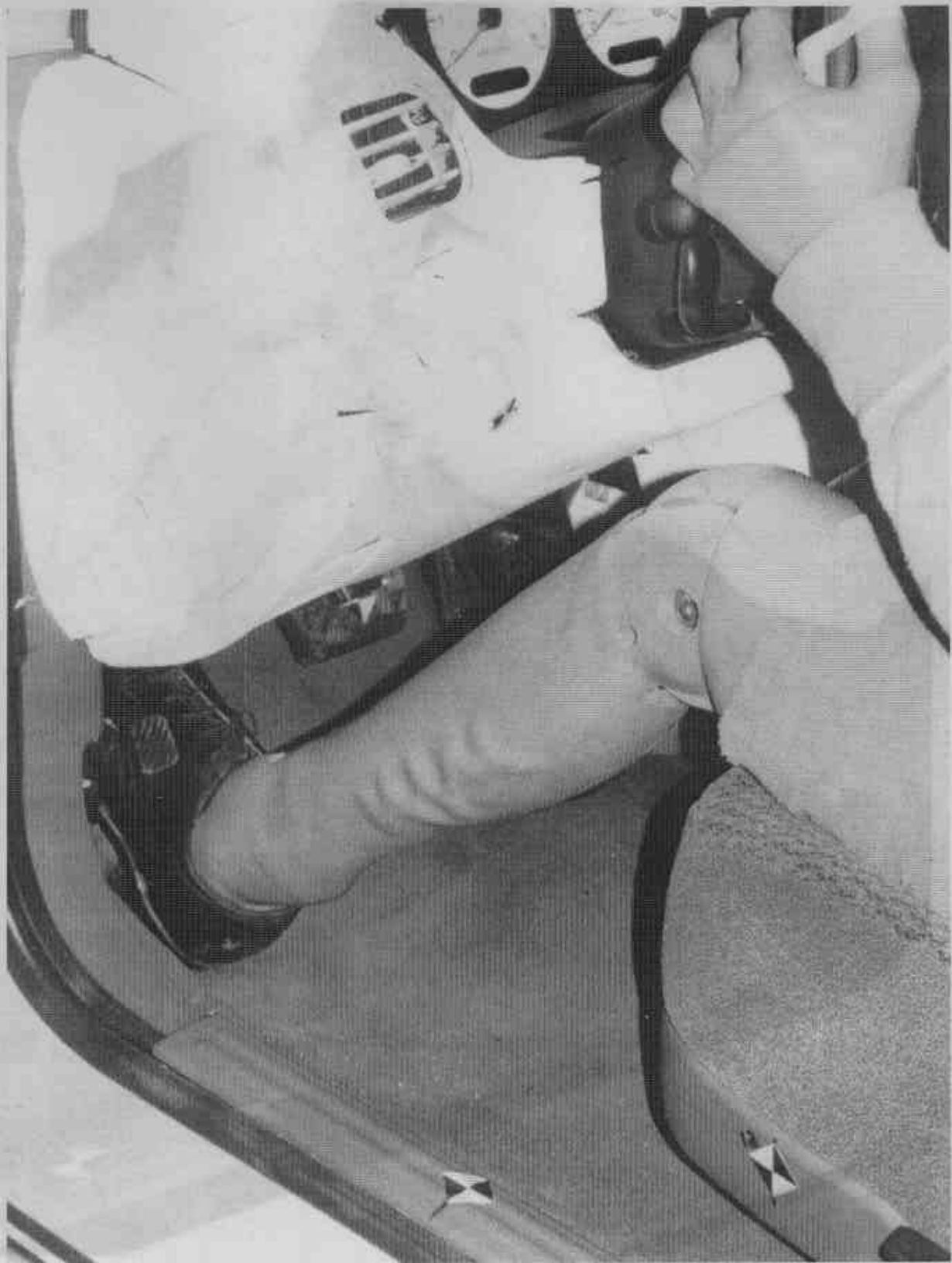


FIGURE A-33. PRETEST DRIVER DUMMY FEET

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FIGURE A-34. POST TEST DRIVER DUMMY FEET AND KNEE CONTACT



FIGURE A-35. PRETEST DRIVER KNEE BOLSTER

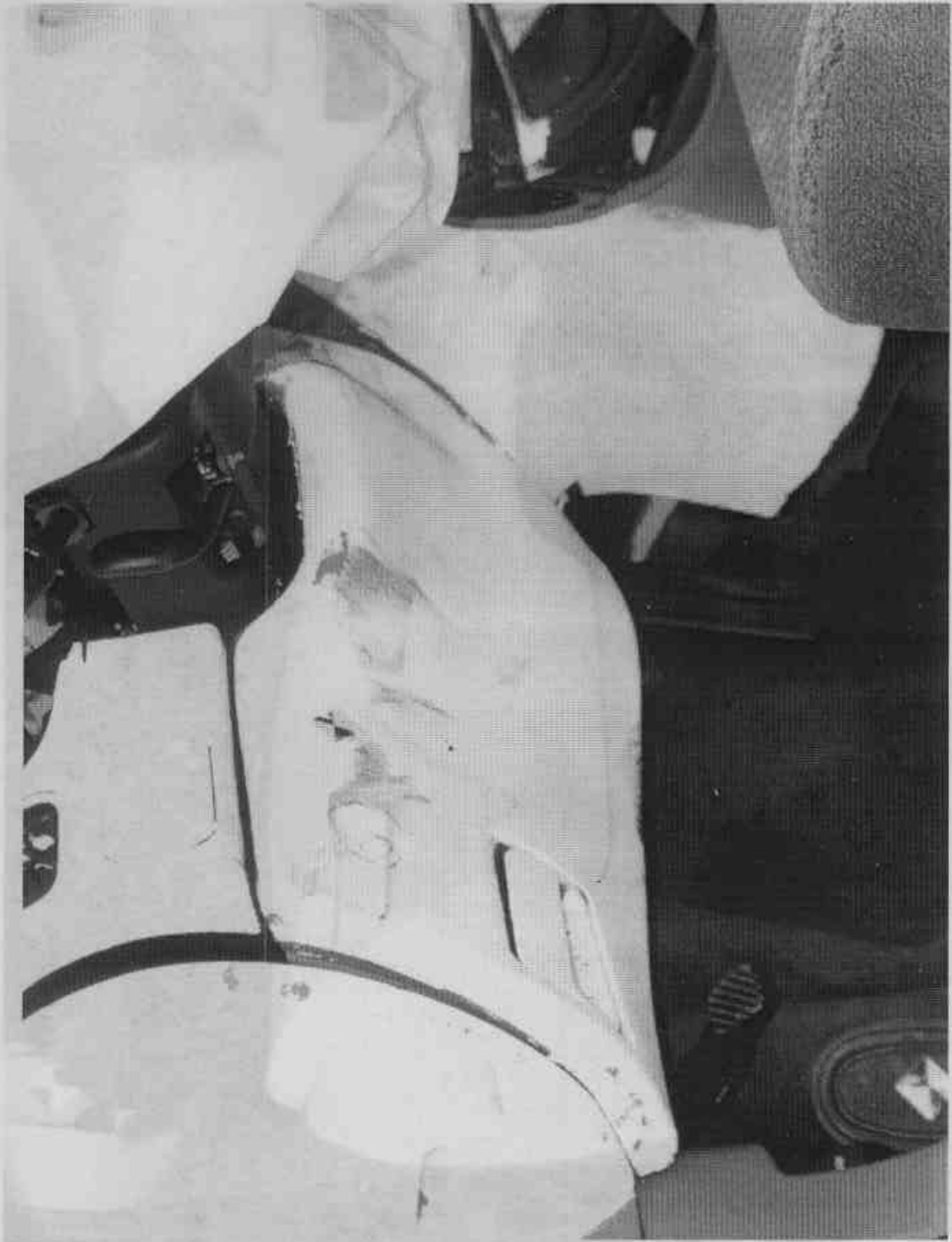


FIGURE A-36. POST TEST DRIVER KNEE BOLSTER

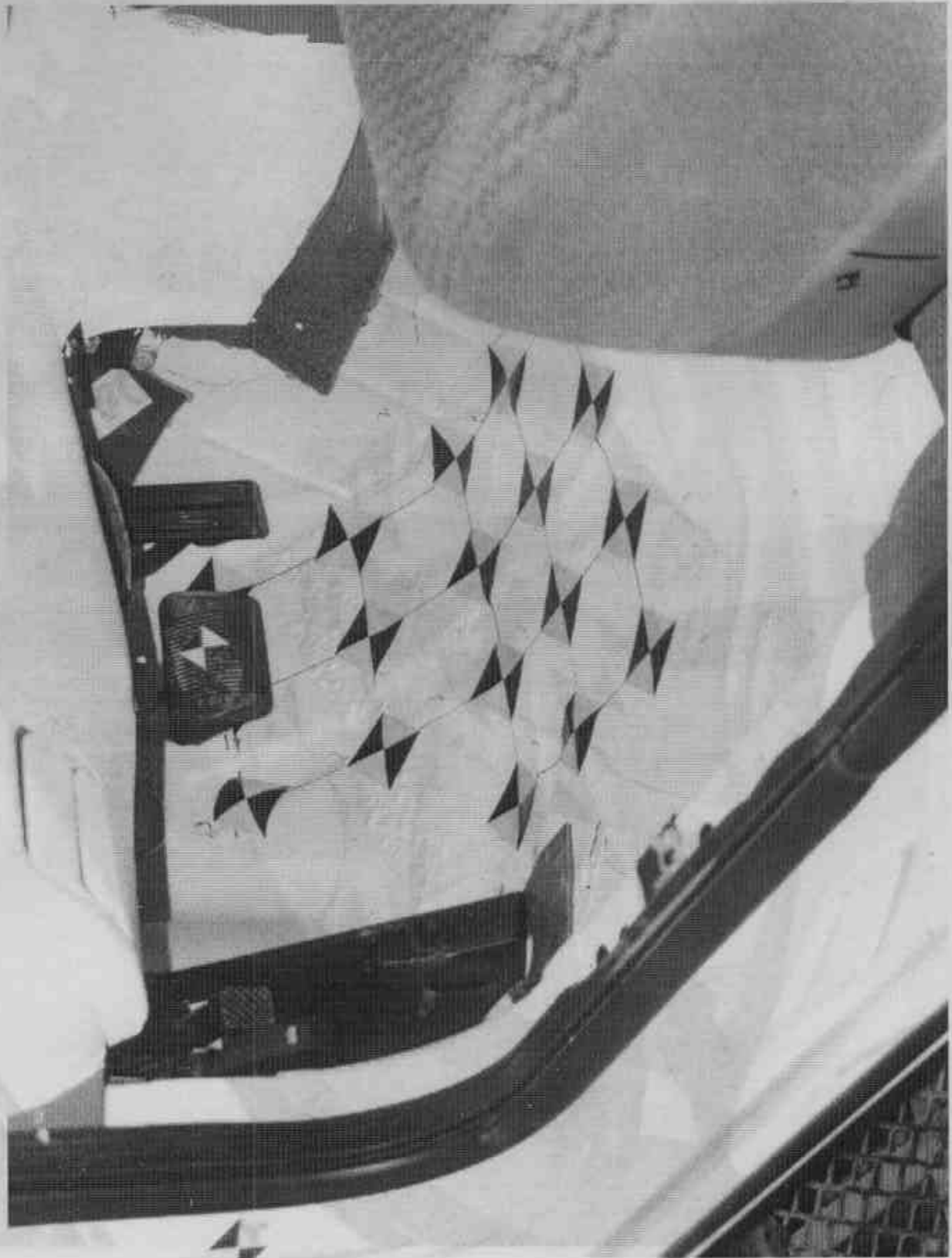


FIGURE A-37. PRETEST DRIVER SIDE FLOOR PAN

01-10000HAK

A-37

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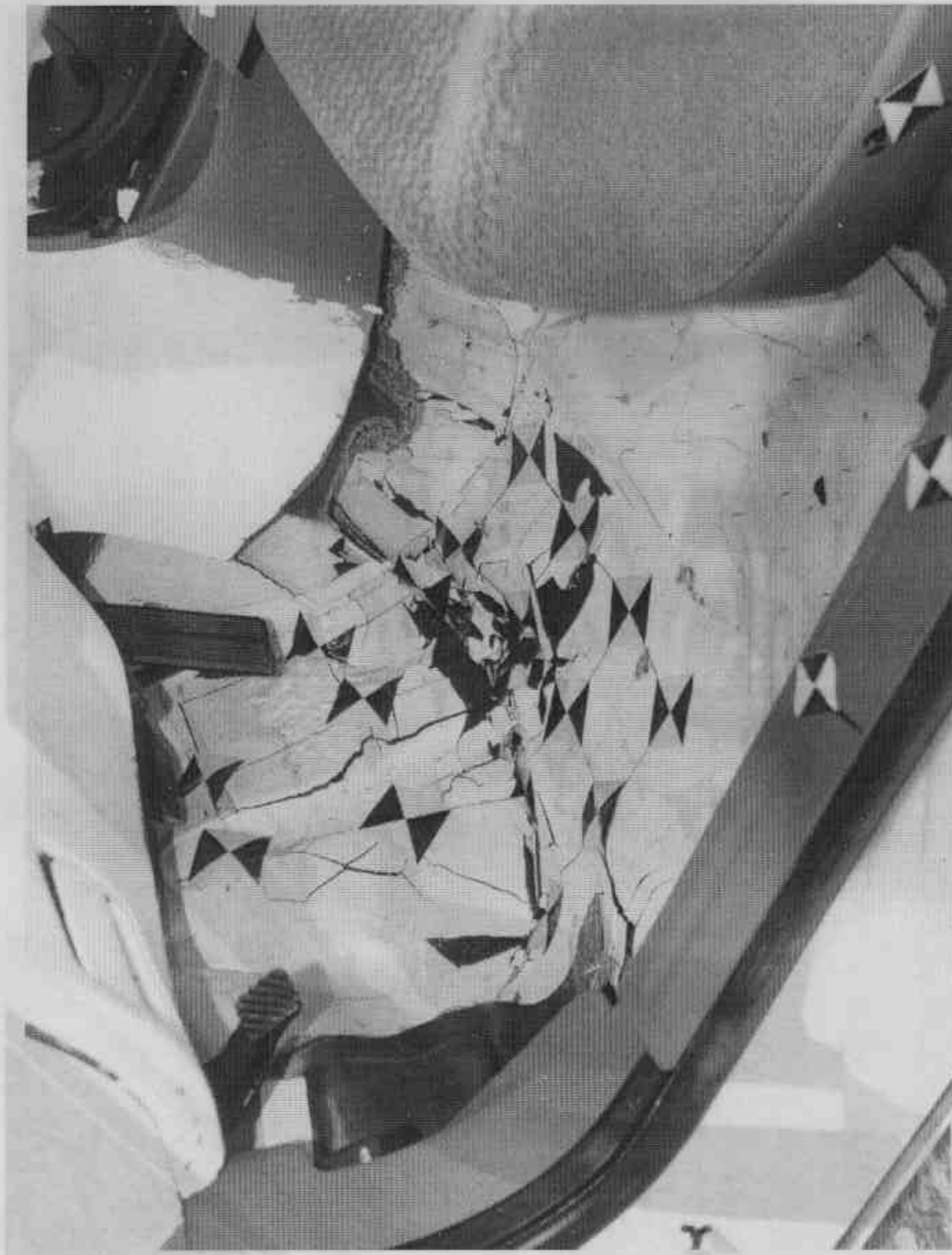


FIGURE A-38. POST TEST DRIVER SIDE FLOOR PAN

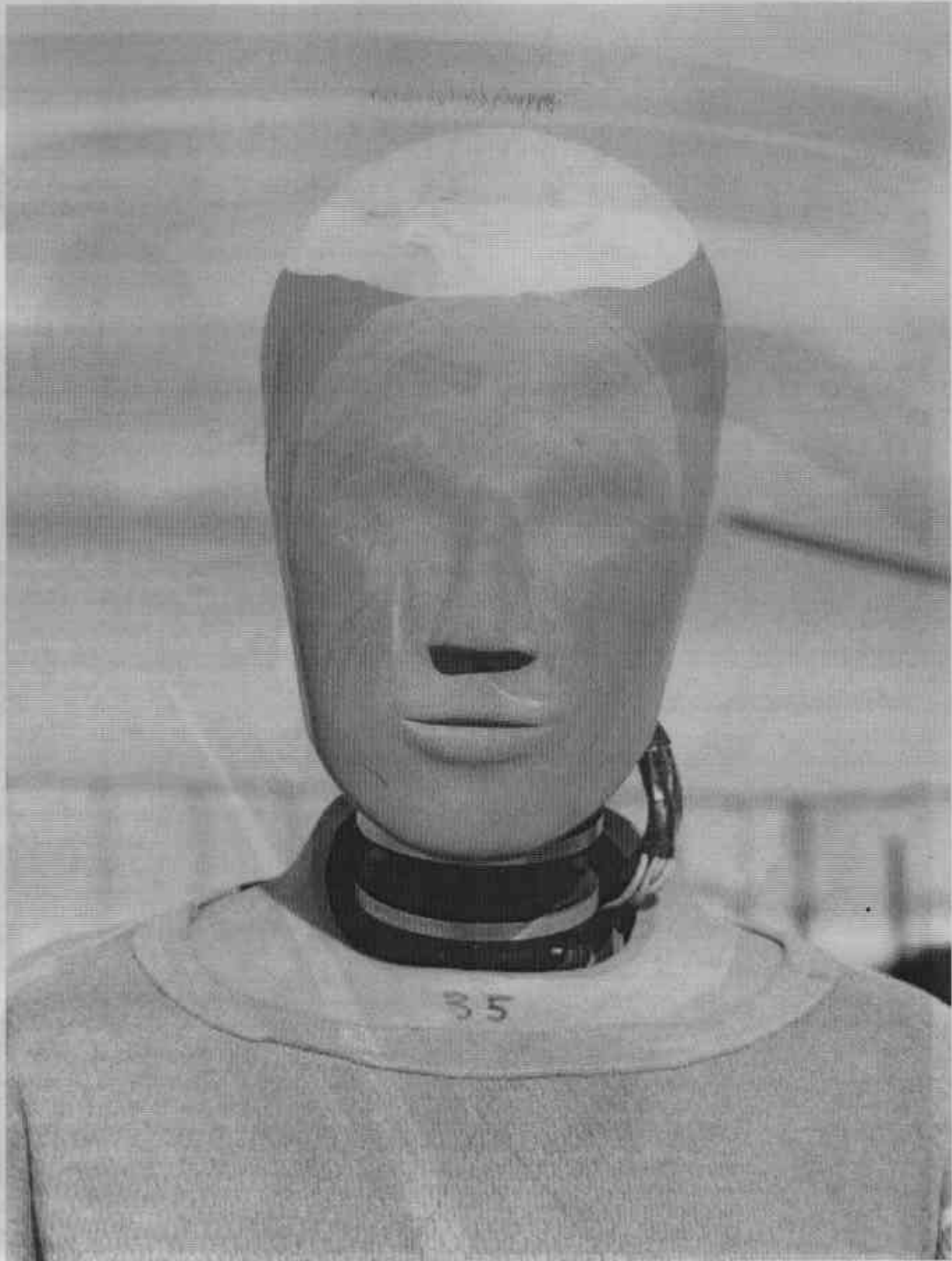


FIGURE A-39. POST TEST DRIVER HEAD



FIGURE A-40. POST TEST DRIVER DUMMY CONTACT



FIGURE A-41. PRETEST PASSENGER DUMMY (FRONT VIEW)

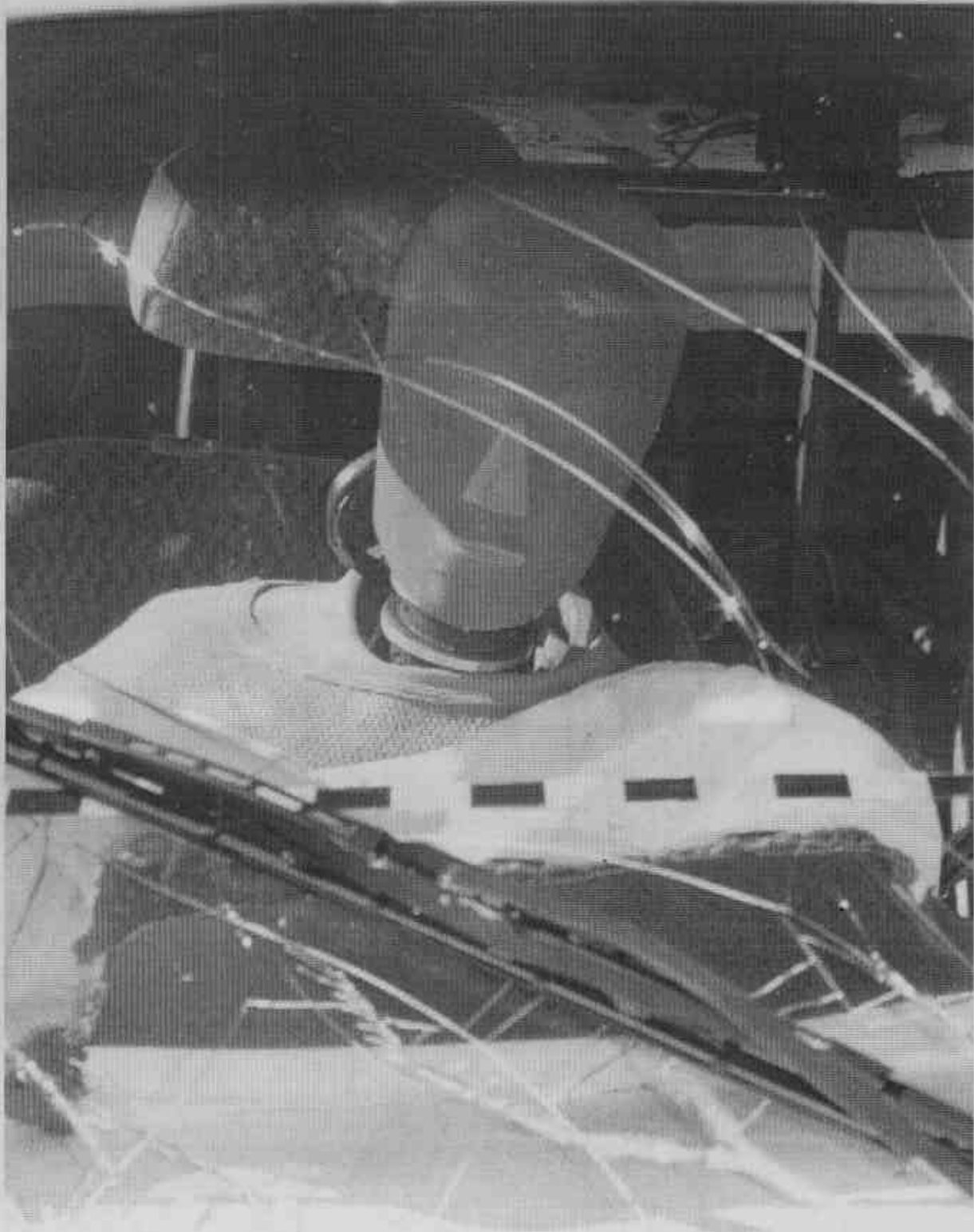


FIGURE A-42. POST TEST PASSENGER DUMMY (FRONT VIEW)



FIGURE A-43. PRETEST PASSENGER DUMMY (THRU WINDOW)



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



FIGURE A-45. PRETEST PASSENGER DUMMY (DOOR OPEN)



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



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

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A-47

KAR99001-10



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



FIGURE A-49. PRETEST PASSENGER DUMMY FEET

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A-49

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FIGURE A-50. POST TEST PASSENGER DUMMY FEET AND CONTACT POINT

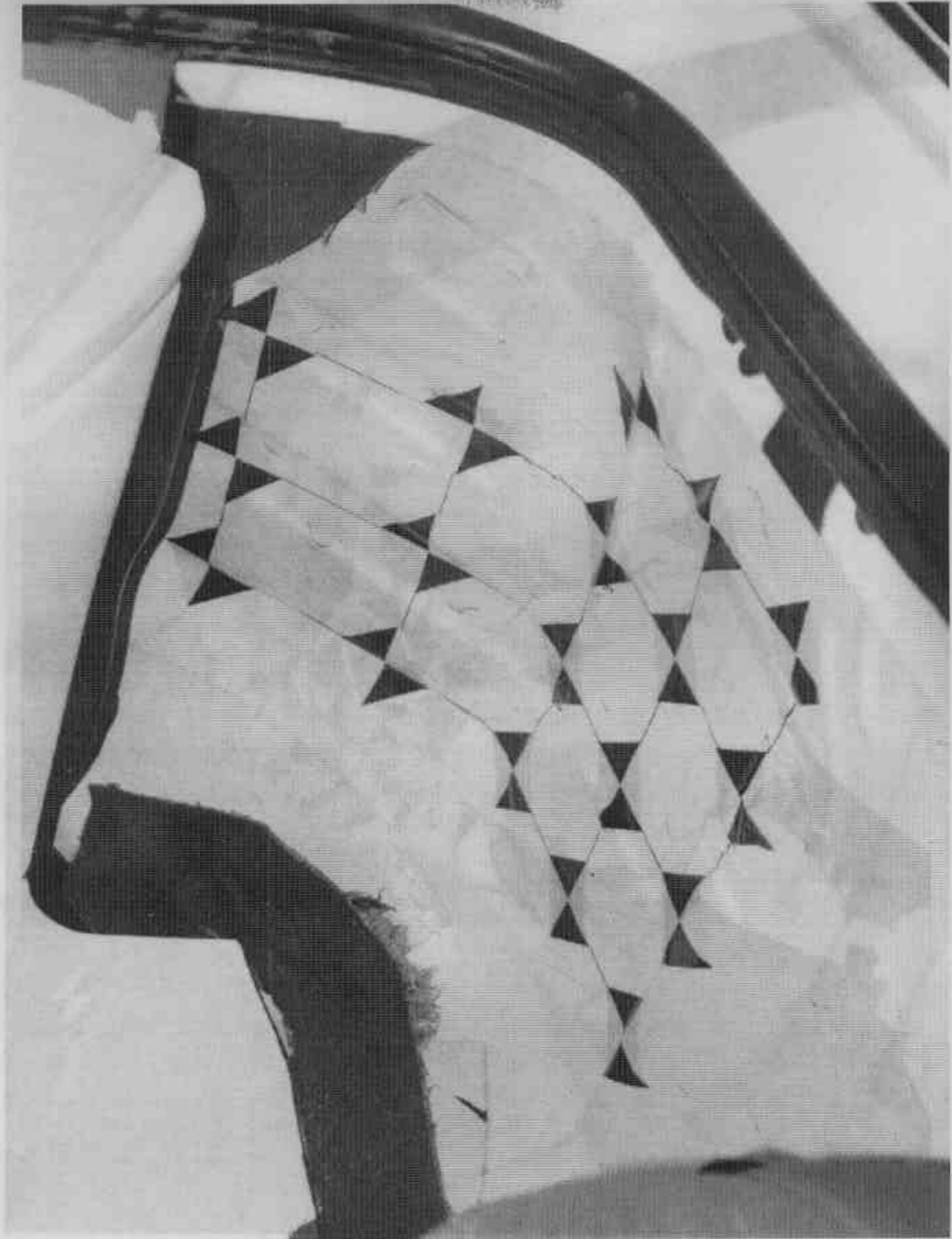


FIGURE A-51. PRETEST PASSENGER SIDE FLOOR PAN

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A-51

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FIGURE A-52. POST TEST PASSENGER SIDE FLOOR PAN

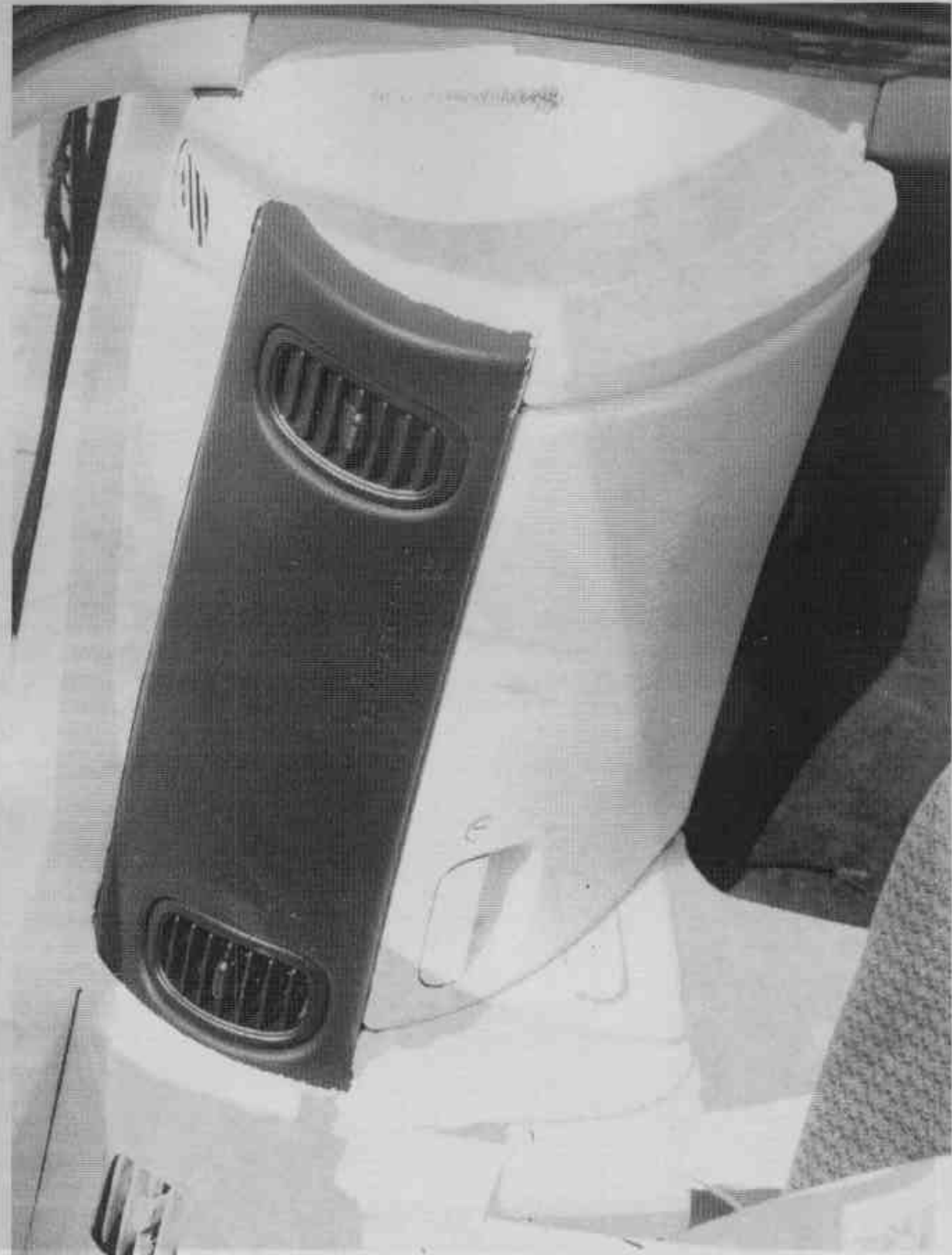


FIGURE A-53. PRETEST PASSENGER SIDE KNEE BOLSTER

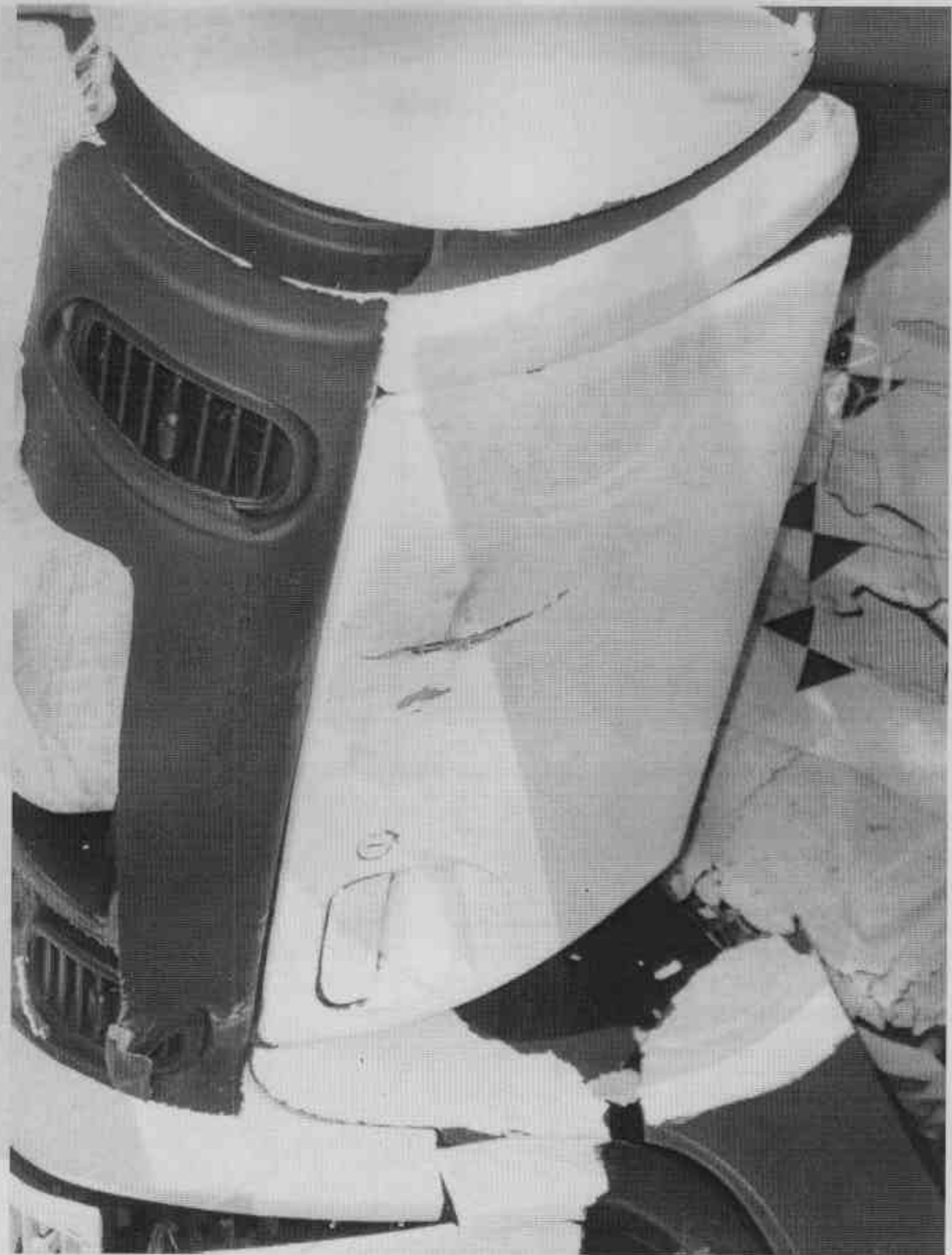


FIGURE A-54. POST TEST PASSENGER SIDE KNEE BOLSTER AND DUMMY CONTACT

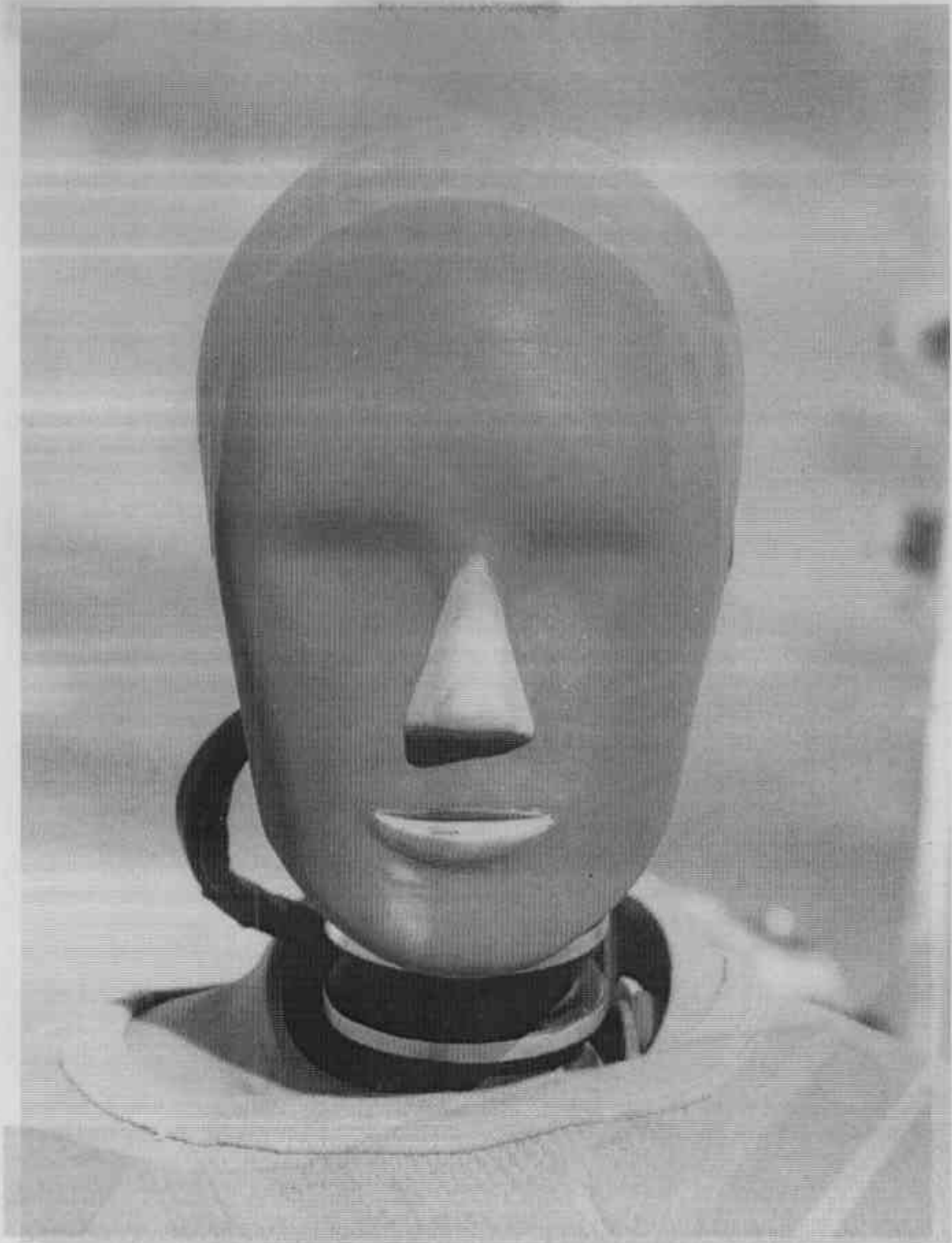


FIGURE A-55. POST TEST PASSENGER HEAD

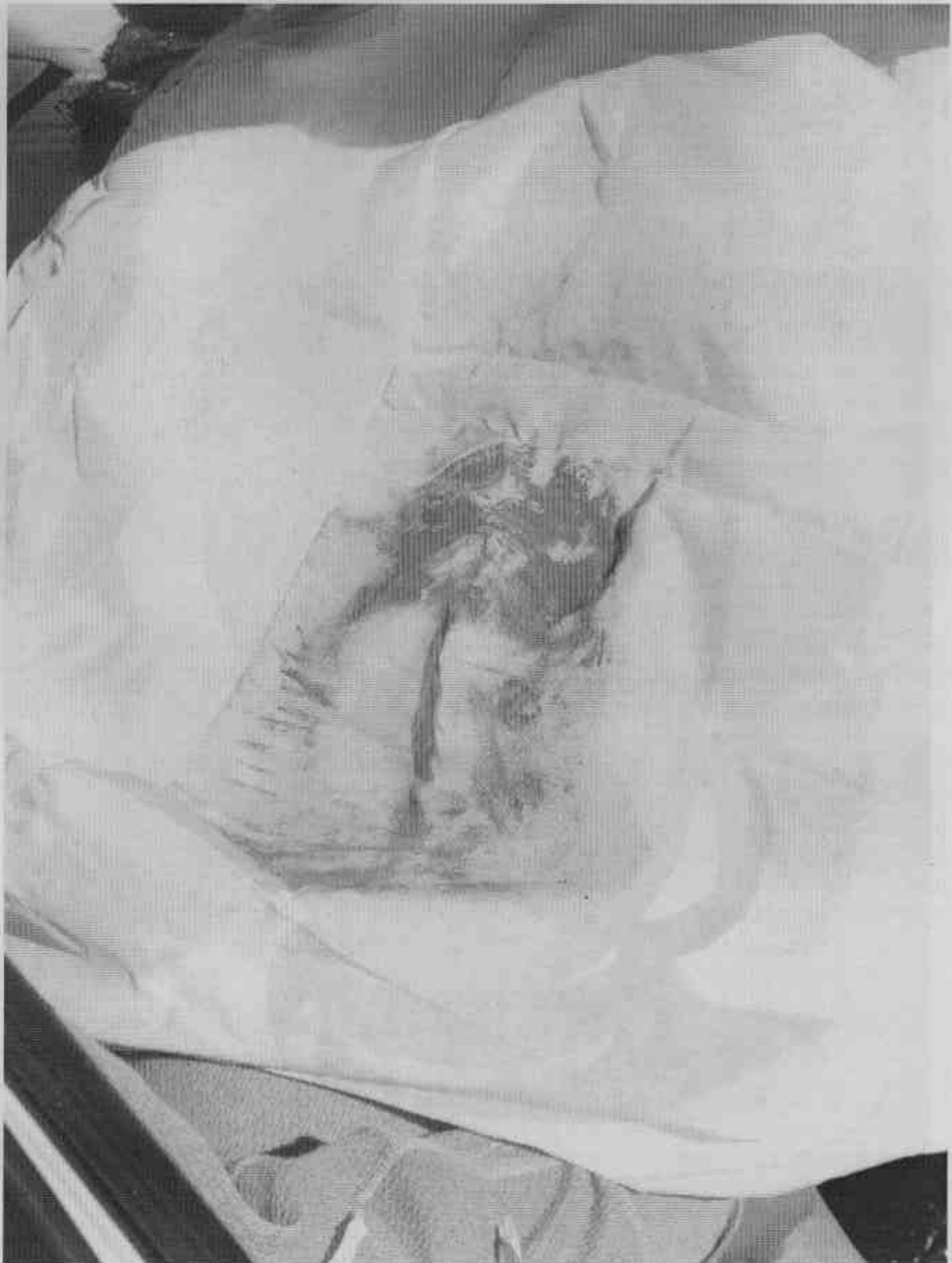


FIGURE A-56. POST TEST PASSENGER DUMMY CONTACT

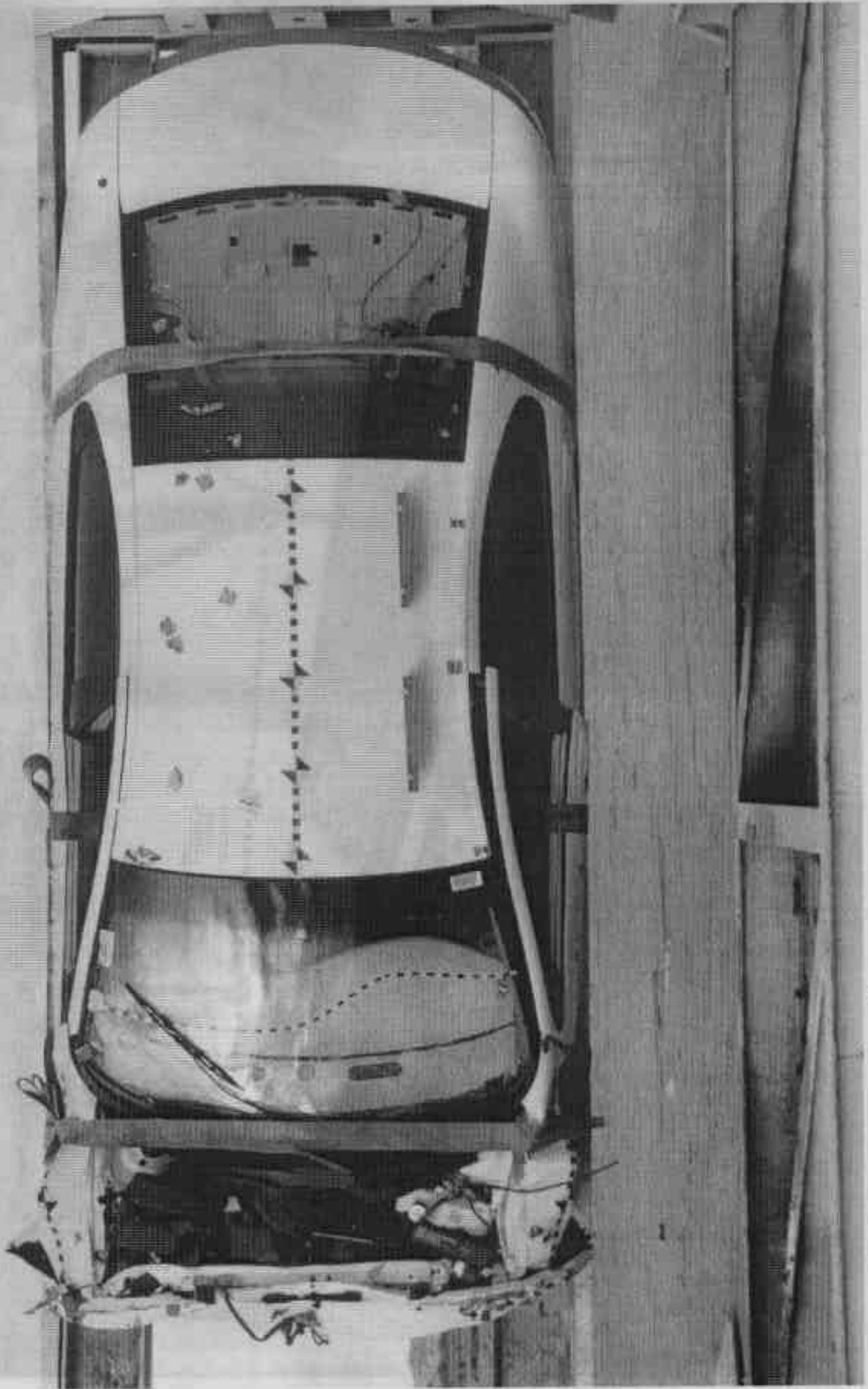


FIGURE A-57. VEHICLE ON ROLLOVER

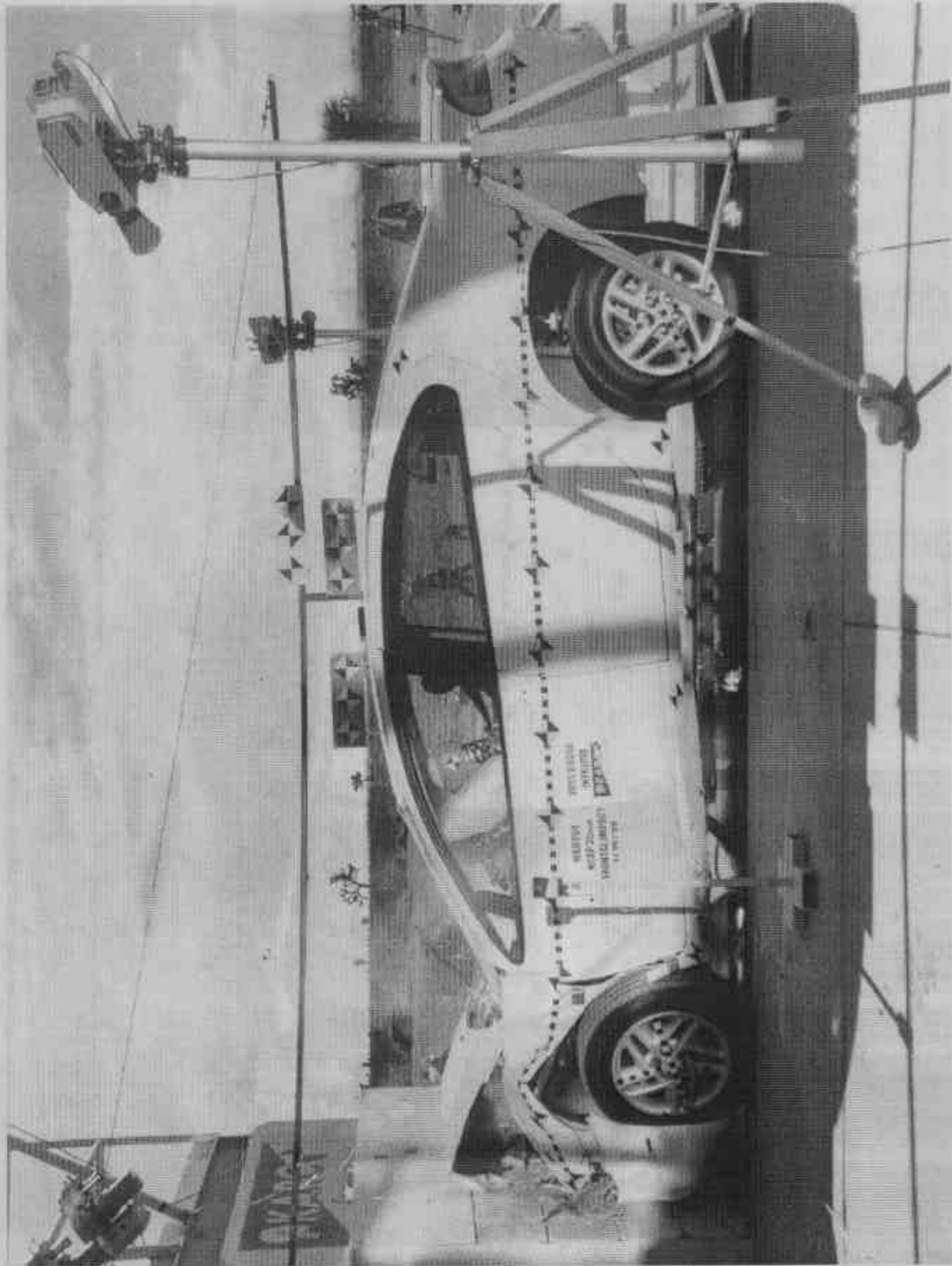


FIGURE A-58. VEHICLE DURING IMPACT

**APPENDIX B**  
**DUMMY AND VEHICLE RESPONSE DATA TRACES**

## LIST OF DATA PLOTS

Data Plot		Page
B-1	Driver Head Primary X	B-1
B-2	Driver Head Primary X Velocity	B-2
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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
B-14	Driver Neck Force Y	B-14
B-15	Driver Neck Force Z	B-15
B-16	Driver Neck Force Resultant	B-16
B-17	Driver Neck Moment X	B-17
B-18	Driver Neck Moment Y	B-18
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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 Primary Resultant	B-26
B-27	Driver Chest Redundant X	B-27
B-28	Driver Chest Redundant X Velocity	B-28
B-29	Driver Chest Redundant X Displacement	B-29
B-30	Driver Chest Redundant Y	B-30
B-31	Driver Chest Redundant Z	B-31
B-32	Driver Chest Redundant Resultant	B-32
B-33	Driver Chest Displacement X	B-33
B-34	Driver Pelvis X	B-34
B-35	Driver Pelvis X Velocity	B-35

LIST OF DATA PLOTS...(Continued)

Data Plot		Page
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B-37	Driver Pelvis Y	B-37
B-38	Driver Pelvis Z	B-38
B-39	Driver Pelvis Resultant	B-39
B-40	Driver Left Femur Force	B-40
B-41	Driver Right Femur Force	B-41
B-42	Driver Left Upper Tibia Moment X	B-42
B-43	Driver Left Upper Tibia Moment Y	B-43
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 Moment 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
B-60	Driver Shoulder Belt Pullout	B-60
B-61	Driver Shoulder Belt Elongation	B-61
B-62	Passenger Head Primary X	B-62
B-63	Passenger Head Primary X Velocity	B-63
B-64	Passenger Head Primary X Displacement	B-64
B-65	Passenger Head Primary Y	B-65
B-66	Passenger Head Primary Z	B-66
B-67	Passenger Head Resultant Primary	B-67
B-68	Passenger Head Redundant X	B-68
B-69	Passenger Head Redundant X Velocity	B-69
B-70	Passenger Head Redundant X Displacement	B-70

LIST OF DATA PLOTS...(Continued)

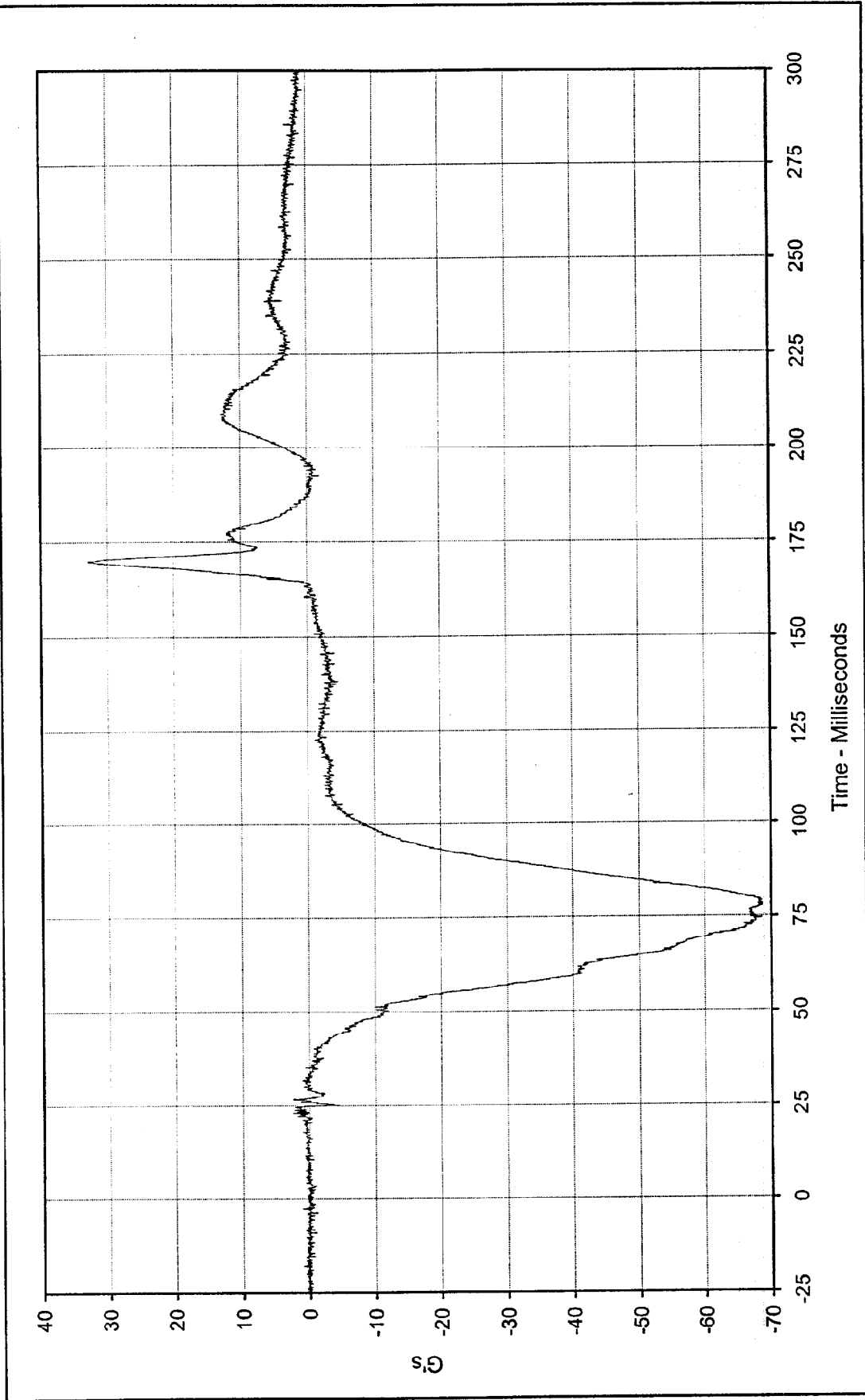
Data Plot		Page
B-71	Passenger Head Redundant Y	B-71
B-72	Passenger Head Redundant Z	B-72
B-73	Passenger Head Resultant Redundant	B-73
B-74	Passenger Neck Force X	B-74
B-75	Passenger Neck Force Y	B-75
B-76	Passenger Neck Force Z	B-76
B-77	Passenger Neck Force Resultant	B-77
B-78	Passenger Neck Moment 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 Primary Resultant	B-87
B-88	Passenger Chest Redundant X	B-88
B-89	Passenger Chest Redundant X Velocity	B-89
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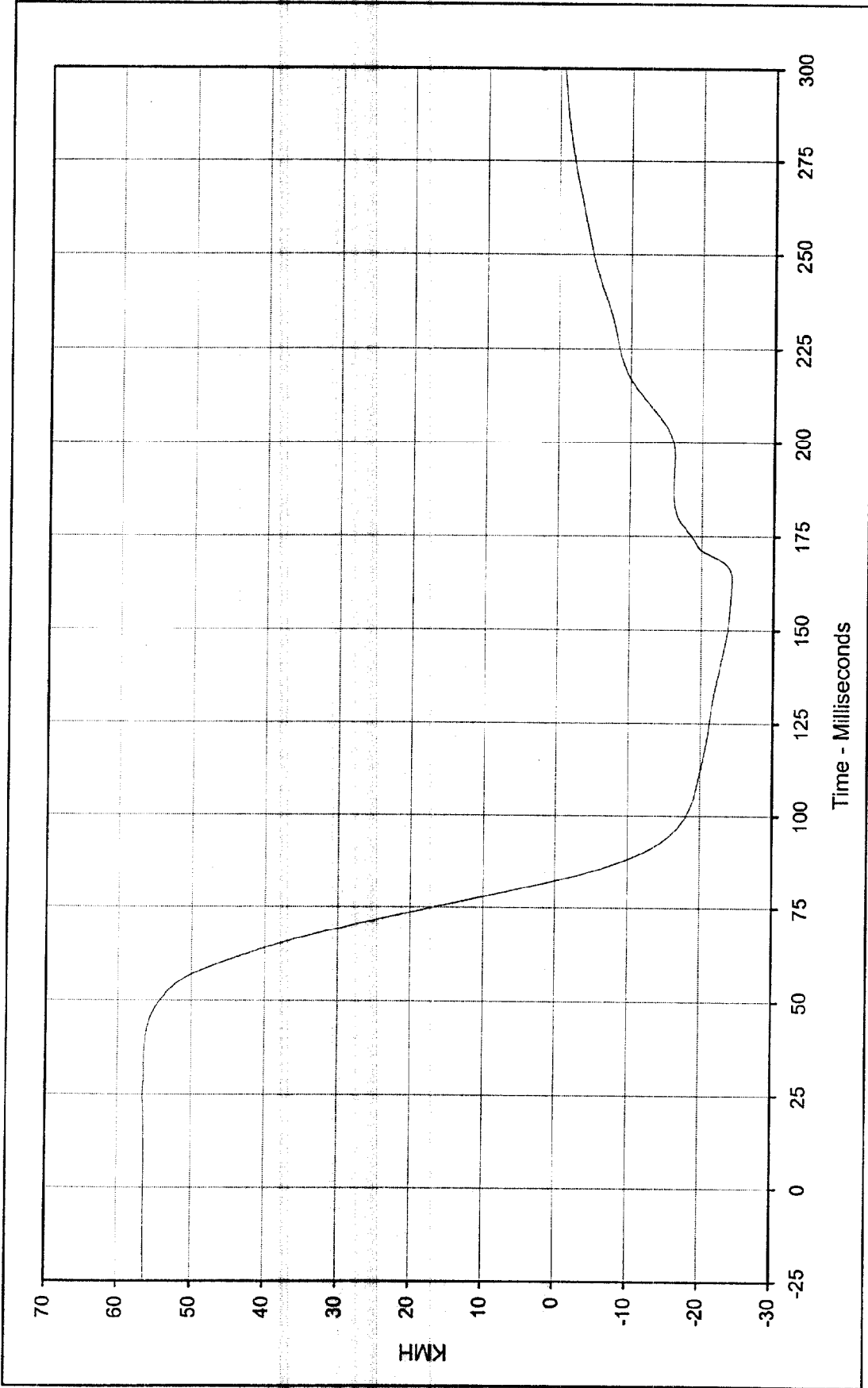
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Curve Description: Driver Head Primary X      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 33.0      at 169.7      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -68.8      at 77.6      Milliseconds

SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-001

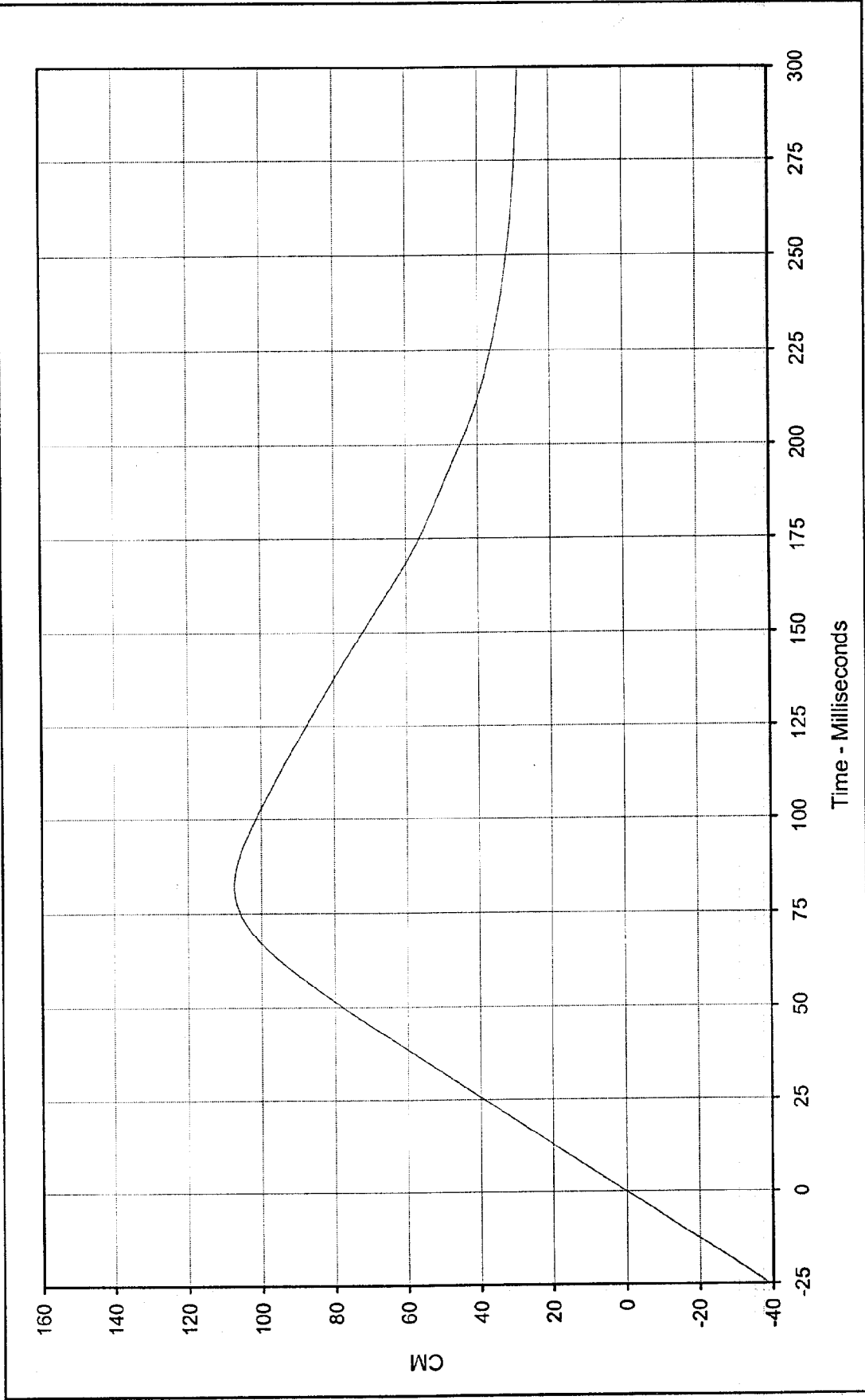




Curve Description: Driver Head Primary X Velocity  
 Testing Program 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 56.5 at 24.6 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -24.3 at 163.8 Milliseconds



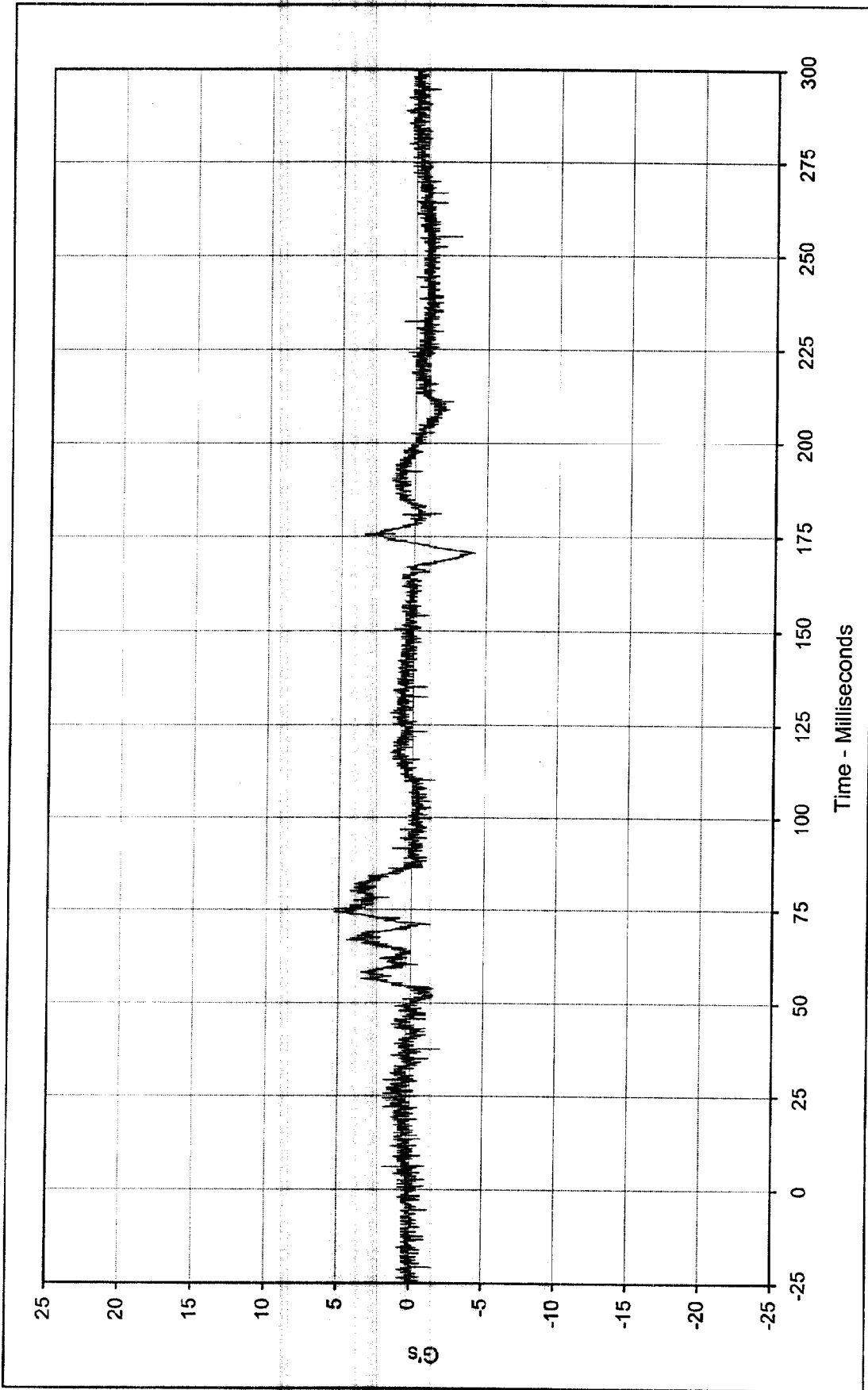
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-001



Curve Description: Driver Head Primary X Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 107.3 at 82.1 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds

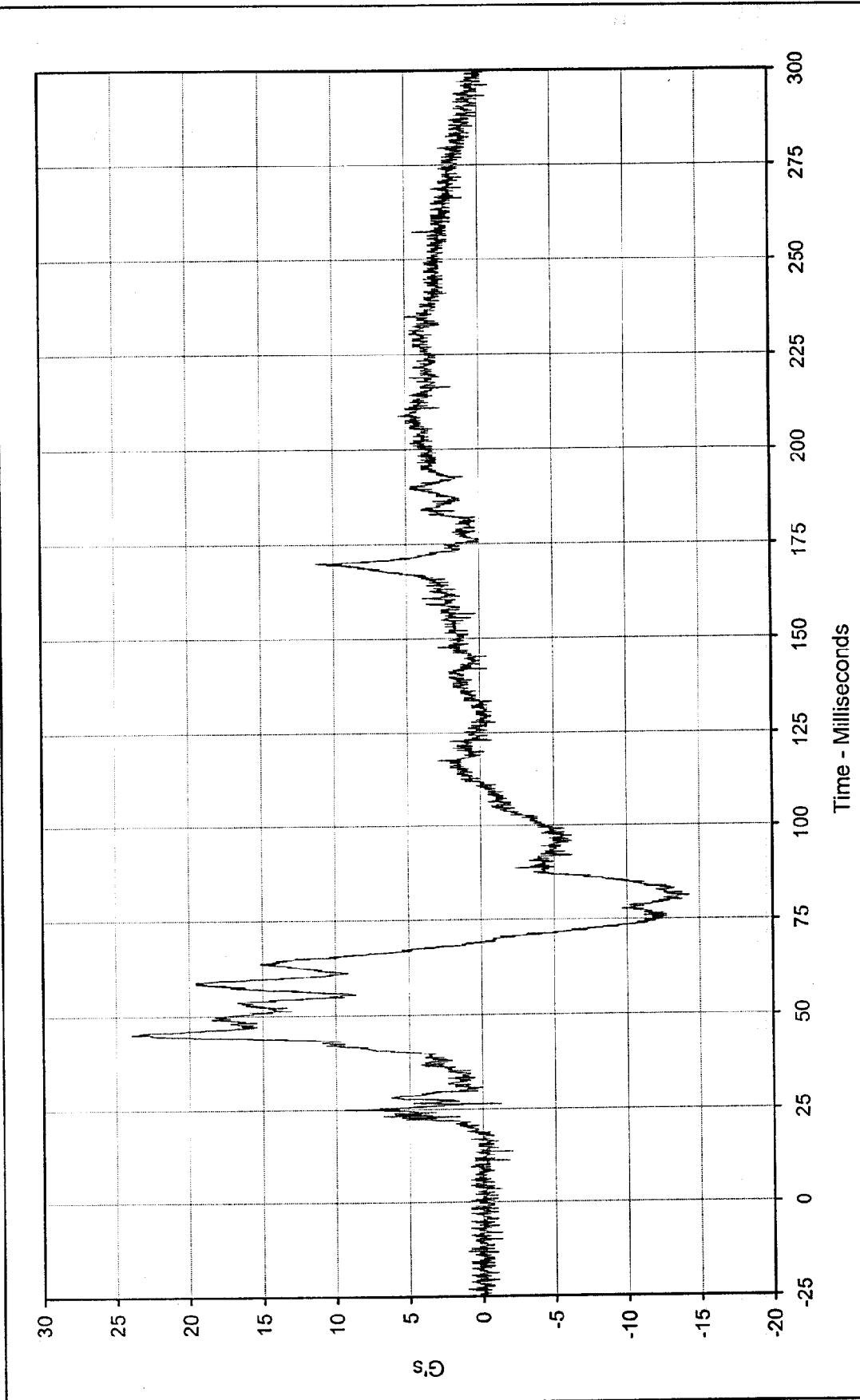
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-001





Curve Description: Driver Head Primary Y      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 5.3    at 74.4    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -4.2    at 170.5    Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-002

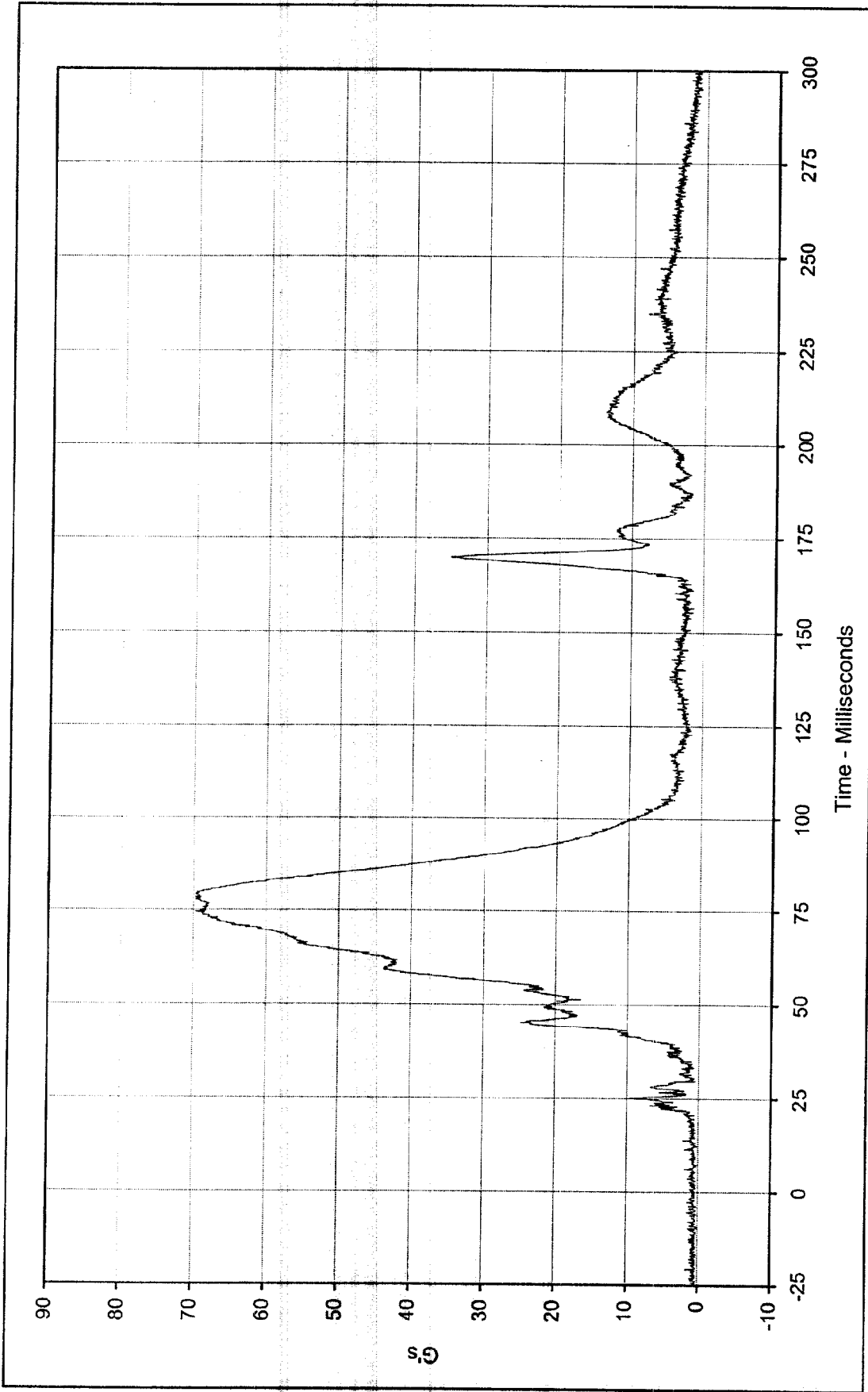




Curve Description: Driver Head Primary Z  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 24.0 at 45.2 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -14.3 at 81.0 Milliseconds

SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-003

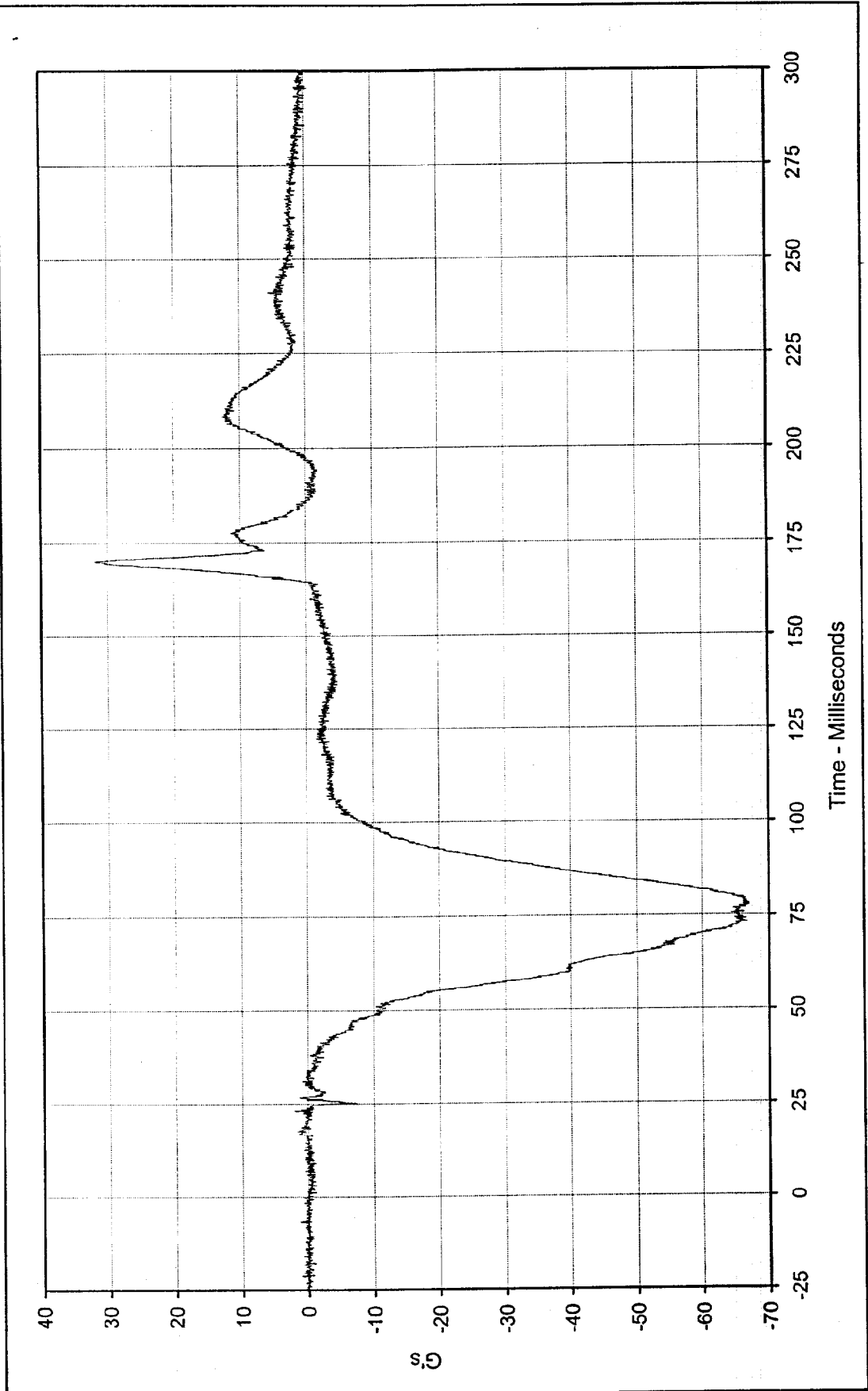




Curve Description: Driver Head Resultant Primary Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 69.8 at 78.3 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 12.1 Milliseconds



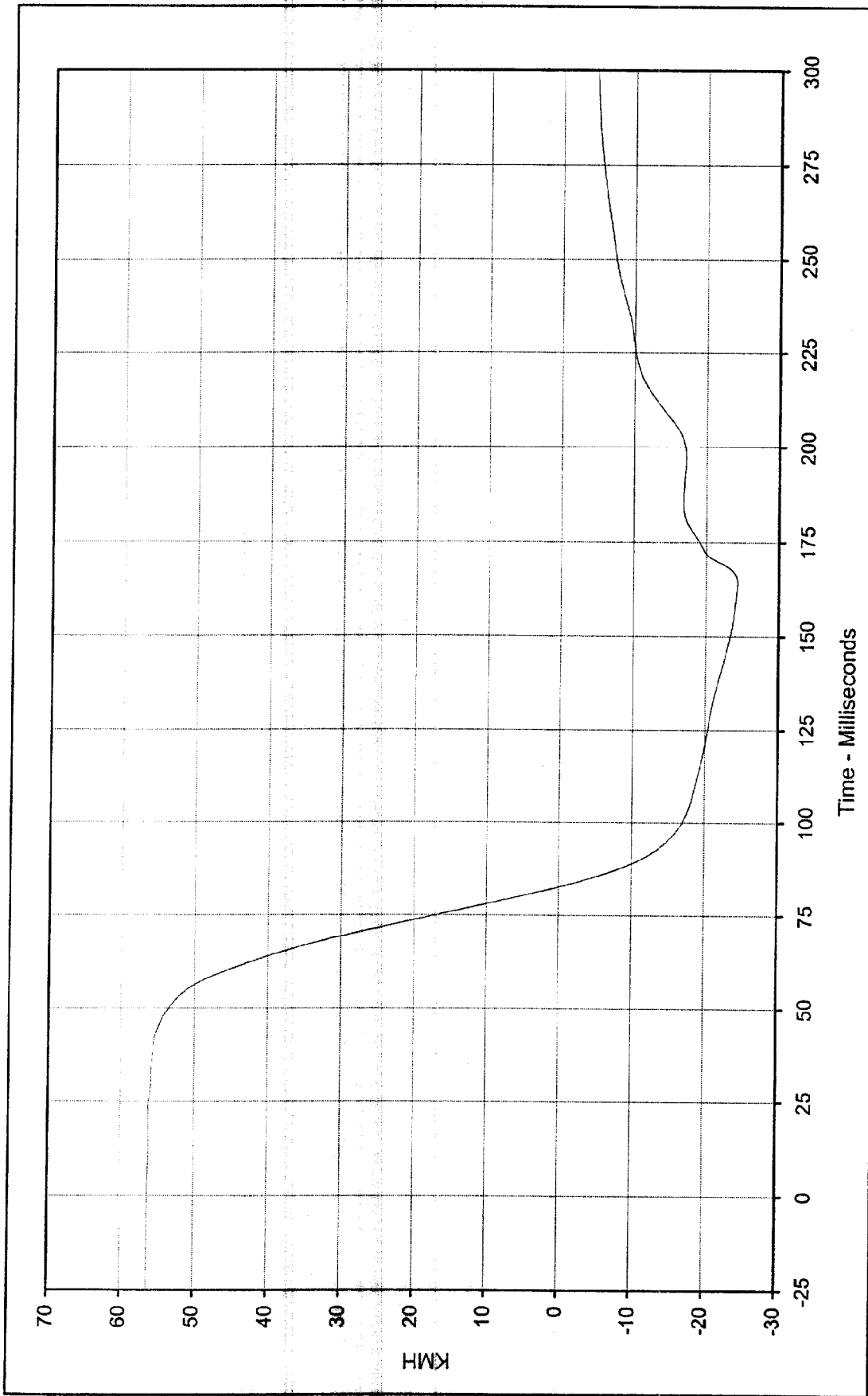
SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: RES-001



Curve Description: Driver Head Redundant X Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 31.8 at 169.9 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -67.1 at 77.7 Milliseconds

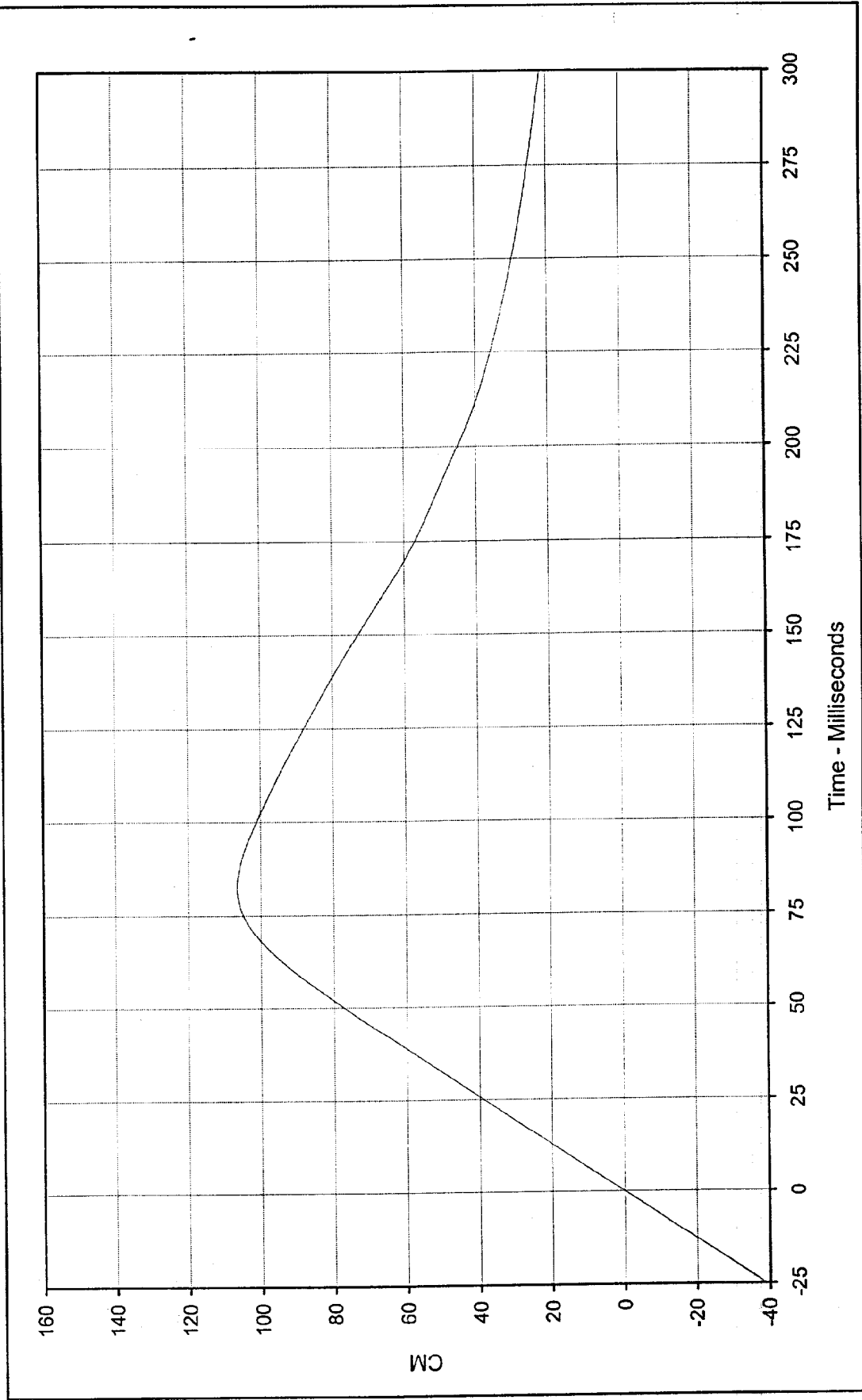


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-004



Curve Description: Driver Head Redundant X Velocity  
 Testing Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 56.3 at 0.0 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -24.4 at 164.3 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-004

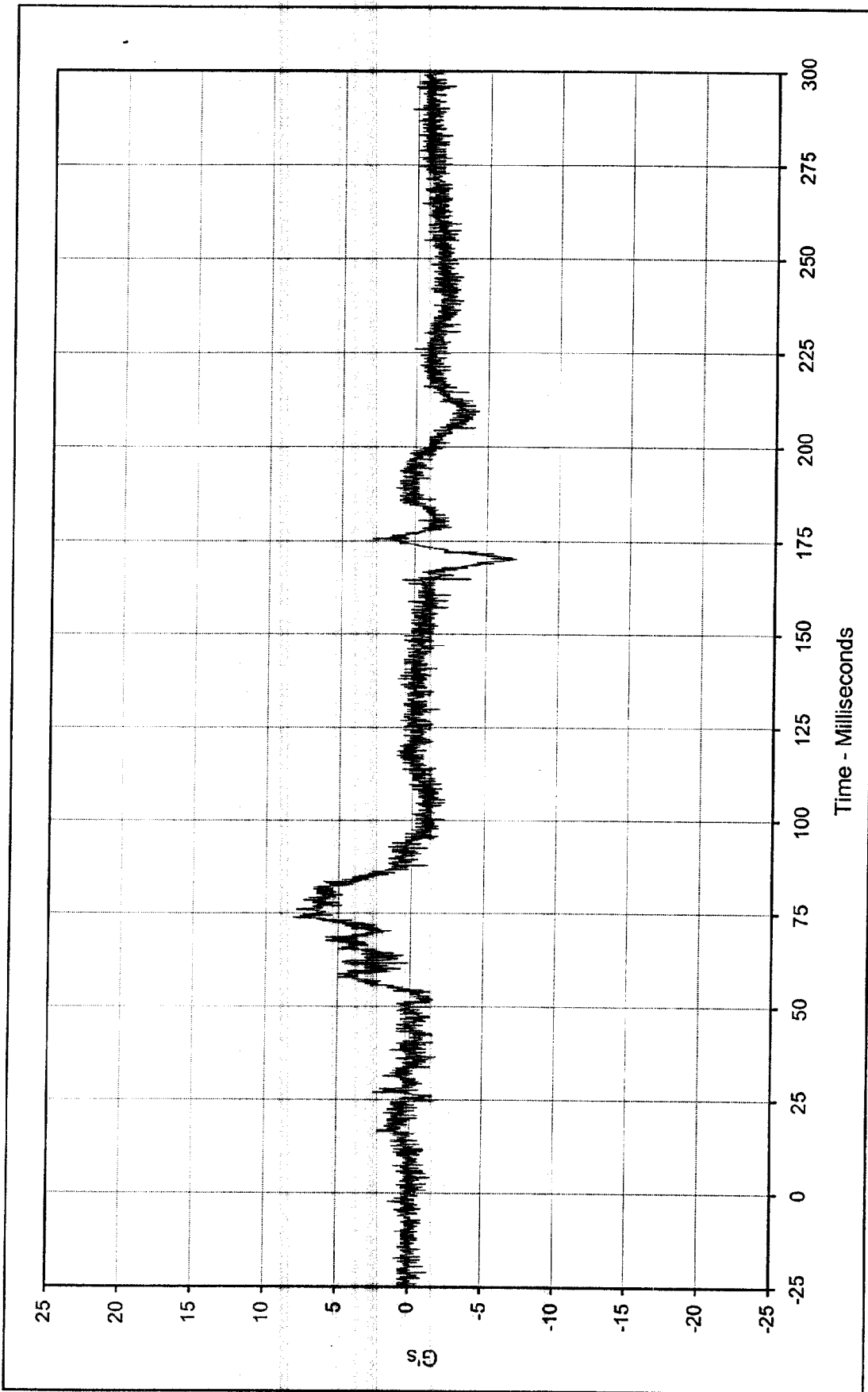




Curve Description: Driver Head Redundant X Displ.  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 106.5 at 82.4 Milliseconds  
 Minimum Value: 0.0 at 0.0 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-004





Curve Description: Driver Head Redundant Y      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 8.1 at 73.8 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

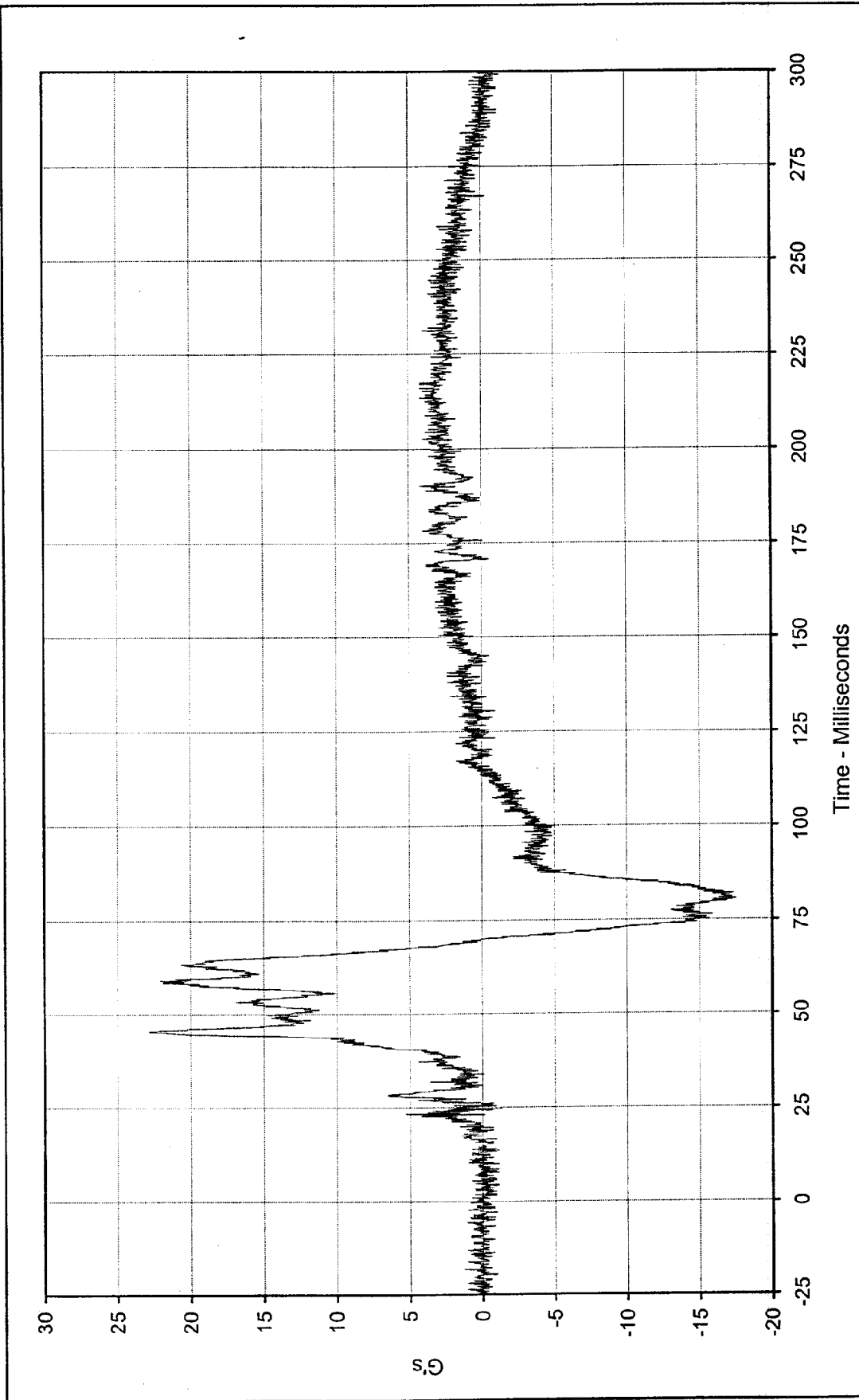
Minimum Value: -7.1 at 170.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/19/99

Curve Number: FIL-005

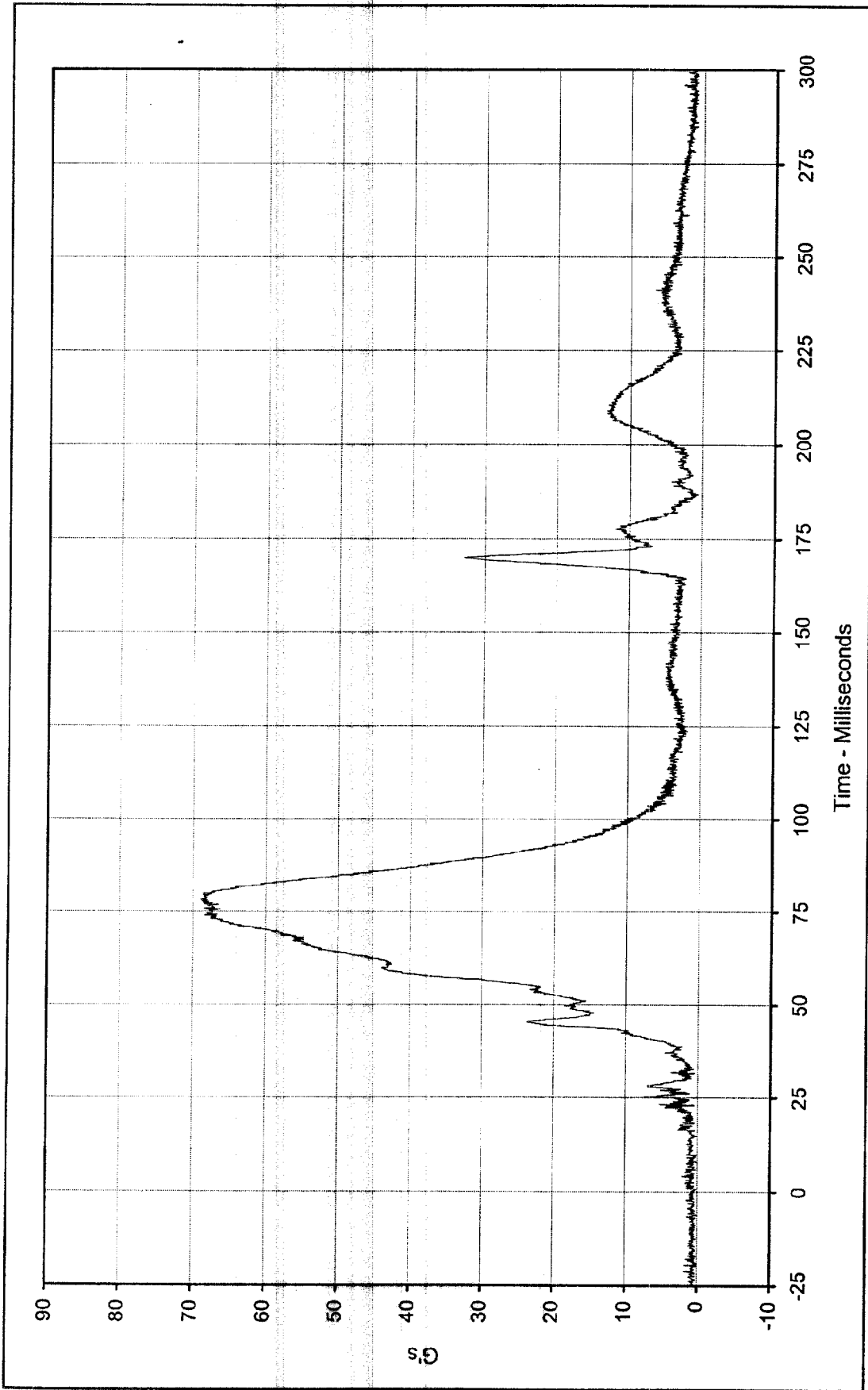




Curve Description: Driver Head Redundant Z  
 Maximum Value: 22.9 at 45.3 Milliseconds  
 Minimum Value: -17.6 at 80.5 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-006

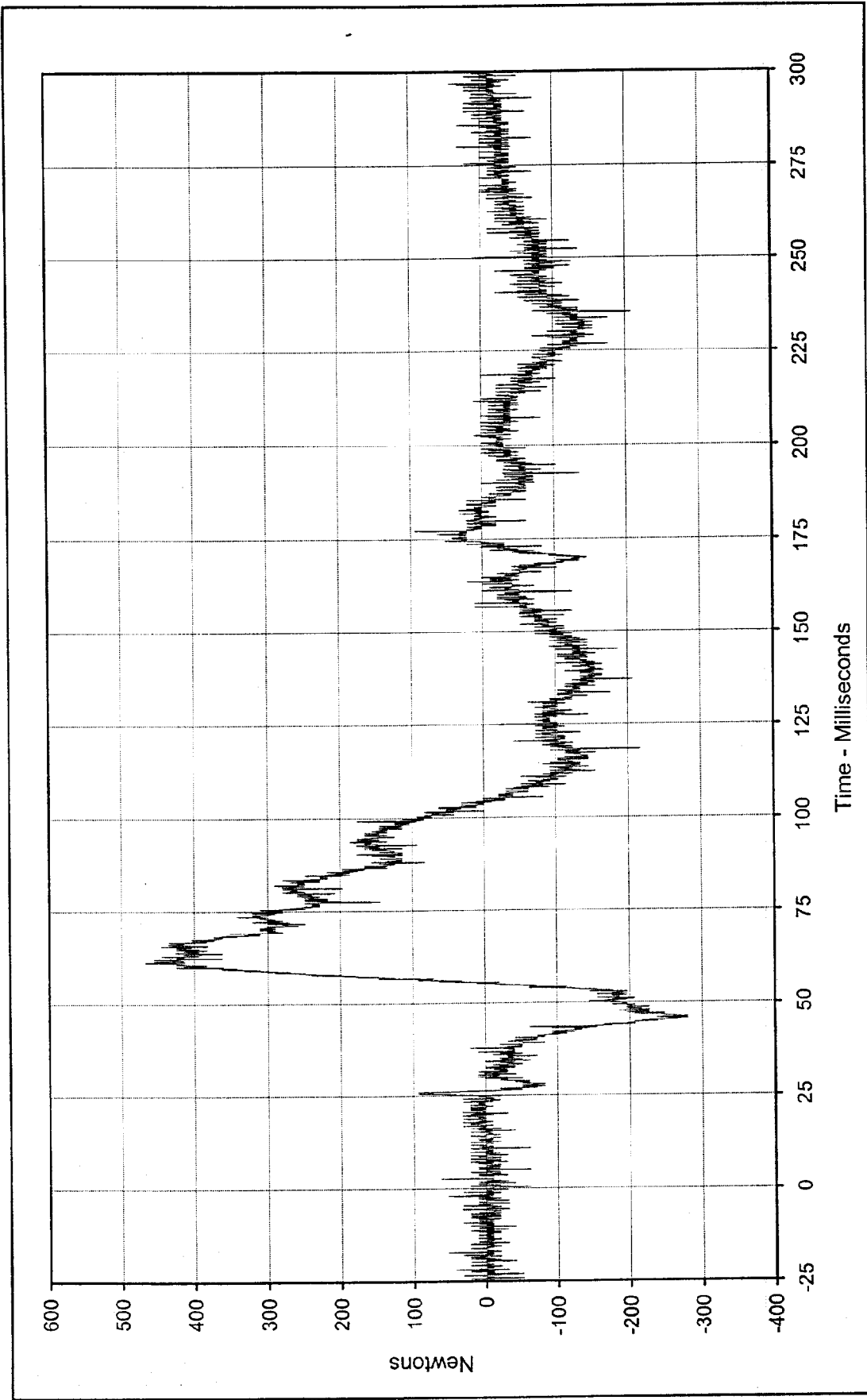
Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





Curve Description: Driver Head Resultant Redundant      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 68.9 at 78.1 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.1 at 0.7 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: RES-004

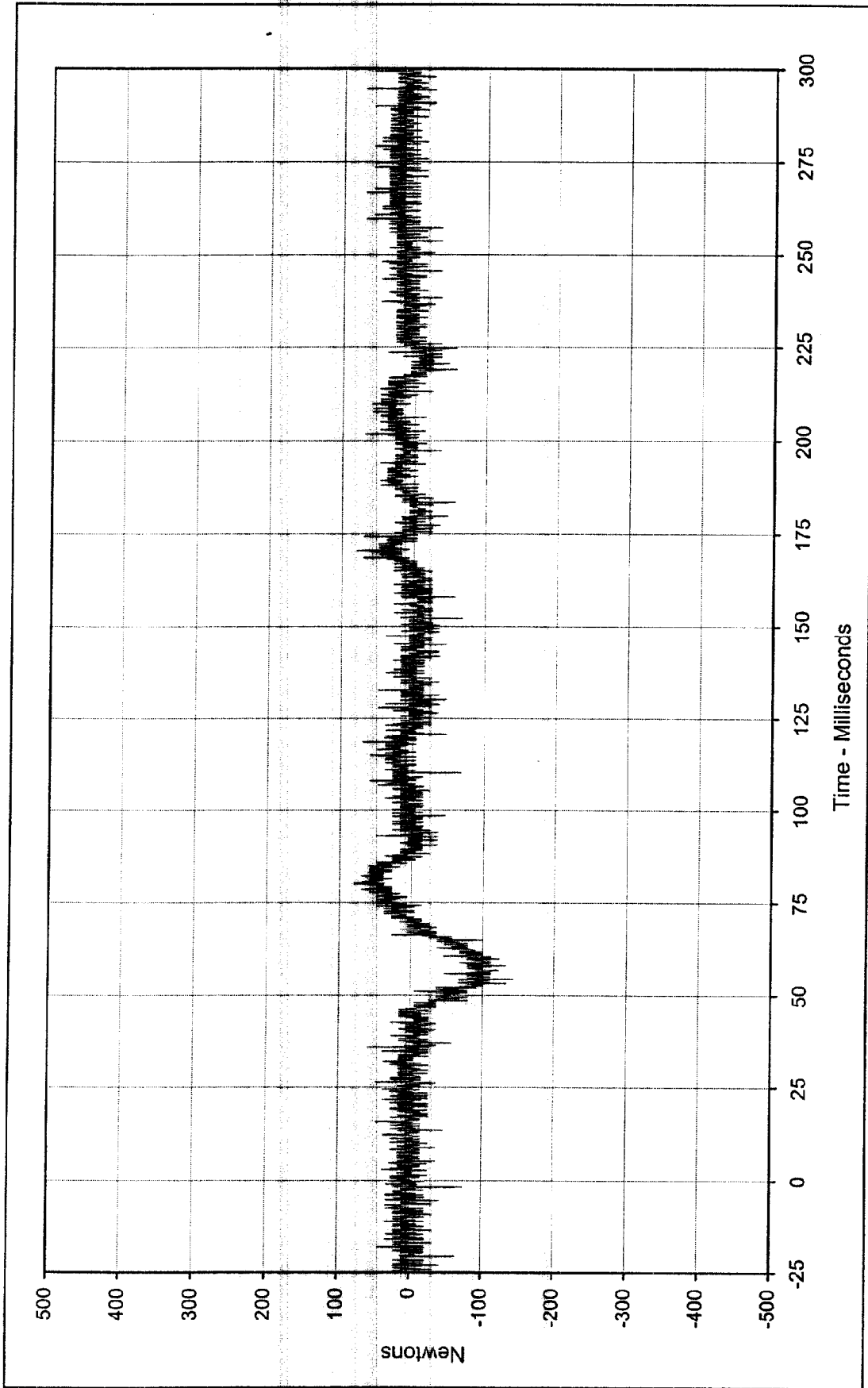




Curve Description: Driver Neck Force X  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

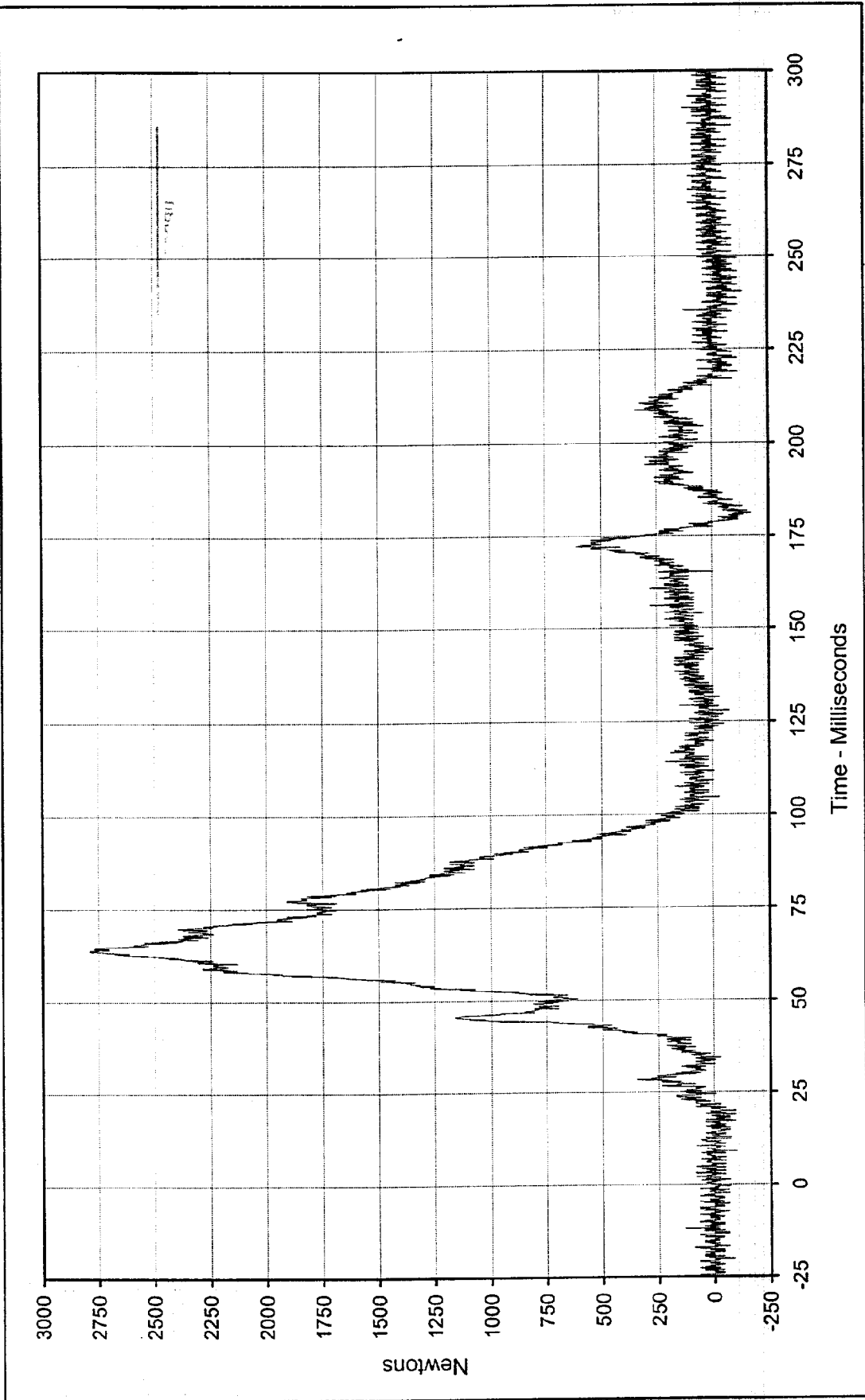
Maximum Value: 465.8 at 61.2 Milliseconds  
 Minimum Value: -280.5 at 46.0 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-007





Curve Description: Driver Neck Force Y      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 80.0      at 80.0      Milliseconds  
 Minimum Value: -143.2      at 54.3      Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-008

