

V2906

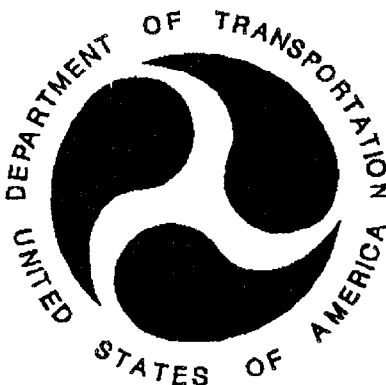
REPORT NO. KAR-98-19

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

FRONTAL BARRIER 40% OFFSET IMPACT TEST

FORD MOTOR COMPANY
1998 FORD CONTOUR 4-DOOR
NHTSA NO. MW0213

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



SEPTEMBER 14, 1998
FINAL REPORT

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

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

This publication is distributed by the U.S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

Prepared by: James E. Gorth Date: SEPTEMBER 14, 1998
Mr. James E. Gorth, Project Engineer
KARCO Engineering

Reviewed by: Jerry L. Kratzke Date: SEPTEMBER 14, 1998
Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering

Approved by: Frank D. Richardson Date: SEPTEMBER 14, 1998
Mr. Frank D. Richardson, Program Manager
KARCO Engineering

FINAL REPORT ACCEPTED BY:

Manager, New Car Assessment Program

Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

1. <i>Report No.</i> KAR-98-19	2. <i>Government Accession No.</i>	3. <i>Recipient's Catalog No.</i>																					
4. <i>Title and Subtitle</i> Final Report of Frontal Barrier 40% Offset Impact Test Testing of a 1998 Ford Contour 4-Door NHTSA No. MW0213		5. <i>Report Date</i> SEPTEMBER 14, 1998																					
		6. <i>Performing Organization Code</i> KARCO																					
7. <i>Author(s)</i> Mr. James E. Gorth, Project Engineer, KARCO Mr. Frank D. Richardson, Program Manager, KARCO		8. <i>Performing Organization Report No.</i> KAR98002-5																					
9. <i>Performing Organization Name and Address</i> KARCO Engineering 9270 Holly Road Adelanto, California 92301		10. <i>Work unit No.</i>																					
		11. <i>Contract or Grant No.</i> DTNH22-97-D-02007																					
12. <i>Sponsoring Agency Name and Address</i> U.S. Department of Transportation National Highway Traffic Safety Administration Safety Performance Standards Office of Crashworthiness Standards Mail Code: NPS-10 400 Seventh Street, SW, Room 5313 Washington, D.C. 20590		13. <i>Type of report and Period Covered</i> Final Report-Option Year 1																					
		14. <i>Sponsoring Agency Code</i> DOT/NHTSA/NRM/OCs																					
15. <i>Supplementary Notes</i>																							
16. <i>Abstract</i> A 60.3 km/h (37.5 MPH) frontal barrier 40% offset impact test was conducted on a 1998 Ford Contour 4-Door at KARCO Engineering on July 30, 1998. This test was conducted to obtain data indicant of FMVSS 212, 219 (partial), 301 and footwell intrusion performance. The impact velocity was 59.61 km/h. The ambient temperature at the barrier face at the time of impact was 32.7°C. The vehicle's maximum post-test static crush was 806 mm, located left side of the vehicle. The test vehicle was equipped with a 3-point continuous belt system and second generation supplemental airbags at both frontal outboard-seating positions. With respect to "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>215.0</td> <td>225.1</td> </tr> <tr> <td>Chest Resultant Peak 3 msec clip</td> <td>60 G's</td> <td>27.3</td> <td>29.3</td> </tr> <tr> <td>Left Femur Force</td> <td>10009 N</td> <td>-3087.2</td> <td>-3223.3</td> </tr> <tr> <td>Right Femur Force</td> <td>10009 N</td> <td>-1959.8</td> <td>-174.3</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	215.0	225.1	Chest Resultant Peak 3 msec clip	60 G's	27.3	29.3	Left Femur Force	10009 N	-3087.2	-3223.3	Right Femur Force	10009 N	-1959.8	-174.3
<u>Injury Criteria</u>	<u>Threshold Value</u>	<u>Driver Dummy</u>	<u>Passenger Dummy</u>																				
Head Injury Criteria (HIC)	1000	215.0	225.1																				
Chest Resultant Peak 3 msec clip	60 G's	27.3	29.3																				
Left Femur Force	10009 N	-3087.2	-3223.3																				
Right Femur Force	10009 N	-1959.8	-174.3																				
17. <i>Key Words</i> 60.3 km/h Frontal Barrier 40% Offset Impact Test 1998 Ford Contour 4-Door NHSTA No. MW0213		18. <i>Distribution Statement</i> Copies of this report are available from: Technical Reference Division National Highway Traffic Safety Admin. Room 5108, Nassif Building 400 7th St., SW Washington, DC 20590																					
19. <i>Security Classification (of this report)</i> UNCLASSIFIED	20. <i>Security Classification (of this page)</i> UNCLASSIFIED	21. <i>No. of Pages</i> 341	22. <i>Price</i>																				

Form DOT F1700.7 (8-72)

TABLE OF CONTENTS

Section	Page
1 Purpose, Test Procedures and Summary of Test MW0213	1
2 Occupant and Vehicle Information/Data Sheets	3
Appendix	
A Photographs	A
B Dummy, Vehicle, and Response Data Traces	B
C Deformable Barrier Information	C
D Instrumentation and Data Channel Assignments	D
E Dummy Calibration	E
F Vehicle Owner's Manual Occupant Restraint Instructions	F
Data Sheet No.	
1 Crash Test Summary	4
2 General Test and Vehicle Parameter Data	5
3 Post Impact Data	7
4 Test Vehicle Information	8
5 Dummy Positioning in Vehicle	10
6 Seat Belt Positioning Data	12
7 Vehicle Accelerometer Location and Data Summary	13
8 Hybrid III ATD Injury Criteria and Sensor Data	15
9 Seat Belt Assessment Test Data	18
10 Summary of FMVSS 212 Data	19
11 Windshield Zone Intrusion FMVSS 219 (Partial) Data	20
12 FMVSS 301 Fuel System Integrity Post Impact Data	21
13 FMVSS 301 Static Rollover Data	22
14 Vehicle Measurements	23
15 Camera Locations	25
16 Reference Photograph Targets	26
17 Vehicle Intrusion Measurements	27
18 Barrier Orientation	30
19 Accident Investigation Division Data	31
20 Dummy/Vehicle Temperature Stabilization	32

SECTION 1

PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST MW0213

1.1 PURPOSE

This 37.5 mph (60.3 km/h) frontal barrier impact test is part of the FY' 98 forty percent offset 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 with the vehicle impacting a deformable barrier with the vehicle centerline offset on the driver side. The velocity used in this test was in excess of the current 37.5 mph (60.3 km/h) FMVSS 212/219/301 requirements. The test program will be used to develop a standard for driver footwell intrusion data during frontal offset collisions.

1.2 TEST PROCEDURE

This 60.3 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 "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 July 30, 1998, at a speed of 59.61 km/h. The test vehicle was instrumented with eight (8) accelerometers to measure longitudinal axis accelerations. The driver and passenger's restraint systems were instrumented with four (4) seat belt load cells to measure lap and shoulder belt tension. The specified impact velocity range was 59.5 to 61.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and sixteen (16) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

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

The Driver ATD (serial No. 35) and the right-front passenger ATD (serial No. 34) were calibrated one test prior to conducting this offset frontal impact test. Injury criteria were not exceeded by either ATD during this offset frontal barrier impact test.

1.3 SUMMARY OF FRONTAL BARRIER IMPACT TEST

A deformable barrier was mounted to an immovable barrier to simulate the oncoming vehicle. The deformable barrier was impacted by a 1998 Ford Contour at a velocity of 59.61 km/h. The test vehicle was equipped with a transverse mounted 2.0 liter, four cylinder engine and a three speed automatic transmission. The test weight, with (2) 50th percentile male ATDs, was 1472 kg.

The driver's Head Injury Criteria (HIC) was 215.0, the maximum chest deceleration over three (3) milliseconds was 27.3 g and the left and right femur loads were -3087.2 and -1959.8 Newtons, respectively. Chest deflection for the driver ATD was -27.0 mm. The driver ATD head contacted the airbag and headrest, its chest and abdomen contacted the airbag, both knees contacted the dash knee bolster and steering column.

The right front passenger's HIC was 225.1, maximum chest deceleration over three (3) milliseconds was 29.3 g and the left and right femur loads were -3223.3 and -174.3 Newtons respectively. Chest deflection for the passenger ATD was -32.5 mm. The passenger ATD head contacted the airbag, headrest, the chest and abdomen contacted the airbag and both knees contacted the glove box.

Seat belt spoolout, measured by on-board pullout potentiometers was 122.6 mm for the driver ATD and 173.9 mm for the passenger ATD. Shoulder belt stretch was 113.7 mm/cm for the driver ATD and 0.0 mm/cm for the passenger ATD. Channel failed on the passenger, no data.

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 806 mm at the left side of the vehicle. Both the driver side doors jammed and required the aid of tools to open, the passenger side doors opened without the aid of tools.

1.4 GENERAL COMMENTS

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

The vehicle, occupant, camera and measurement data are presented in Section 2. Appendix A contains the still photograph prints. Appendix B contains the dummy, vehicle and response data traces. Appendix C contains Deformable Barrier information. Appendix D contains the instrumentation data channel assignments. Appendix E contains the dummy calibration data and Appendix F contains the owner's manual instructions for the occupant restraint systems.

SECTION 2.

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

CONVERSION FACTORS USED IN THIS REPORT:

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

DATA SHEET NO. 1

CRASH TEST SUMMARY

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

VEHICLE REBOUND AND STATIC CRUSH; REBOUND ANGLE = 0°

Measurements in mm	Left	Center	Right
Pre-test Measurements	4380	4700	4380
Post-test Measurements	3860	4313	4626
Static Crush	-520	-387	+246

DOOR OPENING AND SEAT TRACK INFORMATION

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

DUMMY INFORMATION

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

DATA SHEET NO. 2

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

TEST VEHICLE INFORMATION			
Manufacturer	FORD MOTOR COMPANY	VIN	1FAFP6537WK284886
Manufacturing Date	5/98	Delivery Date	6/17/98
Dealer	SUNLAND FORD	NHTSA NO.	MW0213
Odometer Reading	16.0 mi.	Fuel Type	UNLEADED
Engine Displacement	2.0 Liters	Cylinders	4
Transmission	AUTOMATIC	Final Drive	FRONT
Engine Placement	TRANSVERSE	Color	TAN
Tire Press./Max. Cap. Front	238 kPa	Cold Tire Press. Front	238 kPa
Tire Press./Max. Cap. Rear	238 kPa	Cold Tire Press. Rear	238 kPa
Recommend Tire Size	P185/70R14	Type of Spare	TEMPORARY T125/90R15
Tire Size on Vehicle	P185/70R14	Manufacturer	GENERAL
GVWR	1827 kg	Cargo Capacity	59 kg
GAWR Front	988 kg	GAWR Rear	875 kg
Air Conditioning	YES	Power Steering	YES
Power Brakes	YES	AM/FM/Cassette	YES
Disc Brakes (Front)	YES	Disc Brakes (Rear)	NO
Power Windows	NO	Tilt Steering	YES
Anti-lock Brakes (ABS)	NO	Power Seats	NO
Driver Airbag	YES	Passenger Airbag	NO

VEHICLE CAPACITY DATA:

TYPE OF FRONT SEATS BUCKET SEATS

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

WEIGHT OF VEHICLE AS RECEIVED AT KARCO (with maximum fluids): 1267 kg

Data Sheet No. 2... (Continued)

VEHICLE CAPACITY WEIGHT (kg):

Vehicle Capacity Weight 399 kg
 Occupant Weight 340 kg
 Rated Cargo/Luggage Weight (RCLW) 59 kg

	FRONT	REAR	TOTAL
Right	407	215	622
Left	400	245	645
Total	807	460	1267
Percent of Total	63.6	36.4	100%

CALCULATION OF TEST TARGET WEIGHT (kg):

Total Delivered Weight 1267 kg
 RCLW 59 kg
 Weight of 2 P572 ATDs 152 kg
 TARGET TEST WEIGHT 1478 kg

TEST WEIGHT OF VEHICLE WITH 2 ATDs AND BALLAST

	FRONT	REAR	TOTAL
Right	435	290	725
Left	431	316	747
Total	866	606	1472
Percent of Total	58.8	41.2	100%

Weight of Ballast secured in cargo area: 13 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	690	690	678	688
As Tested	665	665	641	644

Vehicle Wheelbase: 2690 mm

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 65.91 liters

Usable Capacity Figure Furnished by COTR = 65.91 liters

Test Volume Range (92 to 94% of Usable Capacity) = 60.64 to 61.96 liters

ACTUAL TEST VOLUME = 61.28 liters (With entire fuel system filled)

Test Fluid Type = Stoddard Solvent

Specific Gravity = 0.764

Kinematic Viscosity = as per ASTM Standard D484-71

Color = Red

Type of Fuel Pump = Electric X Mechanical

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

DETAILS OF FUEL SYSTEM: Key operated w/automatic shutoff.

DATA SHEET NO. 3

POST IMPACT DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

REQUIRED IMPACT VELOCITY RANGE: 59.5 km/h to 61.1 km/h

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

Trap No. 1 = 59.614 km/h Trap No. 2 = 59.613 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)	4380	4700	4380
Post-test Measurements (mm)	3860	4313	4626
Static Crush (mm)	-520	-387	+246
Average	-220		

VEHICLE REBOUND: (from rigid barrier with rotational movement) 48°

Measurements in mm	Left Front	Right Front	Left Rear	Right Rear
Vehicle Rebound X axis	3490	2501	5995	5391
Vehicle Rebound Y axis	998	2248	2697	3399
Average X axis	4344			
Average Y axis	2335			

DATA SHEET NO. 4

TEST VEHICLE INFORMATION

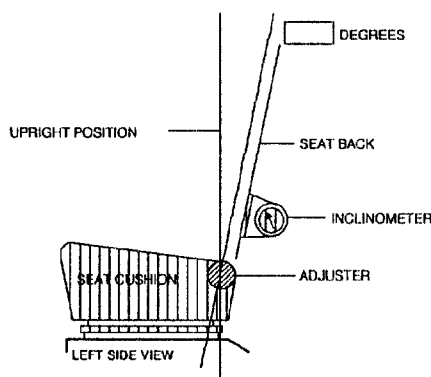
Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

1. NOMINAL DESIGN RIDING POSITION -



FRONT SEAT ASSEMBLY

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

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

Seat back angle for driver's seat = 19°

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°

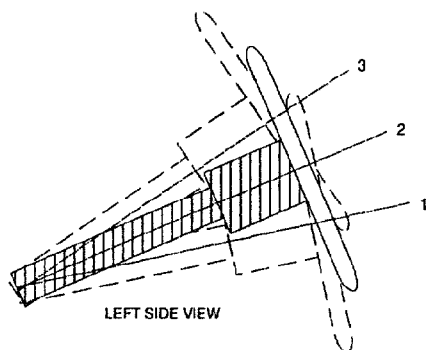
2. SEAT FORE & AFT POSITIONS:

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: 15 seating positions, set to 8th detent from the front.

Positioning of the passenger's seat (if applicable): 15 seating positions, set to 8th 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 71°

Position No. 2 is at 68.5°

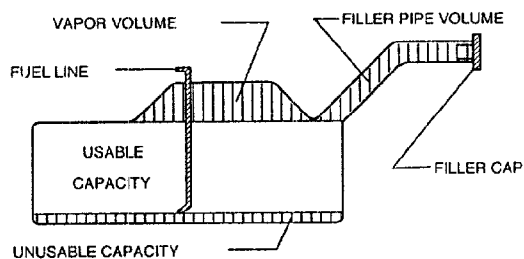
Position No. 3 is at 66°

4. SEAT BELT UPPER ANCHORAGE:

Highest position, per manufacturers specifications.

DATA SHEET NO. 4 (continued)

5. FUEL TANK CAPACITY DATA



5.1 A. "Usable Capacity" of standard equipment fuel tank = 65.91 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 = 60.64 to 61.96 liters.

VEHICLE FUEL TANK ASSEMBLY

Operational Instructions:

5.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 61.28 liters

5.3 Is vehicle equipped with electric fuel pump?

Yes X No

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

Key operated w/automatic shutoff.

DATA SHEET NO. 5

DUMMY POSITIONING IN VEHICLE

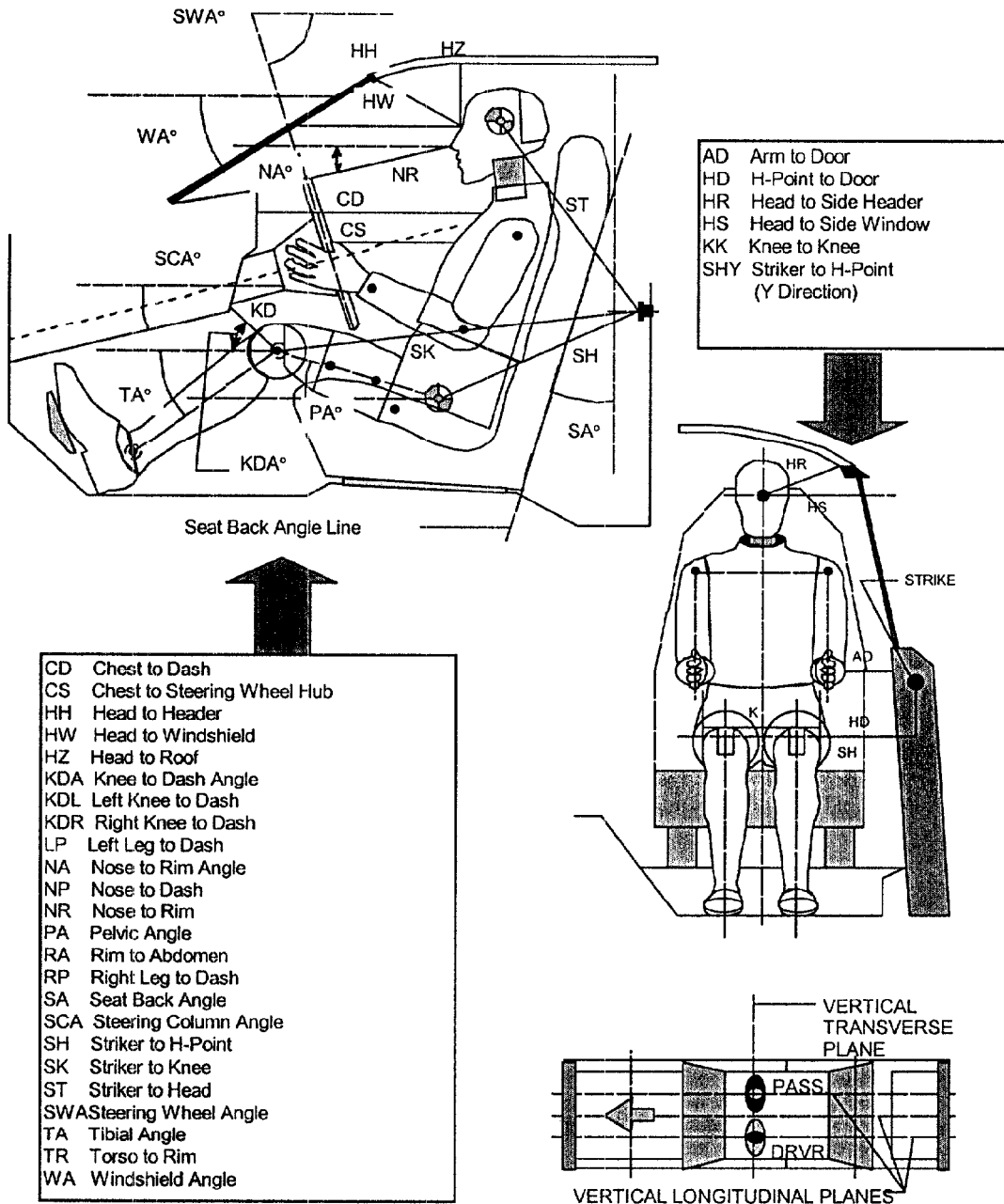
Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



DATA SHEET NO. 5...(continued)

DUMMY POSITIONING IN VEHICLE

FRONT SEAT MEASUREMENT TABLE

	DRIVER (Serial No. <u>35</u>)		PASS. (Serial No. <u>34</u>)	
	DISTANCE (mm)	ANGLE (°)	DISTANCE (mm)	ANGLE (°)
WA°		29		
SWA°		68		
SCA°		68		
SA°		19		19
HZ	190	90	156	90
HH	315	0	302	0
HW	580	0	566	0
HR	200		204	
NR	390	18		
CD	540		505	
CS	285	0		
RA	182	0		
KDL	150	36	160	
KDR	146		160	32
PA°		23		23
TA°		35		33
KK	203		200	
ST	554	10	550	10
SH	200	0	200	0
SHY	220		220	
HS	303		284	
HD	140		138	
AD	83		28	

DATA SHEET NO. 6

SEAT BELT POSITIONING DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

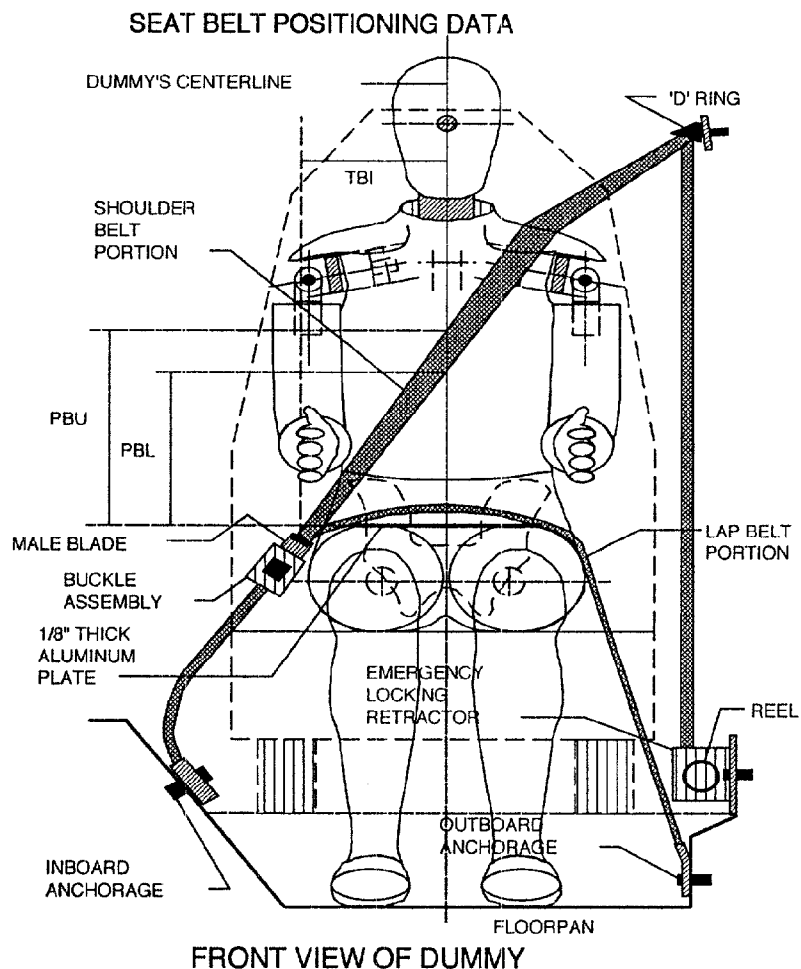
NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TCI - Dummy centerline to shoulder bolt	mm	180	175
PBU - Top surface of reference to belt upper edge	mm	325	330
PBL - Top surface of reference to belt lower edge	mm	250	250
Lap Belt tension	Newtons	10	10
Shoulder Belt tension	N/A	Retractor	Retractor



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

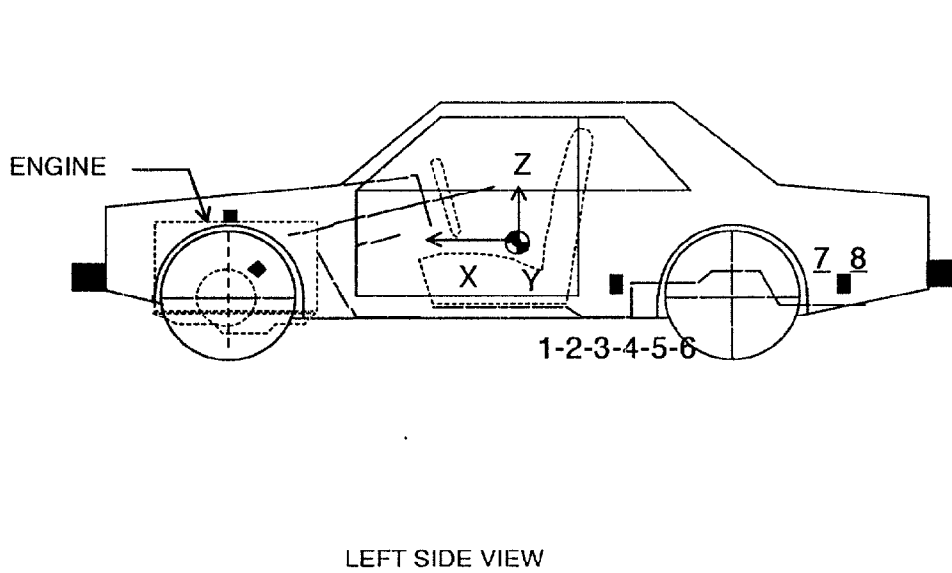
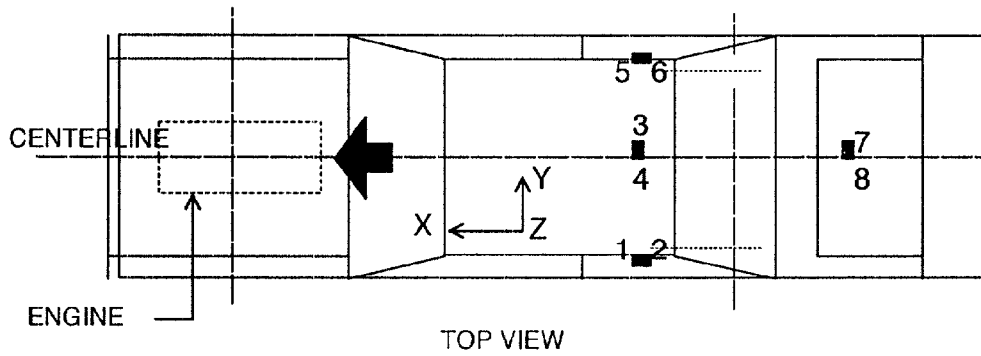
TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN NHTSA No.: MW0213
 TEST PROGRAM: 1998 37.5MPH OFFSET W/50TH MALE TEST DATE: 7/30/98

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

No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Sill X	1575	-630	412	G's	3.3	207.8	-27.9	81.7
2	Left Sill Y	1620	-560	425	G's	6.6	72.5	-1.1	212.2
3	Center Tunnel X	1955	0	396	G's	2.2	222.2	-29.9	94.2
4	Center Tunnel Y	1895	0	396	G's	7.1	67.0	-3.3	125.4
5	Right Sill X	1575	630	412	G's	2.0	210.4	-24.4	97.7
6	Right Sill Y	1621	560	425	G's	7.1	44.7	-2.0	162.9
7	Trunk X	292	162	358	G's	3.7	180.8	-28.2	97.6
8	Trunk Y	292	190	358	G's	14.2	90.2	-2.6	218.6

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

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



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

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0213

TEST PROGRAM: 1998 37.5MPH OFFSET W/50TH MALE

TEST DATE: 7/30/98

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	3.3	149.3	-40.1	91.9	2.7	289.4	-30.0	93.7
Head CG	Y	G's	10.9	163.3	-5.3	255.8	22.6	107.8	-2.7	264.1
Head CG	Z	G's	13.1	63.0	-3.2	134.4	20.7	112.1	-2.6	159.4
Head CG Resultant	N/A	G's	41.8	93.6			38.2	108.3		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	0.4	217.6	-27.6	92.0	0.3	5.9	-26.6	106.5
Chest CG	Y	G's	9.9	129.5	-3.0	298.9	13.8	106.3	-1.2	189.4
Chest CG	Z	G's	6.2	112.0	-8.7	146.6	8.1	114.4	-6.9	157.9
Chest CG Resultant	N/A	G's	27.8	92.1			30.2	106.5		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	82.6	23.7	-3087.2	80.8	113.6	201.1	-3223.3	68.1
Right Femur	Z	Newtons	585.3	35.1	-1959.8	81.0	316.1	77.3	-174.3	123.7

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	3334.2	117.8	2.6	3.9	3827.9	81.3	4.5	5.0
Shoulder Belt Force	N/A	Newtons	3488.4	89.8	1.6	2.6	0.0	0.0	0.0	0.0*
Shoulder Belt Spoolout	N/A	MM	52.5	122.6	0.0	0.0	95.7	173.9	-0.1	13.1
Shoulder Belt Stretch	N/A	MM/CM	0.264	113.7	-0.008	292.0	0.000	0.0	0.000	0.0*

* Passenger Side Failed

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	215.0	32.4	74.7	110.6	225.1	33.0	84.0	119.9

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	27.3	91.0	94.0	29.3	105.7	108.7

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0213

TEST PROGRAM: 1998 37.5MPH OFFSET W/50TH MALE

TEST DATE: 7/30/98

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	1.2	155.8	-27.5	79.4	1.8	152.2	-28.4	67.9
Pelvis	Y	G's	10.5	124.9	-4.9	75.3	10.8	88.1	-6.3	145.8
Pelvis	Z	G's	4.0	280.7	-14.5	130.8	1.7	207.5	-12.5	86.8

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	212.6	176.2	-374.6	103.1	457.8	178.0	-111.9	287.1
Neck Force	Y	Newtons	471.8	174.4	-121.6	64.9	273.0	108.8	-125.3	253.0
Neck Force	Z	Newtons	1488.1	93.7	-111.5	7.9	1131.1	85.3	-139.8	32.7
Neck Moment	X	N•m	13.0	97.1	-30.1	169.7	6.7	105.3	-13.9	141.8
Neck Moment	Y	N•m	28.3	91.0	-23.9	131.0	23.5	188.7	-15.9	87.4
Neck Moment	Z	N•m	6.4	197.5	-11.9	90.5	14.7	190.2	-27.0	130.3

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	0.0	0.0	0.0	0.0	4.8	181.7	-67.9	65.1
Left Foot Aft	Z	G's	31.1	74.6	-59.7	68.6	7.3	34.5	-41.8	65.4
Left Foot Fore	Z	G's	41.7	74.6	-59.5	66.8	5.6	81.1	-44.9	70.7
Right Foot Aft	X	G's	45.9	77.2	-31.6	52.9	2.3	162.9	-33.9	69.6
Right Foot Aft	Z	G's	26.9	73.9	-72.0	85.2	2.3	266.6	-19.0	114.6
Right Foot Fore	Z	G's	44.7	53.6	-86.5	56.3	4.7	51.7	-27.3	70.3

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	31.5	87.8	-95.4	69.4	29.3	67.2	-19.2	113.4
Left Lower Moment	Y	N•m	316.9	99.7	-17.1	45.7	16.1	61.9	-35.5	68.6
Left Lower Force	Z	Newtons	67.8	214.1	-4206.7	69.5	78.0	130.6	-1855.3	67.8
Left Upper Moment	X	N•m	37.5	70.8	-42.6	48.4	10.5	103.1	-64.2	71.0
Left Upper Moment	Y	N•m	121.9	69.4	-7.3	299.1	101.2	68.9	-20.8	61.5
Right Lower Moment	X	N•m	42.4	86.9	-37.3	116.2	54.9	70.2	-10.2	116.5
Right Lower Moment	Y	N•m	253.3	79.9	-18.6	47.4	4.0	206.4	-19.4	75.0
Right Lower Force	Z	Newtons	125.5	269.3	-2049.8	78.4	62.4	173.8	-1492.3	69.9
Right Upper Moment	X	N•m	57.6	120.6	-52.2	75.4	31.3	123.5	-35.8	76.3
Right Upper Moment	Y	N•m	60.2	57.3	-38.7	96.3	66.1	71.9	-11.2	226.5

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0213

TEST PROGRAM: 1998 37.5MPH OFFSET W/50TH MALE

TEST DATE: 7/30/98

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.2	21.0	-27.0	92.3	1.0	37.1	-32.5	112.3

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	2.5	145.7	-41.2	92.2	2.8	283.3	-29.7	94.0
Head CG	Y	G's	11.2	164.0	-3.7	59.1	22.1	109.2	-2.3	247.1
Head CG	Z	G's	13.6	94.1	-6.1	133.8	18.8	112.0	-2.4	158.5
Head CG Resultant	N/A	G's	43.2	92.2			37.6	107.5		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	1.0	217.5	-28.6	92.2	0.3	212.7	-26.6	106.3
Chest CG	Y	G's	10.6	129.7	-2.6	48.5	15.2	106.1	-1.7	191.6
Chest CG	Z	G's	5.5	97.7	-8.5	146.6	8.0	113.4	-6.8	157.9
Chest CG Resultant	N/A	G's	28.9	92.4			30.9	106.2		

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	229.9	33.3	74.5	110.4	212.3	32.2	83.8	119.7

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	28.4	91.0	94.0	29.9	105.3	108.3

DATA SHEET NO. 9**SEAT BELT PERFORMANCE ASSESSMENT TEST DATA**Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDANNHTSA No.: MW0213Test Program: 1998 37.5 MPH OFFSET W/50TH MALETest Date: 7/30/98**BELT LENGTH DATA**

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	470	470
Shoulder belt length as measured on ATD	mm	890	880
Lap belt length as measured on ATD	mm	590	600
Remainder of belt on reel	mm	860	850
Total belt length for continuous webbing systems	mm	2810	2800

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	82.0	91.0
As determined electronically	mm	122.6	173.9

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically from shoulder belt load cell and "D" ring	mm/cm	113.70	FAILED
Mechanically	mm/cm	0.00	0.00

DATA SHEET NO. 10

SUMMARY OF FMVSS 212 DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

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

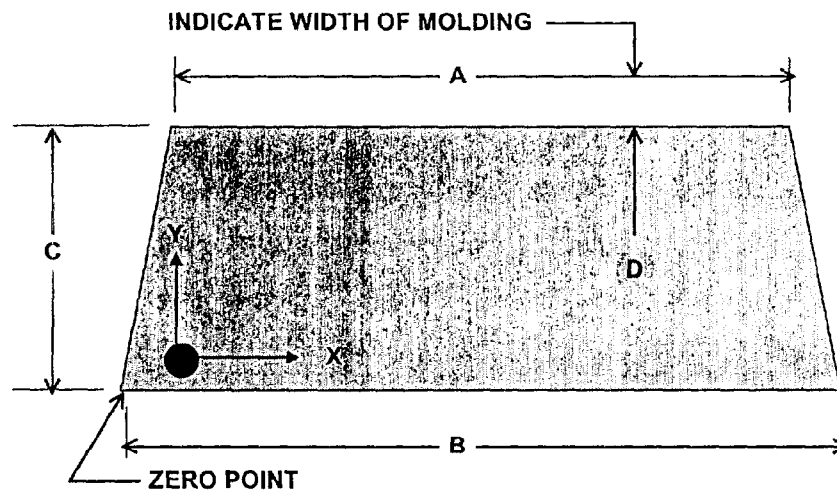
Windshield glass is secured to the vehicle frame with a rubber type adhesive, with rubber molding along the top and sides with rubber and plastic molding along the bottom.

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

WINDSHIELD PERIPHERY MEASUREMENTS

	Units	Left Side	Right Side	Total
Pre-Test	mm	2068.5	2068.5	100%
Post-Test	mm	2068.5	2068.5	100%
Percent of retention	Percent	100%	100%	

Indicate area of retention failure.



FRONT VIEW OF WINDSHIELD

Width of molding: Top: 18 mm, Sides: 33 mm, Bottom: 0 mm

Temperature of windshield molding during test: 21.1 °C

DATA SHEET NO. 11

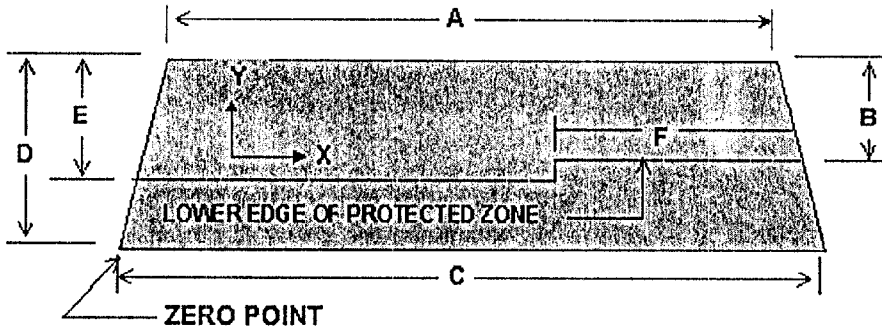
WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98



FRONT VIEW OF WINDSHIELD

Item	Units	Value
A	mm	1094
B	mm	386
C	mm	1465
D	mm	789
E	mm	520
F	mm	586

Provide all dimensions necessary to reproduce the protected area.

AREA OF PROTECTED ZONE FAILURES

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

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

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

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

DATA SHEET NO. 12

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

Test Time: 1:15 P.M.

Temperature at Time of Impact: 32.7 C

STODDARD SOLVENT SPILLAGE MEASUREMENT:

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

DATA SHEET NO. 13

FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

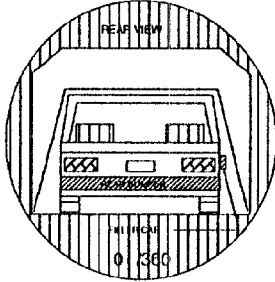
NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

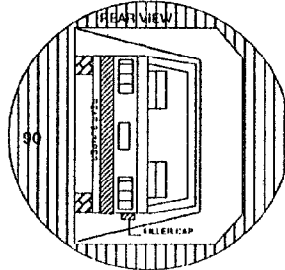
Test Date: 7/30/98

Time: 1:15 P.M.

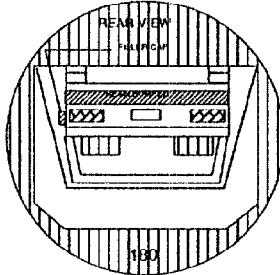
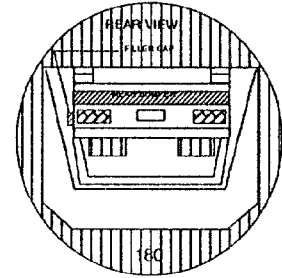
Temperature: 32.7 °C



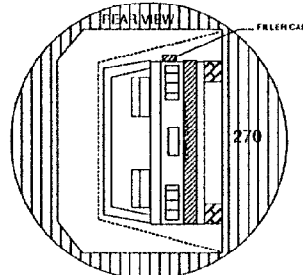
0° TO 90°



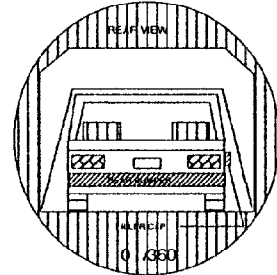
90° TO 180°



180° TO 270°



270° TO 360°



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

TEST PHASE	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	80	300	0.0
90° TO 180°	82	300	0.0
180° TO 270°	80	300	0.0
270° TO 360°	80	300	0.0

DATA SHEET NO. 14

VEHICLE MEASUREMENTS

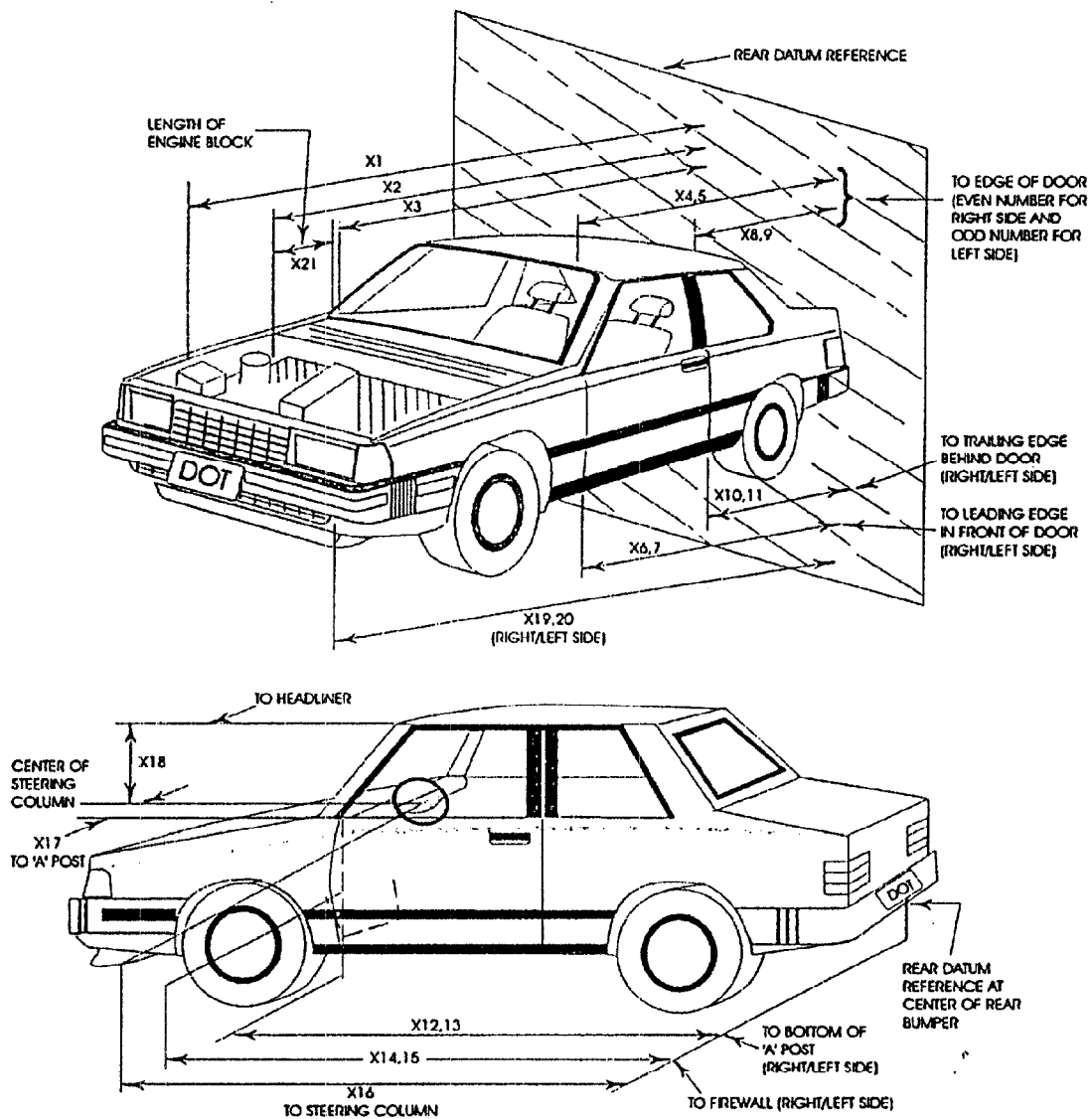
Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4700	4313	-387
2	RSOV to front of engine	mm	4106	3920	-186
3	RSOV to firewall centerline	mm	3517	3360	-157
4	RSOV to leading edge of right door	mm	3240	3227	-13
5	RSOV to leading edge of left door	mm	3240	3175	-65
6	RSOV to lower leading edge of right door	mm	3206	3204	-2
7	RSOV to lower leading edge of left door	mm	3208	3148	-60
8	RSOV to upper trailing edge of right door	mm	2132	2131	-1
9	RSOV to upper trailing edge of left door	mm	2140	2087	-53
10	RSOV to lower trailing edge of right door	mm	2117	2113	-4
11	RSOV to lower trailing edge of left door	mm	2122	2078	-44
12	RSOV to bottom of right 'A' pillar	mm	3190	3179	-11
13	RSOV to bottom of left 'A' pillar	mm	3198	3125	-73
14	RSOV to firewall on right side	mm	3478	3435	-43
15	RSOV to firewall of left side	mm	3476	3260	-216
16	RSOV to steering column	mm	2650	2960	310
17	Center of steering column to left 'A' pillar	mm	395	385	-10
18	Center of steering column to headlining	mm	455	380	-75
19	RSOV to right side of front bumper	mm	4380	4626	246
20	RSOV to left side of front bumper	mm	4380	3860	-520
21	Length of engine block	mm	230	230	0
22	RSOV to right side of dash panel	mm	2860	2875	15
23	RSOV to center of dash panel	mm	2845	2835	-10
24	RSOV to left side of dash panel	mm	2852	2795	-57



DATA SHEET NO. 15

CAMERA LOCATIONS

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

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	356	6706	1245	2	6553	13	1400
3	Left Side, No. 2	5817	7747	2210	7	7950	50	1300
4	Left Side, No. 3	3683	4039	2095	15	3581	13	1020
5	Left Side, No. 4	-1219	381	2667	40	N/A	19	990
6	Left Side, No. 5	-1219	406	2667	41	N/A	25	900
7	Left Side, No. 6	406	0	5486	89	N/A	25	1030
8	Right Side, No. 1	991	8230	1219	4	7772	13	900
9	Right Side, No. 2	1803	8280	1524	2	7722	25	960
10	Right Side, No. 3	-127	10439	1321	0	10287	40	1000
11	Right Side, No. 4	-1232	4267	1829	10	3607	50	970
12	Overhead Overall	1600	8153	2616	12	7747	5	990
13	Overhead, Close-up	1600	8153	3048	13	7772	35	700
14	Front View, Driver	1600	8357	851	2	7849	13	1030
15	Front View, Passenger	-357	0	6096	86	N/A	13	1020
16	Onboard, Driver	11049	152	1118	4	1118	13	540
17	Onboard, Passenger	11049	127	1118	4	1143	13	430

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

DATA SHEET NO. 16

REFERENCE PHOTOGRAPH TARGETS

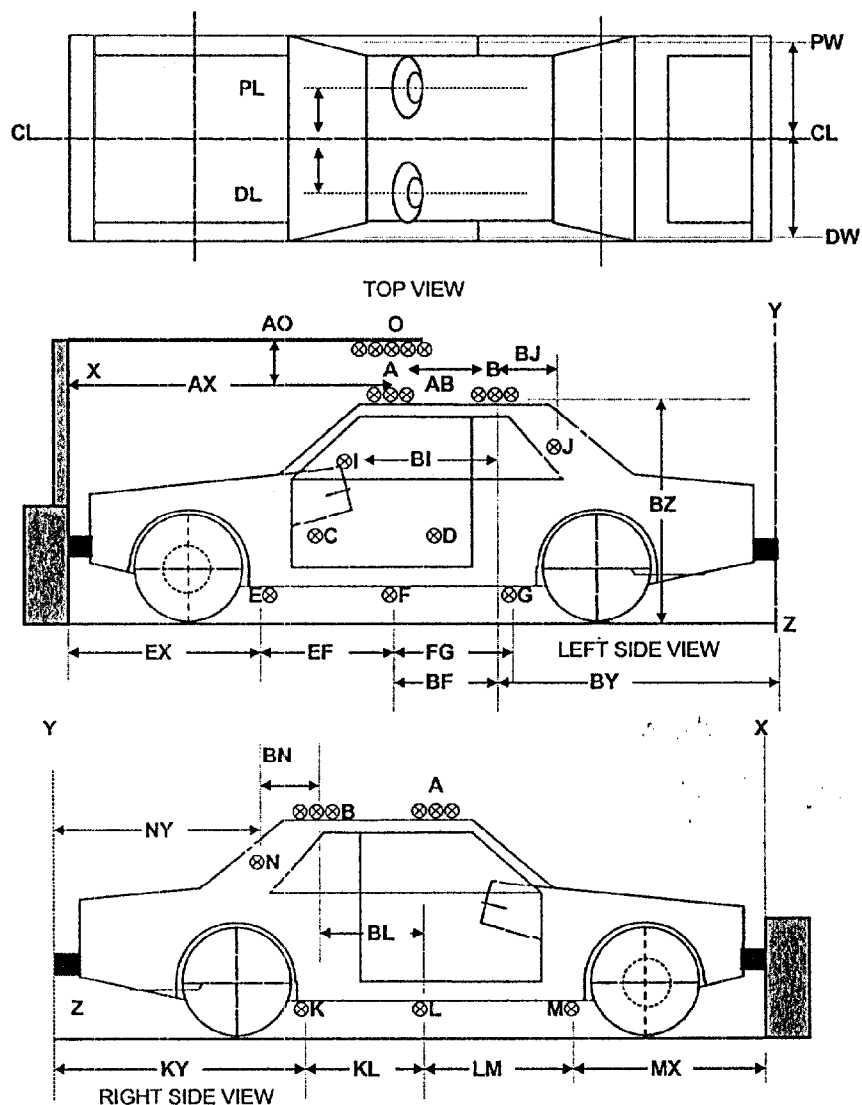
Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

Item	Value
AX	2395
AB	610
AO	152
BJ	455
BI	1188
BZ	1506
EX	1420
EF	908
FG	908
BF	682
BY	1647
NY	1226
BN	470
KY	1448
KL	908
BL	680
LM	908
MX	1425
CL/PL	365
CL/PW	762
CL/DL	345
CL/DW	762



DATA SHEET NO. 17

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

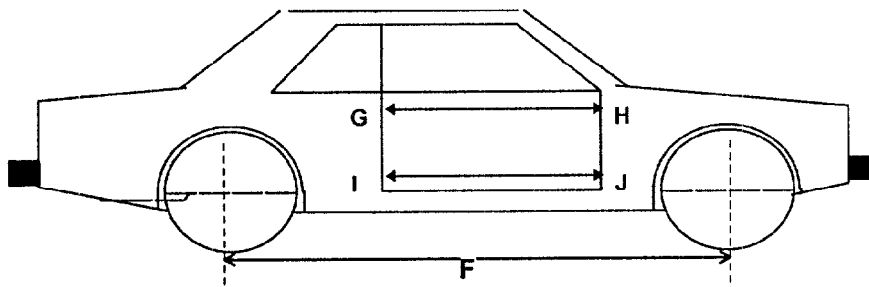
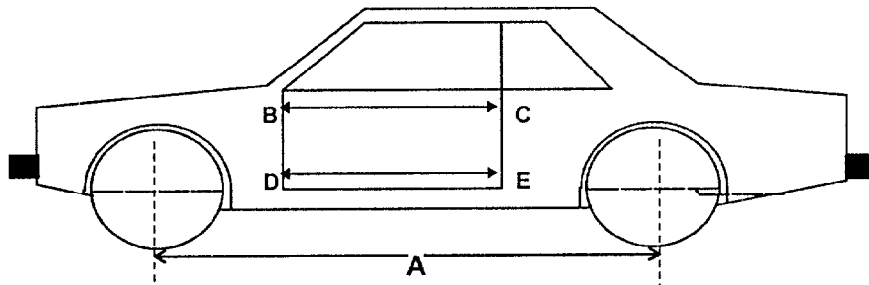
Test Date: 7/30/98

DOOR OPENING WIDTH

UNITS (mm)	LEFT SIDE		RIGHT SIDE	
MEASUREMENT	BC	DE	GH	IJ
PRE-TEST	1003	927	1009	927
POST-TEST	872	844	1014	922
DIFFERENCE	-131	-83	+5	-5

VEHICLE WHEELBASE CHANGE

UNITS (mm)	A = LEFT SIDE WHEELBASE	F = RIGHT SIDE WHEELBASE
PRE-TEST	2690	2690
POST-TEST	2437	2738
DIFFERENCE	-253	+48



Data Sheet No. 17(Continued)

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

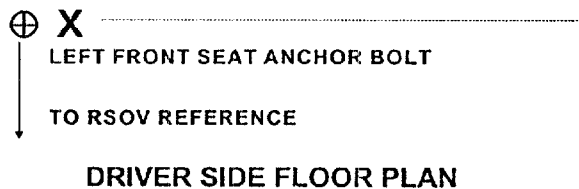
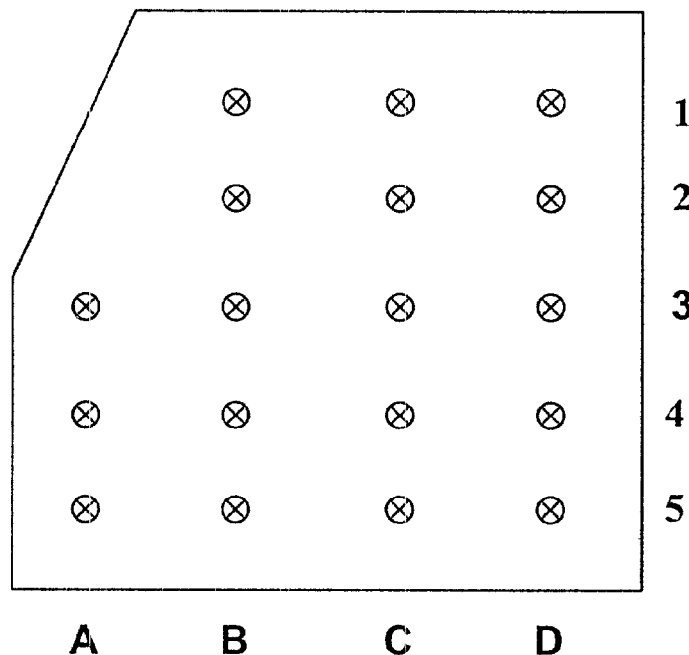
NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

FLOOR PAN INTRUSION (Distances in mm)

TARGET COLUMN	A		B		C		D	
TARGET ROW	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST	PRE-TEST	POST-TEST
1	N/A	N/A	807	480	805	500	780	520
2	N/A	N/A	707	464	705	444	700	540
3	609	471	607	463	605	487	610	559
4	497	430	501	444	500	465	510	489
5	395	340	395	350	398	371	405	388
REF. POINT	RSOV TO ANCHOR BOLT (PRE-TEST)		2660		RSOV TO ANCHOR BOLT (POST-TEST)		2980	



(Data Sheet No. 17Continued)

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

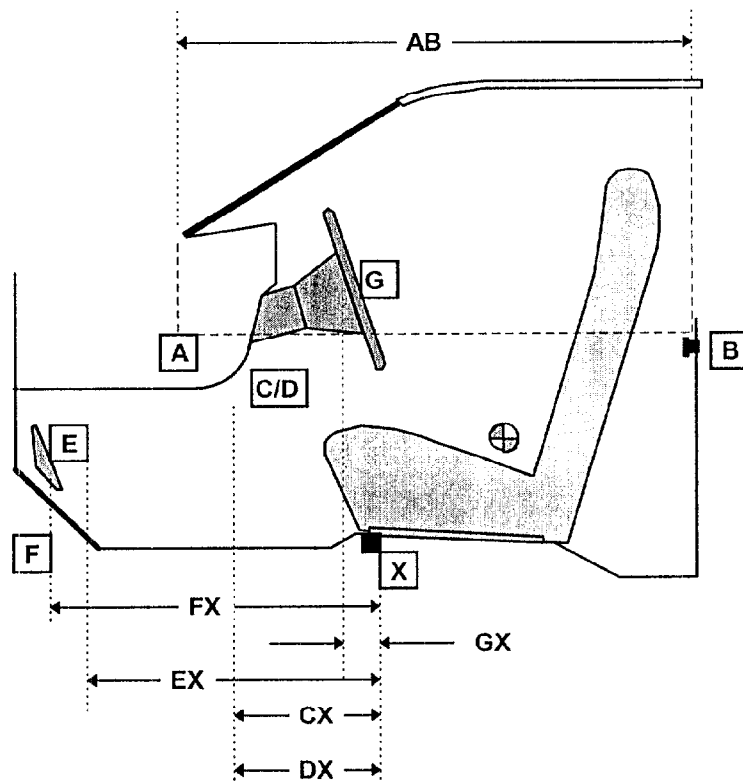
Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

DRIVER COMPARTMENT INTRUSION (Distances in mm)

REF.	DESCRIPTION	PRE-TEST	POST-TEST
AB	DOOR OPENING (INSIDE WINDOW JAM)	1003	872
CX	LOWER LEFT KNEE BOLSTER TO X	310	195
DX	LOWER RIGHT KNEE BOLSTER TO X	305	190
EX	BRAKE PEDAL TO X	530	315
FX	FOOT REST TO X	663	470
GX	STEERING COLUMN HUB (CENTER) TO X	20	-30

X = LEFT FRONT SEAT ANCHOR BOLT



DRIVER COMPARTMENT

DATA SHEET NO. 18

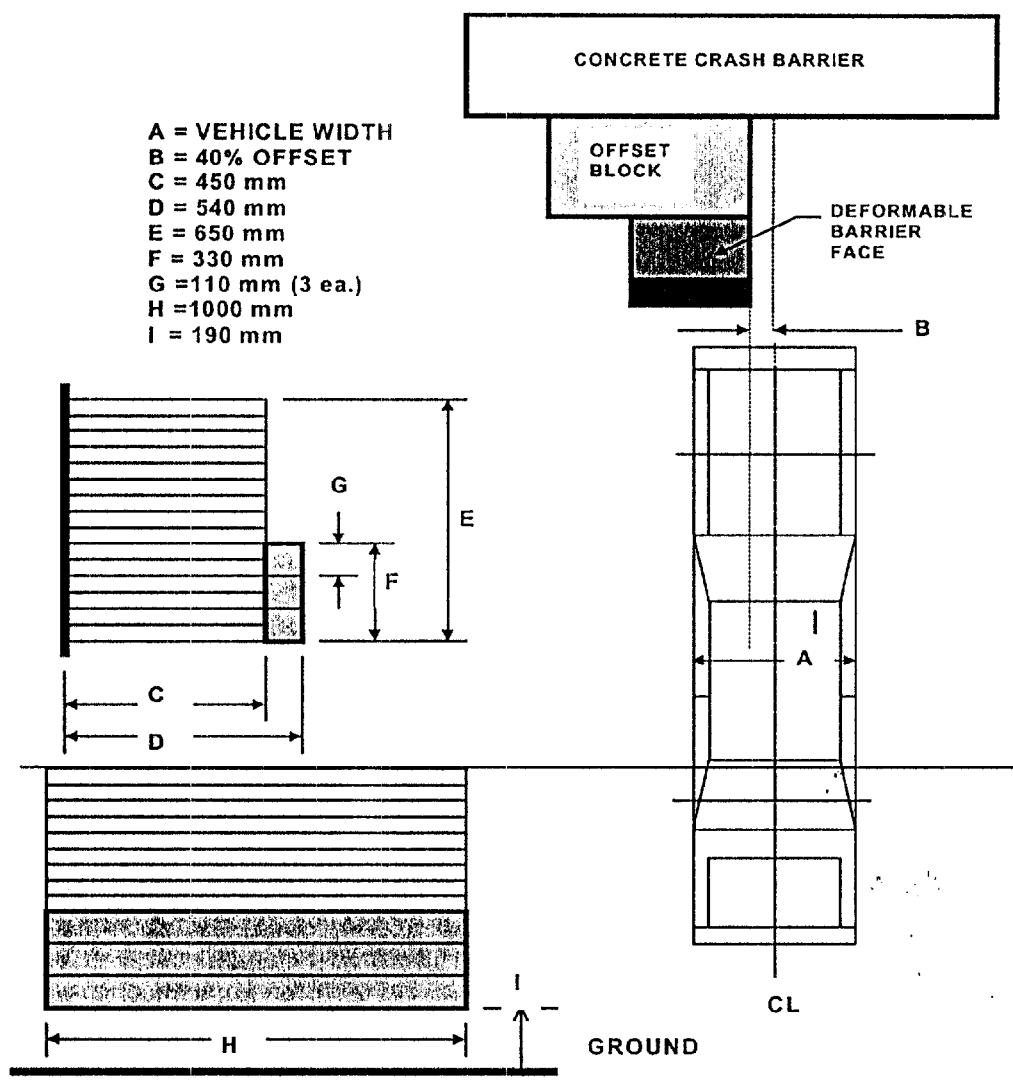
OFFSET BARRIER ORIENTATION

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98



A = VEHICLE WIDTH MEASURED AT WIDEST POINT 1592 mm
 B = 40% OFFSET FROM LEFT EDGE OF VEHICLE 636.8 mm
 ACTUAL OFFSET DURING TEST 635 mm = 39.88 %

DATA SHEET NO. 19

ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98

VIN: 1FAFP6537WK284886 Wheelbase: 2690 mm Test Weight: 1472 kg

Vehicle Size Category: FORD CONTOUR 4-DOOR

ACCELEROMETER DATA:

LOCATION: Left and right rear floor pans

CALIBRATION PROCEDURE: 6 months/ drop test

LINEARITY: Good

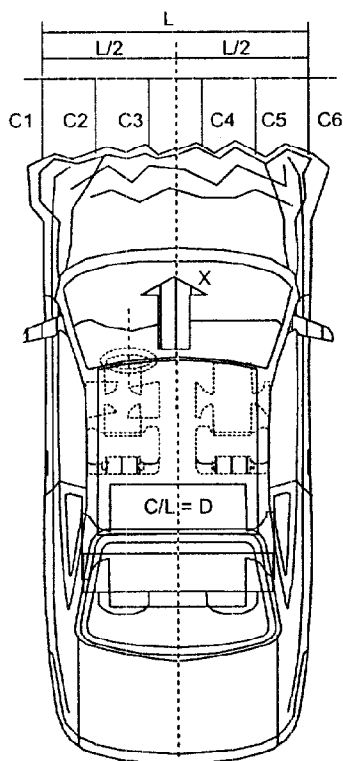
INTEGRATION ALGORITHM: NHTSA Standard

VEHICLE IMPACT SPEED: 59.61 km/h

TIME OF SEPARATION: 74.20 msec

VELOCITY CHANGE: 68.55 km/h

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



IMPACT MODE: Full Frontal Offset

CRUSH DEPTH DIMENSIONS:

C1 = 806 mm

C2 = 581 mm

C3 = 525 mm

C4 = 269 mm

C5 = 82 mm

C6 = 78 mm

MIDPOINT OF DAMAGE: Vehicle Centerline

LENGTH OF DAMAGE REGION: 1592 mm

DATA SHEET NO. 20

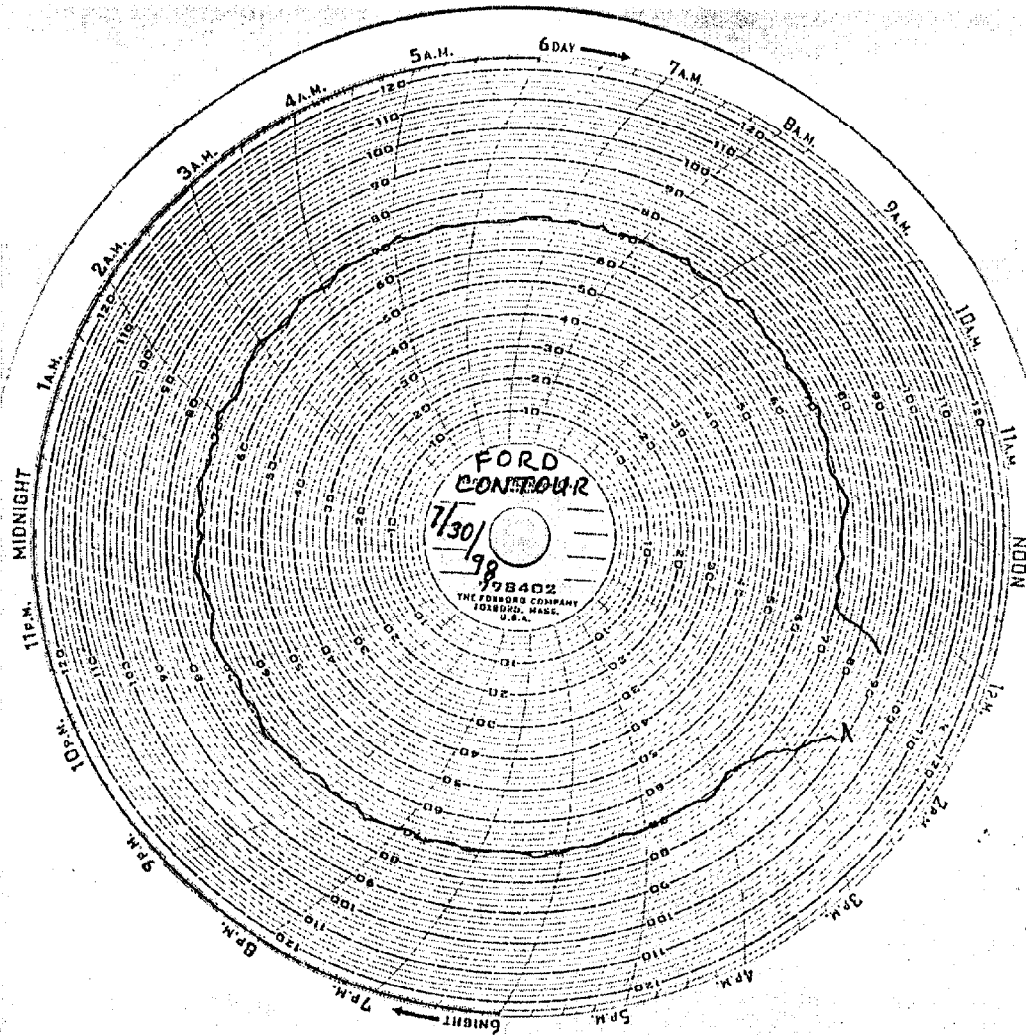
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0213

Test Program: 1998 37.5 MPH OFFSET W/50TH MALE

Test Date: 7/30/98



APPENDIX A
PHOTOGRAPHS

LIST OF PHOTOGRAPHS

Figure		Page
A-1	Left Front As Received	A-1
A-2	Right Rear As Received	A-2
A-3	Vehicle Certification Label	A-3
A-4	Vehicle Tire Placard	A-4
A-5	Pre-test Front View	A-5
A-6	Post-test Front View	A-6
A-7	Pre-test Left Side View	A-7
A-8	Post-test Left Side View	A-8
A-9	Pre-test Right Side View	A-9
A-10	Post-test Right Side View	A-10
A-11	Pre-test Left Front View	A-11
A-12	Post-test Left Front View	A-12
A-13	Pre-test Right Rear View	A-13
A-14	Post-test Right Rear View	A-14
A-15	Pre-test Windshield	A-15
A-16	Post-test Windshield	A-16
A-17	Pre-test Engine Compartment	A-17
A-18	Post-test Engine Compartment	A-18
A-19	Pre-test Fuel Cap	A-19
A-20	Vehicle On Rollover	A-20
A-21	Pre-test Front Underside	A-21
A-22	Post-test Front Underside	A-22
A-23	Pre-test Rear Underside	A-23
A-24	Post-test Rear Underside	A-24
A-25	Pre-test Overhead Overall	A-25
A-26	Post-test Overhead Overall	A-26
A-27	Pre-test Overhead Close-up	A-27
A-28	Post-test Overhead Close-up	A-28
A-29	Pre-test Driver Dummy (Thru Window)	A-29
A-30	Post-test Driver Dummy (Thru Window)	A-30
A-31	Pre-test Driver Dummy (Door Open)	A-31
A-32	Post-test Driver Dummy (Door Open)	A-32

LIST OF PHOTOGRAPHS...(Continued)

Figure		Page
A-33	Pre-test Driver Dummy (90° to Vehicle)	A-33
A-34	Post-test Driver Dummy (90° to Vehicle)	A-34
A-35	Pre-test Driver Dummy Feet	A-30
A-36	Post-test Driver Dummy Feet	A-36
A-37	Pre-test Driver Side Floor Pan	A-37
A-38	Post-test Driver Side Floor Pan	A-38
A-39	Pre-test Driver Side Knee Bolster	A-39
A-40	Post-test Driver Knee Bolster And Dummy Contact	A-40
A-41	Post-test Driver Dummy Head	A-41
A-42	Post-test Driver Dummy Contact Point	A-42
A-43	Pre-test Passenger Dummy (Thru Window)	A-43
A-44	Pos-test Passenger Dummy (Thru Window)	A-44
A-45	Pre-test Passenger Dummy (Door Open)	A-45
A-46	Post-test Passenger Dummy (Door Open)	A-46
A-47	Pre-test Passenger Dummy (90° to Vehicle)	A-47
A-48	Post-test Passenger Dummy (90° to Vehicle)	A-48
A-49	Pre-test Passenger Side Knee Bolster	A-49
A-50	Post-test Passenger Knee Bolster And Dummy Contact	A-50
A-51	Post-test Passenger Dummy Head	A-51
A-52	Post-test Passenger Dummy Contact Point	A-52
A-53	Vehicle During Impact	A-53
A-54	Pre-test Barrier Front View	A-54
A-55	Post-test Barrier Front View	A-55
A-56	Pre-test Barrier Left Side View	A-56
A-57	Post-test Barrier Left Side View	A-57
A-58	Pre-test Barrier Right Side View	A-58
A-59	Post-test Barrier Right Side View	A-59
A-60	Pre-test Barrier Top View	A-60
A-61	Post-test Barrier Top View	A-61
A-62	Pre-test Barrier Bottom View	A-62
A-63	Post-test Barrier Bottom View	A-63

