

REPORT NO. KAR-99-09

V3009

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

MAZDA CORPORATION
1999 MAZDA 626 LX 4-DOOR SEDAN
NHTSA NO. MX5400

PREPARED BY:
KARCO ENGINEERING
9270 HOLLY ROAD
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JANUARY 26, 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 MAZDA 626 LX 4-DOOR SEDAN at KARCO Engineering on January 13, 1999. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301 and footwell intrusion performance. The impact velocity was 56.6 km/h. The ambient temperature at the barrier face at the time of impact was 15.5°C. The vehicle's maximum post-test static crush was 506 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>441.8</td> <td>247.7</td> </tr> <tr> <td>Chest Resultant Peak 3 msec clip</td> <td>60 G's</td> <td>45.9</td> <td>47.4</td> </tr> <tr> <td>Left Femur Force</td> <td>10009 N</td> <td>-4209.5</td> <td>-5313.7</td> </tr> <tr> <td>Right Femur Force</td> <td>10009 N</td> <td>-2629.7</td> <td>-5207.9</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	441.8	247.7	Chest Resultant Peak 3 msec clip	60 G's	45.9	47.4	Left Femur Force	10009 N	-4209.5	-5313.7	Right Femur Force	10009 N	-2629.7	-5207.9
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SECTION 1

PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST MX5400

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 13, 1999 at a speed of 56.6 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. 34) and the right-front passenger ATD (serial No.35) were calibrated two tests prior to 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 MAZDA 626 LX 4-DOOR SEDAN at a velocity of 56.6 km/h. The test weight, with two (2) 50th percentile male ATDs, was 1459 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 transverse mounted 2.0 liter, 4 cyl. engine and a 5-speed manual transmission.

The driver's Head Injury Criteria (HIC) was 441.8, the maximum chest deceleration over three (3) milliseconds was 45.9 g and the left and right femur loads were -4209.5 and -2629.7 Newtons, respectively. Chest deflection for the driver ATD was -24.8 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 247.7, maximum chest deceleration over three (3) milliseconds was 47.4 g and the left and right femur loads were -5313.7 and -5207.9 Newtons respectively. Chest deflection for the passenger ATD was -20.9 mm. The passenger ATD head contacted the airbag, and headrest, the chest and abdomen contacted the airbag and both knees contacted the glove box.

Seat belt spoolout, measured by on-board pullout potentiometers was 182.2 mm for the driver ATD and 255.5 mm for the passenger ATD. Shoulder belt stretch was 0.313 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 506 mm located to the left 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 MAZDA 626 LX 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 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

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 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

VEHICLE REBOUND

Measurements in mm	Left	Center	Right
Vehicle Rebound	957	727	927

VEHICLE REBOUND AND STATIC CRUSH; REBOUND ANGLE = 0°

Measurements in mm	Left	Center	Right
Pre-test Measurements	4366	4733	4366
Post-test Measurements	4013	4230	4033
Static Crush	-353	-503	-333
Average	-396		

DOOR OPENING AND SEAT TRACK INFORMATION

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

DUMMY INFORMATION

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

DATA SHEET NO. 2

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

TEST VEHICLE INFORMATION			
Manufacturer	AUTOALLIANCE INTERNATIONAL	VIN	1YVGF22CXX5832310
Manufacturing Date	10/98	Delivery Date	12/17/98
Dealer	ROMERO MAZDA	NHTSA NO.	MX5400
Odometer Reading	5.0 mi	Fuel Type	UNLEADED
Engine Displacement	2.0 Liters	Cylinders	4
Transmission	MANUAL	Final Drive	FRONT
Engine Placement	TRANSVERSE	Color	BLACK
Tire Press./Max. Cap. Front	224 kpa	Cold Tire Press. Front	224 kpa
Tire Press./Max. Cap. Rear	182 kpa	Cold Tire Press. Rear	182 kpa
Recommend Tire Size	P185/70R14	Type of Spare	TEMP T125/70D15
Tire Size on Vehicle	P185/70R14	Manufacturer	BRIDGESTONE
GVWR	1797 kg	Cargo Capacity	45 kg
GAWR Front	963 kg	GAWR Rear	834 kg
Air Conditioning	YES	Power Steering	NO
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)	NO	Power Seats	NO
Driver Airbag	YES	Passenger Airbag	YES

VEHICLE CAPACITY DATA: TYPE OF FRONT SEATS BUCKET SEATS

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

WEIGHT OF VEHICLE AS RECEIVED AT KARCO (with maximum fluids) 1271 kg

Data Sheet No. 2... (Continued)

VEHICLE CAPACITY DATA: TYPE OF FRONT SEATS BUCKET SEATS

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

WEIGHT OF VEHICLE AS RECEIVED AT KARCO (with maximum fluids) 1271 kg

VEHICLE CAPACITY WEIGHT (kg):

Vehicle Capacity Weight 385 kg
 Occupant Weight 340 kg
 Rated Cargo/Luggage Weight (RCLW) 45 kg

	FRONT	REAR	TOTAL
Right	394	245	639
Left	378	254	632
Total	772	499	1271
Percent of Total	60.7	39.3	100%

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

Total Delivered Weight 1271 kg
 RCLW 45 kg
 Weight of 2 P572 ATDs 152 kg
TARGET TEST WEIGHT 1468 kg

TEST WEIGHT OF VEHICLE WITH 2 ATDs AND BALLAST

	FRONT	REAR	TOTAL
Right	408	304	712
Left	420	327	747
Total	828	631	1459
Percent of Total	56.7	43.3	100%

Weight of Ballast secured in cargo area: 0 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	692	685	695	690
As Tested	660	652	652	655

Vehicle Wheelbase: 2660 mm

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 64.0 liters

Usable Capacity Figure Furnished by COTR = 64.0 liters

Test Volume Range (92 to 94% of Usable Capacity) = 58.8 to 60.1 liters

ACTUAL TEST VOLUME = 59.4 liters (With entire fuel system filled)

Test Fluid Type = Stoddard Solvent

Specific Gravity = 0.764

Kinematic Viscosity = as per ASTM Standard D484-71

Color = Red

Type of Fuel Pump = Electric X Mechanical

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

DETAILS OF FUEL SYSTEM: See manufacturers data

DATA SHEET NO. 3

POST IMPACT DATA

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

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 = 56.6 km/h Trap No. 2 = 56.5 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)	4366	4733	4366
Post-test Measurements (mm)	4013	4230	4033
Static Crush (mm)	-353	-503	-333

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

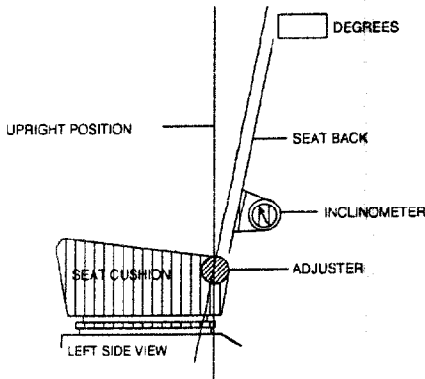
Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

1. NOMINAL DESIGN RIDING POSITION -



FRONT SEAT ASSEMBLY

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

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

Seat back angle for driver's seat = 21° 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 = 19° w/seated dummy, taken at seat back cushion.

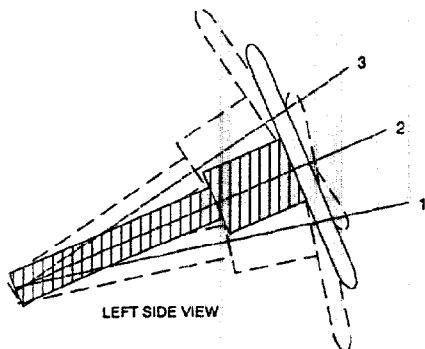
2. SEAT FORE & AFT POSITIONS:

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: 24 seating positions, set to the 13th detent location from the front

Positioning of the passenger's seat (if applicable): 22 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°

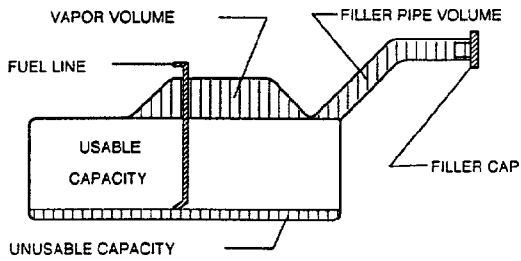
Position No. 3 is at 21°

4. SEAT BELT UPPER ANCHORAGE:

5 Positions, placed in uppermost position.

DATA SHEET NO. 4 (continued)

5. FUEL TANK CAPACITY DATA



5.1

A. "Usable Capacity" of standard equipment fuel tank = 64.0 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 = 58.8 to 60.1 liters.

VEHICLE FUEL TANK ASSEMBLY

Operational Instructions:

5.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 59.4 liters

5.3 Is vehicle equipped with electric fuel pump?

Yes X No

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

See manufacturers data.

DATA SHEET NO. 5

DUMMY POSITIONING IN VEHICLE

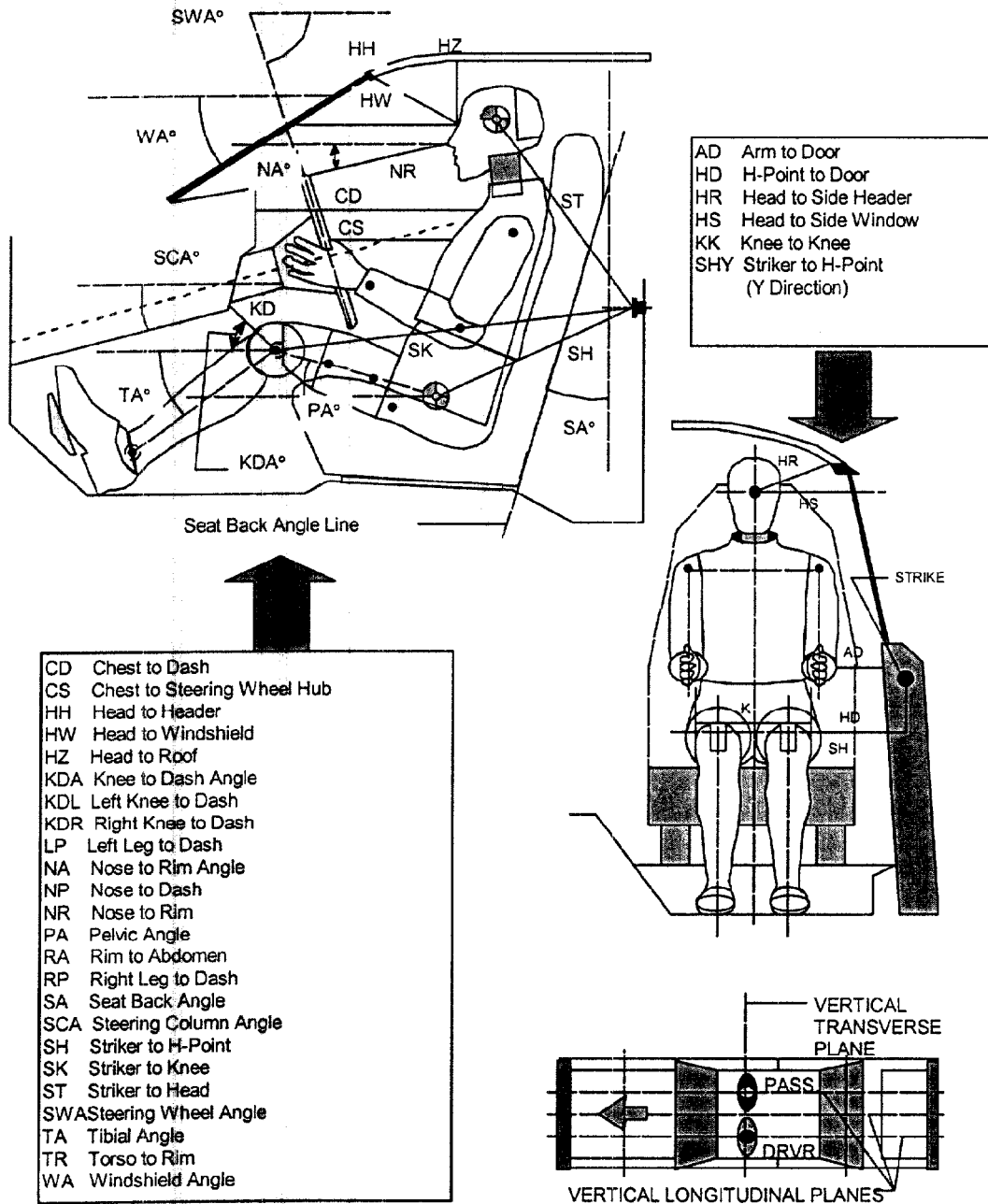
Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



DATA SHEET NO. 5...(continued)

DUMMY POSITIONING IN VEHICLE

FRONT SEAT MEASUREMENT TABLE

	DRIVER (Serial No. <u>34</u>)		PASS. (Serial No. <u>35</u>)	
	DISTANCE (mm)	ANGLE (°)	DISTANCE (mm)	ANGLE (°)
WA°		32		
SWA°		70		
SCA°		20		
SA°		19		21
HZ	210	90	180	90
HH	385	0	340	0
HW	670	0	630	0
HR	220		220	
NR	420	11		
CD	545		510	
CS	310	0		
RA	205	0		
KDL	160	30	155	
KDR	180		150	31
PA°		24		24
TA°		42		54
KK	285		220	
ST	555	5	530	5
SH	220	35	215	30
SHY	230		220	
HS	300		250	
HD	135		125	
AD	55		55	

DATA SHEET NO. 6

SEAT BELT POSITIONING DATA

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

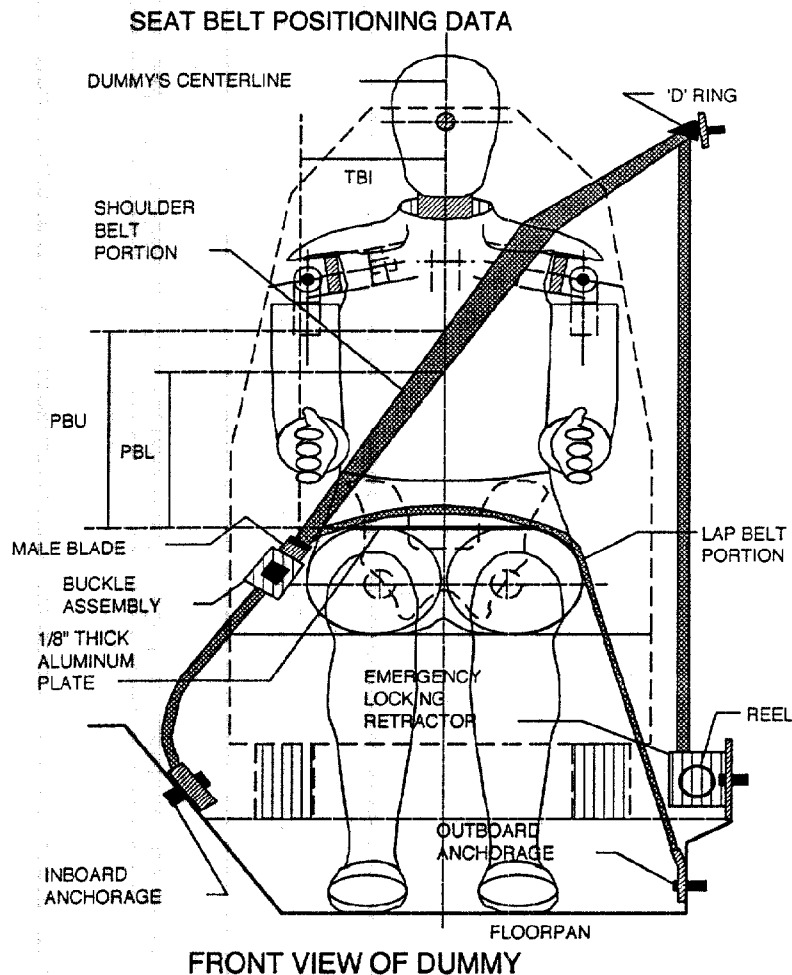
NHTSA No.: MX5400

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Test Date: 1/13/99

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TCI - Dummy centerline to shoulder bolt	mm	190	180
PBU - Top surface of reference to belt upper edge	mm	351	330
PBL - Top surface of reference to belt lower edge	mm	270	245
Lap Belt tension	Newtons	10	10
Shoulder Belt tension	N/A	Retractor	Retractor



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

TEST VEHICLE: 1999 MAZDA 626 LX 4 DOOR SEDAN NHTSA No.: MX5400
 TEST PROGRAM: 1999 NHTSA 35 MPH NCAP TEST DATE: 1/13/99

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

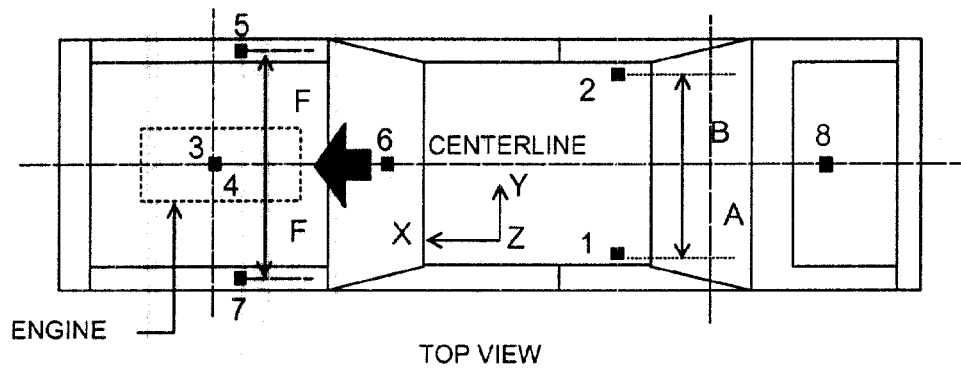
No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member (Pri.)	1808	-655	328	G's	0.9	113.1	-42.8	38.4
2	Right Rear X-Member (Pri.)	1812	661	338	G's	1.4	114.5	-39.9	38.5
3	Engine Top	3960	228	795	G's	12.1	47.2	-104.7	35.6
4	Engine Bottom	4050	308	117	G's	80.2	41.2	-210.0	30.0 *
5	Left Brake Caliper	0	0	0	G's	0.0	0.0	0.0	0.0 *
6	Right Brake Caliper	3890	629	152	G's	23.3	67.6	-82.3	43.8
7	Instrument Panel	0	0	0	G's	0.0	0.0	0.0	0.0 **
8	Left Rear X-Member (Rednt.)	1710	-646	339	G's	0.9	116.9	-41.7	38.6

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

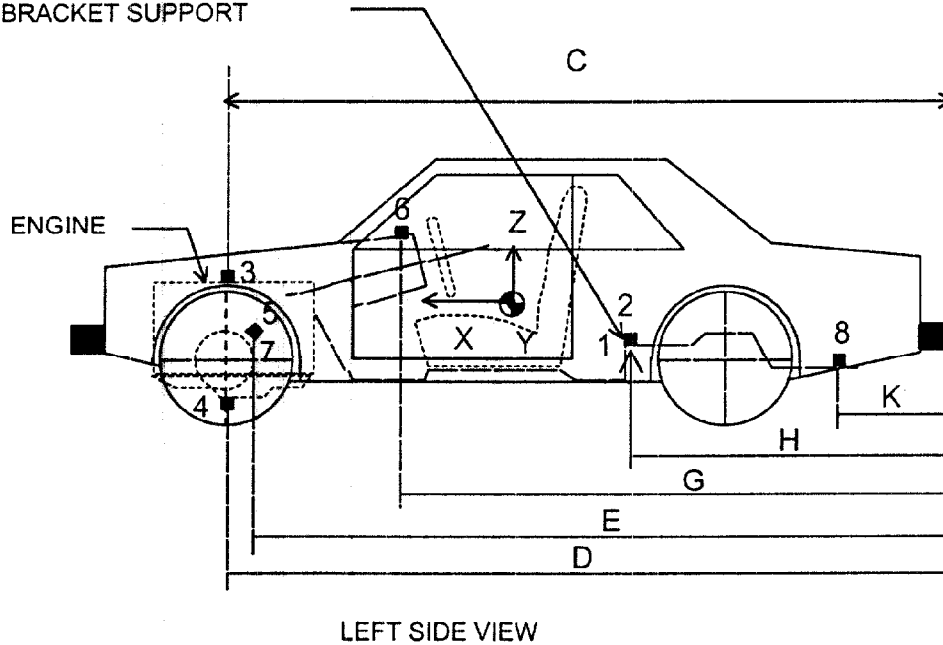
*Channels failed, check plots for time of failure.

**Instrument panel accelerometer removed on manufacturers request.

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 MAZDA 626 LX 4 DOOR SEDAN NHTSA No.: MX5400
 TEST PROGRAM: 1999 NHTSA 35 MPH NCAP TEST DATE: 1/13/99

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	11.4	259.1	-58.1	80.4	3.4	25.0	-32.5	73.7
Head CG	Y	G's	7.0	81.3	-2.0	277.3	10.7	77.2	-3.6	40.5
Head CG	Z	G's	22.7	46.7	-2.7	119.0	29.6	95.7	-7.2	27.4
Head CG Resultant	N/A	G's	60.4	80.4			39.8	92.9		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.9	261.9	-48.5	61.2	1.4	140.4	-48.0	69.6
Chest CG	Y	G's	3.1	120.1	-7.2	72.0	4.9	26.0	-7.8	86.6
Chest CG	Z	G's	10.7	48.4	-8.3	61.2	10.7	80.2	-1.8	33.5
Chest CG Resultant	N/A	G's	49.3	61.2			48.7	69.6		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	446.7	44.2	-4209.5	53.1	82.1	44.6	-5313.7	51.4
Right Femur	Z	Newtons	476.0	50.8	-2629.7	58.0	184.0	131.4	-5207.9	51.6

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	7740.5	58.5	-12.9	299.9	6208.0	70.0	-21.1	287.3
Shoulder Belt Force	N/A	Newtons	4777.8	82.7	-10.6	259.6	6948.0	55.0	-28.0	299.9
Shoulder Belt Spoolout	N/A	MM	182.2	86.8	-17.7	246.9	255.5	89.3	0.1	0.0
Shoulder Belt Stretch	N/A	MM/CM	0.313	82.0	-0.013	240.3	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 ¹	T ²	HIC	Avg G's	T ¹	T ²
Head CG Primary	441.8	43.9	60.8	95.4	247.7	34.3	66.5	102.4

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	45.9	74.2	77.2	47.4	68.4	71.4

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

TEST PROGRAM: 1999 NHTSA 35 MPH NCAP

TEST DATE: 1/13/99

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	2.3	125.6	-60.2	62.5	3.3	215.7	-80.6	51.4
Pelvis	Y	G's	7.0	52.9	-12.2	60.2	8.7	51.4	-7.7	73.6
Pelvis	Z	G's	2.3	43.8	-41.0	60.4	3.2	135.8	-21.0	69.7

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	589.0	75.1	-351.4	114.9	155.5	266.1	-915.8	129.4
Neck Force	Y	Newtons	81.0	168.3	-129.0	74.4	211.6	105.4	-179.9	67.9
Neck Force	Z	Newtons	1025.4	56.6	-154.8	117.4	1969.6	63.9	-80.4	14.0
Neck Moment	X	N-m	5.9	65.0	-11.4	91.1	21.8	101.2	-8.0	35.4
Neck Moment	Y	N-m	34.8	63.5	-12.8	249.2	62.3	129.1	-65.5	58.4
Neck Moment	Z	N-m	5.4	114.6	-11.5	66.5	12.3	130.7	-19.6	88.8

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	6.1	88.4	-33.8	39.6	25.7	73.0	-84.0	41.8
Left Foot Aft	Z	G's	3.5	47.6	-43.9	41.5	32.2	72.3	-55.7	39.4
Left Foot Fore	Z	G's	16.0	21.7	-64.3	13.7	41.8	63.8	-95.9	39.3
Right Foot Aft	X	G's	43.3	53.7	-133.4	43.1	9.8	33.0	-60.1	41.2
Right Foot Aft	Z	G's	13.7	67.5	-129.5	44.3	3.6	221.6	-45.3	47.9
Right Foot Fore	Z	G's	111.6	52.2	-159.0	45.6	8.6	35.9	-69.5	47.7

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	55.7	58.0	-3.7	167.2	15.6	35.9	-39.9	47.1
Left Lower Moment	Y	N-m	21.4	31.1	-21.5	43.8	75.4	87.2	-36.9	46.7
Left Lower Force	Z	Newtons	59.7	164.6	-2194.2	29.2	519.3	25.4	-3137.7	35.6
Left Upper Moment	X	N-m	69.2	59.6	-12.7	46.5	26.1	36.6	-41.0	70.1
Left Upper Moment	Y	N-m	14.4	248.4	-89.8	59.4	20.6	189.9	-106.1	58.3
Right Lower Moment	X	N-m	107.2	60.0	-41.9	44.5	10.1	30.4	-56.1	37.4
Right Lower Moment	Y	N-m	420.5	60.1	-35.4	42.7	43.9	33.5	-23.6	46.8
Right Lower Force	Z	Newtons	145.8	193.5	-4933.9	44.1	170.3	199.9	-2731.5	34.7
Right Upper Moment	X	N-m	48.4	60.0	-63.6	46.8	26.1	32.0	-27.8	76.5
Right Upper Moment	Y	N-m	14.9	102.9	-162.6	42.7	26.4	183.3	-100.1	57.0

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

TEST PROGRAM: 1999 NHTSA 35 MPH NCAP

TEST DATE: 1/13/99

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.3	29.4	-24.8	89.9	0.2	6.1	-20.9	65.0

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	10.1	224.0	-57.0	81.2	2.7	255.3	-33.0	73.7
Head CG	Y	G's	6.7	79.6	-2.9	227.8	12.8	88.4	-3.4	40.7
Head CG	Z	G's	22.0	50.6	-3.4	119.6	27.7	96.5	-3.4	27.6
Head CG Resultant	N/A	G's	58.9	81.2			37.6	93.2		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.5	262.2	-46.3	61.2	1.1	140.4	-48.1	69.6
Chest CG	Y	G's	3.5	116.6	-7.2	71.1	6.8	73.8	-8.0	85.6
Chest CG	Z	G's	10.1	48.5	-17.7	61.7	11.3	80.5	-2.1	51.6
Chest CG Resultant	N/A	G's	49.2	61.4			48.7	69.7		

REDUNDANT HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	Avg G's	T ¹	T ²	HIC	Avg G's	T ¹	T ²
Head CG Redundant	432.8	42.9	59.4	95.3	239.2	33.8	66.4	102.3

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	45.3	74.7	77.7	47.2	68.5	71.5

DATA SHEET NO. 9**SEAT BELT PERFORMANCE ASSESSMENT TEST DATA**Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDANNHTSA No.: MX5400Test Program: 1999 35 MPH FRONTAL IMPACTTest Date: 1/13/99**BELT LENGTH DATA**

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	690	690
Shoulder belt length as measured on ATD	mm	840	870
Lap belt length as measured on ATD	mm	820	820
Remainder of belt on reel	mm	615	690
Total belt length for continuous webbing systems	mm	2965	3070

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	165.0	212.0
As determined electronically	mm	182.2	255.5

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	3.00	broke

DATA SHEET NO. 10

SUMMARY OF FMVSS 212 DATA

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

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

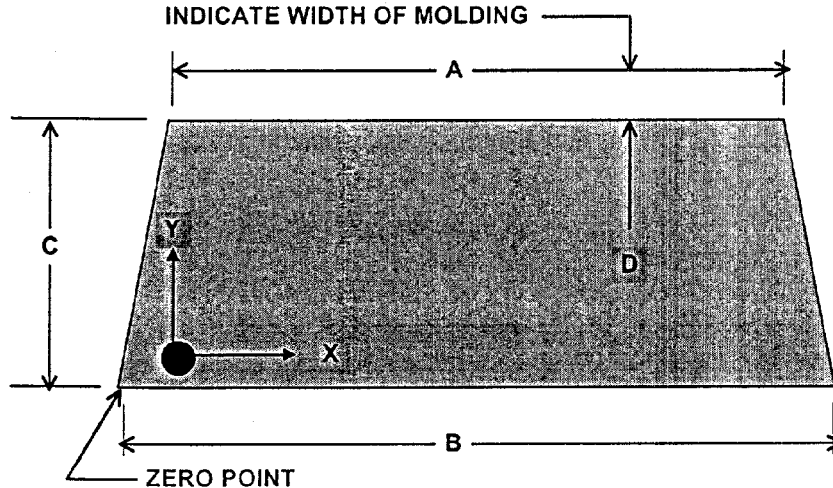
Windshield glass is secured to the vehicle frame with a rubber type adhesive, with rubber molding along the top and sides with rubber and plastic molding along the bottom.

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	2020	2020	100%
Post-Test	mm	2020	2020	100%
Percent of retention	Percent	100%	100%	

Indicate area of retention failure.



FRONT VIEW OF WINDSHIELD

Width of molding: Top: 10 mm, Sides: 10 mm, Bottom: 0 mm

Temperature of windshield molding during test: 21.1 °C

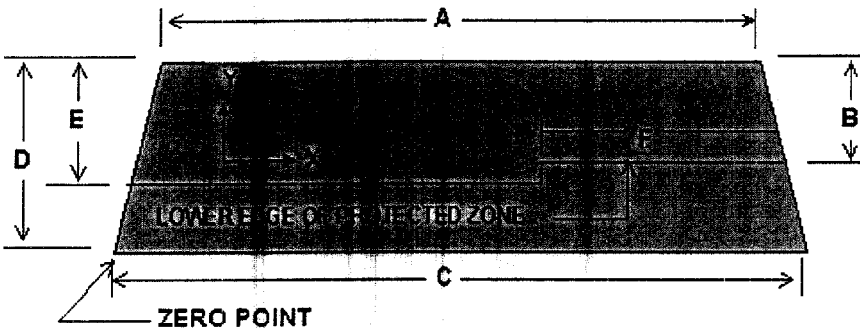
DATA SHEET NO. 11
WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99



FRONT VIEW OF WINDSHIELD

Item	Units	Value
A	mm	1160
B	mm	312
C	mm	1480
D	mm	700
E	mm	475
F	mm	686

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 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

Test Time: 1:02 PM Temperature at Time of Impact: 15.5° 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

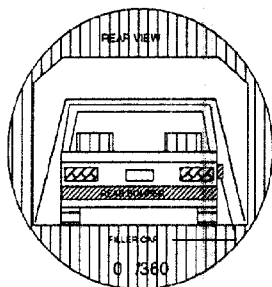
Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

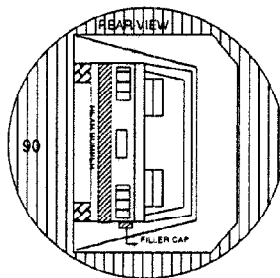
Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

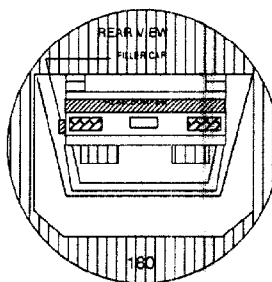
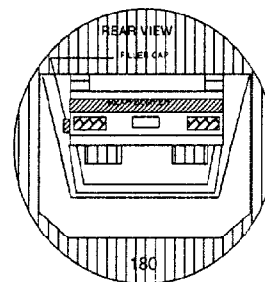
Time: 1:02 PM Temperature: 15.5 °C



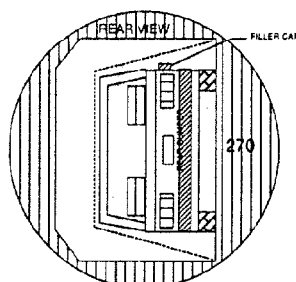
0° TO 90°



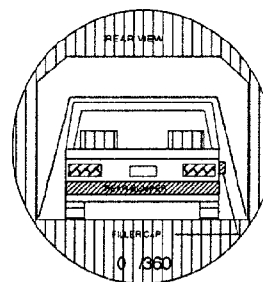
90° TO 180°



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°	82	300	0.0
90° TO 180°	82	300	0.0
180° TO 270°	79	300	0.0
270° TO 360°	79	300	0.0

DATA SHEET NO. 14

VEHICLE MEASUREMENTS

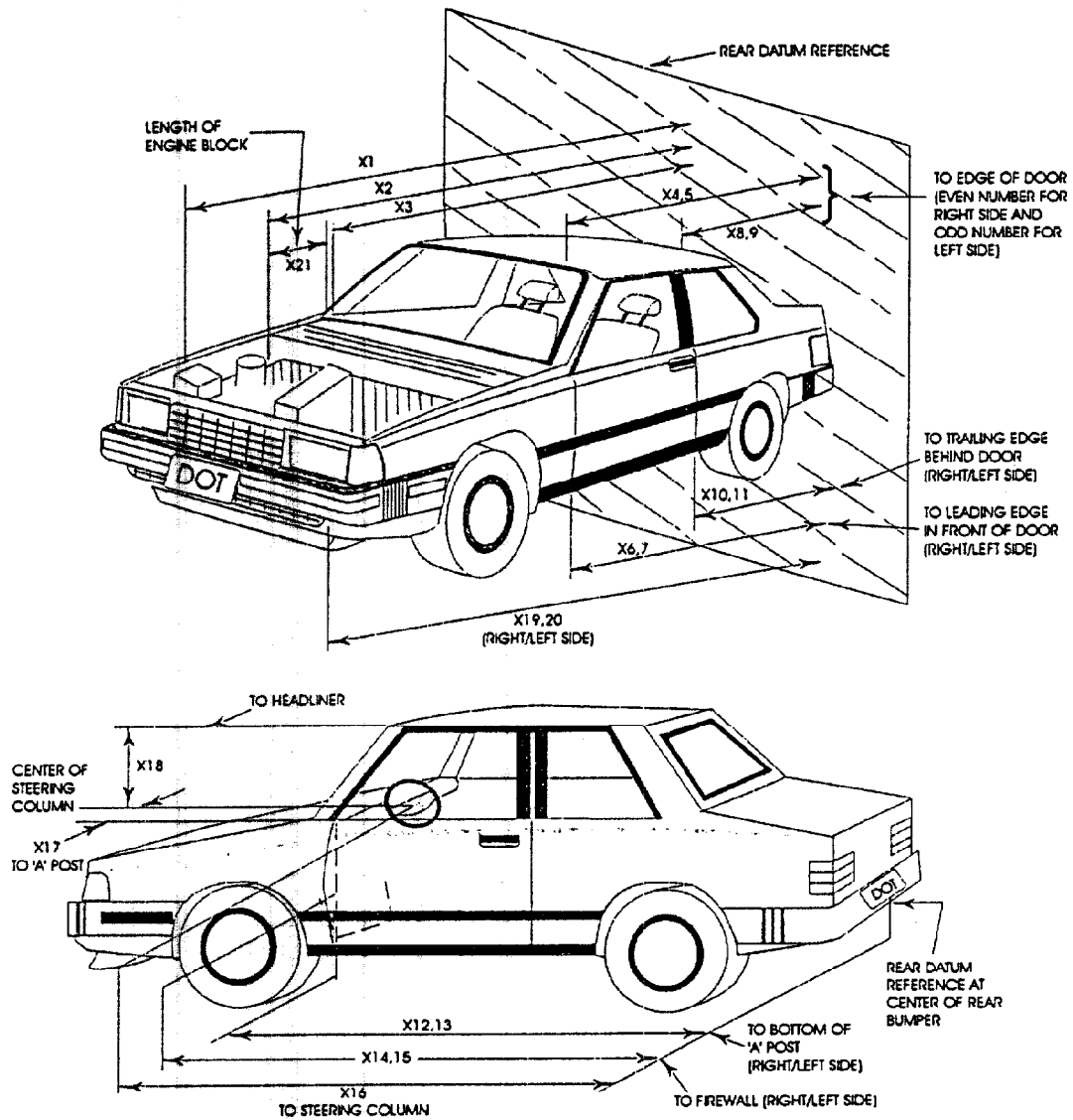
Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4733	4230	-503
2	RSOV to front of engine	mm	4271	3906	-365
3	RSOV to firewall centerline	mm	3586	3439	-147
4	RSOV to leading edge of right door	mm	3168	3165	-3
5	RSOV to leading edge of left door	mm	3165	3175	10
6	RSOV to lower leading edge of right door	mm	3174	3165	-9
7	RSOV to lower leading edge of left door	mm	3171	3175	4
8	RSOV to upper trailing edge of right door	mm	2186	2190	4
9	RSOV to upper trailing edge of left door	mm	2182	2195	13
10	RSOV to lower trailing edge of right door	mm	2174	2175	1
11	RSOV to lower trailing edge of left door	mm	2175	2182	7
12	RSOV to bottom of right 'A' pillar	mm	3166	3170	4
13	RSOV to bottom of left 'A' pillar	mm	3066	3165	99
14	RSOV to firewall on right side	mm	3480	3433	-47
15	RSOV to firewall of left side	mm	3483	3463	-20
16	RSOV to steering column	mm	2754	2782	28
17	Center of steering column to left 'A' pillar	mm	390	410	20
18	Center of steering column to headlining	mm	445	510	65
19	RSOV to right side of front bumper	mm	4366	4033	-333
20	RSOV to left side of front bumper	mm	4366	4013	-353
21	Length of engine block	mm	225	225	0
RD	RSOV to right side of dash panel	mm	2945	2940	-5
CD	RSOV to center of dash panel	mm	2985	2990	5
LD	RSOV to left side of dash panel	mm	2934	2950	16



DATA SHEET NO. 15

CAMERA LOCATIONS

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

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	2134	8179	1156	1	7849	13	900
3	Left Side, No. 2	1219	6045	1499	2	5791	25	970
4	Left Side, No. 3	3226	2921	2057	17	2896	19	930
5	Left Side, No. 4	2210	8306	3061	15	8128	19	990
6	Left Side, No. 5	2210	8382	2591	15	8077	19	1000
7	Right Side, No. 1	1524	8255	876	6	7874	19	940
8	Right Side, No. 2	1651	8280	1524	3	7899	40	930
9	Right Side, No. 3	3404	3200	2057	15	3099	19	970
10	Right Side, No. 4	2362	7645	1321	2	7264	35	960
11	Overhead Overall	737	0	5791	7	N/A	13	**
12	Front View Driver	-305	406	2743	48	N/A	13	930
13	Front View, Passenger	-305	406	2743	45	N/A	13	950
14	Pit Camera, Engine	787	0	1537	88	N/A	10	760
15	Pit Camera, Fuel Tank	4445	0	1829	53	N/A	12	800
16	Onboard, Driver	292	305	1092	2	1194	13	570
17	Onboard, Passenger	292	305	1092	3	1118	13	400

* X - Barrier Face Y - Monorail

** Film jammed

DATA SHEET NO. 16
REFERENCE PHOTOGRAPH TARGETS -

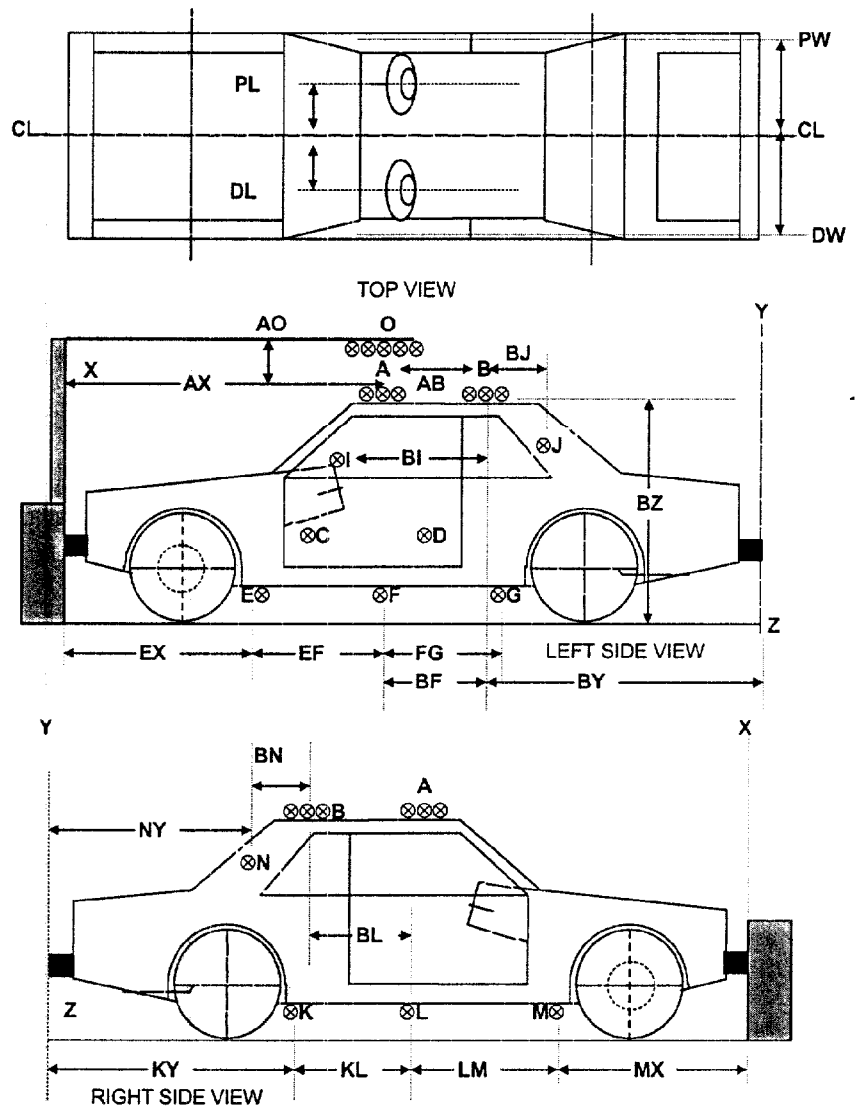
Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

Item	Value
AX	2445
AB	610
AO	152
BJ	530
BI	1240
BZ	1455
EX	1430
EF	920
FG	905
BF	720
BY	1700
NY	1210
BN	440
KY	1497
KL	916
BL	770
LM	905
MX	1400
CL/PL	360
CL/PW	770
CL/DL	360
CL/DW	770



VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

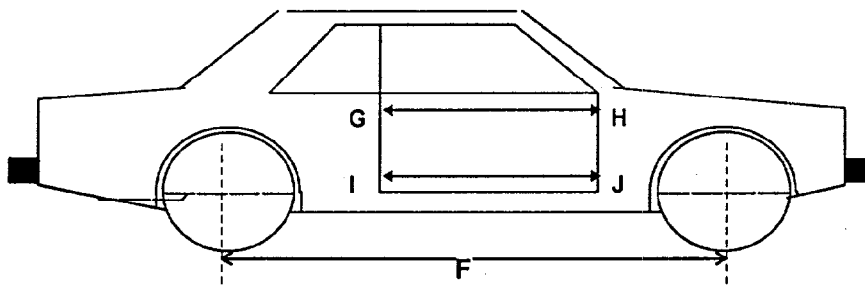
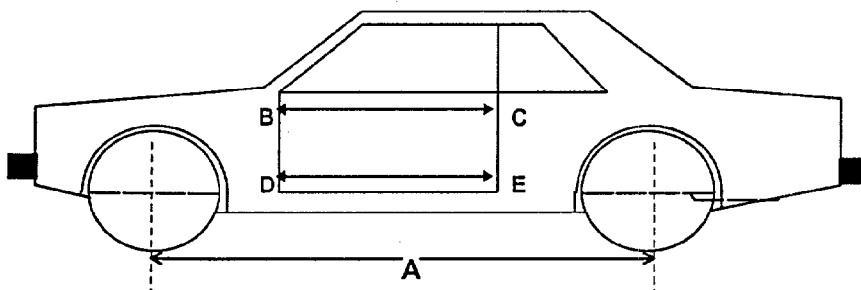
Test Date: 1/13/99

DOOR OPENING WIDTH

UNITS (mm)	LEFT SIDE		RIGHT SIDE	
MEASUREMENT	BC	DE	GH	IJ
PRE-TEST	912	825	909	825
POST-TEST	950	828	898	824
DIFFERENCE	+38	-3	-11	-1

VEHICLE WHEELBASE CHANGE

UNITS (mm)	A = LEFT SIDE WHEELBASE	F = RIGHT SIDE WHEELBASE
PRE-TEST	2660	2660
POST-TEST	2605	2624
DIFFERENCE	-55	-36



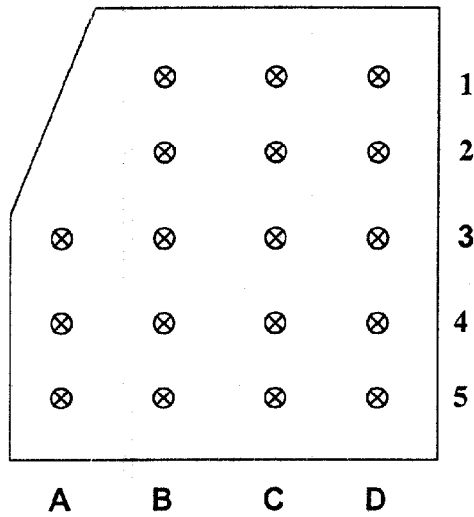
Data Sheet No. 17(Continued)

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

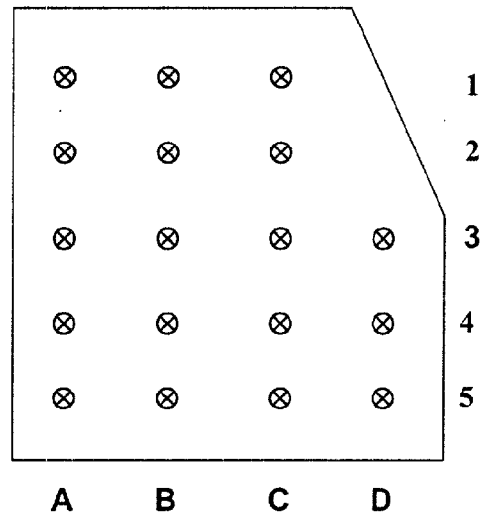
Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99



⊕ X
LEFT FRONT SEAT ANCHOR BOLT
↓
TO RSOV REFERENCE

DRIVER SIDE FLOOR PLAN



⊕ X
RIGHT FRONT SEAT ANCHOR BOLT
↓
TO RSOV REFERENCE

PASSENGER SIDE FLOORPAN

(Data Sheet No. 17 Continued)

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

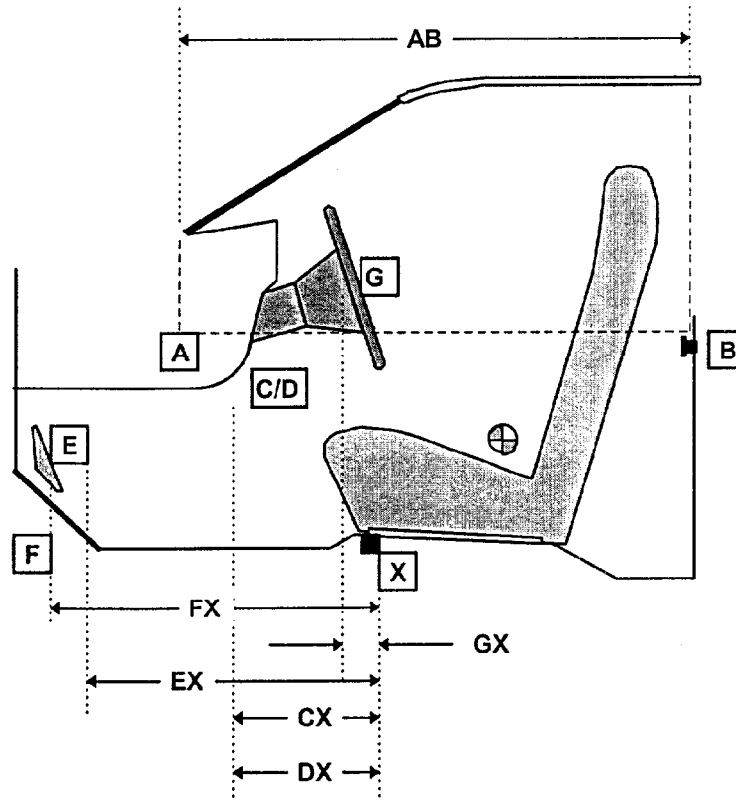
Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

DRIVER COMPARTMENT INTRUSION (Distances in mm)

REF.	DESCRIPTION	PRE-TEST	POST-TEST
AB	DOOR OPENING (INSIDE WINDOW JAM)	912	950
CX	LOWER LEFT KNEE BOLSTER TO X	245	252
DX	LOWER RIGHT KNEE BOLSTER TO X	260	254
EX	BRAKE PEDAL TO X	561	430
FX	FOOT REST TO X	611	N/A
GX	STEERING COLUMN HUB (CENTER) TO X	0	-15

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				724	627	-97	720	600	-120	721	583	-138
2				635	532	-103	626	511	-115	628	534	-94
3	532	540	8	530	540	10	531	512	-19	528	516	-12
4	431	435	4	430	435	5	428	435	7	427	435	8
5	334	340	6	332	340	8	331	335	4	328	330	2

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				85	135	50	86	140	54	85	133	48
2				7	54	47	6	33	27	8	15	7
3	-65	-44	21	-67	-60	7	-63	-75	-12	-67	-83	-16
4	-75	-60	15	-65	-70	-5	-59	-60	-1	-64	-55	9
5	-72	-65	7	-62	-68	-6	-68	-75	-7	-66	-73	-7

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	743	613	-130	739	630	-109	741	657	-84			
2	639	555	-84	634	550	-84	640	570	-70			
3	533	540	7	530	530	0	537	542	5	534	540	6
4	431	430	-1	436	435	-1	436	440	4	438	444	6
5	322	330	8	331	335	4	333	340	7	336	342	6

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	103	155	52	113	165	52	111	158	47			
2	8	10	2	5	33	28	6	40	34			
3	-63	-82	-19	-60	-84	-24	-61	-61	0	-60	-52	8
4	-68	-80	-12	-66	-69	-3	-60	-58	2	-65	-60	5
5	-65	-80	-15	-65	-65	0	-68	-59	9	-70	-61	9

RSOV to anchor bolt
Ground level to anchor bolt

DRIVER

PRE	POST	DIFF.
2720	2723	3
N/A	N/A	

PASSENGER

PRE	POST	DIFF.
2720	2723	3
N/A	N/A	

DATA SHEET NO. 18

OFFSET BARRIER ORIENTATION

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

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 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99

VIN: 1YVGF22CXX5832310 Wheelbase: 2660 mm Test Weight: 1459 kg

Vehicle Size Category: MAZDA 626 LX 4 DOOR SEDAN

ACCELEROMETER DATA:

LOCATION: Left and right rear floor pans

CALIBRATION PROCEDURE: 6 months/ drop test

LINEARITY: Good

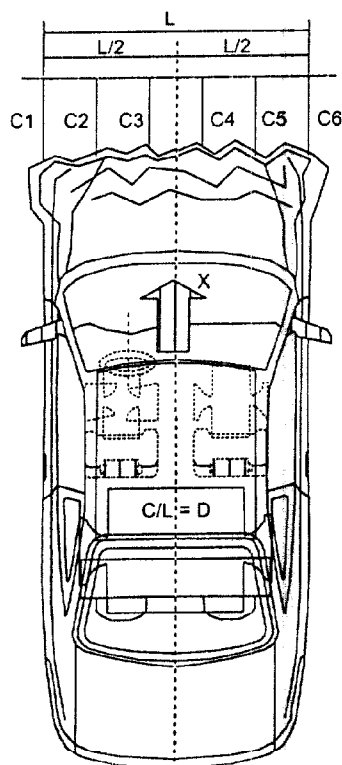
INTEGRATION ALGORITHM: NHTSA Standard

VEHICLE IMPACT SPEED: 56.6 km/h

TIME OF SEPARATION: 73.7 msec

VELOCITY CHANGE: 66.14 km/h

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



IMPACT MODE: Full Frontal

CRUSH DEPTH DIMENSIONS:

C1 = 353 mm

C2 = 489 mm

C3 = 506 mm

C4 = 486 mm

C5 = 431 mm

C6 = 333 mm

MIDPOINT OF DAMAGE: Vehicle Centerline

LENGTH OF DAMAGE REGION: 1610 mm

DATA SHEET NO. 20

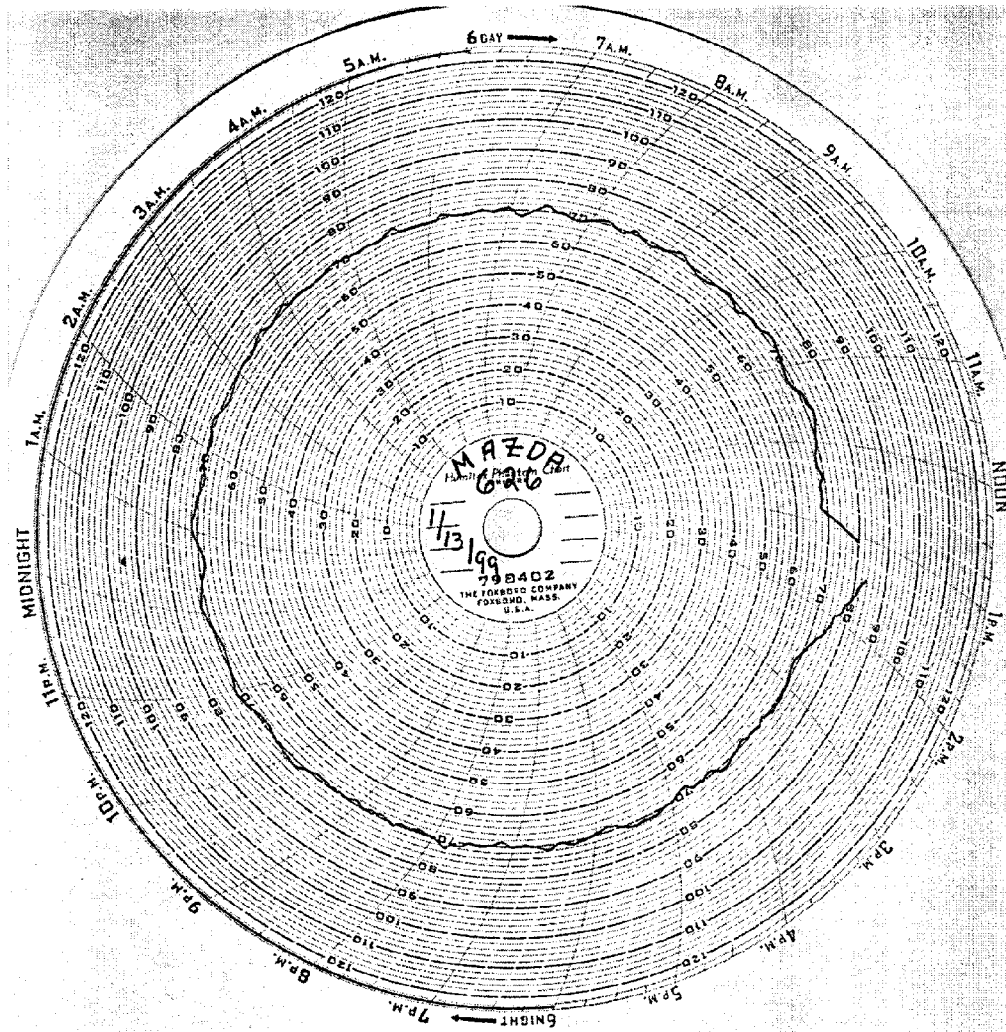
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 1999 MAZDA 626 LX 4 DOOR SEDAN

NHTSA No.: MX5400

Test Program: 1999 35 MPH FRONTAL IMPACT

Test Date: 1/13/99



APPENDIX A
PHOTOGRAPHS

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FIGURE A-1. RIGHT FRONT AS RECEIVED

A-1

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FIGURE A-2. LEFT REAR AS RECEIVED

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FIGURE A-3. VEHICLE CERTIFICATION LABEL

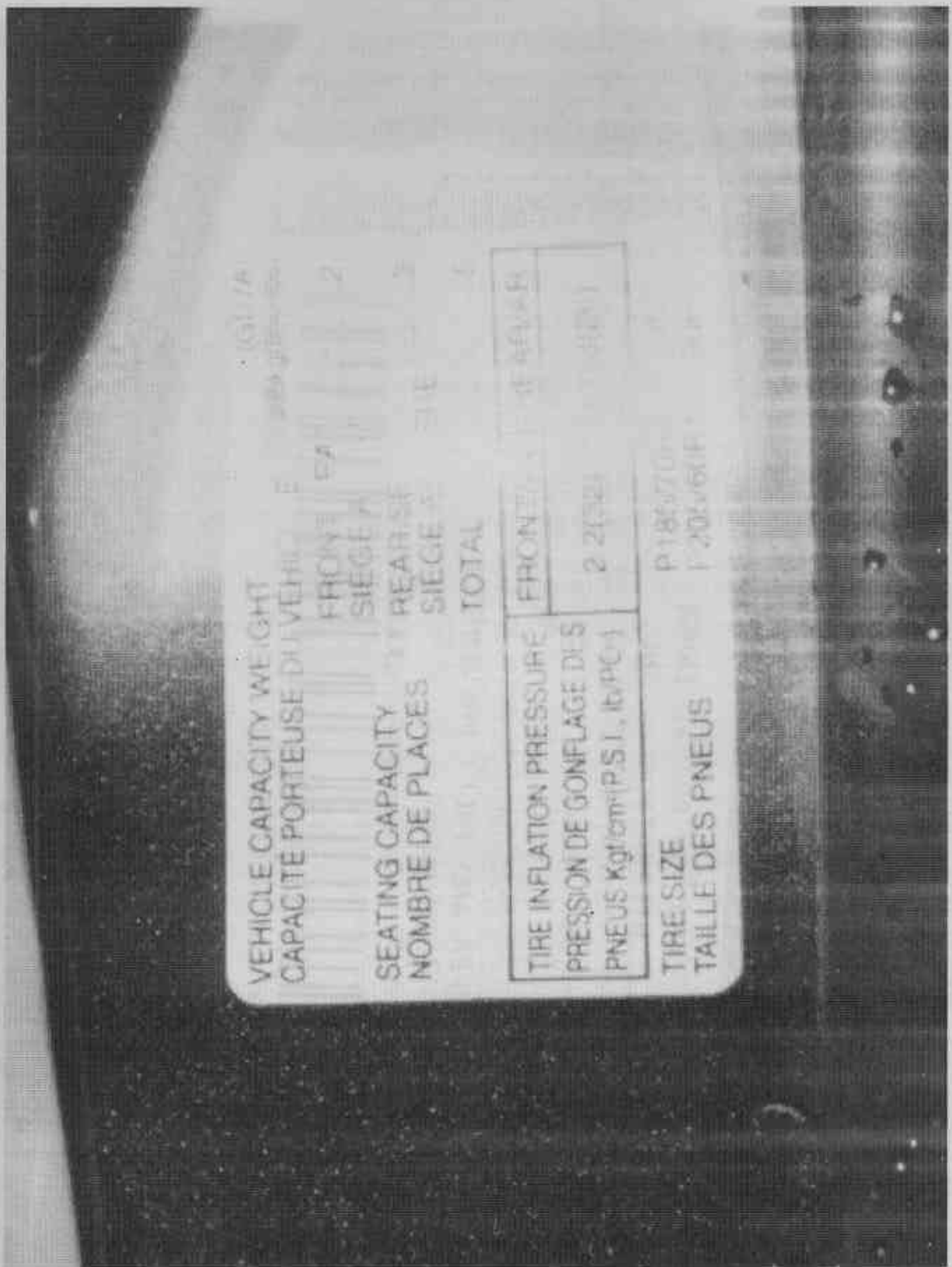


FIGURE A-4. VEHICLE TIRE PLACARD

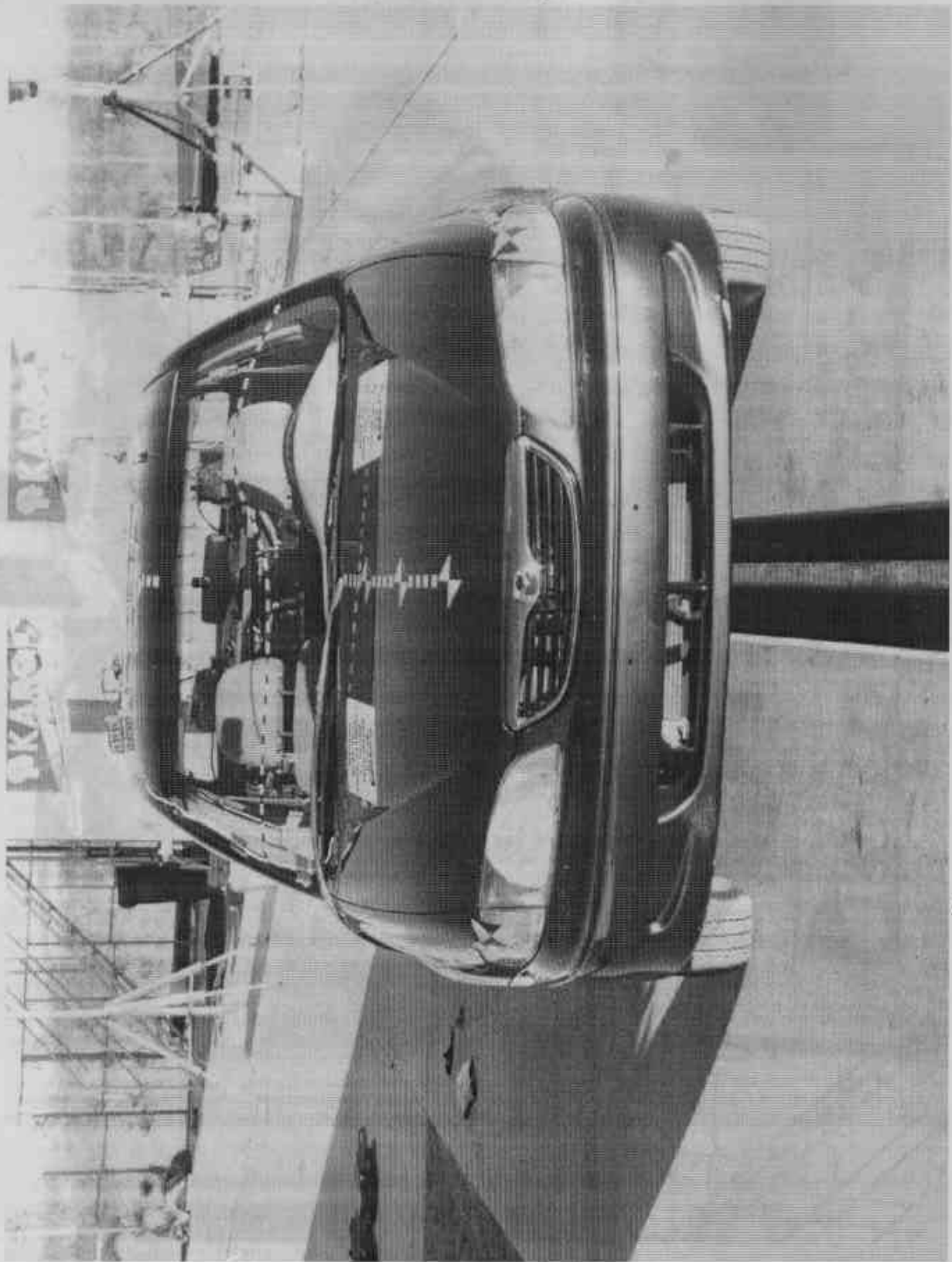


FIGURE A-5. PRETEST FRONT VIEW

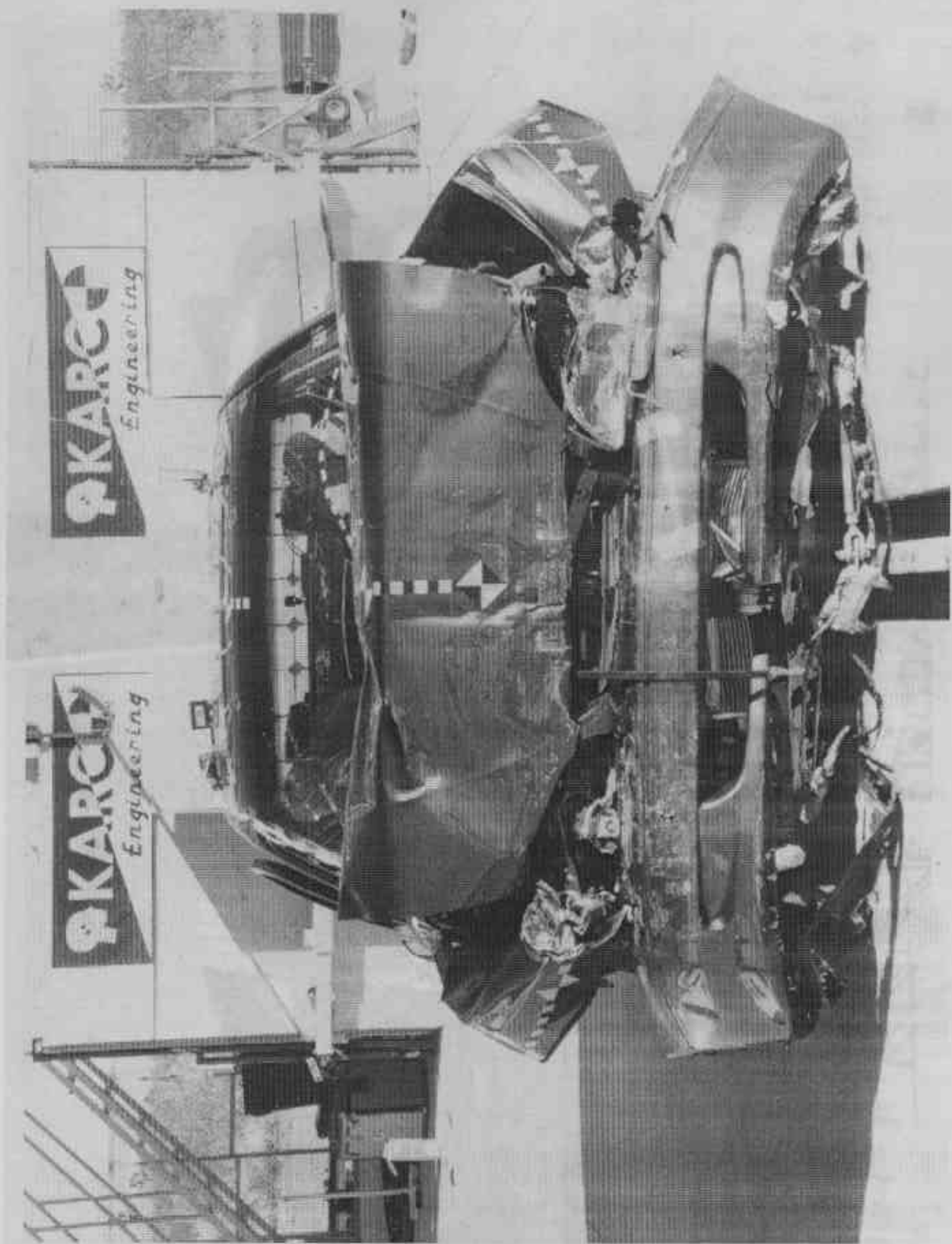


FIGURE A-6. POST TEST FRONT VIEW

A-6

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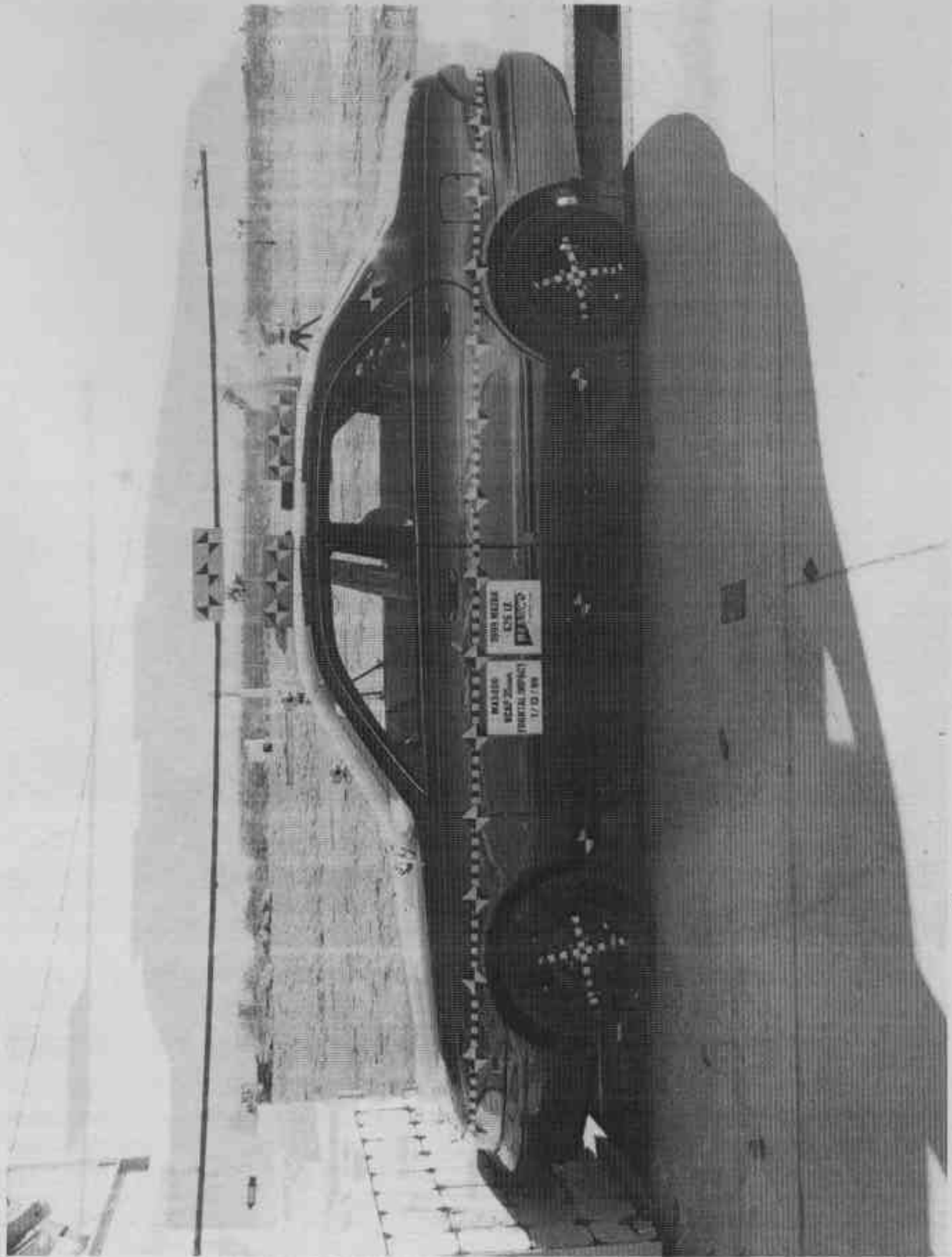


FIGURE A-7. PRETEST LEFT SIDE VIEW

A-7

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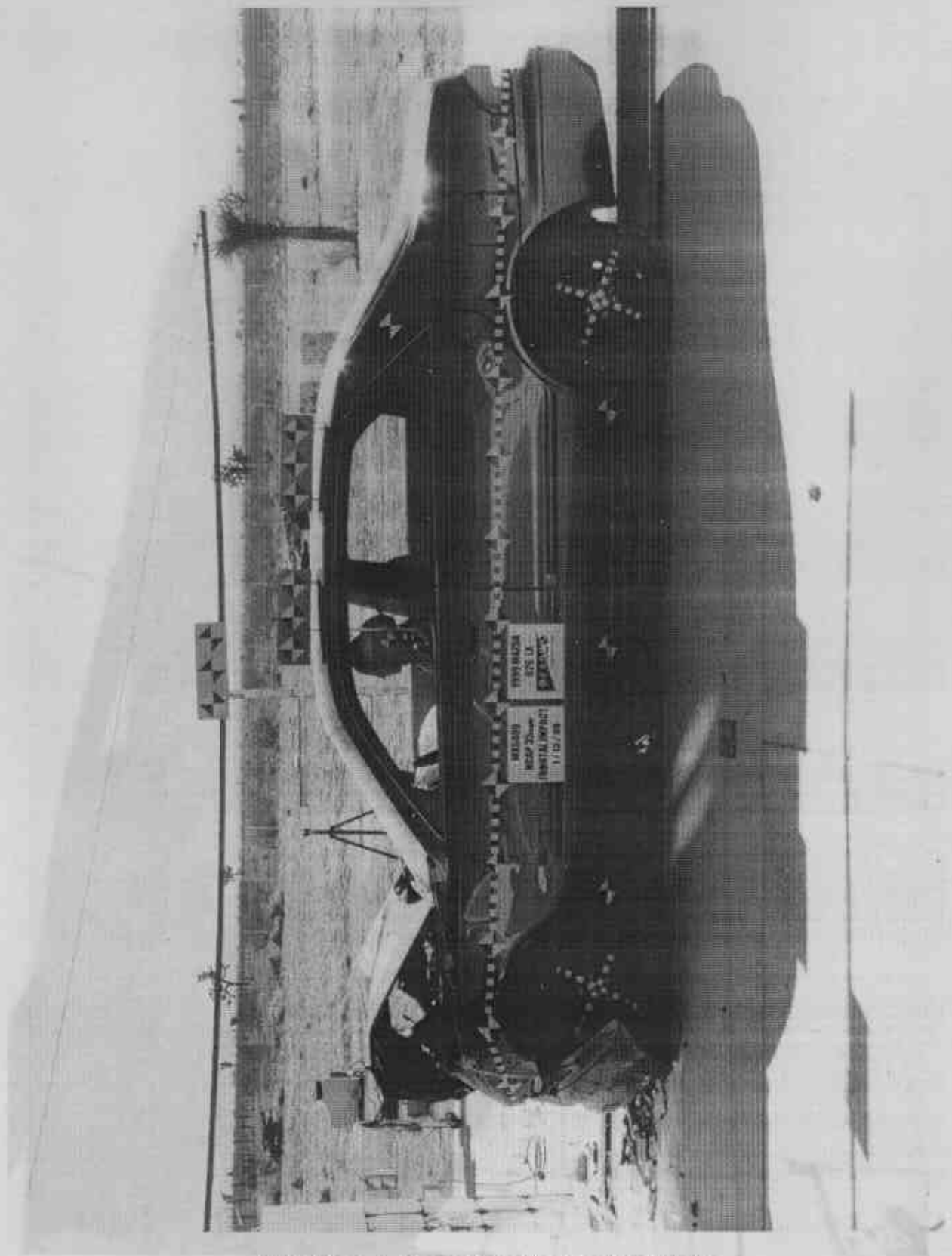


FIGURE A-8. POST TEST LEFT SIDE VIEW

A-8

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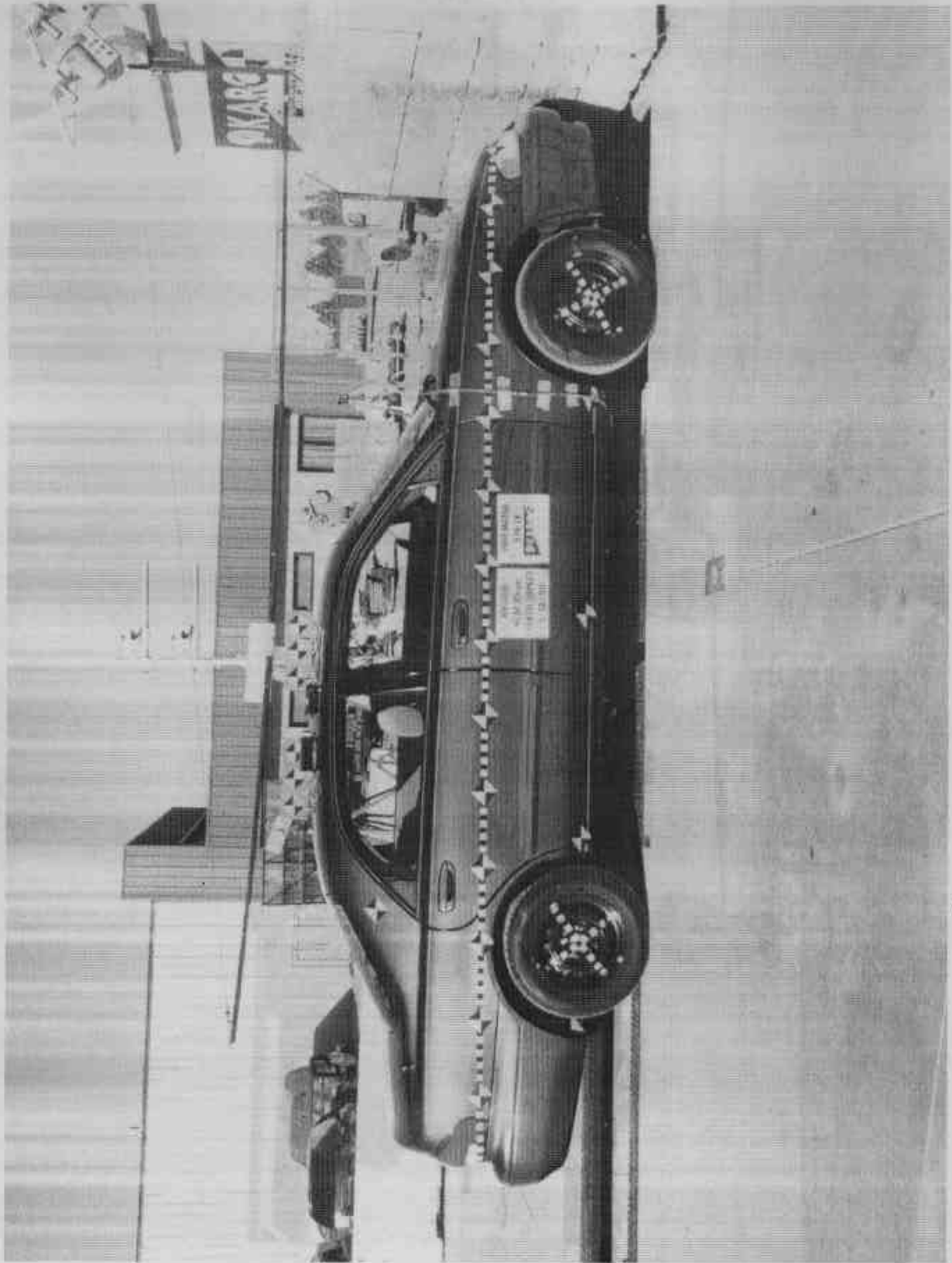


FIGURE A-9. PRETEST RIGHT SIDE VIEW

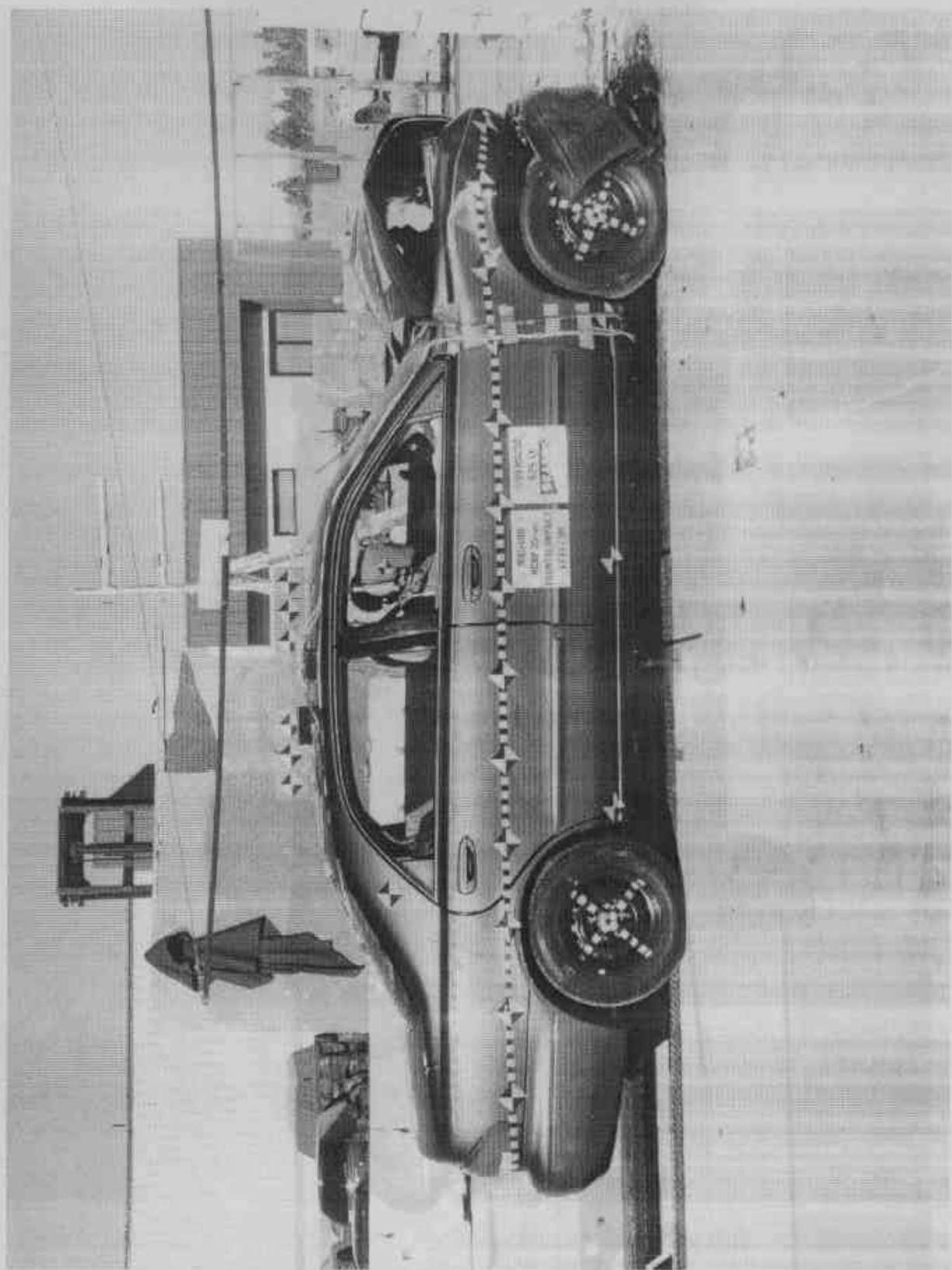


FIGURE A-10. POST TEST RIGHT SIDE VIEW

A-10

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FIGURE A-11. PRETEST RIGHT FRONT VIEW

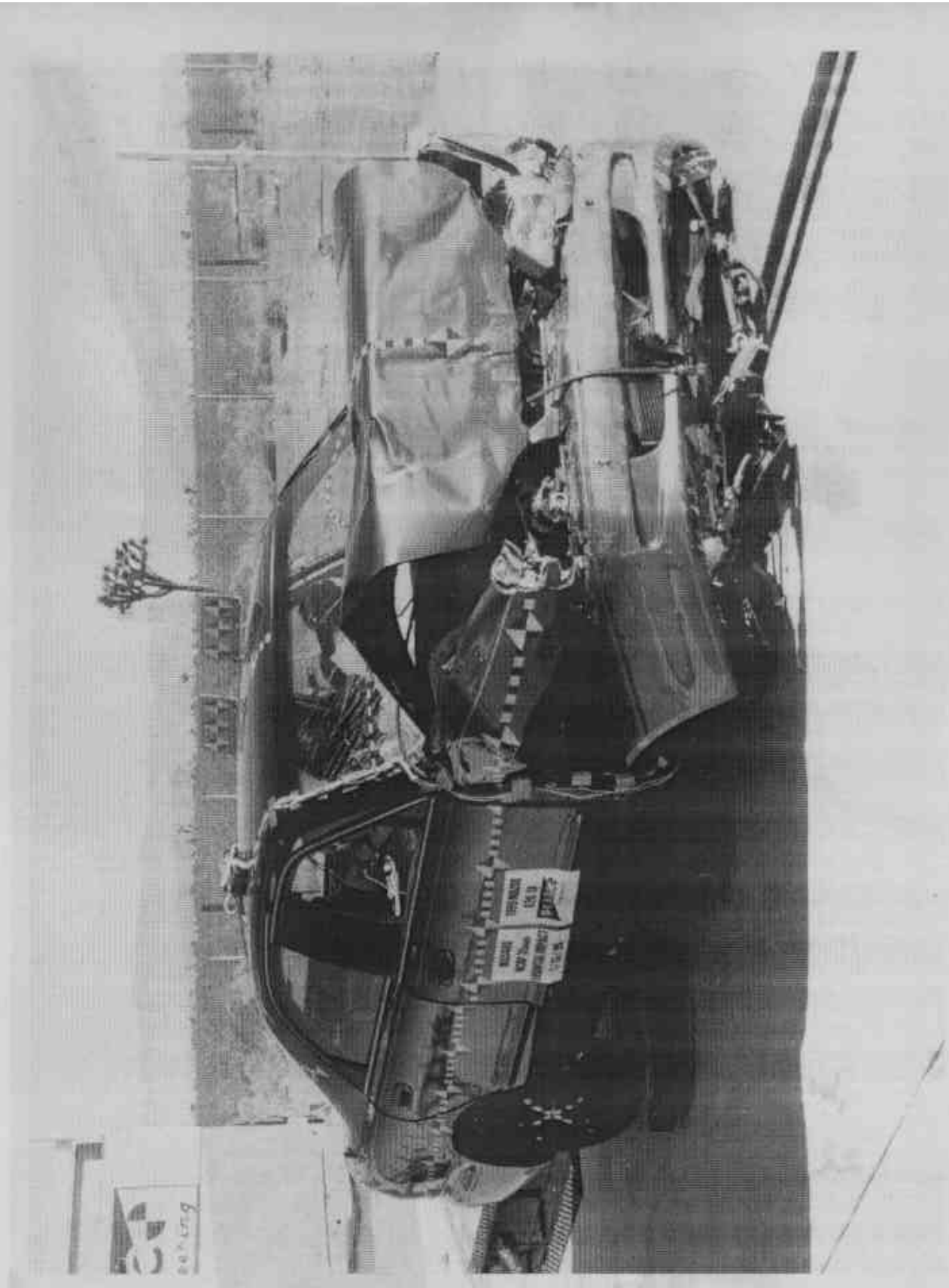


FIGURE A-12. POST TEST RIGHT FRONT VIEW

A-12

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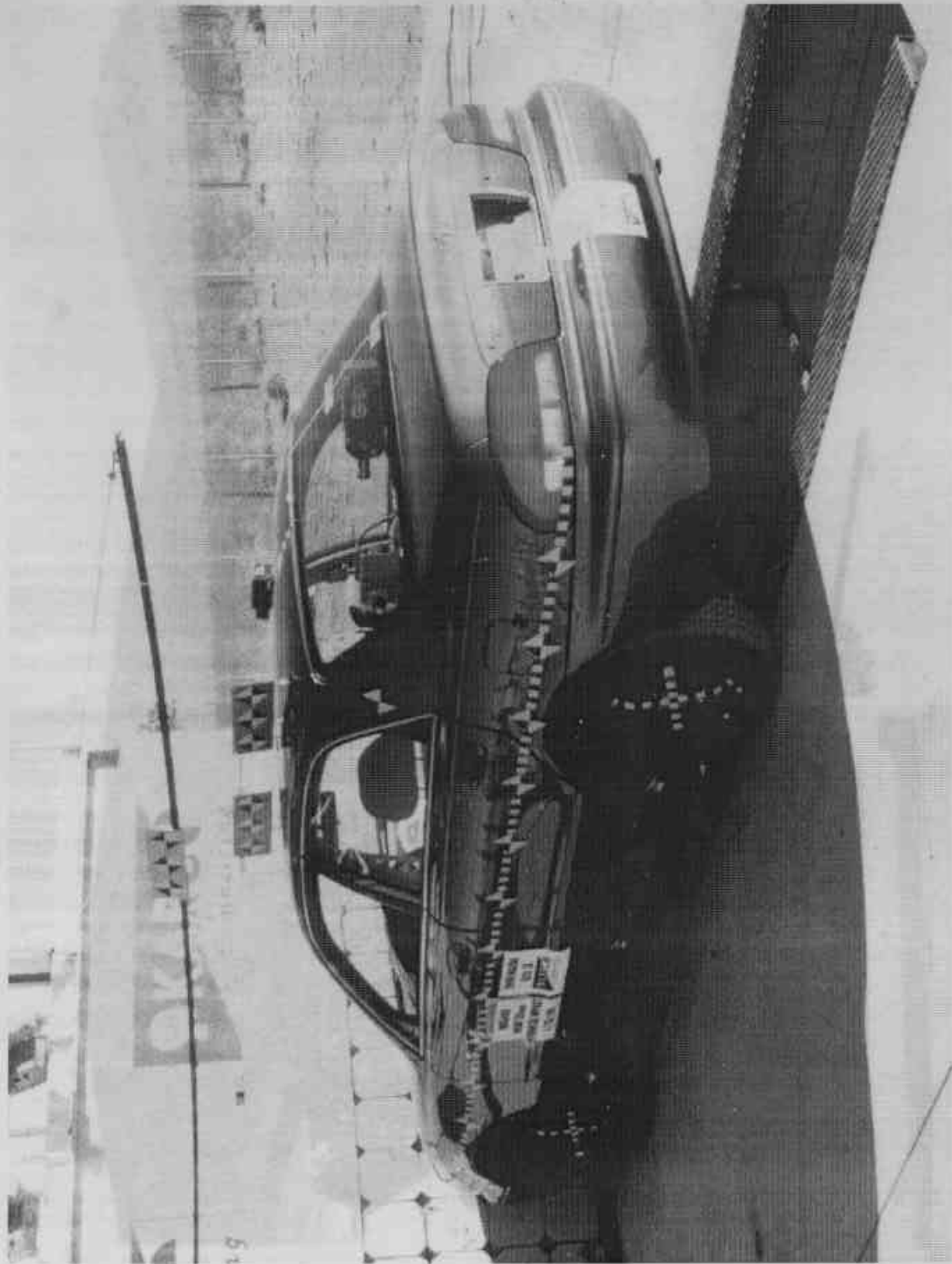


FIGURE A-13. PRETEST LEFT REAR VIEW

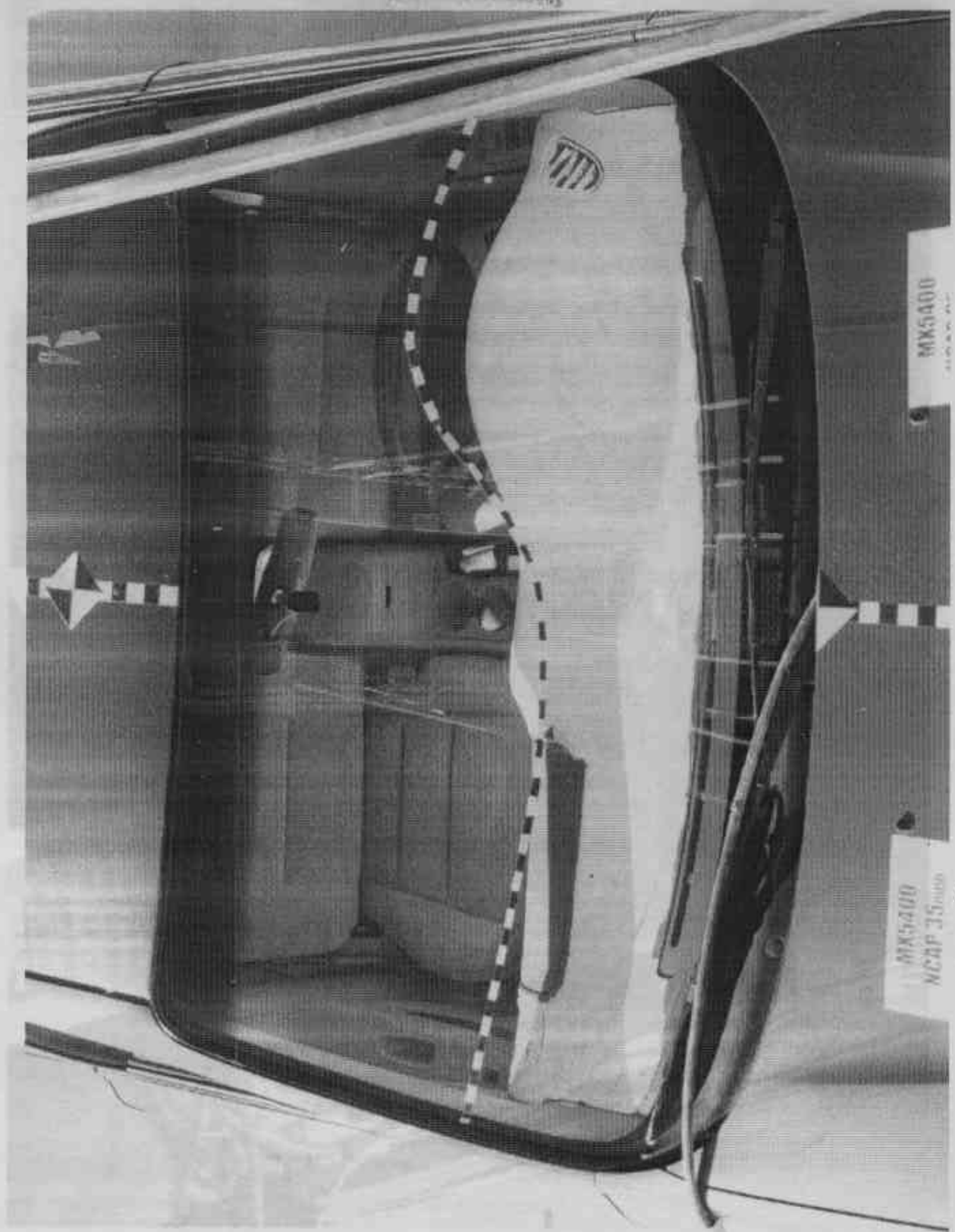


FIGURE A-15. PRETEST WINDSHIELD

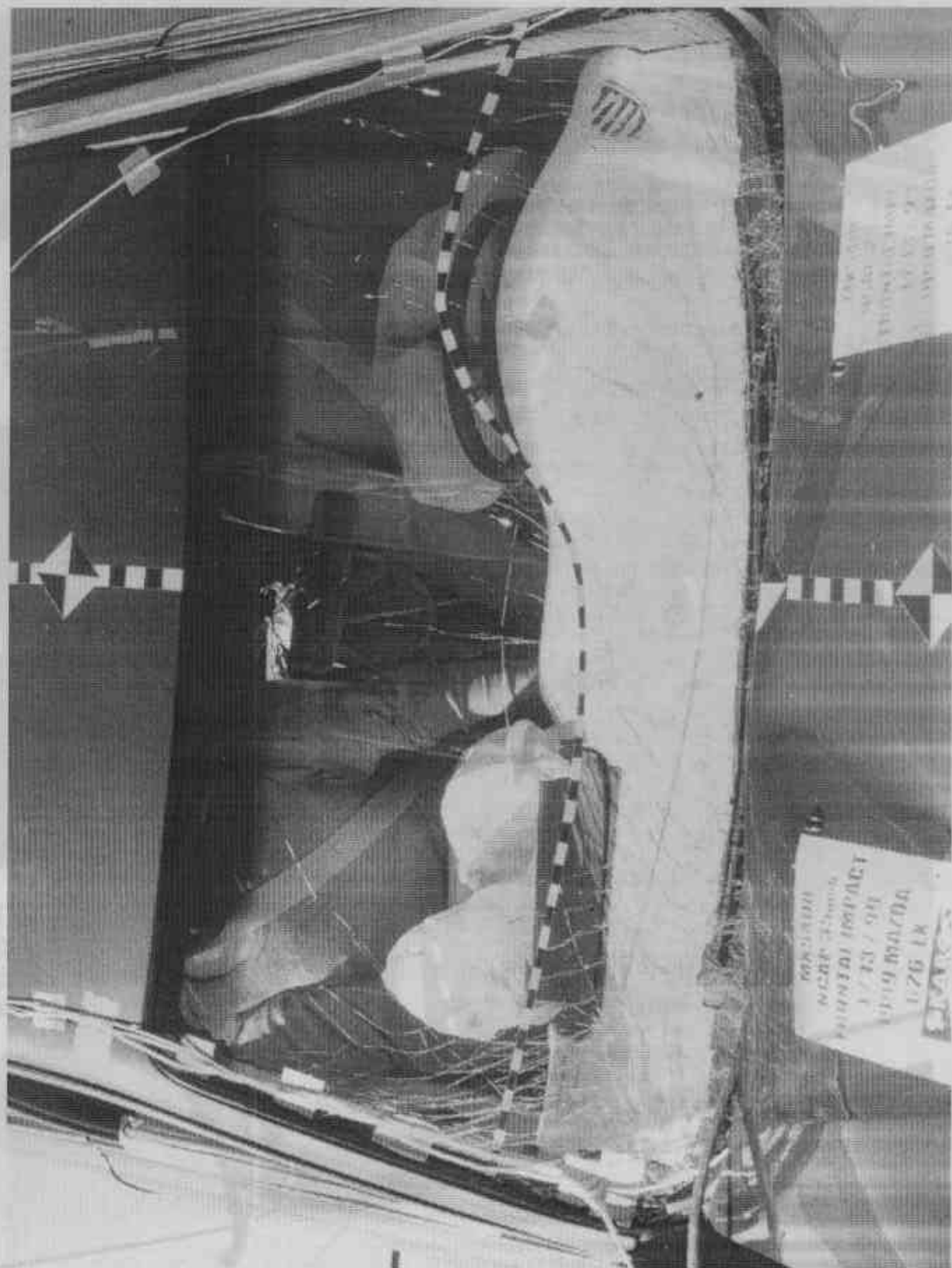


FIGURE A-16. POST TEST WINDSHIELD

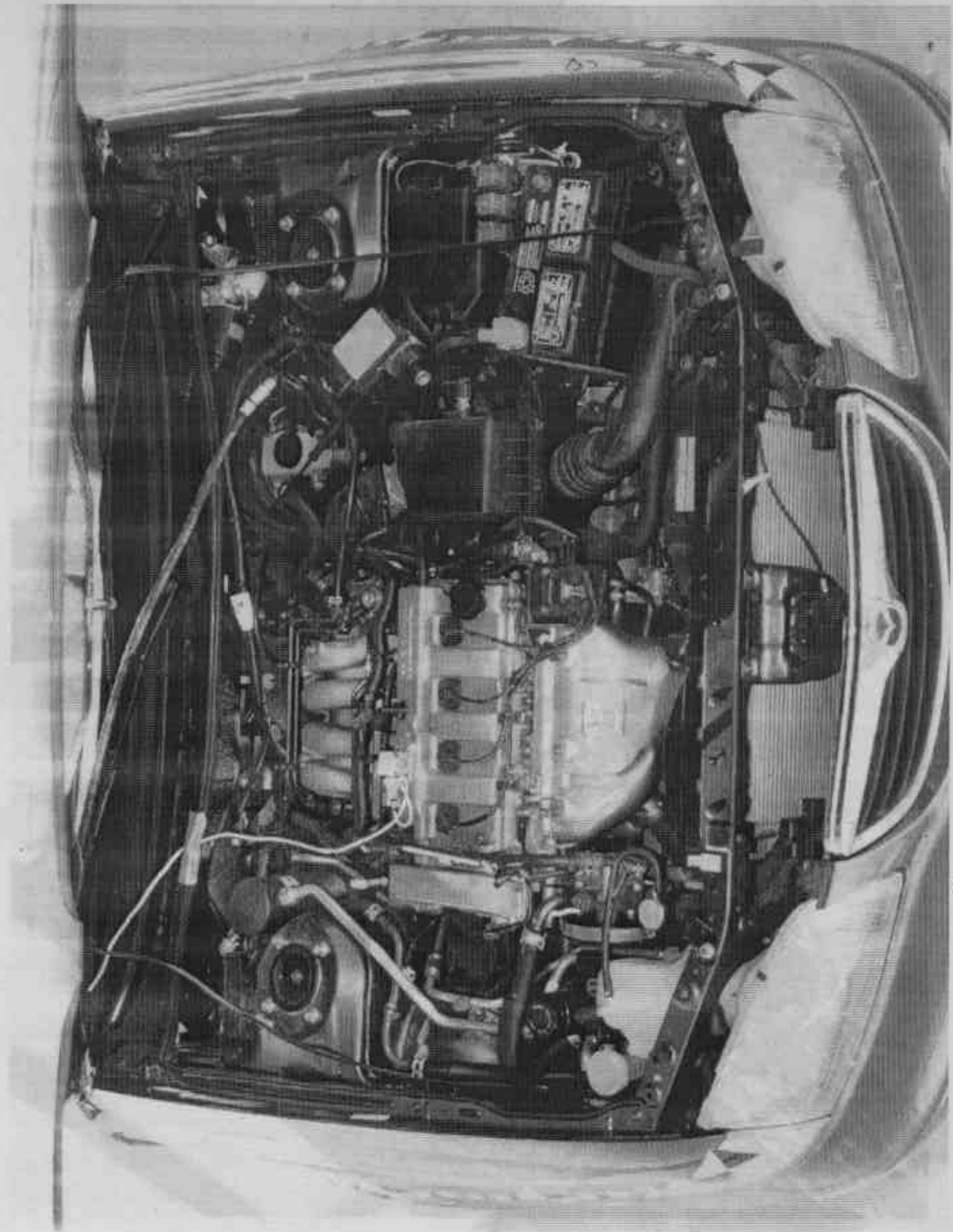


FIGURE A-17. PRETEST ENGINE COMPARTMENT

A-17

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GMAC
FINANCIAL SERVICES

MISSISS

19

FIGURE A-19. PRETEST FUEL CAP



FIGURE A-20. POST TEST FUEL CAP

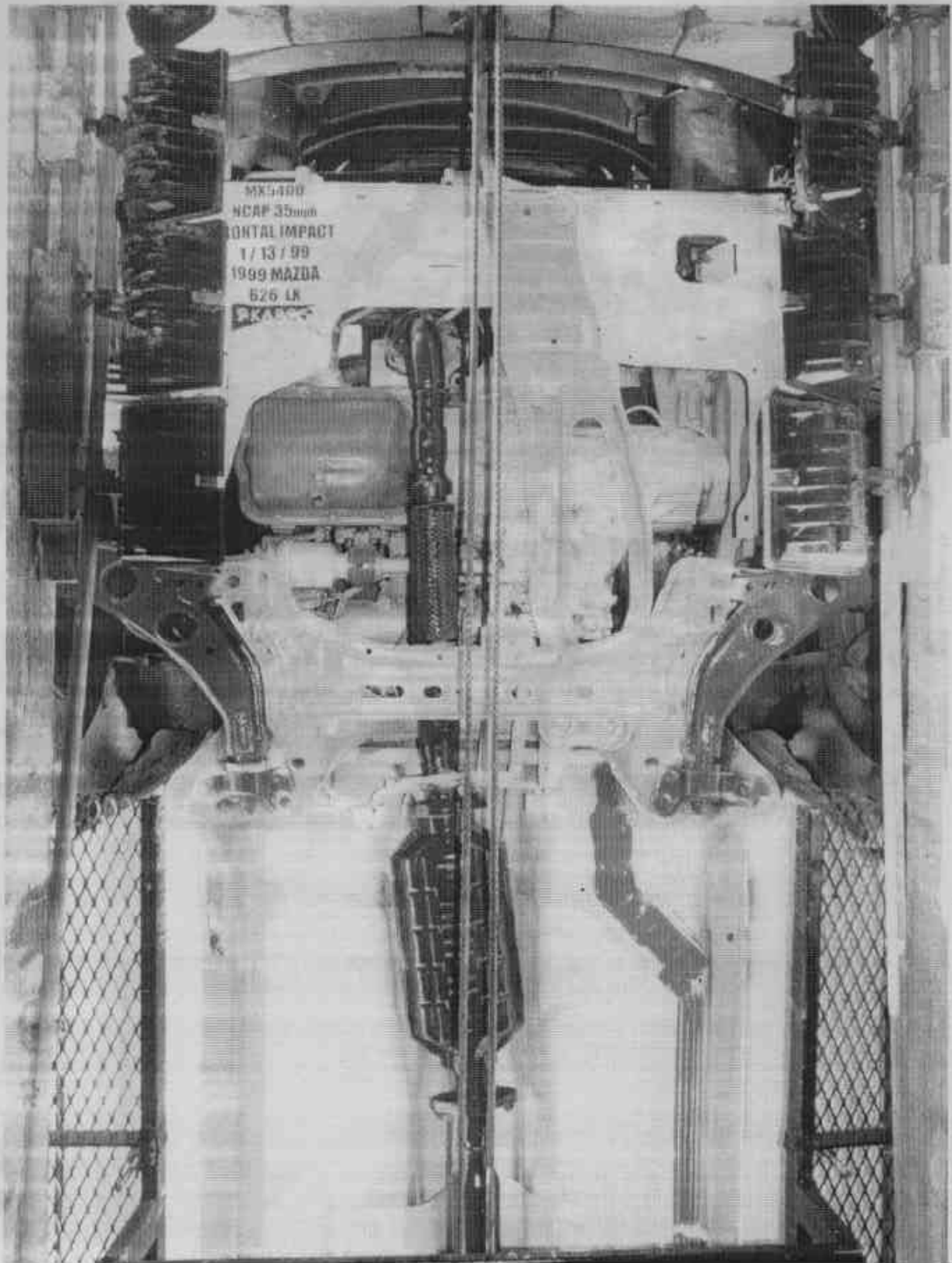


FIGURE A-21. PRETEST FRONT UNDERSIDE

RG-1100/51A1

A-21

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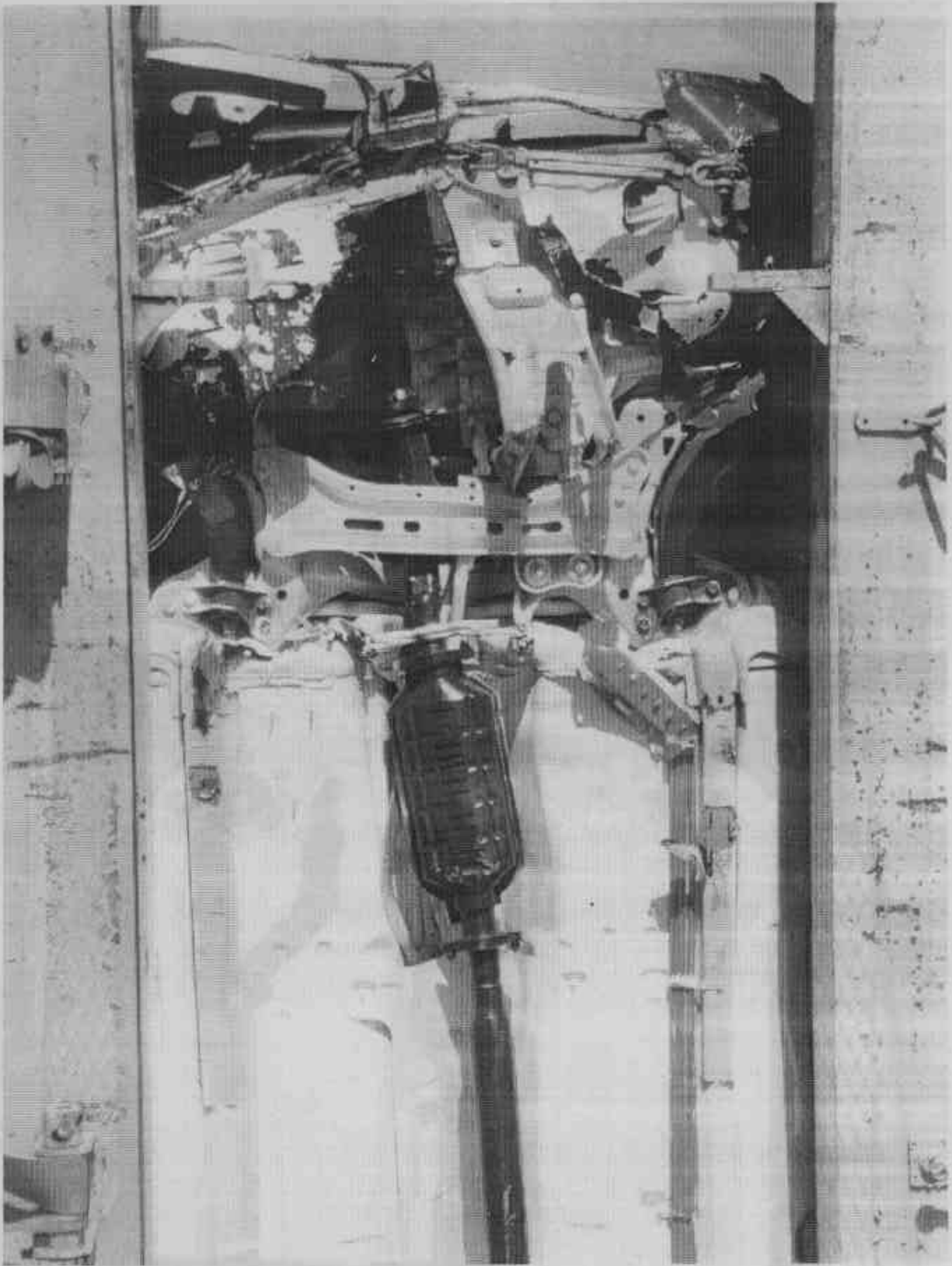


FIGURE A-22. POST TEST FRONT UNDERSIDE

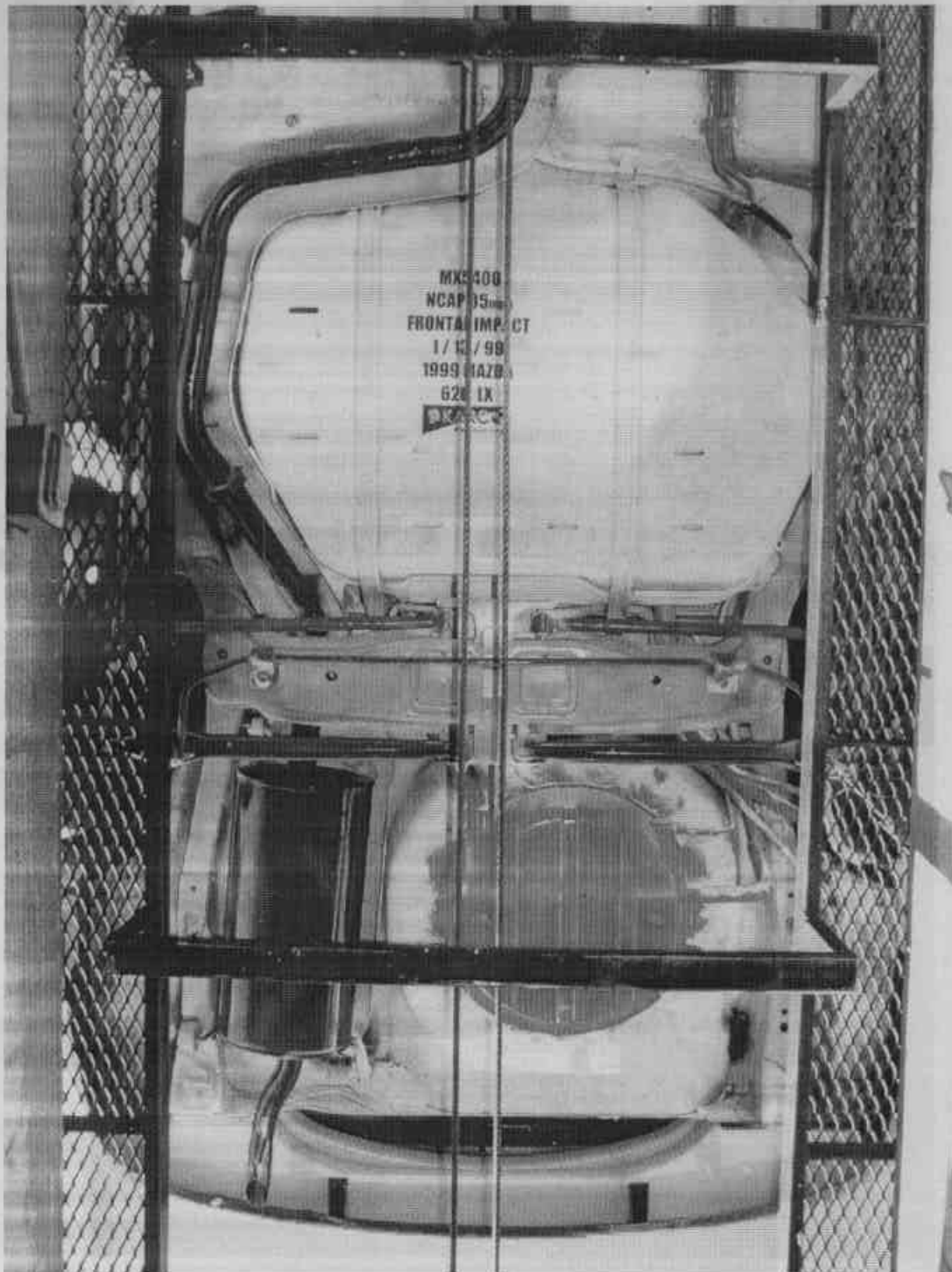


FIGURE A-23. PRETEST REAR UNDERSIDE

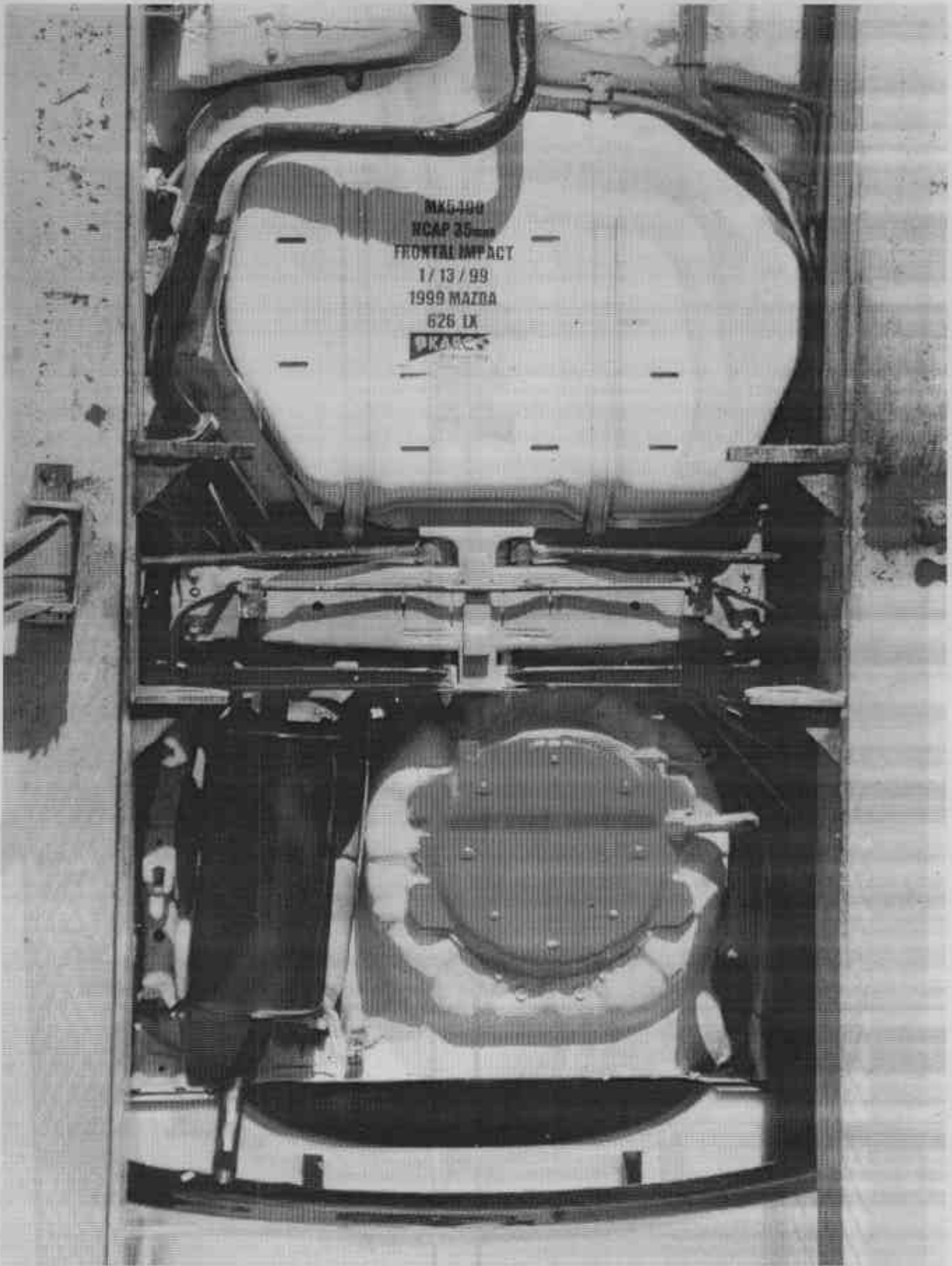


FIGURE A-24. POST TEST REAR UNDERSIDE



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

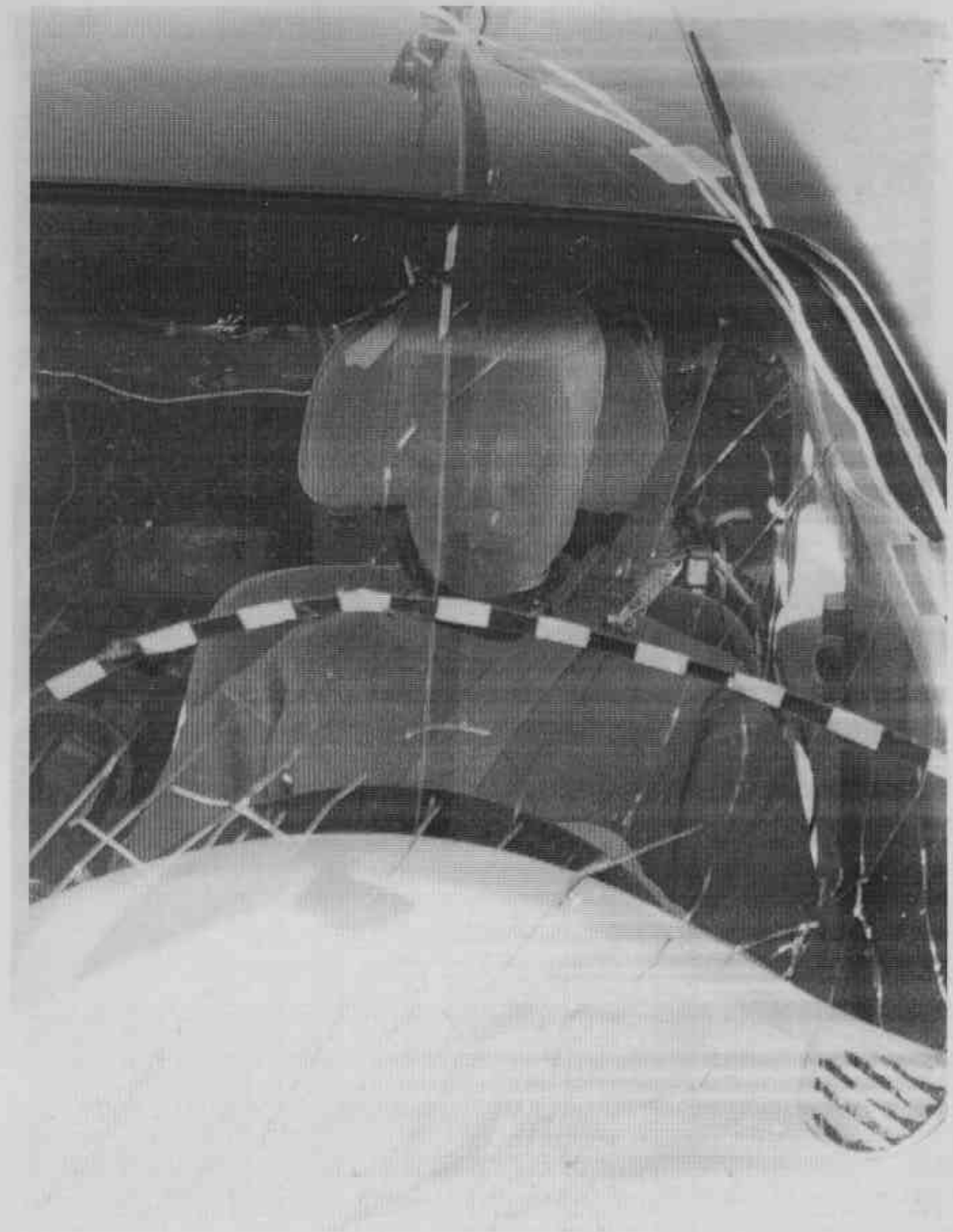


FIGURE A-26. POST TEST DRIVER DUMMY (FRONT VIEW)

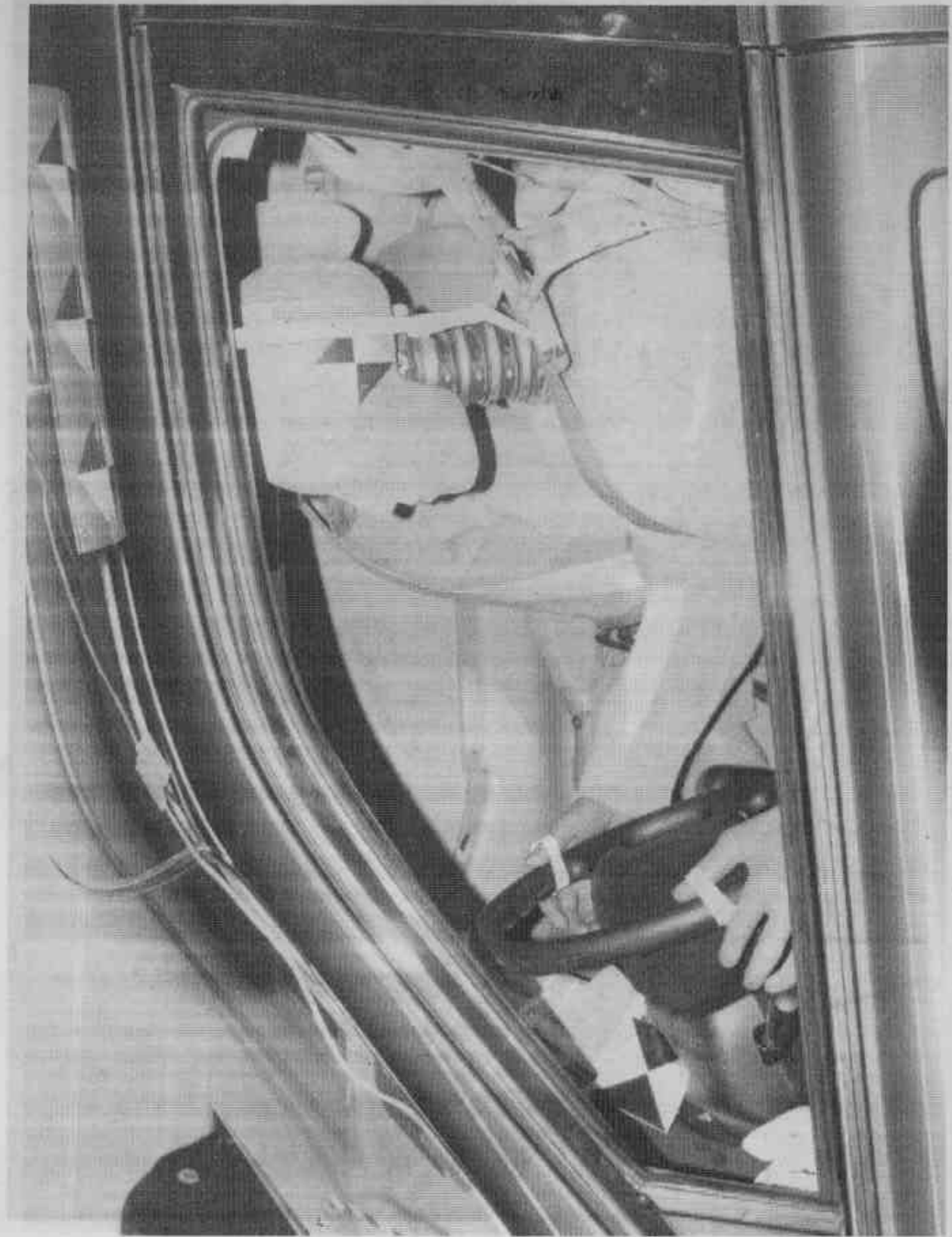


FIGURE A-27. PRETEST DRIVER DUMMY (THRU WINDOW)

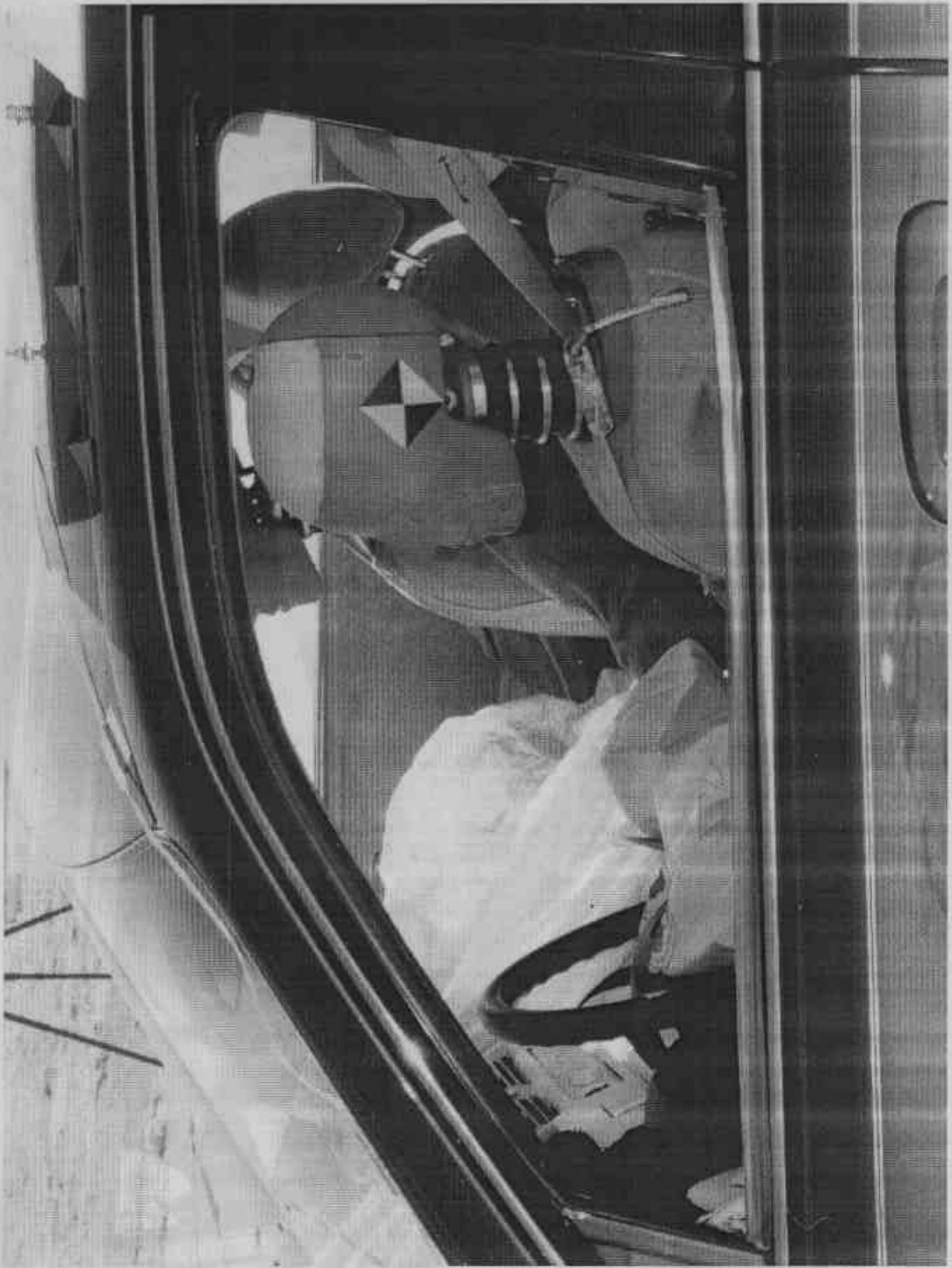


FIGURE A-28. POST TEST DRIVER DUMMY (THRU WINDOW)