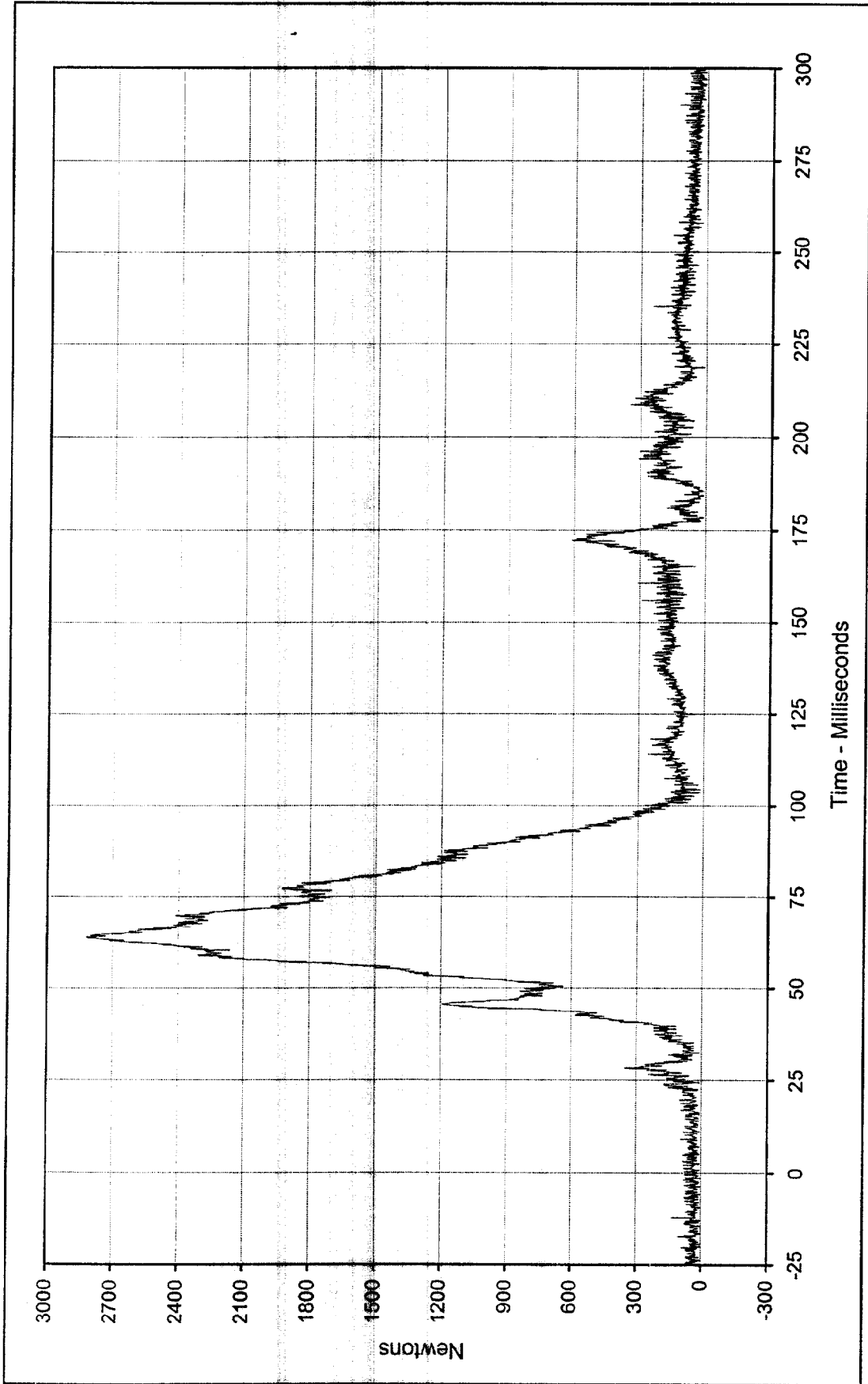




Curve Description: Driver Neck Force Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 2789.0 at 63.6 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -175.2 at 181.0 Milliseconds

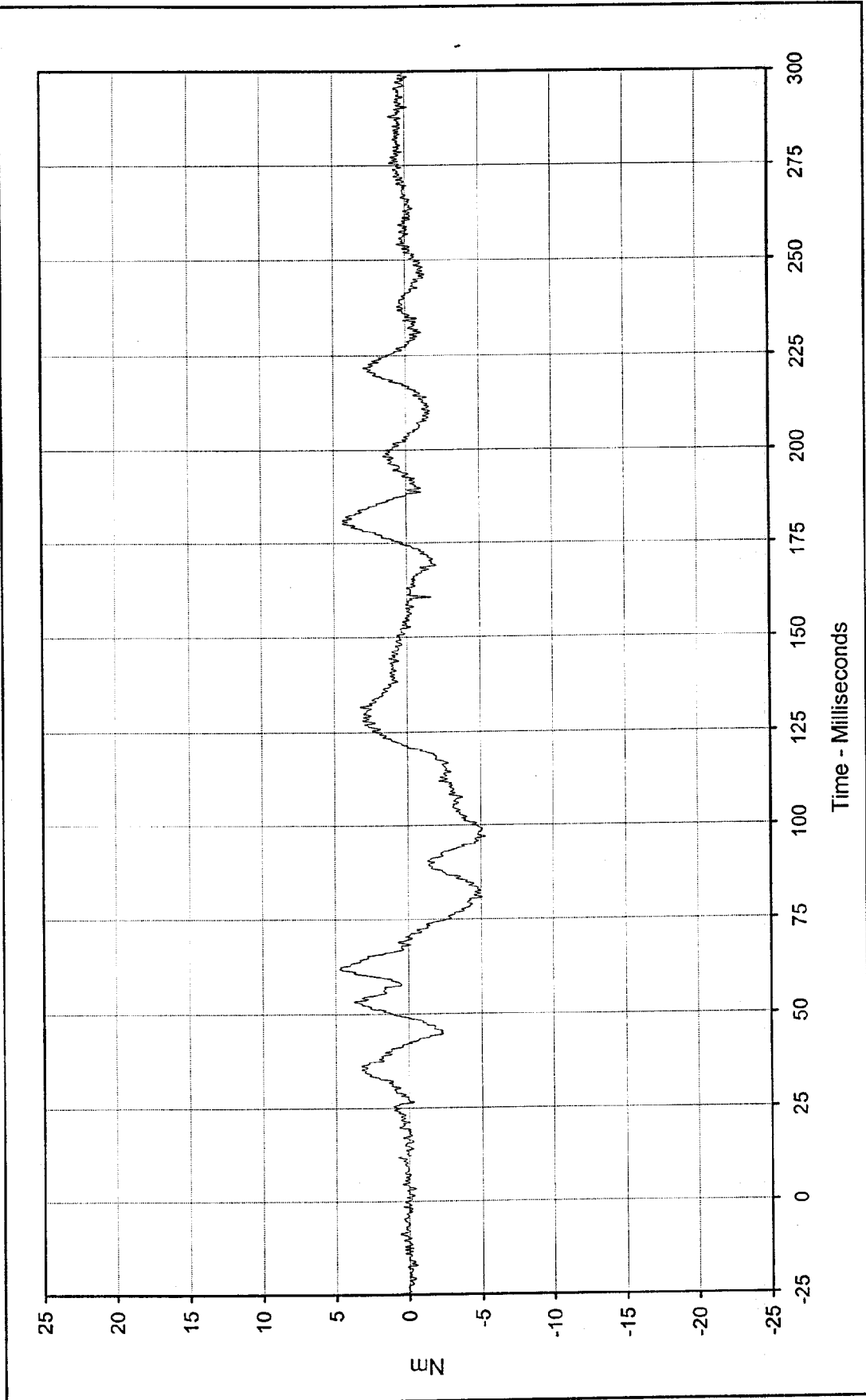


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-009



Curve Description: Driver Neck Force Resultant      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 2822.3 at 63.8 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 8.6 at 4.9 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: RES-007

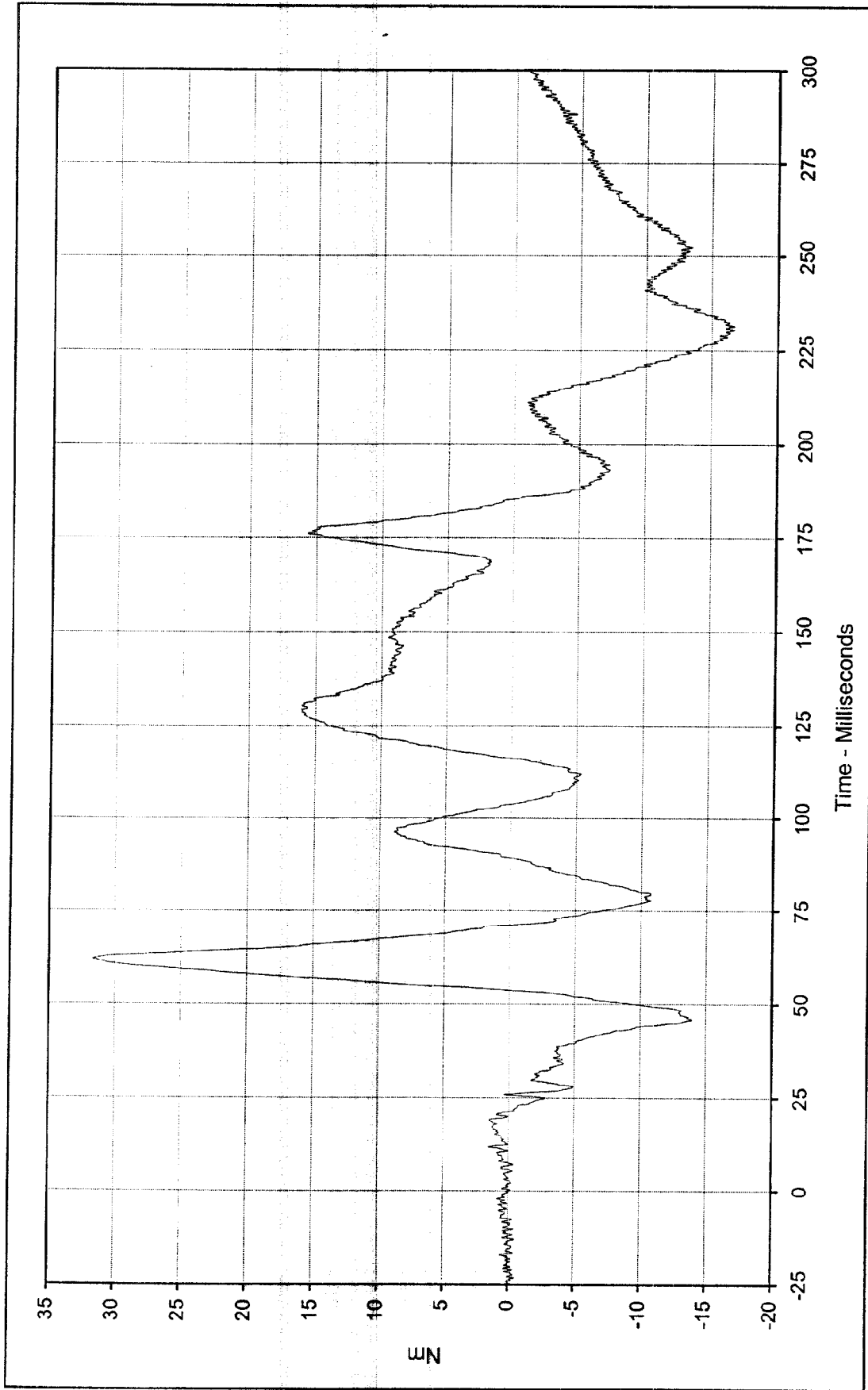




Curve Description: Driver Neck Moment X  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

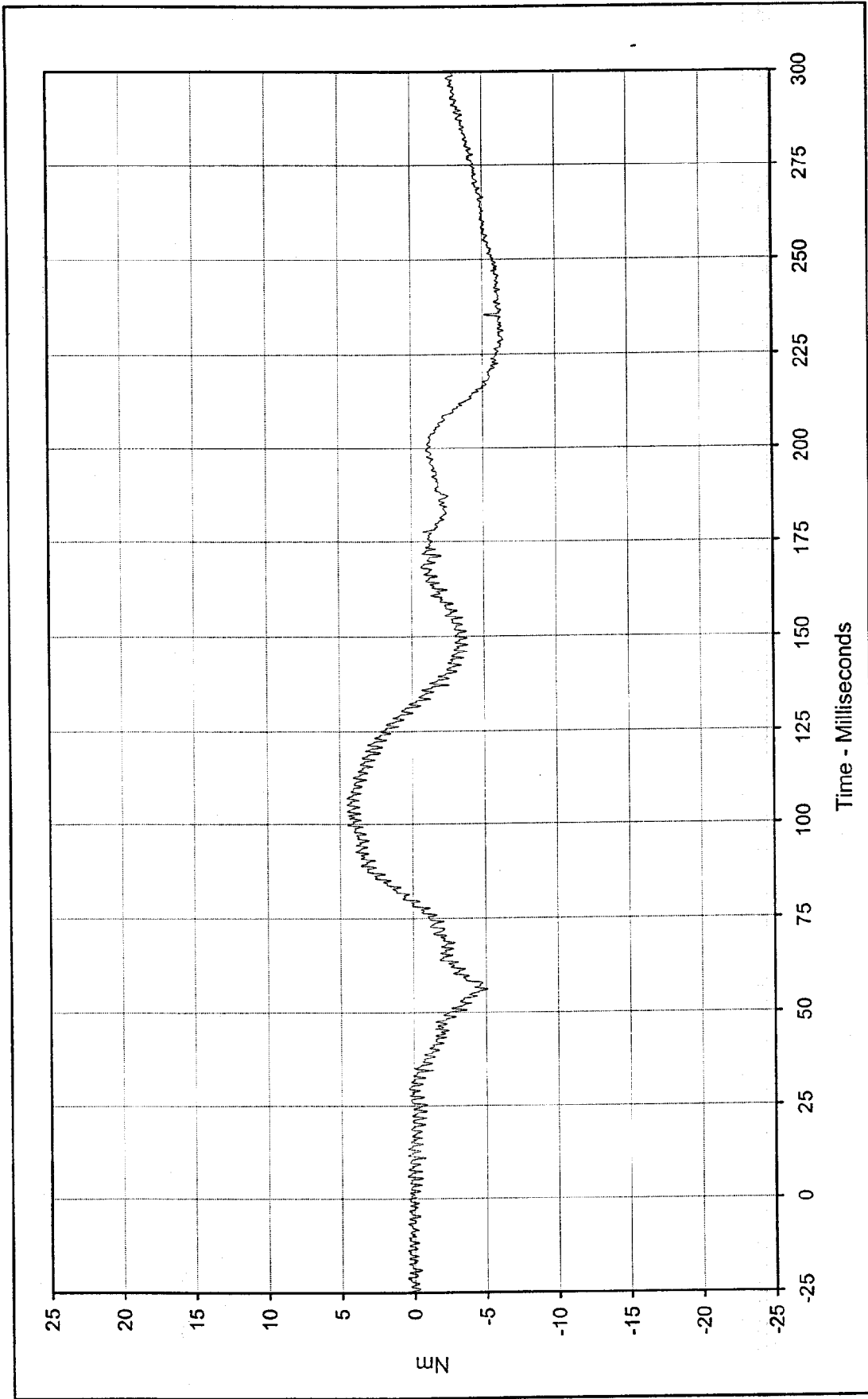
Maximum Value: 4.7 at 61.8 Milliseconds  
 Minimum Value: -5.3 at 96.9 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-010





Curve Description: Driver Neck Moment Y Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 31.7 at 61.8 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -16.7 at 231.6 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-011

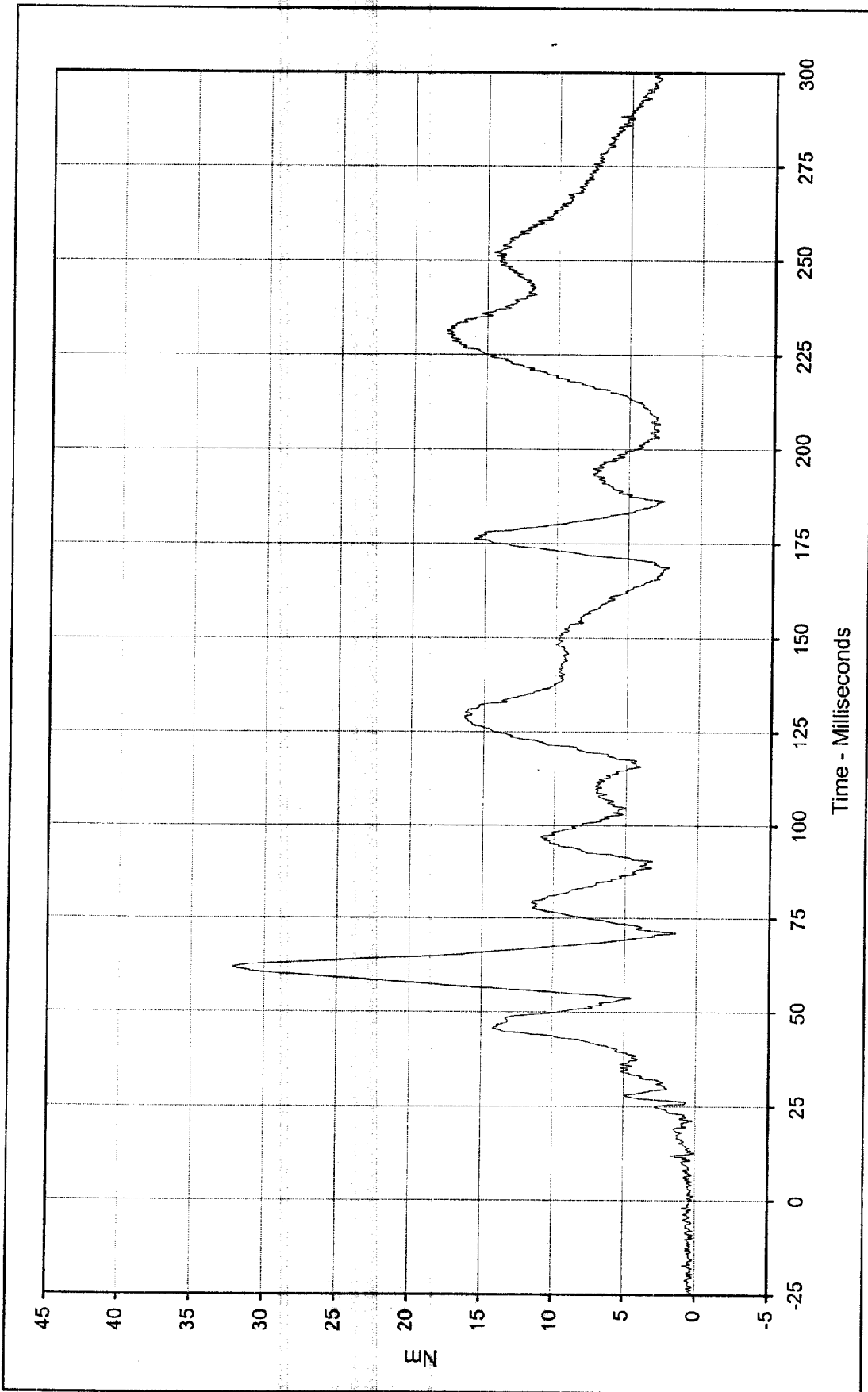




Curve Description: Driver Neck Moment Z  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 4.5 at 105.1 Milliseconds  
 Minimum Value: -6.5 at 231.1 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-012

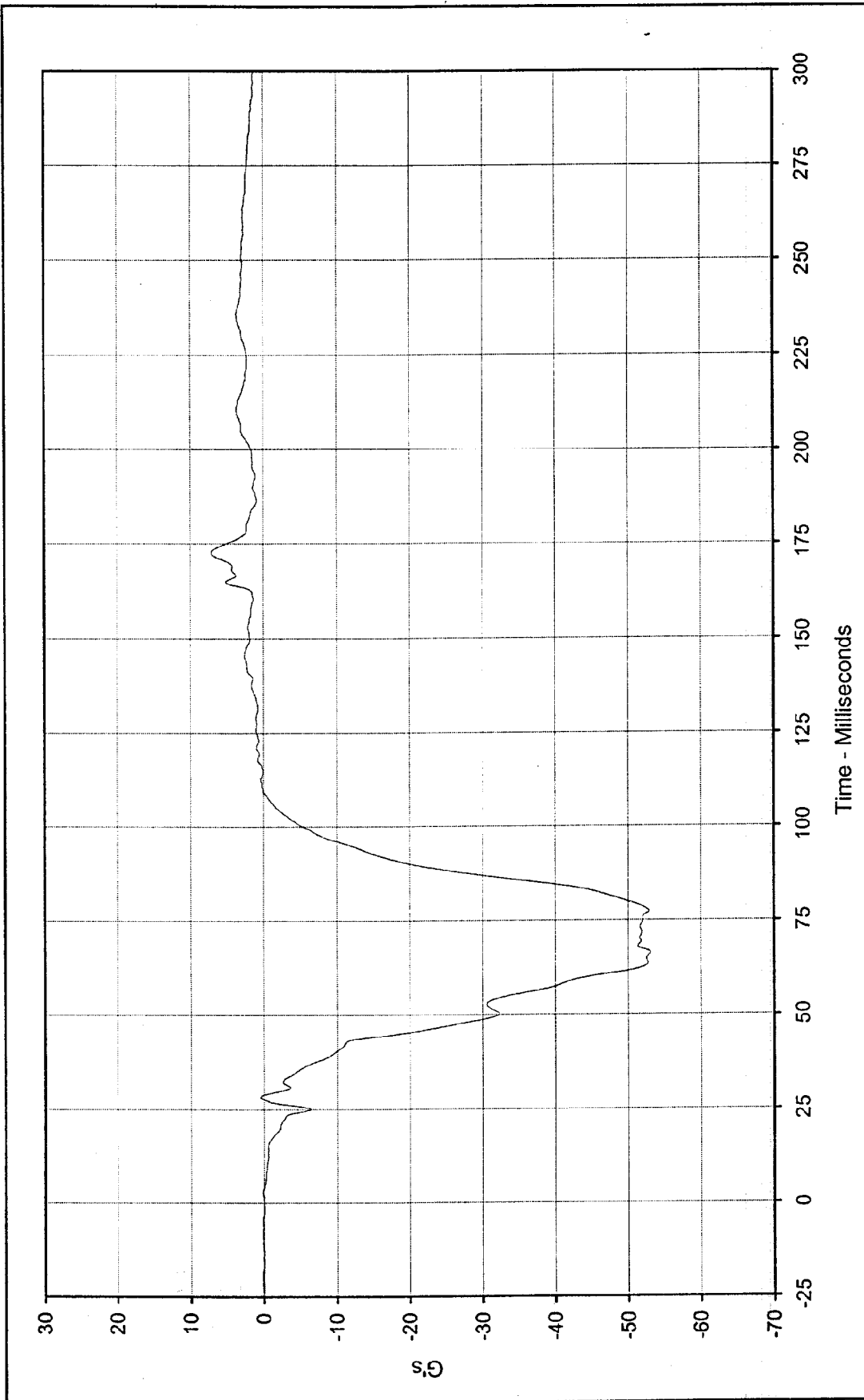




Curve Description: Driver Neck Moment Resultant  
 Maximum Value: 32.1 at 61.8 Milliseconds  
 Minimum Value: 0.0 at 12.5 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: RES-010

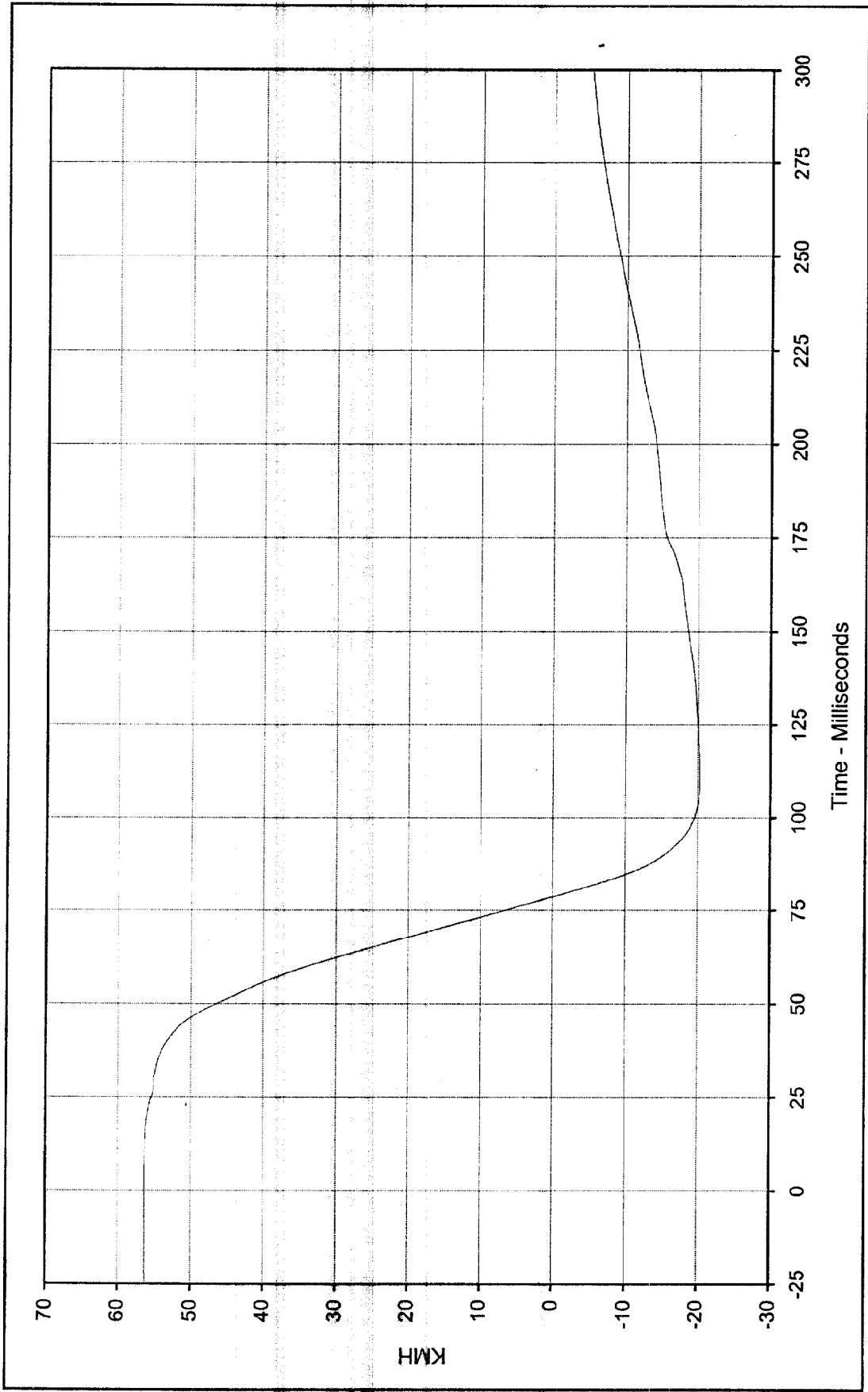
Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





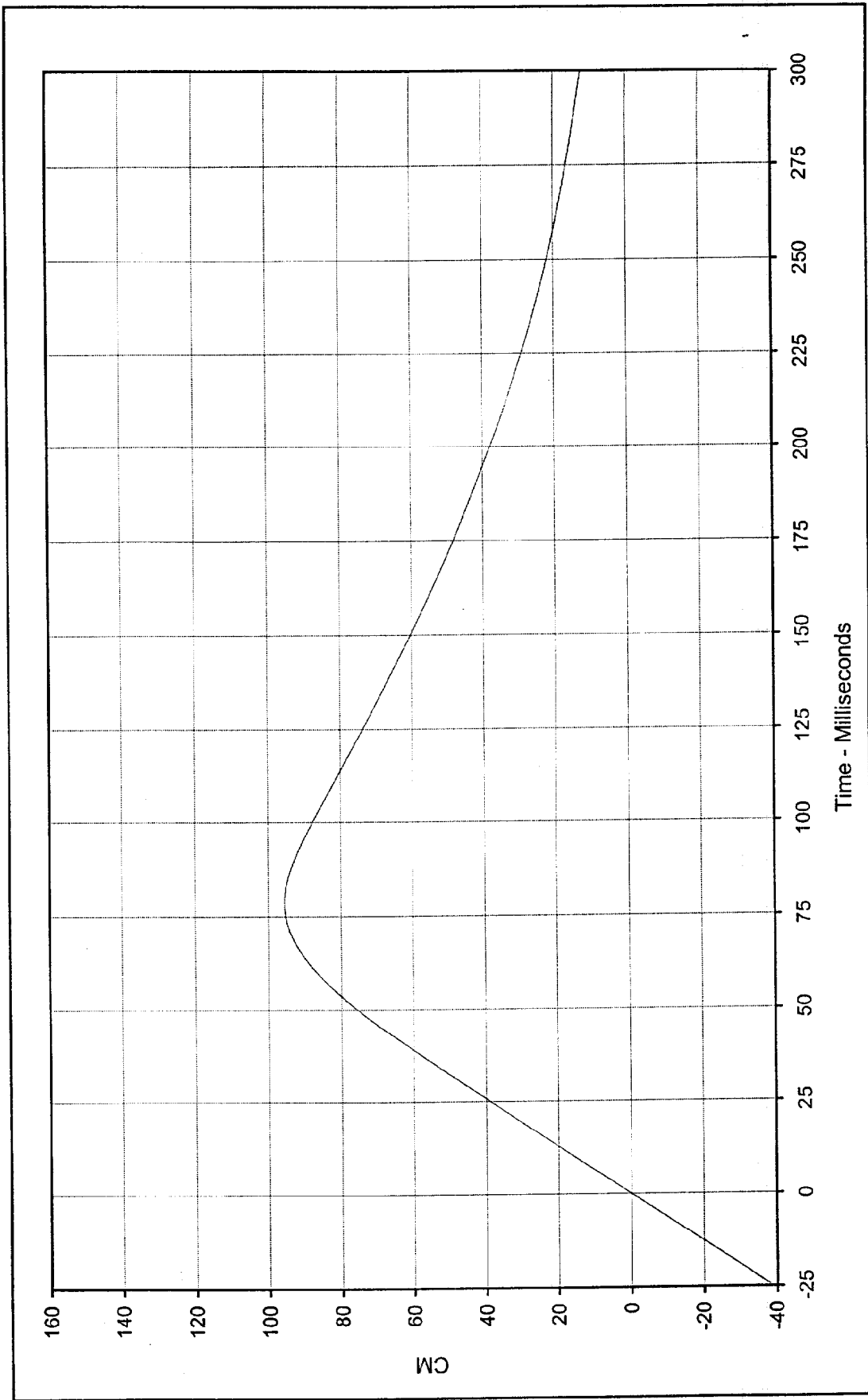
Curve Description: Driver Chest Primary X      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 7.1 at 172.5 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -53.1 at 66.2 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-013





Curve Description: Driver Chest Primary X Velocity      Testing Program 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 56.3      at 4.0      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -20.3      at 109.2      Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-013

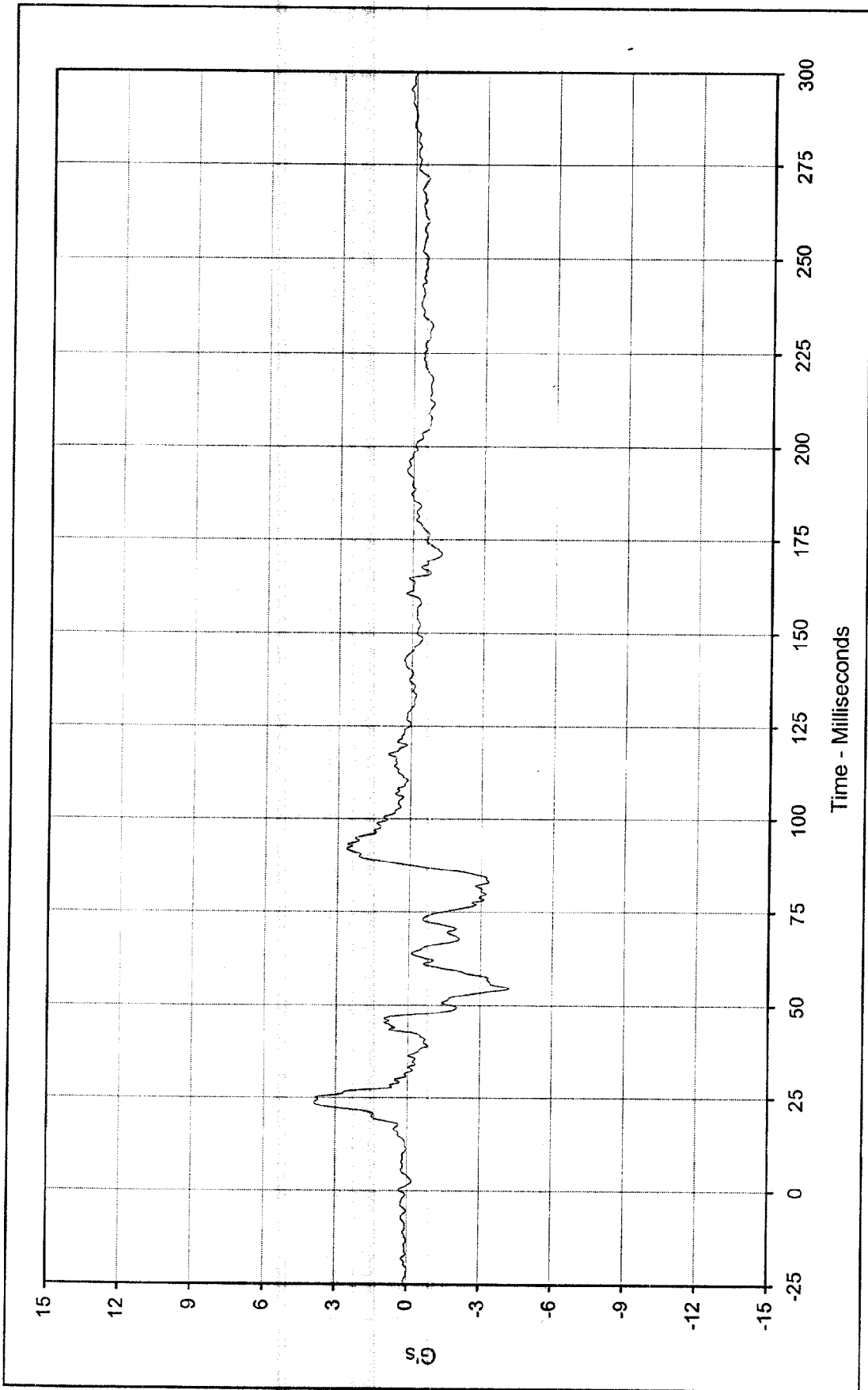




Curve Description: Driver Chest Primary X Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 95.5 at 78.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds

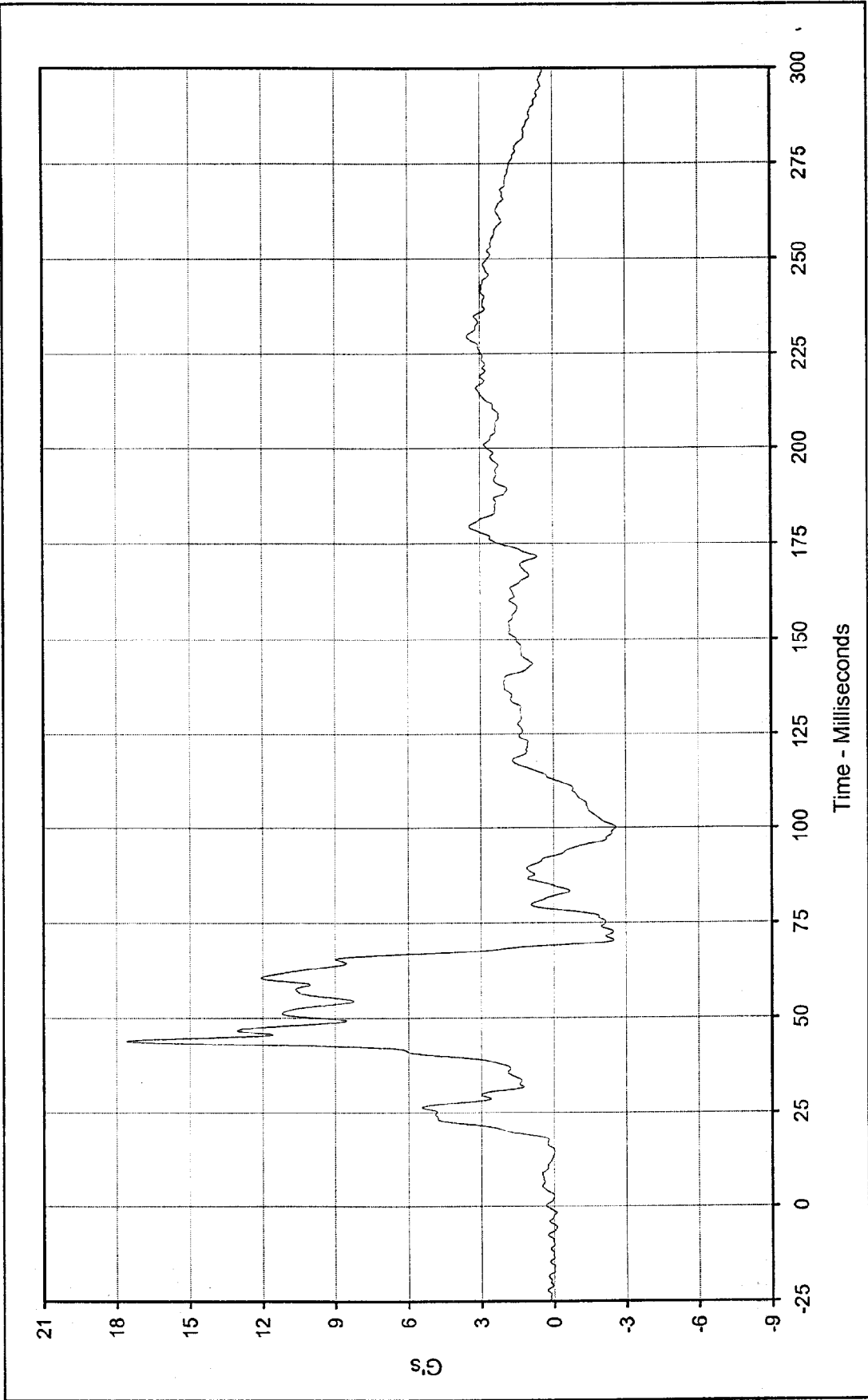
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-013





Curve Description: Driver Chest Primary Y      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 3.9 at 23.7 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -4.2 at 54.6 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-014





Curve Description: Driver Chest Primary Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 17.6 at 43.7 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

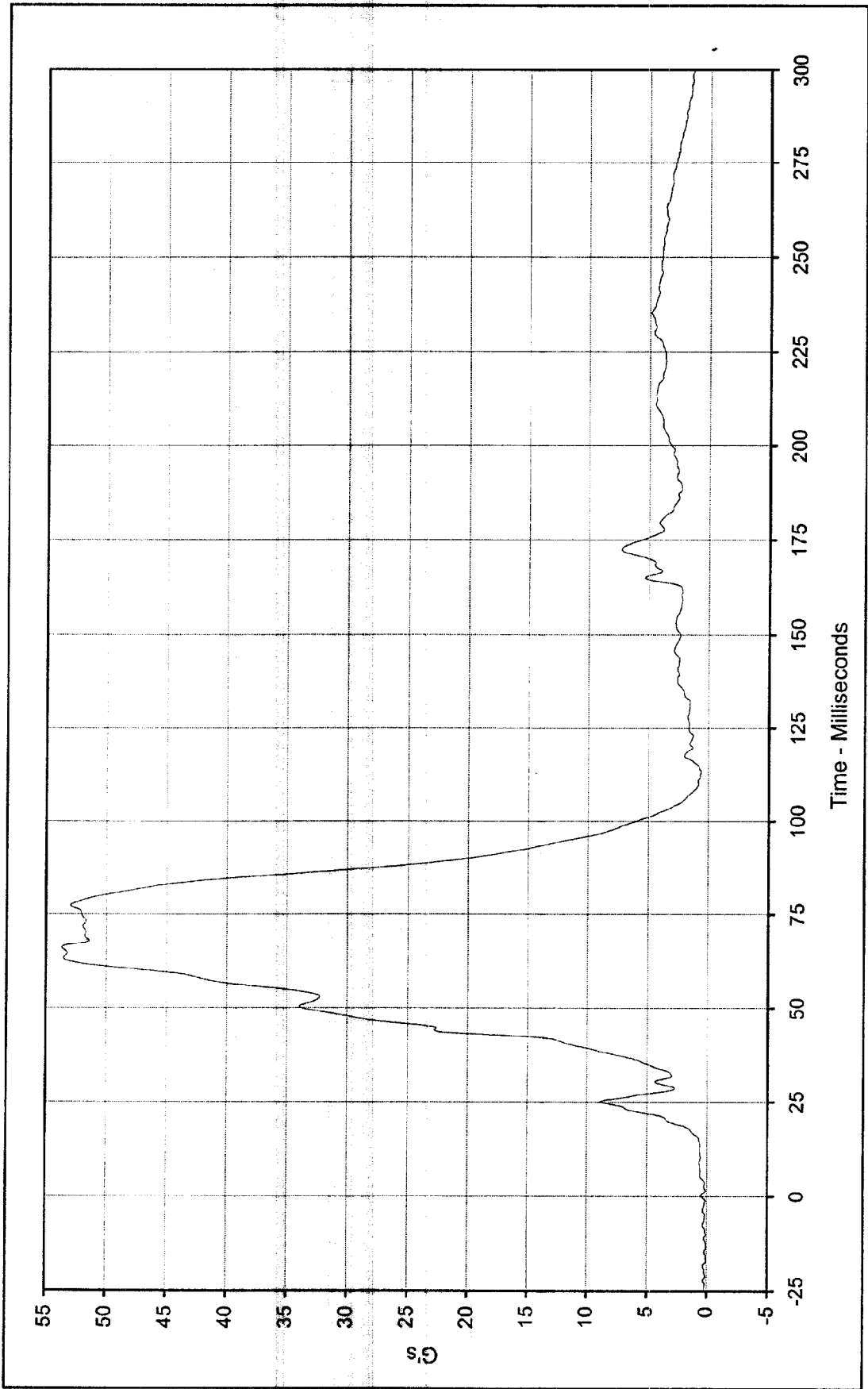
Minimum Value: -2.6 at 100.1 Milliseconds

SAE Filter Class: 180

Date of Test: 1/19/99

Curve Number: FIL-015





Curve Description: Driver Chest Resultant Primary Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 53.7 at 66.1 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

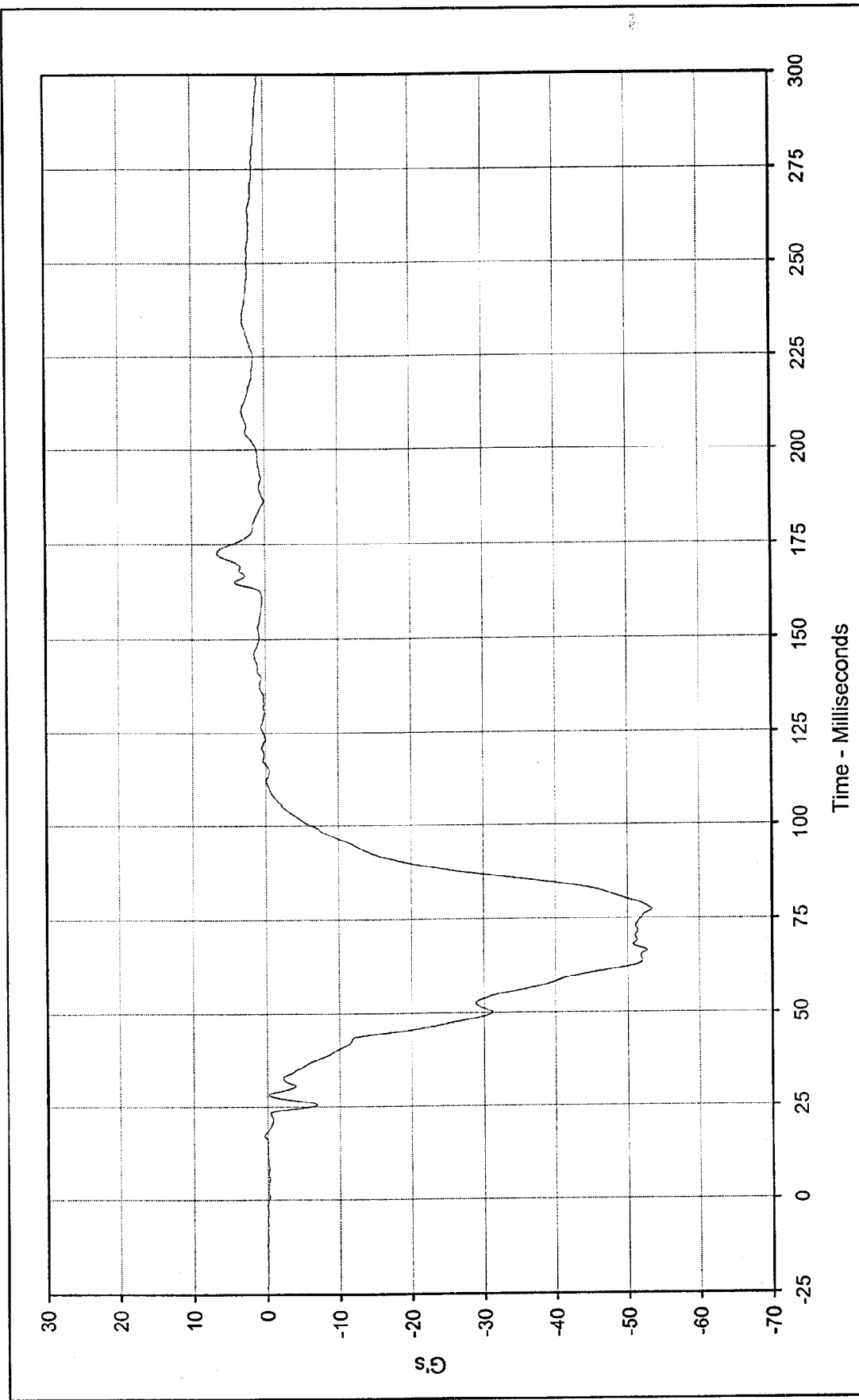
Minimum Value: 0.1 at 1.5 Milliseconds

SAE Filter Class: 180

Date of Test: 1/19/99

Curve Number: RES-013

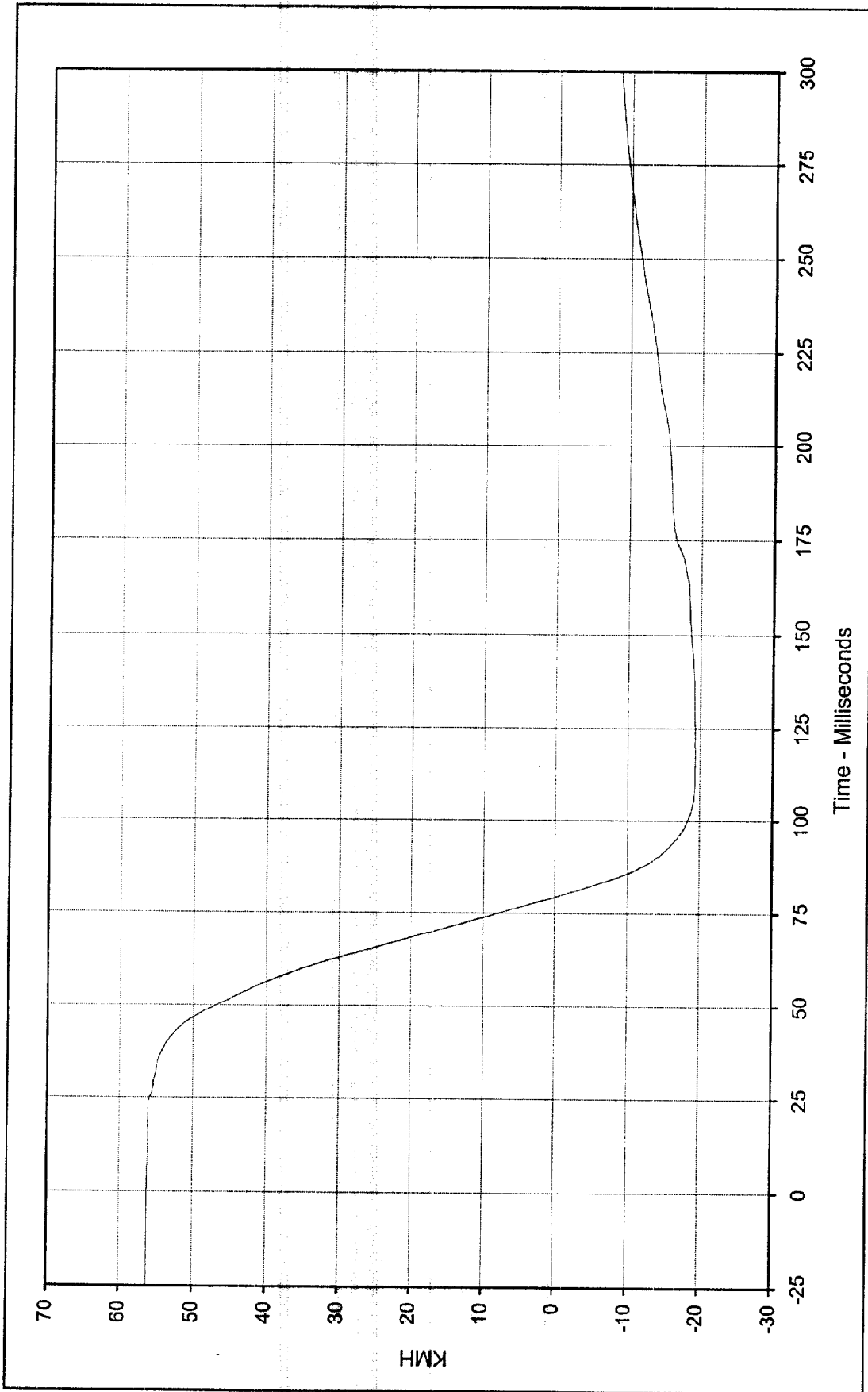




Curve Description: Driver Chest Redundant X  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 6.6 at 172.6 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -53.4 at 77.3 Milliseconds

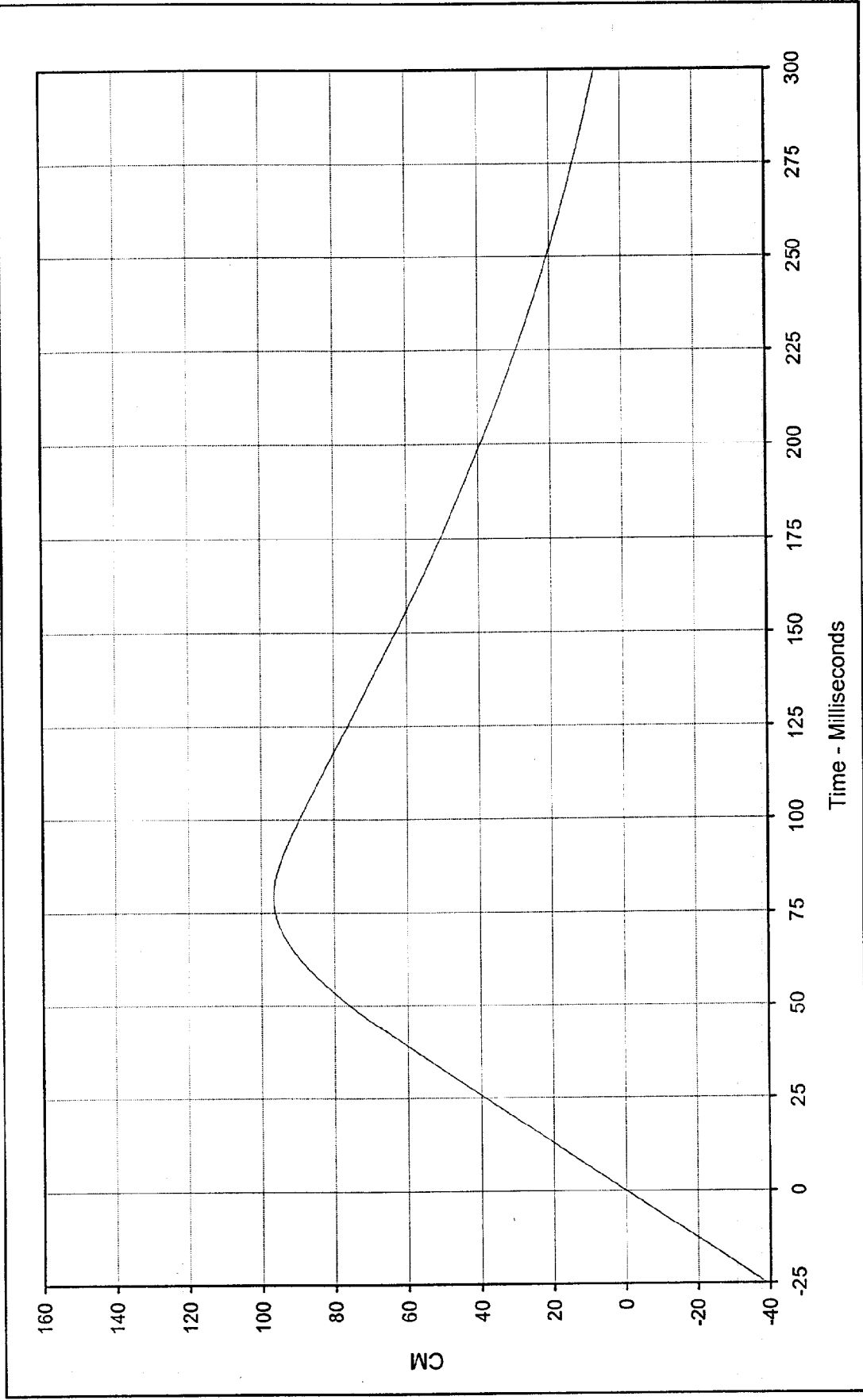


SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-016



Curve Description: Driver Chest Redundant X Velocity      Testing Program 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 56.2    at 0.0    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -19.4    at 116.5    Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-016

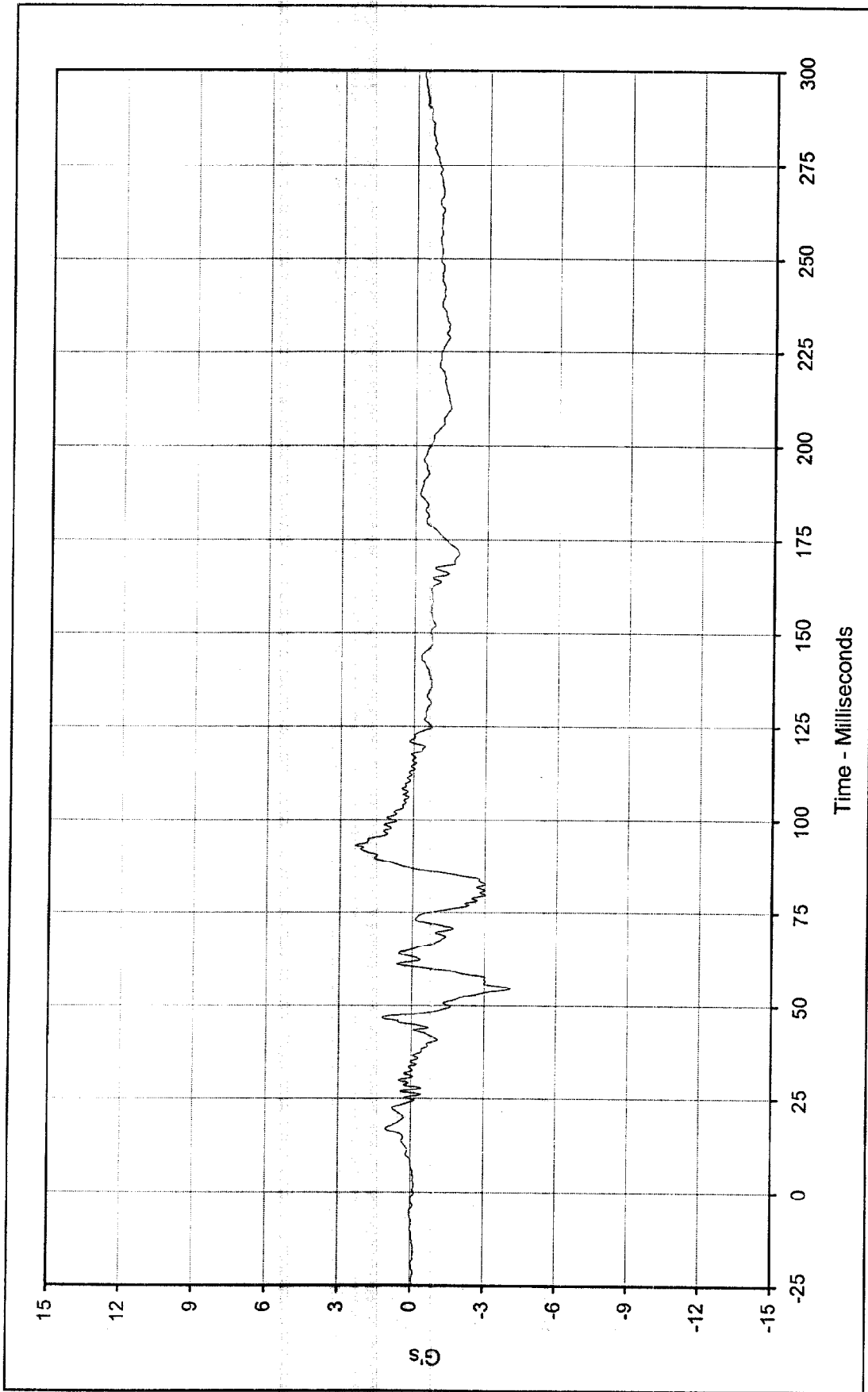




Curve Description: Driver Chest Redundant X Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 96.6 at 79.2 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds



SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-016



Curve Description: Driver Chest Redundant Y      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 2.4 at 93.2 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

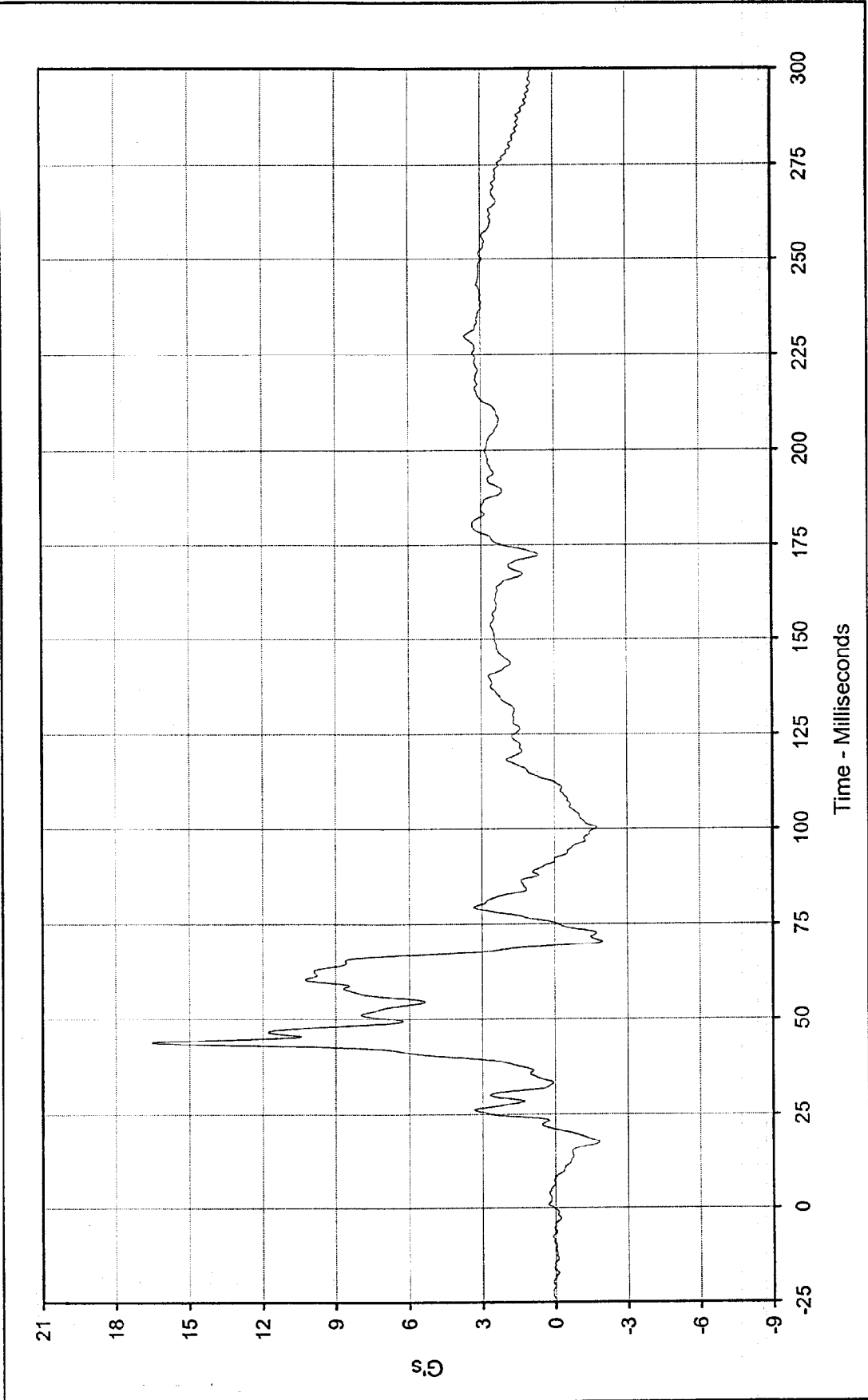
Minimum Value: -4.1 at 54.6 Milliseconds

SAE Filter Class: 180

Date of Test: 1/19/99

Curve Number: FIL-017

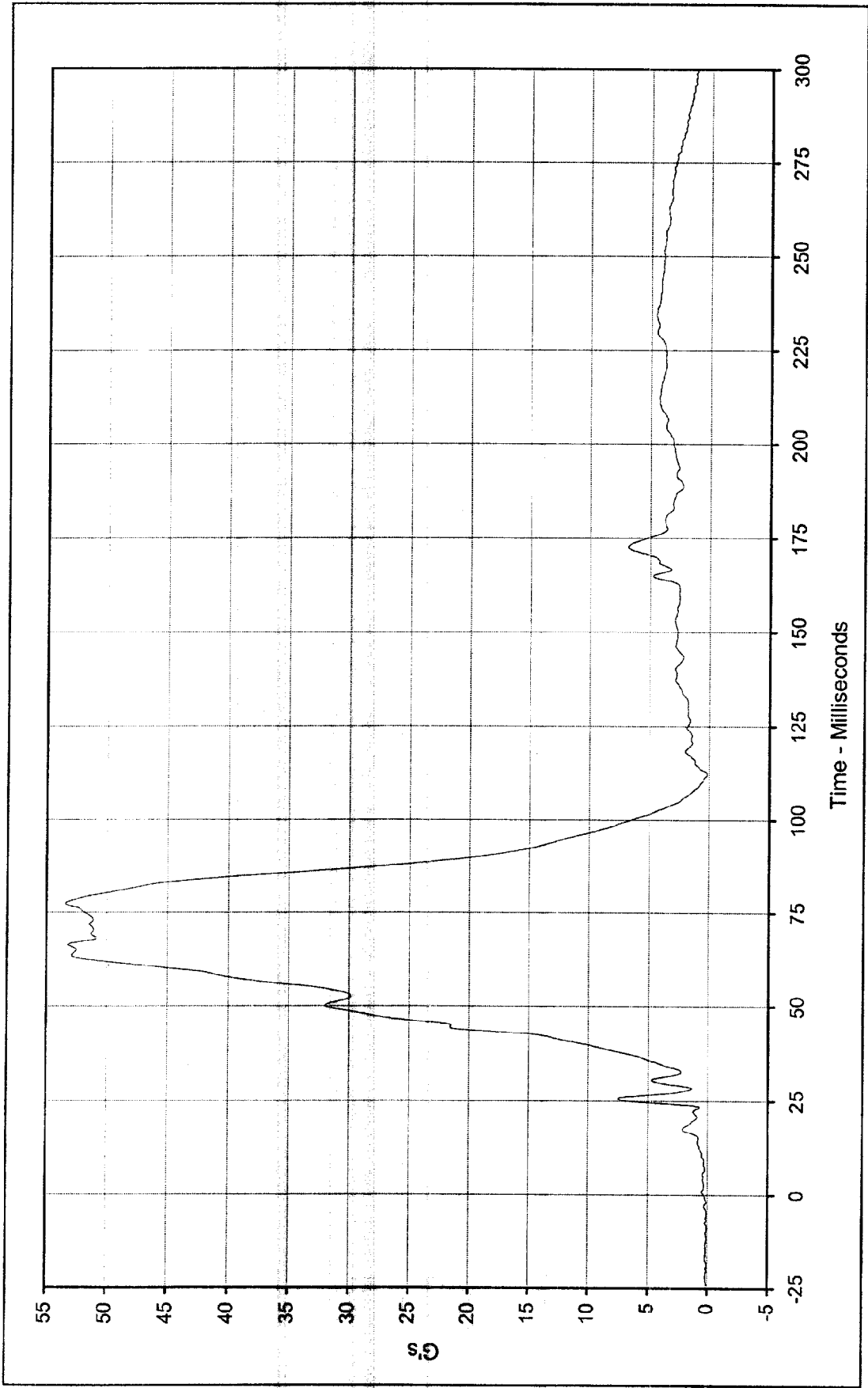




Curve Description: Driver Chest Redundant Z  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 16.5 at 43.8 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -2.0 at 70.3 Milliseconds

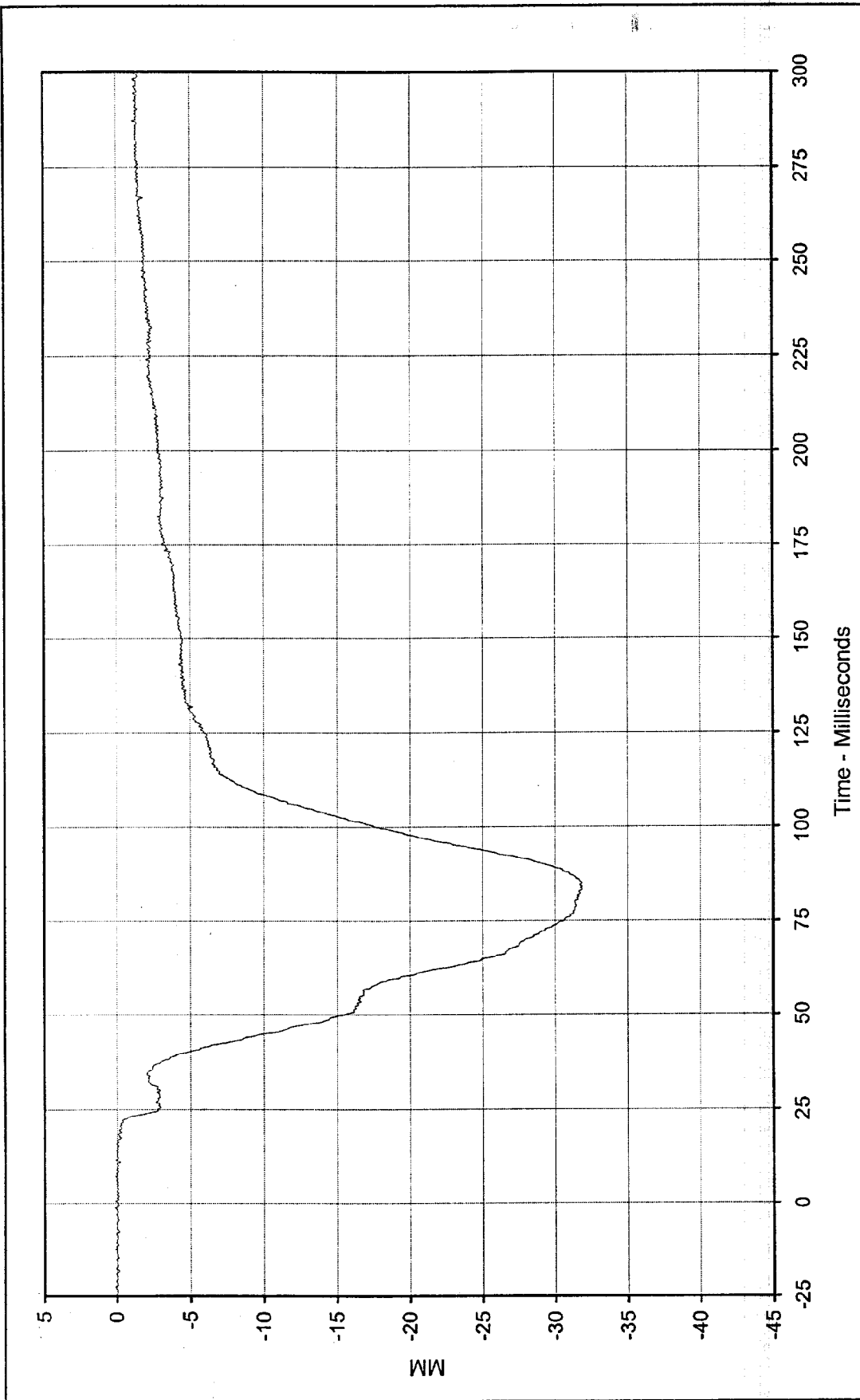


SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-018



Curve Description: Driver Chest Resultant Redundant      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 53.5    at 77.3    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.2    at 112.0    Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: RES-016

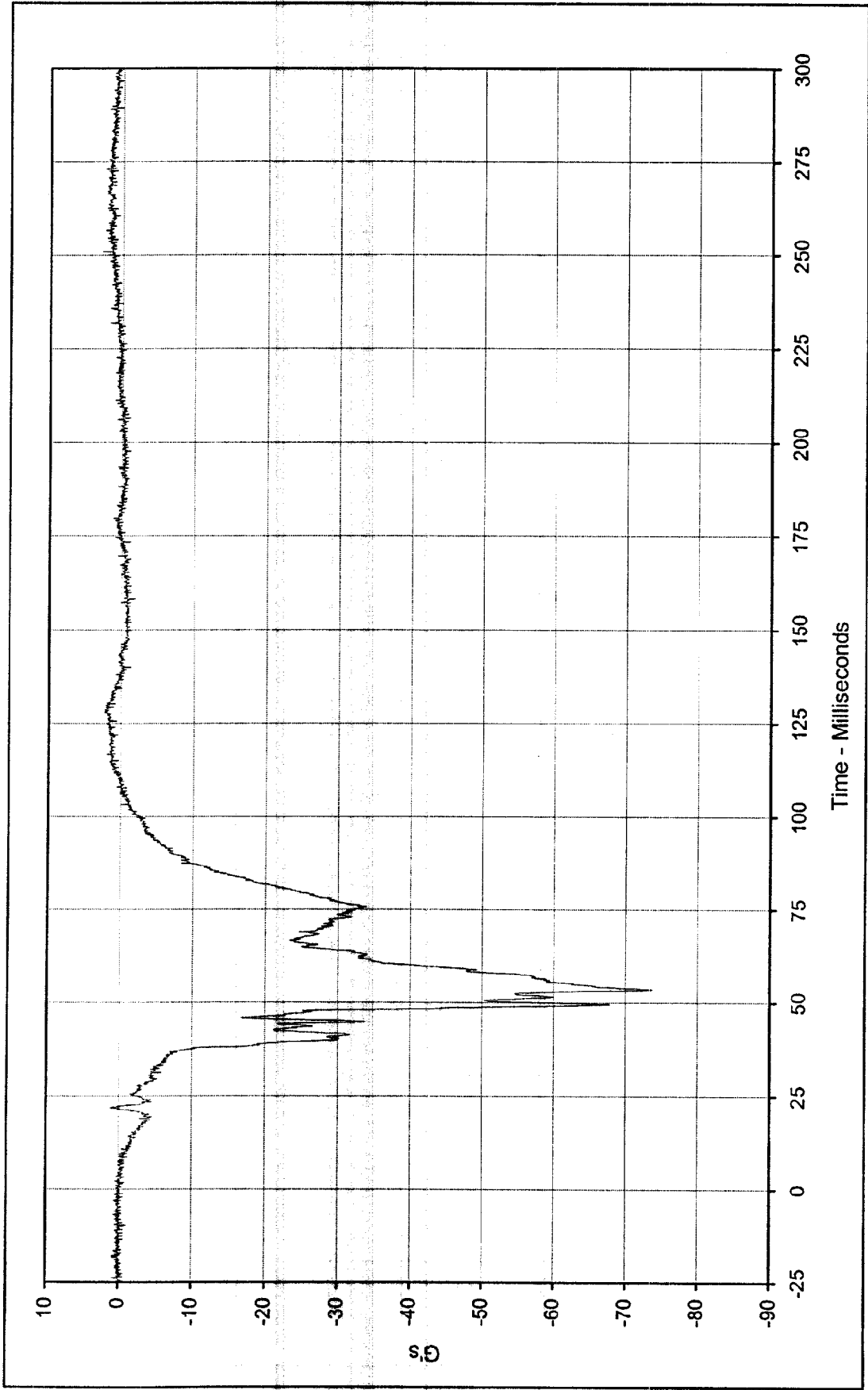




Curve Description: Driver Chest Displacement X Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 0.1 at 0.6 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -31.9 at 83.2 Milliseconds



SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-019



Curve Description: Driver Pelvis X Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 2.8 at 250.9 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

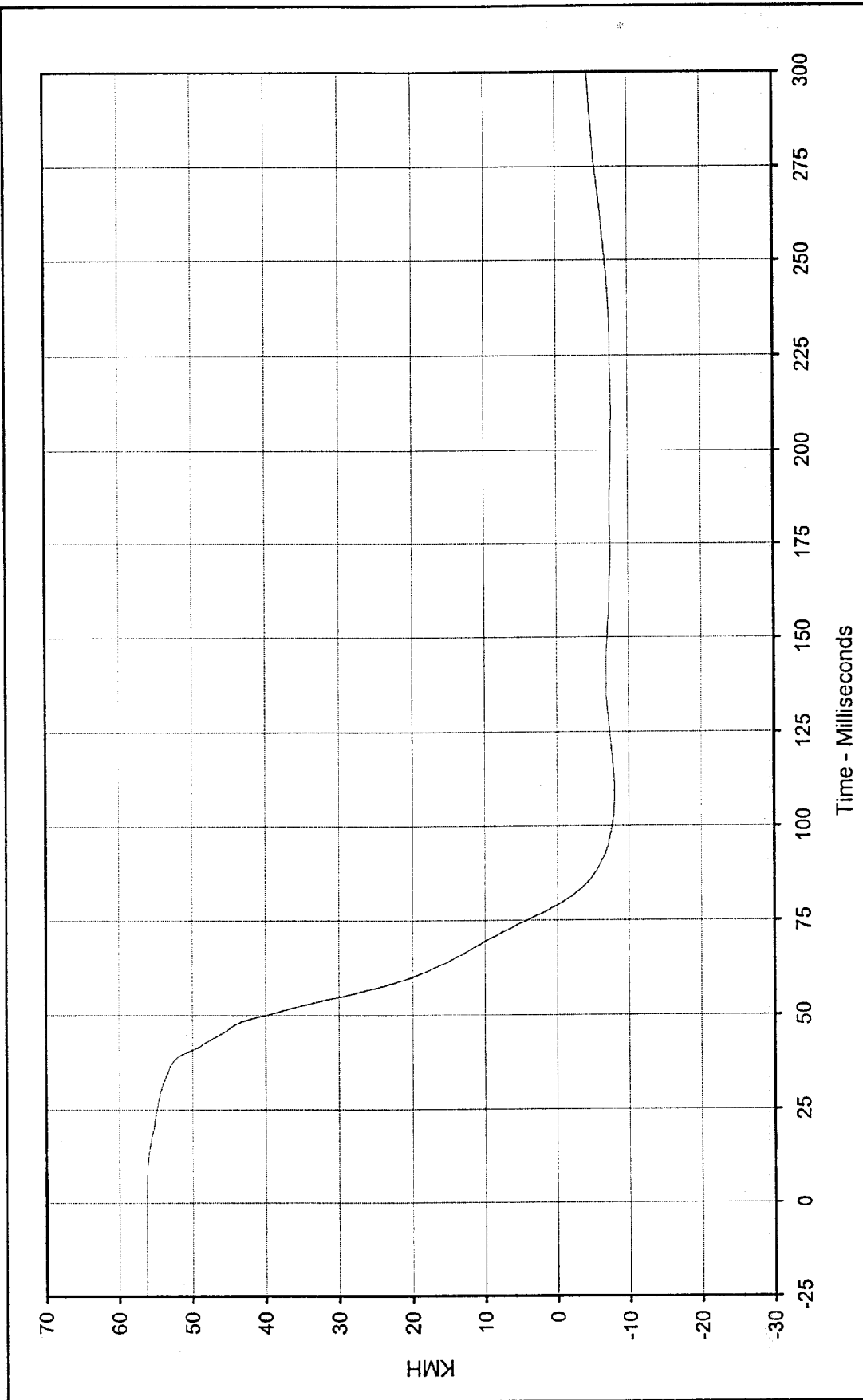
Minimum Value: -73.7 at 53.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/19/99

Curve Number: FIL-020

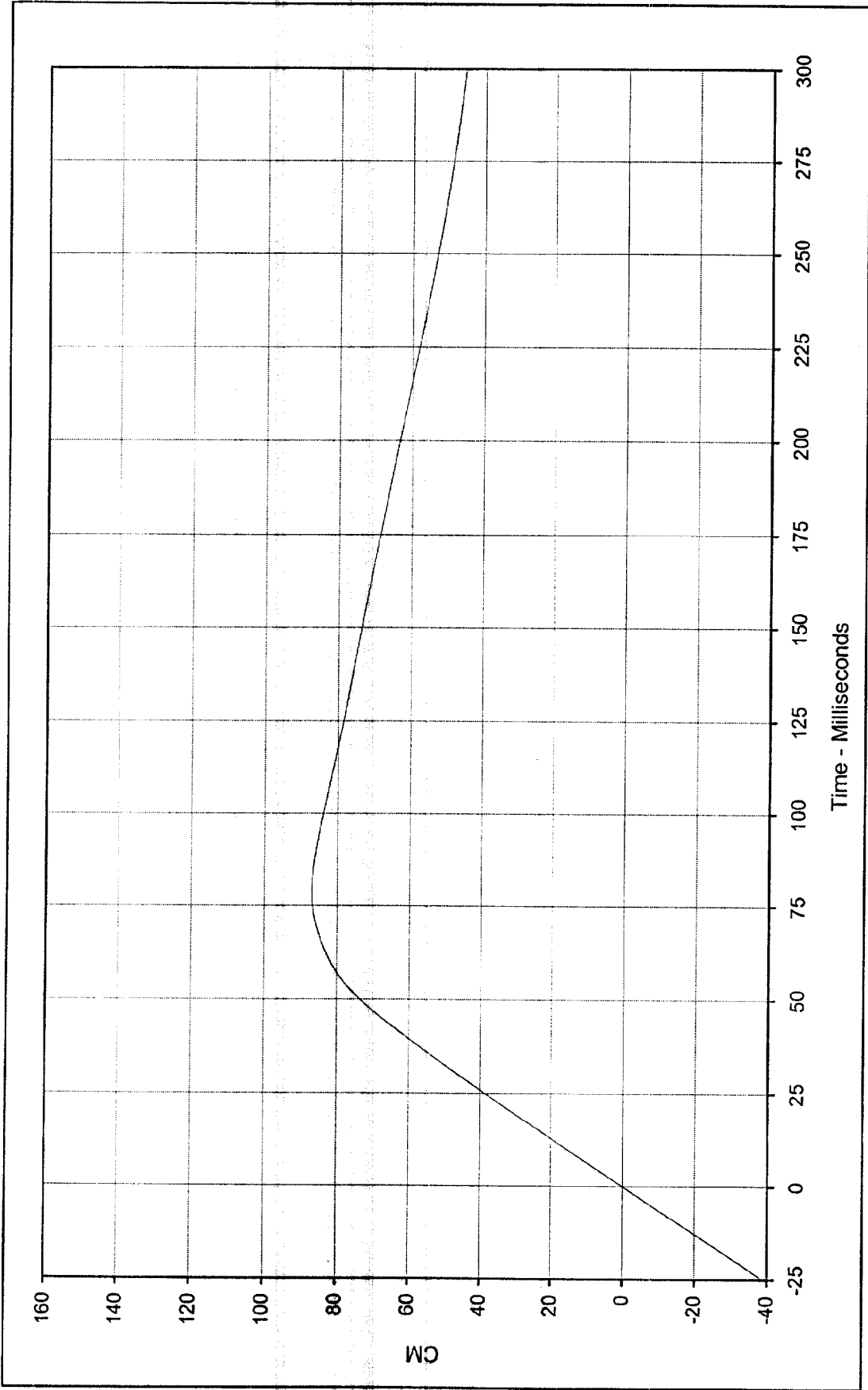




Curve Description: Driver Pelvis X Velocity      Testing Program 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 56.3      at 0.0      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -8.0      at 109.9      Milliseconds

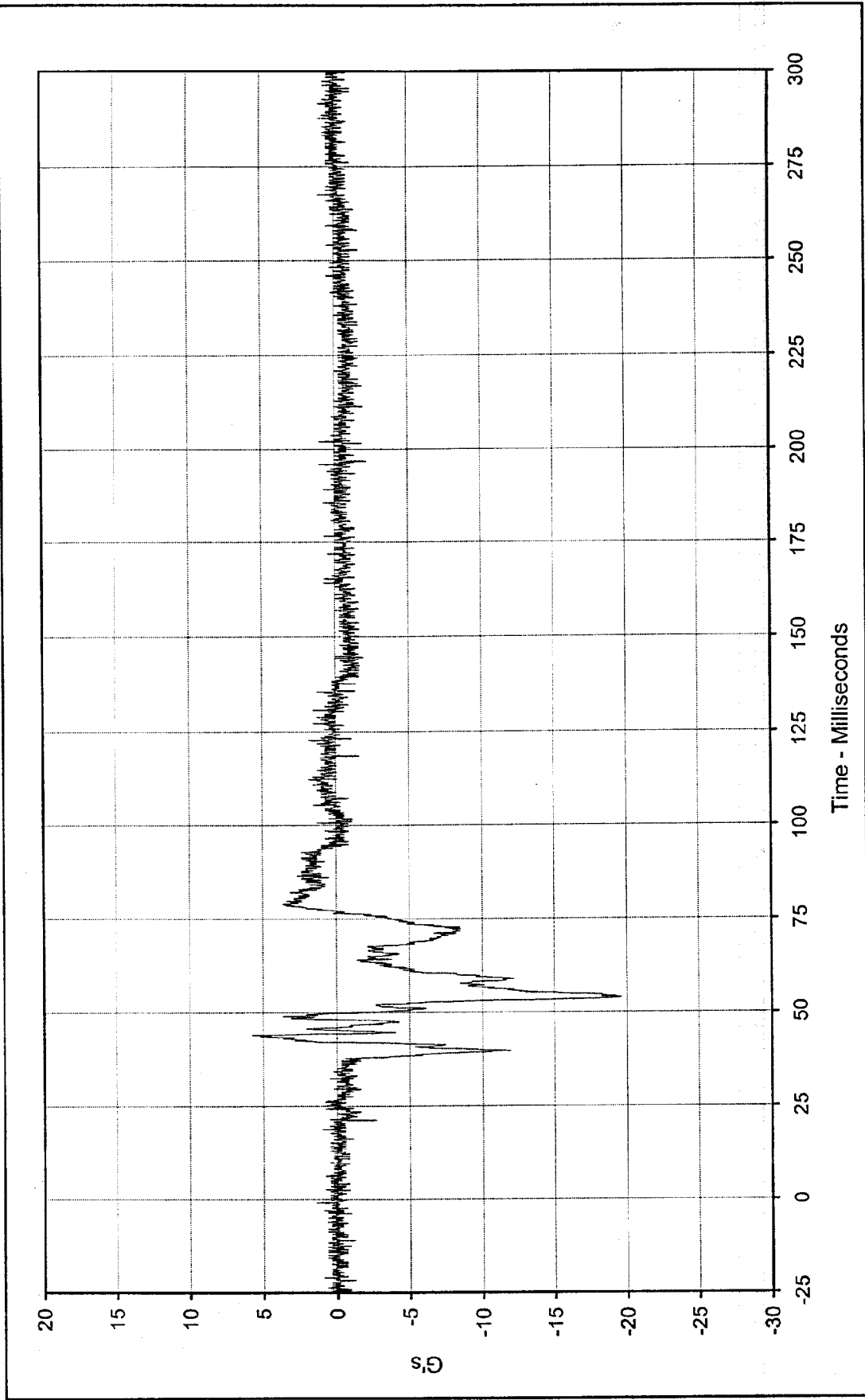


SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-020



Curve Description: Driver Pelvis X Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 87.0 at 78.9 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-020

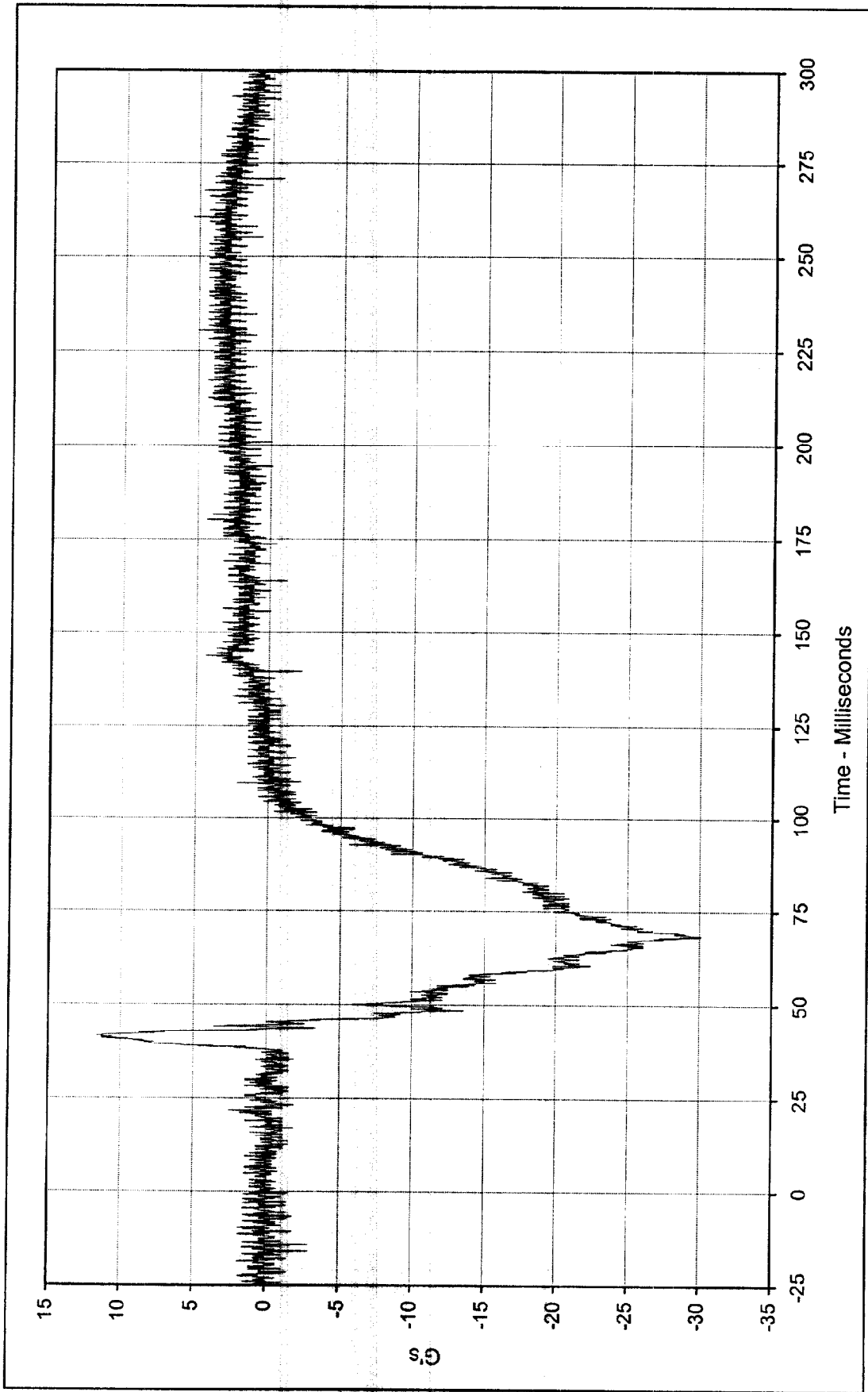




Curve Description: Driver Pelvis Y Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 5.7 at 44.1 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -19.6 at 53.8 Milliseconds

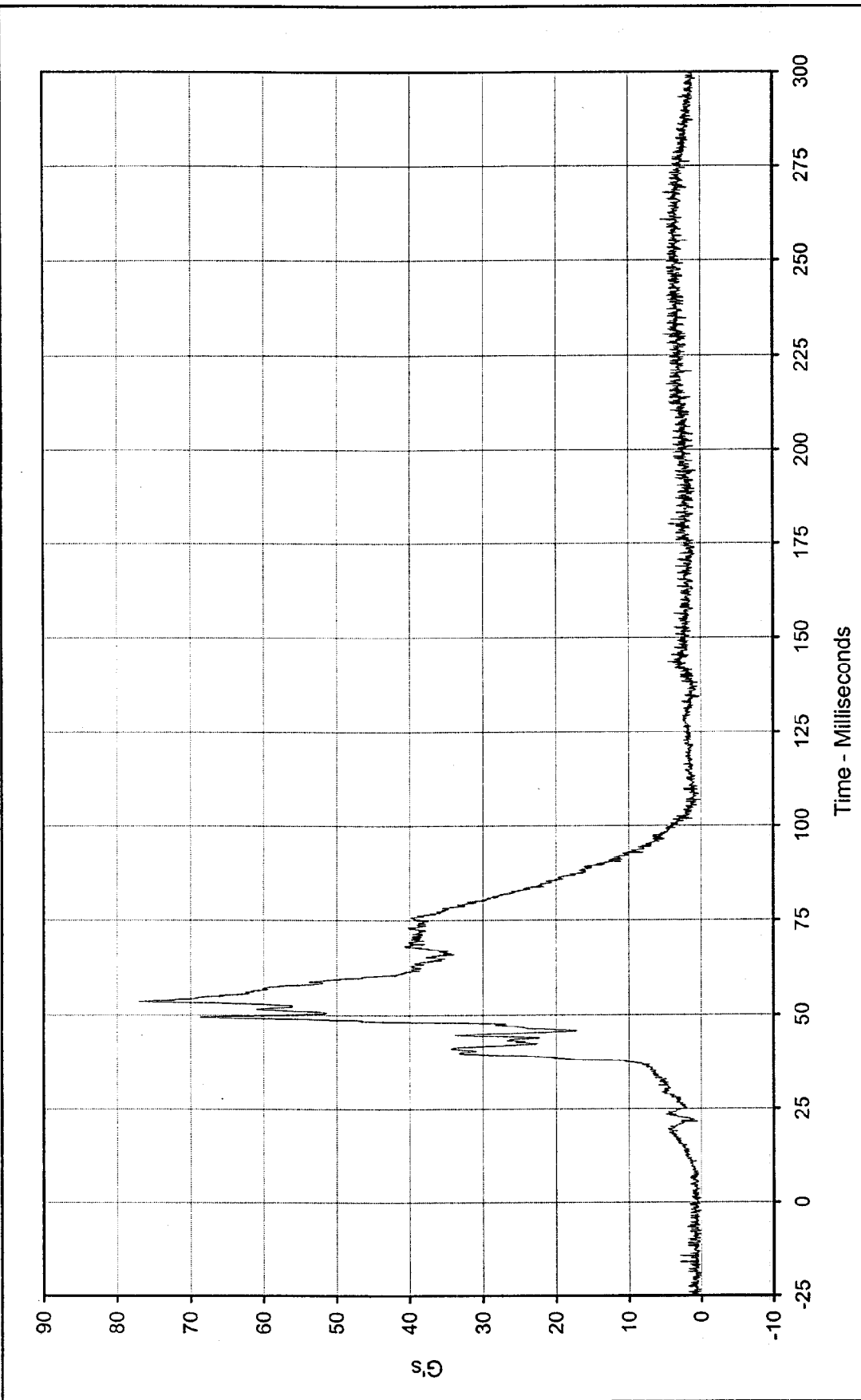
SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-021





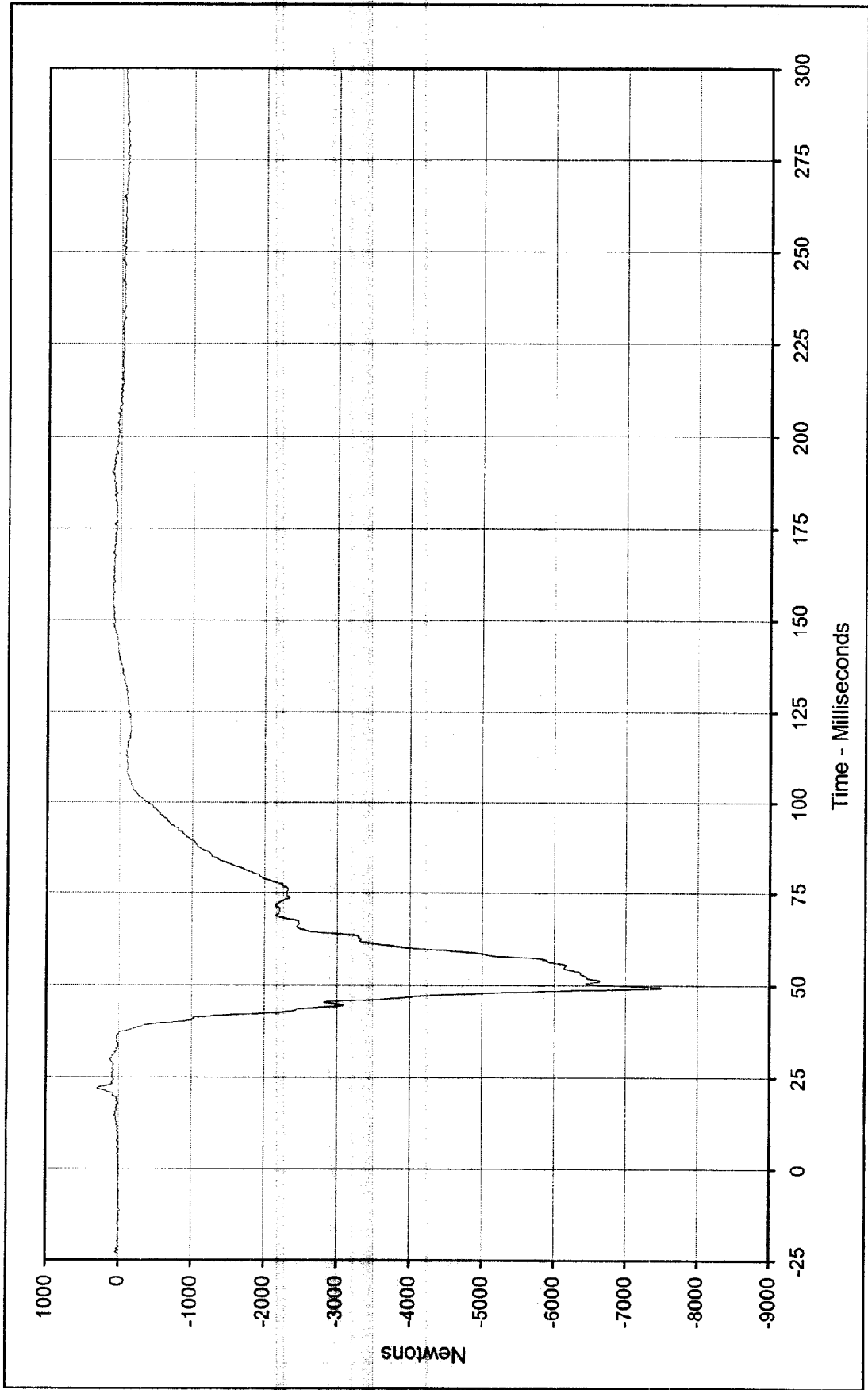
Curve Description: Driver Pelvis Z      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 11.7 at 41.6 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -30.1 at 68.0 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-022





Curve Description: Driver Pelvis Resultant Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 77.0 at 53.6 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.2 at 1.1 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: RES-020





Curve Description: Driver Left Femur Force Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 294.2 at 22.1 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

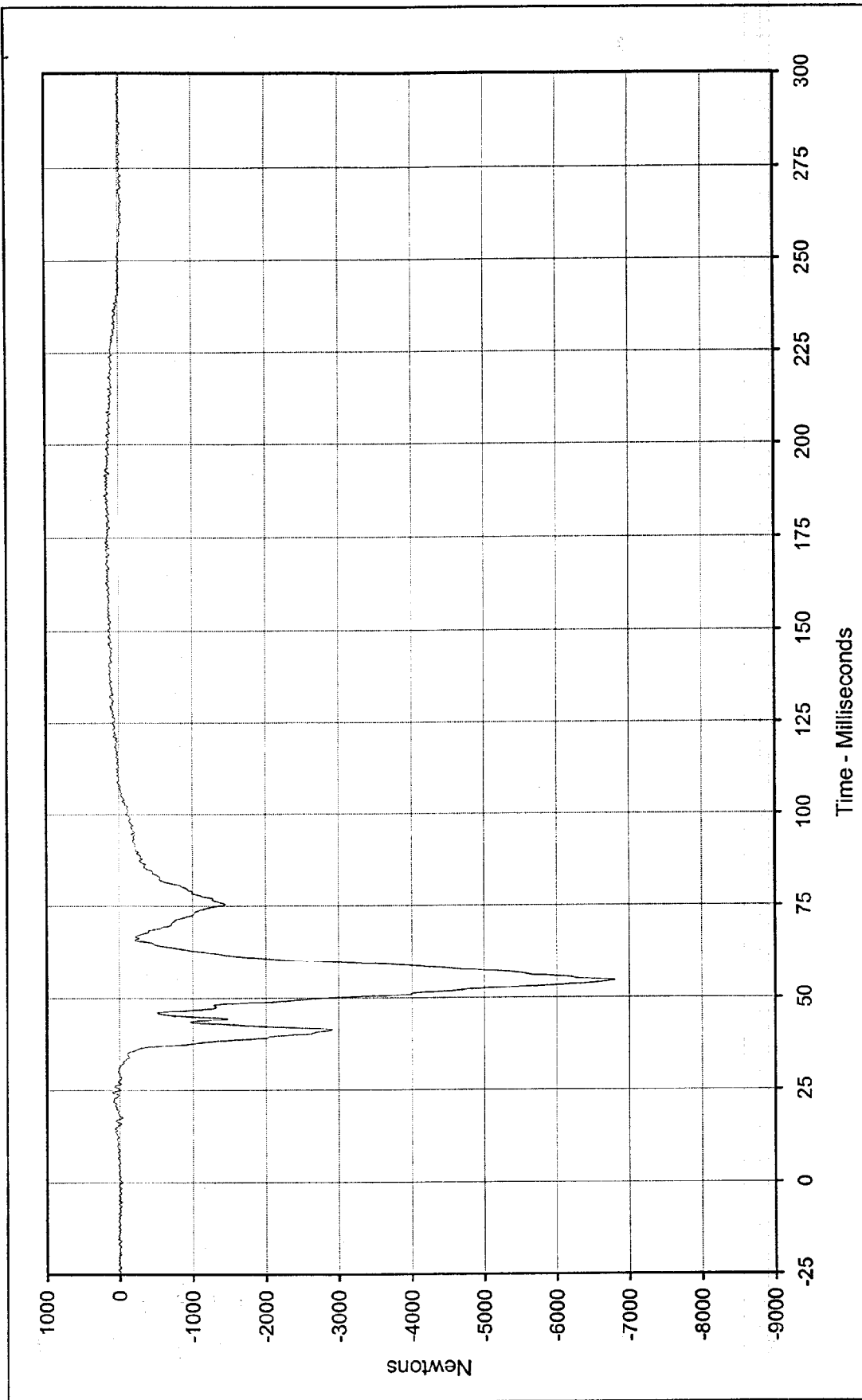
Minimum Value: -7497.2 at 49.4 Milliseconds

SAE Filter Class: 600

Date of Test: 1/19/99

Curve Number: FIL-023

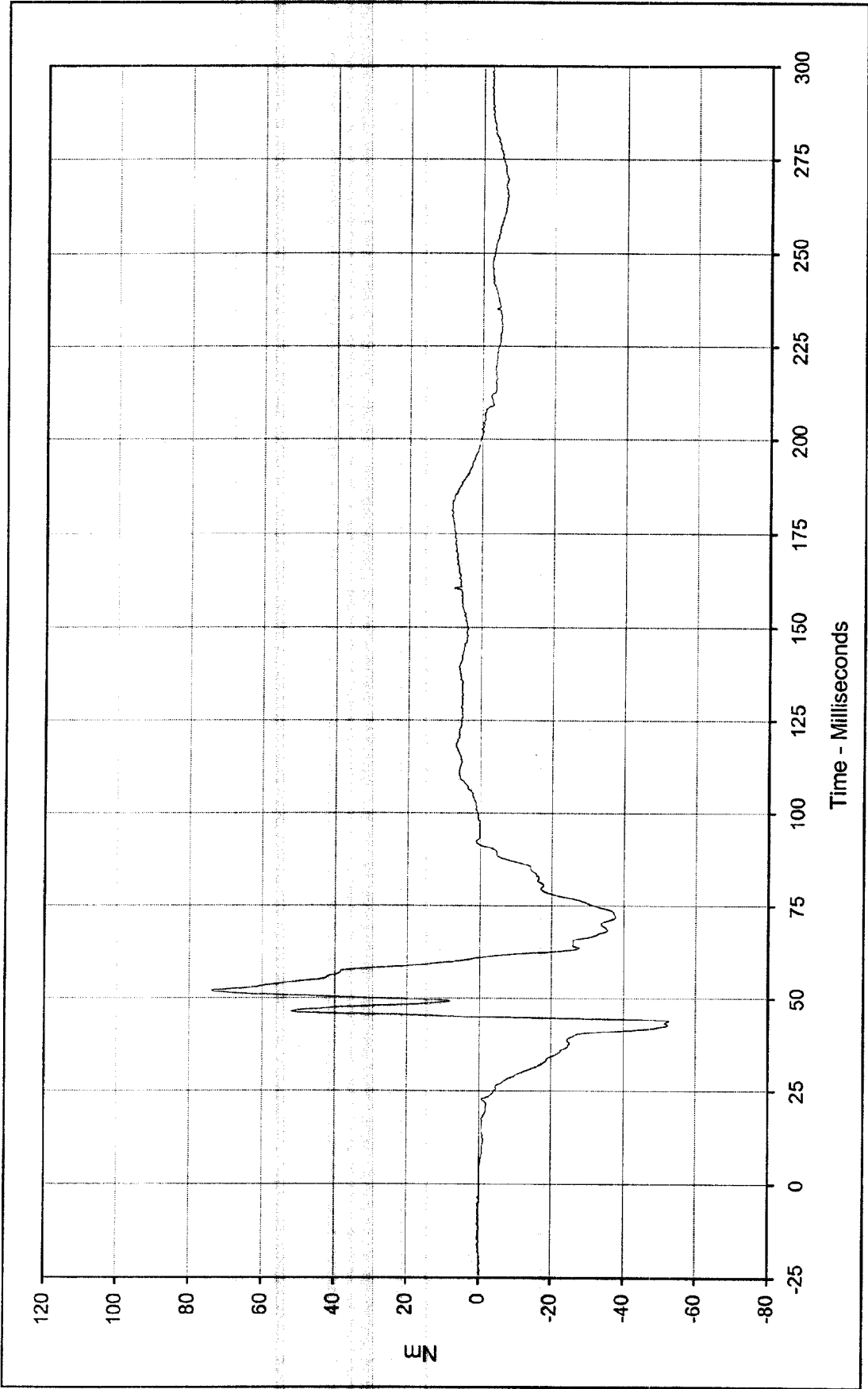




Curve Description: Driver Right Femur Force  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 187.0 at 191.6 Milliseconds  
 Minimum Value: -6798.0 at 54.6 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-024





Curve Description: Driver Left Upper Tibia Moment X Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 73.8 at 51.9 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

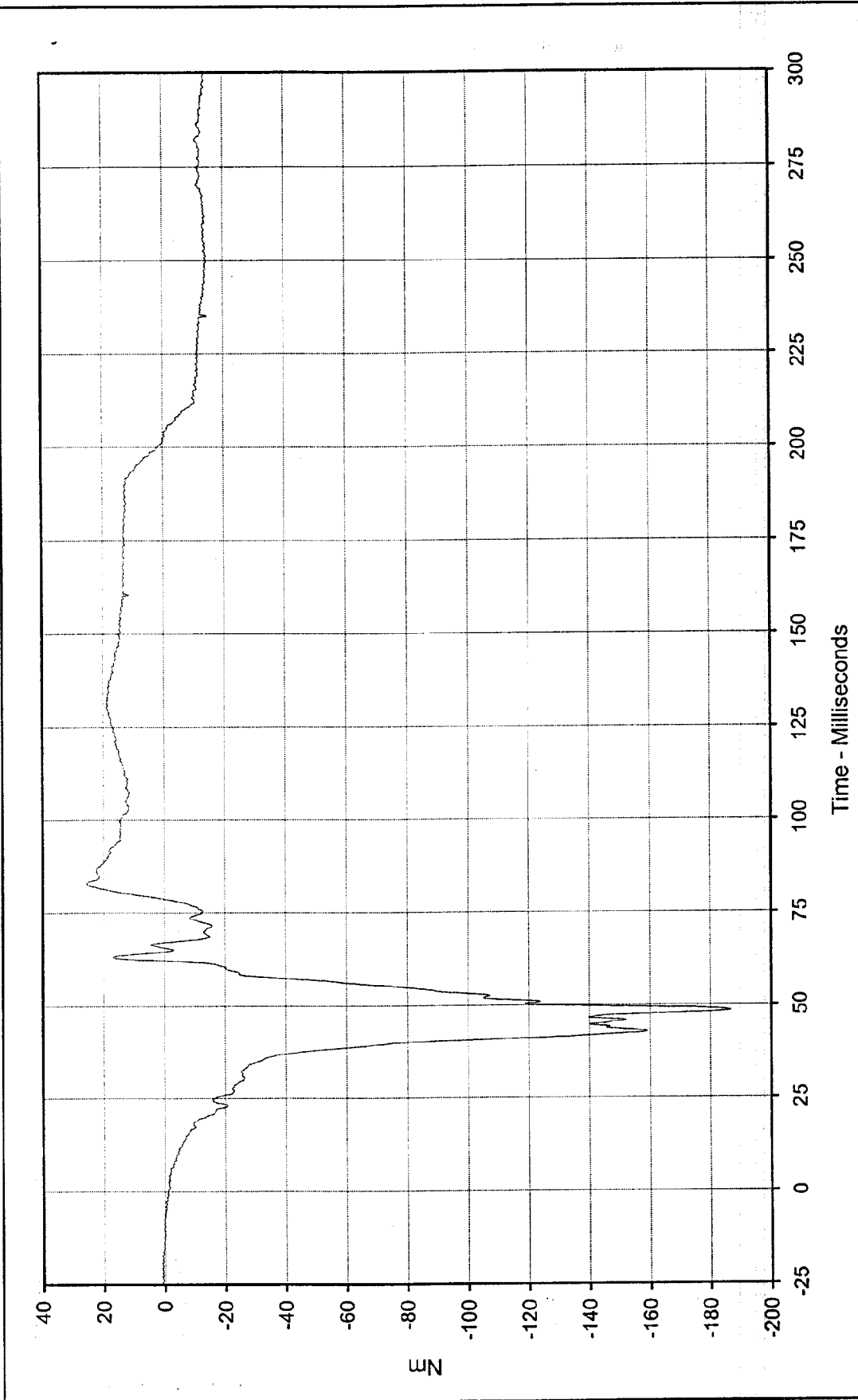
Minimum Value: -52.8 at 43.8 Milliseconds

SAE Filter Class: 600

Date of Test: 1/19/99

Curve Number: FIL-025

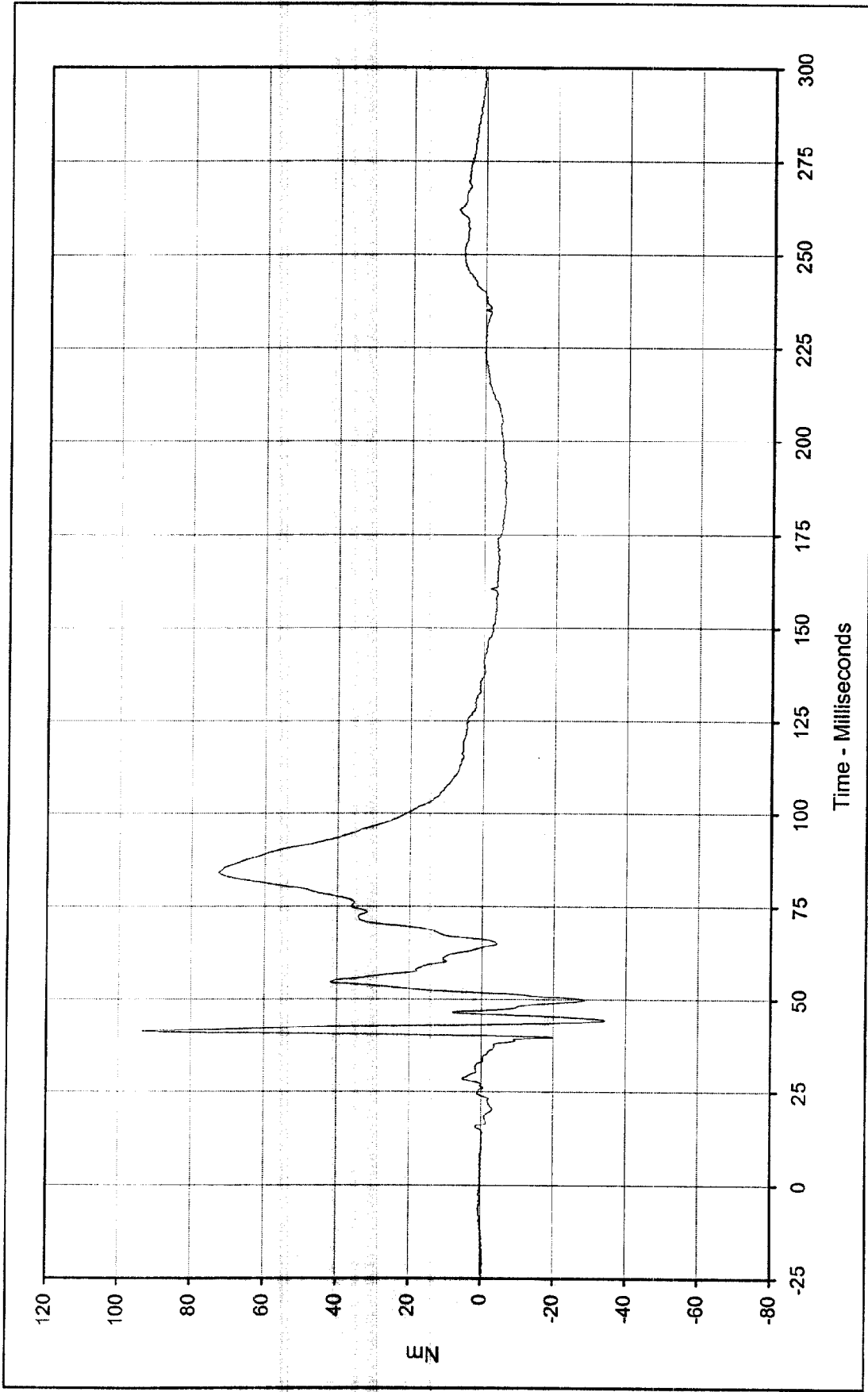




Curve Description: Driver Left Upper Tibia Moment Y  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 25.6 at 83.1 Milliseconds  
 Minimum Value: -186.9 at 48.5 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-026