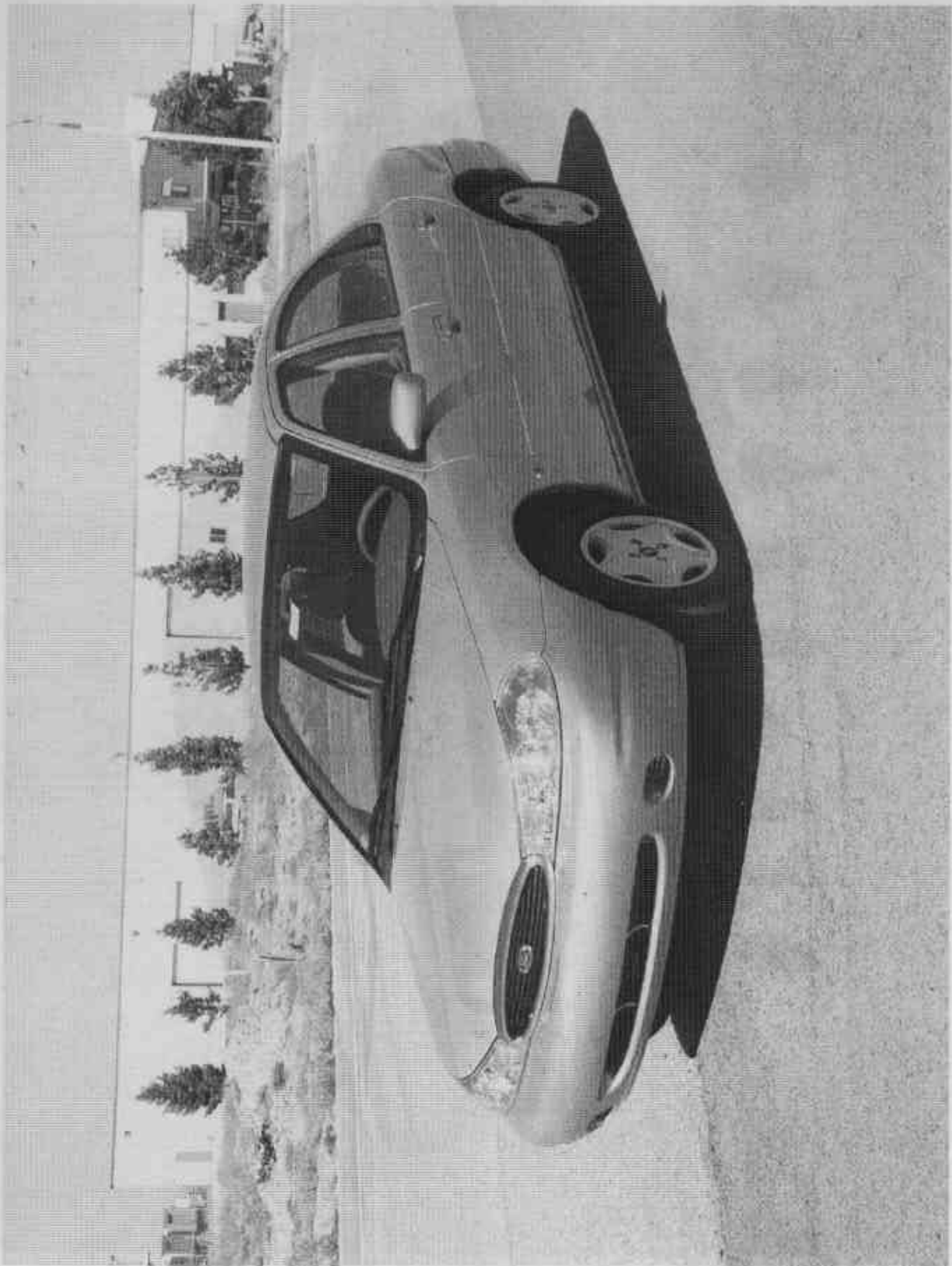


FIGURE A-1. LEFT FRONT AS RECEIVED

A-1

KAR98002-05



FIGURE A-2. RIGHT REAR AS RECEIVED



FIGURE A-3. VEHICLE CERTIFICATION LABEL



FIGURE A-5. PRE-TEST FRONT VIEW

KAR98002-05

A-5

KAR98002-05

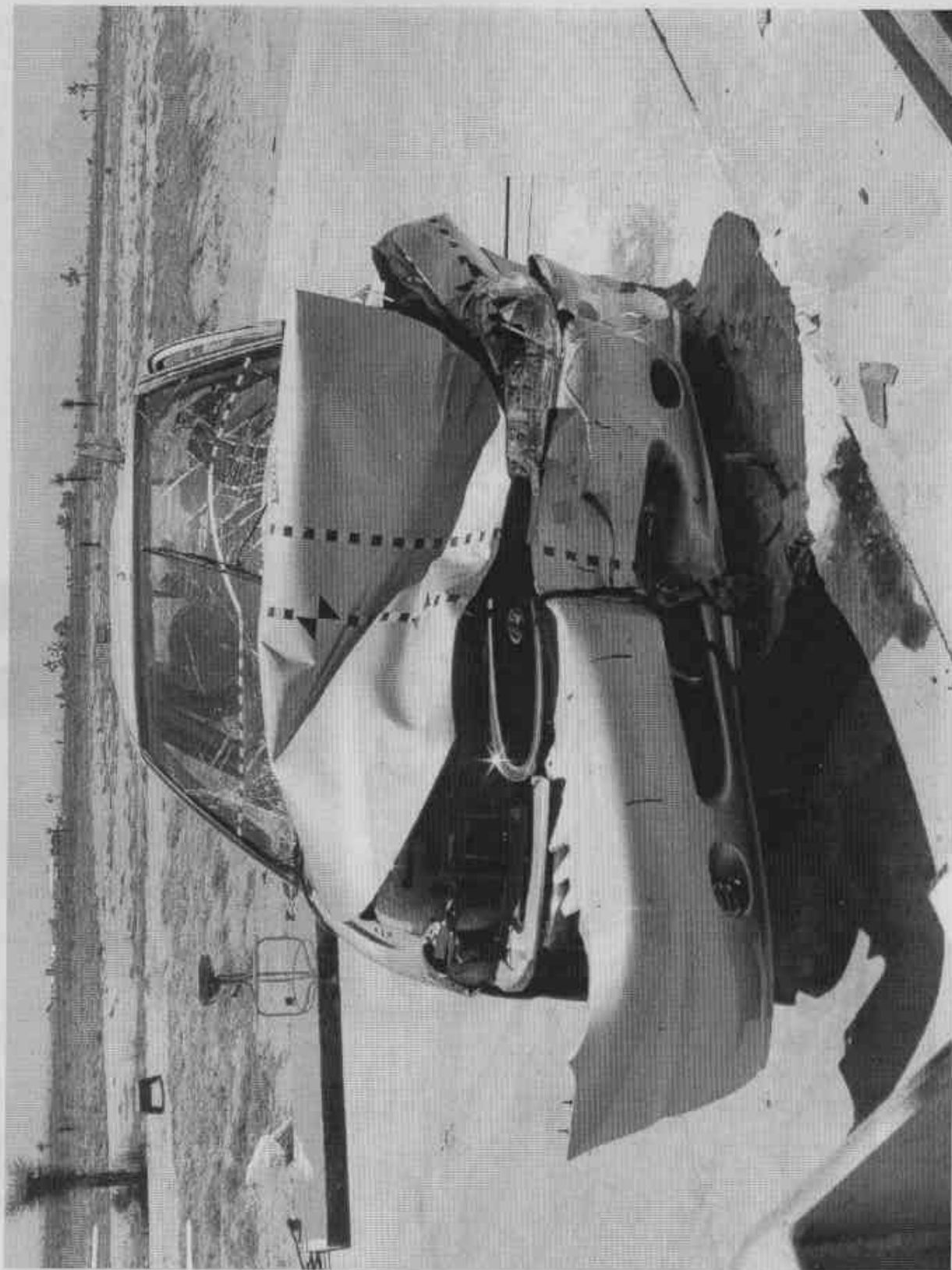


FIGURE A-6. POST-TEST FRONT VIEW

A-6

KAR98002-05

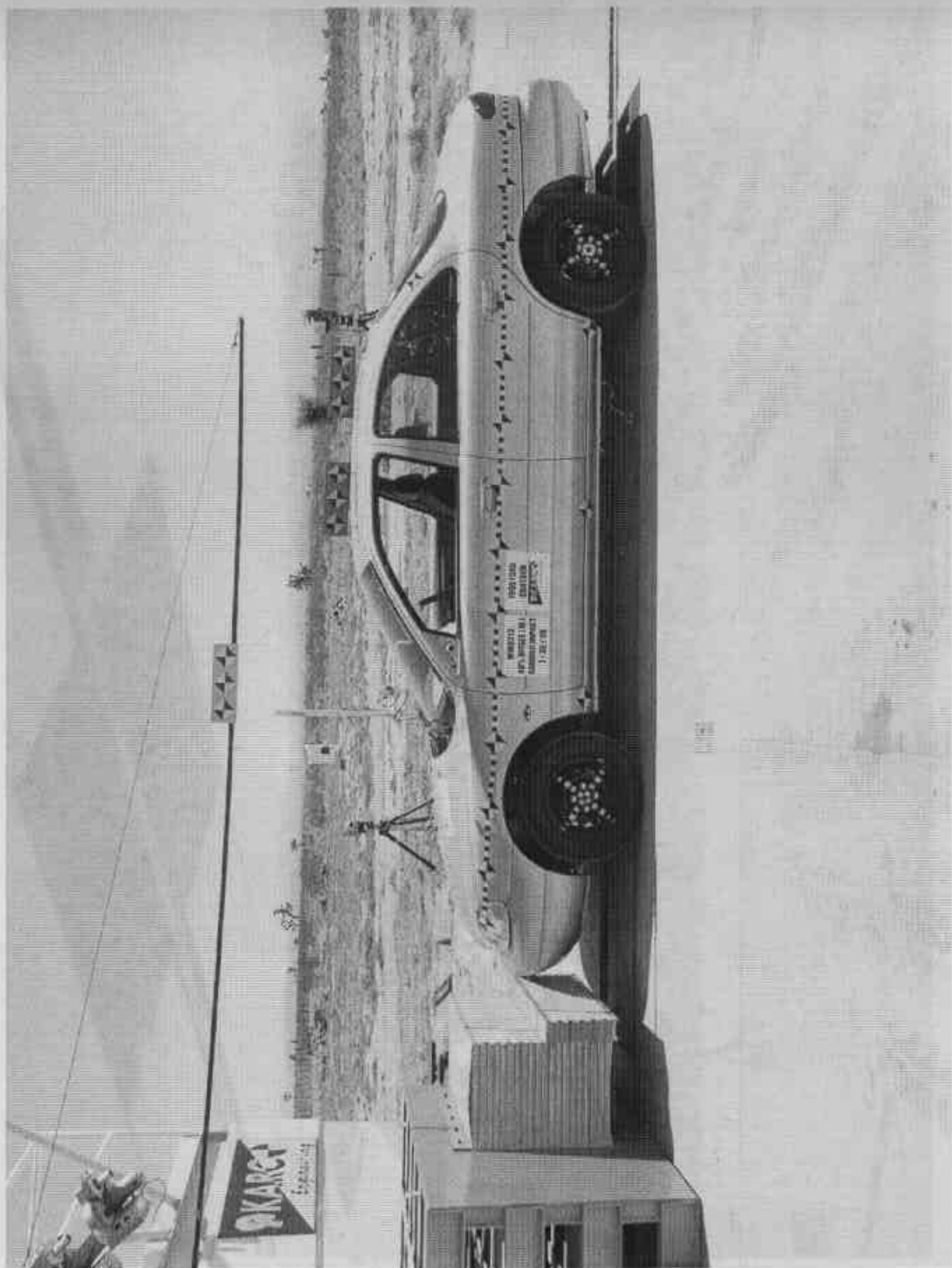


FIGURE A-7. PRE-TEST LEFT SIDE VIEW



FIGURE A-9. PRE-TEST RIGHT SIDE VIEW

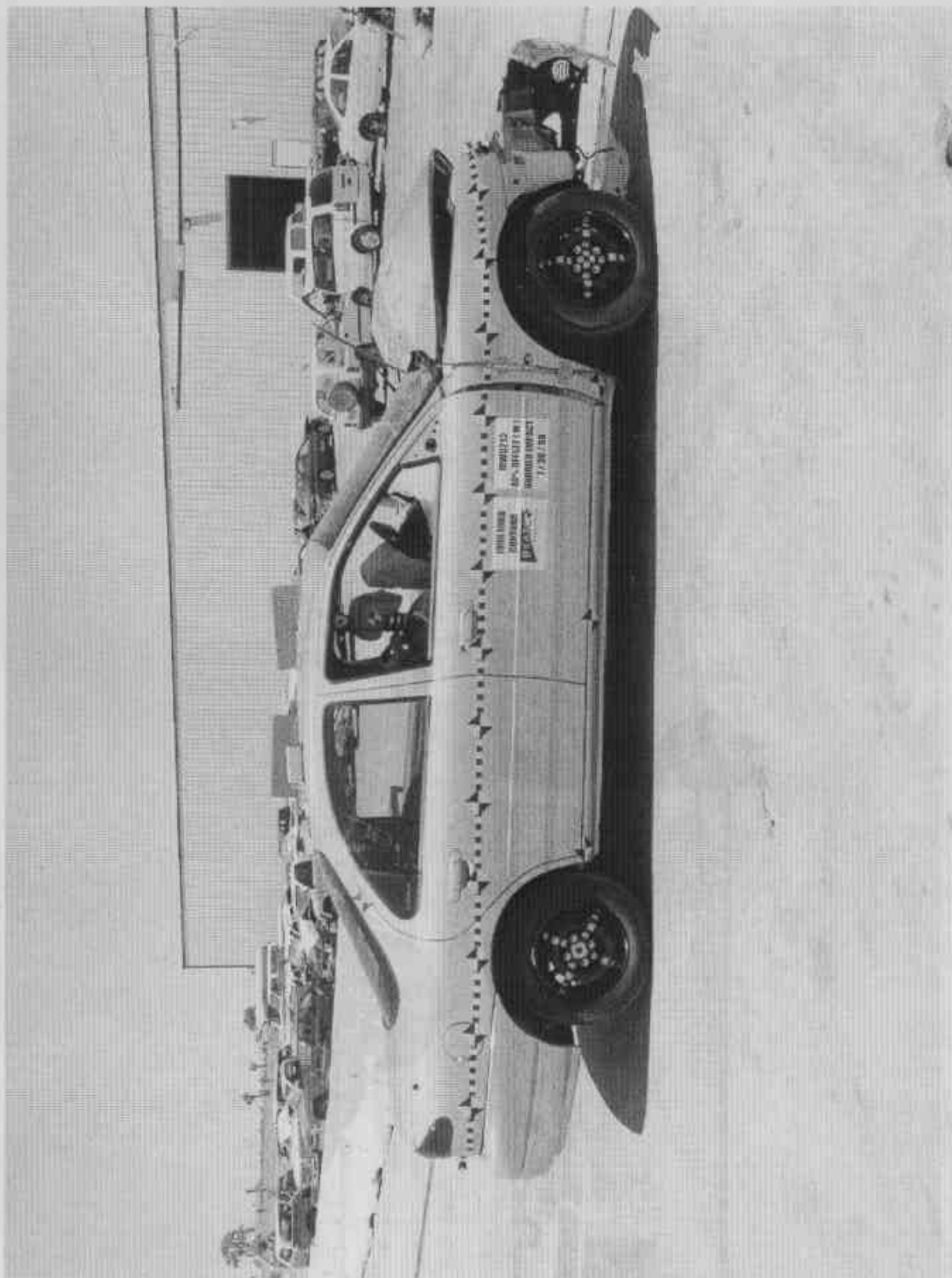


FIGURE A-10. POST-TEST RIGHT SIDE VIEW



FIGURE A-11. PRE-TEST LEFT FRONT VIEW

KAR98002-05

A-11

KAR98002-05



FIGURE A-12. POST-TEST LEFT FRONT VIEW

A-12

KAR98002-05

KAR98002-05



FIGURE A-14. POST-TEST RIGHT REAR VIEW

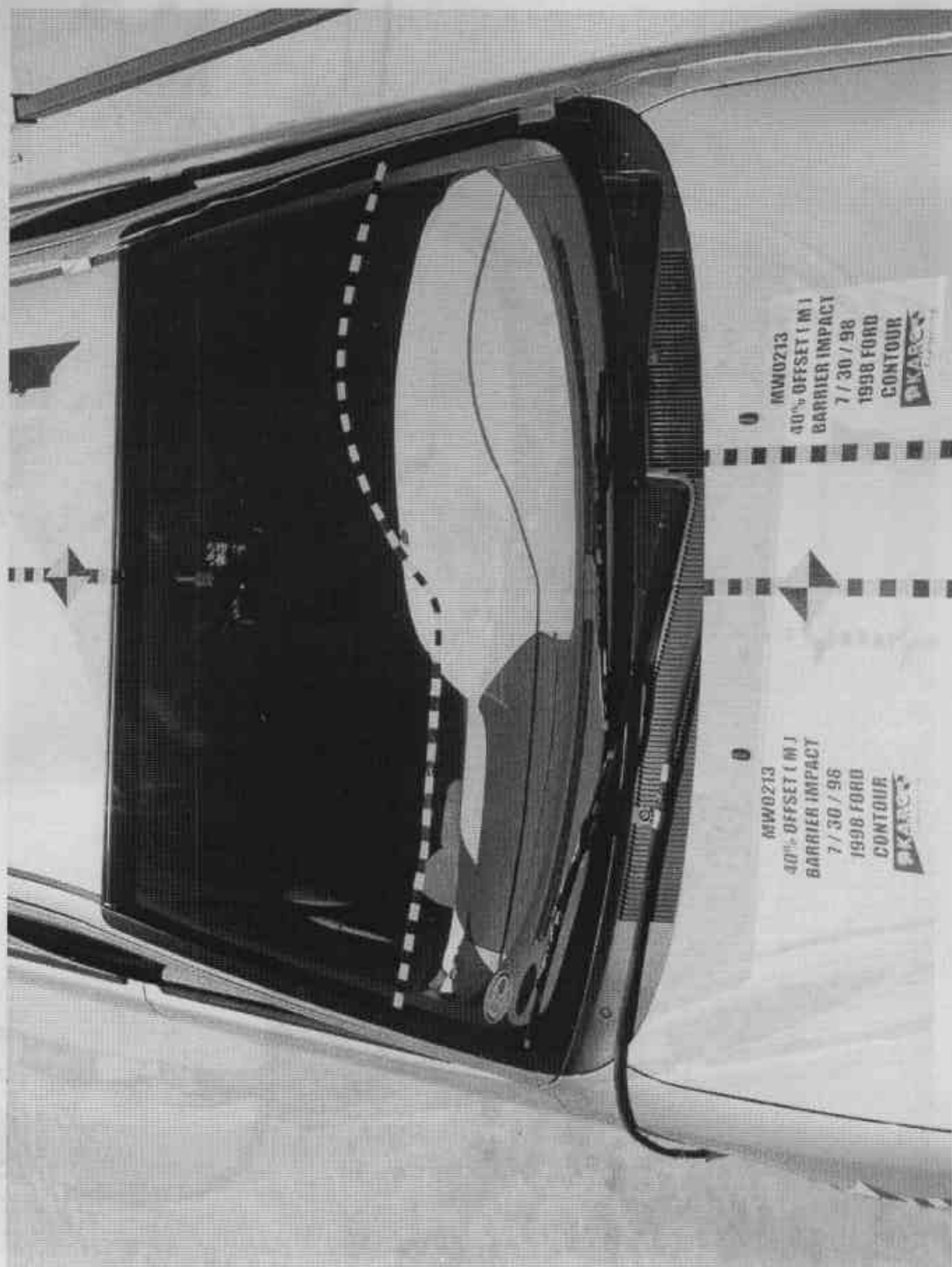


FIGURE A-15. PRE-TEST WINDSHIELD

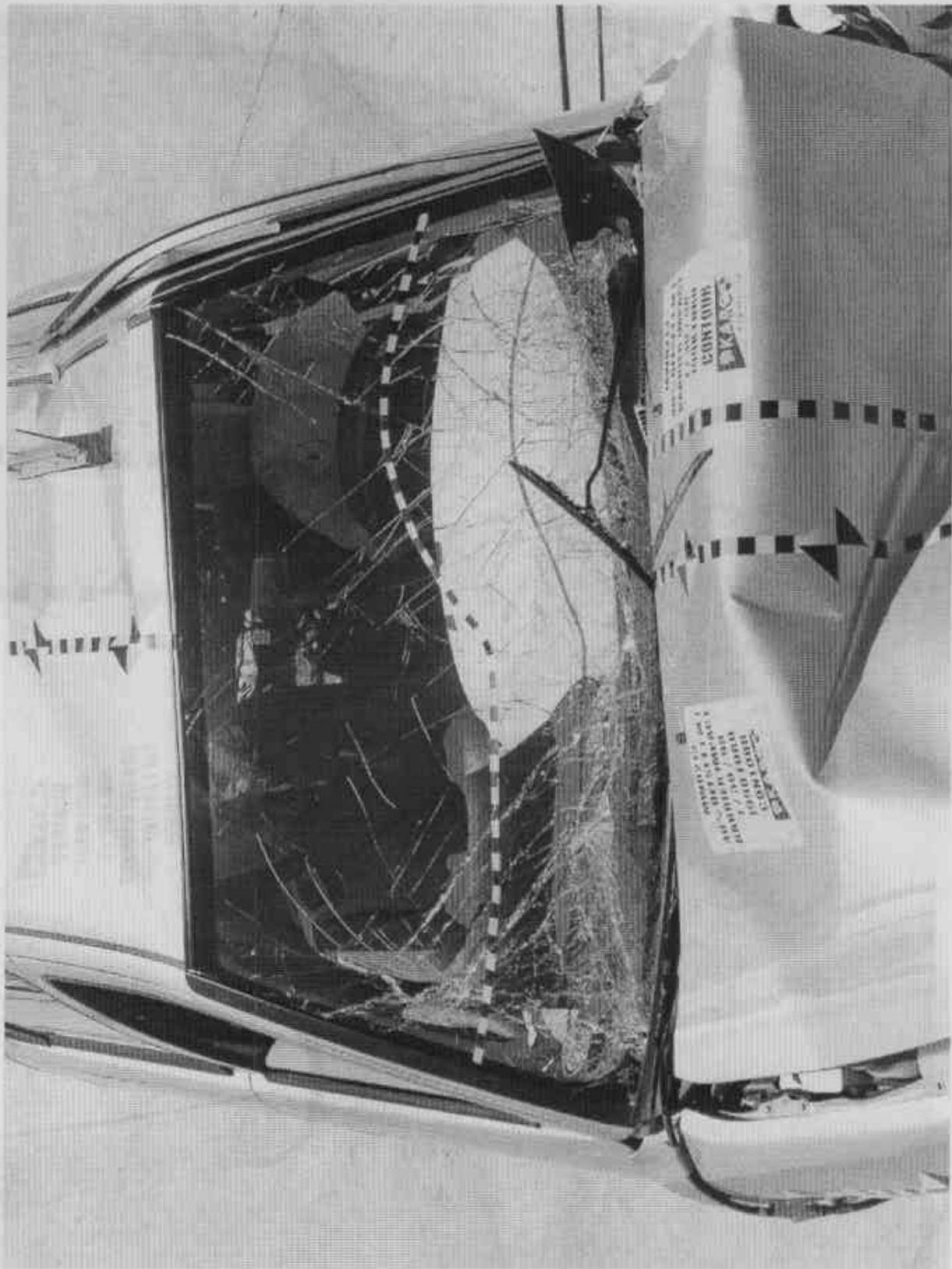


FIGURE A-16. POST-TEST WINDSHIELD

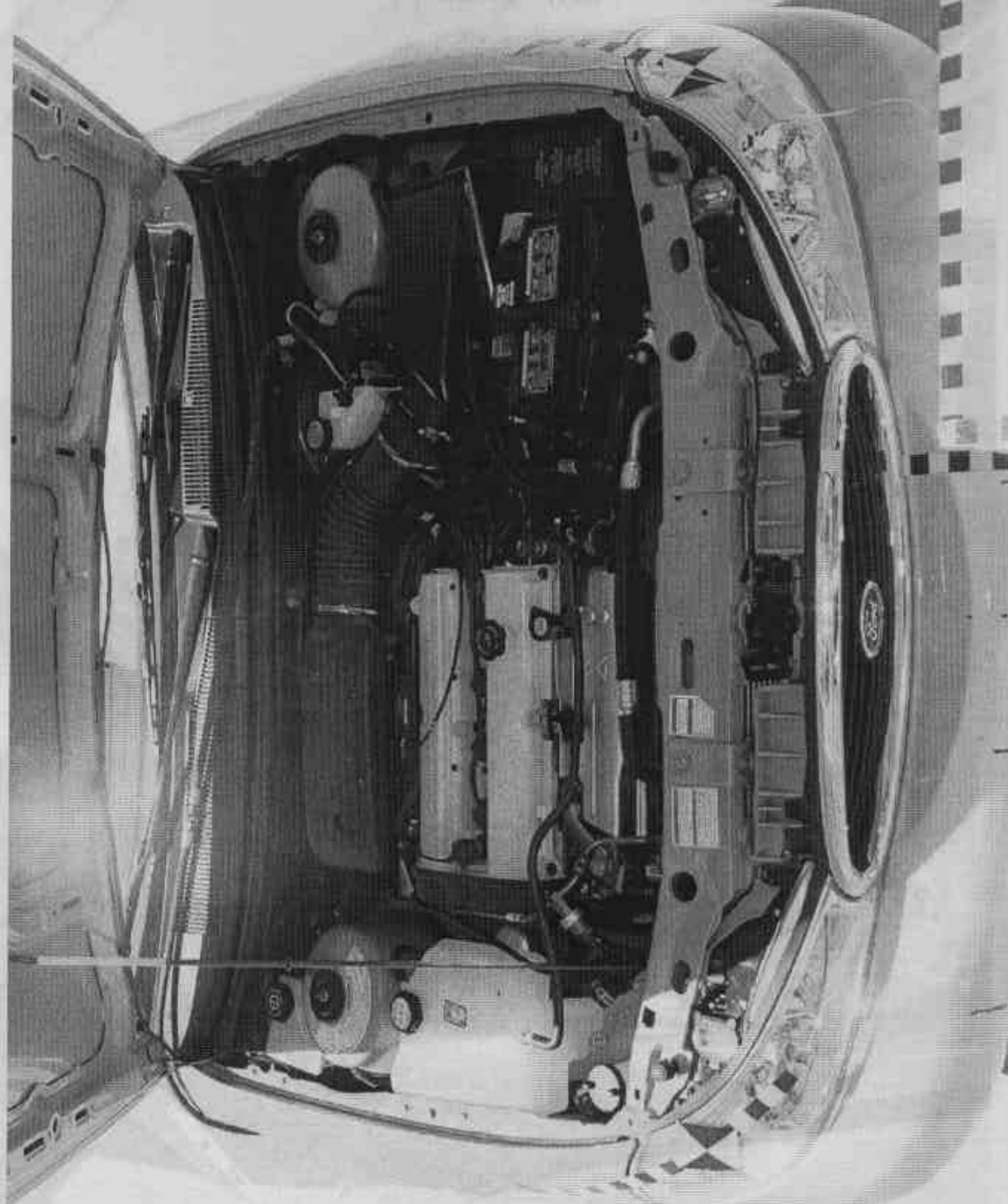


FIGURE A-17. PRE-TEST ENGINE COMPARTMENT

A-17

KAR98002-05

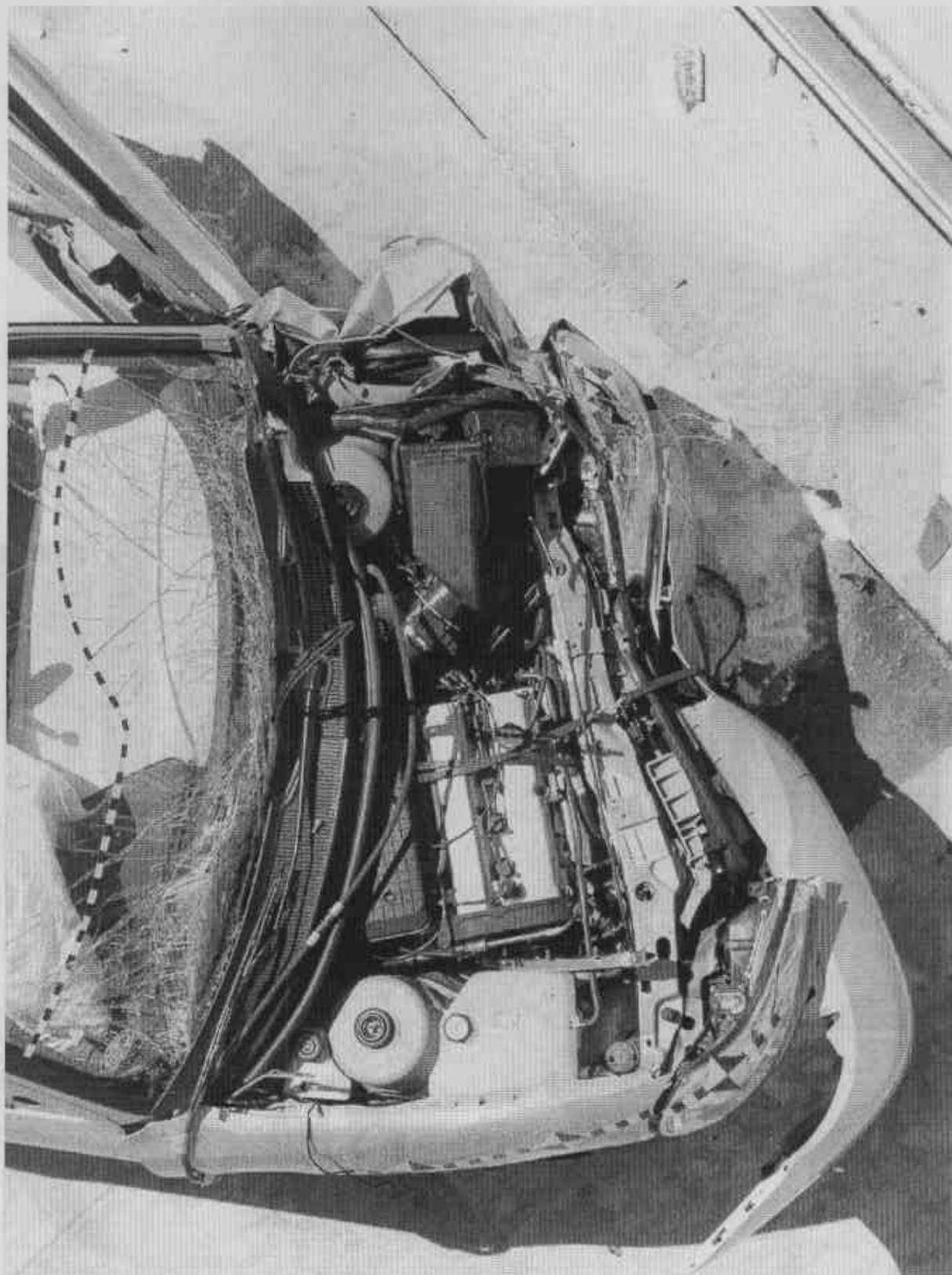


FIGURE A-18. POST-TEST ENGINE COMPARTMENT



FIGURE A-19. PRE-TEST FUEL CAP

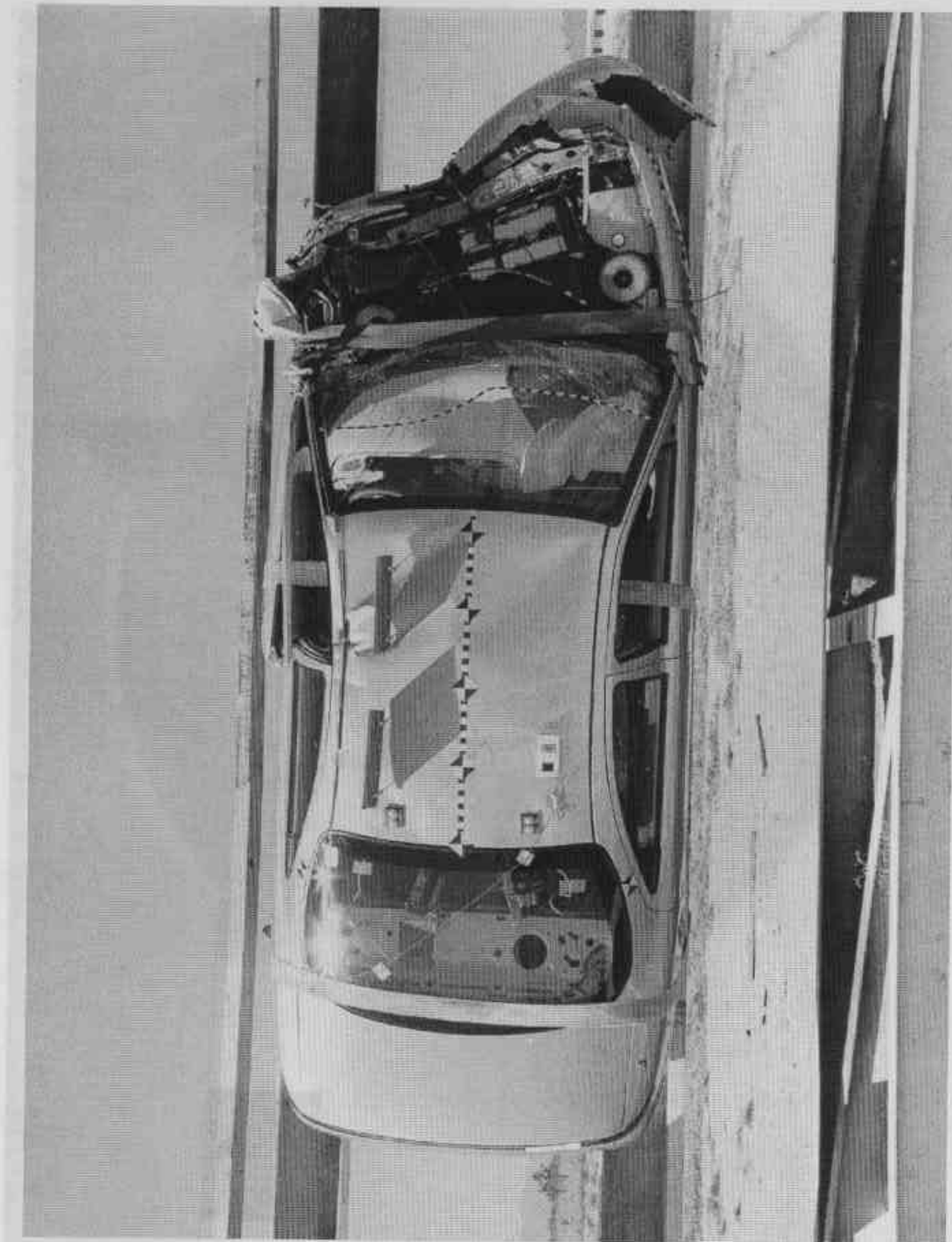


FIGURE A-20. VEHICLE ON ROLLOVER

A-20

KAR98002-05

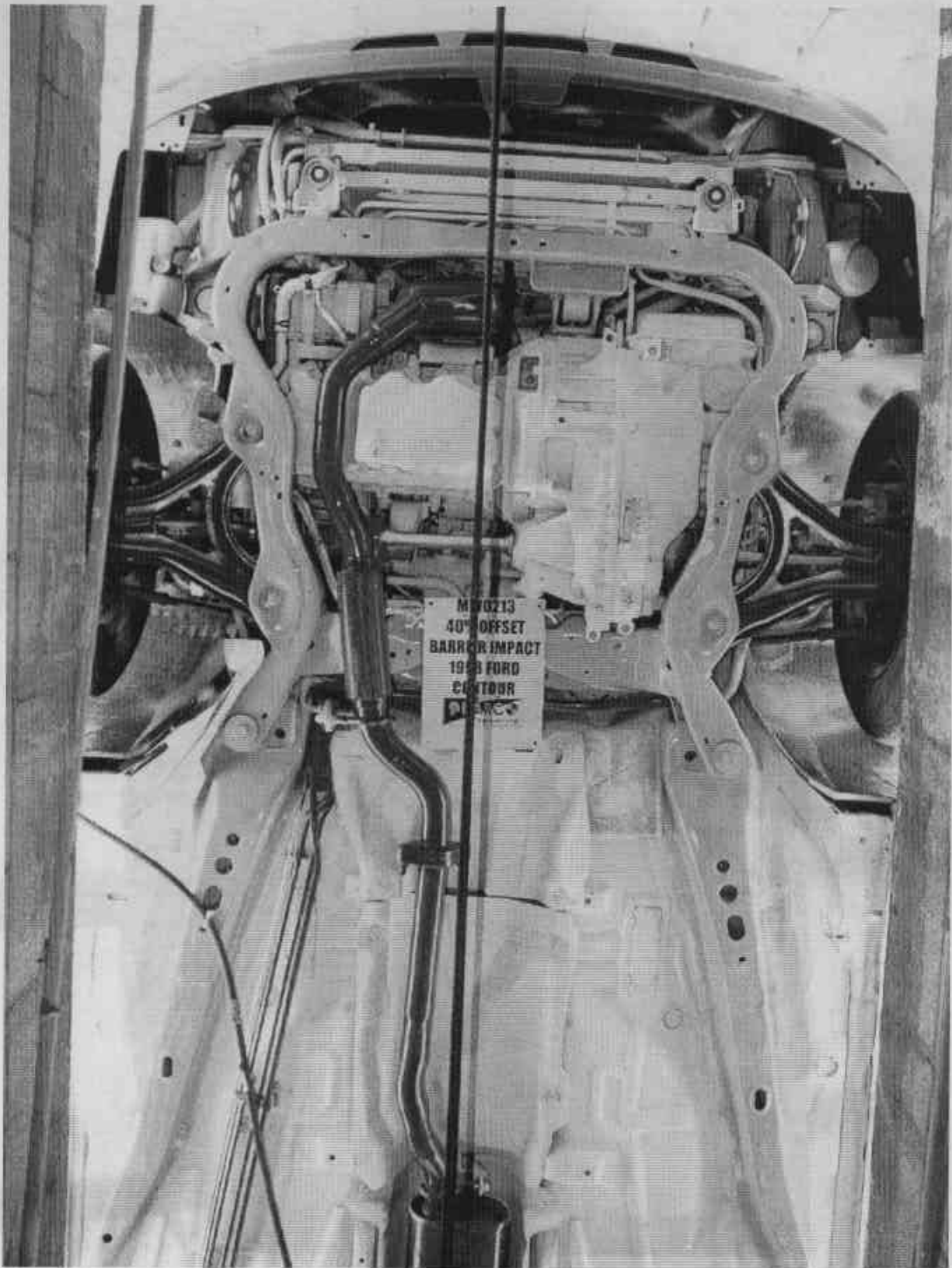


FIGURE A-21. PRE-TEST FRONT UNDERSIDE

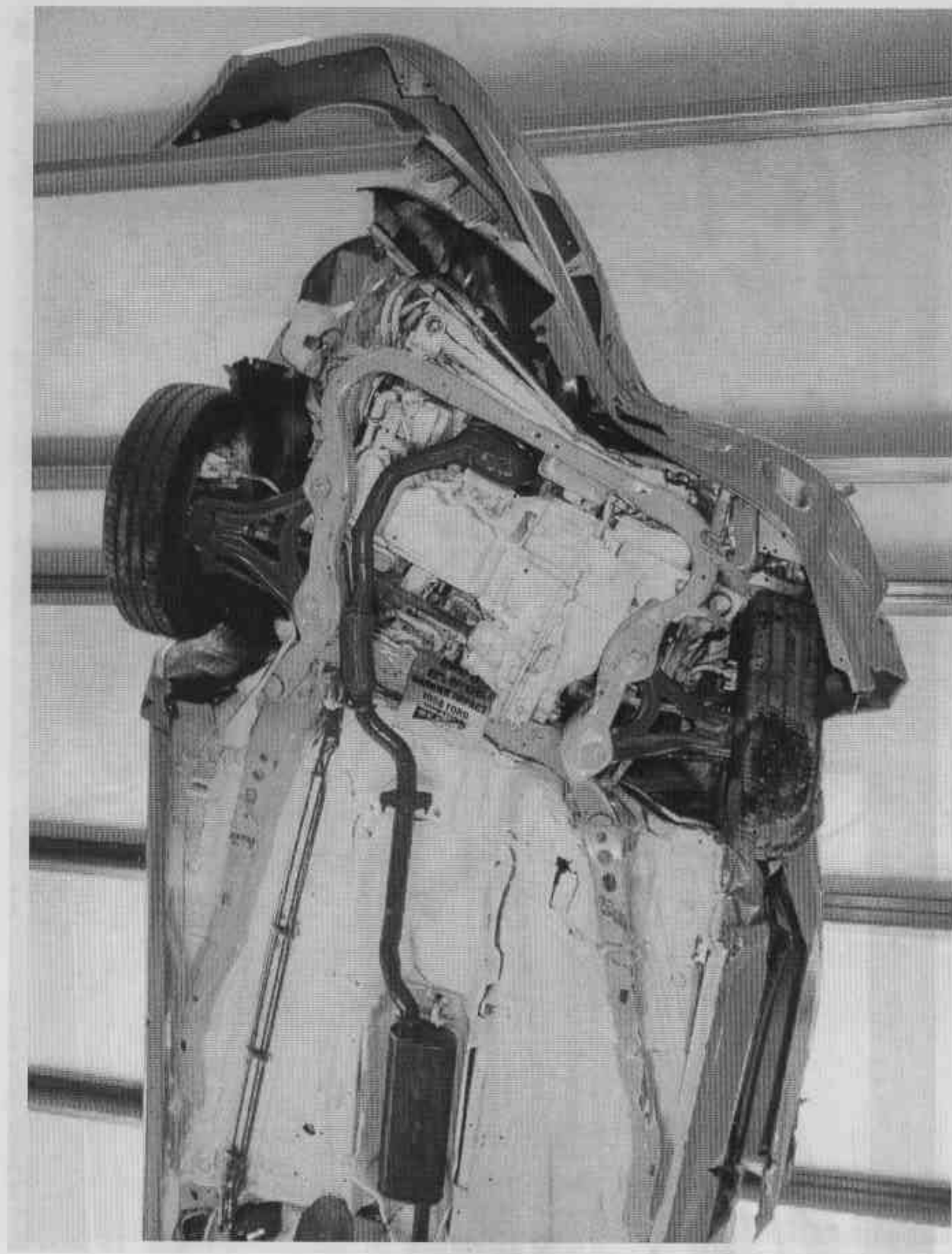


FIGURE A-22. POST-TEST FRONT UNDERSIDE

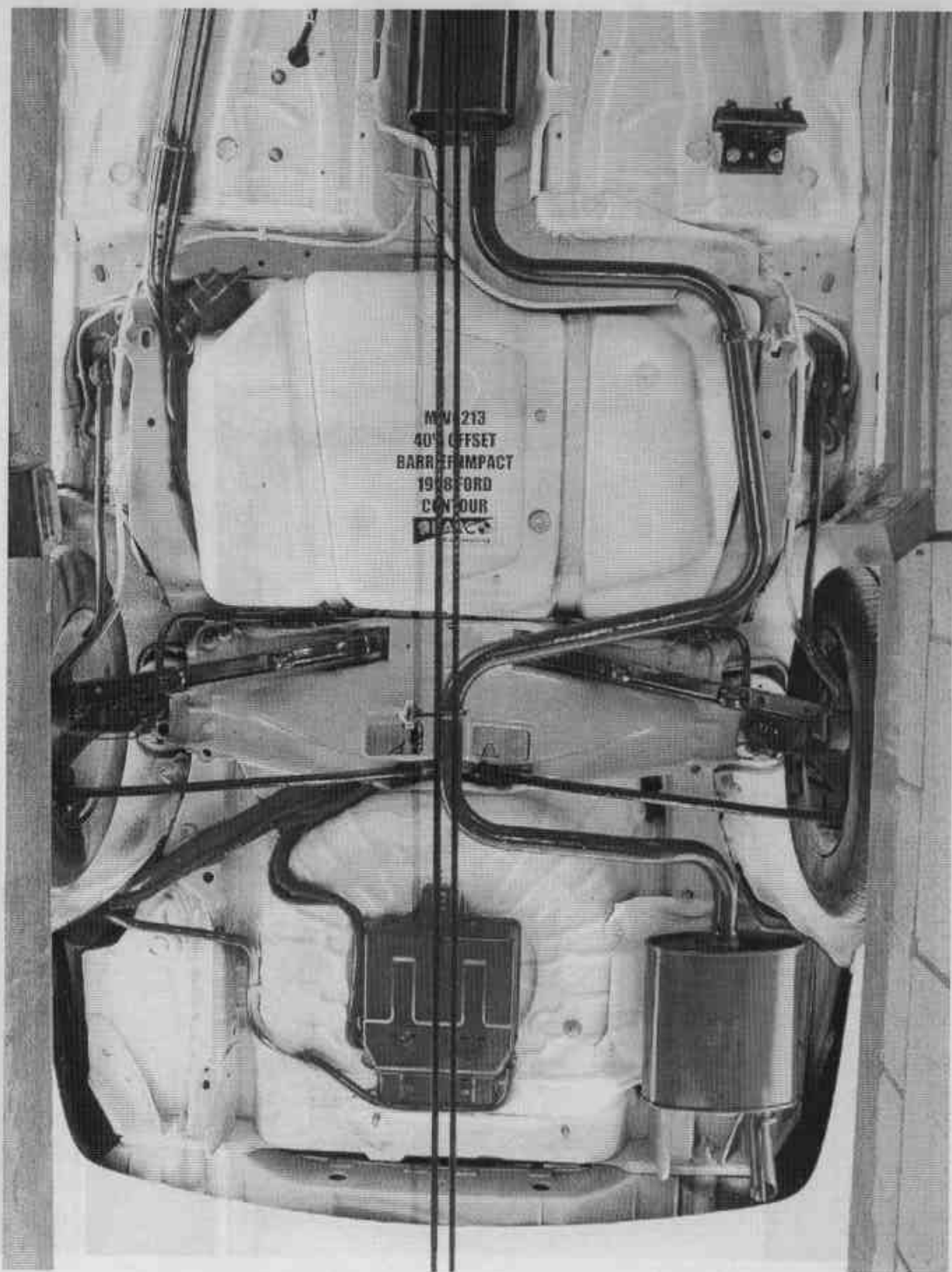


FIGURE A-23. PRE-TEST REAR UNDERSIDE

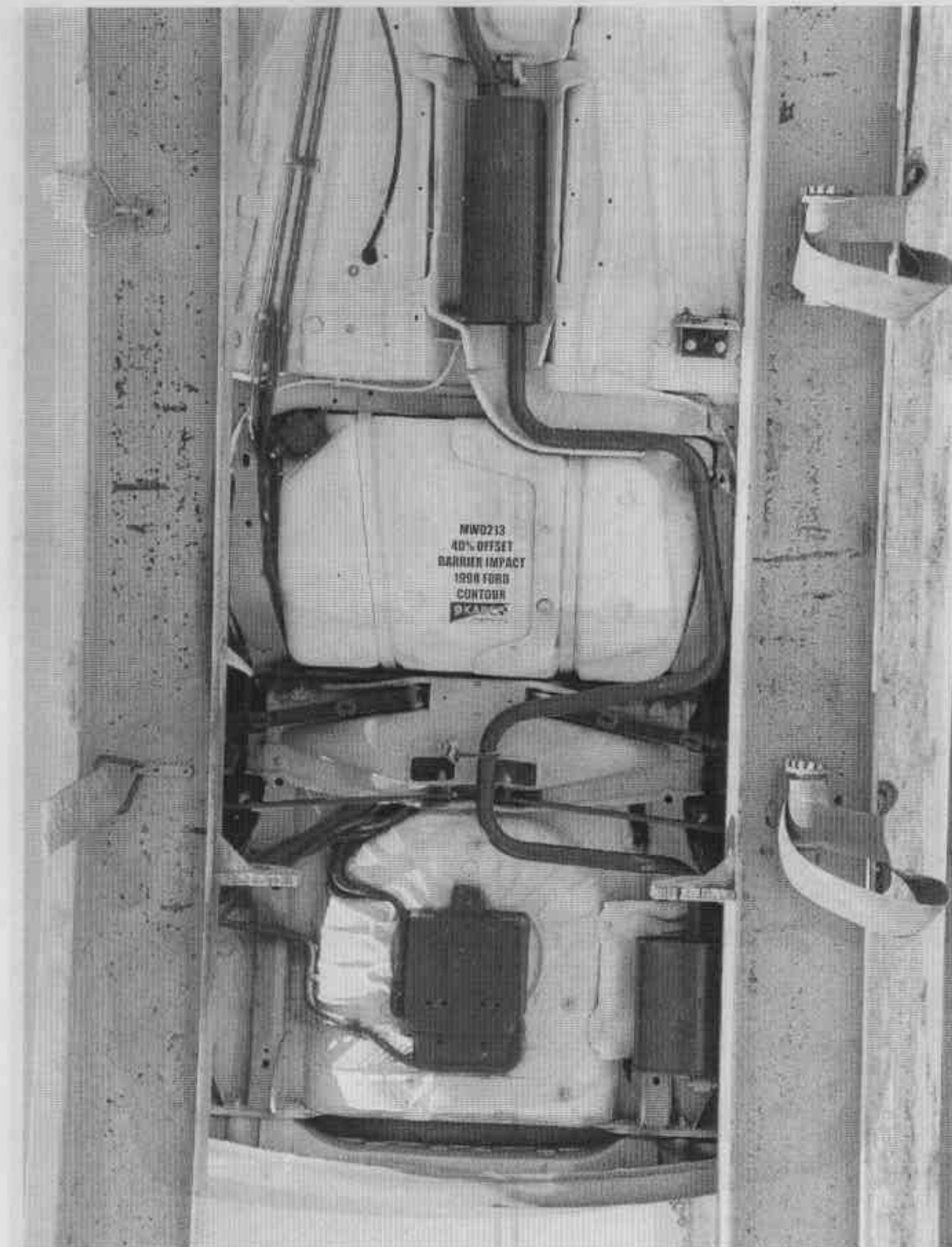


FIGURE A-24. POST-TEST REAR UNDERSIDE

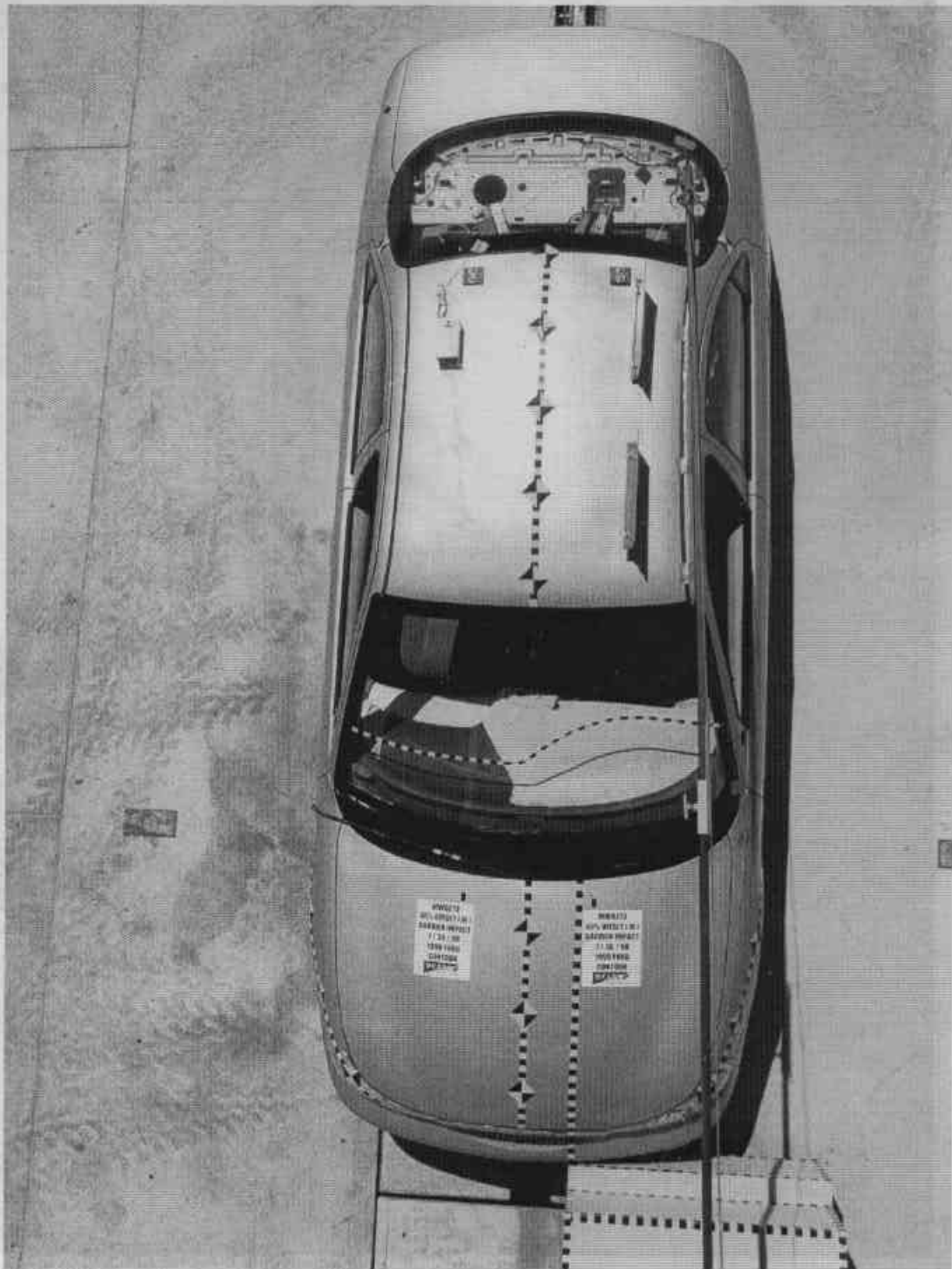


FIGURE A-25. PRE-TEST OVERHEAD OVERALL

KAR98002-05

A-25

KAR98002-05

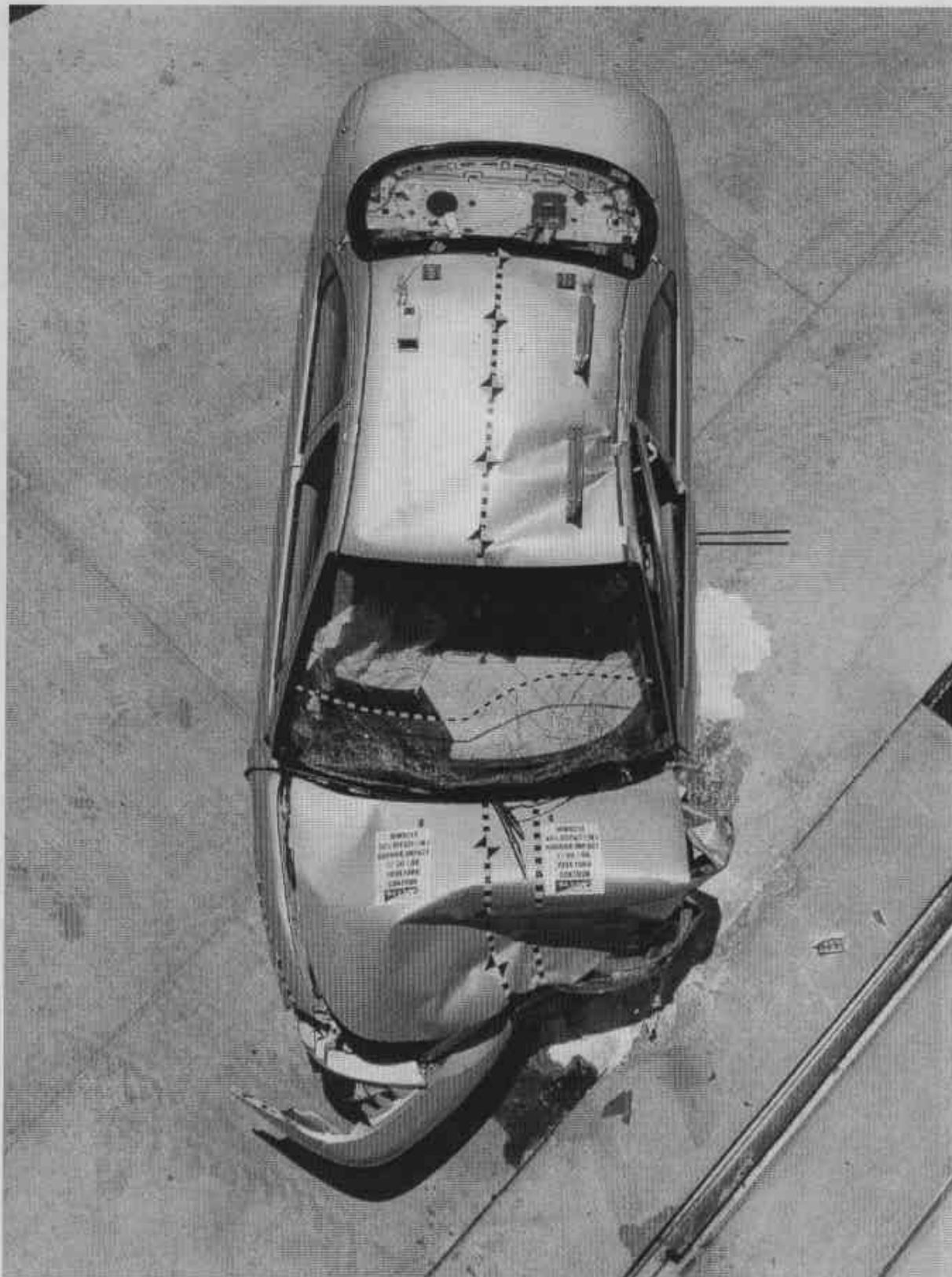


FIGURE A-26. POST-TEST OVERHEAD OVERALL

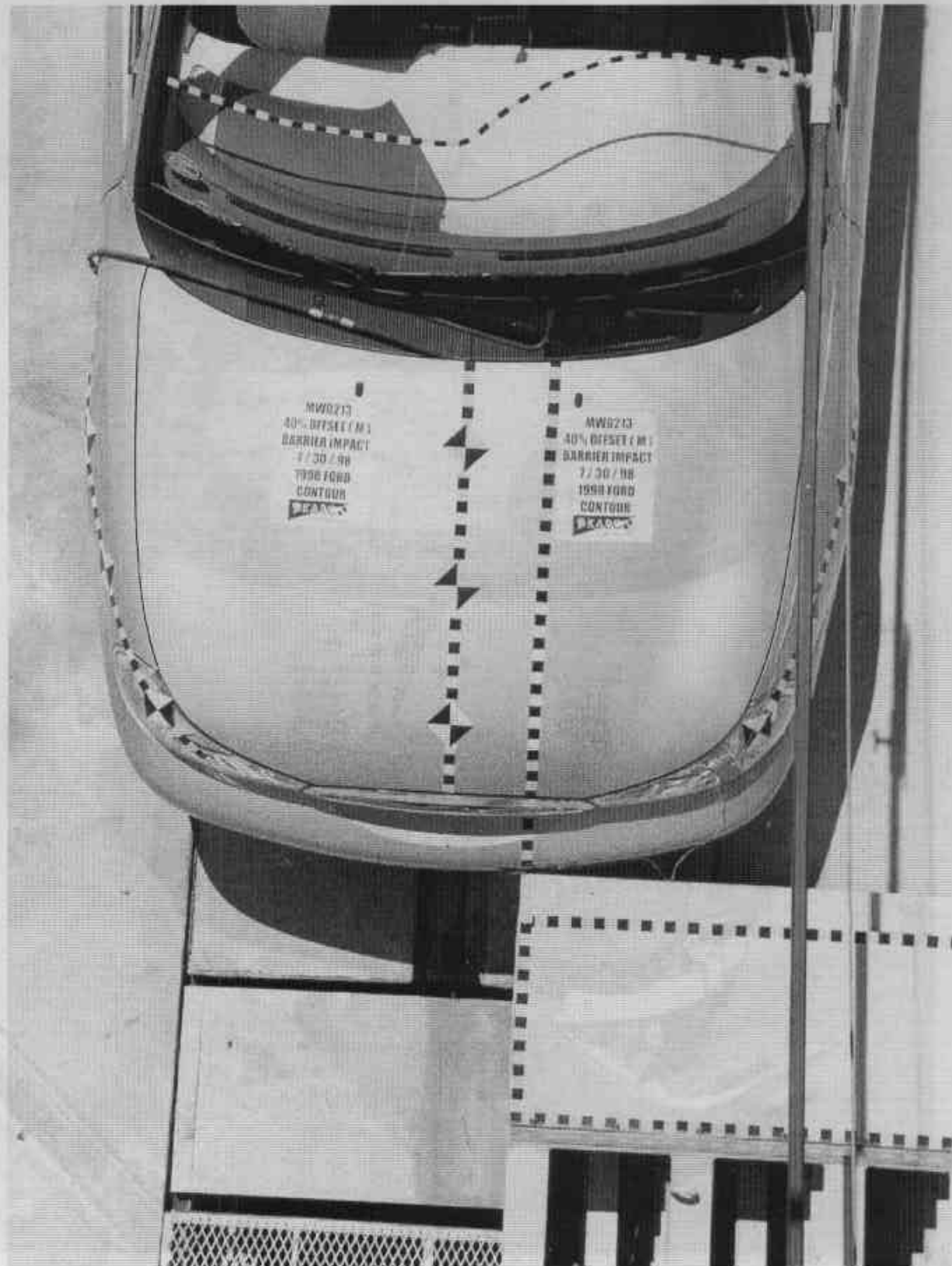


FIGURE A-27. PRE-TEST OVERHEAD CLOSE-UP

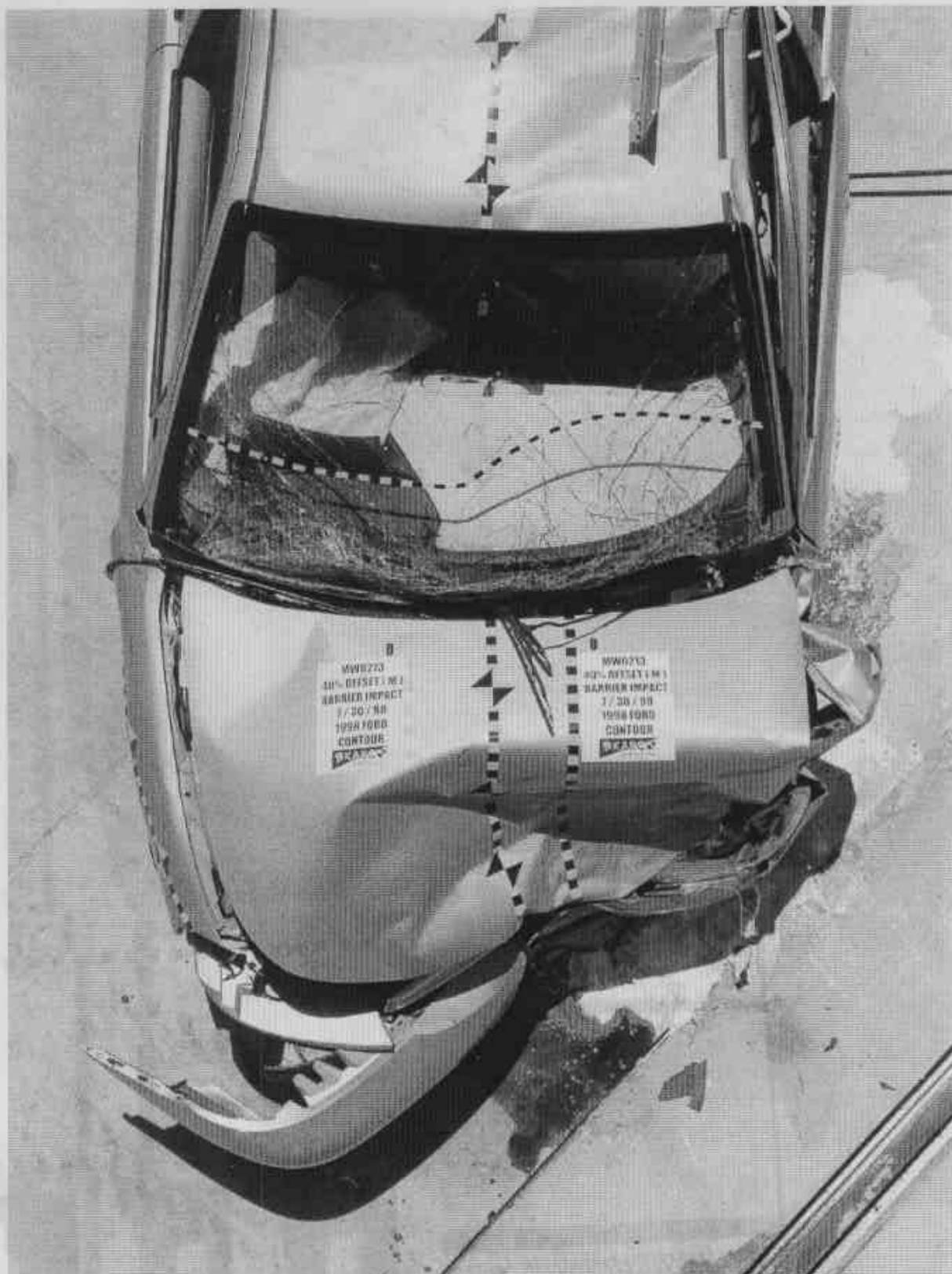


FIGURE A-28. POST-TEST OVERHEAD CLOSE-UP



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



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



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



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



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



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



FIGURE A-35. PRE-TEST DRIVER DUMMY FEET



FIGURE A-36. POST-TEST DRIVER DUMMY FEET

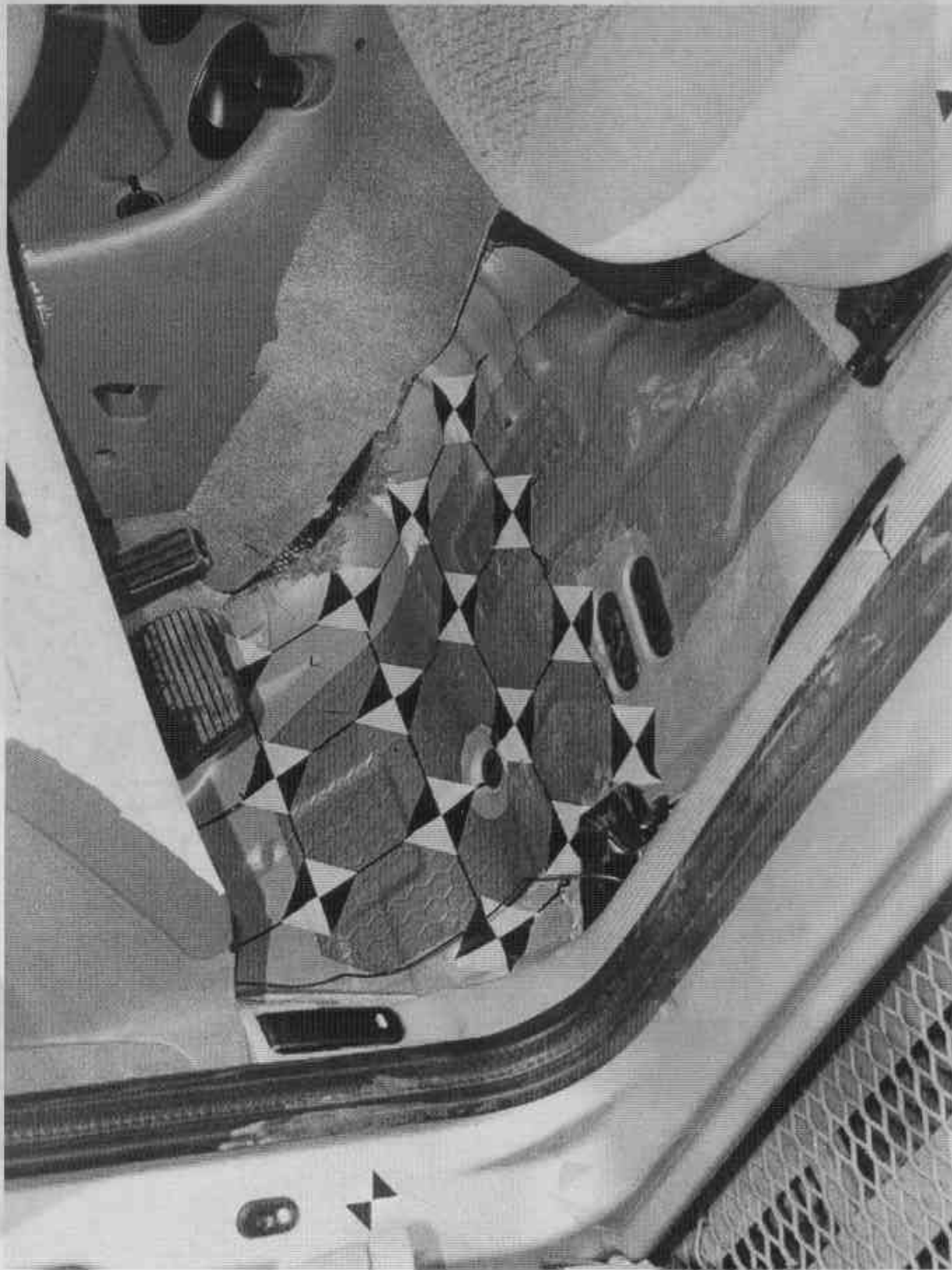


FIGURE A-37. PRE-TEST DRIVER SIDE FLOOR PAN



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

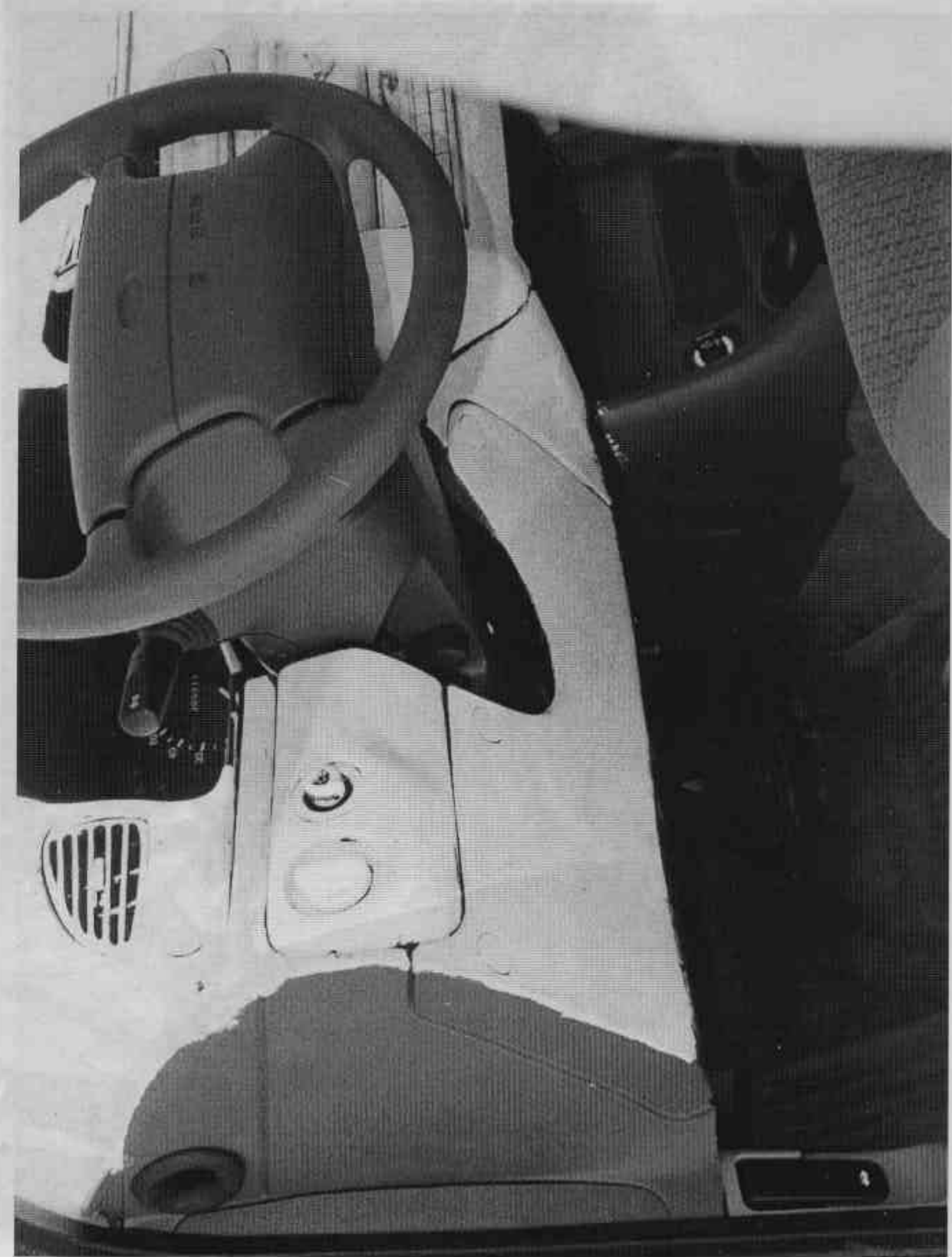


FIGURE A-39. PRE-TEST DRIVER SIDE KNEE BOLSTER

A-39

KAR98002-05

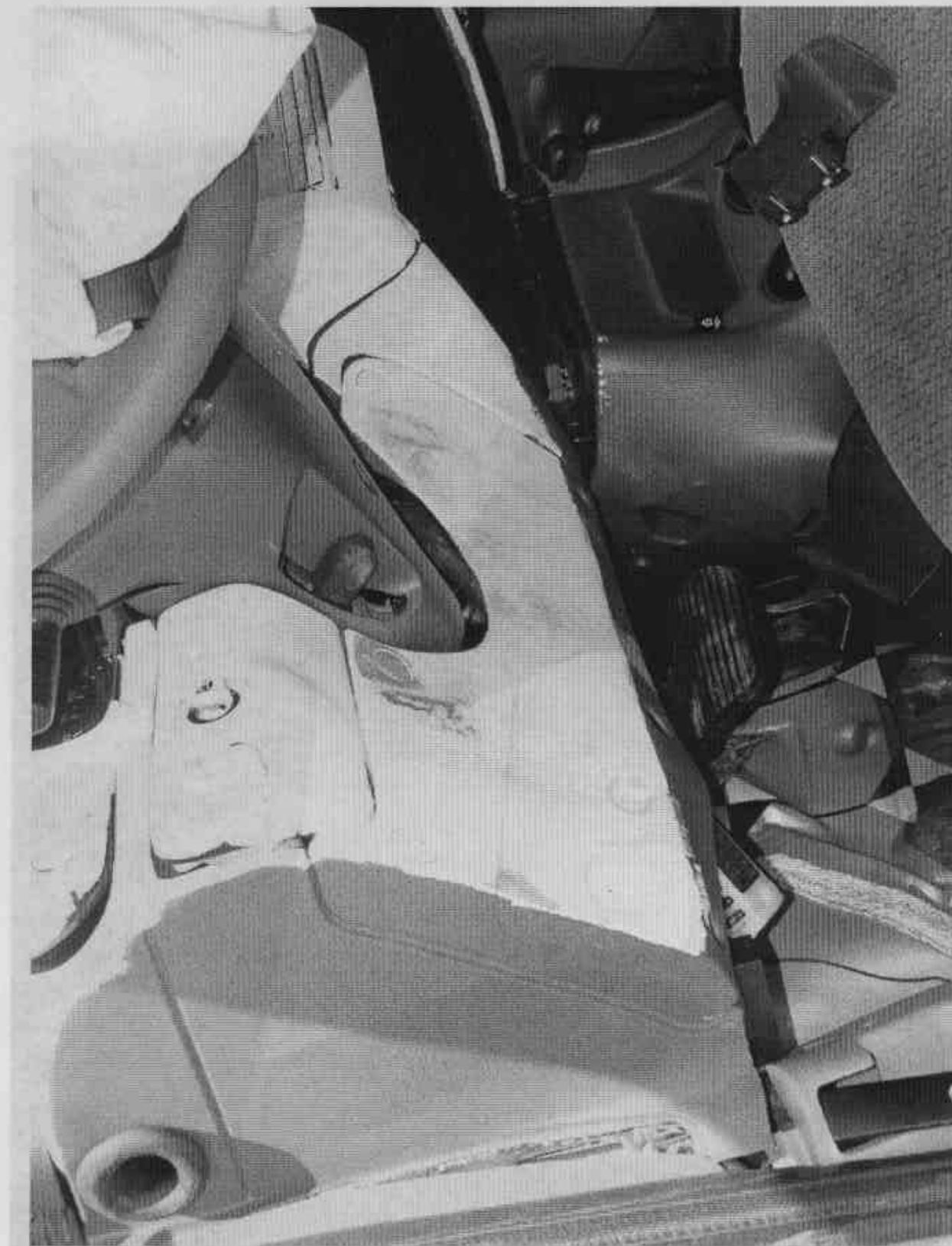


FIGURE A-40. POST-TEST DRIVER KNEE BOLSTER AND DUMMY CONTACT



FIGURE A-41. POST-TEST DRIVER DUMMY HEAD



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



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



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

KAR98002-05

A-45

KAR98002-05



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



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



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

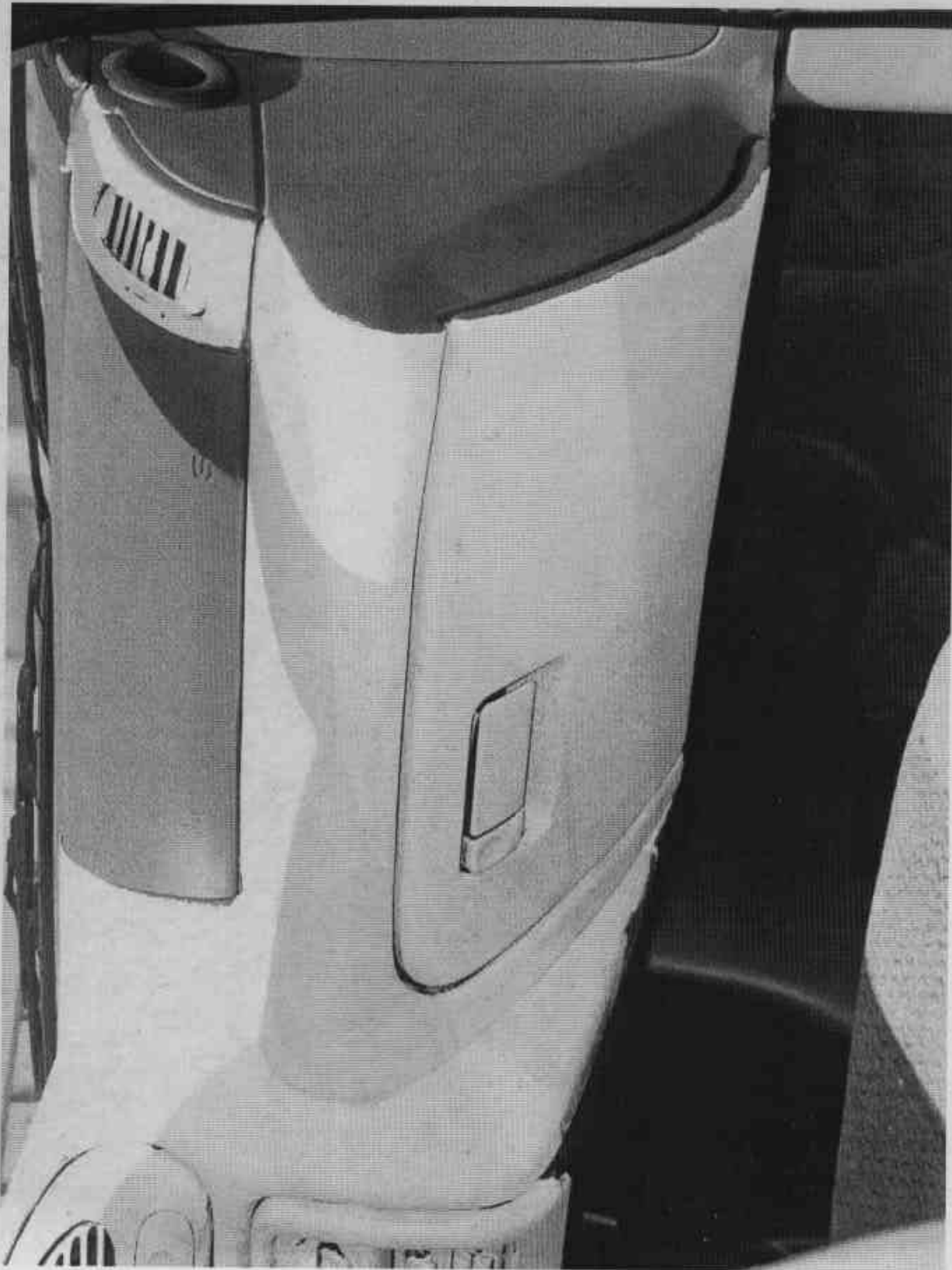


FIGURE A-49. PRE-TEST PASSENGER SIDE KNEE BOLSTER



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



FIGURE A-51. POST-TEST PASSENGER DUMMY HEAD



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

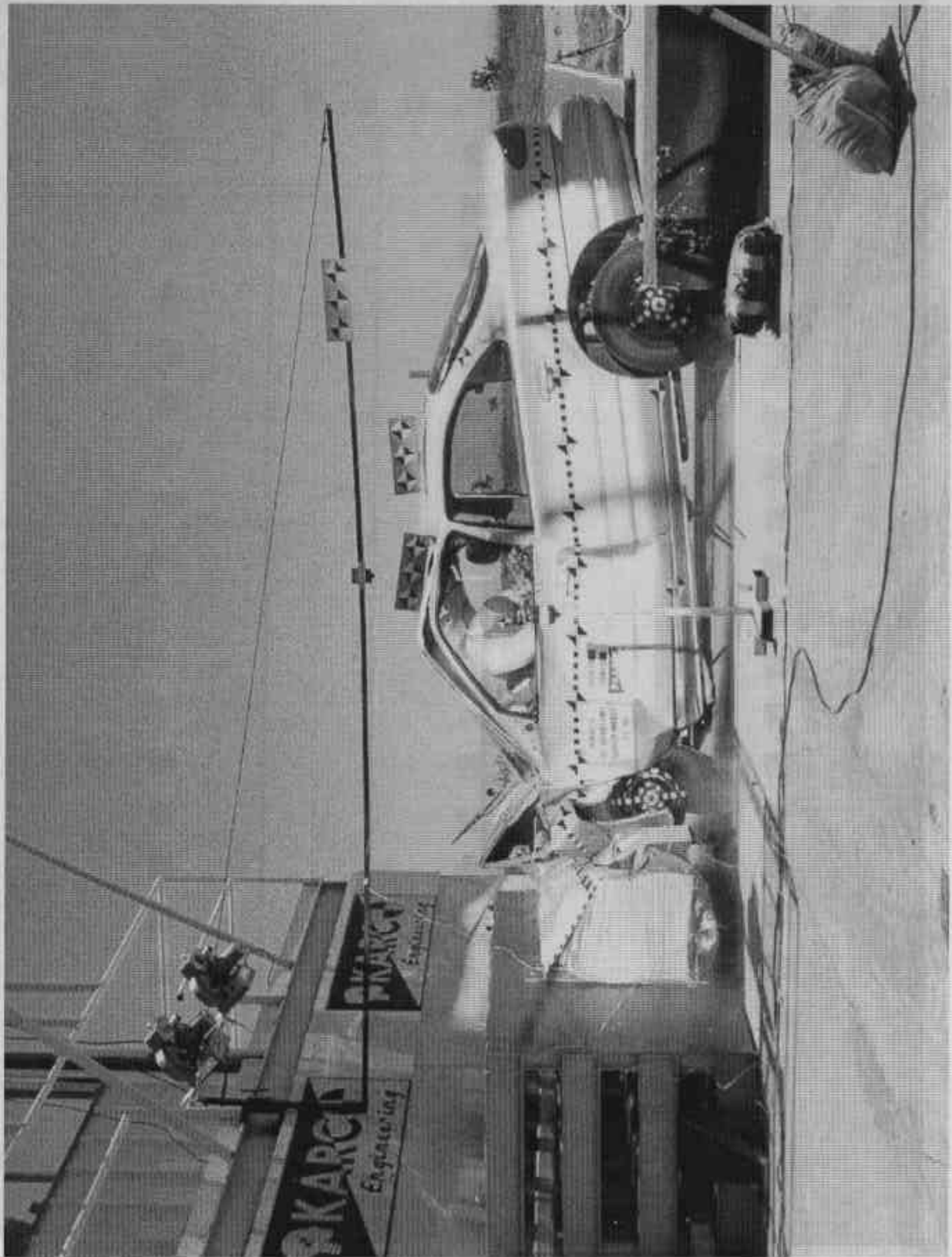


FIGURE A-53. VEHICLE DURING IMPACT

A-53

KAR98002-05

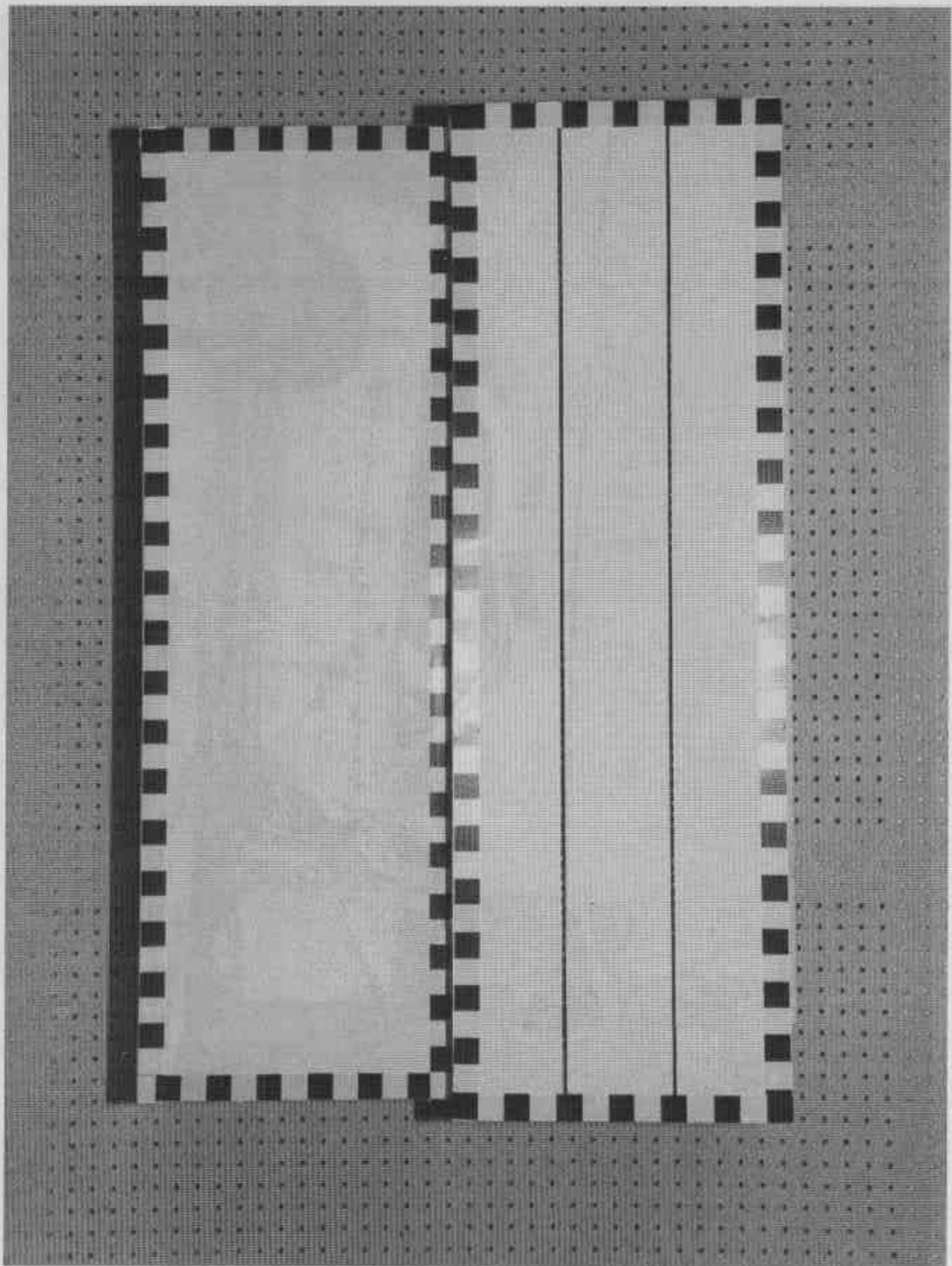


FIGURE A-54. PRE-TEST BARRIER FRONT VIEW

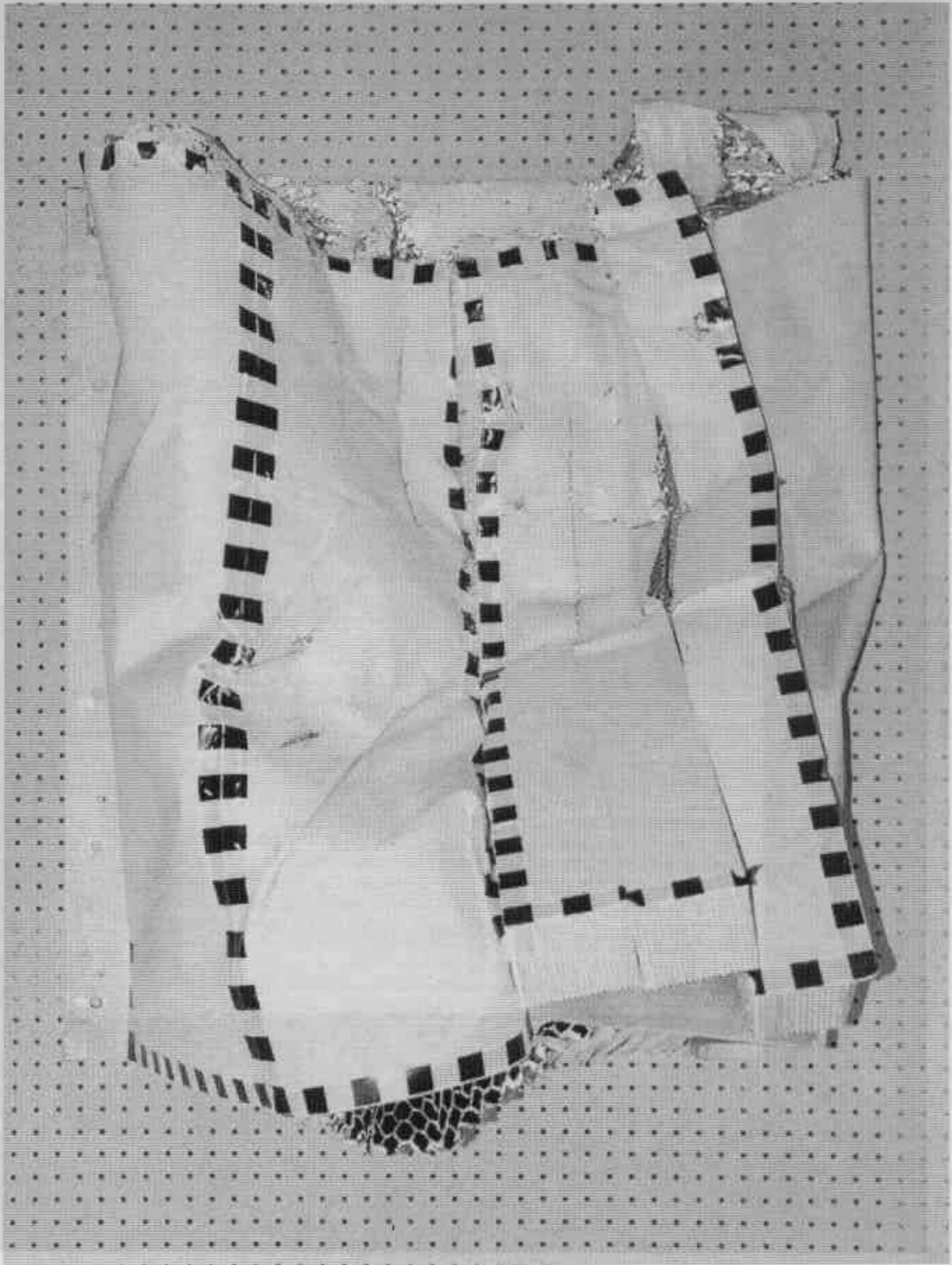


FIGURE A-55. POST-TEST BARRIER FRONT VIEW

A-55

KAR98002-05

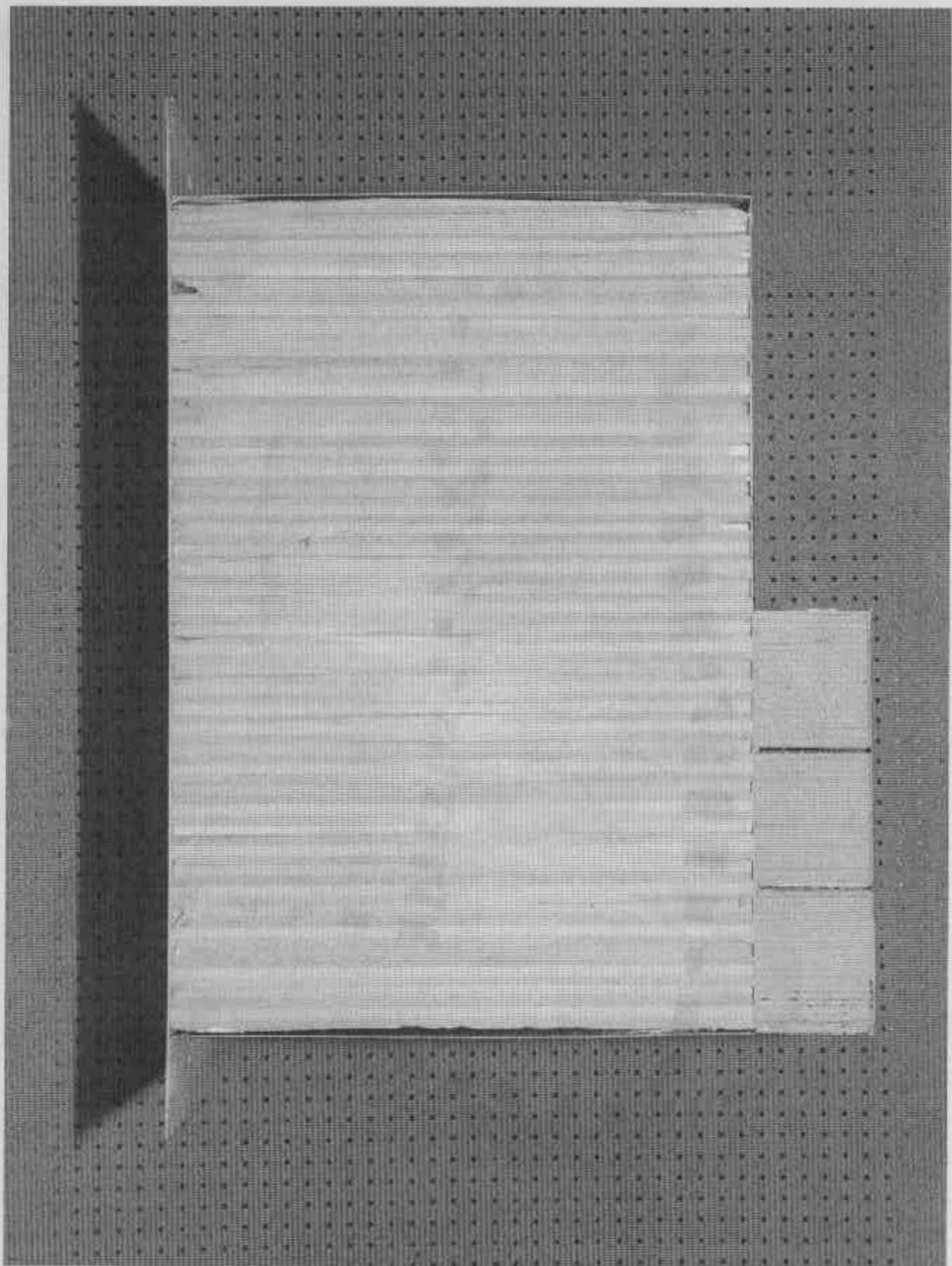


FIGURE A-56. PRE-TEST BARRIER LEFT SIDE VIEW

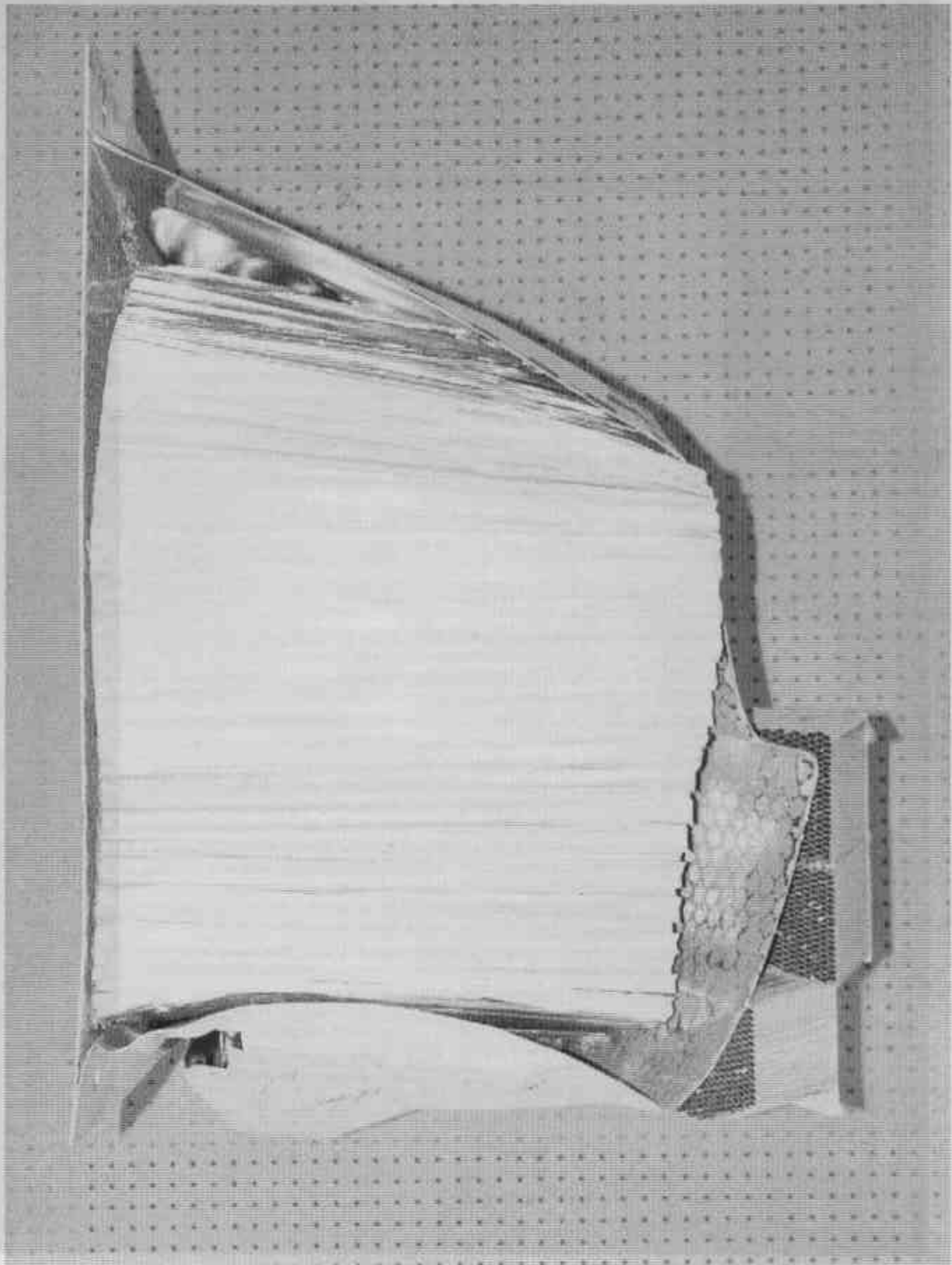


FIGURE A-57. POST-TEST BARRIER LEFT SIDE VIEW

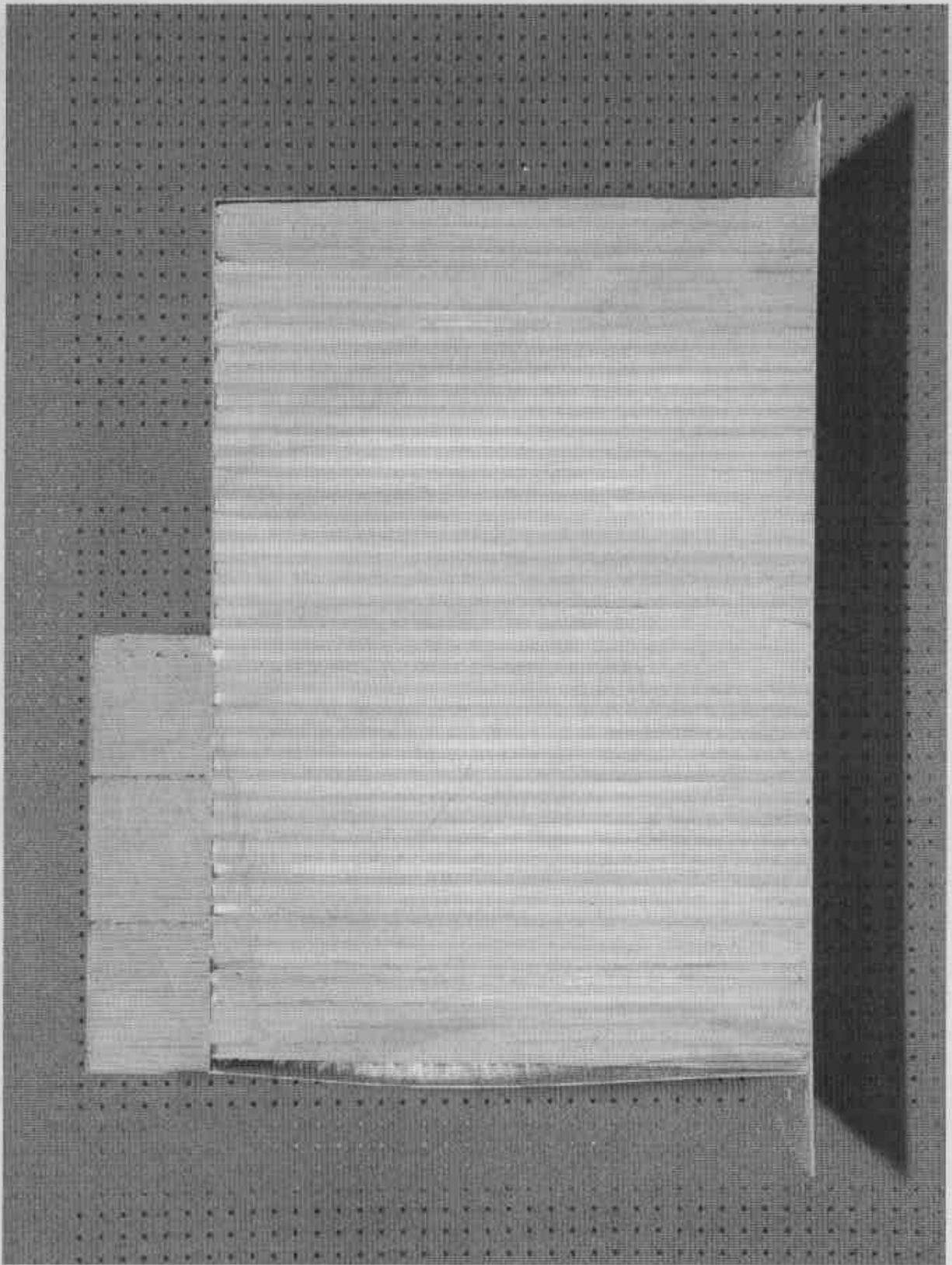


FIGURE A-58. PRE-TEST BARRIER RIGHT SIDE VIEW

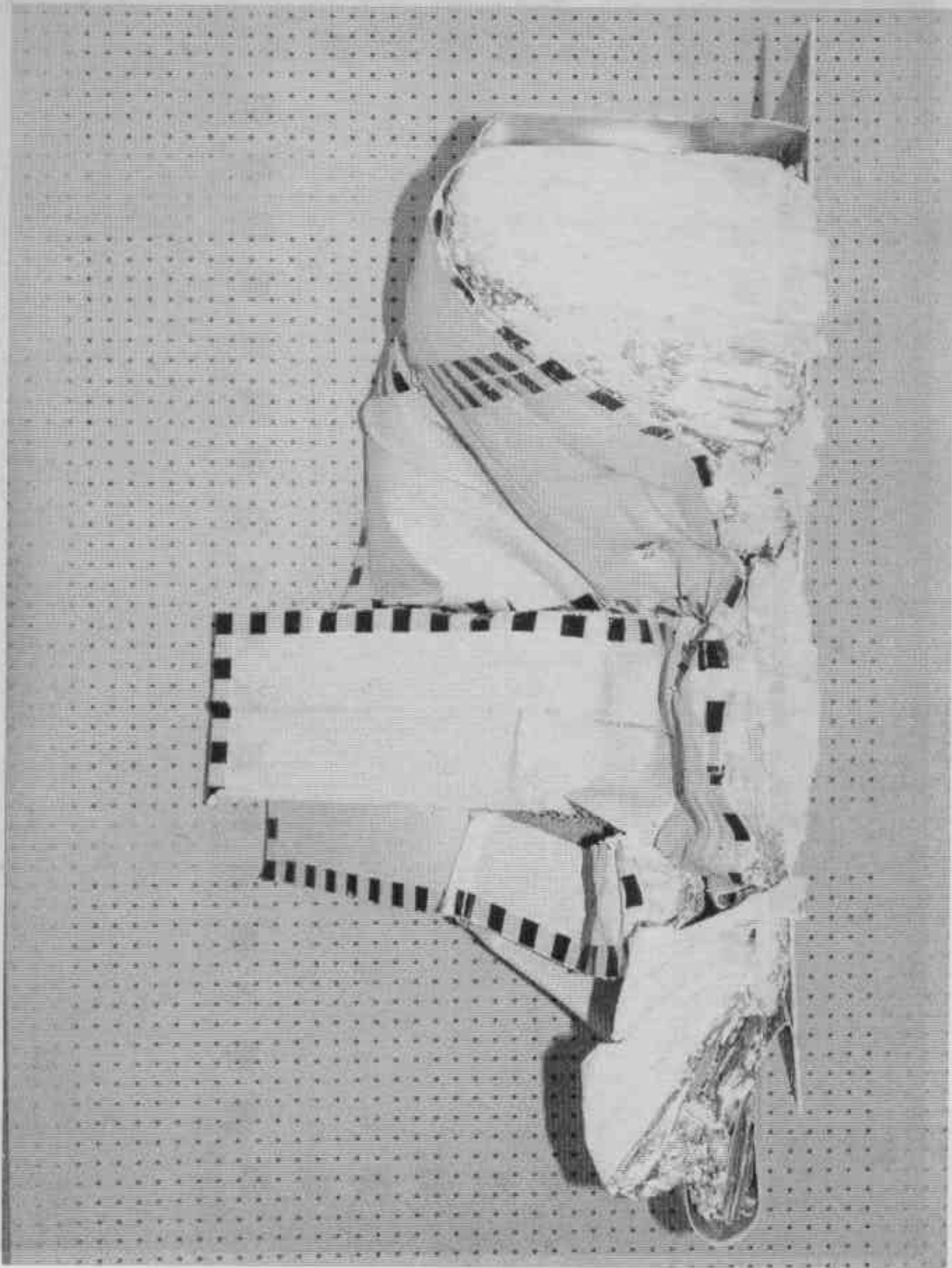


FIGURE A-59. POST-TEST BARRIER RIGHT SIDE VIEW

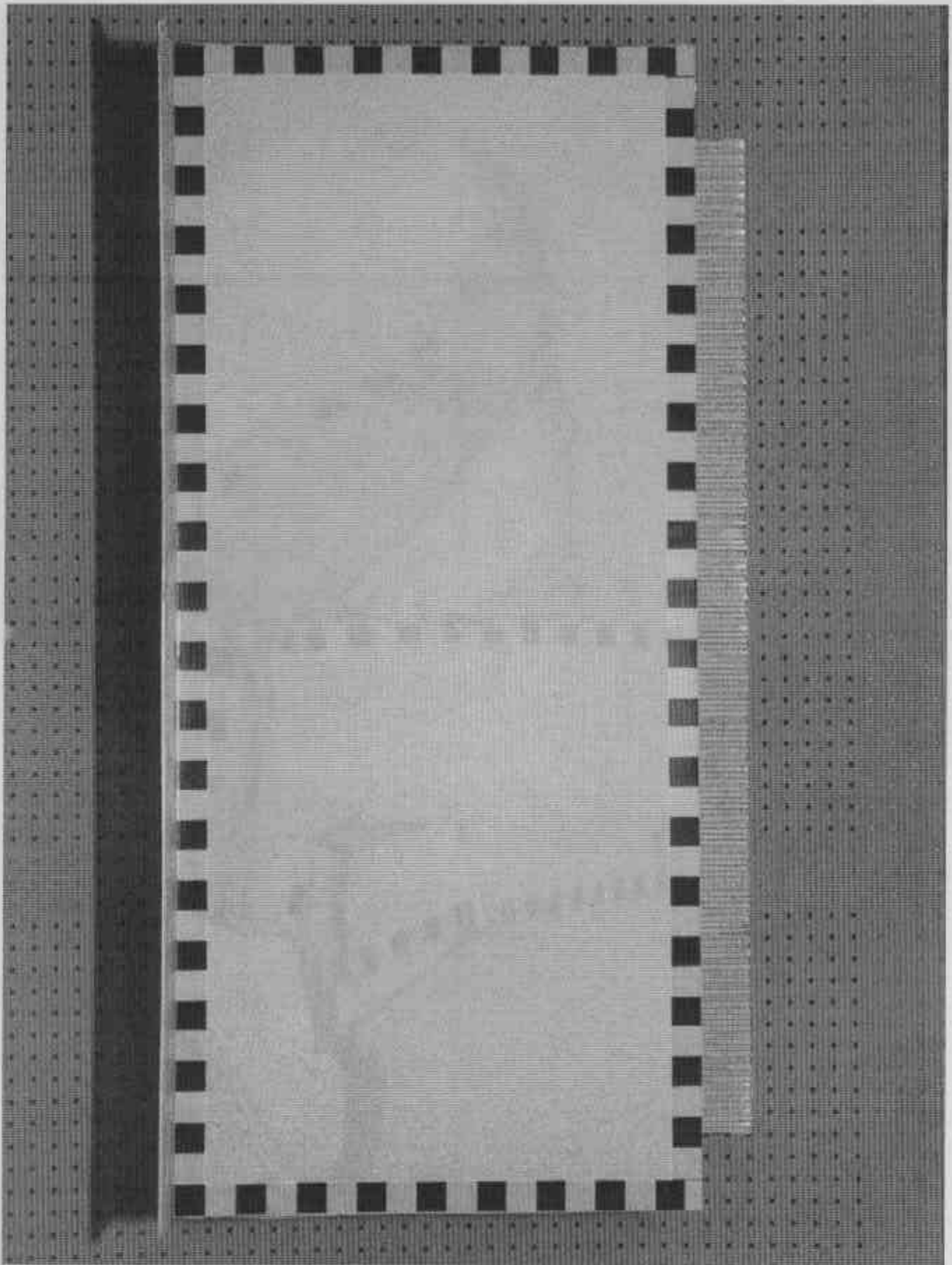


FIGURE A-60. PRE-TEST BARRIER TOP VIEW

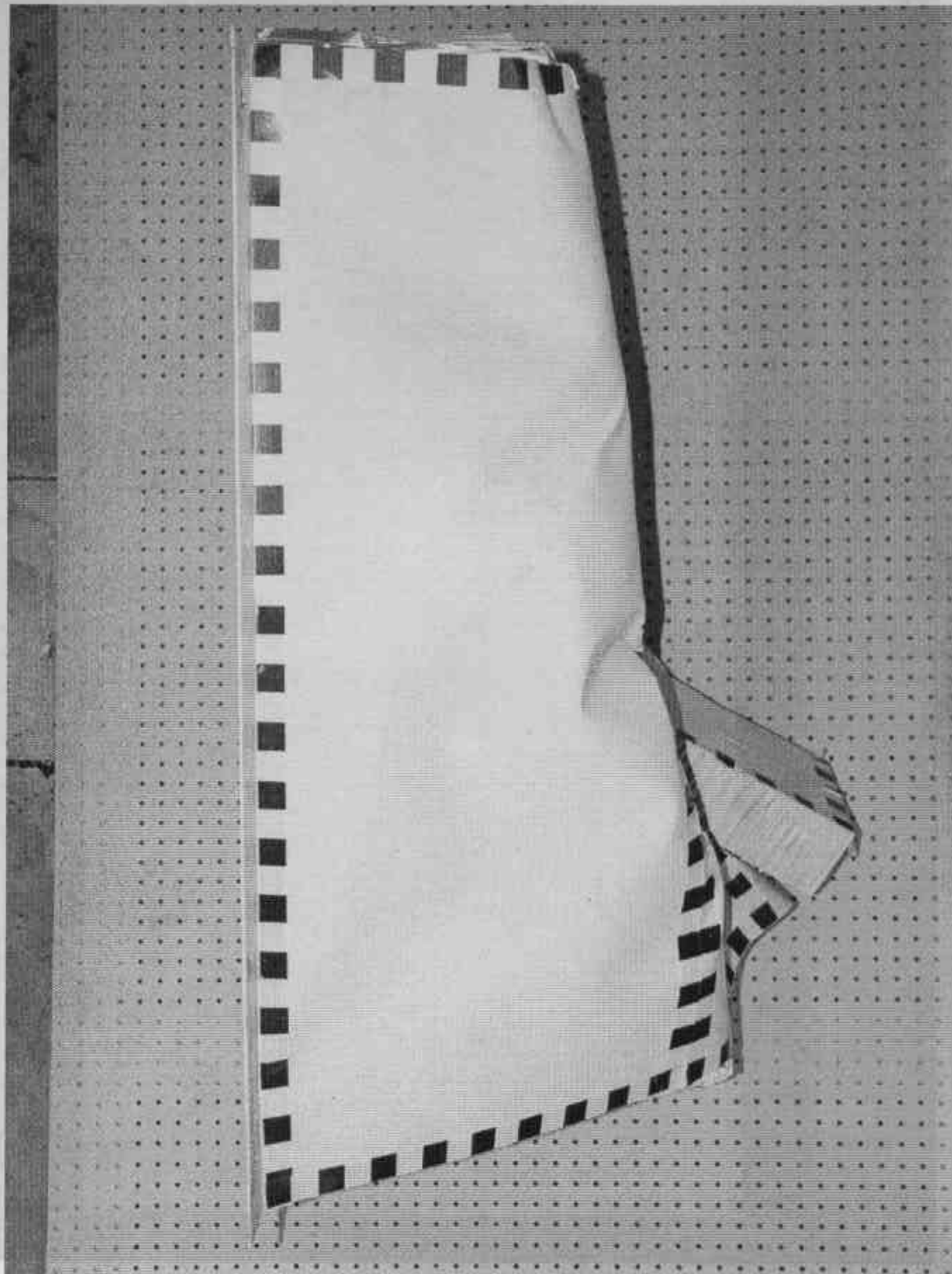


FIGURE A-61. POST-TEST BARRIER TOP VIEW

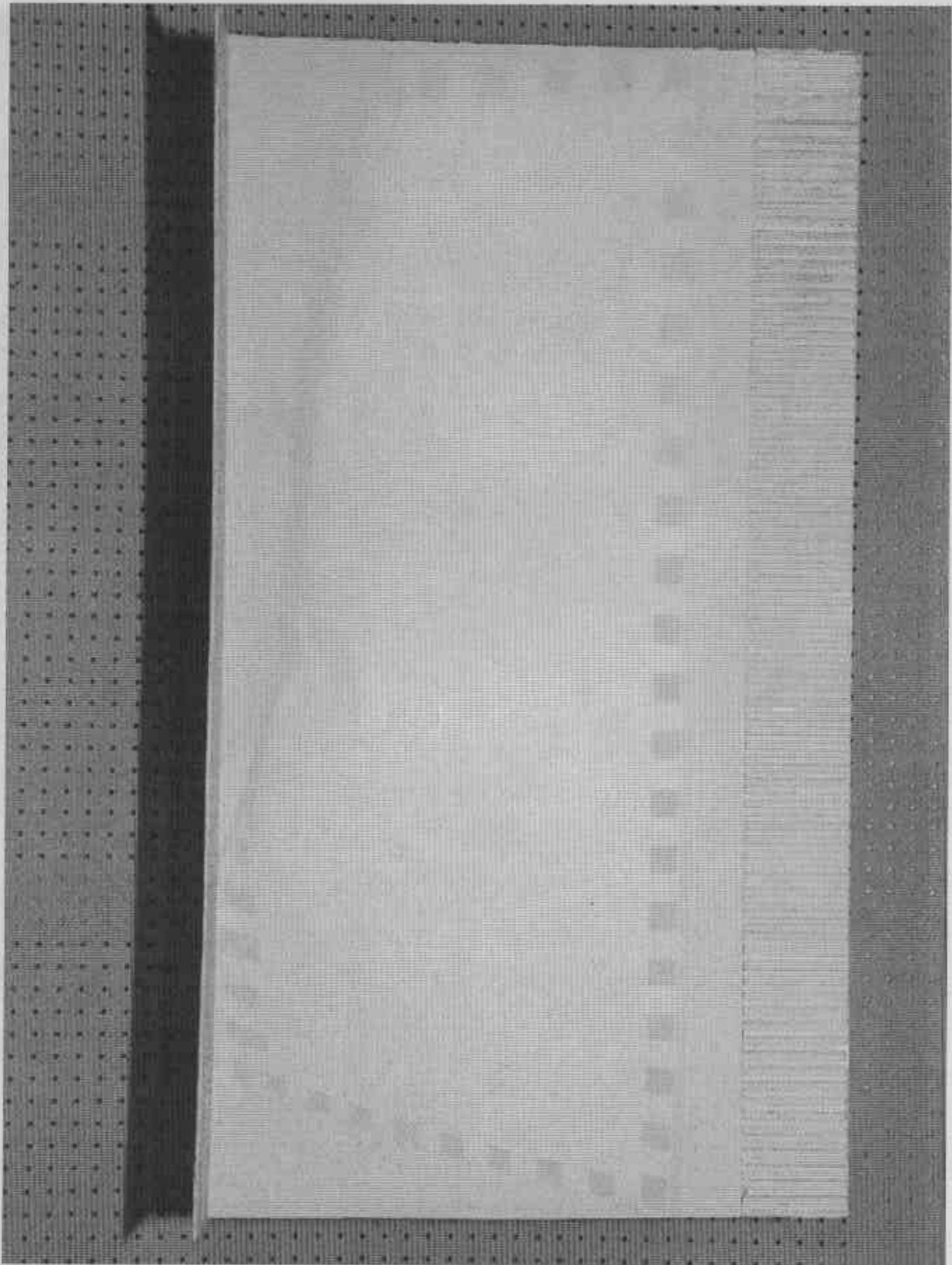


FIGURE A-62. PRE-TEST BARRIER BOTTOM VIEW

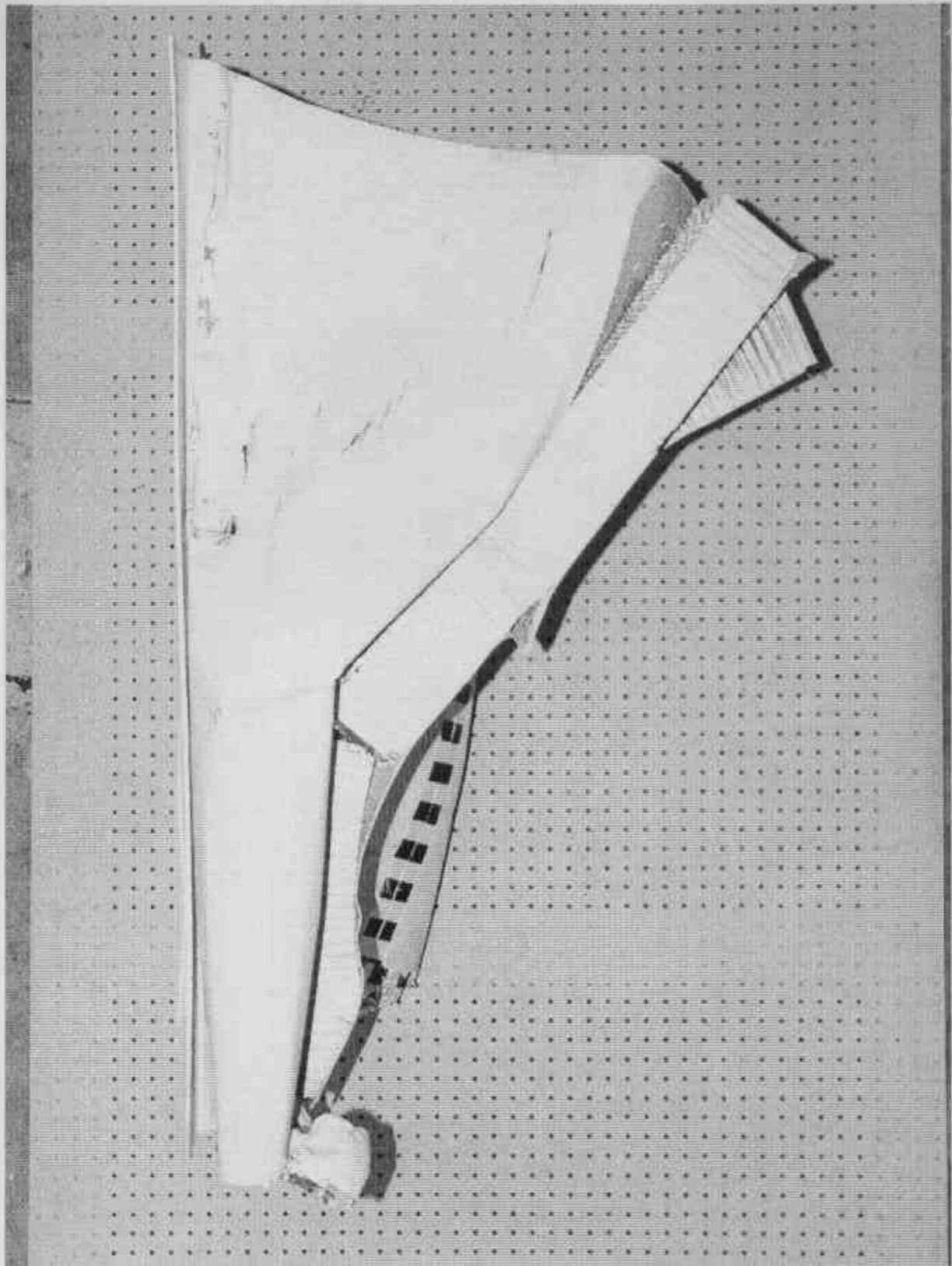


FIGURE A-63. PRE-TEST BARRIER BOTTOM VIEW

APPENDIX B
DUMMY, VEHICLE AND RESPONSE DATA TRACES

LIST OF DATA PLOTS

Data Plot		Page
B-1	Driver Head Primary X	B-1
B-2	Driver Head Primary X Velocity	B-2
B-3	Driver Head Primary X Displacement	B-3
B-4	Driver Head Primary Y	B-4
B-5	Driver Head Primary Z	B-5
B-6	Driver Head Resultant Primary	B-6
B-7	Driver Head Redundant X	B-7
B-8	Driver Head Redundant X Velocity	B-8
B-9	Driver Head Redundant X Displacement	B-9
B-10	Driver Head Redundant Y	B-10
B-11	Driver Head Redundant Z	B-11
B-12	Driver Head Resultant Redundant	B-12
B-13	Driver Neck Force X	B-13
B-14	Driver Neck Force Y	B-14
B-15	Driver Neck Force Z	B-15
B-16	Driver Neck Force Resultant	B-16
B-17	Driver Neck Moment X	B-17
B-18	Driver Neck Moment Y	B-18
B-19	Driver Neck Moment Z	B-19
B-20	Driver Neck Moment Resultant	B-20
B-21	Driver Chest Primary X	B-21
B-22	Driver Chest Primary X Velocity	B-22
B-23	Driver Chest Primary X Displacement	B-23
B-24	Driver Chest Primary Y	B-24
B-25	Driver Chest Primary Z	B-25
B-26	Driver Chest Resultant Primary	B-26
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 Resultant Redundant	B-32
B-33	Driver Chest Displacement X	B-33
B-34	Driver Pelvis X	B-34
B-35	Driver Pelvis X Velocity	B-35

LIST OF DATA PLOTS...(Continued)

Data Plot		Page
B-36	Driver Pelvis X Displacement	B-36
B-37	Driver Pelvis Y	B-37
B-38	Driver Pelvis Z	B-38
B-39	Driver Pelvis Resultant	B-39
B-40	Driver Left Femur Force	B-40
B-41	Driver Right Femur Force	B-41
B-42	Driver Left Upper Tibia Moment X	B-42
B-43	Driver Left Upper Tibia Moment Y	B-43
B-44	Driver Right Upper Tibia Moment X	B-44
B-45	Driver Right Upper Tibia Moment Y	B-45
B-46	Driver Left Lower Tibia Moment X	B-46
B-47	Driver Left Lower Tibia Moment Y	B-47
B-48	Driver Left Lower Tibia Force Z	B-48
B-49	Driver Right Lower Tibia Moment X	B-49
B-50	Driver Right Lower Tibia Moment Y	B-50
B-51	Driver Right Lower Tibia Force Z	B-51
B-52	Driver Left Foot Aft X	B-52
B-53	Driver Left Foot Aft Z	B-53
B-54	Driver Left Foot Fore Z	B-54
B-55	Driver Right Foot Aft X	B-55
B-56	Driver Right Foot Aft Z	B-56
B-57	Driver Right Foot Fore Z	B-57
B-58	Driver Lap Belt Force	B-58
B-59	Driver Shoulder Belt Force	B-59
B-60	Driver Shoulder Belt Pullout	B-60
B-61	Driver Shoulder Belt Elongation	B-61
B-62	Passenger Head Primary X	B-62
B-63	Passenger Head Primary X Velocity	B-63
B-64	Passenger Head Primary X Displacement	B-64
B-65	Passenger Head Primary Y	B-65
B-66	Passenger Head Primary Z	B-66
B-67	Passenger Head Resultant Primary	B-67
B-68	Passenger Head Redundant X	B-68
B-69	Passenger Head Redundant X Velocity	B-69
B-70	Passenger Head Redundant X Displacement	B-70

LIST OF DATA PLOTS...(Continued)

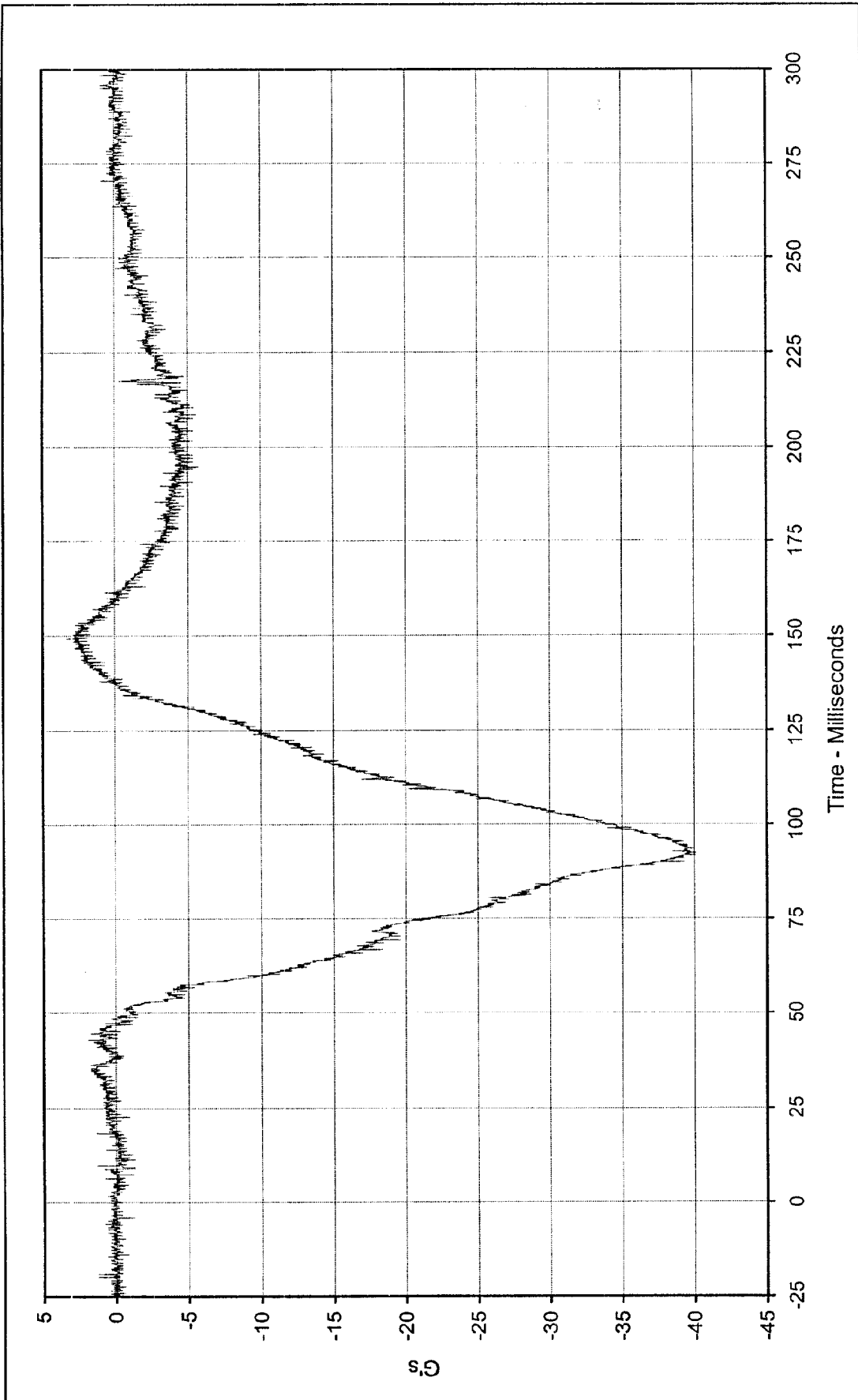
Data Plot		Page
B-71	Passenger Head Redundant Y	B-71
B-72	Passenger Head Redundant Z	B-72
B-73	Passenger Head Resultant Redundant	B-73
B-74	Passenger Neck Force X	B-74
B-75	Passenger Neck Force Y	B-75
B-76	Passenger Neck Force Z	B-76
B-77	Passenger Neck Force Resultant	B-77
B-78	Passenger Neck Moment X	B-78
B-79	Passenger Neck Moment Y	B-79
B-80	Passenger Neck Moment Z	B-80
B-81	Passenger Neck Moment Resultant	B-81
B-82	Passenger Chest Primary X	B-82
B-83	Passenger Chest Primary X Velocity	B-83
B-84	Passenger Chest Primary X Displacement	B-84
B-85	Passenger Chest Primary Y	B-85
B-86	Passenger Chest Primary Z	B-86
B-87	Passenger Chest Resultant Primary	B-87
B-88	Passenger Chest Redundant X	B-88
B-89	Passenger Chest Redundant X Velocity	B-89
B-90	Passenger Chest Redundant X Displacement	B-90
B-91	Passenger Chest Redundant Y	B-91
B-92	Passenger Chest Redundant Z	B-92
B-93	Passenger Chest Resultant Redundant	B-93
B-94	Passenger Chest Displacement X	B-94
B-95	Passenger Pelvis X	B-95
B-96	Passenger Pelvis X Velocity	B-96
B-97	Passenger Pelvis X Displacement	B-97
B-98	Passenger Pelvis Y	B-98
B-99	Passenger Pelvis Z	B-99
B-100	Passenger Pelvis Resultant	B-100
B-101	Passenger Left Femur Force	B-101
B-102	Passenger Right Femur Force	B-102
B-103	Passenger Left Upper Tibia Moment X	B-103
B-104	Passenger Left Upper Tibia Moment Y	B-104
B-105	Passenger Right Upper Tibia Moment X	B-105

LIST OF DATA PLOTS...(Continued)

Data Plot		Page
B-106	Passenger Right Upper Tibia Moment Y	B-106
B-107	Passenger Left Lower Tibia Moment X	B-107
B-108	Passenger Left Lower Tibia Moment Y	B-108
B-109	Passenger Left Lower Tibia Force Z	B-109
B-110	Passenger Right Lower Tibia Moment X	B-110
B-111	Passenger Right Lower Tibia Moment Y	B-111
B-112	Passenger Right Lower Tibia Force Z	B-112
B-113	Passenger Left Foot Aft X	B-113
B-114	Passenger Left Foot Aft Z	B-114
B-115	Passenger Left Foot Fore Z	B-115
B-116	Passenger Right Foot Aft X	B-116
B-117	Passenger Right Foot Aft Z	B-117
B-118	Passenger Right Foot Fore Z	B-118
B-119	Passenger Lap Belt Force	B-119
B-120	Passenger Shoulder Belt Force	B-120
B-121	Passenger Shoulder Belt Pullout	B-121
B-122	Passenger Shoulder Belt Elongation	B-122
B-123	Vehicle Left Sill X	B-123
B-124	Vehicle Left Sill X Velocity	B-124
B-125	Vehicle Left Sill X Displacement	B-125
B-126	Vehicle Left Sill Y	B-126
B-127	Vehicle Left Sill Y Velocity	B-127
B-128	Vehicle Left Sill Y Displacement	B-128
B-129	Vehicle Center Tunnel X	B-129
B-130	Vehicle Center Tunnel X Velocity	B-130
B-131	Vehicle Center Tunnel X Displacement	B-131
B-132	Vehicle Center Tunnel Y	B-132
B-133	Vehicle Center Tunnel Y Velocity	B-133
B-134	Vehicle Center Tunnel Y Displacement	B-134
B-135	Vehicle Right Sill X	B-135
B-136	Vehicle Right Sill X Velocity	B-136
B-137	Vehicle Right Sill X Displacement	B-137
B-138	Vehicle Right Sill Y	B-138
B-139	Vehicle Right Sill Y Velocity	B-139
B-140	Vehicle Right Sill Y Displacement	B-140

LIST OF DATA PLOTS...(Continued)

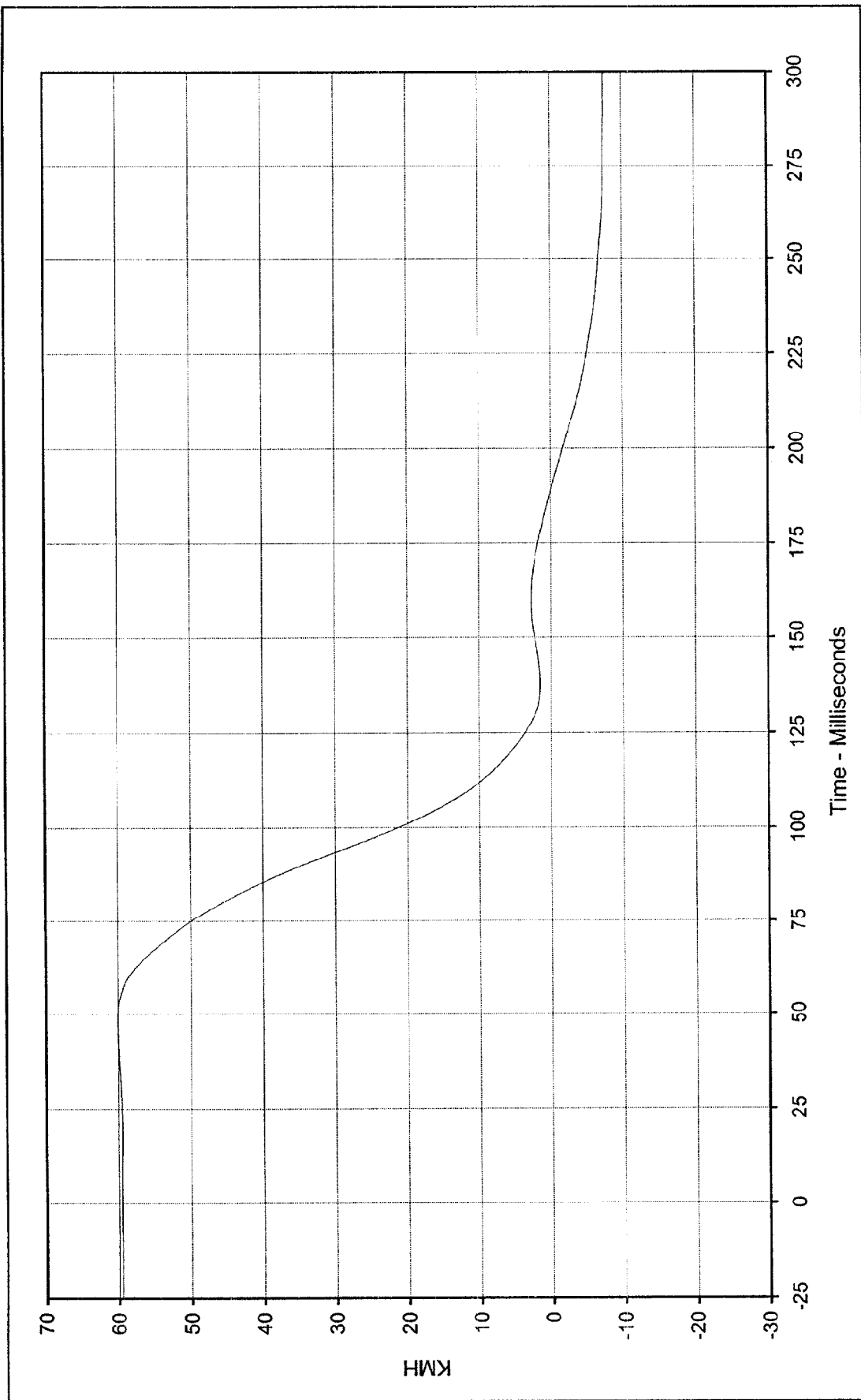
Data Plot		Page
Ei-141	Vehicle Trunk X	B-141
Ei-142	Vehicle Trunk X Velocity	B-142
Ei-143	Vehicle Trunk X Displacement	B-143
Ei-144	Vehicle Trunk Y	B-144
Ei-145	Vehicle Trunk Y Velocity	B-145
Ei-146	Vehicle Trunk Y Displacement	B-146



Curve Description: Driver Head Primary X
 Maximum Value: 3.3 at 149.3 Milliseconds
 Minimum Value: -40.1 at 91.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-001

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Head Primary X Velocity Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 60.1 at 46.8 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

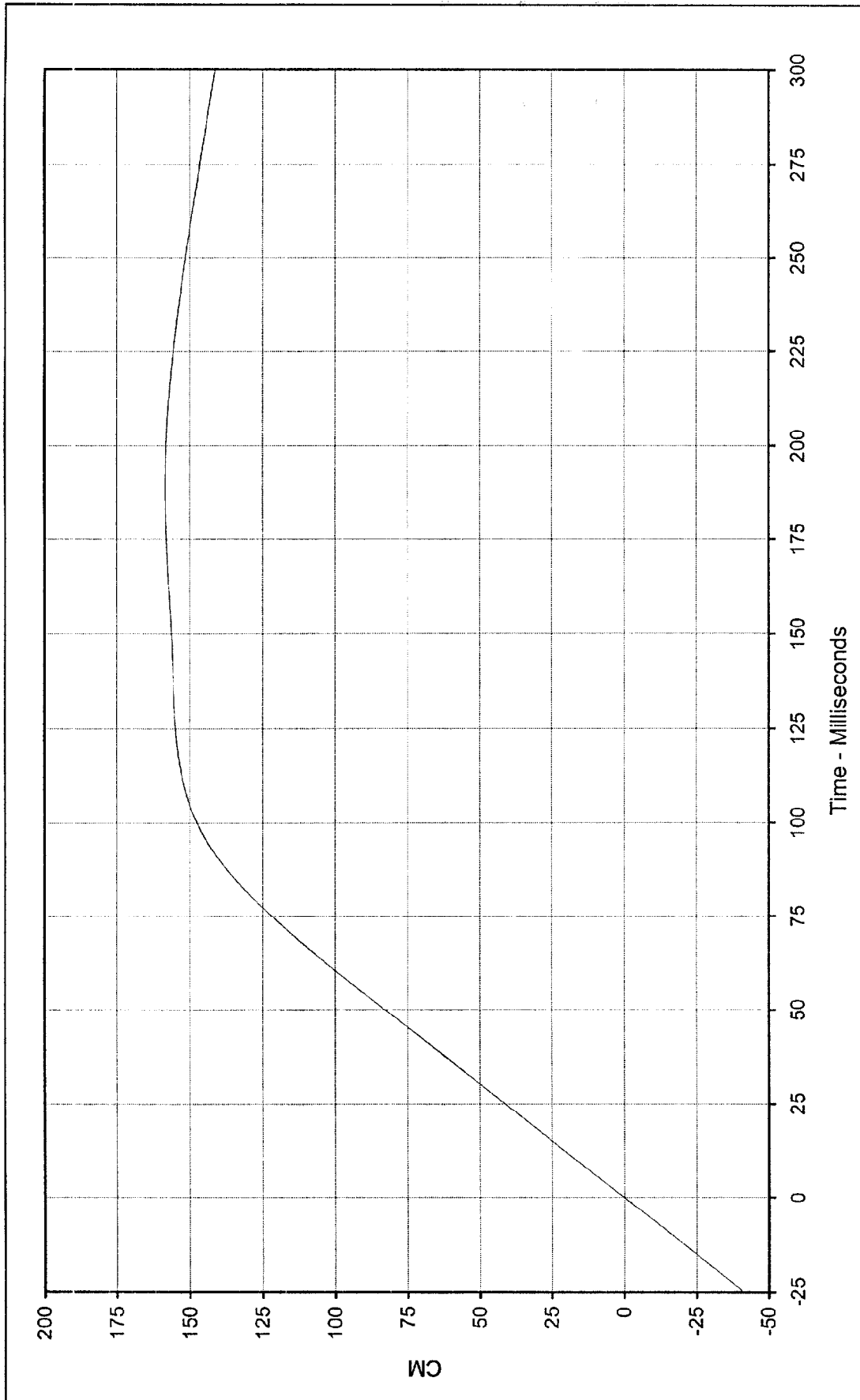
Minimum Value: -7.5 at 299.9 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-001

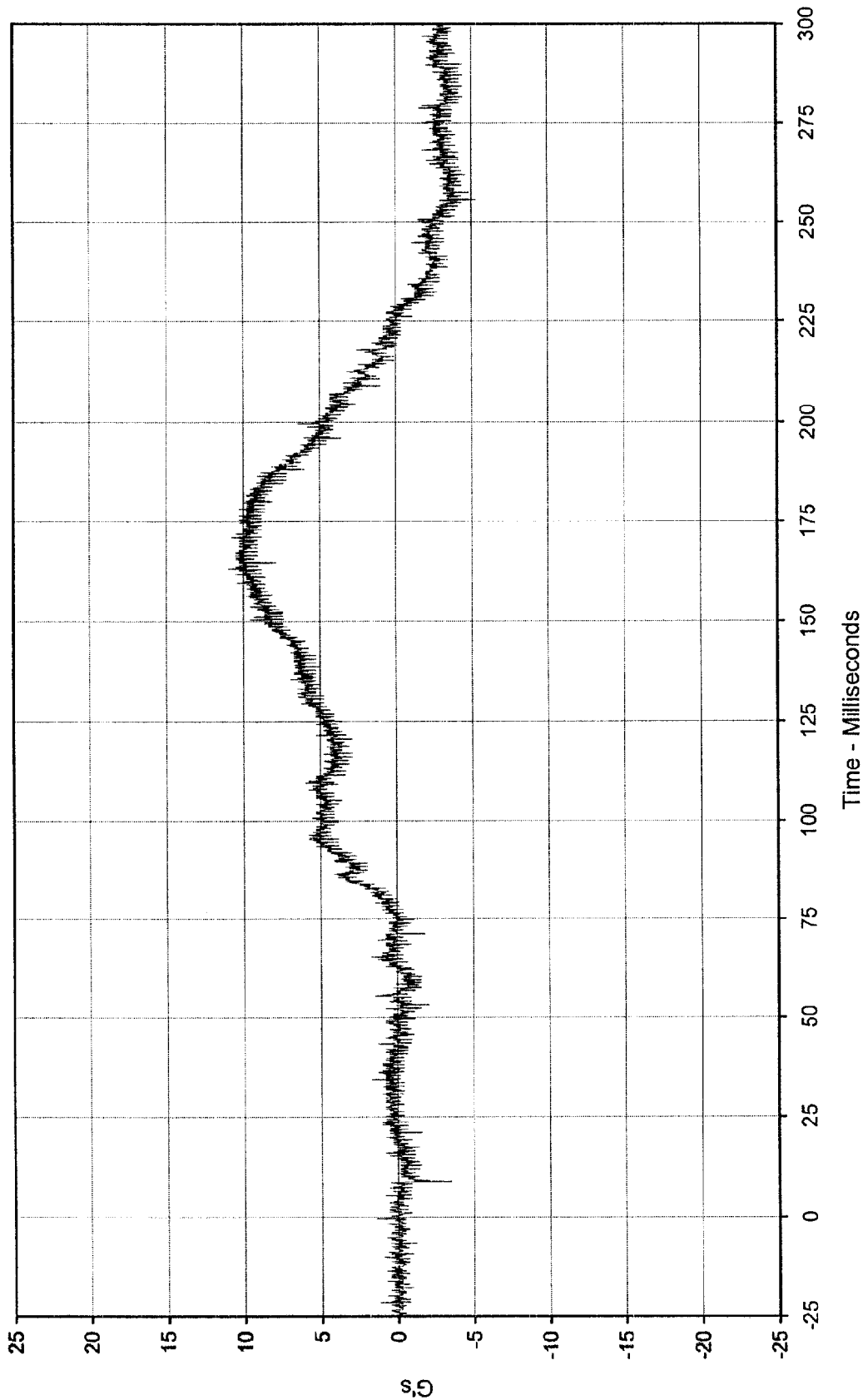




Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description: Driver Head Primary X Displ.
 Maximum Value: 158.4 at 189.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: IN2-001





Curve Description: Driver Head Primary Y Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 10.9 at 163.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

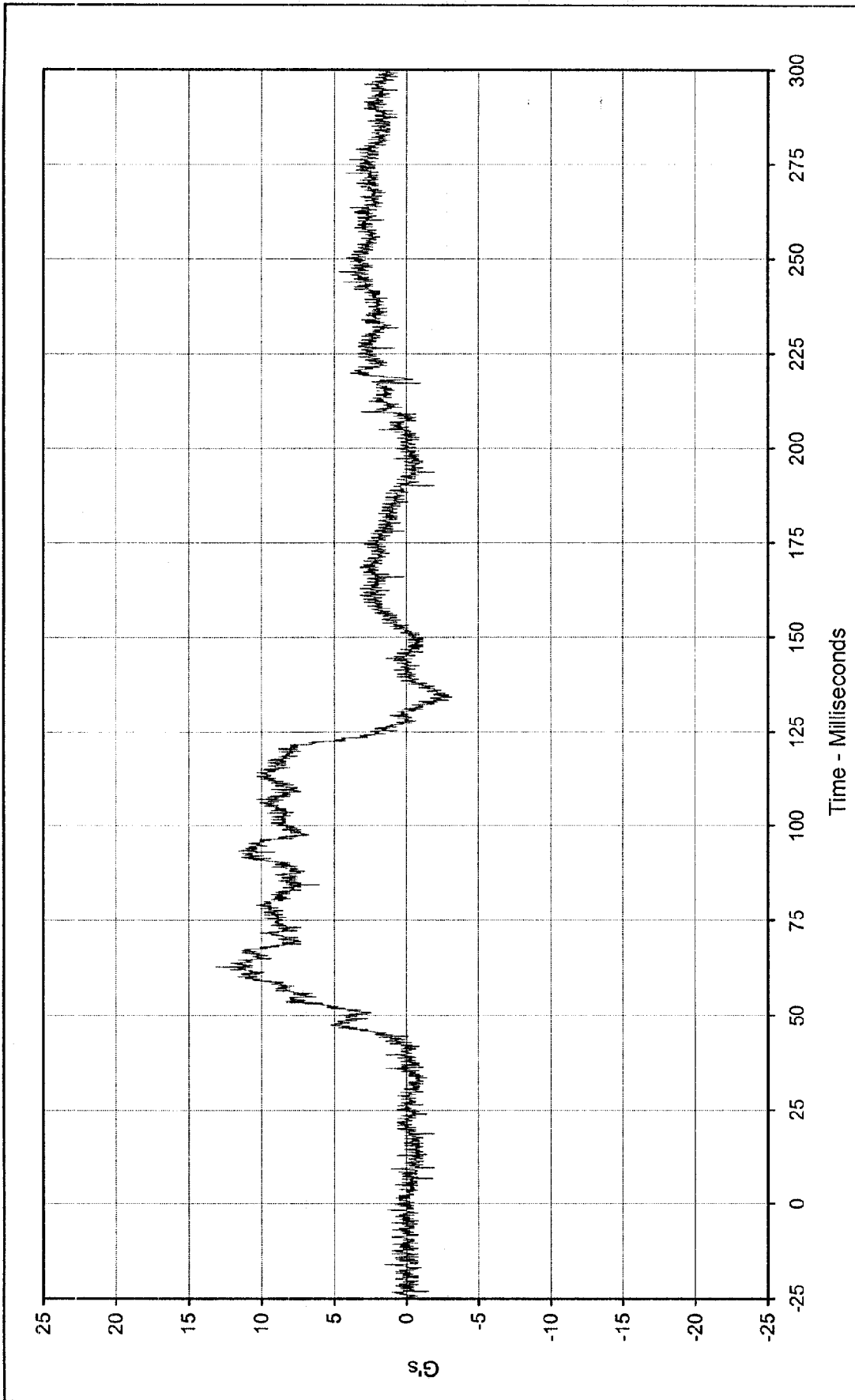
Minimum Value: -5.3 at 255.8 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-002

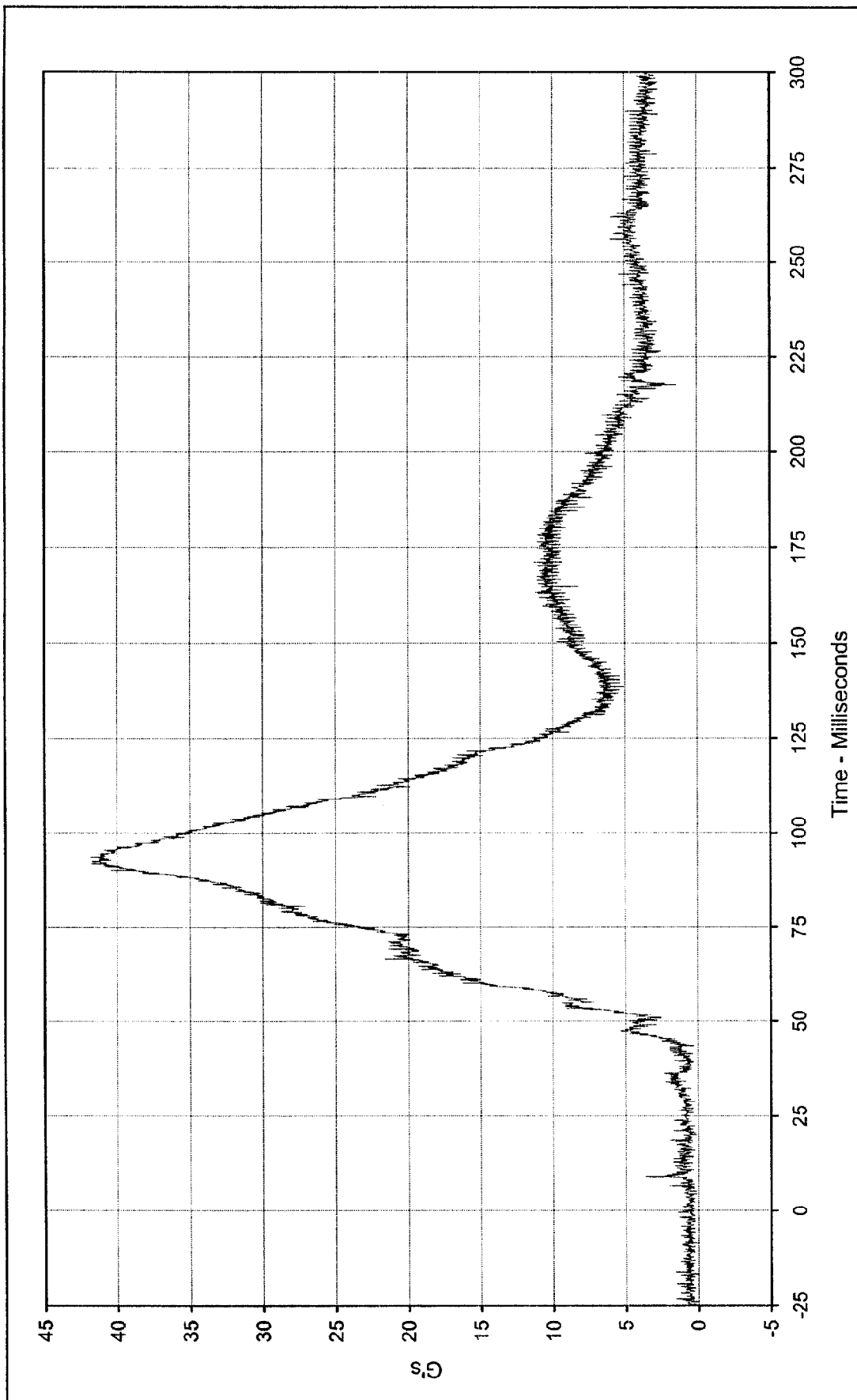




Curve Description: Driver Head Primary Z
 Maximum Value: 13.1 at 63.0 Milliseconds
 Minimum Value: -3.2 at 134.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-003

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Head Resultant Primary

Maximum Value: 41.8 at 93.6 Milliseconds

Minimum Value: 0.1 at 4.5 Milliseconds

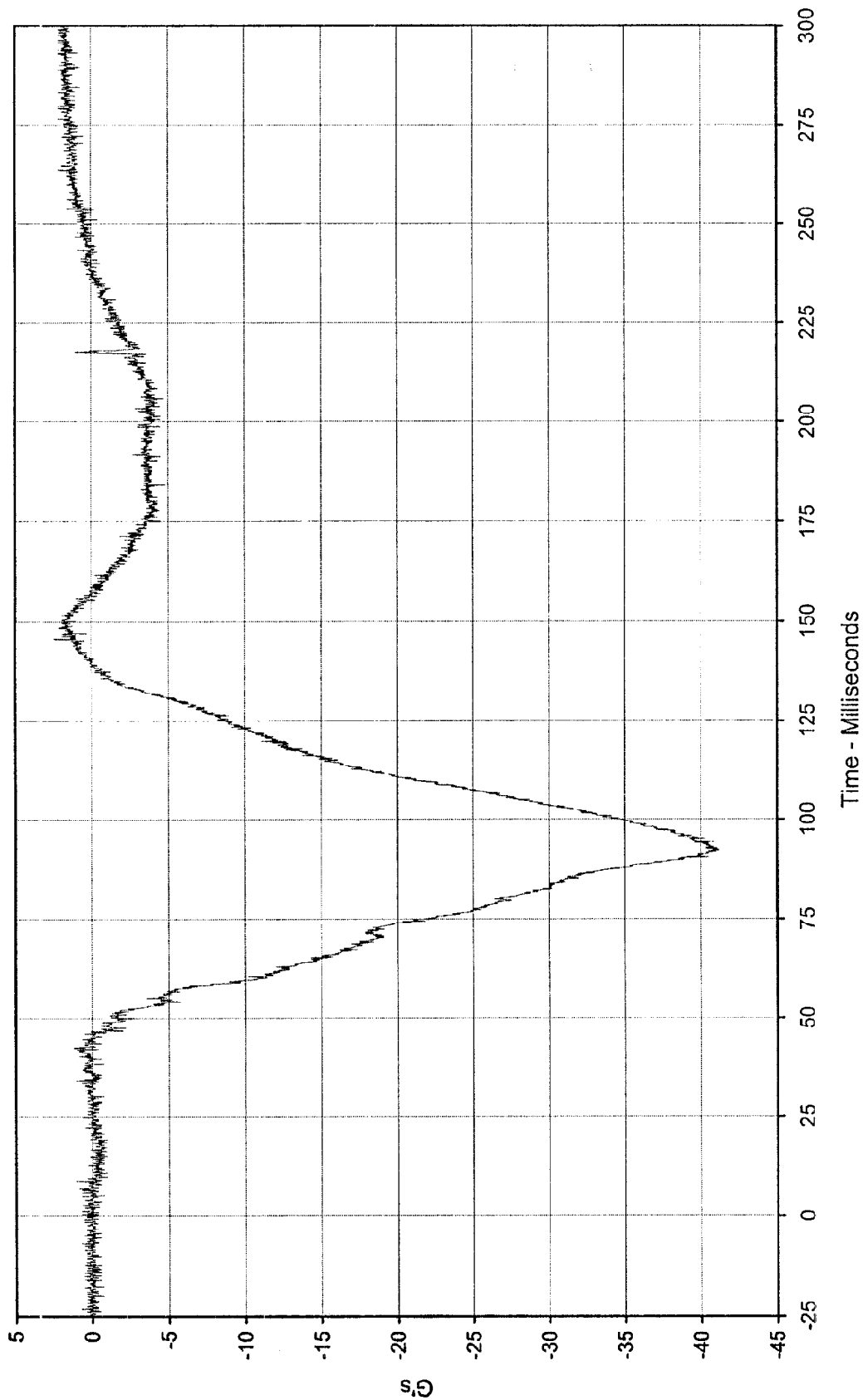
SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: RES-001

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213





Curve Description: Driver Head Redundant X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 2.5 at 145.7 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

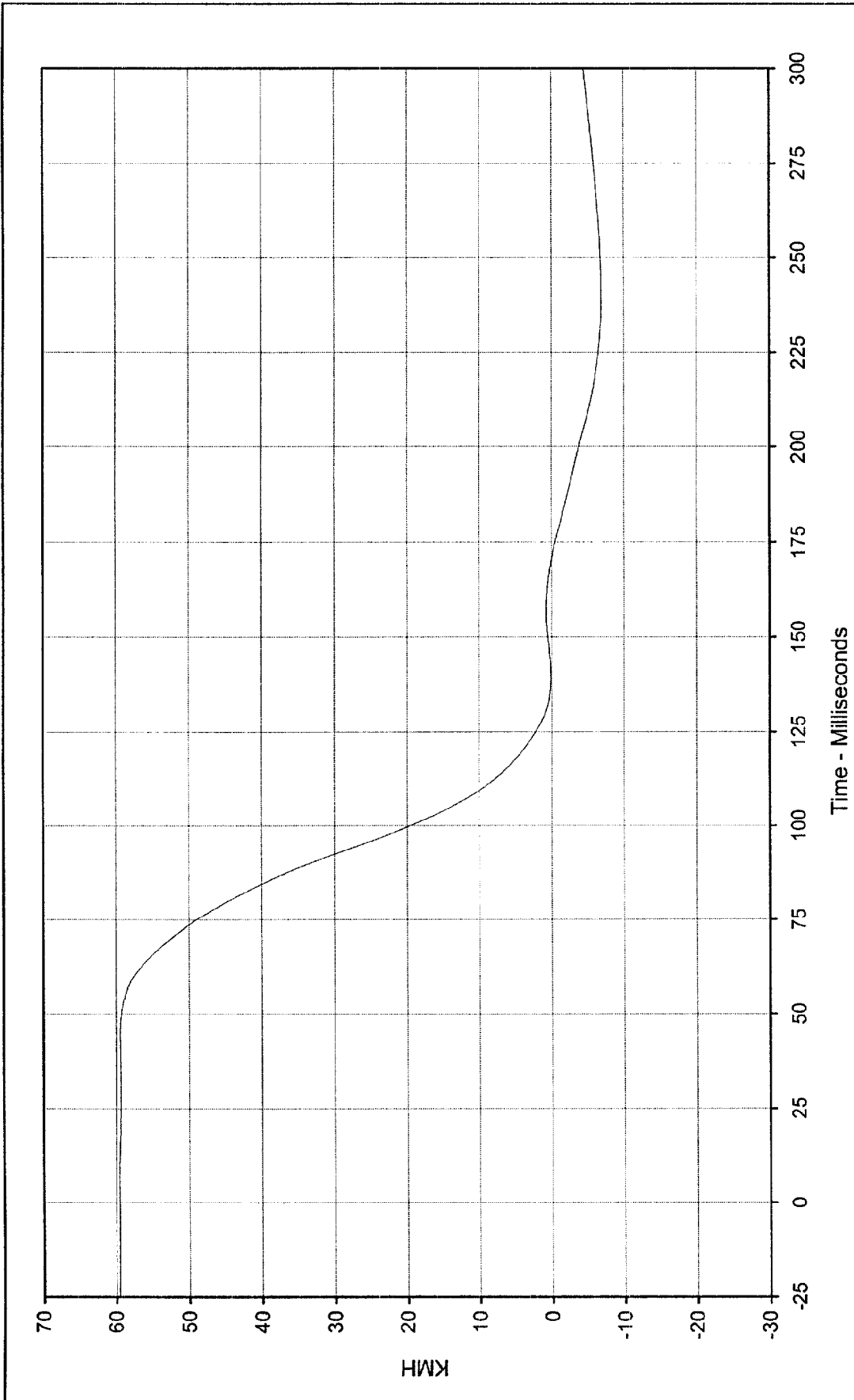
Minimum Value: -41.2 at 92.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-004