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



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

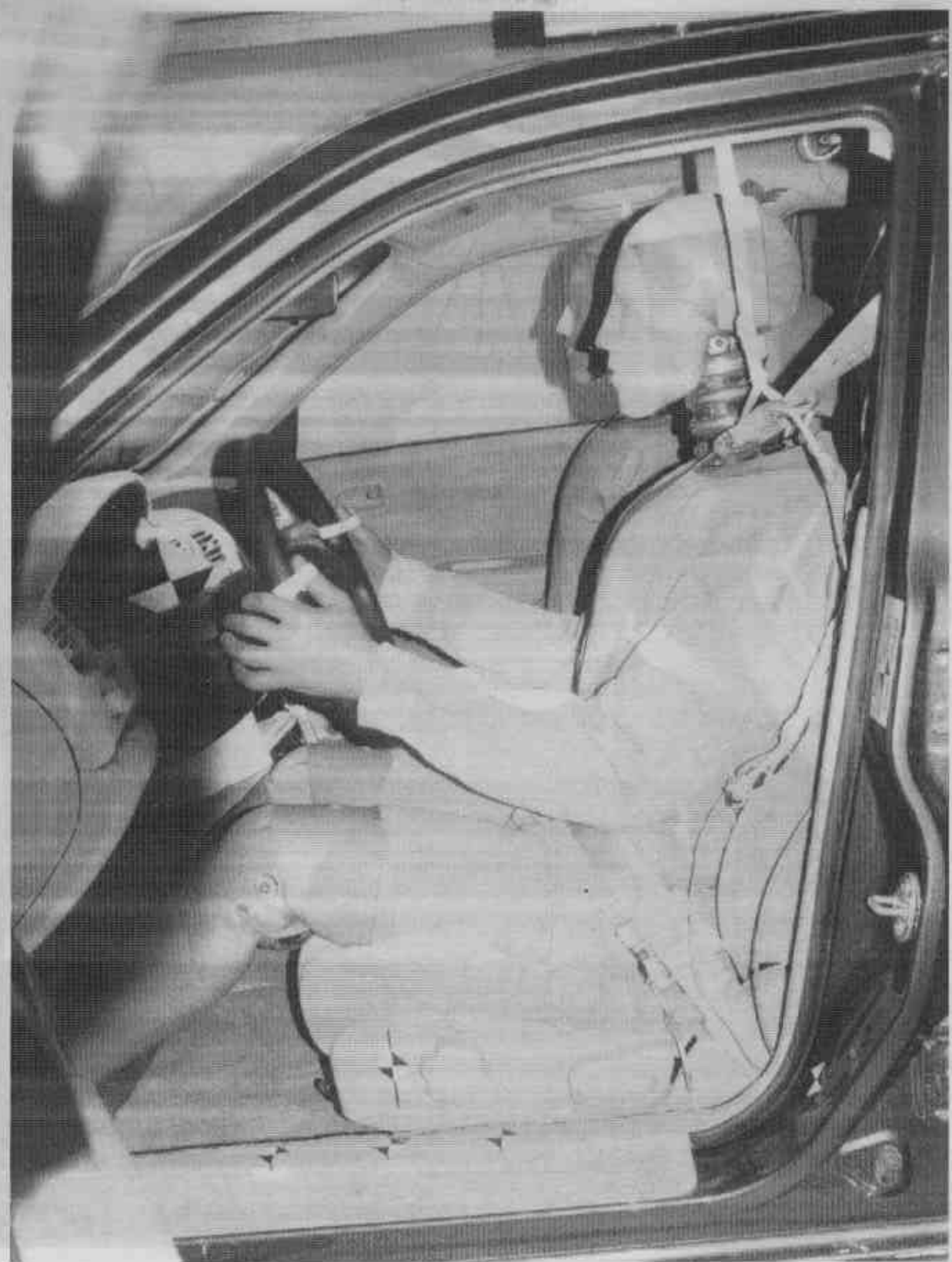


FIGURE A-31. PRETEST DRIVER DUMMY (90° TO VEHICLE)



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



FIGURE A-33. PRETEST DRIVER DUMMY FEET

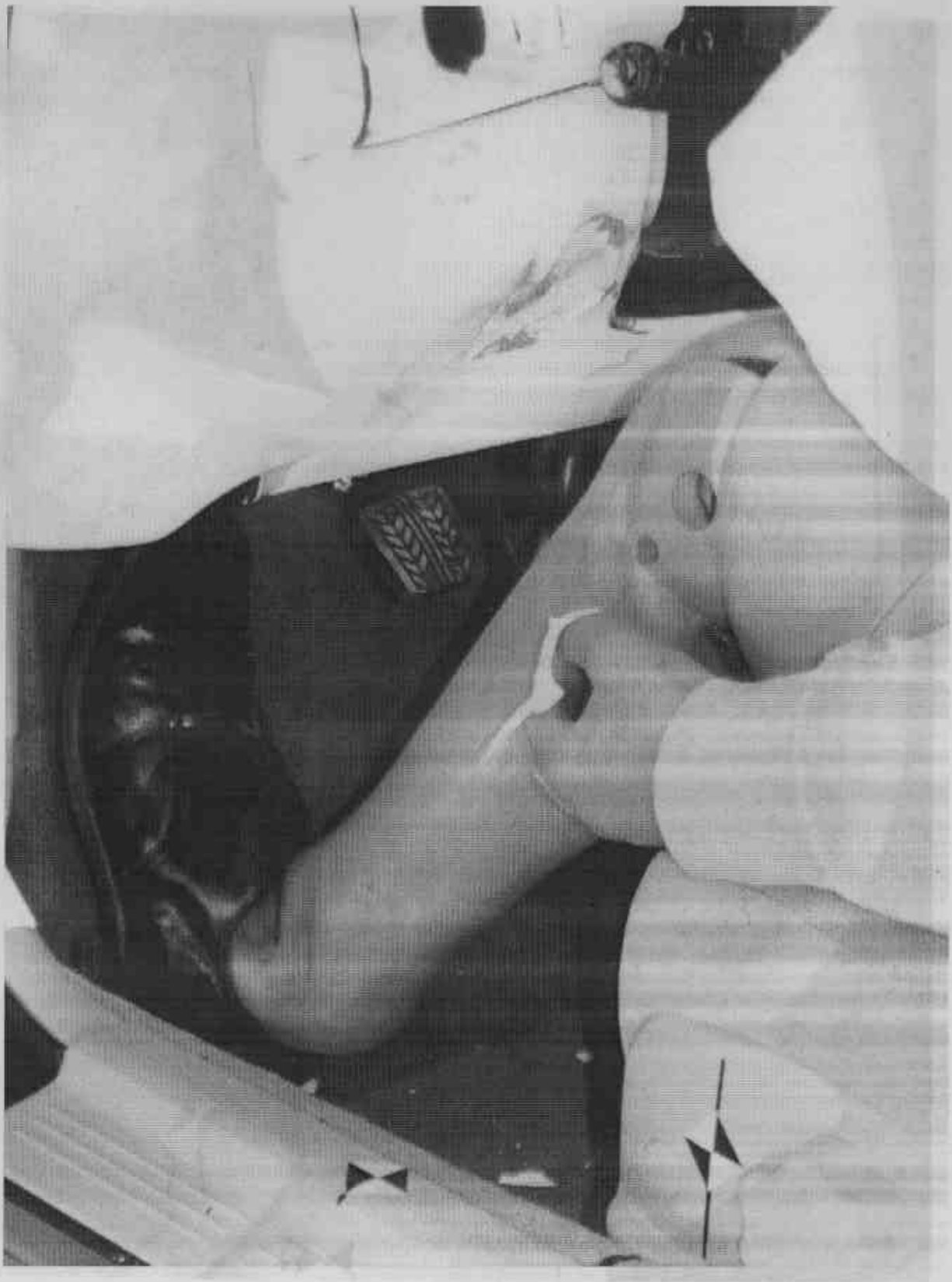


FIGURE A-34. POST TEST DRIVER DUMMY FEET AND KNEE CONTACT

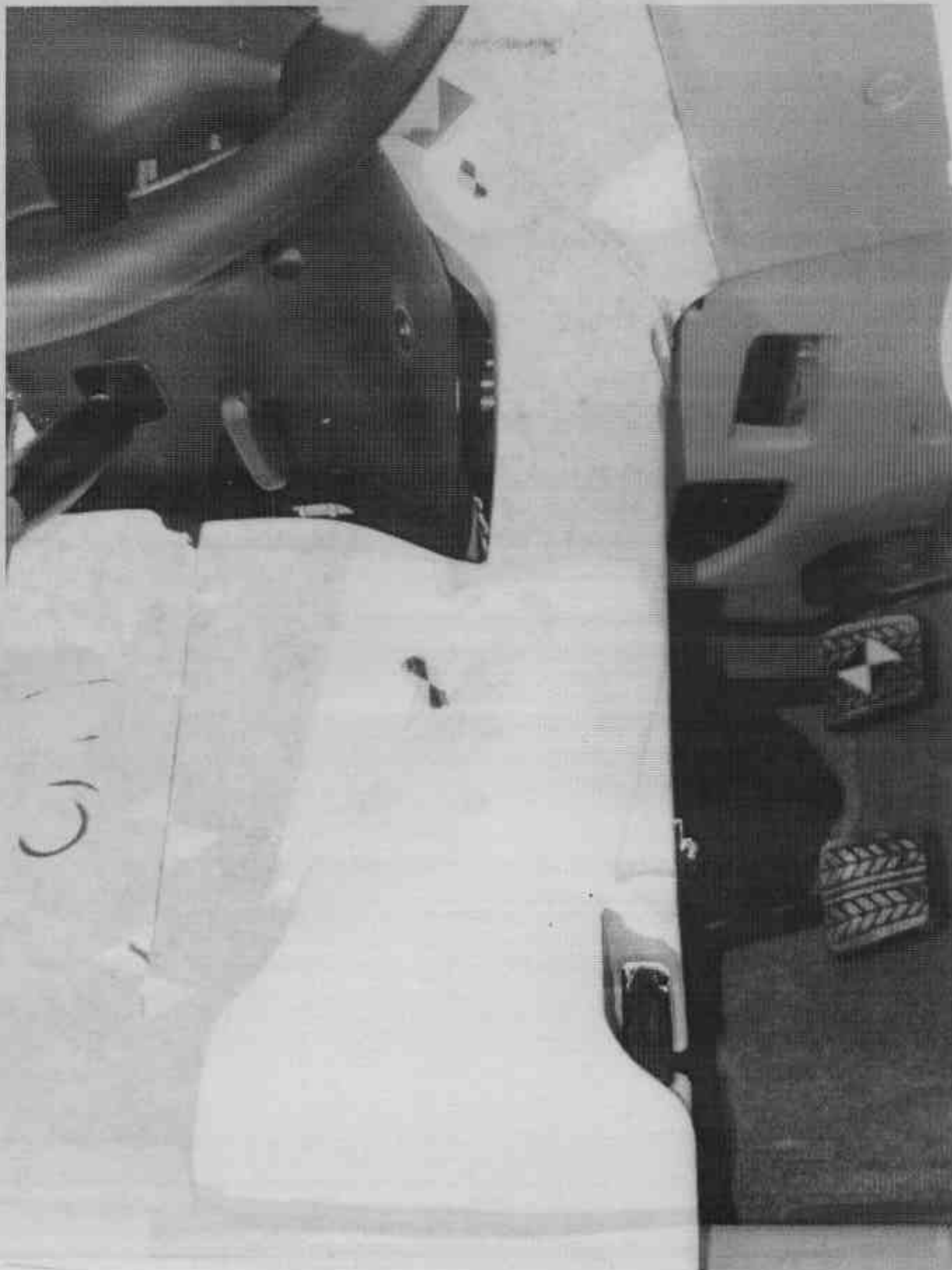


FIGURE A-35. PRETEST DRIVER KNEE BOLSTER

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A-35

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FIGURE A-36. POST TEST DRIVER KNEE BOLSTER

A-36

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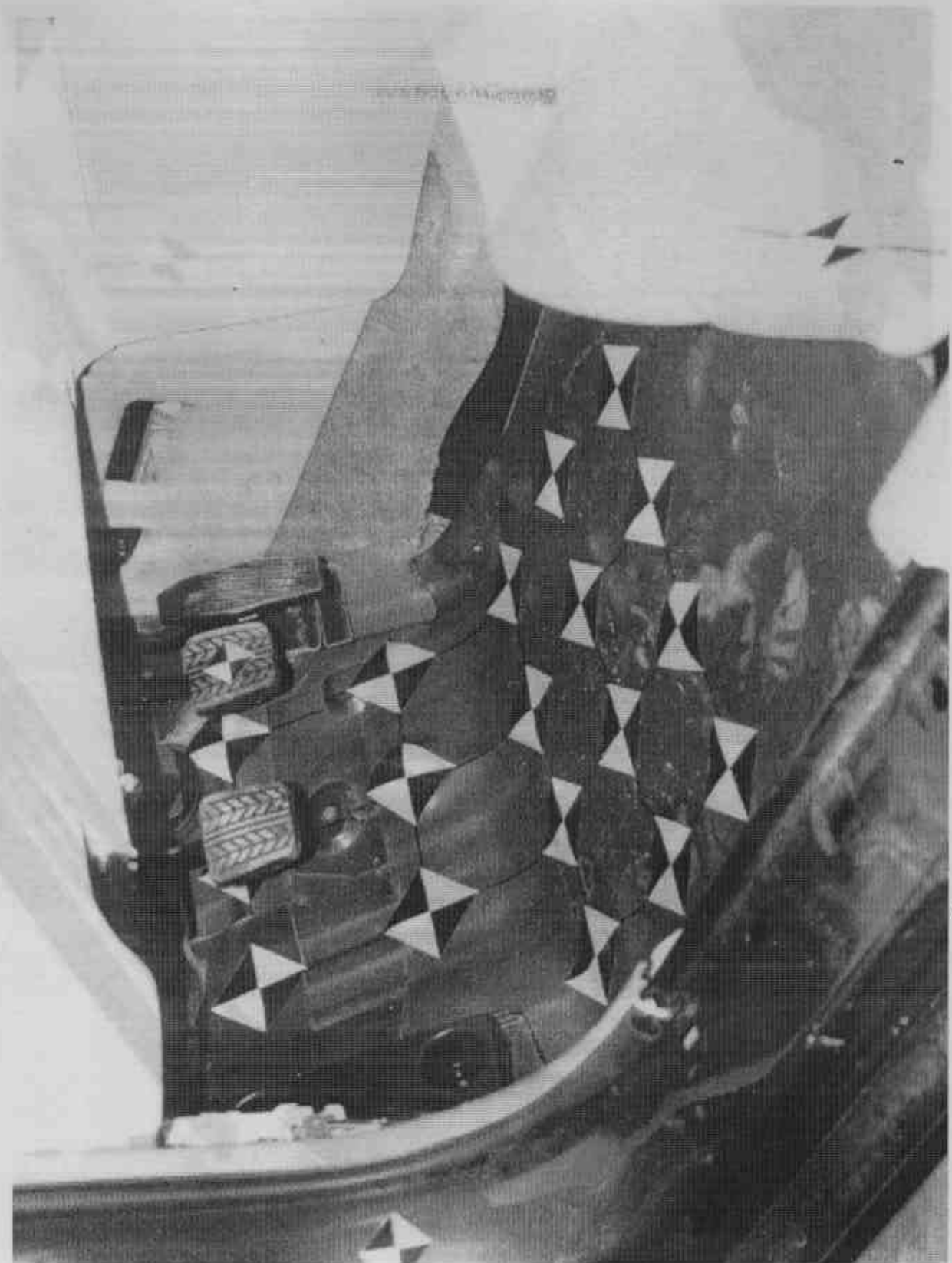


FIGURE A-37. PRETEST DRIVER SIDE FLOOR PAN

A-37

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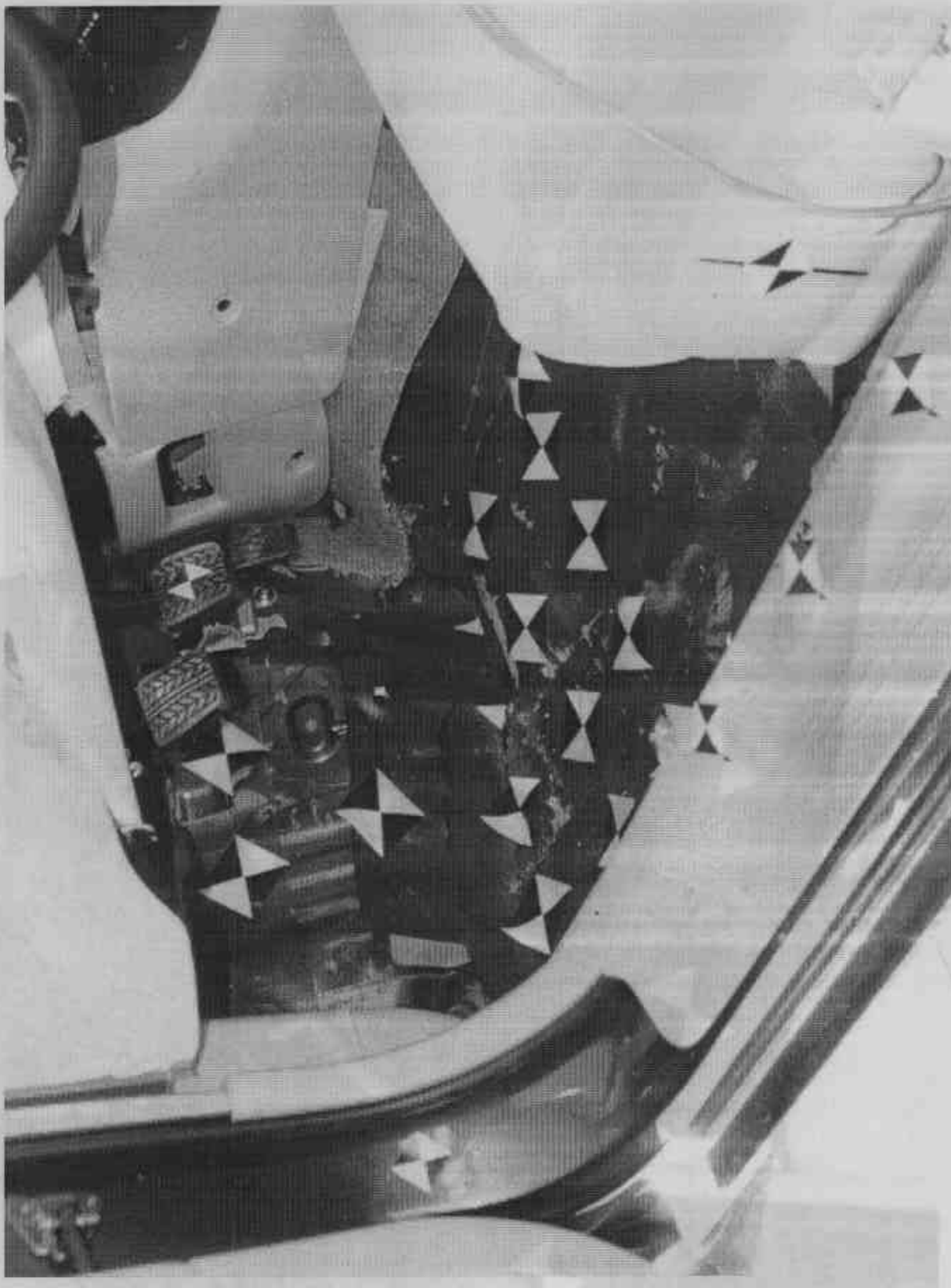


FIGURE A-38. POST TEST DRIVER SIDE FLOOR PAN

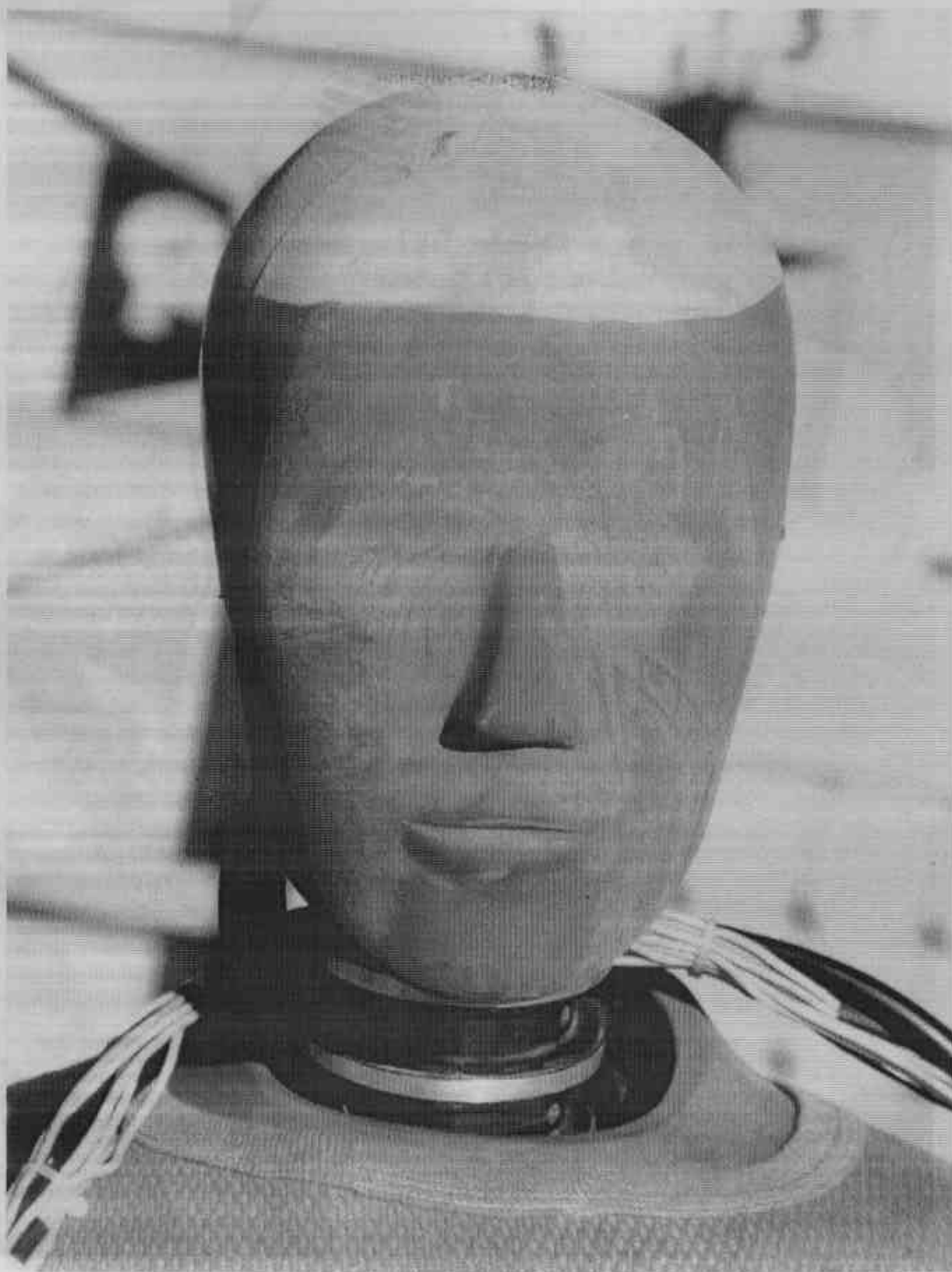


FIGURE A-39. POST TEST DRIVER HEAD

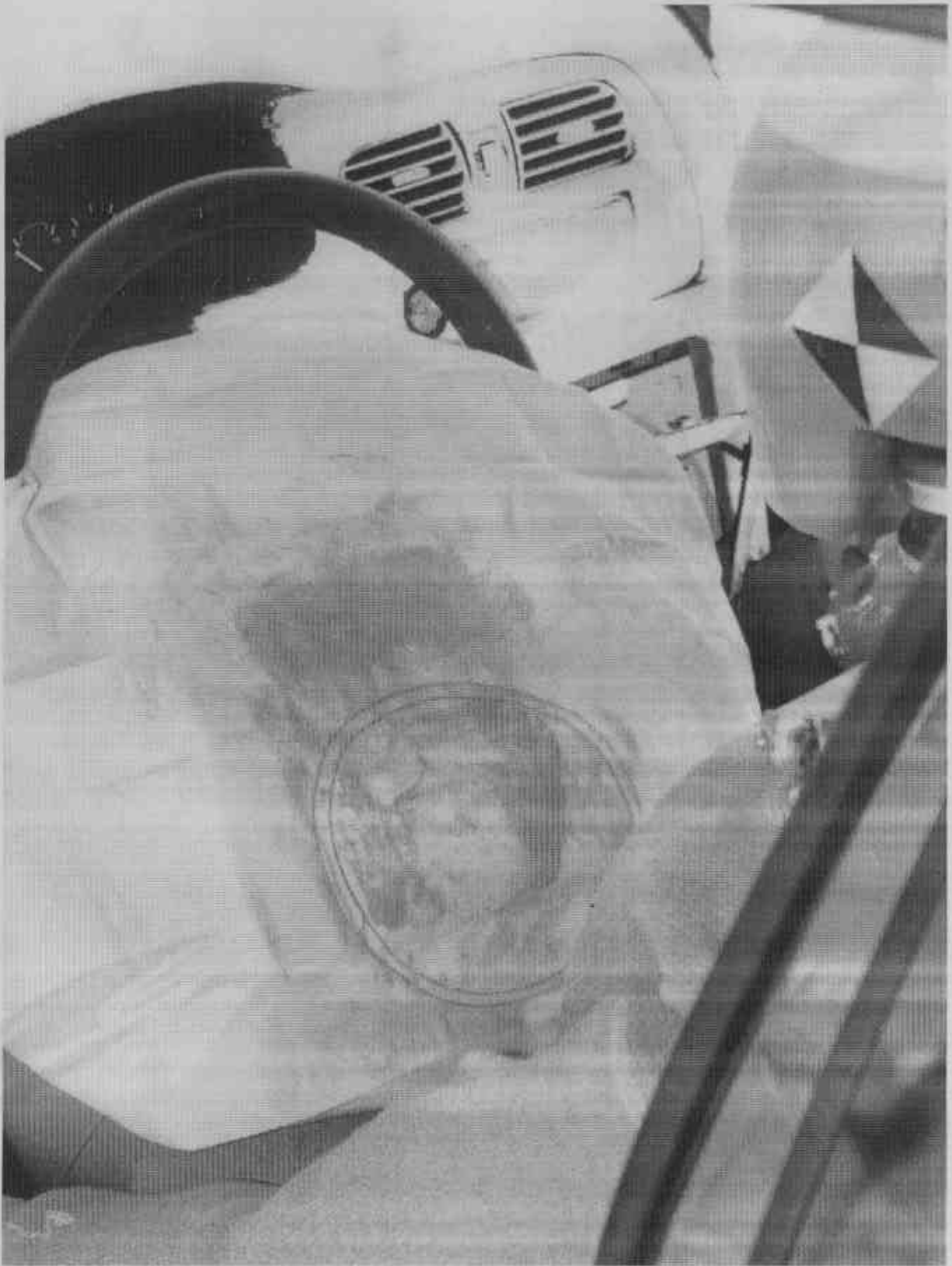


FIGURE A-40. POST TEST DRIVER DUMMY CONTACT



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)

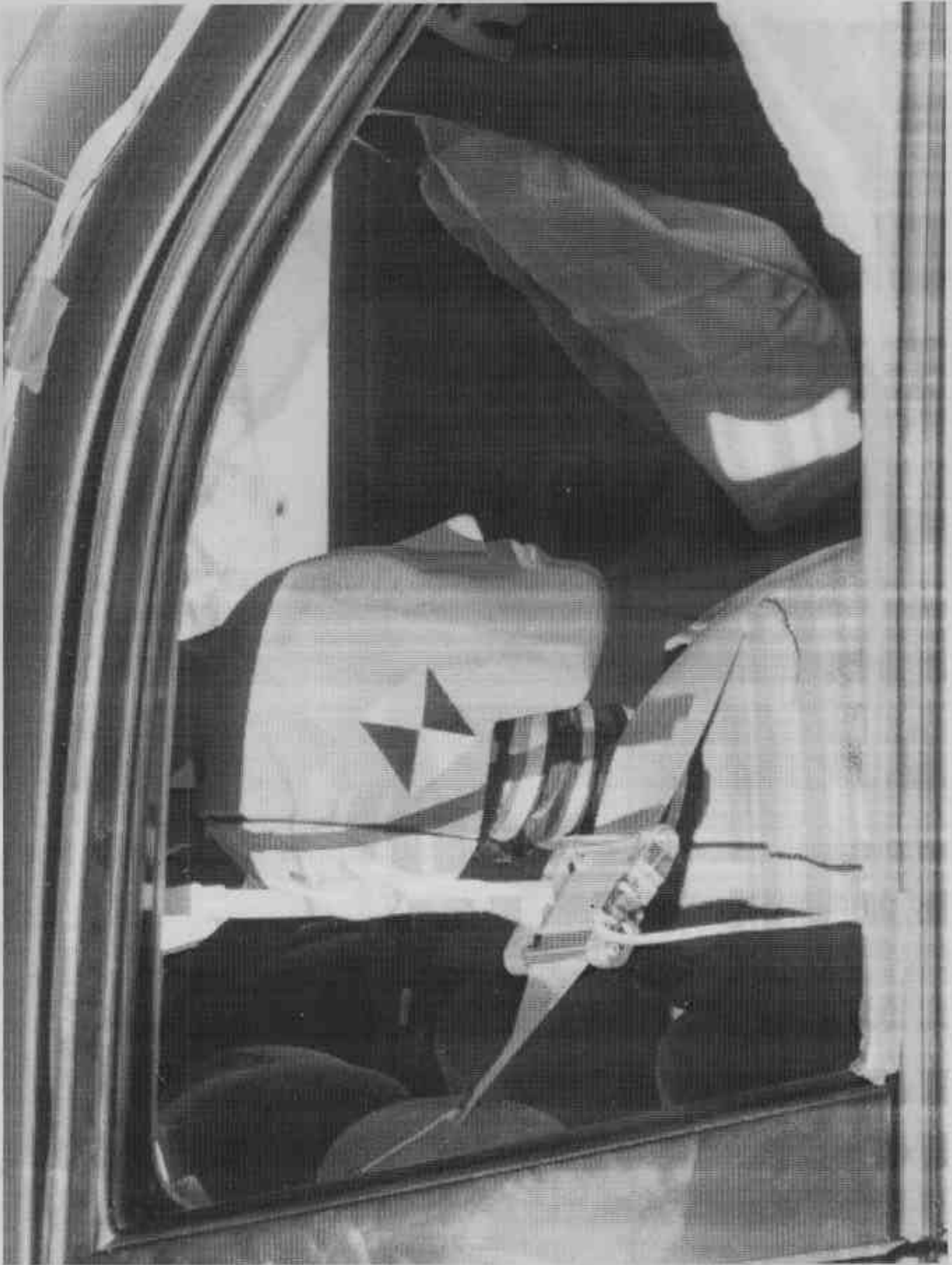


FIGURE A-44. POST TEST PASSENGER DUMMY (THRU WINDOW)



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)



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



FIGURE A-49. PRETEST PASSENGER DUMMY FEET

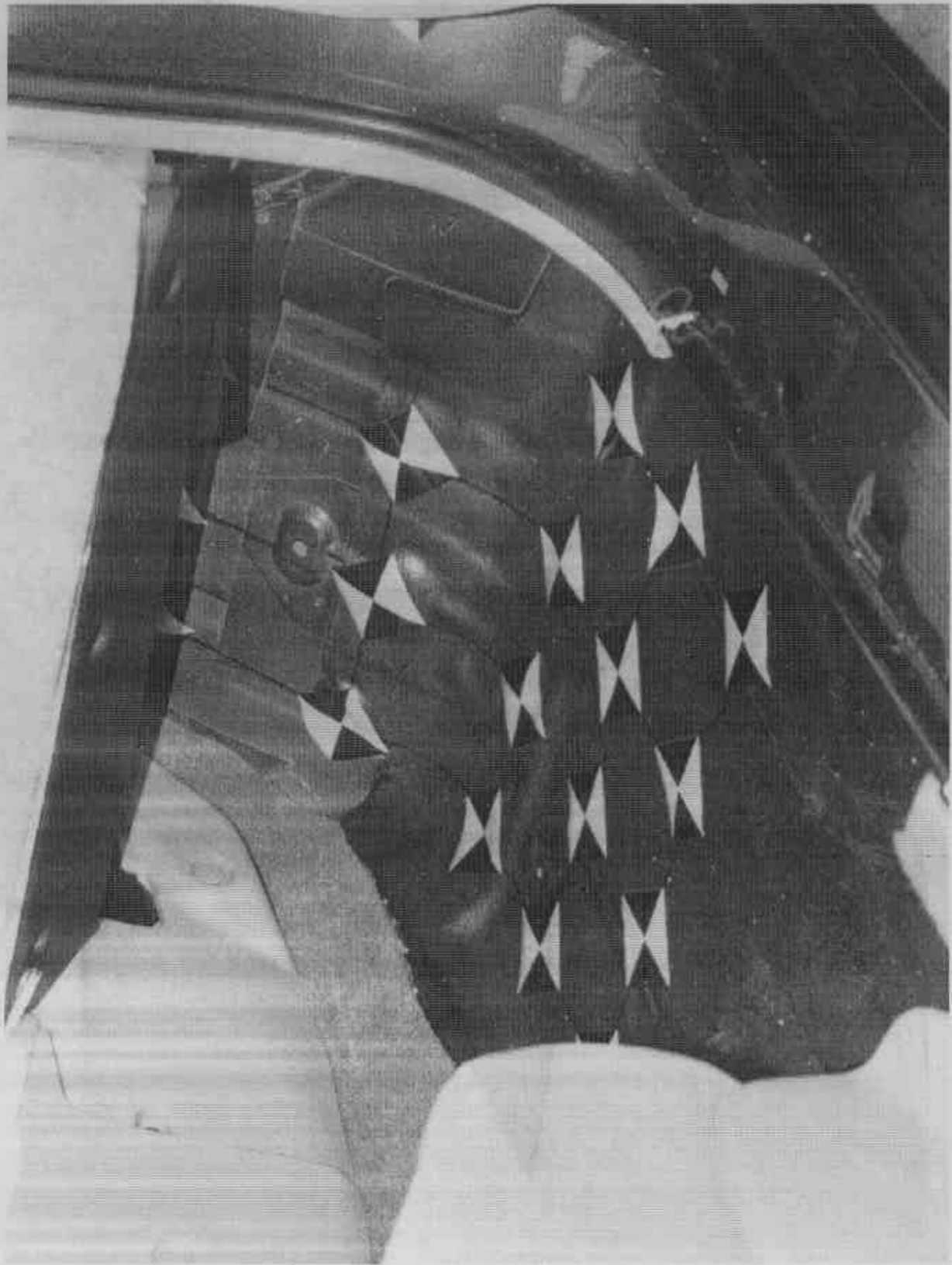


FIGURE A-51. PRETEST PASSENGER SIDE FLOOR PAN

06-10005AM

A-51

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

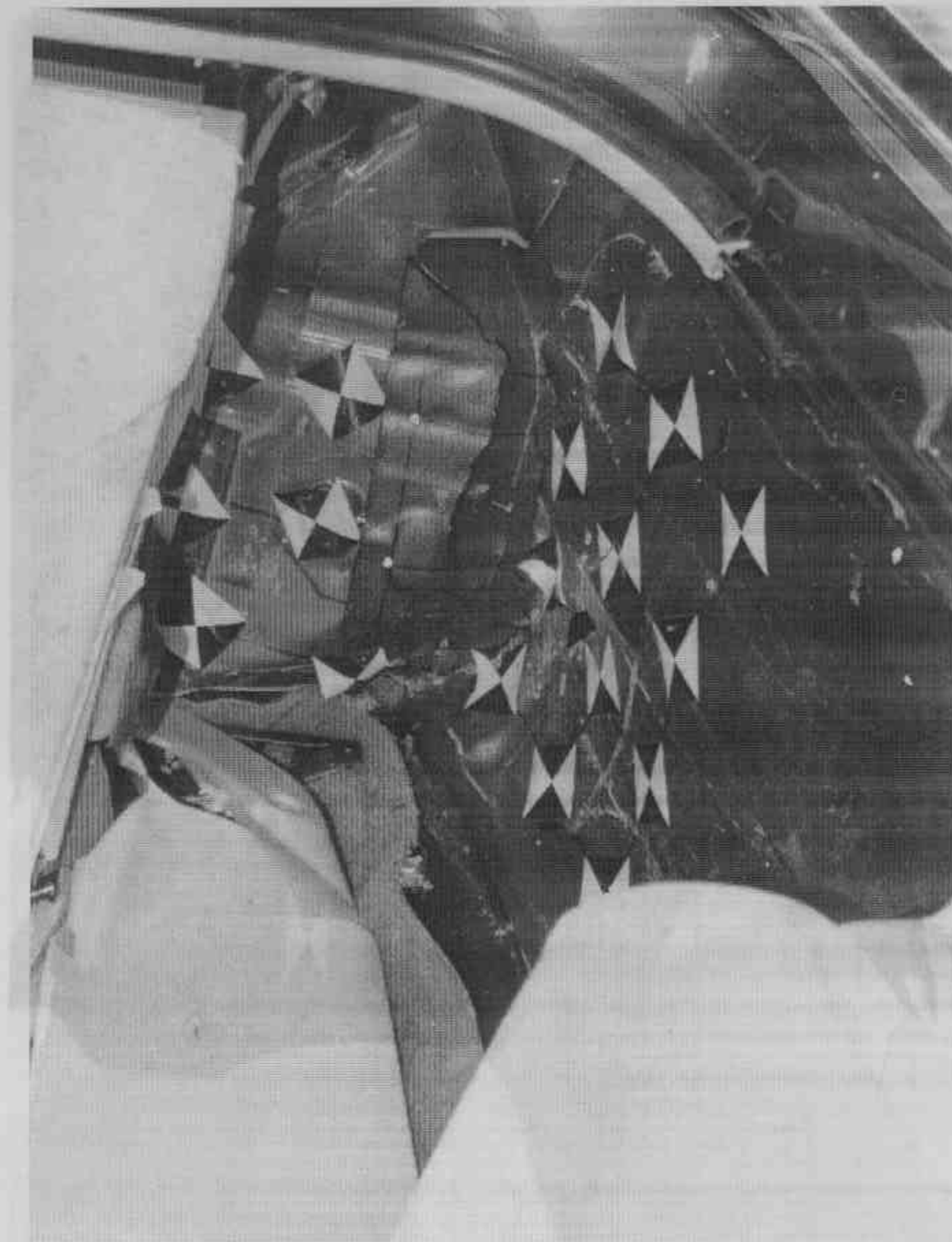


FIGURE A-52. POST TEST PASSENGER SIDE FLOOR PAN



FIGURE A-53. PRETEST PASSENGER SIDE KNEE BOLSTER

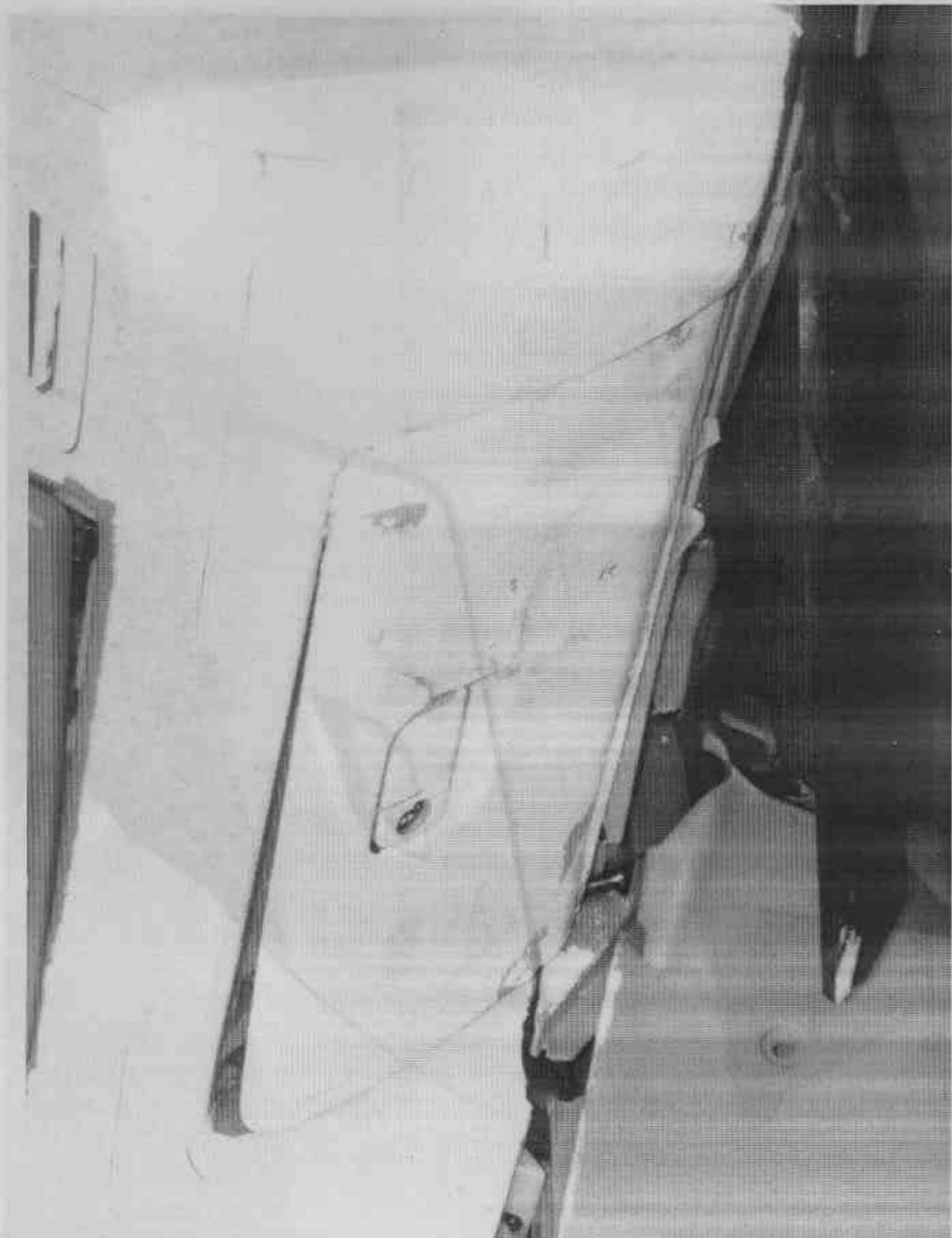


FIGURE A-54. POST TEST PASSENGER SIDE KNEE BOLSTER AND DUMMY CONTACT

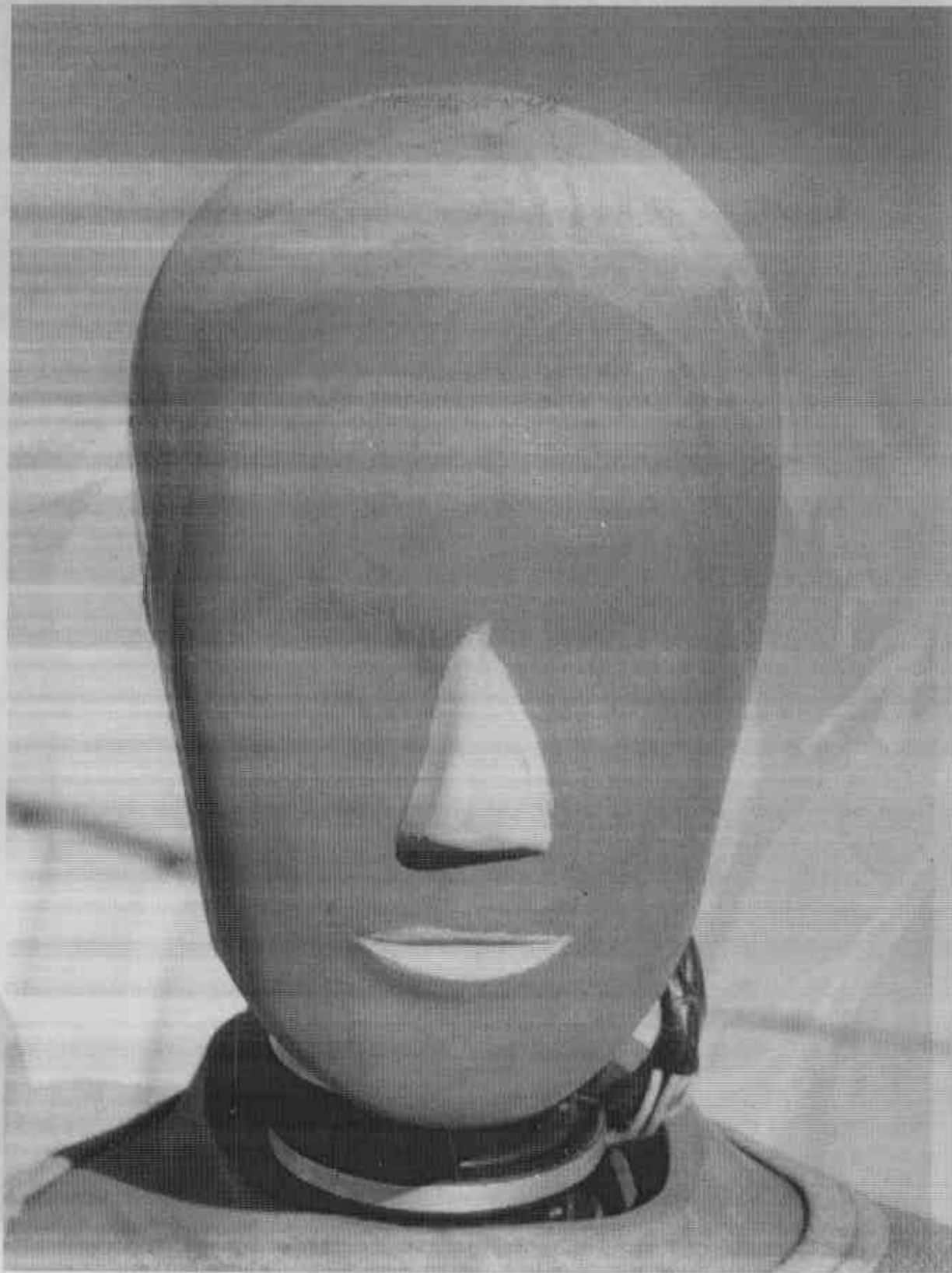


FIGURE A-55. POST TEST PASSENGER HEAD



FIGURE A-56. POST TEST PASSENGER DUMMY CONTACT

A-56

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20-100402001

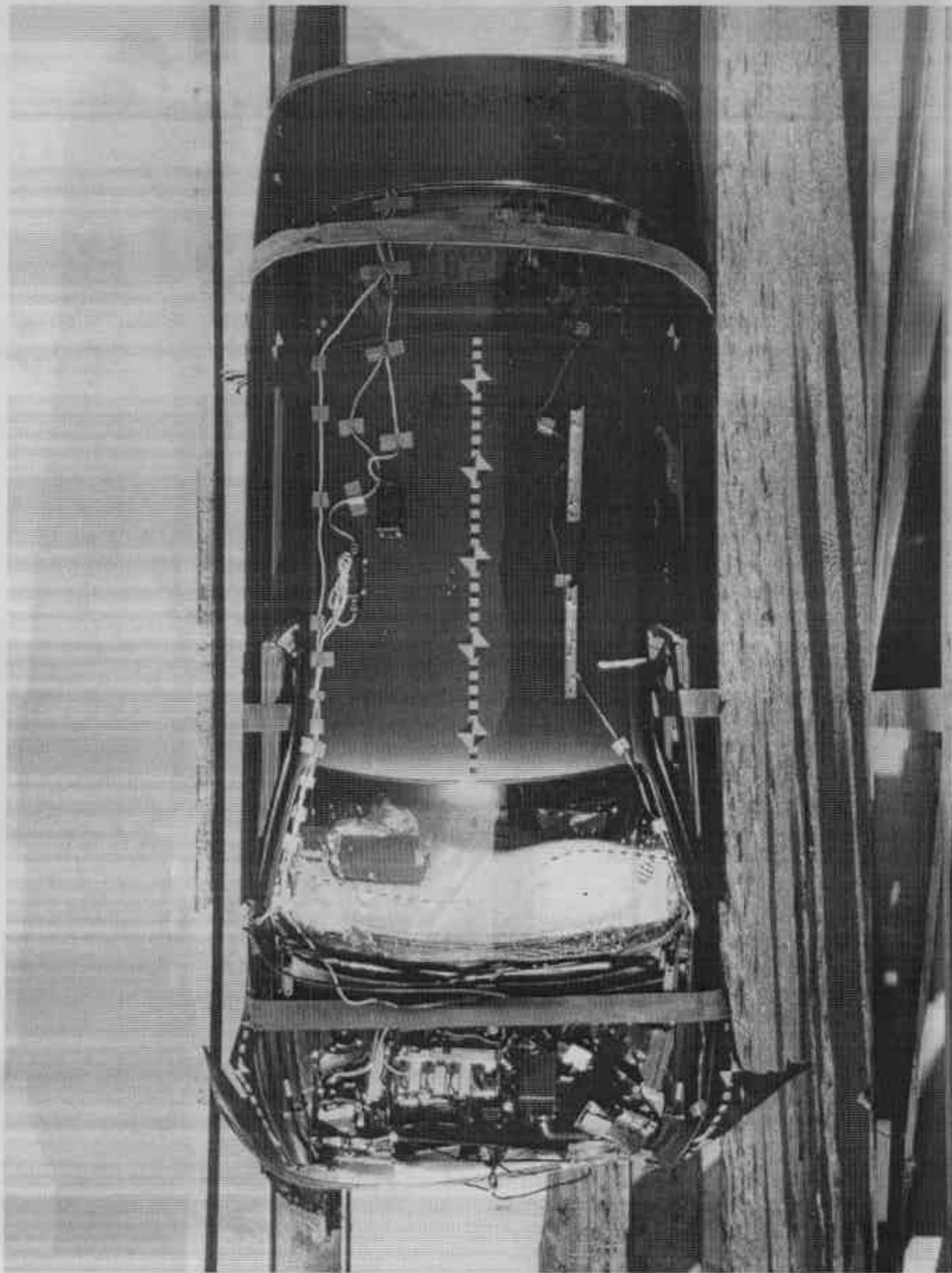


FIGURE A-57. VEHICLE ON ROLLOVER

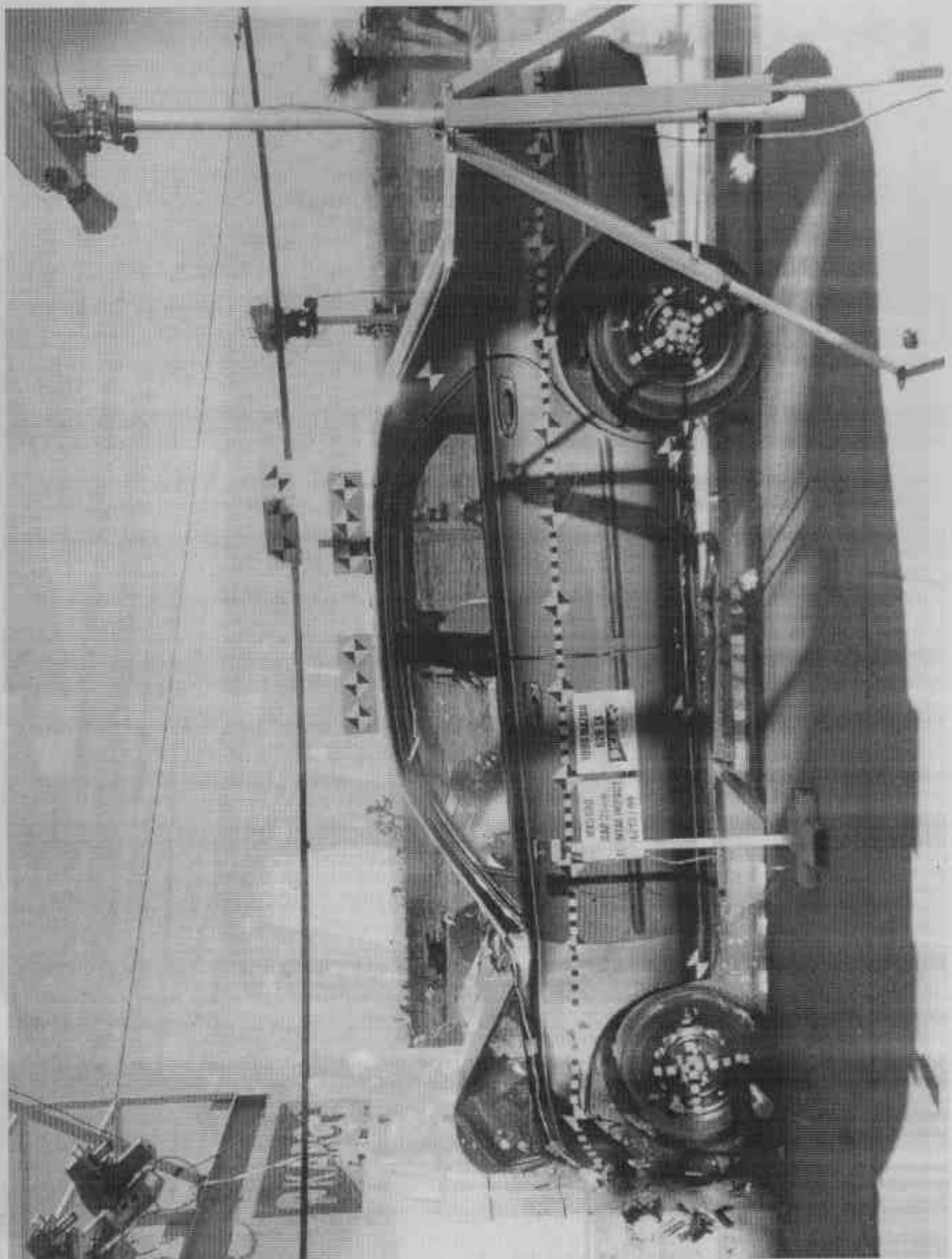


FIGURE A-58. VEHICLE DURING IMPACT

A-58

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APPENDIX B
DUMMY AND VEHICLE RESPONSE DATA TRACES

LIST OF DATA PLOTS

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B-3	Driver Head Primary X Displacement	B-3
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B-5	Driver Head Primary Z	B-5
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B-7	Driver Head Redundant X	B-7
B-8	Driver Head Redundant X Velocity	B-8
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B-11	Driver Head Redundant Z	B-11
B-12	Driver Head Resultant Redundant	B-12
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B-19	Driver Neck Moment Z	B-19
B-20	Driver Neck Moment Resultant	B-20
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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
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B-38	Driver Pelvis Z	B-38
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B-41	Driver Right Femur Force	B-41
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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
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B-60	Driver Shoulder Belt Pullout	B-60
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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)

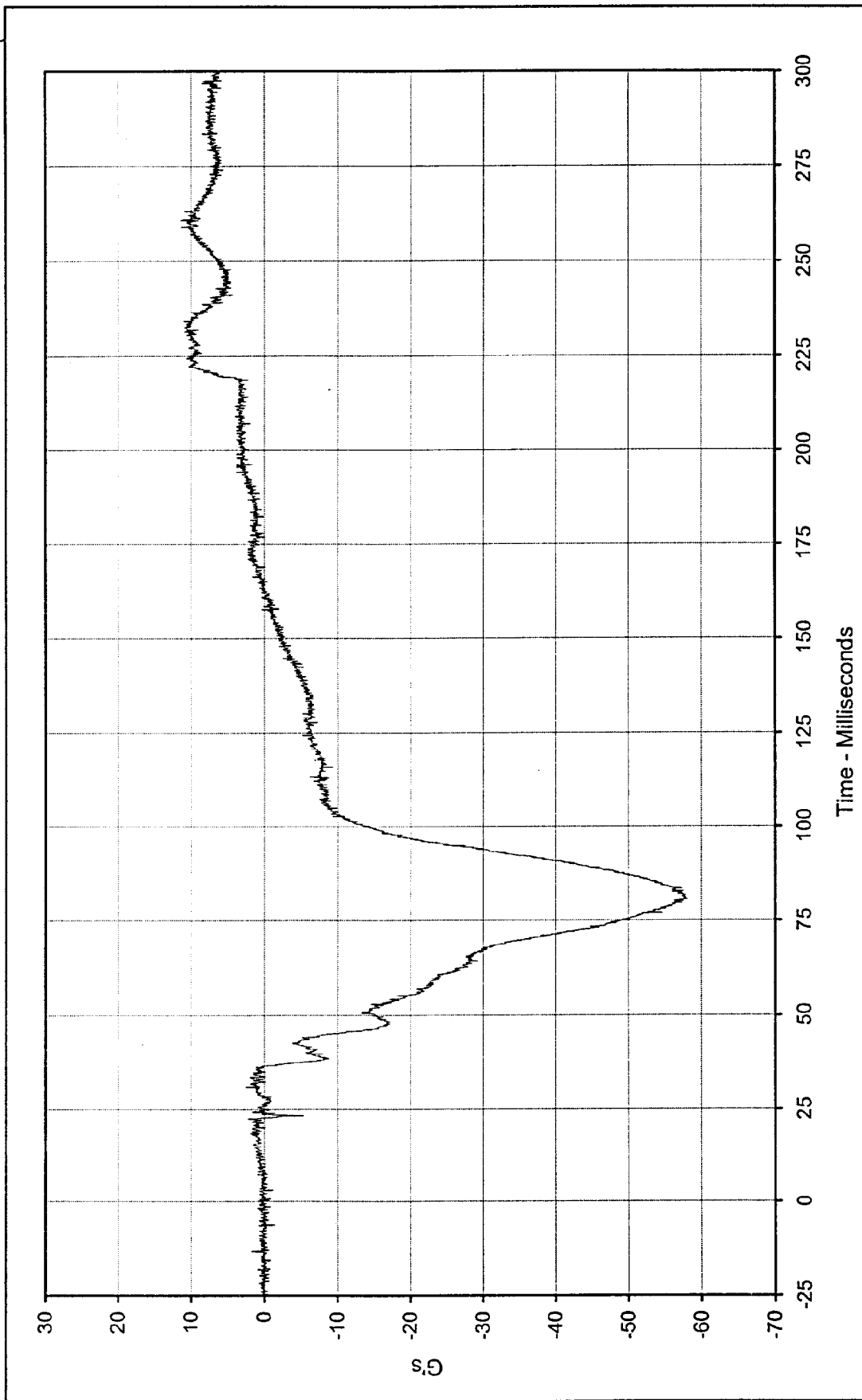
Data Plot		Page
B-71	Passenger Head Redundant Y	B-71
B-72	Passenger Head Redundant Z	B-72
B-73	Passenger Head Resultant Redundant	B-73
B-74	Passenger Neck Force X	B-74
B-75	Passenger Neck Force Y	B-75
B-76	Passenger Neck Force Z	B-76
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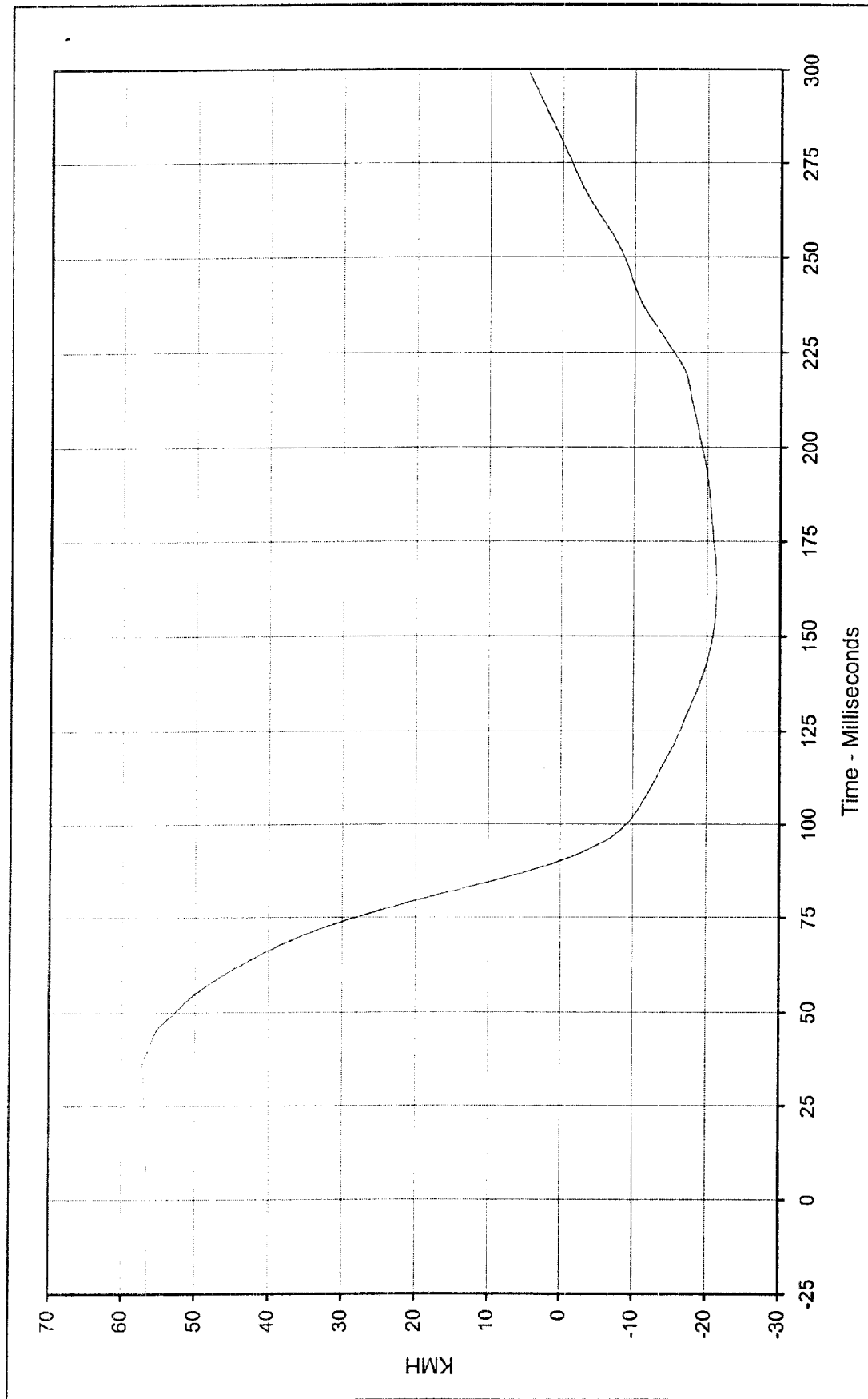
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Curve Description:	Driver Head Primary X	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	11.4 at 259.1 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-58.1 at 80.4 Milliseconds			

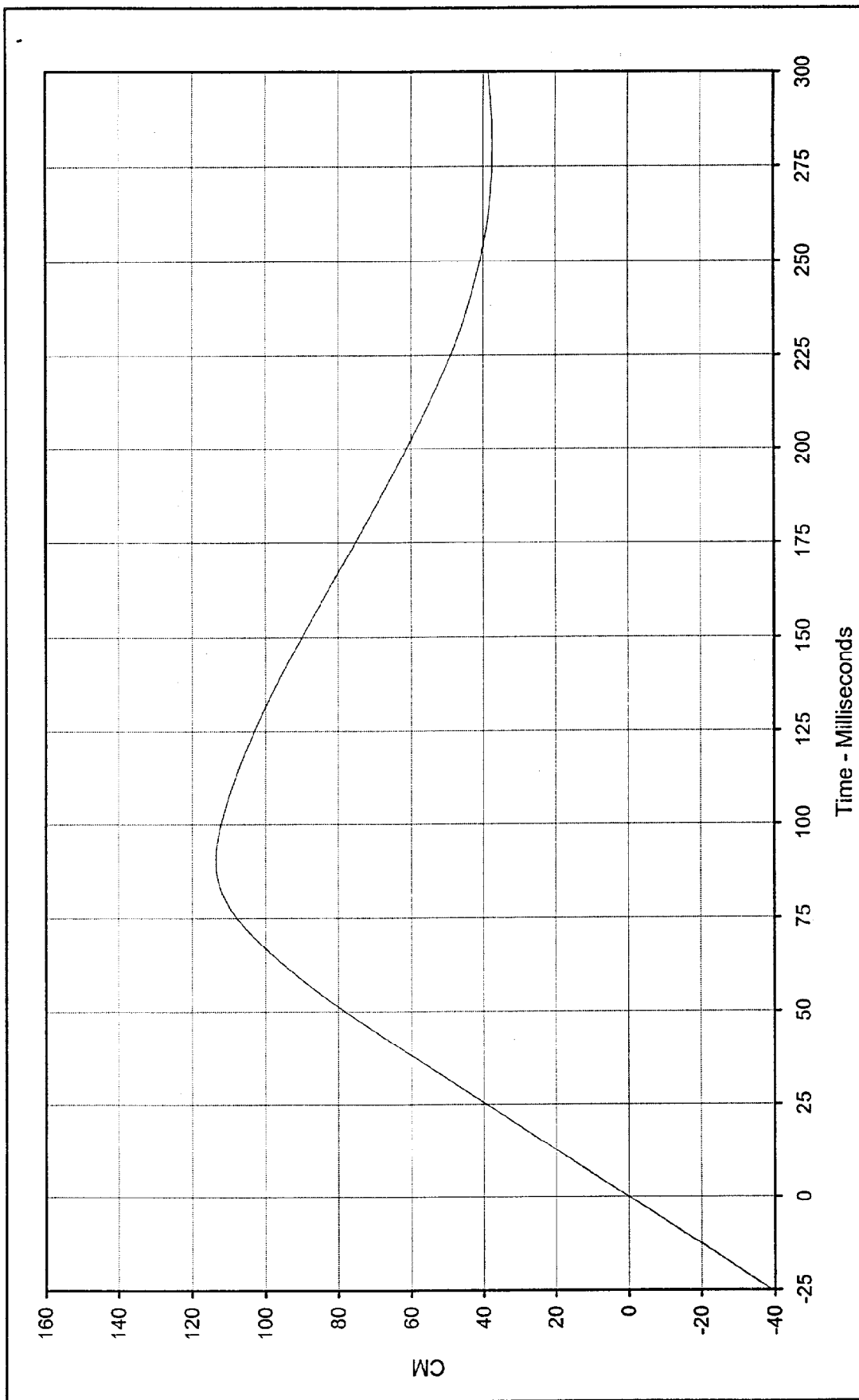


SAE Filter Class:	1000
Date of Test:	1/13/99
Curve Number:	FIL-001



Curve Description:	Driver Head Primary X Velocity	Testing Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	57.2 at 36.2 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-21.3 at 162.6 Milliseconds			
SAE Filter Class:	180			
Date of Test:	1/13/99			
Curve Number:	IN1-001			





Curve Description: Driver Head Primary X Displ.

Maximum Value: 113.6 at 90.1 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

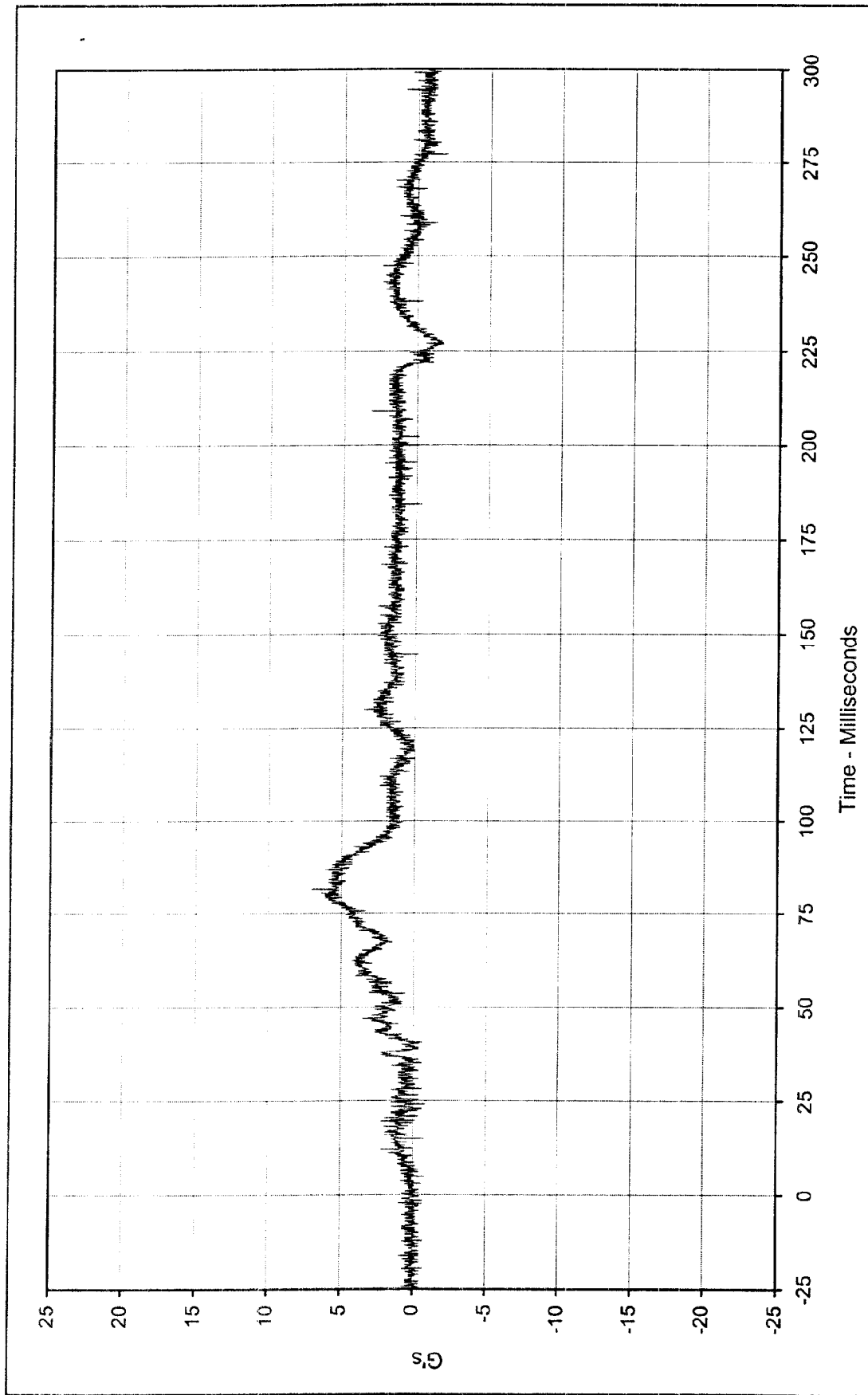
Date of Test: 1/13/99

Curve Number: IN2-001

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

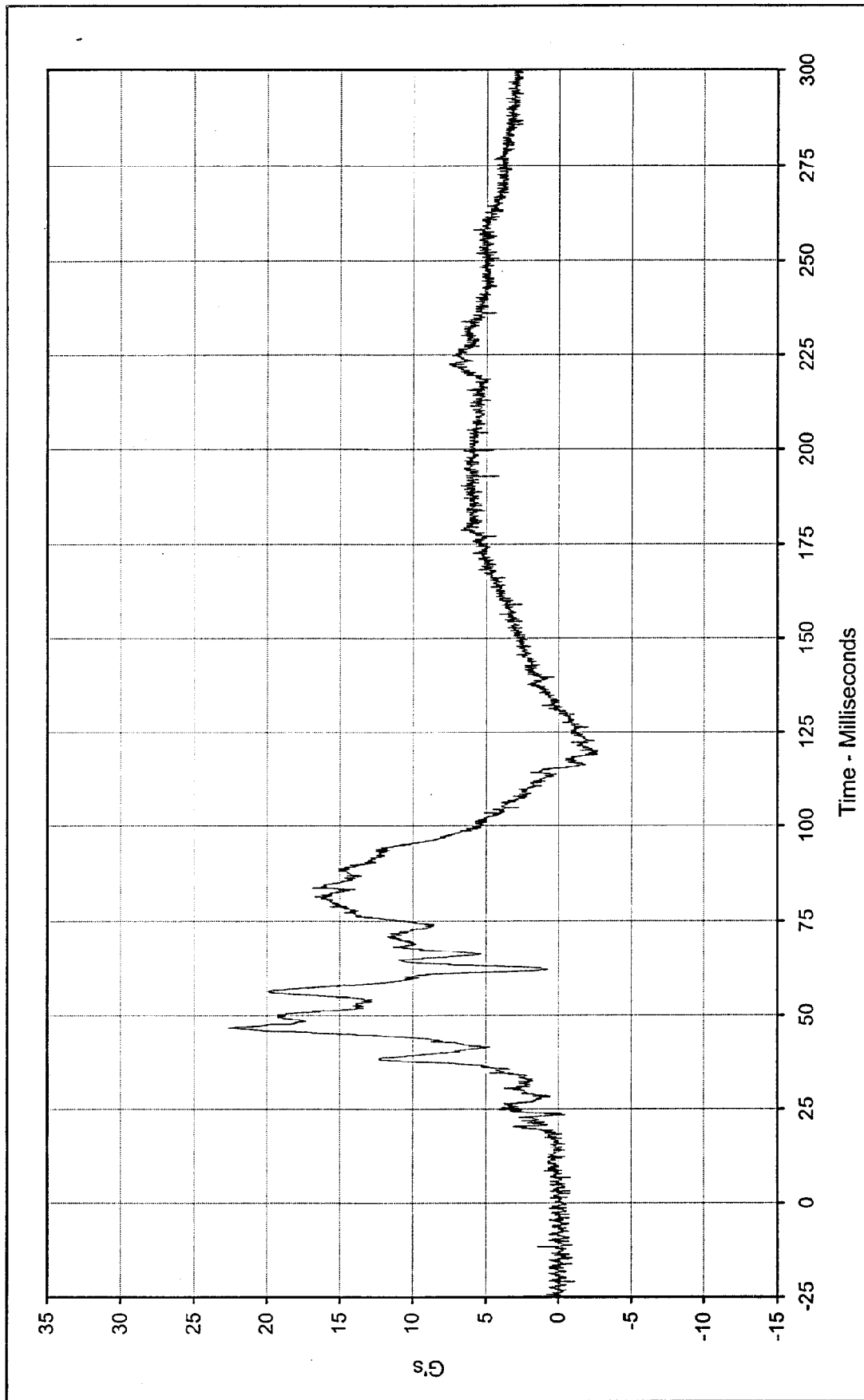
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:		Driver Head Primary Y		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	7.0	at	81.3	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-2.0	at	277.3			
SAE Filter Class:	1000					
Date of Test:	1/13/99					
Curve Number:	FIL-002					





Curve Description: Driver Head Primary Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 22.7 at 46.7 Milliseconds

Minimum Value: -2.7 at 119.0 Milliseconds

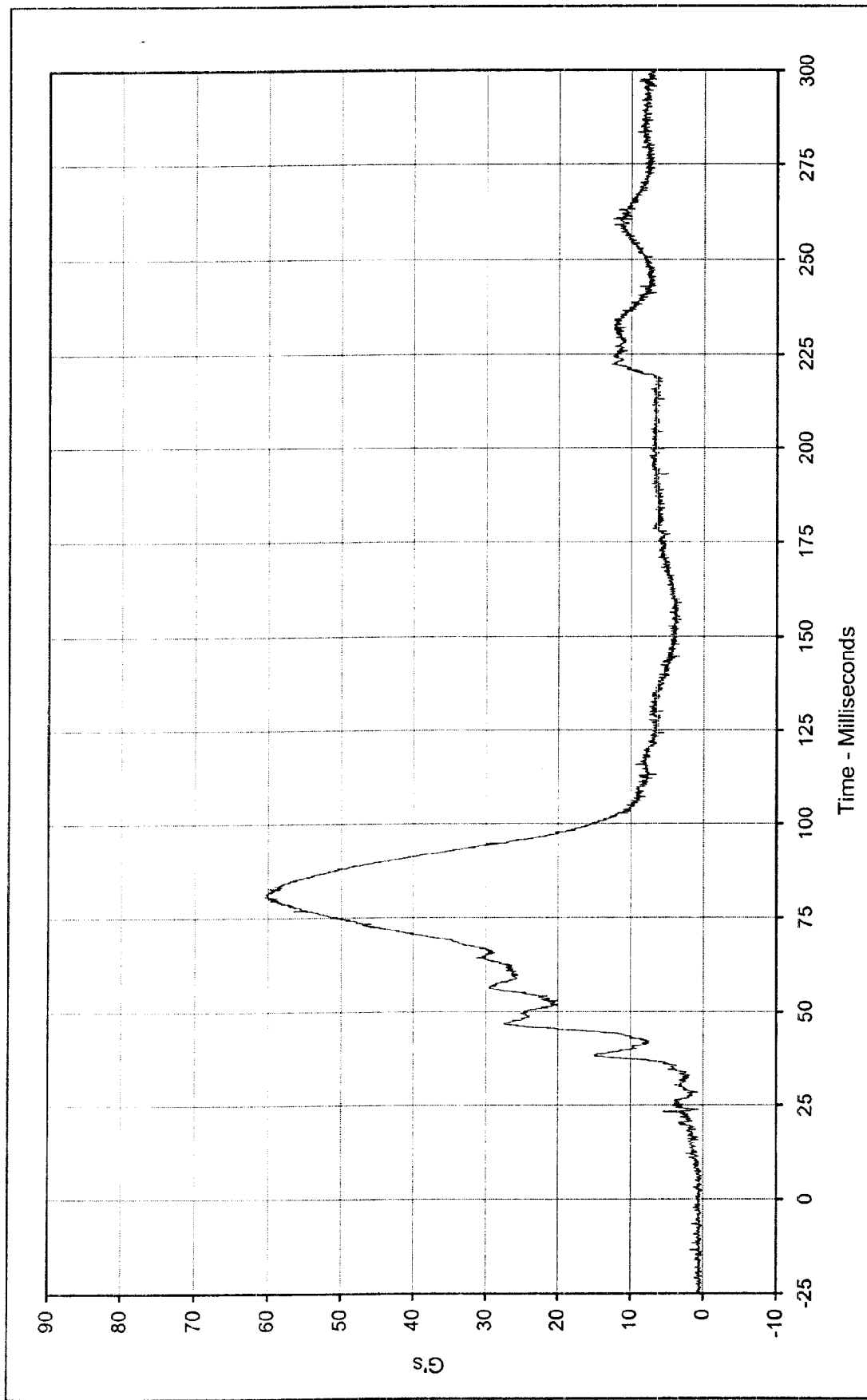
SAE Filter Class: 1000

Date of Test: 1/13/99

Curve Number: FIL-003

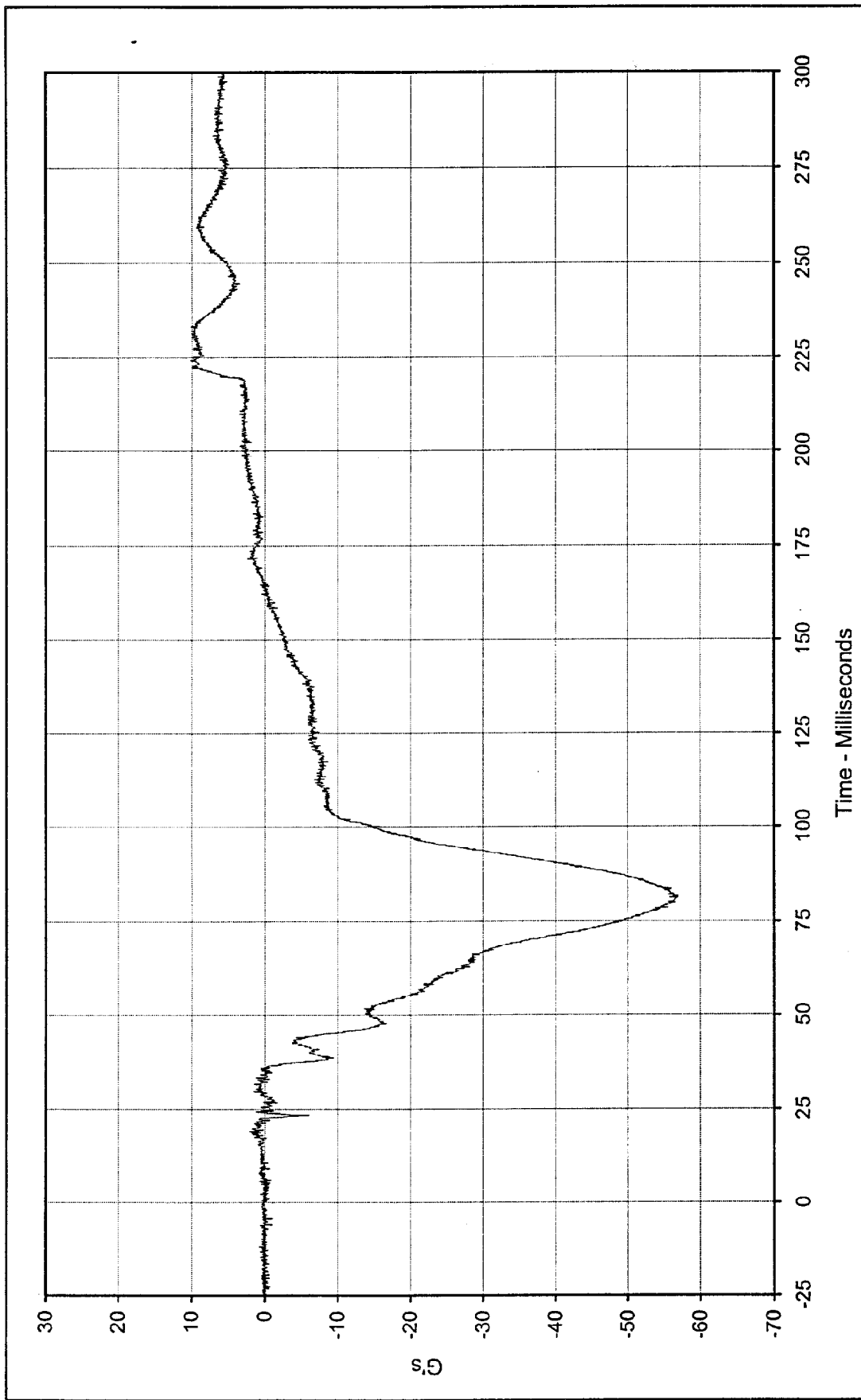
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Driver Head Resultant Primary	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	60.4 at 80.4 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	0.1 at 2.2 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	RES-001			

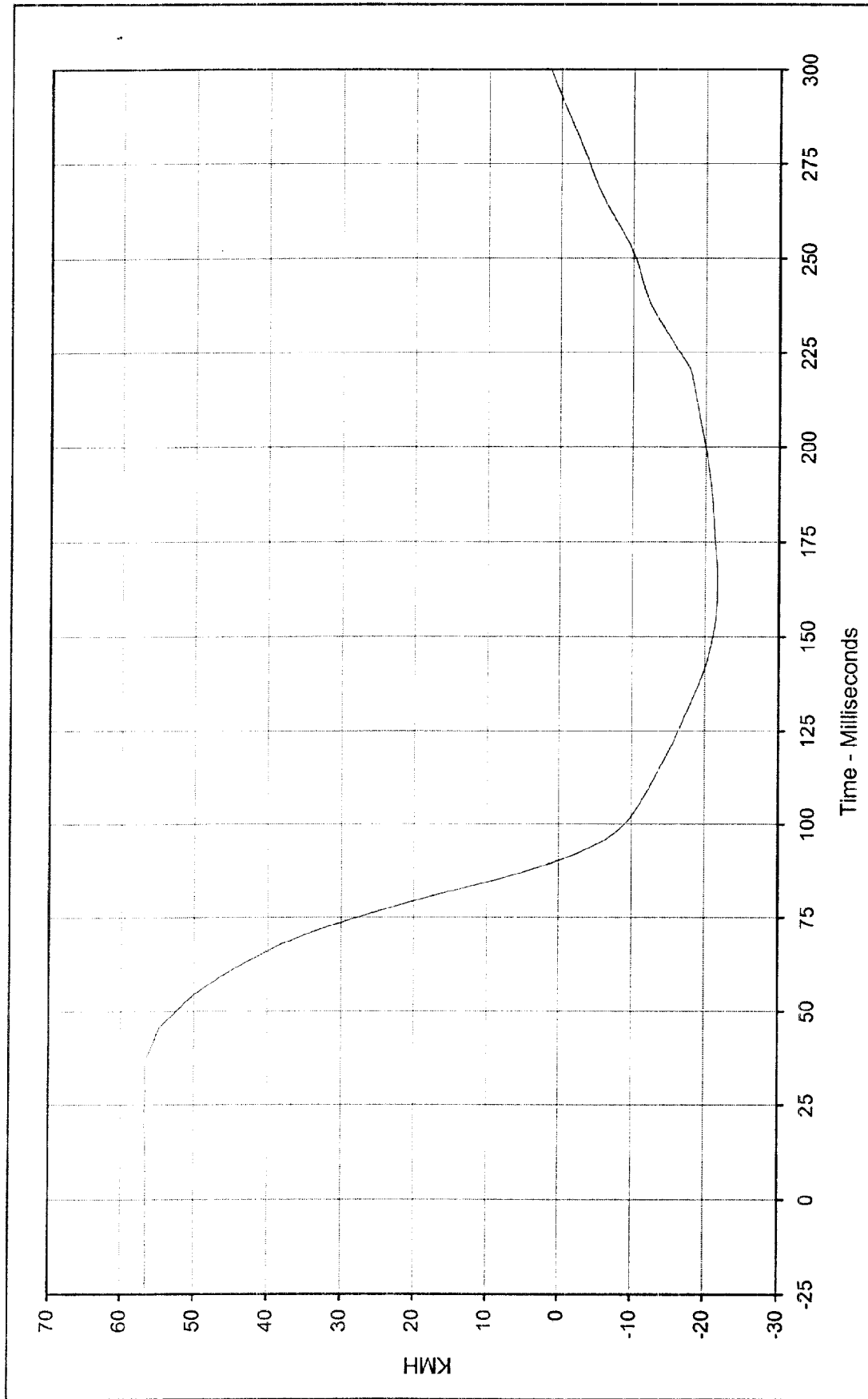




Curve Description:	Driver Head Redundant X	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	10.1 at 224.0 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-57.0 at 81.2 Milliseconds			

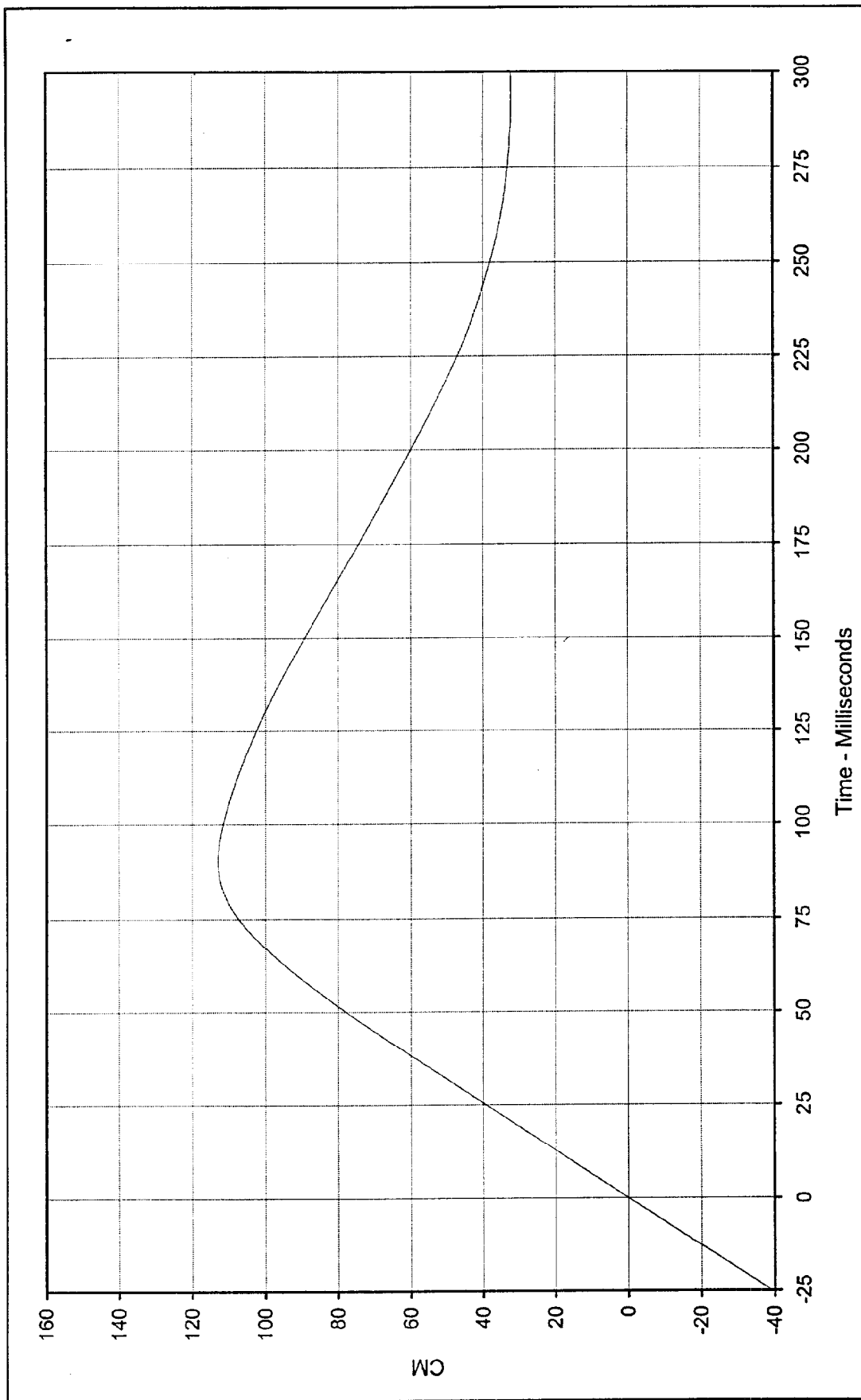


SAE Filter Class:	1000
Date of Test:	1/13/99
Curve Number:	FIL-004



Curve Description:	Driver Head Redundant X Velocity	Testing Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	56.8	at	22.1	Milliseconds
Minimum Value:	-21.7	at	164.0	Milliseconds
SAE Filter Class:	180			
Date of Test:	1/13/99	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Curve Number:	IN1-004			





Curve Description: Driver Head Redundant X Displ.

Maximum Value: 112.9 at 90.2 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 1/13/99

Curve Number: IN2-004

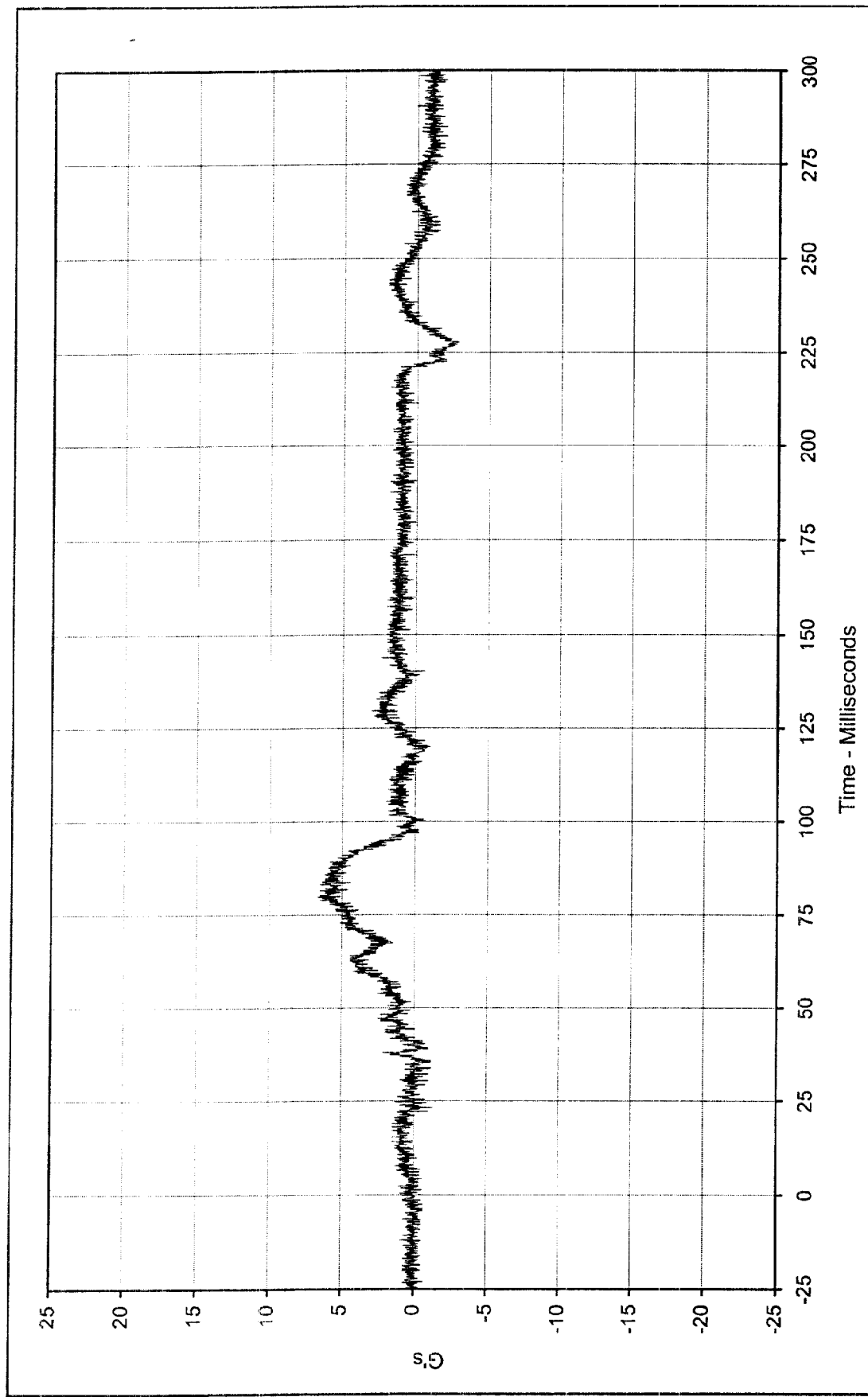
Test Program:

1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle:

1999 Mazda 626 LX 4 Door Sedan

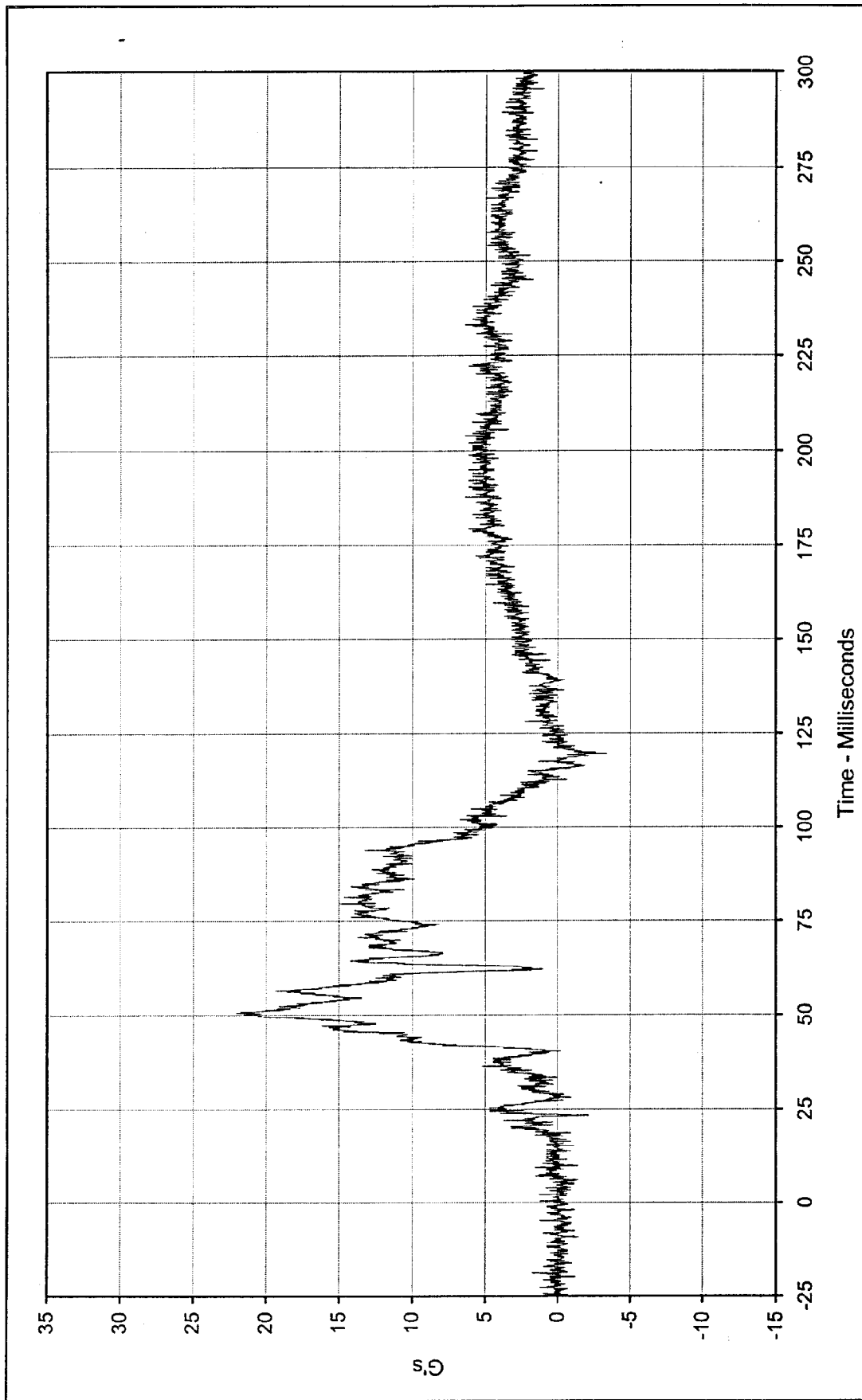




Curve Description:	Driver Head Redundant Y		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	6.7	at 79.6	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-2.9	at 227.8			
SAE Filter Class:	1000				
Date of Test:	1/13/99				
Curve Number:	FIL-005				

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Curve Description: Driver Head Redundant Z

Test Program: 1999 NHTSA 35 mph NCAP

Maximum Value: 22.0 at 50.6 Milliseconds

No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

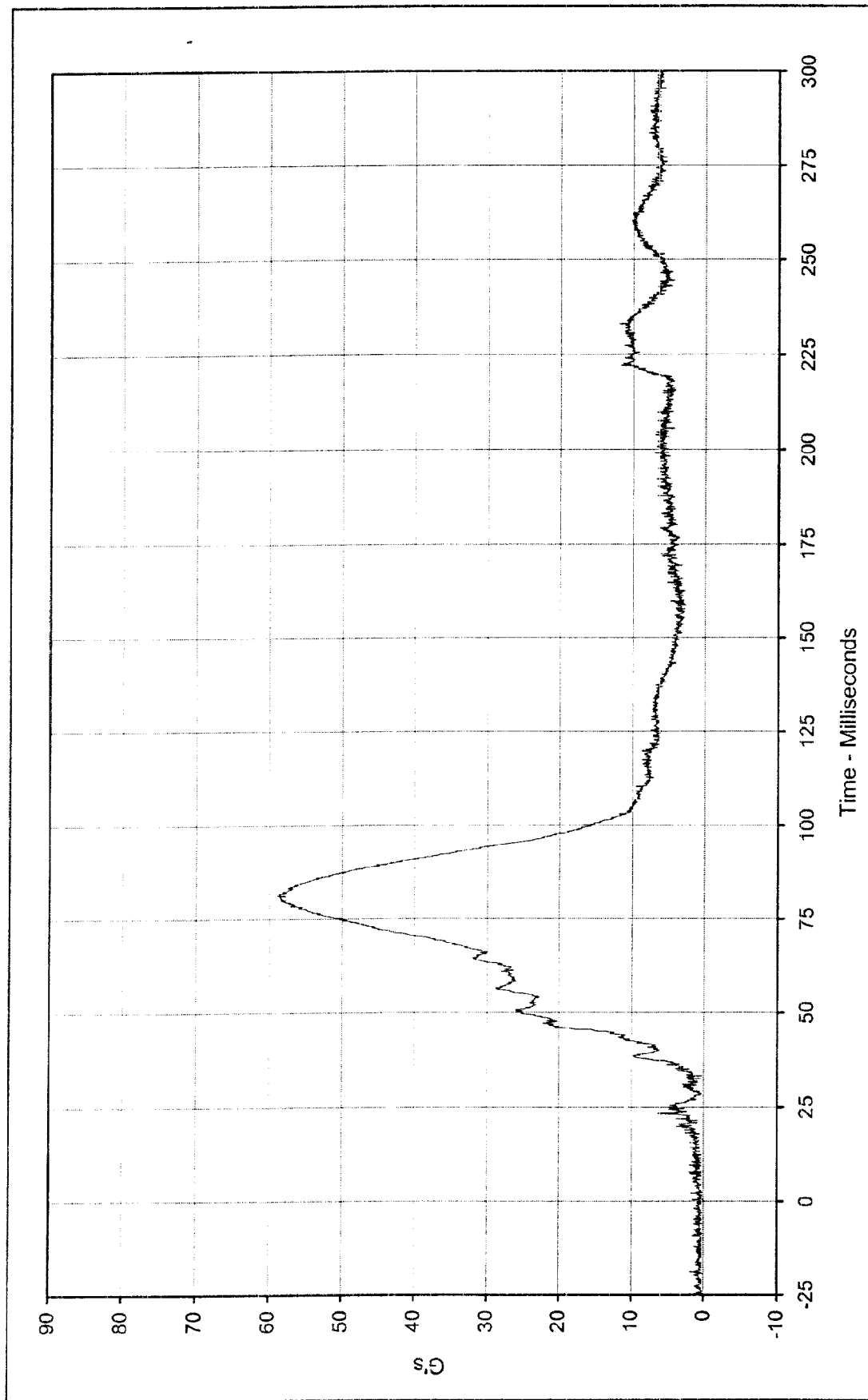
Minimum Value: -3.4 at 119.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/13/99

Curve Number: FIL-006



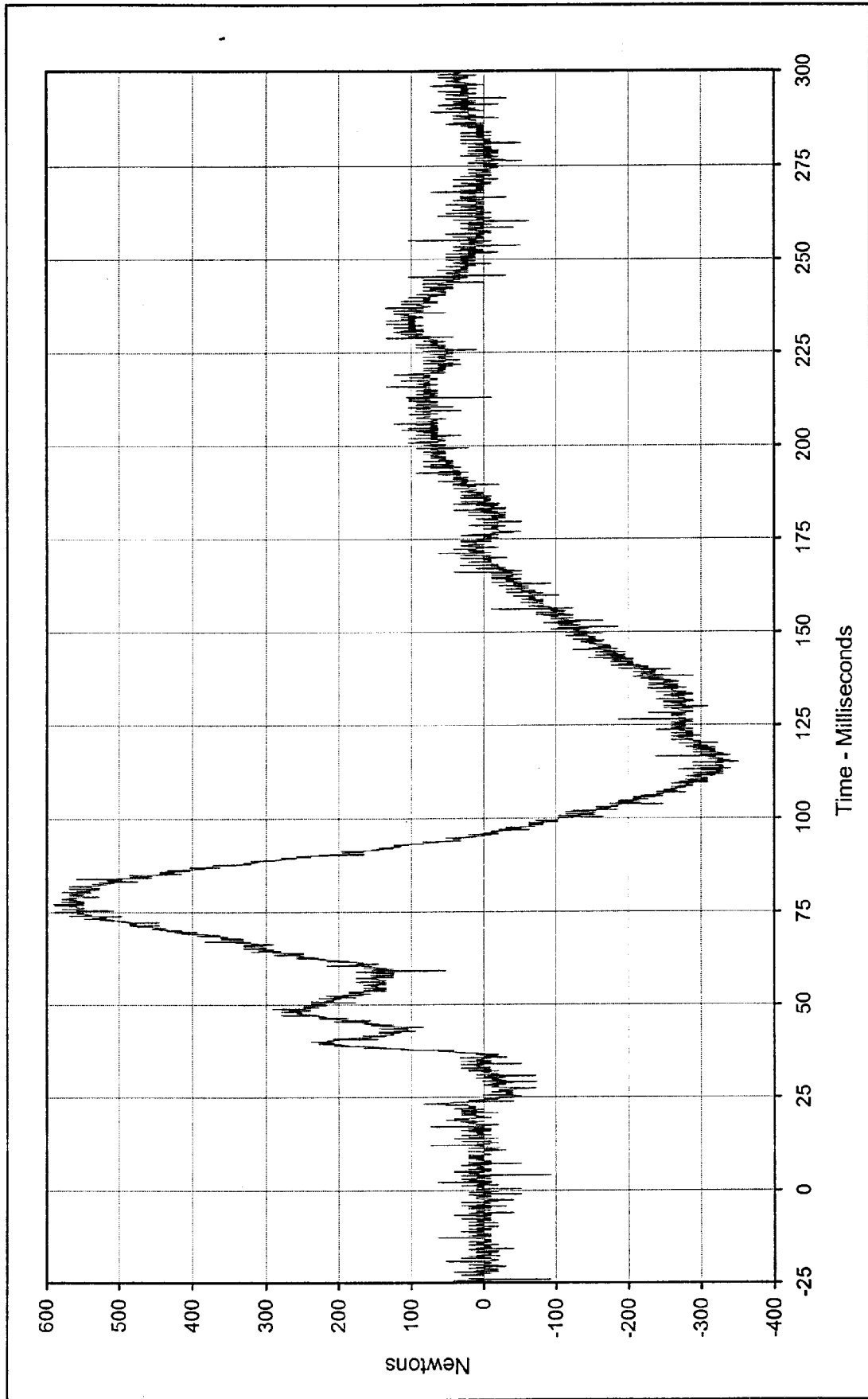


Curve Description:		Driver Head Resultant Redundant		Test Program:		1999 NHTSA 35 mph NCAP No.: MX5400	
Maximum Value:	58.9	at	81.2	Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	0.0	at	0.5	Milliseconds			
SAE Filter Class:	1000						
Date of Test:	1/13/99						
Curve Number:	RES-004						



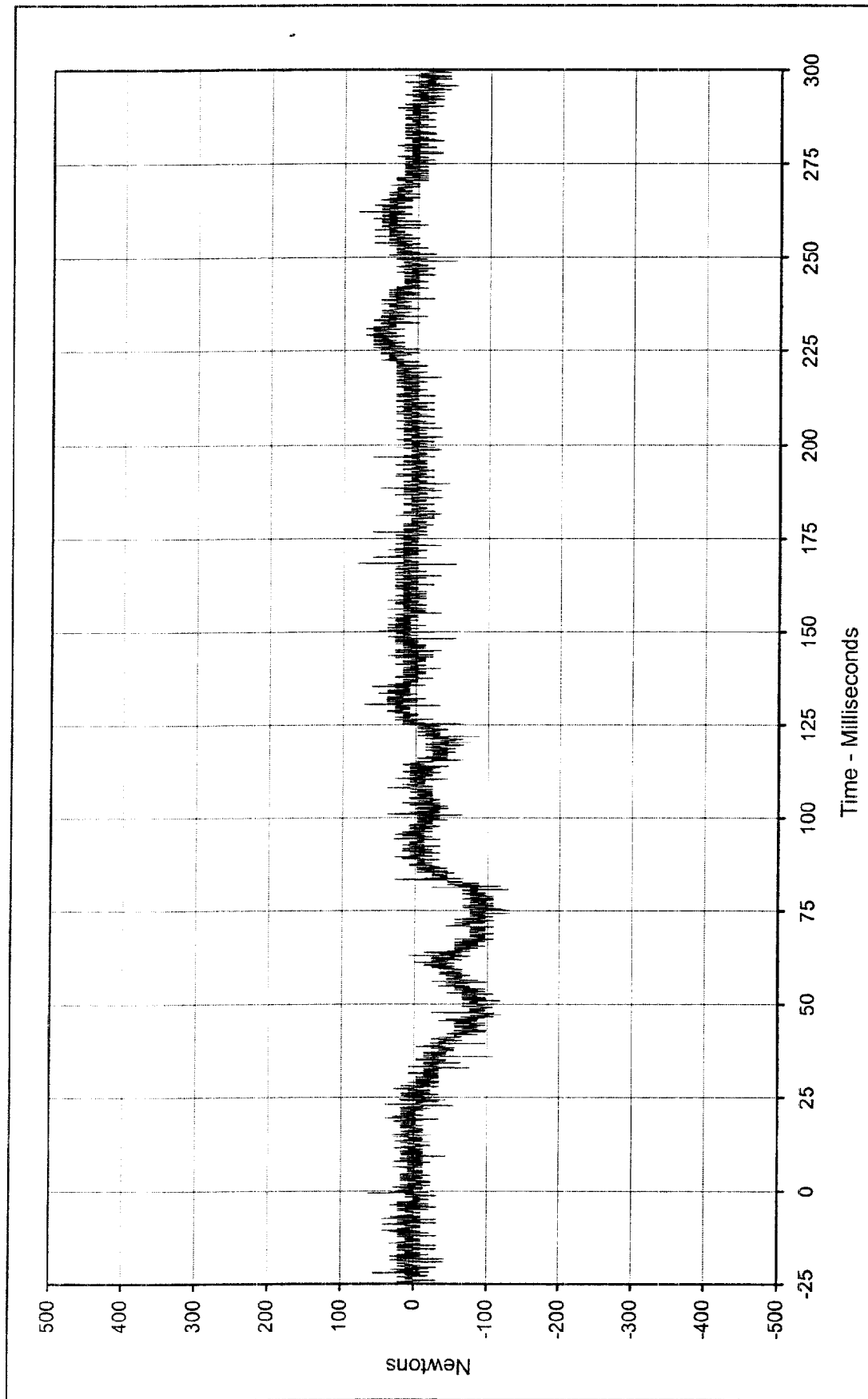
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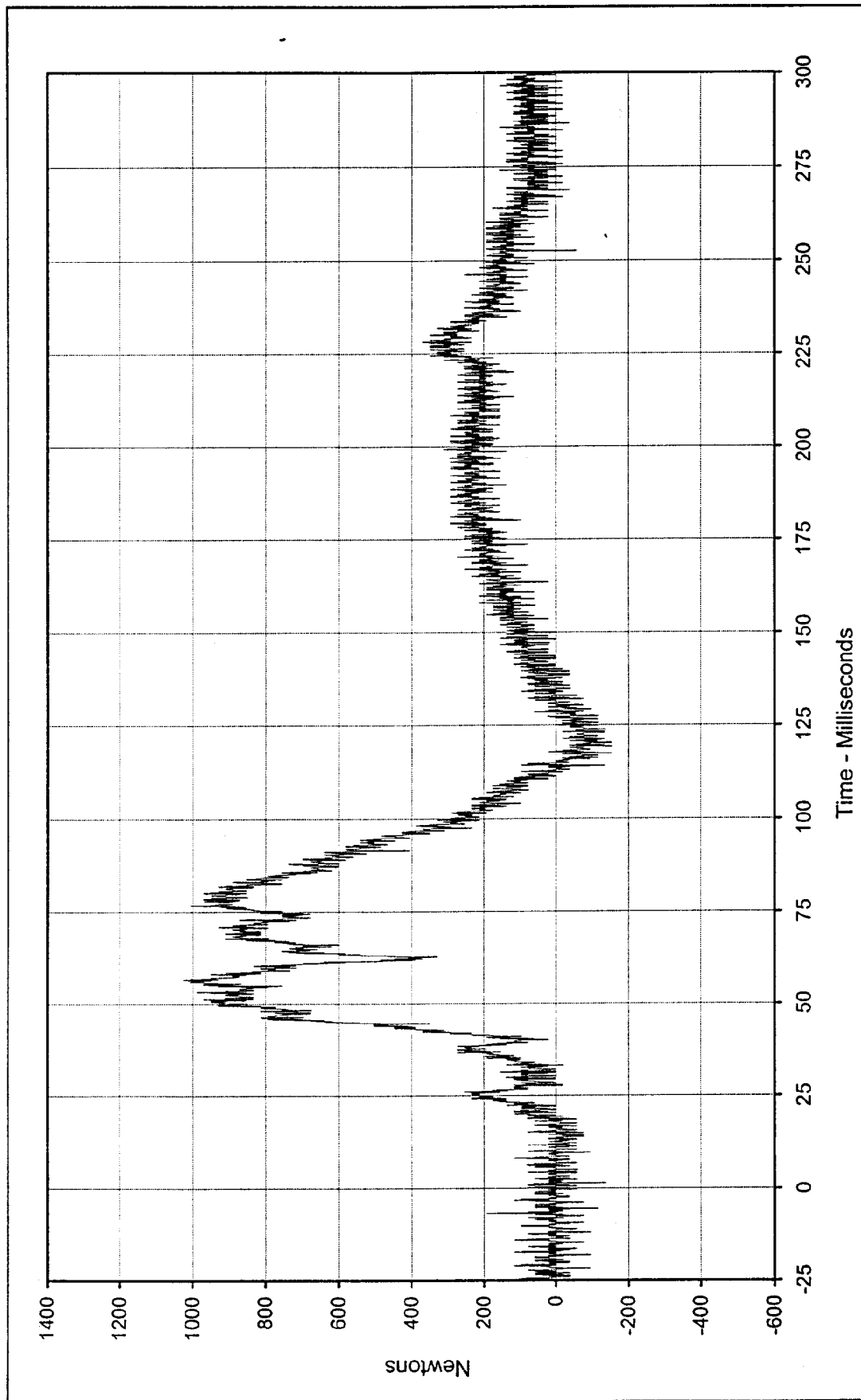
Curve Description:	Driver Neck Force X	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	589.0 at 75.1 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-351.4 at 114.9 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	FIL-007			





Curve Description:	Driver Neck Force Y		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	81.0	at 168.3	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-129.0	at 74.4			
SAE Filter Class:	1000				
Date of Test:	1/13/99				
Curve Number:	FIL-008				





Curve Description: Driver Neck Force Z

Maximum Value: 1025.4 at 56.6 Milliseconds

Minimum Value: -154.8 at 117.4 Milliseconds

SAE Filter Class: 1000

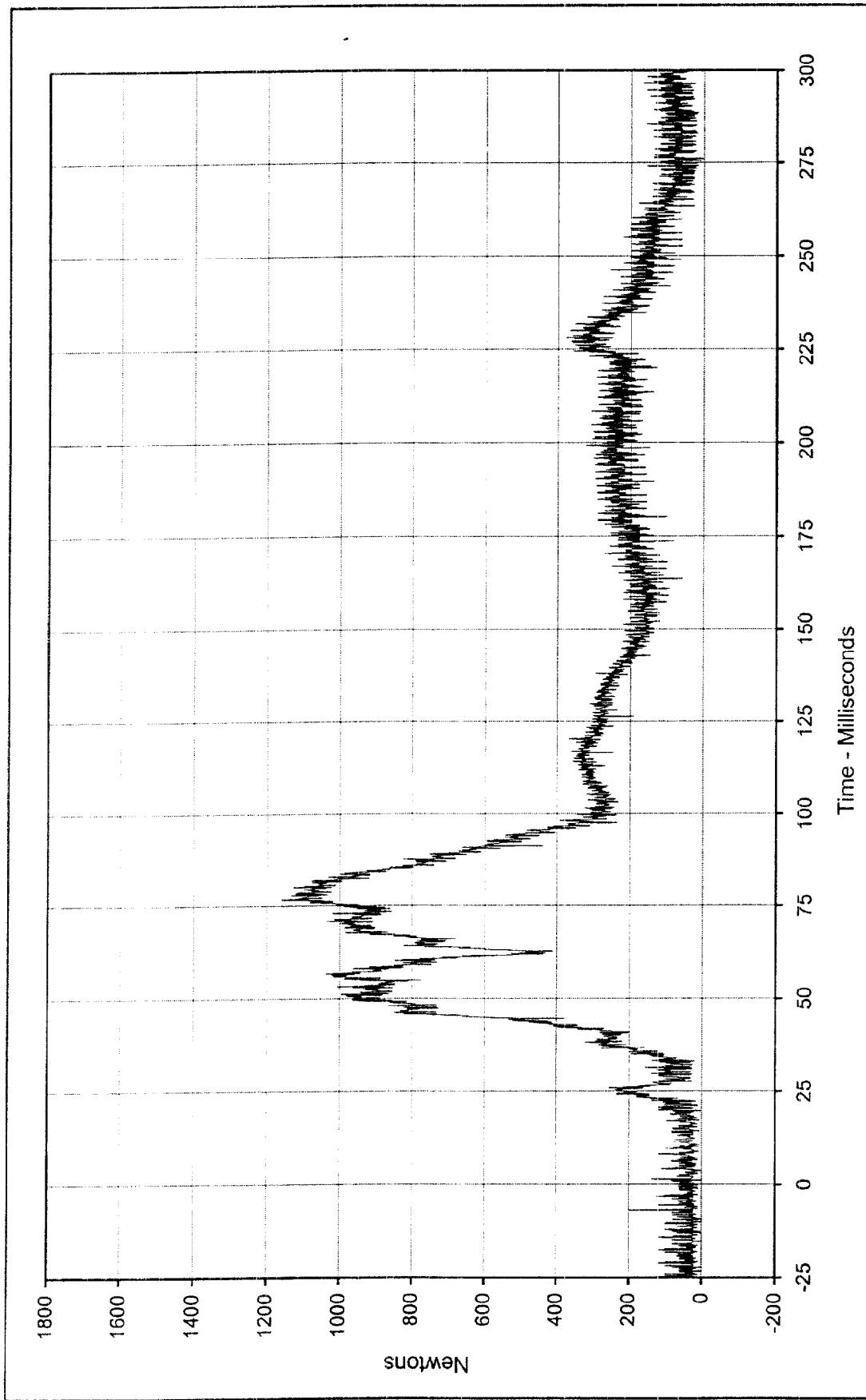
Date of Test: 1/13/99

Curve Number: FIL-009

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

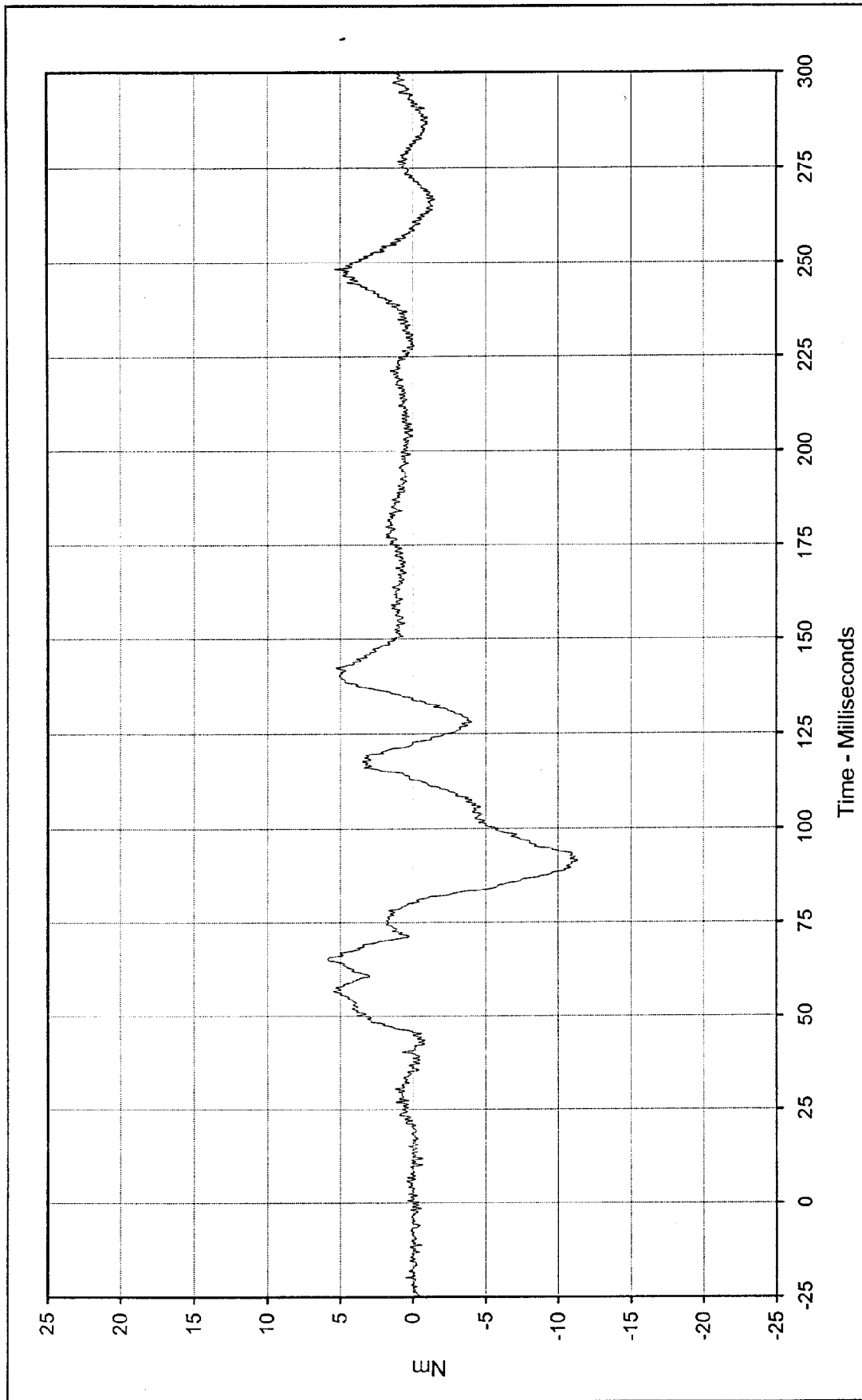




Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Program:
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Driver Neck Force Resultant
 Maximum Value: 1159.6 at 76.7 Milliseconds
 Minimum Value: 3.0 at 1.1 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: RES-007

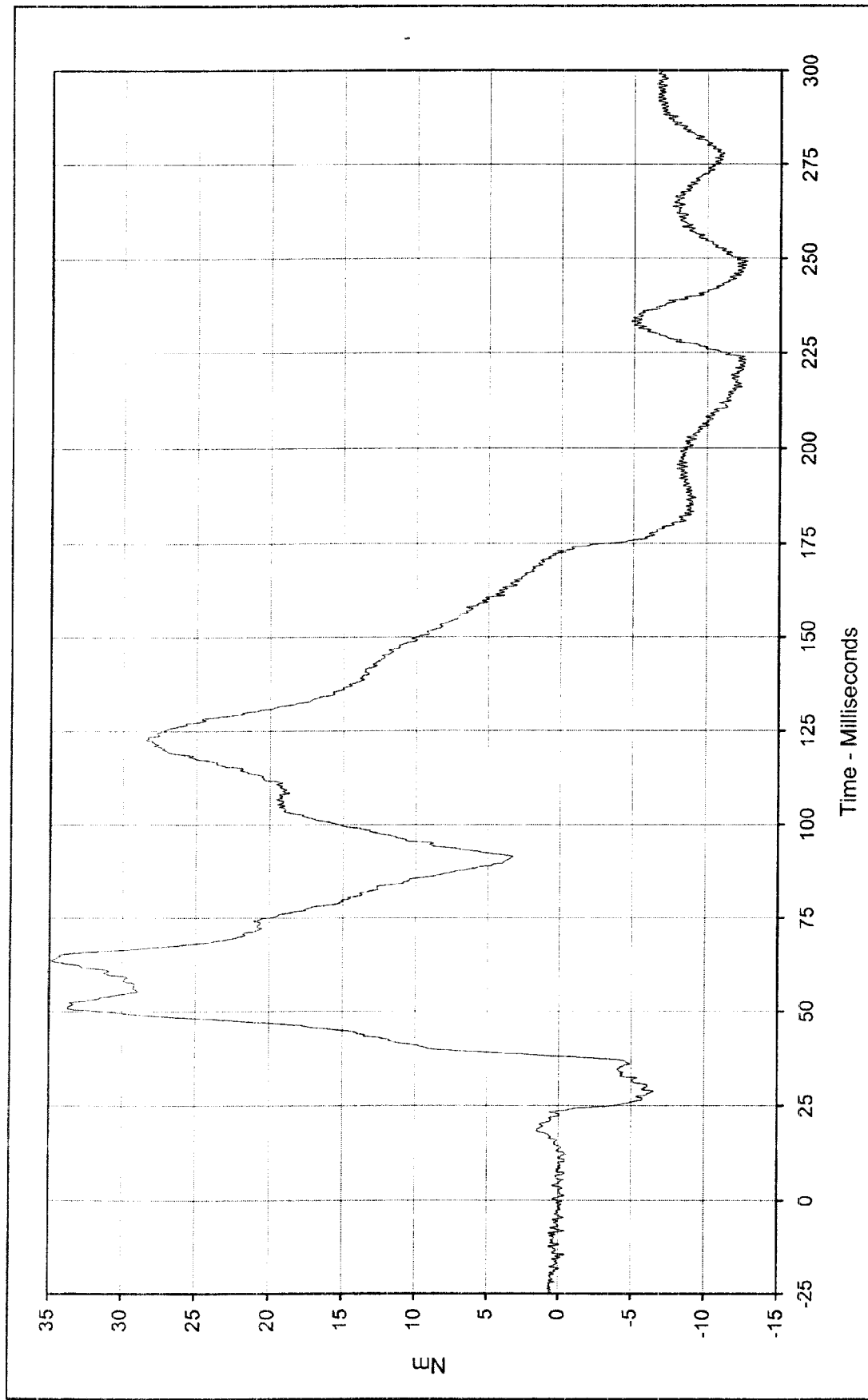




Curve Description: Driver Neck Moment X
 Maximum Value: 5.9 at 65.0 Milliseconds
 Minimum Value: -11.4 at 91.1 Milliseconds
 SAE Filter Class: 600
 Date of Test: 1/13/99
 Curve Number: FIL-010

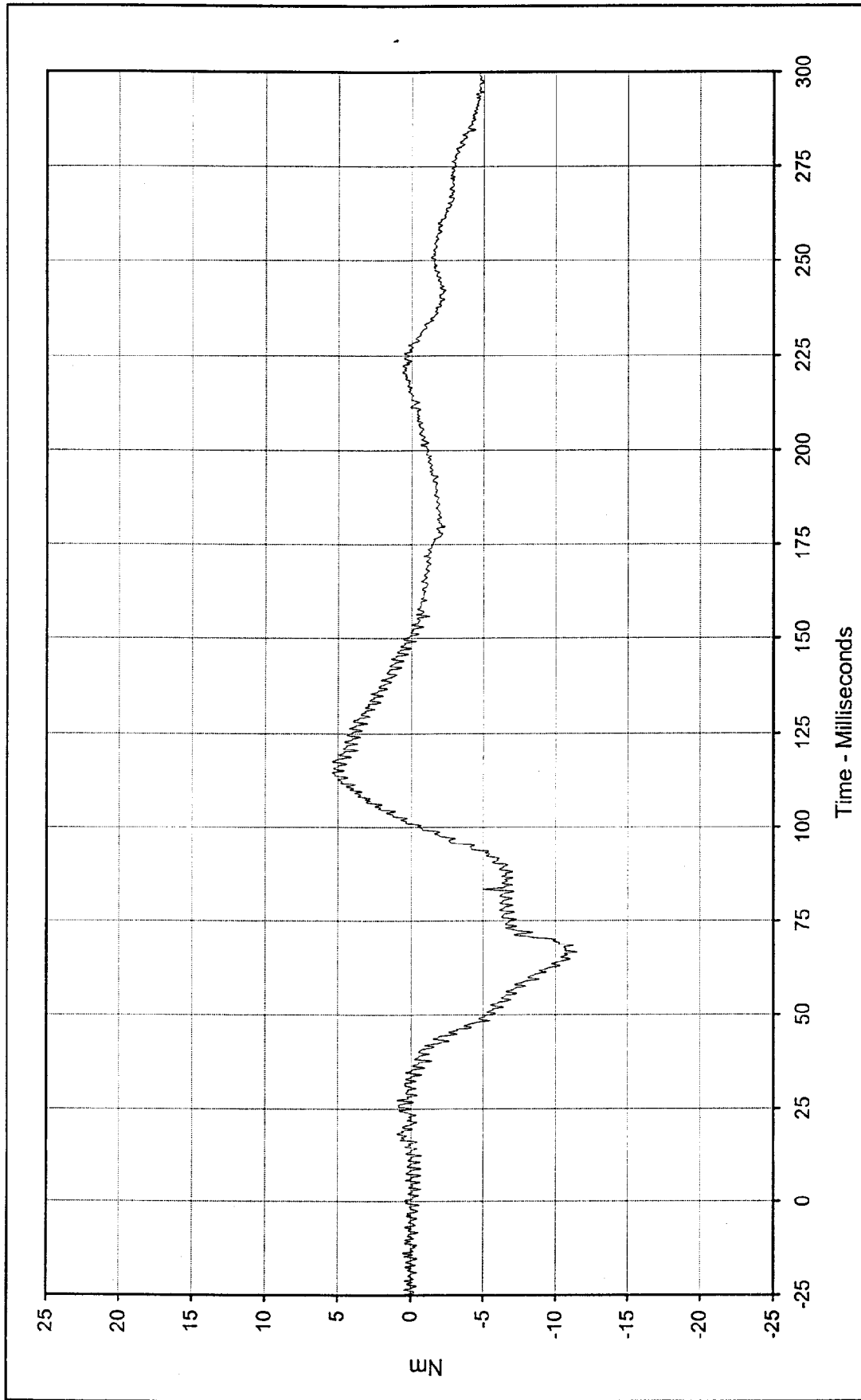
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Driver Neck Moment Y	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	34.8 at 63.5 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-12.8 at 249.2 Milliseconds			
SAE Filter Class:	600			
Date of Test:	1/13/99			
Curve Number:	FIL-011			

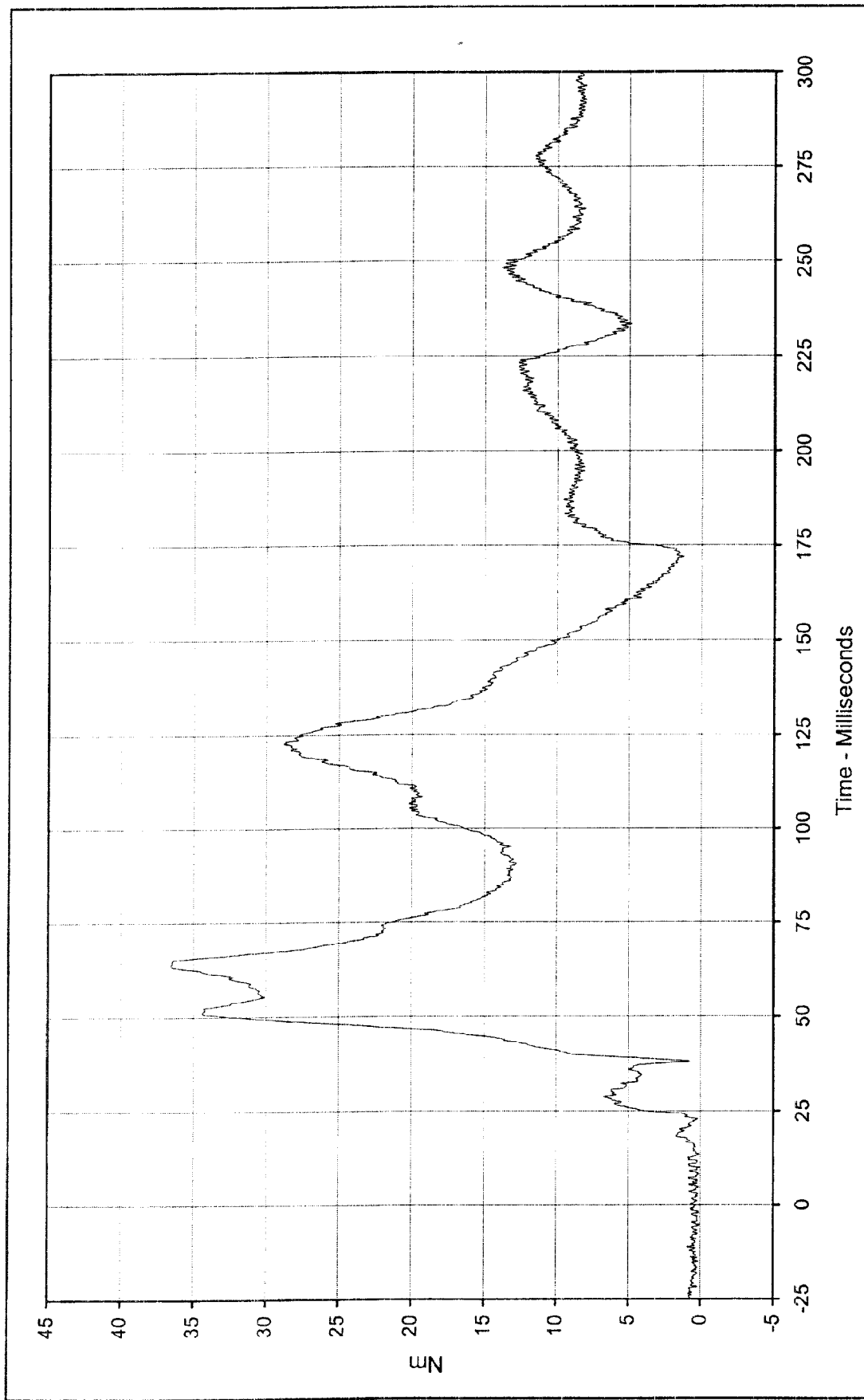




Curve Description: Driver Neck Moment Z
 Maximum Value: 5.4 at 114.6 Milliseconds
 Minimum Value: -11.5 at 66.5 Milliseconds
 SAE Filter Class: 600
 Date of Test: 1/13/99
 Curve Number: FIL-012

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Driver Neck Moment Resultant

Maximum Value: 36.5 at 63.5 Milliseconds

Minimum Value: 0.1 at 9.8 Milliseconds

SAE Filter Class: 600

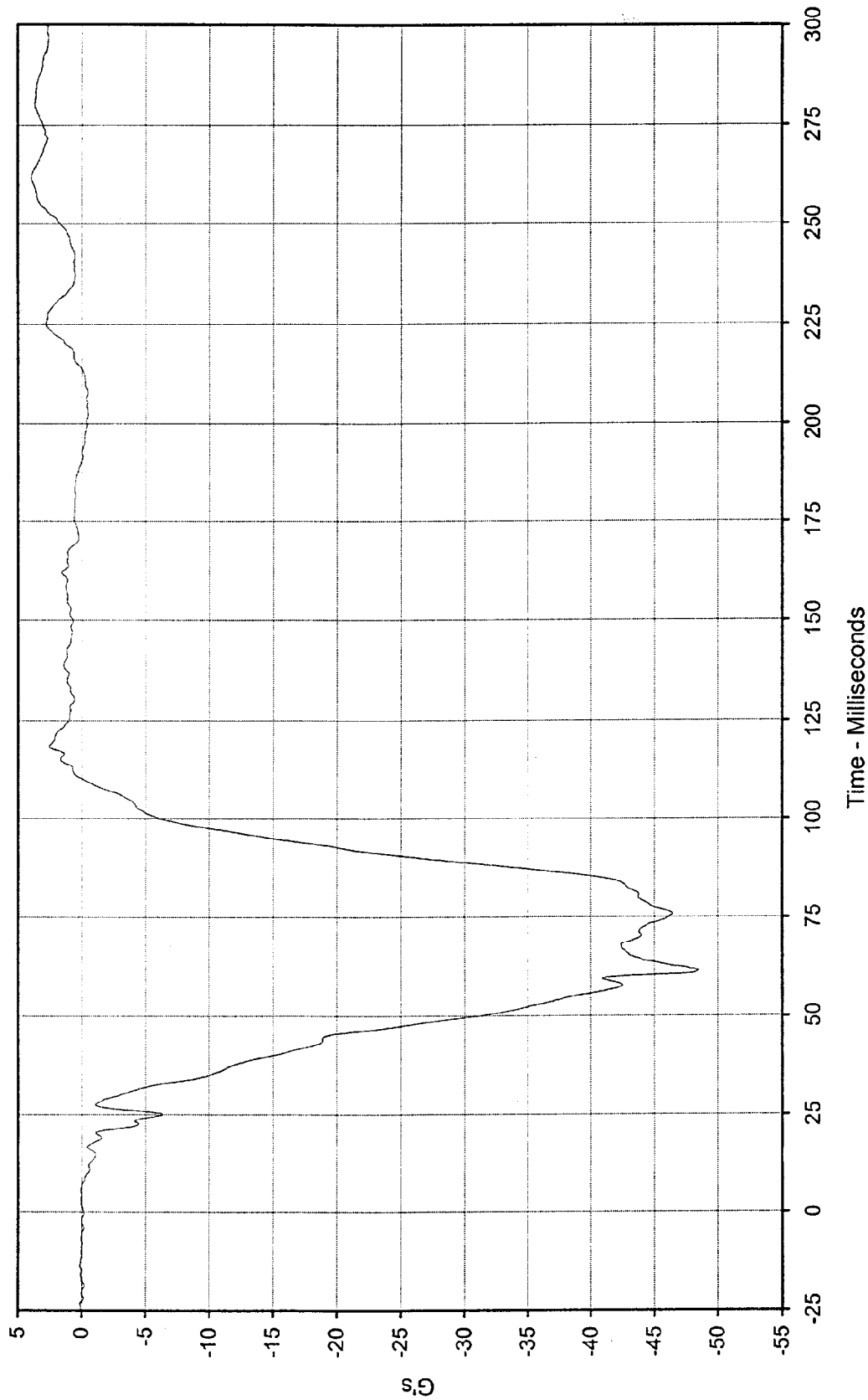
Date of Test: 1/13/99

Curve Number: RES-010

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

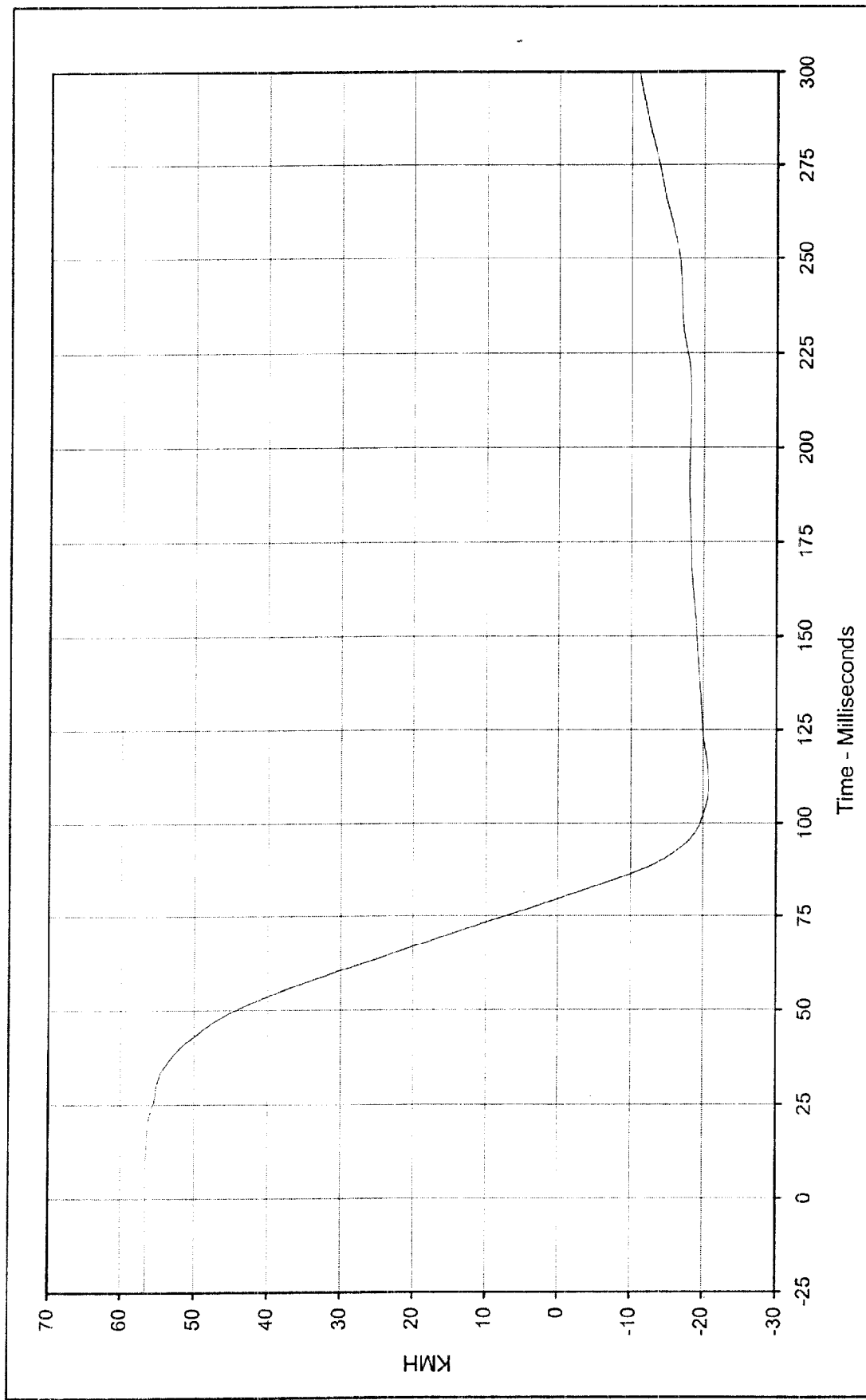




Curve Description: Driver Chest Primary X
 Maximum Value: 3.9 at 261.9 Milliseconds
 Minimum Value: -48.5 at 61.2 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-013

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Driver Chest Primary X Velocity

Maximum Value: 56.6 at 6.6 Milliseconds

Minimum Value: -20.8 at 110.1 Milliseconds

SAE Filter Class: 180

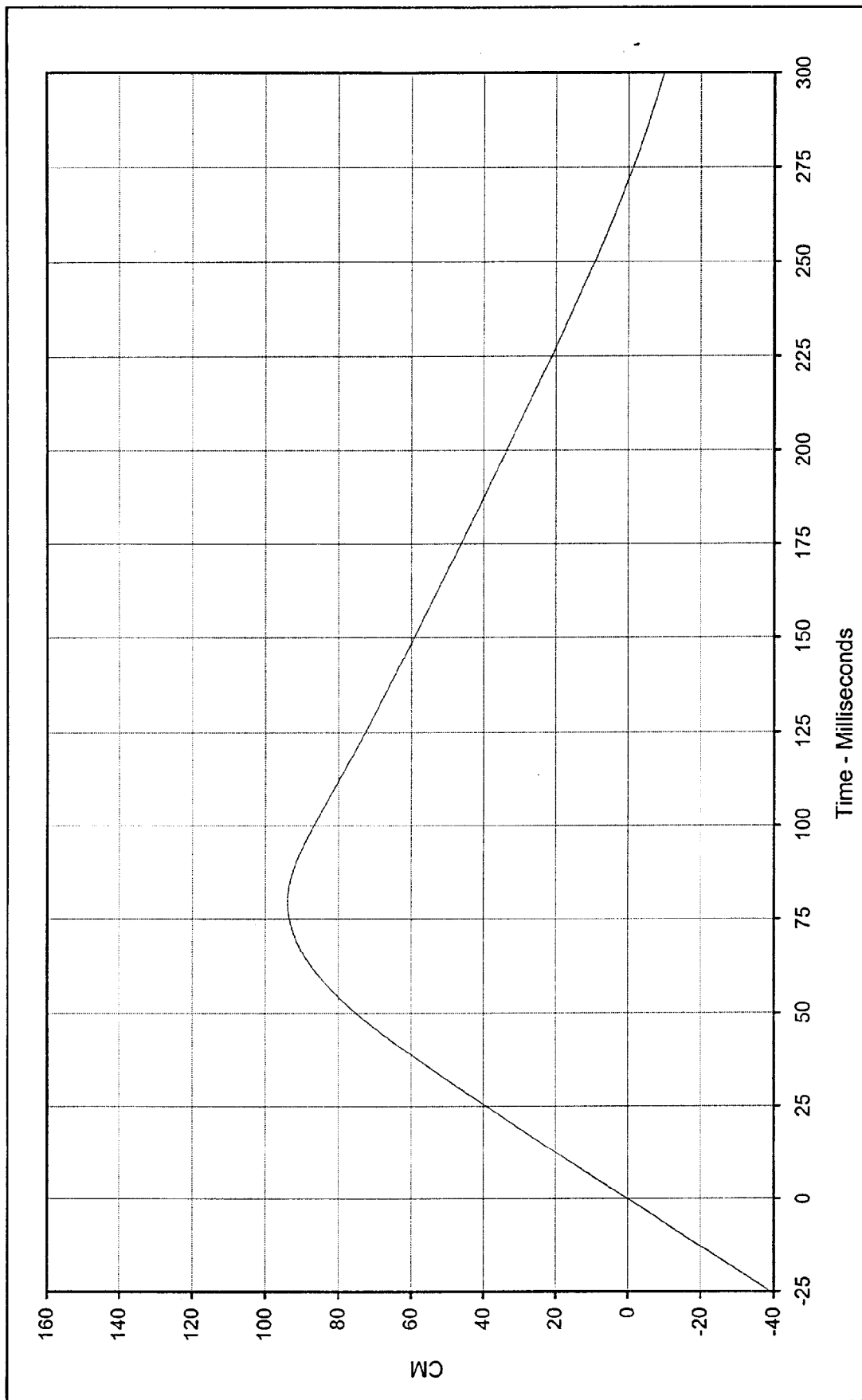
Date of Test: 1/13/99

Curve Number: IN1-013

Testing Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Driver Chest Primary X Displ.