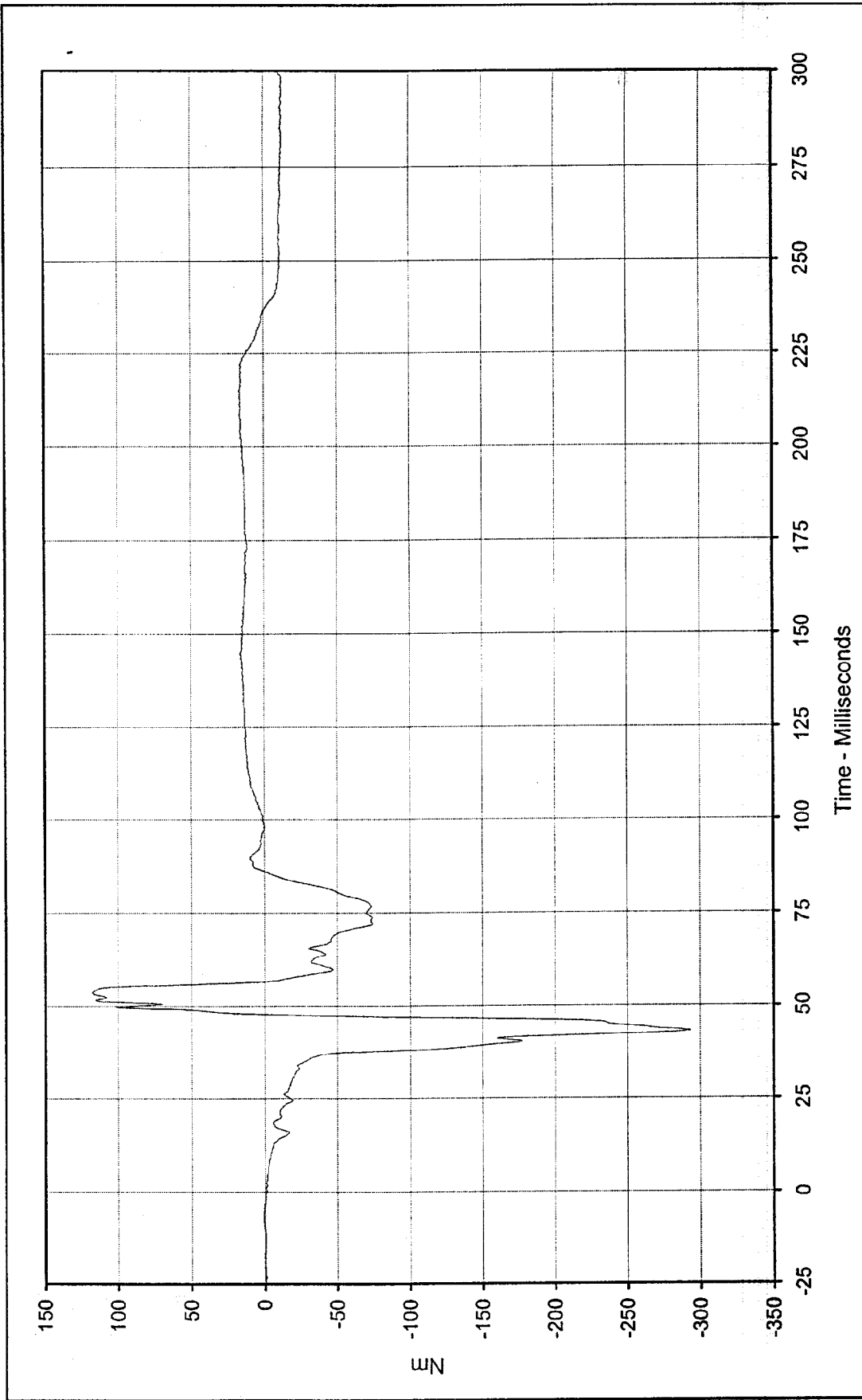




Curve Description: Driver Right Upper Tibia Moment X  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 93.3 at 41.3 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -34.2 at 44.5 Milliseconds



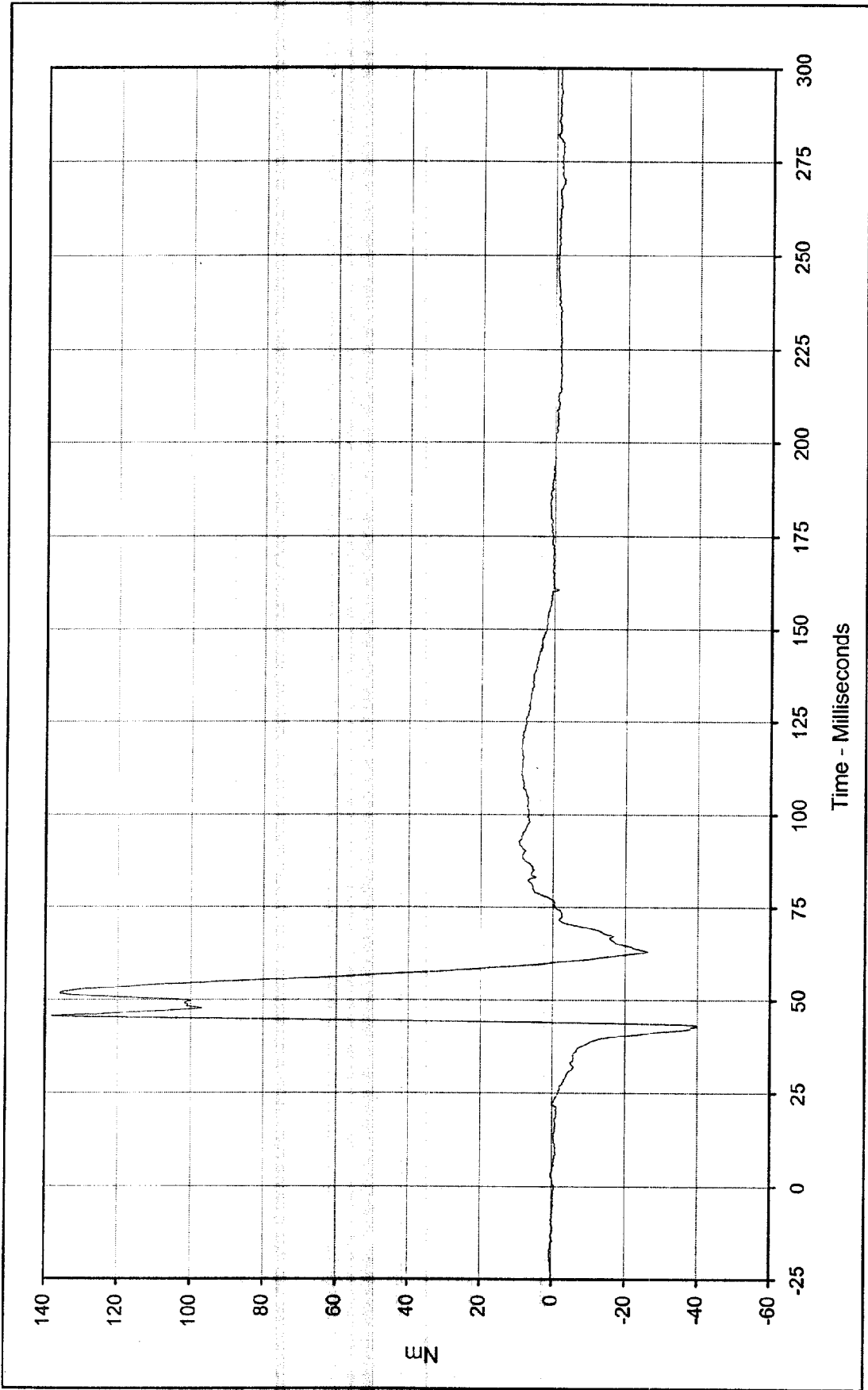
SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-027



Curve Description: Driver Right Upper Tibia Moment Y  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

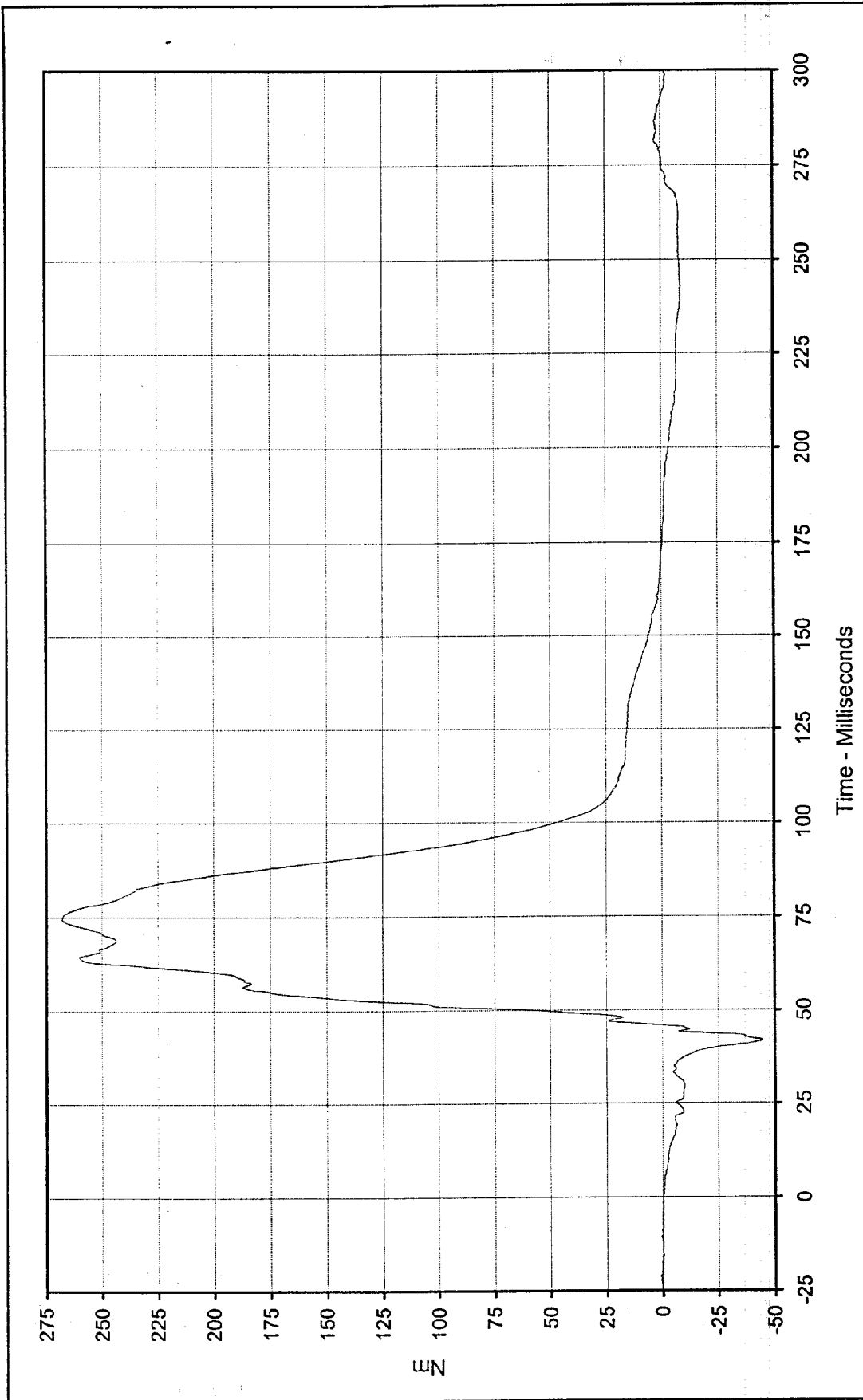
Maximum Value: 117.5 at 53.6 Milliseconds  
 Minimum Value: -293.8 at 43.2 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-028





Curve Description: Driver Left Lower Tibia Moment X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 138.3 at 45.7 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -40.1 at 43.2 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-029

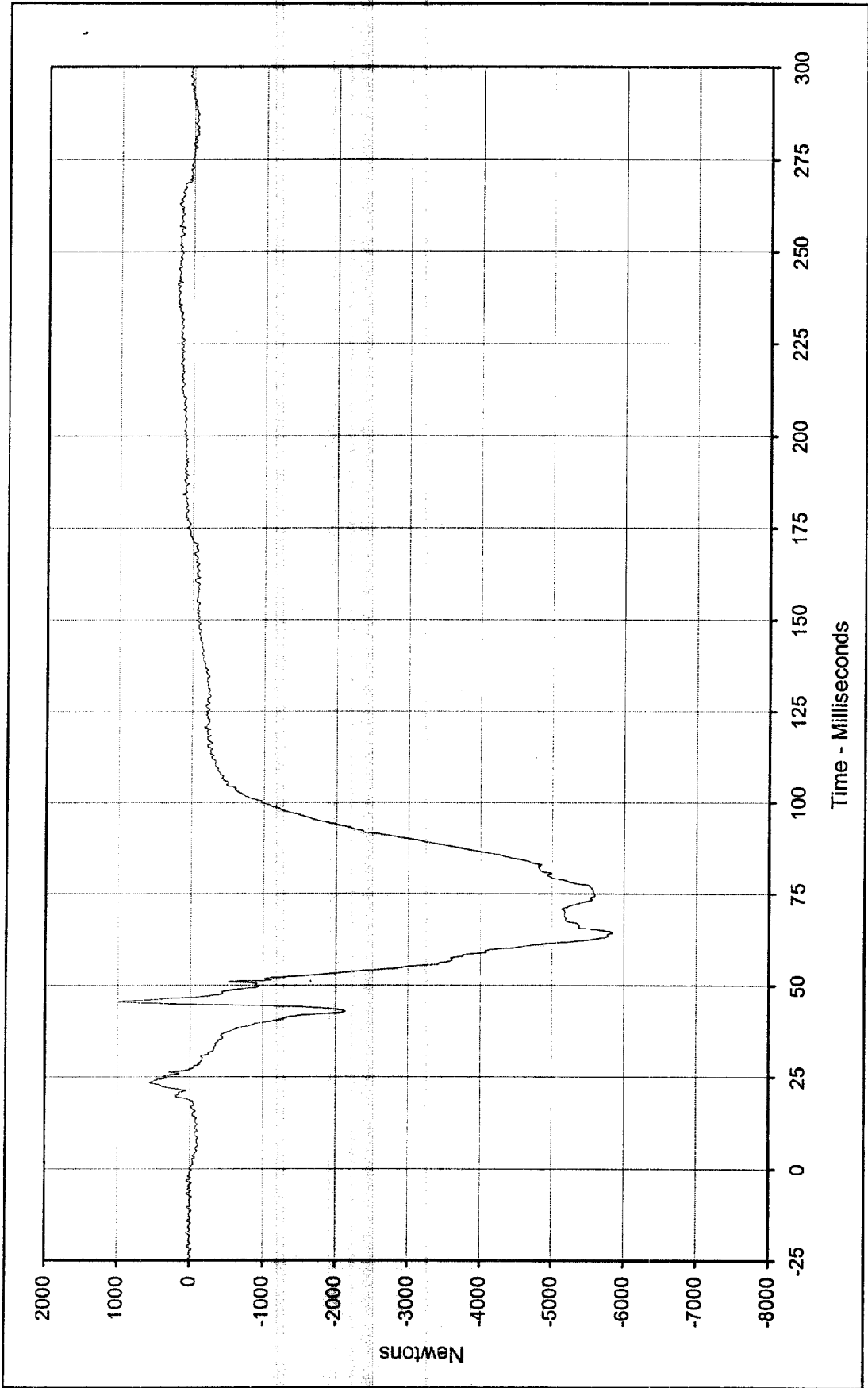




Curve Description: Driver Left Lower Tibia Moment Y Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 267.9 at 74.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -44.6 at 42.0 Milliseconds

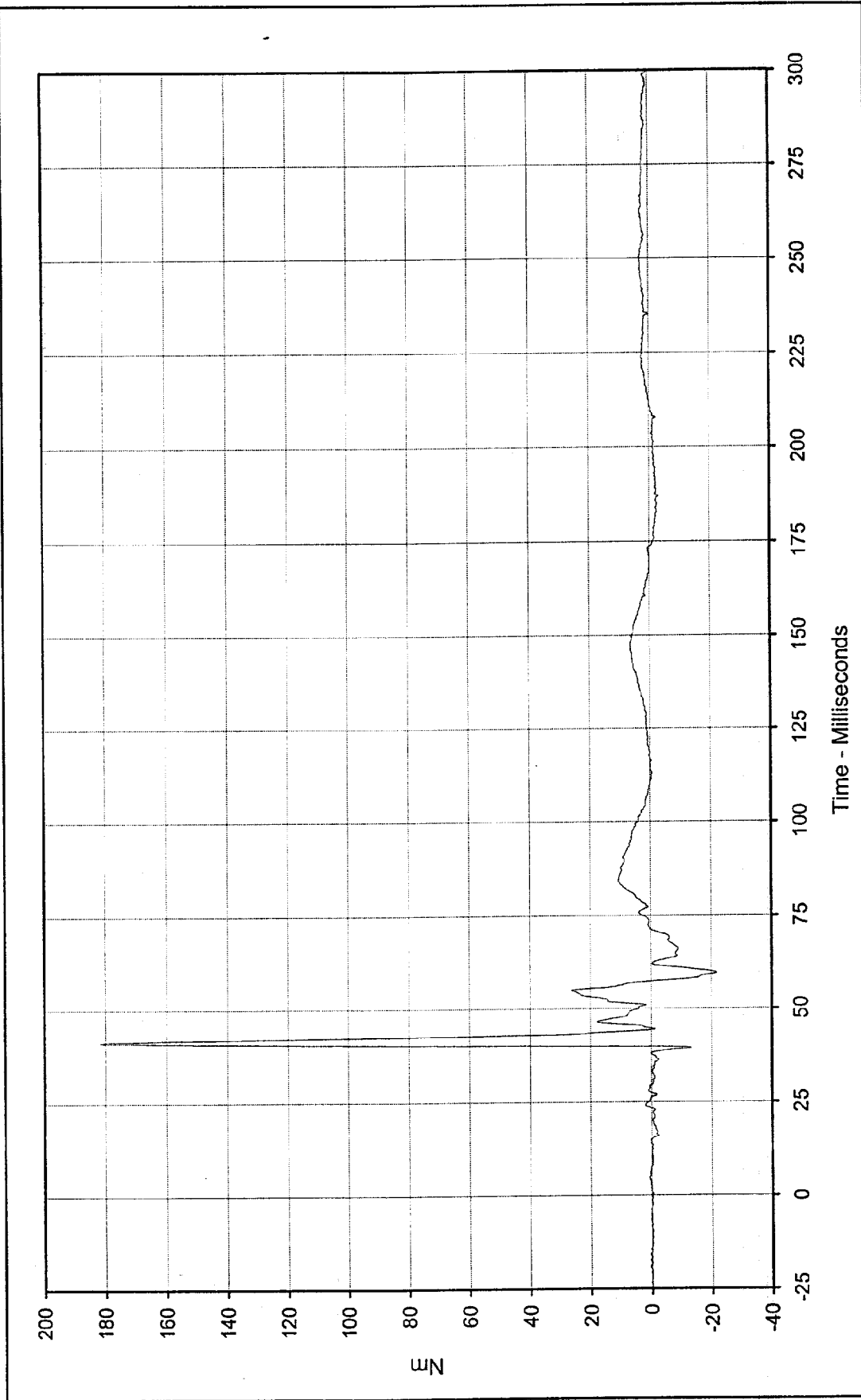


SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-030



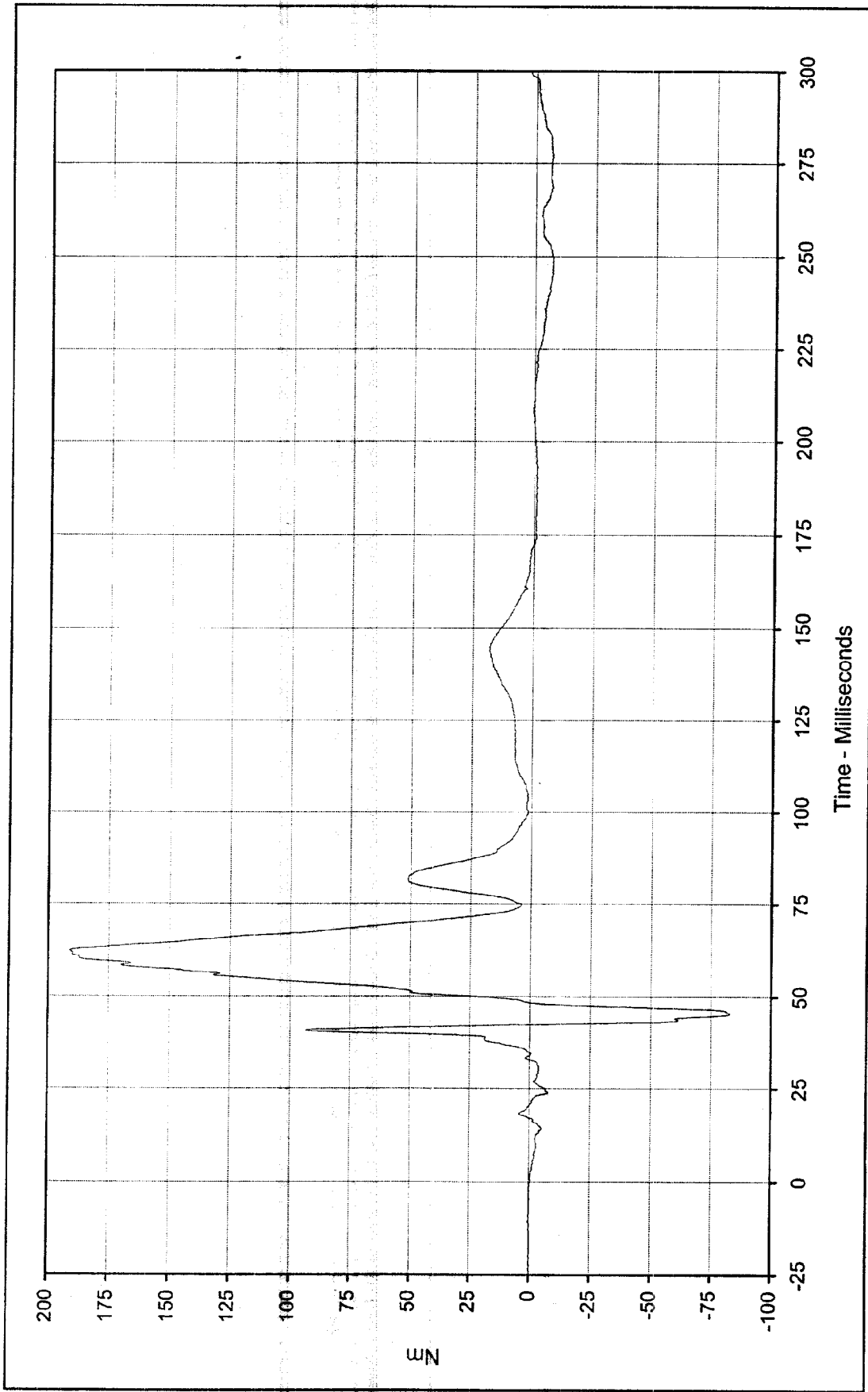
Curve Description: Driver Left Lower Tibia Force Z      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 989.5 at 45.7 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -5840.0 at 64.2 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-031





Curve Description: Driver Right Lower Tibia Moment X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 181.5 at 41.0 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -21.9 at 59.4 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-032

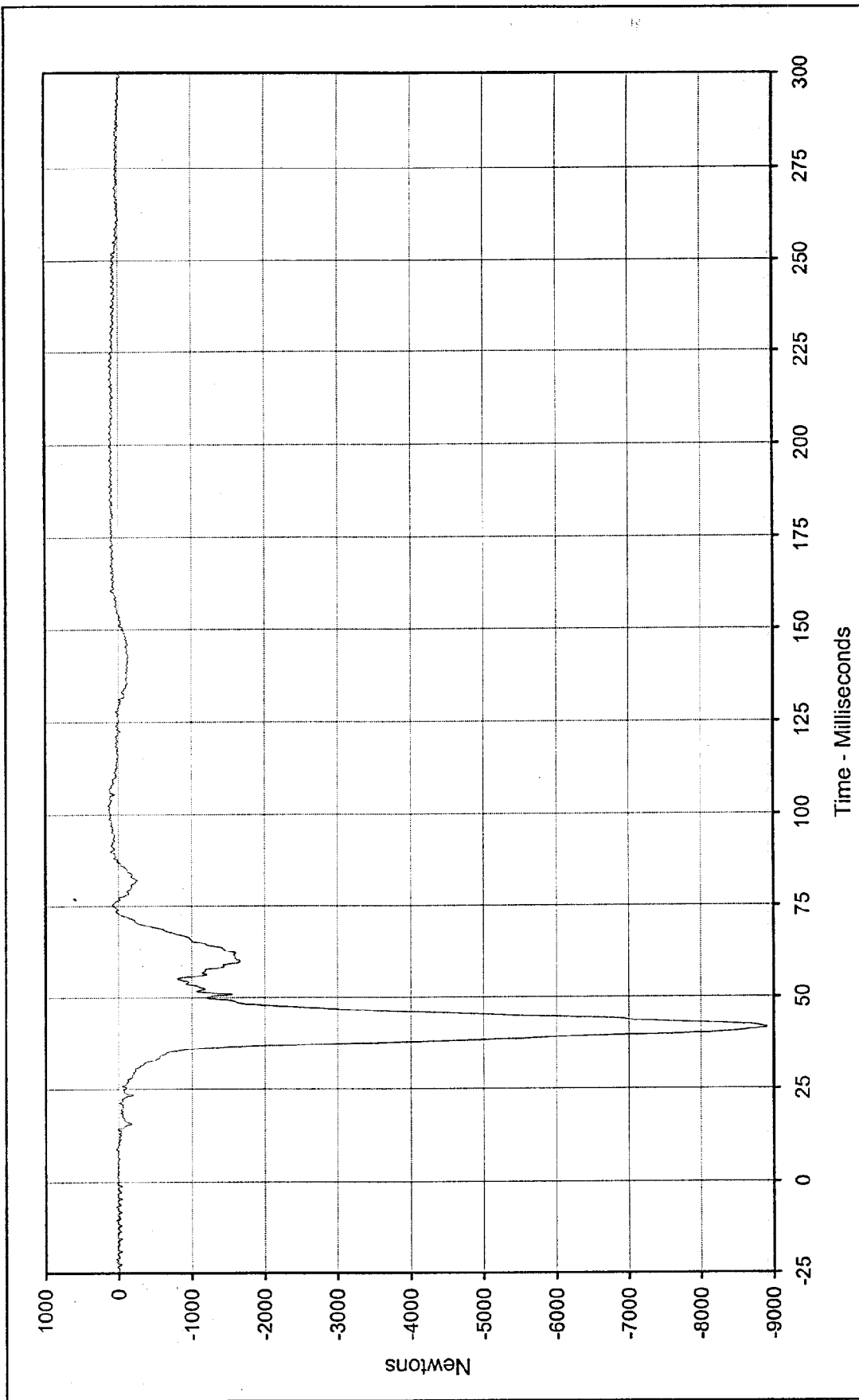




Curve Description: Driver Right Lower Tibia Moment Y      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 191.1      at 62.3      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -83.0      at 45.4      Milliseconds



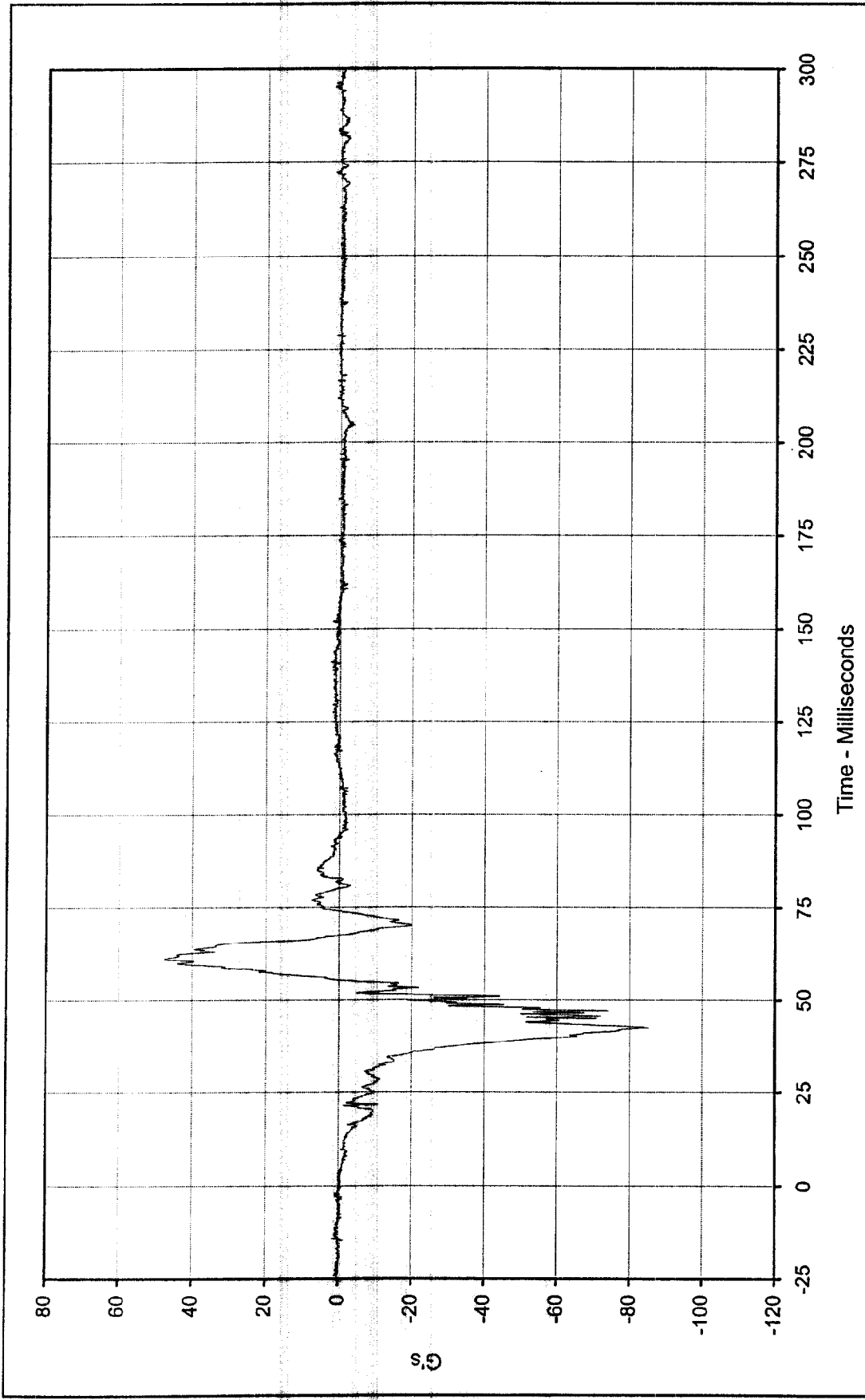
SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-033



Curve Description: Driver Right Lower Tibia Force Z      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 140.4      at 102.4      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -8914.7      at 41.8      Milliseconds

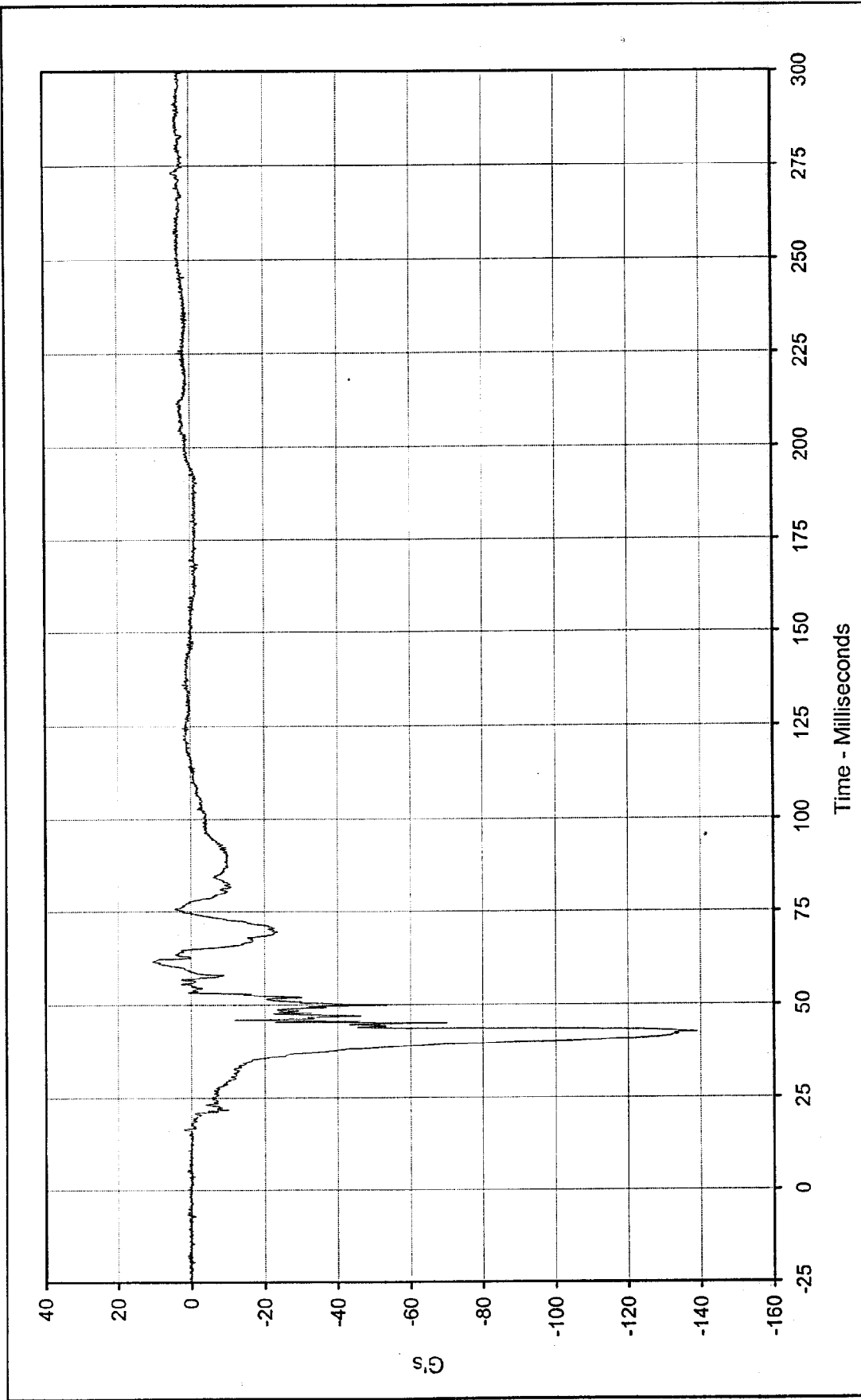


SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-034



Curve Description: Driver Left Foot Aft X      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 47.4      at 61.0      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -85.1      at 42.4      Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-035

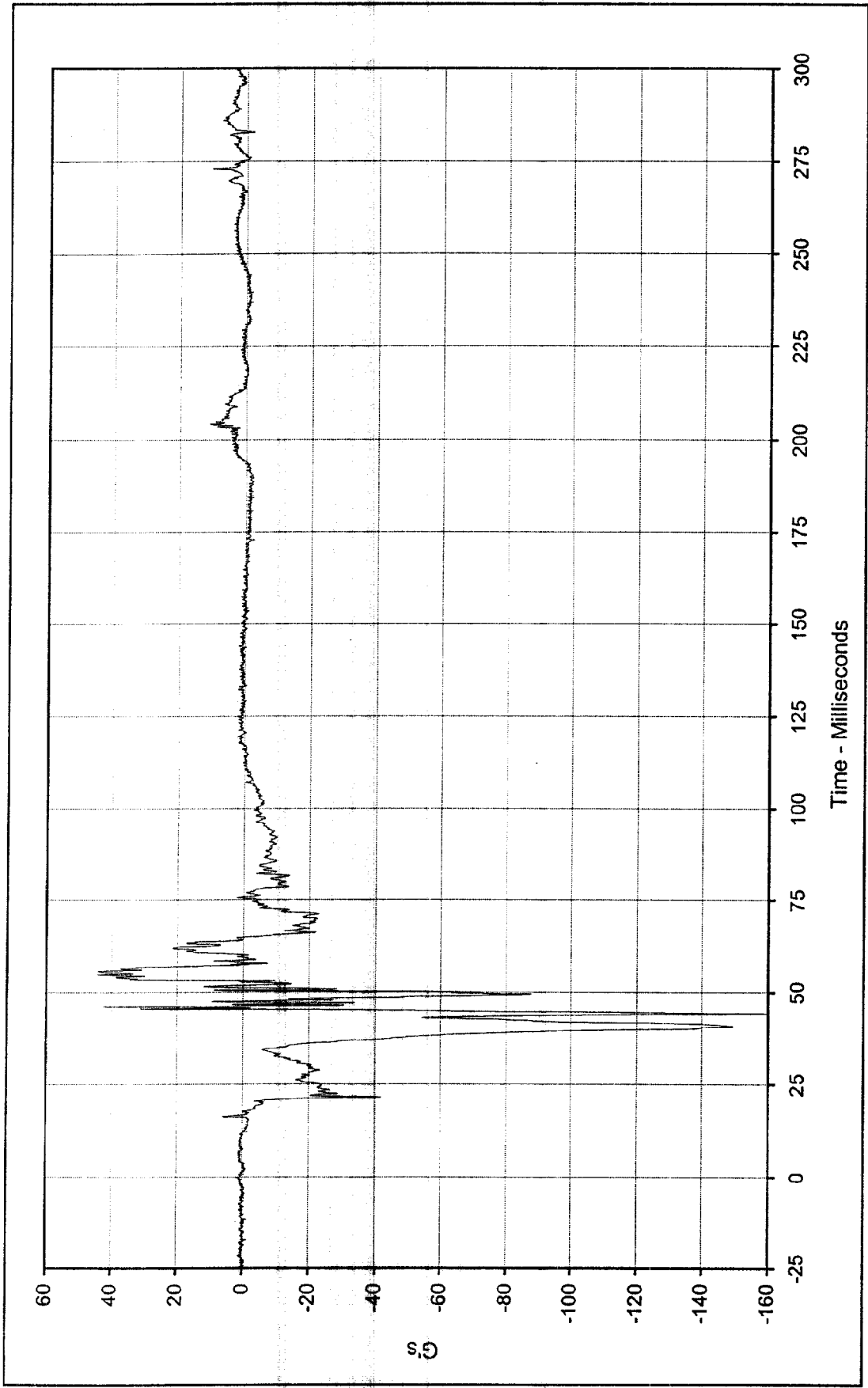




Curve Description: Driver Left Foot Aft Z      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 11.0    at 61.6    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -139.1    at 42.5    Milliseconds

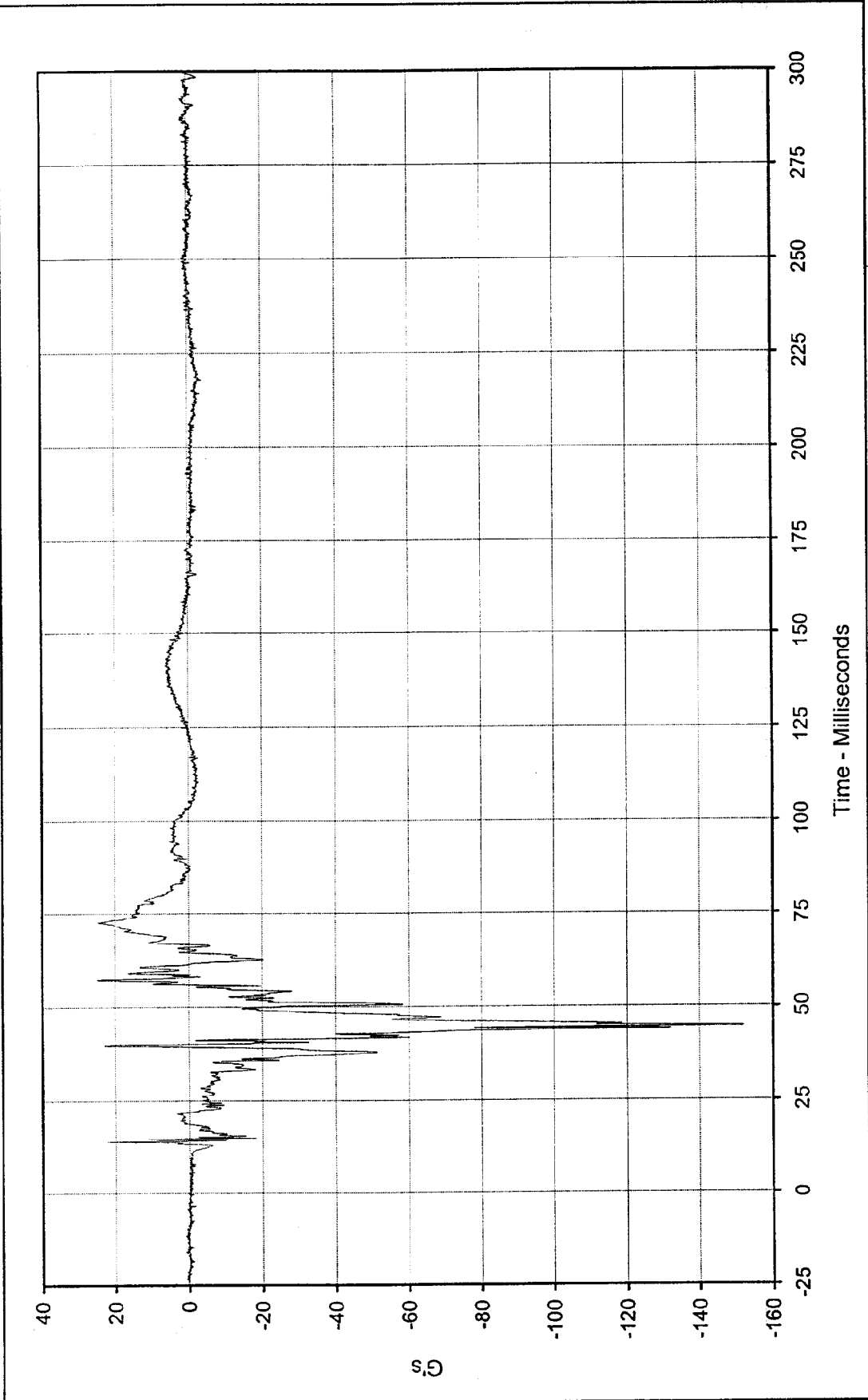


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-036



Curve Description: Driver Left Foot Fore Z      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 44.3 at 54.8 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -159.9 at 44.2 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-037

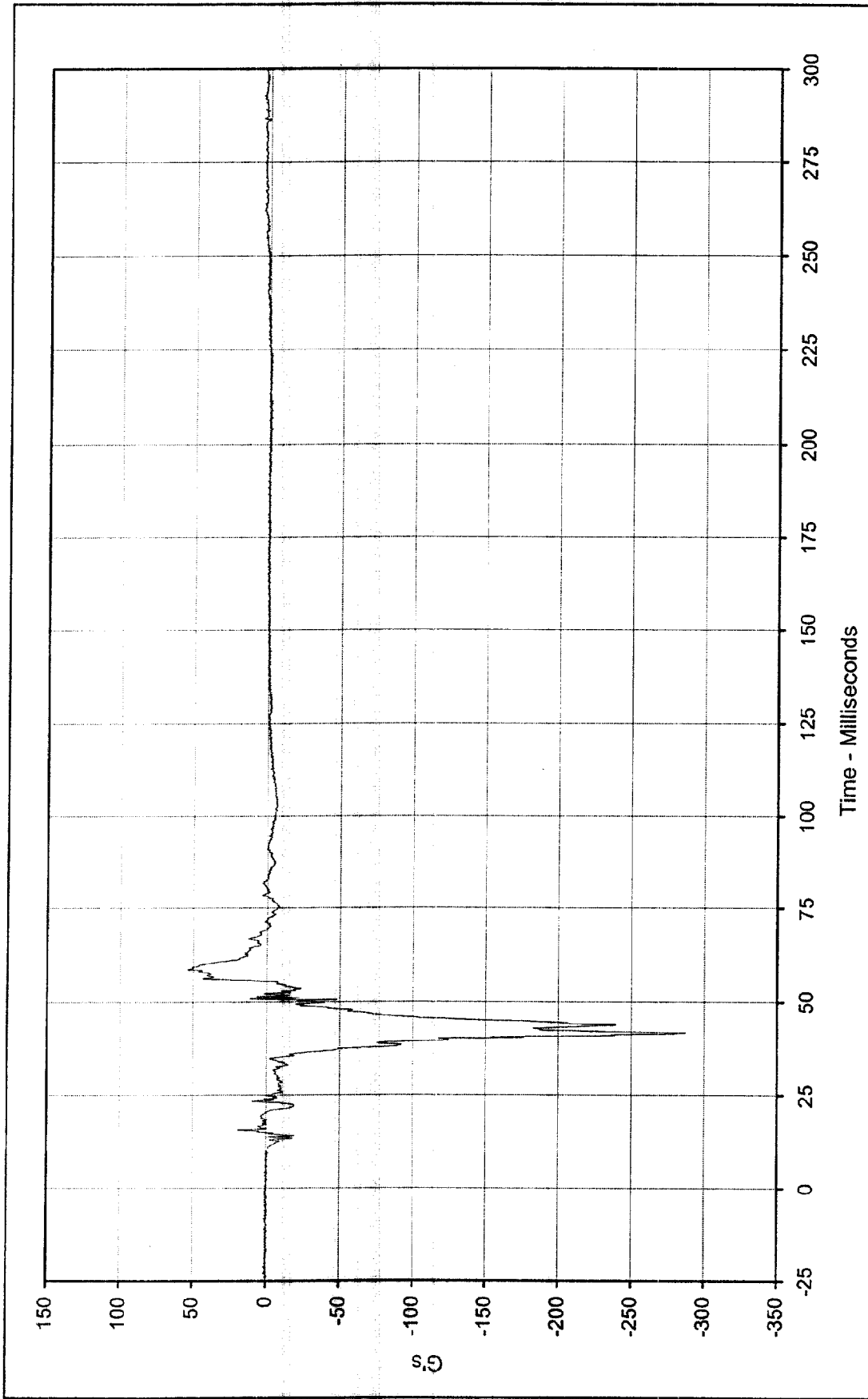




Curve Description: Driver Right Foot Aft X Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 24.9 at 57.2 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -151.8 at 44.7 Milliseconds



SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-038



Curve Description: Driver Right Foot Aft Z      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304

Maximum Value: 53.8      at 58.6      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

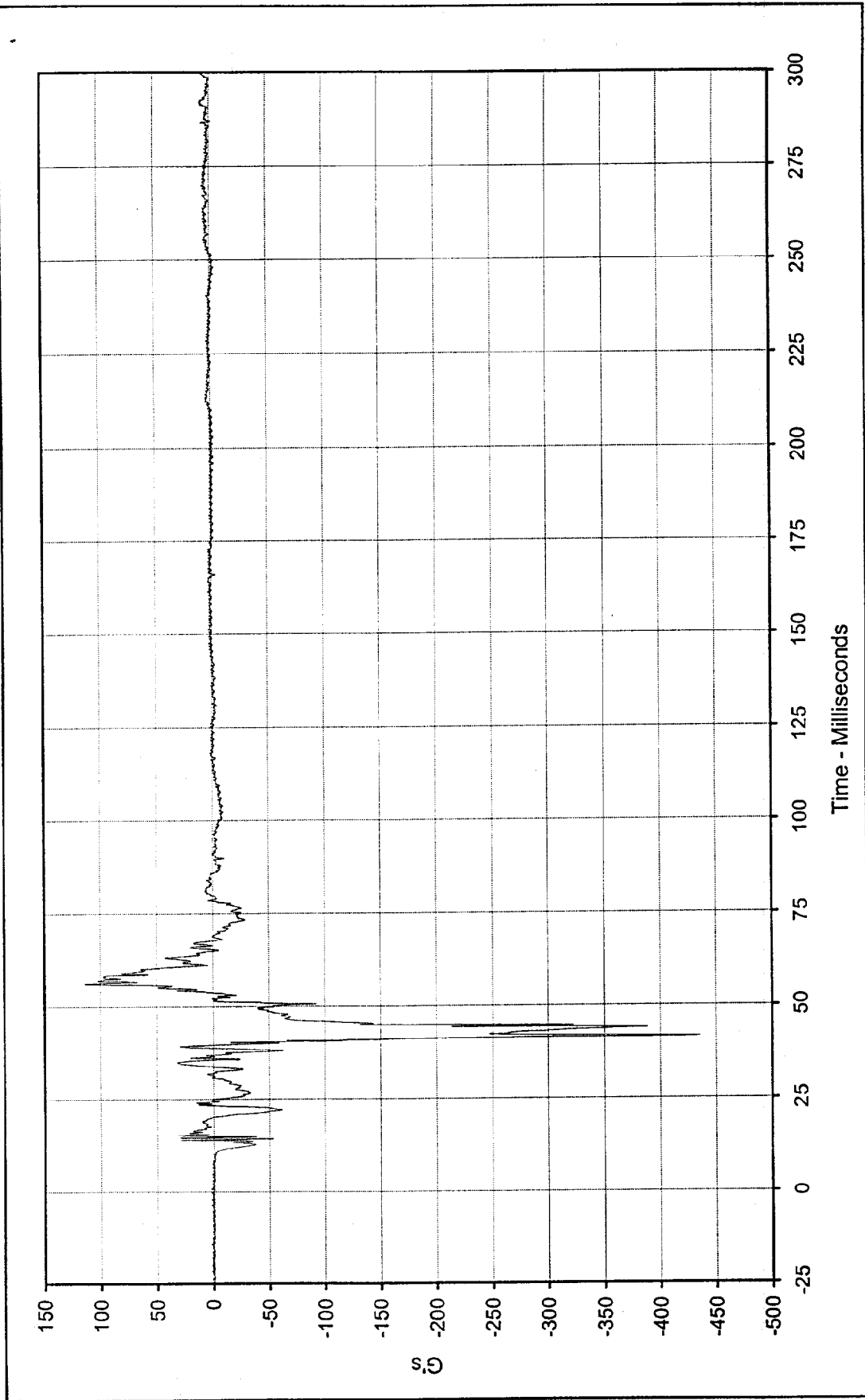
Minimum Value: -287.3      at 41.7      Milliseconds

SAE Filter Class: 1000

Date of Test: 1/19/99

Curve Number: FIL-039

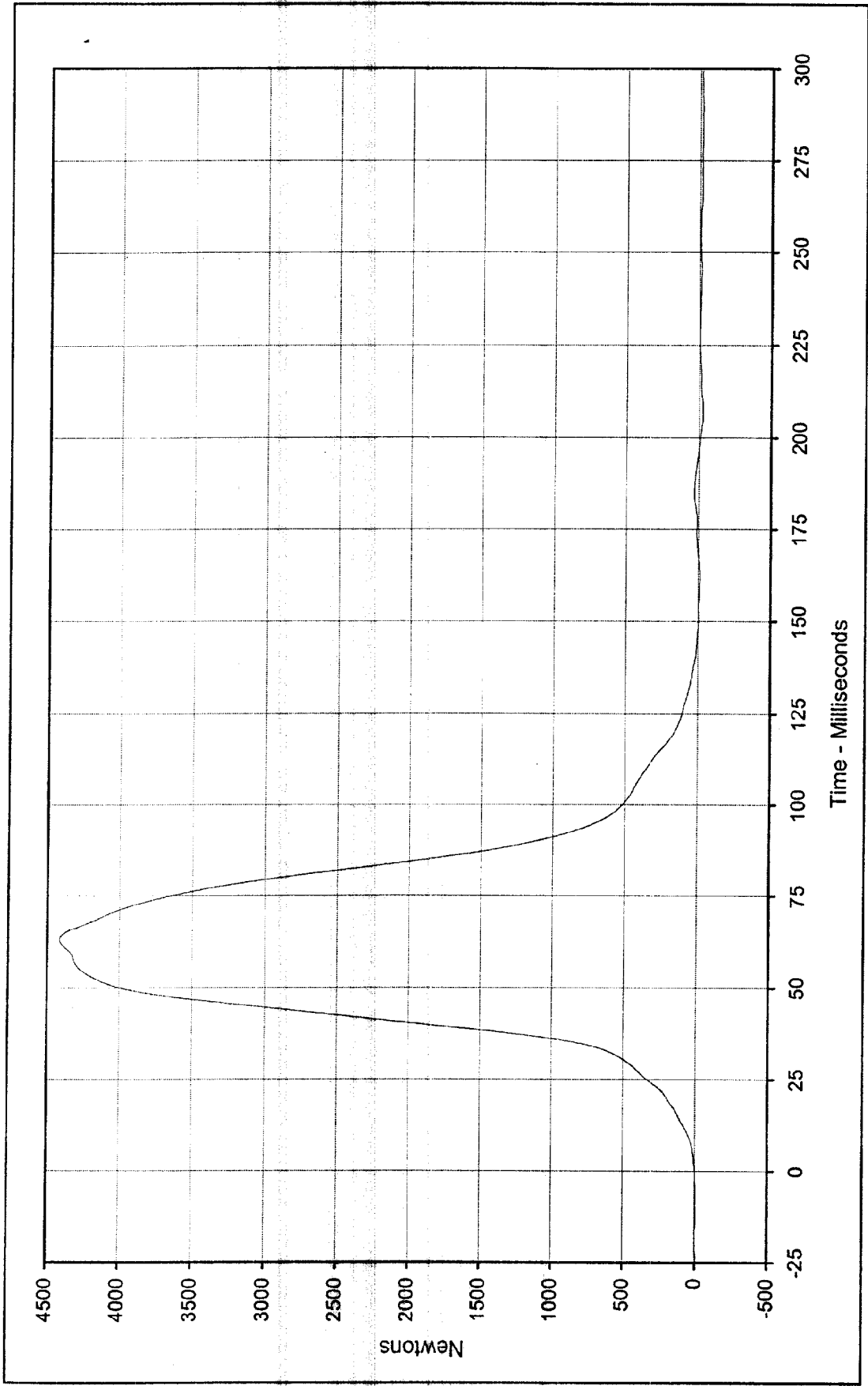




Curve Description: Driver Right Foot Fore Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 113.7 at 56.1 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -435.3 at 41.6 Milliseconds

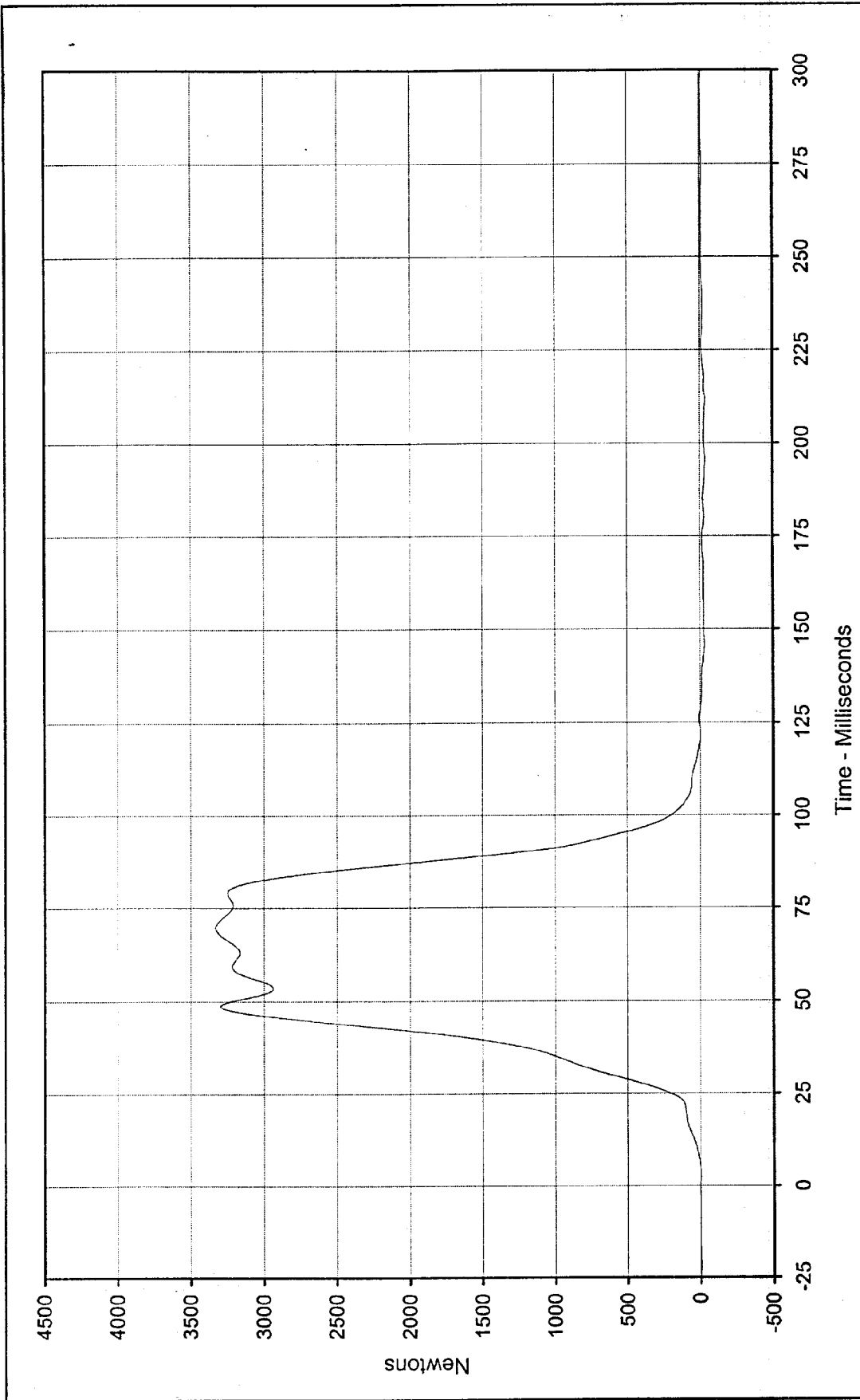
SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-040





Curve Description: Driver Lap Belt Force      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 4415.9    at 63.1    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -28.0    at 207.0    Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-041

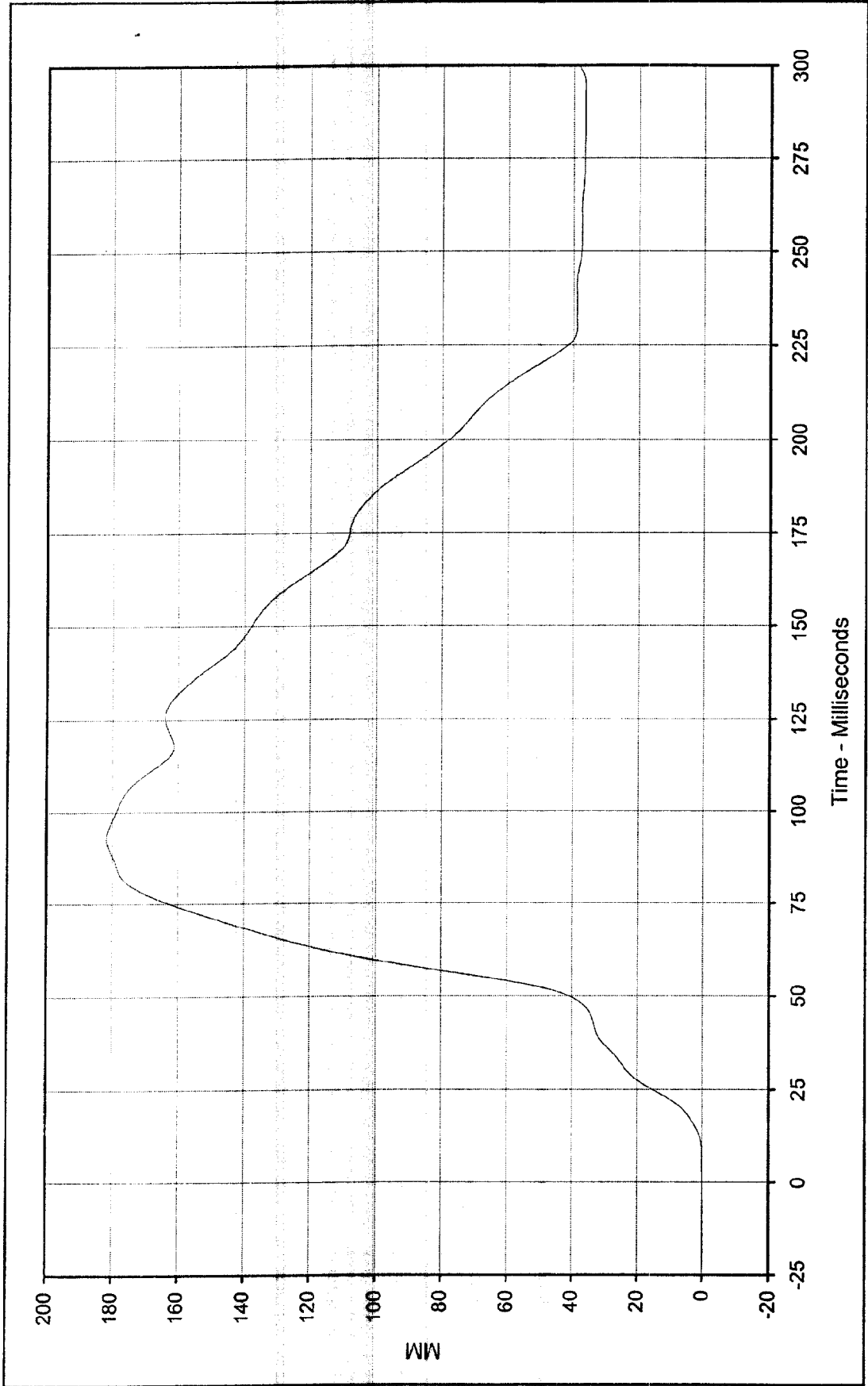




Curve Description: Driver Shoulder Belt Force  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

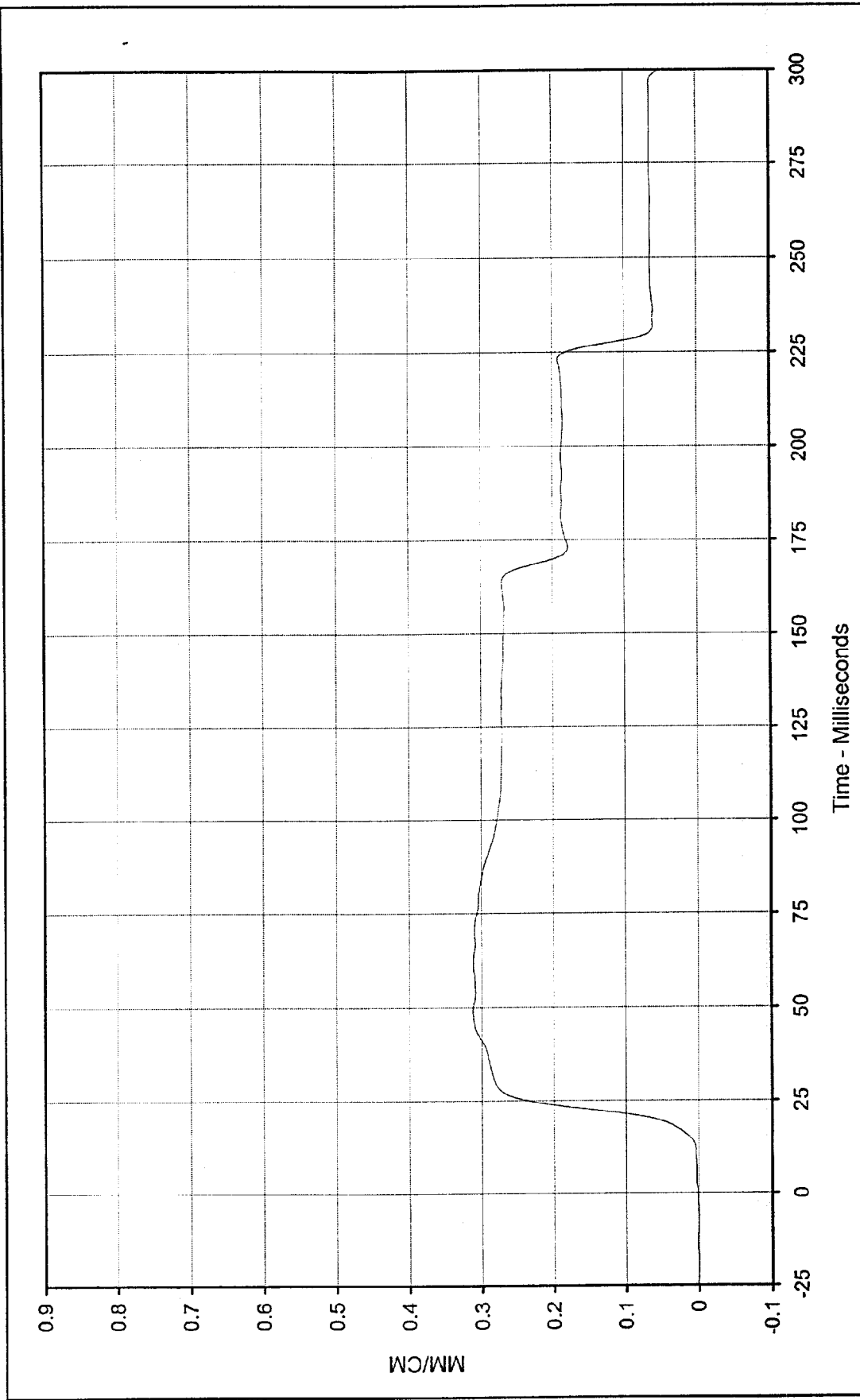
Maximum Value: 3328.9 at 69.8 Milliseconds  
 Minimum Value: -38.3 at 211.5 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-042





Curve Description: Driver Shoulder Belt Pullout      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 181.8 at 92.9 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-043

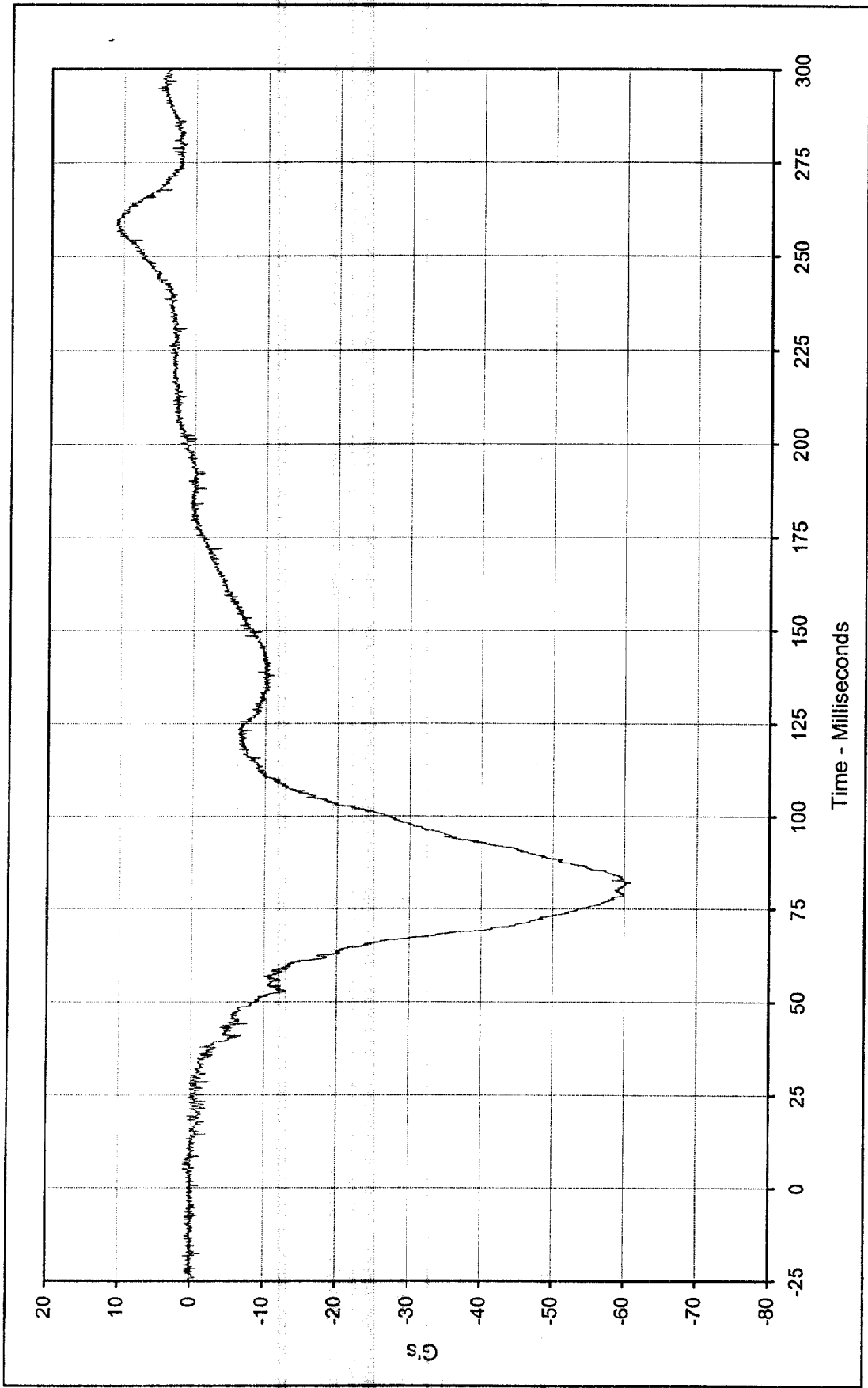




Curve Description: Driver Shoulder Belt Elongation  
 Maximum Value: 0.31 at 49.0 Milliseconds  
 Minimum Value: 0.00 at 0.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-044

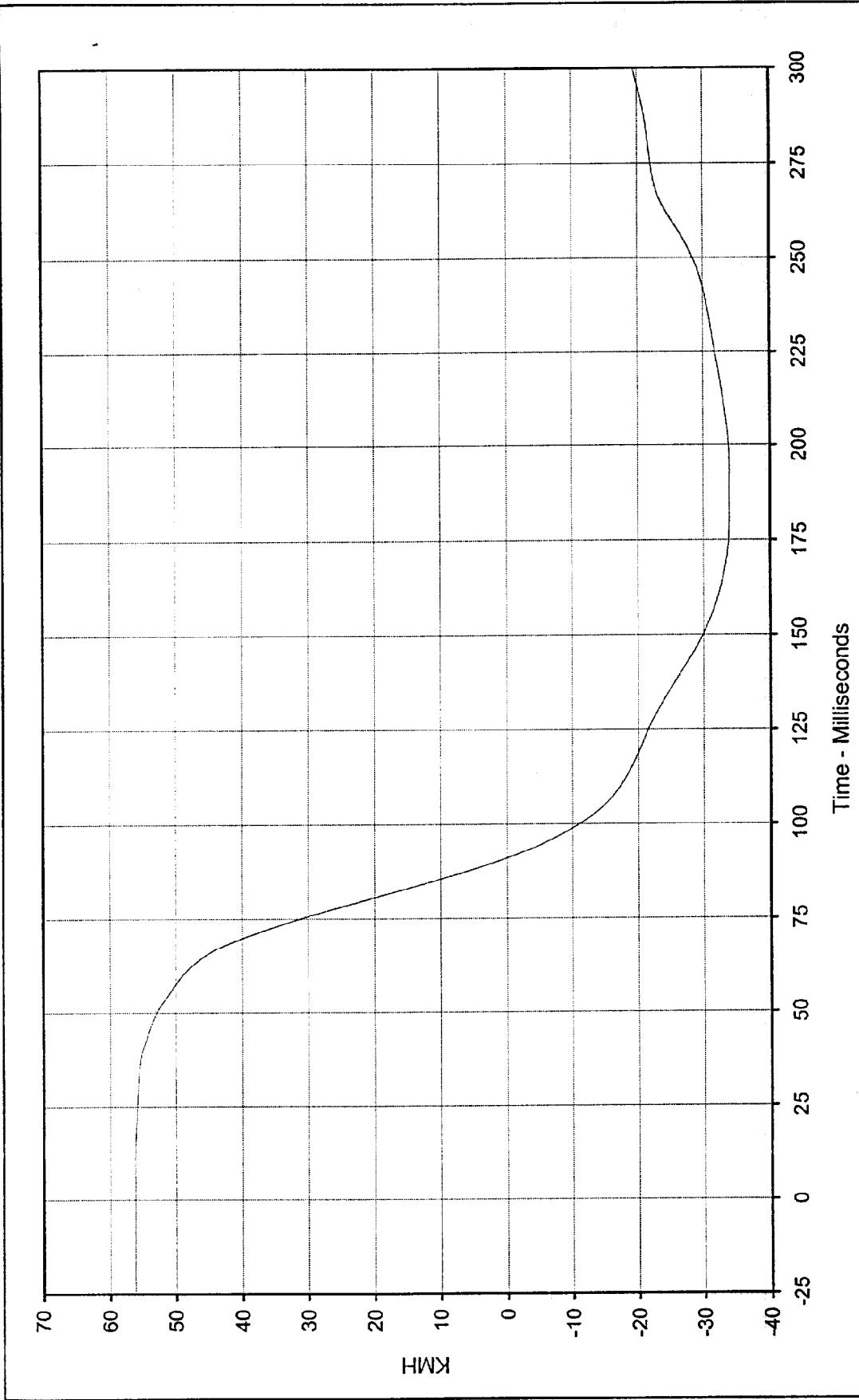
Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





Curve Description: Passenger Head Primary X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 11.0 at 256.9 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -60.9 at 81.7 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-045





Curve Description: Passenger Head Primary X Velocity

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 56.3 at 8.2 Milliseconds

Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

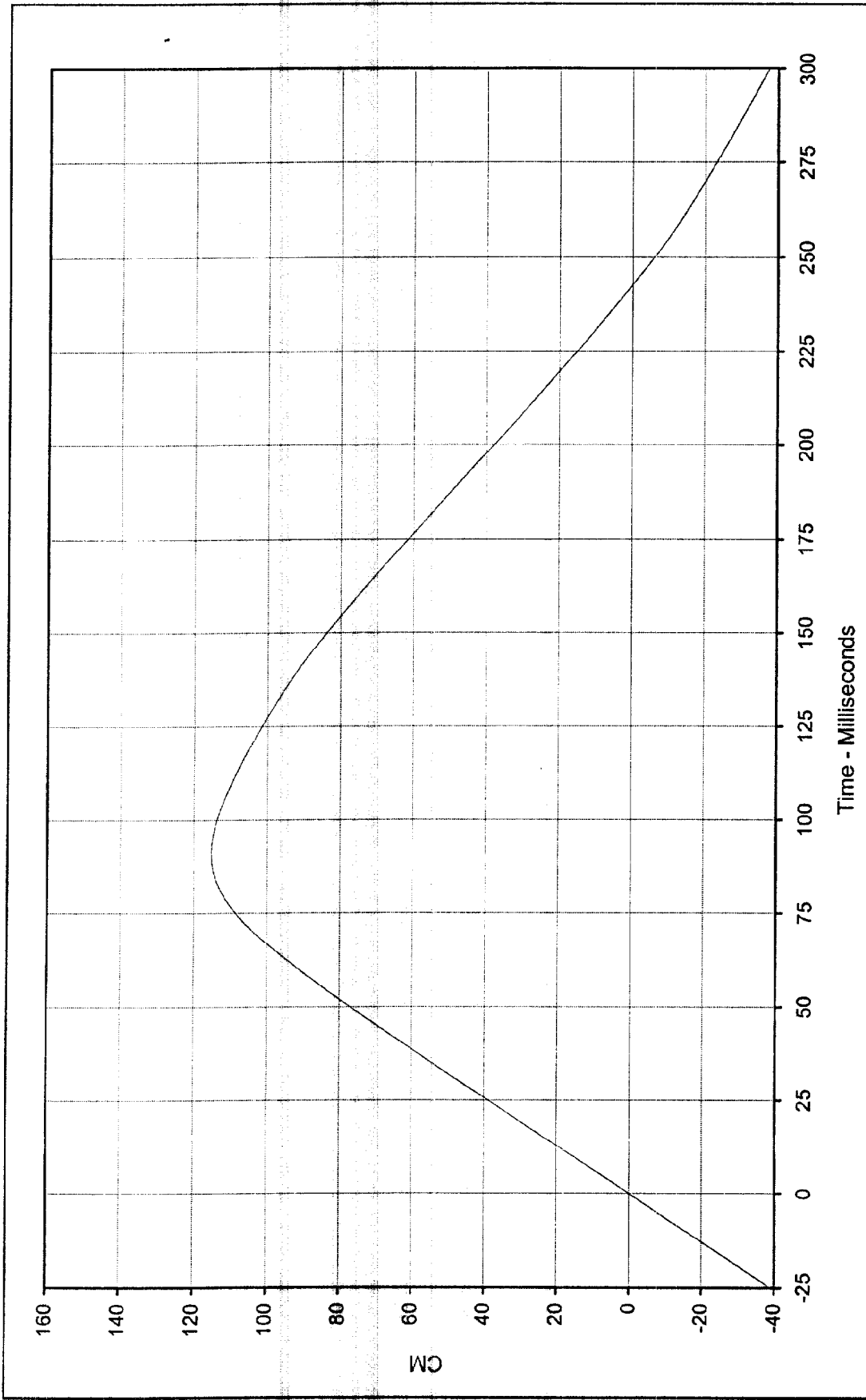
Minimum Value: -34.0 at 193.9 Milliseconds

SAE Filter Class: 180

Date of Test: 1/19/99

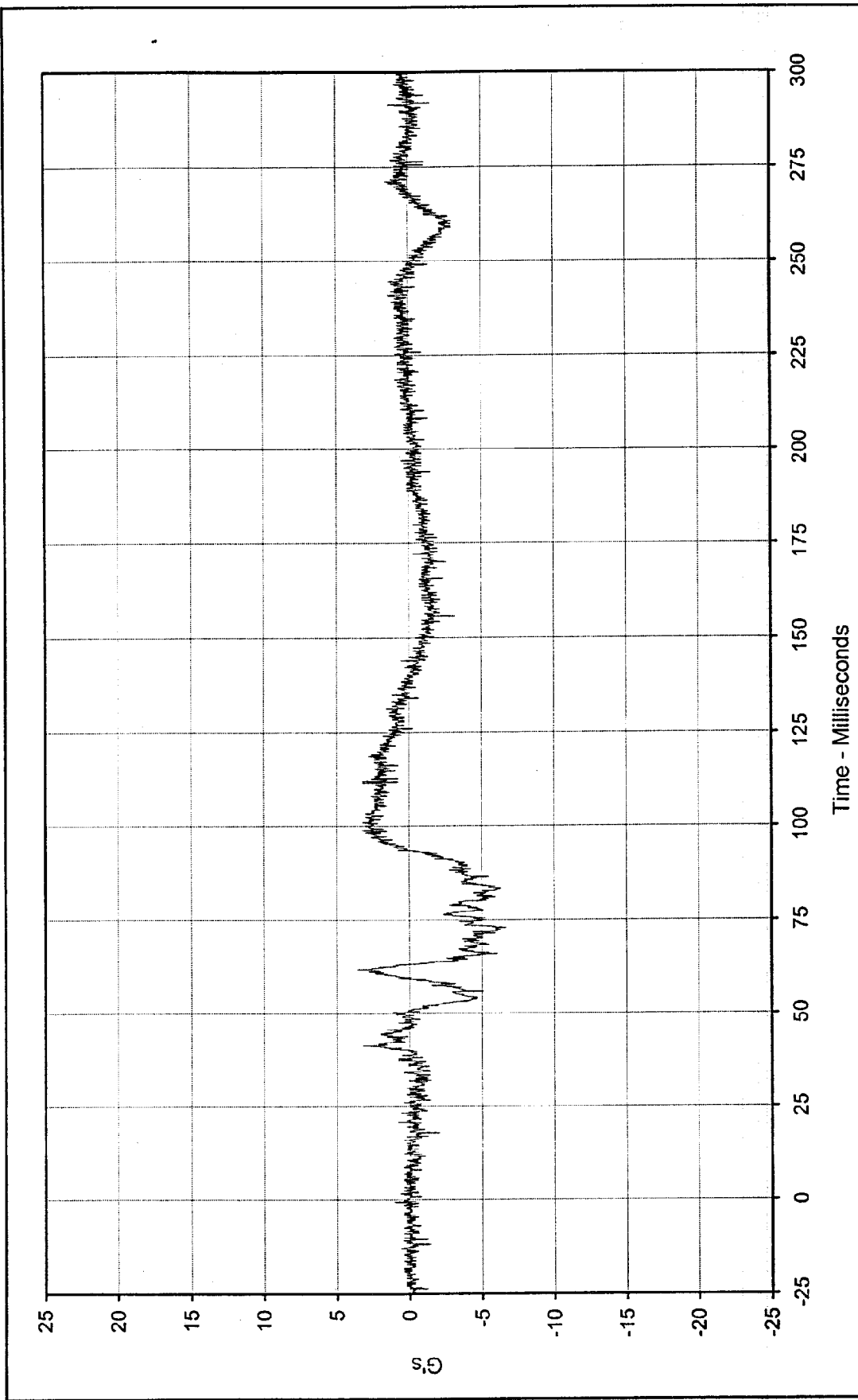
Curve Number: IN1-045





Curve Description: Passenger Head Primary X Displ.      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 115.3      at 90.9      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -37.6      at 299.9      Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-045

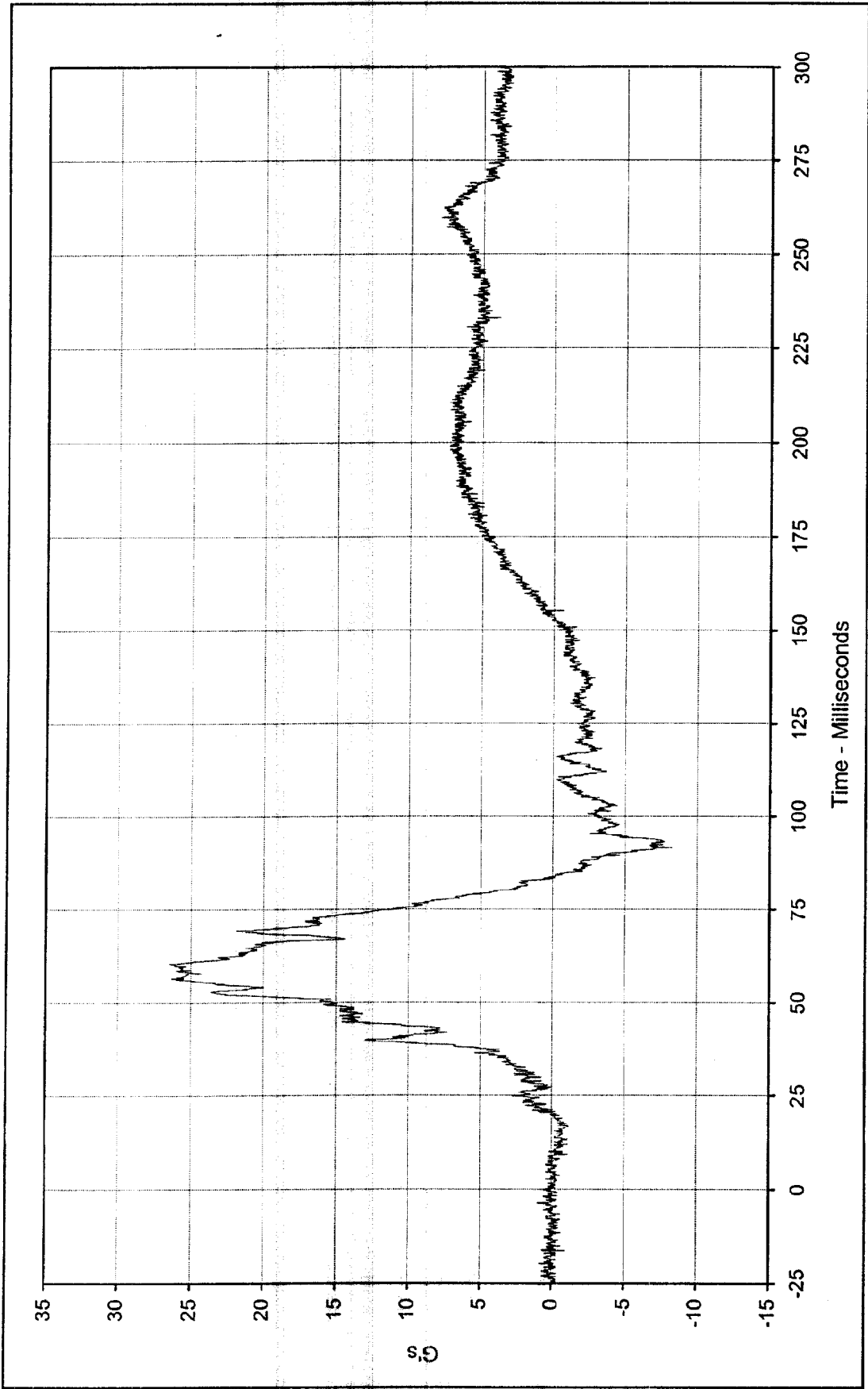




Curve Description: Passenger Head Primary Y  
 Maximum Value: 3.6 at 61.5 Milliseconds  
 Minimum Value: -6.7 at 72.9 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-046

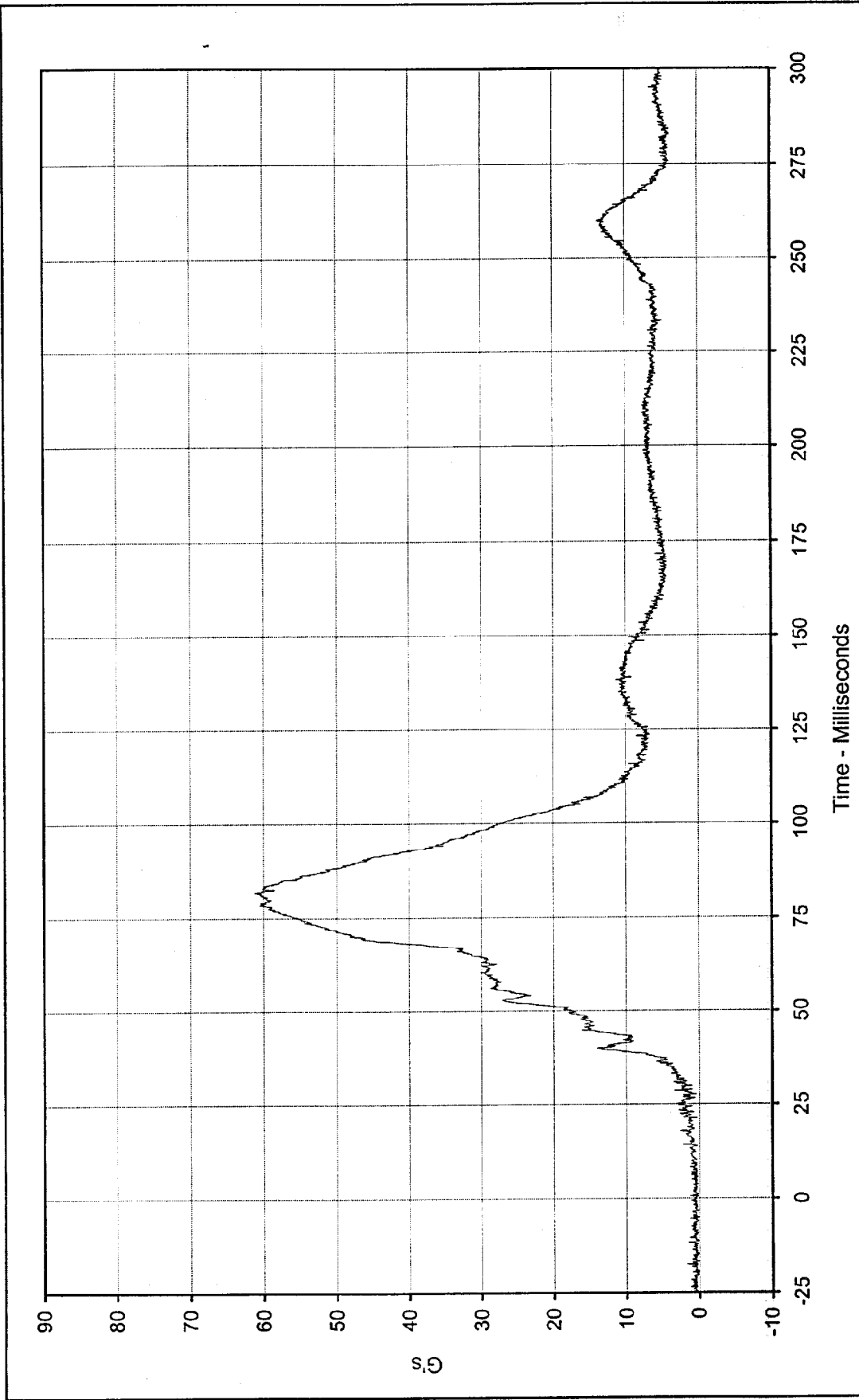
Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





Curve Description: Passenger Head Primary Z      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 26.5      at 60.3      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -8.3      at 91.5      Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-047





Curve Description: Passenger Head Resultant Primary

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 61.1 at 81.7 Milliseconds

Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

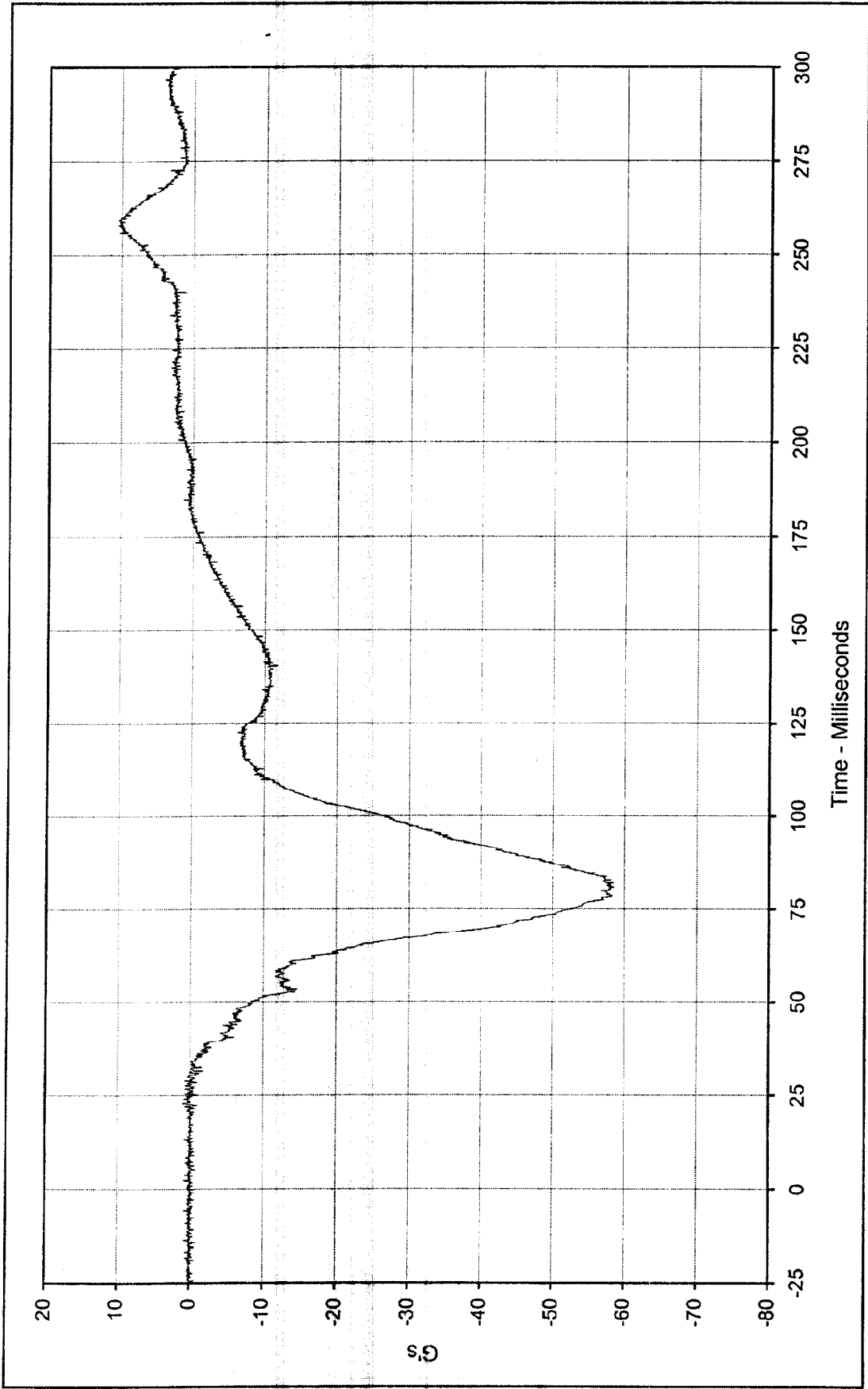
Minimum Value: 0.1 at 0.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/19/99

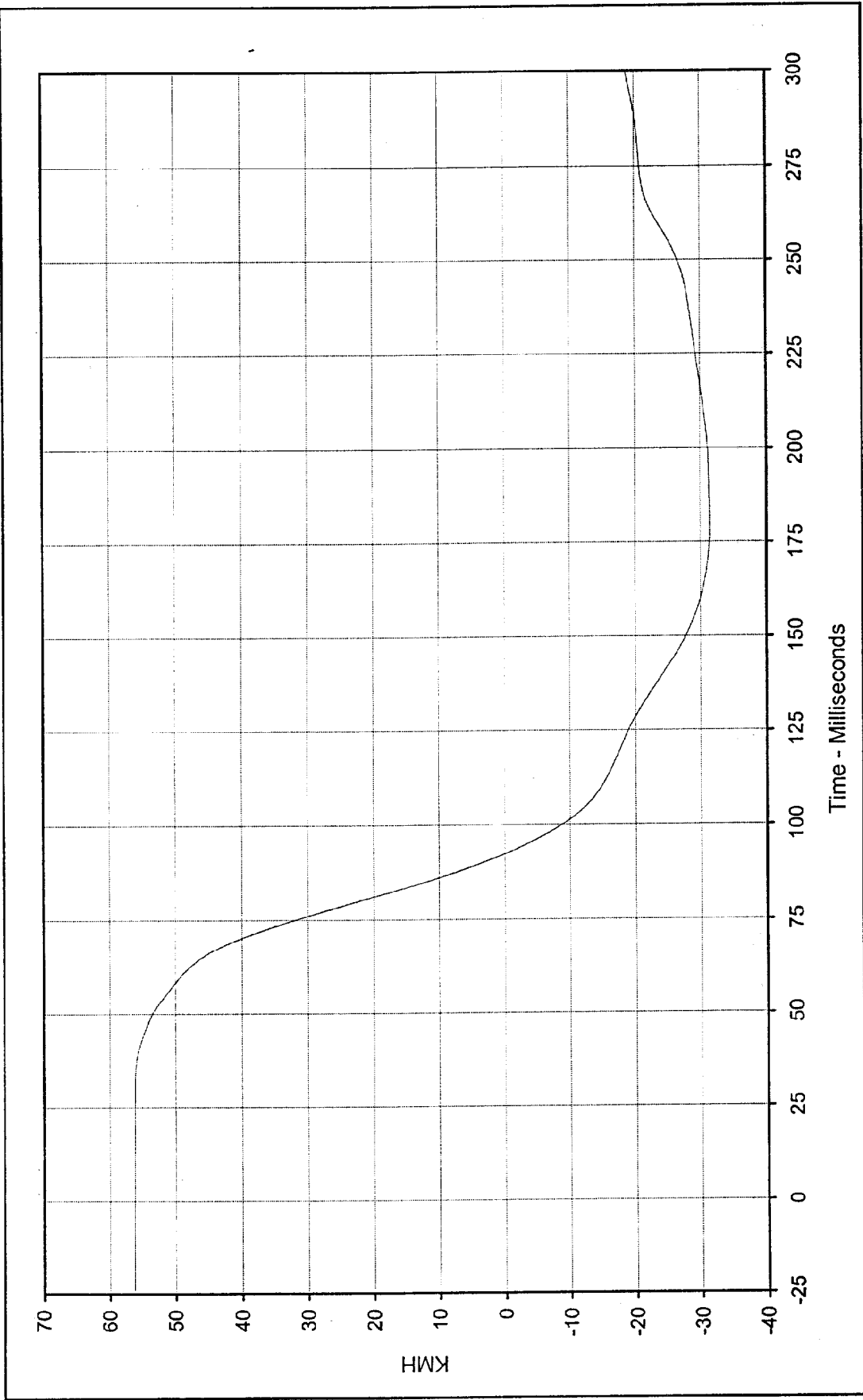
Curve Number: RES-045





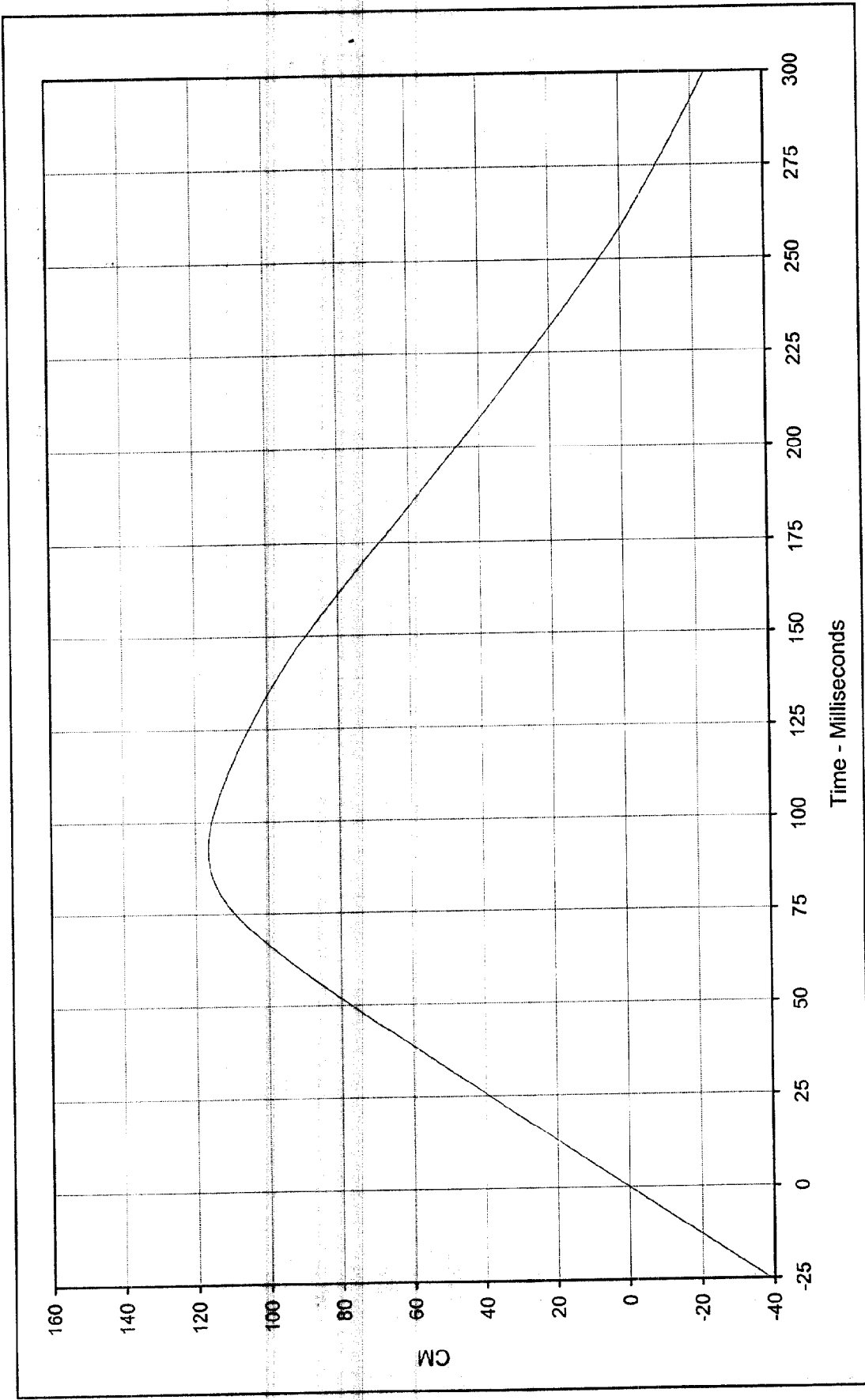
Curve Description: Passenger Head Redundant X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 10.7 at 258.1 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -58.6 at 80.7 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-048





Curve Description: Passenger Head Redundant X Velocity      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 56.2 at 0.0 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -31.4 at 179.8 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-048

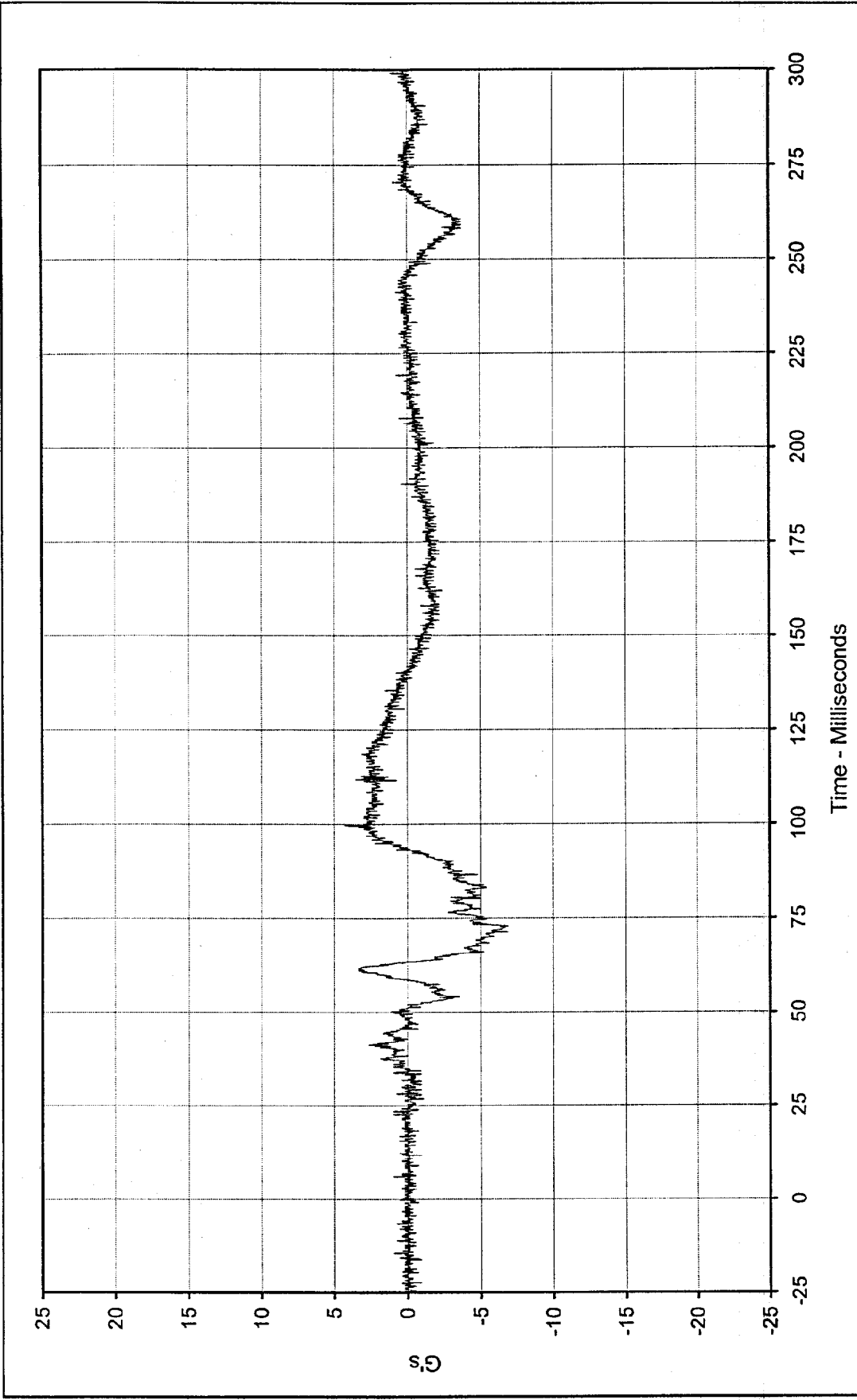




Curve Description: Passenger Head Redundant X Displ.      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 116.5 at 92.3 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -23.9 at 299.9 Milliseconds



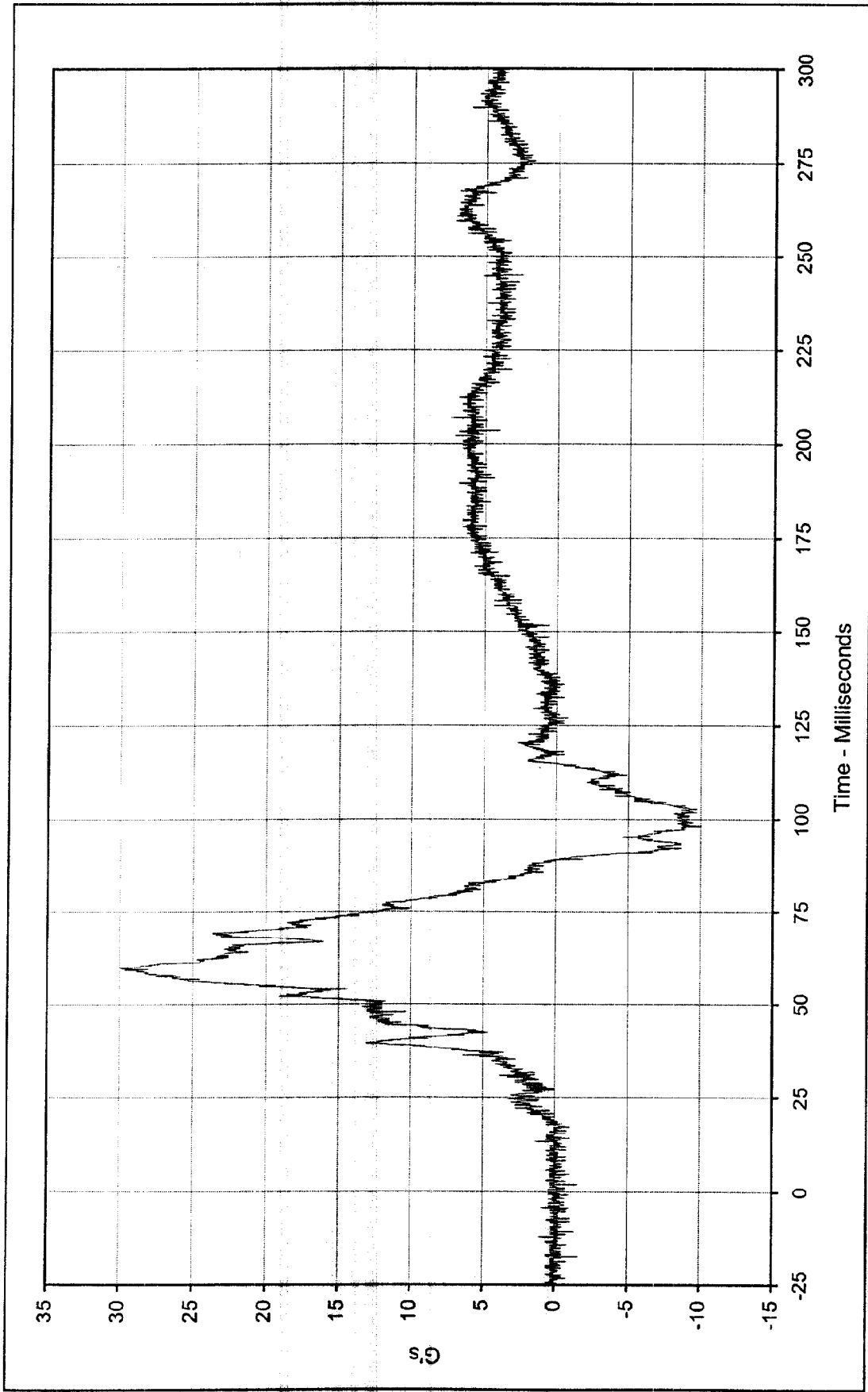
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-048



Curve Description: Passenger Head Redundant Y  
 Maximum Value: 4.3 at 99.6 Milliseconds  
 Minimum Value: -6.9 at 71.4 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-049

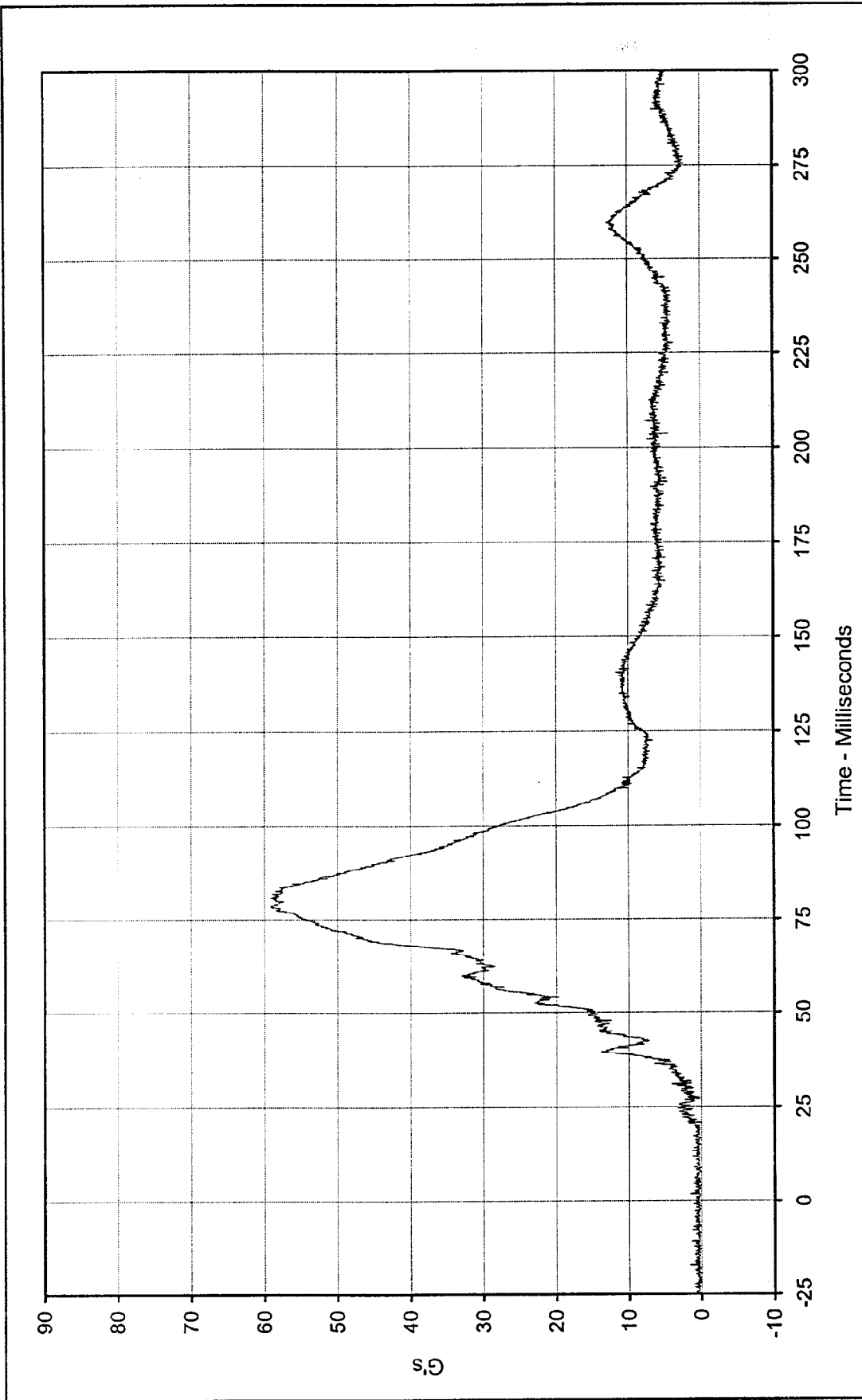
Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





