

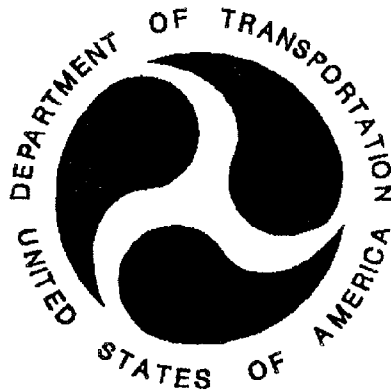
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REPORT NO. KAR-98-20

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

FRONTAL BARRIER 40% OFFSET IMPACT TEST

FORD MOTOR COMPANY
1998 FORD CONTOUR 4-DOOR
NHTSA NO. MW0214

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



SEPTEMBER 18, 1998
FINAL REPORT

PREPARED FOR:
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16. <i>Abstract</i> A 60.3 km/h (37.5 MPH) frontal barrier impact test was conducted on a 1998 Ford Contour 4-Door at KARCO Engineering on August 11, 1998. This test was conducted to obtain data indicant of FMVSS 212, 219 (partial), 37.51 and footwell intrusion performance. The impact velocity was 60.82 km/h. The ambient temperature at the barrier face at the time of impact was 35.0°C. The vehicle's maximum post-test static crush was 888 mm, located to the 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>163.6</td> <td>0.0 Failed</td> </tr> <tr> <td>Chest Resultant Peak 3 msec clip</td> <td>60 G's</td> <td>29.1</td> <td>33.7</td> </tr> <tr> <td>Left Femur Force</td> <td>10009 N</td> <td>-2161.9</td> <td>-1885.0</td> </tr> <tr> <td>Right Femur Force</td> <td>10009 N</td> <td>-1899.9</td> <td>-1189.0</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	163.6	0.0 Failed	Chest Resultant Peak 3 msec clip	60 G's	29.1	33.7	Left Femur Force	10009 N	-2161.9	-1885.0	Right Femur Force	10009 N	-1899.9	-1189.0
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SECTION 1

PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST MW0214

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 212/219/37.51 requirements. The test program will be used to develop a standard for driver footwell intrusion data during frontal 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 37.51 "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 August 11, 1998, at a speed of 60.82 km/h. The test vehicle was instrumented with eight (8) accelerometers to measure longitudinal axis accelerations. The driver and passenger's restraint systems were instrumented with four (4) seat belt load cells to measure lap and shoulder belt tension. The specified impact velocity range was 47.4 to 49.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and sixteen (16) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The test vehicle contained two (2) part 572E 5th percentile adult female 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. 273) and the right-front passenger ATD (serial No. 274) were calibrated just prior to conducting this frontal impact test. Injury criteria were not exceeded by either ATD during this forty percent 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 60.82 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) 5th percentile female ATDs, was 1416 kg.

The driver's Head Injury Criteria (HIC) was 163.6, the maximum chest deceleration over three (3) milliseconds was 29.1 g and the left and right femur loads were -2161.9 and -1899.9 Newtons, respectively. Chest deflection for the driver ATD was -25.3 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 0.0 (channel failed), the maximum chest deceleration over three (3) milliseconds was 33.7 g and the left and right femur loads were -1885.0 and -1189.0 Newtons respectively. Chest deflection for the passenger ATD was -18.0 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 179.6 mm for the driver ATD and 94.5 mm for the passenger ATD. Shoulder belt stretch was 62.0 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 888 mm at the left side of the vehicle. Both the driver side doors and 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 37.51-75. 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.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE Test Date: 8/11/98

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.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

VEHICLE REBOUND AND STATIC CRUSH; REBOUND ANGLE = 0°

Measurements in mm	Left	Center	Right
Pre-test Measurements	4367	4695	4367
Post-test Measurements	3807	4245	4643
Static Crush	-590	-450	+276

DOOR OPENING AND SEAT TRACK INFORMATION

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

DUMMY INFORMATION

	Driver	Passenger
Dummy Type/No.	5% Female Hybrid III (S/N 273)	5% Female Hybrid III (S/N 274)
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.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

TEST VEHICLE INFORMATION			
Manufacturer	FORD MOTOR COMPANY	VIN	1FAFP6538WK282970
Manufacturing Date	5/98	Delivery Date	6/8/98
Dealer	SUNLAND FORD	NHTSA NO.	MW0214
Odometer Reading	16.0 mi.	Fuel Type	UNLEADED
Engine Displacement	2.0 Liters	Cylinders	4
Transmission	AUTOMATIC	Final Drive	FRONT
Engine Placement	TRANSVERSE	Color	SILVER FROST
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	GOODYEAR
GVWR	1863 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	YES

VEHICLE CAPACITY DATA:

TYPE OF FRONT SEATS BUCKET SEATS

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

WEIGHT OF VEHICLE AS RECEIVED AT KARCO (with maximum fluids): 1270 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	402	221	623
Left	407	240	647
Total	809	461	1270
Percent of Total	63.7	36.3	100%

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

Total Delivered Weight 1270 kg
 RCLW 59 kg
 Weight of 2 P572 ATDs 95 kg
 TARGET TEST WEIGHT 1424 kg

TEST WEIGHT OF VEHICLE WITH 2 ATDs AND BALLAST

	FRONT	REAR	TOTAL
Right	424	286	710
Left	415	291	706
Total	839	577	1416
Percent of Total	59.2	40.8	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	694	690	670	675
As Tested	660	665	649	68

Vehicle Wheelbase: 2695 mm

FUEL SYSTEM DATA:

Fuel System Capacity From Owner's Manual = 54.88 liters

Usable Capacity Figure Furnished by COTR = 54.88 liters

Test Volume Range (92 to 94% of Usable Capacity) = 50.49 to 51.59 liters

ACTUAL TEST VOLUME = 51.10 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.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

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 = 60.84 km/h Trap No. 2 = 60.83 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)	4367	4695	4367
Post-test Measurements (mm)	3807	4245	4643
Static Crush (mm)	-560	-450	+276
Average			

VEHICLE REBOUND: (from rigid barrier with rotational movement)

Measurements in mm	Left Front	Right Front	Left Rear	Right Rear
Vehicle Rebound X axis	2900	1467	4640	3500
Vehicle Rebound Y axis	615	1575	2230	3470
Average X axis	3127			
Average Y axis	1975			

DATA SHEET NO. 4

TEST VEHICLE INFORMATION

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

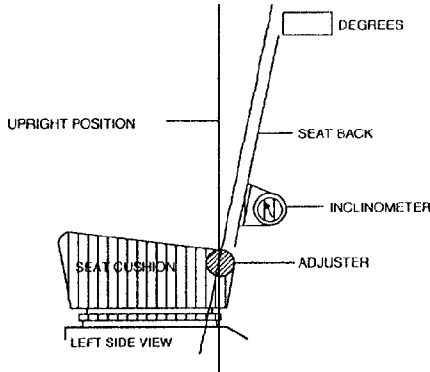
NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

1. NOMINAL DESIGN RIDING POSITION -

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



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 = 14.2°

FRONT SEAT ASSEMBLY

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

Seat back angle for passenger's seat = 13.2°

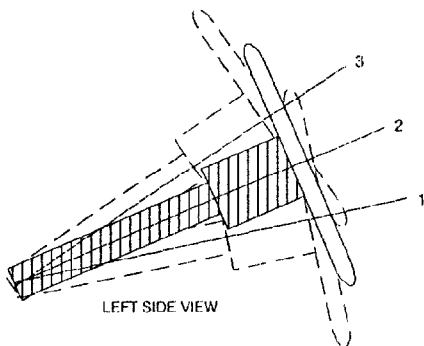
2. SEAT FORE & AFT POSITIONS:

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 1st detent from the front.

Positioning of the passenger's seat (if applicable): 15 seating positions, set to 1st 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 70°

Position No. 2 is at 67.5°

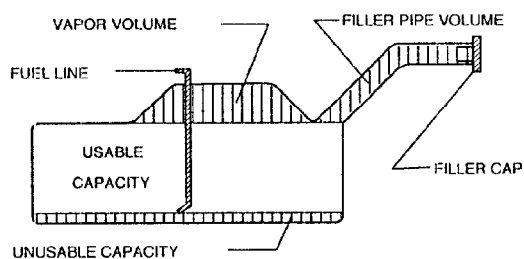
Position No. 3 is at 65°

4. SEAT BELT UPPER ANCHORAGE:

Highest position, per manufacturers specifications.

DATA SHEET NO. 4 (continued)

5. FUEL TANK CAPACITY DATA



VEHICLE FUEL TANK ASSEMBLY

5.1

A. "Usable Capacity" of standard equipment fuel tank = 54.88 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 37.51 = 50.49 to 51.59 liters.

Operational Instructions:

5.2 Amount of Stoddard solvent added to vehicle(s) used for certification test(s) = 51.02 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

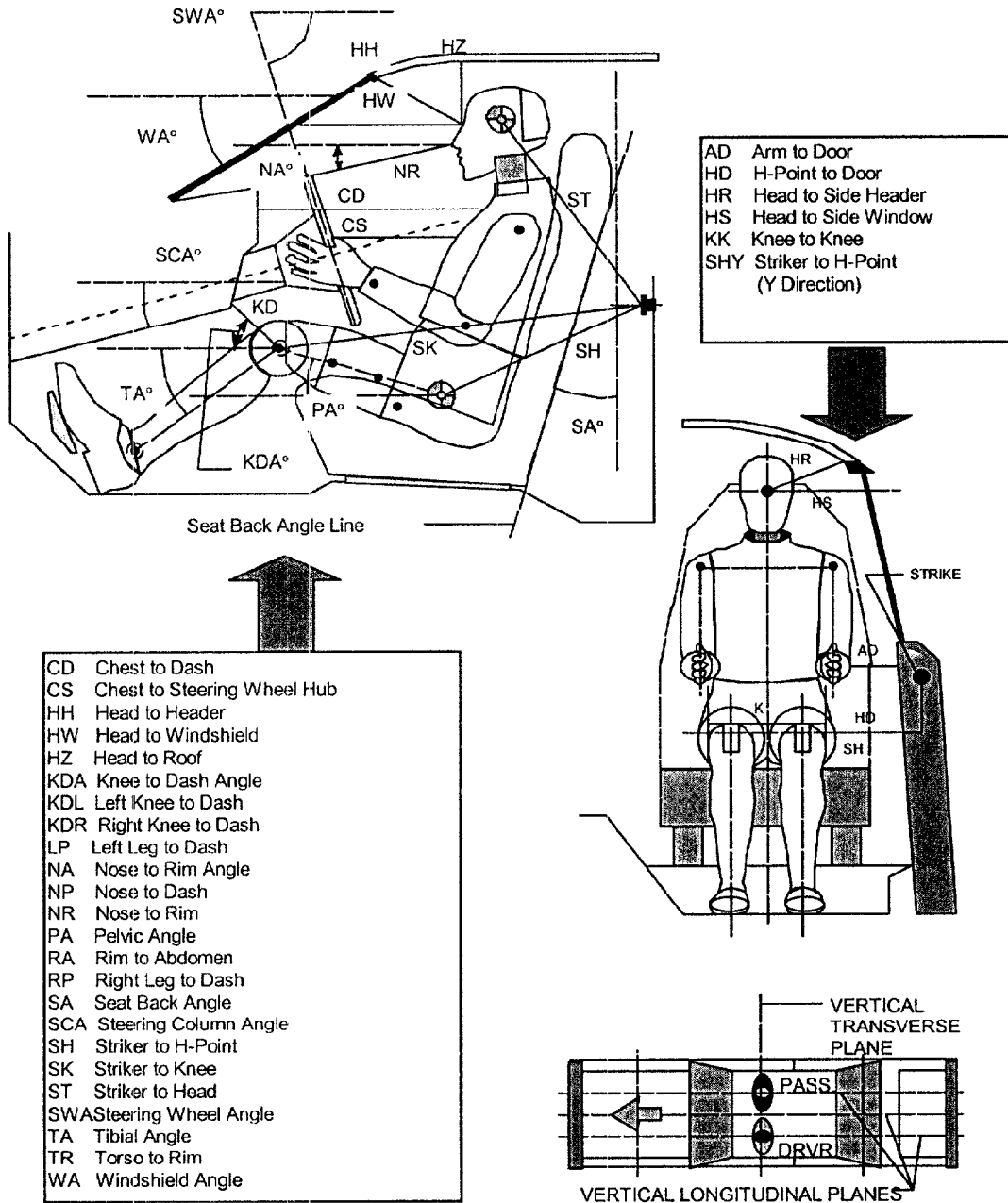
Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

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Test Date: 8/11/98

DUMMY MEASUREMENT FOR FRONT SEAT PASSENGERS



DATA SHEET NO. 5...(continued)

DUMMY POSITIONING IN VEHICLE

FRONT SEAT MEASUREMENT TABLE

	DRIVER (Serial No. <u>273</u>)		PASS. (Serial No. <u>274</u>)	
	DISTANCE (mm)	ANGLE (°)	DISTANCE (mm)	ANGLE (°)
WA°		27		
SWA°		67.5		
SCA°		69		
SA°		14.2		13.2
HZ	215	90	192	90
HH	270	0	245	0
HW	576	0	570	0
HR	264		210	
NR	265	8		
CD	460		376	
CS	171	0		
RA	93	0		
KDL	120	33	100	
KDR	110		104	38
PA°		20		20
TA°		41		40
KK	195		190	
ST	500	20	515	21
SH	340	0	350	0
SHY	250		242	
HS	385		310	
HD	170		155	
AD	110		60	

DATA SHEET NO. 6

SEAT BELT POSITIONING DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

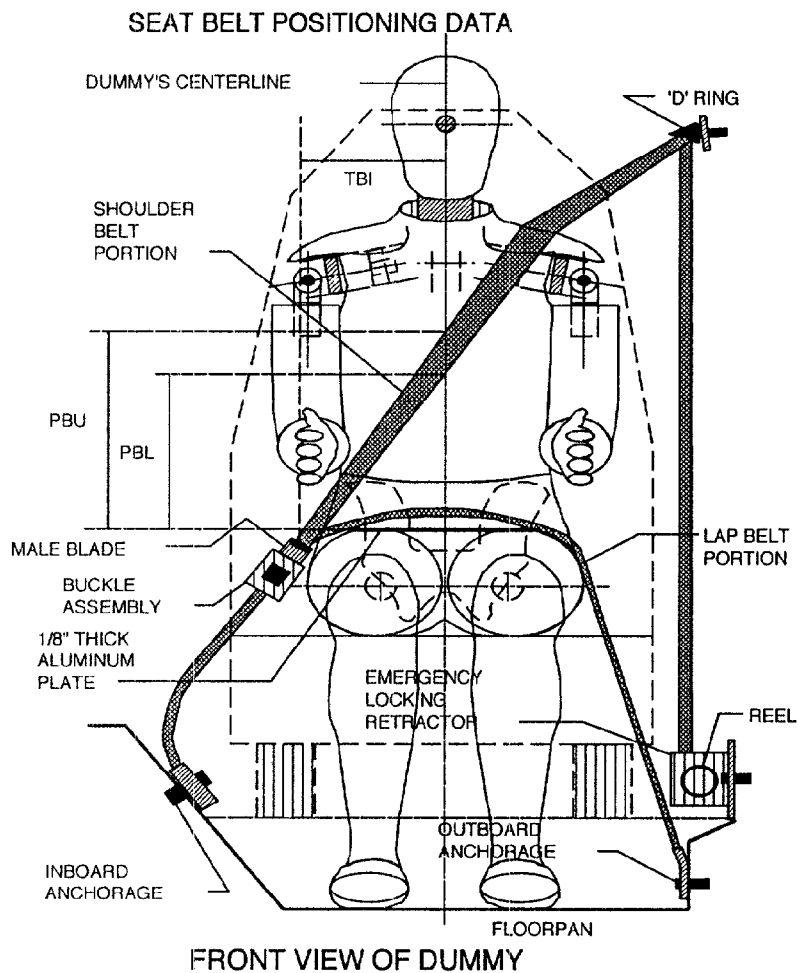
NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TCI - Dummy centerline to shoulder bolt	mm	170	170
PBU - Top surface of reference to belt upper edge	mm	260	250
PBL - Top surface of reference to belt lower edge	mm	190	180
Lap Belt tension	Newtons	10	10
Shoulder Belt tension	N/A	Retractor	Retractor



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

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN NHTSA No.: MW0214

TEST PROGRAM: 1998 37.5MPH OFFSET, 5TH FEMALE TEST DATE: 8/11/98

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	410	G's	2.8	200.6	-27.2	93.8
2	Left Sill Y	1620	-560	420	G's	9.8	103.7	-0.8	5.2
3	Center Tunnel X	1960	0	390	G's	3.5	194.5	-31.3	100.9
4	Center Tunnel Y	1900	0	390	G's	9.7	100.8	-2.9	125.8
5	Right Sill X	1575	630	410	G's	2.2	203.1	-24.9	91.9
6	Right Sill Y	1620	560	420	G's	8.1	45.3	-2.6	122.3
7	Trunk X	310	170	360	G's	3.7	187.0	-26.8	92.0
8	Trunk Y	310	185	360	G's	9.8	128.7	-1.8	204.2

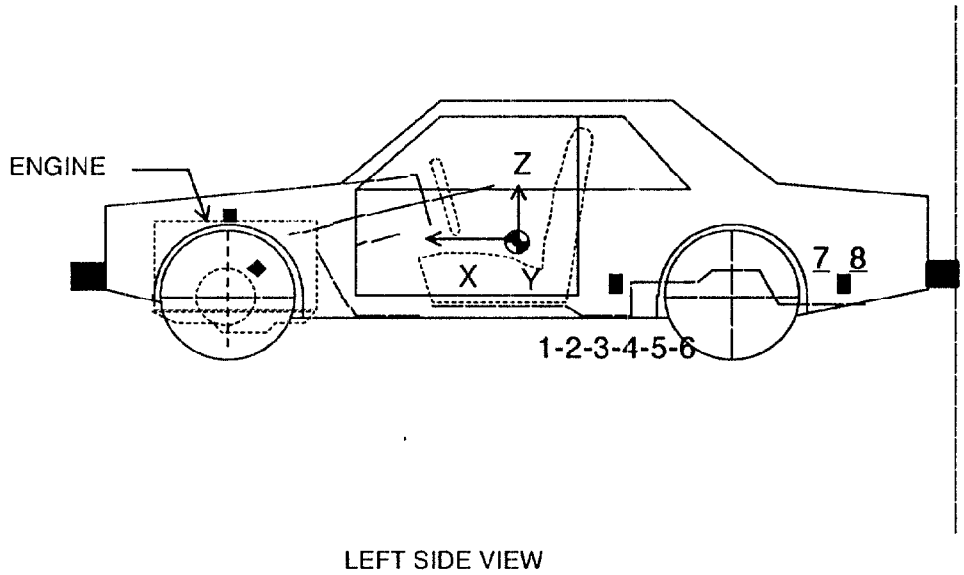
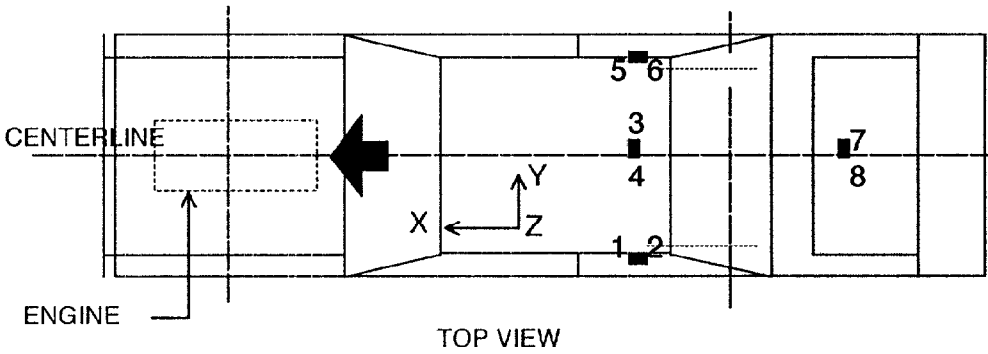
Reference Points

X - From Rear Surface of Vehicle

Y - Vehicle Centerline

Z - Ground Plane

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY



DATA SHEET NO. 8 - HYBRID III 5TH FEMALE ATD INJURY CRITERIA AND SENSOR DATA

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0214

TEST PROGRAM: 1998 37.5MPH OFFSET, 5TH FEMALE

TEST DATE: 8/11/98

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	5.7	154.7	-50.9	49.2	0.0	0.0	0.0	0.0
Head CG	Y	G's	13.0	183.7	-3.8	41.7	0.0	0.0	0.0	0.0
Head CG	Z	G's	8.3	163.0	-17.9	55.2	0.0	0.0	0.0	0.0
Head CG Resultant	N/A	G's	51.3	49.2			0.0	0.0		

* Passenger Side Failed

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.4	253.8	-30.0	60.9	1.1	17.2	-34.0	69.3
Chest CG	Y	G's	17.2	126.2	-3.3	213.7	12.6	105.6	-1.6	31.3
Chest CG	Z	G's	8.5	117.0	-11.1	150.4	5.0	68.4	-7.2	152.3
Chest CG Resultant	N/A	G's	30.0	60.9			34.9	69.2		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	85.4	237.4	-2161.9	80.5	149.6	46.7	-1885.0	103.9
Right Femur	Z	Newtons	150.4	41.5	-1899.9	85.9	325.6	39.1	-1189.0	68.0

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	1967.6	122.1	1.5	4.6	1353.3	67.6	5.8	0.0
Shoulder Belt Force	N/A	Newtons	1248.9	63.2	-7.8	5.3	3455.2	76.9	-4.6	299.9
Shoulder Belt Spoolout	N/A	MM	72.5	176.9	-0.1	84.5	89.5	94.5	-0.7	15.2
Shoulder Belt Stretch	N/A	MM/CM	0.037	62.0	-0.017	39.8	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	163.6	34.9	48.3	71.0	0.0	0.0	0.0	0.0

* Passenger Side Failed

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	29.1	60.1	63.1	33.7	68.9	71.9

DATA SHEET NO. 8...(continued)

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0214

TEST PROGRAM: 1998 37.5MPH OFFSET, 5TH FEMALE

TEST DATE: 8/11/98

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	1381.4	52.9	-132.0	154.0	162.3	186.4	-608.5	88.2
Neck Force	Y	Newtons	304.5	183.5	-105.0	46.5	201.0	83.4	-95.2	126.2
Neck Force	Z	Newtons	1497.4	50.9	-144.5	130.3	546.1	75.3	-327.6	51.4
Neck Moment	X	N•m	7.2	286.6	-26.4	188.3	11.1	110.5	-11.3	170.3
Neck Moment	Y	N•m	2.3	242.2	-96.4	53.1	52.0	88.8	-9.4	131.7
Neck Moment	Z	N•m	3.4	299.4	-8.2	147.7	10.3	80.5	-14.6	141.1

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	48.4	77.9	-63.1	69.2	8.8	136.3	-51.8	64.0
Left Foot Aft	Z	G's	42.0	76.8	-52.3	63.9	11.8	42.7	-16.5	71.1
Left Foot Fore	Z	G's	30.3	76.0	-74.3	67.5	22.7	43.8	-43.1	71.6
Right Foot Aft	X	G's	43.9	74.7	-121.1	60.6	5.3	174.0	-56.4	66.3
Right Foot Aft	Z	G's	23.5	61.4	-113.1	66.1	2.0	157.8	-18.6	62.6
Right Foot Fore	Z	G's	148.5	60.1	-234.5	66.2	9.5	53.6	-25.4	74.6

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Force	X	Newtons	110.8	34.7	-2215.0	94.4	165.6	61.7	-121.4	75.7
Left Upper Force	Z	Newtons	101.6	174.7	-3739.6	82.3	273.2	52.4	-778.7	67.2
Left Upper Moment	X	N•m	36.3	69.2	-25.7	53.2	46.9	91.6	-18.5	156.9
Left Upper Moment	Y	N•m	47.6	91.7	-54.9	68.5	13.7	149.2	-45.4	66.9
Left Lower Force	X	Newtons	77.2	229.1	-2369.9	94.8	124.9	185.4	-391.6	66.7
Left Lower Force	Z	Newtons	121.1	177.0	-3641.3	82.9	191.8	113.7	-997.9	67.4
Left Lower Moment	X	N•m	55.9	68.7	-36.3	84.5	13.1	92.6	-19.0	76.3
Left Lower Moment	Y	N•m	414.5	92.3	-13.5	39.8	5.5	197.0	-22.3	66.7
Right Upper Force	X	Newtons	176.6	43.8	-1512.5	85.1	189.2	58.9	-66.8	84.1
Right Upper Force	Z	Newtons	244.7	49.2	-2202.0	69.5	285.0	57.8	-508.9	68.4
Right Upper Moment	X	N•m	58.2	101.9	-78.2	70.8	16.1	86.5	-16.6	176.4
Right Upper Moment	Y	N•m	104.8	105.1	-40.8	60.6	19.9	176.4	-38.9	68.3
Right Lower Force	X	Newtons	748.4	108.0	-1364.7	69.8	100.0	167.1	-366.6	67.9
Right Lower Force	Z	Newtons	387.4	49.2	-2609.8	68.8	184.4	46.1	-799.0	68.4
Right Lower Moment	X	N•m	43.4	99.2	-109.2	68.9	6.3	121.7	-9.4	82.8
Right Lower Moment	Y	N•m	191.2	70.8	-19.9	43.6	8.6	184.1	-18.3	68.3

DATA SHEET NO. 8...(continued)TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDANNHTSA No.: MW0214TEST PROGRAM: 1998 37.5MPH OFFSET, 5TH FEMALETEST DATE: 8/11/98**CHEST PEAK DISPLACEMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.1	0.0	-25.3	62.5	0.2	4.3	-18.0	107.4

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	2.0	211.2	-31.8	61.8	1.9	226.4	-28.4	64.6
Pelvis	Y	G's	15.3	122.1	-4.2	51.2	11.5	91.3	-4.0	135.3
Pelvis	Z	G's	4.1	274.7	-11.8	139.5	3.1	203.3	-9.3	79.2

DATA SHEET NO. 9**SEAT BELT PERFORMANCE ASSESSMENT TEST DATA**Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDANNHTSA No.: MW0214Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALETest Date: 8/11/98**BELT LENGTH DATA**

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	440	440
Shoulder belt length as measured on ATD	mm	840	860
Lap belt length as measured on ATD	mm	540	570
Remainder of belt on reel	mm	860	870
Total belt length for continuous webbing systems	mm	2680	2740

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	62.0	90.0
As determined electronically	mm	176.9	94.5

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically from shoulder belt load cell and "D" ring	mm/cm	62.00	FAILED
Mechanically	mm/cm	0.00	0.20

DATA SHEET NO. 10

SUMMARY OF FMVSS 212 DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

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

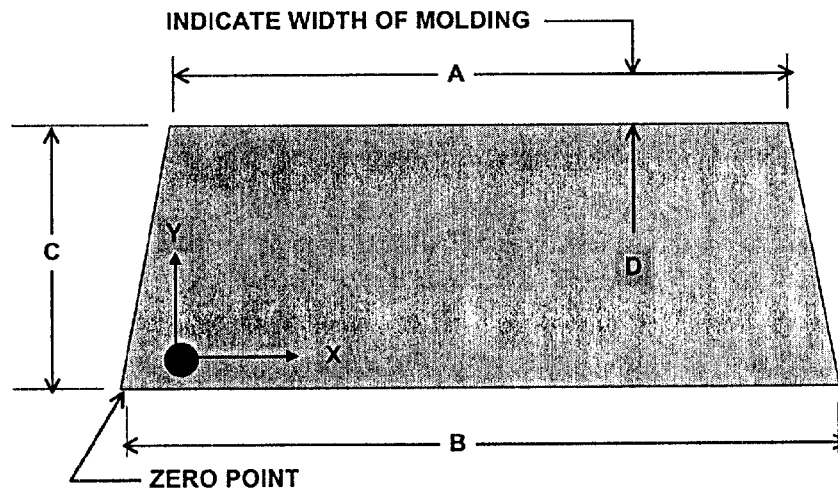
Windshield glass is secured to the vehicle frame with a rubber type adhesive, with rubber molding along the top and sides with rubber and plastic molding along the bottom.

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	2068	100%
Post-Test	mm	2068	2068	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

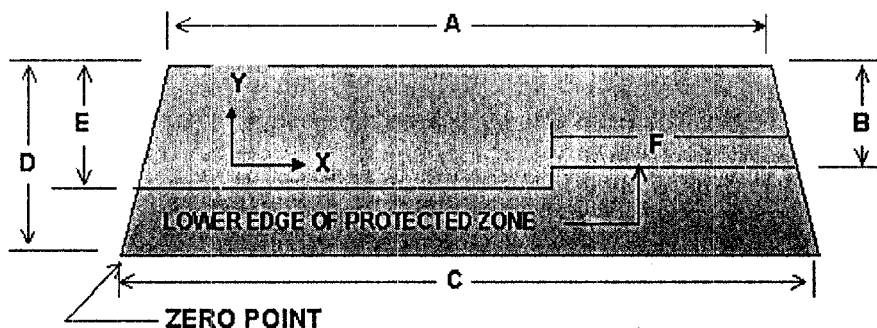
WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98



FRONT VIEW OF WINDSHIELD

Item	Units	Value
A	mm	1084
B	mm	388
C	mm	1452
D	mm	800
E	mm	515
F	mm	538

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.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

Test Time: 11:40 AM Temperature at Time of Impact: 35.0 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

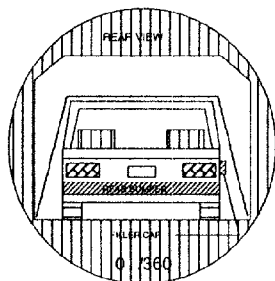
NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

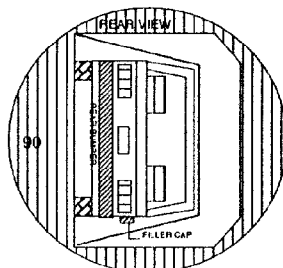
Test Date: 8/11/98

Time: 11:40 AM

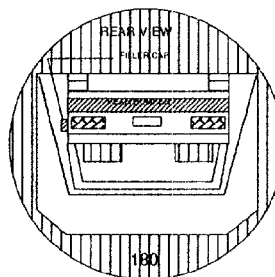
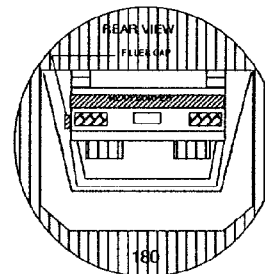
Temperature: 35.0 °C



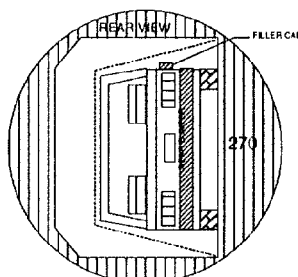
0° TO 90°



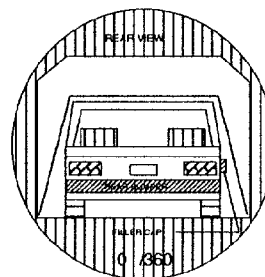
90° TO 180°



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

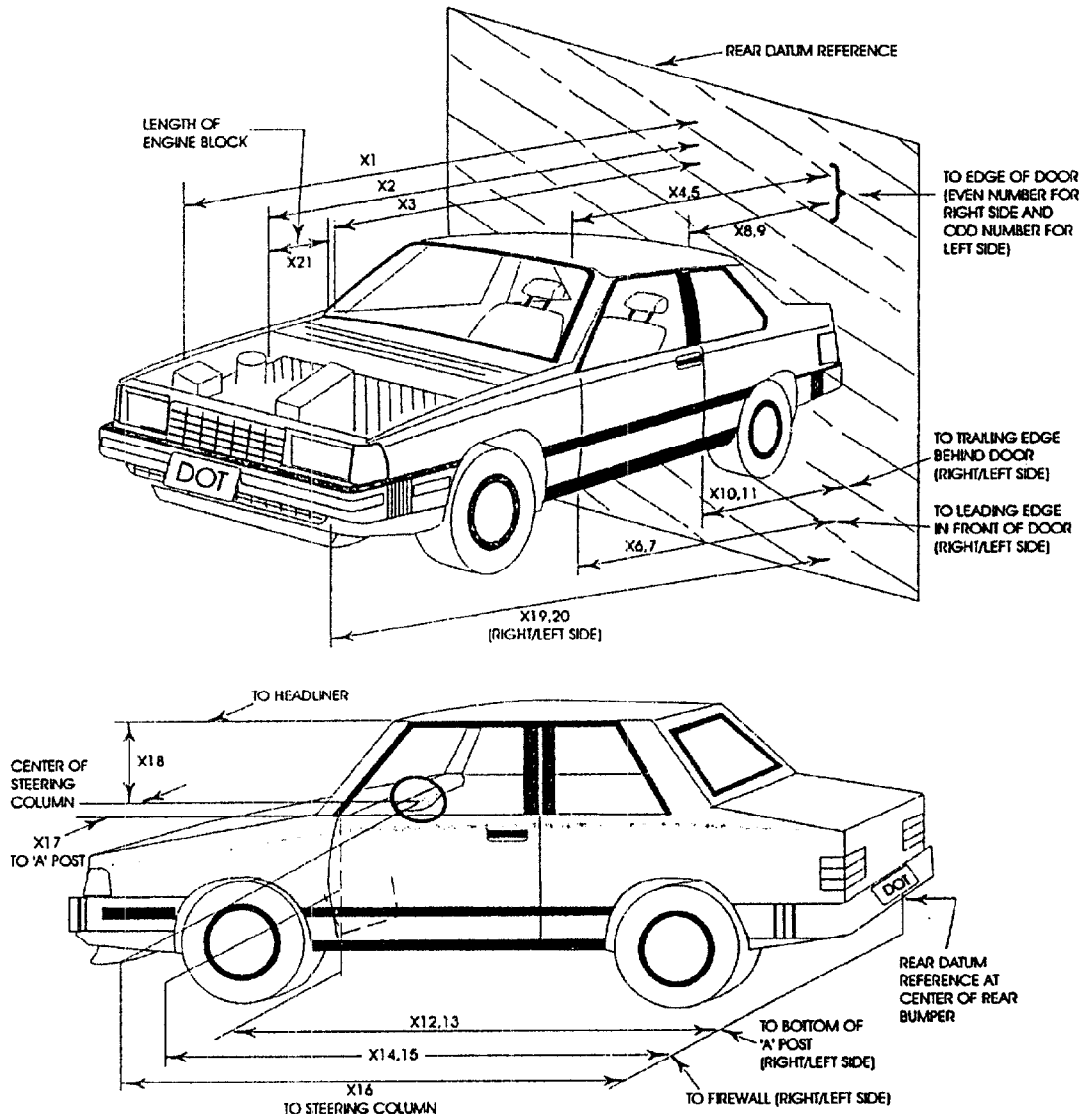
Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4695	4245	-450
2	RSOV to front of engine	mm	4108	3827	-281
3	RSOV to firewall centerline	mm	3517	3555	38
4	RSOV to leading edge of right door	mm	3233	3235	2
5	RSOV to leading edge of left door	mm	3225	3155	-70
6	RSOV to lower leading edge of right door	mm	3212	3214	2
7	RSOV to lower leading edge of left door	mm	3207	3142	-65
8	RSOV to upper trailing edge of right door	mm	2133	2136	3
9	RSOV to upper trailing edge of left door	mm	2127	2075	-52
10	RSOV to lower trailing edge of right door	mm	2121	2124	3
11	RSOV to lower trailing edge of left door	mm	2112	2104	-8
12	RSOV to bottom of right 'A' pillar	mm	3190	3196	6
13	RSOV to bottom of left 'A' pillar	mm	3195	3135	-60
14	RSOV to firewall on right side	mm	3476	3503	27
15	RSOV to firewall of left side	mm	3476	3305	-171
16	RSOV to steering column	mm	2685	2657	-28
17	Center of steering column to left 'A' pillar	mm	420	392	-28
18	Center of steering column to headlining	mm	469	431	-38
19	RSOV to right side of front bumper	mm	4367	4643	276
20	RSOV to left side of front bumper	mm	4367	3807	-560
21	Length of engine block	mm	230	230	0
22	RSOV to right side of dash panel	mm	2870	2861	-9
23	RSOV to center of dash panel	mm	2885	2805	-80
24	RSOV to left side of dash panel	mm	2865	2772	-93



DATA SHEET NO. 15

CAMERA LOCATIONS

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

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	1360
3	Left Side, No. 2	5817	7747	2210	7	7950	50	1260
4	Left Side, No. 3	3683	4039	2095	15	3581	13	1050
5	Left Side, No. 4	-1219	381	2667	40	N/A	19	1000
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	870
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	980
11	Right Side, No. 4	-1232	4267	1829	10	3607	50	980
12	Overhead Overall	1600	8153	2616	12	7747	5	980
13	Overhead, Close-up	1600	8153	3048	13	7772	35	*****
14	Front View, Driver	1600	8357	851	2	7849	13	1030
15	Front View, Passenger	-357	0	6096	86	N/A	13	*****
16	Onboard, Driver	11049	152	1118	4	1118	13	620
17	Onboard, Passenger	11049	127	1118	4	1143	13	510

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

***** Did not run.

DATA SHEET NO. 16

REFERENCE PHOTOGRAPH TARGETS

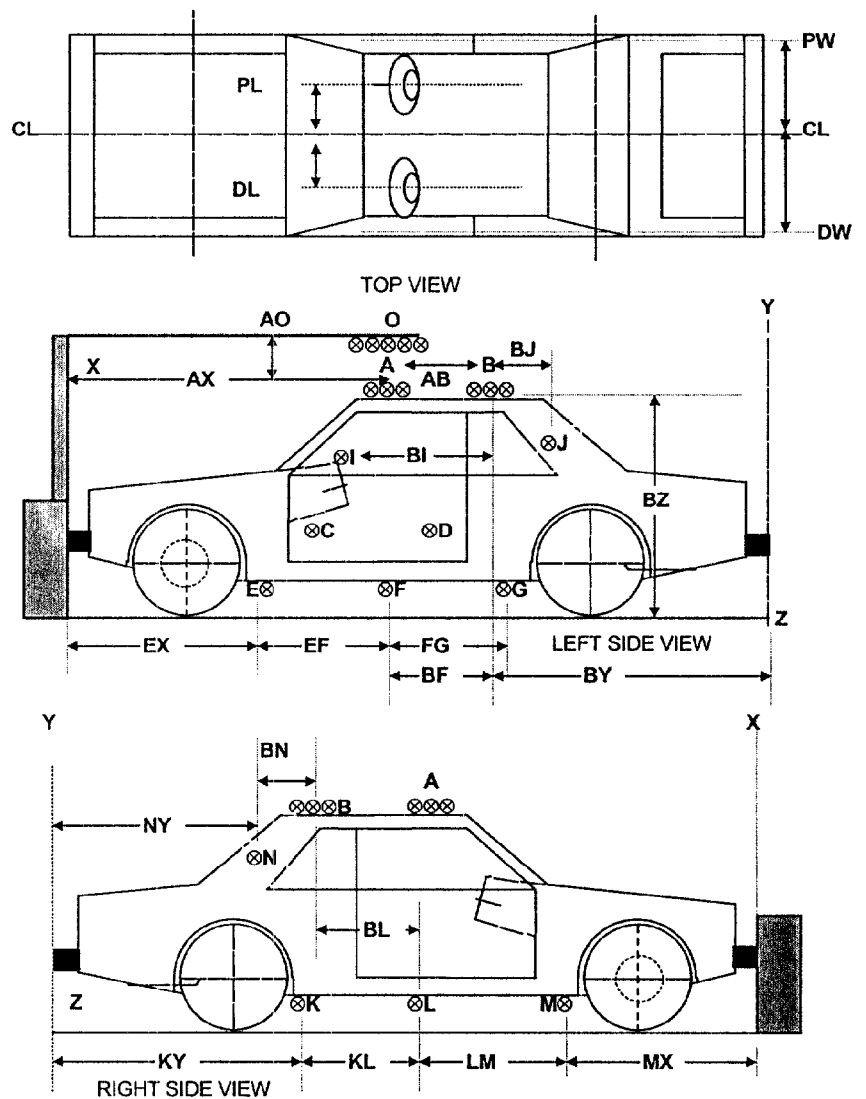
Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

Item	Value
AX	2390
AB	610
AO	152
BJ	464
BI	1195
BZ	1513
EX	1390
EF	915
FG	915
BF	695
BY	1688
NY	1290
BN	383
KY	1450
KL	914
BL	745
LM	914
MX	1390
CL/PL	345
CL/PW	763
CL/DL	355
CL/DW	763



DATA SHEET NO. 17

VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

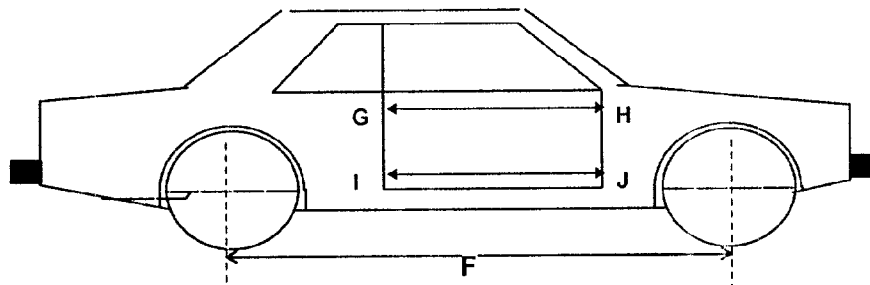
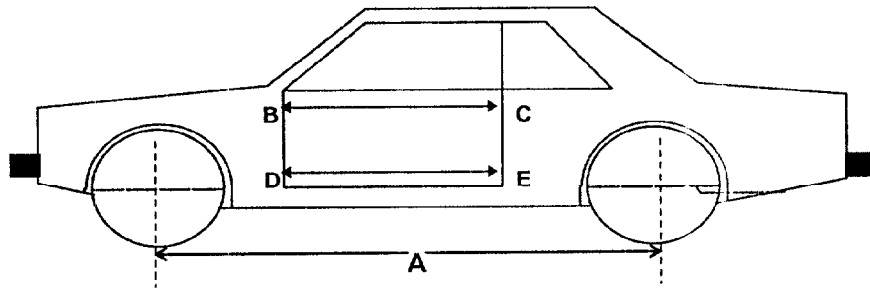
Test Date: 8/11/98

DOOR OPENING WIDTH

UNITS (mm)	LEFT SIDE		RIGHT SIDE	
MEASUREMENT	BC	DE	GH	IJ
PRE-TEST	1006	927	1010	930
POST-TEST	915	785	1014	923
DIFFERENCE	-91	-142	+4	-7

VEHICLE WHEELBASE CHANGE

UNITS (mm)	A = LEFT SIDE WHEELBASE	F = RIGHT SIDE WHEELBASE
PRE-TEST	2695	2695
POST-TEST	2357	2768
DIFFERENCE	-338	+73



Data Sheet No. 17(Continued)

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

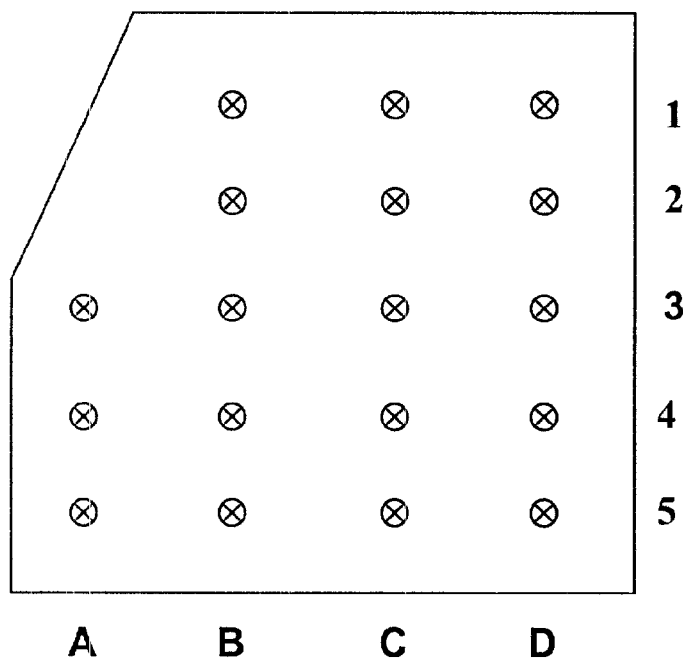
NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

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	770	463	770	488	770	486
2	N/A	N/A	670	445	670	460	670	417
3	570	406	570	427	570	412	570	505
4	470	347	470	361	420	356	470	402
5	370	265	370	270	370	256	365	311
REF. POINT	RSOV TO ANCHOR BOLT (PRE-TEST)		2665		RSOV TO ANCHOR BOLT (POST-TEST)		2600	



DRIVER SIDE FLOOR PLAN

(Data Sheet No. 17Continued)

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

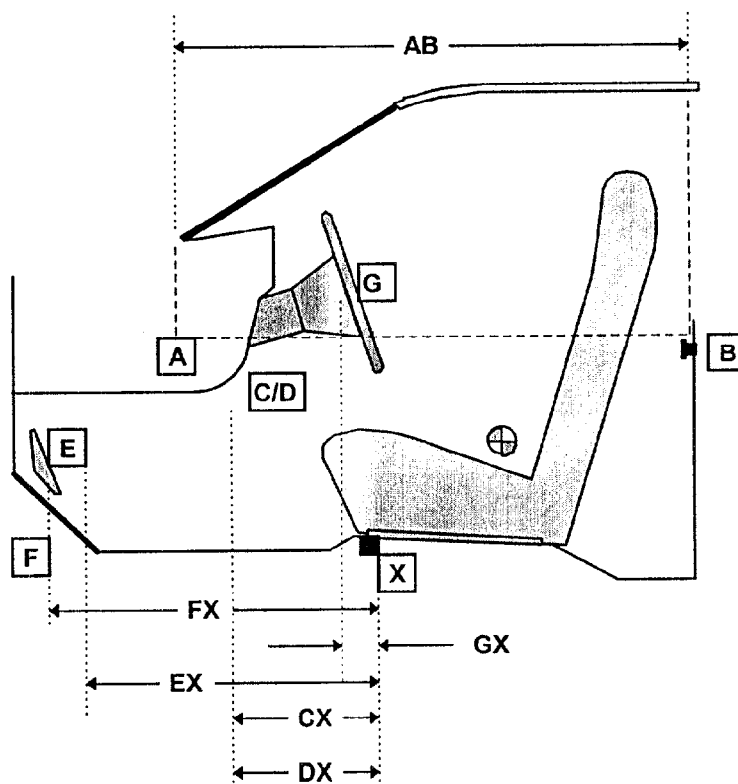
Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

DRIVER COMPARTMENT INTRUSION (Distances in mm)

REF.	DESCRIPTION	PRE-TEST	POST-TEST
AB	DOOR OPENING (INSIDE WINDOW JAM)	914	849
CX	LOWER LEFT KNEE BOLSTER TO X	295	188
DX	LOWER RIGHT KNEE BOLSTER TO X	315	197
EX	BRAKE PEDAL TO X	534	314
FX	FOOT REST TO X	640	464
GX	STEERING COLUMN HUB (CENTER) TO X	25	-50

X = LEFT FRONT SEAT ANCHOR BOLT



DRIVER COMPARTMENT

DATA SHEET NO. 18

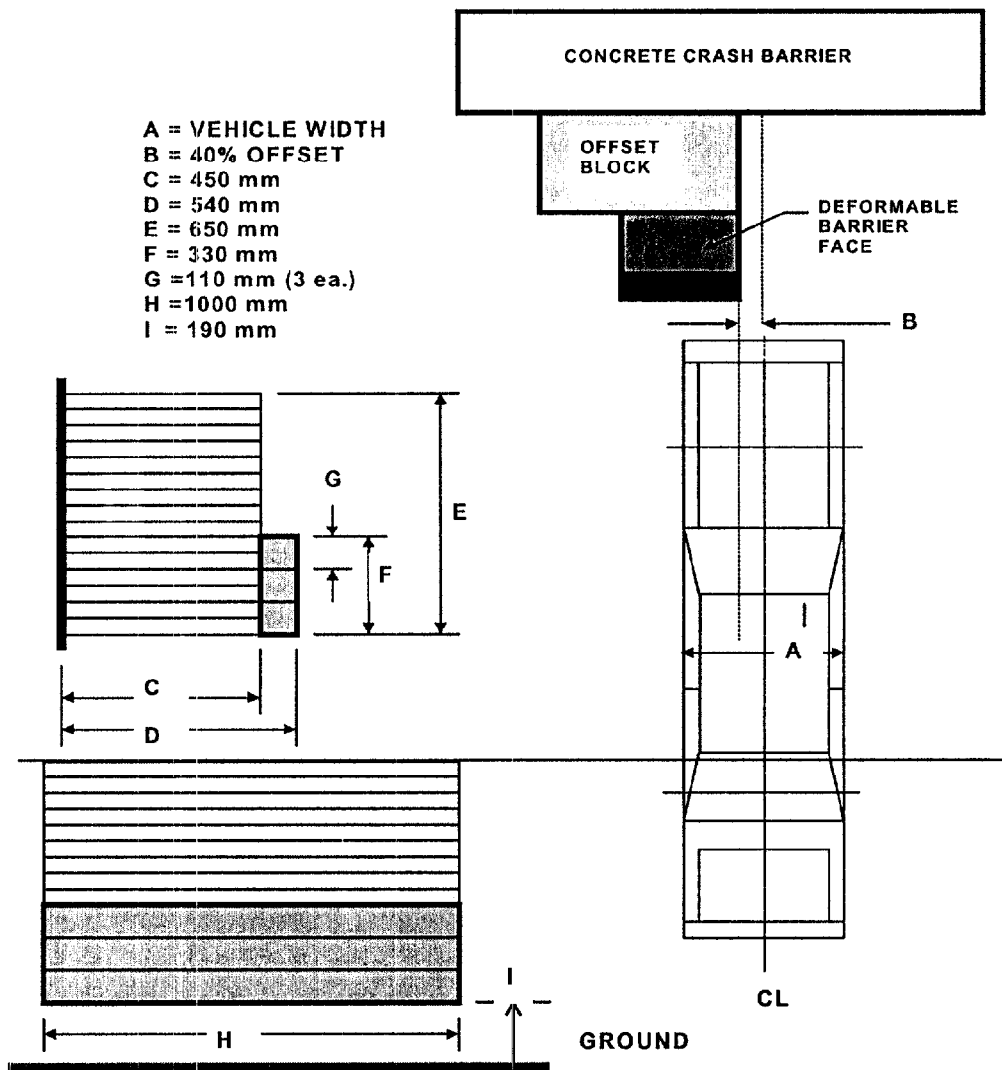
OFFSET BARRIER ORIENTATION

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98



A = VEHICLE WIDTH MEASURED AT WIDEST POINT 1587 mm
 B = 40% OFFSET FROM LEFT EDGE OF VEHICLE 635 mm
 ACTUAL OFFSET DURING TEST 633 mm = 39.88 %

DATA SHEET NO. 19

ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98

VIN: 1FAFP6538WK282970 Wheelbase: 2695 mm Test Weight: 1416 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

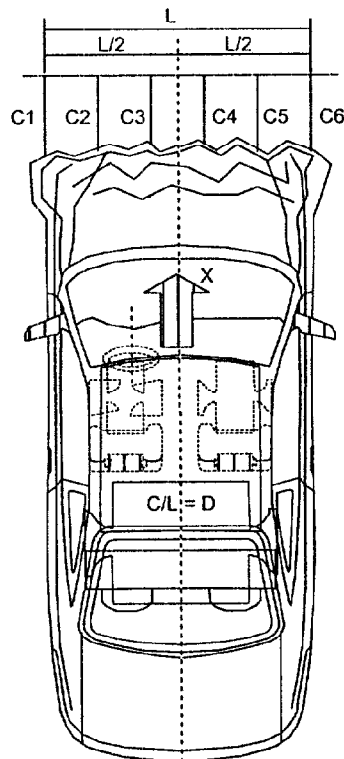
INTEGRATION ALGORITHM: NHTSA Standard

VEHICLE IMPACT SPEED: 60.82 km/h

TIME OF SEPARATION: 76.14 msec

VELOCITY CHANGE: 68.55 km/h

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



IMPACT MODE: Full Frontal Offset

CRUSH DEPTH DIMENSIONS:

C1 = 888 mm

C2 = 607 mm

C3 = 532 mm

C4 = 344 mm

C5 = 120 mm

C6 = 52 mm

MIDPOINT OF DAMAGE: Vehicle Centerline

LENGTH OF DAMAGE REGION: 1587 mm

DATA SHEET NO. 20

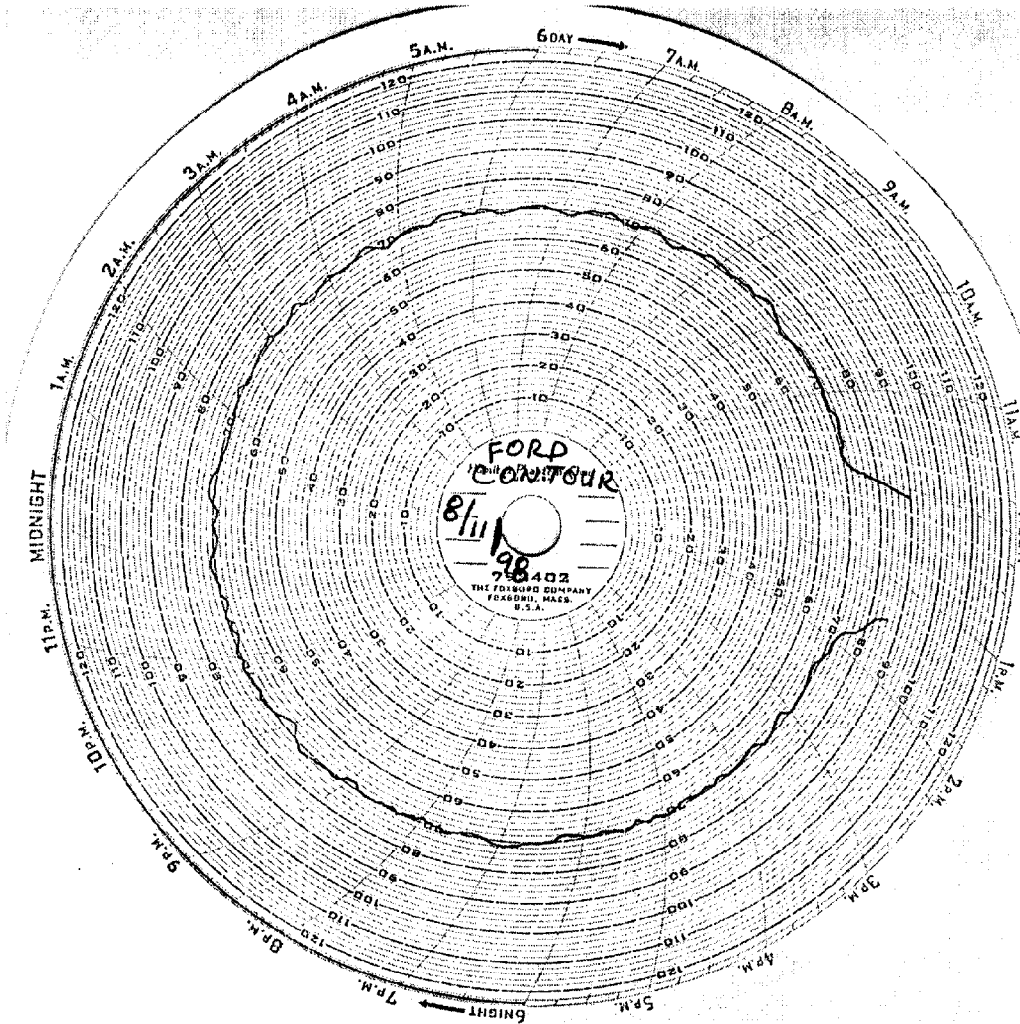
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 1998 FORD CONTOUR 4-DOOR SEDAN

NHTSA No.: MW0214

Test Program: 1998 37.5 MPH OFFSET W/5TH FEMALE

Test Date: 8/11/98



APPENDIX A
PHOTOGRAPHS

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FIGURE A-1. LEFT FRONT AS RECEIVED



FIGURE A-2. RIGHT REAR AS RECEIVED



FIGURE A-3. VEHICLE CERTIFICATION LABEL

CONTOUR/MYSTIQUE			RECOMMENDED TIRE SIZE AND INFLATION PRESSURE (COLD)		A
			RECOMMANDÉES DES PNEUS ET PRESSIONS (À FROID)		
TIRE SIZE DIMENSIONS DES PNEUS	LOAD RANGE CHARGE NOMINALE	PRESSURE		PRESSION	
		FRONT AVANT	REAR ARRIÈRE		
P185/70 R14 87T *	ALL	233kPa 34psi	253kPa 34psi		
P195/65 R14 88T *	ALL	233kPa 34psi	233kPa 34psi		
P205/60 R15 90T *	ALL	214kPa 31psi	233kPa 34psi		
T125/90 R15 96M TEMPORAL SPARE PNEU DE SECOURS PROVISIONNEL	ALL	413kPa 60psi	413kPa 60psi		
* MUST BE REPLACED WITH AN EQUIVALENT TIRE SPEED THE * DOIT ÊTRE REMPLACÉ PAR UNE PNEU ÉQUIVALENT VITESSE LE MÊME					
TOTAL LOAD = OCCUPANTS PLUS LUGGAGE		CHARGE TOTALE = OCCUPANTS PLUS BAGAGES			
TOTAL OCCUPANTS		DISTRIBUTION			
MAXIMUM LOAD		REAR ARRIÈRE			
CHARGE MAXIMALE		LUGGAGE BAGGAGES			
400 kg / 880 lb	5	2	3	60kg / 130 lb	
FOR OUTBOARD MOTOR SPEED, TAILER TOWING, RECREATIONAL ACCESSORIES OR TEMPORAL SPARE INFORMATION, SEE OWNER GUIDE. POUR VITESSE MOTEUR HUBLOT, TIRER TRAILER, ACCESSOIRES RECREATIFS OU INFORMATION PNEU DE SECOURS PROVISIONNEL, VOIR LE MANUEL D'UTILISATION. ACCESOIRES DE PLACEMENT, CONSULTER LE GUIDE D'UTILISATION.					

FIGURE A-4. VEHICLE TIRE PLACARD

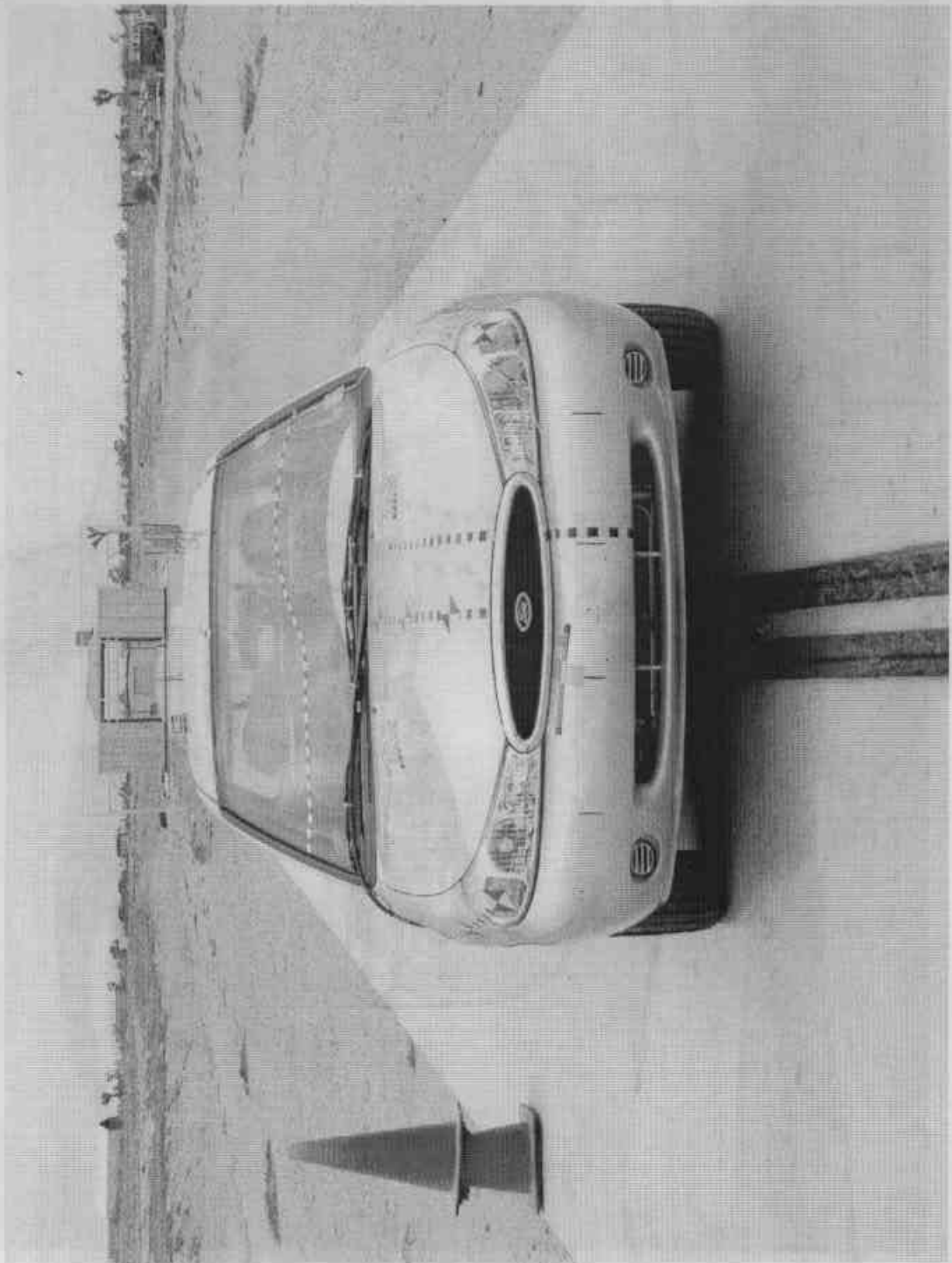


FIGURE A-5. PRE-TEST FRONT VIEW

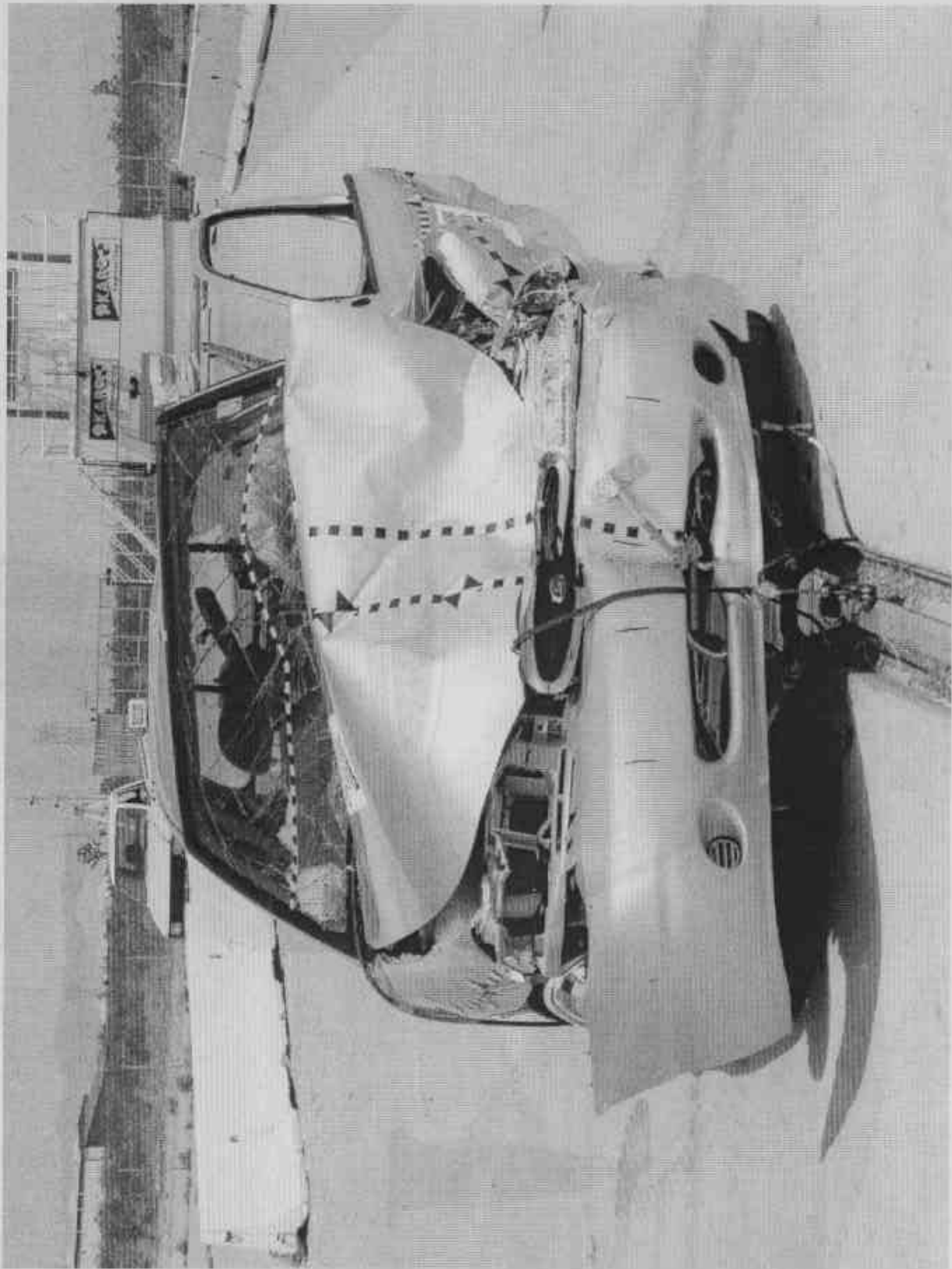


FIGURE A-6. POST-TEST FRONT VIEW

A-6

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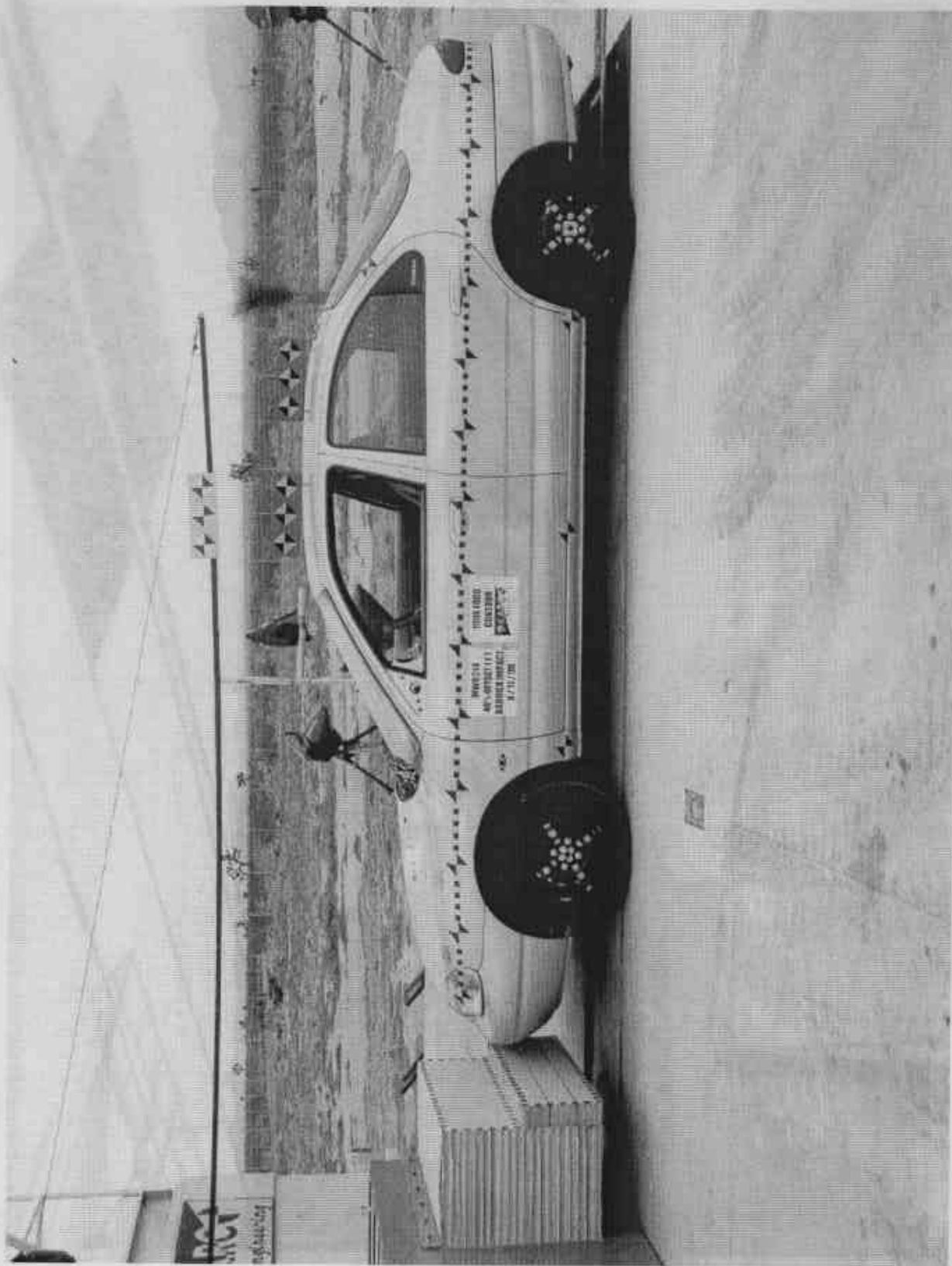


FIGURE A-7. PRE-TEST LEFT SIDE VIEW

A-7

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FIGURE A-8. POST-TEST LEFT SIDE VIEW

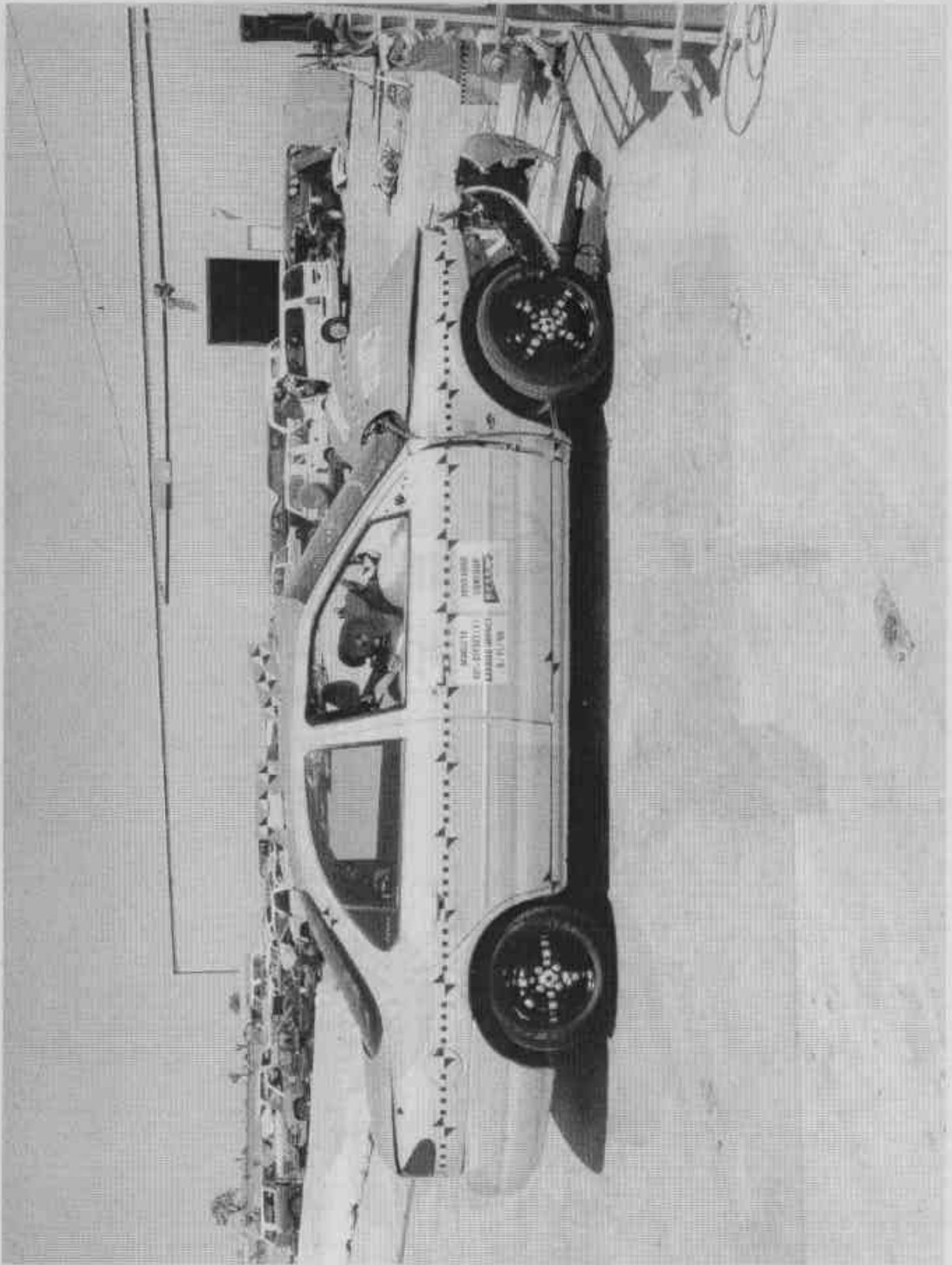


FIGURE A-10. POST-TEST RIGHT SIDE VIEW

A-10

KAR98002-06

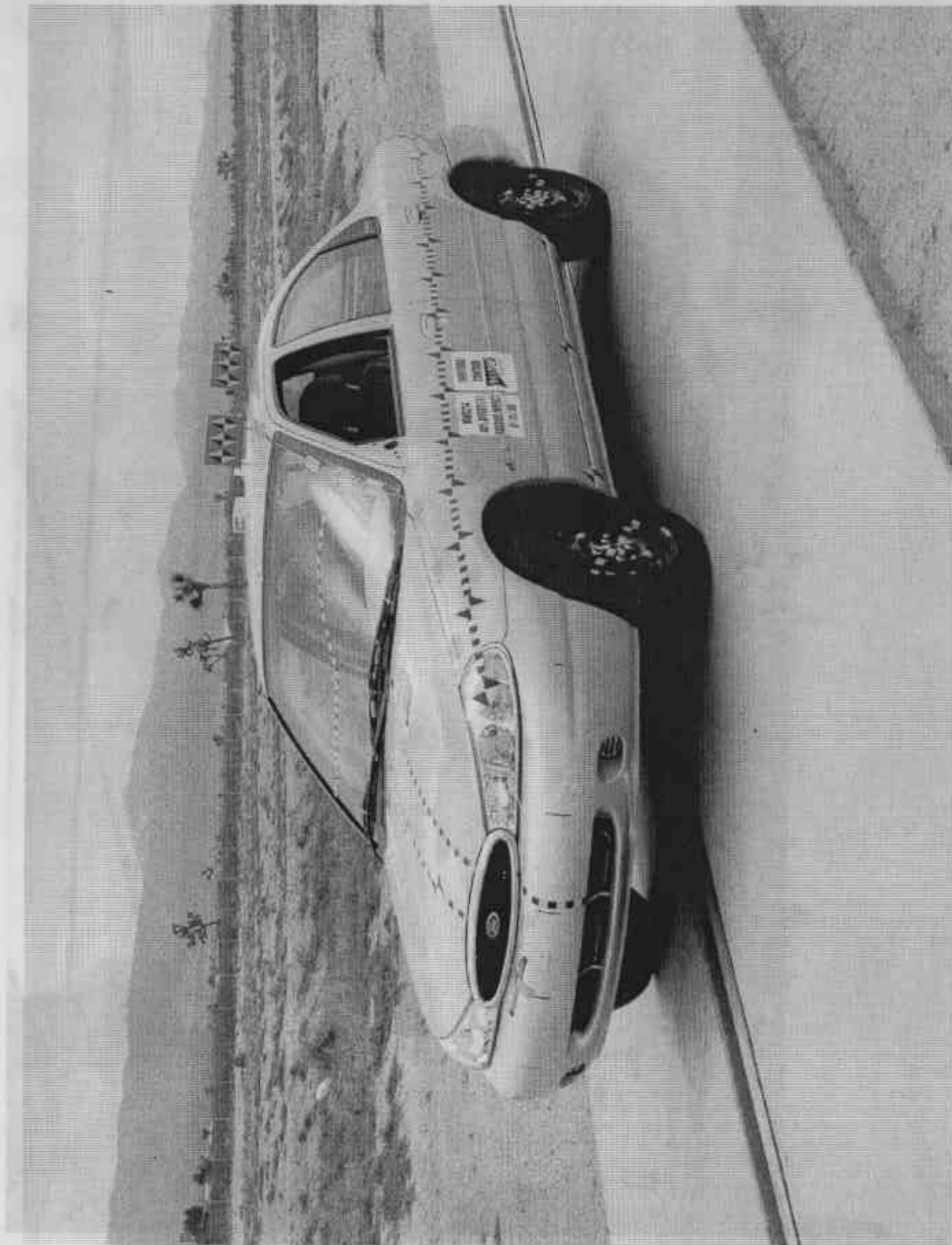


FIGURE A-11. PRE-TEST LEFT FRONT VIEW

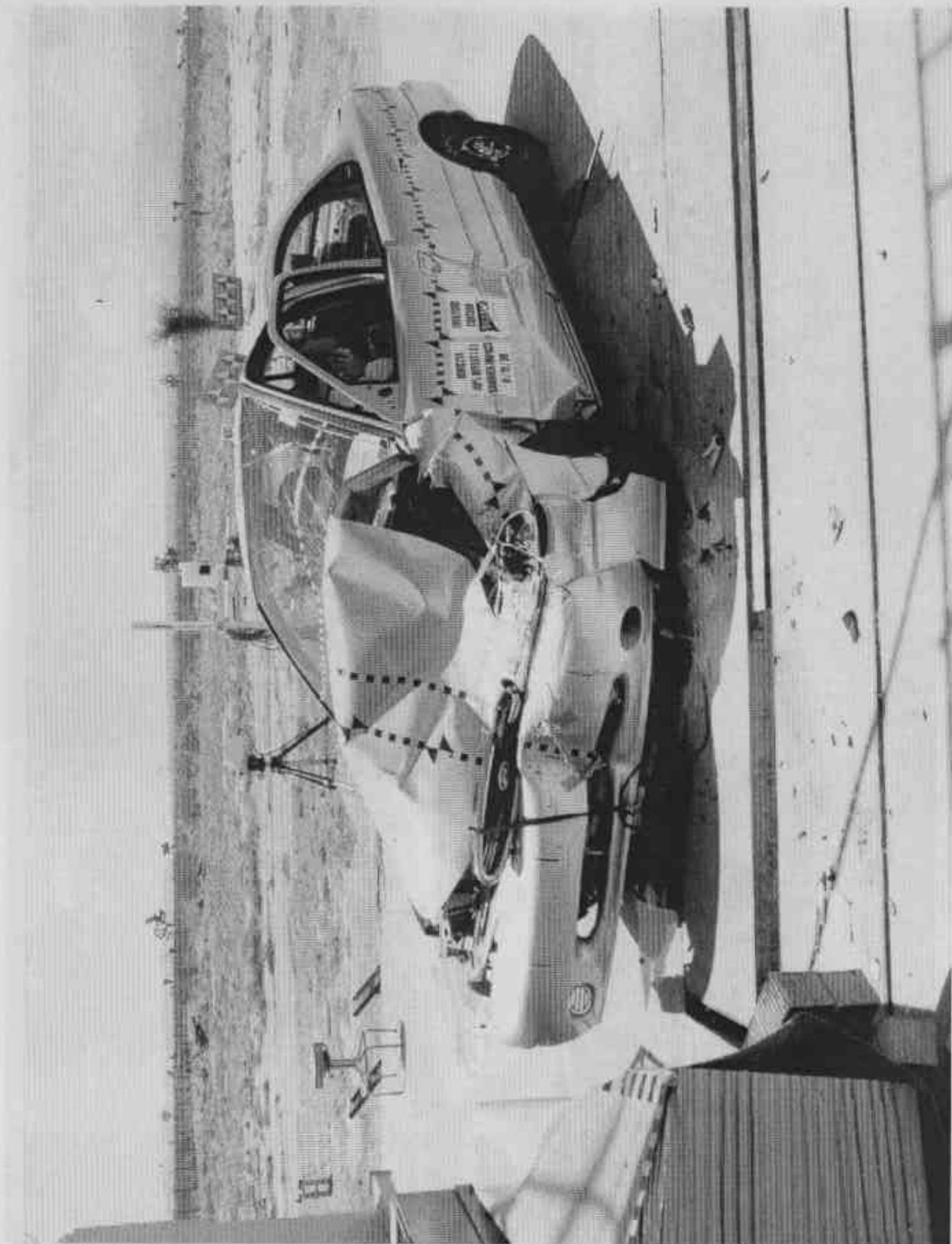


FIGURE A-12. POST-TEST LEFT FRONT VIEW



FIGURE A-13. PRE-TEST RIGHT REAR VIEW

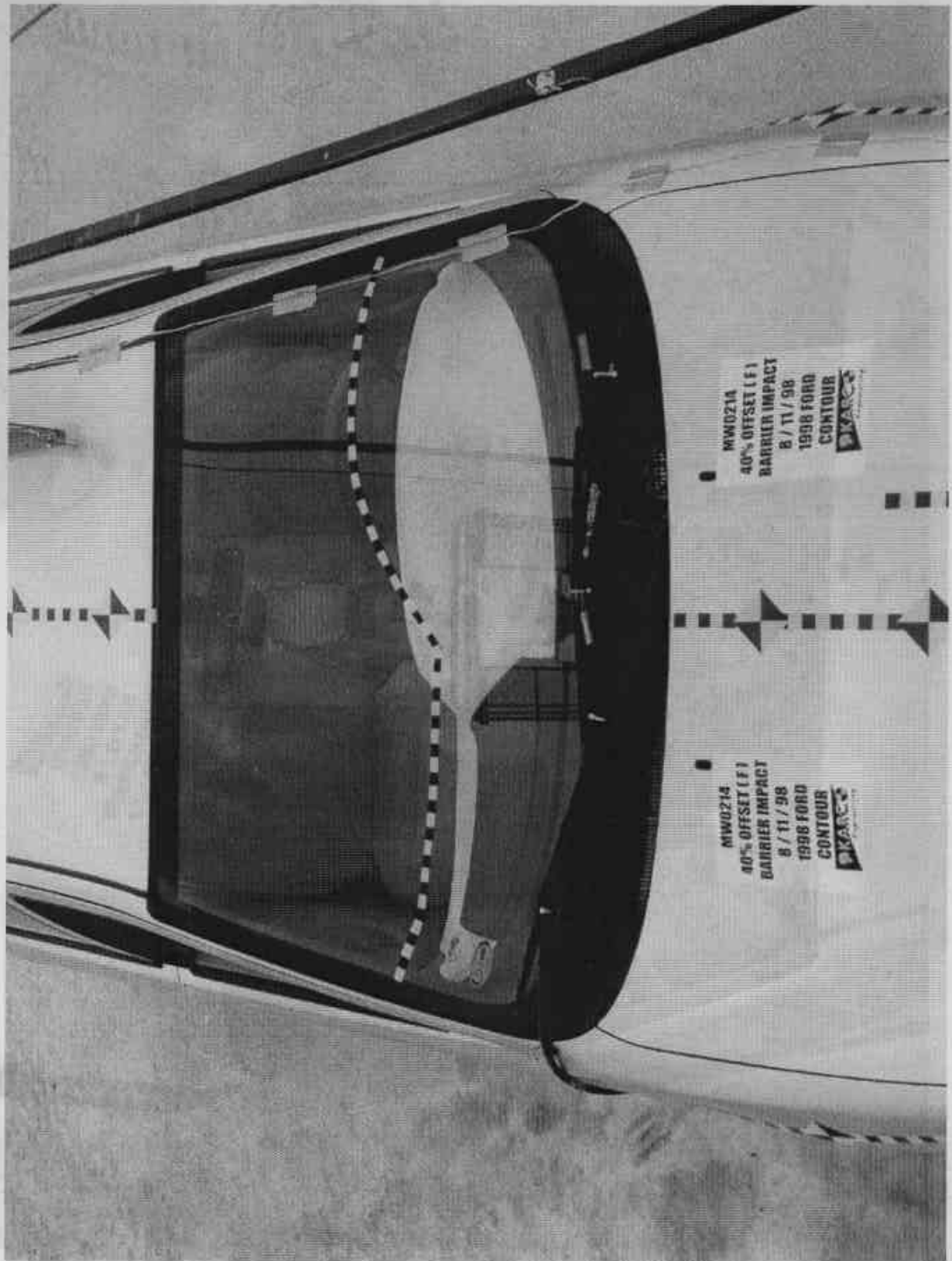


FIGURE A-15. PRE-TEST WINDSHIELD



FIGURE A-16. POST-TEST WINDSHIELD

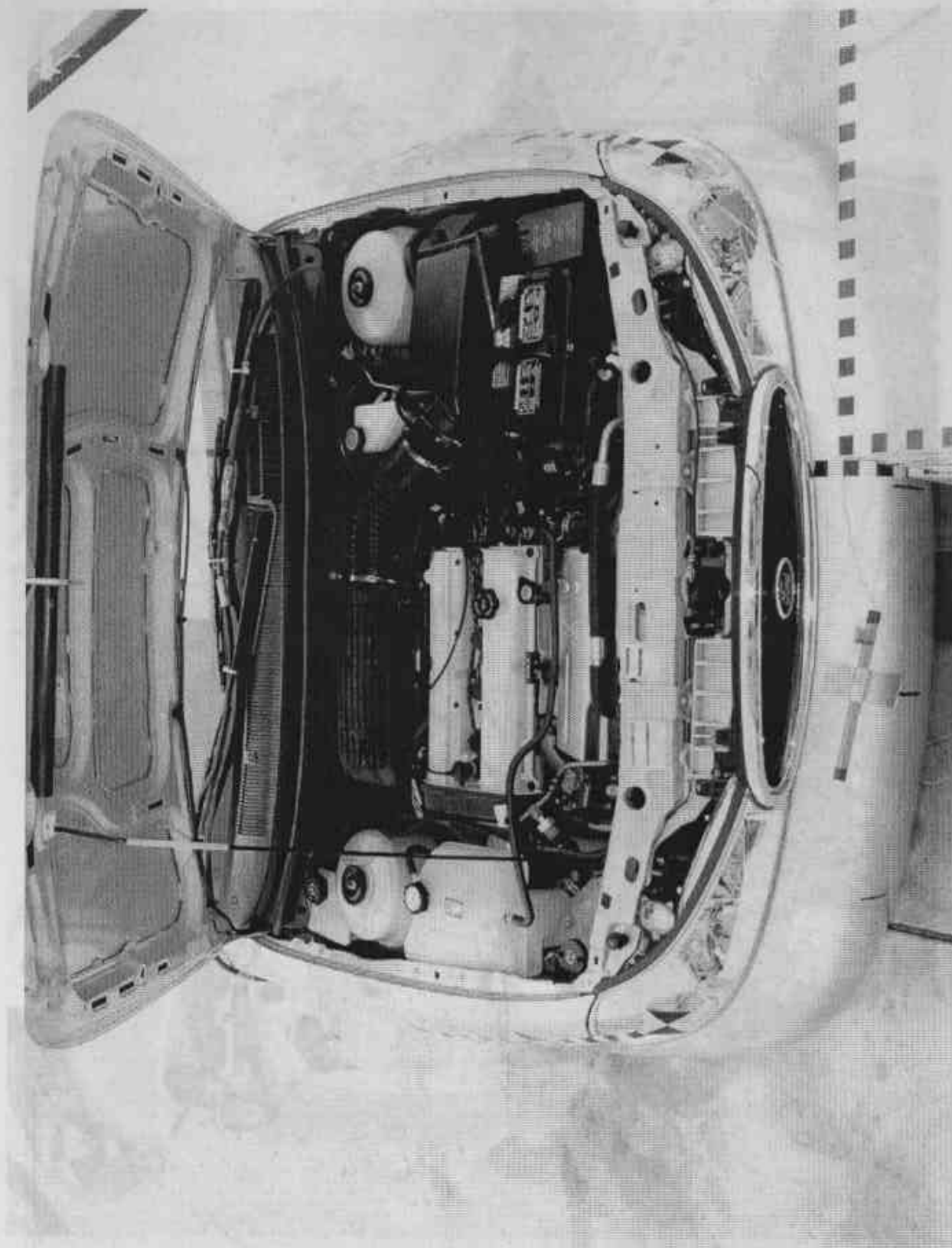


FIGURE A-17. PRE-TEST ENGINE COMPARTMENT

A-17

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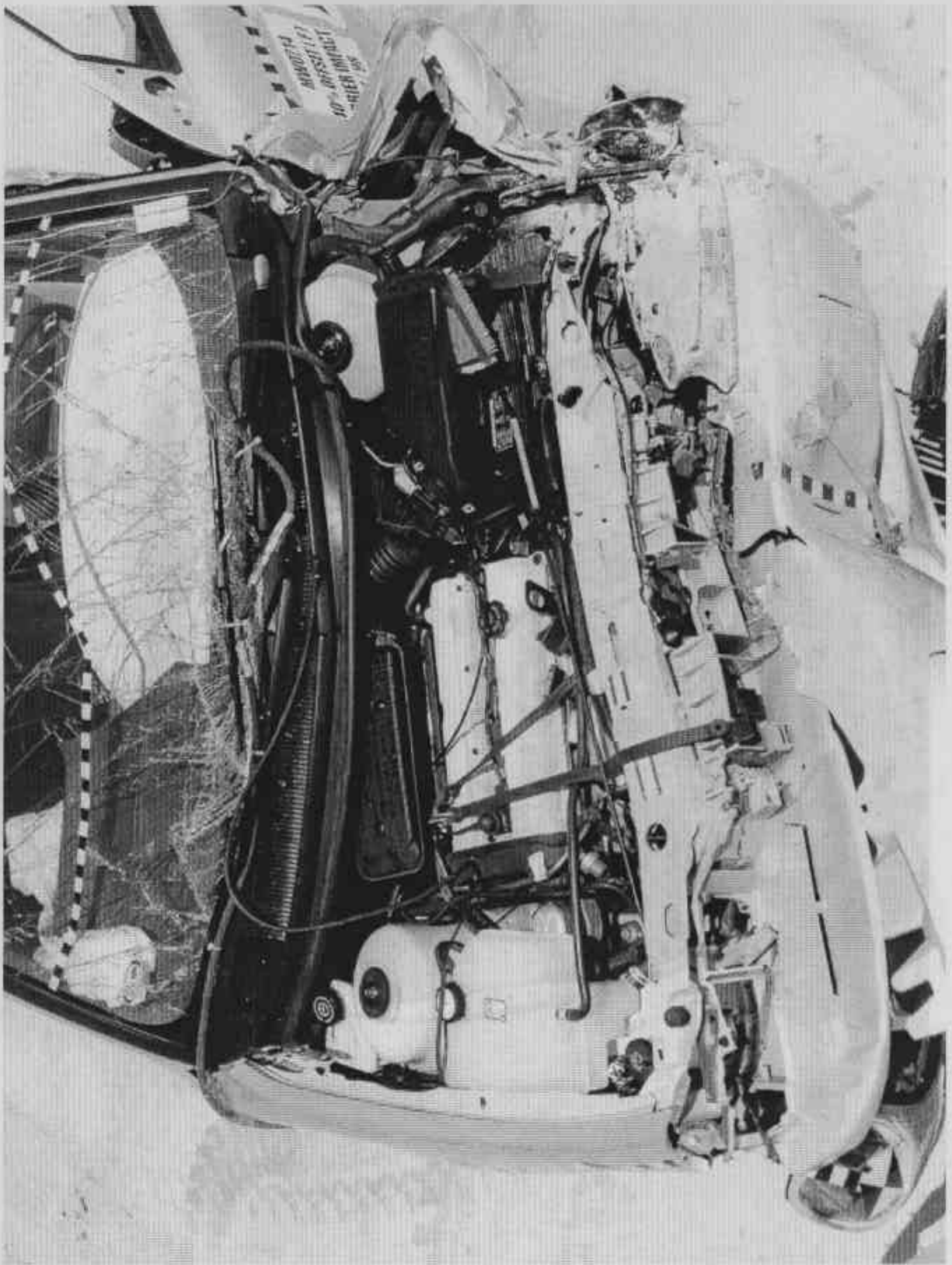