Maximum Value: 93.8 at 79.5 Milliseconds

Minimum Value: -9.8 at 299.9 Milliseconds

SAE Filter Class: 180

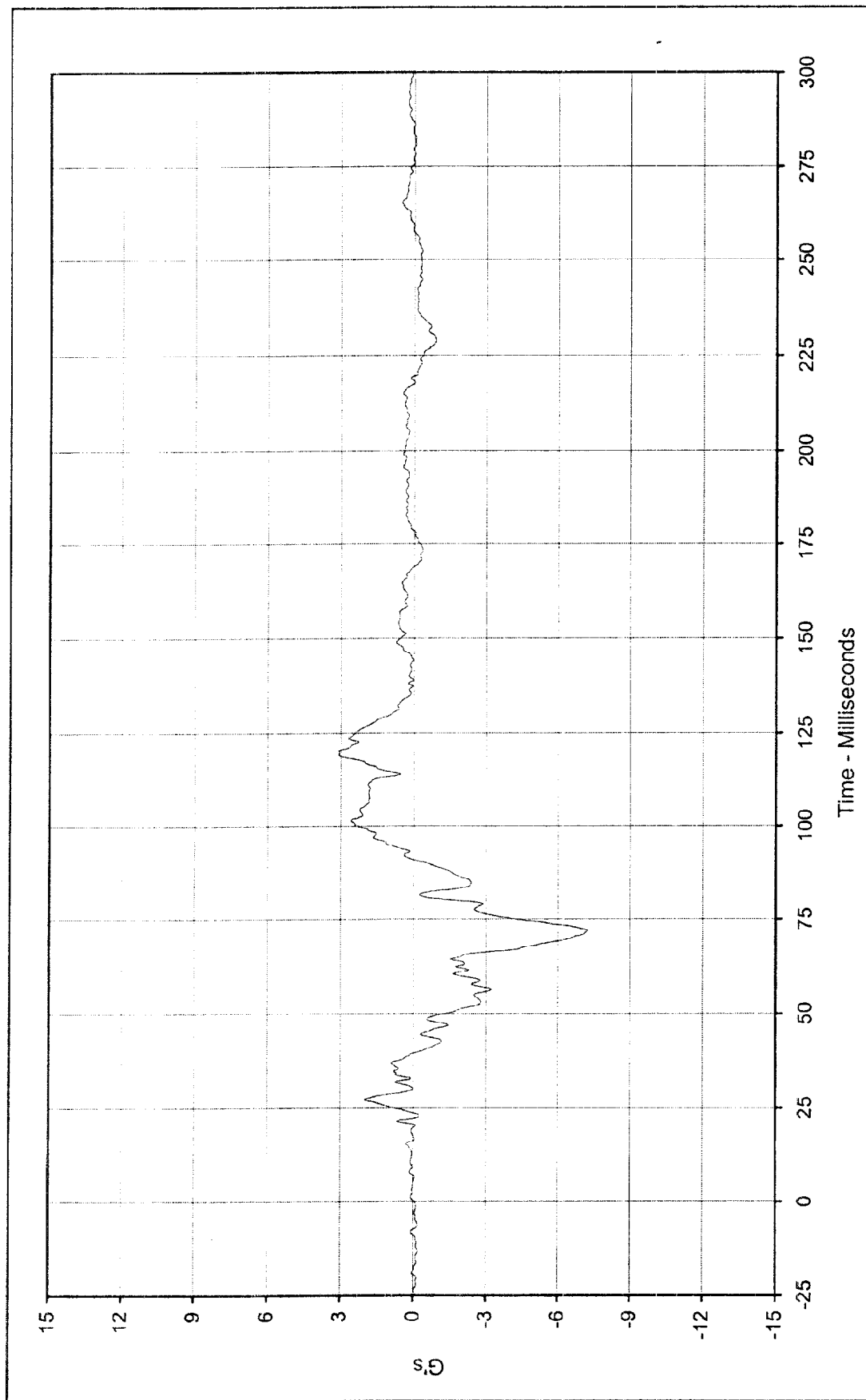
Date of Test: 1/13/99

Curve Number: IN2-013

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

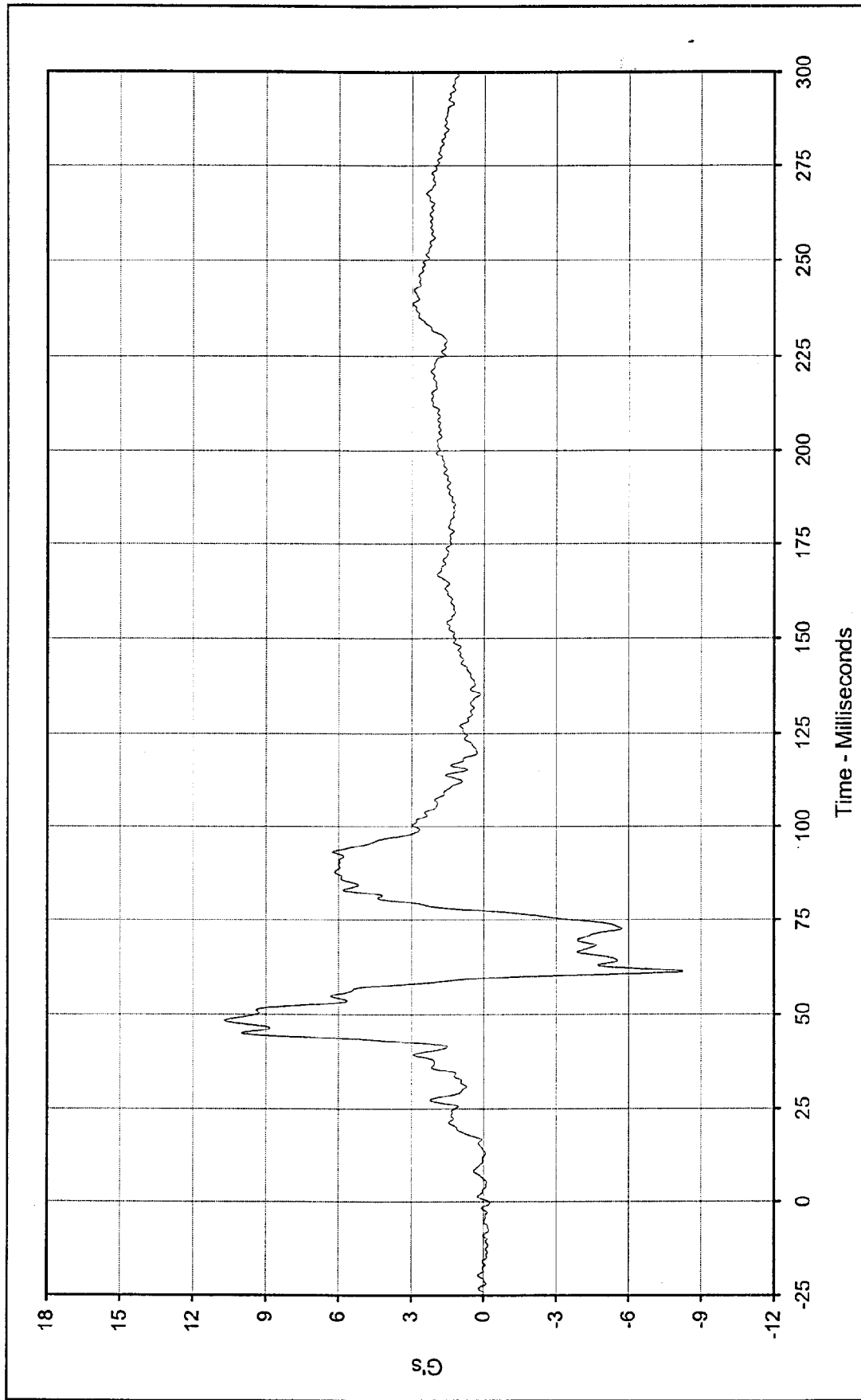
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:		Driver Chest Primary Y		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	3.1	at	120.1	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-7.2	at	72.0			
SAE Filter Class:	180					
Date of Test:	1/13/99					
Curve Number:	FIL-014					

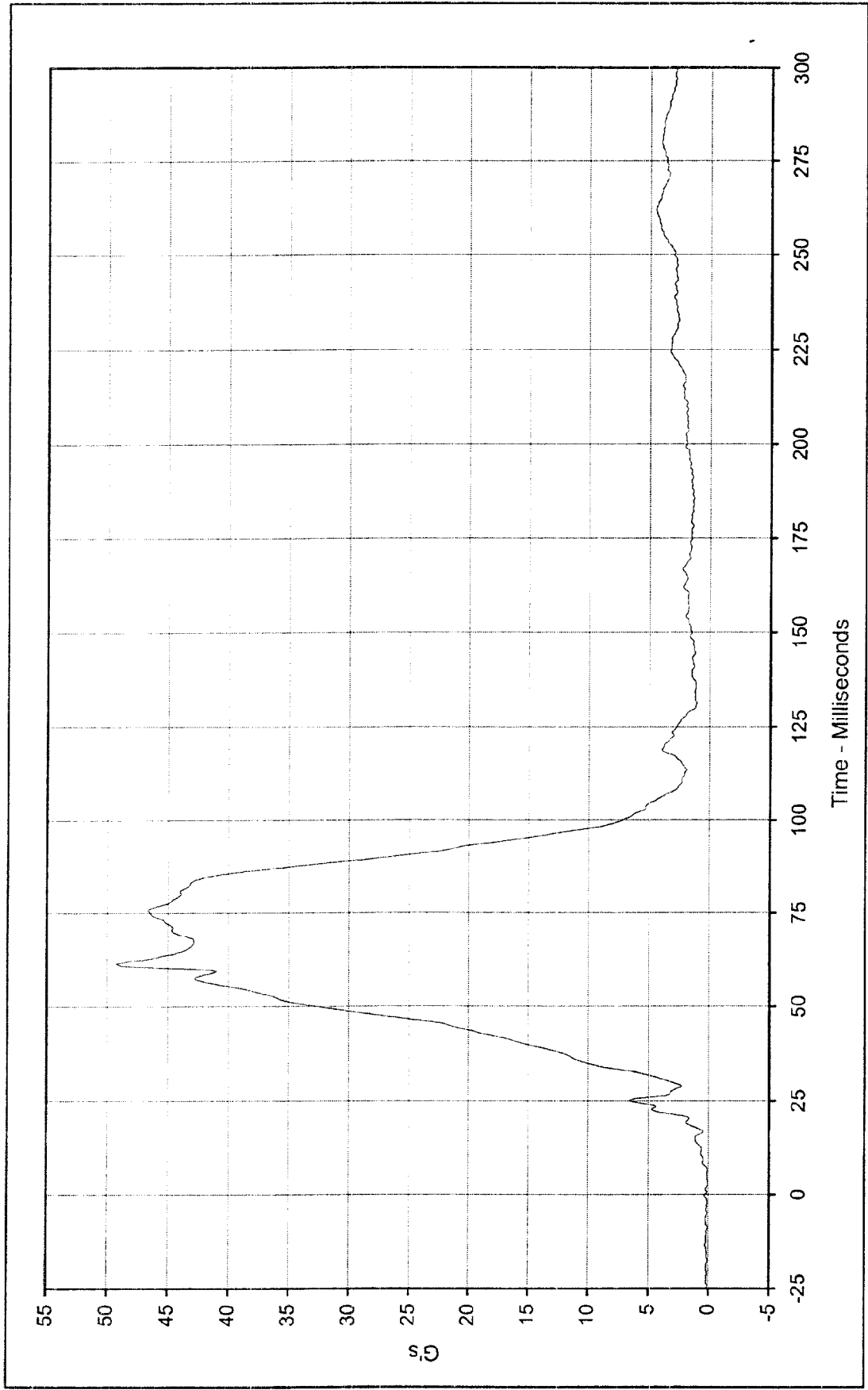




Curve Description:	Driver Chest Primary Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	10.7 at 48.4 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-8.3 at 61.2 Milliseconds			



SAE Filter Class:	180
Date of Test:	1/13/99
Curve Number:	FIL-015

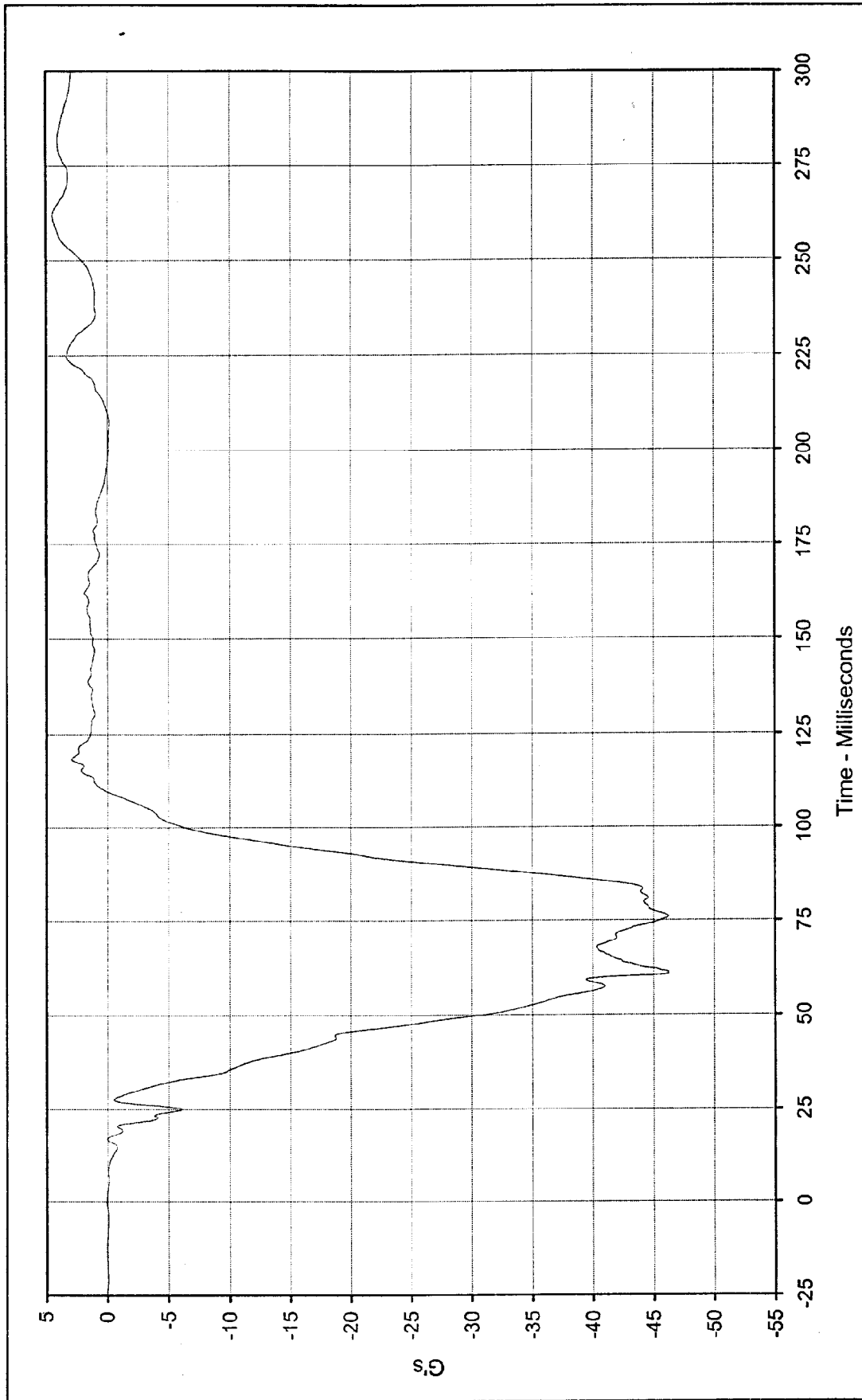


Curve Description:	Driver Chest Resultant Primary		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	49.3	at 61.2	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	0.0	at 2.7			
SAE Filter Class:	180				
Date of Test:	1/13/99				
Curve Number:	RES-013				



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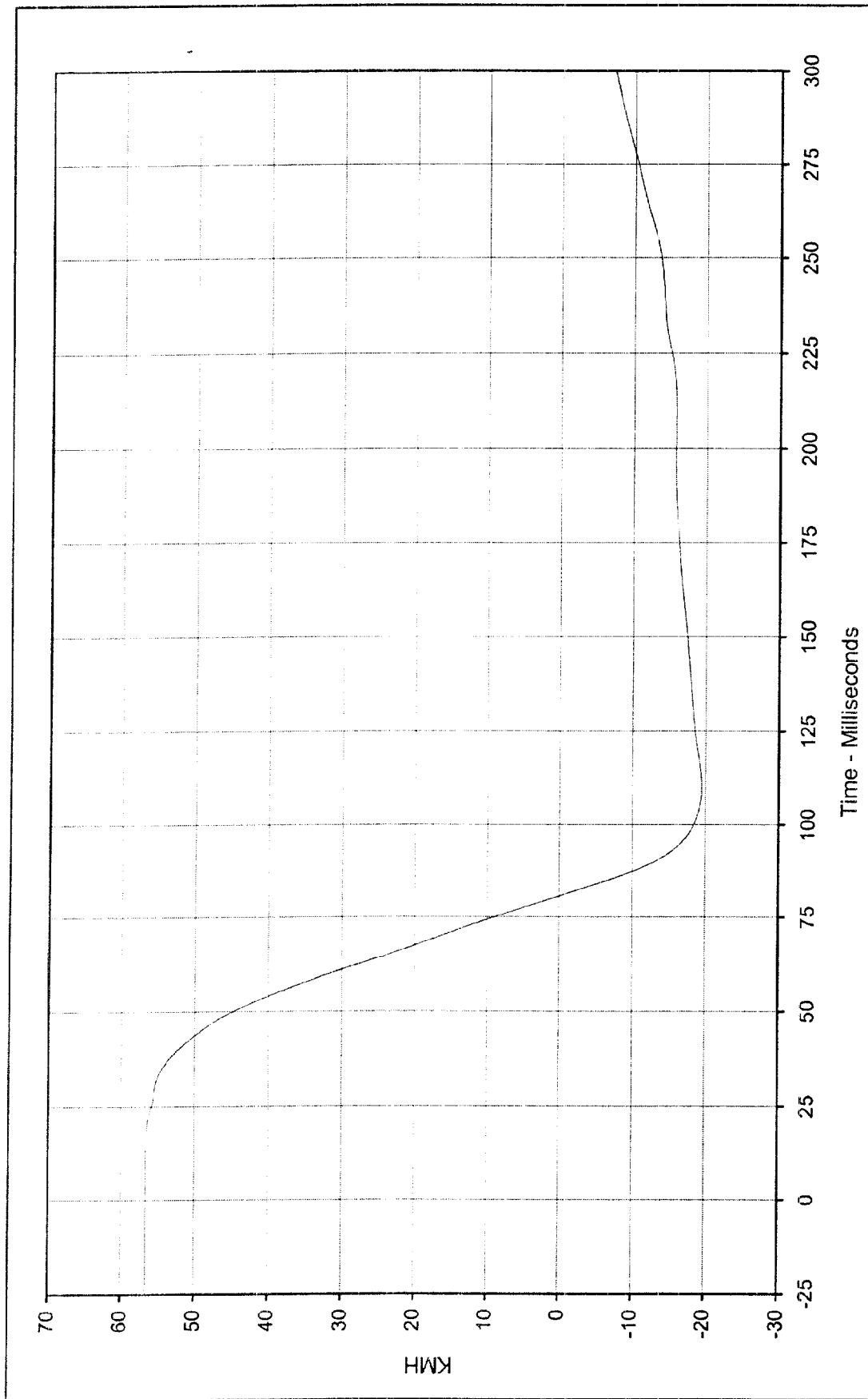




Curve Description: Driver Chest Redundant X
 Maximum Value: 4.5 at 262.2 Milliseconds
 Minimum Value: -46.3 at 61.2 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-016

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Driver Chest Redundant X Velocity

Maximum Value: 56.6 at 3.1 Milliseconds

Minimum Value: -19.5 at 109.6 Milliseconds

SAE Filter Class: 180

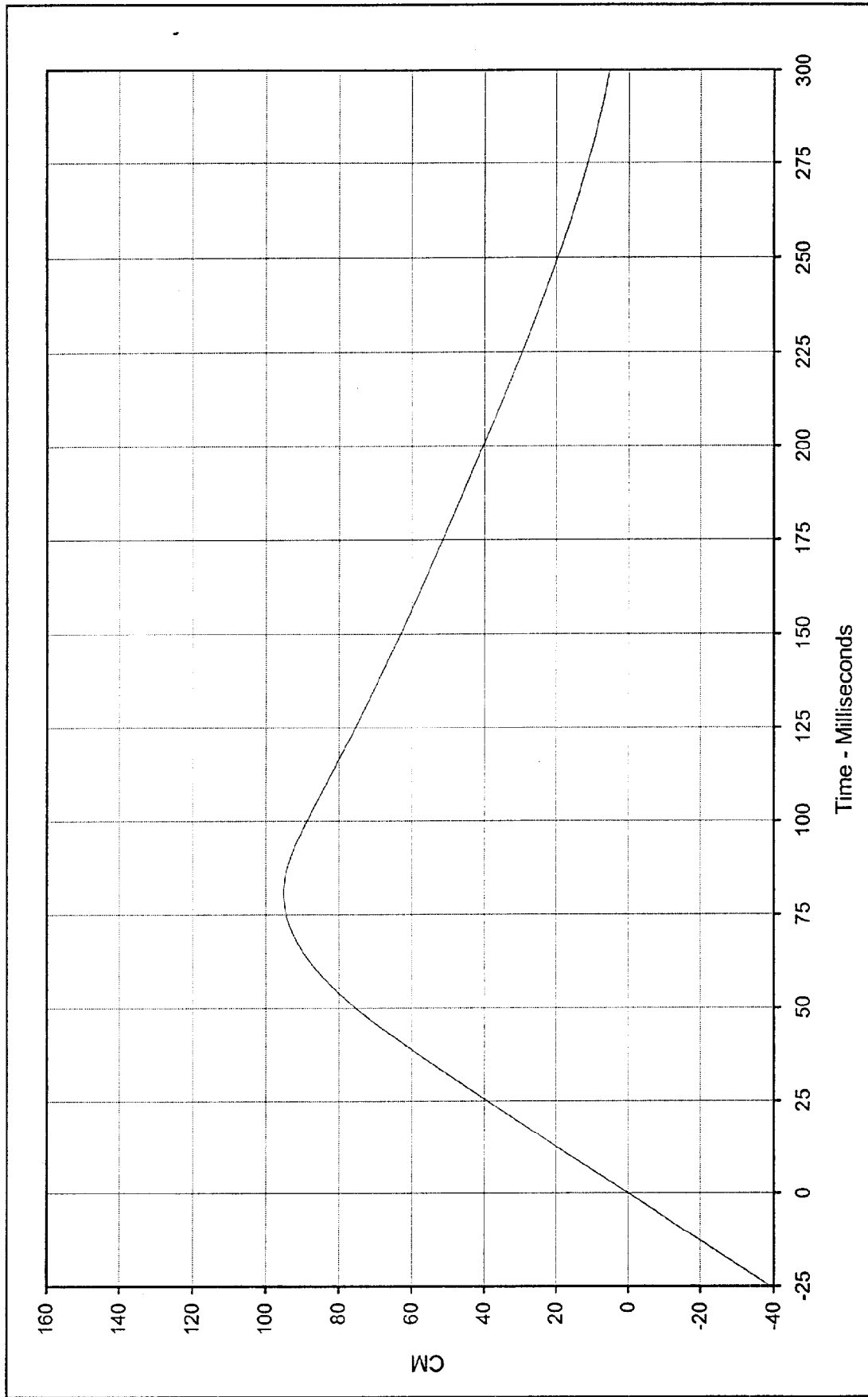
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Curve Number: IN1-016

Testing Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

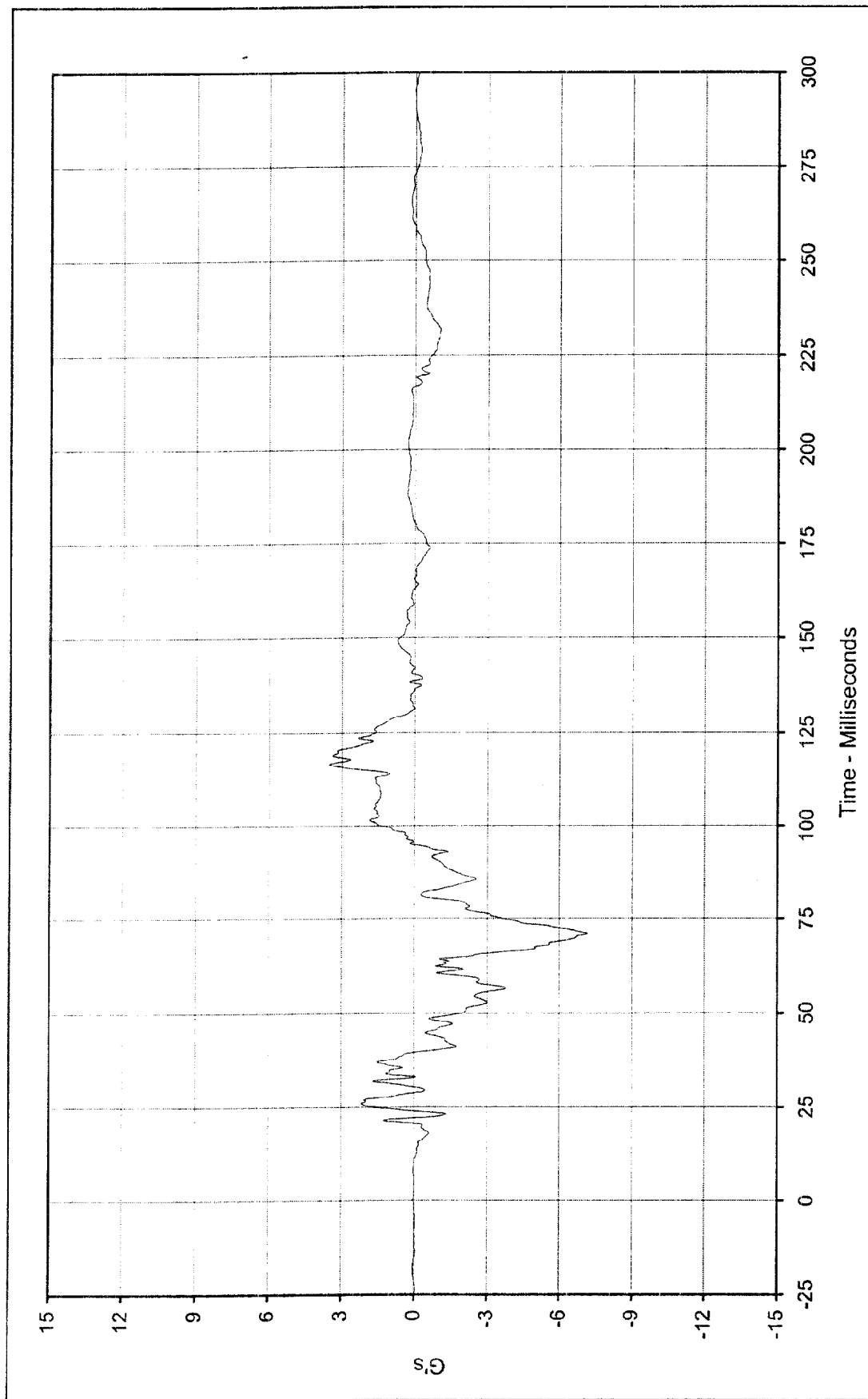




Curve Description: Driver Chest Redundant X Displ.
Maximum Value: 95.1 at 80.6 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 1/13/99
Curve Number: IN2-016

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

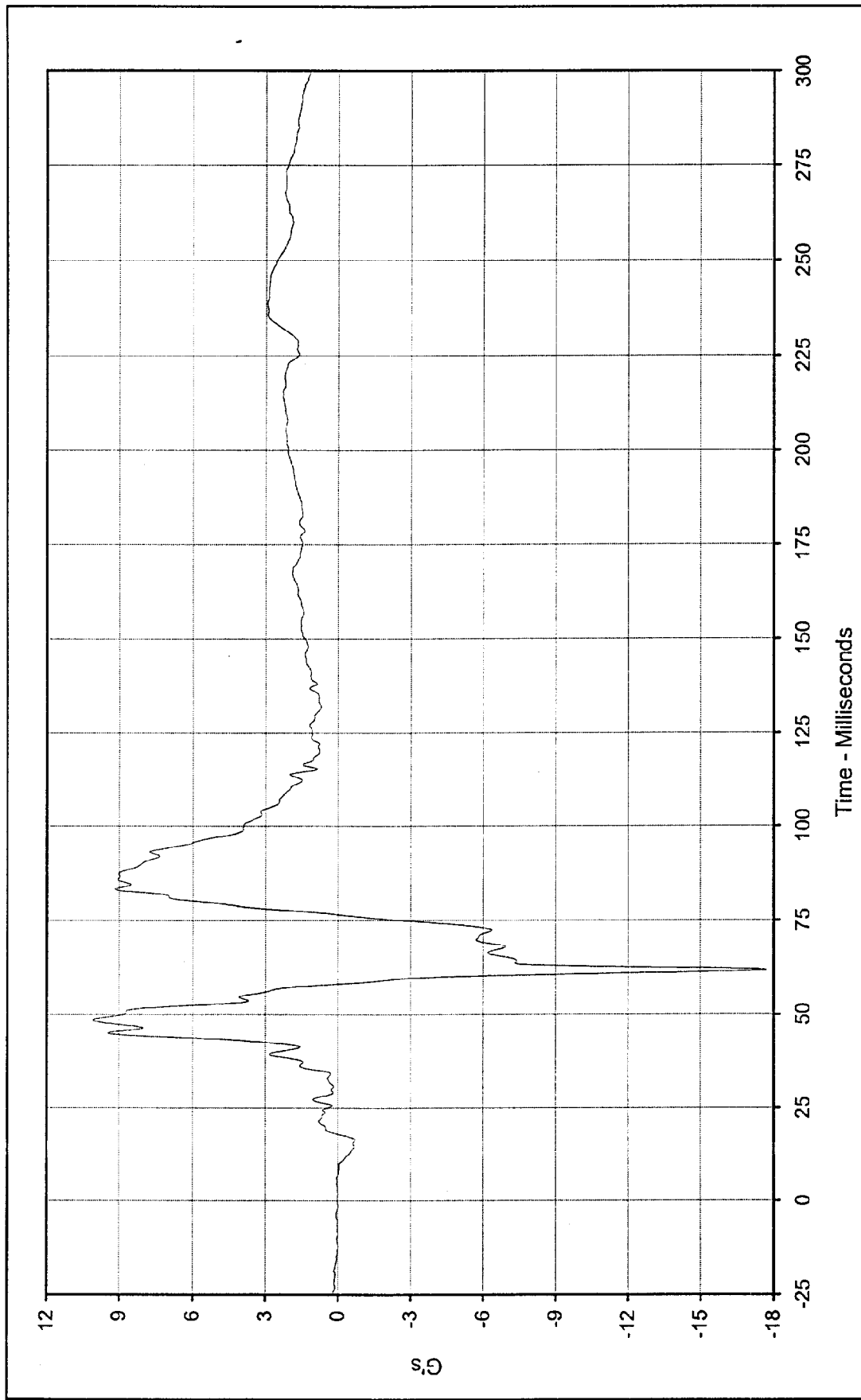




Curve Description: Driver Chest Redundant Y
 Maximum Value: 3.5 at 116.6 Milliseconds
 Minimum Value: -7.2 at 71.1 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-017

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

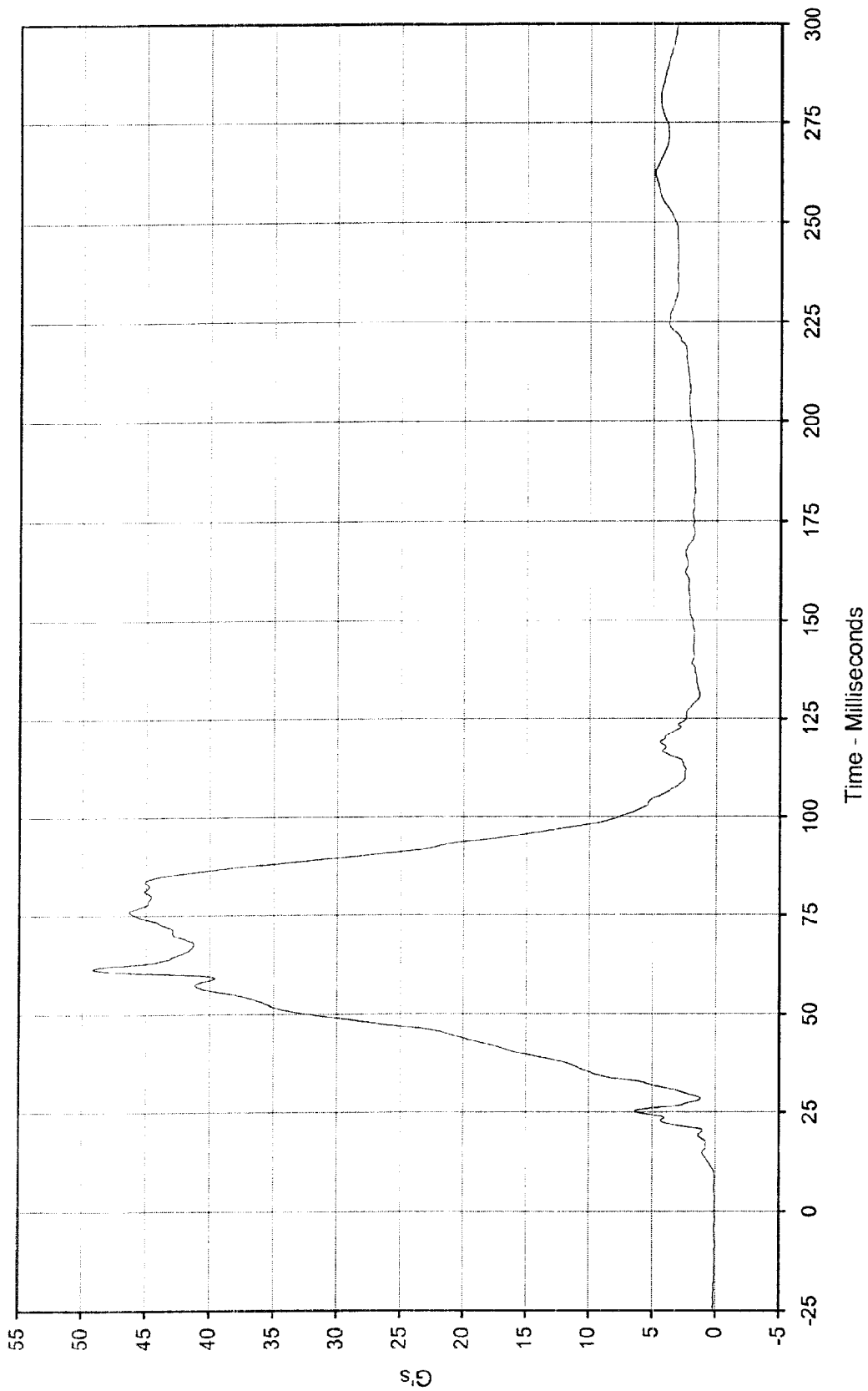




Curve Description:	Driver Chest Redundant Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	10.1 at 48.5 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-17.7 at 61.7 Milliseconds			



SAE Filter Class:	180
Date of Test:	1/13/99
Curve Number:	FIL-018



Curve Description: Driver Chest Resultant Redundant Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 49.2 at 61.4 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

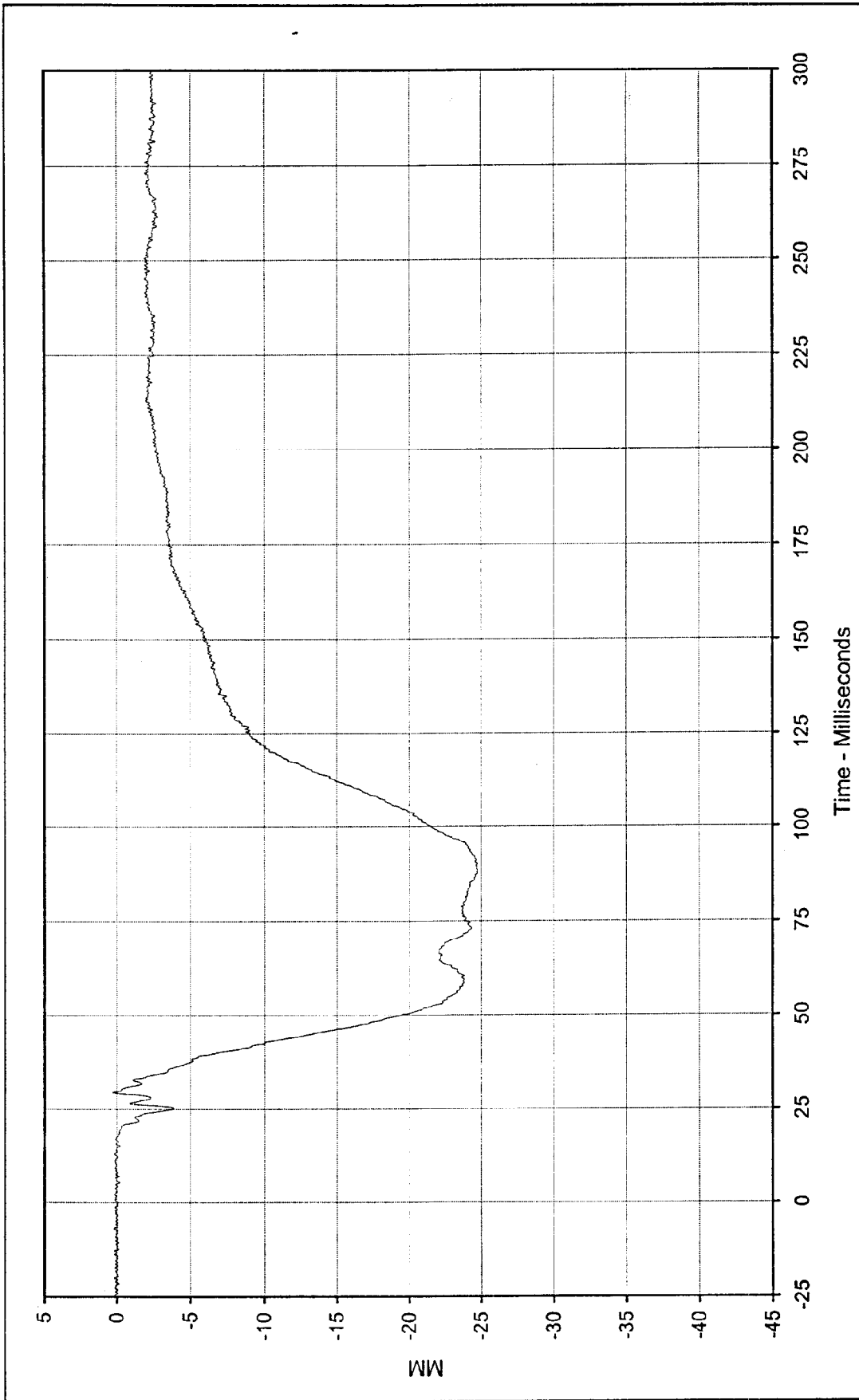
Minimum Value: 0.0 at 3.3 Milliseconds

SAE Filter Class: 180

Date of Test: 1/13/99

Curve Number: RES-016

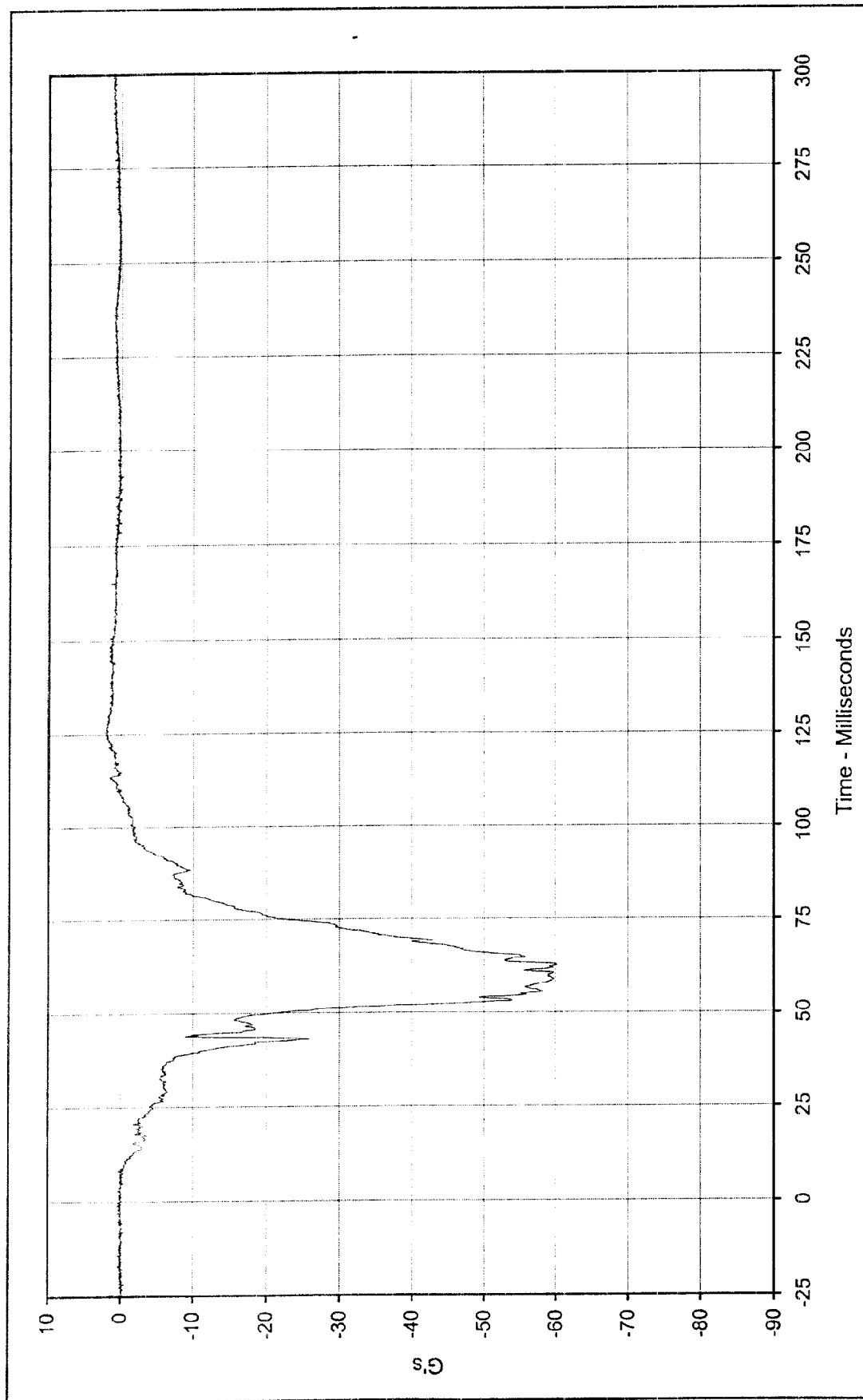




Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 0.3 at 29.4 Milliseconds
 Minimum Value: -24.8 at 89.9 Milliseconds
 SAE Filter Class: 600
 Date of Test: 1/13/99
 Curve Number: FIL-019

Test Program:
 Test Vehicle:

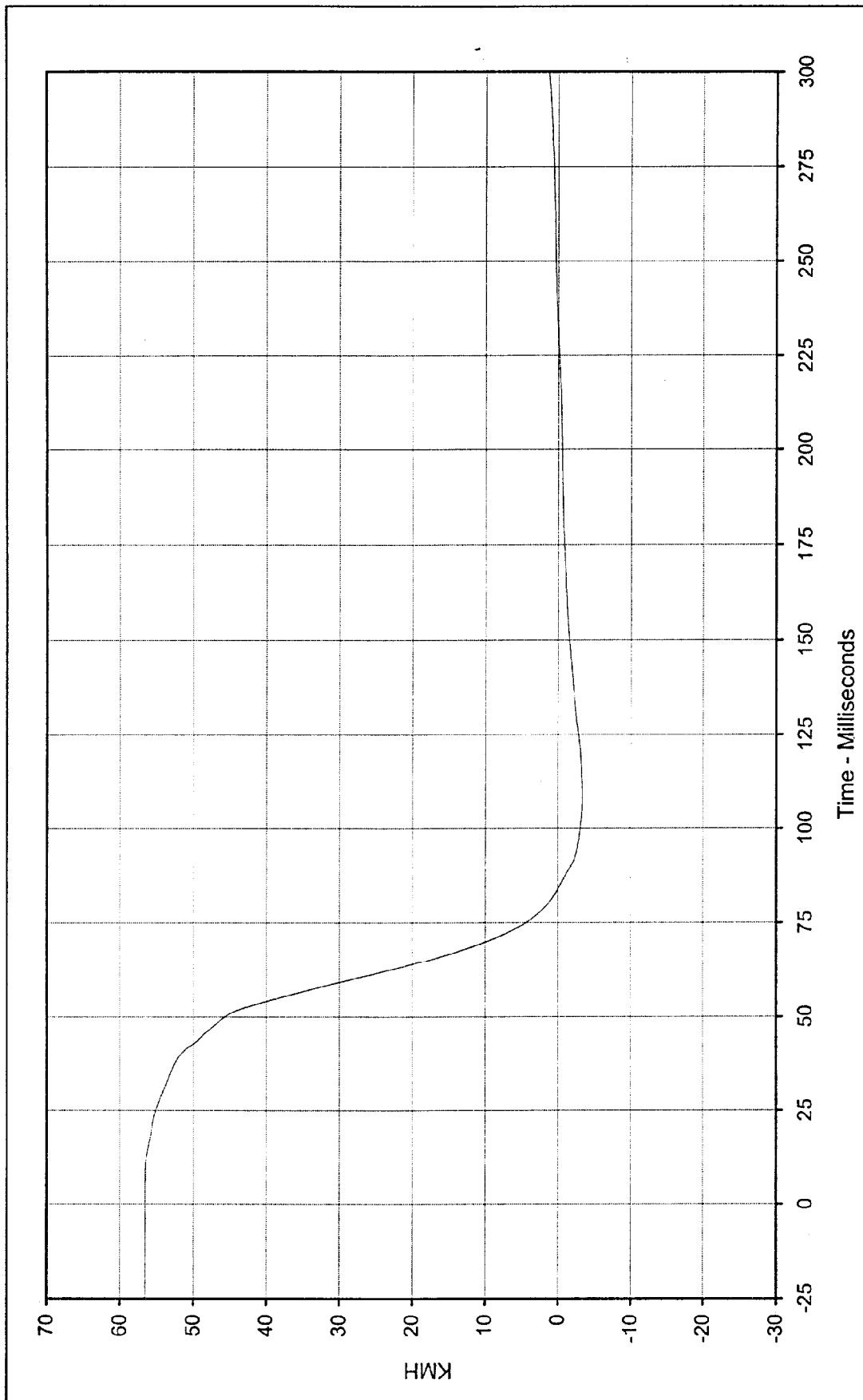




Curve Description:	Driver Pelvis X	Test Program:	1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value:	2.3 at 125.6 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	-60.2 at 62.5 Milliseconds		



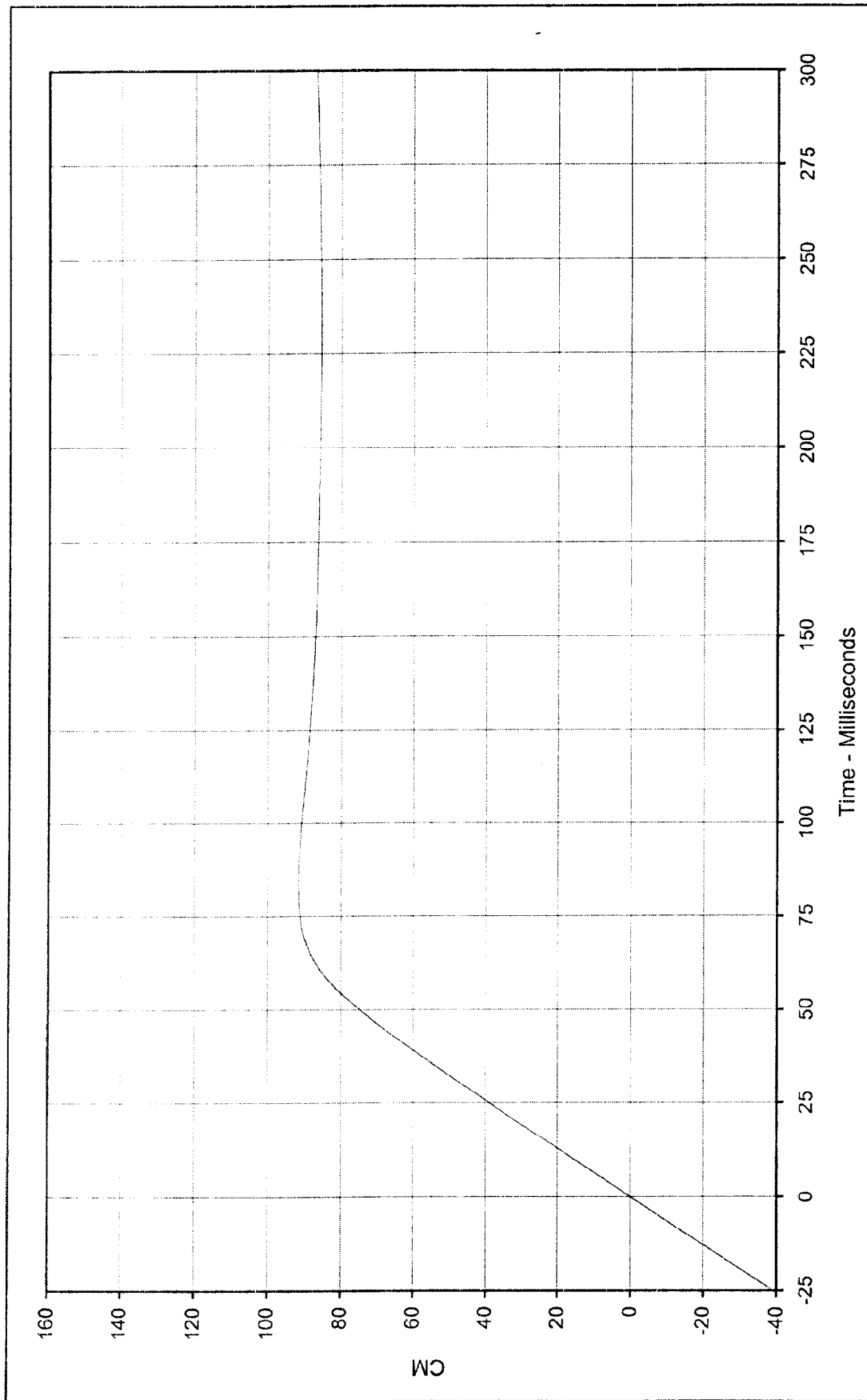
SAE Filter Class:	1000
Date of Test:	1/13/99
Curve Number:	FIL-020



Curve Description: Driver Pelvis X Velocity
Maximum Value: 56.5 at 1.2 Milliseconds
Minimum Value: -3.3 at 108.7 Milliseconds
SAE Filter Class: 180
Date of Test: 1/13/99
Curve Number: IN1-020

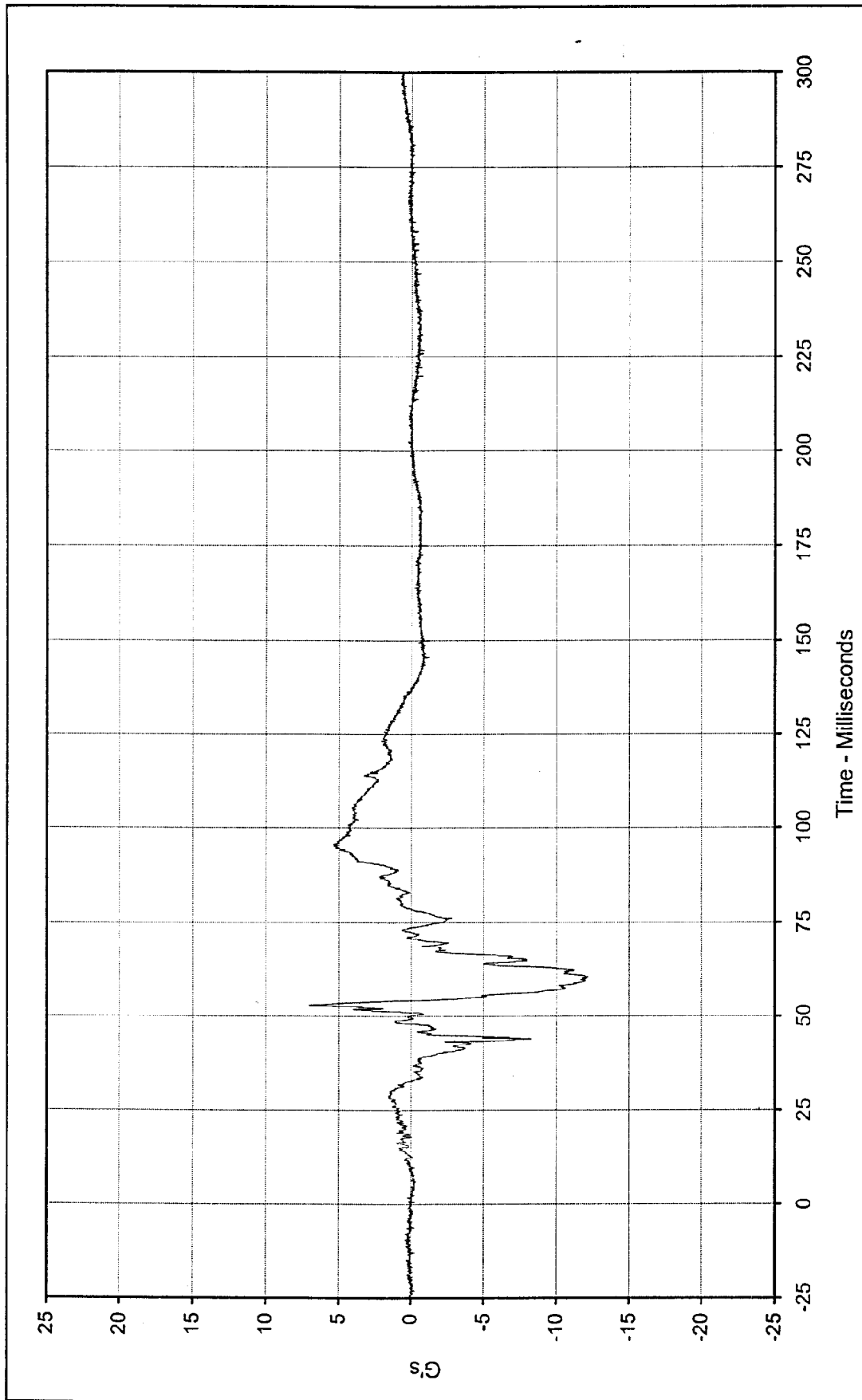
Testing Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Driver Pelvis X Displ.	Test Program:	1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value:	91.6 at 83.8 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	0.0 at 0.0 Milliseconds		
SAE Filter Class:	180		
Date of Test:	1/13/99		
Curve Number:	IN2-020		

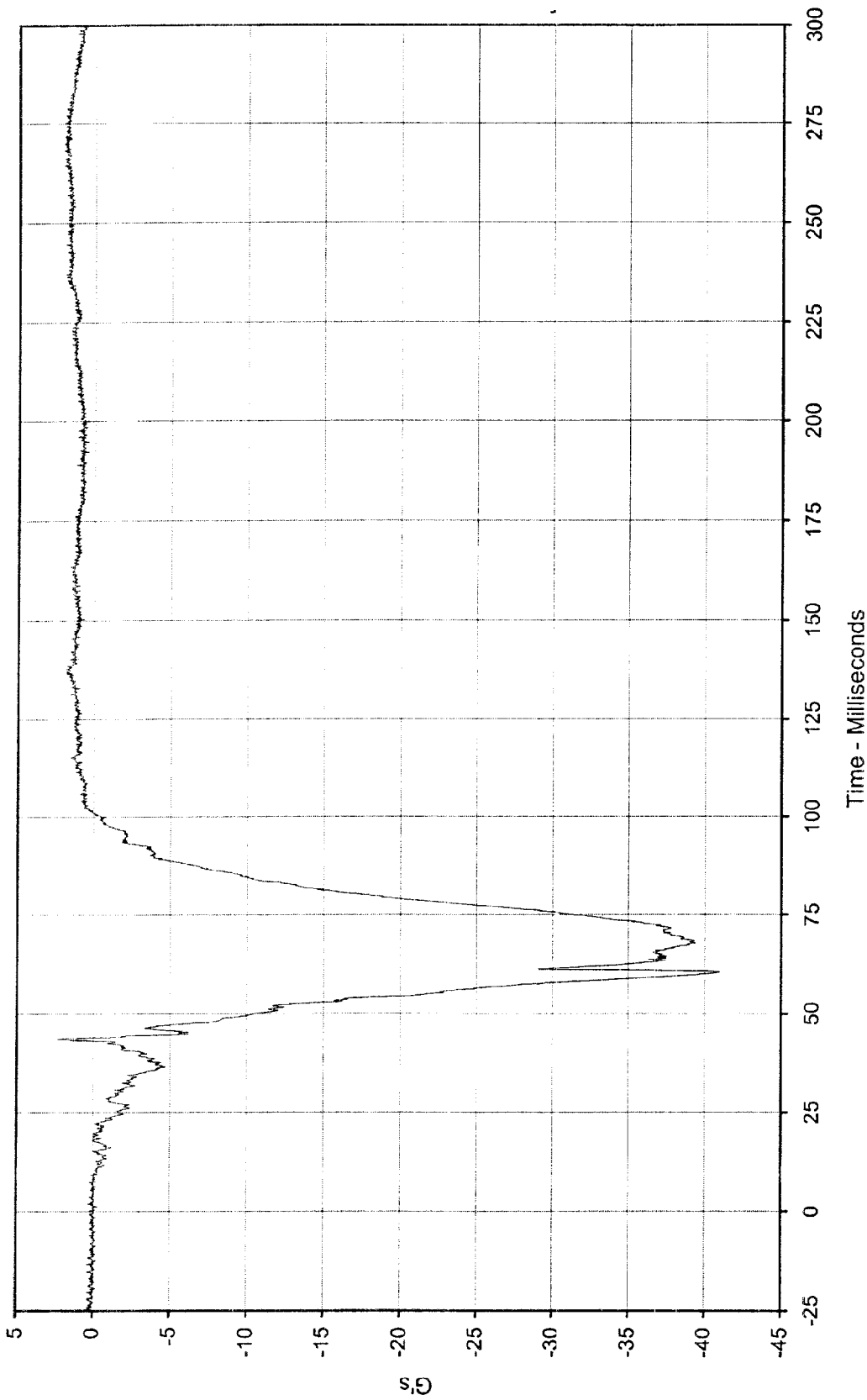




Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 7.0 at 52.9 Milliseconds
 Minimum Value: -12.2 at 60.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: FIL-021

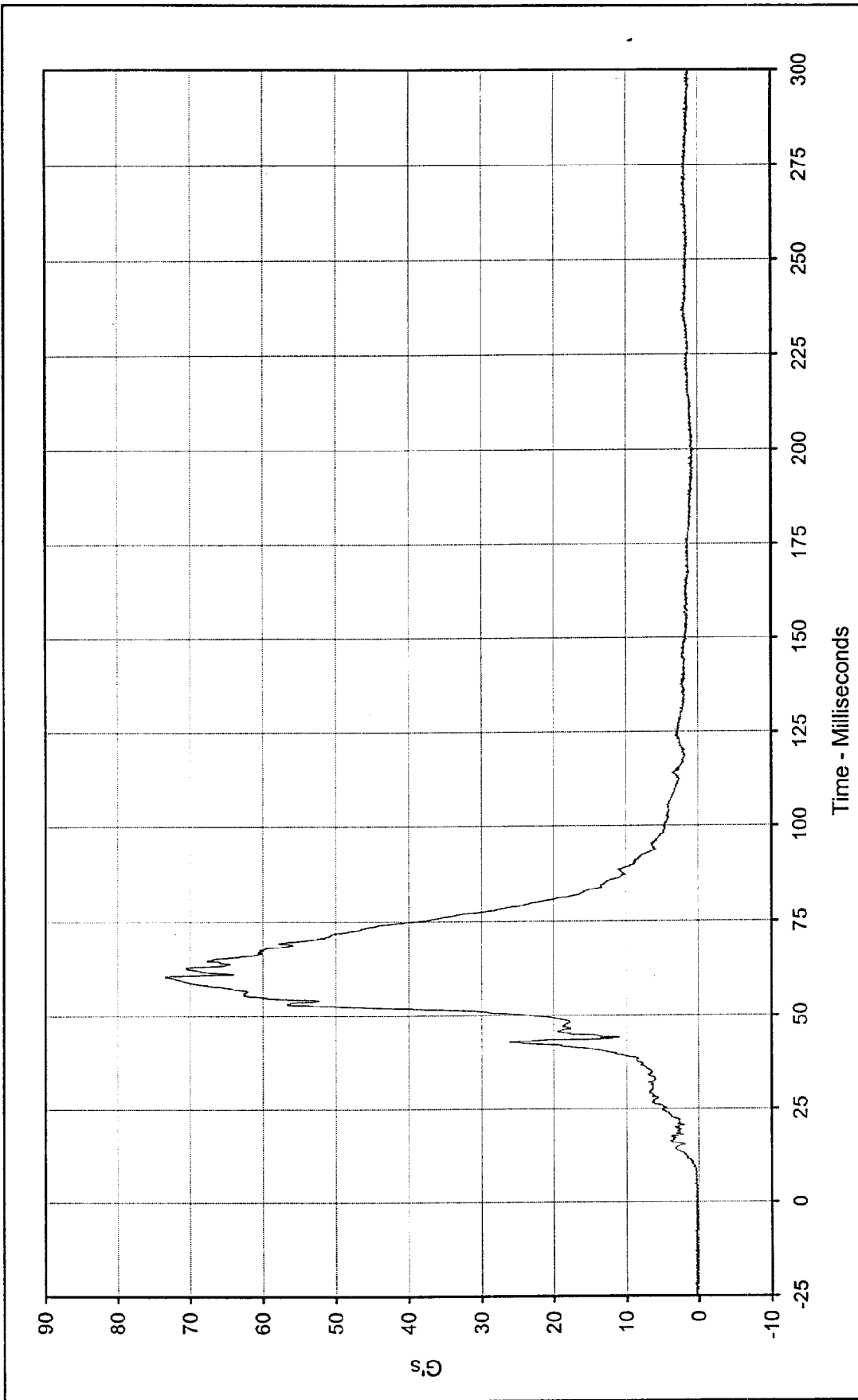
Test Program: 1999 NHTSA 35 mph NCAP
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:		Driver Pelvis Z		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	2.3	at	43.8	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-41.0	at	60.4			
SAE Filter Class:	1000					
Date of Test:	1/13/99					
Curve Number:	FIL-022					
						

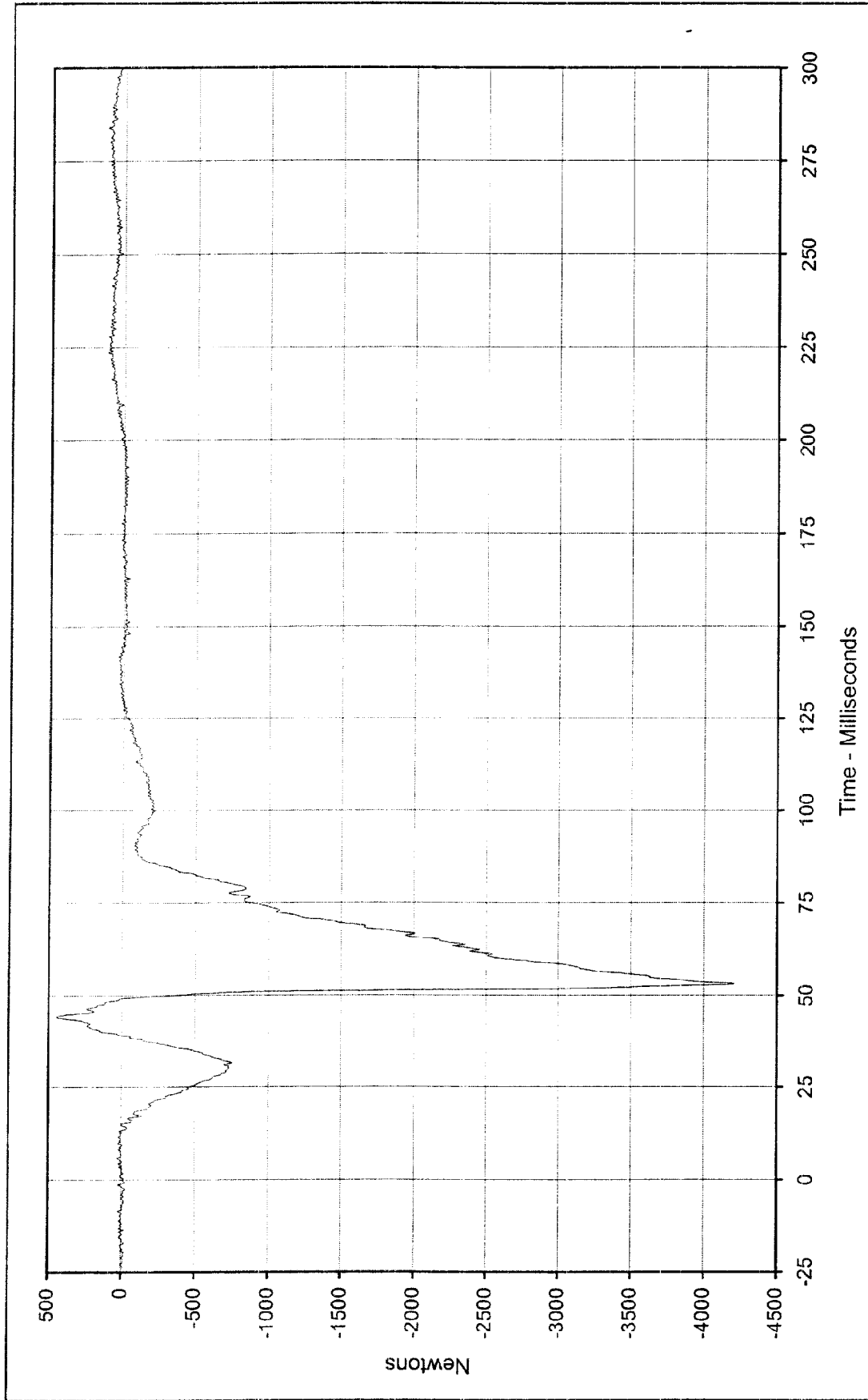




Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Program:
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Driver Pelvis Resultant
 Maximum Value: 73.4 at 60.4 Milliseconds
 Minimum Value: 0.0 at 2.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: RES-020

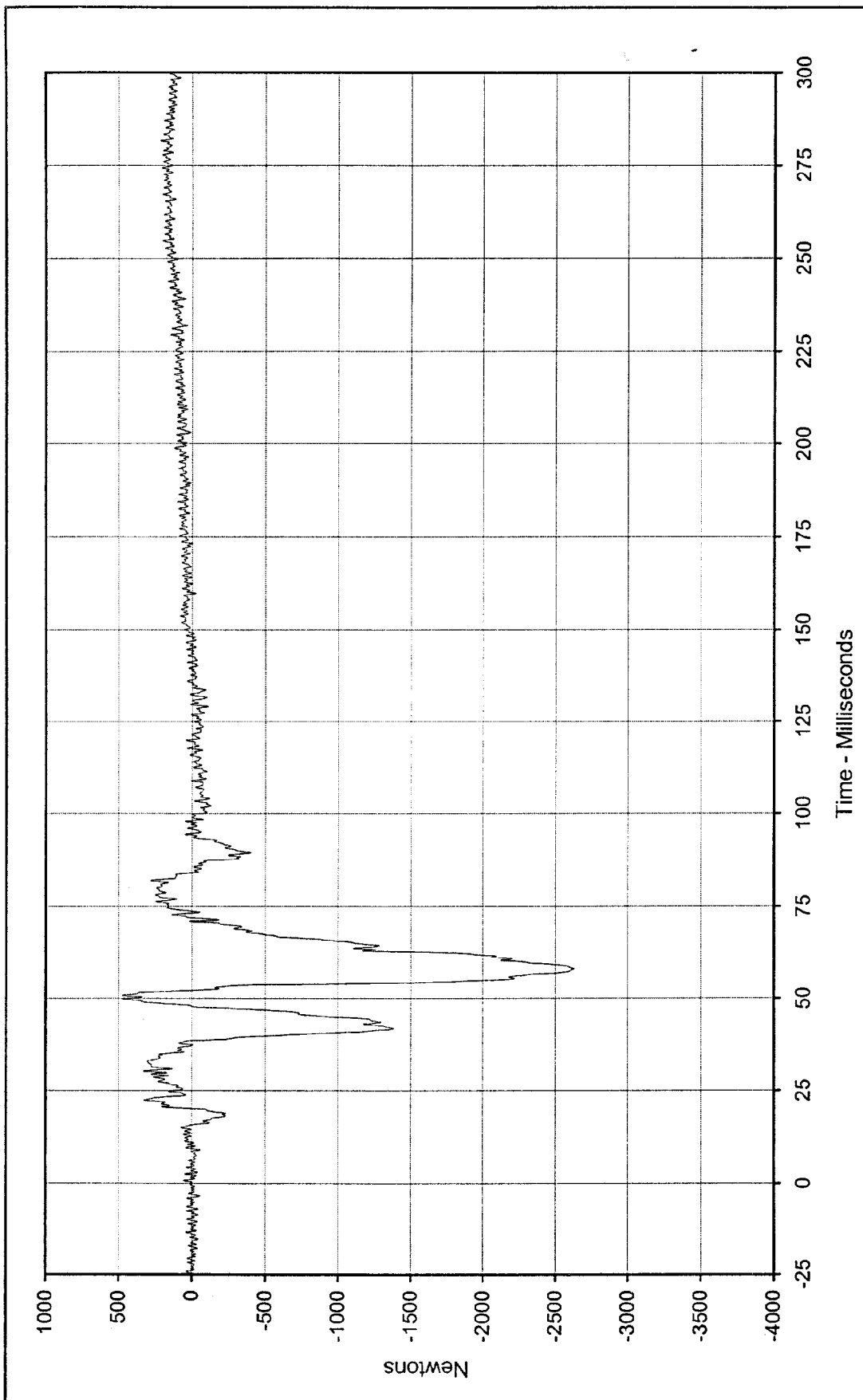




Curve Description:	Driver Left Femur Force	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	446.7 at 44.2 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-4209.5 at 53.1 Milliseconds			



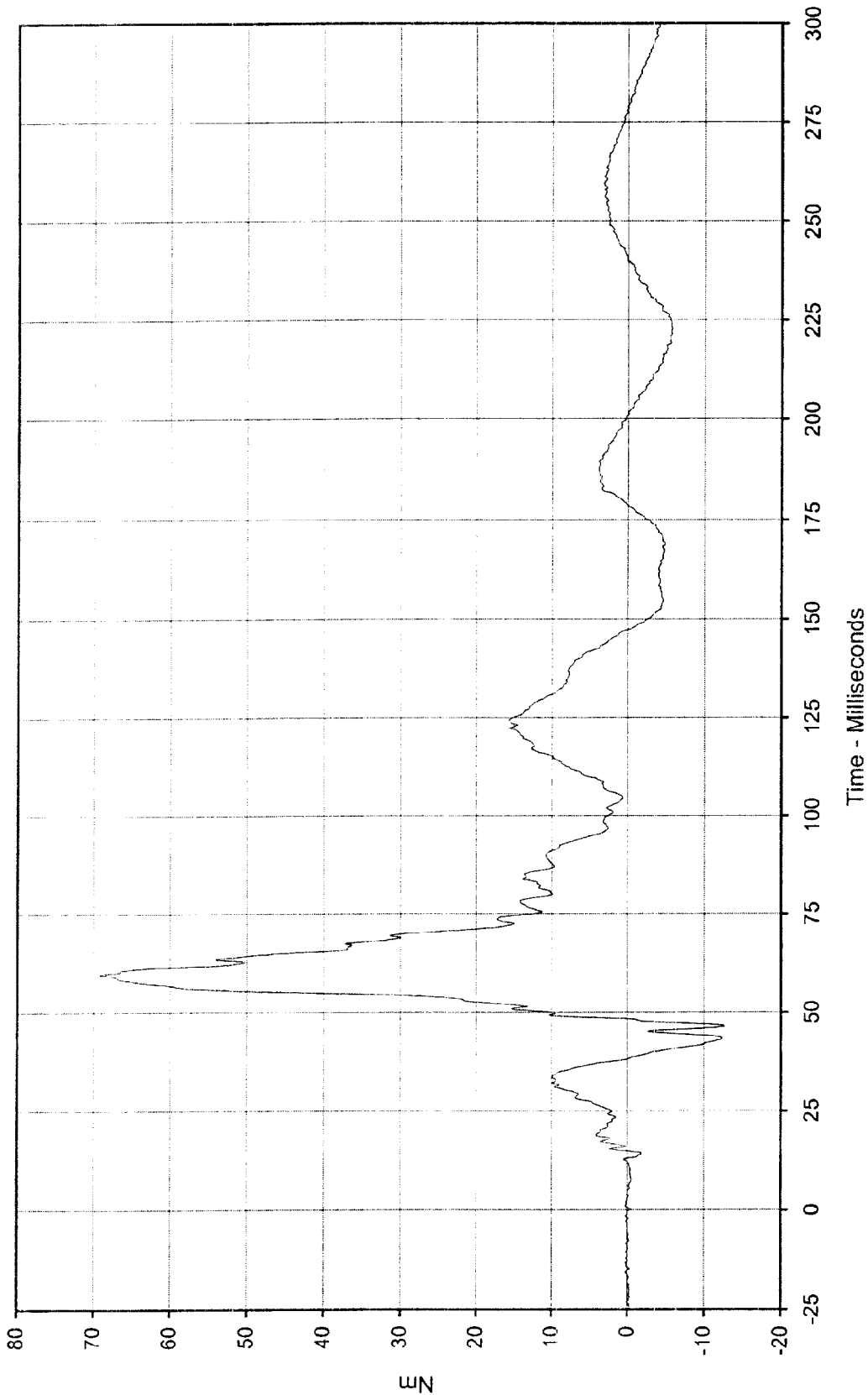
SAE Filter Class:	600
Date of Test:	1/13/99
Curve Number:	FIL-023



Curve Description:	Driver Right Femur Force	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	476.0	at	50.8	Milliseconds
Minimum Value:	-2629.7	at	58.0	Milliseconds

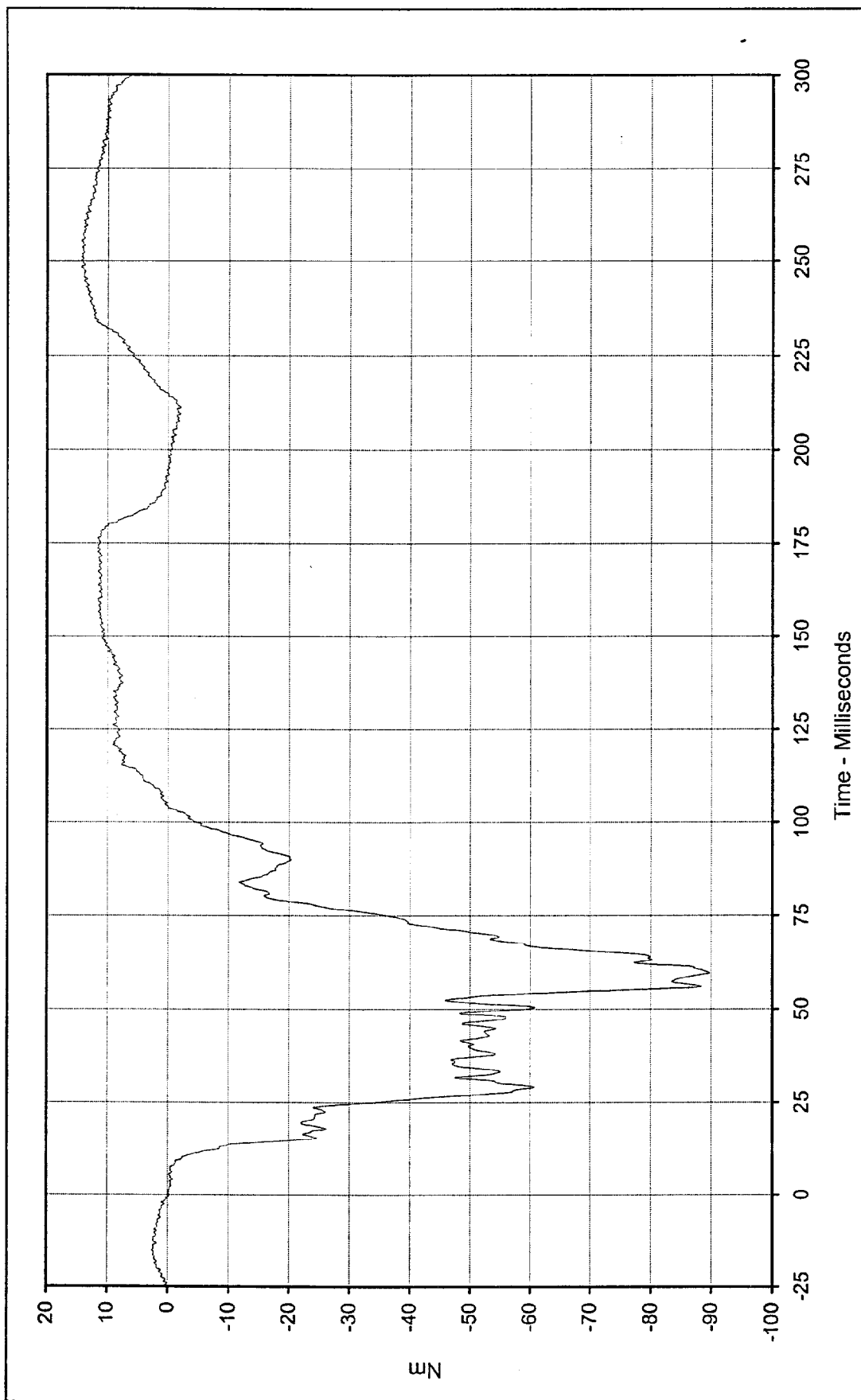


SAE Filter Class:	600
Date of Test:	1/13/99
Curve Number:	FIL-024



Curve Description:		Driver Left Upper Tibia Moment X		Test Program:		1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	69.2	at	59.6	Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-12.7	at	46.5	Milliseconds			
SAE Filter Class:	600						
Date of Test:	1/13/99						
Curve Number:	FIL-025						
							

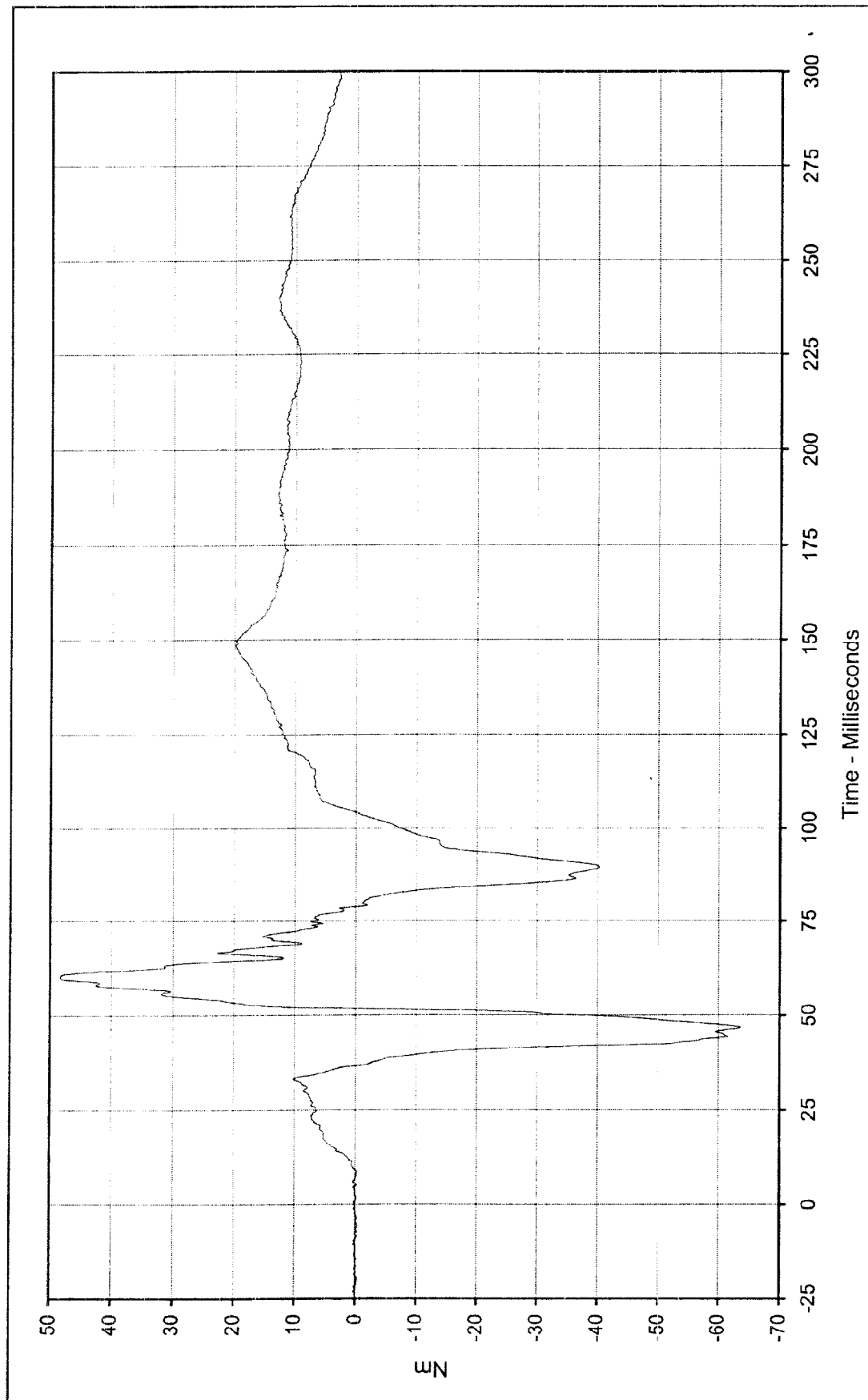




Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan



Curve Description: Driver Left Upper Tibia Moment Y
 Maximum Value: 14.4 at 248.4 Milliseconds
 Minimum Value: -89.8 at 59.4 Milliseconds
 SAE Filter Class: 600
 Date of Test: 1/13/99
 Curve Number: FIL-026



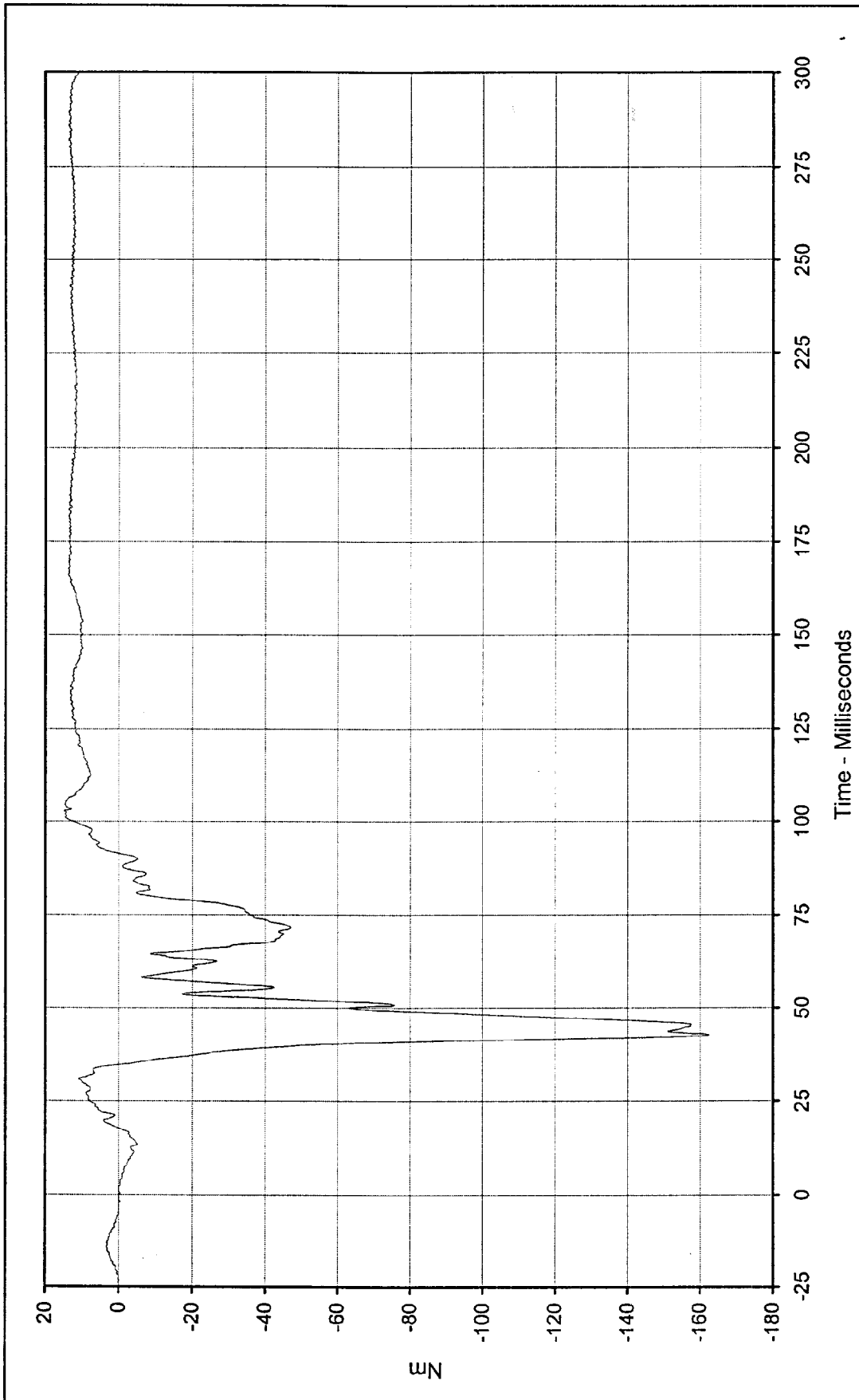
Curve Description: Driver Right Upper Tibia Moment X

Maximum Value:	48.4	at	60.0	Milliseconds
Minimum Value:	-63.6	at	46.8	Milliseconds
SAE Filter Class:	600			
Date of Test:	1/13/99			
Curve Number:	FIL-027			

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

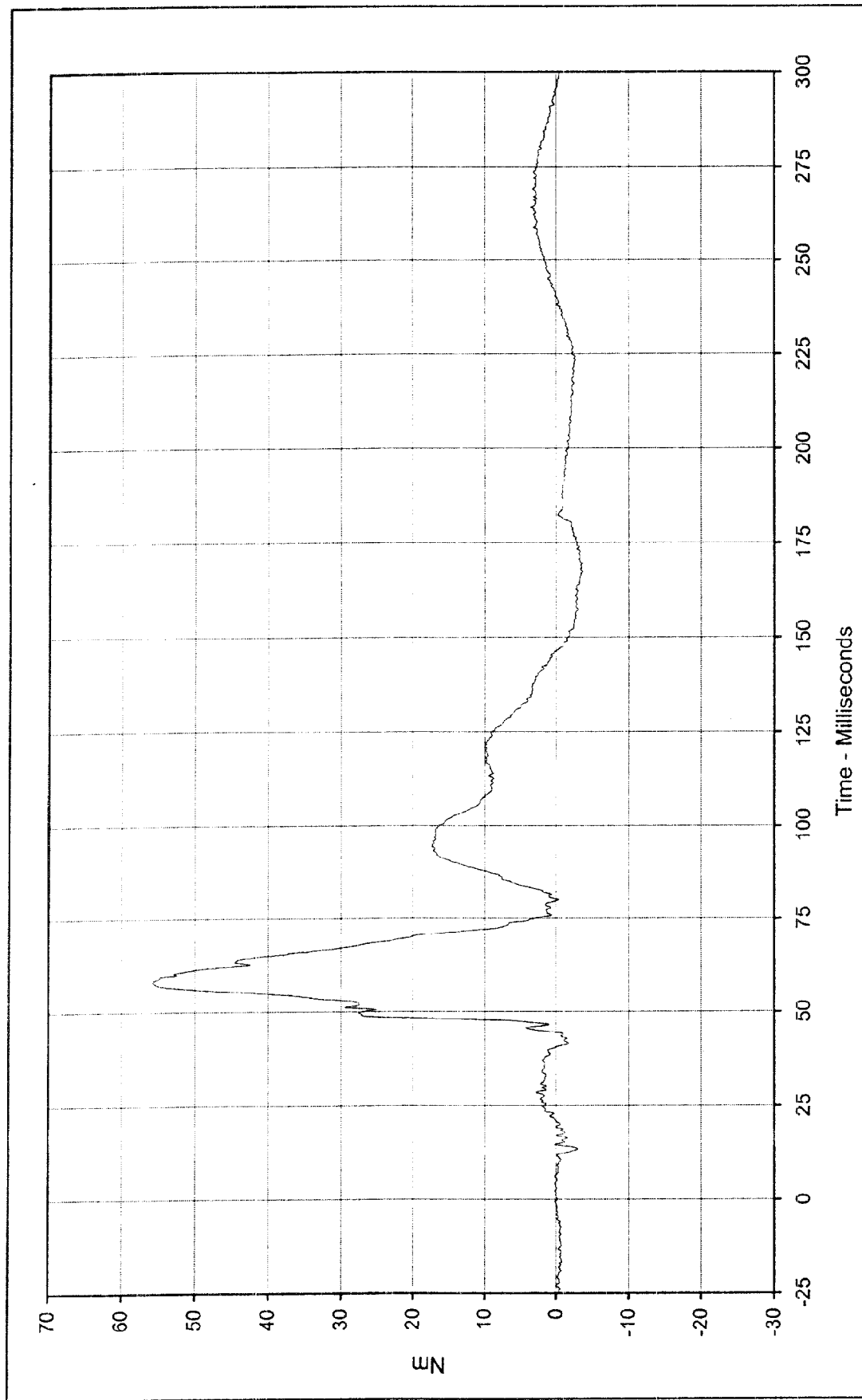
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Driver Right Upper Tibia Moment Y	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	14.9 at 102.9 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-162.6 at 42.7 Milliseconds			
SAE Filter Class:	600			
Date of Test:	1/13/99			
Curve Number:	FIL-028			





Curve Description: Driver Left Lower Tibia Moment X

Test Program: 1999 NHTSA 35 mph NCAP

No.: MX5400

Maximum Value: 55.7 at 58.0 Milliseconds

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

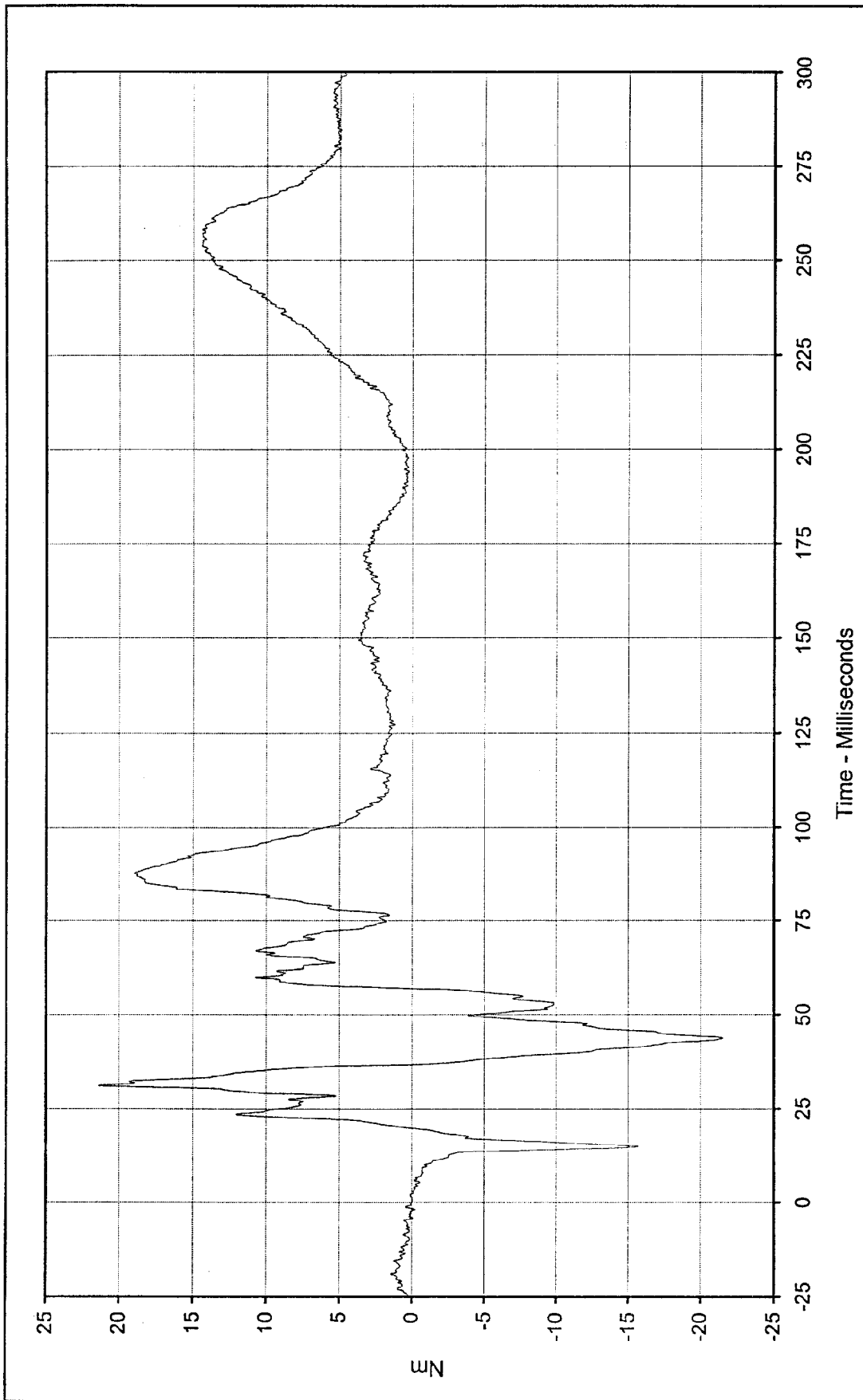
Minimum Value: -3.7 at 167.2 Milliseconds



SAE Filter Class: 600

Date of Test: 1/13/99

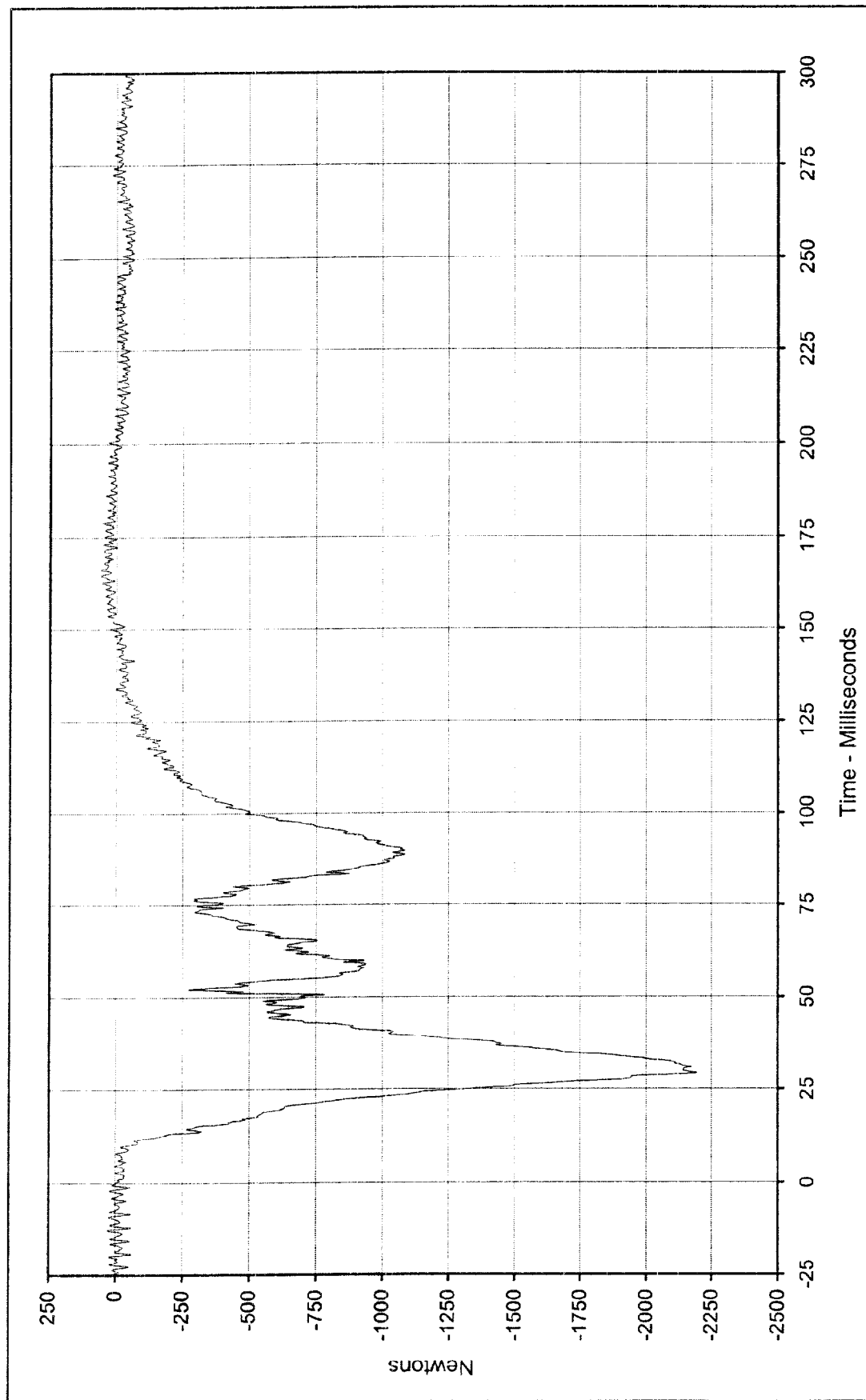
Curve Number: FIL-029



Curve Description: Driver Left Lower Tibia Moment Y
 Maximum Value: 21.4 at 31.1 Milliseconds
 Minimum Value: -21.5 at 43.8 Milliseconds
 SAE Filter Class: 600
 Date of Test: 1/13/99
 Curve Number: FIL-030

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Driver Left Lower Tibia Force Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 59.7 at 164.6 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

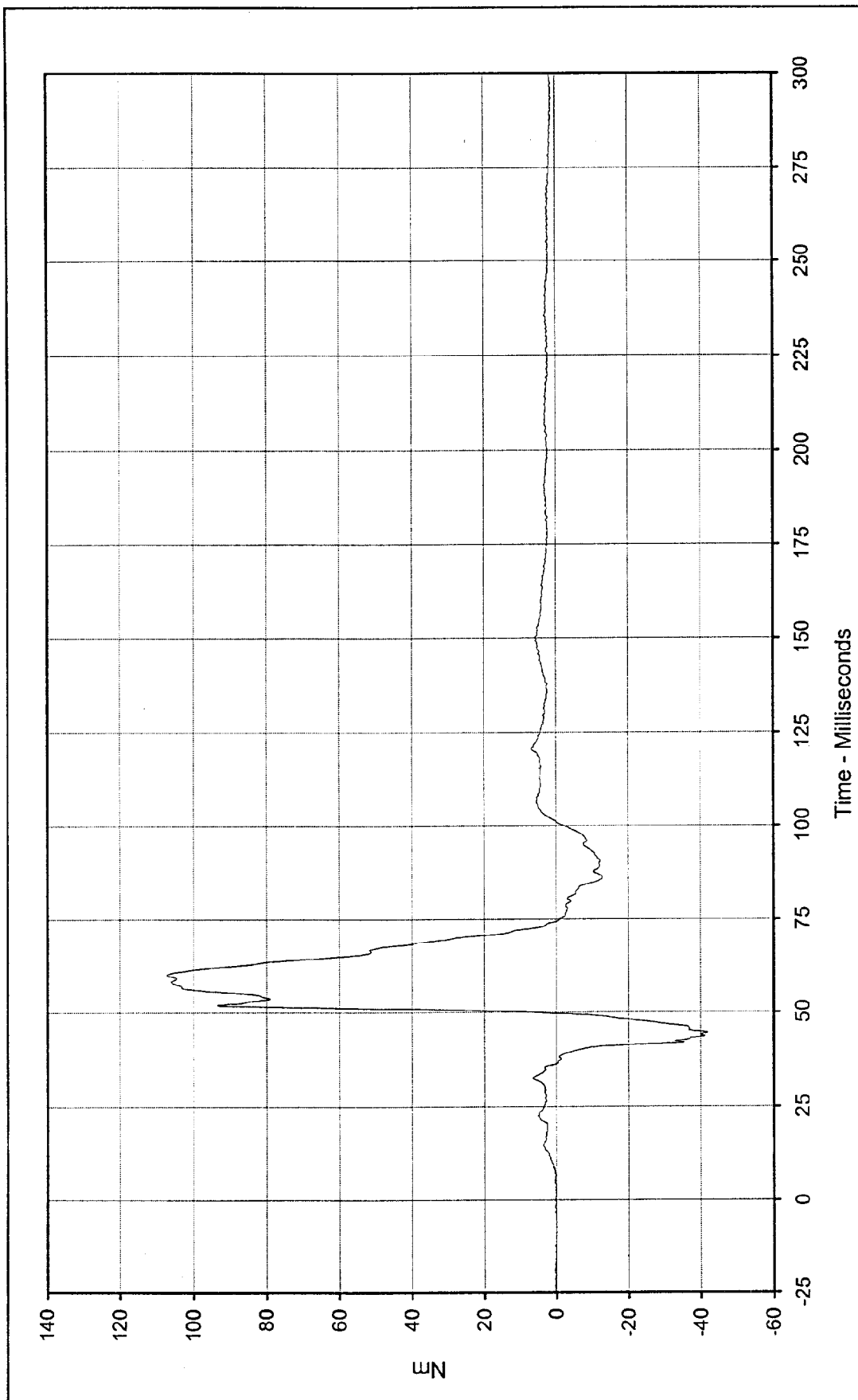
Minimum Value: -2194.2 at 29.2 Milliseconds

SAE Filter Class: 600

Date of Test: 1/13/99

Curve Number: FIL-031

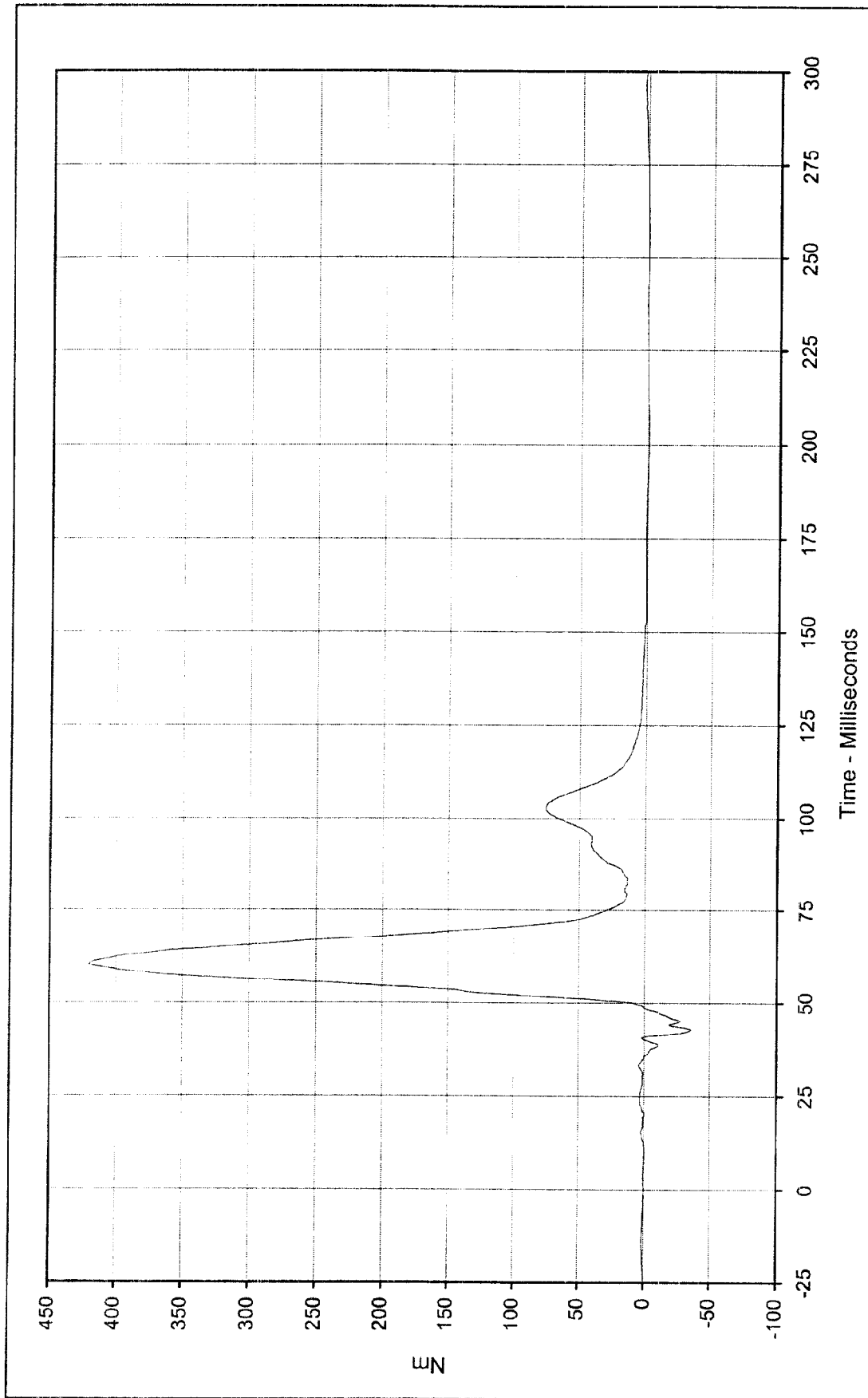




Curve Description:	Driver Right Lower Tibia Moment X	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	107.2 at 60.0 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-41.9 at 44.5 Milliseconds			



SAE Filter Class:	600
Date of Test:	1/13/99
Curve Number:	FIL-032



Curve Description: Driver Right Lower Tibia Moment Y

Maximum Value: 420.5 at 60.1 Milliseconds

Minimum Value: -35.4 at 42.7 Milliseconds

SAE Filter Class: 600

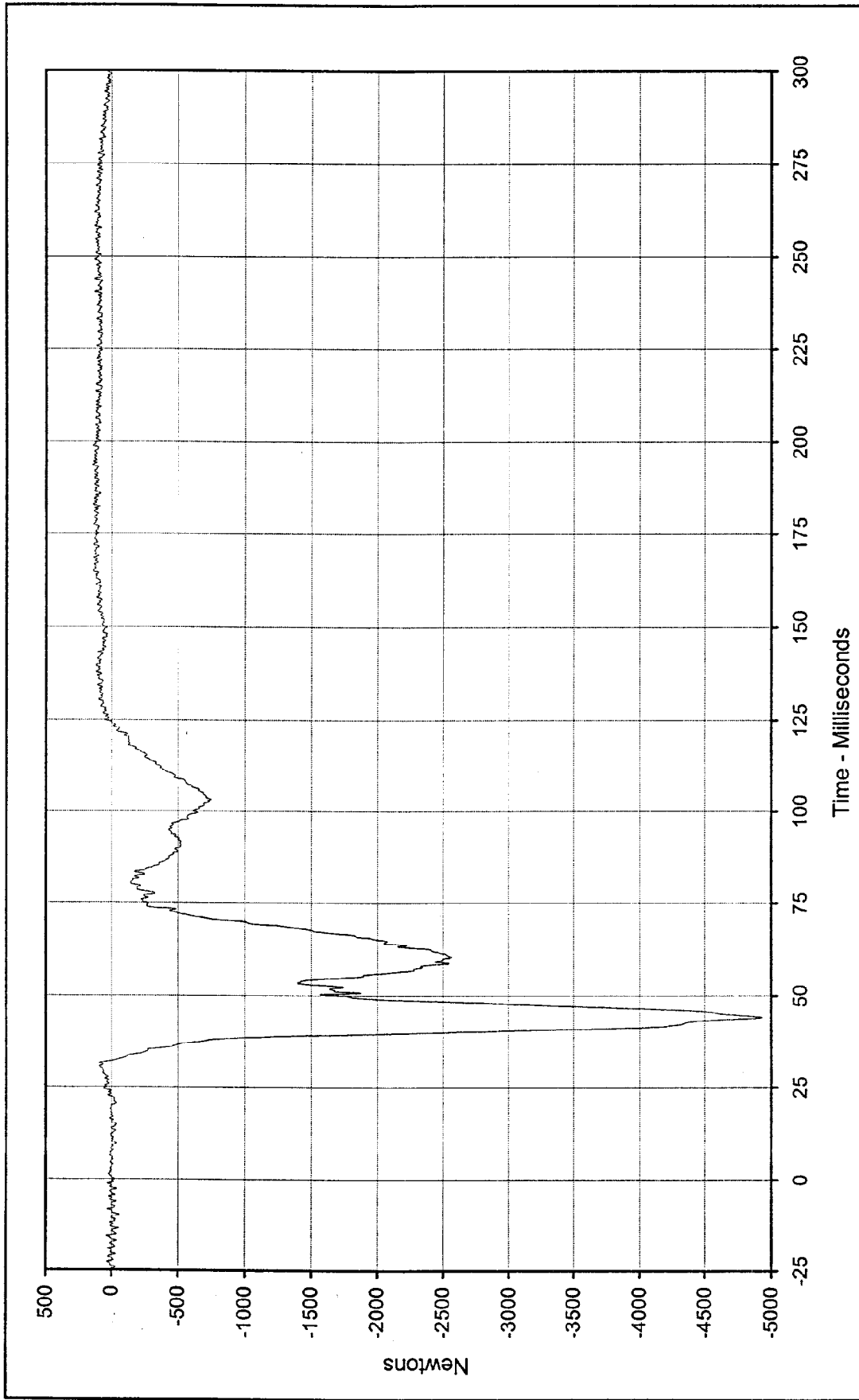
Date of Test: 1/13/99

Curve Number: FIL-033

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

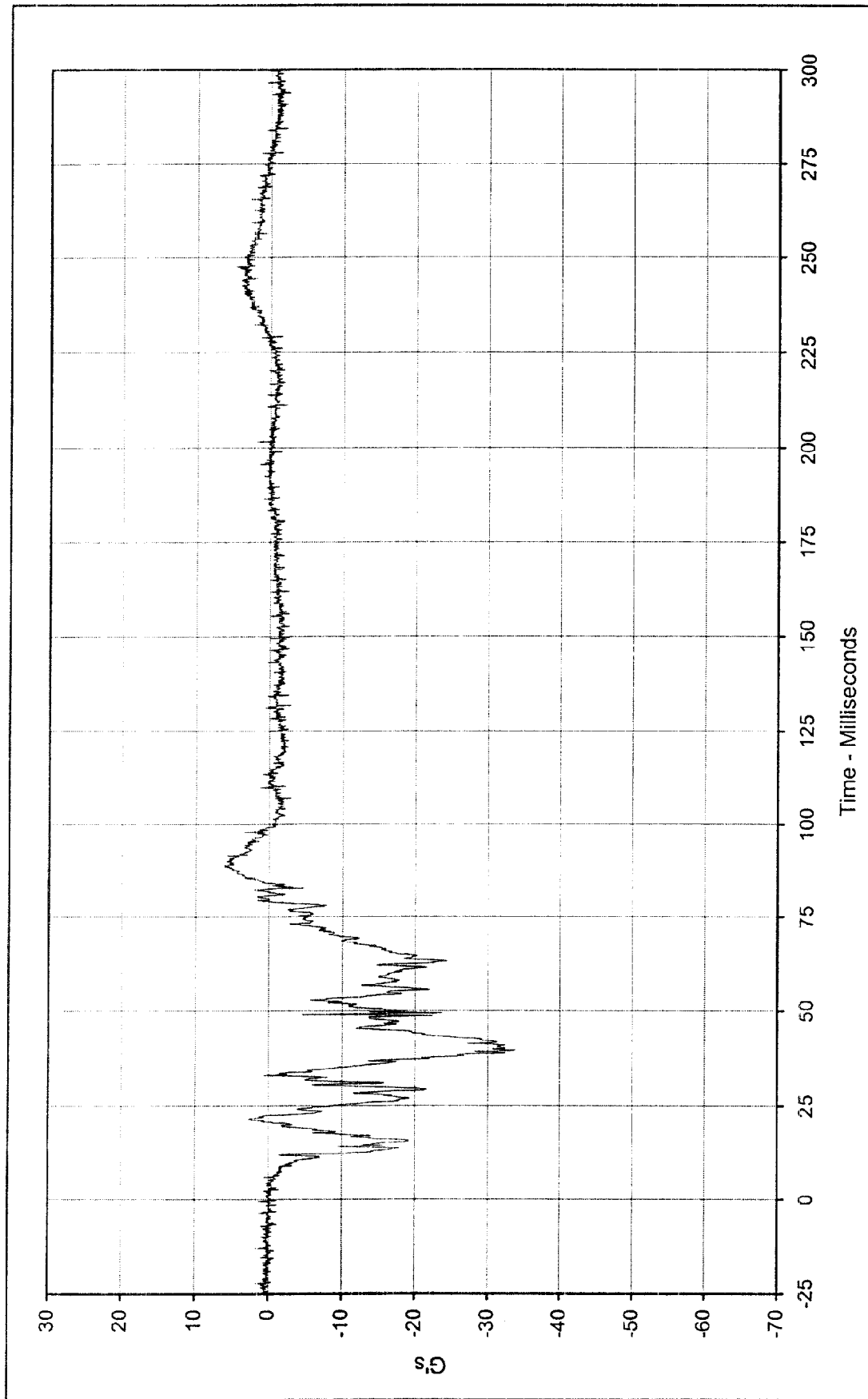
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