Curve Description: Passenger Head Redundant Z      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 29.9      at 59.8      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -10.0      at 98.2      Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-050

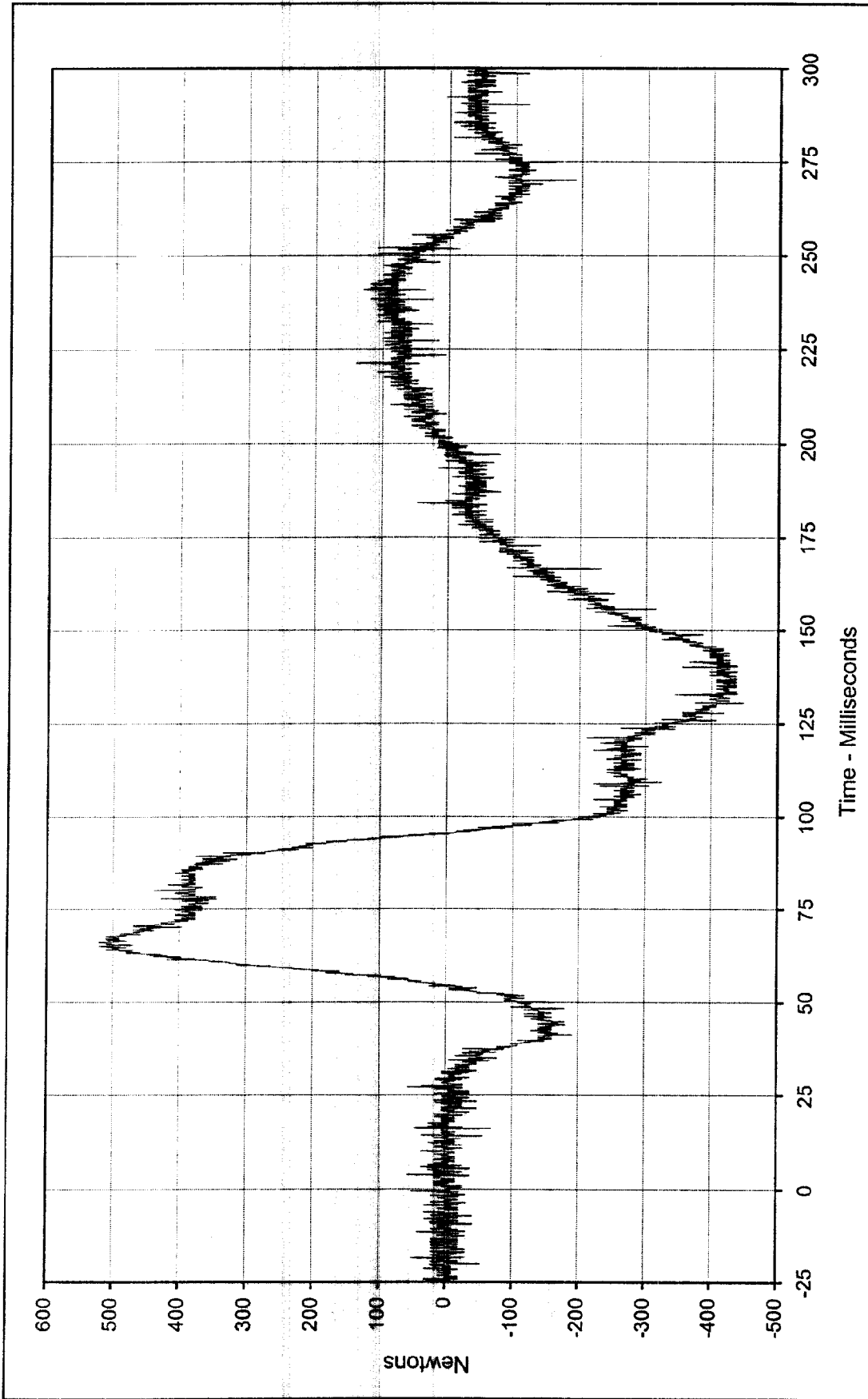




Curve Description: Passenger Head Resultant Redundant      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 59.1    at 80.7    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0    at 3.4    Milliseconds

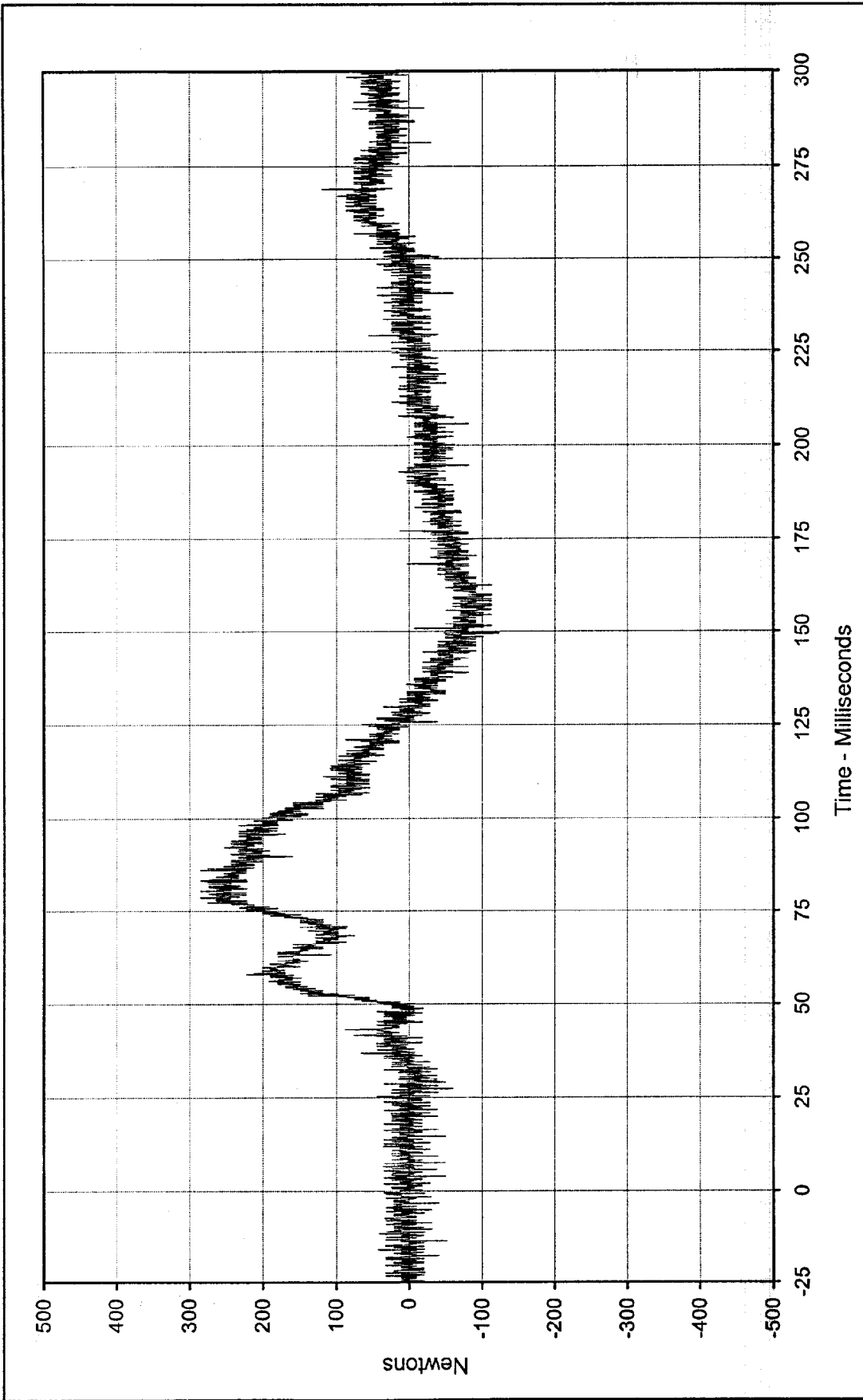


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: RES-048



Curve Description: Passenger Neck Force X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 520.7 at 65.0 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -448.2 at 130.6 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-051

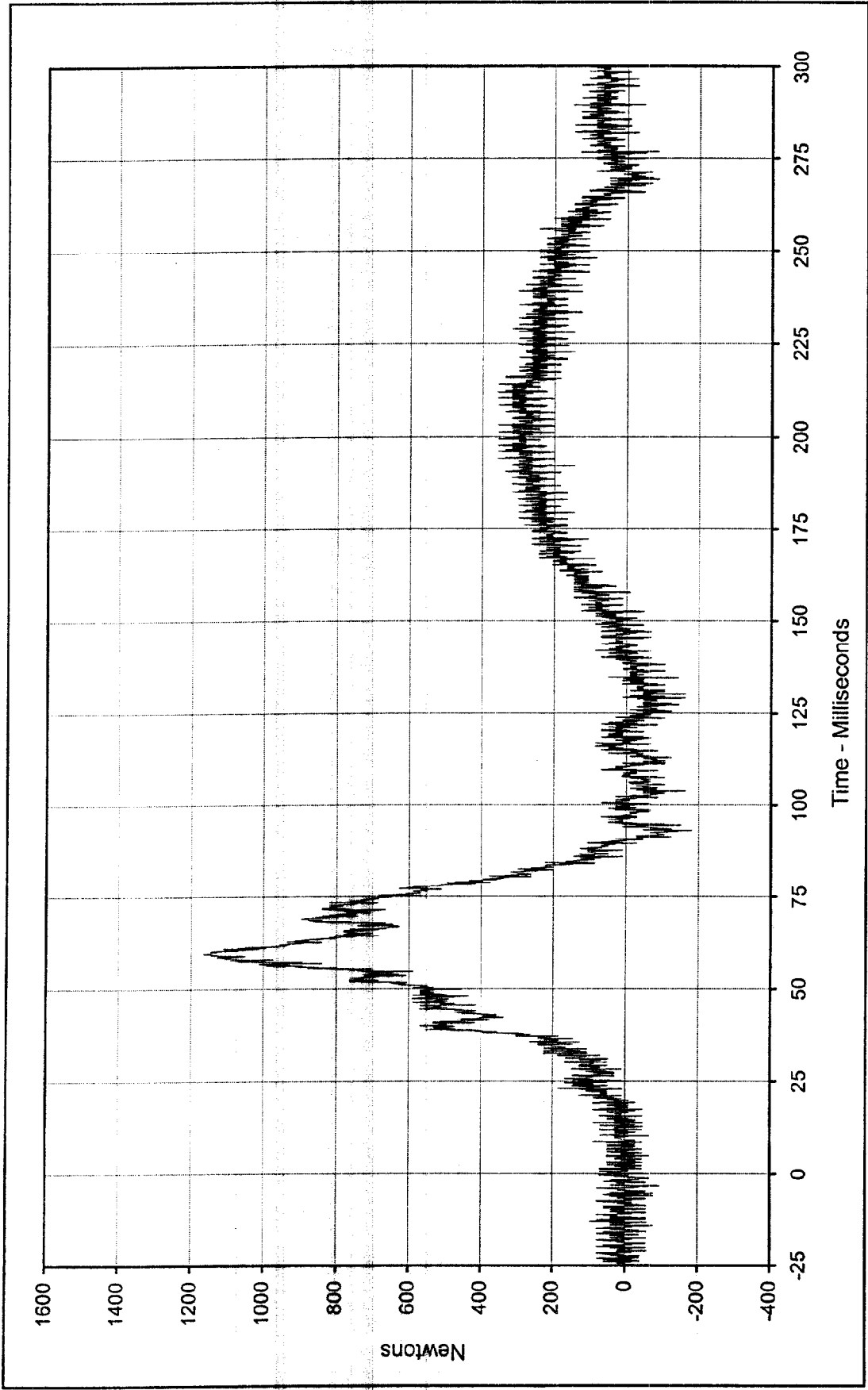




Curve Description: Passenger Neck Force Y  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 285.1 at 78.8 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -123.1 at 149.3 Milliseconds

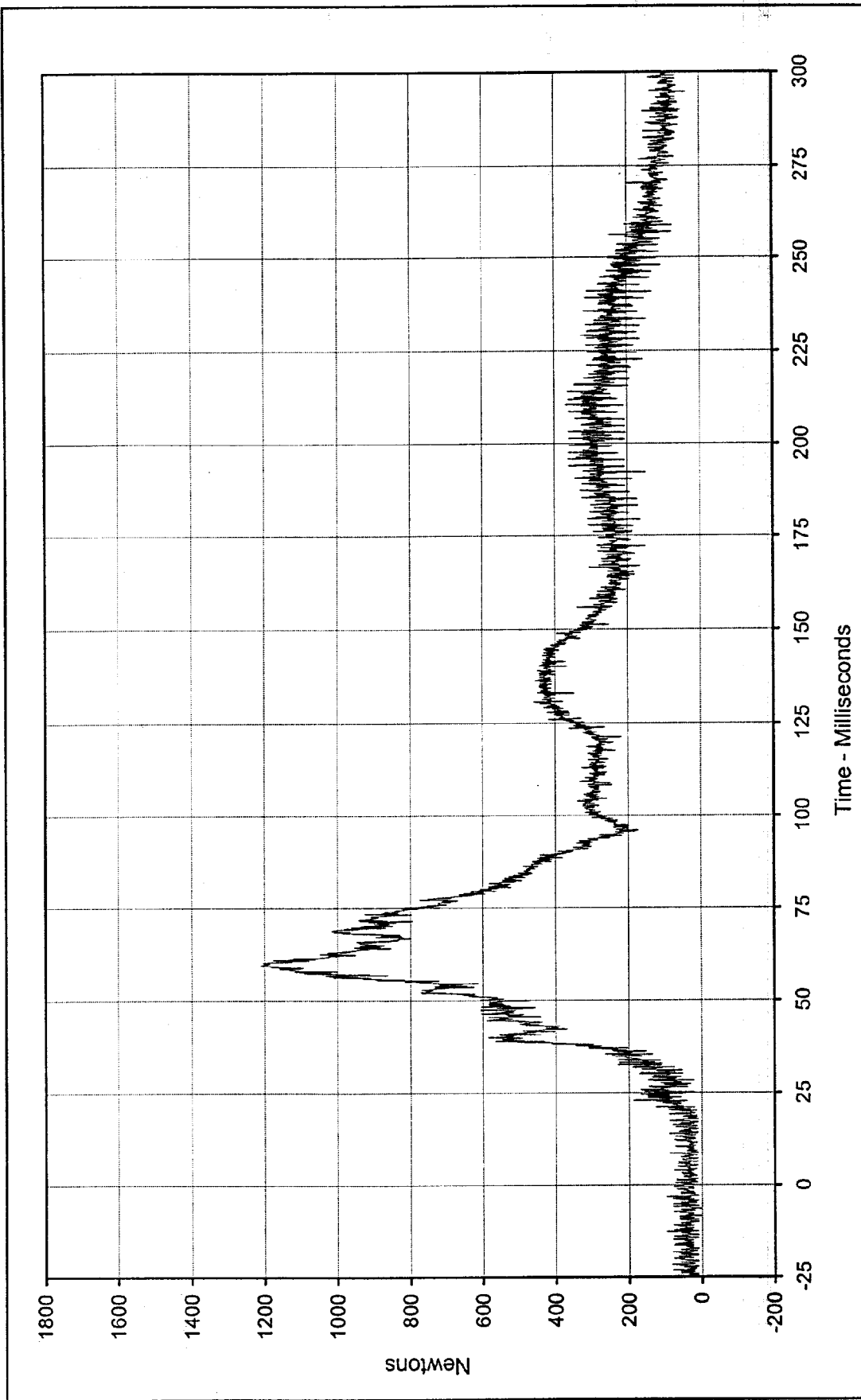


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-052



Curve Description: Passenger Neck Force Z      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 1165.4      at 59.5      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -182.6      at 93.1      Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-053

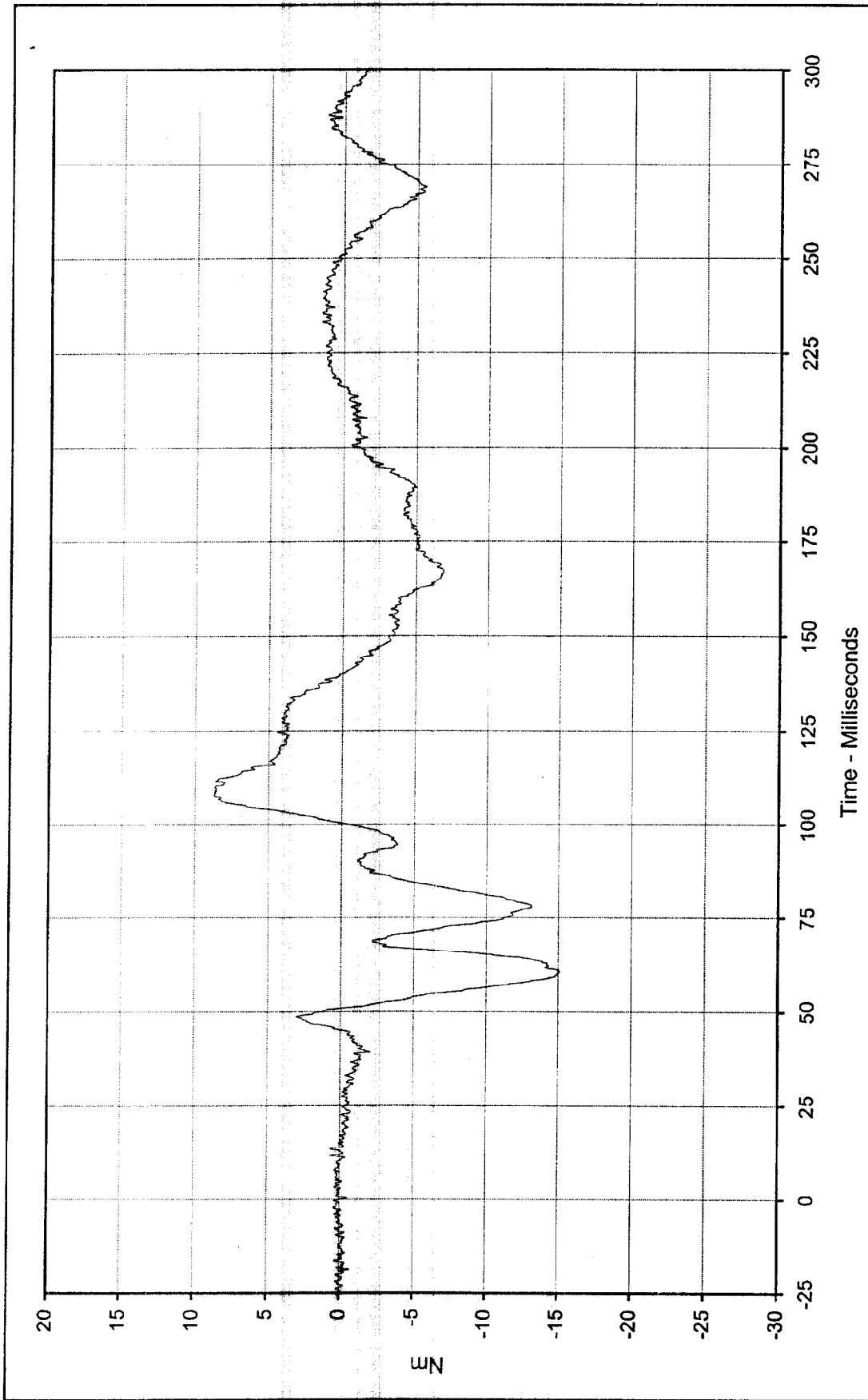




Curve Description: Passenger Neck Force Resultant  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 1209.7 at 59.5 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 10.8 at 5.2 Milliseconds

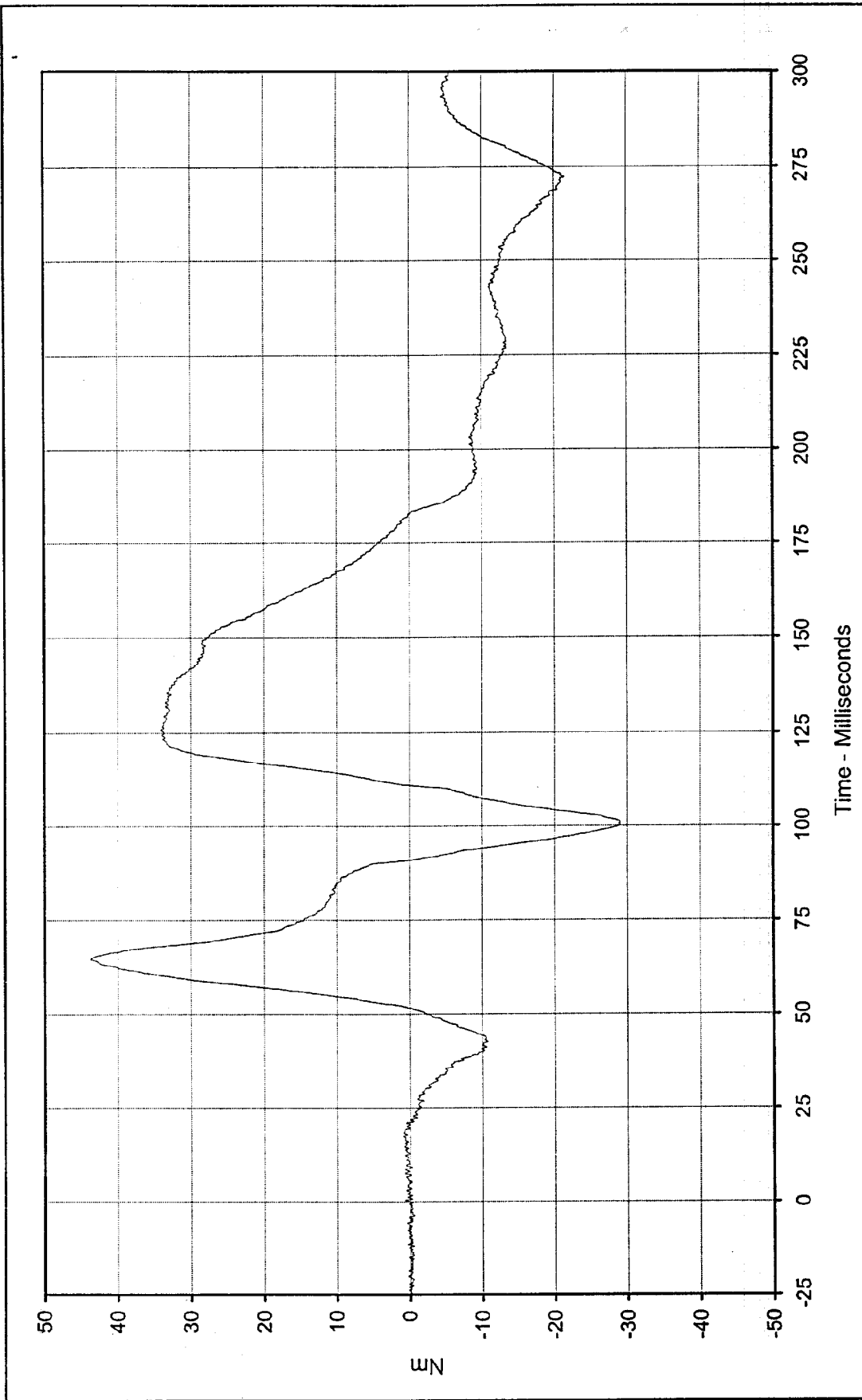


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: RES-051



Curve Description: Passenger Neck Moment X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 8.7 at 107.9 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -15.1 at 60.6 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FL-054

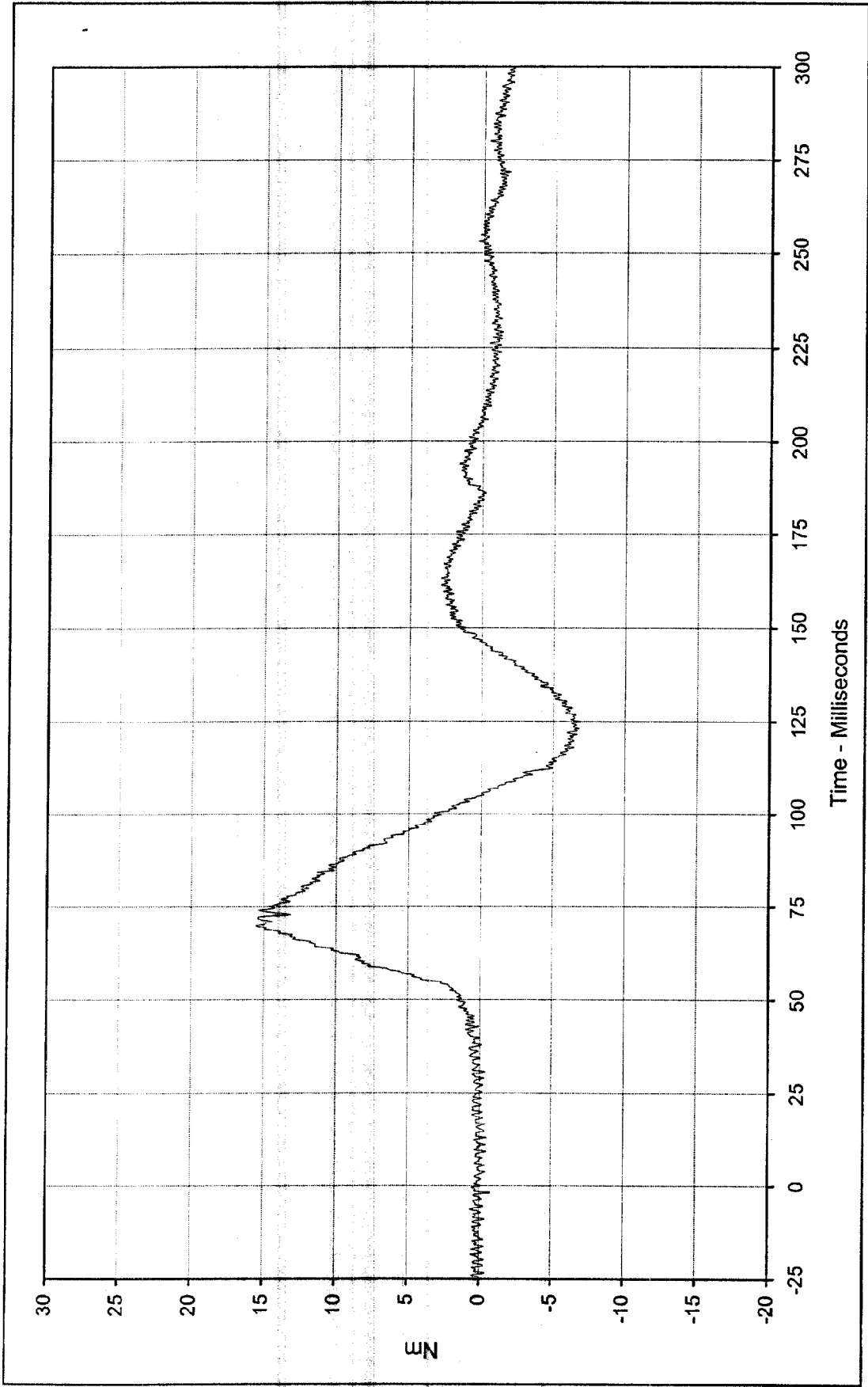




Curve Description: Passenger Neck Moment Y  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 43.7 at 64.7 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -29.1 at 101.0 Milliseconds

SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-055





Curve Description: Passenger Neck Moment Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 15.5 at 69.6 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

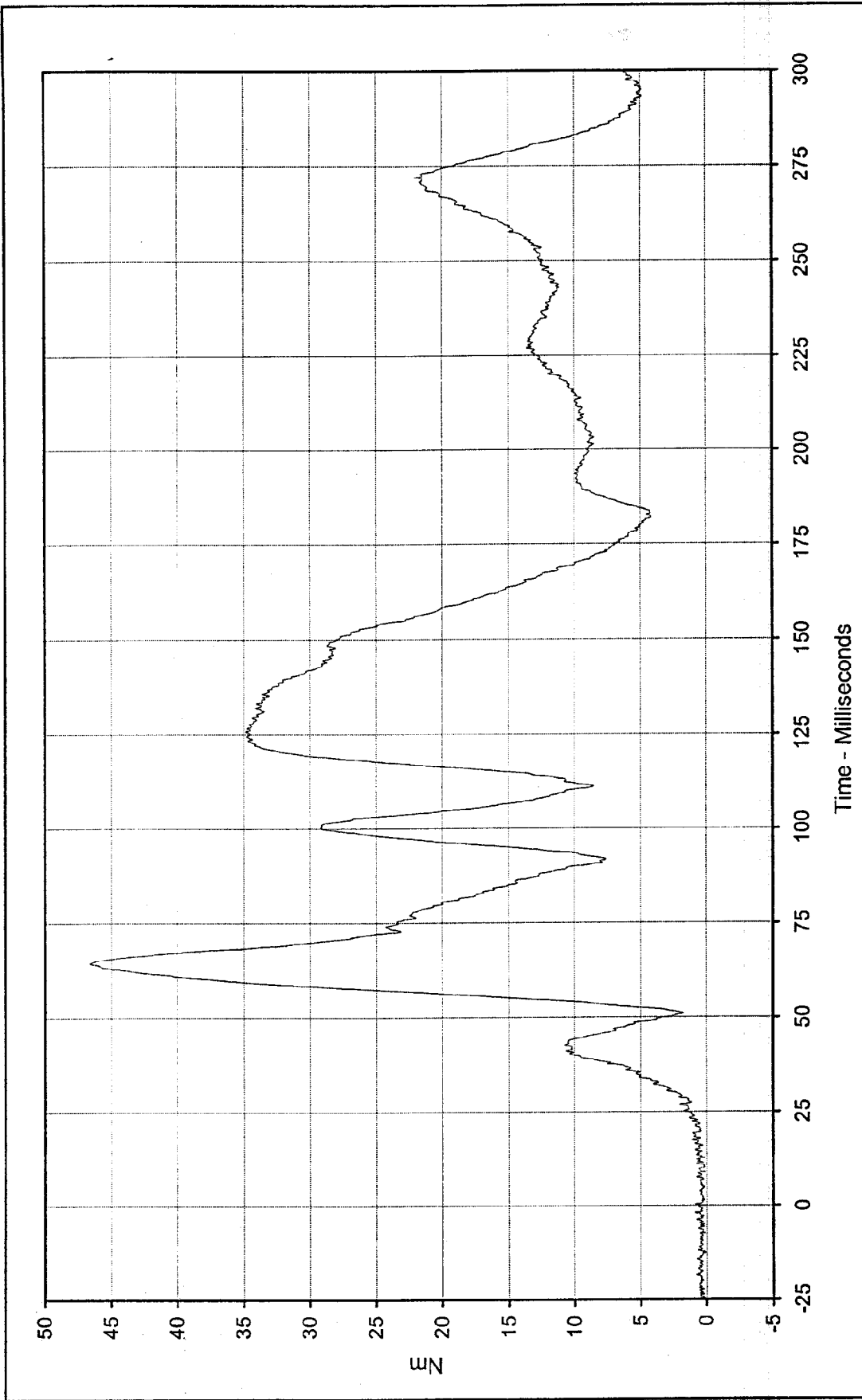
Minimum Value: -6.9 at 124.9 Milliseconds

SAE Filter Class: 600

Date of Test: 1/19/99

Curve Number: FIL-056

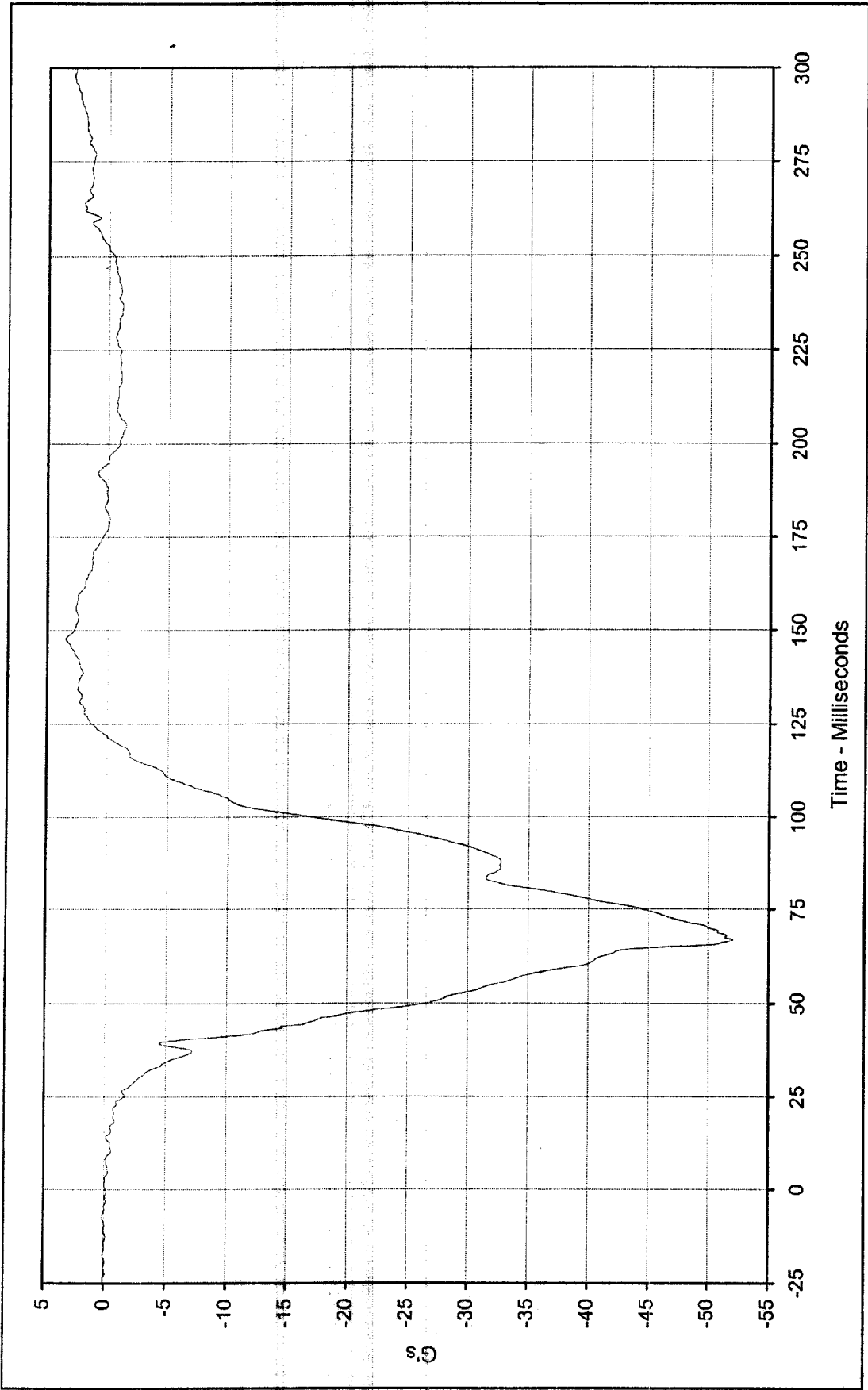




Curve Description: Passenger Neck Moment Resultant Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 46.6 at 64.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.1 at 8.8 Milliseconds

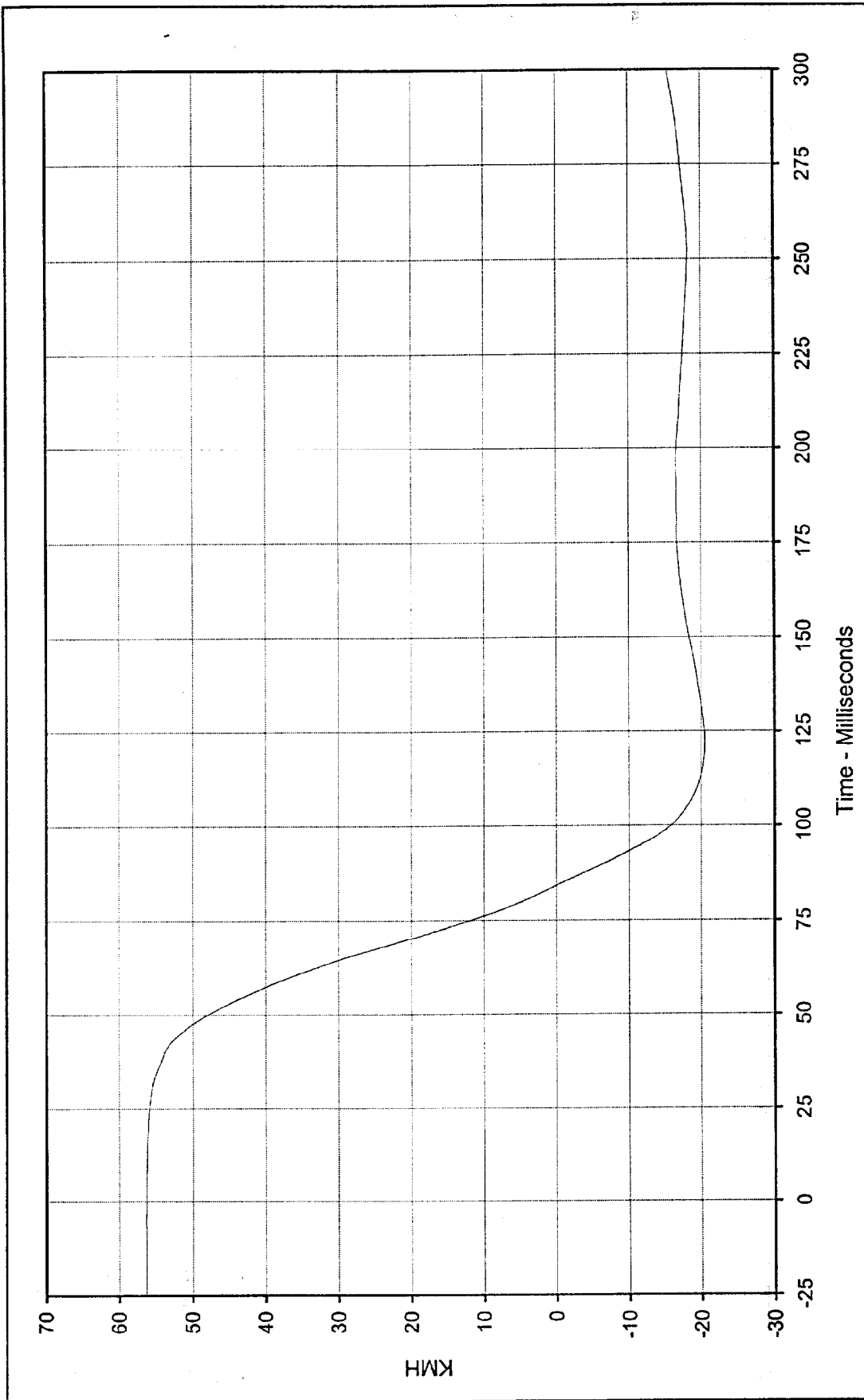


SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: RES-054



Curve Description: Passenger Chest Primary X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 3.5 at 147.7 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -52.1 at 67.0 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-057

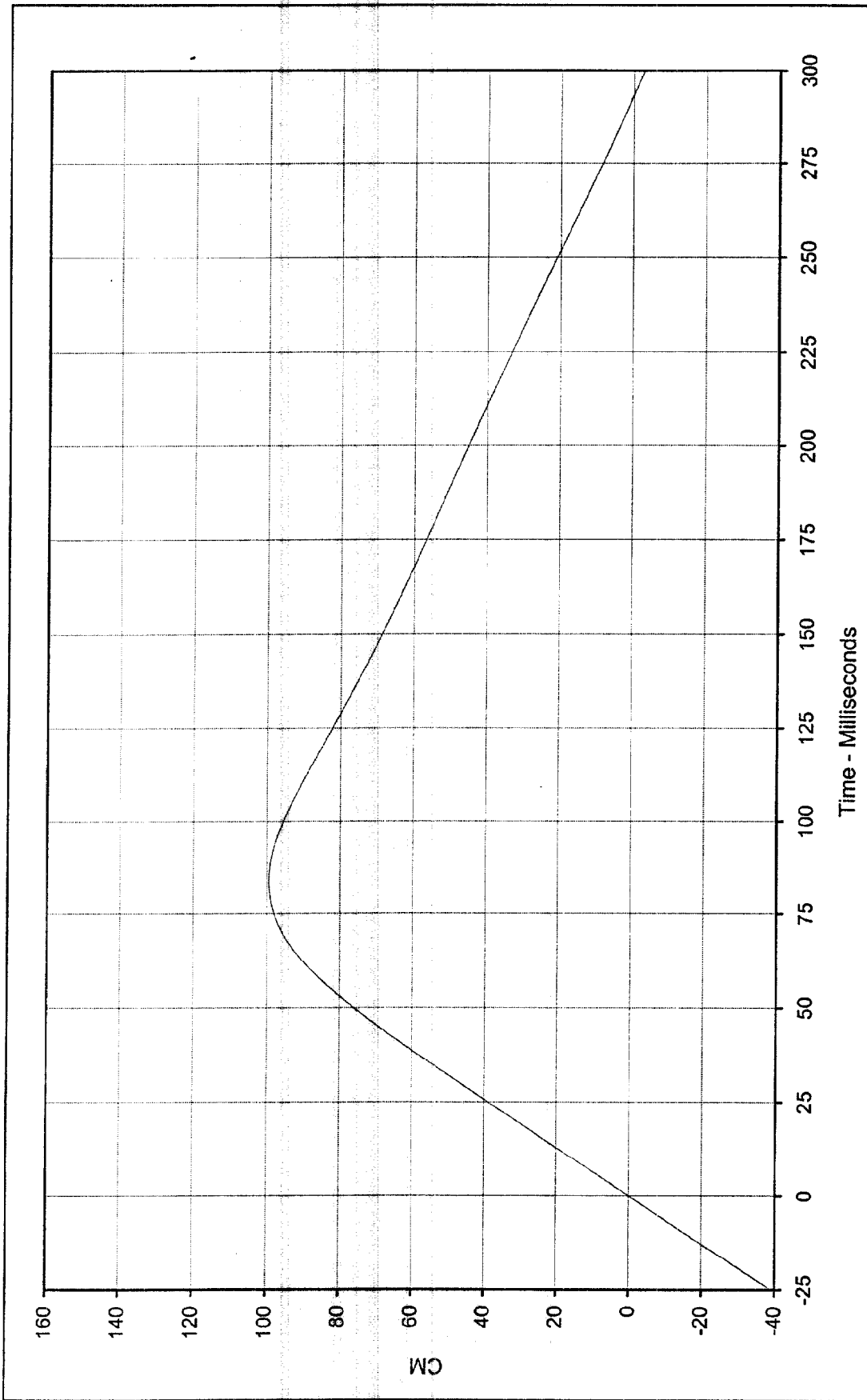




Curve Description: Passenger Chest Primary X Velocity  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 56.3 at 0.0 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -20.5 at 121.8 Milliseconds

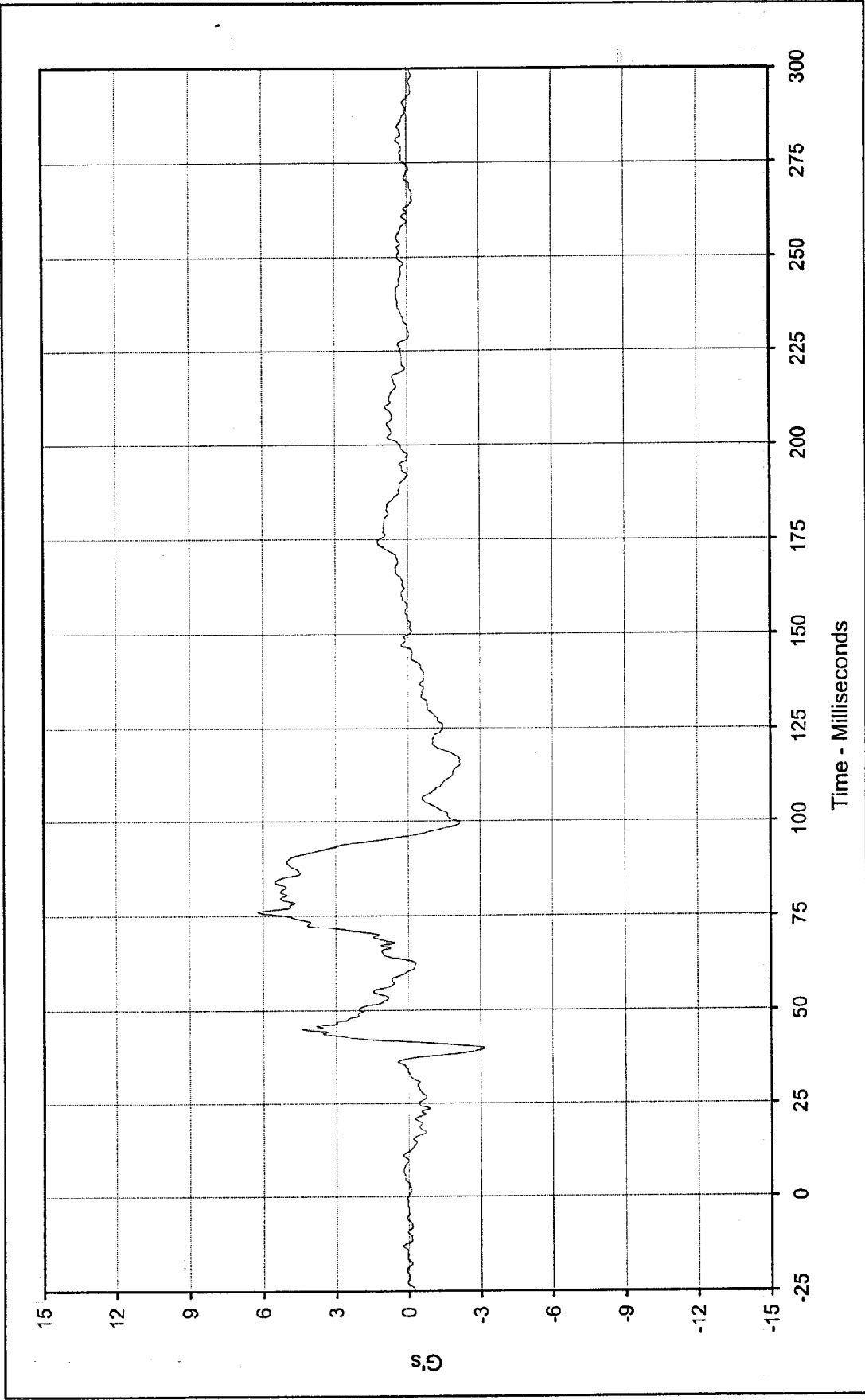


SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-057



Curve Description: Passenger Chest Primary X Displ.      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 99.4    at 84.0    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -2.9    at 299.9    Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-057

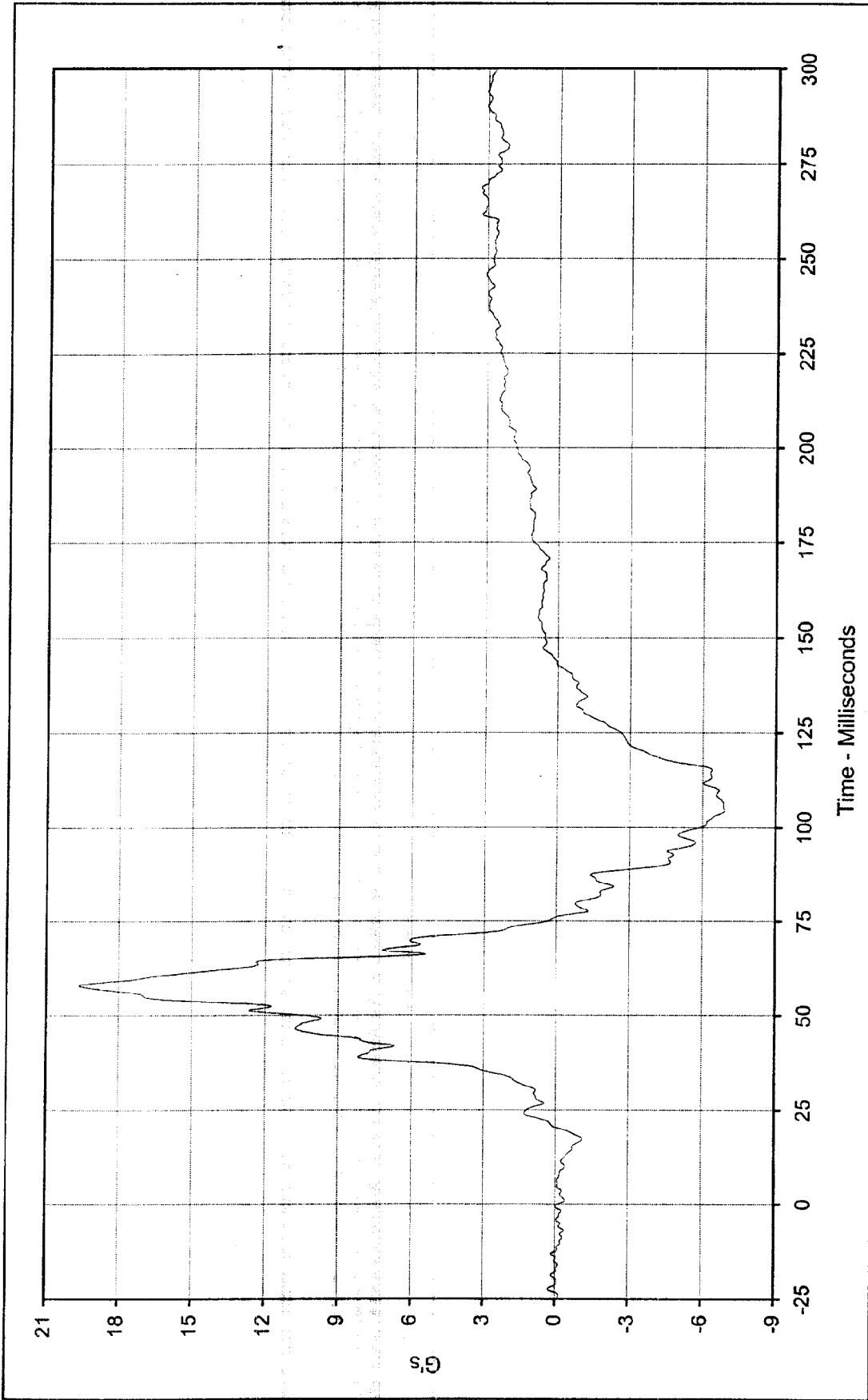




Curve Description: Passenger Chest Primary Y  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

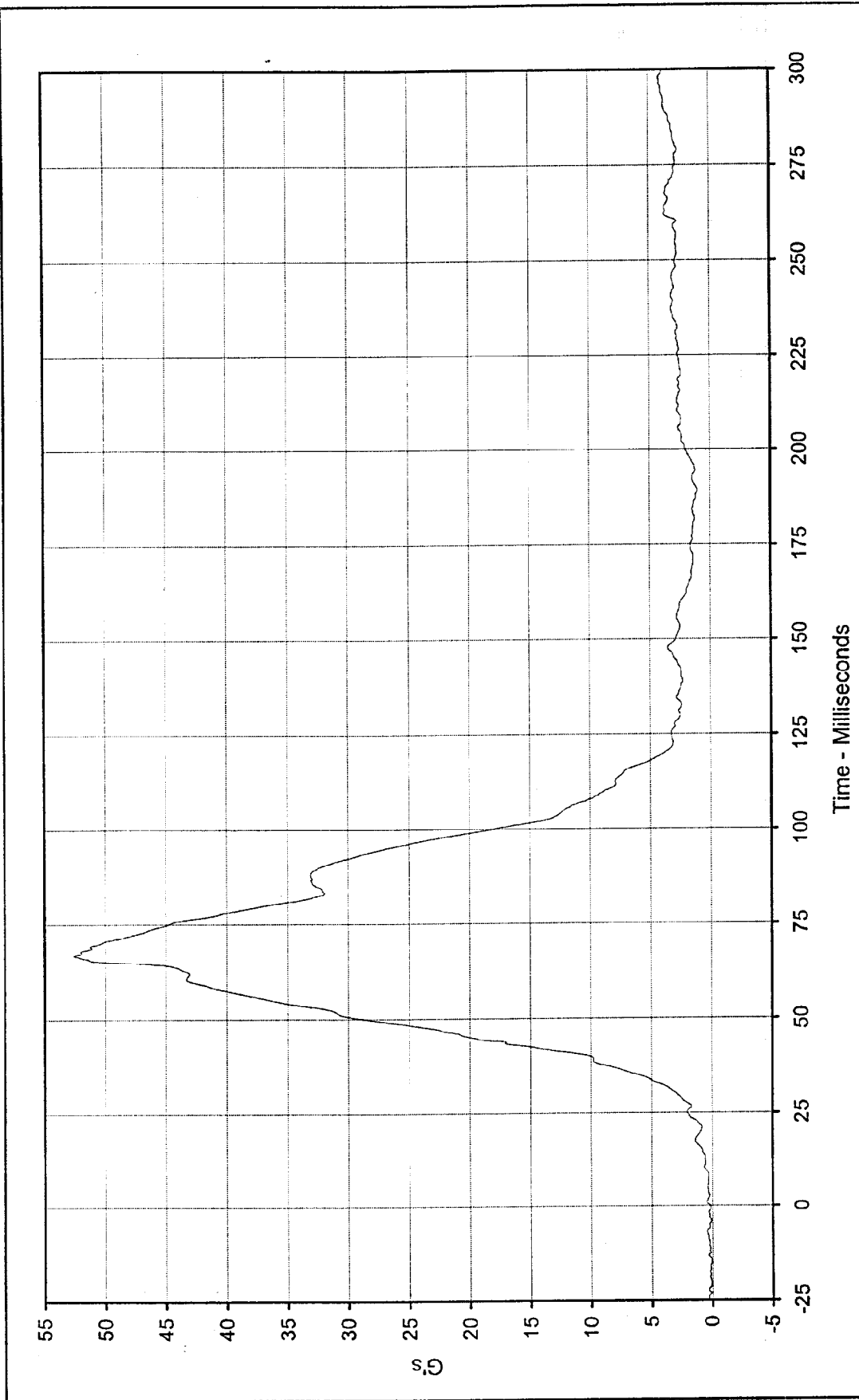
Maximum Value: 6.2 at 76.0 Milliseconds  
 Minimum Value: -3.2 at 39.5 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-058





Curve Description: Passenger Chest Primary Z      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 19.6    at 58.0    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -6.9    at 104.4    Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-059

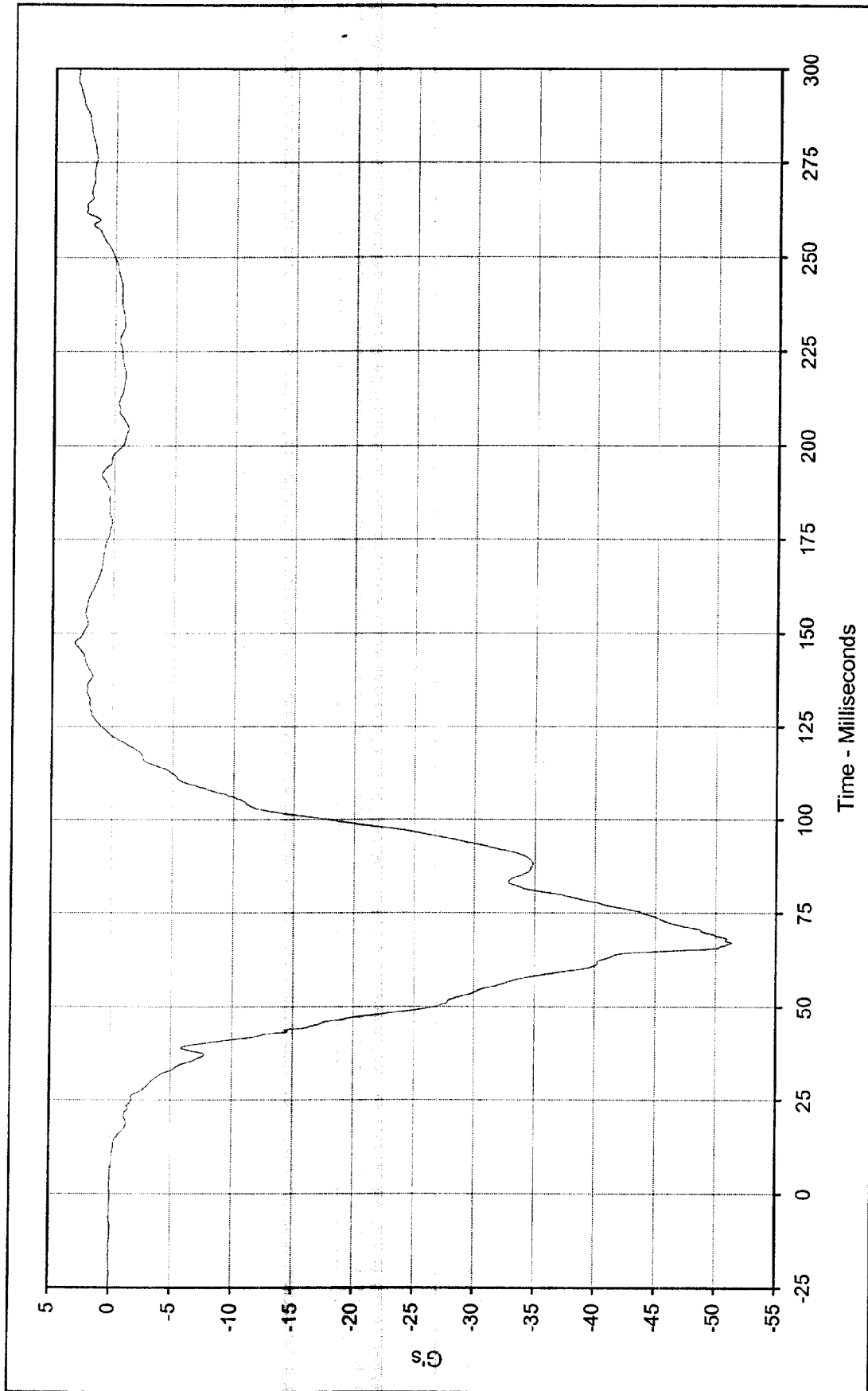




Curve Description: Passenger Chest Resultant Primary  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 52.5 at 67.0 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.2 at 0.0 Milliseconds



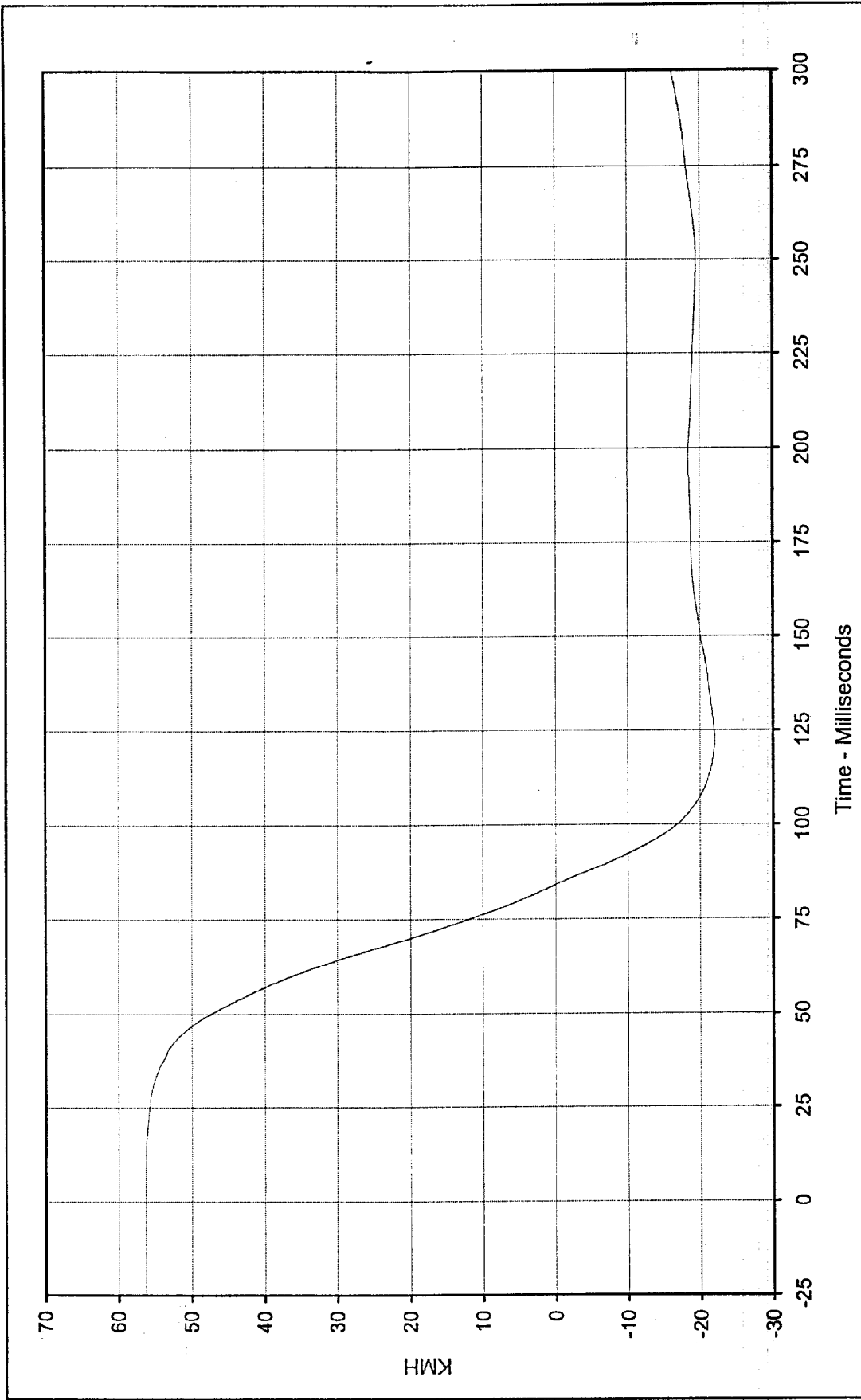
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: RES-057



Curve Description: Passenger Chest Redundant X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 3.2 at 147.6 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -51.4 at 66.9 Milliseconds



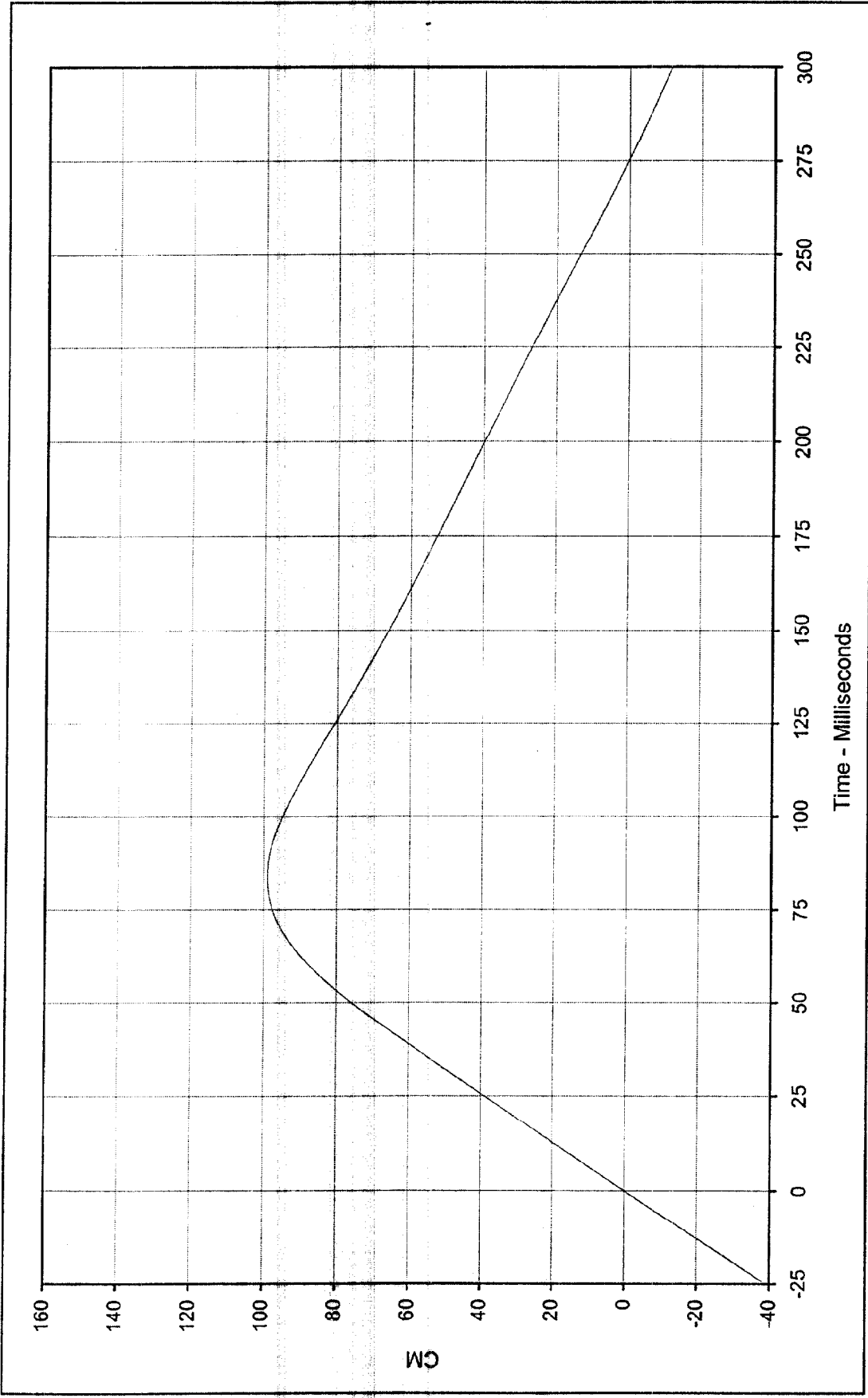
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-060



Curve Description: Passenger Chest Redundant X Velocity  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 56.3 at 0.0 Milliseconds  
 Minimum Value: -22.0 at 122.4 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-060





Curve Description: Passenger Chest Redundant X Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 99.0 at 84.0 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

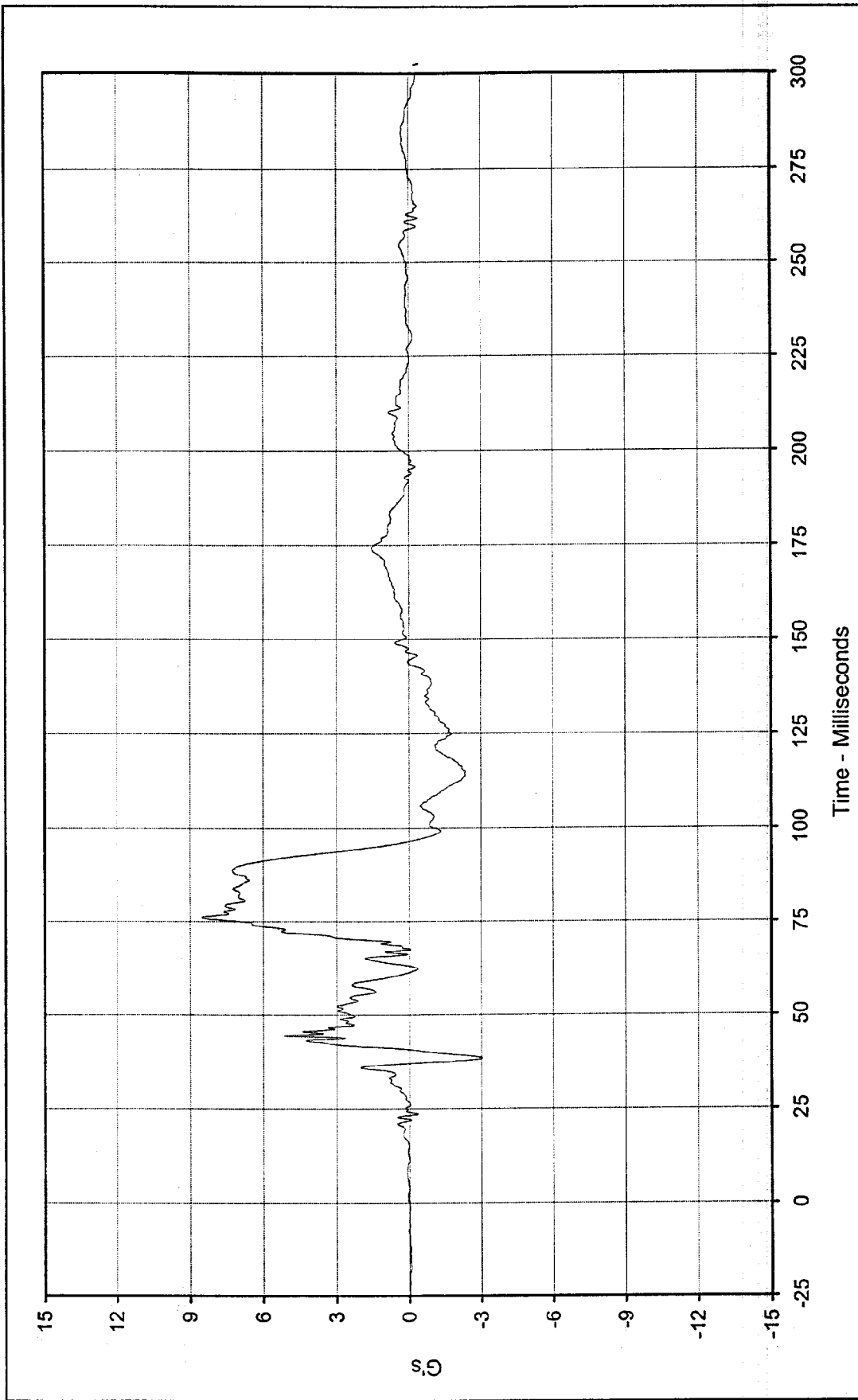
Minimum Value: -11.6 at 299.9 Milliseconds

SAE Filter Class: 180

Date of Test: 1/19/99

Curve Number: IN2-060

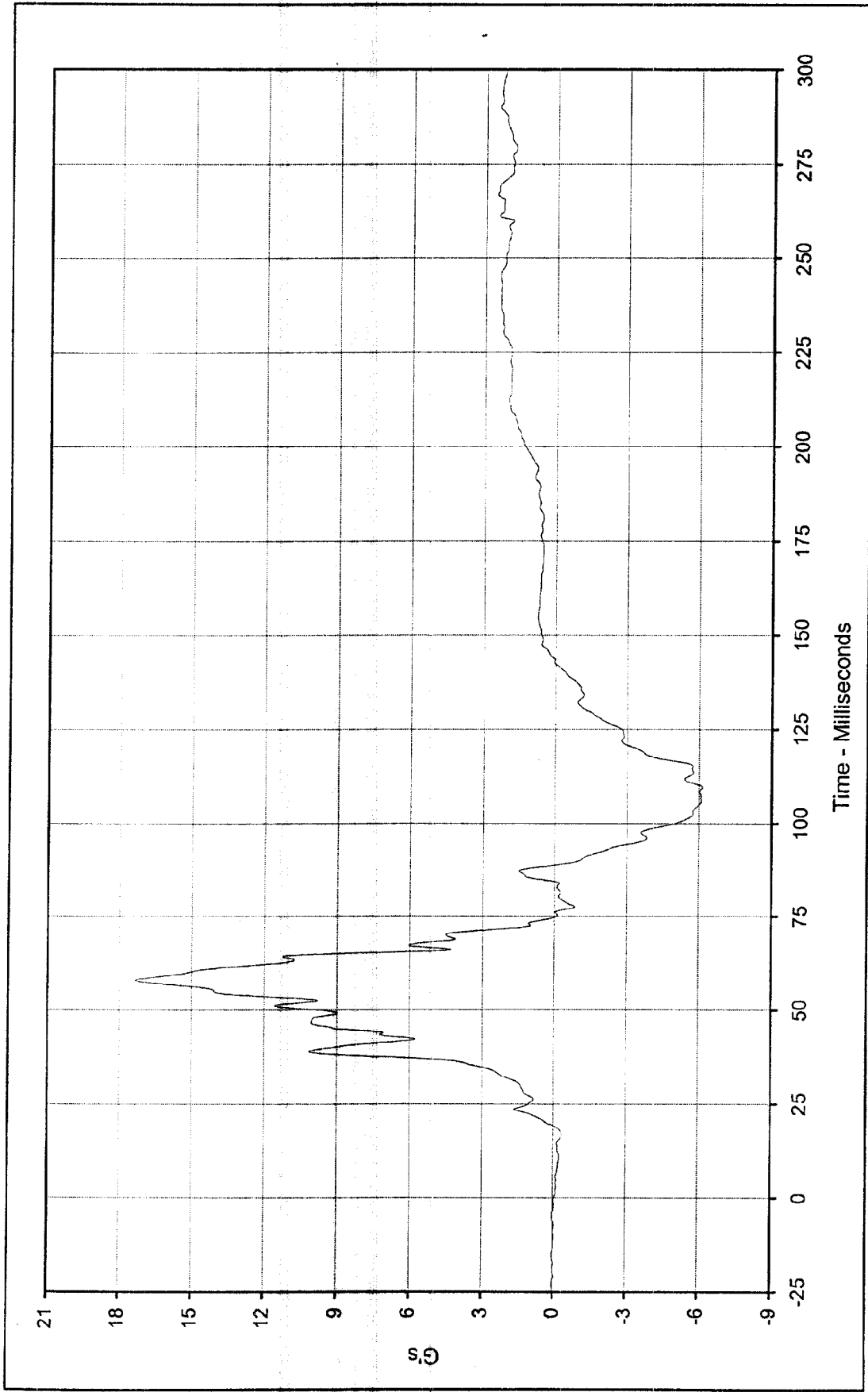




Curve Description: Passenger Chest Redundant Y Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 8.5 at 76.1 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -3.0 at 38.4 Milliseconds



SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: FIL-061



Curve Description: Passenger Chest Redundant Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 17.3 at 57.9 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

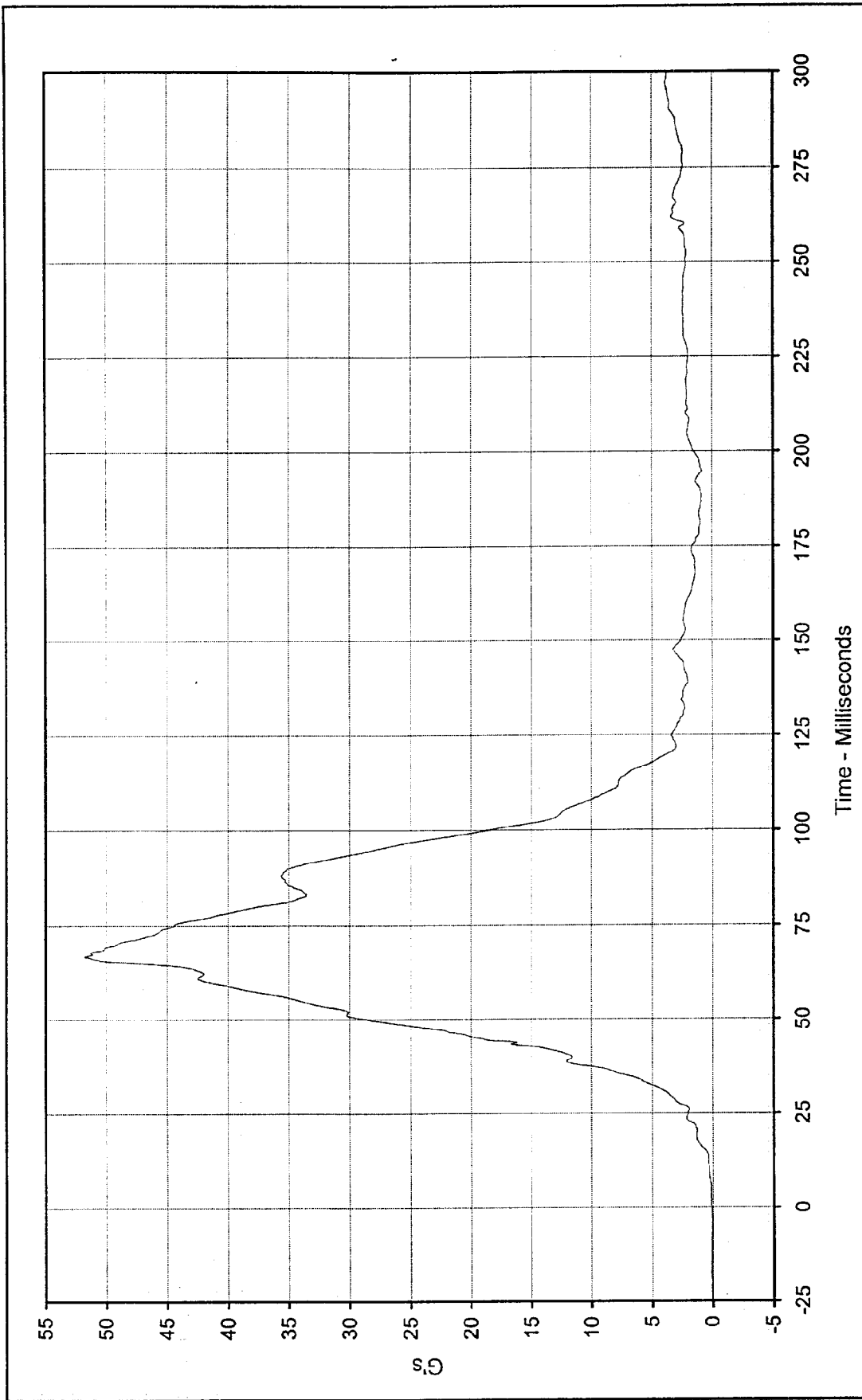
Minimum Value: -6.2 at 109.5 Milliseconds

SAE Filter Class: 180

Date of Test: 1/19/99

Curve Number: FIL-062

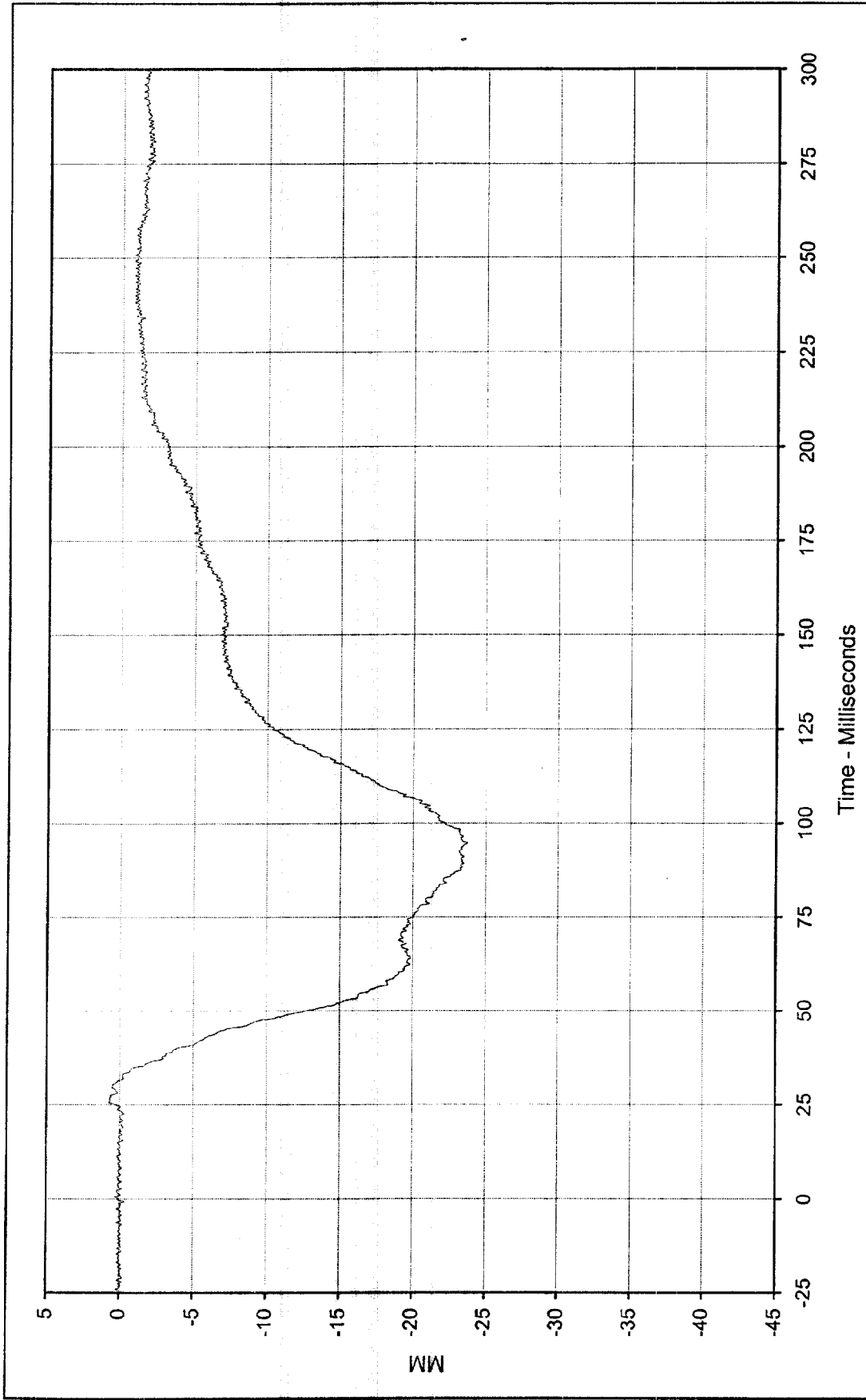




Curve Description: Passenger Chest Resultant Redundant  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

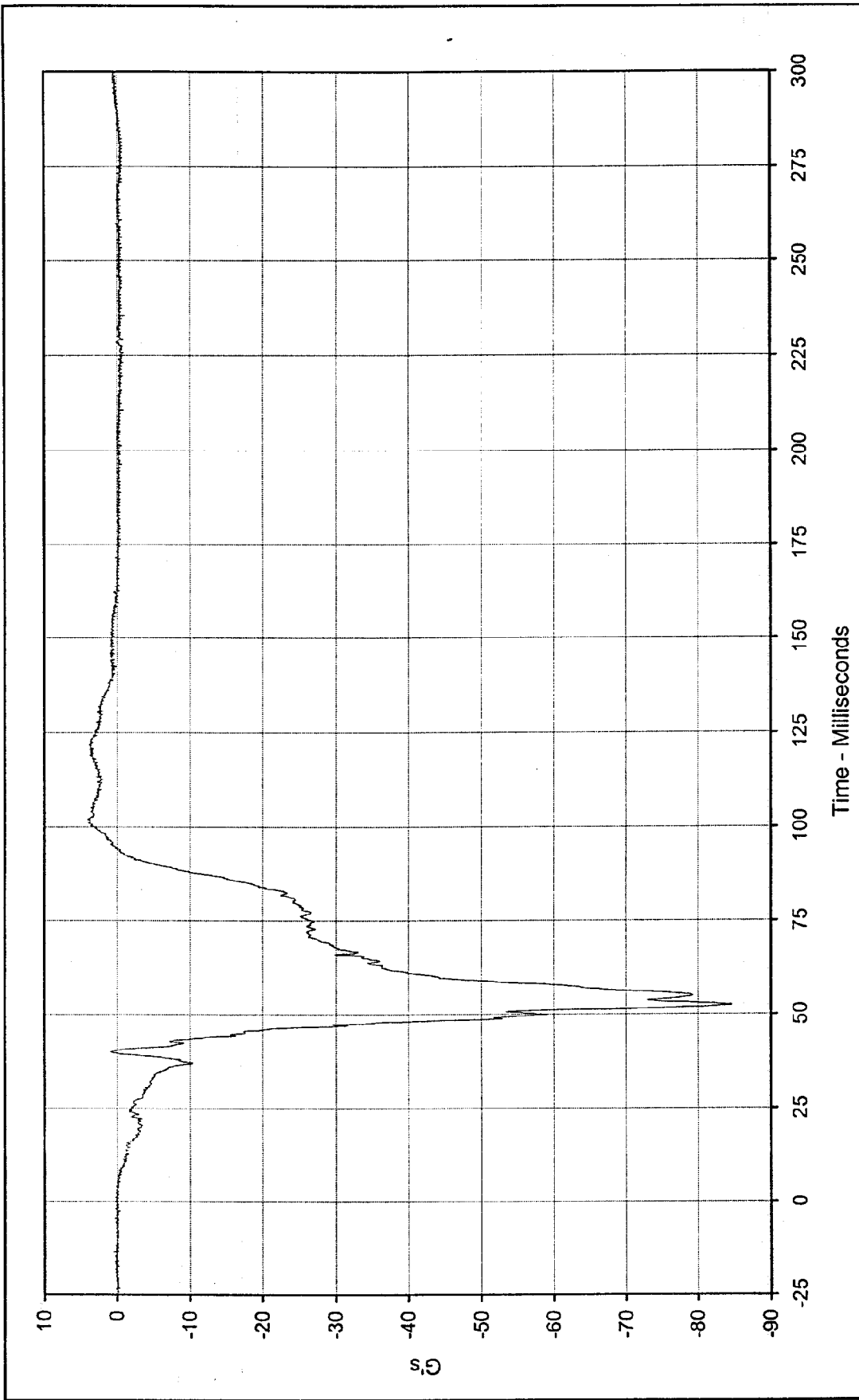
Maximum Value: 51.7 at 66.9 Milliseconds  
 Minimum Value: 0.1 at 0.0 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: RES-060





Curve Description: Passenger Chest Displacement X      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 0.7    at 25.8    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -23.8    at 94.7    Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-063

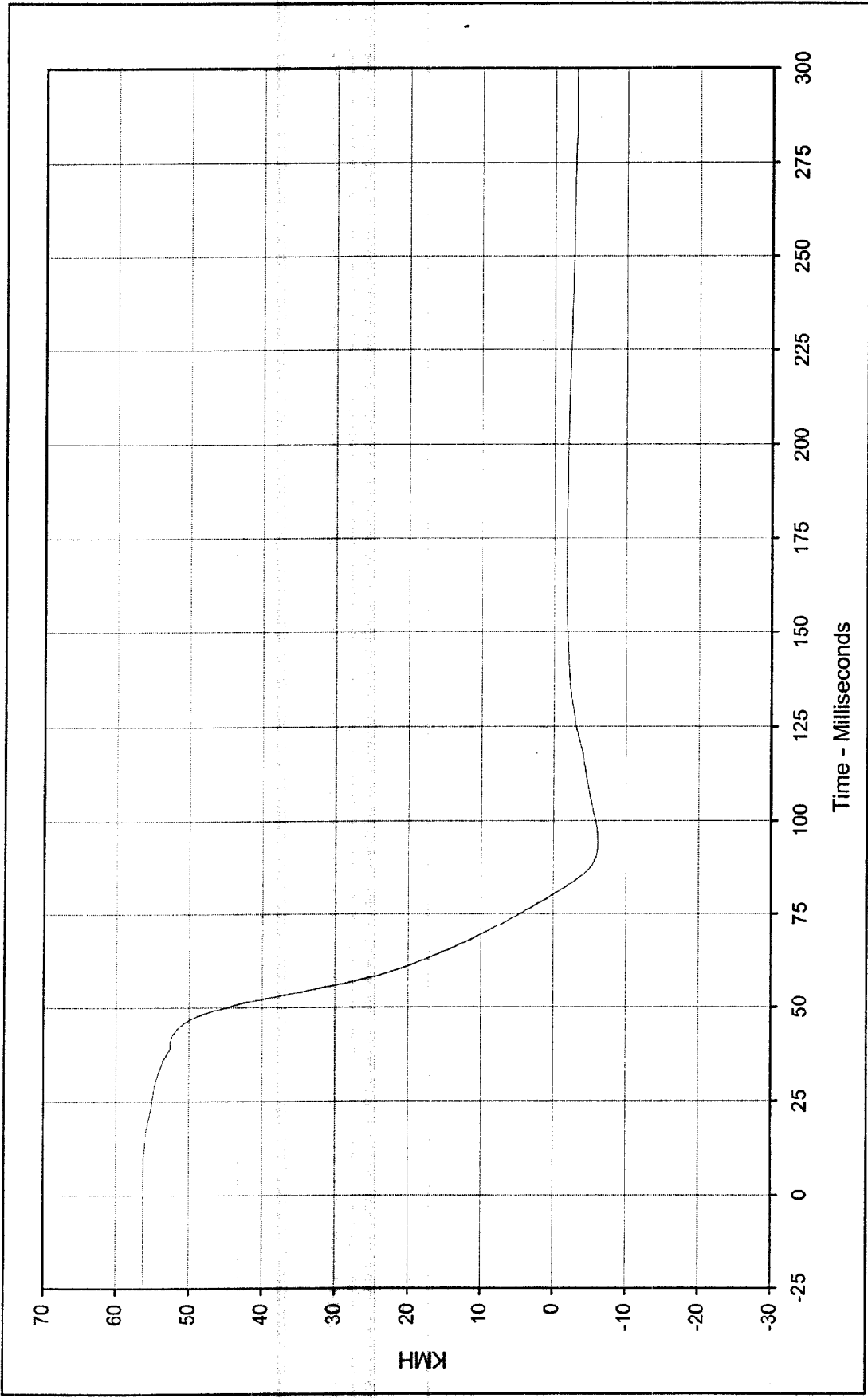




Curve Description: Passenger Pelvis X  
 Maximum Value: 4.0 at 101.1 Milliseconds  
 Minimum Value: -84.7 at 52.4 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-064

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

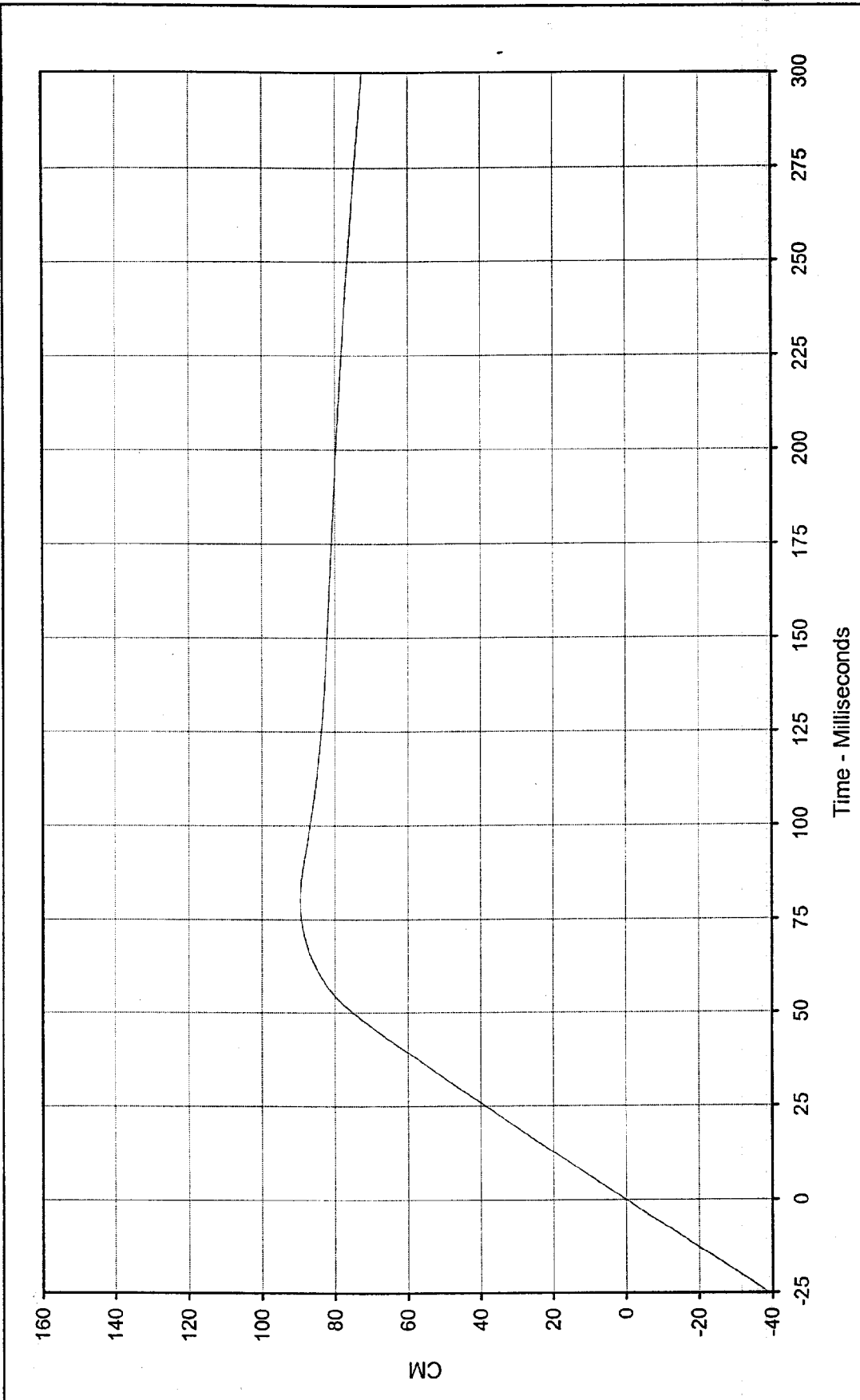




Curve Description: Passenger, Pelvis X Velocity      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 56.3      at 1.3      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -6.1      at 94.1      Milliseconds

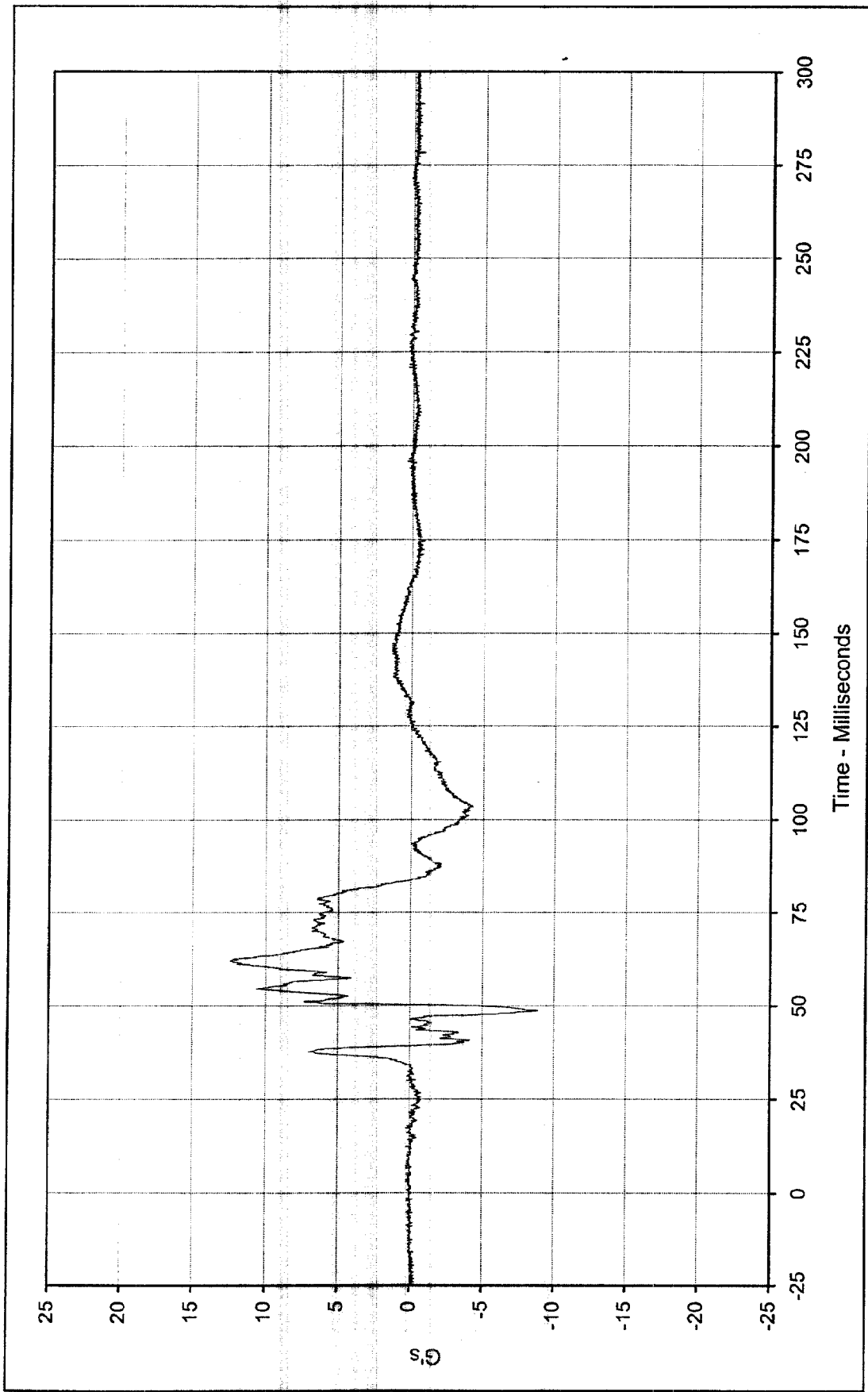


SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-064



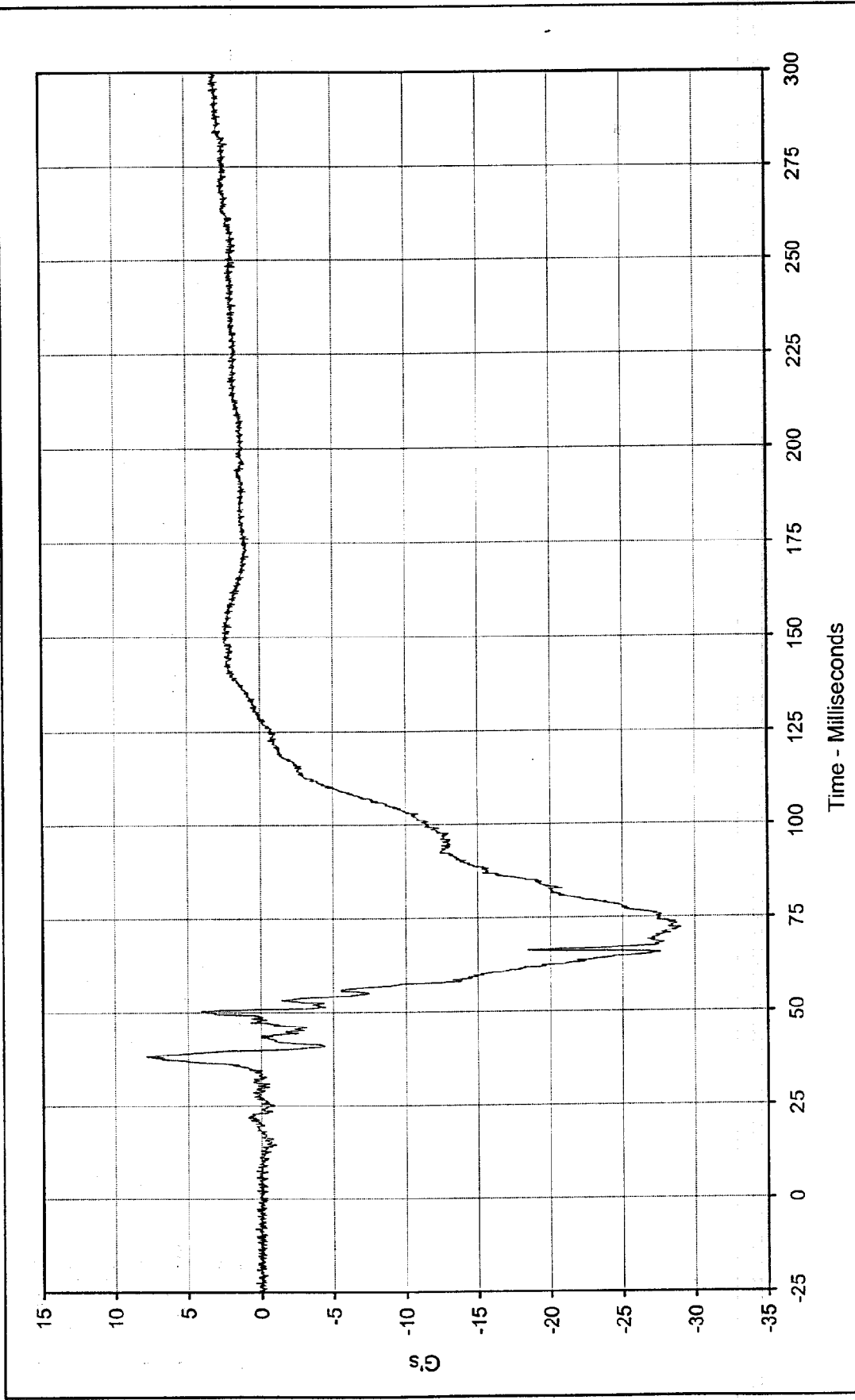
Curve Description: Passenger Pelvis X Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 89.5 at 80.0 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-064





Curve Description: Passenger Pelvis Y      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 12.4 at 62.0 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -8.9 at 48.7 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-065

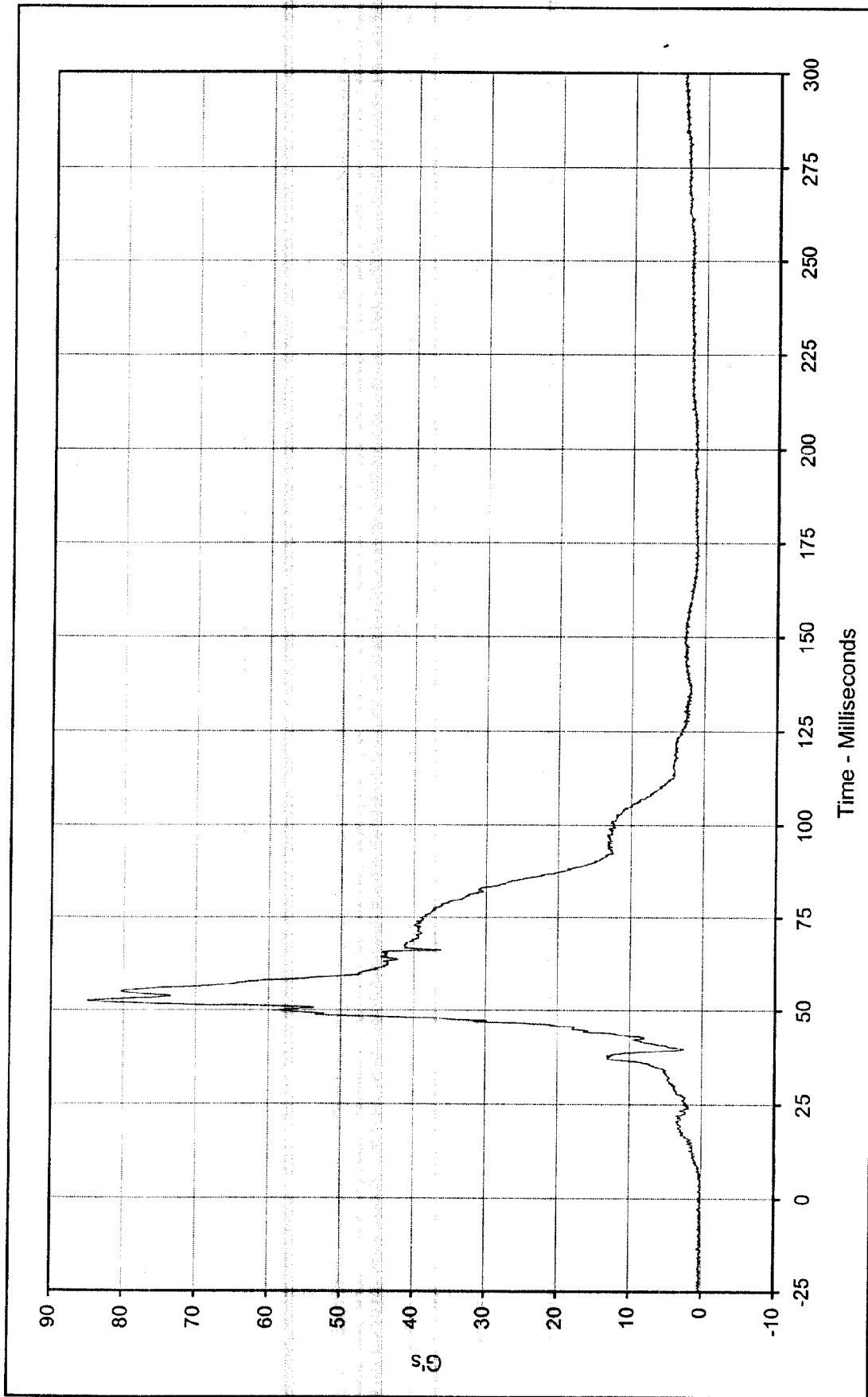




Curve Description: Passenger Pelvis Z  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 7.9 at 38.2 Milliseconds  
 Minimum Value: -29.0 at 72.2 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-066

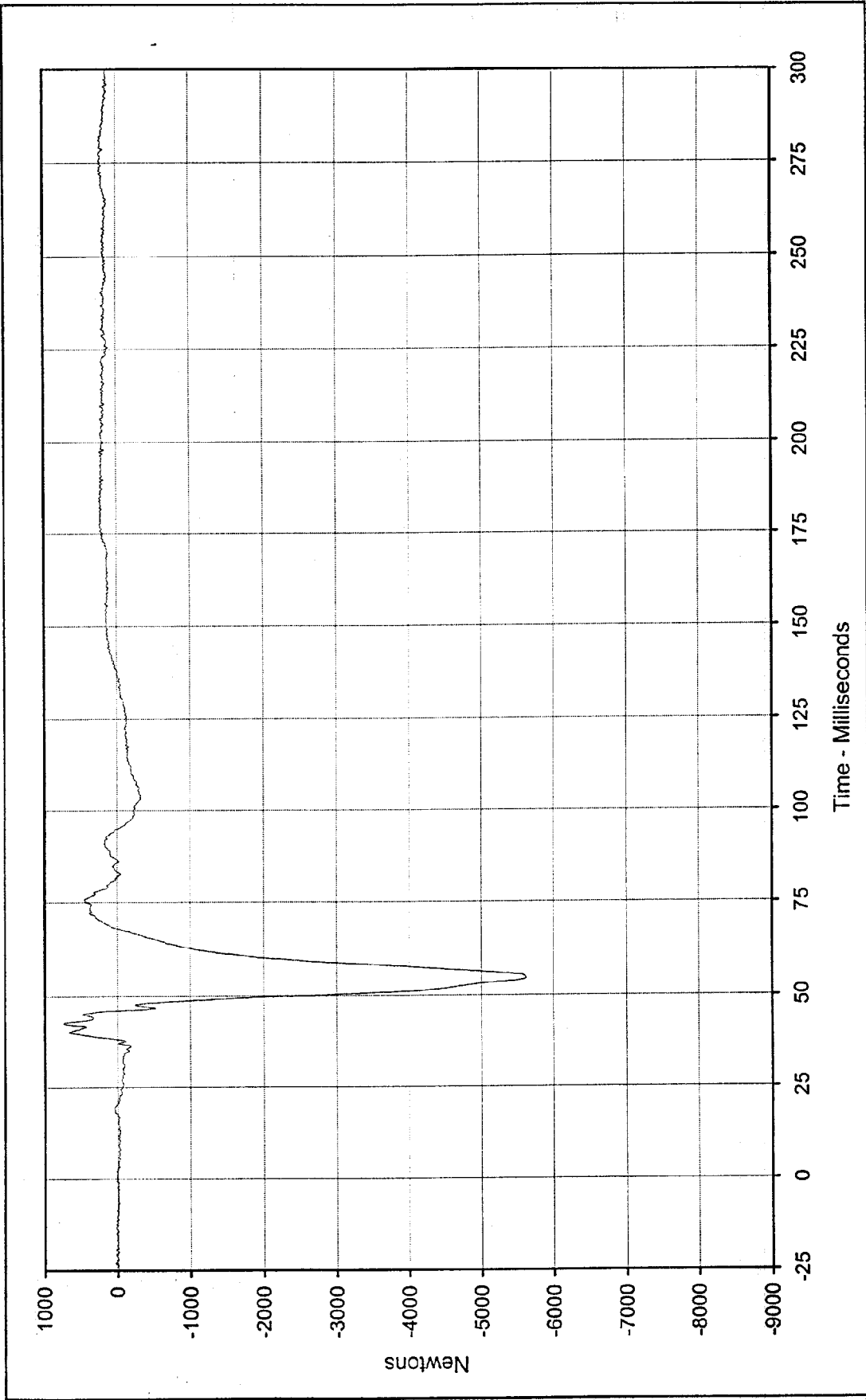




Curve Description: Passenger Pelvis Resultant  
 Maximum Value: 85.0 at 52.4 Milliseconds  
 Minimum Value: 0.0 at 5.7 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: RES-064

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





Curve Description: Passenger Left Femur Force Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 739.1 at 42.7 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