FIGURE A-18. POST-TEST ENGINE COMPARTMENT

A-18

KAR98002-06

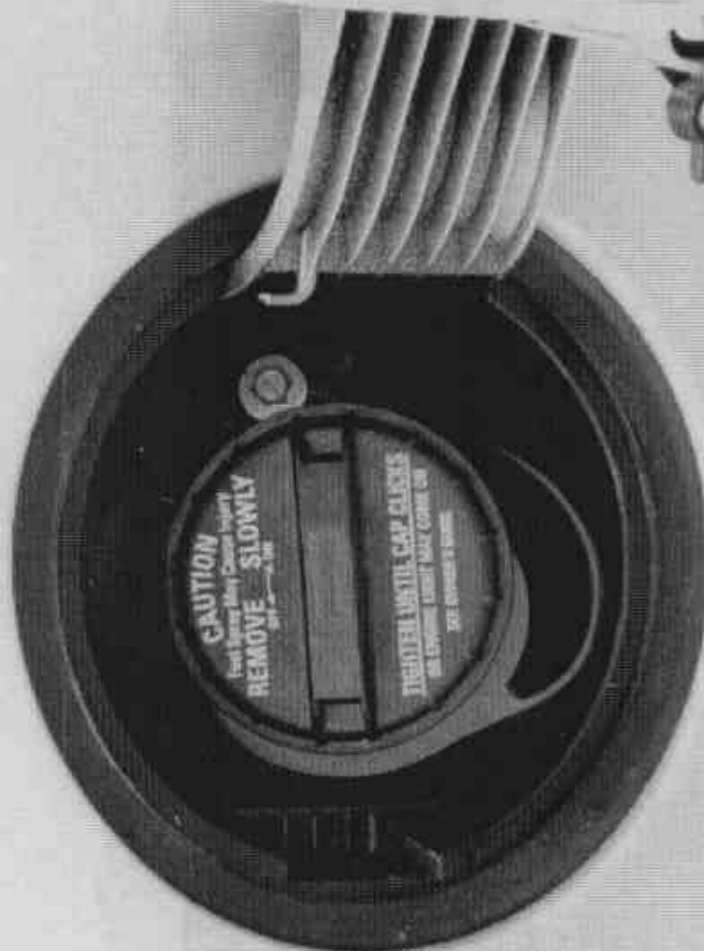


FIGURE A-19. PRE-TEST FUEL CAP

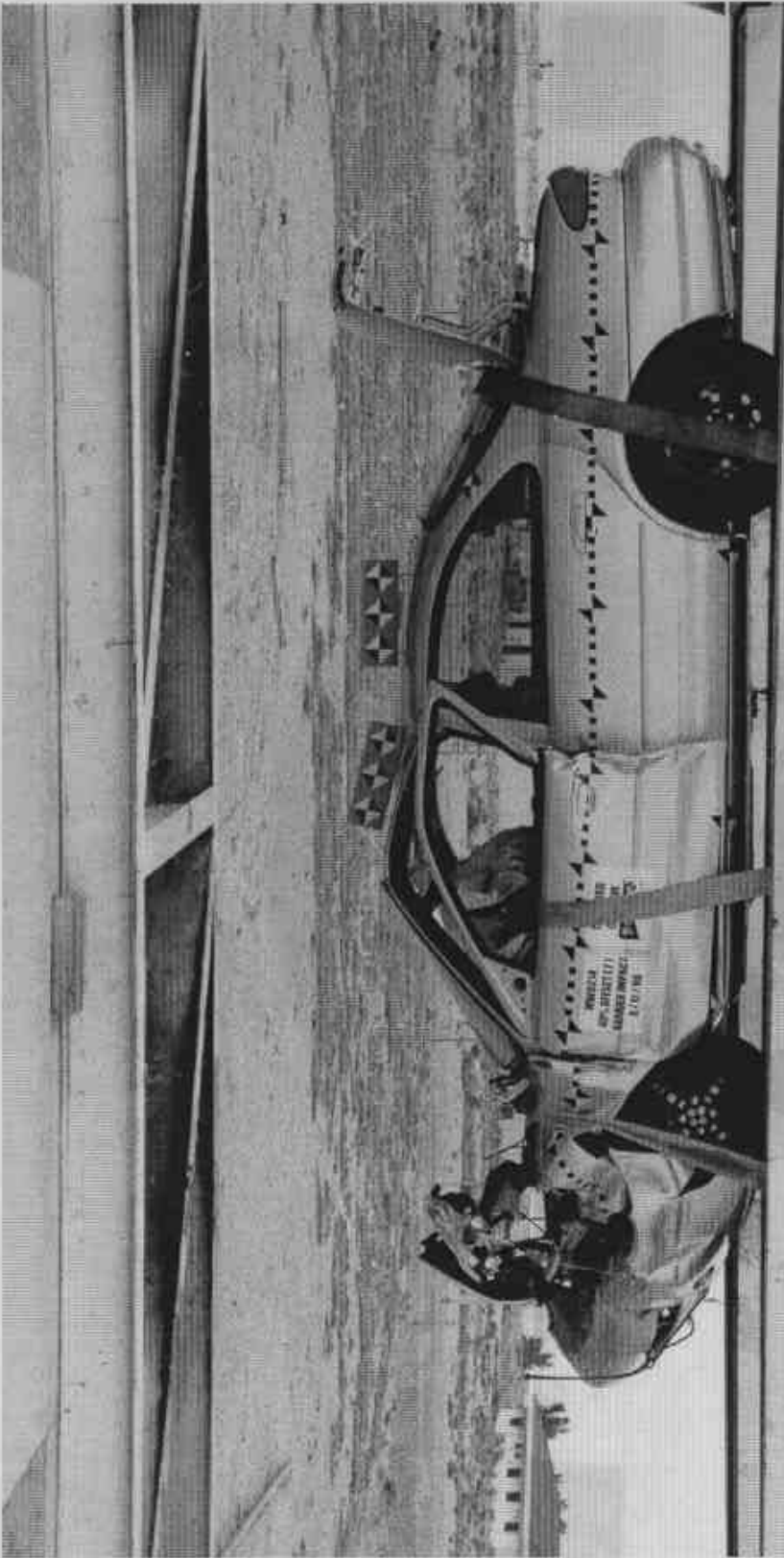


FIGURE A-20. VEHICLE ON ROLLOVER

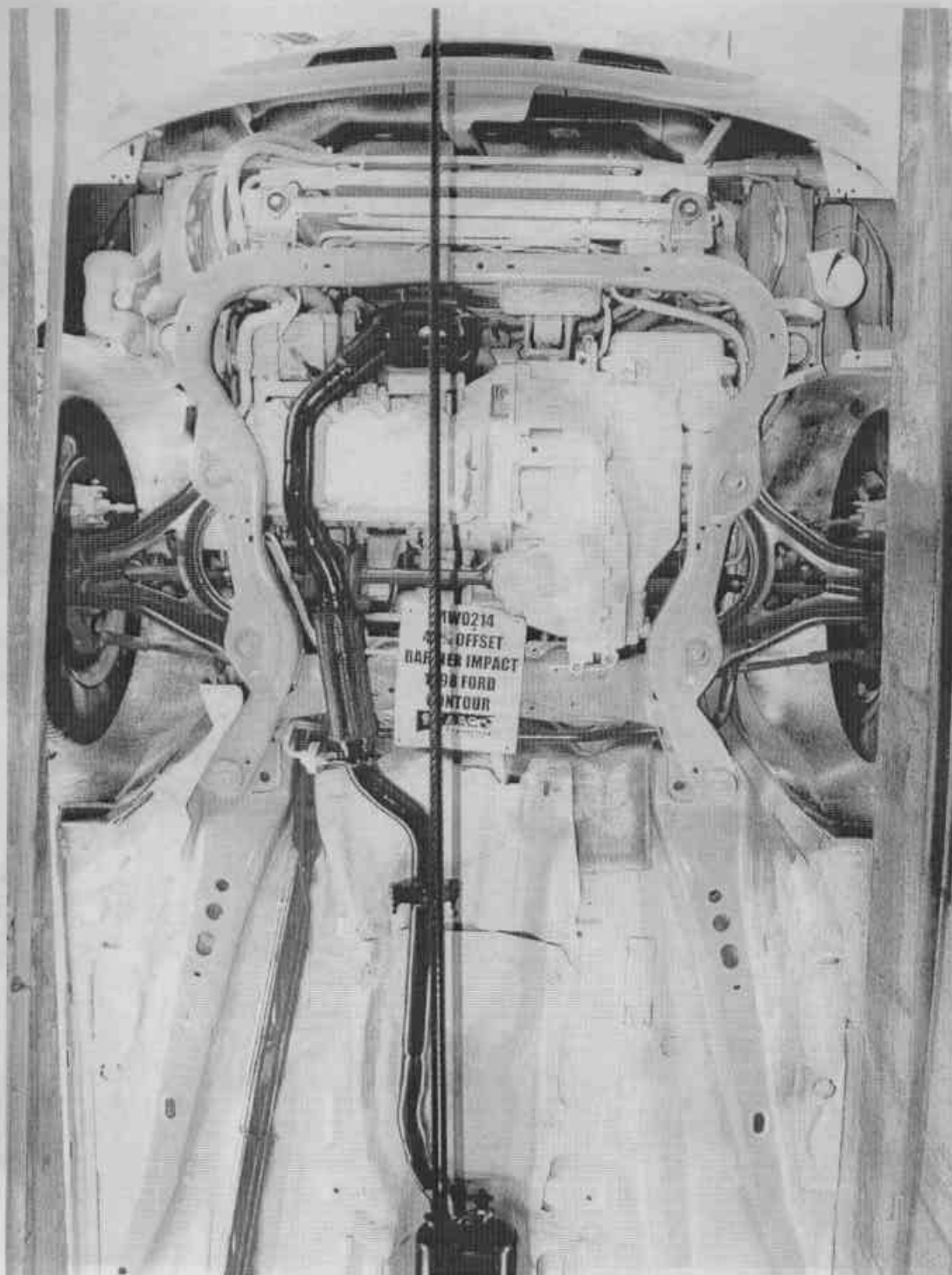


FIGURE A-21. PRE-TEST FRONT UNDERSIDE

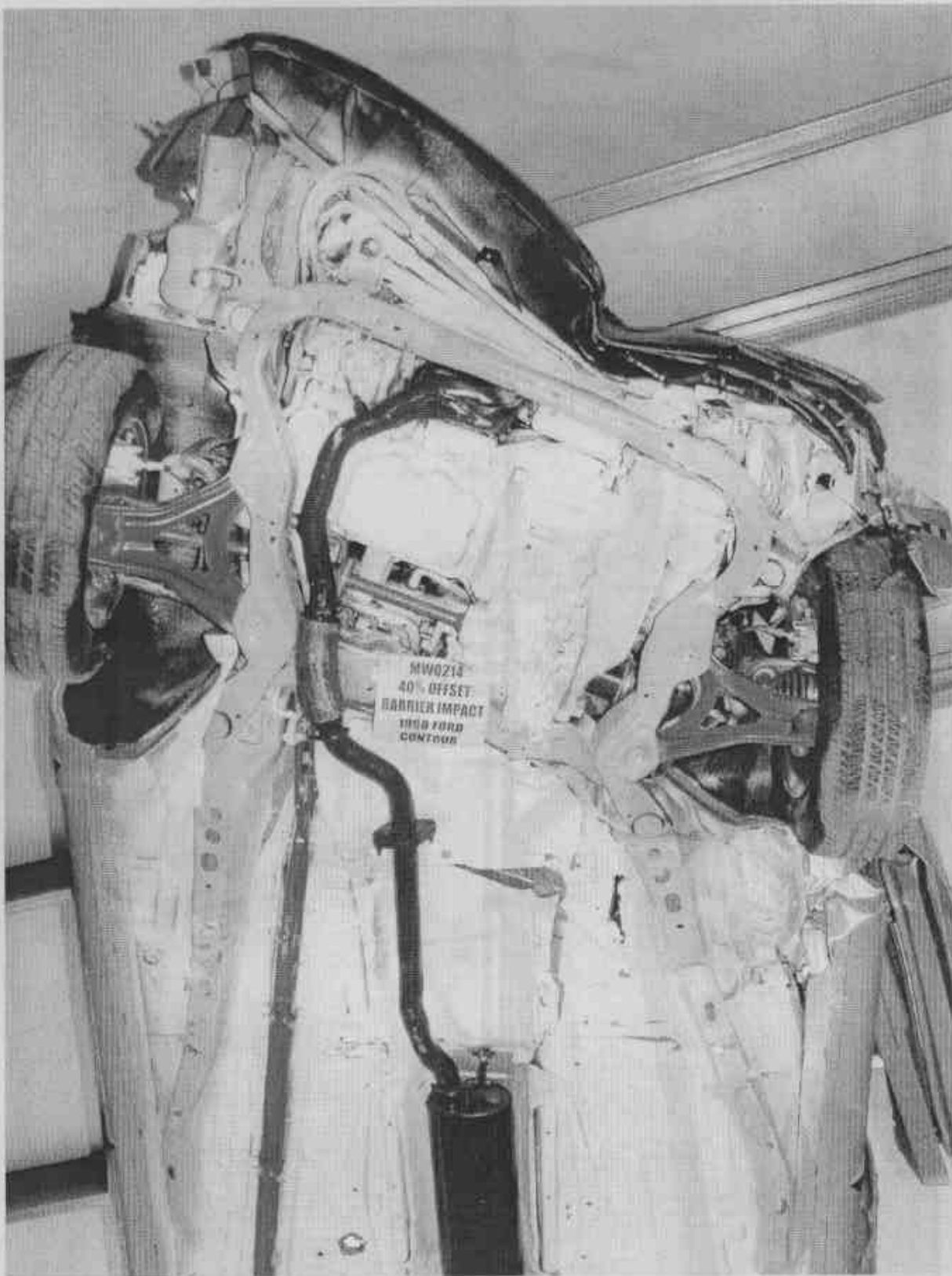


FIGURE A-22. POST-TEST FRONT UNDERSIDE

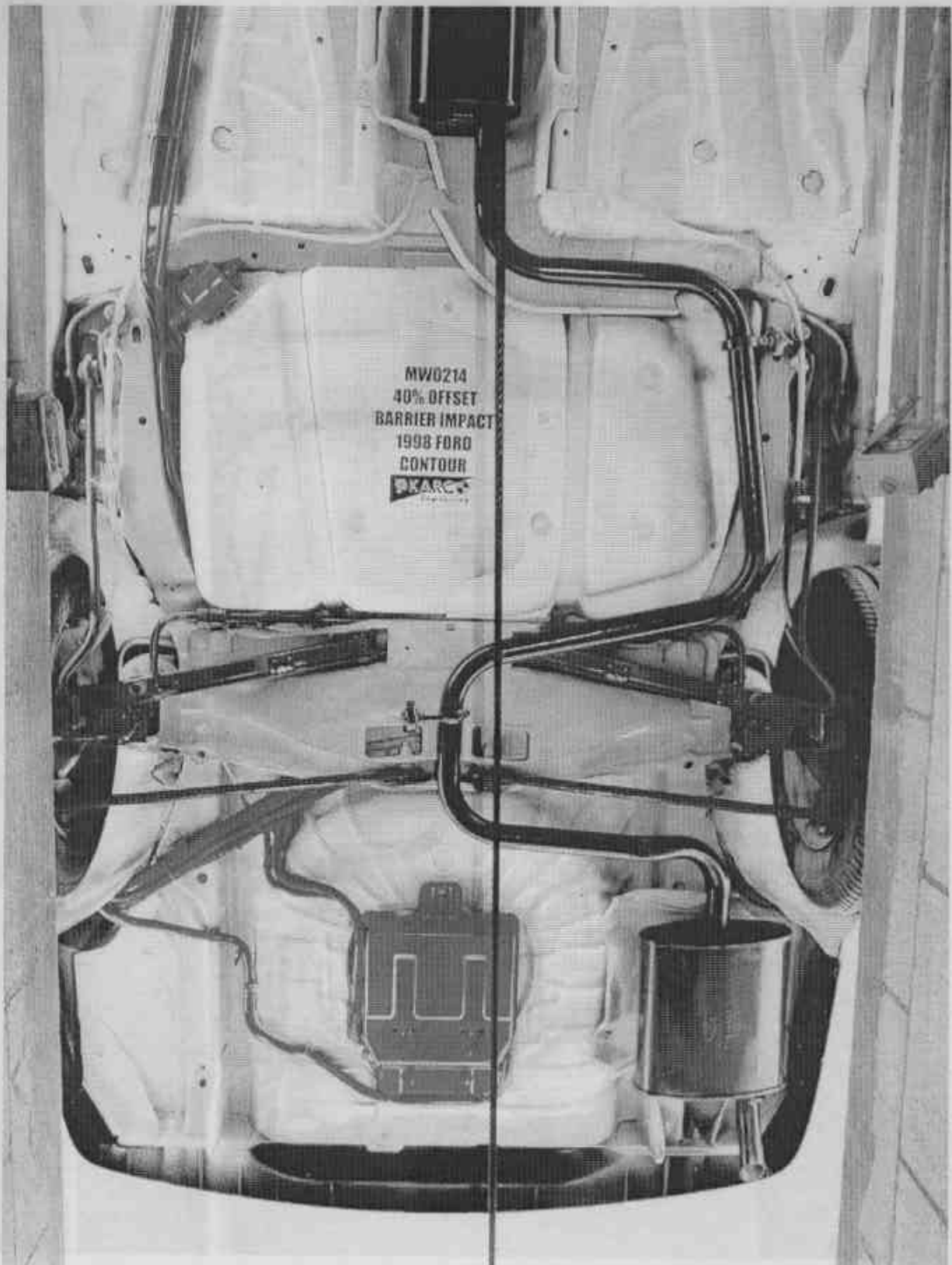


FIGURE A-23. PRE-TEST REAR UNDERSIDE

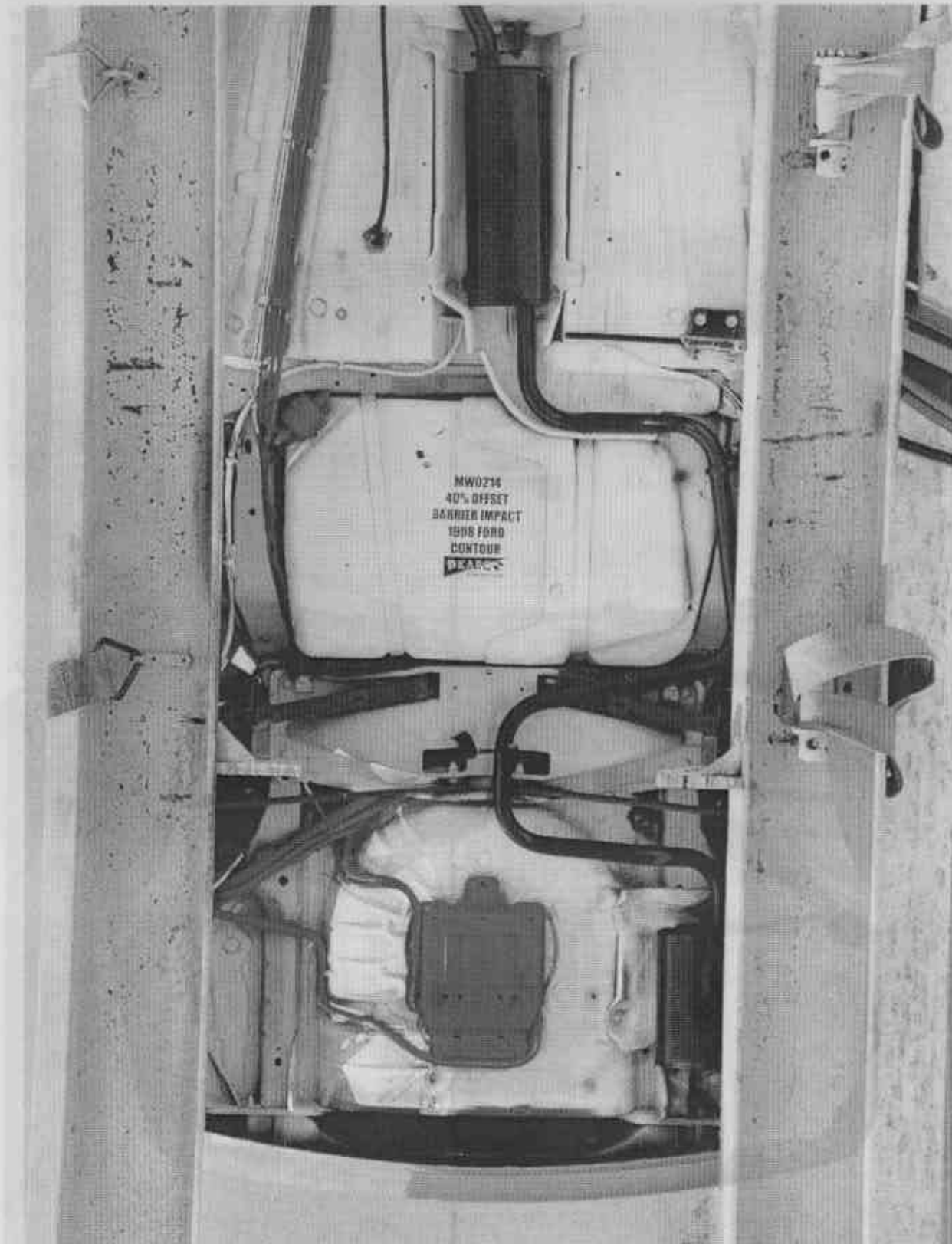


FIGURE A-24. POST-TEST REAR UNDERSIDE

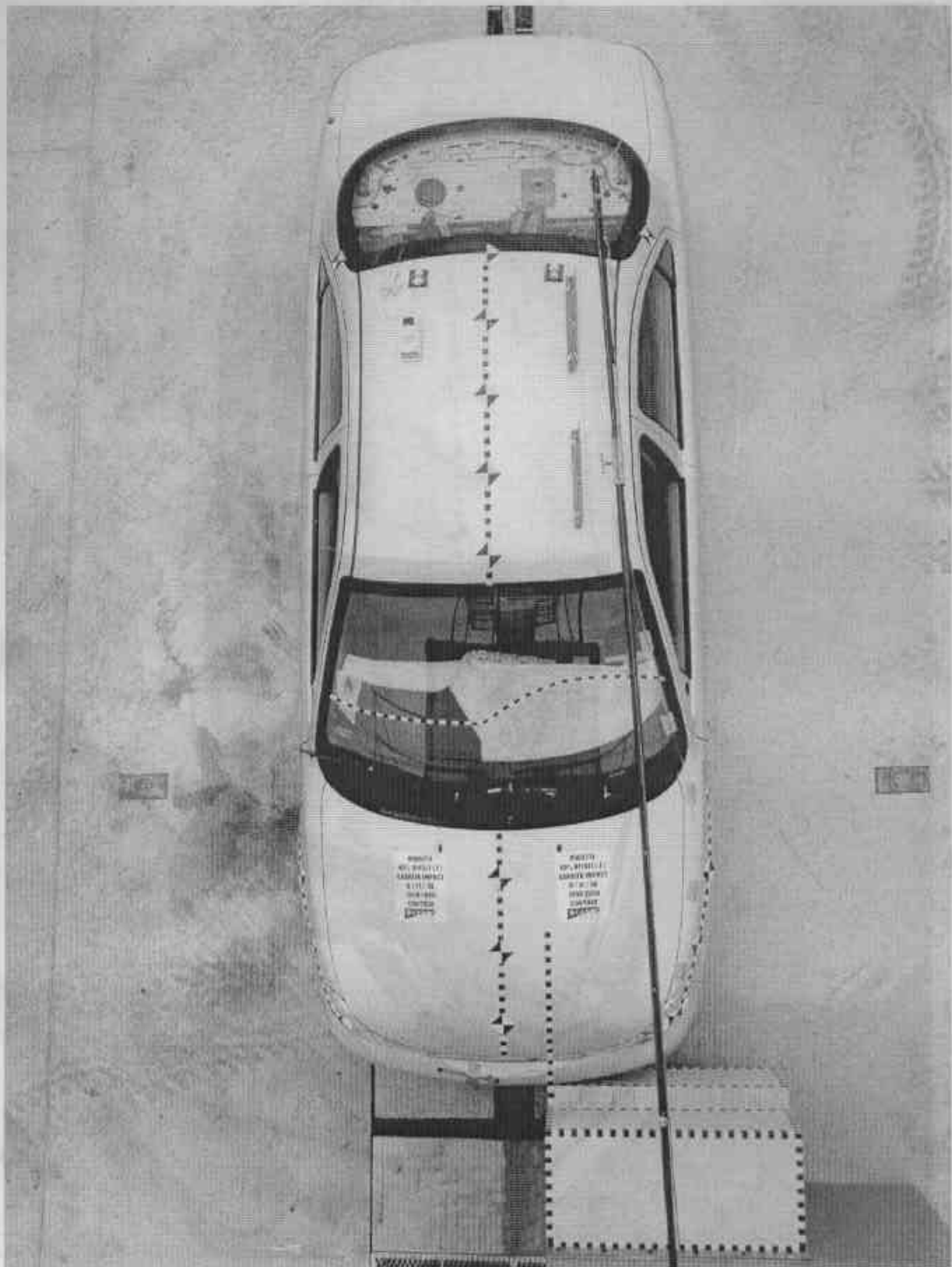


FIGURE A-25. PRE-TEST OVERHEAD OVERALL



FIGURE A-26. POST-TEST OVERHEAD OVERALL

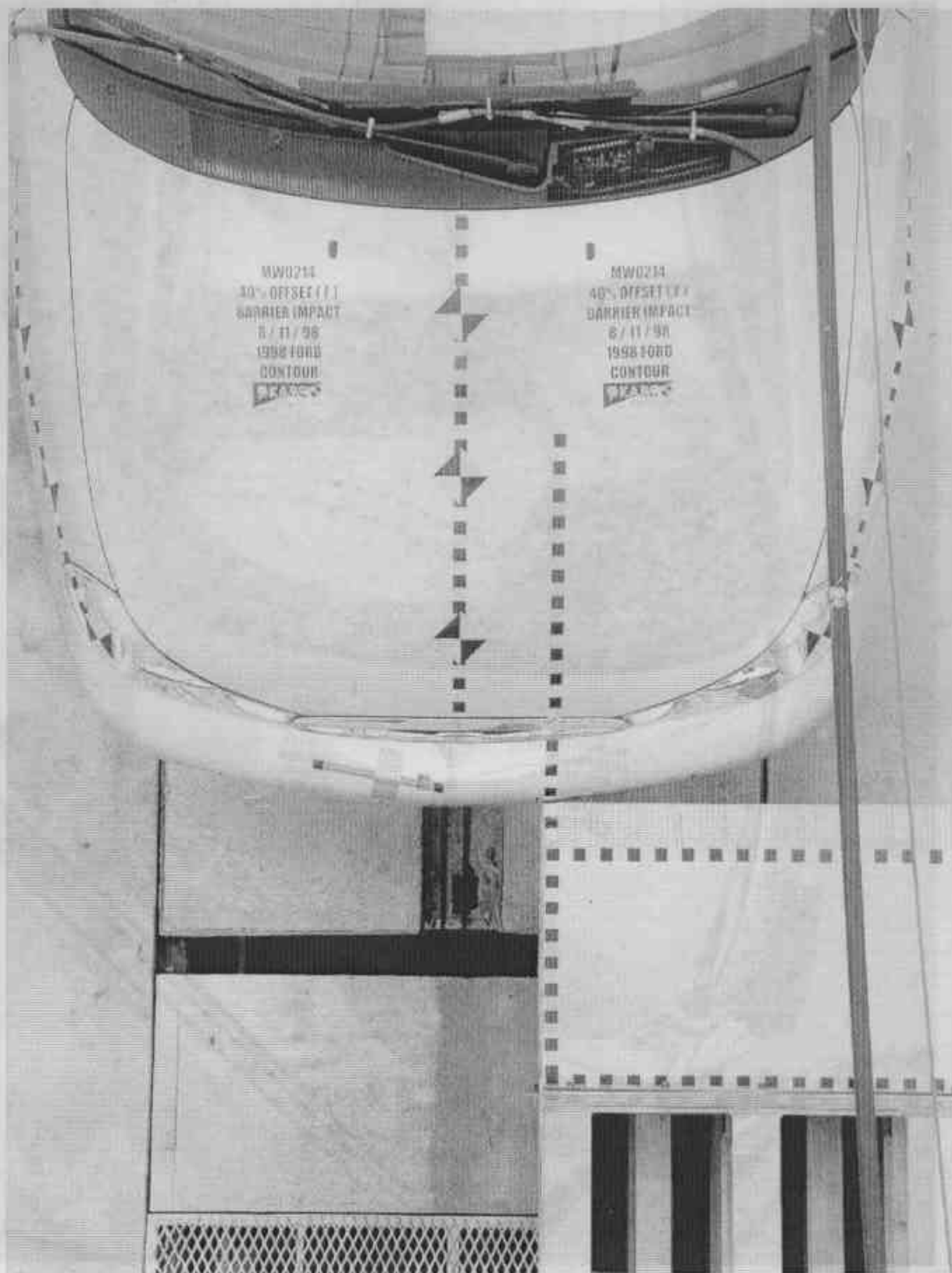


FIGURE A-27. PRE-TEST OVERHEAD CLOSE-UP



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

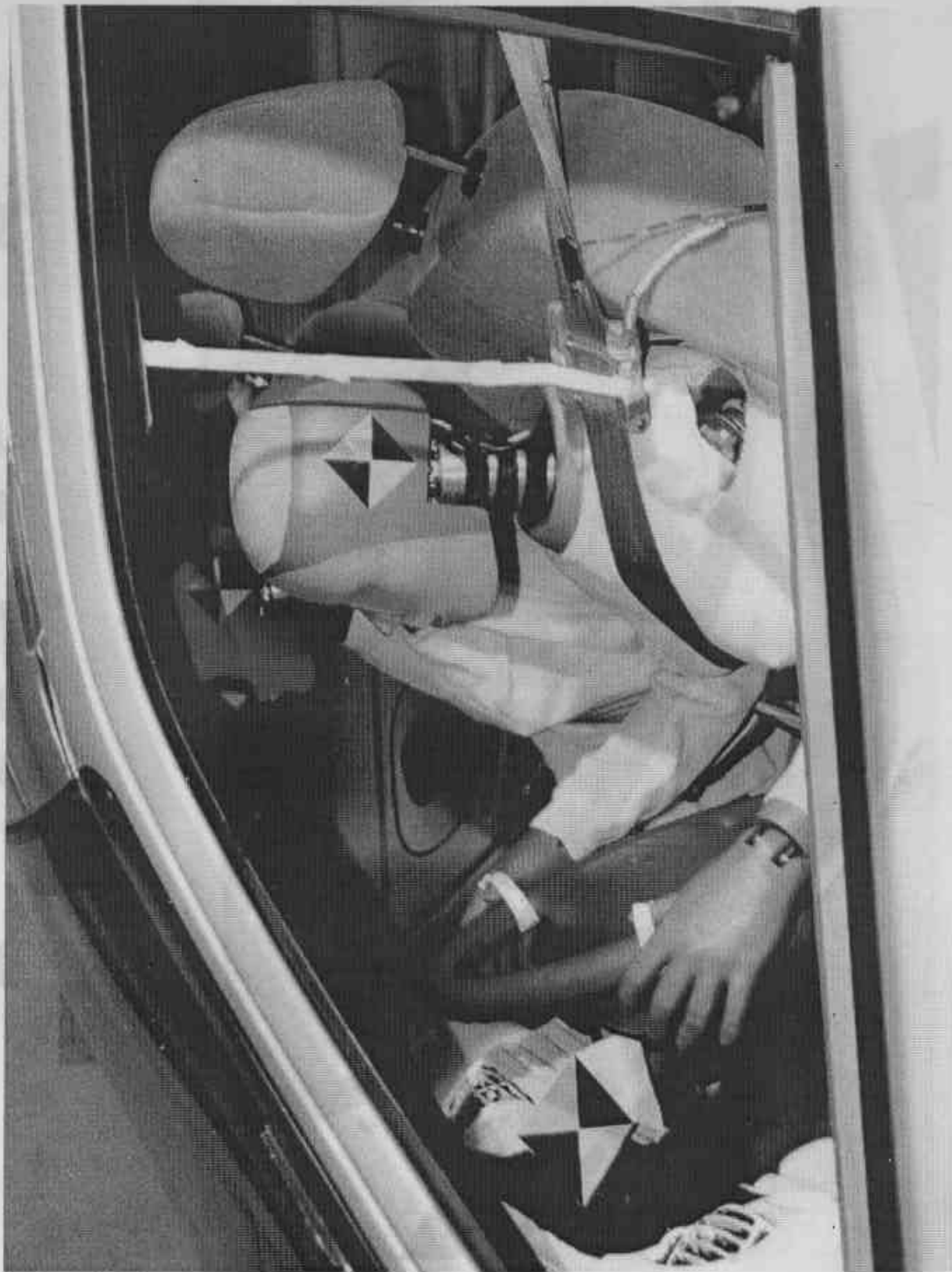


FIGURE A-29. PRE-TEST DRIVER DUMMY (THROUGH WINDOW)



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



FIGURE A-35. PRE-TEST DRIVER DUMMY FEET



FIGURE A-36. POST-TEST DRIVER DUMMY FEET

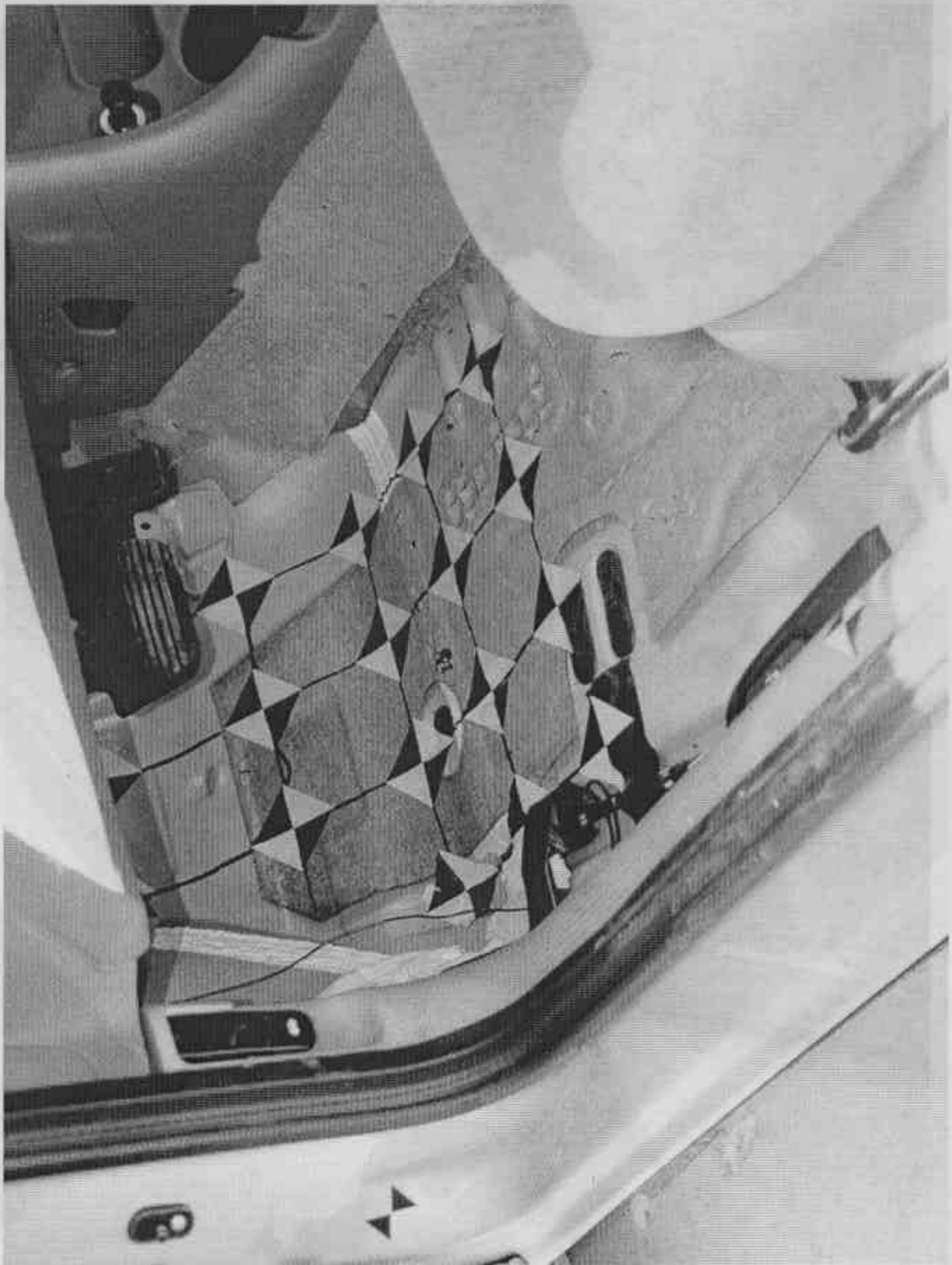


FIGURE A-37. PRE-TEST DRIVER SIDE FLOOR PAN



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

A-38

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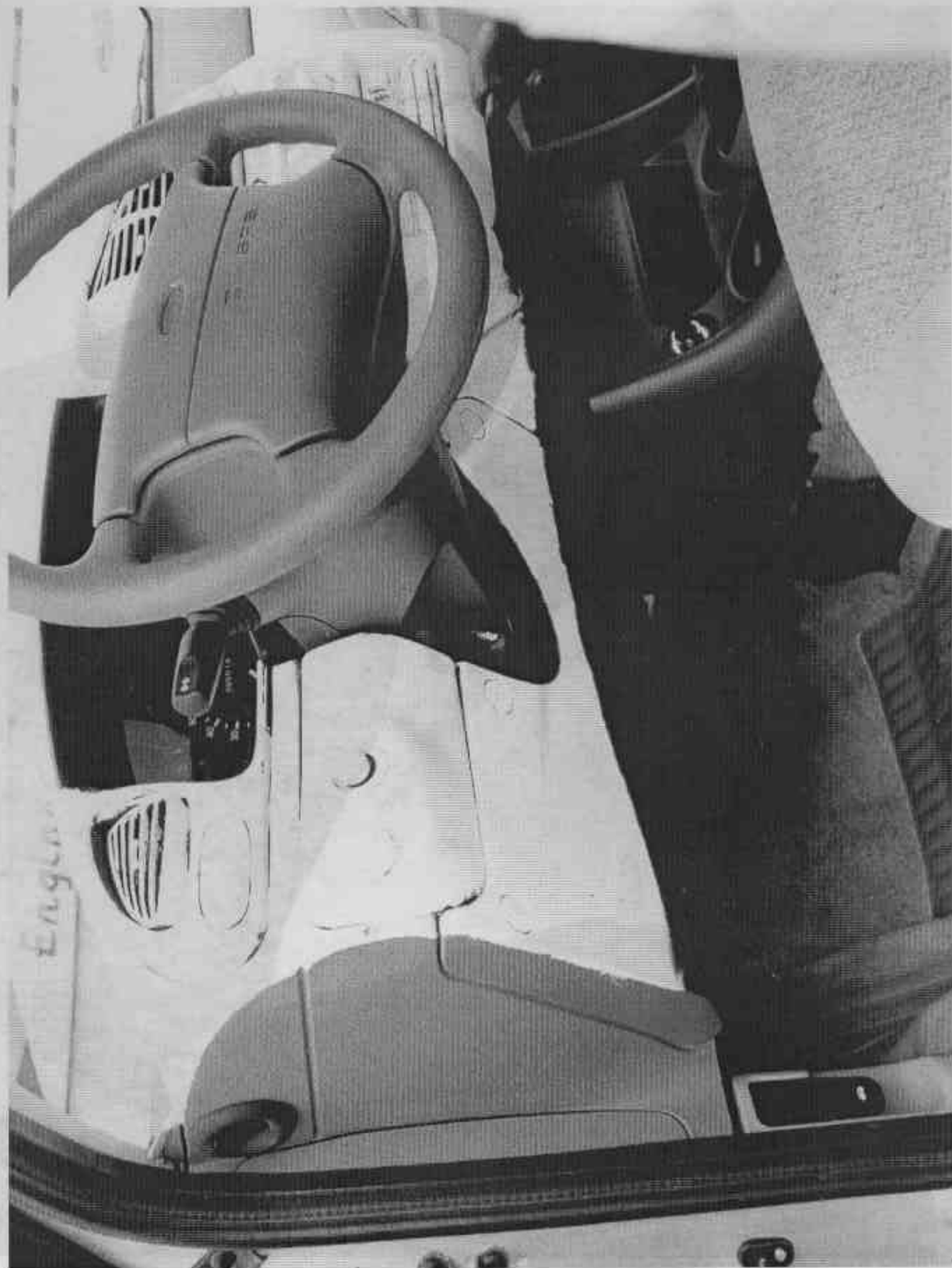


FIGURE A-39. PRE-TEST DRIVER SIDE KNEE BOLSTER



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



FIGURE A-41. POST-TEST DRIVER DUMMY HEAD

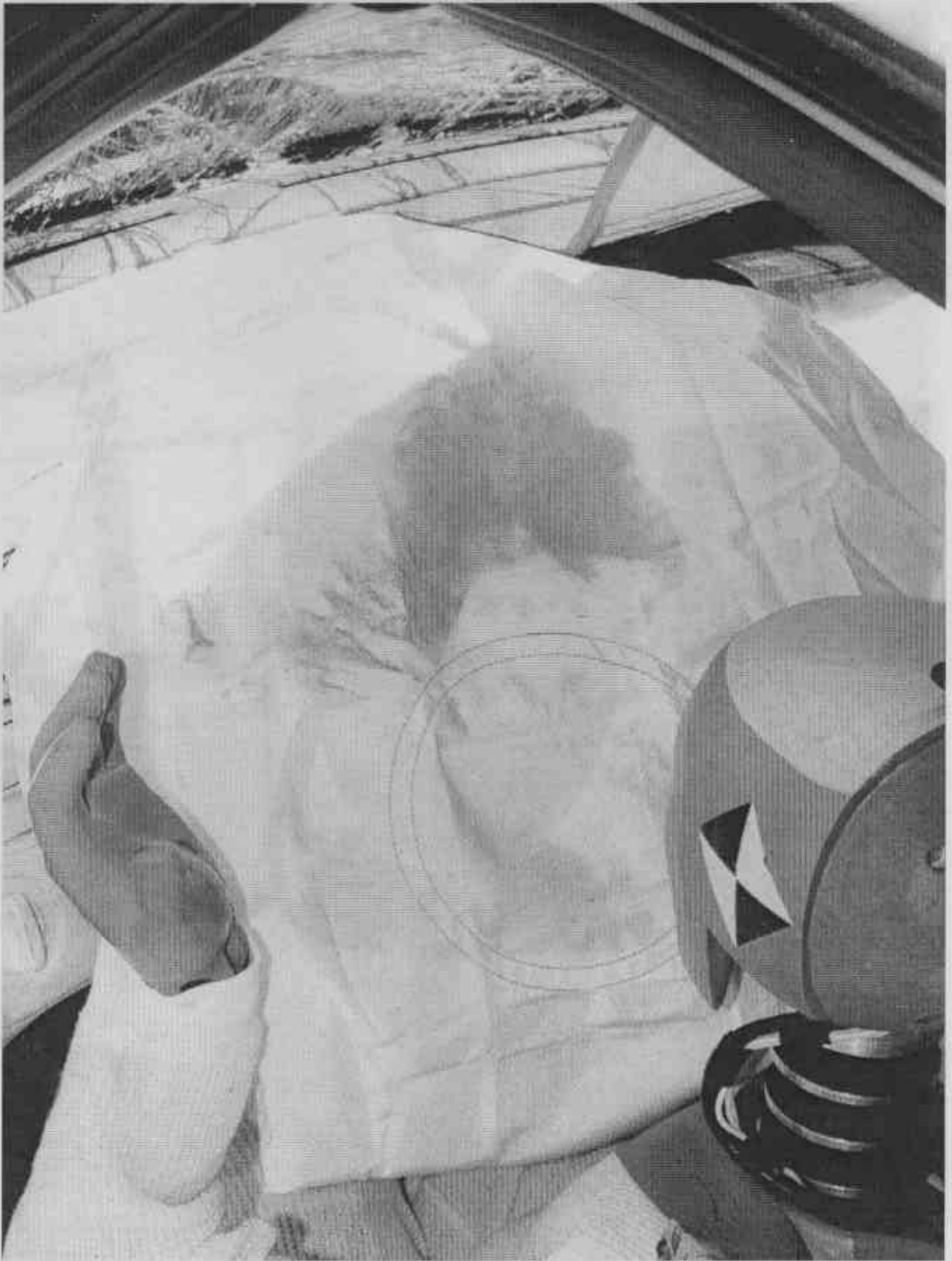


FIGURE A-42. POST-TEST DRIVER DUMMY CONTACT POINT



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

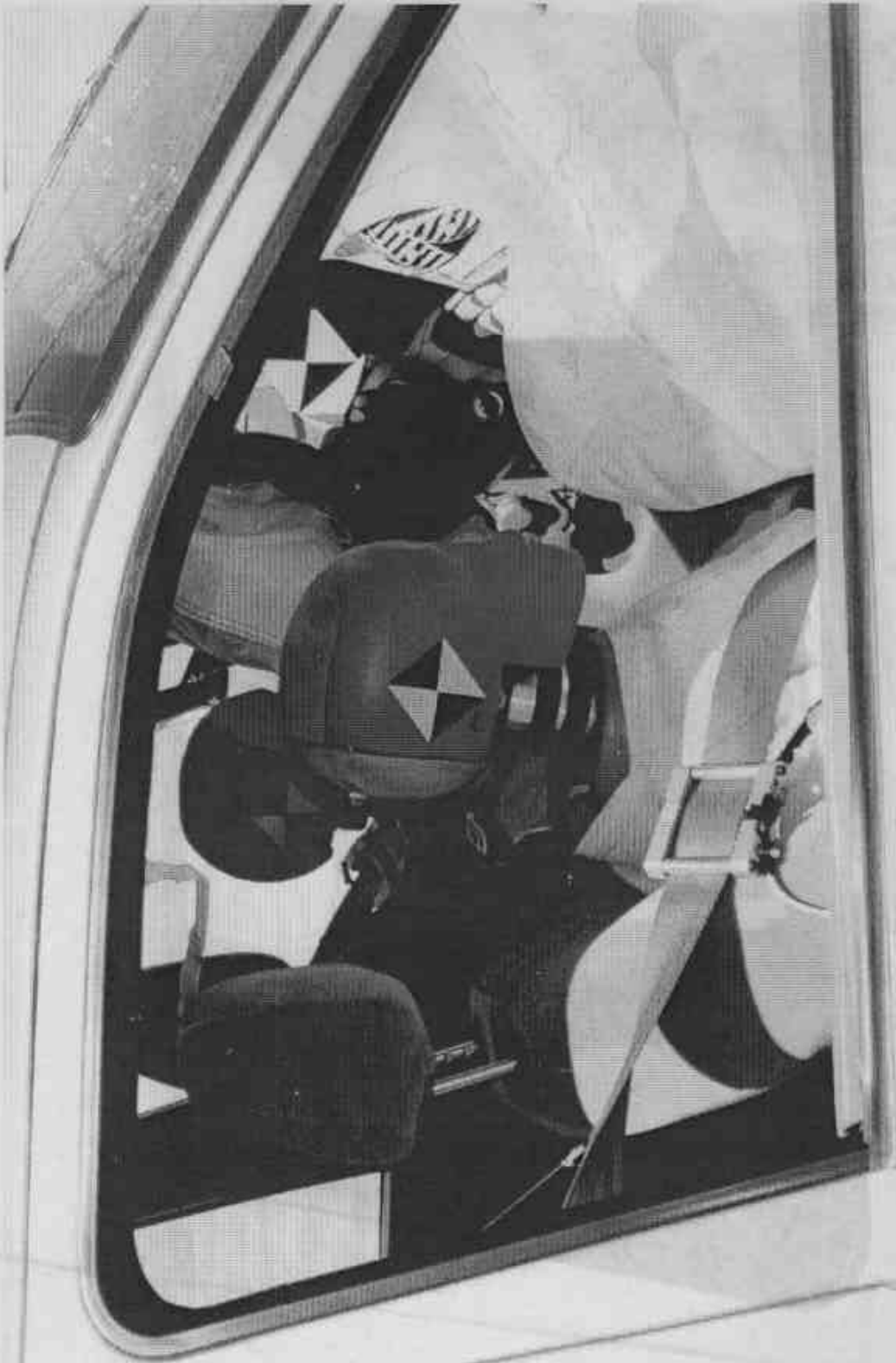


FIGURE A-44. POST-TEST PASSENGER DUMMY (THROUGH WINDOW)



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



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



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



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

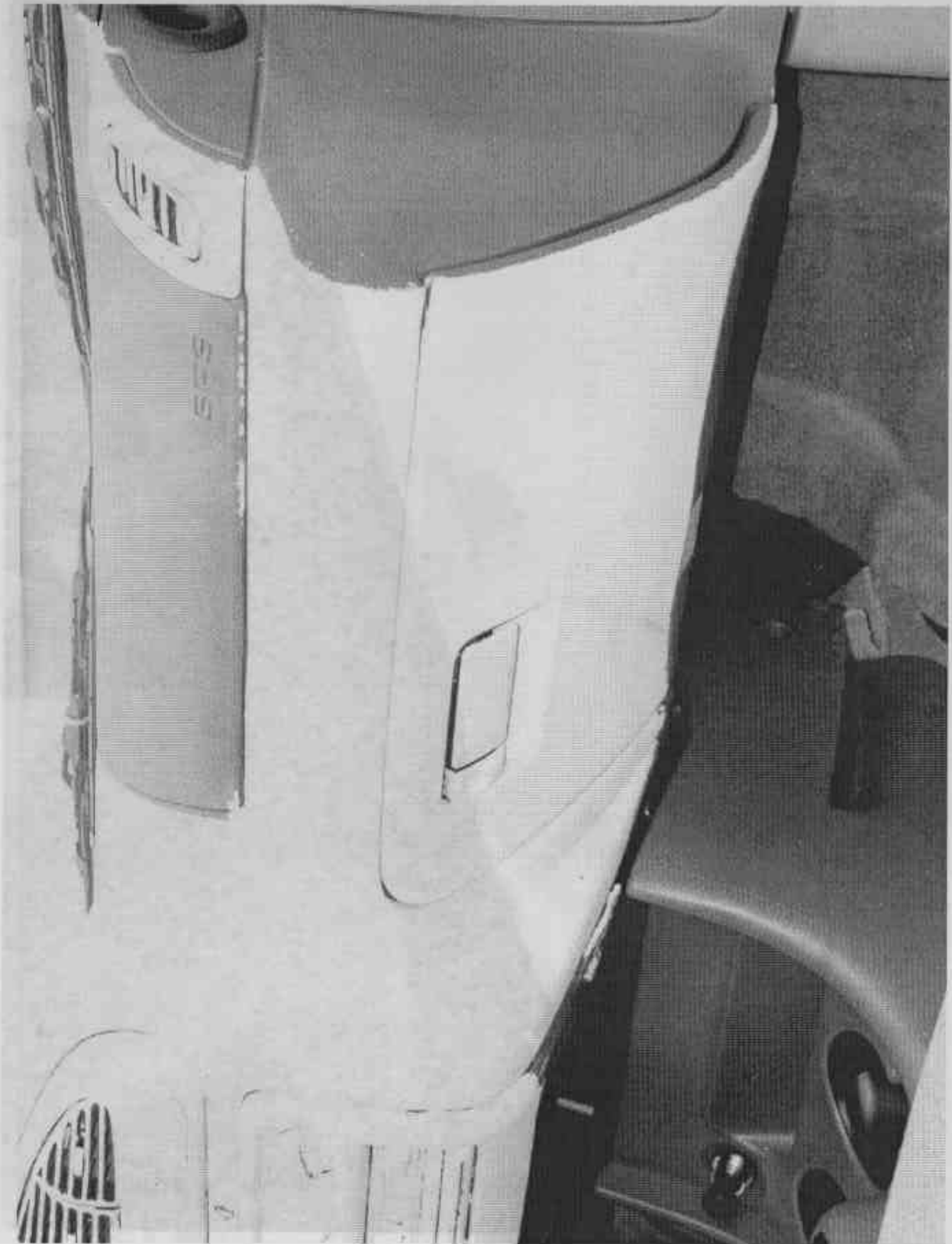


FIGURE A-49. PRE-TEST PASSENGER SIDE KNEE BOLSTER



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

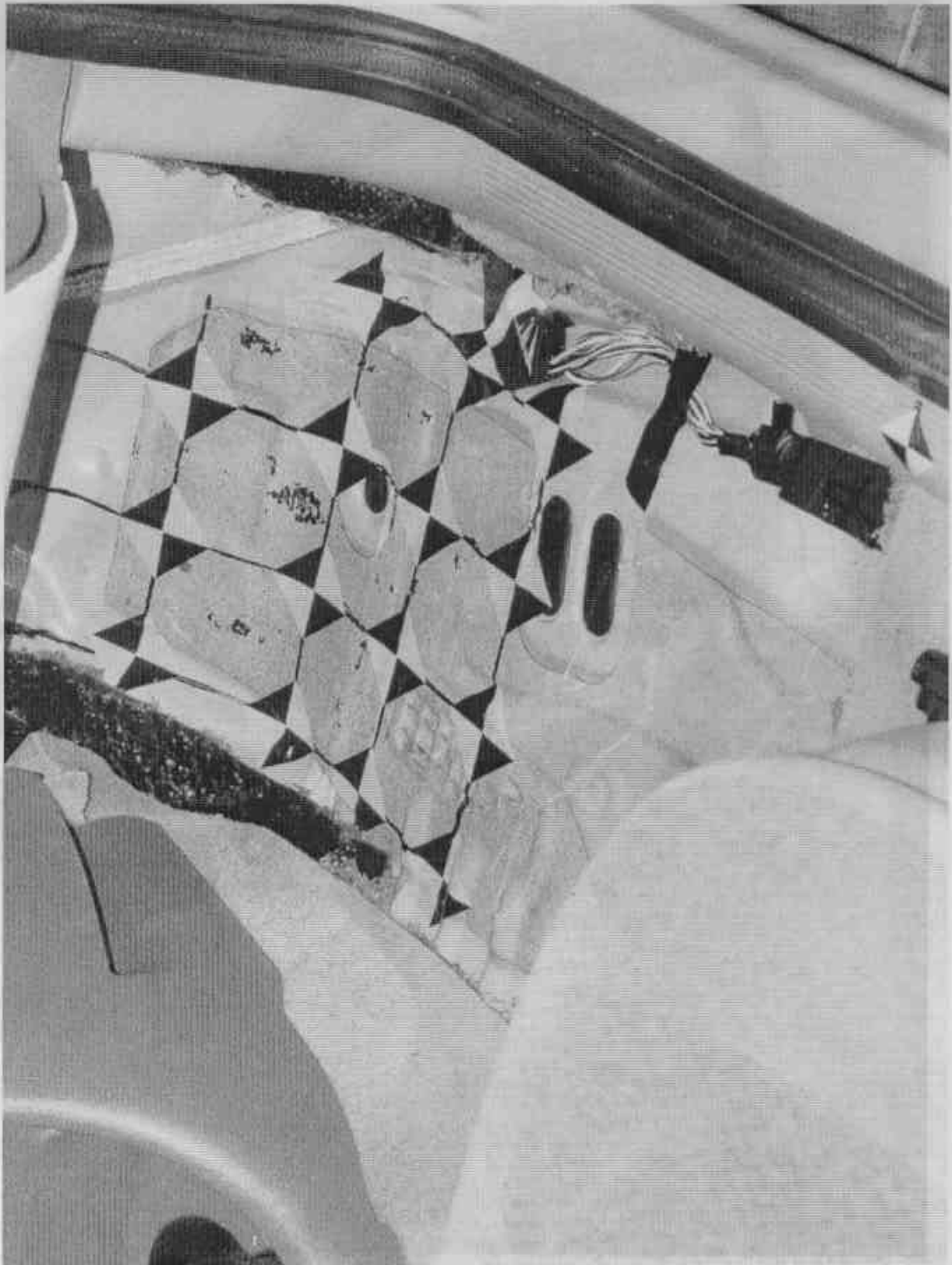


FIGURE A-51. PRE-TEST PASSENGER SIDE FLOOR PAN

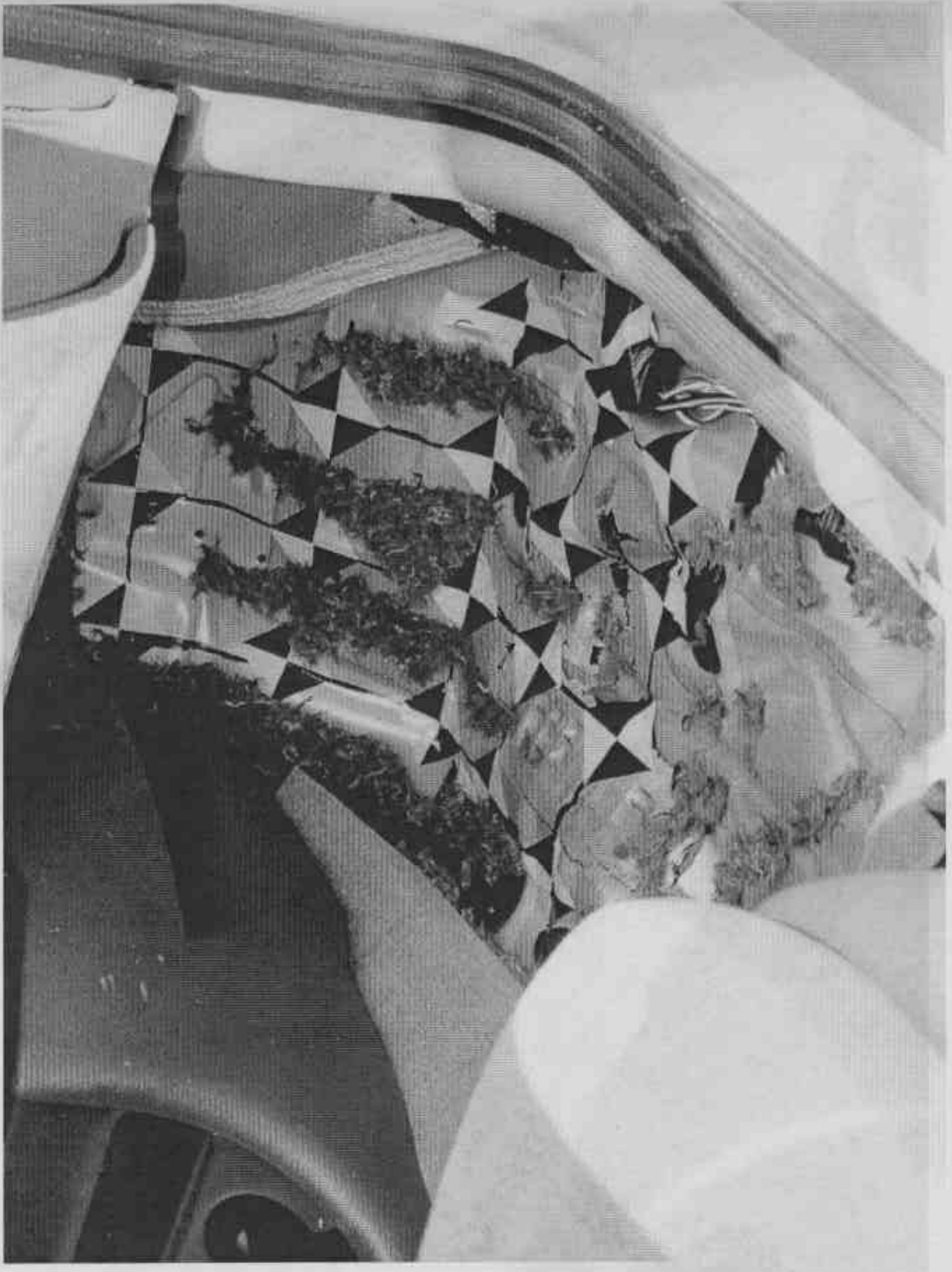


FIGURE A-52. POST-TEST PASSENGER SIDE FLOOR PAN



FIGURE A-53. POST-TEST PASSENGER DUMMY HEAD



FIGURE A-54. POST-TEST PASSENGER DUMMY CONTACT POINT

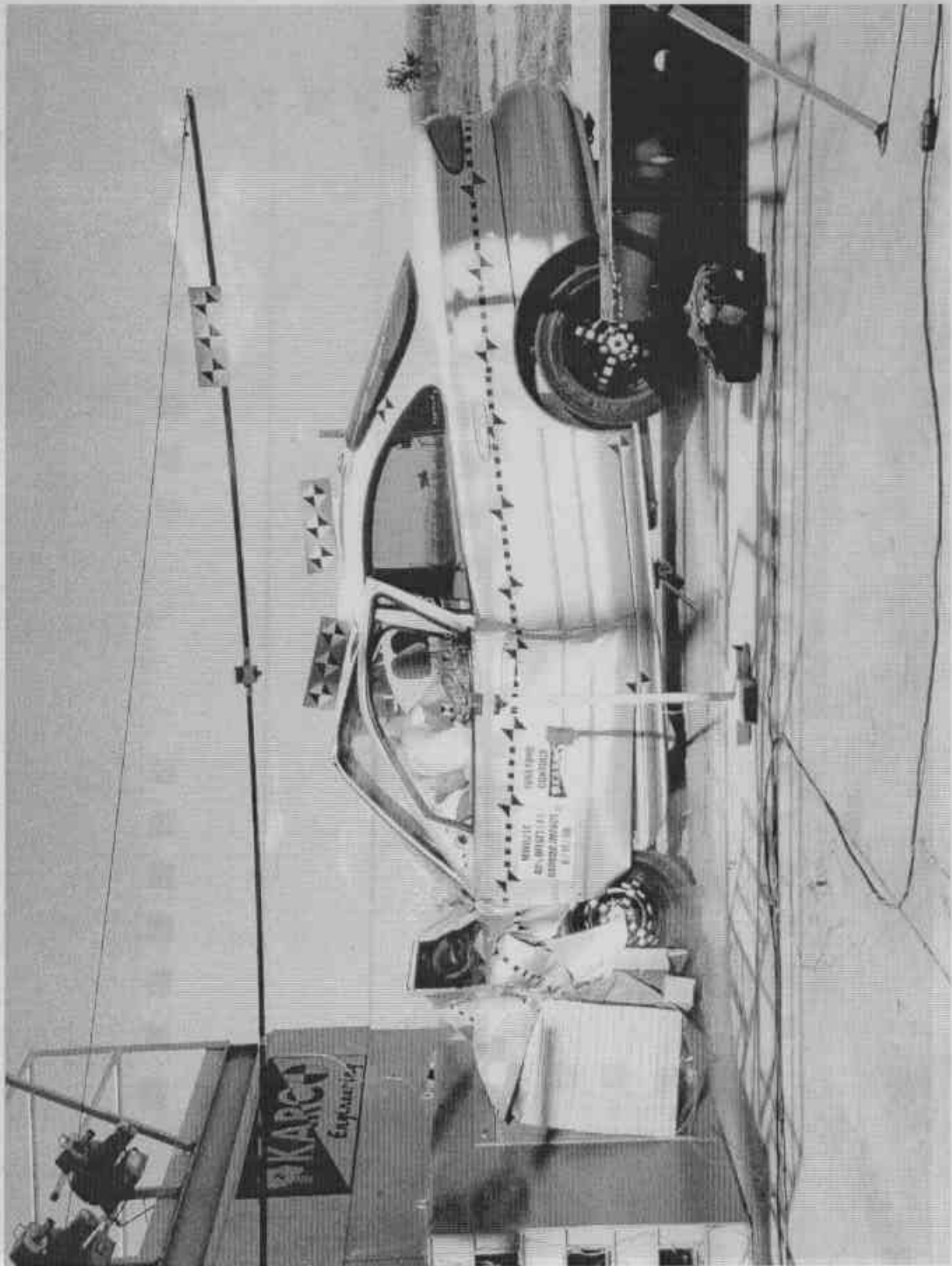


FIGURE A-55. VEHICLE DURING IMPACT

A-55

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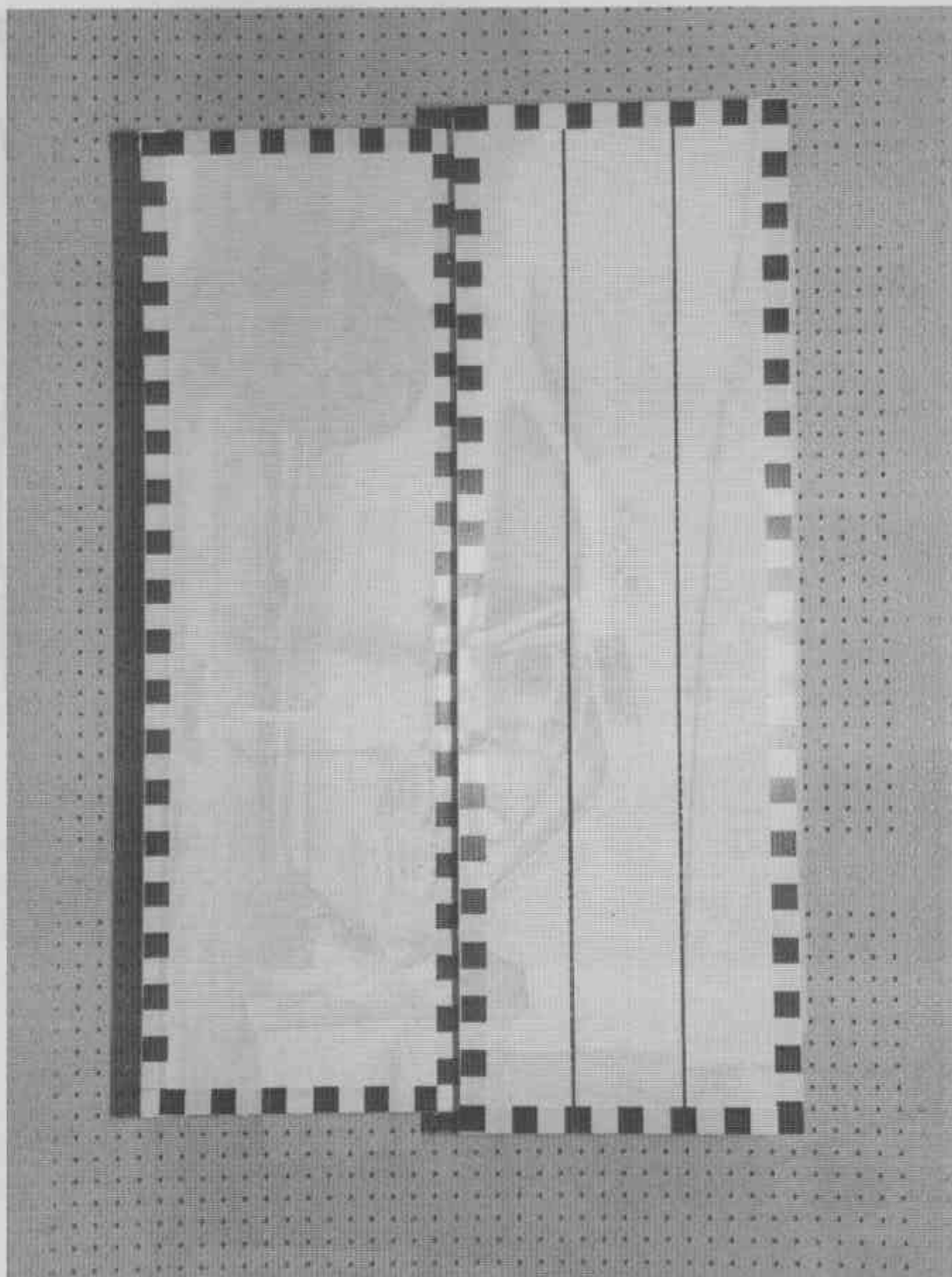