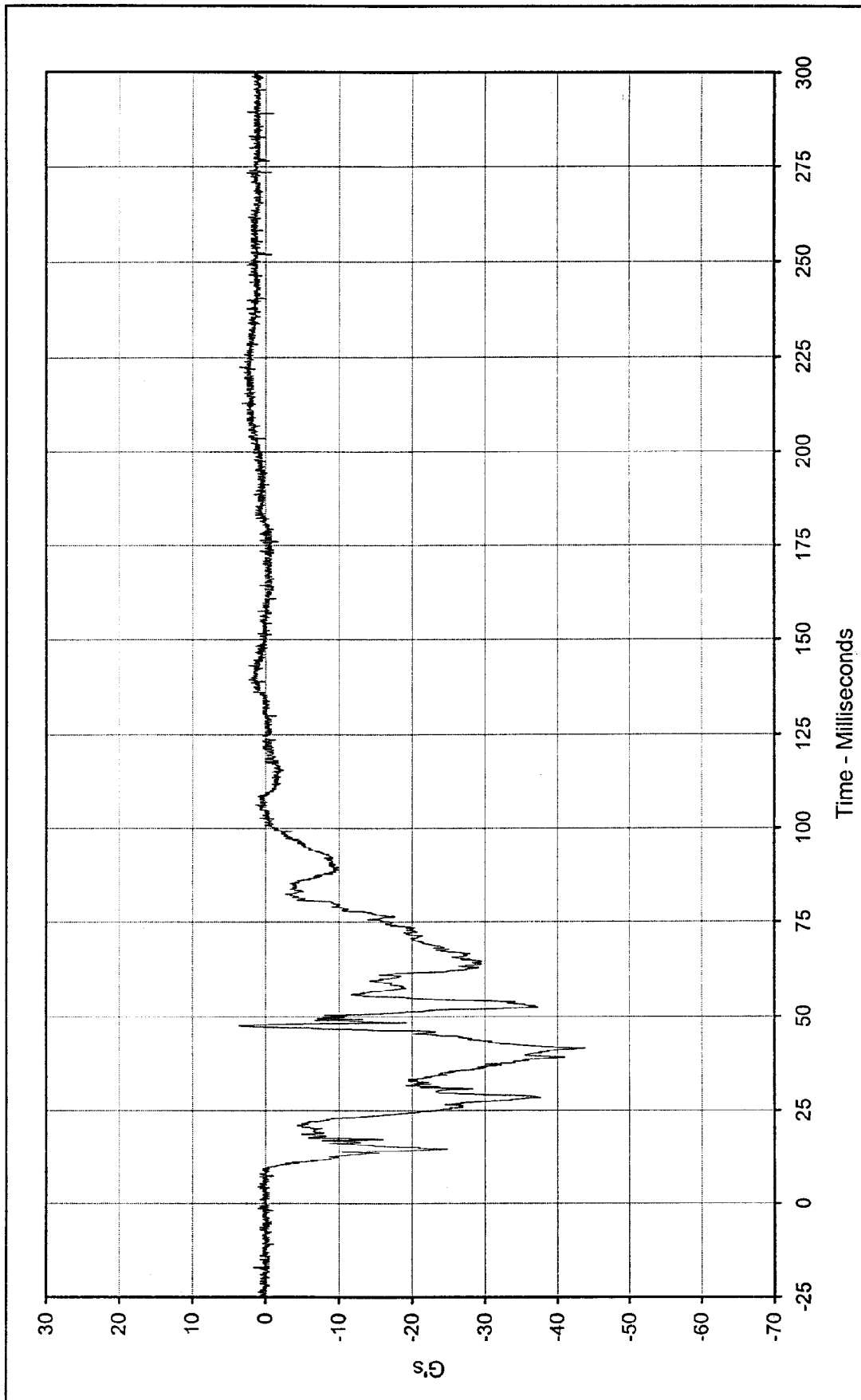
Curve Description:	Driver Right Lower Tibia Force Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	145.8 at 193.5 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-4933.9 at 44.1 Milliseconds			
SAE Filter Class:	600			
Date of Test:	1/13/99			
Curve Number:	FIL-034			





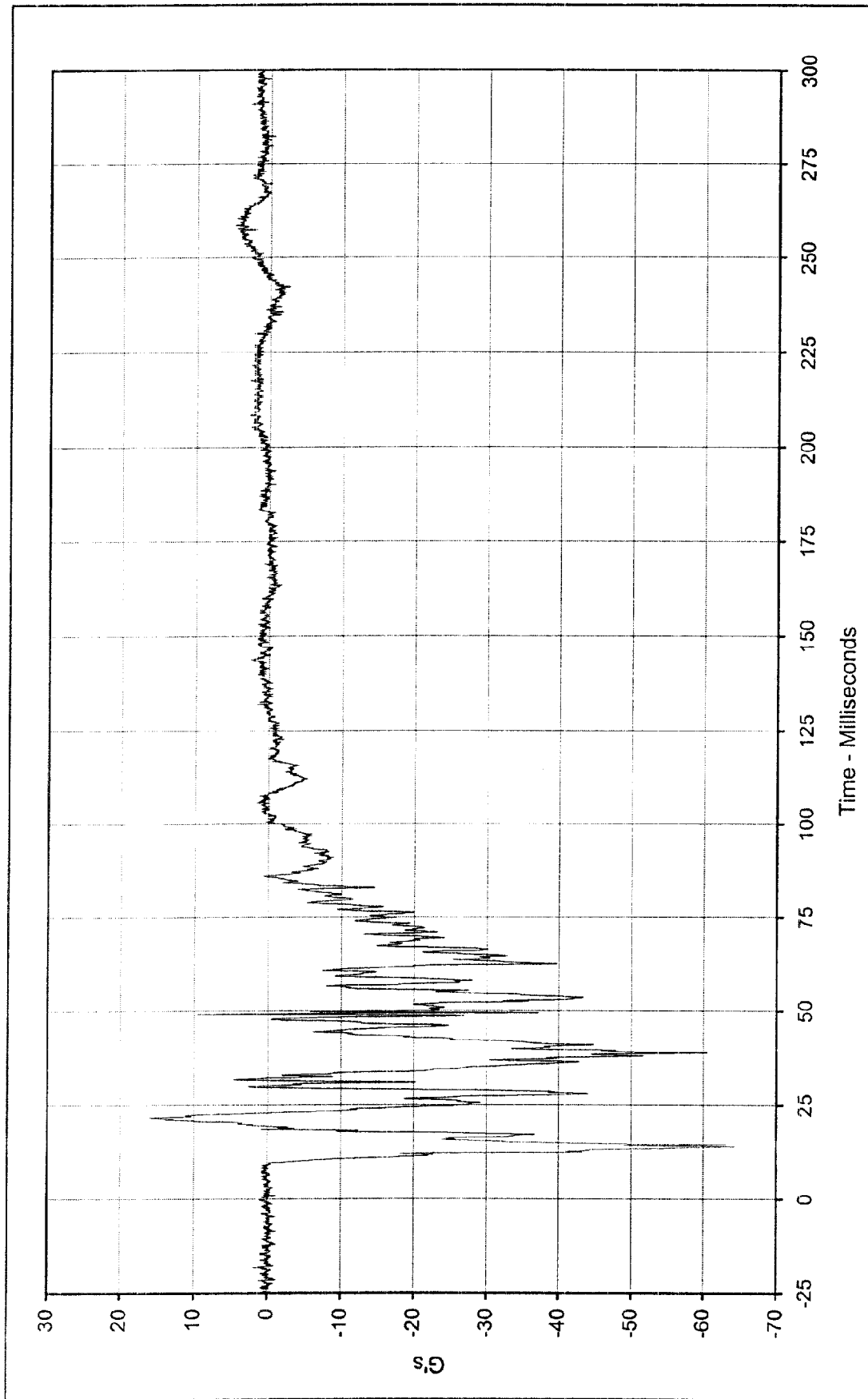
Curve Description:	Driver Left Foot Aft X		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	6.1	at 88.4 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-33.8	at 39.6 Milliseconds			
SAE Filter Class:	1000				
Date of Test:	1/13/99				
Curve Number:	FIL-035				





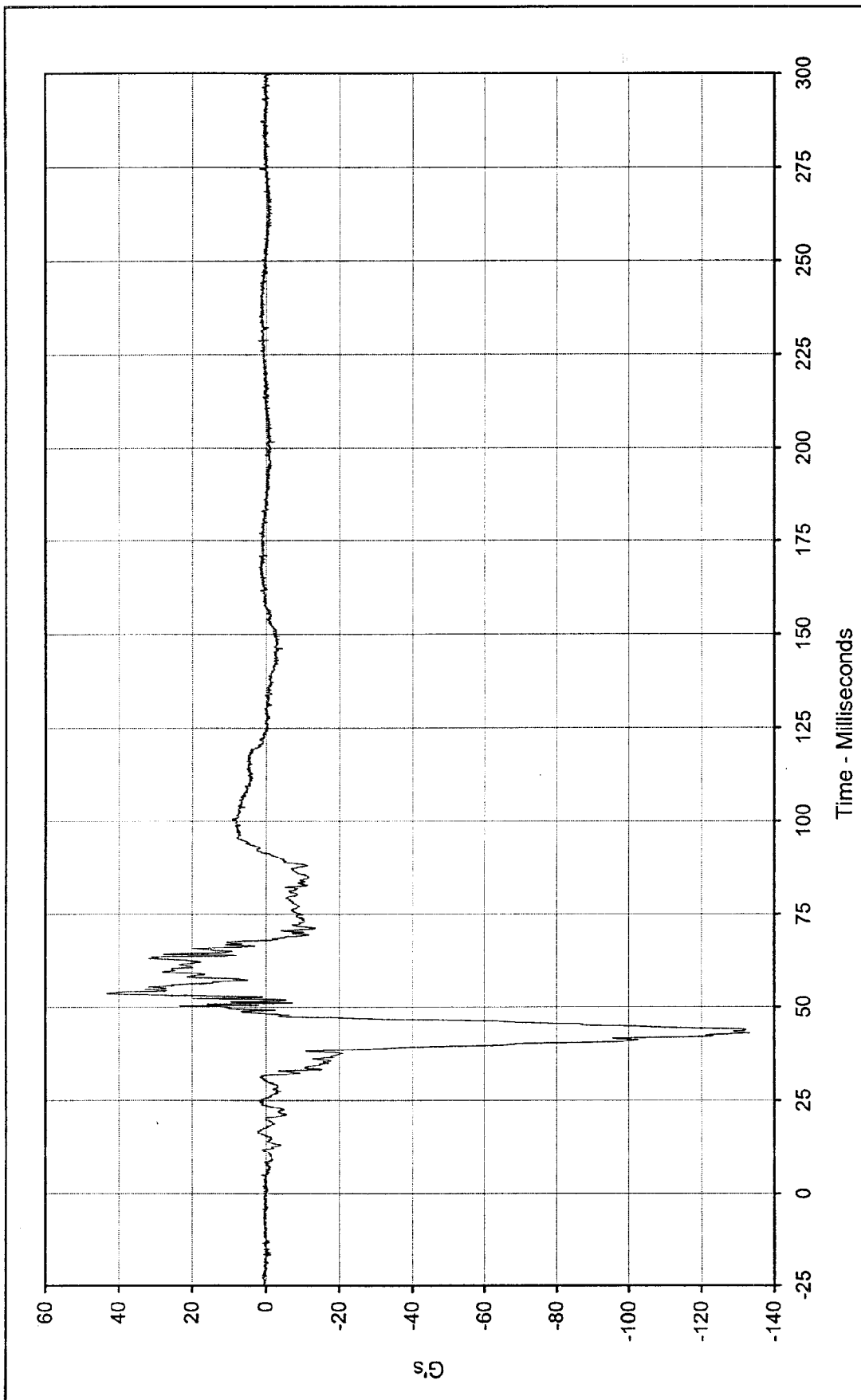
Curve Description:	Driver Left Foot Aft Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	3.5 at 47.6 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-43.9 at 41.5 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	FIL-036			





Curve Description:	Driver Left Foot Fore Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	16.0 at 21.7 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-64.3 at 13.7 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	FIL-037			





Curve Description: Driver Right Foot Aft X

Maximum Value: 43.3 at 53.7 Milliseconds

Minimum Value: -133.4 at 43.1 Milliseconds

SAE Filter Class: 1000

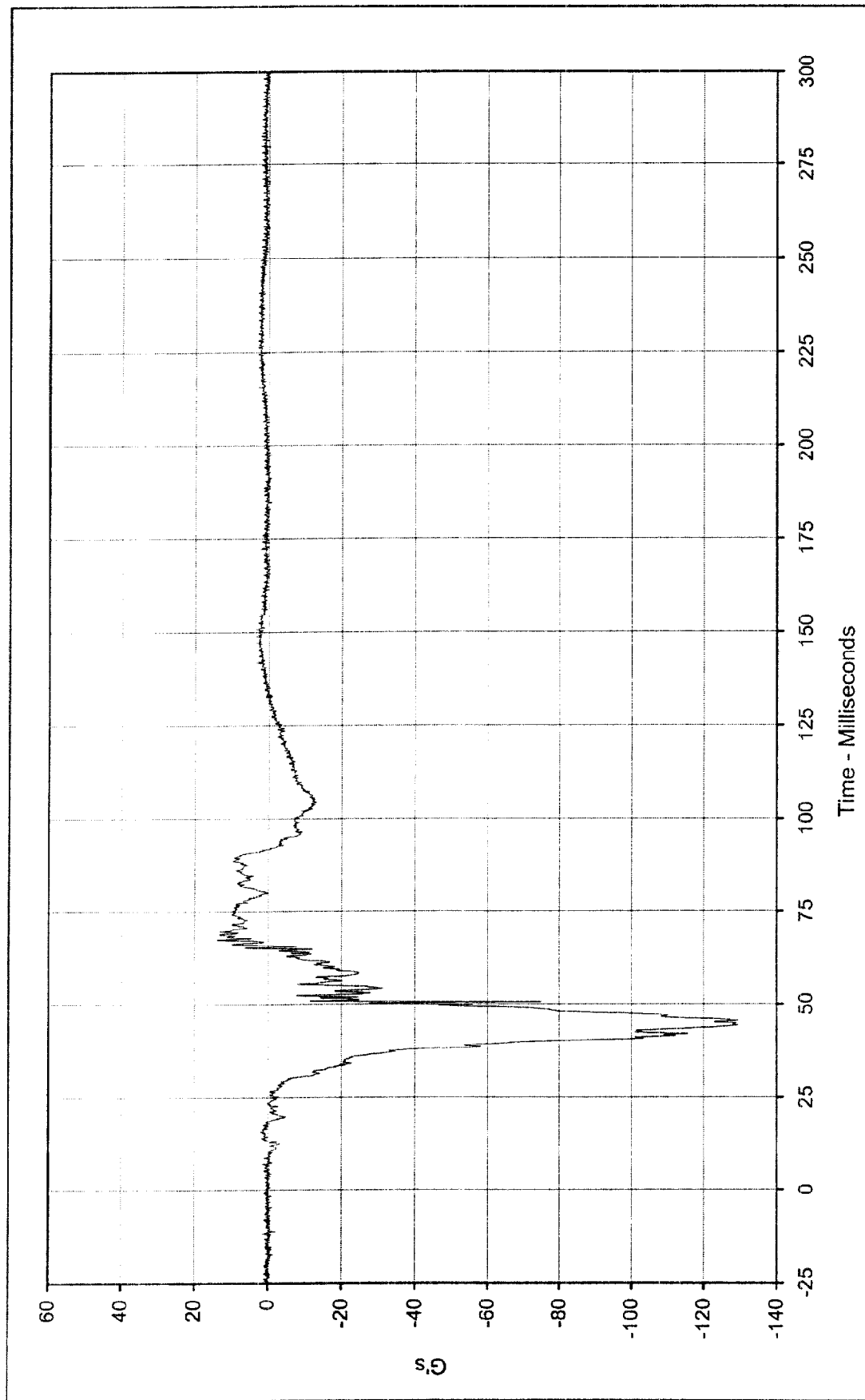
Date of Test: 1/13/99

Curve Number: FIL-038

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

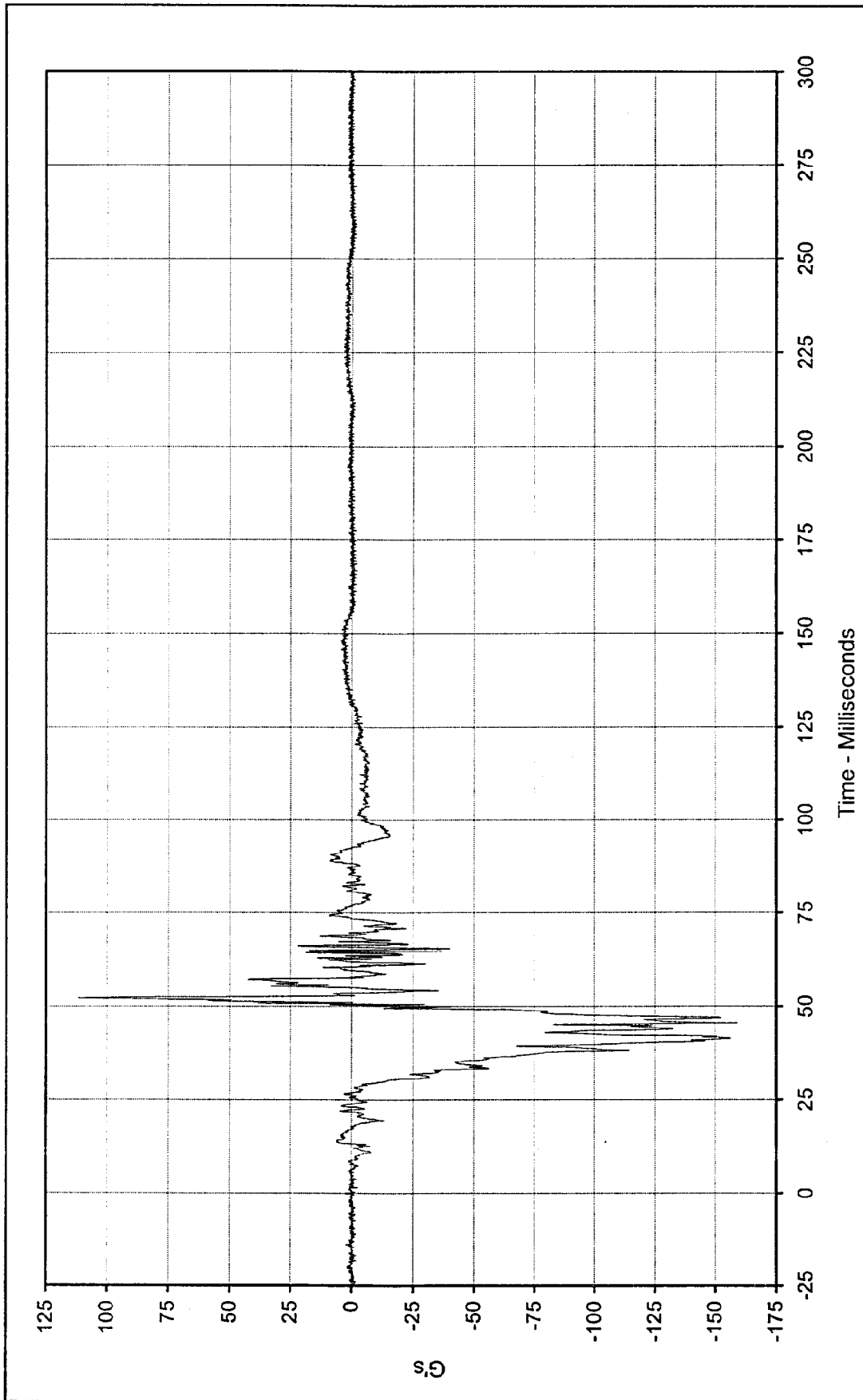
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:		Driver Right Foot Aft Z		Test Program:		1999 NHTSA 35 mph NCAP No.: MX5400	
Maximum Value:	13.7	at	67.5	Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-129.5	at	44.3	Milliseconds			
SAE Filter Class:	1000						
Date of Test:	1/13/99						
Curve Number:	FIL-039						





Curve Description: Driver Right Foot Fore Z

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Maximum Value: 111.6 at 52.2 Milliseconds

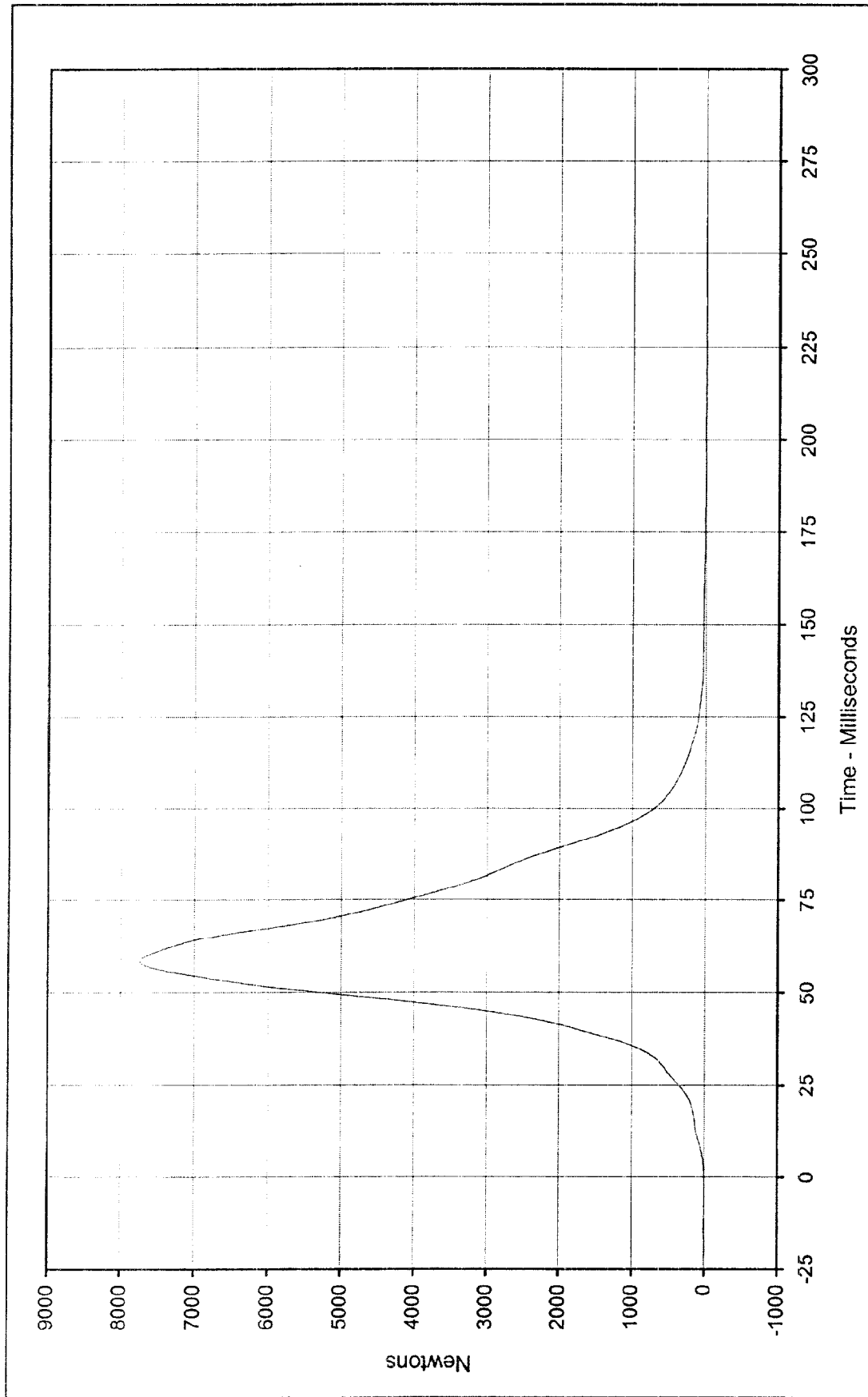
Minimum Value: -159.0 at 45.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/13/99

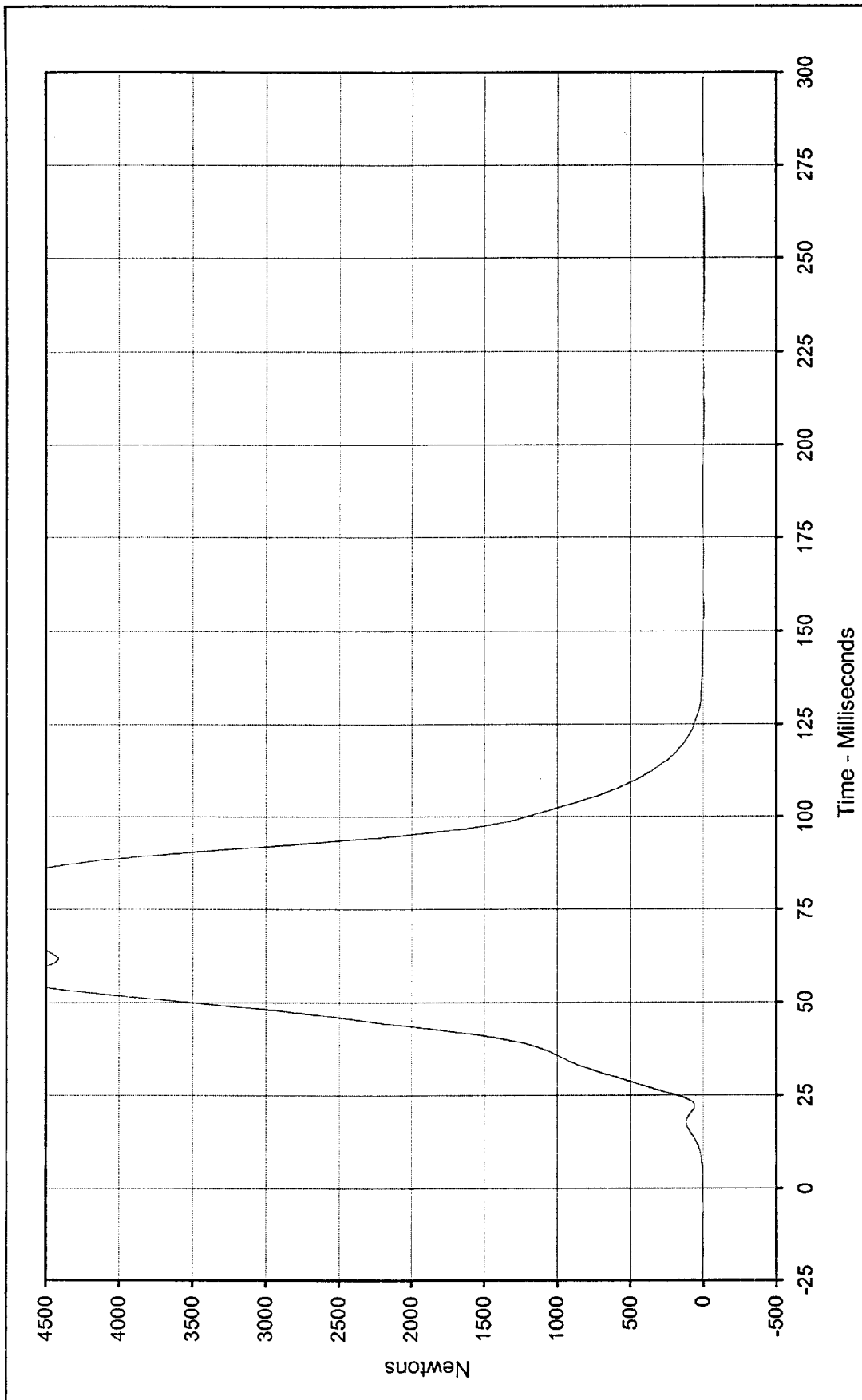
Curve Number: FIL-040





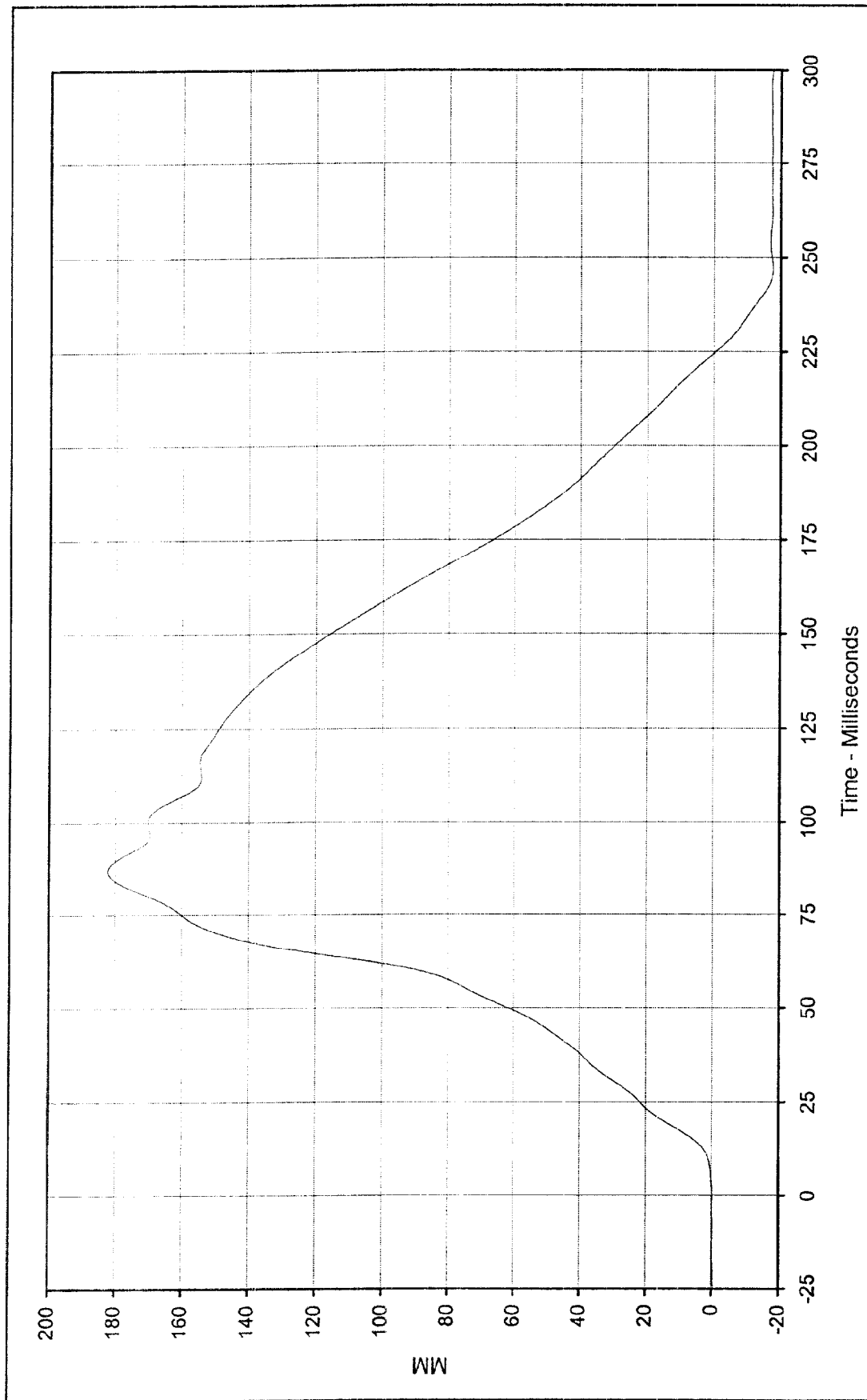
Curve Description:	Driver Lap Belt Force	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	7740.5 at 58.5 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-12.9 at 299.9 Milliseconds			
SAE Filter Class:	60			
Date of Test:	1/13/99			
Curve Number:	FIL-041			





Curve Description:	Driver Shoulder Belt Force	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	4777.8 at 82.7 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-10.6 at 259.6 Milliseconds			
SAE Filter Class:	60			
Date of Test:	1/13/99			
Curve Number:	FIL-042			





Curve Description: Driver Shoulder Belt Pullout

Maximum Value: 182.2 at 86.8 Milliseconds

Minimum Value: -17.7 at 246.9 Milliseconds

SAE Filter Class: 60

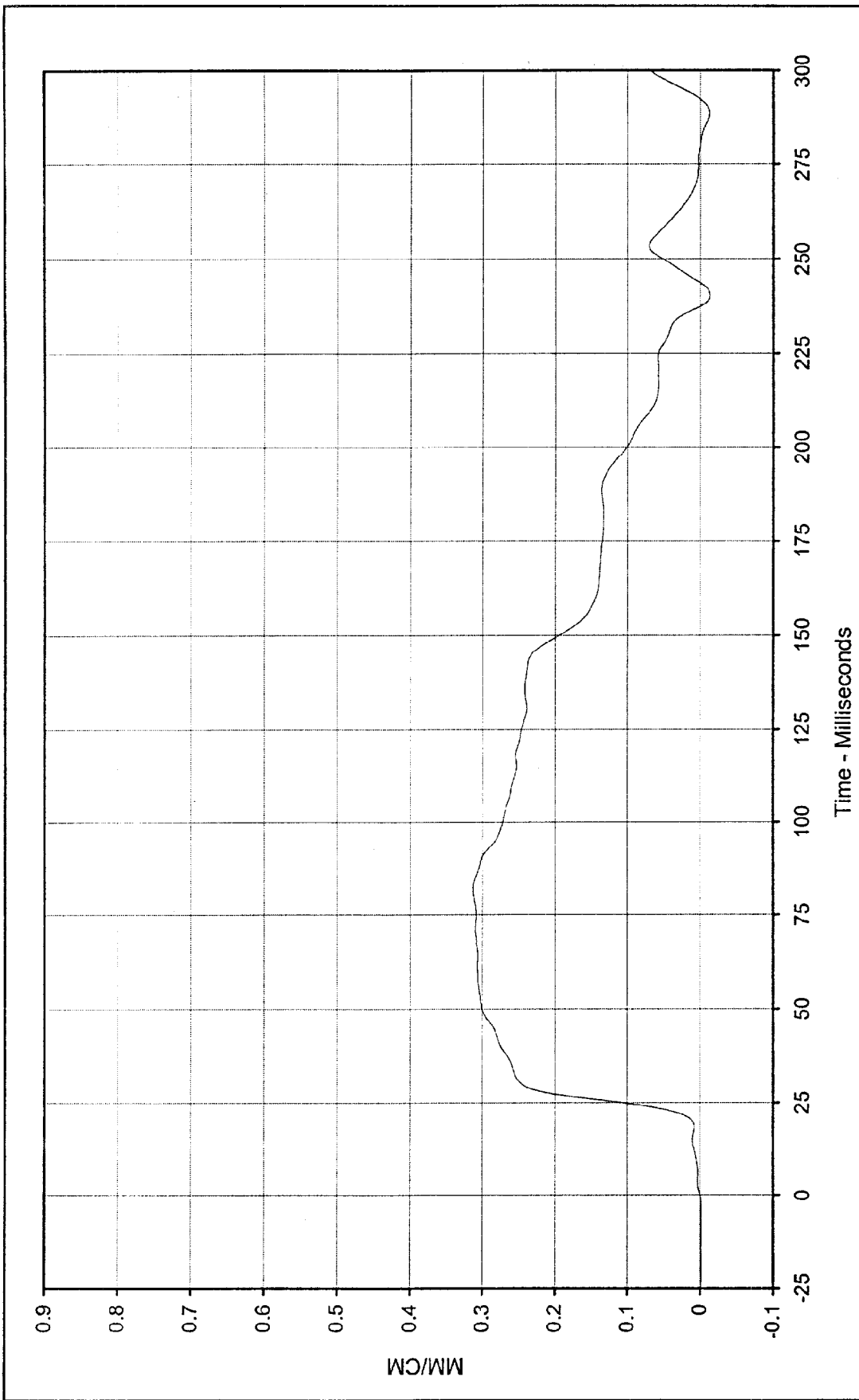
Date of Test: 1/13/99

Curve Number: FIL-043

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

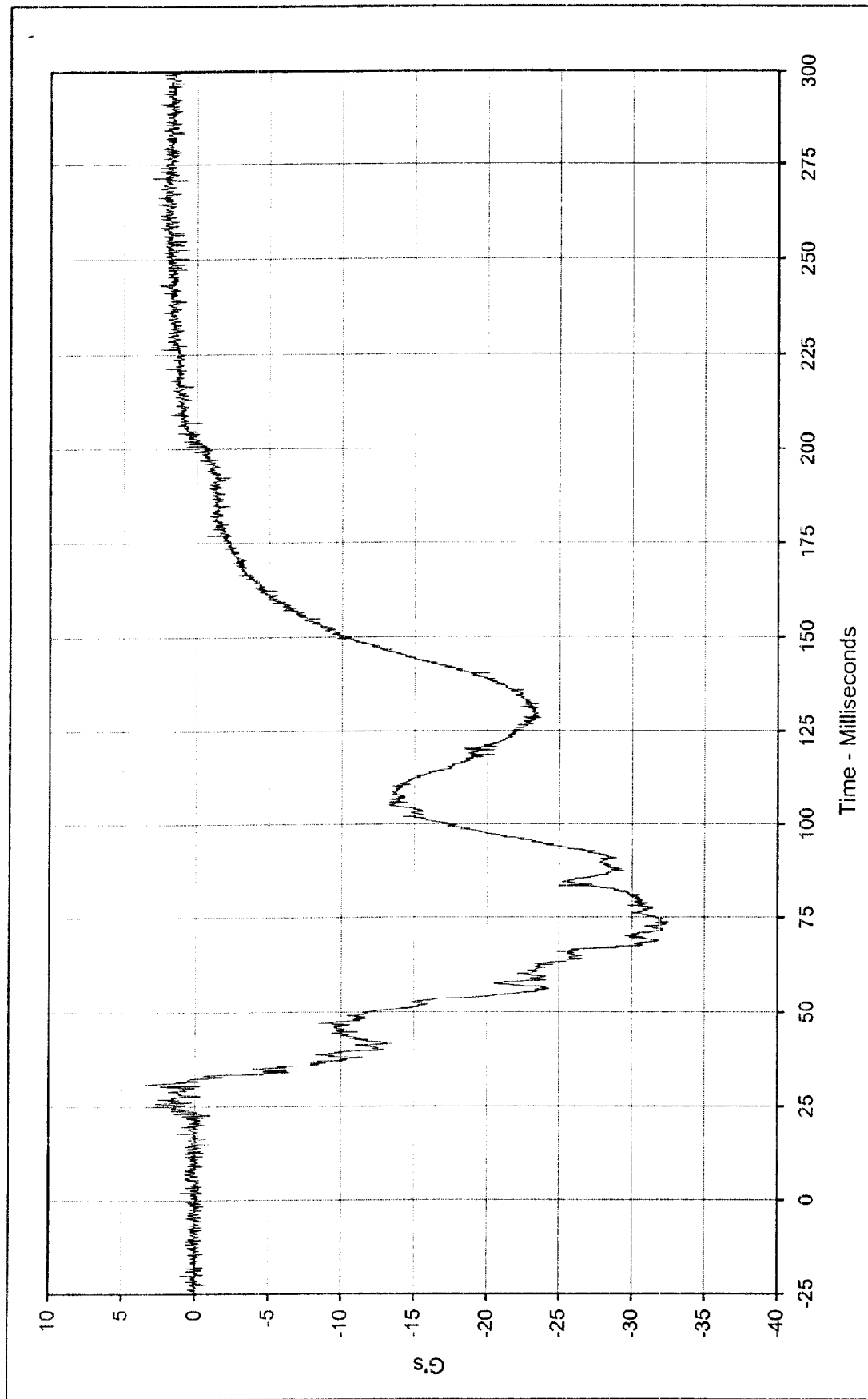




Curve Description: Driver Shoulder Belt Elongation
 Maximum Value: 0.31 at 82.0 Milliseconds
 Minimum Value: -0.01 at 240.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-044

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

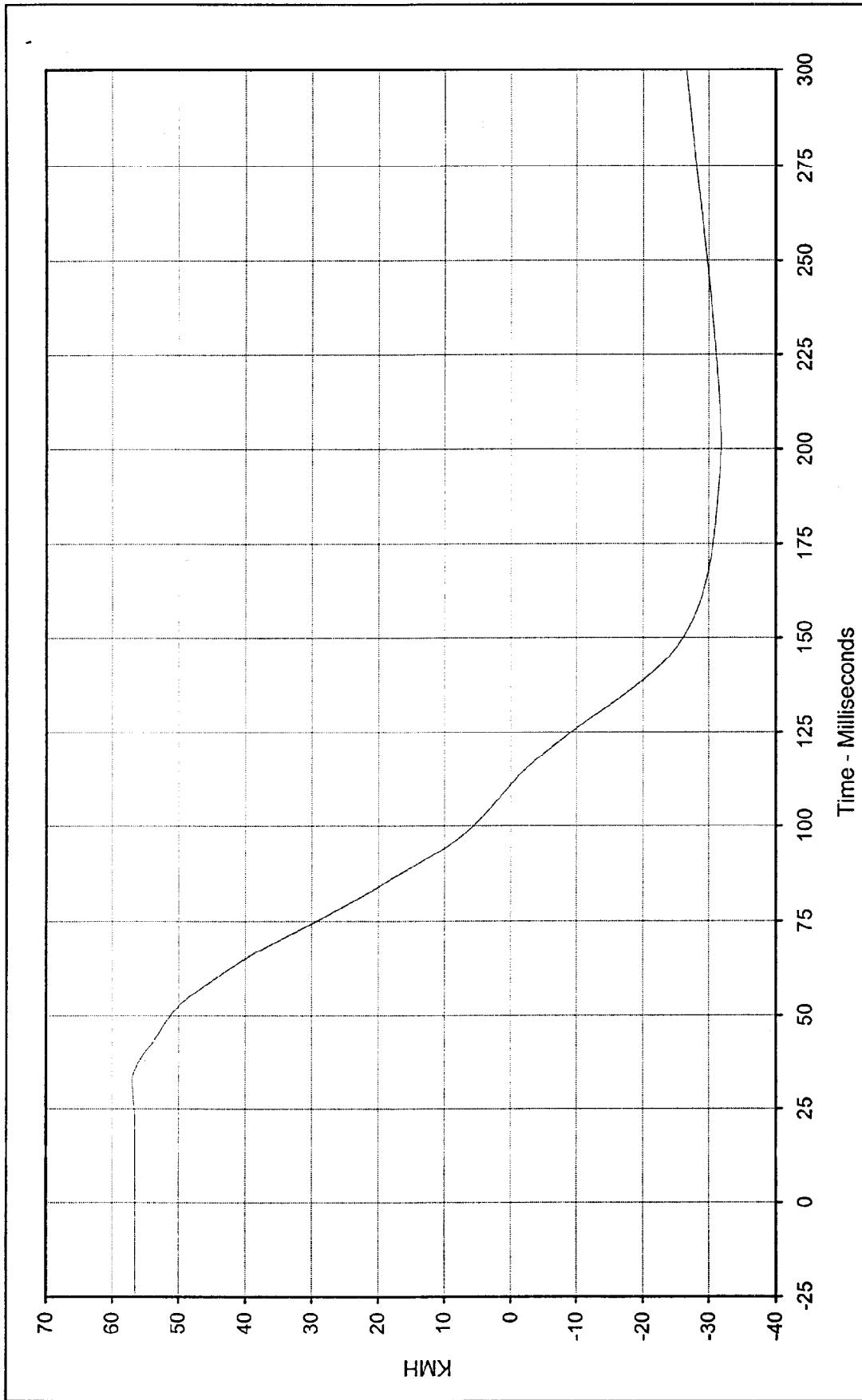




Curve Description: Passenger Head Primary X
 Maximum Value: 3.4 at 25.0 Milliseconds
 Minimum Value: -32.5 at 73.7 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: FIL-045

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Head Primary X Velocity

Maximum Value: 57.0 at 32.3 Milliseconds

Minimum Value: -31.9 at 201.7 Milliseconds

SAE Filter Class: 180

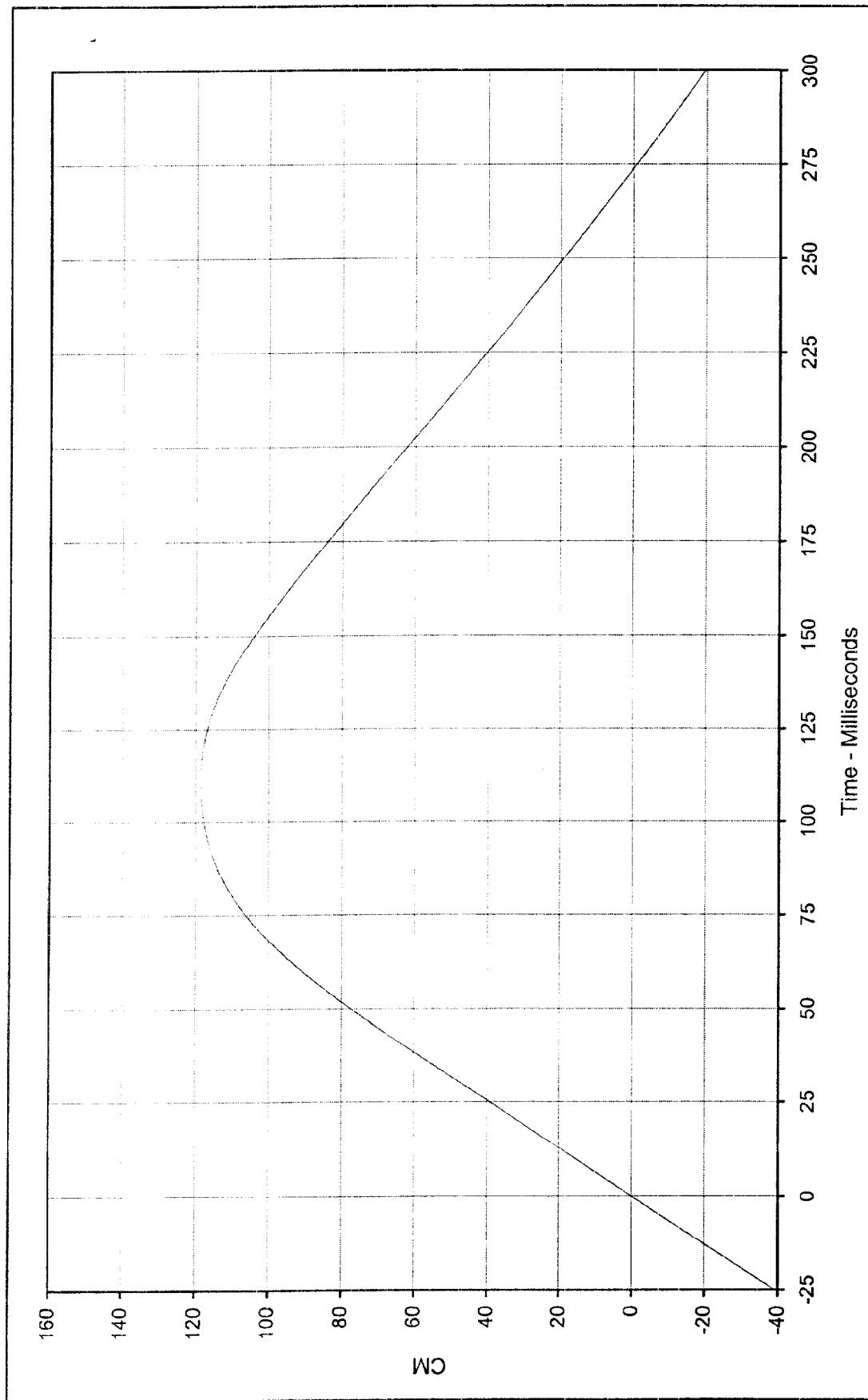
Date of Test: 1/13/99

Curve Number: IN1-045

Testing Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Head Primary X Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 118.6 at 111.0 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

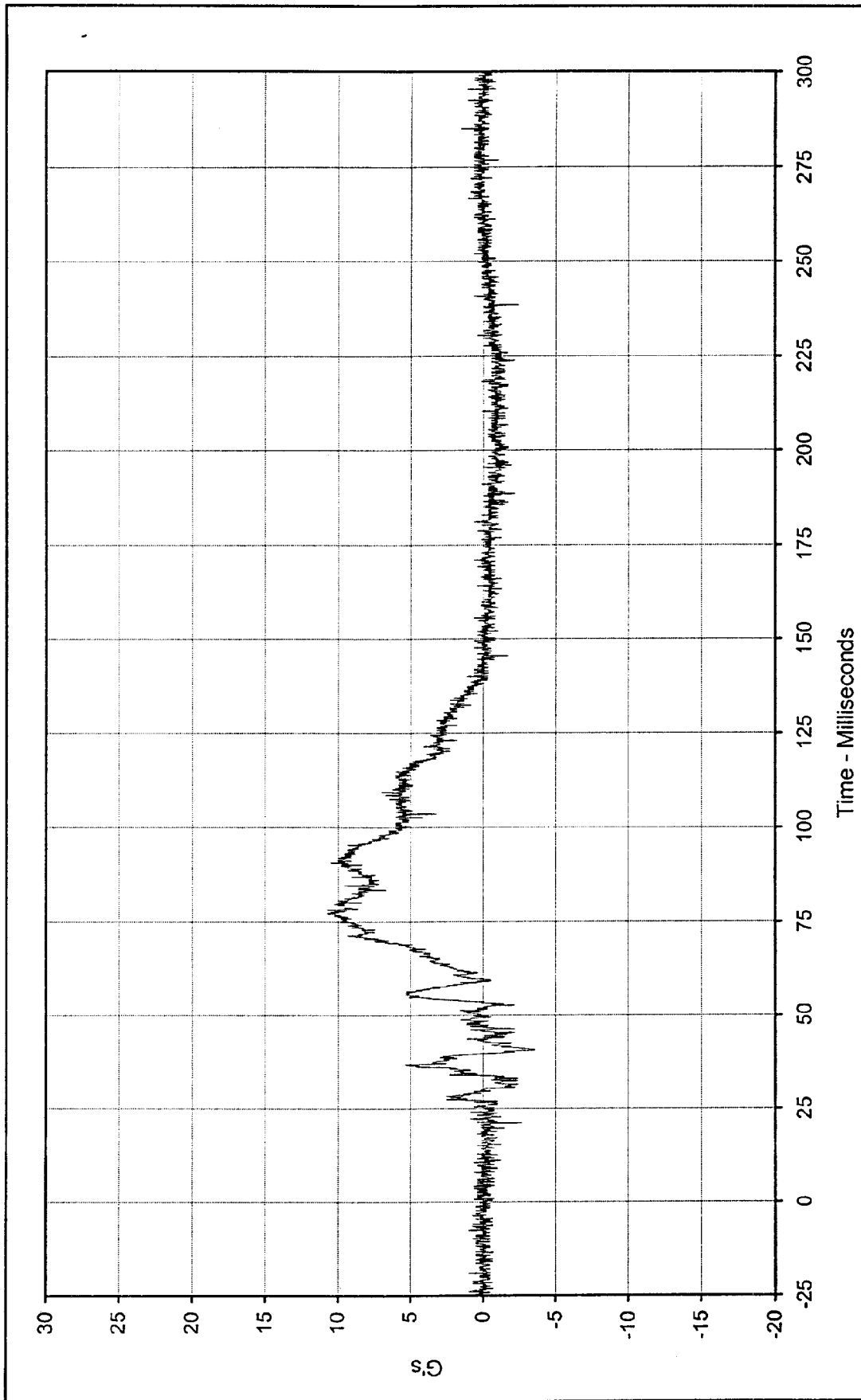
Minimum Value: -19.7 at 299.9 Milliseconds

SAE Filter Class: 180

Date of Test: 1/13/99

Curve Number: IN2-045

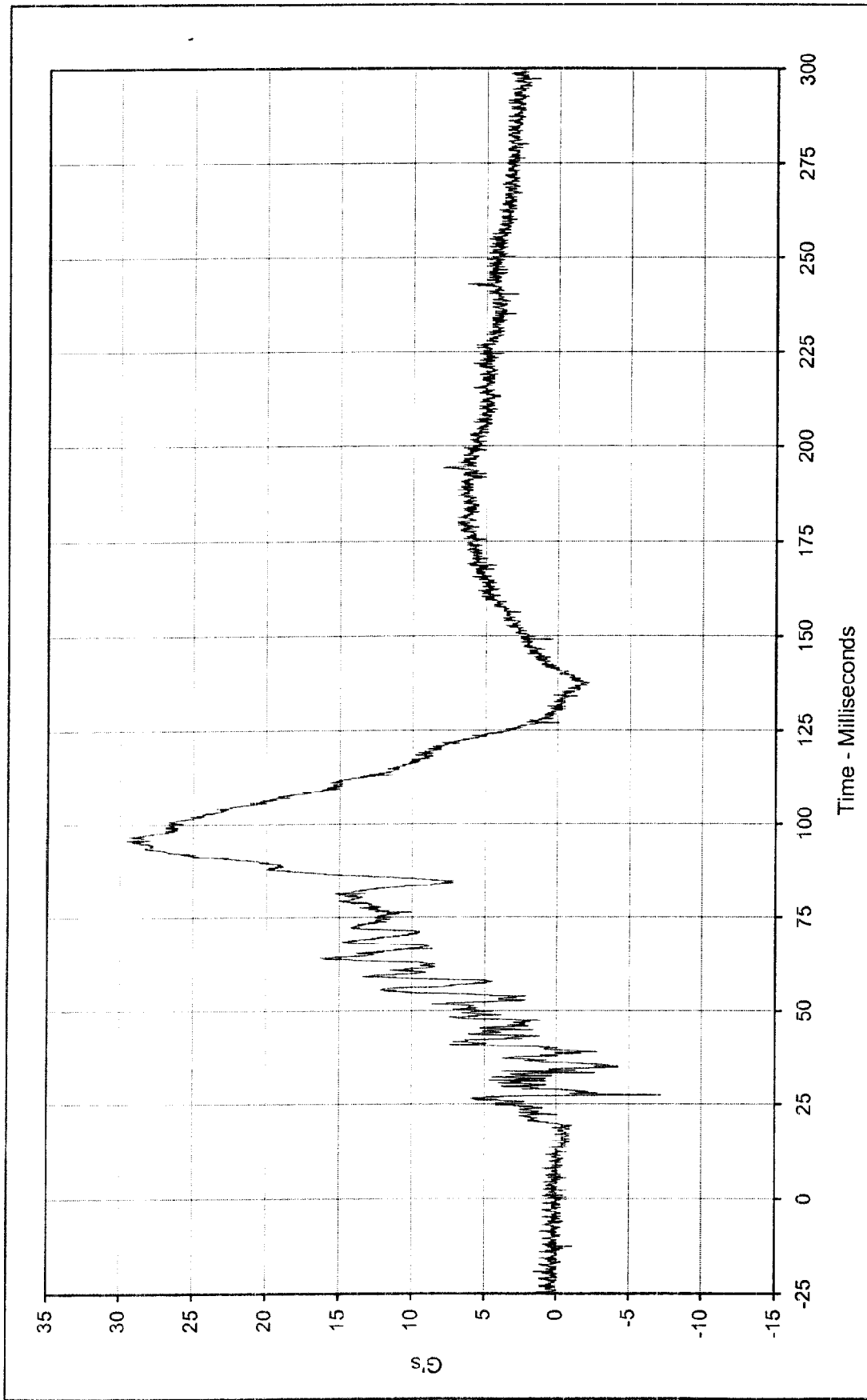




Curve Description:	Passenger Head Primary Y	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	10.7 at 77.2 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-3.6 at 40.5 Milliseconds			



SAE Filter Class:	1000
Date of Test:	1/13/99
Curve Number:	FIL-046



Curve Description: Passenger Head Primary Z

Maximum Value: 29.6 at 95.7 Milliseconds

Minimum Value: -7.2 at 27.4 Milliseconds

SAE Filter Class: 1000

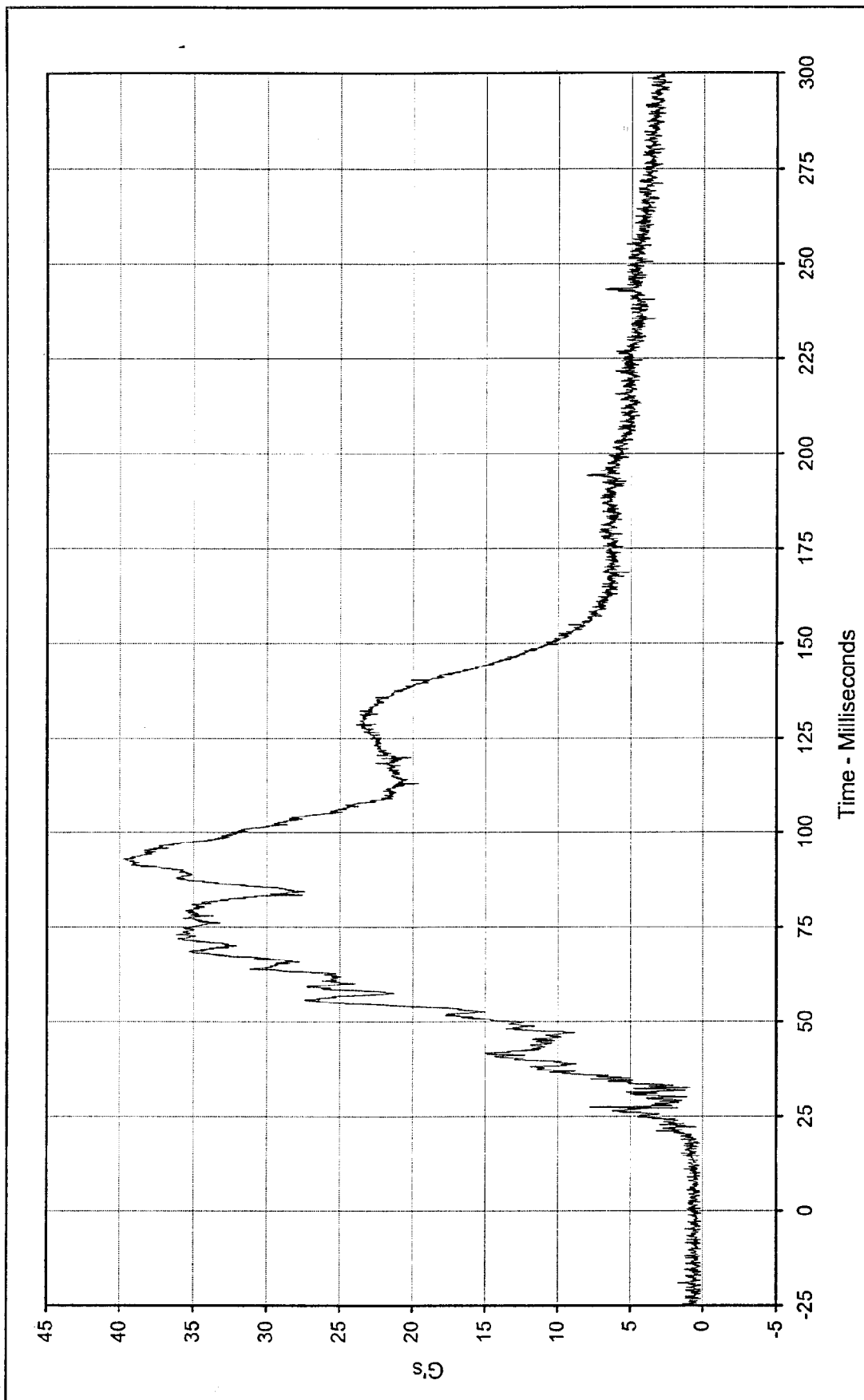
Date of Test: 1/13/99

Curve Number: FIL-047

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

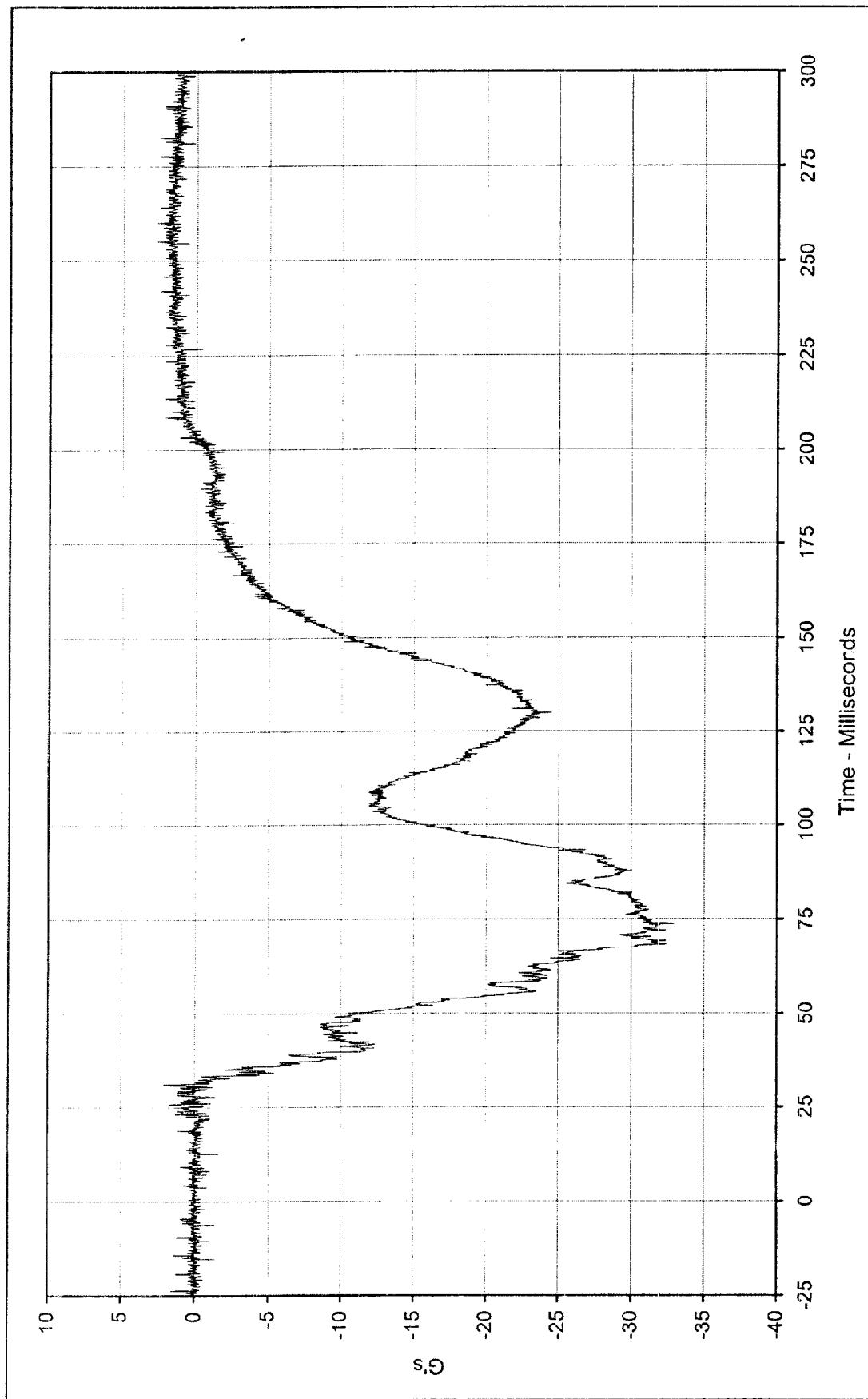




Curve Description: Passenger Head Resultant Primary
 Maximum Value: 39.8 at 92.9 Milliseconds
 Minimum Value: 0.1 at 0.6 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: RES-045

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Head Redundant X

Maximum Value: 2.7 at 255.3 Milliseconds

Minimum Value: -33.0 at 73.7 Milliseconds

SAE Filter Class: 1000

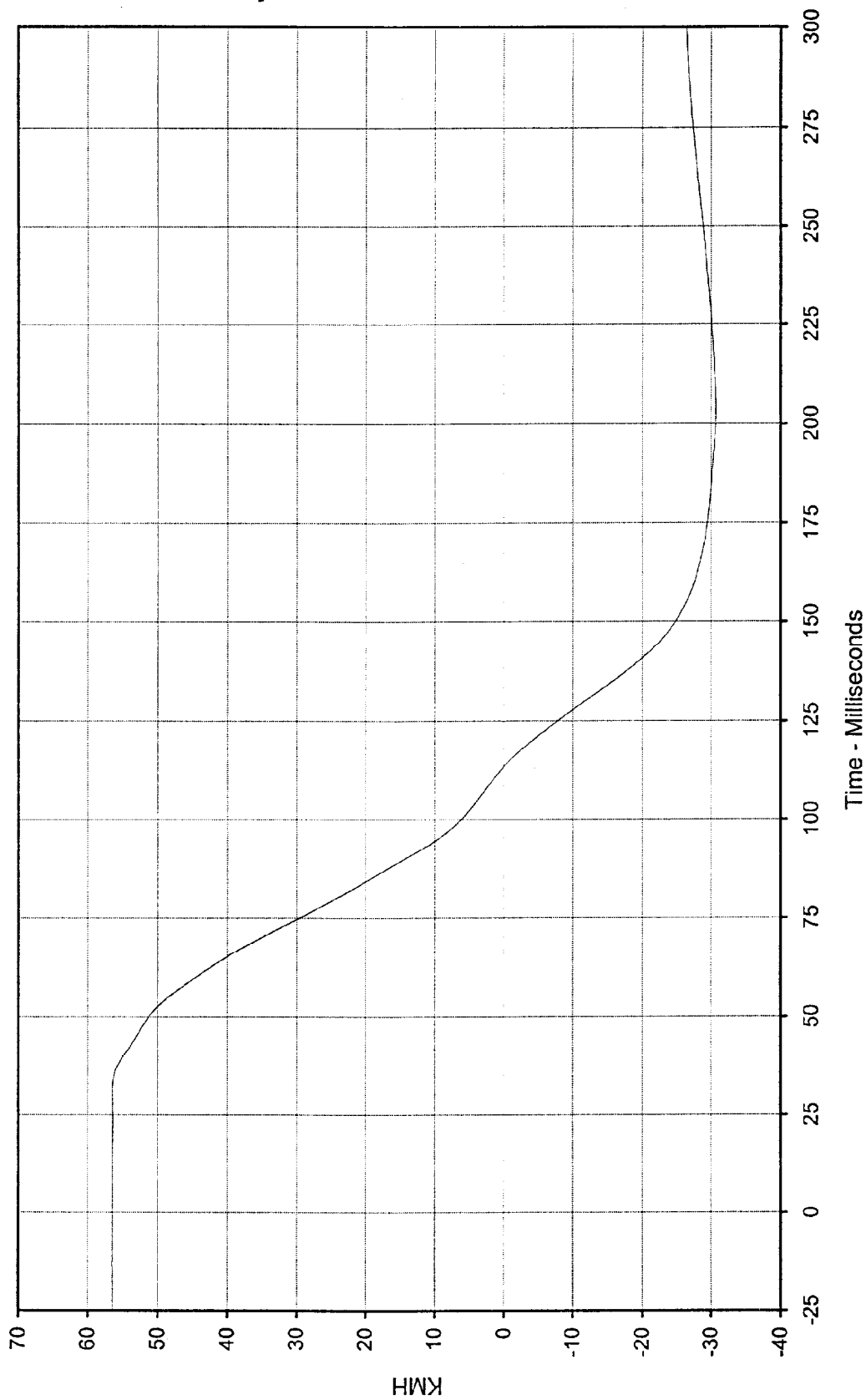
Date of Test: 1/13/99

Curve Number: FIL-048

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Head Redundant X Velocity

Maximum Value: 56.5 at 0.7 Milliseconds

Minimum Value: -30.7 at 203.1 Milliseconds

SAE Filter Class: 180

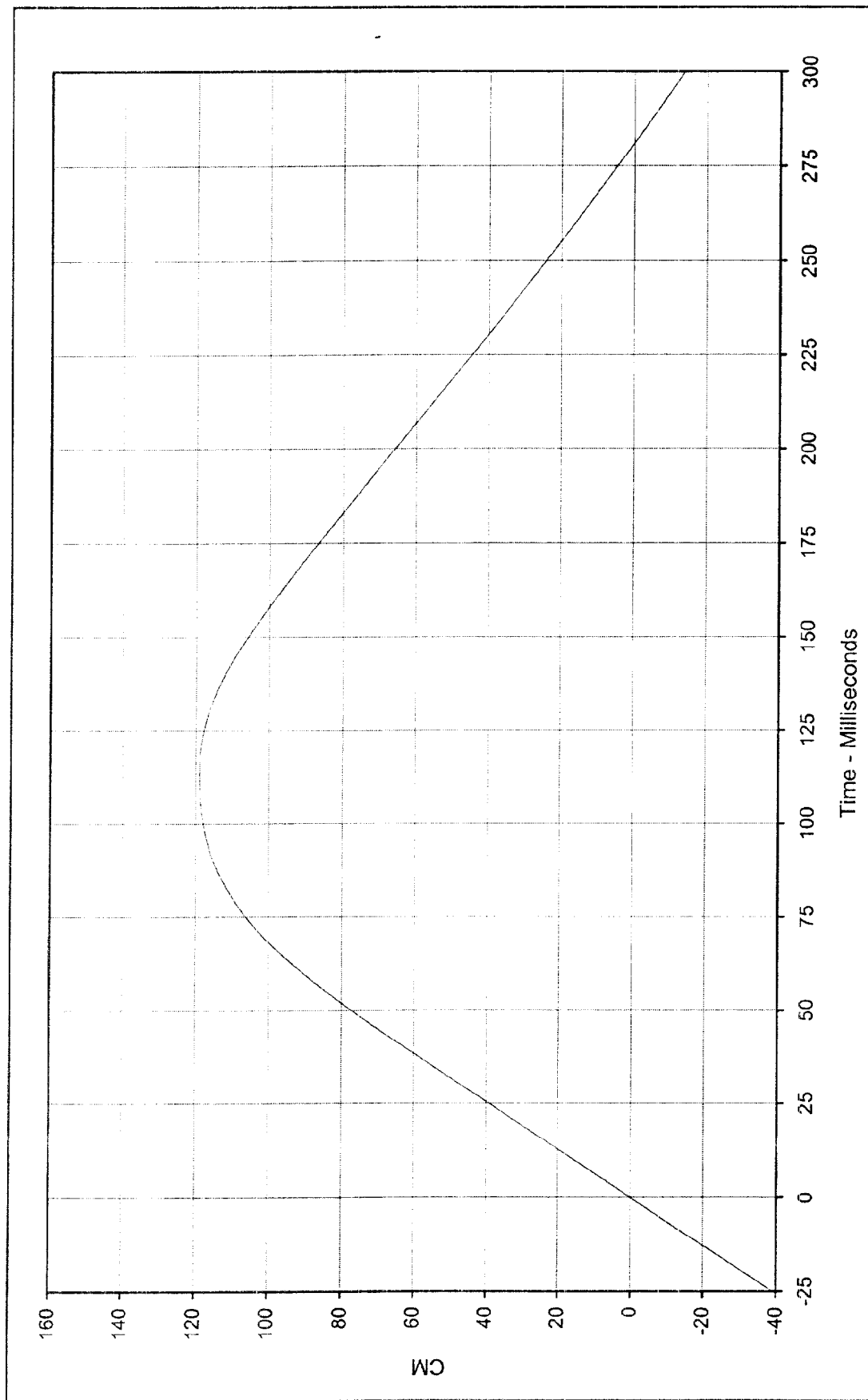
Date of Test: 1/13/99

Curve Number: IN1-048

Testing Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Head Redundant X Displ.

Maximum Value: 119.0 at 113.2 Milliseconds

Minimum Value: -13.8 at 299.9 Milliseconds

SAE Filter Class: 180

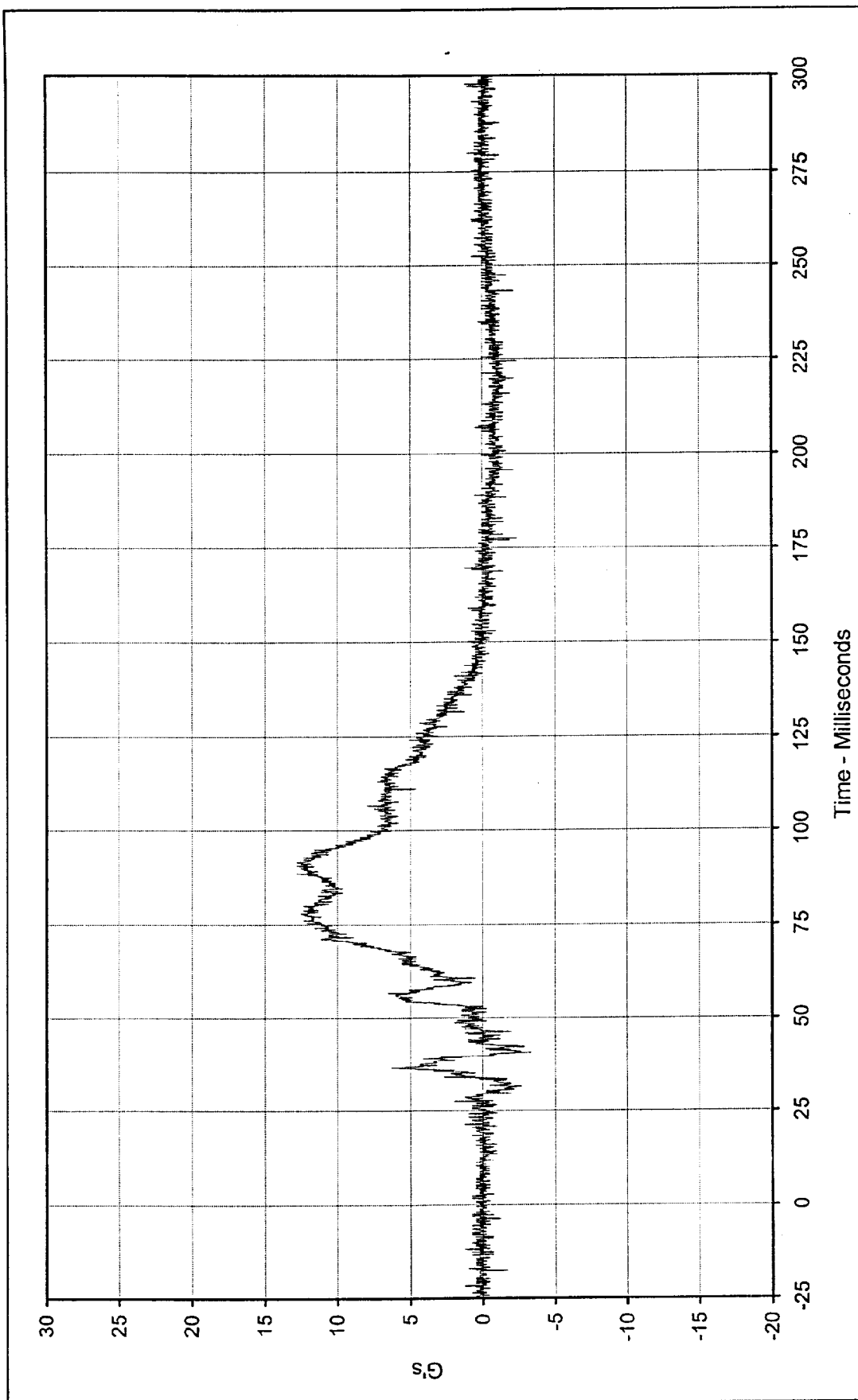
Date of Test: 1/13/99

Curve Number: IN2-048

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

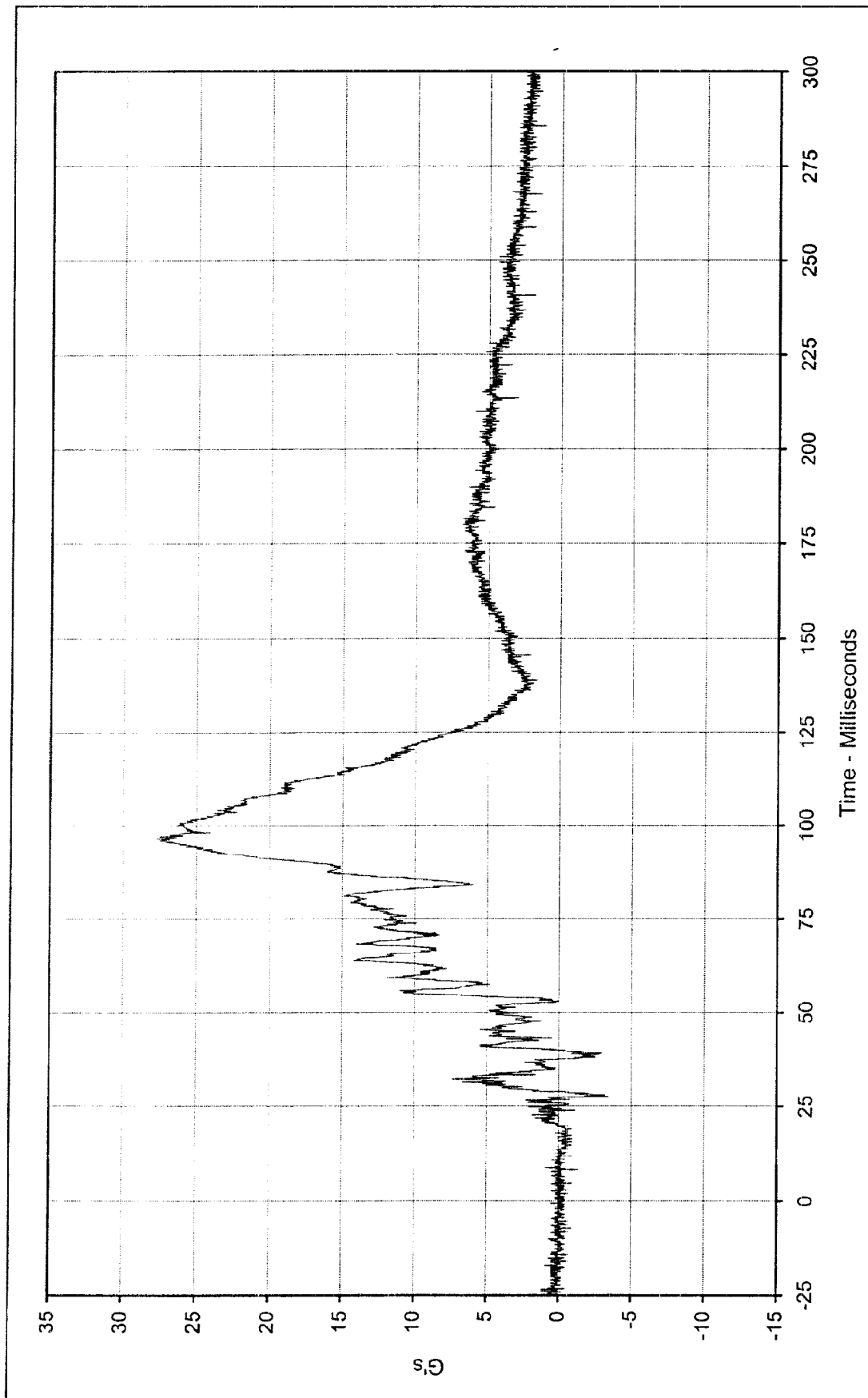




Curve Description: Passenger Head Redundant Y
 Maximum Value: 12.8 at 88.4 Milliseconds
 Minimum Value: -3.4 at 40.7 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: FIL-049

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Head Redundant Z

Maximum Value: 27.7 at 96.5 Milliseconds

Minimum Value: -3.4 at 27.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/13/99

Curve Number: FIL-050

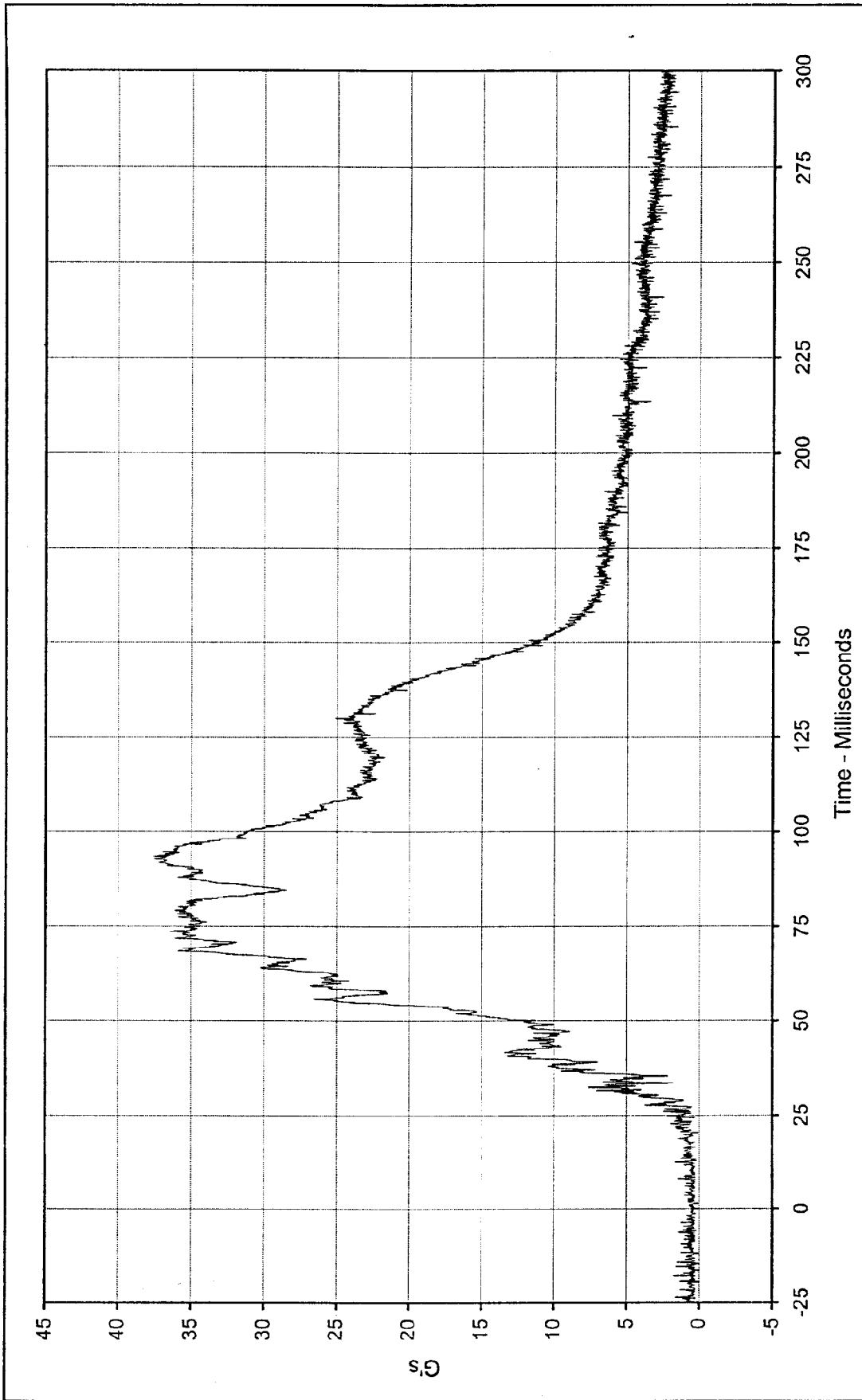
Test Program:

1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle:

1999 Mazda 626 LX 4 Door Sedan

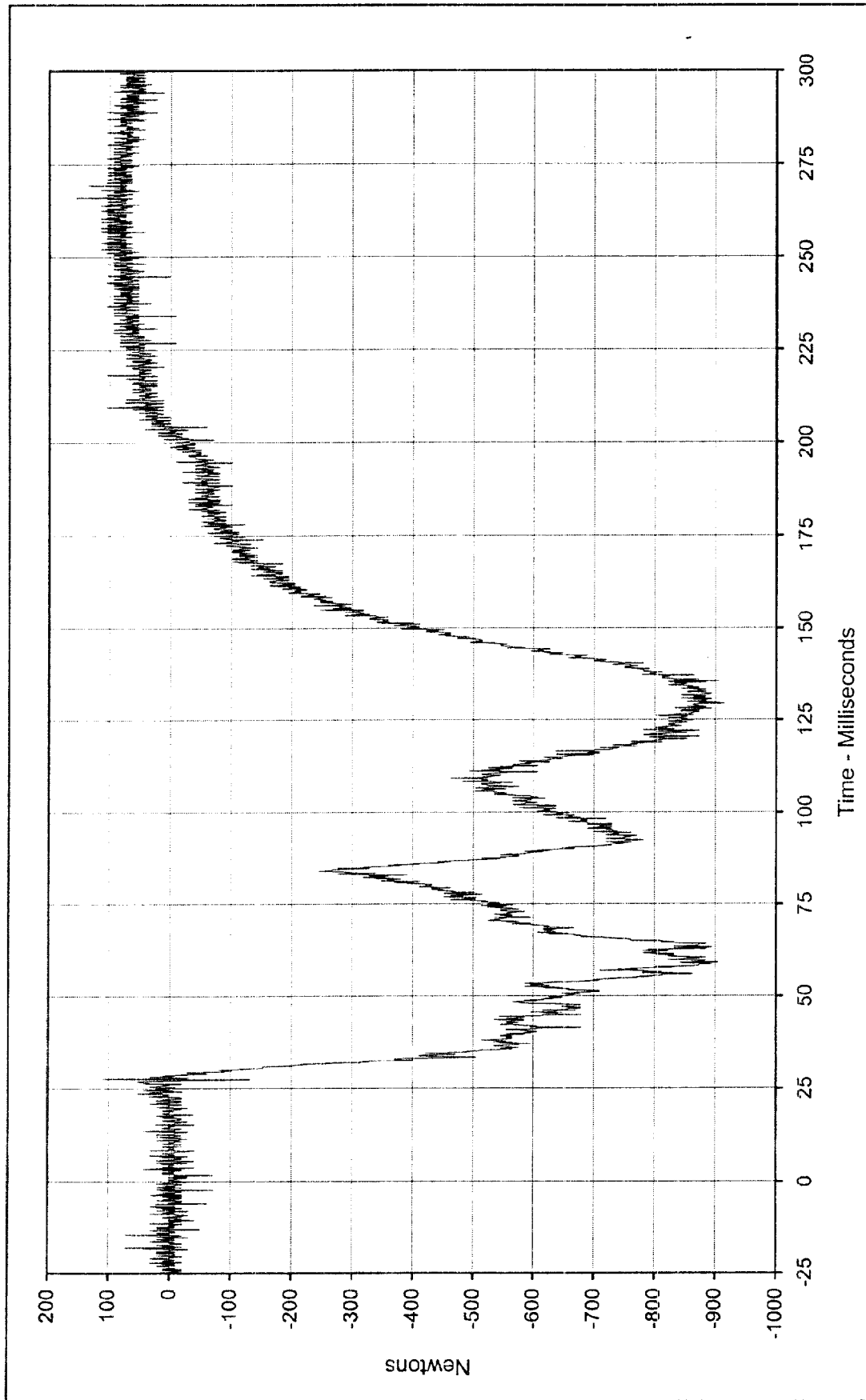




Curve Description: Passenger Head Resultant Redundant
 Maximum Value: 37.6 at 93.2 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: RES-048

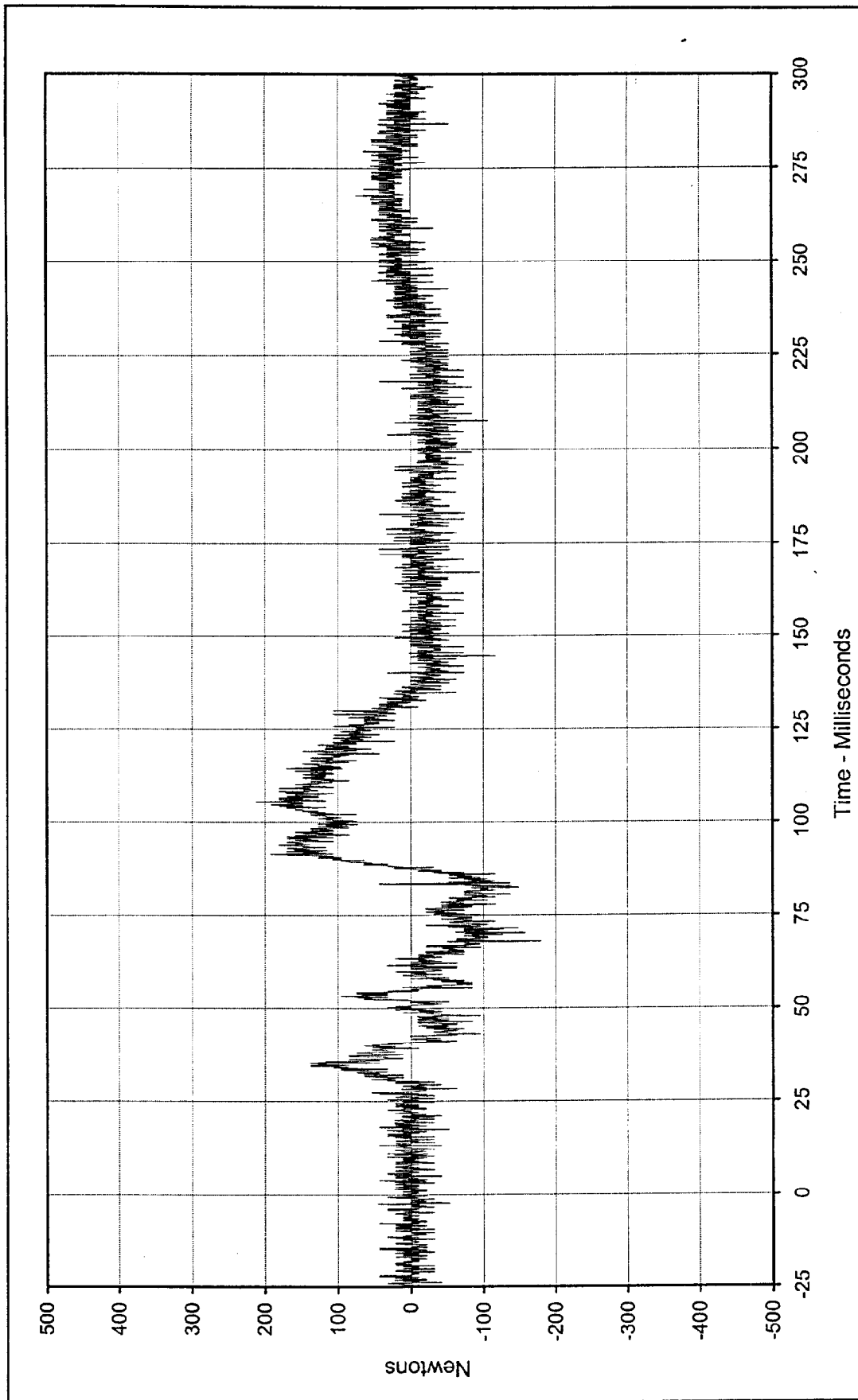
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:		Passenger Neck Force X		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	155.5	at	26.1	Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	-915.8	at	129.4	Milliseconds		
SAE Filter Class:	1000					
Date of Test:	1/13/99					
Curve Number:	FIL-051					

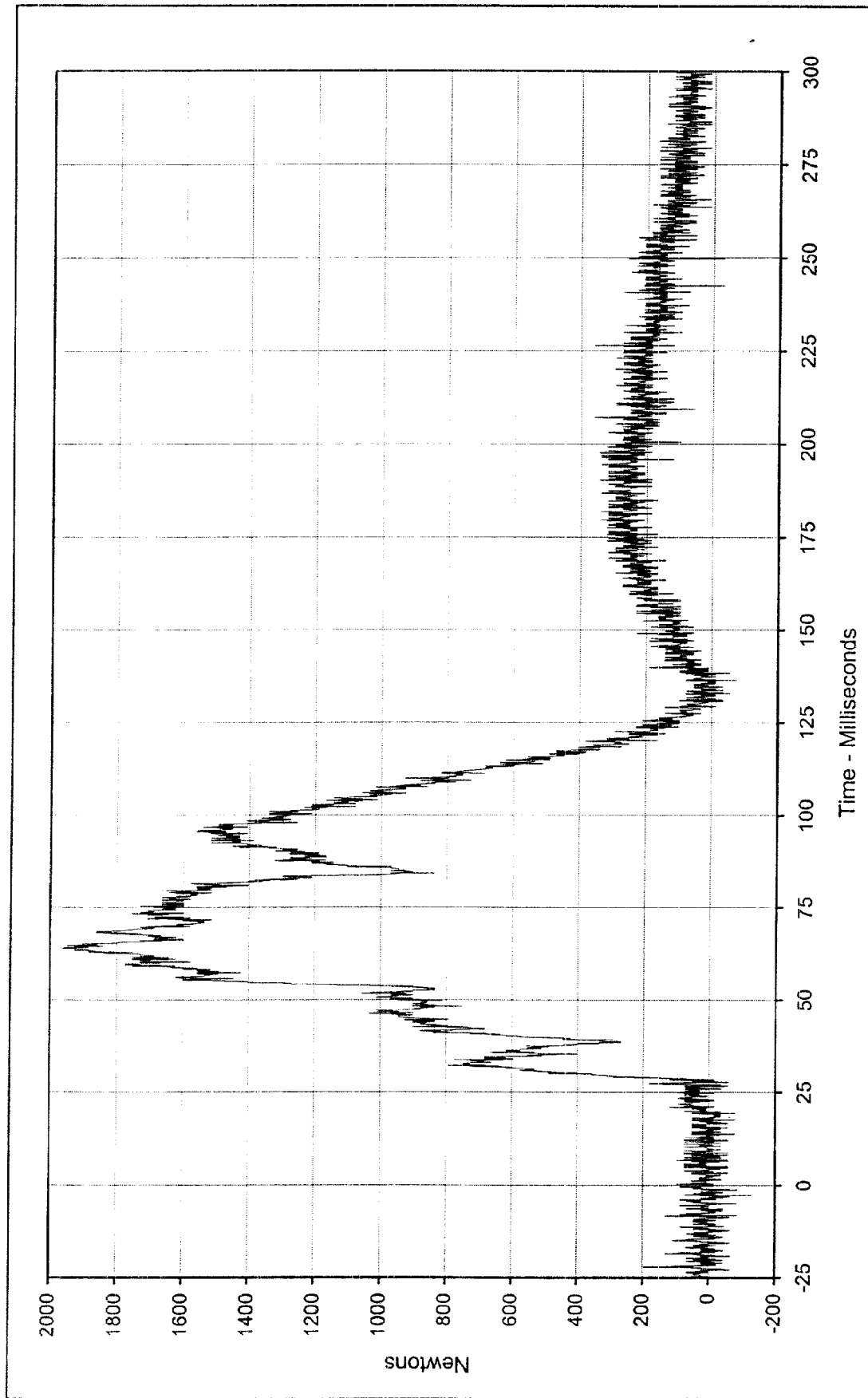




Curve Description: Passenger Neck Force Y
 Maximum Value: 211.6 at 105.4 Milliseconds
 Minimum Value: -179.9 at 67.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: FIL-052

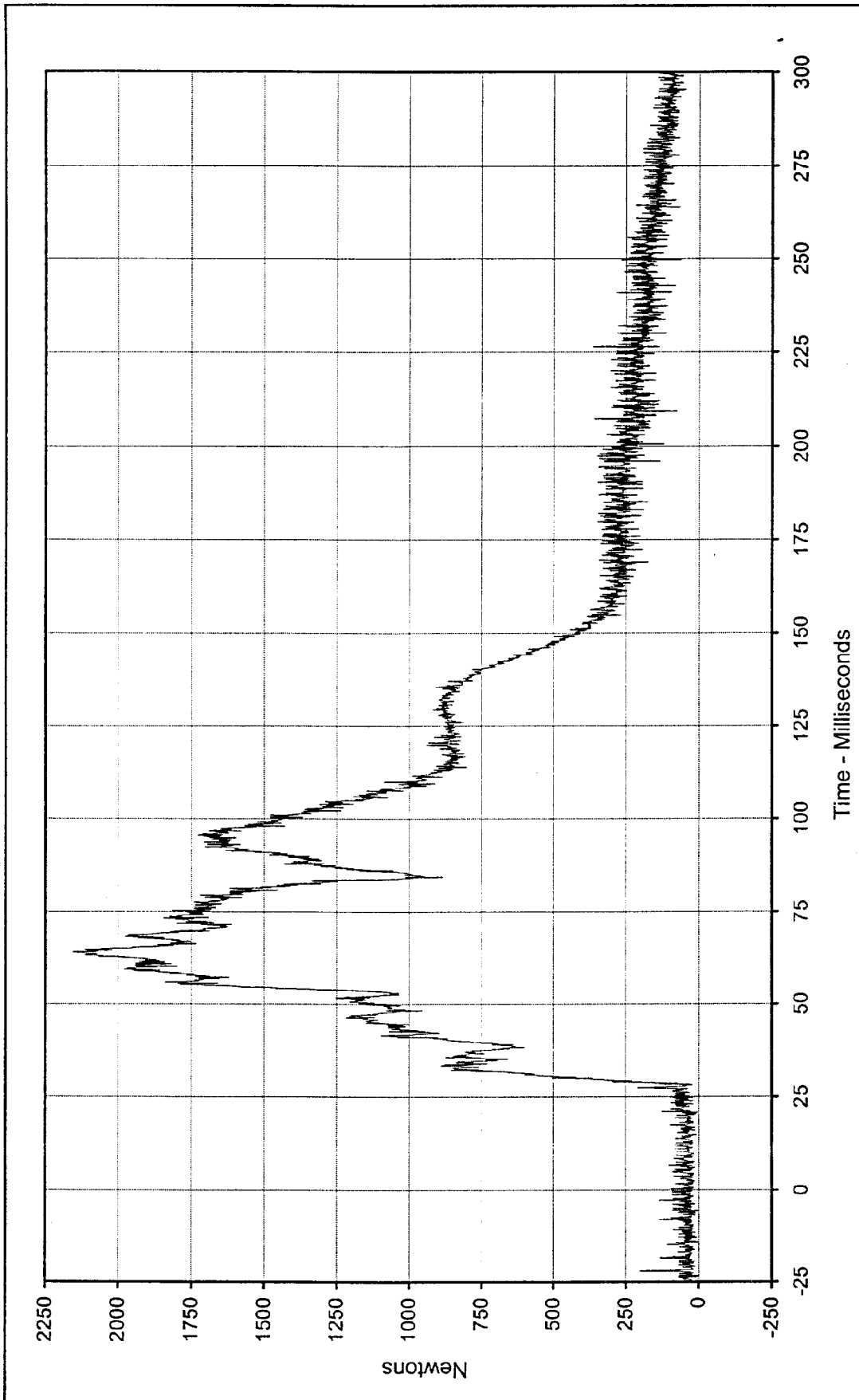
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:		Test Program:	
Passenger Neck Force Z		1999 NHTSA 35 mph NCAP No.: MX5400	
Maximum Value:	1969.6	at	63.9
Minimum Value:	-80.4	at	14.0
SAE Filter Class:	1000		
Date of Test:	1/13/99		
Curve Number:	FIL-053		
Test Vehicle:		1999 Mazda 626 LX 4 Door Sedan	

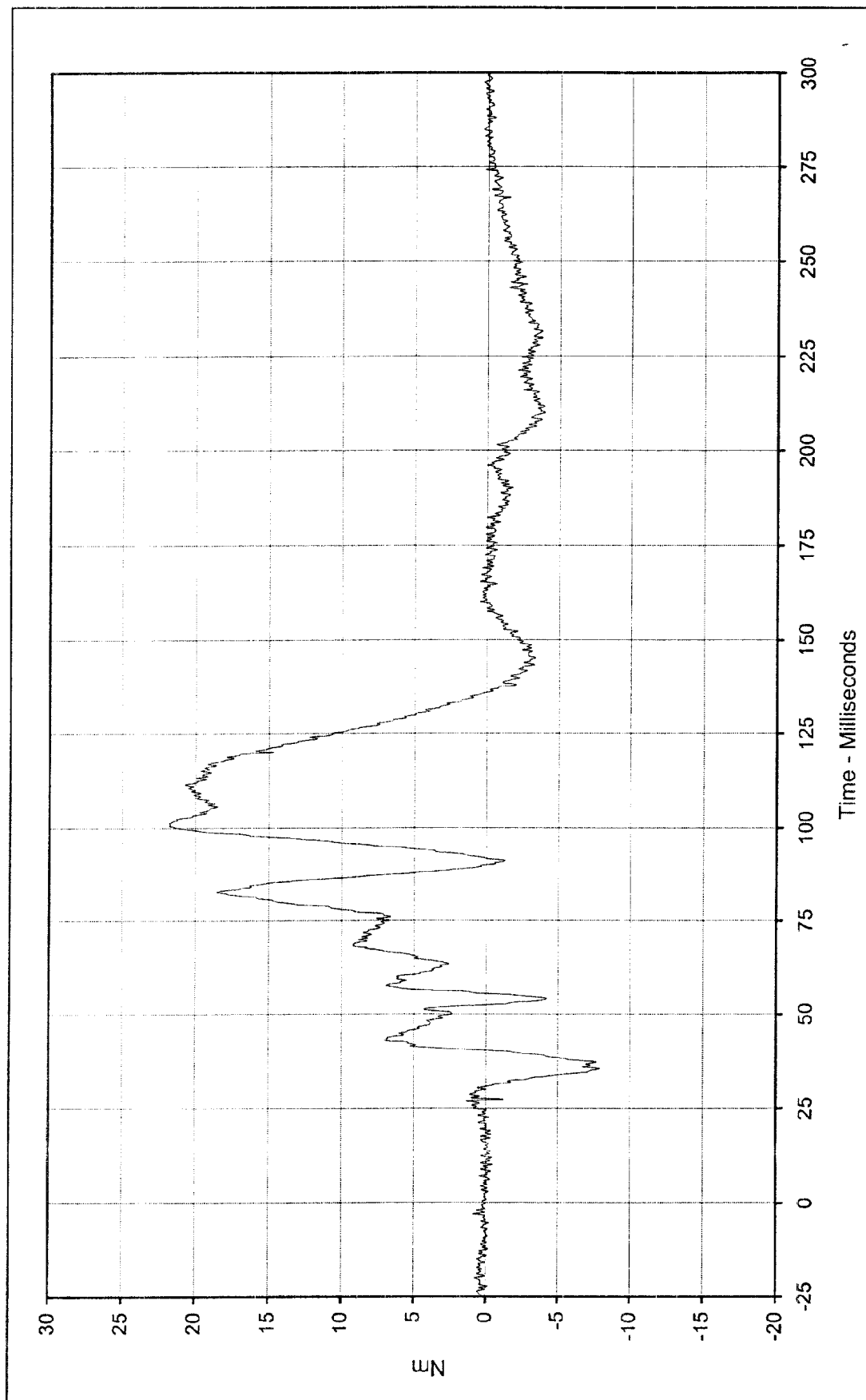




Curve Description: Passenger Neck Force Resultant
 Maximum Value: 2155.1 at 63.9 Milliseconds
 Minimum Value: 6.9 at 15.0 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: RES-051

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

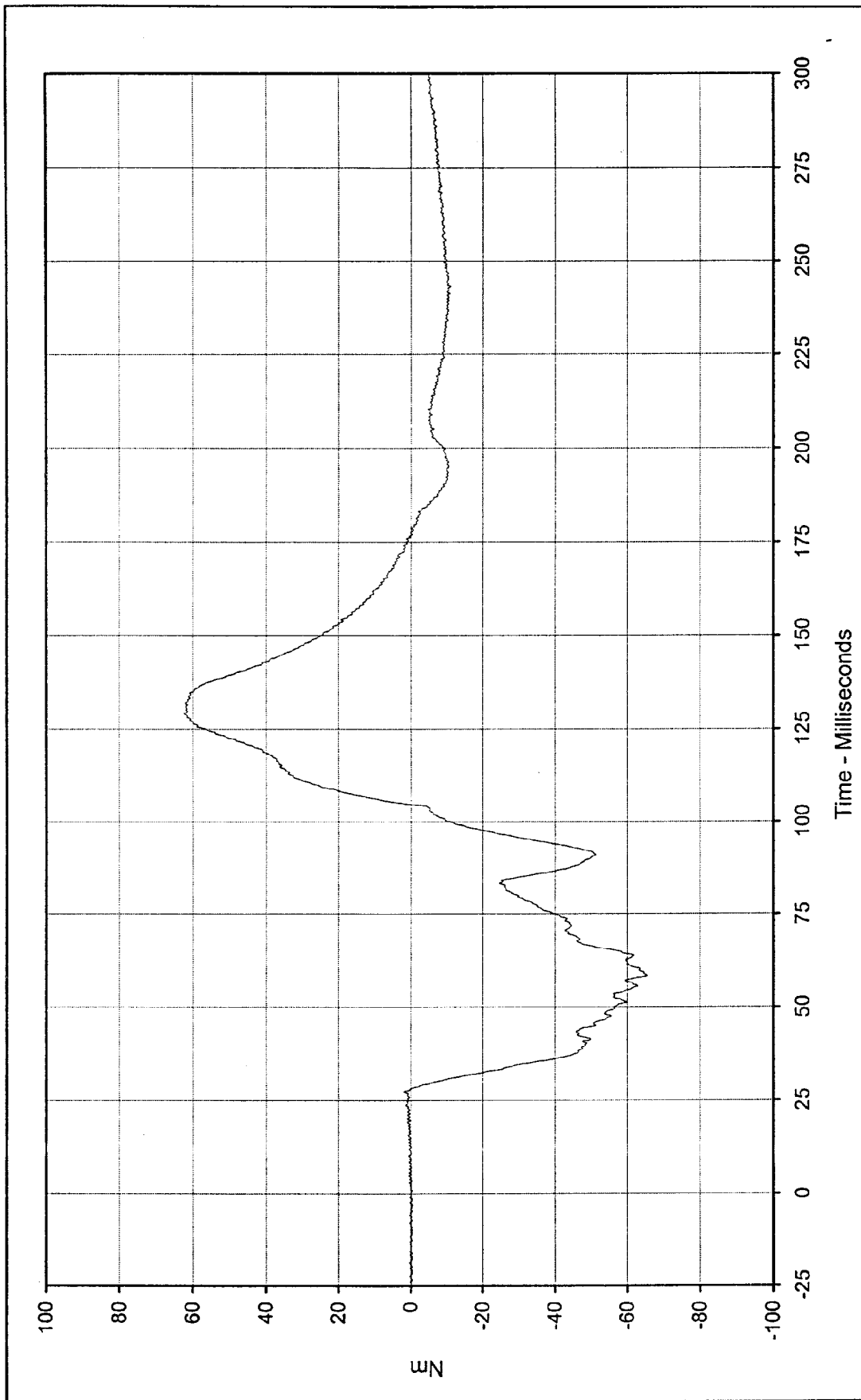




Curve Description:	Passenger Neck Moment X	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	21.8	at 101.2	Milliseconds	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	-8.0	at 35.4	Milliseconds	
SAE Filter Class:	600			
Date of Test:	1/13/99			
Curve Number:	FIL-054			

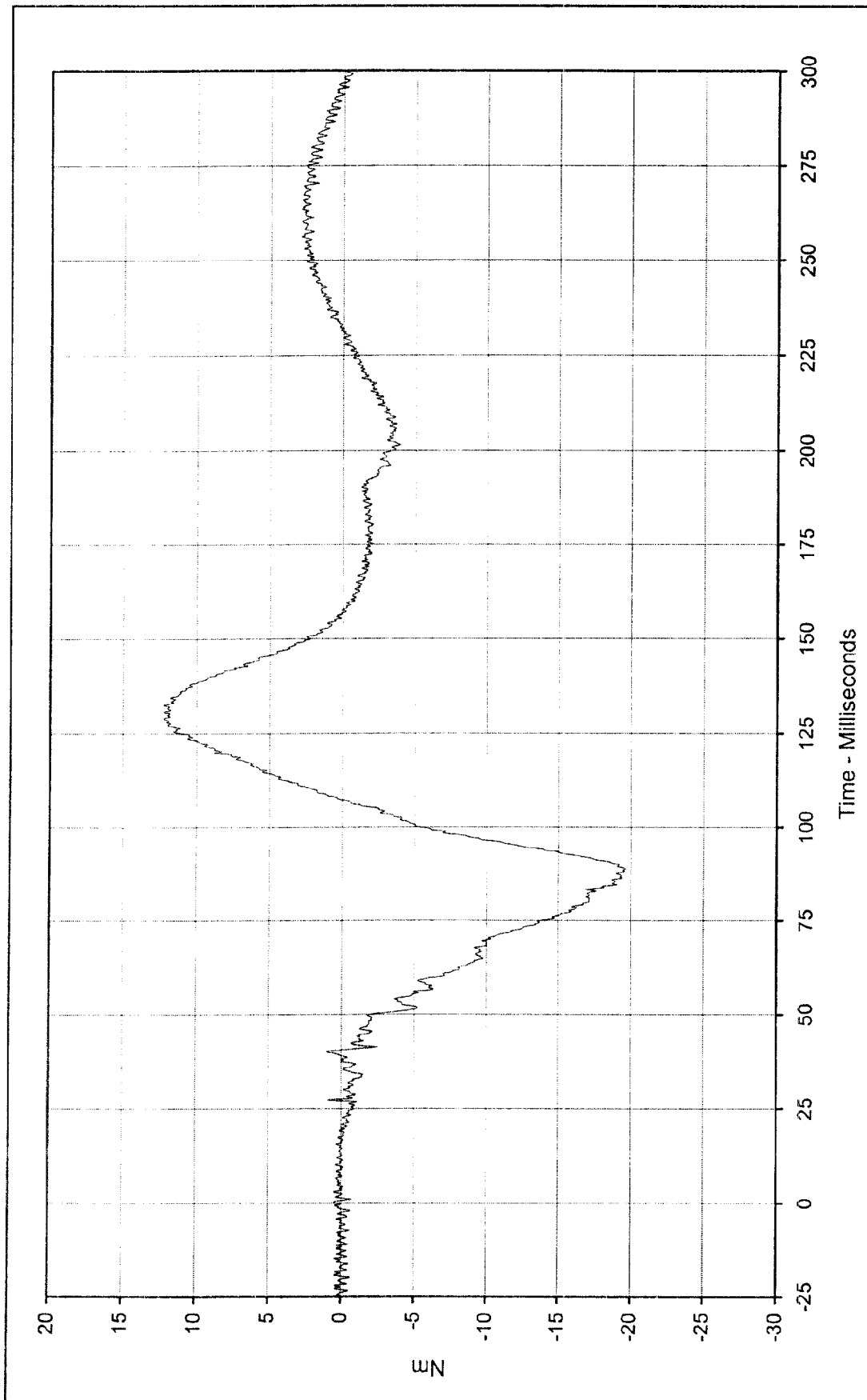
**KARCO**
Engineering





Curve Description:		Passenger Neck Moment Y		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	62.3	at	129.1	Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	-65.5	at	58.4	Milliseconds		
SAE Filter Class:	600					
Date of Test:	1/13/99					
Curve Number:	FIL-055					





Curve Description: Passenger Neck Moment Z

Maximum Value: 12.3 at 130.7 Milliseconds

Minimum Value: -19.6 at 88.8 Milliseconds

SAE Filter Class: 600

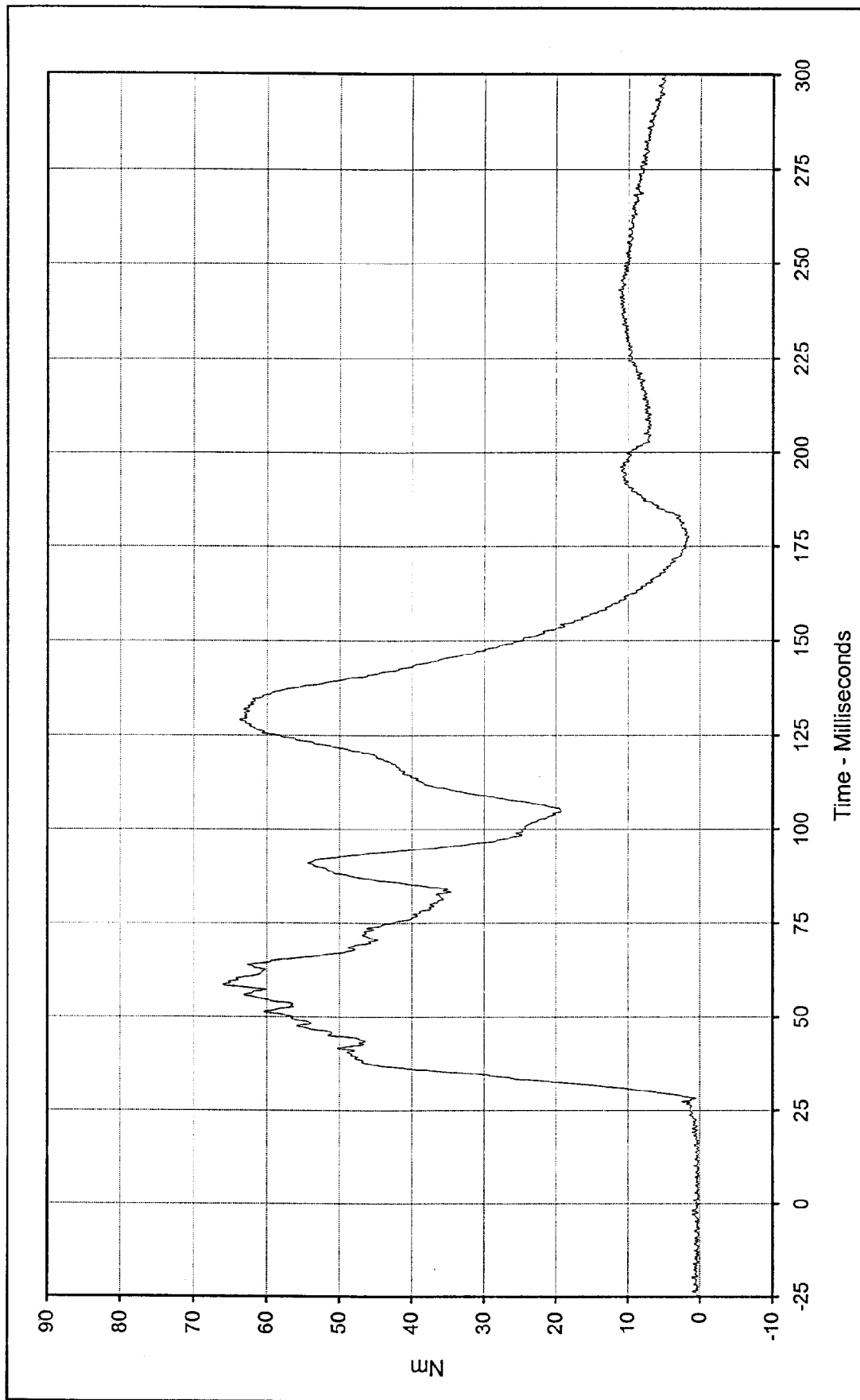
Date of Test: 1/13/99

Curve Number: FIL-056

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

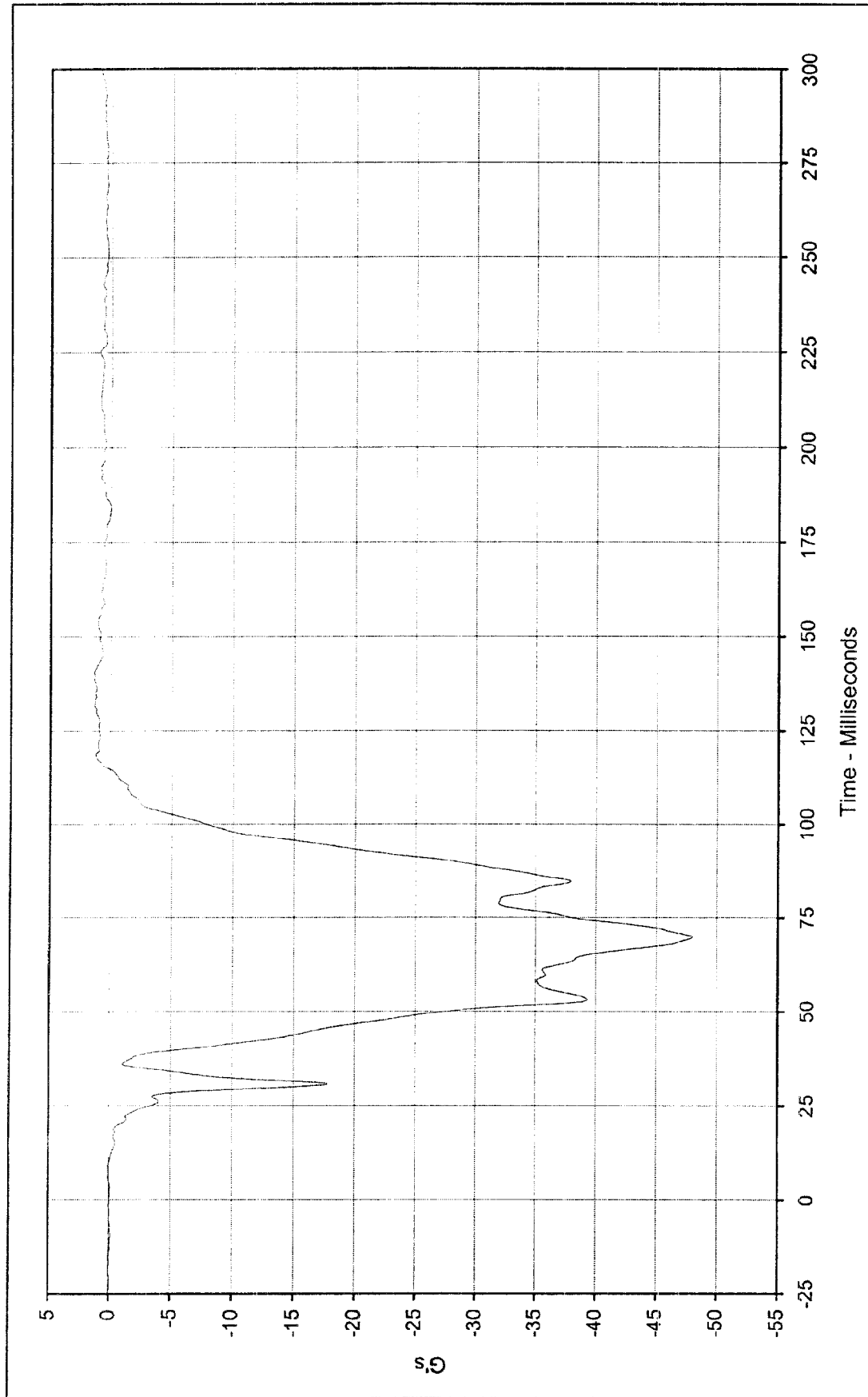




Curve Description: Passenger Neck Moment Resultant
Maximum Value: 66.0 at 58.4 Milliseconds
Minimum Value: 0.1 at 16.2 Milliseconds
SAE Filter Class: 600
Date of Test: 1/13/99
Curve Number: RES-054

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

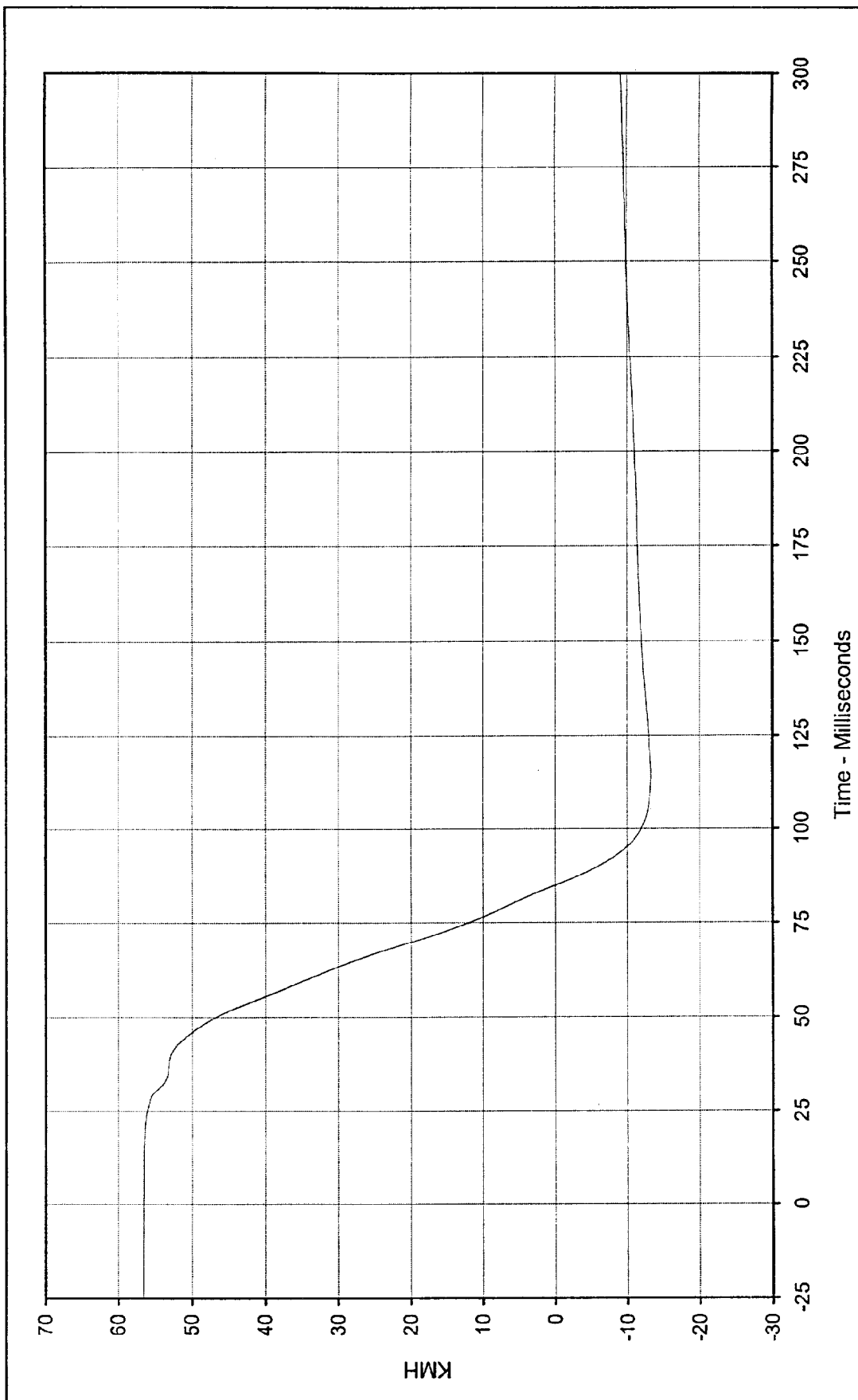




Curve Description: Passenger Chest Primary X
 Maximum Value: 1.4 at 140.4 Milliseconds
 Minimum Value: -48.0 at 69.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-057

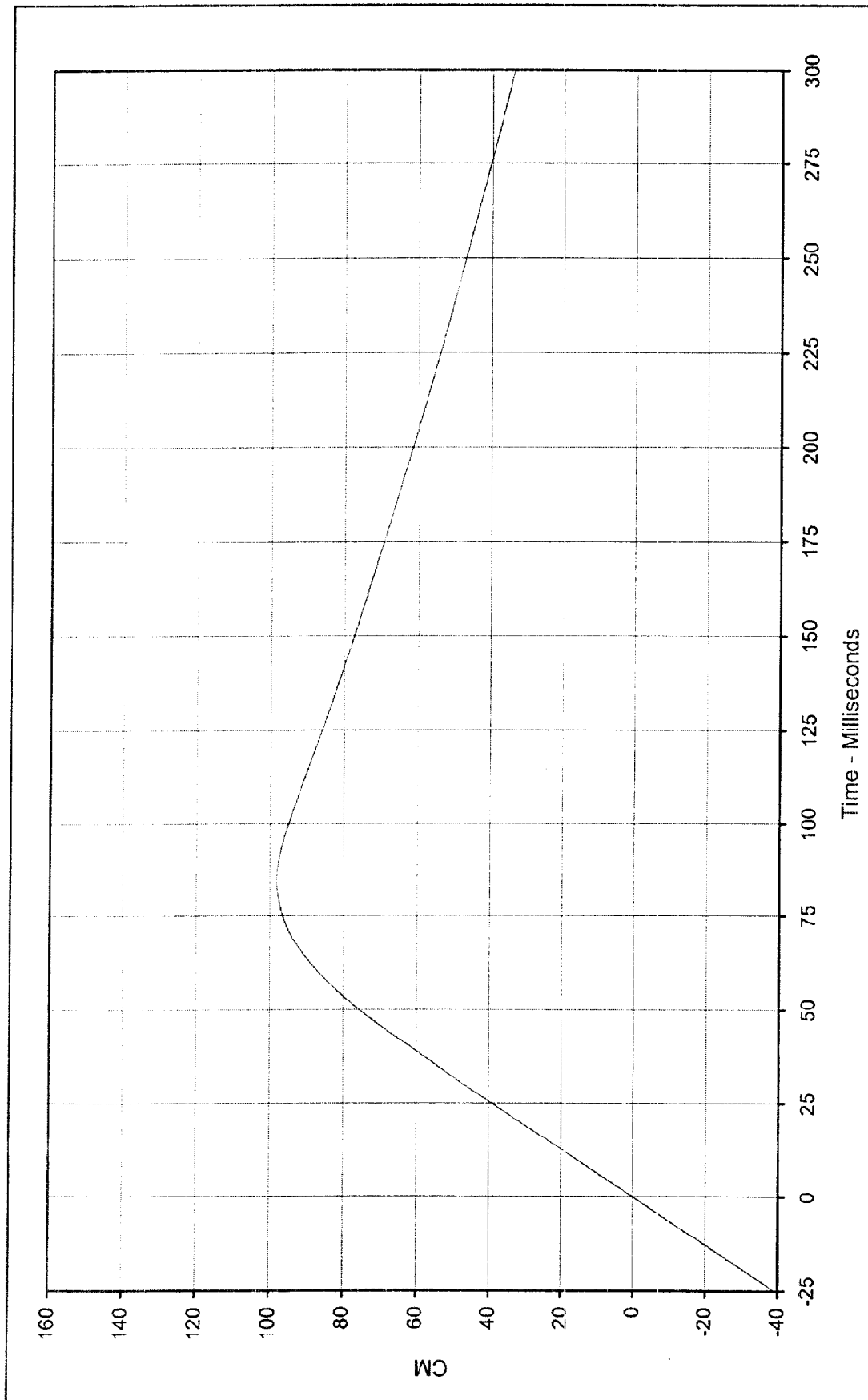
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Chest Primary X Velocity		Testing Program: 1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	56.5	at	0.0
Minimum Value:	-13.3	at	114.6
SAE Filter Class:	180		
Date of Test:	1/13/99	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Curve Number:	IN1-057		