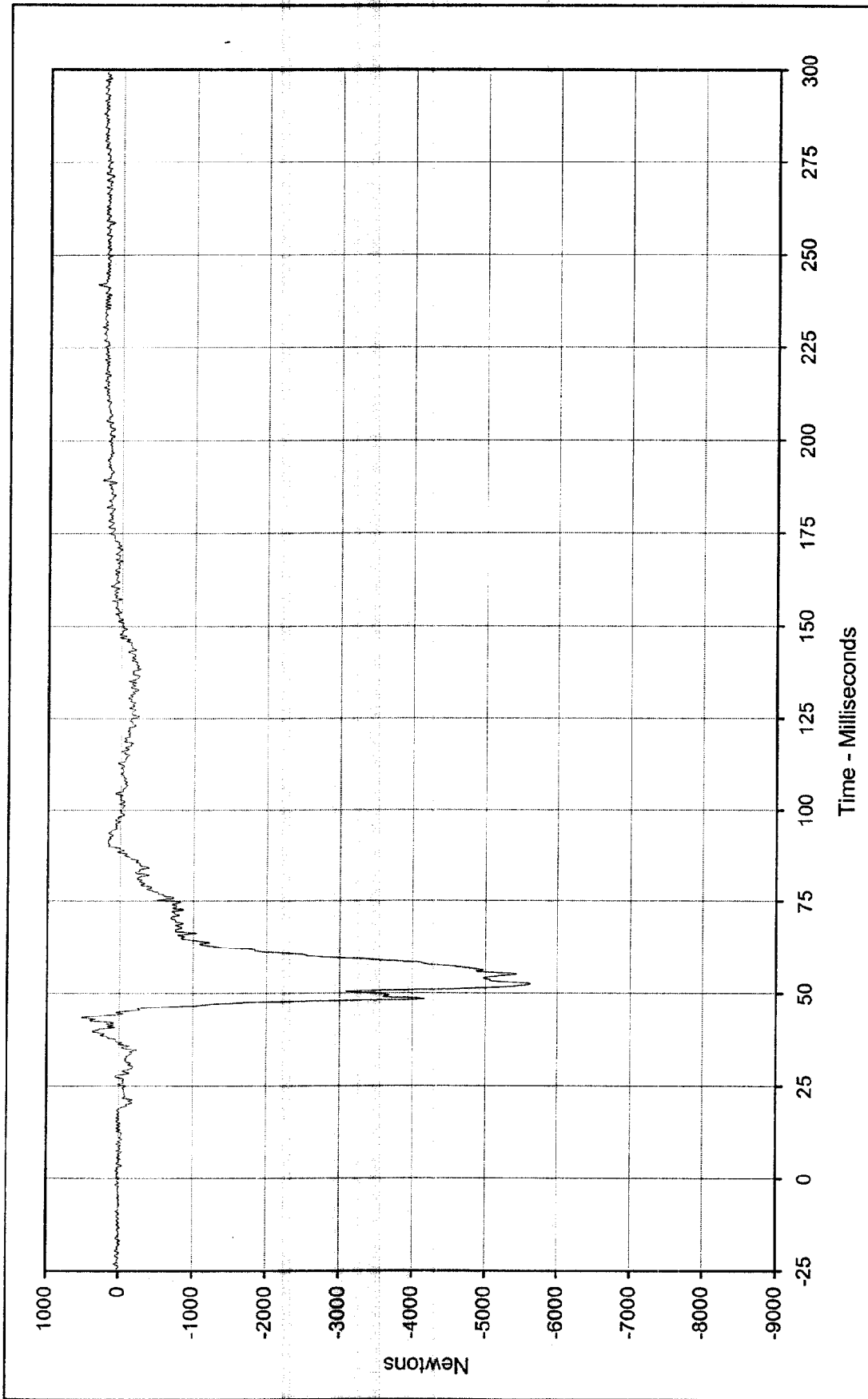
Minimum Value: -5620.6 at 54.5 Milliseconds

SAE Filter Class: 600

Date of Test: 1/19/99

Curve Number: FIL-067





Curve Description: Passenger Right Femur Force Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 528.4 at 43.6 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

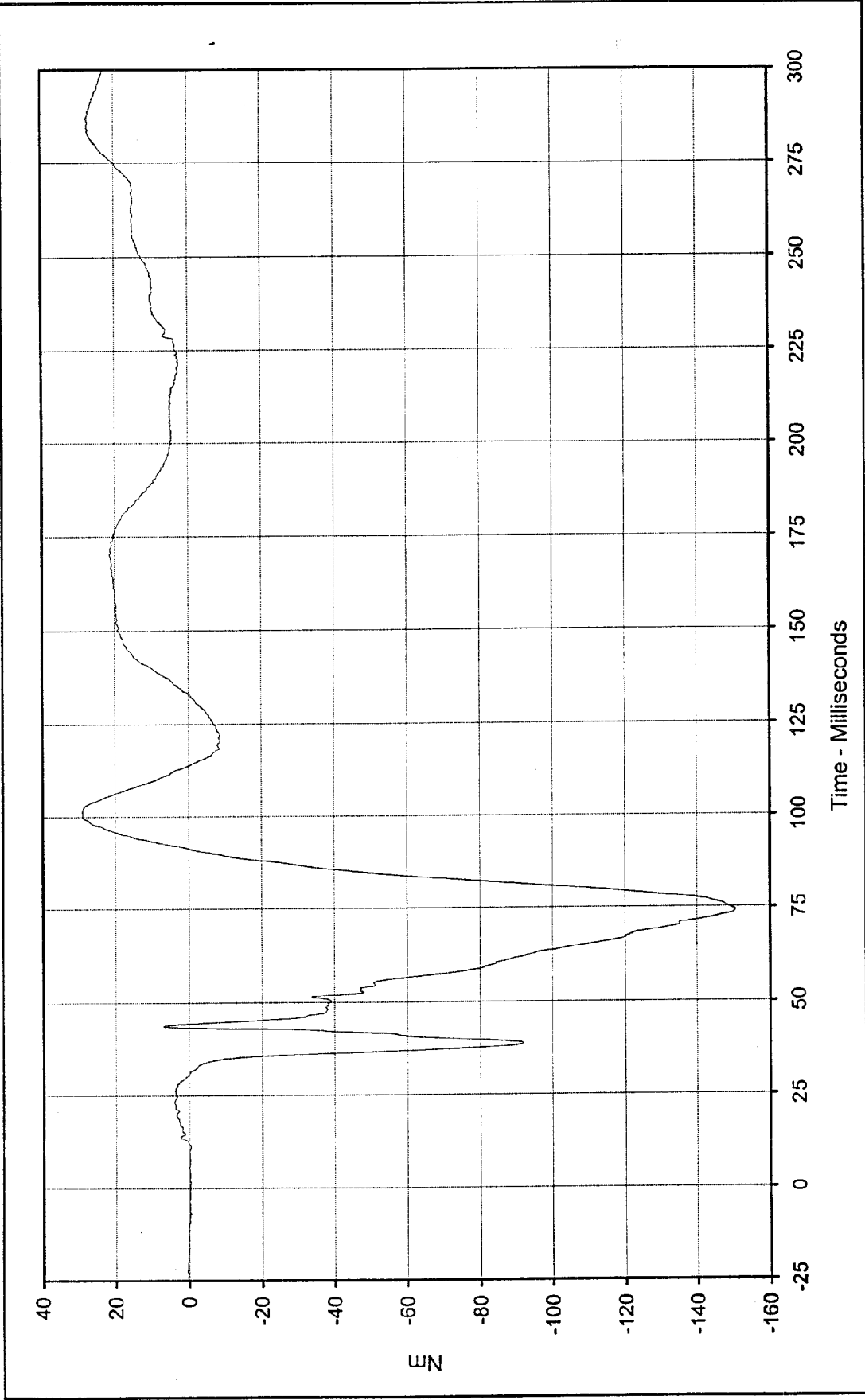
Minimum Value: -5630.8 at 52.5 Milliseconds

SAE Filter Class: 600

Date of Test: 1/19/99

Curve Number: FIL-068





Curve Description: Passenger Left Upper Tibia Moment X

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 29.0 at 101.3 Milliseconds

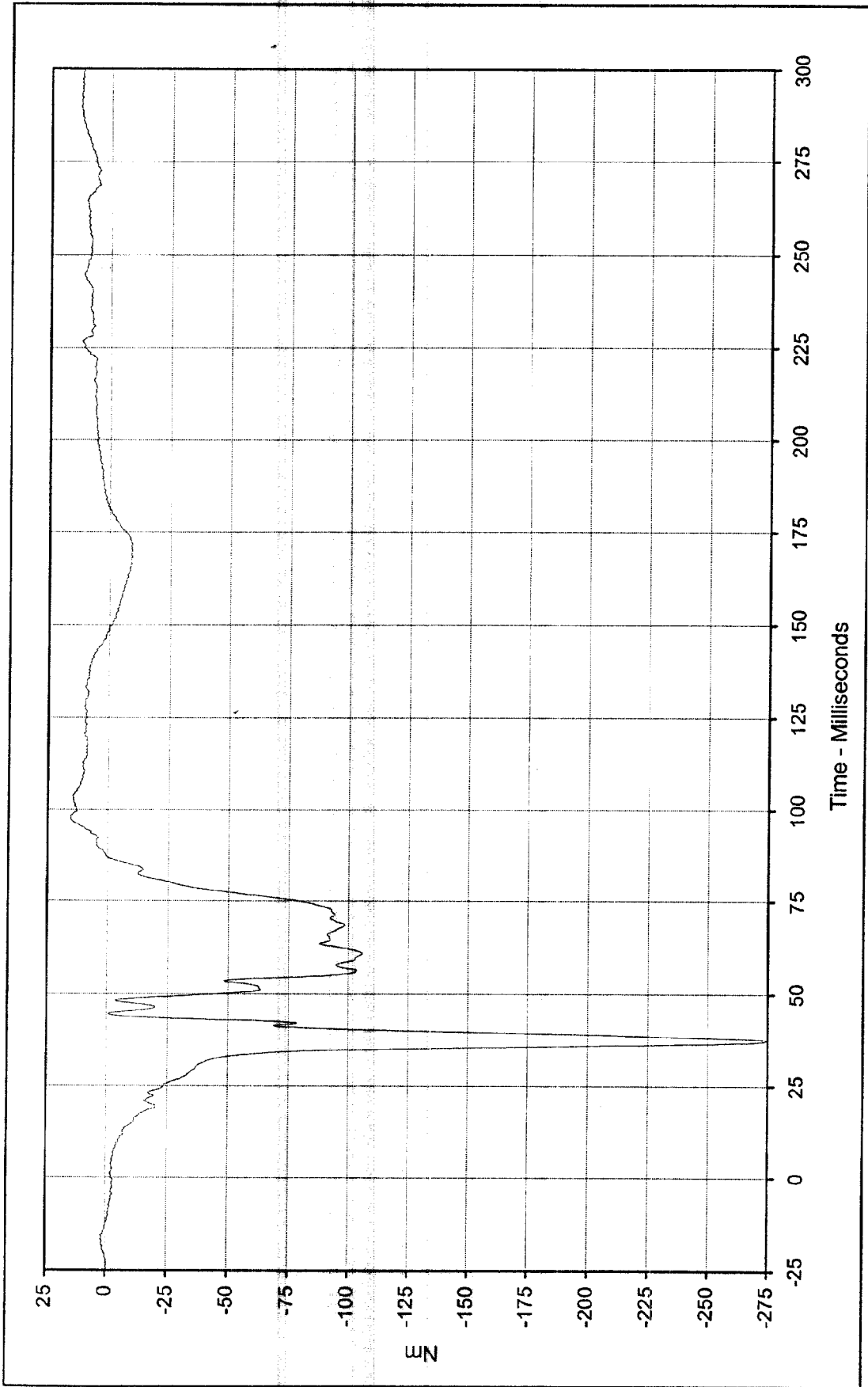
Minimum Value: -150.6 at 74.2 Milliseconds

SAE Filter Class: 600

Date of Test: 1/19/99

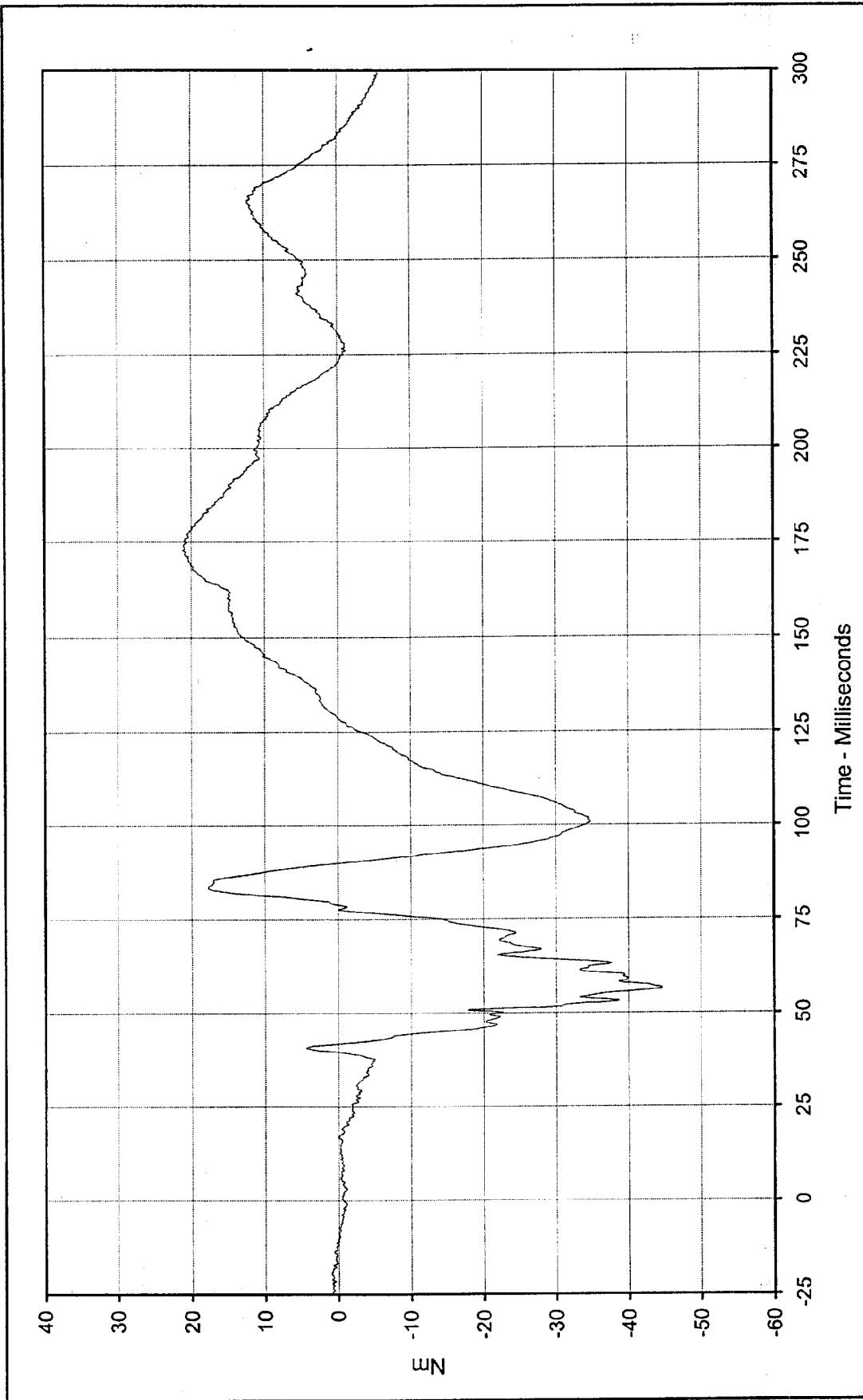
Curve Number: FIL-069





Curve Description: Passenger Left Upper Tibia Moment Y      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 15.6      at 98.3      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -274.8      at 37.5      Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-070

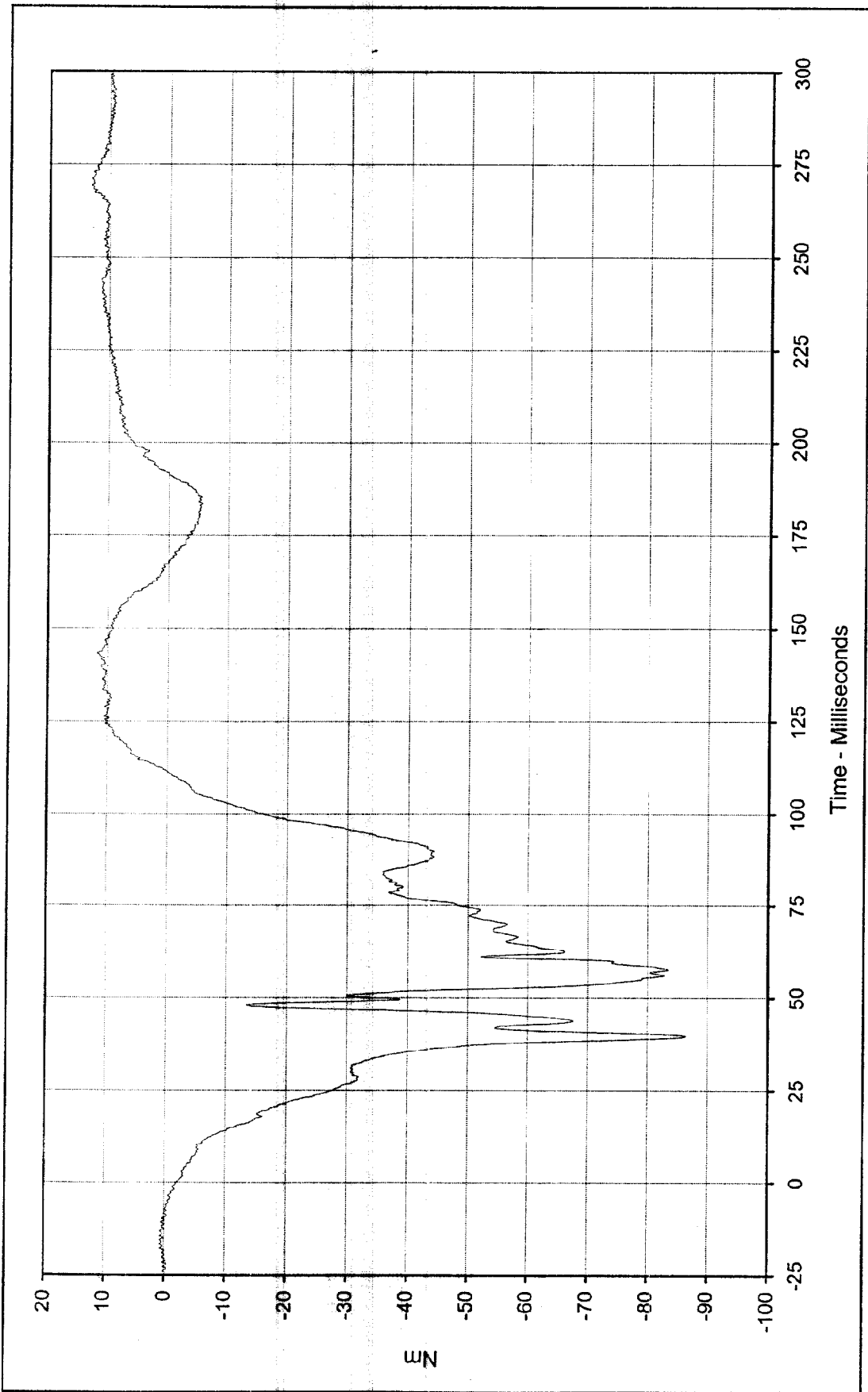




Curve Description: Passenger Right Upper Tibia Moment X  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

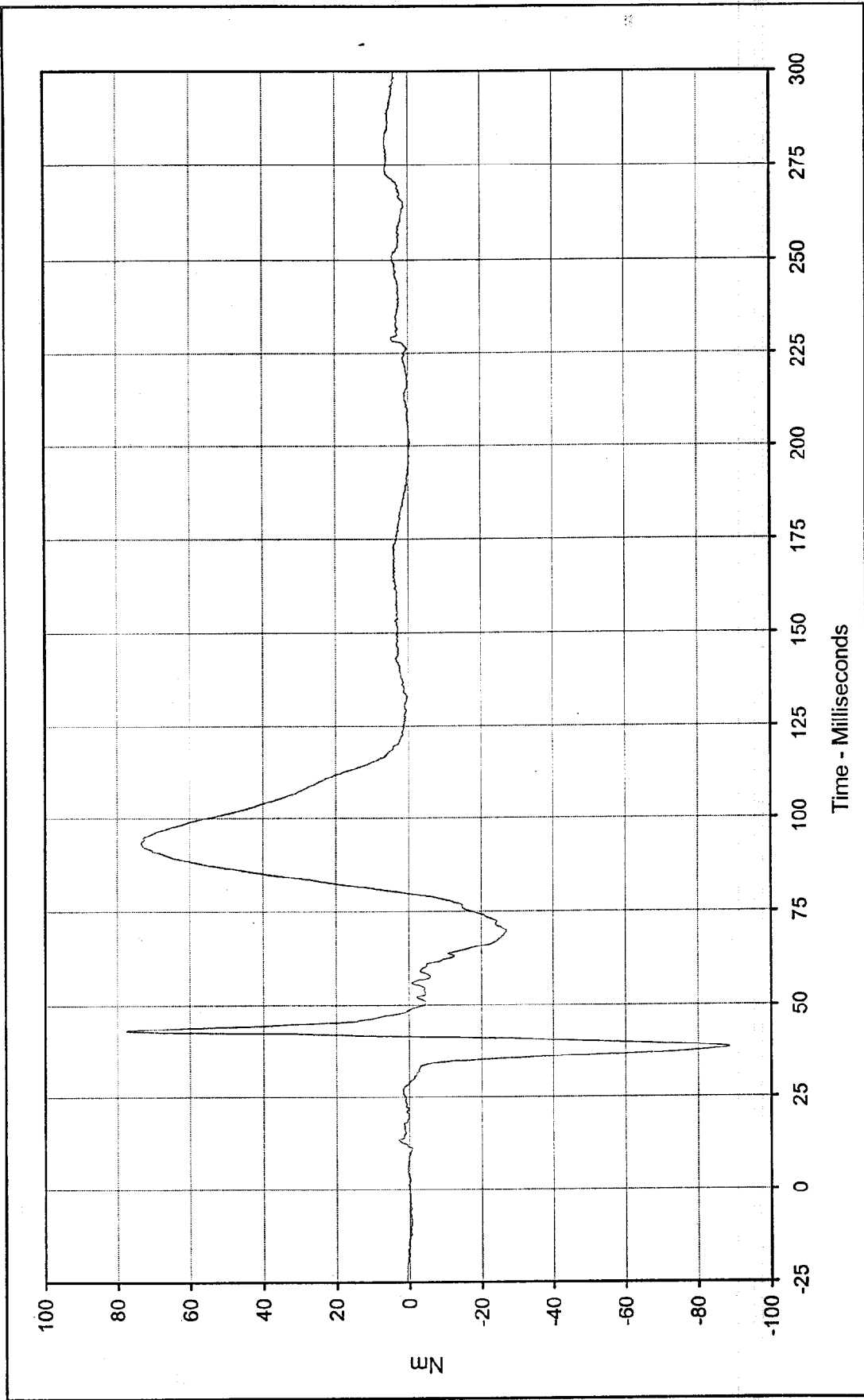
Maximum Value: 21.1 at 172.9 Milliseconds  
 Minimum Value: -44.7 at 56.5 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-071





Curve Description: Passenger Right Upper Tibia Moment Y      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 13.2    at 269.3    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -86.4    at 39.8    Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-072

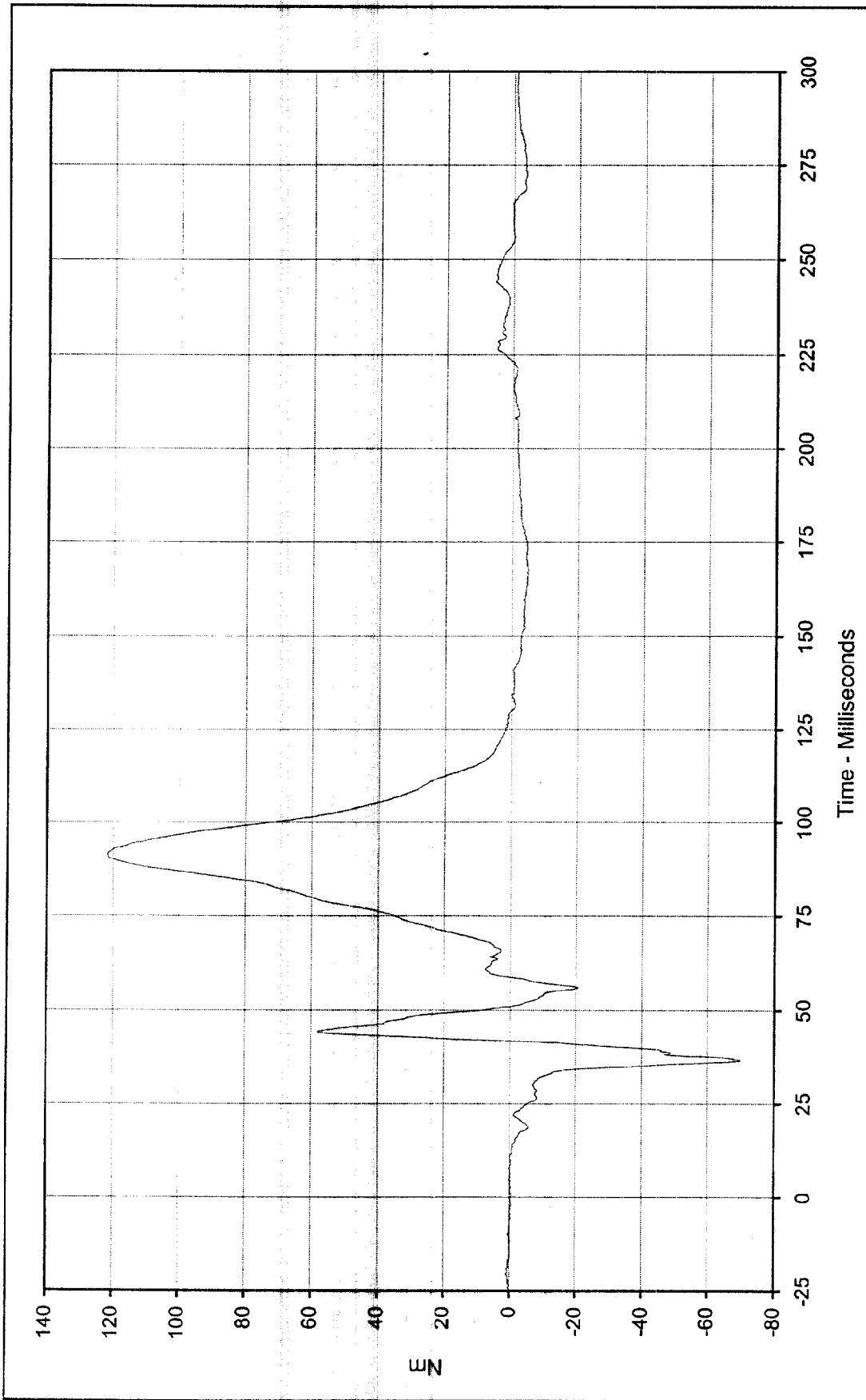




Curve Description: Passenger Left Lower Tibia Moment X  
 Maximum Value: 77.6 at 43.2 Milliseconds  
 Minimum Value: -88.7 at 38.4 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-073

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

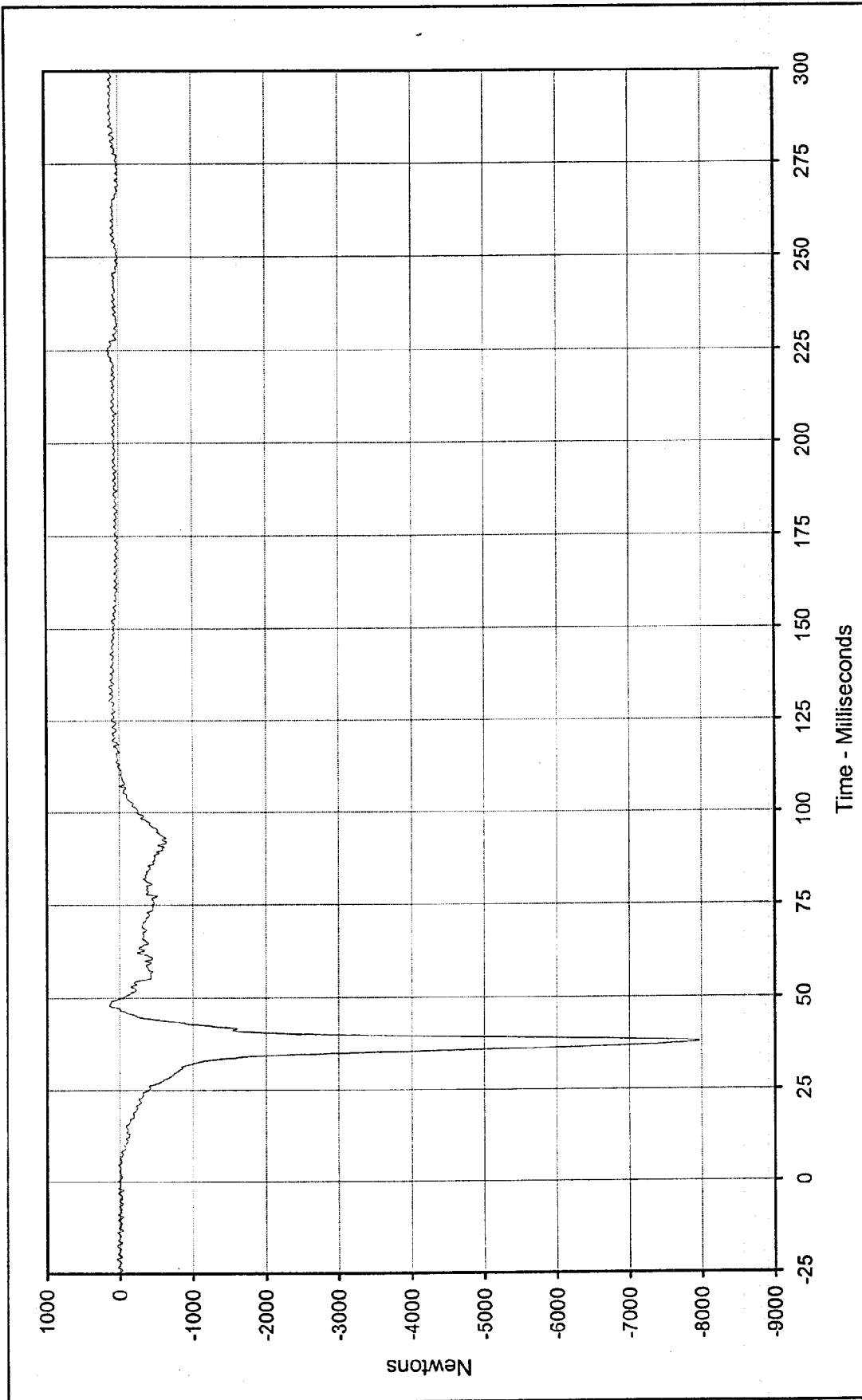




Curve Description: Passenger Left Lower Tibia Moment Y      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 121.7      at 91.6      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -69.9      at 36.5      Milliseconds

SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-074

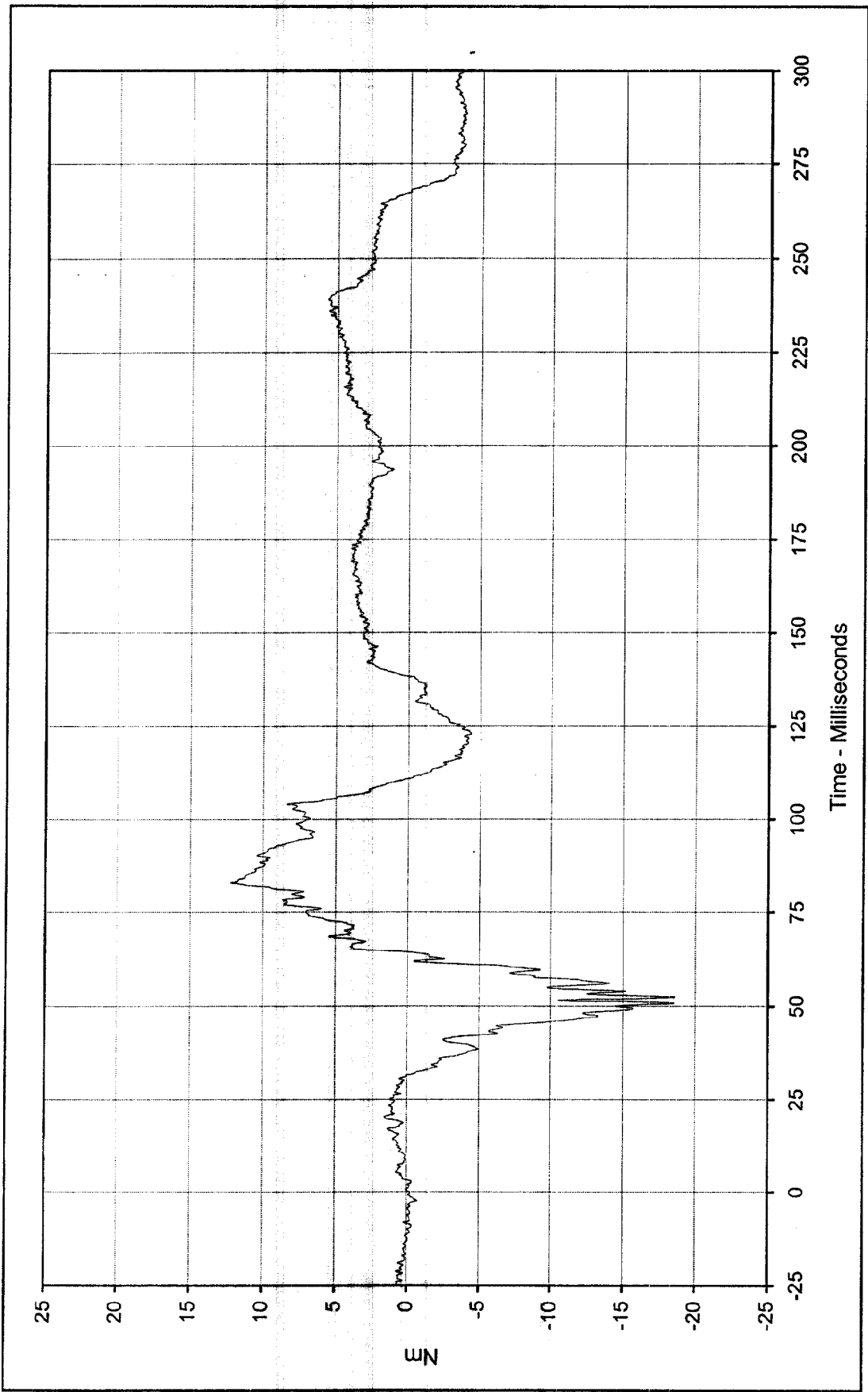




Curve Description: Passenger Left Lower Tibia Force Z  
 Maximum Value: 144.5 at 225.8 Milliseconds  
 Minimum Value: -7968.6 at 37.8 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-075

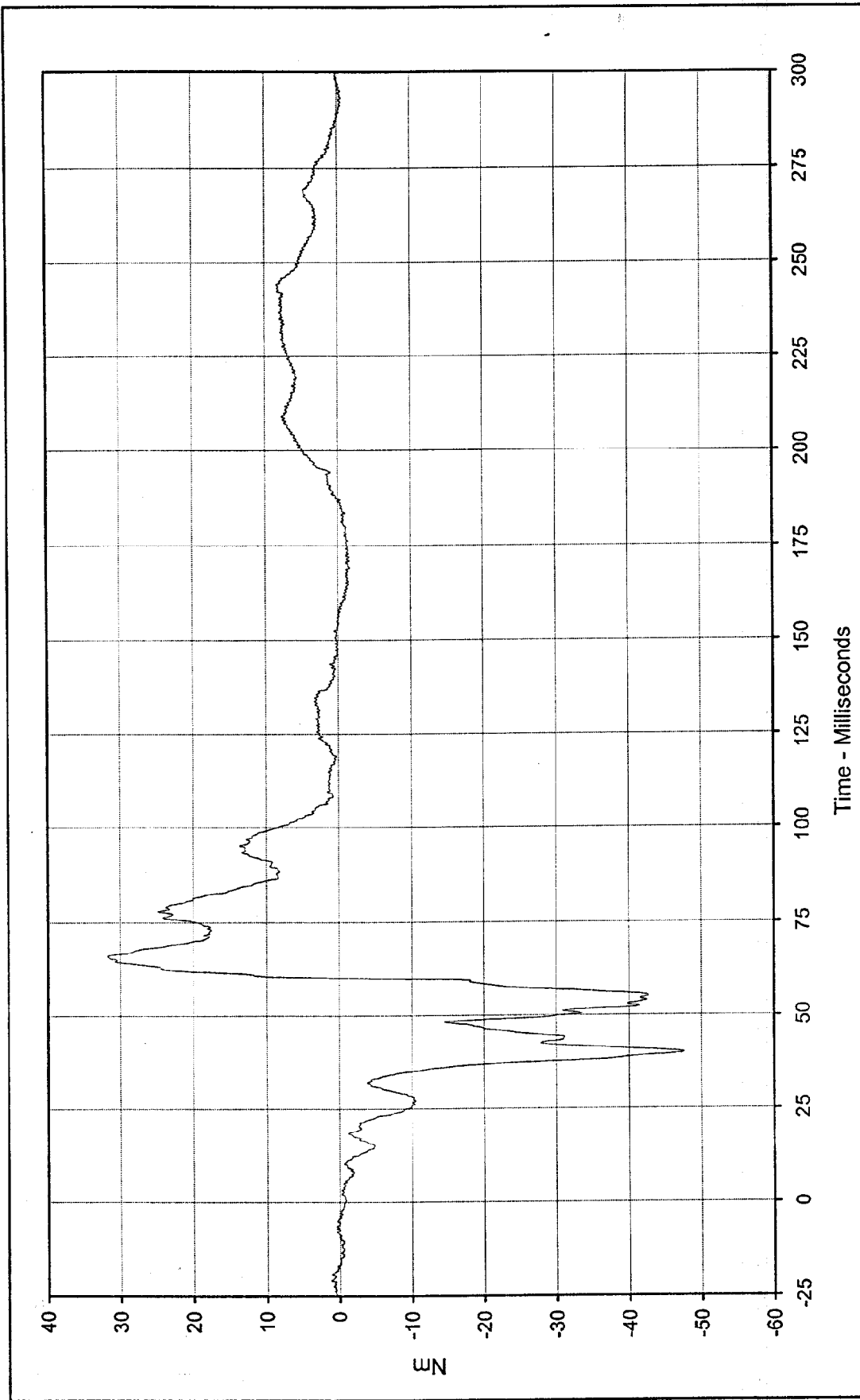
Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





Curve Description: Passenger Right Lower Tibia Moment X      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 12.3    at 82.8    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -18.6    at 52.4    Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-076

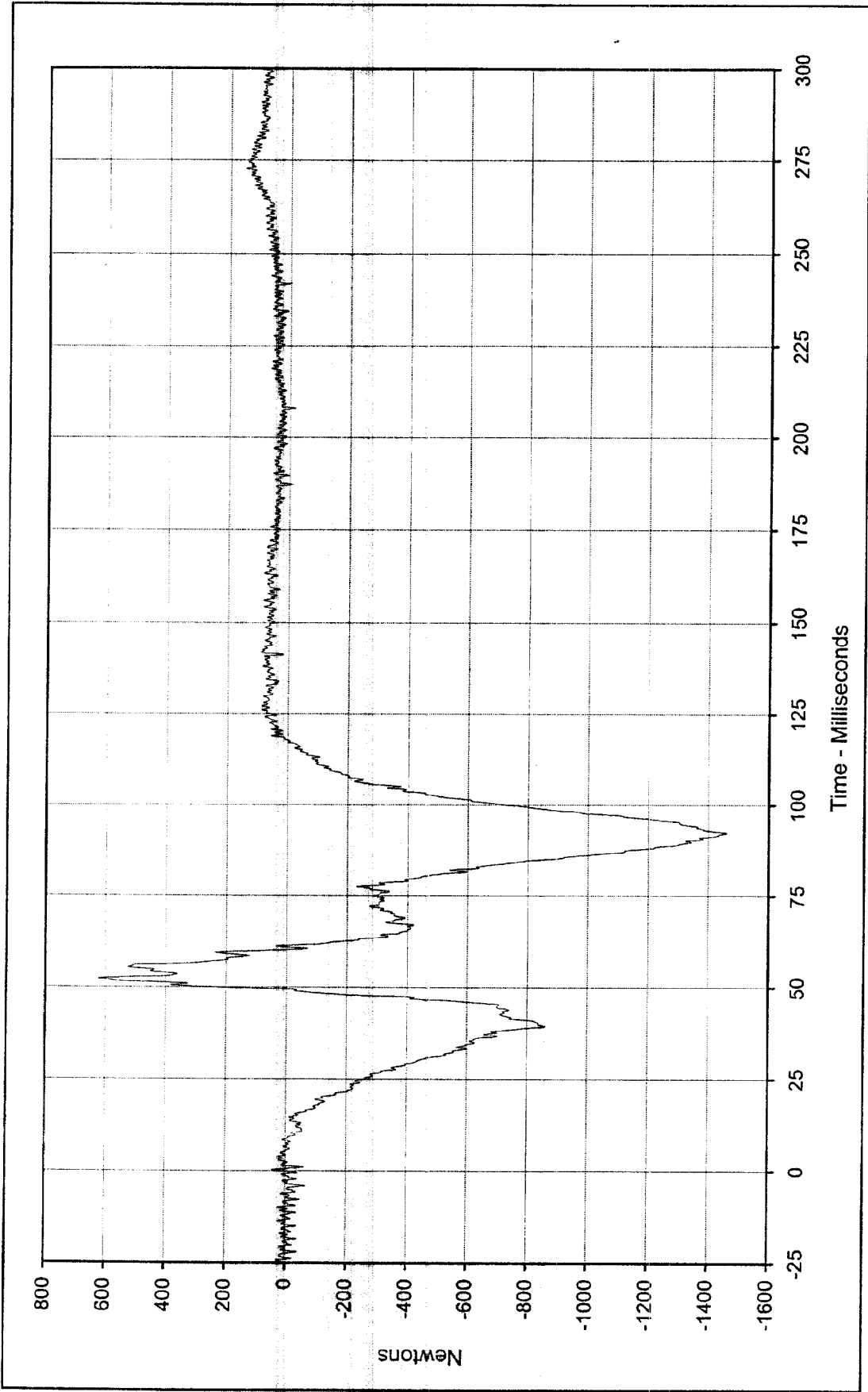




Curve Description: Passenger Right Lower Tibia Moment Y  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

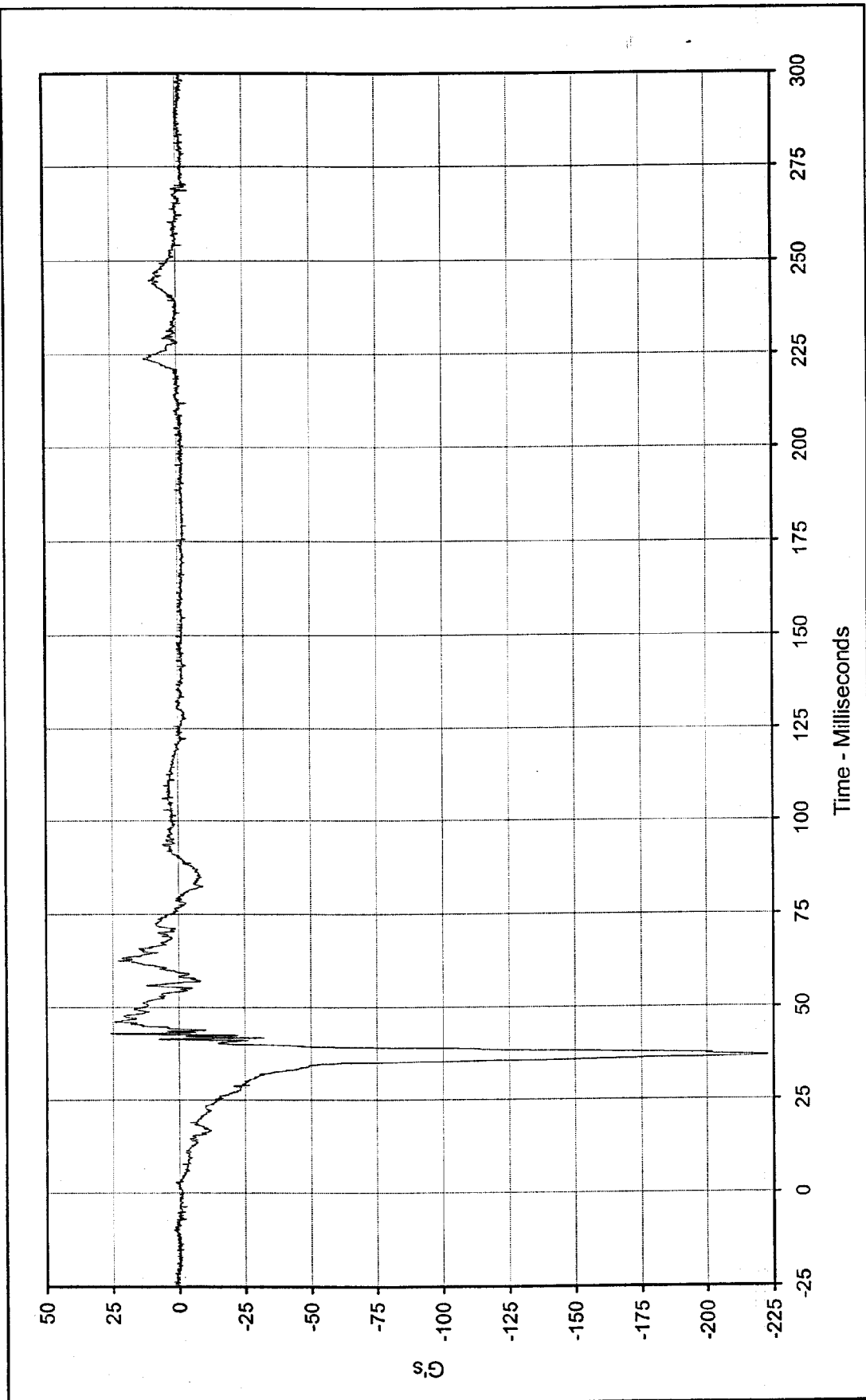
Maximum Value: 31.8 at 65.8 Milliseconds  
 Minimum Value: -47.6 at 39.9 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-077





Curve Description: Passenger Right lower Tibia Force Z      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 623.4 at 52.3 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -1462.0 at 92.4 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/19/99  
 Curve Number: FIL-078

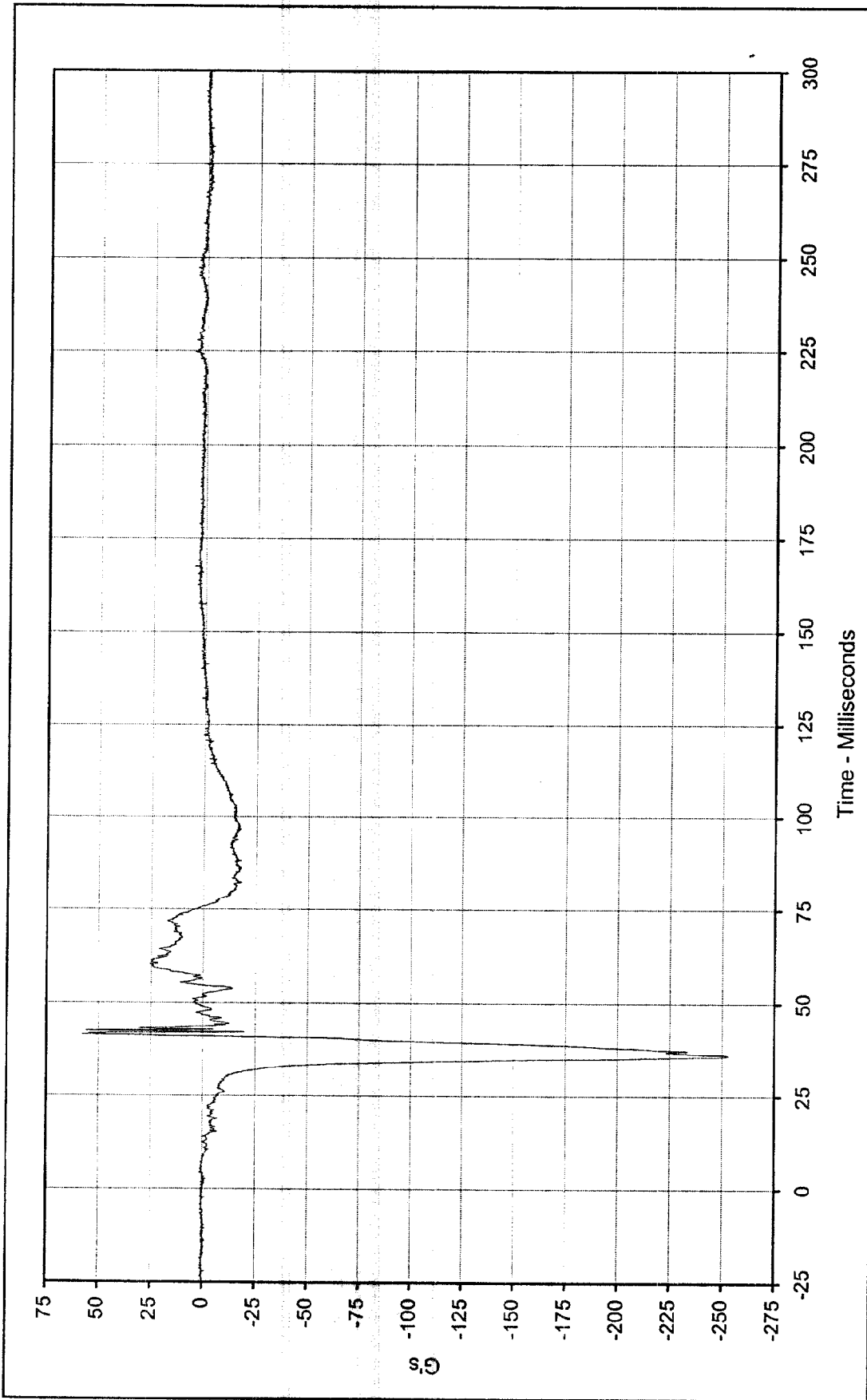




Curve Description: Passenger Left Foot Aft X Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 25.8 at 43.0 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -223.0 at 36.7 Milliseconds



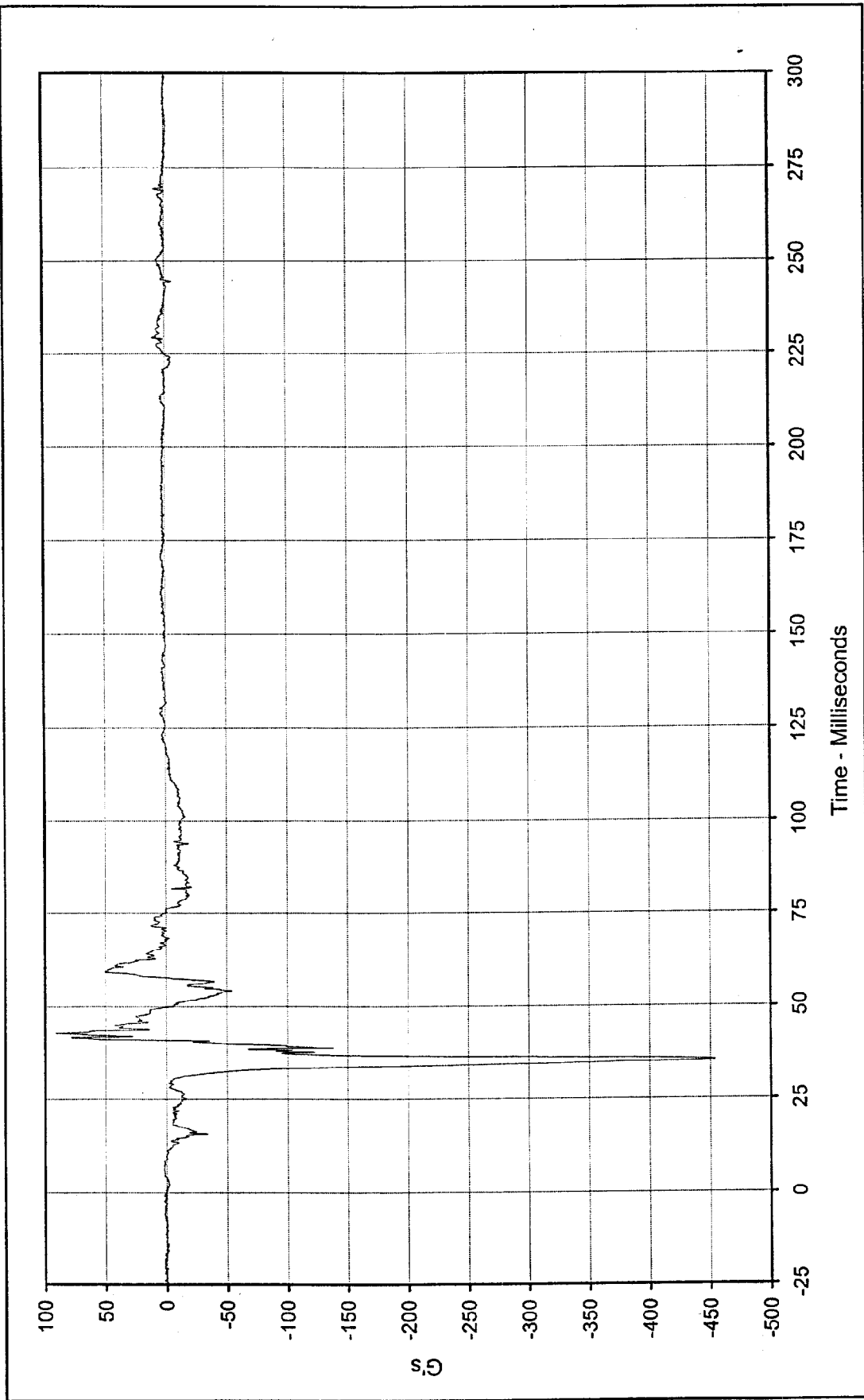
SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-079



Curve Description: Passenger Left Foot Aft Z      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 57.9    at 41.6    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -253.0    at 35.9    Milliseconds

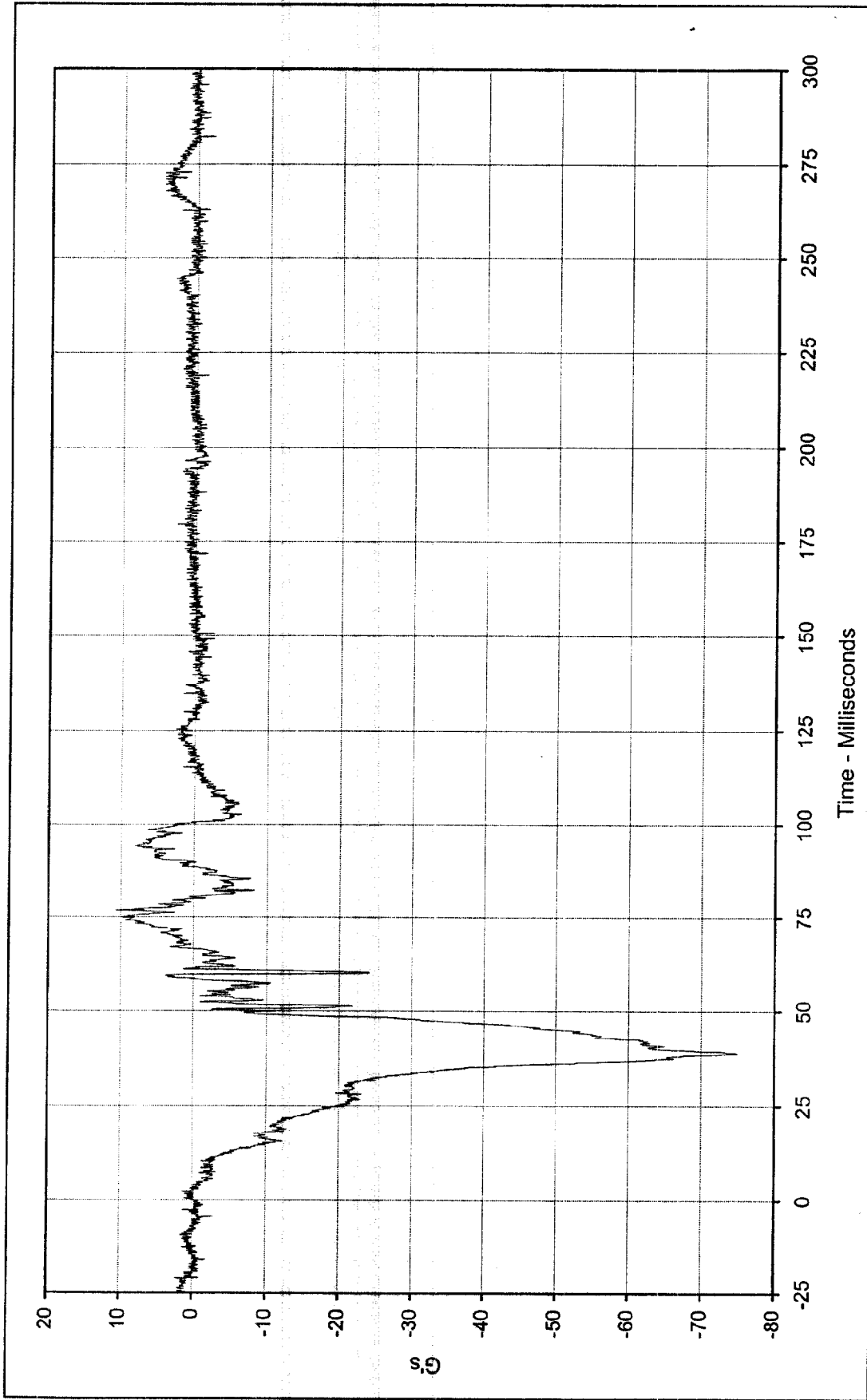


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-080



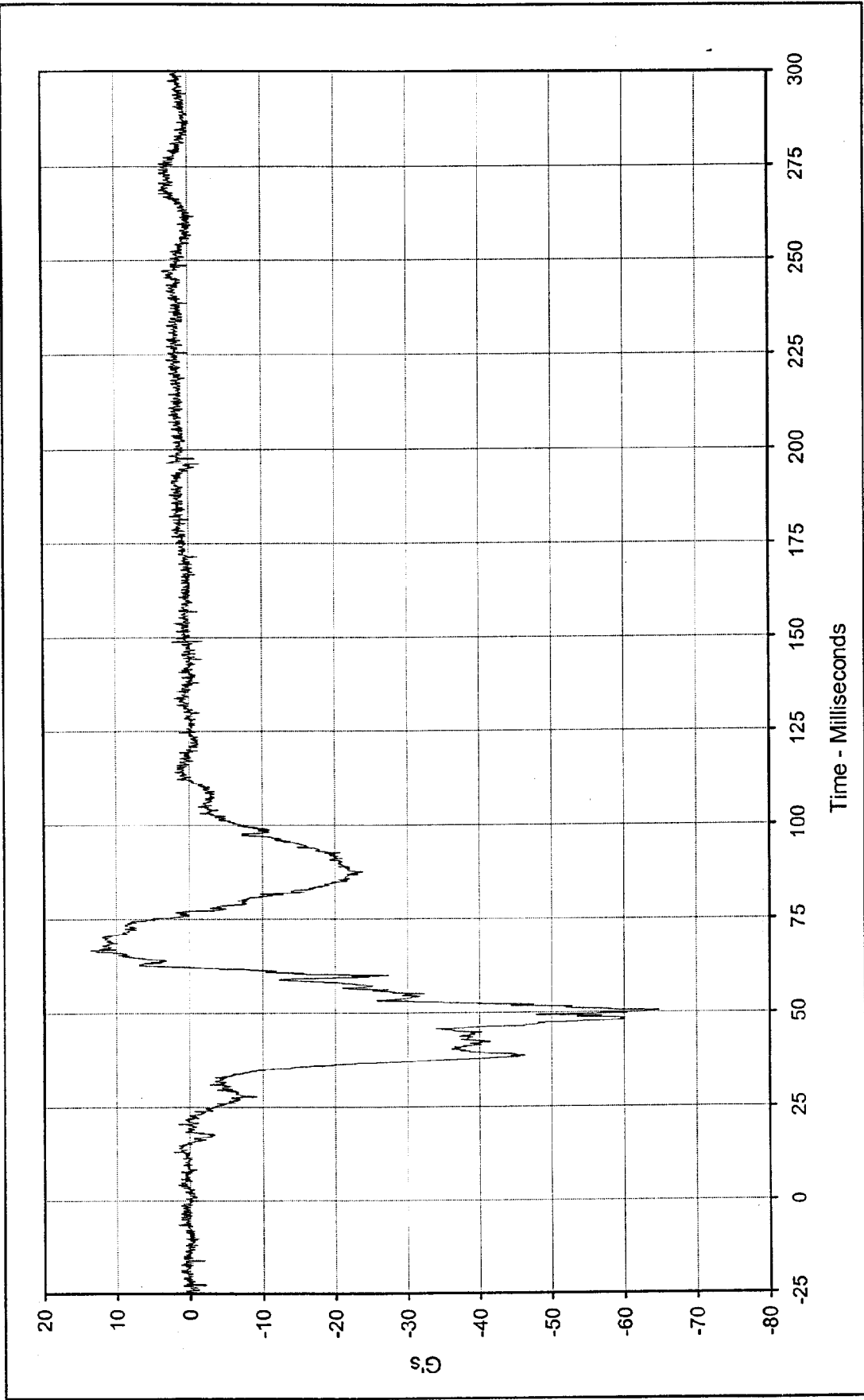
Curve Description: Passenger Left Foot Fore Z      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 91.1    at 43.0    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -454.5    at 35.3    Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-081





Curve Description: Passenger Right Foot Aft X      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 10.6 at 76.8 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -74.9 at 38.7 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-082

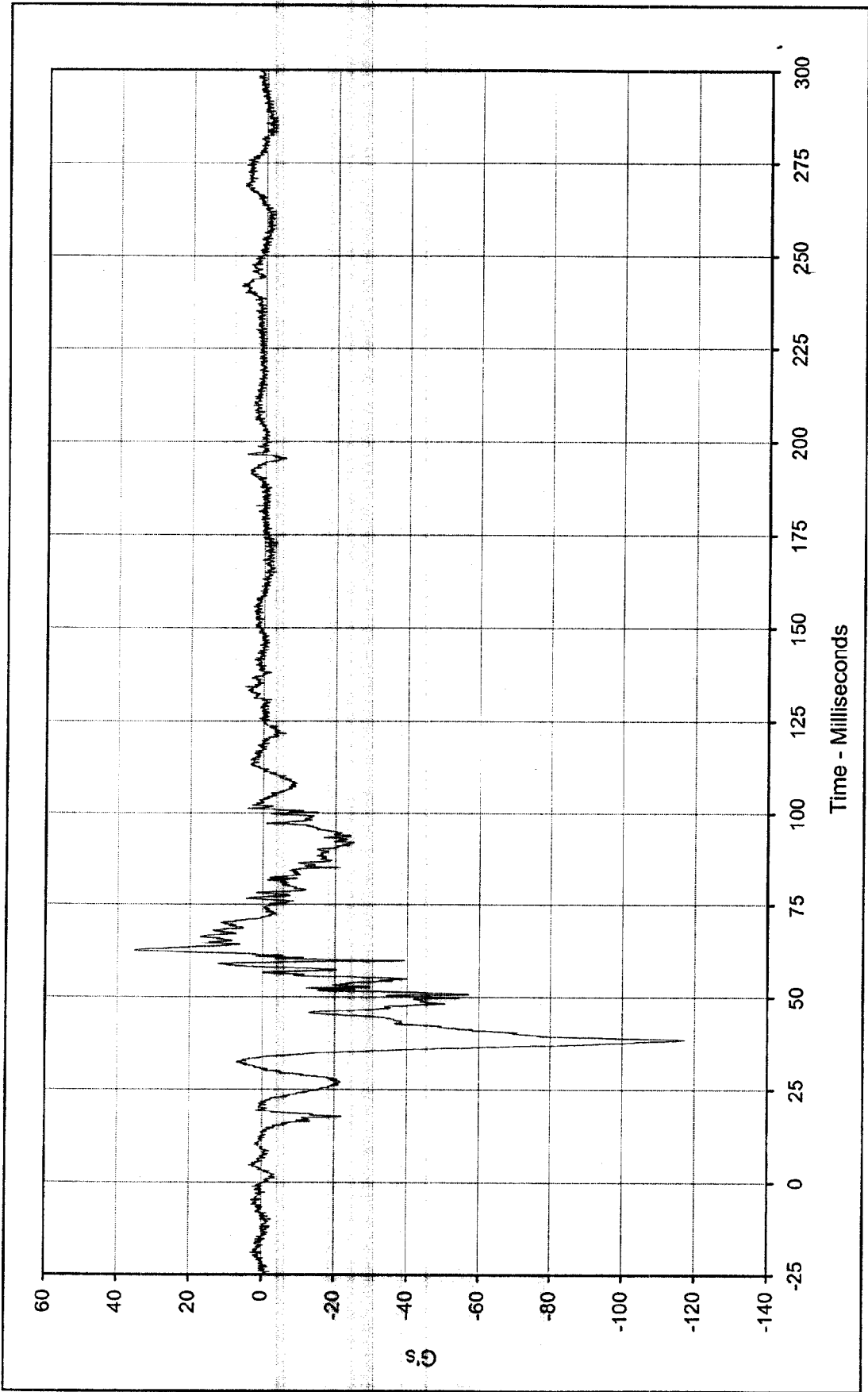




Curve Description: Passenger Right Foot Aft Z      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 13.5    at 66.8    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -64.9    at 50.4    Milliseconds

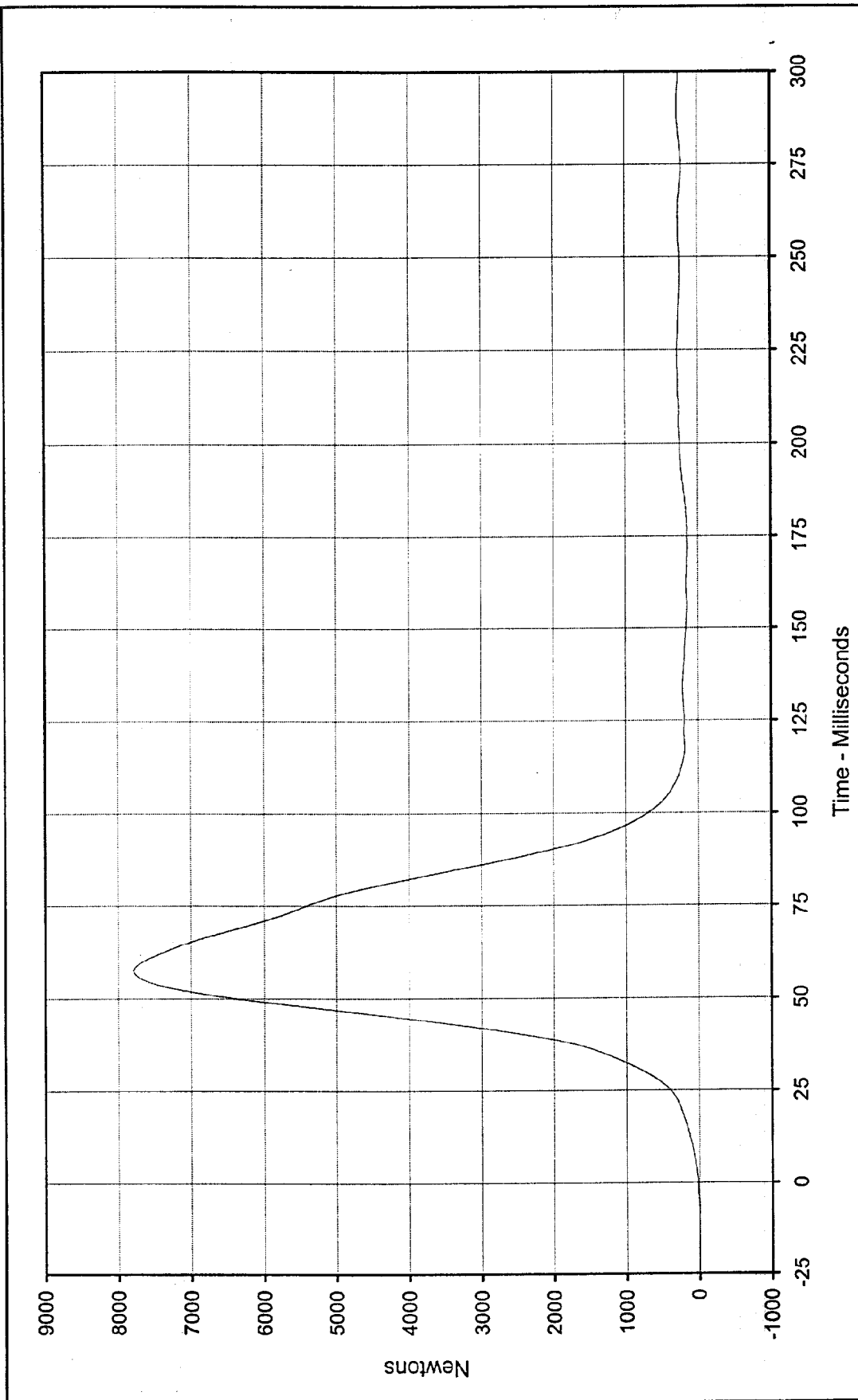


SAE Filter Class: 1000  
 Date of Test: 1/19/99  
 Curve Number: FIL-083



Curve Description:	Passenger Right Foot Fore Z	Test Program:	1999 NHTSA 35 mph NCAP	No.:	MX0304	
Maximum Value:	35.3	at	62.5	Milliseconds	Test Vehicle:	1999 Dodge Intrepid 4 Door Sedan
Minimum Value:	-117.3	at	38.5	Milliseconds		
SAE Filter Class:	1000					
Date of Test:	1/19/99					
Curve Number:	FIL-084					



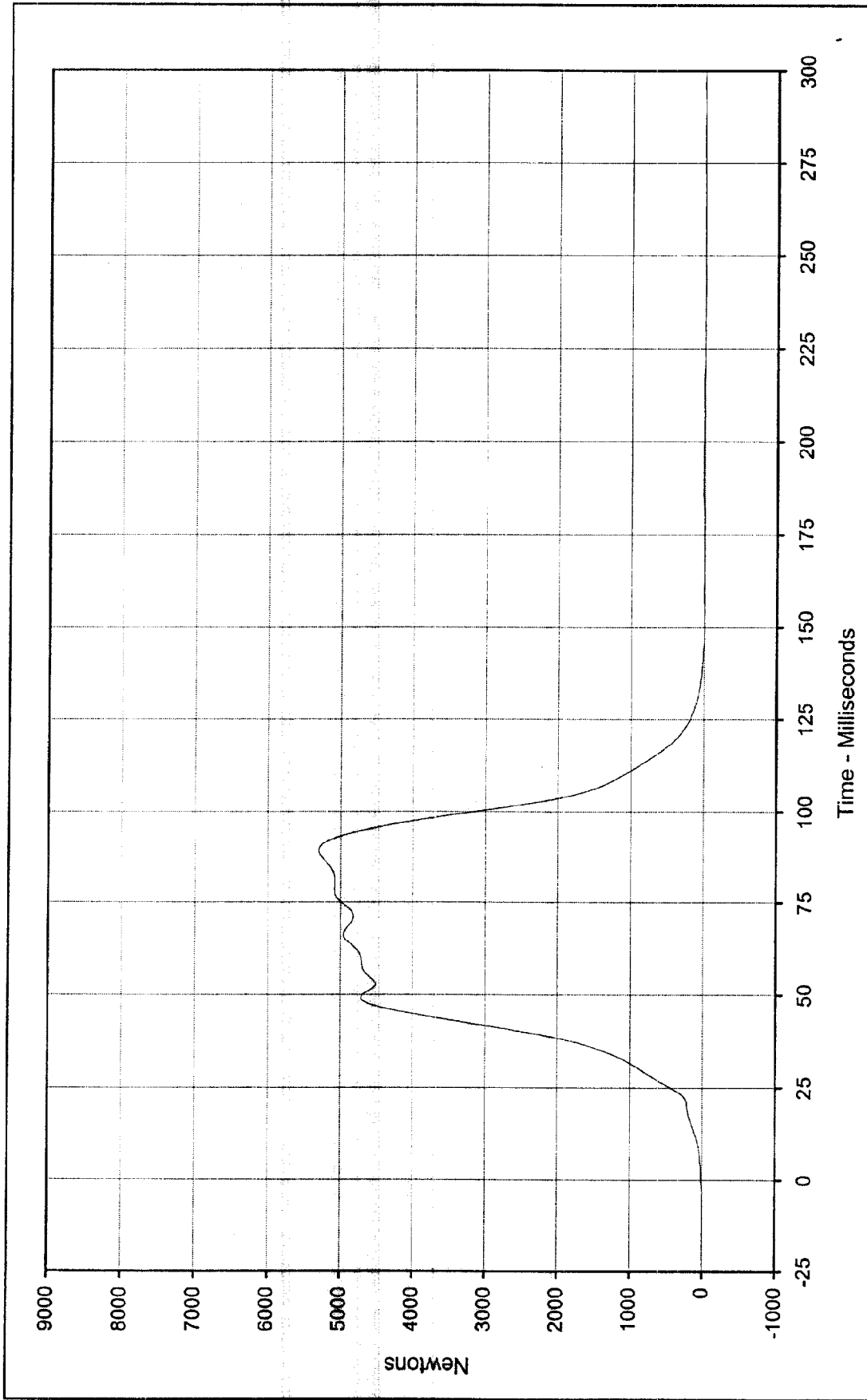


Curve Description: Passenger Lap Belt Force  
 Maximum Value: 7789.1 at 57.6 Milliseconds  
 Minimum Value: 17.6 at 0.0 Milliseconds

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-085





Curve Description: Passenger Shoulder Belt Force Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 5293.4 at 89.2 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

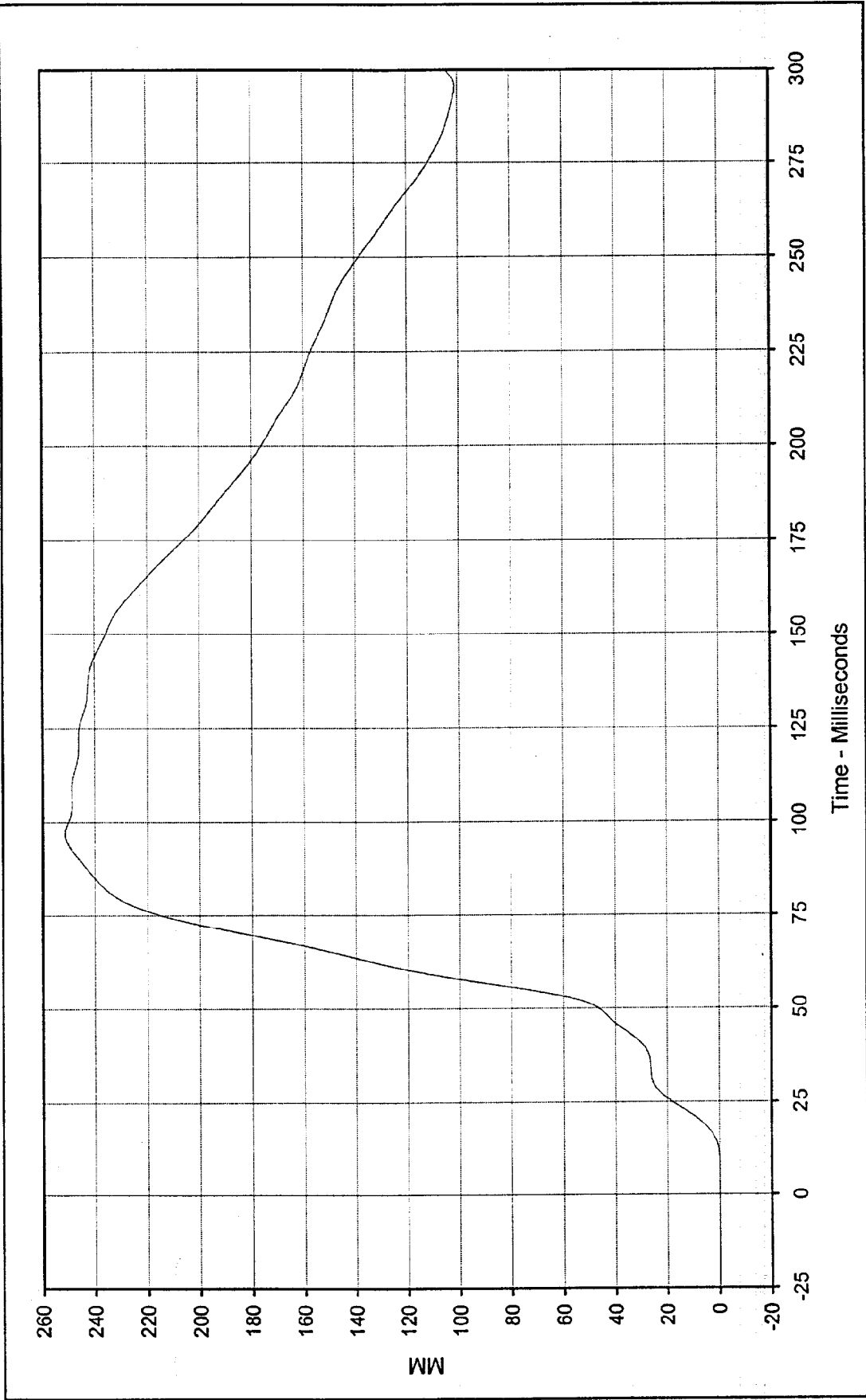
Minimum Value: -16.2 at 243.6 Milliseconds

SAE Filter Class: 60

Date of Test: 1/19/99

Curve Number: FIL-086

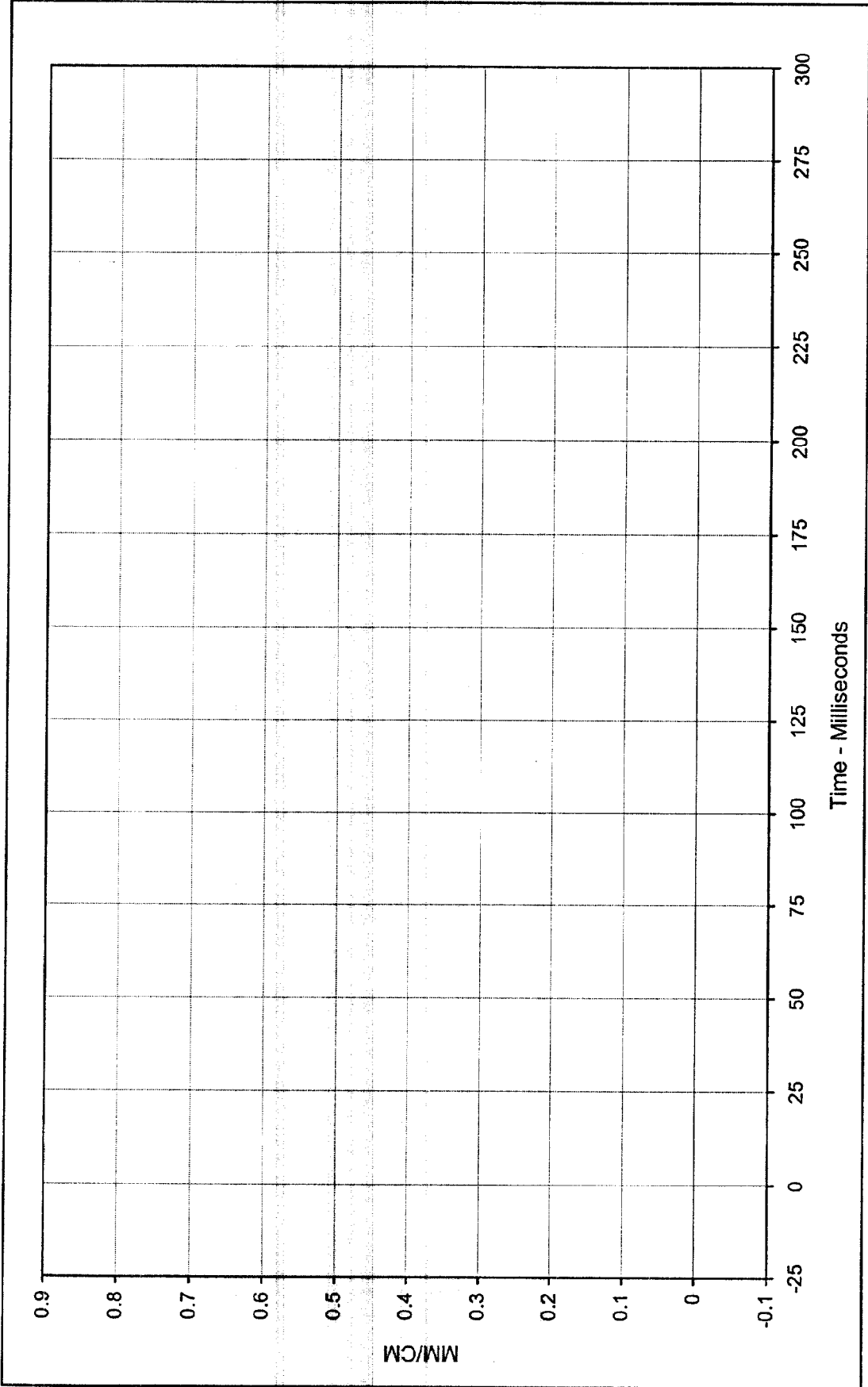




Curve Description: Passenger Shoulder Belt Pullout  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 251.4 at 96.7 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -0.1 at 0.0 Milliseconds



SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-087



Curve Description: Passenger Shoulder Belt Elongation \* Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 0.00 at 0.0 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Minimum Value: 0.00 at 0.0 Milliseconds

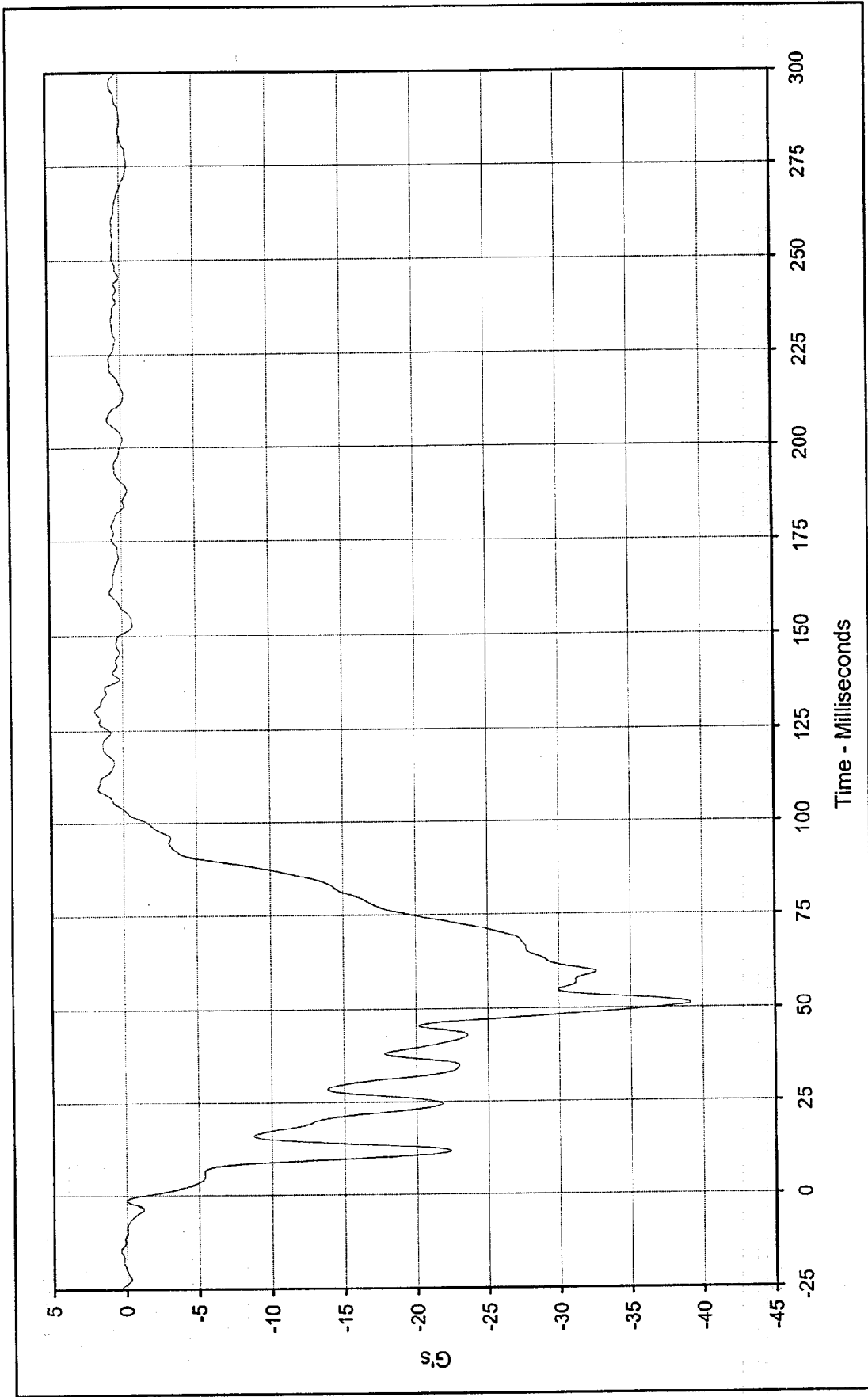
SAE Filter Class: 60

Date of Test: 1/19/99

Curve Number: FIL-088



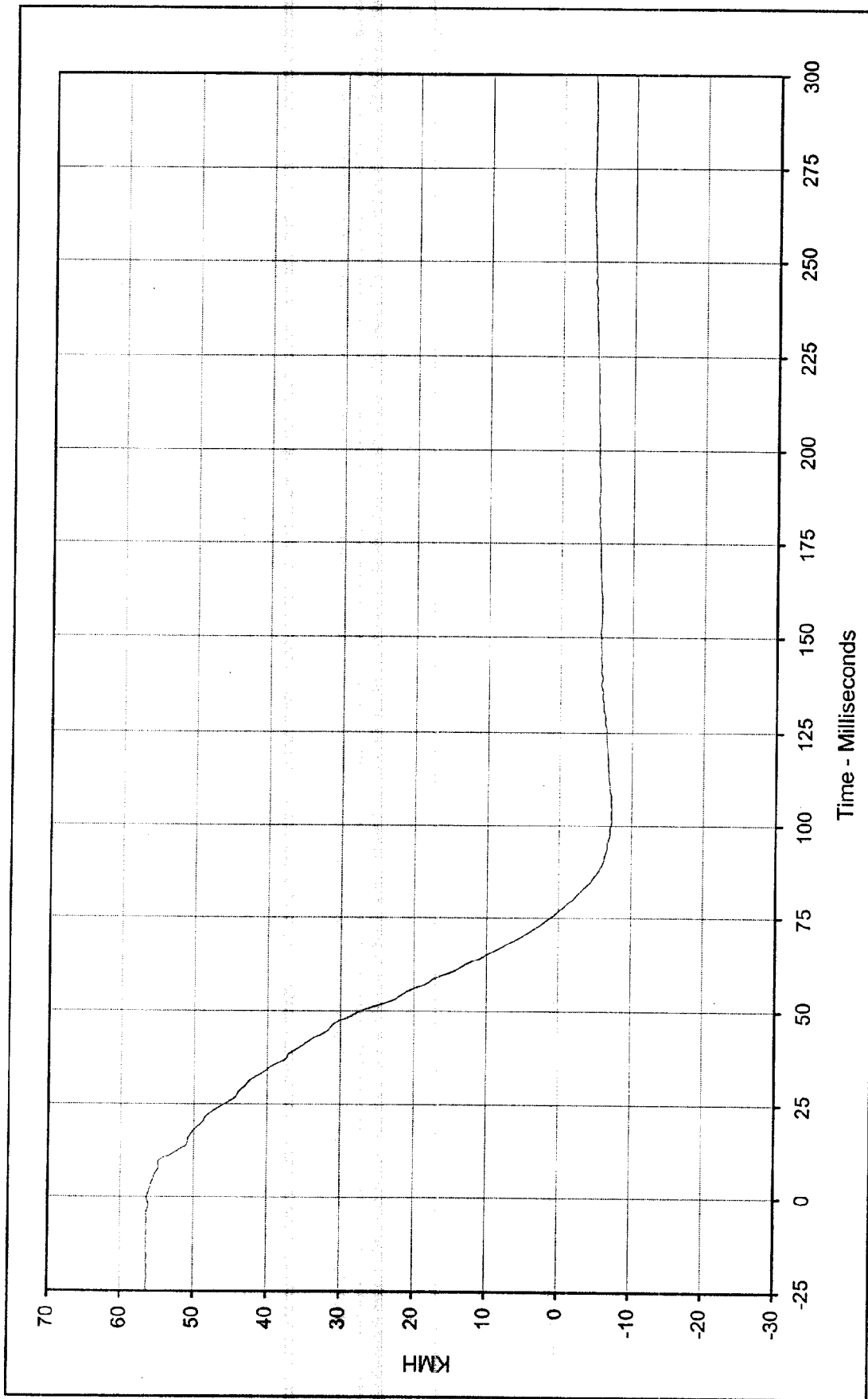
\* Channel Failed, No Data



Curve Description: Vehicle Left Rear Primary  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 2.0 at 130.2 Milliseconds  
 Minimum Value: -39.2 at 51.2 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-089

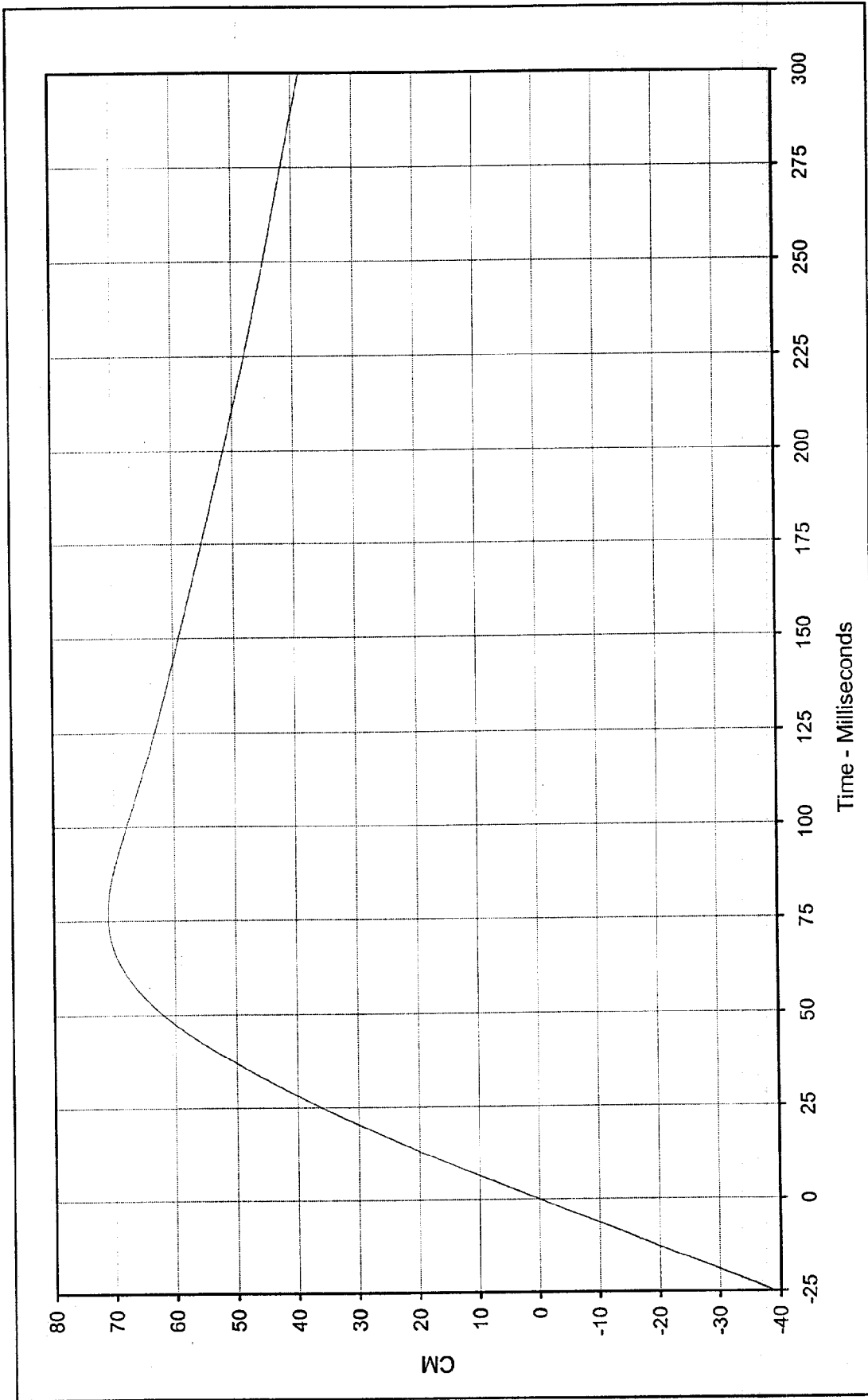




Curve Description: Vehicle Left Rear Primary Velocity  
 Maximum Value: 56.4 at 0.0 Milliseconds  
 Minimum Value: -7.3 at 104.4 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-089

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

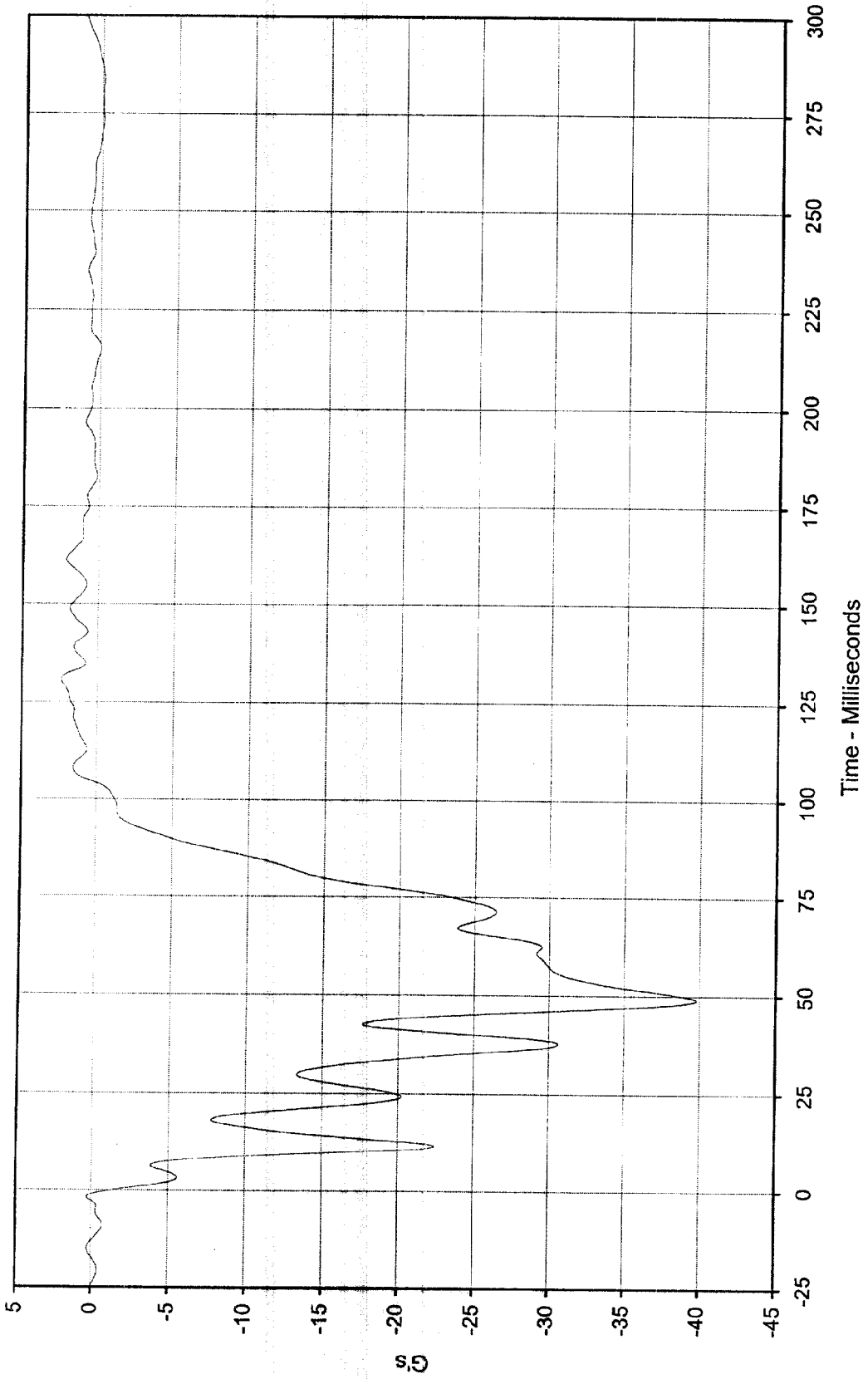




Curve Description: Vehicle Left Rear Primary Displ.      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 71.0 at 76.8 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds



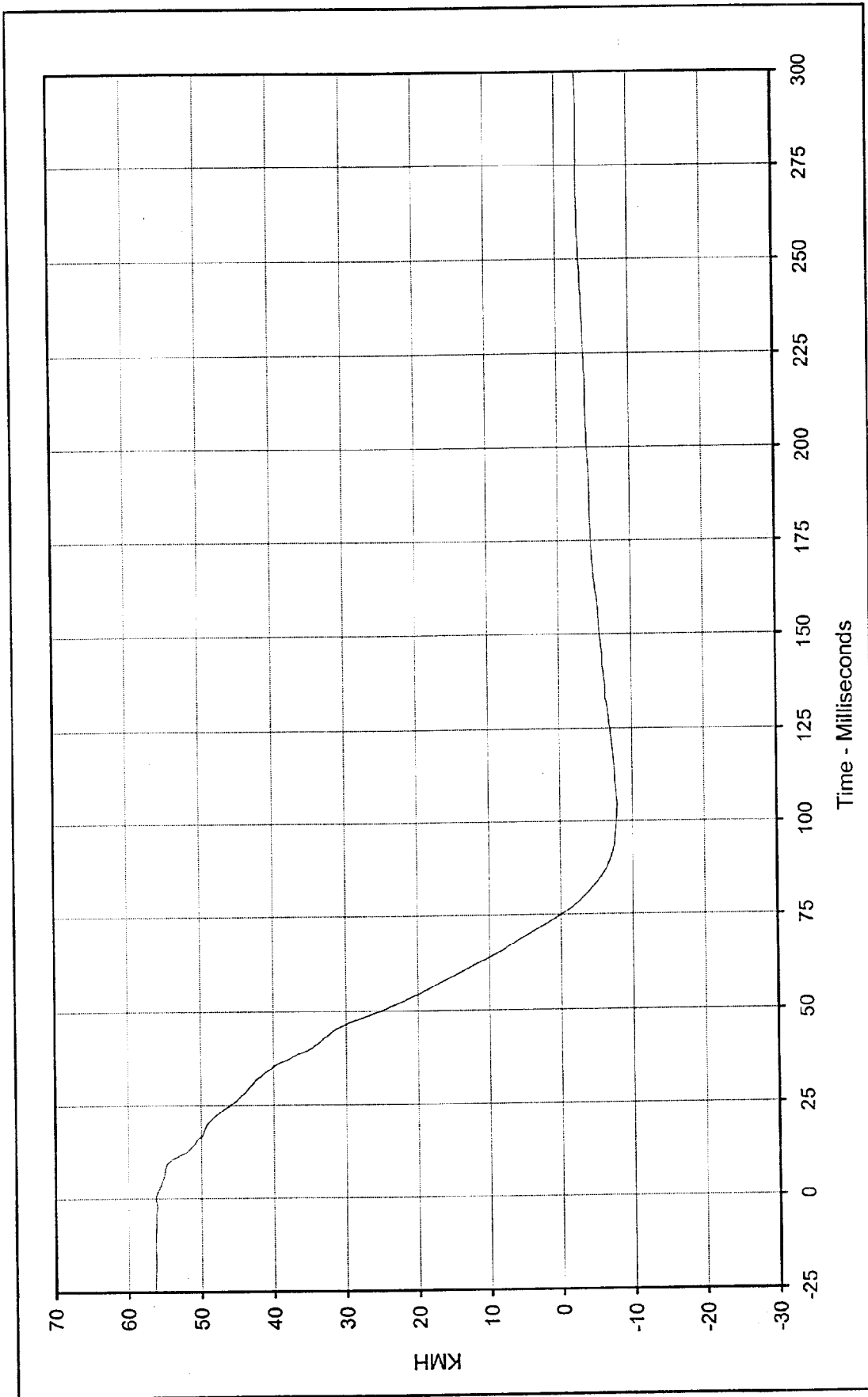
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-089



Curve Description: Vehicle Right Rear Primary  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 2.4 at 130.8 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -39.8 at 48.9 Milliseconds



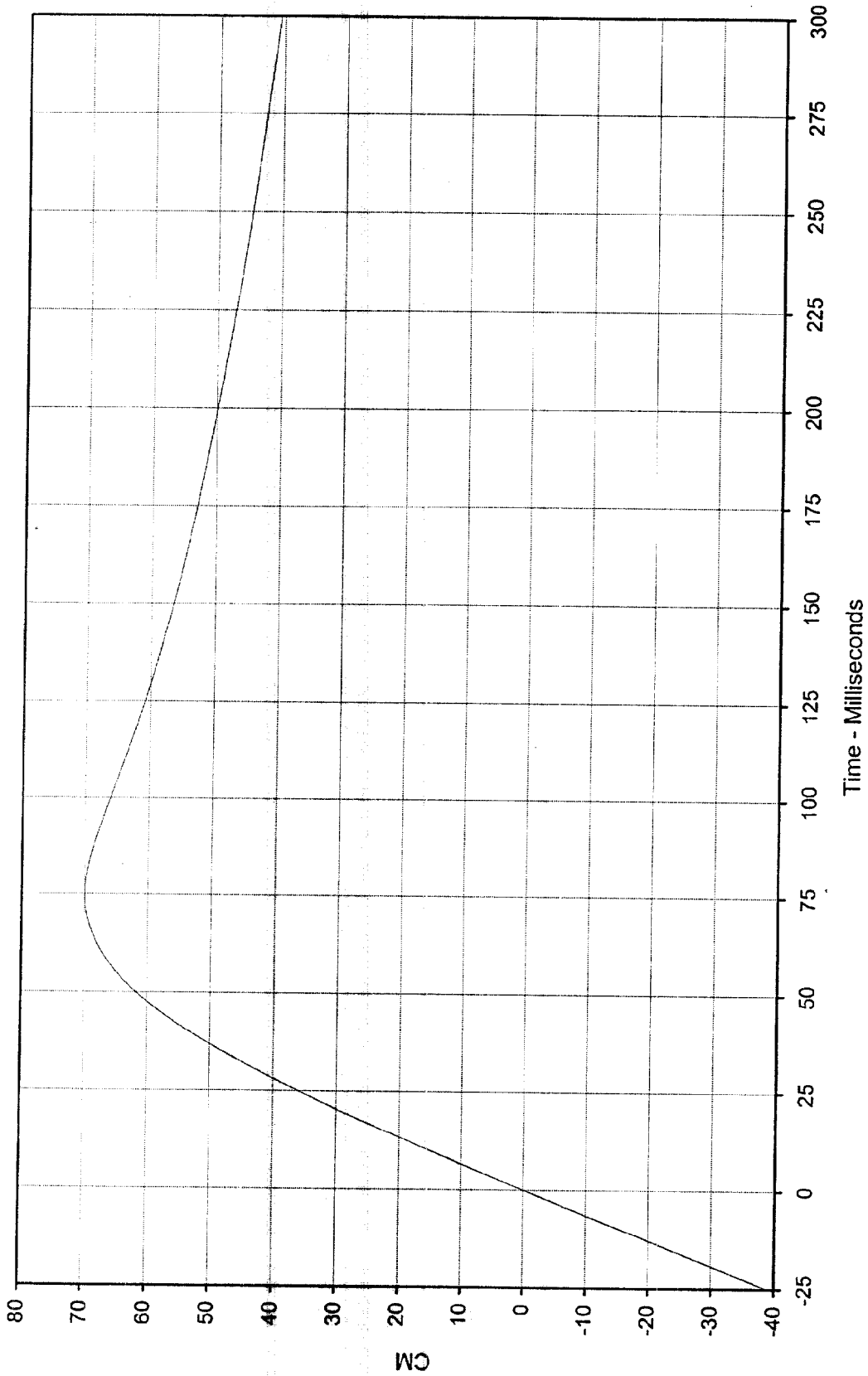
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-090



Curve Description: Vehicle Right Rear Primary Velocity  
 Maximum Value: 56.2 at 0.0 Milliseconds  
 Minimum Value: -7.9 at 104.5 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-090

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

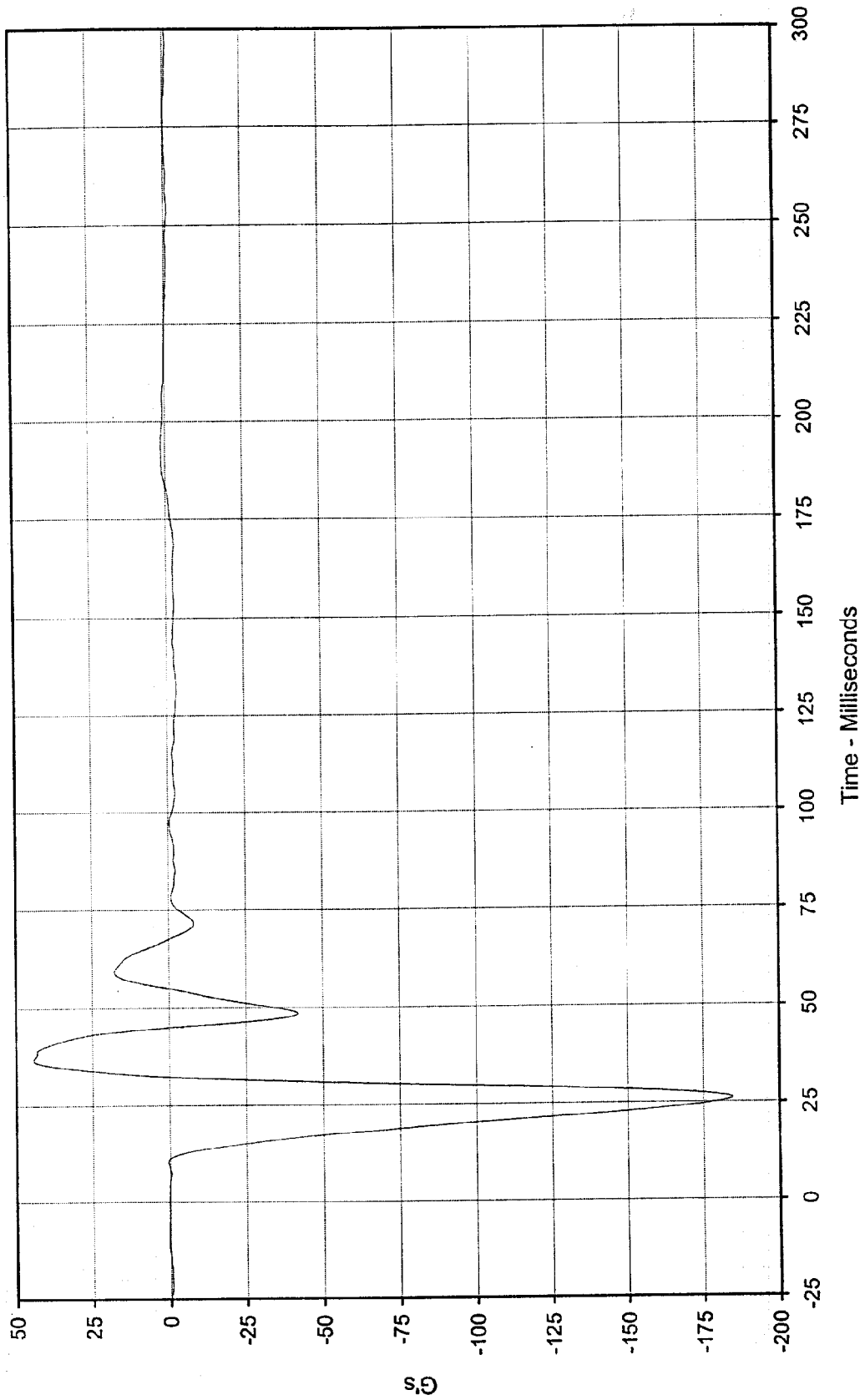




Curve Description: Vehicle Right Rear Primary Displ.      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 70.0    at 74.9    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0    at 0.0    Milliseconds



SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-090



Curve Description: Vehicle Engine Top Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 44.3 at 36.7 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

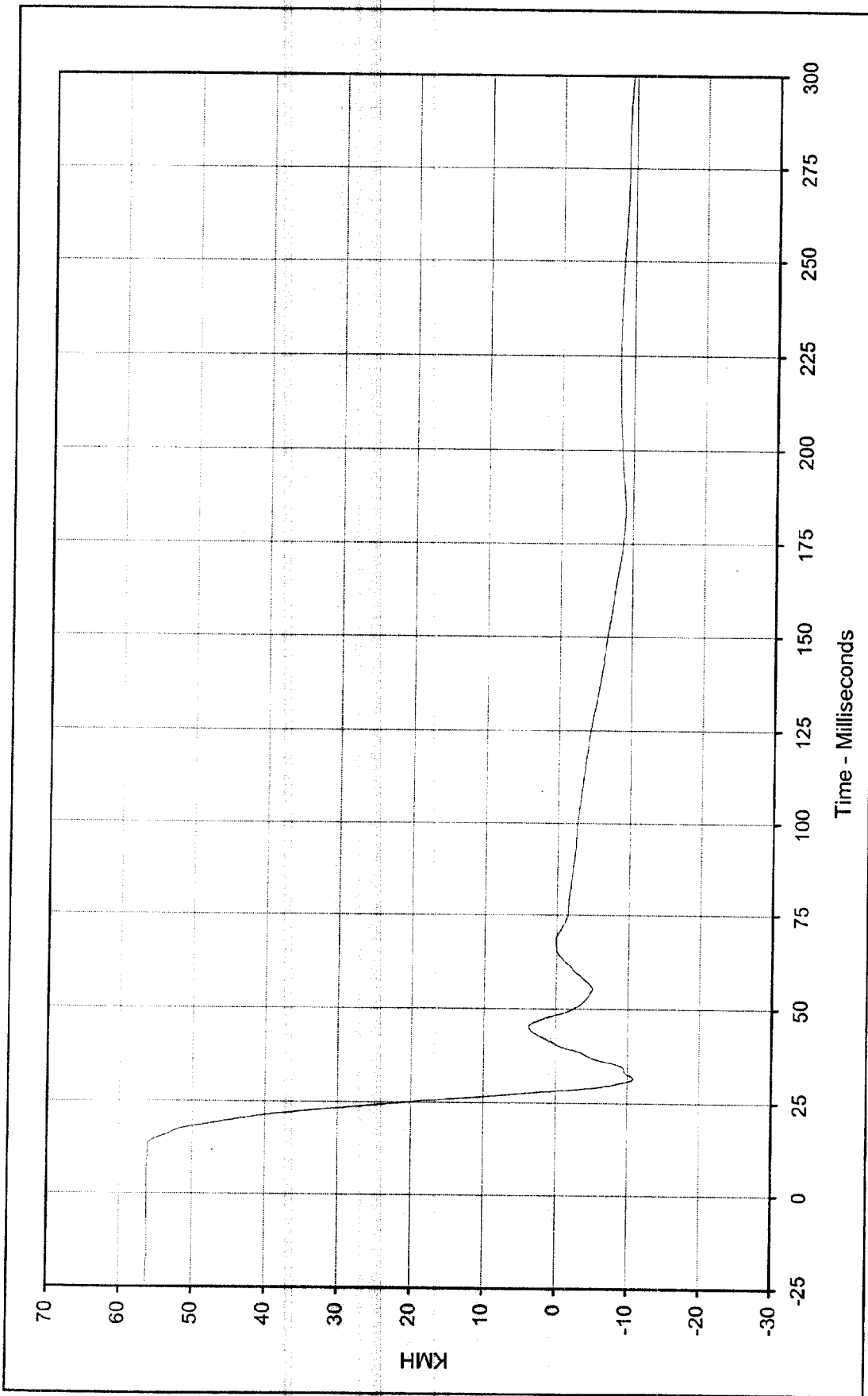
Minimum Value: -184.8 at 26.1 Milliseconds