Curve Description: Driver Head Redundant X Velocity

Maximum Value: 59.6 at 7.5 Milliseconds

Minimum Value: -6.9 at 238.4 Milliseconds

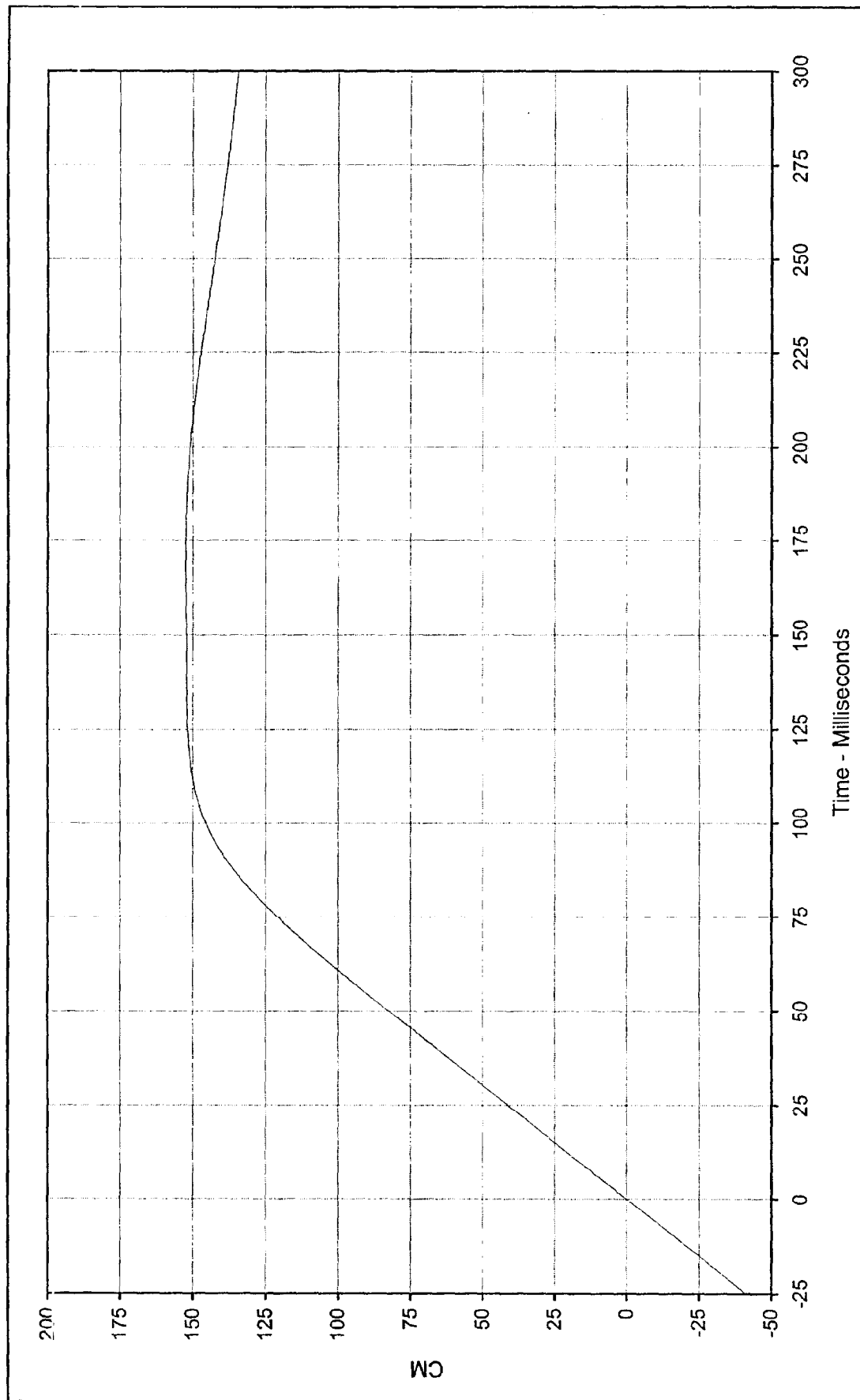
SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-004

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

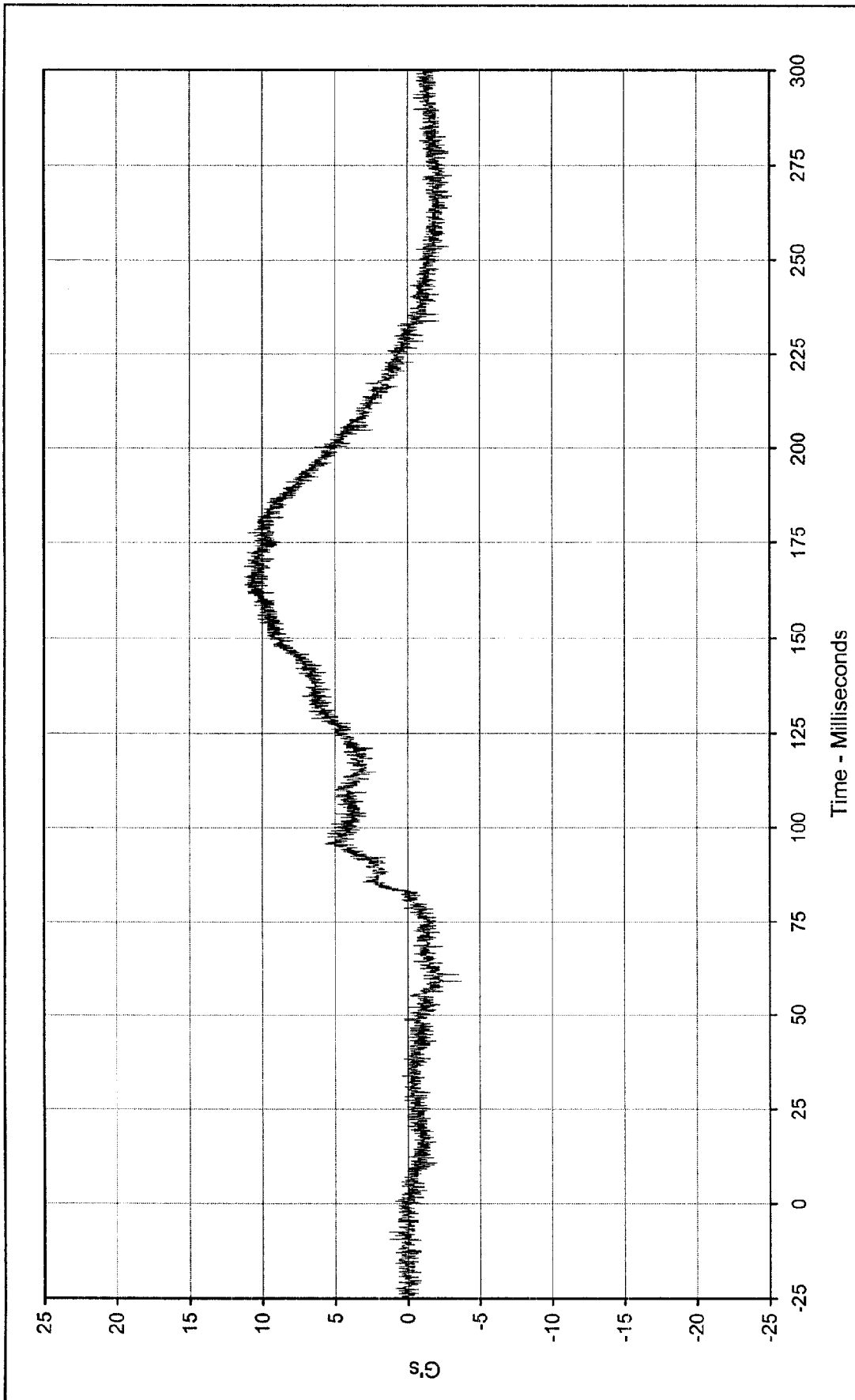




Curve Description: Driver Head Redundant X Displ.
Maximum Value: 152.5 at 170.6 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 7/30/98
Curve Number: IN2-004

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Head Redundant Y

Maximum Value: 11.2 at 164.0 Milliseconds

Minimum Value: -3.7 at 59.1 Milliseconds

SAE Filter Class: 1000

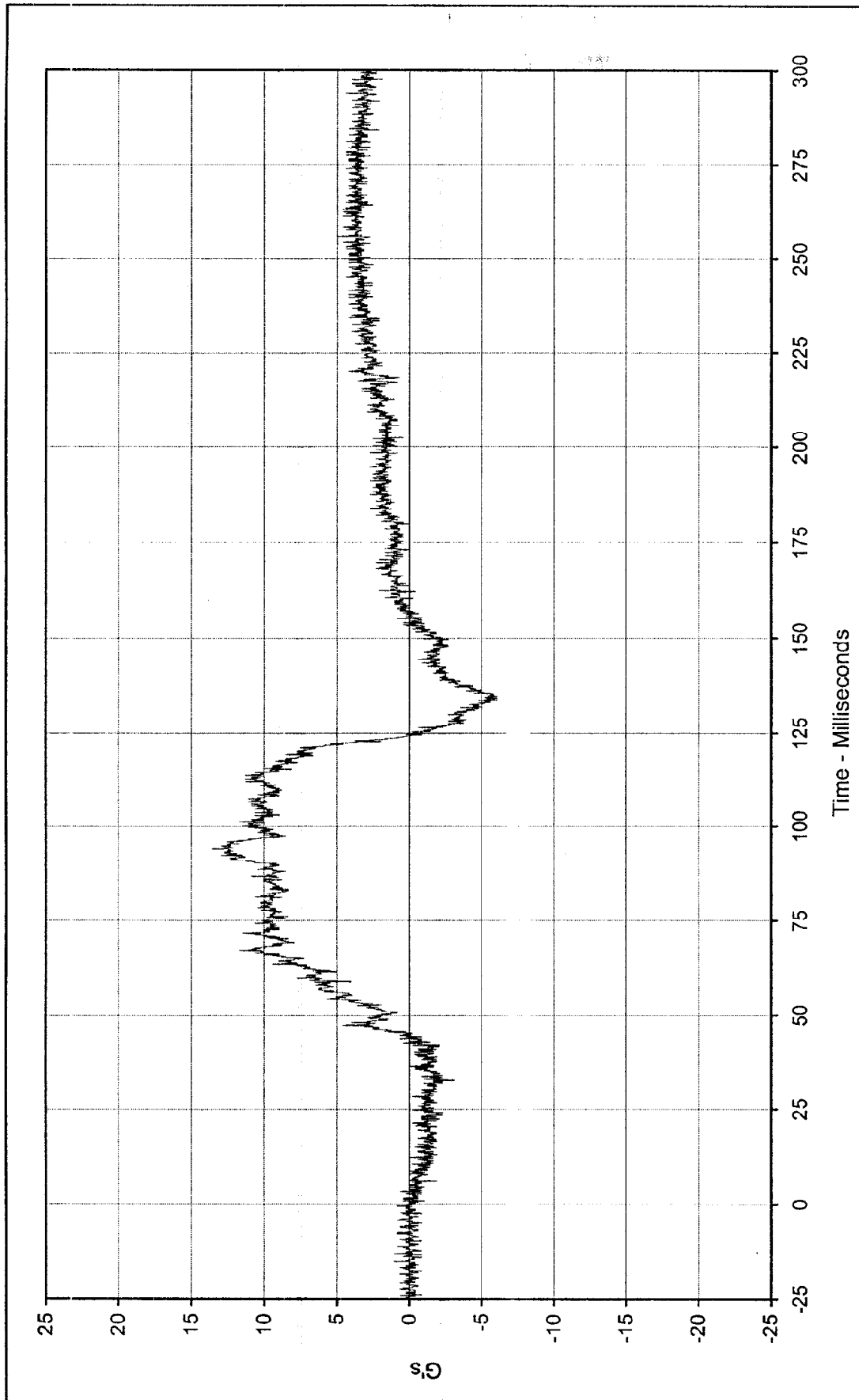
Date of Test: 7/30/98

Curve Number: FIL-005

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

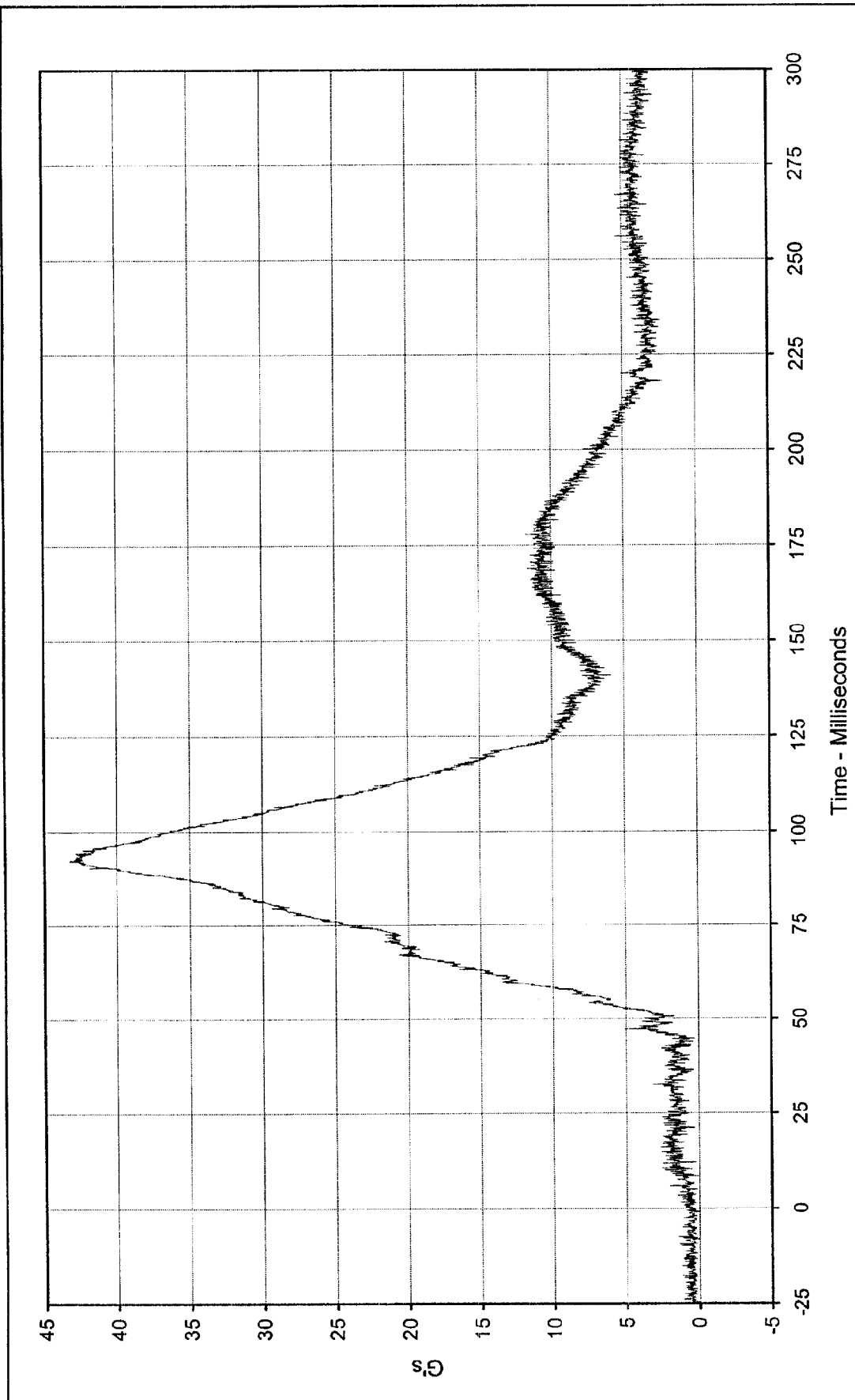




Curve Description: Driver Head Redundant Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Maximum Value: 13.6 at 94.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan
 Minimum Value: -6.1 at 133.8 Milliseconds



SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-006



Curve Description: Driver Head Resultant Redundant

Maximum Value: 43.2 at 92.2 Milliseconds

Minimum Value: 0.0 at 8.6 Milliseconds

SAE Filter Class: 1000

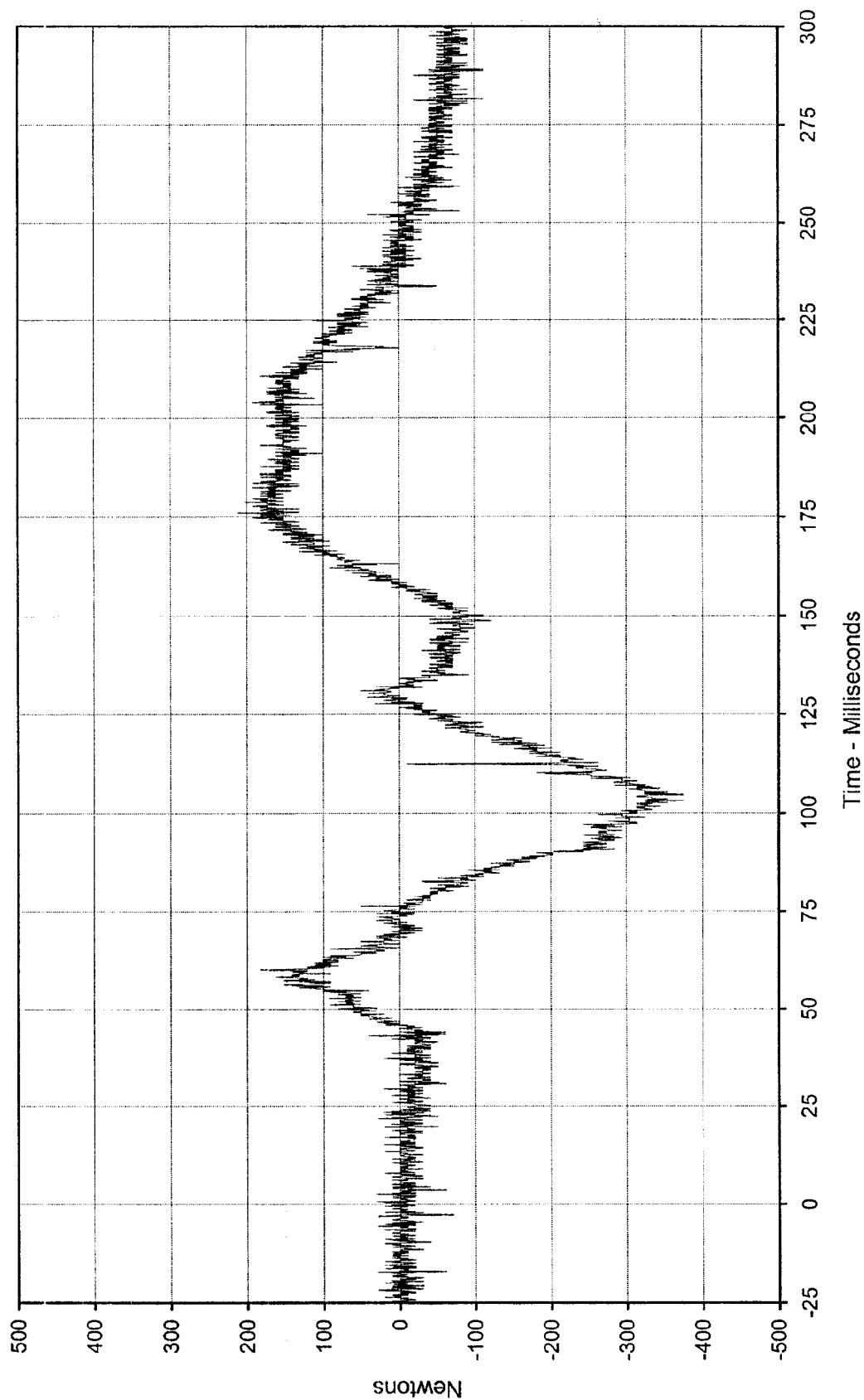
Date of Test: 7/30/98

Curve Number: RES-004

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

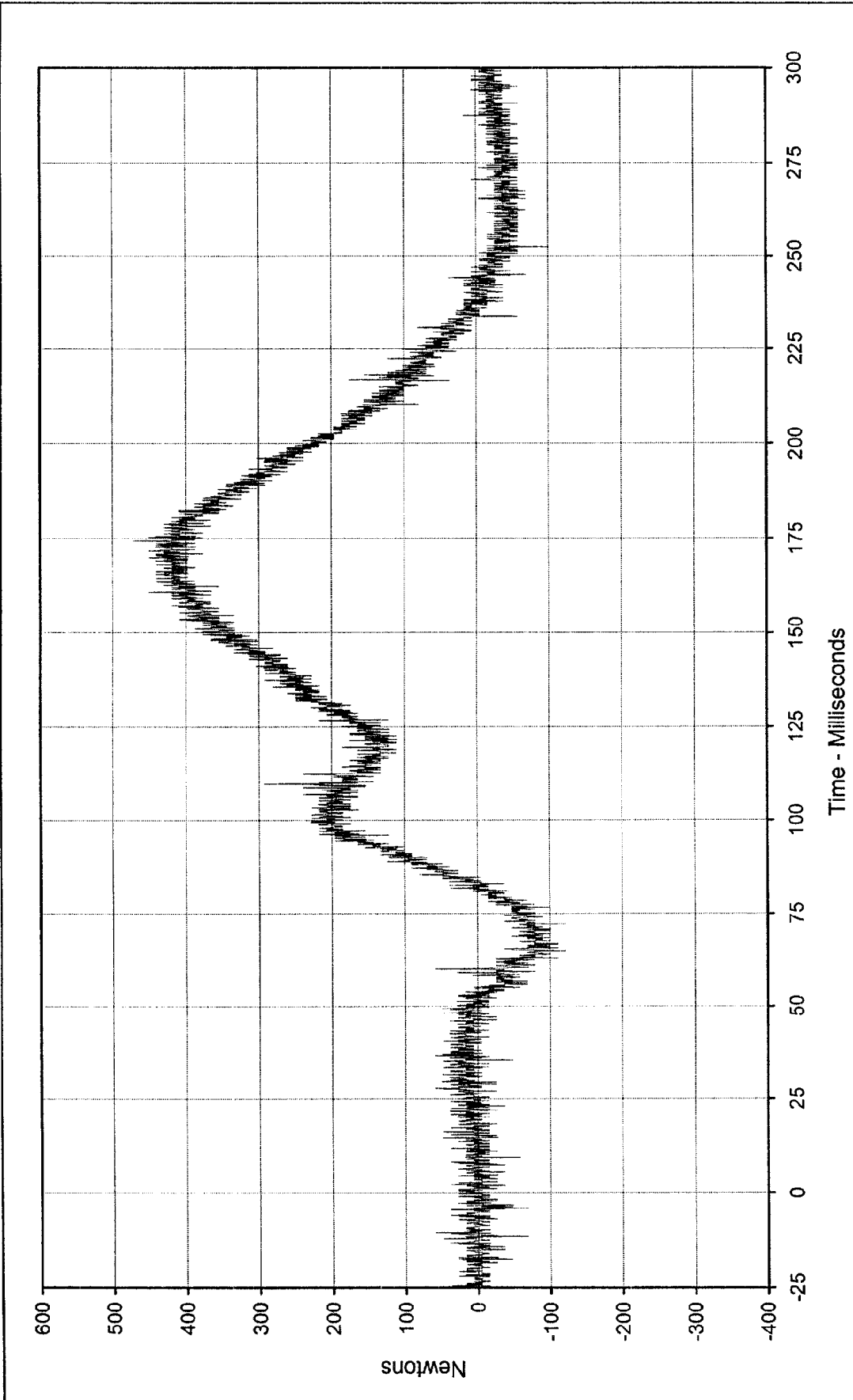
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Maximum Value: 212.6 at 176.2 Milliseconds
 Minimum Value: -374.6 at 103.1 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-007





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 471.8 at 174.4 Milliseconds

Minimum Value: -121.6 at 64.9 Milliseconds

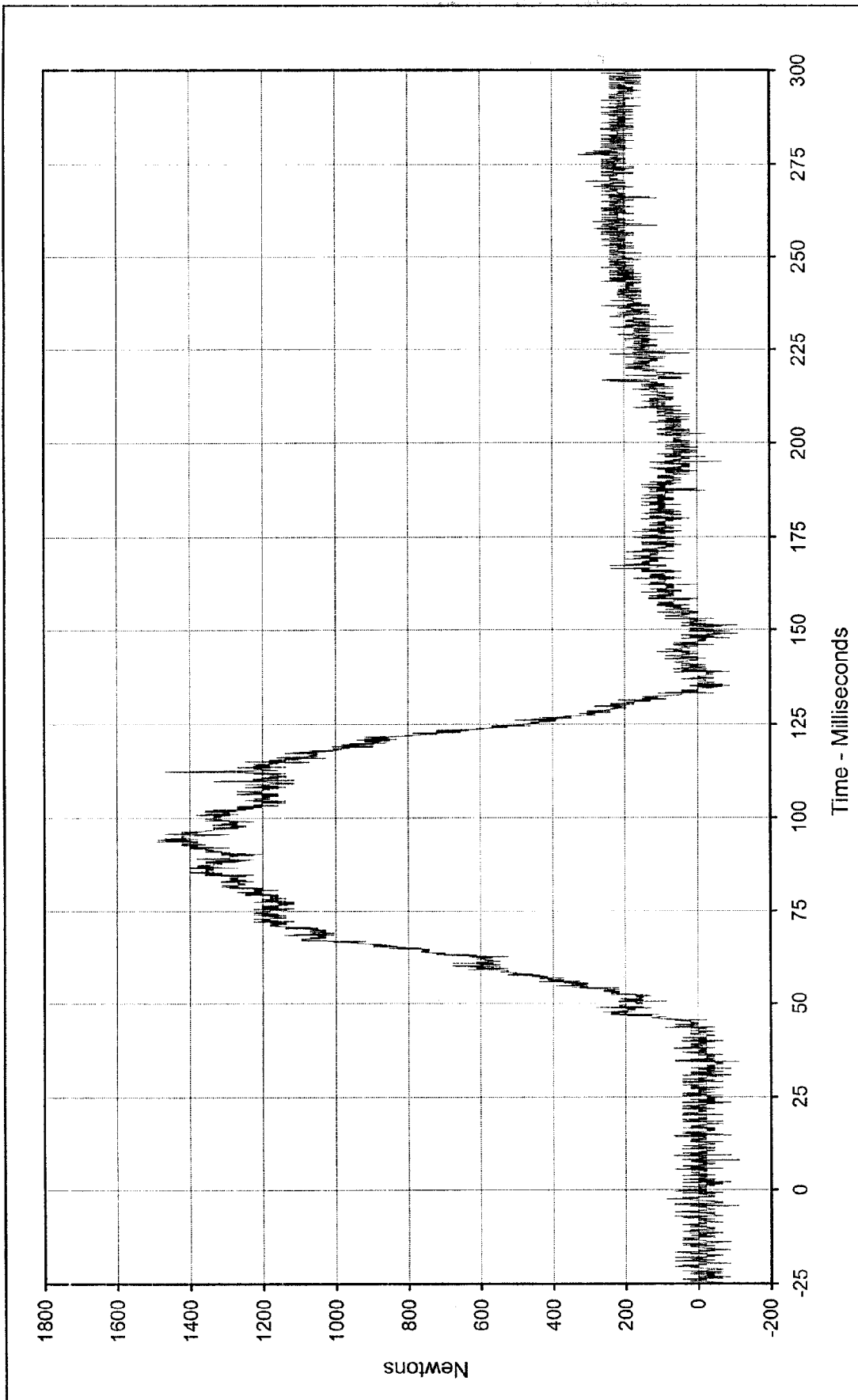
SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-008

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

Driver Neck Force Z

Maximum Value: 1488.1 at 93.7 Milliseconds

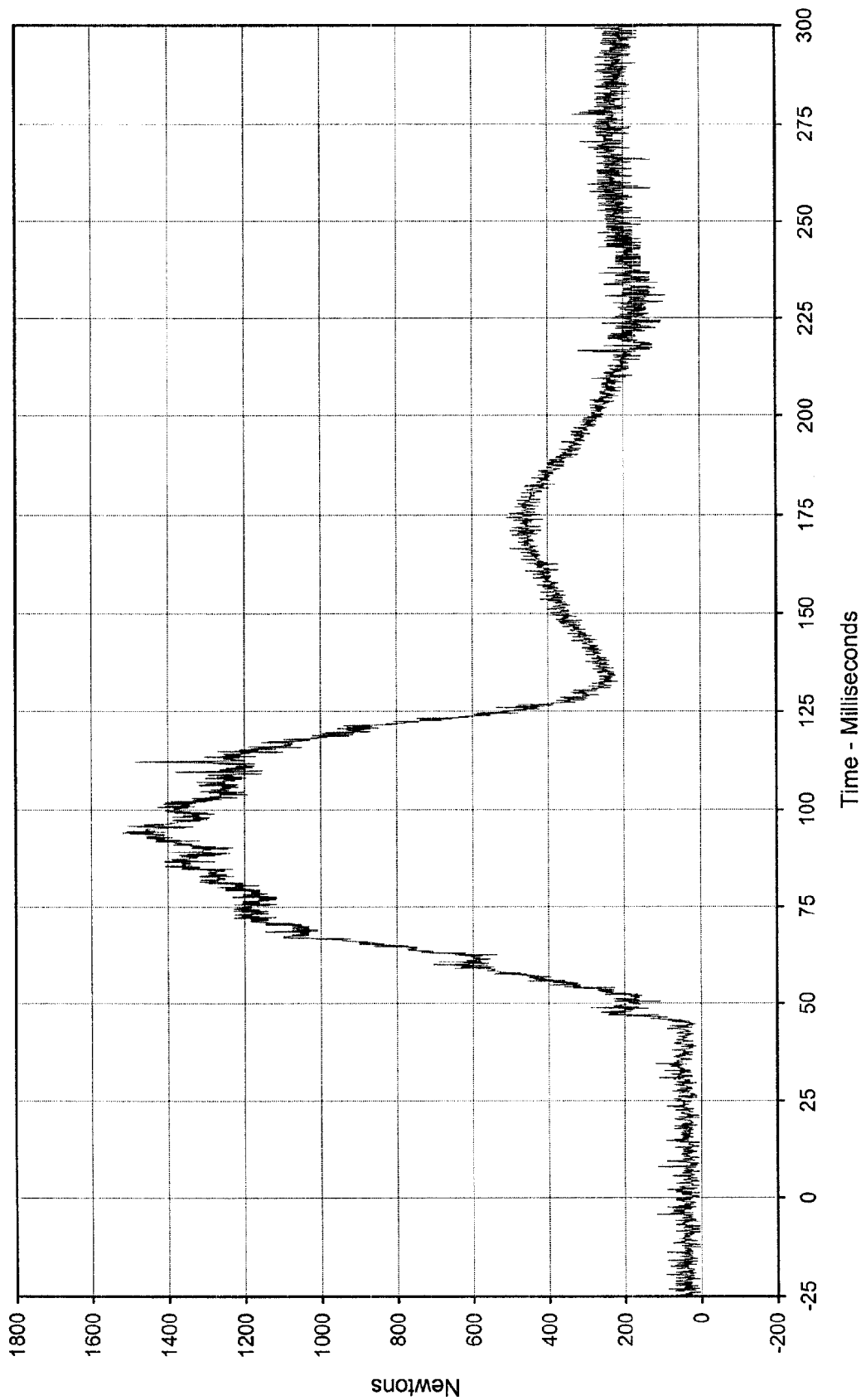
Minimum Value: -111.5 at 7.9 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-009





Curve Description: Driver Neck Force Resultant

Maximum Value: 1519.8 at 94.1 Milliseconds

Minimum Value: 5.4 at 3.1 Milliseconds

SAE Filter Class: 1000

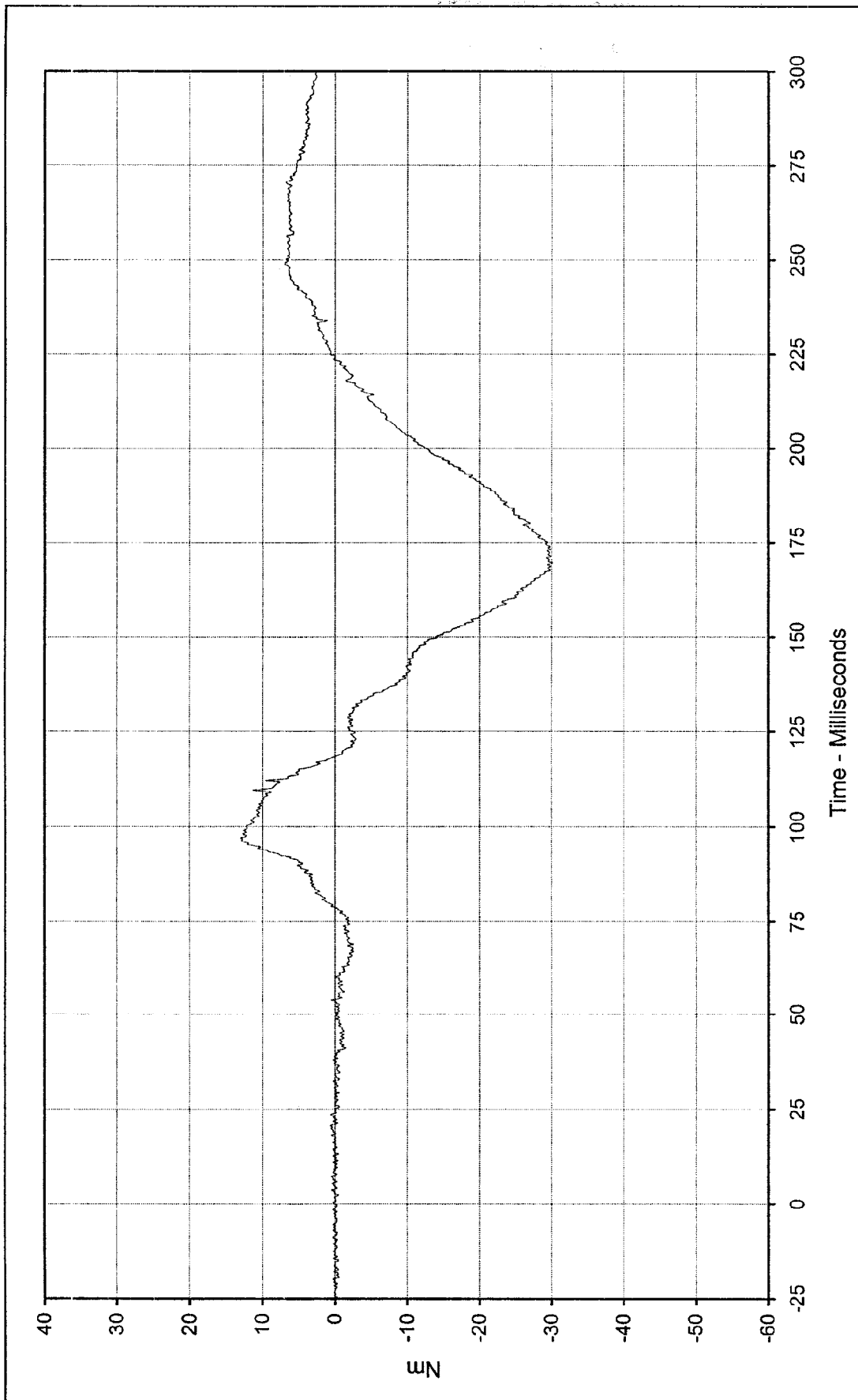
Date of Test: 7/30/98

Curve Number: RES-007

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Neck Moment X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 13.0 at 97.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

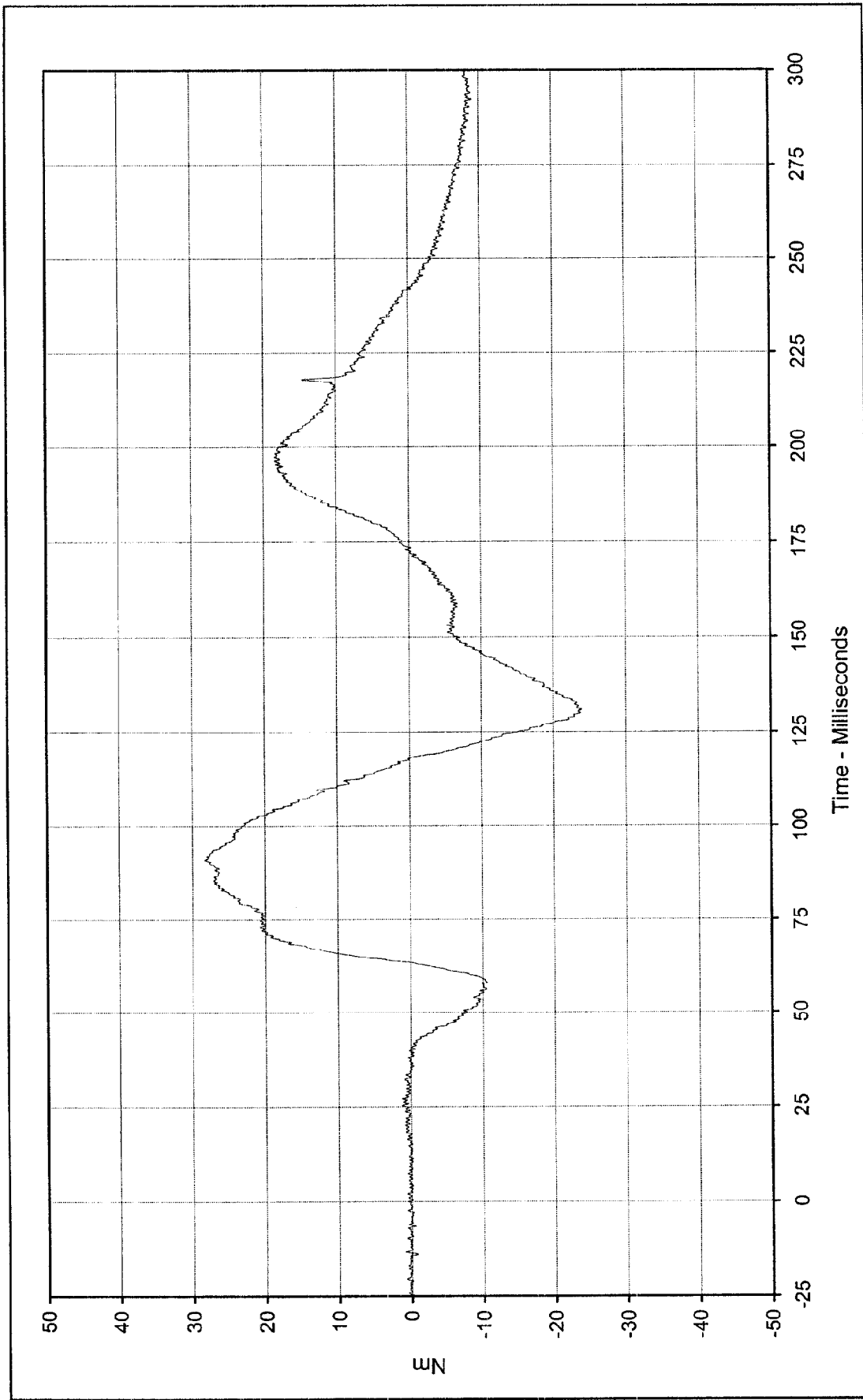
Minimum Value: -30.1 at 169.7 Milliseconds

SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-010





Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description: Driver Neck Moment Y

Maximum Value: 28.3 at 91.0 Milliseconds

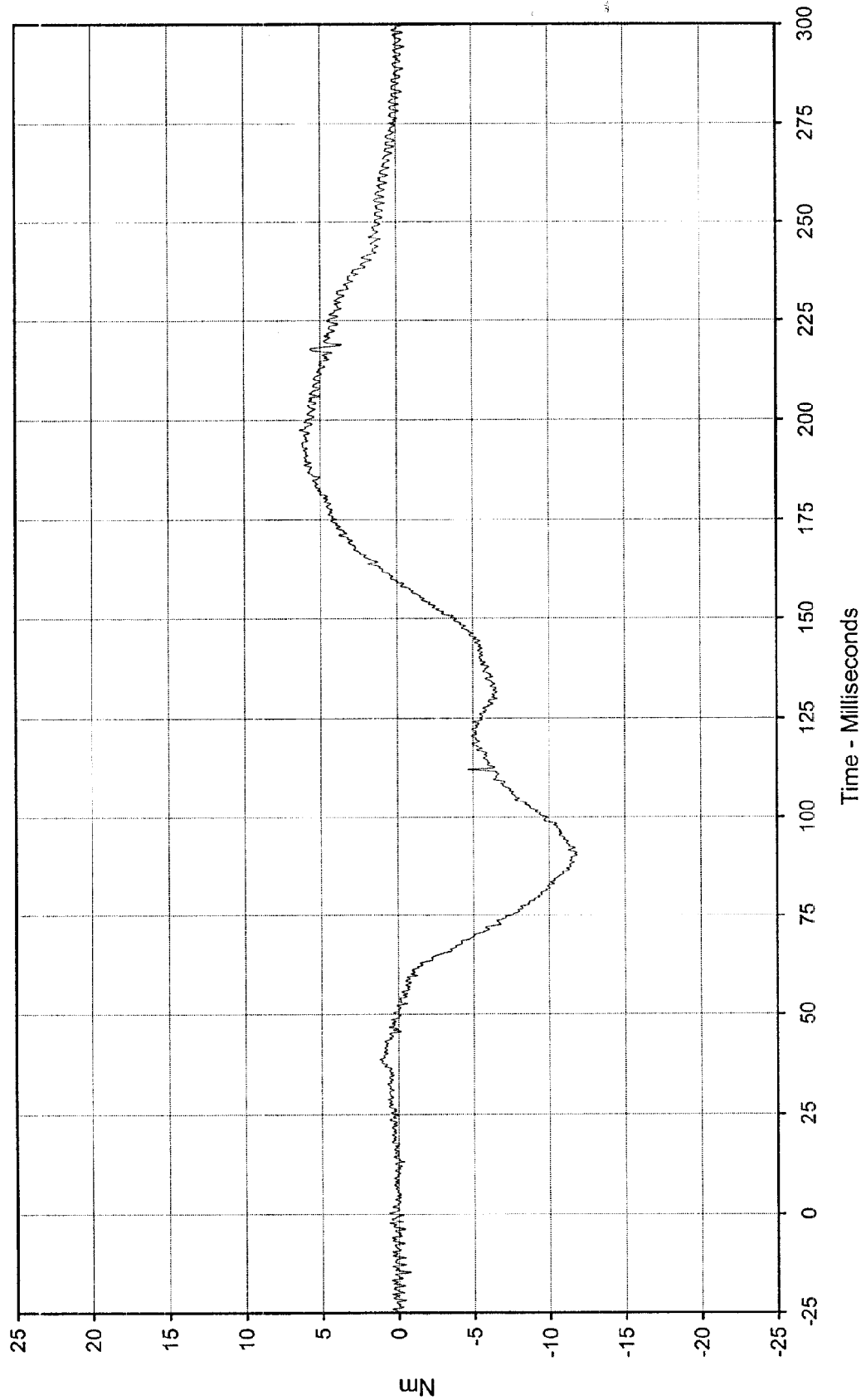
Minimum Value: -23.9 at 131.0 Milliseconds

SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-011





Curve Description: Driver Neck Moment Z

Maximum Value: 6.4 at 197.5 Milliseconds

Minimum Value: -11.9 at 90.5 Milliseconds

SAE Filter Class: 600

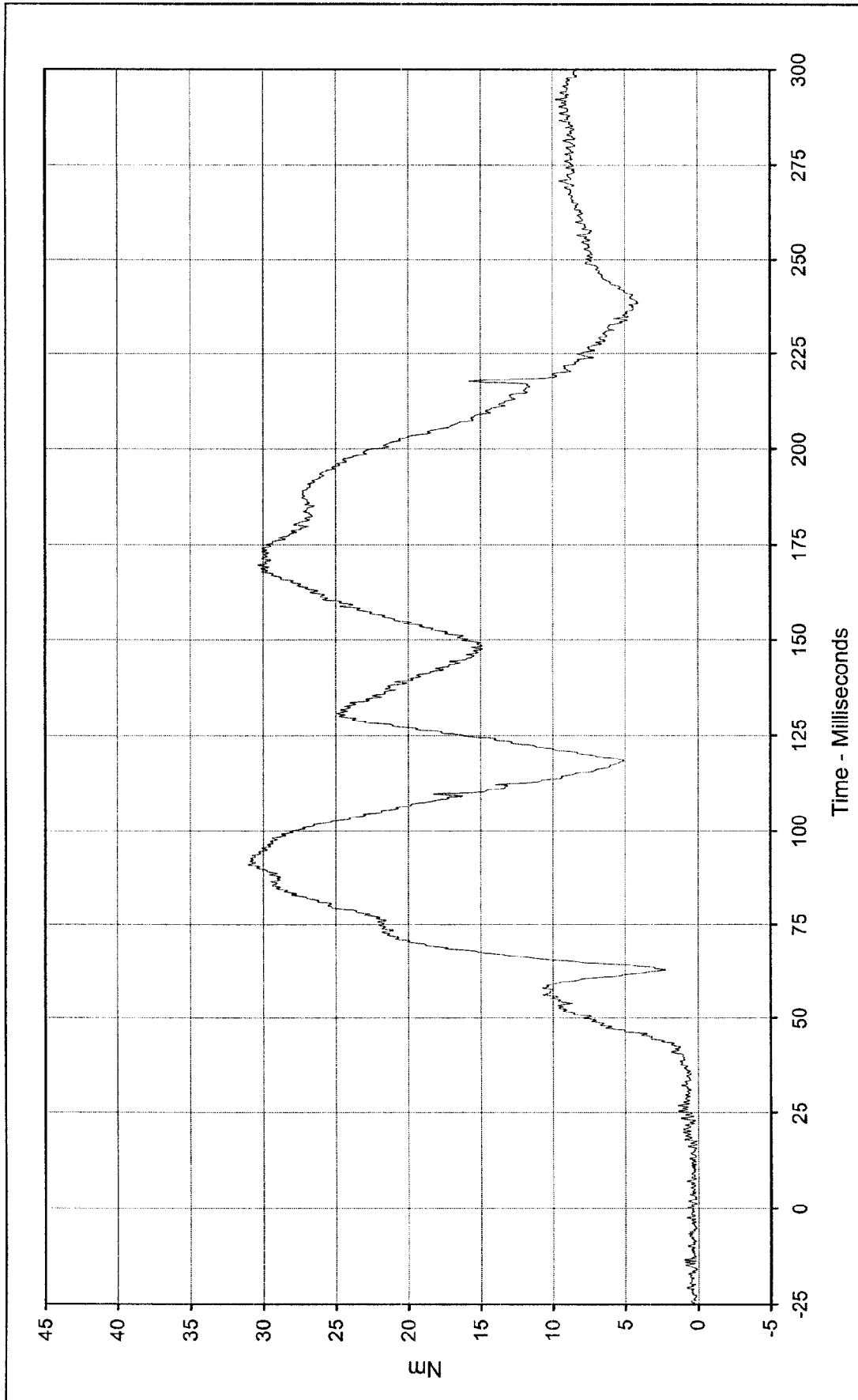
Date of Test: 7/30/98

Curve Number: FIL-012

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Neck Moment Resultant

Maximum Value: 31.1 at 91.0 Milliseconds

Minimum Value: 0.1 at 1.4 Milliseconds

SAE Filter Class: 600

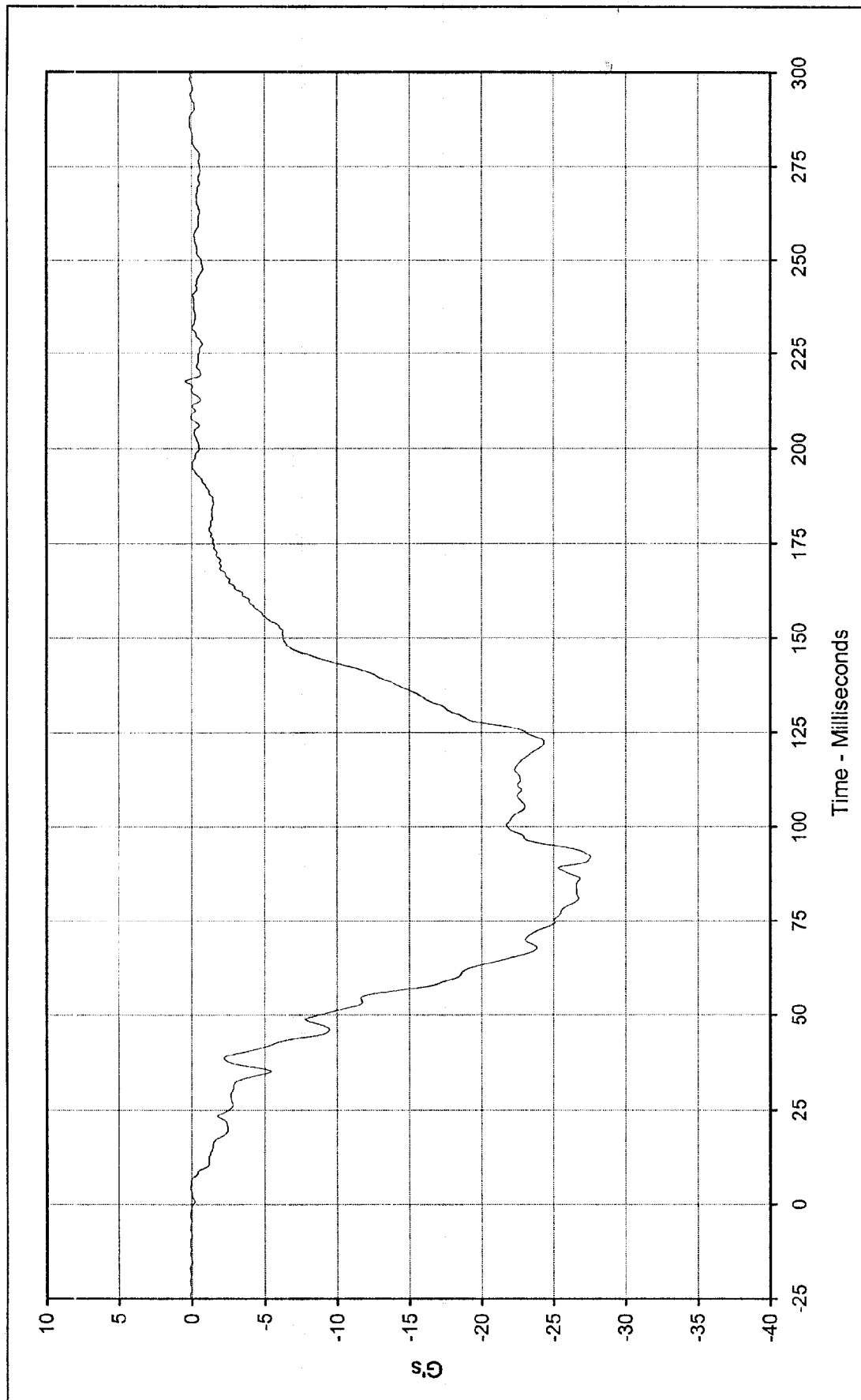
Date of Test: 7/30/98

Curve Number: RES-010

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Primary X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 0.4 at 217.6 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

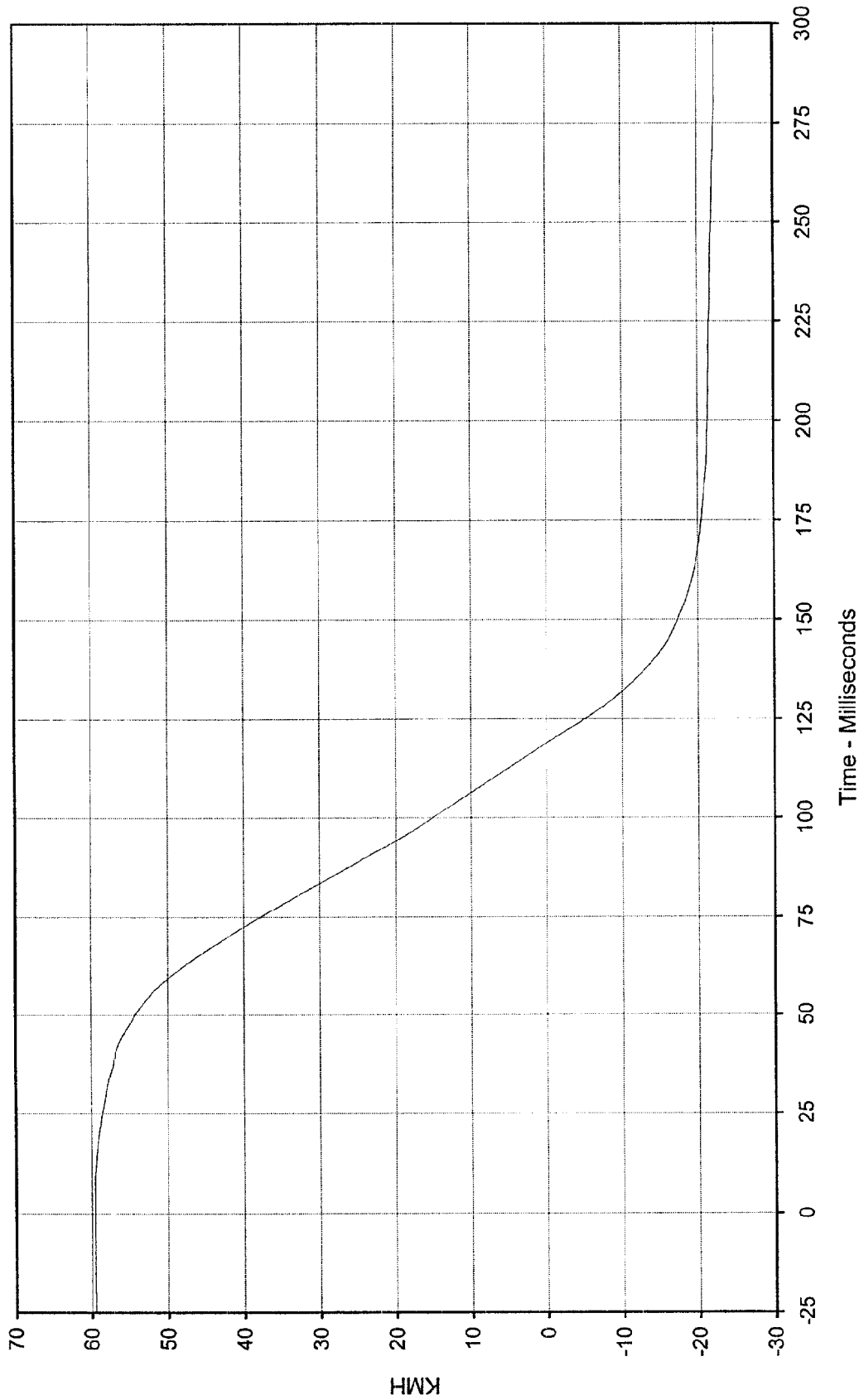
Minimum Value: -27.6 at 92.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: FIL-013





Curve Description: Driver Chest Primary X Velocity

Maximum Value: 59.6 at 0.0 Milliseconds

Minimum Value: -22.3 at 293.0 Milliseconds

SAE Filter Class: 180

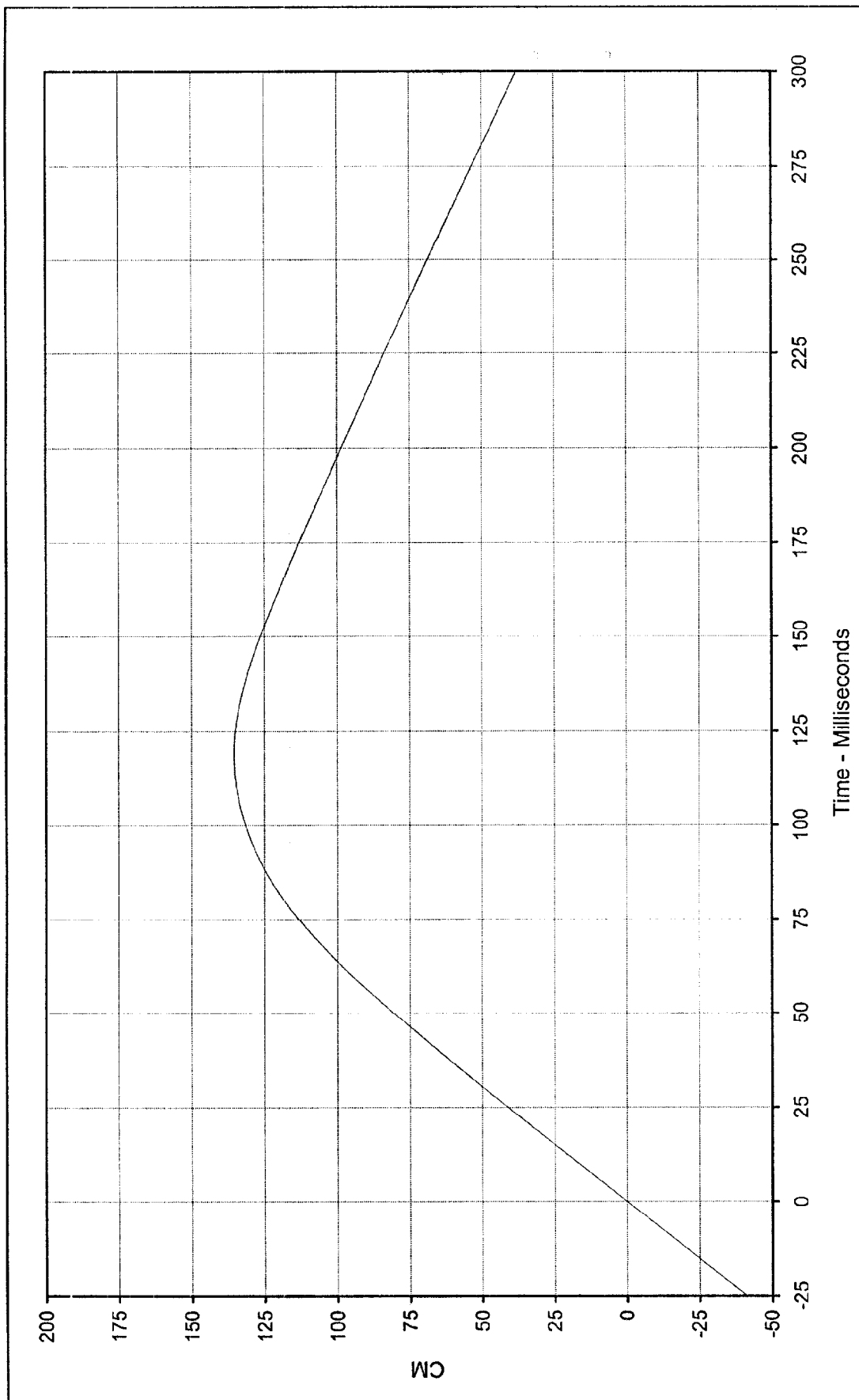
Date of Test: 7/30/98

Curve Number: IN1-013

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

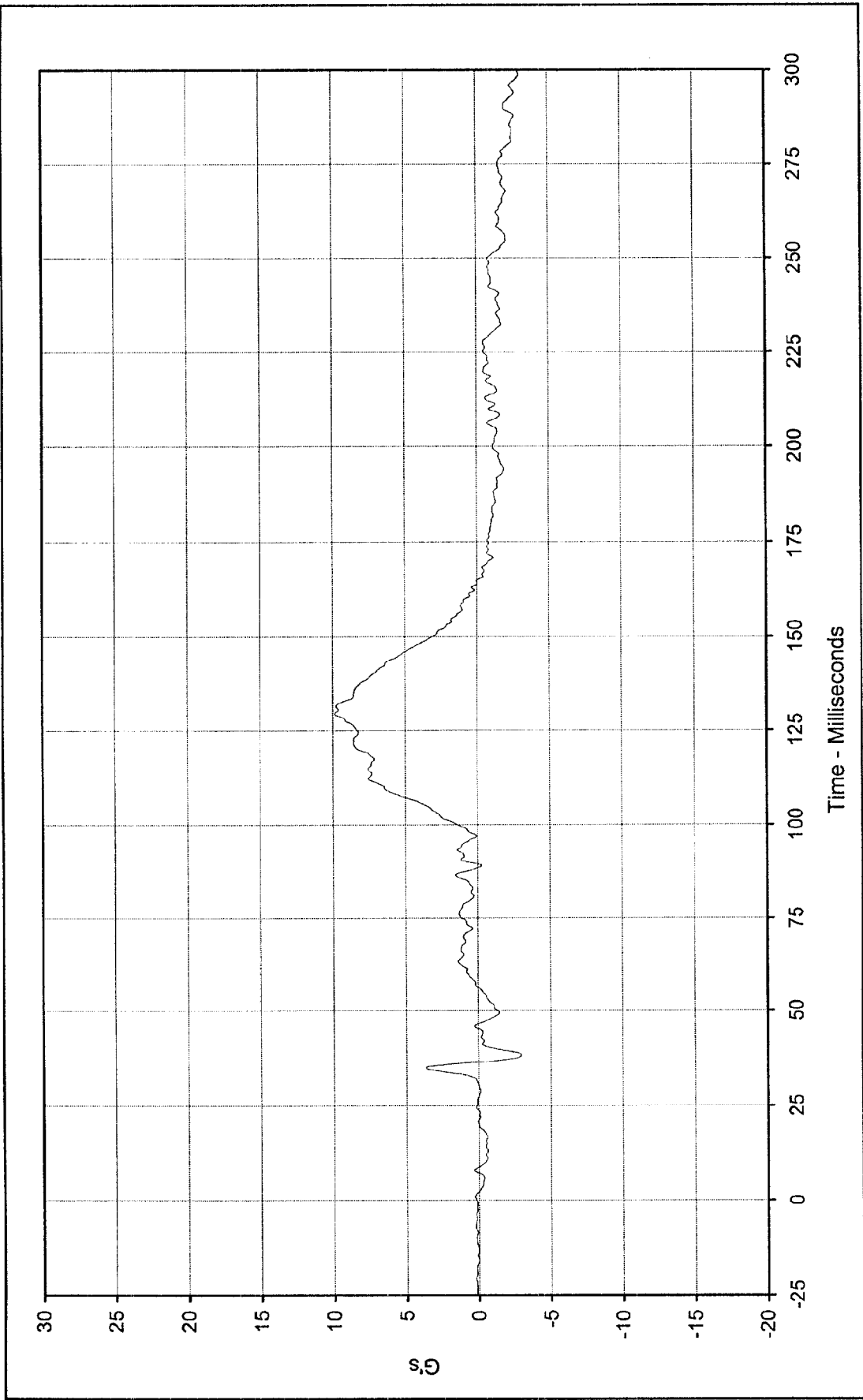




Curve Description: Driver Chest Primary X Displ.
 Maximum Value: 135.5 at 119.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: IN2-013

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Primary Y Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 9.9 at 129.5 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

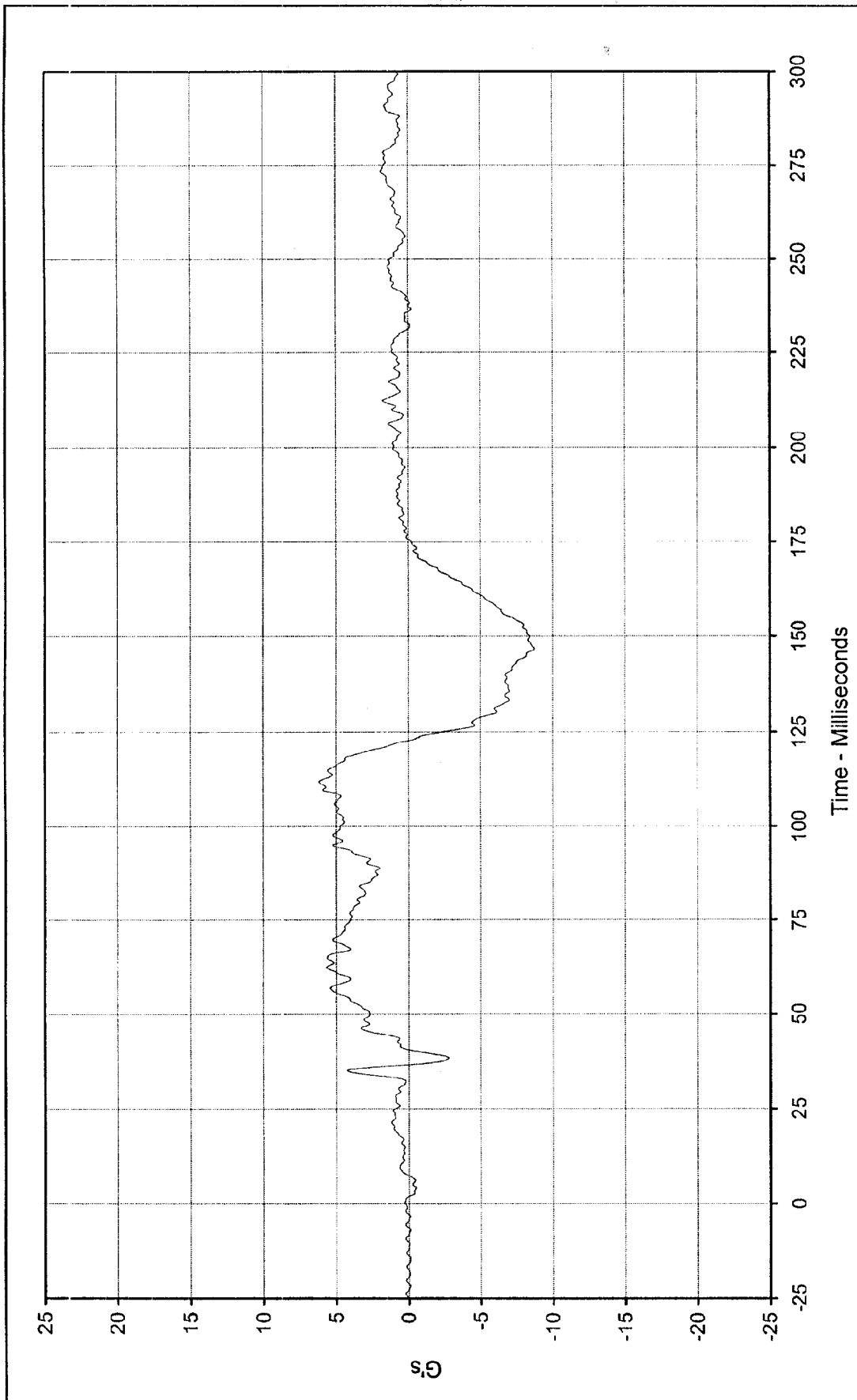
Minimum Value: -3.0 at 298.9 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: FIL-014

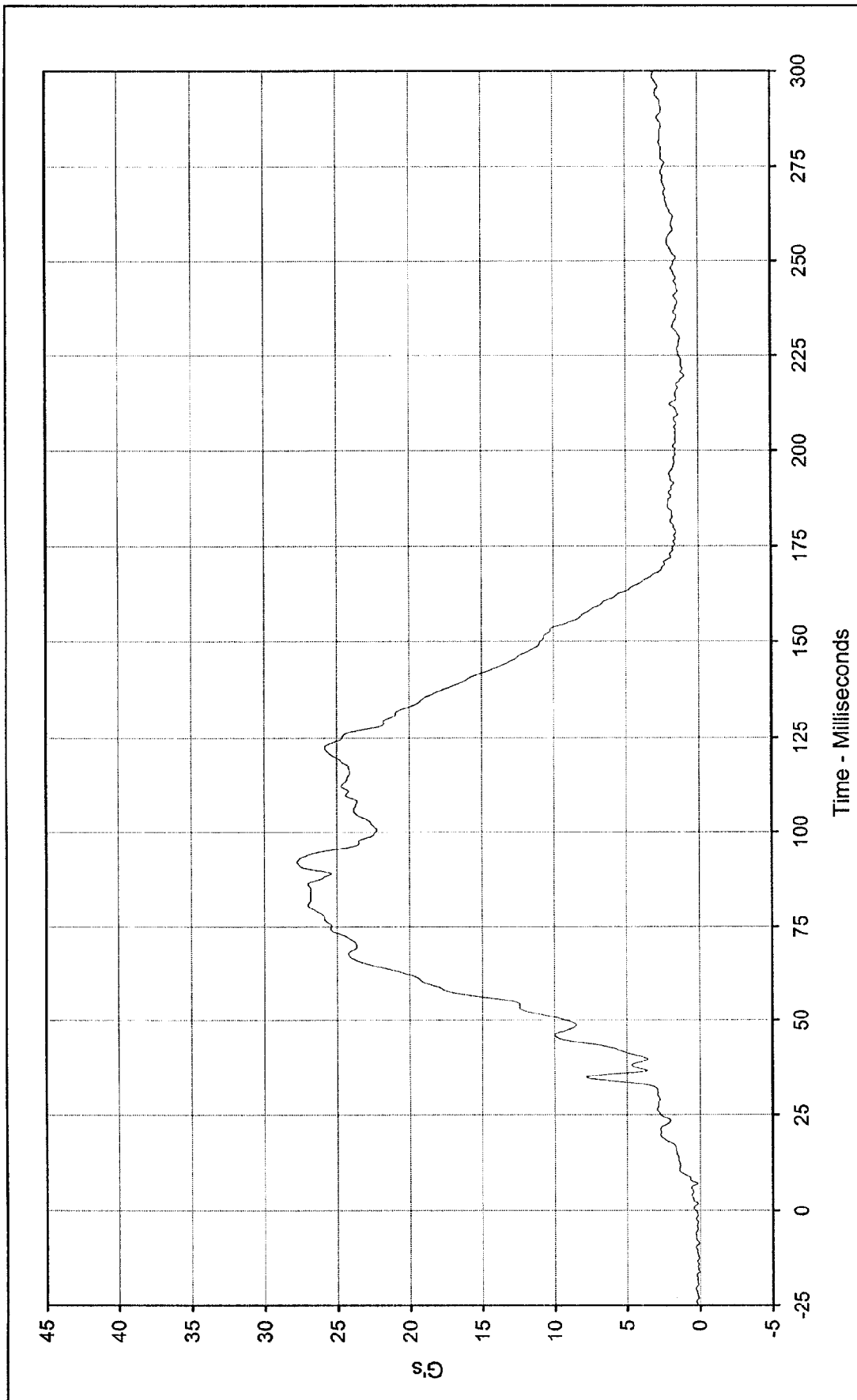




Curve Description: Driver Chest Primary Z
 Maximum Value: 6.2 at 112.0 Milliseconds
 Minimum Value: -8.7 at 146.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: FIL-015

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Resultant Primary

Maximum Value: 27.8 at 92.1 Milliseconds

Minimum Value: 0.1 at 2.0 Milliseconds

SAE Filter Class: 180

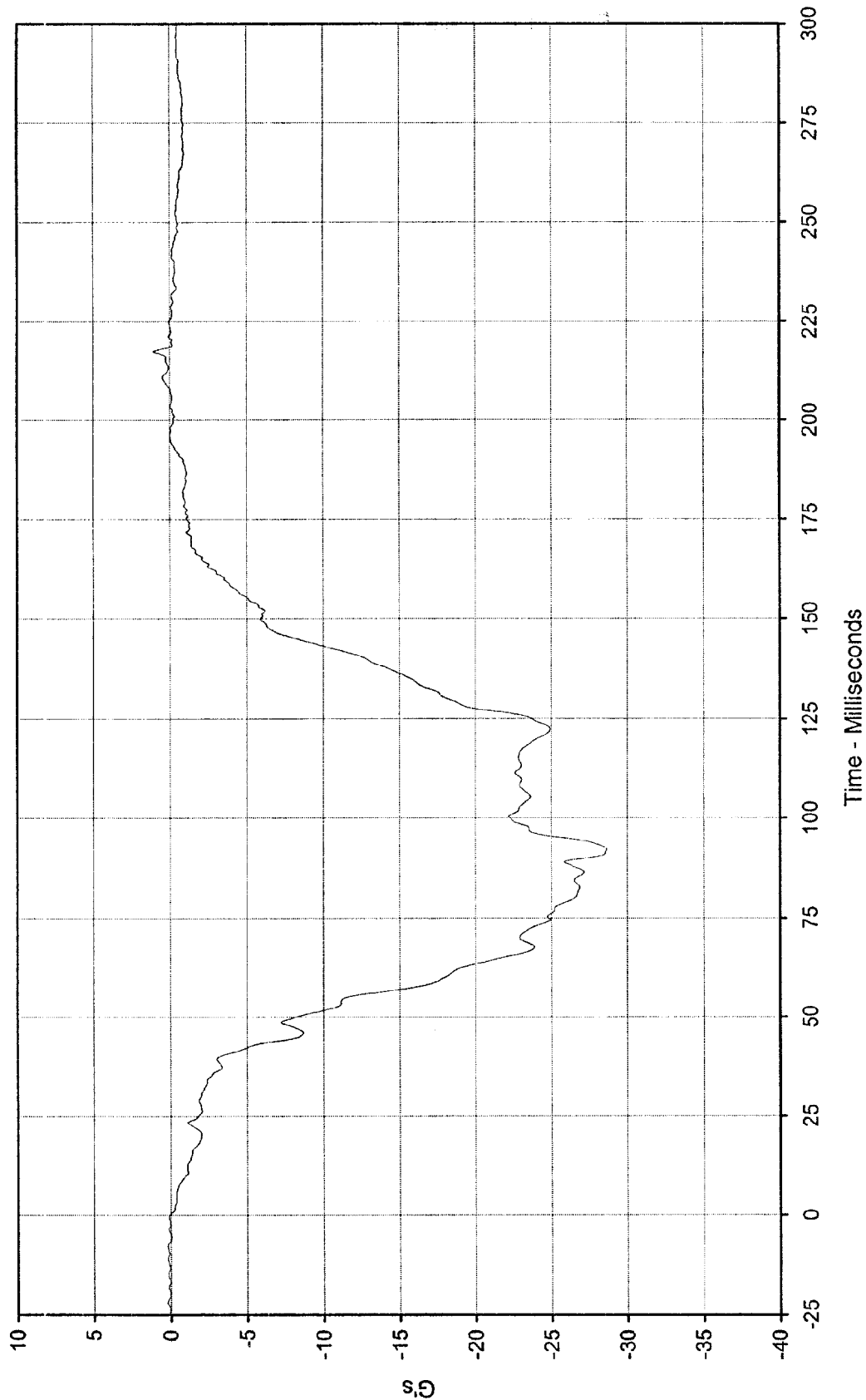
Date of Test: 7/30/98

Curve Number: RES-013

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

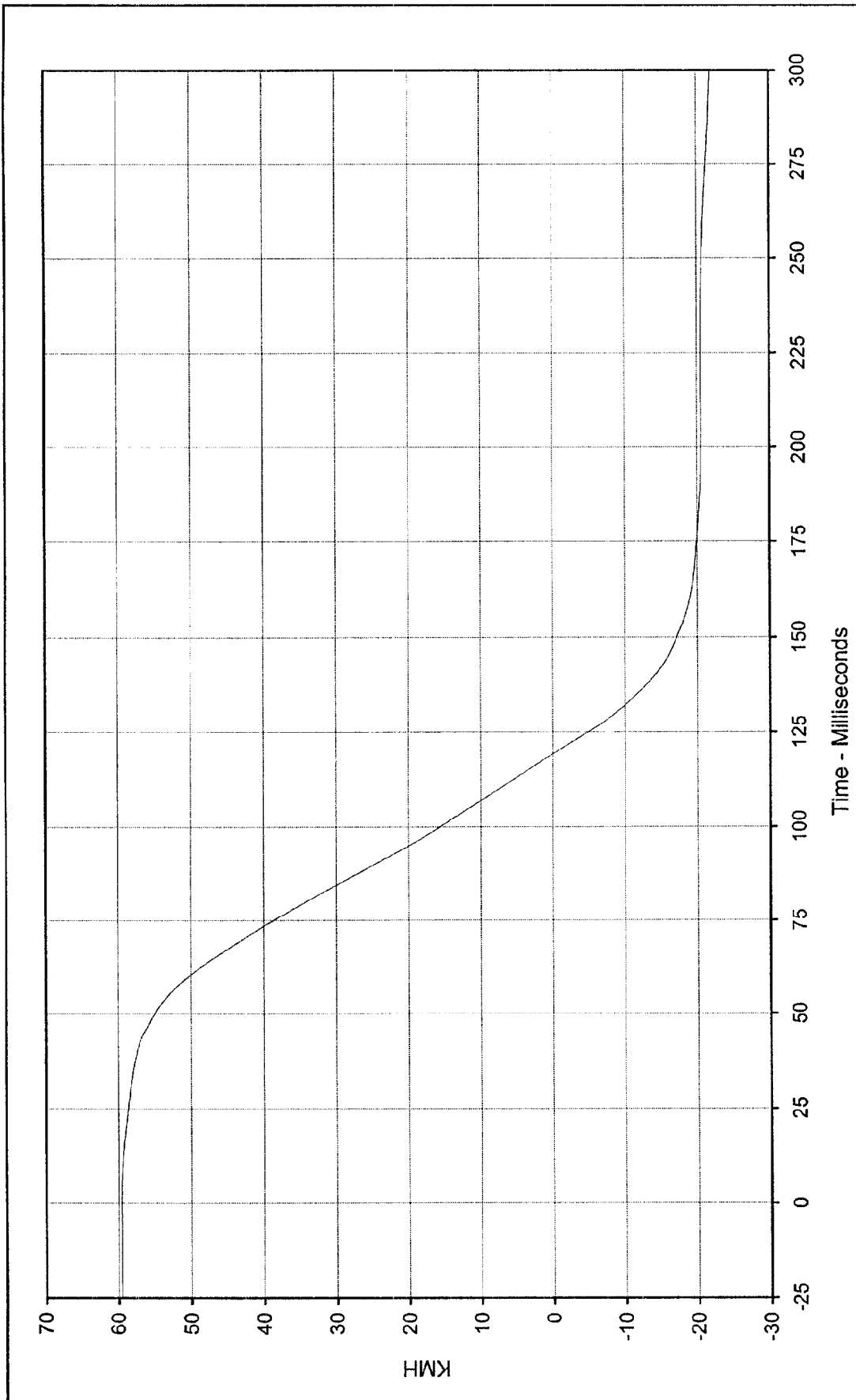




Curve Description: Driver Chest Redundant X
 Maximum Value: 1.0 at 217.5 Milliseconds
 Minimum Value: -28.6 at 92.2 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: FIL-016

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Redundant X Velocity

Maximum Value: 59.6 at 0.3 Milliseconds

Minimum Value: -21.9 at 299.9 Milliseconds

SAE Filter Class: 180

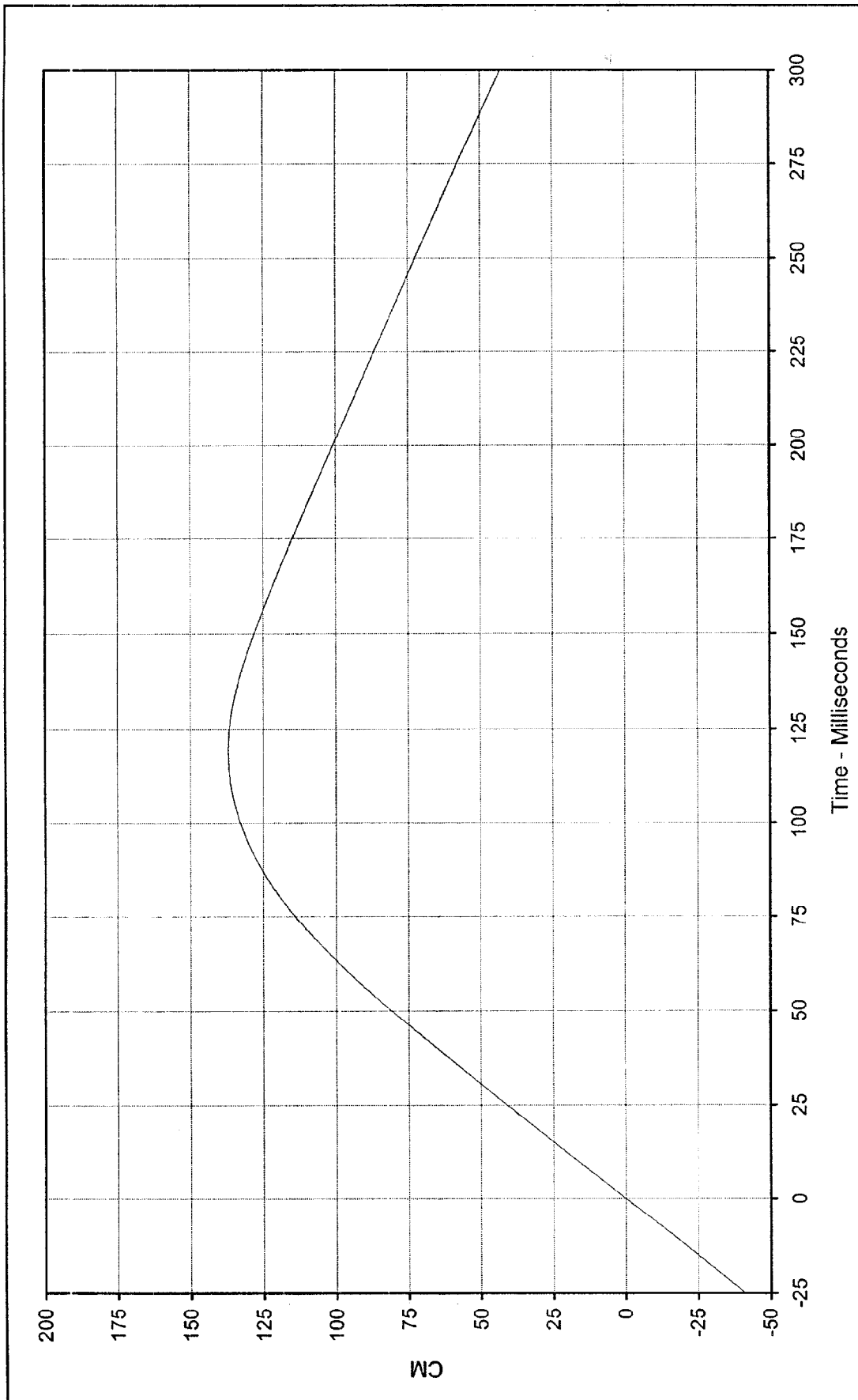
Date of Test: 7/30/98

Curve Number: IN1-016

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Redundant X Displ. Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 137.1 at 119.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

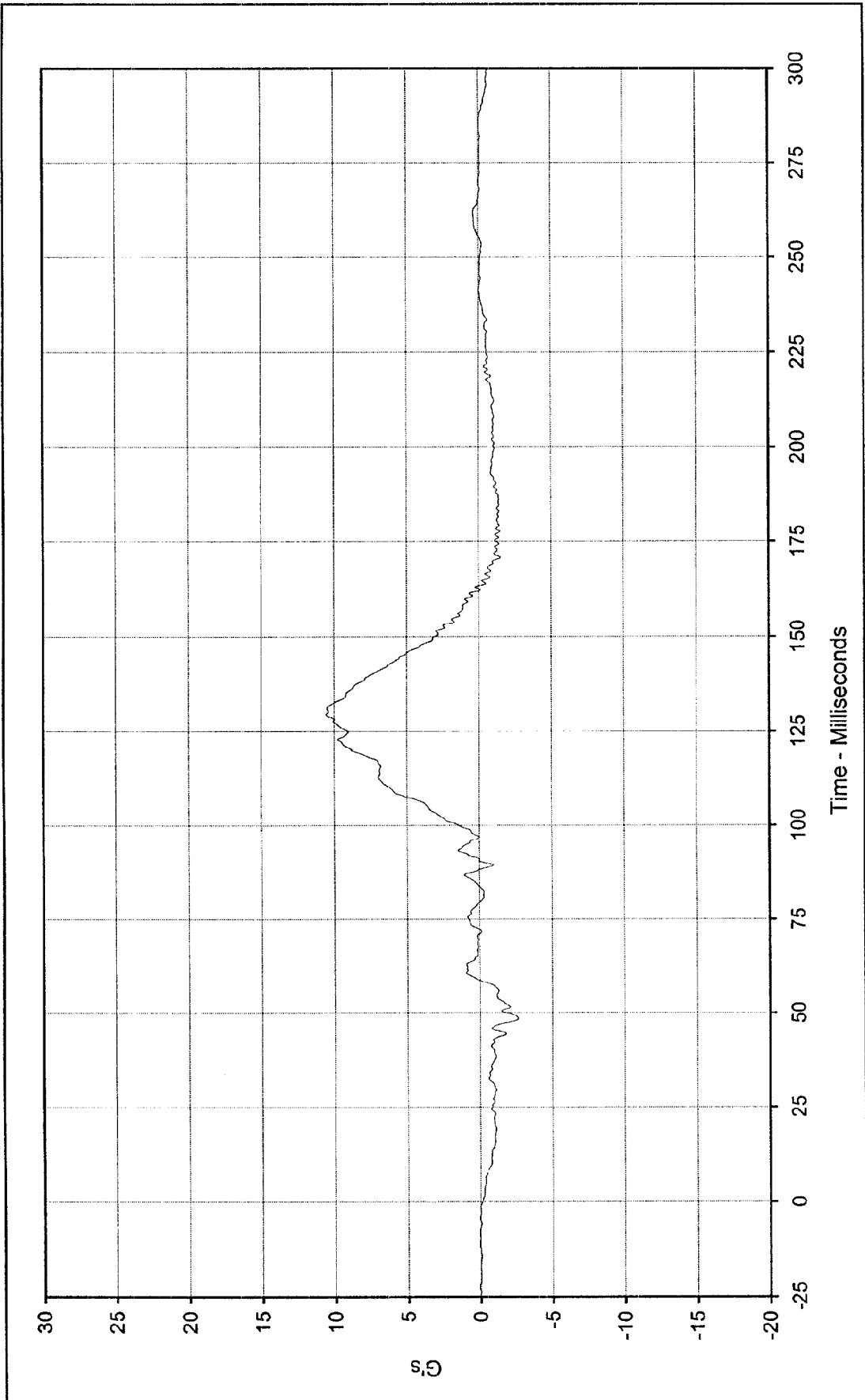
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-016





Curve Description: Driver Chest Redundant Y Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 10.6 at 129.7 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

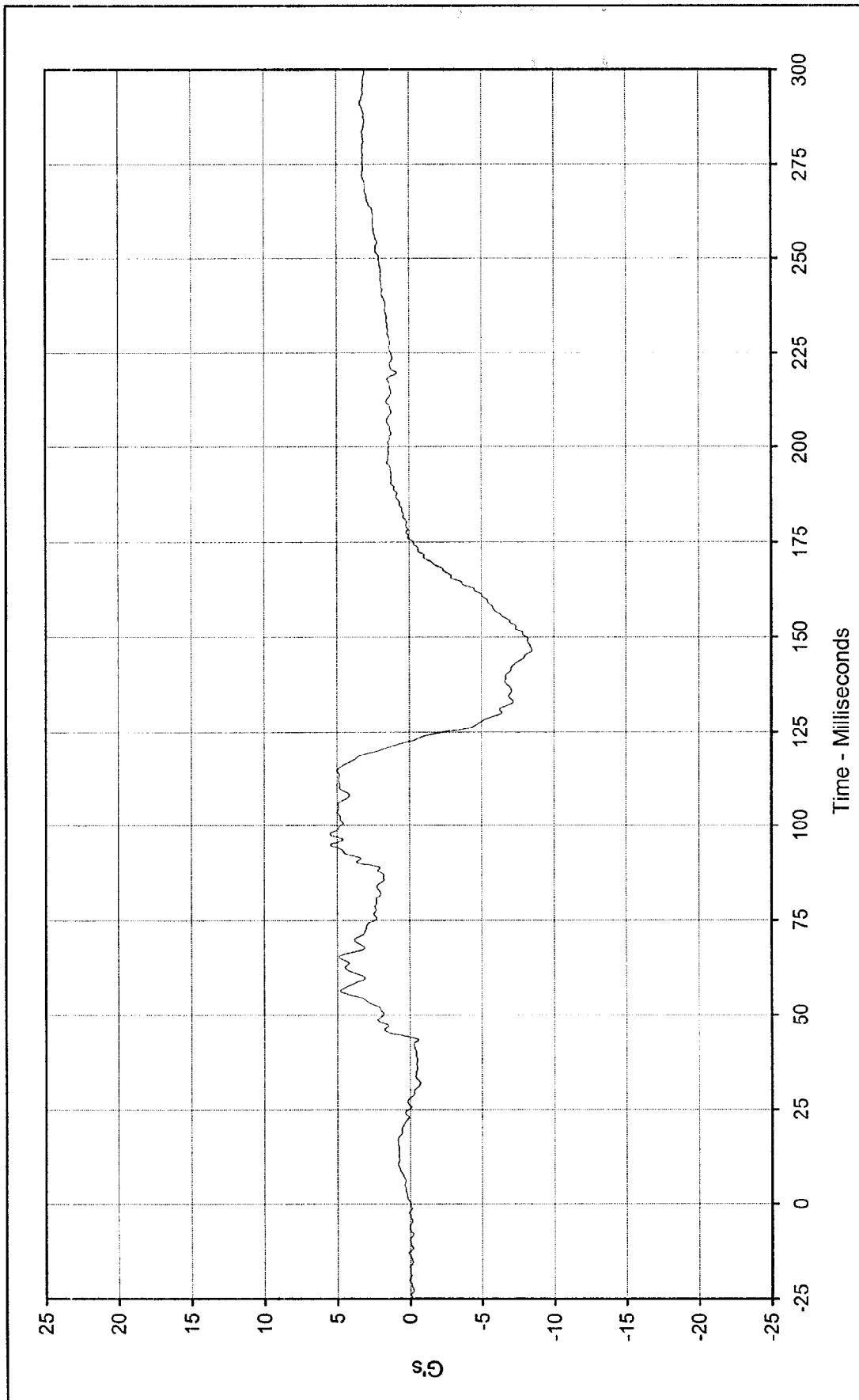
Minimum Value: -2.6 at 48.5 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: FIL-017

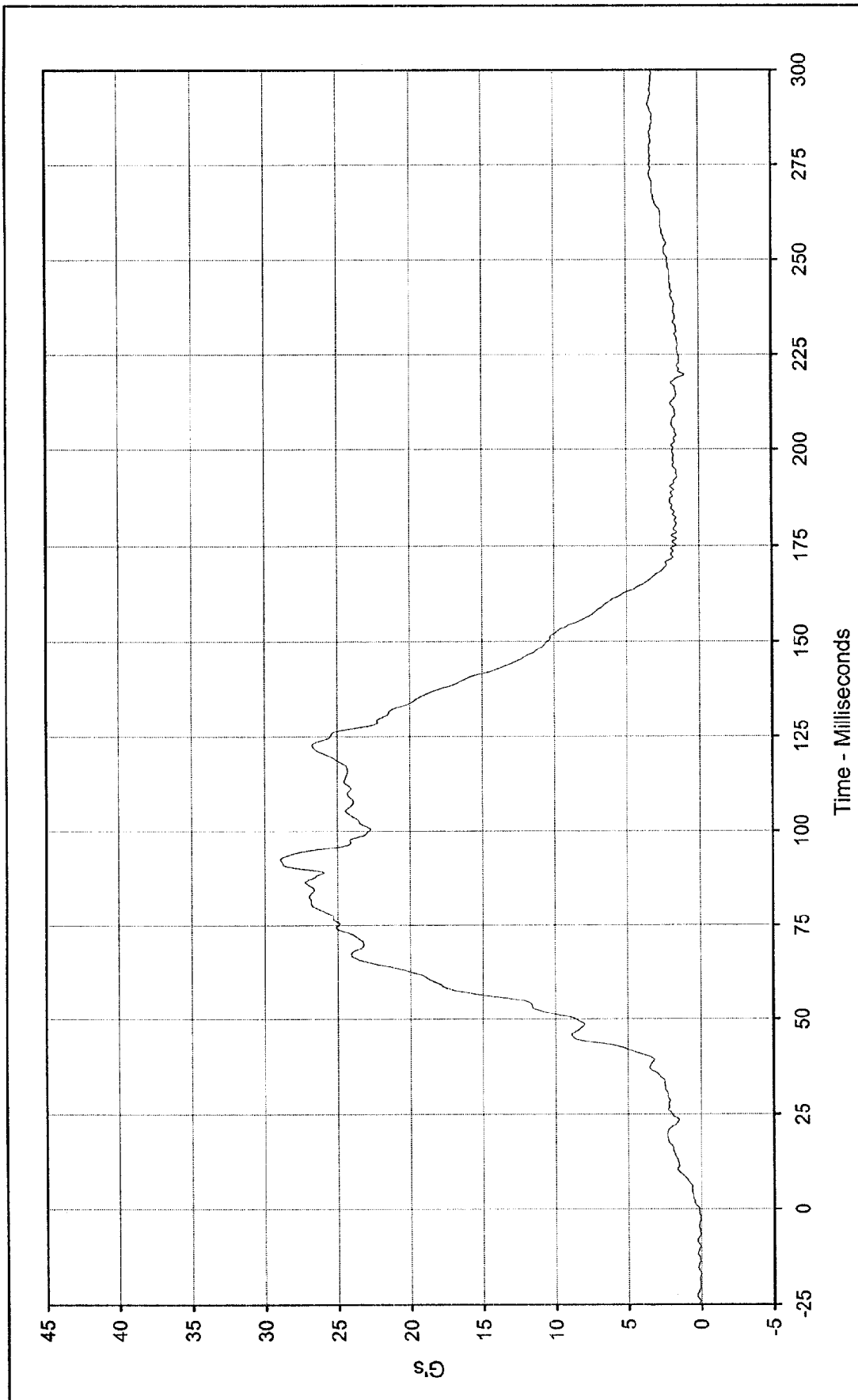




Curve Description: Driver Chest Redundant Z
 Maximum Value: 5.5 at 97.7 Milliseconds
 Minimum Value: -8.5 at 146.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: FIL-018

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Resultant Redundant

Maximum Value: 28.9 at 92.4 Milliseconds

Minimum Value: 0.2 at 0.0 Milliseconds

SAE Filter Class: 180

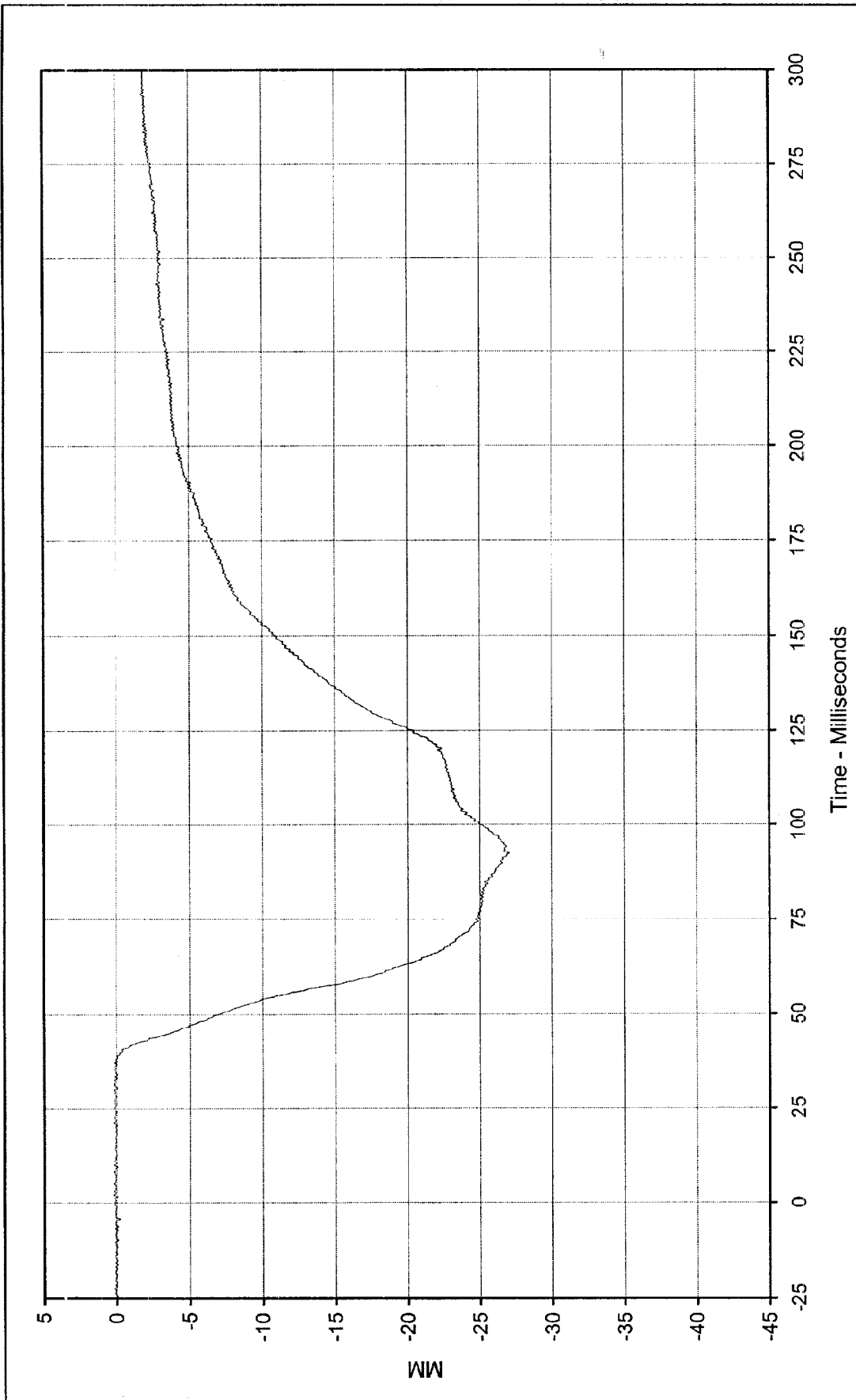
Date of Test: 7/30/98

Curve Number: RES-016

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Displacement X

Maximum Value: 0.2 at 21.0 Milliseconds

Minimum Value: -27.0 at 92.3 Milliseconds

SAE Filter Class: 600

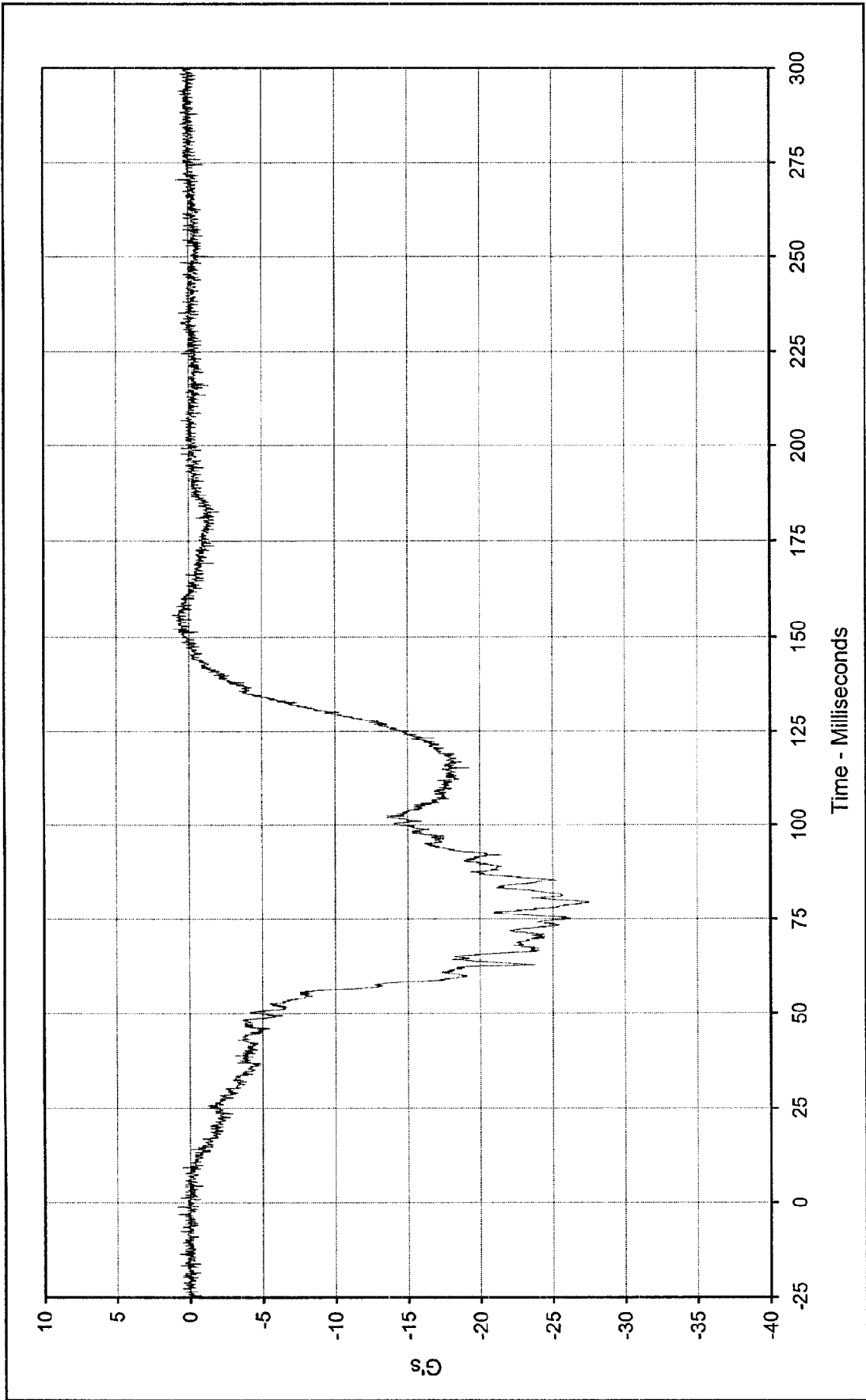
Date of Test: 7/30/98

Curve Number: FIL-019

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Pelvis X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 1.2 at 155.8 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

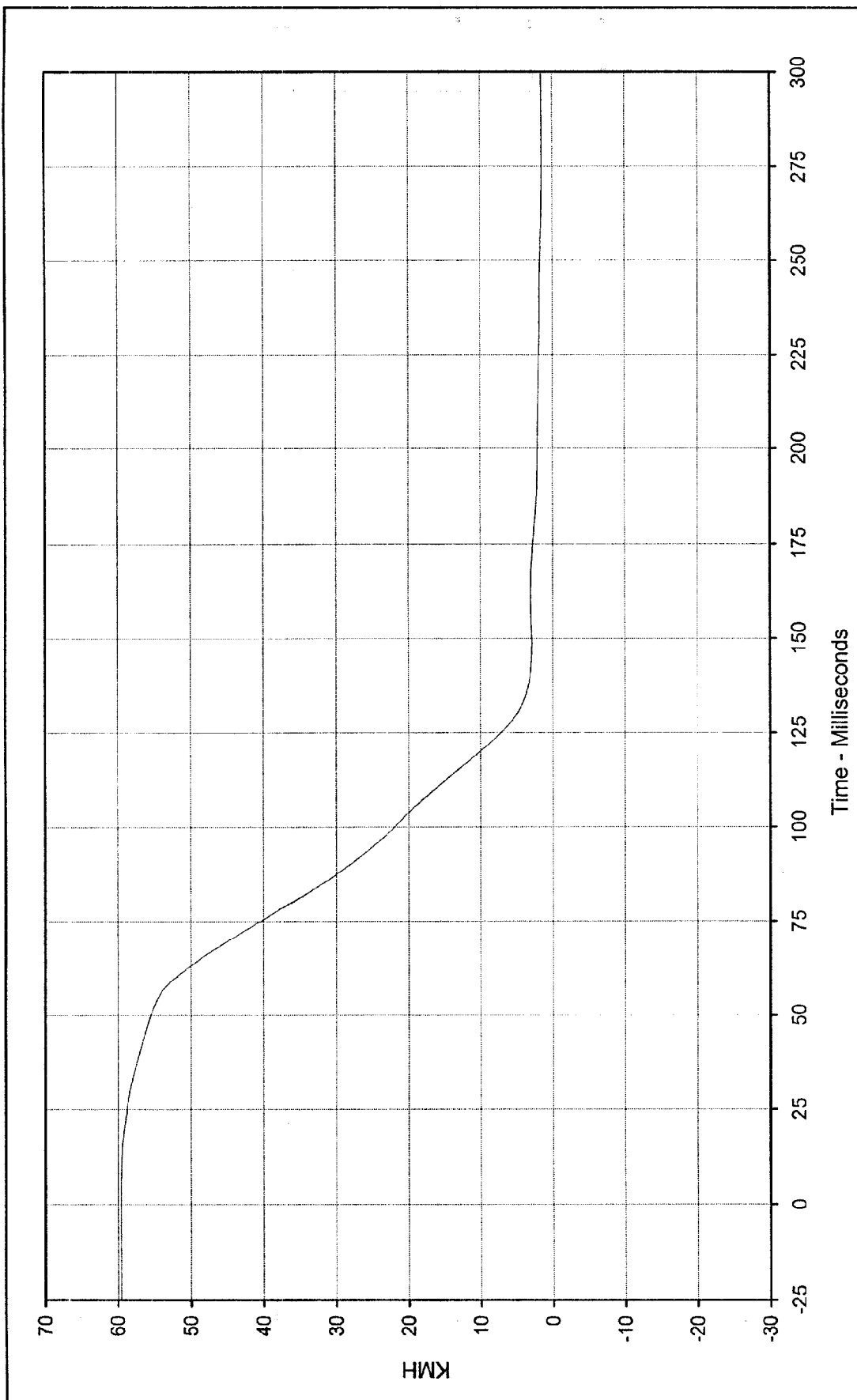
Minimum Value: -27.5 at 79.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-020





Curve Description: Driver Pelvis X Velocity

Maximum Value: 59.5 at 0.5 Milliseconds

Minimum Value: 1.5 at 275.1 Milliseconds

SAE Filter Class: 180

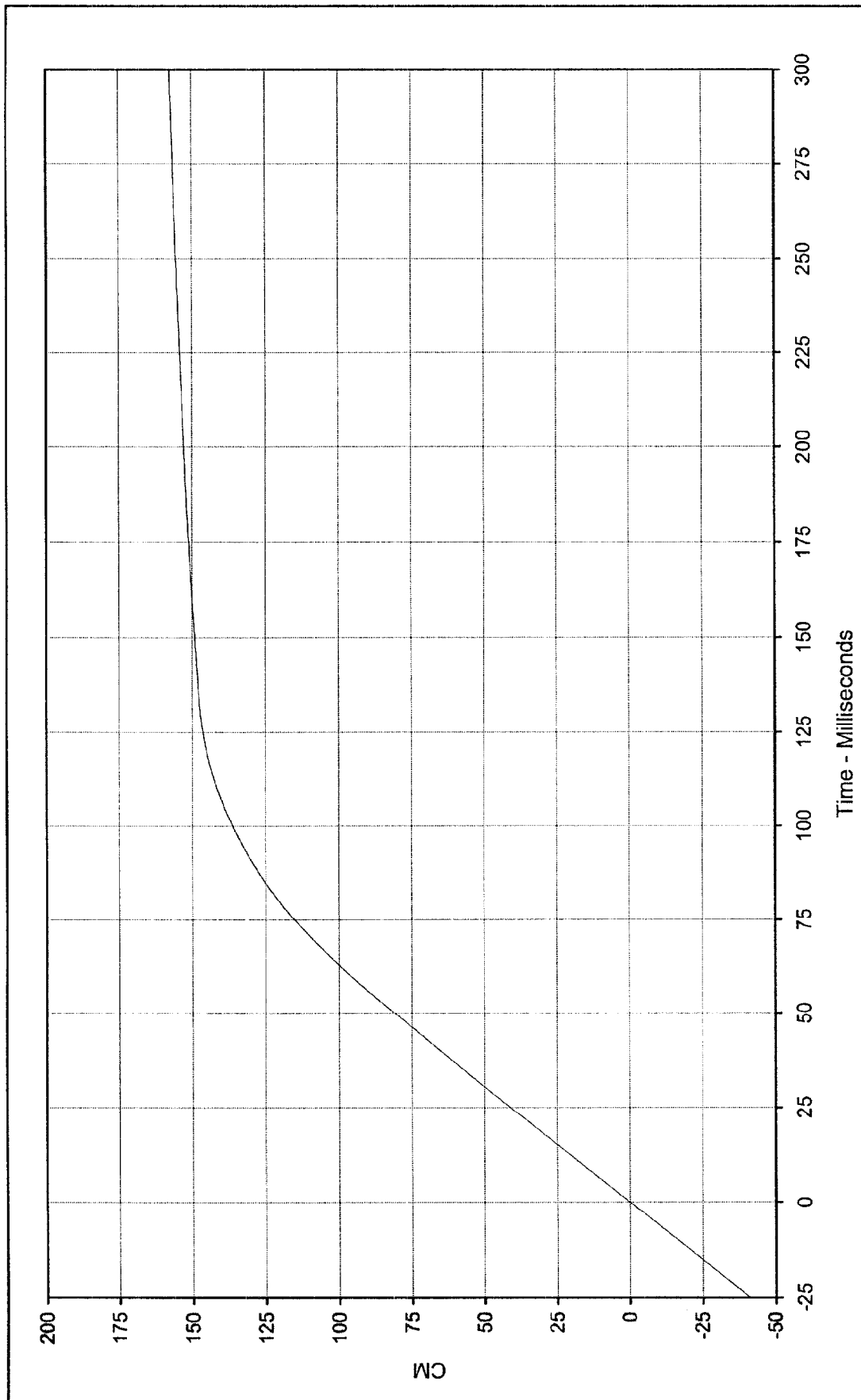
Date of Test: 7/30/98

Curve Number: IN1-020

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Pelvis X Displ. Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 157.5 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

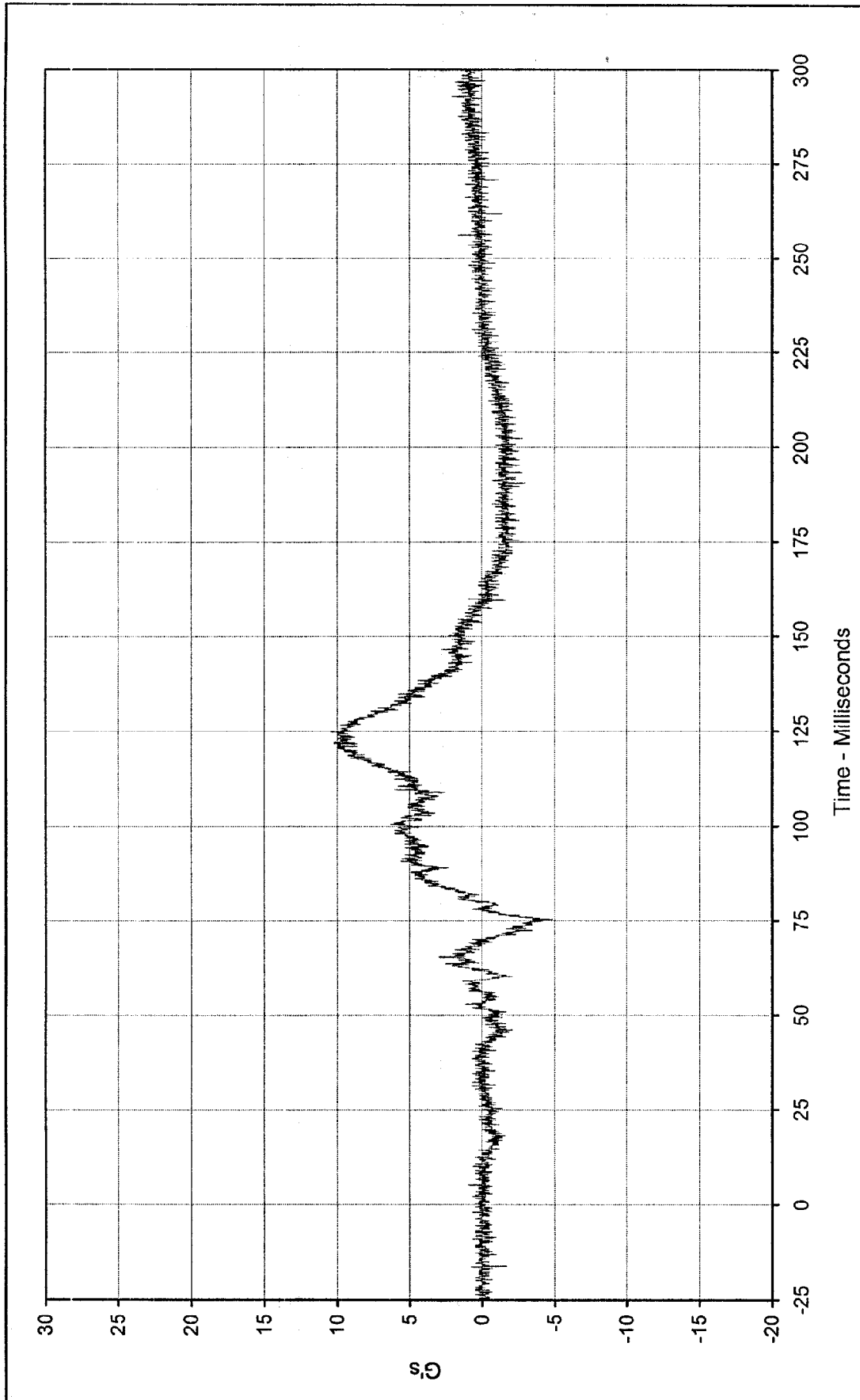
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-020