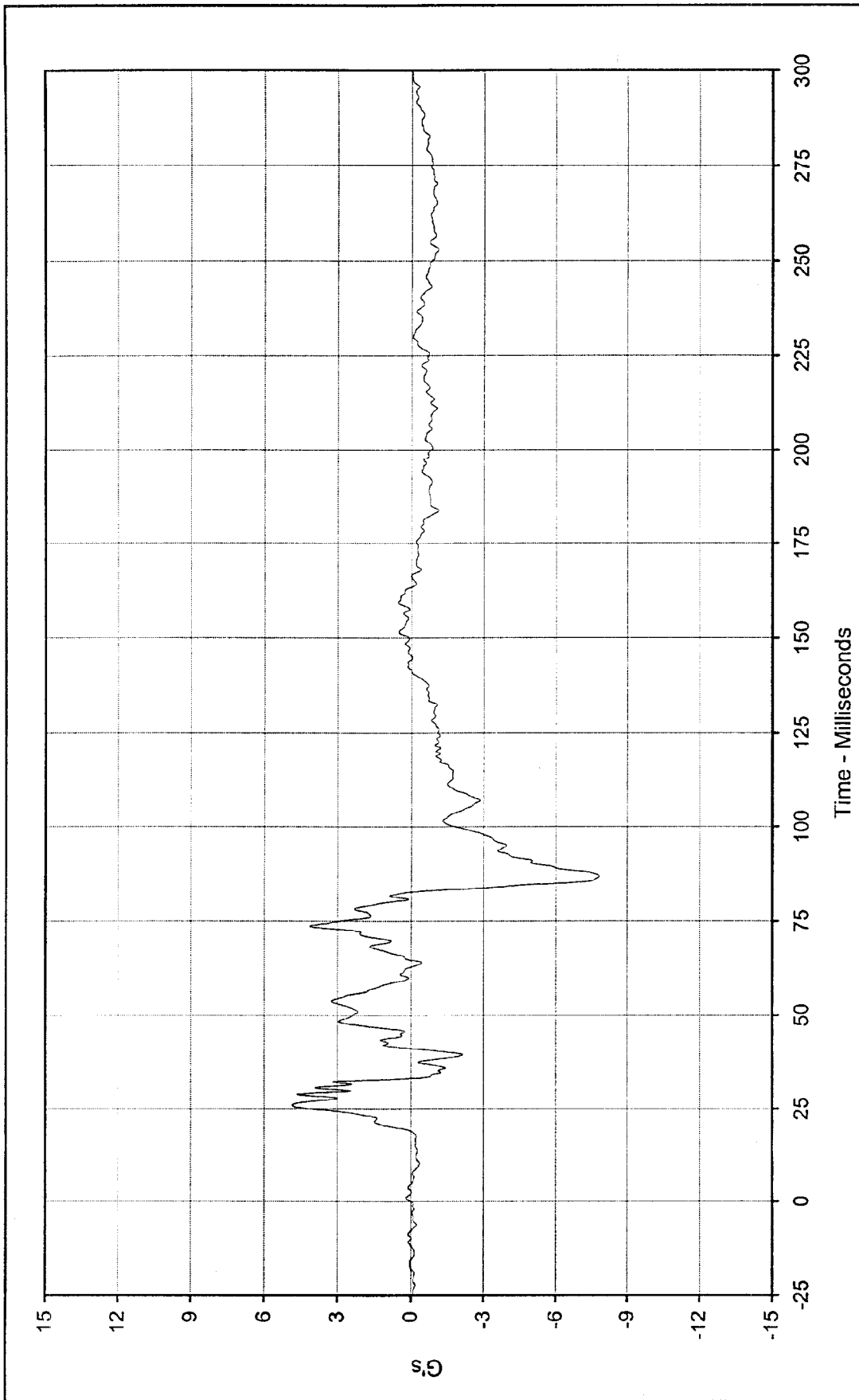




Curve Description: Passenger Chest Primary X Displ.
 Maximum Value: 98.2 at 84.7 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: IN2-057

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

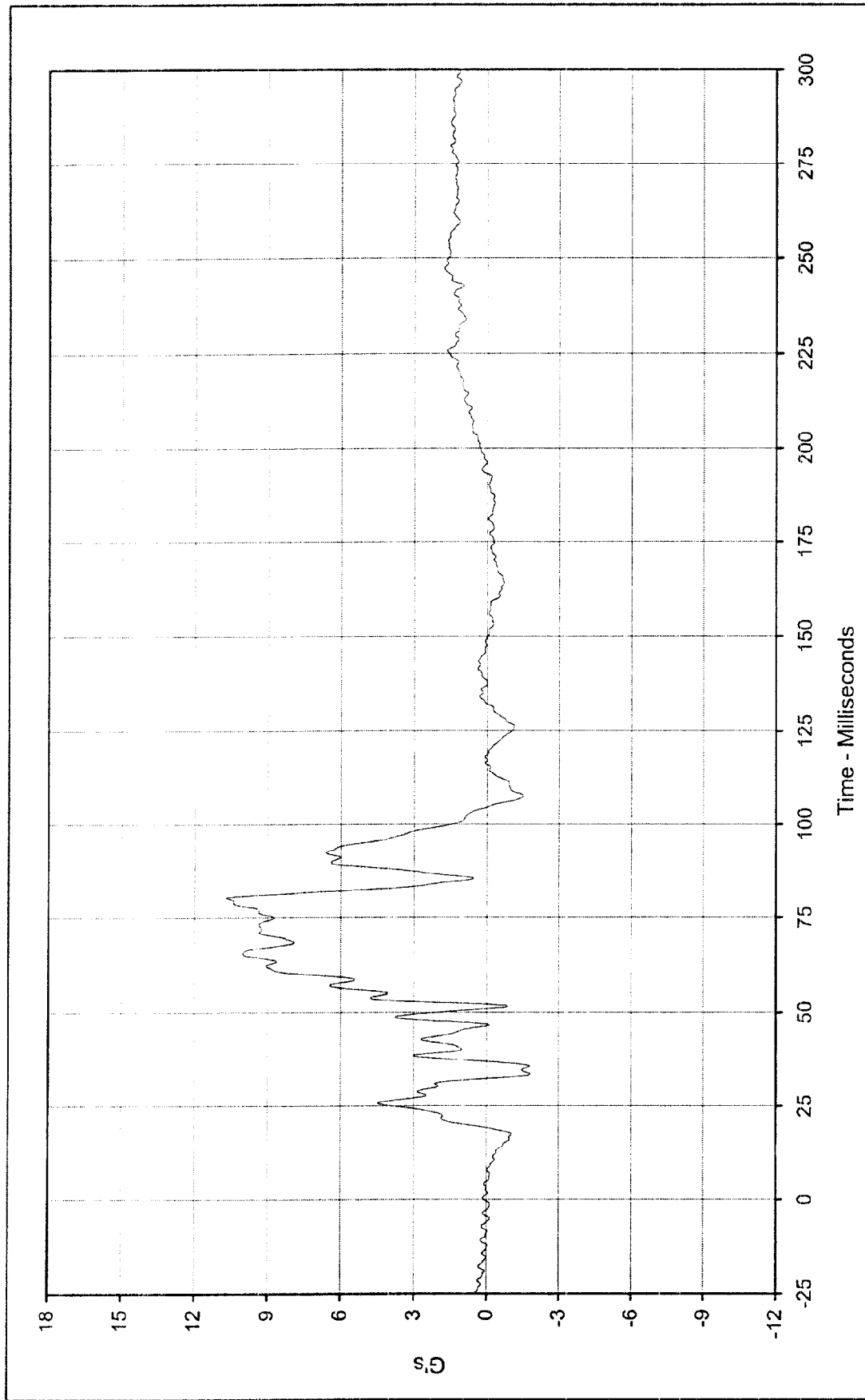




Curve Description: Passenger Chest Primary Y
 Maximum Value: 4.9 at 26.0 Milliseconds
 Minimum Value: -7.8 at 86.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-058

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

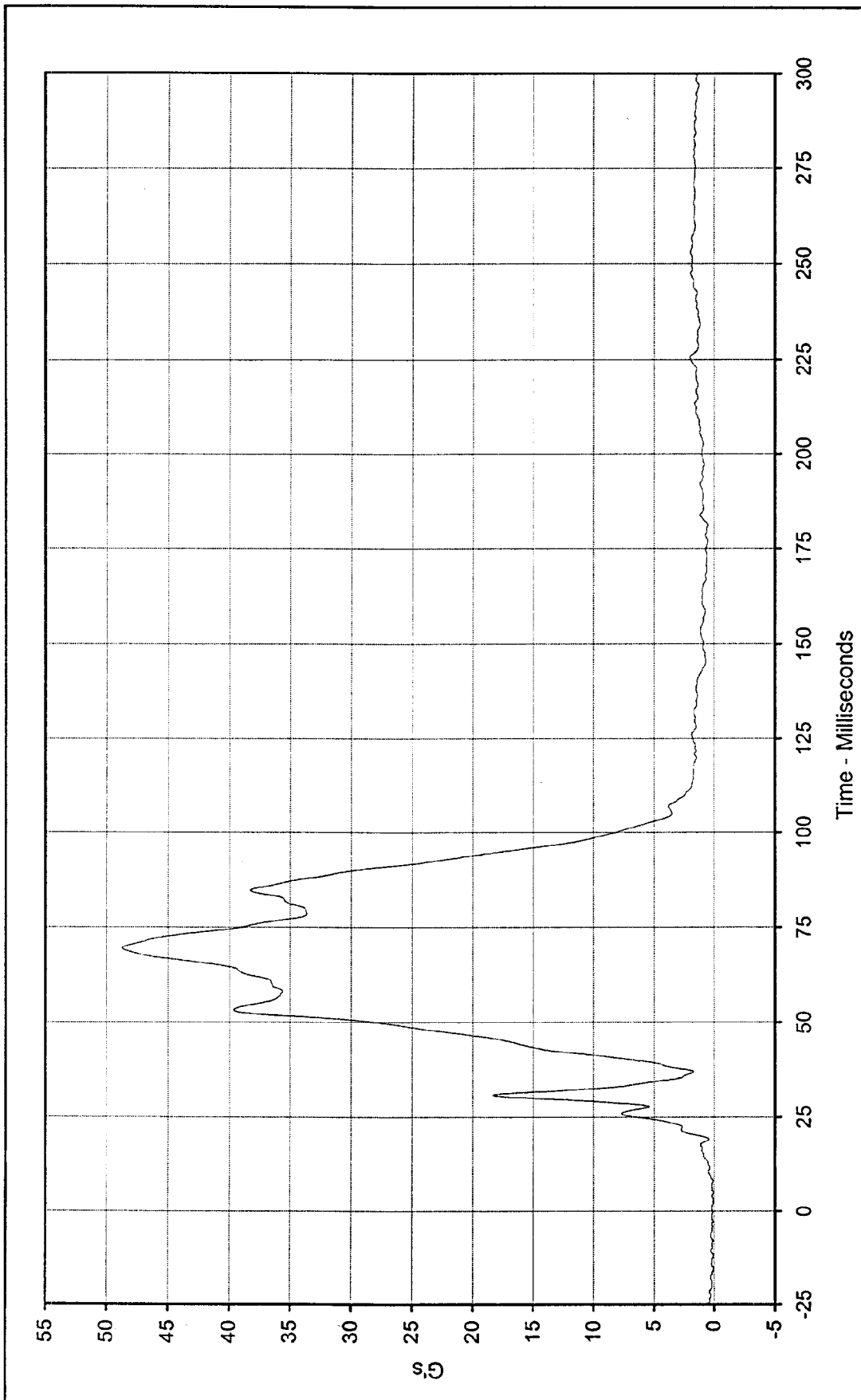




Curve Description: Passenger Chest Primary Z
 Maximum Value: 10.7 at 80.2 Milliseconds
 Minimum Value: -1.8 at 33.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-059

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Chest Resultant Primary

Maximum Value: 48.7 at 69.6 Milliseconds

Minimum Value: 0.0 at 4.8 Milliseconds

SAE Filter Class: 180

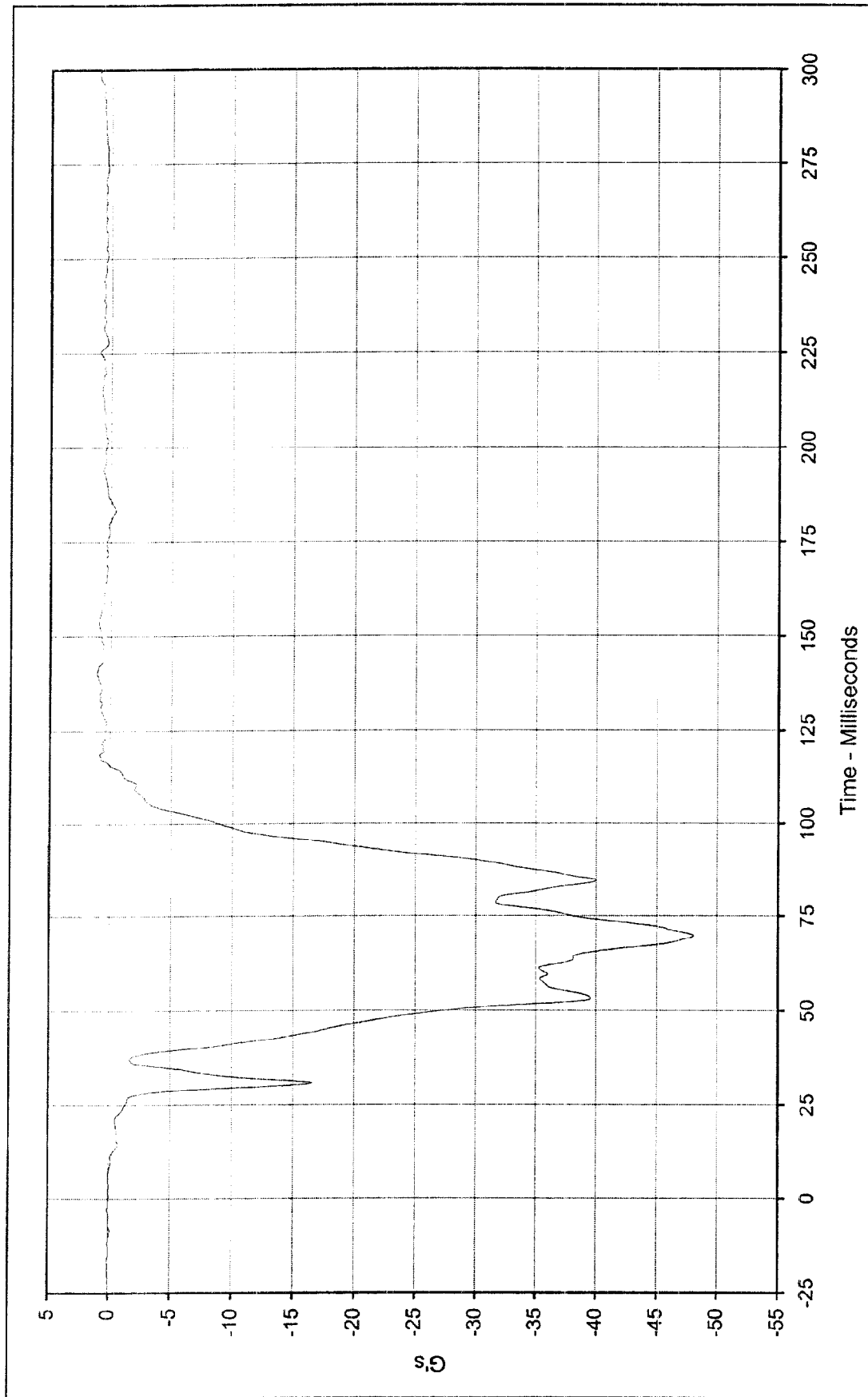
Date of Test: 1/13/99

Curve Number: RES-057

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

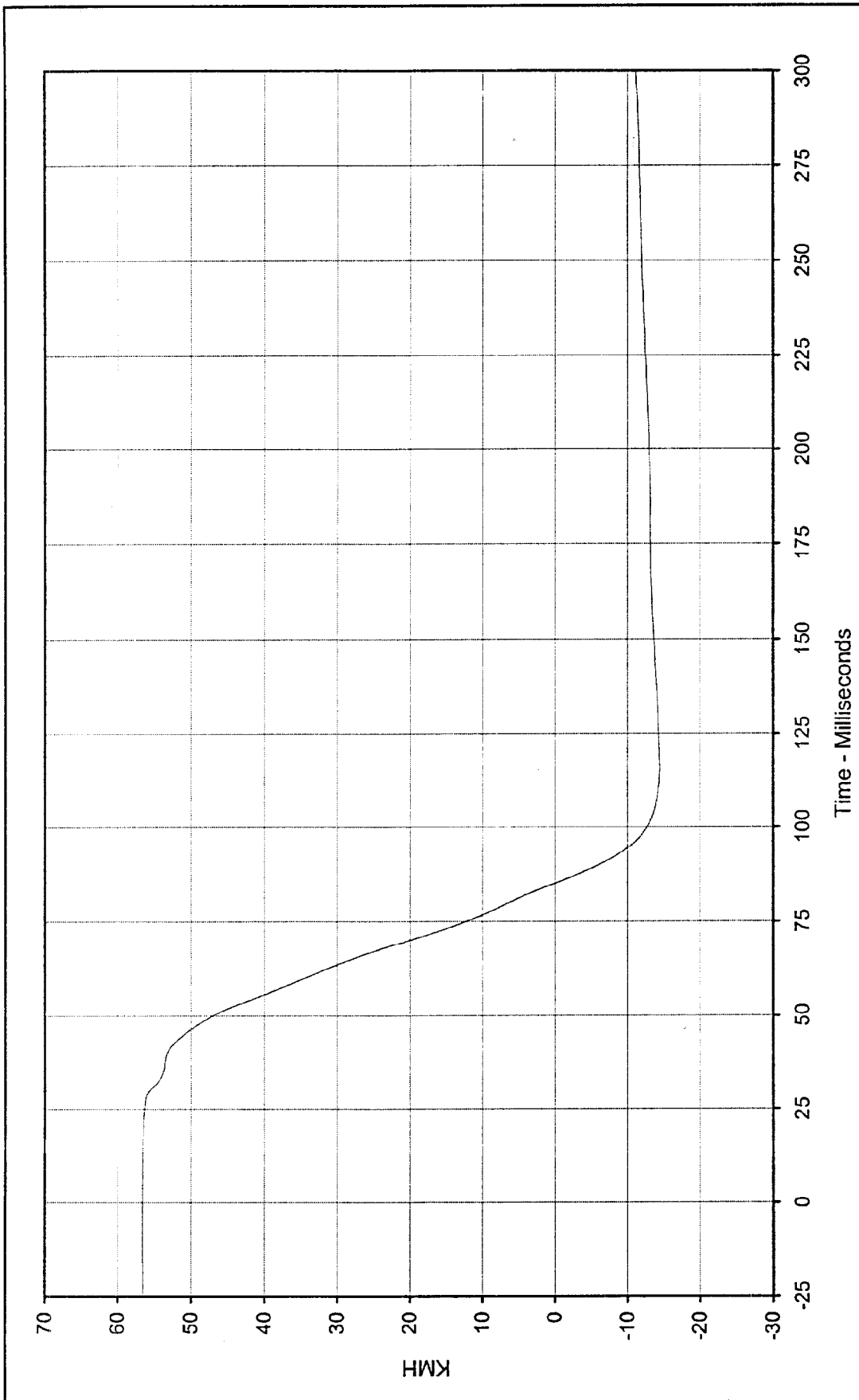




Curve Description: Passenger Chest Redundant X
 Maximum Value: 1.1 at 140.4 Milliseconds
 Minimum Value: -48.1 at 69.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-060

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

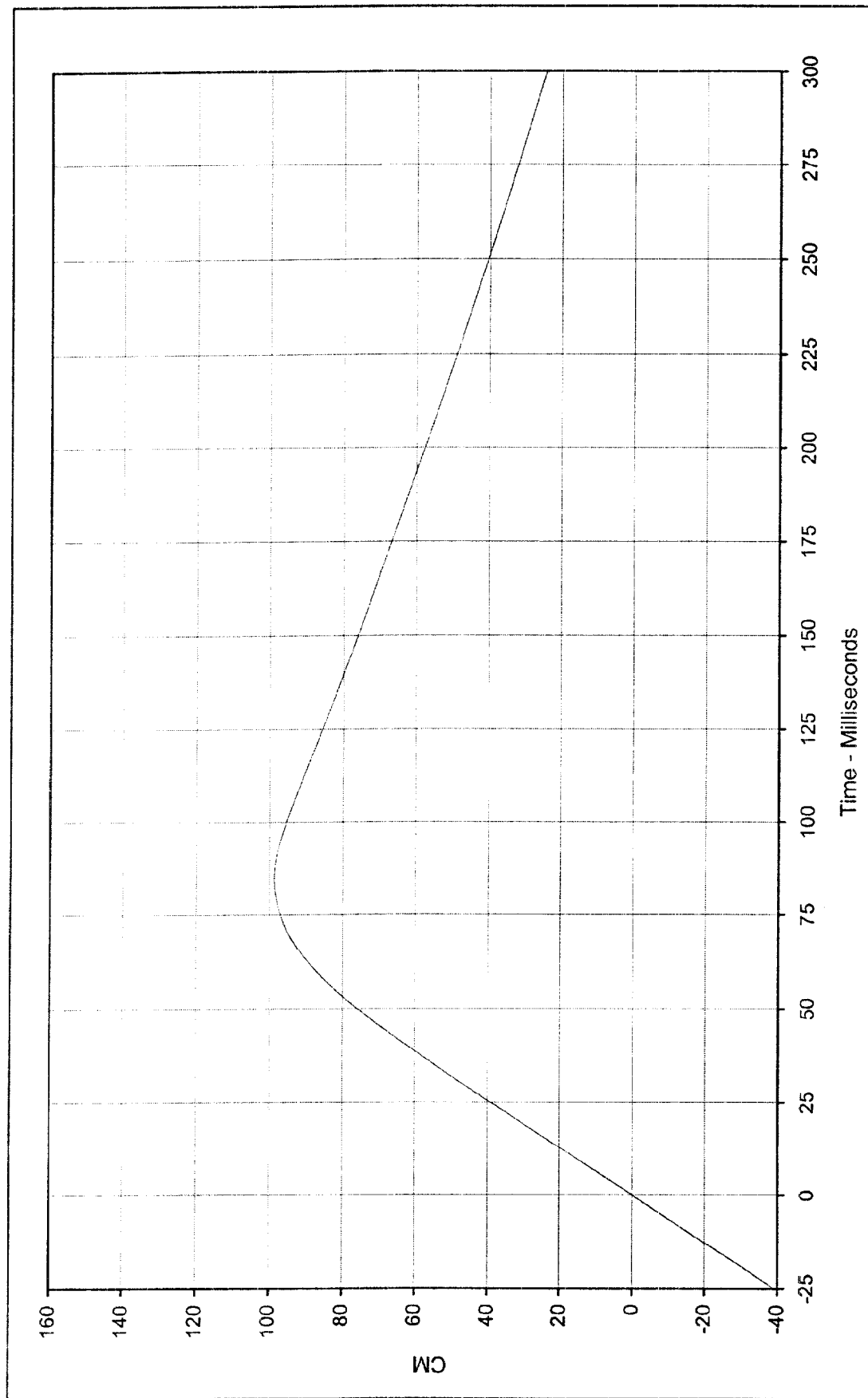




Curve Description: Passenger Chest Redundant X Velocity
 Maximum Value: 56.6 at 7.1 Milliseconds
 Minimum Value: -14.4 at 115.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: IN1-060

Testing Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Chest Redundant X Displ.

Maximum Value: 98.7 at 84.8 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

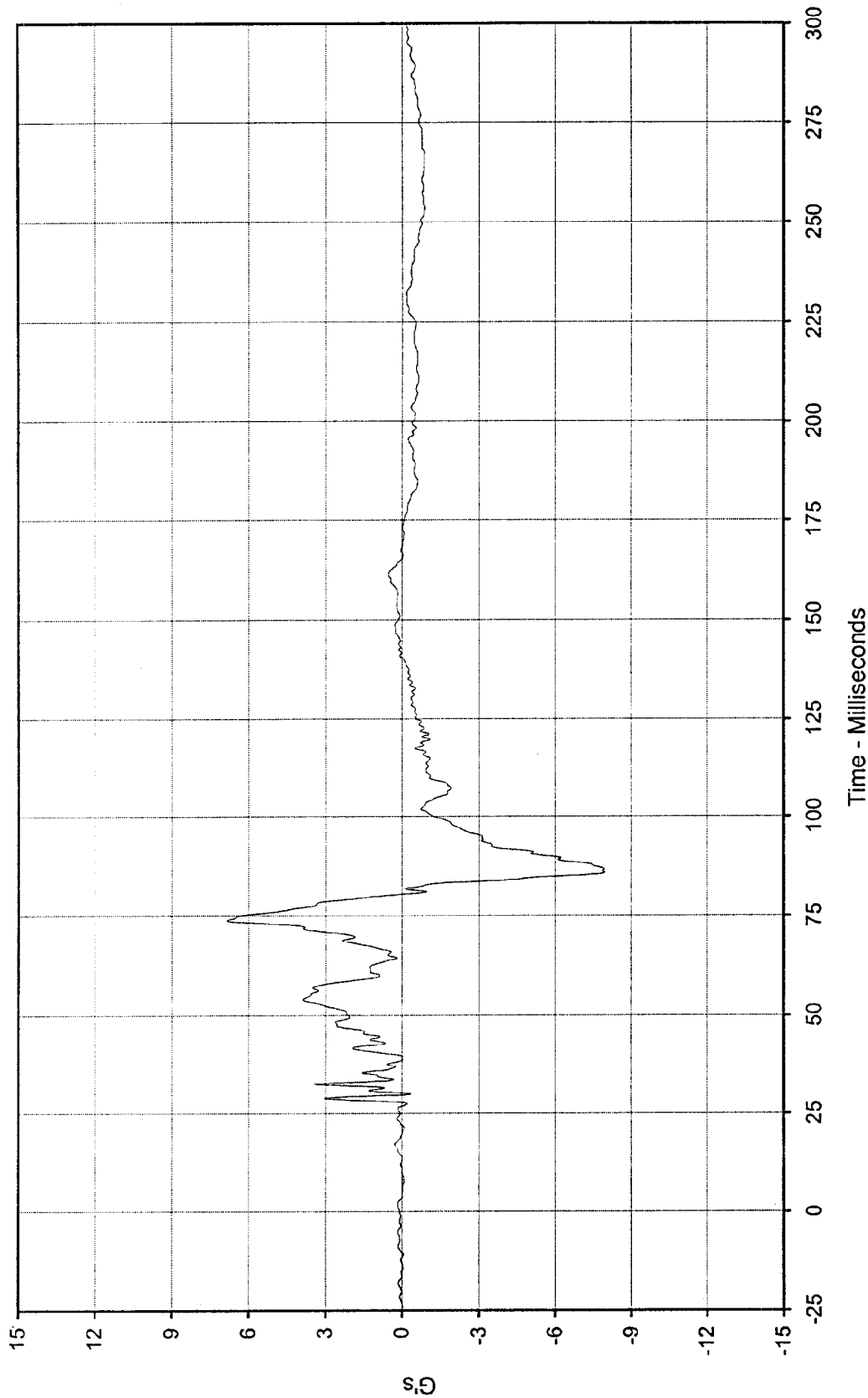
Date of Test: 1/13/99

Curve Number: IN2-060

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

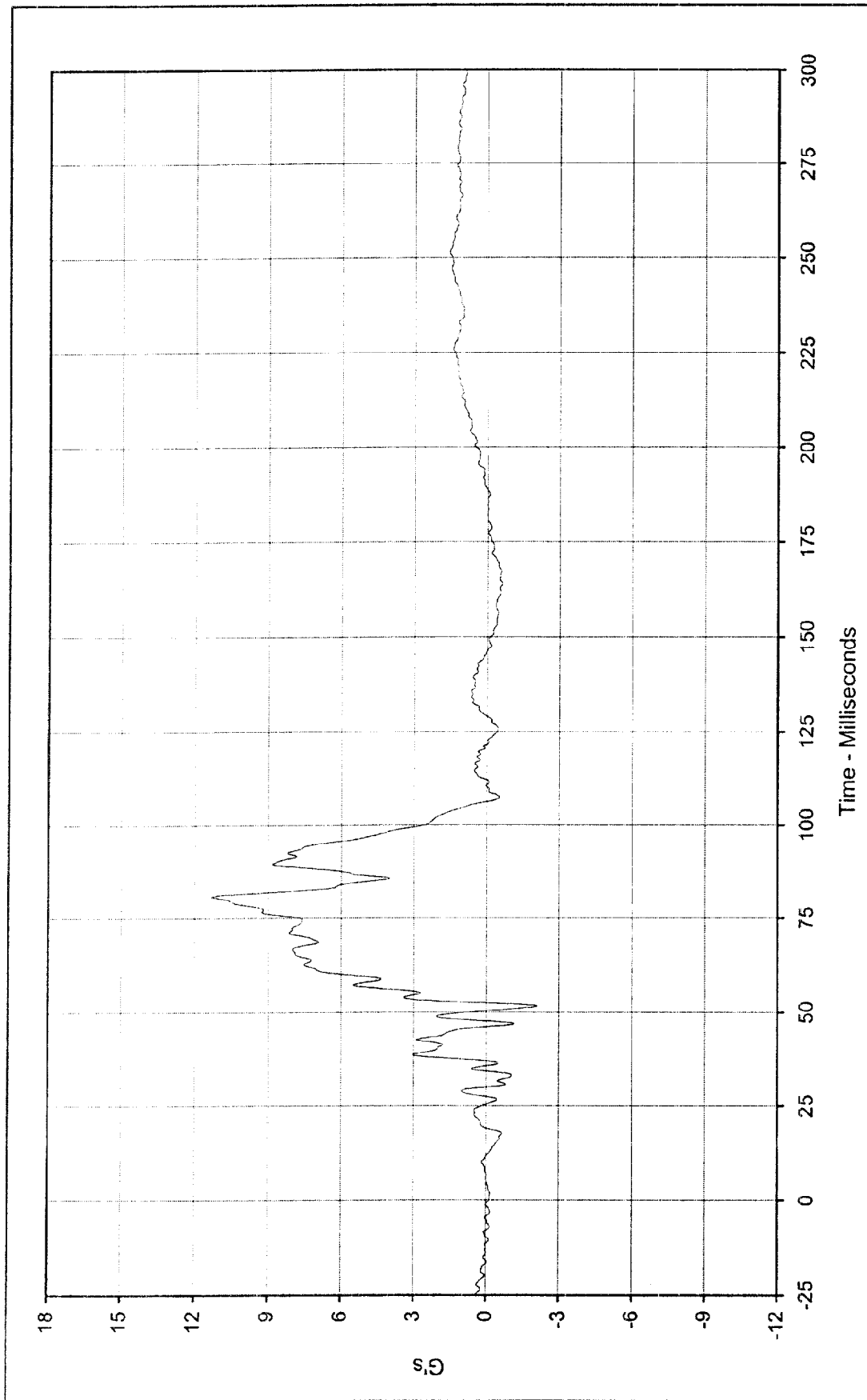




Curve Description: Passenger Chest Redundant Y
 Maximum Value: 6.8 at 73.8 Milliseconds
 Minimum Value: -8.0 at 85.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: FIL-061

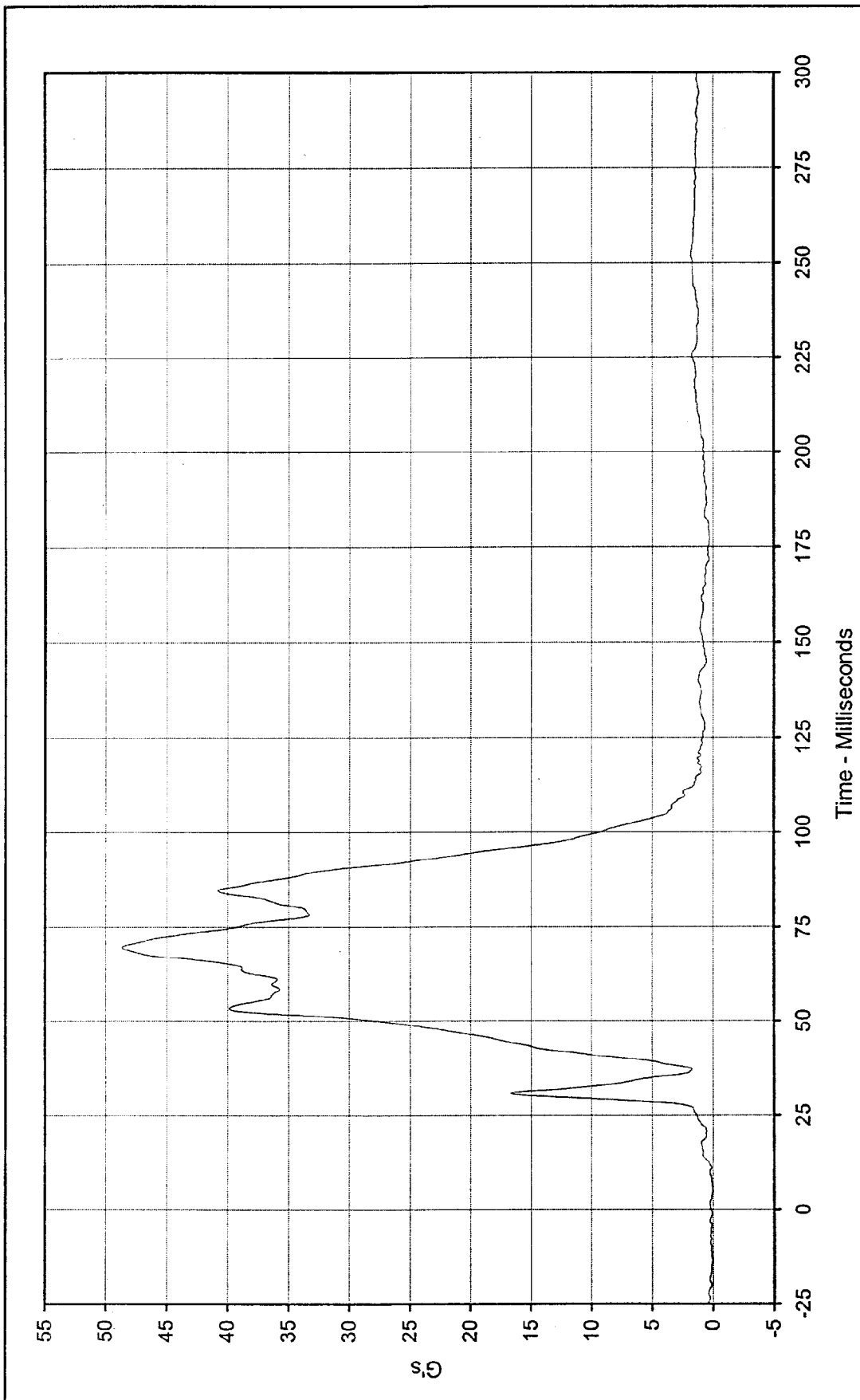
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Passenger Chest Redundant Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	11.3 at 80.5 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-2.1 at 51.6 Milliseconds			
SAE Filter Class:	180			
Date of Test:	1/13/99			
Curve Number:	FIL-062			





Curve Description: Passenger Chest Resultant Redundant

Maximum Value: 48.7 at 69.7 Milliseconds

Minimum Value: 0.0 at 5.6 Milliseconds

SAE Filter Class: 180

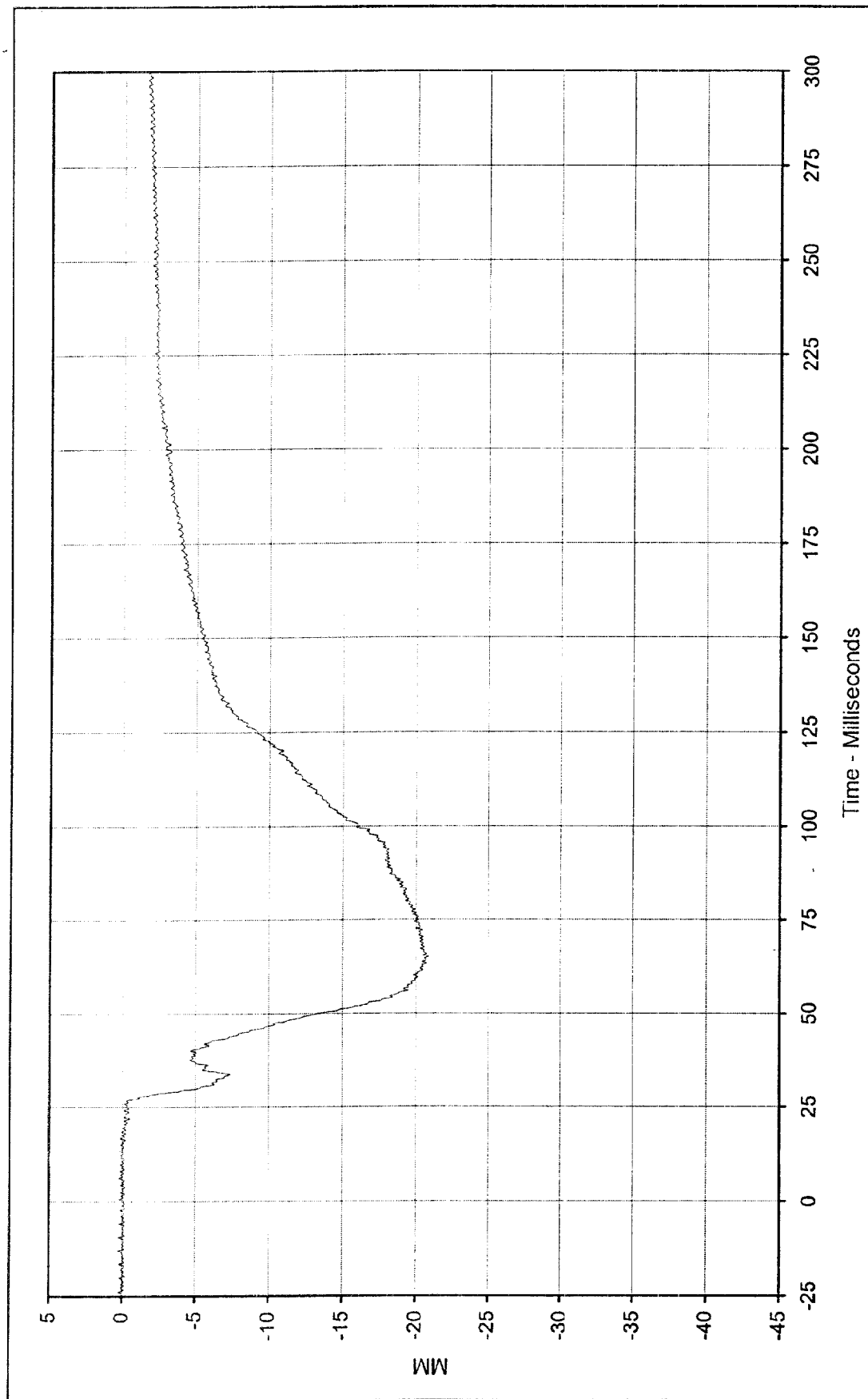
Date of Test: 1/13/99

Curve Number: RES-060

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Chest Displacement X

Maximum Value: 0.2 at 6.1 Milliseconds

Minimum Value: -20.9 at 65.0 Milliseconds

SAE Filter Class: 600

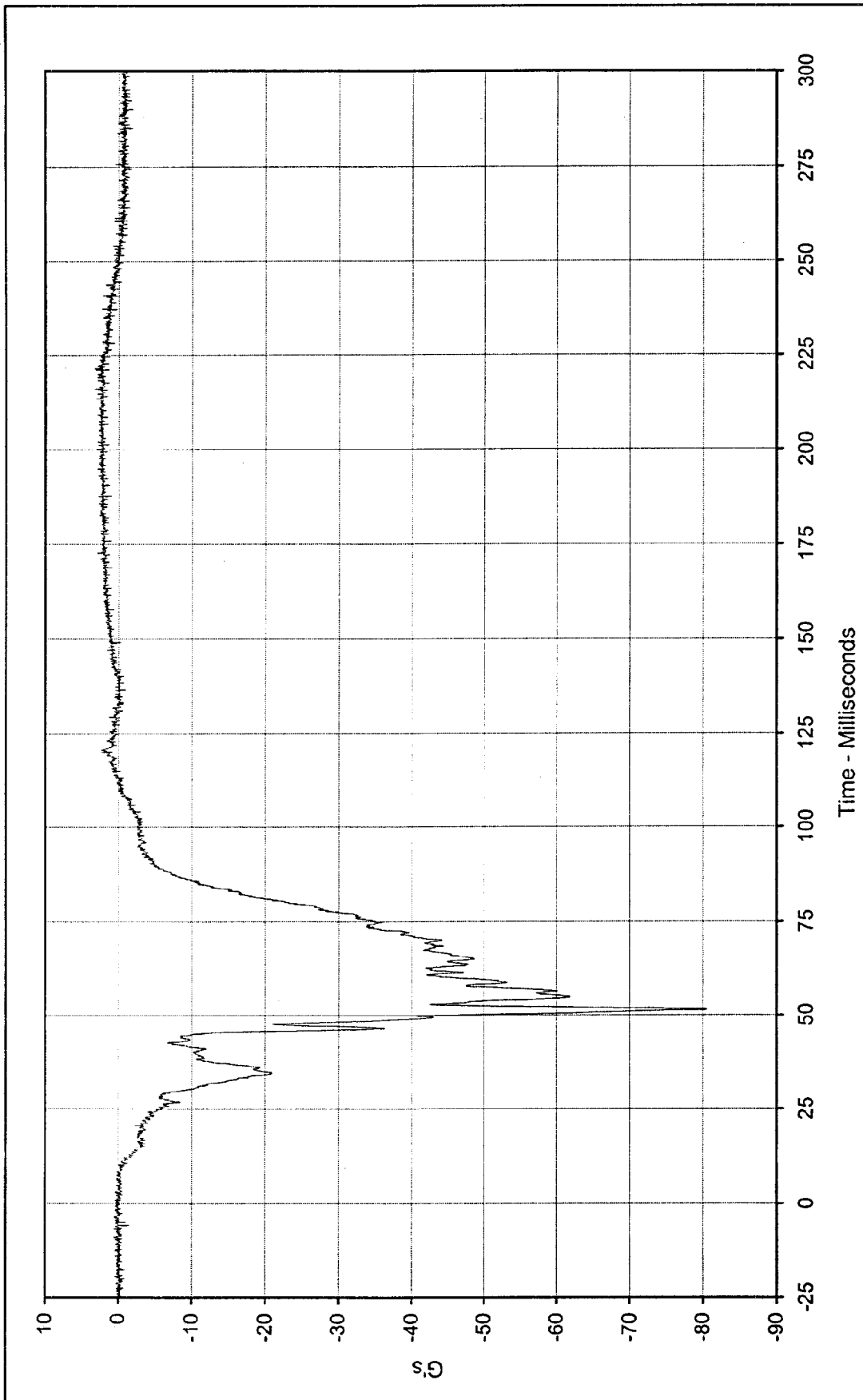
Date of Test: 1/13/99

Curve Number: FIL-063

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

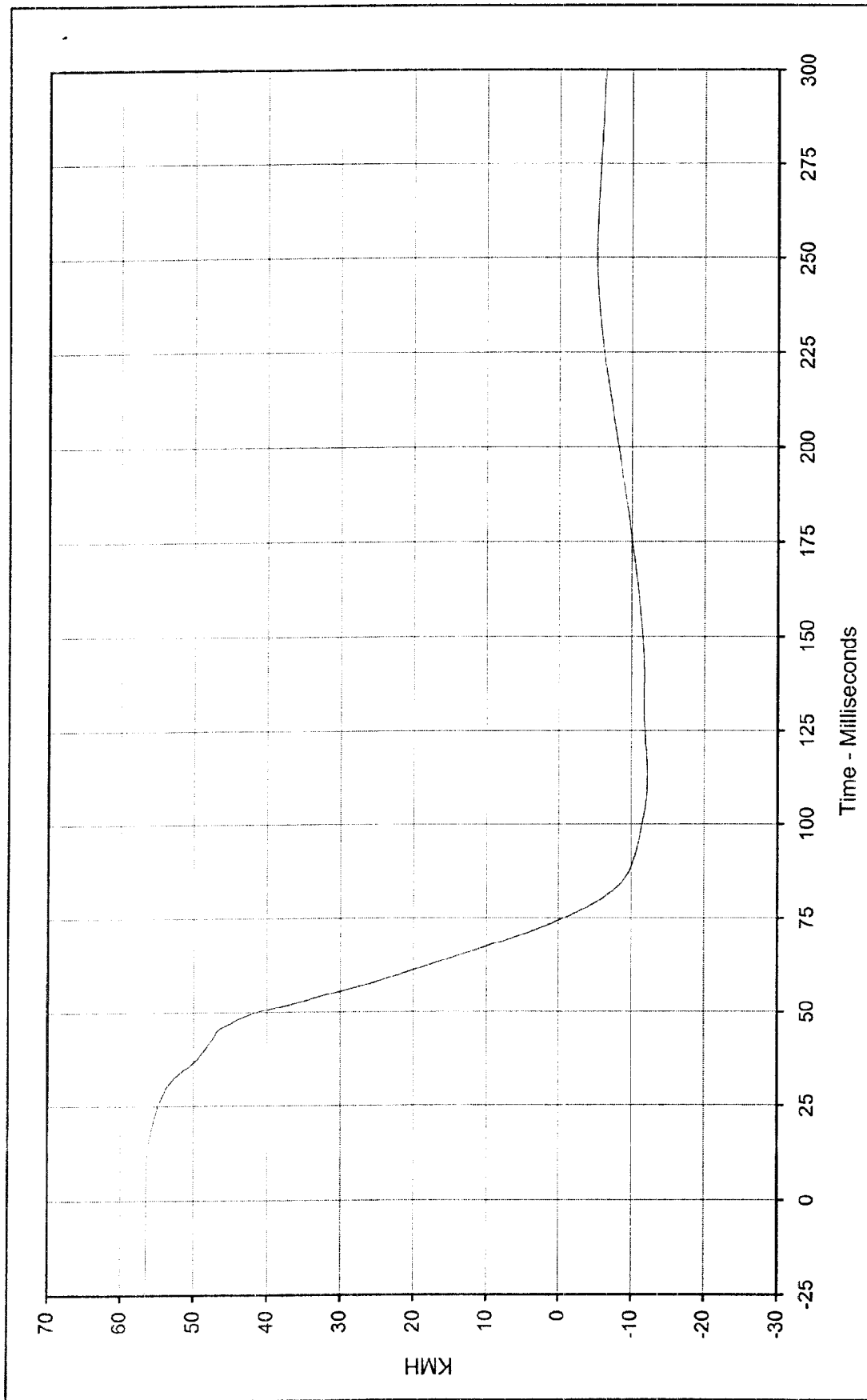
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





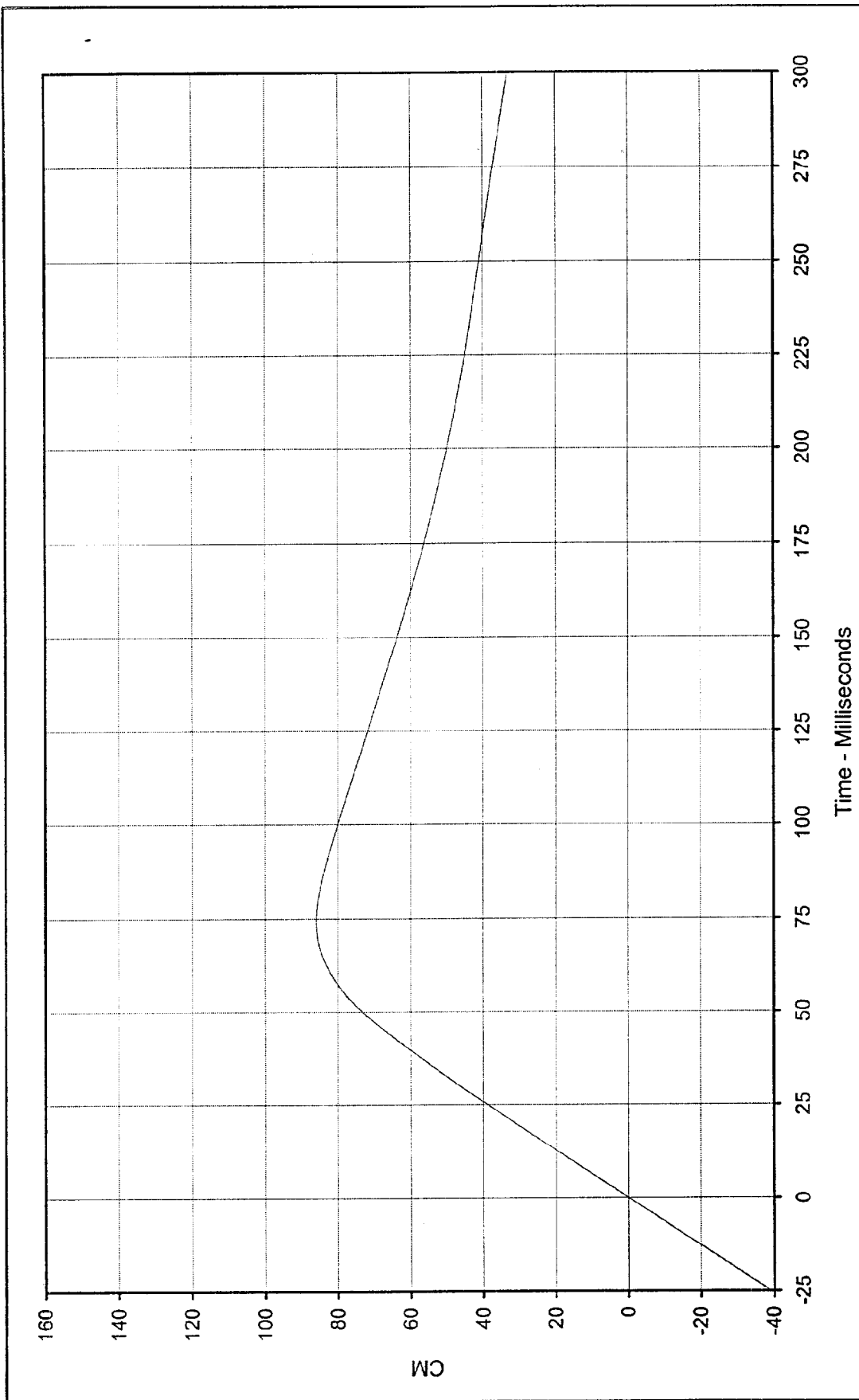
Curve Description: Passenger Pelvis X Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value: 3.3 at 215.7 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan
Minimum Value: -80.6 at 51.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 1/13/99
Curve Number: FIL-064





Curve Description:	Passenger Pelvis X Velocity	Testing Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	56.5 at 0.1 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-12.1 at 113.3 Milliseconds			
SAE Filter Class:	180			
Date of Test:	1/13/99			
Curve Number:	IN1-064			





Curve Description: Passenger Pelvis X Displ.

Maximum Value: 86.0 at 74.4 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 1/13/99

Curve Number: IN2-064

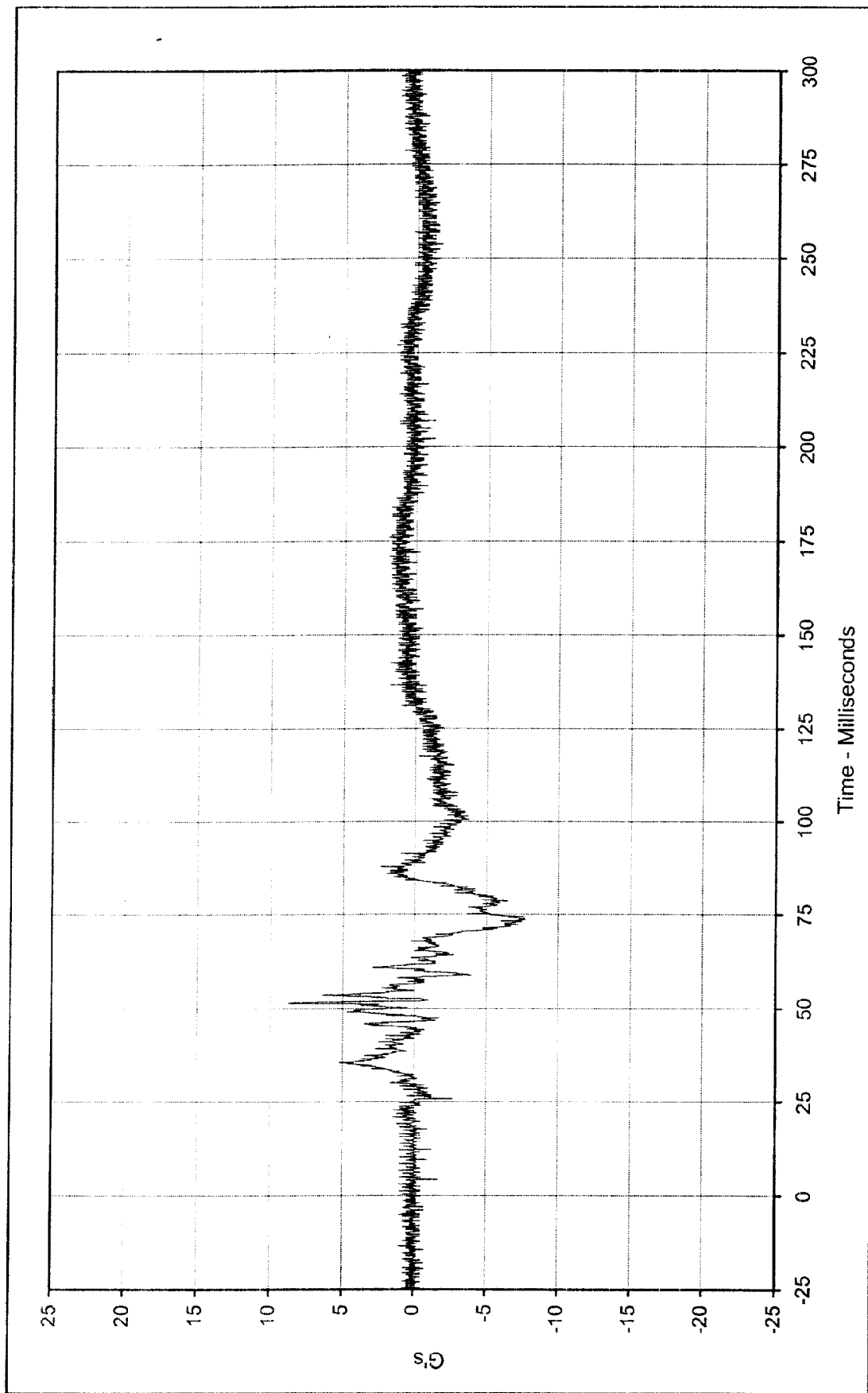
Test Program:

1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle:

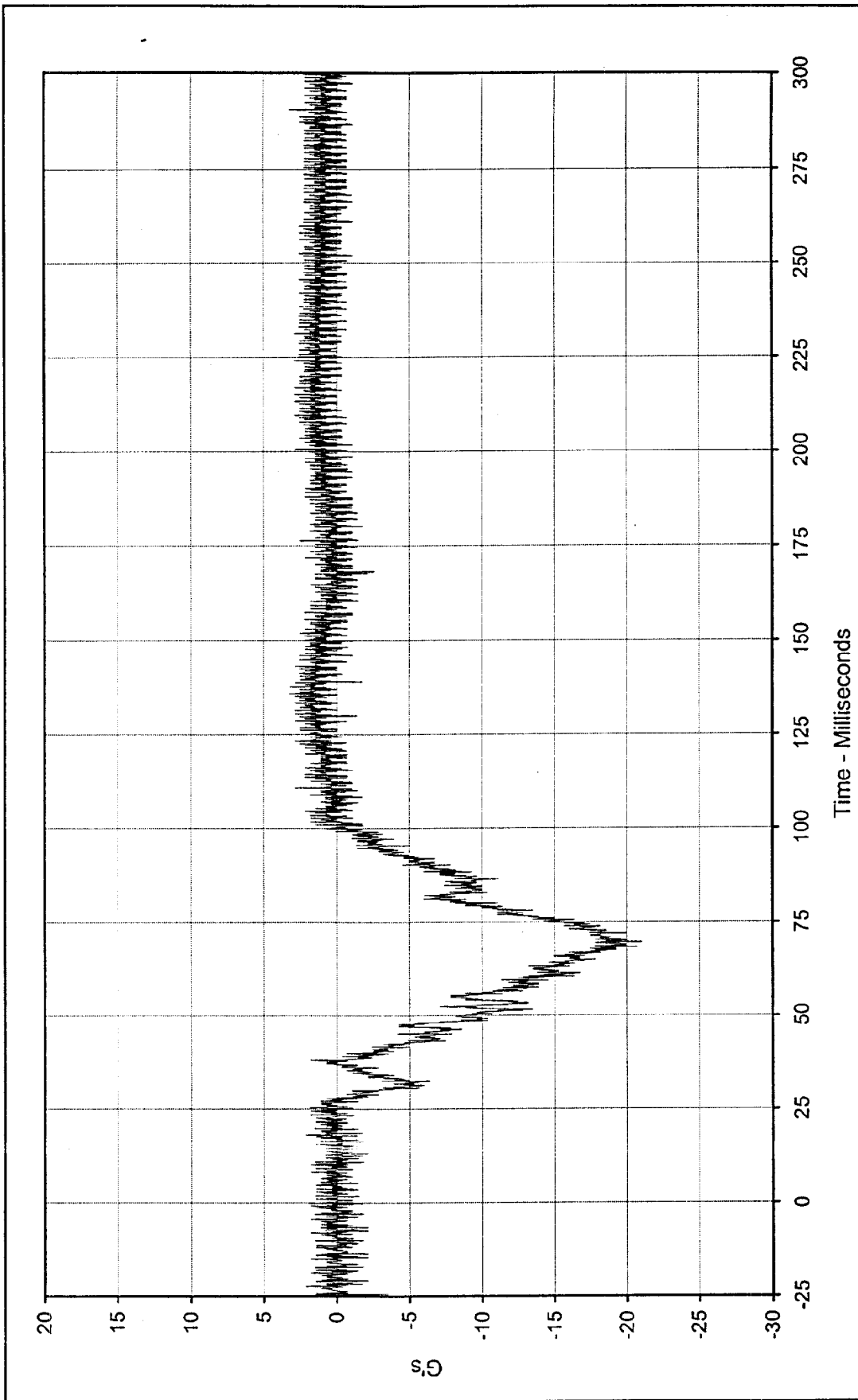
1999 Mazda 626 LX 4 Door Sedan





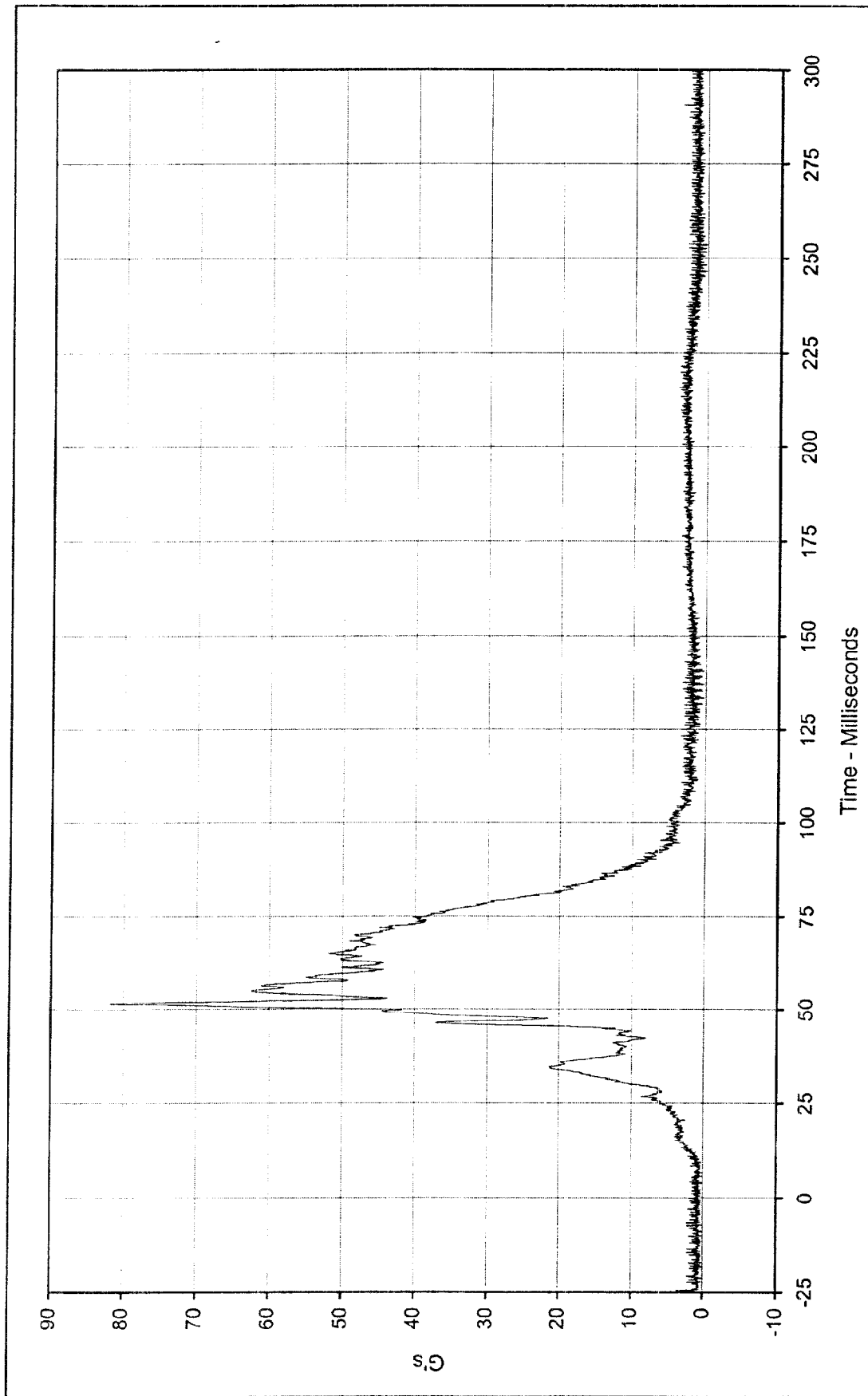
Curve Description:	Passenger Pelvis Y		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	8.7	at 51.4	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-7.7	at 73.6			
SAE Filter Class:	1000				
Date of Test:	1/13/99				
Curve Number:	FIL-065				





Curve Description: Passenger Pelvis Z Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value: 3.2 at 135.8 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan
Minimum Value: -21.0 at 69.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 1/13/99
Curve Number: FIL-066

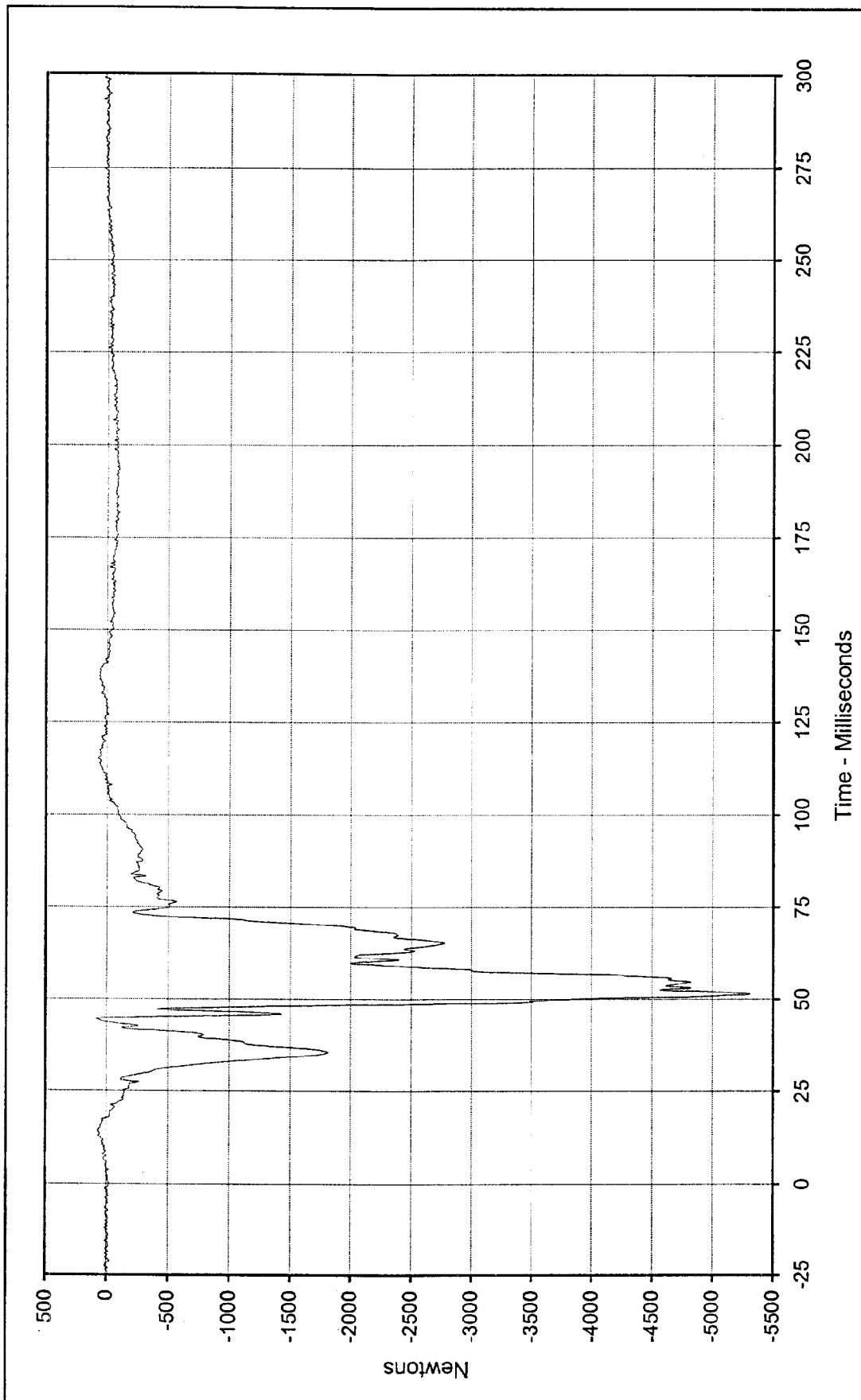




Curve Description:	Passenger Pelvis Resultant	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	81.8 at 51.4 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	0.0 at 3.9 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	RES-064			



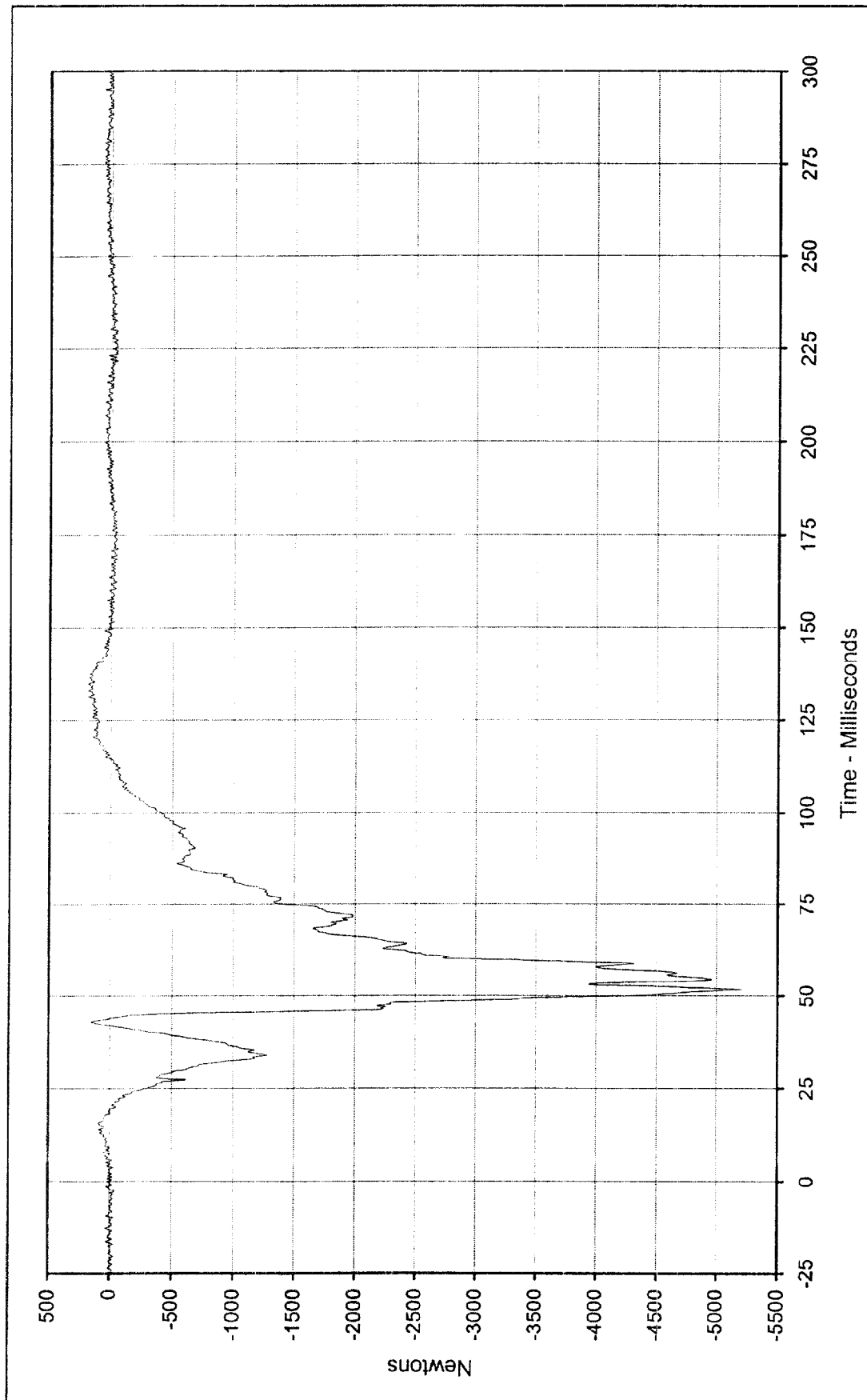




Curve Description: Passenger Left Femur Force
 Maximum Value: 82.1 at 44.6 Milliseconds
 Minimum Value: -5313.7 at 51.4 Milliseconds
 SAE Filter Class: 600
 Date of Test: 1/13/99
 Curve Number: FIL-067

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

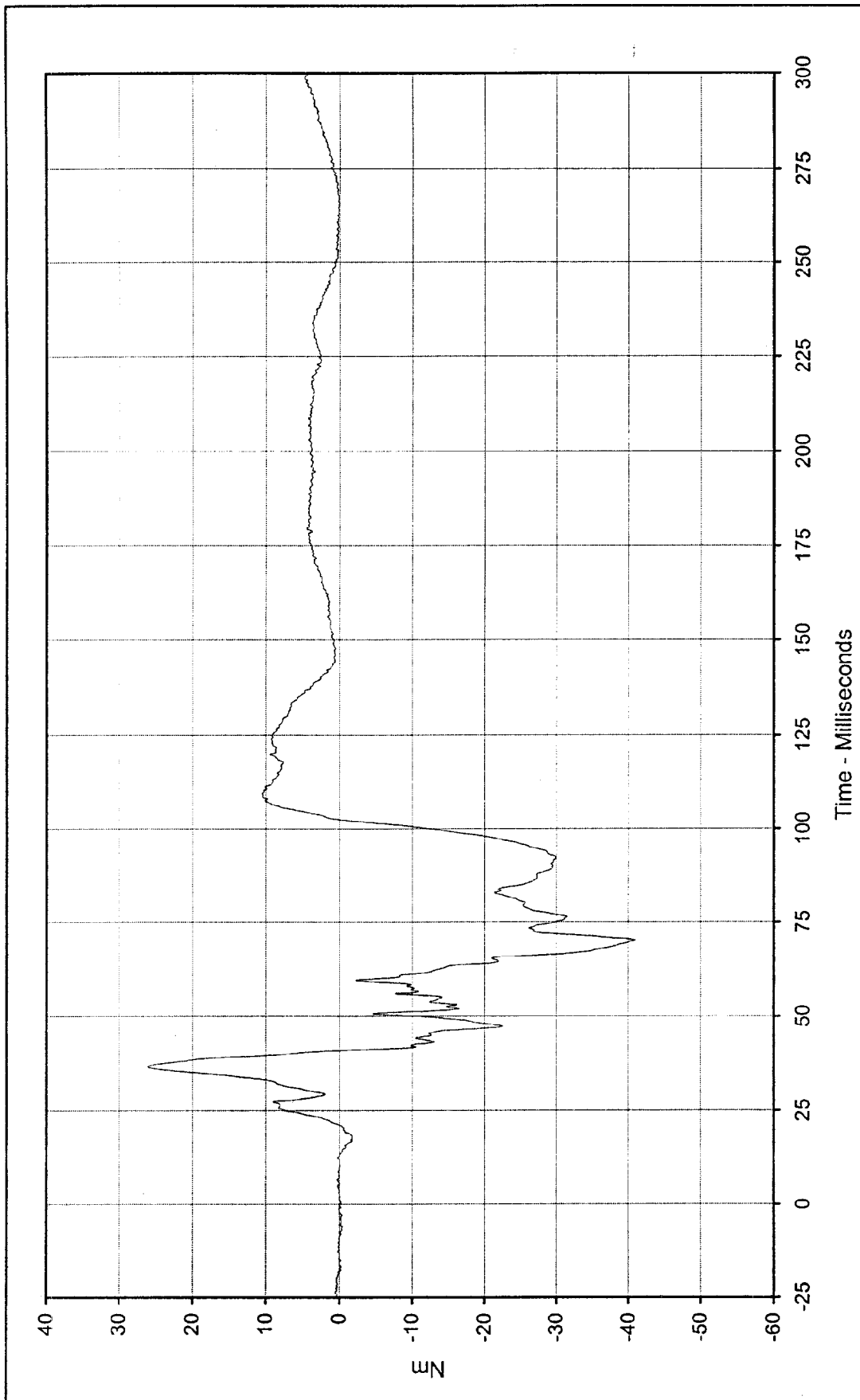




Curve Description:	Passenger Right Femur Force		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	184.0	at 131.4	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-5207.9	at 51.6			
SAE Filter Class:	600				
Date of Test:	1/13/99				
Curve Number:	FIL-068				







Curve Description: Passenger Left Upper Tibia Moment X

Maximum Value: 26.1 at 36.6 Milliseconds

Minimum Value: -41.0 at 70.1 Milliseconds

SAE Filter Class: 600

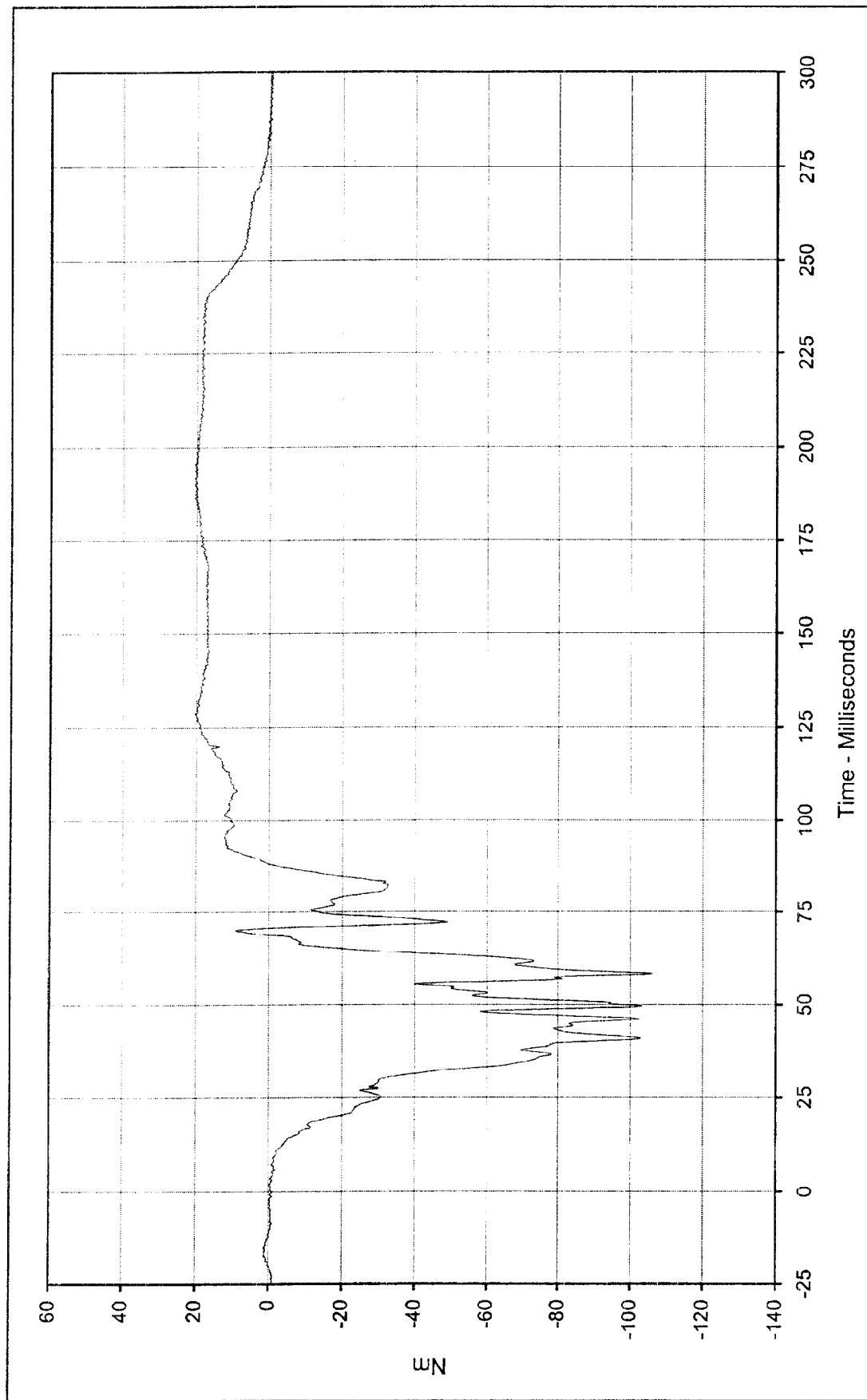
Date of Test: 1/13/99

Curve Number: FIL-069

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Left Upper Tibia Moment Y

Maximum Value: 20.6 at 189.9 Milliseconds

Minimum Value: -106.1 at 58.3 Milliseconds

SAE Filter Class: 600

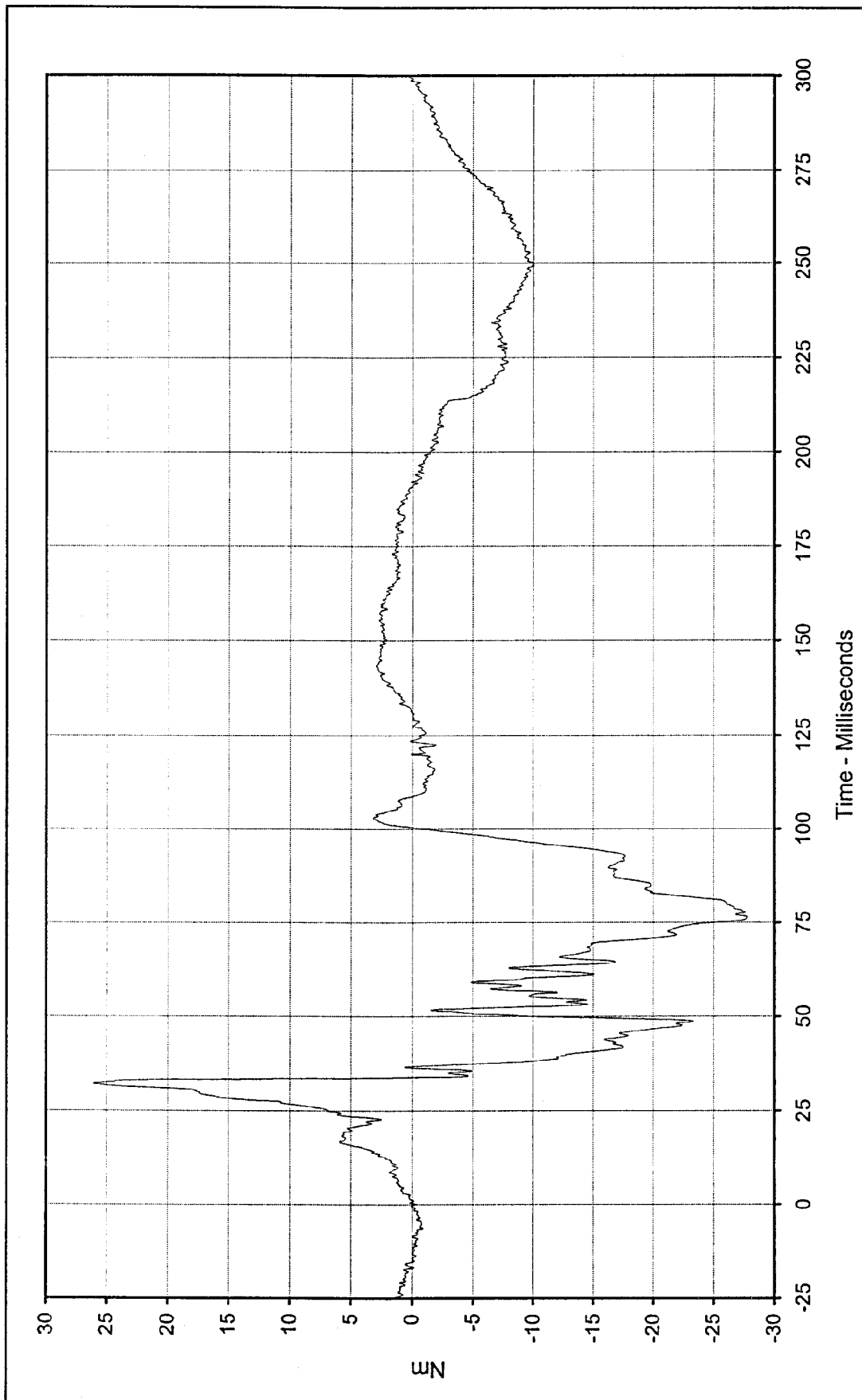
Date of Test: 1/13/99

Curve Number: FIL-070

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment X

Maximum Value: 26.1 at 32.0 Milliseconds

Minimum Value: -27.8 at 76.5 Milliseconds

SAE Filter Class: 600

Date of Test: 1/13/99

Curve Number: FIL-071

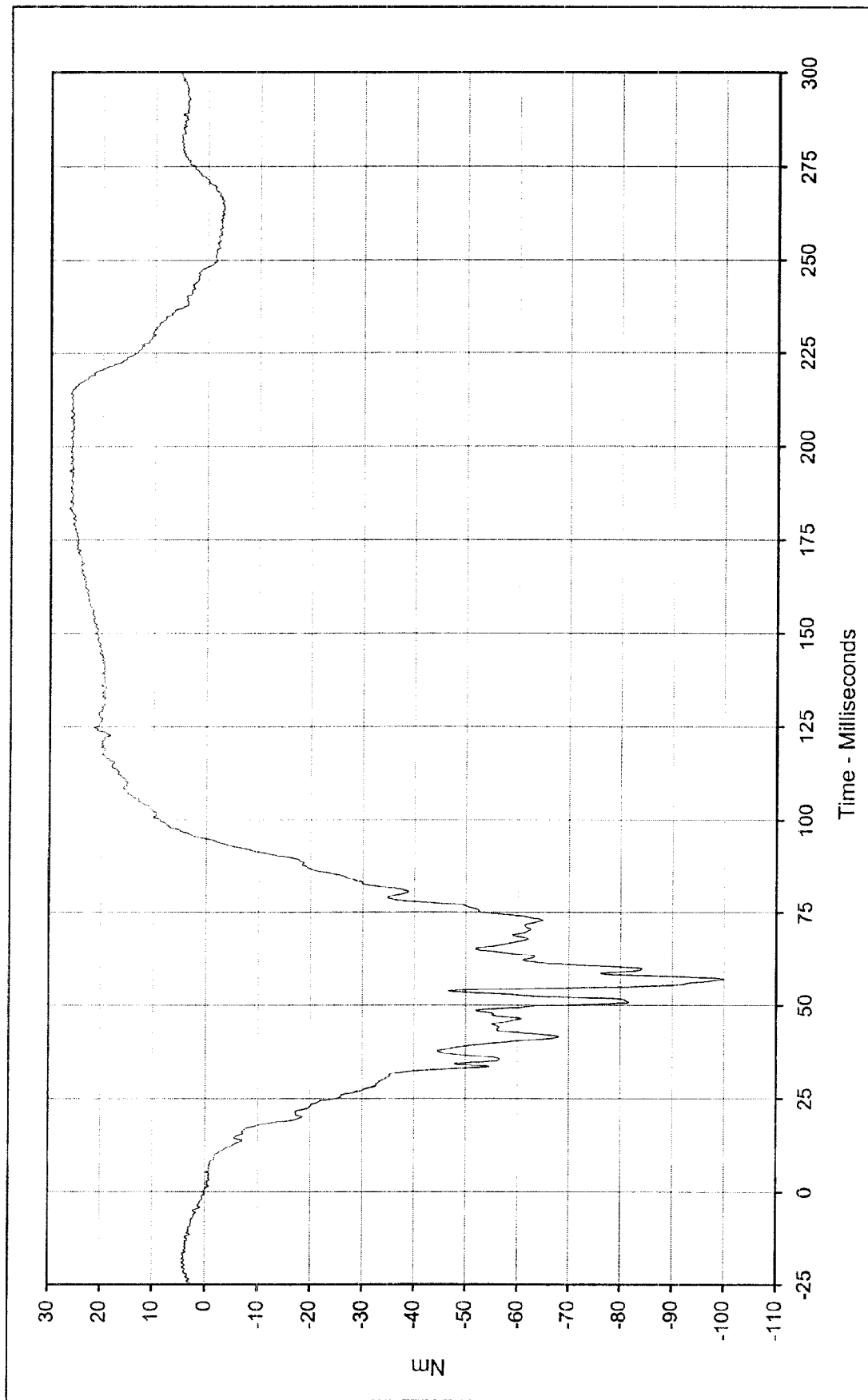
Test Program:

Test Vehicle:

1999 NHTSA 35 mph NCAP No.: MX5400

1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment Y

Maximum Value: 26.4 at 183.3 Milliseconds

Minimum Value: -100.1 at 57.0 Milliseconds

SAE Filter Class: 600

Date of Test: 1/13/99

Curve Number: FIL-072

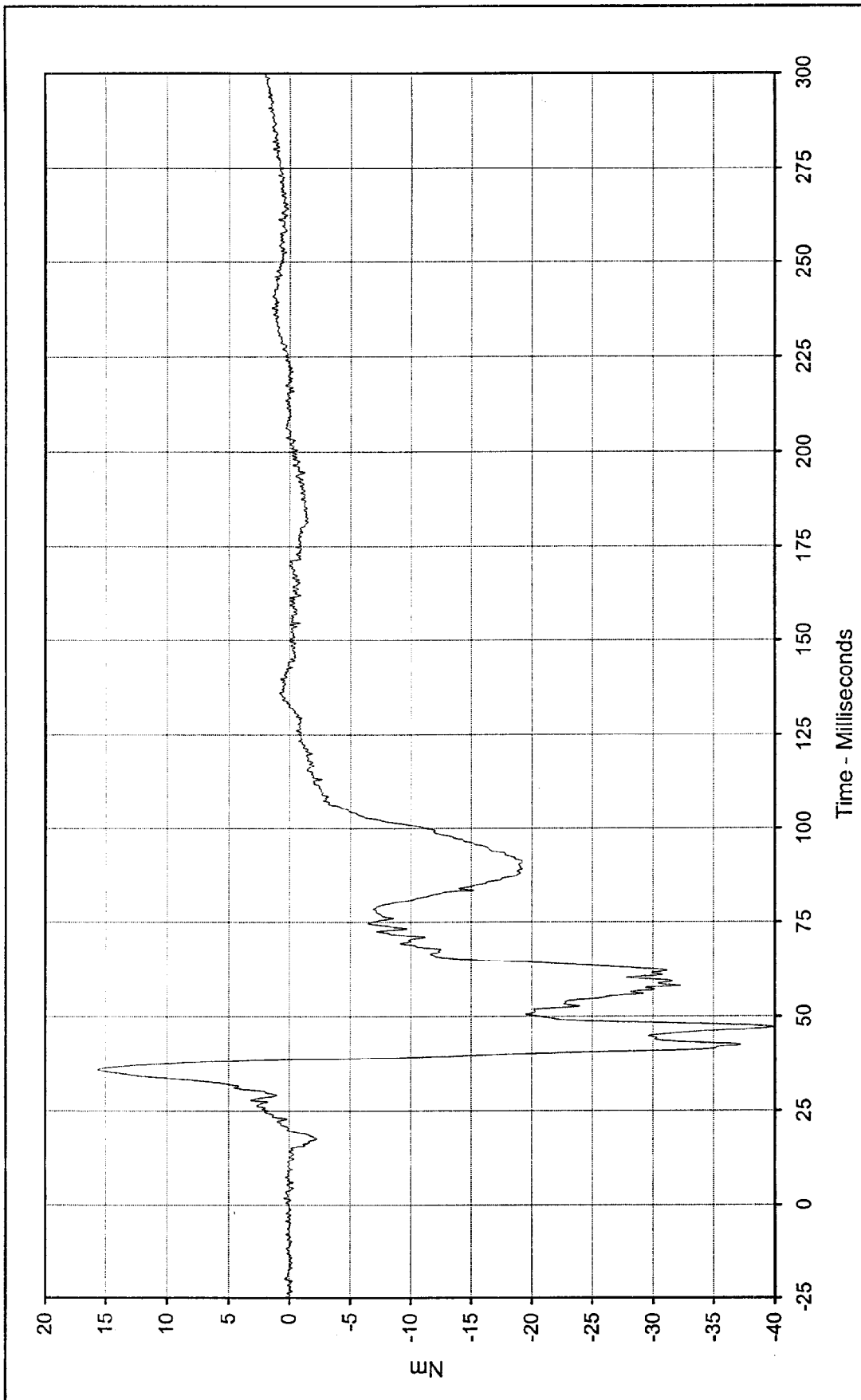
Test Program:

Test Vehicle:

1999 NHTSA 35 mph NCAP No.: MX5400

1999 Mazda 626 LX 4 Door Sedan

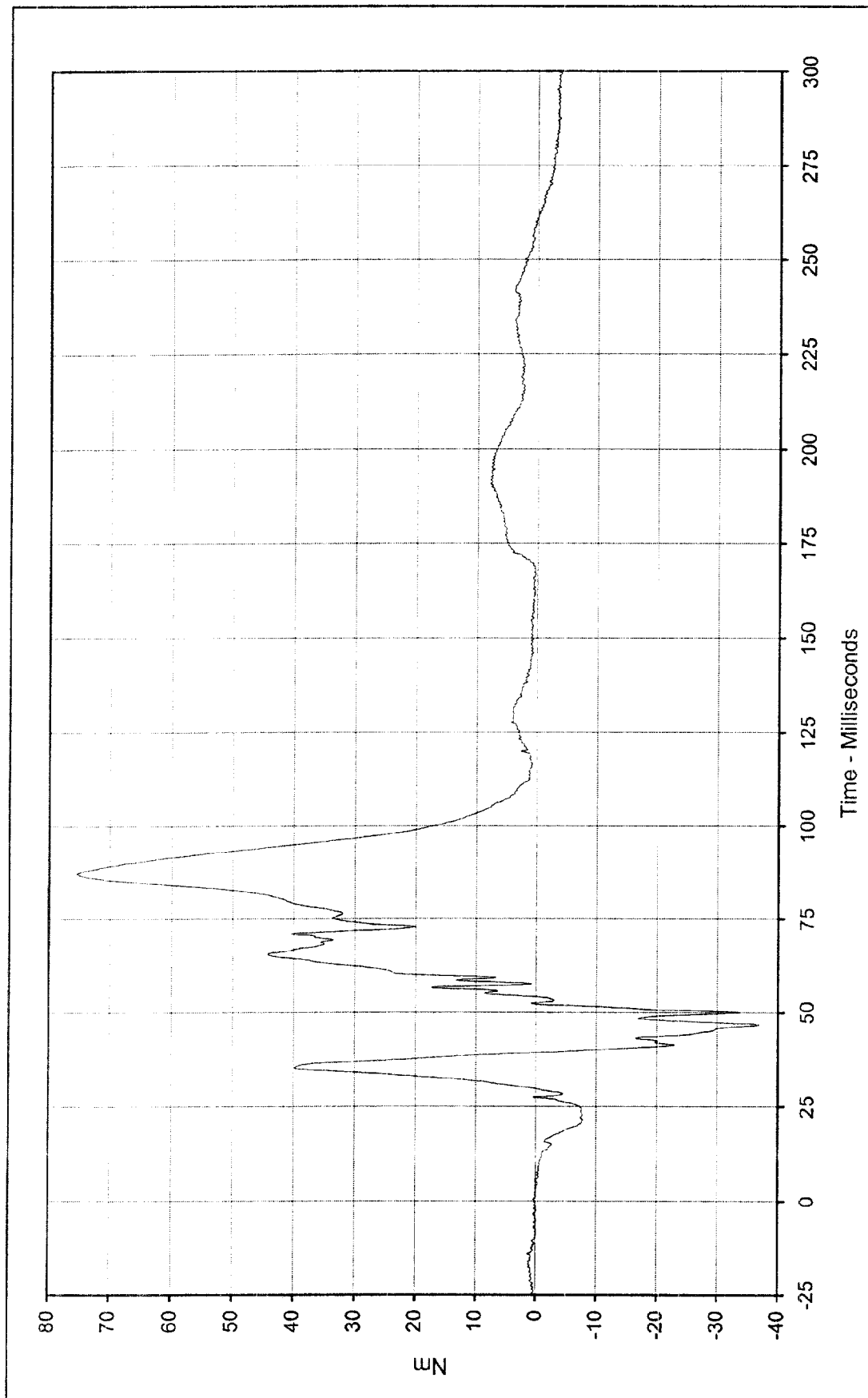




Curve Description: Passenger Left Lower Tibia Moment X
Maximum Value: 15.6 at 35.9 Milliseconds
Minimum Value: -39.9 at 47.1 Milliseconds
SAE Filter Class: 600
Date of Test: 1/13/99
Curve Number: FIL-073

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Moment Y

Maximum Value: 75.4 at 87.2 Milliseconds

Minimum Value: -36.9 at 46.7 Milliseconds

SAE Filter Class: 600

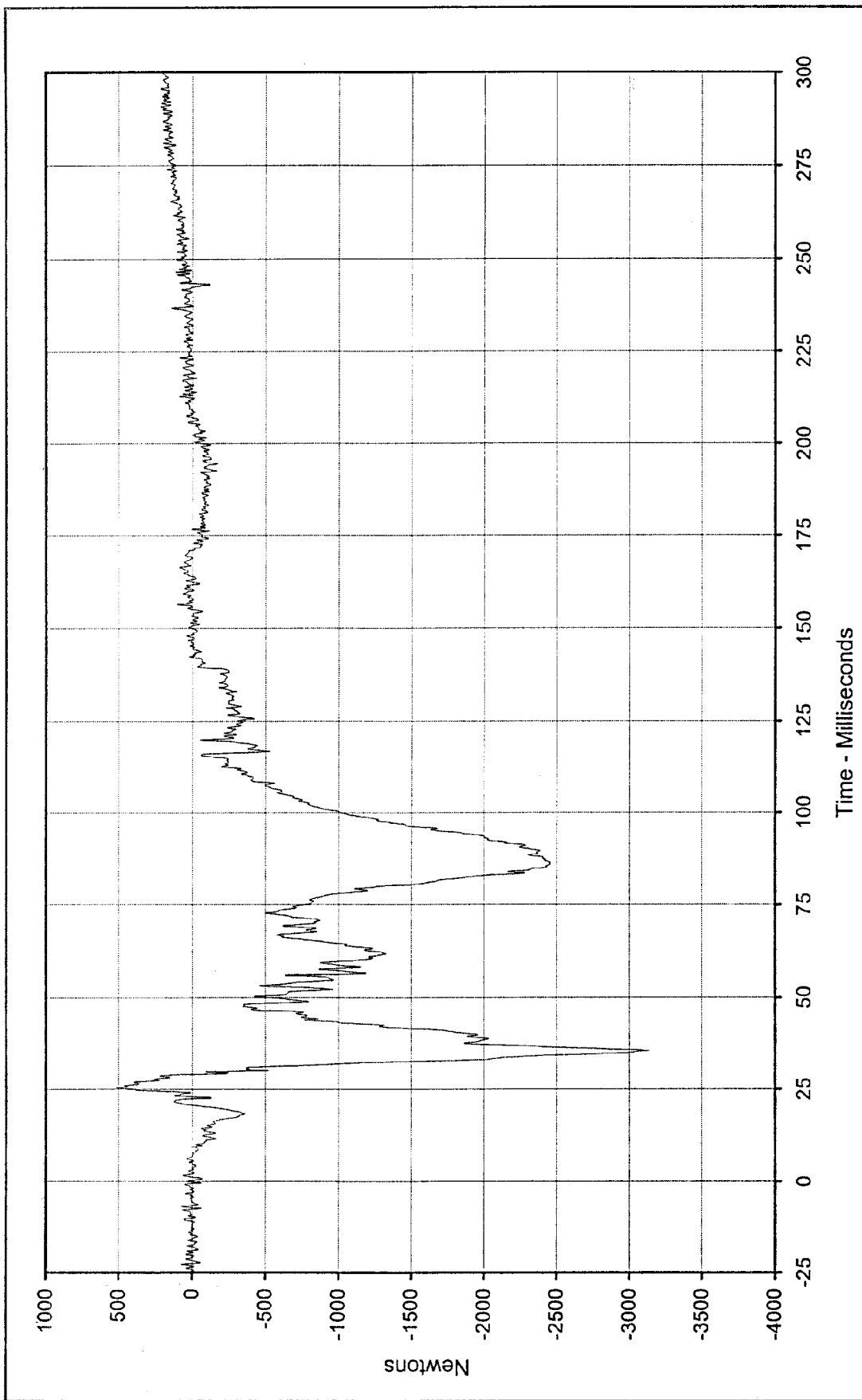
Date of Test: 1/13/99

Curve Number: FIL-074

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

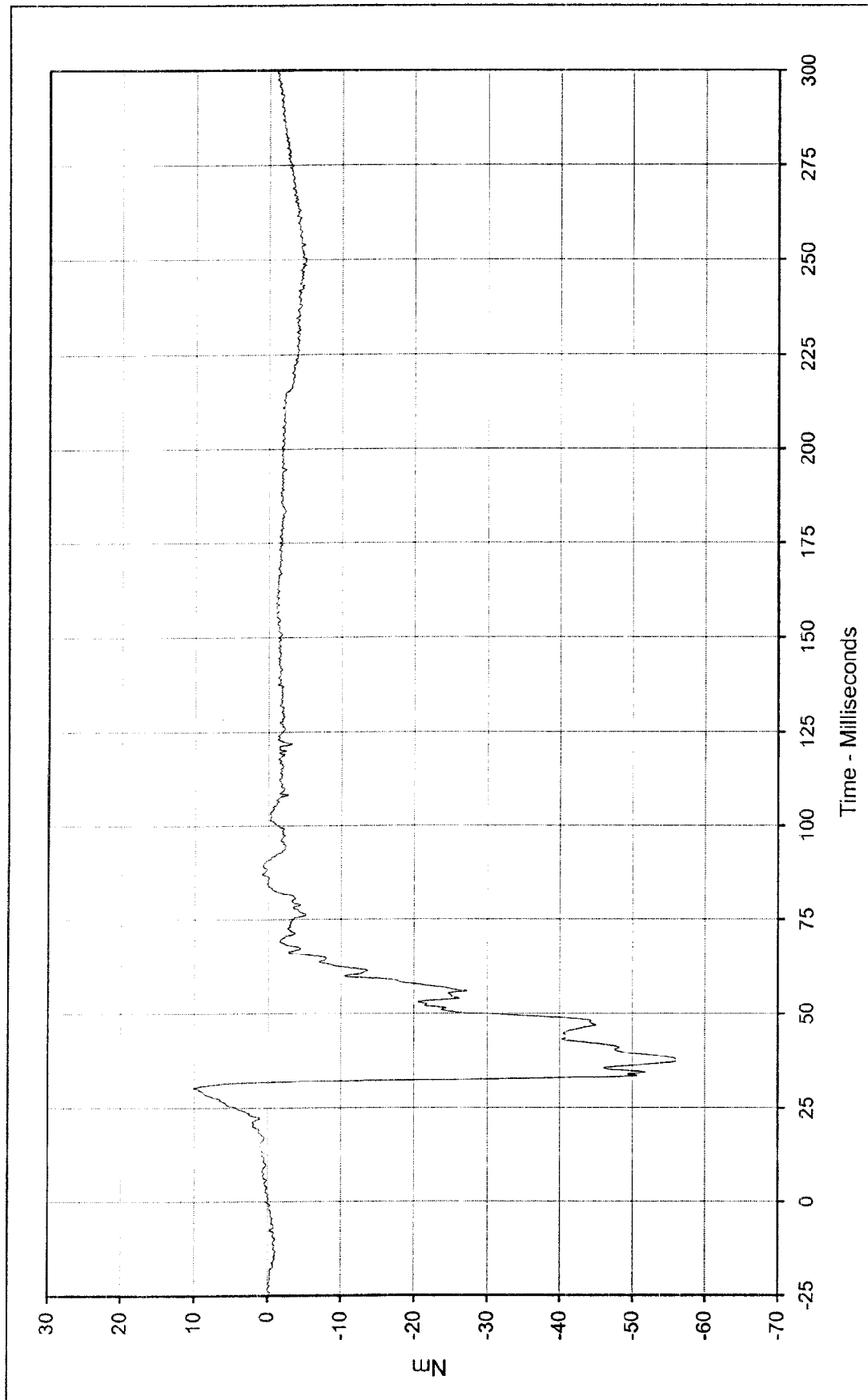




Curve Description: Passenger Left Lower Tibia Force Z
 Maximum Value: 519.3 at 25.4 Milliseconds
 Minimum Value: -3137.7 at 35.6 Milliseconds
 SAE Filter Class: 600
 Date of Test: 1/13/99
 Curve Number: FIL-075

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Right Lower Tibia Moment X

Maximum Value: 10.1 at 30.4 Milliseconds

Minimum Value: -56.1 at 37.4 Milliseconds

SAE Filter Class: 600

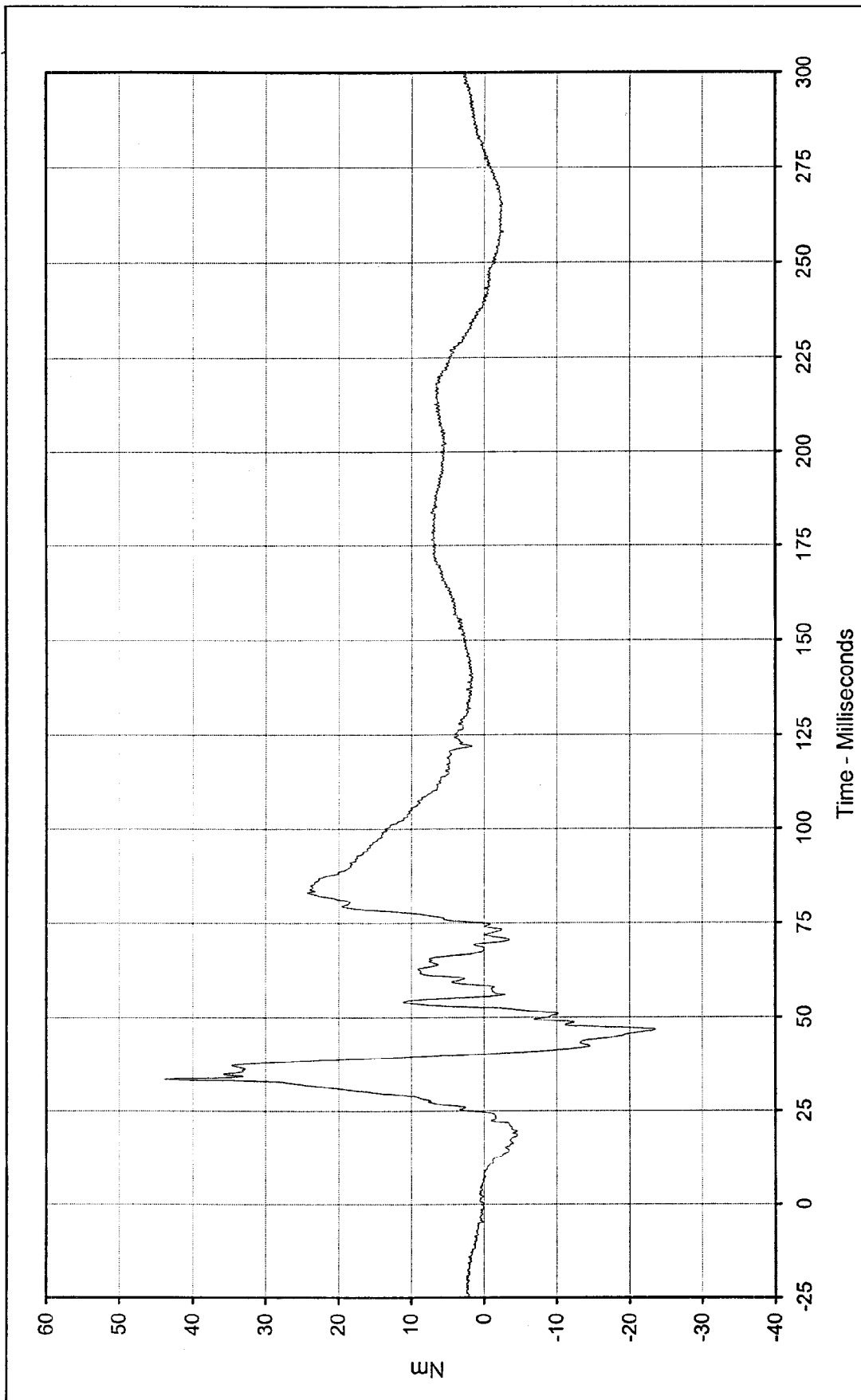
Date of Test: 1/13/99

Curve Number: FIL-076

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Right Lower Tibia Moment Y

Maximum Value: 43.9 at 33.5 Milliseconds

Minimum Value: -23.6 at 46.8 Milliseconds

SAE Filter Class: 600

Date of Test: 1/13/99

Curve Number: FIL-077

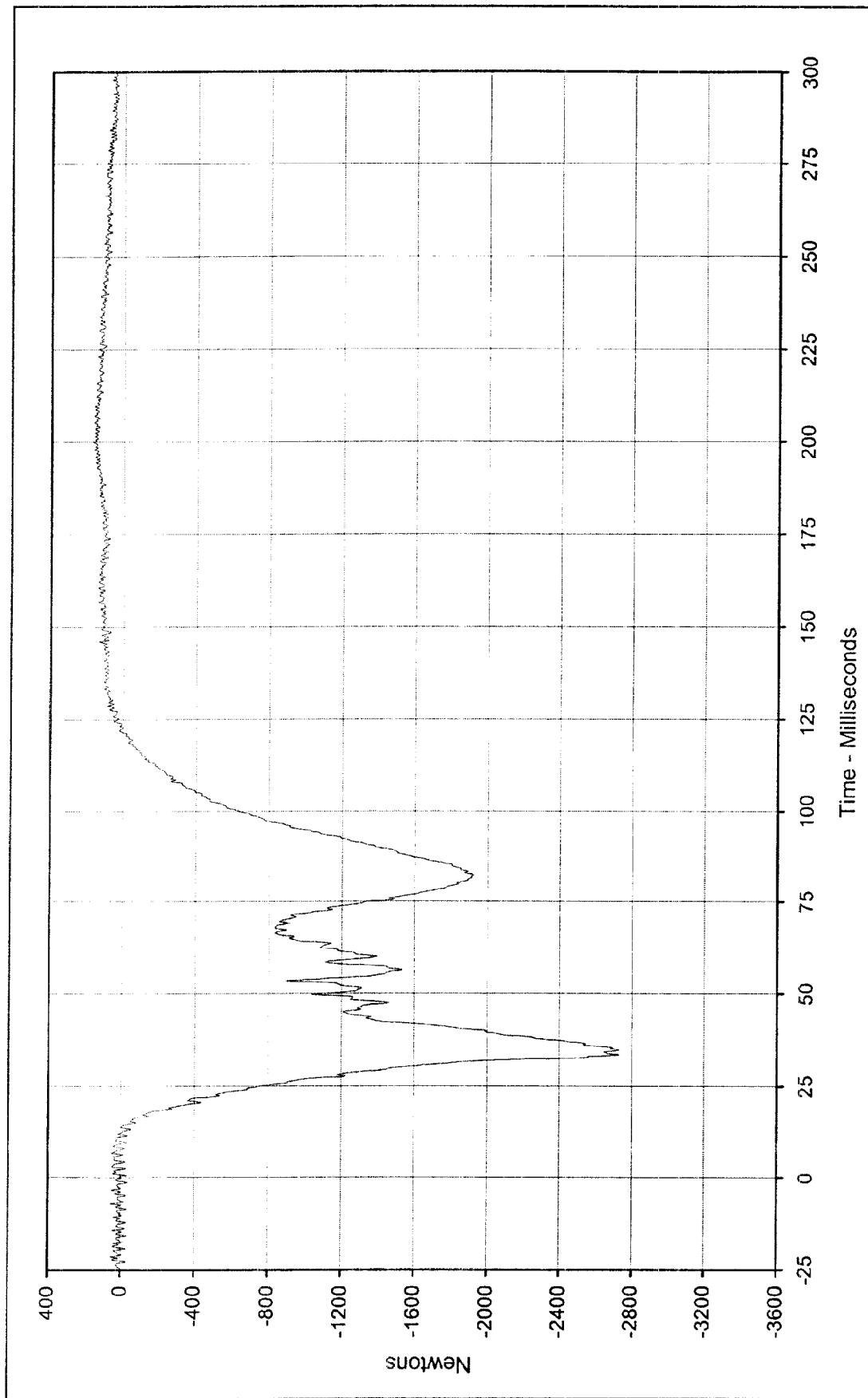
Test Program:

1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle:

1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Right lower Tibia Force Z

Maximum Value: 170.3 at 199.9 Milliseconds

Minimum Value: -2731.5 at 34.7 Milliseconds

SAE Filter Class: 600

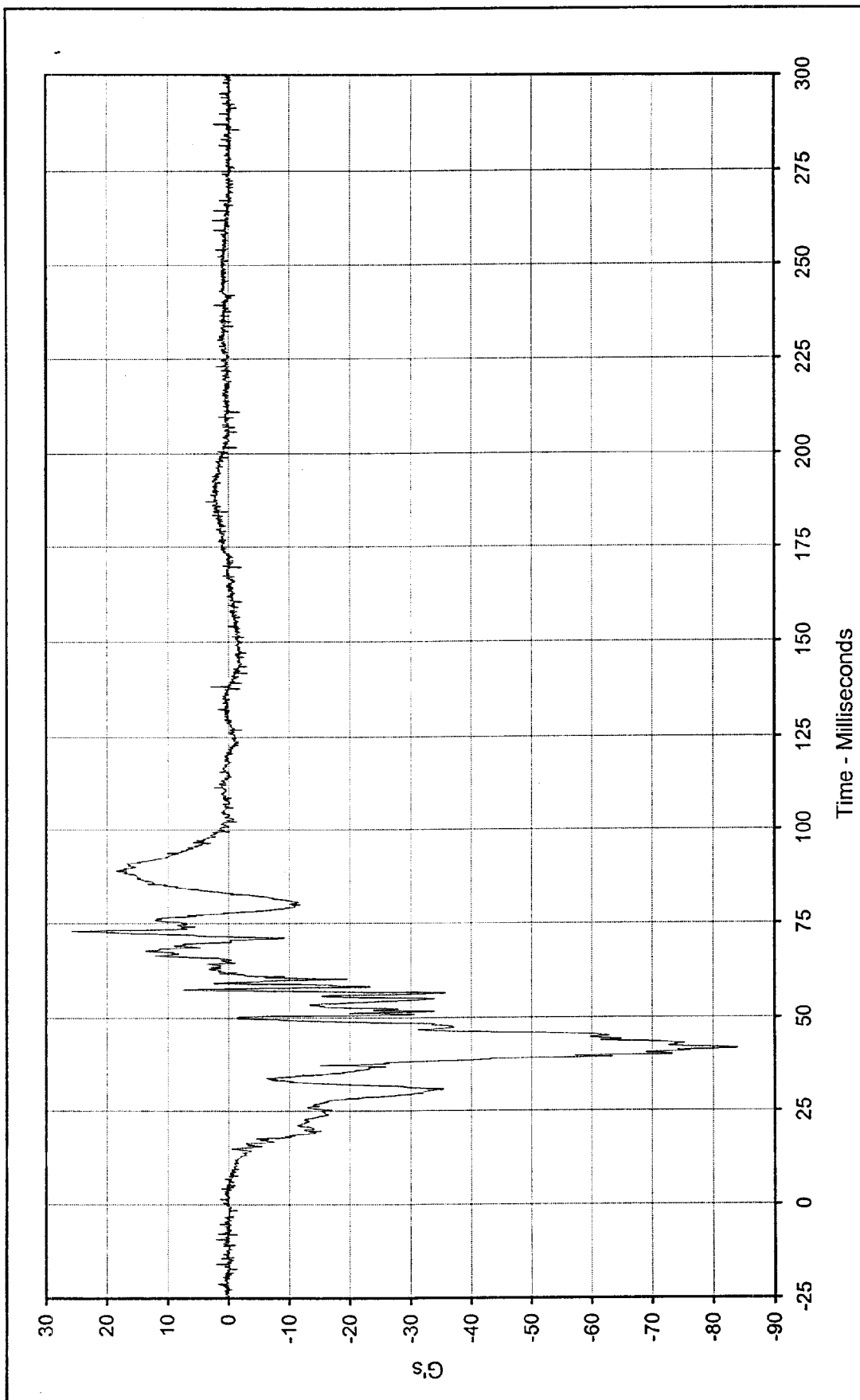
Date of Test: 1/13/99

Curve Number: FIL-078

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

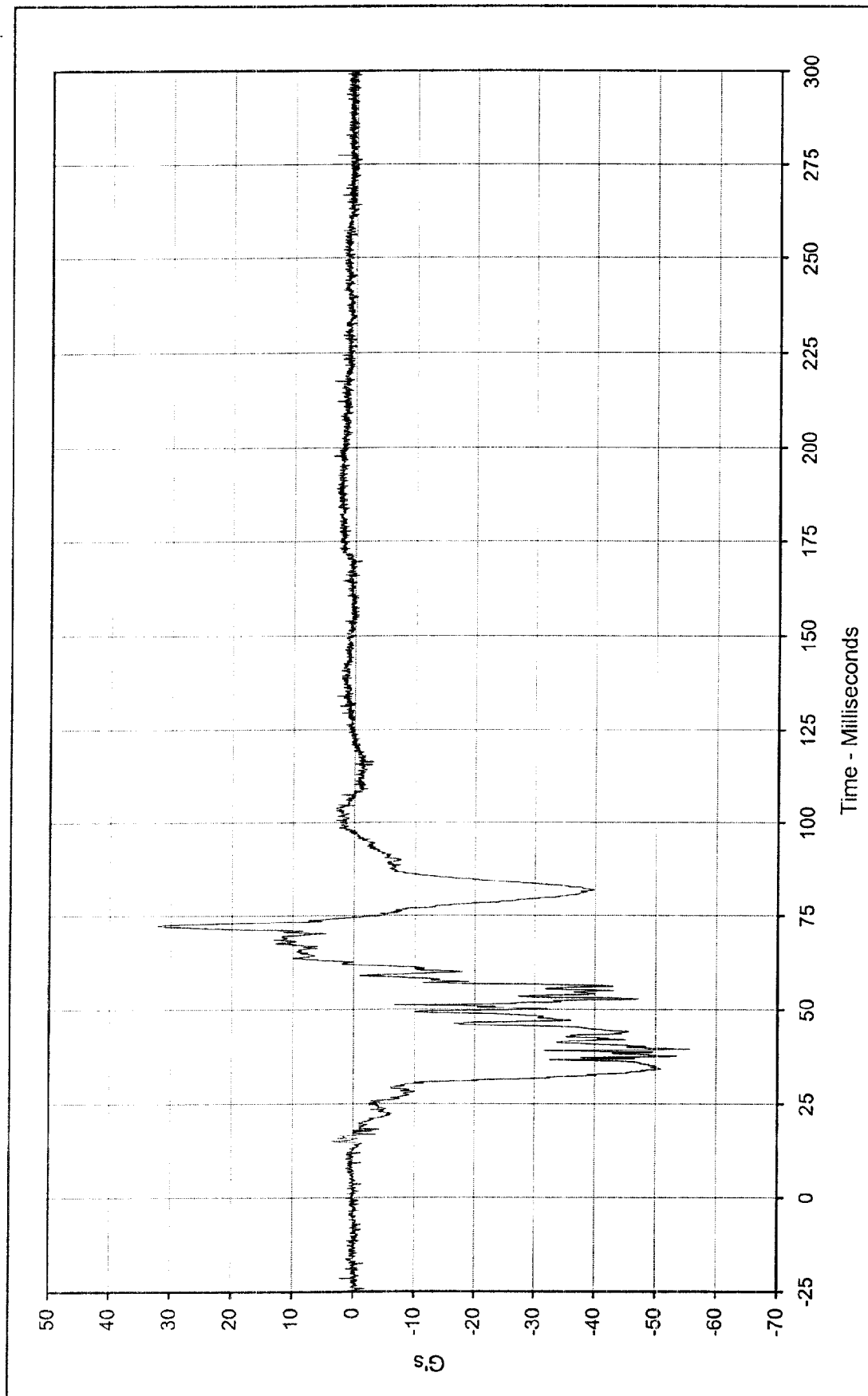




Curve Description: Passenger Left Foot Aft X
 Maximum Value: 25.7 at 73.0 Milliseconds
 Minimum Value: -84.0 at 41.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: FIL-079

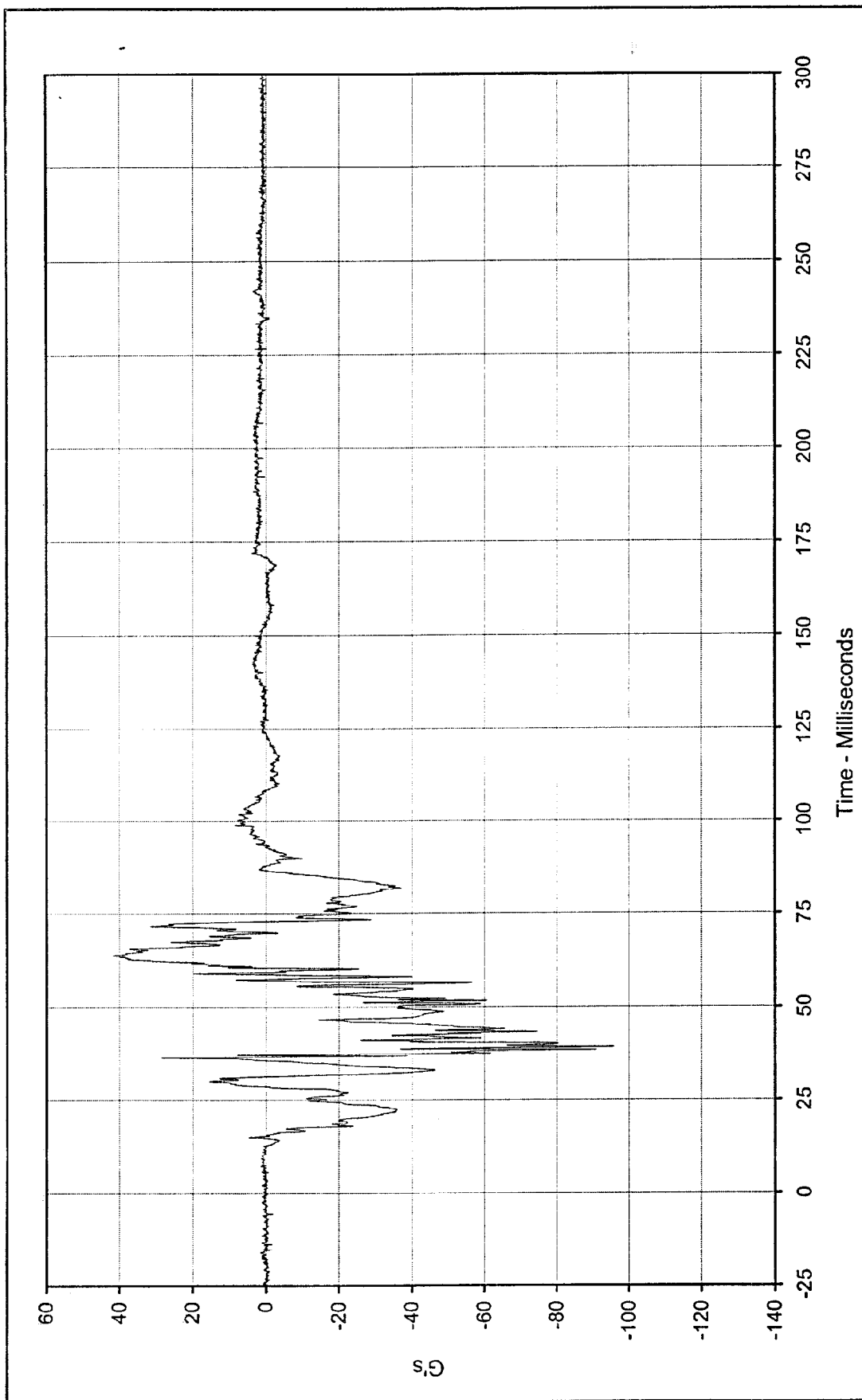
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Passenger Left Foot Aft Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	32.2 at 72.3 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-55.7 at 39.4 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	FIL-080			

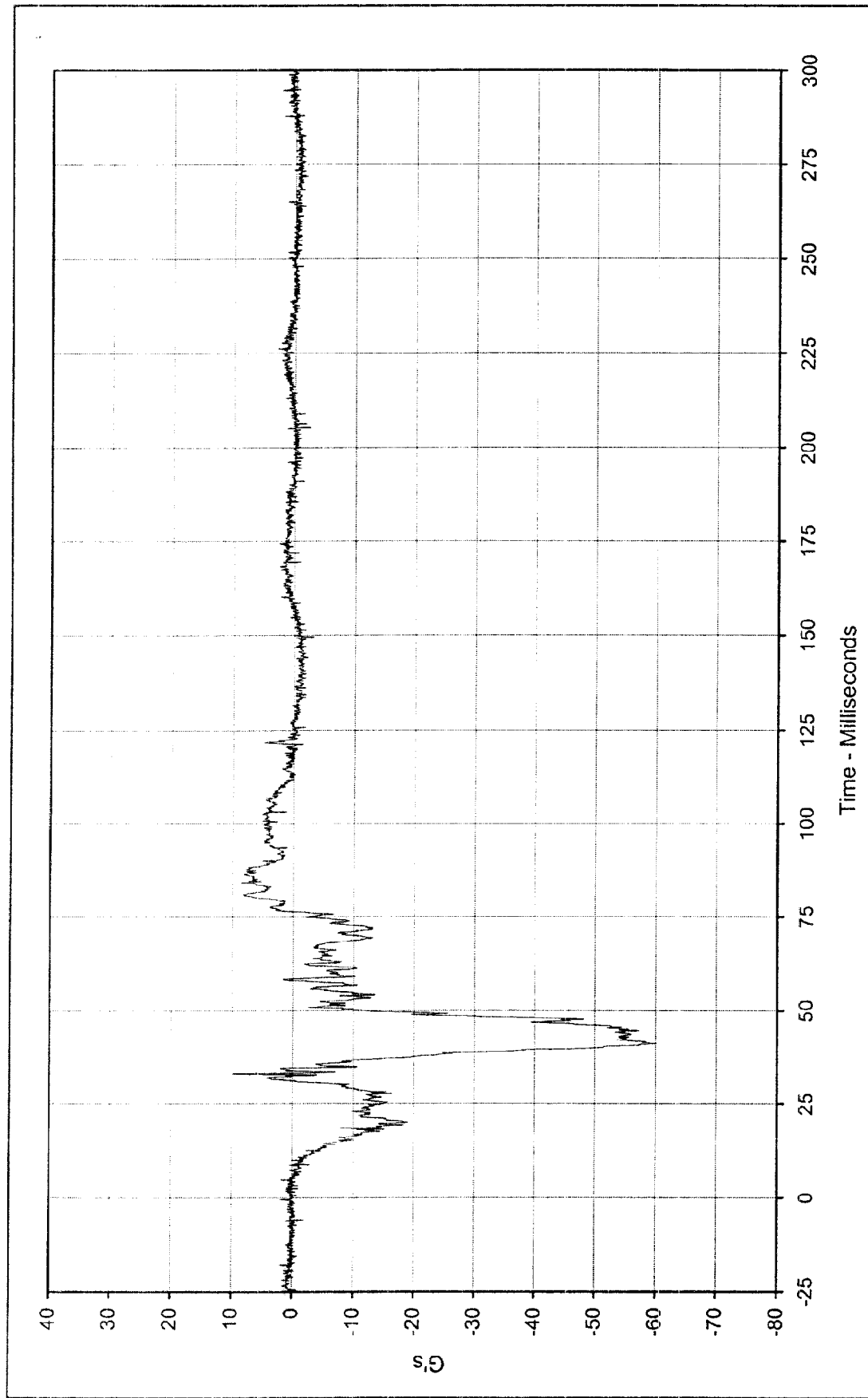




Curve Description: Passenger Left Foot Fore Z
 Maximum Value: 41.8 at 63.8 Milliseconds
 Minimum Value: -95.9 at 39.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: FIL-081

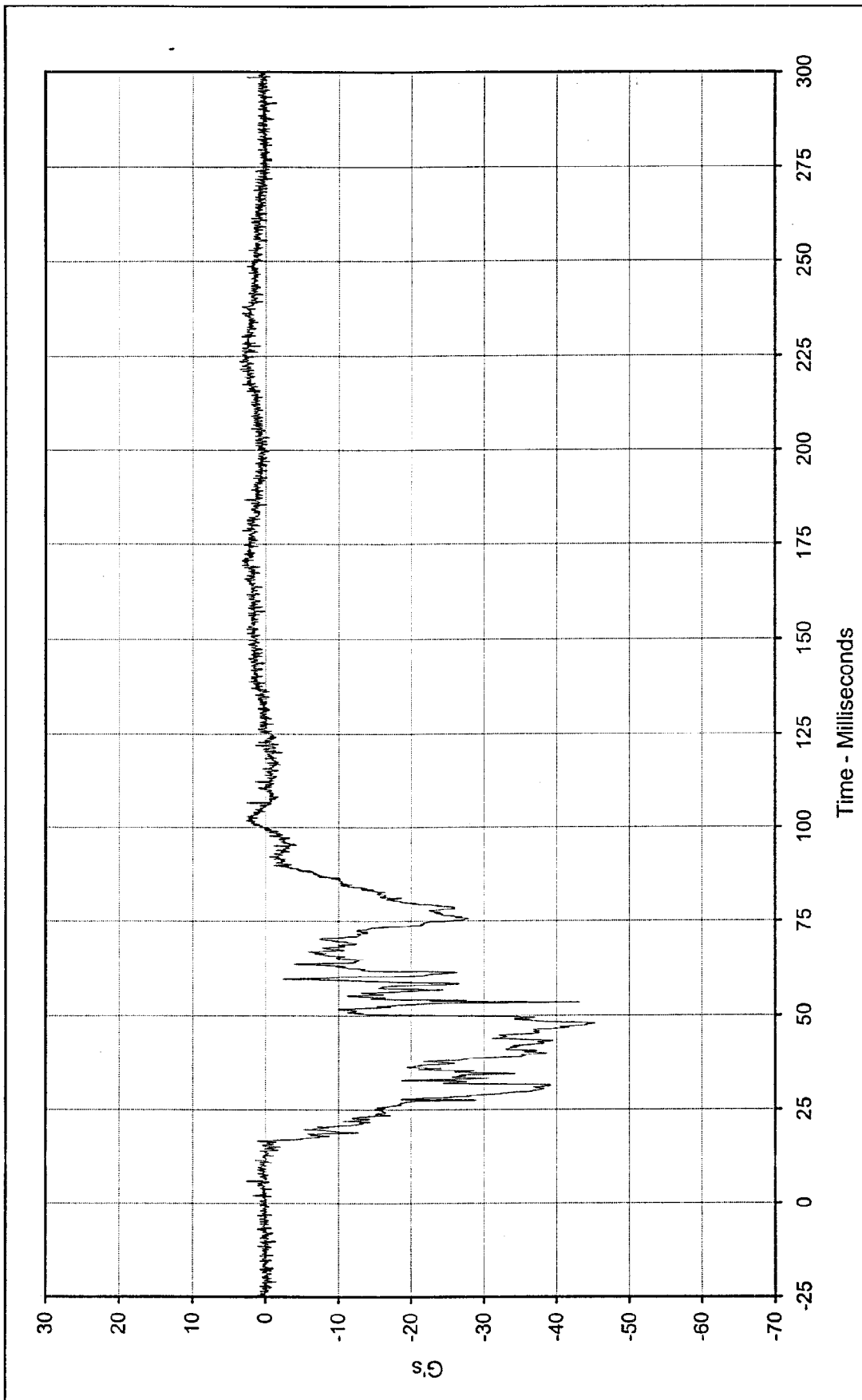
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Passenger Right Foot Air X	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	9.8 at 33.0 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-60.1 at 41.2 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	FIL-082			