FIGURE A-56. PRE-TEST BARRIER FRONT VIEW

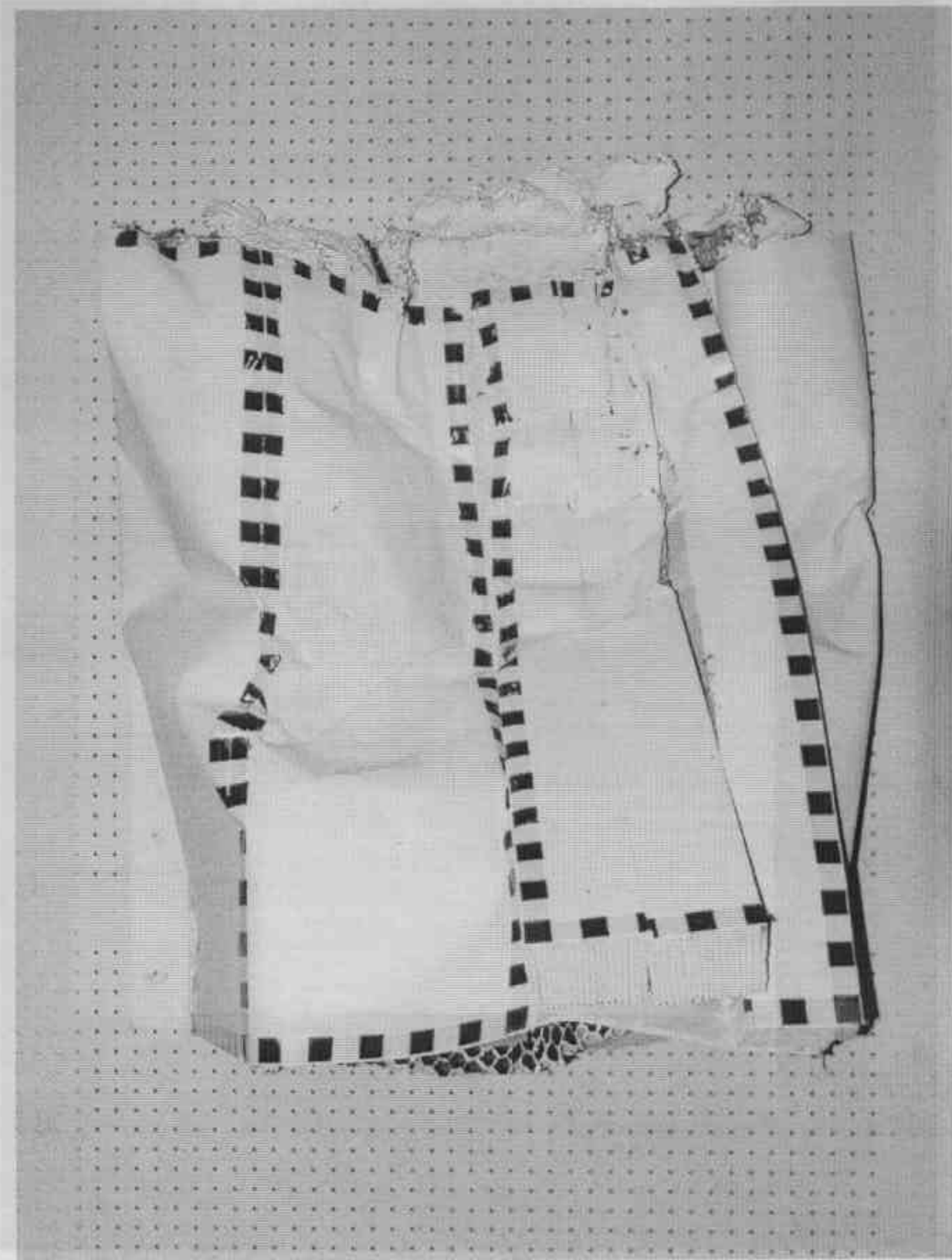


FIGURE A-57. POST-TEST BARRIER FRONT VIEW

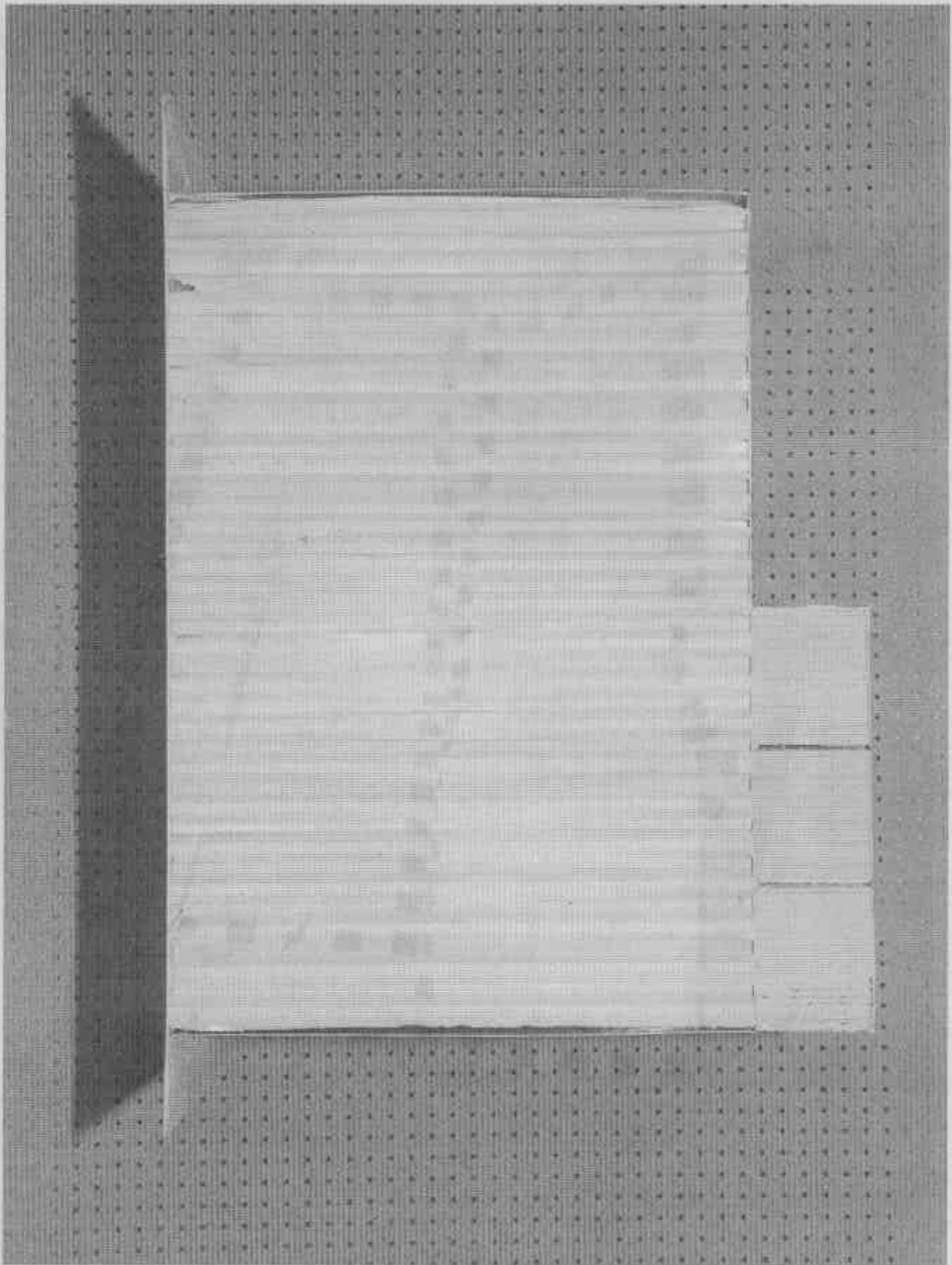


FIGURE A-58. PRE-TEST BARRIER LEFT SIDE VIEW

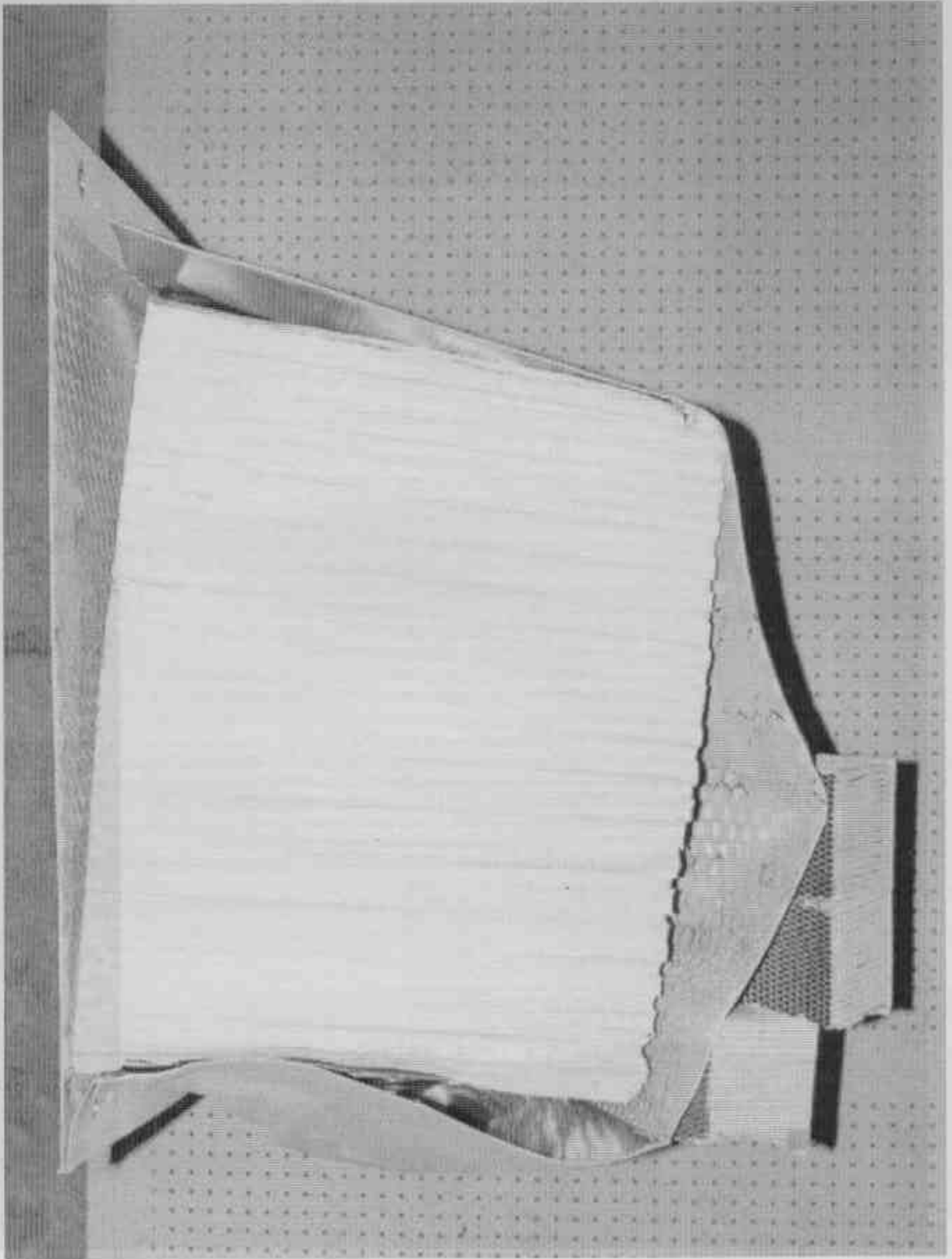


FIGURE A-59. POST-TEST BARRIER LEFT SIDE VIEW

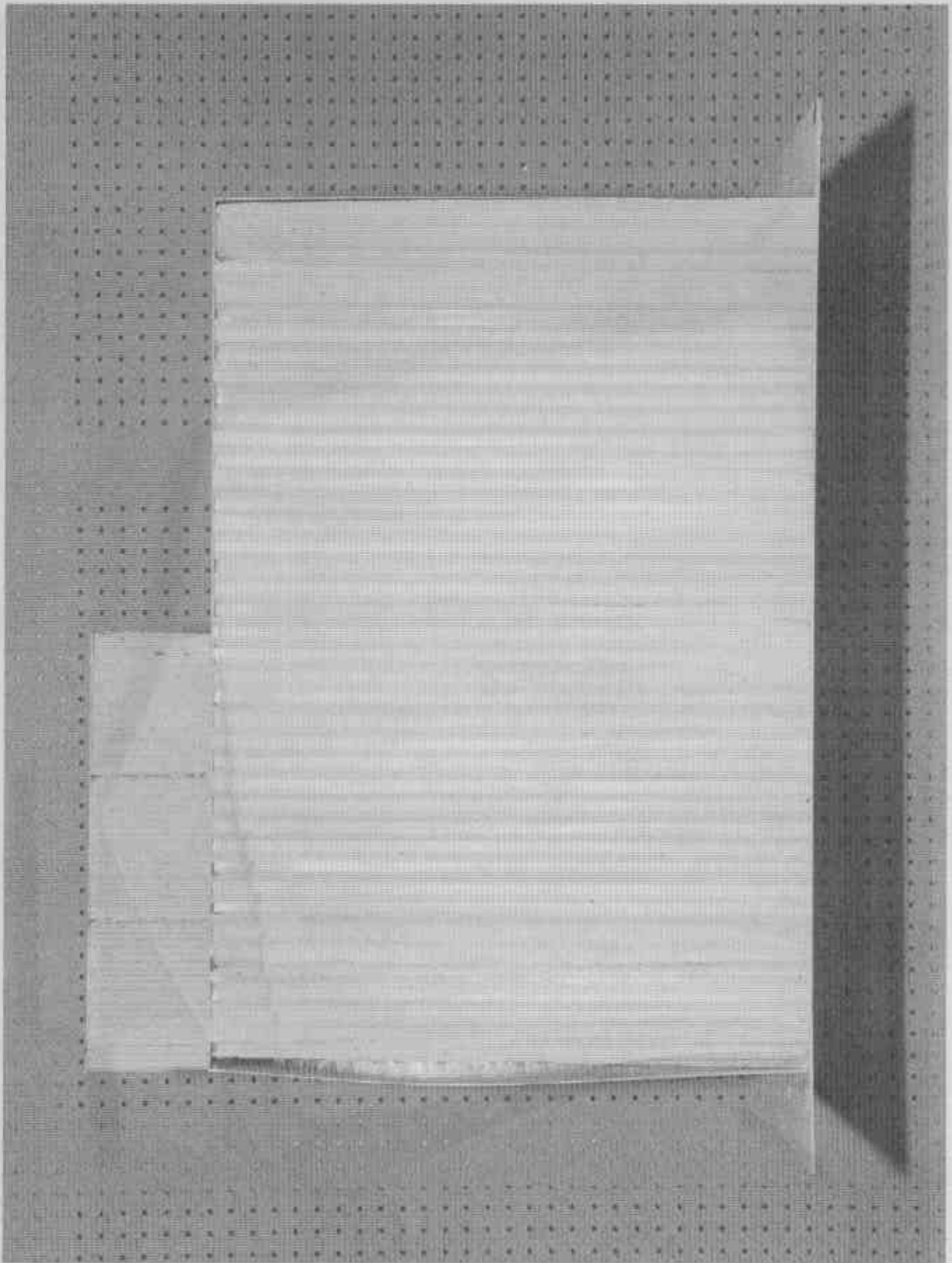


FIGURE A-60. PRE-TEST BARRIER RIGHT SIDE VIEW

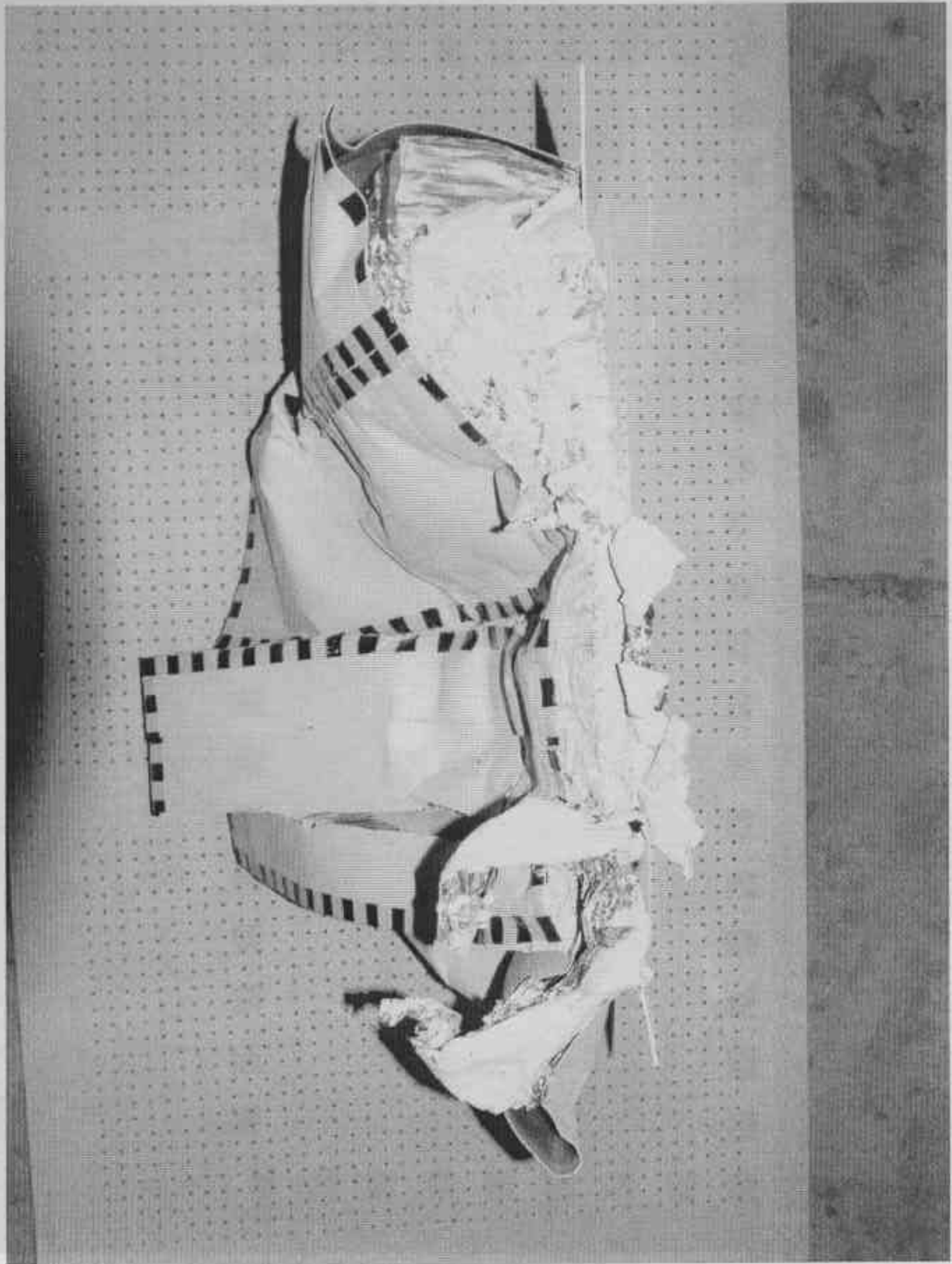


FIGURE A-61. POST-TEST BARRIER RIGHT SIDE VIEW

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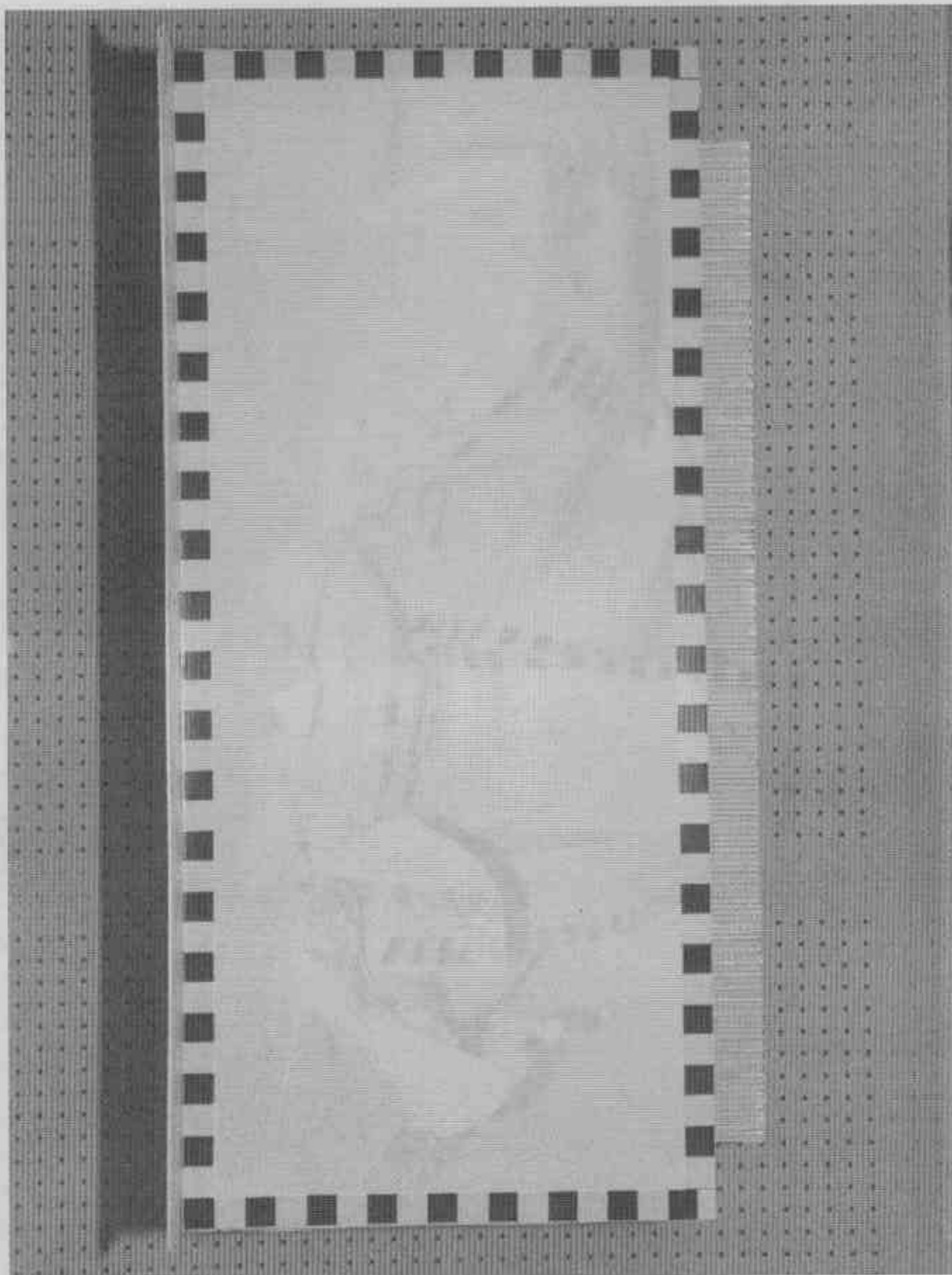


FIGURE A-62. PRE-TEST BARRIER TOP VIEW

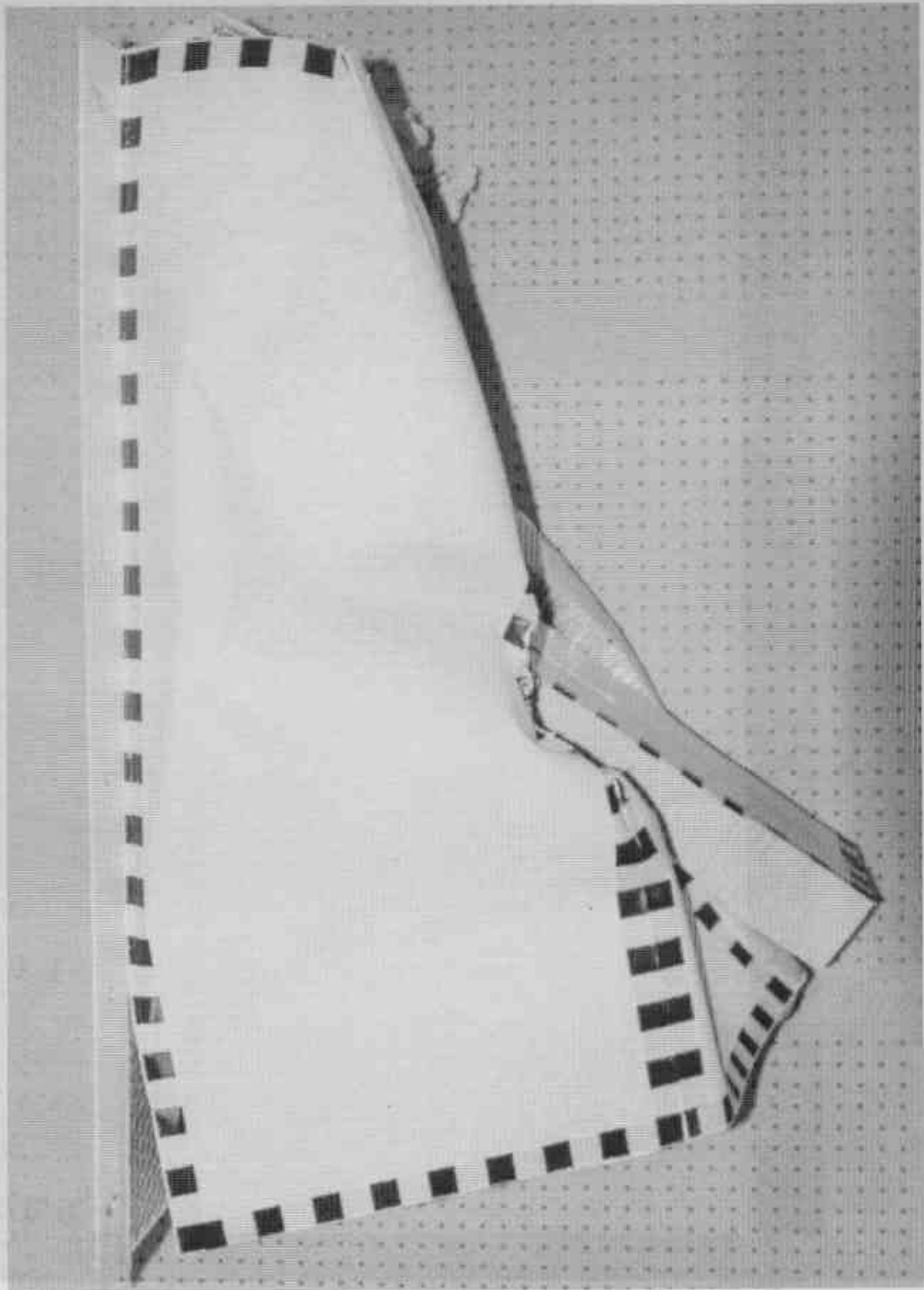


FIGURE A-63. POST-TEST BARRIER TOP VIEW

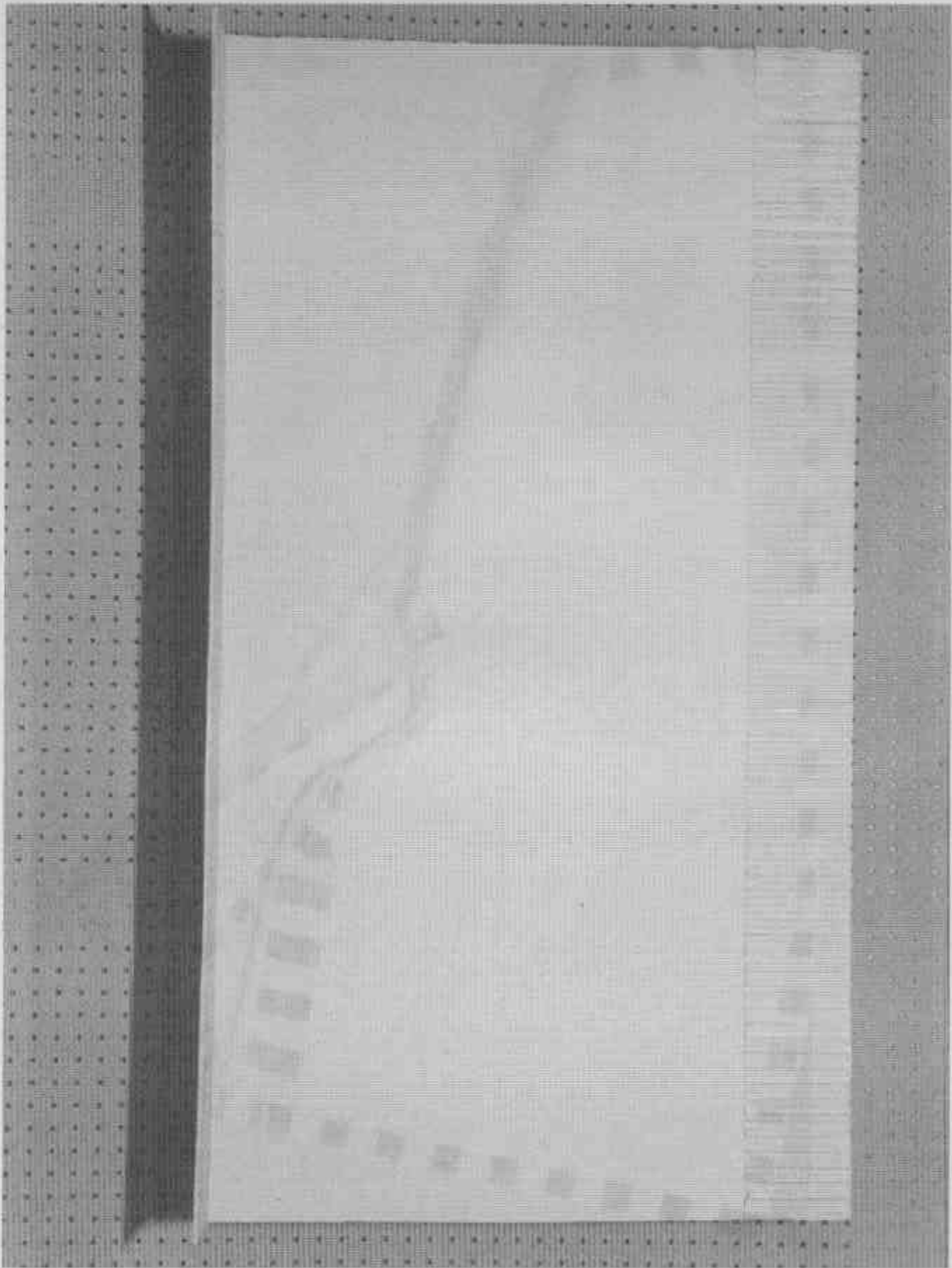


FIGURE A-64. PRE-TEST BARRIER BOTTOM VIEW

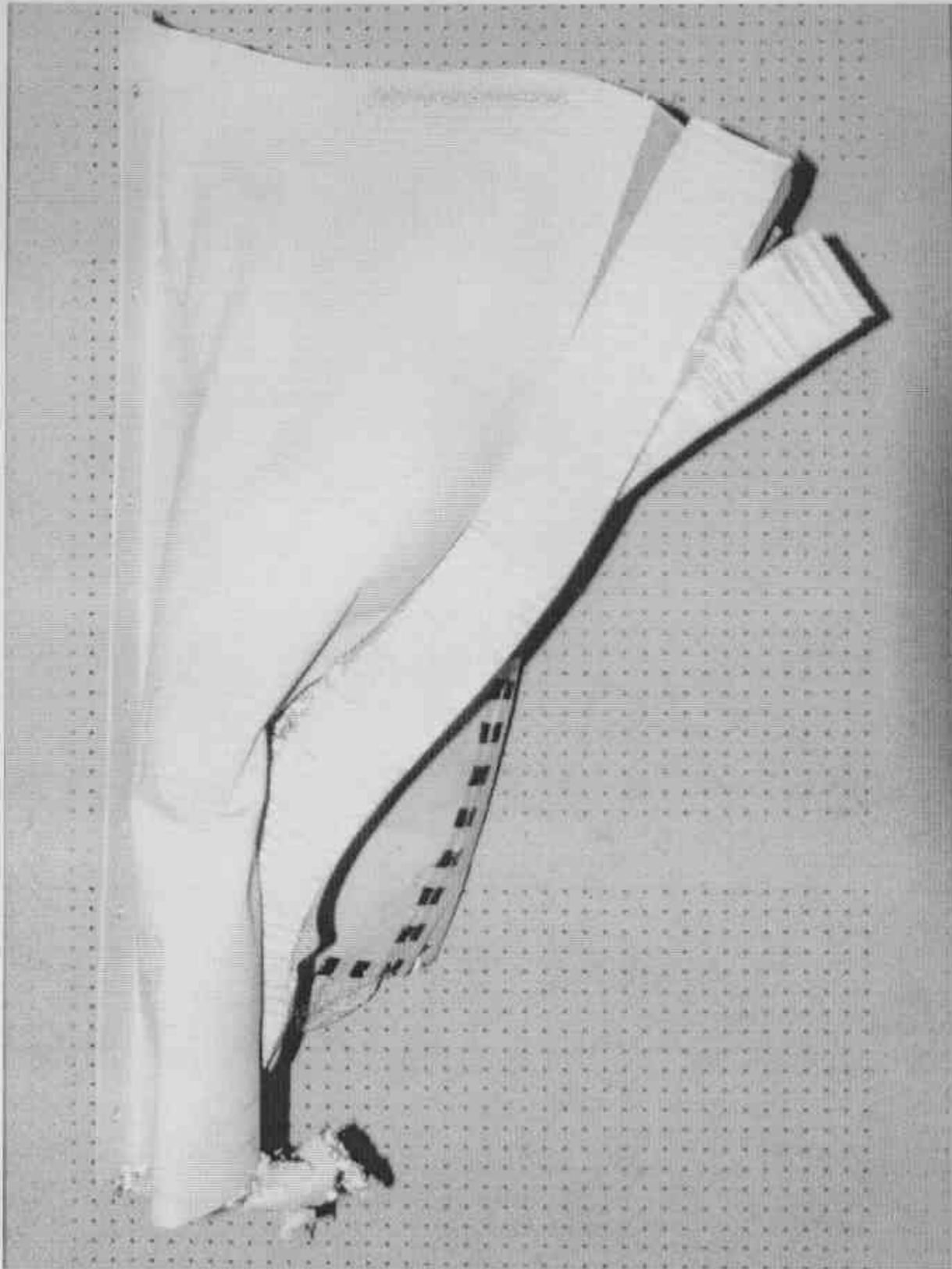


FIGURE A-65. PRE-TEST BARRIER BOTTOM VIEW

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APPENDIX B
DUMMY, VEHICLE AND RESPONSE DATA TRACES

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B-6	Driver Head Resultant Primary	B-6
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B-8	Driver Neck Force Y	B-8
B-9	Driver Neck Force Z	B-9
B-10	Driver Neck Force Resultant	B-10
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B-14	Driver Neck Moment Resultant	B-14
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B-34	Driver Left Lower Tibia Force X	B-34
B-35	Driver Left Lower Tibia Force Z	B-35

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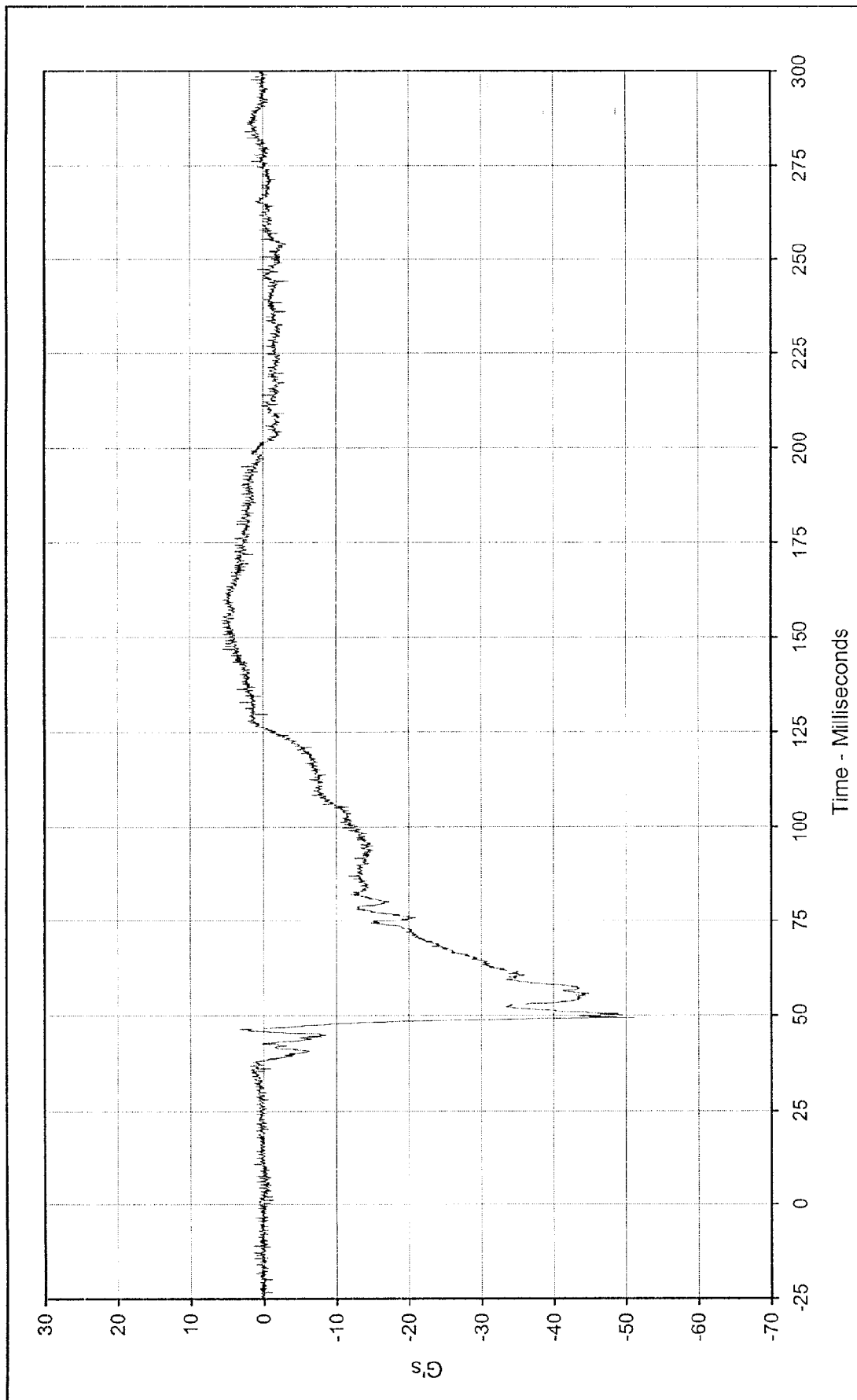
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B-40	Driver Right Upper Tibia Moment X	B-40
B-41	Driver Right Upper Tibia Moment Y	B-41
B-42	Driver Right Lower Tibia Force X	B-42
B-43	Driver Right Lower Tibia Force Z	B-43
B-44	Driver Right Lower Tibia Moment X	B-44
B-45	Driver Right Lower Tibia Moment Y	B-45
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B-49	Driver Right Foot Aft X	B-49
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B-57	Passenger Head Primary X Velocity	B-57
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B-61	Passenger Head Resultant Primary	B-61
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B-87	Passenger Left Upper Tibia Moment X	B-87
B-88	Passenger Left Upper Tibia Moment Y	B-88
B-89	Passenger Left Lower Tibia Force X	B-89
B-90	Passenger Left Lower Tibia Force Z	B-90
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Curve Description: Driver Head Primary X

Maximum Value: 5.7 at 154.7 Milliseconds

Minimum Value: -50.9 at 49.2 Milliseconds

SAE Filter Class: 1000

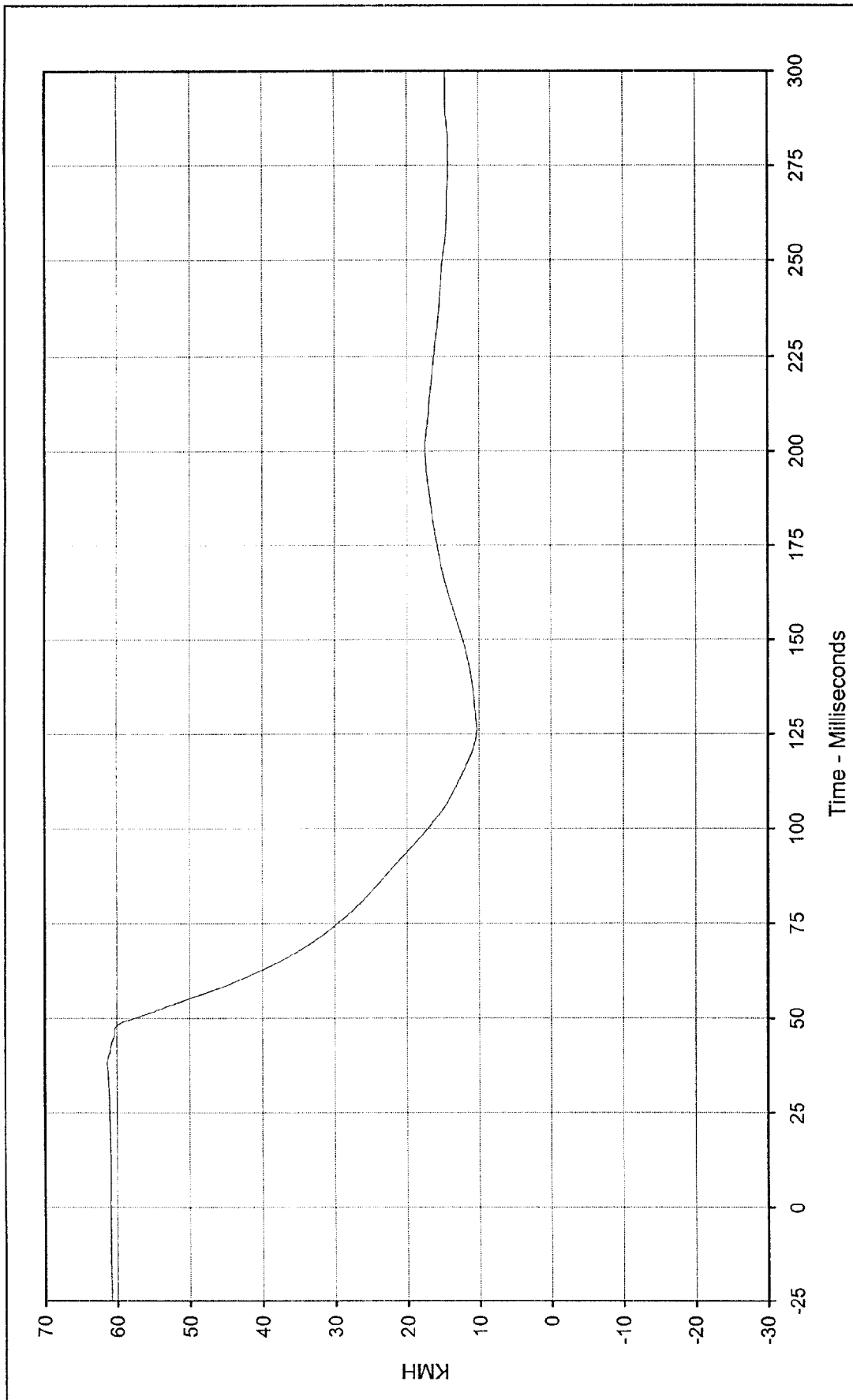
Date of Test: 8/1/98

Curve Number: FIL-001

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Head Primary X Velocity

Maximum Value: 61.3 at 38.1 Milliseconds

Minimum Value: 10.3 at 126.3 Milliseconds

SAE Filter Class: 180

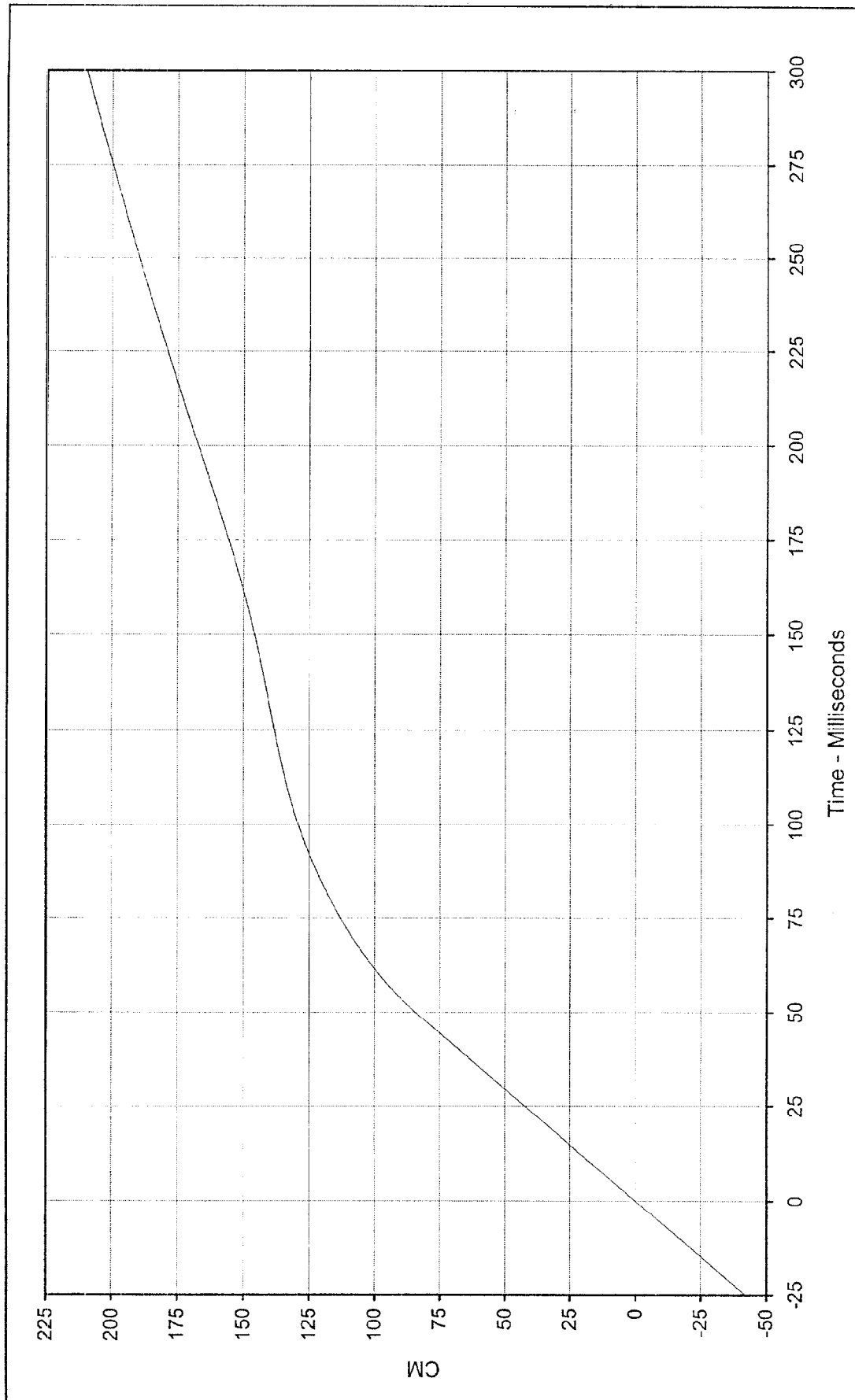
Date of Test: 8/11/98

Curve Number: IN1-001

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Head Primary X Displ. Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 209.8 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

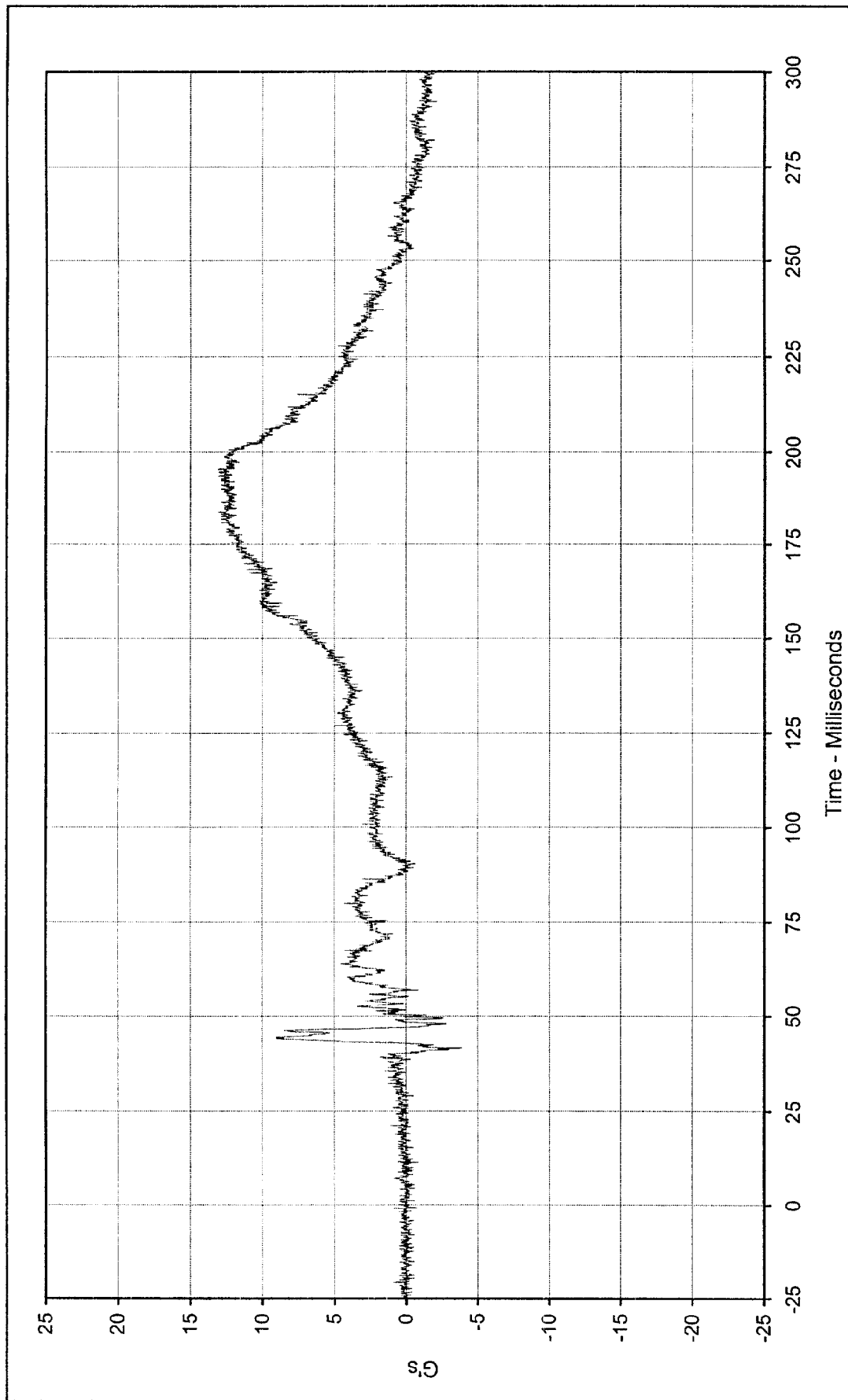
Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/1/98

Curve Number: IN2-001





Curve Description: Driver Head Primary Y

Maximum Value: 13.0 at 183.7 Milliseconds

Minimum Value: -3.8 at 41.7 Milliseconds

SAE Filter Class: 1000

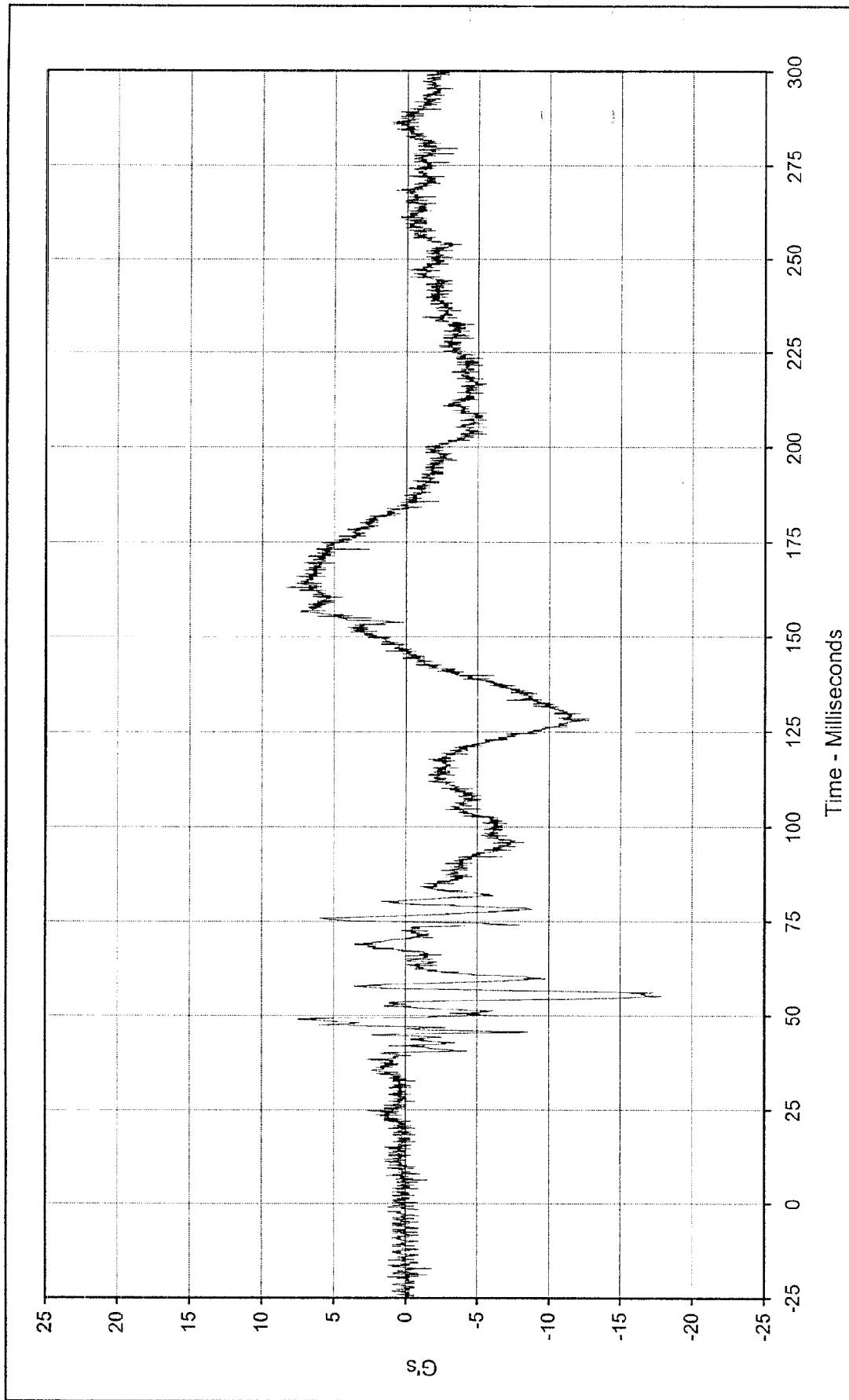
Date of Test: 8/11/98

Curve Number: FIL-002

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan



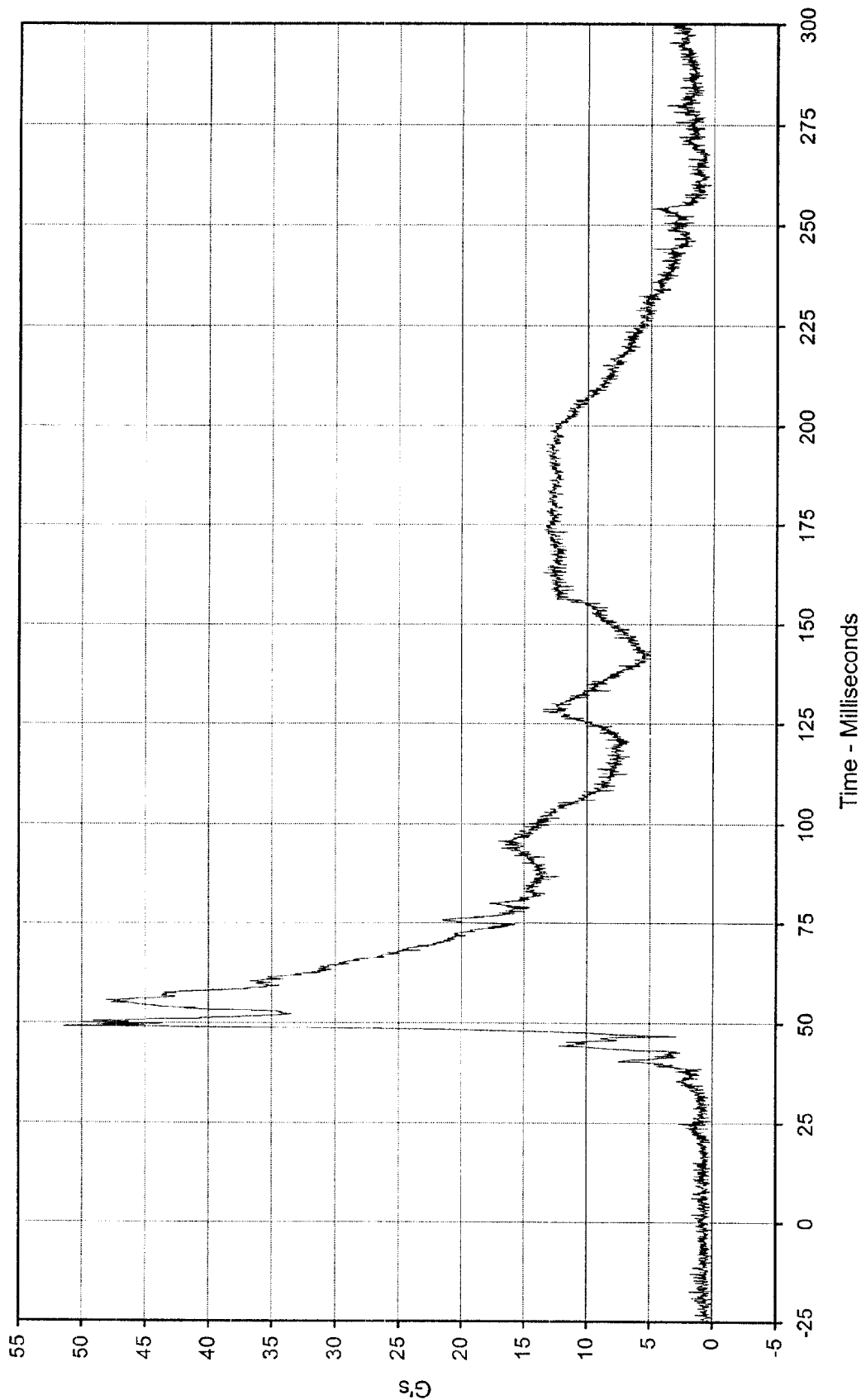


Curve Description:	Driver Head Primary Z			Testing Program:	1998 37.5mph Offset, 5th Female	No.: MW0214
Maximum Value:	8.3	at	163.0	Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan
Minimum Value:	-17.9	at	55.2	Milliseconds		
SAE Filter Class:	1000					
Date of Test:	8/11/98					
Curve Number:	FIL-003					



KARCO
Engineering





Curve Description: Driver Head Resultant Primary

Maximum Value: 51.3 at 49.2 Milliseconds

Minimum Value: 0.1 at 8.1 Milliseconds

SAE Filter Class: 1000

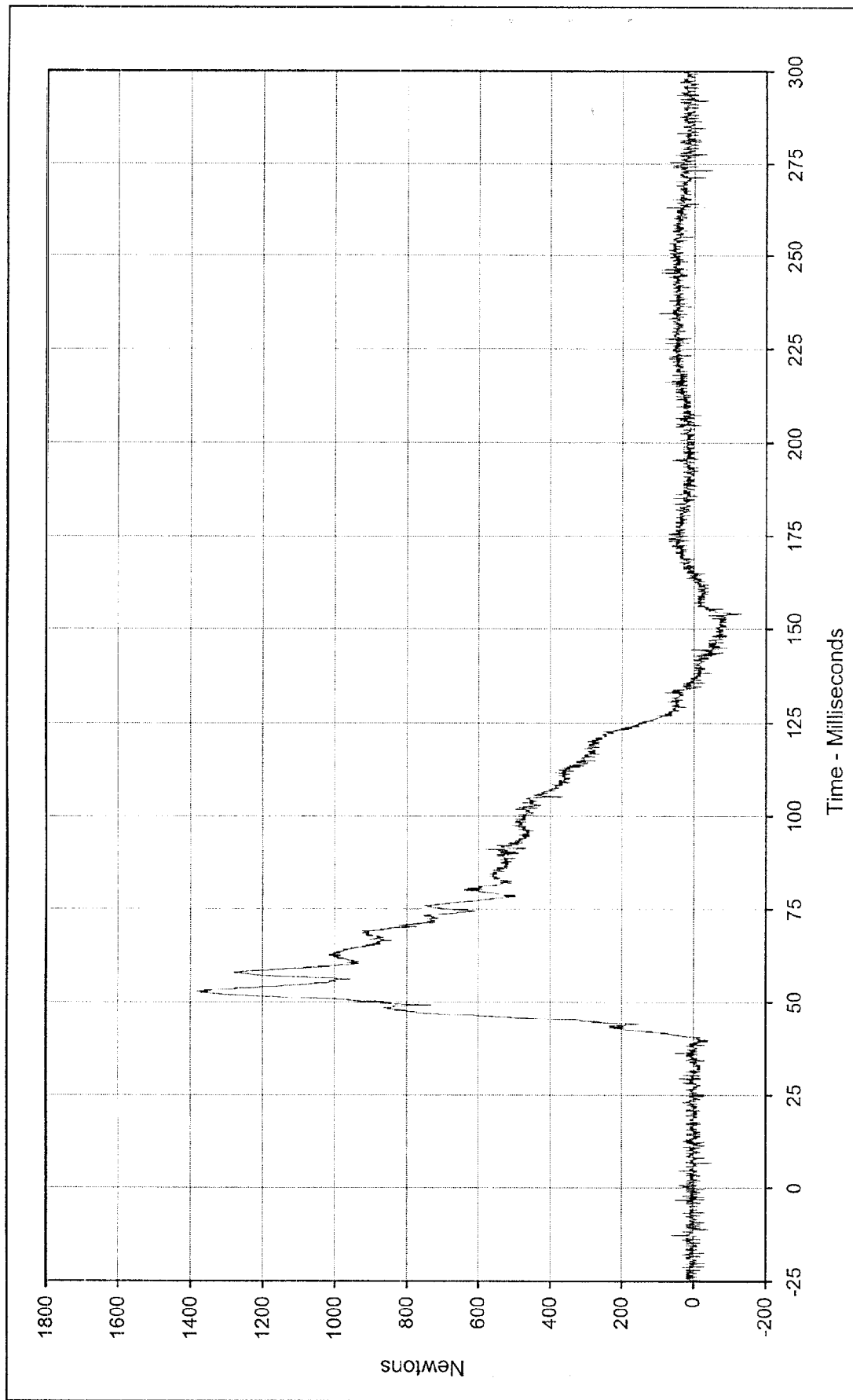
Date of Test: 8/1/98

Curve Number: RES-001

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Neck Force X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 1381.4 at 52.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

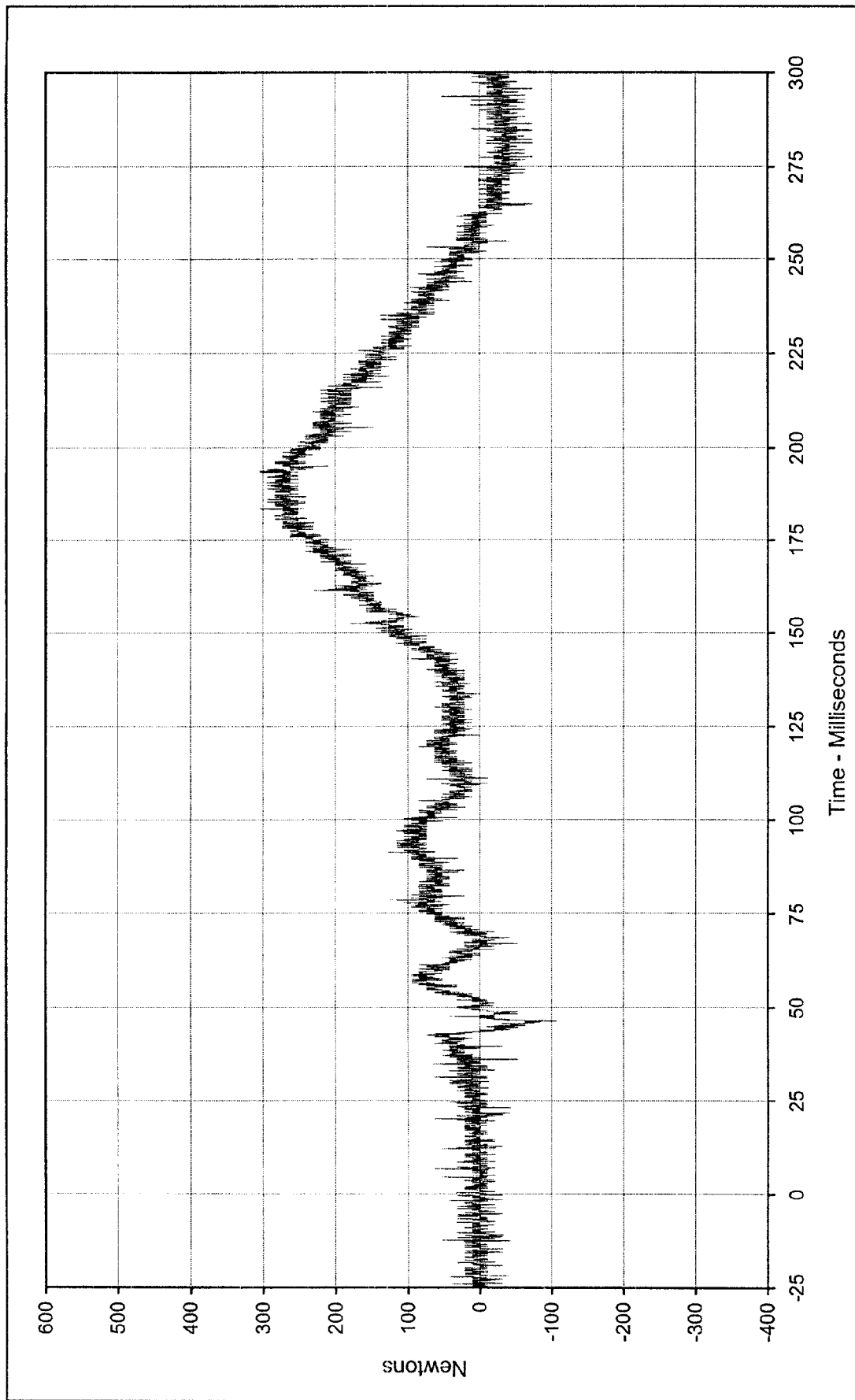
Minimum Value: -132.0 at 154.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-004





Curve Description: Driver Neck Force Y Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 304.5 at 183.5 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

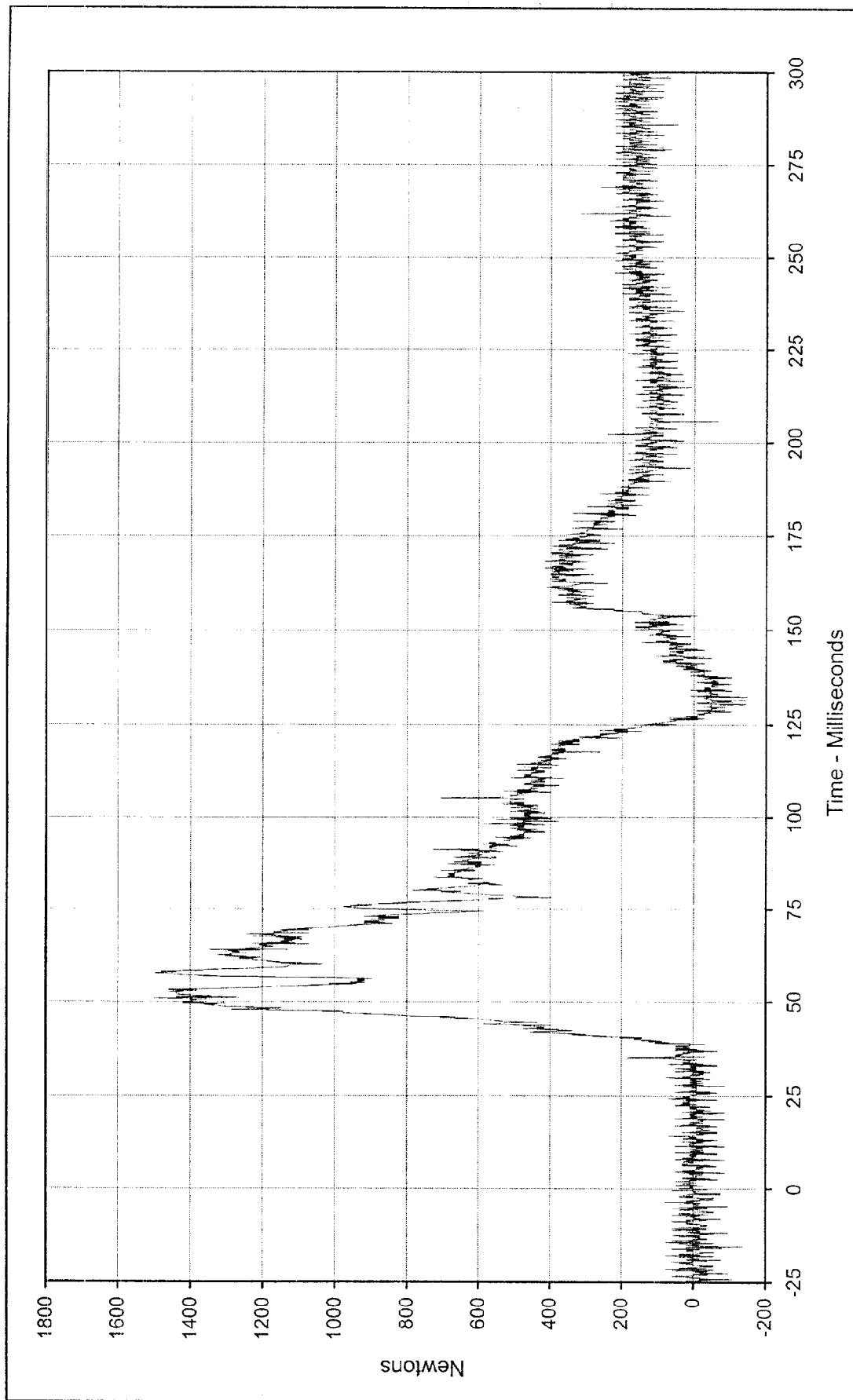
Minimum Value: -105.0 at 46.5 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-005





Curve Description: Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

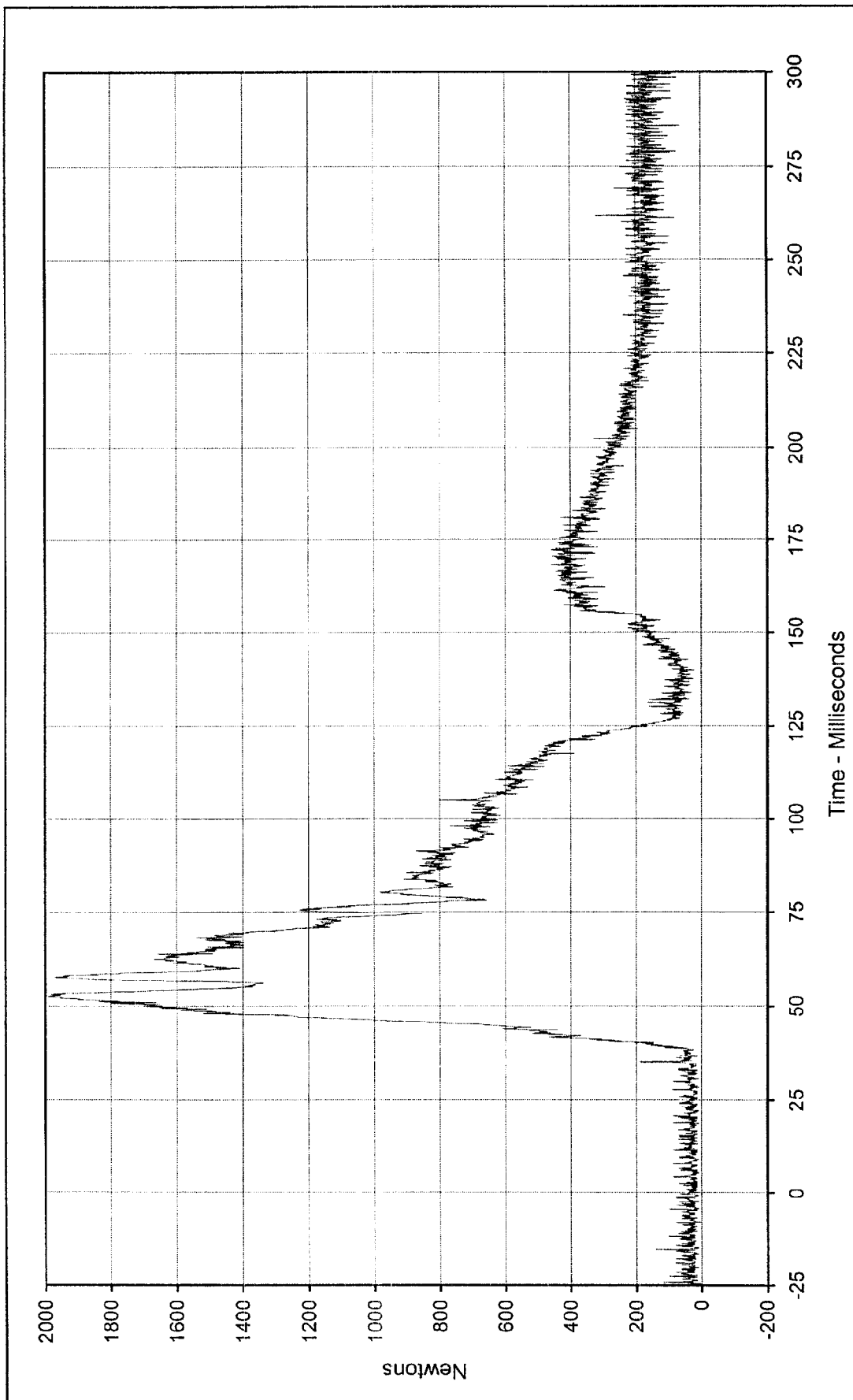
Maximum Value: 1497.4 at 50.9 Milliseconds
Minimum Value: -144.5 at 130.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/1/98

Curve Number: FIL-006





Curve Description: Driver Neck Force Resultant

Maximum Value: 1988.2 at 52.7 Milliseconds

Minimum Value: 9.3 at 5.3 Milliseconds

SAE Filter Class: 1000

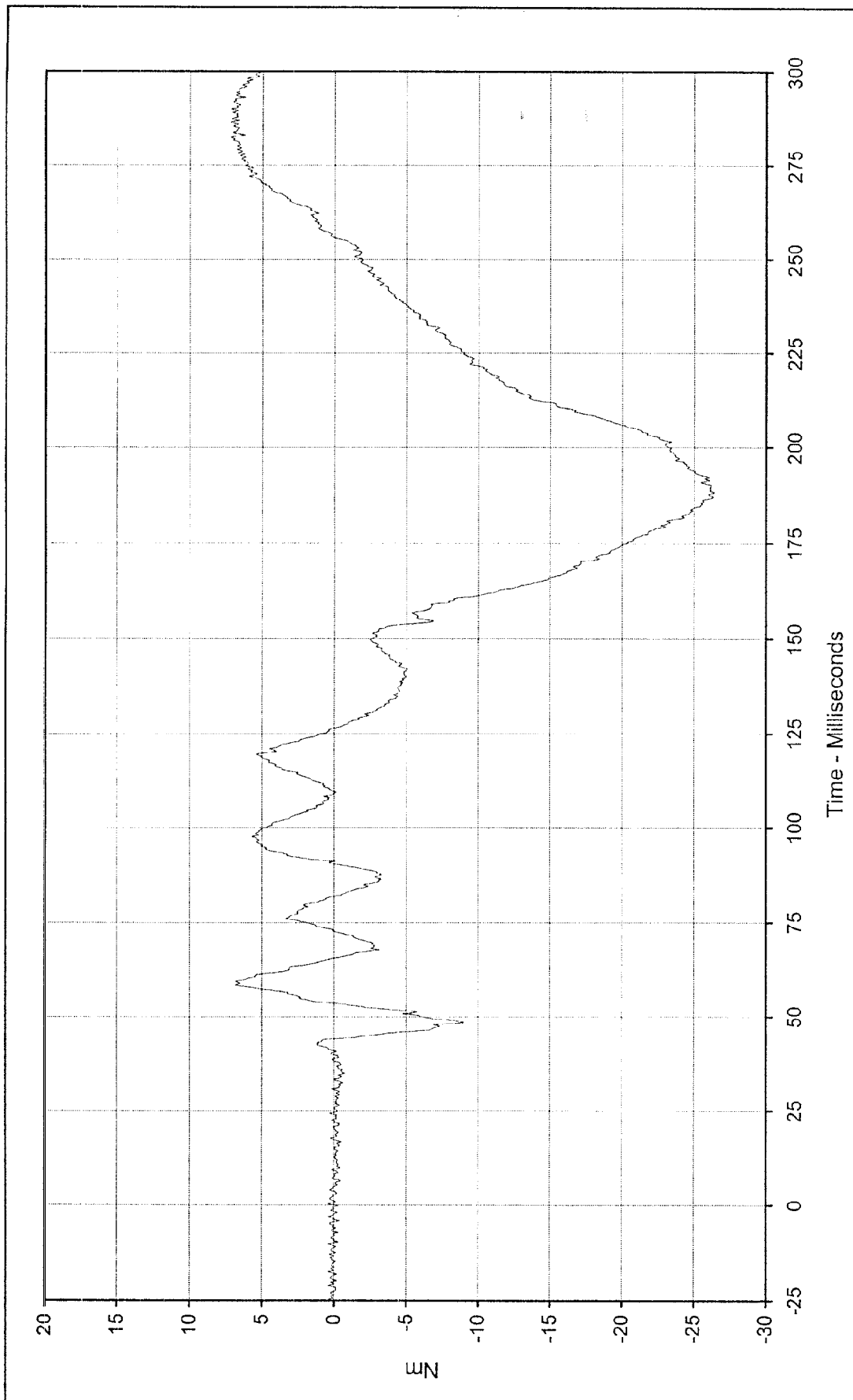
Date of Test: 8/11/98

Curve Number: RES-004

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Neck Moment X

Maximum Value: 7.2 at 286.6 Milliseconds

Minimum Value: -26.4 at 188.3 Milliseconds

SAE Filter Class: 600

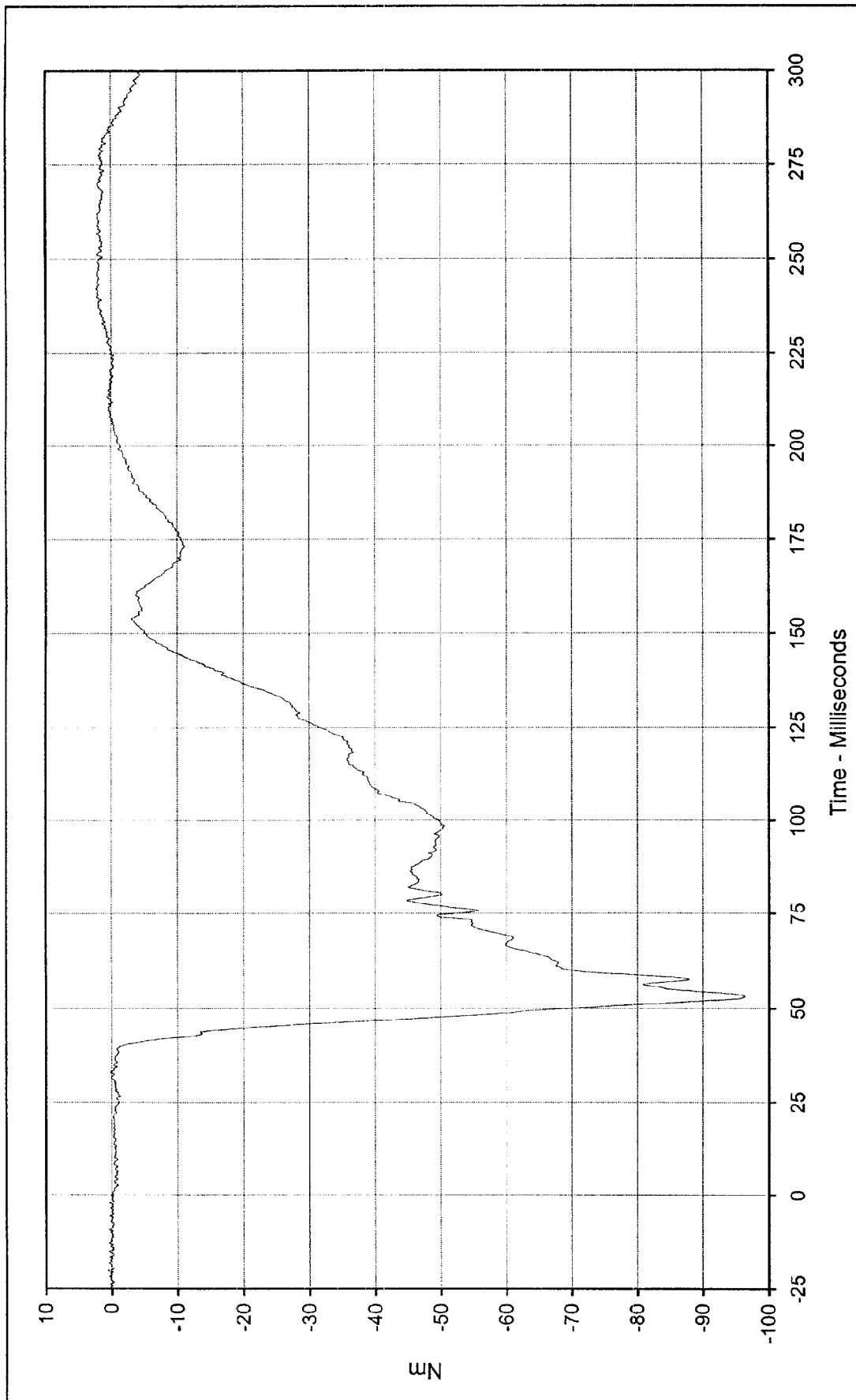
Date of Test: 8/11/98

Curve Number: FIL-007

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 2.3 at 242.2 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

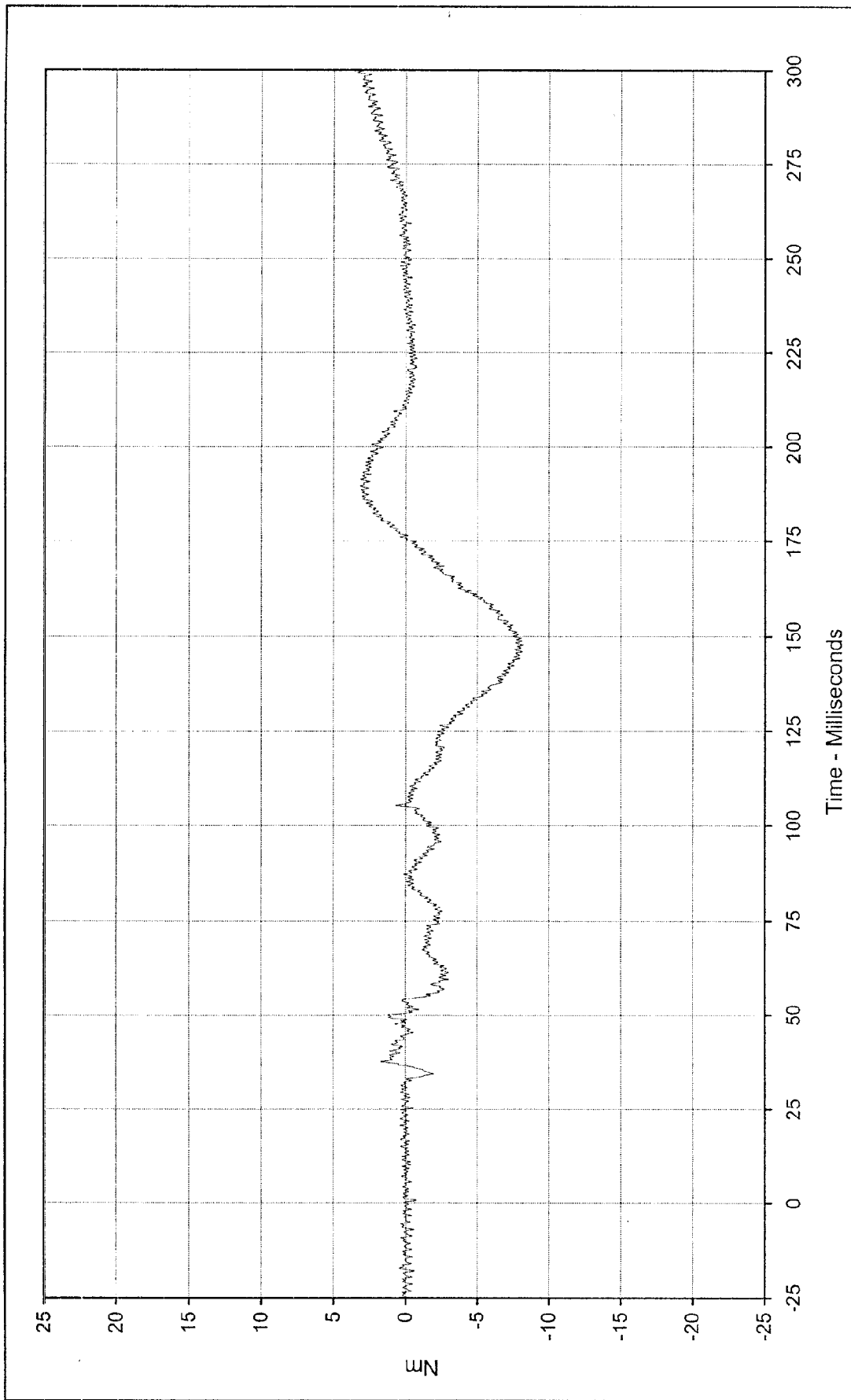
Minimum Value: -96.4 at 53.1 Milliseconds

SAE Filter Class: 600

Date of Test: 8/11/98

Curve Number: FIL-008





Curve Description: Driver Neck Moment Z

Maximum Value: 3.4 at 299.4 milliseconds

Minimum Value: -8.2 at 147.7 milliseconds

SAE Filter Class: 600

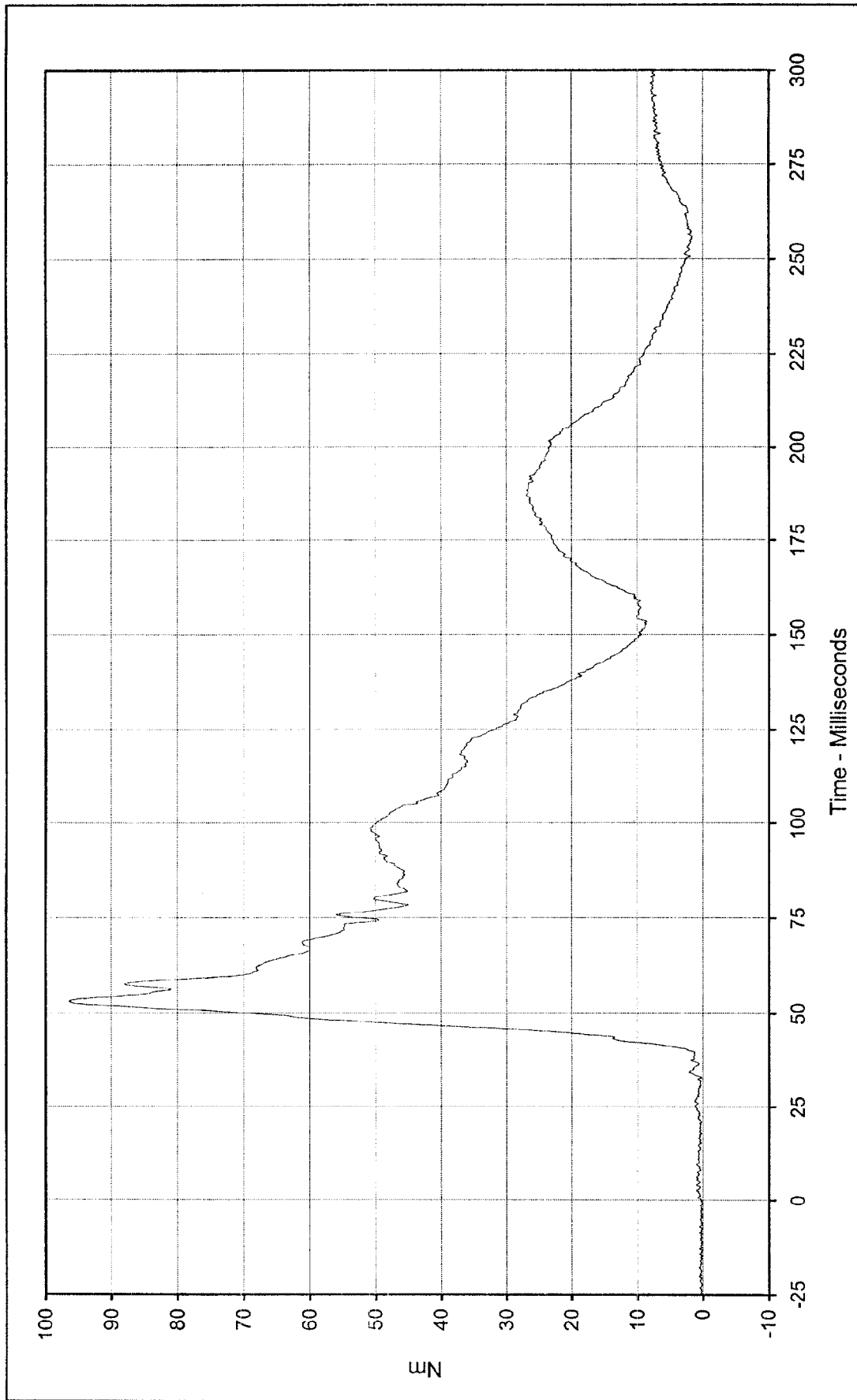
Date of Test: 8/11/98

Curve Number: FIL-009

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Neck Moment Resultant Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 96.4 at 53.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