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 10.5 at 124.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

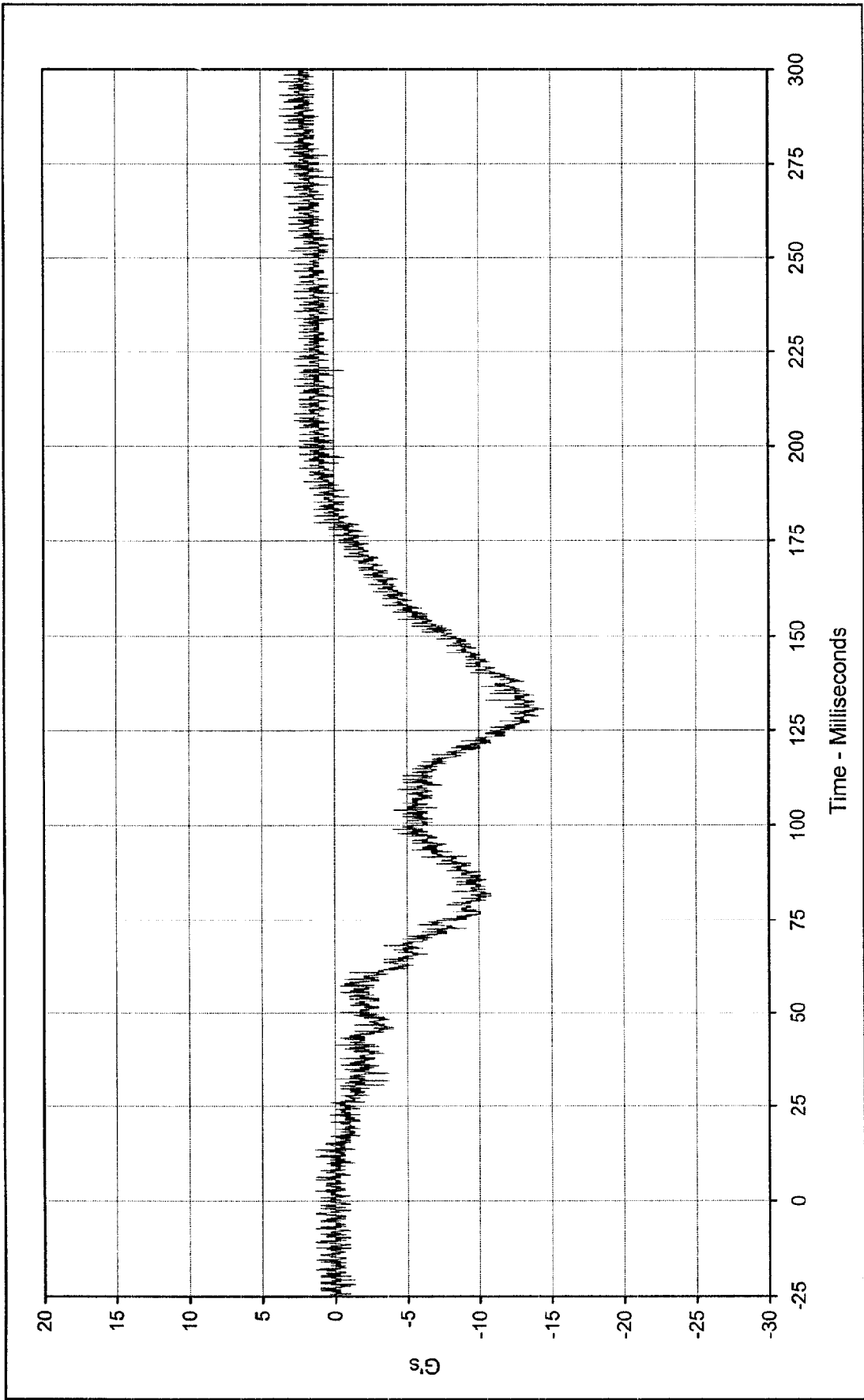
Minimum Value: -4.9 at 75.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-021





Curve Description: Driver Pelvis Z

Maximum Value: 4.0 at 280.7 Milliseconds

Minimum Value: -14.5 at 130.8 Milliseconds

SAE Filter Class: 1000

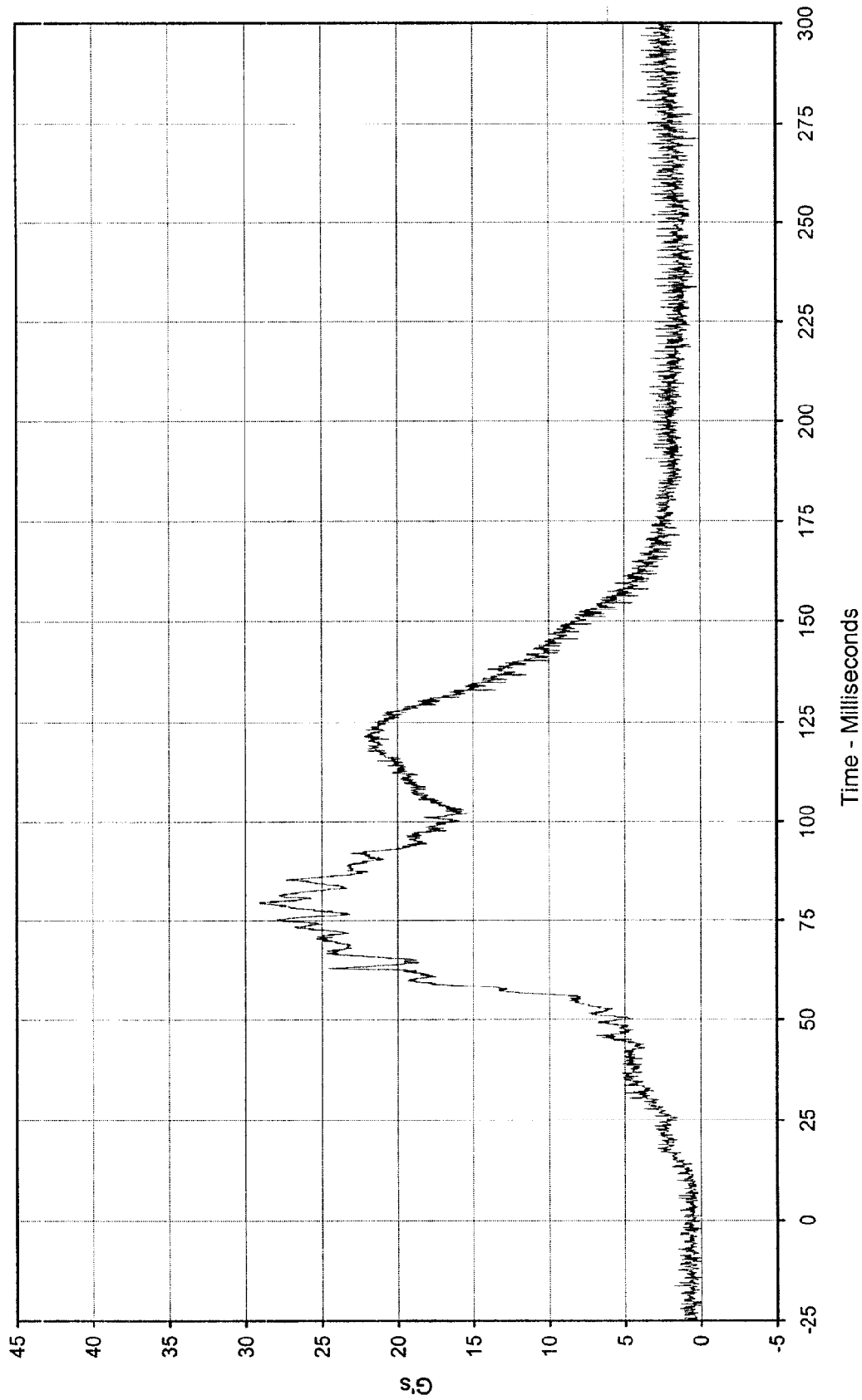
Date of Test: 7/30/98

Curve Number: FIL-022

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Pelvis Resultant Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 29.1 at 79.4 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

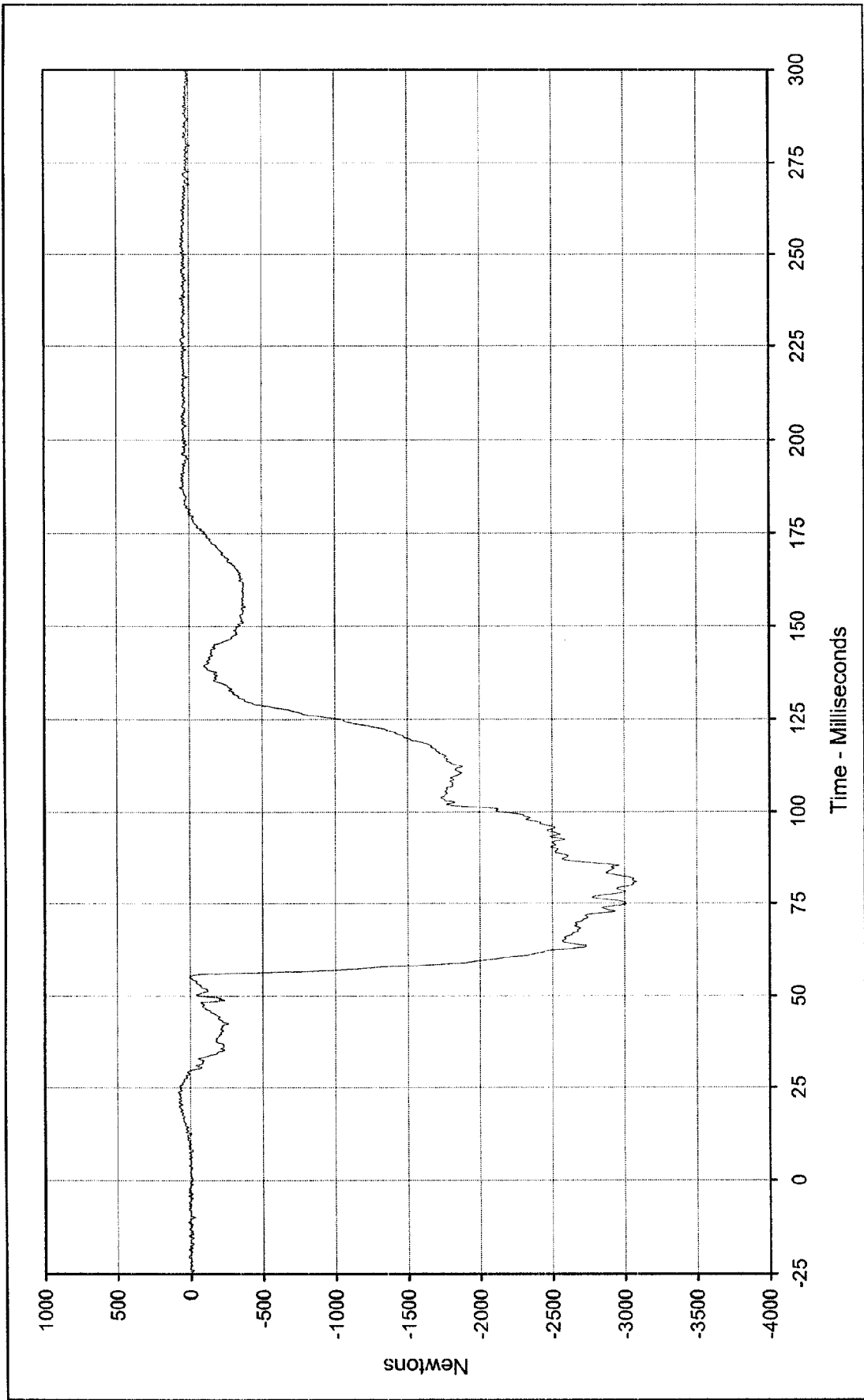
Minimum Value: 0.0 at 1.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: RES-020





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 82.6 at 23.7 Milliseconds

Minimum Value: -3087.2 at 80.8 Milliseconds

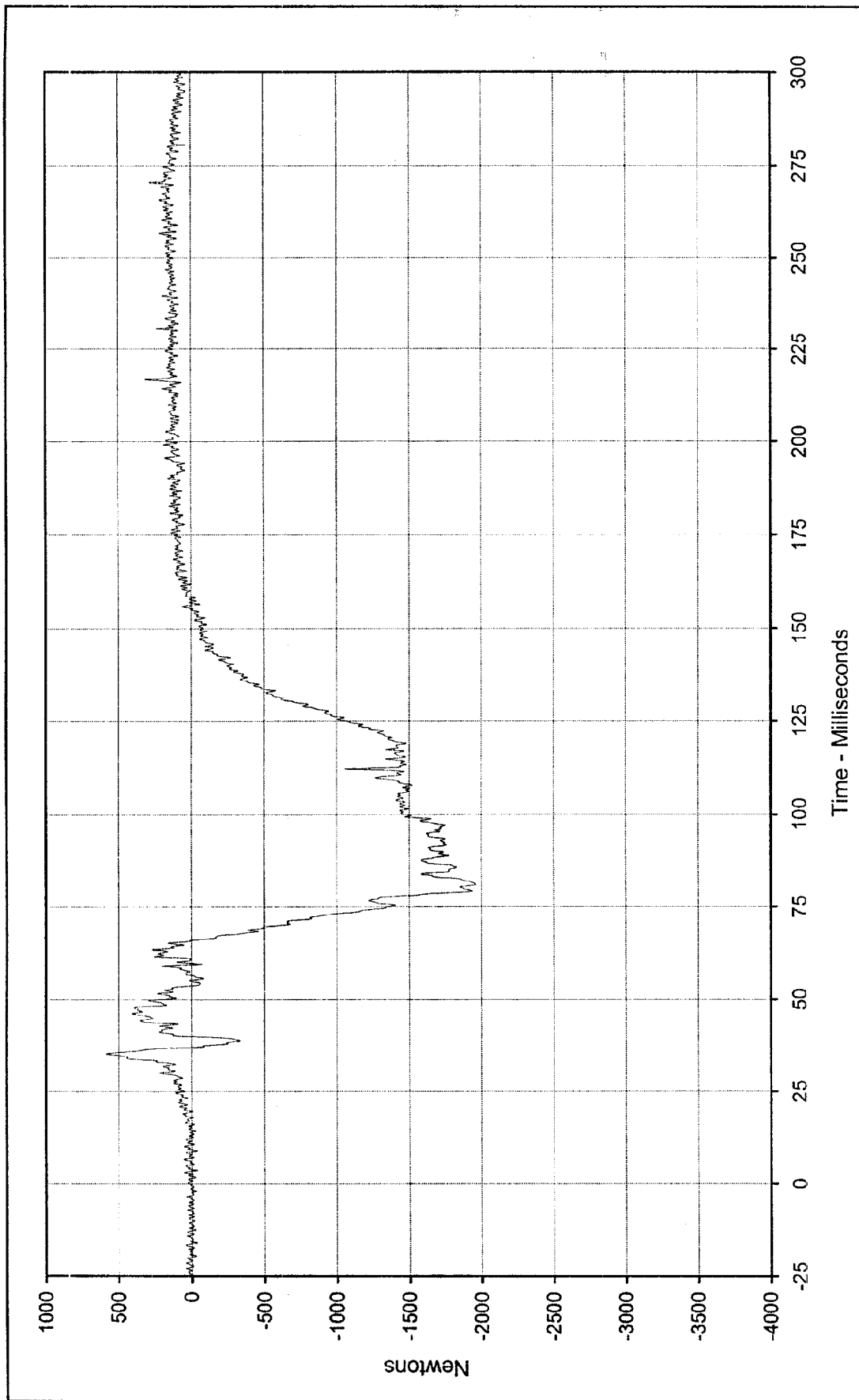
SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-023

Test Vehicle: 1998 Ford Contour 4 Door Sedan

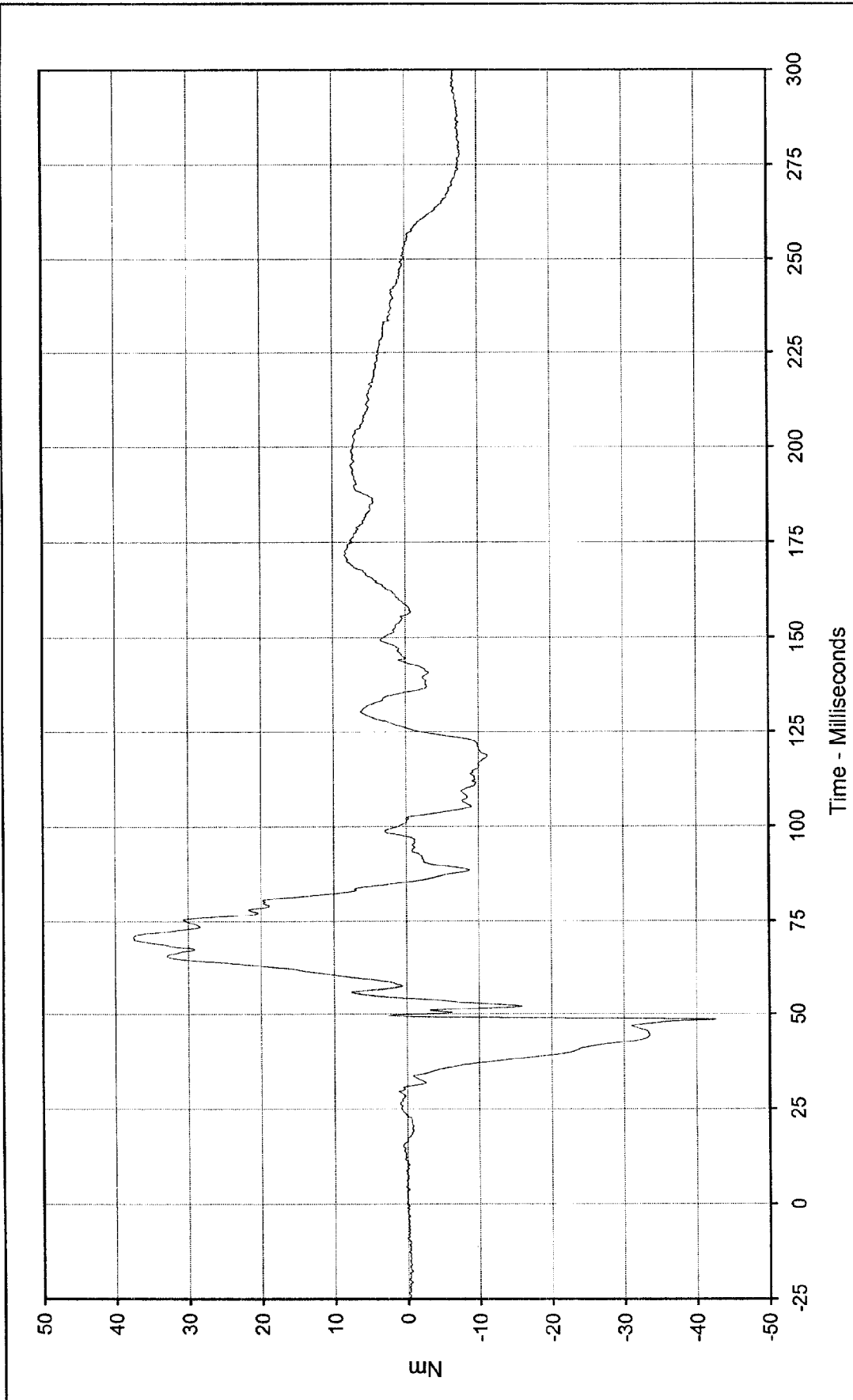




Curve Description: Driver Right Femur Force Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Maximum Value: 585.3 at 35.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan
Minimum Value: -1959.8 at 81.0 Milliseconds



SAE Filter Class: 600
Date of Test: 7/30/98
Curve Number: FIL-024



Curve Description: Driver Left Upper Tibia Moment X

Maximum Value: 37.5 at 70.8 Milliseconds

Minimum Value: -42.6 at 48.4 Milliseconds

SAE Filter Class: 600

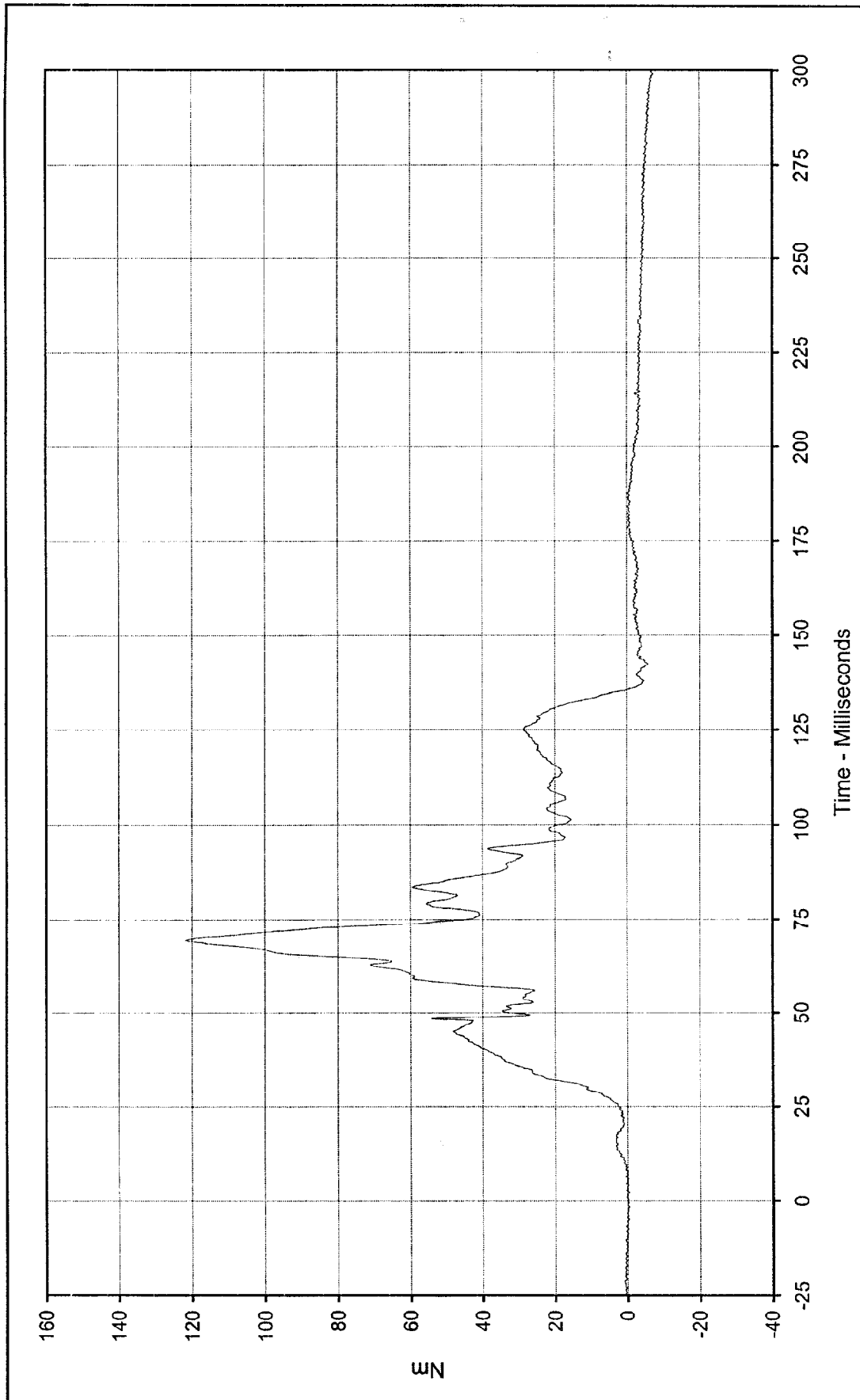
Date of Test: 7/30/98

Curve Number: FIL-025

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

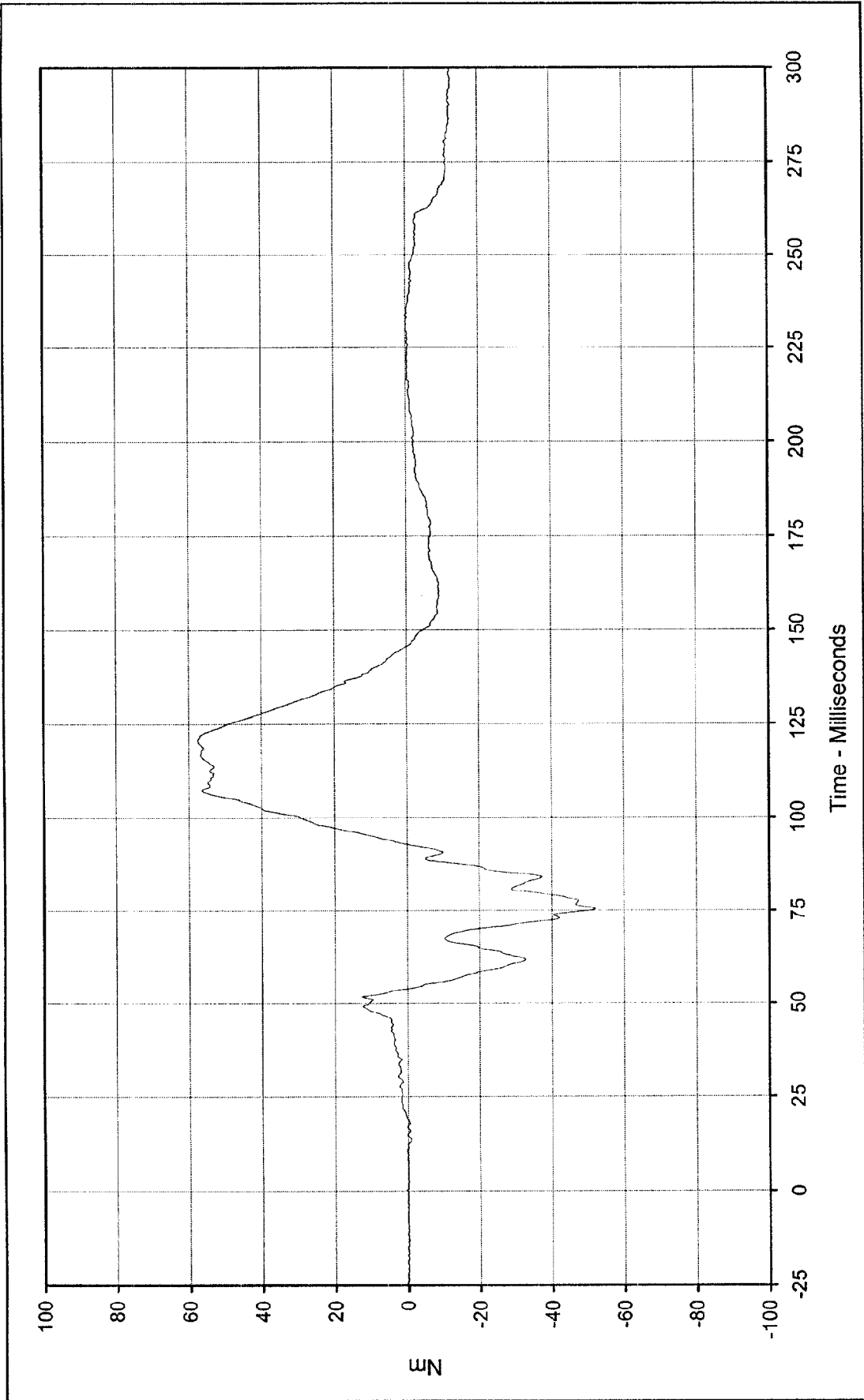




Curve Description: Driver Left Upper Tibia Moment Y
 Maximum Value: 121.9 at 69.4 Milliseconds
 Minimum Value: -7.3 at 299.1 Milliseconds
 SAE Filter Class: 600
 Date of Test: 7/30/98
 Curve Number: FIL-026

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Upper Tibia Moment X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 57.6 at 120.6 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

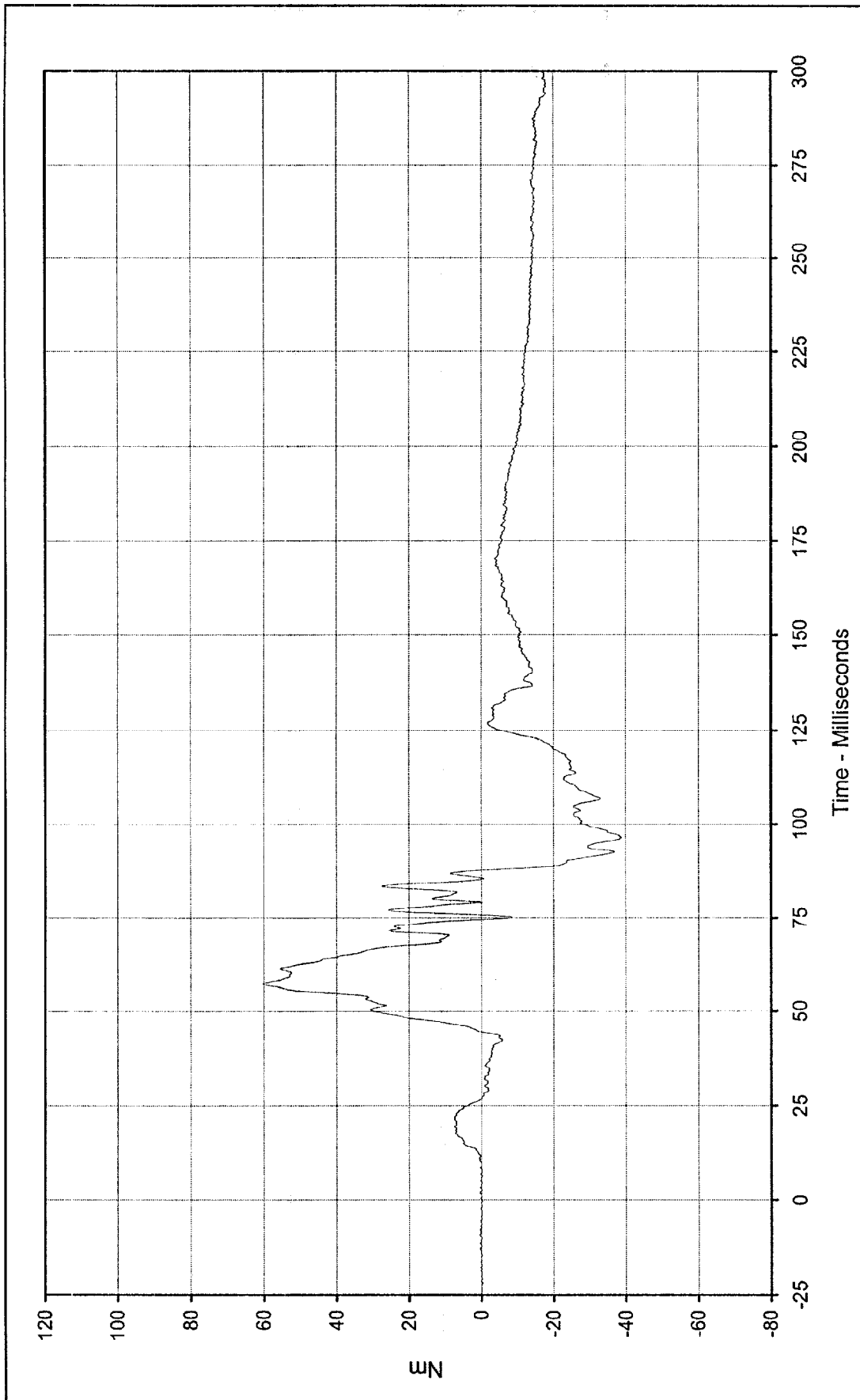
Minimum Value: -52.2 at 75.4 Milliseconds

SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-027





Curve Description: Driver Right Upper Tibia Moment Y

Maximum Value: 60.2 at 57.3 Milliseconds

Minimum Value: -38.7 at 96.3 Milliseconds

SAE Filter Class: 600

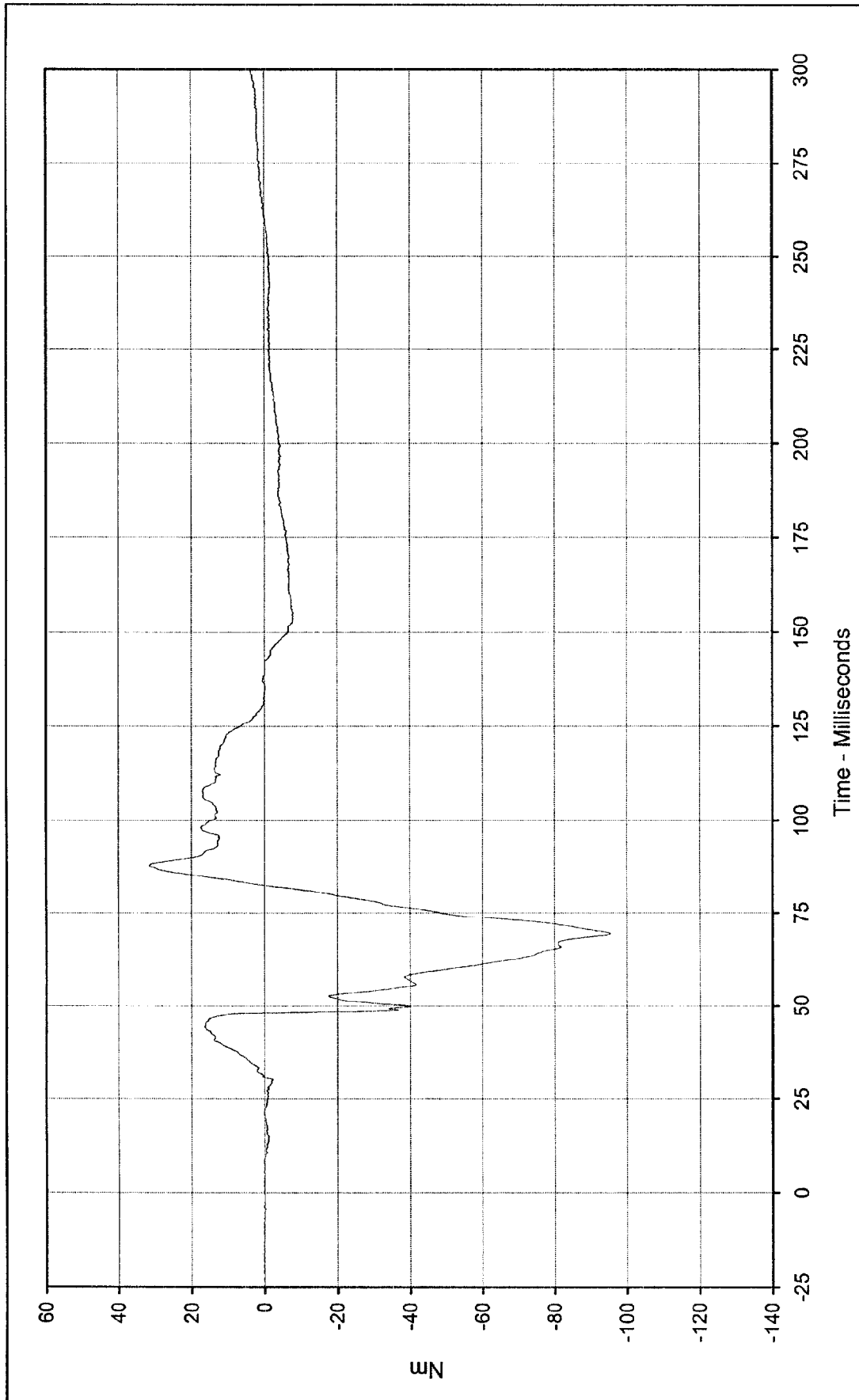
Date of Test: 7/30/98

Curve Number: FIL-028

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Left Lower Tibia Moment X

Maximum Value: 31.5 at 87.8 Milliseconds

Minimum Value: -95.4 at 69.4 Milliseconds

SAE Filter Class: 600

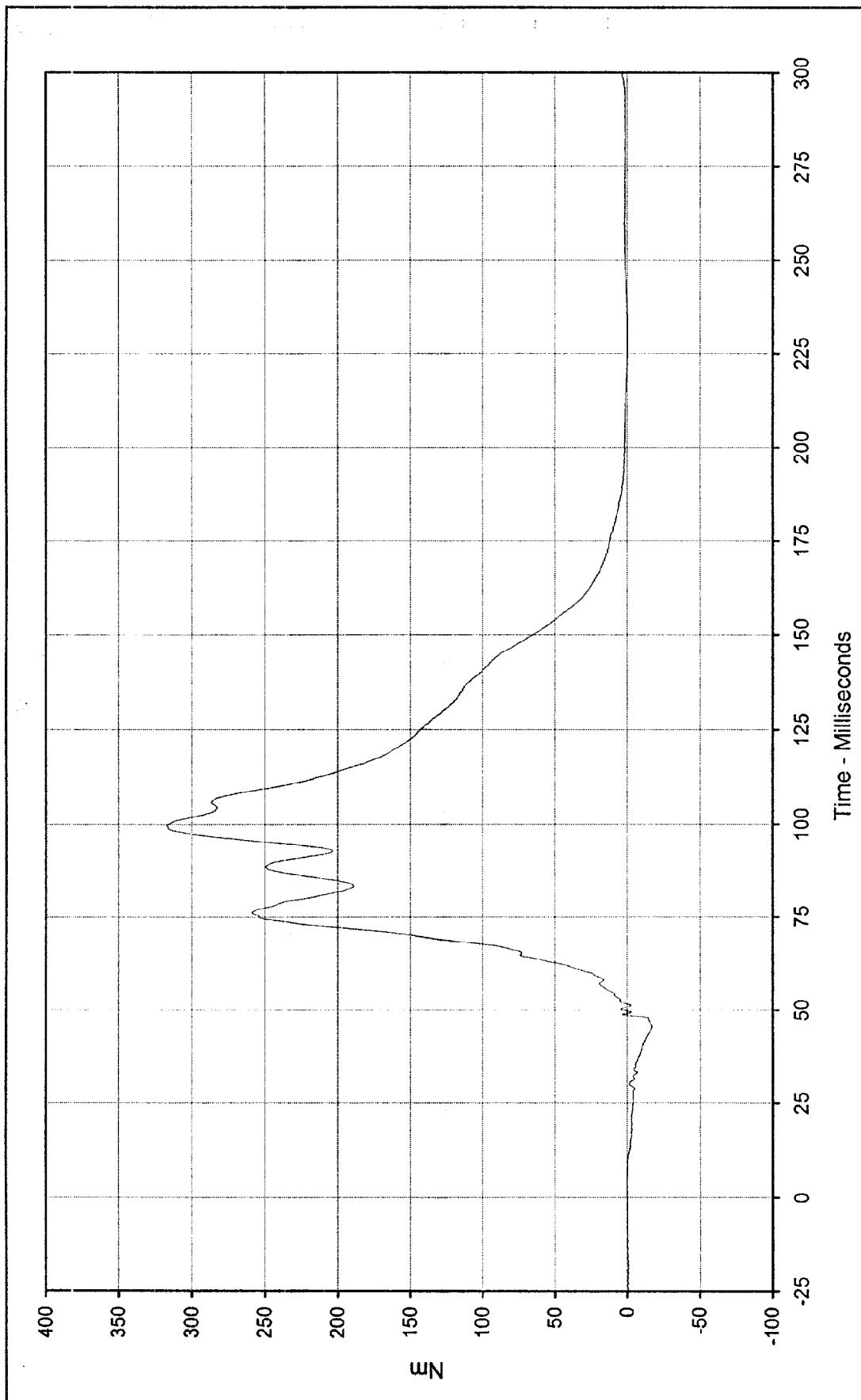
Date of Test: 7/30/98

Curve Number: FIL-029

Testing Program: 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Left Lower Tibia Moment Y

Maximum Value: 316.9 at 99.7 Milliseconds

Minimum Value: -17.1 at 45.7 Milliseconds

SAE Filter Class: 600

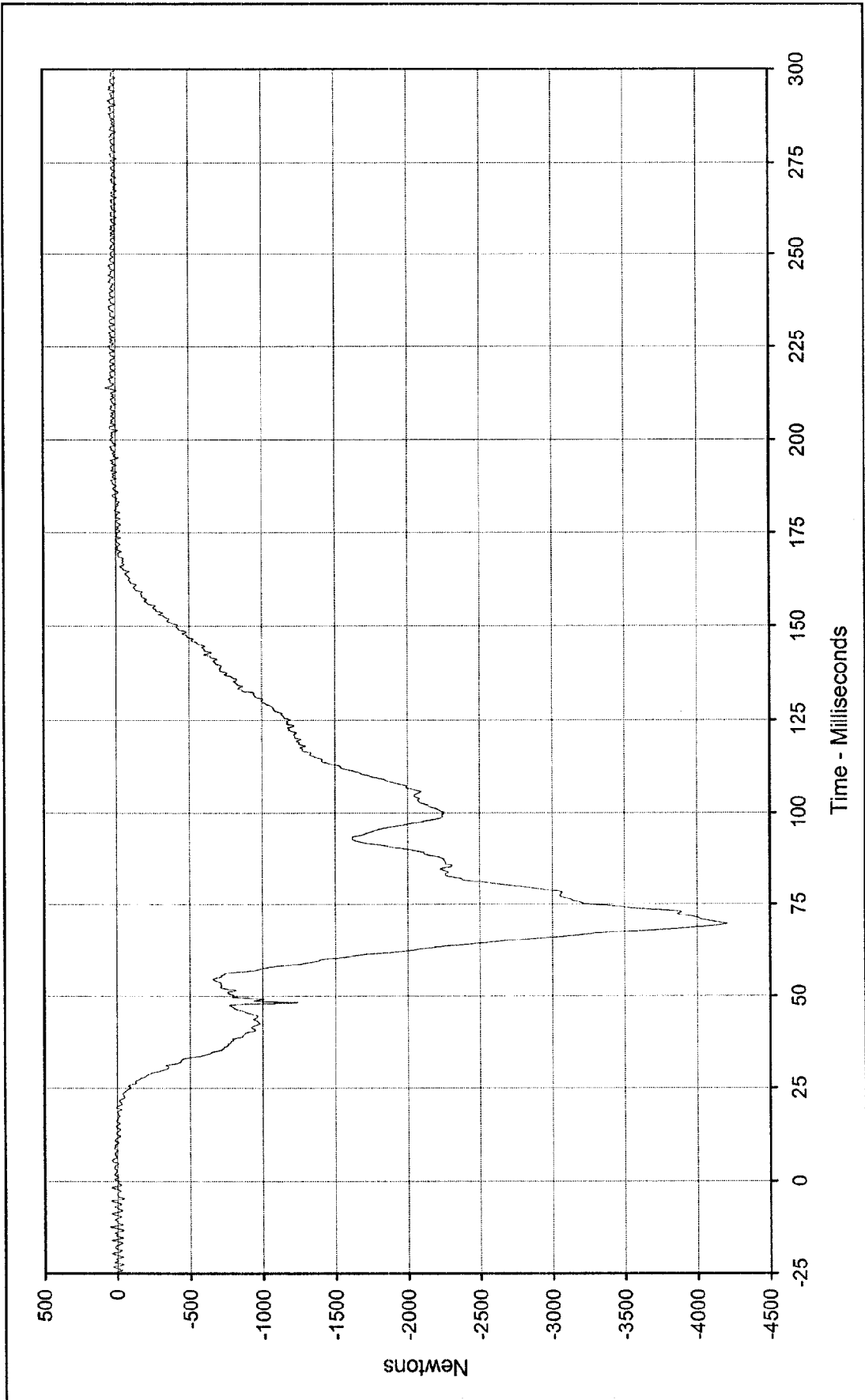
Date of Test: 7/30/98

Curve Number: FIL-030

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Left Lower Tibia Force Z

Maximum Value: 67.8 at 214.1 Milliseconds

Minimum Value: -4206.7 at 69.5 Milliseconds

SAE Filter Class: 600

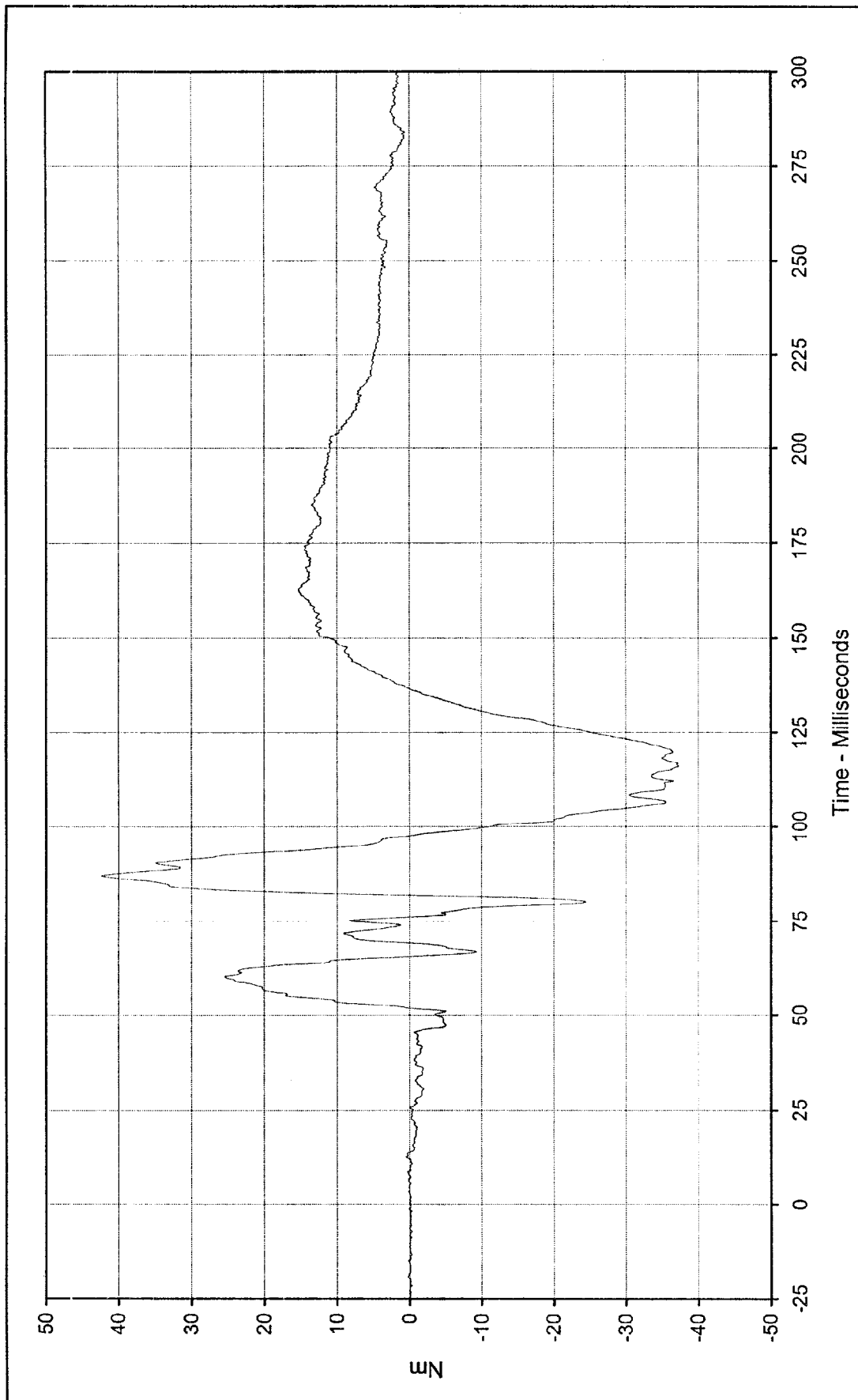
Date of Test: 7/30/98

Curve Number: FIL-031

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Lower Tibia Moment X

Maximum Value: 42.4 at 86.9 Milliseconds

Minimum Value: -37.3 at 116.2 Milliseconds

SAE Filter Class: 600

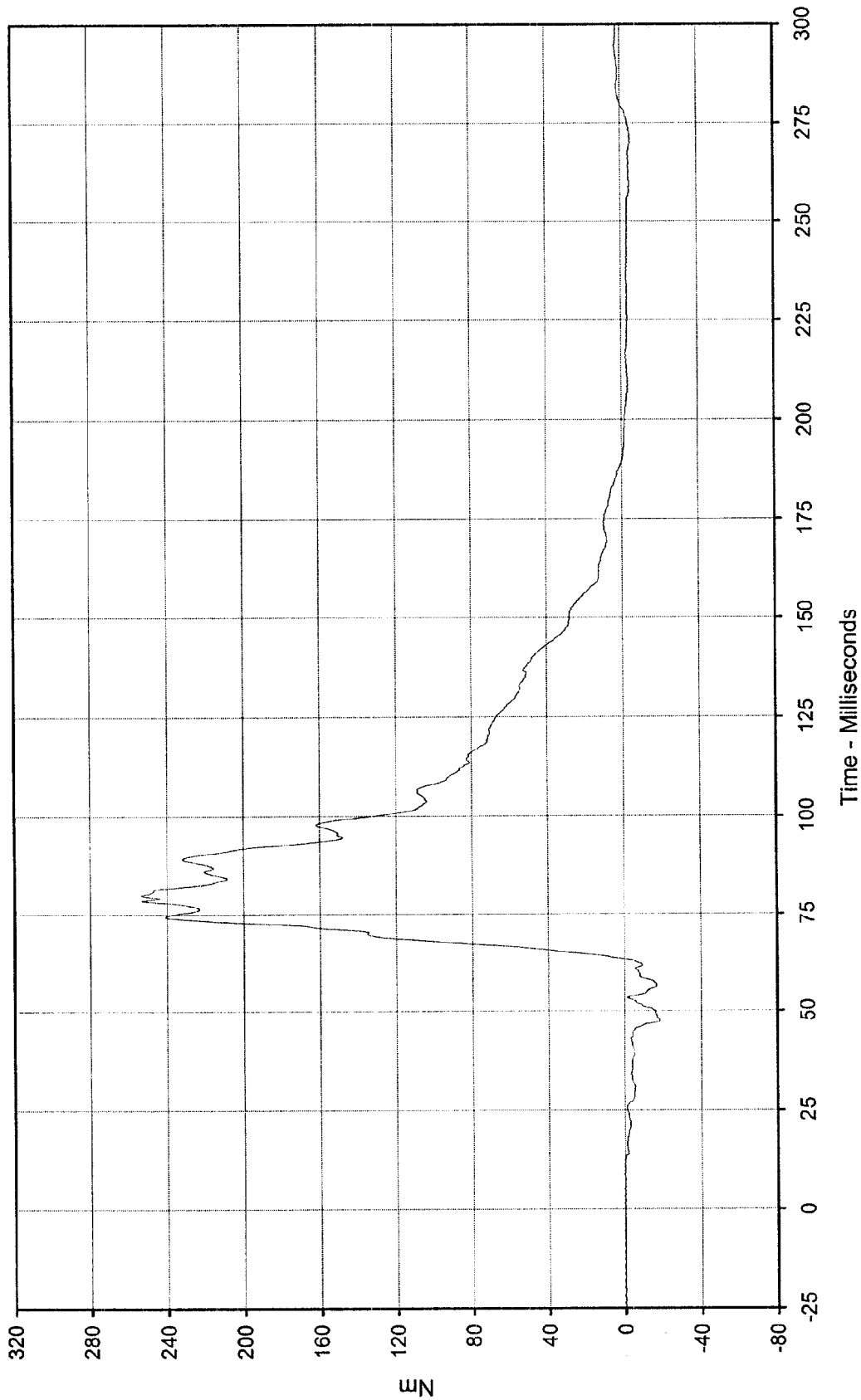
Date of Test: 7/30/98

Curve Number: FIL-032

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Lower Tibia Moment Y

Maximum Value: 253.3 at 79.9 Milliseconds

Minimum Value: -18.6 at 47.4 Milliseconds

SAE Filter Class: 600

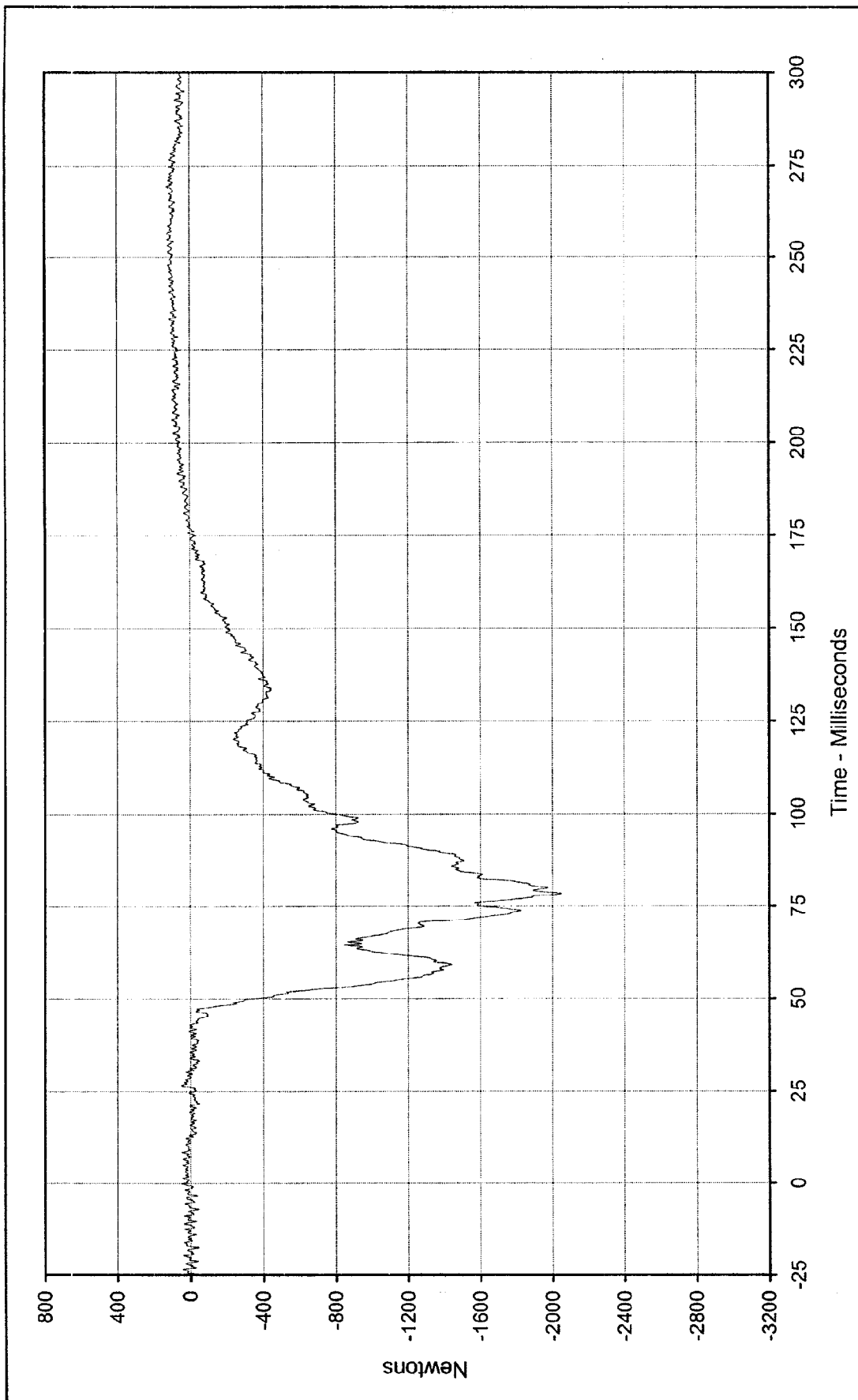
Date of Test: 7/30/98

Curve Number: FIL-033

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Lower Tibia Force Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 125.5 at 269.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

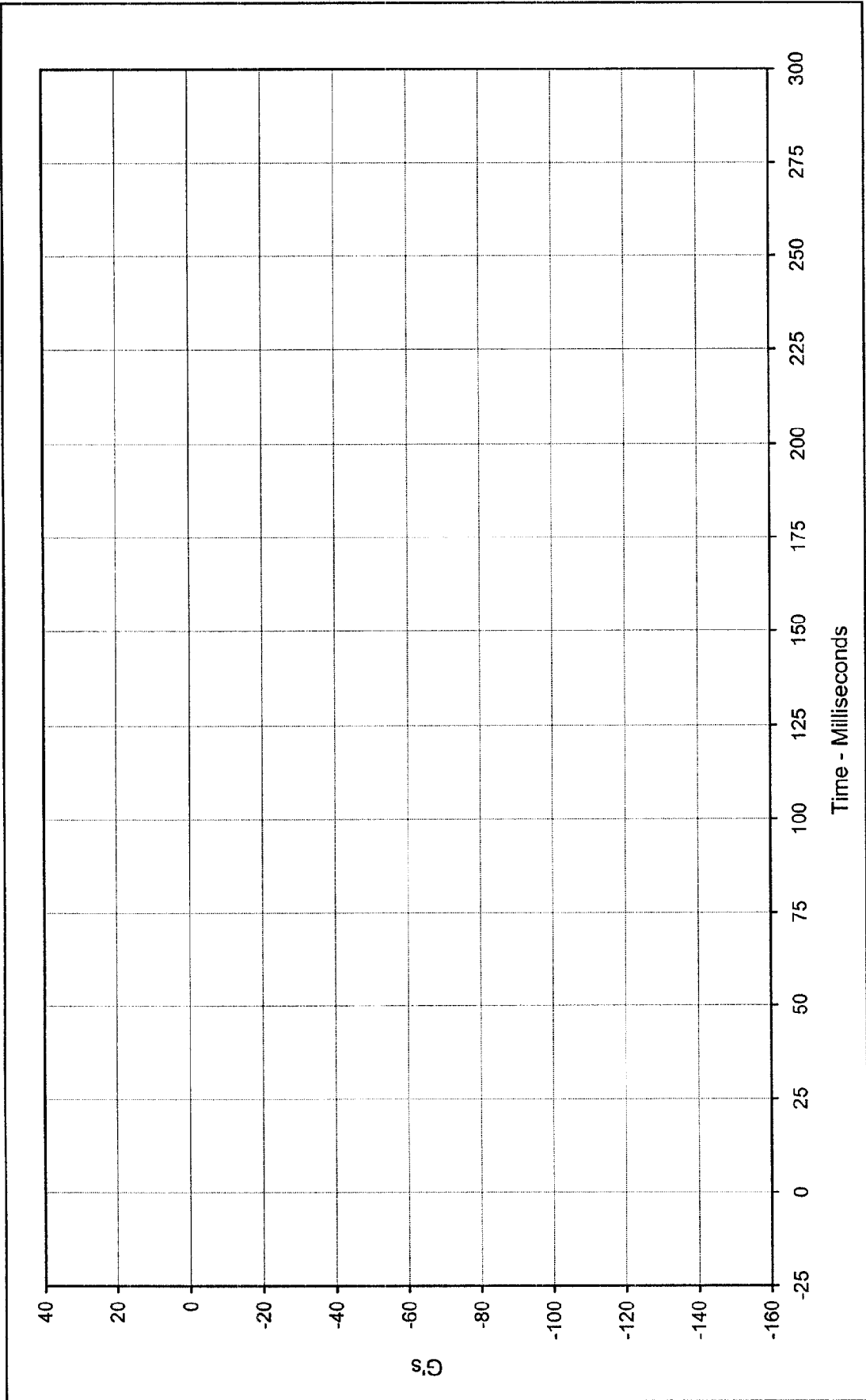
Minimum Value: -2049.8 at 78.4 Milliseconds

SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-034





Curve Description: _____ Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 0.0 at 0.0 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

Minimum Value: 0.0 at 0.0 Milliseconds

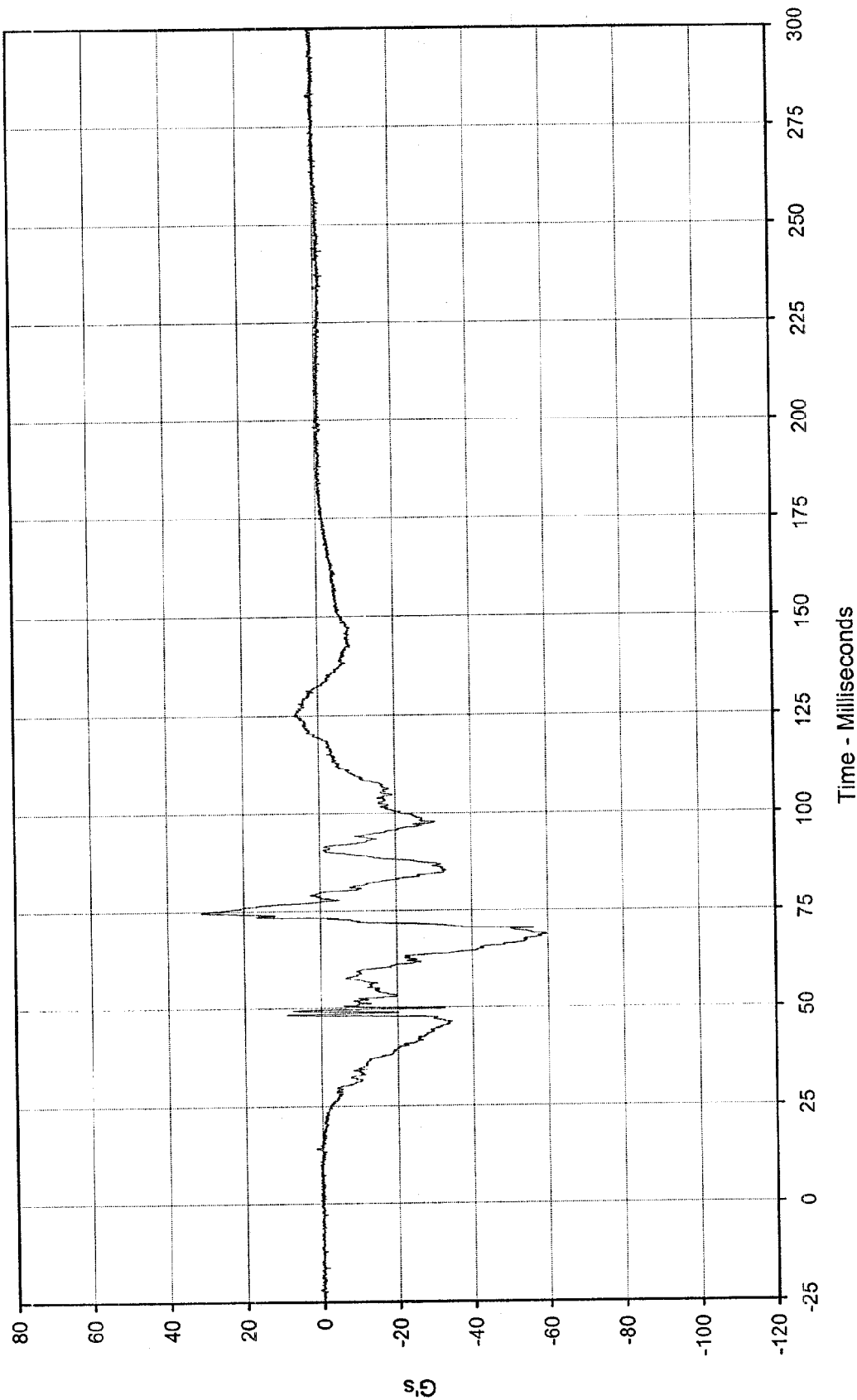
SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-035



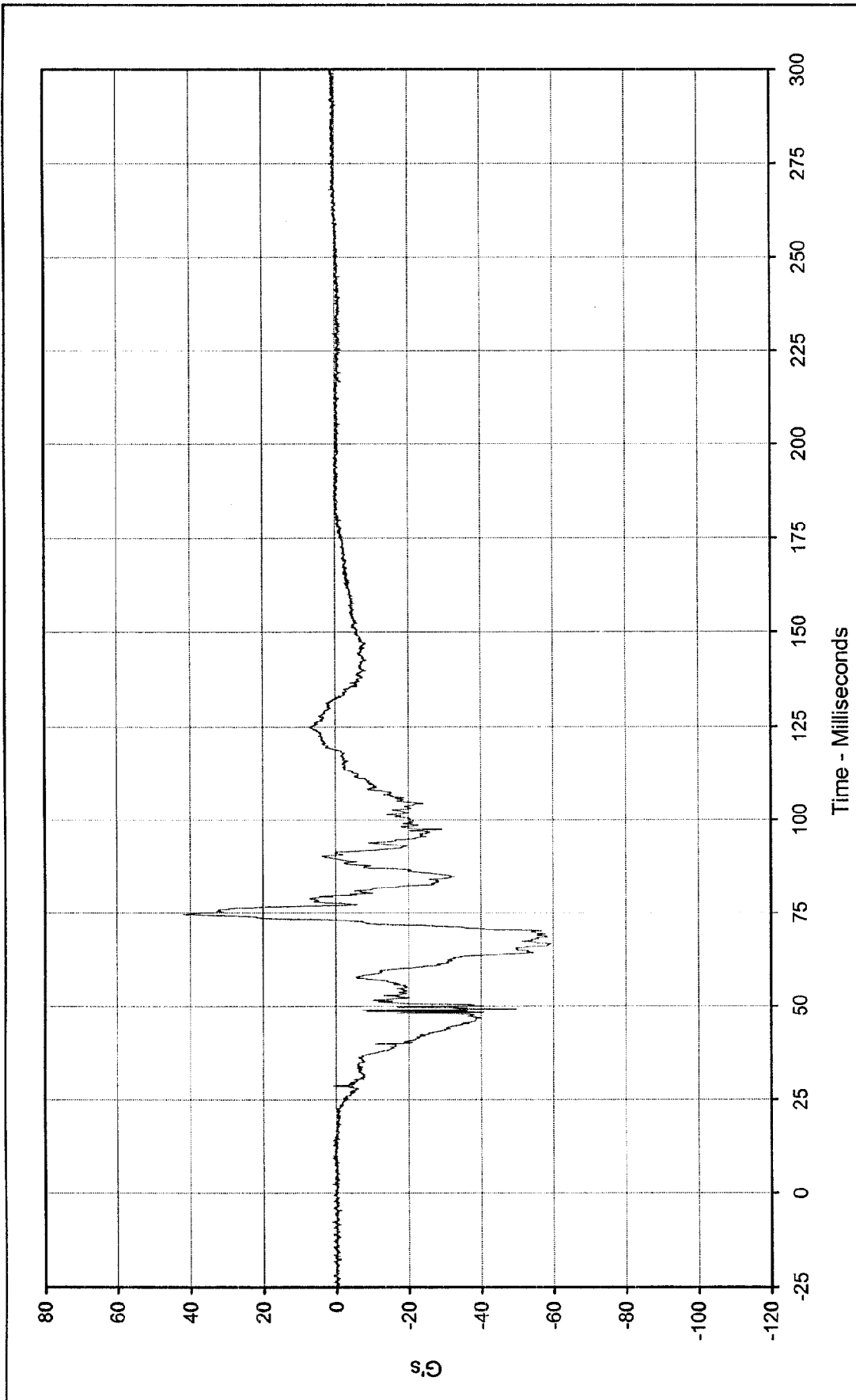
* Channel Failed, No Data



Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan



Curve Description: Driver Left Foot Aft Z
 Maximum Value: 31.1 at 74.6 Milliseconds
 Minimum Value: -59.7 at 68.6 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-036



Curve Description: Driver Left Foot Fore Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 41.7 at 74.6 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

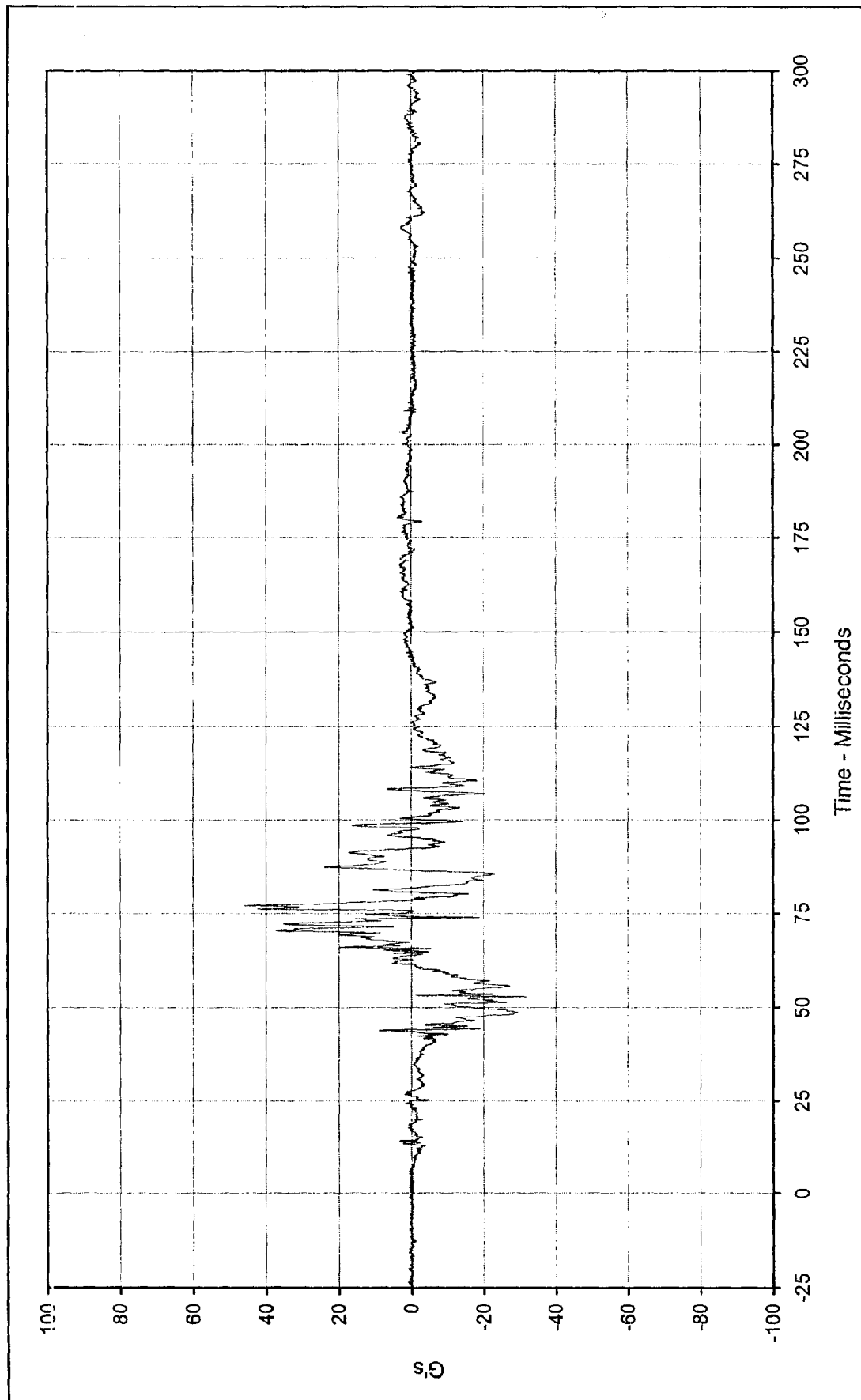
Minimum Value: -59.5 at 66.8 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-037

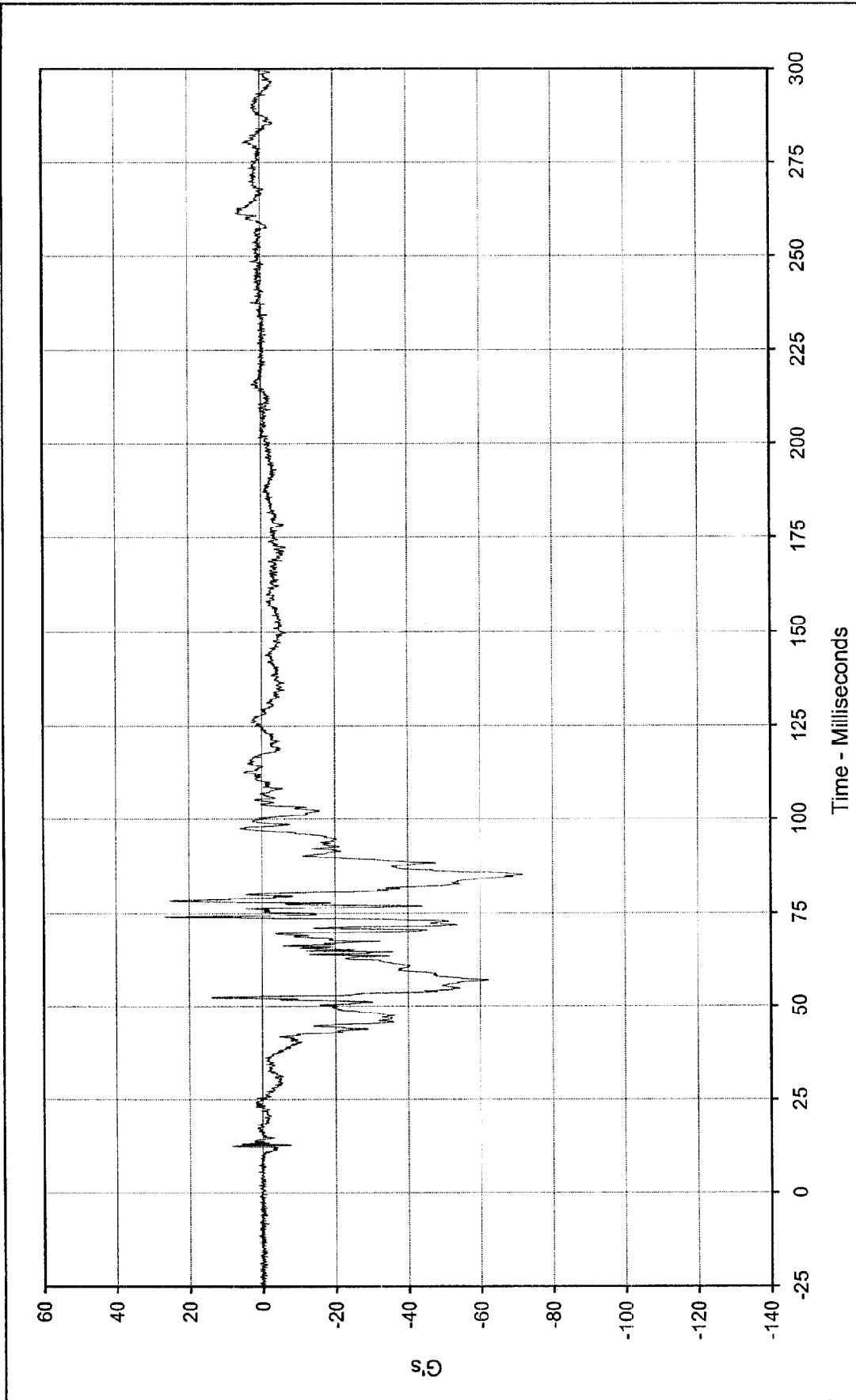




Curve Description: Driver Right Foot Aft X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Maximum Value: 45.9 at 77.2 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan
 Minimum Value: -31.6 at 52.9 Milliseconds



SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-038



Curve Description: Driver Right Foot Aft Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 26.9 at 73.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

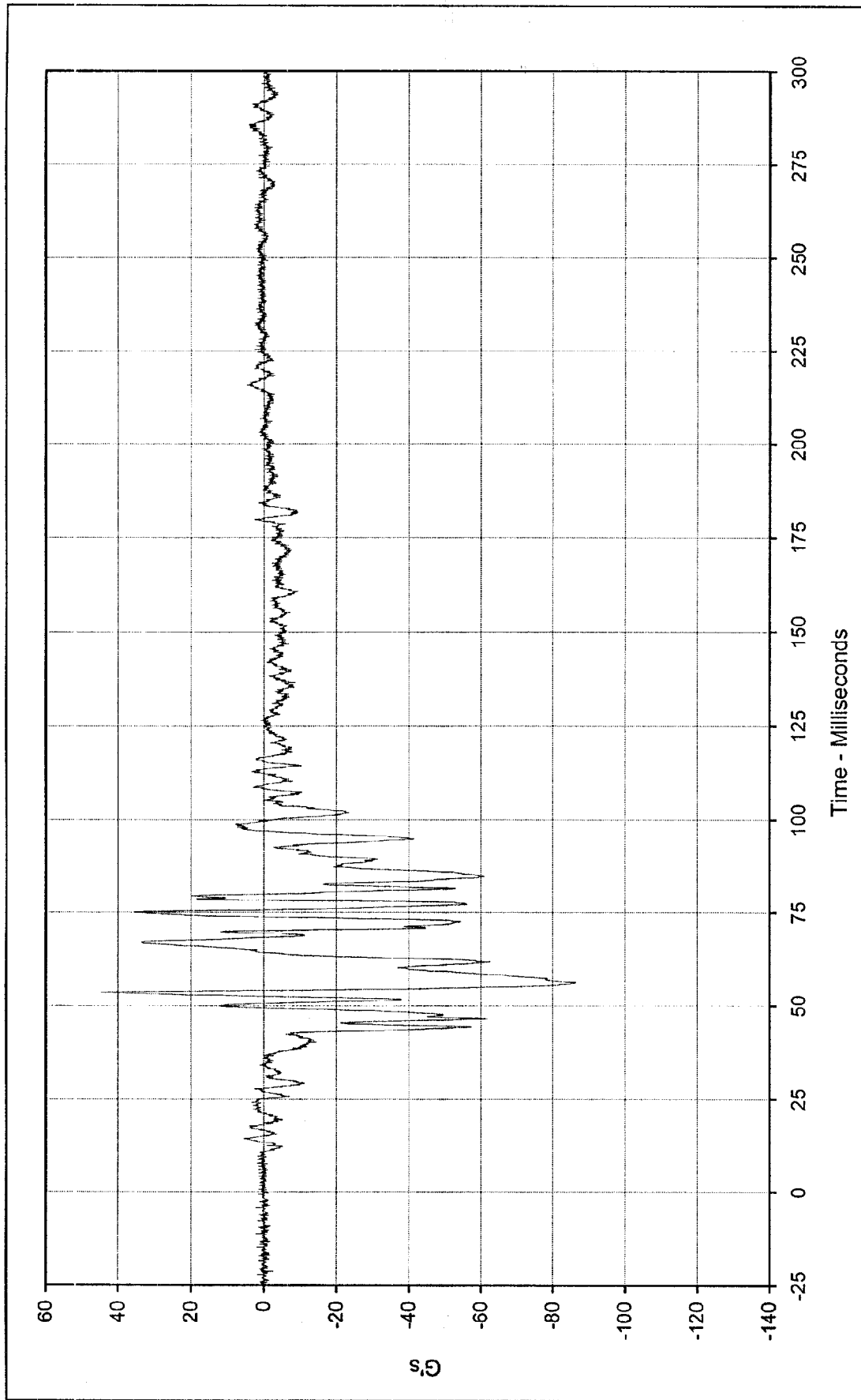
Minimum Value: -72.0 at 85.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-039

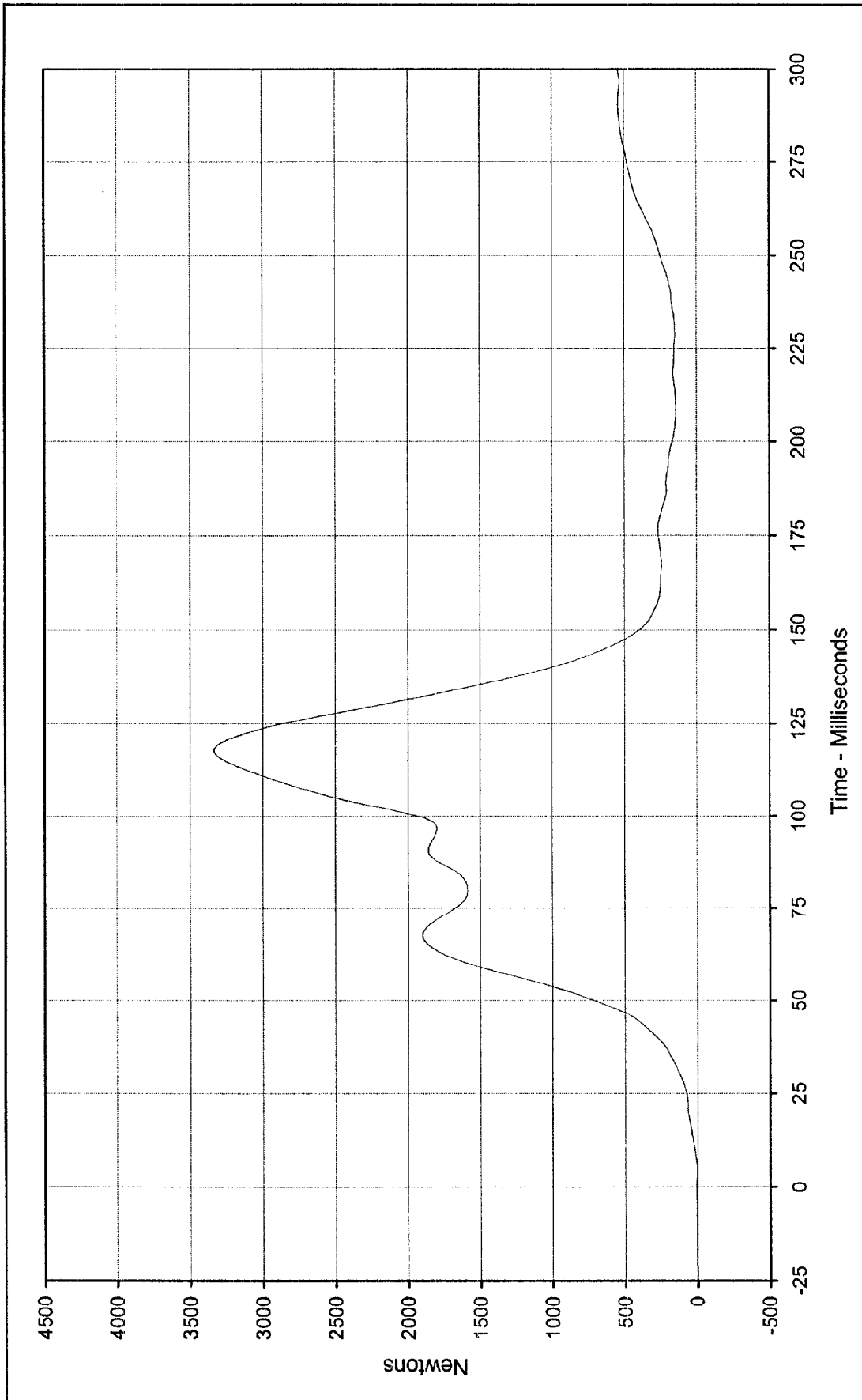




Curve Description: Driver Right Foot Fore Z
 Maximum Value: 44.7 at 53.6 Milliseconds
 Minimum Value: -86.5 at 56.3 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-040

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Lap Belt Force Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 3334.2 at 117.8 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

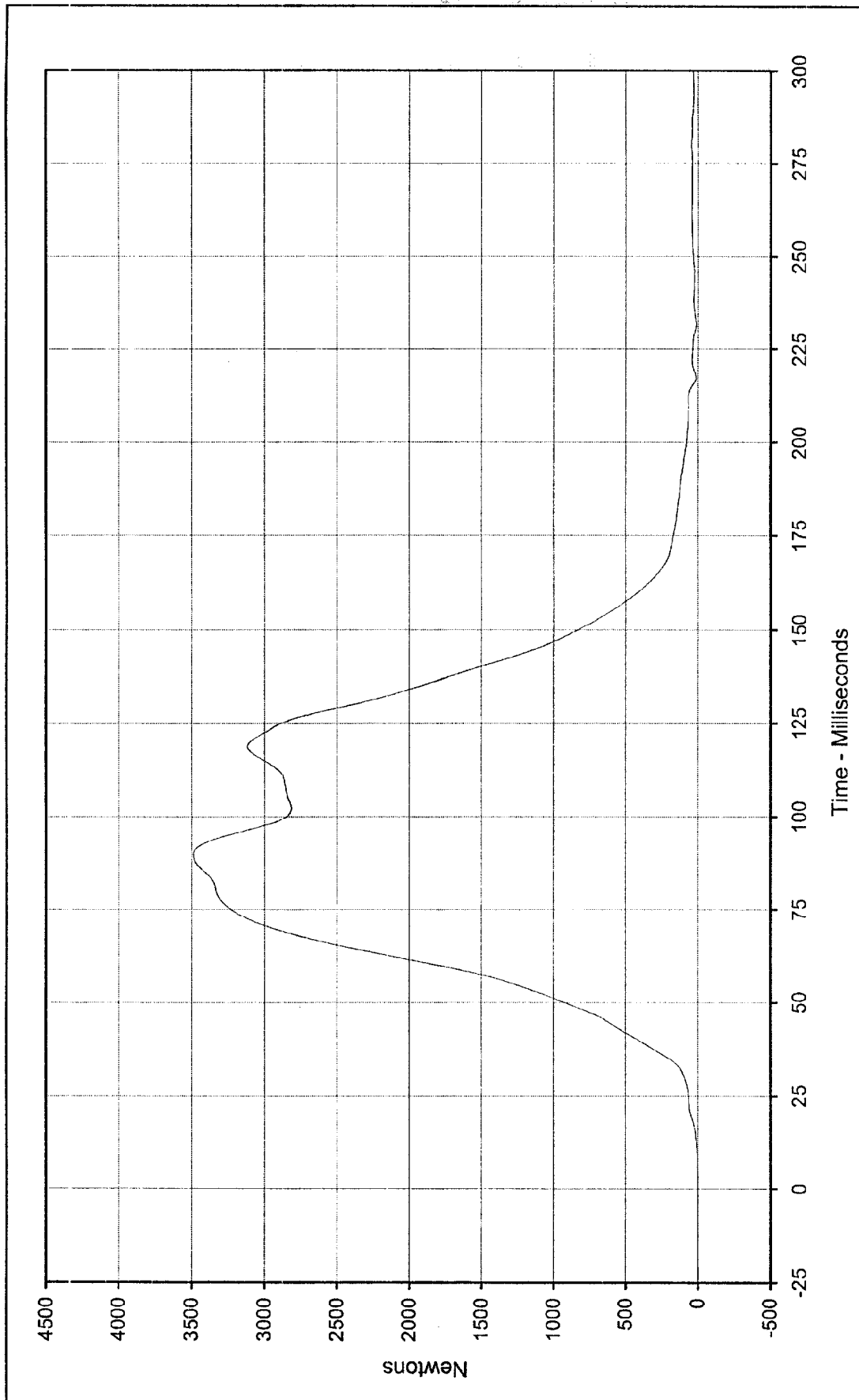
Minimum Value: 2.6 at 3.9 Milliseconds

SAE Filter Class: 60

Date of Test: 7/30/98

Curve Number: FIL-041





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 3488.4 at 89.8 Milliseconds

Minimum Value: 1.6 at 2.6 Milliseconds

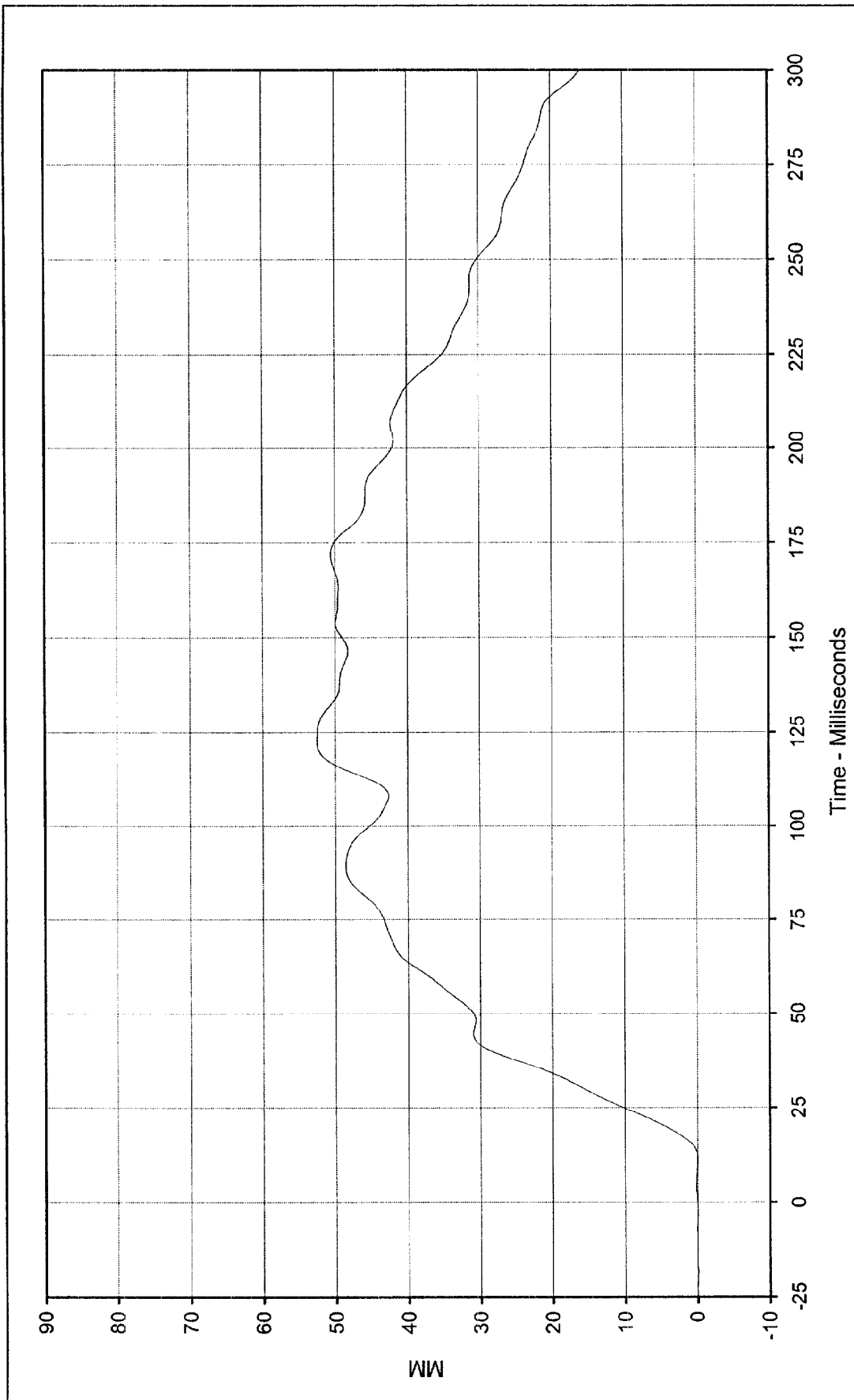
SAE Filter Class: 60

Date of Test: 7/30/98

Curve Number: FIL-042

Test Vehicle: 1998 Ford Contour 4 Door Sedan

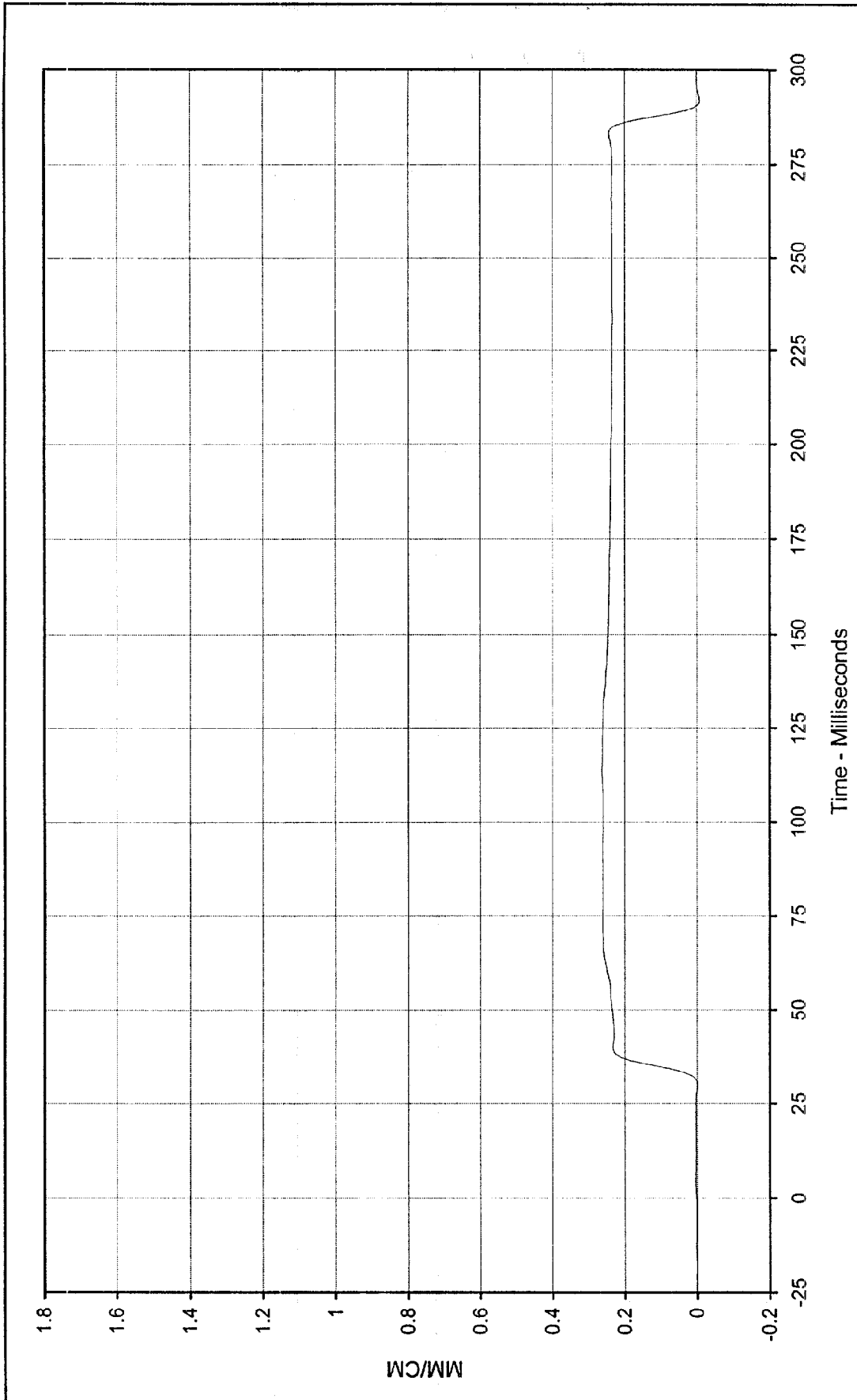




Curve Description: Driver Shoulder Belt Pullout
 Maximum Value: 52.5 at 122.6 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/30/98
 Curve Number: FIL-043

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

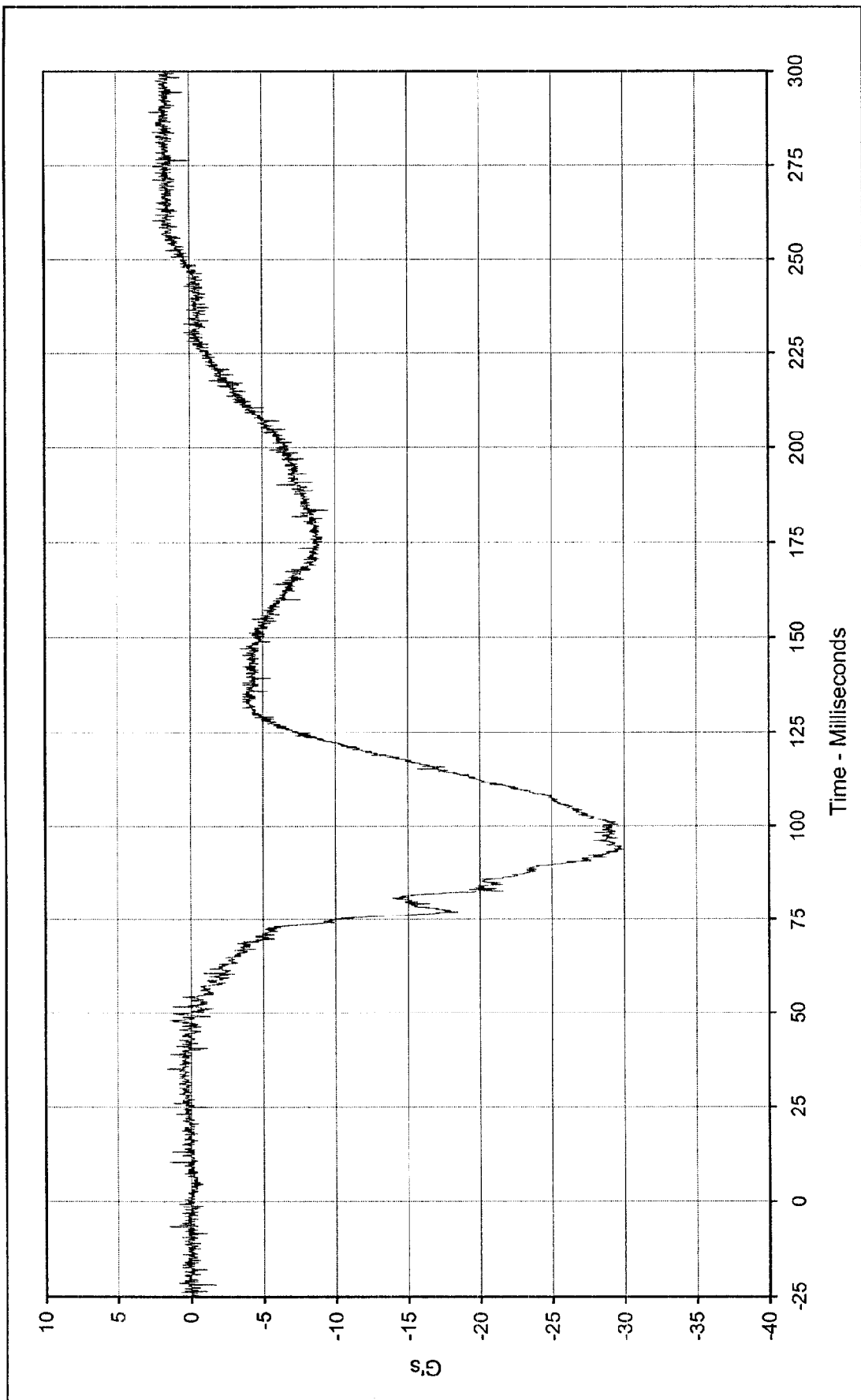




Curve Description: Driver Shoulder Belt Elongation
Maximum Value: 0.26 at 113.7 Milliseconds
Minimum Value: -0.01 at 292.0 Milliseconds
SAE Filter Class: 60
Date of Test: 7/30/98
Curve Number: FIL-044

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Head Primary X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 2.7 at 289.4 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

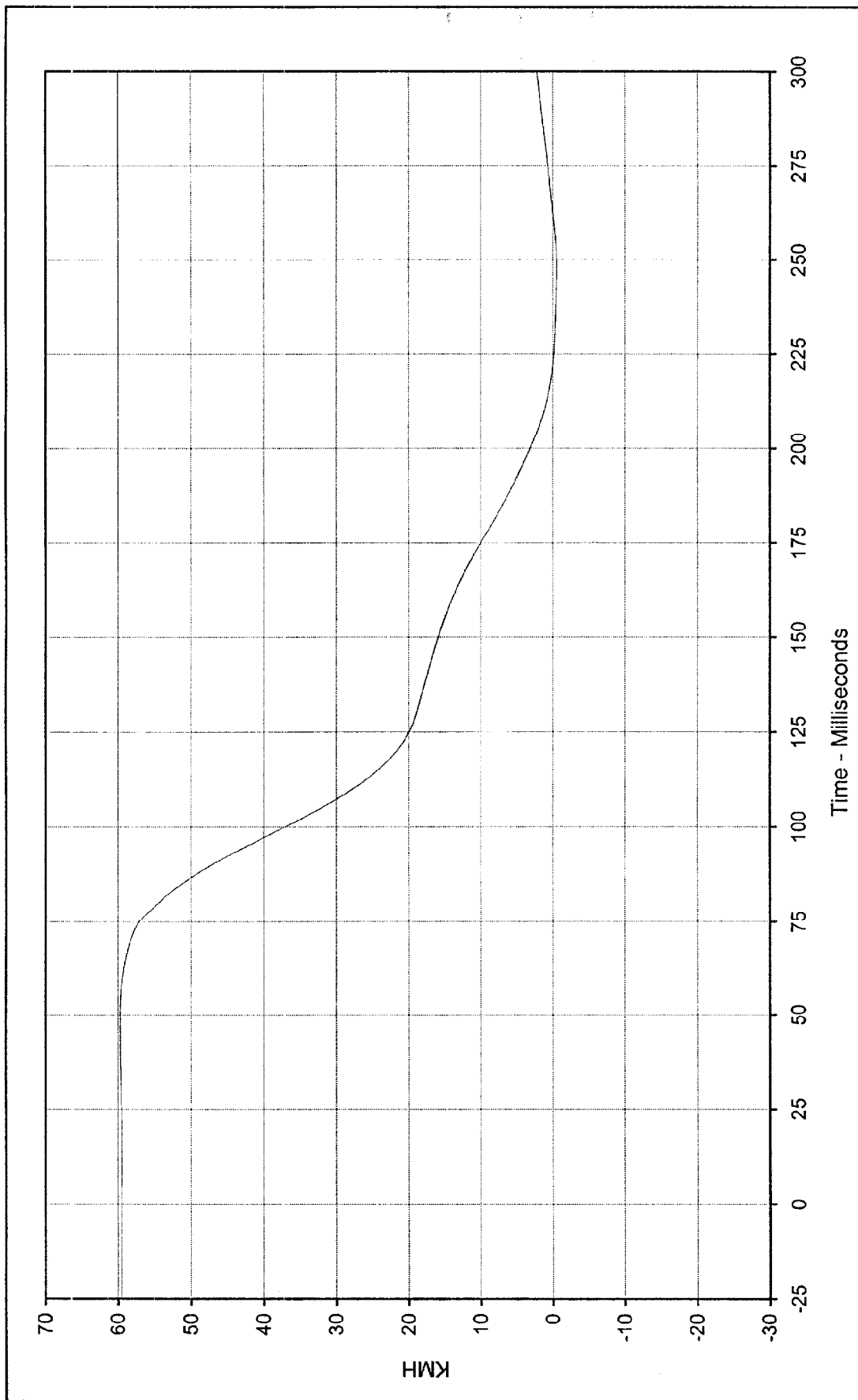
Minimum Value: -30.0 at 93.7 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-045





Curve Description: Passenger Head Primary X Velocity

Maximum Value: 59.8 at 48.8 Milliseconds

Minimum Value: -0.5 at 247.8 Milliseconds

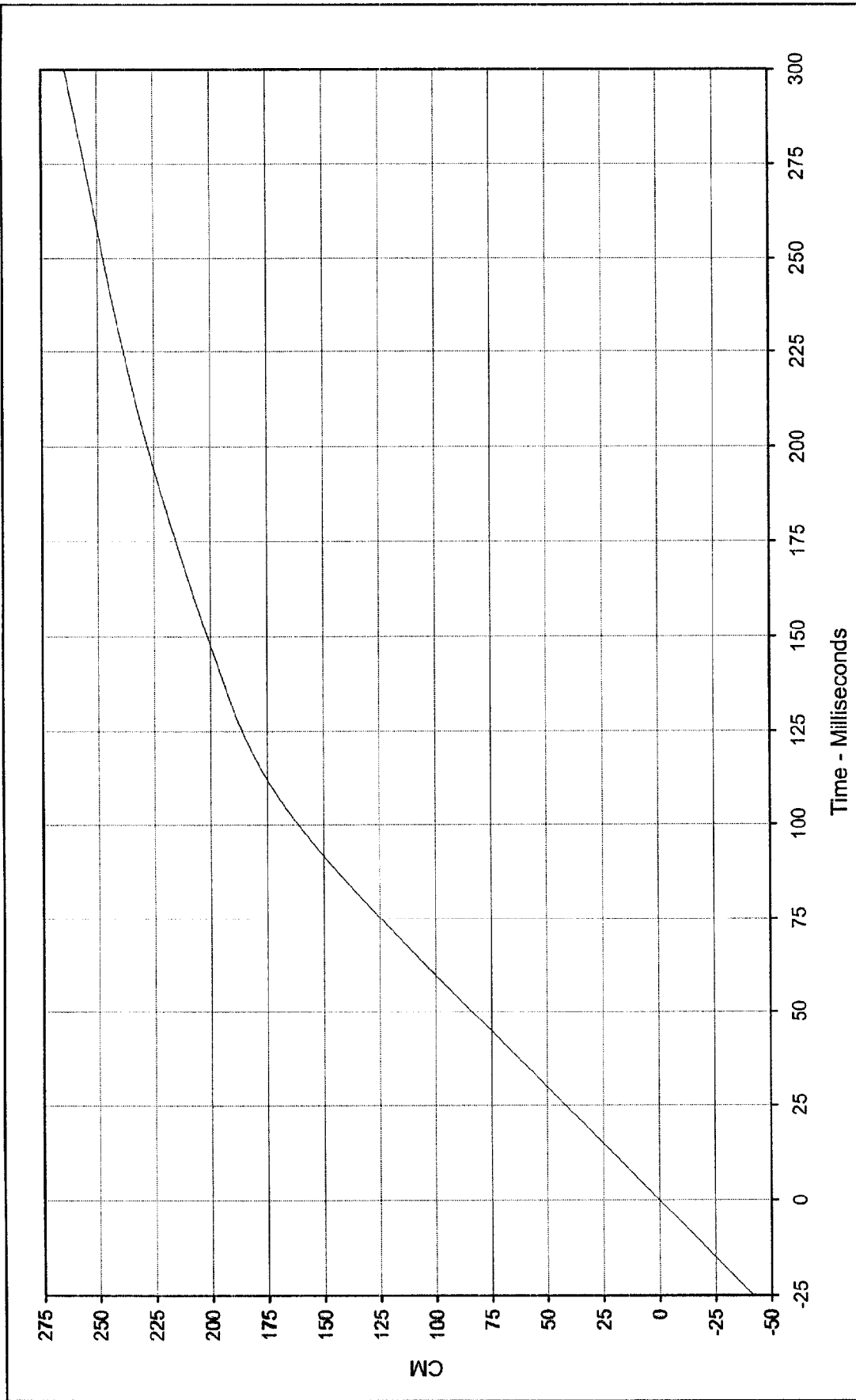
SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-045

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213





Curve Description: Passenger Head Primary X Displ.