SAE Filter Class: 60

Date of Test: 1/19/99

Curve Number: FIL-091





Curve Description: Vehicle Engine Top Velocity

Maximum Value: 56.3 at 6.6 Milliseconds

Minimum Value: -10.8 at 31.6 Milliseconds

SAE Filter Class: 180

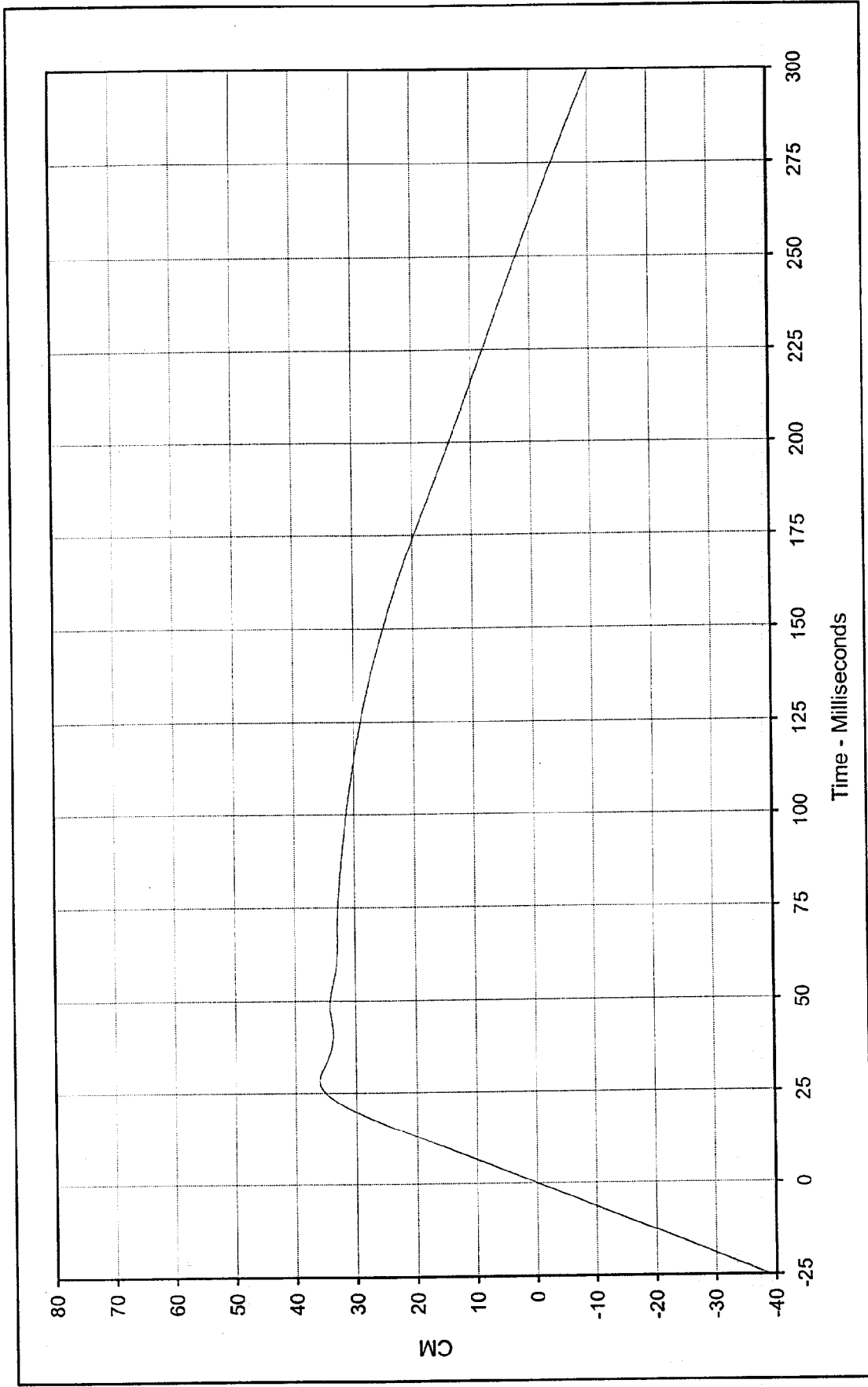
Date of Test: 1/19/99

Curve Number: IN1-091

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

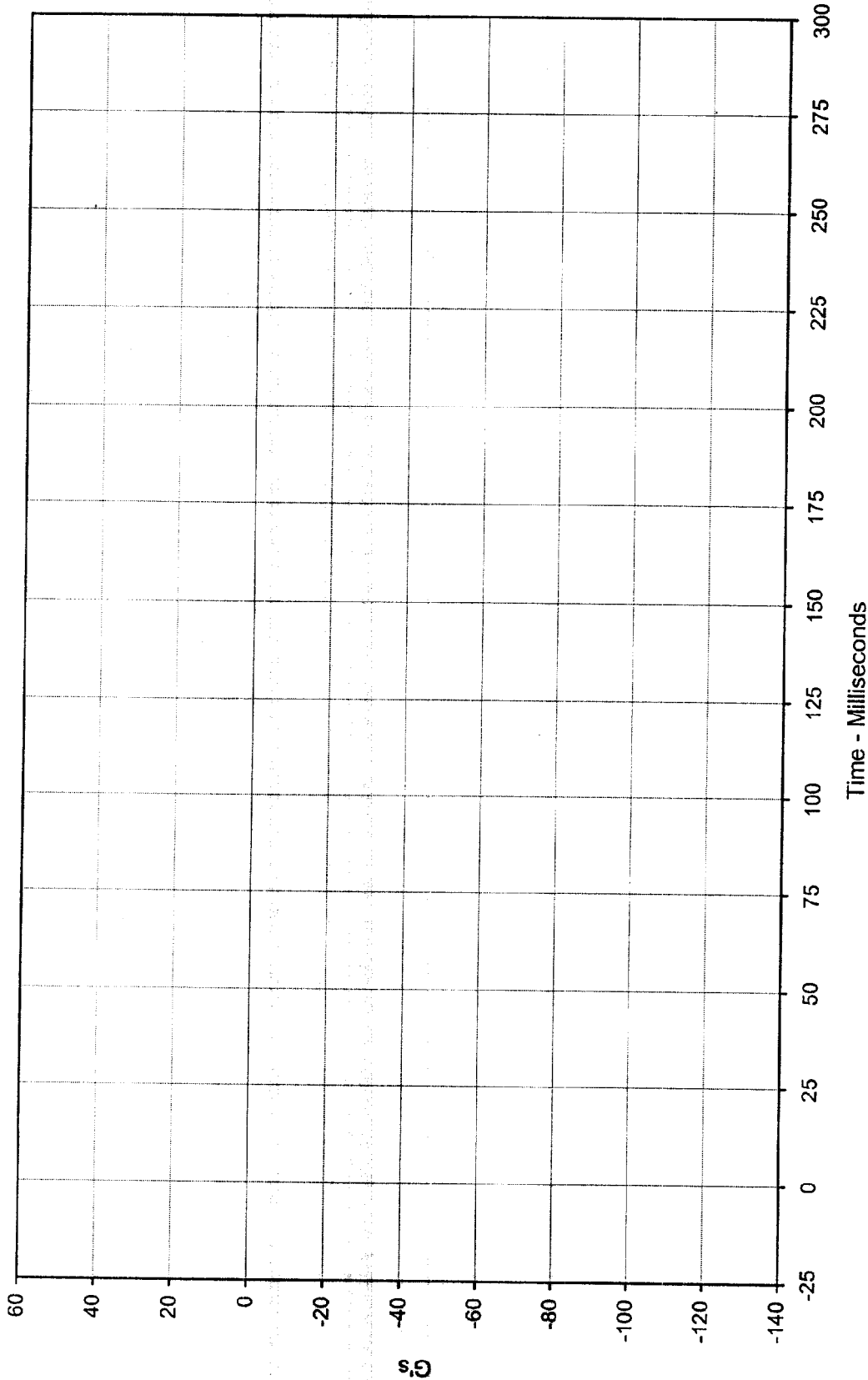




Curve Description: Vehicle Engine Top Displ.      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 36.0 at 28.2 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -10.1 at 299.9 Milliseconds



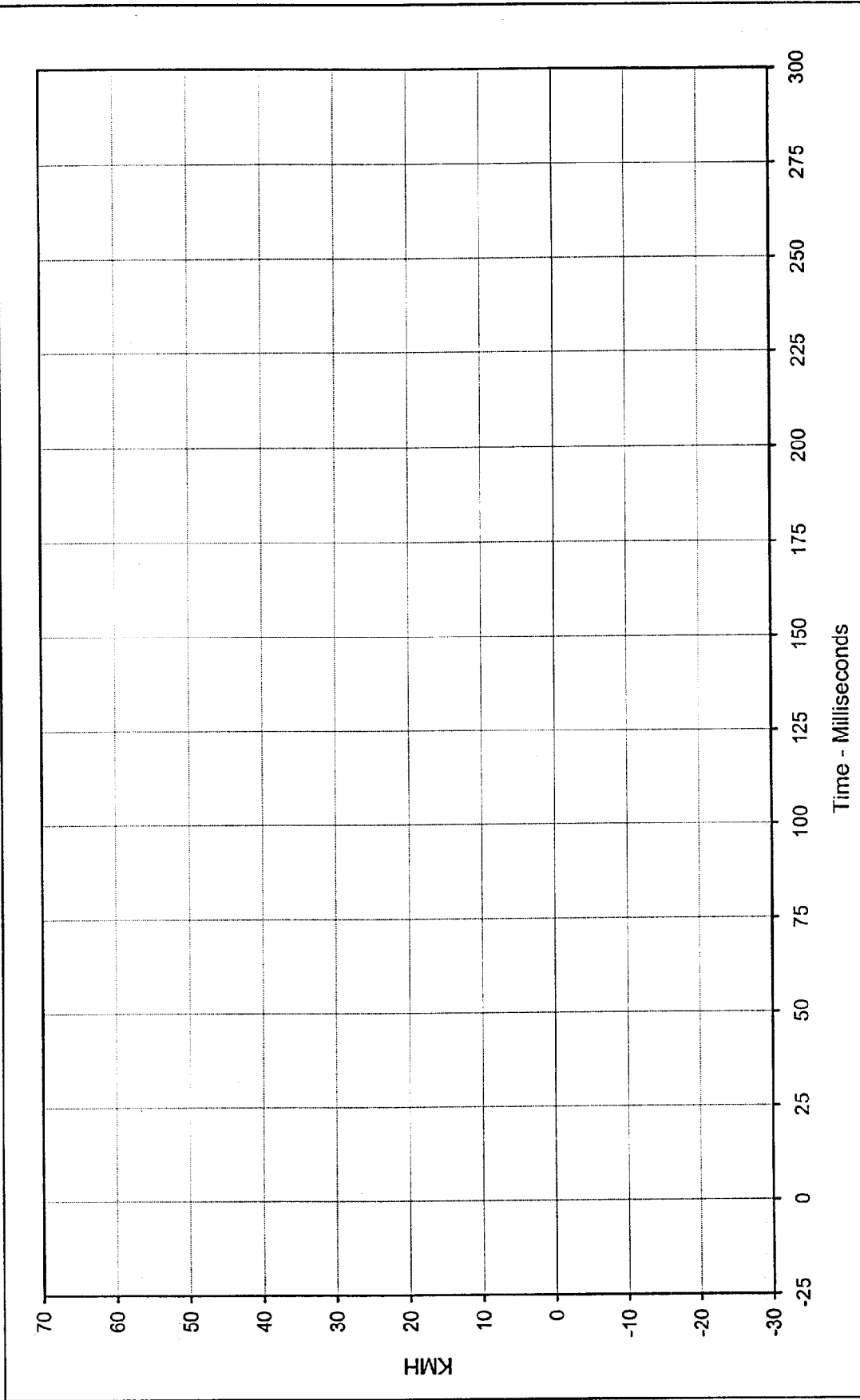
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-091



Curve Description: Vehicle Engine Bottom \*      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 0.0      at 0.0      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0      at 0.0      Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-092



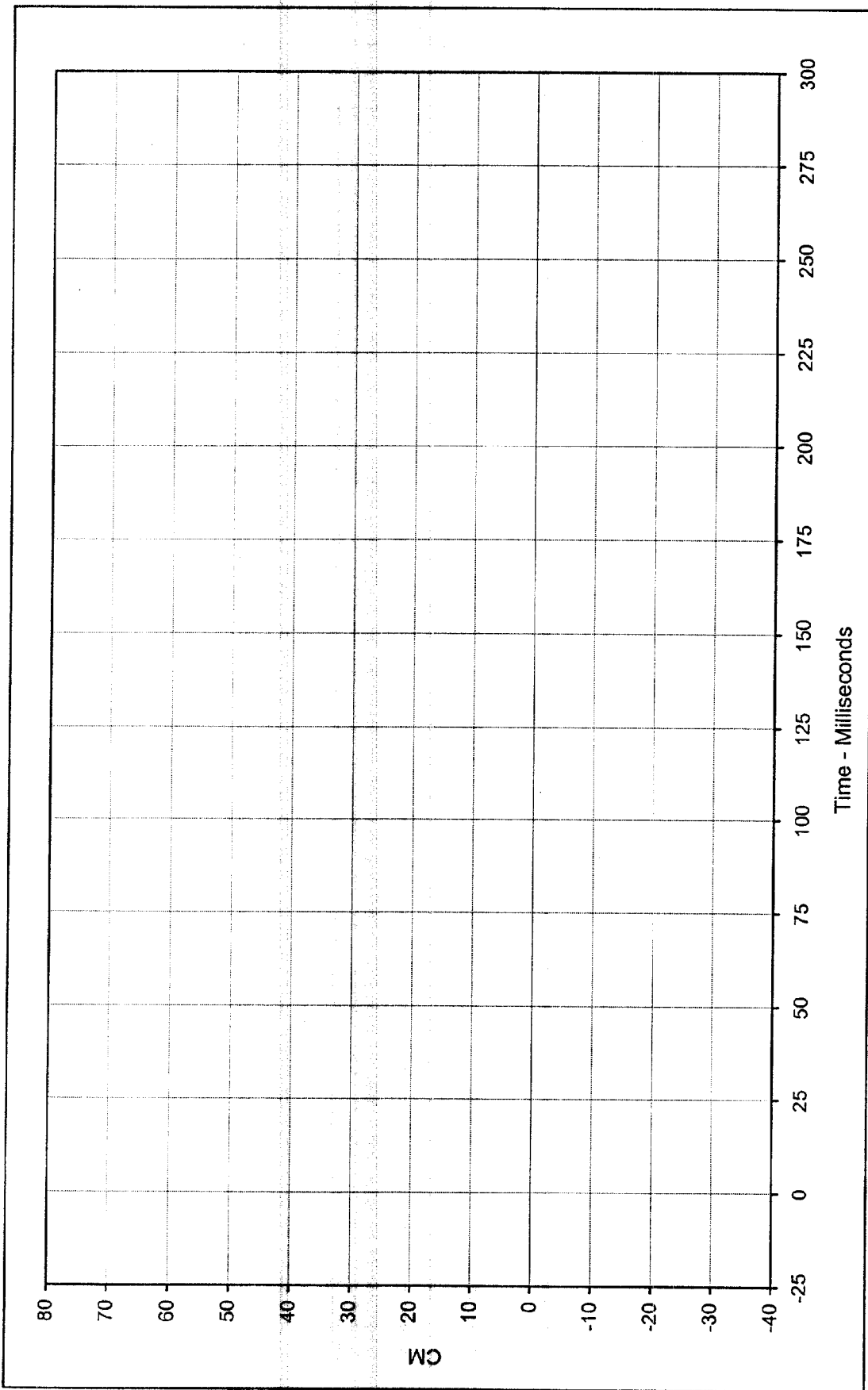
\* Channel Not Used



Curve Description: Vehicle Engine Bottom Velocity \*      Test Program: 1999 NHTSA 35 mph NCAP    No.: MX0304  
 Maximum Value: 0.0    at 0.0    Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0    at 0.0    Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-092

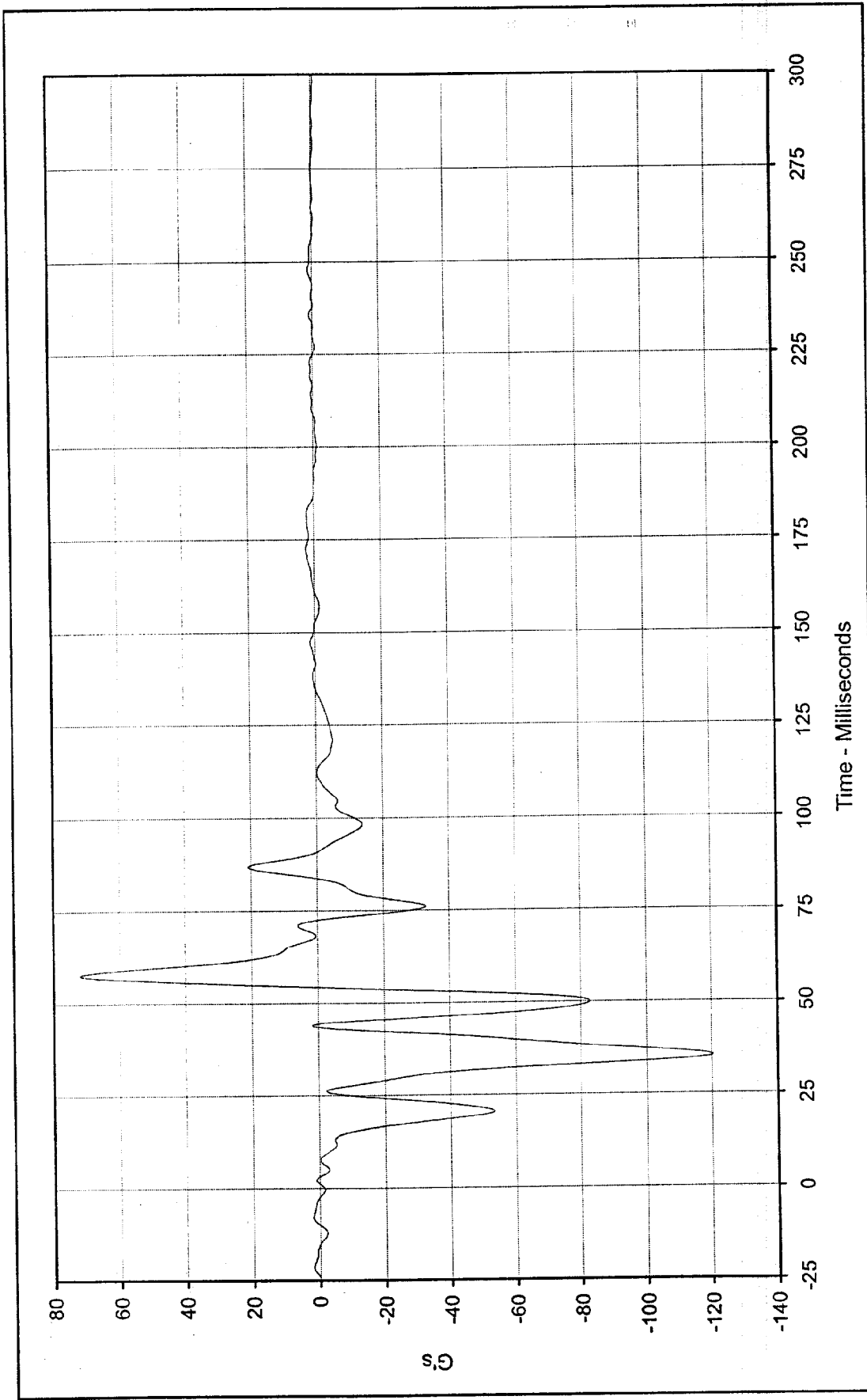


\*Channel Not Used



Curve Description: Vehicle Engine Bottom Displ. \*      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 0.0 at 0.0 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-092      \* Channel Not Used

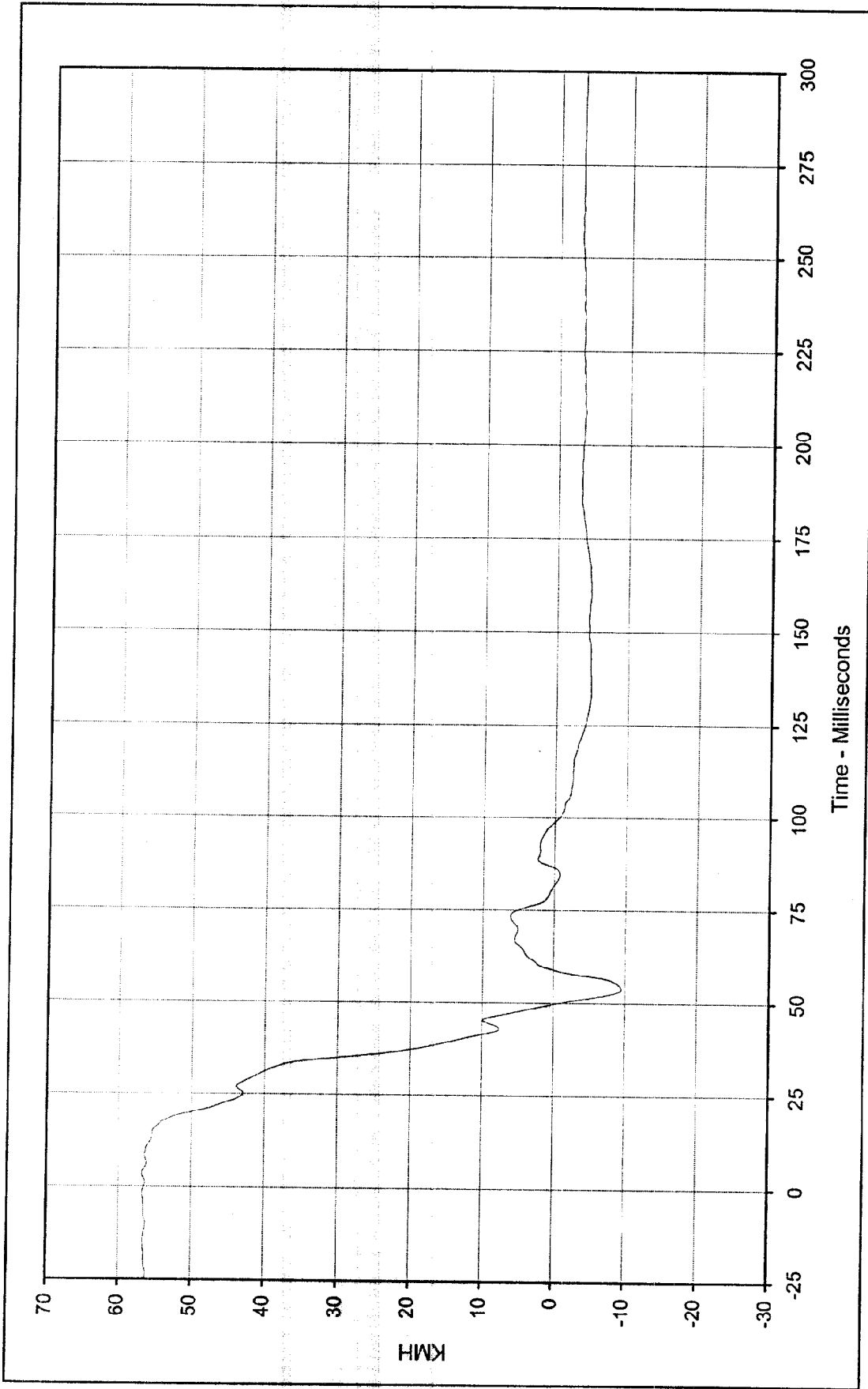




Curve Description: Vehicle Left Brake Caliper  
 Maximum Value: 71.9 at 57.6 Milliseconds  
 Minimum Value: -120.5 at 35.4 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-093

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

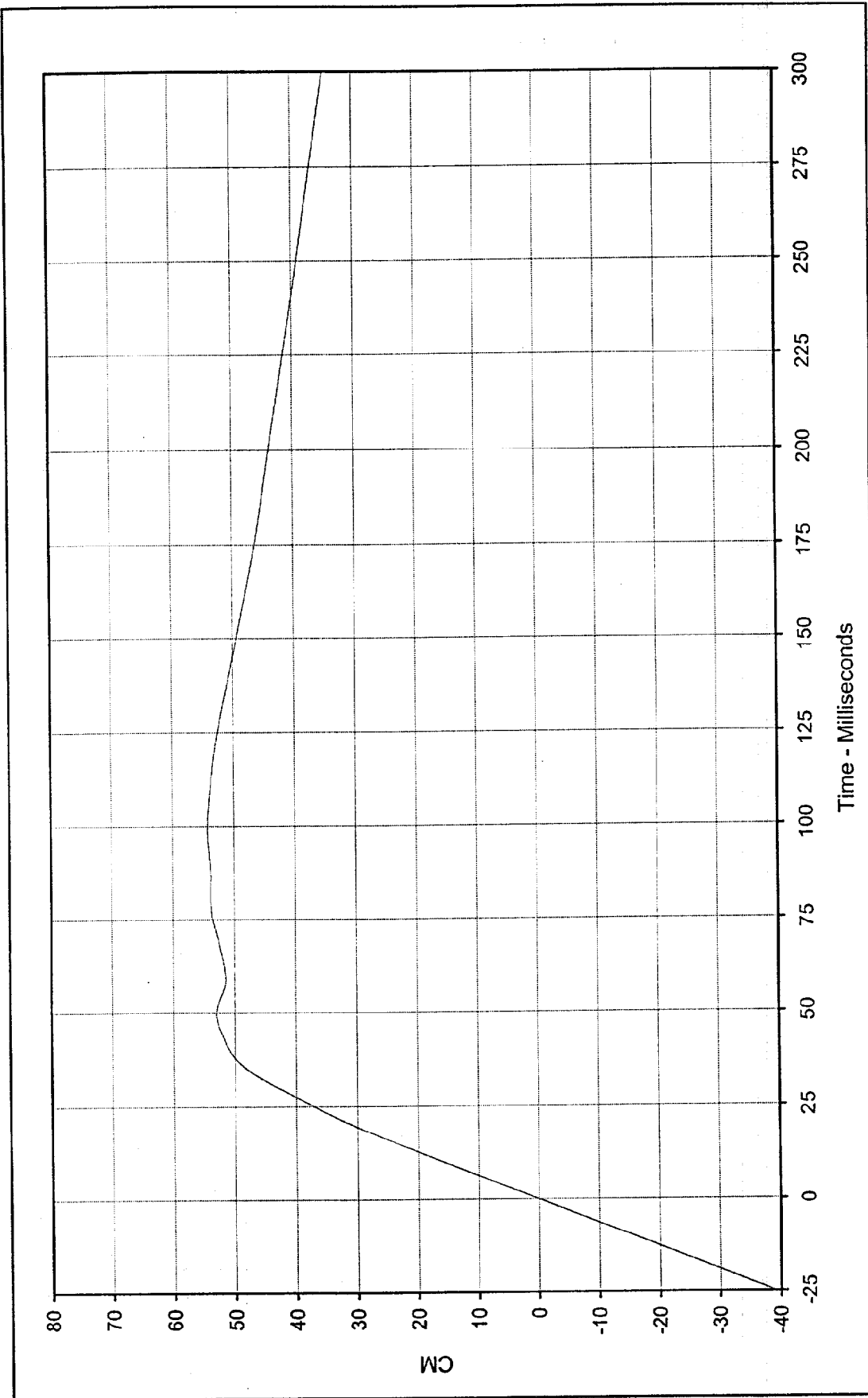




Curve Description: Vehicle Left Brake Caliper Velocity  
 Maximum Value: 56.8 at 3.5 Milliseconds  
 Minimum Value: -9.5 at 53.8 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-093

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

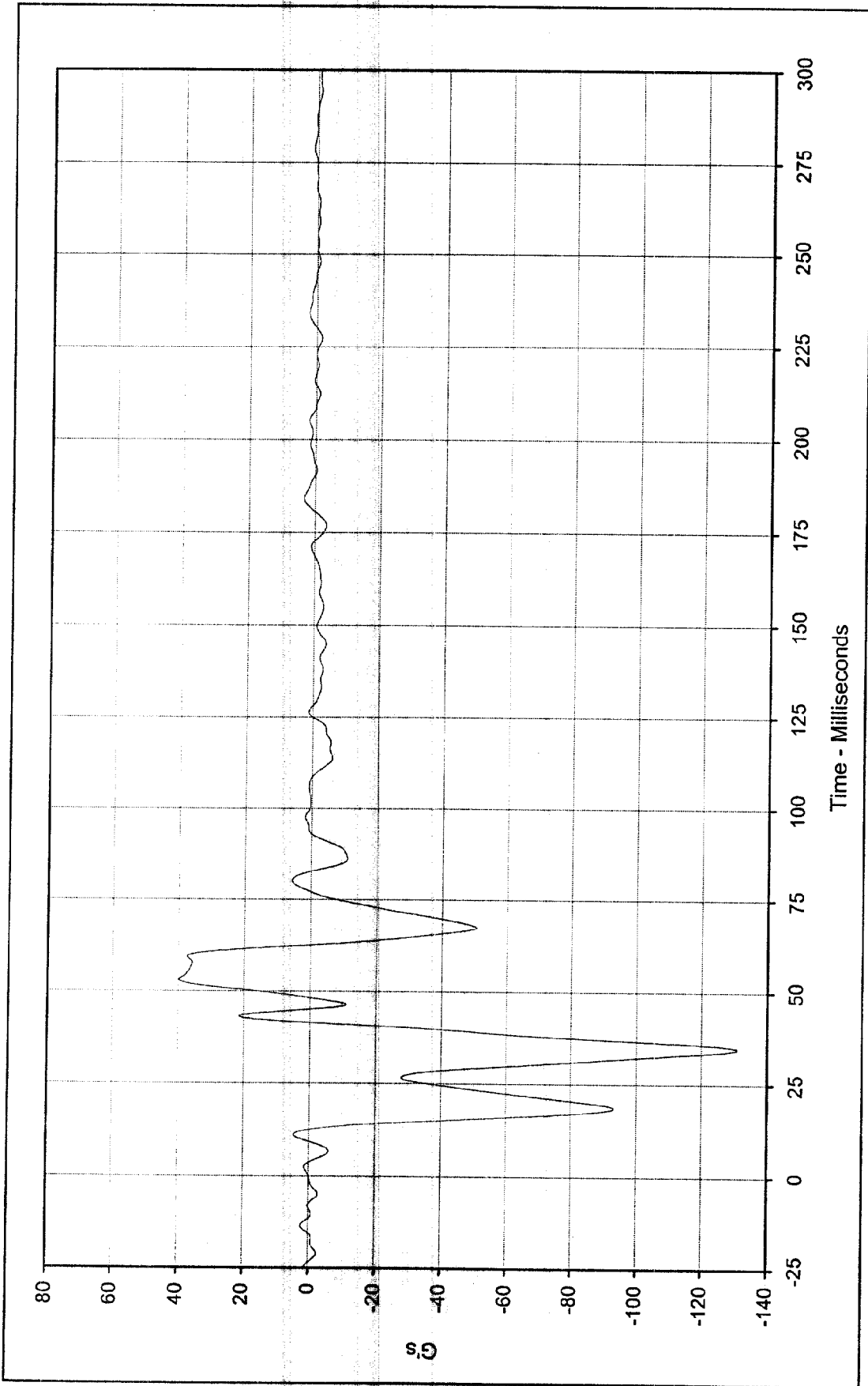




Curve Description: Vehicle Left Brake Caliper Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 54.3 at 98.8 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds



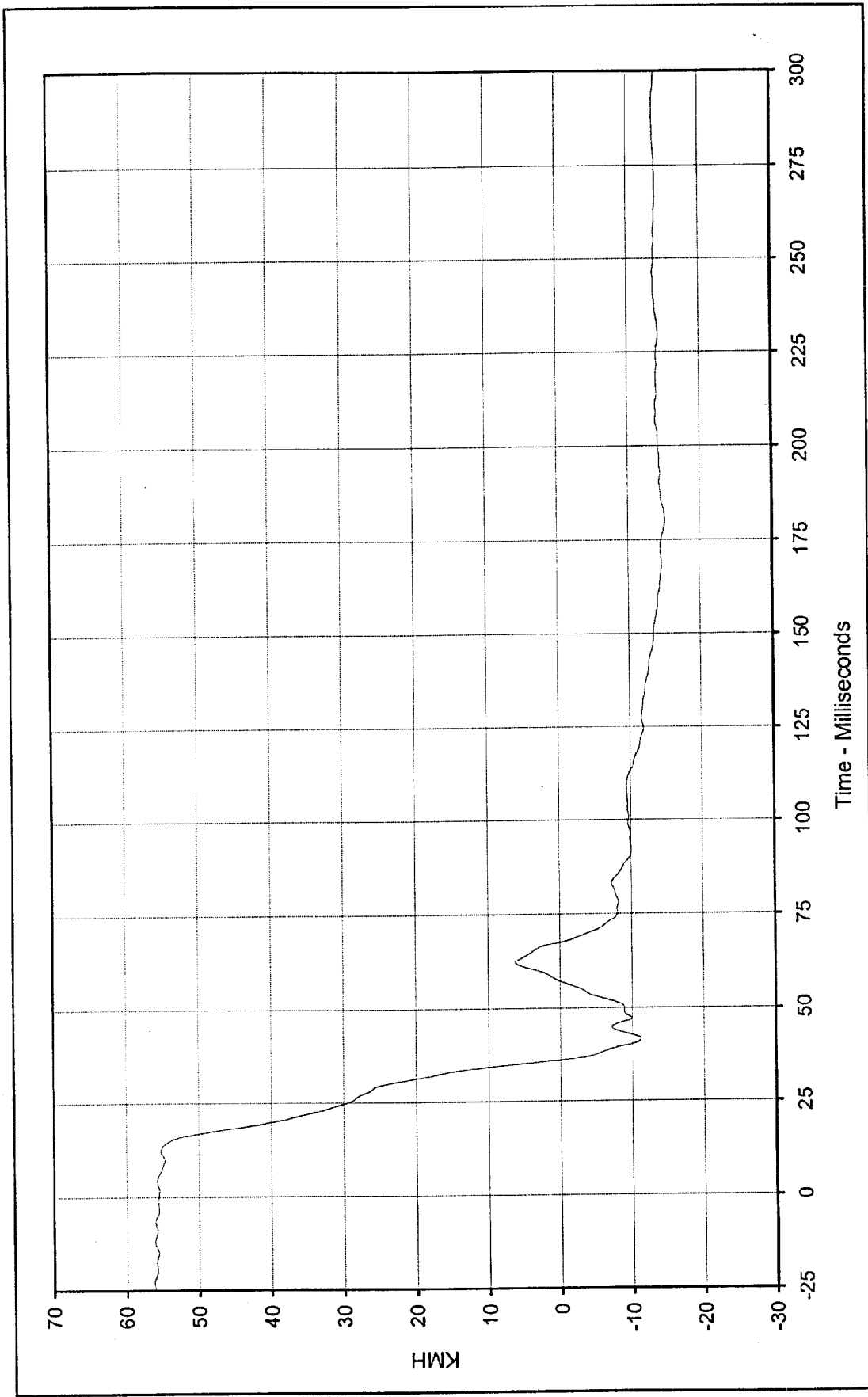
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-093



Curve Description: Vehicle Right Brake Caliper  
 Maximum Value: 39.8 at 53.0 Milliseconds  
 Minimum Value: -131.0 at 34.6 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-094

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

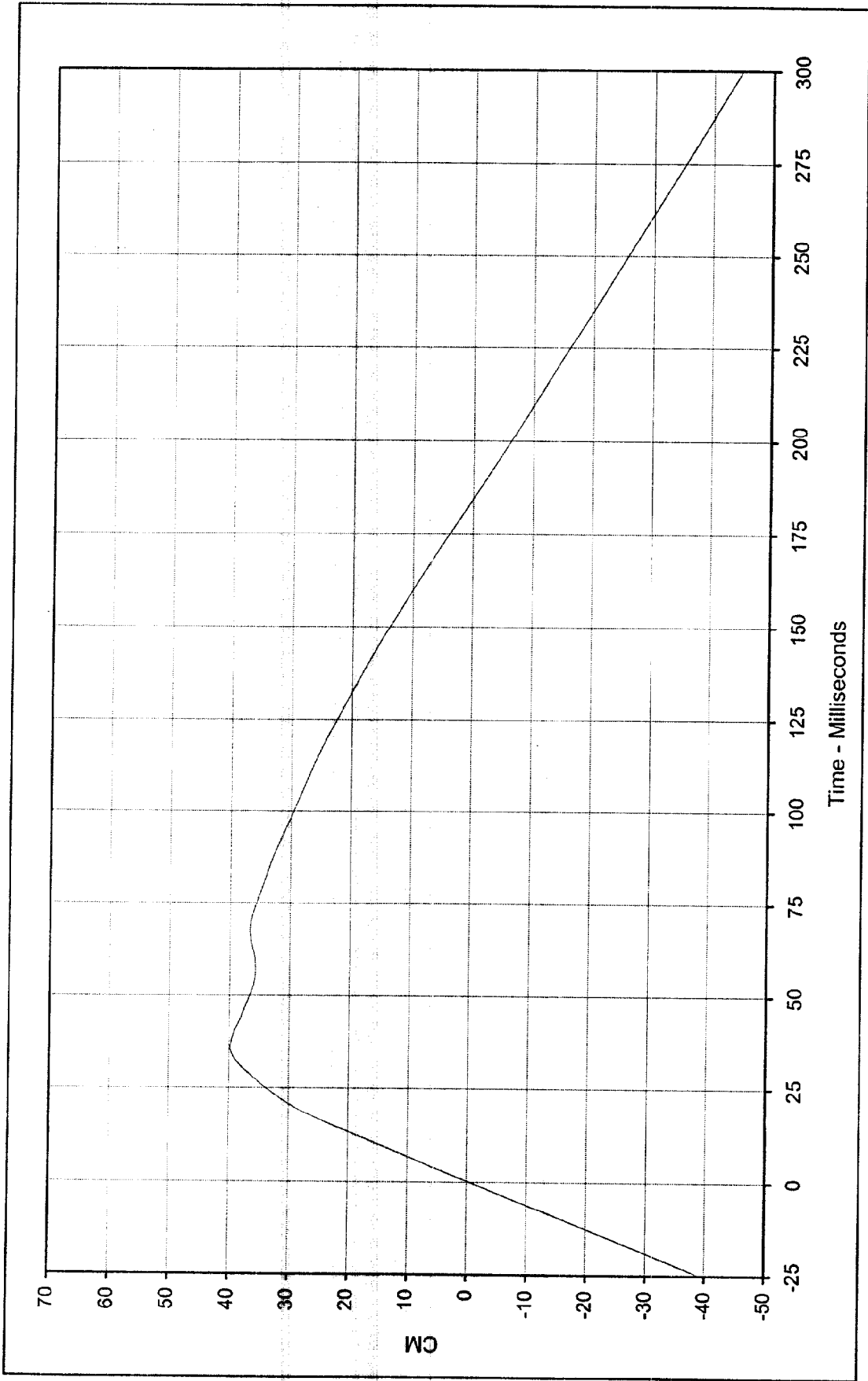




Curve Description: Vehicle Right Brake Caliper Velocity  
 Maximum Value: 55.8 at 4.1 Milliseconds  
 Minimum Value: -15.1 at 180.1 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-094

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

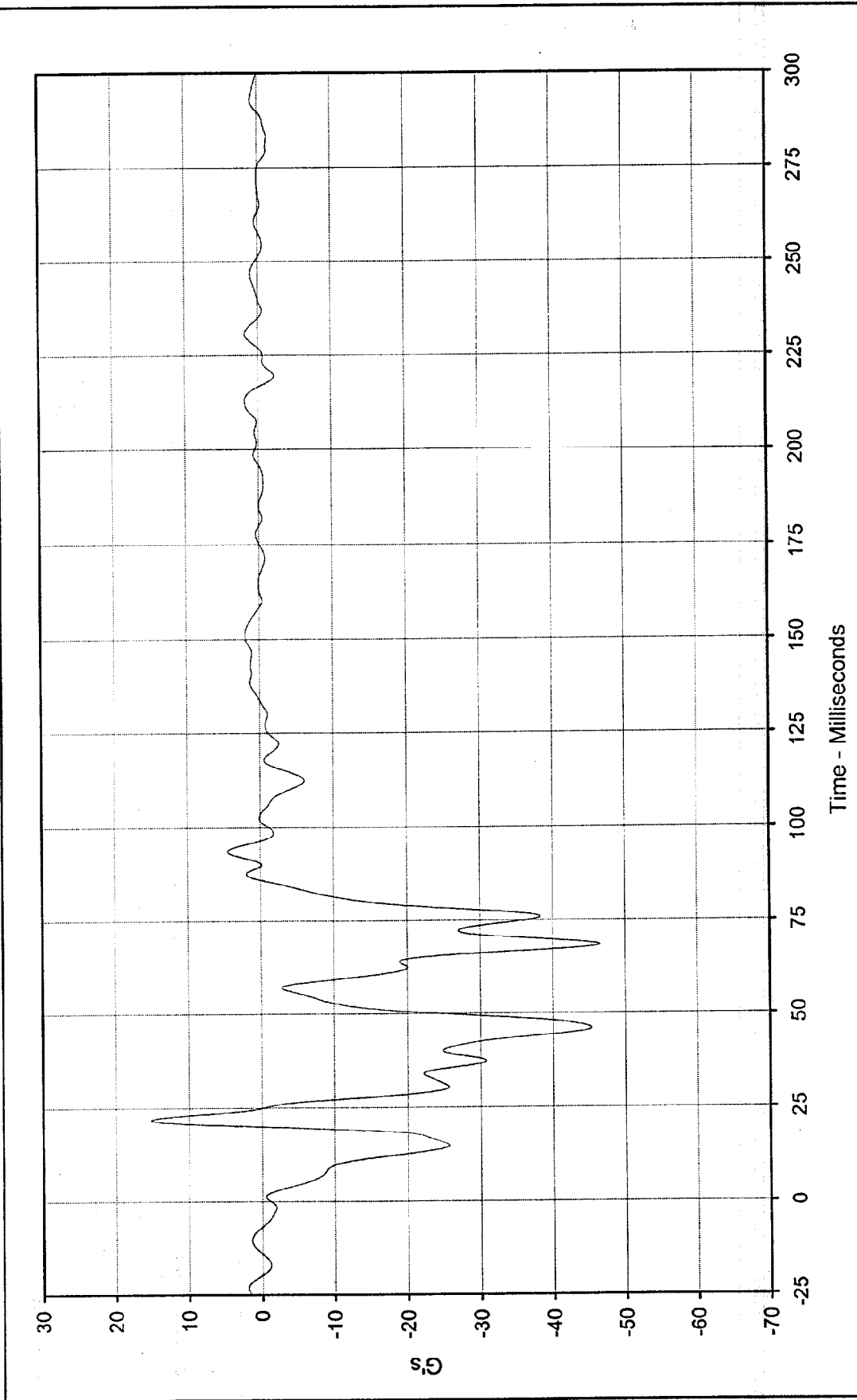




Curve Description: Vehicle Right Brake Caliper Displ.      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 39.8      at 35.9      Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -44.8      at 299.9      Milliseconds



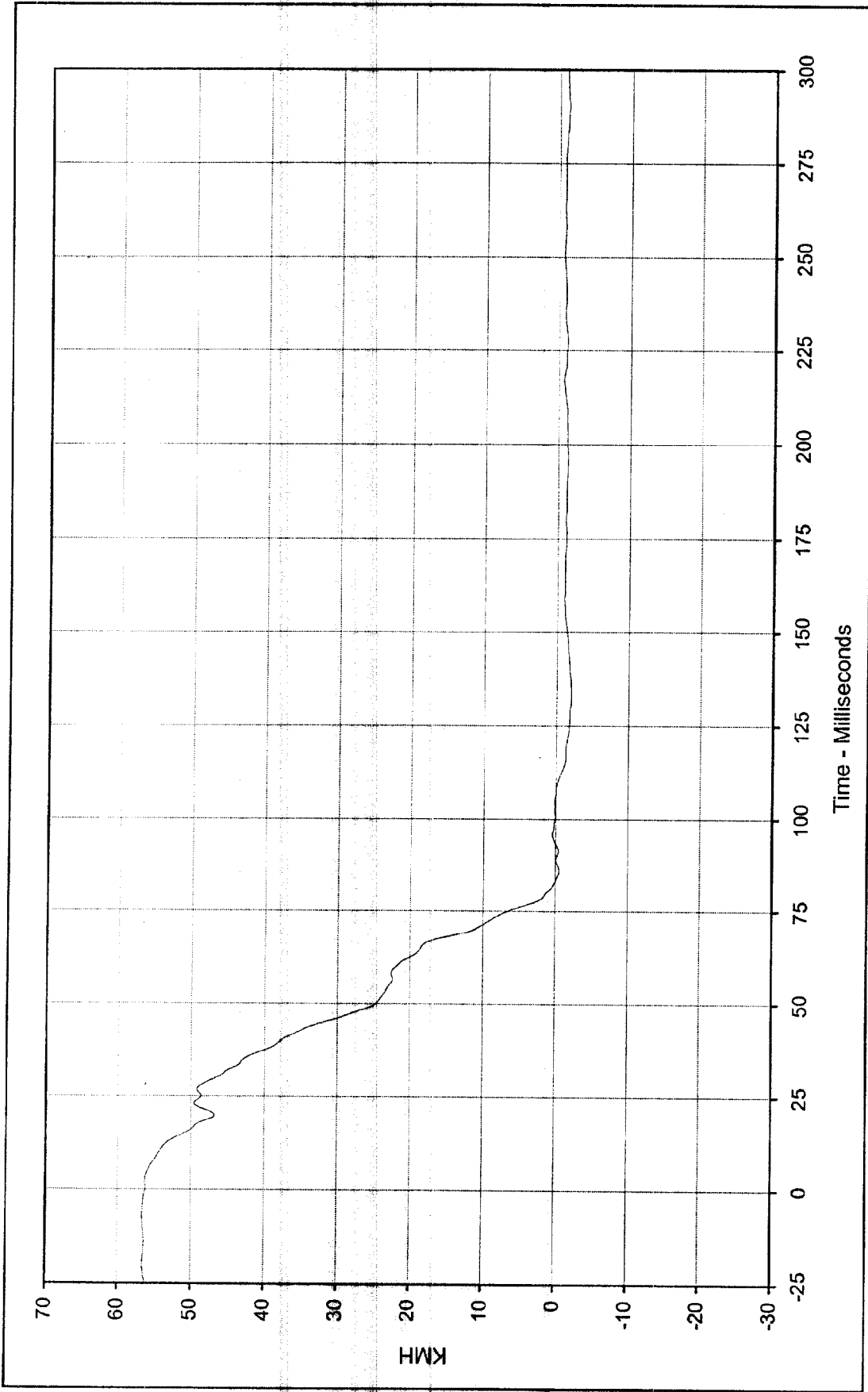
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-094



Curve Description: Vehicle Instrument Panel  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 15.2 at 21.9 Milliseconds  
 Minimum Value: -46.5 at 68.2 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-095

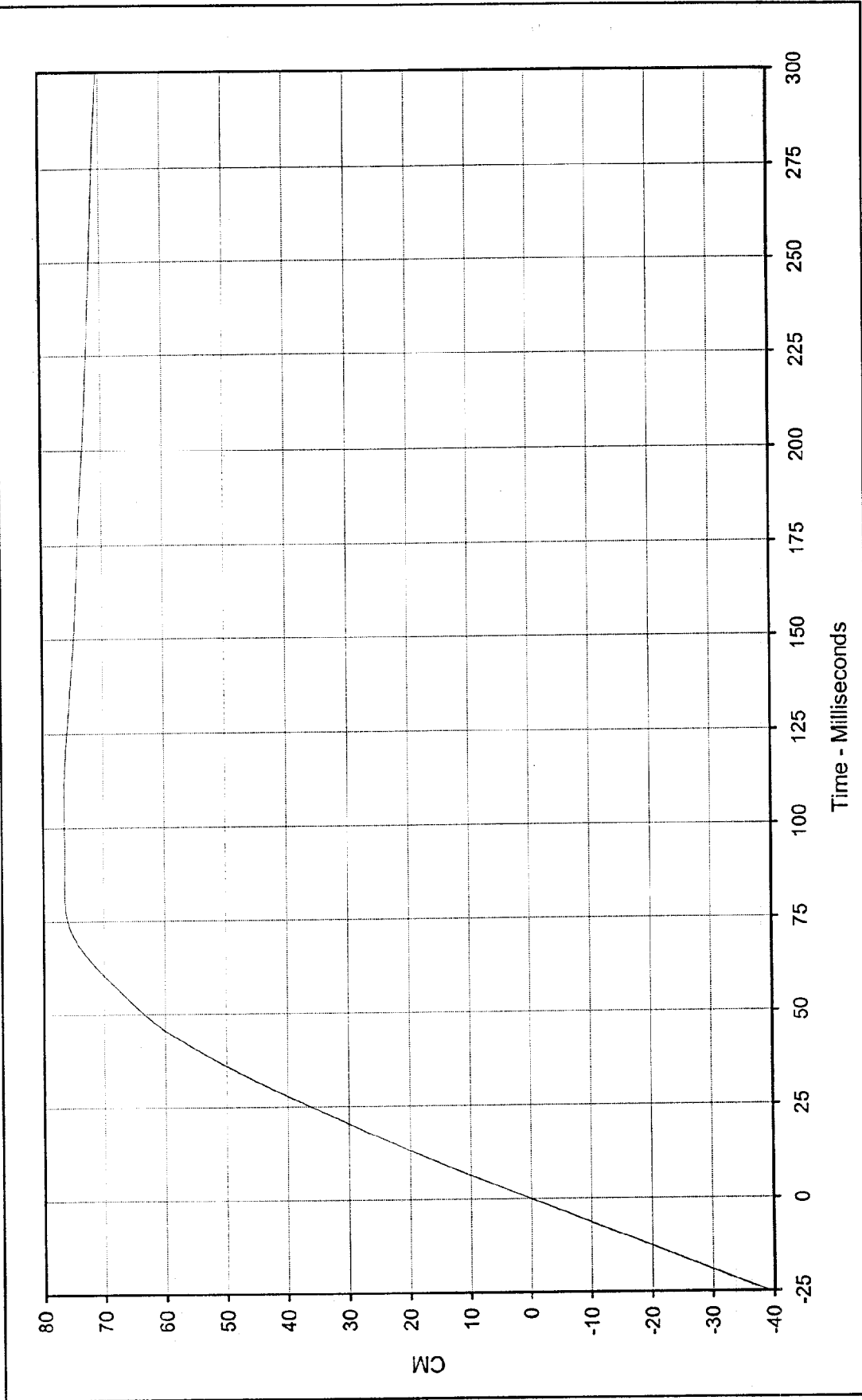




Curve Description: Vehicle Instrument Panel Velocity  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 56.3 at 2.4 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -2.0 at 131.6 Milliseconds



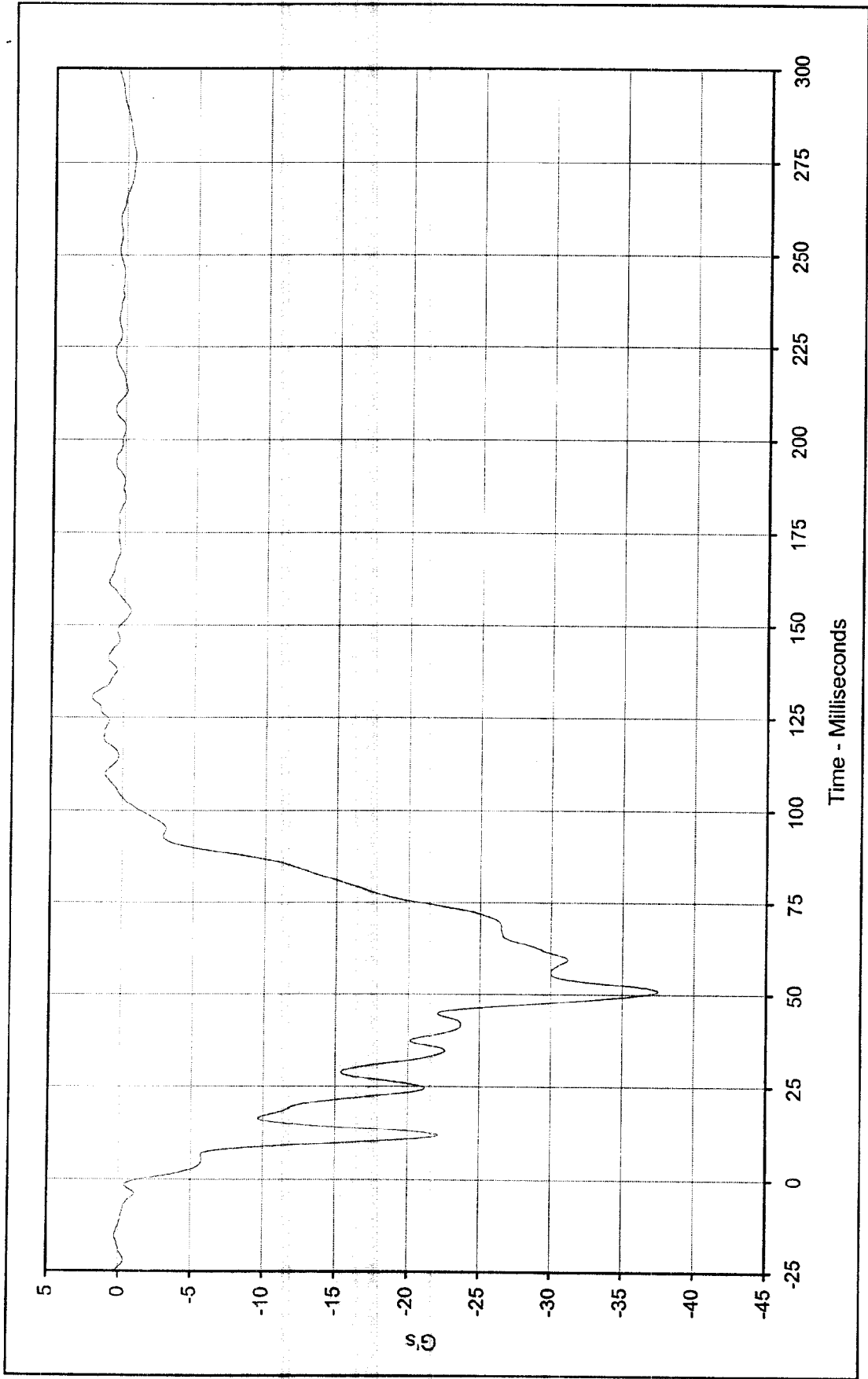
SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-095



Curve Description: Vehicle Instrument Panel Displ.      Test Program: 1999 NHTSA 35 mph NCAP      No.: MX0304  
 Maximum Value: 76.5 at 83.0 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds

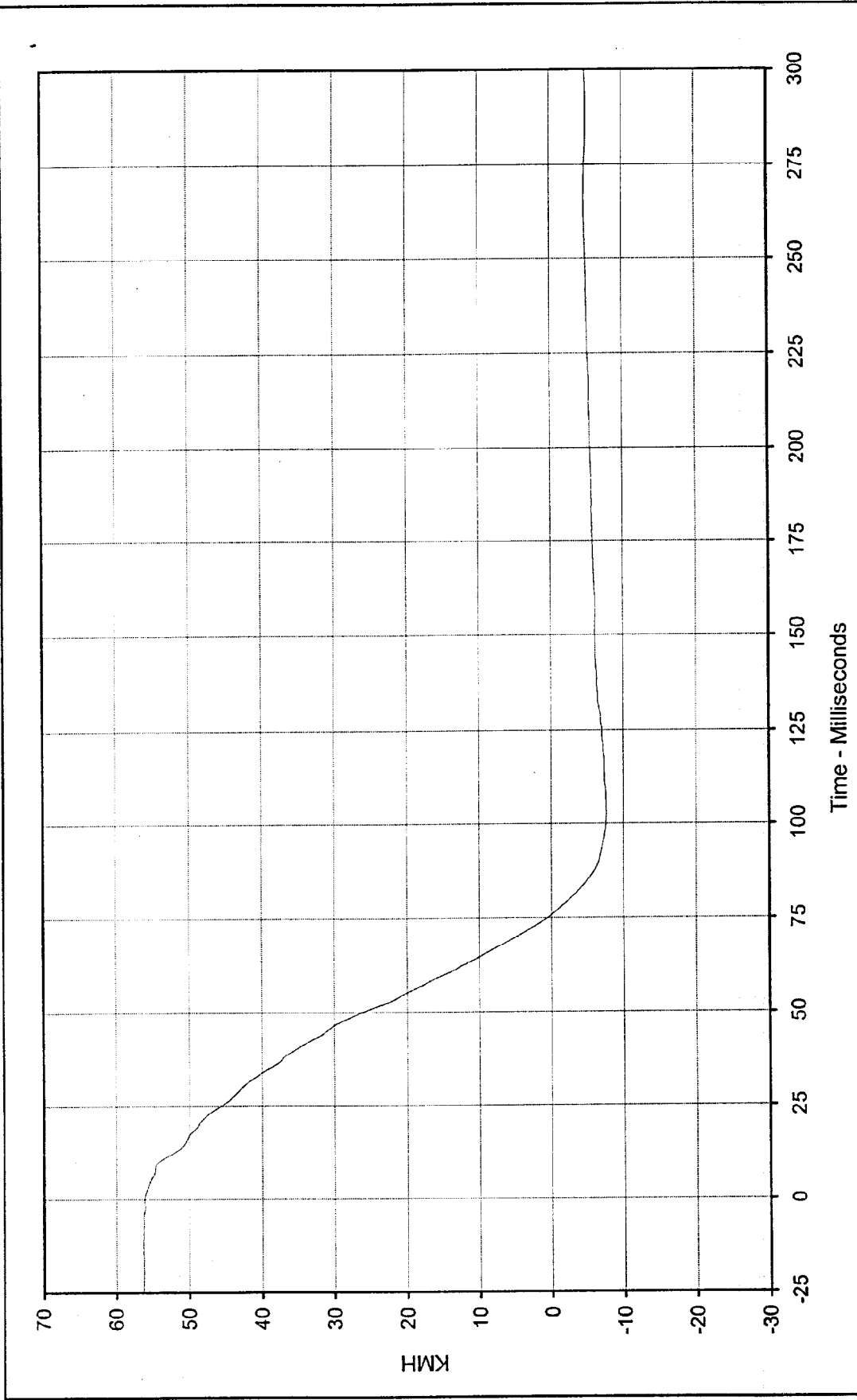


SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-095



Curve Description:	Vehicle Left Rear Redundant	Test Program:	1999 NHTSA 35 mph NCAP	No.:	MX0304	
Maximum Value:	2.2	at	130.6	Milliseconds	Test Vehicle:	1999 Dodge Intrepid 4 Door Sedan
Minimum Value:	-37.5	at	50.9	Milliseconds		
SAE Filter Class:	60					
Date of Test:	1/19/99					
Curve Number:	FIL-096					

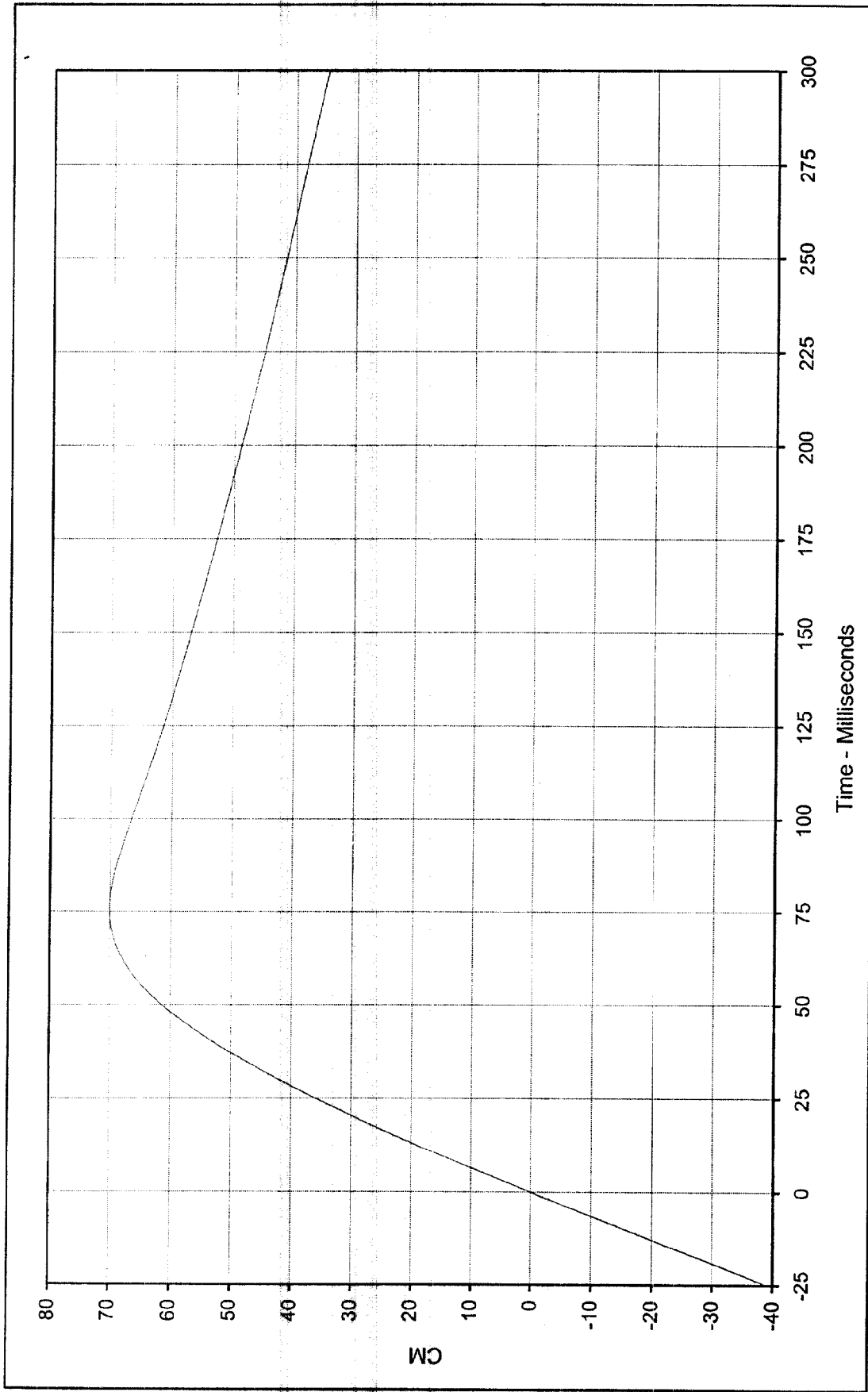




Curve Description: Vehicle Left Rear Redundant Velocity  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Maximum Value: 56.2 at 0.0 Milliseconds  
 Minimum Value: -7.6 at 102.4 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN1-096

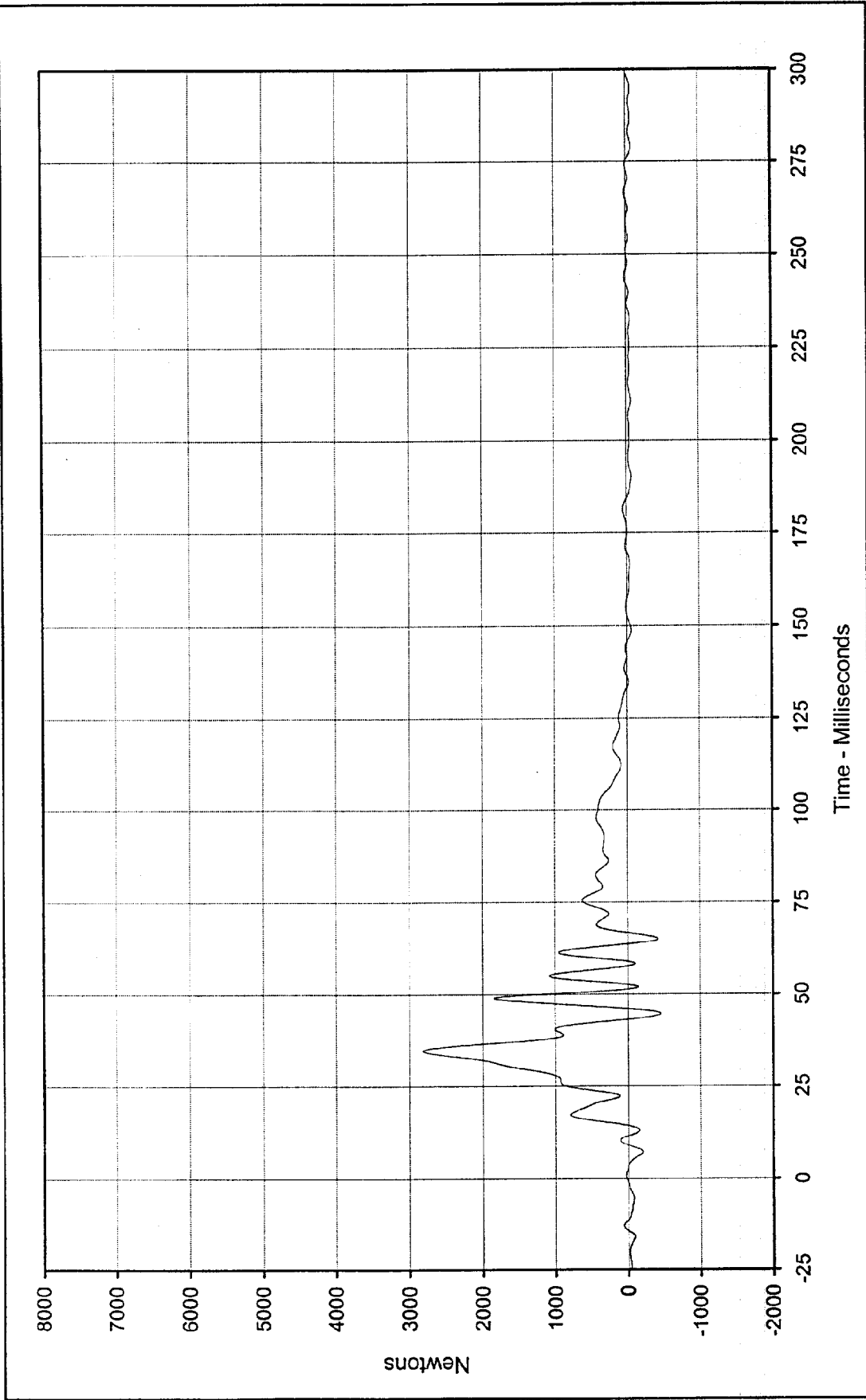




Curve Description: Vehicle Left Rear Redundant Displ.      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 70.1 at 75.7 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: 0.0 at 0.0 Milliseconds  
 SAE Filter Class: 180  
 Date of Test: 1/19/99  
 Curve Number: IN2-096



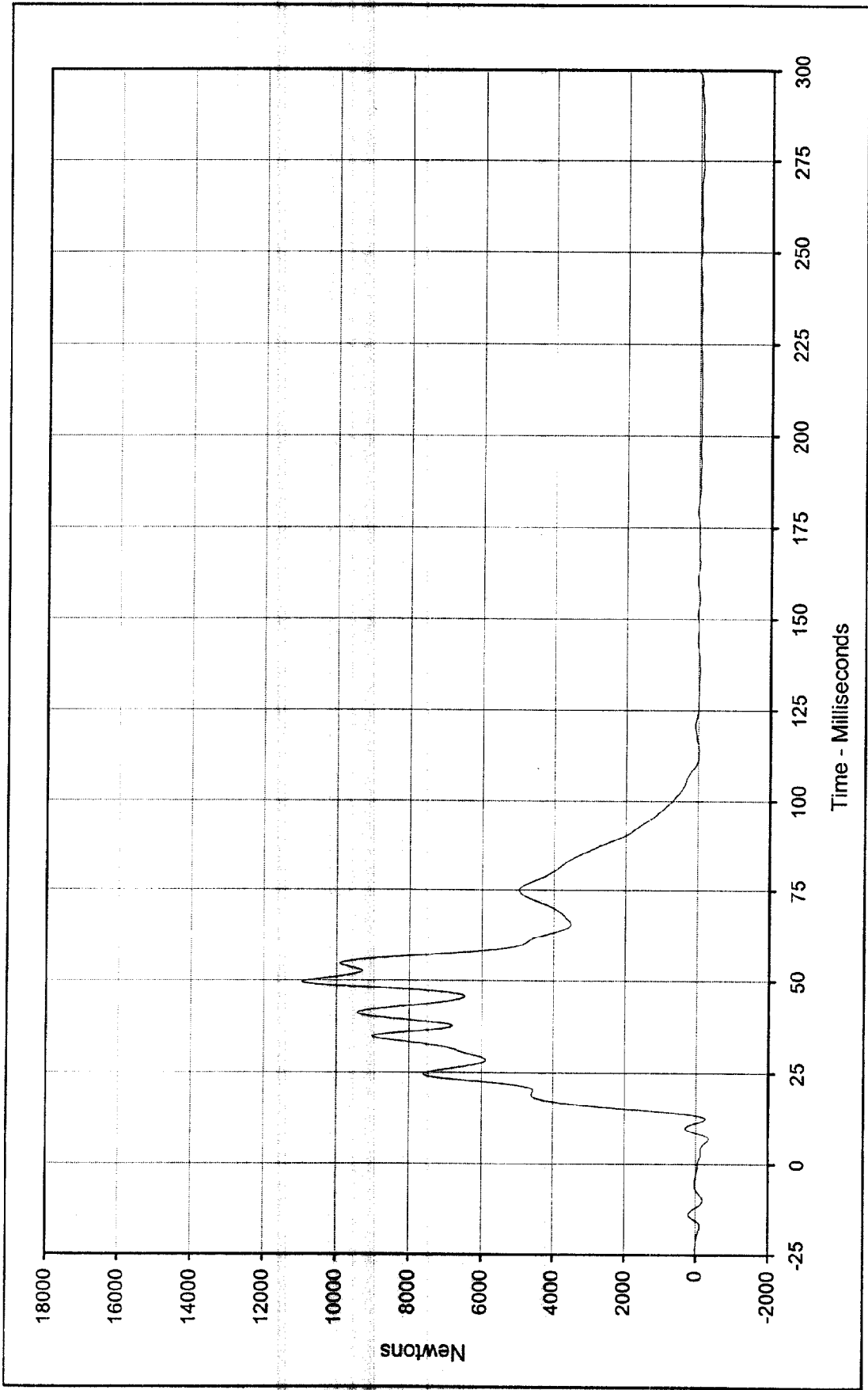
**APPENDIX C**  
**LOAD CELL BARRIER INFORMATION**



Curve Description: Barrier Force A2 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 2814.6 at 34.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -456.4 at 44.7 Milliseconds

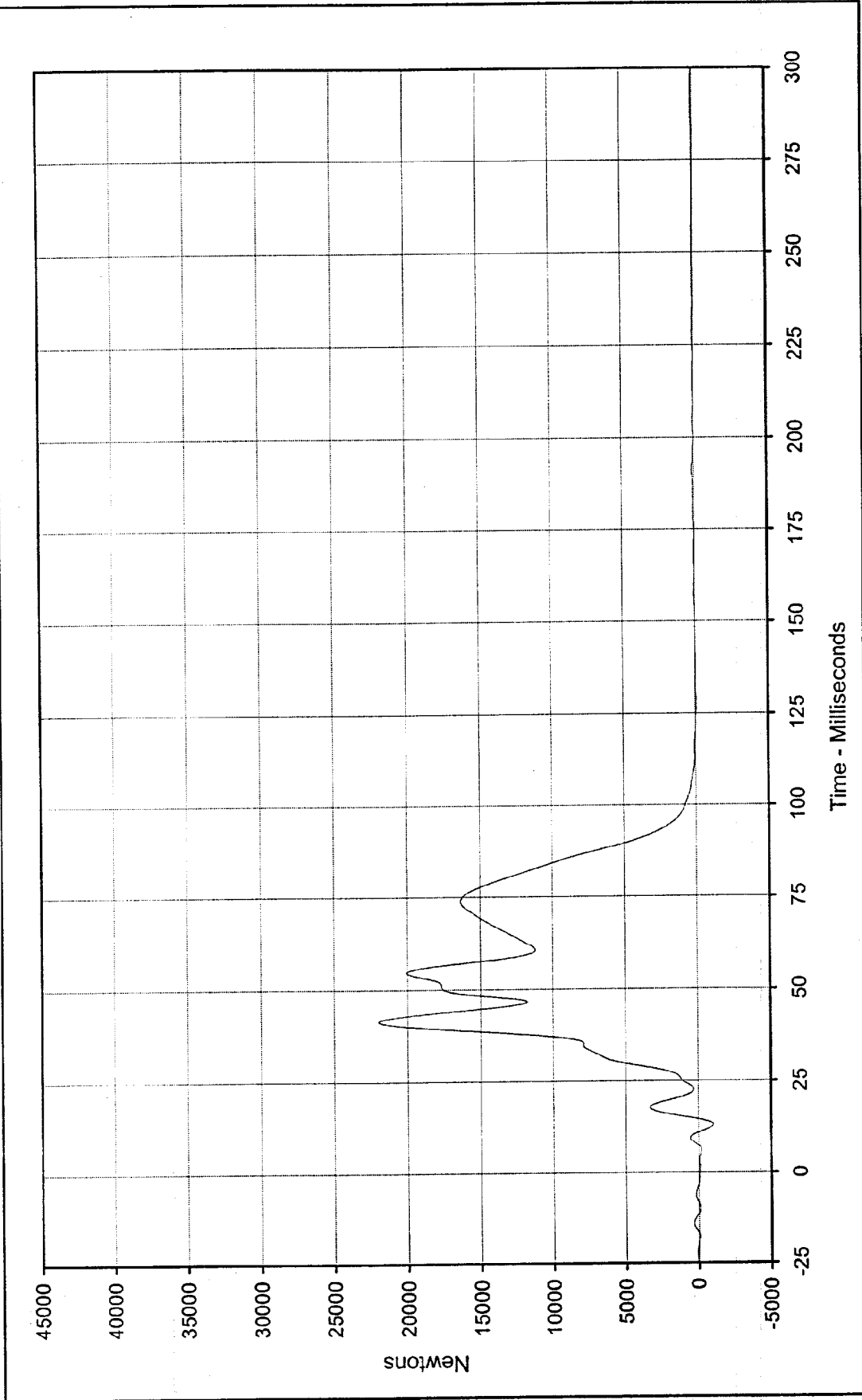


SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-099



Curve Description: Barrier Force A3 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 10939.4 at 49.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -364.2 at 7.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-100

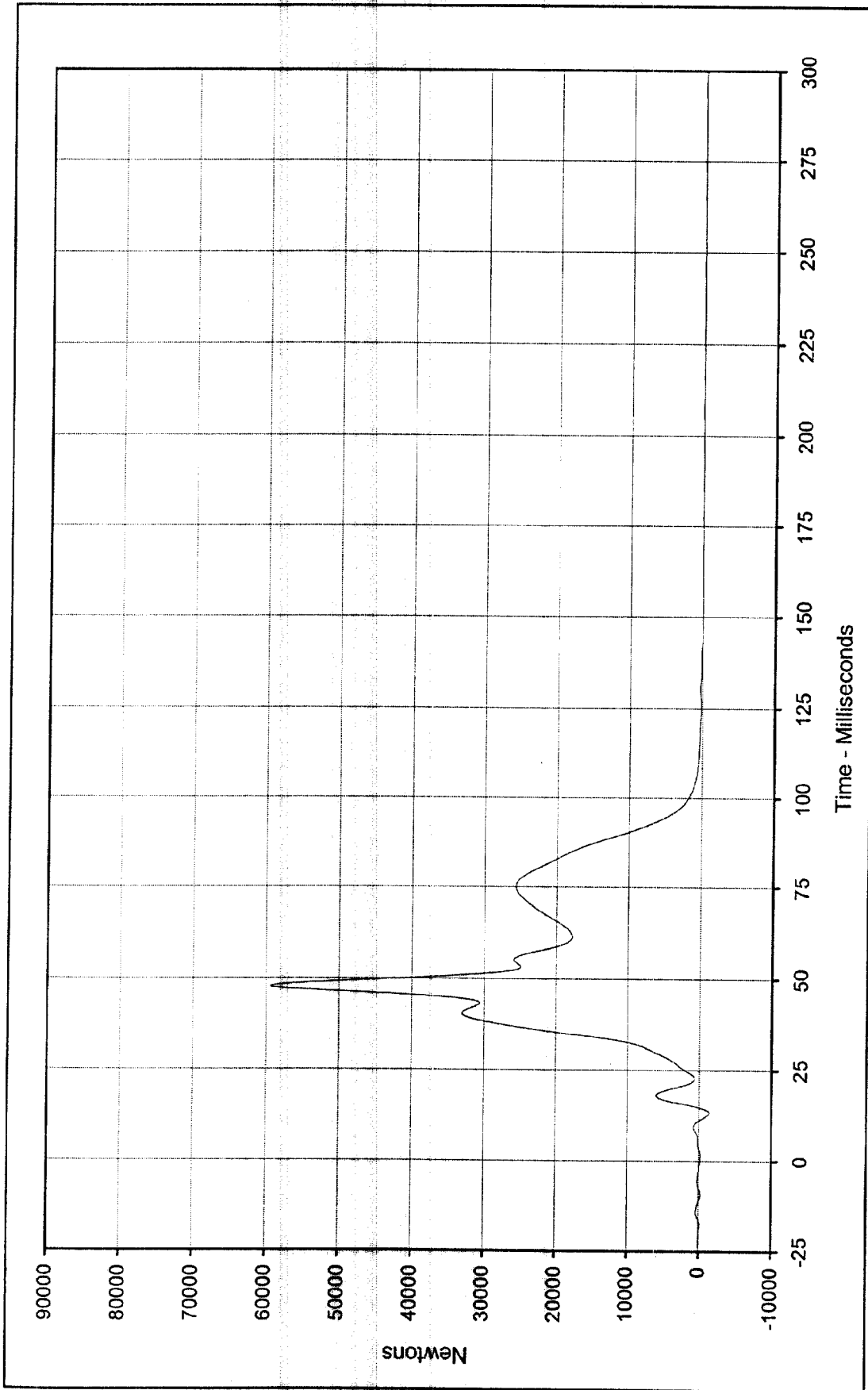




Curve Description: Barrier Force A4 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 21972.8 at 41.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -1043.8 at 13.1 Milliseconds

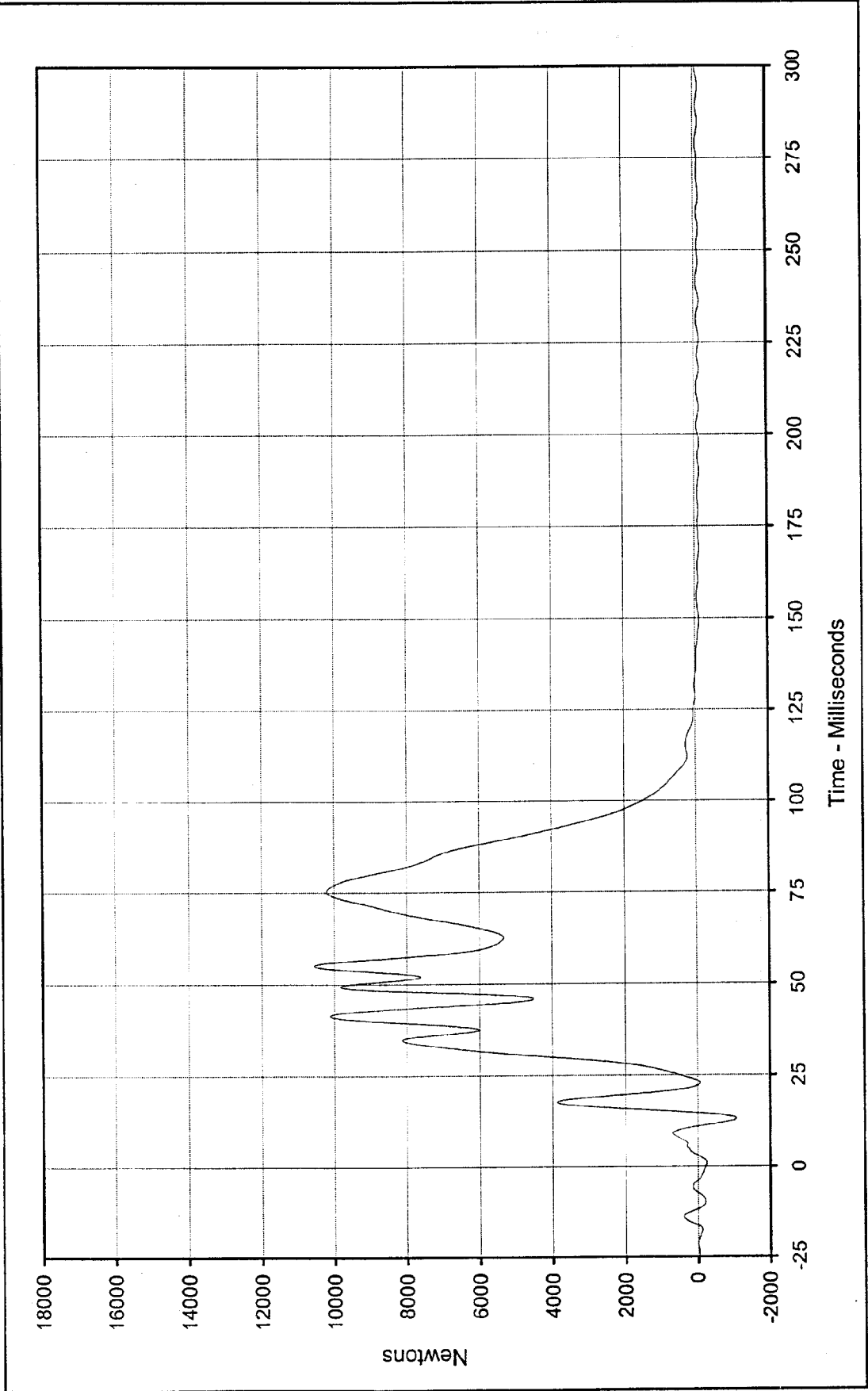
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-101





Curve Description: Barrier Force A5      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 59324.8 at 47.8 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -1434.8 at 13.4 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-102

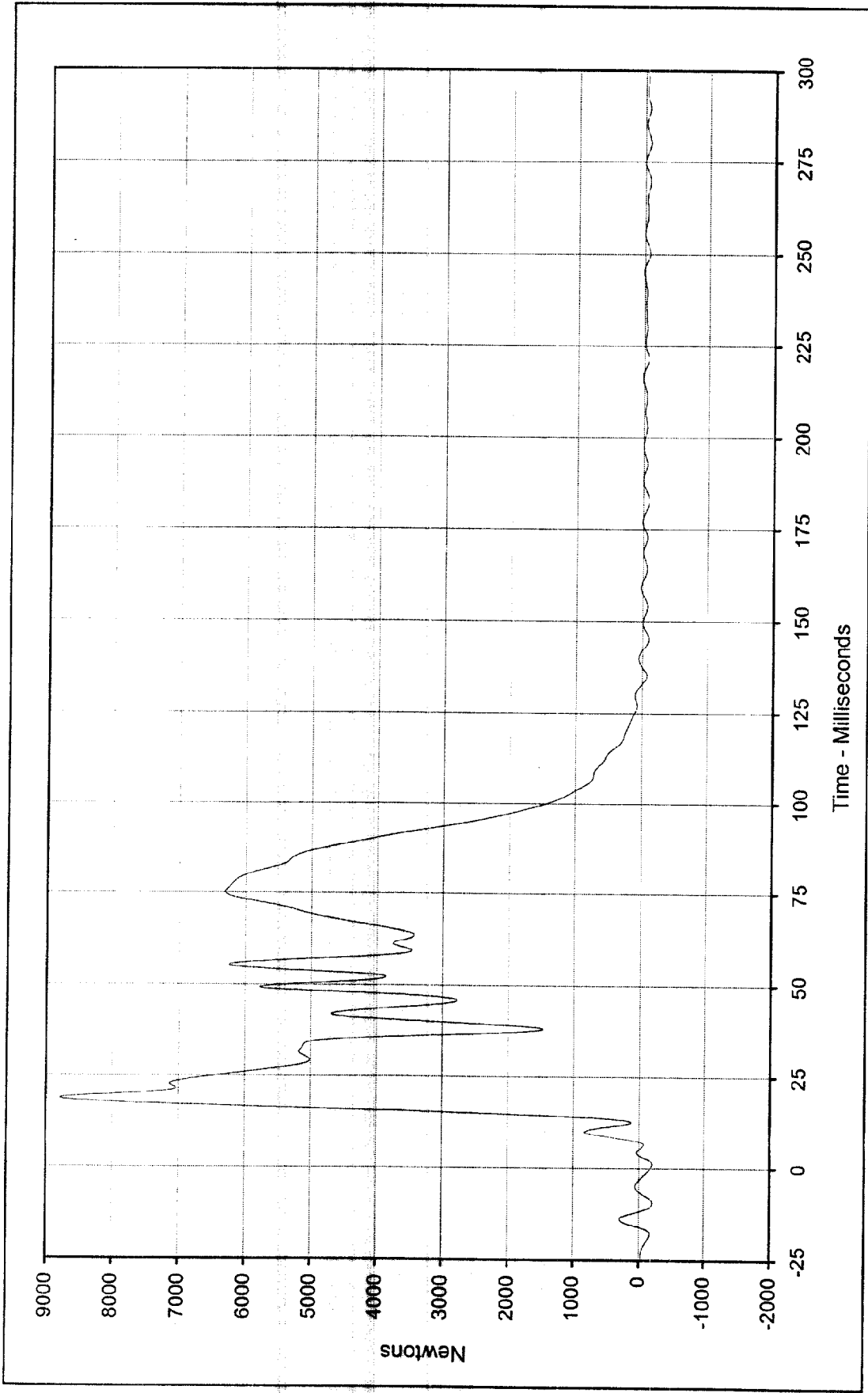




Curve Description: Barrier Force A6  
 Maximum Value: 10555.0 at 55.0 Milliseconds  
 Minimum Value: -1073.8 at 13.1 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-103

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan





Curve Description: Barrier Force A7 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 8792.2 at 18.6 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

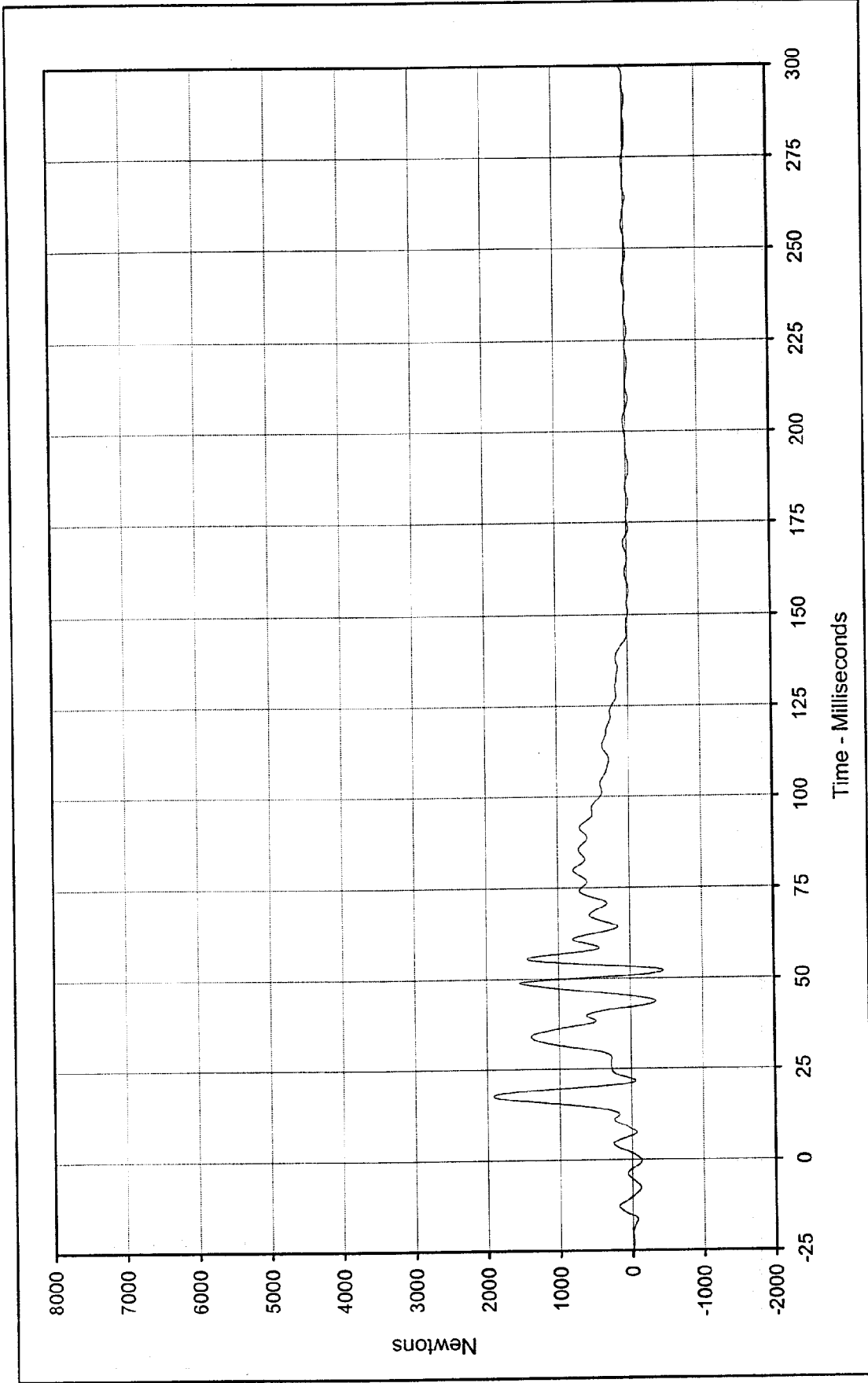
Minimum Value: -206.8 at 1.2 Milliseconds

SAE Filter Class: 60

Date of Test: 1/19/99

Curve Number: FIL-104

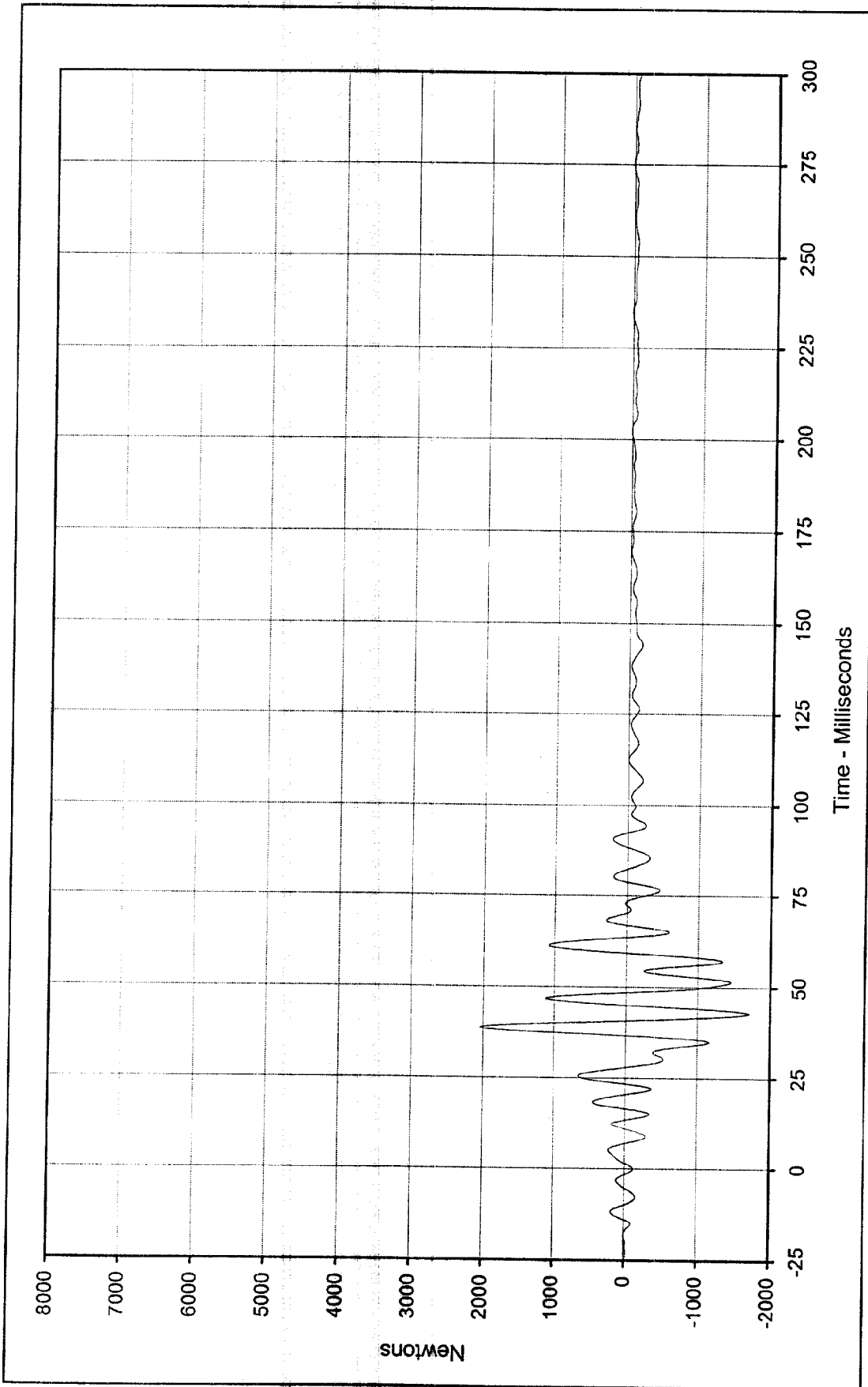




Curve Description: Barrier Force A8 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 1918.3 at 17.7 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -463.8 at 52.1 Milliseconds



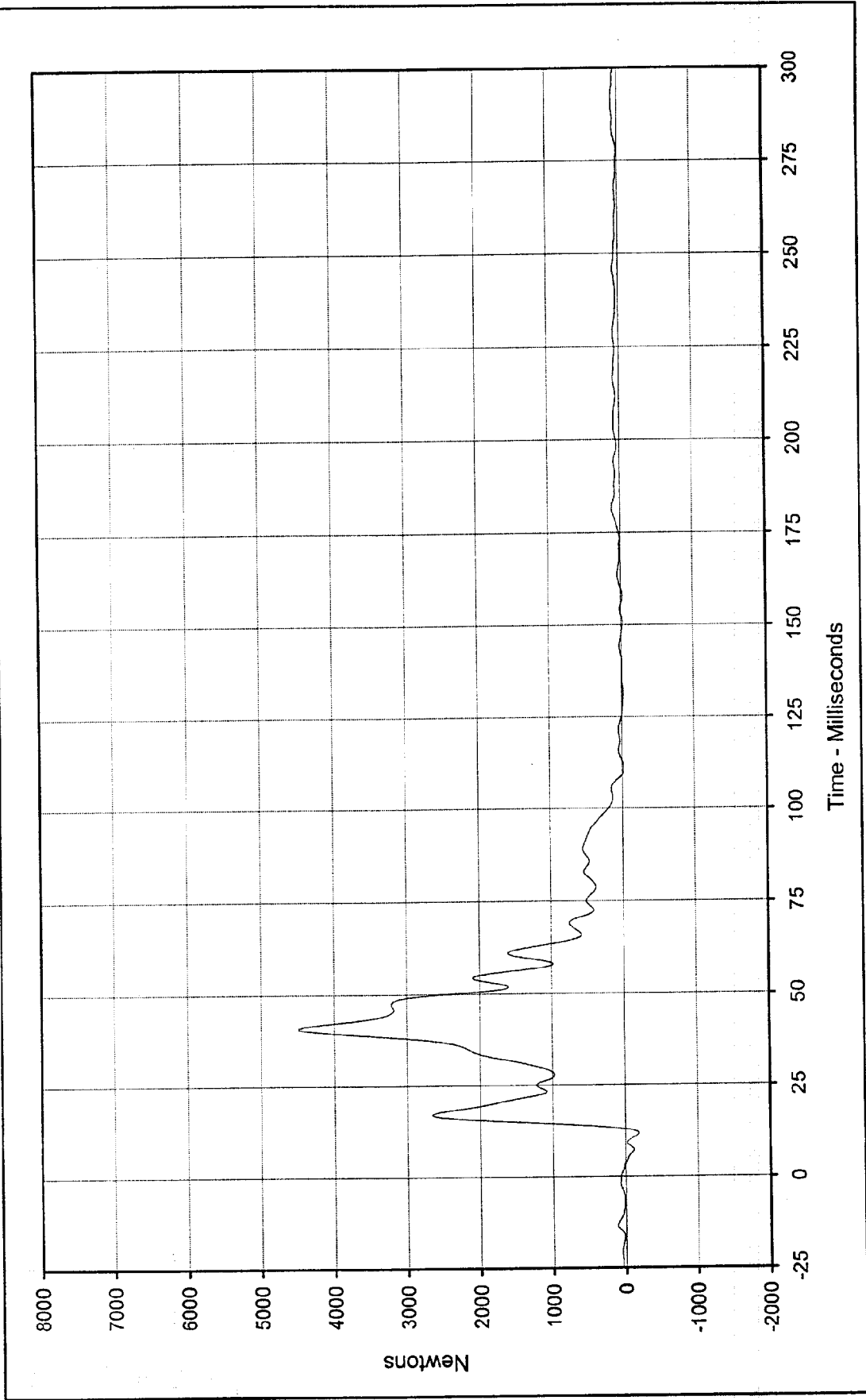
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-105



Curve Description: Barrier Force A9  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 2039.2 at 38.6 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -1711.4 at 42.9 Milliseconds



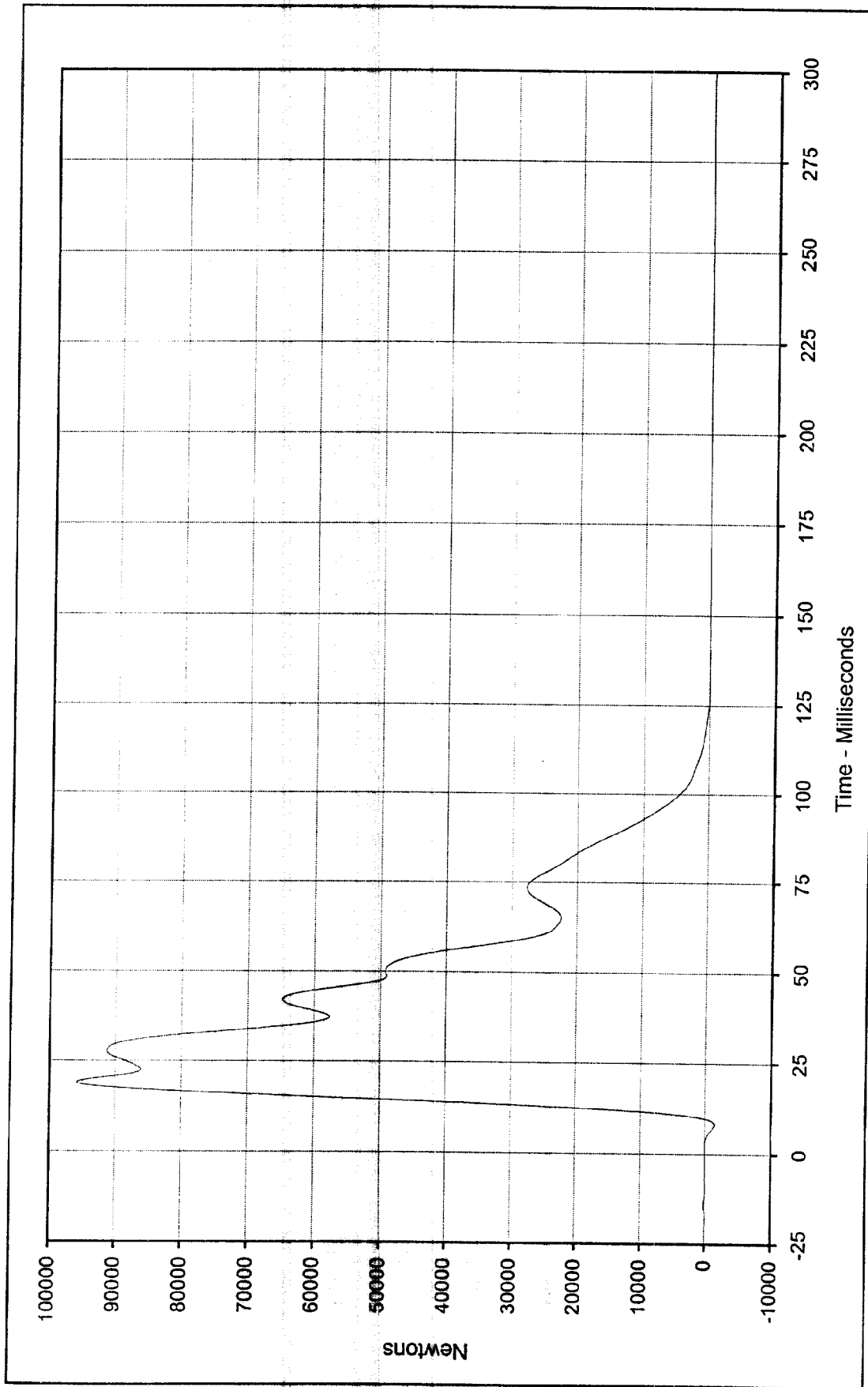
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-106



Curve Description: Barrier Force B2 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 4487.2 at 40.7 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -181.2 at 11.7 Milliseconds



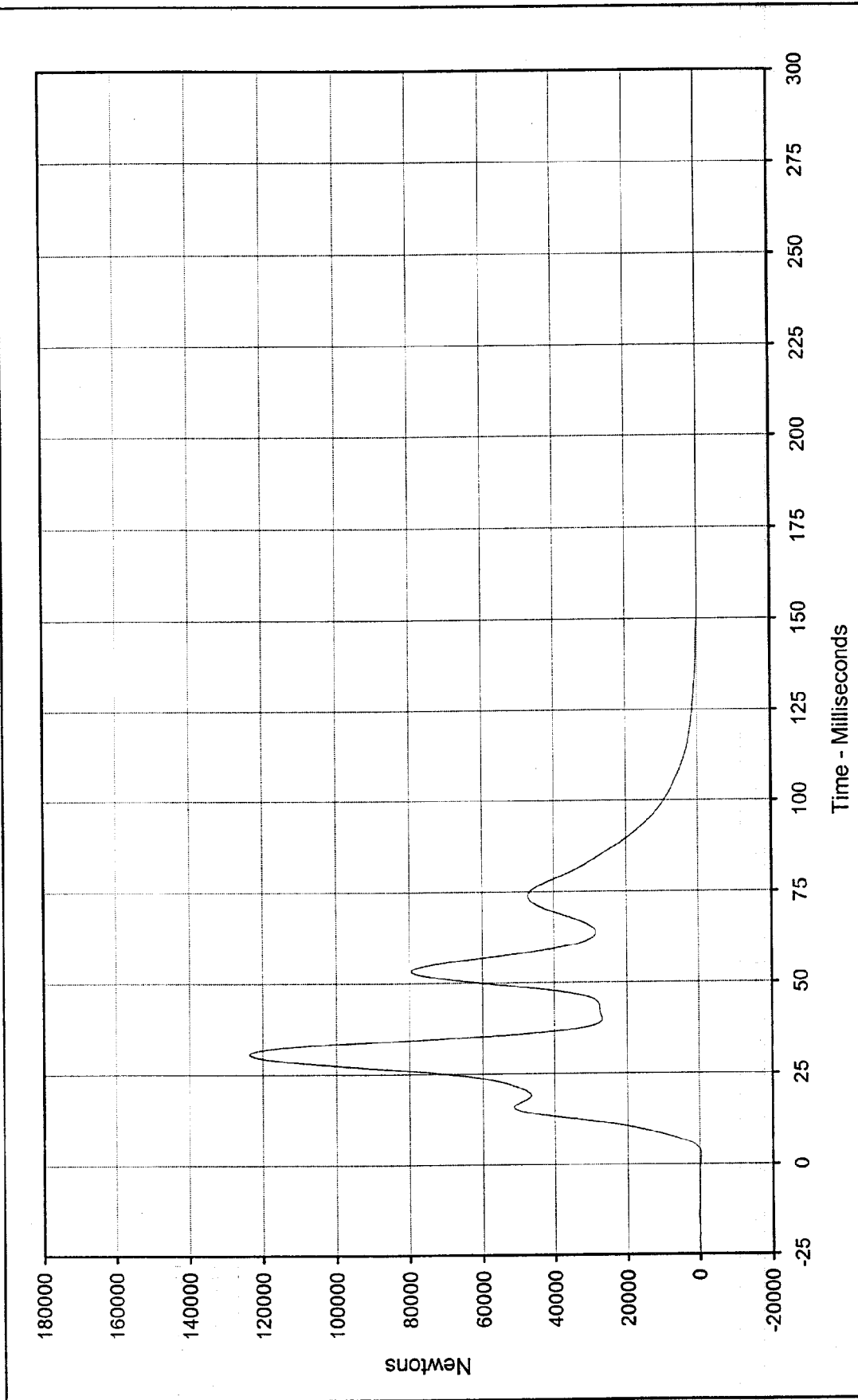
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-108



Curve Description: Barrier Force B3  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 95812.8 at 19.1 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -1477.5 at 8.2 Milliseconds



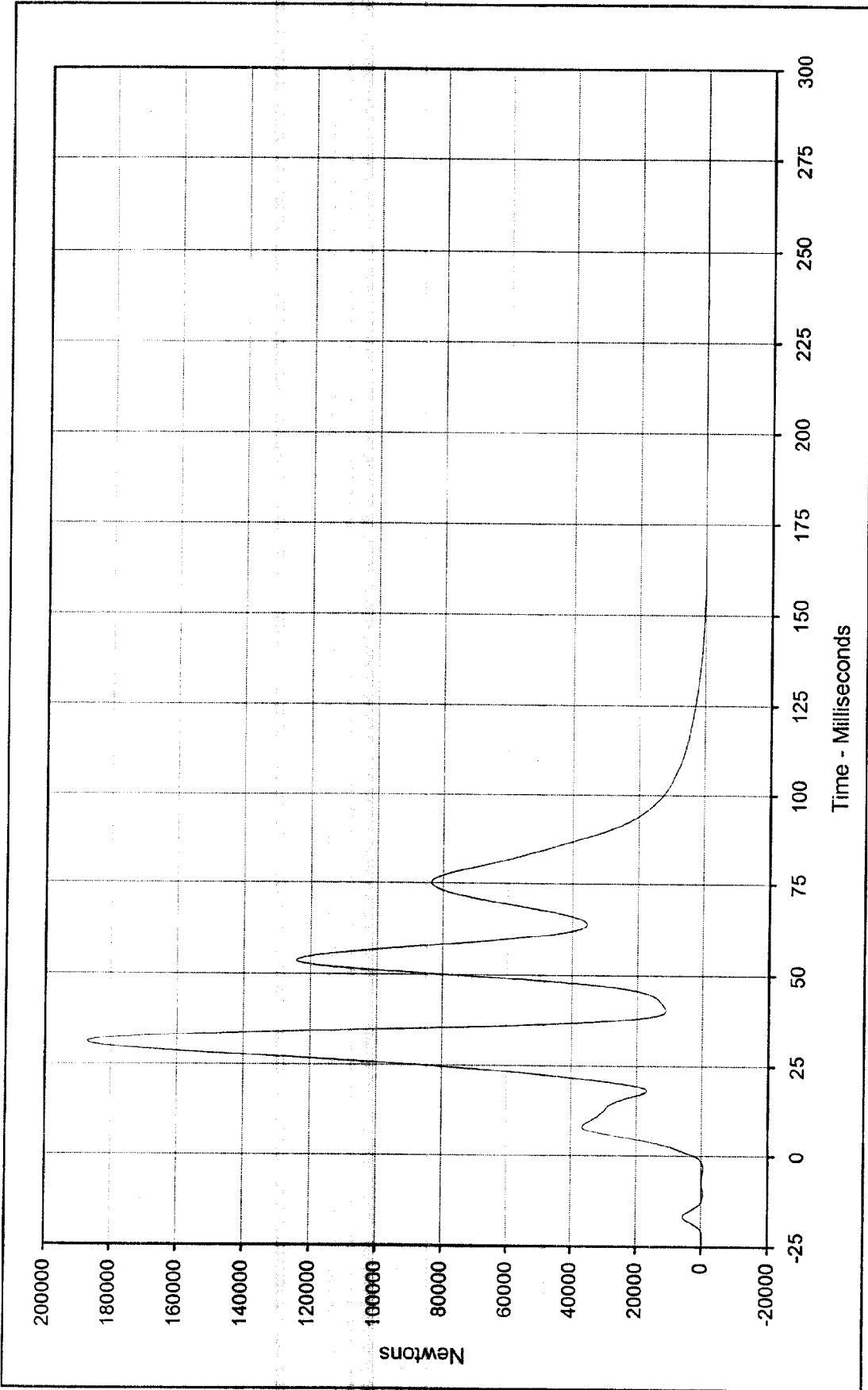
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-109



Curve Description: Barrier Force B4  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