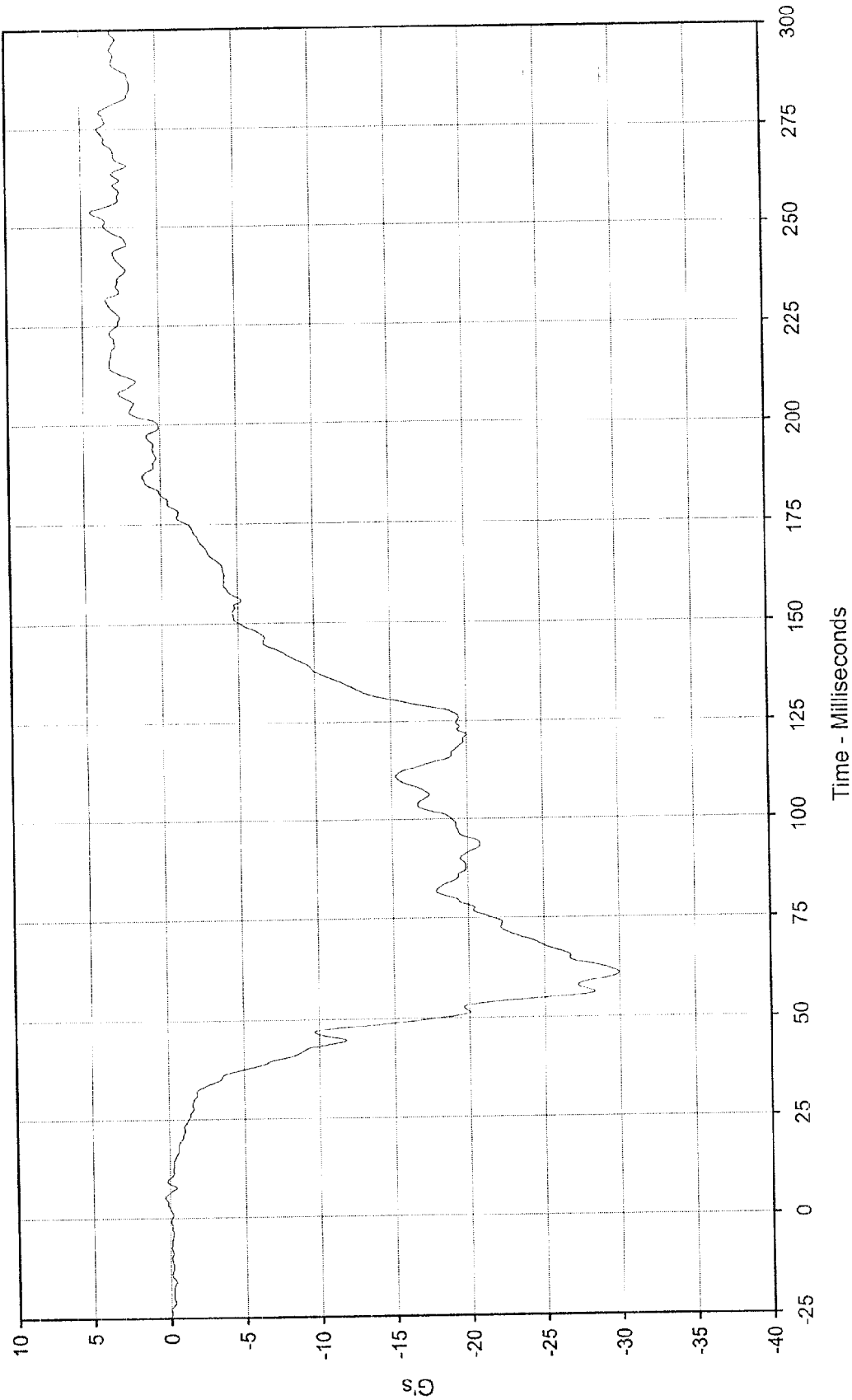
Minimum Value: 0.2 at 17.9 Milliseconds

SAE Filter Class: 600

Date of Test: 8/11/98

Curve Number: RES-007



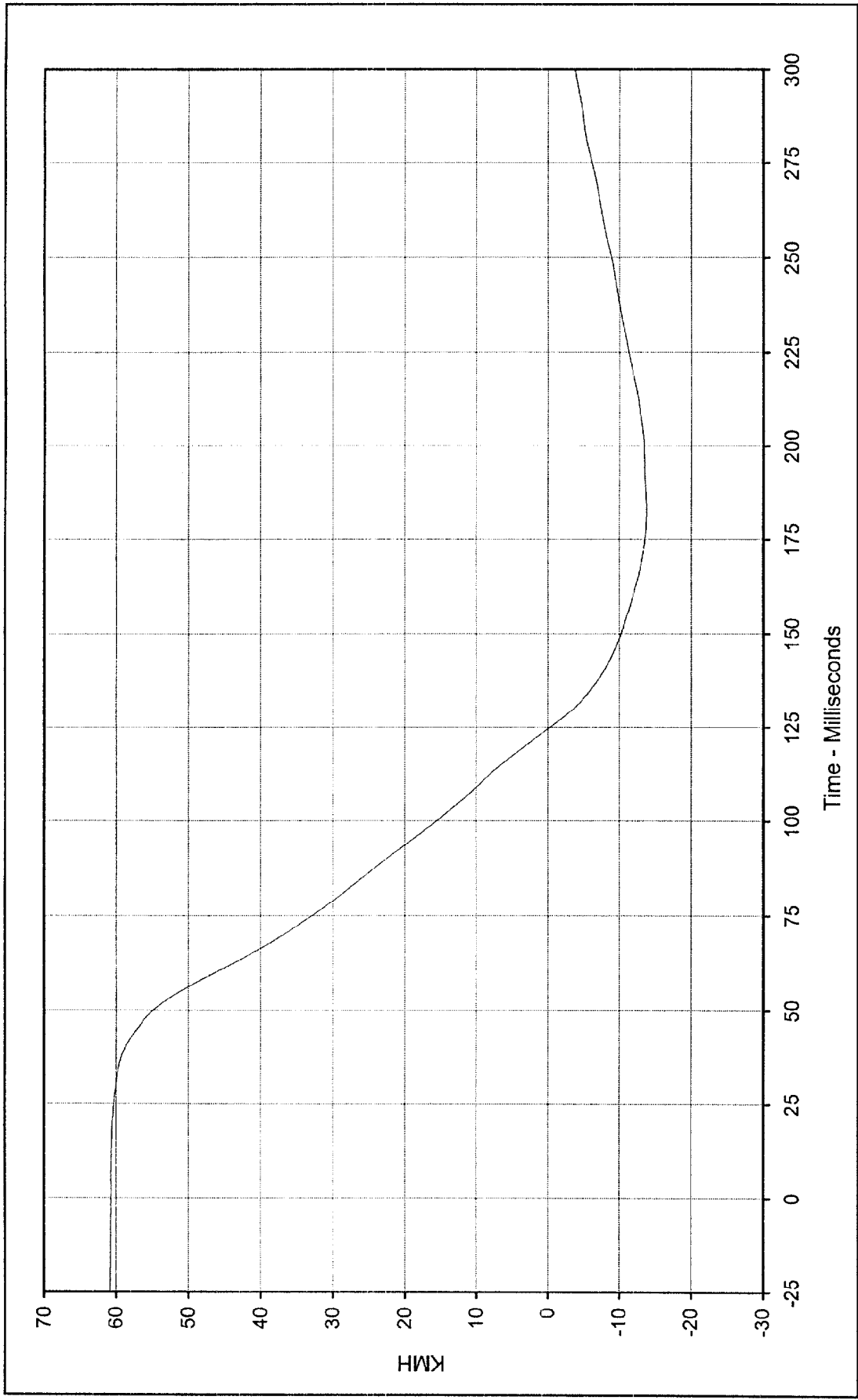


Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description:	Driver Chest Primary X	
Maximum Value:	4.4	at 253.8 Milliseconds
Minimum Value:	-30.0	at 60.9 Milliseconds
SAE Filter Class:	180	
Date of Test:	8/11/98	
Curve Number:	FIL-010	





Curve Description: Driver Chest Primary X Velocity Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 60.7 at 6.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

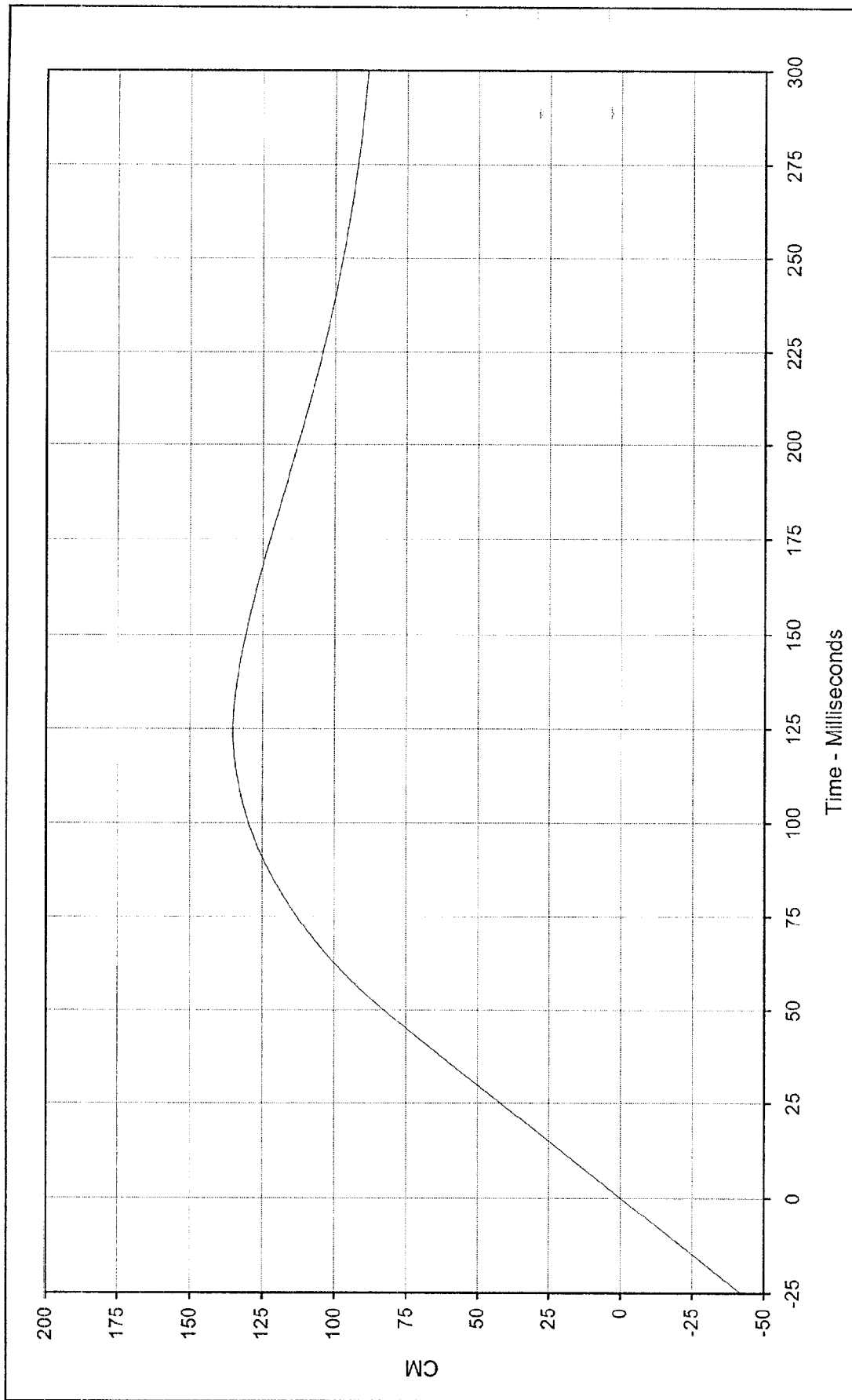
Minimum Value: -13.8 at 182.6 Milliseconds

SAE Filter Class: 180

Date of Test: 8/1/98

Curve Number: IN1-010





Curve Description: Driver Chest Primary X Displ. Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 135.2 at 124.6 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

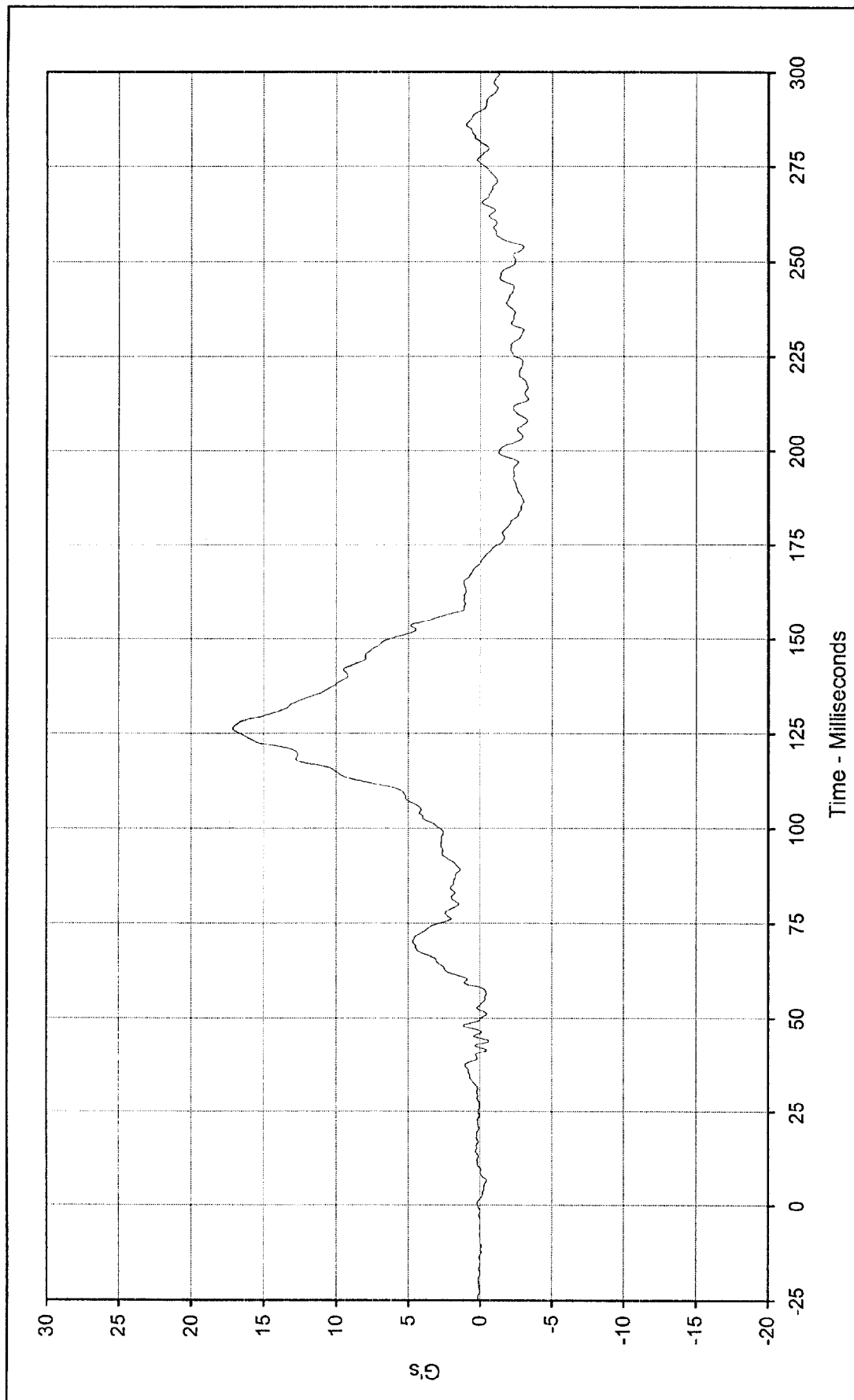
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN2-010





Curve Description: Driver Chest Primary Y

Maximum Value: 17.2 at 126.2 Milliseconds

Minimum Value: -3.3 at 213.7 Milliseconds

SAE Filter Class: 180

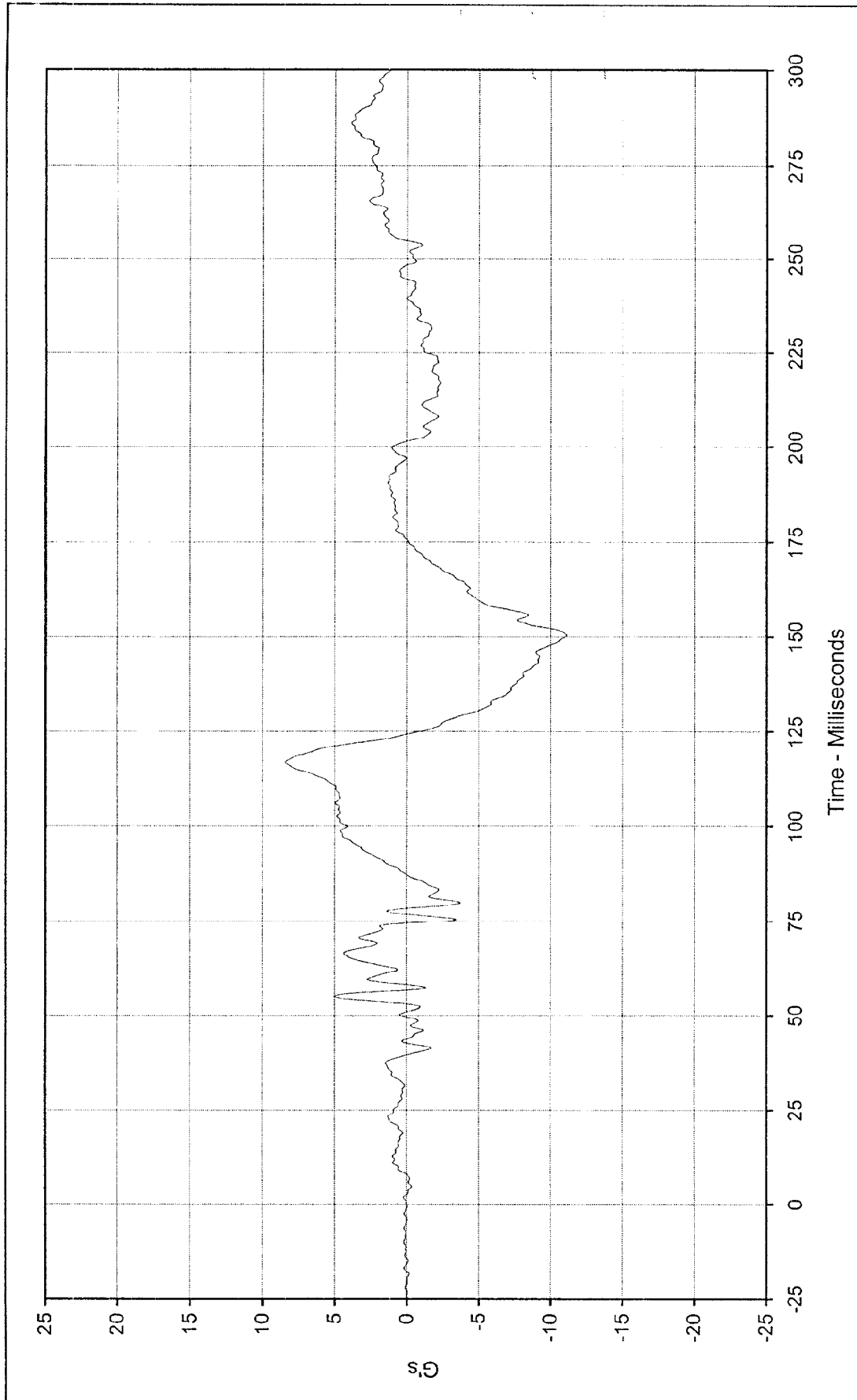
Date of Test: 8/1/98

Curve Number: FIL-011

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

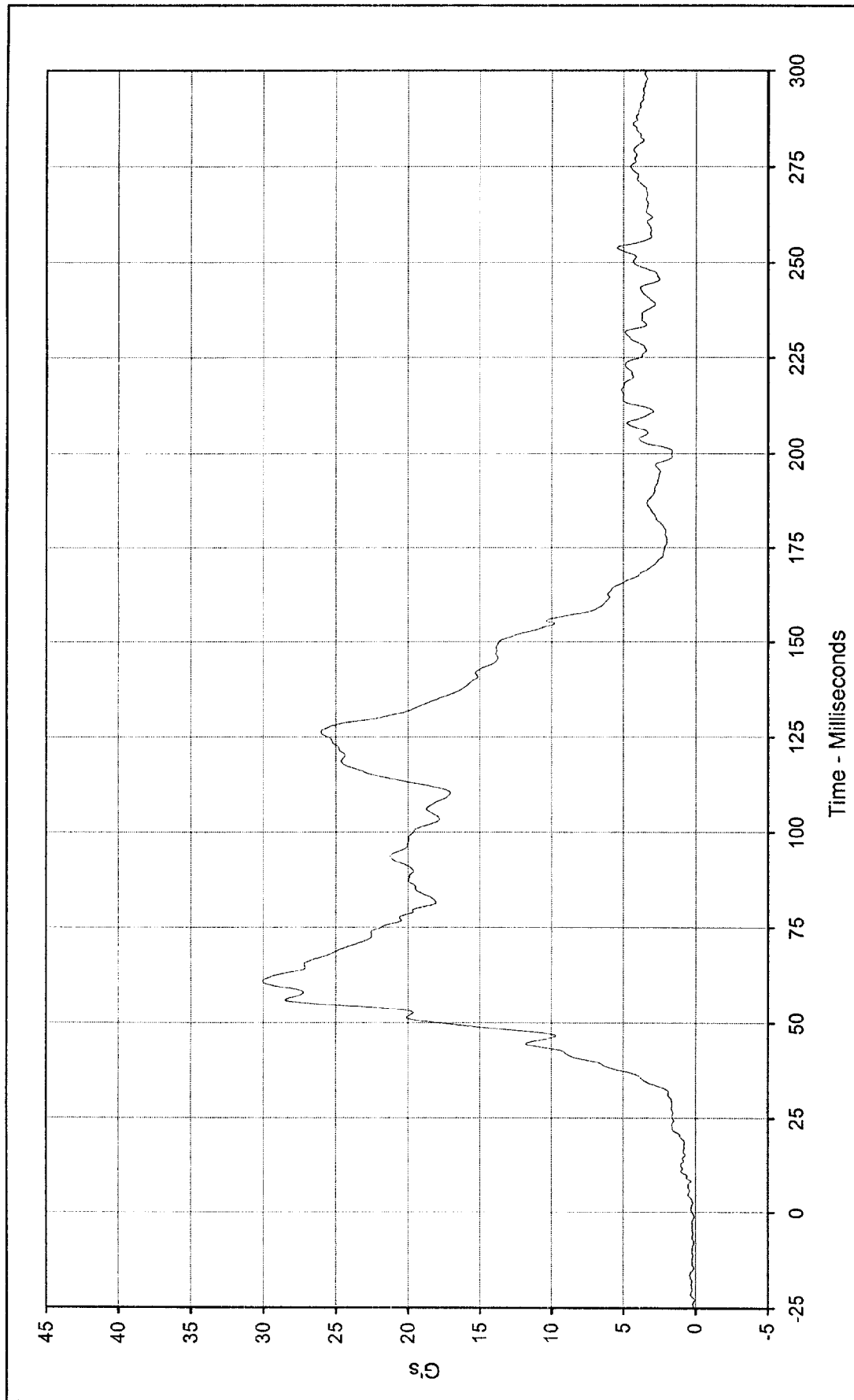




Curve Description: Driver Chest Primary Z
 Maximum Value: 8.5 at 117.0 Milliseconds
 Minimum Value: -11.1 at 150.4 Milliseconds
 SAE Filter Class: 180
 Date of Test: 8/11/98
 Curve Number: FIL-012

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Resultant Primary

Maximum Value: 30.0 at 60.9 Milliseconds

Minimum Value: 0.1 at 2.4 Milliseconds

SAE Filter Class: 180

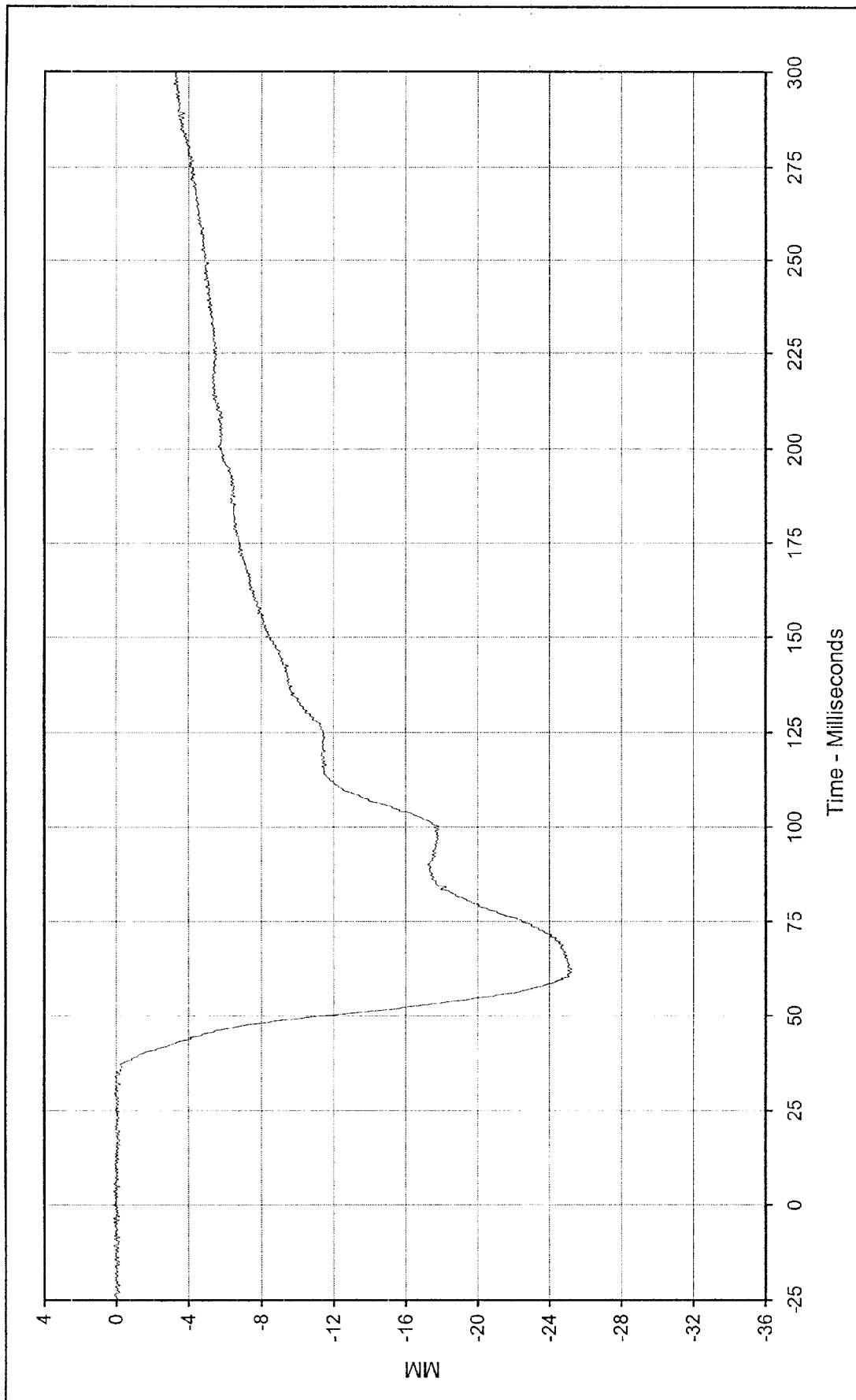
Date of Test: 8/1/98

Curve Number: RES-010

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Chest Displacement X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 0.1 at 0.0 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

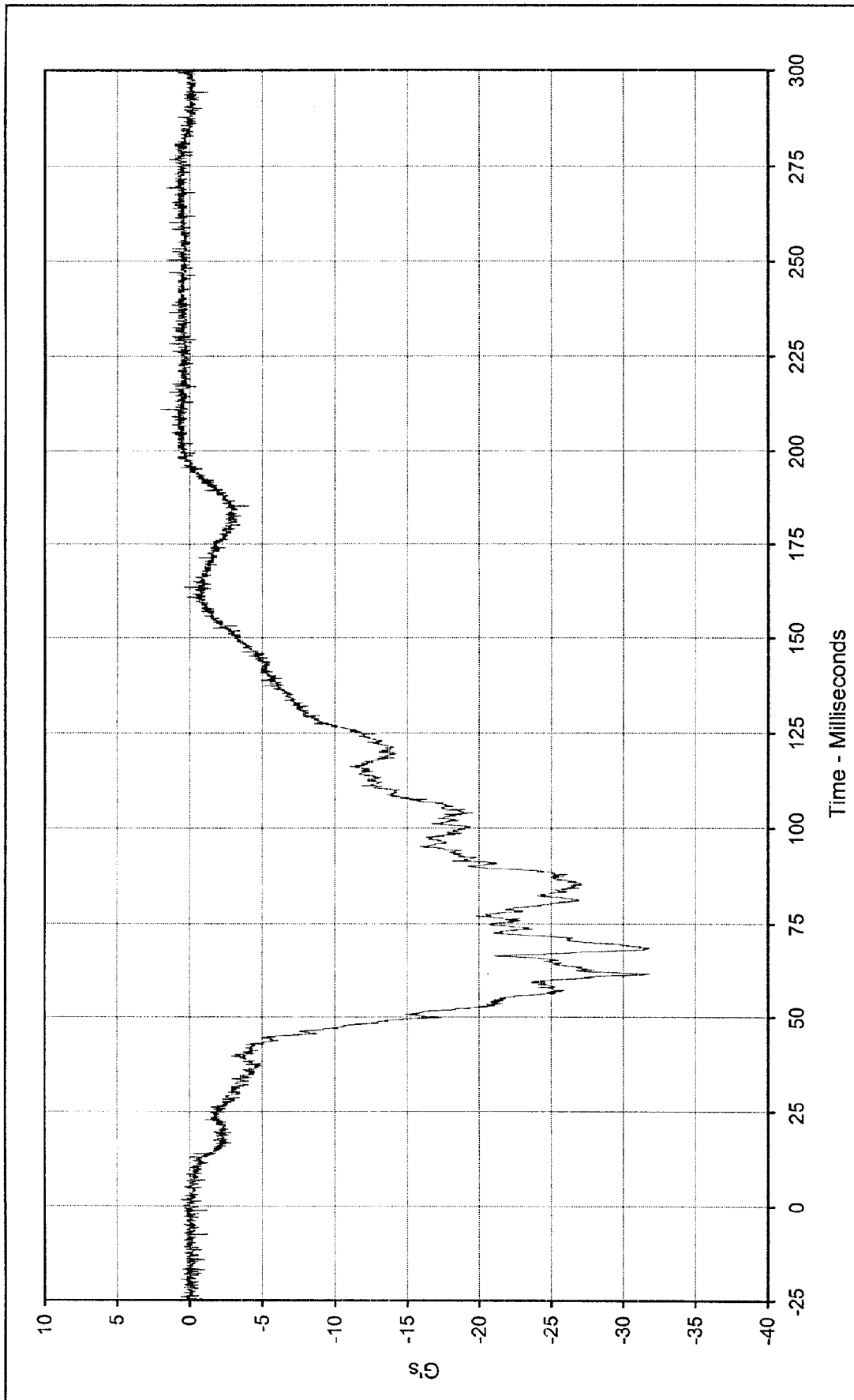
Minimum Value: -25.3 at 62.5 Milliseconds

SAE Filter Class: 600

Date of Test: 8/11/98

Curve Number: FIL-013





Curve Description: Driver Pelvis X

Maximum Value: 2.0 at 211.2 Milliseconds

Minimum Value: -31.8 at 61.8 Milliseconds

SAE Filter Class: 1000

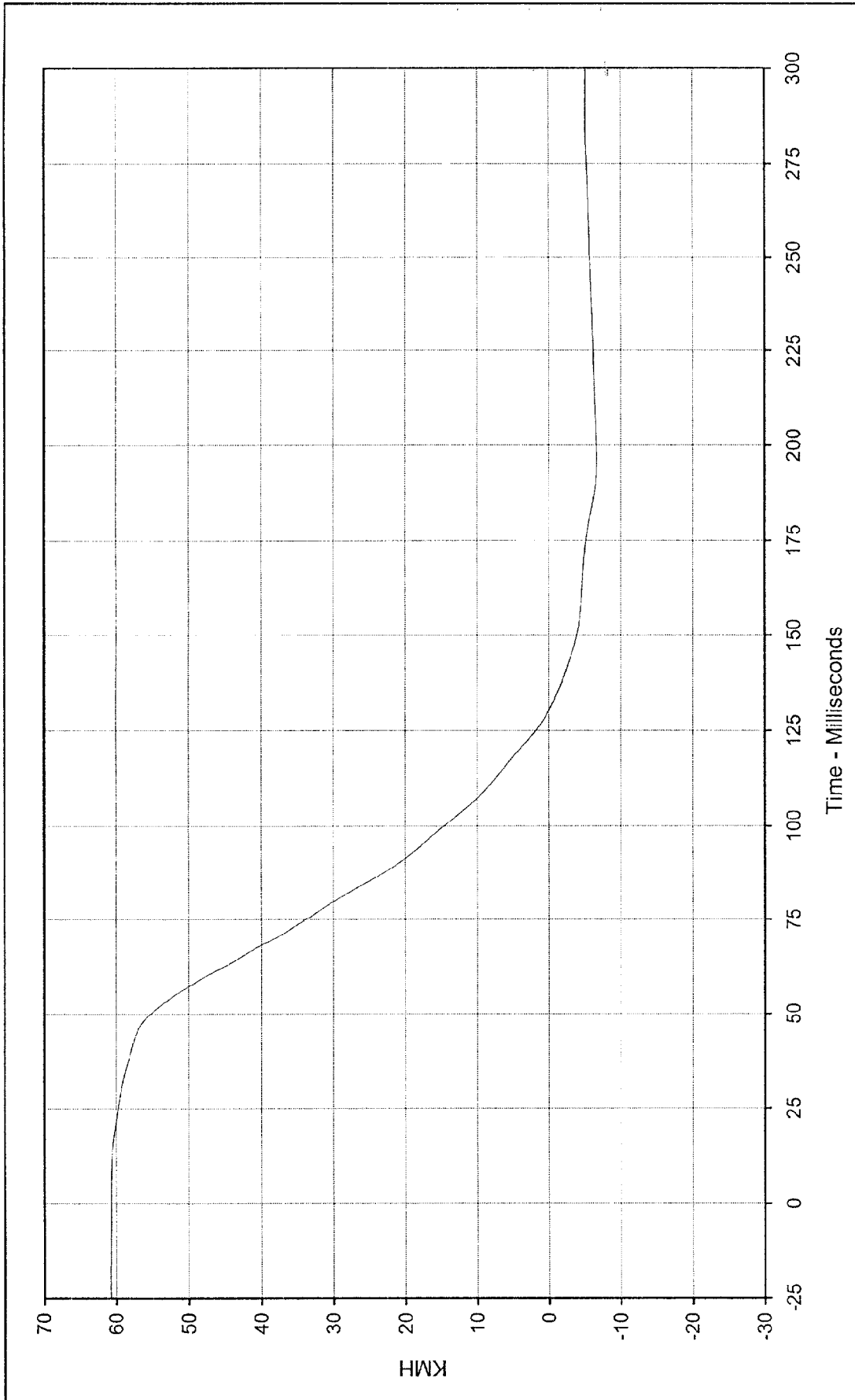
Date of Test: 8/1/98

Curve Number: FIL-014

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

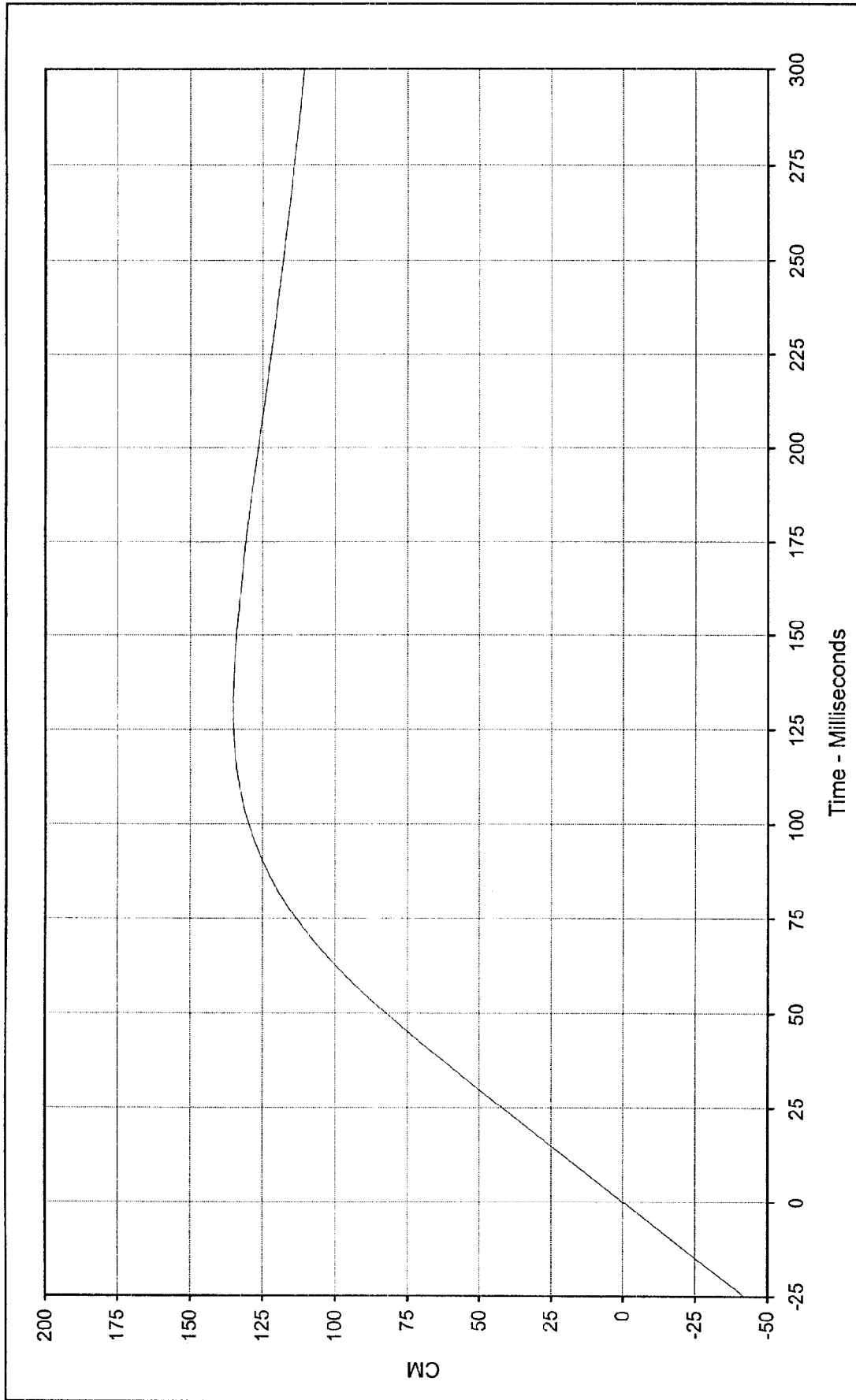




Curve Description: Driver Pelvis X Velocity
 Maximum Value: 60.8 at 0.0 Milliseconds
 Minimum Value: -6.7 at 196.6 Milliseconds
 SAE Filter Class: 180
 Date of Test: 8/11/98
 Curve Number: IN1-014

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Pelvis X Displ. Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 135.2 at 130.4 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

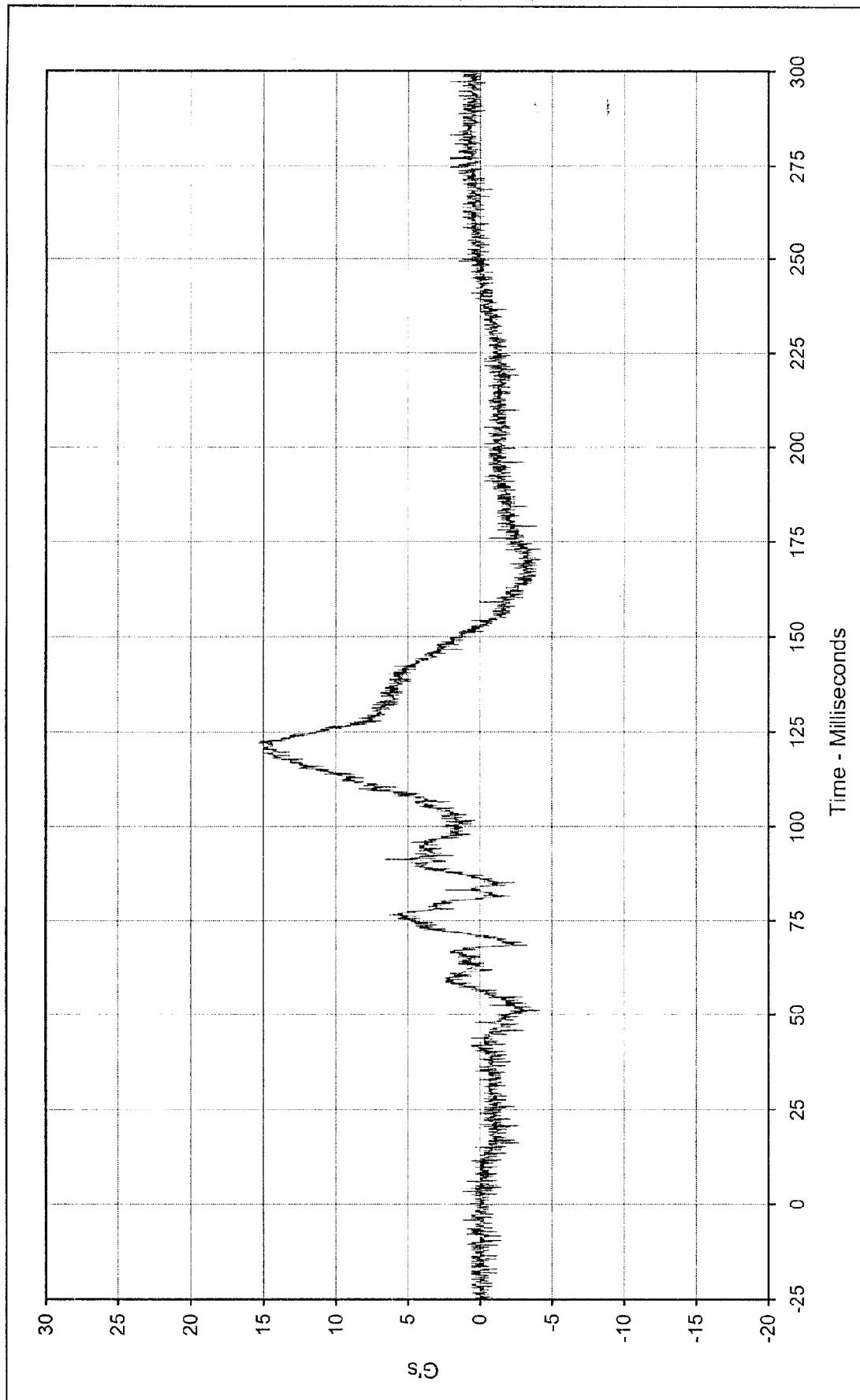
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/1/98

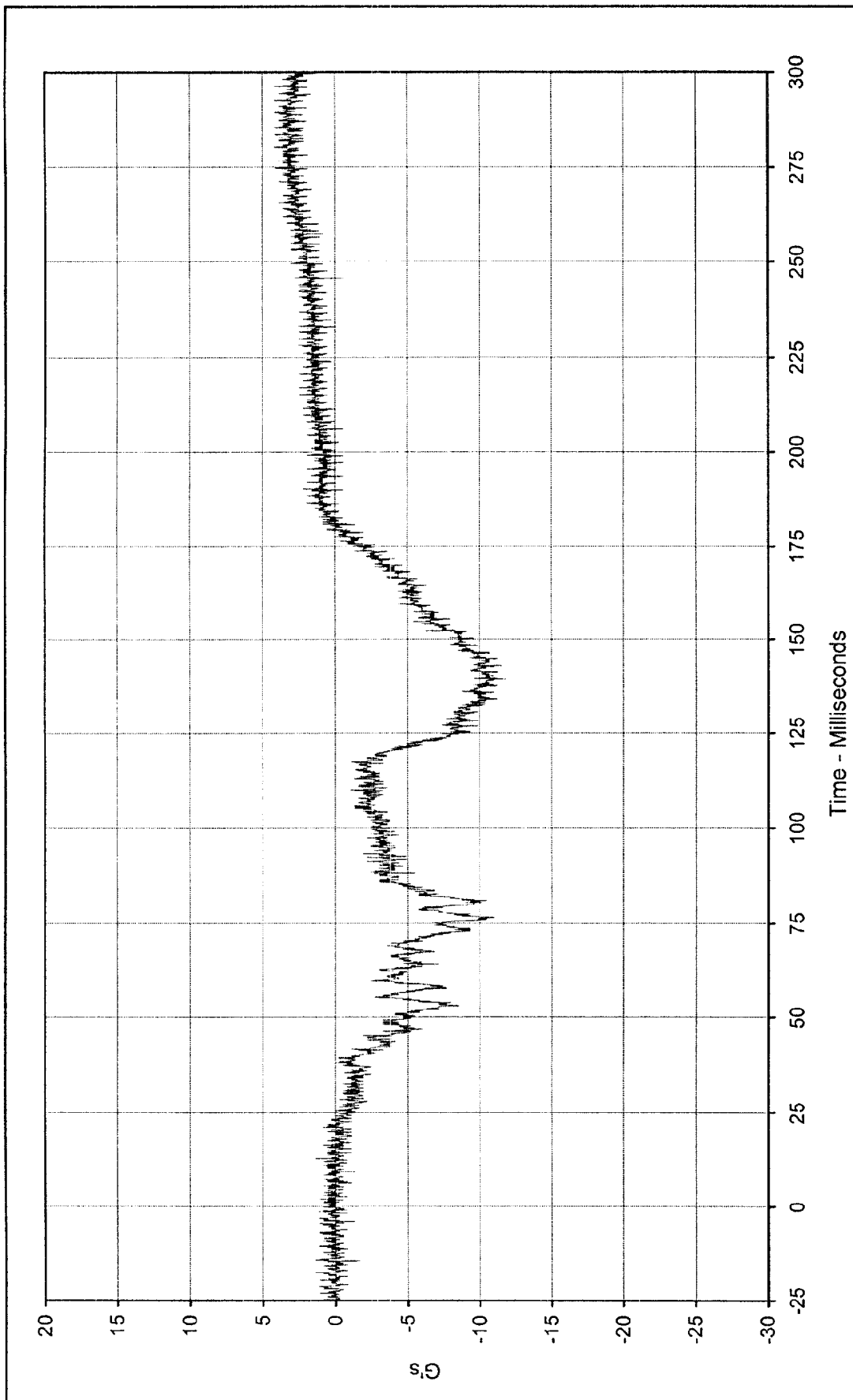
Curve Number: IN2-014





Curve Description:	Driver Pelvis Y		Testing Program:	1998 37.5mph Offset, 5th Female	No.:	MW0214
Maximum Value:	15.3	at 122.1 Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan		
Minimum Value:	-4.2	at 51.2 Milliseconds				
SAE Filter Class:	1000					
Date of Test:	8/11/98					
Curve Number:	FIL-015					





Curve Description: Driver Pelvis Z

Maximum Value: 4.1 at 274.7 Milliseconds

Minimum Value: -11.8 at 139.5 Milliseconds

SAE Filter Class: 1000

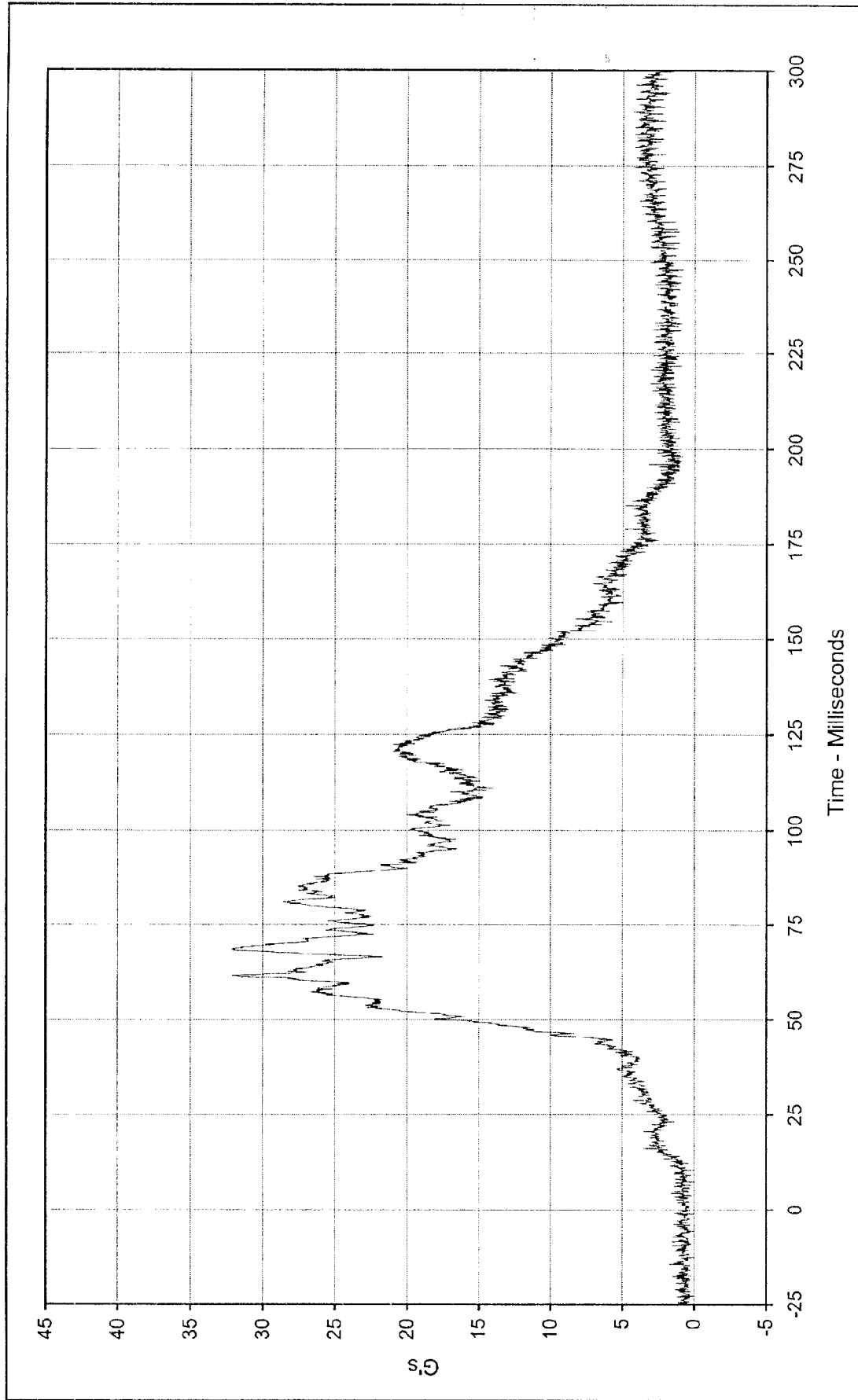
Date of Test: 8/11/98

Curve Number: FIL-016

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

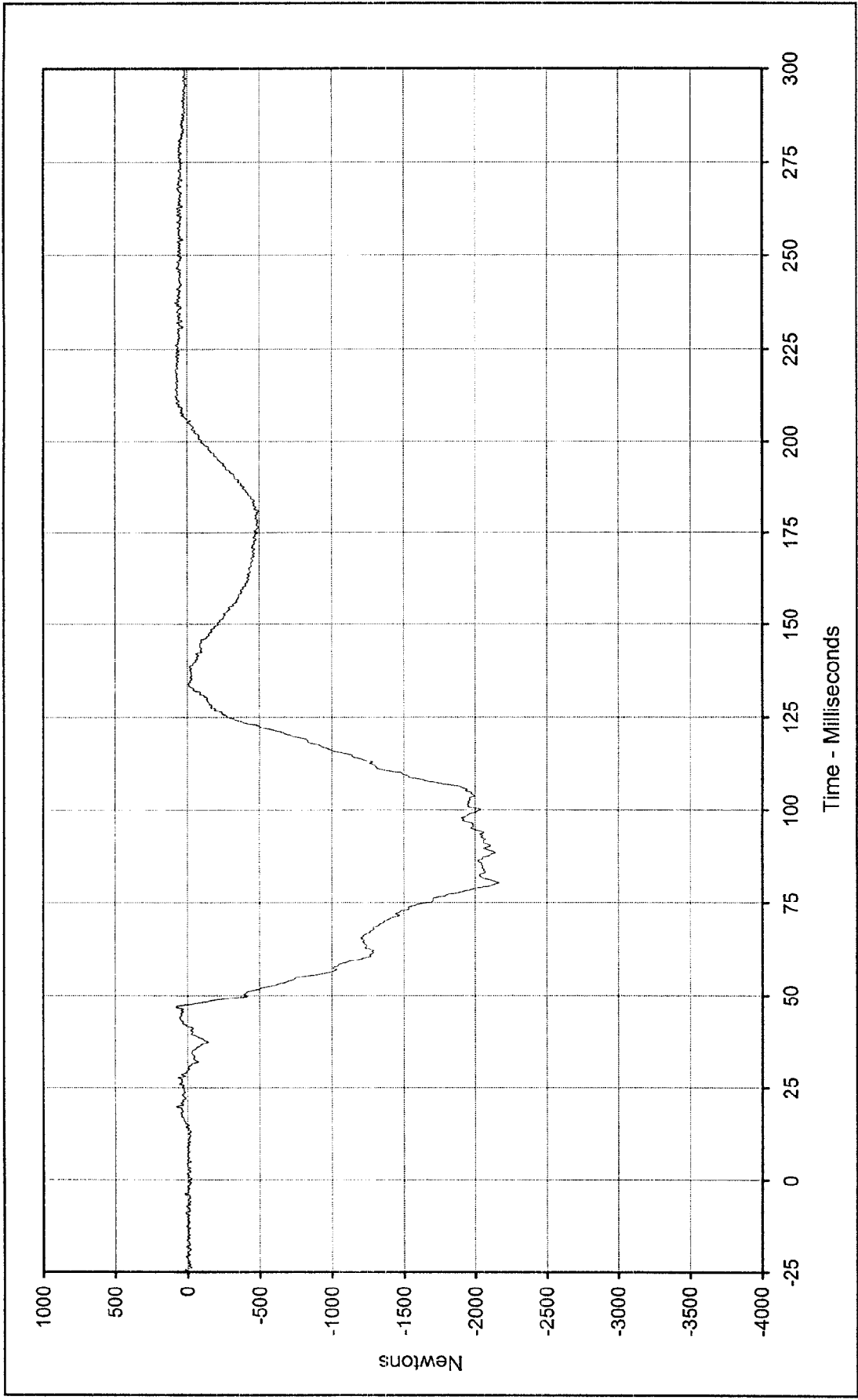
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description:		Driver Pelvis Resultant		Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214	
Maximum Value:	32.2	at	61.8	Milliseconds	Test Vehicle: 1998 Ford Contour 4 Door Sedan
Minimum Value:	0.0	at	3.7	Milliseconds	
SAE Filter Class:	1000				
Date of Test:	8/1/98				
Curve Number:	RES-014				





Curve Description: Driver Left Femur Force

Maximum Value: 85.4 at 237.4 Milliseconds

Minimum Value: -2161.9 at 80.5 Milliseconds

SAE Filter Class: 600

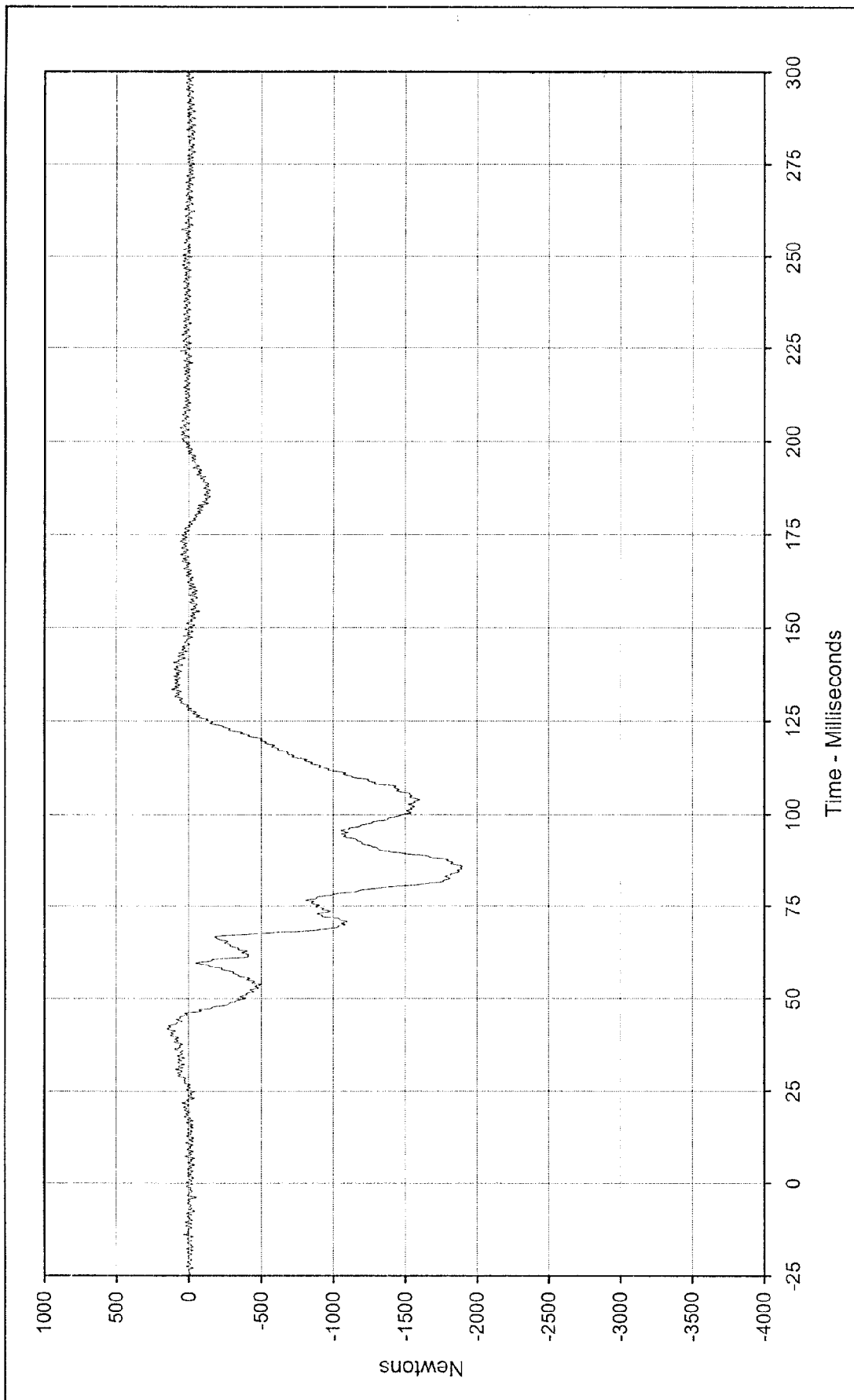
Date of Test: 8/11/98

Curve Number: FIL-017

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

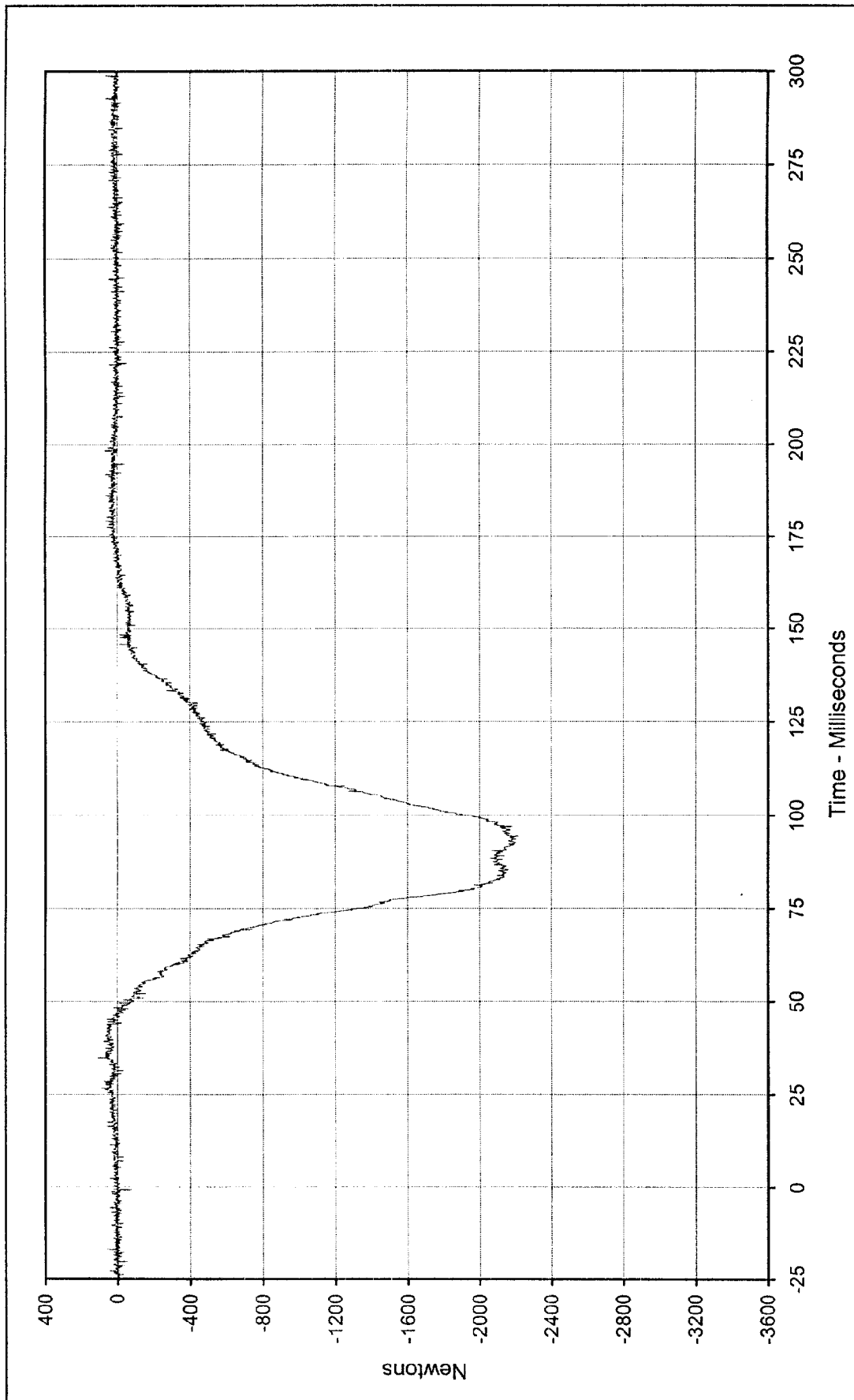




Curve Description:	Driver Right Femur Force			Testing Program:	1998 37.5mph Offset, 5th Female	No.: MW0214
Maximum Value:	150.4	at	41.5	Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan
Minimum Value:	-1899.9	at	85.9	Milliseconds		
SAE Filter Class:	600					
Date of Test:	8/11/98					
Curve Number:	FIL-018					







Curve Description: Driver Left Upper Tibia Force X

Maximum Value: 110.8 at 34.7 Milliseconds

Minimum Value: -2215.0 at 94.4 Milliseconds

SAE Filter Class: 1000

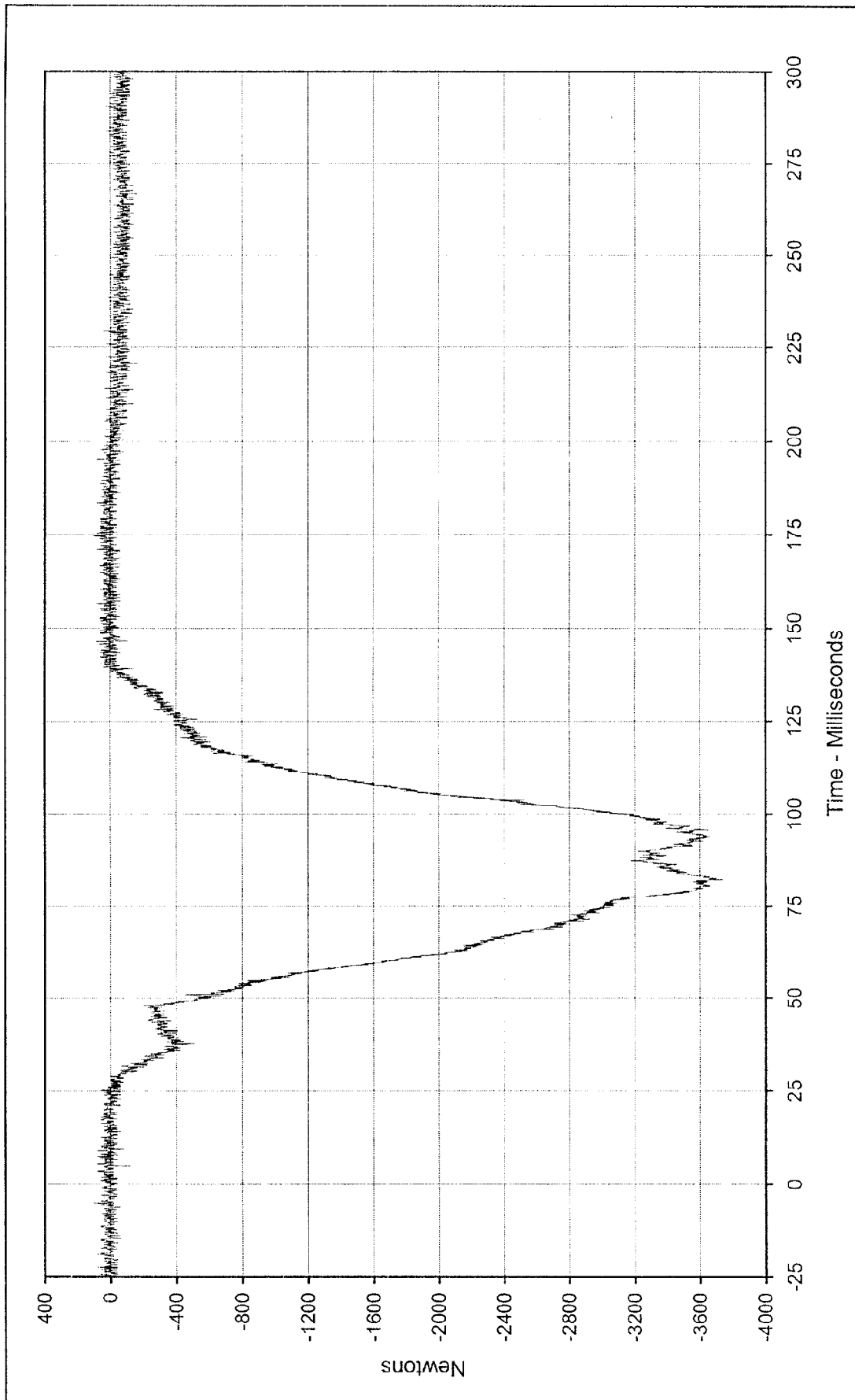
Date of Test: 8/11/98

Curve Number: FIL-019

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

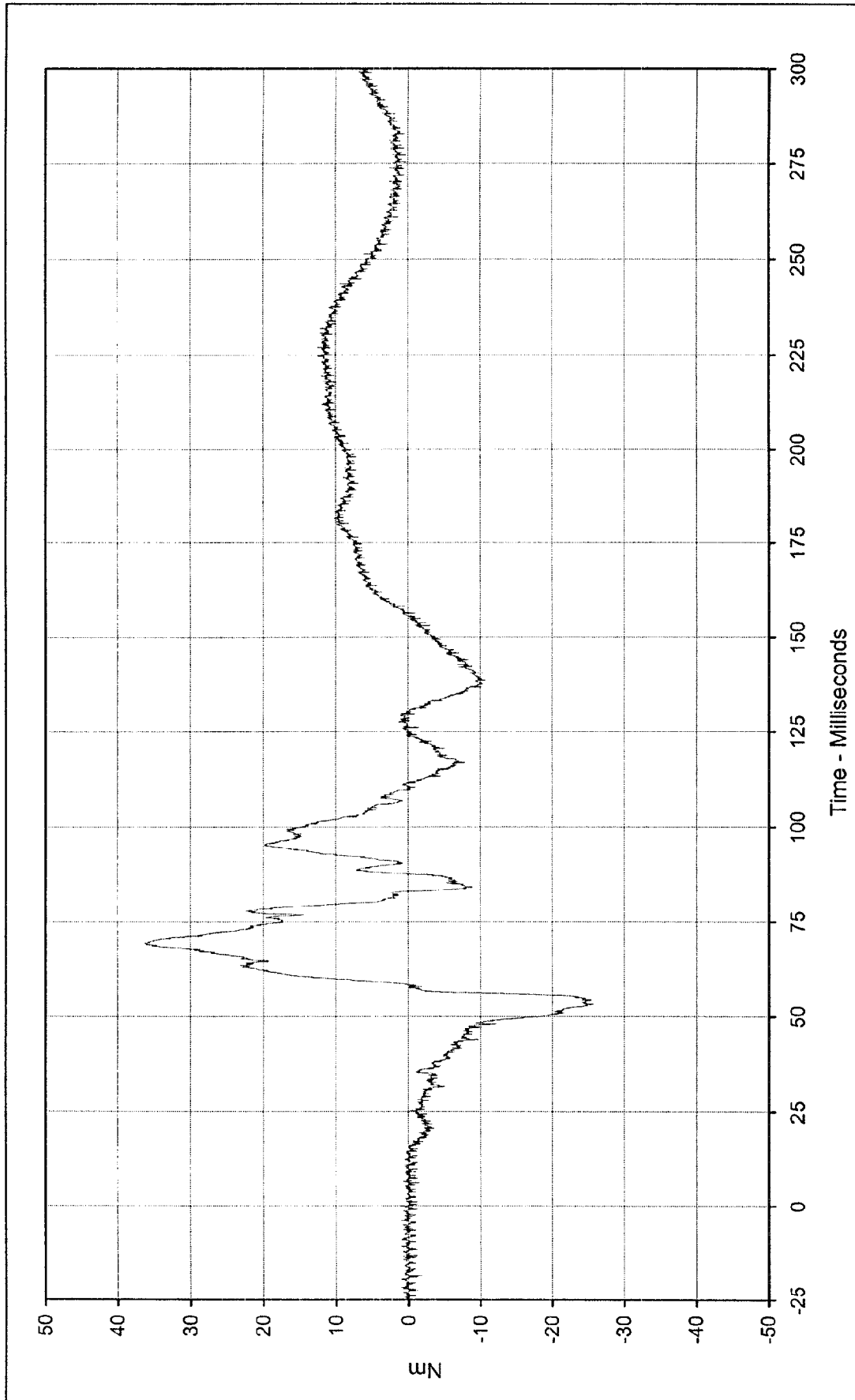




Curve Description: Driver Left Upper Tibia Force Z
Maximum Value: 101.6 at 174.7 Milliseconds
Minimum Value: -3739.6 at 82.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 8/1/98
Curve Number: FIL-020

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Left Upper Tibia Moment X

Maximum Value: 36.3 at 69.2 Milliseconds

Minimum Value: -25.7 at 53.2 Milliseconds

SAE Filter Class: 1000

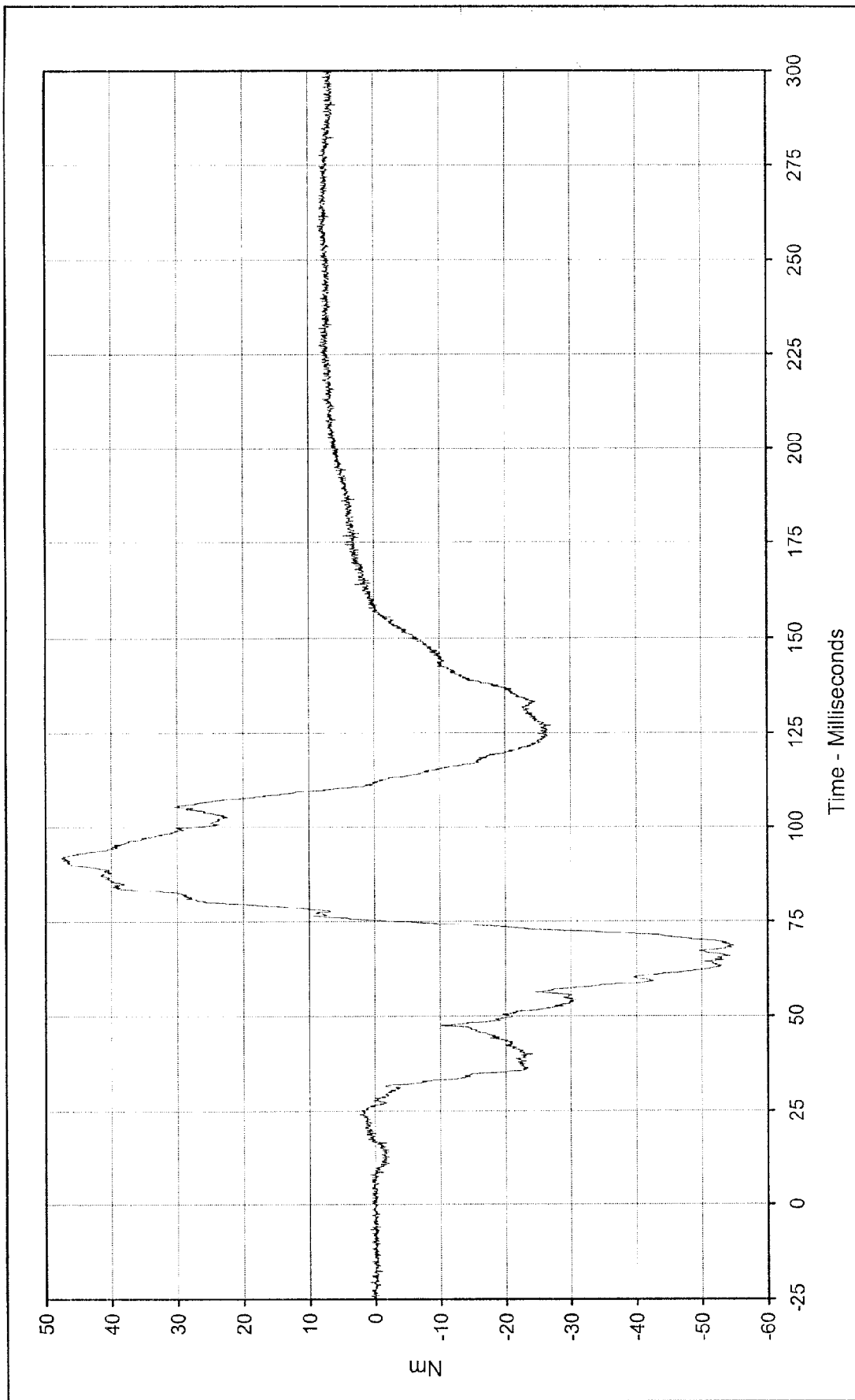
Date of Test: 8/11/98

Curve Number: FIL-021

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

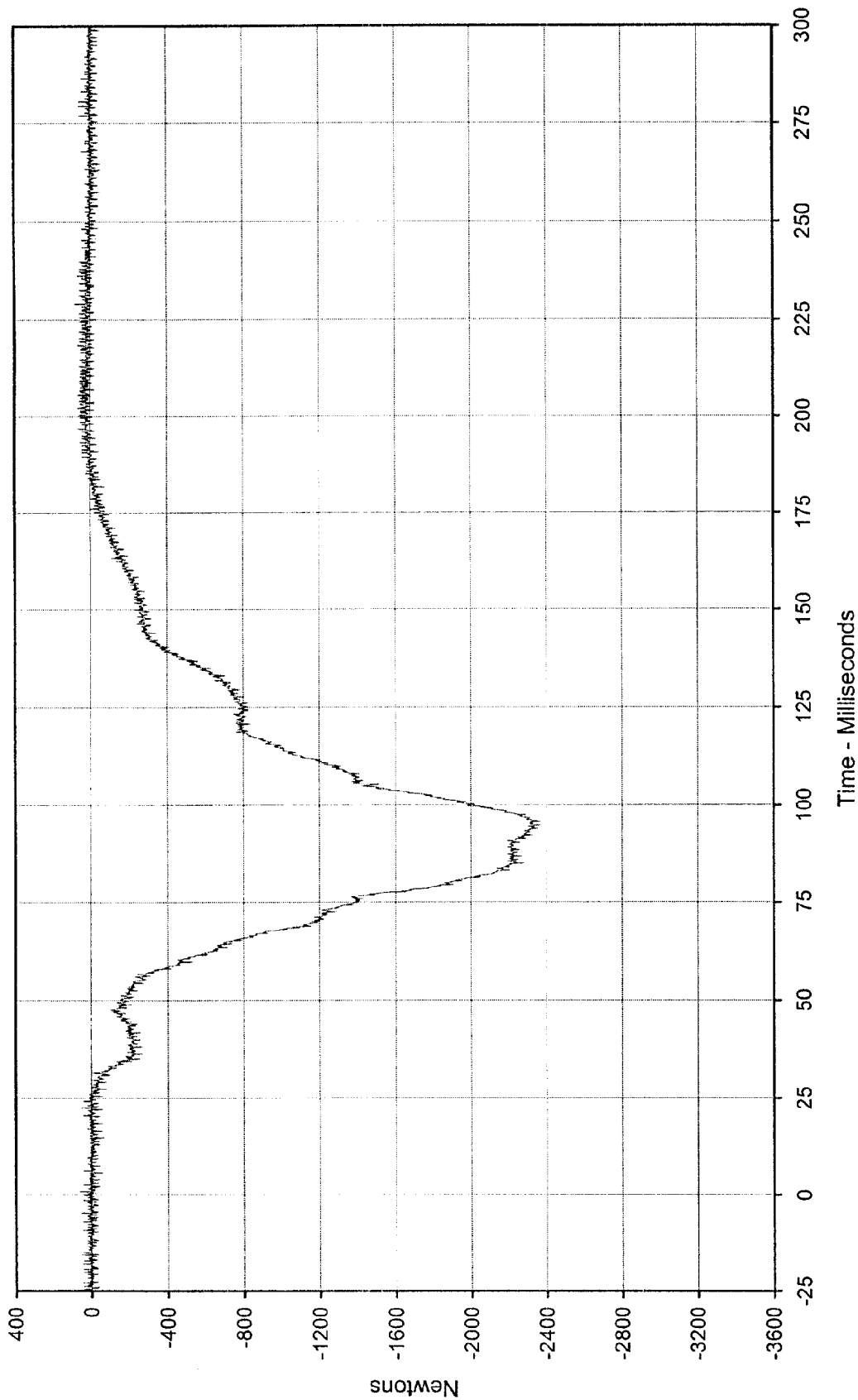




Curve Description: Driver Left Upper Tibia Moment Y
 Maximum Value: 47.6 at 91.7 Milliseconds
 Minimum Value: -54.9 at 68.5 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-022

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Left Lower Tibia Force X

Maximum Value: 77.2 at 229.1 Milliseconds

Minimum Value: -2369.9 at 94.8 Milliseconds

SAE Filter Class: 1000

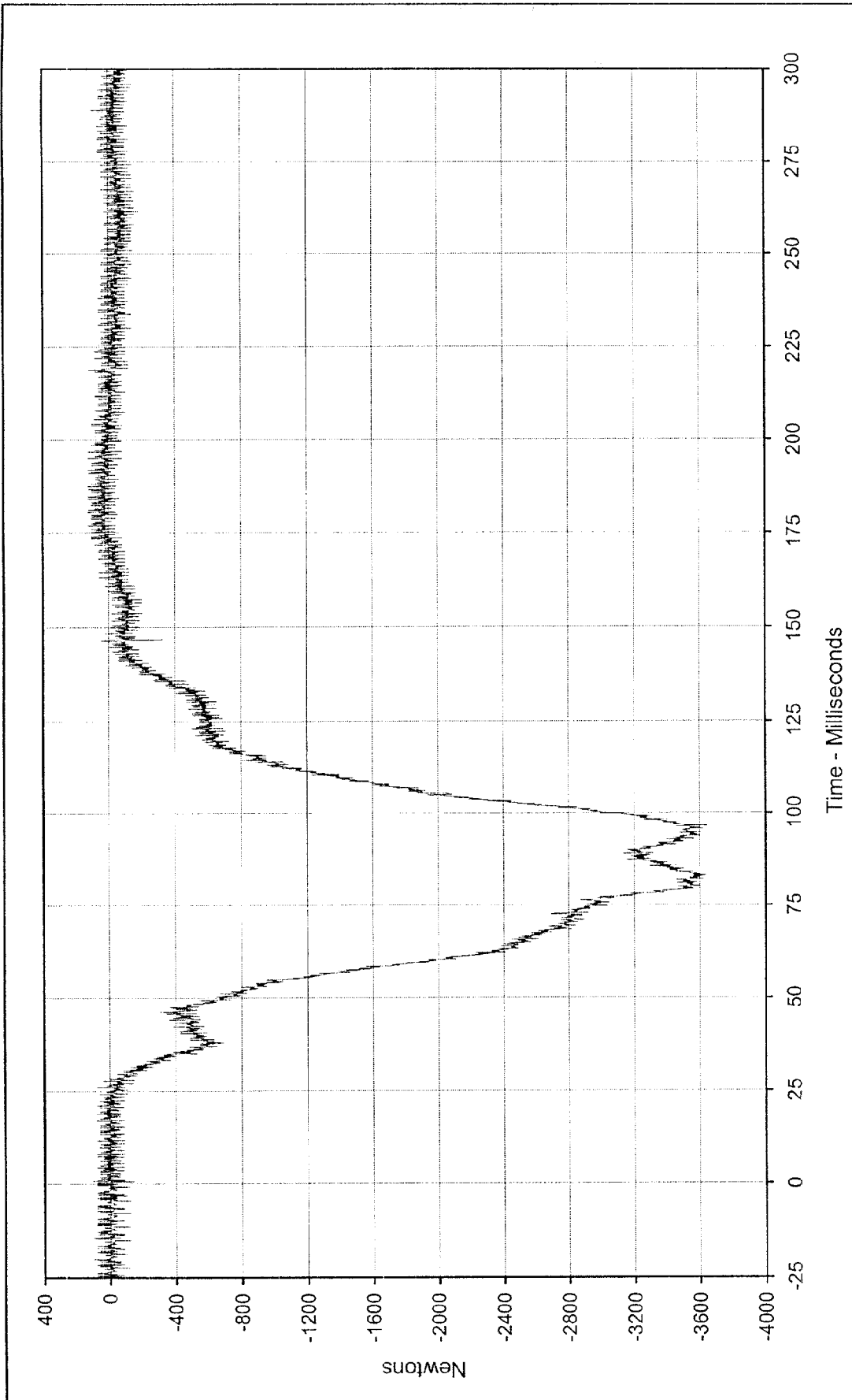
Date of Test: 8/1/98

Curve Number: FIL-023

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

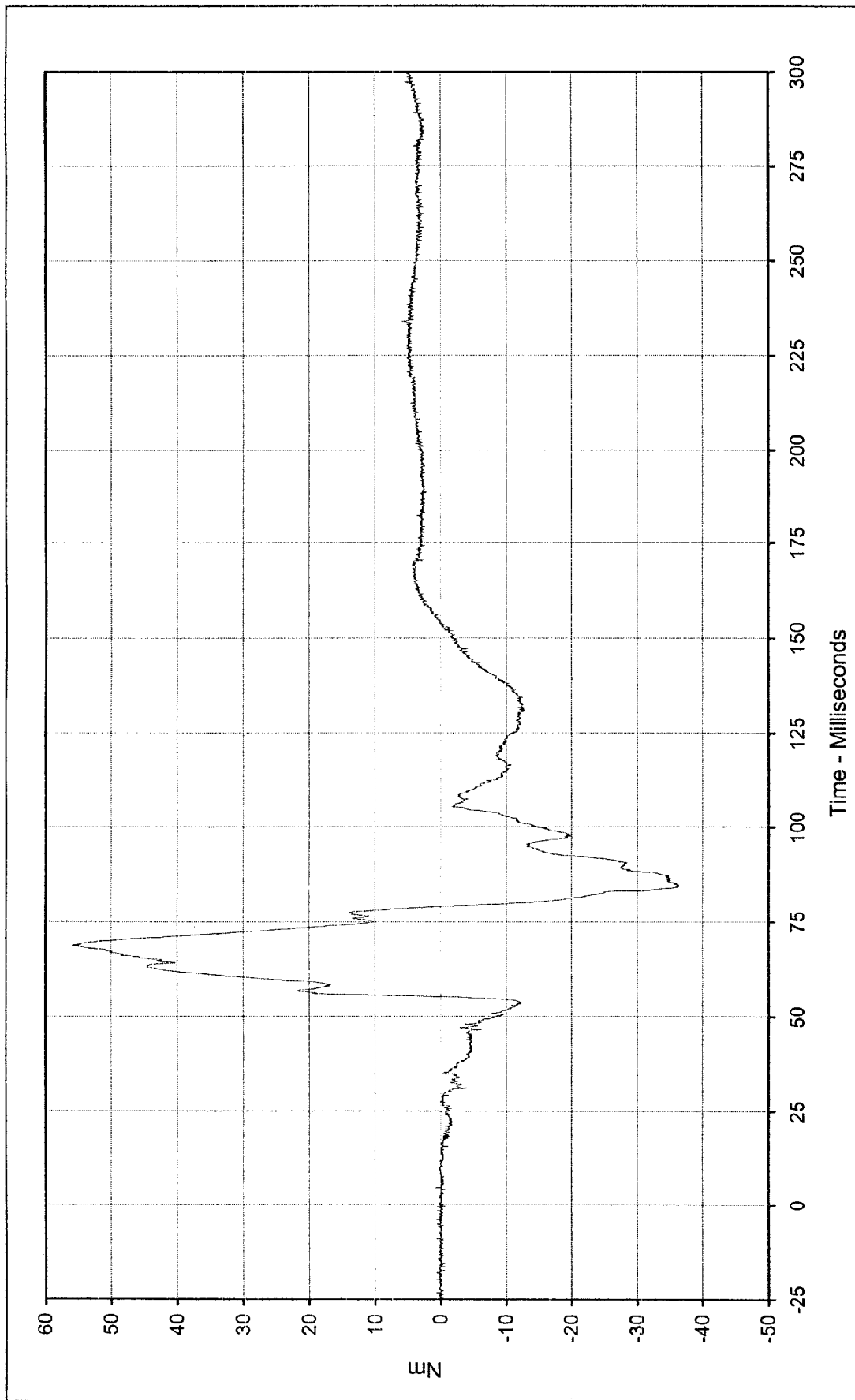




Curve Description:	Driver Left Lower Tibia Force Z	Testing Program:	1998 37.5mph Offset, 5th Female	No.: MW0214
Maximum Value:	121.1 at 177.0 Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan	

Minimum Value:	-3641.3 at 82.9 Milliseconds
SAE Filter Class:	1000
Date of Test:	8/11/98
Curve Number:	FIL-024