Maximum Value: 264.4 at 299.9 Milliseconds

Minimum Value: 0.1 at 0.0 Milliseconds

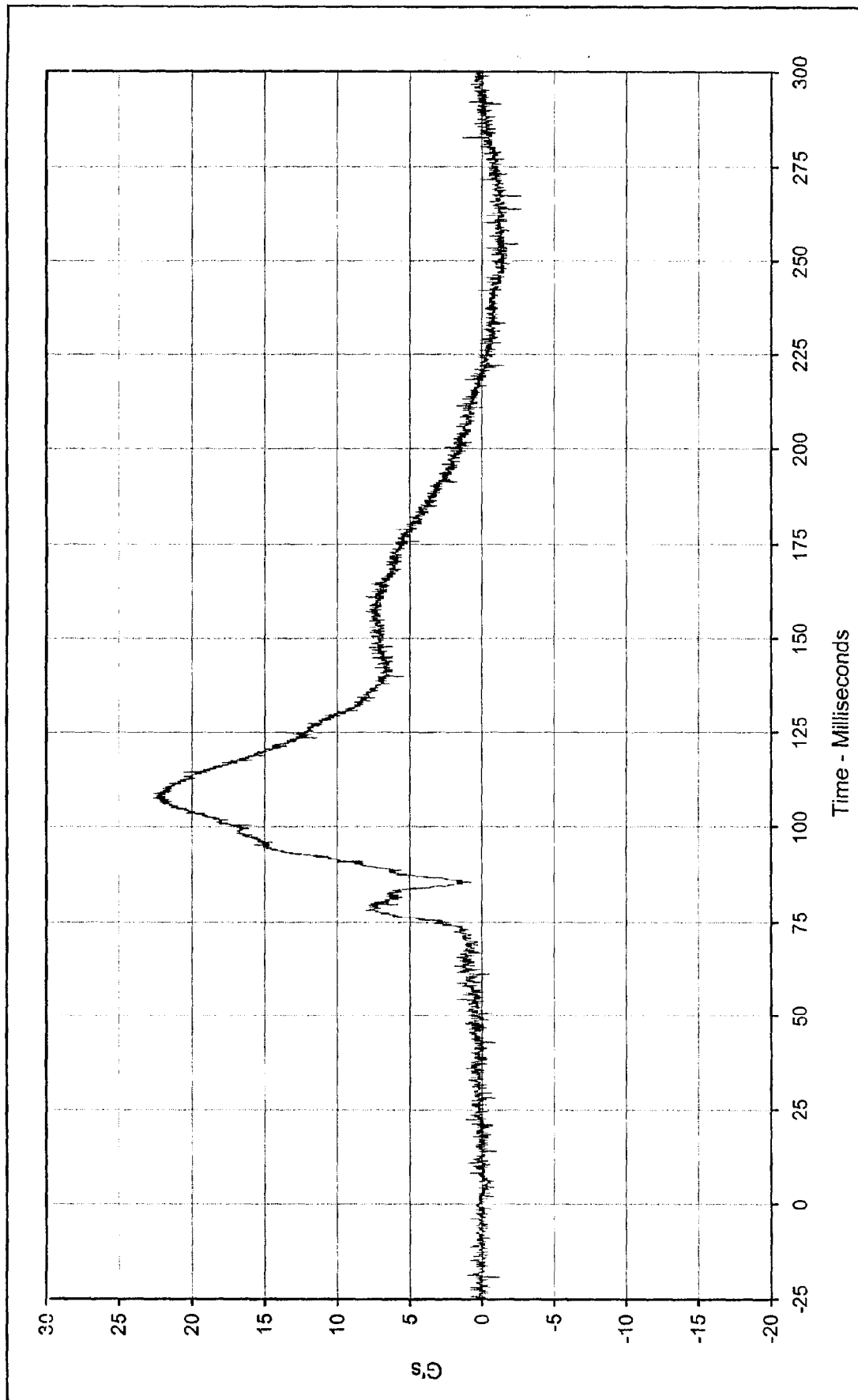
SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-045

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

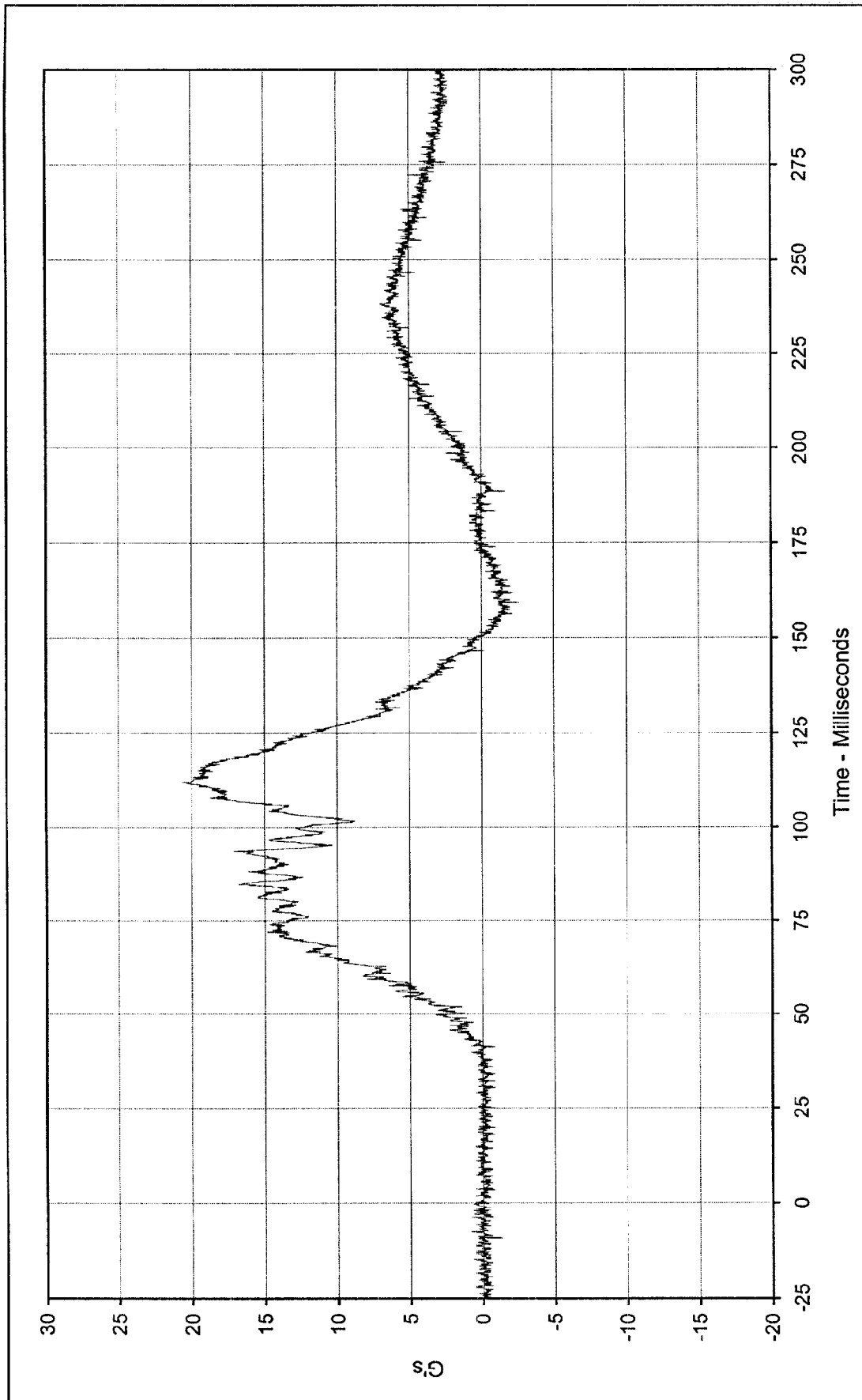




Curve Description: Passenger Head Primary Y
 Maximum Value: 22.6 at 107.8 Milliseconds
 Minimum Value: -2.7 at 264.1 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-046

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Head Primary Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 20.7 at 112.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

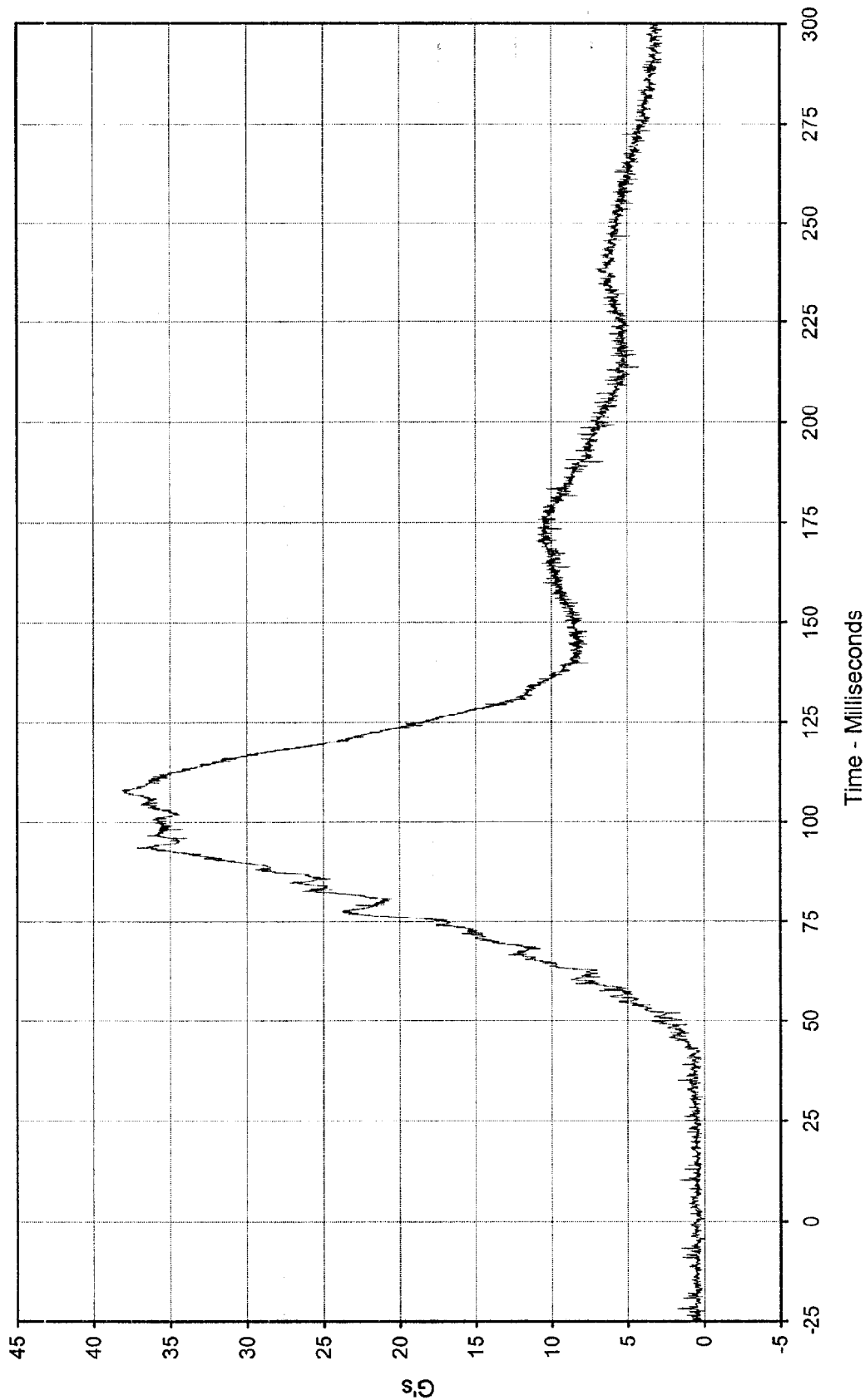
Minimum Value: -2.6 at 159.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-047





Curve Description: Passenger Head Resultant Primary Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 38.2 at 108.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

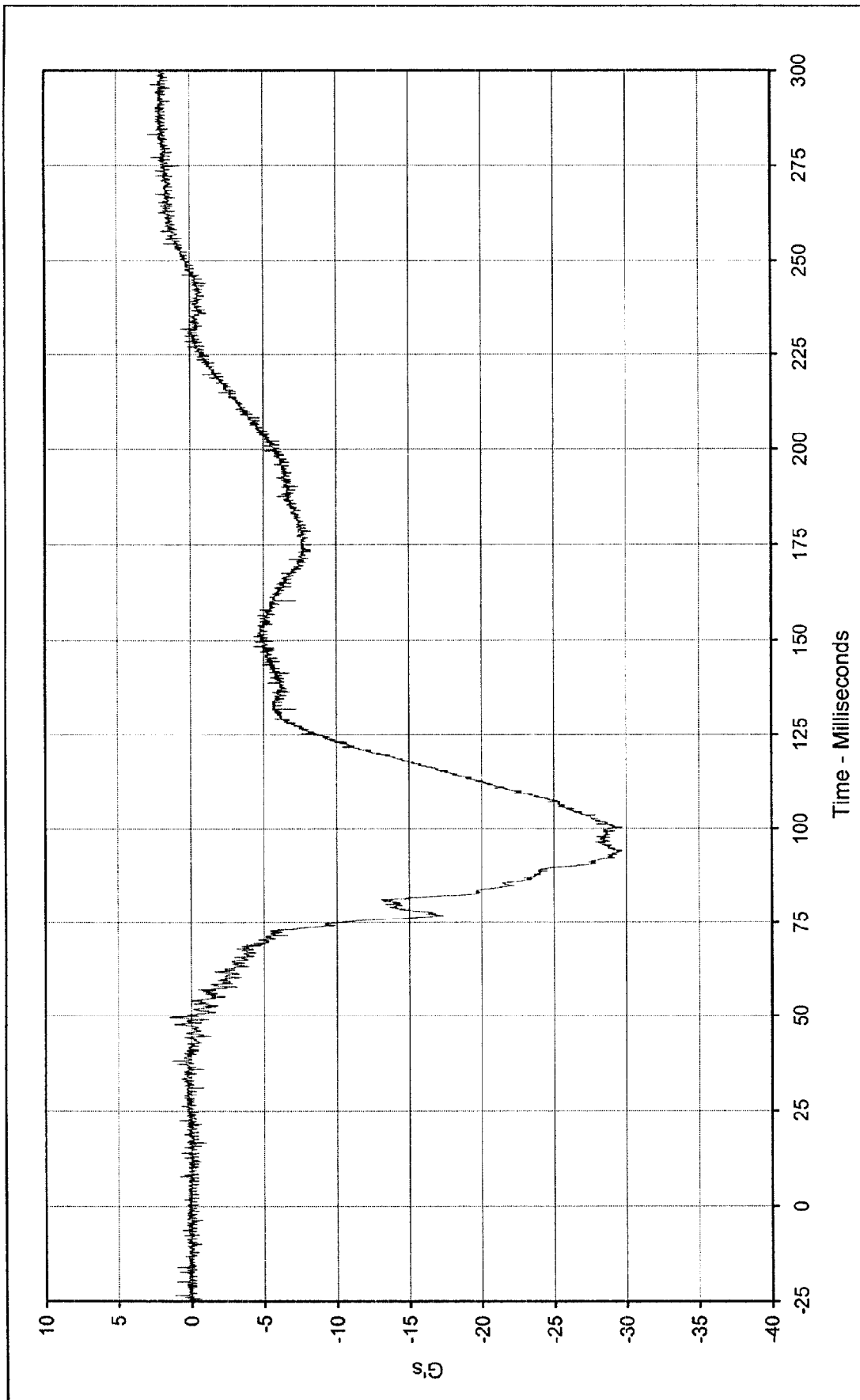
Minimum Value: 0.0 at 0.7 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

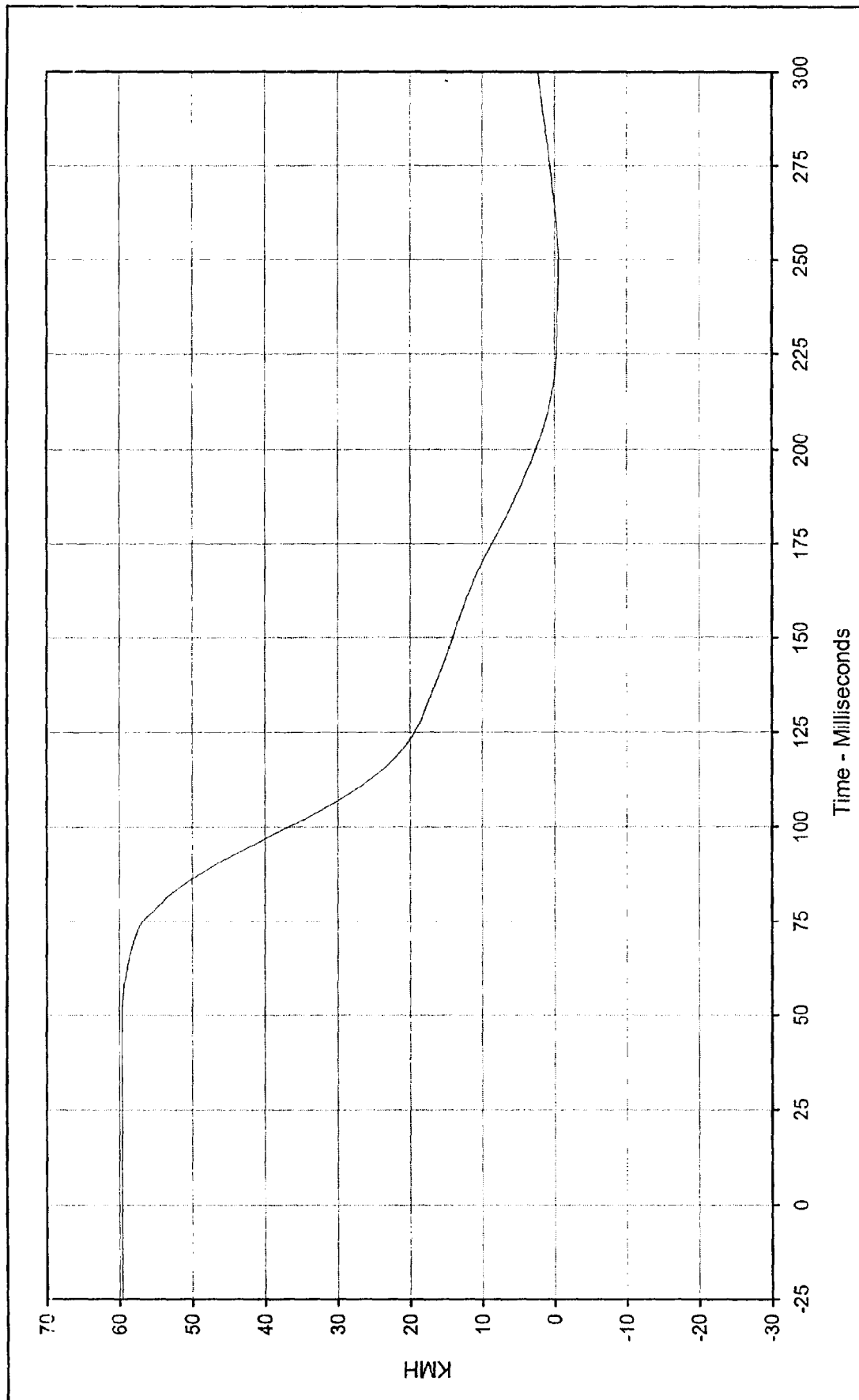
Curve Number: RES-045





Curve Description:	Passenger Head Redundant X	Testing Program	1998 37.5mph Offset w/50th Male	No.: MW0213
Maximum Value:	2.8 at 283.3 Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	-29.7 at 94.0 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	7/30/98			
Curve Number:	FIL-048			





Curve Description: Passenger Head Redundant X Velocity

Maximum Value: 59.7 at 40.6 Milliseconds

Minimum Value: -0.6 at 247.5 Milliseconds

SAE Filter Class: 180

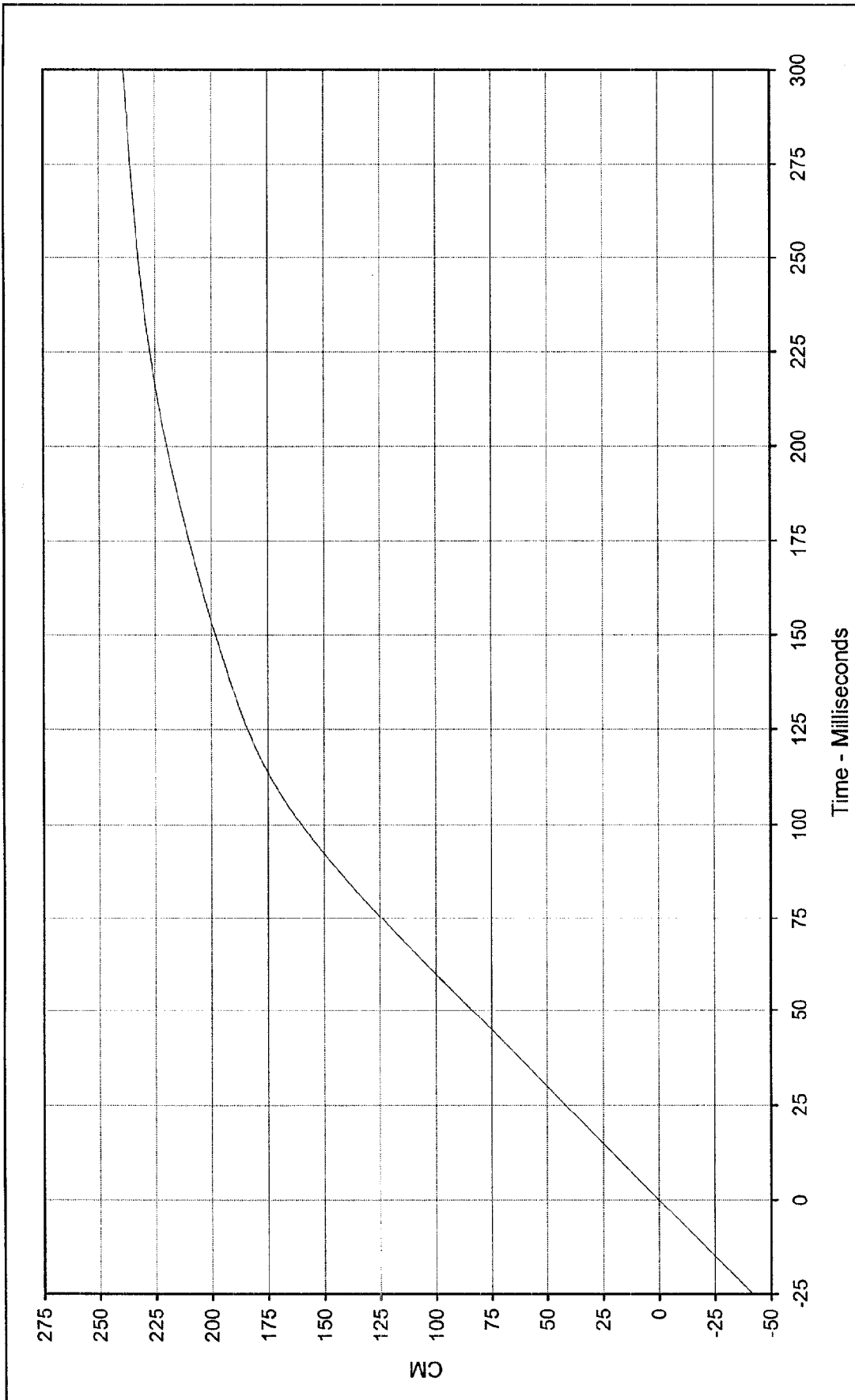
Date of Test: 7/30/98

Curve Number: IN1-048

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Head Redundant X Displ. Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 239.0 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

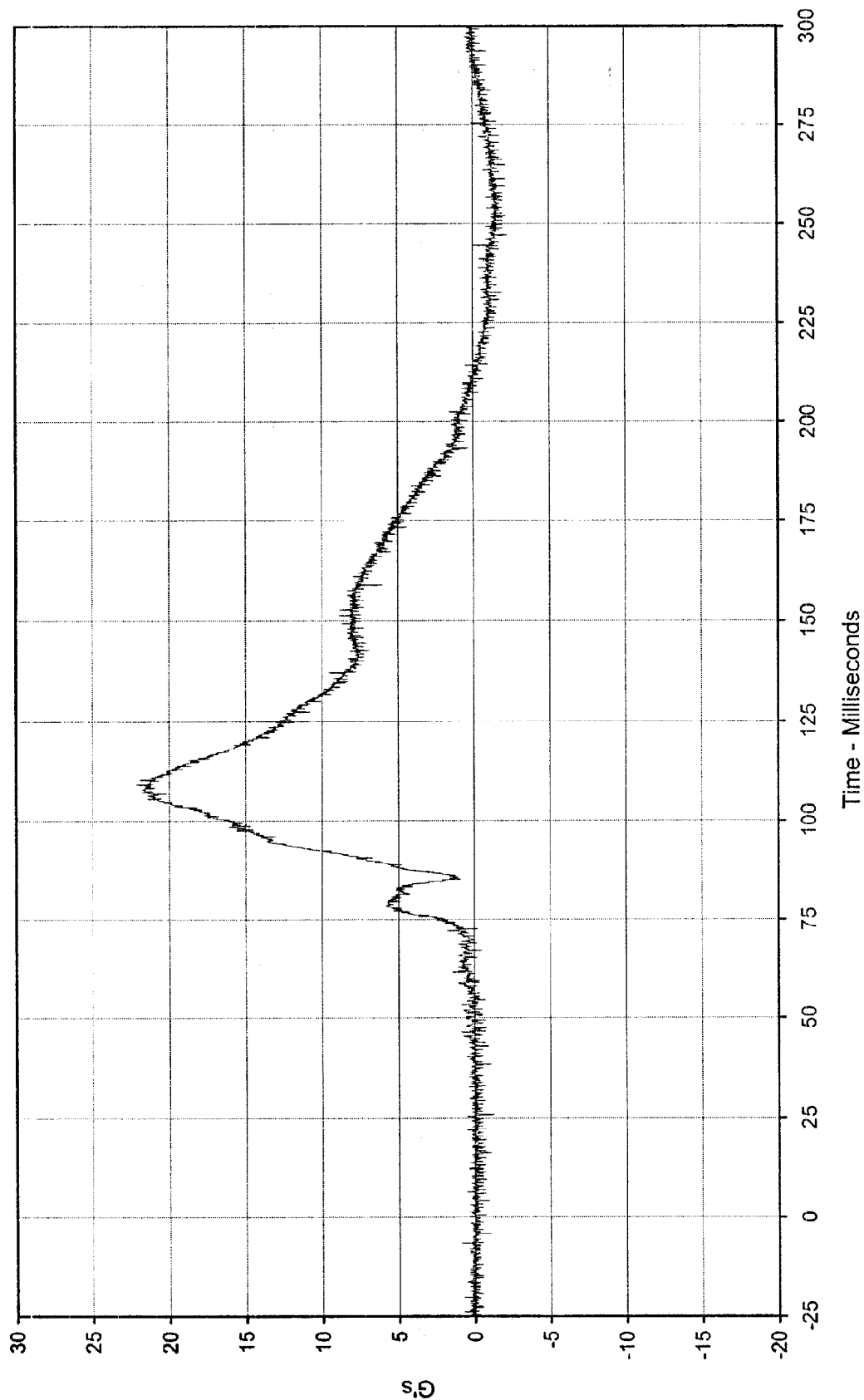
Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

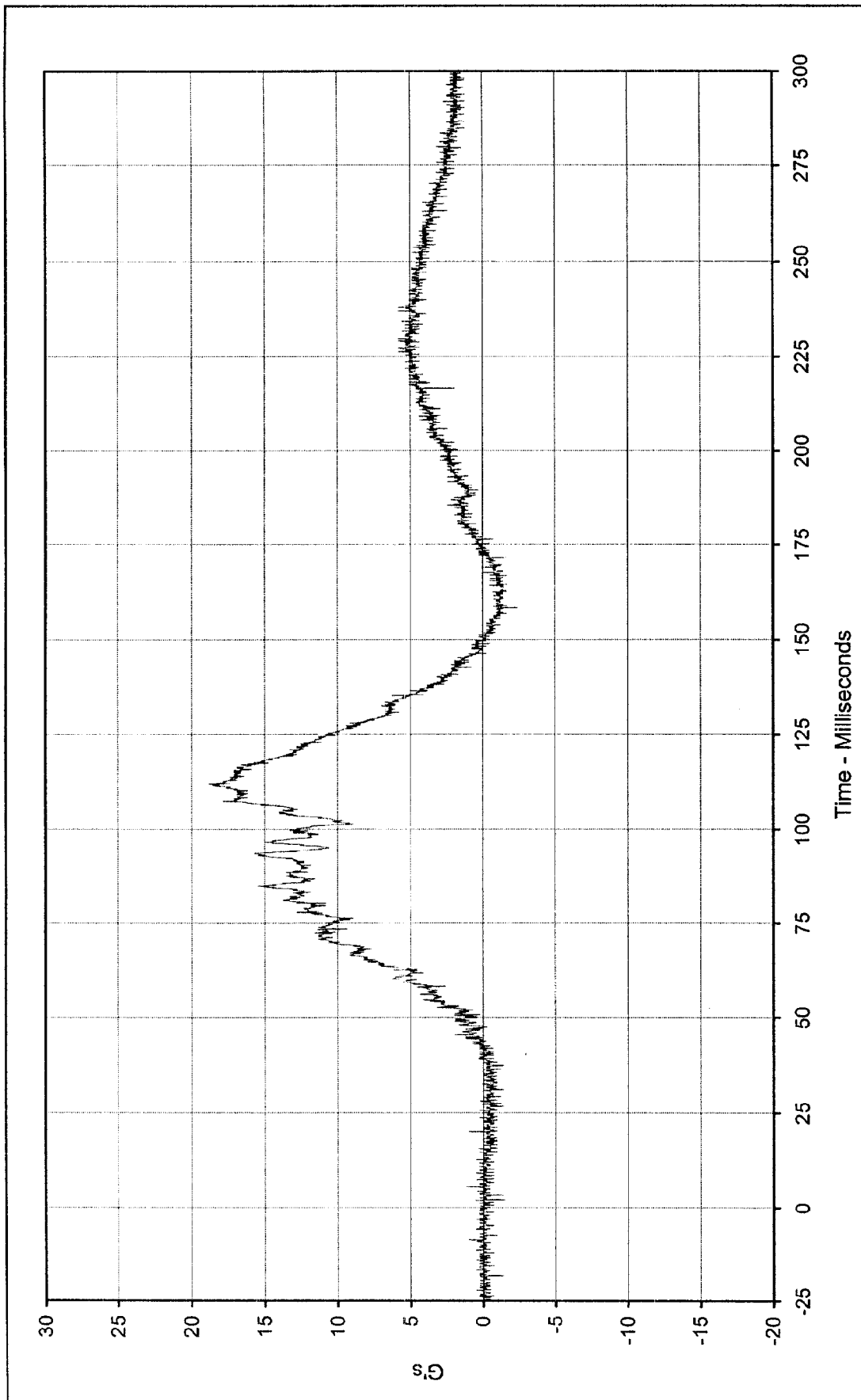
Curve Number: IN2-048





Curve Description:	Passenger Head Redundant Y	Testing Program	1998 37.5mph Offset w/50th Male	No.: MW0213
Maximum Value:	22.1 at 109.2 Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	-2.3 at 247.1 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	7/30/98			
Curve Number:	FIL-049			





Curve Description: Passenger Head Redundant Z

Maximum Value: 18.8 at 112.0 Milliseconds

Minimum Value: -2.4 at 158.5 Milliseconds

SAE Filter Class: 1000

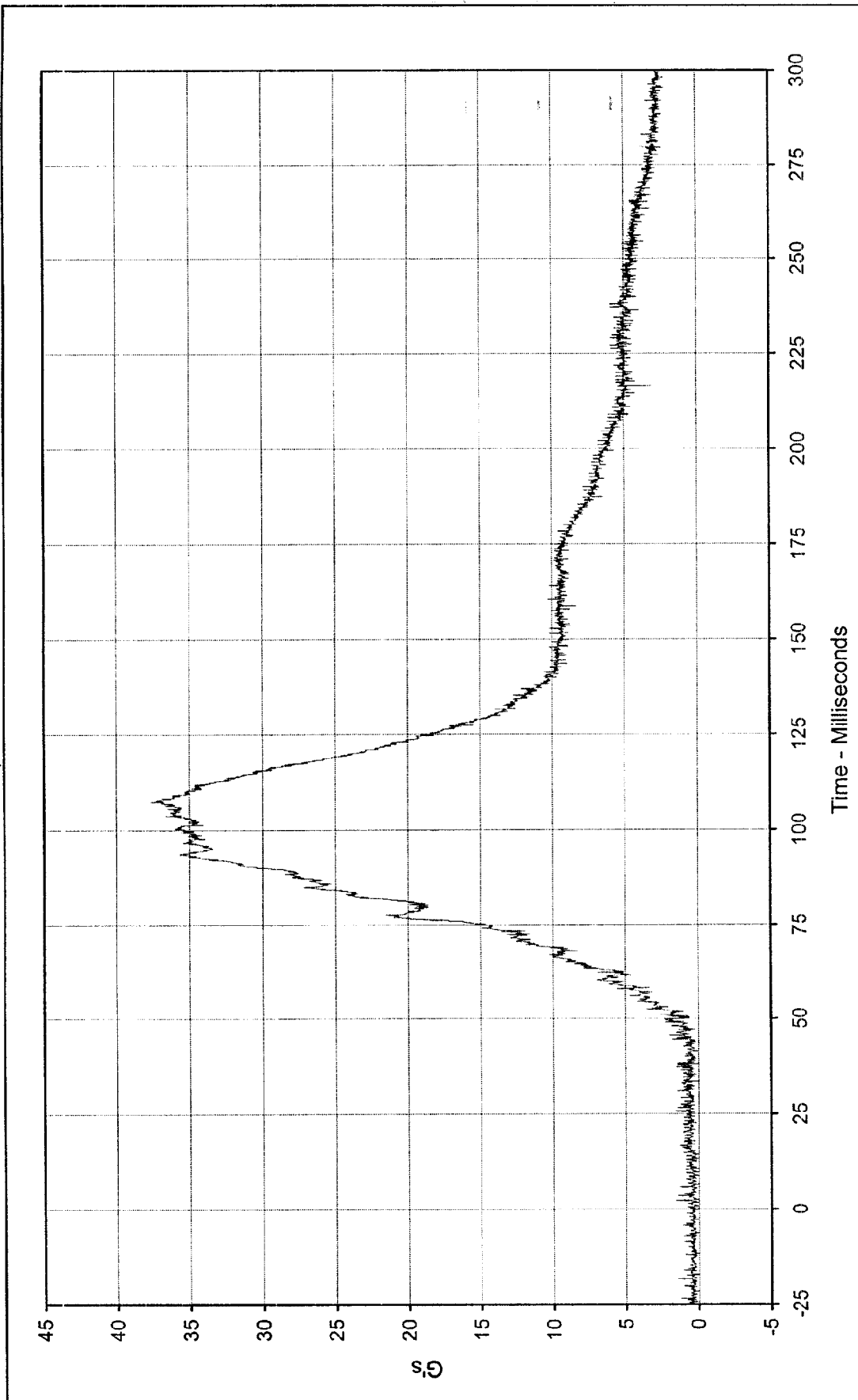
Date of Test: 7/30/98

Curve Number: FIL-050

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Head Resultant Redundant Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 37.6 at 107.5 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

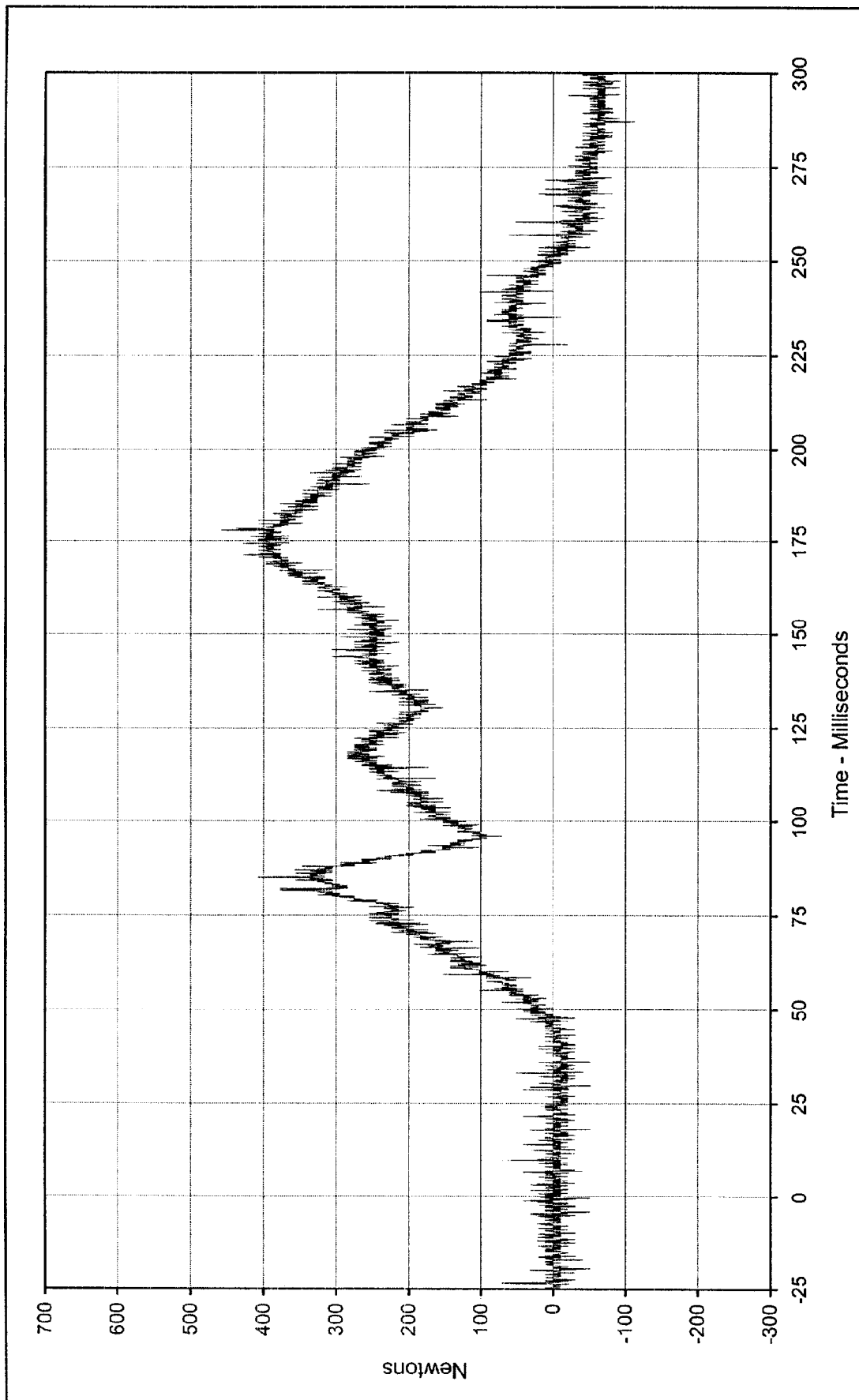
Minimum Value: 0.0 at 0.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: RES-048





Curve Description: Passenger Neck Force X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 457.8 at 178.0 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

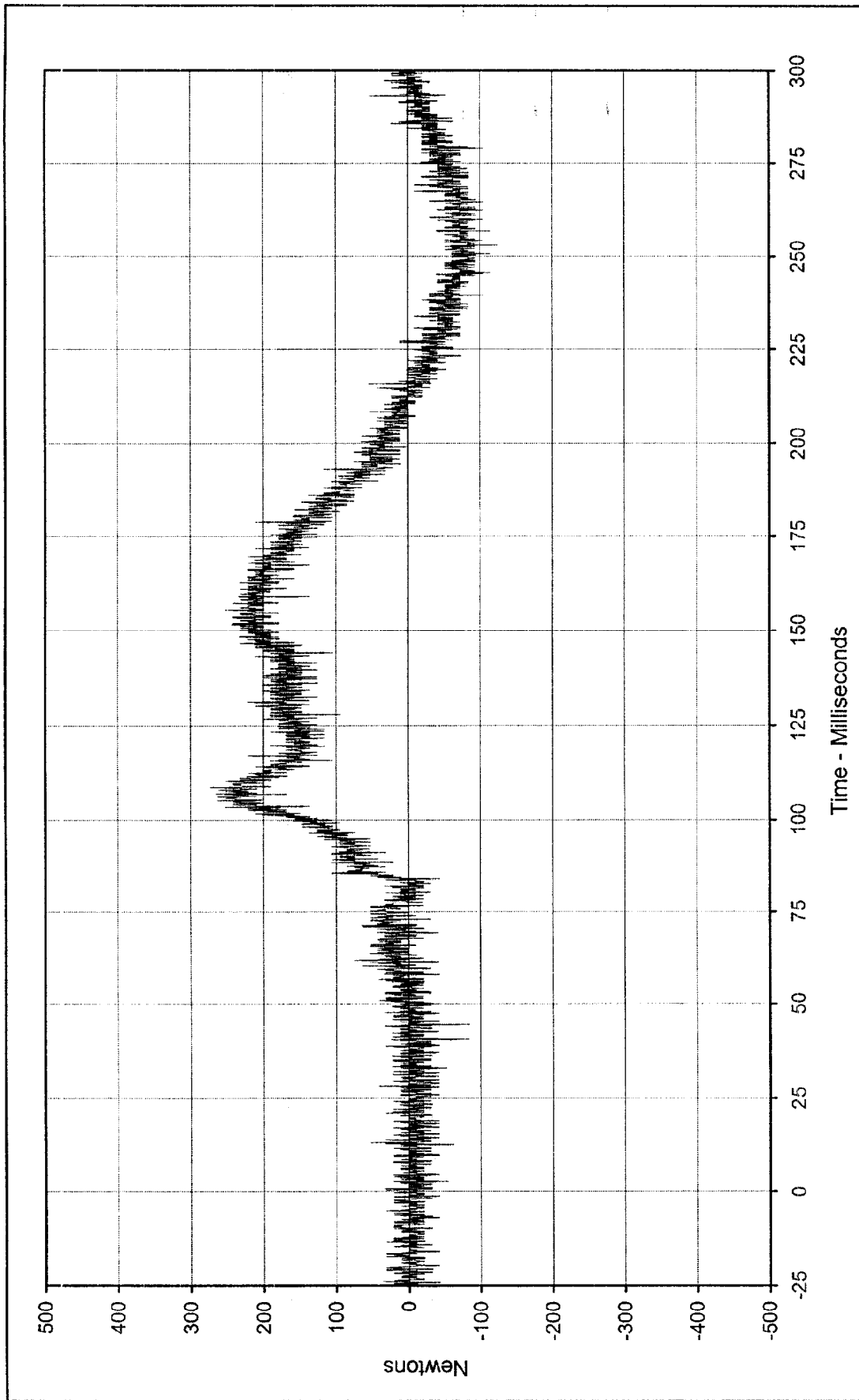
Minimum Value: -111.9 at 287.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-051

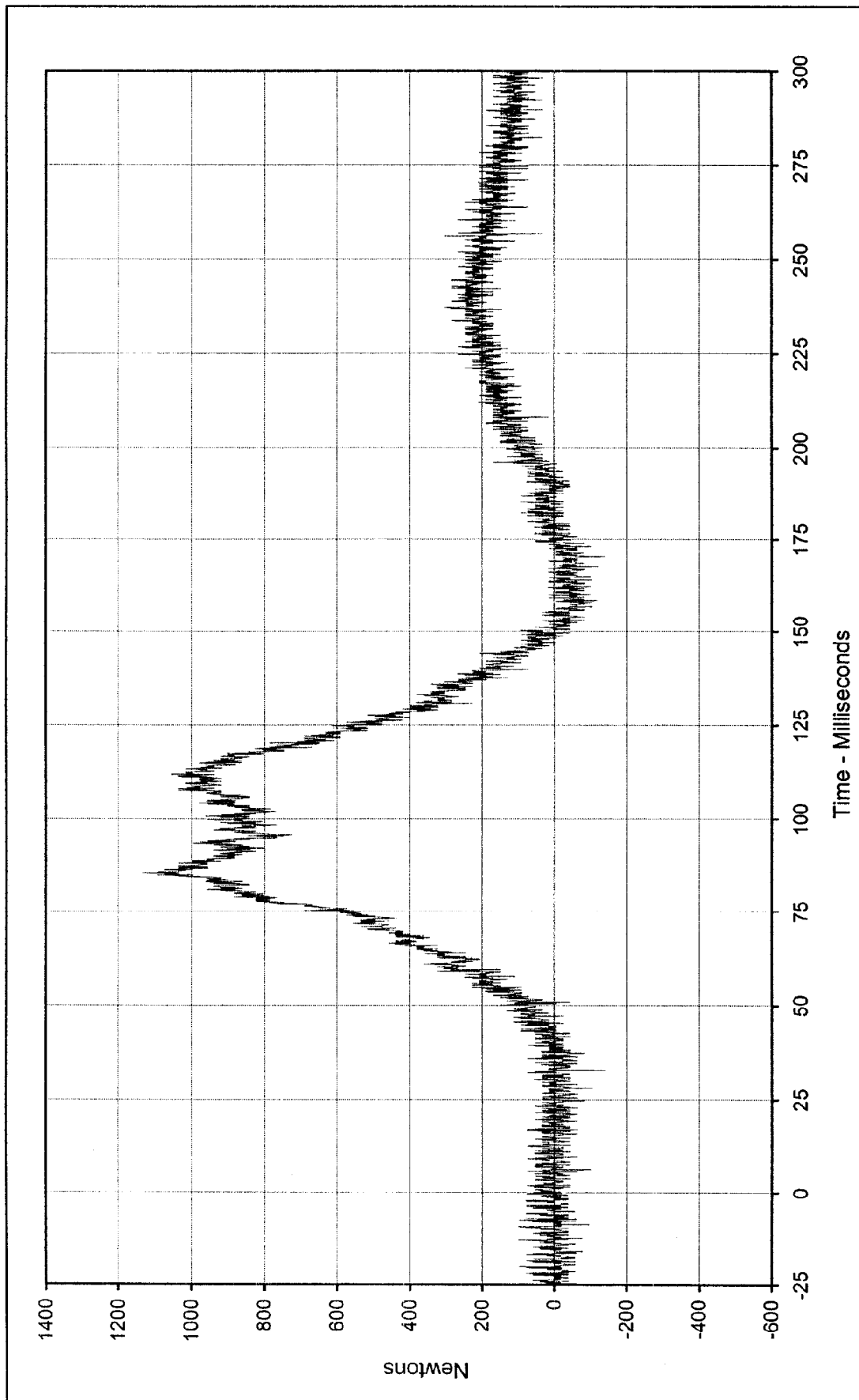




Curve Description: Passenger Neck Force Y
Maximum Value: 273.0 at 108.8 Milliseconds
Minimum Value: -125.3 at 253.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 7/30/98
Curve Number: FIL-052

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Neck Force Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 1131.1 at 85.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

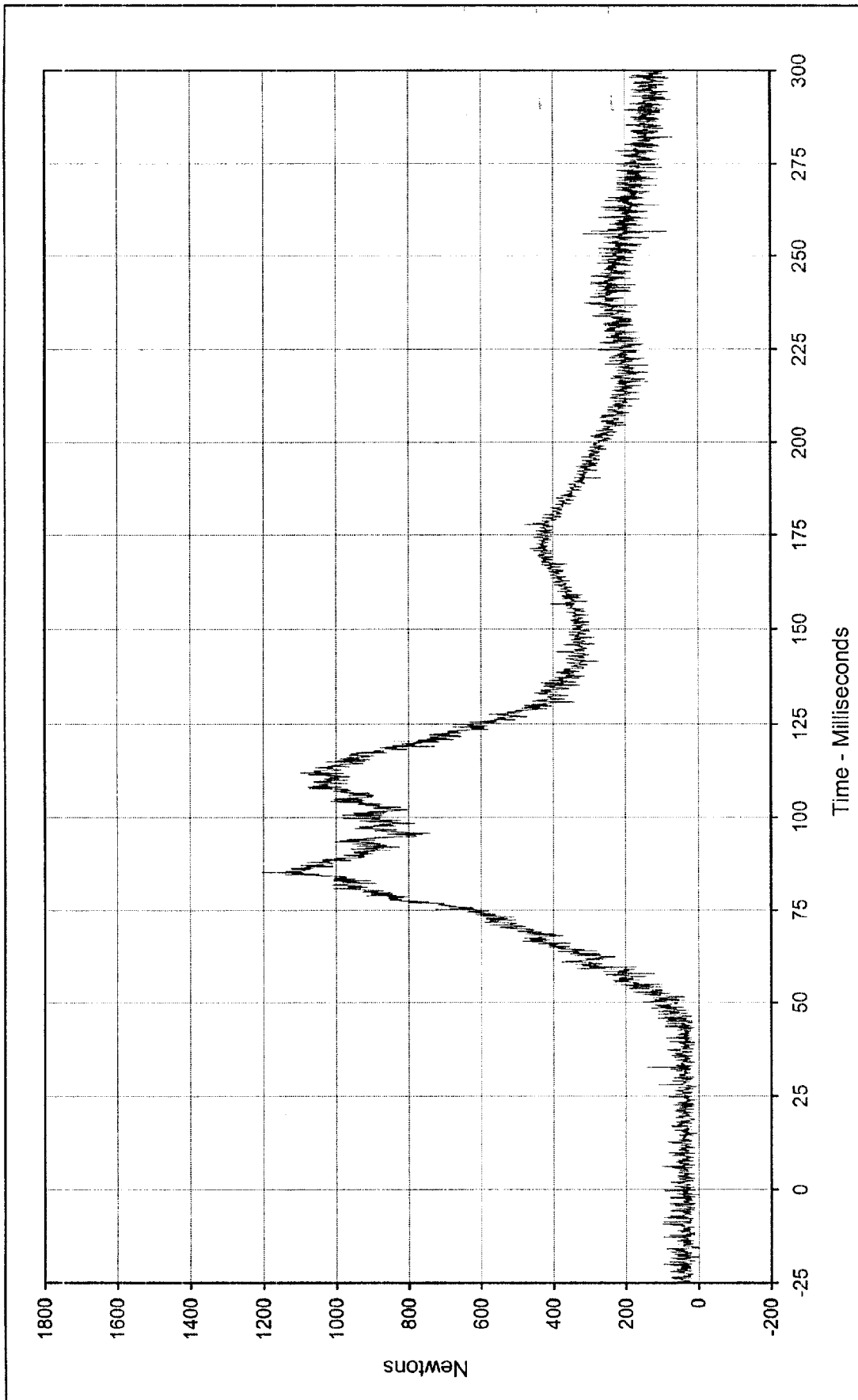
Minimum Value: -139.8 at 32.7 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-053

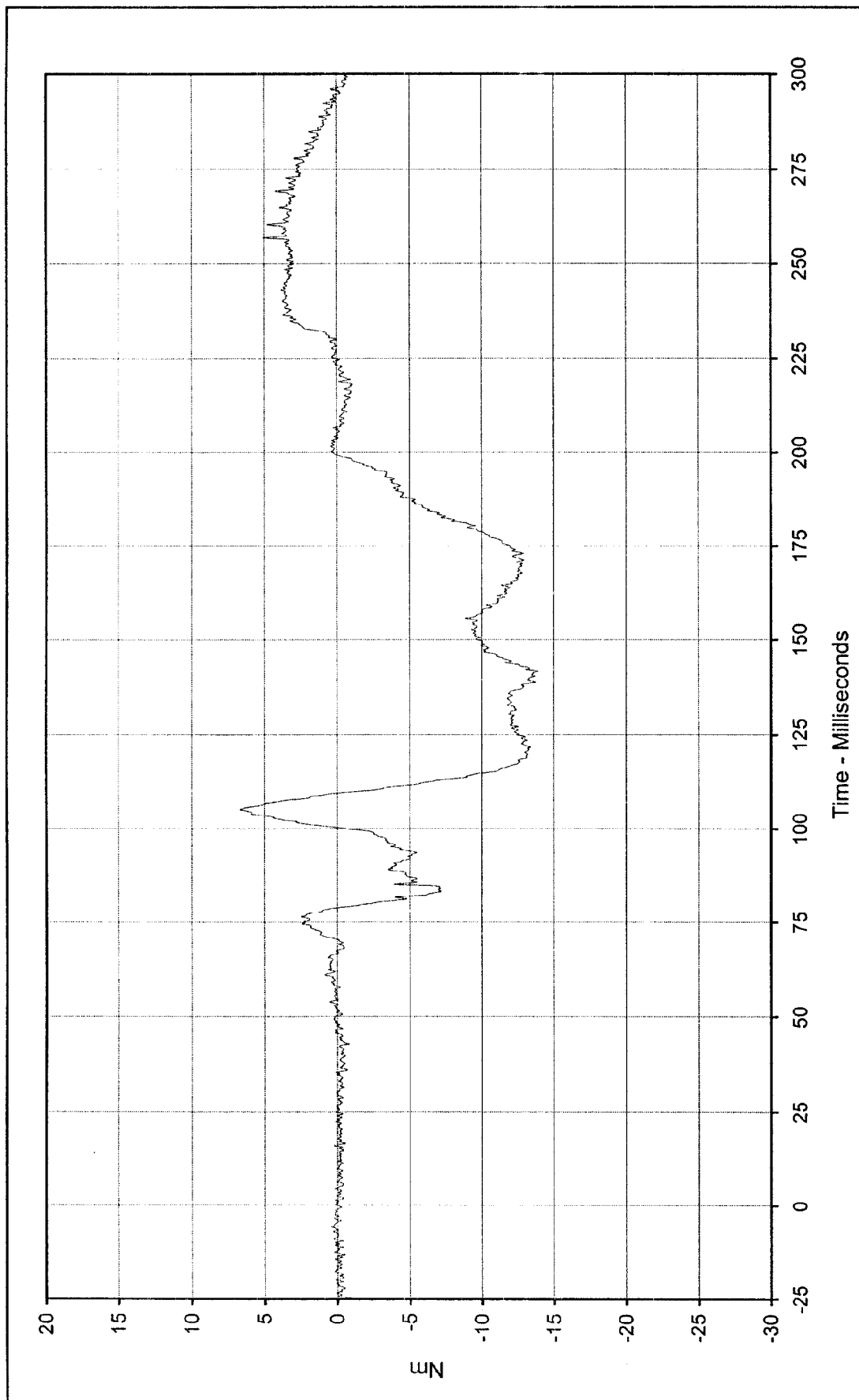




Curve Description:		Passenger Neck Force Resultant		Testing Program	1998 37.5mph Offset w/50th Male	No.:	MW0213
Maximum Value:	1202.8	at	85.3	Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	5.0	at	14.9	Milliseconds			
SAE Filter Class:	1000						
Date of Test:	7/30/98						
Curve Number:	RES-051						







Curve Description: Passenger Neck Moment X

Maximum Value: 6.7 at 105.3 Milliseconds

Minimum Value: -13.9 at 141.8 Milliseconds

SAE Filter Class: 600

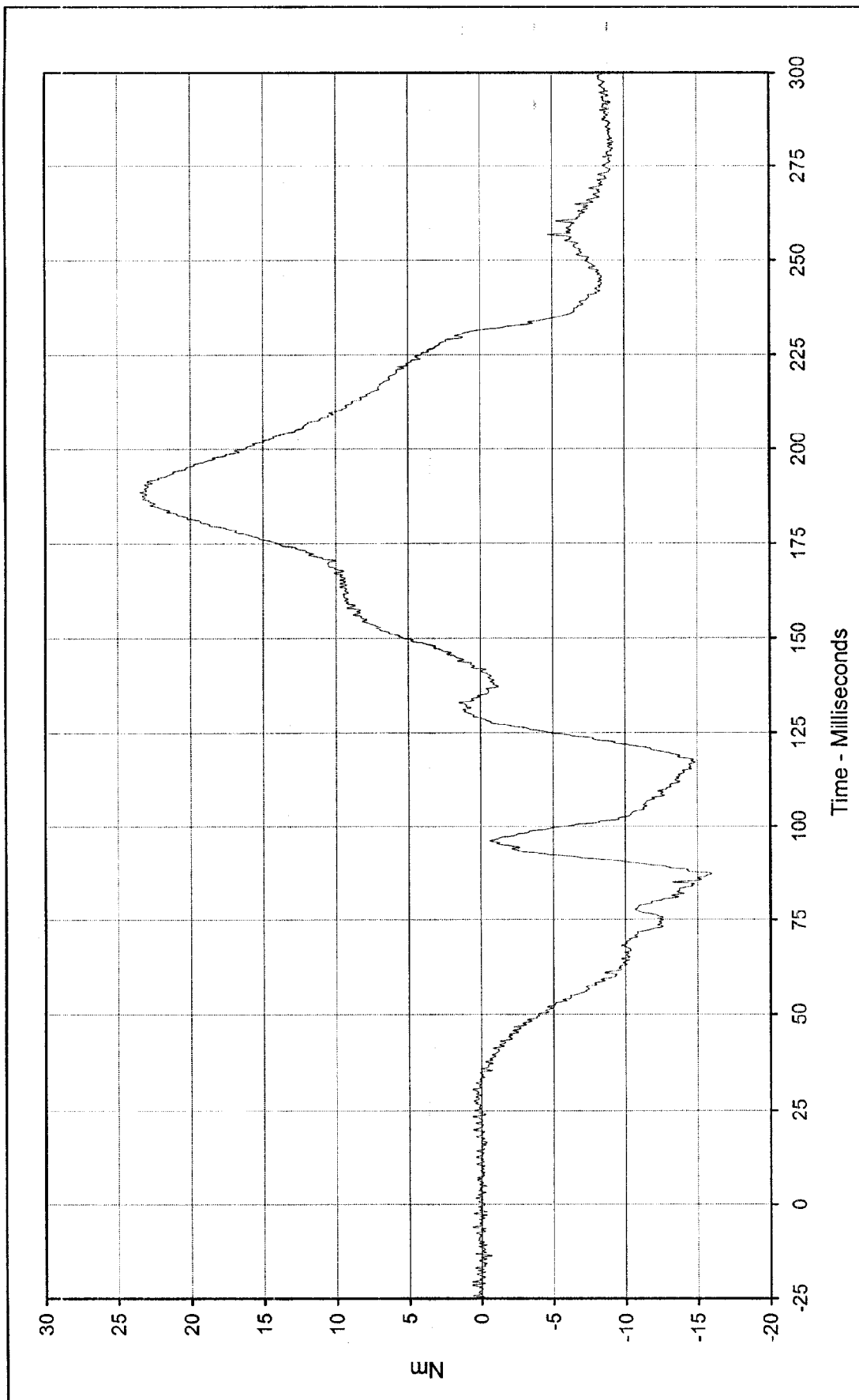
Date of Test: 7/30/98

Curve Number: FIL-054

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Neck Moment Y

Maximum Value: 23.5 at 188.7 Milliseconds

Minimum Value: -15.9 at 87.4 Milliseconds

SAE Filter Class: 600

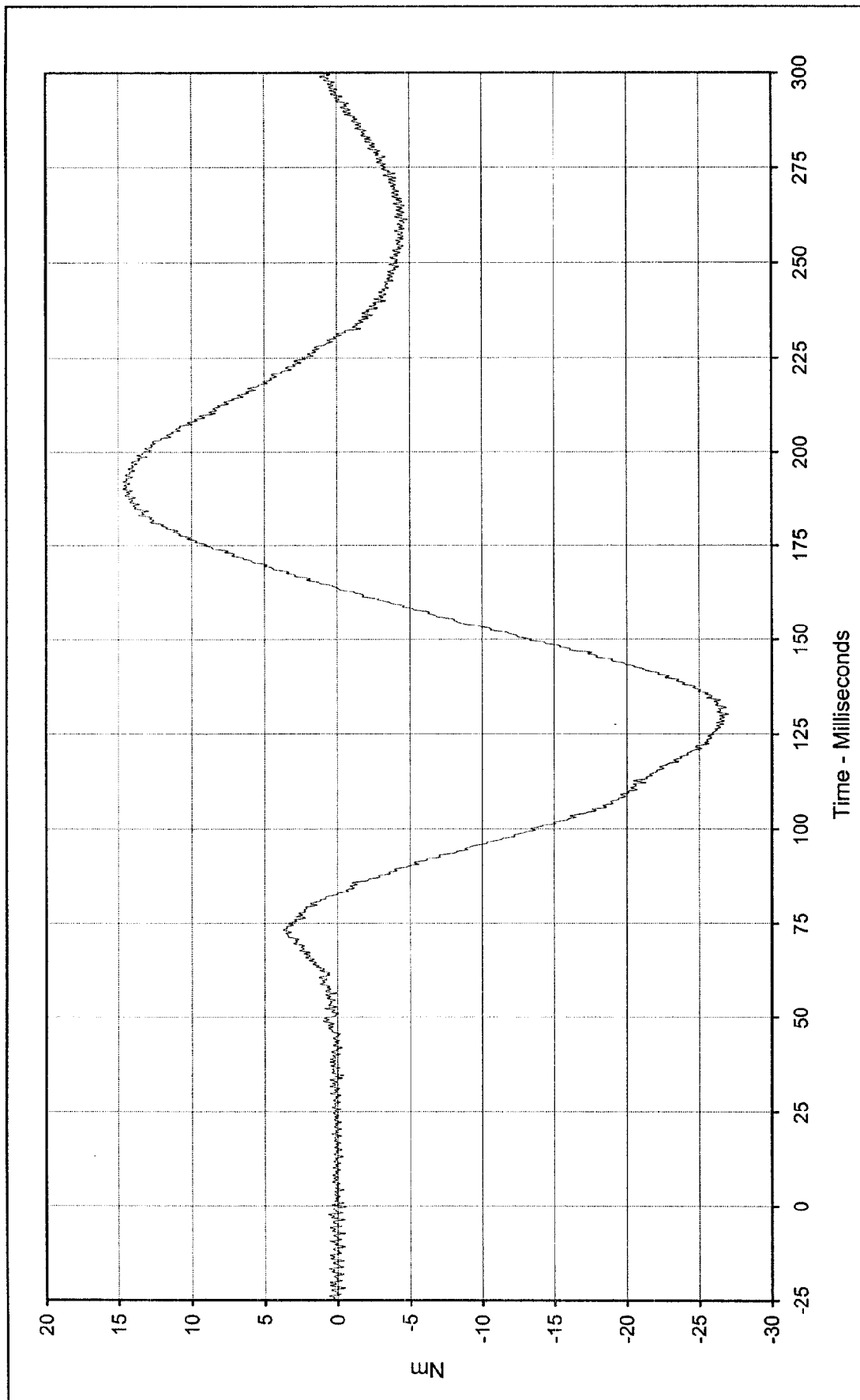
Date of Test: 7/30/98

Curve Number: FIL-055

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Neck Moment Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 14.7 at 190.2 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

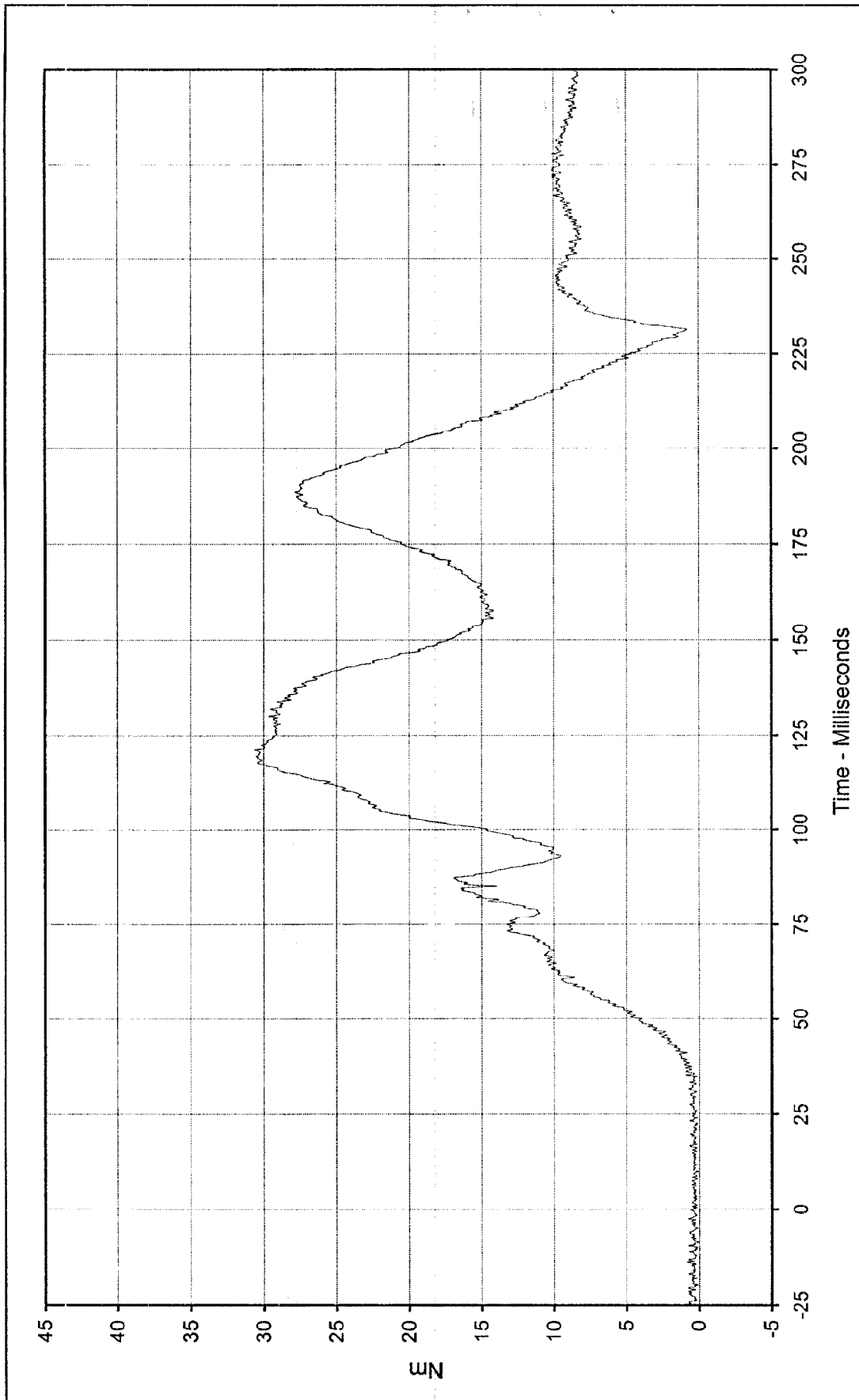
Minimum Value: -27.0 at 130.3 Milliseconds

SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-056





Curve Description: Passenger Neck Moment Resultant

Maximum Value: 30.7 at 121.2 Milliseconds

Minimum Value: 0.0 at 9.9 Milliseconds

SAE Filter Class: 600

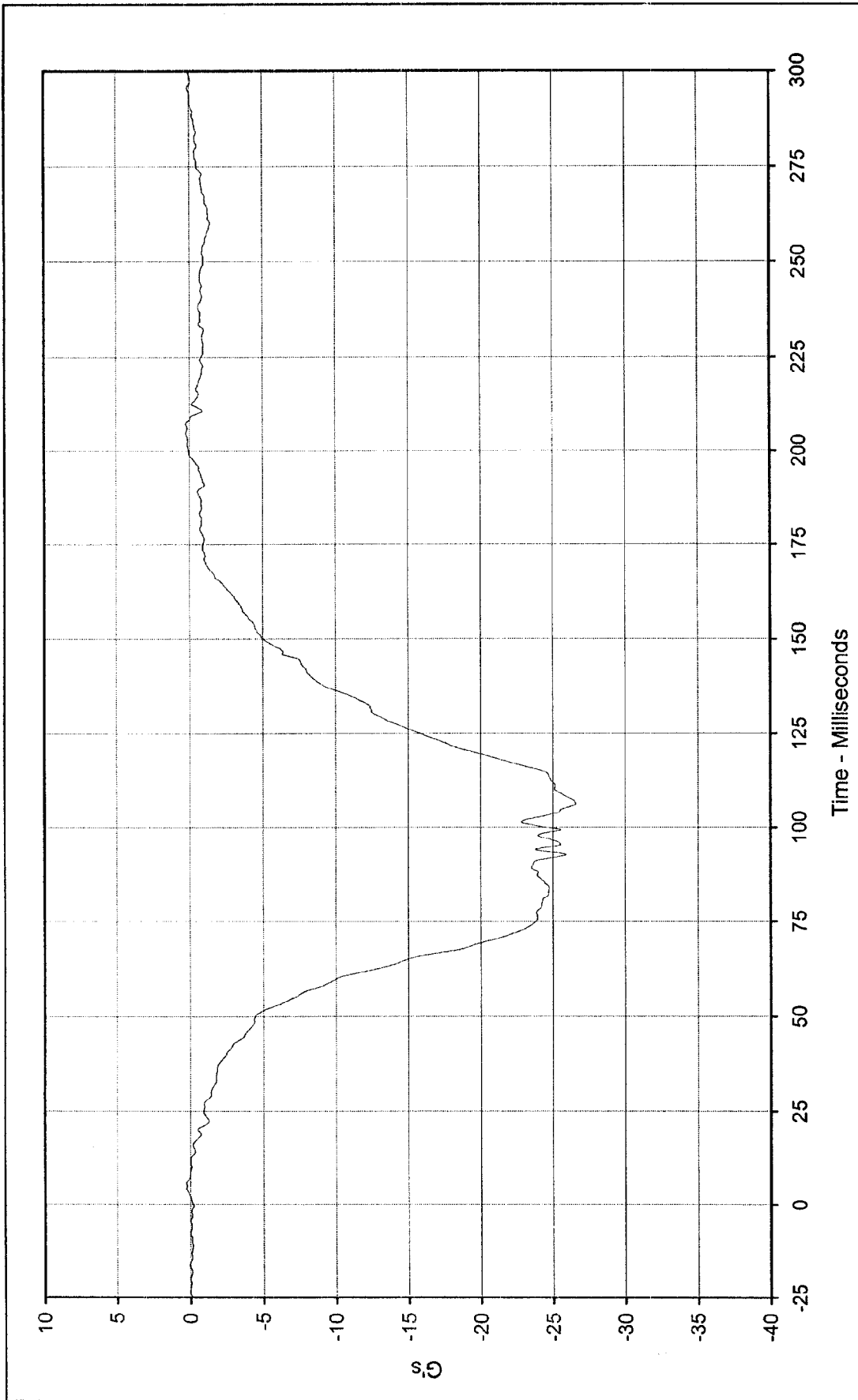
Date of Test: 7/30/98

Curve Number: RES-054

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Primary X

Maximum Value: 0.3 at 5.9 Milliseconds

Minimum Value: -26.6 at 106.5 Milliseconds

SAE Filter Class: 180

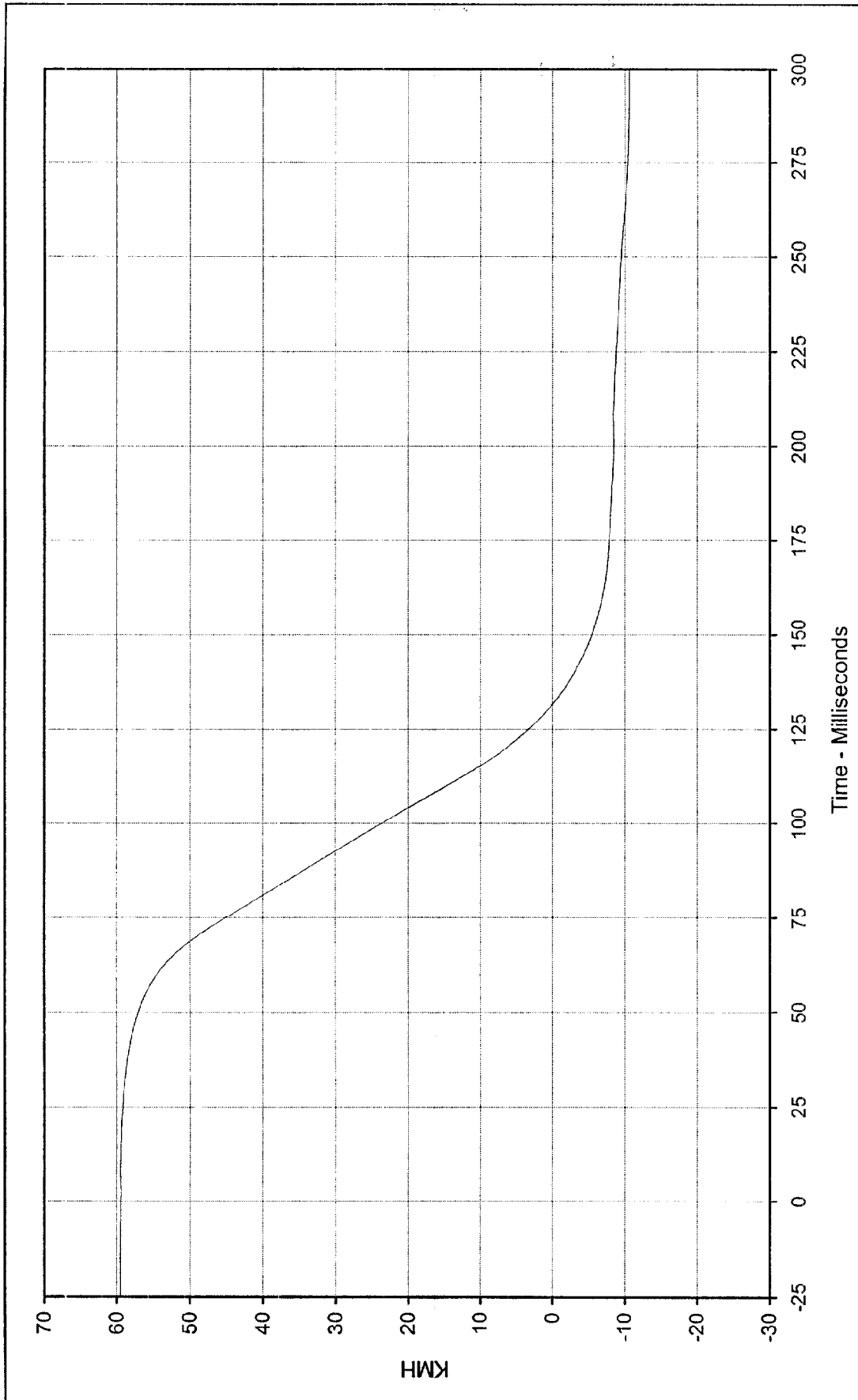
Date of Test: 7/30/98

Curve Number: FIL-057

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Primary X Velocity

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 59.5 at 8.6 Milliseconds

Test Vehicle: 1998 Ford Contour 4 Door Sedan

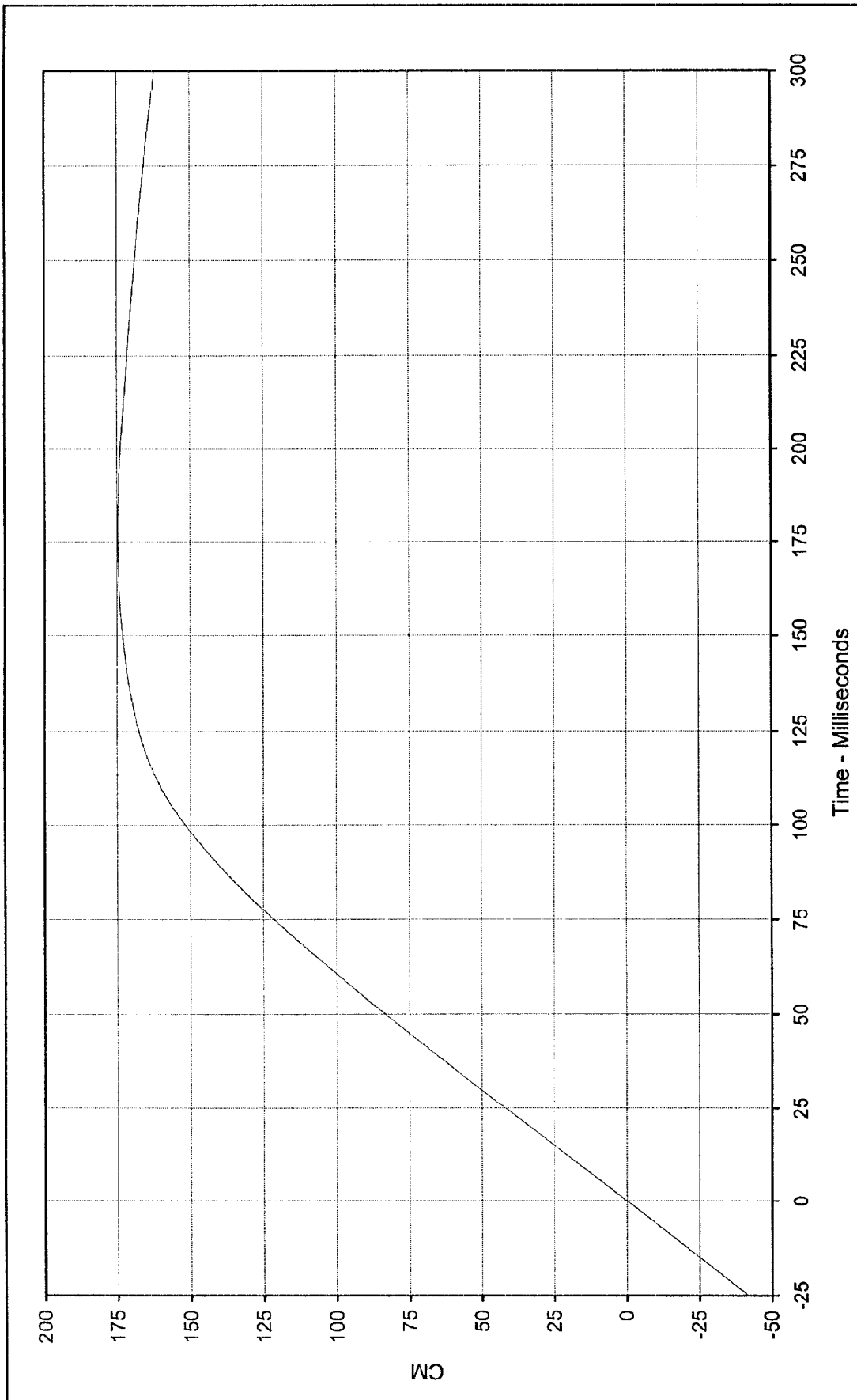
Minimum Value: -10.6 at 299.1 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-057





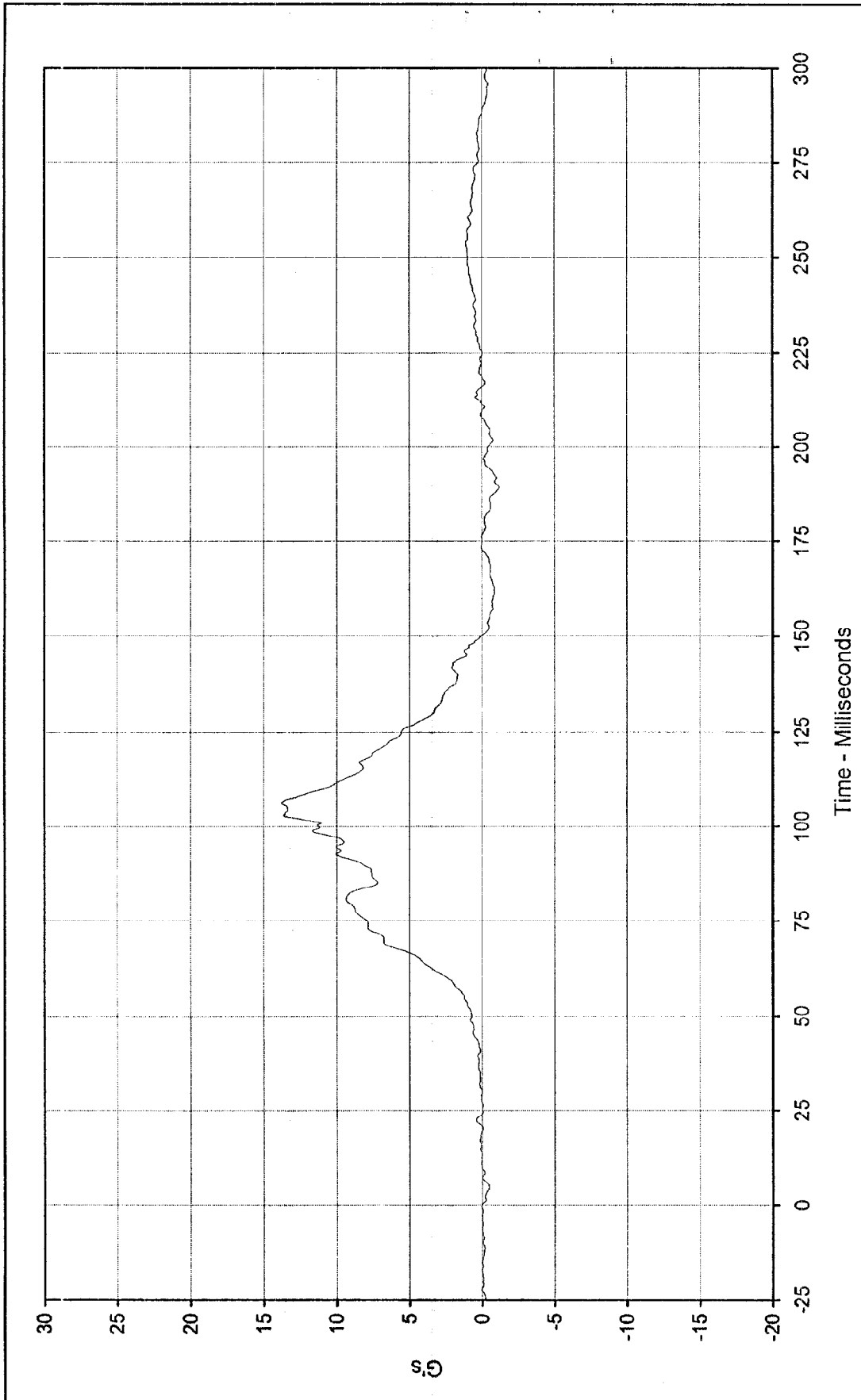
Curve Description: Passenger Chest Primary X Displ.

Maximum Value:	174.7	at	177.3	Milliseconds
Minimum Value:	0.0	at	0.0	Milliseconds
SAE Filter Class:	180			
Date of Test:	7/30/98			
Curve Number:	IN2-057			

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

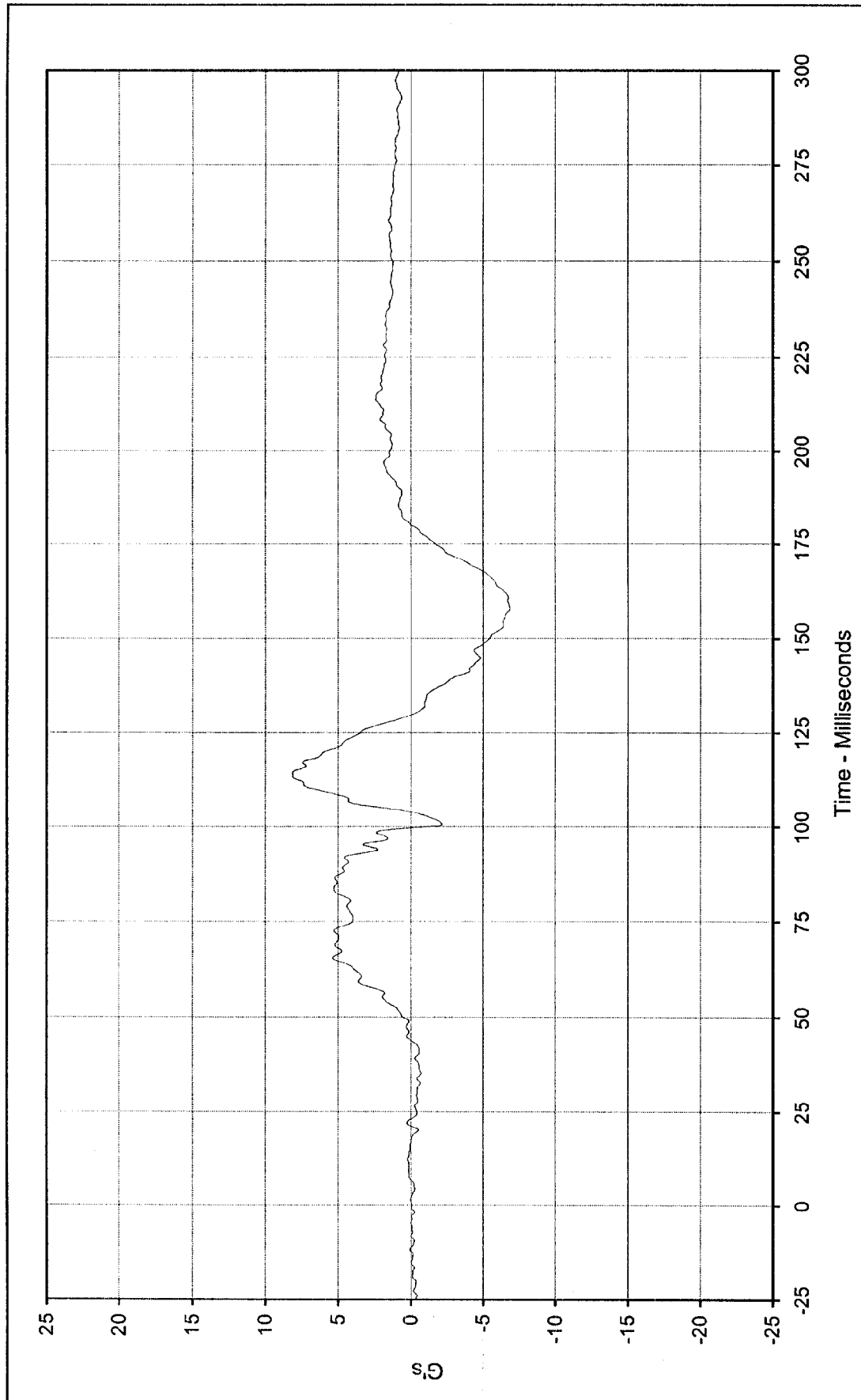




Curve Description: Passenger Chest Primary Y
Maximum Value: 13.8 at 106.3 Milliseconds
Minimum Value: -1.2 at 189.4 Milliseconds
SAE Filter Class: 180
Date of Test: 7/30/98
Curve Number: FIL-058

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Primary Z

Maximum Value: 8.1 at 114.4 Milliseconds

Minimum Value: -6.9 at 157.9 Milliseconds

SAE Filter Class: 180

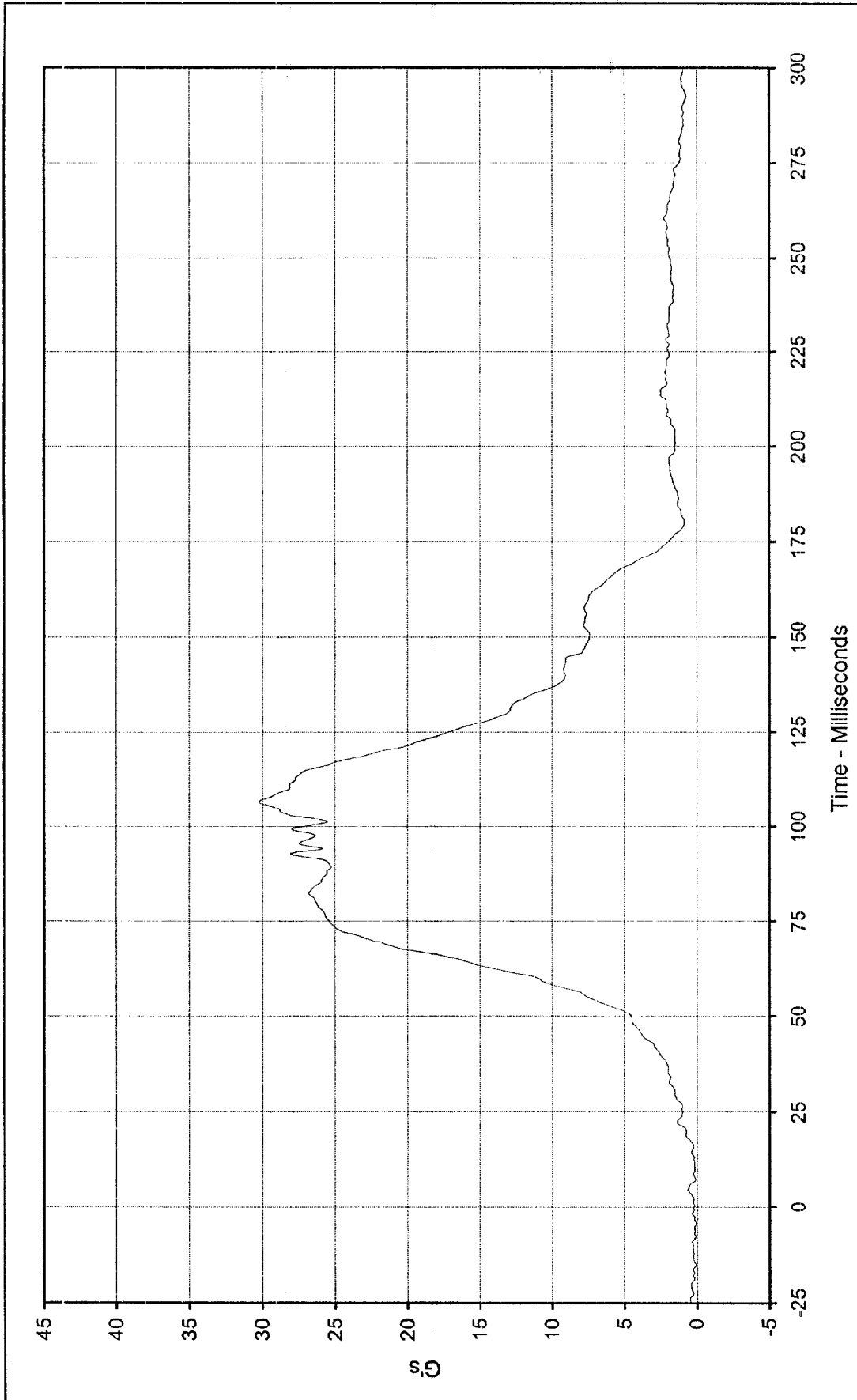
Date of Test: 7/30/98

Curve Number: FIL-059

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Resultant Primary

Maximum Value: 30.2 at 106.5 Milliseconds

Minimum Value: 0.1 at 7.1 Milliseconds

SAE Filter Class: 180

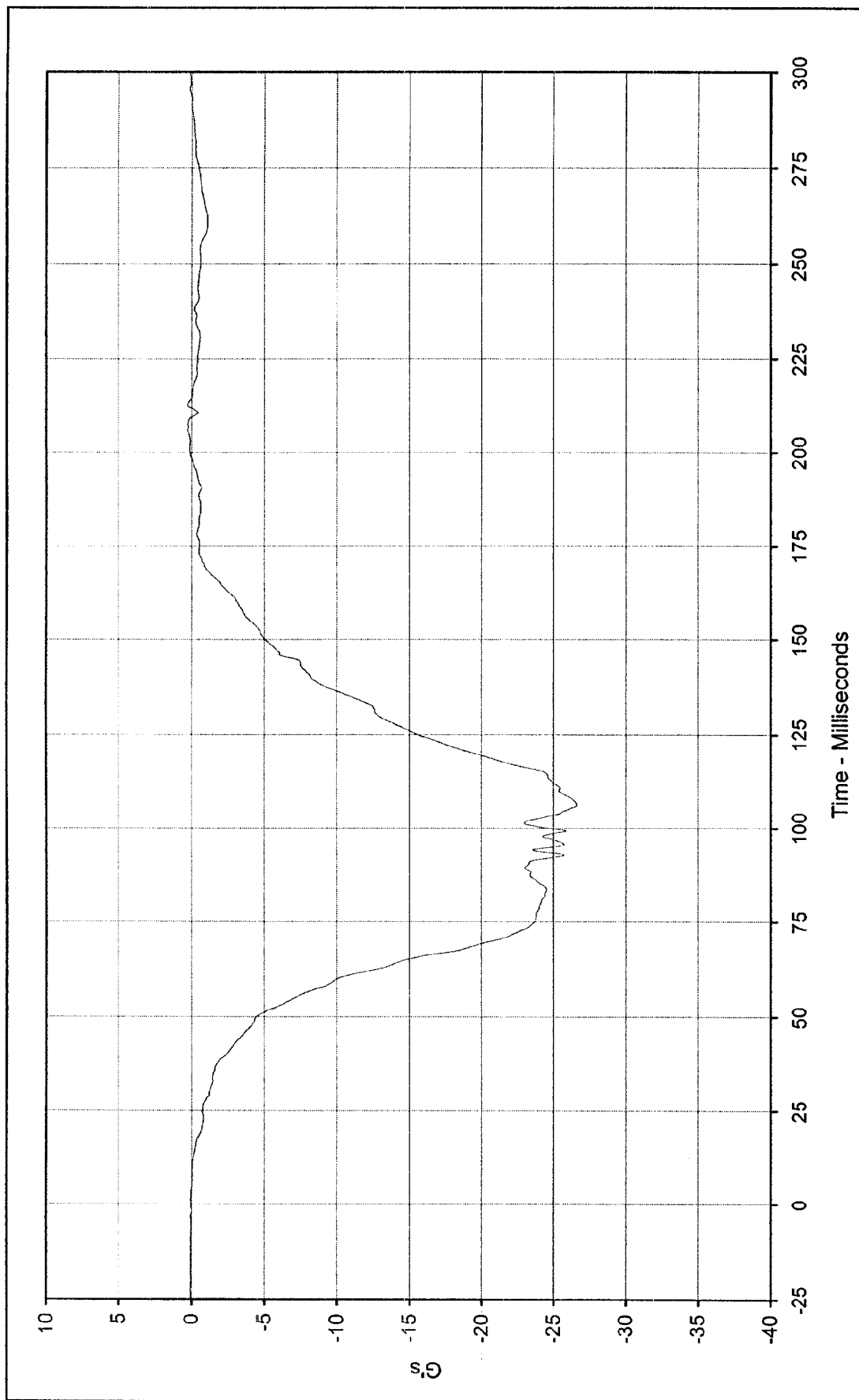
Date of Test: 7/30/98

Curve Number: RES-057

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Redundant X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 0.3 at 212.7 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

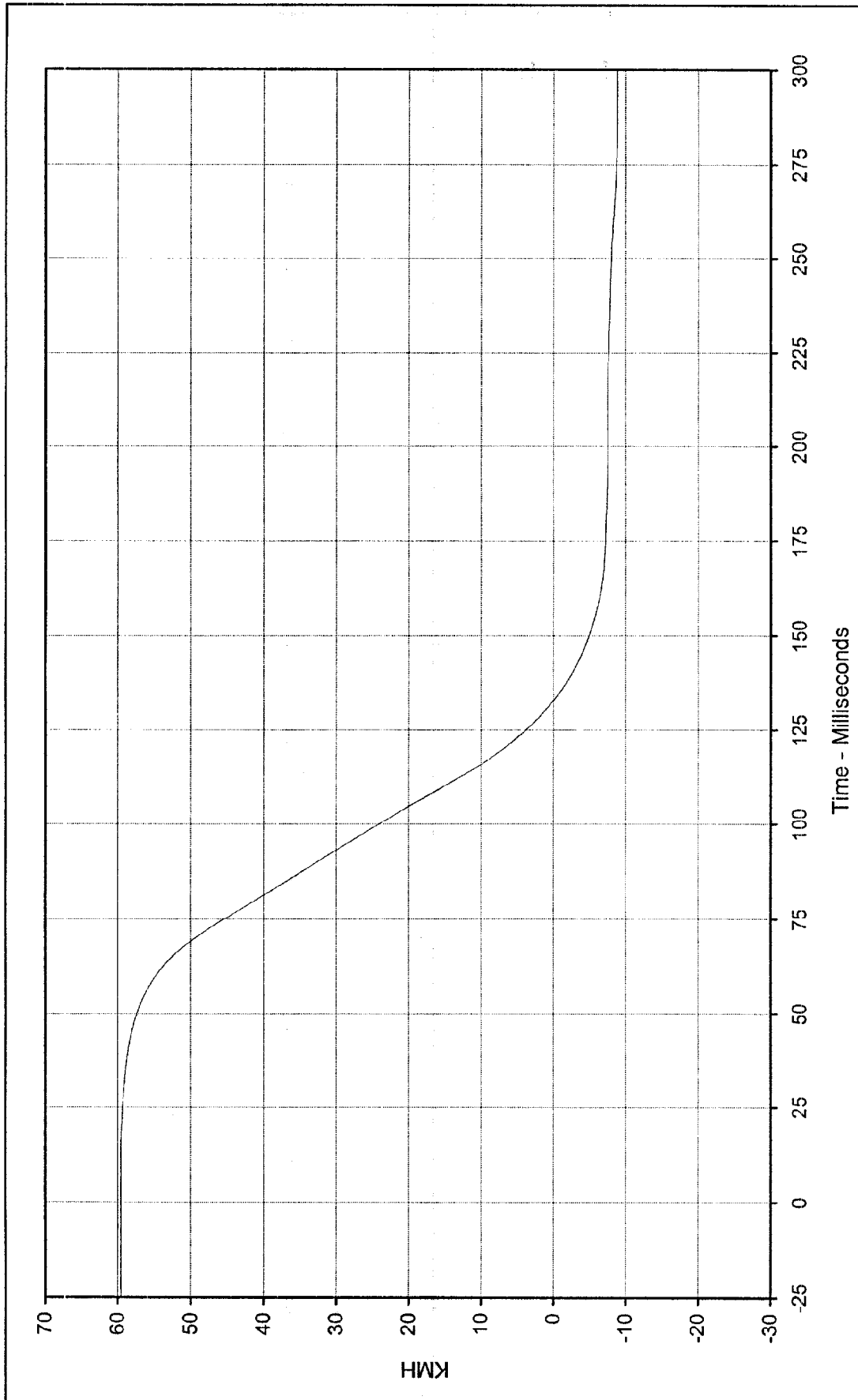
Minimum Value: -26.6 at 106.3 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: FIL-060





Curve Description: Passenger Chest Redundant X Velocity Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 59.6 at 4.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

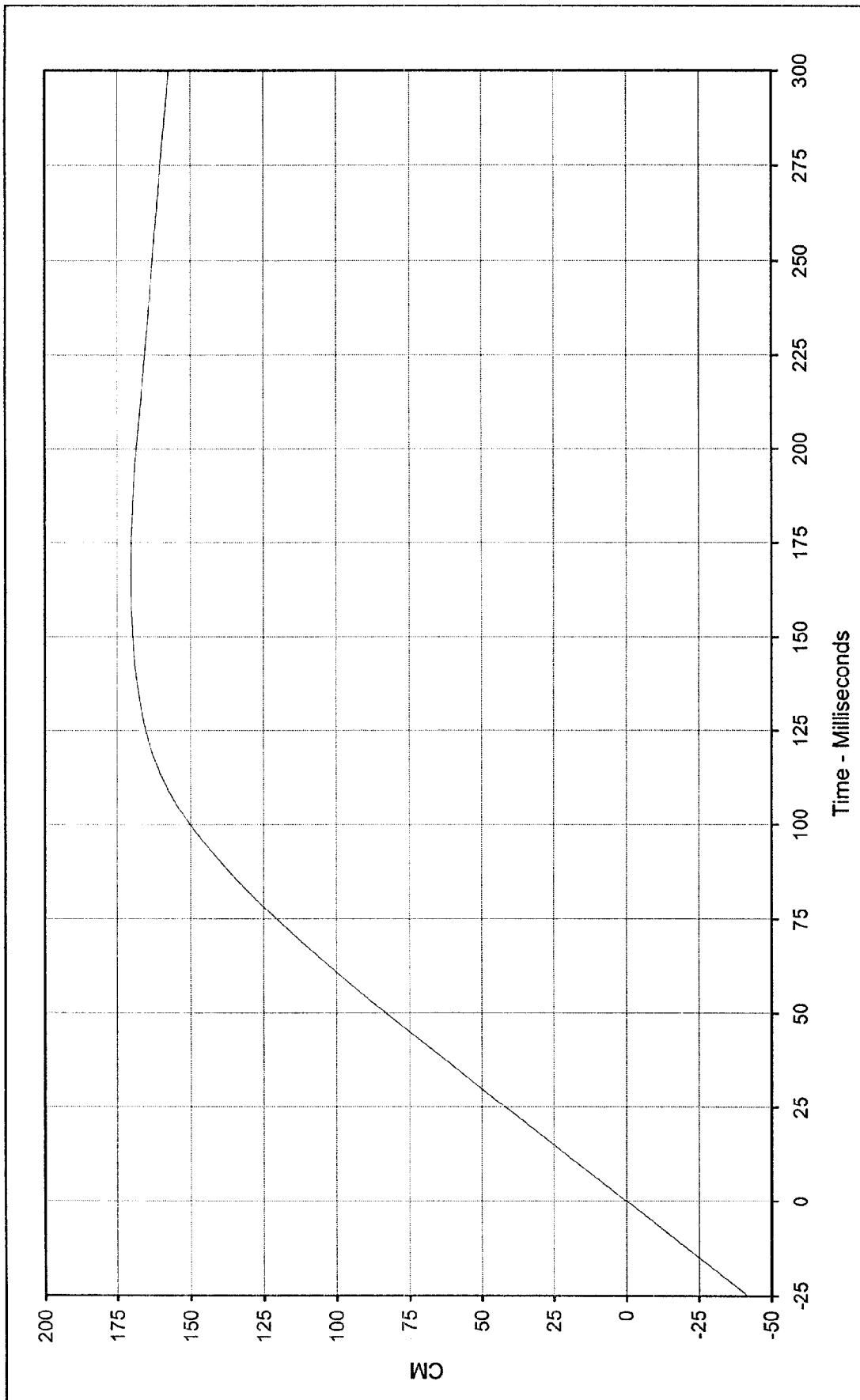
Minimum Value: -8.9 at 293.7 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-060





B-90

Curve Description: Passenger Chest Redundant X Displ.

Maximum Value: 170.3 at 166.3 Milliseconds

Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

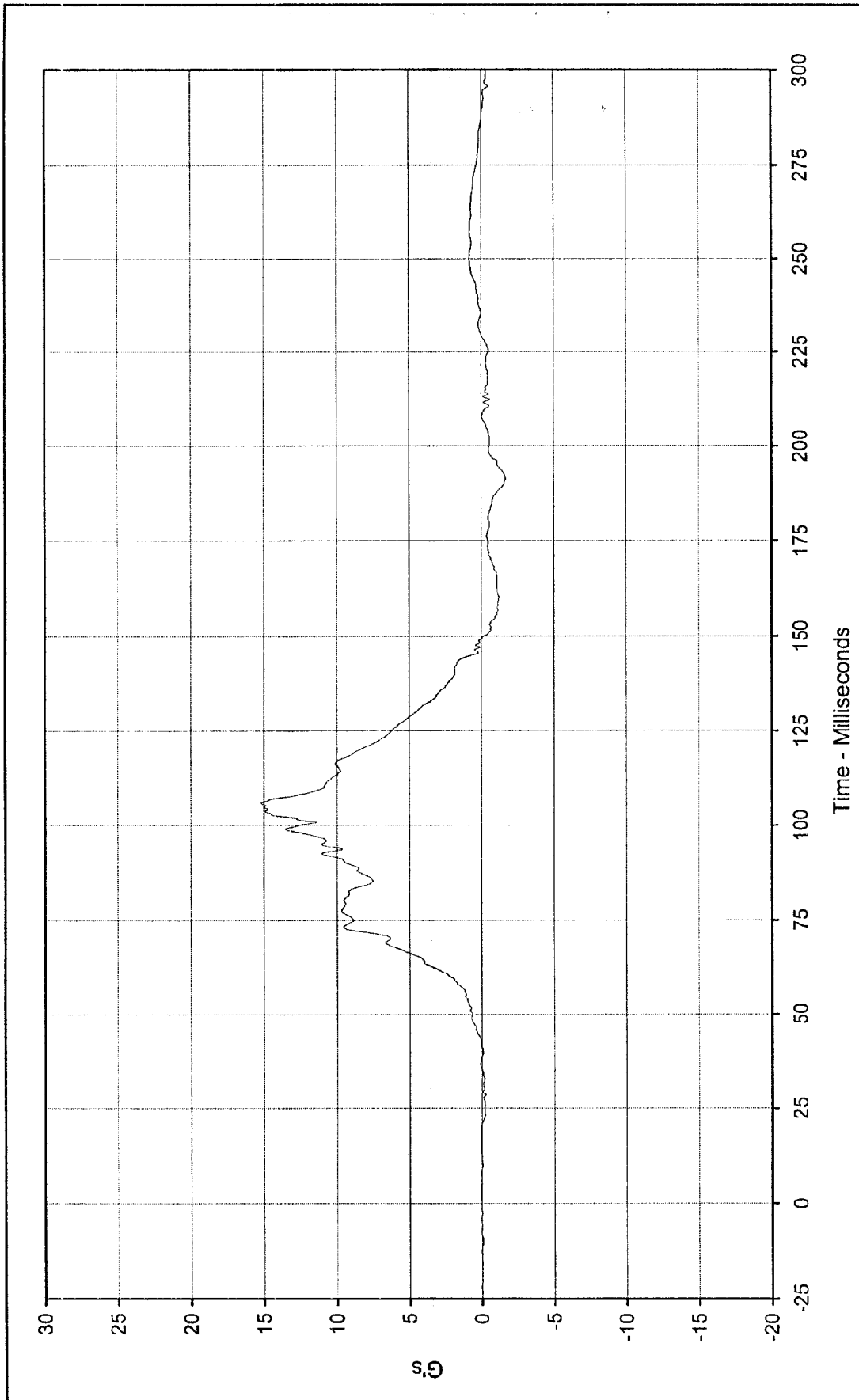
Curve Number: IN2-060

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan



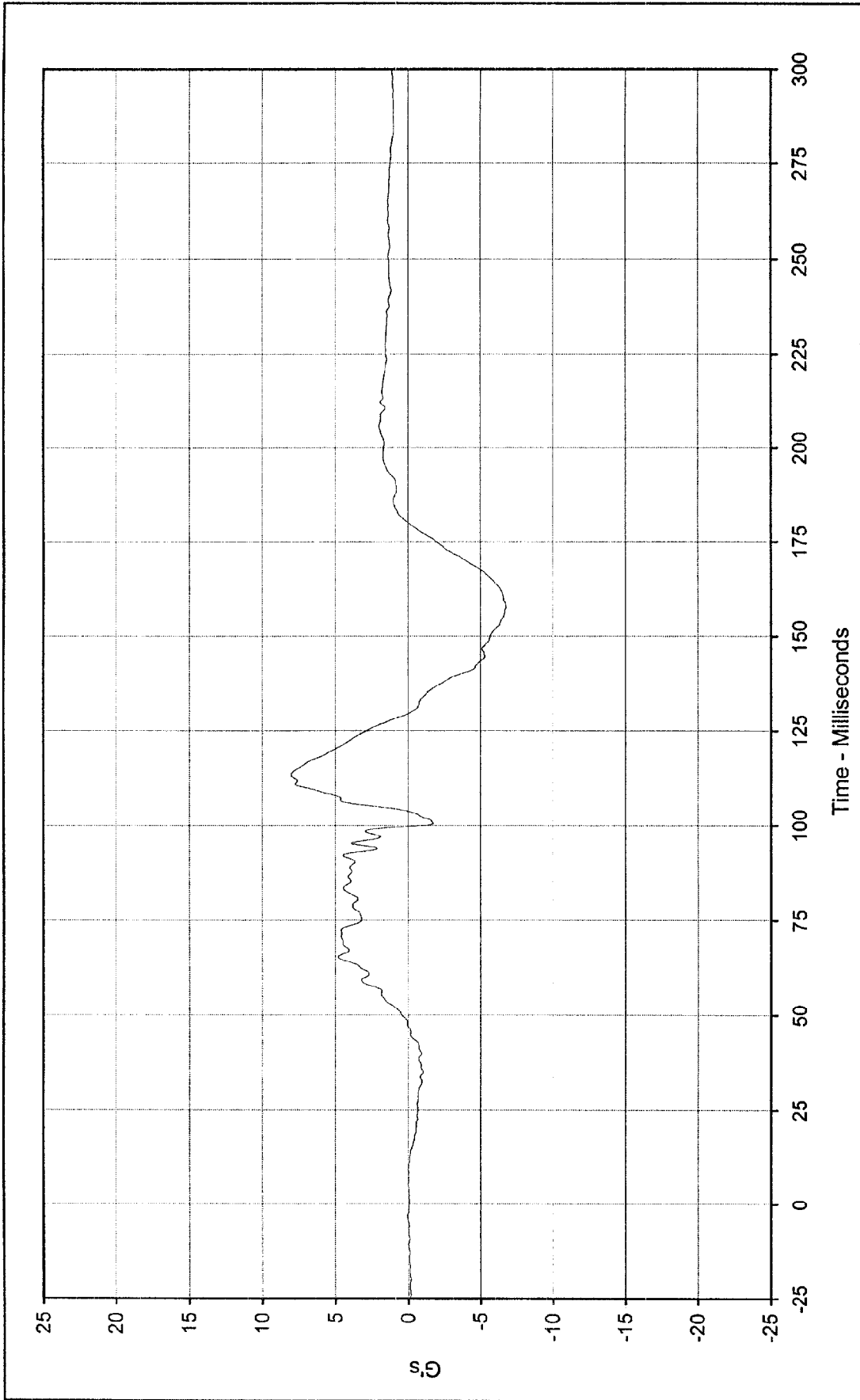
KAR98002-05



Curve Description: Passenger Chest Redundant Y
Maximum Value: 15.2 at 106.1 Milliseconds
Minimum Value: -1.7 at 191.6 Milliseconds
SAE Filter Class: 180
Date of Test: 7/30/98
Curve Number: FIL-061

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Redundant Z

Maximum Value: 8.0 at 113.4 Milliseconds

Minimum Value: -6.8 at 157.9 Milliseconds

SAE Filter Class: 180

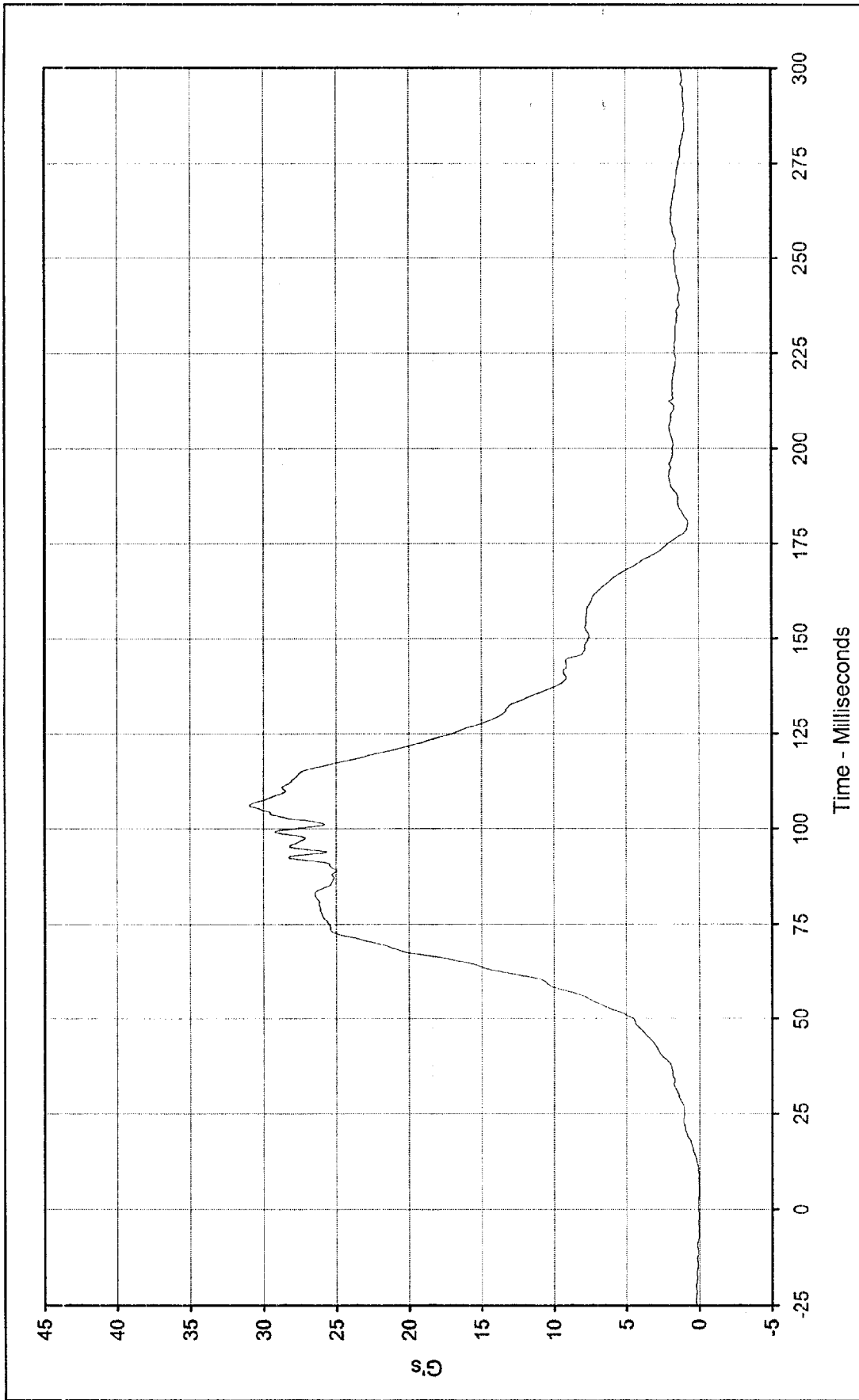
Date of Test: 7/30/98

Curve Number: FIL-062

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





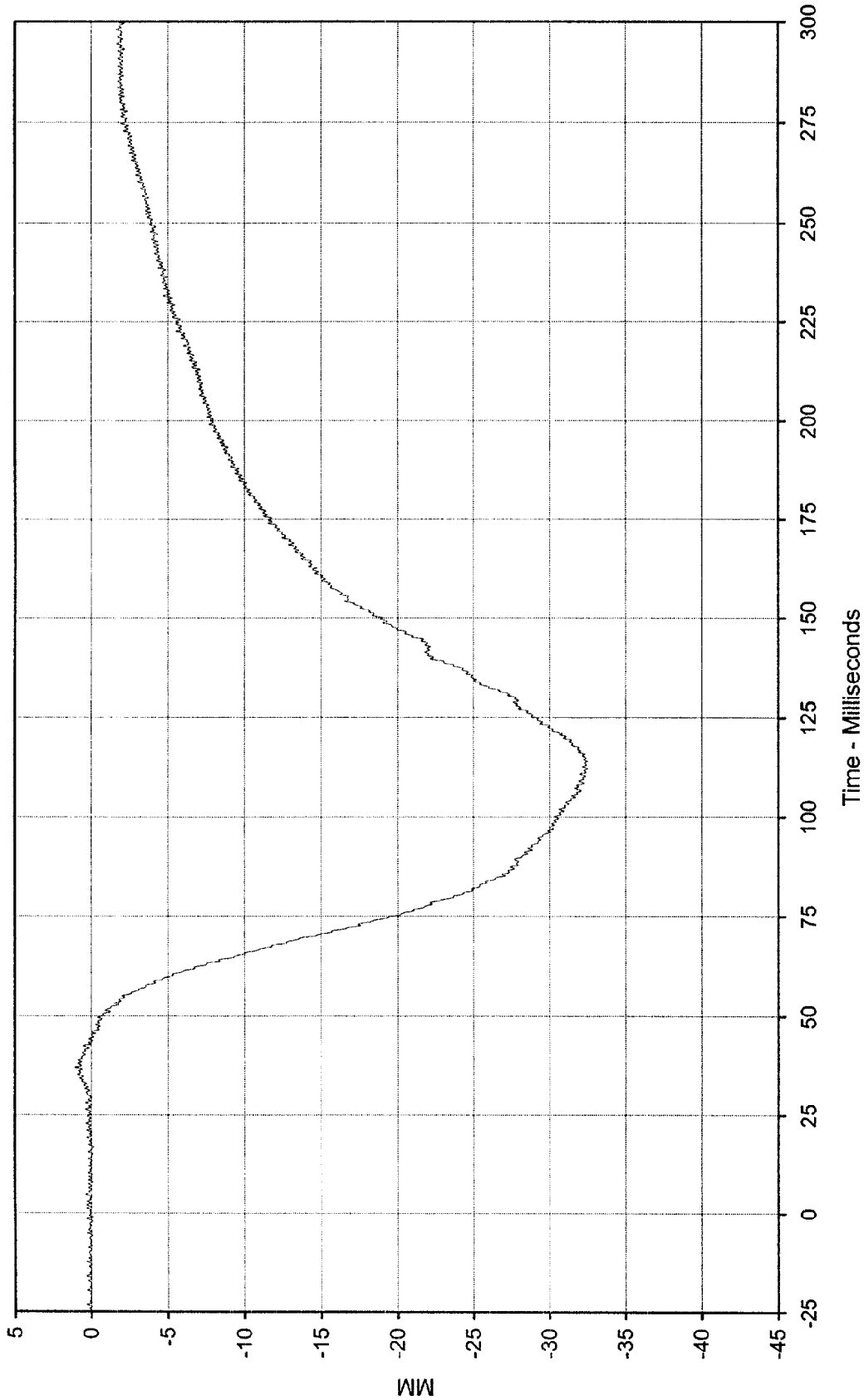
Curve Description: Passenger Chest Resultant Redundant

Maximum Value:	30.9	at	106.2	Milliseconds
Minimum Value:	0.0	at	5.0	Milliseconds
SAE Filter Class:	180			
Date of Test:	7/30/98			
Curve Number:	RES-060			

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Displacement X

Maximum Value: 1.0 at 37.1 Milliseconds

Minimum Value: -32.5 at 112.3 Milliseconds

SAE Filter Class: 600

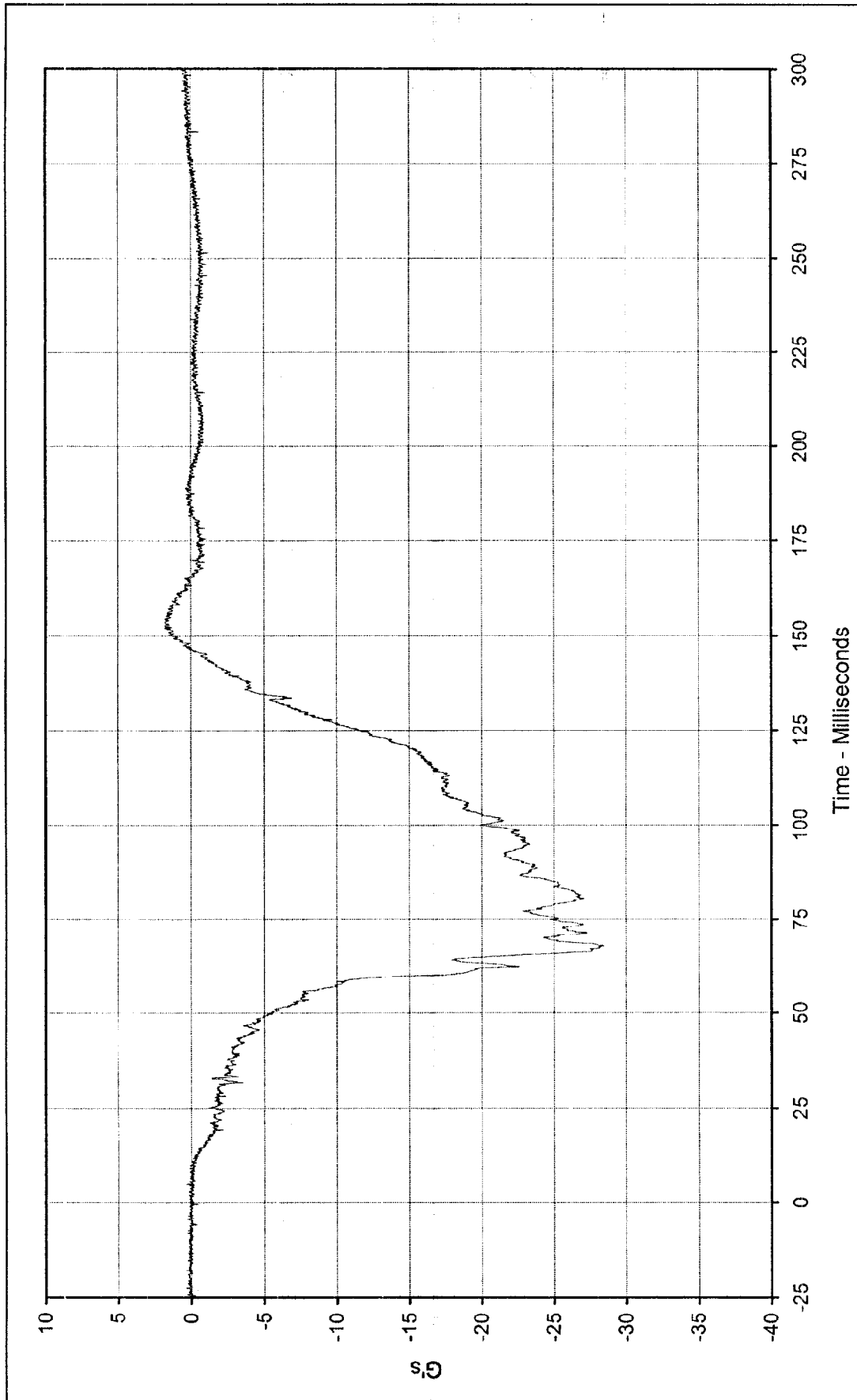
Date of Test: 7/30/98

Curve Number: FIL-063

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

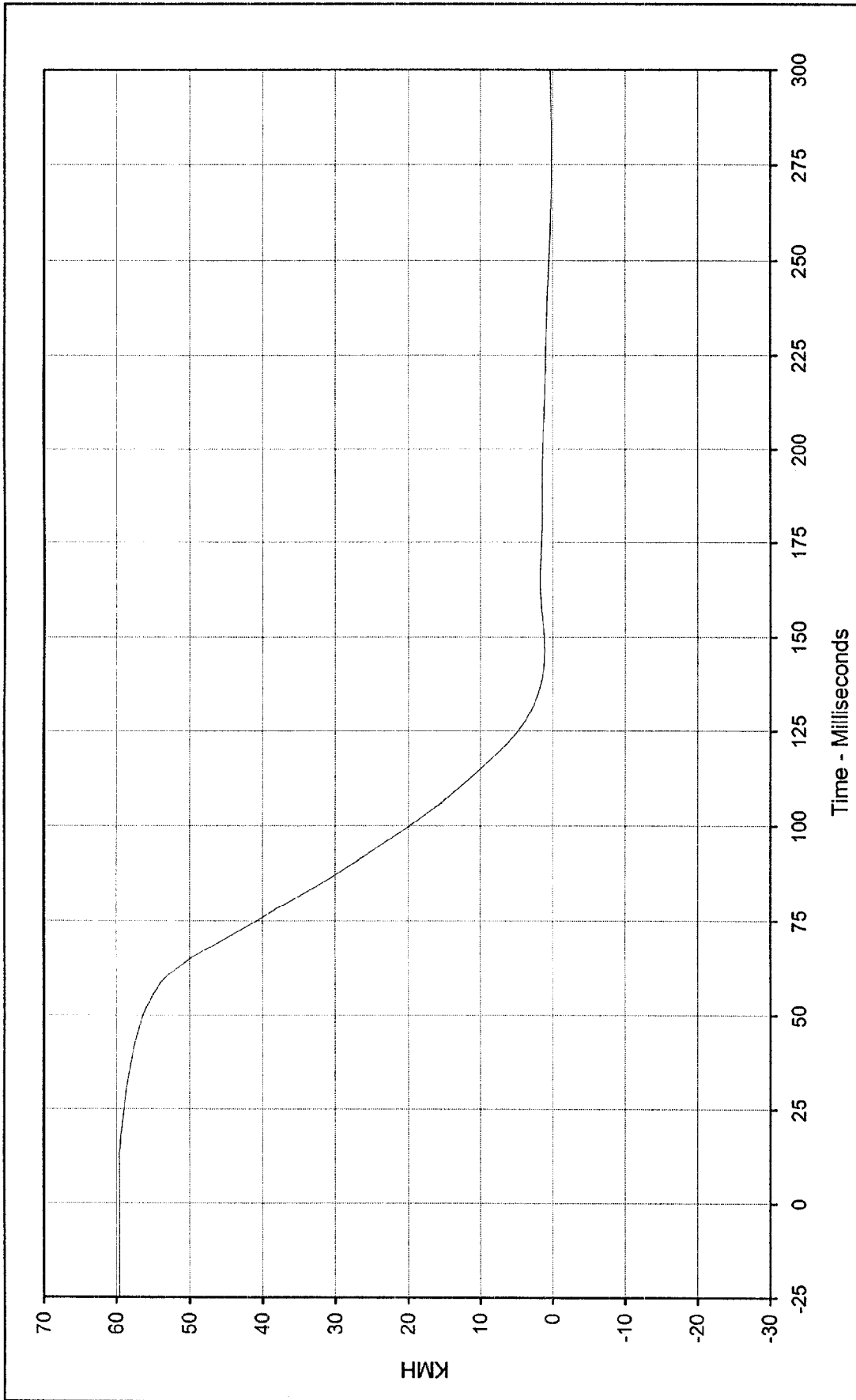




Curve Description: Passenger Pelvis X
 Maximum Value: 1.8 at 152.2 Milliseconds
 Minimum Value: -28.4 at 67.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-064