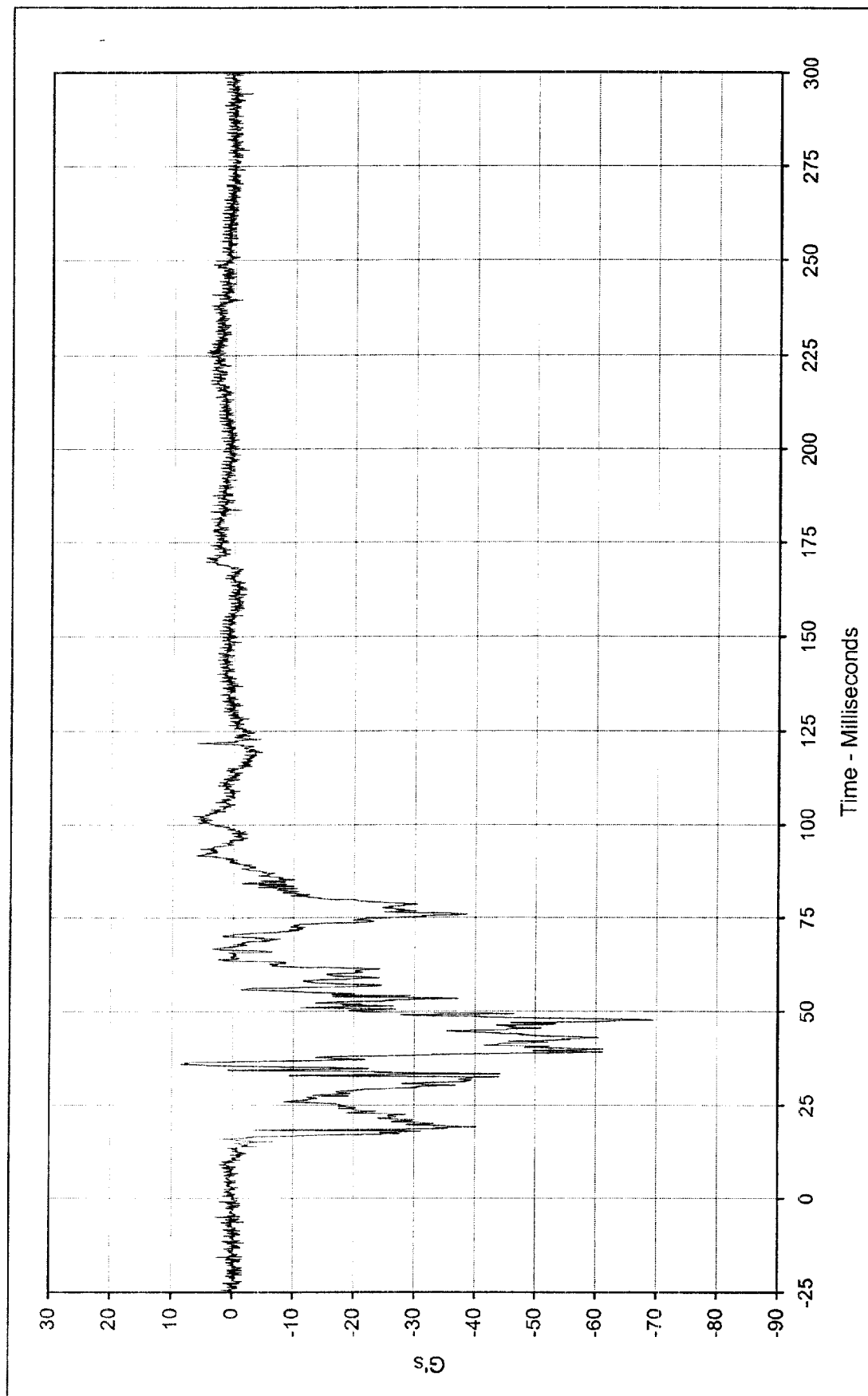




Curve Description: Passenger Right Foot Aft Z
 Maximum Value: 3.6 at 221.6 Milliseconds
 Minimum Value: -45.3 at 47.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 1/13/99
 Curve Number: FIL-083

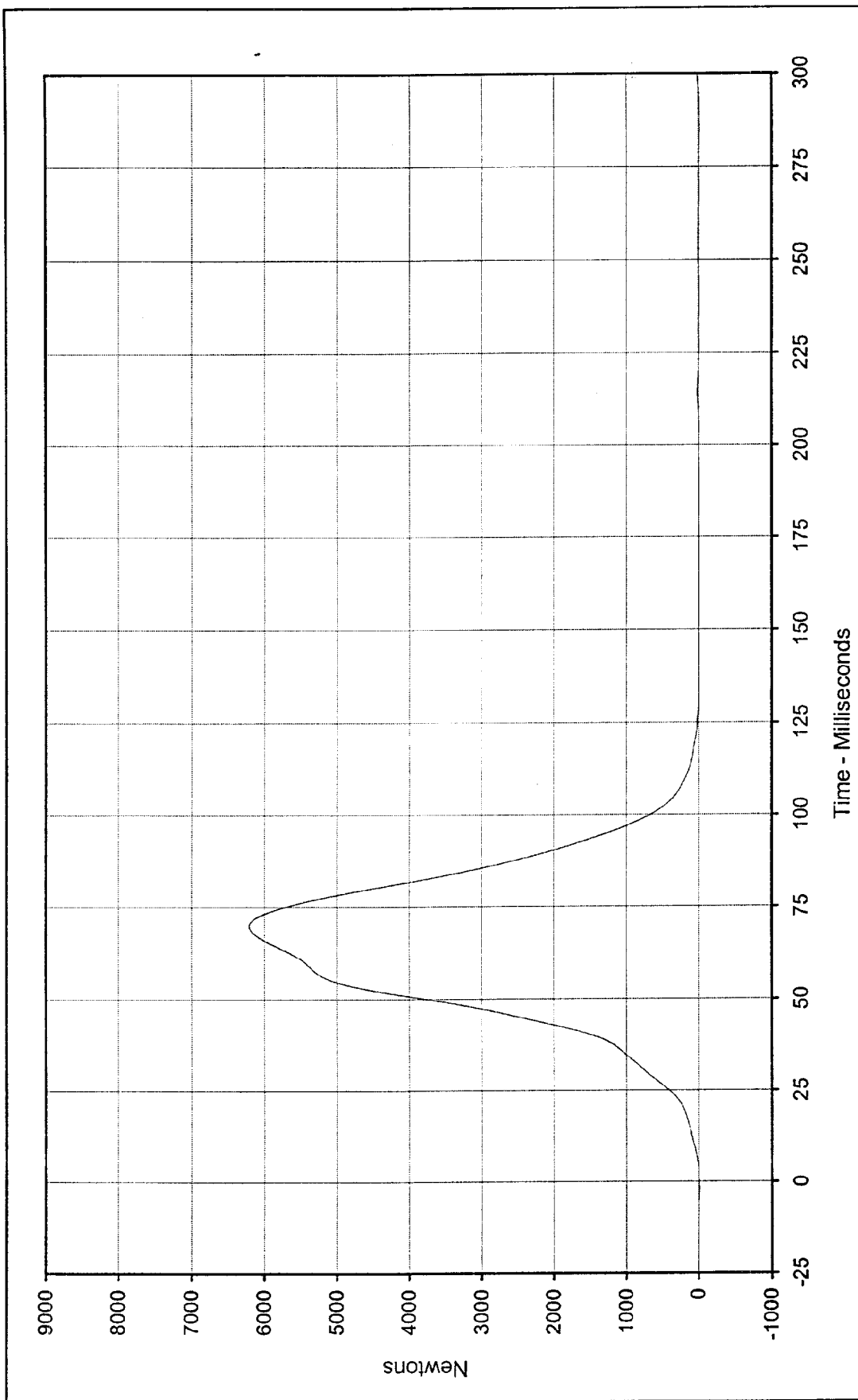
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description:	Passenger Right Foot Fore Z	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	8.6 at 35.9 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-69.5 at 47.7 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	1/13/99			
Curve Number:	FIL-084			

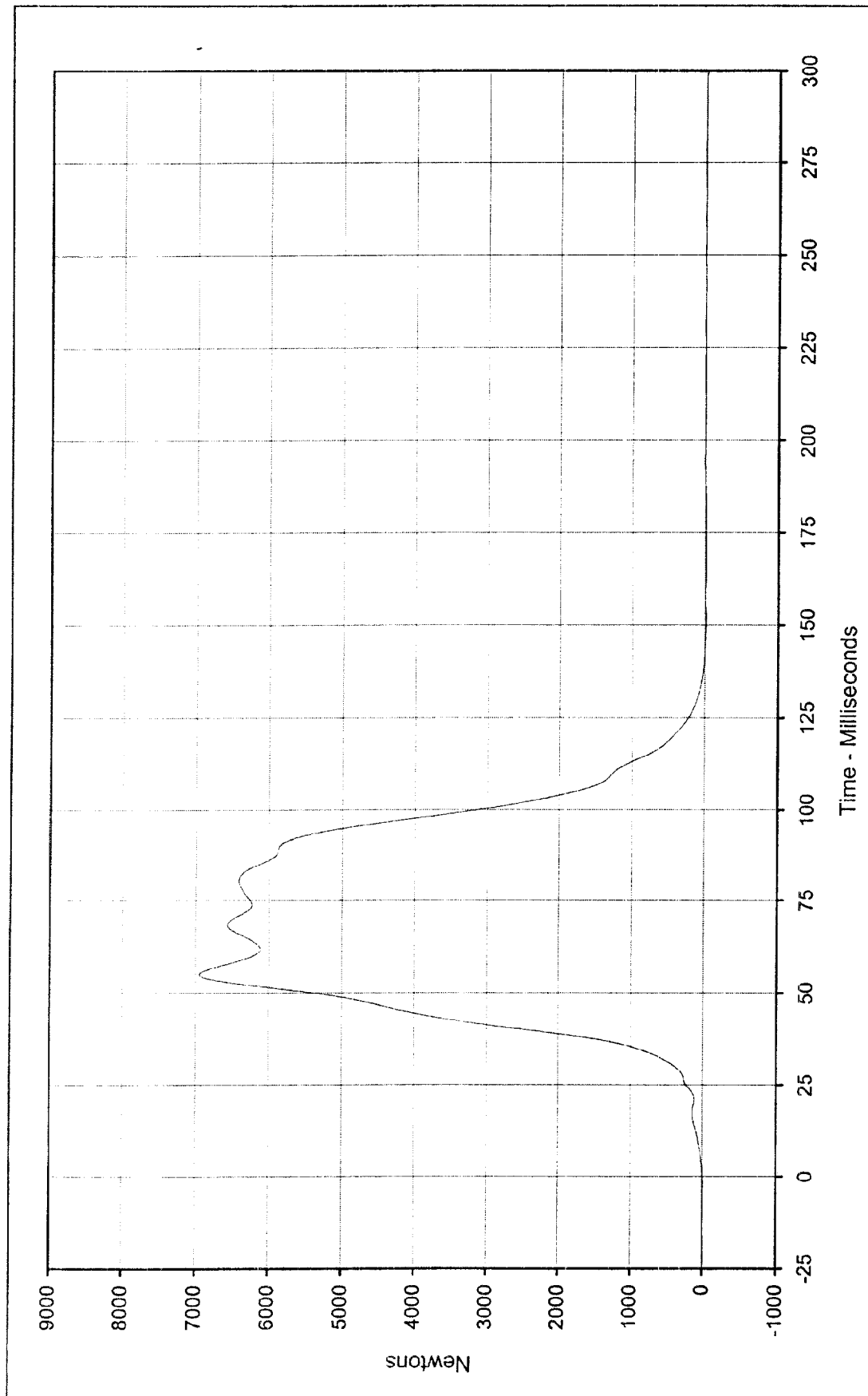




Curve Description: Passenger Lap Belt Force
 Maximum Value: 6208.0 at 70.0 Milliseconds
 Minimum Value: -21.1 at 287.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-085

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Passenger Shoulder Belt Force Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 6948.0 at 55.0 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

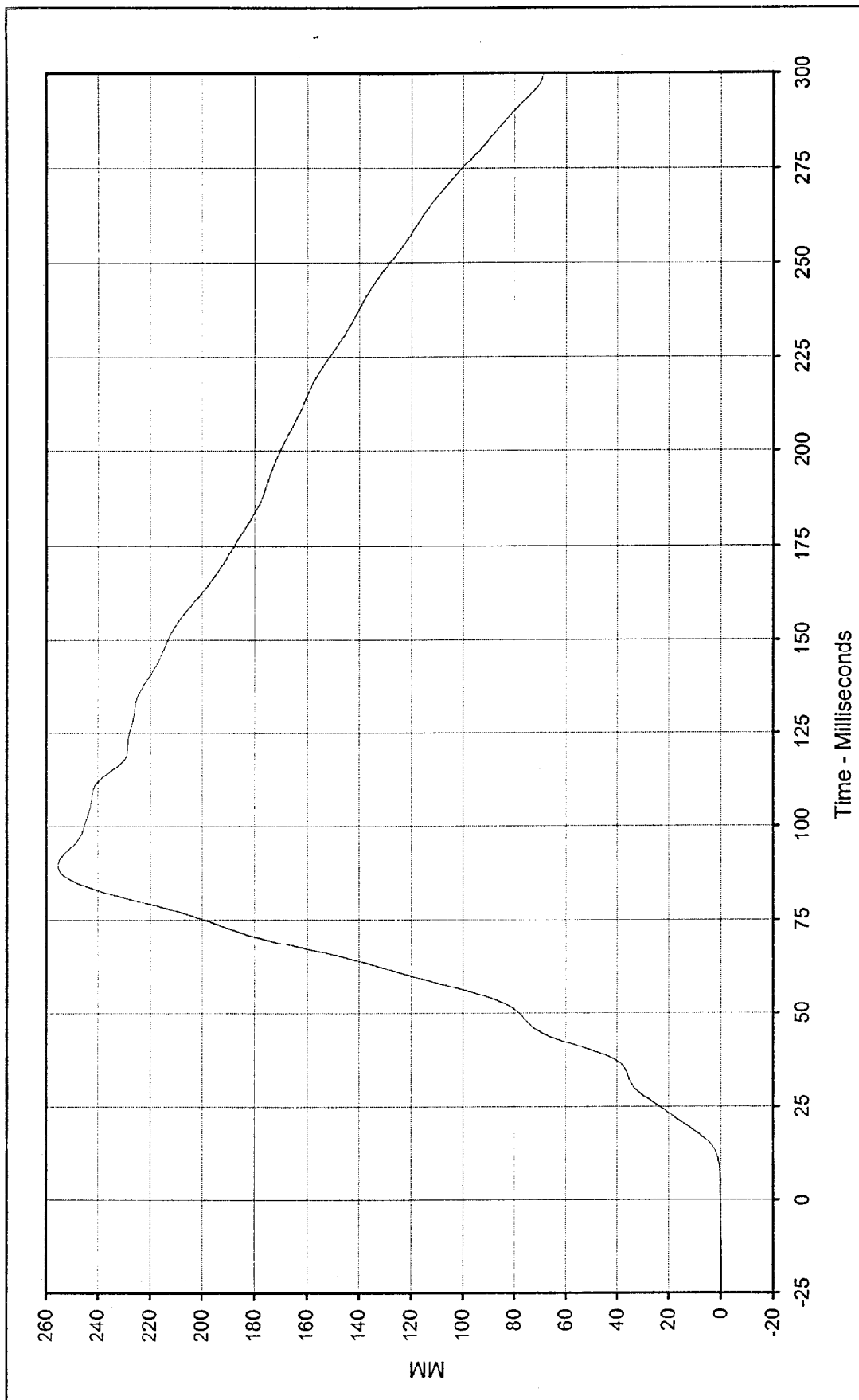
Minimum Value: -28.0 at 299.9 Milliseconds

SAE Filter Class: 60

Date of Test: 1/13/99

Curve Number: FIL-086

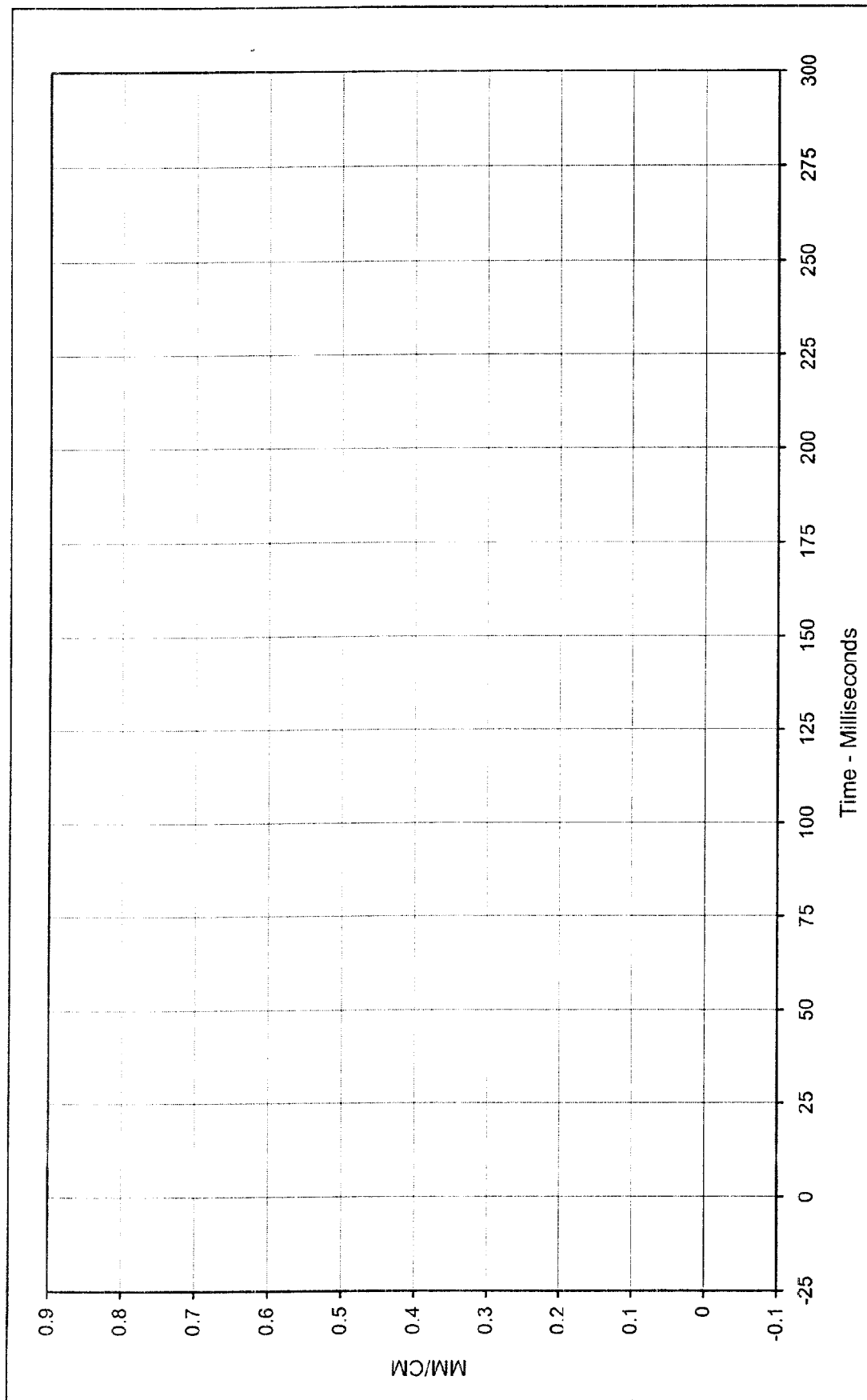




Curve Description:	Passenger Shoulder Belt Pullout	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	255.5 at 89.3 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	0.1 at 0.0 Milliseconds			



SAE Filter Class:	60
Date of Test:	1/13/99
Curve Number:	FIL-087



Curve Description: Passenger Shoulder Belt Elongation * Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 0.00 at 0.0 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Minimum Value: 0.00 at 0.0 Milliseconds

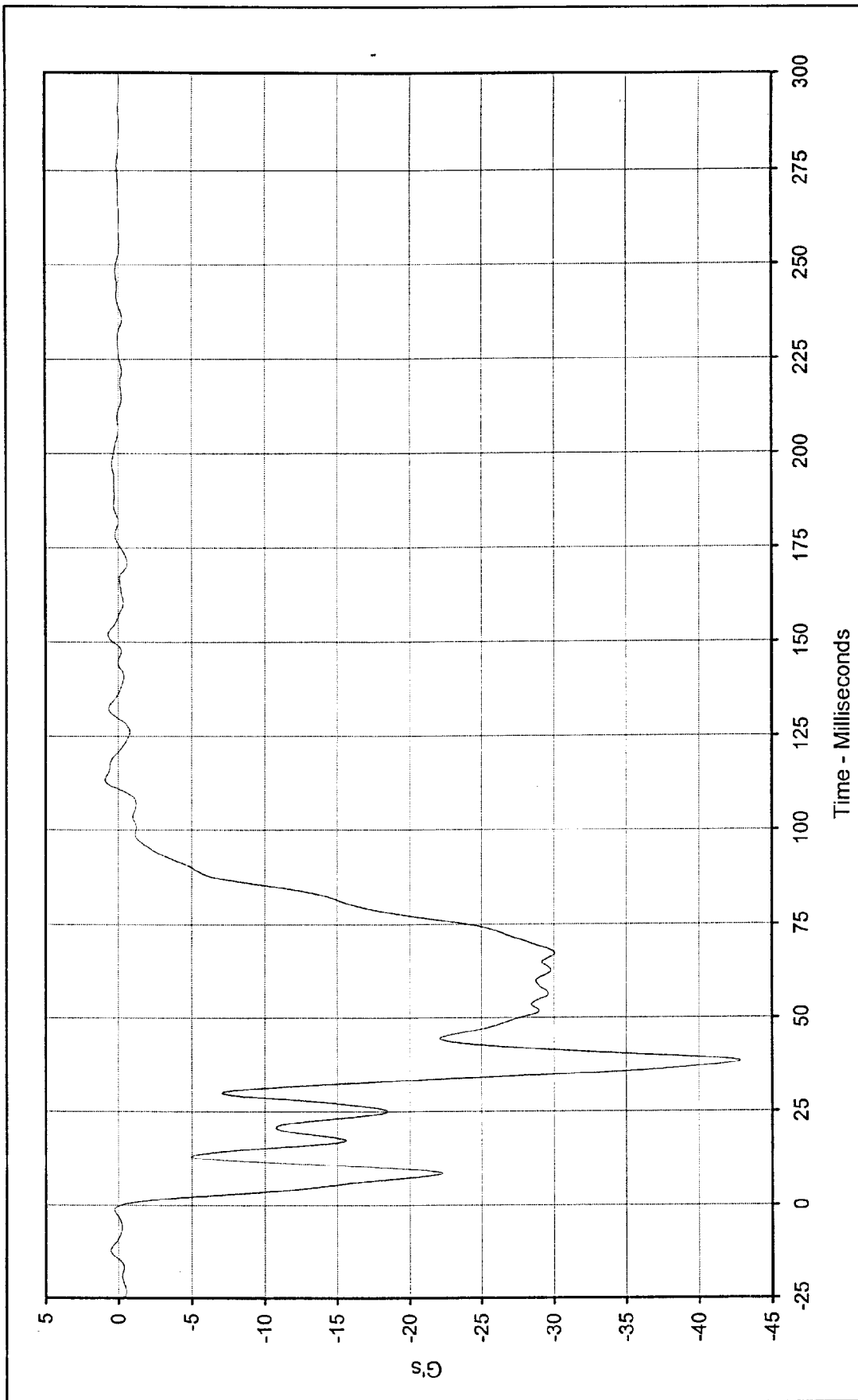
SAE Filter Class: 60

Date of Test: 1/13/99

Curve Number: FIL-088



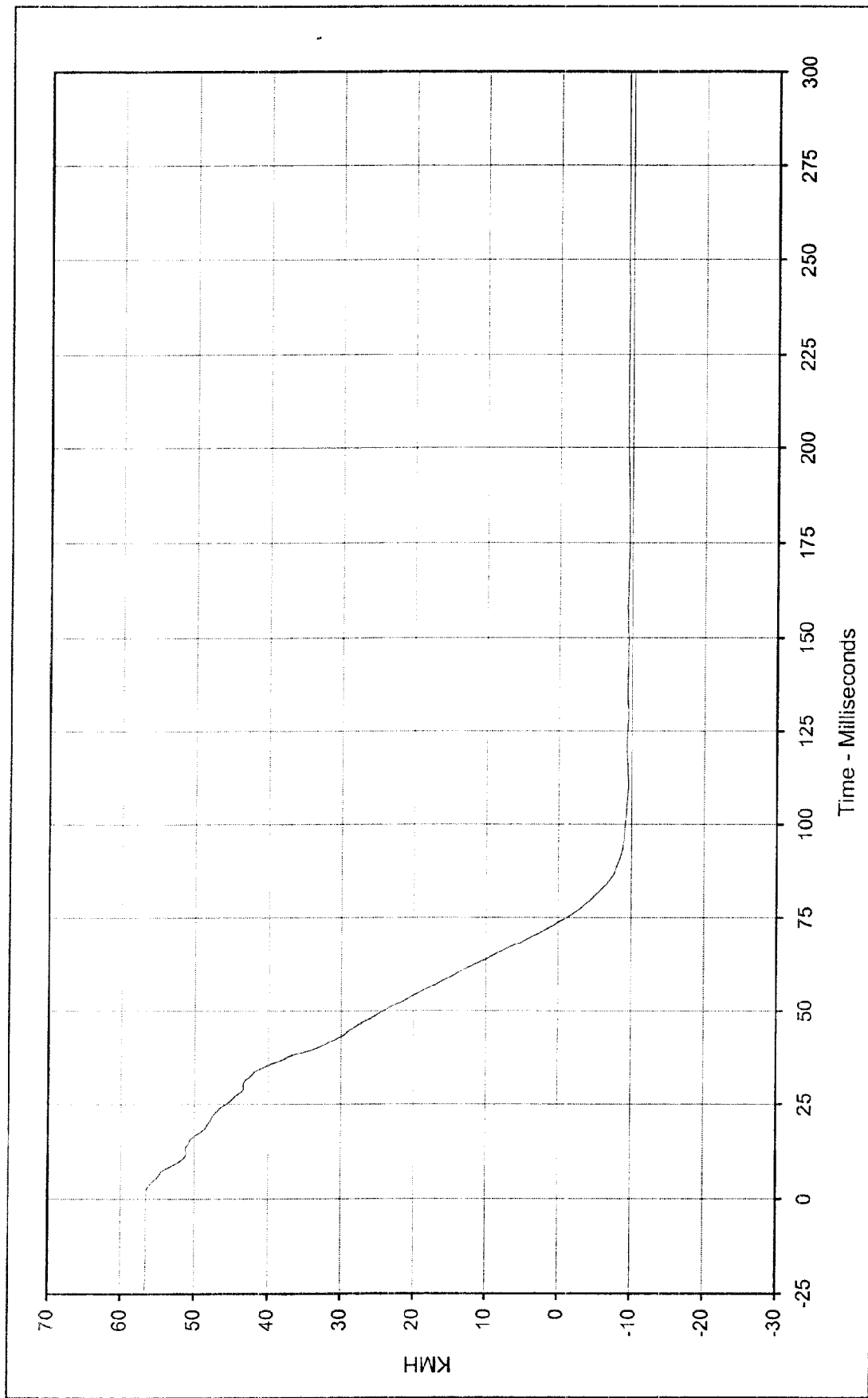
* Channel Failed, No Data



Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan



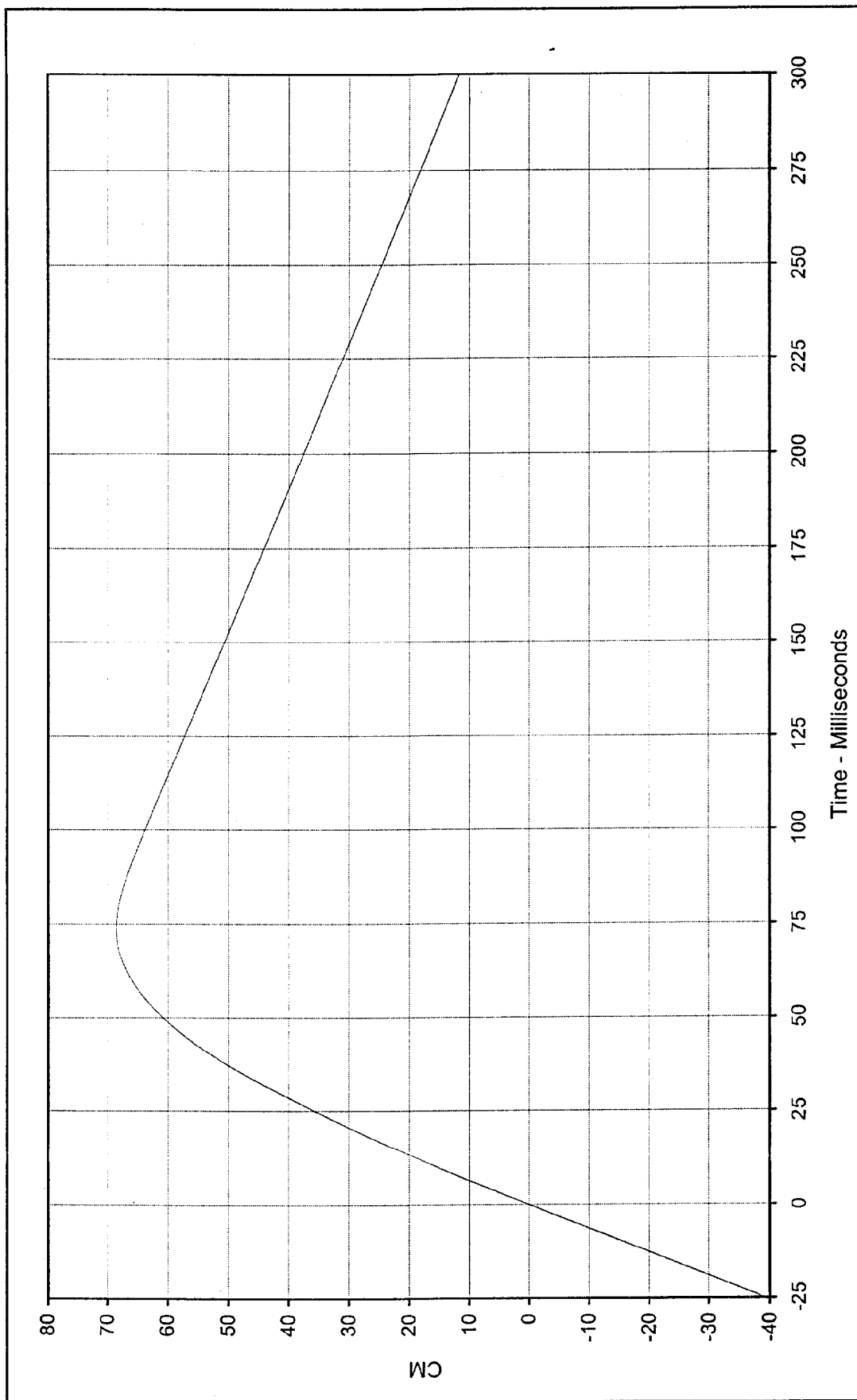
Curve Description: Vehicle Left Rear Primary
 Maximum Value: 0.9 at 113.1 Milliseconds
 Minimum Value: -42.8 at 38.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-089



Curve Description: Vehicle Left Rear Primary Velocity
 Maximum Value: 56.5 at 1.4 Milliseconds
 Minimum Value: -9.6 at 110.7 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: IN1-089

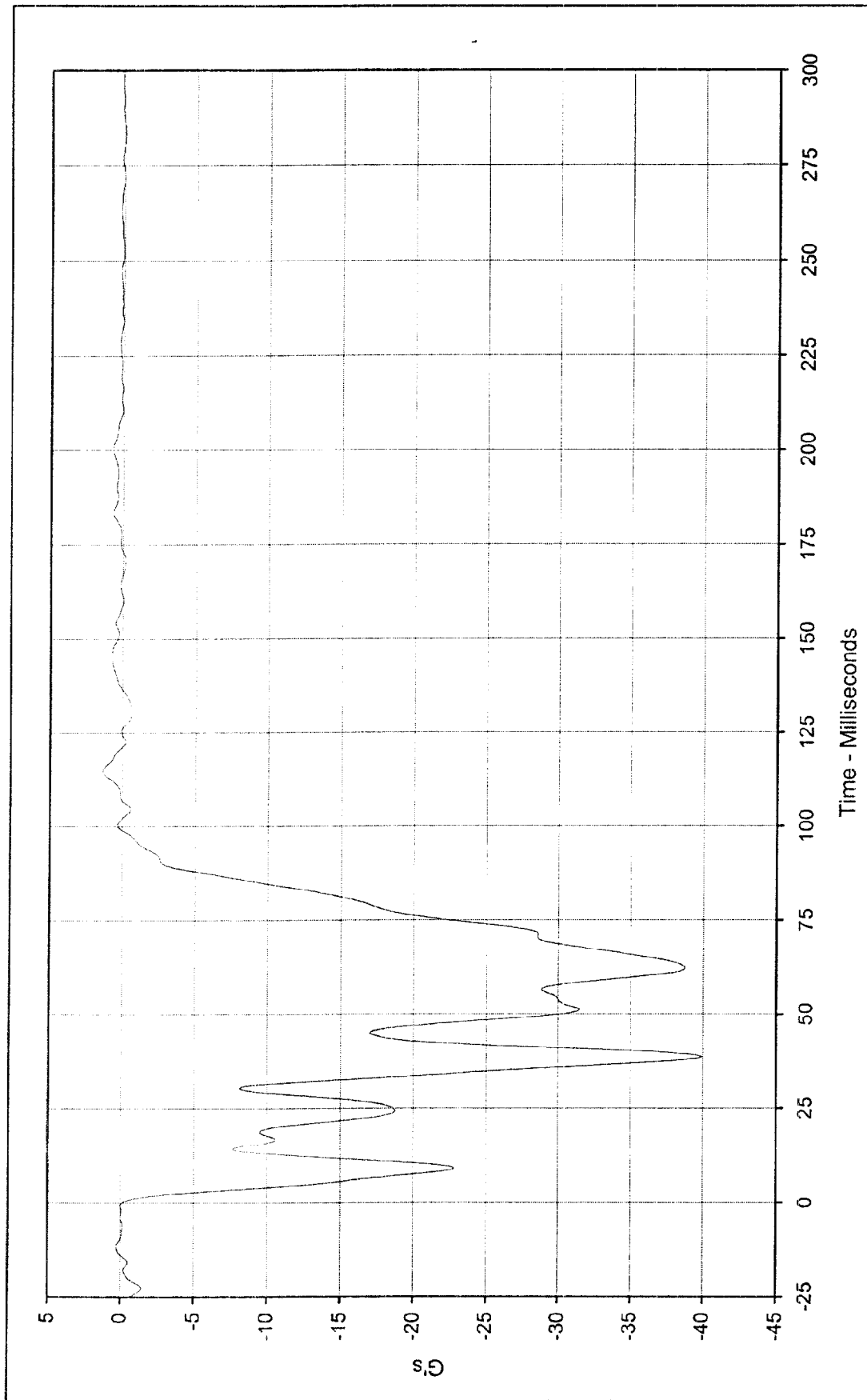
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





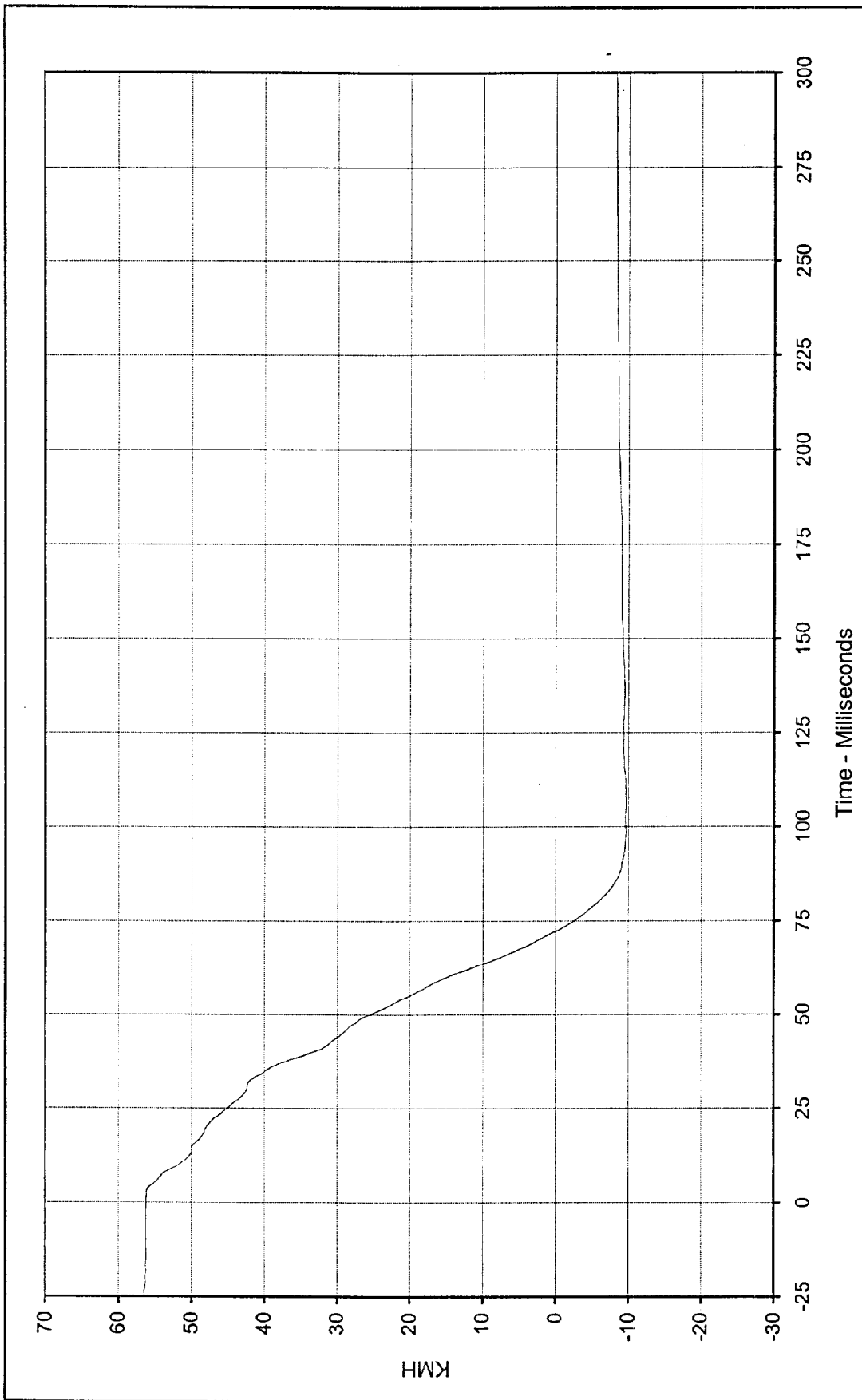
Curve Description:	Vehicle Left Rear Primary Displ.	Test Program:	1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value:	68.6 at 73.7 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	0.0 at 0.0 Milliseconds		
SAE Filter Class:	180		
Date of Test:	1/13/99		
Curve Number:	IN2-089		





Curve Description:	Vehicle Right Rear Primary		Test Program:	1999 NHTSA 35 mph NCAP No.: MX5400	
Maximum Value:	1.4	at 114.5	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-39.9	at 38.5			
SAE Filter Class:	60				
Date of Test:	1/13/99				
Curve Number:	FIL-090				

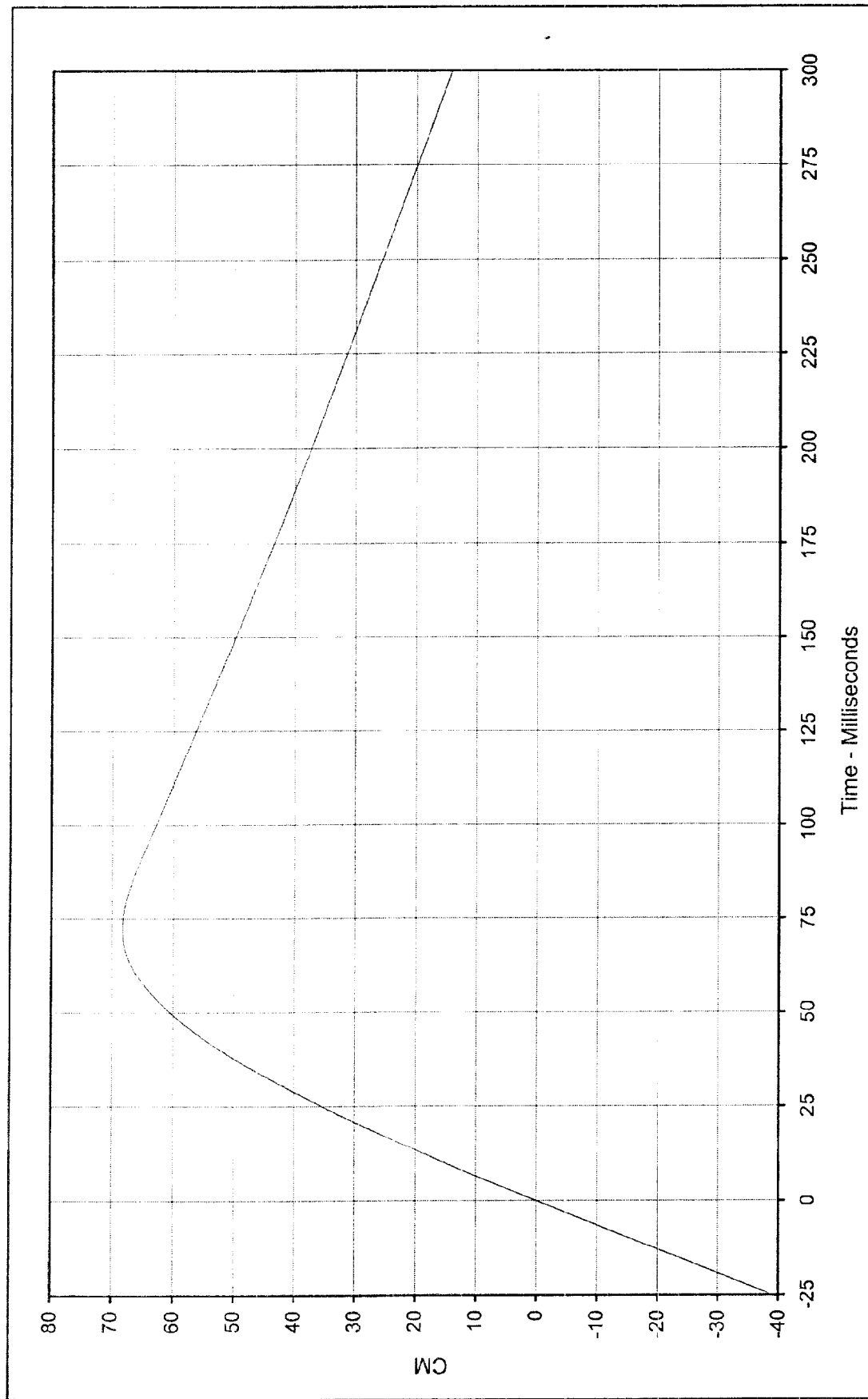




Curve Description: Vehicle Right Rear Primary Velocity
Maximum Value: 56.2 at 0.0 Milliseconds
Minimum Value: -9.6 at 105.9 Milliseconds
SAE Filter Class: 180
Date of Test: 1/13/99
Curve Number: IN1-090

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Vehicle Right Rear Primary Displ. Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 68.3 at 72.2 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

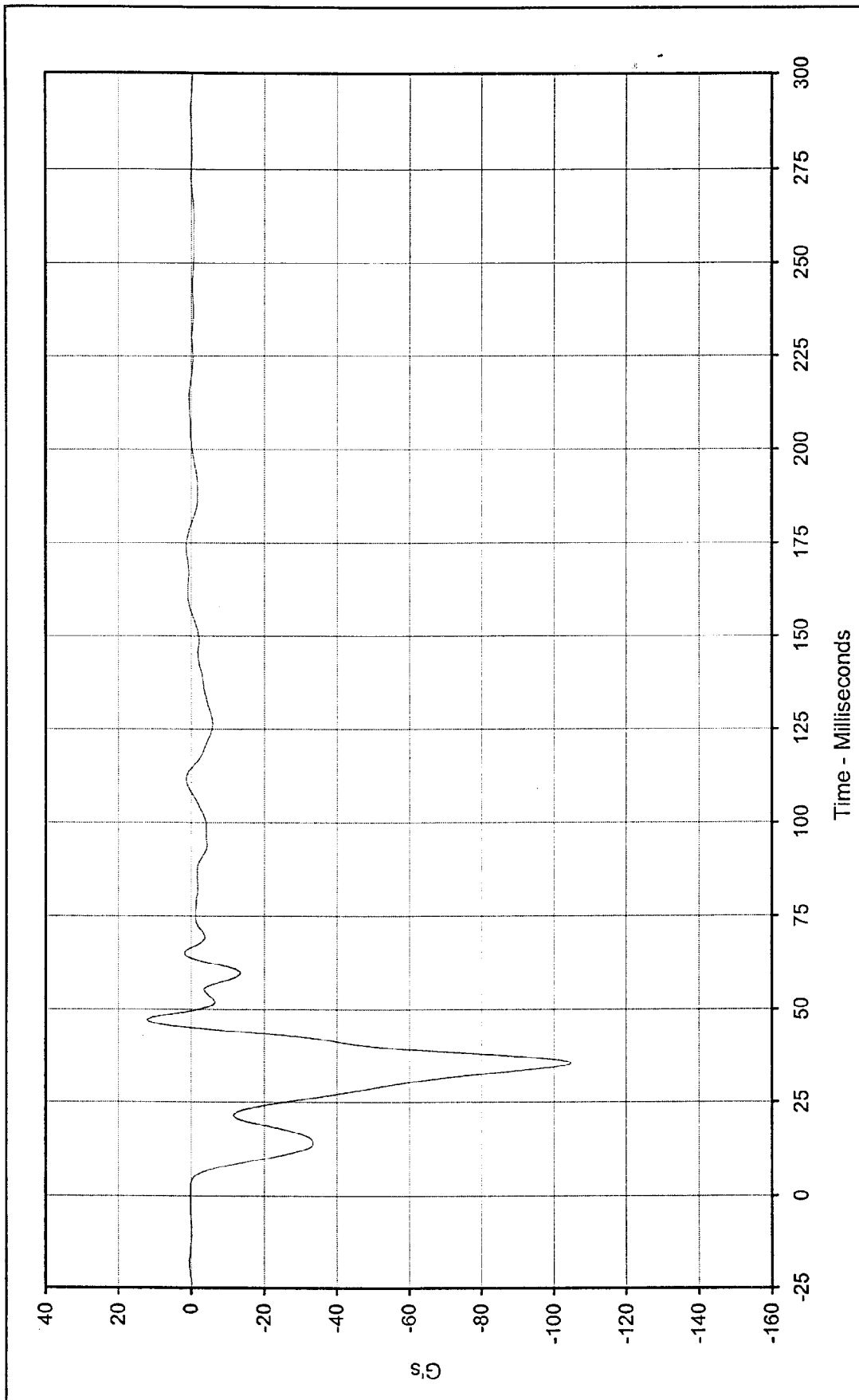
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 1/13/99

Curve Number: IN2-090

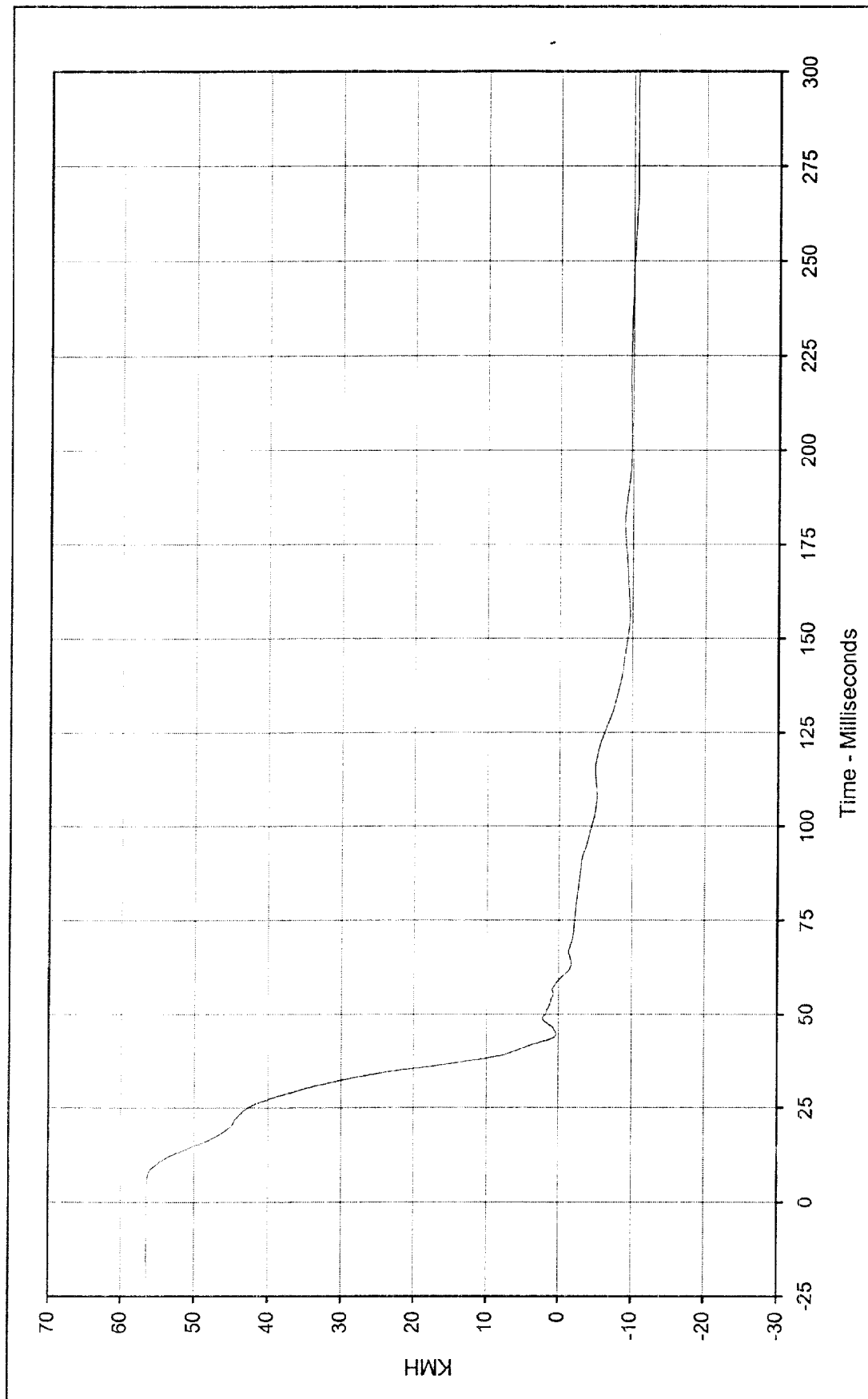




Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

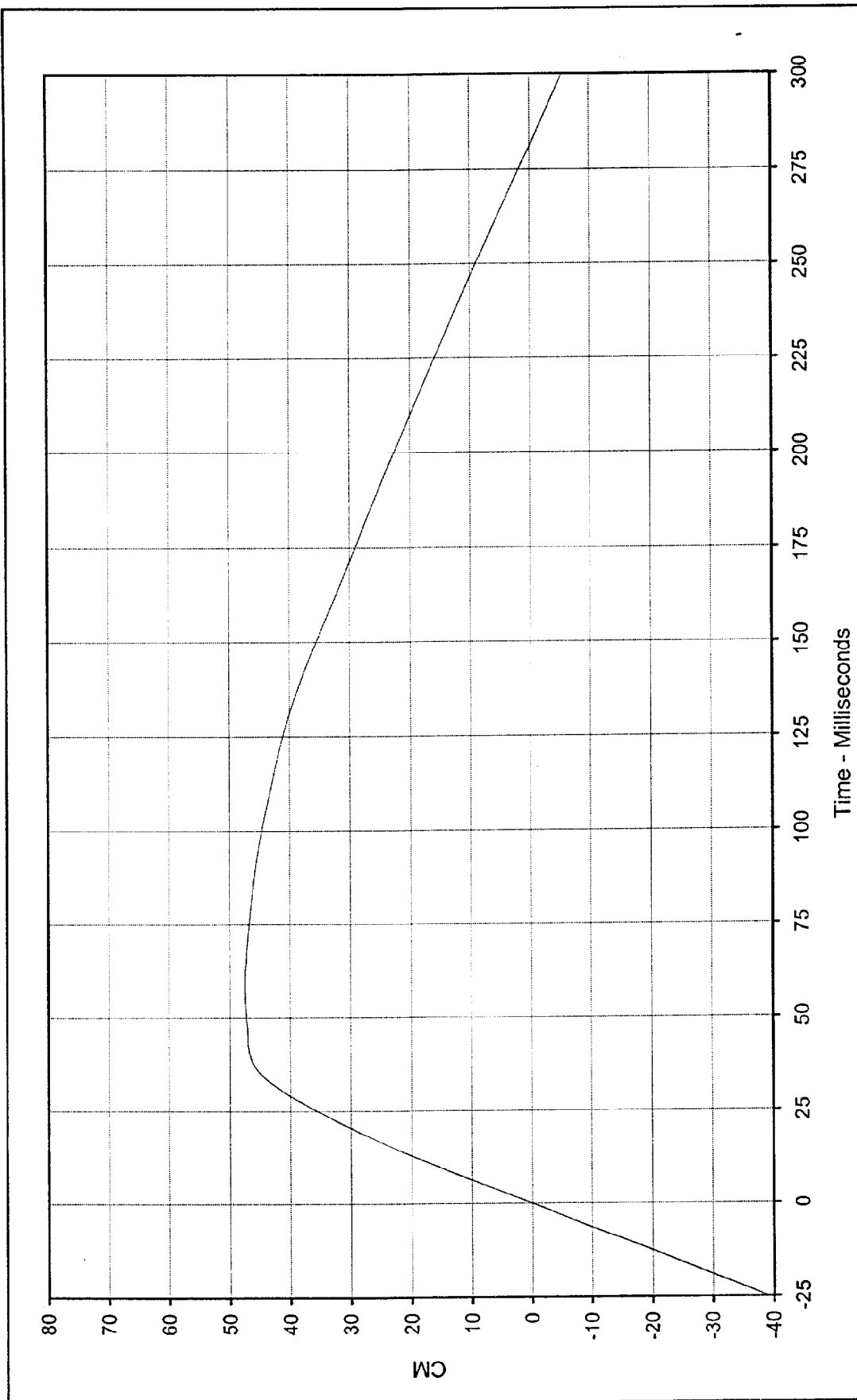
Curve Description: Vehicle Engine Top
 Maximum Value: 12.1 at 47.2 Milliseconds
 Minimum Value: -104.7 at 35.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-091





Curve Description:	Vehicle Engine Top Velocity	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	56.5 at 2.6 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-10.6 at 299.9 Milliseconds			
SAE Filter Class:	180			
Date of Test:	1/13/99			
Curve Number:	IN1-091			

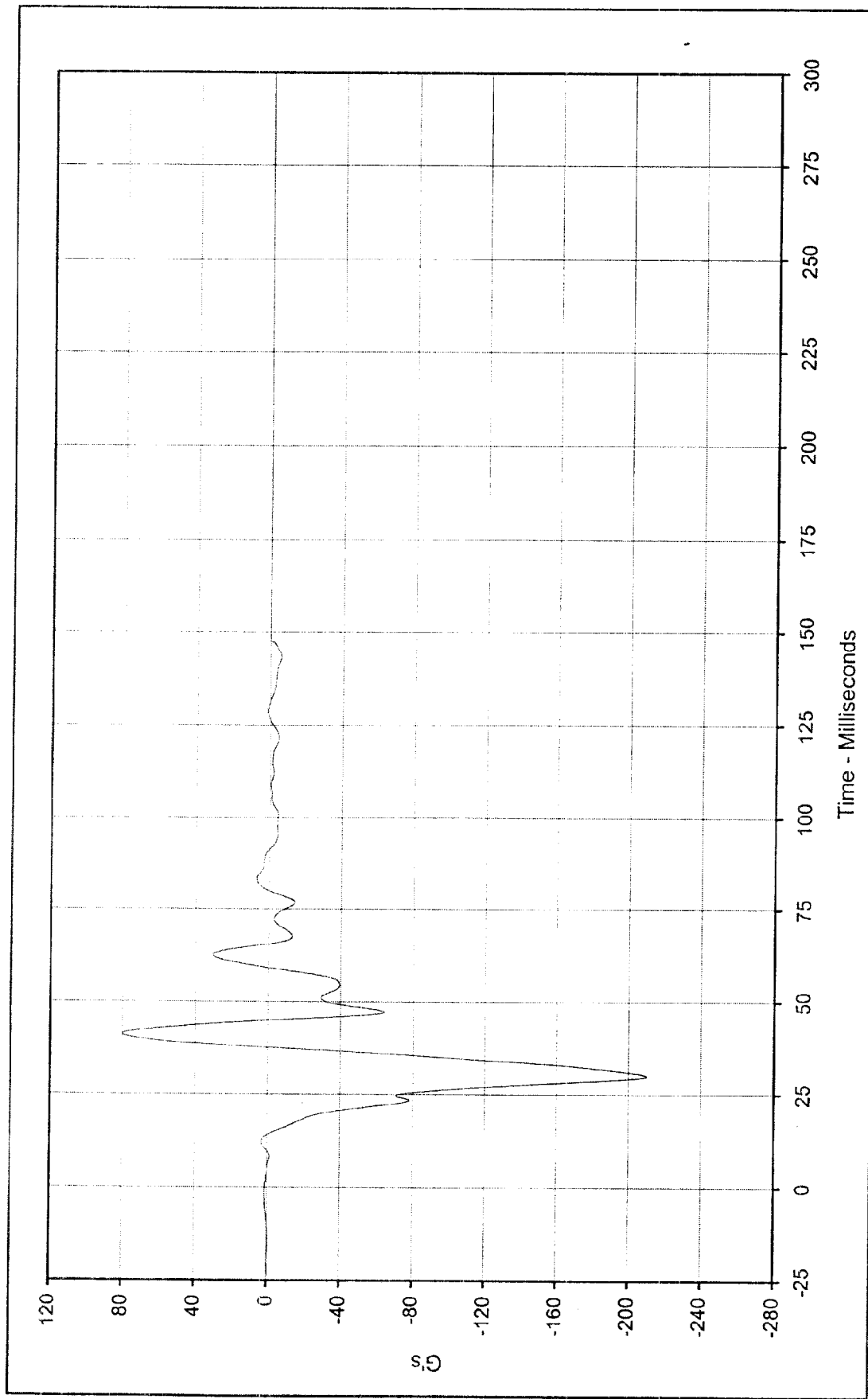




Curve Description: Vehicle Engine Top Displacement
 Maximum Value: 47.5 at 59.0 Milliseconds
 Minimum Value: -5.4 at 299.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: IN2-091

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Vehicle Engine Bottom * Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 80.2 at 41.2 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Minimum Value: -210.0 at 30.0 Milliseconds

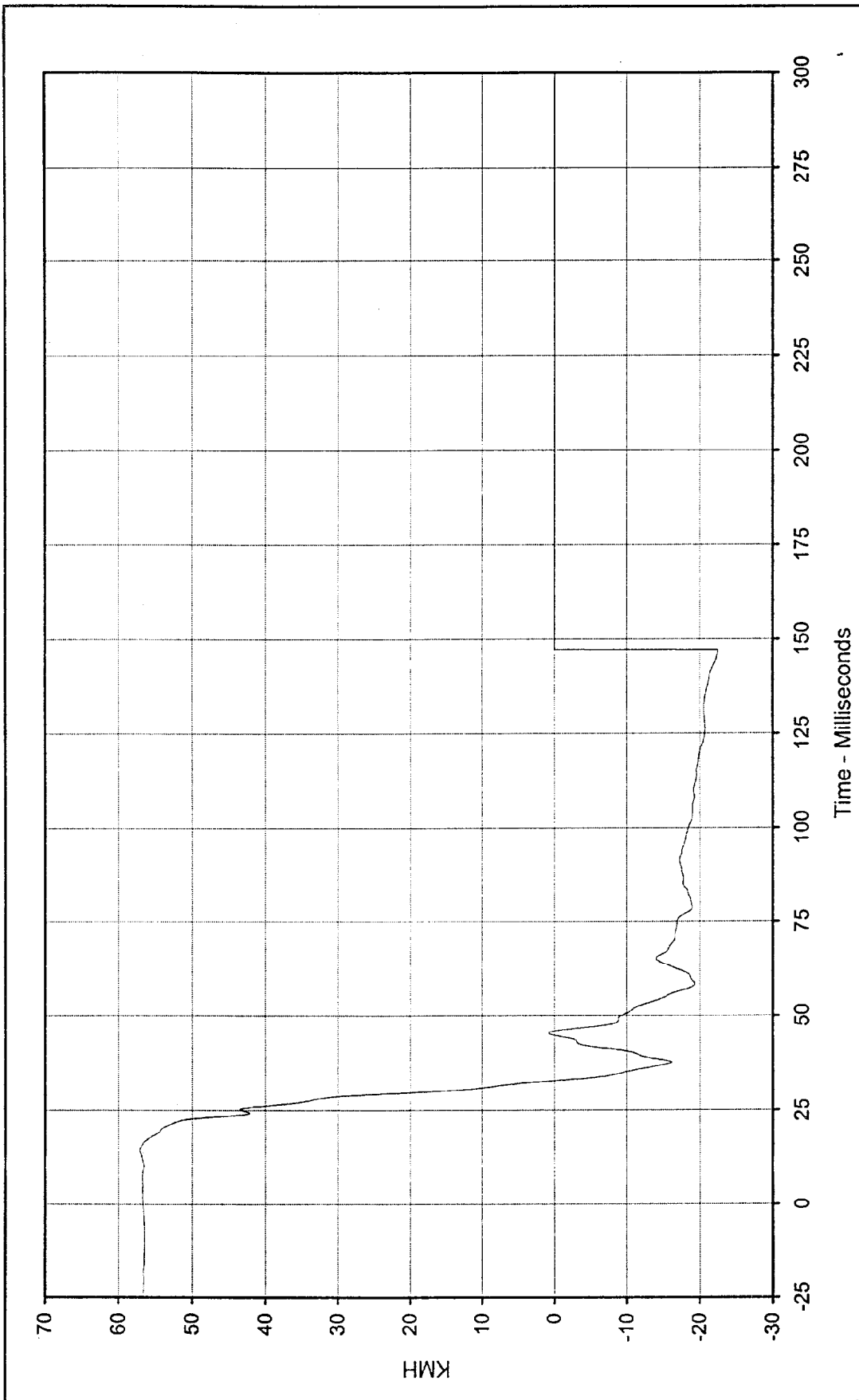
SAE Filter Class: 60

Date of Test: 1/13/99

Curve Number: FIL-092



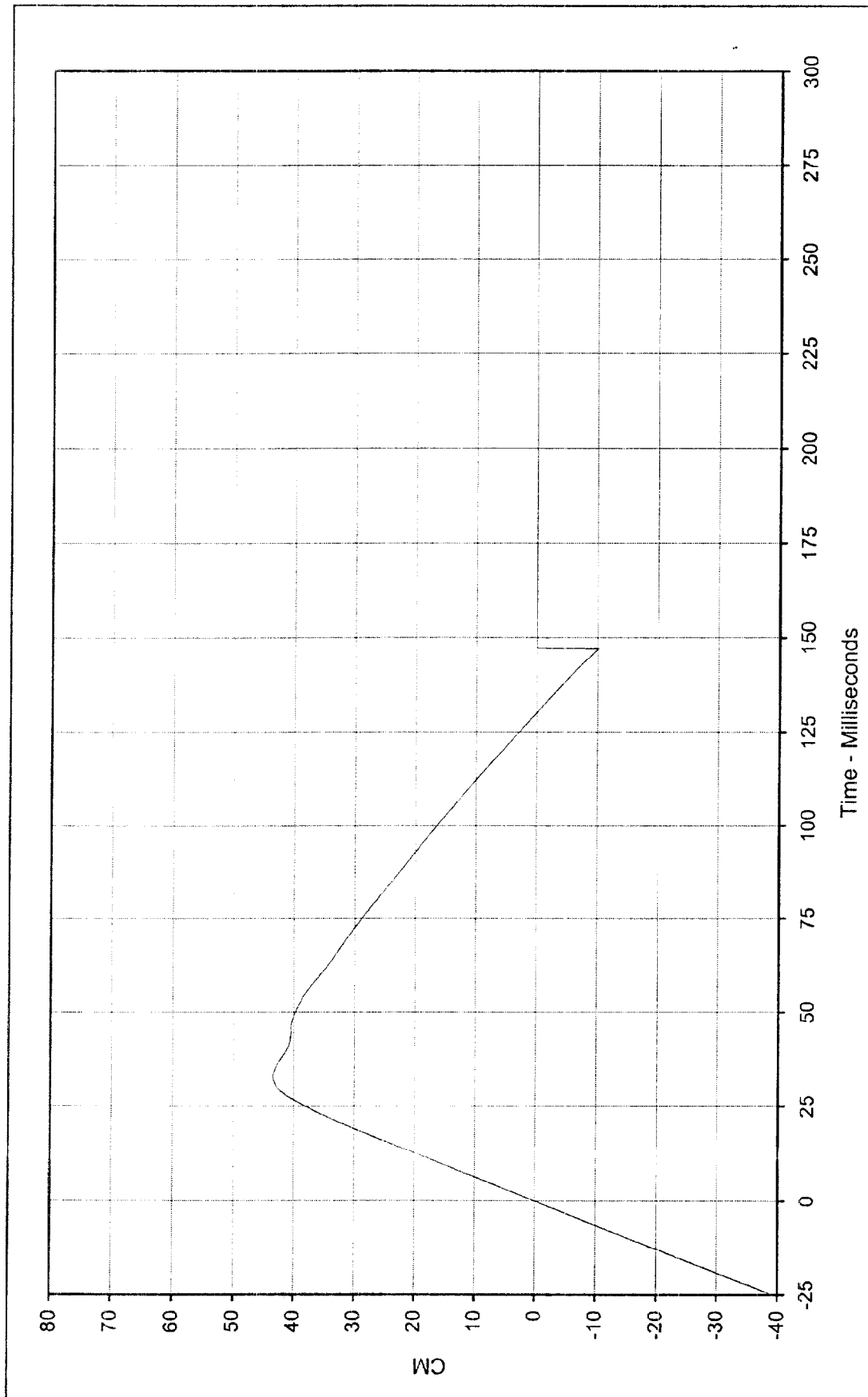
* Channel Failed at 147.4 Msec



Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 57.1 at 14.5 Milliseconds
 Minimum Value: -22.6 at 147.3 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: IN1-092



* Channel Failed at 147.4 Msec.



Curve Description: Vehicle Engine Bottom Displacement * Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 43.4 at 32.8 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Minimum Value: -10.2 at 147.3 Milliseconds

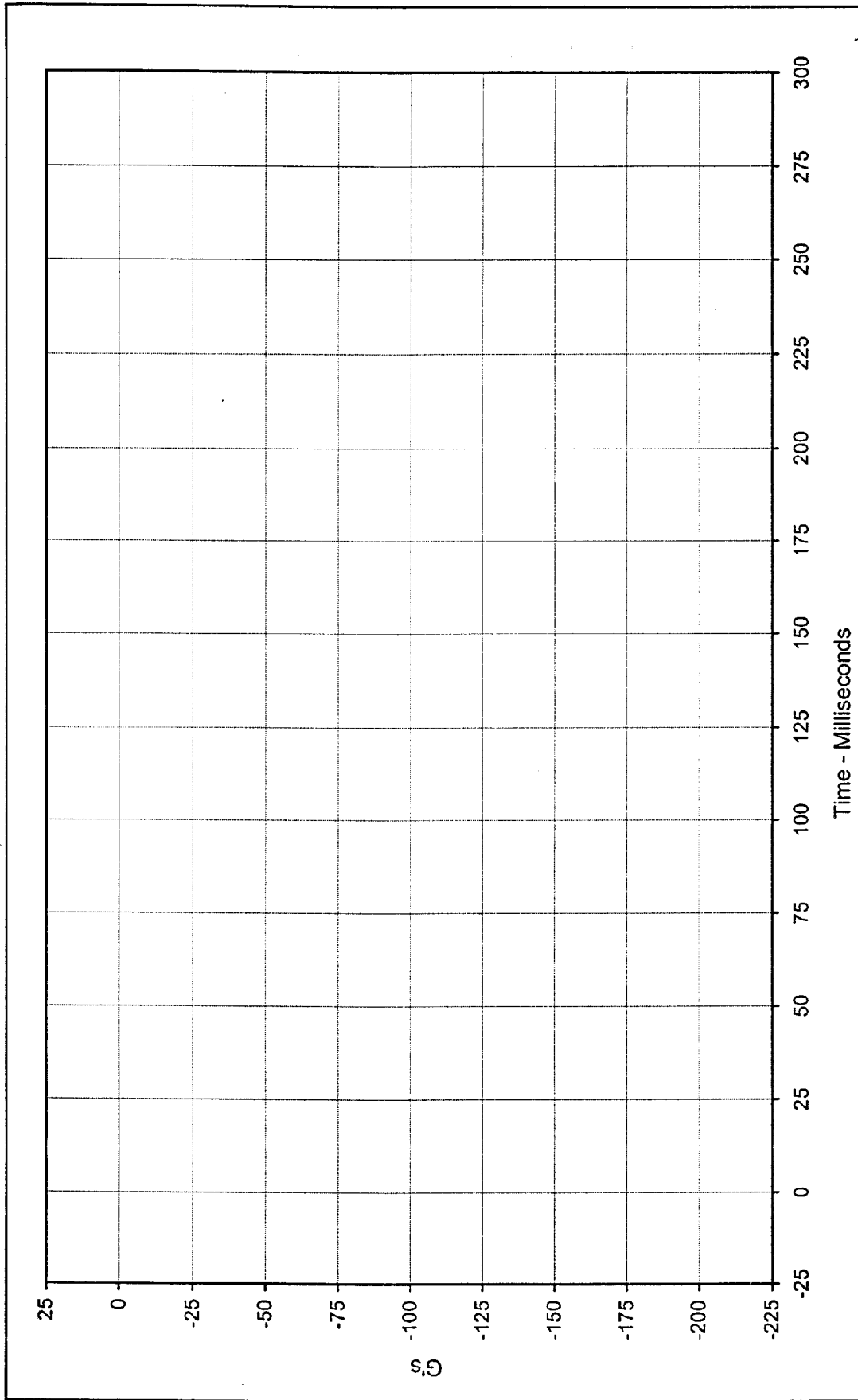
SAE Filter Class: 180

Date of Test: 1/13/99

Curve Number: IN2-092



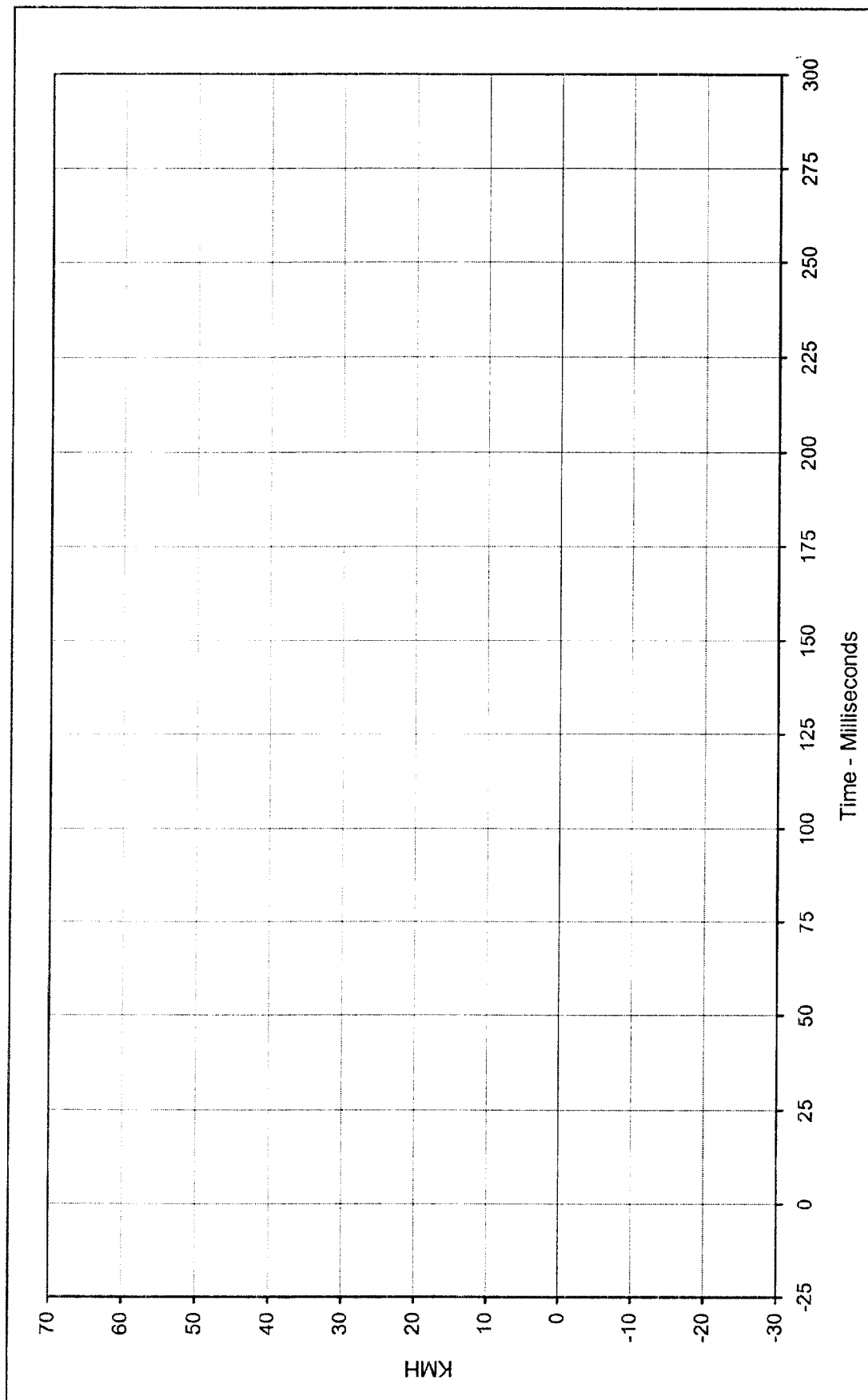
* Channel failed at 147.4 Msec.



Curve Description: Vehicle Left Brake Caliper * 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 0.0 at 0.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-093



* Channel Failed, No Data

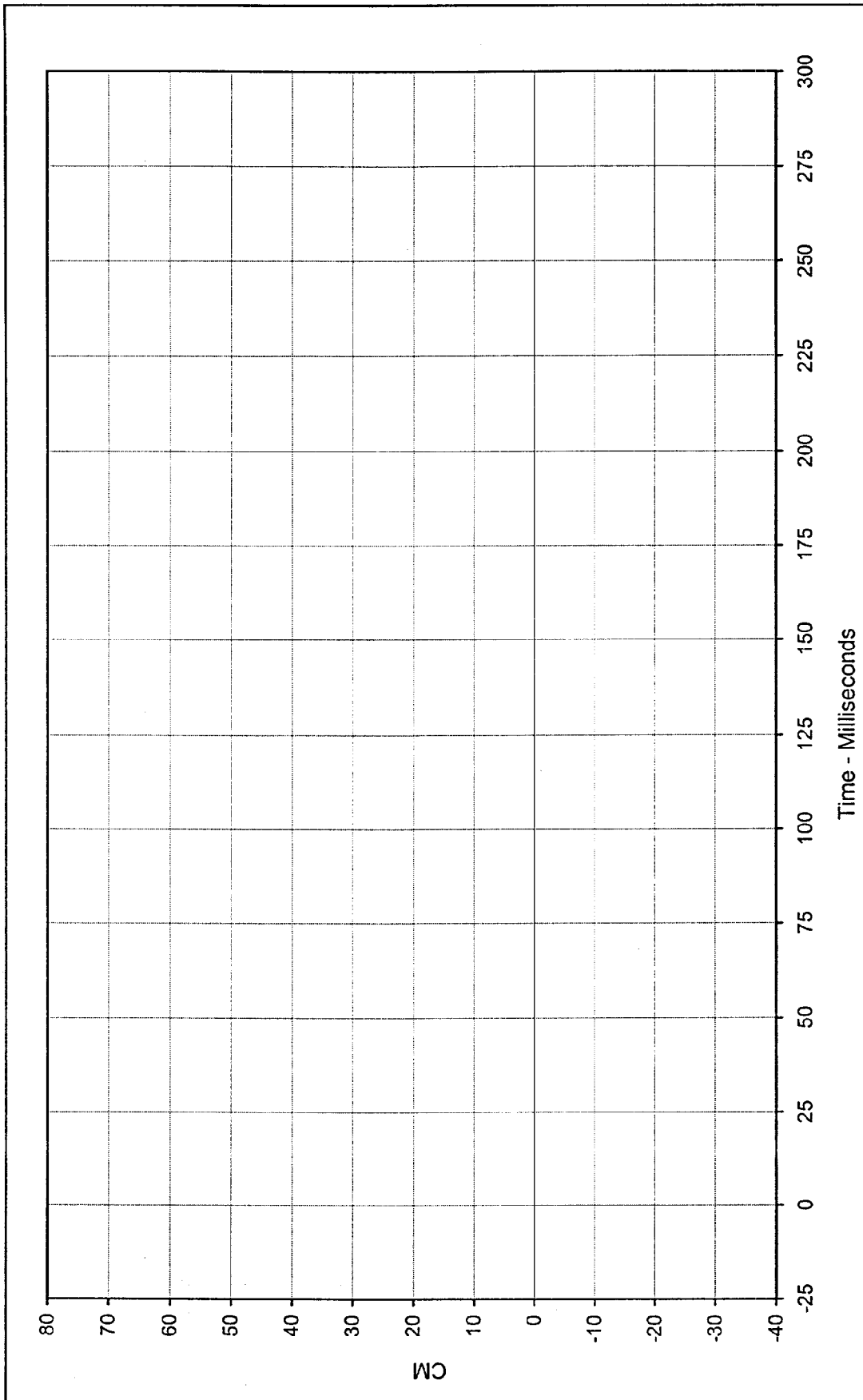


Curve Description: Vehicle Left Brake Caliper Velocity * Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value: 0.0 at 0.0 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan
Minimum Value: 0.0 at 0.0 Milliseconds



SAE Filter Class: 180
Date of Test: 1/13/99
Curve Number: IN1-093

* Channel Failed, No Data

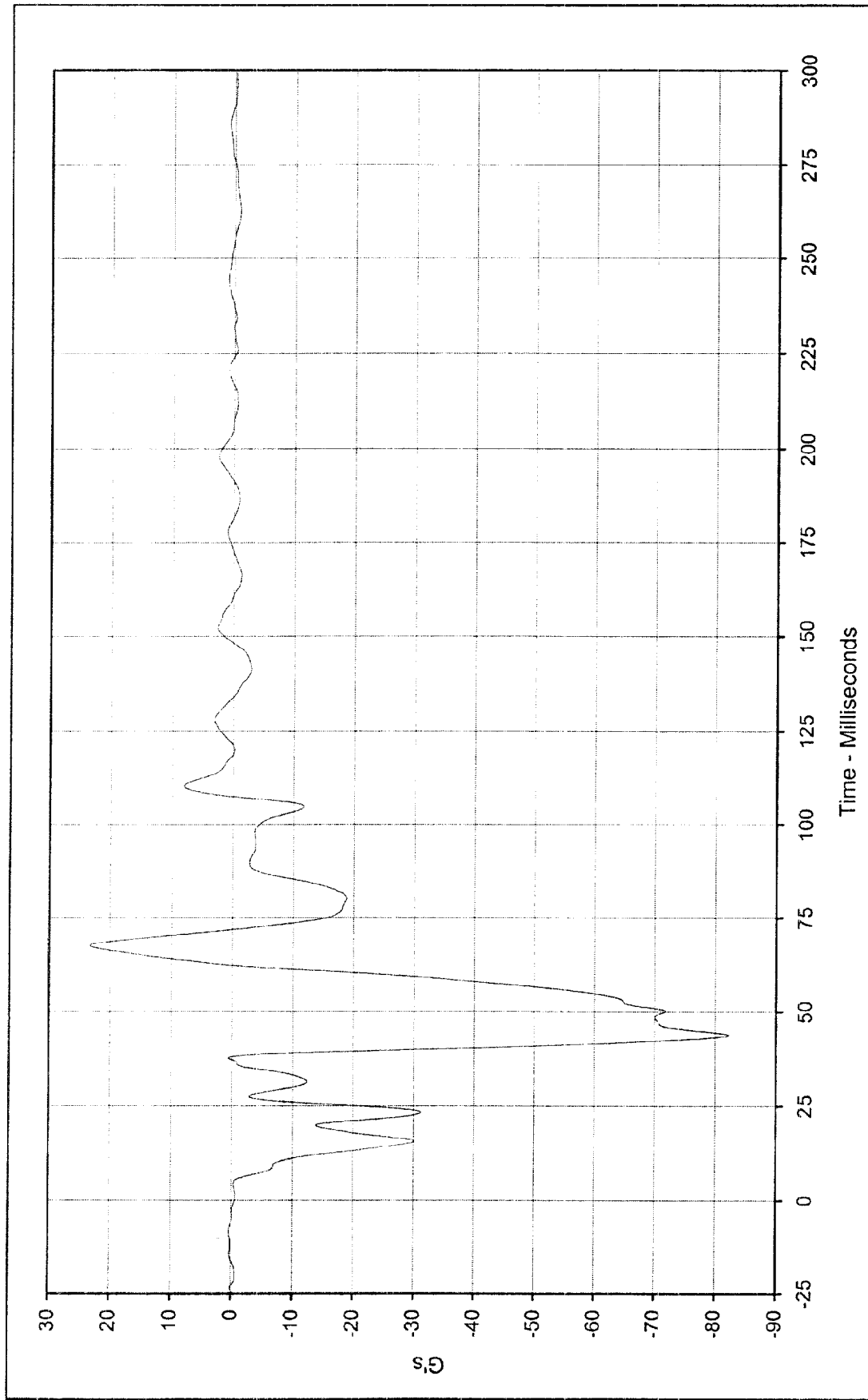


Curve Description: Vehicle Left Brake Caliper Displ. * Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 0.0 at 0.0 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan
 Minimum Value: 0.0 at 0.0 Milliseconds



SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: IN2-093

* Channel Failed, No Data

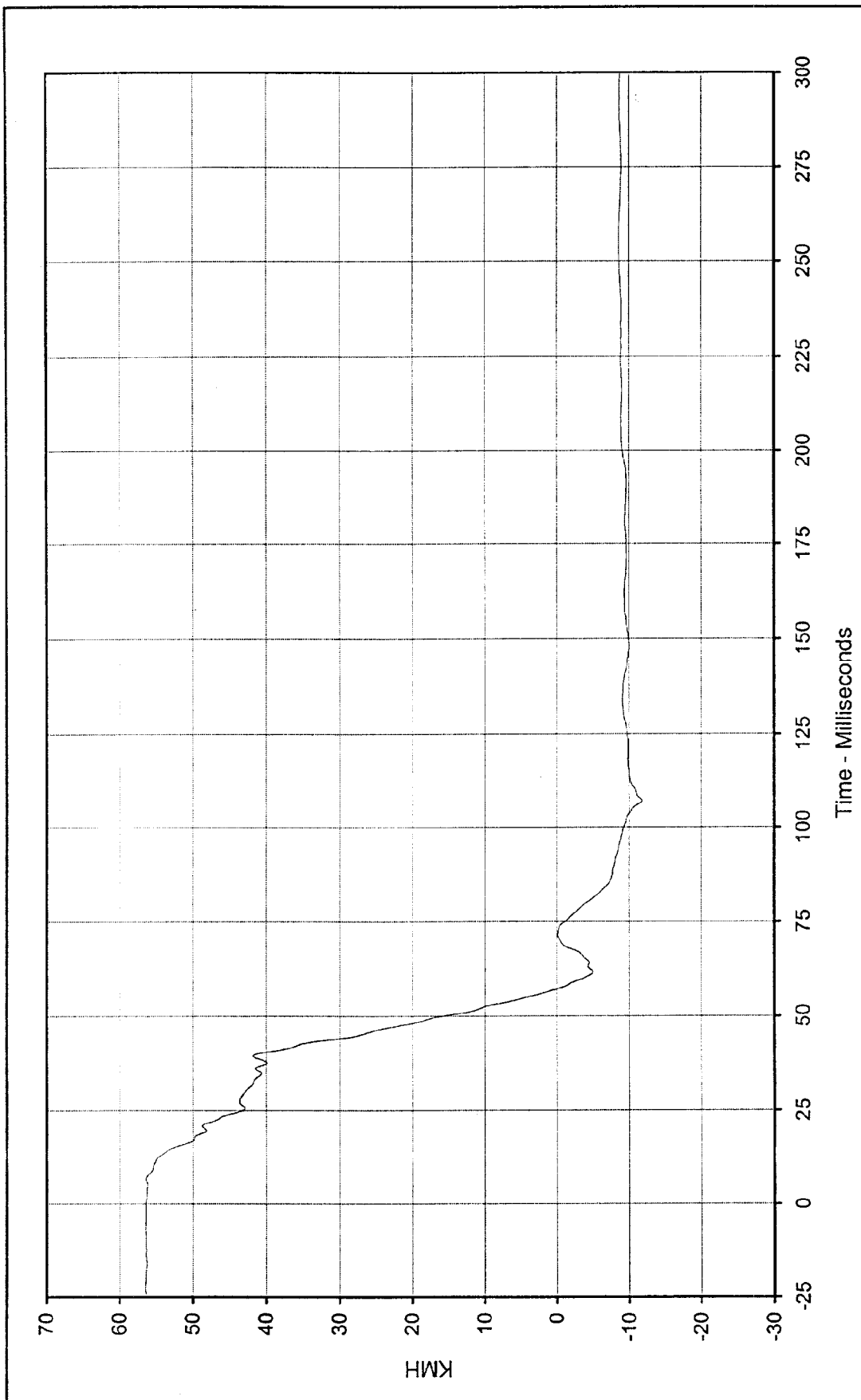


Curve Description:	Vehicle Right Brake Caliper		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	23.3	at 67.6	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-82.3	at 43.8			
SAE Filter Class:	60				
Date of Test:	1/13/99				
Curve Number:	FIL-094				



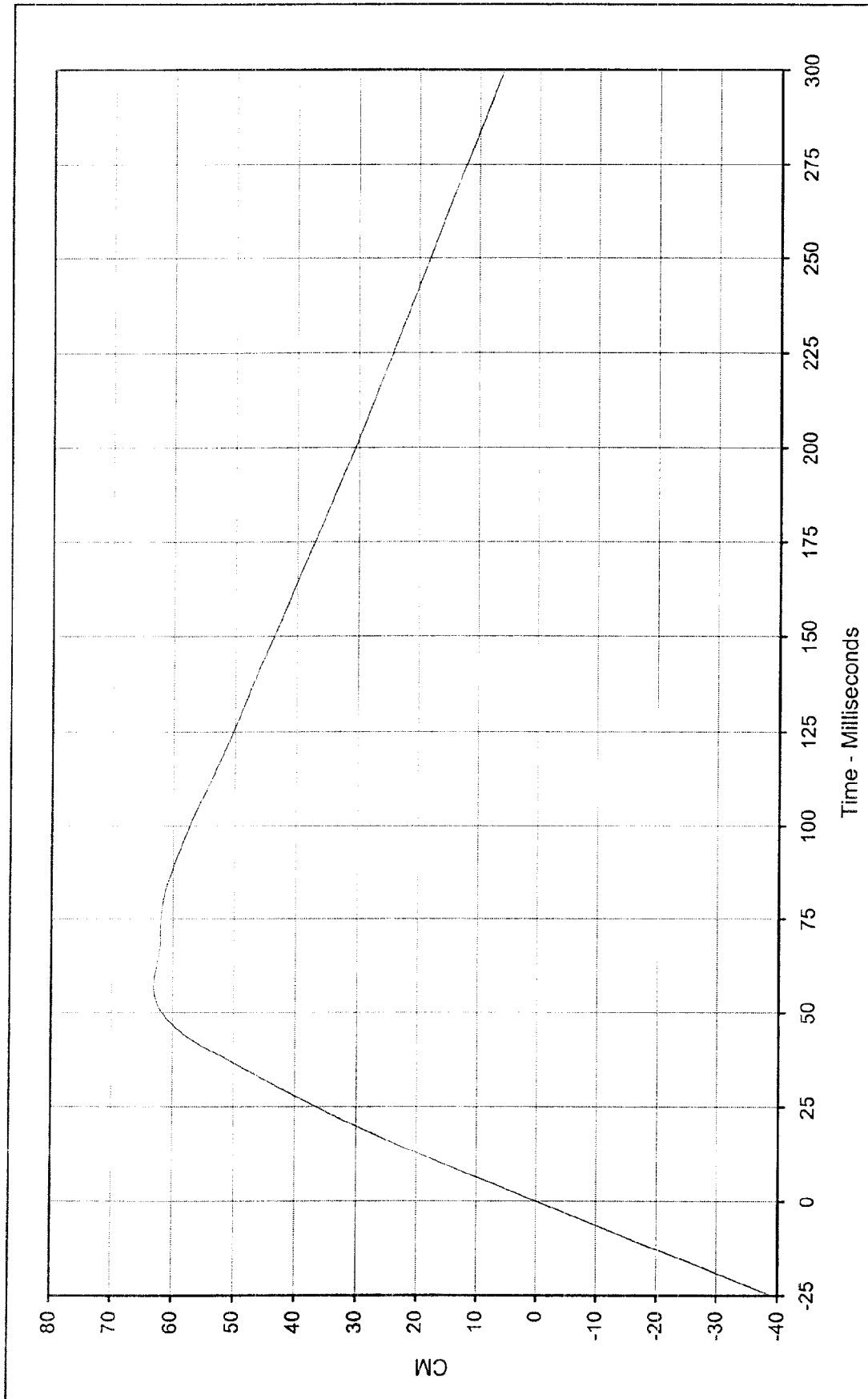
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Curve Description:	Vehicle Right Brake Caliper Velocity	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	56.4 at 6.6 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-11.8 at 107.0 Milliseconds			
SAE Filter Class:	180			
Date of Test:	1/13/99			
Curve Number:	IN1-094			





Curve Description: Vehicle Right Brake Caliper Displ.

Maximum Value: 63.1 at 57.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

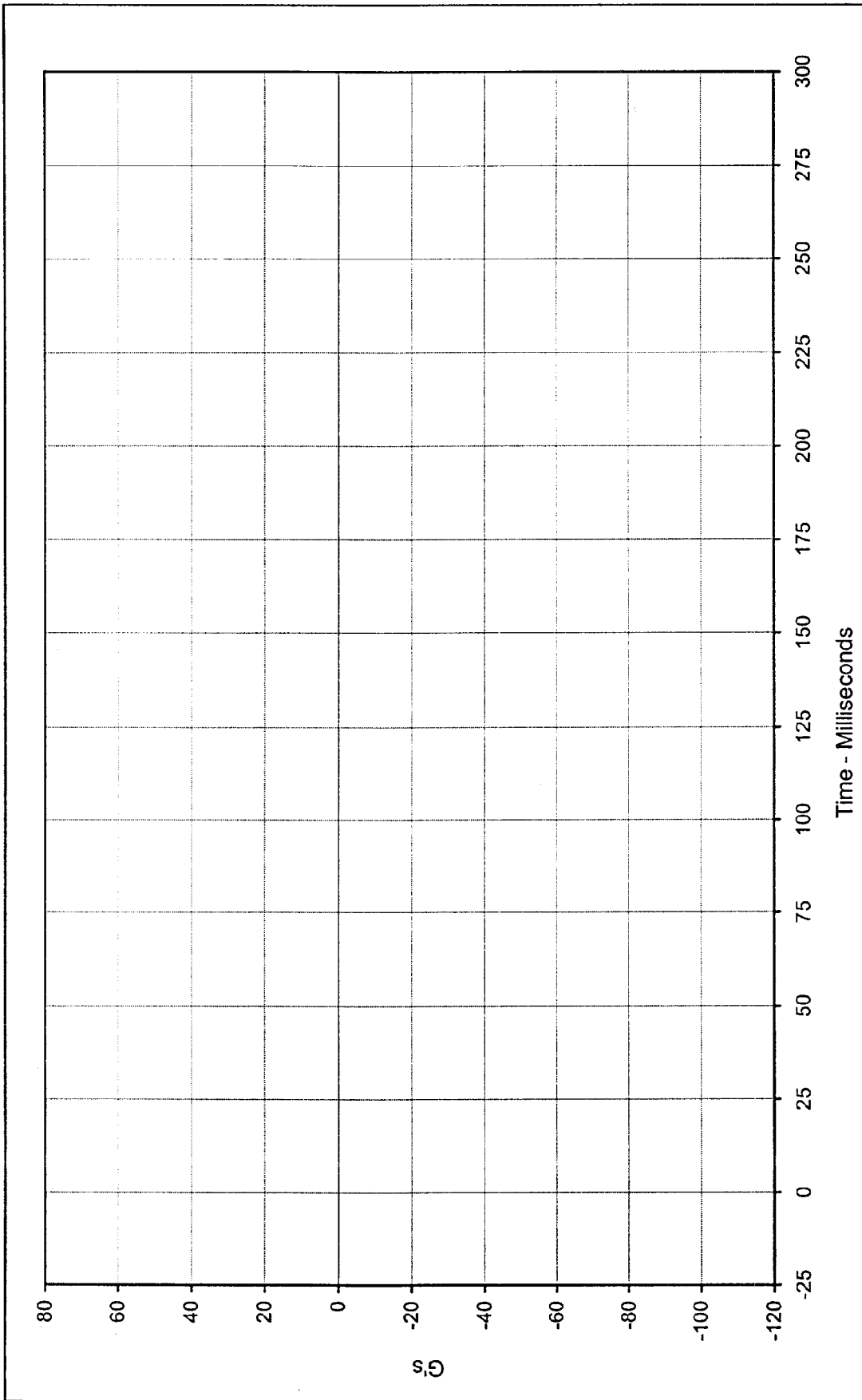
Date of Test: 1/13/99

Curve Number: IN2-094

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan



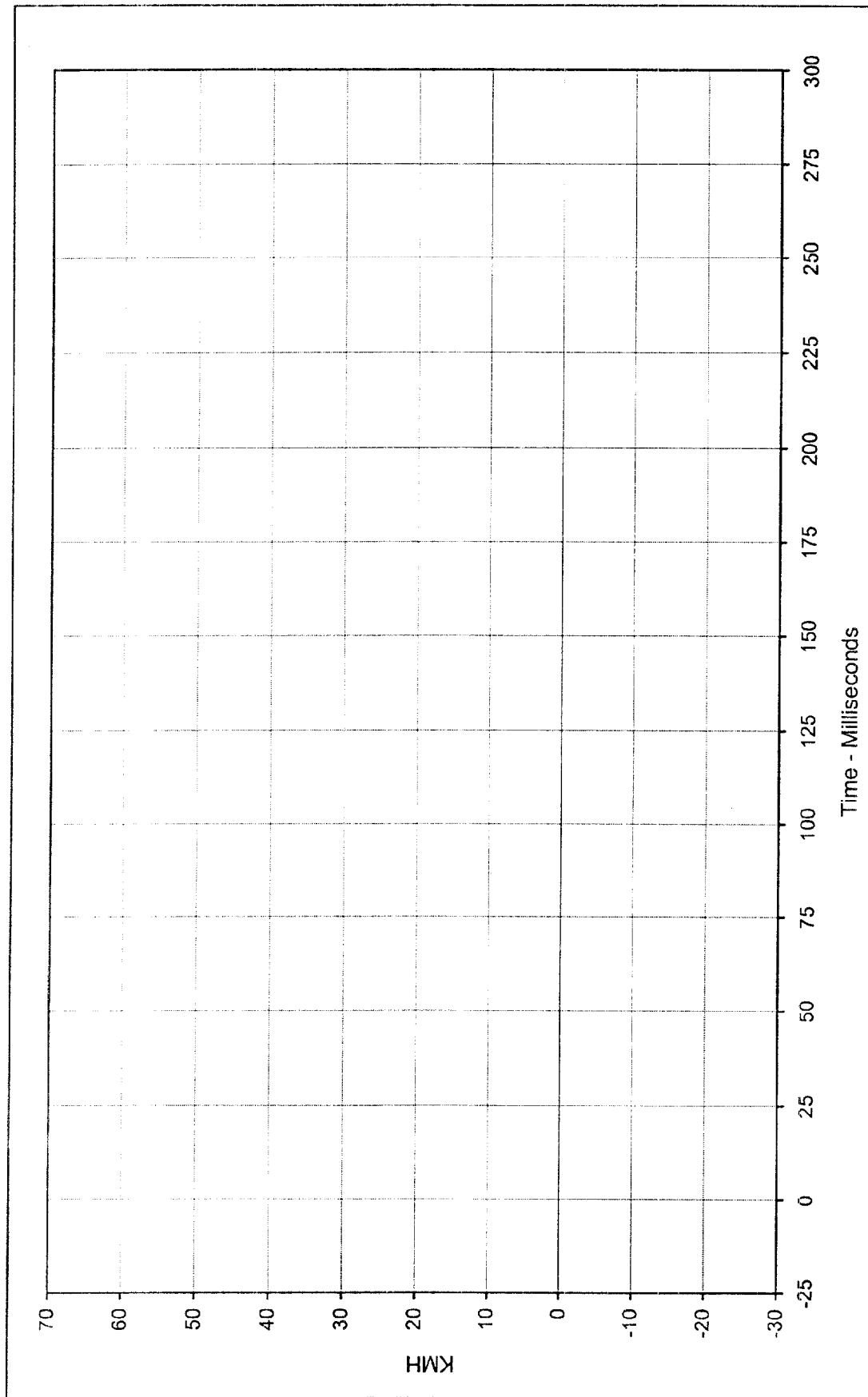


Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Program:
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Vehicle Instrument Panel *
 Maximum Value: 0.0 at 0.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-095



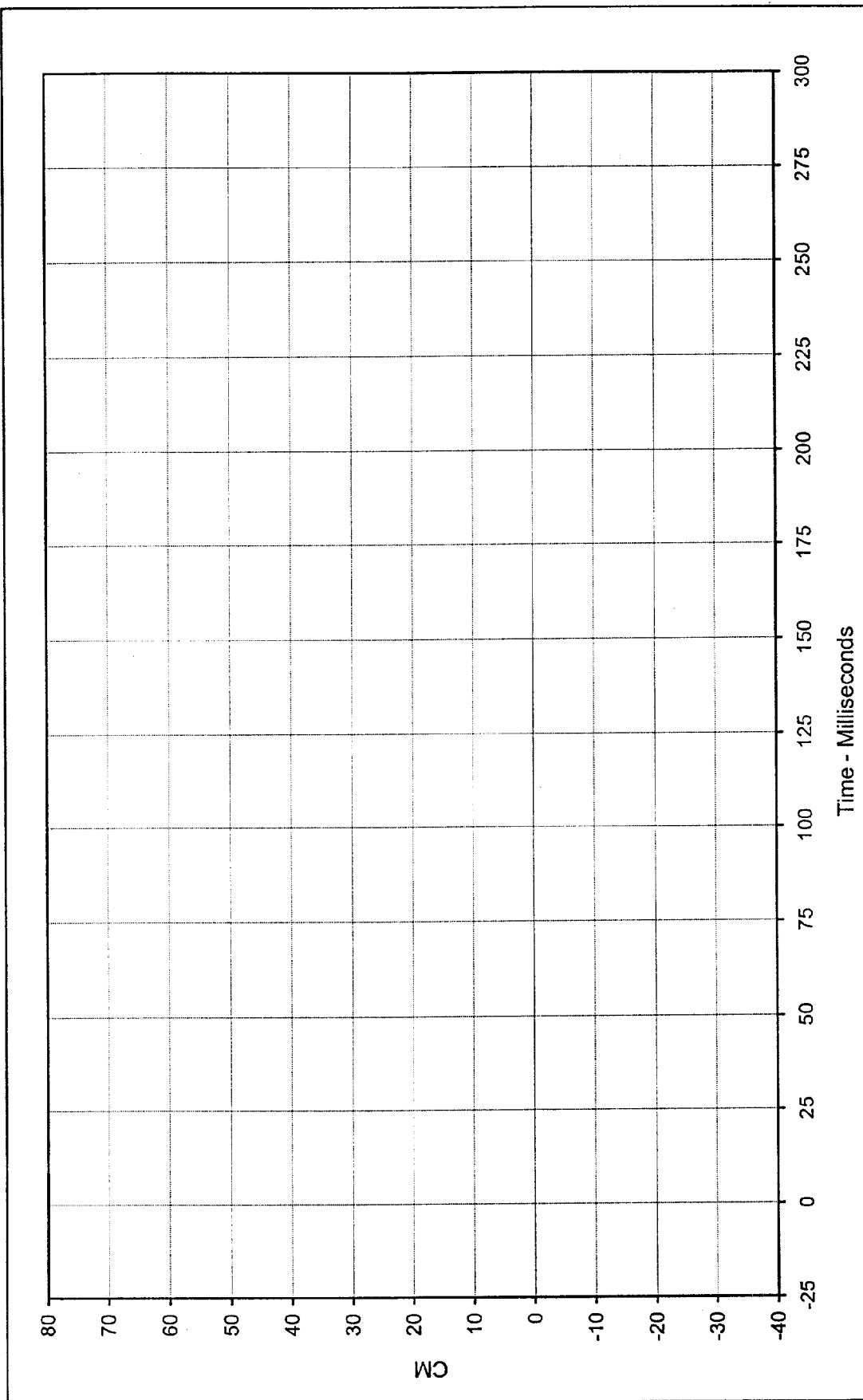
* Not Used, Manufacturer Request



Curve Description:		Vehicle Instrument Panel Velocity *		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	0.0	at	0.0	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	0.0	at	0.0			
SAE Filter Class:	180					
Date of Test:	1/13/99					
Curve Number:	IN1-095					



* Not Used, Manufacturer Request

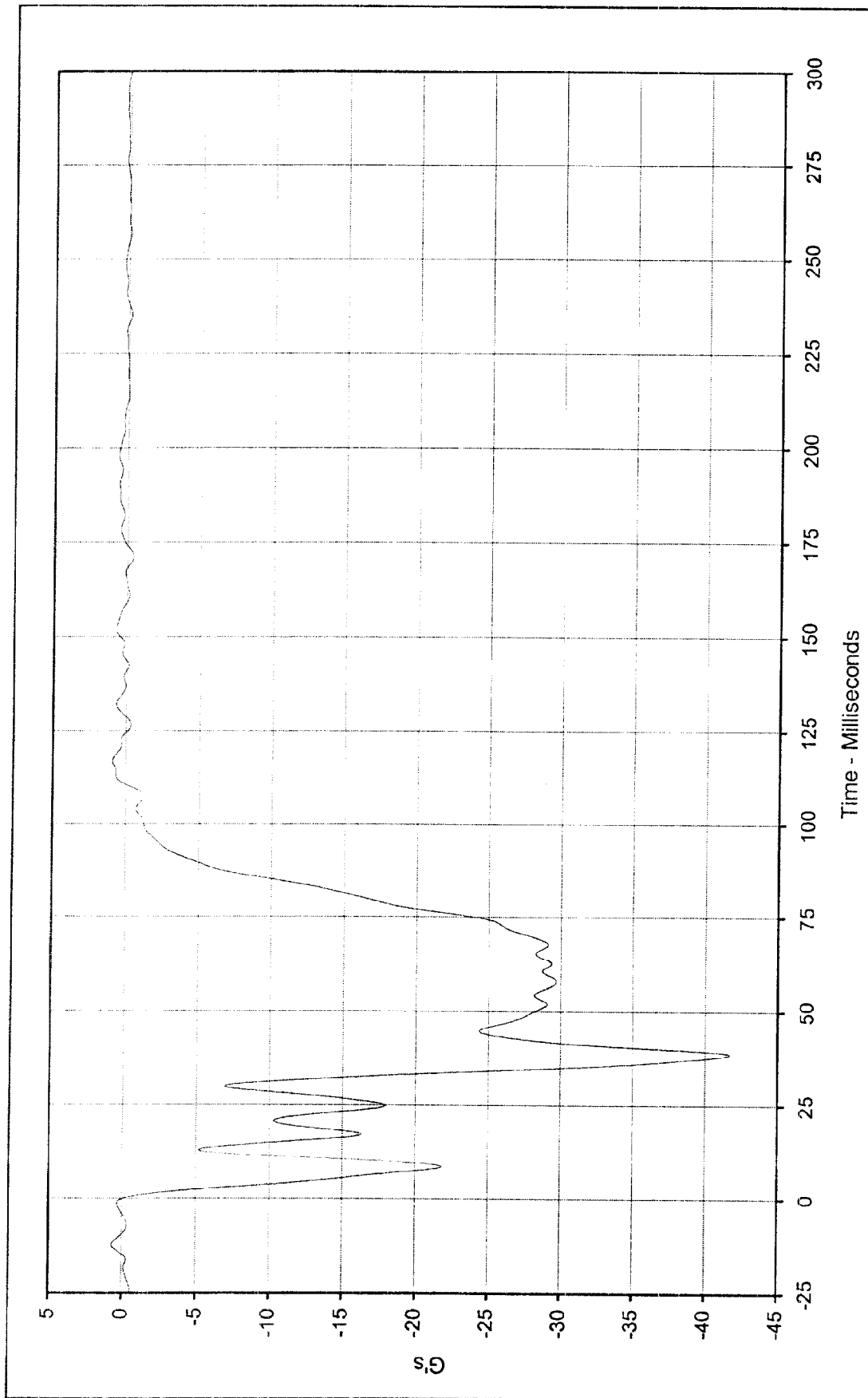


Curve Description: Vehicle Instrument Panel Displacement *
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Maximum Value: 0.0 at 0.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 1/13/99
 Curve Number: IN2-095

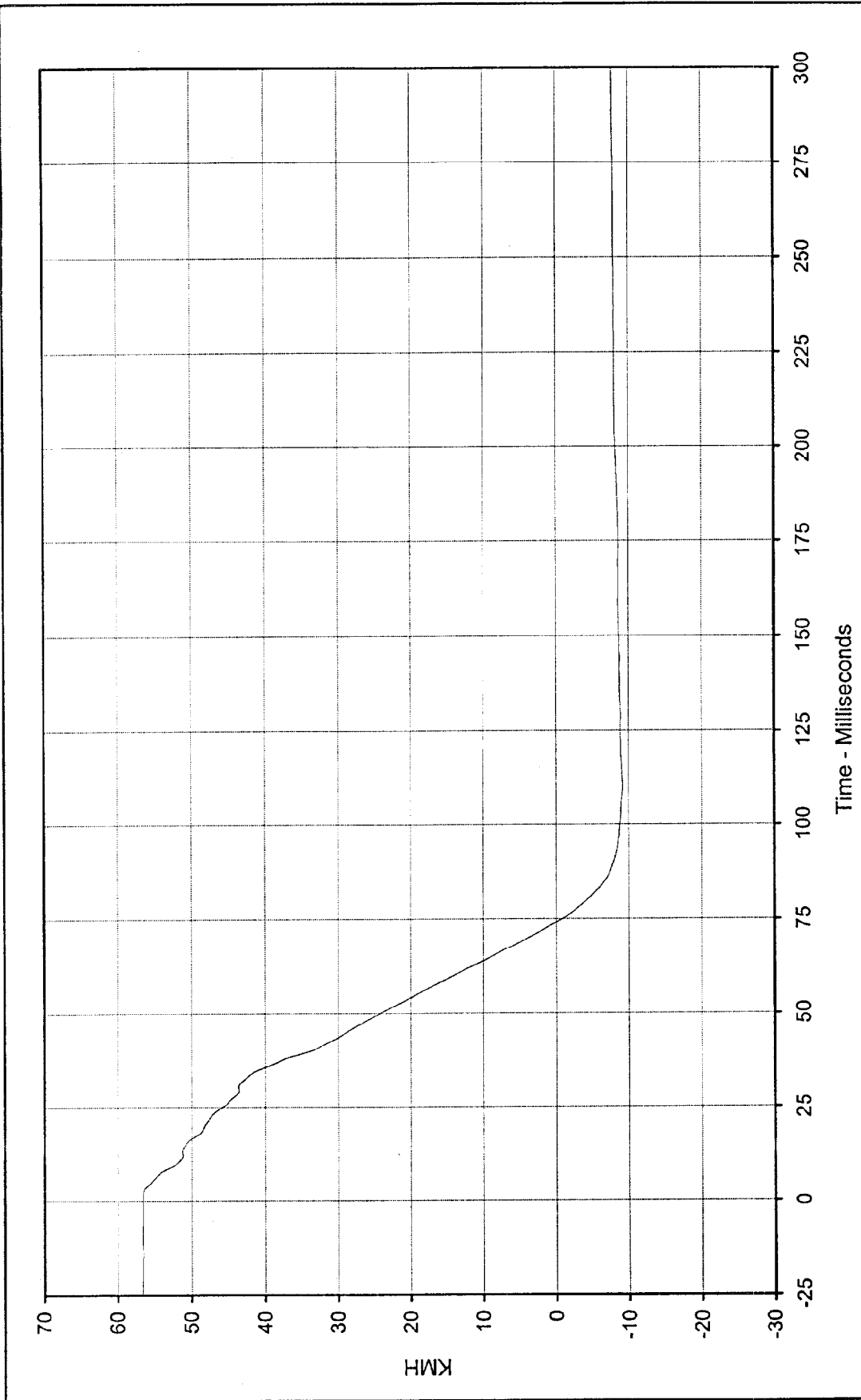


* Not Used, Manufacturer Request



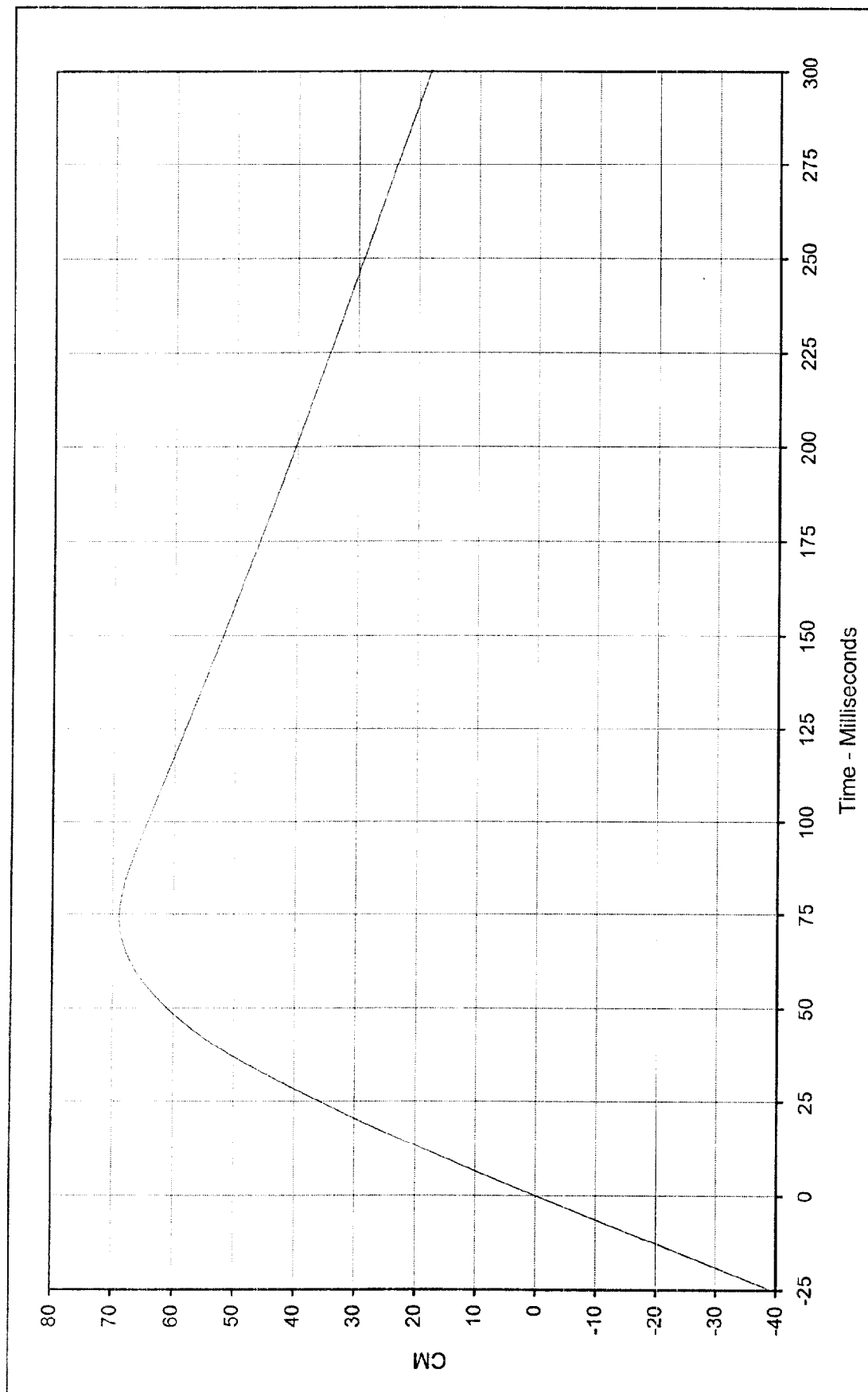
Curve Description:	Vehicle Left Rear Redundant	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	0.9 at 116.9 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-41.7 at 38.6 Milliseconds			
SAE Filter Class:	60			
Date of Test:	1/13/99			
Curve Number:	FIL-096			





Curve Description: Vehicle Left Rear Redundant Velocity	Test Program: 1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value: 56.6 at 0.0 Milliseconds	Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan	
Minimum Value: -9.2 at 110.1 Milliseconds		
SAE Filter Class: 180		
Date of Test: 1/13/99		
Curve Number: IN1-096		





Curve Description: Vehicle Left Rear Redundant Displ.