Curve Description: Driver Left Lower Tibia Moment X

Maximum Value: 55.9 at 68.7 Milliseconds

Minimum Value: -36.3 at 84.5 Milliseconds

SAE Filter Class: 1000

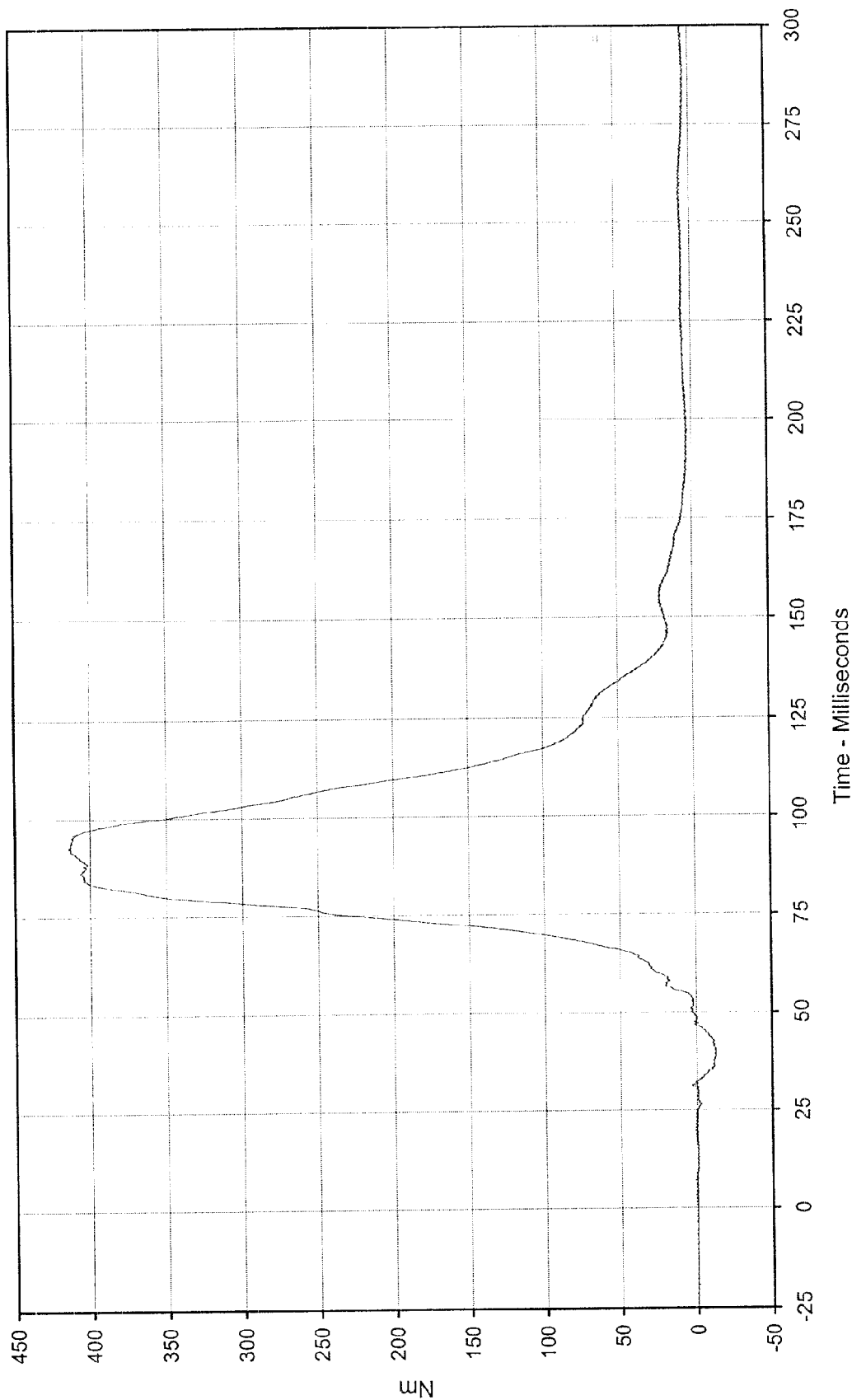
Date of Test: 8/11/98

Curve Number: FIL-025

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

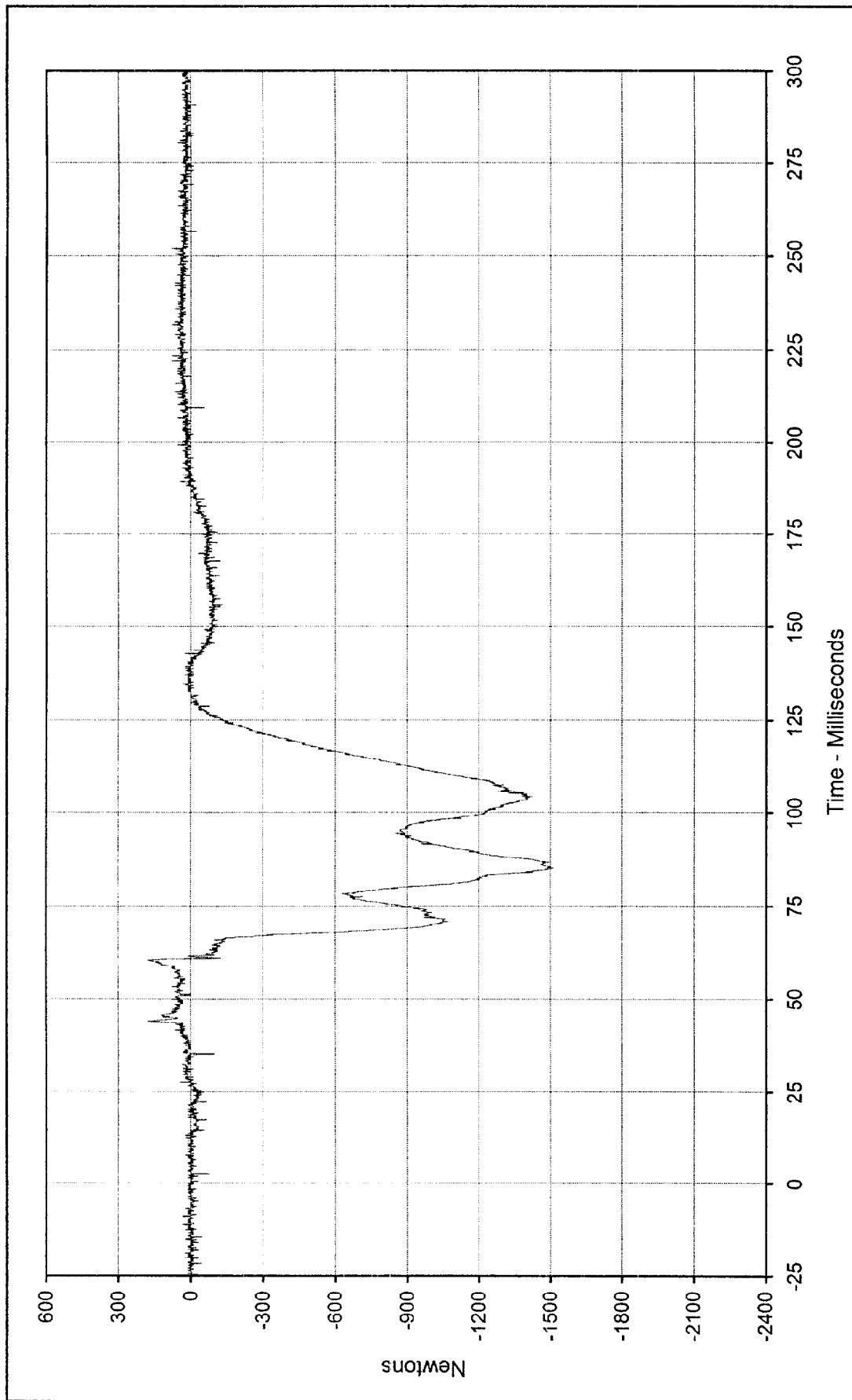




Curve Description: Driver Left Lower Tibia Moment Y
 Maximum Value: 414.47 at 92.3 Milliseconds
 Minimum Value: -13.48 at 39.8 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-026

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Upper Tibia Force X

Maximum Value: 176.6 at 43.8 Milliseconds

Minimum Value: -1512.5 at 85.1 Milliseconds

SAE Filter Class: 1000

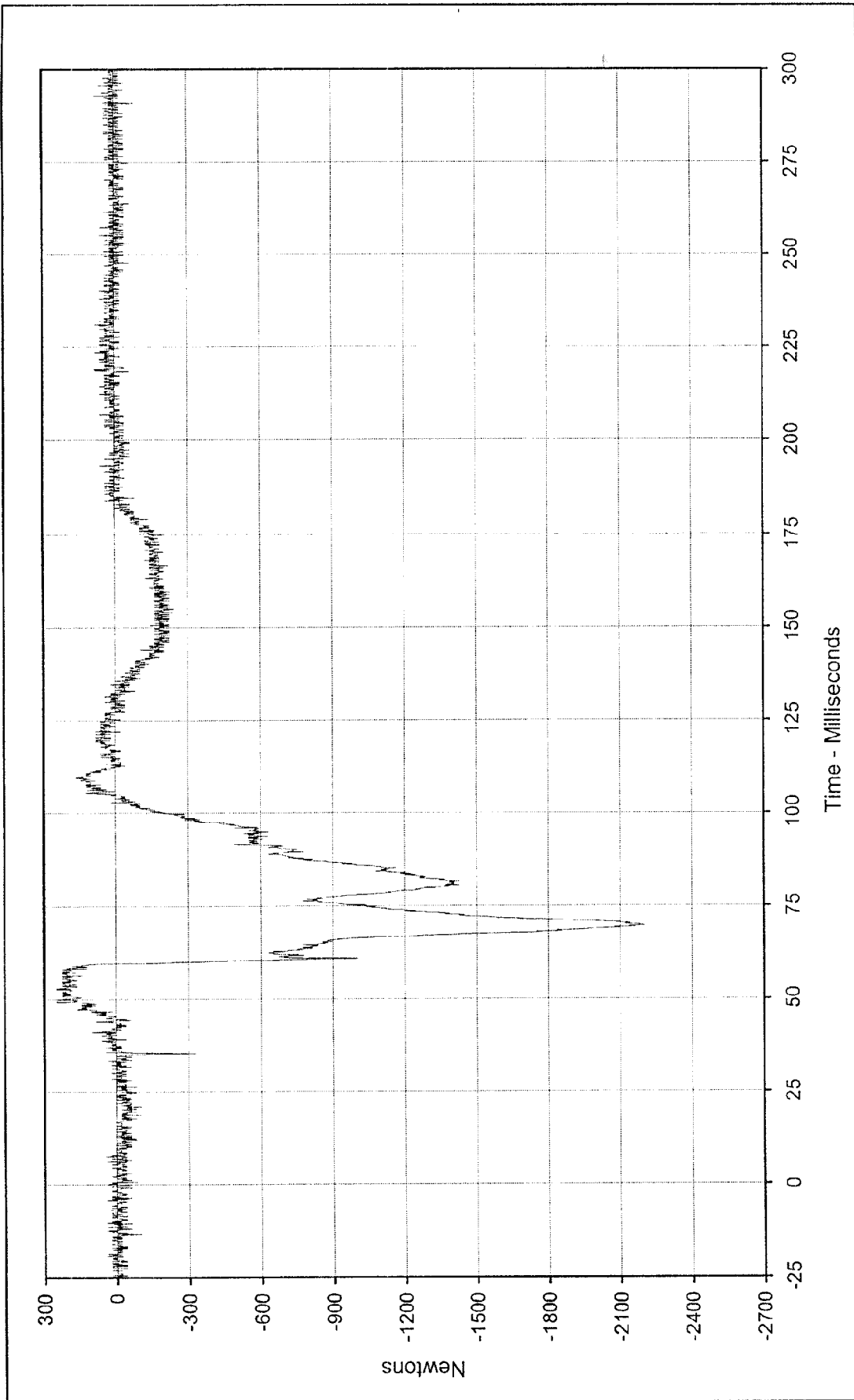
Date of Test: 8/1/98

Curve Number: FIL-027

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

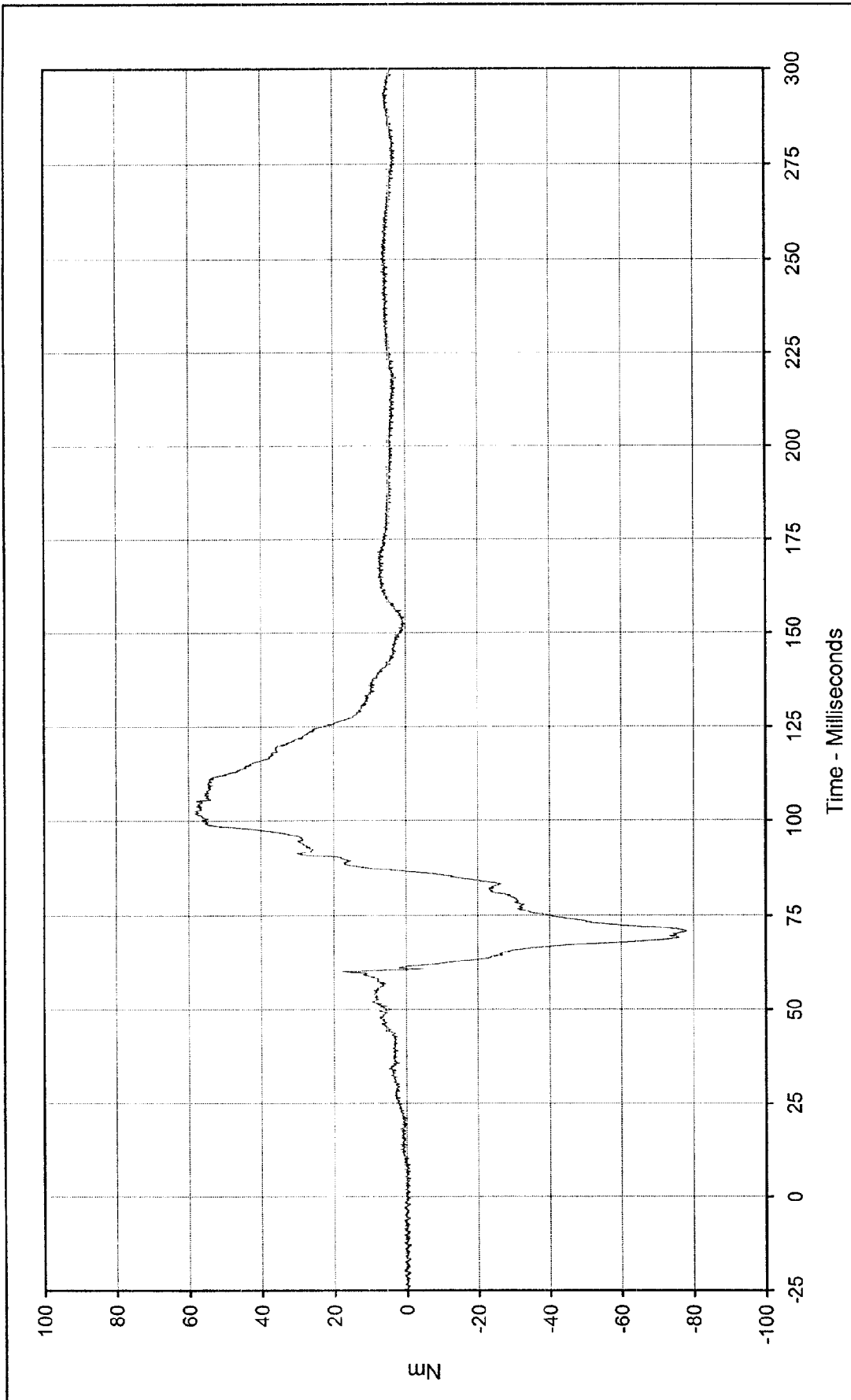




Curve Description: Driver Right Upper Tibia Force Z
 Maximum Value: 244.7 at 49.2 Milliseconds
 Minimum Value: -2202.0 at 69.5 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-028

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Upper Tibia Moment X

Maximum Value: 58.2 at 101.9 Milliseconds

Minimum Value: -78.2 at 70.8 Milliseconds

SAE Filter Class: 1000

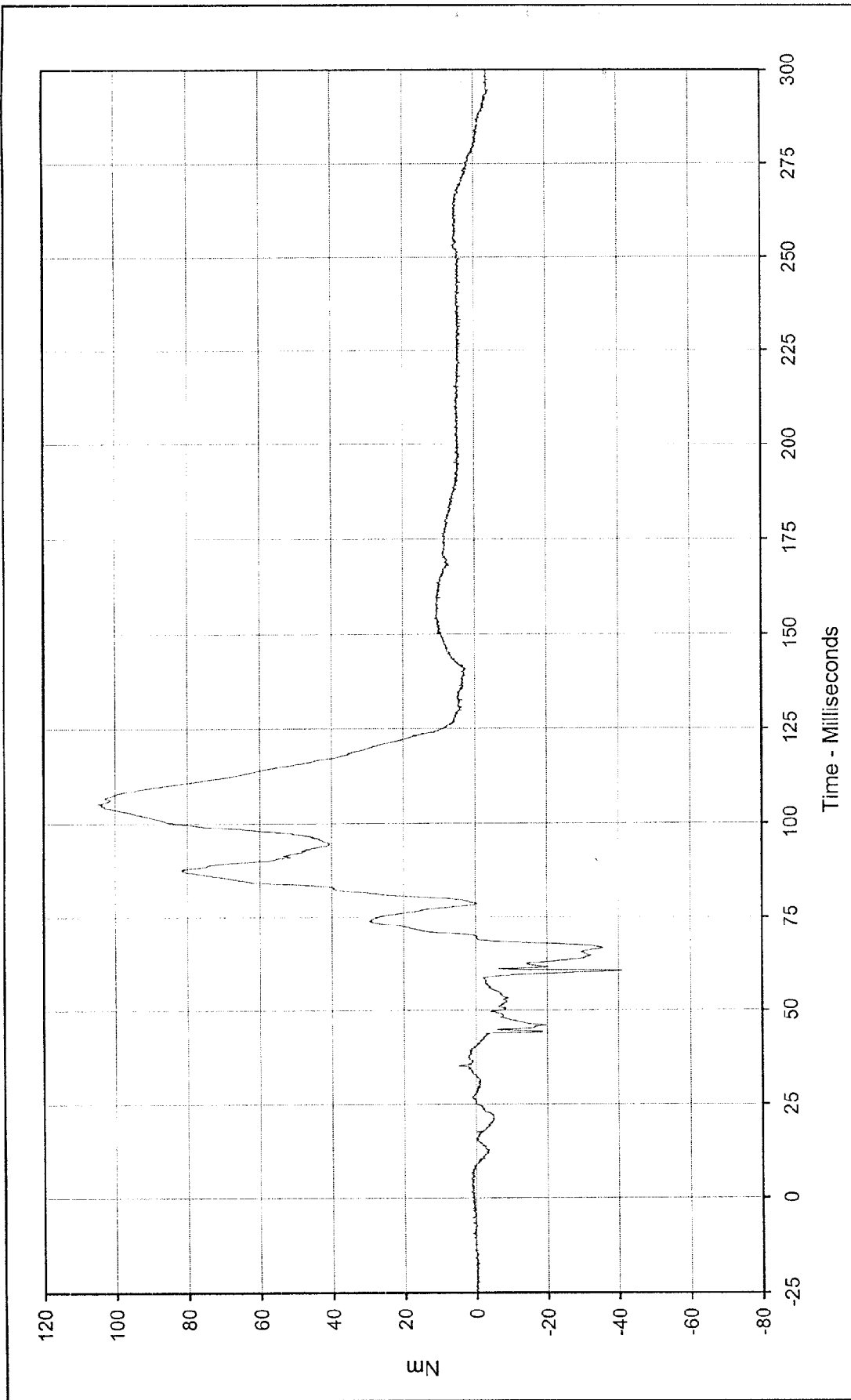
Date of Test: 8/11/98

Curve Number: FIL-029

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

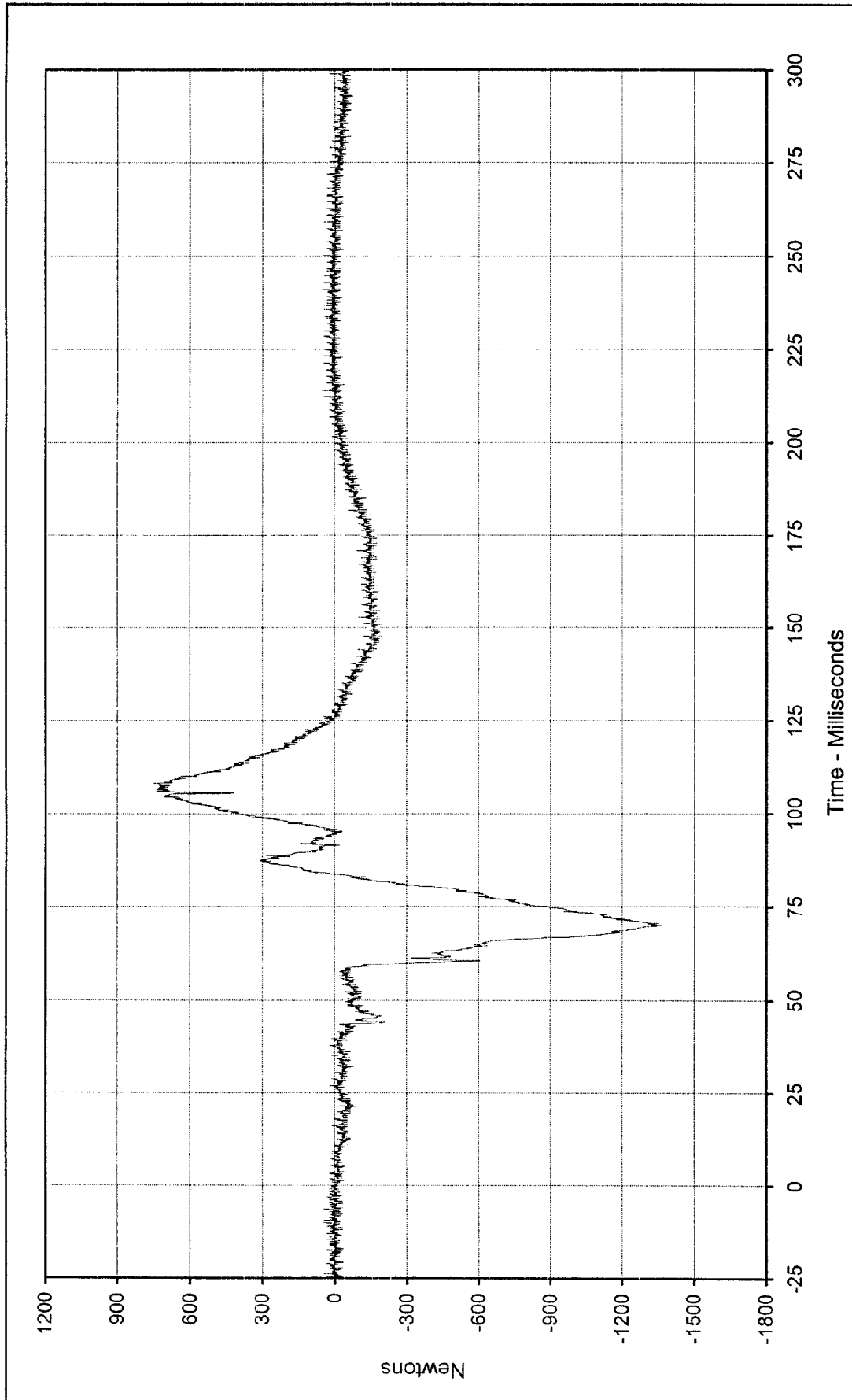




Curve Description: Driver Right Upper Tibia Moment Y
 Maximum Value: 104.8 at 105.1 Milliseconds
 Minimum Value: -40.8 at 60.6 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-030

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Lower Tibia Force X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 748.4 at 108.0 Milliseconds

Minimum Value: -1364.7 at 69.8 Milliseconds

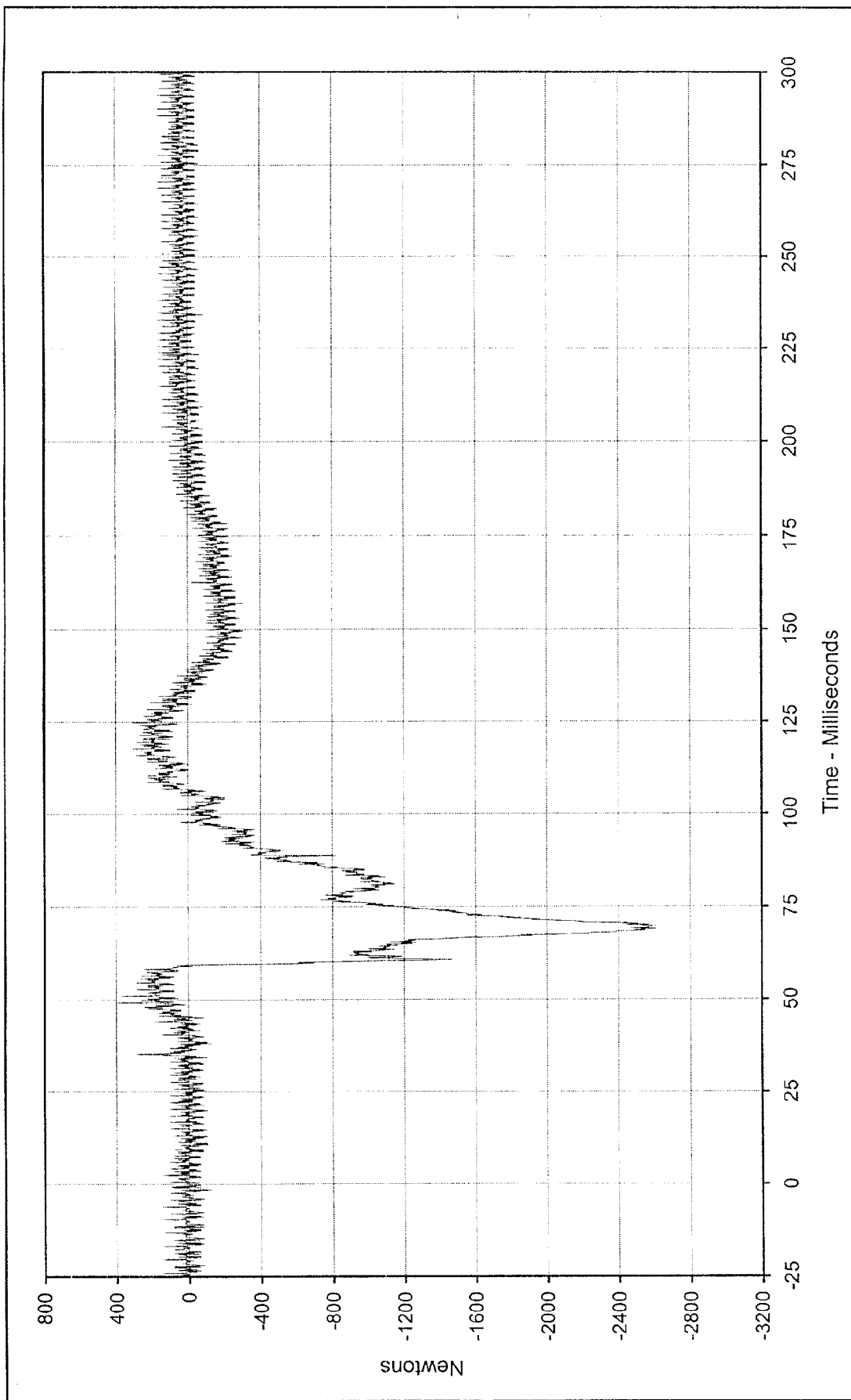
SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-031

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Lower Tibia Force Z

Maximum Value: 387.4 at 49.2 Milliseconds

Minimum Value: -2609.8 at 68.8 Milliseconds

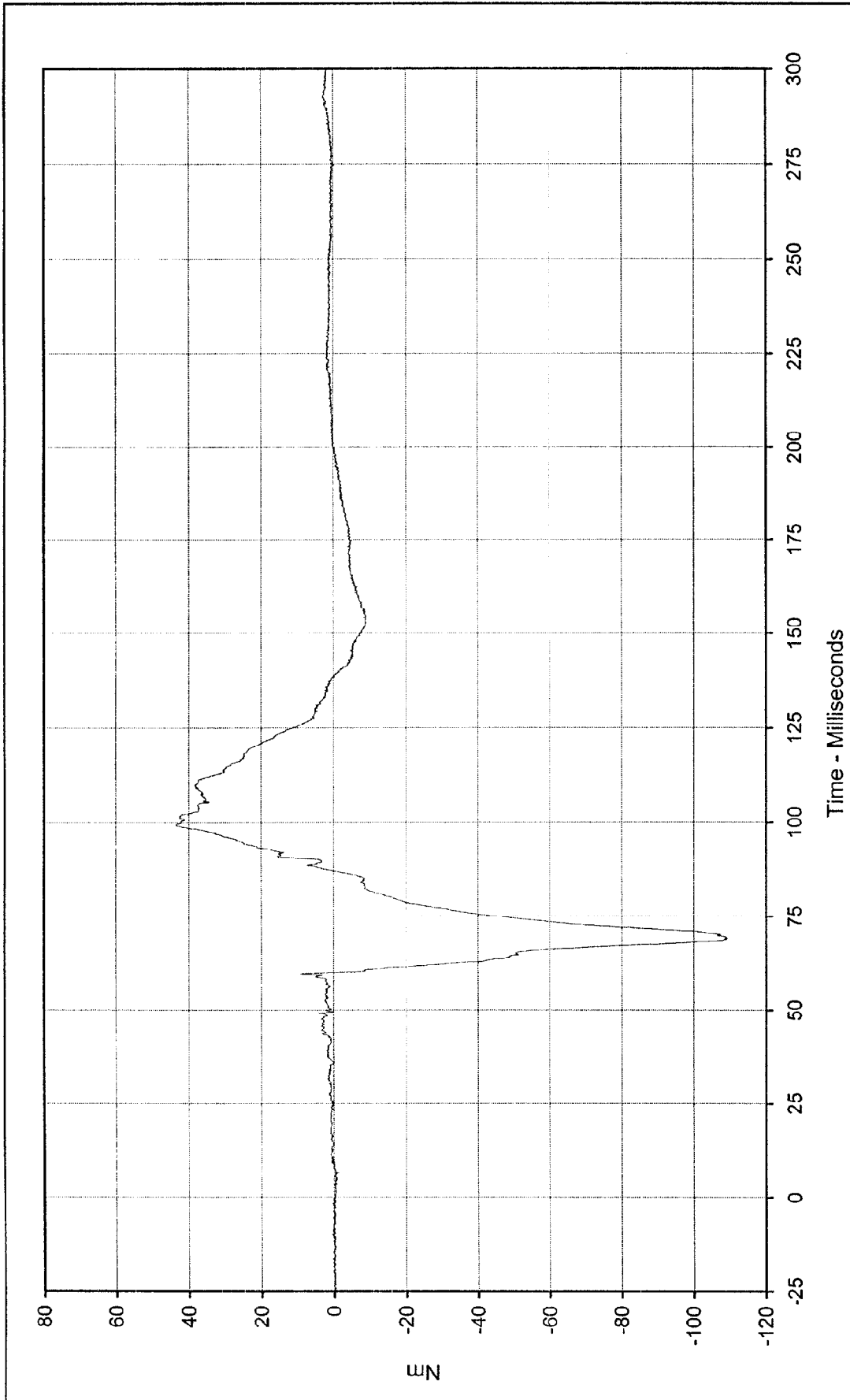
SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-032

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214





Curve Description: Driver Right Lower Tibia Moment X

Maximum Value: 43.4 at 99.2 Milliseconds

Minimum Value: -109.2 at 68.9 Milliseconds

SAE Filter Class: 1000

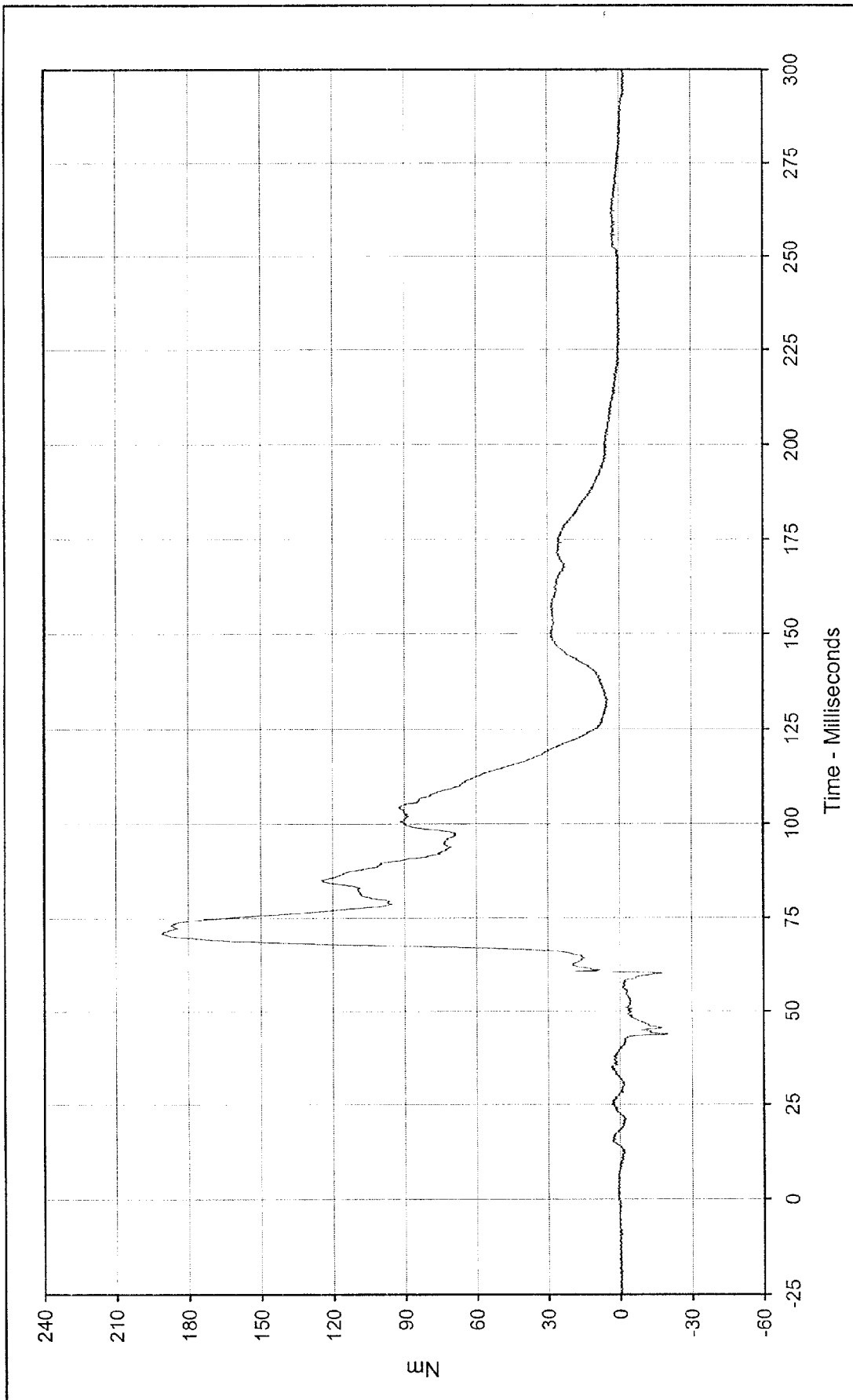
Date of Test: 8/11/98

Curve Number: FIL-033

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Lower Tibia Moment Y

Maximum Value: 191.2 at 70.8 Milliseconds

Minimum Value: -19.9 at 43.6 Milliseconds

SAE Filter Class: 1000

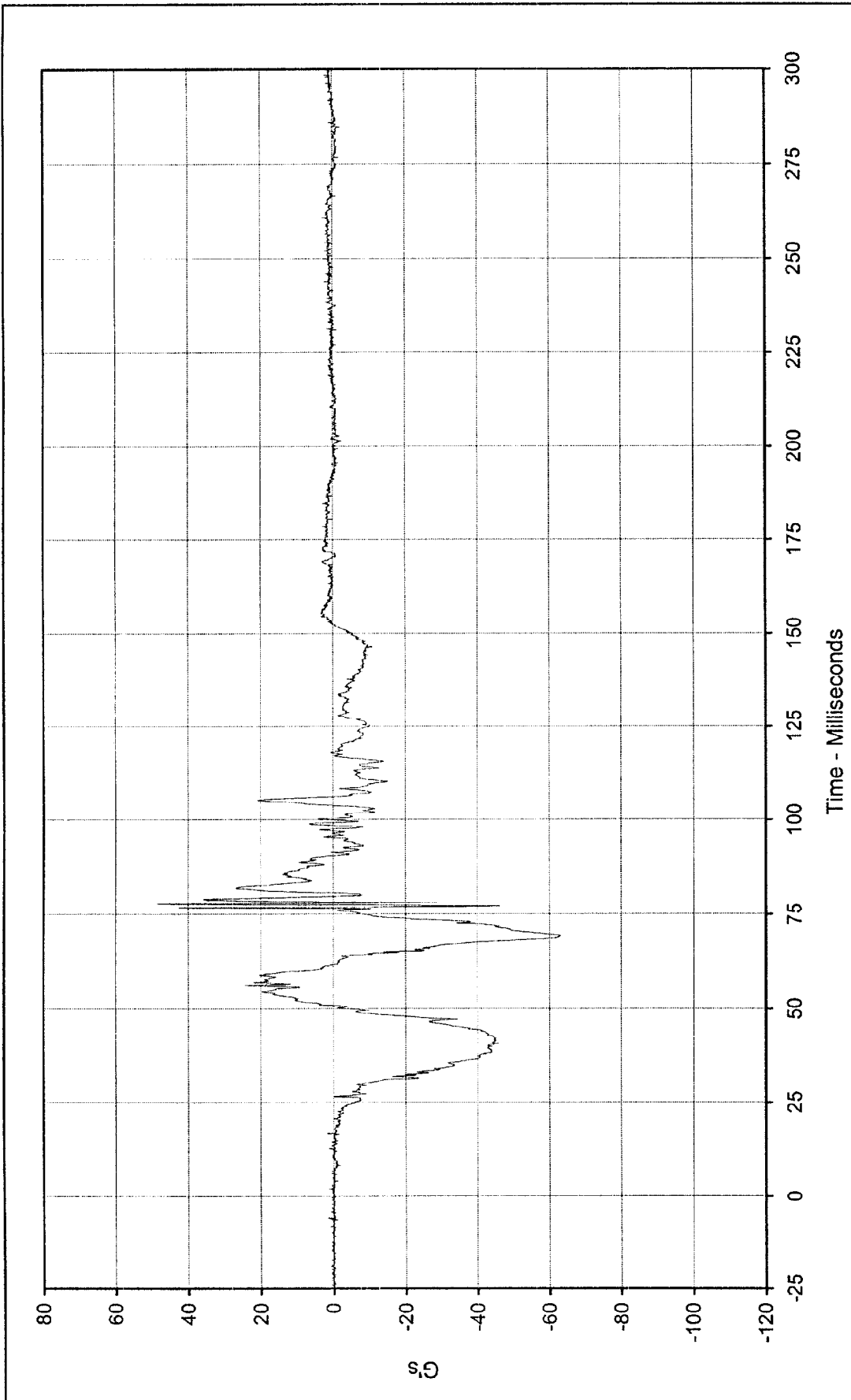
Date of Test: 8/11/98

Curve Number: FIL-034

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Left Foot Aft X

Maximum Value: 48.4 at 77.9 Milliseconds

Minimum Value: -63.1 at 69.2 Milliseconds

SAE Filter Class: 1000

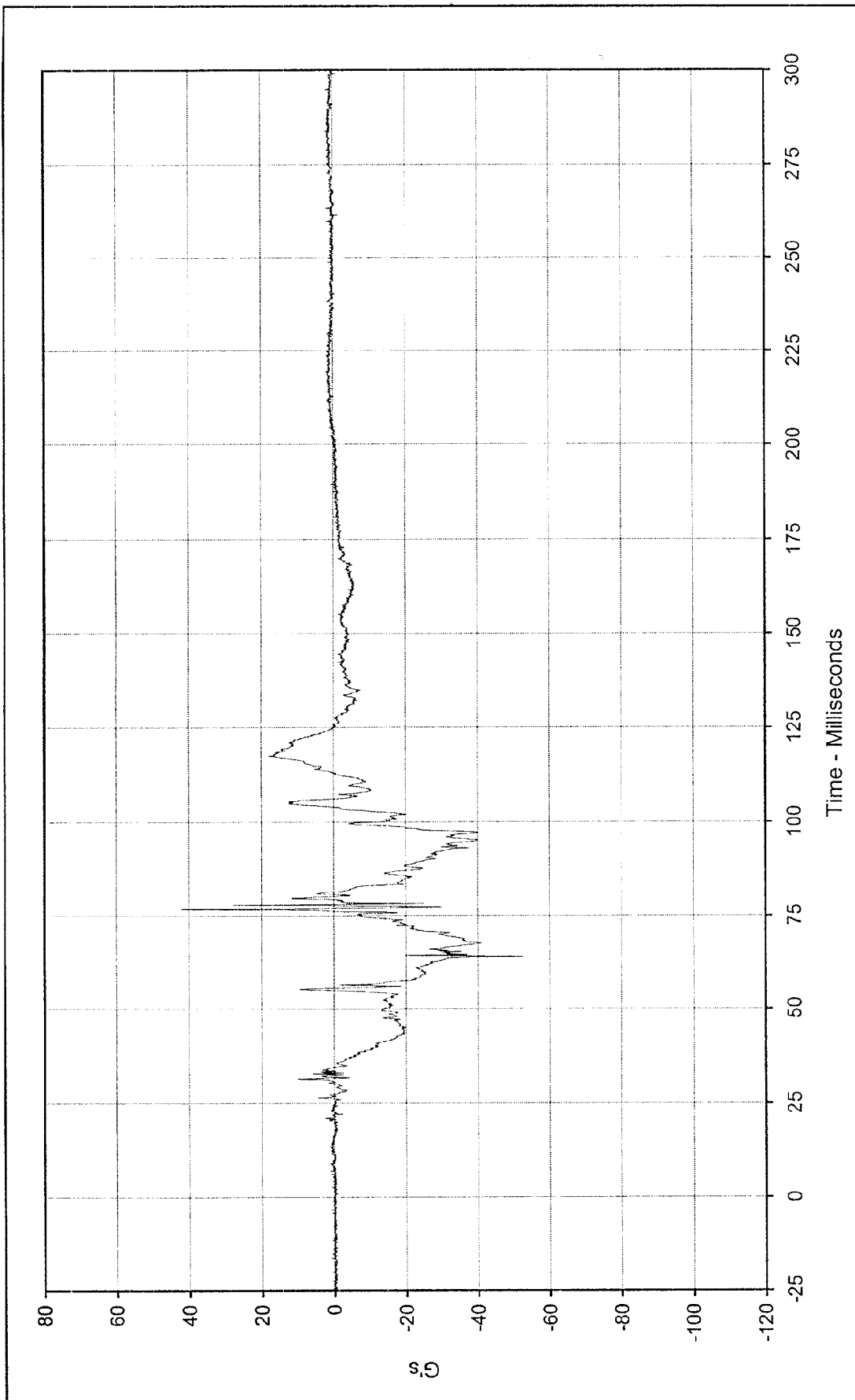
Date of Test: 8/1/98

Curve Number: FIL-035

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

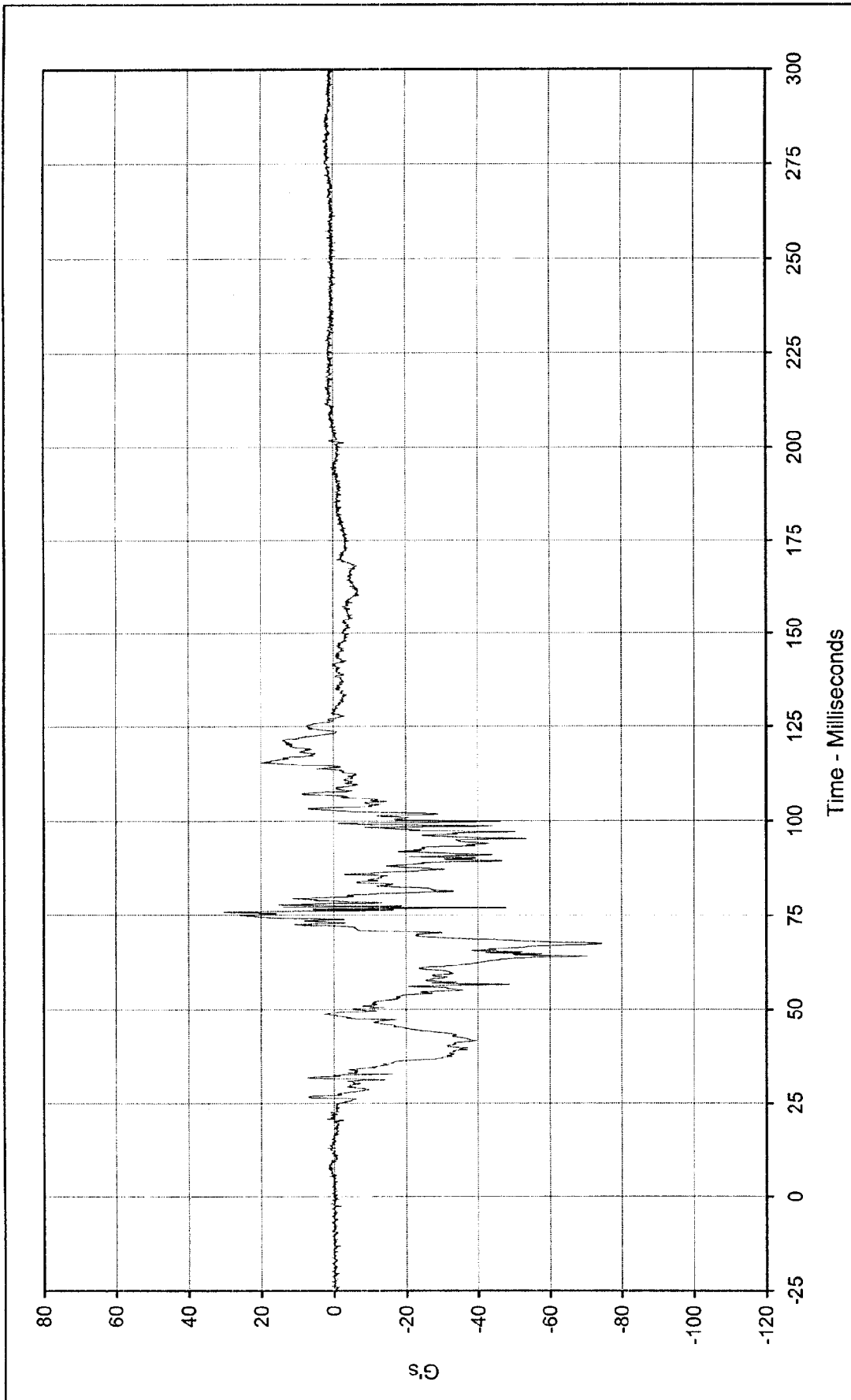




Curve Description: Driver Left Foot Aft Z
 Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Maximum Value: 42.0 at 76.8 Milliseconds
 Minimum Value: -52.3 at 63.9 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-036





Curve Description: Driver Left Foot Fore Z

Maximum Value: 30.3 at 76.0 Milliseconds

Minimum Value: -74.3 at 67.5 Milliseconds

SAE Filter Class: 1000

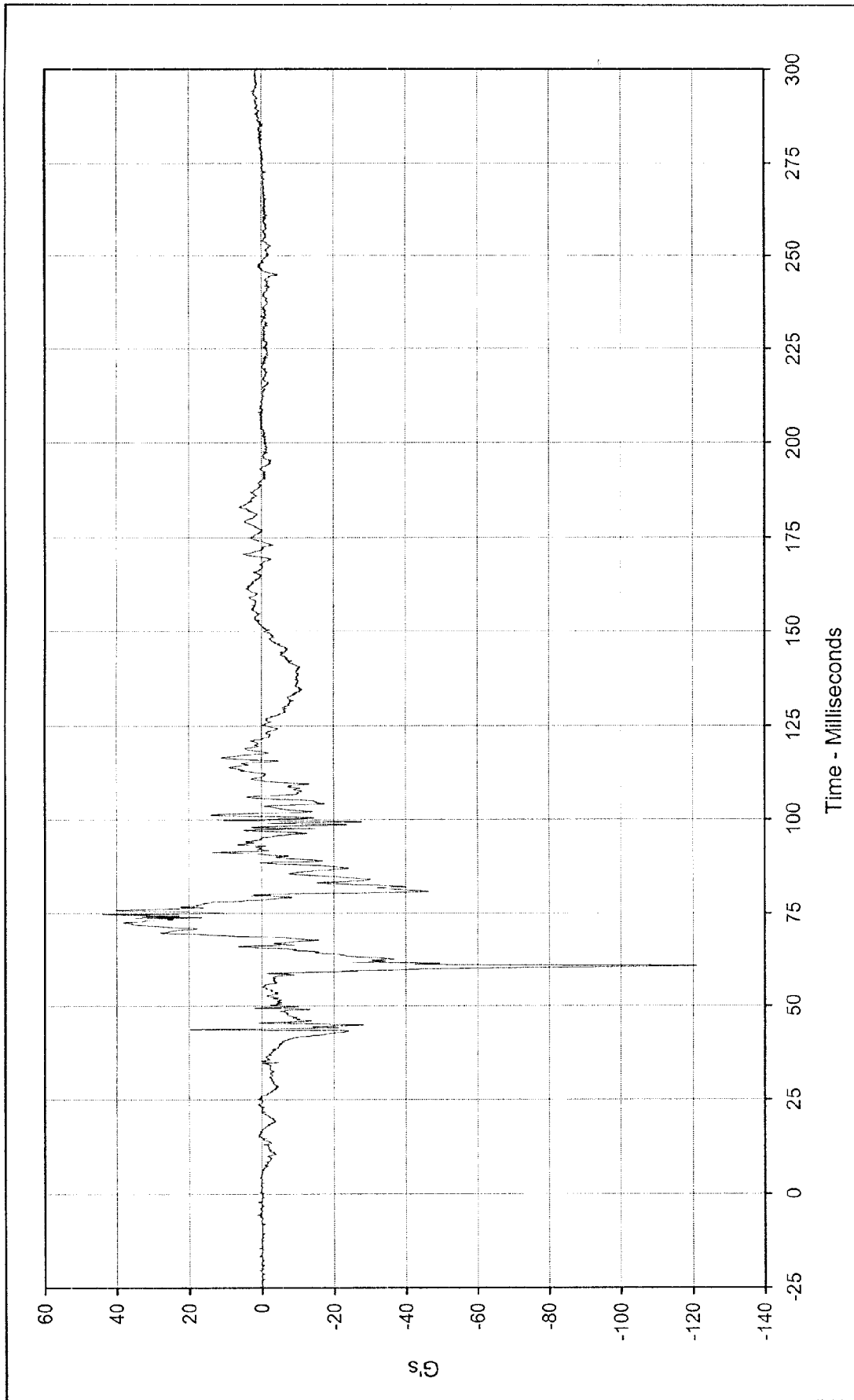
Date of Test: 8/11/98

Curve Number: FIL-037

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

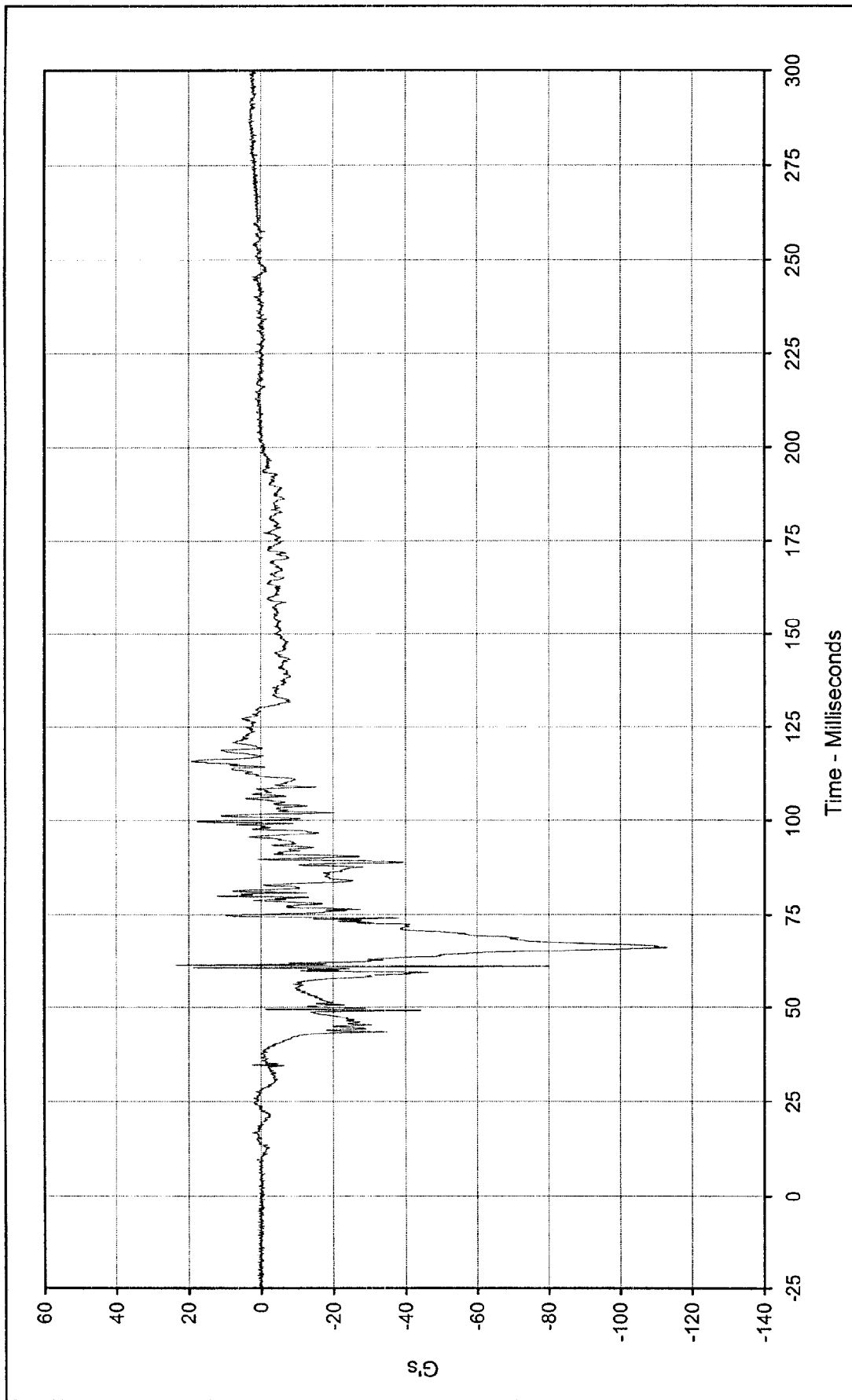
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Right Foot Aft X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Maximum Value: 43.9 at 74.7 Milliseconds
 Minimum Value: -121.1 at 60.6 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-038





Curve Description: Driver Right Foot Aft Z Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 23.5 at 61.4 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

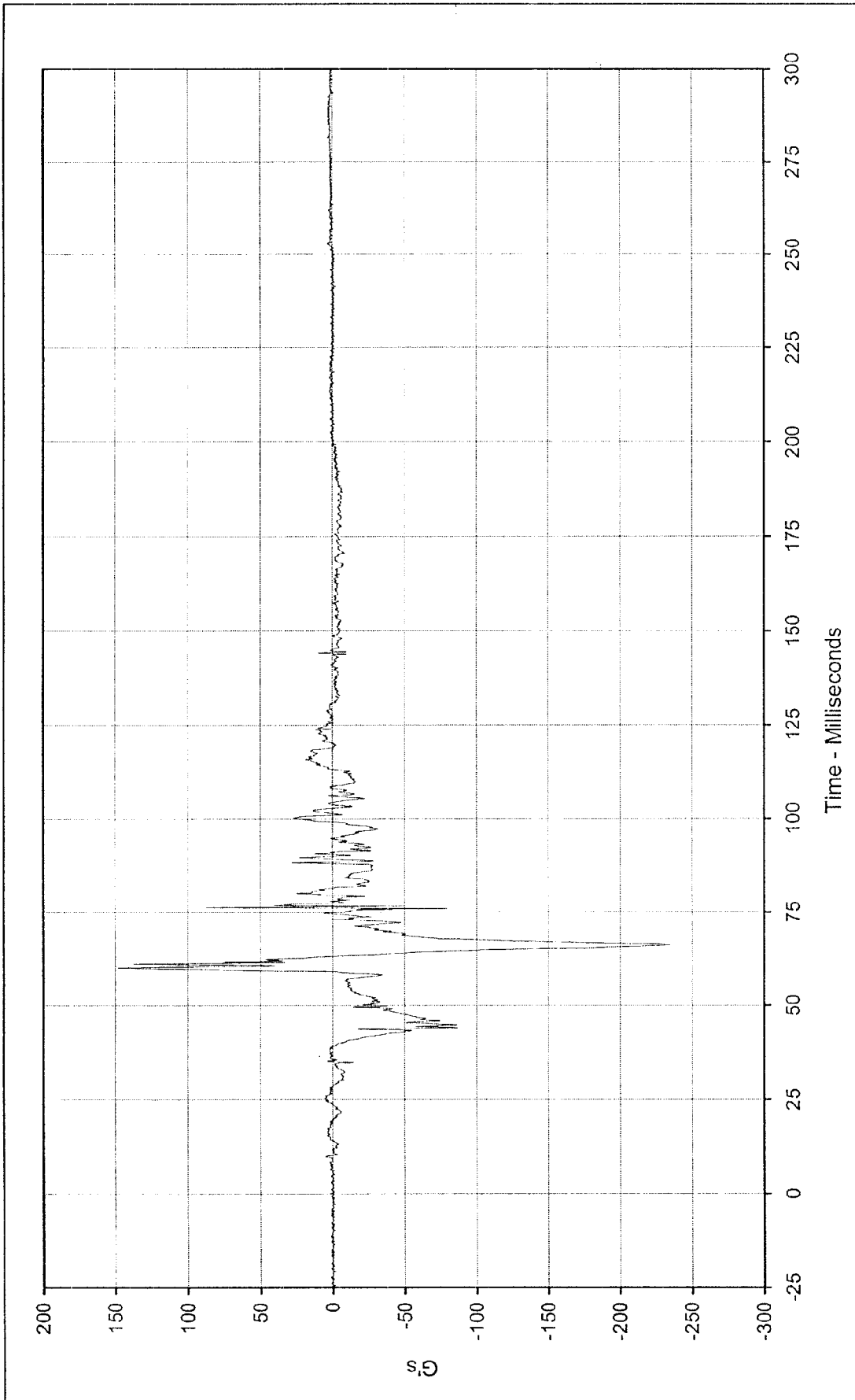
Minimum Value: -113.1 at 66.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/1/98

Curve Number: FIL-039

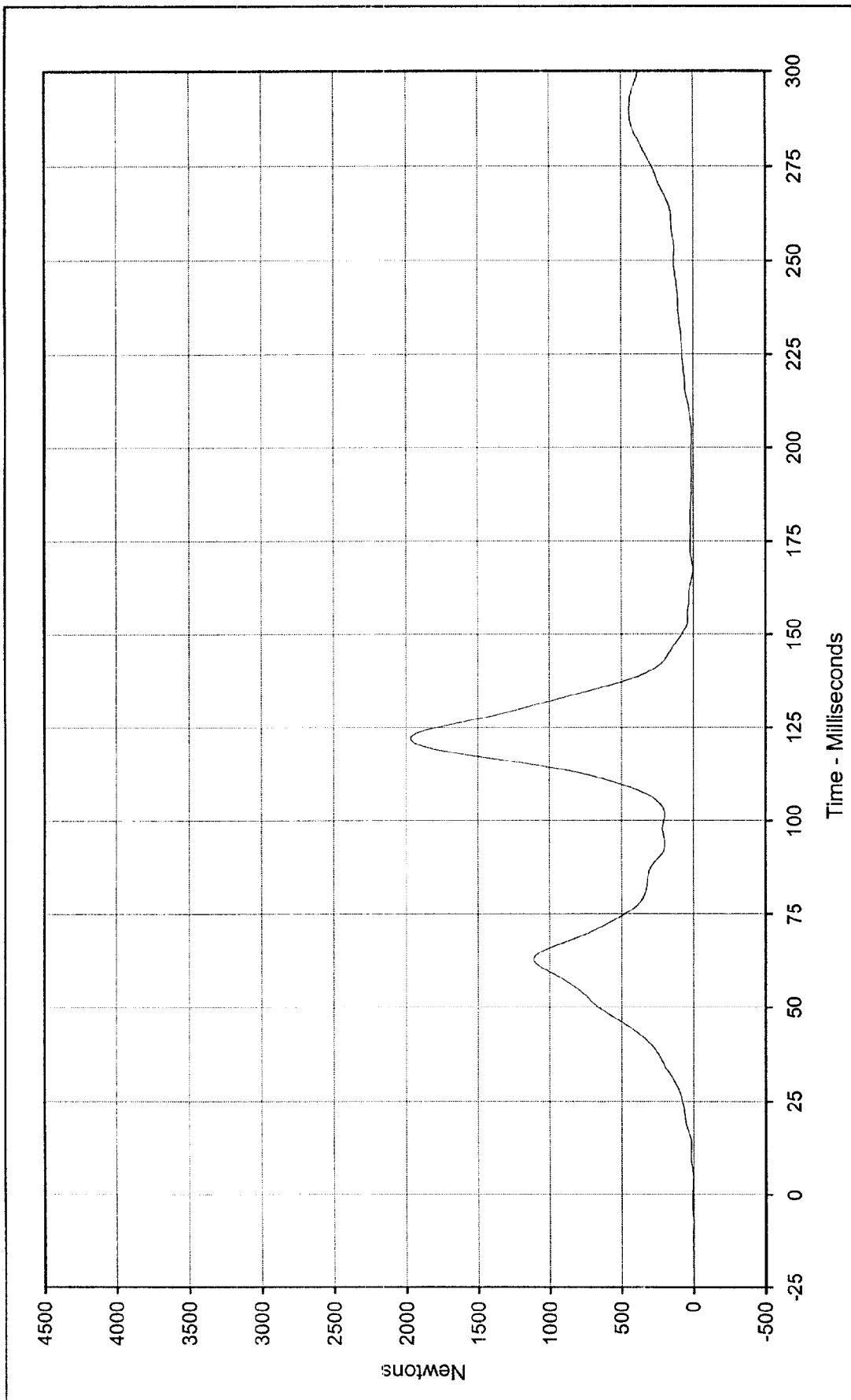




Curve Description: Driver Right Foot Fore Z
 Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Maximum Value: 148.5 at 60.1 Milliseconds
 Minimum Value: -234.5 at 66.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/1/98
 Curve Number: FIL-040





Curve Description: Driver Lap Belt Force Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 1967.6 at 122.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

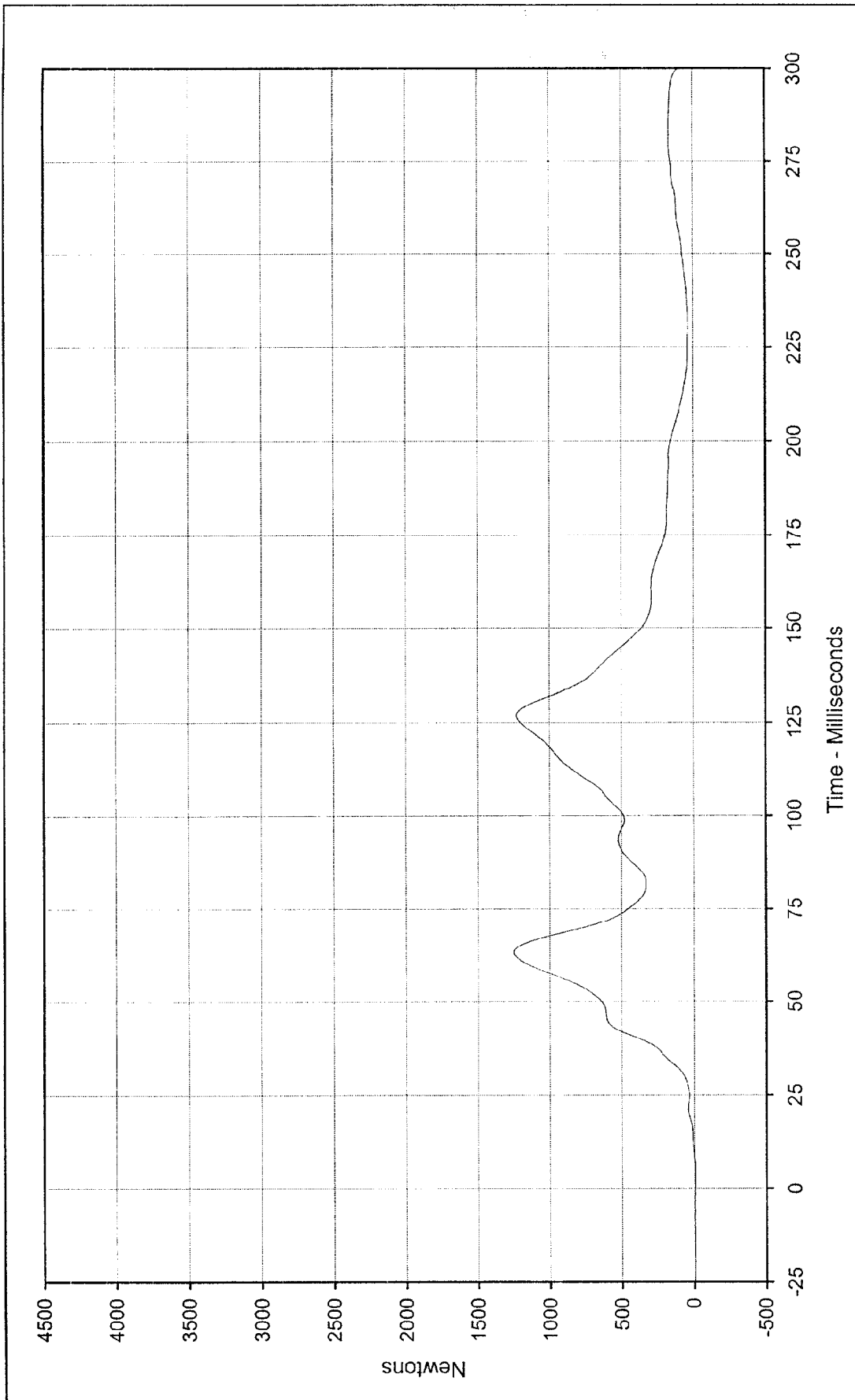
Minimum Value: 1.5 at 4.6 Milliseconds

SAE Filter Class: 60

Date of Test: 8/11/98

Curve Number: FIL-041





Curve Description: Driver Shoulder Belt Force

Maximum Value: 1248.9 at 63.2 Milliseconds

Minimum Value: -7.8 at 5.3 Milliseconds

SAE Filter Class: 60

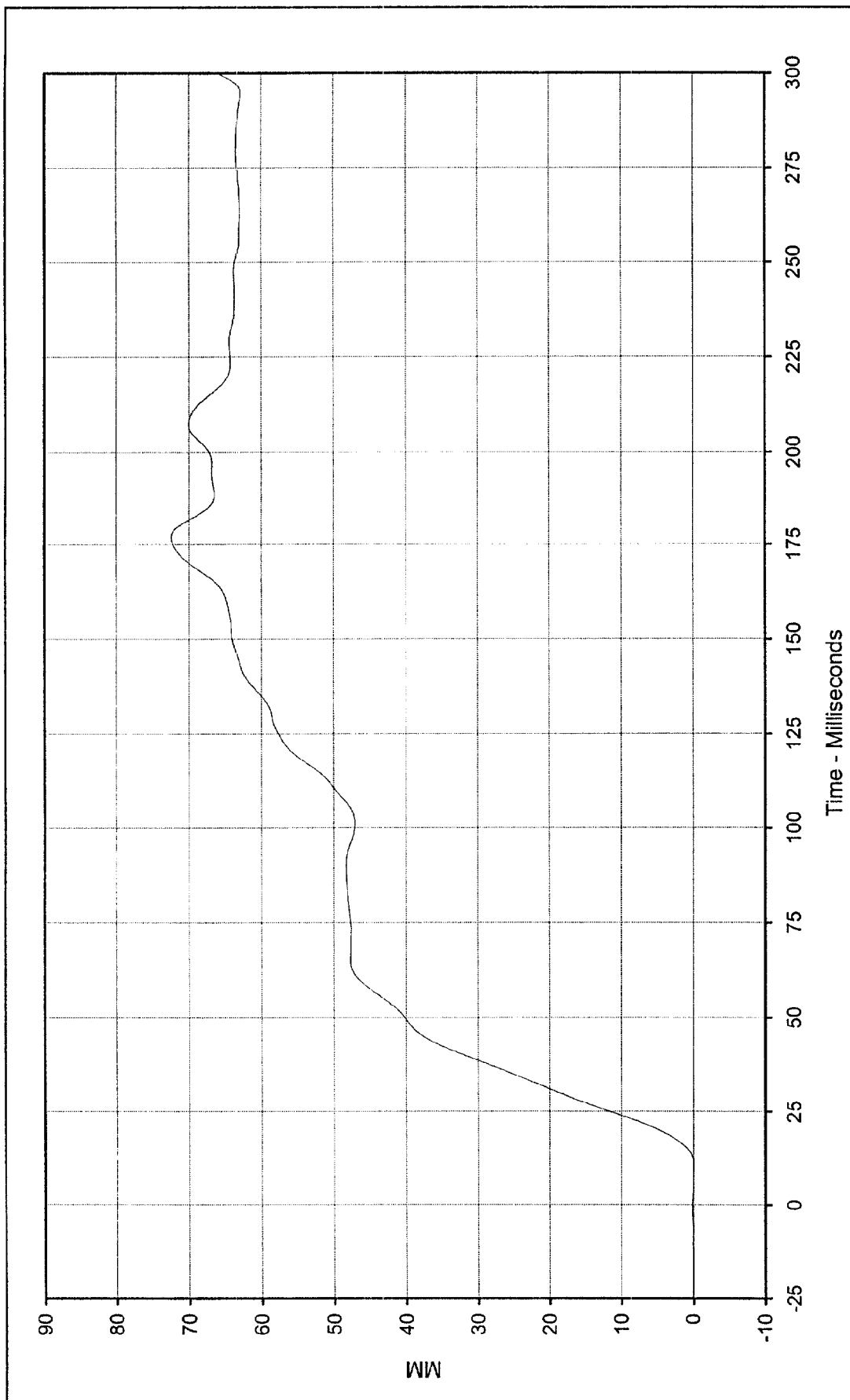
Date of Test: 8/11/98

Curve Number: FIL-042

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Driver Shoulder Belt Pullout

Maximum Value: 72.5 at 176.9 Milliseconds

Minimum Value: -0.1 at 10.8 Milliseconds

SAE Filter Class: 60

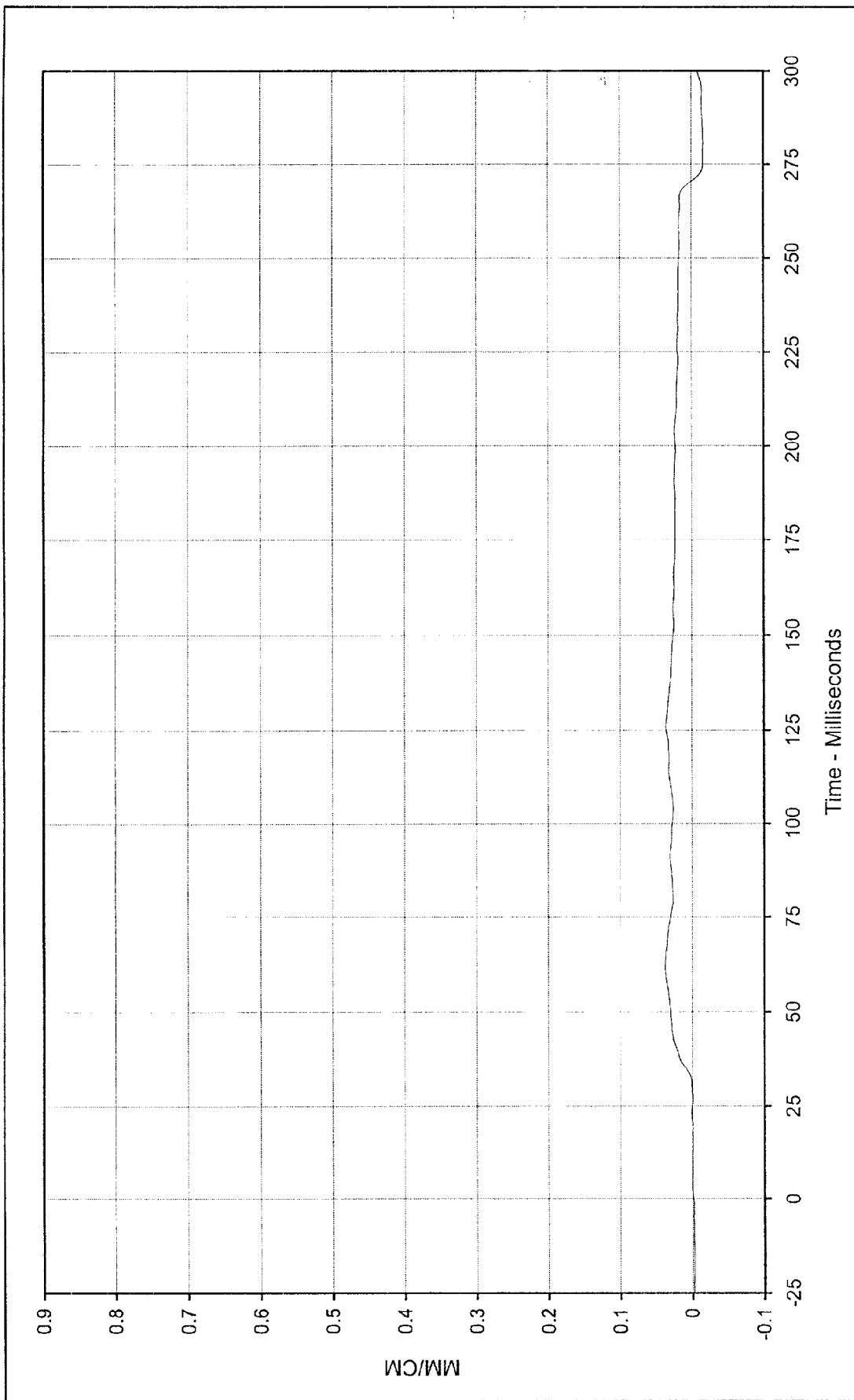
Date of Test: 8/11/98

Curve Number: FIL-043

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

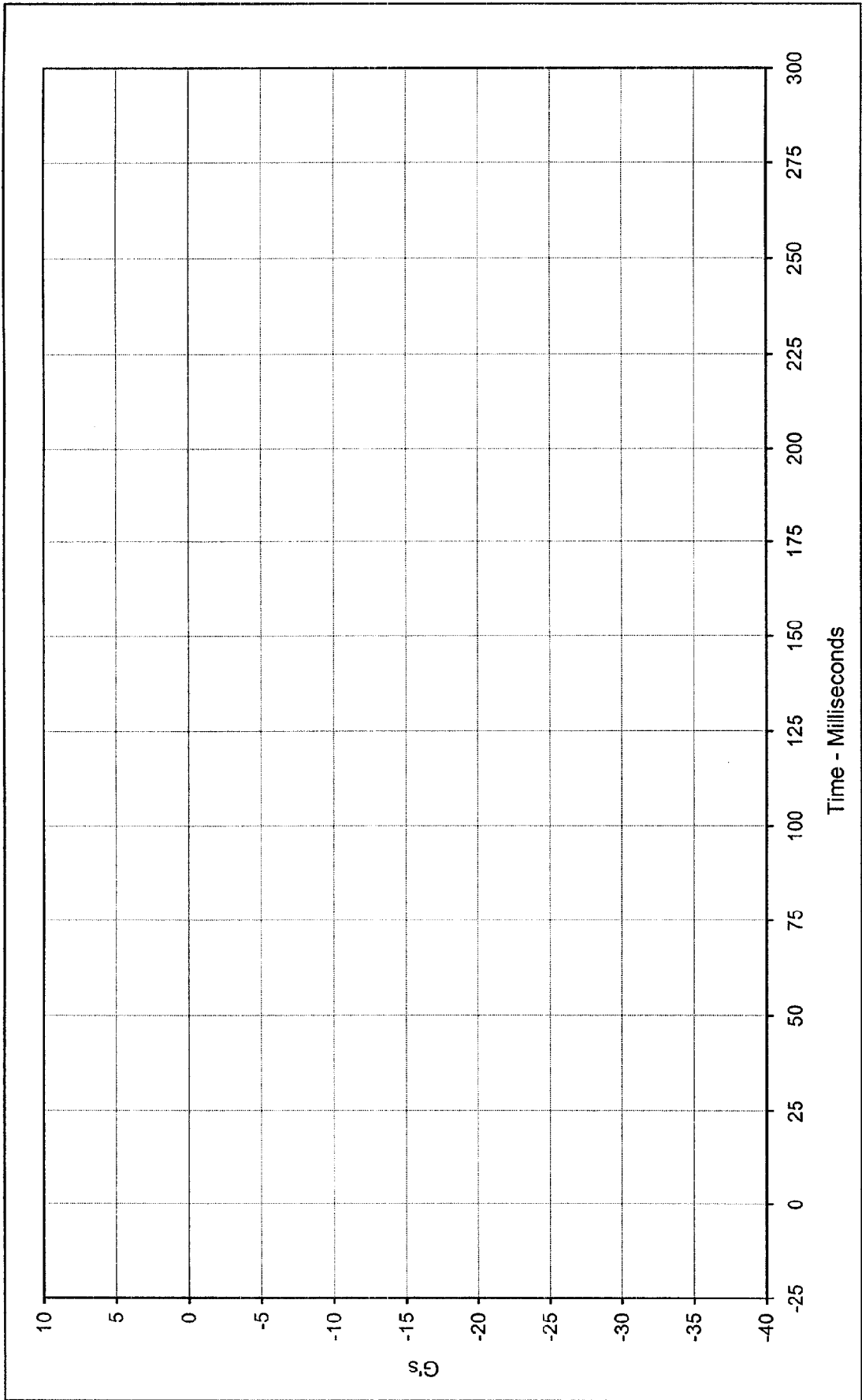
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: <u>Driver Shoulder Belt Elongation</u>				Testing Program: <u>1998 37.5mph Offset, 5th Female</u> No.: <u>MW0214</u>	
Maximum Value:	<u>0.037</u>	at	<u>62.0</u>	Milliseconds	Test Vehicle: <u>1998 Ford Contour 4 Door Sedan</u>
Minimum Value:	<u>-0.017</u>	at	<u>281.2</u>	Milliseconds	
SAE Filter Class:	<u>60</u>				
Date of Test:	<u>8/11/98</u>				
Curve Number:	<u>FIL-044</u>				





Curve Description: Passenger Head Primary X * Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

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

Minimum Value: 0.0 at 0.0 Milliseconds

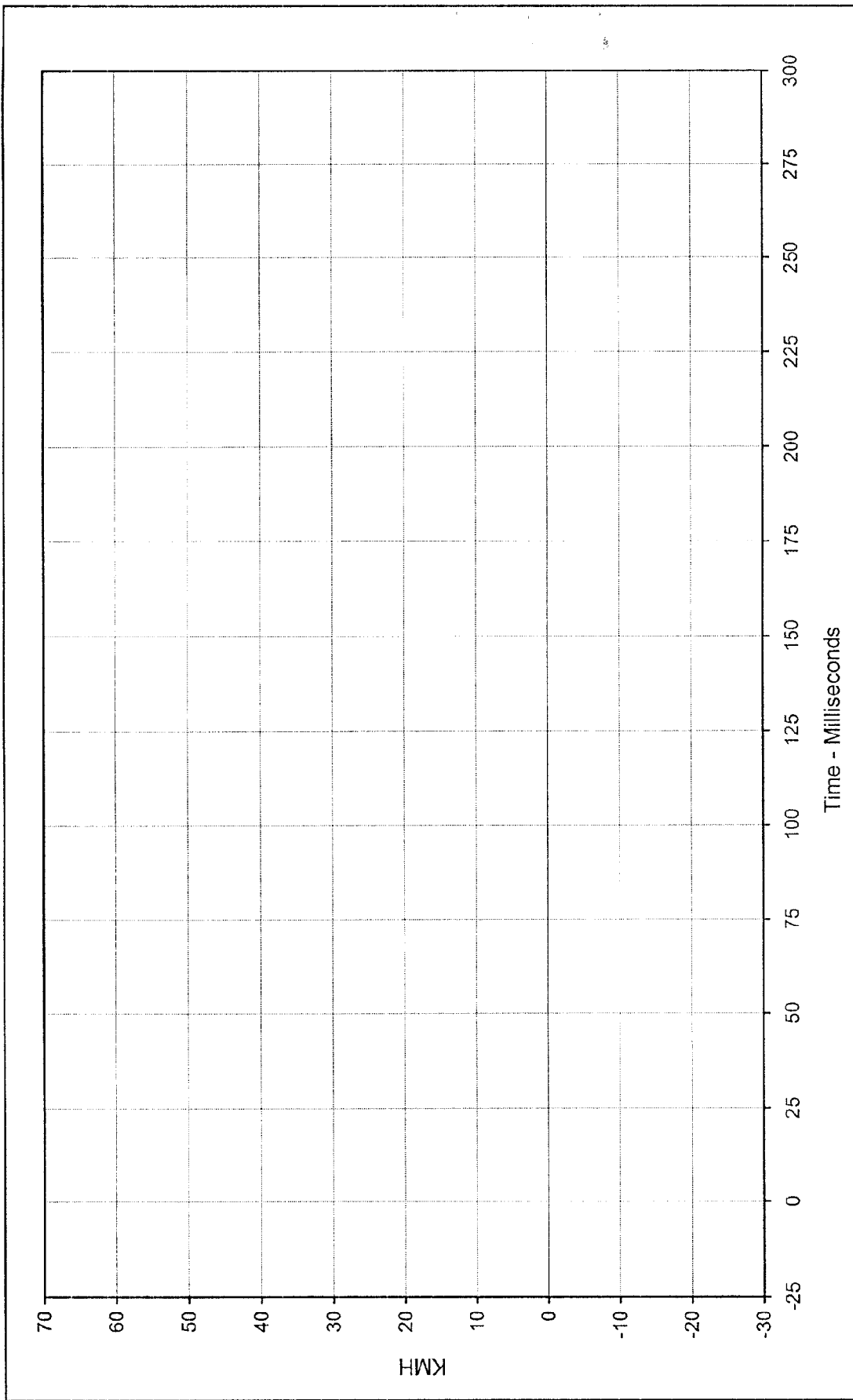
SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-045



* Channel Failed, No Data



Curve Description: Passenger Head Primary X Velocity * Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

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

Minimum Value: 0.0 at 0.0 Milliseconds

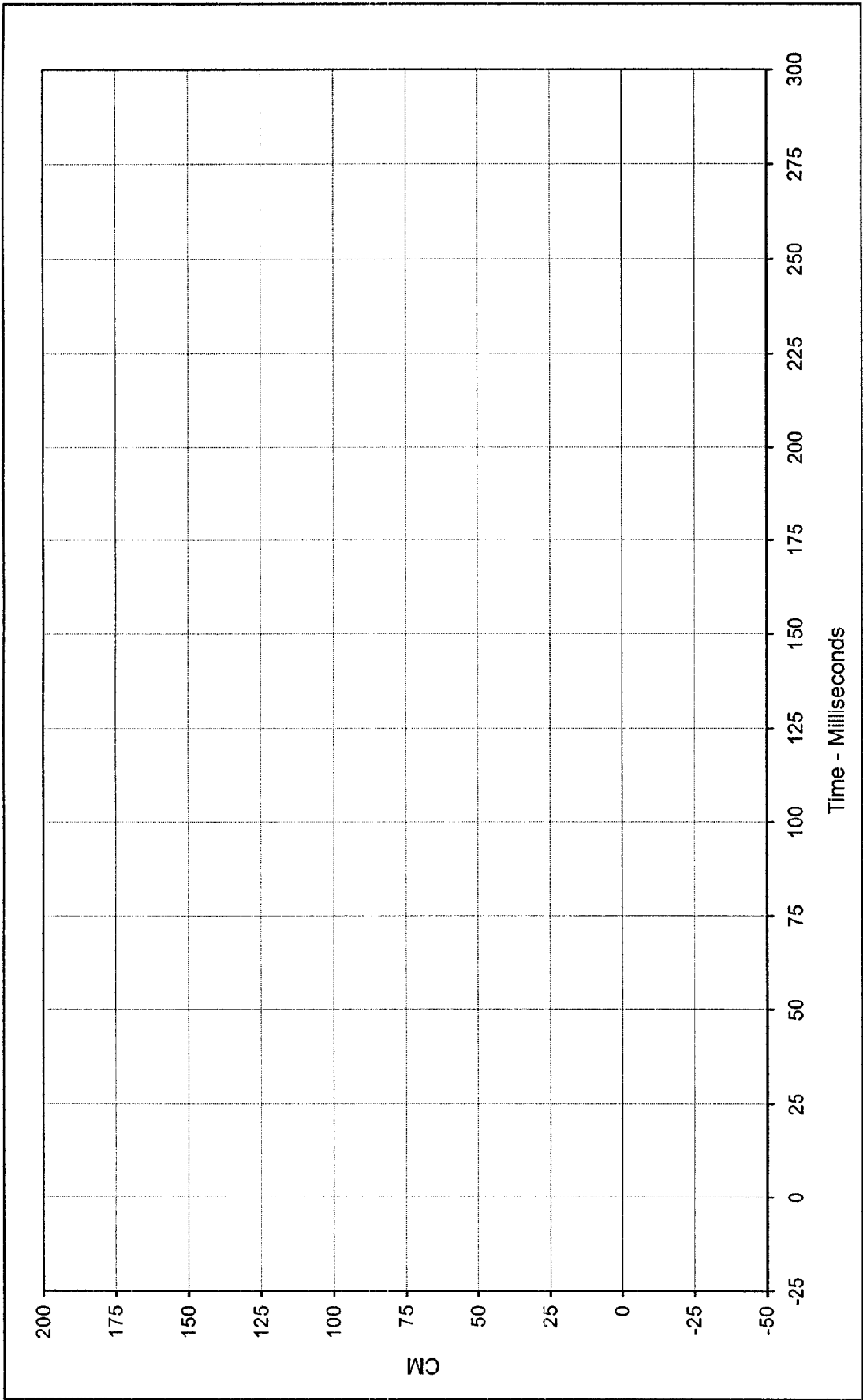
SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: IN1-045