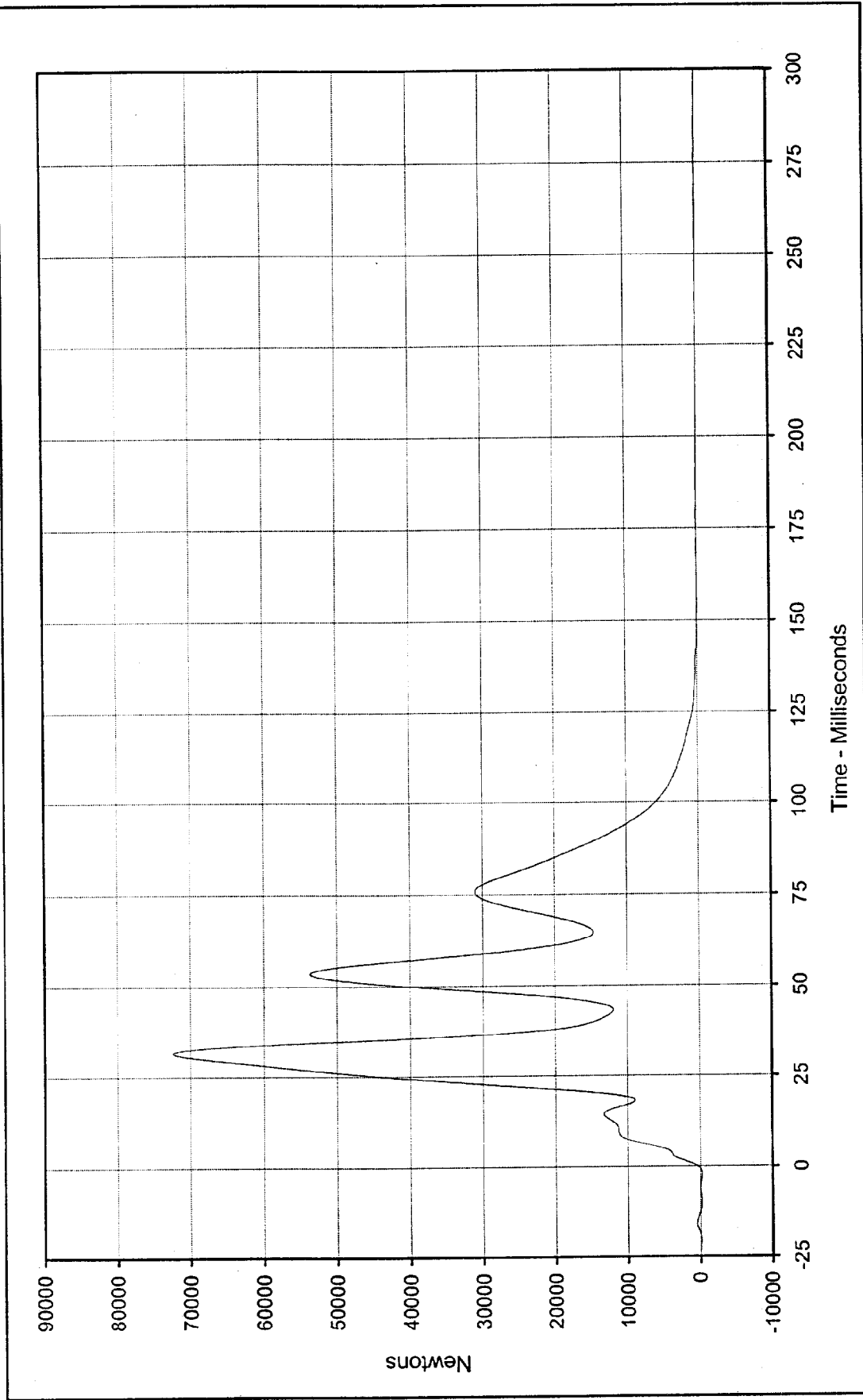
Maximum Value: 123494.1 at 30.6 Milliseconds  
 Minimum Value: -368.9 at 2.8 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-110





Curve Description: Barrier Force B5 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 187074.0 at 31.1 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -9.2 at 236.8 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-111

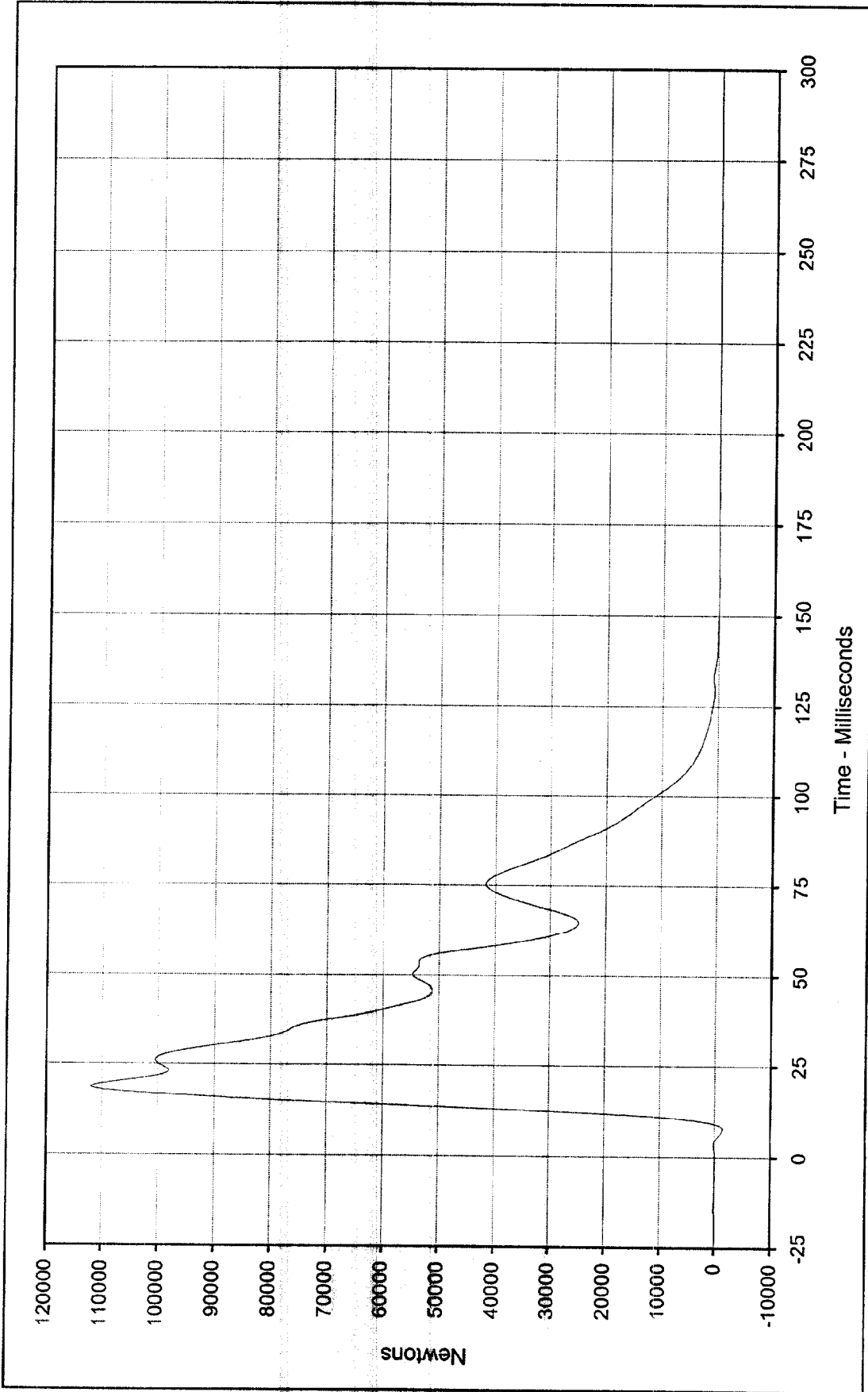




Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

Curve Description: Barrier Force B6  
 Maximum Value: 72391.4 at 31.6 Milliseconds  
 Minimum Value: -78.6 at 153.8 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-112





Curve Description: Barrier Force B7 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 111954.0 at 18.7 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

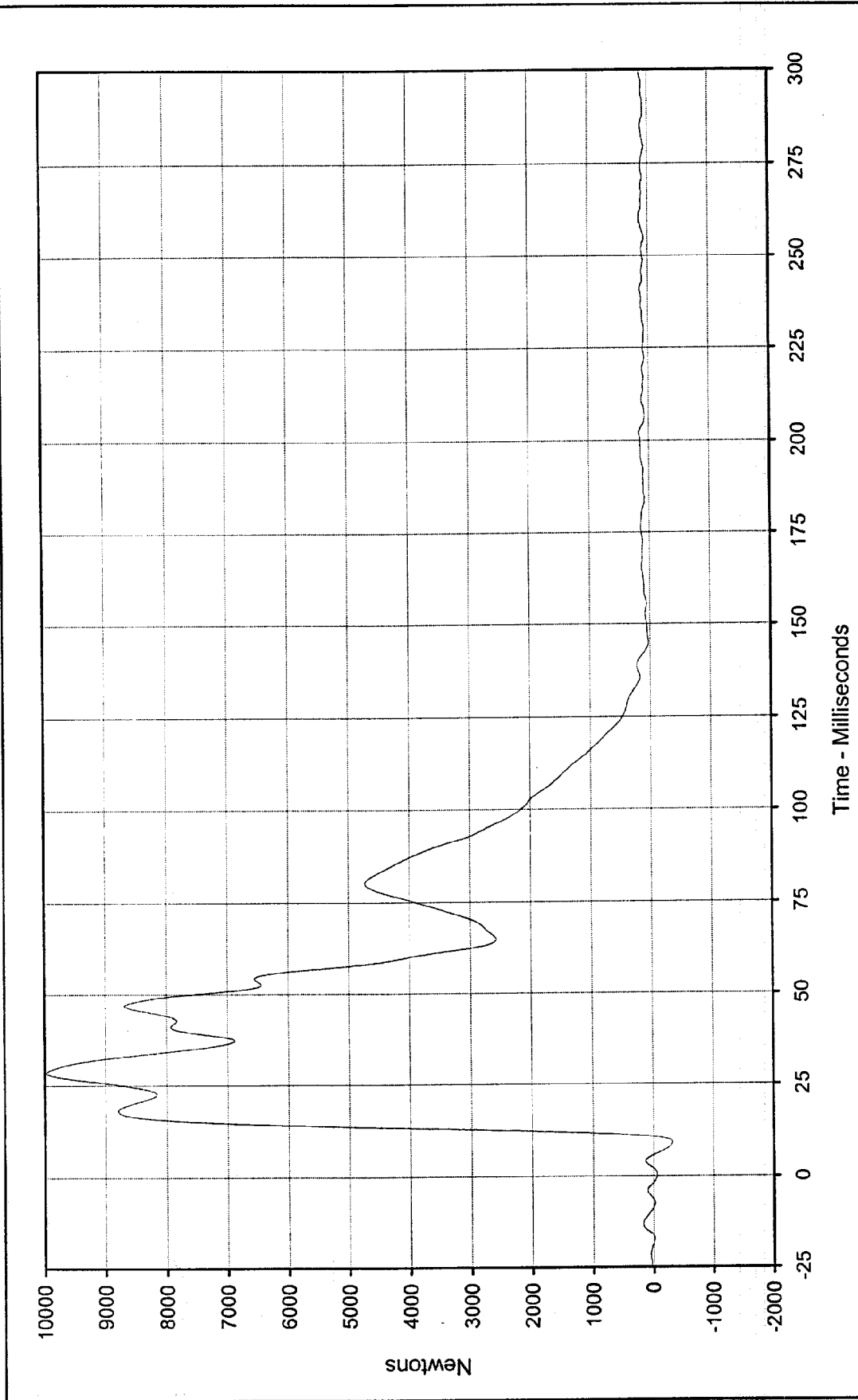
Minimum Value: -1469.7 at 7.7 Milliseconds

SAE Filter Class: 60

Date of Test: 1/19/99

Curve Number: FIL-113

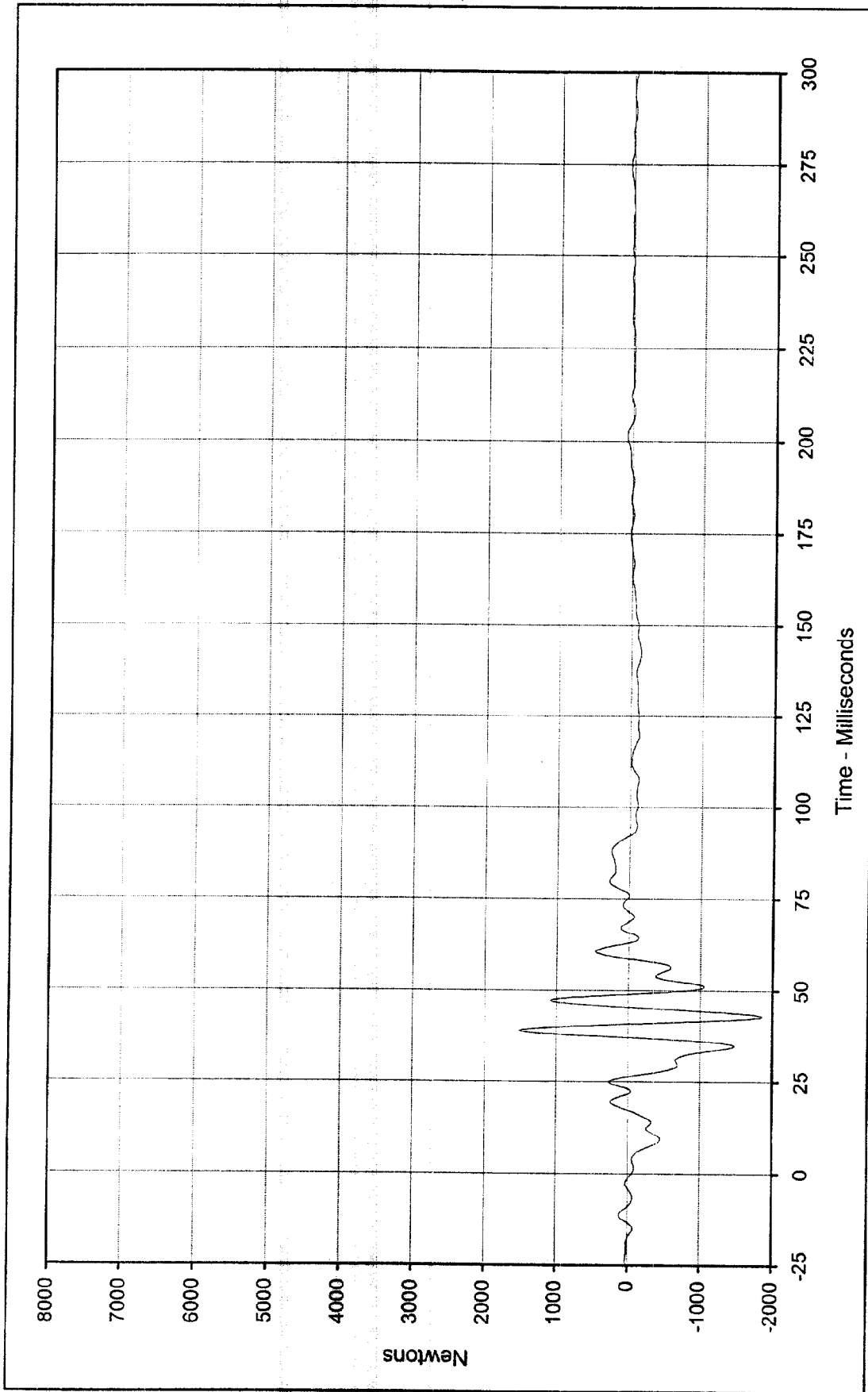




Curve Description: Barrier Force B8 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 9967.3 at 28.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -326.2 at 9.0 Milliseconds



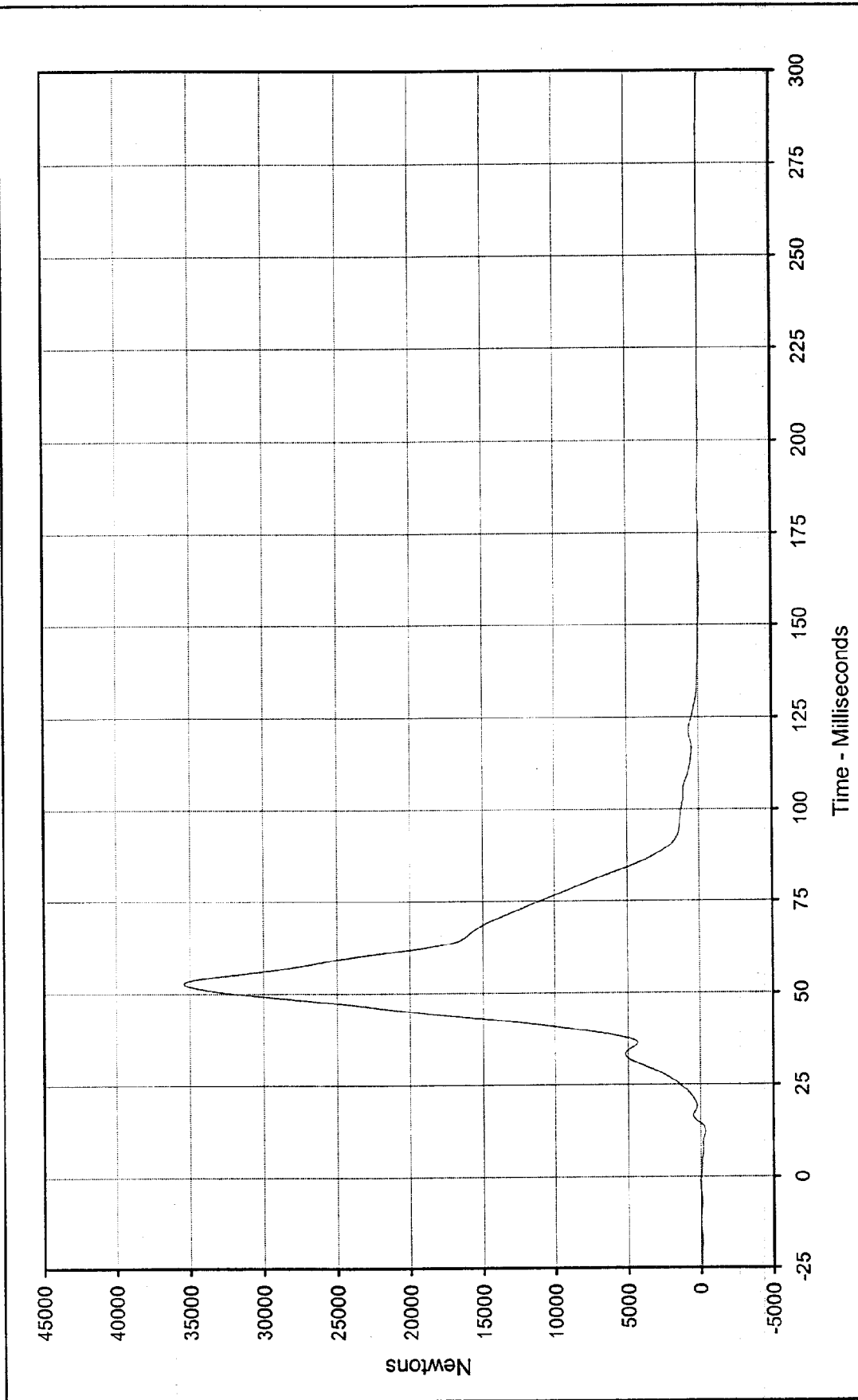
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-114



Curve Description: Barrier Force B9  
 Maximum Value: 1510.3 at 38.9 Milliseconds  
 Minimum Value: -1859.4 at 43.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-115

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

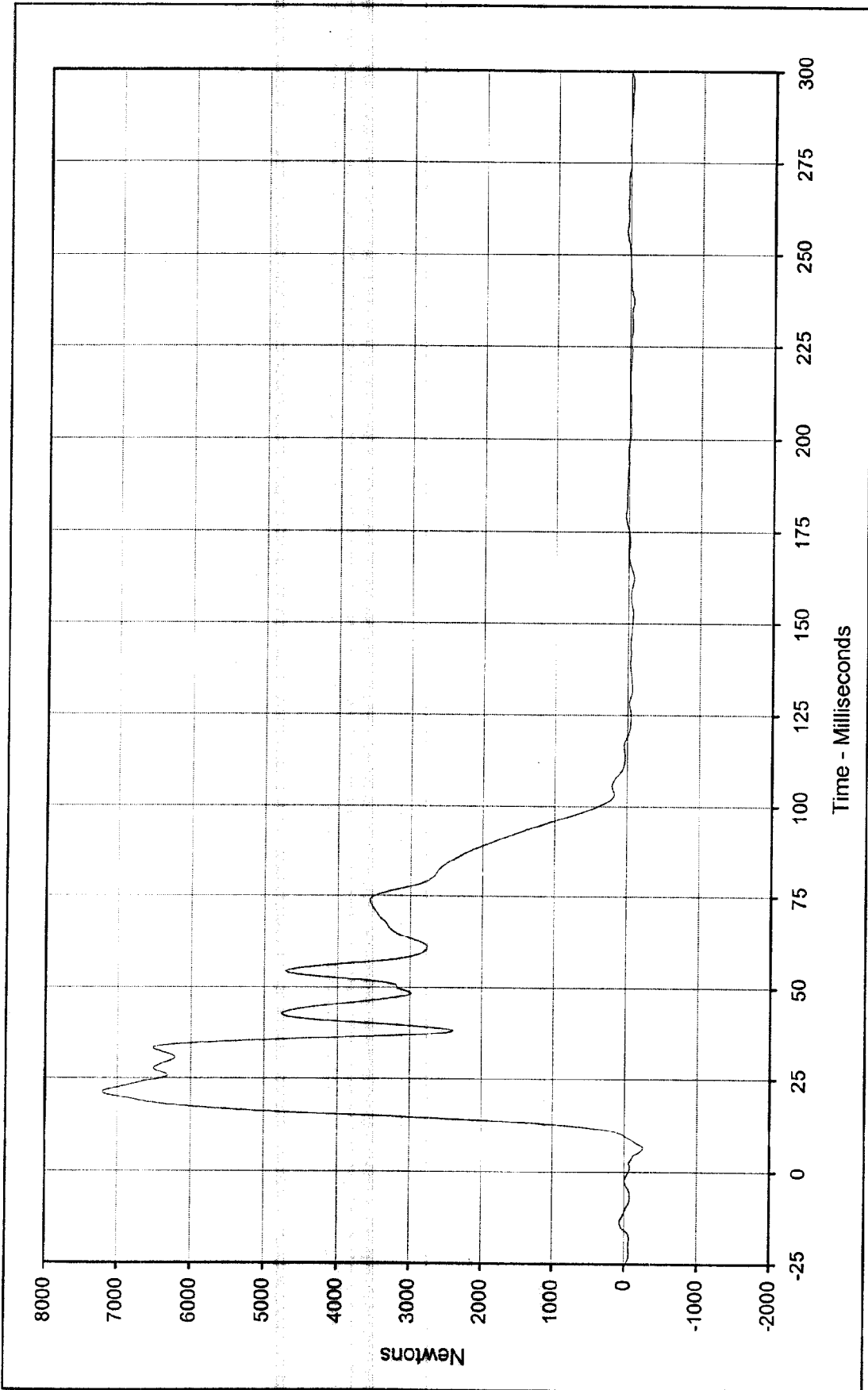




Curve Description: Barrier Force C2 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 35403.3 at 52.7 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -358.2 at 12.4 Milliseconds

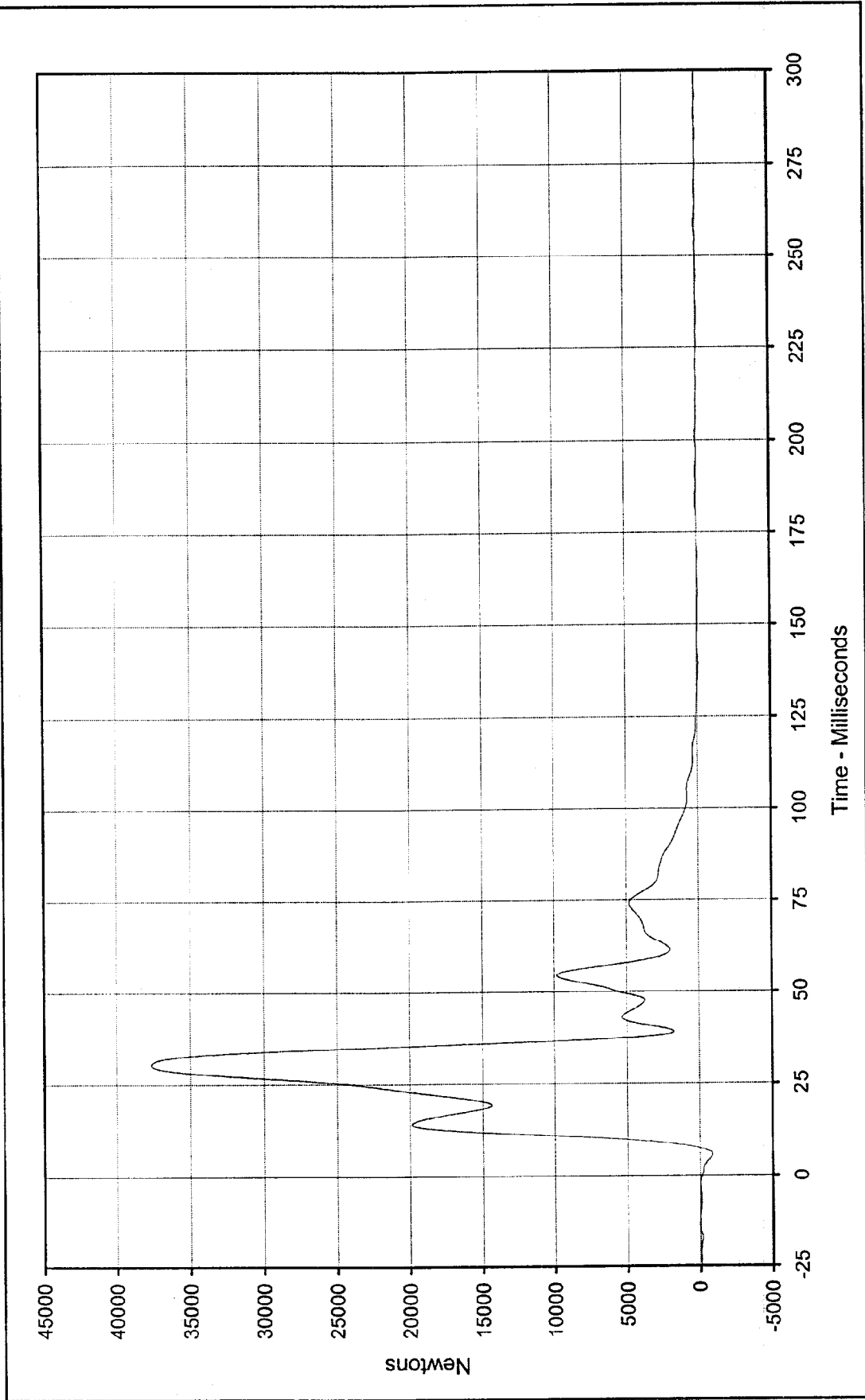


SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-117



Curve Description: Barrier Force C3      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 7207.5 at 21.2 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -260.3 at 6.5 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-118

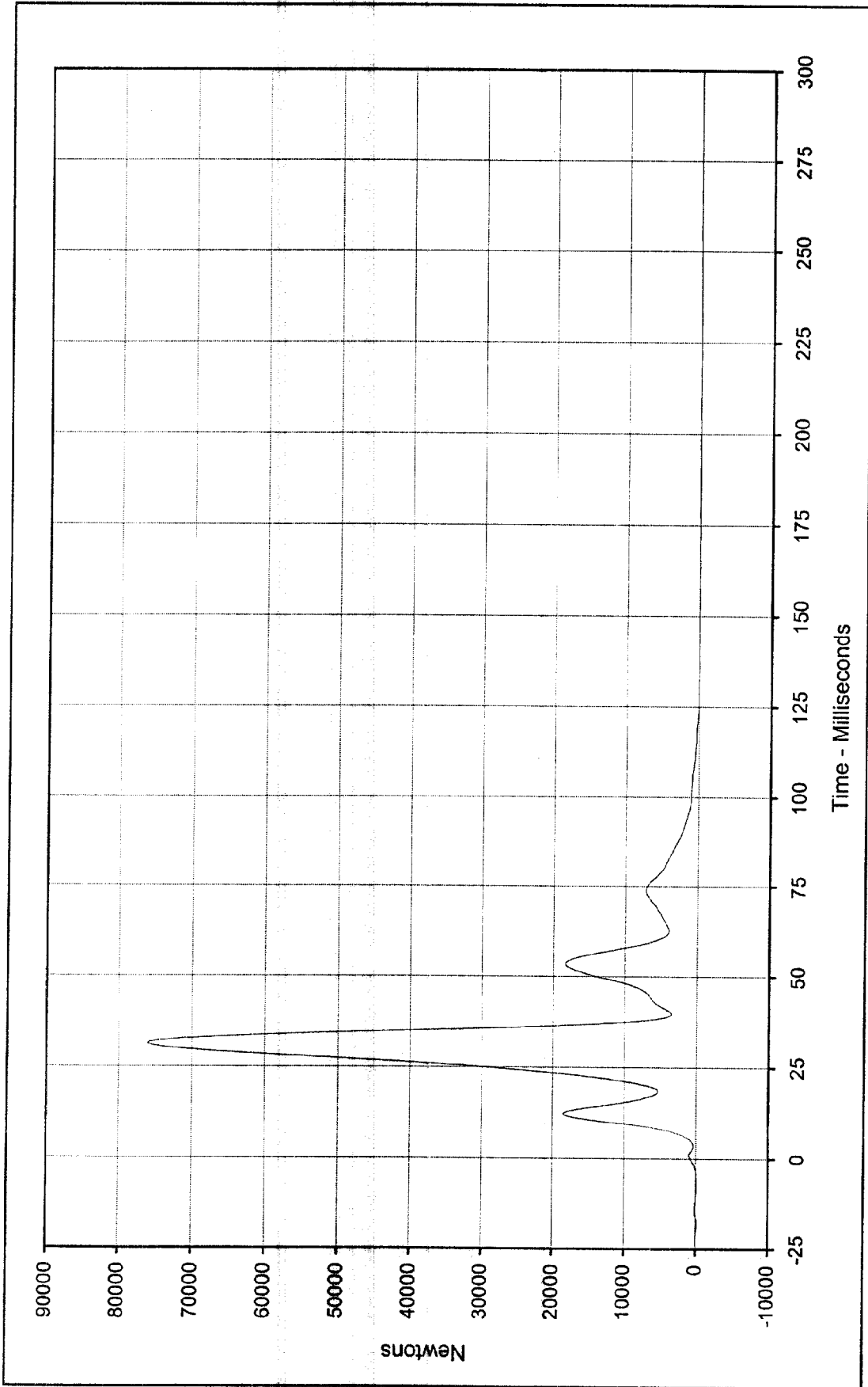




Curve Description: Barrier Force C4 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 37657.5 at 30.2 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -863.0 at 5.8 Milliseconds

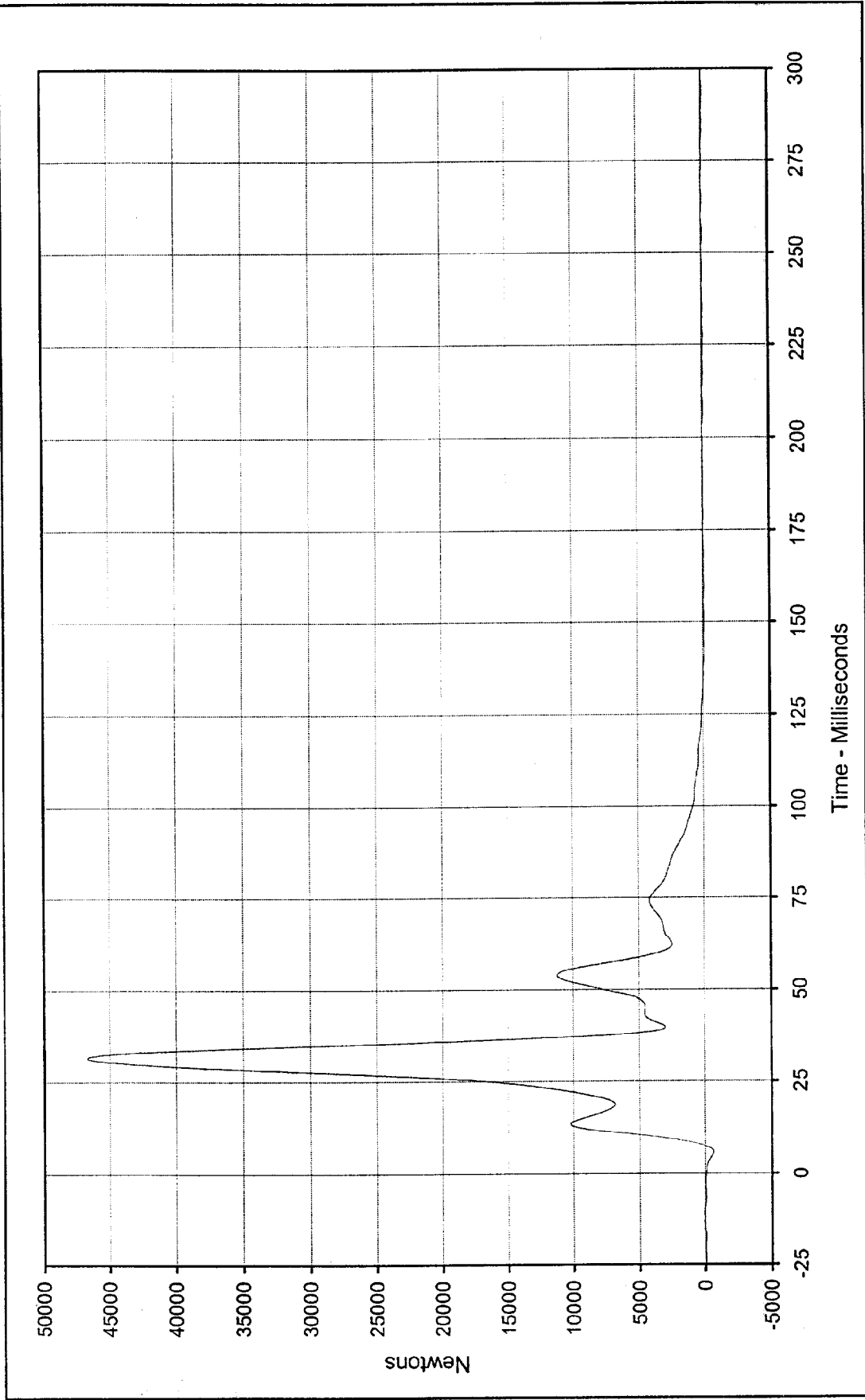


SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-119



Curve Description: Barrier Force C5 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 75994.2 at 31.2 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -140.8 at 299.9 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-120

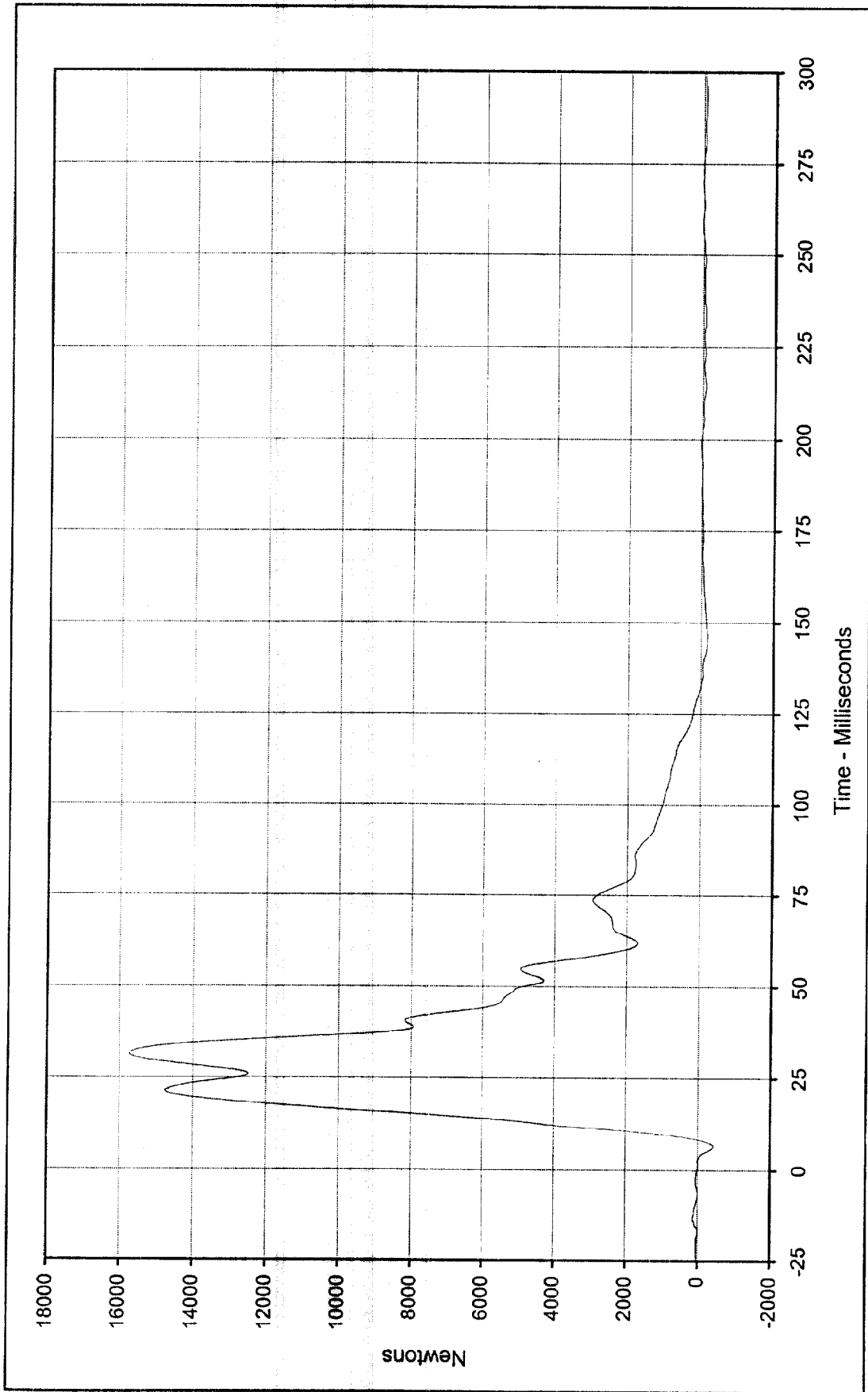




Curve Description: Barrier Force C6 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 46716.4 at 31.5 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -631.8 at 5.8 Milliseconds



SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-121



Curve Description: Barrier Force C7 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 15731.4 at 31.4 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

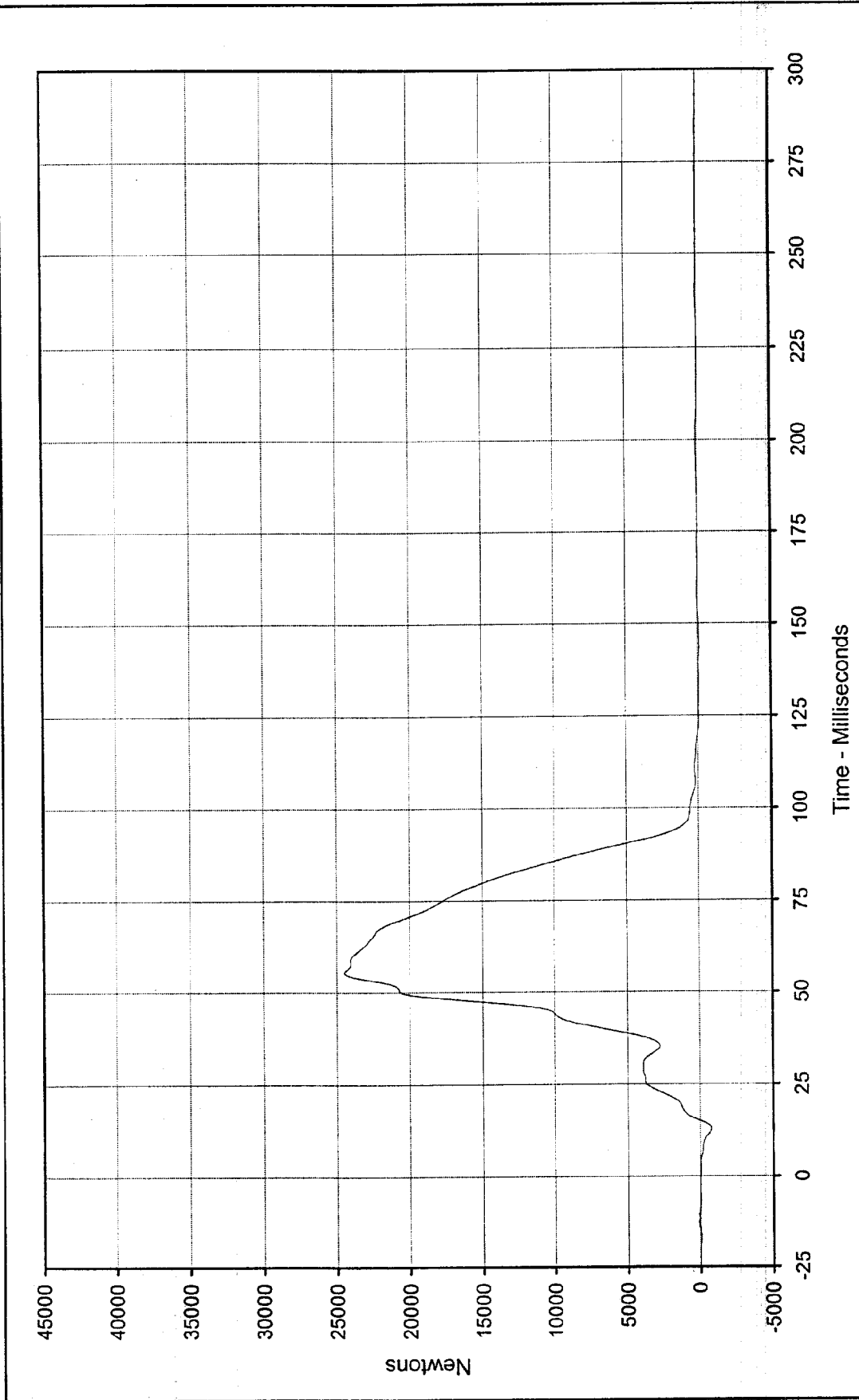
Minimum Value: -439.3 at 6.6 Milliseconds

SAE Filter Class: 60

Date of Test: 1/19/99

Curve Number: FIL-122

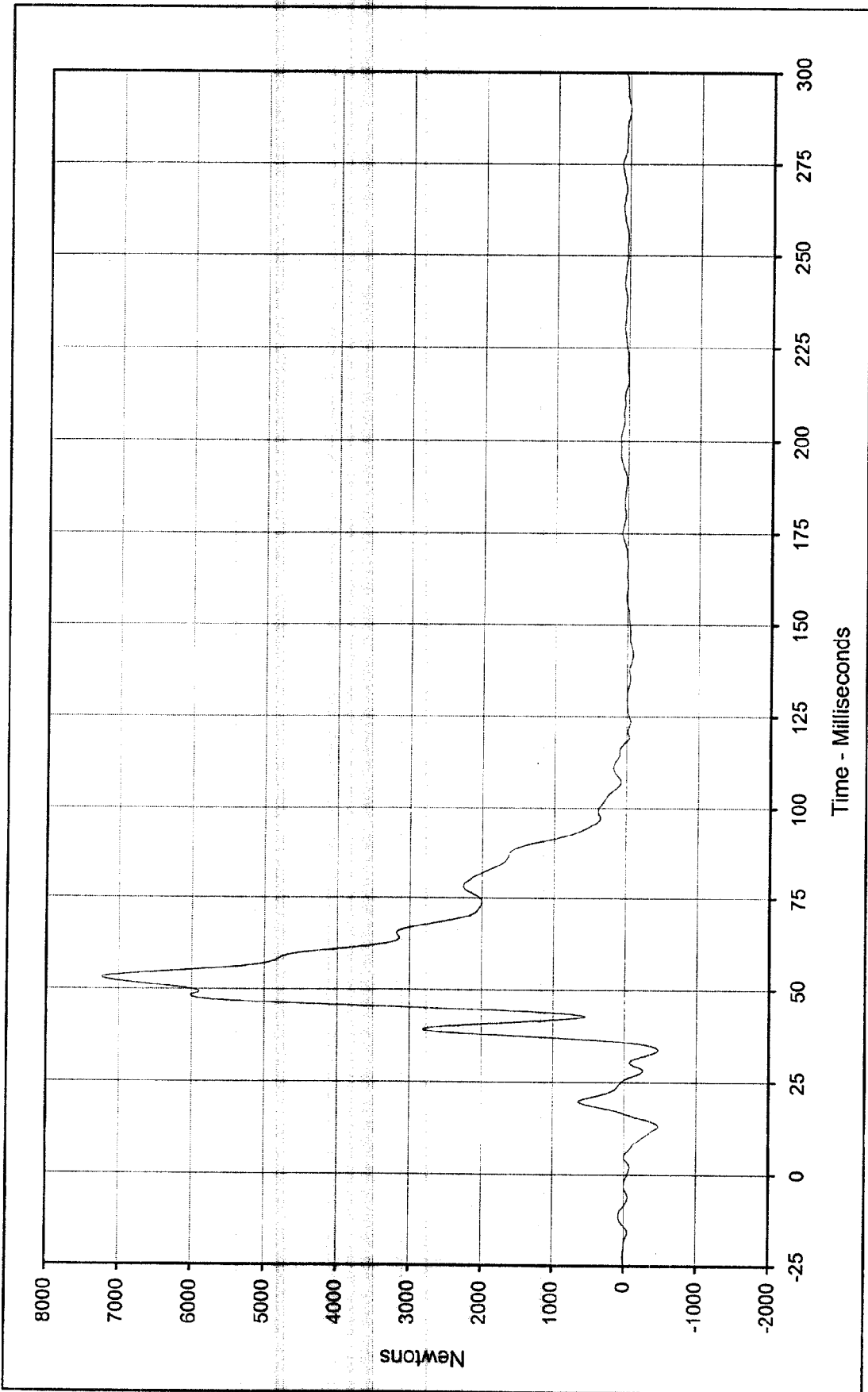




Curve Description: Barrier Force C8 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 24467.1 at 55.4 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -785.4 at 13.1 Milliseconds

SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-123

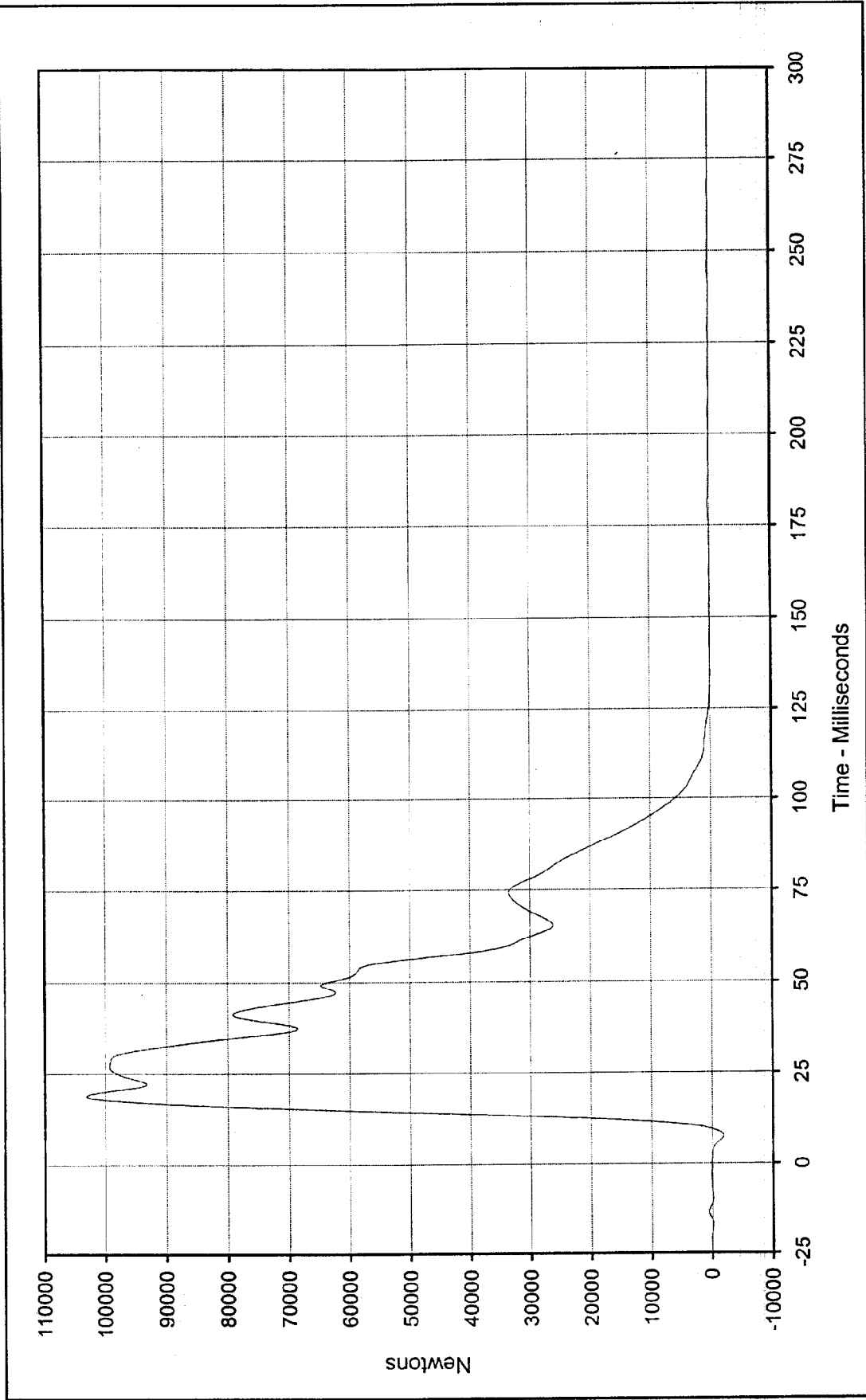




Curve Description: Barrier Force C9  
 Maximum Value: 7232.6 at 53.1 Milliseconds  
 Minimum Value: -475.5 at 13.1 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: FIL-124

Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

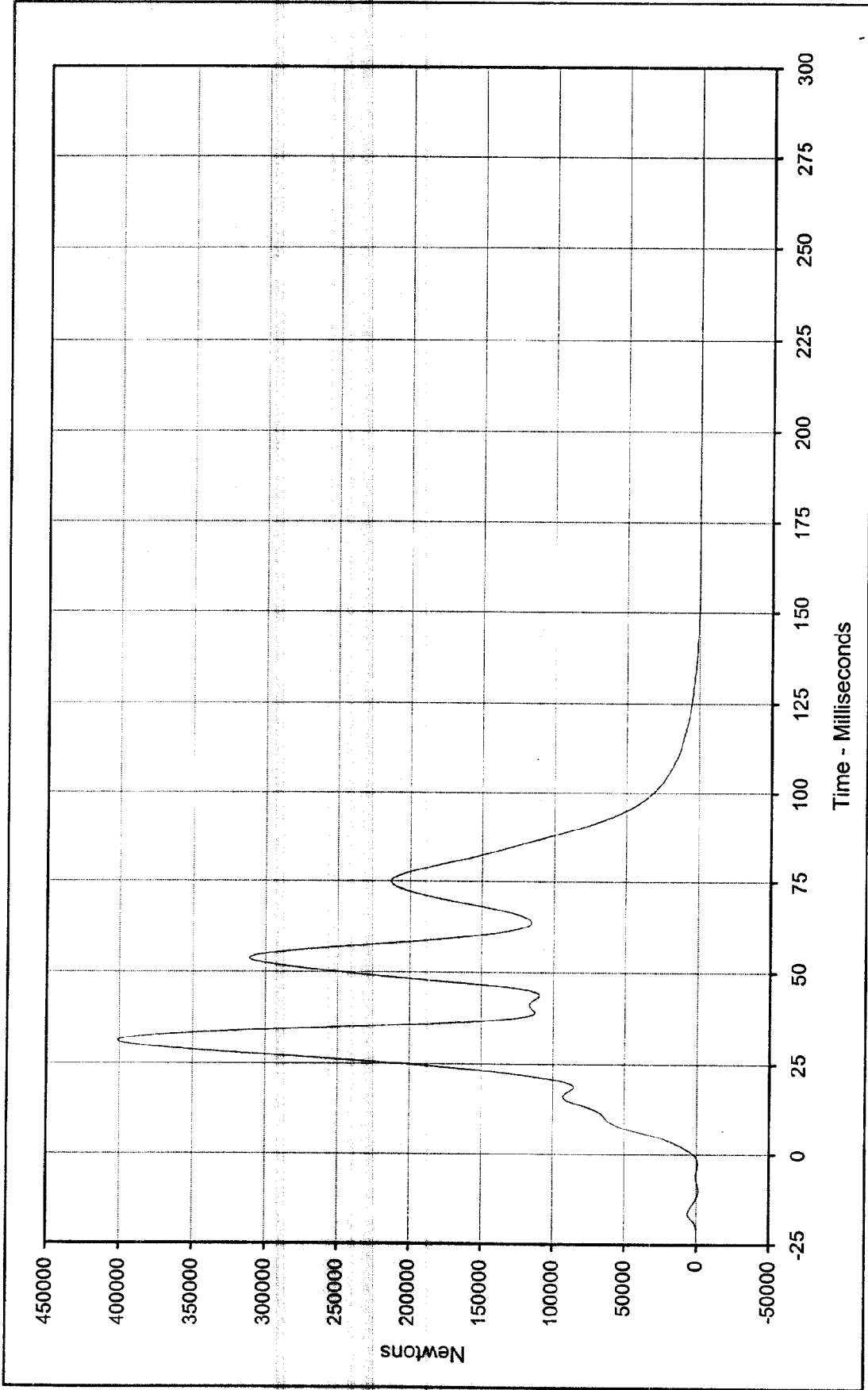




Curve Description: Barrier Force Sum No.1 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 103099.5 at 19.0 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -1977.0 at 7.6 Milliseconds



SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: SUM-001



Curve Description: Barrier Force Sum No.2 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304

Maximum Value: 401309.3 at 31.2 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan

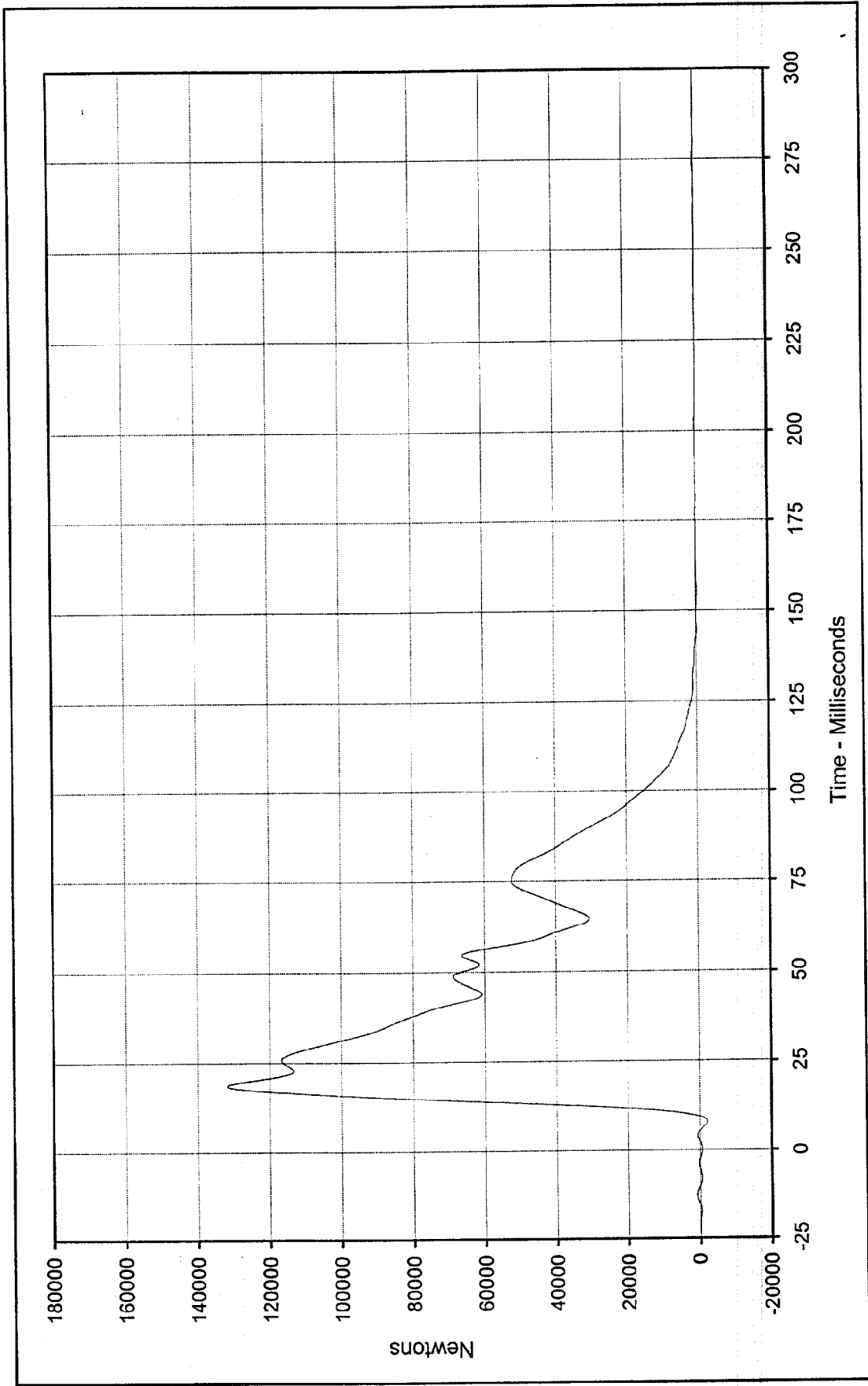
Minimum Value: -124.5 at 236.1 Milliseconds

SAE Filter Class: 60

Date of Test: 1/19/99

Curve Number: SUM-002

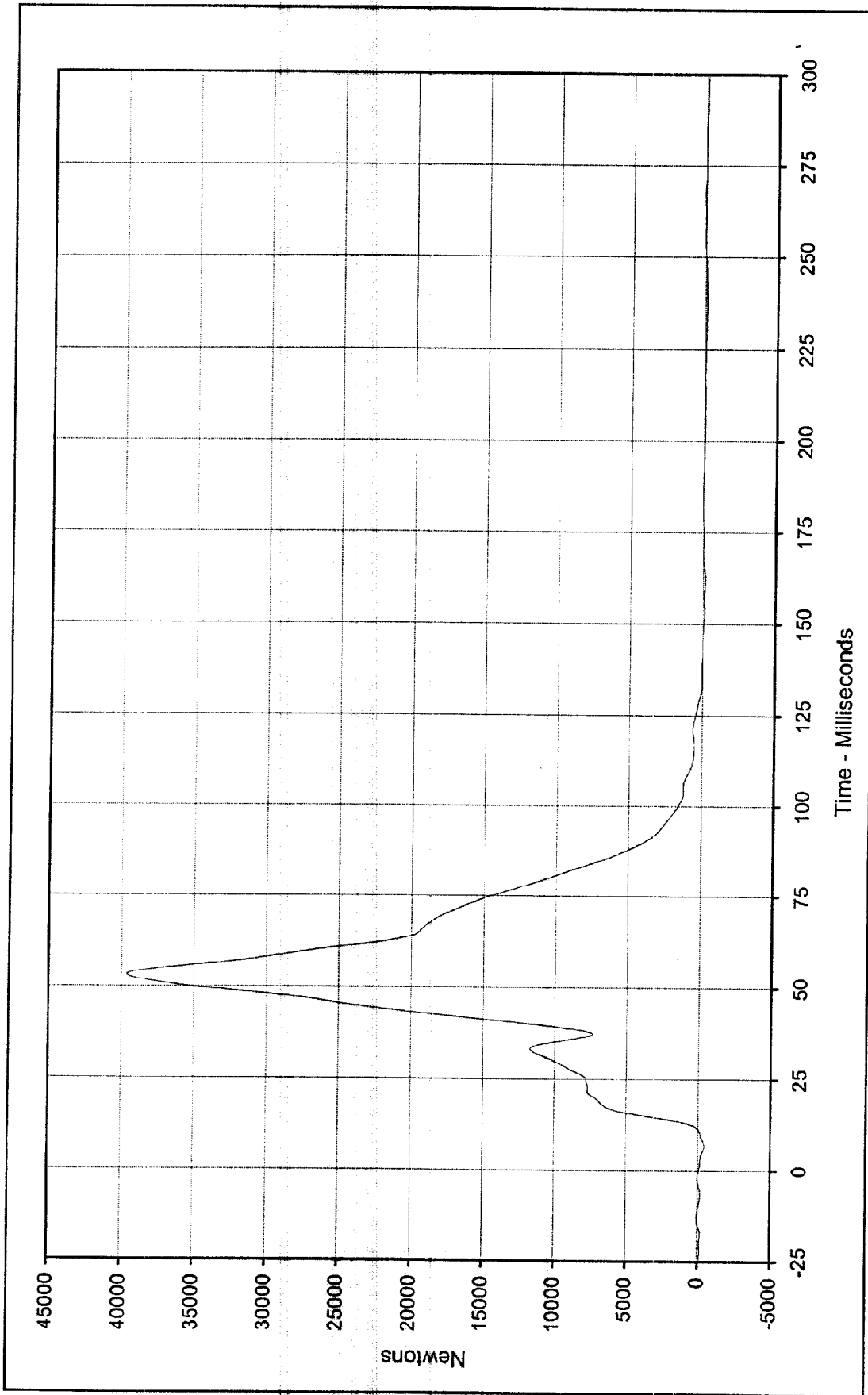




Curve Description: Barrier Force Sum No.3 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 131820.8 at 18.6 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -2157.7 at 7.7 Milliseconds

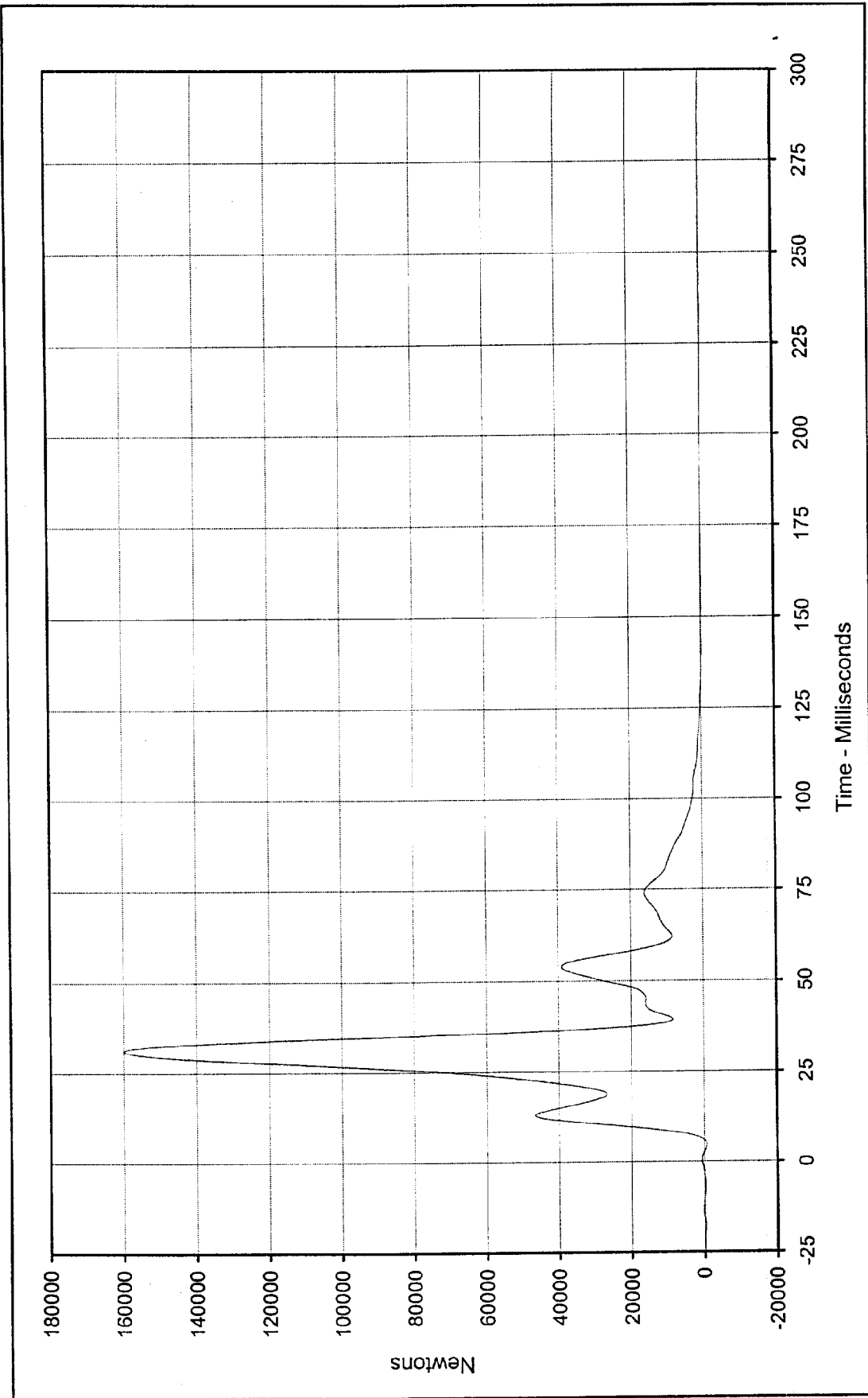
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: SUM-003





Curve Description: Barrier Force Sum No.4      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 39649.0 at 53.1 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -447.5 at 6.7 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: SUM-004

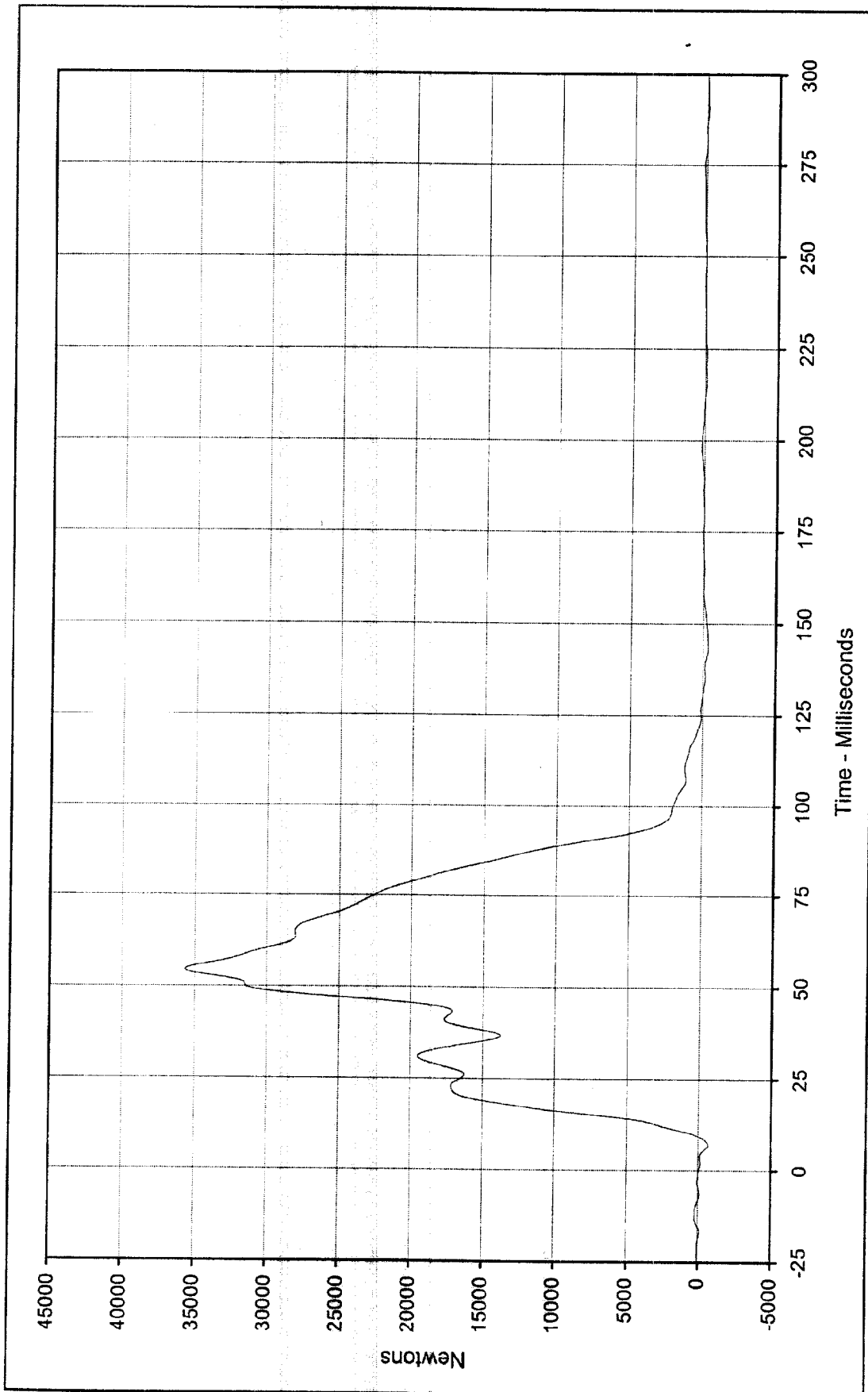




Curve Description: Barrier Force Sum No.5 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 159974.8 at 31.2 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -624.9 at 4.6 Milliseconds

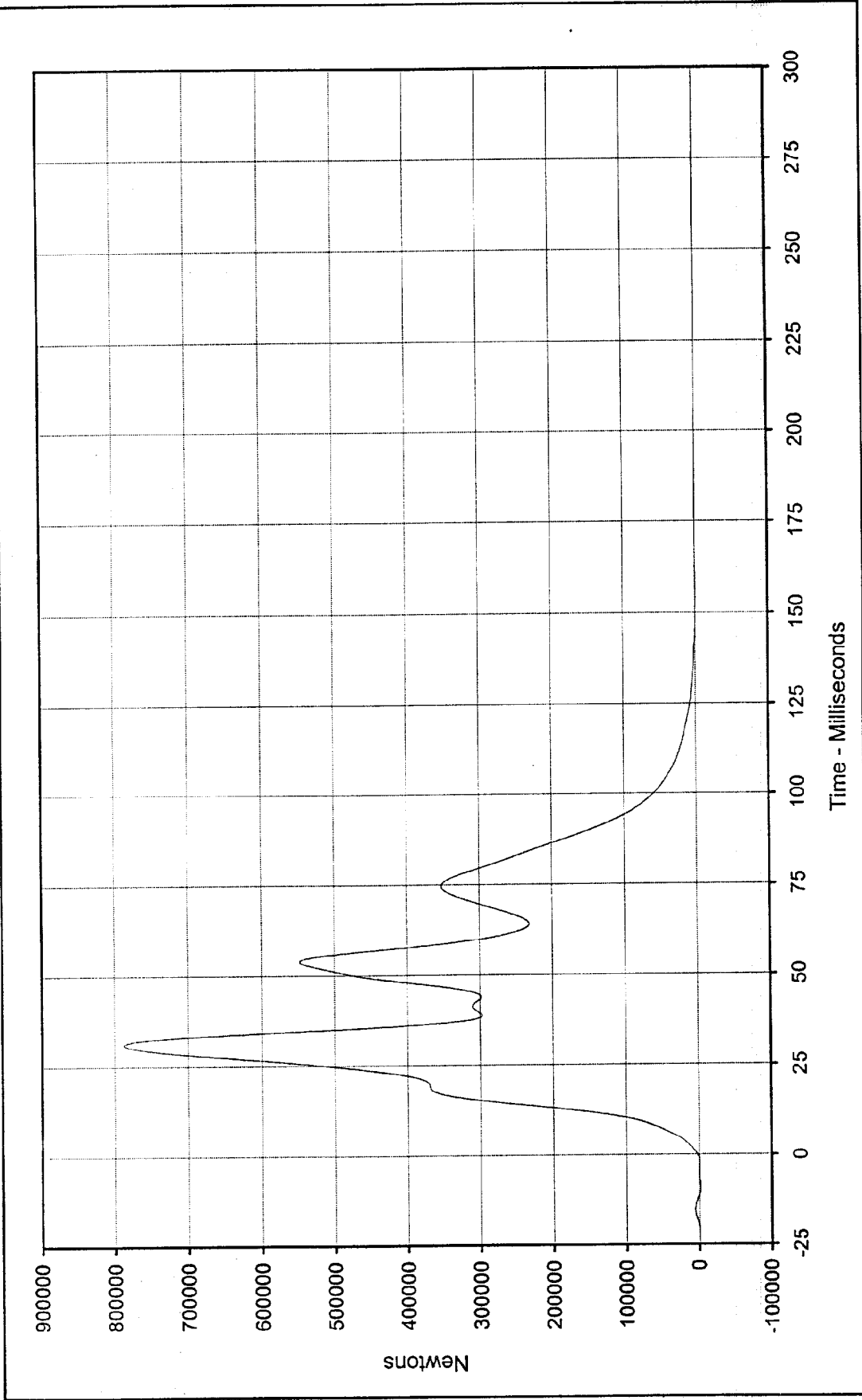
SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: SUM-005





Curve Description: Barrier Force Sum No.6      Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 35644.9 at 54.5 Milliseconds      Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -689.4 at 6.8 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: SUM-006

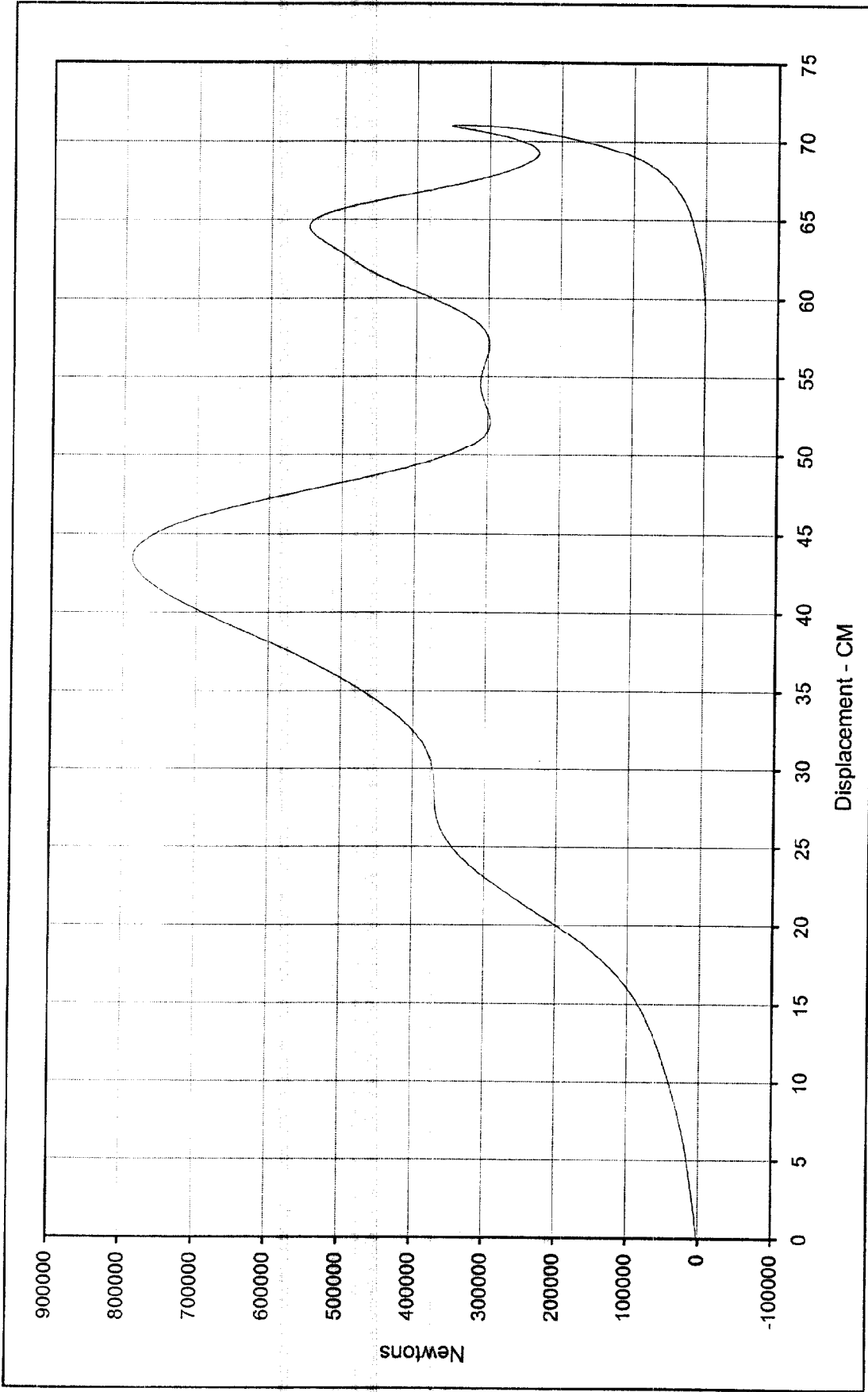




Curve Description: Barrier Force Sum Total Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Value: 787674.6 at 31.0 Milliseconds Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Minimum Value: -654.6 at 155.3 Milliseconds



SAE Filter Class: 60  
 Date of Test: 1/19/99  
 Curve Number: SUM-007



Curve Description: Sum Force Total vs. Dynamic Crush  
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX0304  
 Maximum Displ.: 71.0 at 76.8 Milliseconds  
 Test Vehicle: 1999 Dodge Intrepid 4 Door Sedan  
 Maximum Force: 787674.6 at 31.0 Milliseconds



SAE Filter Class: N/A  
 Date of Test: 1/19/99  
 Curve Number: XVY-001

### BARRIER LOAD CELL SUMMARY DATA

TEST VEHICLE: 1999 DODGE INTREPID 4 DOOR SEDAN NHTSA No.: MX0304

TEST PROGRAM: 1999 NHTSA 35 MPH NCAP TEST DATE: 1/19/99

### BARRIER LOAD CELL PEAK FORCES

Location	Units	Max	Time	Min	Time
Barrier Force A2	Newtons	2814.6	34.5	-456.4	44.7
Barrier Force A3	Newtons	10939.4	49.5	-364.2	7.0
Barrier Force A4	Newtons	21972.8	41.5	-1043.8	13.1
Barrier Force A5	Newtons	59324.8	47.8	-1434.8	13.4
Barrier Force A6	Newtons	10555.0	55.0	-1073.8	13.1
Barrier Force A7	Newtons	8792.2	18.6	-206.8	1.2
Barrier Force A8	Newtons	1918.3	17.7	-463.8	52.1
Barrier Force A9	Newtons	2039.2	38.6	-1711.4	42.9
Barrier Force B2	Newtons	4487.2	40.7	-181.2	11.7
Barrier Force B3	Newtons	95812.8	19.1	-1477.5	8.2
Barrier Force B4	Newtons	123494.1	30.6	-368.9	2.8
Barrier Force B5	Newtons	187074.0	31.1	-9.2	236.8
Barrier Force B6	Newtons	72391.4	31.6	-78.6	153.8
Barrier Force B7	Newtons	111954.0	18.7	-1469.7	7.7
Barrier Force B8	Newtons	9967.3	28.5	-326.2	9.0
Barrier Force B9	Newtons	1510.3	38.9	-1859.4	43.0
Barrier Force C2	Newtons	35403.8	52.7	-358.2	12.4
Barrier Force C3	Newtons	7207.5	21.2	-260.3	6.5
Barrier Force C4	Newtons	37657.5	30.2	-863.0	5.8
Barrier Force C5	Newtons	75994.2	31.2	-140.8	299.9
Barrier Force C6	Newtons	46716.4	31.5	-631.8	5.8
Barrier Force C7	Newtons	15731.4	31.4	-439.3	6.6
Barrier Force C8	Newtons	24467.1	55.4	-785.4	13.1
Barrier Force C9	Newtons	7232.6	53.1	-475.5	13.1
Barrier Force Sum No.1	Newtons	103099.5	19.0	-1977.0	7.6
Barrier Force Sum No.2	Newtons	401309.3	31.2	-124.5	236.1
Barrier Force Sum No.3	Newtons	131820.8	18.6	-2157.7	7.7
Barrier Force Sum No.4	Newtons	39649.0	53.1	-447.5	6.7
Barrier Force Sum No.5	Newtons	159974.8	31.2	-624.9	4.6
Barrier Force Sum No.6	Newtons	35644.9	54.5	-689.4	6.8
Barrier Force Sum Total	Newtons	787674.6	31.0	-654.6	155.3

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

**APPENDIX D**  
**INSTRUMENTATION DATA CHANNEL ASSIGNMENTS**

KAR99001-10

1999 NHTSA 35 mph NCAP  
Instrumentation Data Channel Assignments  
Driver A.T.D Serial Number 35  
1/19/99

1999 Dodge Intrepid 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	KEAC039	Accel., 1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	KEAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	KEAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	KEAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	KEAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
11	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
12	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
13	CHEST , PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST , PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST , PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST , REDUNDANT	X	KEAC023	Accel., 1/2 bridge	Endevco	7264-200	G
17	CHEST , REDUNDANT	Y	KEAC022	Accel., 1/2 bridge	Endevco	7264-200	G
18	CHEST , REDUNDANT	Z	KEAC024	Accel., 1/2 bridge	Endevco	7264-200	G
19	CHEST DISPLACEMENT	X	GPCP001	Rotary Pot Chest	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	KEAC019	Accel., 1/2 bridge	Endevco	7264-200	G
21	PELVIS, PRIMARY	Y	KEAC020	Accel., 1/2 bridge	Endevco	7264-200	G
22	PELVIS, PRIMARY	Z	KEAC021	Accel., 1/2 bridge	Endevco	7264-200	G
23	LEFT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N

1999 NHTSA 35 mph NCAP  
Instrumentation Data Channel Assignments

Driver A.T.D Serial Number 35  
1/19/99

1999 Dodge Intrepid 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	Nm
26	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
29	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
30	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
31	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
32	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
33	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
34	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
35	FOOT LEFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT	Y	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT	Y	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	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	Celesco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E. T. I.	LCP8-10 10K	MM/CM

1999 NHTSA 35 mph NCAP  
Instrumentation Data Channel Assignments  
Driver A.T.D Serial Number 34  
1/19/99

1999 Dodge Intrepid 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
55	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
56	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
57	CHEST, PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST, PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST, PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST, REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
61	CHEST, REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
62	CHEST, REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
63	CHEST DISPLACEMENT	X	GPCP002	Rotary Pot Chest	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
65	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
66	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
67	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	GPLC001	Load cell, Femur	G.S.E.	2430	N

1999 NHTSA 35 mph NCAP  
Instrumentation Data Channel Assignments  
Driver A.T.D Serial Number 34  
1/19/99

1999 Dodge Intrepid 4 Door Sedan

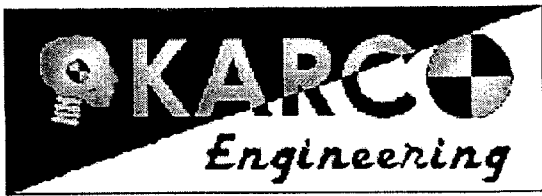
CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
70	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
71	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
72	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
73	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
74	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
75	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
77	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
78	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT	Y	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT	Y	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	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	Celisco	PTX101-0030	CM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

1999 NHTSA 35 mph NCAP  
Instrumentation Data Channel Assignments  
Vehicle Accelerometers  
1/19/99

1999 Dodge Intrepid 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
89	Left Rear X-Member (Pri.)	X	KEVA005	Accel., Vehicle block	I.C. Sensor	3031-500	G
90	Right Rear X-Member (Pri.)	X	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
91	Engine Top	X	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G
92	Engine Bottom	X	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	Left Brake Caliper	X	KEVA008	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	Right Brake Caliper	X	KEVA009	Accel., Vehicle block	I.C. Sensor	3031-500	G
95	Instrument Panel	X	KEVA004	Accel., Vehicle block	I.C. Sensor	3031-500	G
96	Left Rear X-Member (Rednt.)	X	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-200	G

**APPENDIX E**  
**DUMMY CALIBRATION DATA**



**Hybrid III Calibration Data Sheet**  
**50<sup>TH</sup> Percentile Male**  
**Left Knee Impact Test**

ATD Serial No.: 34

Part Serial No.: N/A

Test I.D.: KI01A

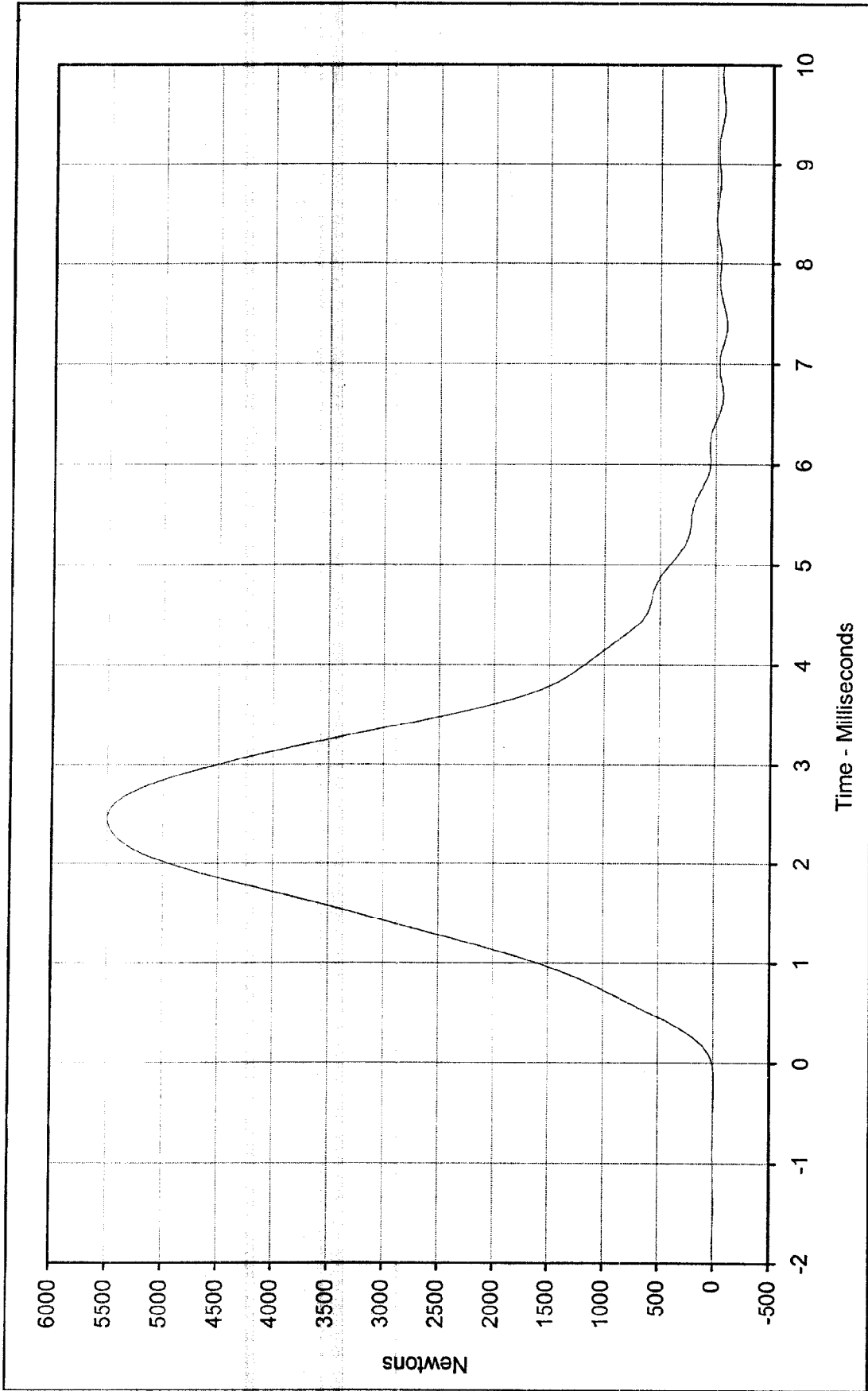
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.093	Pass
Peak Probe Force	Newtons	4715 to 5782	5498.6	Pass
Overall Test Results				Pass

*[Signature]*  
 Laboratory Technician

January 17, 1999  
 Test Date

*James E. North*  
 Approved By

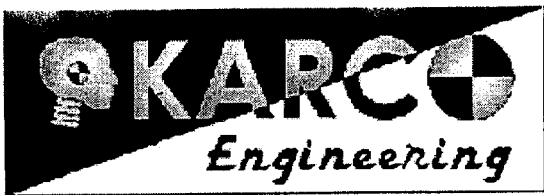
1/19/99  
 Date



Curve Description: Hybrid III Left Knee Impact Test  
 Testing Program: Part S/N: N/A Test I.D.: K101A

Curve Description: Probe Force  
 Maximum Value: 5498.6 at 2.5 Milliseconds  
 Minimum Value: -93.9 at 7.4 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/17/99  
 ATD Serial No.: 34





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

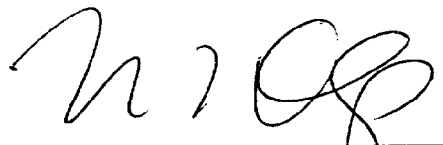
### Right Knee Impact Test

ATD Serial No.: 34

Part Serial No.: N/A

Test I.D.: KI01B

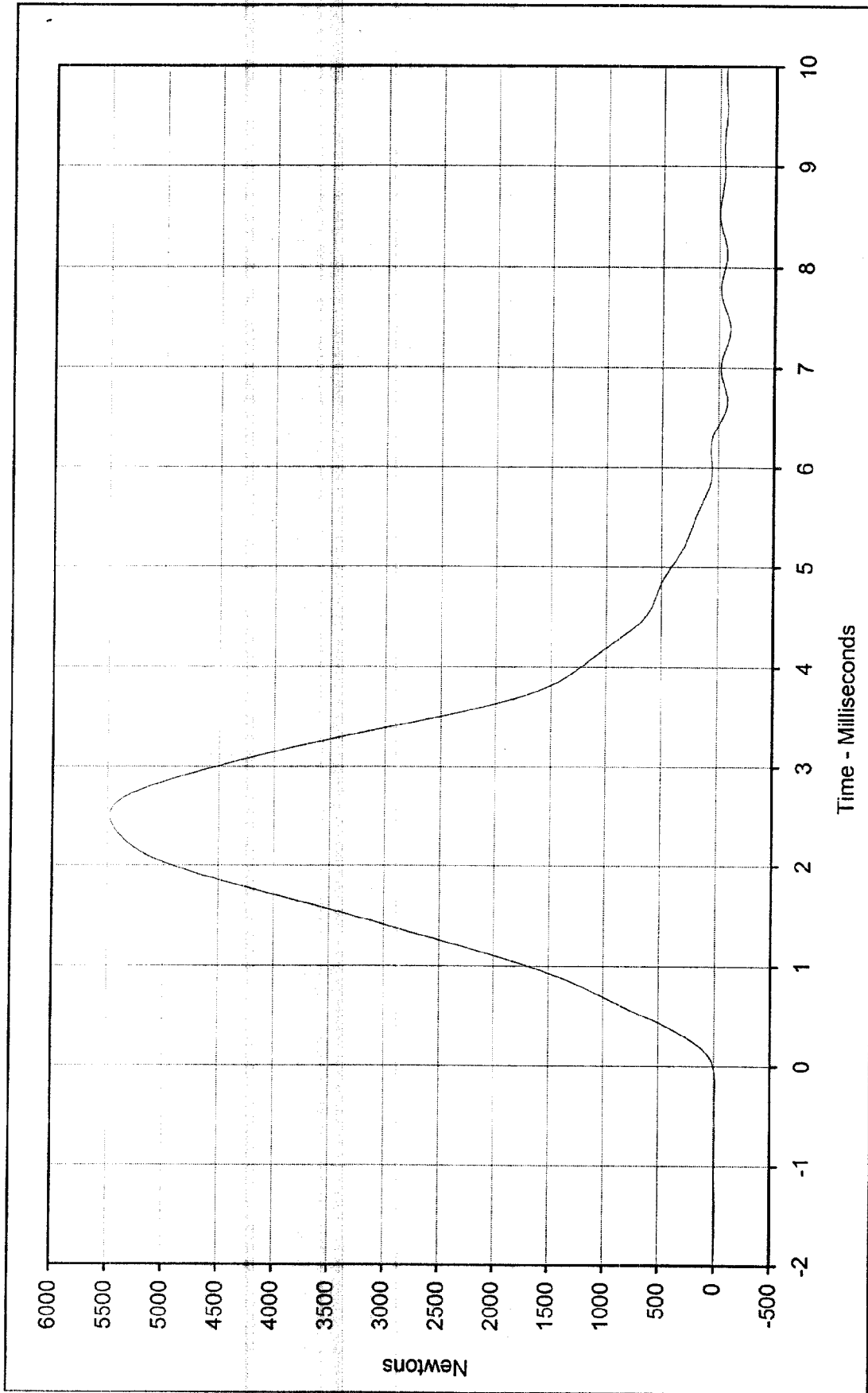
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.100	Pass
Peak Probe Force	Newtons	4715 to 5782	5483.8	Pass
Overall Test Results				Pass

  
\_\_\_\_\_  
Laboratory Technician

  
\_\_\_\_\_  
Approved By

January 17, 1999  
Test Date

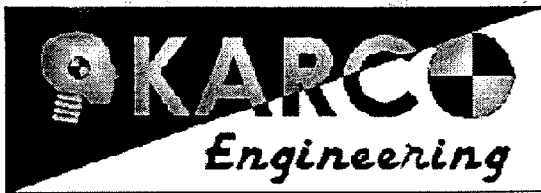
1/19/99  
Date



Curve Description: Hybrid III Right Knee Impact Test  
 Testing Program: Hybrid III Right Knee Impact Test  
 Maximum Value: 5483.8 at 2.5 Milliseconds  
 Test Information: Part S/N: N/A Test I.D.: KI01B  
 Minimum Value: -104.3 at 7.4 Milliseconds



SAE Filter Class: 600  
 Date of Test: 1/17/99  
 ATD Serial No.: 34



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

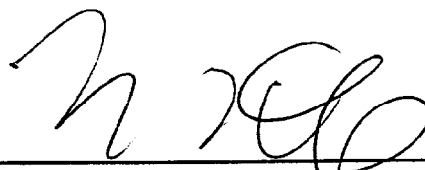
### Head Drop Calibration

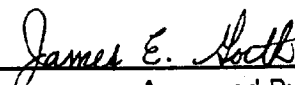
ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: HD01A

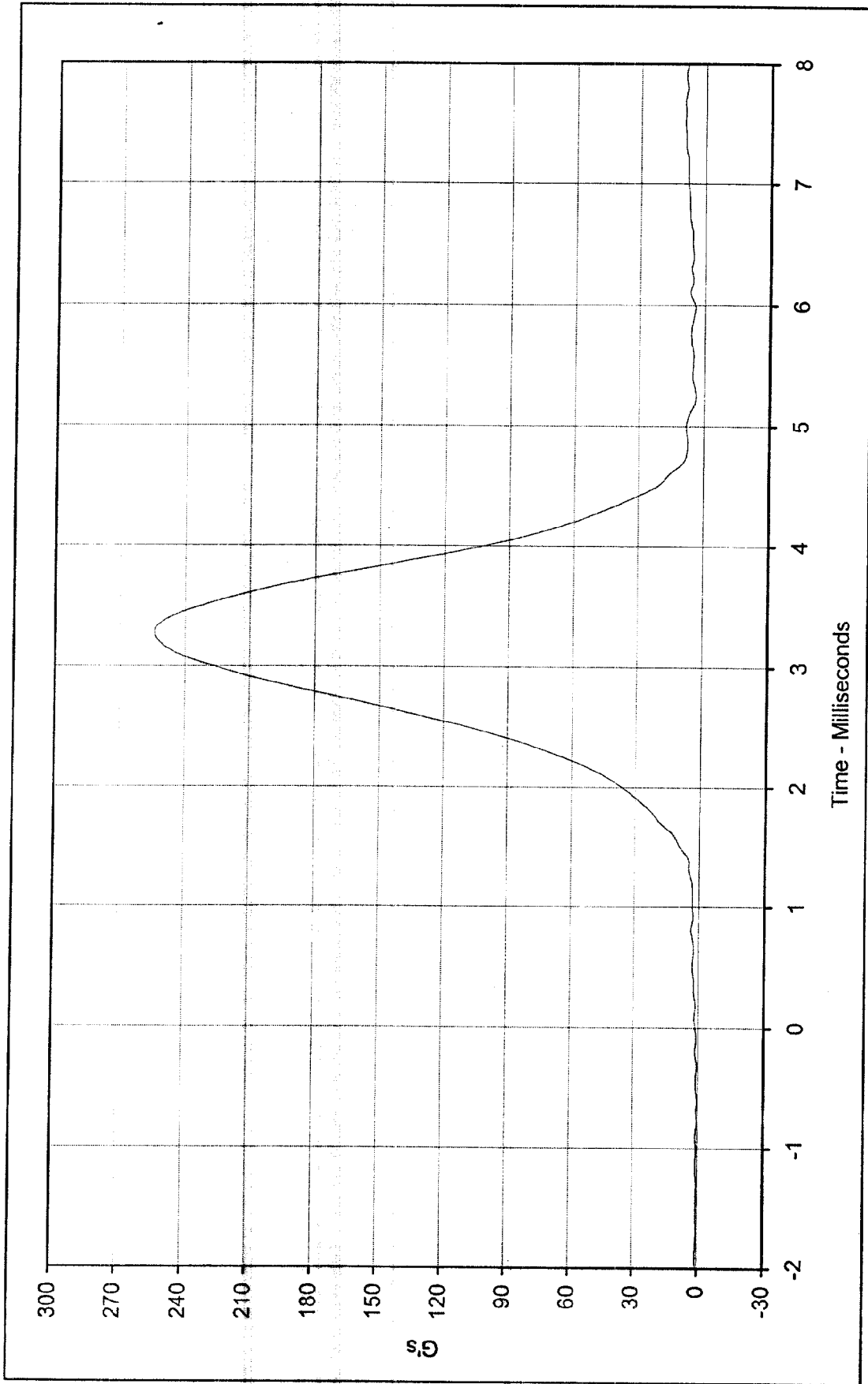
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	253.8	Pass
Peak Lateral Acceleration	G's	≤15.0	4.1	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

  
\_\_\_\_\_  
Laboratory Technician

  
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Approved By

January 17, 1999  
\_\_\_\_\_  
Test Date

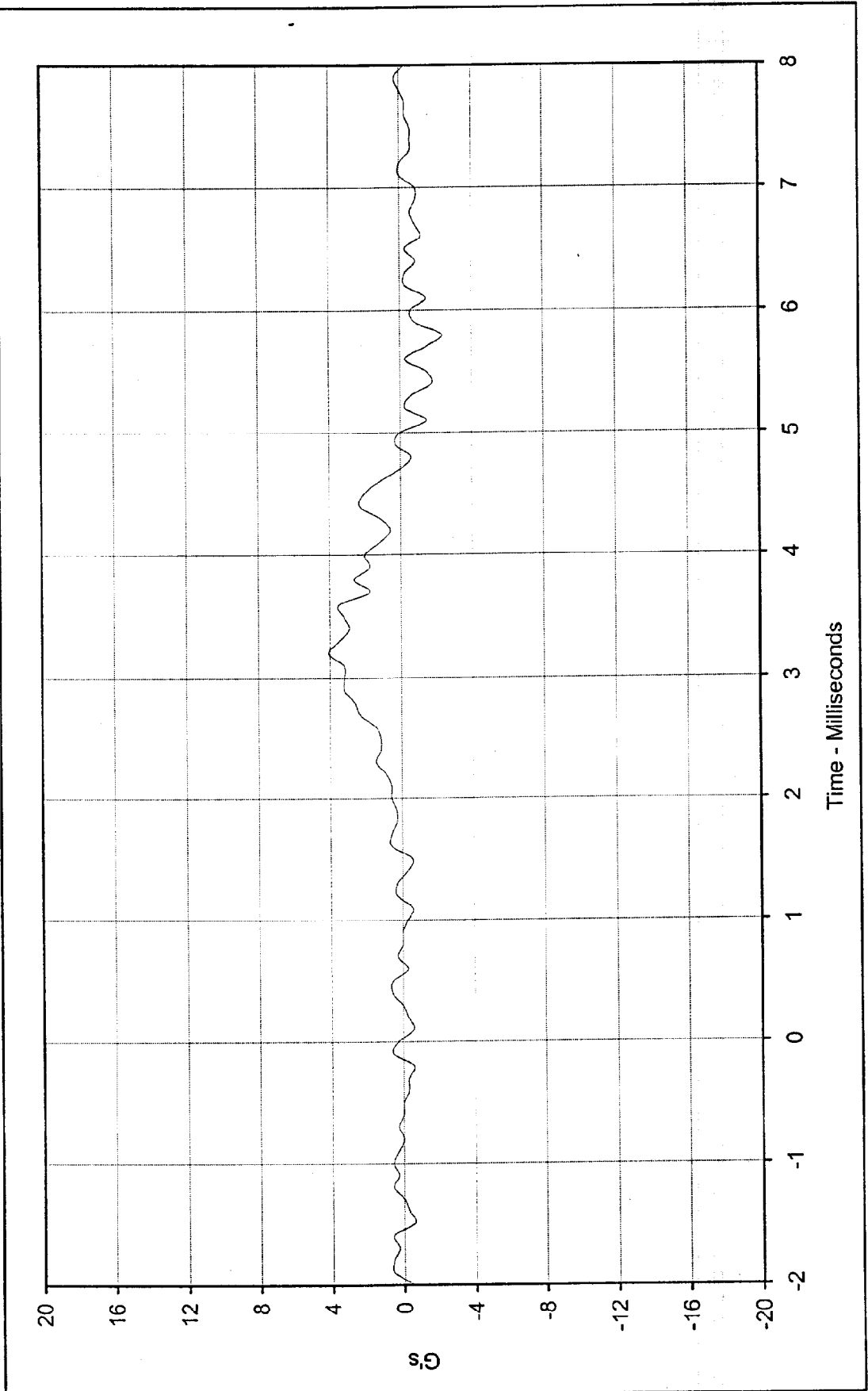
1/19/99  
\_\_\_\_\_  
Date



Curve Description: Head Resultant Acceleration  
 Maximum Value: 253.8 at 3.3 Milliseconds  
 Minimum Value: 0.3 at -0.8 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/17/99  
 ATD Serial No.: 034

Testing Program: Hybrid III Head Drop Calibration (Male)  
 Test Information: S/N of Part: n/a Test I.D.: HD01A

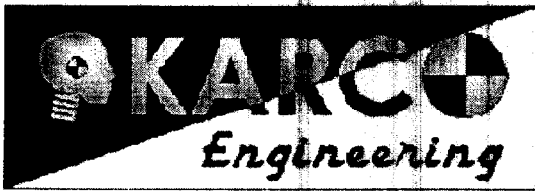




Curve Description: Head Acceleration Y Axis  
 Maximum Value: 4.1 at 3.2 Milliseconds  
 Minimum Value: -2.3 at 5.8 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/17/99  
 ATD Serial No.: 034

Testing Program: Hybrid III Head Drop Calibration (Male)  
 Test Information: S/N of Part: n/a Test I.D.: HD01A





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

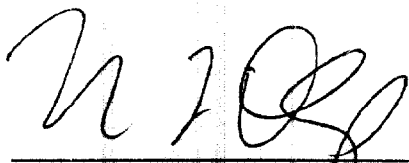
### Thorax Impact Test

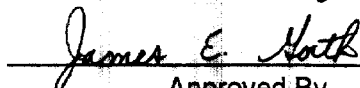
ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: CH13A

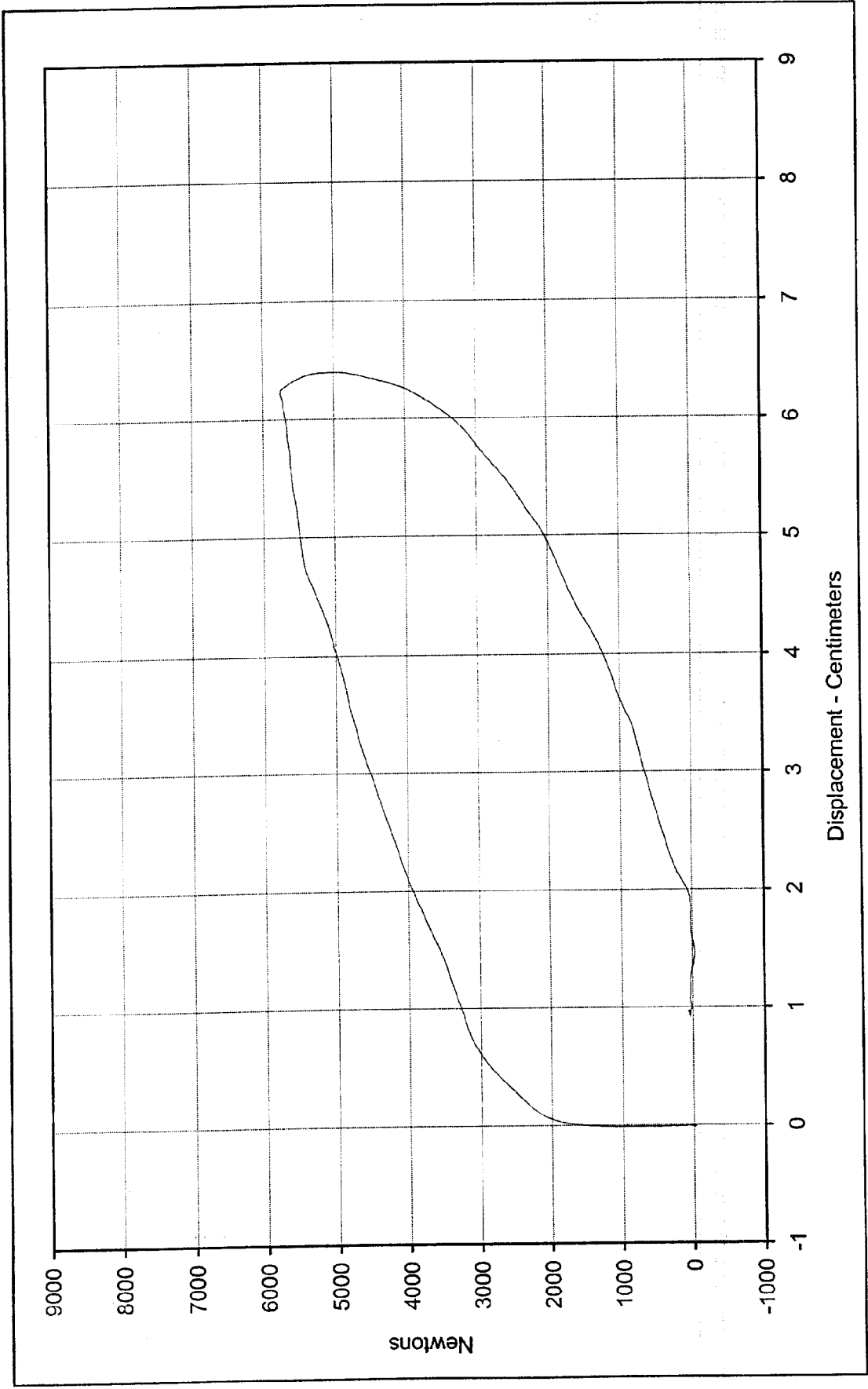
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	36	Pass
Probe Velocity	m/s	6.58 to 6.82	6.80	Pass
Peak Probe Force	Newtons	5159 to 5893	5752	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.40	Pass
Internal Hysteresis	%	69 to 85	74.5	Pass
Overall Test Results				Pass

  
\_\_\_\_\_  
Laboratory Technician

  
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Approved By

January 15, 1999  
\_\_\_\_\_  
Test Date

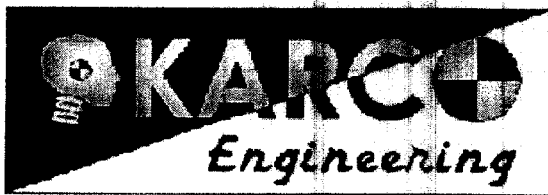
1/19/99  
\_\_\_\_\_  
Date



Curve Description: Probe Force vs. Chest Displacement      Testing Program: Hybrid III Thorax Impact Test  
 Probe Force: 5752.0 Newtons      Test Information: S/N of Part: N/A    Test I.D.: CH13A

Chest Displ.: 6.40 Centimeters  
 SAE Filter Class: 180  
 Date of Test: 1/15/99  
 ATD Serial No.: 034





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Neck Flexion Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NF01A

Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	39	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	6.96	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.8	Pass
	20 Msec.	G's	17.6 to 22.6	20.5	Pass
	30 Msec.	G's	12.5 to 18.5	17.2	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	19.6	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	34.4	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	75.1	Pass
	Time	Msec.	57.0 to 64.0	63.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	122.5	Pass	
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	85.0	Pass
	Time	Msec.	47.0 to 58.0	54.2	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	99.5	Pass	
Overall Test Results				Pass	