Maximum Value: 68.9 at 74.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 1/13/99

Curve Number: IN2-096

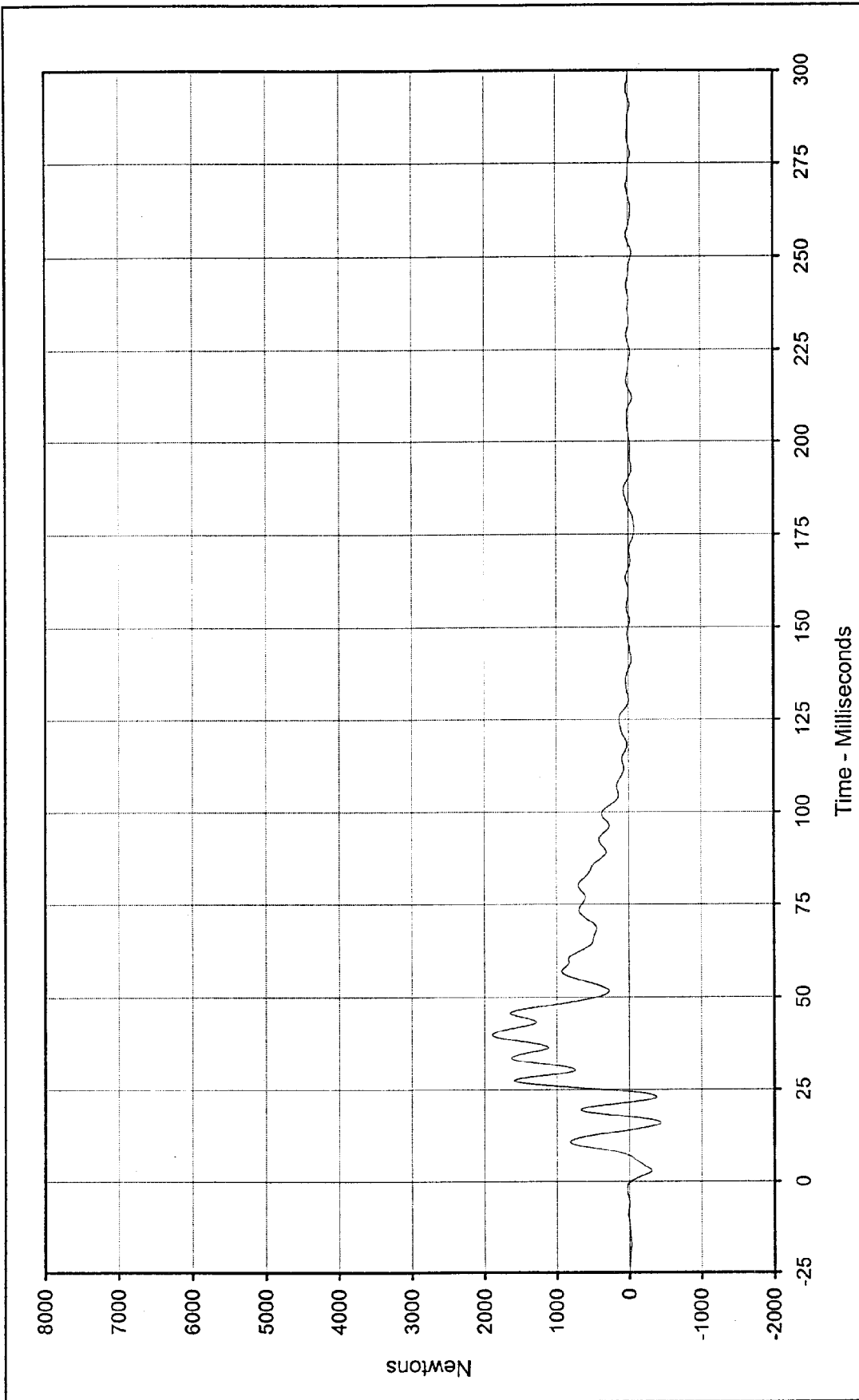
Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan



APPENDIX C
LOAD CELL BARRIER INFORMATION

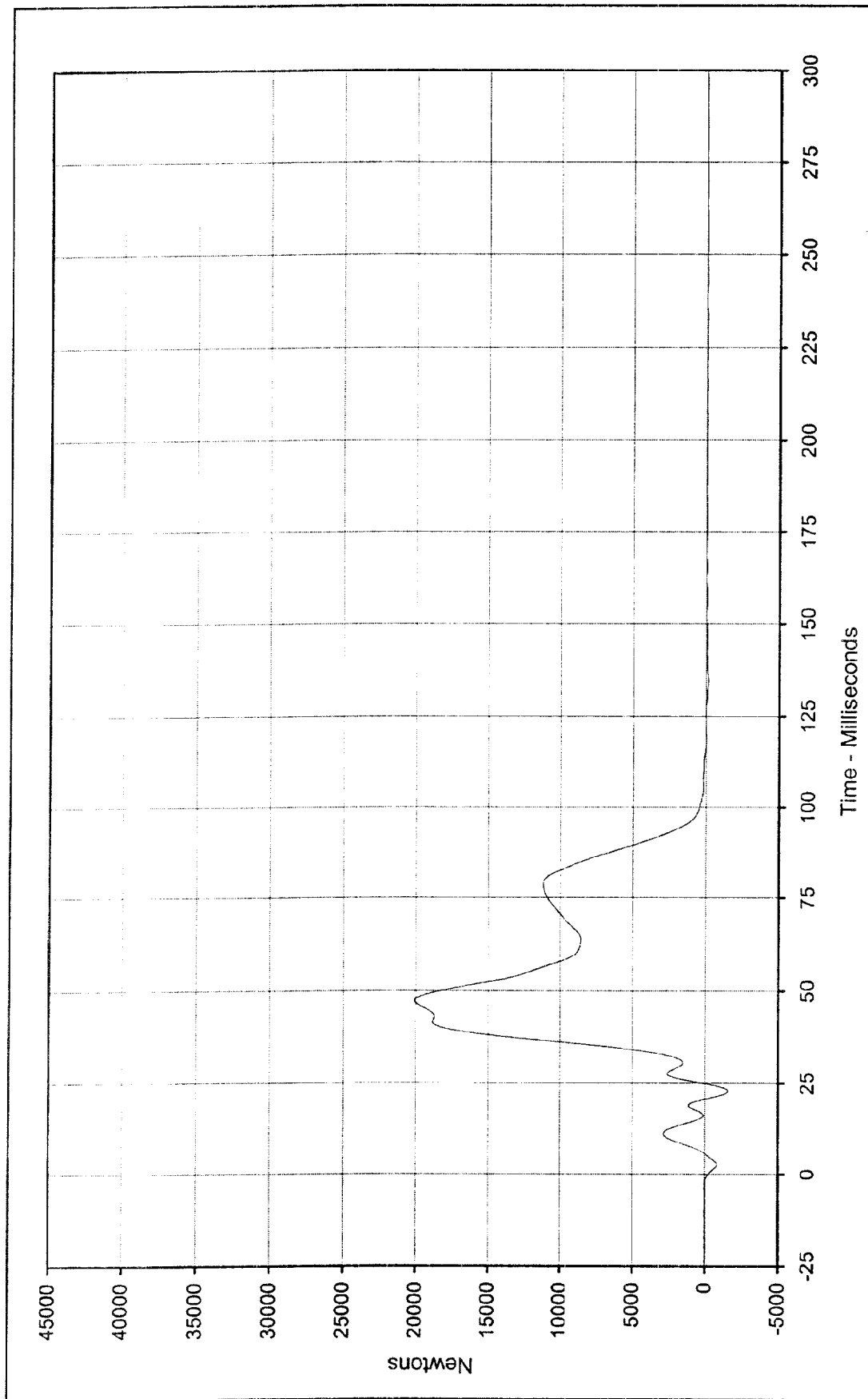
KAR99001-09



Curve Description: Barrier Force A2
 Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Maximum Value: 1892.8 at 40.0 Milliseconds
 Minimum Value: -436.0 at 15.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-099





Curve Description: Barrier Force A3

Maximum Value: 20069.2 at 47.4 Milliseconds

Minimum Value: -1591.1 at 22.8 Milliseconds

SAE Filter Class: 60

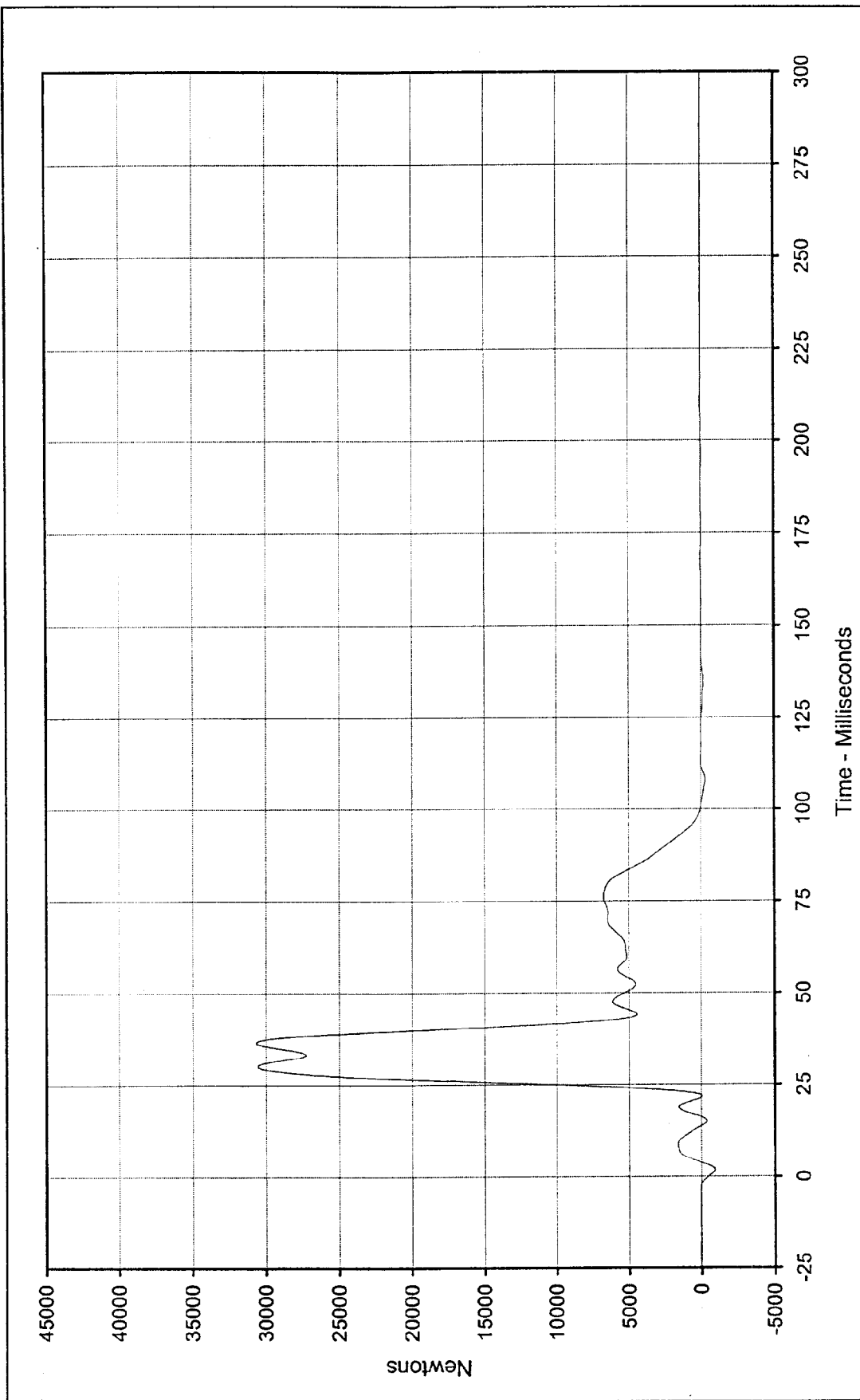
Date of Test: 1/13/99

Curve Number: FIL-100

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

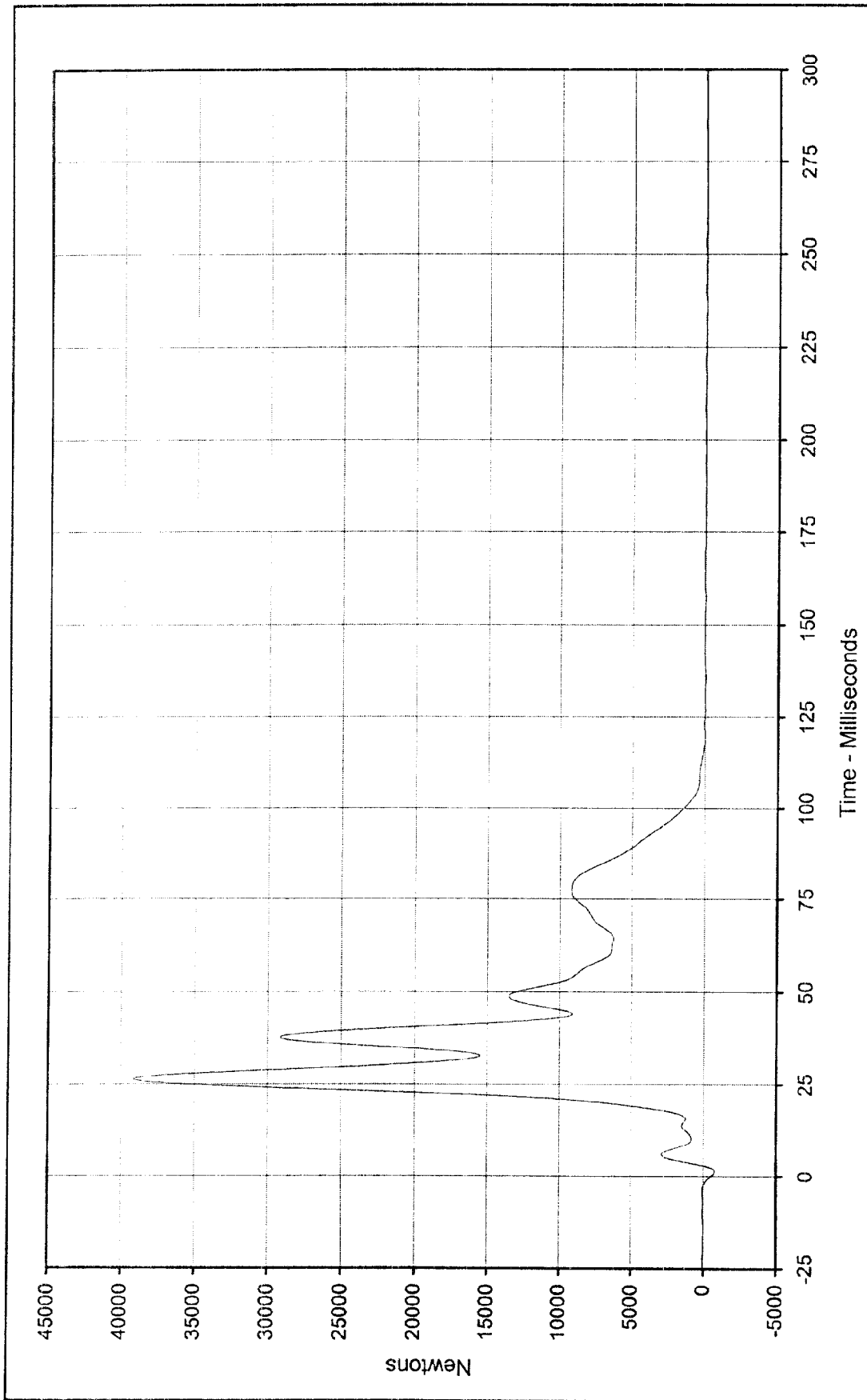




Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan



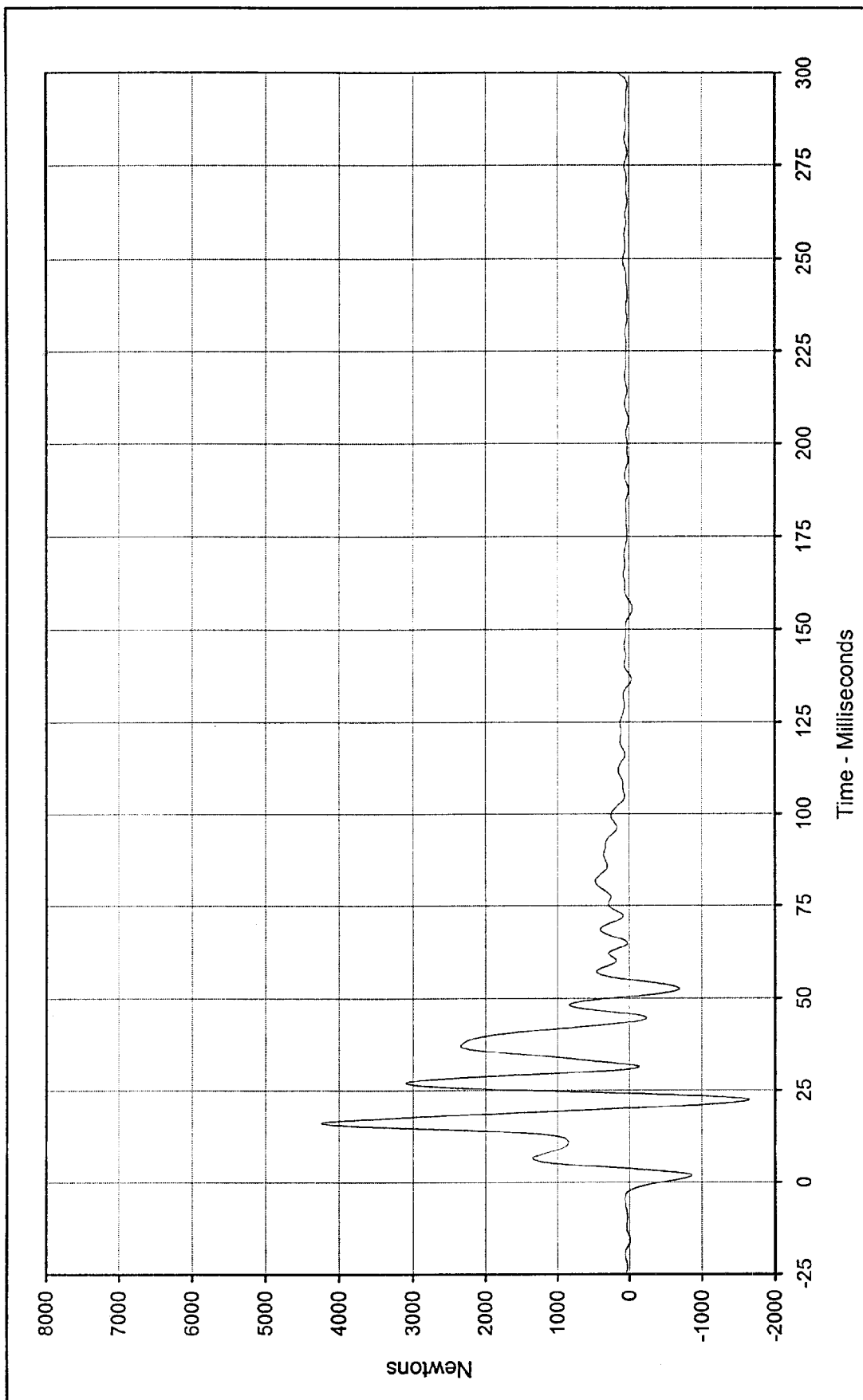
Curve Description: Barrier Force A4
 Maximum Value: 30668.7 at 36.6 Milliseconds
 Minimum Value: -921.1 at 1.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-101



Curve Description:	Barrier Force A5	Test Program:	1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value:	39164.0 at 26.3 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	-786.1 at 1.3 Milliseconds		



SAE Filter Class:	60
Date of Test:	1/13/99
Curve Number:	FIL-102



Curve Description: Barrier Force A6

Maximum Value: 4244.8 at 16.2 Milliseconds

Minimum Value: -1653.4 at 22.4 Milliseconds

SAE Filter Class: 60

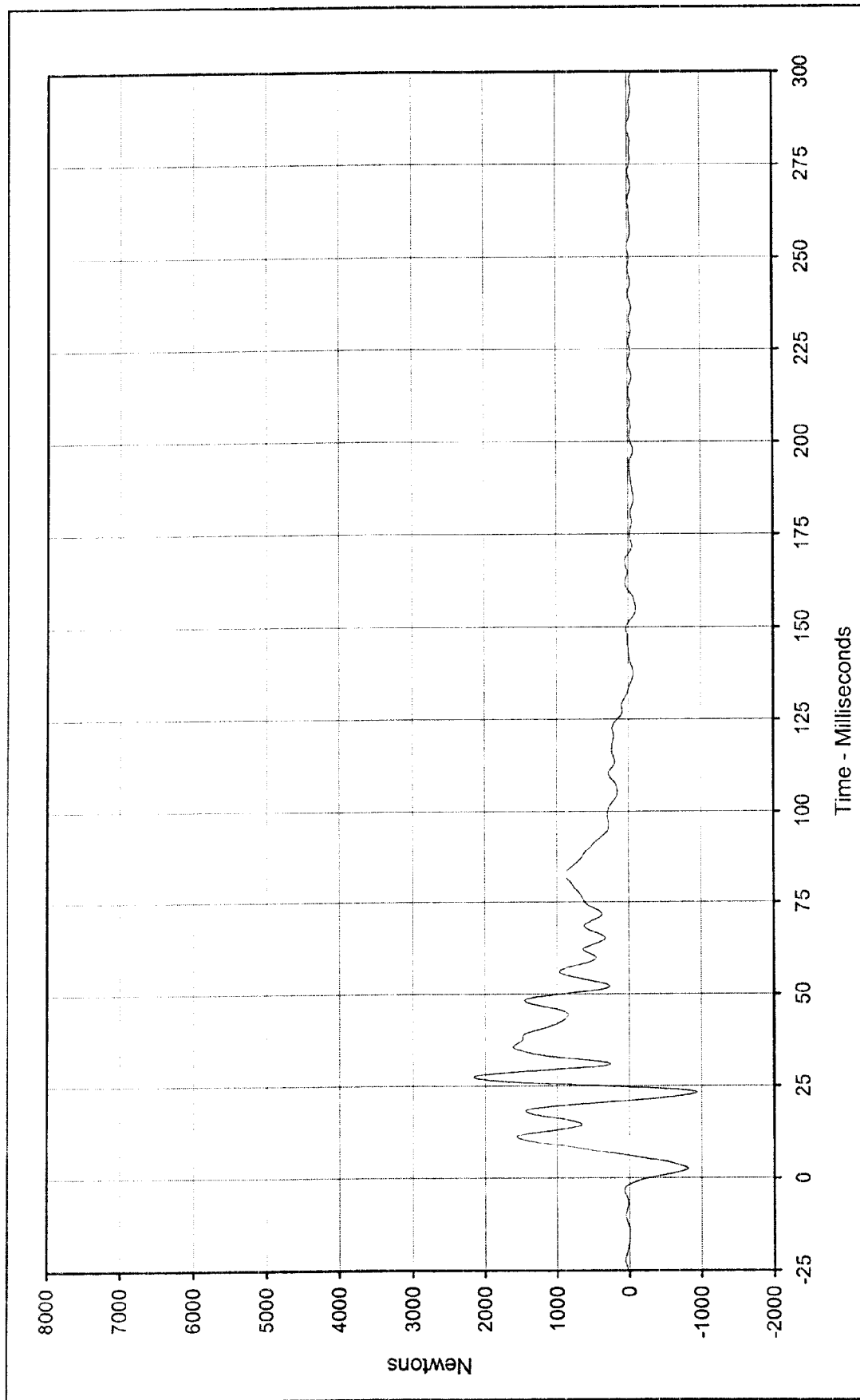
Date of Test: 1/13/99

Curve Number: FIL-103

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Program: 1999 Mazda 626 LX 4 Door Sedan

Barrier Force A7

Maximum Value: 2154.2 at 27.5 Milliseconds

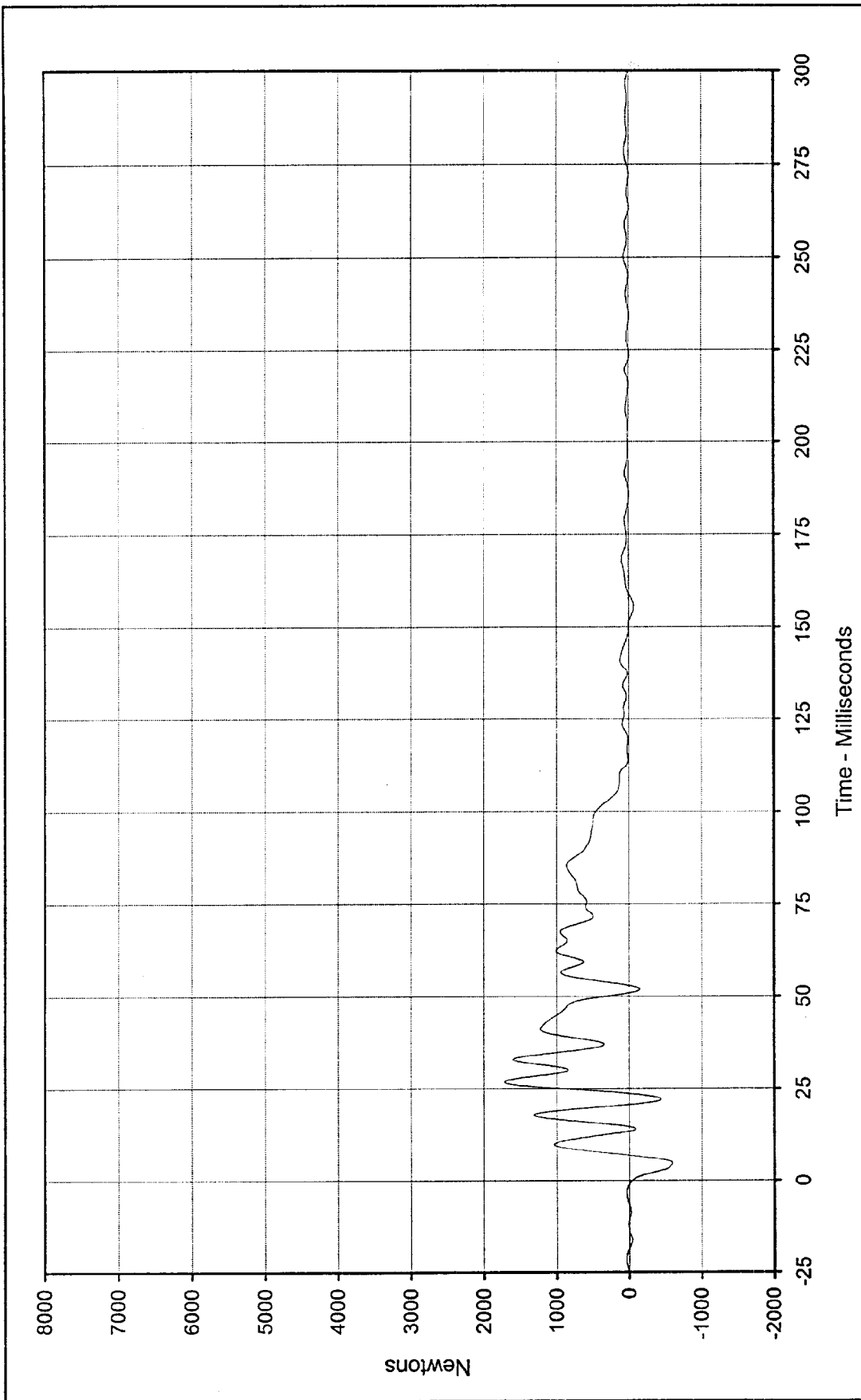
Minimum Value: -935.7 at 23.2 Milliseconds

SAE Filter Class: 60

Date of Test: 1/13/99

Curve Number: FIL-104

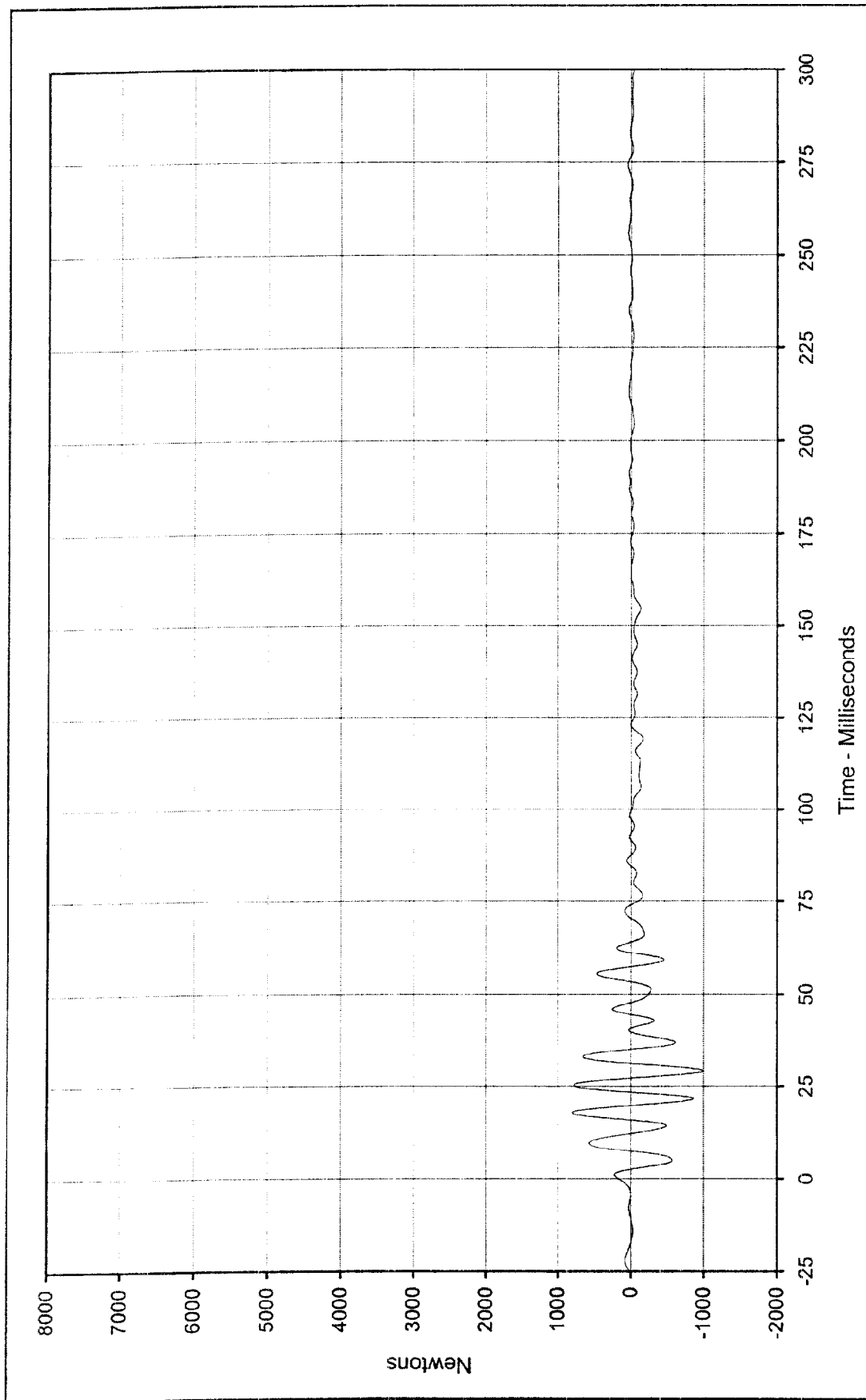




Curve Description: Barrier Force A8
 Maximum Value: 1717.8 at 26.8 Milliseconds
 Minimum Value: -593.5 at 4.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-105

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

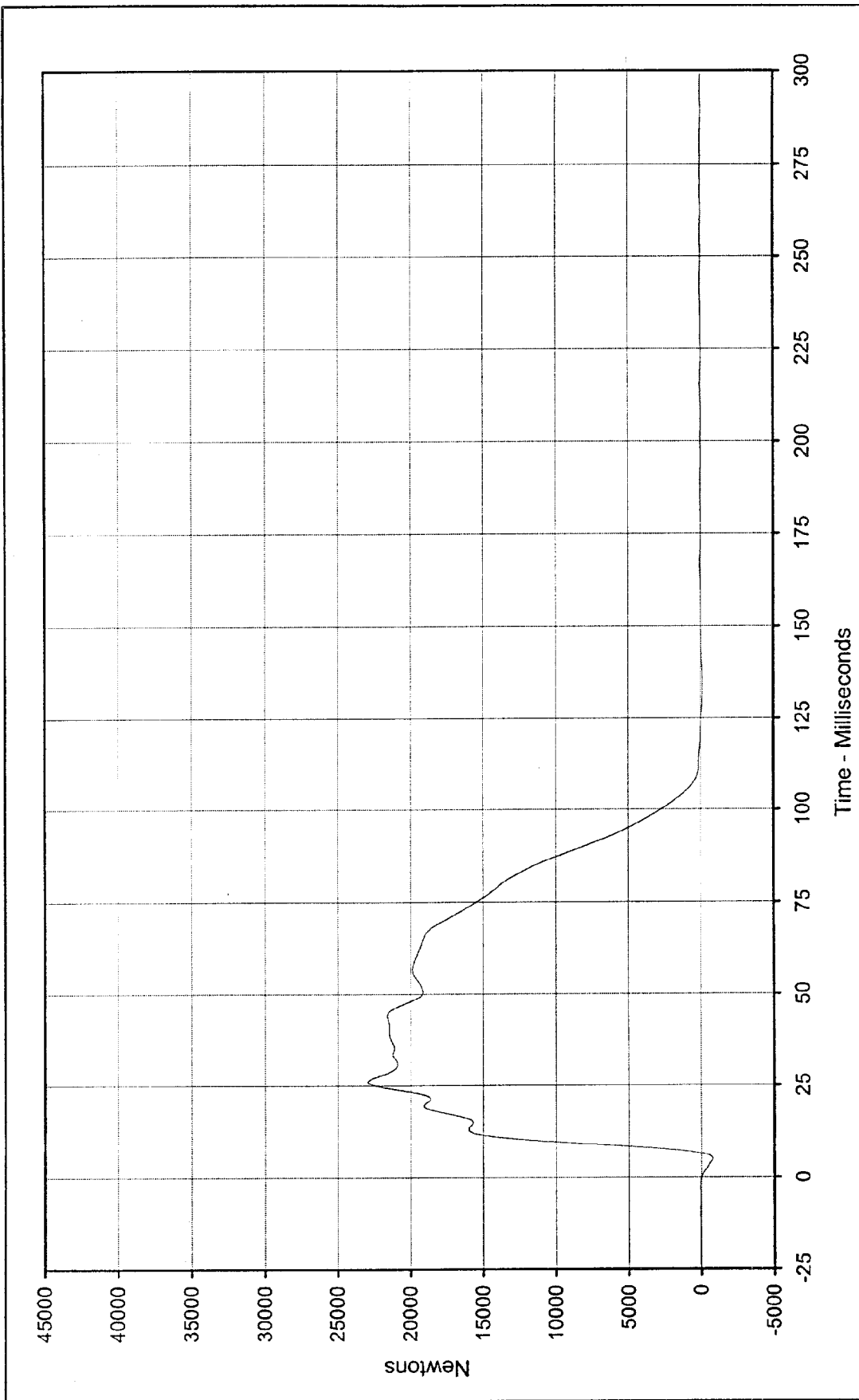




Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Program:
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Barrier Force A9
 Maximum Value: 801.9 at 17.9 Milliseconds
 Minimum Value: -1002.1 at 29.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-106

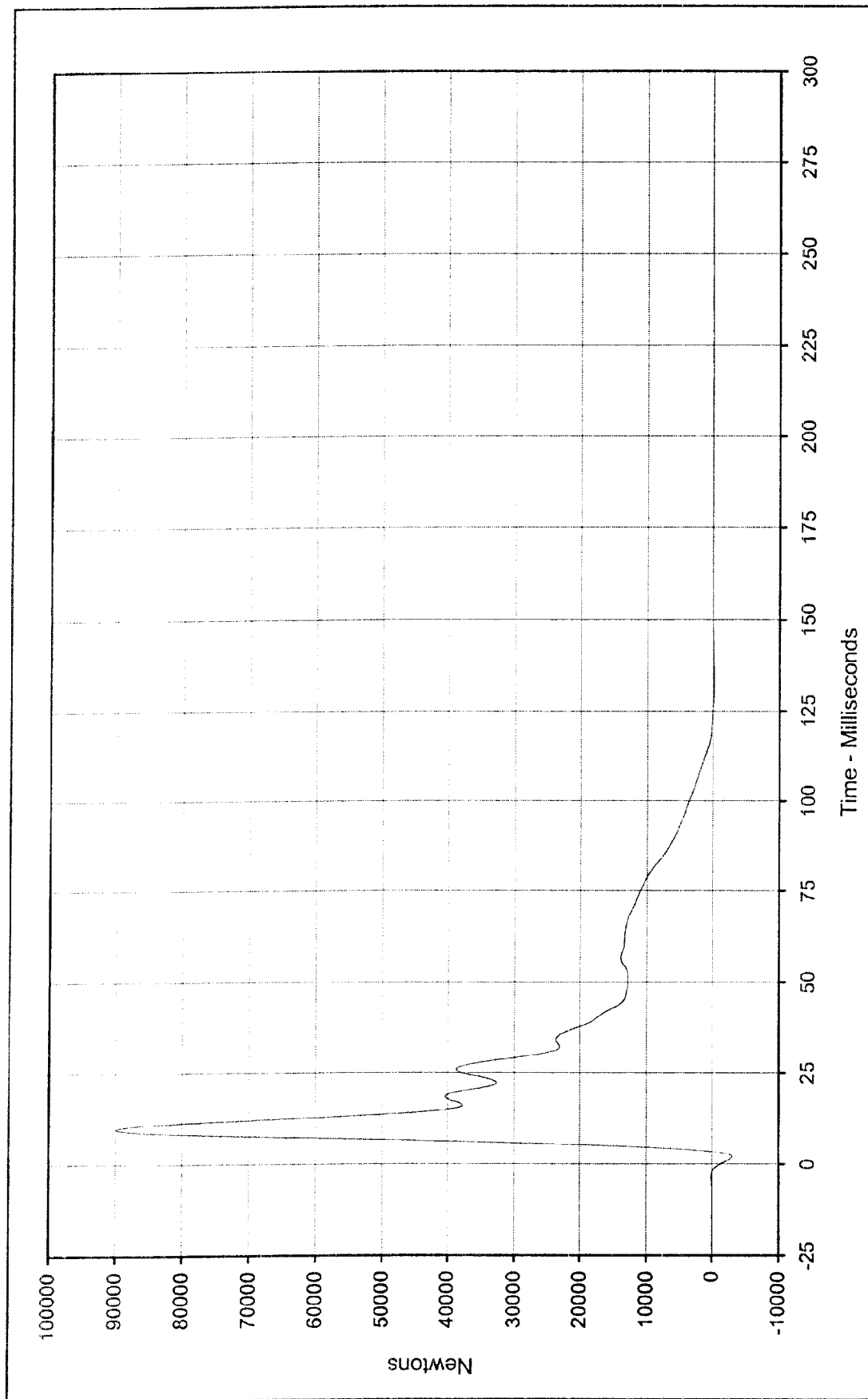




Curve Description: Barrier Force B2
 Maximum Value: 22929.1 at 26.0 Milliseconds
 Minimum Value: -784.5 at 5.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-108

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

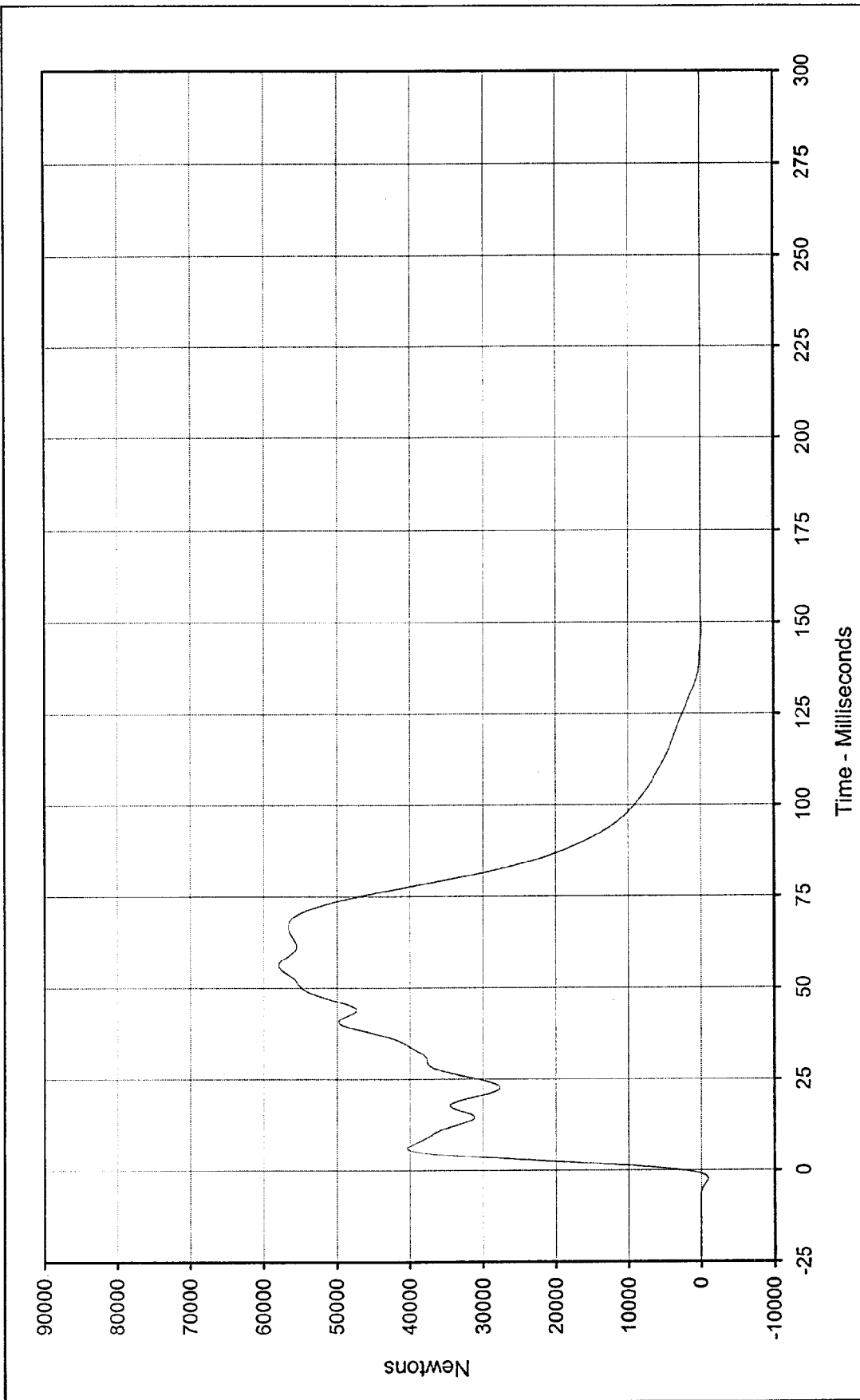




Curve Description: Barrier Force B3
 Maximum Value: 89895.5 at 9.8 Milliseconds
 Minimum Value: -3073.4 at 2.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-109

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

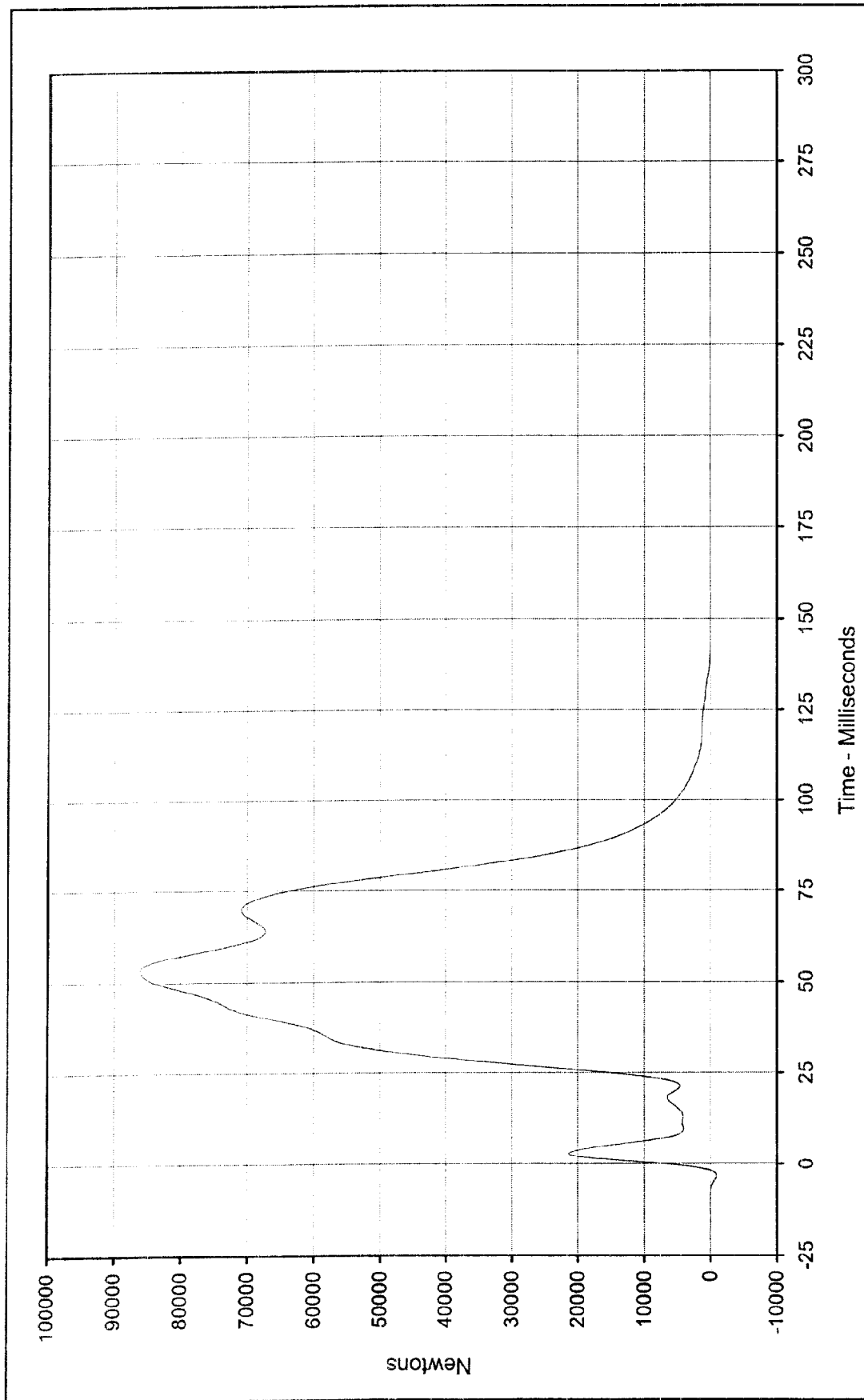




Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

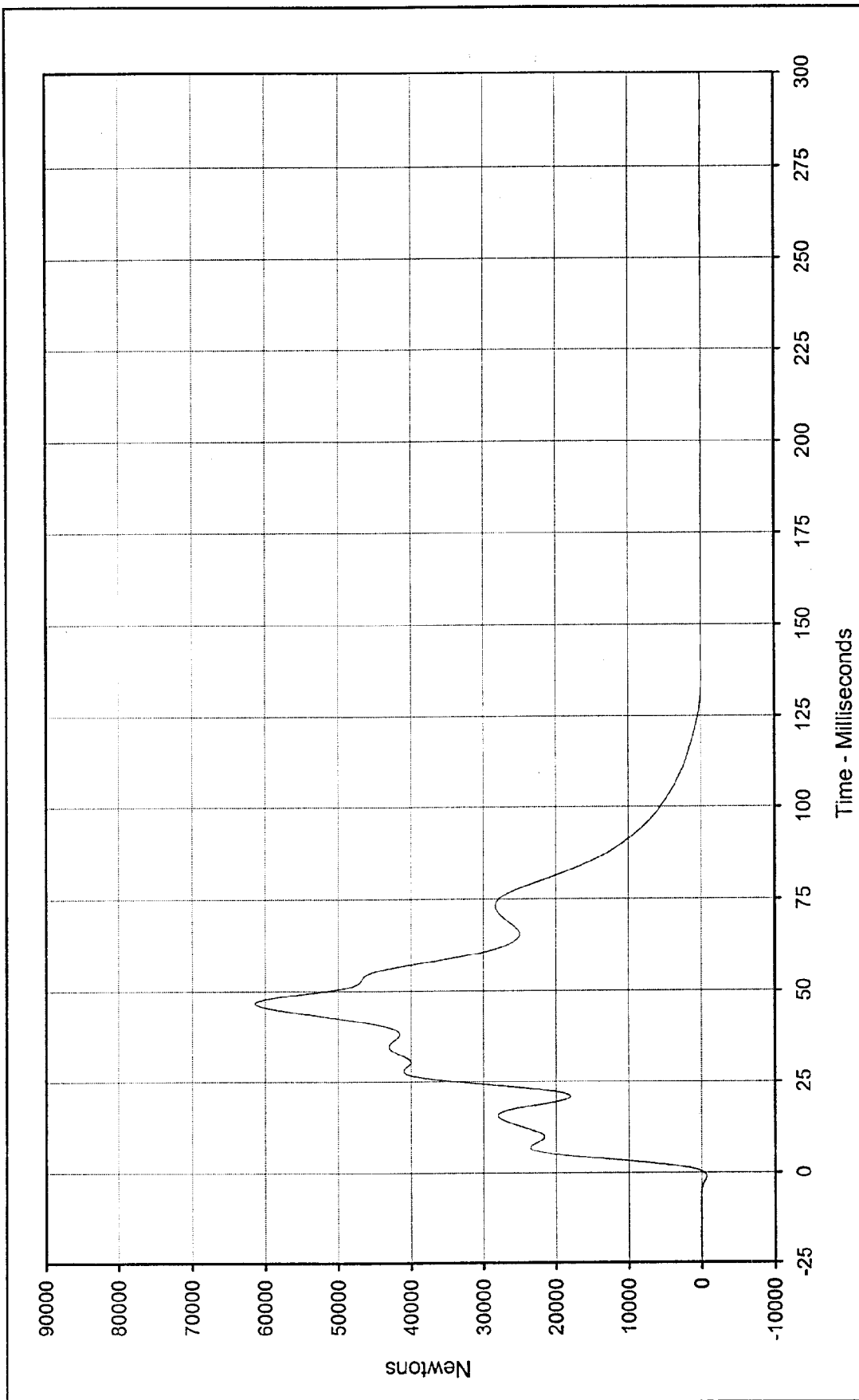


Curve Description: Barrier Force B4
 Maximum Value: 57966.2 at 56.3 Milliseconds
 Minimum Value: -128.9 at 148.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-110



Curve Description:	Barrier Force B5	Test Program:	1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value:	86163.0 at 53.4 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan
Minimum Value:	-13.6 at 156.1 Milliseconds		
SAE Filter Class:	60		
Date of Test:	1/13/99		
Curve Number:	FIL-111		





Curve Description: Barrier Force B6

Maximum Value: 61394.5 at 46.7 Milliseconds

Minimum Value: -285.1 at 0.0 Milliseconds

SAE Filter Class: 60

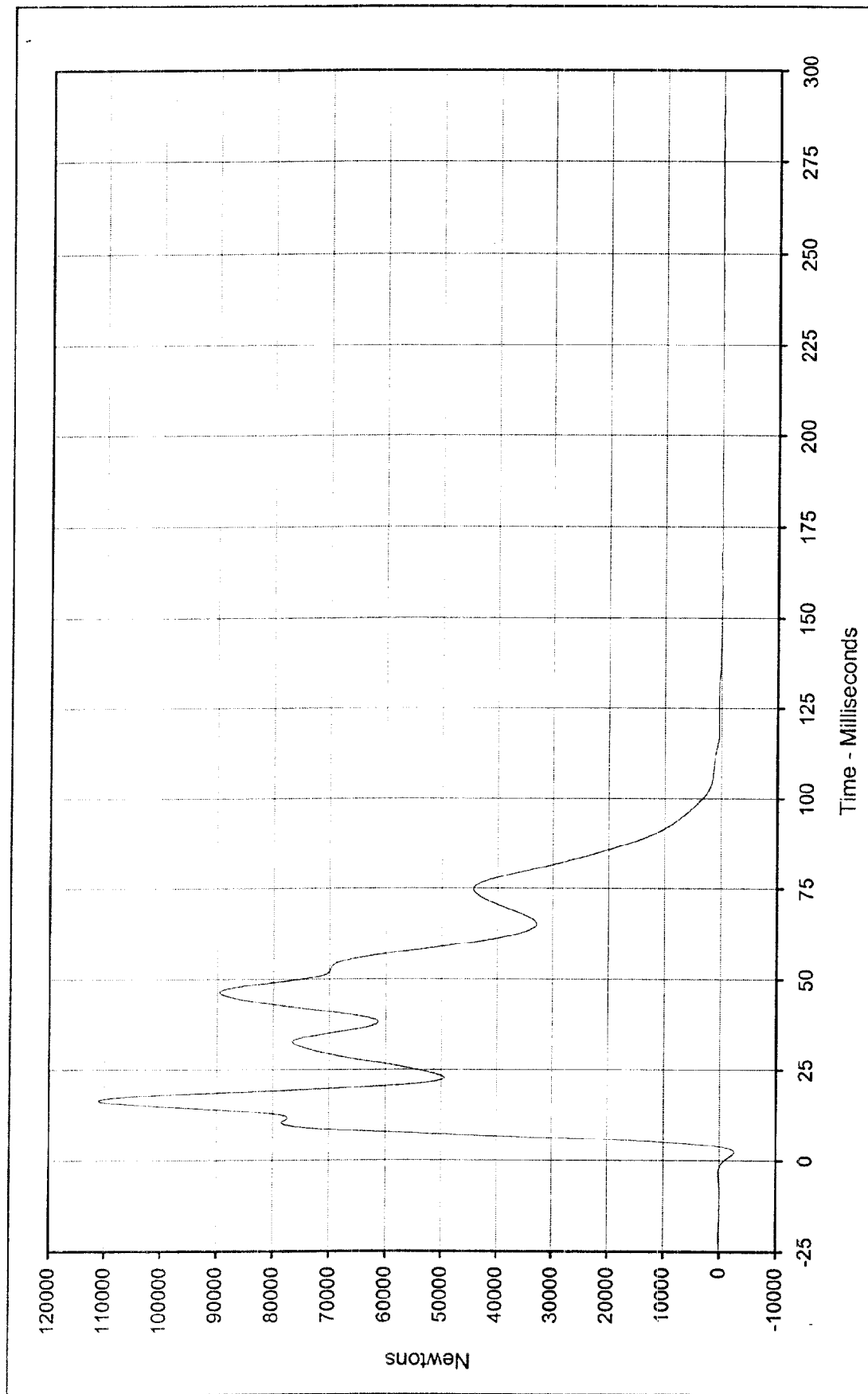
Date of Test: 1/13/99

Curve Number: FIL-112

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan



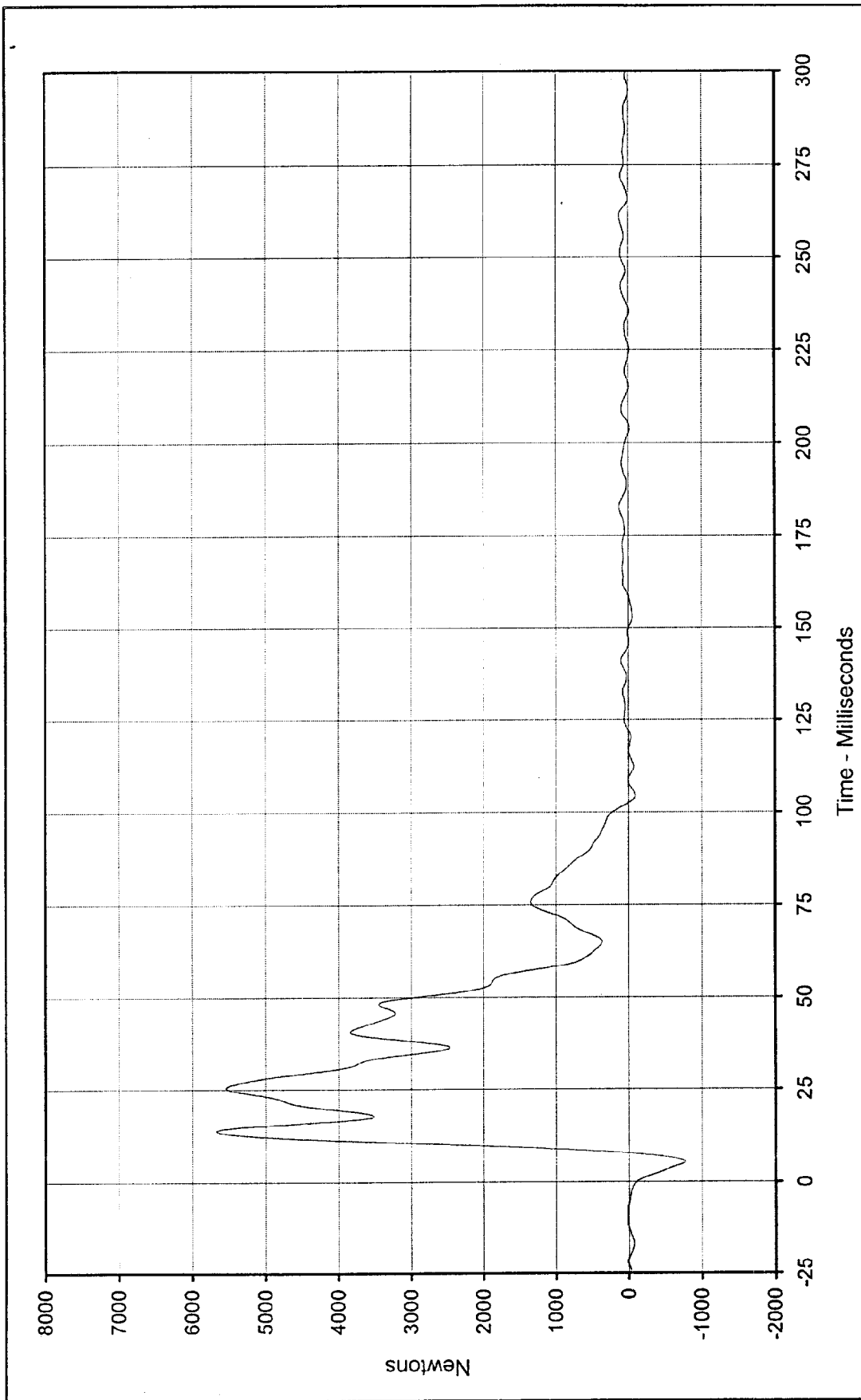


Curve Description:	Barrier Force B7		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	111159.3	at 16.5 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-2690.8	at 2.3 Milliseconds			
SAE Filter Class:	60				
Date of Test:	1/13/99				
Curve Number:	FIL-113				



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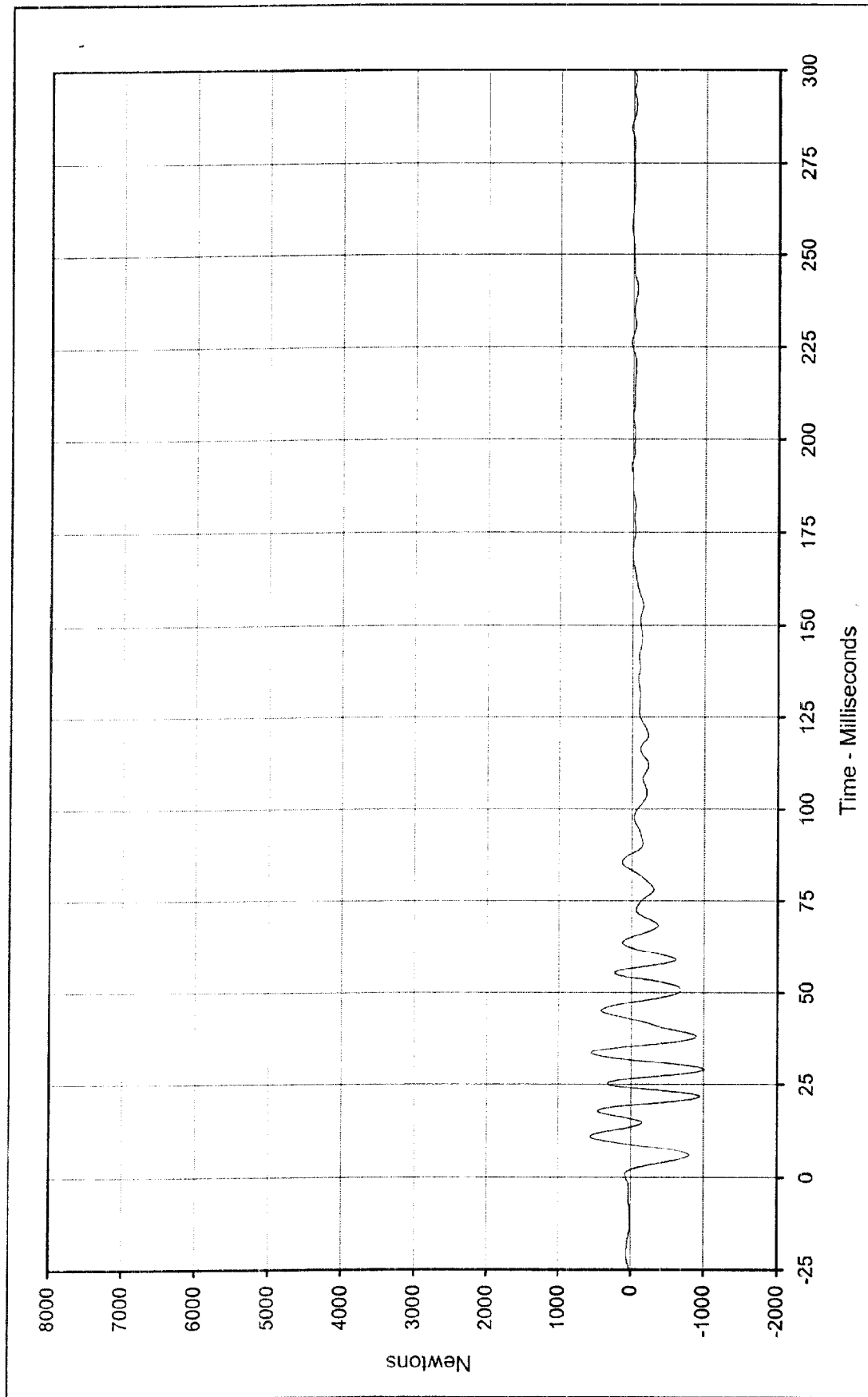




Curve Description: Barrier Force B8
 Maximum Value: 5688.5 at 13.9 Milliseconds
 Minimum Value: -773.4 at 5.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-114

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Program: 1999 Mazda 626 LX 4 Door Sedan

Test Vehicle:

Barrier Force B9

Maximum Value: 561.6 at 10.9 Milliseconds

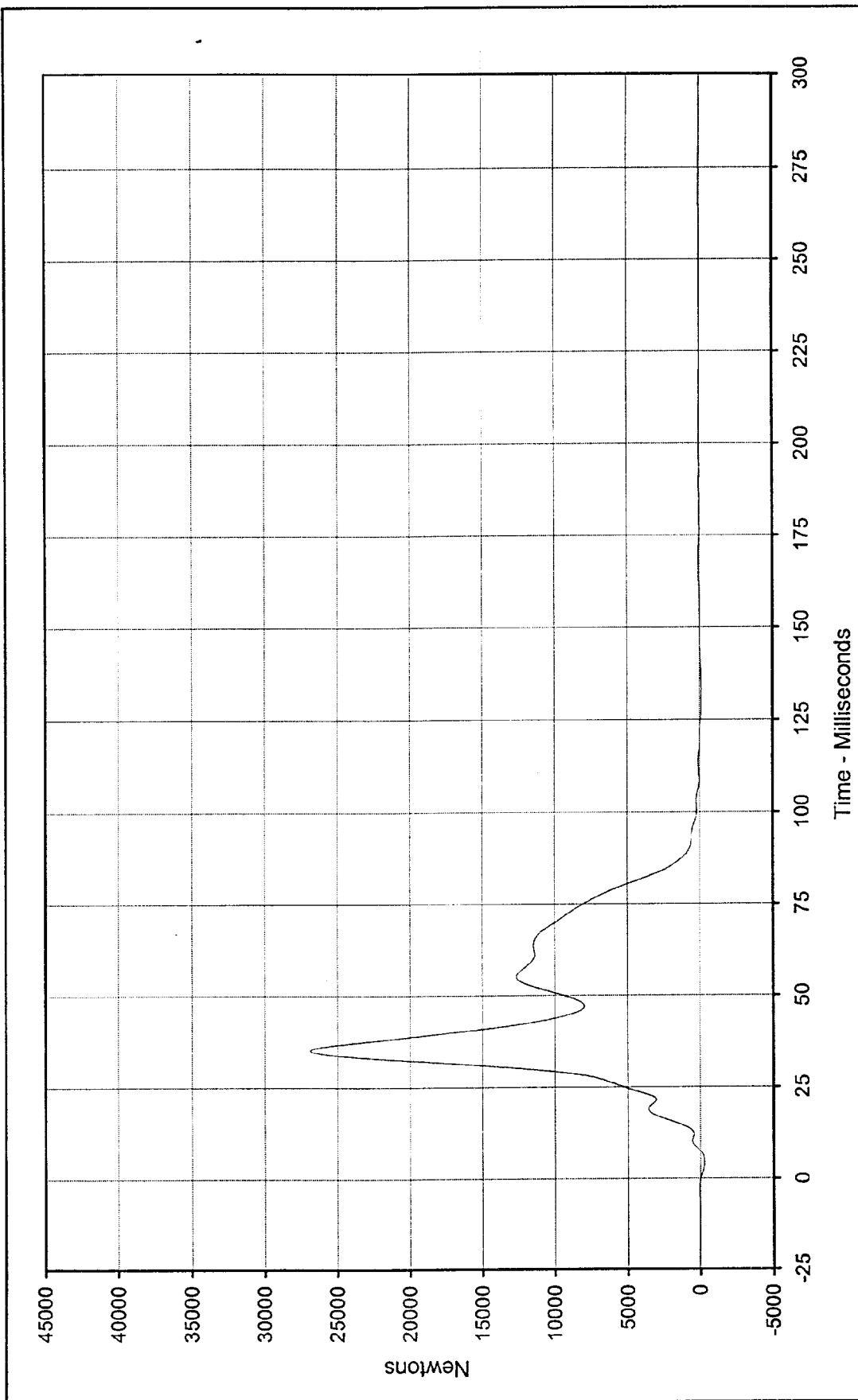
Minimum Value: -1010.5 at 29.0 Milliseconds

SAE Filter Class: 60

Date of Test: 1/13/99

Curve Number: FIL-115



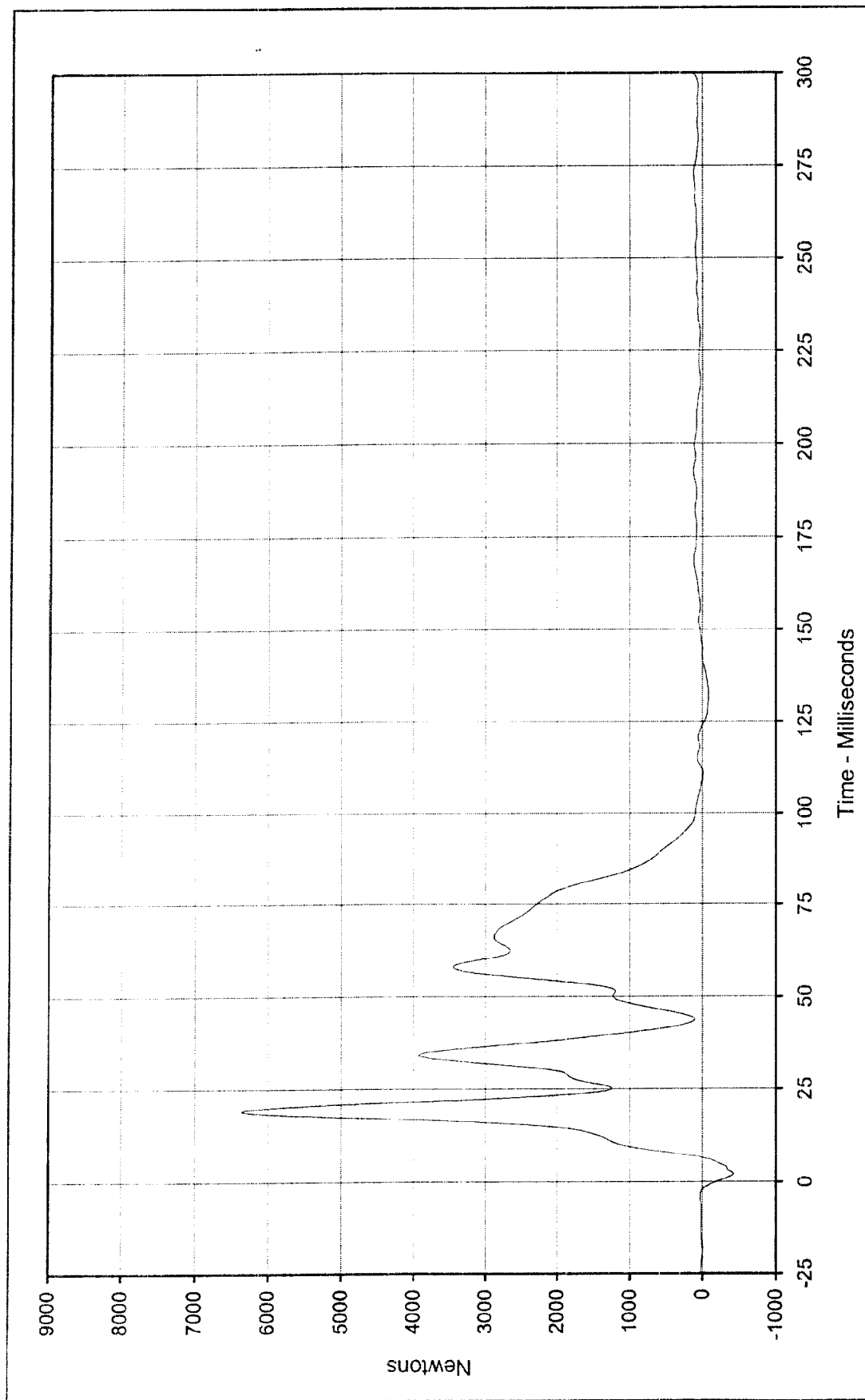


Curve Description: Barrier Force C2
 Maximum Value: 26880.5 at 35.2 Milliseconds
 Minimum Value: -271.0 at 4.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-117

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

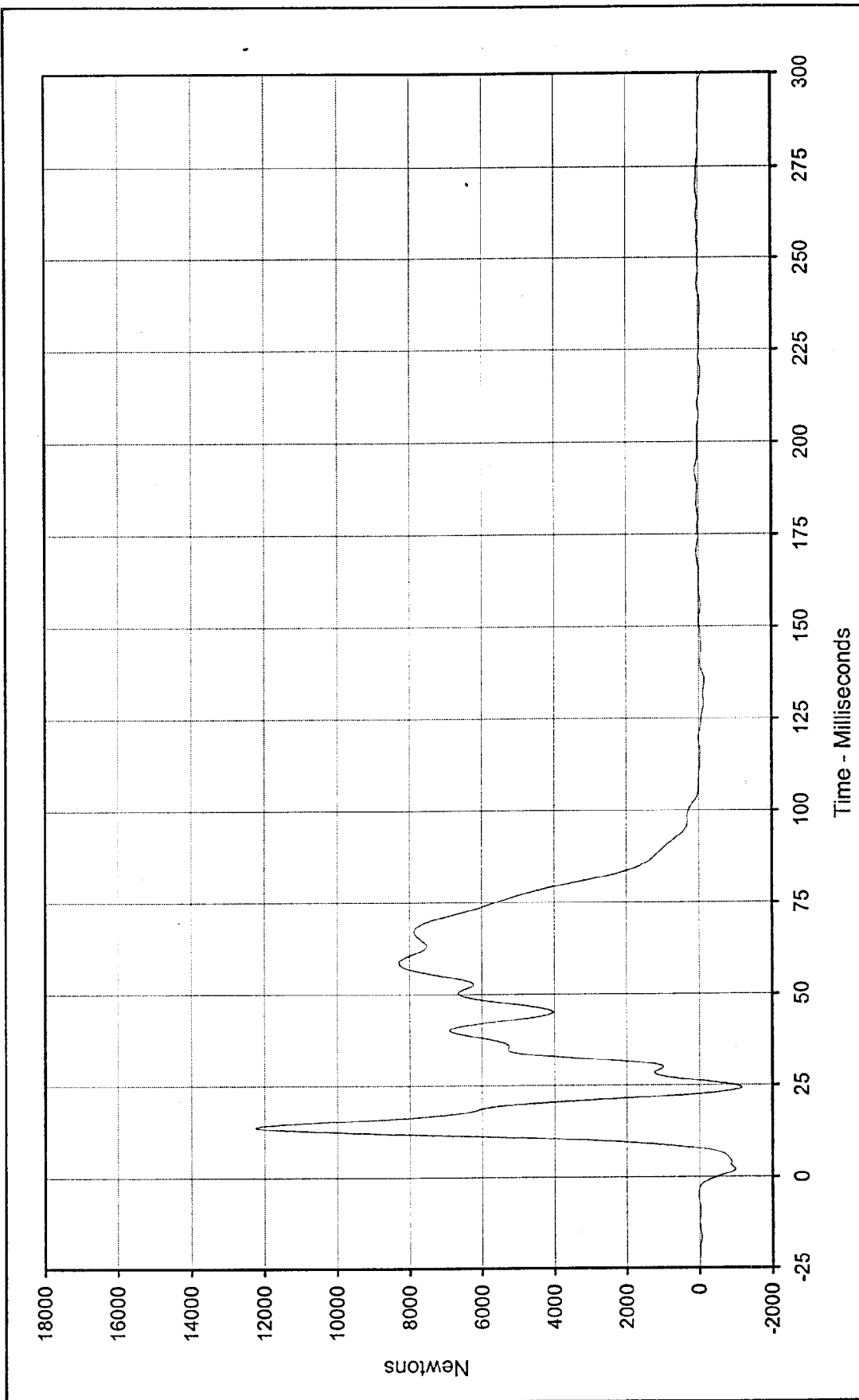




Curve Description: Barrier Force C3 Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
Maximum Value: 6355.5 at 19.1 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan
Minimum Value: -418.6 at 2.0 Milliseconds



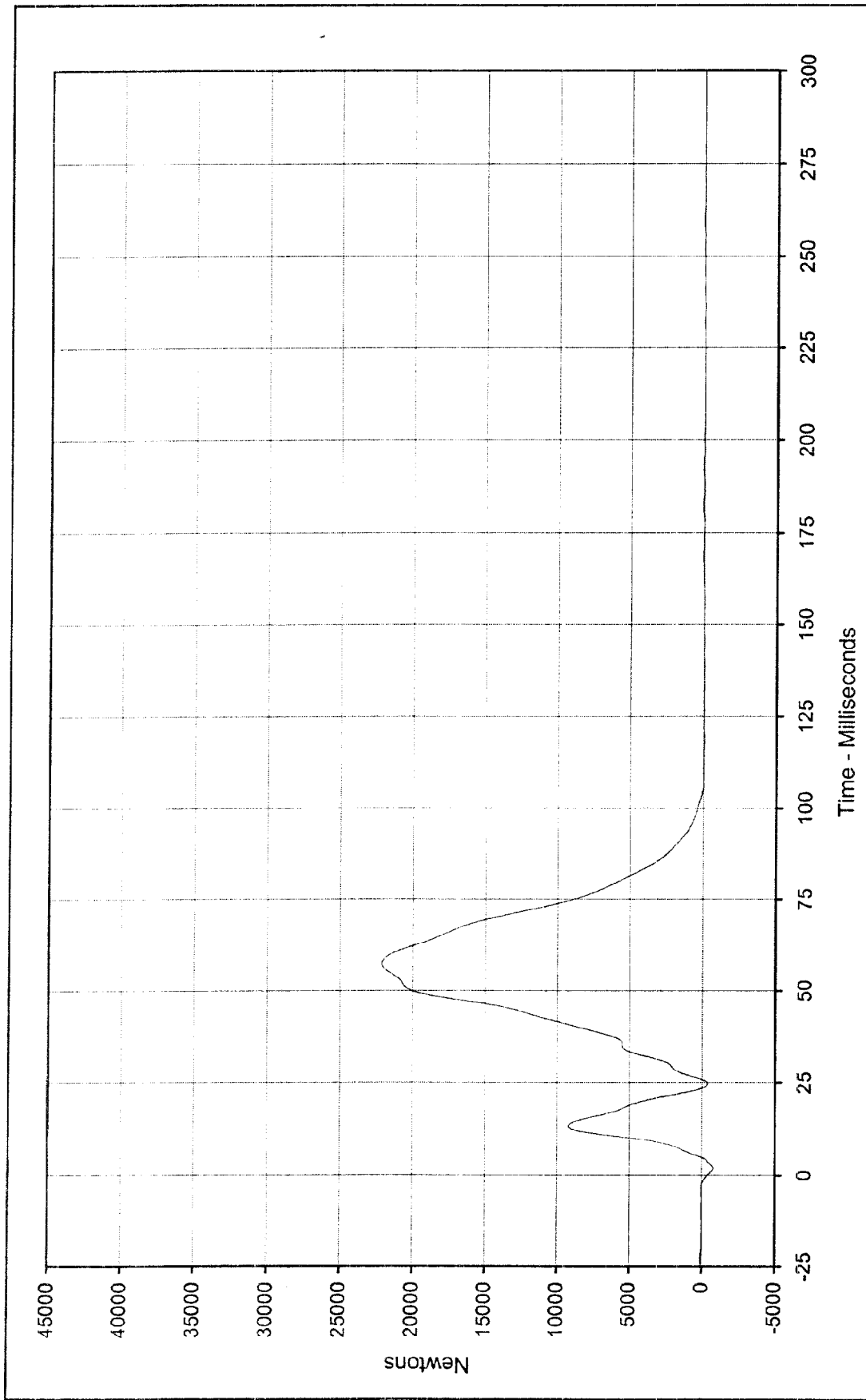
SAE Filter Class: 60
Date of Test: 1/13/99
Curve Number: FIL-118



Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

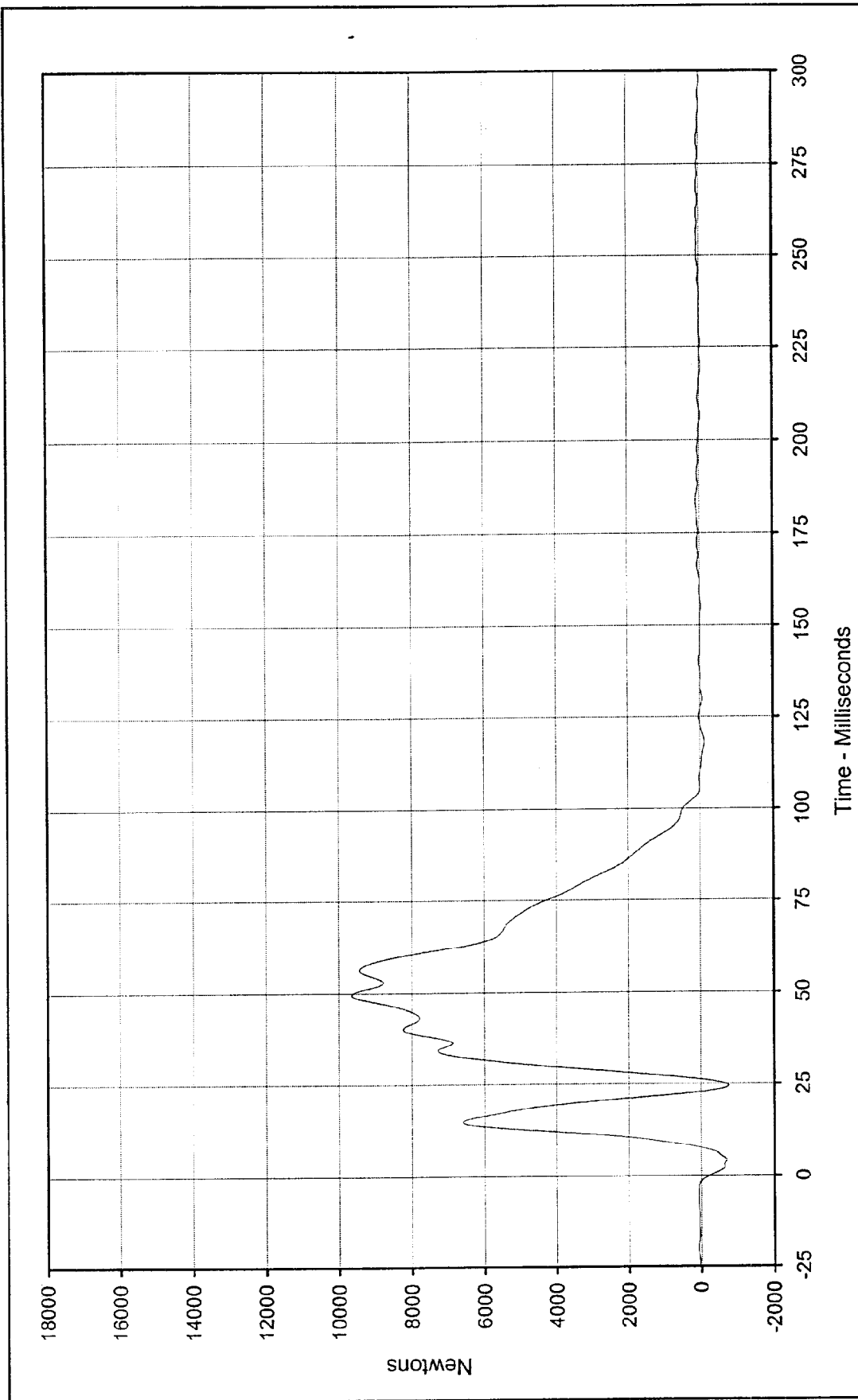


Curve Description: Barrier Force C4
 Maximum Value: 12241.9 at 13.7 Milliseconds
 Minimum Value: -1166.4 at 24.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-119



Curve Description:	Barrier Force C5	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	22115.6 at 57.4 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-774.5 at 1.9 Milliseconds			
SAE Filter Class:	60			
Date of Test:	1/13/99			
Curve Number:	FIL-120			





Curve Description: Barrier Force C6 Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 9654.1 at 49.5 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

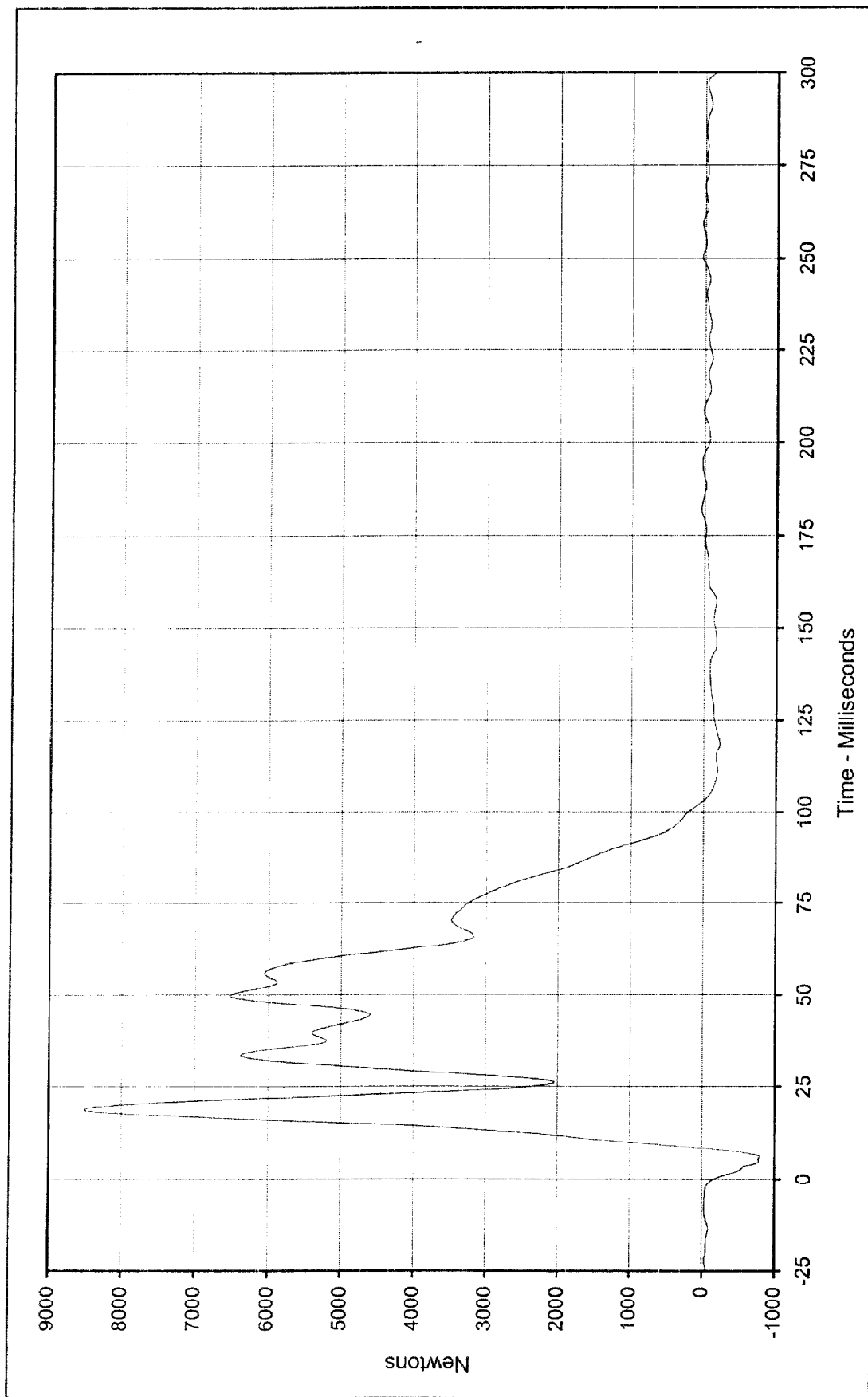
Minimum Value: -766.4 at 24.4 Milliseconds

SAE Filter Class: 60

Date of Test: 1/13/99

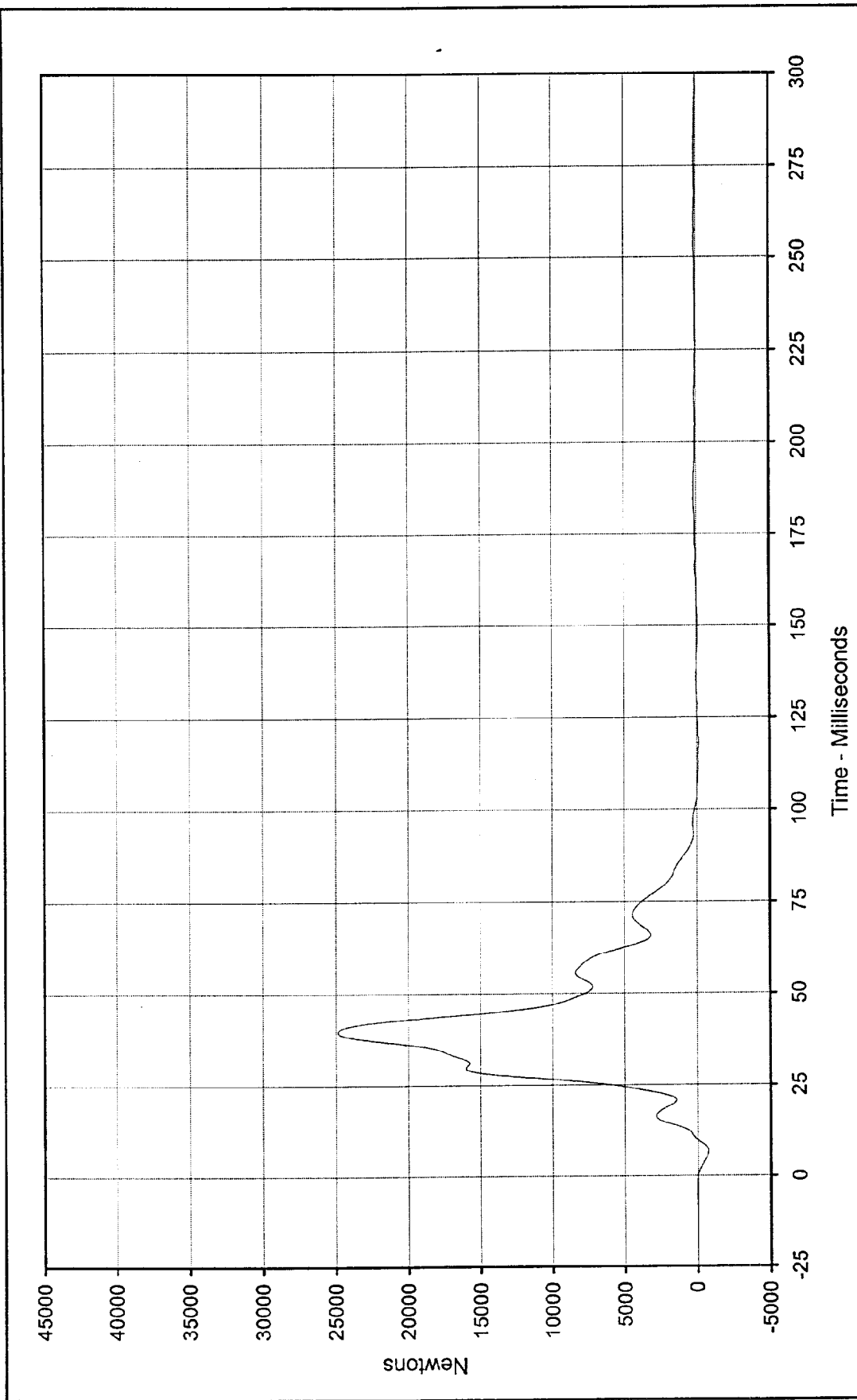
Curve Number: FIL-121





Curve Description:	Barrier Force C7		Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	8504.4	at 18.9 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-800.4	at 6.1 Milliseconds			
SAE Filter Class:	60				
Date of Test:	1/13/99				
Curve Number:	FIL-122				

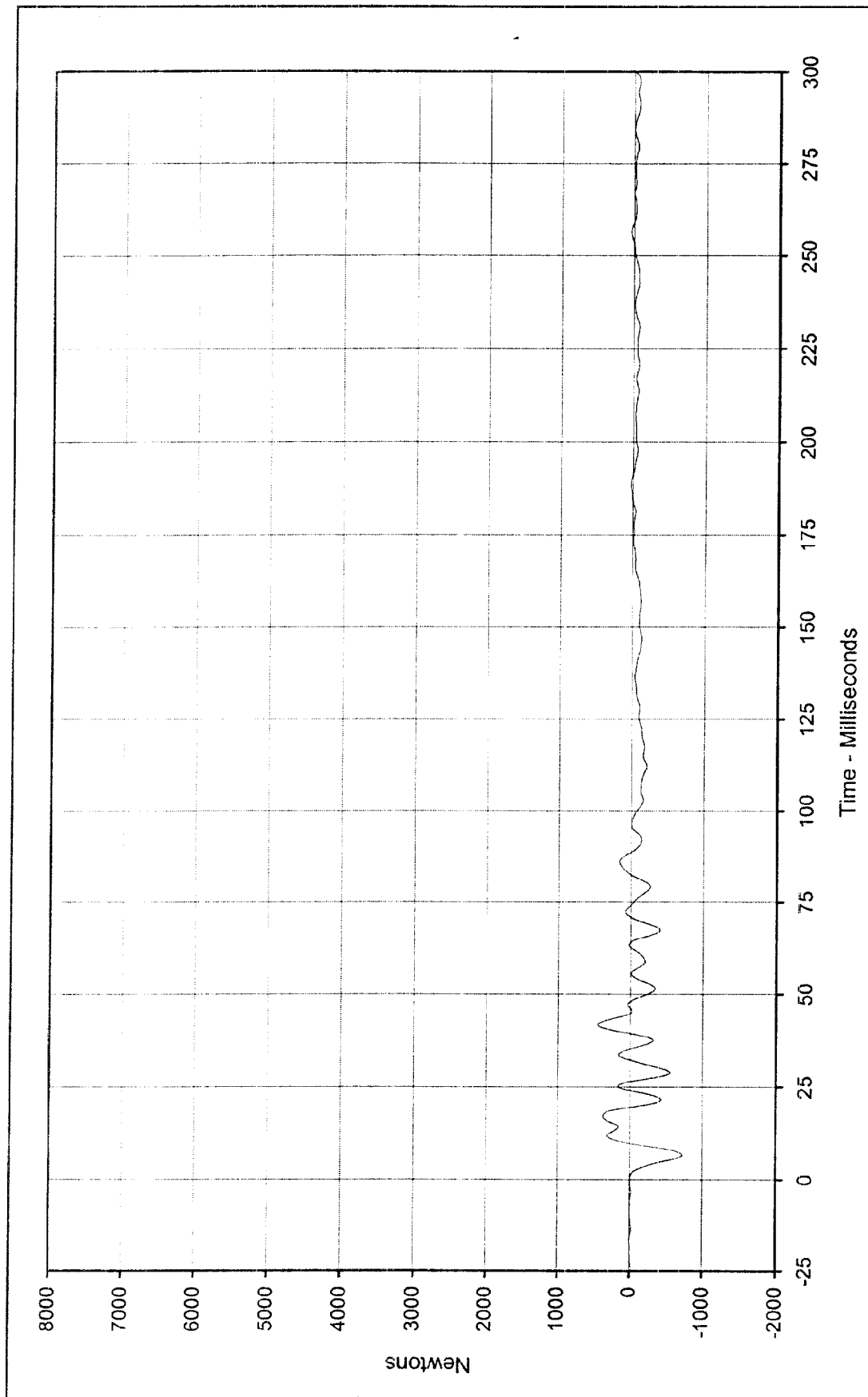




Curve Description: Barrier Force C8
 Maximum Value: 24851.4 at 39.7 Milliseconds
 Minimum Value: -755.4 at 6.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: FIL-123

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: Barrier Force C9 Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Maximum Value: 449.4 at 41.8 Milliseconds Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

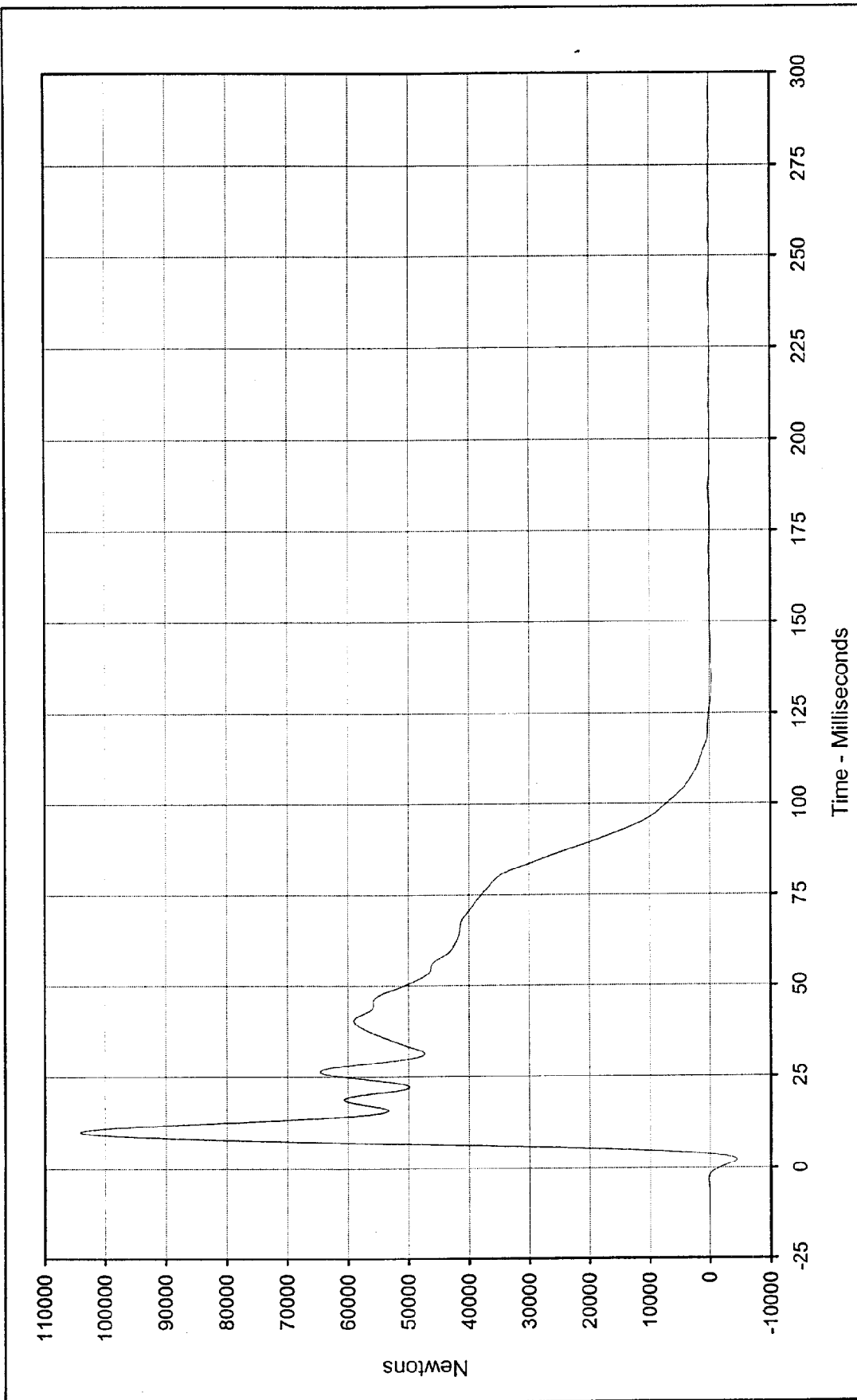
Minimum Value: -721.5 at 6.7 Milliseconds

SAE Filter Class: 60

Date of Test: 1/13/99

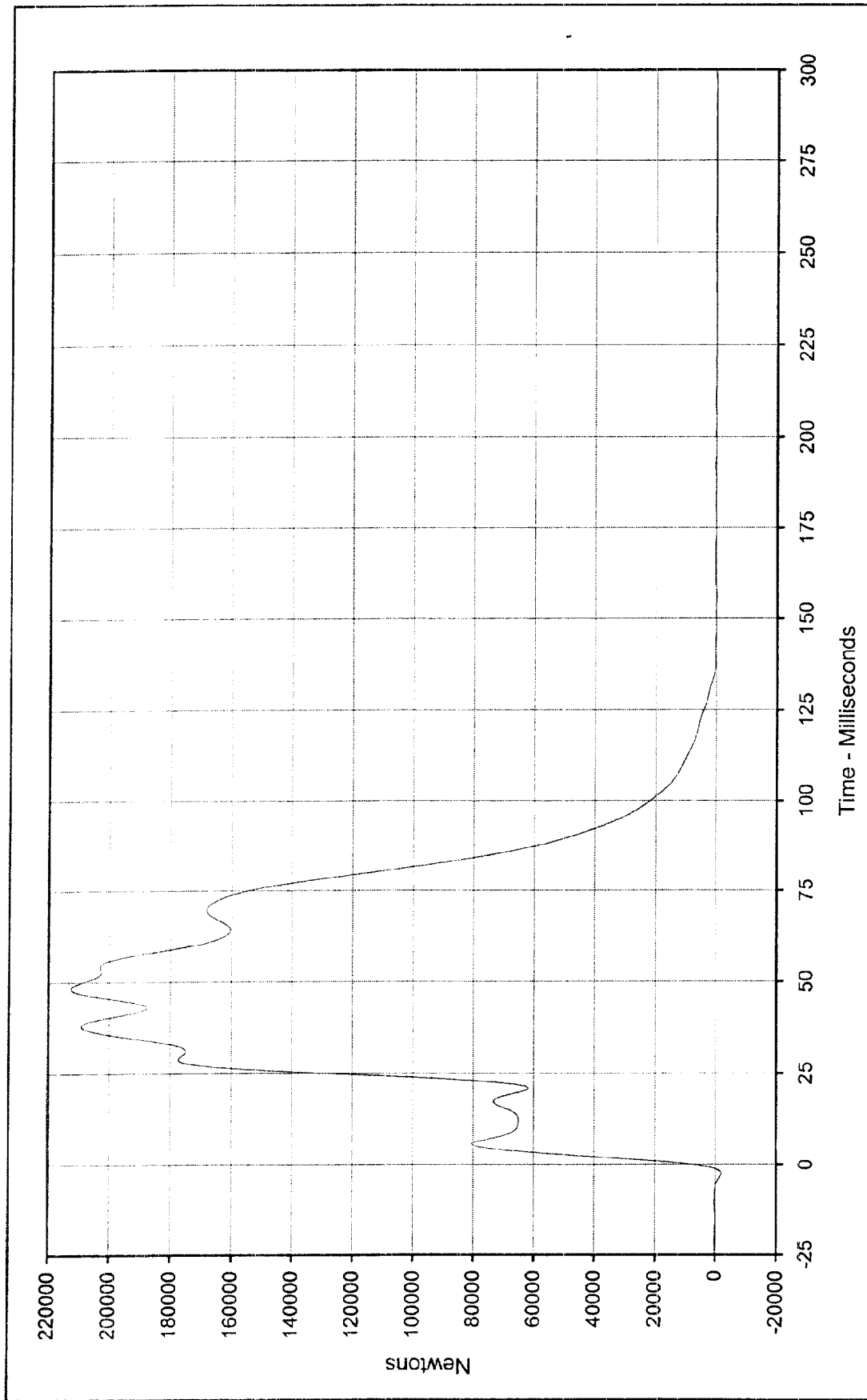
Curve Number: FIL-124





Curve Description:	Barrier Force Sum No.1	Test Program:	1999 NHTSA 35 mph NCAP	No.: MX5400
Maximum Value:	104143.7 at 10.2 Milliseconds	Test Vehicle:	1999 Mazda 626 LX 4 Door Sedan	
Minimum Value:	-4455.1 at 2.2 Milliseconds			
SAE Filter Class:	60			
Date of Test:	1/13/99			
Curve Number:	SUM-001			





Curve Description: Barrier Force Sum No.2

Maximum Value: 212669.9 at 48.3 Milliseconds

Minimum Value: -279.3 at 156.2 Milliseconds

SAE Filter Class: 60

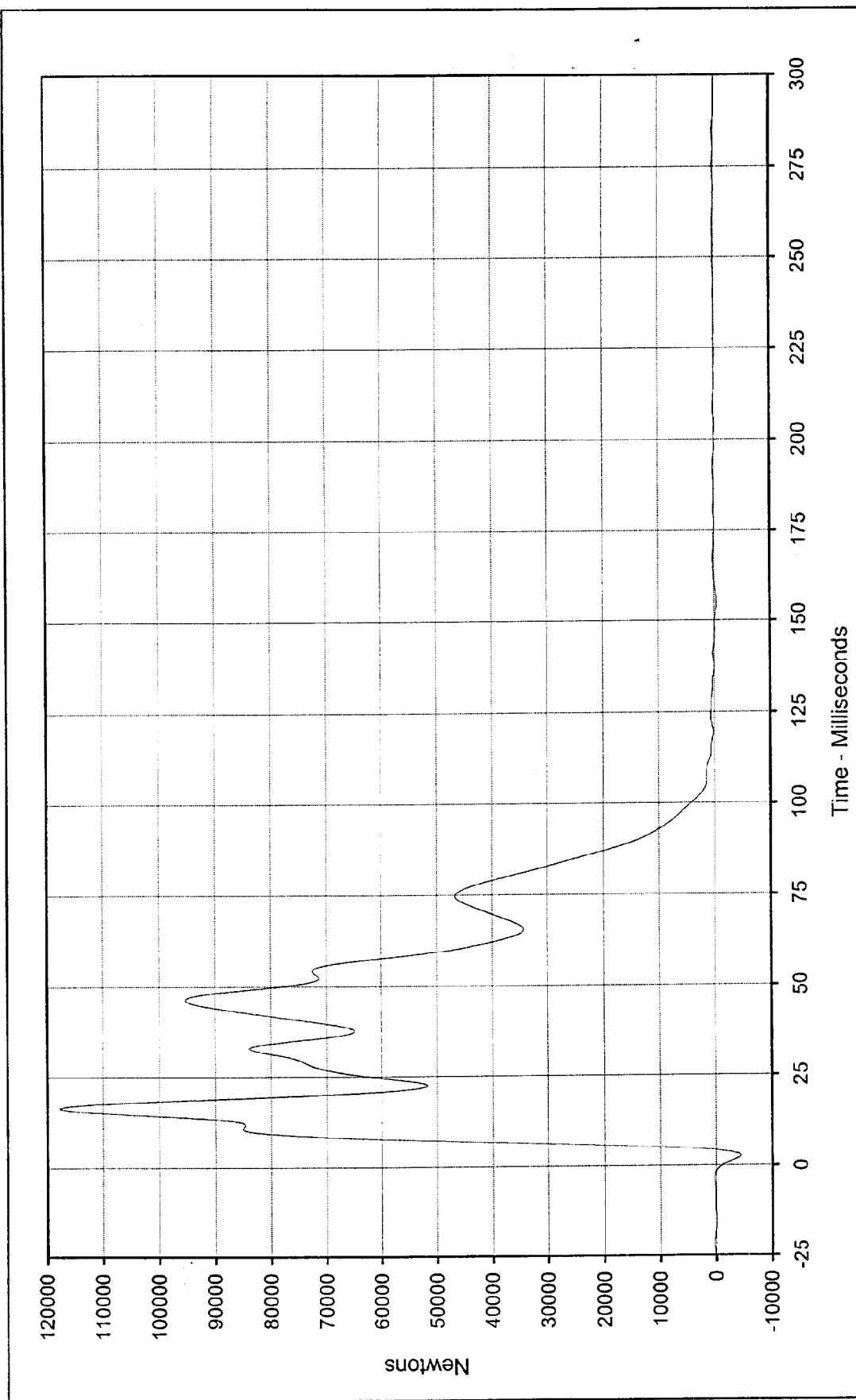
Date of Test: 1/13/99

Curve Number: SUM-002

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan





Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Program: 1999 Mazda 626 LX 4 Door Sedan

Barrier Force Sum No.3

Maximum Value: 117704.1 at 16.6 Milliseconds

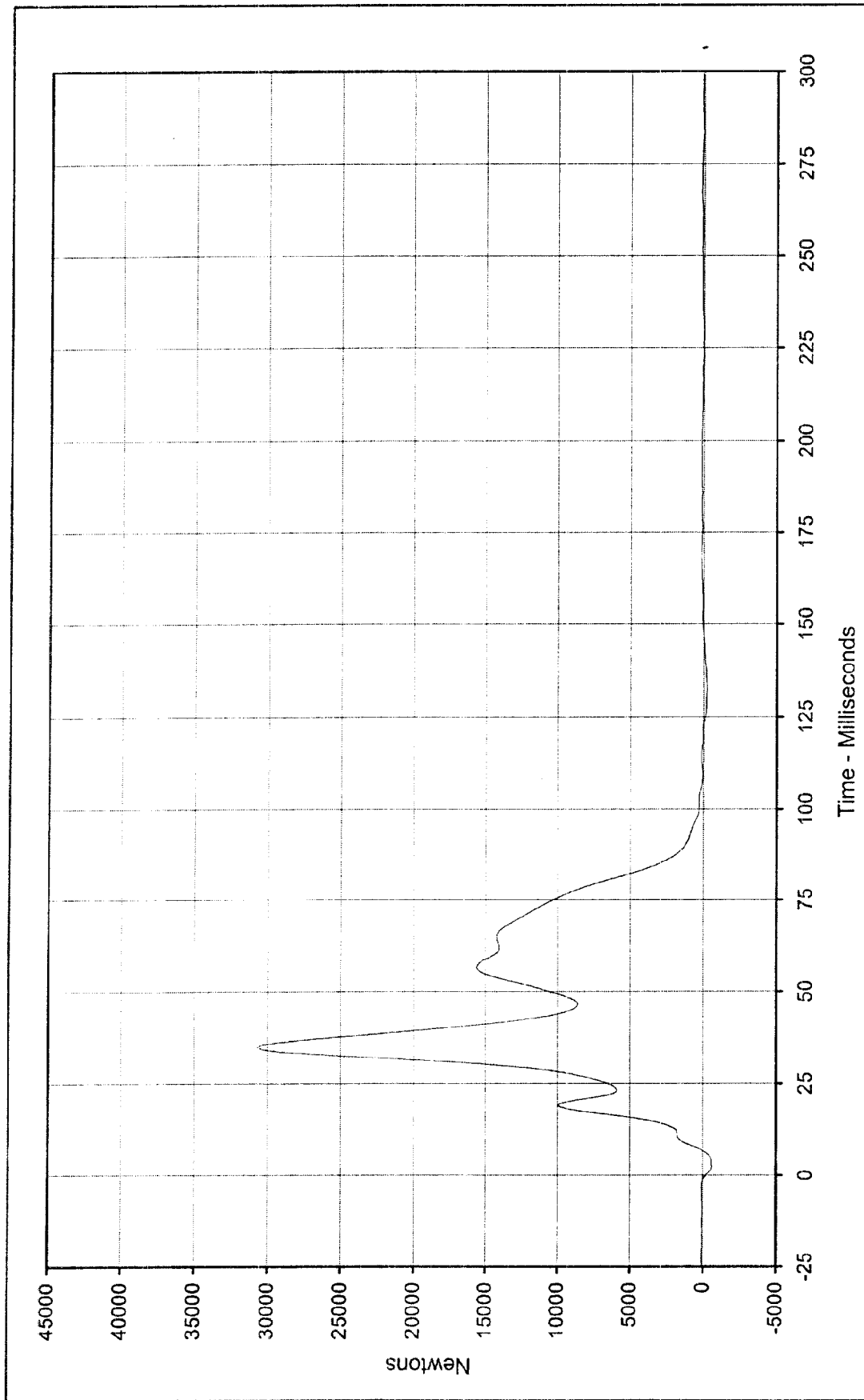
Minimum Value: -4432.0 at 2.7 Milliseconds

SAE Filter Class: 60

Date of Test: 1/13/99

Curve Number: SUM-003

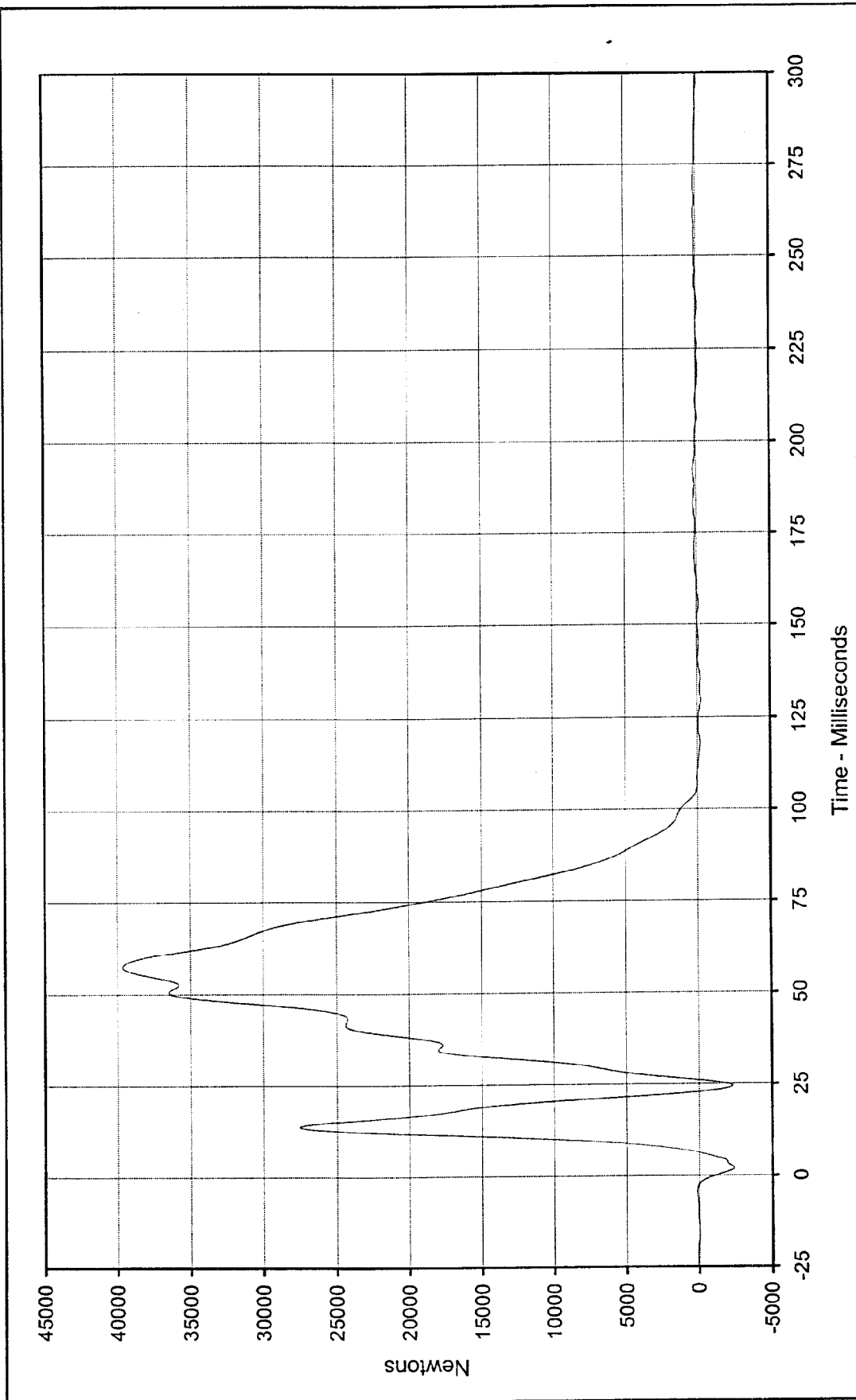




Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 30660.4 at 35.0 Milliseconds
 Minimum Value: -628.2 at 2.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: SUM-004

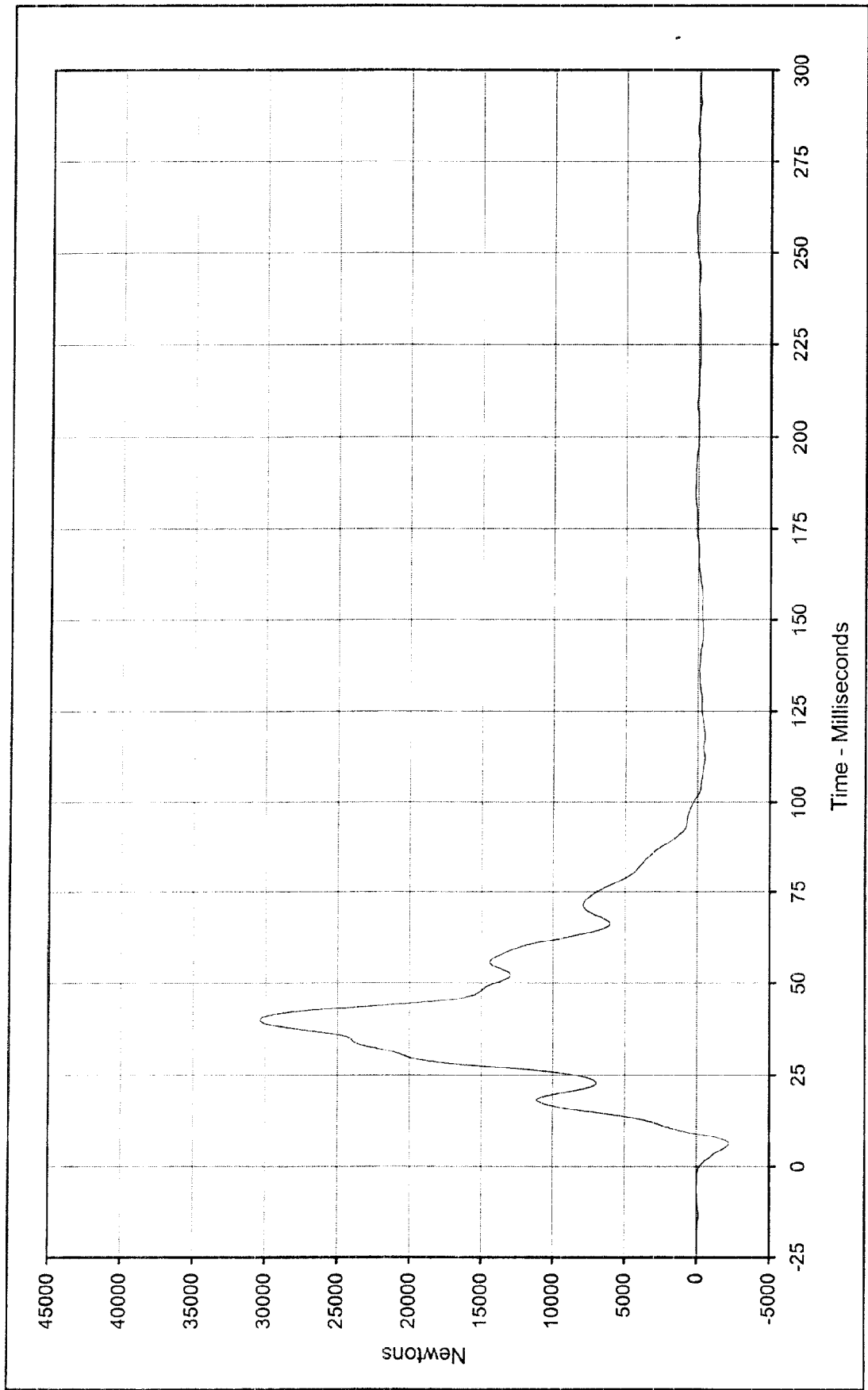
Test Program:
 Test Vehicle:





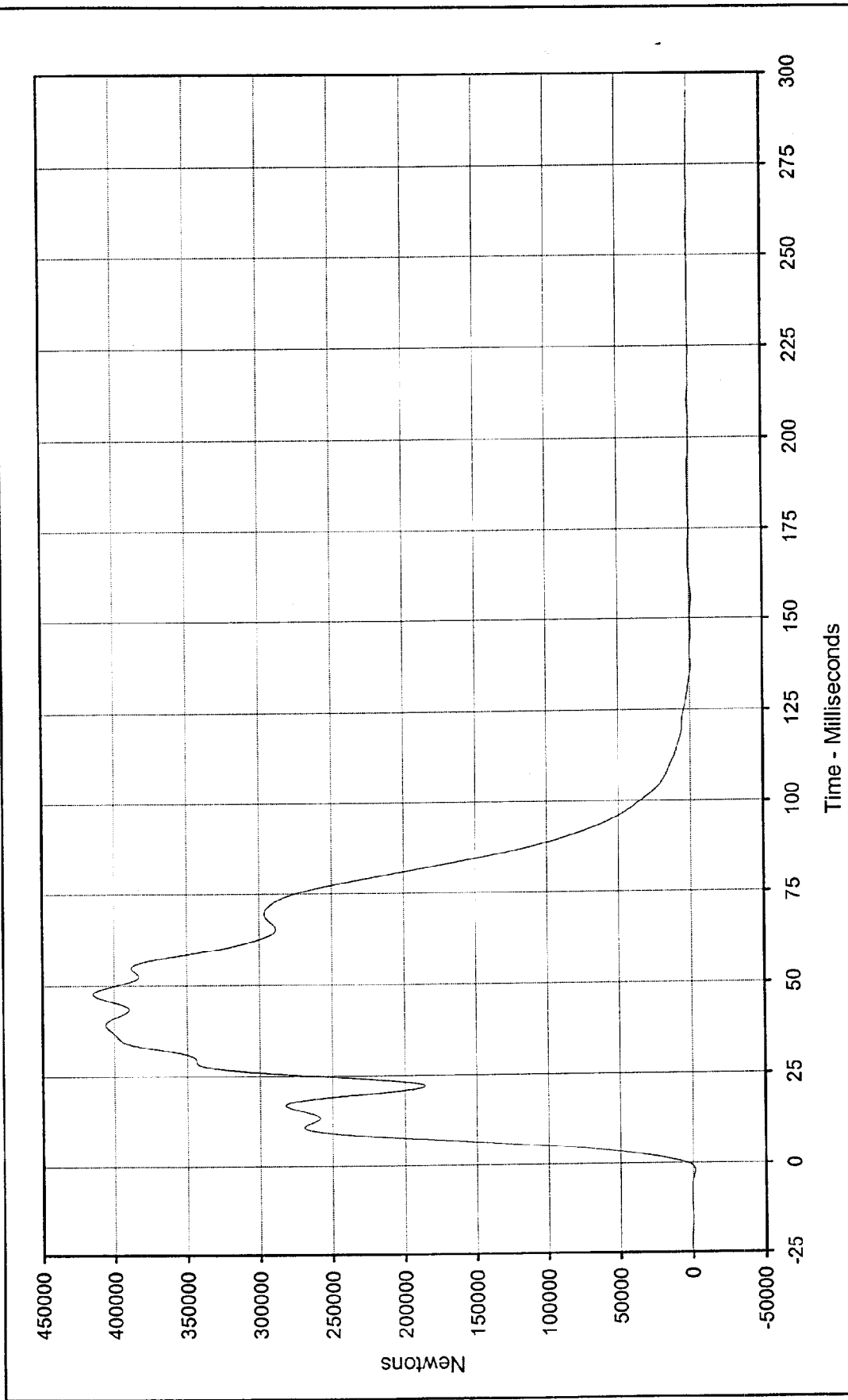
Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 39626.2 at 57.3 Milliseconds
 Minimum Value: -2411.7 at 2.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: SUM-005





Curve Description: 1999 NHTSA 35 mph NCAP No.: MX5400
 Maximum Value: 30345.8 at 40.0 Milliseconds
 Minimum Value: -2245.1 at 6.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: SUM-006

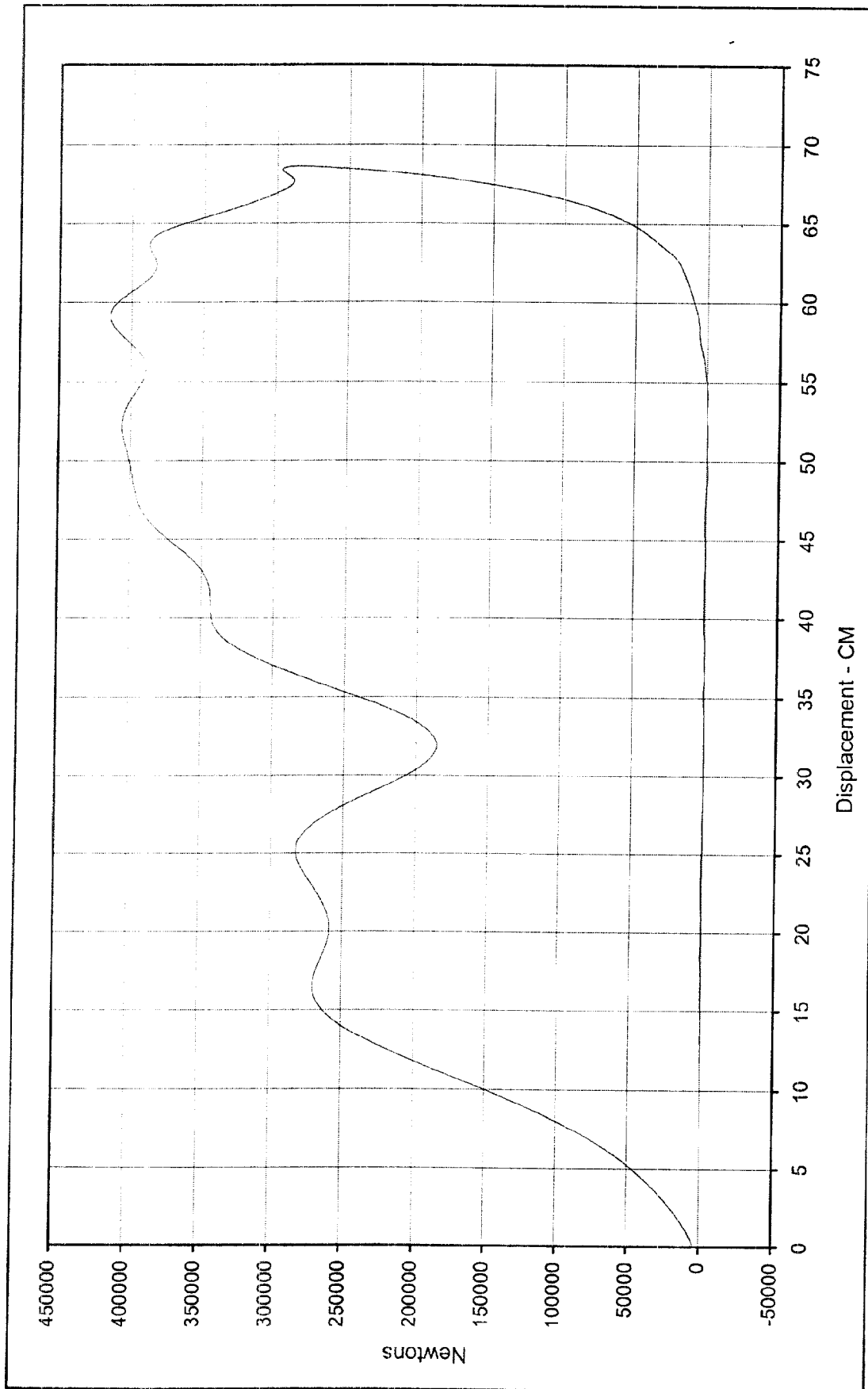




Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400
 Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan

Curve Description: Barrier Force Sum Total
 Maximum Value: 414869.6 at 47.7 Milliseconds
 Minimum Value: -1202.4 at 155.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 1/13/99
 Curve Number: SUM-007





Curve Description: Sum Force Total vs. Dynamic Crush

Maximum Displ.: 68.6 at 73.7 Milliseconds

Maximum Force: 414869.6 at 47.7 Milliseconds

SAE Filter Class: N/A

Date of Test: 1/13/99

Curve Number: XVY-001

Test Program: 1999 NHTSA 35 mph NCAP No.: MX5400

Test Vehicle: 1999 Mazda 626 LX 4 Door Sedan



BARRIER LOAD CELL SUMMARY DATATEST VEHICLE: 1999 MAZDA 626 LX 4 DOOR SEDANNHTSA No.: MX5400TEST PROGRAM: 1999 NHTSA 35 MPH NCAPTEST DATE: 1/13/99**BARRIER LOAD CELL PEAK FORCES**

Location	Units	Max	Time	Min	Time
Barrier Force A2	Newtons	1892.8	40.0	-436.0	15.9
Barrier Force A3	Newtons	20069.2	47.4	-1591.1	22.8
Barrier Force A4	Newtons	30668.7	36.6	-921.1	1.8
Barrier Force A5	Newtons	39164.0	26.3	-786.1	1.3
Barrier Force A6	Newtons	4244.8	16.2	-1653.4	22.4
Barrier Force A7	Newtons	2154.2	27.5	-935.7	23.2
Barrier Force A8	Newtons	1717.8	26.8	-593.5	4.7
Barrier Force A9	Newtons	801.9	17.9	-1002.1	29.2
Barrier Force B2	Newtons	22929.1	26.0	-784.5	5.0
Barrier Force B3	Newtons	89895.5	9.8	-3073.4	2.0
Barrier Force B4	Newtons	57966.2	56.3	-128.9	148.0
Barrier Force B5	Newtons	86163.0	53.4	-13.6	156.1
Barrier Force B6	Newtons	61394.5	46.7	-285.1	0.0
Barrier Force B7	Newtons	111159.3	16.5	-2690.8	2.3
Barrier Force B8	Newtons	5668.5	13.9	-773.4	5.4
Barrier Force B9	Newtons	561.6	10.9	-1010.5	29.0
Barrier Force C2	Newtons	26880.5	35.2	-271.0	4.2
Barrier Force C3	Newtons	6355.5	19.1	-418.6	2.0
Barrier Force C4	Newtons	12241.9	13.7	-1166.4	24.3
Barrier Force C5	Newtons	22115.6	57.4	-774.5	1.9
Barrier Force C6	Newtons	9654.1	49.5	-766.4	24.4
Barrier Force C7	Newtons	8504.4	18.9	-800.4	6.1
Barrier Force C8	Newtons	24851.4	39.7	-755.4	6.8
Barrier Force C9	Newtons	449.4	41.8	-721.5	6.7
Barrier Force Sum No.1	Newtons	104143.7	10.2	-4456.1	2.2
Barrier Force Sum No.2	Newtons	212669.9	48.3	-279.3	156.2
Barrier Force Sum No.3	Newtons	117704.1	16.6	-4432.0	2.7
Barrier Force Sum No.4	Newtons	30660.4	35.0	-628.2	2.3
Barrier Force Sum No.5	Newtons	39626.2	57.3	-2411.7	2.0
Barrier Force Sum No.6	Newtons	30345.8	40.0	-2245.1	6.3
Barrier Force Sum Total	Newtons	414869.6	47.7	-1202.4	155.7

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

APPENDIX D
INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

KAR99001-09

1999 NHTSA 35 mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D Serial Number 34
1/13/99
1999 Mazda 626 LX 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	N.m
11	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	N.m
12	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	N.m
13	CHEST, PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST, PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST, PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST, REDUNDANT	X	KEAC023	Accel., 1/2 bridge	Endevco	7264-200	G
17	CHEST, REDUNDANT	Y	KEAC022	Accel., 1/2 bridge	Endevco	7264-200	G
18	CHEST, REDUNDANT	Z	KEAC024	Accel., 1/2 bridge	Endevco	7264-200	G
19	CHEST DISPLACEMENT	X	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 34
1/13/99
1999 Mazda 626 LX 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
26	UP. TIBIA LEFT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
27	UP. TIBIA RIGHT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
28	UP. TIBIA RIGHT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
29	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
30	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
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	N.m
33	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
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 35
1/13/99
1999 Mazda 626 LX 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	N.m
55	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	N.m
56	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	N.m
57	CHEST, PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST, PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST, PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST, REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
61	CHEST, REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
62	CHEST, REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
63	CHEST DISPLACEMENT	X	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 35

1/13/99

1999 Mazda 626 LX 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	N.m
70	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
71	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
72	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	N.m
73	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
74	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
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	N.m
77	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
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	Celesco	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

1/13/99

1999 Mazda 626 LX 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

KAR99001-09



Hybrid III Calibration Data Sheet

50TH Percentile Male

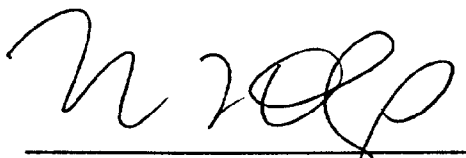
Left Knee Impact Test

ATD Serial No.: 34

Part Serial No.: n/a

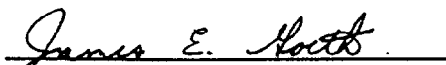
Test I.D.: KI12F

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	2.095	Pass
Peak Probe Force	Newtons	4715 to 5782	5322.1	Pass
Overall Test Results			Pass	


Laboratory Technician

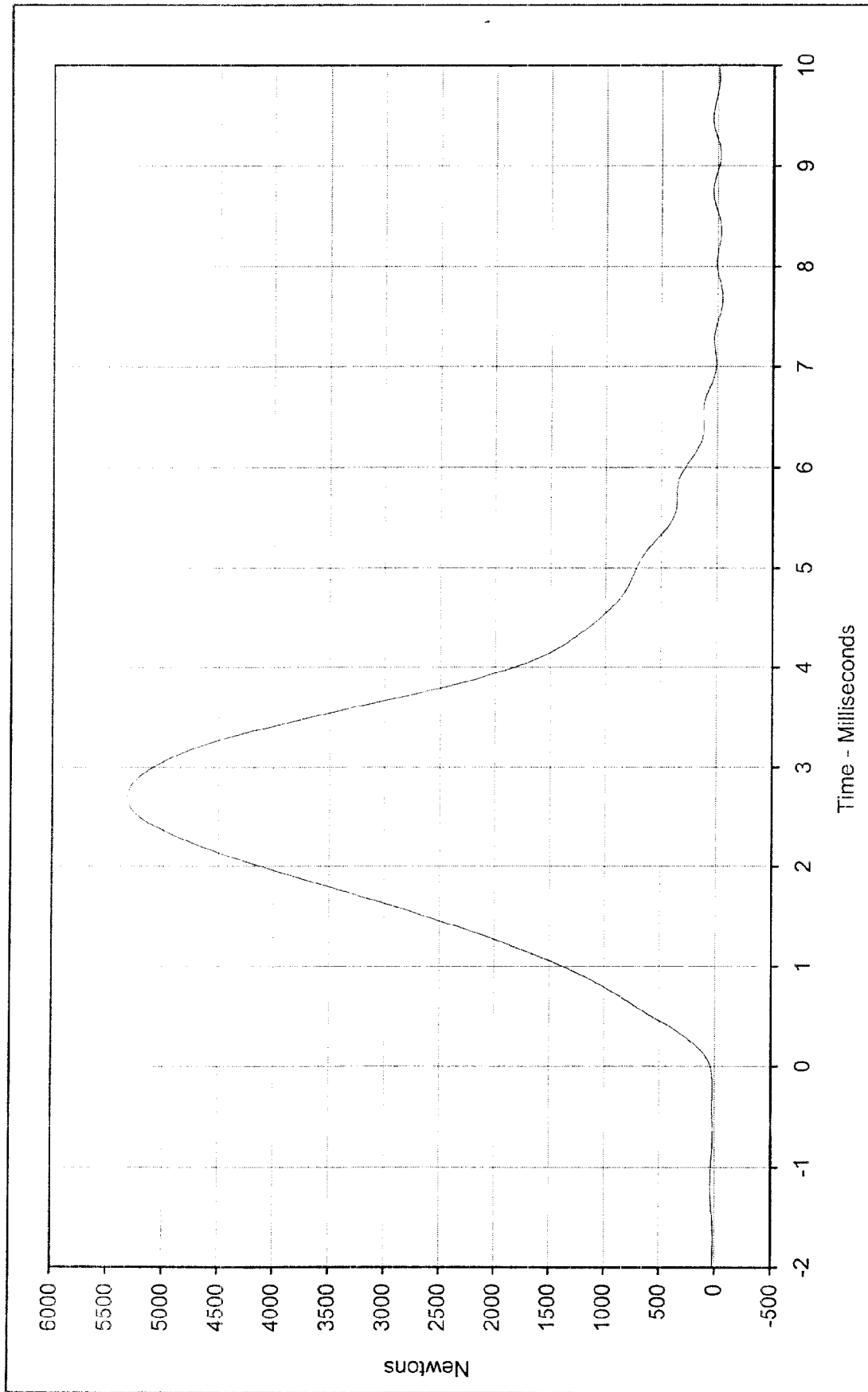
December 28, 1998

Test Date


Approved By

1/21/99

Date



Curve Description: Testing Program Hybrid III Left Knee Impact Test
 Test Information: Part S/N: n/a Test I.D.: K112F

Probe Force
 Maximum Value: 5322.1 at 2.7 Milliseconds
 Minimum Value: -46.0 at 7.7 Milliseconds
 SAE Filter Class: 600
 Date of Test: 12/28/98
 ATD Serial No.: 34





Hybrid III Calibration Data Sheet

50TH Percentile Male

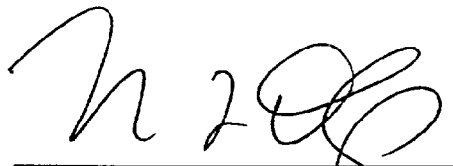
Right Knee Impact Test

ATD Serial No.: 34

Part Serial No.: n/a

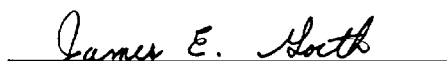
Test I.D.: KI12E

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	2.088	Pass
Peak Probe Force	Newtons	4715 to 5782	5417.2	Pass
Overall Test Results				Pass


Laboratory Technician

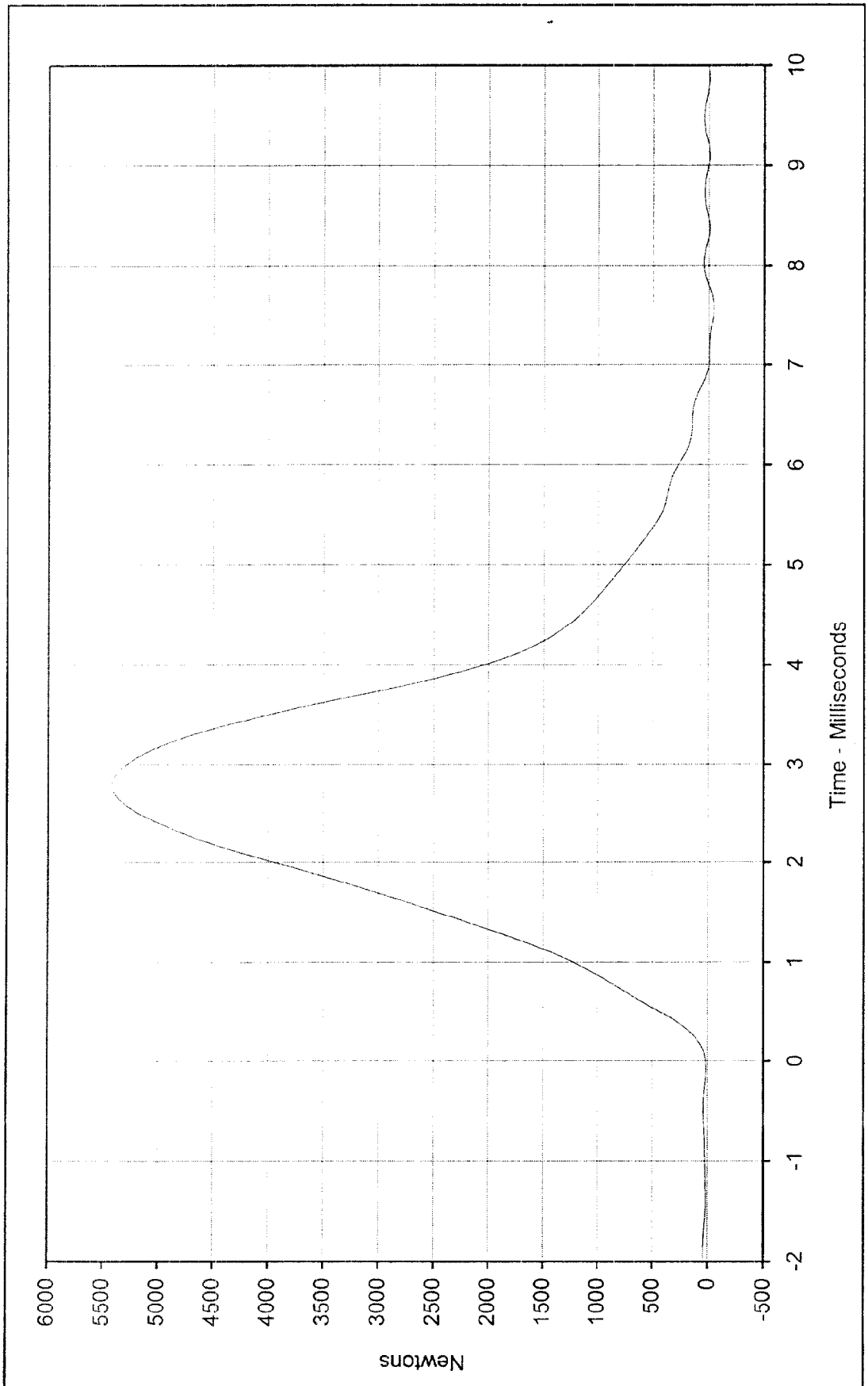
December 28, 1998

Test Date


Approved By

1/21/99

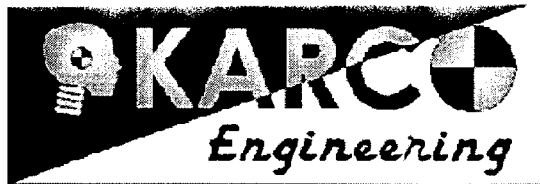
Date



Testing Program: Hybrid III Right Knee Impact Test
 Test Information: Part S/N: n/a Test I.D.: K112E



Curve Description:		Probe Force	
Maximum Value:	5417.2	at	2.8
Minimum Value:	-44.6	at	7.6
SAE Filter Class:	600		
Date of Test:	12/28/98		
ATD Serial No.:	34		



Hybrid III Calibration Data Sheet

50TH Percentile Male

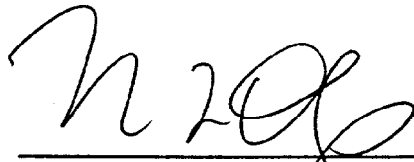
Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: n/a