*Channel Failed, No Data



Curve Description: Passenger Head Primary X Displ. * Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

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

Minimum Value: 0.0 at 0.0 Milliseconds

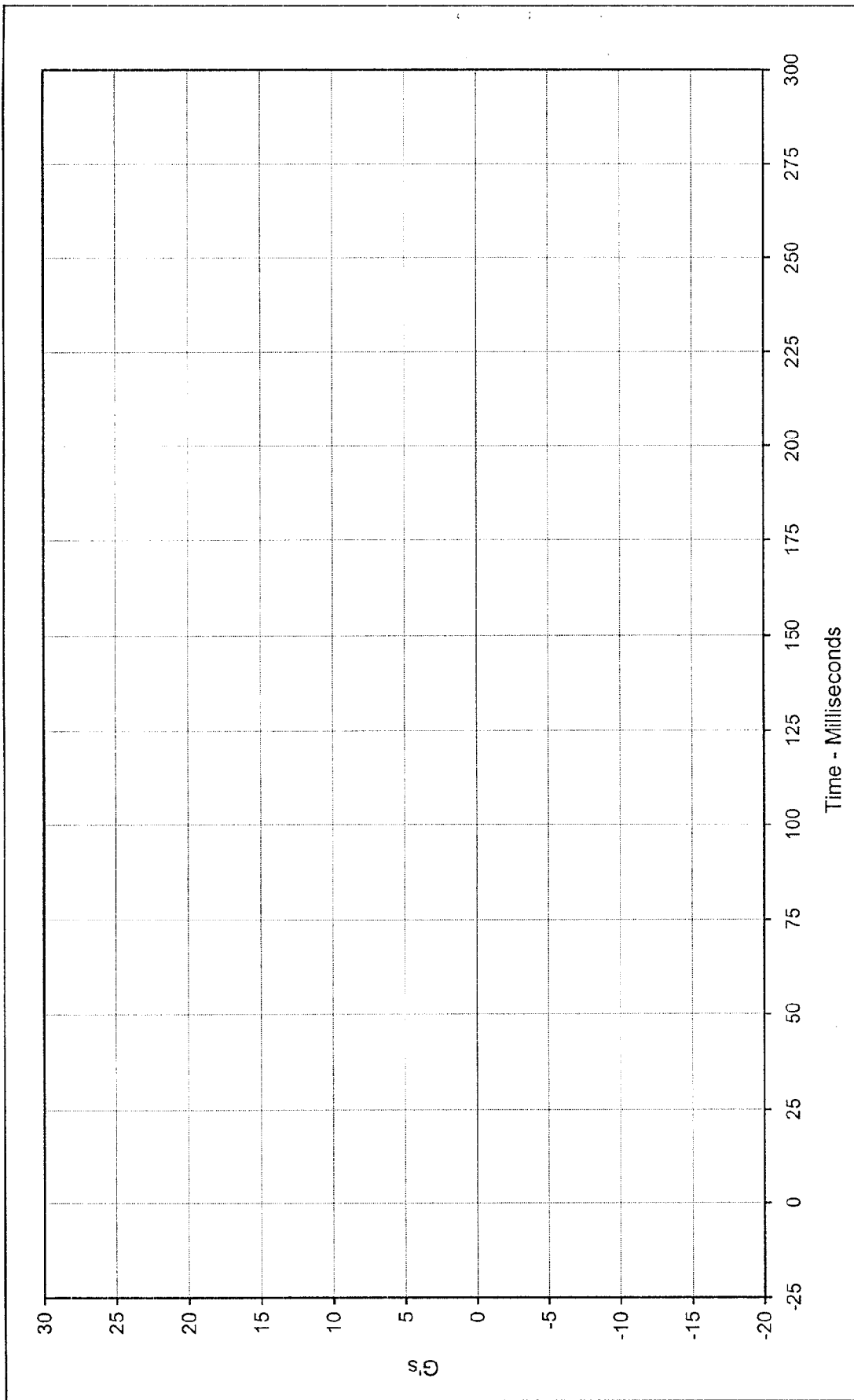
SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: IN2-045



* Channel Failed, No Data



B-59

Curve Description: Passenger Head Primary Y * Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

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

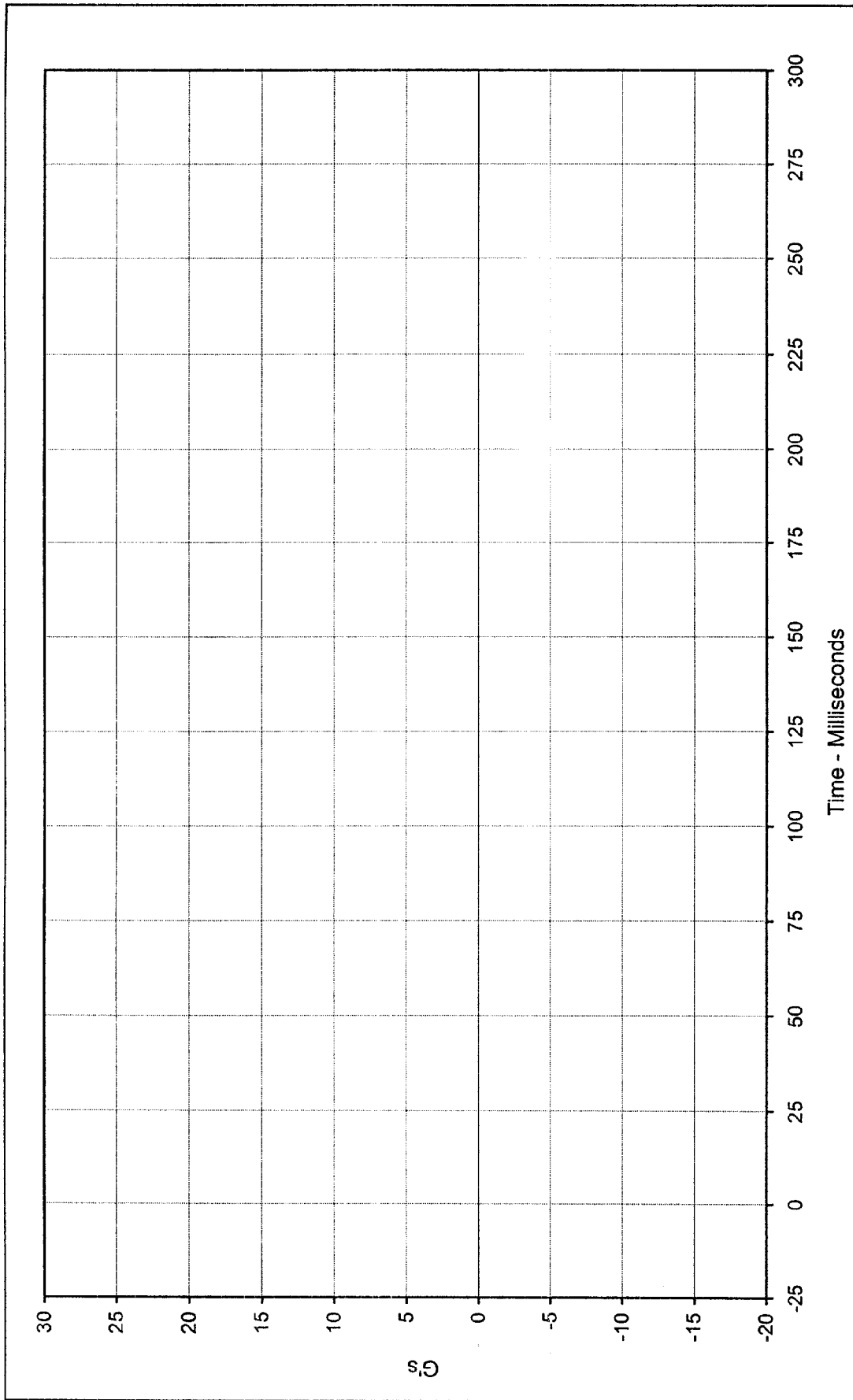
Date of Test: 8/11/98

Curve Number: FIL-046

* Channel Failed, No Data



KAR98002-06



Curve Description: Passenger Head Primary Z * Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 1000

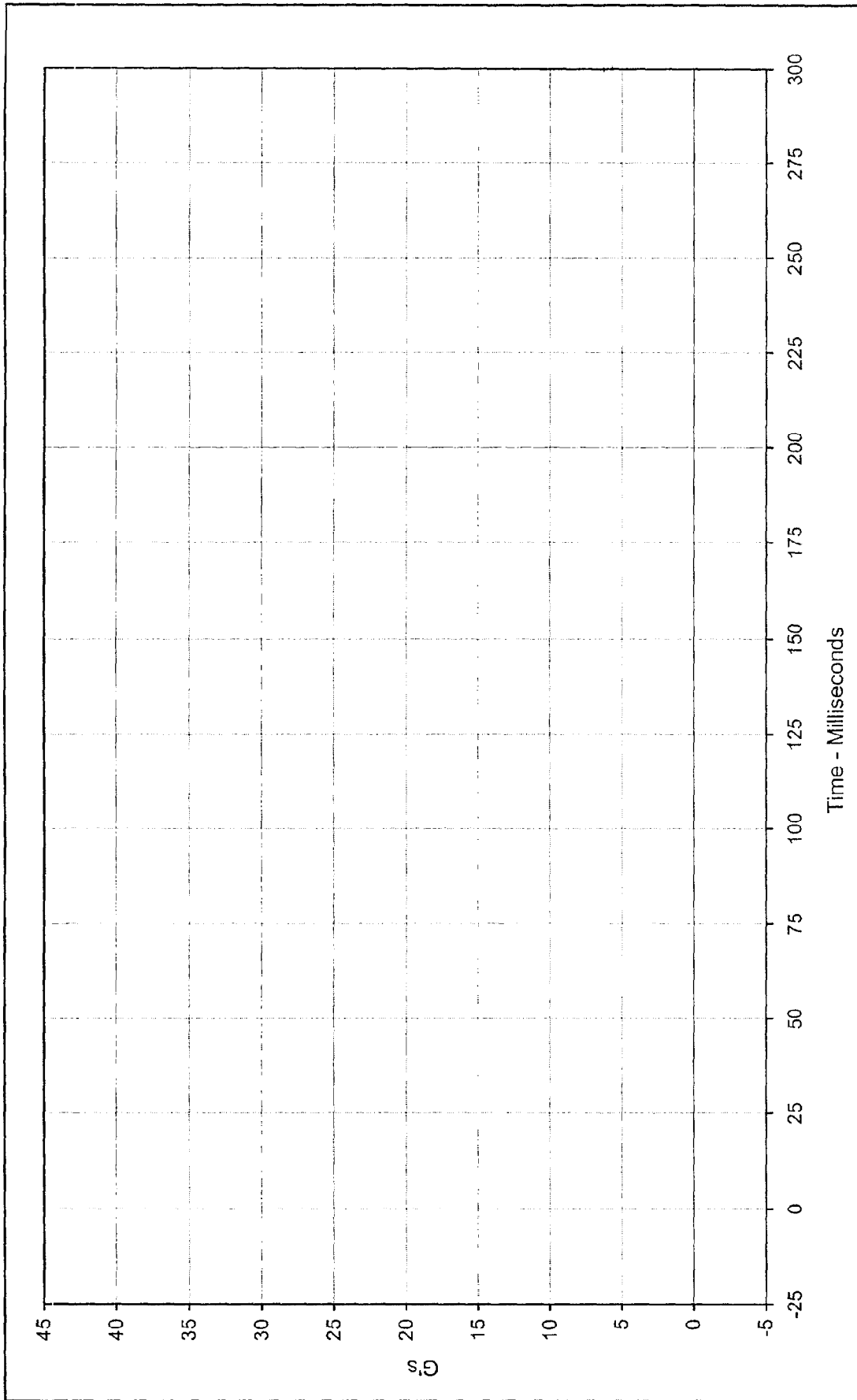
Date of Test: 8/1/98

Curve Number: FIL-047

Test Vehicle: 1998 Ford Contour 4 Door Sedan



* Channel Failed, No Data



Curve Description: Passenger Head Resultant Primary * Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

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

Minimum Value: 0.0 at 0.0 Milliseconds

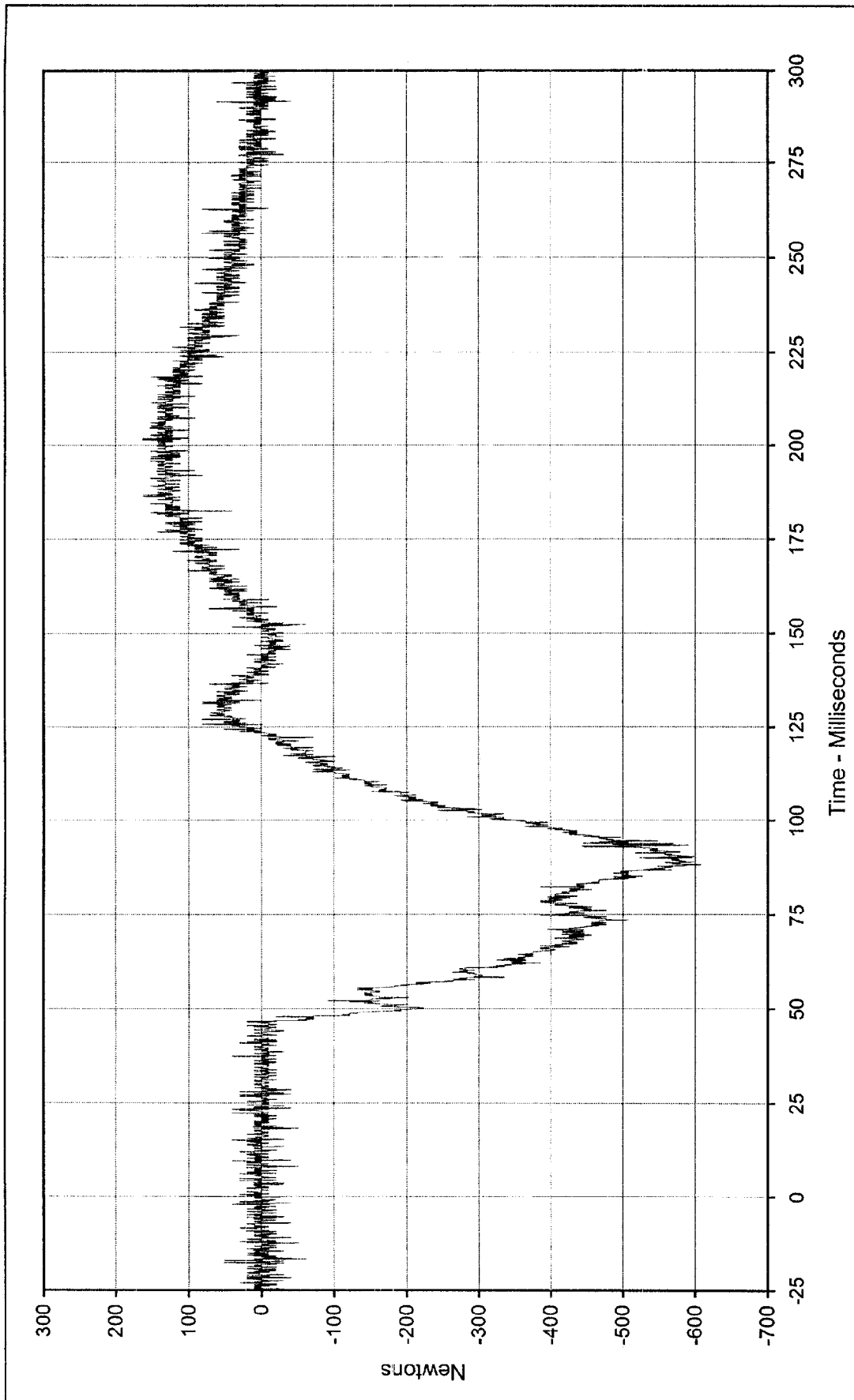
SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: RES-045

* Channel Failed, No Data





Curve Description: Passenger Neck Force X

Maximum Value: 162.3 at 186.4 Milliseconds

Minimum Value: -608.5 at 88.2 Milliseconds

SAE Filter Class: 1000

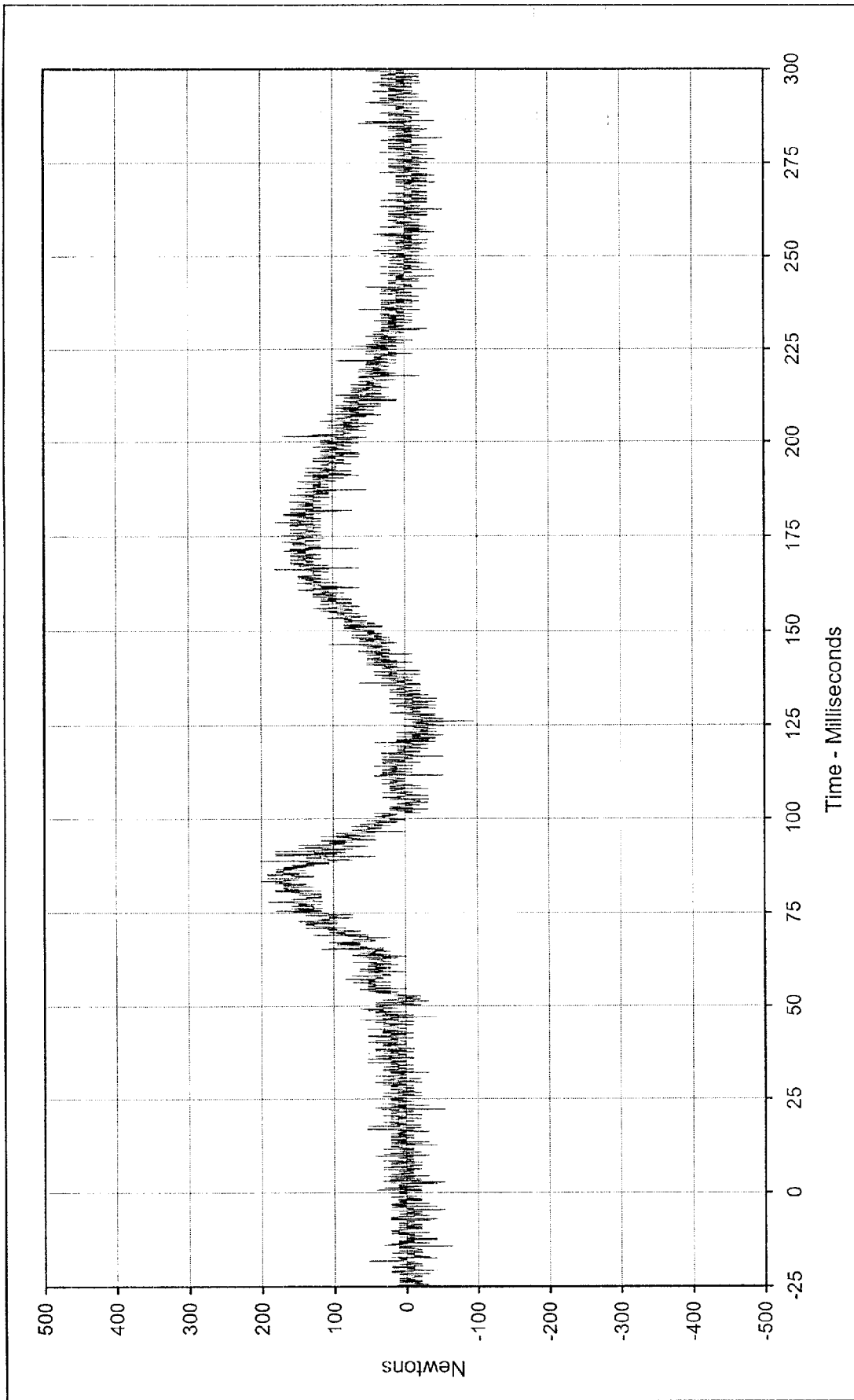
Date of Test: 8/1/98

Curve Number: FIL-048

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

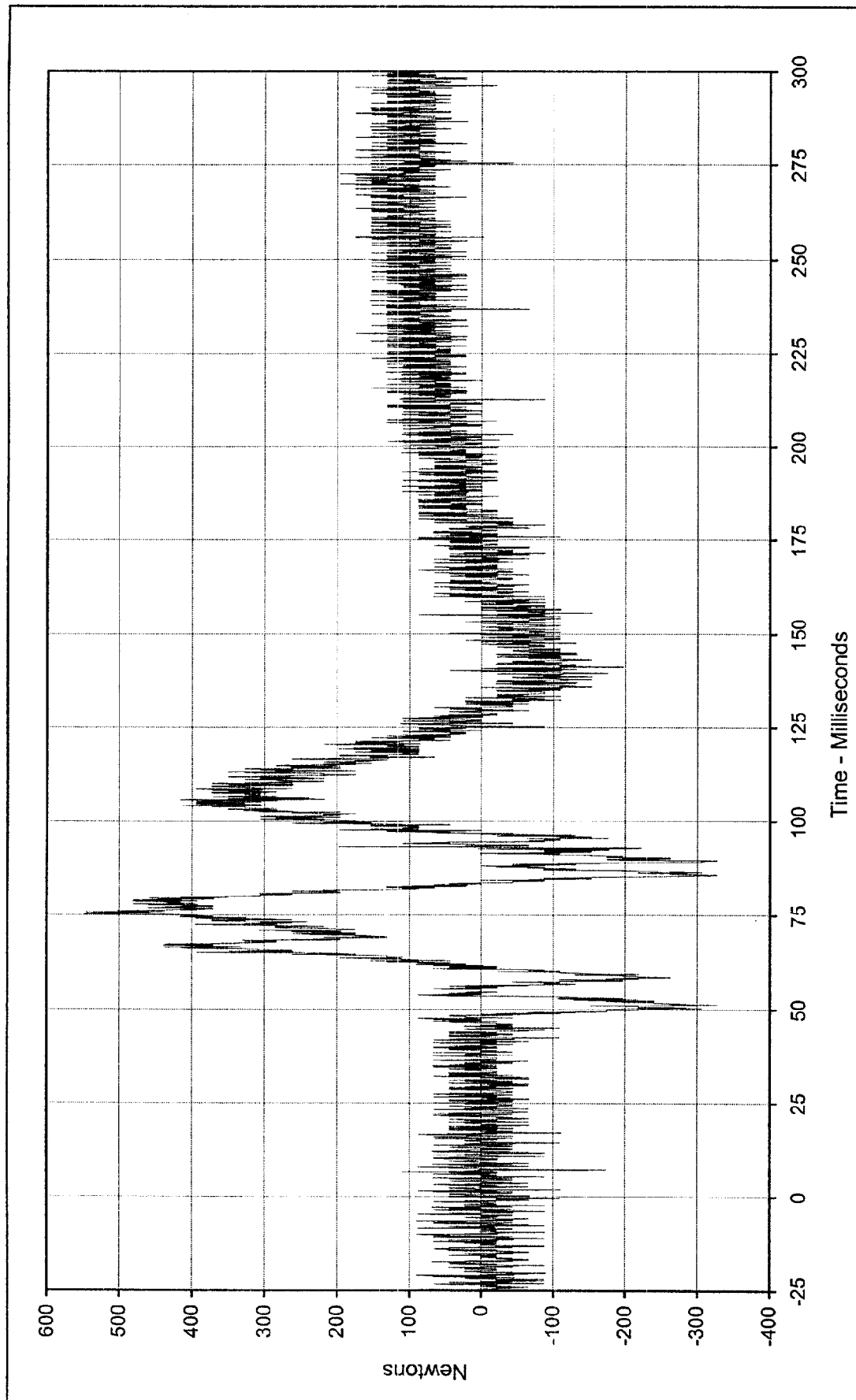




Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan

Curve Description: Passenger Neck Force Y
 Maximum Value: 201.0 at 83.4 Milliseconds
 Minimum Value: -95.2 at 126.2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-049





Curve Description: Passenger Neck Force Z

Maximum Value: 546.1 at 75.3 Milliseconds

Minimum Value: -327.6 at 51.4 Milliseconds

SAE Filter Class: 1000

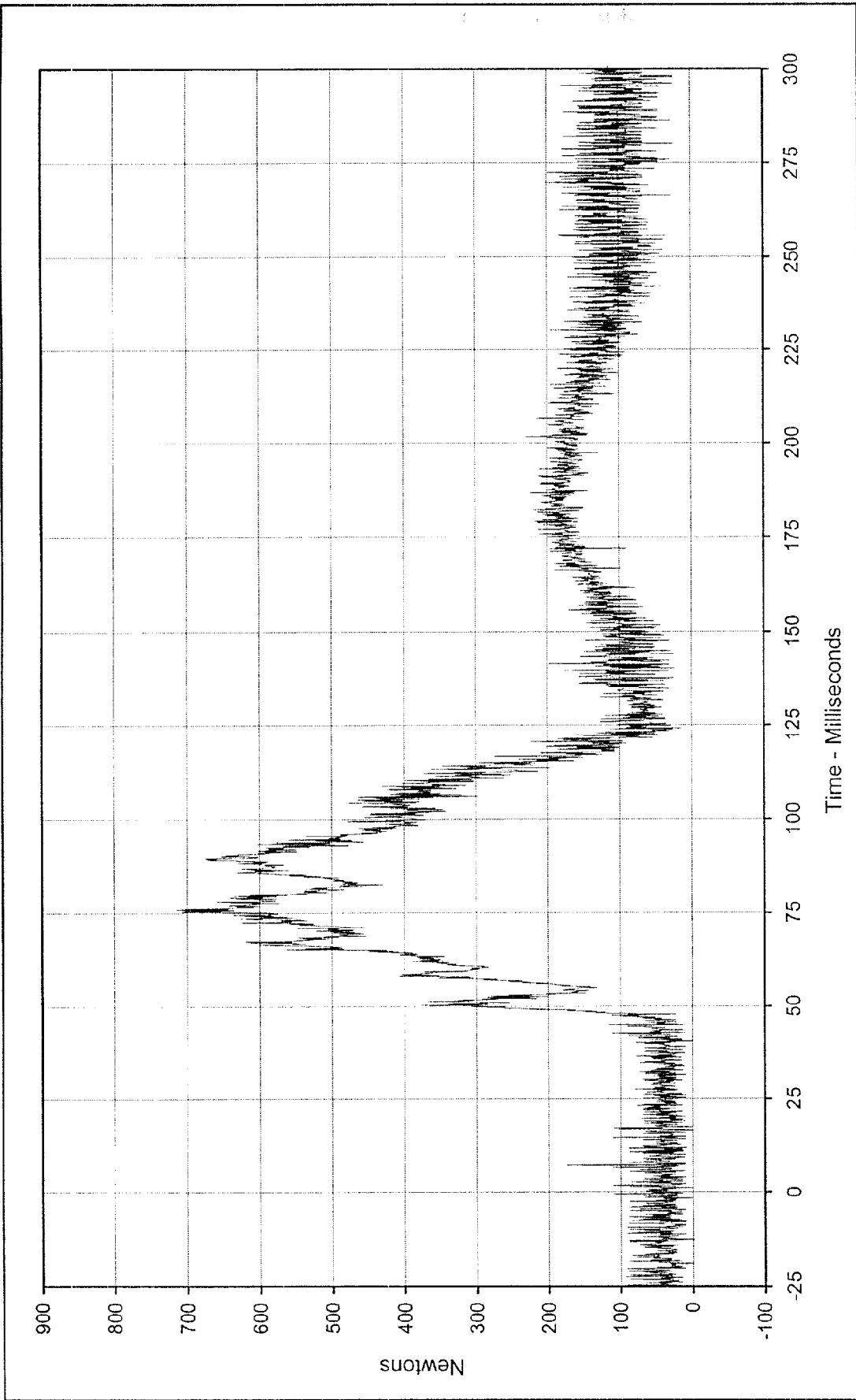
Date of Test: 8/11/98

Curve Number: FIL-050

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Neck Force Resultant

Maximum Value: 714.3 at 76.0 Milliseconds

Minimum Value: 0.0 at 1.0 Milliseconds

SAE Filter Class: 1000

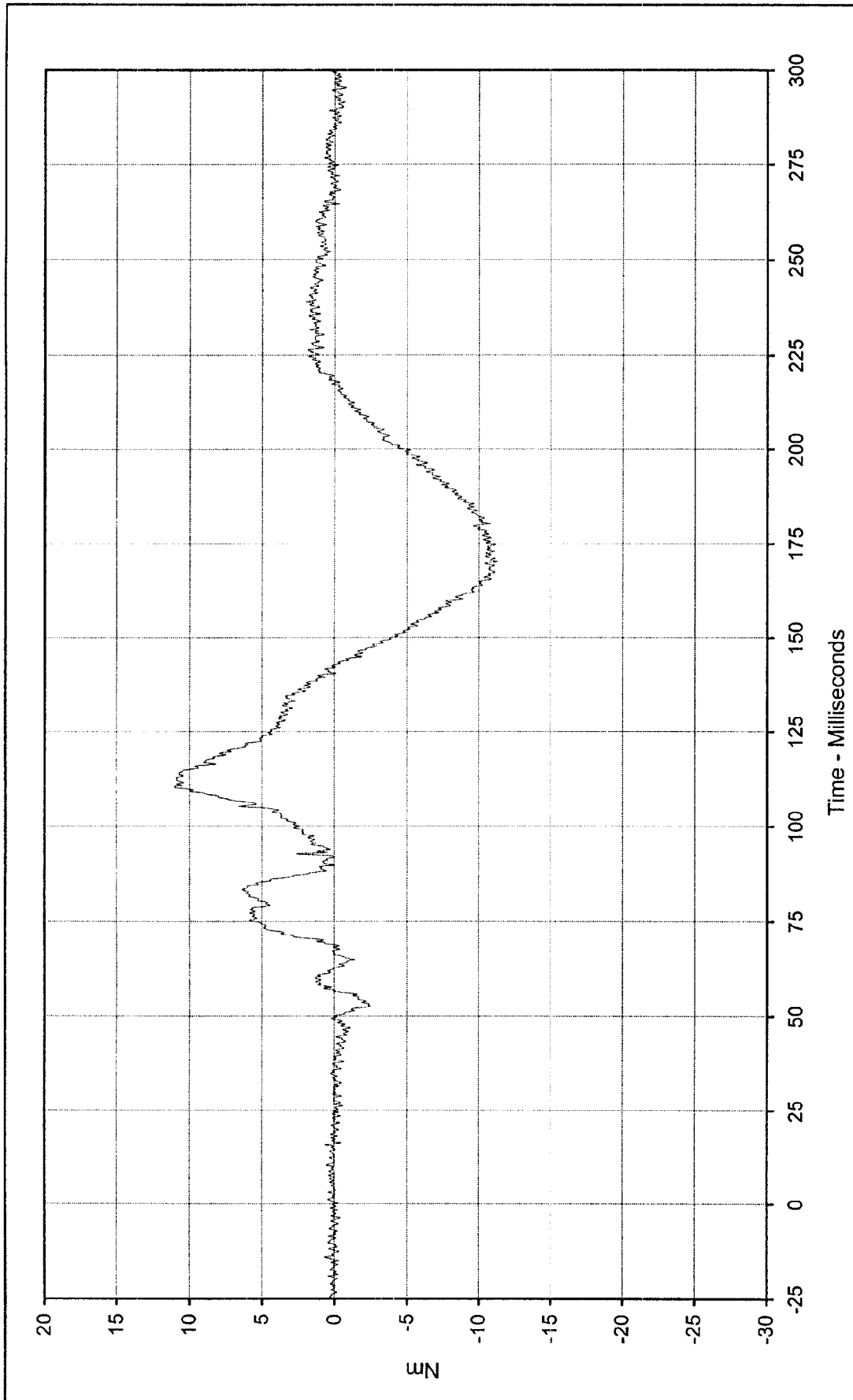
Date of Test: 8/1/98

Curve Number: RES-048

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Neck Moment X

Maximum Value: 11.1 at 110.5 Milliseconds

Minimum Value: -11.3 at 170.3 Milliseconds

SAE Filter Class: 600

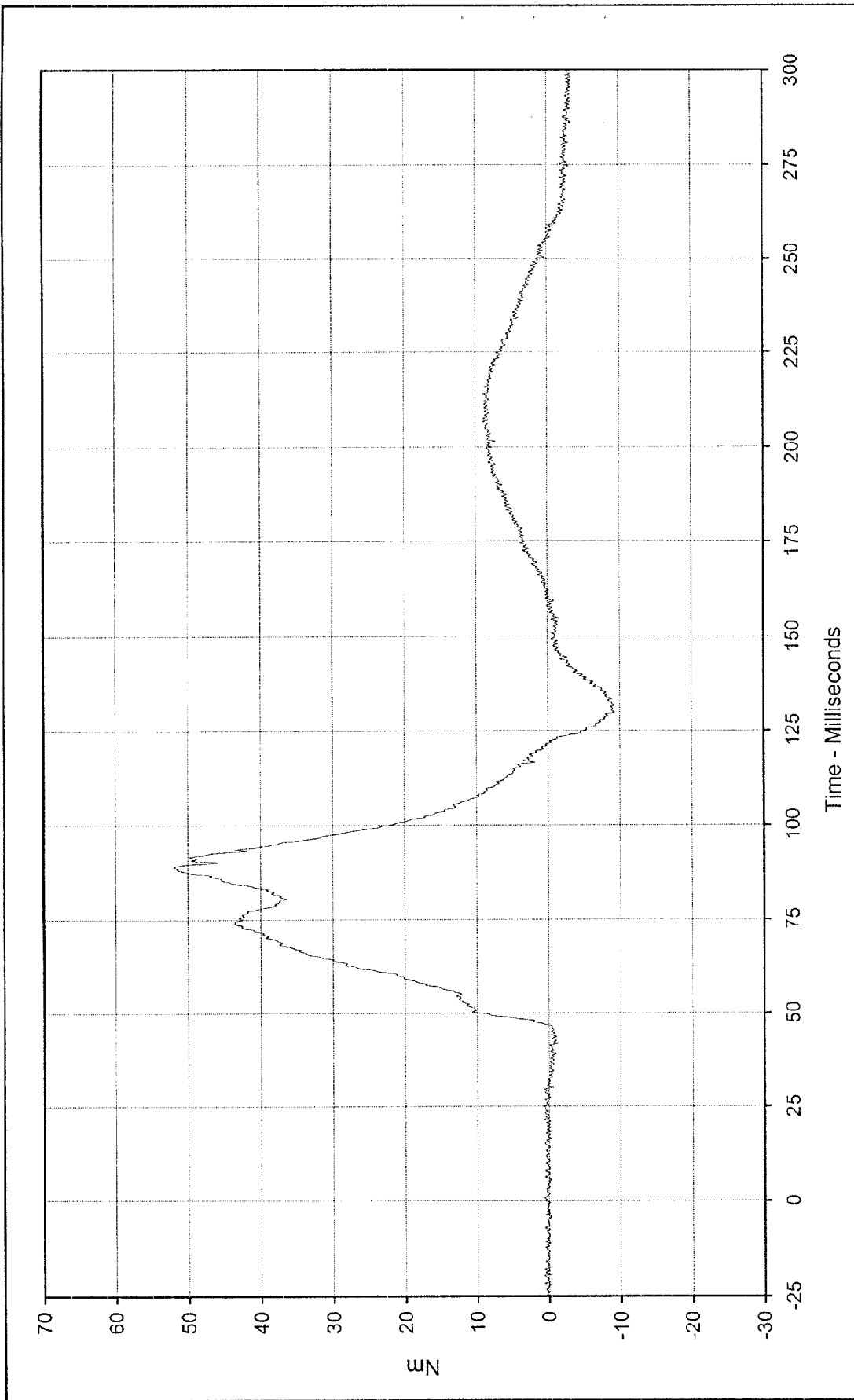
Date of Test: 8/1/98

Curve Number: FIL-051

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Neck Moment Y

Maximum Value: 52.0 at 88.8 Milliseconds

Minimum Value: -9.4 at 131.7 Milliseconds

SAE Filter Class: 600

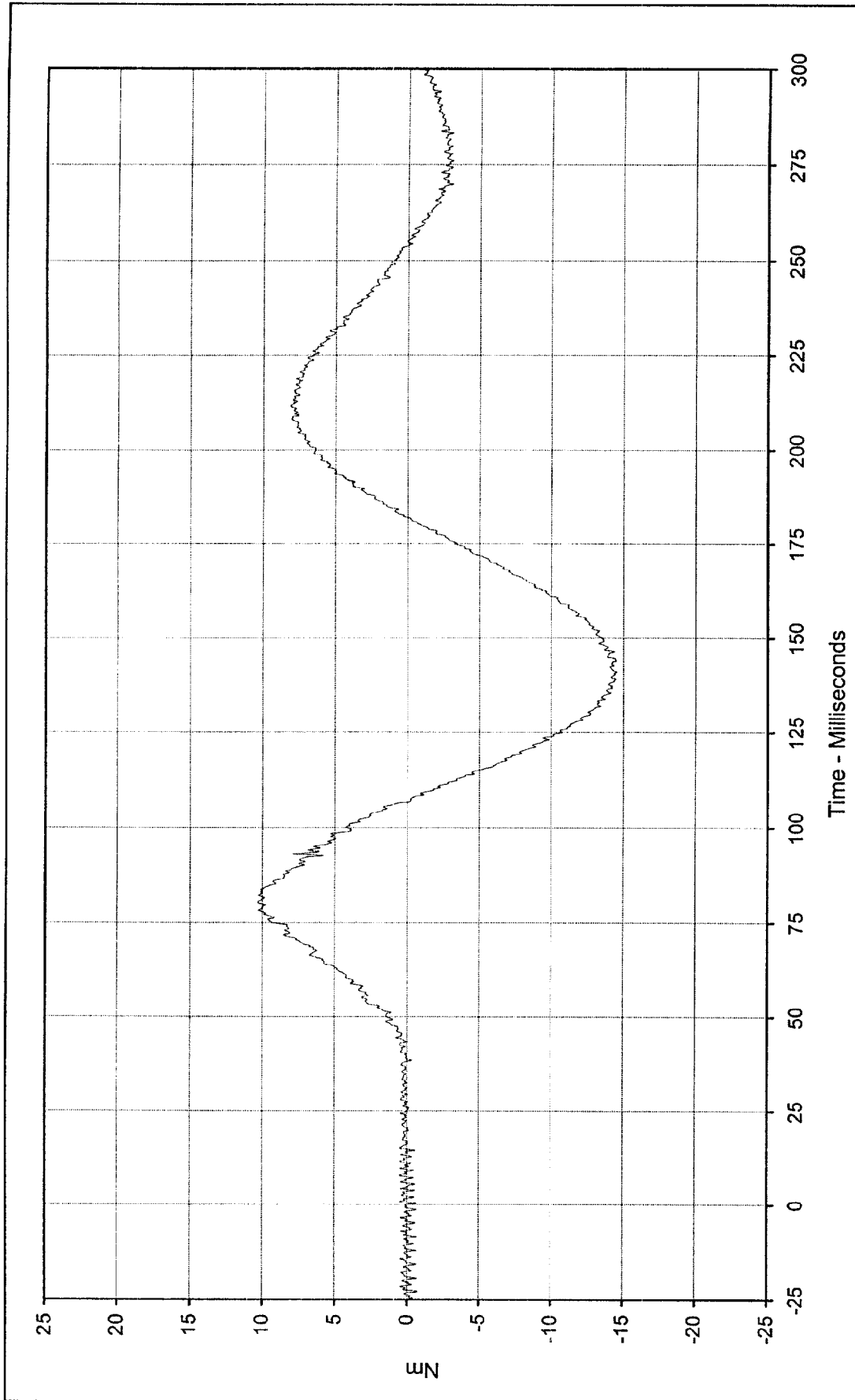
Date of Test: 8/1/98

Curve Number: FIL-052

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Neck Moment Z

Maximum Value: 10.3 at 80.5 Milliseconds

Minimum Value: -14.6 at 141.1 Milliseconds

SAE Filter Class: 600

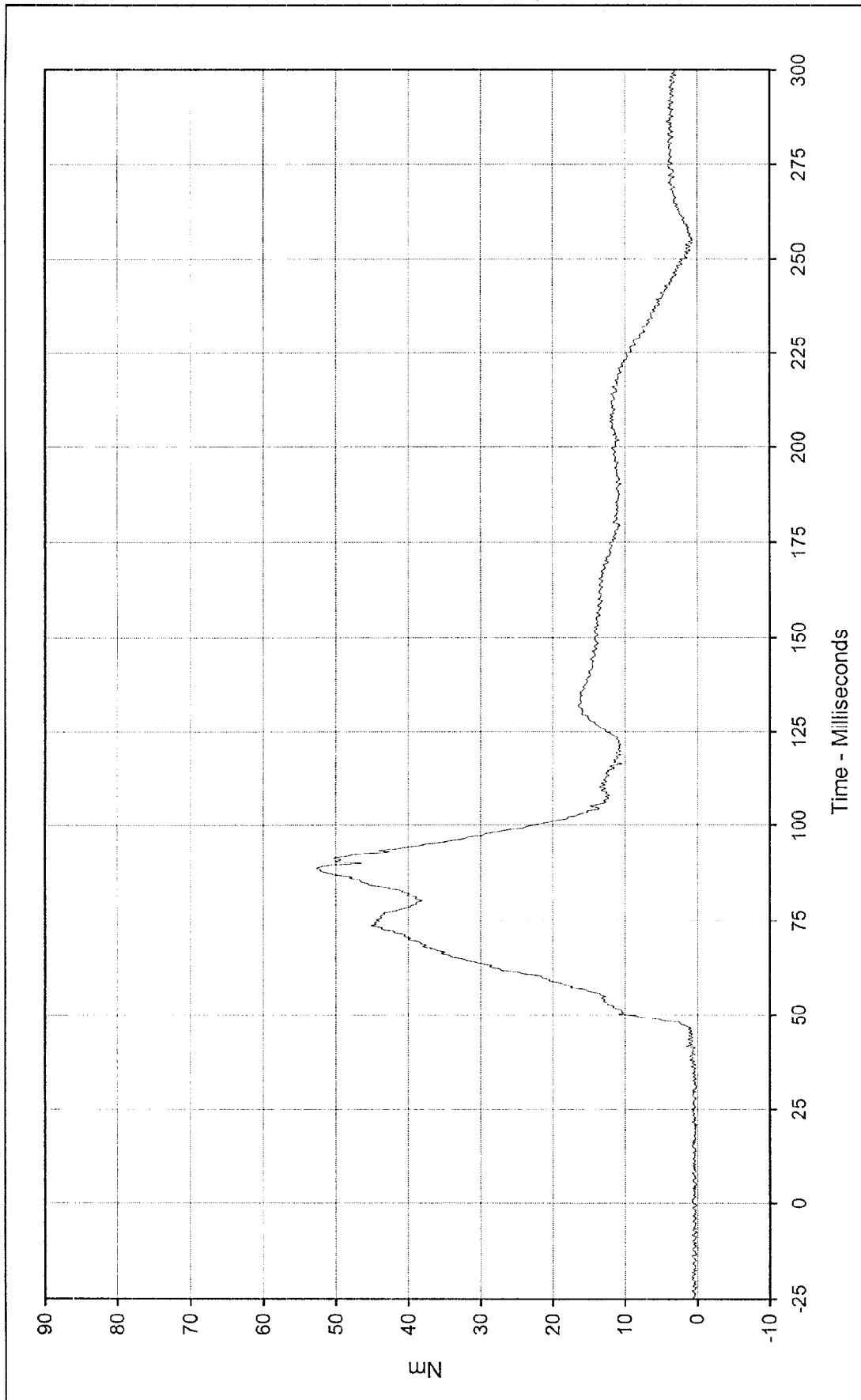
Date of Test: 8/1/98

Curve Number: FIL-053

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

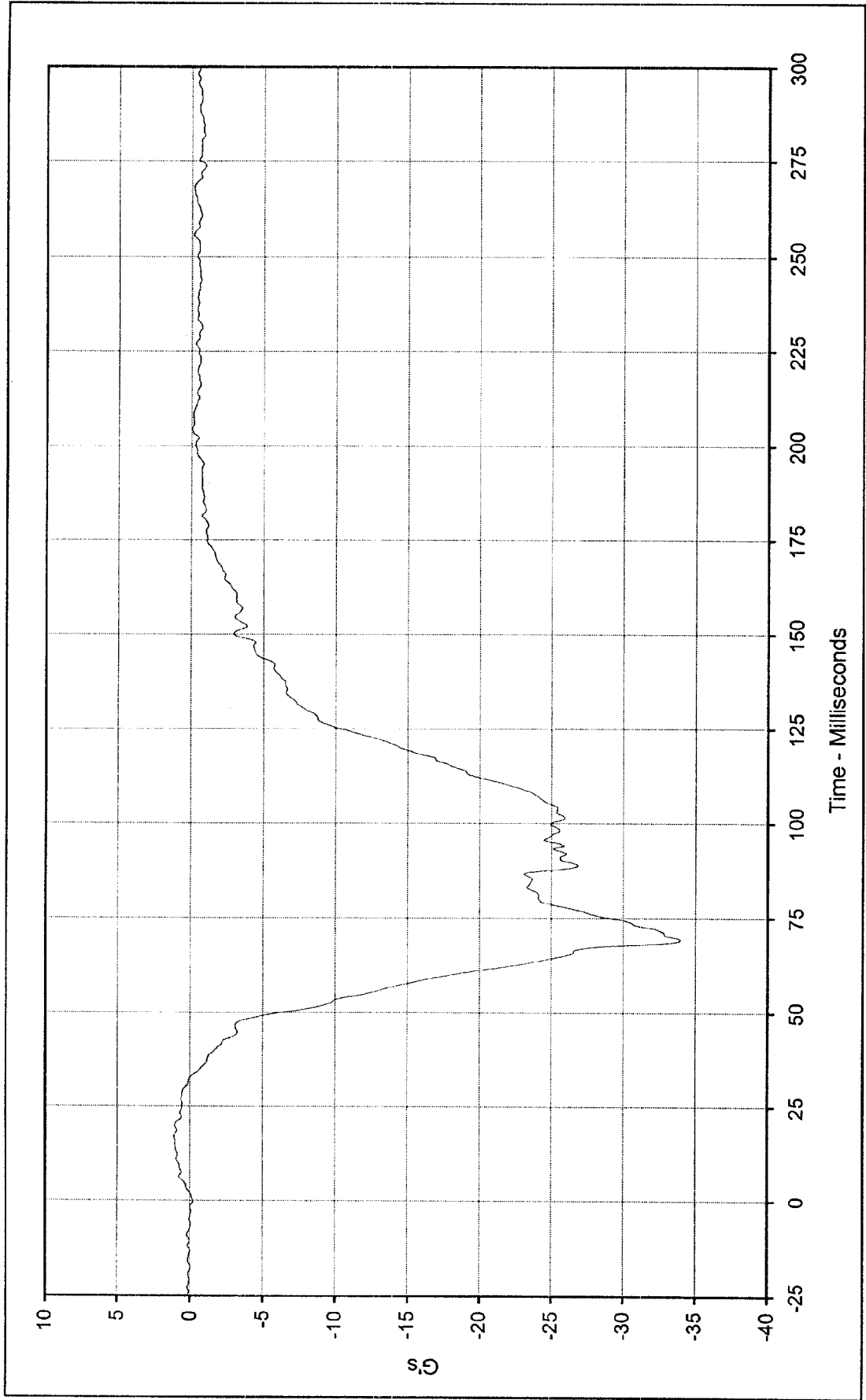




Curve Description: Passenger Neck Moment Resultant
Maximum Value: 52.6 at 88.8 Milliseconds
Minimum Value: 0.1 at 20.7 Milliseconds
SAE Filter Class: 600
Date of Test: 8/11/98
Curve Number: RES-051

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Primary X

Maximum Value: 1.1 at 17.2 Milliseconds

Minimum Value: -34.0 at 69.3 Milliseconds

SAE Filter Class: 180

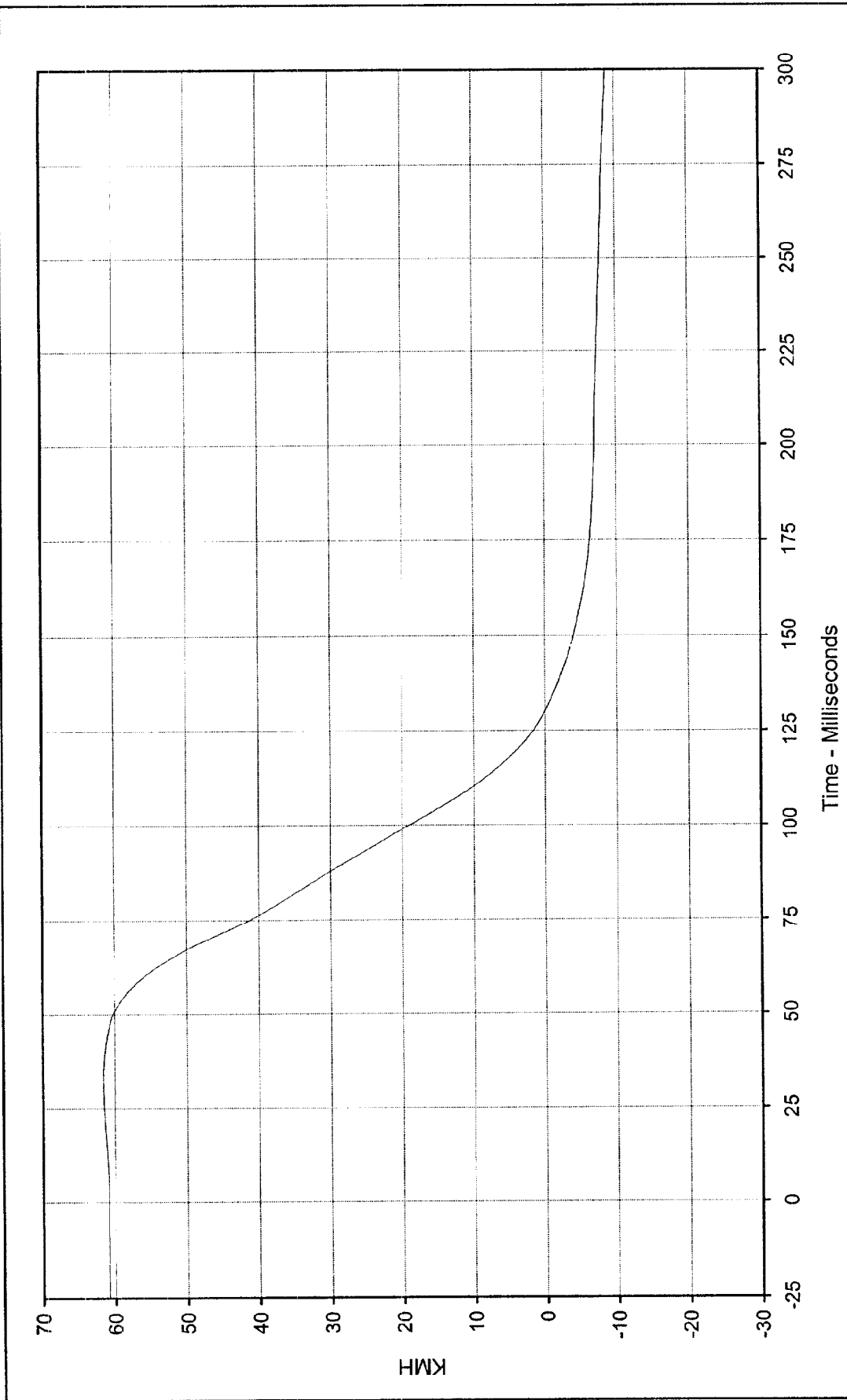
Date of Test: 8/11/98

Curve Number: FIL-054

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Primary X Velocity

Maximum Value: 61.6 at 32.9 Milliseconds

Minimum Value: -8.8 at 299.9 Milliseconds

SAE Filter Class: 180

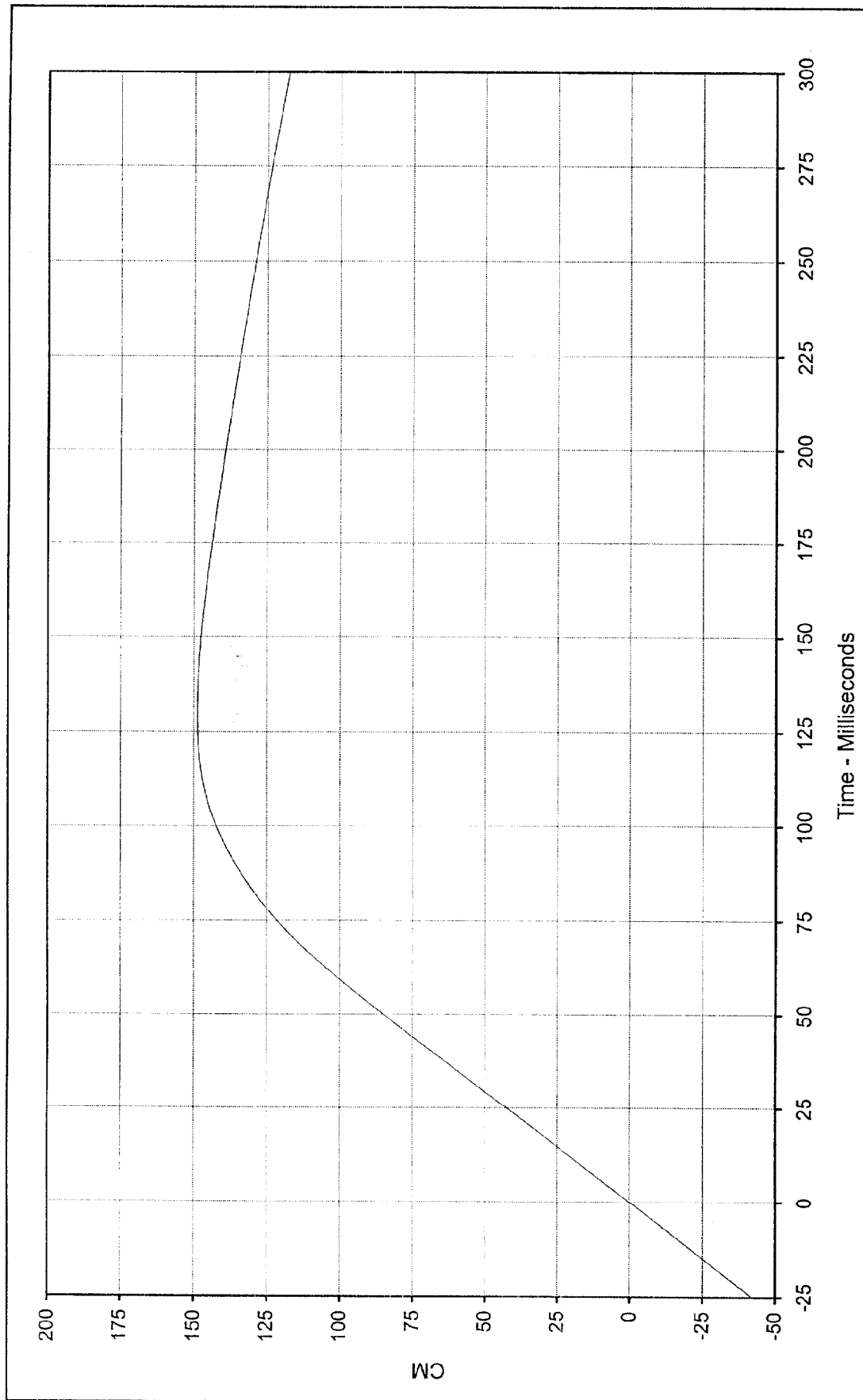
Date of Test: 8/11/98

Curve Number: IN1-054

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

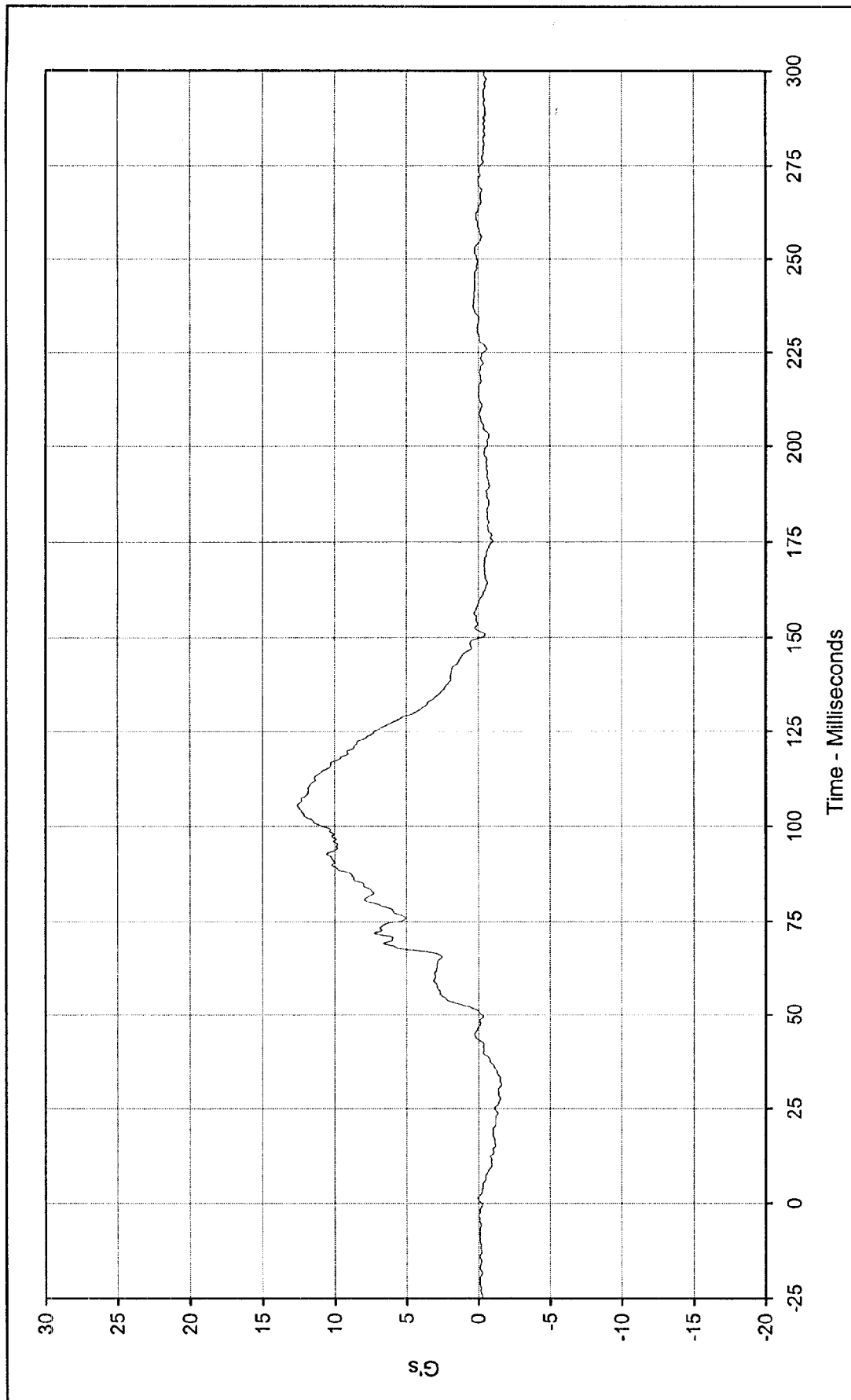




Curve Description: Passenger Chest Primary X Displ.
 Maximum Value: 148.8 at 130.3 Milliseconds
 Minimum Value: 0.1 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 8/11/98
 Curve Number: IN2-054

Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Primary Y

Maximum Value: 12.6 at 105.6 Milliseconds

Minimum Value: -1.6 at 31.3 Milliseconds

SAE Filter Class: 180

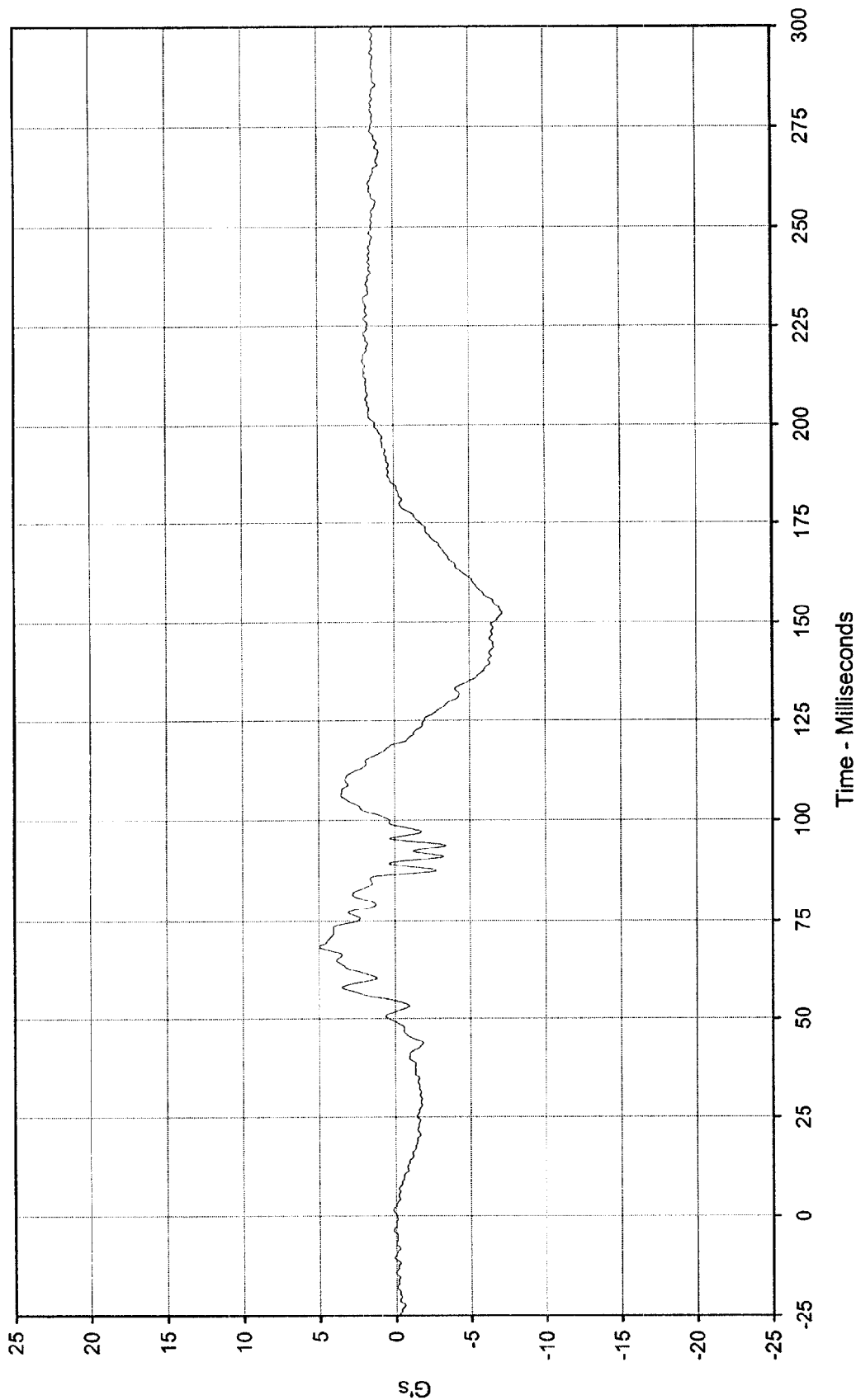
Date of Test: 8/11/98

Curve Number: FIL-055

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Primary Z

Maximum Value: 5.0 at 68.4 Milliseconds

Minimum Value: -7.2 at 152.3 Milliseconds

SAE Filter Class: 180

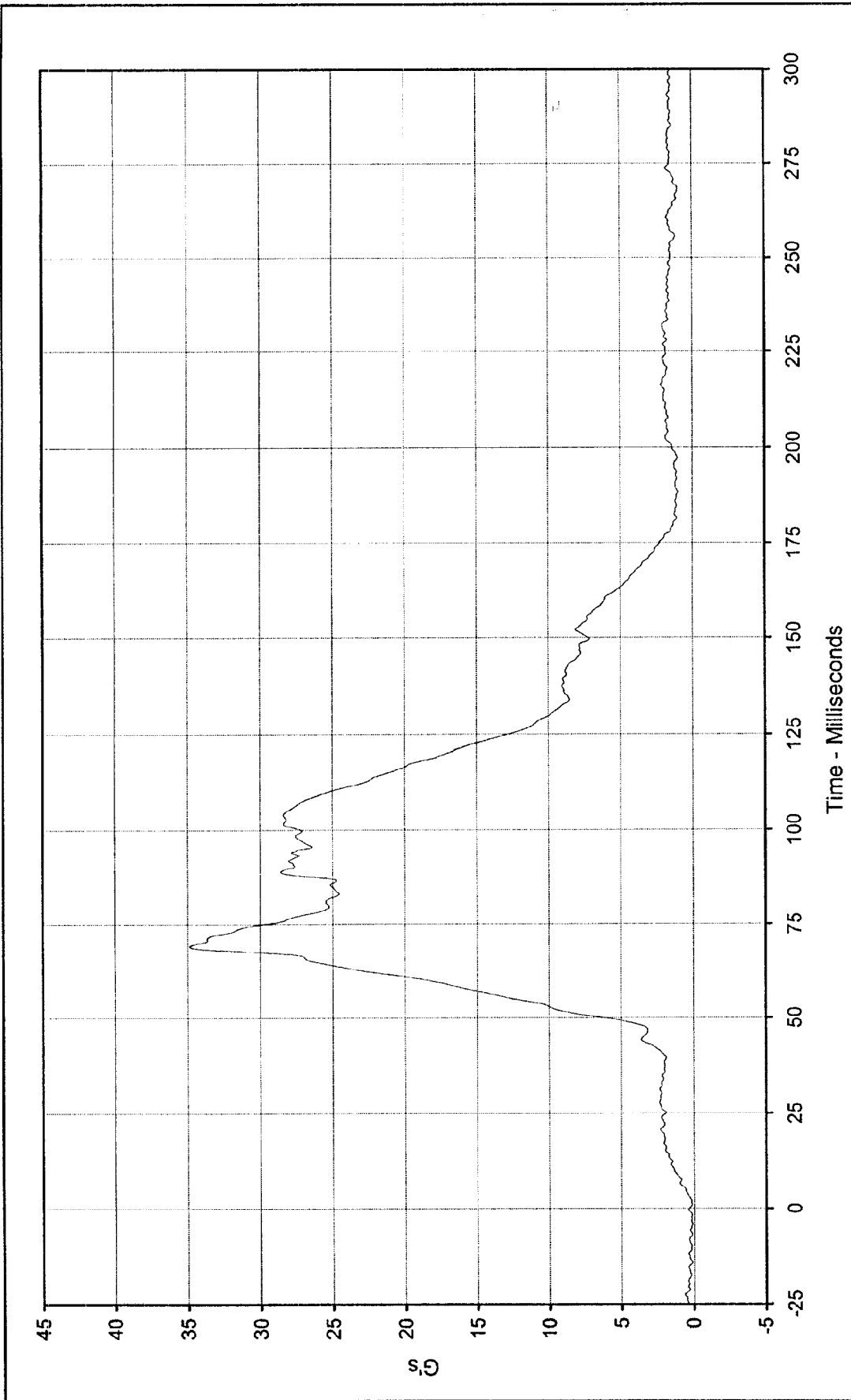
Date of Test: 8/11/98

Curve Number: FIL-056

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Resultant Primary

Maximum Value: 34.9 at 69.2 Milliseconds

Minimum Value: 0.1 at 1.0 Milliseconds

SAE Filter Class: 180

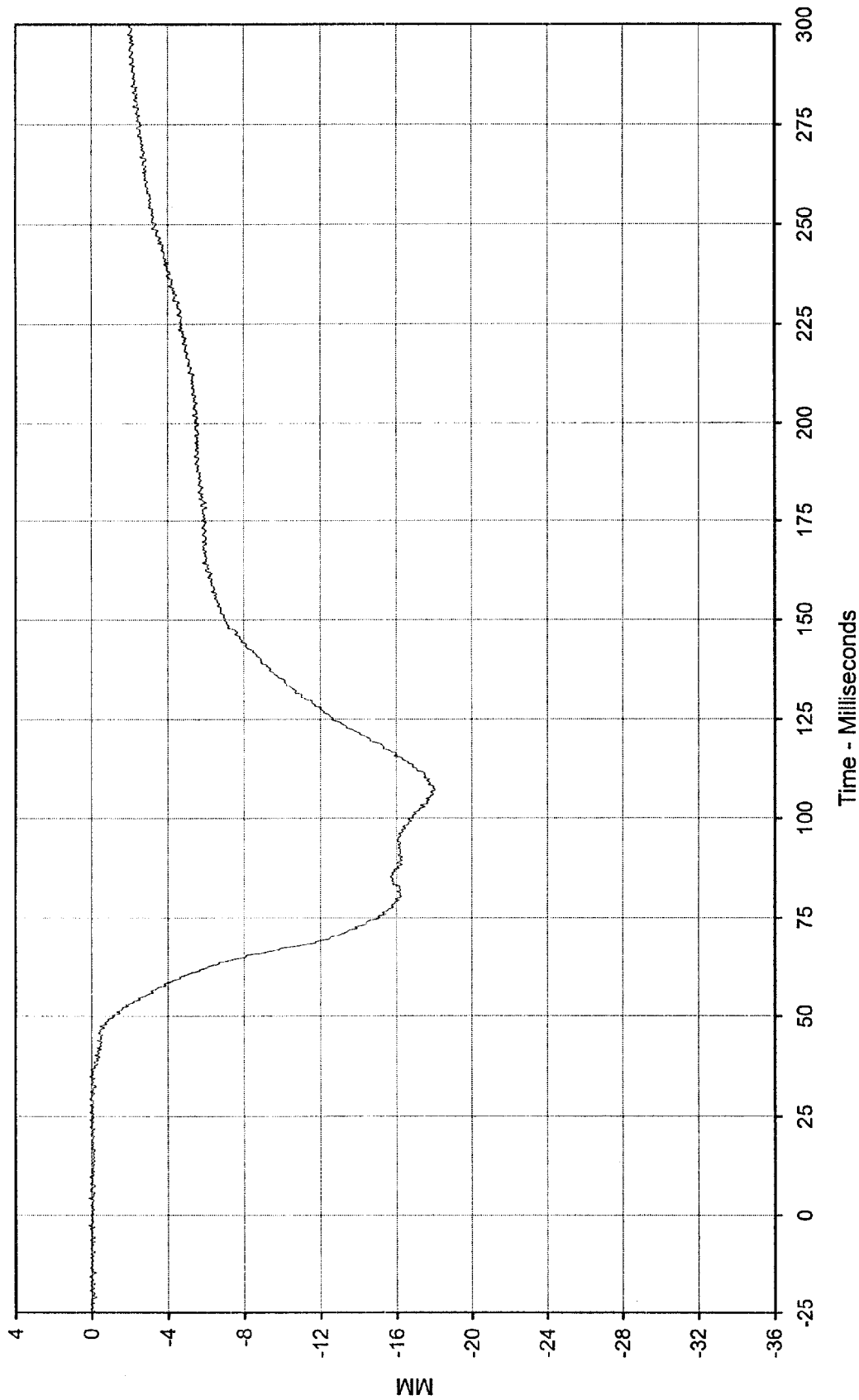
Date of Test: 8/11/98

Curve Number: RES-054

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Chest Displacement X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 0.2 at 4.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

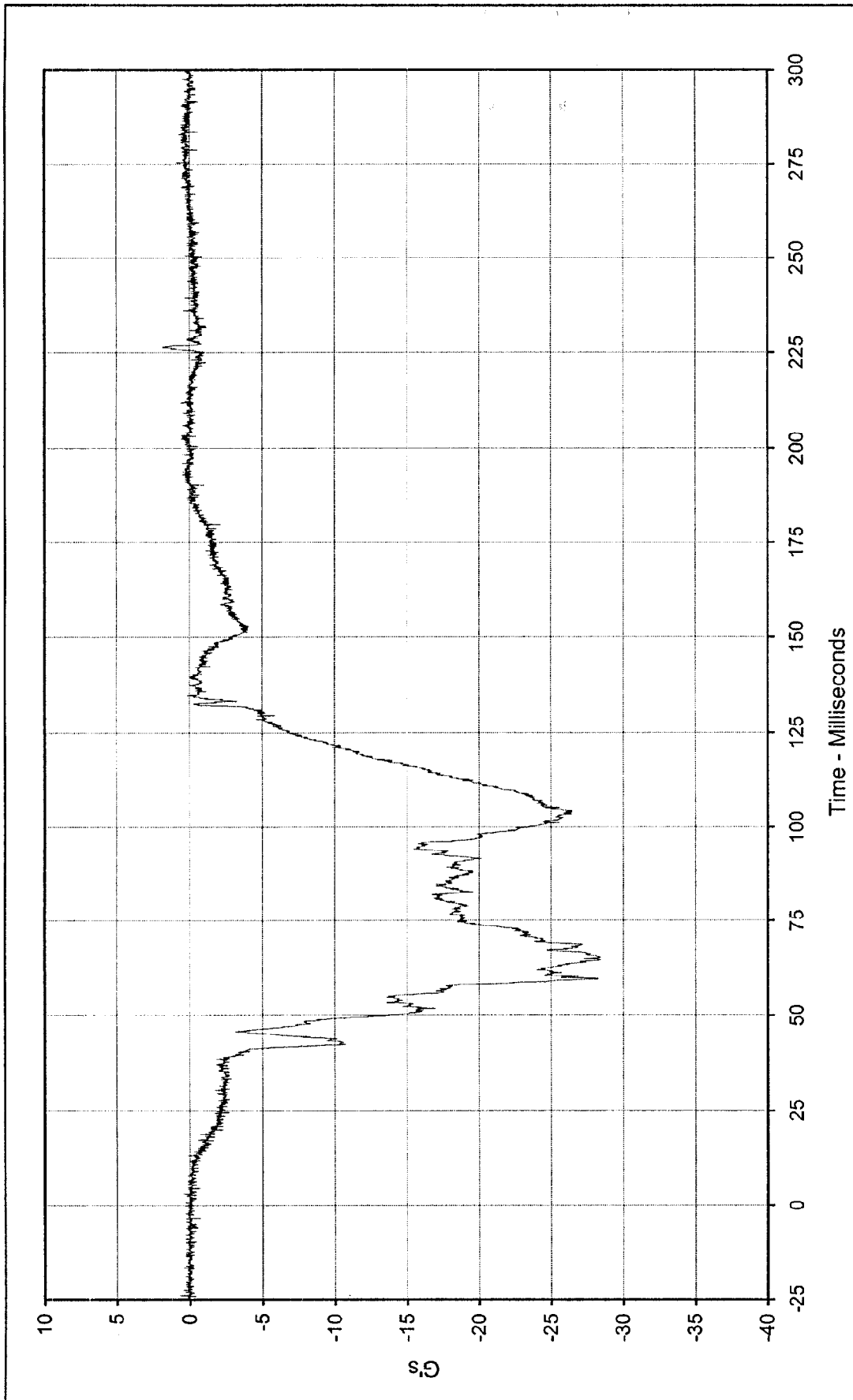
Minimum Value: -18.0 at 107.4 Milliseconds

SAE Filter Class: 600

Date of Test: 8/11/98

Curve Number: FIL-057





Curve Description: Passenger Pelvis X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 1.9 at 226.4 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

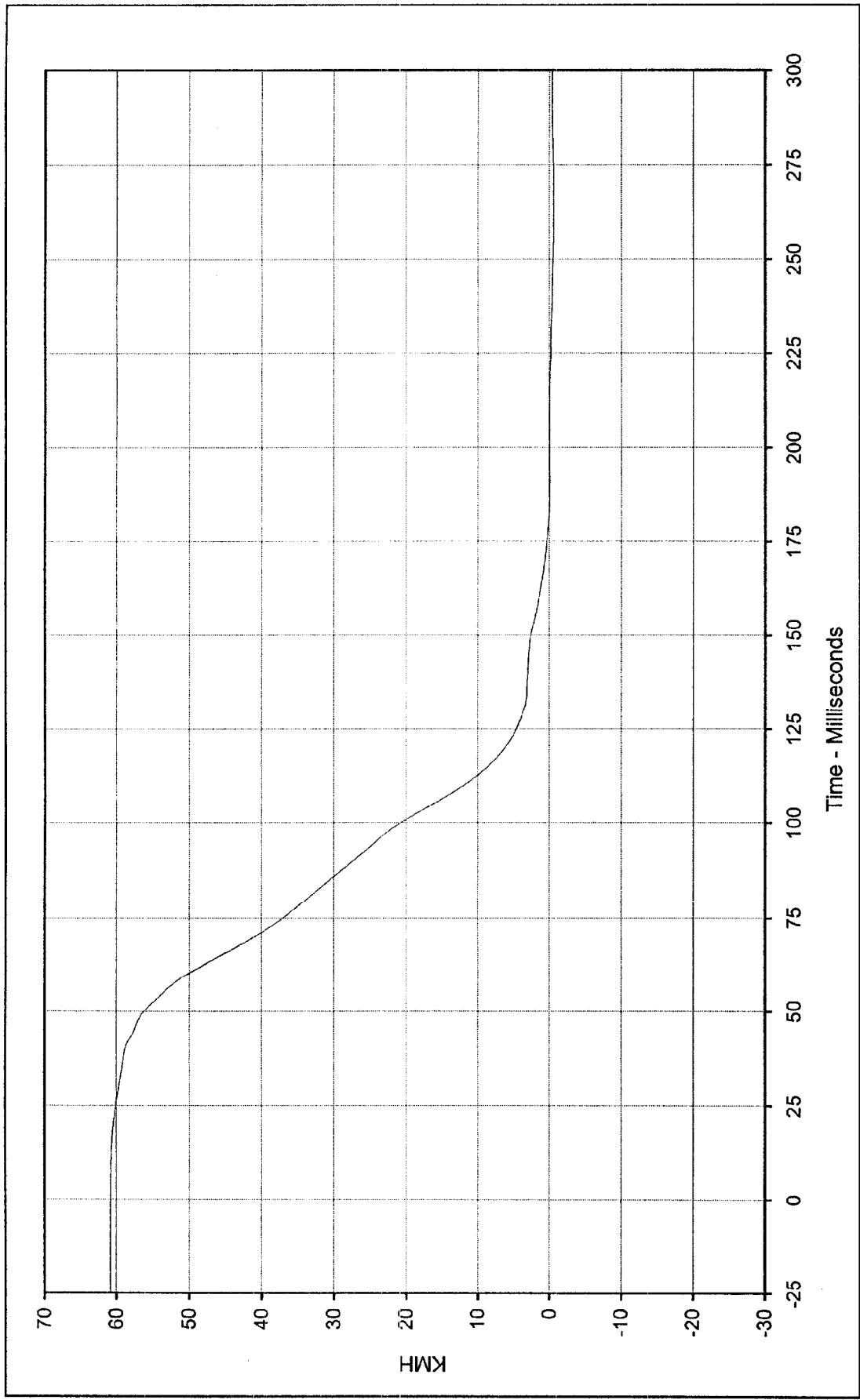
Minimum Value: -28.4 at 64.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/1/98

Curve Number: FIL-058





Curve Description: Passenger Pelvis X Velocity Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 60.8 at 0.0 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

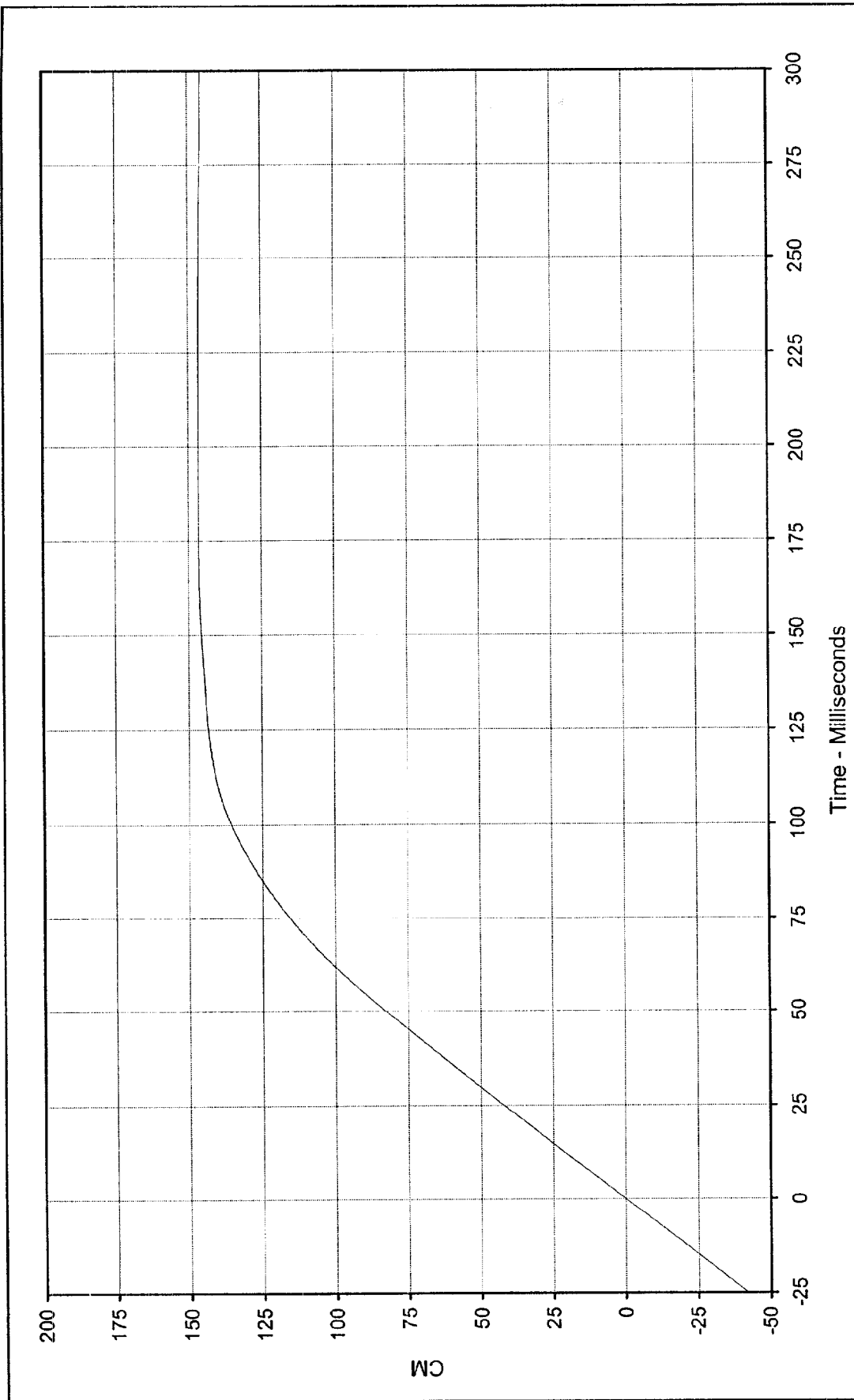
Minimum Value: -0.6 at 263.4 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN1-058





Curve Description: Passenger Pelvis X Displ. Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 146.5 at 183.4 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