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Pelvis X Velocity

Maximum Value: 59.6 at 1.9 Milliseconds

Minimum Value: 0.2 at 274.8 Milliseconds

SAE Filter Class: 180

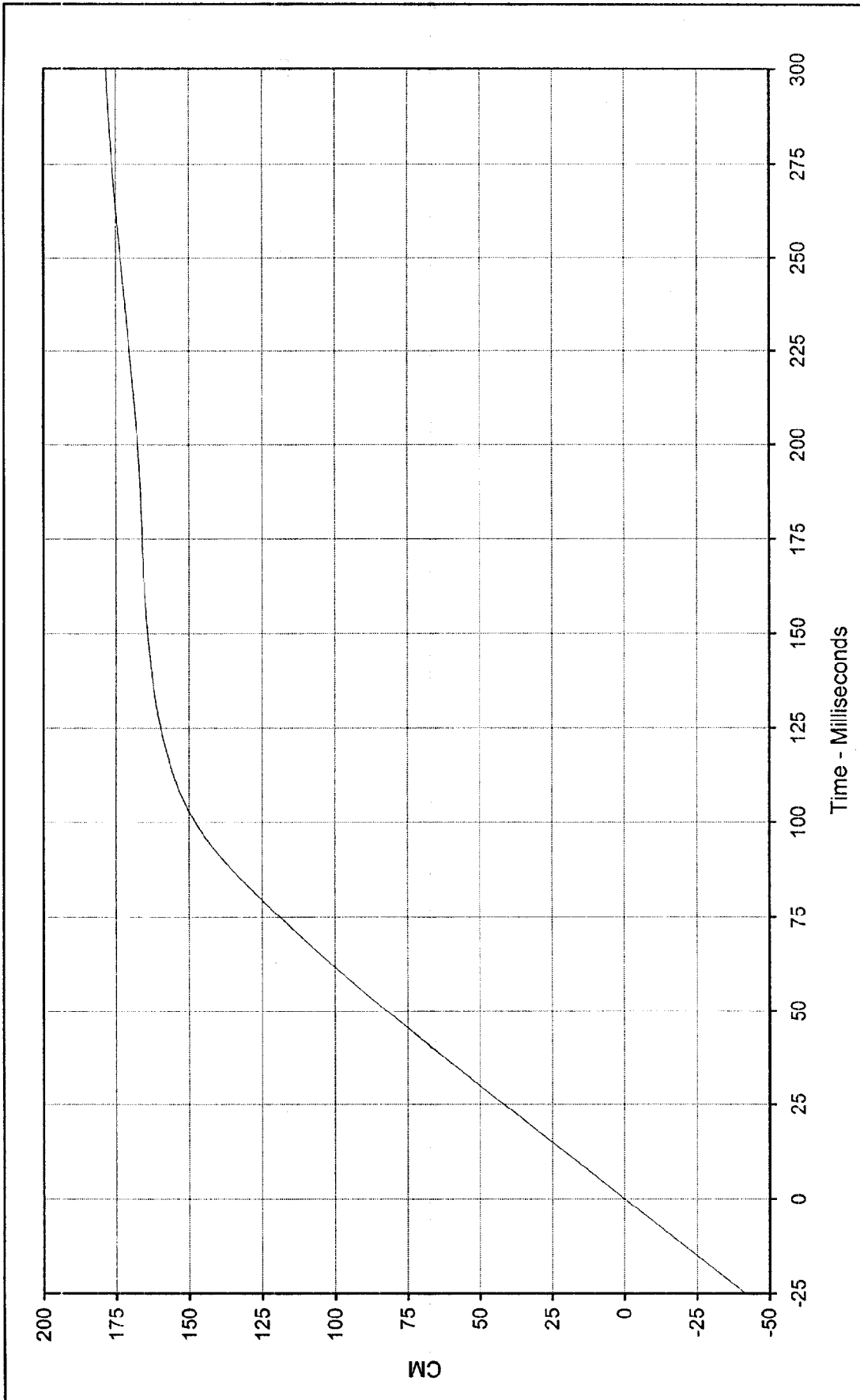
Date of Test: 7/30/98

Curve Number: IN1-064

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

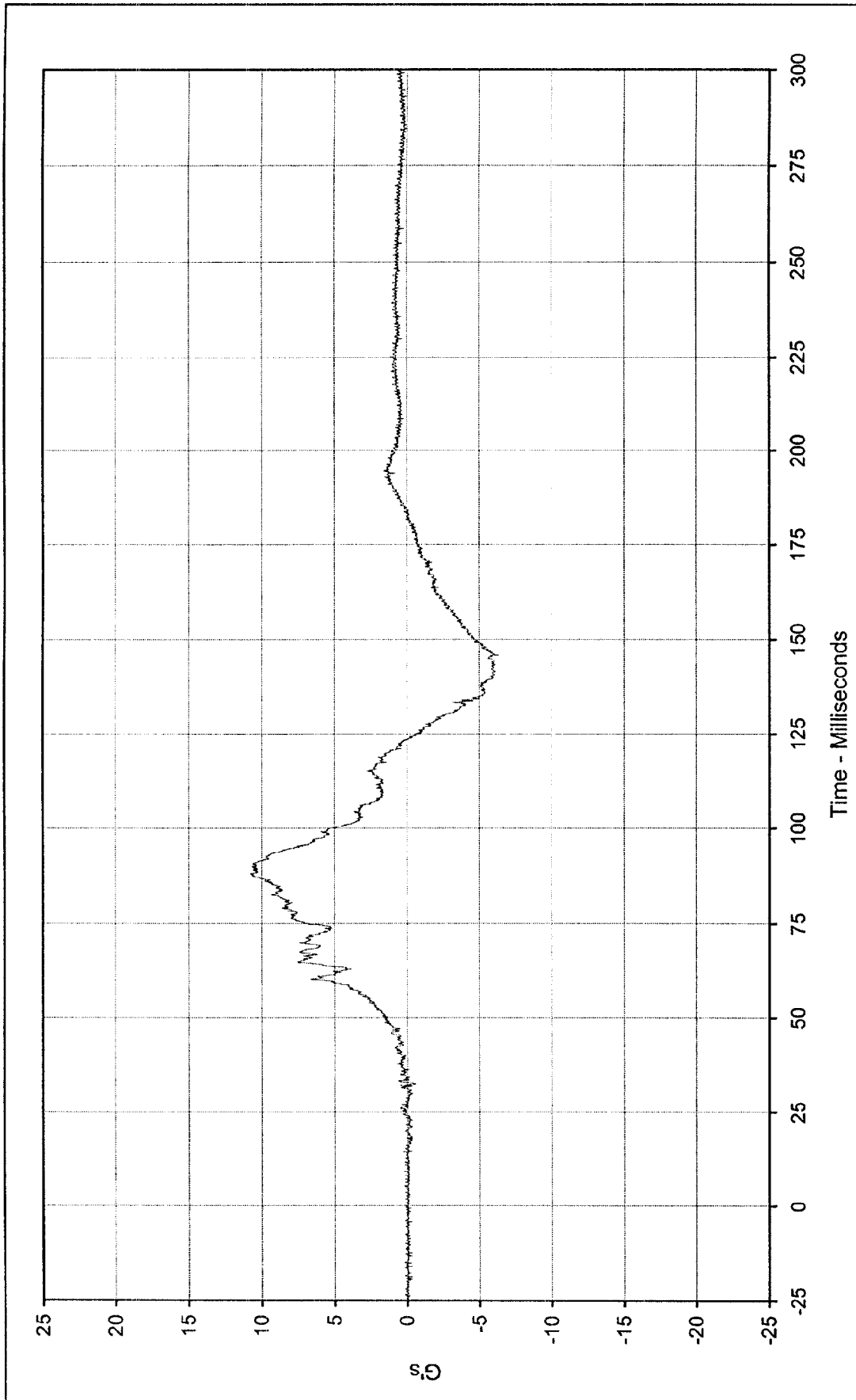
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description:	Passenger Pelvis X Displ.	Testing Program	1998 37.5mph Offset w/50th Male	No.: MW0213
Maximum Value:	178.4	at	299.9	Milliseconds
Minimum Value:	0.1	at	0.0	Milliseconds
SAE Filter Class:	180			
Date of Test:	7/30/98			
Curve Number:	IN2-064	Test Vehicle:	1998 Ford Contour 4 Door Sedan	





Curve Description: Passenger Pelvis Y

Maximum Value: 10.8 at 88.1 Milliseconds

Minimum Value: -6.3 at 145.8 Milliseconds

SAE Filter Class: 1000

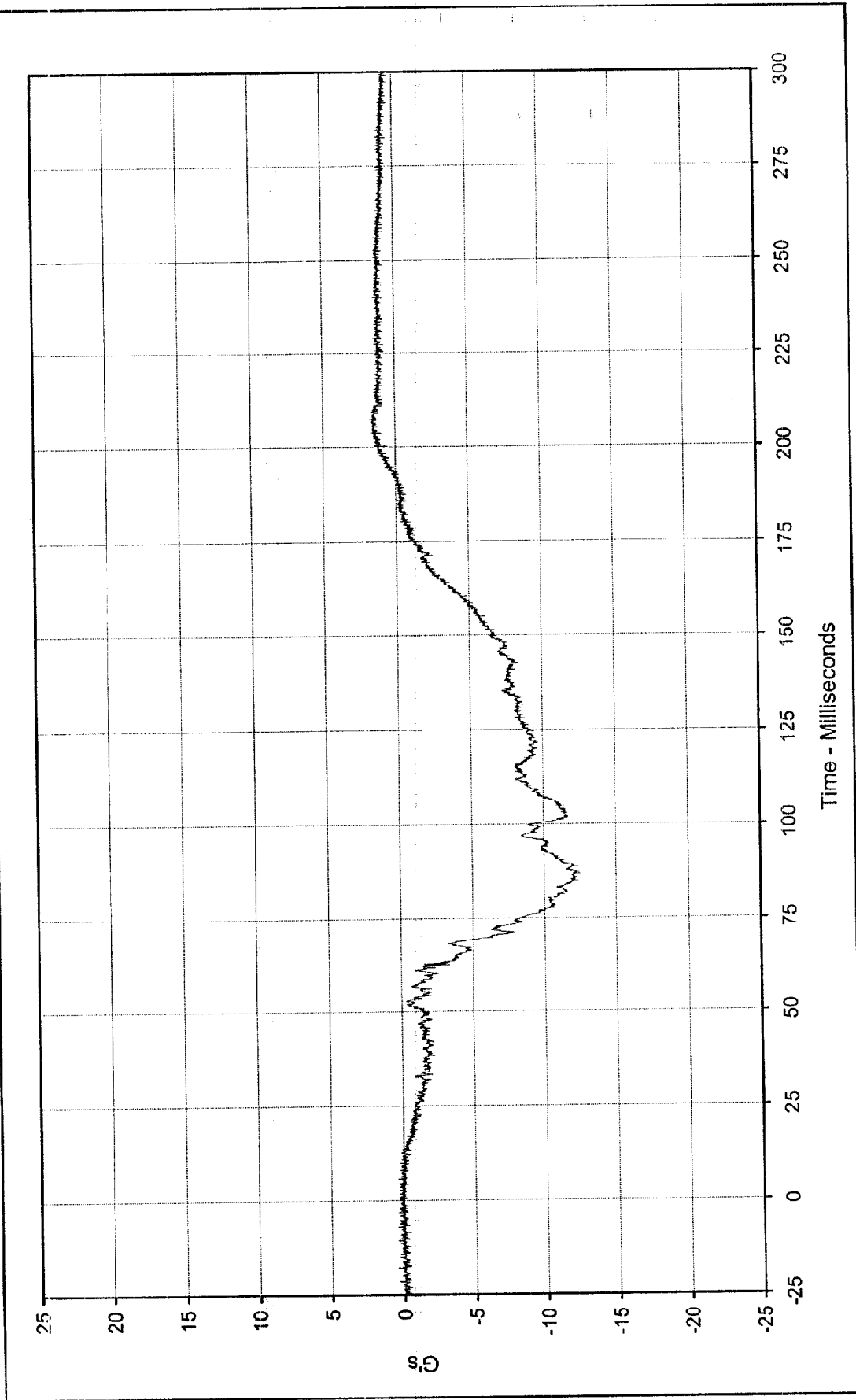
Date of Test: 7/30/98

Curve Number: FIL-065

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

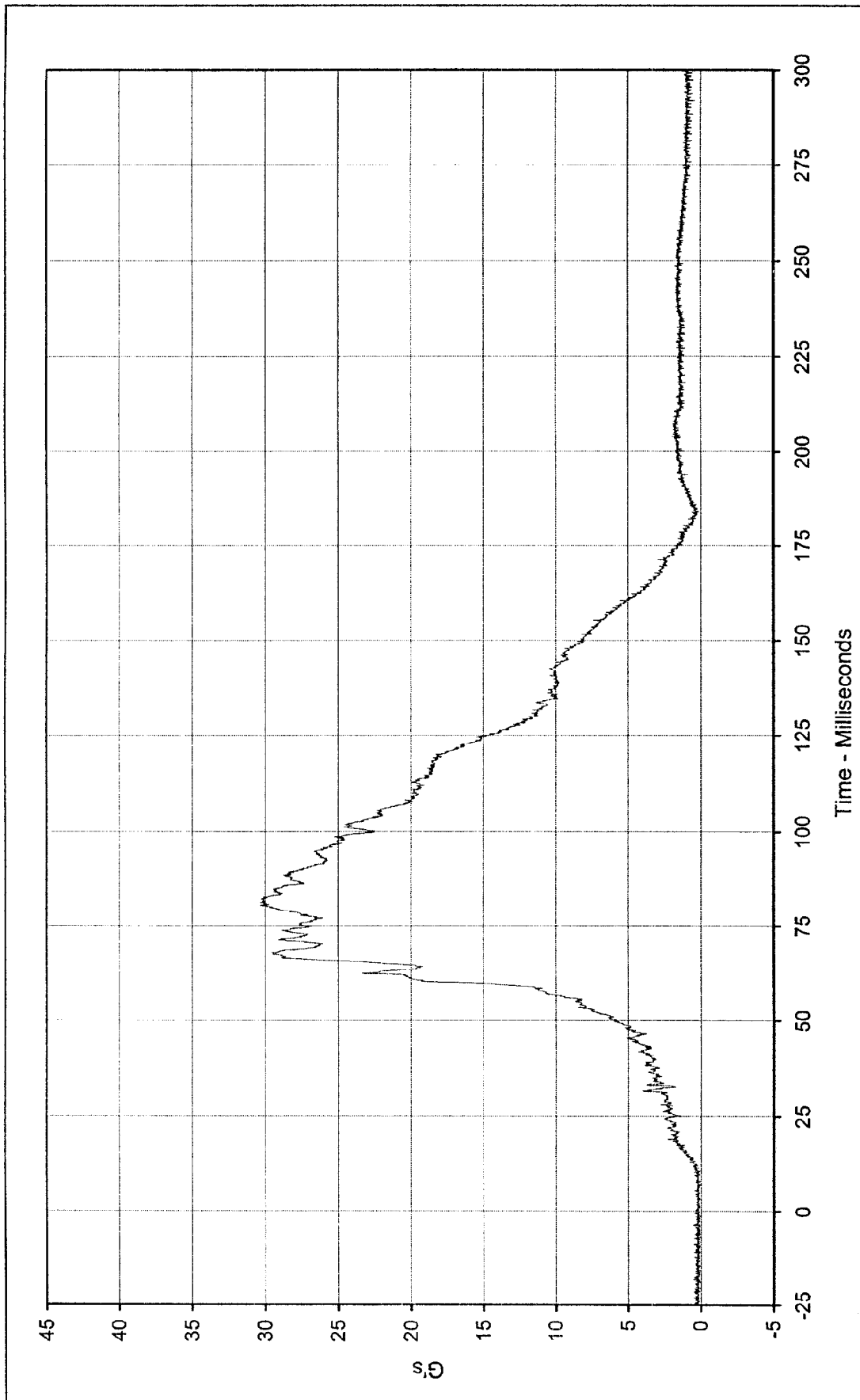




Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description: Passenger Pelvis Z
 Maximum Value: 1.7 at 207.5 Milliseconds
 Minimum Value: -12.5 at 86.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/30/98
 Curve Number: FIL-066





Curve Description: Passenger Pelvis Resultant

Maximum Value: 30.4 at 80.5 Milliseconds

Minimum Value: 0.0 at 7.2 Milliseconds

SAE Filter Class: 1000

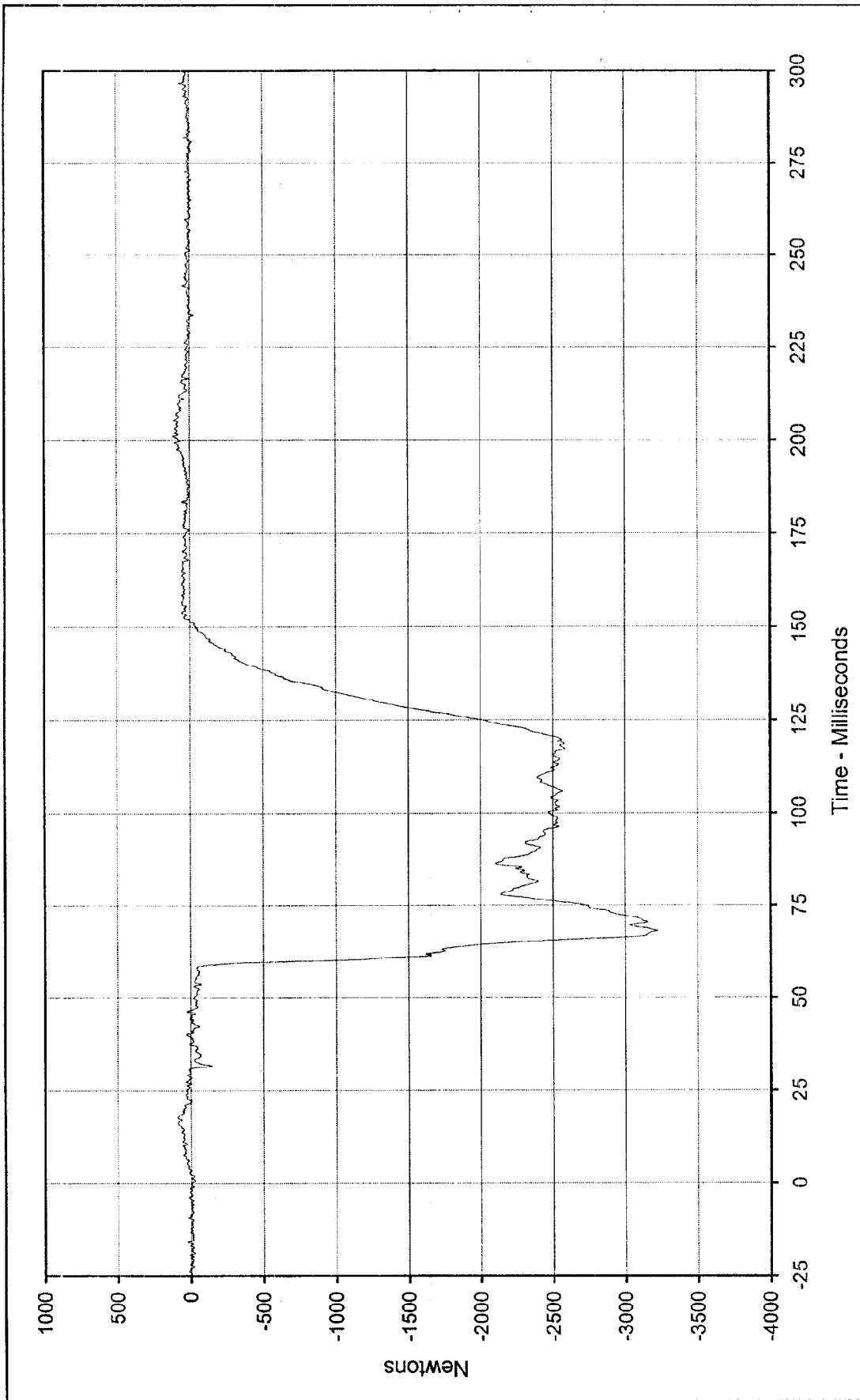
Date of Test: 7/30/98

Curve Number: RES-064

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Femur Force Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 113.6 at 201.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

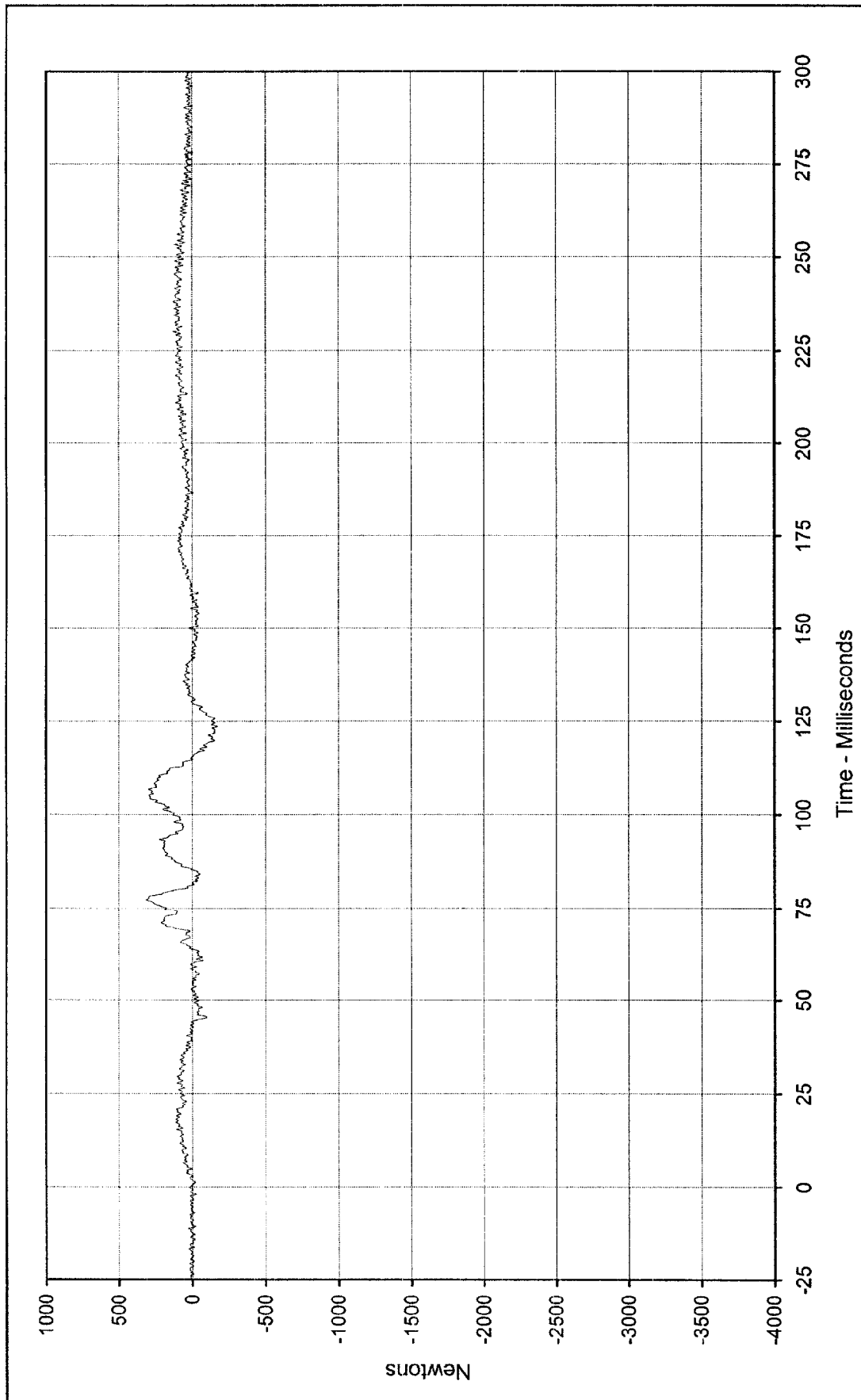
Minimum Value: -3223.3 at 68.1 Milliseconds

SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-067





Curve Description: Passenger Right Femur Force

Maximum Value: 316.1 at 77.3 Milliseconds

Minimum Value: -174.3 at 123.7 Milliseconds

SAE Filter Class: 600

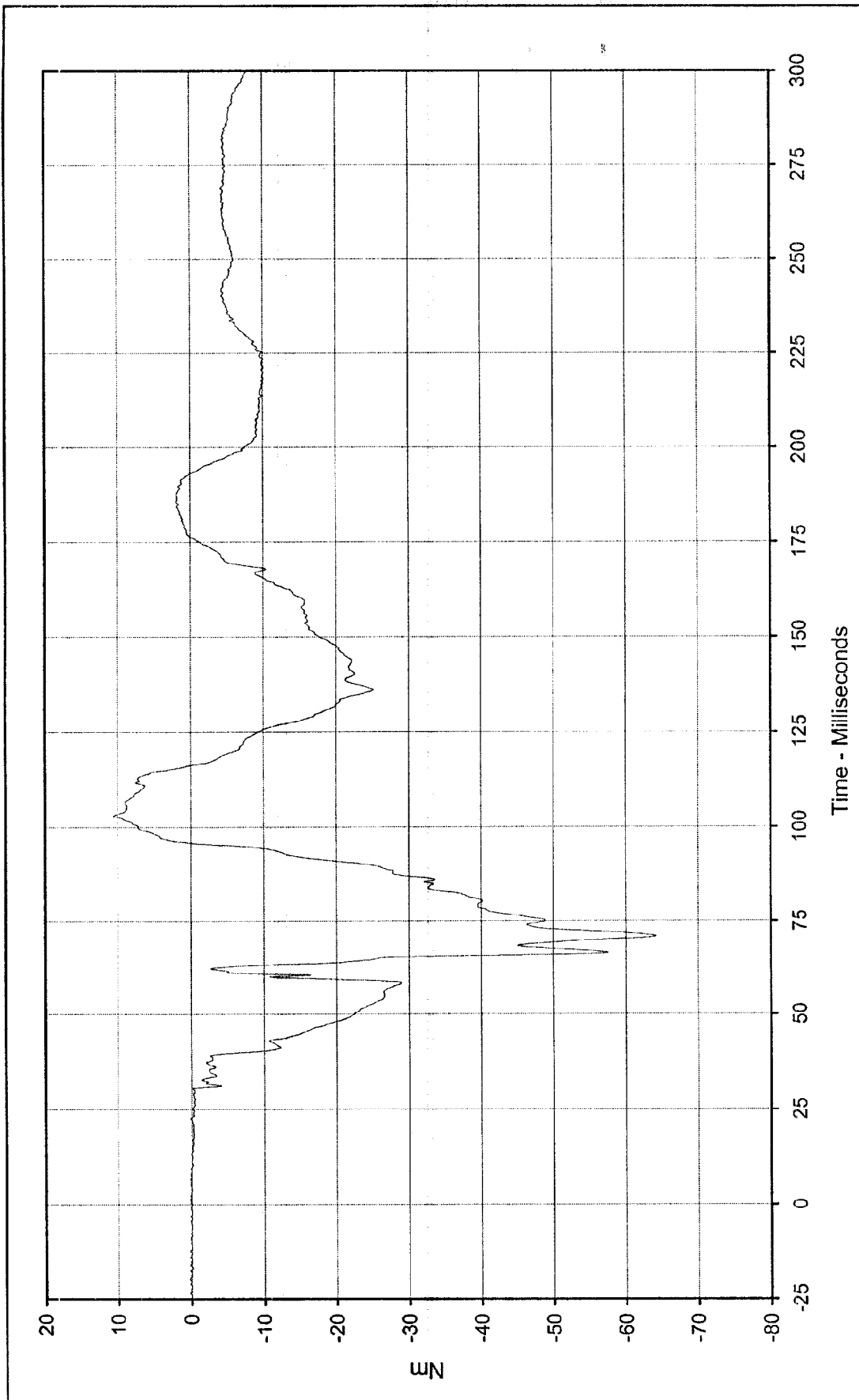
Date of Test: 7/30/98

Curve Number: FIL-068

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

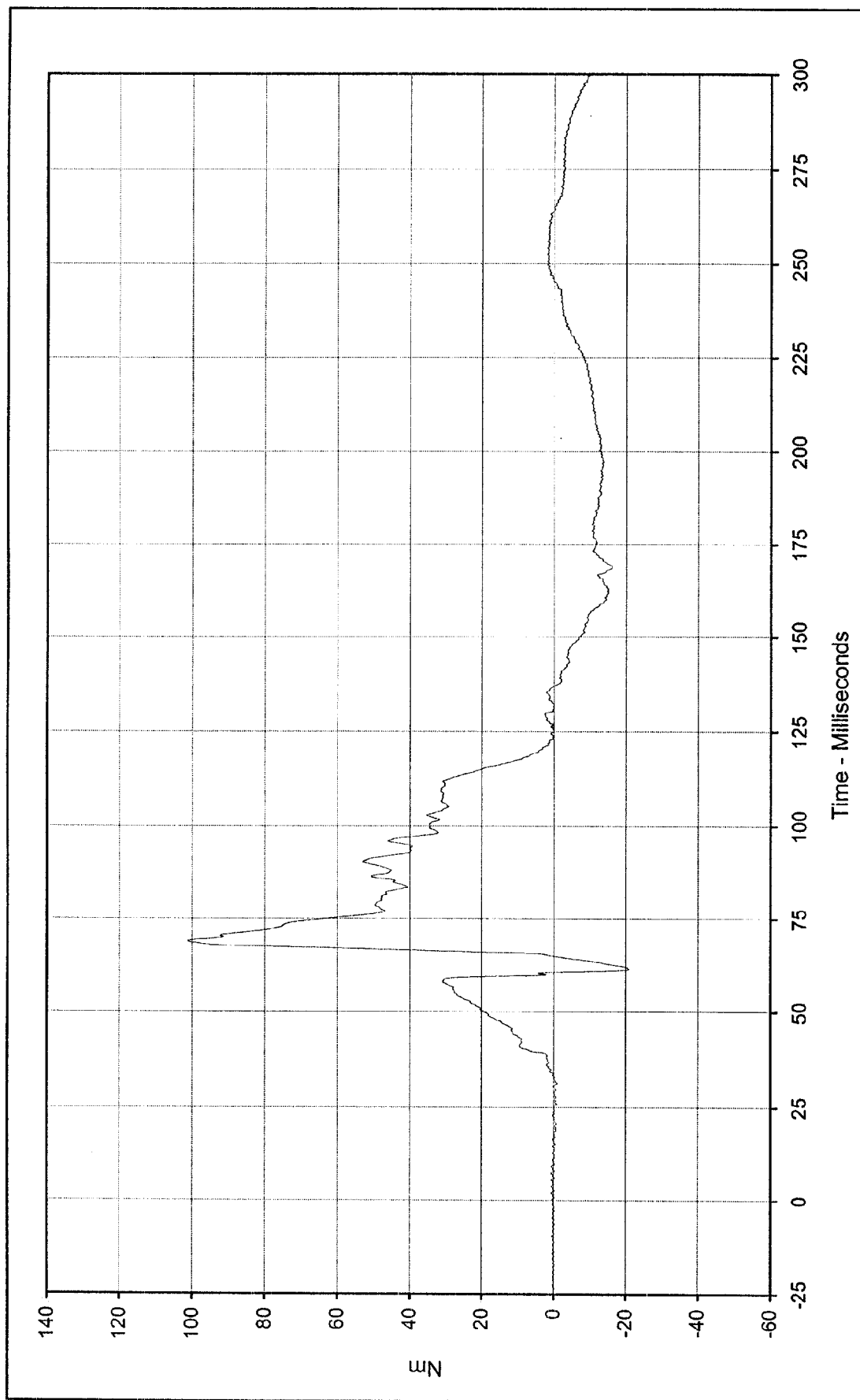




Curve Description: Passenger Left Upper Tibia Moment X
 Maximum Value: 10.5 at 103.1 Milliseconds
 Minimum Value: -64.2 at 71.0 Milliseconds
 SAE Filter Class: 600
 Date of Test: 7/30/98
 Curve Number: FIL-069

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan



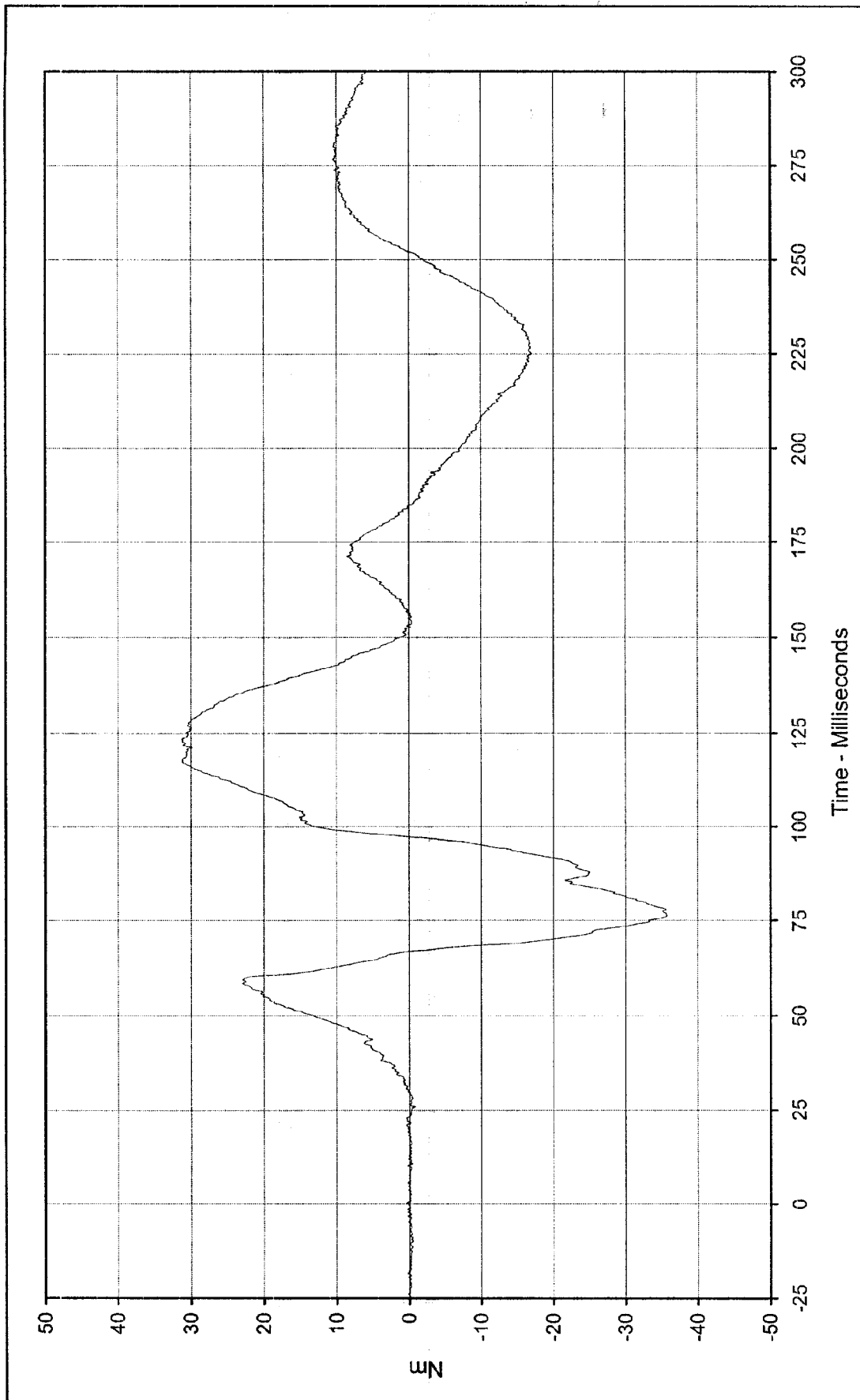


Curve Description: Passenger Left Upper Tibia Moment Y
 Maximum Value: 101.2 at 68.9 Milliseconds
 Minimum Value: -20.8 at 61.5 Milliseconds
 SAE Filter Class: 600
 Date of Test: 7/30/98
 Curve Number: FIL-070

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment X

Maximum Value: 31.3 at 123.5 Milliseconds

Minimum Value: -35.8 at 76.3 Milliseconds

SAE Filter Class: 600

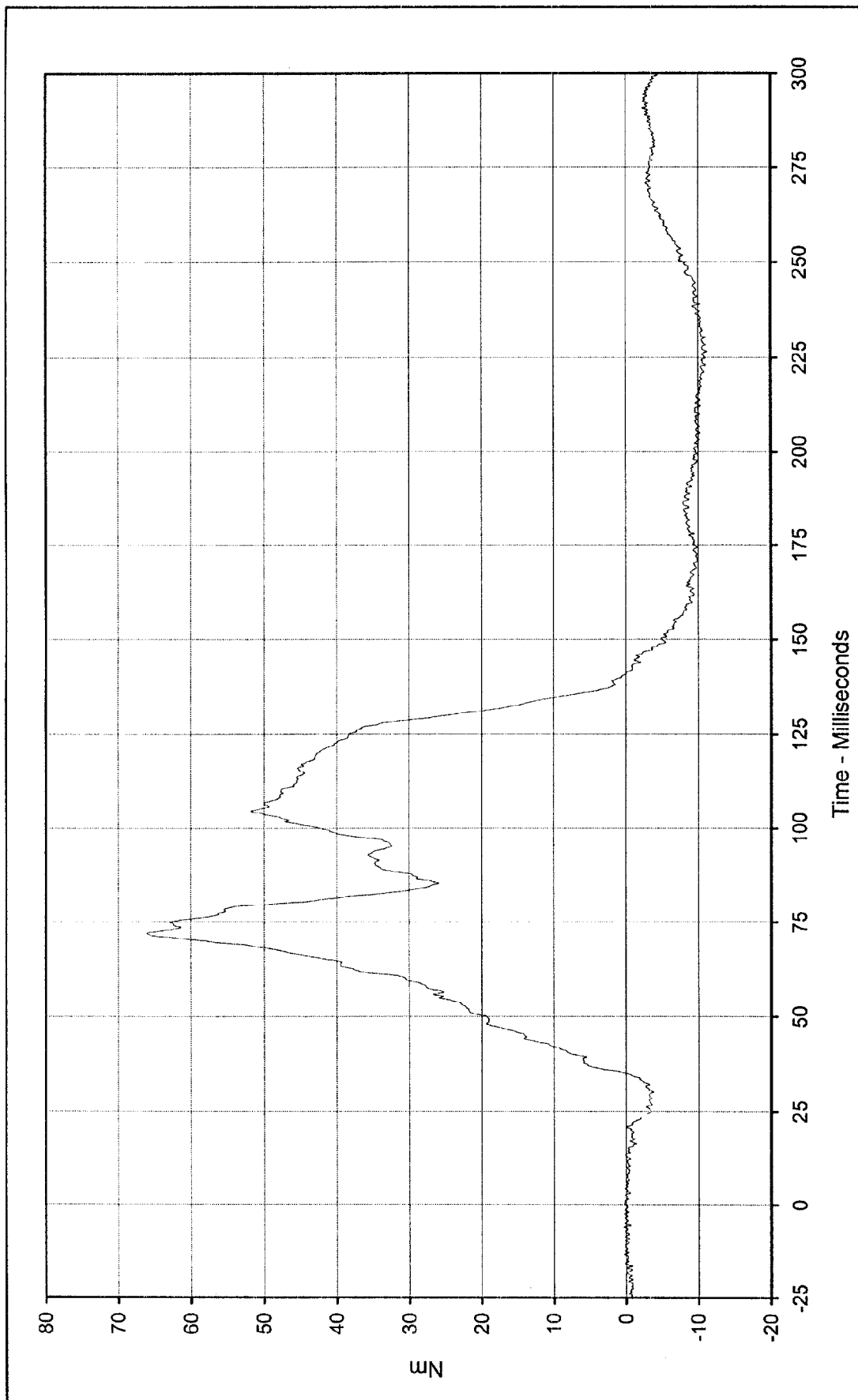
Date of Test: 7/30/98

Curve Number: FIL-071

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment Y

Maximum Value: 66.1 at 71.9 Milliseconds

Minimum Value: -11.2 at 226.5 Milliseconds

SAE Filter Class: 600

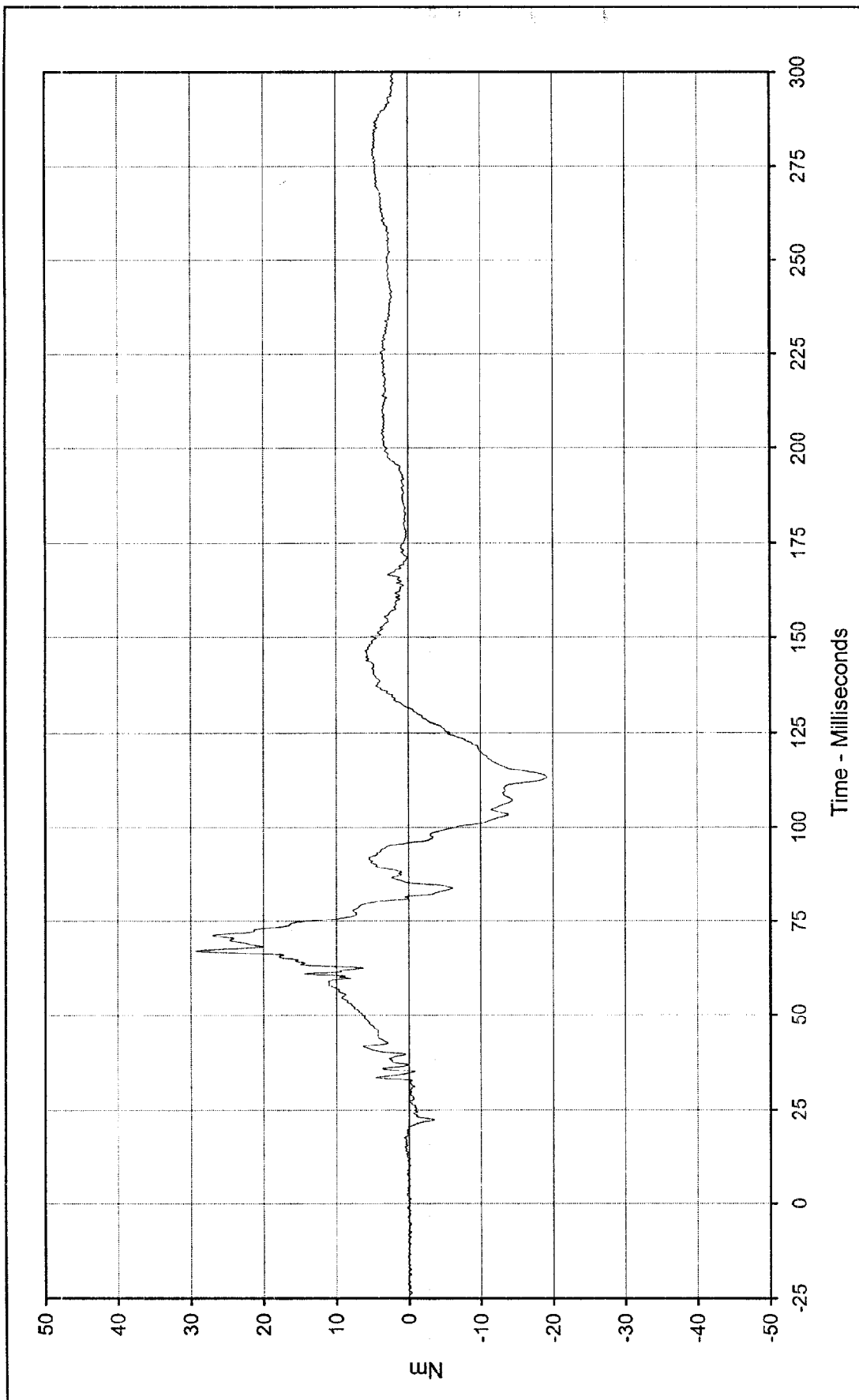
Date of Test: 7/30/98

Curve Number: FIL-072

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





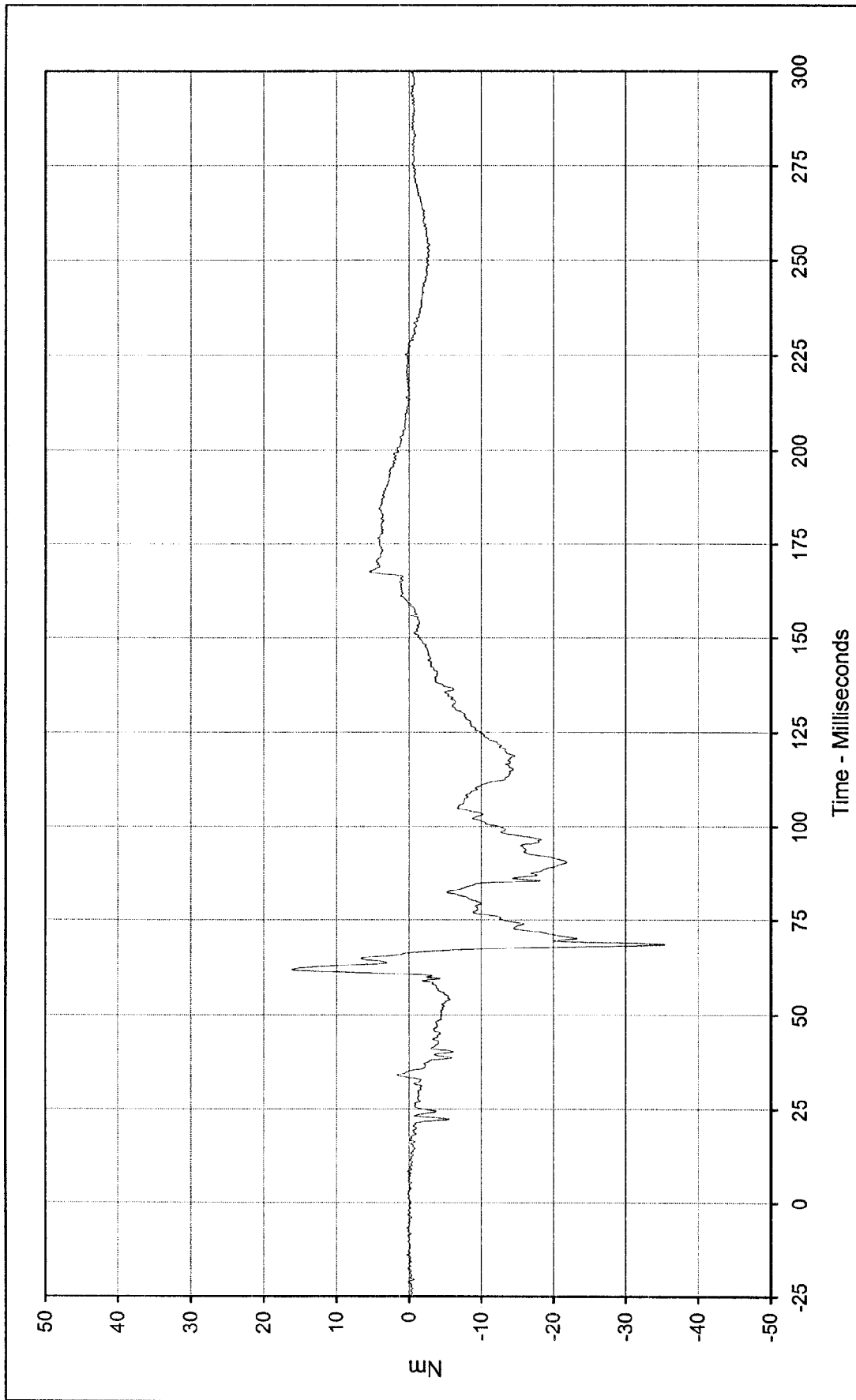
Curve Description: Passenger Left Lower Tibia Moment X

Maximum Value:	29.3	at	67.2	Milliseconds
Minimum Value:	-19.2	at	113.4	Milliseconds
SAE Filter Class:	600			
Date of Test:	7/30/98			
Curve Number:	FIL-073			

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Moment Y Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 16.1 at 61.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

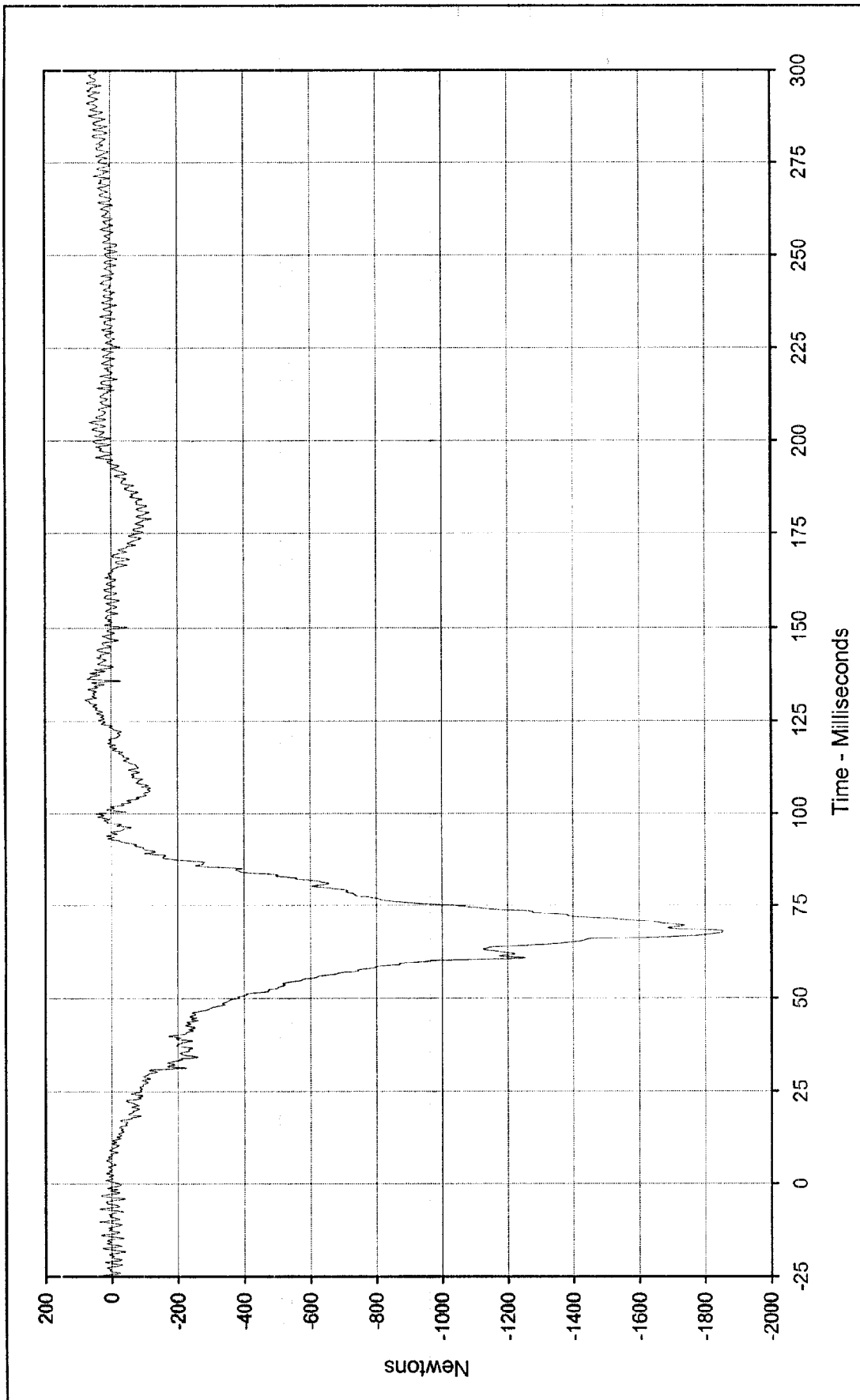
Minimum Value: -35.5 at 68.6 Milliseconds

SAE Filter Class: 600

Date of Test: 7/30/98

Curve Number: FIL-074

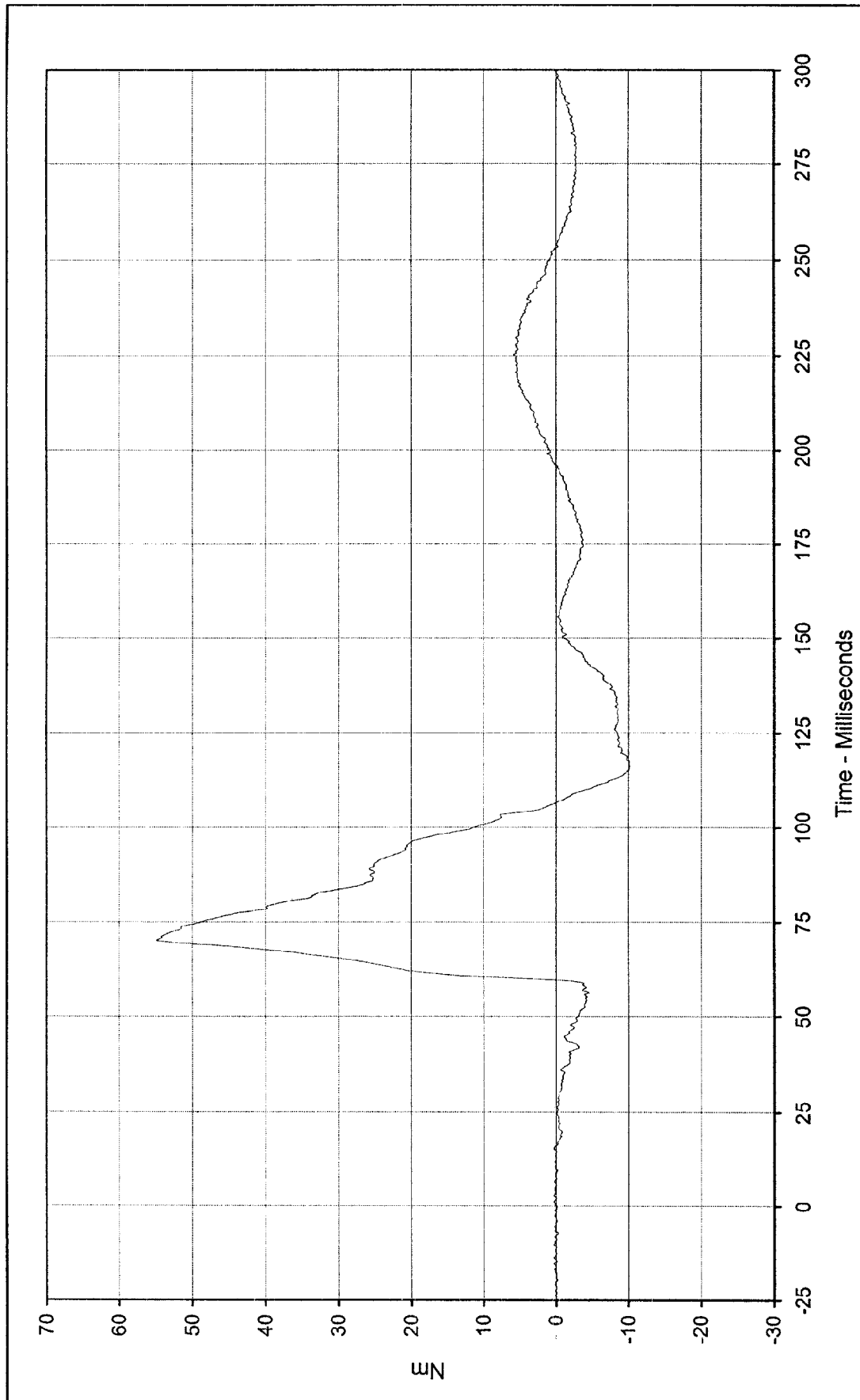




Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description: Passenger Left Lower Tibia Force Z
 Maximum Value: 78.0 at 130.6 Milliseconds
 Minimum Value: -1855.3 at 67.8 Milliseconds
 SAE Filter Class: 600
 Date of Test: 7/30/98
 Curve Number: FIL-075





Curve Description: Passenger Right Lower Tibia Moment X

Maximum Value: 54.9 at 70.2 Milliseconds

Minimum Value: -10.2 at 116.5 Milliseconds

SAE Filter Class: 600

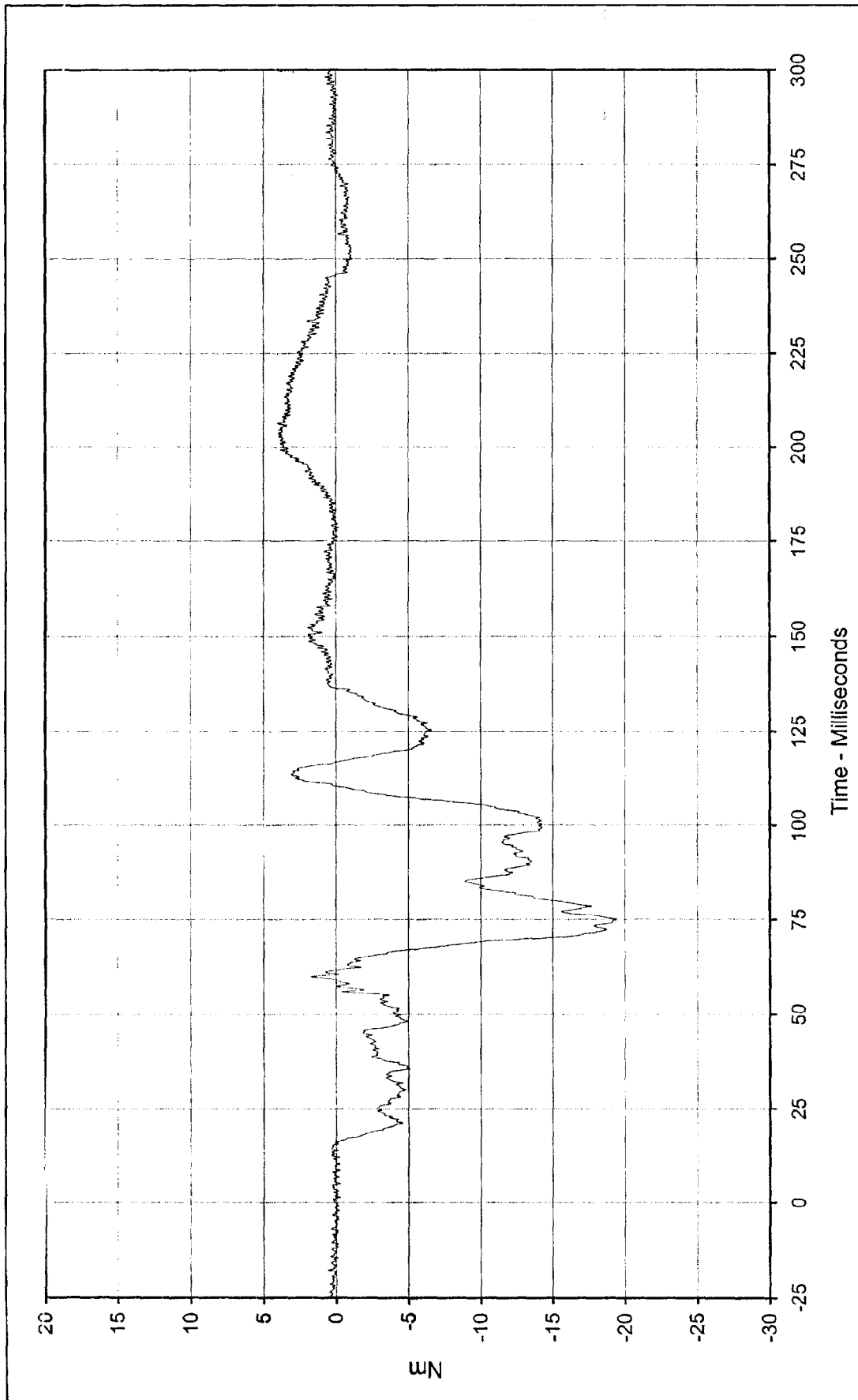
Date of Test: 7/30/98

Curve Number: FIL-076

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

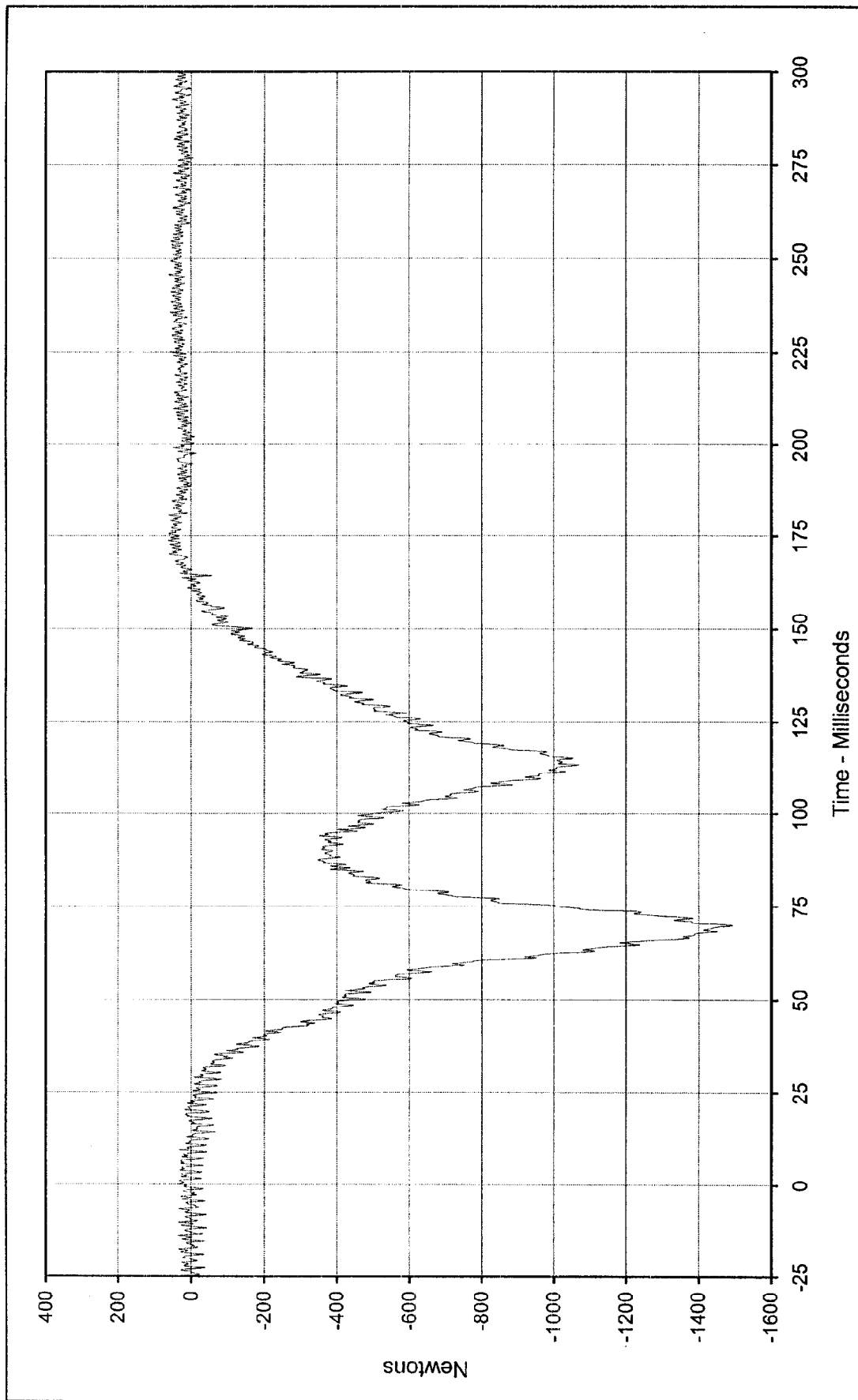




Curve Description: Passenger Right Lower Tibia Moment Y
Maximum Value: 4.0 at 206.4 Milliseconds
Minimum Value: -19.4 at 75.0 Milliseconds
SAE Filter Class: 600
Date of Test: 7/30/98
Curve Number: FIL-077

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right lower Tibia Force Z

Maximum Value: 62.4 at 173.8 Milliseconds

Minimum Value: -1492.3 at 69.9 Milliseconds

SAE Filter Class: 600

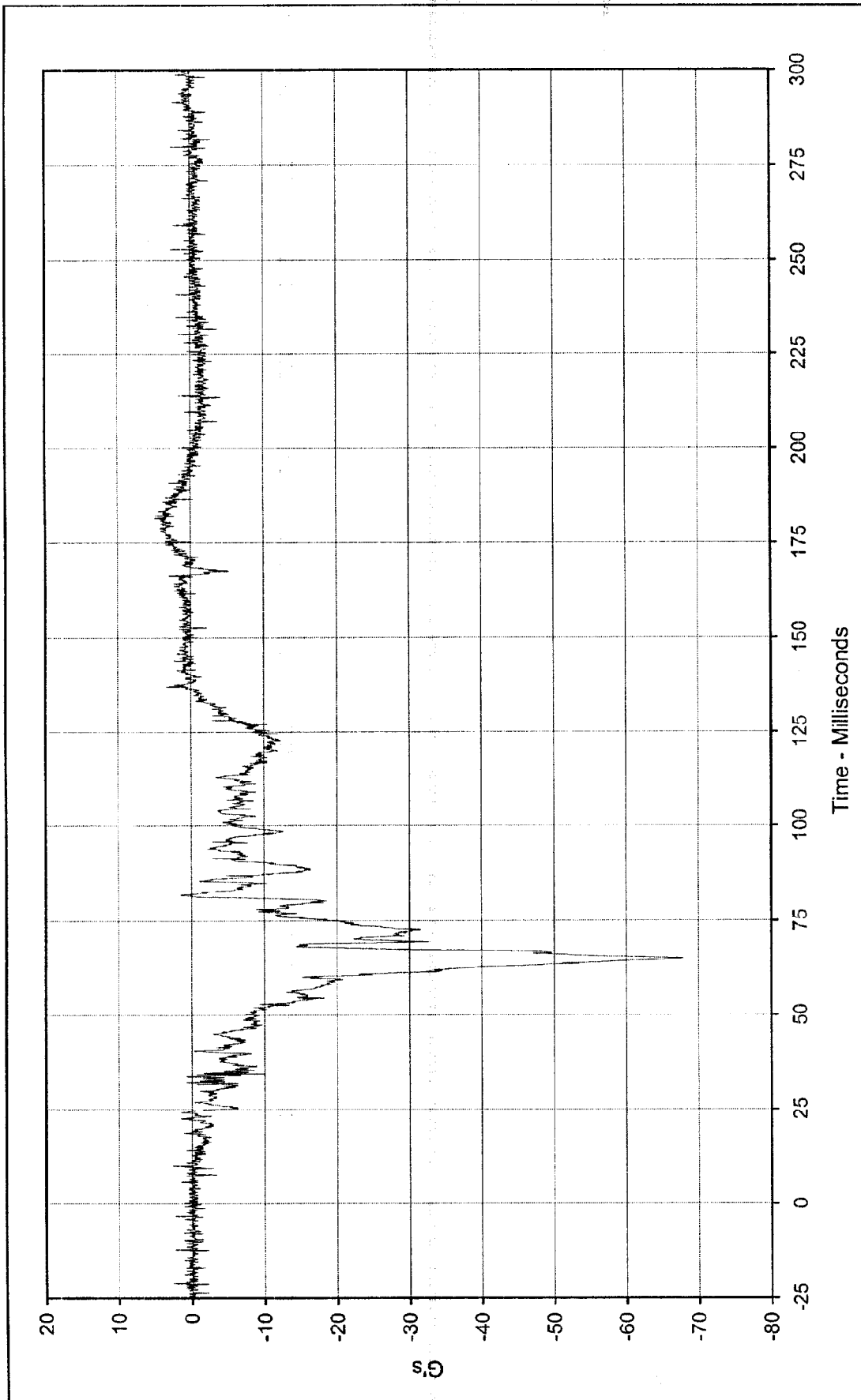
Date of Test: 7/30/98

Curve Number: FIL-078

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

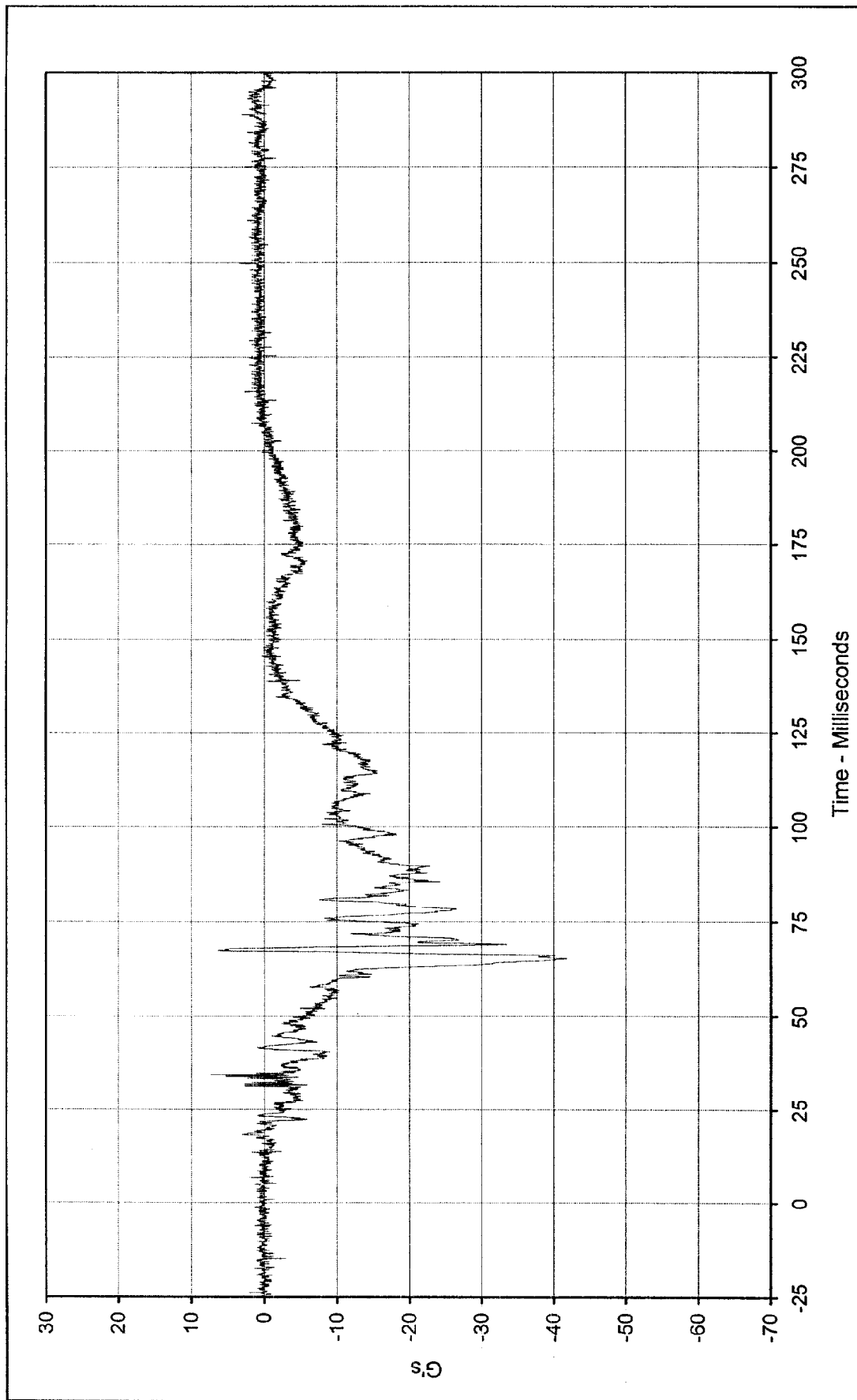
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description:	Passenger Left Foot Aft X	Testing Program	1998 37.5mph Offset w/50th Male	No.: MW0213
Maximum Value:	4.8 at 181.7 Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	-67.9 at 65.1 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	7/30/98			
Curve Number:	FIL-079			





Curve Description: Passenger Left Foot Aft Z Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 7.3 at 34.5 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

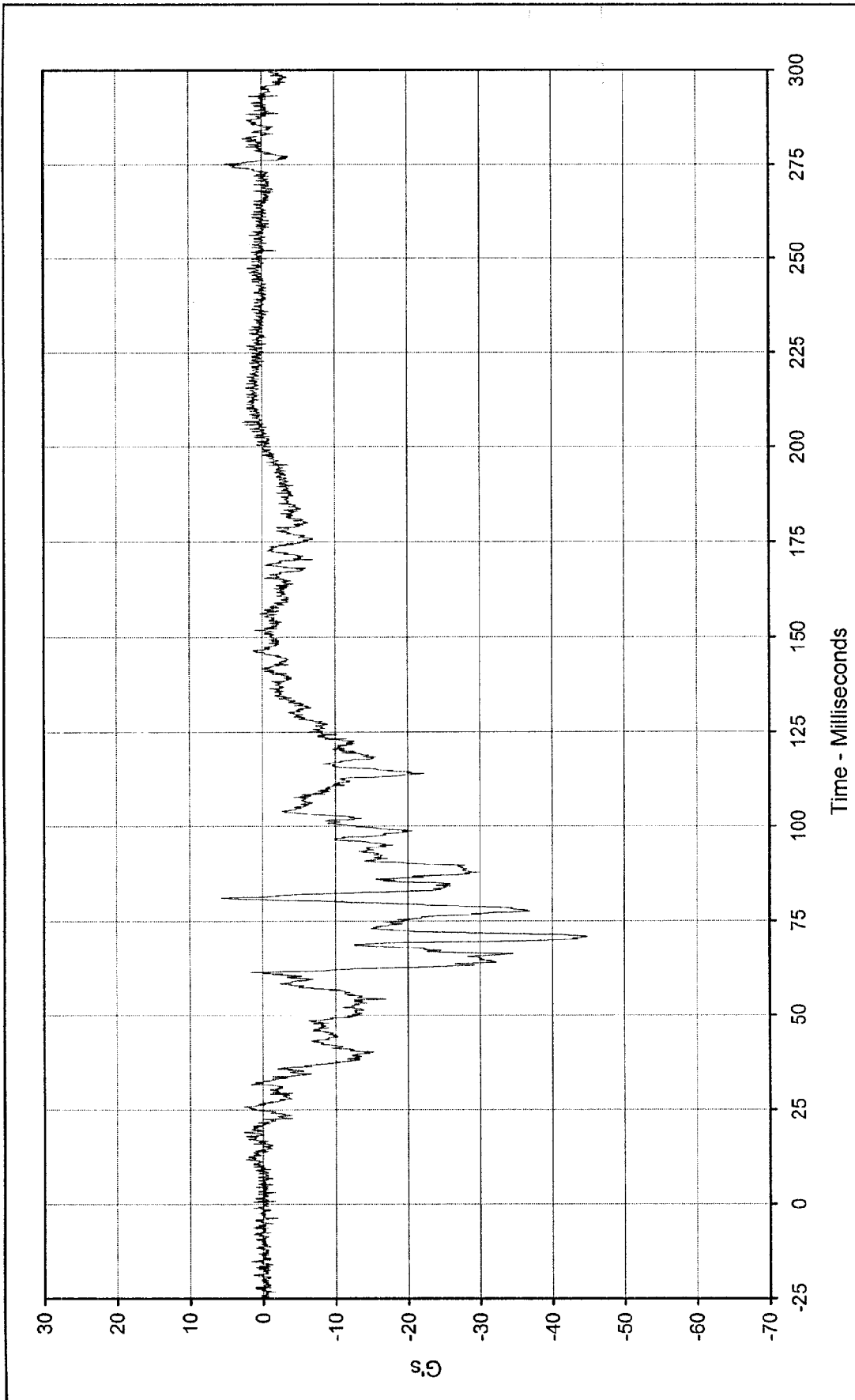
Minimum Value: -41.8 at 65.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-080

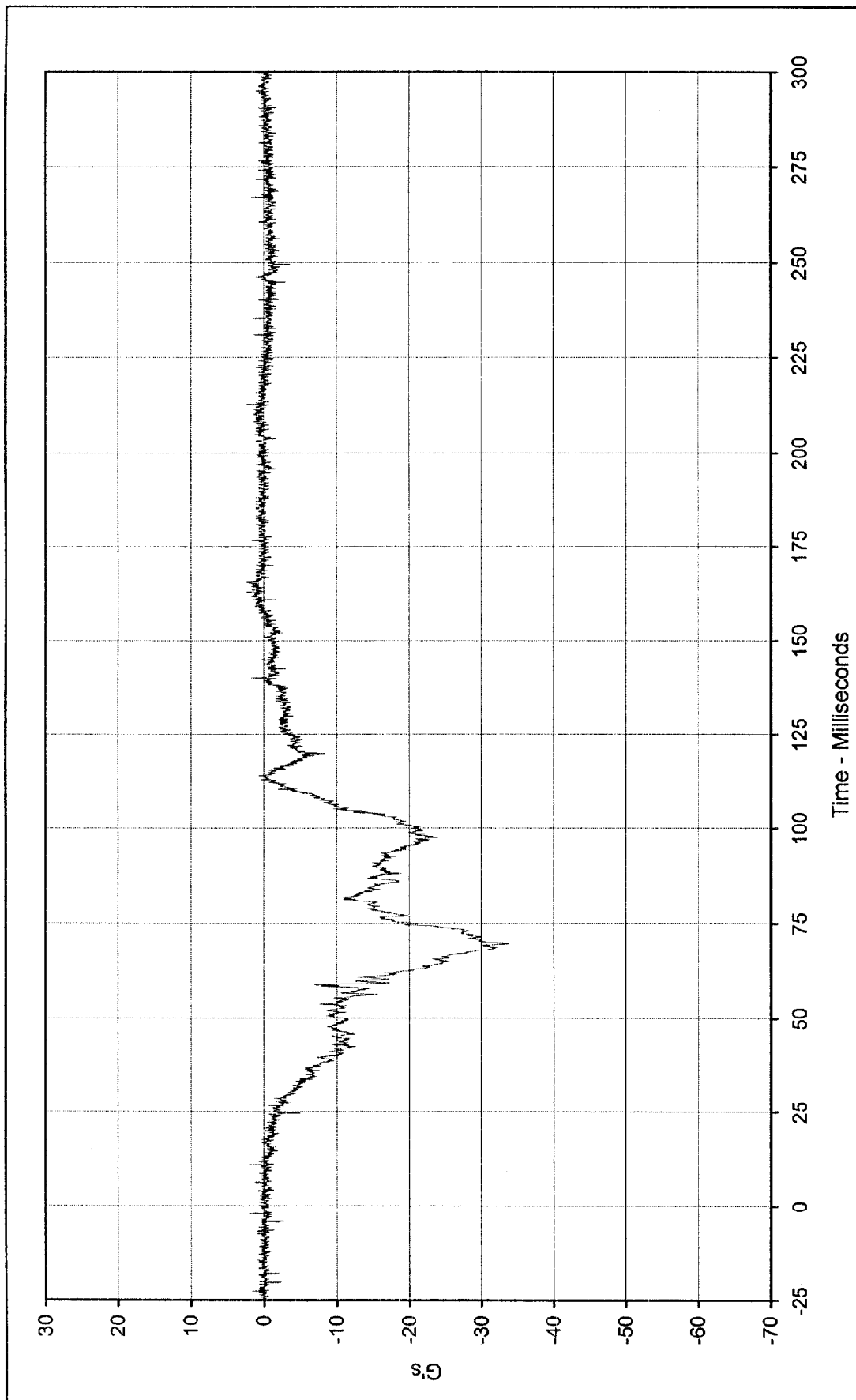




Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description:	Passenger Left Foot Fore Z			
Maximum Value:	5.6	at	81.1	Milliseconds
Minimum Value:	-44.9	at	70.7	Milliseconds
SAE Filter Class:	1000			
Date of Test:	7/30/98			
Curve Number:	FIL-081			





Curve Description: Passenger Right Foot Aft X Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 2.3 at 162.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

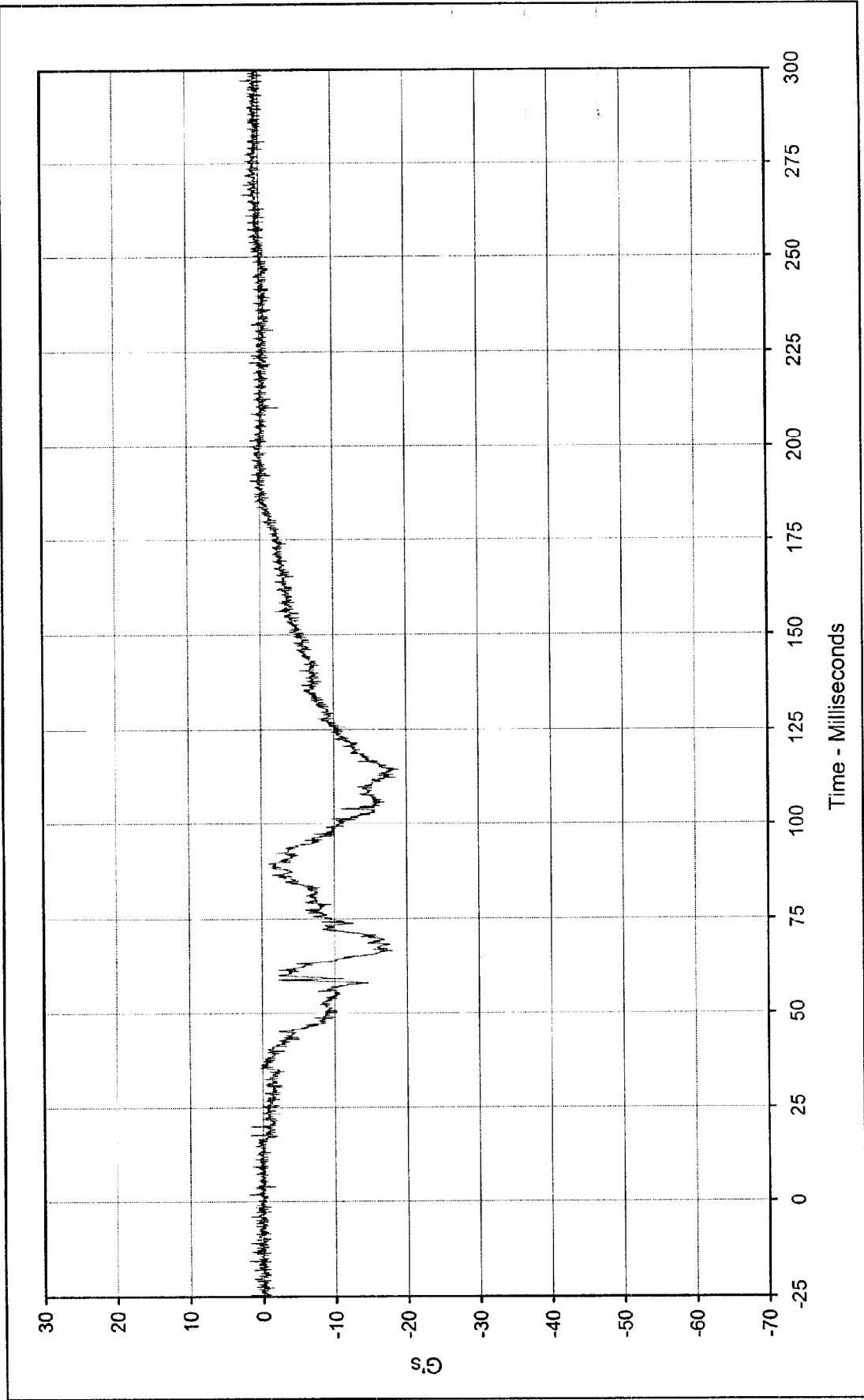
Minimum Value: -33.9 at 69.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 7/30/98

Curve Number: FIL-082

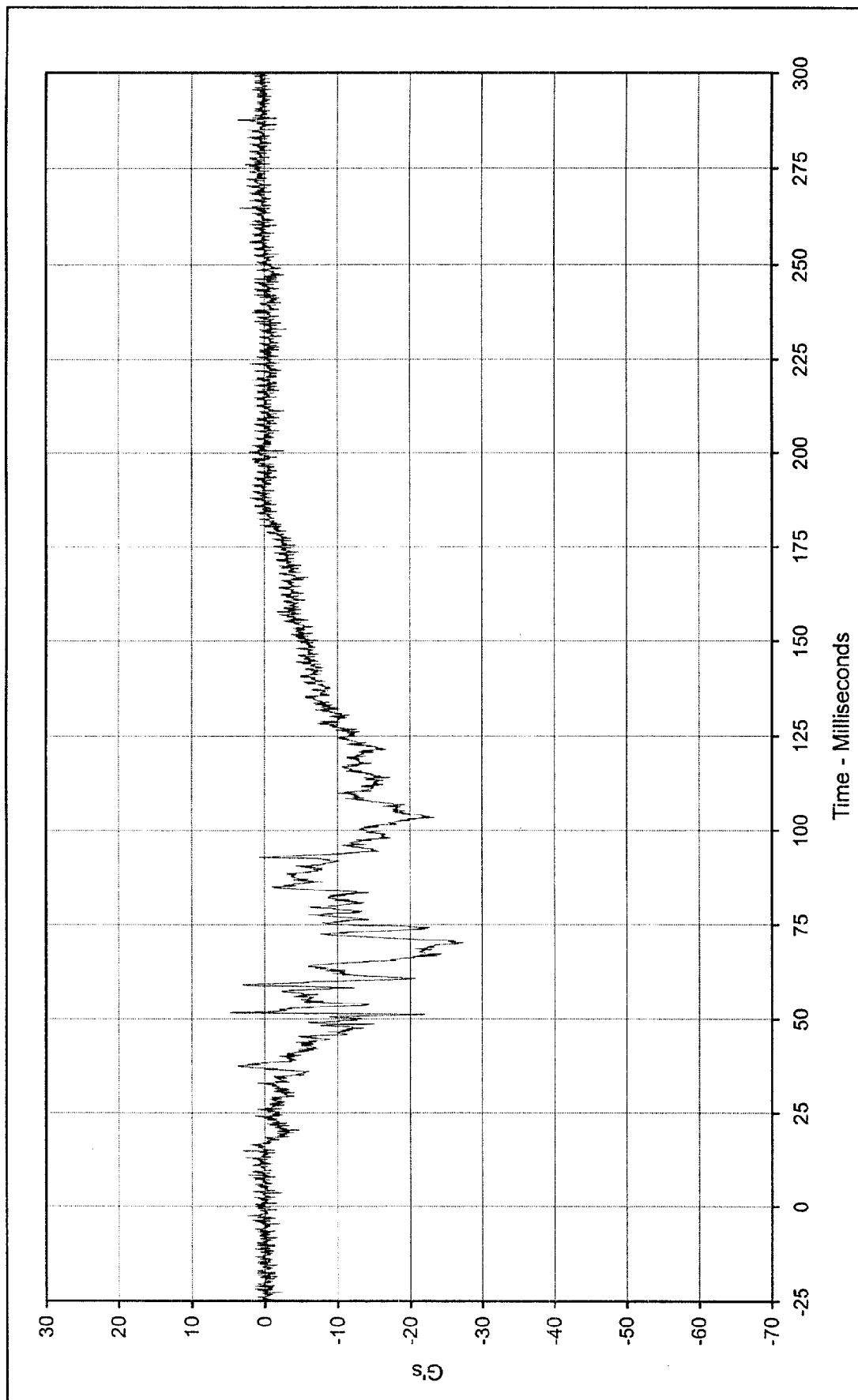




Curve Description: Passenger Right Foot Aft Z
Maximum Value: 2.3 at 266.6 Milliseconds
Minimum Value: -19.0 at 114.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 7/30/98
Curve Number: FIL-083

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Foot Fore Z

Maximum Value: 4.7 at 51.7 Milliseconds

Minimum Value: -27.3 at 70.3 Milliseconds

SAE Filter Class: 1000

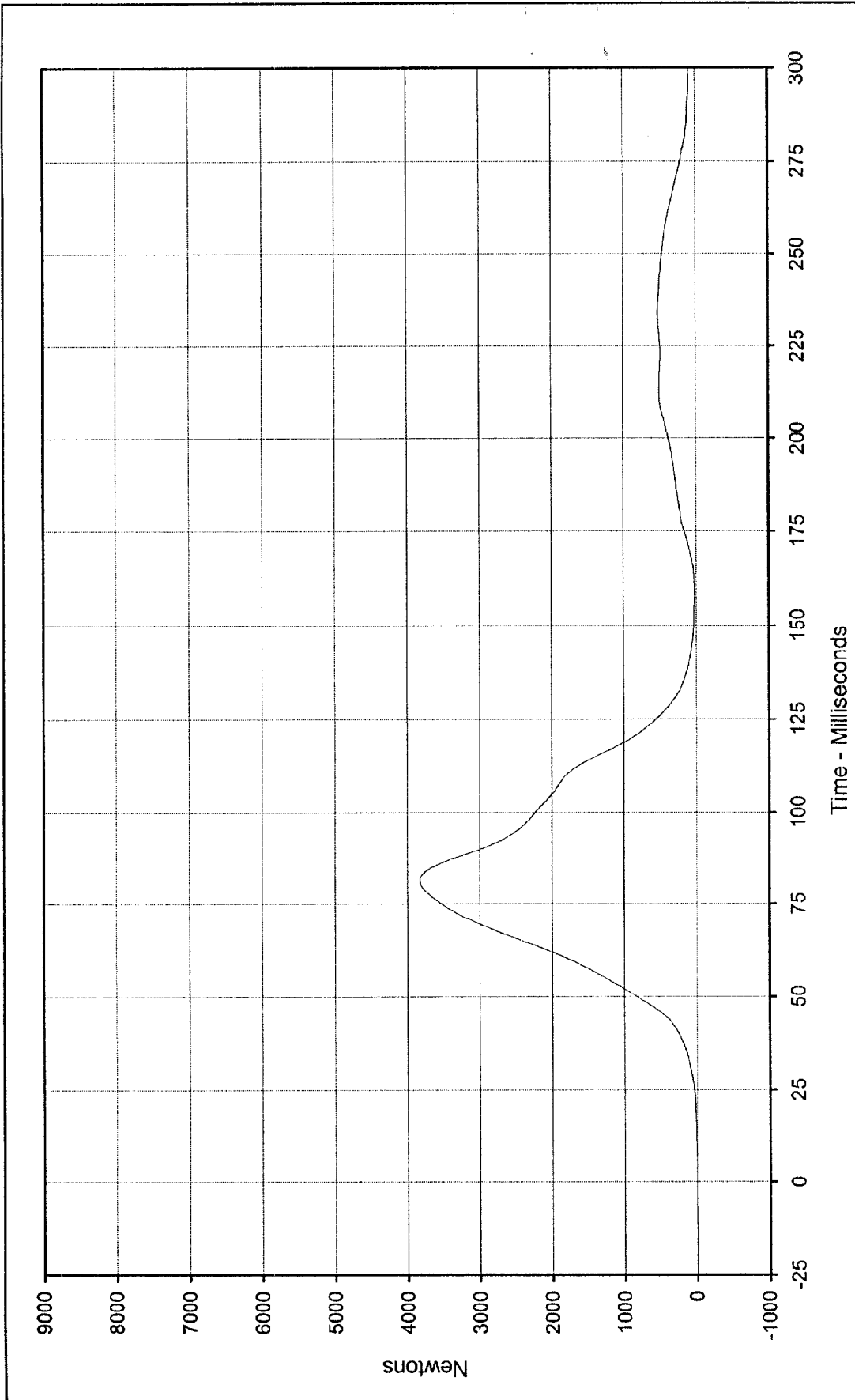
Date of Test: 7/30/98

Curve Number: FIL-084

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

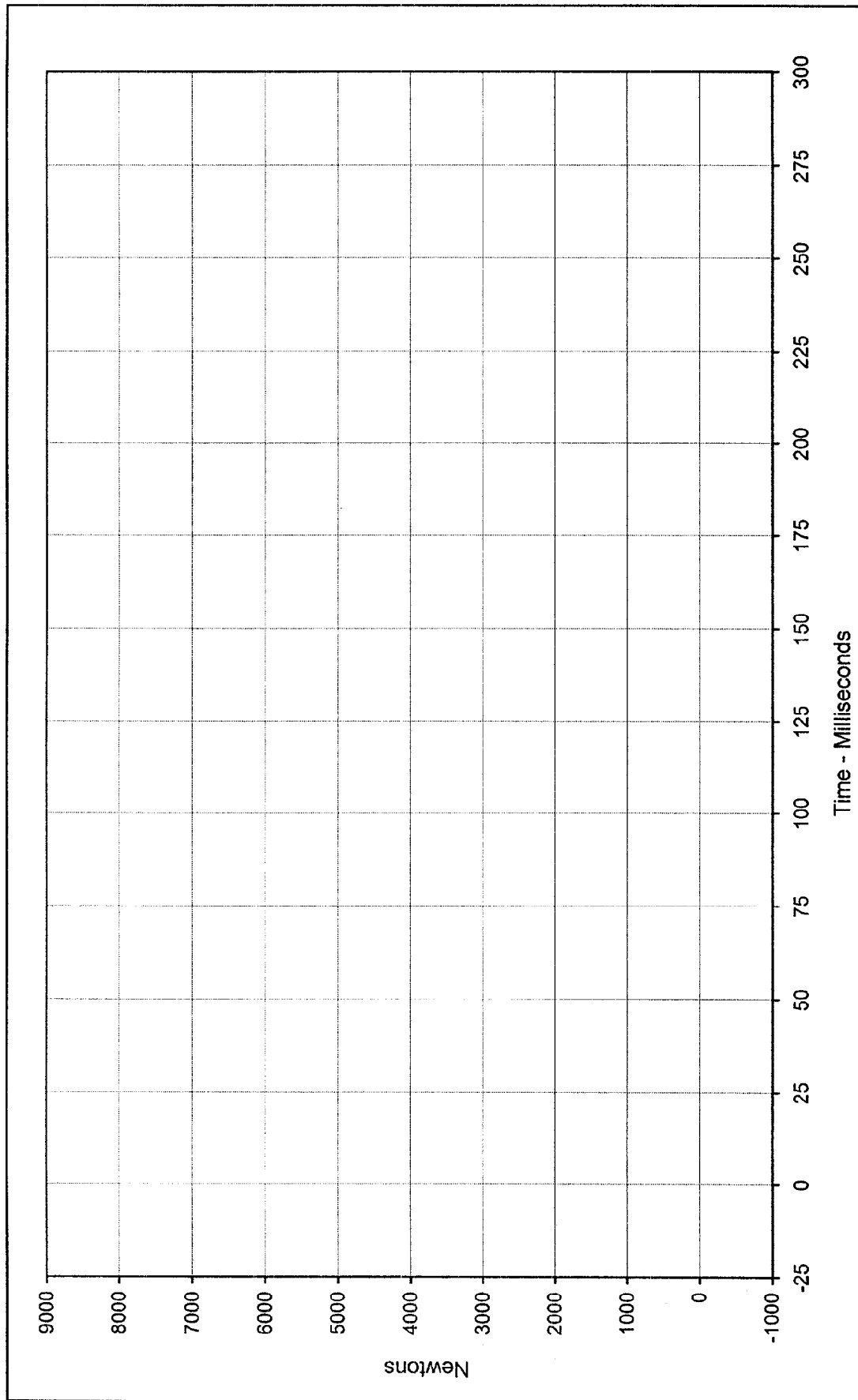
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description:		Passenger Lap Belt Force		Testing Program	1998 37.5mph Offset w/50th Male	No.: MW0213
Maximum Value:	3827.9	at	81.3	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	4.5	at	5.0			
SAE Filter Class:	60					
Date of Test:	7/30/98					
Curve Number:	FIL-085					





Curve Description: Passenger Shoulder Belt Force * Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 0.0 at 0.0 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

Minimum Value: 0.0 at 0.0 Milliseconds

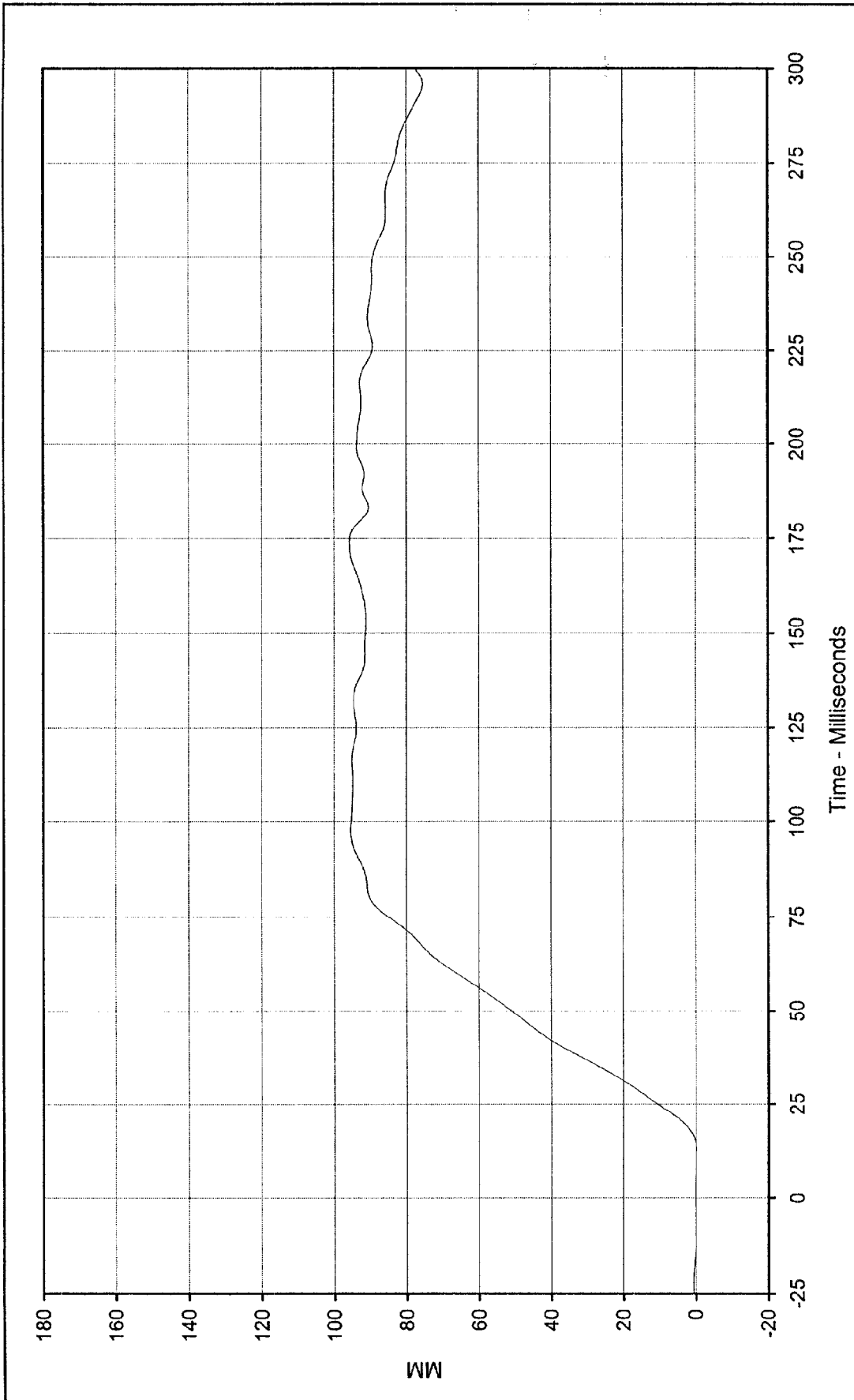
SAE Filter Class: 60

Date of Test: 7/30/98

Curve Number: FIL-086

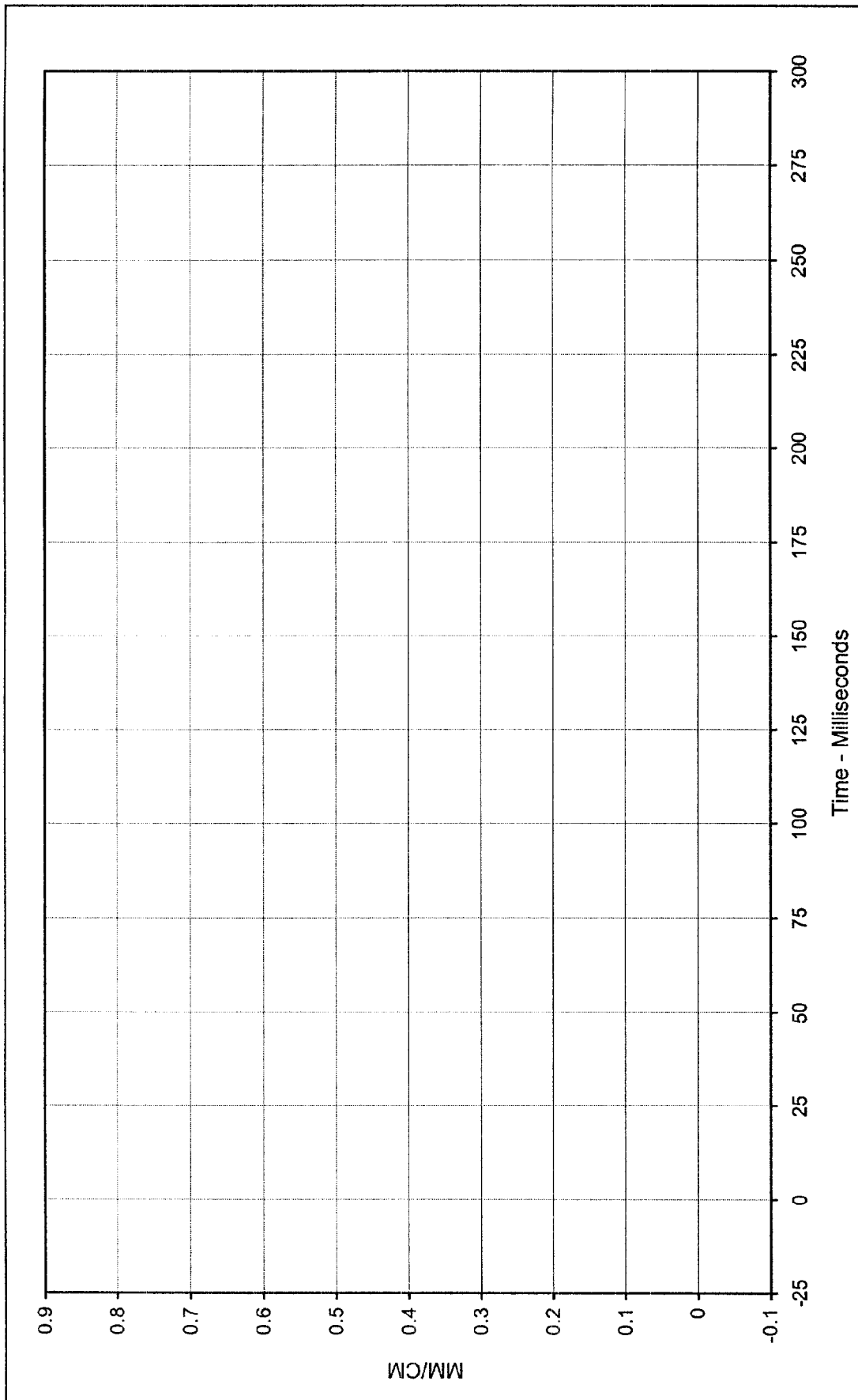


* Channel Failed, No Data



Curve Description:	Passenger Shoulder Belt Pullout				Testing Program	1998 37.5mph Offset w/50th Male	No.: MW0213
Maximum Value:	95.7	at	173.9	Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	-0.1	at	13.1	Milliseconds			
SAE Filter Class:	60						
Date of Test:	7/30/98						
Curve Number:	FIL-087						





Curve Description: Passenger Shoulder Belt Elongation * Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 0.00 at 0.0 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

Minimum Value: 0.00 at 0.0 Milliseconds

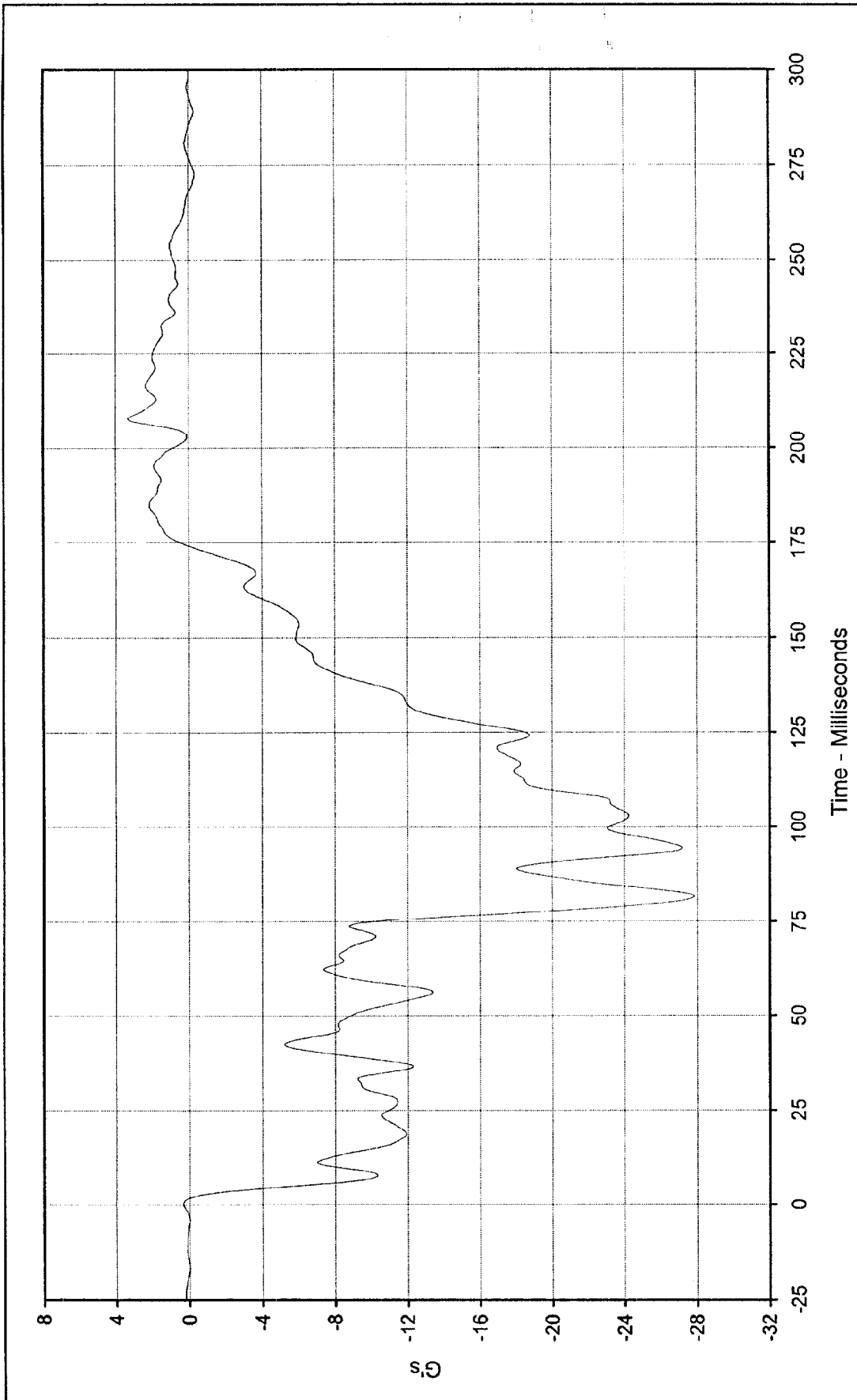
SAE Filter Class: 60

Date of Test: 7/30/98

Curve Number: FIL-088



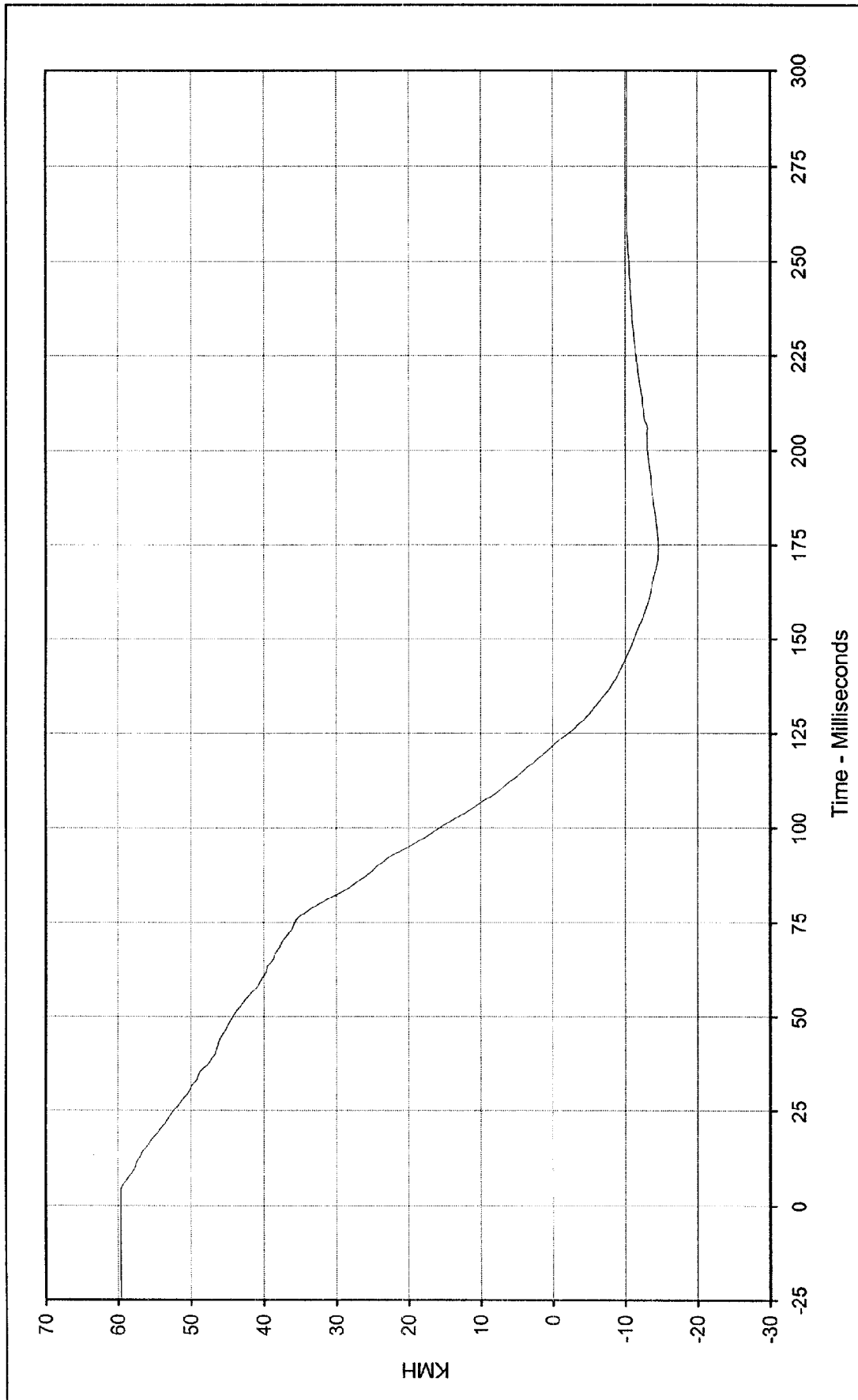
*Channel Failed, No Data



Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan



Curve Description: Vehicle Left Sill X
 Maximum Value: 3.3 at 207.8 Milliseconds
 Minimum Value: -27.9 at 81.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/30/98
 Curve Number: FIL-089



Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

Vehicle Left Sill X Velocity

Maximum Value: 59.6 at 0.4 Milliseconds

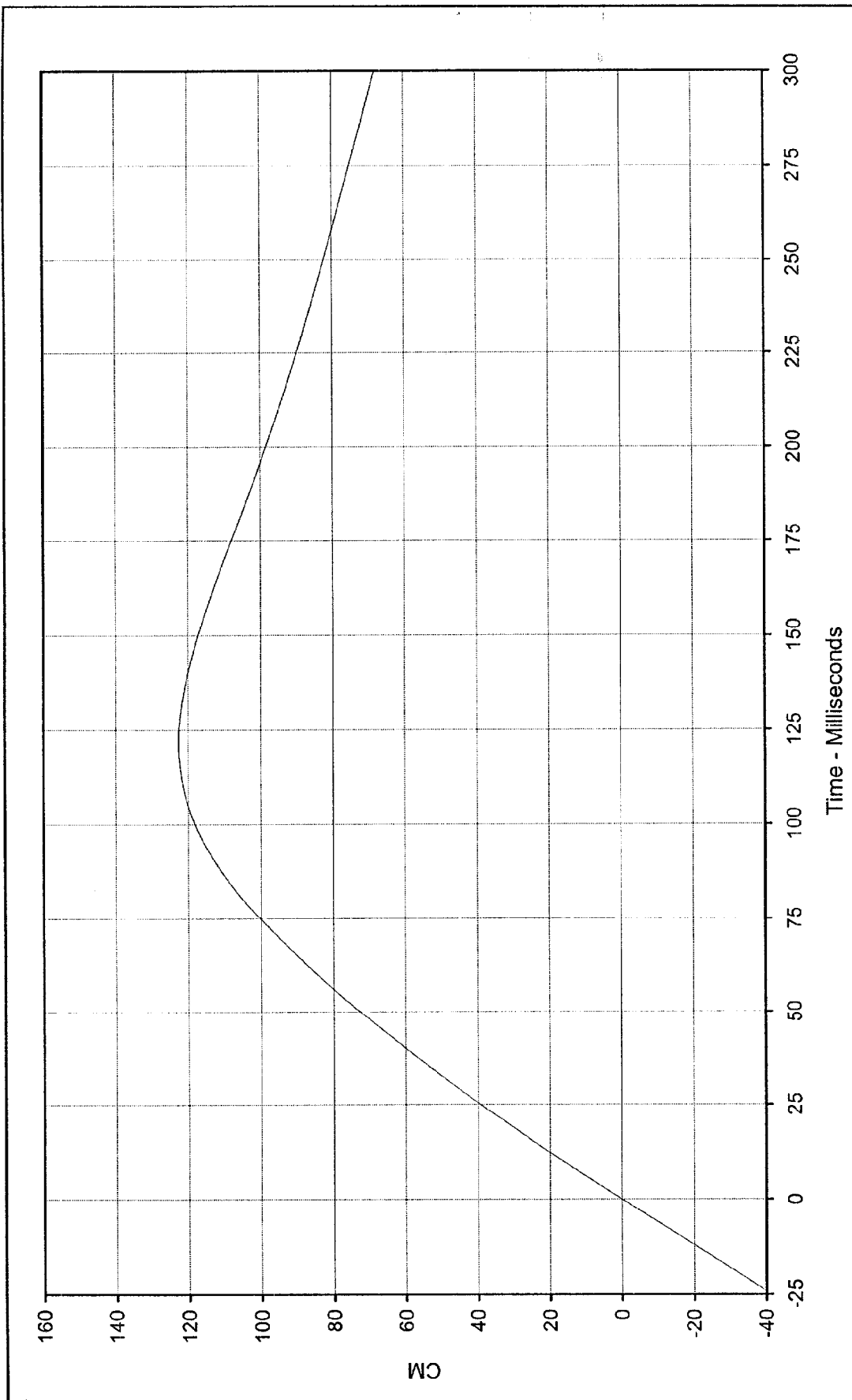
Minimum Value: -14.6 at 173.8 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-089





Curve Description: _____ Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Vehicle Left Sill X Displ. _____

Maximum Value: 122.5 at 121.8 Milliseconds

Test Vehicle: 1998 Ford Contour 4 Door Sedan

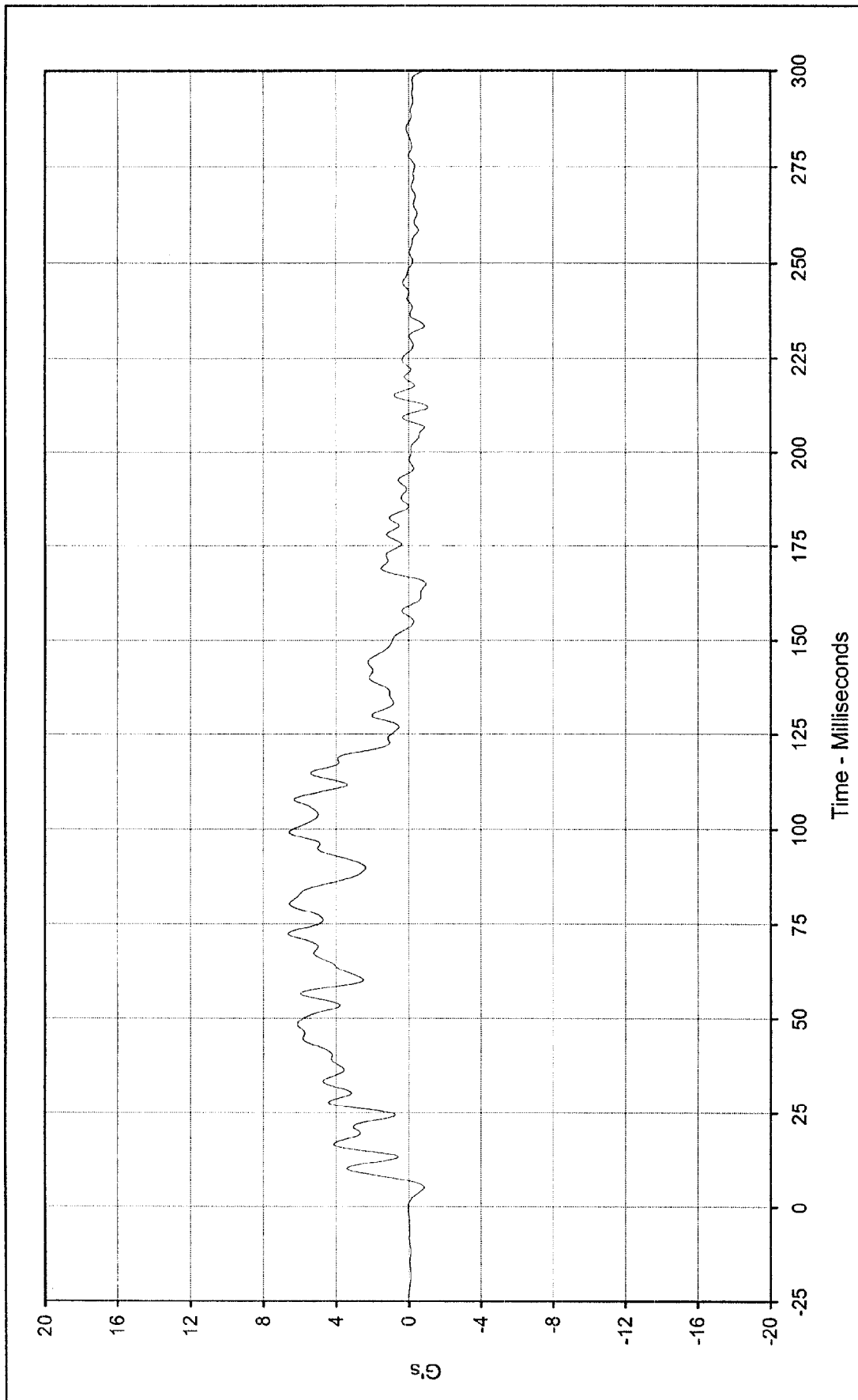
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-089





Curve Description: Vehicle Left Sill Y Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 6.6 at 72.5 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

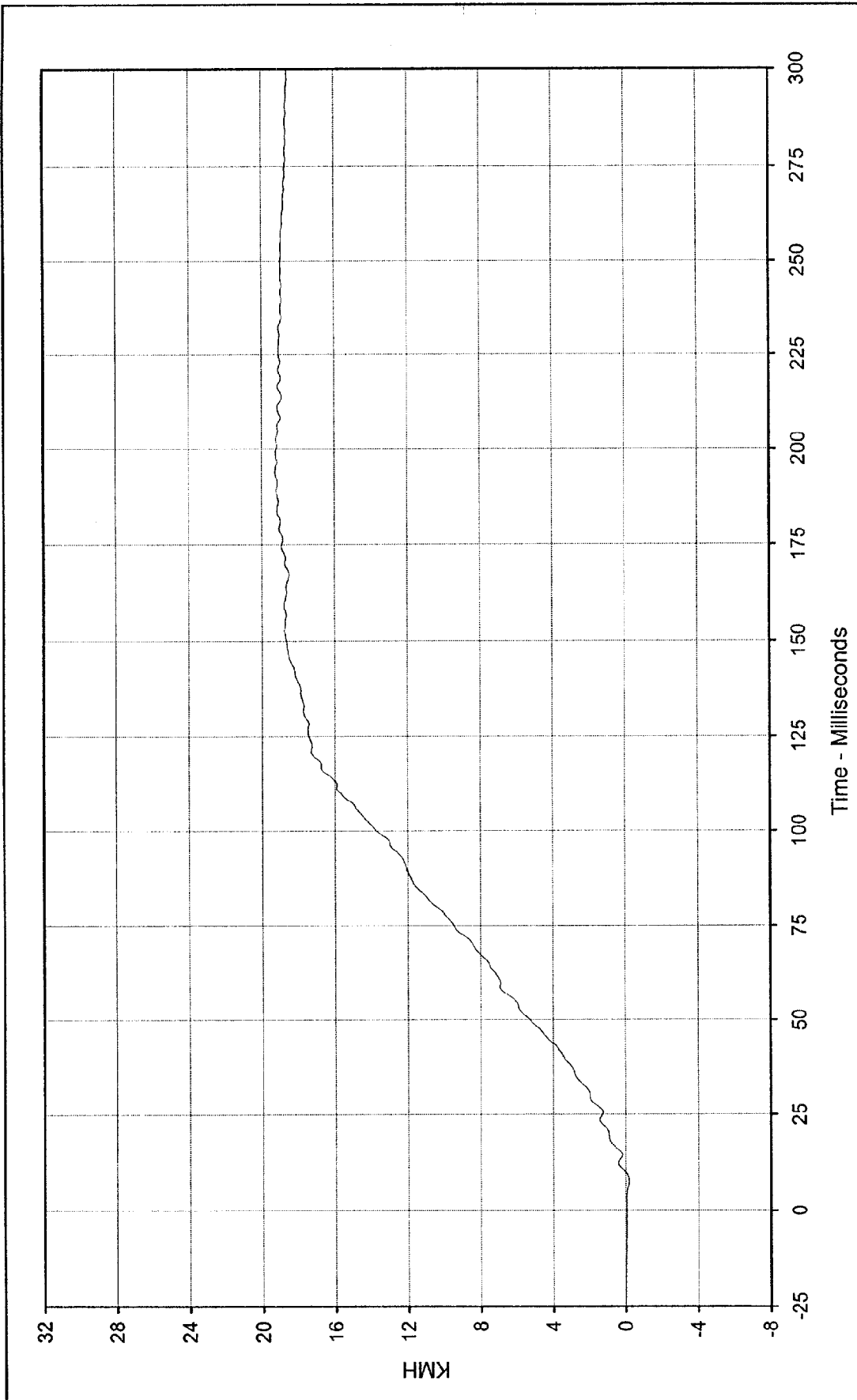
Minimum Value: -1.1 at 212.2 Milliseconds

SAE Filter Class: 60

Date of Test: 7/30/98

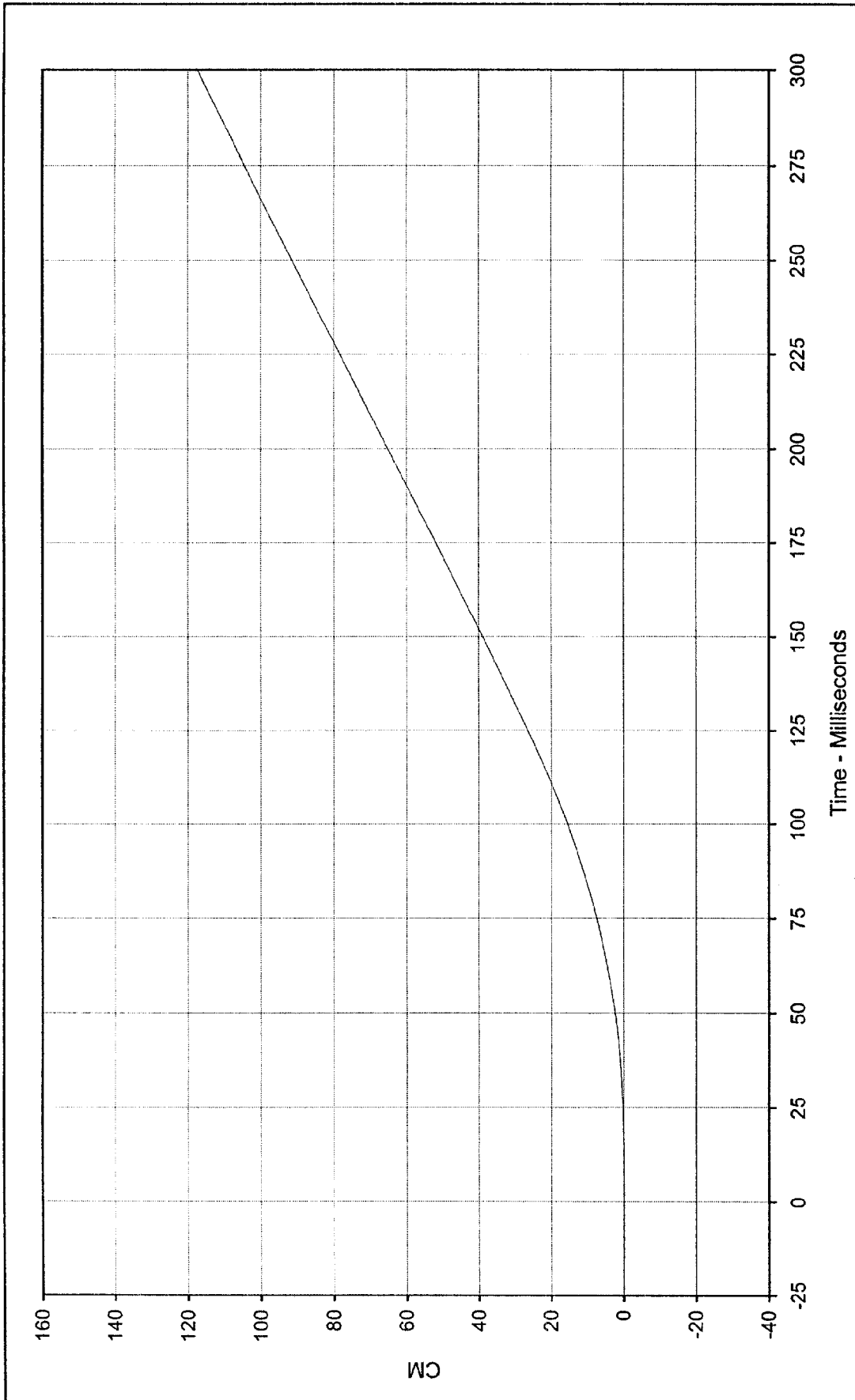
Curve Number: FIL-090





Curve Description:	Vehicle Left Sill Y Velocity		Testing Program	1998 37.5mph Offset w/50th Male	No.: MW0213
Maximum Value:	19.3	at 194.1	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	-0.2	at 7.7			
SAE Filter Class:	180				
Date of Test:	7/30/98				
Curve Number:	IN1-090				





Curve Description: Vehicle Left Sill Y Displ. Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 117.4 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

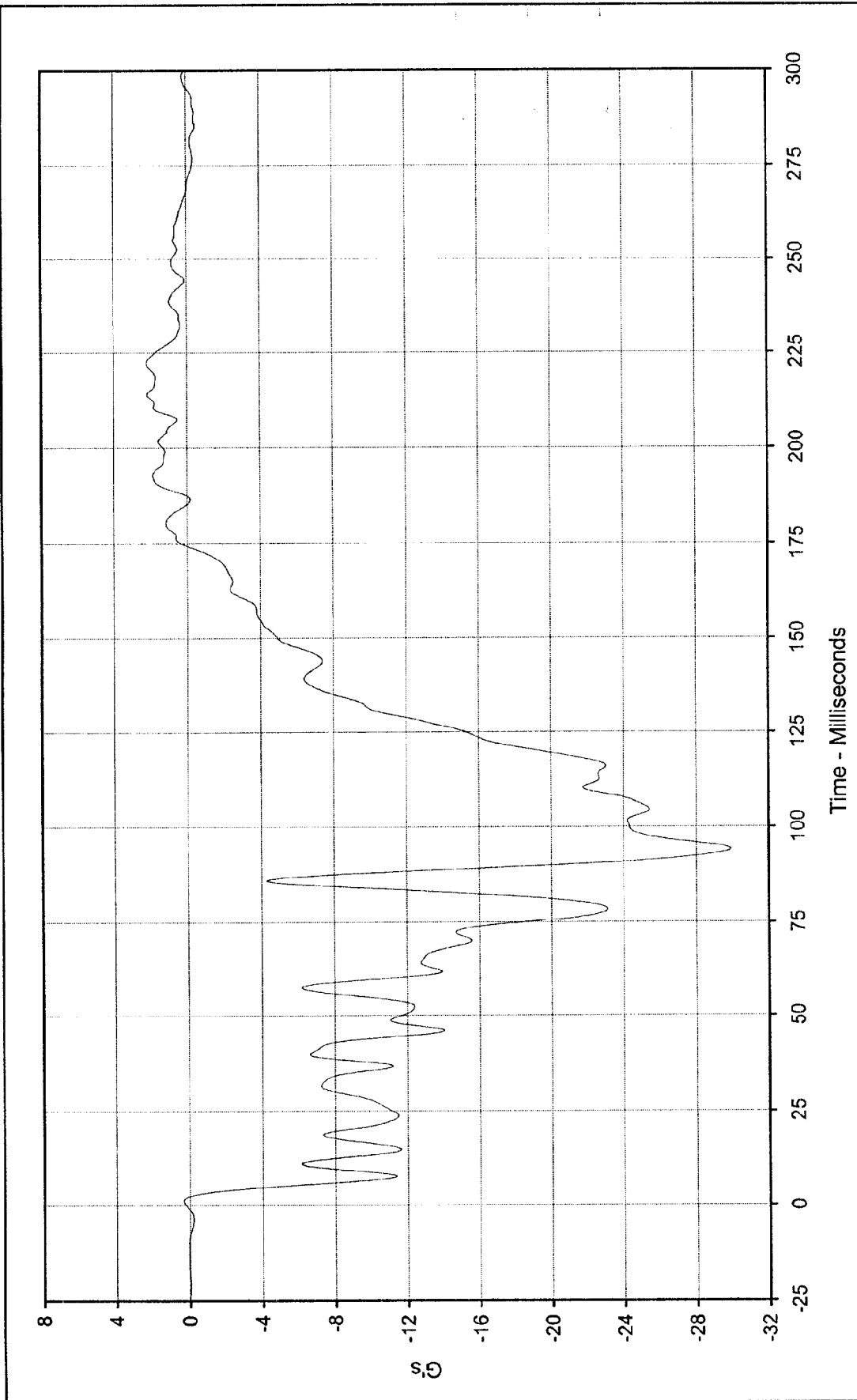
Minimum Value: 0.0 at 10.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-090

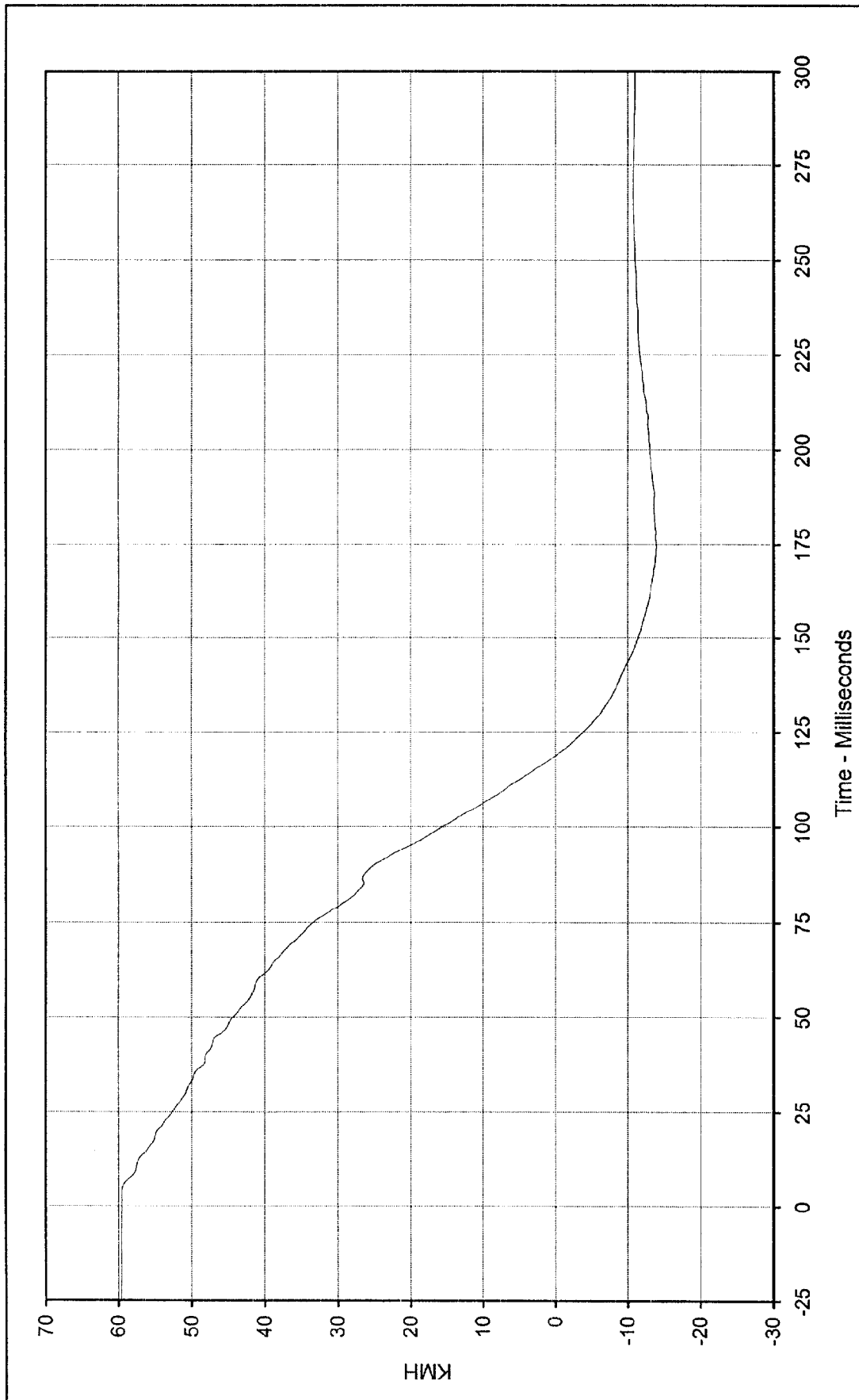




Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan



Curve Description: Vehicle Center Tunnel X
 Maximum Value: 2.2 at 222.2 Milliseconds
 Minimum Value: -29.9 at 94.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/30/98
 Curve Number: FIL-091



Curve Description: Vehicle Center Tunnel X Velocity

Maximum Value: 59.5 at 0.0 Milliseconds

Minimum Value: -13.9 at 174.4 Milliseconds

SAE Filter Class: 180

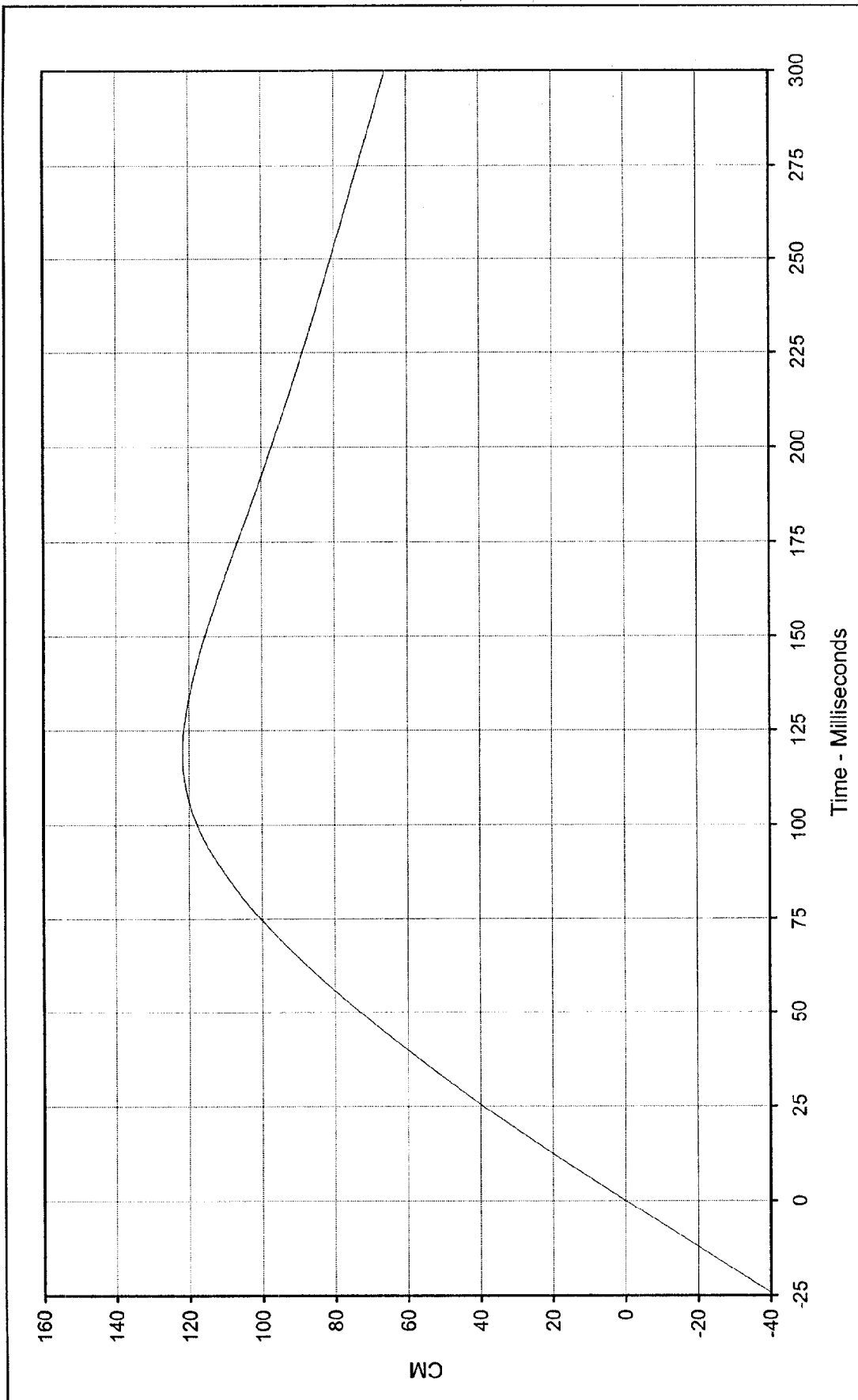
Date of Test: 7/30/98

Curve Number: IN1-091

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Vehicle Center Tunnel X Displ. Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 121.7 at 118.8 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

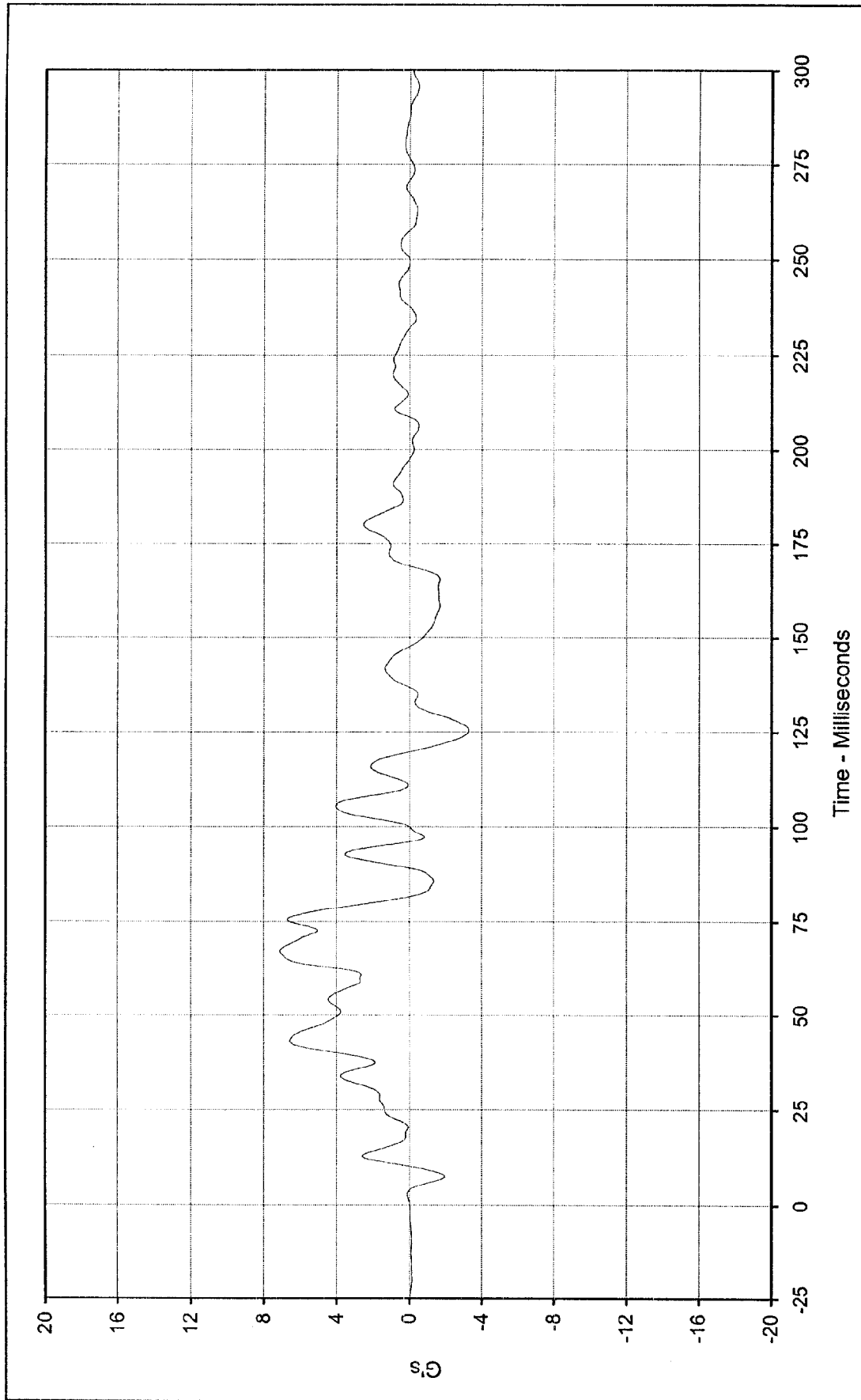
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-091





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

Vehicle Center Tunnel Y

Maximum Value: 7.1 at 67.0 Milliseconds

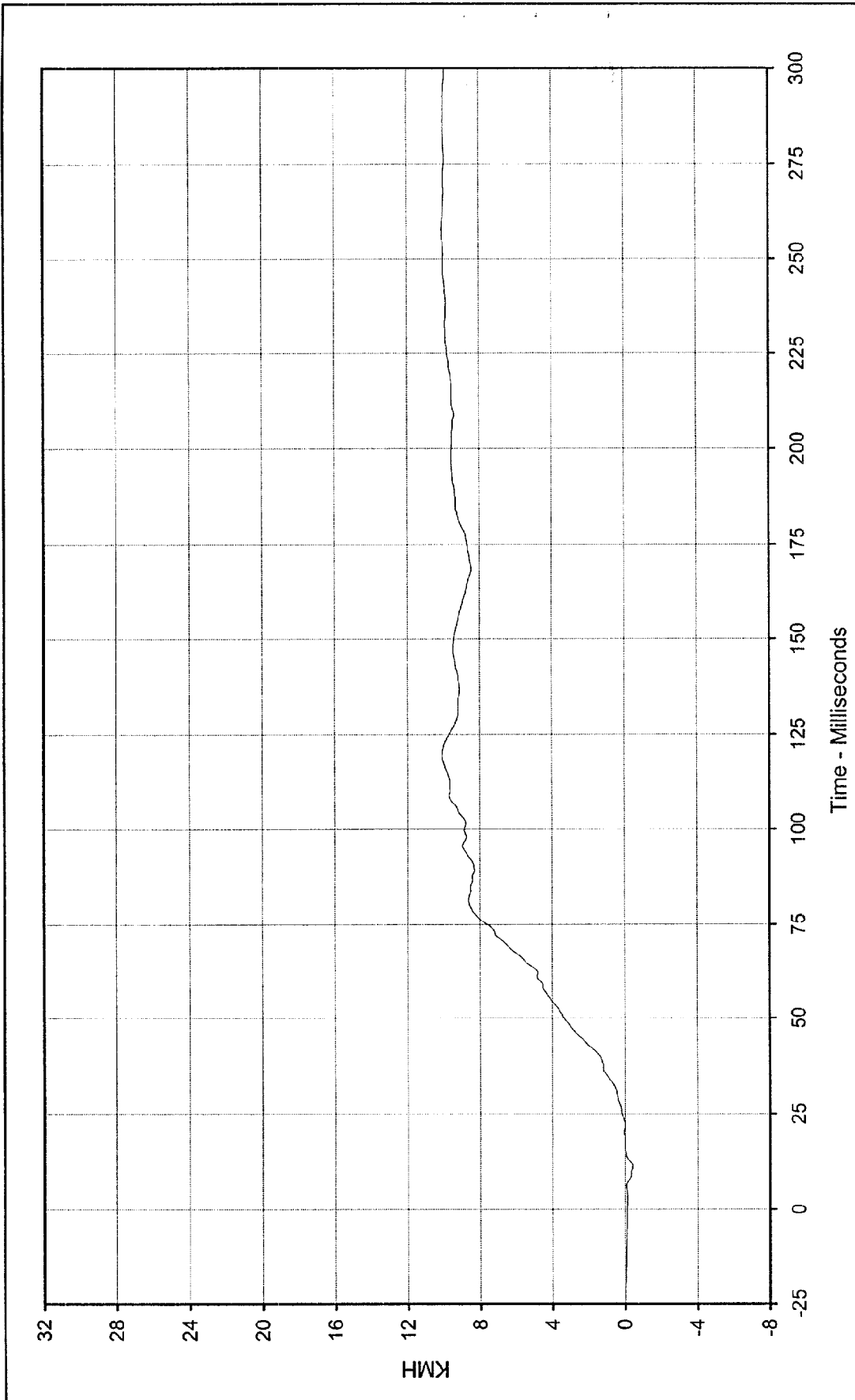
Minimum Value: -3.3 at 125.4 Milliseconds

SAE Filter Class: 60

Date of Test: 7/30/98

Curve Number: FIL-092

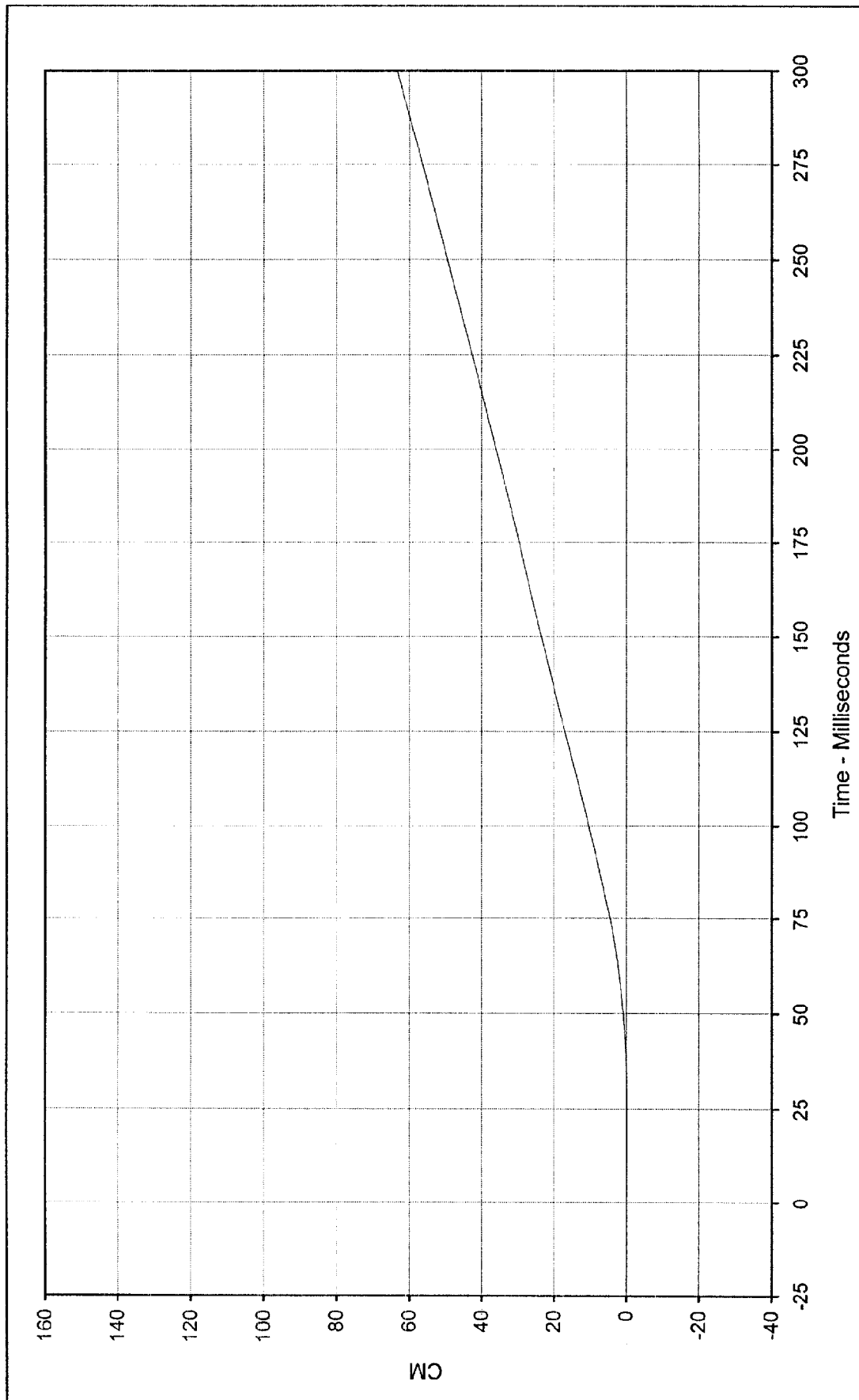




Curve Description: Vehicle Center Tunnel Y Velocity
 Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Maximum Value: 10.1 at 119.4 Milliseconds
 Minimum Value: -0.4 at 11.3 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: IN1-092





Curve Description: Vehicle Center Tunnel Y Displ. Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 63.2 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

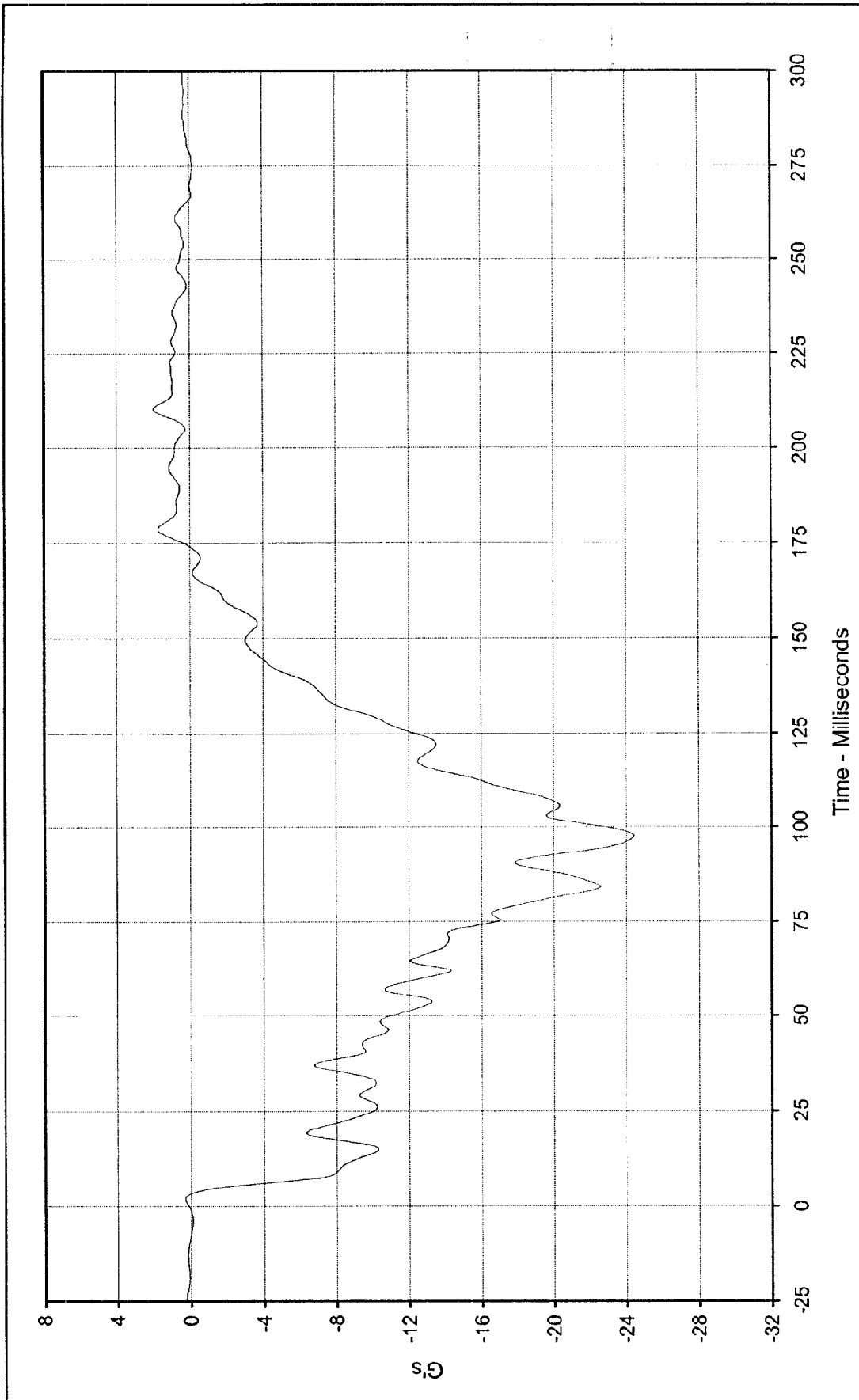
Minimum Value: -0.1 at 18.8 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-092

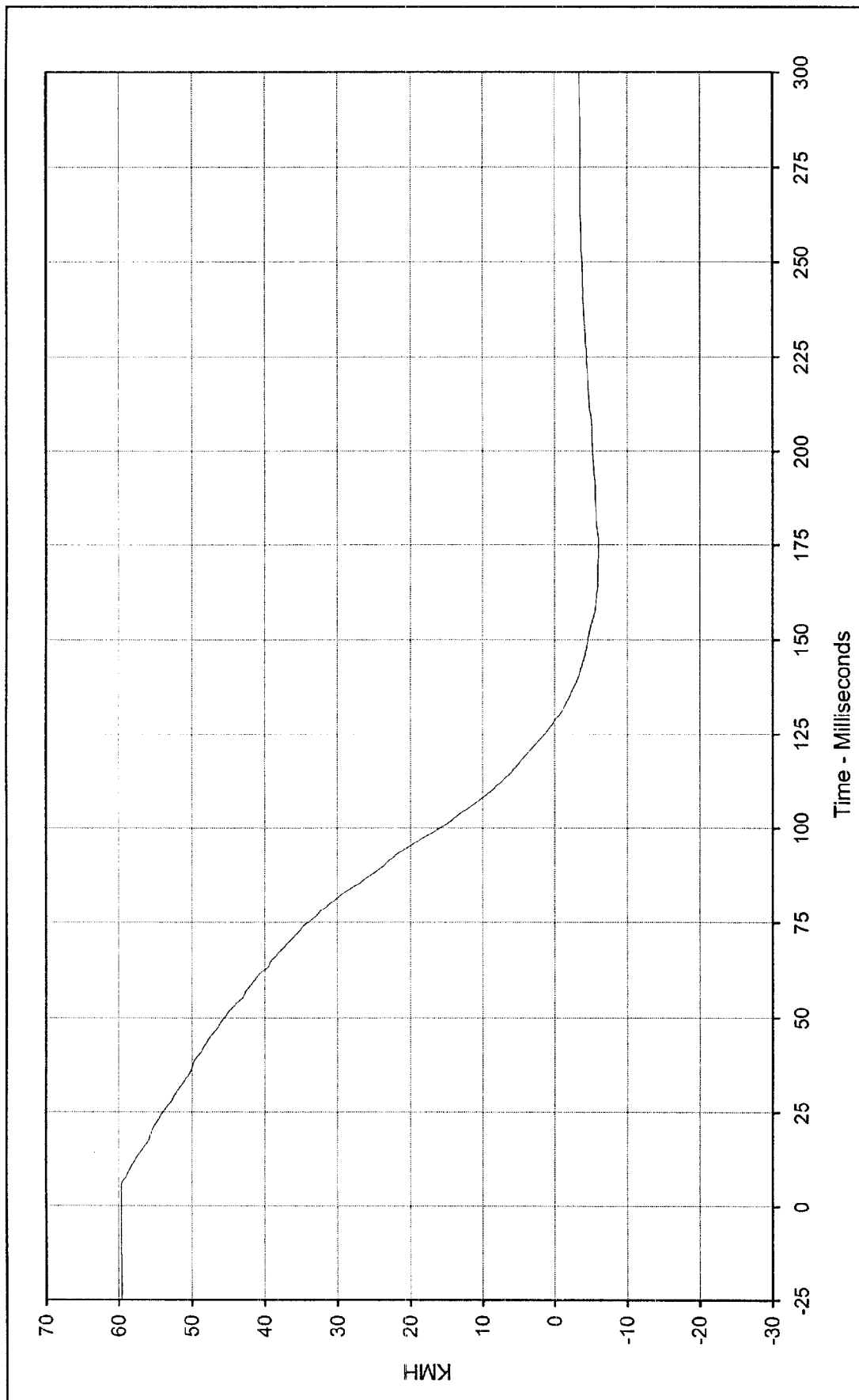




Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description: Vehicle Right Sill X
 Maximum Value: 2.0 at 210.4 Milliseconds
 Minimum Value: -24.4 at 97.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/30/98
 Curve Number: FIL-093





Curve Description: Vehicle Right Sill X Velocity Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 59.7 at 5.4 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

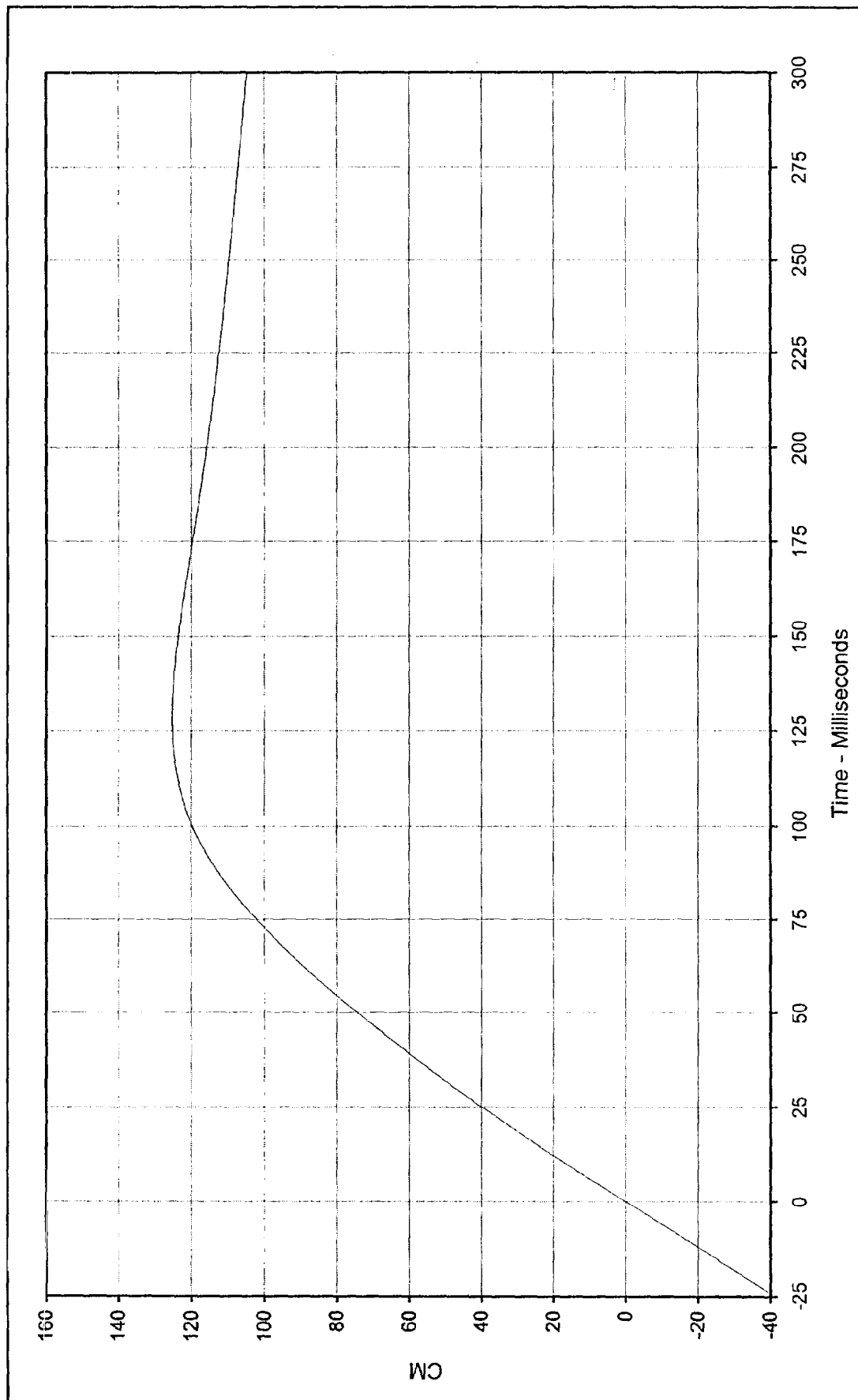
Minimum Value: -6.0 at 173.1 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-093

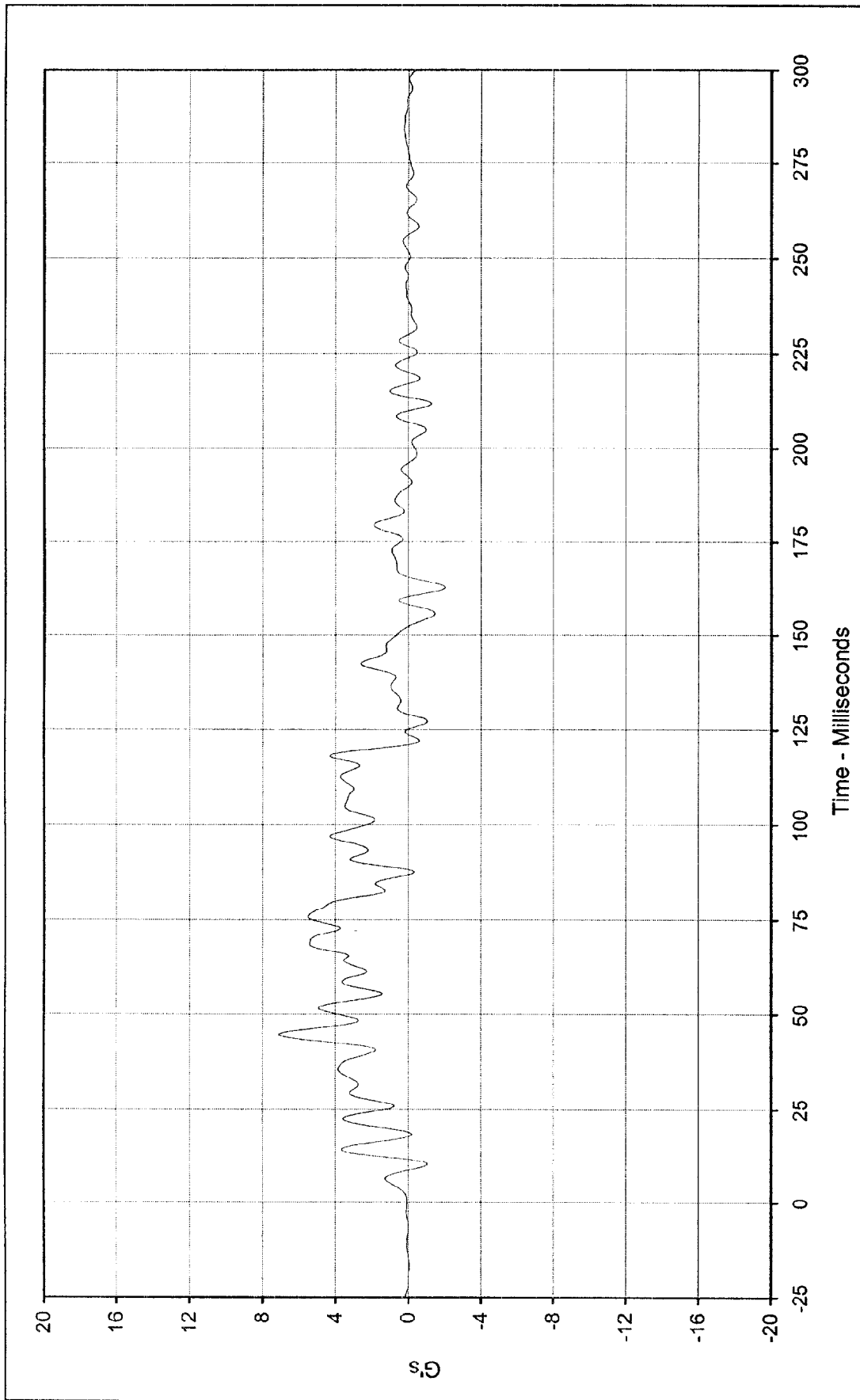




Curve Description: _____
 Maximum Value: 125.2 at 128.6 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: IN2-093

Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Test Vehicle: 1998 Ford Contour 4 Door Sedan

Vehicle Right Sill Y

Maximum Value: 7.1 at 44.7 Milliseconds

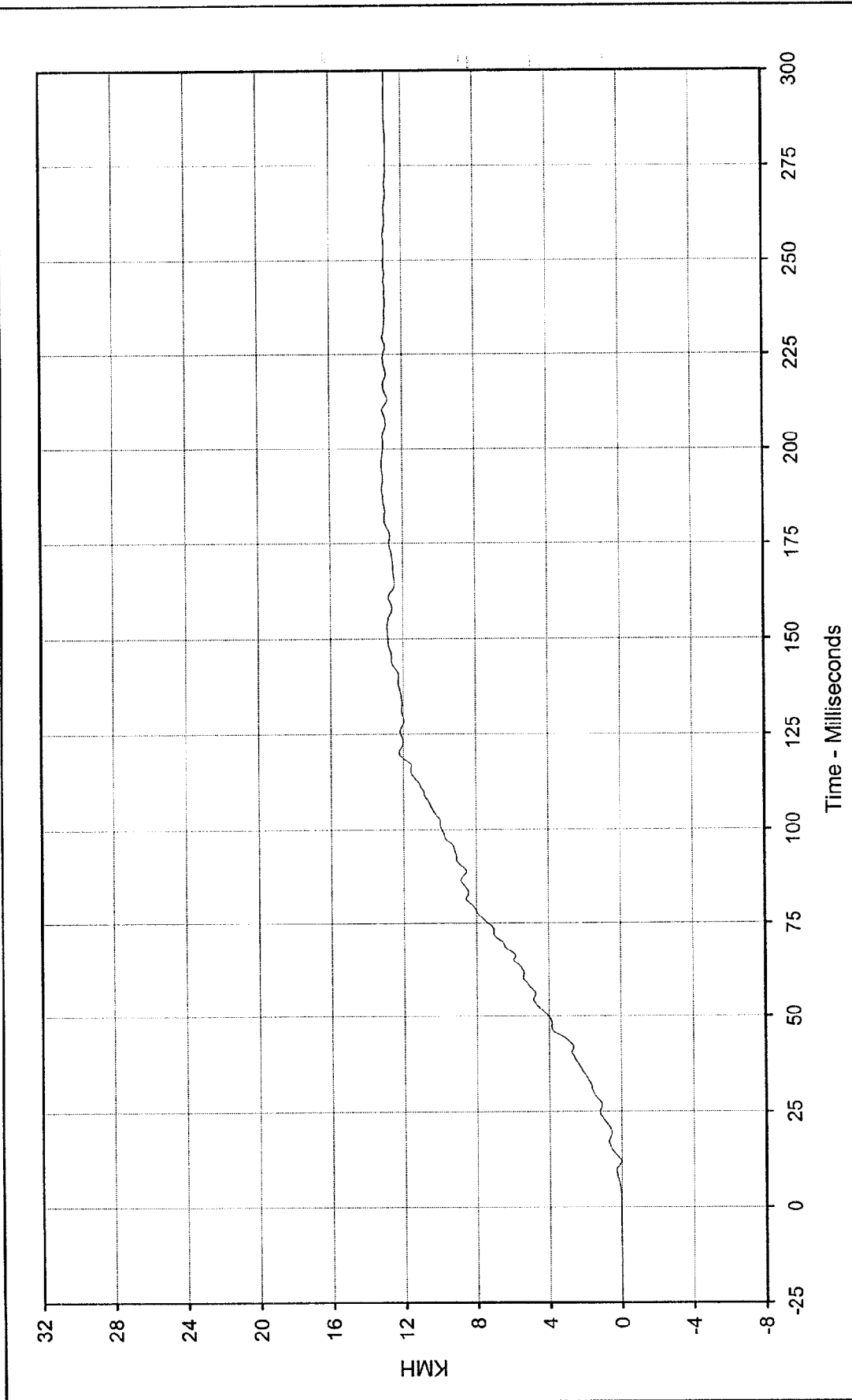
Minimum Value: -2.0 at 162.9 Milliseconds

SAE Filter Class: 60

Date of Test: 7/30/98

Curve Number: FIL-094

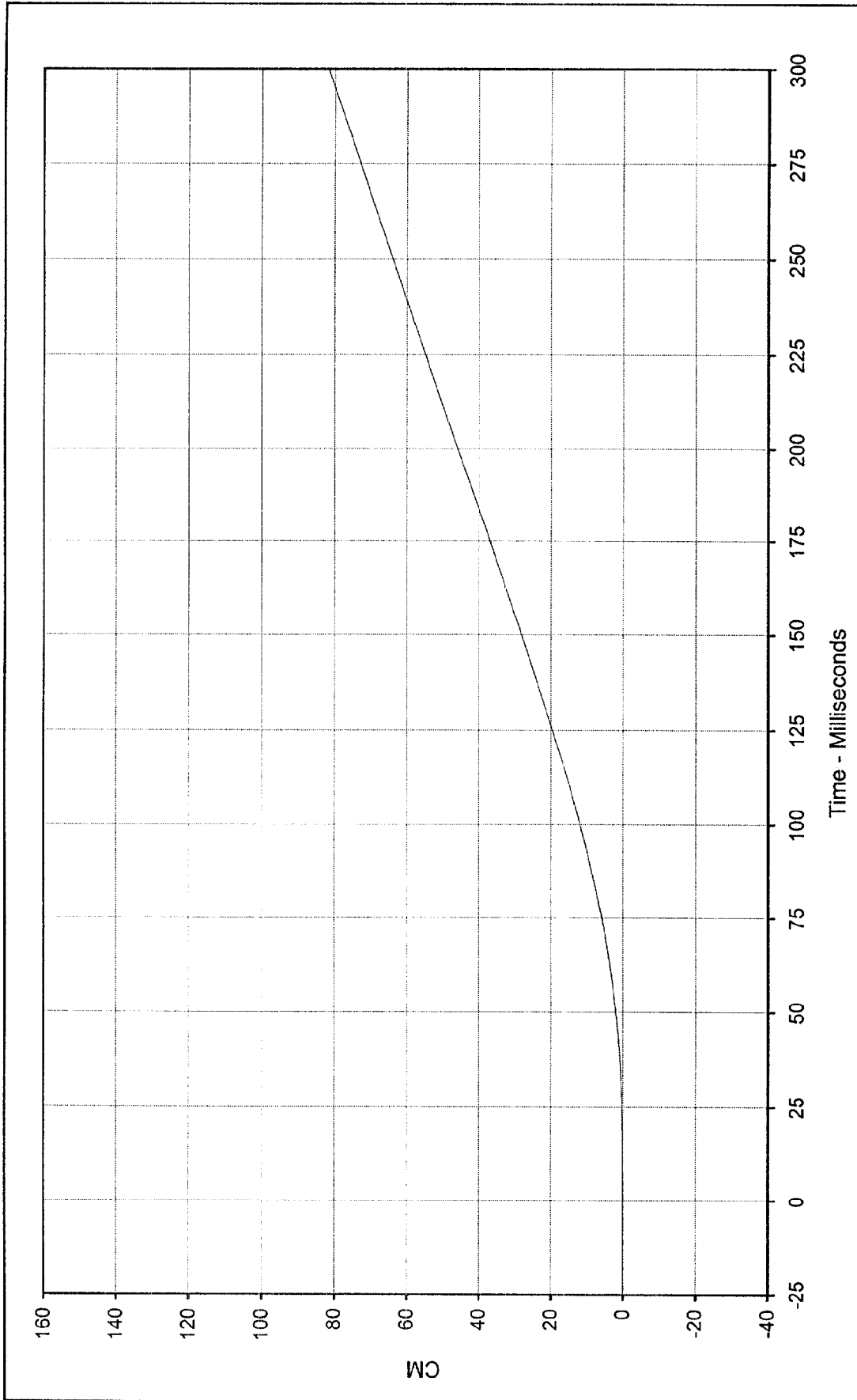




Curve Description: Vehicle Right Sill Y Velocity
 Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Maximum Value: 13.1 at 195.9 Milliseconds
 Minimum Value: 0.0 at 11.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: IN1-094





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 81.7 at 299.9 Milliseconds

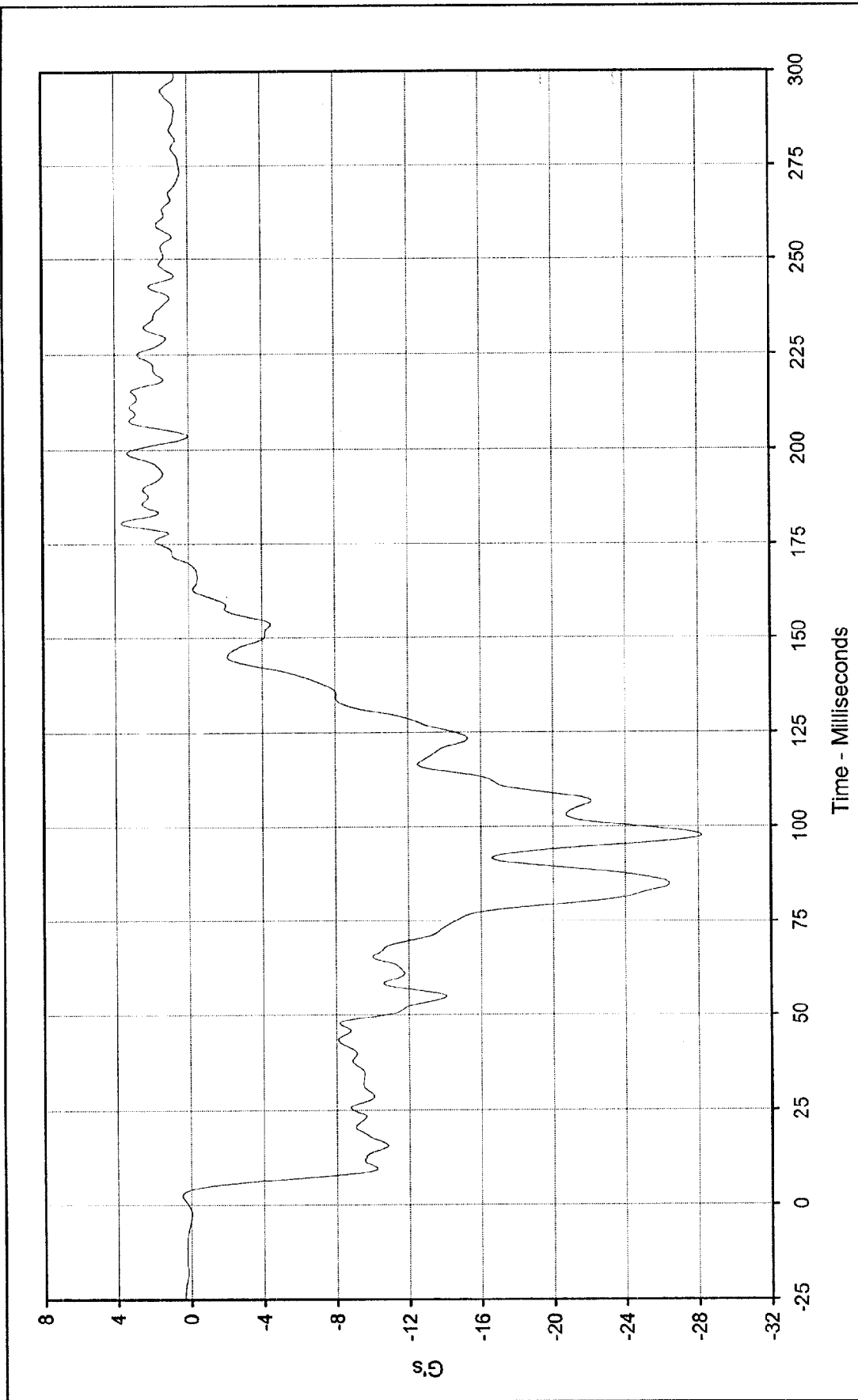
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-094

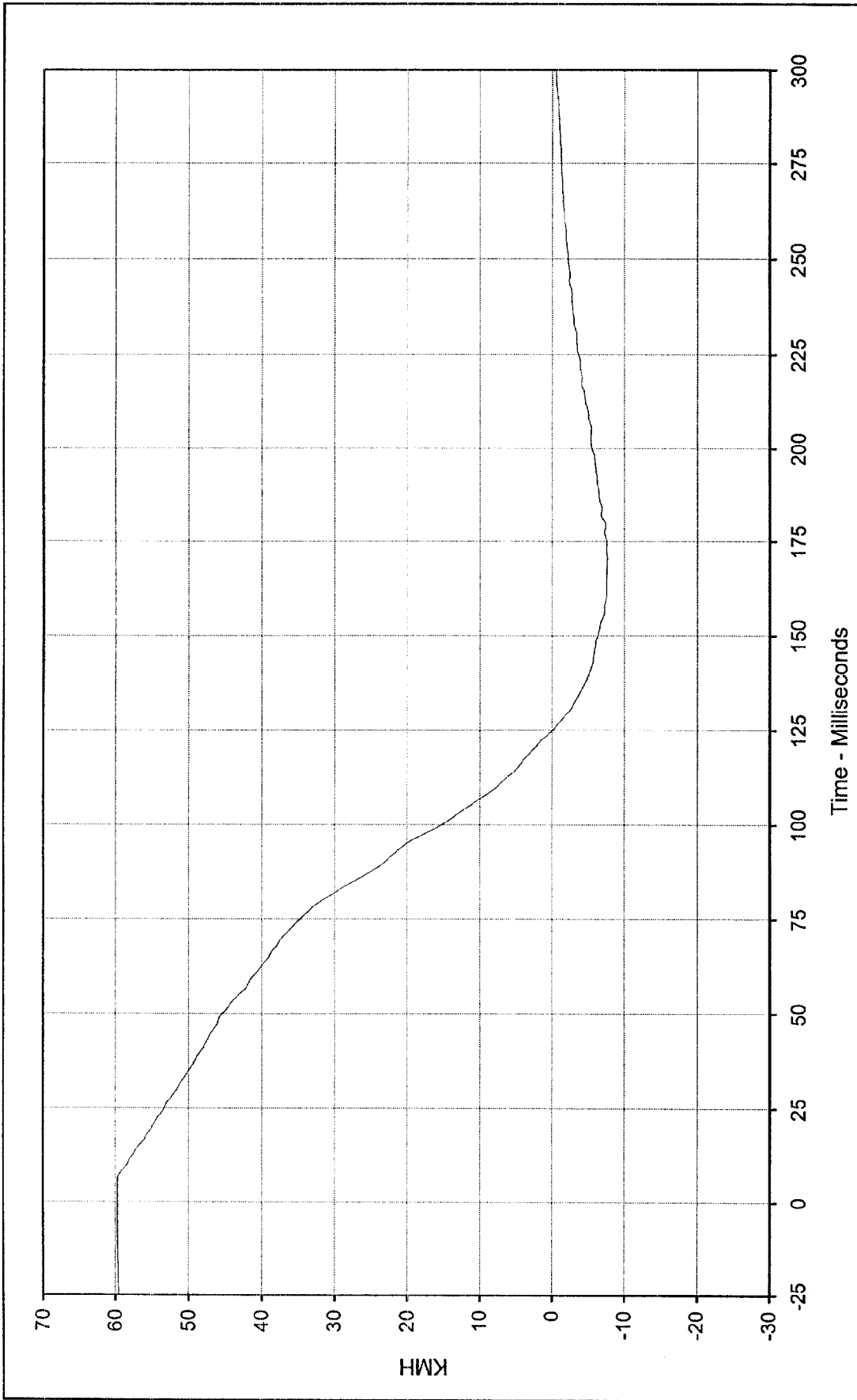




Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description: Vehicle Trunk X
 Maximum Value: 3.7 at 180.8 Milliseconds
 Minimum Value: -28.2 at 97.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/30/98
 Curve Number: FIL-095





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 59.8 at 5.0 Milliseconds

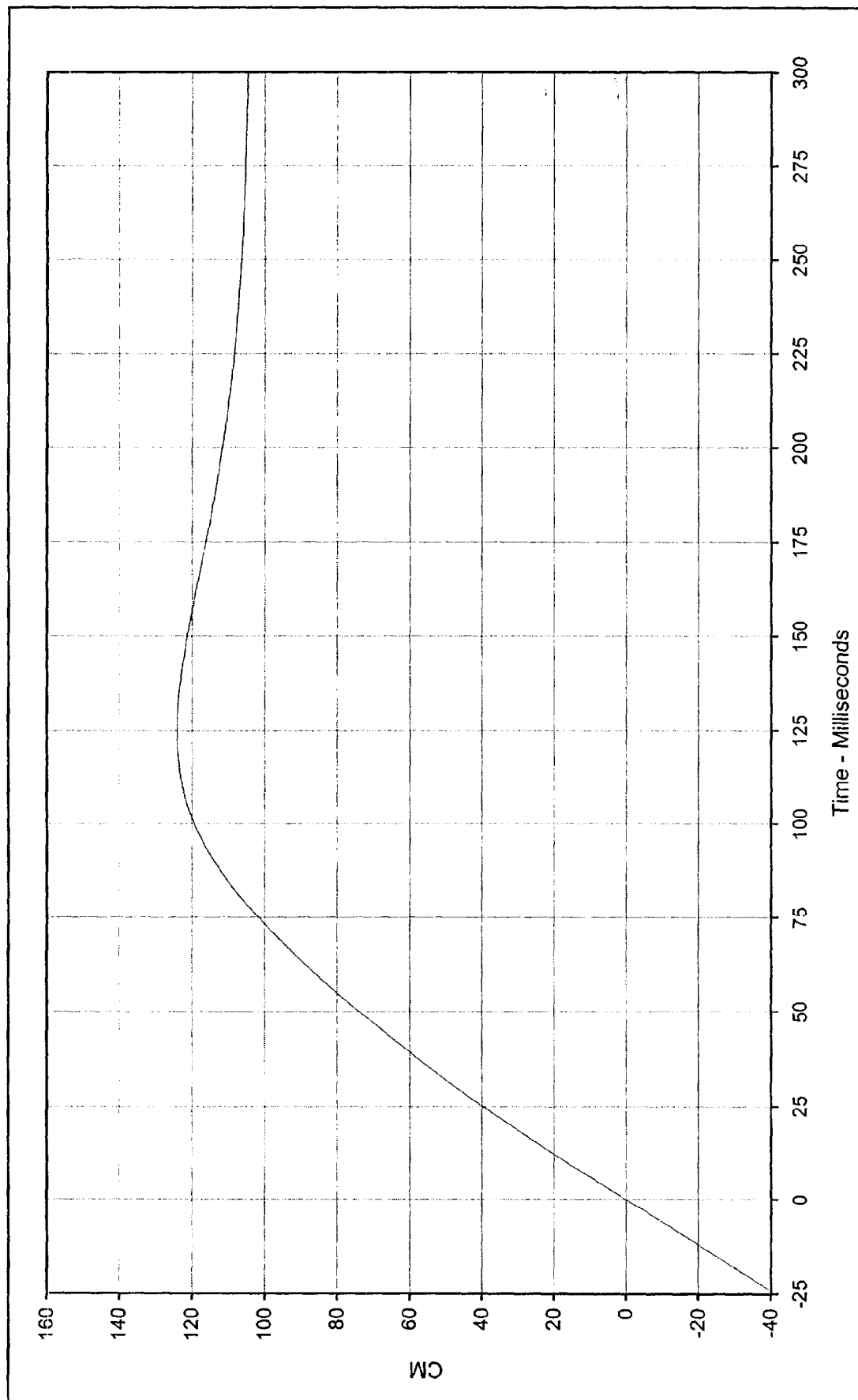
Minimum Value: -7.7 at 170.6 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

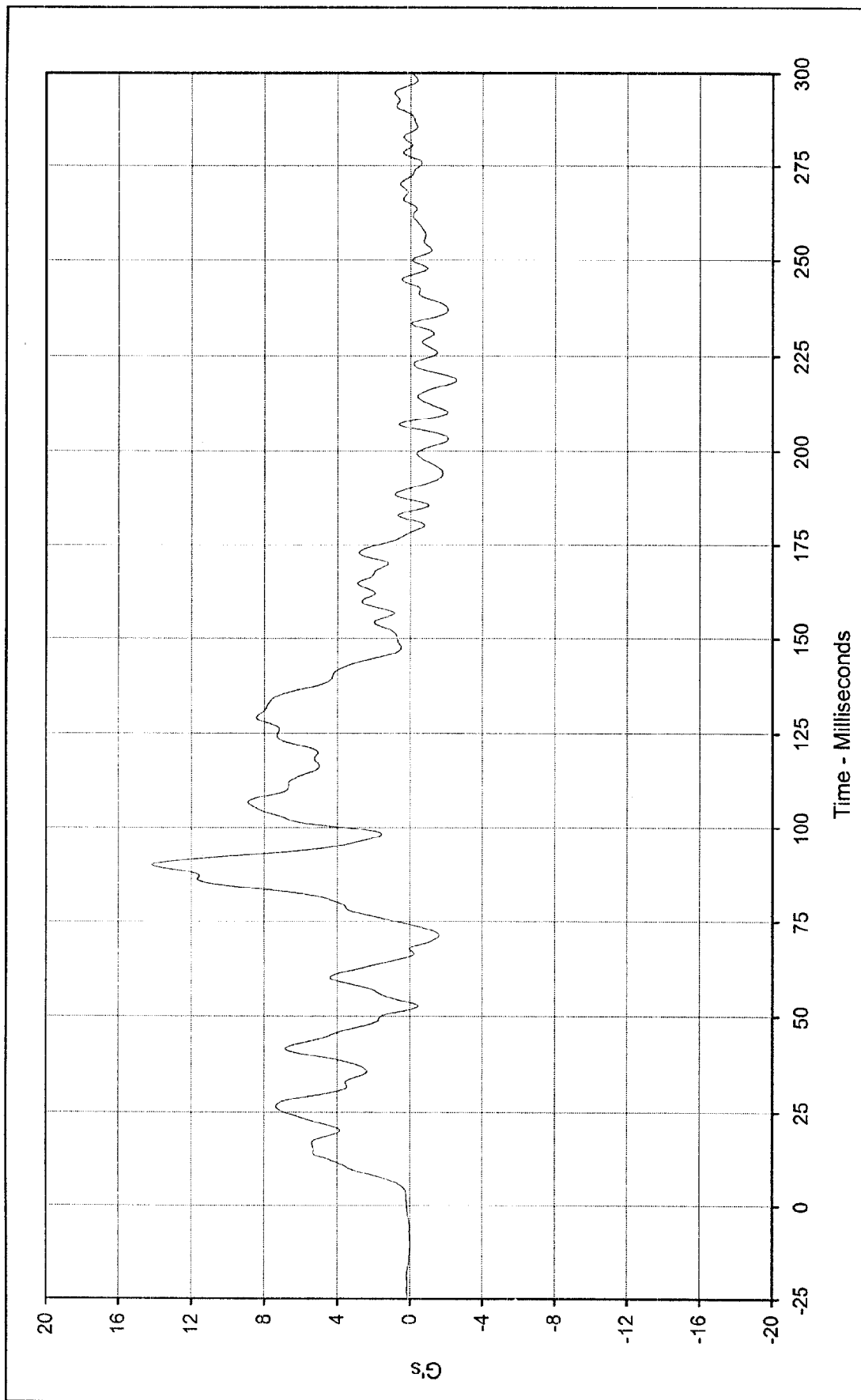
Curve Number: IN1-095





Curve Description: _____ Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213
 Maximum Value: 124.1 at 124.9 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 7/30/98
 Curve Number: IN2-095





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 14.2 at 90.2 Milliseconds

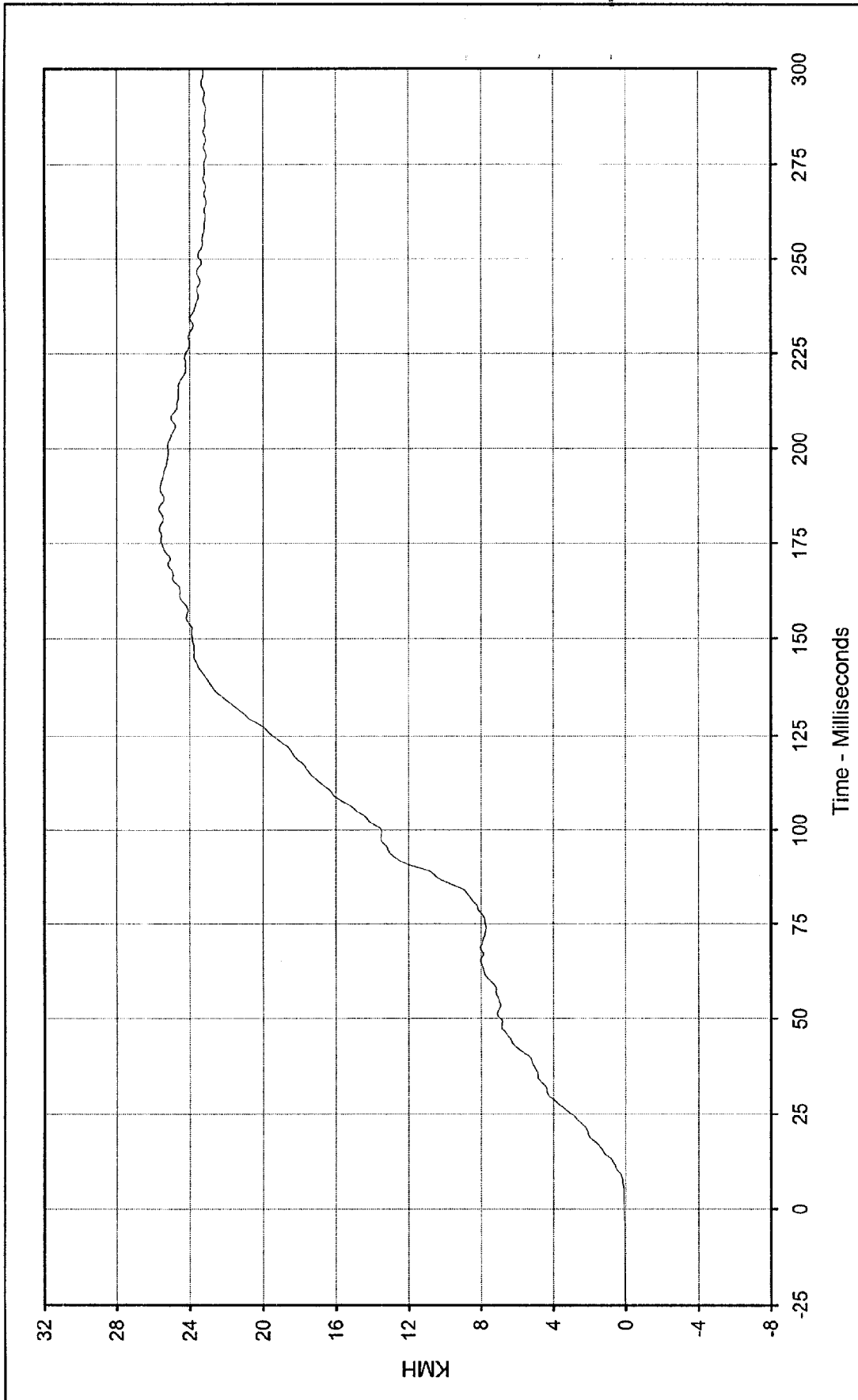
Minimum Value: -2.6 at 218.6 Milliseconds

SAE Filter Class: 60

Date of Test: 7/30/98

Curve Number: FIL-096





Curve Description: Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 25.7 at 184.3 Milliseconds

Minimum Value: 0.1 at 0.0 Milliseconds

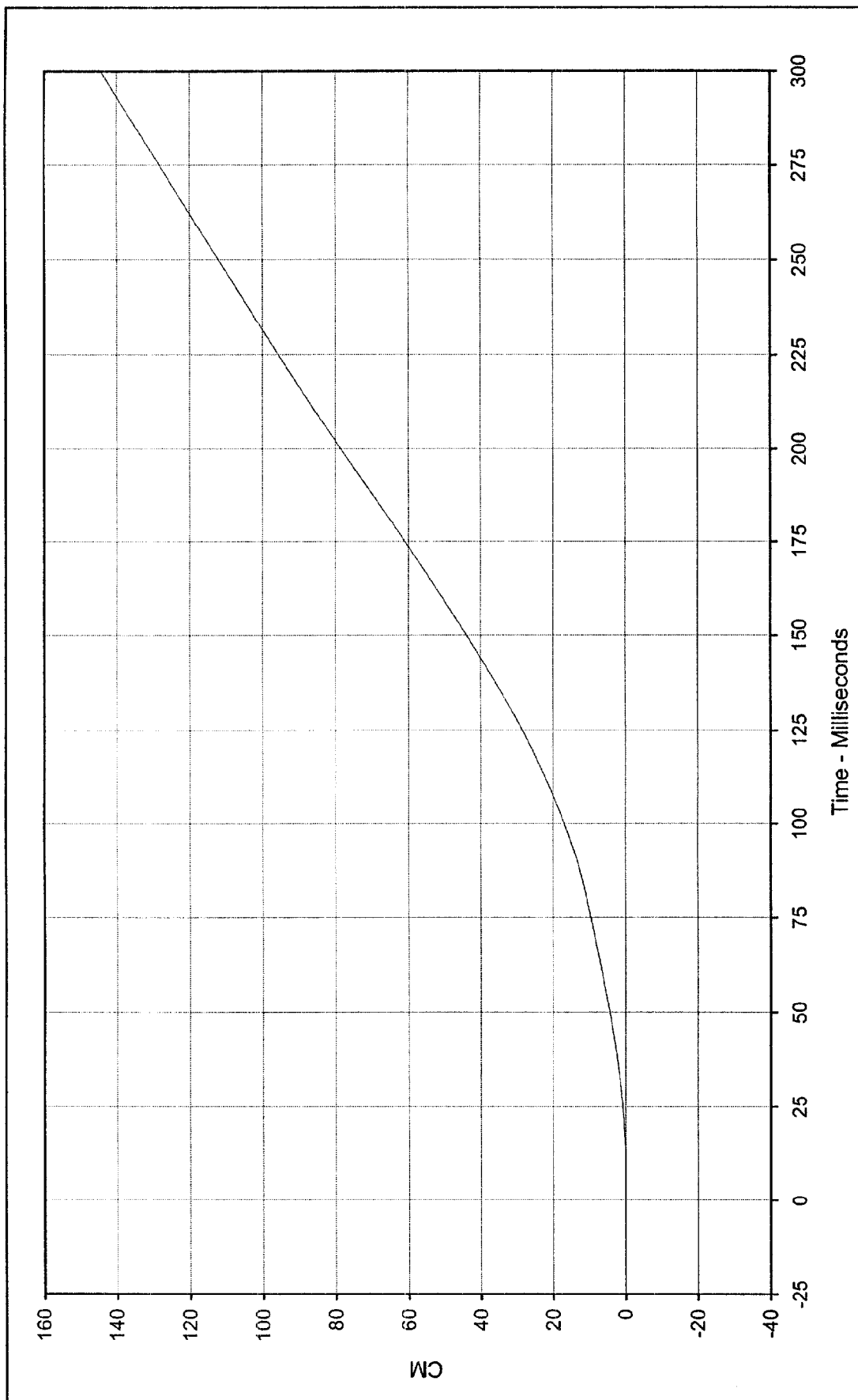
SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN1-096

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Vehicle Trunk Y Displ. Testing Program 1998 37.5mph Offset w/50th Male No.: MW0213

Maximum Value: 144.2 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 7/30/98

Curve Number: IN2-096



APPENDIX C
DEFORMABLE BARRIER INFORMATION

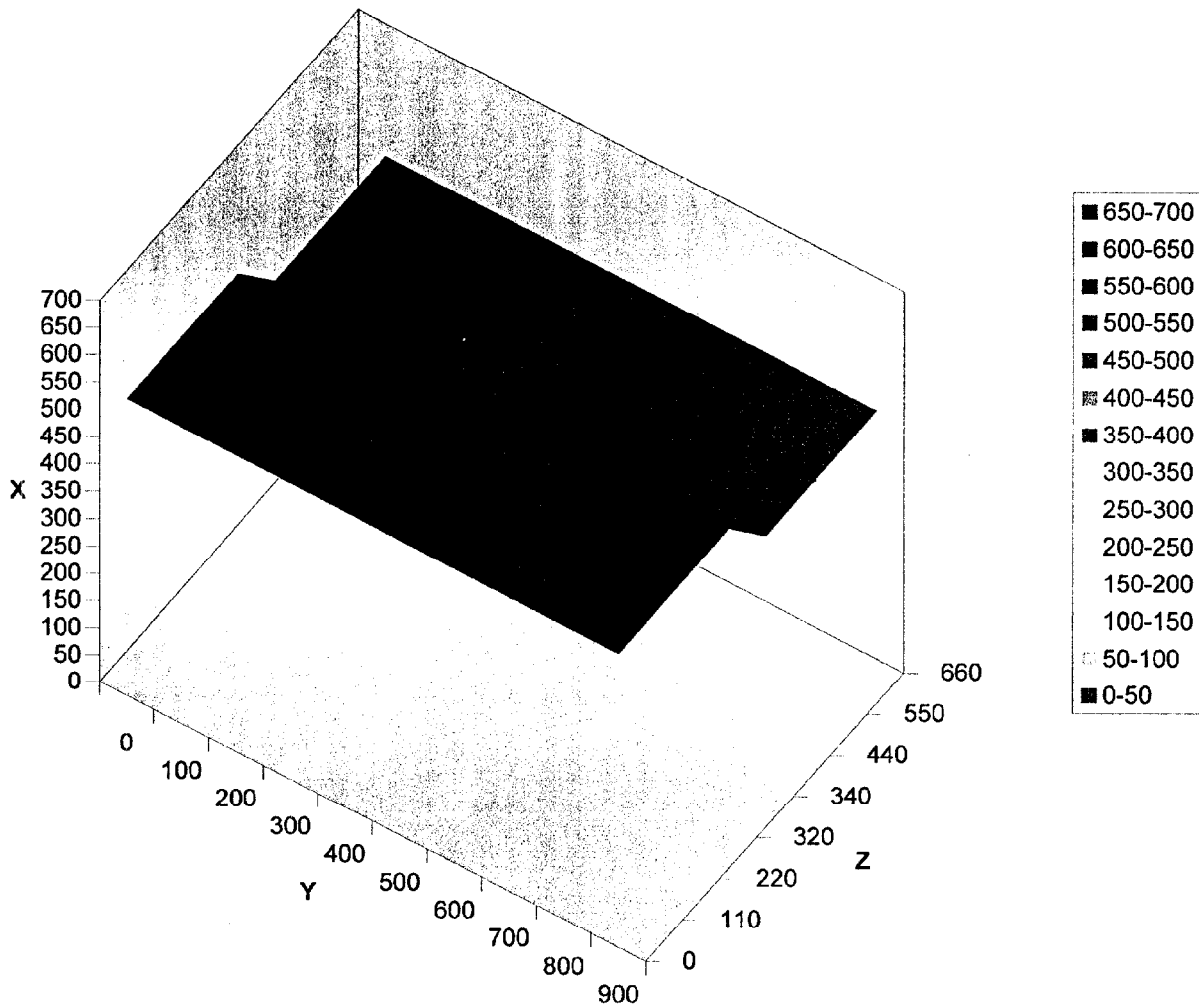
DEFORMABLE BARRIER MEASUREMENTS, PRE-TEST

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0213

TEST PROGRAM: 1998 37.5MPH OFFSET W/50TH MALE

TEST DATE: 7/30/98



All Measurements are in Millimeters

	Z Axis	A	B	C	D	E	F	G	H	I	J
Y Axis		0	100	200	300	400	500	600	700	800	900
Level 1	660	454	454	454	454	454	454	454	454	454	454
Level 2	550	454	454	454	454	454	454	454	454	454	454
Level 3	440	454	454	454	454	454	454	454	454	454	454
Level 4	340	454	454	454	454	454	454	454	454	454	454
Level 5	320	544	544	544	544	544	544	544	544	544	544
Level 6	220	544	544	544	544	544	544	544	544	544	544
Level 7	110	544	544	544	544	544	544	544	544	544	544
Level 8	0	544	544	544	544	544	544	544	544	544	544

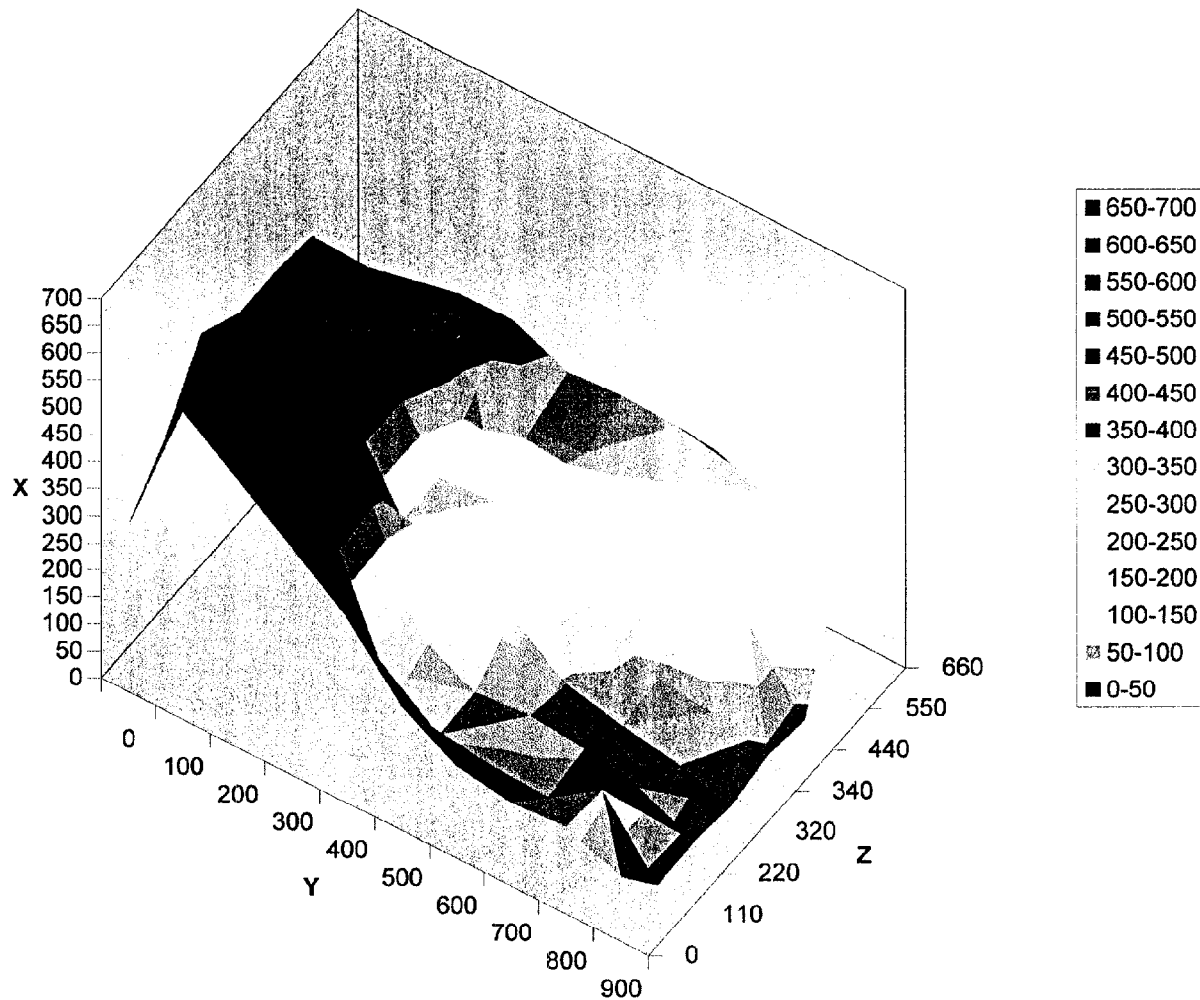
DEFORMABLE BARRIER MEASUREMENTS, POST-TEST

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0213

TEST PROGRAM: 1998 37.5MPH OFFSET W/50TH MALE

TEST DATE: 7/30/98



All Measurements are in Millimeters

	Z Axis	A	B	C	D	E	F	G	H	I	J
Y Axis		0	100	200	300	400	500	600	700	800	900
Level 1	660	47	68	98	133	154	219	221	136	114	241
Level 2	550	294	335	378	379	336	346	341	321	294	246
Level 3	440	456	451	422	328	308	314	288	233	154	29
Level 4	340	467	448	401	244	251	222	124	82	68	40
Level 5	320	466	447	400	243	227	168	94	70	52	22
Level 6	220	507	602	533	378	158	104	112	103	82	32
Level 7	110	389	597	573	390	166	102	94	89	155	28
Level 8	0	308	569	495	421	343	231	172	156	162	120

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

1998 37.5mph Offset w/50th Male
Instrumentation Data Channel Assignments
Driver A.T.D Serial Number 35
7/30/98

1998 Ford Contour 4 Door Sedan

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

1998 37.5mph Offset w/50th Male
Instrumentation Data Channel Assignments
Driver A.T.D Serial Number 35
7/30/98
1998 Ford Contour 4 Door Sedan

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

208 Test With Hybrid III Male 50th Percentile ATD

Instrumentation Data Channel Assignments

Passenger A.T.D Serial Number 34

7/30/98

1998 Ford Contour 4 Door Sedan

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

208 Test With Hybrid III Male 50th Percentile ATD

Instrumentation Data Channel Assignments

Passenger A.T.D Serial Number 34

7/30/98

1998 Ford Contour 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	GPUT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
74	LWR. TIBIA LEFT MOM.	Y	GPUT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
75	LWR. TIBIA LEFT FORCE	Z	GPUT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPUT09MX	3 ch., lower tibia gage	R. A. Denton	3093	N.m
77	LWR. TIBIA RIGHT MOM.	Y	GPUT09MY	3 ch., lower tibia gage	R. A. Denton	3093	N.m
78	LWR. TIBIA RIGHT FORCE	Z	GPUT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT	Y	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT	Y	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	KELC003	Load cell, Seat belt	Lebow	3371	N
86	SHOULDER BELT FORCE	X	KELC004	Load cell, Seat belt	Lebow	3371	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	CM
88	SHOULDER BELT ELONG.	X	KEPP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

208 Test With Hybrid III Male 50th Percentile ATD
Instrumentation Data Channel Assignments
Vehicle Accelerometers Measurements
7/30/98

1998 Ford Contour 4 Door Sedan

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

APPENDIX E
DUMMY CALIBRATION DATA



Hybrid III Calibration Data Sheet

50TH Percentile Male

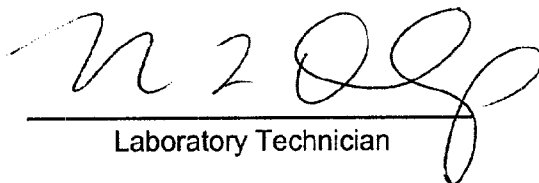
Left Knee Impact Test

ATD Serial No.: 034

Part Serial No.: n/a

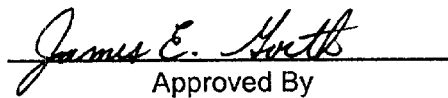
Test I.D.: KNE03

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	2.112	Pass
Peak Probe Force	Newtons	4715 to 5782	5061.8	Pass
Overall Test Results				Pass


Laboratory Technician

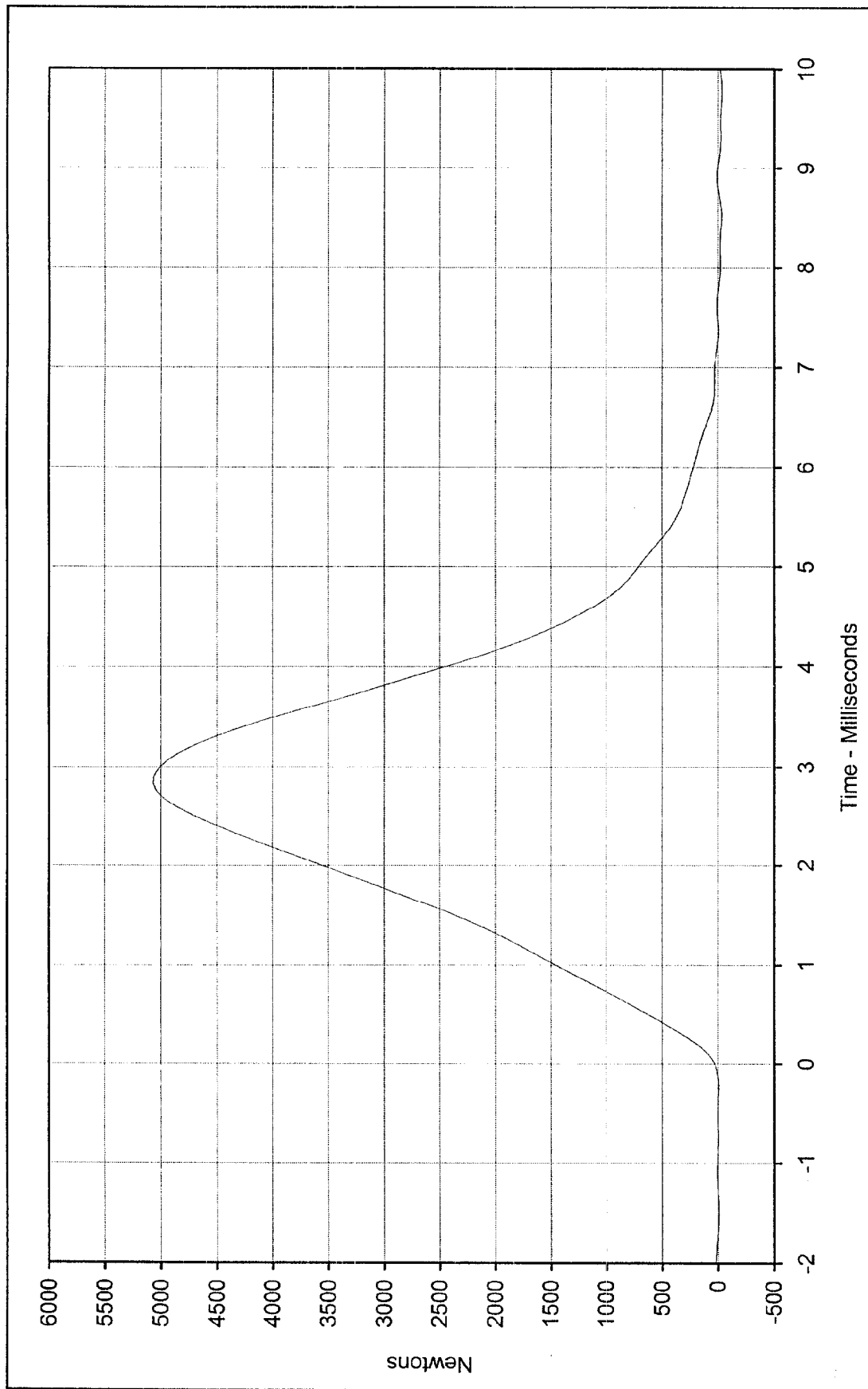
July 13, 1998

Test Date


Approved By

9/28/98

Date



Curve Description: _____ Testing Program: Hybrid III Left Knee Impact Test
Maximum Value: 5061.8 at 2.9 Milliseconds
Minimum Value: -21.1 at 8.0 Milliseconds
SAE Filter Class: 600
Date of Test: 7/13/98
ATD Serial No.: 034





Hybrid III Calibration Data Sheet

50TH Percentile Male

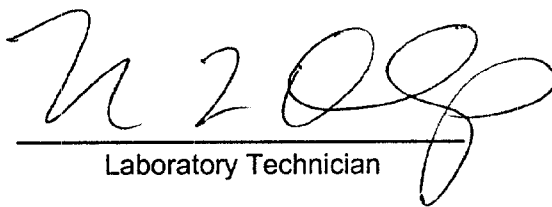
Right Knee Impact Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: KNE04

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	2.108	Pass
Peak Probe Force	Newtons	4715 to 5782	5696.5	Pass
Overall Test Results				Pass



Laboratory Technician



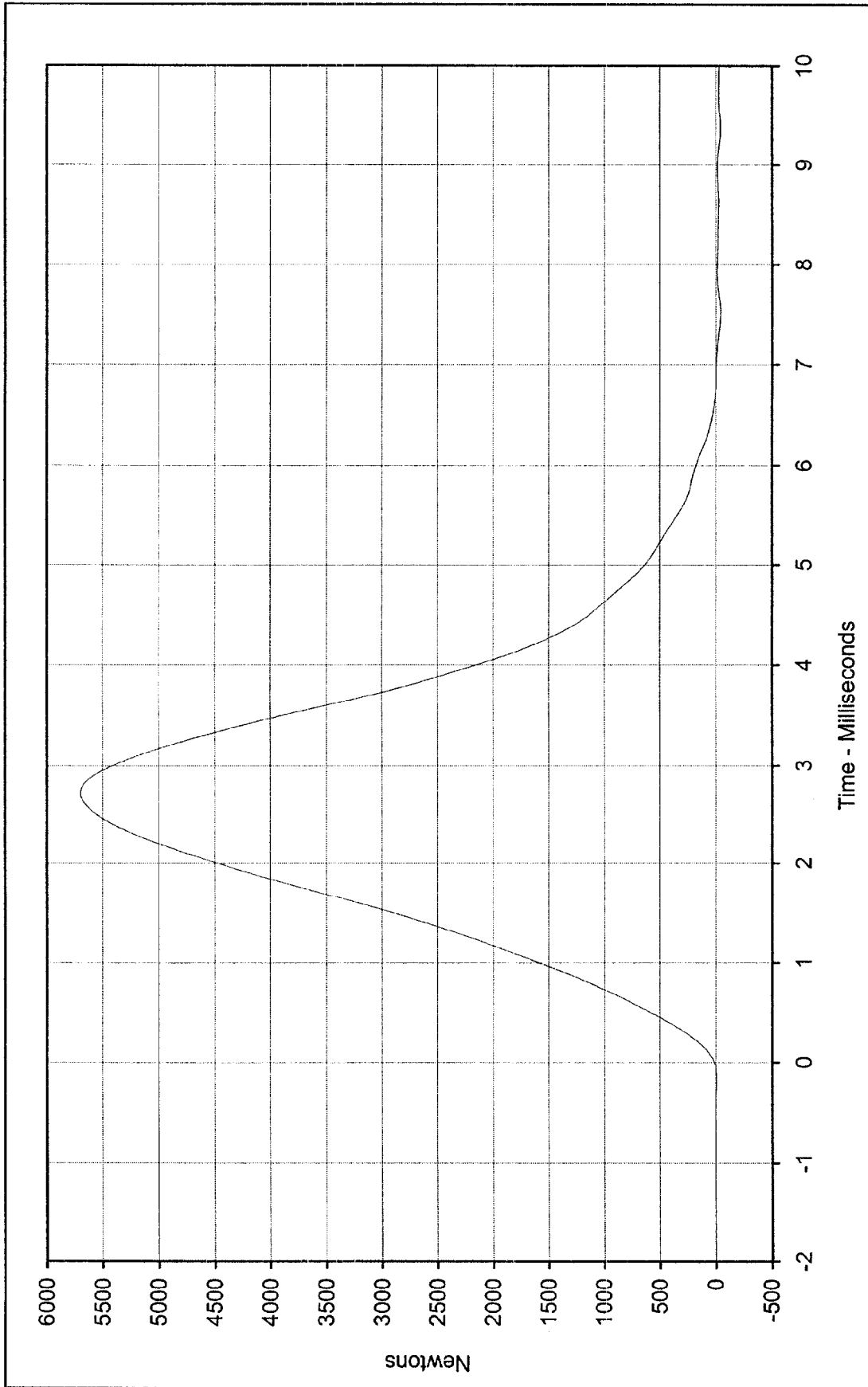
Approved By

July 13, 1998

Test Date

9/28/98

Date



Curve Description:	Testing Program	Hybrid III Right Knee Impact Test
Maximum Value:	Part S/N:	n/a
Minimum Value:	Test I.D.:	KNE04
SAE Filter Class:		
Date of Test:		
ATD Serial No.:		





Hybrid III Calibration Data Sheet

50TH Percentile Male

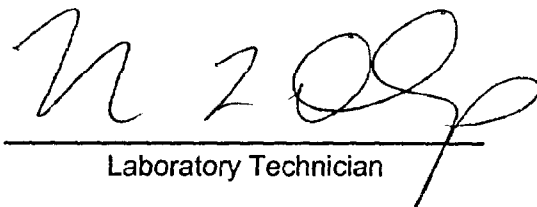
Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: HED02

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	270.5	Pass
Peak Lateral Acceleration	G's	≤15.0	4.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

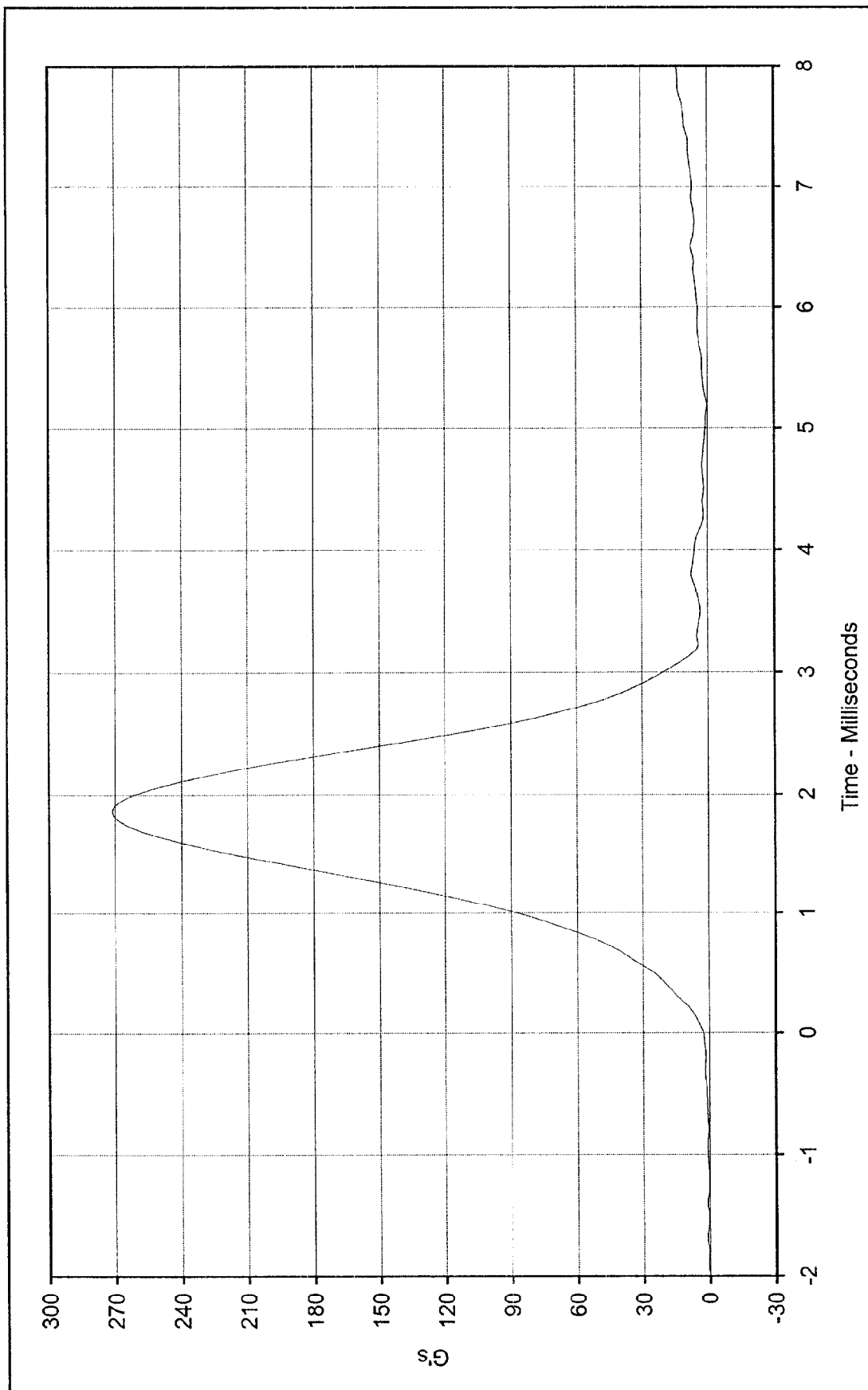
July 13, 1998

Test Date


Approved By

9/28/98

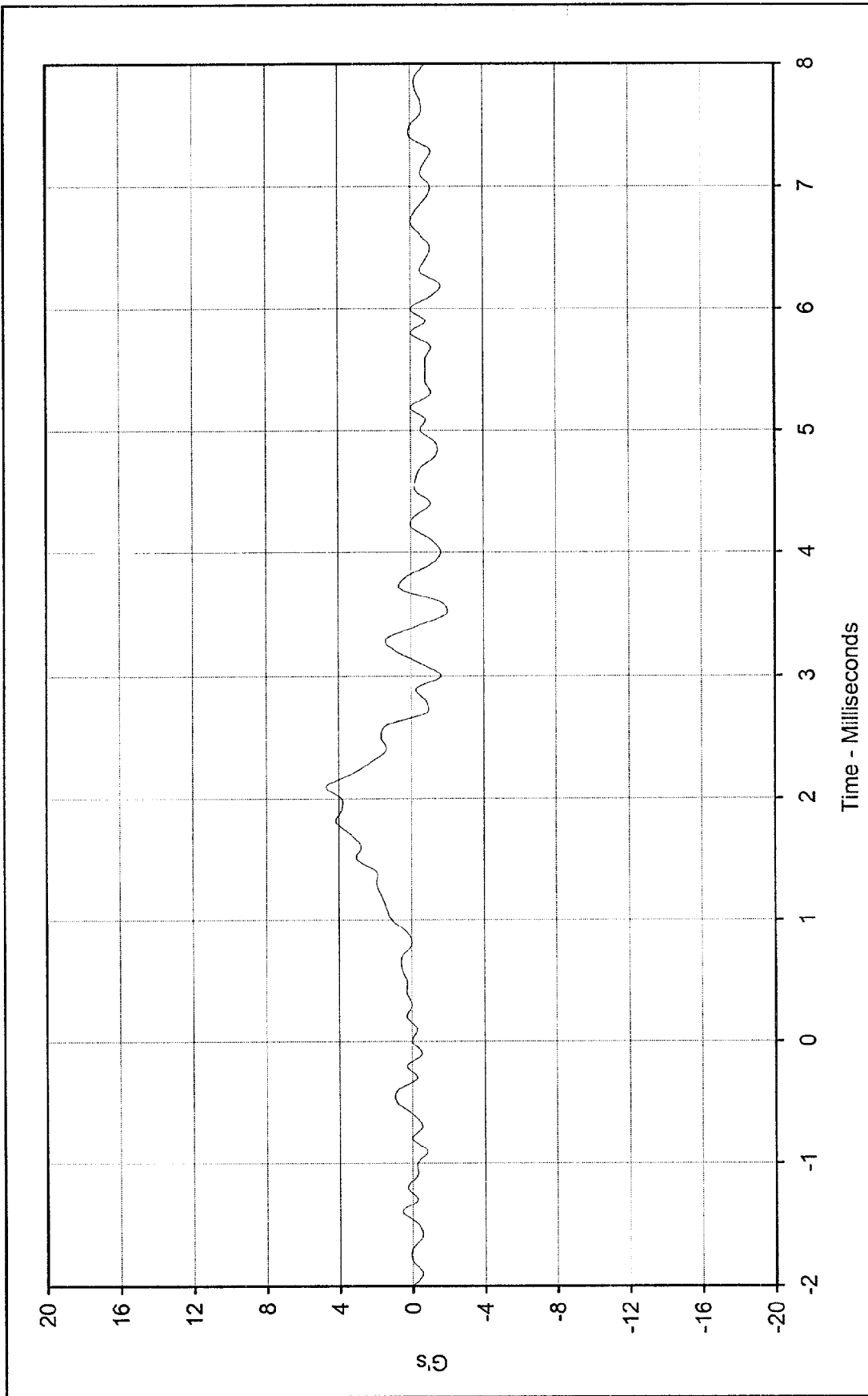
Date



Curve Description: Head Resultant Acceleration
 Maximum Value: 270.5 at 1.9 Milliseconds
 Minimum Value: 0.0 at -2.0 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/13/98
 ATD Serial No.: 034

Testing Program Hybrid III Head Drop Calibration (Male)
 Test Information: S/N of Part: n/a Test I.D.: HED02

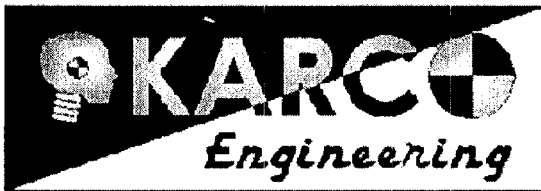




Testing Program Hybrid III Head Drop Calibration (Male)
 Test Information: S/N of Part: n/a Test I.D.: HED02

Curve Description: Head Acceleration Y Axis
 Maximum Value: 4.7 at 2.1 Milliseconds
 Minimum Value: -1.9 at 3.5 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 7/13/98
 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.: CHE05