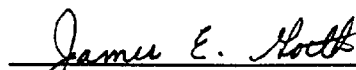
Test I.D.: HD12C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	266.8	Pass
Peak Lateral Acceleration	G's	≤15.0	4.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

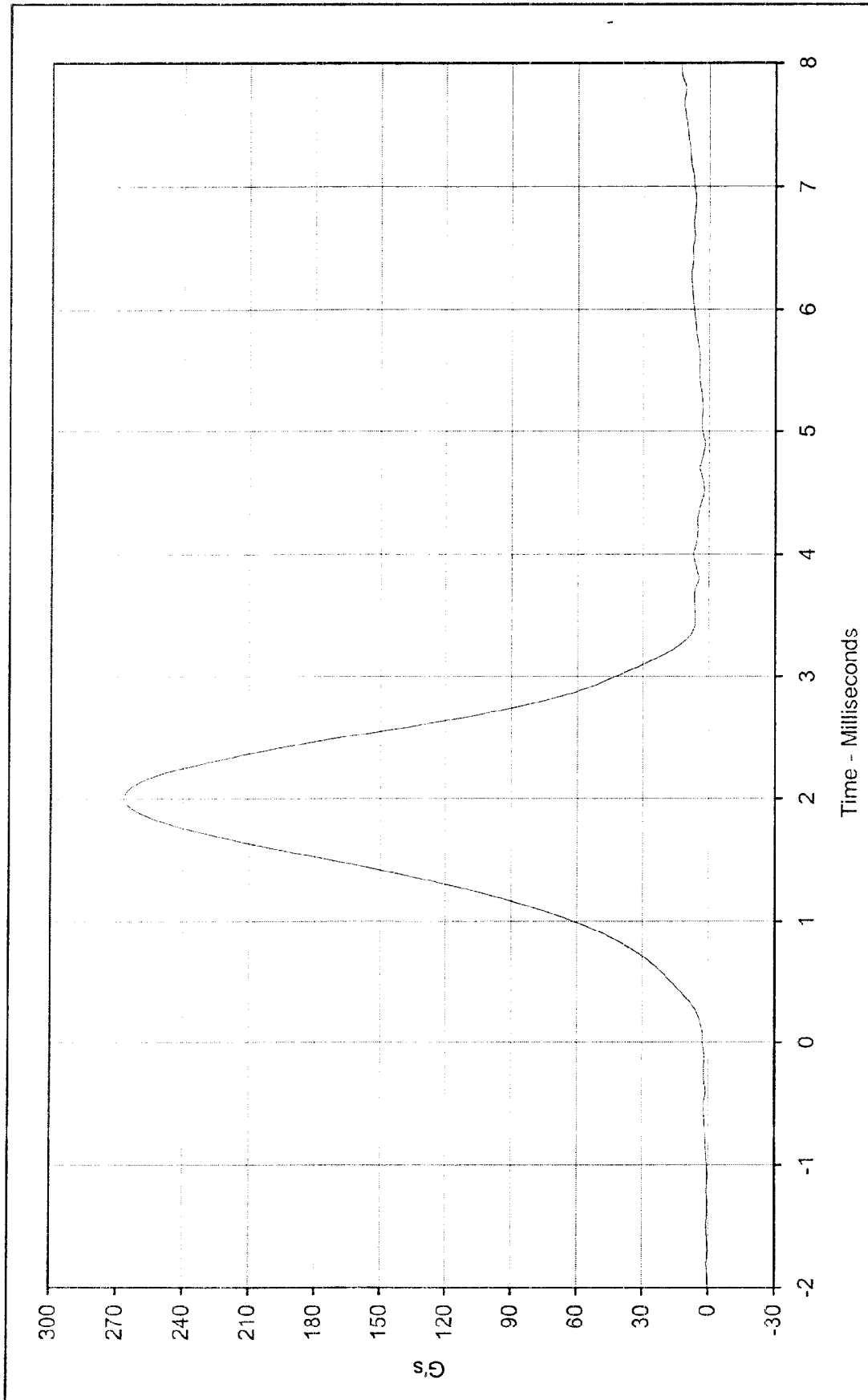
December 28, 1998

Test Date


Approved By

1/21/99

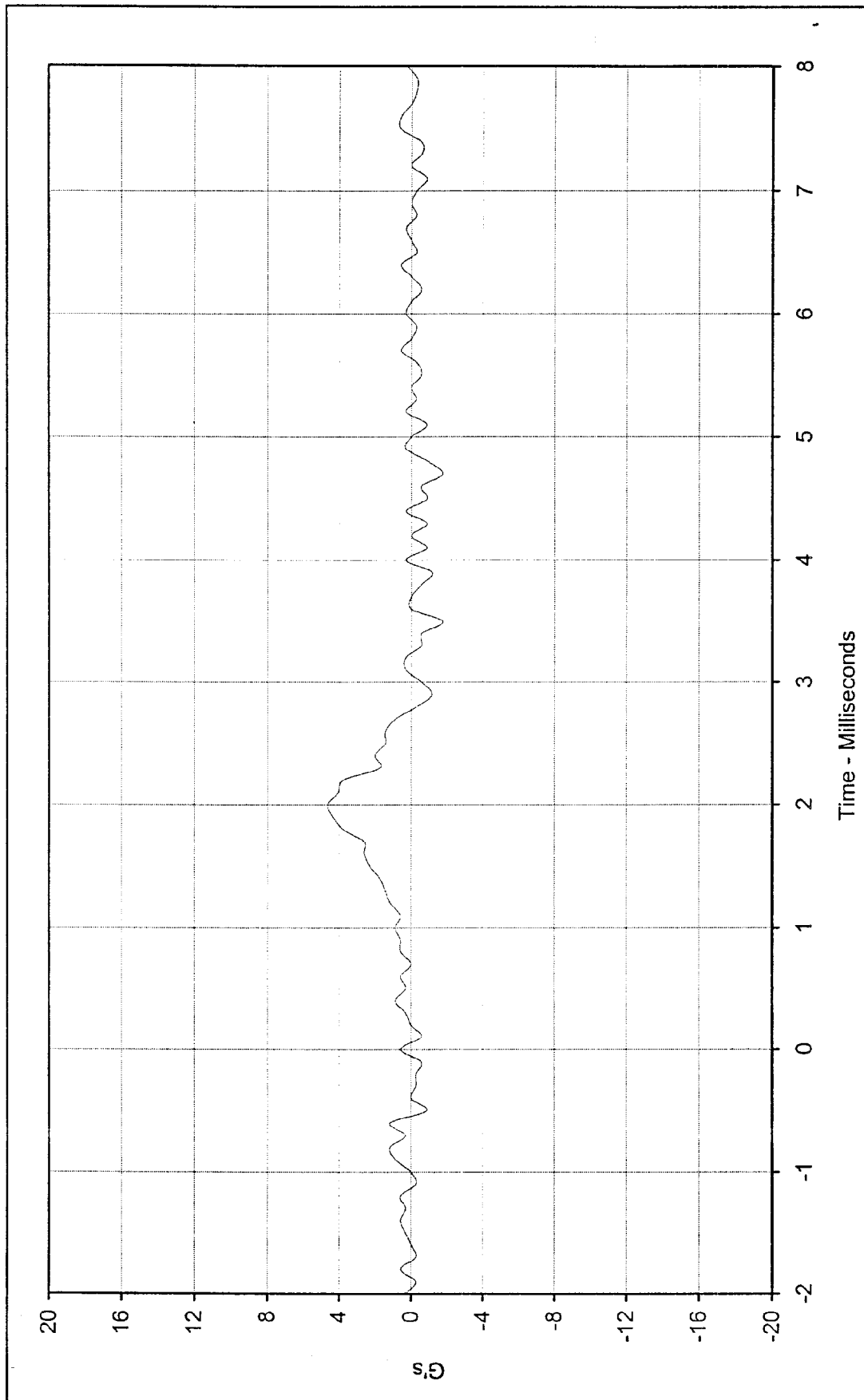
Date



Curve Description: Hybrid III Head Drop Calibration (Male)
 Testing Program: S/N of Part: n/a Test I.D.: HD12C

Head Resultant Acceleration
 Maximum Value: 266.8 at 2.0 Milliseconds
 Minimum Value: 0.3 at -2.0 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 12/28/98
 ATD Serial No.: 034





Curve Description:	Head Acceleration Y Axis		Testing Program	Hybrid III Head Drop Calibration (Male)
Maximum Value:	4.6	at 2.0 Milliseconds	Test Information:	S/N of Part: n/a Test I.D.: HD12C
Minimum Value:	-1.7	at 3.5 Milliseconds		
SAE Filler Class:	1000			
Date of Test:	12/28/98			
ATD Serial No.:	034			





Hybrid III Calibration Data Sheet

50TH Percentile Male

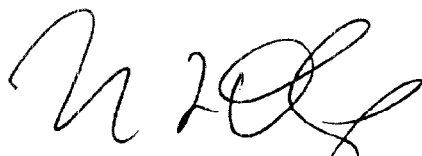
Thorax Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: CH12C

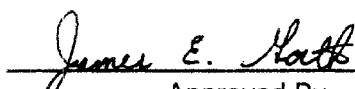
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Probe Velocity	m/s	6.58 to 6.82	6.74	Pass
Peak Probe Force	Newtons	5159 to 5893	5430	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.46	Pass
Internal Hysteresis	%	69 to 85	74.8	Pass
Overall Test Results				Pass



Laboratory Technician

December 29, 1998

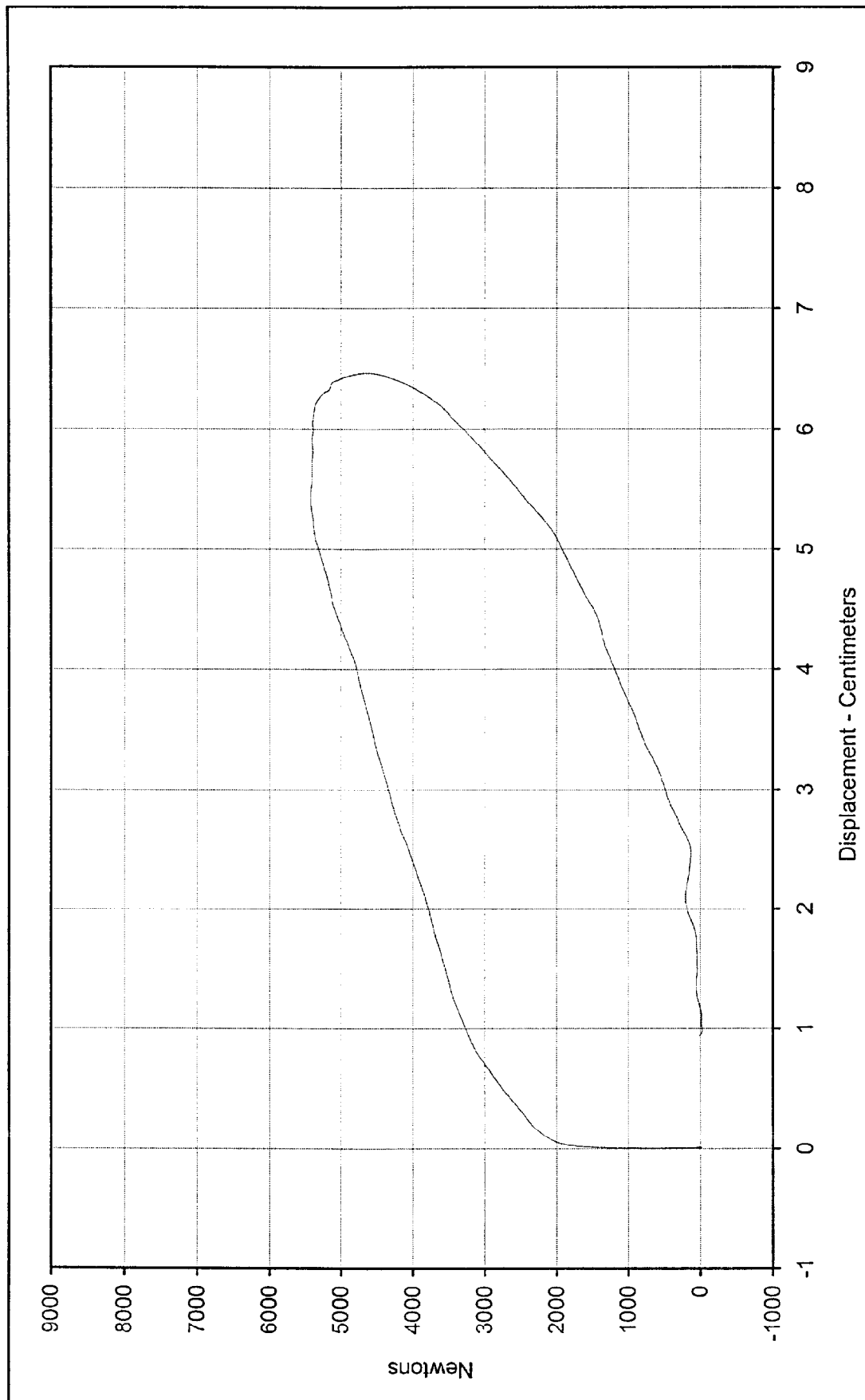
Test Date



Approved By

1/21/99

Date



Curve Description:		Probe Force vs. Chest Displacement	Testing Program	Hybrid III Thorax Impact Test
Probe Force:	5429.9	Newtons	Test Information:	
Chest Displ.:	6.46	Centimeters	S/N of Part: N/A Test I.D.: CH12C	
SAE Filter Class:	180			
Date of Test:	12/29/98			
ATD Serial No.:	034			





Hybrid III Calibration Data Sheet

50TH Percentile Male

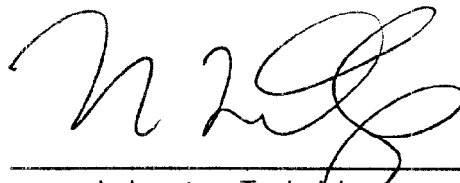
Neck Flexion Test

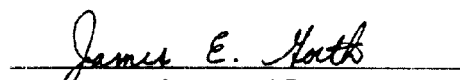
ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: NF12C

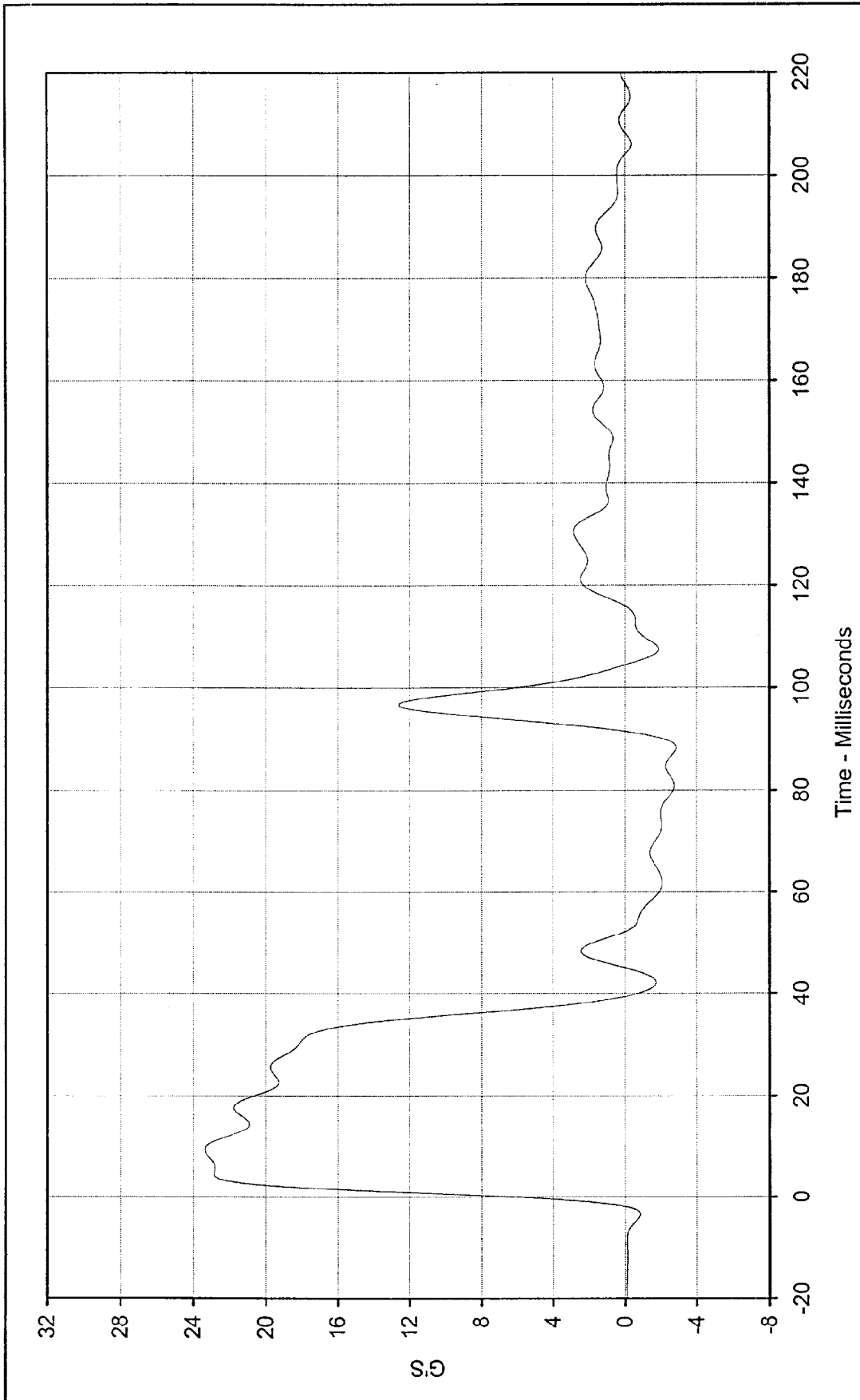
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	39	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.00	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.3	Pass
	20 Msec.	G's	17.6 to 22.6	20.7	Pass
	30 Msec.	G's	12.5 to 18.5	18.2	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.2	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	37.2	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	66.9	Pass
	Time	Msec.	57.0 to 64.0	60.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	113.2	Pass
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	89.0	Pass
	Time	Msec.	47.0 to 58.0	49.1	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	97.8	Pass
Overall Test Results				Pass	


 Laboratory Technician


 Approved By

December 29, 1998
 Test Date

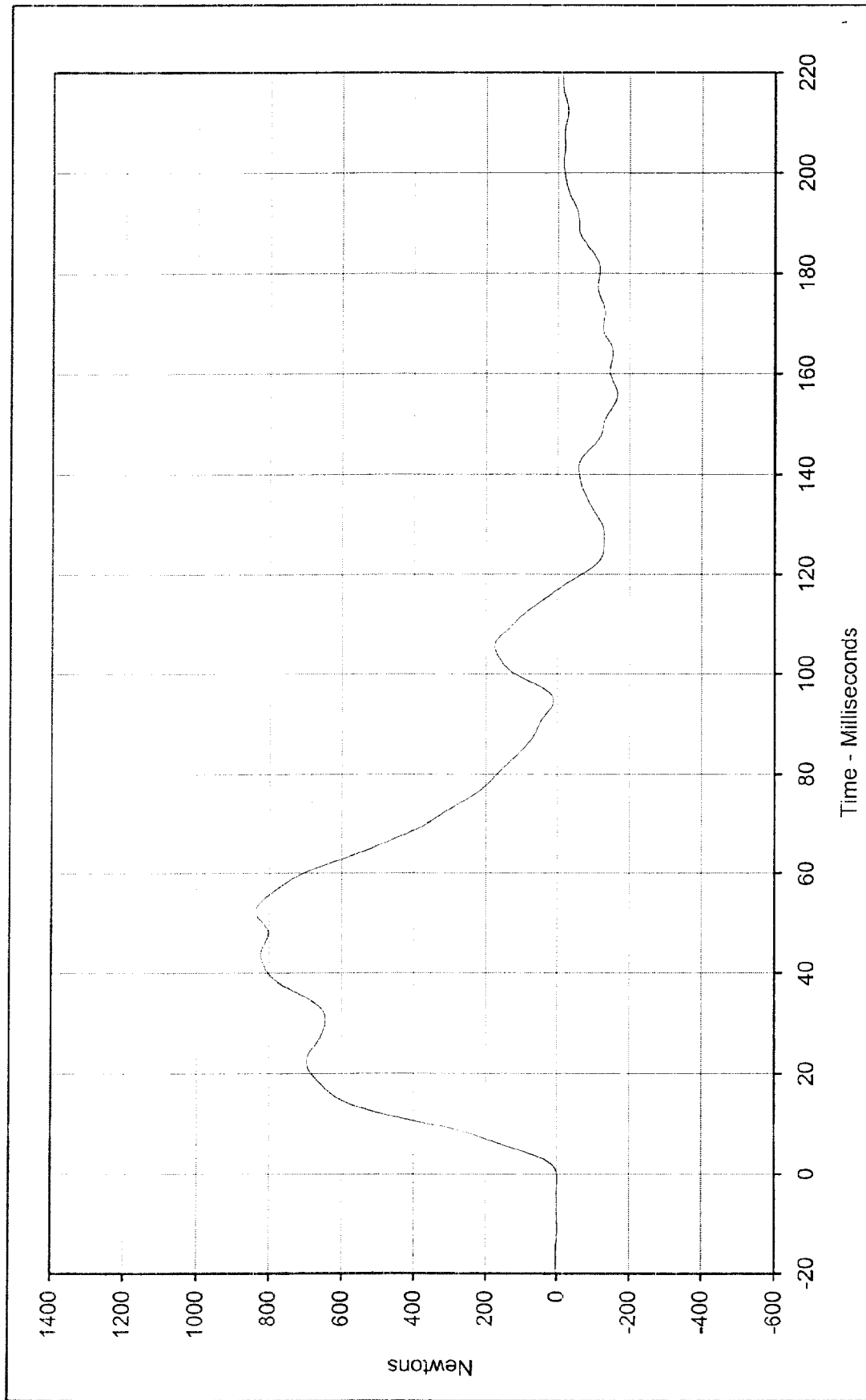
1/21/99
 Date



Curve Description: Hybrid III Neck Flexion Test (Male)
 Testing Program: S/N of Part: n/a Test I.D.: NF12C

Pendulum Deceleration
 Maximum Value: 23.4 at 9.5 Milliseconds
 Minimum Value: -2.8 at 88.2 Milliseconds
 SAE Filler Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 034





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

Maximum Value: 837.5 at 52.5 Milliseconds Test Information: S/N of Part: n/a Test I.D.: NF12C

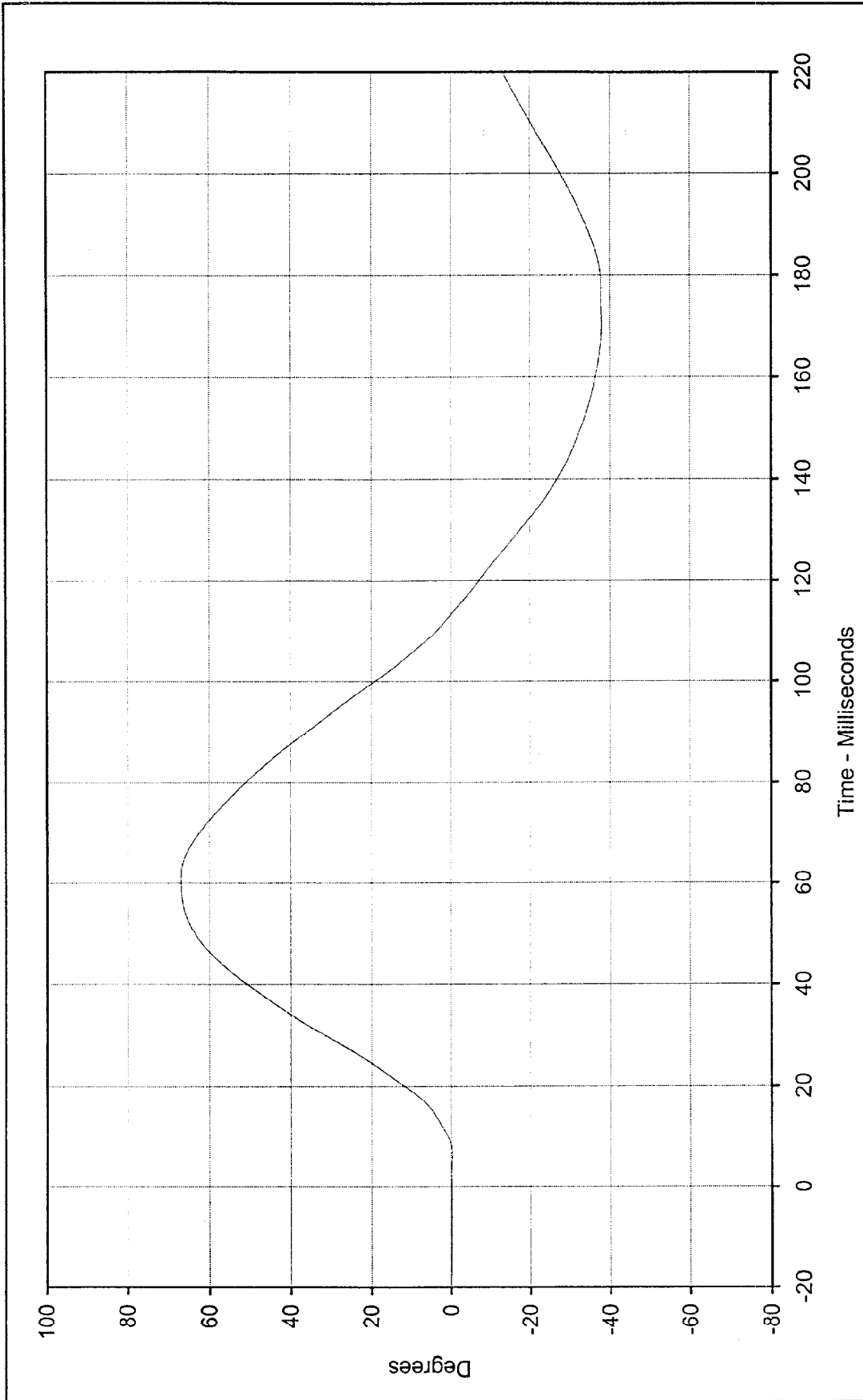
Minimum Value: -164.9 at 155.9 Milliseconds

SAE Filter Class: 60

Date of Test: 12/29/98

ATD Serial No.: 034



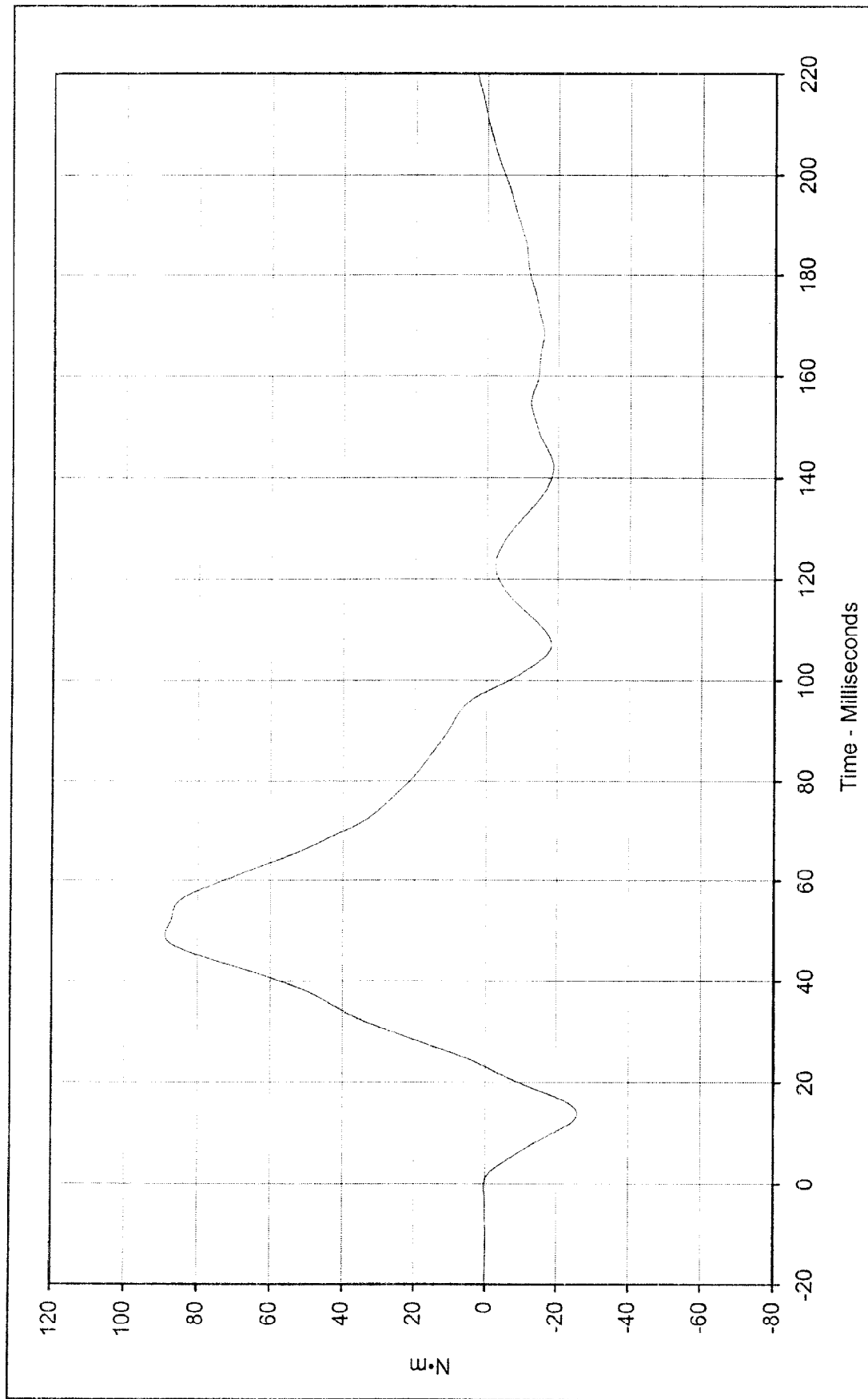


Curve Description: _____
 Maximum Value: 66.9 at 60.9 Milliseconds
 Minimum Value: -37.9 at 170.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: n/a Test I.D.: NF12C





Curve Description: Moment About Occipital Condyles
 Maximum Value: 89.0 at 49.1 Milliseconds
 Minimum Value: -25.8 at 13.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NF12C





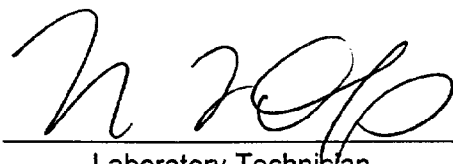
Hybrid III Calibration Data Sheet

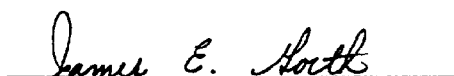
50TH Percentile Male

Neck Extension Test

ATD Serial No.: 034Part Serial No.: n/aTest I.D.: NE12D

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	18.3	Pass
	20 Msec.	G's	14.0 to 19.0	16.5	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	38.5	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	95.6	Pass
	Time	Msec.	72.0 to 82.0	79.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	155.2	Pass
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-65.4	Pass
	Time	Msec.	65.0 to 79.0	68.0	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	137.5	Pass
Overall Test Results					Pass


Laboratory Technician

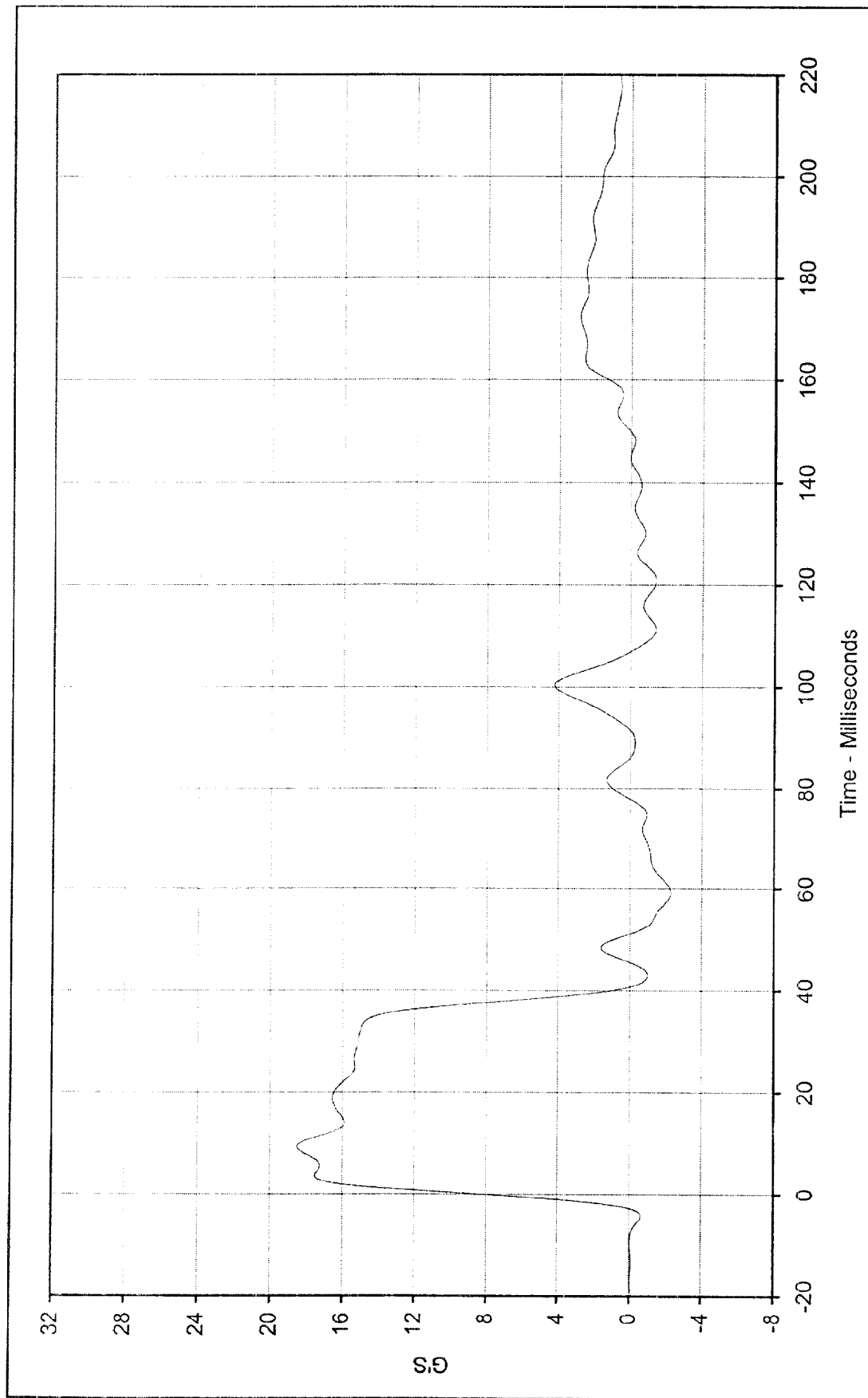

Approved By

December 29, 1998

Test Date

1/21/99

Date

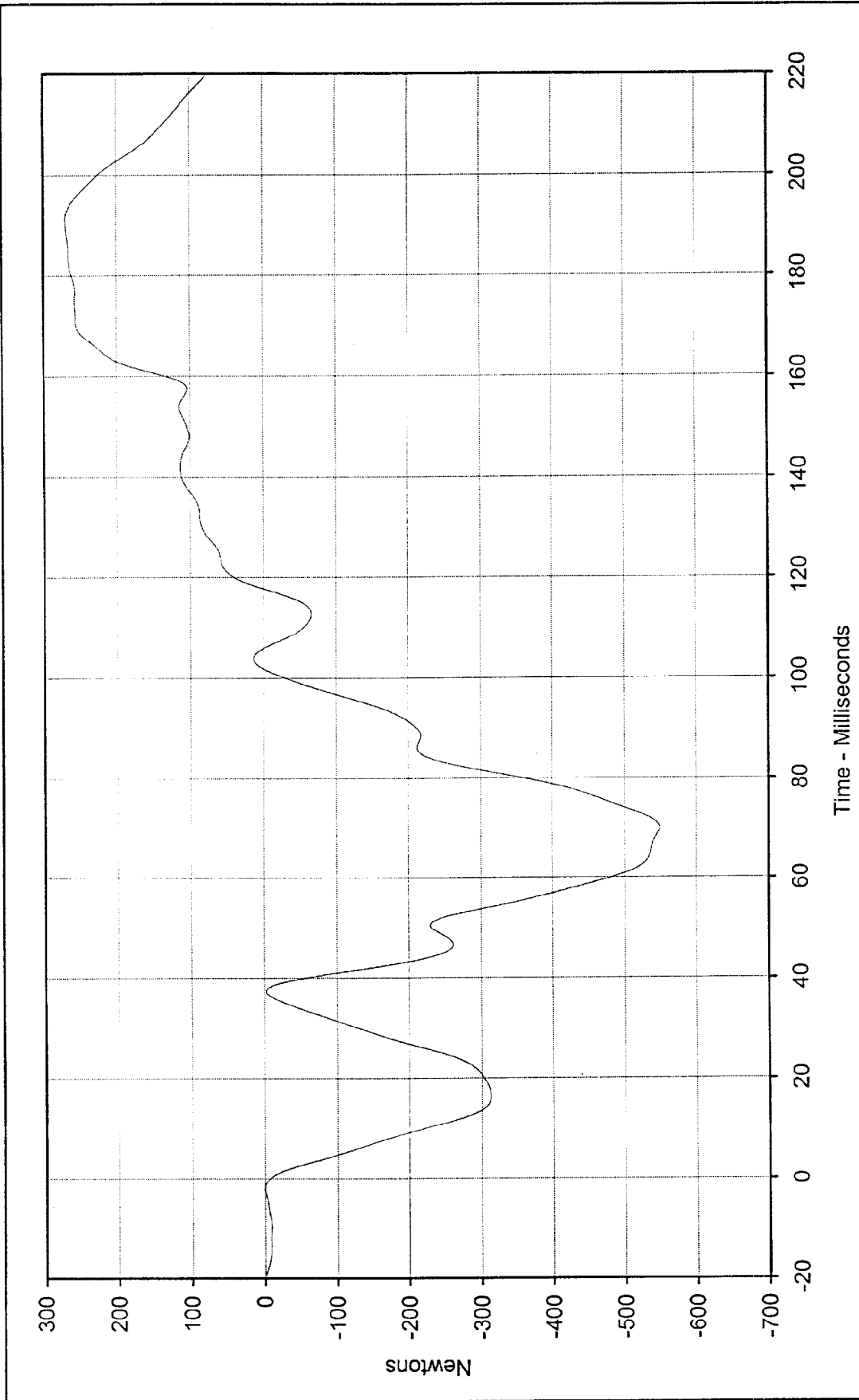


E-16

Curve Description:	Pendulum Deceleration	Testing Program	Hybrid III Neck Extension Test (Male)
Maximum Value:	18.5 at 9.3 Milliseconds	Test Information:	S/N of Part: n/a Test I.D.: NE12D
Minimum Value:	-2.3 at 59.1 Milliseconds		
SAE Filter Class:	60		
Date of Test:	12/29/98		
ATD Serial No.:	034		



KAR99001-09



Curve Description: Neck Force X

Maximum Value: 270.0 at 191.2 Milliseconds

Minimum Value: -548.6 at 70.0 Milliseconds

SAE Filter Class: 60

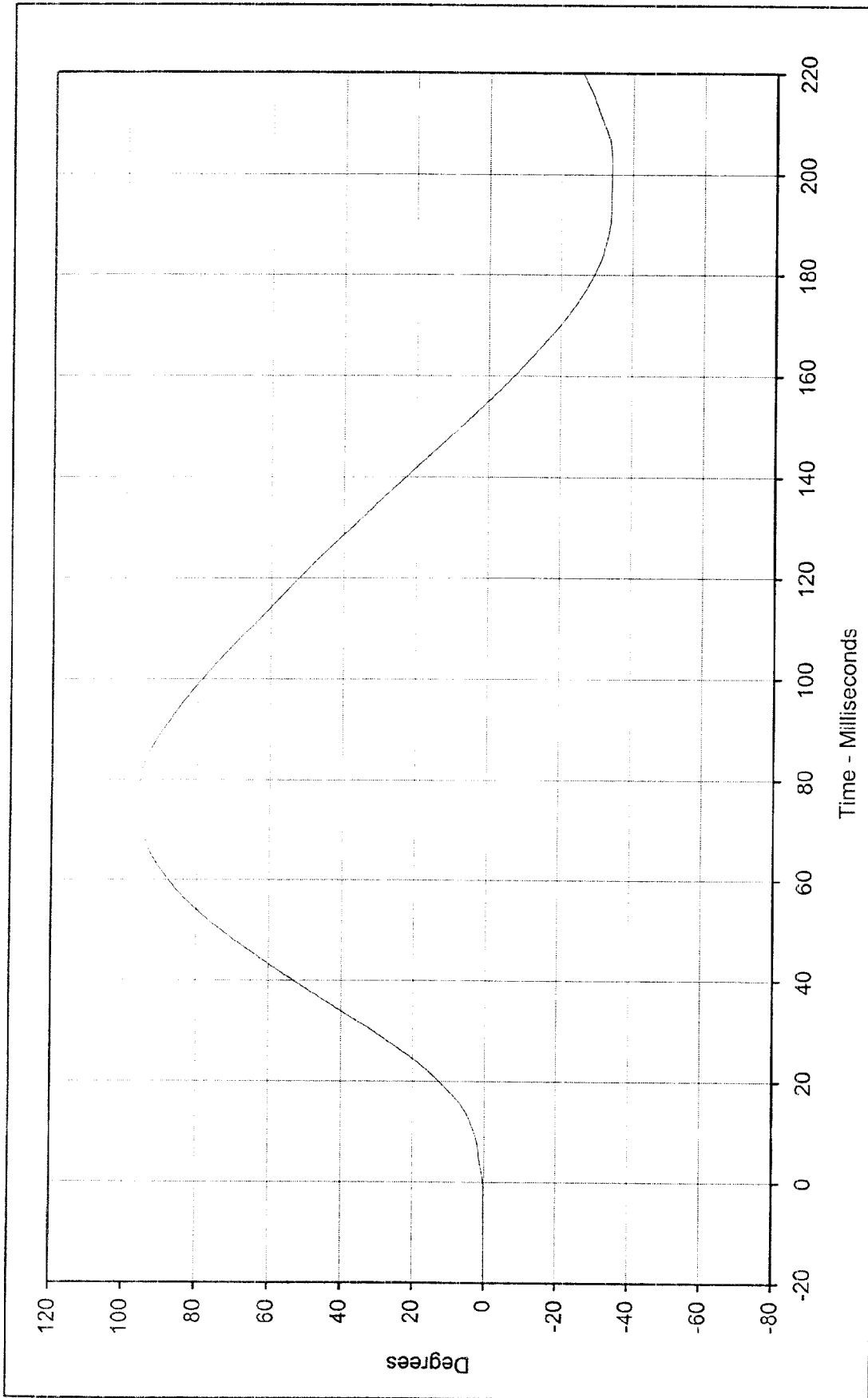
Date of Test: 12/29/98

ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)

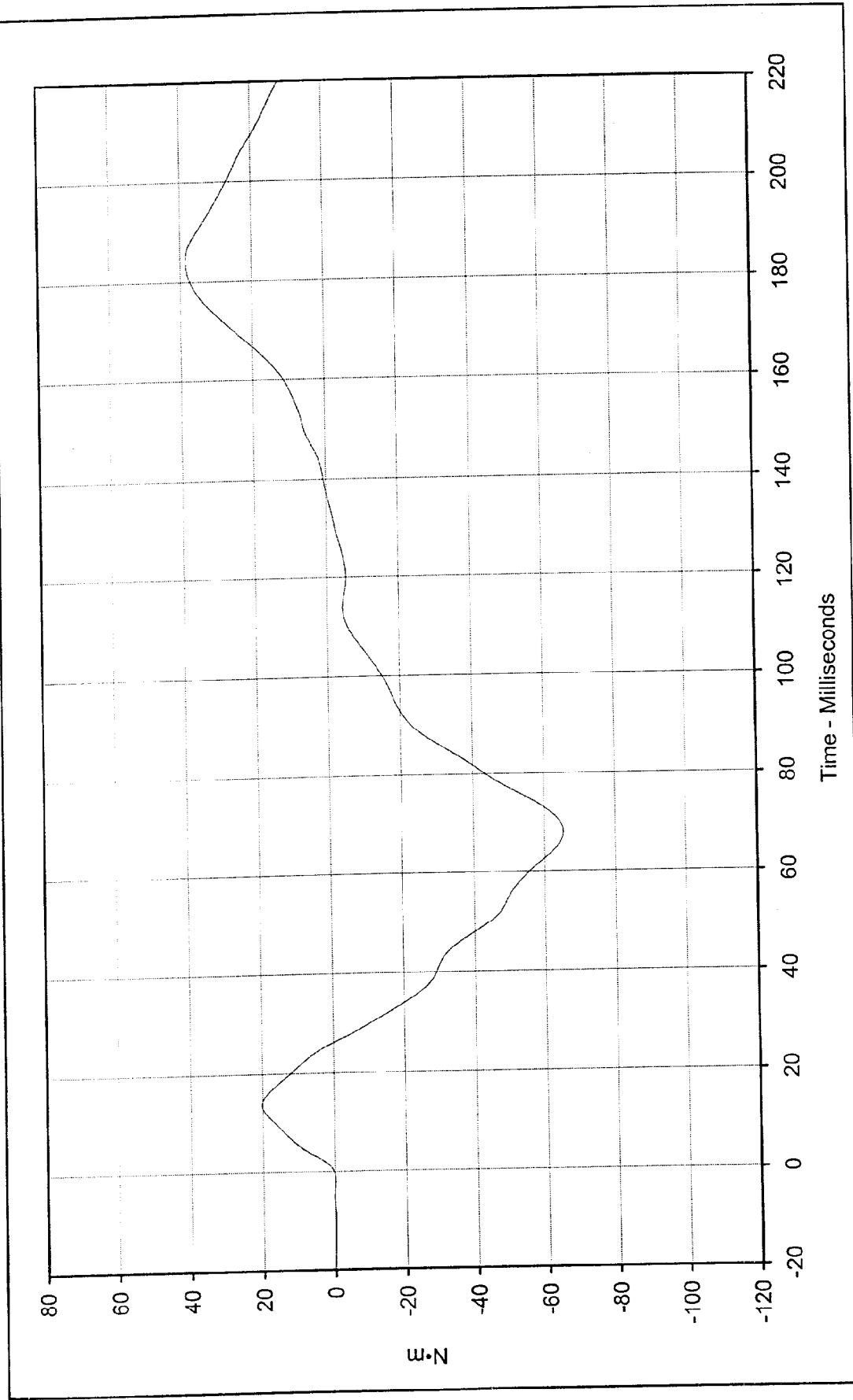
Test Information: S/N of Part: n/a Test I.D.: NE12D





Curve Description:		Testing Program		Hybrid III Neck Extension Test (Male)	
Maximum Value:	95.6	at	79.1	Milliseconds	
Minimum Value:	-34.0	at	201.8	Milliseconds	
SAE Filter Class:	60				
Date of Test:	12/29/98				
ATD Serial No.:	034				
		Test Information:		S/N of Part:	n/a
				Test I.D.:	NE12D





Testing Program Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NE12D

Curve Description: Moment About Occipital Condyles
 Maximum Value: 38.5 at 184.0 Milliseconds
 Minimum Value: -65.4 at 68.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 034





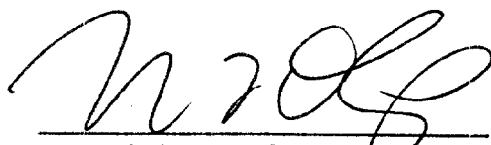
Hybrid III Calibration Data Sheet

50TH Percentile Male

External Measurements

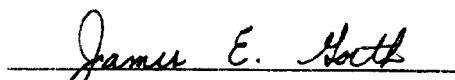
ATD Serial No.: 034Part Serial No.: N/ATest I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.9	Pass
Laboratory relative humidity	%	10 to 70	44	Pass
A - Total sitting height	mm	878.8 to 889.0	888.5	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	506.0	Pass
C - "H" point height	mm	83.8 to 88.9	88.0	Pass
D - "H" point from seat back	mm	134.6 to 139.7	136.5	Pass
E - Shoulder pivot from back	mm	83.8 to 94.0	93.1	Pass
F - Thigh clearance	mm	139.7 to 154.9	152.4	Pass
G - Elbow back to wrist pivot	mm	289.6 to 304.8	304.0	Pass
H - Skull cap to back line	mm	40.6 to 45.7	44.0	Pass
I - Shoulder to elbow length	mm	330.2 to 345.4	343.0	Pass
J - Elbow rest height	mm	190.5 to 210.8	208.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	603.0	Pass
L - Popliteal length	mm	429.3 to 454.7	445.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	487.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	471.0	Pass
O - Chest depth	mm	213.4 to 228.6	223.0	Pass
P - Foot length	mm	251.5 to 266.7	260.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	435.0	Pass
W - Foot breadth	mm	91.4 to 106.7	92.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	980.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	864.0	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

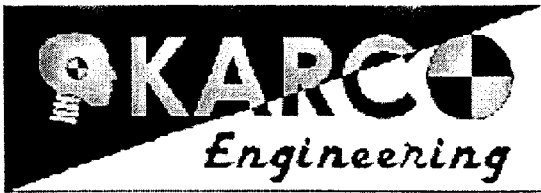
December 31, 1998

Test Date


Approved By

1/21/99

Date



Hybrid III Calibration Data Sheet

50TH Percentile Male

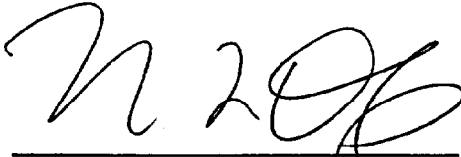
Left Knee Impact Test

ATD Serial No.: 35

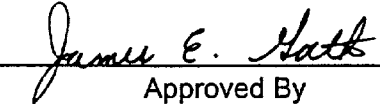
Part Serial No.: n/a

Test I.D.: KI12G

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	2.096	Pass
Peak Probe Force	Newtons	4715 to 5782	5361.6	Pass
Overall Test Results				Pass



Laboratory Technician



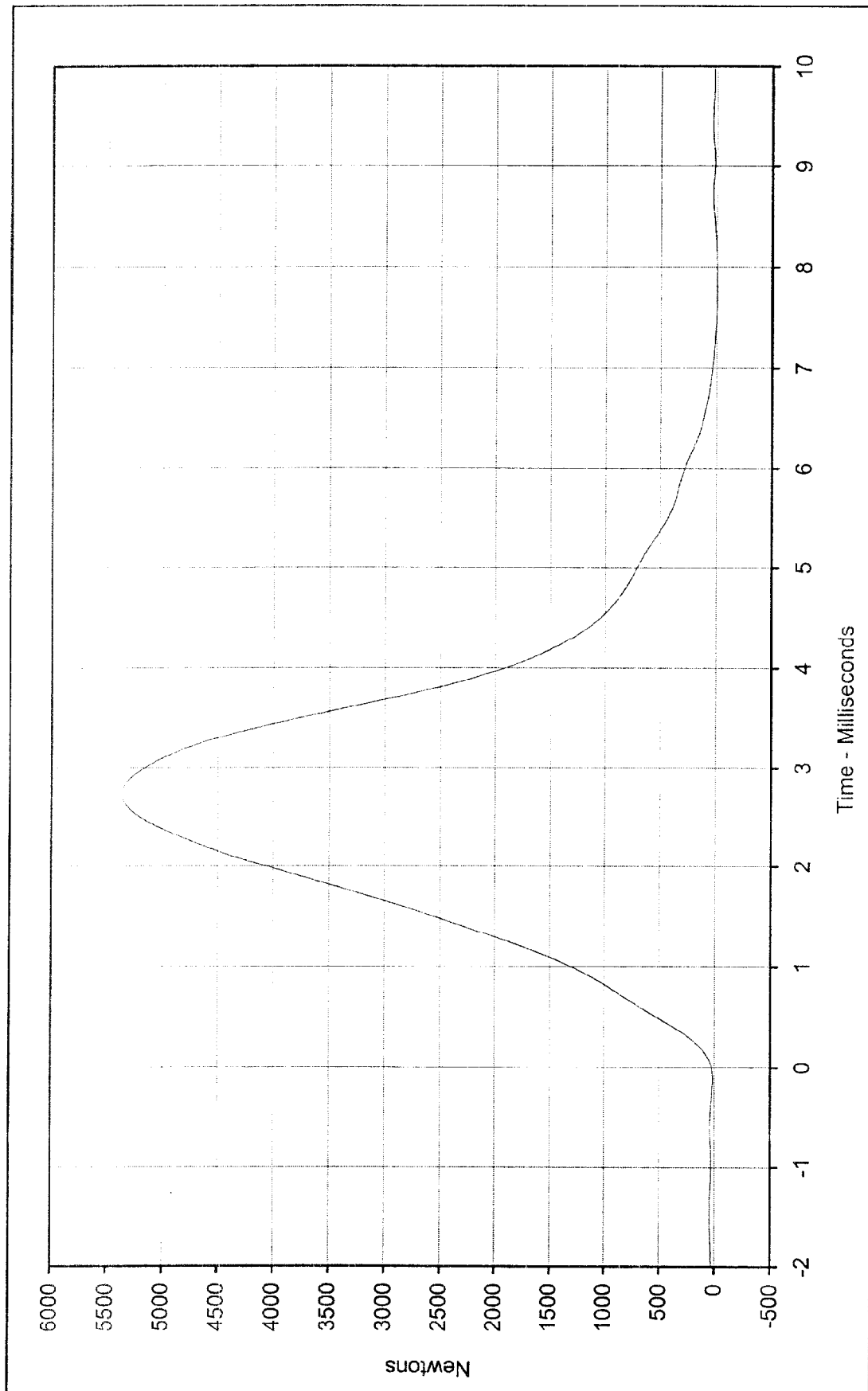
Approved By

December 28, 1998

Test Date

1/21/99

Date



Curve Description: Hybrid III Left Knee Impact Test
 Testing Program: Part S/N: n/a Test I.D.: KI12G
 Test Information:

Probe Force
 Maximum Value: 5361.6 at 2.7 Milliseconds
 Minimum Value: -5.1 at 7.7 Milliseconds
 SAE Filter Class: 600
 Date of Test: 12/28/98
 ATD Serial No.: 35





Hybrid III Calibration Data Sheet

50TH Percentile Male

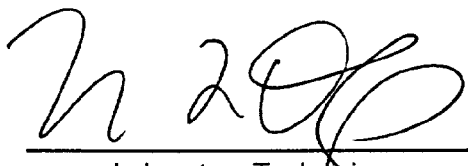
Right Knee Impact Test

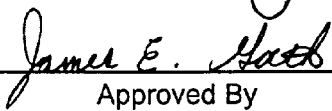
ATD Serial No.: 35

Part Serial No.: n/a

Test I.D.: KI12H

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	2.096	Pass
Peak Probe Force	Newtons	4715 to 5782	5384.9	Pass
Overall Test Results				Pass


Laboratory Technician

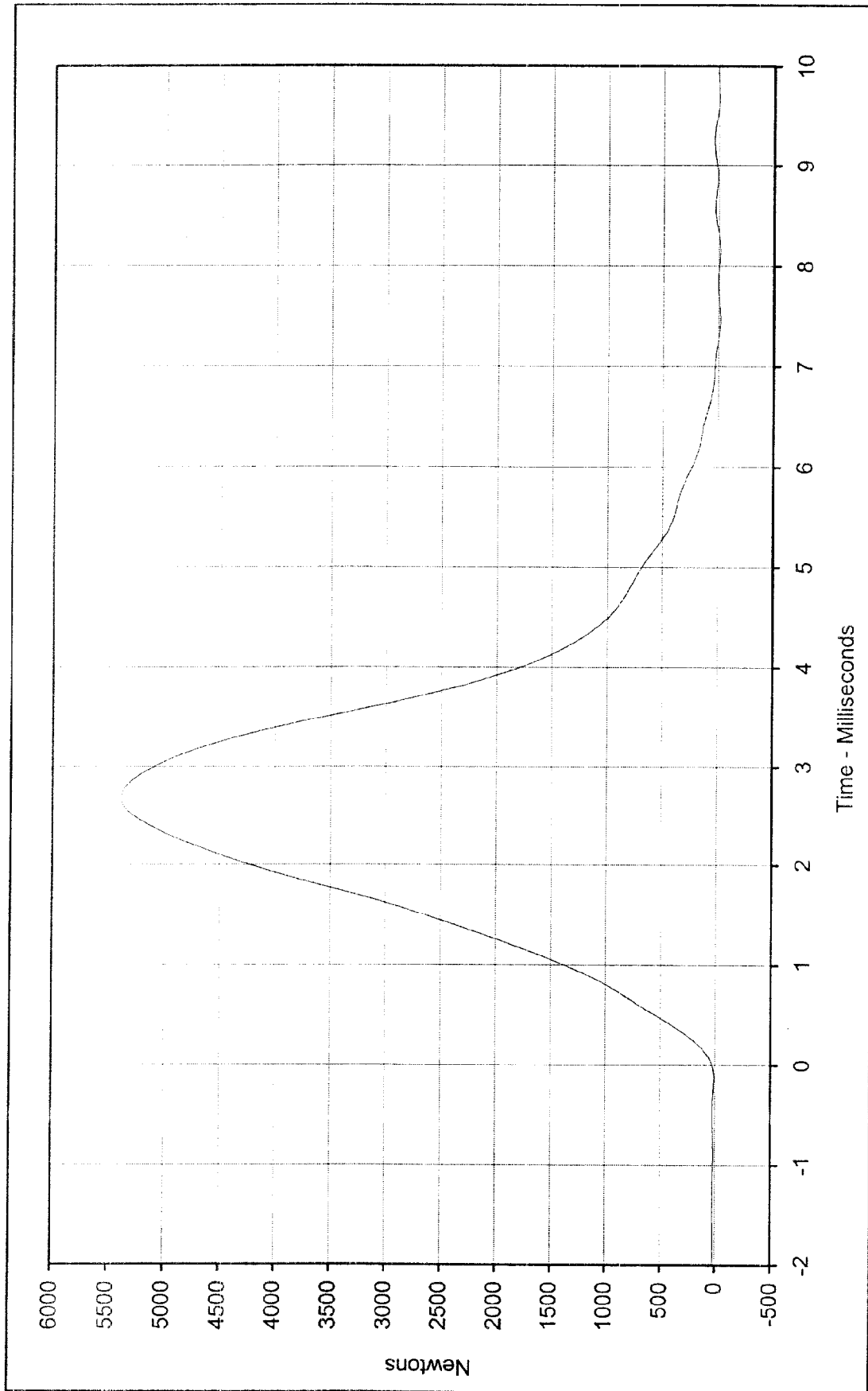

Approved By

December 28, 1998

Test Date

1/21/99

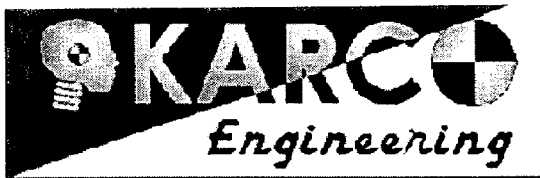
Date



Curve Description: _____
 Testing Program: Hybrid III Right Knee Impact Test
 Test Information: Part S/N: n/a Test I.D.: KI12H

Probe Force
 Maximum Value: 5384.9 at 2.7 Milliseconds
 Minimum Value: -19.7 at 7.5 Milliseconds
 SAE Filter Class: 600
 Date of Test: 12/28/98
 ATD Serial No.: 35





Hybrid III Calibration Data Sheet

50TH Percentile Male

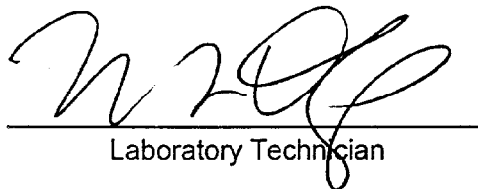
Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: n/a

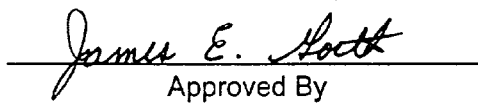
Test I.D.: HD12D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	267.0	Pass
Peak Lateral Acceleration	G's	≤15.0	4.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

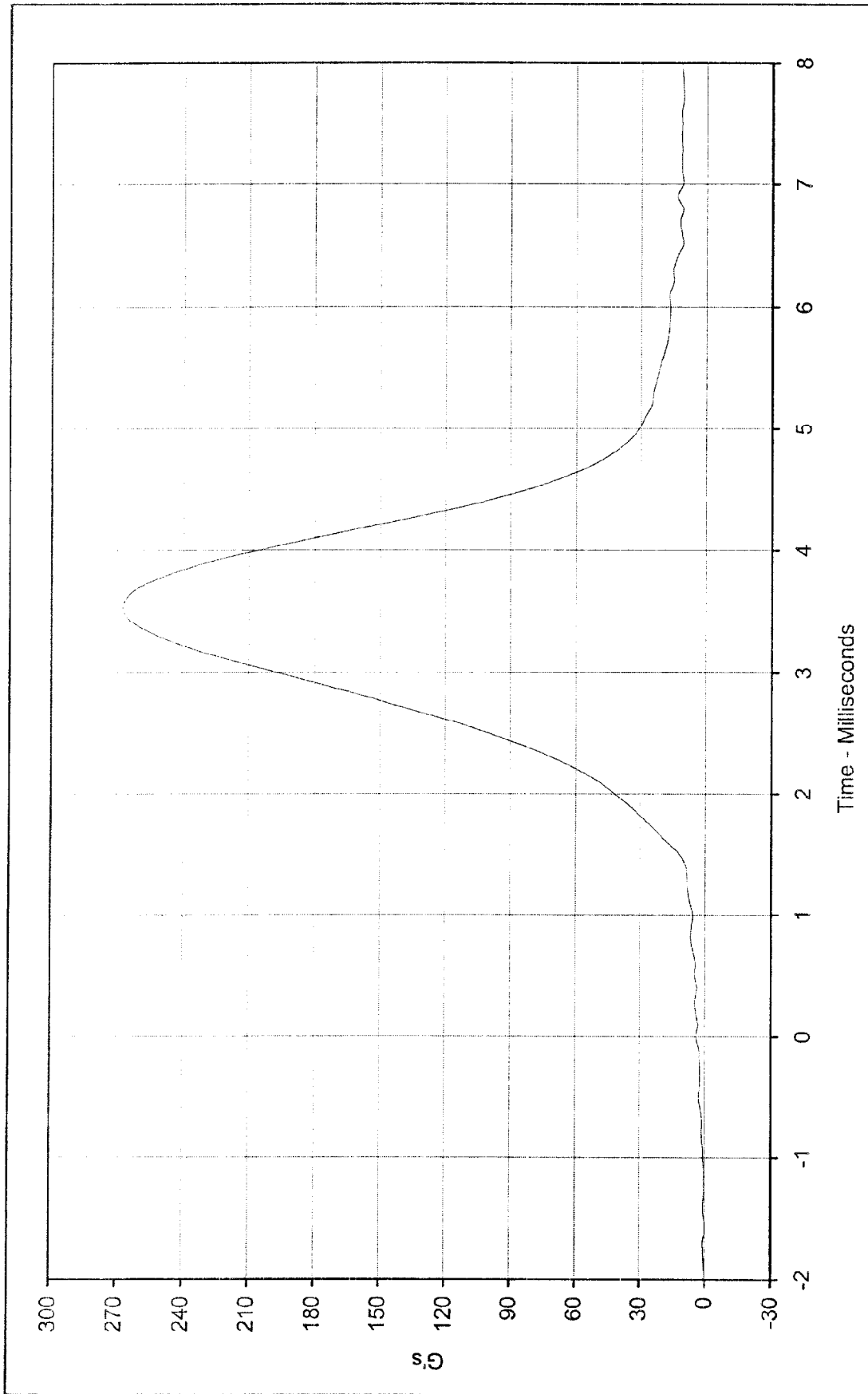
December 28, 1998

Test Date


Approved By

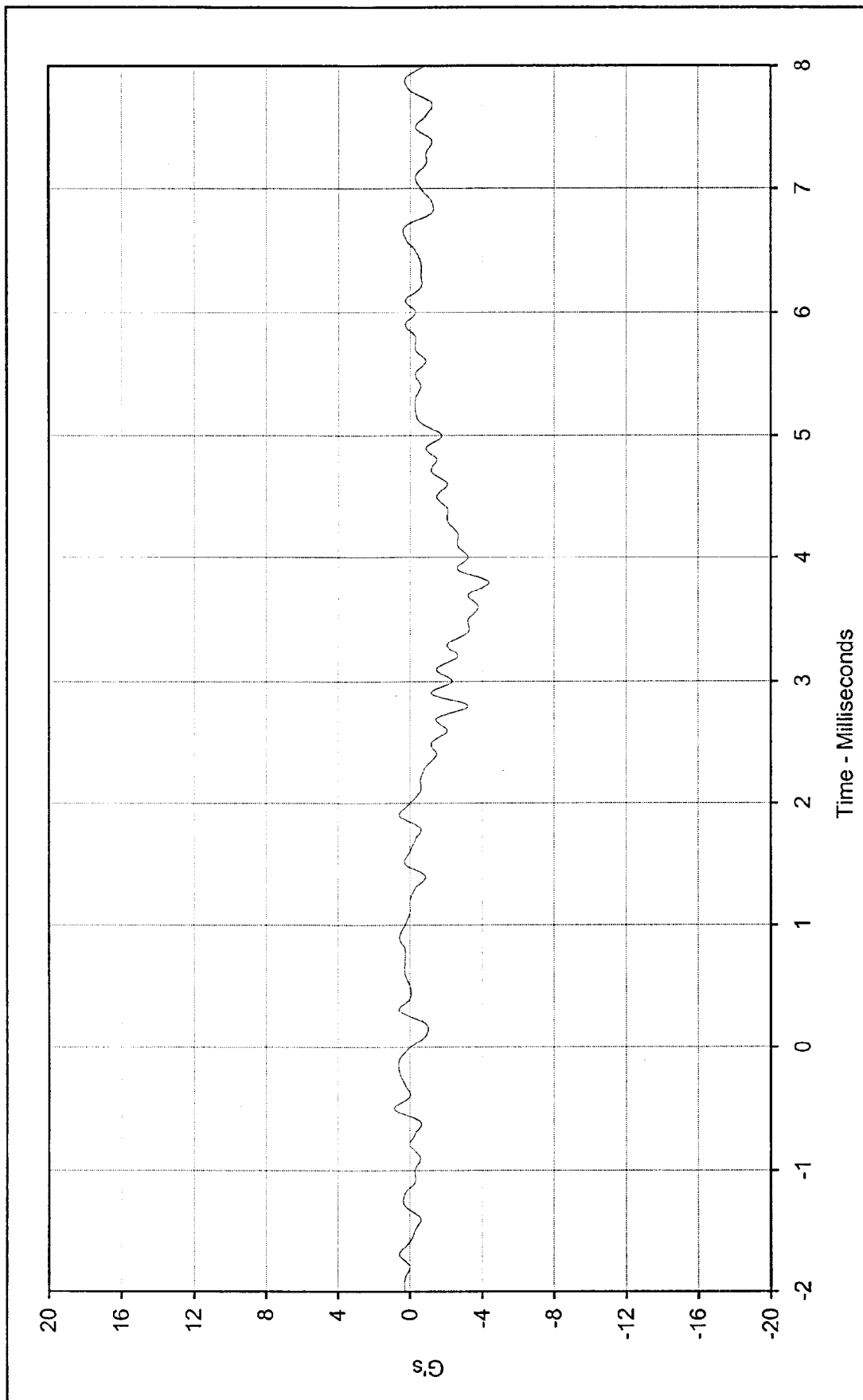
1/21/99

Date



Curve Description:		Testing Program		Hybrid III Head Drop Calibration (Male)	
Maximum Value:	267.0	at	3.5	S/N of Part:	n/a
Minimum Value:	0.0	at	-1.6	Test I.D.:	HD12D
SAE Filter Class:	1000				
Date of Test:	12/28/98				
ATD Serial No.:	035				





Curve Description: Hybrid III Head Drop Calibration (Male)
 Testing Program: S/N of Part: n/a Test I.D.: HD12D

Head Acceleration Y Axis
 Maximum Value: 0.9 at -0.5 Milliseconds
 Minimum Value: -4.4 at 3.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 12/28/98
 ATD Serial No.: 035





Hybrid III Calibration Data Sheet

50TH Percentile Male

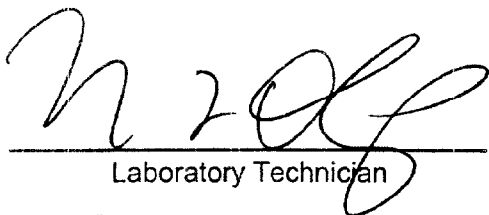
Thorax Impact Test

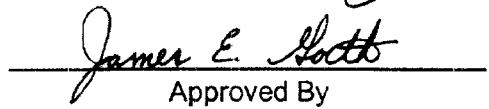
ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: CH12D

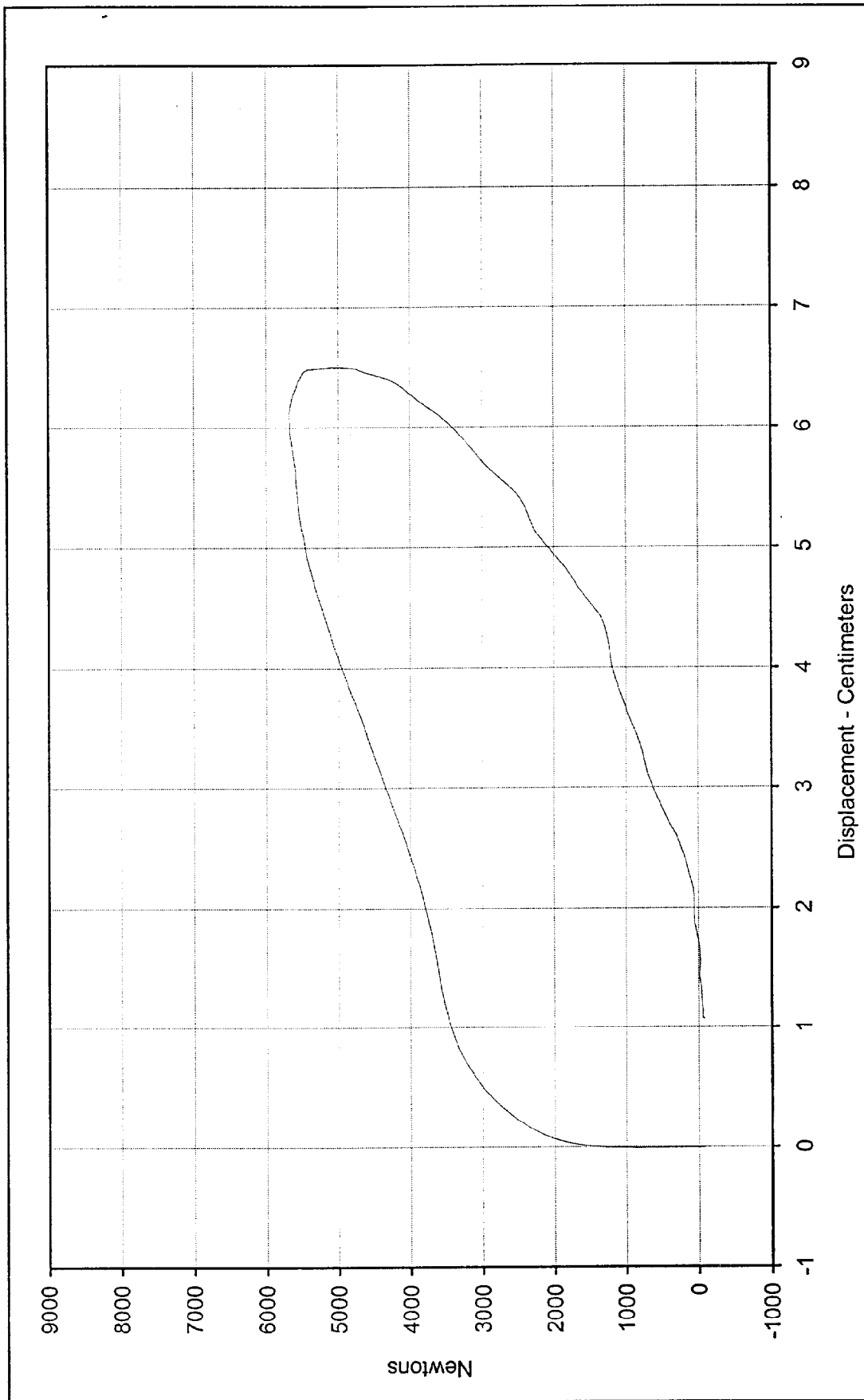
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.2	Pass
Laboratory Relative Humidity	%	10 to 70	39	Pass
Probe Velocity	m/s	6.58 to 6.82	6.82	Pass
Peak Probe Force	Newtons	5159 to 5893	5677	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.50	Pass
Internal Hysteresis	%	69 to 85	74.4	Pass
Overall Test Results				Pass


Laboratory Technician


Approved By

December 29, 1998
Test Date

1/21/99
Date



Curve Description: Probe Force vs. Chest Displacement Testing Program: Hybrid III Thorax Impact Test

Probe Force: 5677.4 Newtons Test Information: S/N of Part: N/A Test I.D.: CH12D

Chest Displ.: 6.50 Centimeters

SAE Filter Class: 180

Date of Test: 12/29/98

ATD Serial No.: 035





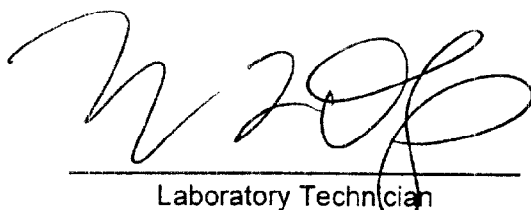
Hybrid III Calibration Data Sheet

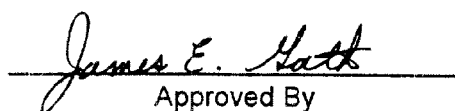
50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 035Part Serial No.: n/aTest I.D.: NF12D

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	7.00	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.0	Pass
	20 Msec.	G's	17.6 to 22.6	19.4	Pass
	30 Msec.	G's	12.5 to 18.5	18.2	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.2	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	37.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	70.0	Pass
	Time	Msec.	57.0 to 64.0	62.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	118.4	Pass
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	85.8	Pass
	Time	Msec.	47.0 to 58.0	54.5	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	100.2	Pass
Overall Test Results					Pass


Laboratory Technician

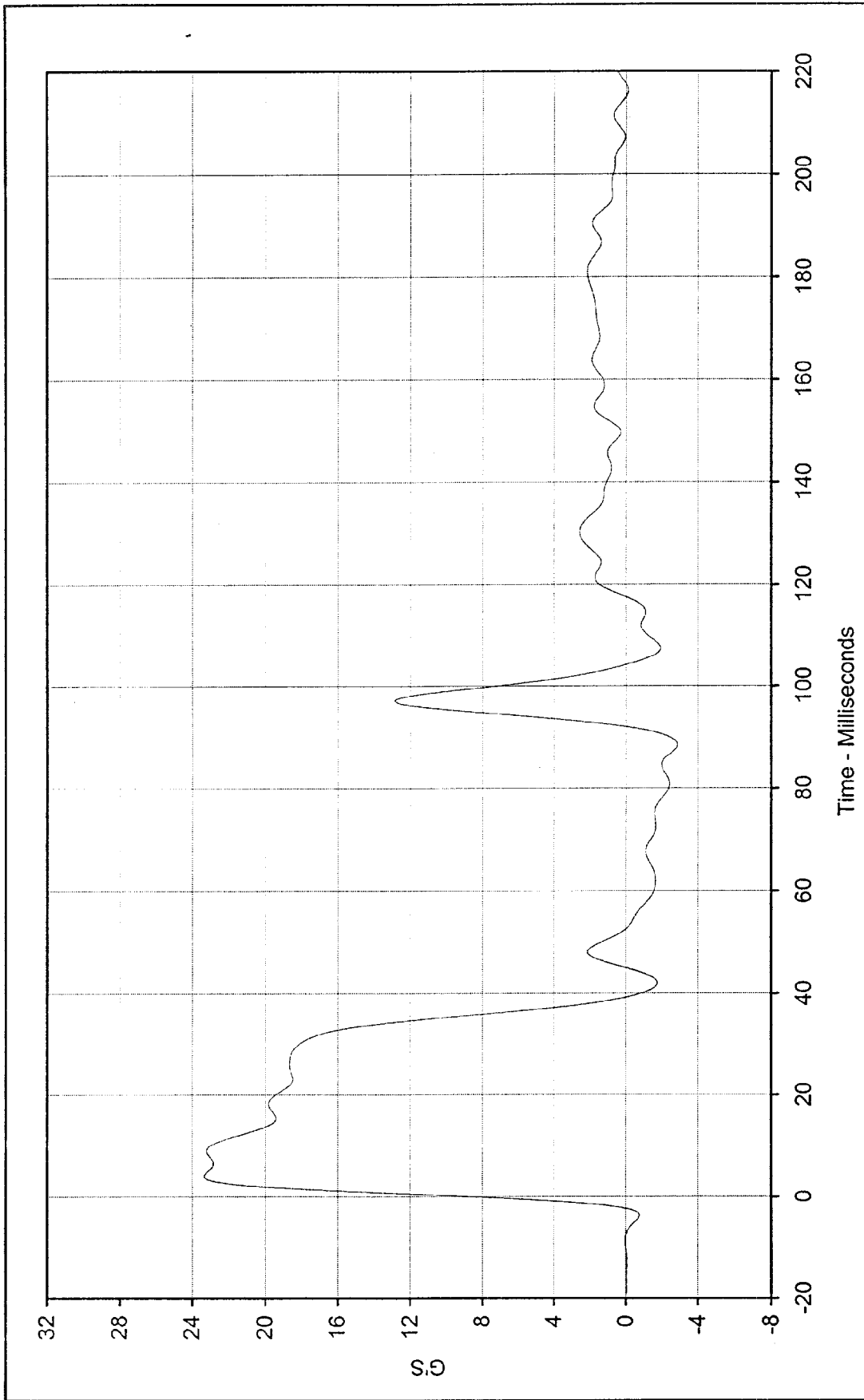

Approved By

December 29, 1998

Test Date

1/21/99

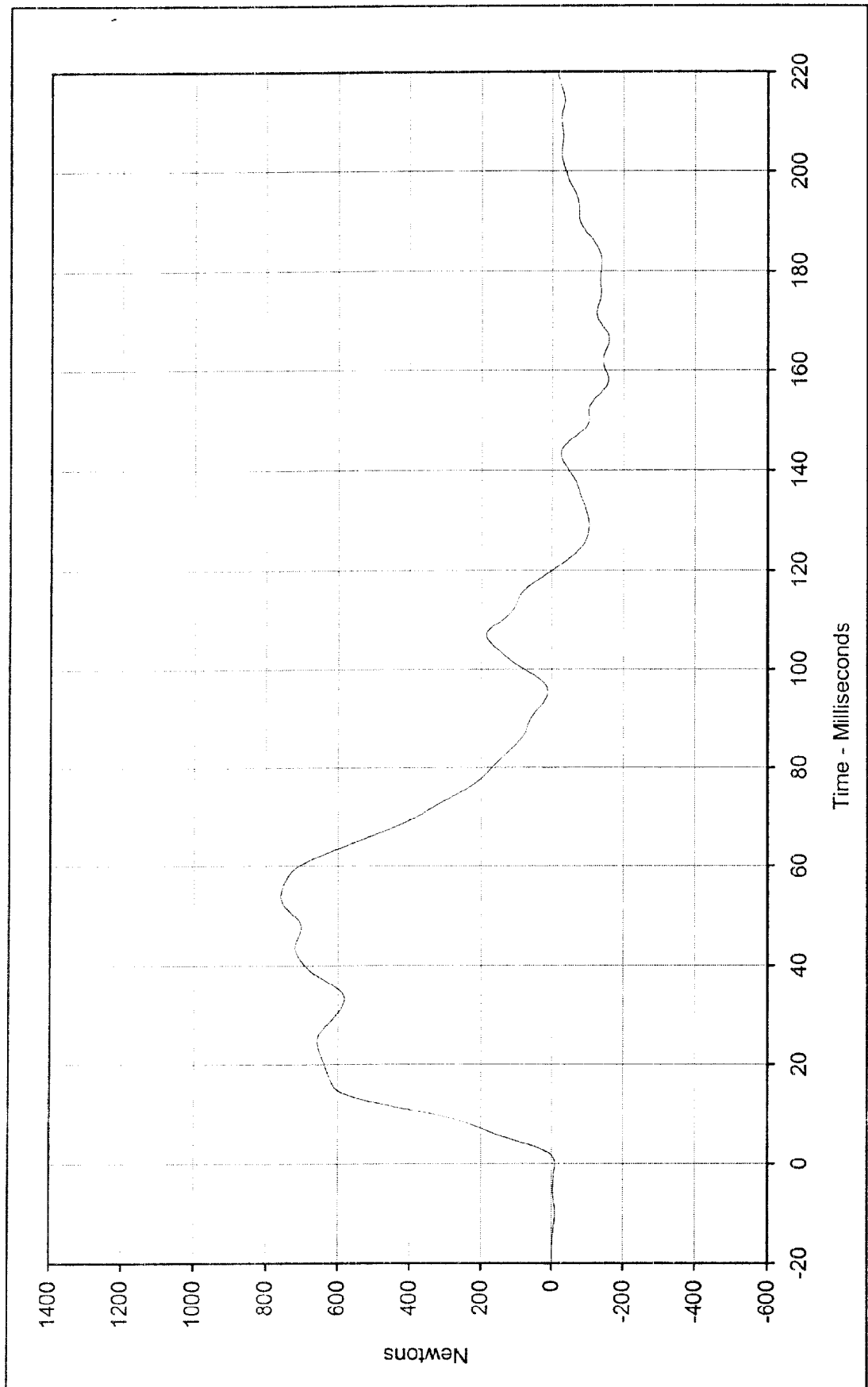
Date



Curve Description: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NF12D

Pendulum Deceleration
 Maximum Value: 23.4 at 4.0 Milliseconds
 Minimum Value: -2.8 at 88.5 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 035





Curve Description: Neck Force X

Maximum Value: 759.0 at 54.1 Milliseconds

Minimum Value: -158.5 at 166.2 Milliseconds

SAE Filter Class: 60

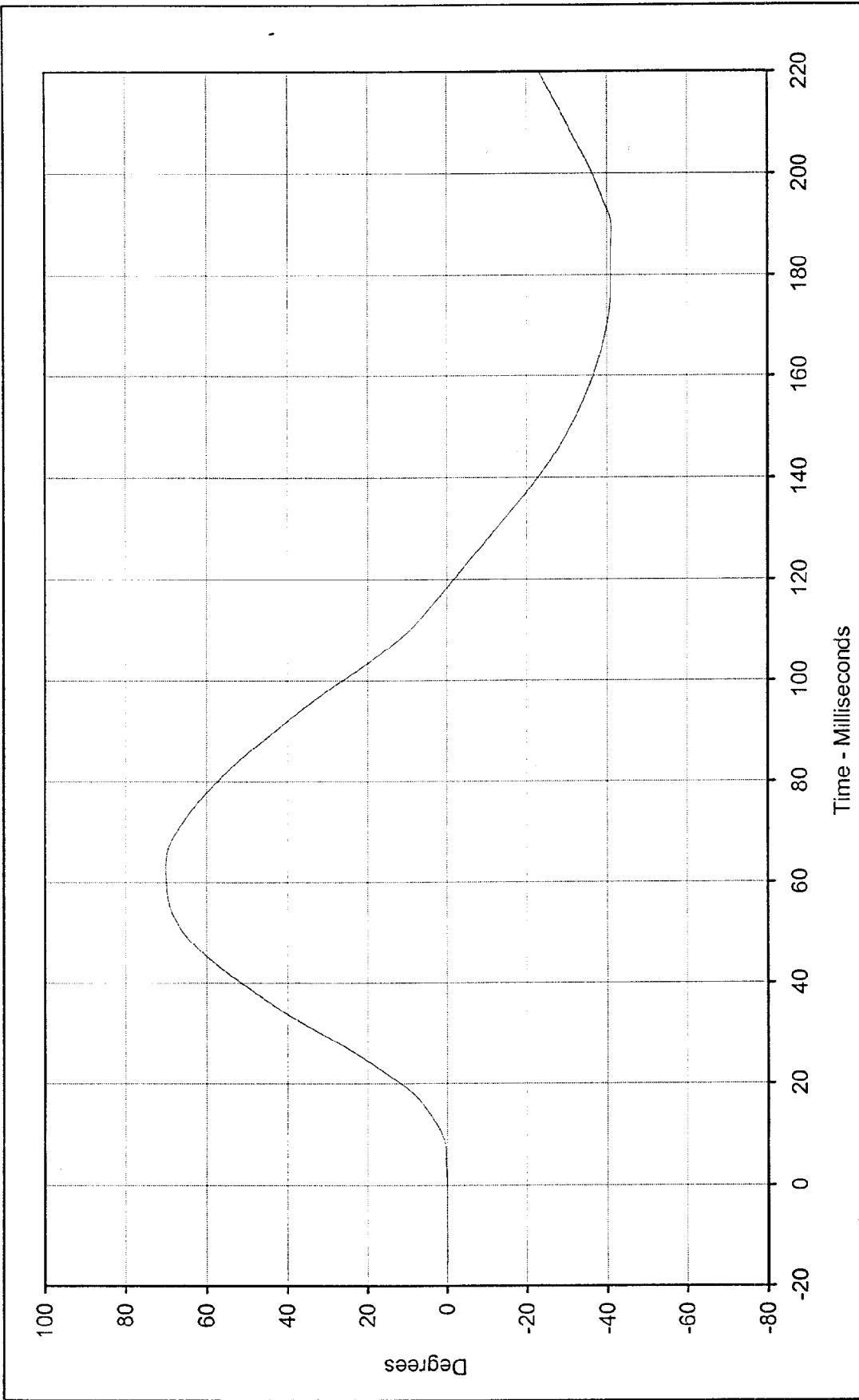
Date of Test: 12/29/98

ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)

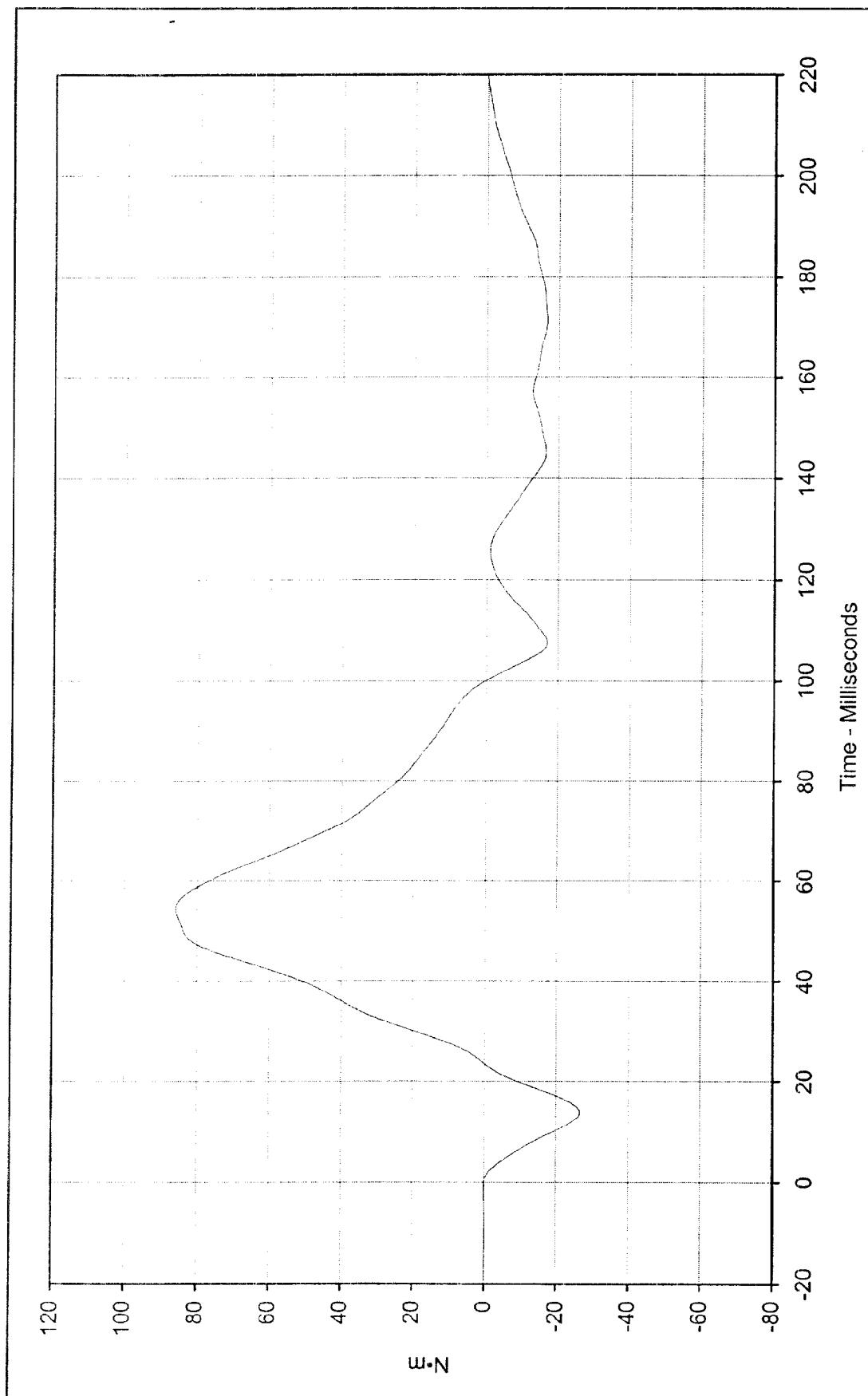
Test Information: S/N of Part: n/a Test I.D.: NF12D





Curve Description: Hybrid III Neck Flexion Test (Male)
 Maximum Value: 70.0 at 62.7 Milliseconds
 Minimum Value: -41.2 at 189.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 035

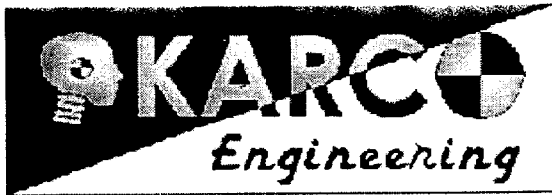




Curve Description:	Moment About Occipital Condyles	Testing Program	Hybrid III Neck Flexion Test (Male)
Maximum Value:	85.8 at 54.5 Milliseconds	Test Information:	S/N of Part: n/a Test I.D.: NF12D
Minimum Value:	-26.5 at 13.8 Milliseconds		



SAE Filter Class:	60
Date of Test:	12/29/98
ATD Serial No.:	035



Hybrid III Calibration Data Sheet

50TH Percentile Male

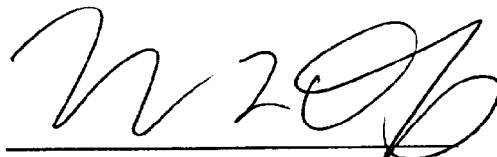
Neck Extension Test

ATD Serial No.: 035

Part Serial No.: n/a

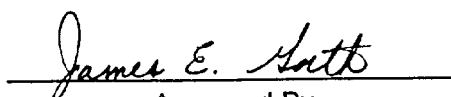
Test I.D.: NE12C

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	18.5	Pass
	20 Msec.	G's	14.0 to 19.0	17.1	Pass
	30 Msec.	G's	11.0 to 16.0	15.8	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.8	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	38.2	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	94.4	Pass
	Time	Msec.	72.0 to 82.0	80.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	162.8	Pass
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-61.6	Pass
	Time	Msec.	65.0 to 79.0	73.1	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	141.1	Pass
Overall Test Results					Pass

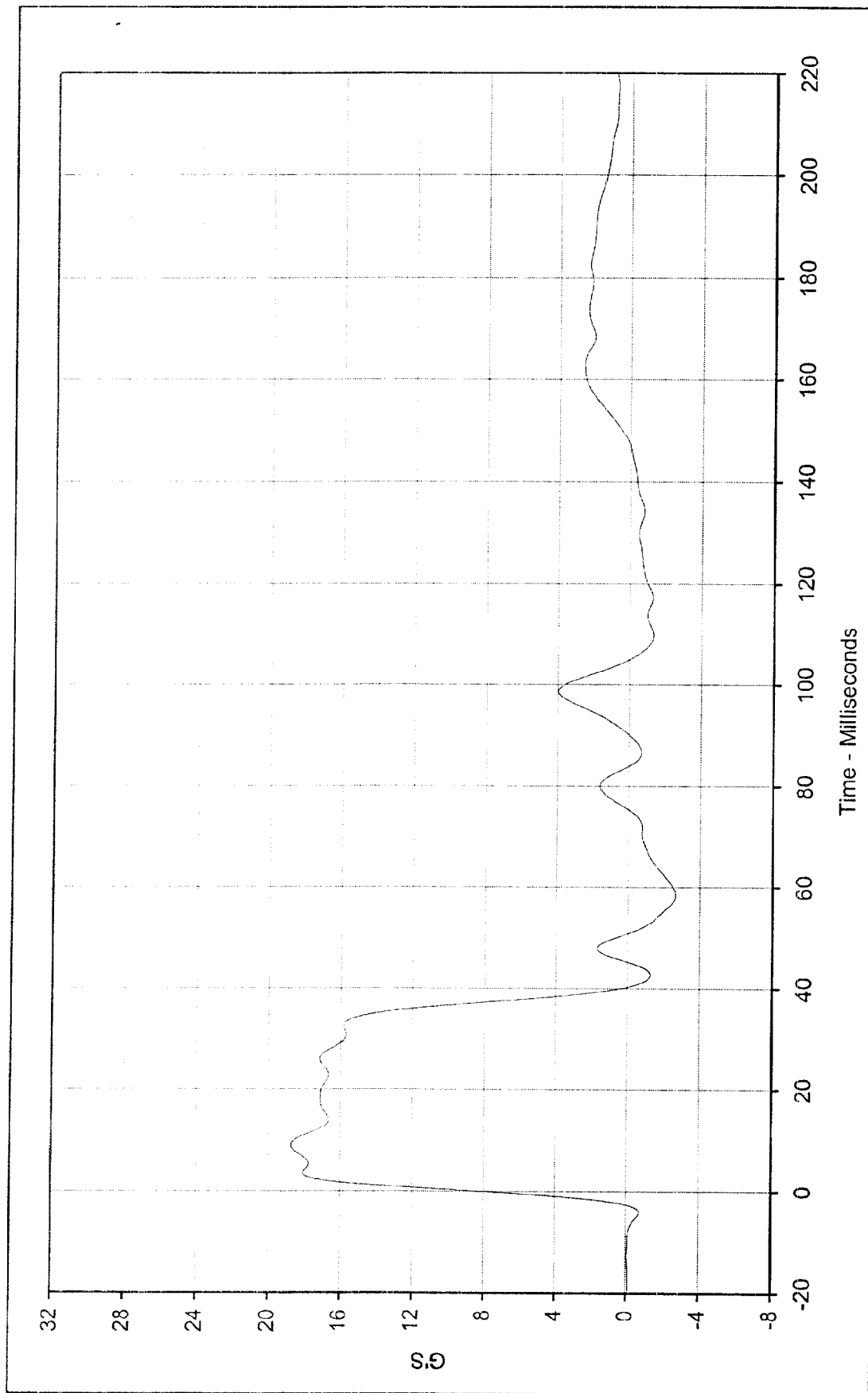

Laboratory Technician

December 29, 1998

Test Date

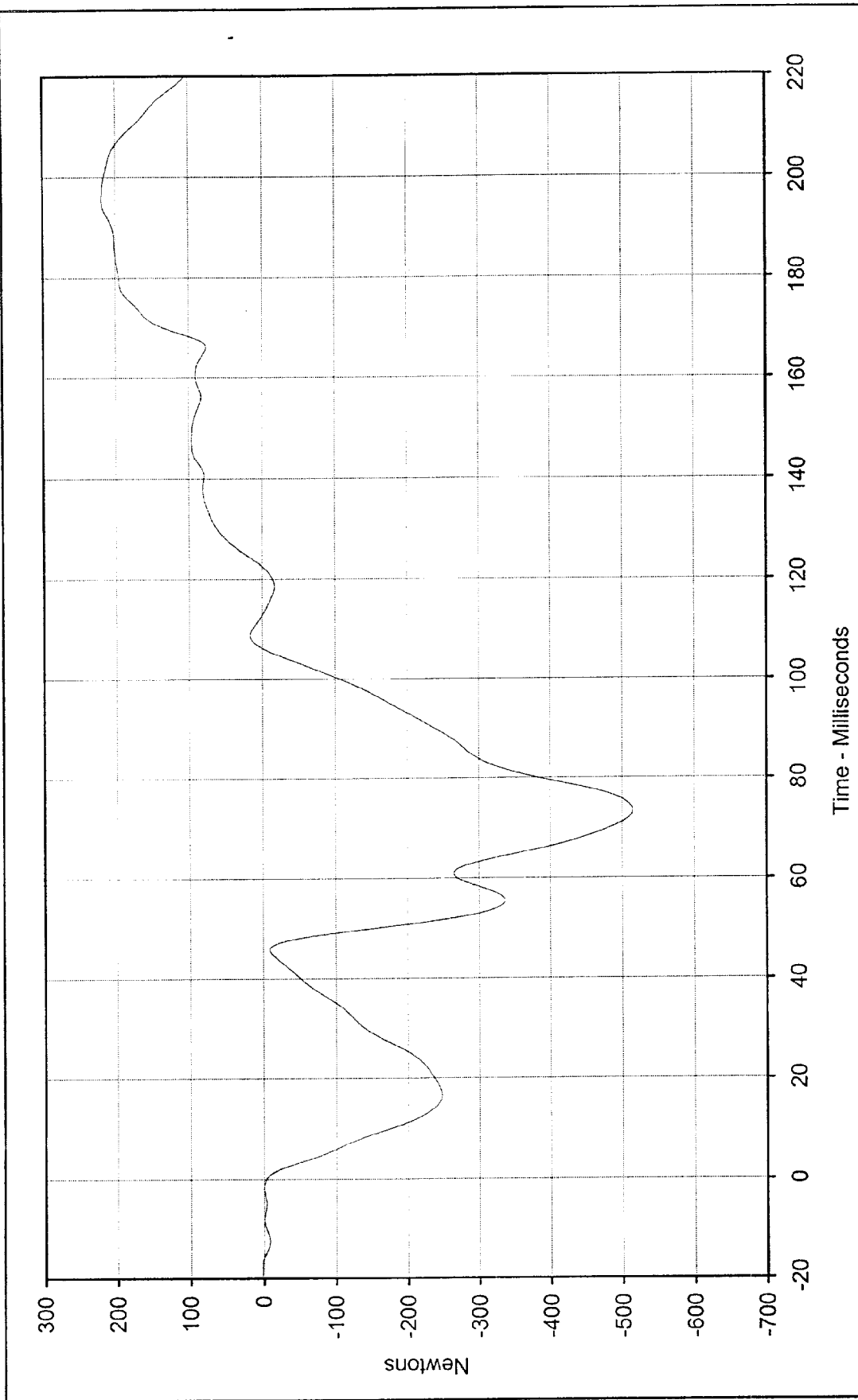

Approved By

1/21/99
Date



Curve Description: _____ Testing Program: Hybrid III Neck Extension Test (Male)
 Maximum Value: 18.7 at 9.0 Milliseconds
 Minimum Value: -2.7 at 58.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 035

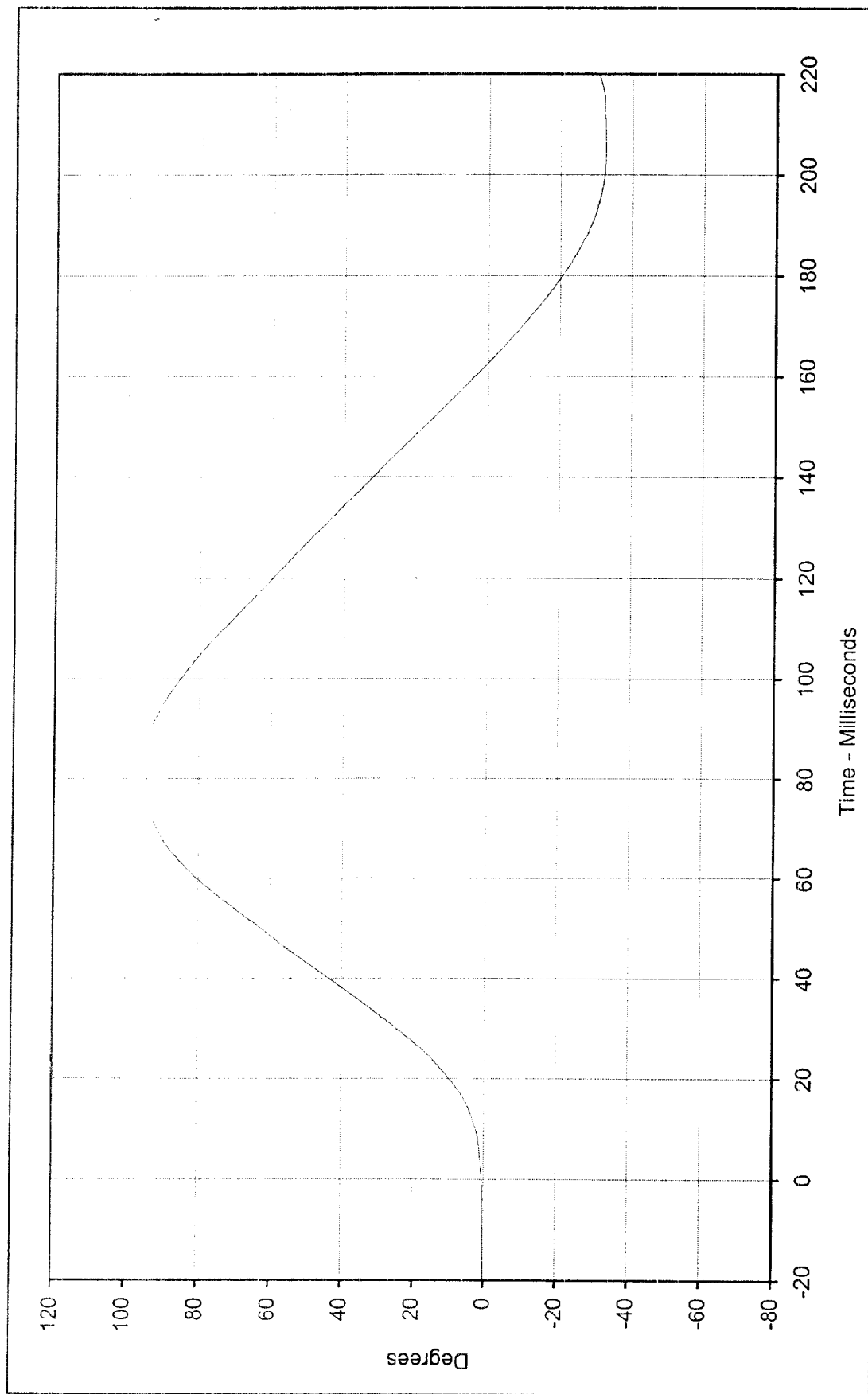




Testing Program Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NE12C

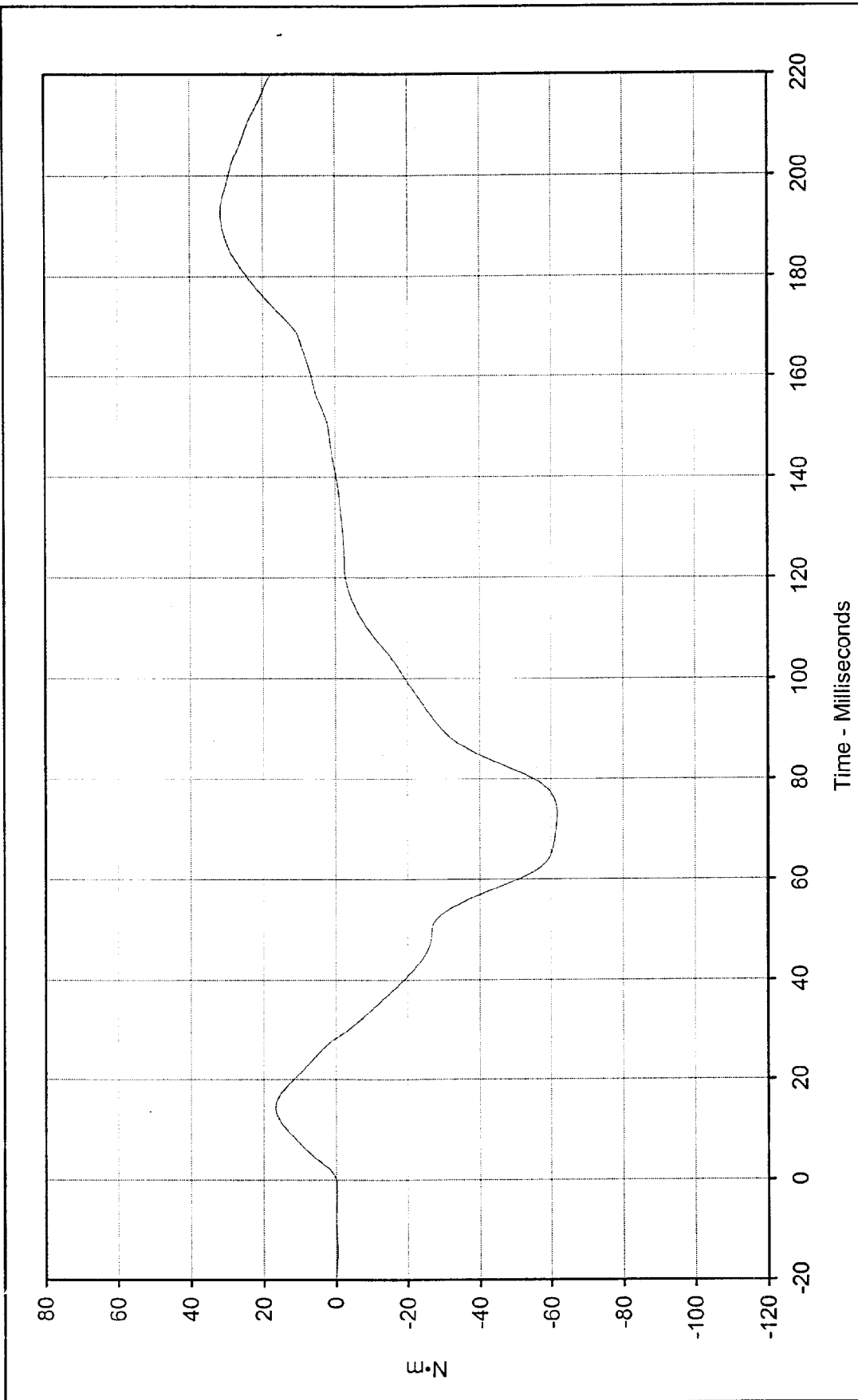
Curve Description: Neck Force X
 Maximum Value: 218.8 at 195.8 Milliseconds
 Minimum Value: -514.2 at 73.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 035





Curve Description:		Testing Program		Hybrid III Neck Extension Test (Male)	
Maximum Value:	94.4	at	80.7	S/N of Part:	n/a
Minimum Value:	-32.6	at	204.9	Test I.D.:	NE12C
SAE Filter Class:	60				
Date of Test:	12/29/98				
ATD Serial No.:	035				





Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NE12C



Curve Description: Moment About Occipital Condyles
 Maximum Value: 31.6 at 192.8 Milliseconds
 Minimum Value: -61.6 at 73.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 12/29/98
 ATD Serial No.: 035



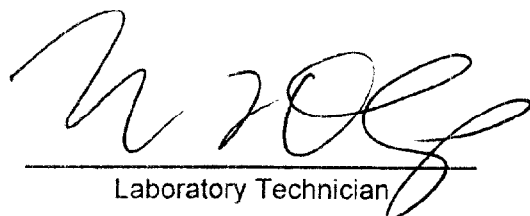
Hybrid III Calibration Data Sheet

50TH Percentile Male

External Measurements

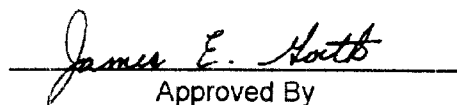
ATD Serial No.: 035Part Serial No.: N/ATest I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.9	Pass
Laboratory relative humidity	%	10 to 70	44	Pass
A - Total sitting height	mm	878.8 to 889.0	886.0	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	506.0	Pass
C - "H" point height	mm	83.8 to 88.9	88.0	Pass
D - "H" point from seat back	mm	134.6 to 139.7	137.3	Pass
E - Shoulder pivot from back	mm	83.8 to 94.0	92.5	Pass
F - Thigh clearance	mm	139.7 to 154.9	153.0	Pass
G - Elbow back to wrist pivot	mm	289.6 to 304.8	300.5	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	343.0	Pass
J - Elbow rest height	mm	190.5 to 210.8	208.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	602.0	Pass
L - Popliteal length	mm	429.3 to 454.7	445.0	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	260.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	430.0	Pass
W - Foot breadth	mm	91.4 to 106.7	92.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	980.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	864.0	Pass
AA - Location for chest circumference	mm	429.3 to 434.3	431.0	Pass
BB - Location for waist circumference	mm	226.1 to 231.1	229.0	Pass
Overall Test Results				Pass


Laboratory Technician

December 31, 1998

Test Date


Approved By

1/21/99

Date

APPENDIX F
VEHICLE OWNER'S MANUAL
OCCUPANT RESTRAINT INSTRUCTIONS

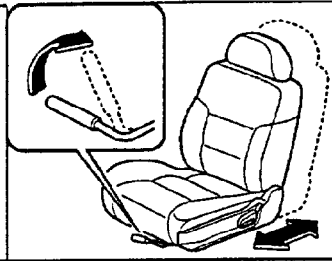
KAR99001-09

Front Seats
(Manually Operated)

⚠ WARNING

Secure Seat:

A seat with adjustable components that are not securely latched is dangerous. In a collision or sudden stop, the seat or seat back could move, causing you to be injured. Slide the seat back and forth and wiggle the seat back to make sure they are locked in place.



■ **Seat Slide**

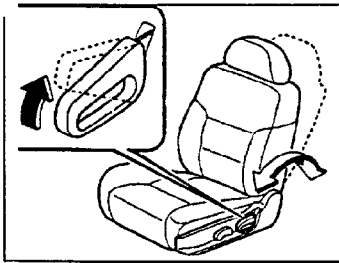
To move a front seat forward or backward, raise the lever and slide the seat.

⚠ WARNING

Driver's Seat Adjustment:

Adjusting the driver's seat while the vehicle is moving is dangerous. The driver could lose control of the vehicle and have an accident. Adjust the driver's seat only when the vehicle is stopped.

2-26



■ **Seat Recline**

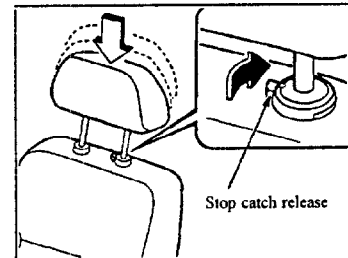
To change the seat-back angle, lean forward slightly and raise the lever. Then lean back to the position you want and release it.

Make sure the lever returns to its original position.

⚠ WARNING

Reclining:

Sitting in a reclined position in a moving vehicle can be dangerous because you don't get the full protection from seat belts. In a collision or sudden stop, you can slide under the lap belt and suffer serious internal injuries. For maximum protection, sit well back and upright.



■ **Head Restraint Height Adjustment**

To raise a head restraint, pull it up.

To lower, press the stop-catch release and push the head restraint down.

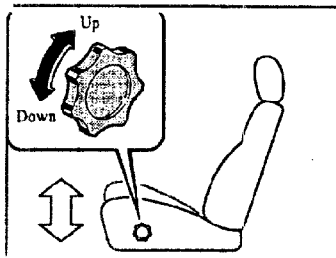
2-27

Adjust a head restraint so that it is closest to the top of the user's ears, never the user's neck.



WARNING

Head Restraint Adjustment:
It's dangerous to drive with the head restraints adjusted too low or removed. With no support behind your head, your neck could be seriously injured in a collision. Always drive with the head restraints properly adjusted.



■ Seat Tilt (Driver's Seat)

The seat cushion angle can be adjusted by rotating the dial.

Front Seats (Electrically Operated)

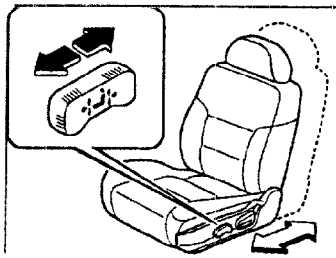
The cushion tilt, seat height and seat slide can be electrically adjusted. Move them to the desired positions by using the switch on the seat's lower side.

2-28



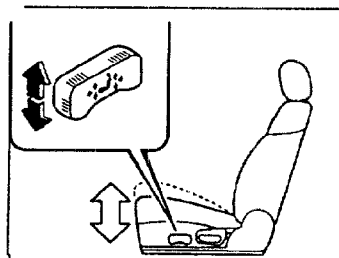
CAUTION

- The seat cushion power adjust is operated by a motor. Avoid extended operation because excessive use can damage the motor.
- To prevent the battery from running down, avoid using the power adjust when the engine is stopped. The adjuster uses a great amount of electric power.



■ Seat Slide

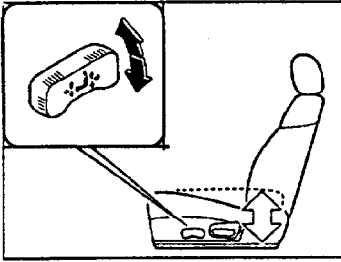
To slide the front seat, move the slide lifter switch on the left side of the seat to the front or back and hold it. Release the switch when the seat is where you want it.



■ Seat Cushion Front Height Adjustment

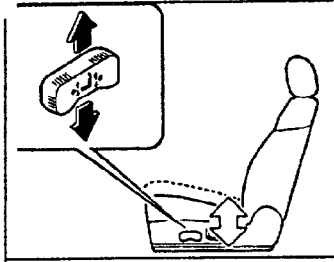
To adjust the front height of the lower cushion, raise or lower the front of the slide lifter switch on the left side of the seat.

2-29



■ Seat Cushion Rear Height Adjustment

Raise or lower the back of the switch to adjust the rear height of the seat cushion.

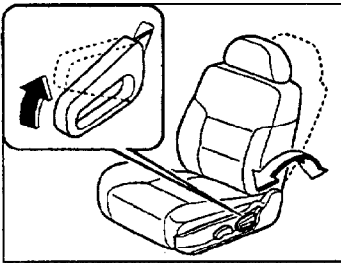


■ Seat Height Adjustment

Raise the seat cushion by pulling up on the center of the switch. Release the switch when the seat is where you want it.

Lower the cushion by pressing down on the center and releasing it when the seat is where you want it.

2-30



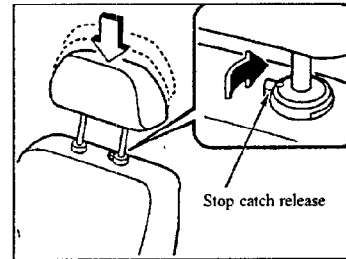
■ Seat Recline

To change the seat-back angle, lean forward-slightly and raise the lever. Then lean back to the position you want and release it.

Make sure the lever returns to its original position.

⚠ WARNING

Reclining:
Sitting in a reclined position in a moving vehicle can be dangerous because you don't get the full protection from seat belts. In a collision or sudden stop, you can slide under the lap belt and suffer serious internal injuries. For maximum protection, sit well back and upright.



■ Head Restraint Height Adjustment

To raise a head restraint, pull it up.

To lower, press the stop-catch release and push the head restraint down.

2-31

Seat Belt System

Seat belts help to decrease the possibility of severe injury during accidents and sudden stops. Mazda recommends that the driver and passengers always wear seat belts.

All of the seat belt retractors are designed to keep the lap/shoulder belts out of the way when not in use.

The driver's seat belt has no provisions for child-restraint systems and has *only* an emergency locking mode. The driver may wear it comfortably, and it will lock during a collision.

However, the front passenger's seat and rear lap/shoulder belt retractors

operate in two modes, emergency locking mode and for child-restraint systems, automatic locking mode.

Emergency locking mode

If the belt has fully retracted, it will always be in the emergency locking mode until you move it into automatic locking mode by pulling the belt all the way out to its full length. In the emergency locking mode, the belt remains comfortable on the occupant and the retractor will lock in position during a collision.

If the belt feels tight and hinders comfortable movement while the vehicle is stopped or in motion, you

may be in the automatic locking mode because you have pulled the belt too far out. To return to the more comfortable emergency locking mode, wait until you can stop the vehicle in a safe area, retract the belt fully and then again extend it around you.

Automatic locking mode

Always use the automatic locking mode to keep the child-restraint system from shifting to an unsafe position in the event of an accident. To get the seat belt into the automatic locking mode, pull it all the way out and connect it as instructed on the child-restraint system. It will retract down to the child restraint and stay

2-36

locked on it. See the section on child-restraint systems for more information.

WARNING

Not Wearing Seat Belts:

Not wearing a seat belt is extremely dangerous. During a collision, occupants not wearing seat belts could hit someone or things inside the vehicle or even be thrown out of the vehicle. They could be seriously injured or even killed. In the same collision, occupants wearing seat belts would be much safer. Always wear your seat belt and make sure all occupants are properly restrained.

WARNING

Seat Belt Damaged Dunn-Accident:

Using a damaged seat belt is dangerous. An accident could damage the belt webbing in use. A damaged seat belt cannot provide adequate protection in a collision. Have an Authorized Mazda Dealer inspect all seat belt systems in use during an accident before they are used again.

2-37

⚠ WARNING

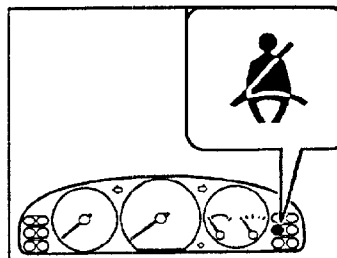
Twisted Seat Belts:

Twisted seat belts can cause injury. In a collision, the full width of the belt isn't available to absorb the impact. This puts more force on the bones beneath the belt, which could break them or cause other serious injury. Don't wear twisted seat belts.

⚠ WARNING

One Person:

Using one seat belt for more than one person at a time is dangerous. A seat belt used in this way can't spread the impact forces properly and the two passengers could be crushed together and seriously injured. Never use one belt for more than one person at a time.



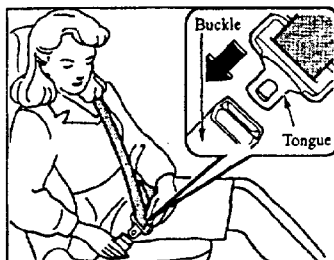
■ **Seat Belt Warning Light/Beep**

If the driver's seat belt is not fastened when the ignition is at ON (II), a beep will sound for about 6 seconds and the seat belt warning light will remain on until the belt is fastened.

2-38

Knowing Your Mazda

If the system does not operate correctly, consult an Authorized Mazda Dealer.



■ **Front Seat Belts**

To fasten:

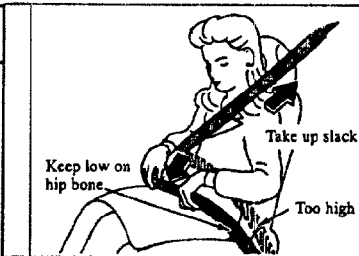
1. Grasp the buckle and tongue.
2. Slowly pull out the lap/shoulder belt.

3. Insert the tongue into the buckle until you hear a click.
4. Make sure the shoulder belt is snugly fitted against your body and not loose.

2-39

⚠ WARNING

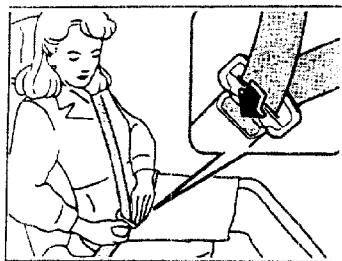
Positioning the Shoulder Portion of the Seat Belt:
 Improper positioning of the shoulder portion of the seat belt is dangerous. An improperly positioned belt will provide little or no protection in a collision. Always make sure the shoulder portion of the seat belt is positioned across your shoulder and near your neck, but never under your arm, on your neck, or on your upper arm.



⚠ WARNING

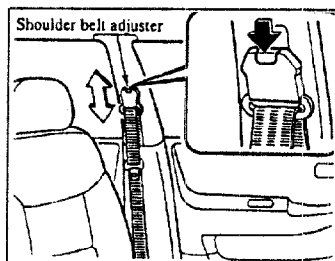
Positioning the Lap Portion of the Seat Belt:
 The lap portion of the seat belt worn too high can be dangerous. In a collision, this would concentrate the impact force directly on the abdominal area, causing serious injury. Wear the lap portion of the belt snugly and as low as possible.

2-40



To unfasten:

Depress the buckle release.



▼ **Shoulder belt adjuster**

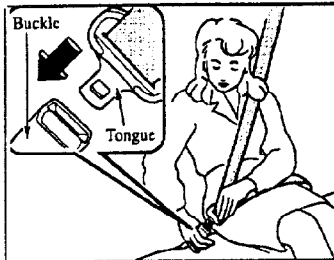
This adjusts the shoulder belt angle for a more comfortable fit. Simply push the button, move it to one of four positions, and then release it. Make sure the adjuster is locked.



2-41

⚠ WARNING

Positioning the Shoulder Portion of the Seat Belt:
Improper positioning of the shoulder portion of the seat belt is dangerous. An improperly positioned belt will provide little or no protection in a collision. Always make sure the shoulder portion of the seat belt is positioned across your shoulder and near your neck, but never under your arm, on your neck, or on your upper arm.



2. Insert this tongue into the buckle until you hear a click.
3. Make sure the shoulder belt is snugly fitted against your body and not loose.

The retractor will take up excess belt and maintain tension.

■ Rear Seat Belts

To fasten:

1. Grasp the tongue and pull it to the desired length.

2-42

■ Older Children

A child who has outgrown child-restraint systems should sit in the rear and use seat belts, both lap and shoulder. If the shoulder belt crosses the neck or face, move the child closer to the center.

Accident statistics reveal that a child is safer in the rear seat.

⚠ CAUTION

A seat belt or child restraint can become very hot in a closed vehicle during warm weather. To avoid burning yourself or a child, inspect either before using.

Supplemental Restraint System

In a front-end accident, the supplemental restraint system with air bags is designed to provide protection for the driver and front seat passenger **in addition to** the three-point seat belt system. Without seat belt usage, the air bags cannot provide adequate protection during an accident. Seat belt usage is necessary to:

- Keep the passenger away from an inflating air bag.
- Reduce the possibility of injuries during an accident that is not designed for air bag inflation, such as: rollover, side or rear collisions.

2-53

- Reduce the possibility of injuries in frontal collisions that are not severe enough to activate the air bag.
- Reduce the possibility of being thrown from your vehicle.
- Reduce possibility of injuries to lower body and legs during an accident because the air bag provides no protection to these parts.

⚠ WARNING

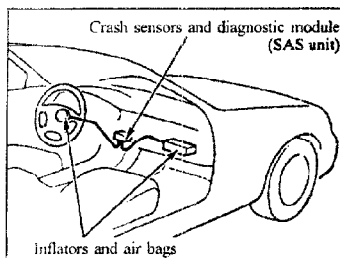
Air Bags without Seat Belts:
Depending only on the air bags for protection during an accident is dangerous. Alone, air bags may not prevent serious injuries. Air bags inflate only during a severe frontal or near-frontal collision. In other kinds of accidents, such as side impact, rear impact or a roll over, only the seat belt can provide protection to the front occupants. Vehicle occupants should always wear seat belts.

⚠ WARNING

Child in the Front Seat:
Placing a child under 12 years old in the front seat could be dangerous. The child could be hit by a deploying air bag and be seriously injured or even killed. Whenever possible, always secure a child 12 years under/old in the back seat with an appropriate child-restraint system and seat belt. Also, never use a rear-facing child restraint in the front seat.

Small children, those under 40 lbs. (18 kg), should be protected by a child restraint system.

2-54



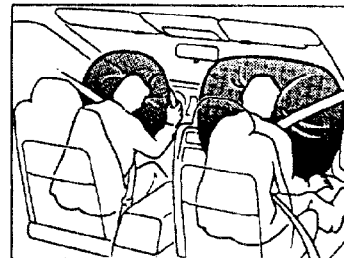
- The electronic system with crash sensors and diagnostic module

The air bags are mounted in the center of the steering wheel and the passenger side of the dashboard, but they are out of sight until activated.

■ System Description

The supplemental restraint system has two basic subsystems:

- The air bag system with inflators and two air bags



■ How Air Bags Work

When air bag crash sensors detect a severe frontal impact, an electrical current is sent to the inflators. Nitrogen and argon gases are produced to inflate both bags. After the inflation, they quickly deflate.

2-55

The air bags will function only once. After that, the air bags will not work again and must be replaced.

Only an Authorized Mazda Dealer can replace the system.

⚠ WARNING	NOTE
<u>Seating Position</u> <i>Sitting too close to an air-bag storage compartment or placing hands or feet on it is extremely dangerous. Air bags inflate with great force and speed. Serious injuries could occur if someone is sitting too close. The driver should always hold onto only the rim of the steering wheel. The front seat passenger should keep both feet on the floor. Front seat occupants should adjust their seats as far back as possible, always sit upright against the seat backs and wear their seat belts properly.</i>	• During a severe front-end impact, you will hear a loud inflation noise and some smoke will be released. Neither will cause injury, and the smoke doesn't indicate a fire. • The air bags will function only once. After that, the air bags will not work again and must be replaced. Only an Authorized Mazda Dealer can replace the system.

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⚠ WARNING	⚠ WARNING	⚠ WARNING
<u>Hot Air Bag Inflators:</u> <i>Hot air bag inflators are dangerous. Immediately after inflation, the inflators in the steering wheel and in the dashboard are very hot. You could get burned. Don't touch the internal components of the air bag storage areas after the bags have inflated.</i>	<u>Modification of the Supplemental Restraint System:</u> <i>Modifying the components or wiring of the supplemental restraint system is dangerous. You could accidentally activate it or make it inoperable. Don't make any modifications to the supplemental restraint system. This includes installing trim, badges, or anything else over the air bag storage areas. It also includes installing extra electric equipment on or near system components or wiring.</i>	<u>Installation of Front-End Equipment:</u> <i>Installation of front-end equipment, such as frontal protection bar (kangaroo bar, bull bar, push bar, etc.), snowplow, or winches, is dangerous. The air bag crash sensor system could be affected. This could cause air bags to inflate unexpectedly, or it could prevent the air bags from inflating during an accident. Front occupants could be seriously injured. Don't install any front-end equipments to your vehicle.</i>

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⚠ WARNING

Air Bag Storage Area:
Attaching an object to an air bag storage area or placing one in front of it is dangerous. In an accident, the object could interfere with air bag inflation or injure the occupants. Always keep the air bag storage areas free of objects.

A WARNING

Damaged Air Bag Sensors:
Driving with damaged air bag sensors could be dangerous. A collision, even one not strong enough to inflate the air bags, could damage the sensors. If there was a subsequent collision, a damaged sensor would not inflate the air bags. Always have an Authorized Mazda Dealer inspect the supplemental restraint system after a collision.

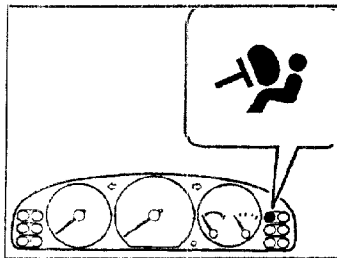
■ Constant Monitoring

These components are monitored by the supplemental restraint system warning light:

- SAS unit
- Air bag modules
- Related wiring

A diagnostic module continuously monitors the system's readiness. This begins when the ignition is turned on and continues while the vehicle is being driven.

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If the supplemental restraint system is OK, the warning light comes on when the ignition is turned on or after the engine is cranked. After about 6 seconds it goes out.

A system malfunction is indicated when this light constantly flashes or stays on or if it doesn't come on at all. If one of these happens, consult an Authorized Mazda Dealer as soon as possible. The system may not work in an accident.

⚠ WARNING

Service the Supplemental Restraint System:
Self-servicing or tampering with the supplemental restraint system is dangerous. The air bags could accidentally activate or become disabled. This could cause serious injuries. Never tamper with the supplemental restraint system and always have an Authorized Mazda Dealer perform all servicing and repairs.

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