*[Signature]*  
 Laboratory Technician

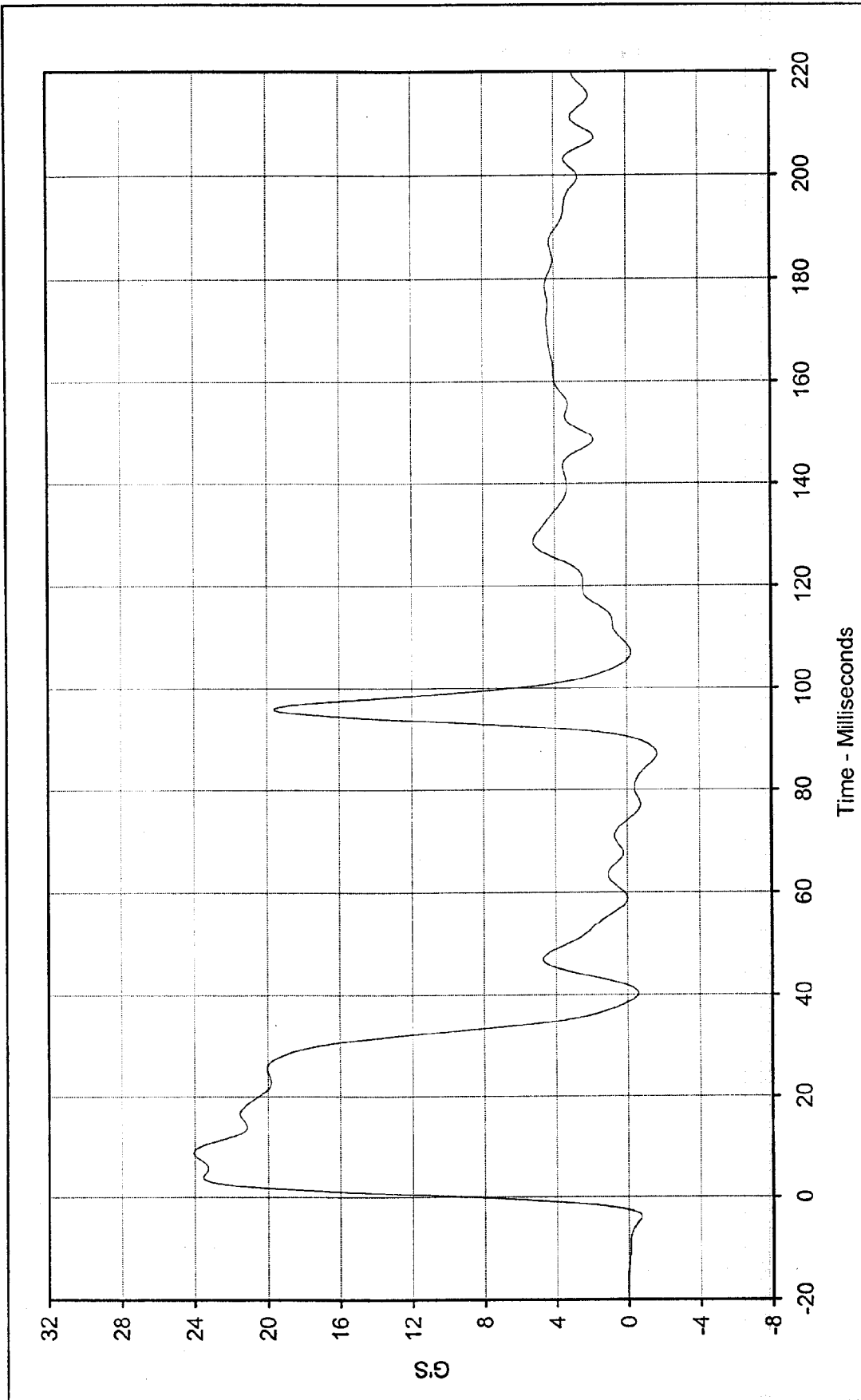
*[Signature]*  
 Approved By

January 16, 1999

Test Date

*1/19/99*

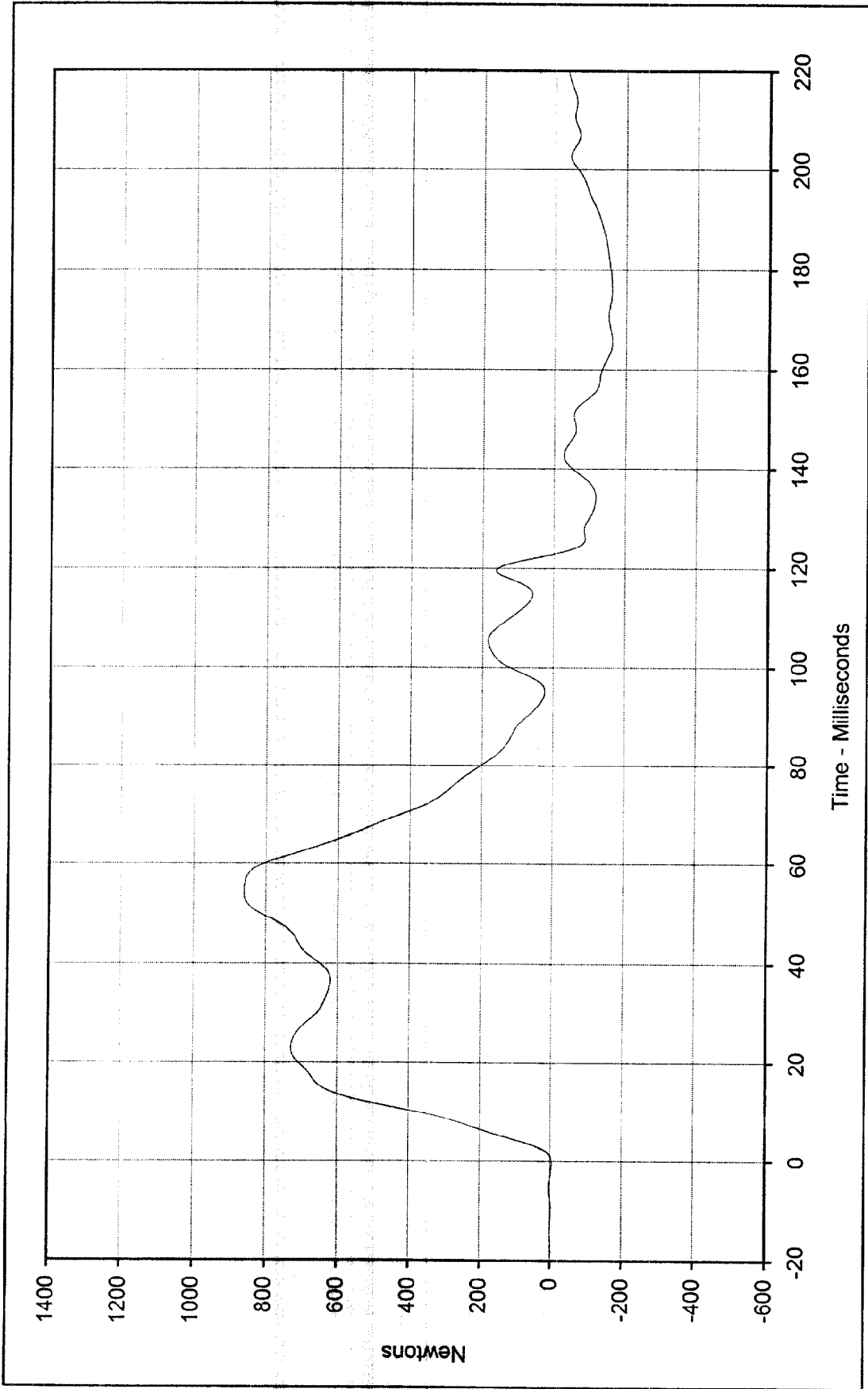
Date



Curve Description: Pendulum Deceleration      Testing Program: Hybrid III Neck Flexion Test (Male)  
 Maximum Value: 24.1 at 9.0 Milliseconds      Test Information: S/N of Part: N/A    Test I.D.: NF01A  
 Minimum Value: -1.6 at 87.0 Milliseconds

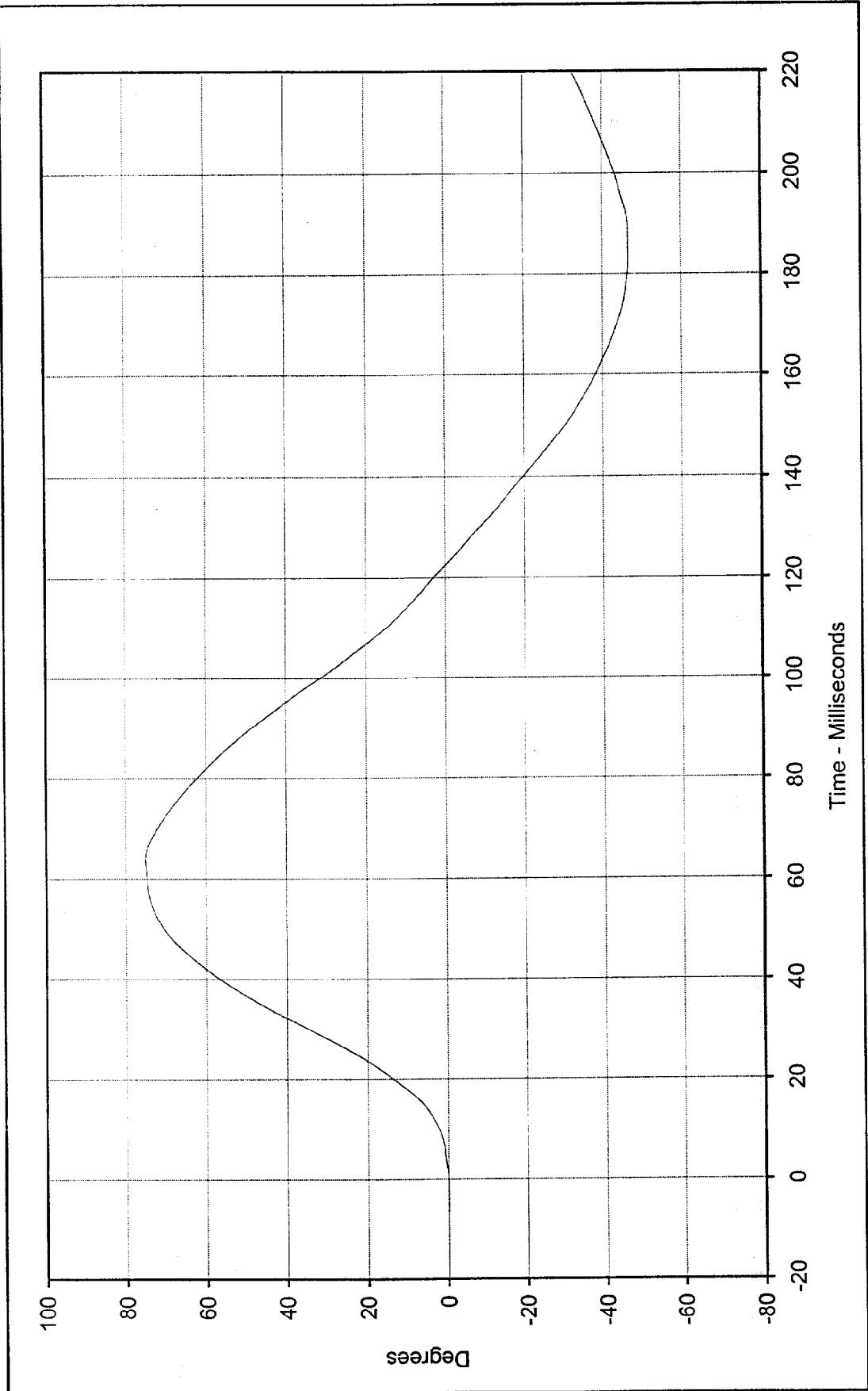


SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 034



Curve Description: Neck Force X      Testing Program: Hybrid III Neck Flexion Test (Male)  
 Maximum Value: 860.6 at 54.3 Milliseconds      Test Information: S/N of Part: N/A      Test I.D.: NF01A  
 Minimum Value: -161.2 at 165.6 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 034

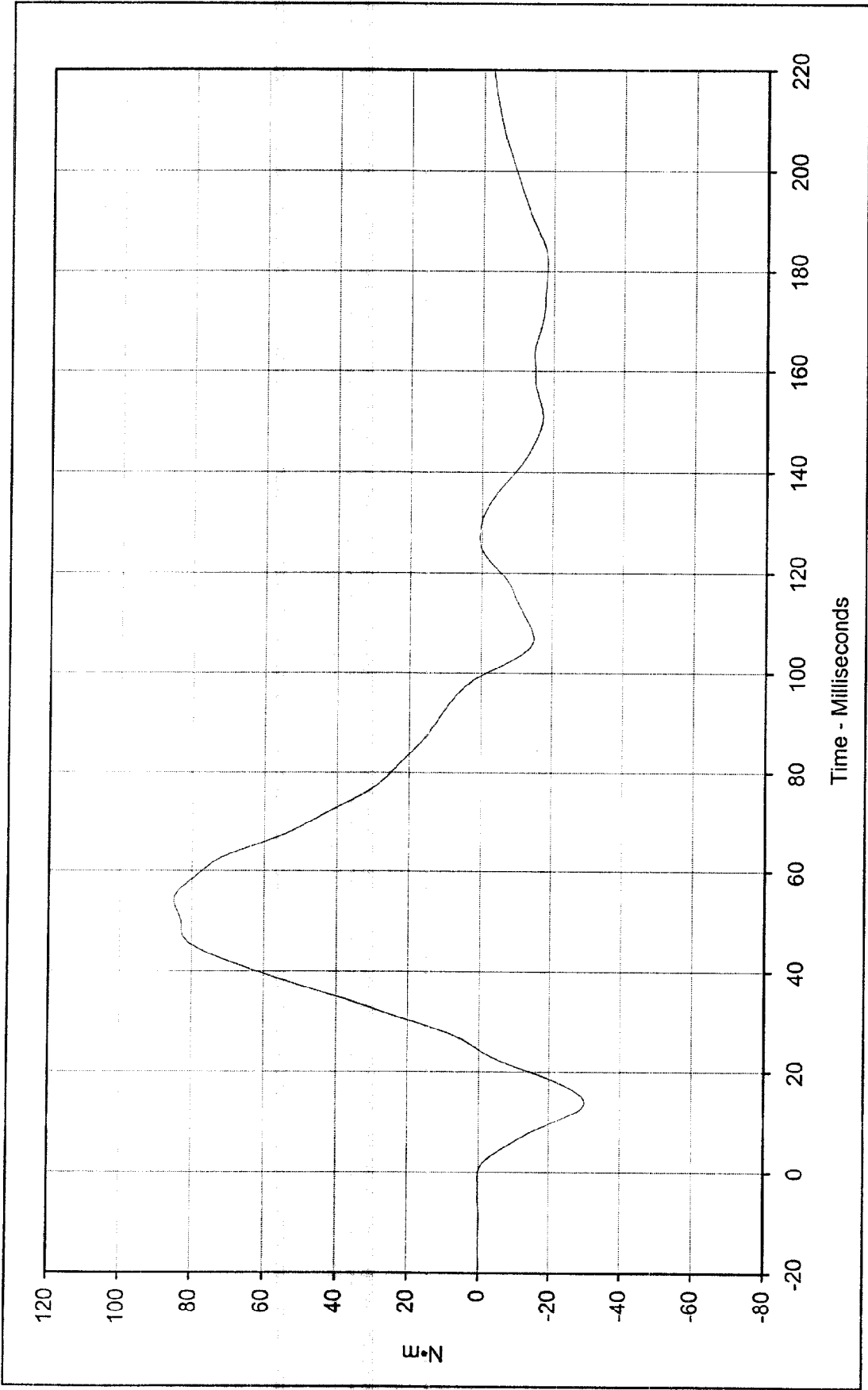




Curve Description: "D" Plane Rotation  
 Testing Program: Hybrid III Neck Flexion Test (Male)  
 Maximum Value: 75.1 at 63.9 Milliseconds  
 Test Information: S/N of Part: N/A Test I.D.: NF01A  
 Minimum Value: -46.6 at 188.2 Milliseconds

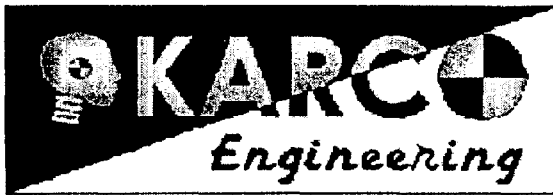
SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 034





Curve Description: Moment About Occipital Condyles      Testing Program Hybrid III Neck Flexion Test (Male)  
 Maximum Value: 85.0 at 54.2 Milliseconds      Test Information: S/N of Part: N/A Test I.D.: NF01A  
 Minimum Value: -29.9 at 14.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 034





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

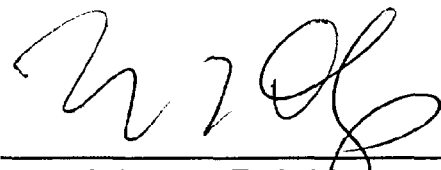
### Neck Extension Test

ATD Serial No.: 034

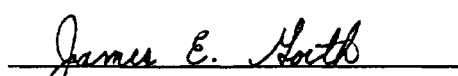
Part Serial No.: N/A

Test I.D.: NE01A

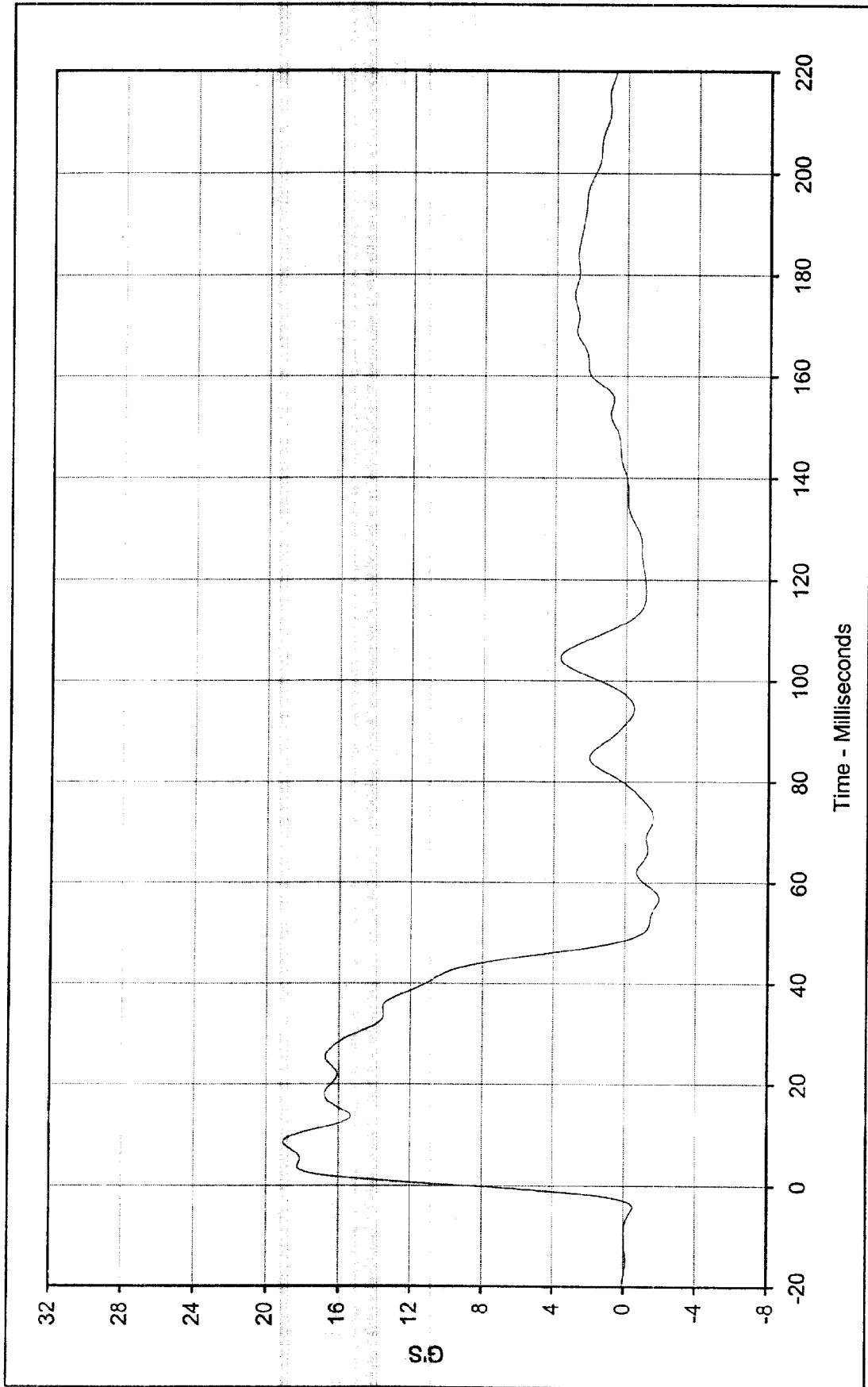
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	36	Pass	
Pendulum Velocity	m/s	5.95 to 6.19	6.15	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.3	Pass
	20 Msec.	G's	14.0 to 19.0	16.4	Pass
	30 Msec.	G's	11.0 to 16.0	15.1	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	15.1	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	45.7	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	92.8	Pass
	Time	Msec.	72.0 to 82.0	76.8	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	151.2	Pass	
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-69.5	Pass
	Time	Msec.	65.0 to 79.0	65.3	Pass
Negative Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	139.8	Pass	
Overall Test Results				Pass	

  
 \_\_\_\_\_  
 Laboratory Technician

January 16, 1999  
 \_\_\_\_\_  
 Test Date

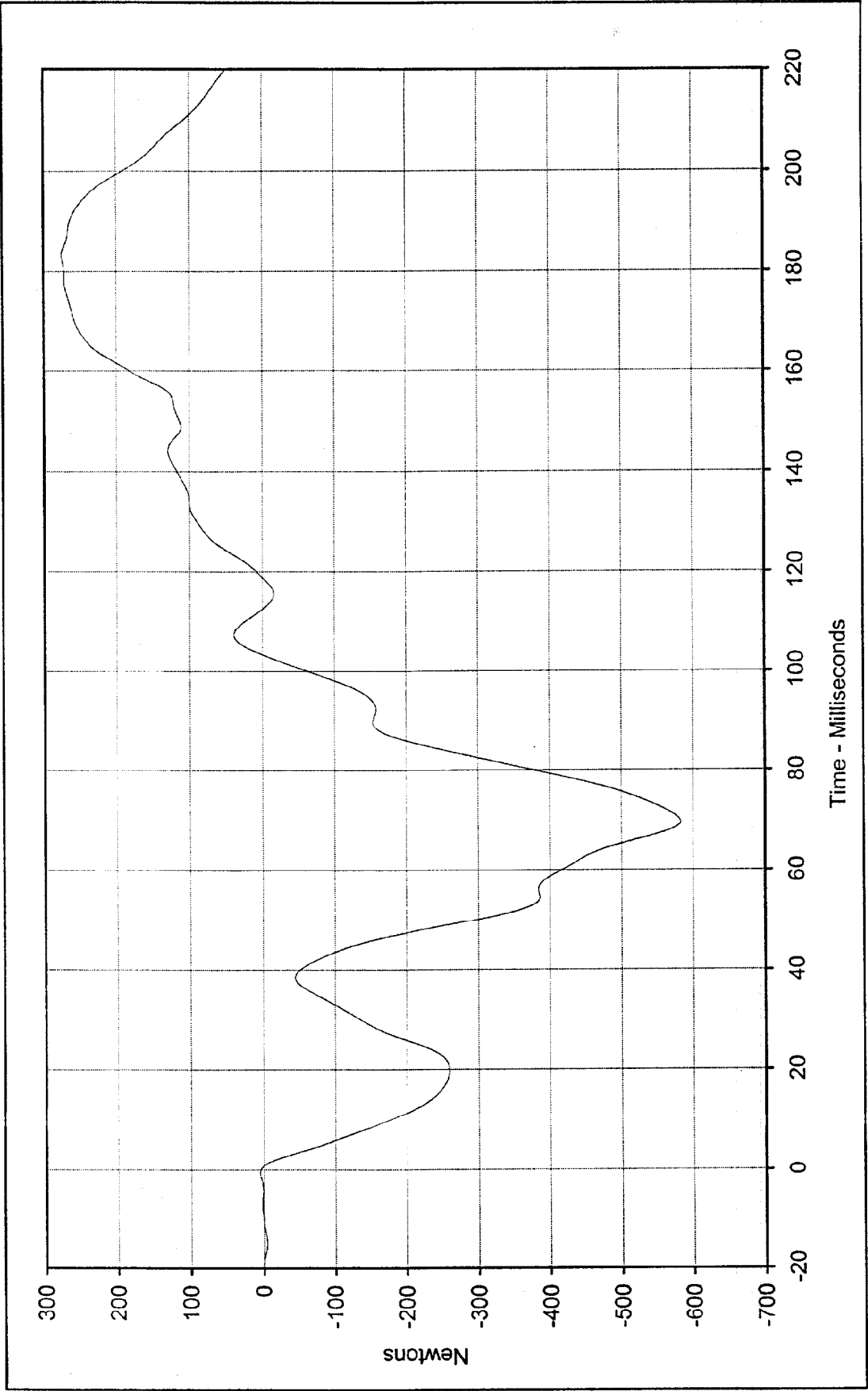
  
 \_\_\_\_\_  
 Approved By

1/19/99  
 \_\_\_\_\_  
 Date



Curve Description:                      Pendulum Deceleration      Testing Program: Hybrid III Neck Extension Test (Male)  
 Maximum Value: 19.0 at 8.5 Milliseconds      Test Information: S/N of Part: N/A Test I.D.: NE01A  
 Minimum Value: -1.9 at 56.9 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 034

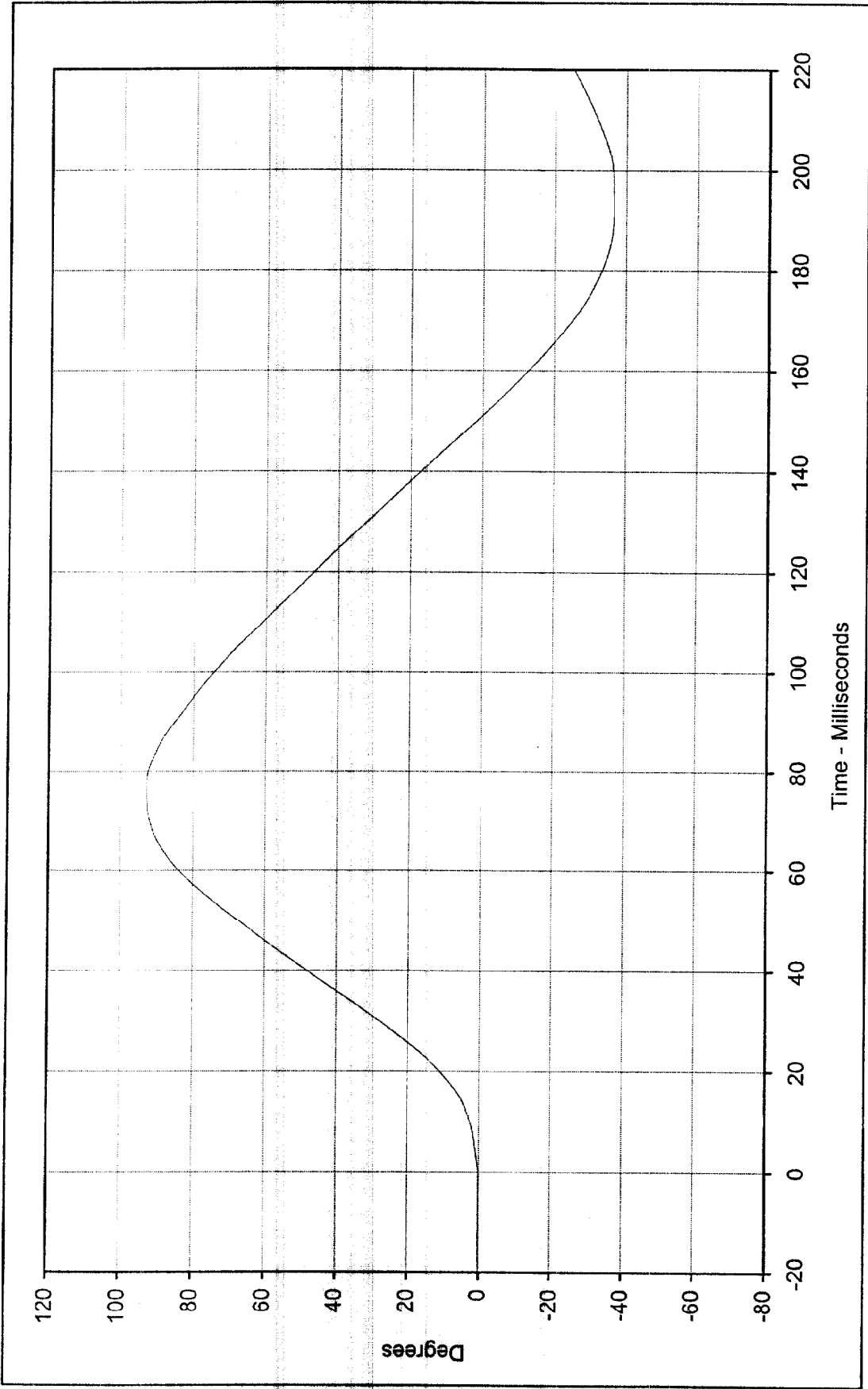




Curve Description: Neck Force X  
 Testing Program: Hybrid III Neck Extension Test (Male)  
 Maximum Value: 275.4 at 183.2 Milliseconds  
 Test Information: S/N of Part: N/A Test I.D.: NE01A  
 Minimum Value: -582.7 at 69.6 Milliseconds



SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 034

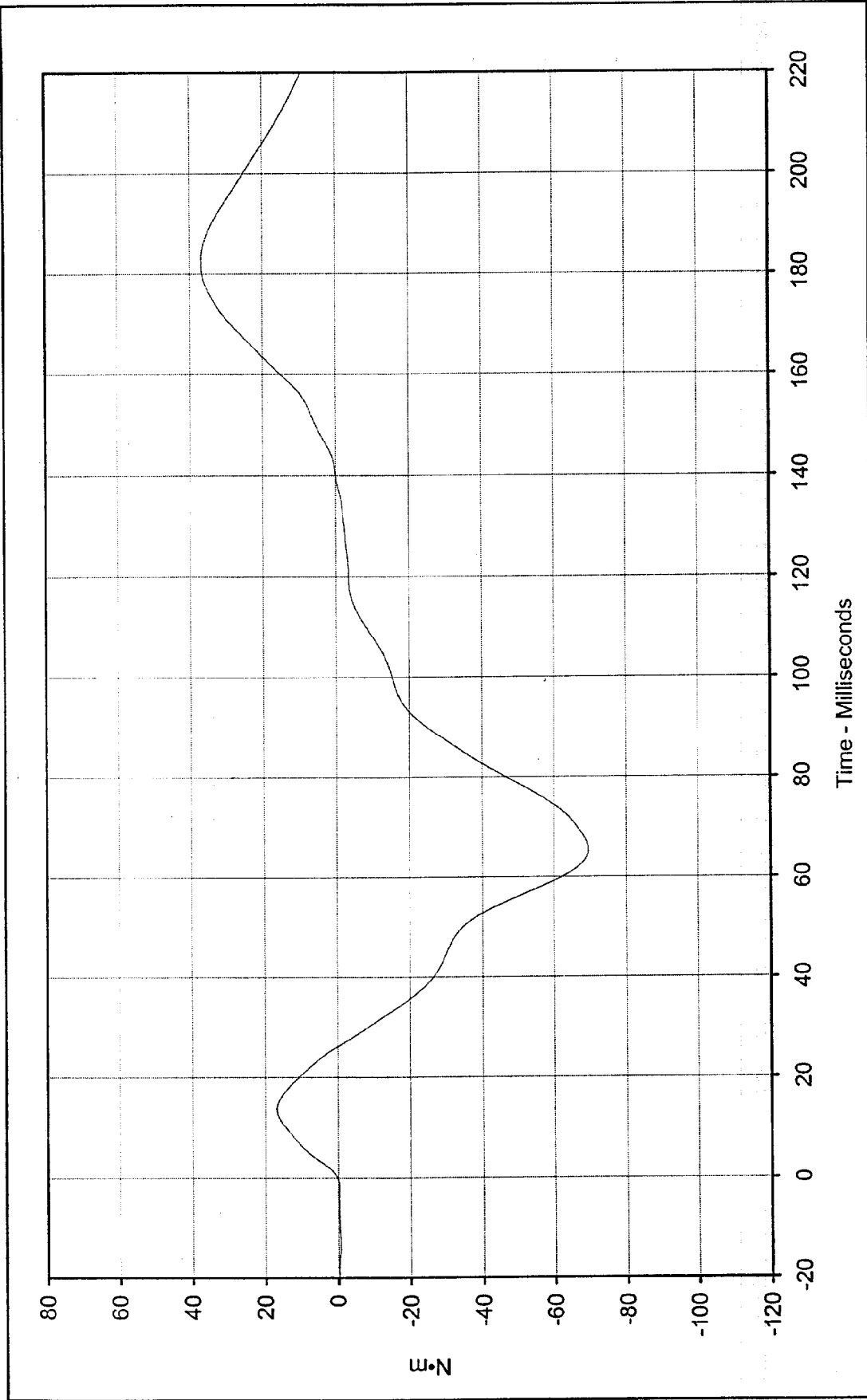


E-18

Curve Description:	"D" Plane Rotation	Testing Program:	Hybrid III Neck Extension Test (Male)
Maximum Value:	92.8 at 76.8 Milliseconds	Test Information:	S/N of Part: N/A Test I.D.: NE01A
Minimum Value:	-36.5 at 192.9 Milliseconds		
SAE Filter Class:	60		
Date of Test:	1/16/99		
ATD Serial No.:	034		



KAR99001-10



Testing Program: Hybrid III Neck Extension Test (Male)  
 Test Information: S/N of Part: N/A Test I.D.: NE01A

Curve Description: Moment About Occipital Condyles  
 Maximum Value: 36.8 at 182.5 Milliseconds  
 Minimum Value: -69.5 at 65.3 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 034





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

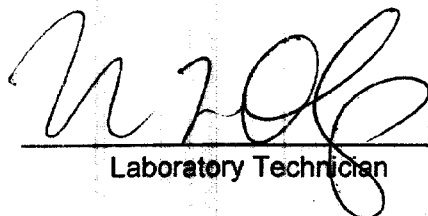
### External Measurements

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	21.9	Pass
Laboratory relative humidity	%	10 to 70	35	Pass
A - Total sitting height	mm	878.8 to 889.0	885.0	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	510.0	Pass
C - "H" point height	mm	83.8 to 88.9	84.0	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	85.0	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	295.0	Pass
H - Skull cap to back line	mm	40.6 to 45.7	43.0	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	206.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	581.0	Pass
L - Popliteal length	mm	429.3 to 454.7	444.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	490.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	465.0	Pass
O - Chest depth	mm	213.4 to 228.6	221.0	Pass
P - Foot length	mm	251.5 to 266.7	258.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	434.0	Pass
W - Foot breadth	mm	91.4 to 106.7	98.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	990.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	850.0	Pass
AA - Location for chest circumference	mm	429.3 to 434.3	435.0	Pass
BB - Location for waist circumference	mm	226.1 to 231.1	230.0	Pass
Overall Test Results				Pass



Laboratory Technician



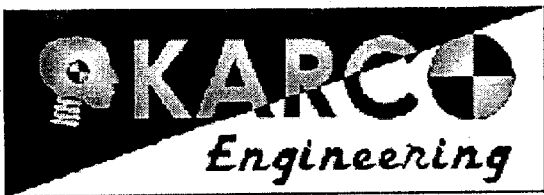
Approved By

January 18, 1999

Test Date



Date



# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

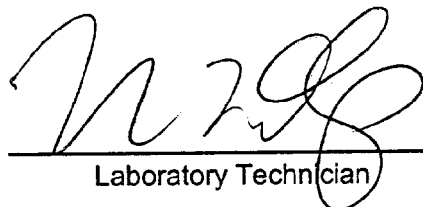
### Left Knee Impact Test

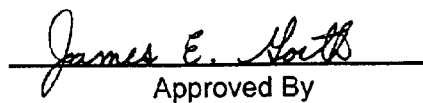
ATD Serial No.: 35

Part Serial No.: N/A

Test I.D.: KI01C

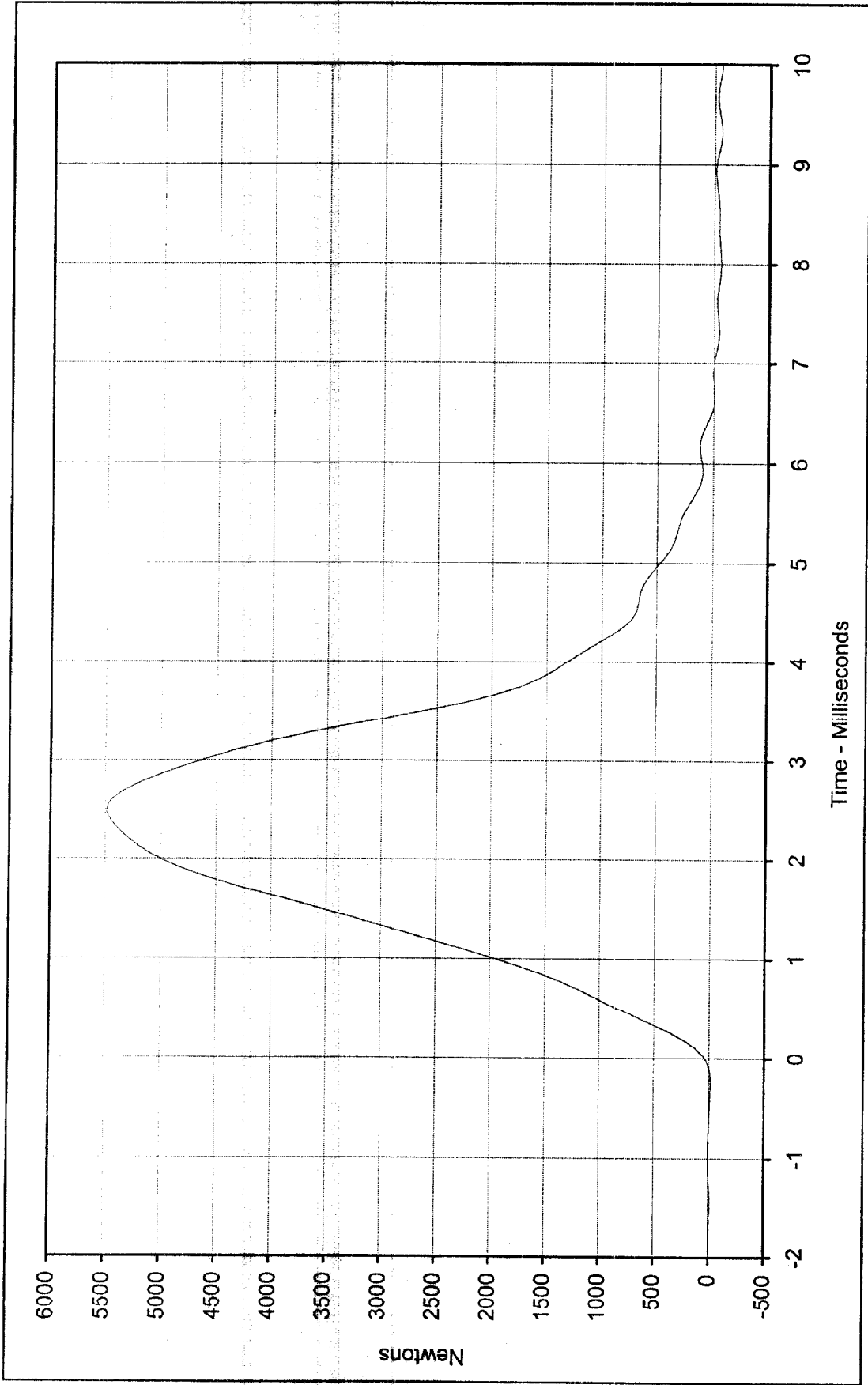
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.102	Pass
Peak Probe Force	Newtons	4715 to 5782	5488.1	Pass
Overall Test Results				Pass

  
\_\_\_\_\_  
Laboratory Technician

  
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Approved By

January 17, 1999  
Test Date

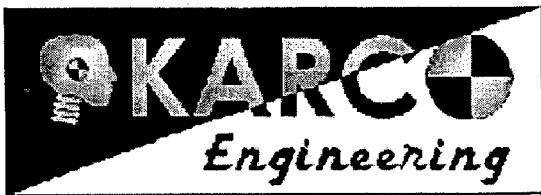
1/19/99  
Date



Testing Program: Hybrid III Left Knee Impact Test  
 Test Information: Part S/N: N/A Test I.D.: KI01C

Curve Description: Probe Force  
 Maximum Value: 5488.1 at 2.5 Milliseconds  
 Minimum Value: -61.3 at 8.0 Milliseconds  
 SAE Filter Class: 600  
 Date of Test: 1/17/99  
 ATD Serial No.: 35





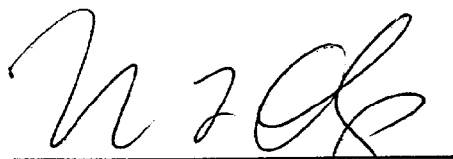
Hybrid III Calibration Data Sheet  
50<sup>TH</sup> Percentile Male  
Right Knee Impact Test

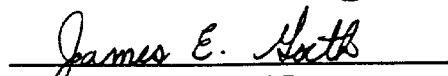
ATD Serial No.: 35

Part Serial No.: N/A

Test I.D.: KI01D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.092	Pass
Peak Probe Force	Newtons	4715 to 5782	5440.4	Pass
Overall Test Results				Pass

  
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Laboratory Technician

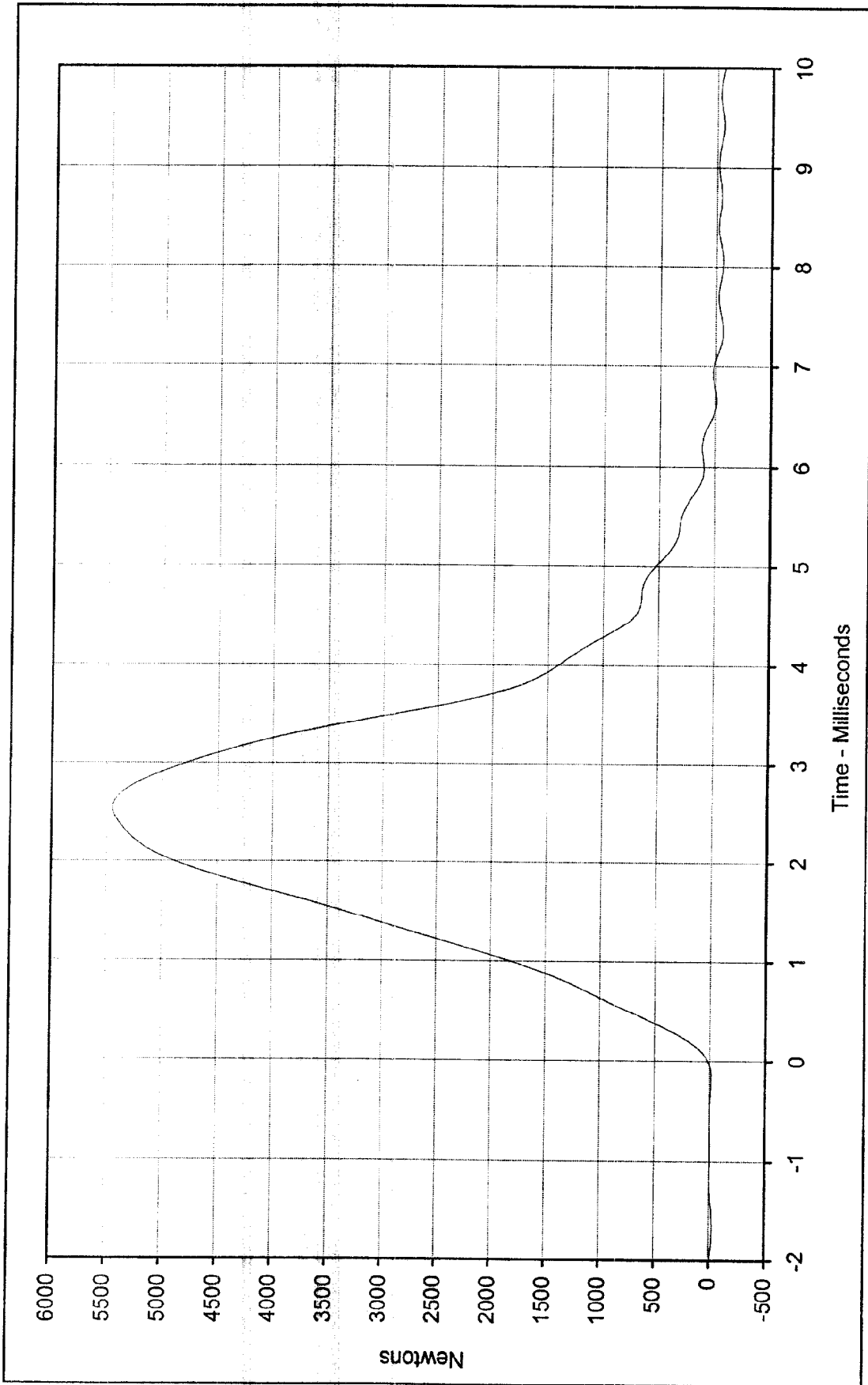
  
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Approved By

January 17, 1999

Test Date

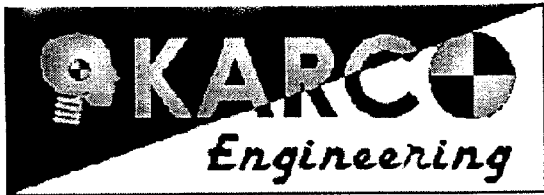
1/19/99

Date



Curve Description:	Testing Program	Hybrid III Right Knee Impact Test
Maximum Value:	Part S/N:	N/A
Minimum Value:	Test I.D.:	KI01D
SAE Filter Class:	Probe Force	
Date of Test:	at	2.5
ATD Serial No.:	at	7.4
		600
		1/17/99
		35





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

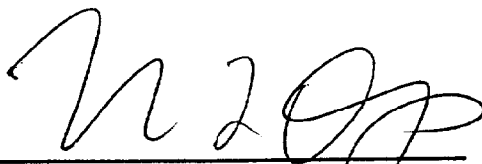
### Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: n/a

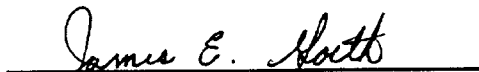
Test I.D.: HD01B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	248.1	Pass
Peak Lateral Acceleration	G's	≤15.0	7.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

  
 \_\_\_\_\_  
 Laboratory Technician

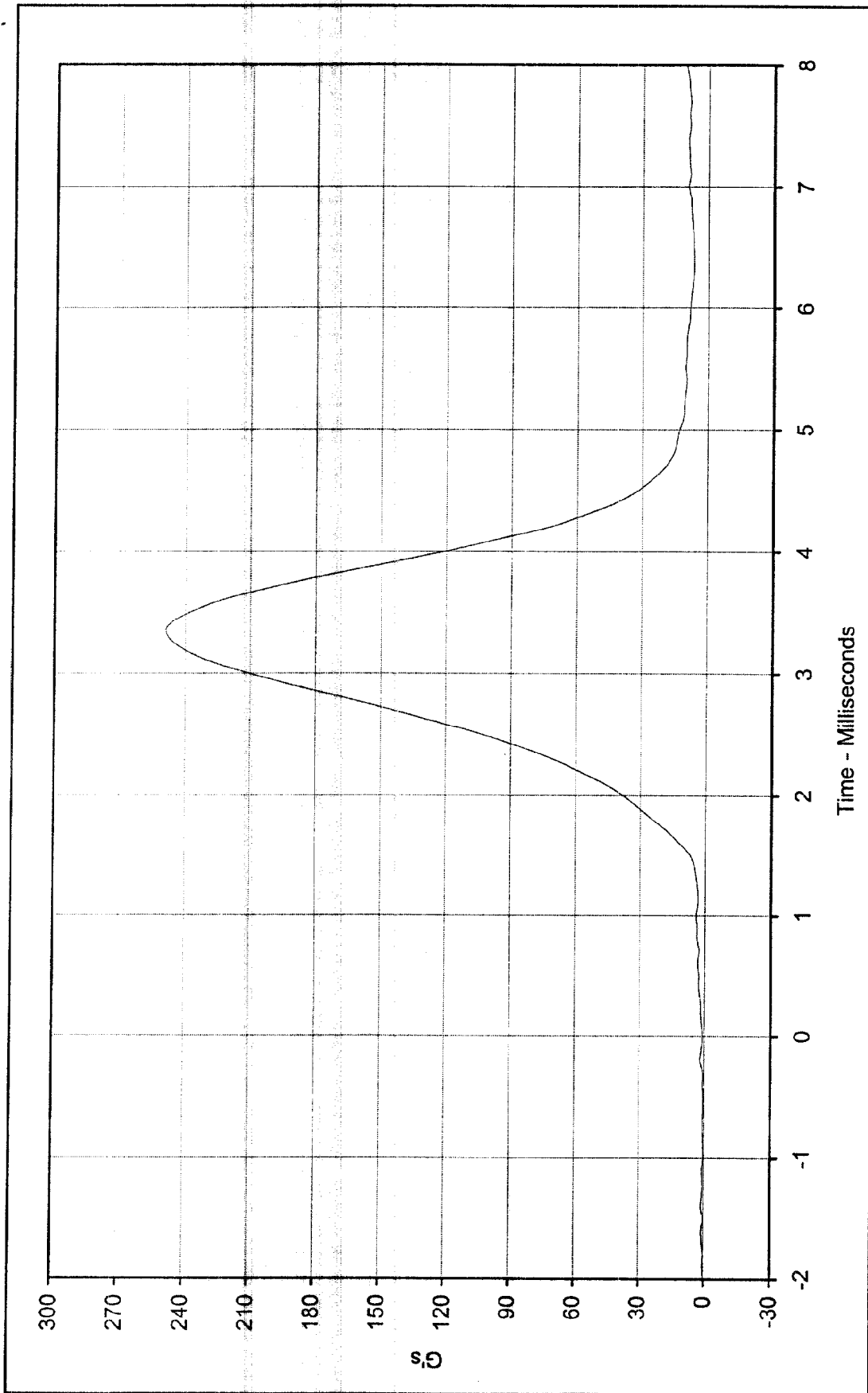
January 17, 1999

Test Date

  
 \_\_\_\_\_  
 Approved By

1/19/99

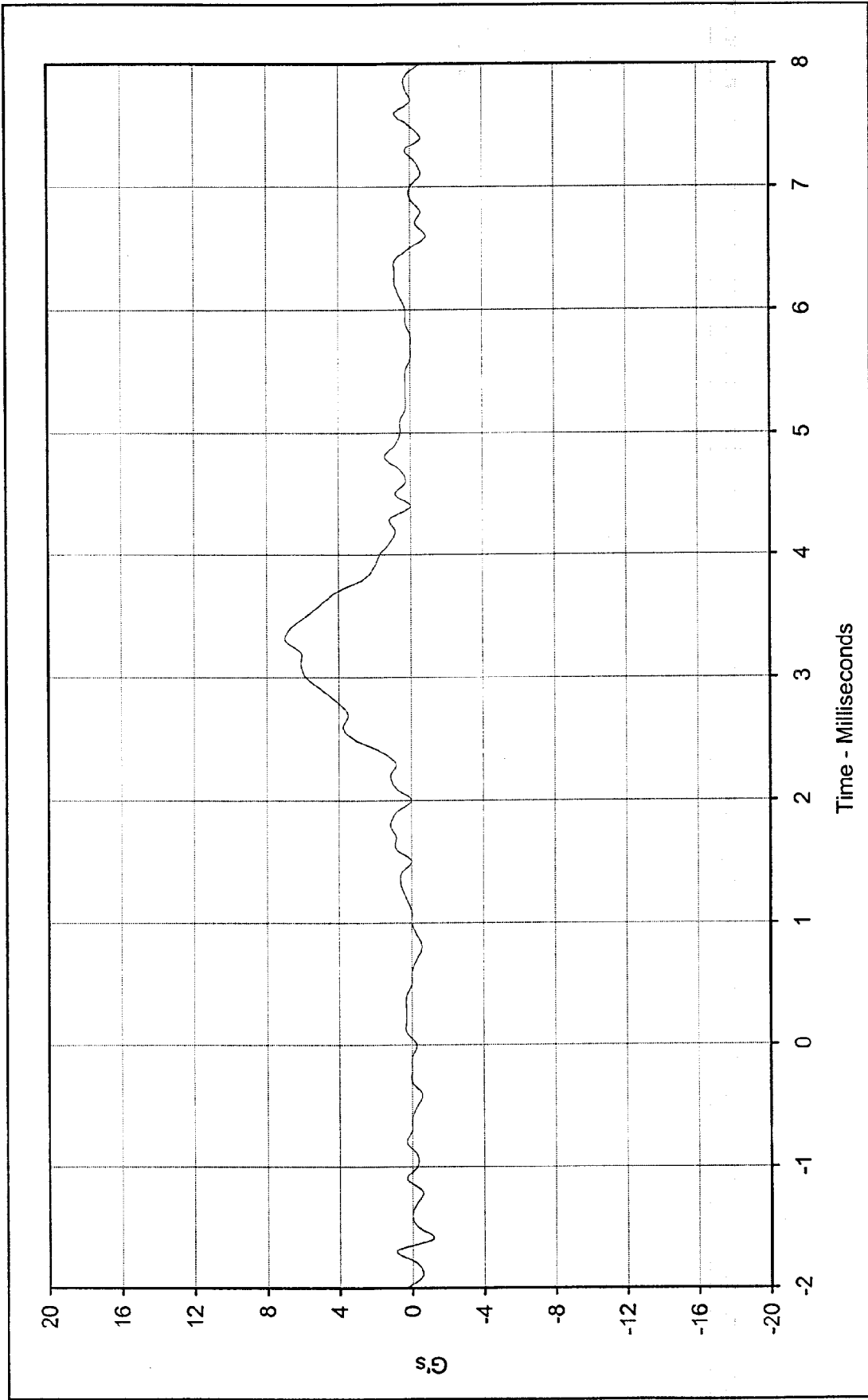
Date



Curve Description: Head Resultant Acceleration  
 Maximum Value: 248.1 at 3.3 Milliseconds  
 Minimum Value: 0.4 at -0.5 Milliseconds  
 SAE Filter Class: 1000  
 Date of Test: 1/17/99  
 ATD Serial No.: 035

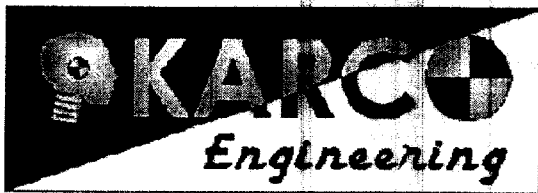
Testing Program: Hybrid III Head Drop Calibration (Male)  
 Test Information: S/N of Part: n/a Test I.D.: HD01B





Curve Description:	Head Acceleration Y Axis	Testing Program:	Hybrid III Head Drop Calibration (Male)
Maximum Value:	7.0 at 3.3 Milliseconds	Test Information:	S/N of Part: n/a Test I.D.: HD01B
Minimum Value:	-1.2 at -1.6 Milliseconds		
SAE Filter Class:	1000		
Date of Test:	1/17/99		
ATD Serial No.:	035		





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

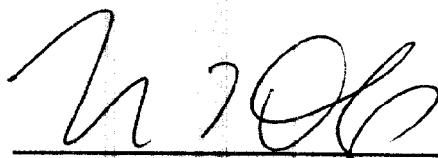
### Thorax Impact Test

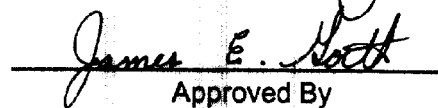
ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: CH13B

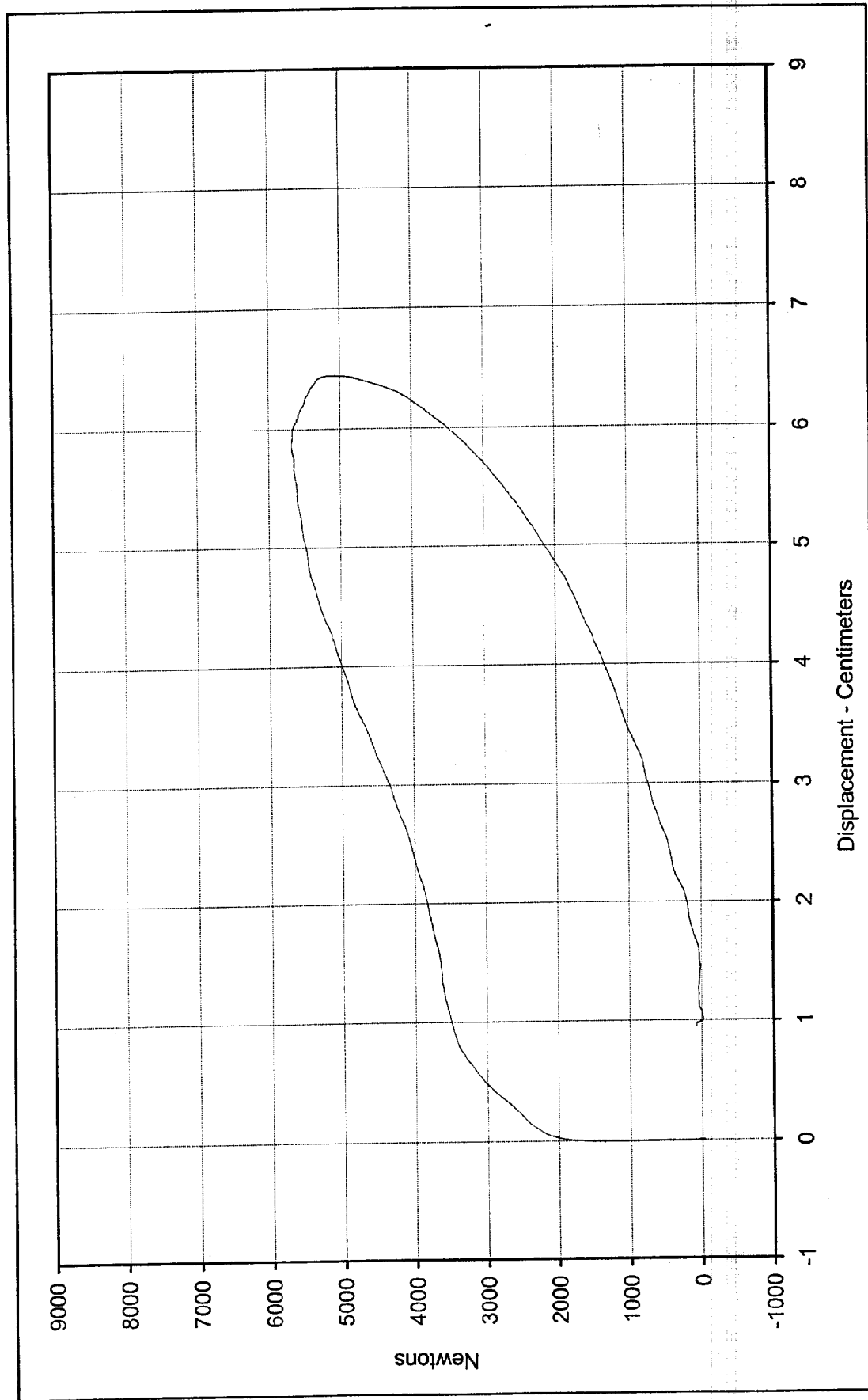
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.9	Pass
Laboratory Relative Humidity	%	10 to 70	36	Pass
Probe Velocity	m/s	6.58 to 6.82	6.80	Pass
Peak Probe Force	Newtons	5159 to 5893	5680	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.44	Pass
Internal Hysteresis	%	69 to 85	72.6	Pass
Overall Test Results				Pass

  
\_\_\_\_\_  
Laboratory Technician

  
\_\_\_\_\_  
Approved By

January 15, 1999  
Test Date

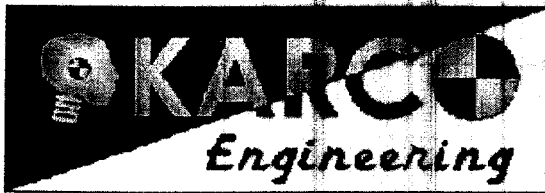
1/19/99  
Date



Curve Description: Probe Force vs. Chest Displacement      Testing Program Hybrid III Thorax Impact Test  
 Probe Force: 5680.2 Newtons      Test Information: S/N of Part: N/A    Test I.D.: CH13B

Chest Displ.: 6.44 Centimeters  
 SAE Filter Class: 180  
 Date of Test: 1/15/99  
 ATD Serial No.: 035





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

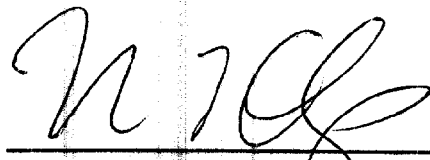
### Neck Flexion Test

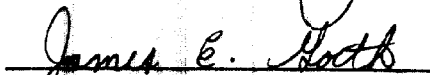
ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NF01B

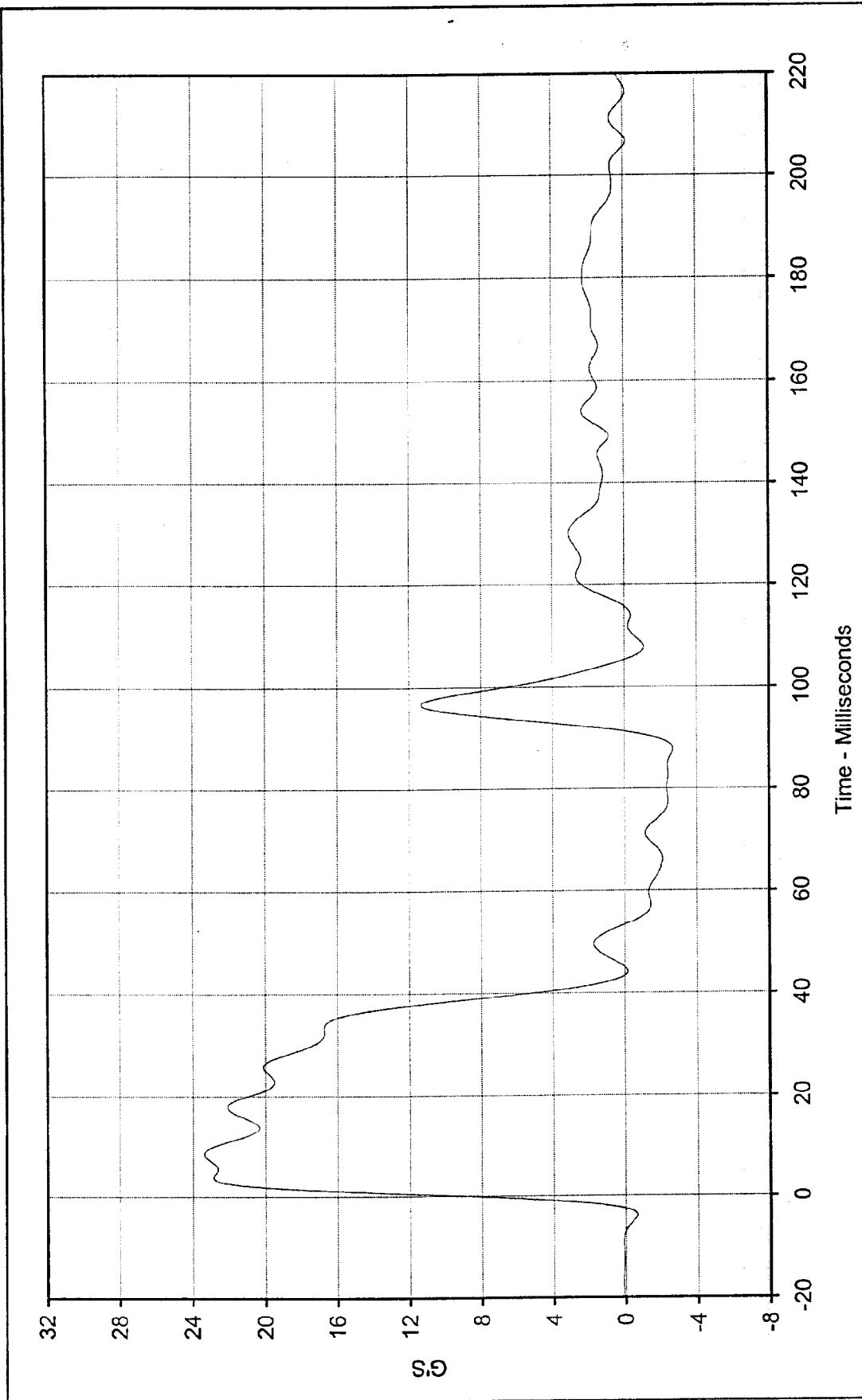
Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	39	Pass	
Pendulum Velocity	m/s	6.89 to 7.13	6.99	Pass	
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.9	Pass
	20 Msec.	G's	17.6 to 22.6	21.0	Pass
	30 Msec.	G's	12.5 to 18.5	17.4	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 29.0	17.4	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	34.0 to 42.0	40.1	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	64.8	Pass
	Time	Msec.	57.0 to 64.0	62.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	113.0 to 128.0	113.7	Pass	
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	87.7	Pass
	Time	Msec.	47.0 to 58.0	52.7	Pass
Positive Moment Decay, Time To Zero Crossing	Msec.	97.0 to 107.0	98.6	Pass	
Overall Test Results				Pass	

  
 \_\_\_\_\_  
 Laboratory Technician

  
 \_\_\_\_\_  
 Approved By

January 16, 1999  
 \_\_\_\_\_  
 Test Date

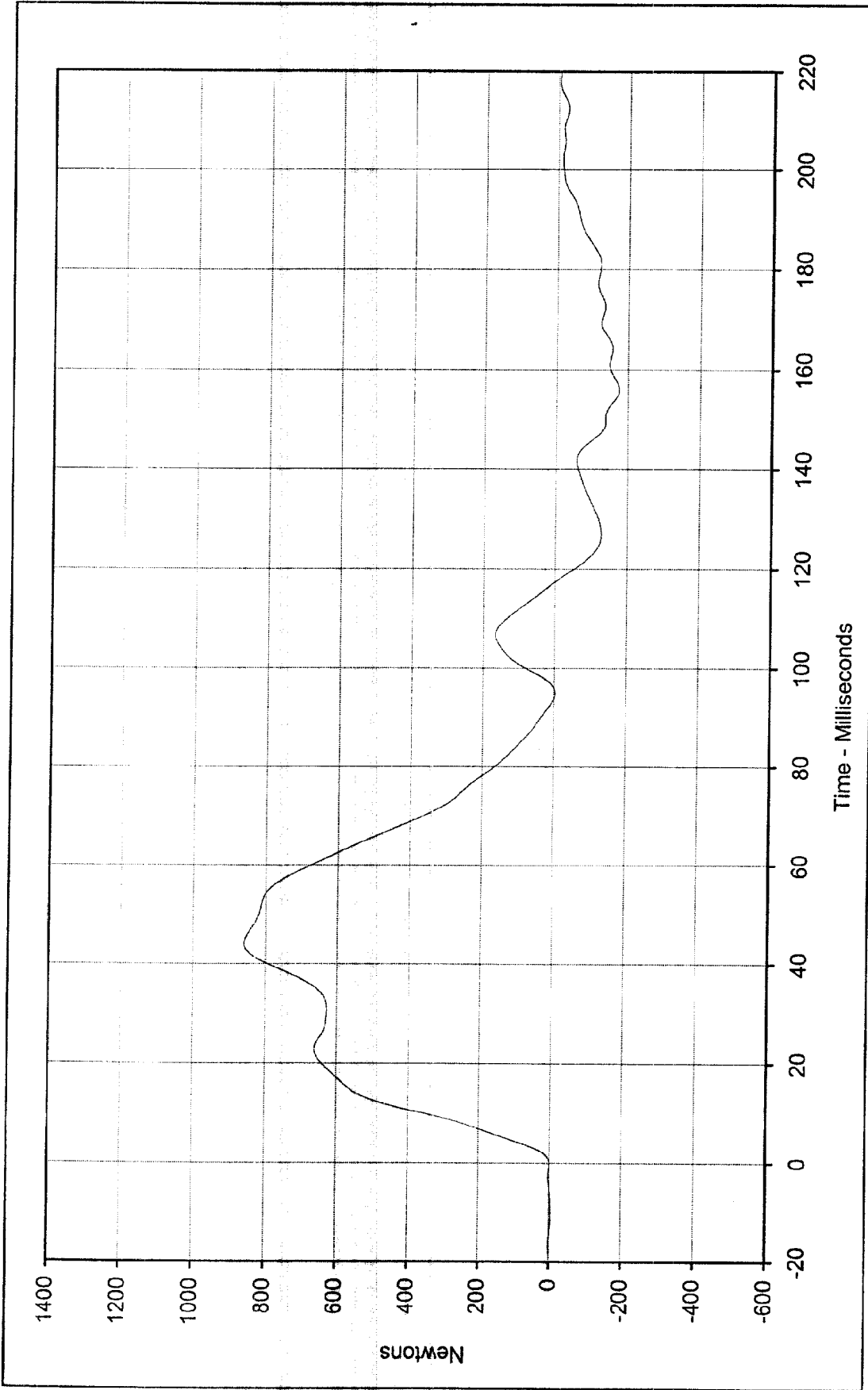
1/19/99  
 \_\_\_\_\_  
 Date



Curve Description: Pendulum Deceleration      Testing Program: Hybrid III Neck Flexion Test (Male)  
 Maximum Value: 23.4 at 8.7 Milliseconds      Test Information: S/N of Part: N/A    Test I.D.: NF01B  
 Minimum Value: -2.7 at 87.8 Milliseconds



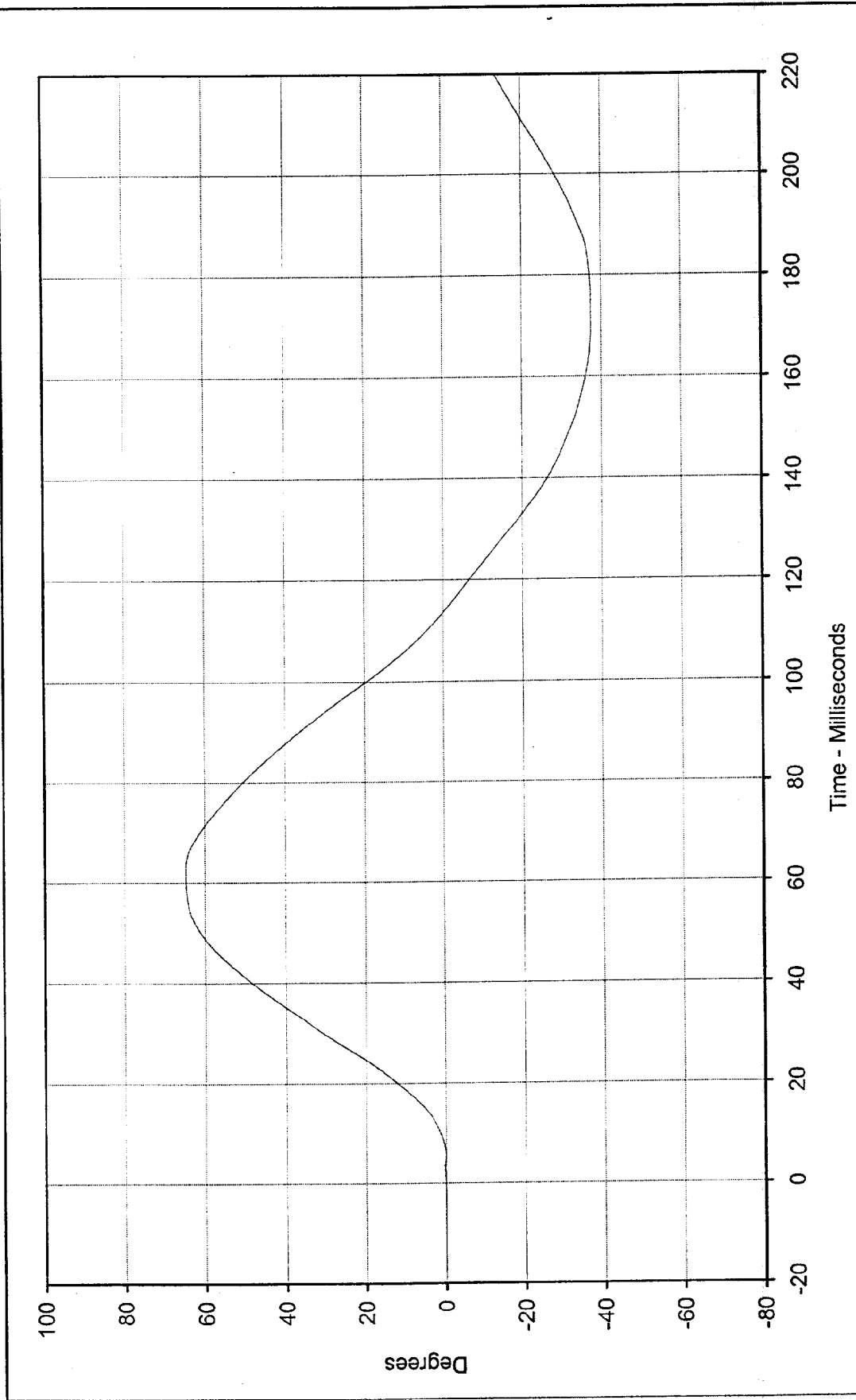
SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035



Curve Description: Neck Force X      Testing Program: Hybrid III Neck Flexion Test (Male)  
 Maximum Value: 858.8 at 44.0 Milliseconds      Test Information: S/N of Part: N/A Test I.D.: NF01B  
 Minimum Value: -175.1 at 156.1 Milliseconds



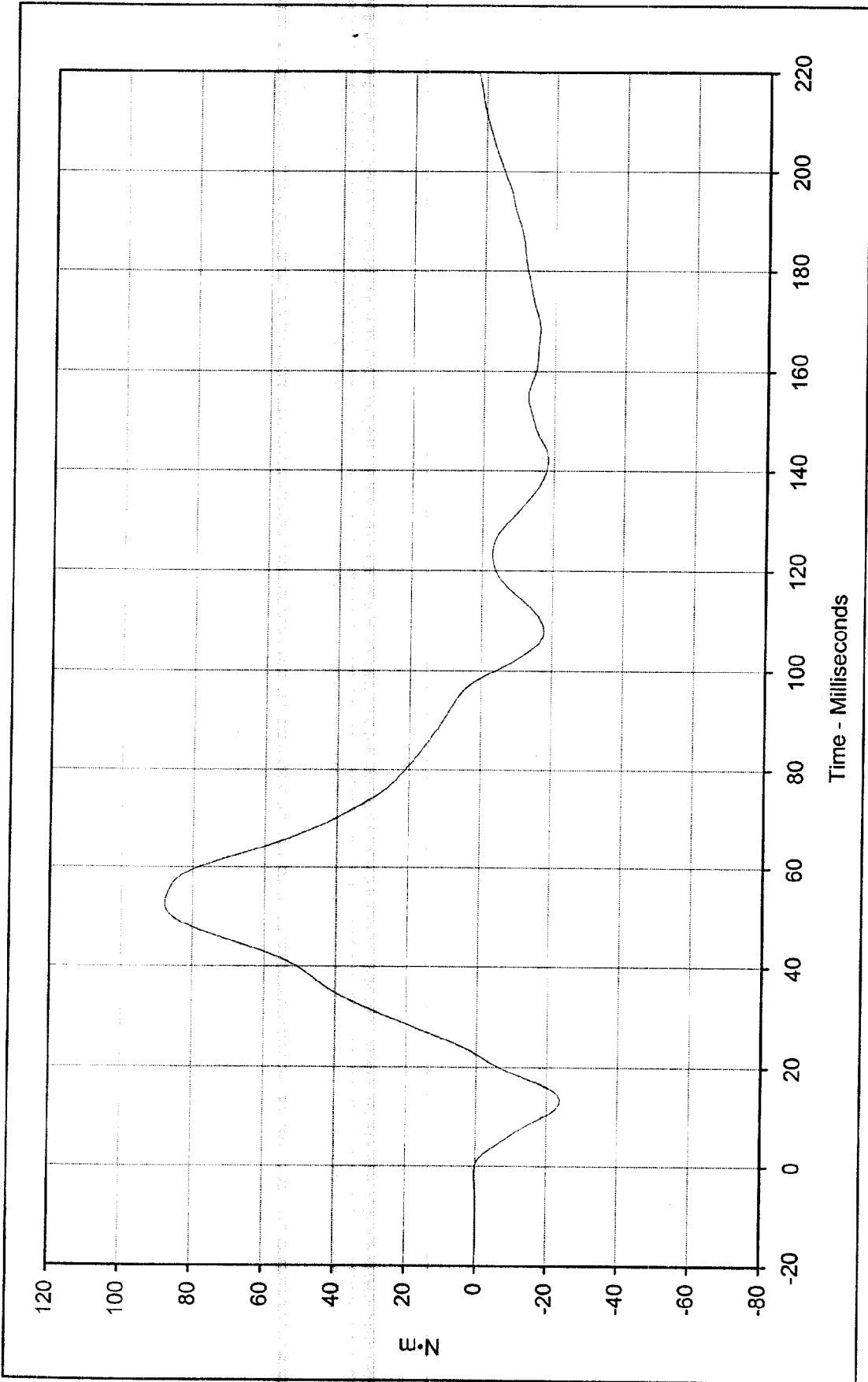
SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035



Testing Program: Hybrid III Neck Flexion Test (Male)  
 Test Information: S/N of Part: N/A Test I.D.: NF01B

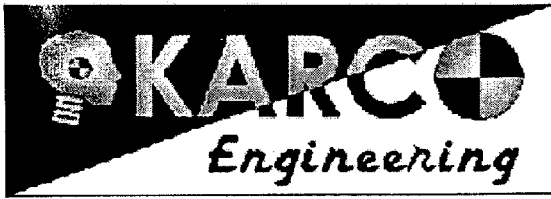
Curve Description: "D" Plane Rotation  
 Maximum Value: 64.8 at 62.1 Milliseconds  
 Minimum Value: -37.5 at 175.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035





Curve Description: Moment About Occipital Condyles      Testing Program: Hybrid III Neck Flexion Test (Male)  
 Maximum Value: 87.7 at 52.7 Milliseconds      Test Information: S/N of Part: N/A    Test I.D.: NF01B  
 Minimum Value: -23.7 at 13.4 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

### Neck Extension Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NE01B

Tested Parameter	Units	Specification	Result	Pass/Fail	
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass	
Laboratory Relative Humidity	%	10 to 70	36	Pass	
Pendulum Velocity	m/s	5.95 to 6.19	6.16	Pass	
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.2	Pass
	20 Msec.	G's	14.0 to 19.0	16.2	Pass
	30 Msec.	G's	11.0 to 16.0	15.9	Pass
Peak Pendulum Decel. after 30 Msec.	G's	≤ 22.0	15.9	Pass	
Deceleration Decay, Time to Cross 5 G's	Msec.	38.0 to 46.0	44.5	Pass	
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	100.2	Pass
	Time	Msec.	72.0 to 82.0	79.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing	Msec.	147.0 to 174.0	160.1	Pass	
Moment About Occipital Condyle	Maximum	N • m	-52.9 to -79.9	-68.5	Pass
	Time	Msec.	65.0 to 79.0	71.5	Pass
Negative Moment Decay, Time To Zero Crossing	Msec.	120.0 to 148.0	142.8	Pass	
Overall Test Results				Pass	

Laboratory Technician

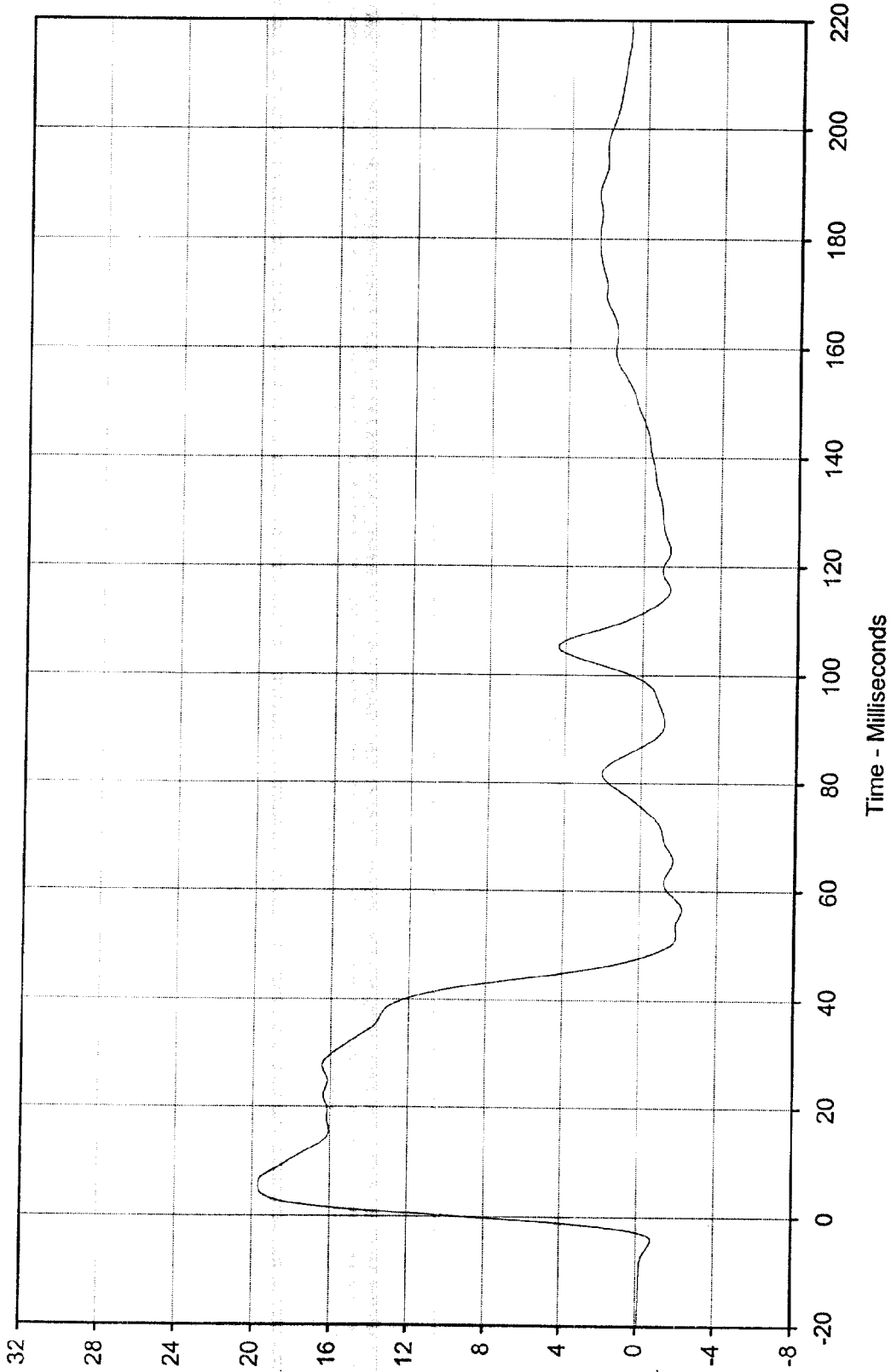
Approved By

January 16, 1999

Test Date

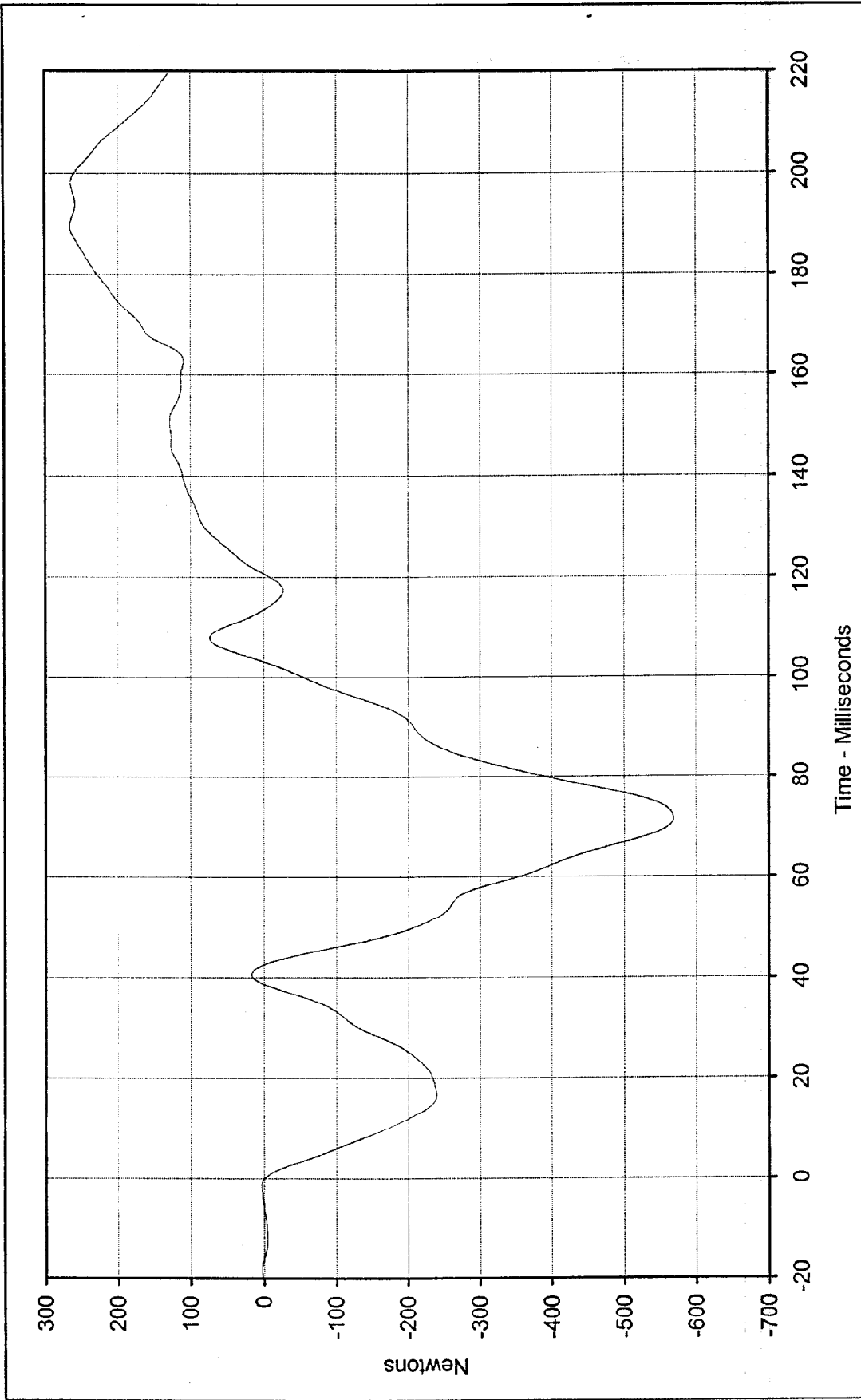
1/19/99

Date



Curve Description:            Pendulum Deceleration            Testing Program Hybrid III Neck Extension Test (Male)  
 Maximum Value: 19.7 at 5.6 Milliseconds Test Information: S/N of Part: N/A Test I.D.: NE01B  
 Minimum Value: -2.2 at 56.7 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035

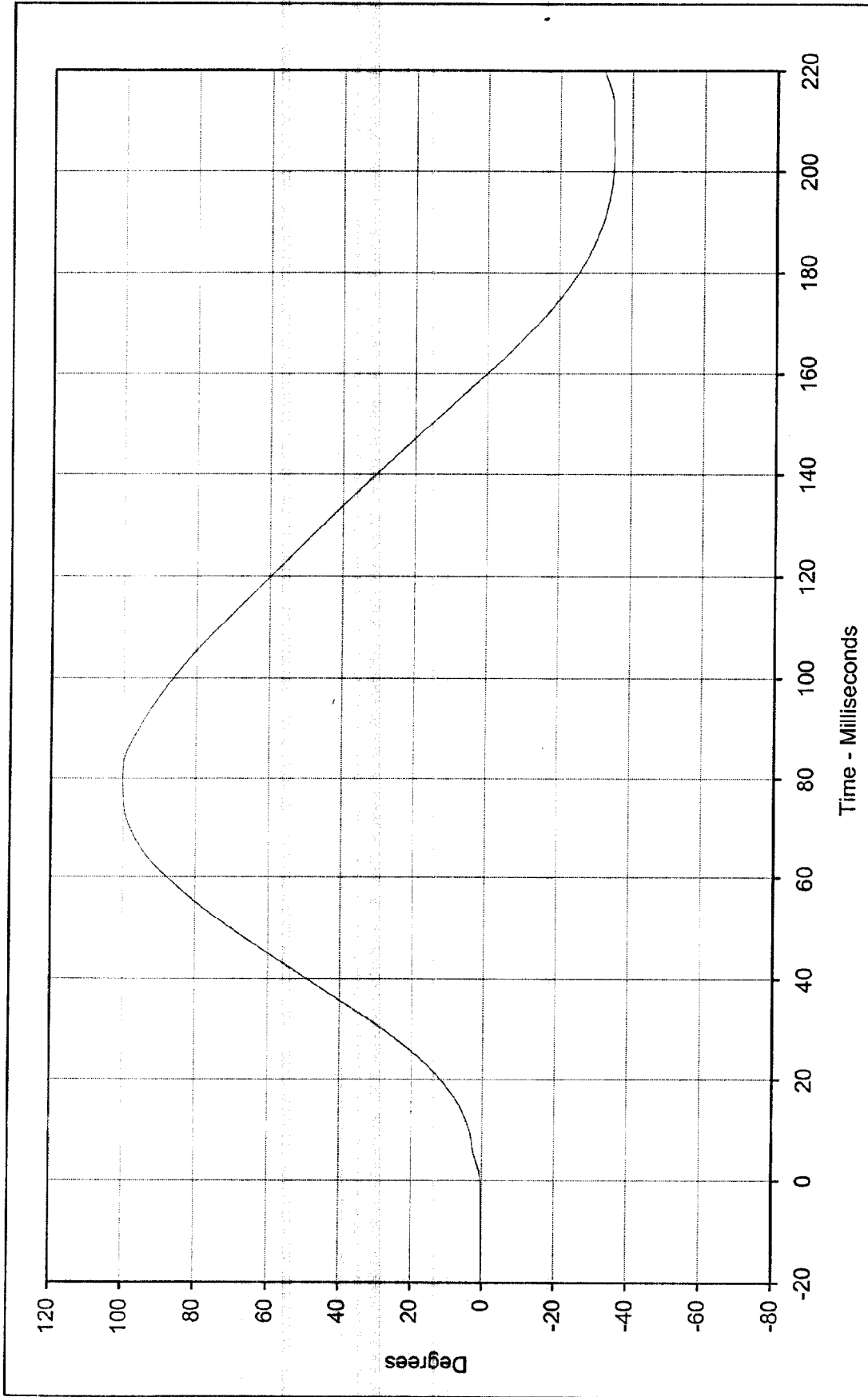




Curve Description: Neck Force X  
 Testing Program: Hybrid III Neck Extension Test (Male)  
 Maximum Value: 265.1 at 189.6 Milliseconds  
 Test Information: S/N of Part: N/A Test I.D.: NE01B  
 Minimum Value: -568.5 at 71.5 Milliseconds



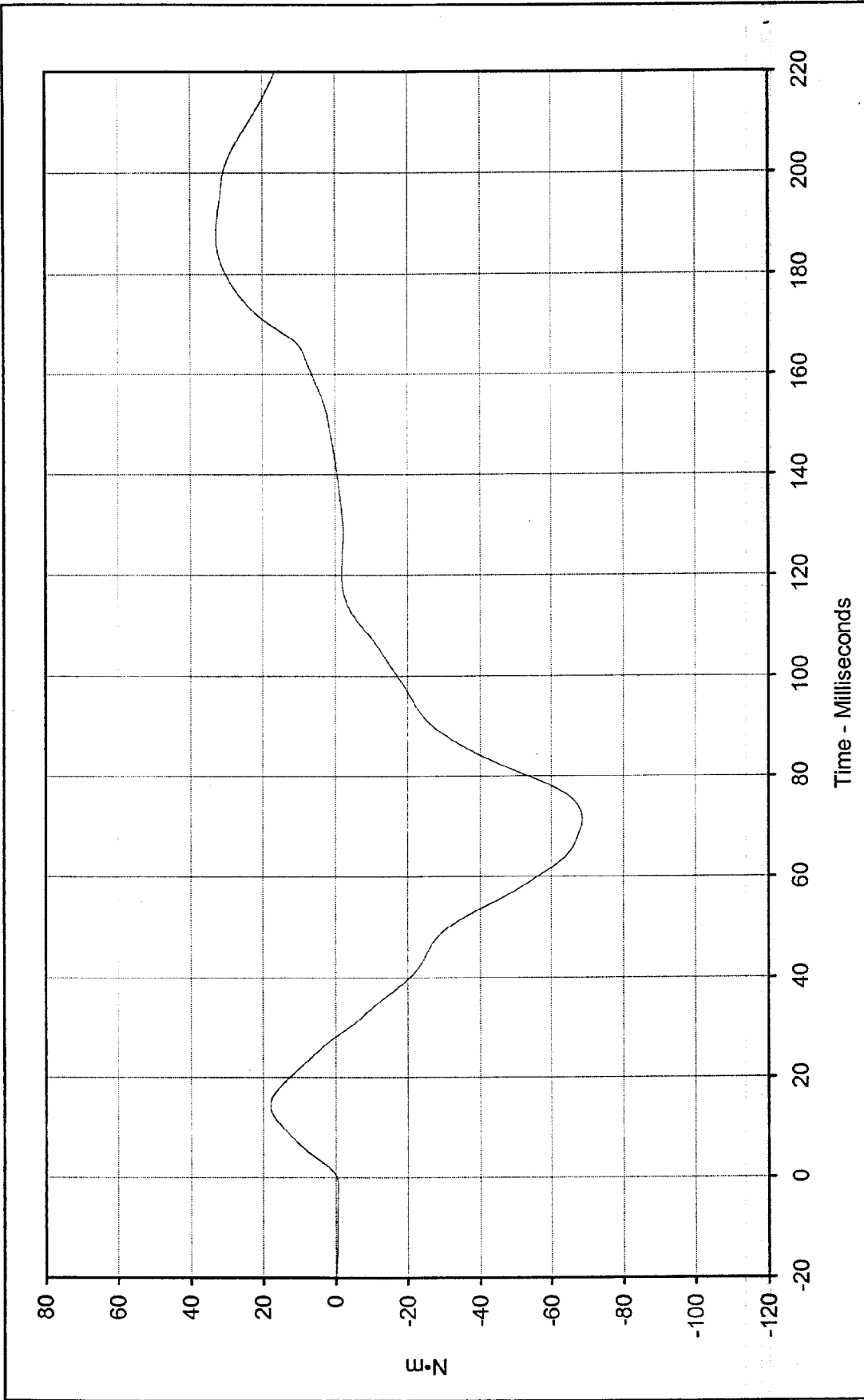
SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035



Curve Description: "D" Plane Rotation  
 Maximum Value: 100.2 at 79.9 Milliseconds  
 Minimum Value: -35.0 at 204.0 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)  
 Test Information: S/N of Part: N/A Test I.D.: NE01B





Curve Description: Moment About Occipital Condyles      Testing Program Hybrid III Neck Extension Test (Male)  
 Maximum Value: 32.7 at 187.5 Milliseconds      Test Information: S/N of Part: N/A Test I.D.: NE01B  
 Minimum Value: -68.5 at 71.5 Milliseconds  
 SAE Filter Class: 60  
 Date of Test: 1/16/99  
 ATD Serial No.: 035





# Hybrid III Calibration Data Sheet

## 50<sup>TH</sup> Percentile Male

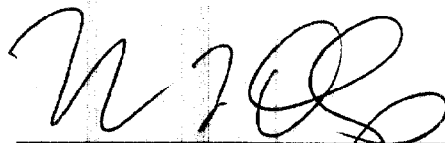
### External Measurements


ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: N/A

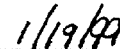
External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.9	Pass
Laboratory relative humidity	%	10 to 70	35	Pass
A - Total sitting height	mm	878.8 to 889.0	887.0	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	507.0	Pass
C - "H" point height	mm	83.8 to 88.9	88.5	Pass
D - "H" point from seat back	mm	134.6 to 139.7	136.5	Pass
E - Shoulder pivot from back	mm	83.8 to 94.0	91.0	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	300.5	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	344.0	Pass
J - Elbow rest height	mm	190.5 to 210.8	209.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	602.0	Pass
L - Popliteal length	mm	429.3 to 454.7	443.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	487.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	475.0	Pass
O - Chest depth	mm	213.4 to 228.6	223.0	Pass
P - Foot length	mm	251.5 to 266.7	261.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	430.0	Pass
W - Foot breadth	mm	91.4 to 106.7	93.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	980.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	860.0	Pass
AA - Location for chest circumference	mm	429.3 to 434.3	430.0	Pass
BB - Location for waist circumference	mm	226.1 to 231.1	229.0	Pass
Overall Test Results				Pass

  
 \_\_\_\_\_  
 Laboratory Technician

  
 \_\_\_\_\_  
 Approved By

January 18, 1999

\_\_\_\_\_ Test Date



\_\_\_\_\_ Date

**APPENDIX F**  
**VEHICLE OWNER'S MANUAL**  
**OCCUPANT RESTRAINT INSTRUCTIONS**

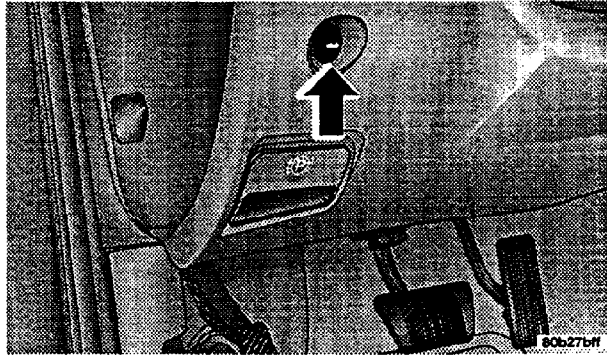
KAR99001-10

The window lock switch on the driver's door allows you to disable the window control on the other doors.

NOTE: When the lights in the passenger's window controls are off, those window controls are disabled.

**REMOTE TRUNK LID RELEASE**

You can open the trunk lid from inside the vehicle by pressing the switch on the left side of the instrument panel. The transmission must be in Park before the switch will operate.



**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 close 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.

2

**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.

**Lap/Shoulder Belts**

The seats next to the front and rear doors of your vehicle are equipped with Lap/Shoulder Belts.

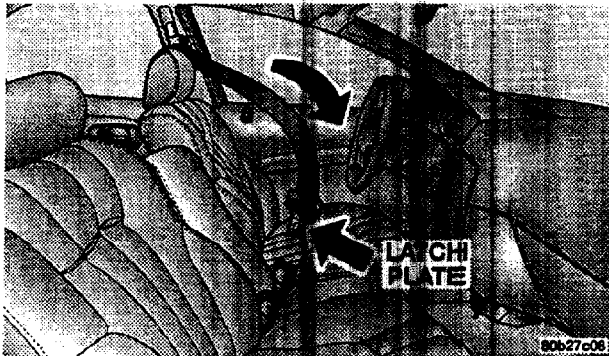
The belt webbing retractor will lock only during very suddenstops or impacts. This feature allows the shoulder part of the belt to move freely with you under normal conditions. But in a collision, the belt will lock and reduce the risk of your striking the inside of the vehicle or being thrown out.

**WARNING!**

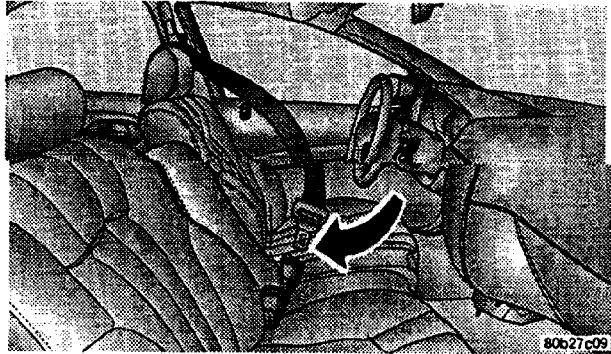
- Wearing a seat belt incorrectly is dangerous. Seat belts are designed to go around the large bones of your body. These are the strongest parts of your body and can take the forces of a collision the best. Wearing your belt in the wrong place could make your injuries in a collision much worse. You might 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.
- 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 lap/shoulder belt or a lap belt for more than one person, no matter what their size.

**Lap/Shoulder Belt 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.



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

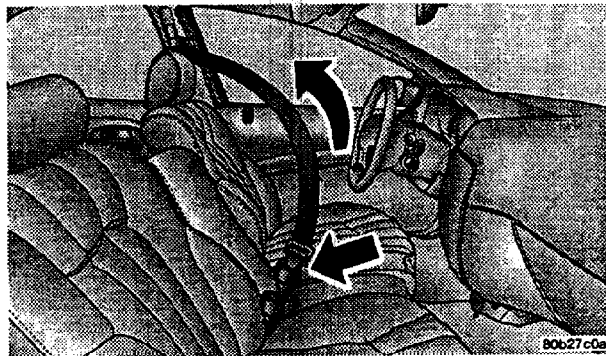


2

**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. 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.

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.

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 2:****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. If you can't straighten a belt in your vehicle, take it to your dealer and have it fixed.

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**

In the front seat, the shoulder belt can be adjusted upward or downward to position the belt away from

your neck. Push the lever above the webbing upward to release the anchorage, and then 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**

**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.

**Center Lap Belts-Optional**

Center seating positions have 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.

<b>WARNING!</b>
<ul style="list-style-type: none"> <li>• A lap belt worn too loose or too high is dangerous.</li> <li>• A belt worn too loose can allow you to slip down and under the belt in a collision.</li> <li>• A belt that is too high will apply crash forces to the abdomen, not to the stronger hip bones.</li> <li>• In either case, the risk of internal injuries is greater. Wear the lap belt low and snug.</li> </ul>

<b>WARNING!</b>
<p>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.).</p>

**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. When it is not required, remove the extender and stow it in a secure place.

**Child Restraint**

Everyone in your vehicle needs to be buckled up all the time; babies and children too. Every state in the United States and every Canadian province requires that small children ride in proper restraint systems. This is the law, and you can be prosecuted for ignoring it.

Children 12 years and under should ride properly buckled up in a rear seat. According to crash statistics, children are safer when properly restrained in the rear seat rather than the front.

<b>WARNING!</b>
<p>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.</p>

**2**

### 30 THINGS TO KNOW BEFORE STARTING YOUR VEHICLE

- Buckle the child into the seat exactly as the seat manufacturer's directions tell you.
- When your child restraint is not in use, secure it in the vehicle 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 the occupants and injure them.

#### WARNING!

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.

#### Children Too Large For Booster Seats

Children who are large enough so that they can wear the shoulder belt comfortably, and whose legs are long enough to bend over the front of the seat when their back is against the seatback, should use the lap / shoulder belt in the rear seat.

- Make sure that the child is upright in the seat.
- The lap portion should be 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.
- If the shoulder belt contacts the face or neck, move the child closer to the middle of the vehicle. If this doesn't help, move the child to the center rear seating position and use the lap belt. Never allow a child to put the shoulder belt under an arm.

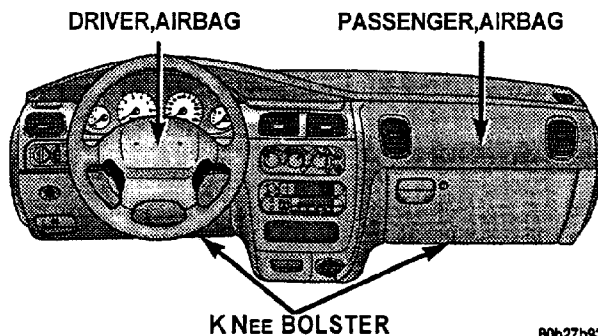
#### Driver and Right Front Passenger Supplemental Restraint System (SRS) - Airbag

This airbag is certified to the new Federal regulations that allow less forceful airbags.

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. These airbags inflate in higher speed impacts. They work with

### THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 3

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.

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

- Children 12 years old and under should ride buckled up in the rear seat.
- Infants in rear-facing child restraints must NEVER ride in the front seat of a vehicle with a passenger side airbag. An airbag deployment could cause serious injury or death to an infant in that position.
- If a child from 1 to 12 years old must ride in the front passenger seat because the vehicle is crowded, move the seat as far back as possible, and use the proper child restraint. See the section on child restraint.
- All occupants should use their seat belts properly.
- Never allow children to slide the shoulder belt behind them or under the arm.

2

**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. Sit back, comfortably extending your arms to reach the steering wheel or instrument panel.

The airbag system consists of the following:

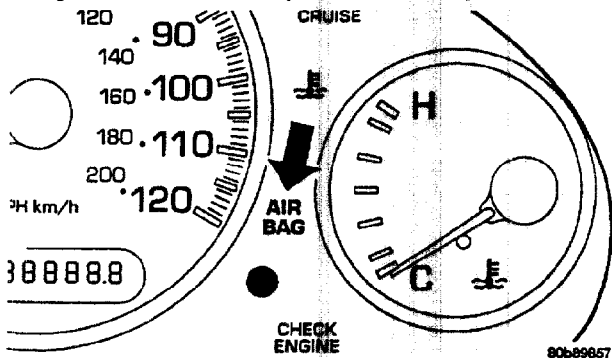
- ACM (Airbag Control Module)
- AIRBAG Readiness Light
- Driver and Passenger Airbag/ Inflator Units
- Unique Steering Wheel and Column
- Unique Instrument Panel
- Interconnecting Wiring
- Knee Impact Bolster

How The Airbag System Works

- The ACM determines if a frontal impact is severe enough to require the airbag. The ACM will not detect side, roll over, or rear impacts.

**THINGS TO KNOW BEFORE STARTING YOUR VEHICLE 3:**

- The ACM 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 above except the knee bolster, the instrument panel, and the steering wheel and column. The ACM 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.



**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.

2

- The Airbag/Inflator Units are in the center of the steering wheel and in the right side of 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 ACM detects an impact requiring the airbags, it signals the inflator units. A large quantity of non toxic 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 60 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 driver's airbag gas is vented through the airbag material towards the instrument panel. The passenger's airbag gas is vented through vent holes in the sides of the airbag. 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 ACM 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 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 safely driveable 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.

**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!**

**2**

- 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 impact bolsters.
- You can be injured if you are too close to either airbag cover when the airbags inflate. 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.

**Illuminated Vanity Mirrors-Optional**

An illuminated vanity mirror is on each sun visor. To use the mirror, rotate the sun visor down and swing the mirror cover upward. The lamps turn on automatically. Closing the mirror cover turns off the lamps.

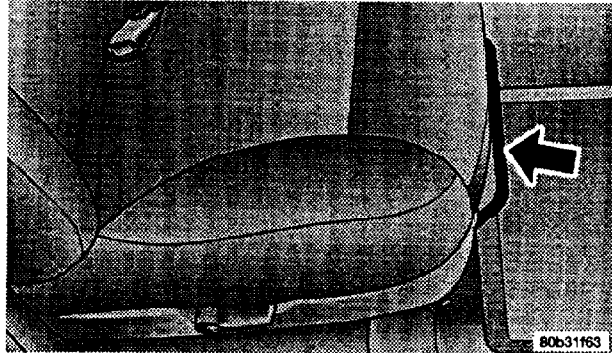
**SEATS**

**Manual Seat Adjustment**

**WARNING!**

Adjusting a seat while the vehicle is moving is dangerous. The sudden movement of the seat could cause you to lose control. The seat belt might not be properly adjusted and you could be injured. Adjust the seat only while the vehicle is parked.

The seat adjusting bar is at the front of the seat, near the floor. Pull up on the adjuster bar and move the seat to the desired position.

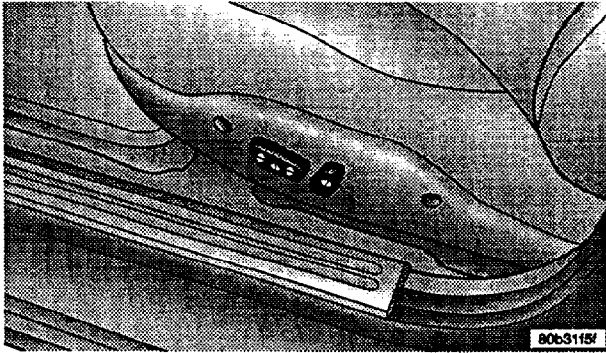


**3**

Using body pressure, move forward and rearward on the seat to be sure the seat adjusters have latched.

### Power Seats-Optional

The power seat switch is on the outboard side of the seat near the floor. Use this switch to move the seat up or down, forward or rearward, or to tilt the seat.



#### CAUTION!

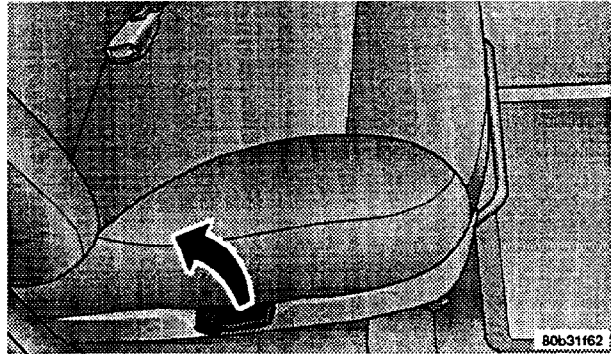
Do not place any article under a power seat as it may cause damage to the seat controls.

### Power Reclining Seats-Optional

The recliner control is on the outboard side of the seat.

### Manual Reclining Seats

The recliner mechanism control is on the door-side of the seat. To recline, lean forward slightly before lifting the lever, then push back to the desired position and release the lever. Lean forward and lift the lever to return the seat back to its normal position.

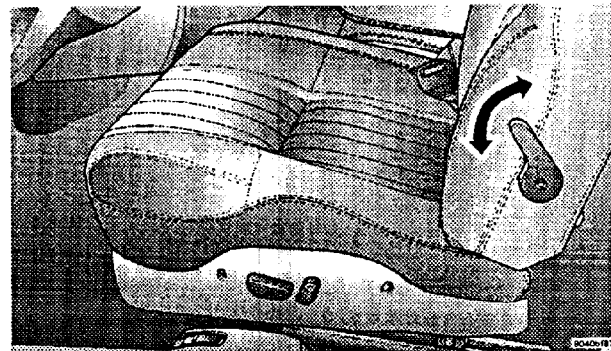


#### WARNING!

Do not ride with the seatback reclined so that the shoulder belt is no longer resting against your chest. In a collision you could slide under the seat belt and be seriously or even fatally injured. Use the recliner only when the vehicle is parked.

### Lumbar Support-Optional

This feature allows you to increase or decrease the amount of lumbar support. Turn the control level forward to increase and rearward to decrease the desired amount of lumbar support.

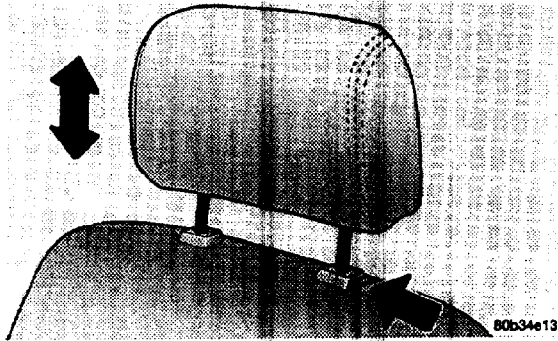


3

### Head Restraints

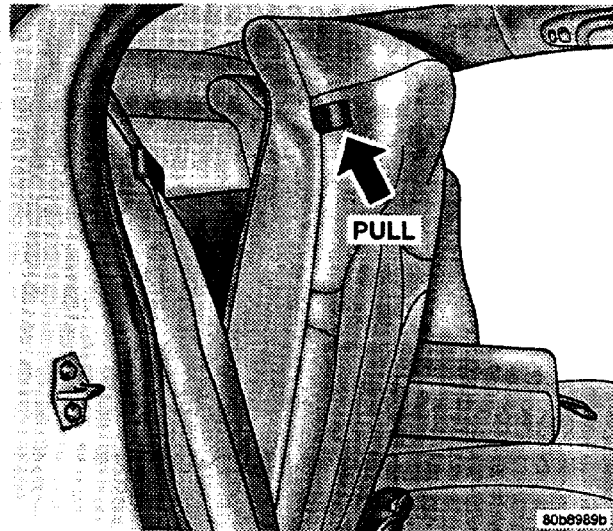
Head restraints can reduce the risk of whiplash injury in the event of impact from the rear. Adjustable restraints should be adjusted so that the upper edge is as high as practical, at least at the level of the ears.

The head restraints have a locking button which must be pushed in to lower the head restraint. The restraints may be raised without pushing in the button.



### Folding Rear Seats-Optional

To provide additional storage area, the rear seatbacks can be folded forward. Pull the loop near the top of the seat and fold the seatback forward.



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