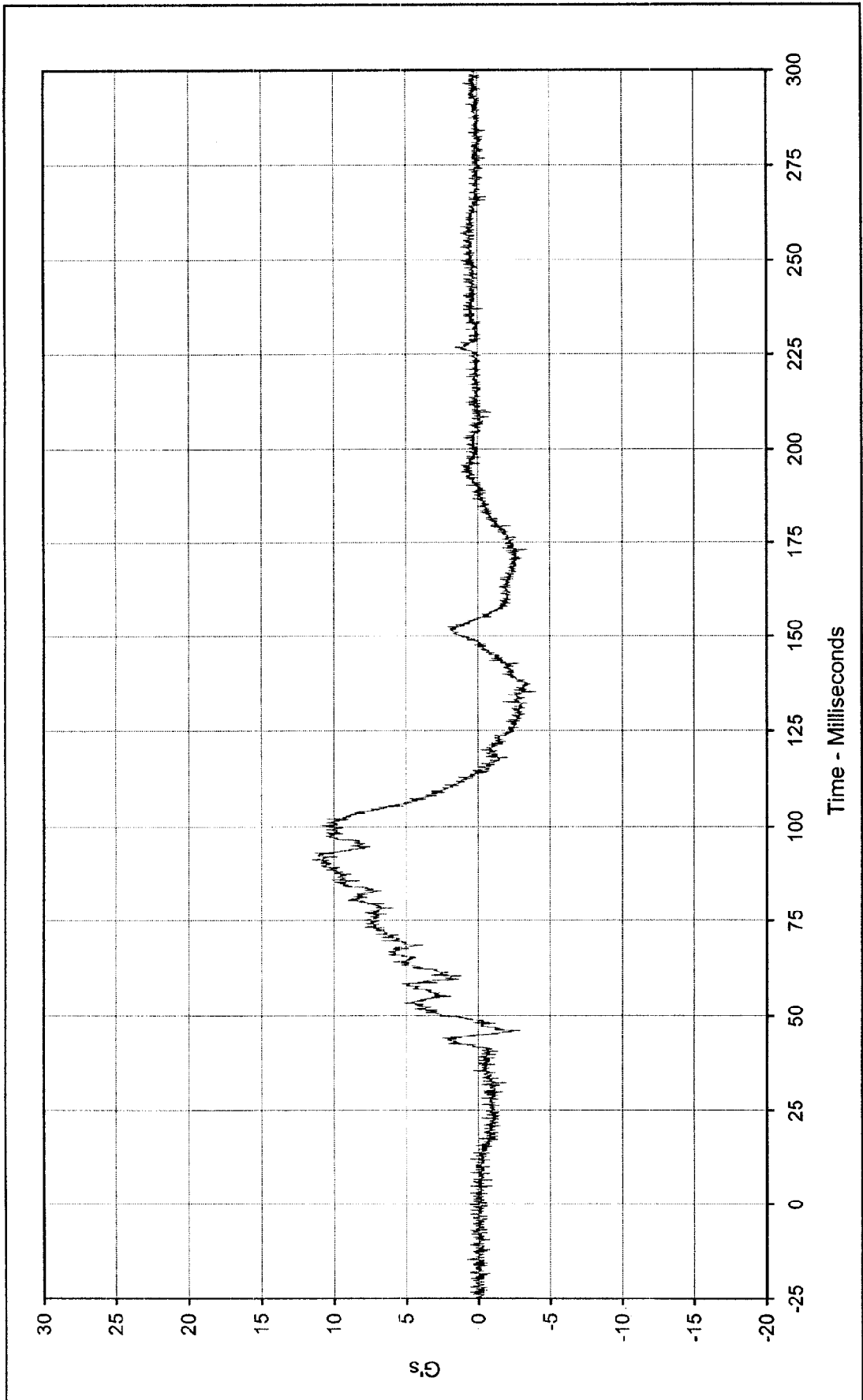
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN2-058





Curve Description: Passenger Pelvis Y Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 11.5 at 91.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

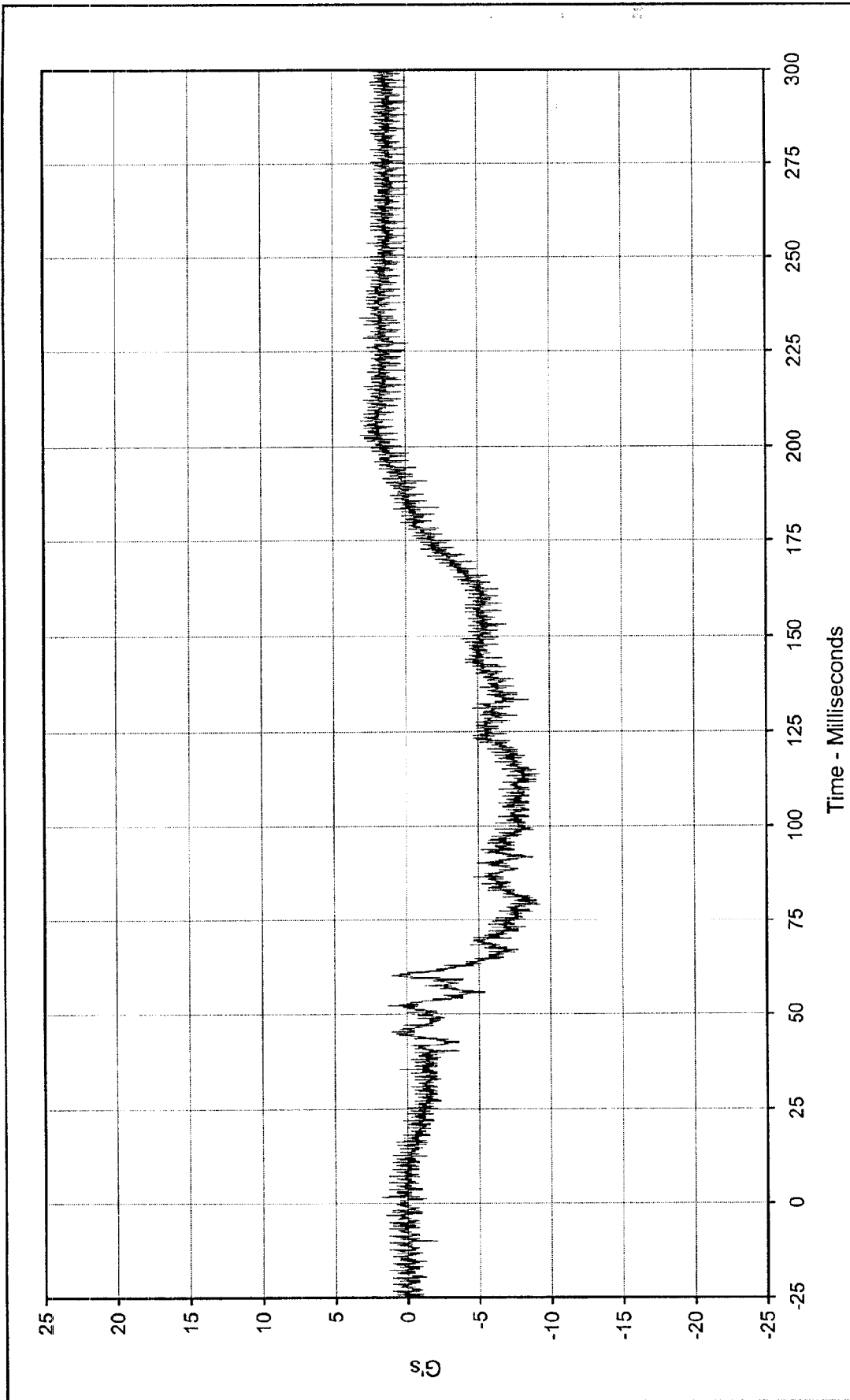
Minimum Value: -4.0 at 135.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-059





Curve Description: Passenger Pelvis Z Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 3.1 at 203.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

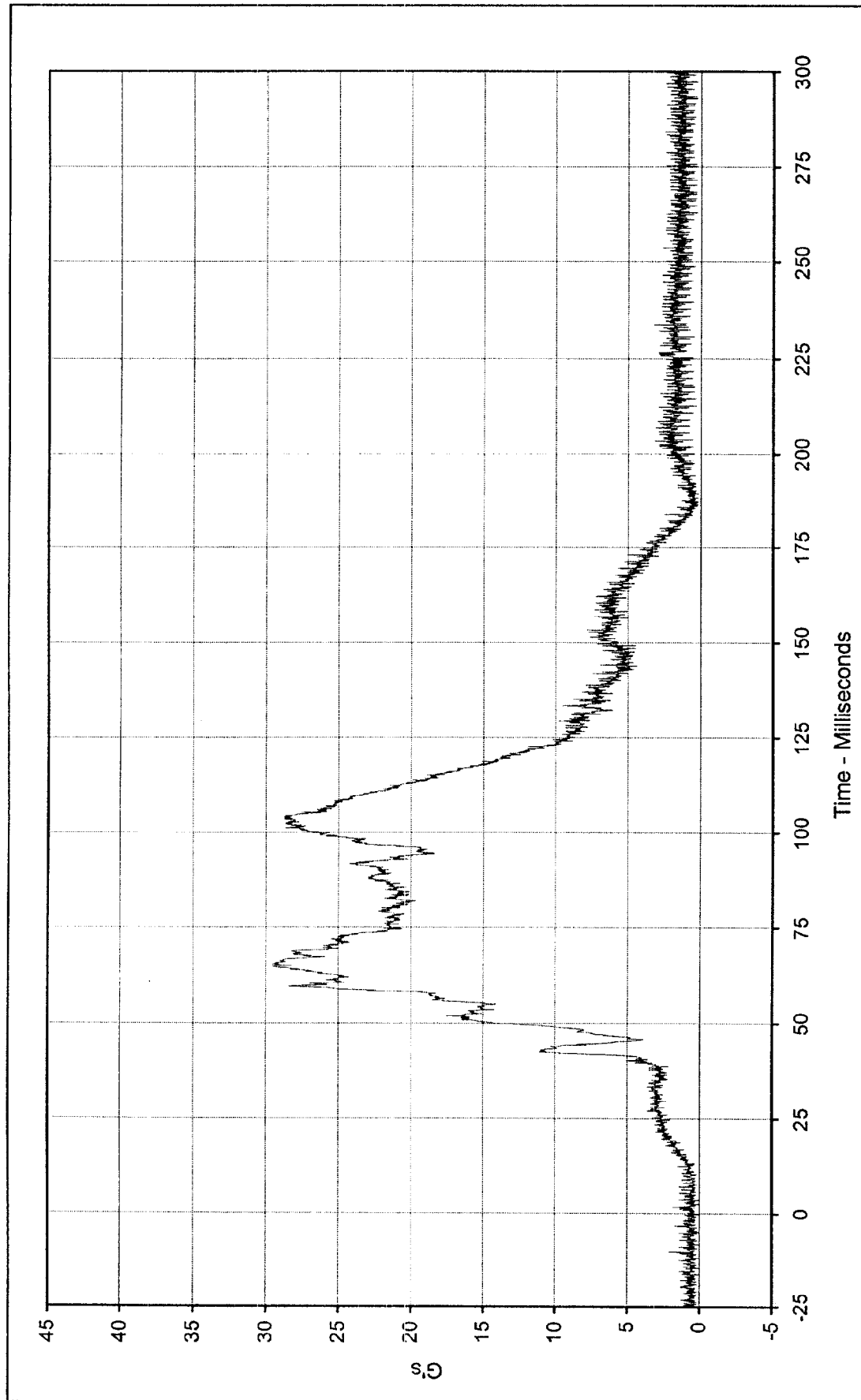
Minimum Value: -9.3 at 79.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-060





Curve Description: Passenger Pelvis Resultant Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 29.5 at 64.8 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

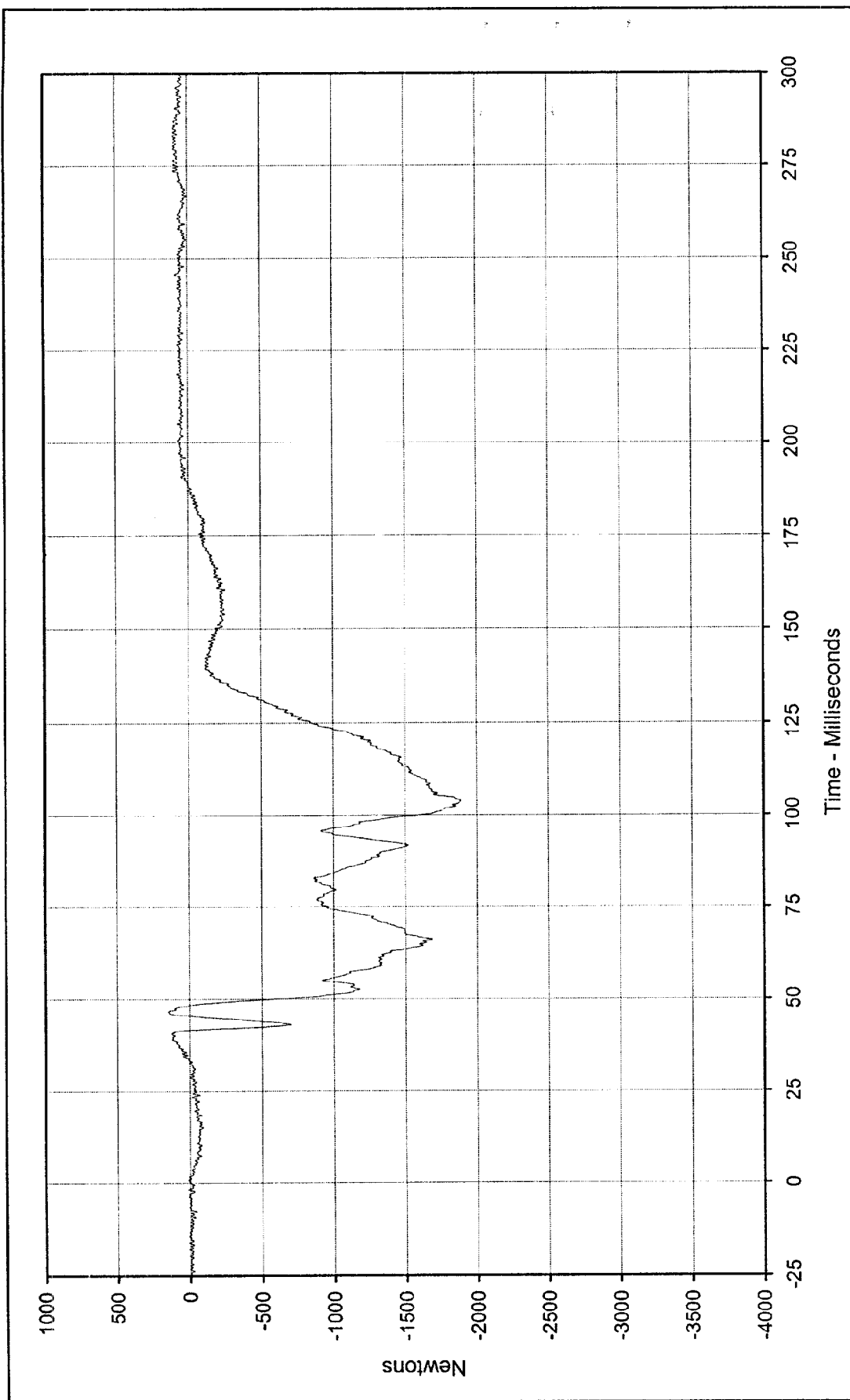
Minimum Value: 0.0 at 2.5 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: RES-058





Curve Description: Passenger Left Femur Force Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 149.6 at 46.7 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

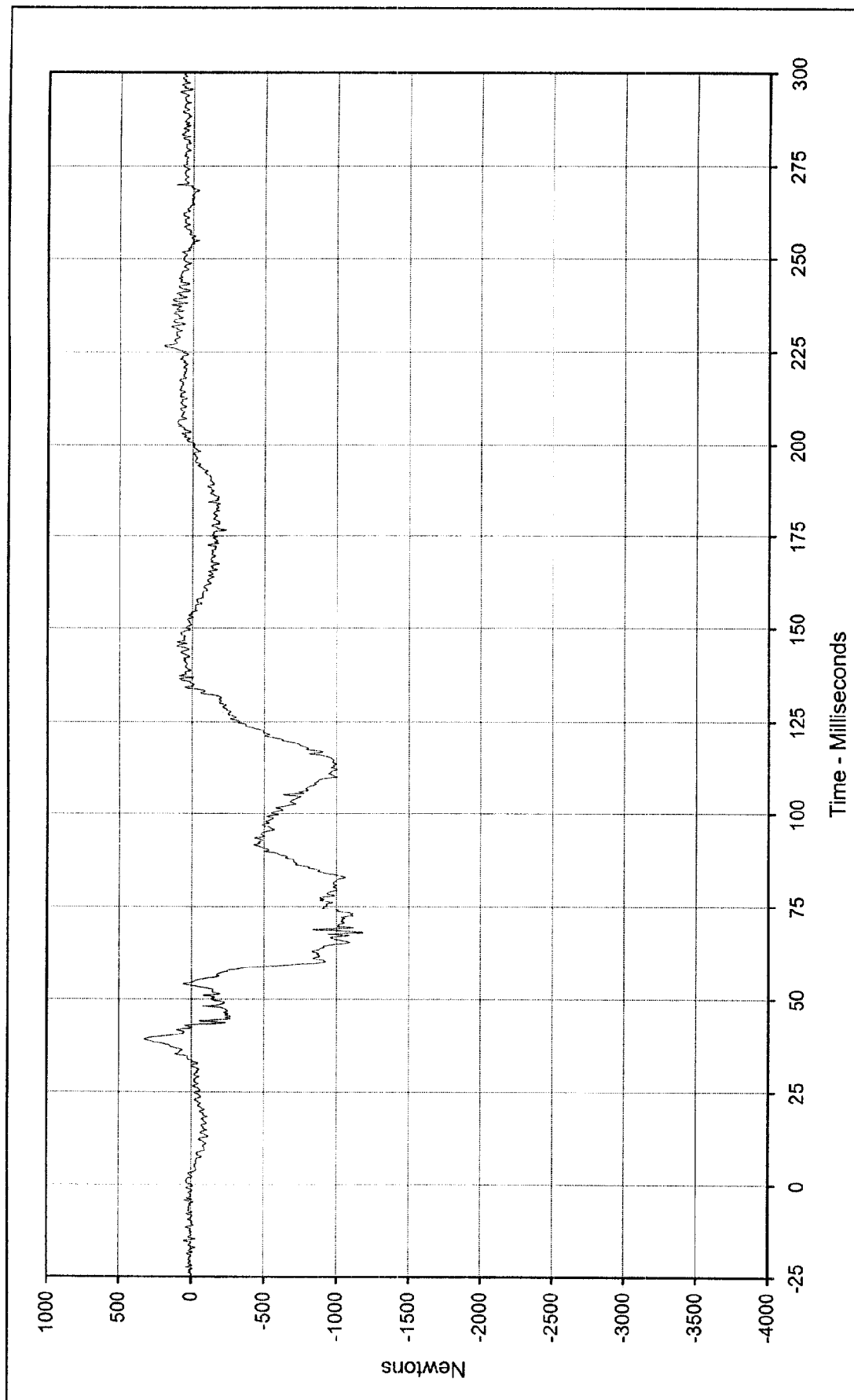
Minimum Value: -1885.0 at 103.9 Milliseconds

SAE Filter Class: 600

Date of Test: 8/11/98

Curve Number: FIL-061





Curve Description: Passenger Right Femur Force

Maximum Value: 325.6 at 39.1 Milliseconds

Minimum Value: -1189.0 at 68.0 Milliseconds

SAE Filter Class: 600

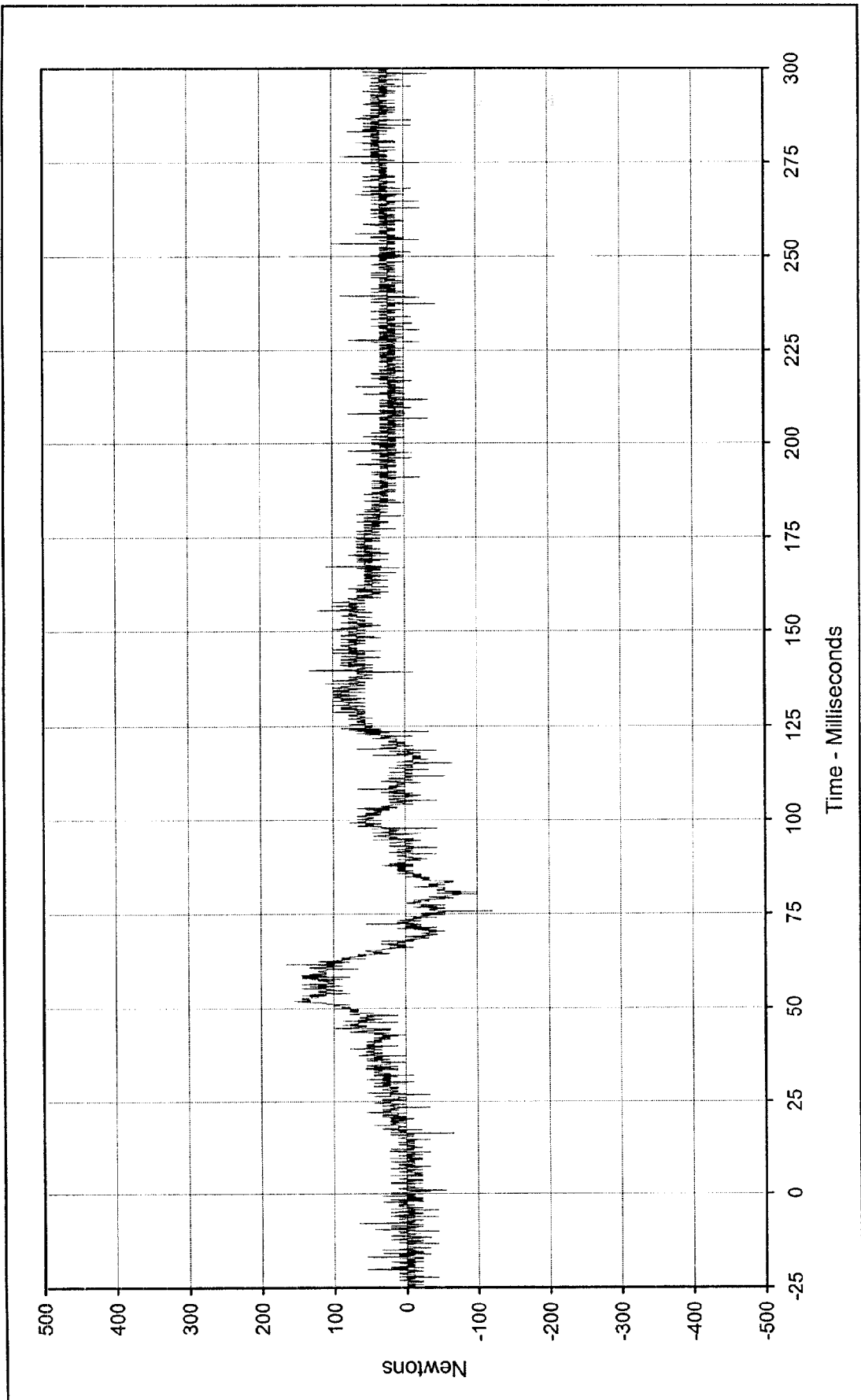
Date of Test: 8/11/98

Curve Number: FIL-062

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Upper Tibia Force X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 165.6 at 61.7 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

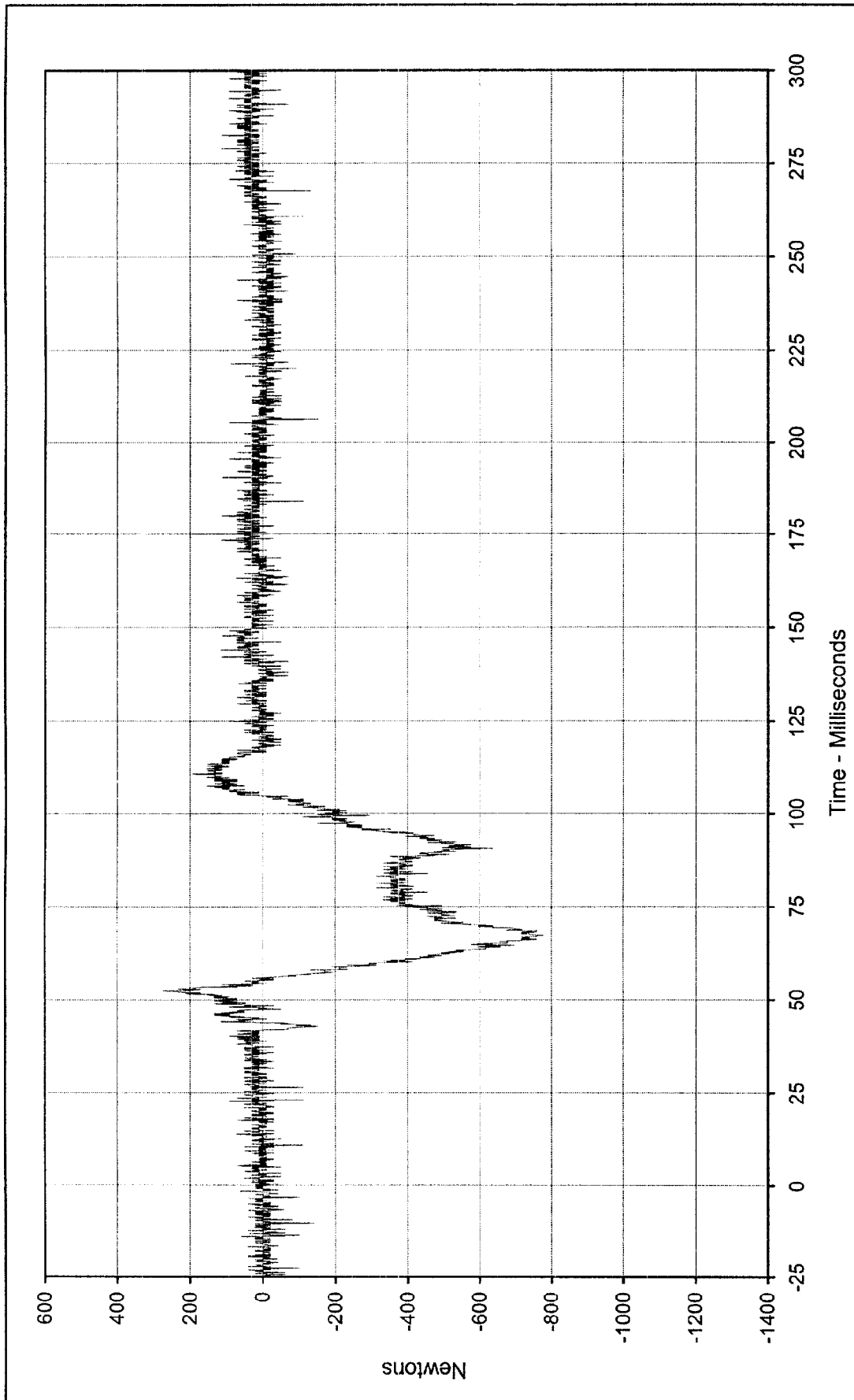
Minimum Value: -121.4 at 75.7 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-063

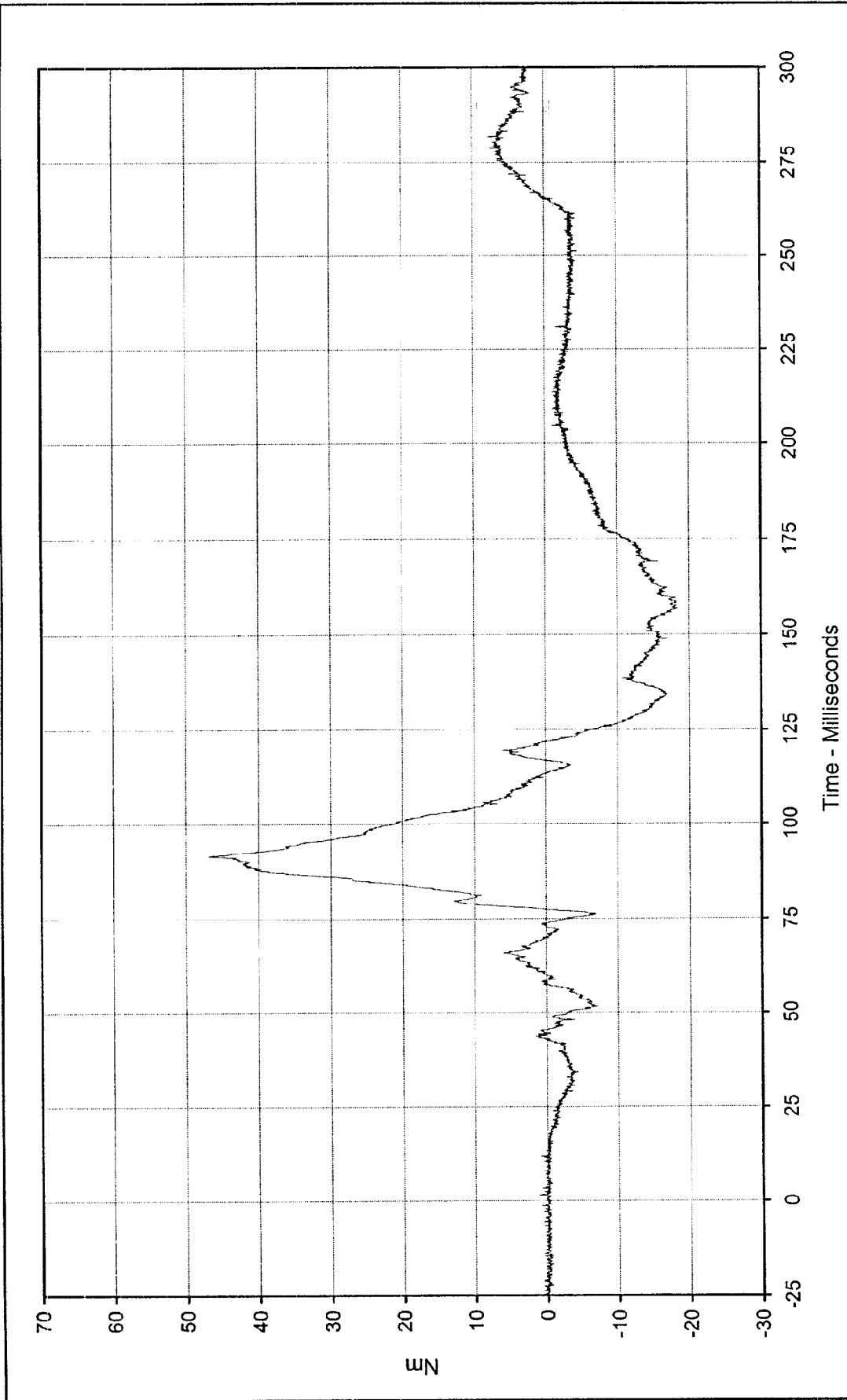




Curve Description: Passenger Left Upper Tibia Force Z
Maximum Value: 273.2 at 52.4 Milliseconds
Minimum Value: -778.7 at 67.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 8/11/98
Curve Number: FIL-064

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Upper Tibia Moment X

Maximum Value: 46.9 at 91.6 Milliseconds

Minimum Value: -18.5 at 156.9 Milliseconds

SAE Filter Class: 1000

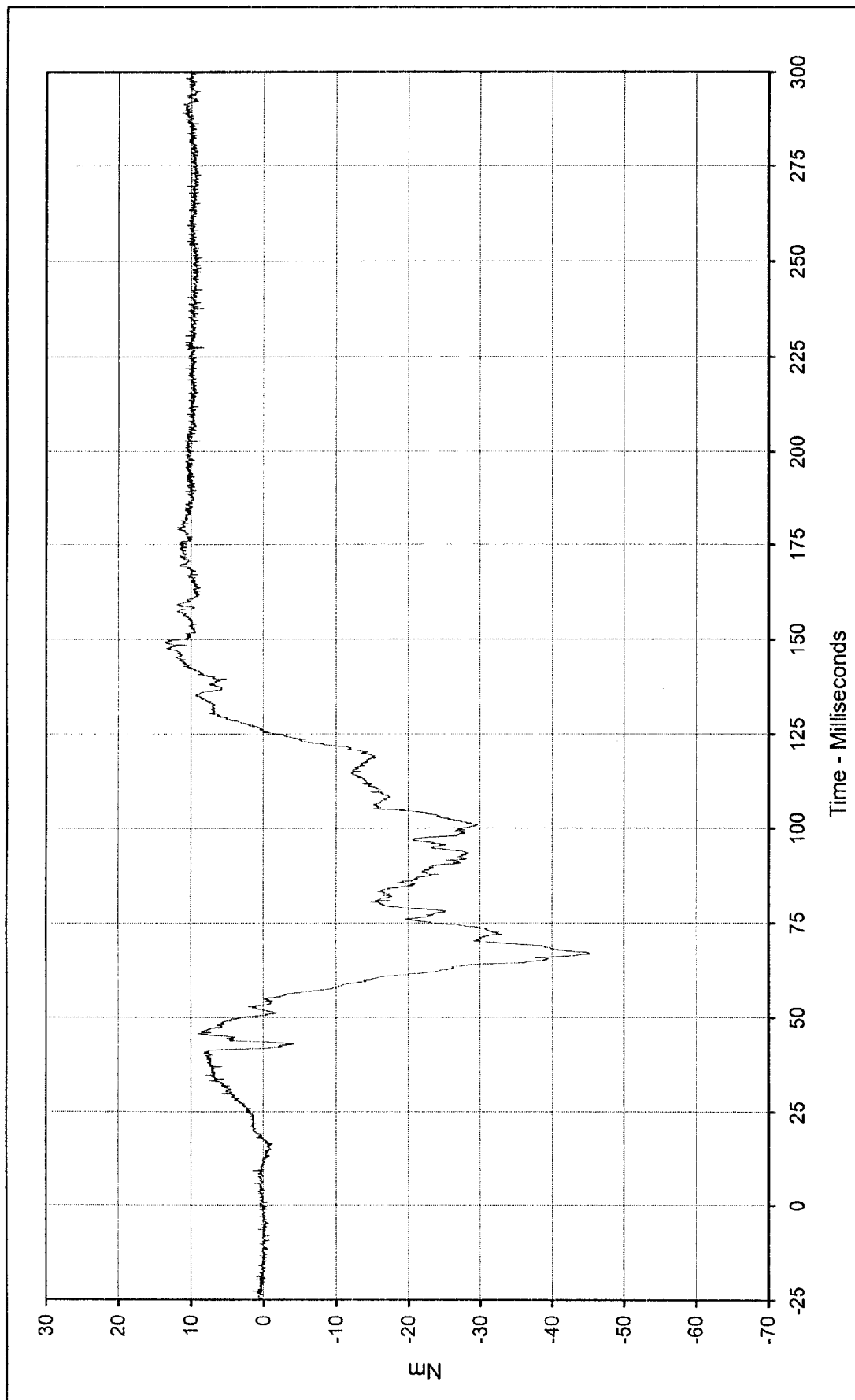
Date of Test: 8/11/98

Curve Number: FIL-065

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Upper Tibia Moment Y

Maximum Value: 13.7 at 13.7 Milliseconds

Minimum Value: -45.4 at 66.9 Milliseconds

SAE Filter Class: 1000

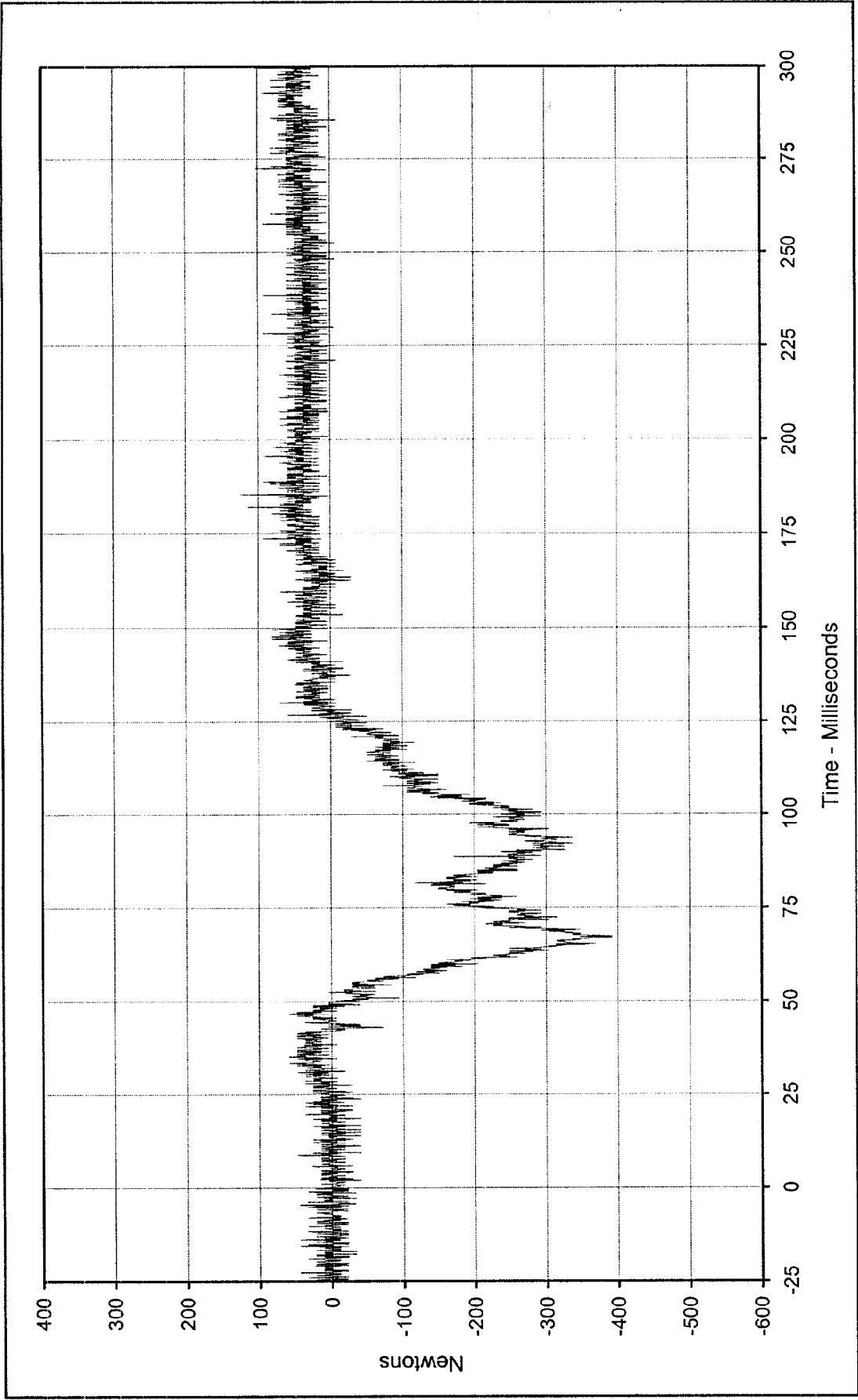
Date of Test: 8/11/98

Curve Number: FIL-066

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Force X

Maximum Value: 124.9 at 185.4 Milliseconds

Minimum Value: -391.6 at 66.7 Milliseconds

SAE Filter Class: 1000

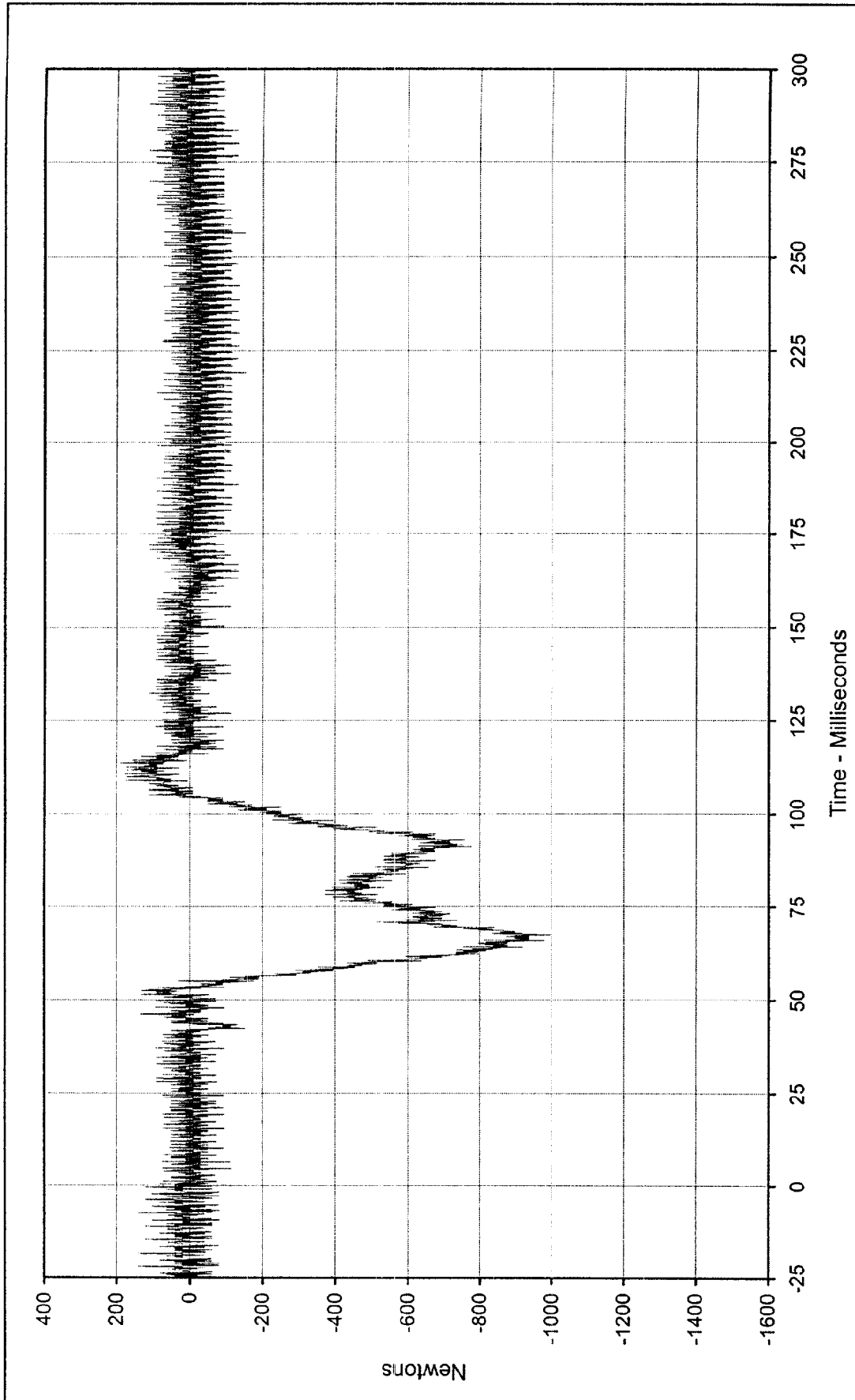
Date of Test: 8/11/98

Curve Number: FIL-067

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Force Z

Maximum Value: 191.8 at 113.7 Milliseconds

Minimum Value: -997.9 at 67.4 Milliseconds

SAE Filter Class: 1000

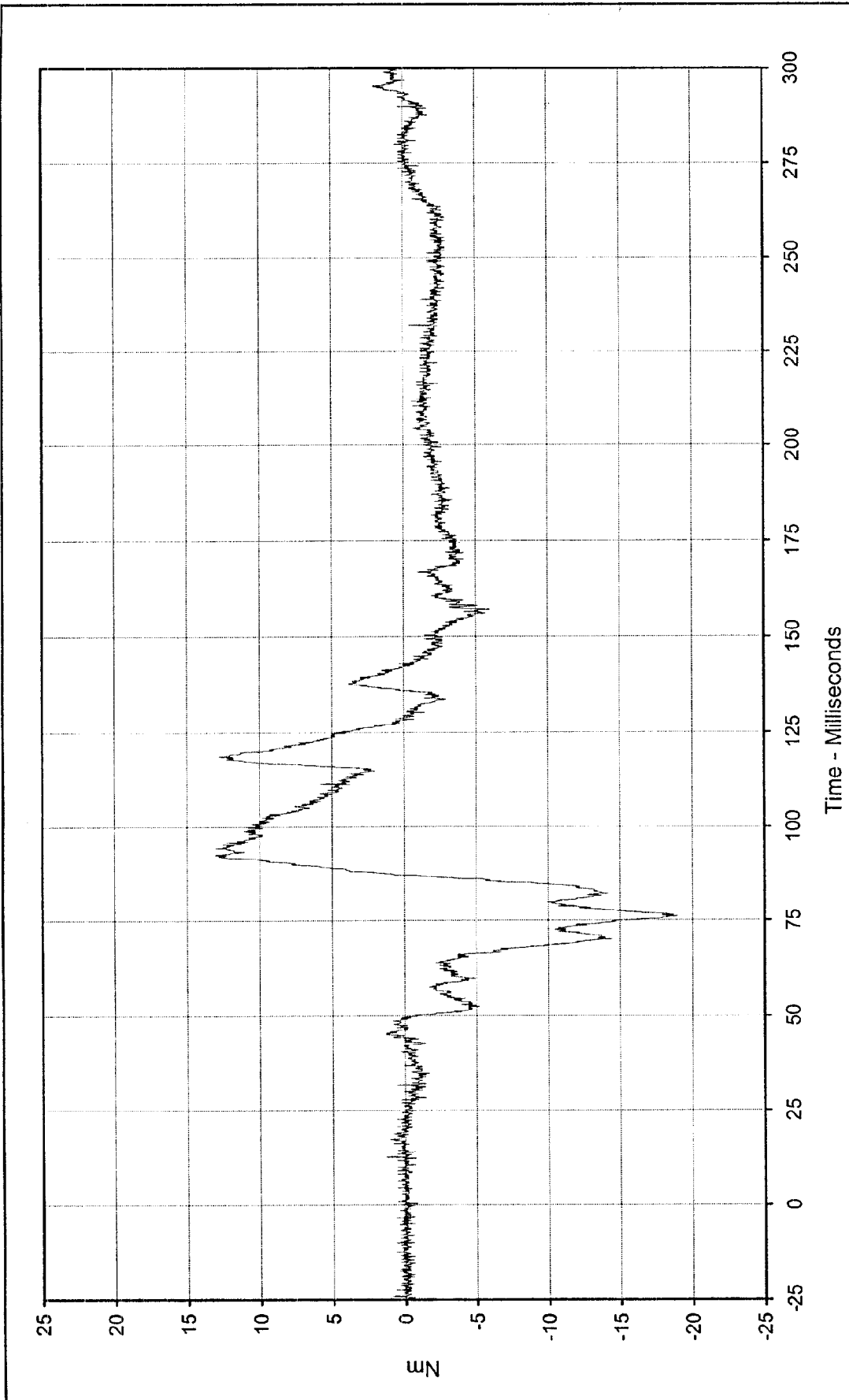
Date of Test: 8/11/98

Curve Number: FIL-068

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





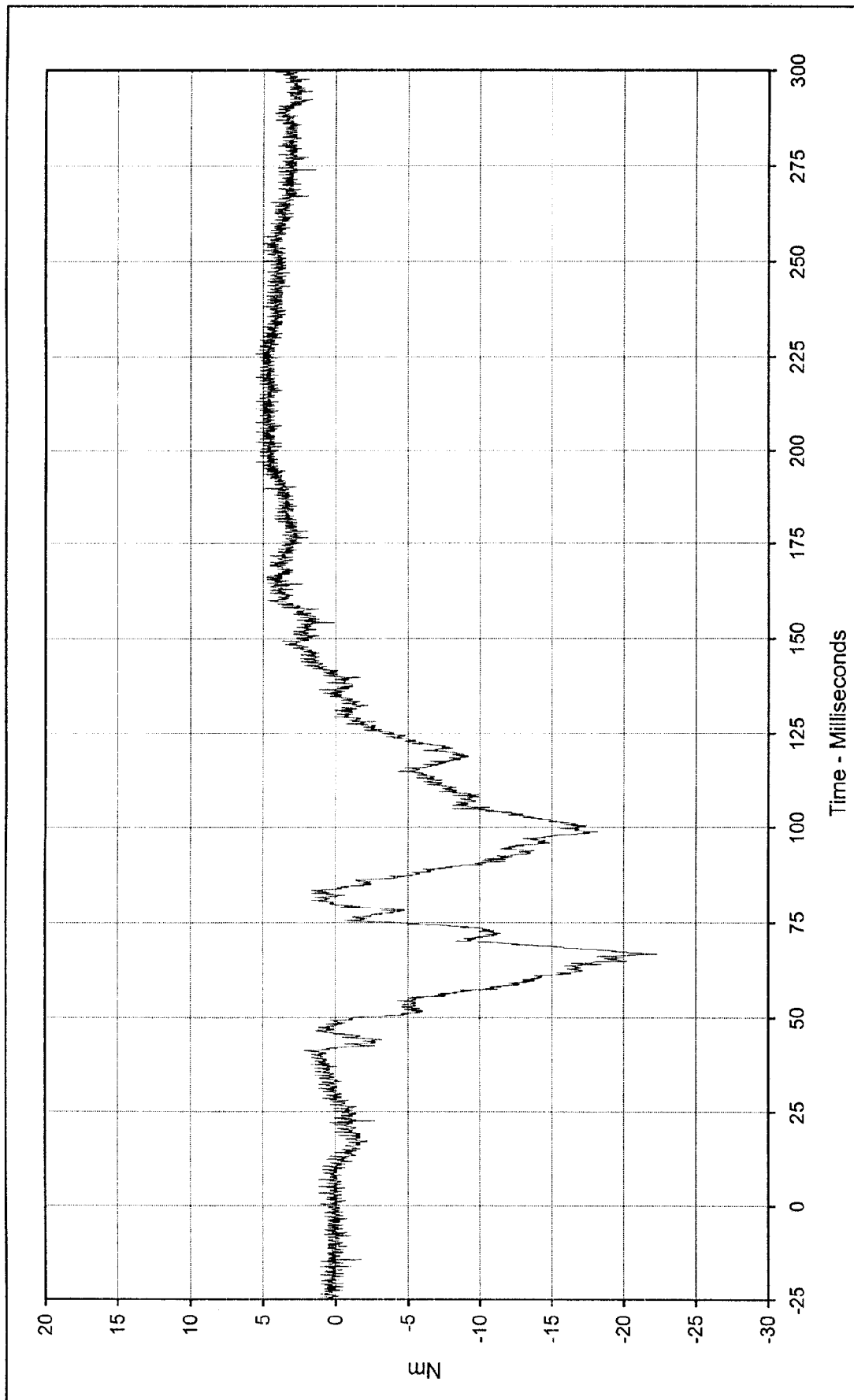
Curve Description: Passenger Left Lower Tibia Moment X

Maximum Value:	13.1	at	92.6	Milliseconds
Minimum Value:	-19.0	at	76.3	Milliseconds
SAE Filter Class:	1000			
Date of Test:	8/11/98			
Curve Number:	FIL-069			

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Moment Y

Maximum Value: 5.5 at 197.0 Milliseconds

Minimum Value: -22.3 at 66.7 Milliseconds

SAE Filter Class: 1000

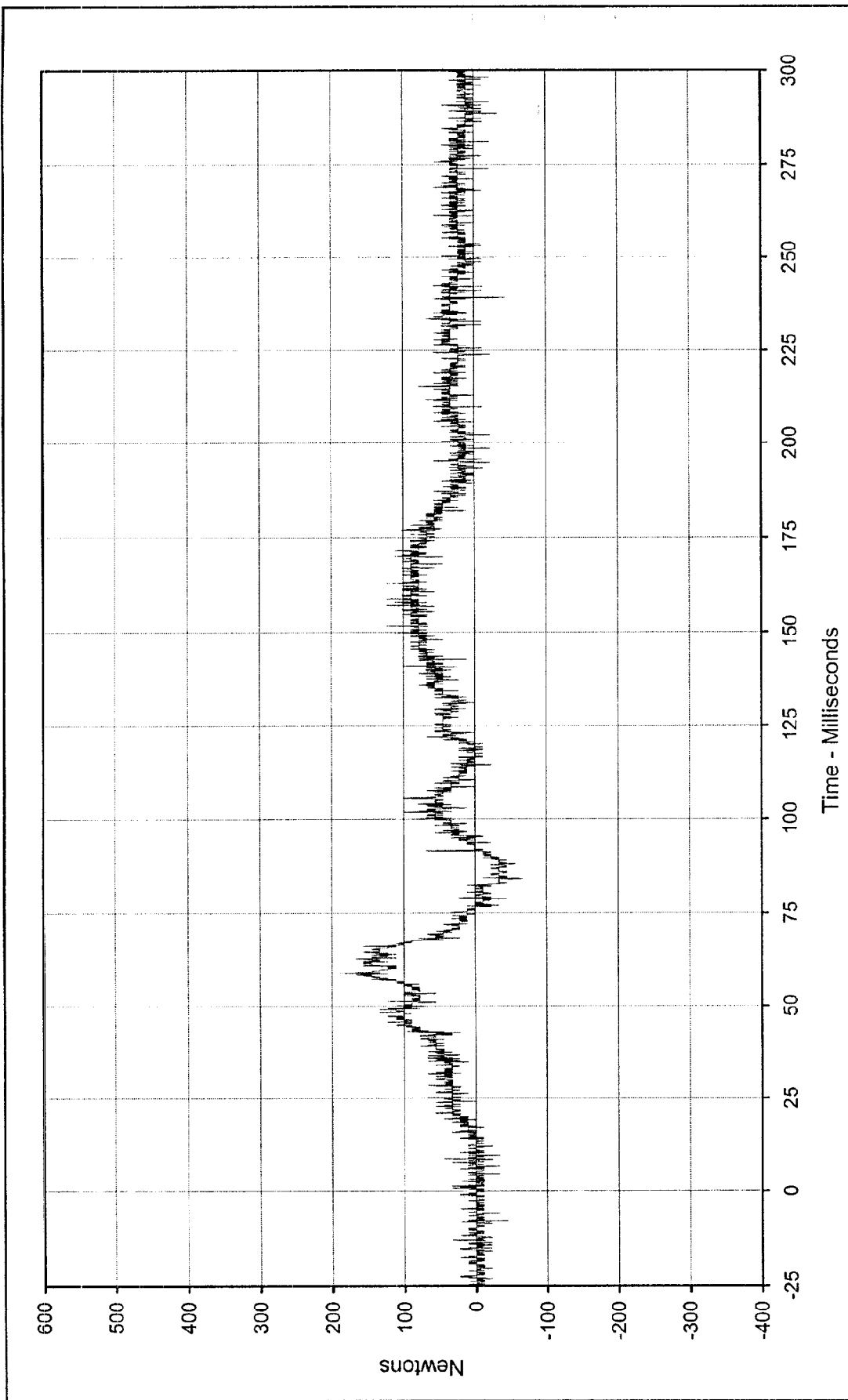
Date of Test: 8/11/98

Curve Number: FIL-070

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Force X

Maximum Value: 189.2 at 58.9 Milliseconds

Minimum Value: -66.8 at 84.1 Milliseconds

SAE Filter Class: 1000

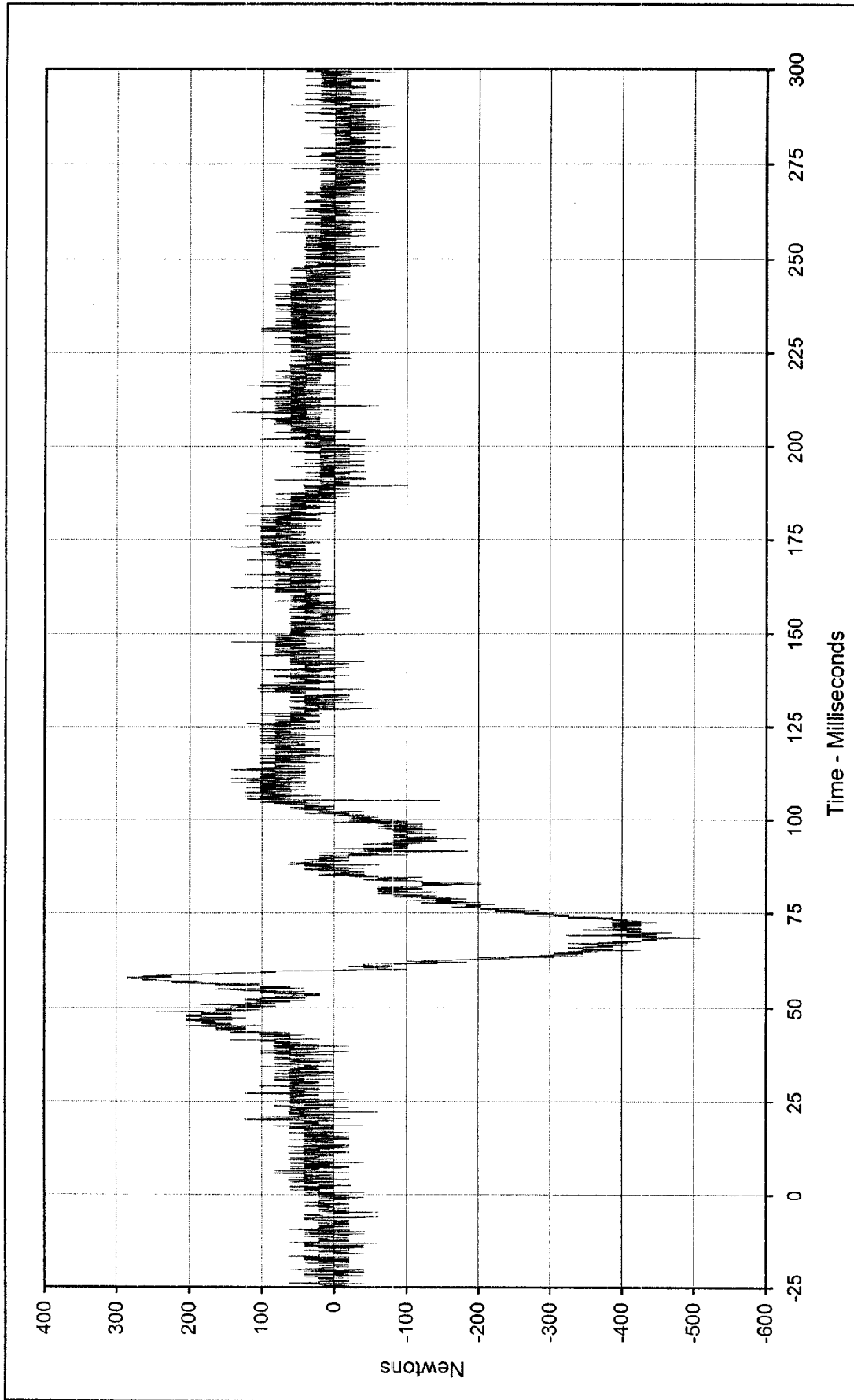
Date of Test: 8/11/98

Curve Number: FIL-071

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Force Z

Maximum Value: 285.0 at 57.8 Milliseconds

Minimum Value: -508.9 at 68.4 Milliseconds

SAE Filter Class: 1000

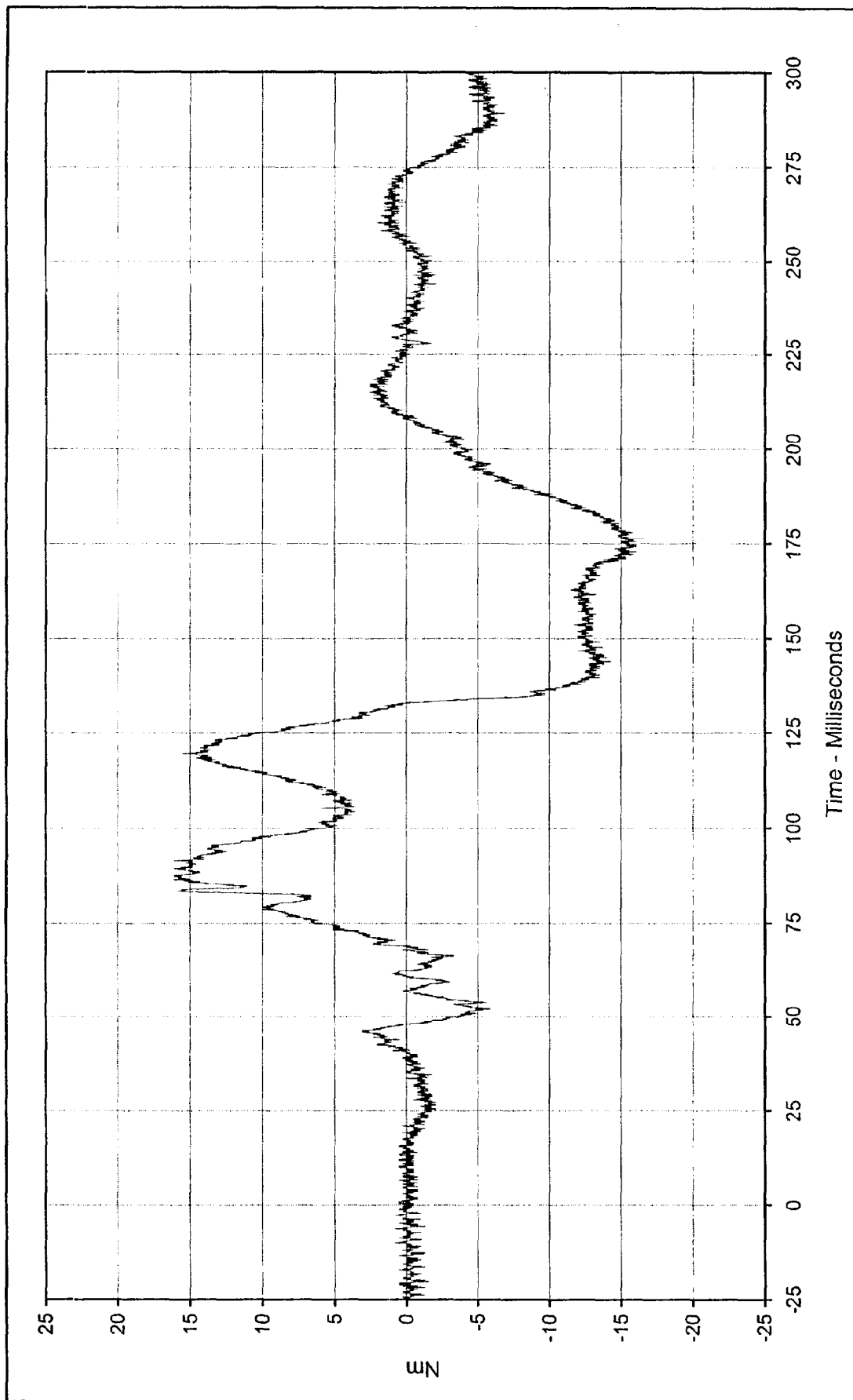
Date of Test: 8/11/98

Curve Number: FIL-072

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment X

Maximum Value: 16.1 at 86.5 Milliseconds

Minimum Value: -16.6 at 176.4 Milliseconds

SAE Filter Class: 1000

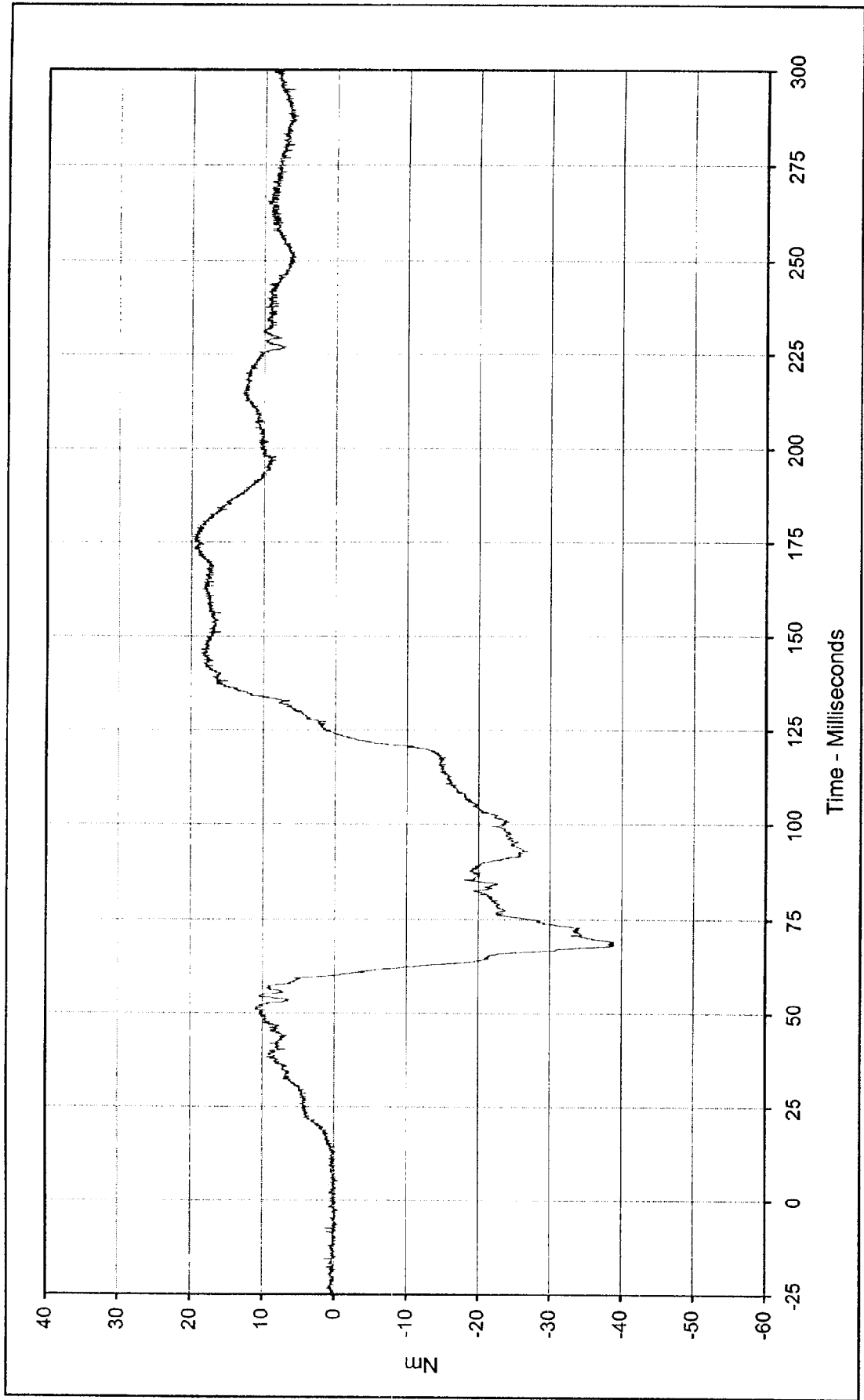
Date of Test: 8/11/98

Curve Number: FIL-073

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment Y

Maximum Value: 19.9 at 176.4 Milliseconds

Minimum Value: -38.9 at 68.3 Milliseconds

SAE Filter Class: 1000

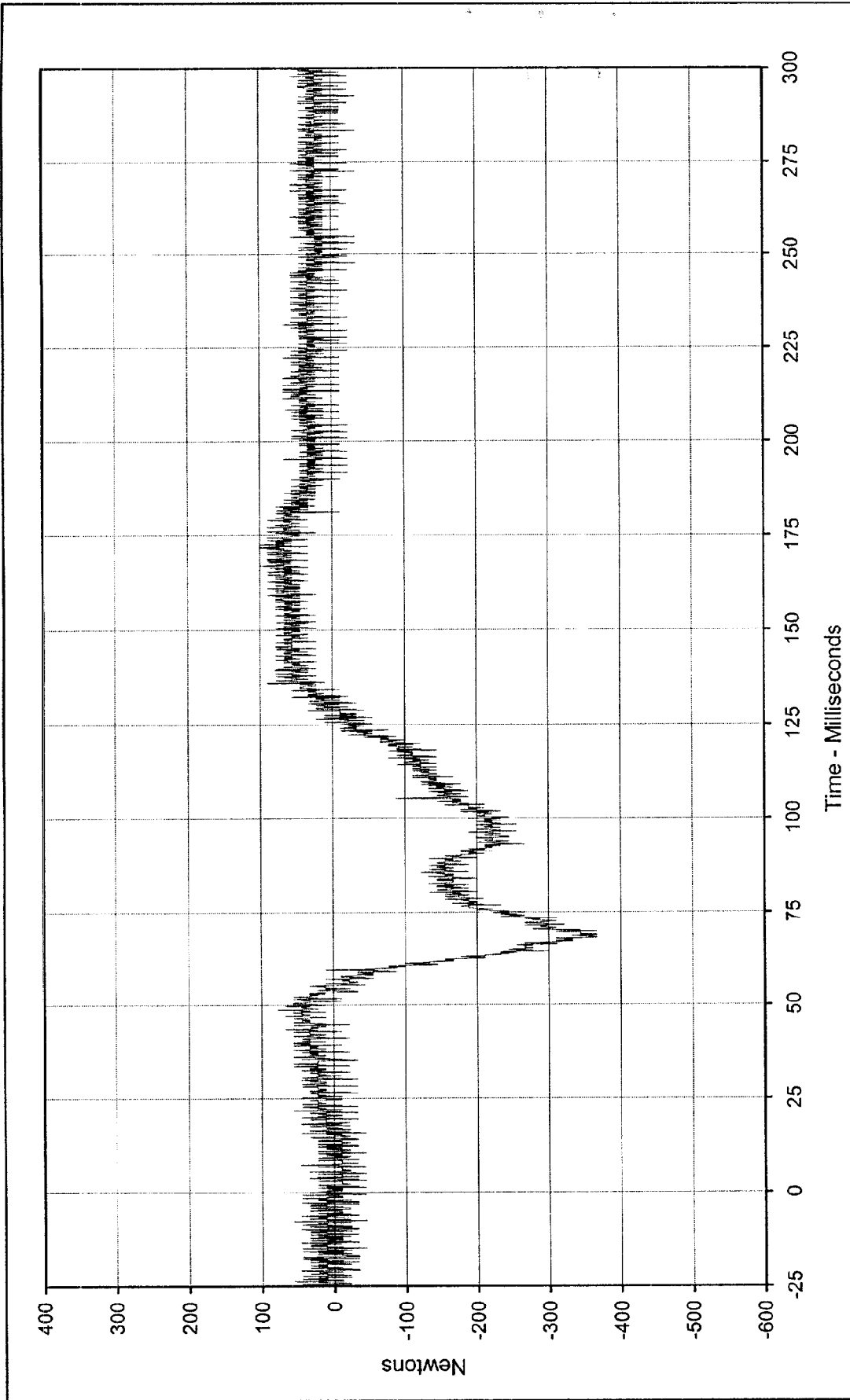
Date of Test: 8/1/98

Curve Number: FIL-074

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Lower Tibia Force X

Maximum Value: 100.0 at 167.1 Milliseconds

Minimum Value: -366.6 at 67.9 Milliseconds

SAE Filter Class: 1000

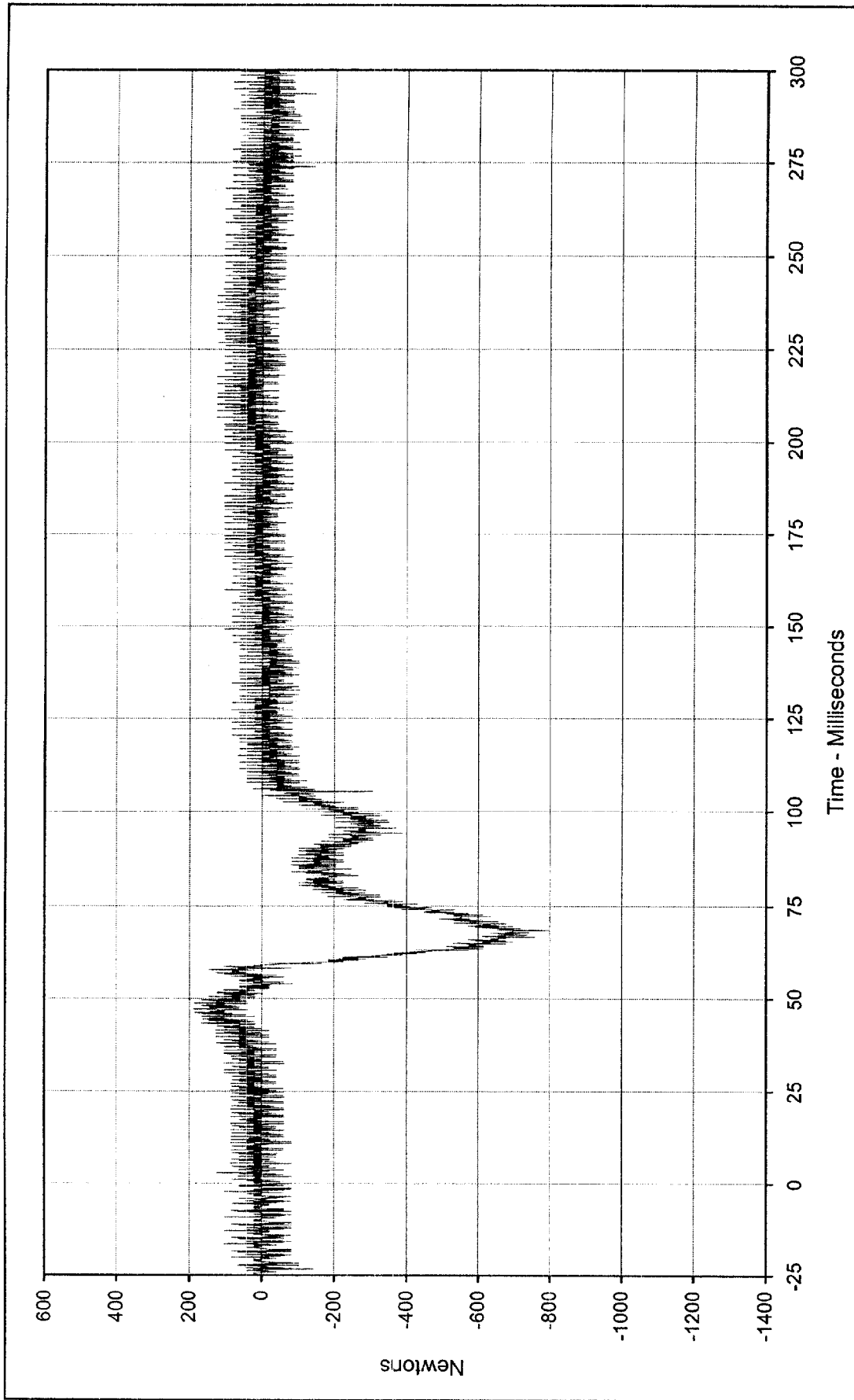
Date of Test: 8/1/98

Curve Number: FIL-075

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

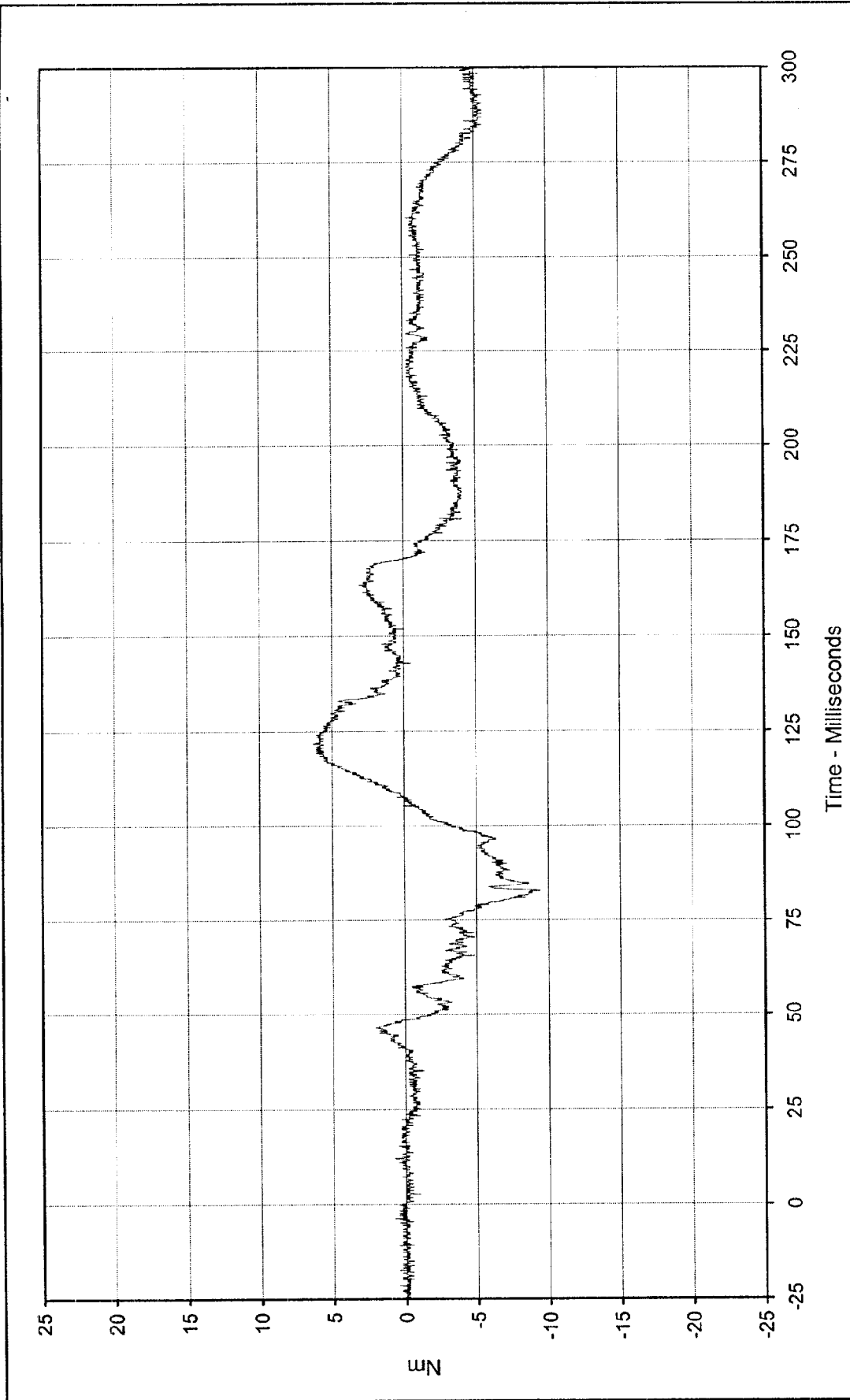




Curve Description:		Passenger Right Lower Tibia Force Z		Testing Program: 1998 37.5mph Offset, 5th Female		No.: MW0214	
Maximum Value:	184.4	at	46.1	Milliseconds	Test Vehicle:		
Minimum Value:	-799.0	at	68.4	Milliseconds	1998 Ford Contour 4 Door Sedan		
SAE Filter Class:	1000						
Date of Test:	8/11/98						
Curve Number:	FIL-076						







Curve Description: Passenger Right Lower Tibia Moment X

Maximum Value: 6.3 at 121.7 Milliseconds

Minimum Value: -9.4 at 82.8 Milliseconds

SAE Filter Class: 1000

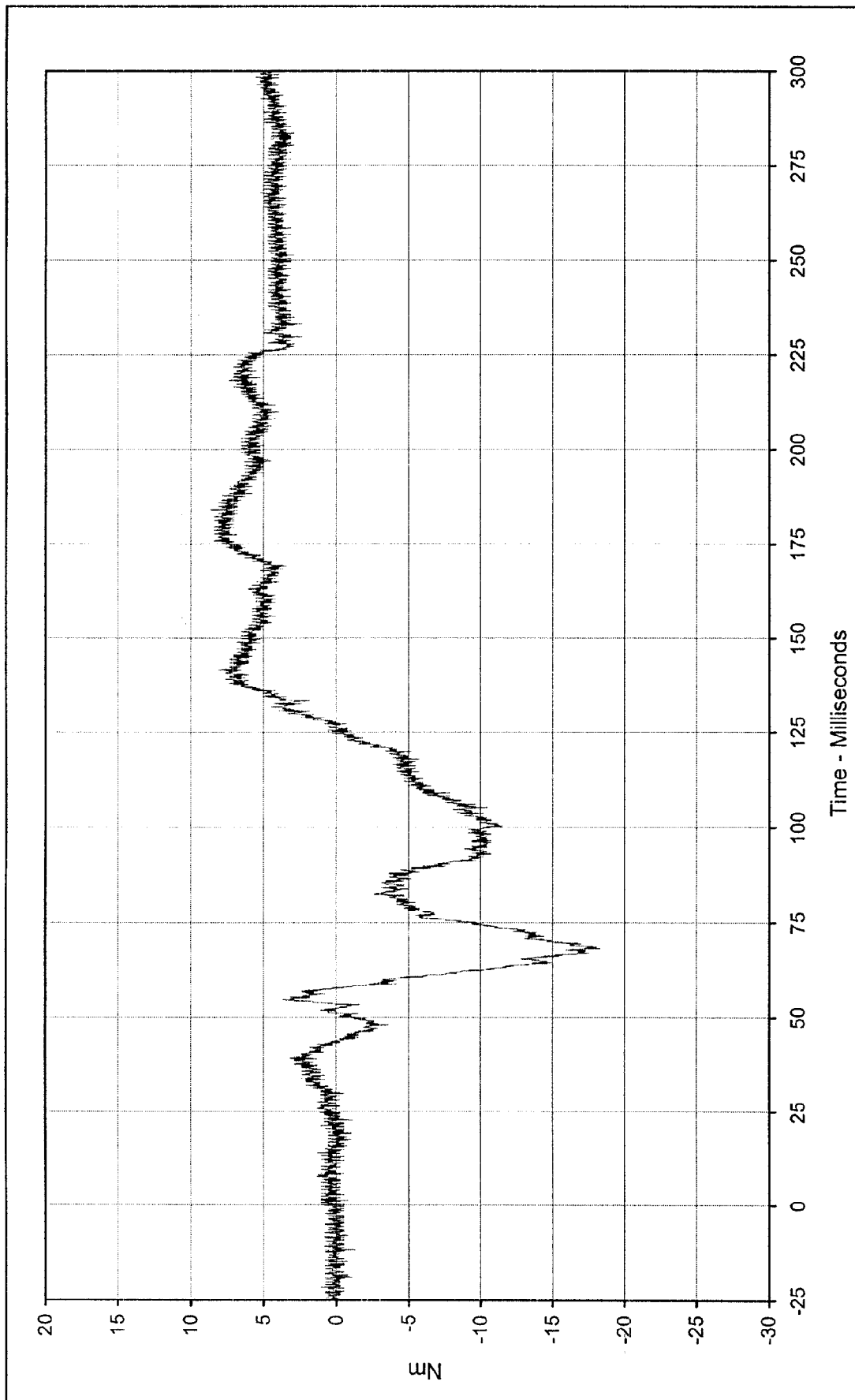
Date of Test: 8/11/98

Curve Number: FIL-077

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan

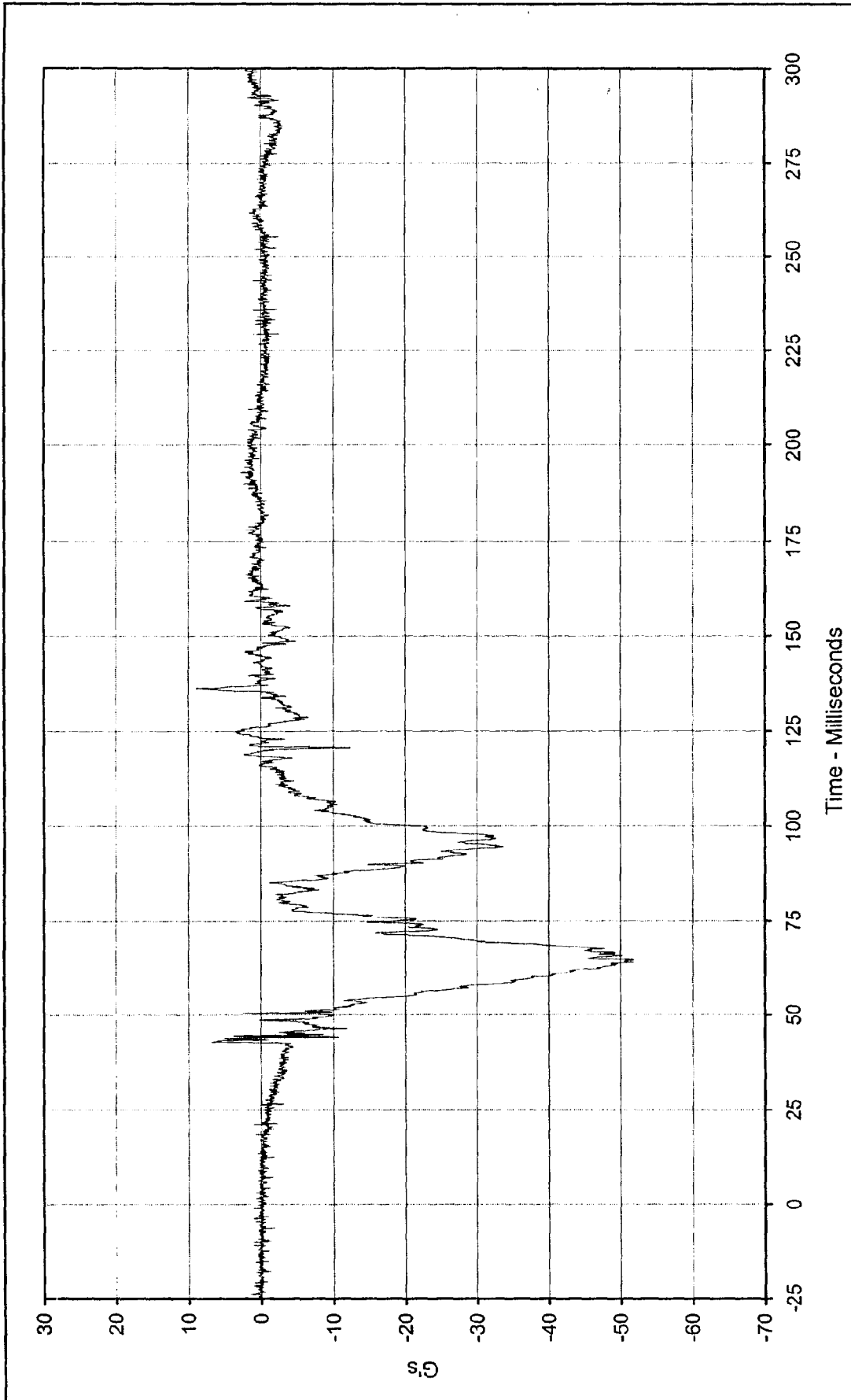




Curve Description: Passenger Right Lower Tibia Moment Y
Maximum Value: 8.6 at 184.1 Milliseconds
Minimum Value: -18.3 at 58.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 8/1/98
Curve Number: FIL-078