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	6.67	Pass
Peak Probe Force	Newtons	5159 to 5893	5730	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.55	Pass
Internal Hysteresis	%	69 to 85	72.9	Pass
Overall Test Results				Pass

N 2 O Q P
Laboratory Technician

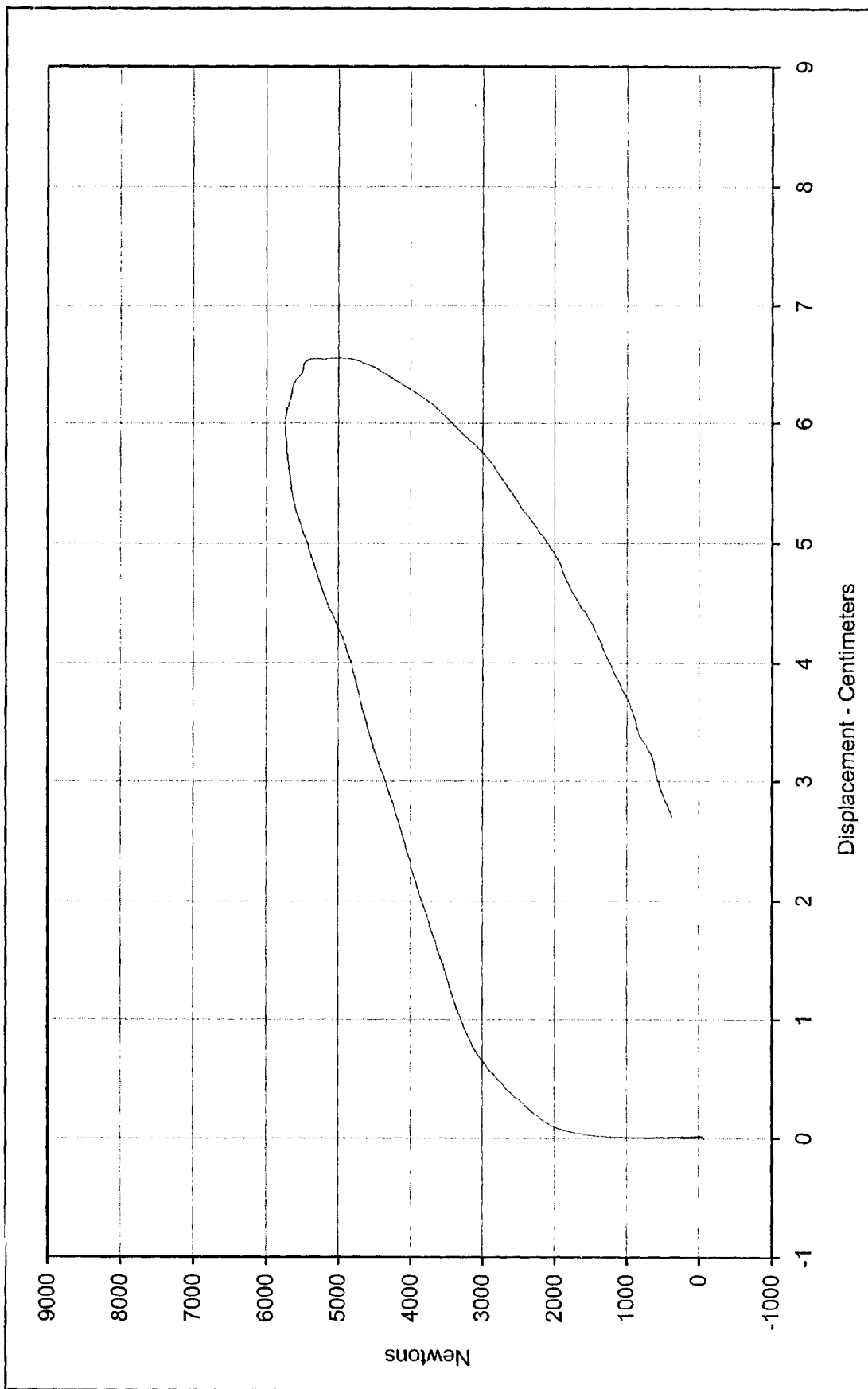
James E. North
Approved By

July 15, 1998

Test Date

9/28/98

Date



Curve Description: Probe Force vs. Chest Displacement Testing Program Hybrid III Thorax Impact Test
 Probe Force: 5730.4 Newtons Test Information: S/N of Part: N/A Test I.D.: CHE05
 Chest Displ.: 6.55 Centimeters
 SAE Filter Class: 180
 Date of Test: 7/15/98





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: N0004

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	41	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.92	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.6	Pass
	20 Msec.	G's	17.6 to 22.6	21.0	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	65.3	Pass
	Time	Msec.	57.0 to 64.0	62.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	117.5	Pass
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	97.6	Pass
	Time	Msec.	47.0 to 58.0	55.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	100.8	Pass
Overall Test Results					Pass

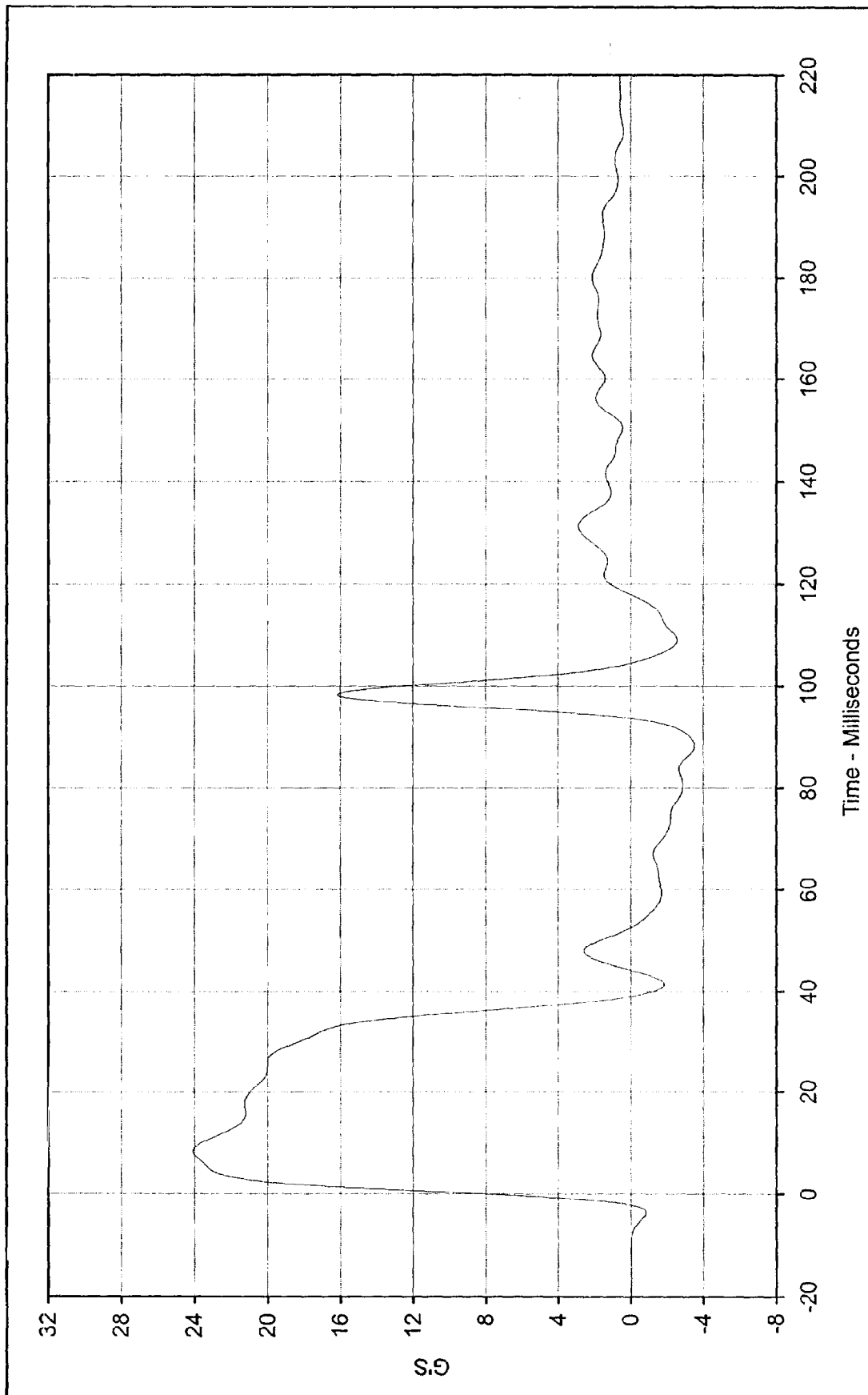
Laboratory Technician

Approved By

July 14, 1998

Test Date

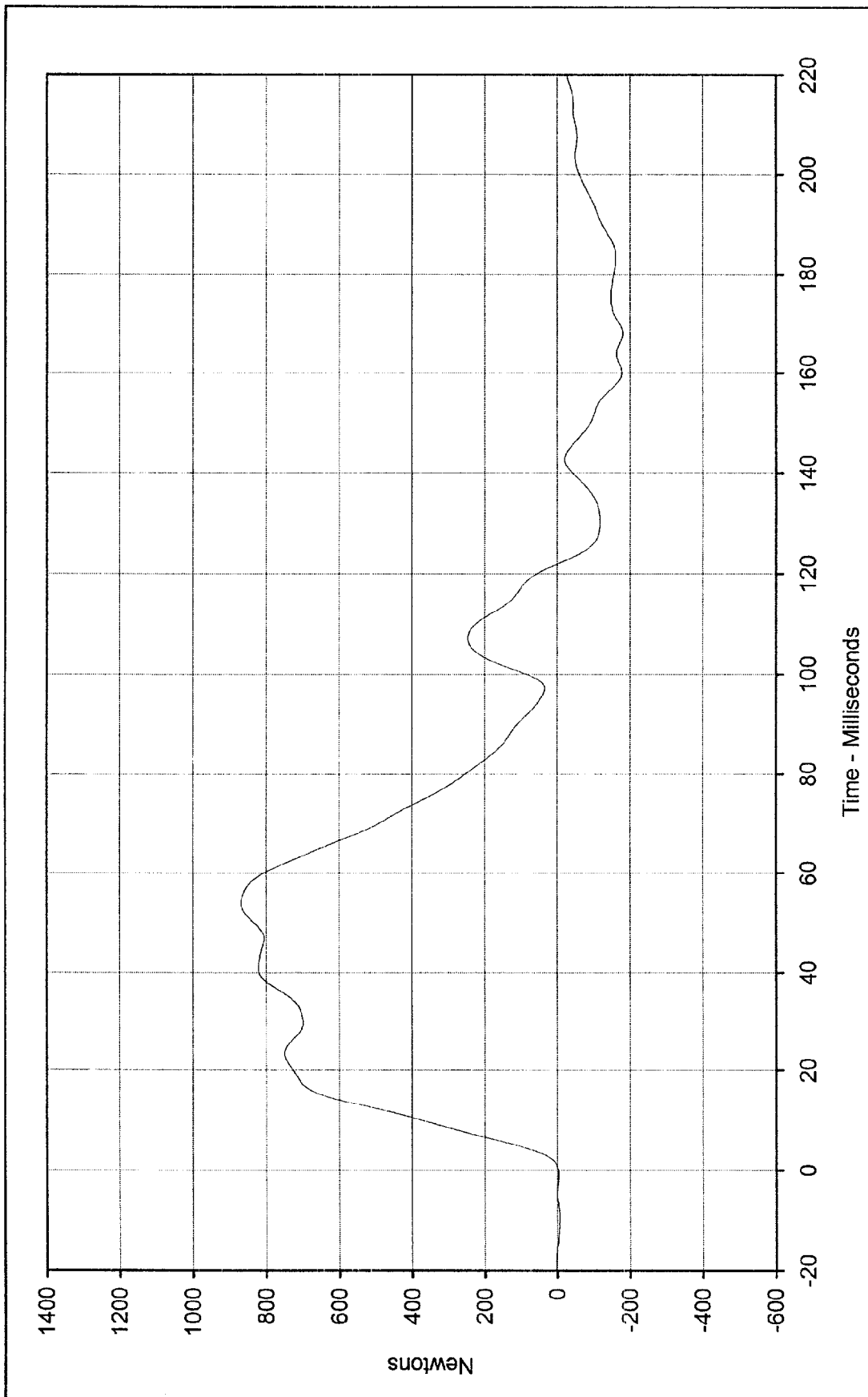
Date



Curve Description: Hybrid III Neck Flexion Test (Male)
 Testing Program: S/N of Part: n/a Test I.D.: N0004

Pendulum Deceleration
 Maximum Value: 24.1 at 8.2 Milliseconds
 Minimum Value: -3.5 at 88.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 034

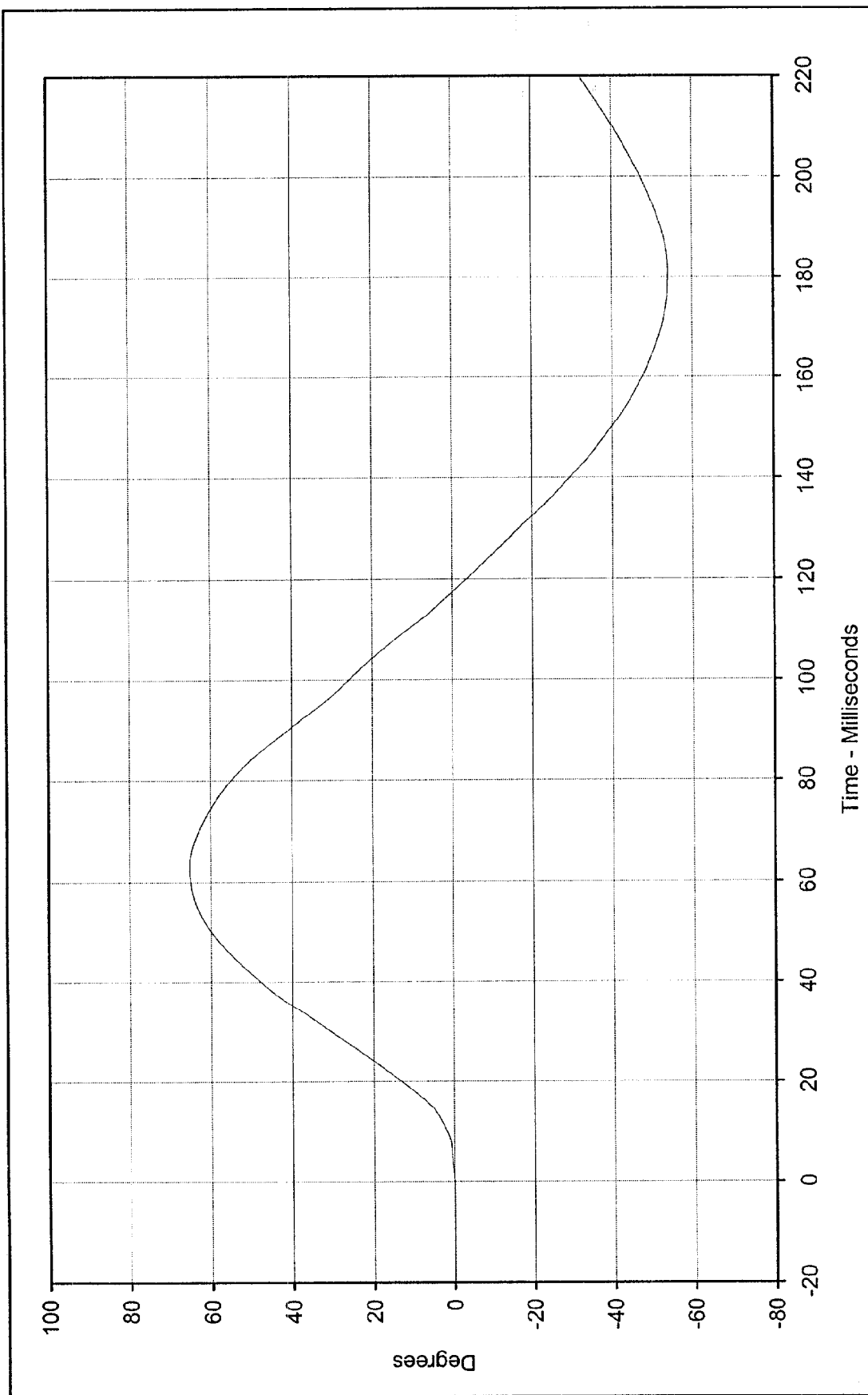




Curve Description: Neck Force X
 Maximum Value: 868.5 at 53.9 Milliseconds
 Minimum Value: -179.7 at 168.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: N0004

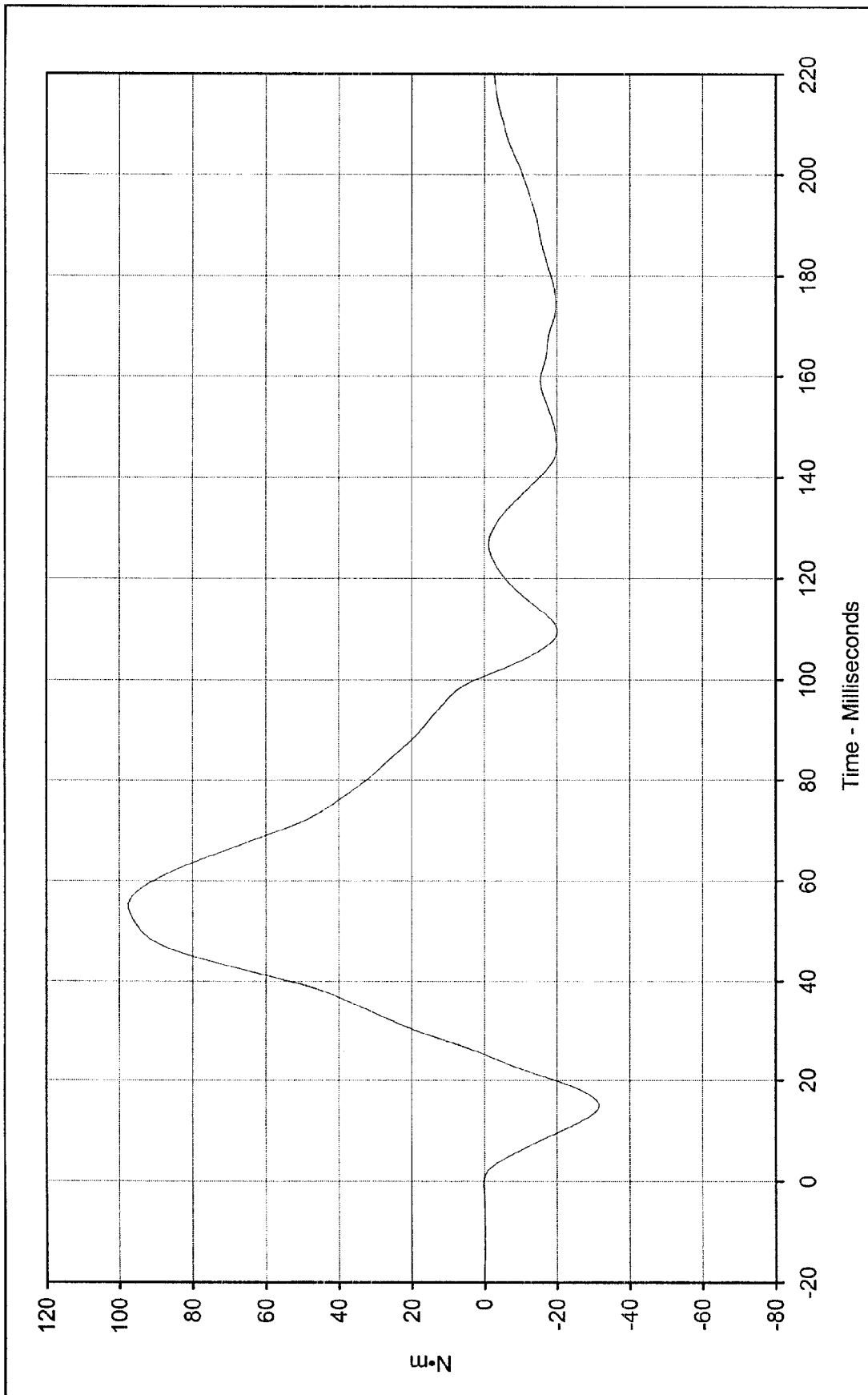




Curve Description: "D" Plane Rotation Testing Program Hybrid III Neck Flexion Test (Male)
Maximum Value: 65.3 at 62.9 Milliseconds Test Information: S/N of Part: n/a Test I.D.: N0004
Minimum Value: -54.0 at 181.3 Milliseconds



SAE Filter Class: 60
Date of Test: 7/14/98
ATD Serial No.: 034



Curve Description: Moment About Occipital Condyles
 Maximum Value: 97.6 at 55.0 Milliseconds
 Minimum Value: -31.6 at 14.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 034

Testing Program Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: N0004





Hybrid III Calibration Data Sheet

50TH Percentile Male

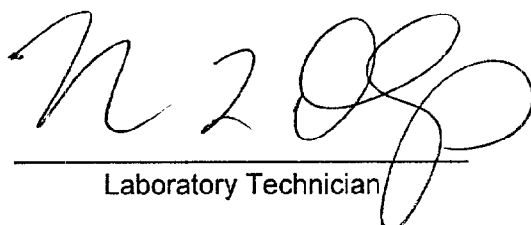
Neck Extension Test

ATD Serial No.: 034

Part Serial No.: n/a

Test I.D.: NEK03

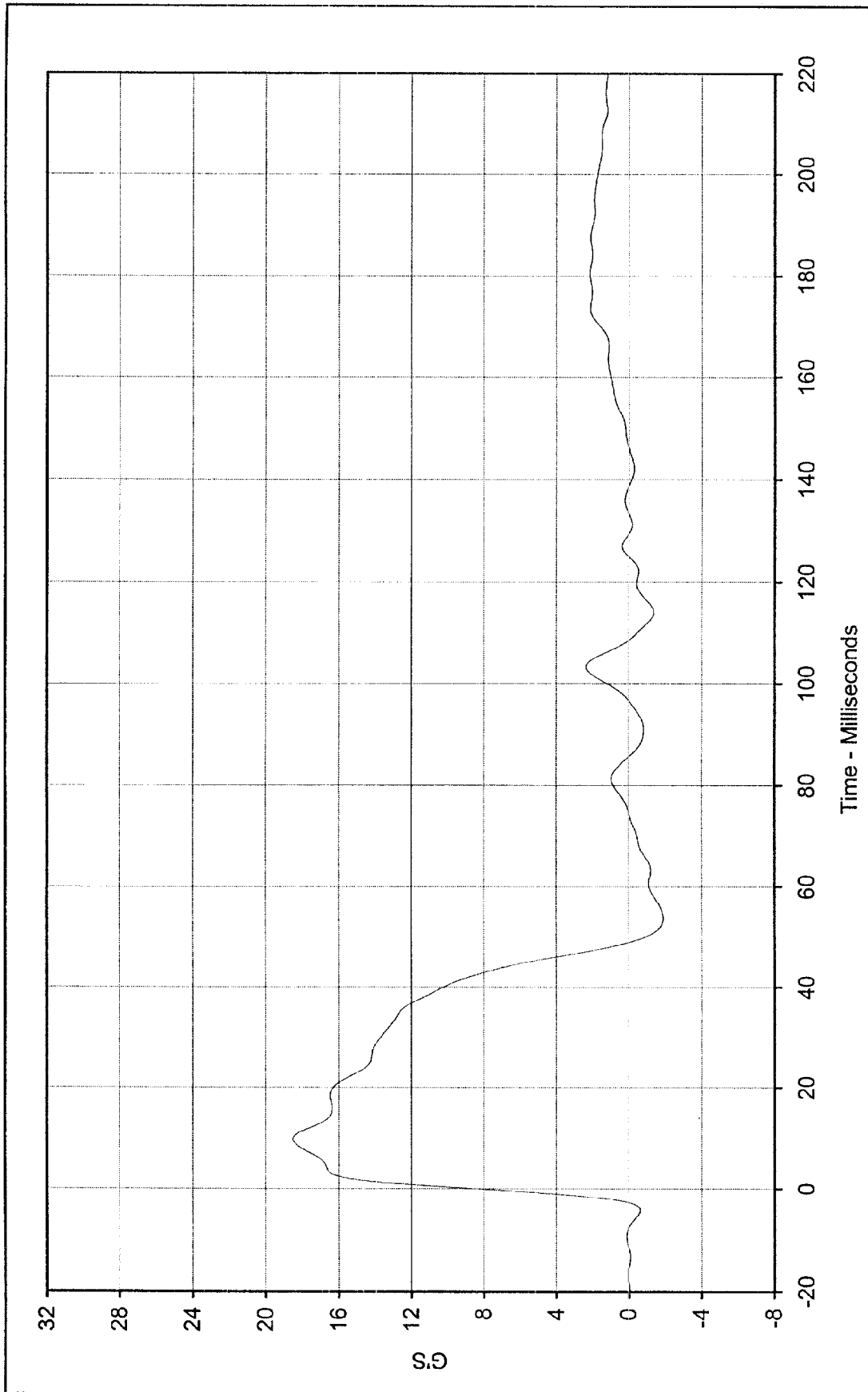
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	36	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.18	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.5	Pass
	20 Msec.	G's	14.0 to 19.0	16.3	Pass
	30 Msec.	G's	11.0 to 16.0	13.7	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	13.7	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	45.5	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	102.3	Pass
	Time	Msec.	72.0 to 82.0	81.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	161.4	Pass
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-72.6	Pass
	Time	Msec.	65.0 to 79.0	71.7	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	140.7	Pass
Overall Test Results					Pass


 Laboratory Technician


 Approved By

July 14, 1998
 Test Date

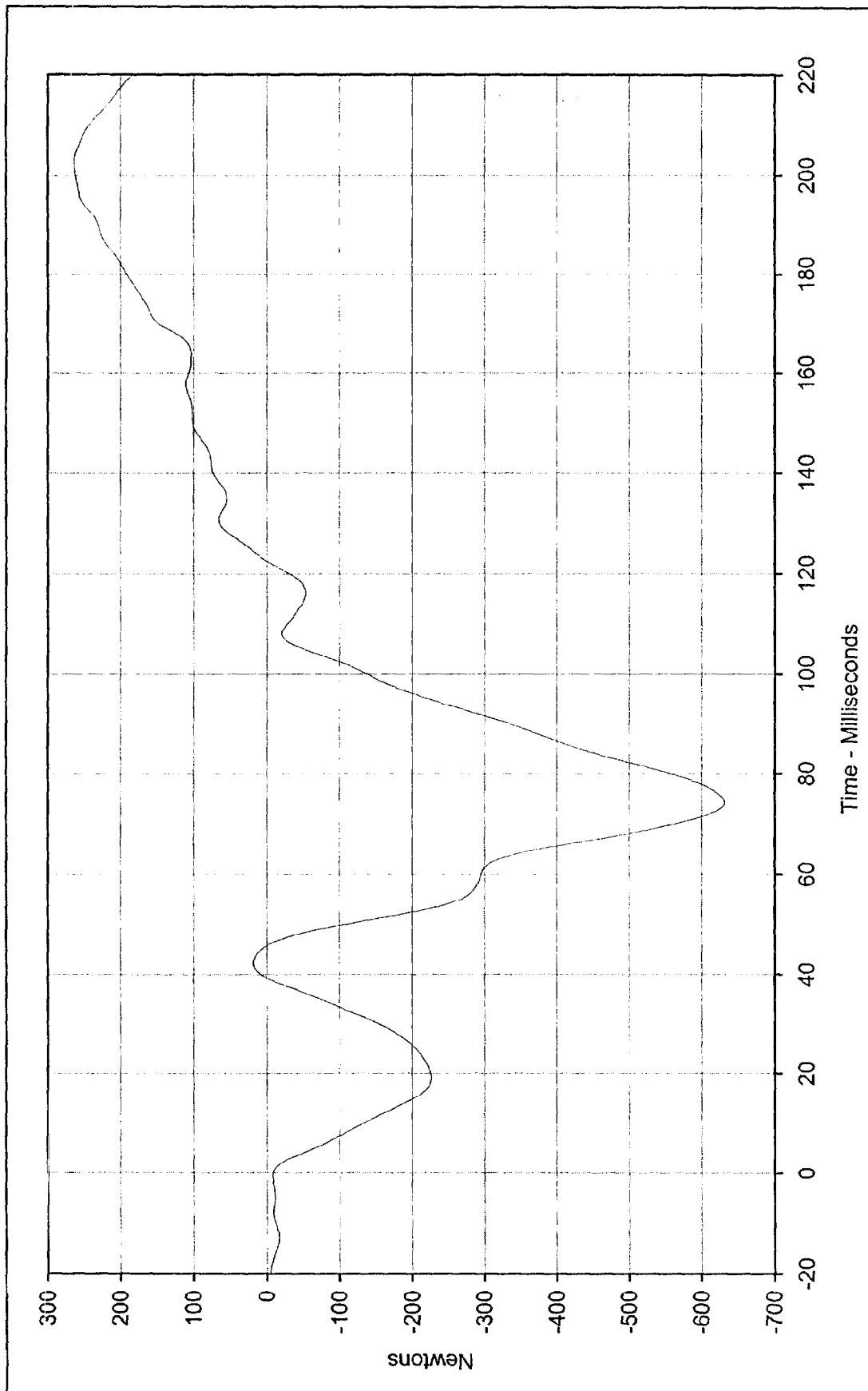
9/28/91
 Date



Curve Description: Pendulum Deceleration
 Maximum Value: 18.5 at 9.6 Milliseconds
 Minimum Value: -1.9 at 53.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK03

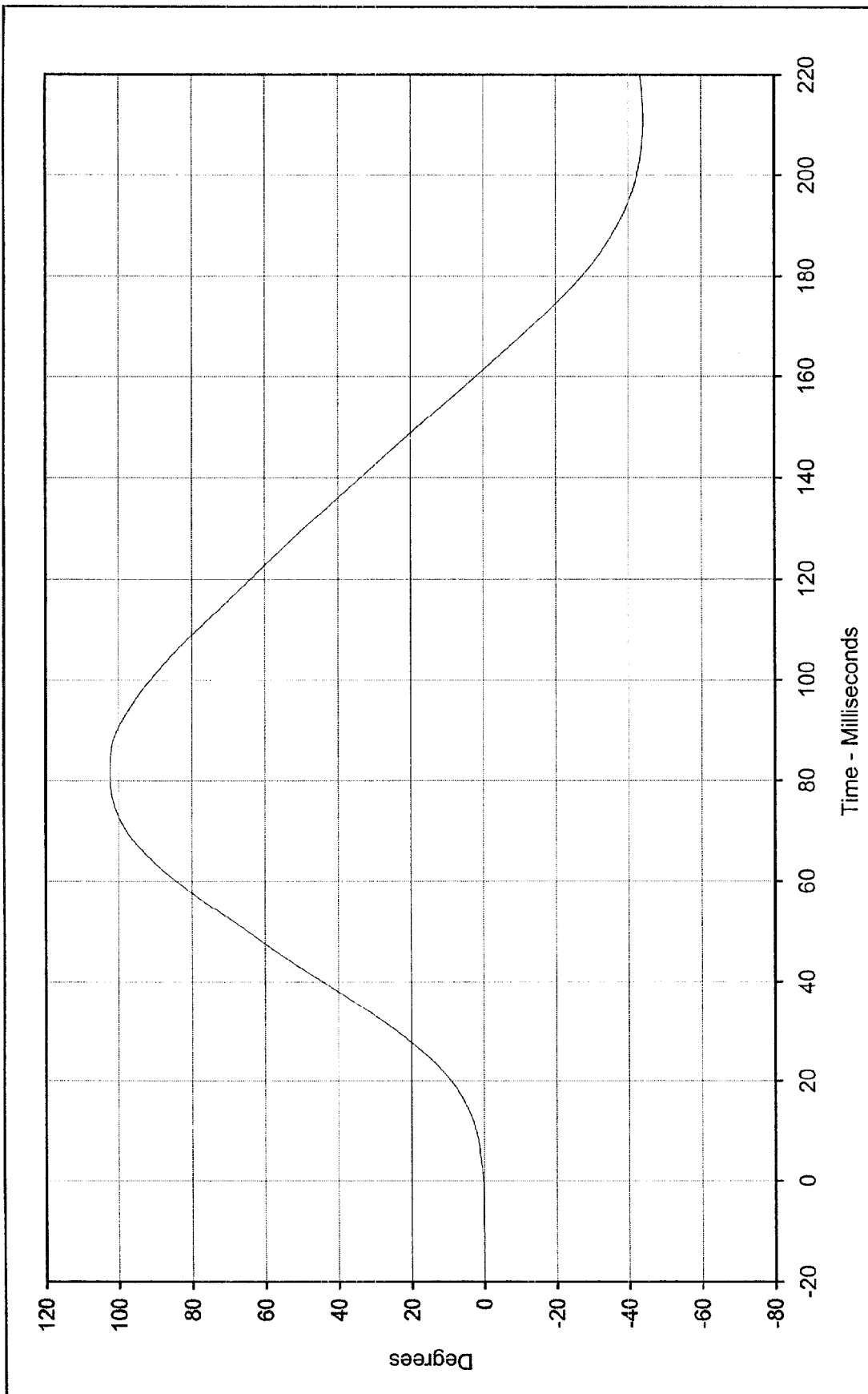




Curve Description: Neck Force X
 Maximum Value: 263.6 at 202.7 Milliseconds
 Minimum Value: -631.4 at 74.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK03

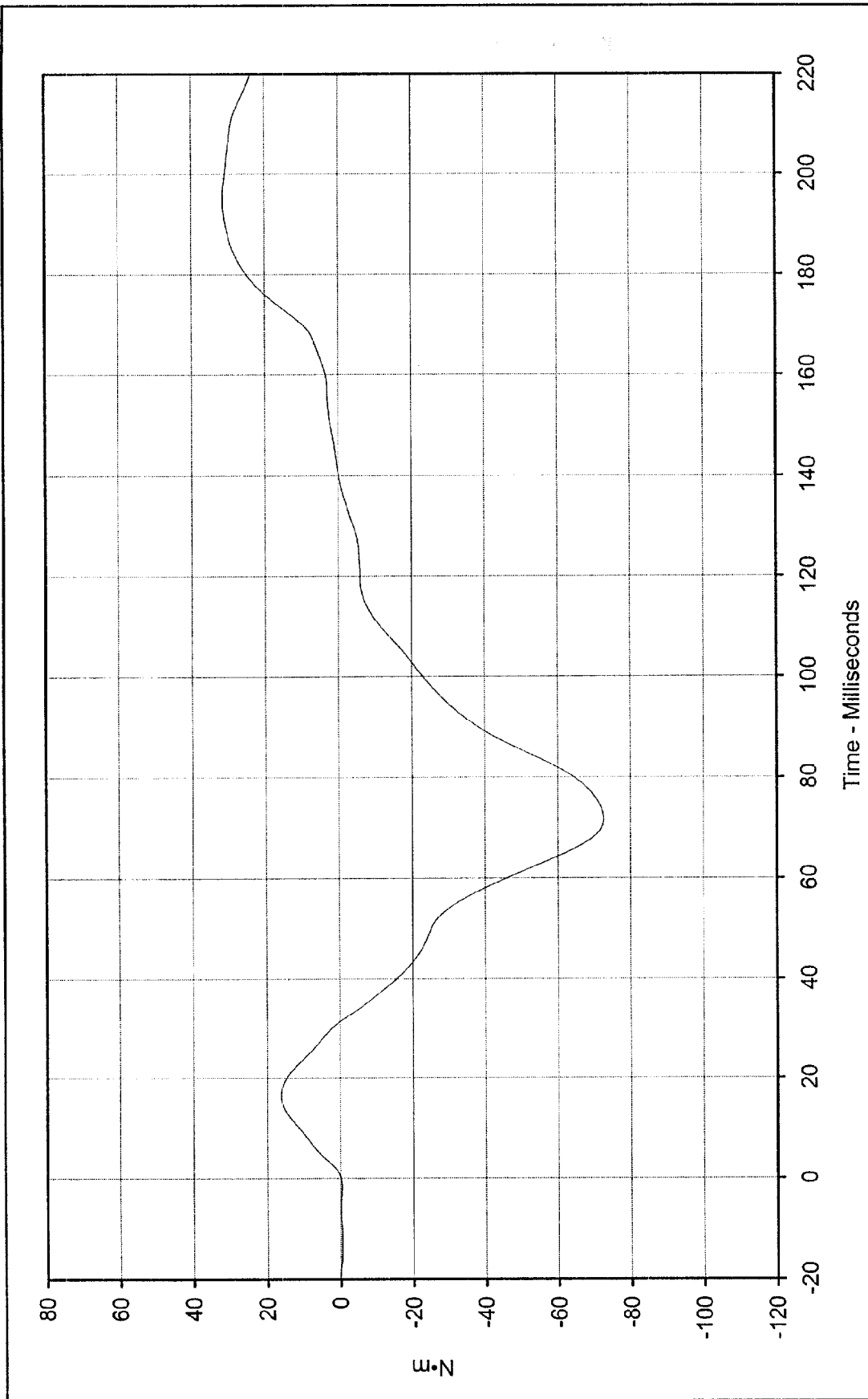




Curve Description: _____
 Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK03

"D" Plane Rotation
 Maximum Value: 102.3 at 81.5 Milliseconds
 Minimum Value: -44.1 at 211.1 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 034





Curve Description: Moment About Occipital Condyles
 Maximum Value: 31.4 at 195.1 Milliseconds
 Minimum Value: -72.6 at 71.7 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK03





Hybrid III Calibration Data Sheet

50TH Percentile Male

External Measurements

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.9	Pass
Laboratory relative humidity	%	10 to 70	43	Pass
A - Total sitting height	mm	878.8 to 889.0	880.0	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	508.0	Pass
C - "H" point height	mm	83.8 to 88.9	88.0	Pass
D - "H" point from seat back	mm	134.6 to 139.7	138.0	Pass
E - Shoulder pivot from back	mm	83.8 to 94.0	93.0	Pass
F - Thigh clearance	mm	139.7 to 154.9	151.0	Pass
G - Elbow back to wrist pivot	mm	289.6 to 304.8	291.0	Pass
H - Skull cap to back line	mm	40.6 to 45.7	43.0	Pass
I - Shoulder to elbow length	mm	330.2 to 345.4	342.0	Pass
J - Elbow rest height	mm	190.5 to 210.8	209.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	600.0	Pass
L - Popliteal length	mm	429.3 to 454.7	449.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	489.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	465.0	Pass
O - Chest depth	mm	213.4 to 228.6	215.0	Pass
P - Foot length	mm	251.5 to 266.7	259.0	Pass
V - Shoulder breadth	mm	421.6 to 436.9	431.0	Pass
W - Foot breadth	mm	91.4 to 106.7	99.0	Pass
Y - Chest circumference	mm	970.3 to 1000.8	980.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	850.0	Pass
AA - Location for chest circumference	mm	429.3 to 434.3	430.0	Pass
BB - Location for waist circumference	mm	226.1 to 231.1	230.0	Pass
Overall Test Results				Pass

N 200p
Laboratory Technician

James E. Smith
Approved By

July 15, 1998

Test Date

9/28/98

Date



Hybrid III Calibration Data Sheet

50TH Percentile Male

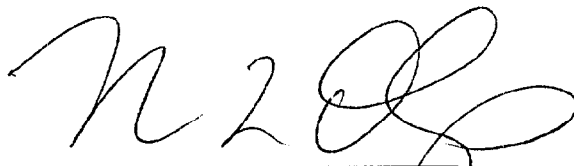
Left Knee Impact Test

ATD Serial No.: 035

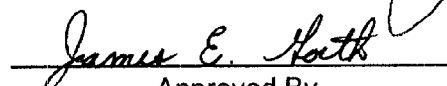
Part Serial No.: n/a

Test I.D.: KNE01

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	2.119	Pass
Peak Probe Force	Newtons	4715 to 5782	4805.8	Pass
Overall Test Results				Pass



Laboratory Technician



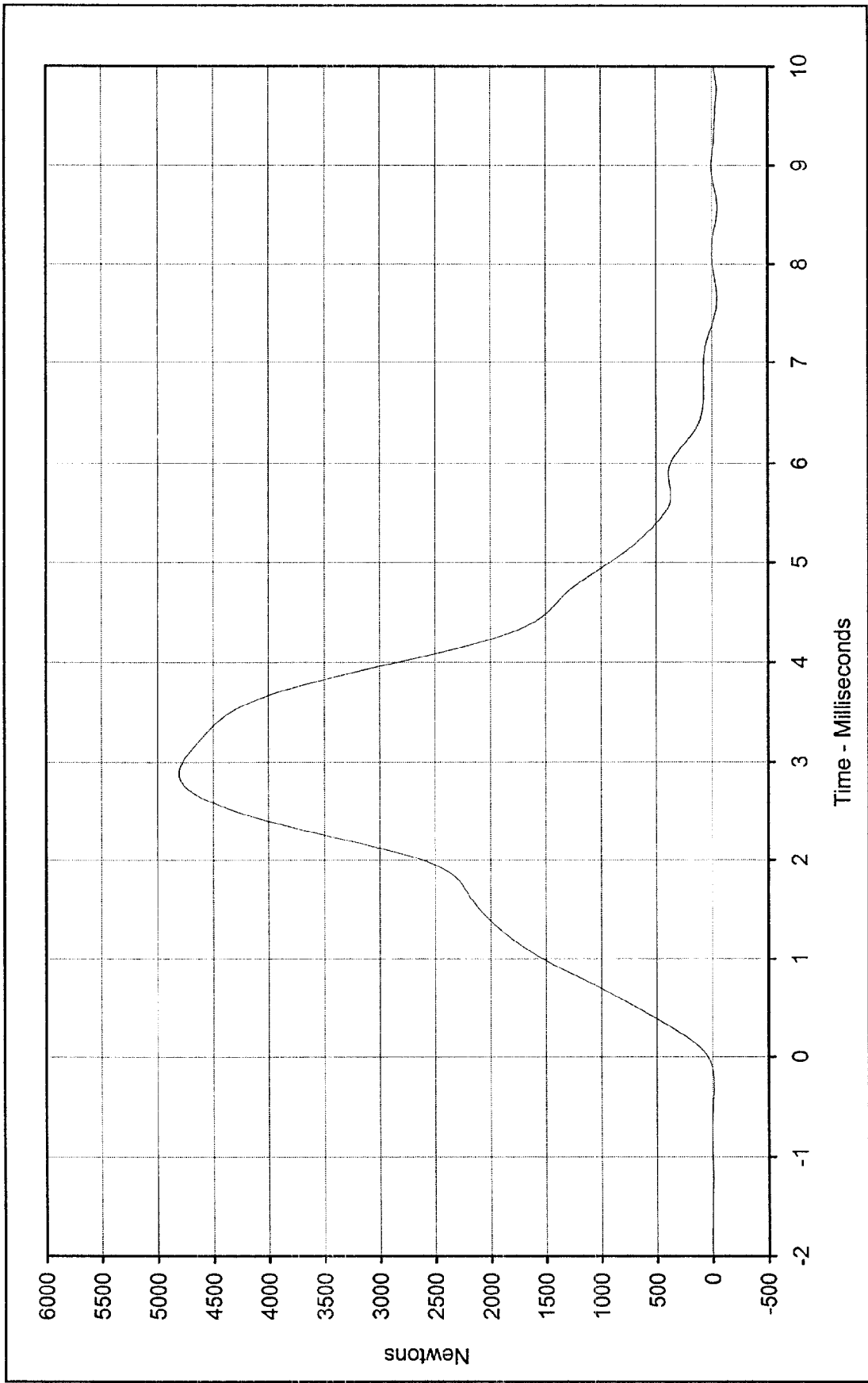
Approved By

July 13, 1998

Test Date

9/28/98

Date



Curve Description:	Testing Program	Hybrid III Left Knee Impact Test
Maximum Value: 4805.8	Part S/N:	n/a
Minimum Value: -46.7	Test I.D.:	KNE01
SAE Filter Class: 600		
Date of Test: 7/13/98		
ATD Serial No.: 035		





Hybrid III Calibration Data Sheet

50TH Percentile Male

Right Knee Impact Test

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: KNE02

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	2.115	Pass
Peak Probe Force	Newtons	4715 to 5782	5274.6	Pass
Overall Test Results				Pass

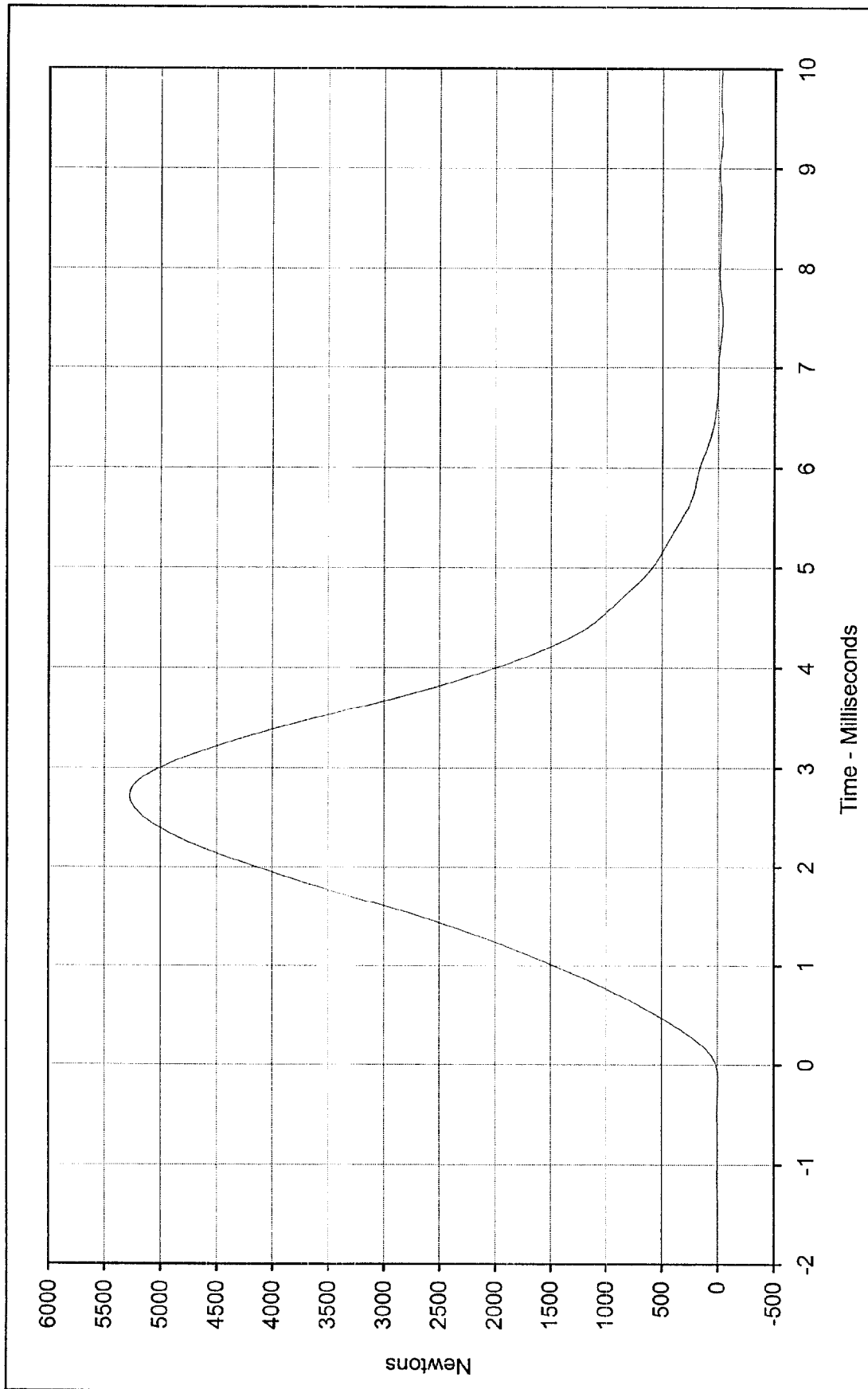
Laboratory Technician

Approved By

July 13, 1998

Test Date

Date



Testing Program: Hybrid III Right Knee Impact Test
 Test Information: Part S/N: n/a Test I.D.: KNE02



Curve Description: Probe Force
 Maximum Value: 5274.6 at 2.7 Milliseconds
 Minimum Value: -39.9 at 7.5 Milliseconds
 SAE Filter Class: 600
 Date of Test: 7/13/98
 ATD Serial No.: 035



Hybrid III Calibration Data Sheet

50TH Percentile Male

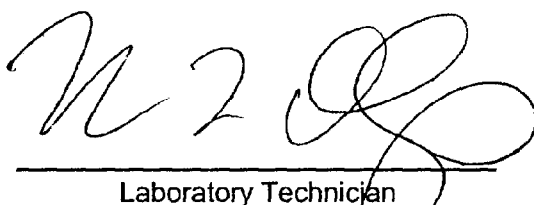
Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: n/a

Test I.D.: HED01

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	40	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	251.7	Pass
Peak Lateral Acceleration	G's	≤15.0	3.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

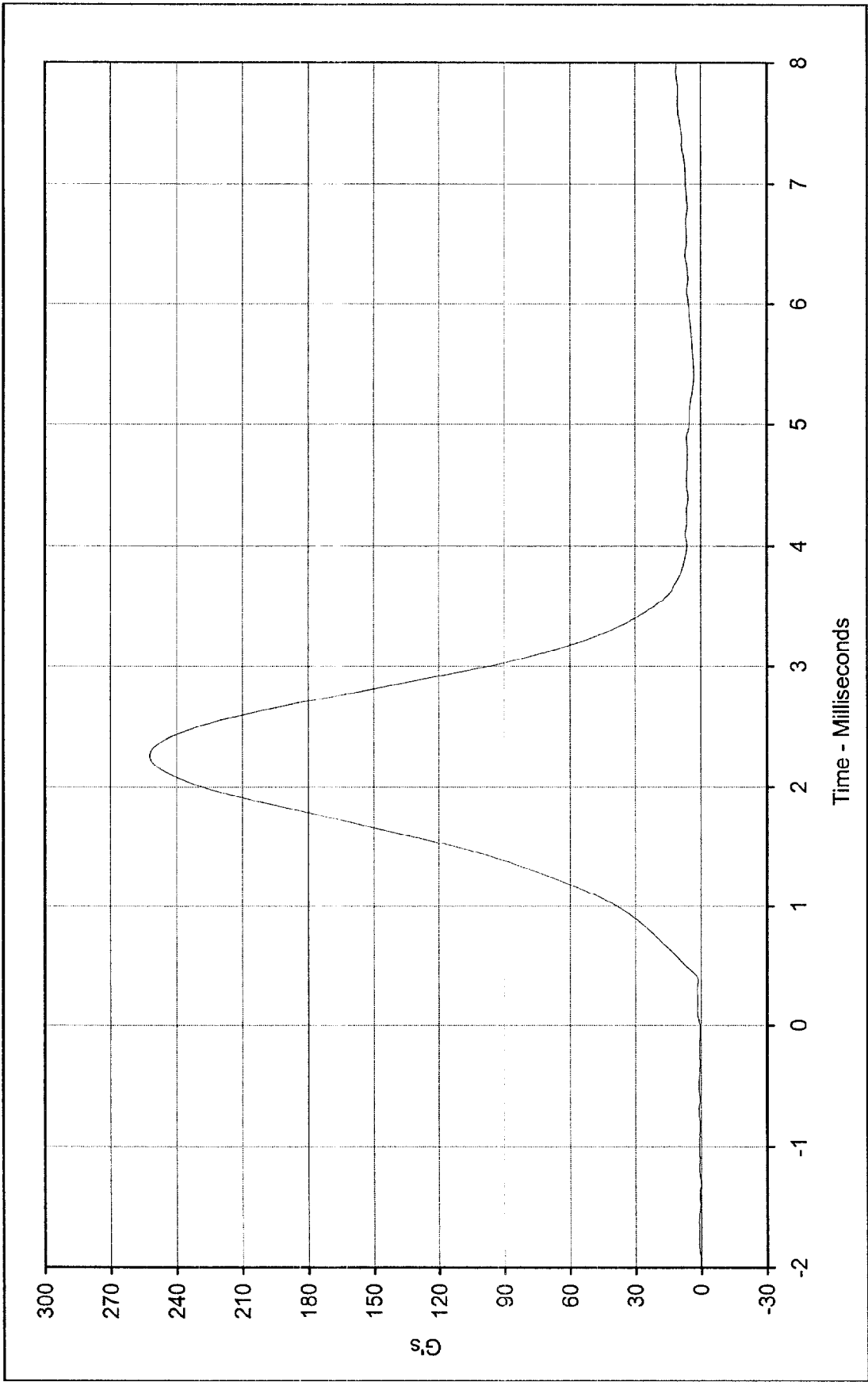
July 13, 1998

Test Date


Approved By

9/28/98

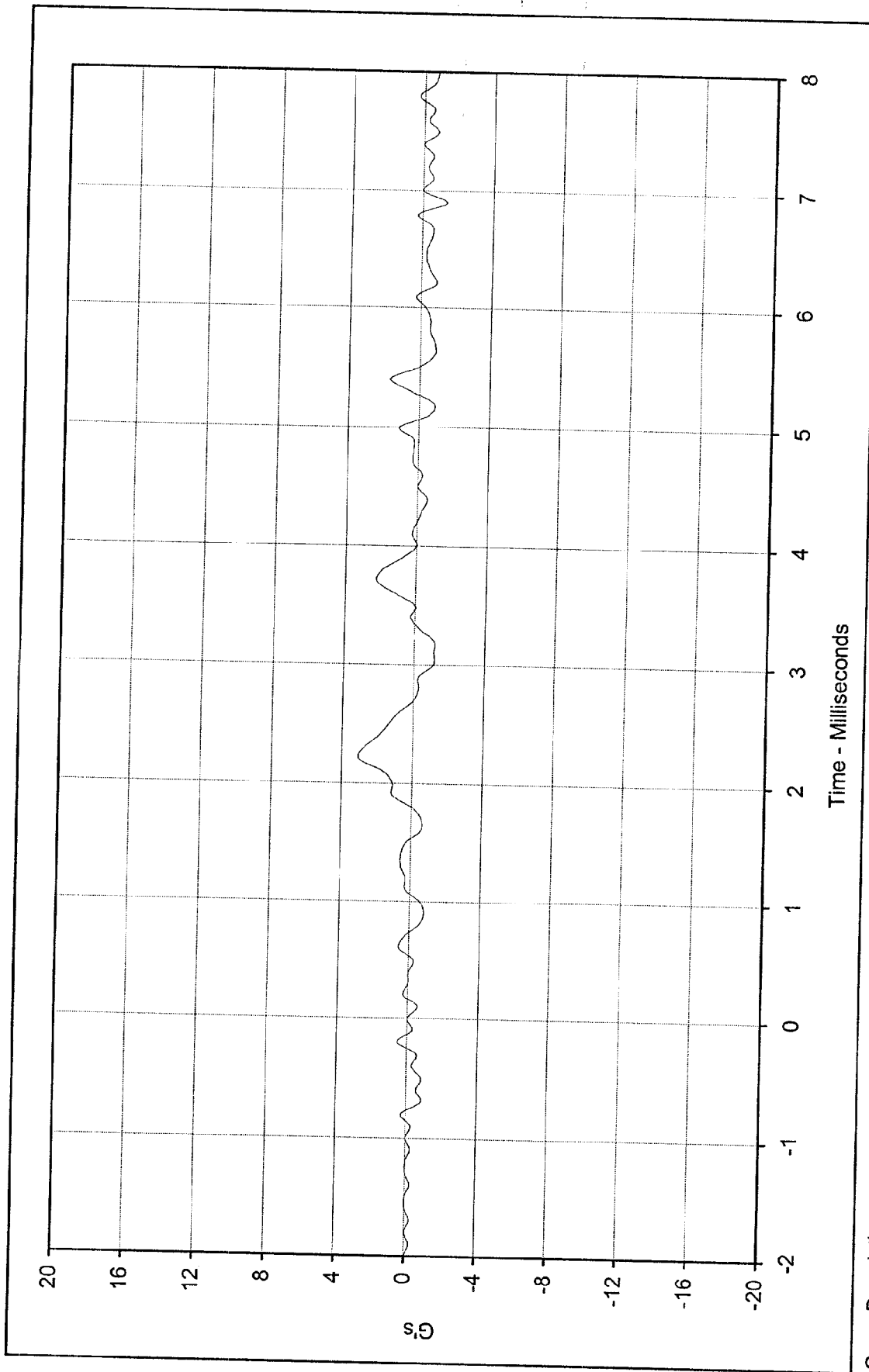
Date



Curve Description: Hybrid III Head Drop Calibration (Male)
Test Information: S/N of Part: n/a Test I.D.: HED01

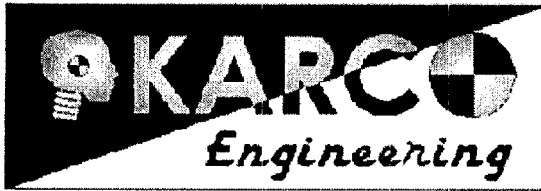
Head Resultant Acceleration
Maximum Value: 251.7 at 2.3 Milliseconds
Minimum Value: 0.0 at -1.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 7/13/98
ATD Serial No.: 035





Curve Description:	Head Acceleration Y Axis		Testing Program	Hybrid III Head Drop Calibration (Male)
Maximum Value:	3.0	at 2.2 Milliseconds	Test Information:	S/N of Part: n/a Test I.D.: HED01
Minimum Value:	-1.4	at 6.9 Milliseconds		
SAE Filter Class:	1000			
Date of Test:	7/13/98			
ATD Serial No.:	035			





Hybrid III Calibration Data Sheet

50TH Percentile Male

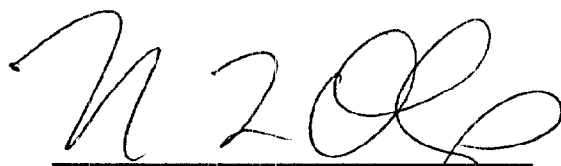
Thorax Impact Test

ATD Serial No.: 035

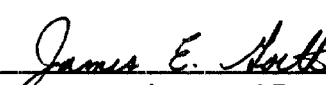
Part Serial No.: N/A

Test I.D.: CHE03

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	6.81	Pass
Peak Probe Force	Newtons	5159 to 5893	5856	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.37	Pass
Internal Hysteresis	%	69 to 85	70.8	Pass
Overall Test Results				Pass



Laboratory Technician



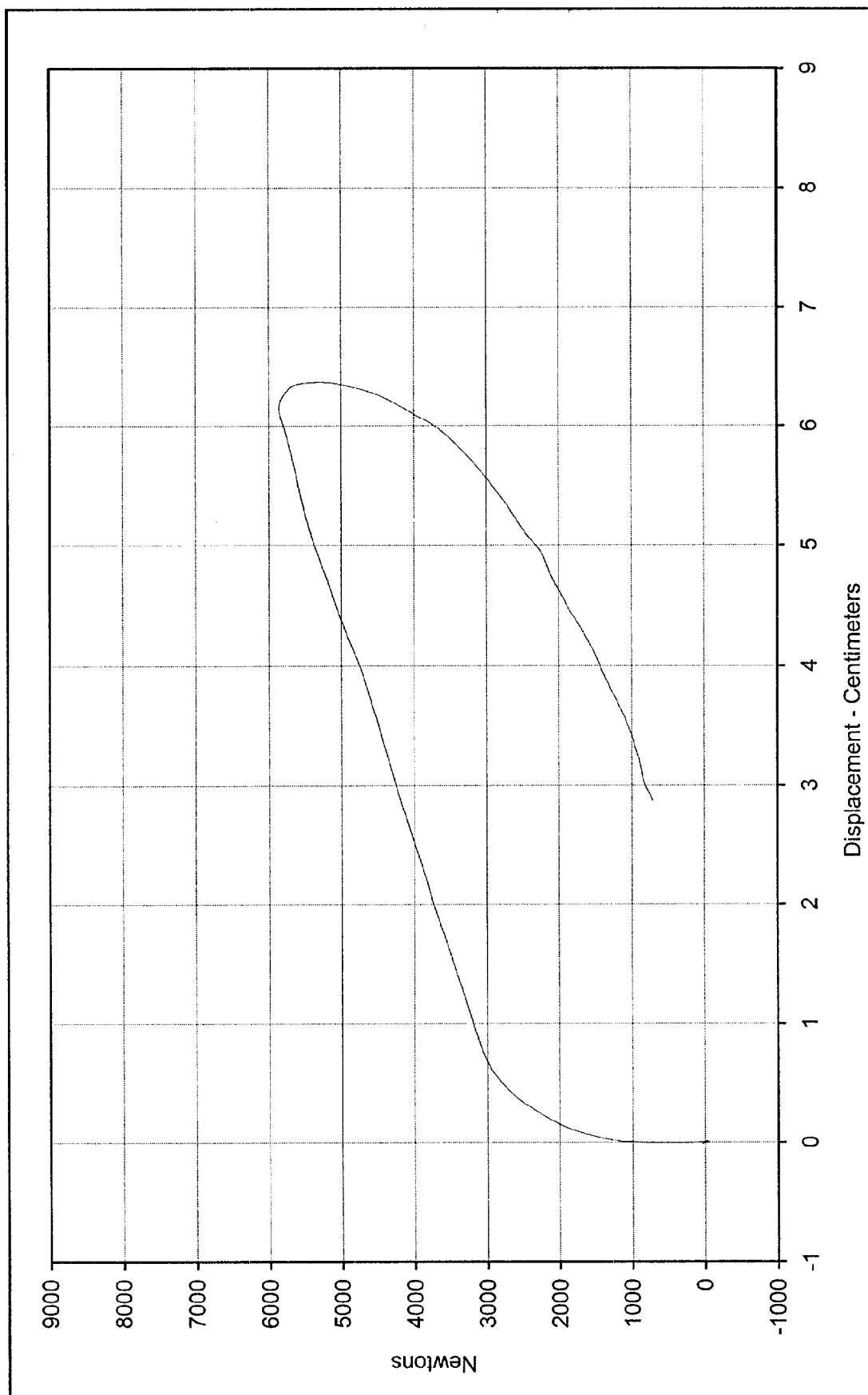
Approved By

July 15, 1998

Test Date

9/28/98

Date



Curve Description:	Probe Force vs. Chest Displacement	Testing Program	Hybrid III Thorax Impact Test
Probe Force:	5855.8 Newtons	Test Information:	S/N of Part: N/A Test I.D.: CHE03
Chest Displ.:	6.37 Centimeters		
SAE Filter Class:	180		
Date of Test:	7/15/98		
ATD Serial No.:	035		





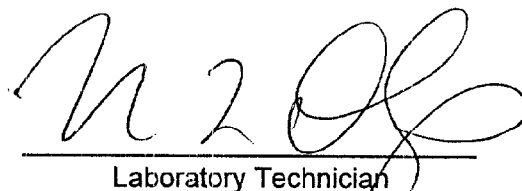
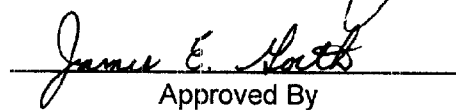
Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

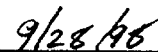
ATD Serial No.: 035Part Serial No.: n/aTest I.D.: NEK07

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Pendulum Velocity		m/s	6.89 to 7.13	6.93	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.9	Pass
	20 Msec.	G's	17.6 to 22.6	20.6	Pass
	30 Msec.	G's	12.5 to 18.5	17.5	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.5	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	36.8	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	73.7	Pass
	Time	Msec.	57.0 to 64.0	62.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	117.8	Pass
Moment About Occipital Condyle	Maximum	N • m	84.1 to 108.5	87.8	Pass
	Time	Msec.	47.0 to 58.0	54.9	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	100.1	Pass
Overall Test Results				Pass	

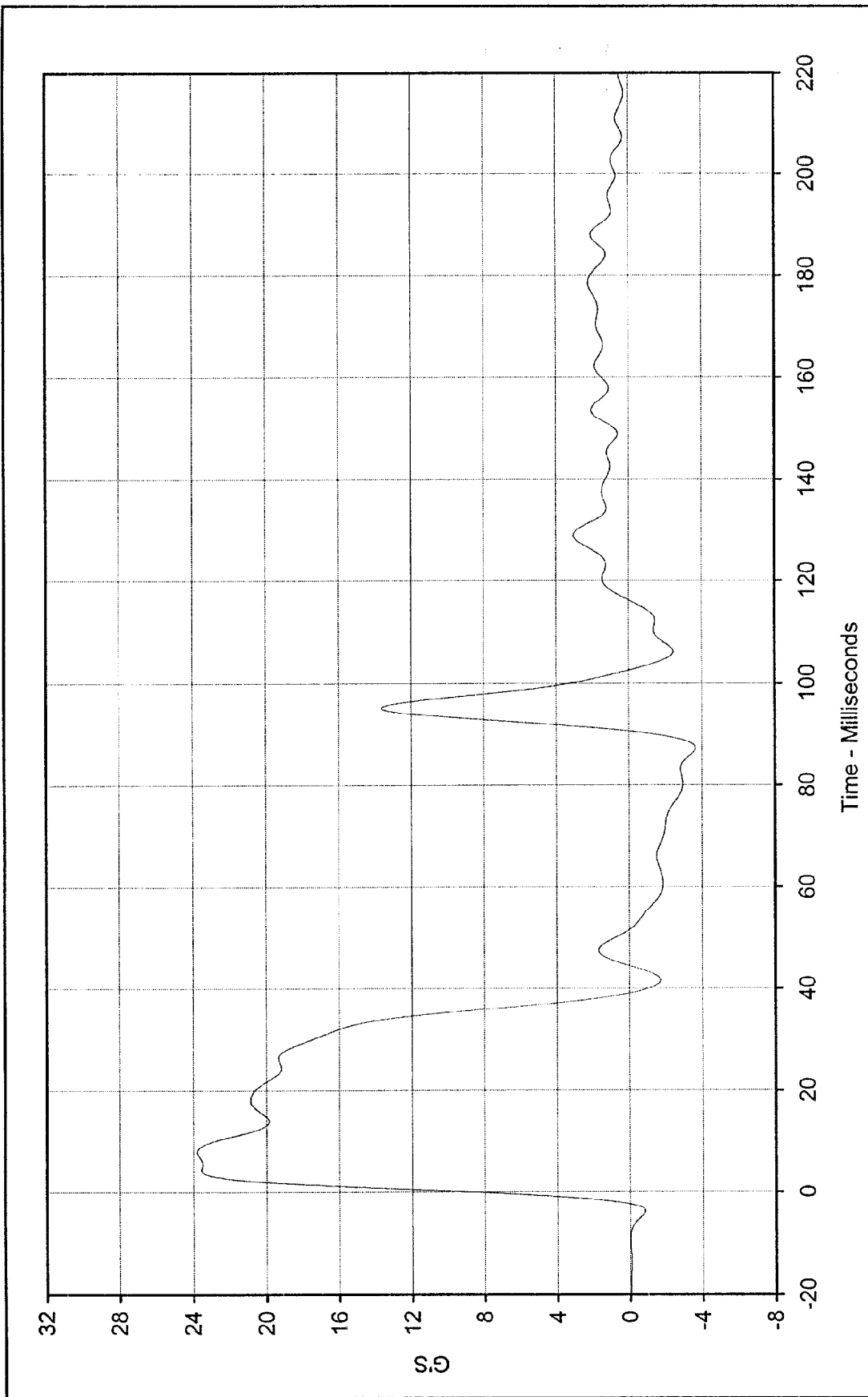

Laboratory Technician
Approved By

July 14, 1998

Test Date



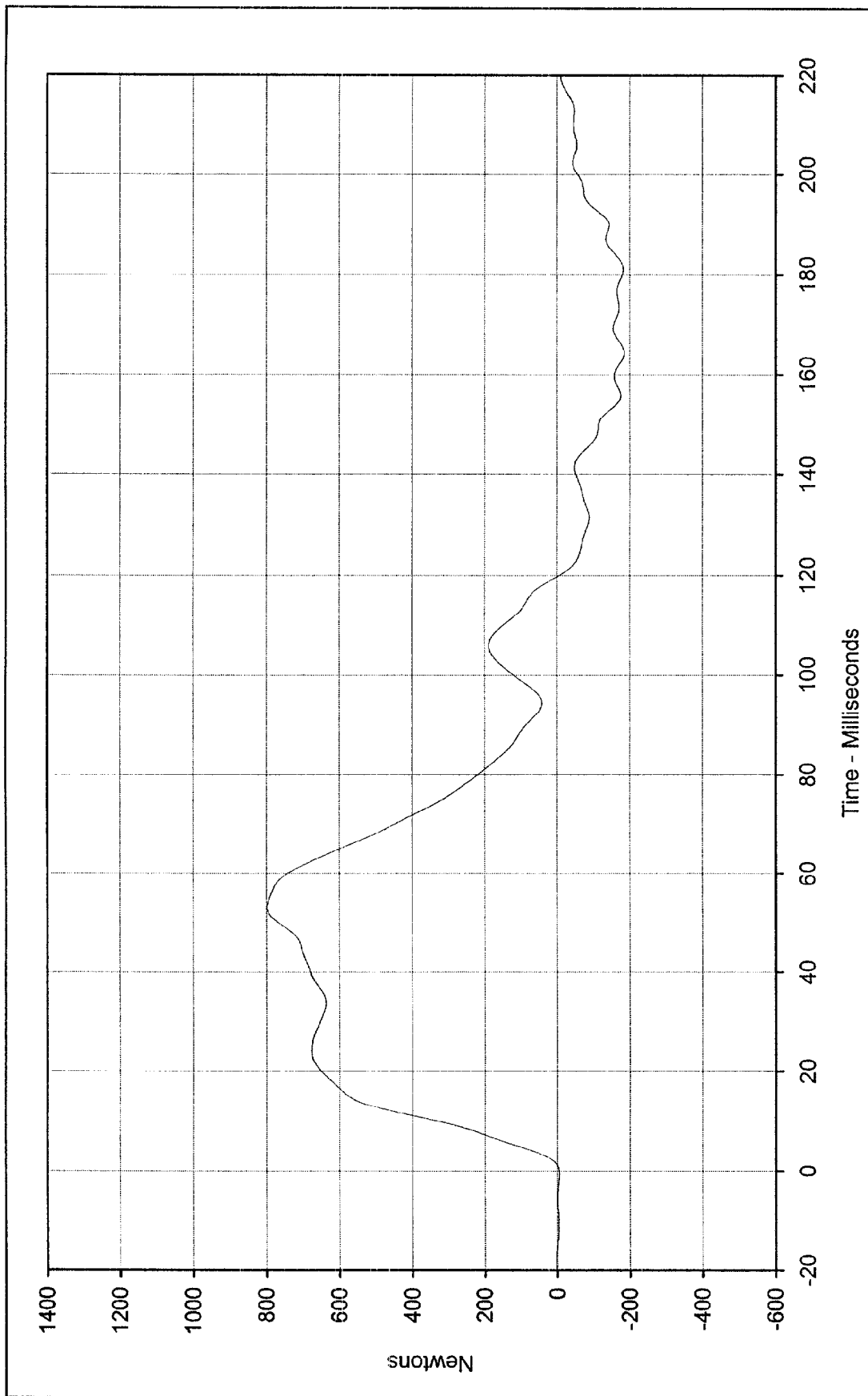
Date



Curve Description: Pendulum Deceleration
 Maximum Value: 23.8 at 7.9 Milliseconds
 Minimum Value: -3.6 at 87.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 035

Testing Program Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK07

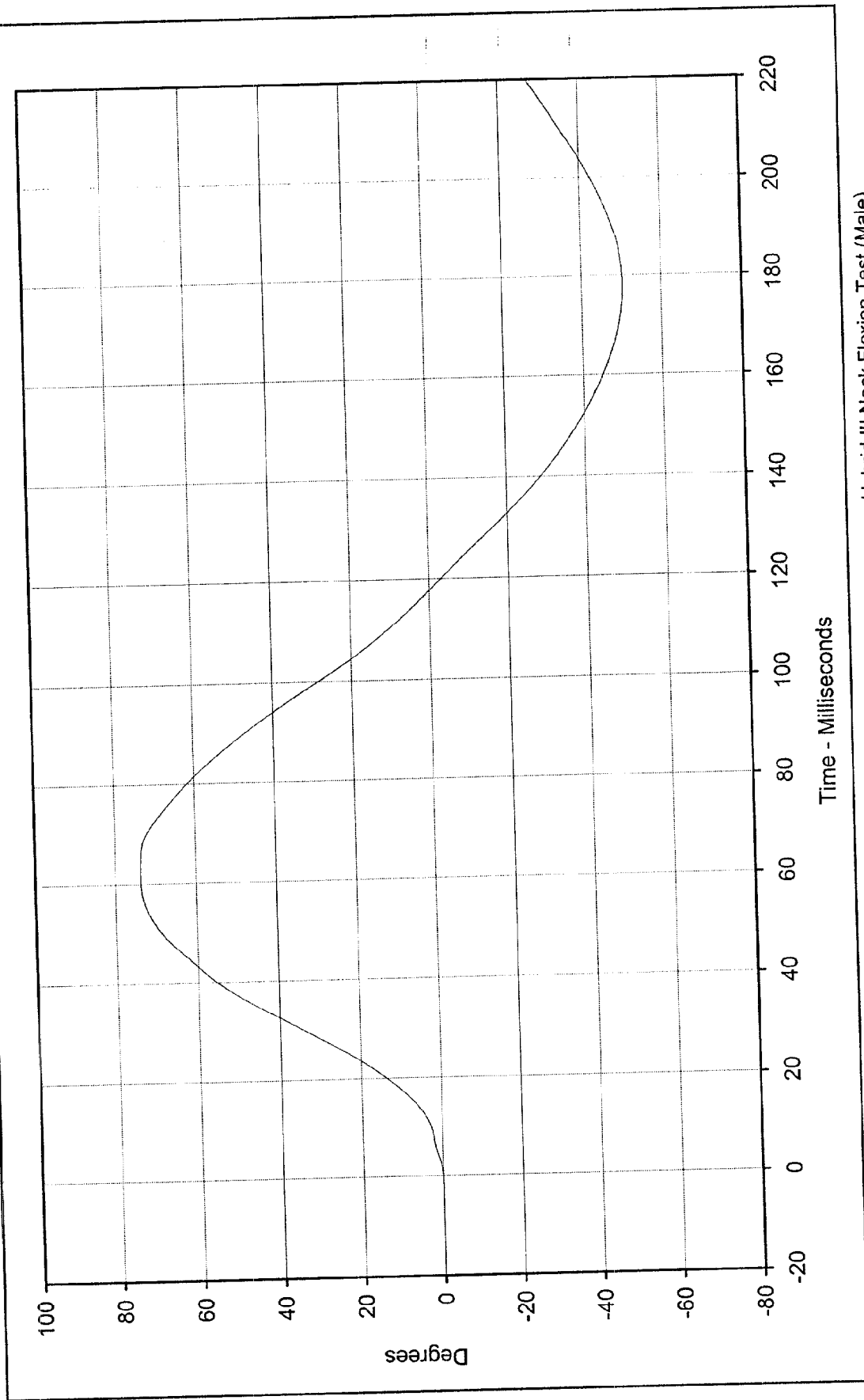




Curve Description: Neck Force X
 Maximum Value: 798.3 at 53.1 Milliseconds
 Minimum Value: -184.5 at 164.4 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK07

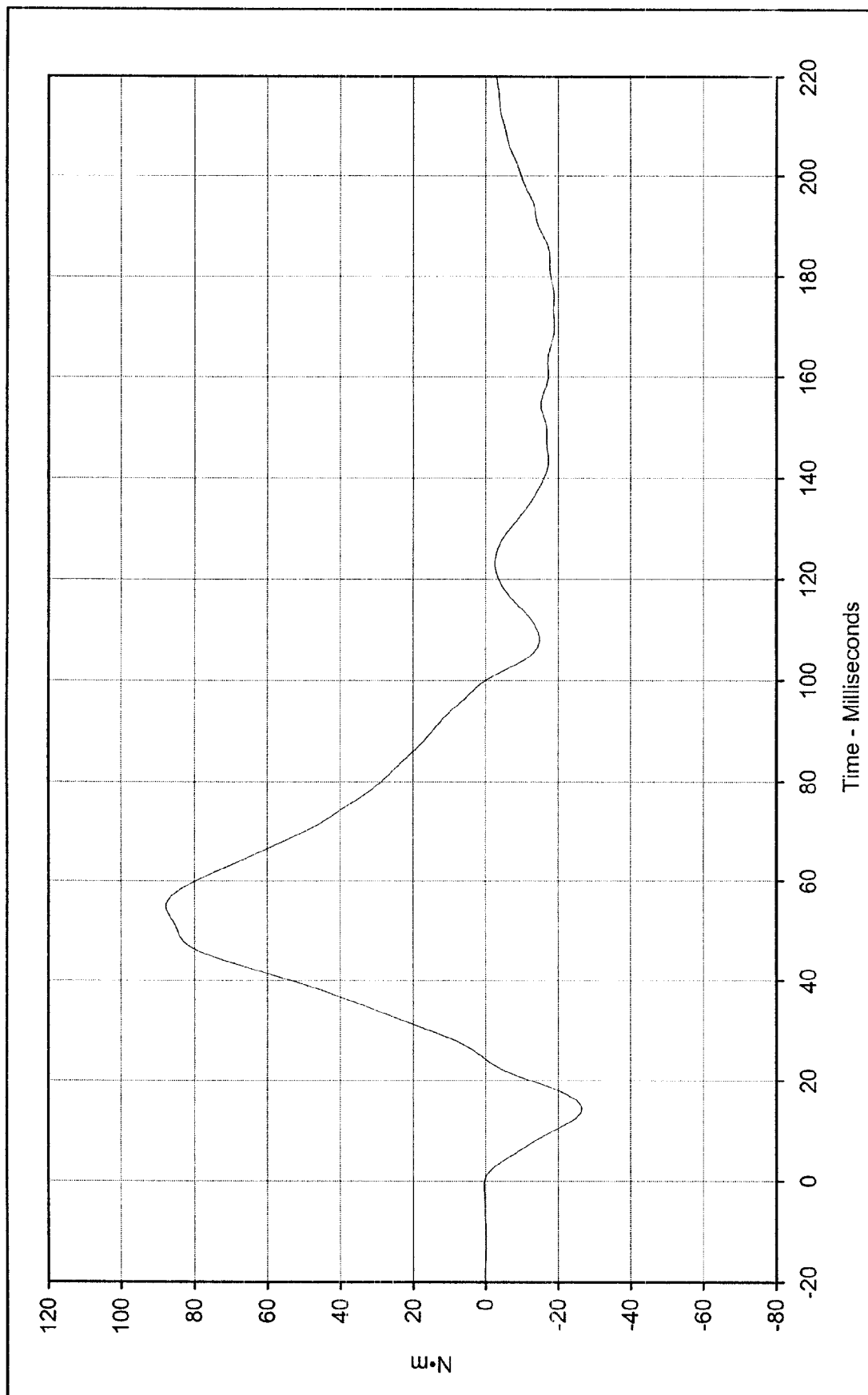




Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK07

Curve Description: "D" Plane Rotation
 Maximum Value: 73.7 at 62.1 Milliseconds
 Minimum Value: -50.3 at 178.9 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 035





Curve Description: Moment About Occipital Condyles
 Testing Program: Hybrid III Neck Flexion Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK07

Maximum Value: 87.8 at 54.9 Milliseconds
 Minimum Value: -26.5 at 14.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 035





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 035Part Serial No.: n/aTest I.D.: NEK01

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	6.18	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.2	Pass
	20 Msec.	G's	14.0 to 19.0	16.4	Pass
	30 Msec.	G's	11.0 to 16.0	14.5	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	14.5	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	42.6	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	98.6	Pass
	Time	Msec.	72.0 to 82.0	79.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	155.0	Pass
Moment About Occipital Condyle	Maximum	N • m	-52.9 to- 79.9	-70.1	Pass
	Time	Msec.	65.0 to 79.0	69.6	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	142.6	Pass
Overall Test Results					Pass

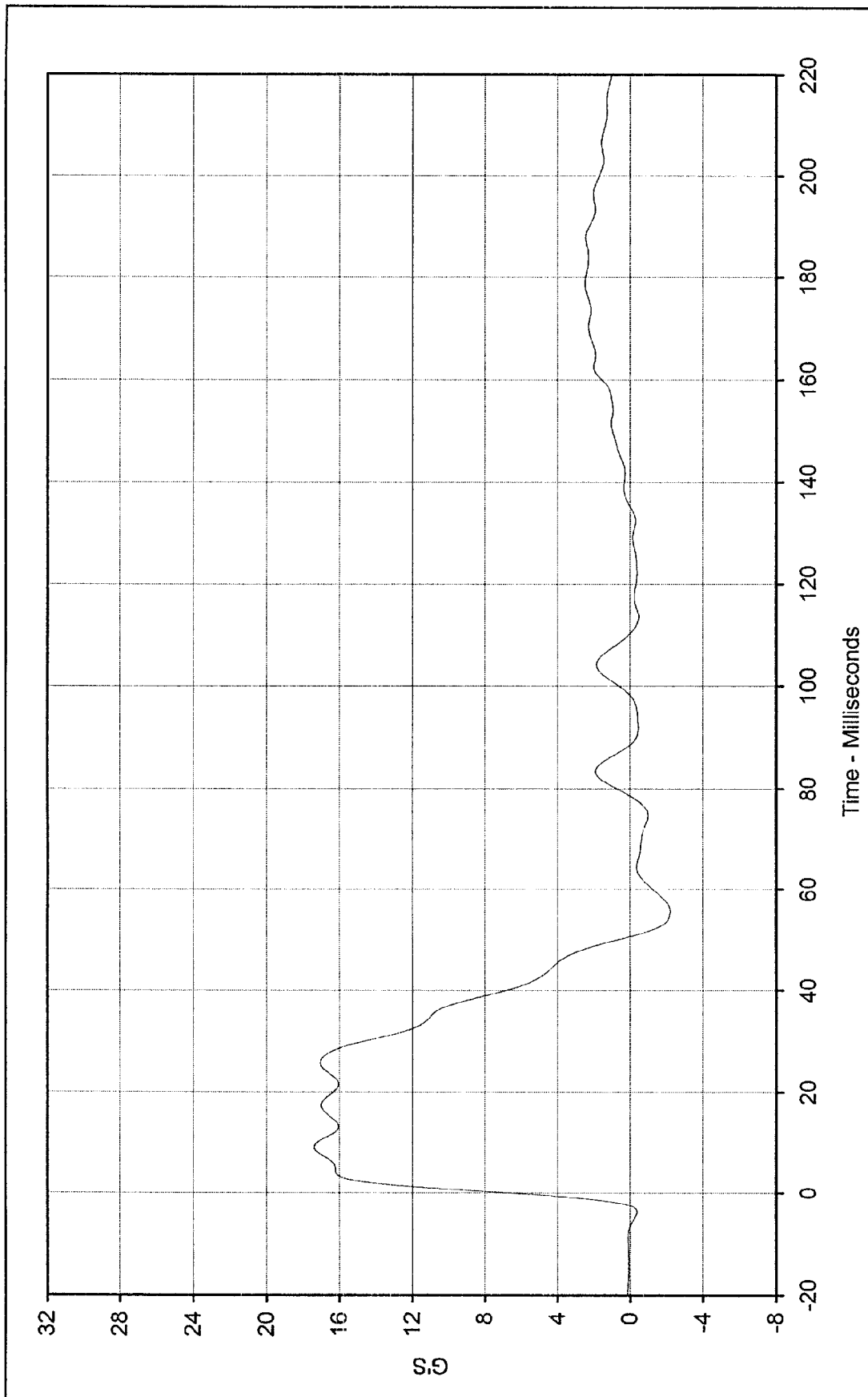
Laboratory Technician

Approved By

July 14, 1998

Test Date

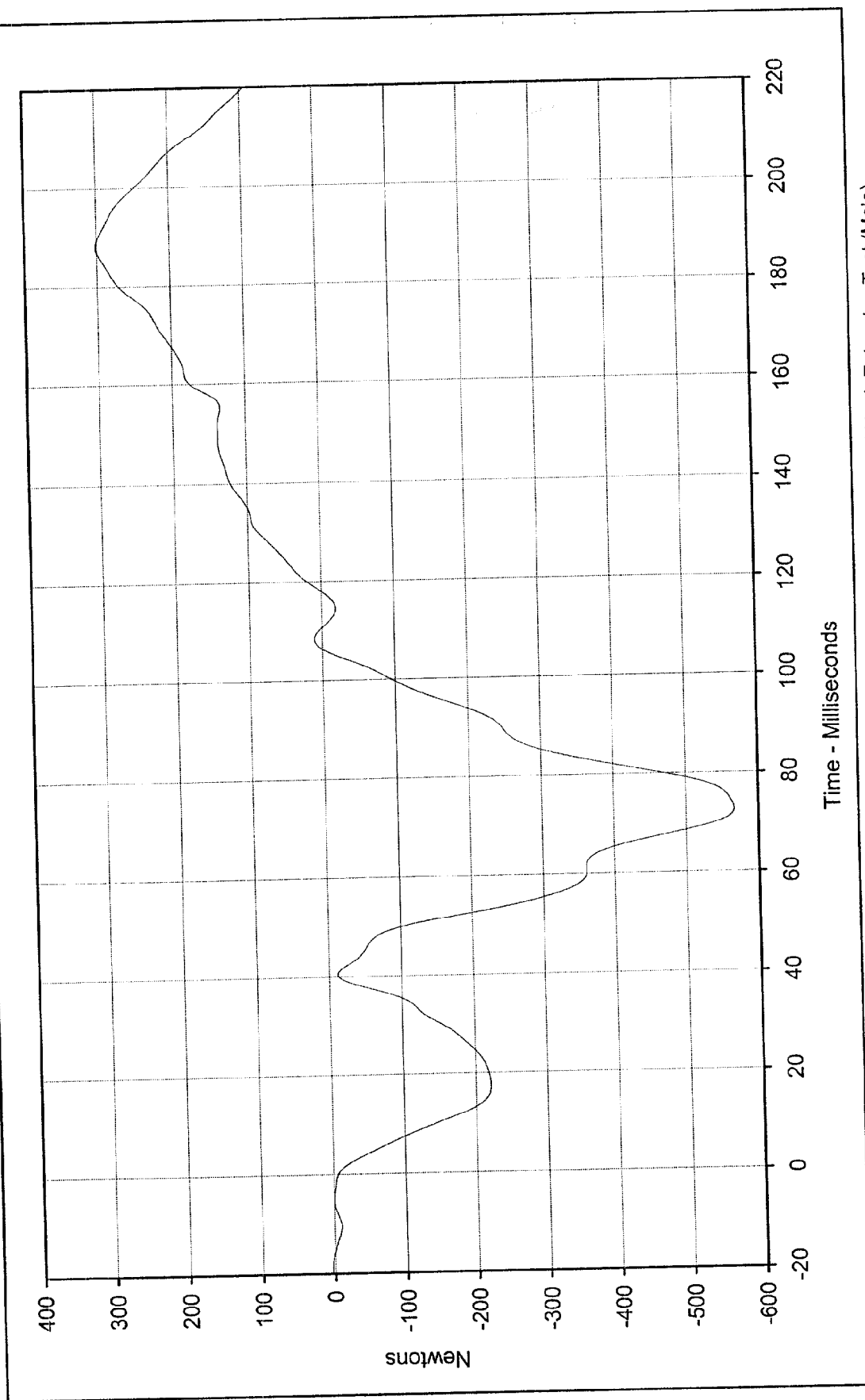
Date



Curve Description: _____ Testing Program _____ Hybrid III Neck Extension Test (Male)
 Maximum Value: _____ Test Information: _____ S/N of Part: n/a Test I.D.: NEK01
 Minimum Value: _____

Pendulum Deceleration
 Maximum Value: 17.4 at 9.1 Milliseconds
 Minimum Value: -2.2 at 55.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 035

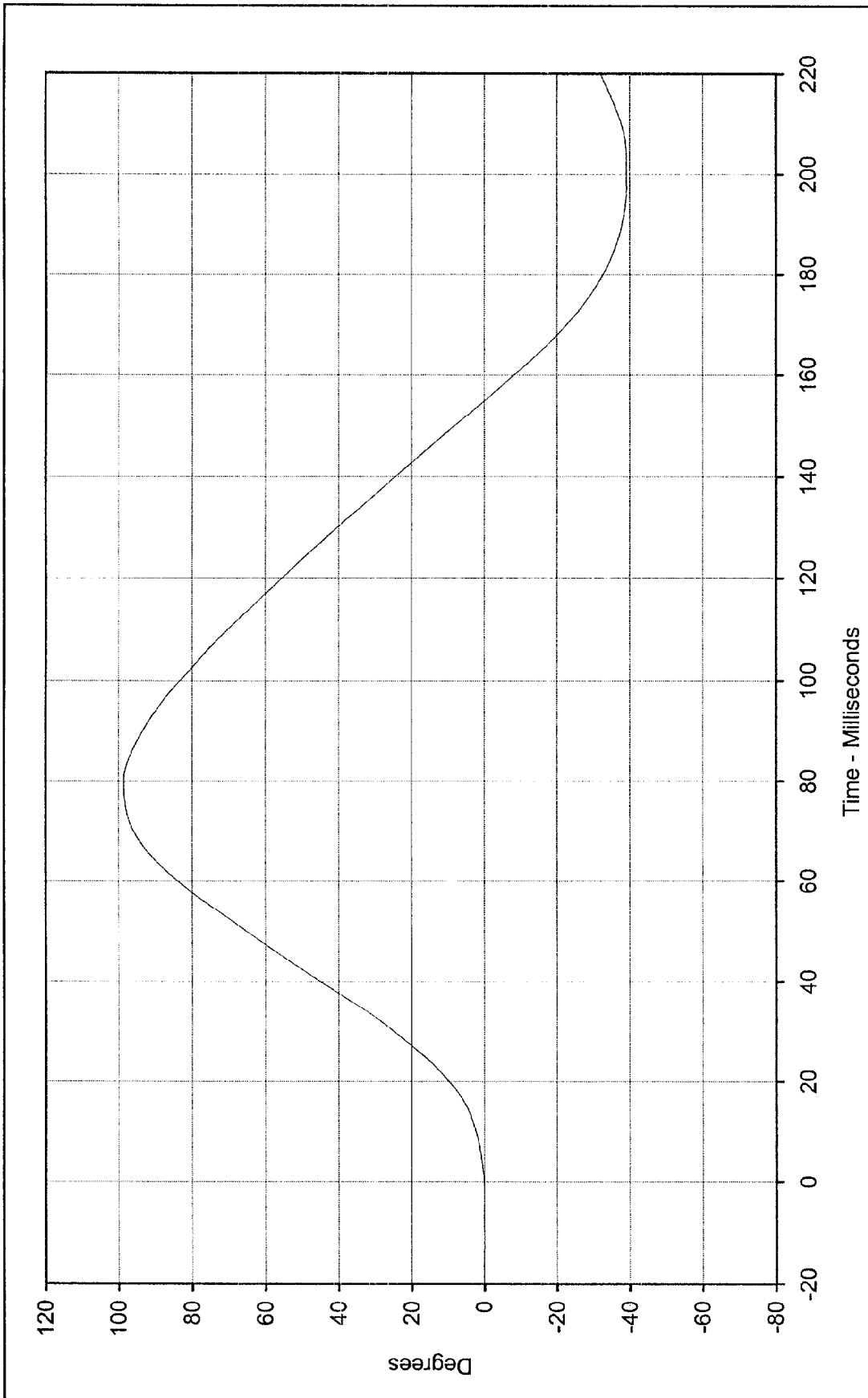




Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK01

Curve Description: Neck Force X
 Maximum Value: 301.5 at 188.1 Milliseconds
 Minimum Value: -567.2 at 72.8 Milliseconds
 SAE Filter Class: 60
 Date of Test: 7/14/98
 ATD Serial No.: 035

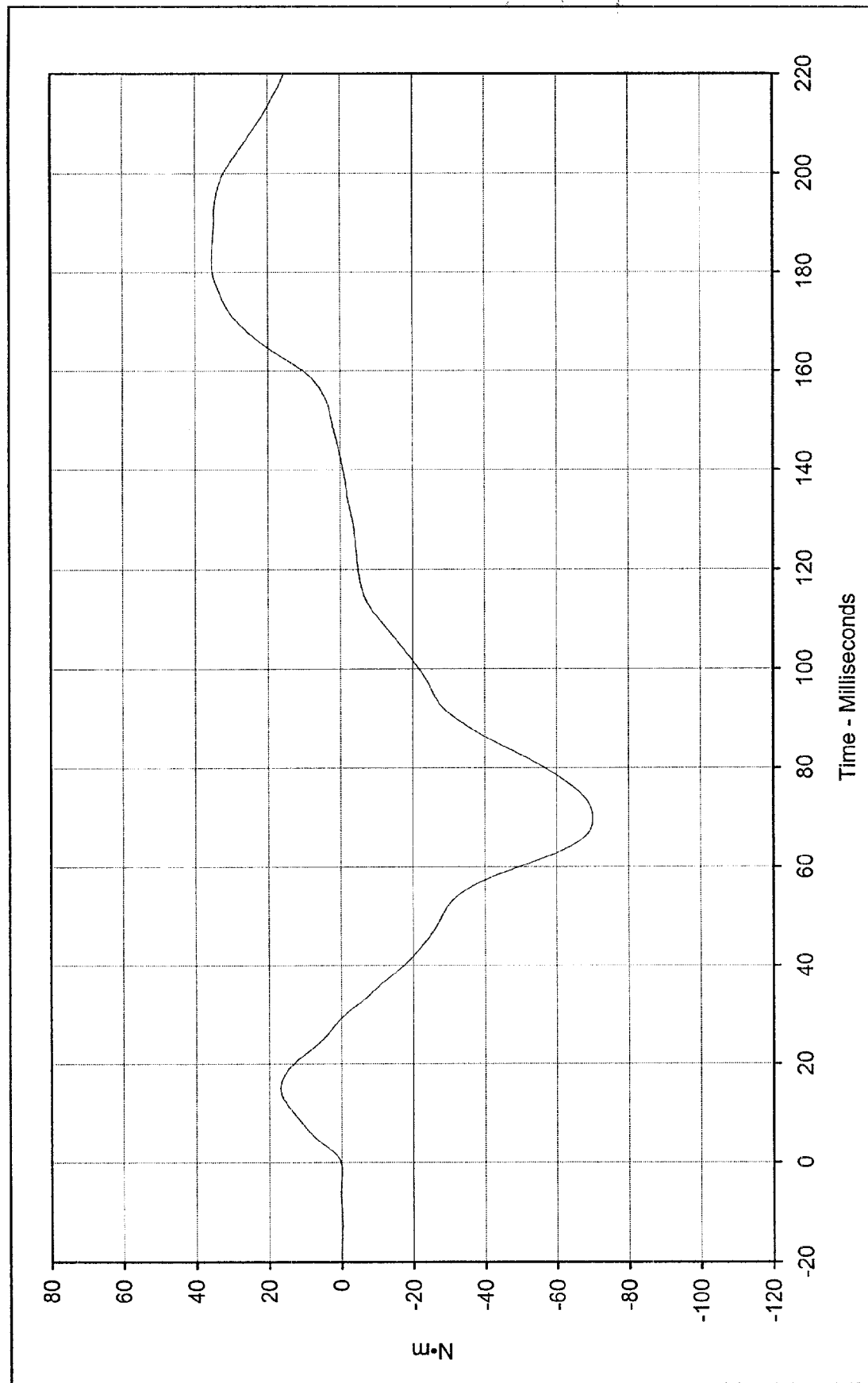




Curve Description: _____
 Maximum Value: _____
 Minimum Value: _____
 SAE Filter Class: _____
 Date of Test: _____
 ATD Serial No.: _____

Testing Program: Hybrid III Neck Extension Test (Male)
 Test Information: S/N of Part: n/a Test I.D.: NEK01





Curve Description: Moment About Occipital Condyles

Maximum Value: 35.4 at 182.2 Milliseconds

Minimum Value: -70.1 at 69.6 Milliseconds

SAE Filter Class: 60

Date of Test: 7/14/98

ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: n/a Test I.D.: NEK01





Hybrid III Calibration Data Sheet

50TH Percentile Male

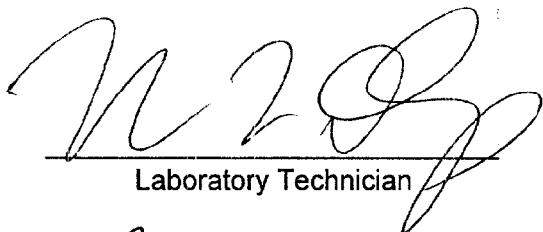
External Measurements

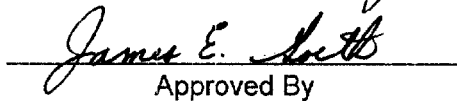
ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.9	Pass
Laboratory relative humidity	%	10 to 70	43	Pass
A - Total sitting height	mm	878.8 to 889.0	888.1	Pass
B - Shoulder pivot height	mm	505.5 to 520.7	507.0	Pass
C - "H" point height	mm	83.8 to 88.9	87.1	Pass
D - "H" point from seat back	mm	134.6 to 139.7	136.0	Pass
E - Shoulder pivot from back	mm	83.8 to 94.0	91.0	Pass
F - Thigh clearance	mm	139.7 to 154.9	153.0	Pass
G - Elbow back to wrist pivot	mm	289.6 to 304.8	300.4	Pass
H - Skull cap to back line	mm	40.6 to 45.7	44.0	Pass
I - Shoulder to elbow length	mm	330.2 to 345.4	340.0	Pass
J - Elbow rest height	mm	190.5 to 210.8	207.0	Pass
K - Buttock to knee length	mm	579.1 to 604.5	602.0	Pass
L - Popliteal length	mm	429.3 to 454.7	451.0	Pass
M - Knee pivot height	mm	485.1 to 500.4	500.0	Pass
N - Buttock popliteal length	mm	452.1 to 477.5	477.0	Pass
O - Chest depth	mm	213.4 to 228.6	225.0	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	103.2	Pass
Y - Chest circumference	mm	970.3 to 1000.8	990.0	Pass
Z - Waist circumference	mm	835.7 to 866.1	866.0	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


Approved By

July 15, 1998

Test Date

9/28/98

Date

APPENDIX F
VEHICLE OWNER'S MANUAL
OCCUPANT RESTRAINT INSTRUCTIONS

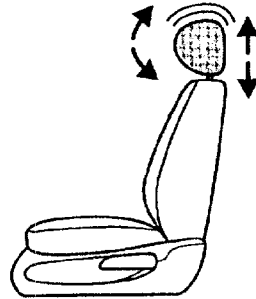
Controls and features

HEAD RESTRAINTS (if equipped)

Adjusting the head restraints

Push or pull the head restraint to the desired height.

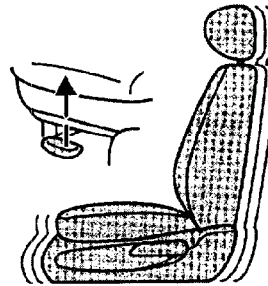
Swivel the head restraint forward or backward to the desired angle.



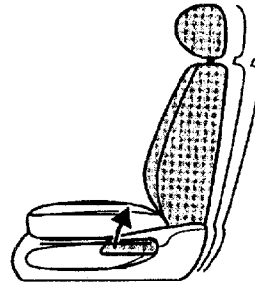
SEATING

Manually adjusting the seats

Pull the lever located inside the front edge of the seat to move the seat forward or backward.



Pull the lever on the outside of the seat to recline the seat.

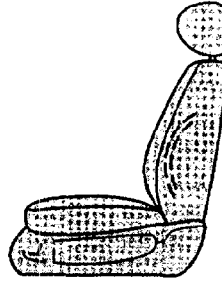


 Never adjust the driver's seat or seat back when the vehicle is moving.

Seating and safety restraints

Adjusting the power seats (if equipped)

Move the relevant control in the
respective direction to adjust the
seat seat back, and lumbar as
follows:



Seat

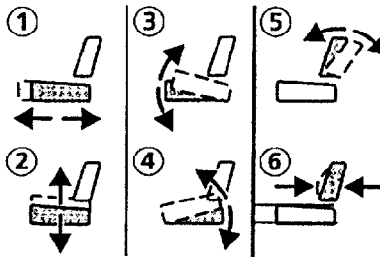
- (1) Forward and backward
- (2) Height of the entire seat
- (3) Height of the front of the seat
- (4) Height of the rear of the seat

Seat back

- (5) Seat back inclination

Lumbar support

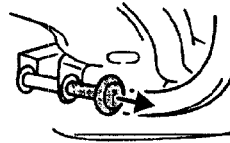
- (6) Lumbar support



Seating and safety restraints

Folding rear seats (if equipped)

Pull the release knob located in the luggage compartment. Fold down the seat. The seat back cannot be released while the built-in child seat (if equipped) is open.



If you are carrying objects that might damage the center rear three-point safety belt, you can unbuckle the end of the belt from the small buckle on the seat cushion and let the retractor reel it up. Reconnect the belt tongue to the buckle when you fold the seat back up.

To raise the rear seat back, push the seat back upward until it locks in place. Make sure it is firmly latched by pushing forward and

Check to see that the seat and seat back are latched securely in position. Keep luggage and other objects that would prevent proper engagement.

Seating and safety restraints

SAFETY RESTRAINTS

Important safety restraints precautions

The use of safety belts helps to restrain both driver and passenger in case of a collision. In most states and Canada, the law requires the use of safety belts.

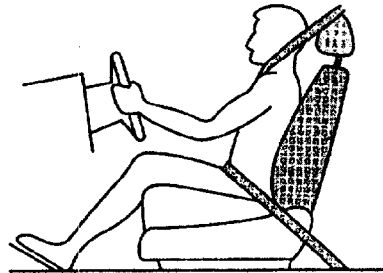
Always use your seat belt. It is the most important safety device for protecting you in a collision.

Always sit and ride with your seat belt properly fastened across your hips.

Lock the doors of your vehicle before driving to lessen the risk of the door coming open in a collision.

Always make sure your vehicle is properly secured to prevent from sliding and causing damage to the vehicle or harm to passengers.

To prevent the risk of injury, make sure children sit where they can be properly restrained.



Seating and safety restraints

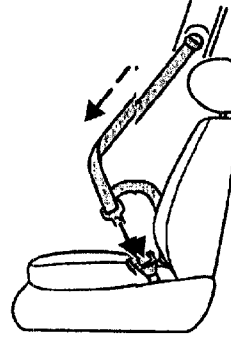
Using safety restraints properly

Combination lap and shoulder belt

Insert the tongue into the slot in the buckle to fasten.

Push the red release button and remove the tongue from the slot to unfasten.

The passenger safety restraints in the vehicle are combination lap and shoulder belts. The front and rear seat passenger safety belts have two types of locking modes.



! Each seating position in your vehicle has a specific safety belt assembly which is made up of one buckle and one tongue that are designed to be used as a pair.

Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. Never swing it around your neck over the inside shoulder.

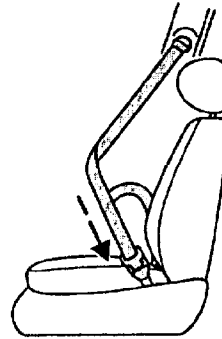
Never use a single belt for more than one person.

Seating and safety restraints

Vehicle sensitive (emergency) locking mode

The vehicle sensitive mode is the normal retractor mode which locks the belts in response to vehicle movement. For example, if the driver brakes suddenly, turns a corner sharply or your vehicle receives an impact of 8 km/h (5 mph) or more the combination safety belts will lock to help reduce the forward movement of the driver and passengers.

The retractor can be made to lock by pulling sharply on the belt.



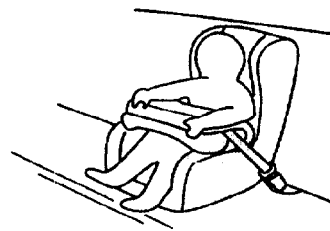
Automatic locking mode

In this mode, the shoulder belt is automatically prelocked; however, the belt will react to remove any slack in the shoulder belt.

The automatic locking mode is not available on the driver's safety belt.

When to use the automatic locking mode

- When a tight lap and shoulder belt fit is desired.
- Any time a child safety seat is installed in the vehicle. For information on the proper use of a child safety seat, refer to *Child safety seats* later in this chapter.

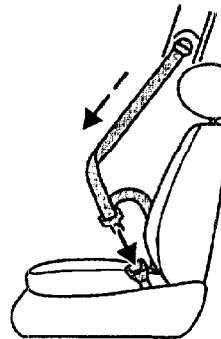


Seating and safety restraints

Using automatic locking mode

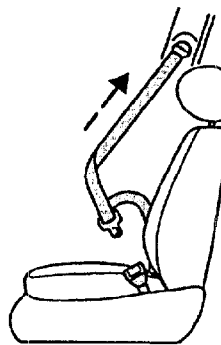
The automatic locking mode must be used when installing a child safety seat in any passenger seat.

1. Buckle the combination lap and shoulder belt.
2. Grasp the shoulder belt portion and pull downward until the entire belt is extracted.
3. Allow the belt to retract. As the belt retracts, you will hear a clicking sound. This indicates that the safety belt is now in the automatic locking mode.



Canceling automatic locking mode

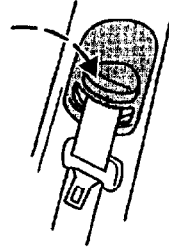
Disconnect the combination lap and shoulder belt and allow it to completely retract. This will cancel the automatic locking mode and activate the vehicle sensitive (emergency) locking mode.



Seating and safety restraints

Front seat safety belt height adjustment

 Position the shoulder belt height adjuster so that the belt rests across the middle of your shoulder. Be sure the shoulder belt is properly positioned on your shoulder each time you use the belt. If the shoulder belt is off your shoulder, on your upper arm or neck, there is a greater risk of severe injury in a collision.



To lower the height of the shoulder belt:

1. Push the control down.
2. Slide down.

To raise the height of the shoulder belt:

1. Slide up.
2. Pull down on the height adjuster to make sure that it is locked in place.

Seating and safety restraints

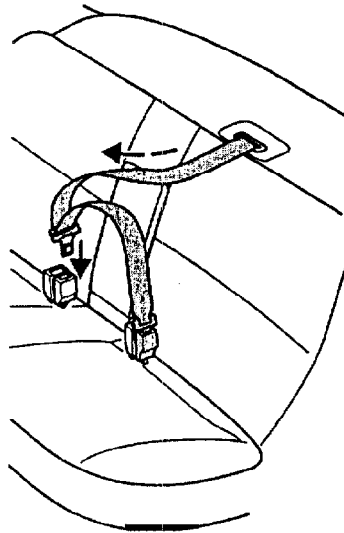
Center position three-point safety belts

If the lower end of the belt has been unbuckled, pull the belt steadily from the reel and insert the small tongue into the small buckle until a distinct "click" is heard.

This buckle should be left buckled except when the seatback is folded down and cargo that might damage the seatbelt or get it dirty is being hauled.

Pull the seat belt across the hips and insert the big (sliding) tongue into the appropriate buckle until a distinct "click" is heard.

Should the center rear belt need to be unlatched from its anchorage, a thin probe is required to be inserted into the hole located on the underside of the floor mounted buckle. If the buckle and tongue are not reconnected, then the belt is not safe to be used.



Safety belt indicator light and warning chime

Illuminates in the instrument cluster and a chime sounds to remind the occupants to fasten their safety belts.



Alternative design

Seating and safety restraints

Conditions of operation

If the driver safety belt is not buckled before the ignition key is turned to on, the safety belt indicator illuminates for 1-2 minutes and the warning chime sounds for 4-8 seconds.

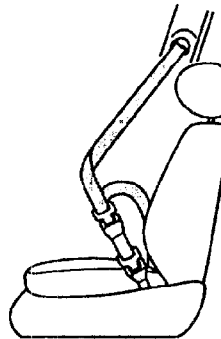
If the driver safety belt is buckled while the indicator light is illuminated and the reminder chime is sounding, the safety belt indicator light and reminder turn off.

Safety belt extension assembly

The safety belt may be too short even when fully extended. Approximately 20 cm (8 inches) may be added to the length of the belt with a safety belt extension (part number 6 11 C22). Safety belt extensions are available at no cost from your dealer.

Only use extensions manufactured by the same supplier as the safety belt. Manufacturer identification is on the label located at the end of the webbing.

Do not use the extension to change the fit of the shoulder belt across the torso.



Seating and safety restraints

Care of safety belts

Periodically check the belts for damage or fraying. Check the security of the anchorage points and the locking action of the inertia reels by giving each belt a sharp tug.

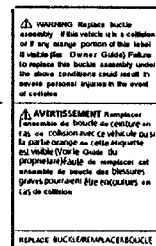
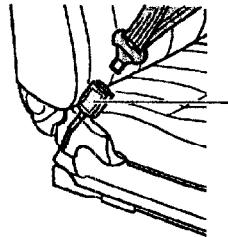
Belts subjected to strain, as in the result of an accident, should be replaced and the anchorages checked by your dealer or a qualified technician.

 Failure to follow these instructions will affect the performance of the safety belts and increase the risk of personal injury.

Safety belt warning label

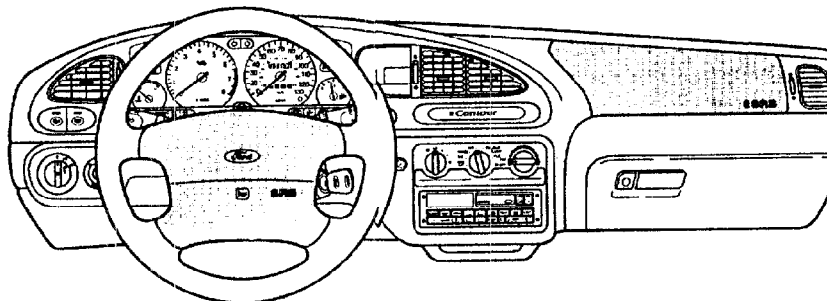
A warning label has been placed on the buckle of each of your vehicle's front seat safety belts.

In a collision of sufficient severity while the safety belt is in use, the safety belt buckle will pull out of the sleeve so that all or part of the orange portion of the label is visible.



 Whenever the orange portion of the label is visible, the safety belt must be replaced.

Seating and safety restraints

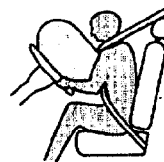


AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

Important supplemental restraint system (SRS) precautions

The supplemental restraint system (SRS) is designed to:

- work with the safety belt to protect the driver and right front passenger.
- reduce certain upper body injuries.



Seating and safety restraints

 Do not place objects or mount equipment on or near the air bag covers that may come into contact with an inflating air bag.

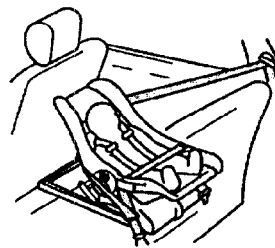
 Do not attempt to service, repair, or modify the air bag Supplemental Restraint System (SRS) or its fuses. See your Ford or Lincoln-Mercury dealer.

Children and air bags

For additional important safety information, read all information on safety restraints in this guide.

Children should always wear safety belts. Failure to follow these instructions may increase the risk of injury in a collision.

 When installing forward-facing child seats in the front seat, always move the passenger seat as far back from the instrument panel as possible. Never install rear-facing child seats or rear-facing infant seats in the front seat.



Seating and safety restraints

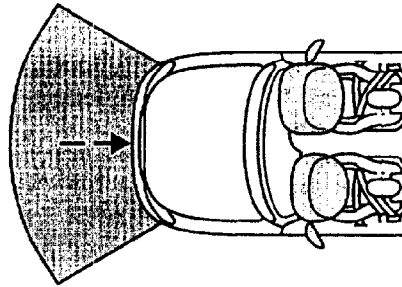
How does the air bag supplemental restraint system (SRS) work?

The SRS is designed to activate when the vehicle is in a collision, similar to hitting a fixed barrier head-on at 12-24 km/h (8-14 mph).

The fact that the air bags did not inflate in a collision does not mean that something is wrong with the system. Rather, it means the forces were not of the type sufficient to cause activation.

The air bags inflate and deflate rapidly upon activation.

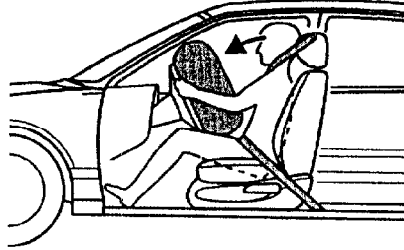
After air bag deployment, it is normal to notice a smoke-like, powdery residue or smell the burned propellant. This may consist of cornstarch, talcum powder (to lubricate the bag), or sodium compounds (e.g., baking soda) that result from the combustion process that inflates the air bag. Small amounts of sodium hydroxide may be present, which may irritate the skin and eyes, but none of the residue is toxic.



Seating and safety restraints

 Several air bag system components get hot after inflation. Do not touch them after inflation.

 If the air bag inflates, the air bag will not function again and must be replaced immediately. If the air bag is not replaced, the unrepaired area will increase the risk of injury in a collision.



The SRS consists of the following:

- driver and passenger air bag modules (which include the inflators and air bags),
- one or more impact and safing sensors,
- a readiness light and tone, and
- the electrical wiring and components.

The diagnostic module monitors its own internal circuits and the supplemental air bag electrical system readiness (including the impact sensors), the system wiring, the air bag system readiness light, the air bag backup power, and the air bag ignitors.

Seating and safety restraints

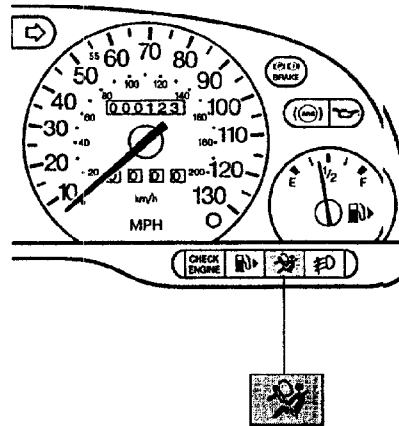
Determining if the system is operational

The SRS uses a readiness light in the instrument cluster or a chime to indicate the condition of the system. Refer to the *Air bag readiness* section in the *Instrumentation* chapter. Routine maintenance of the air bag is not required.

A difficulty with the system is indicated by one or more of the following:

- The readiness light will either flash or stay lit.
- The readiness light will not illuminate after ignition is turned on.
- A group of five beeps will be heard. The tone pattern will repeat periodically until the problem and light are repaired.

If any of these things happen, even intermittently, have the SRS serviced at your dealership or by a qualified technician immediately. Unless serviced, the system may not function properly in the event of a collision.



Seating and safety restraints

Disposal of air bags and air bag equipped vehicles

For disposal of air bags or air bag equipped vehicles, see your local dealership or a qualified technician. Air bags **MUST BE** disposed of by qualified personnel.