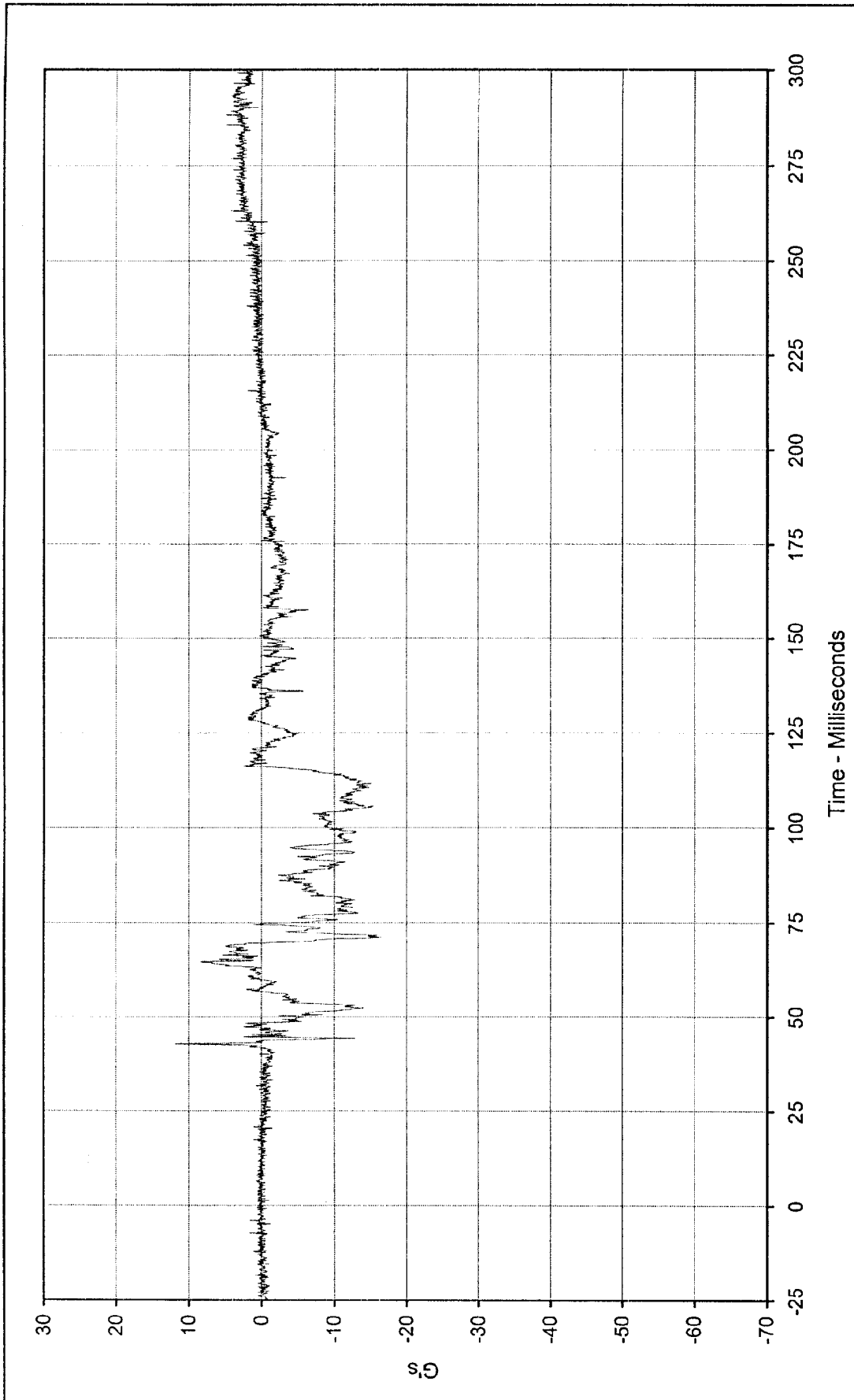
Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description:	Passenger Left Foot Aft X	Testing Program:	1998 37.5mph Offset, 5th Female	No.: MW0214
Maximum Value:	8.8 at 136.3 Milliseconds	Test Vehicle:	1998 Ford Contour 4 Door Sedan	
Minimum Value:	-51.8 at 64.0 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	8/11/98			
Curve Number:	FIL-079			

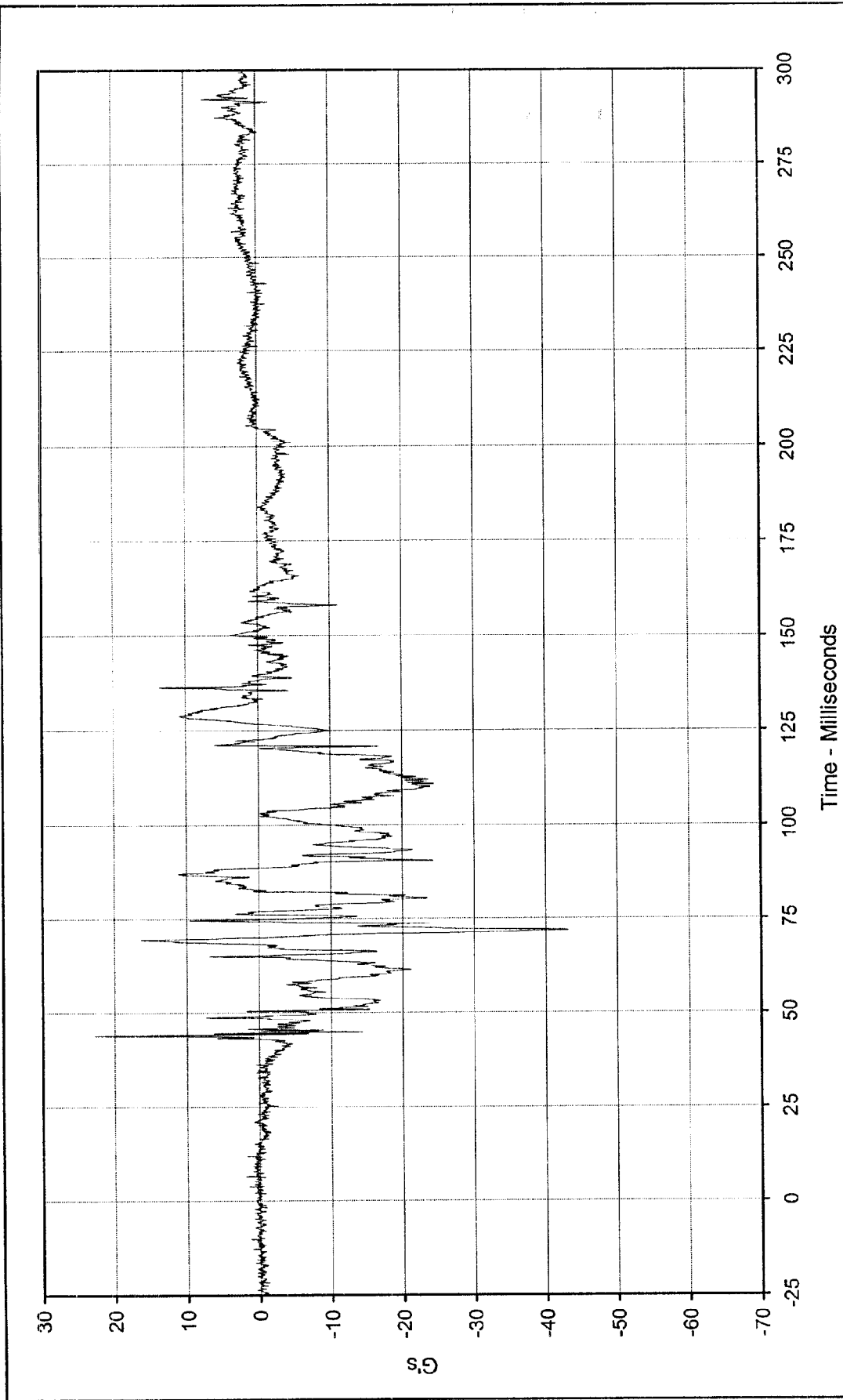




Curve Description: Passenger Left Foot Aft Z
 Maximum Value: 11.8 at 42.7 Milliseconds
 Minimum Value: -16.5 at 71.1 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 8/11/98
 Curve Number: FIL-080

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214
 Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Left Foot Fore Z

Maximum Value: 22.7 at 43.8 Milliseconds

Minimum Value: -43.1 at 71.6 Milliseconds

SAE Filter Class: 1000

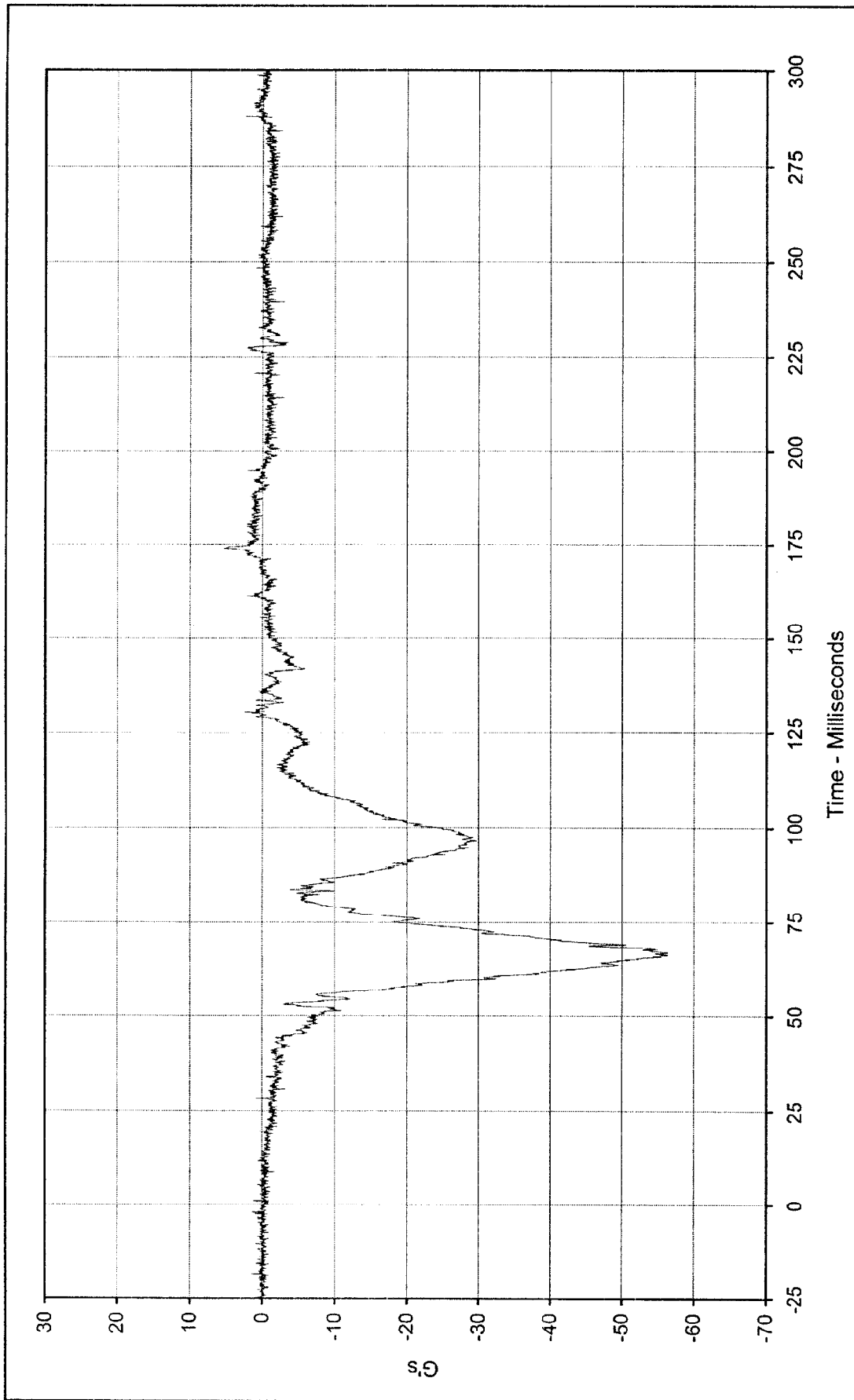
Date of Test: 8/11/98

Curve Number: FIL-081

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Right Foot Aft X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 5.3 at 174.0 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

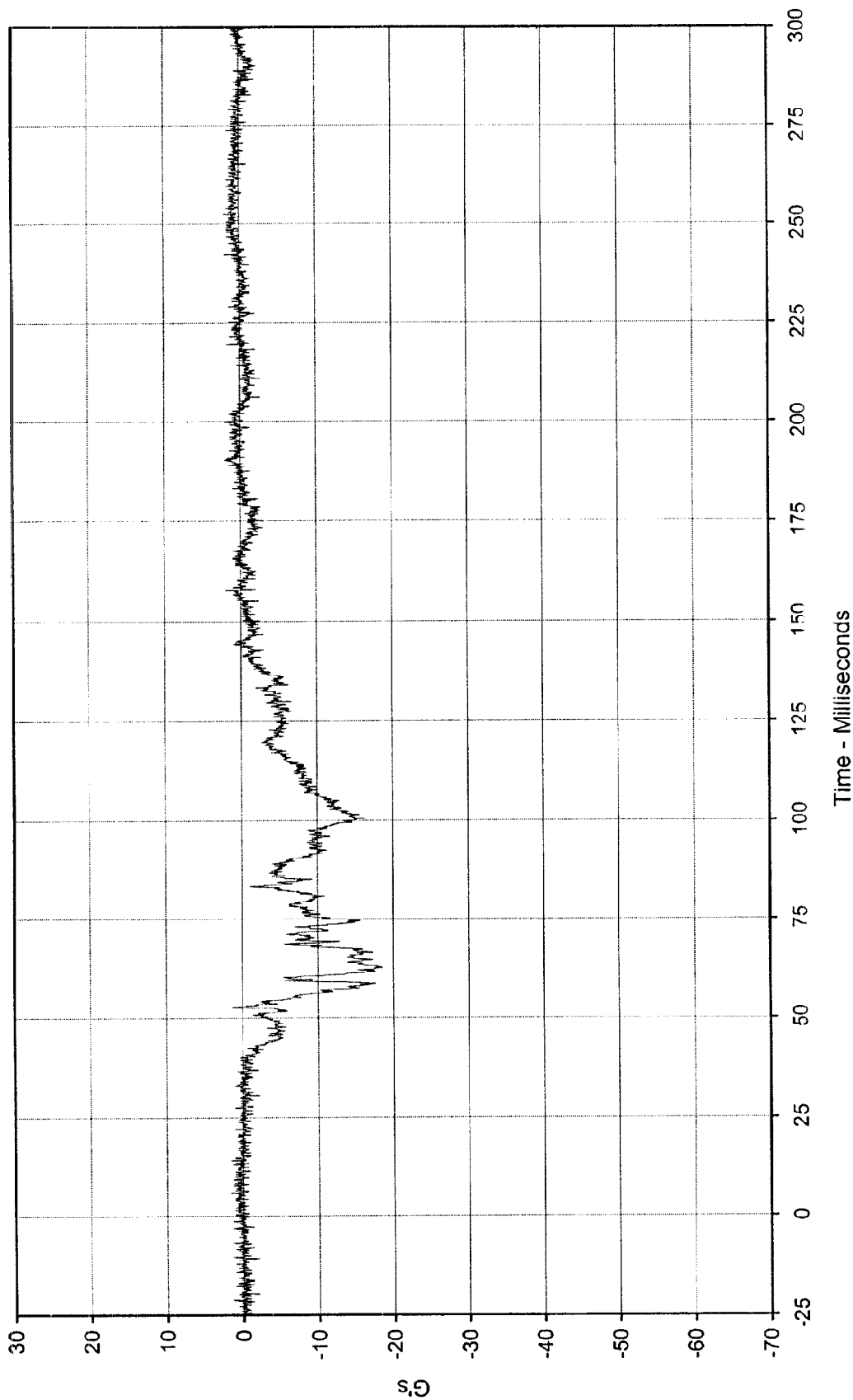
Minimum Value: -56.4 at 66.3 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-082





Curve Description: Passenger Right Foot Aft Z

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 2.0 at 157.8 Milliseconds

Test Vehicle: 1998 Ford Contour 4 Door Sedan

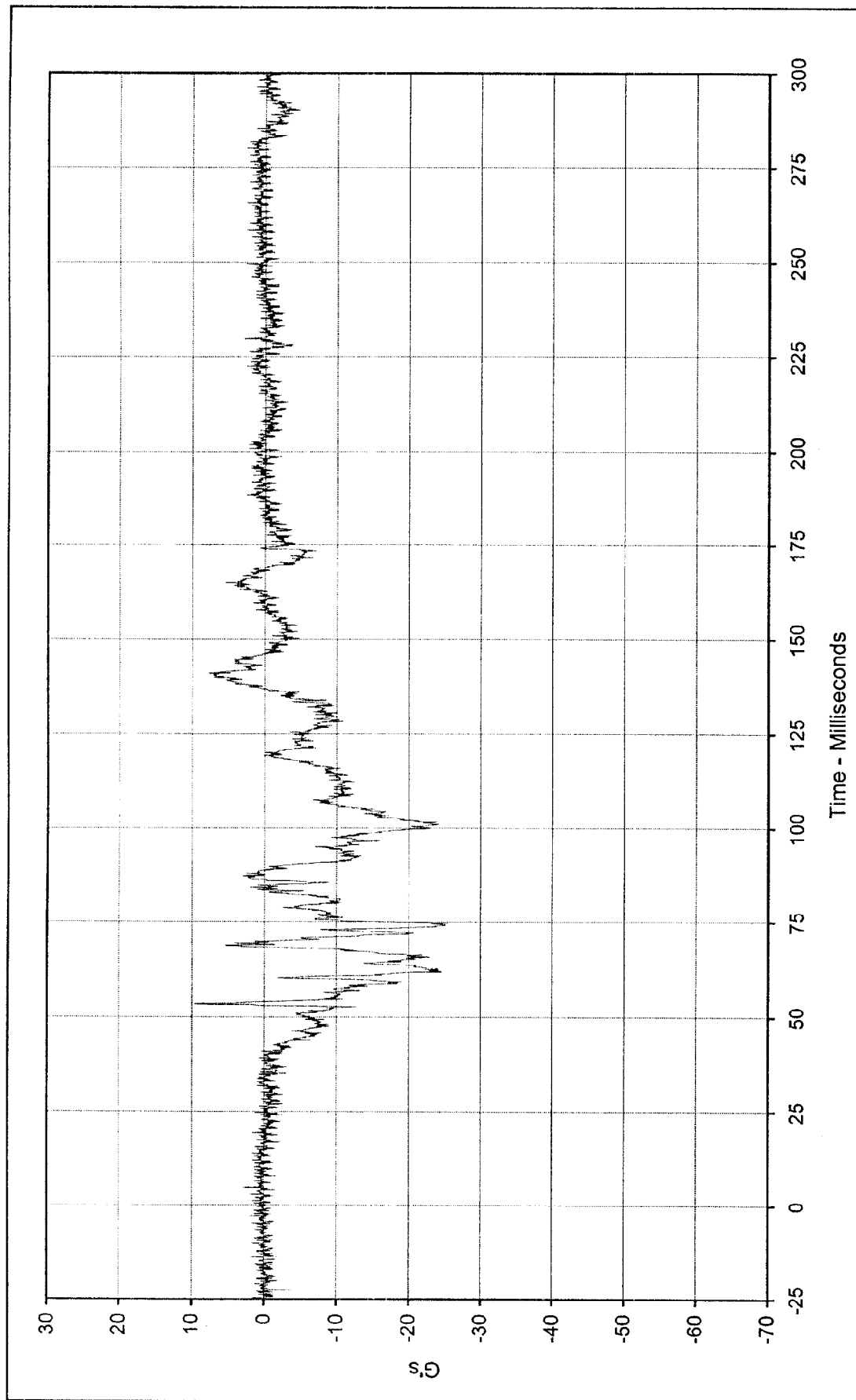
Minimum Value: -18.6 at 62.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 8/11/98

Curve Number: FIL-083





Curve Description: Passenger Right Foot Fore Z

Maximum Value: 9.5 at 53.6 Milliseconds

Minimum Value: -25.4 at 74.6 Milliseconds

SAE Filter Class: 1000

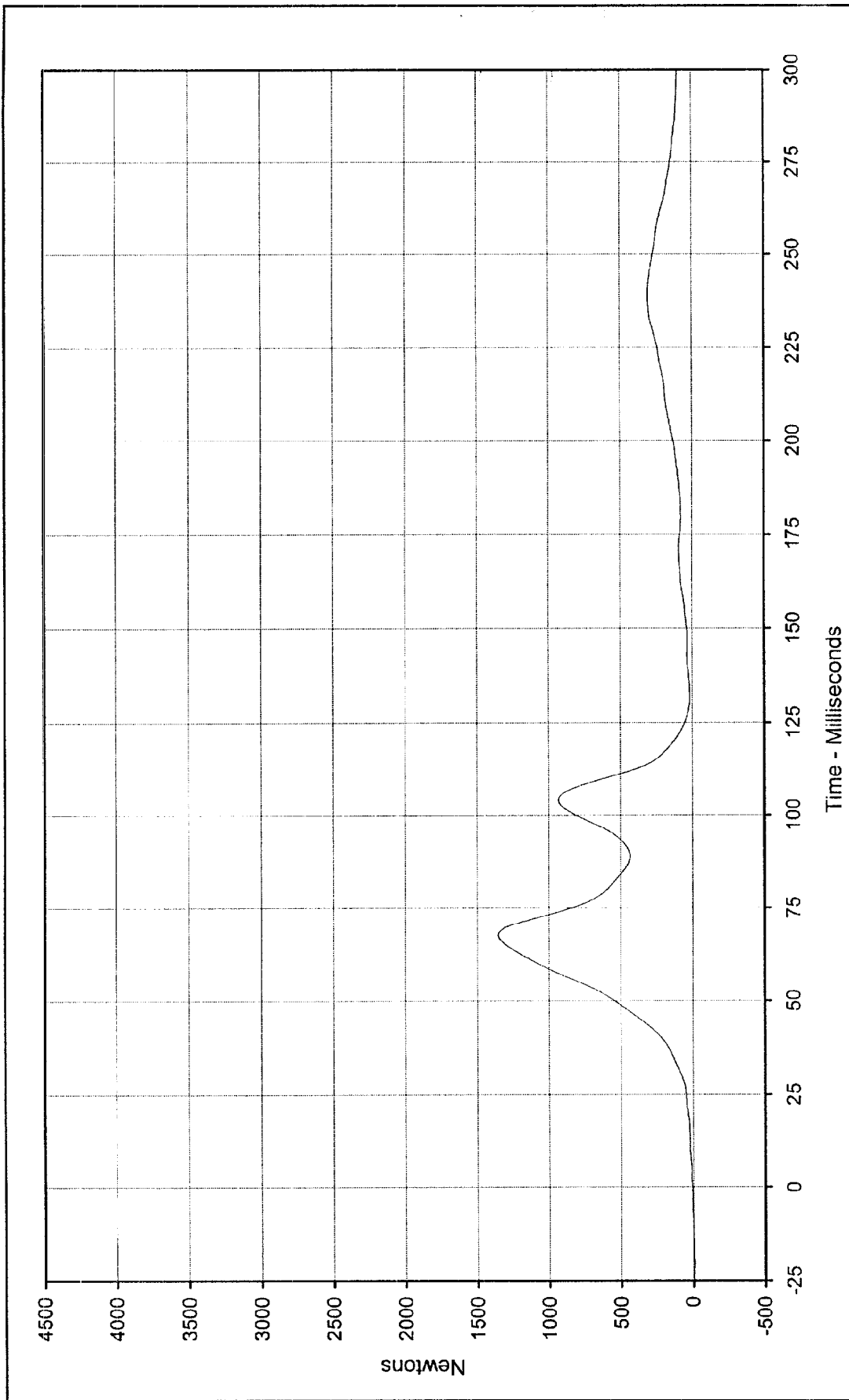
Date of Test: 8/11/98

Curve Number: FIL-084

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Lap Belt Force

Maximum Value: 1353.3 at 67.6 Milliseconds

Minimum Value: 5.8 at 0.0 Milliseconds

SAE Filter Class: 60

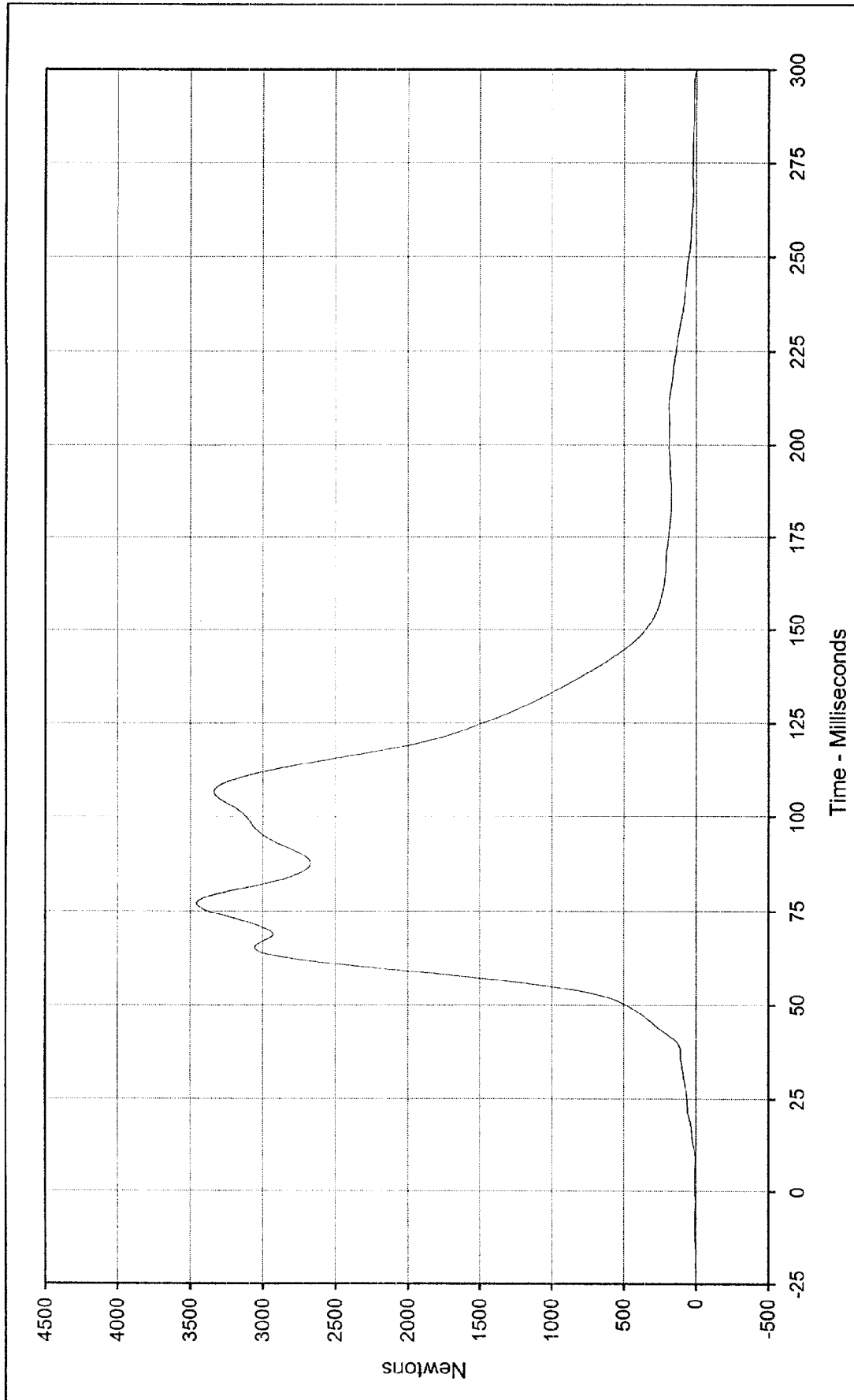
Date of Test: 8/11/98

Curve Number: FIL-085

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Shoulder Belt Force

Maximum Value: 3455.2 at 76.9 Milliseconds

Minimum Value: -4.6 at 299.9 Milliseconds

SAE Filter Class: 60

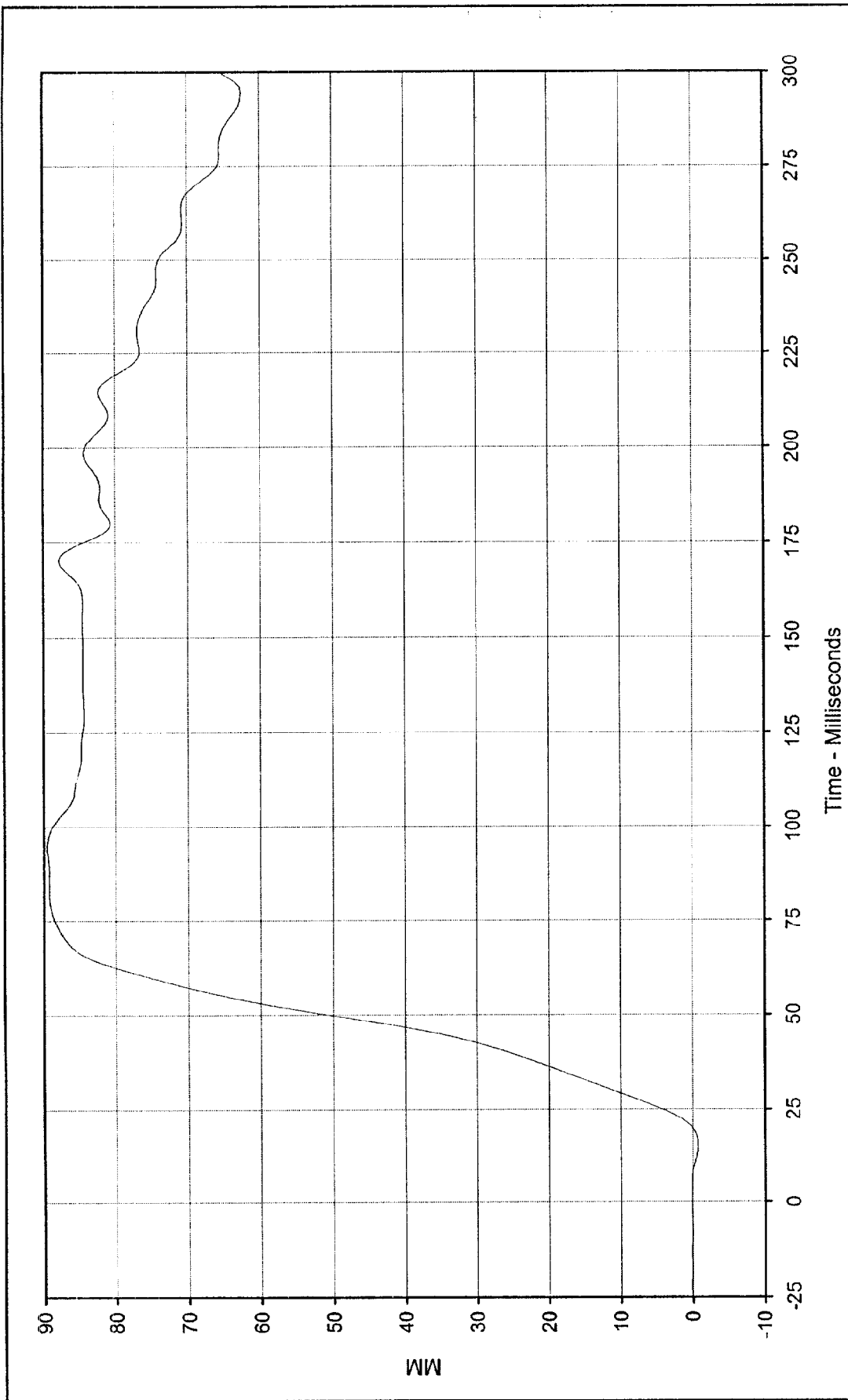
Date of Test: 8/11/98

Curve Number: FIL-086

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





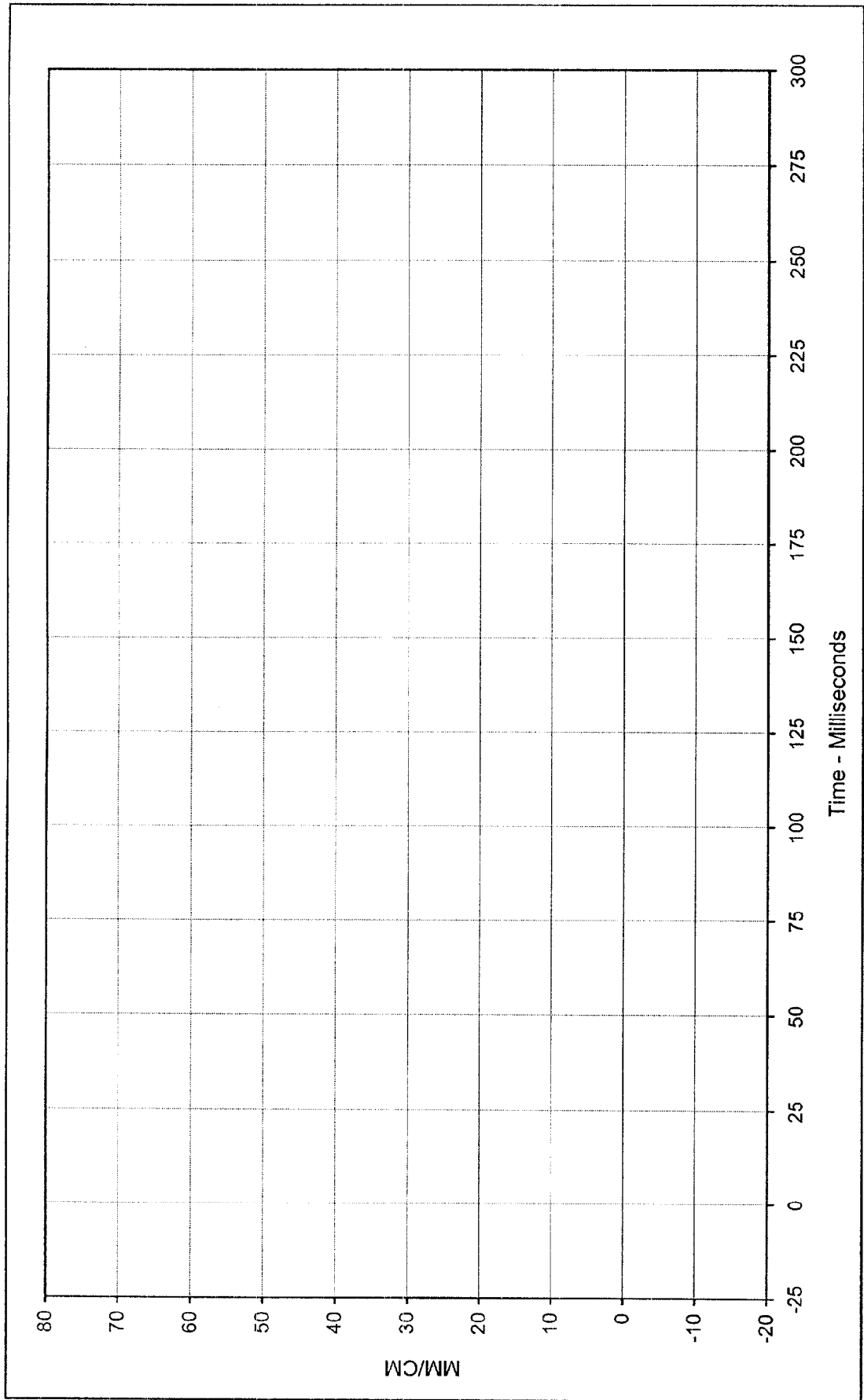
Curve Description: Passenger Shoulder Belt Pullout

Maximum Value:	89.5	at	94.5	Milliseconds
Minimum Value:	-0.7	at	15.2	Milliseconds
SAE Filter Class:	60			
Date of Test:	8/11/98			
Curve Number:	FIL-087			

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Passenger Shoulder Belt Elongation * Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

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

Minimum Value: 0.00 at 0.0 Milliseconds

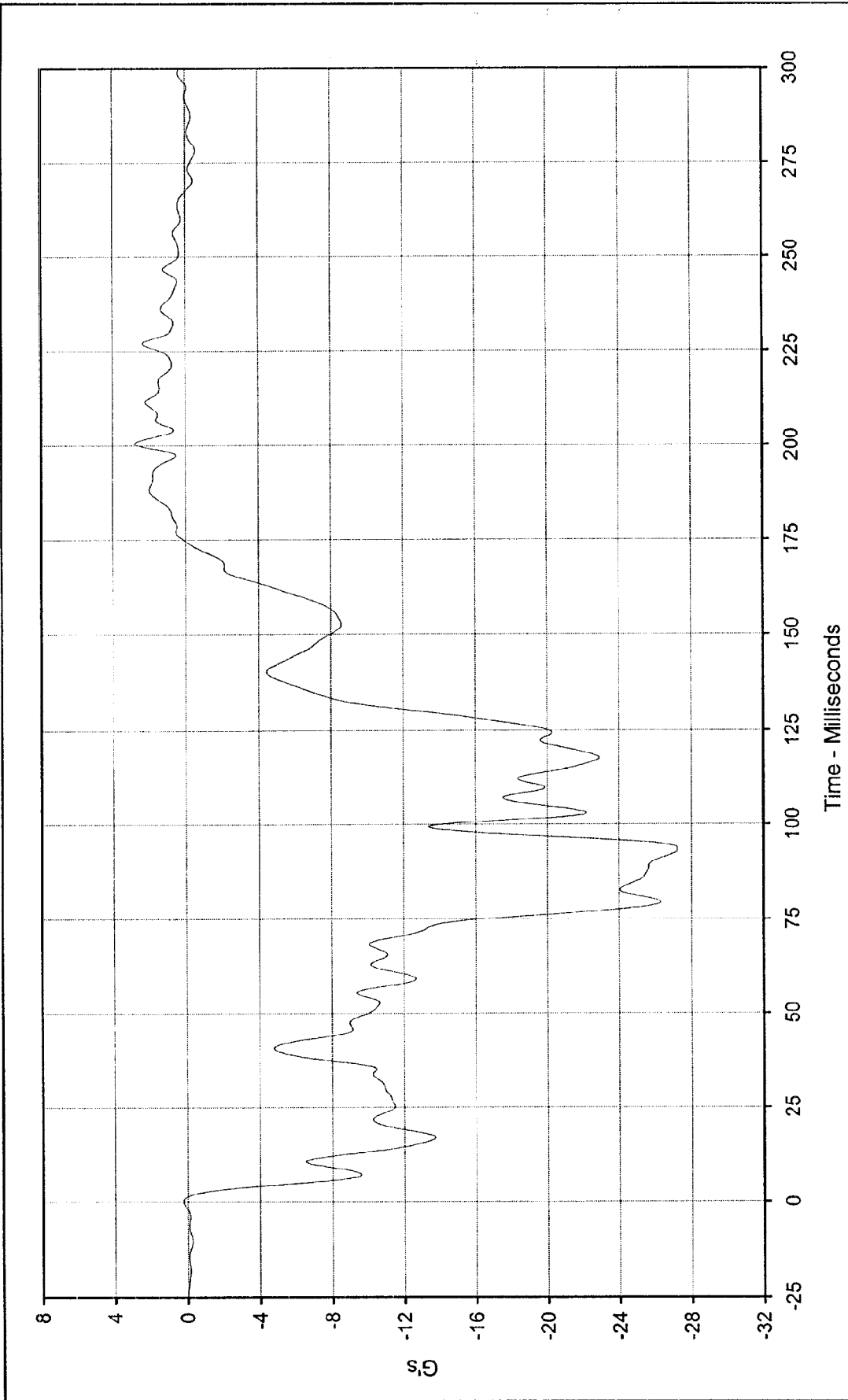
SAE Filter Class: 60

Date of Test: 8/11/98

Curve Number: FIL-088



* Channel Failed, No Data



Curve Description: Vehicle Left Sill X

Maximum Value: 2.8 at 200.6 Milliseconds

Minimum Value: -27.2 at 93.8 Milliseconds

SAE Filter Class: 60

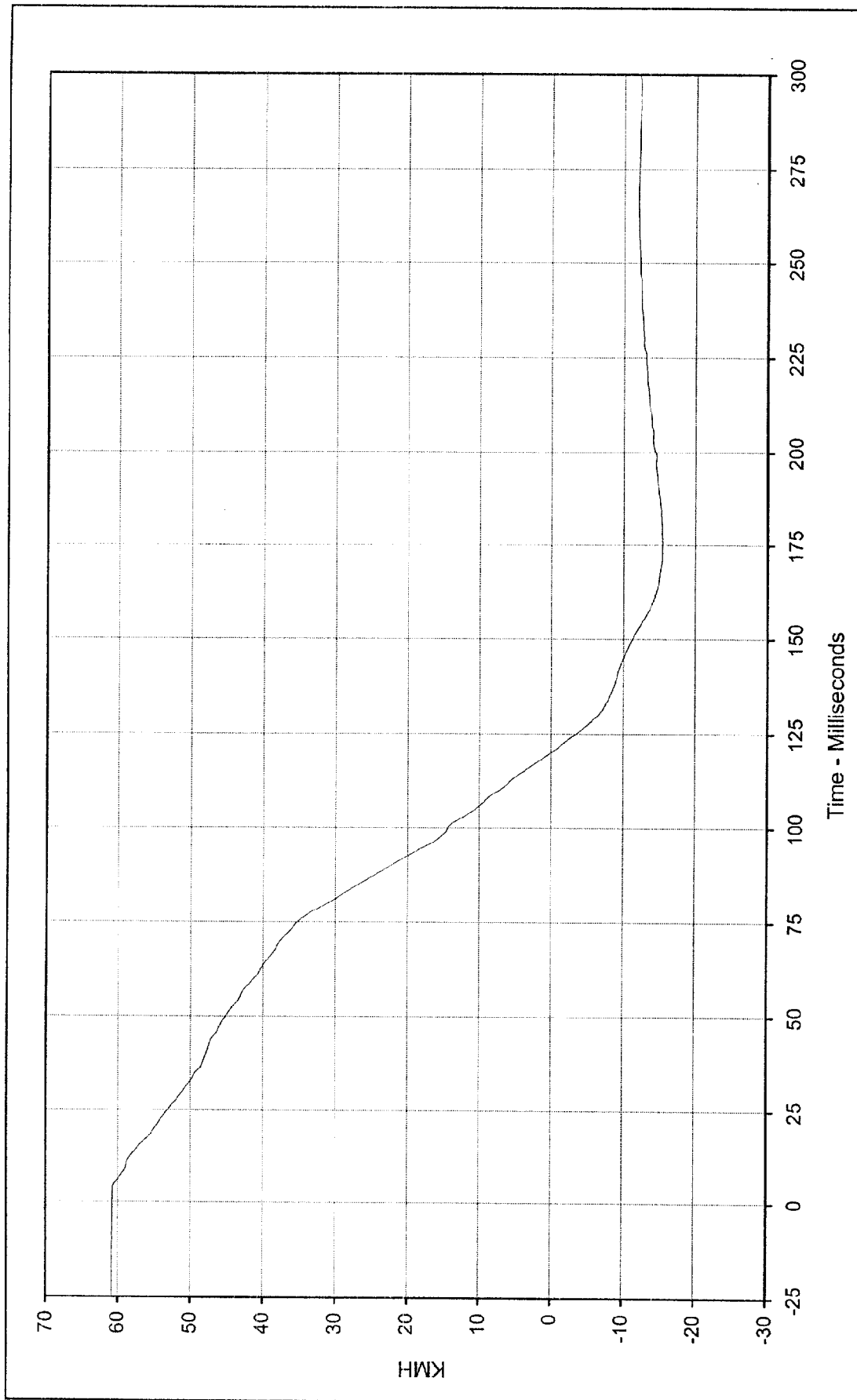
Date of Test: 8/11/98

Curve Number: FIL-089

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

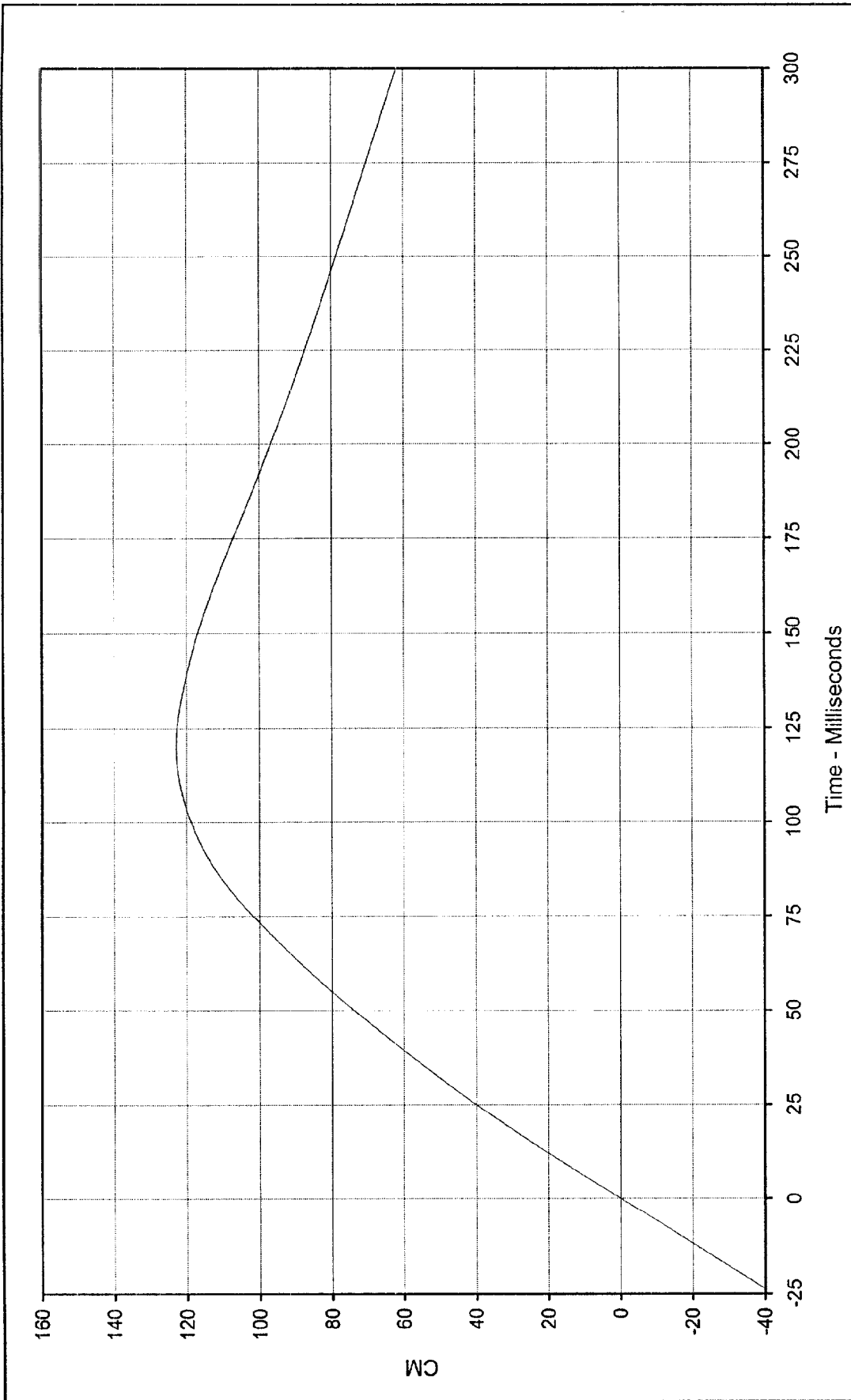
Maximum Value: 60.7 at 0.0 Milliseconds
Minimum Value: -15.4 at 175.5 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN1-089





Curve Description: Vehicle Left Sill X Displ. Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 122.9 at 120.2 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

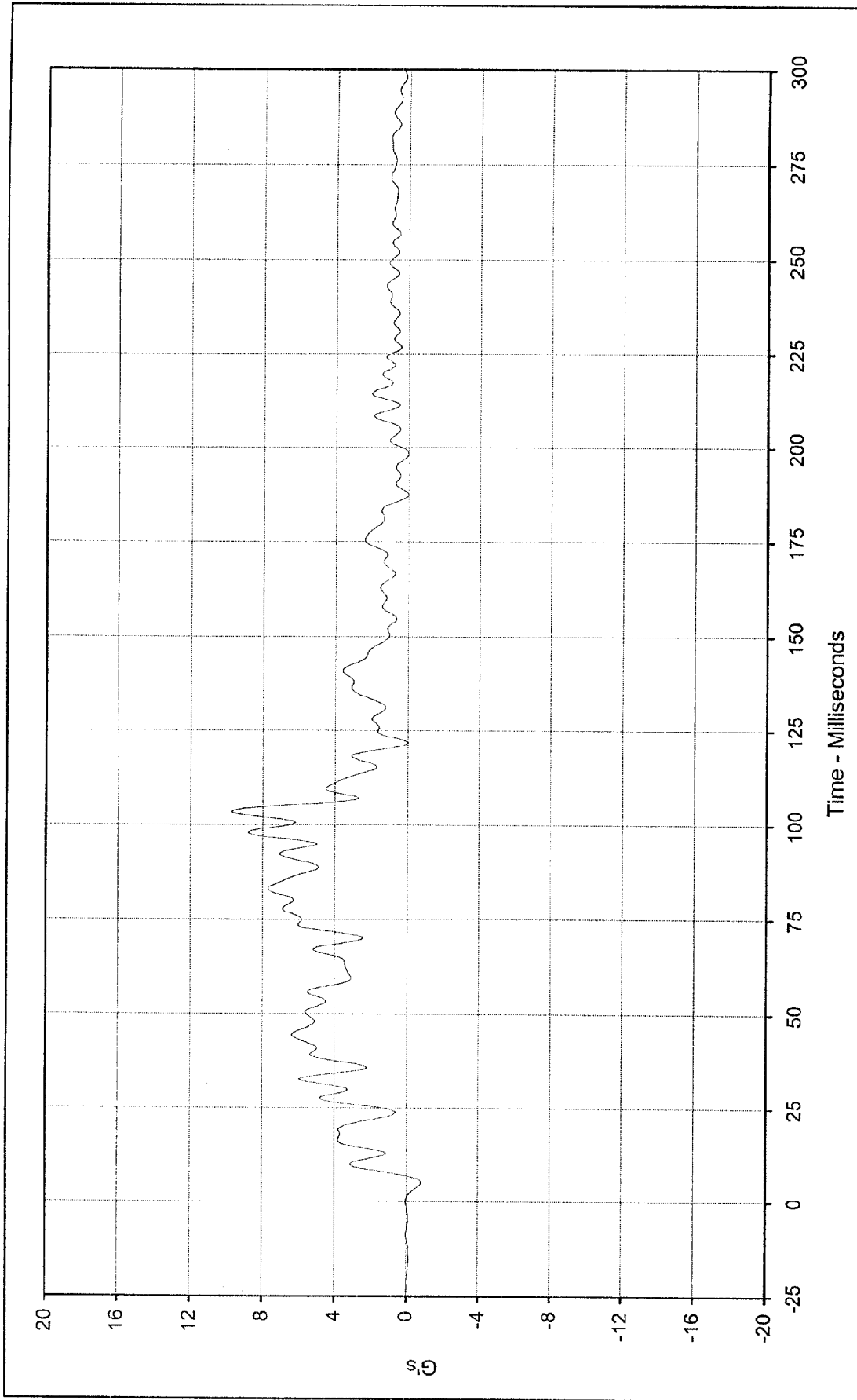
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/1/98

Curve Number: IN2-089





Curve Description: Vehicle Left Sill Y Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 9.8 at 103.7 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

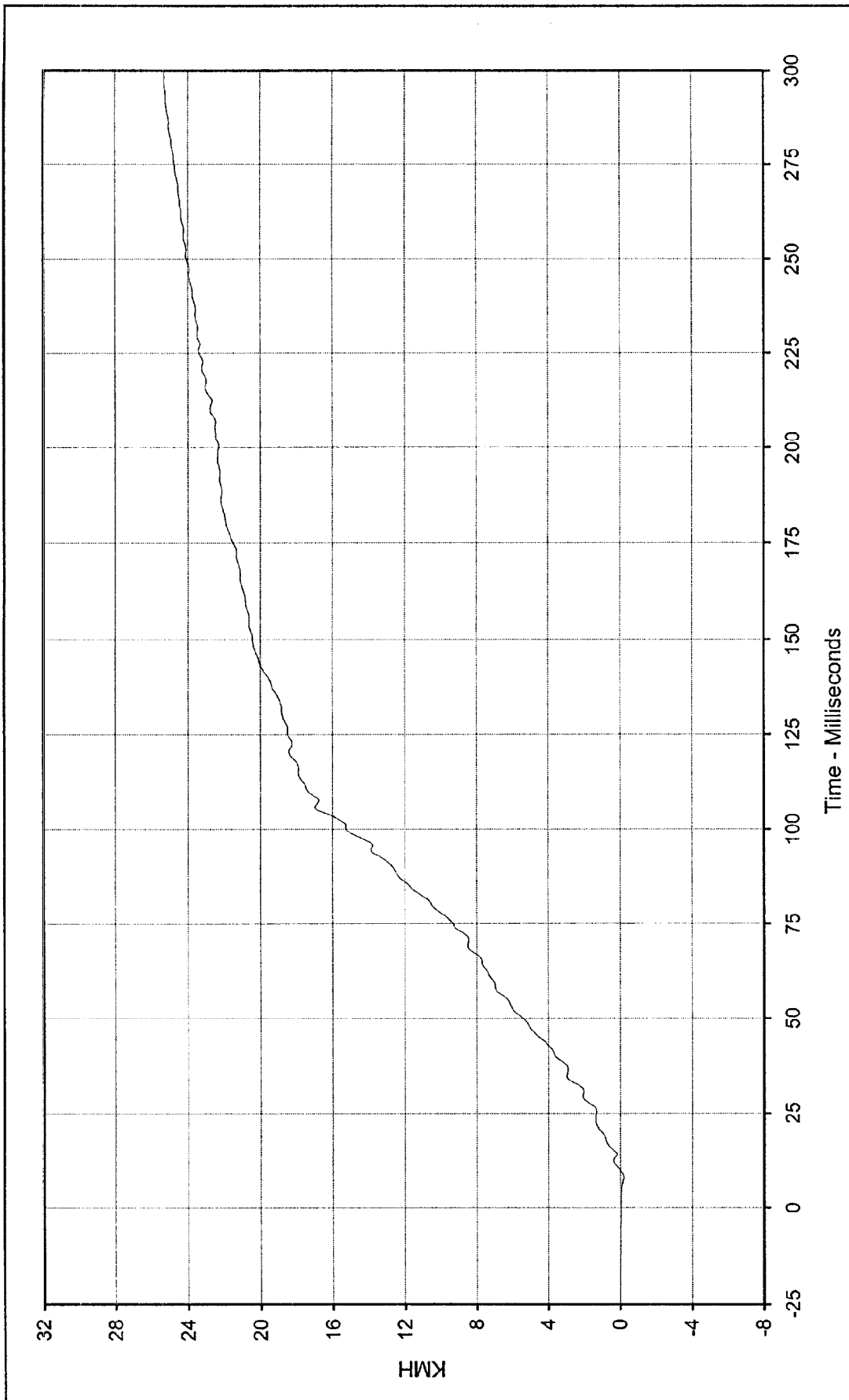
Minimum Value: -0.8 at 5.2 Milliseconds

SAE Filter Class: 60

Date of Test: 8/1/98

Curve Number: FIL-090





Curve Description: Vehicle Left Sill Y Velocity

Maximum Value: 25.3 at 299.9 Milliseconds

Minimum Value: -0.2 at 7.9 Milliseconds

SAE Filter Class: 180

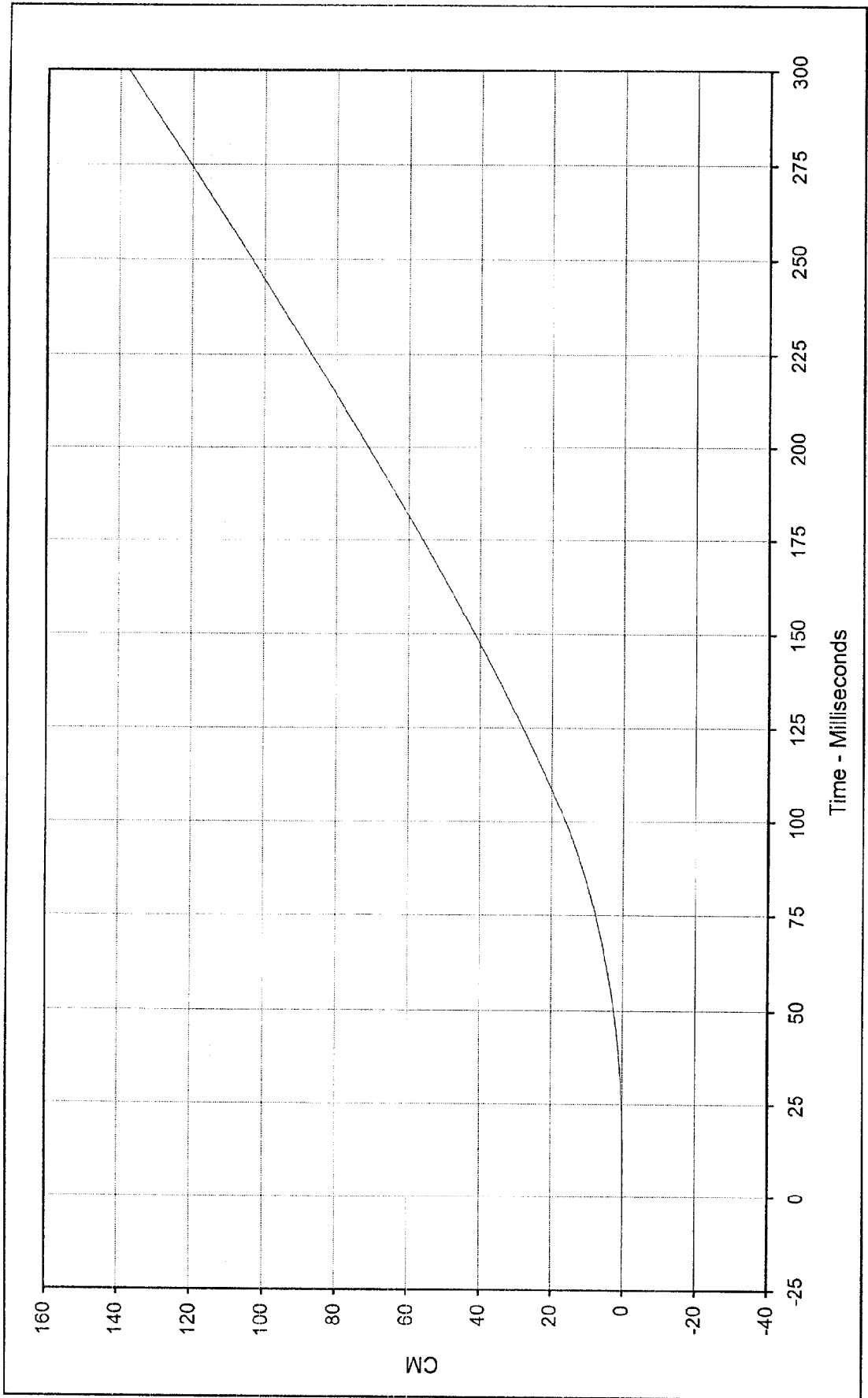
Date of Test: 8/11/98

Curve Number: IN1-090

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: _____ Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 137.6 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

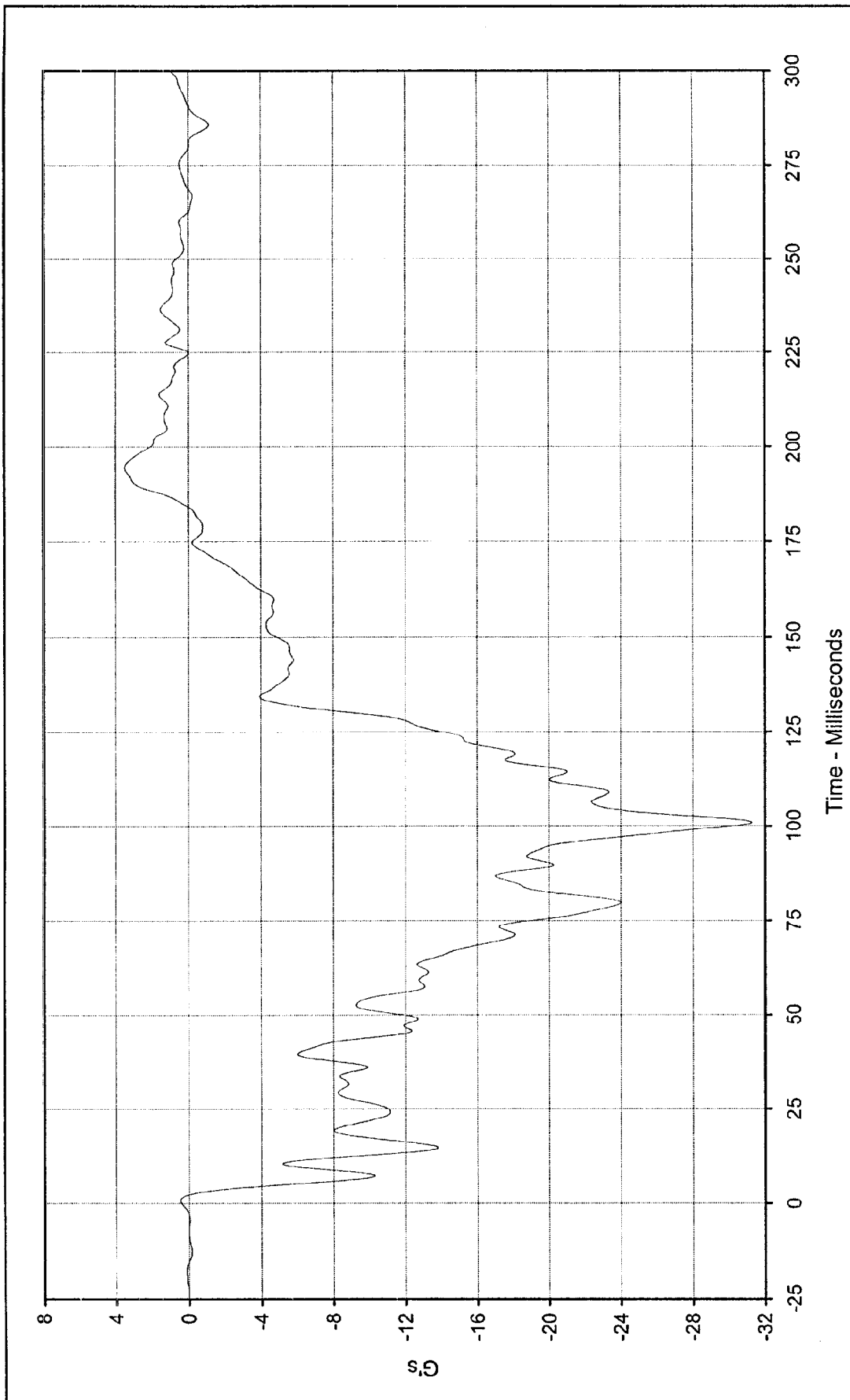
Minimum Value: 0.0 at 9.7 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN2-090





Curve Description: Vehicle Center Tunnel X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 3.5 at 194.5 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

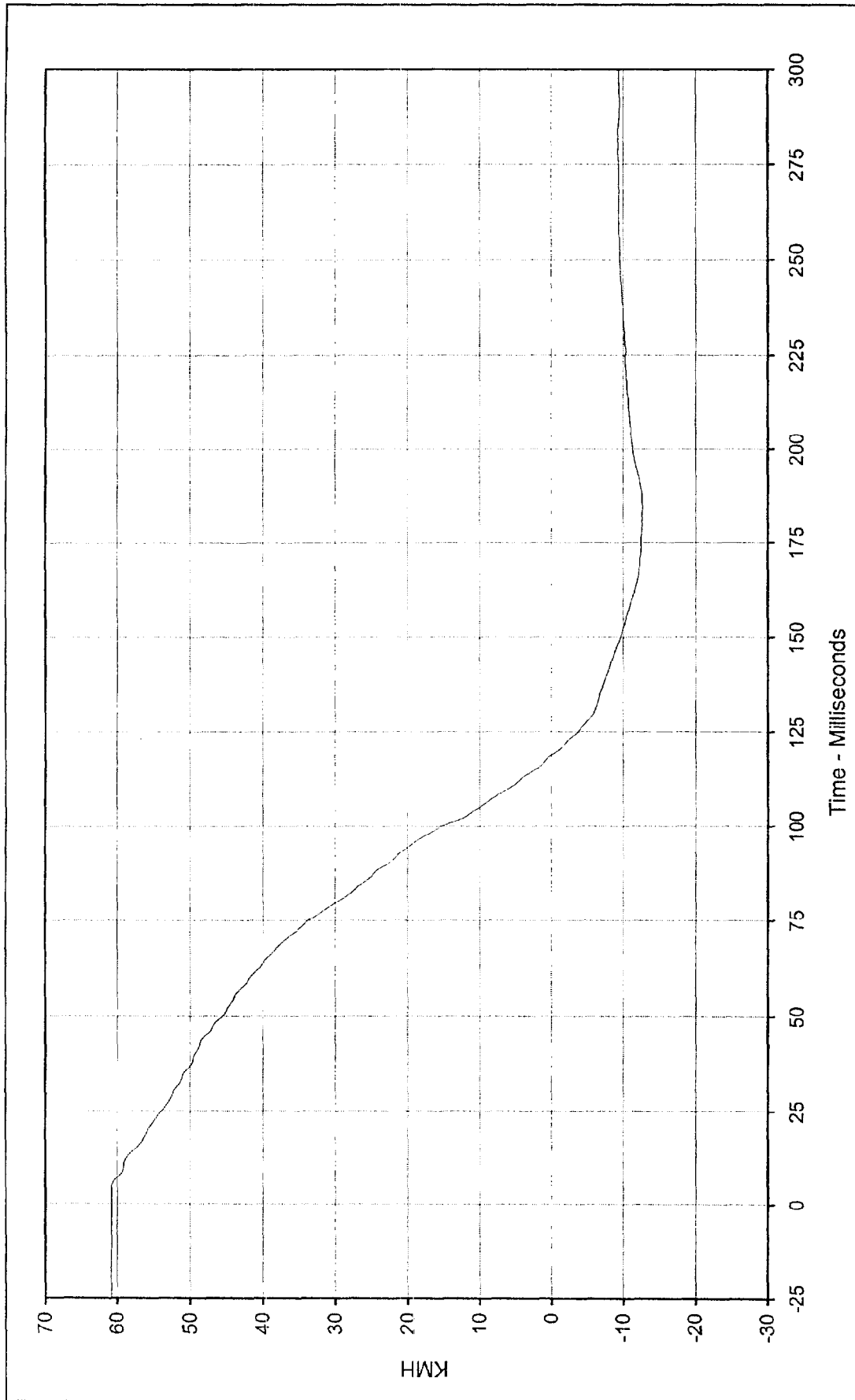
Minimum Value: -31.3 at 100.9 Milliseconds

SAE Filter Class: 60

Date of Test: 8/11/98

Curve Number: FIL-091





Curve Description: Vehicle Center Tunnel X Velocity

Maximum Value: 60.8 at 3.7 Milliseconds

Minimum Value: -12.7 at 184.5 Milliseconds

SAE Filter Class: 180

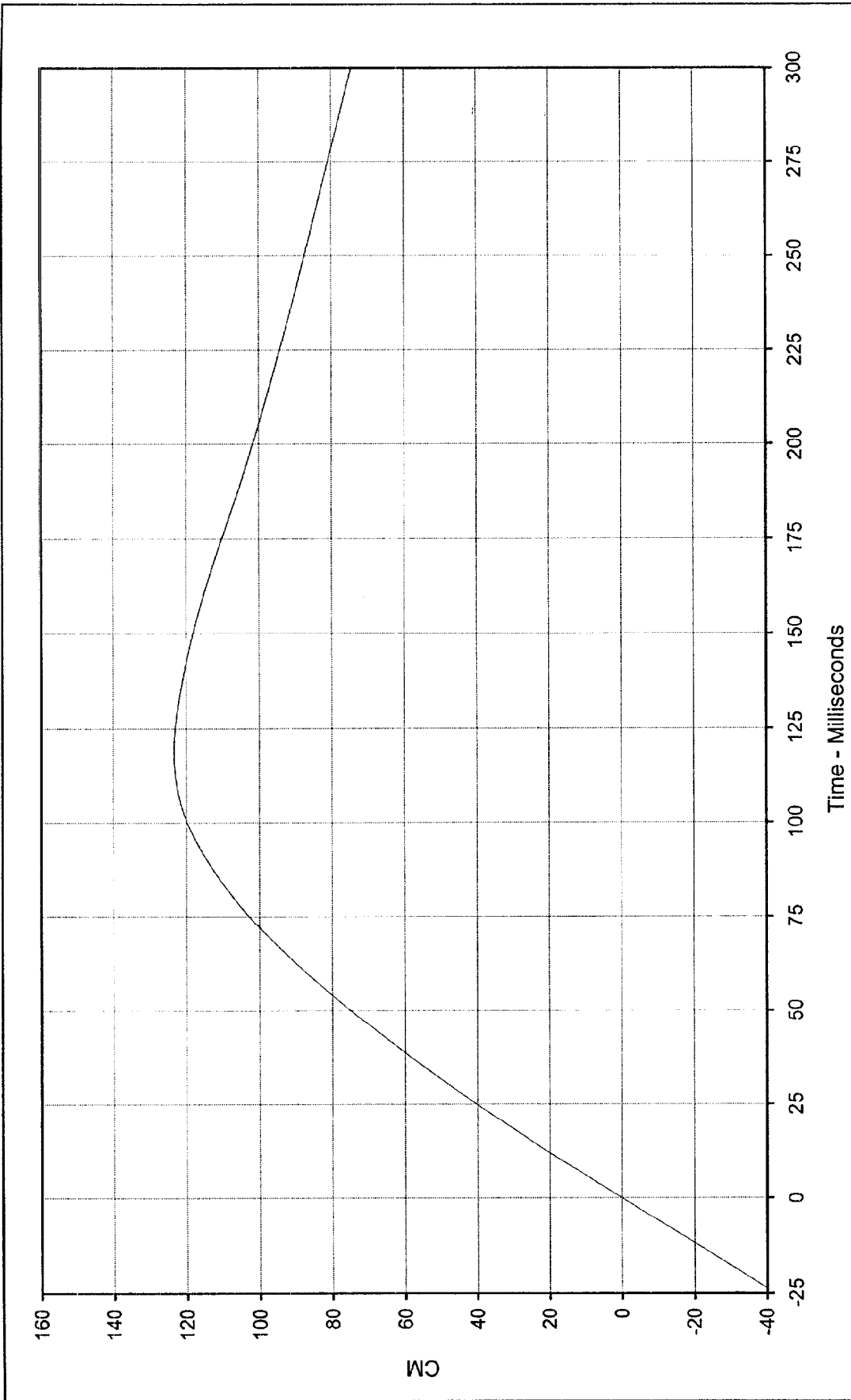
Date of Test: 8/11/98

Curve Number: IN1-091

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Vehicle Center Tunnel X Displ. Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 123.4 at 118.8 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

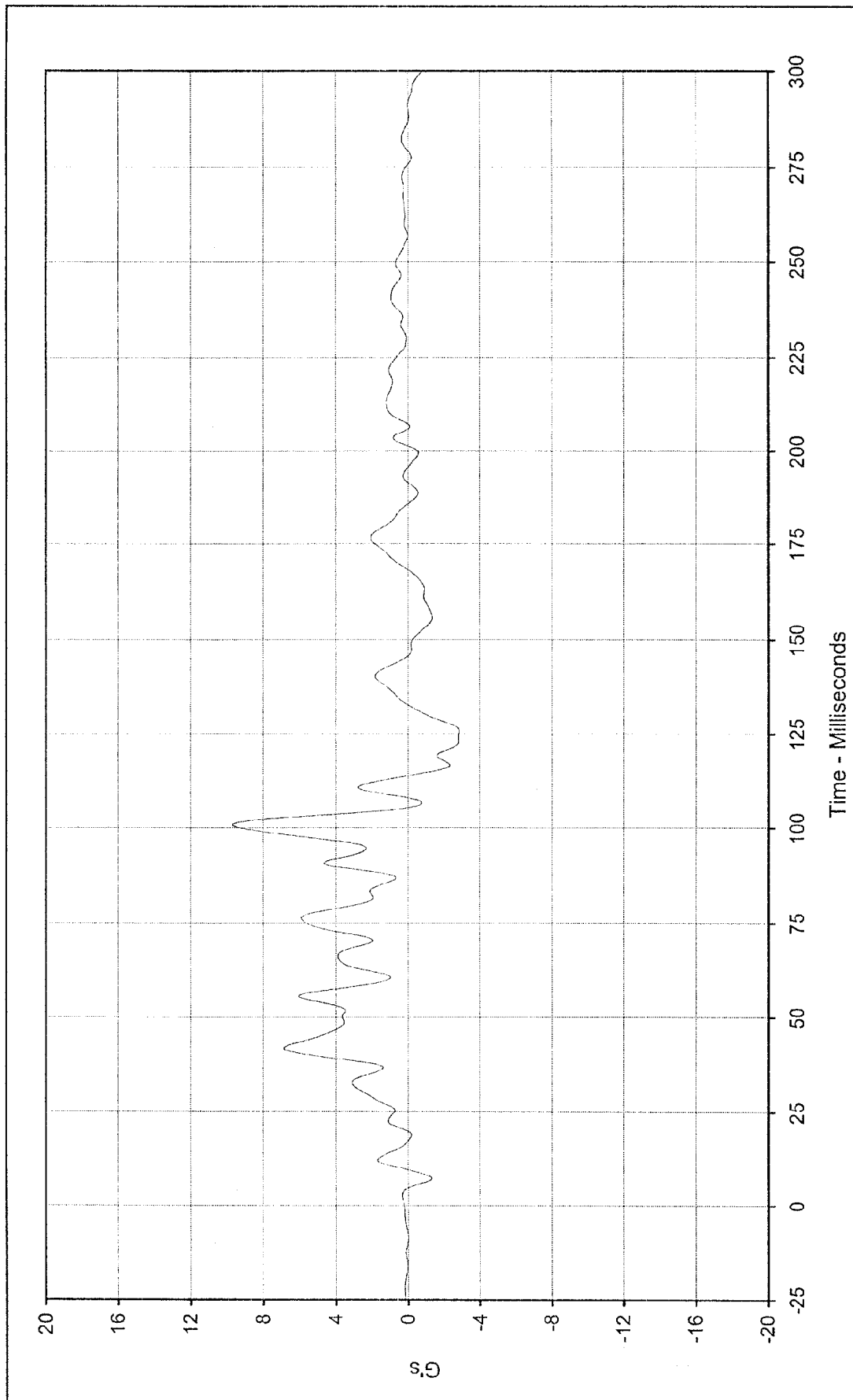
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN2-091





Curve Description: Vehicle Center Tunnel Y Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 9.7 at 100.8 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

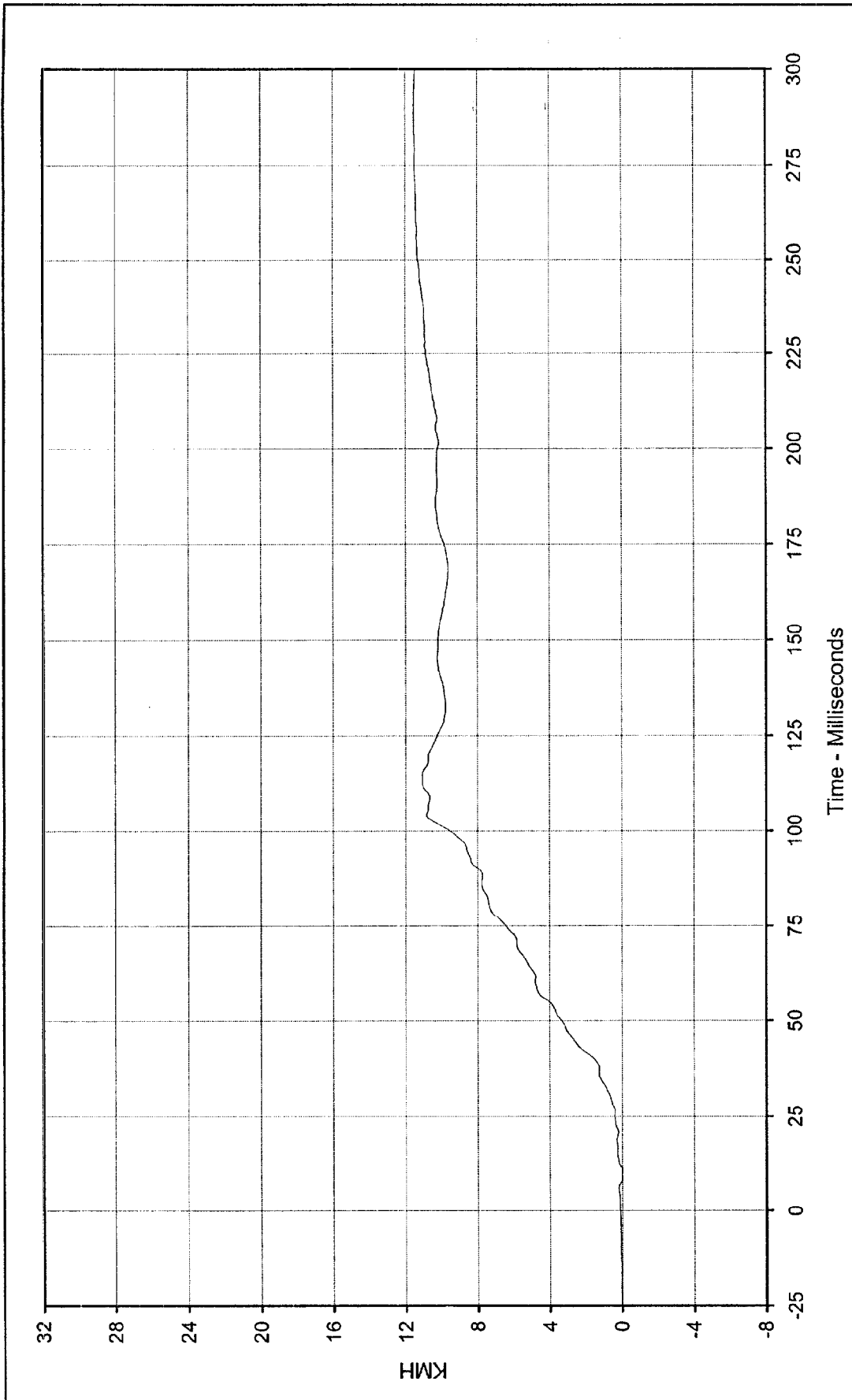
Minimum Value: -2.9 at 125.8 Milliseconds

SAE Filter Class: 60

Date of Test: 8/11/98

Curve Number: FIL-092





Curve Description: Vehicle Center Tunnel Y Velocity

Maximum Value: 11.5 at 286.5 Milliseconds

Minimum Value: 0.0 at 10.8 Milliseconds

SAE Filter Class: 180

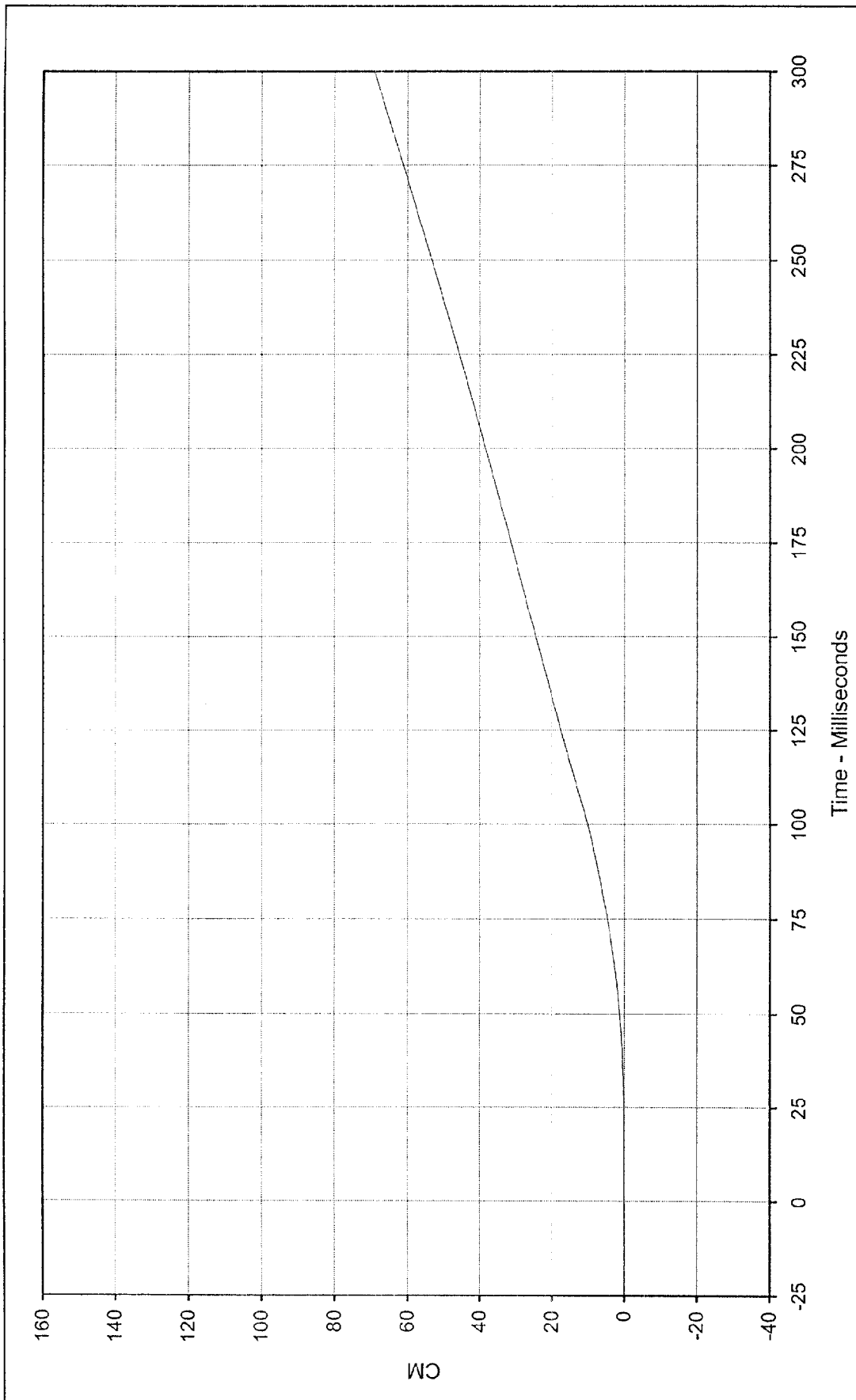
Date of Test: 8/1/98

Curve Number: IN1-092

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Vehicle Center Tunnel Y Displ. Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 69.0 at 299.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

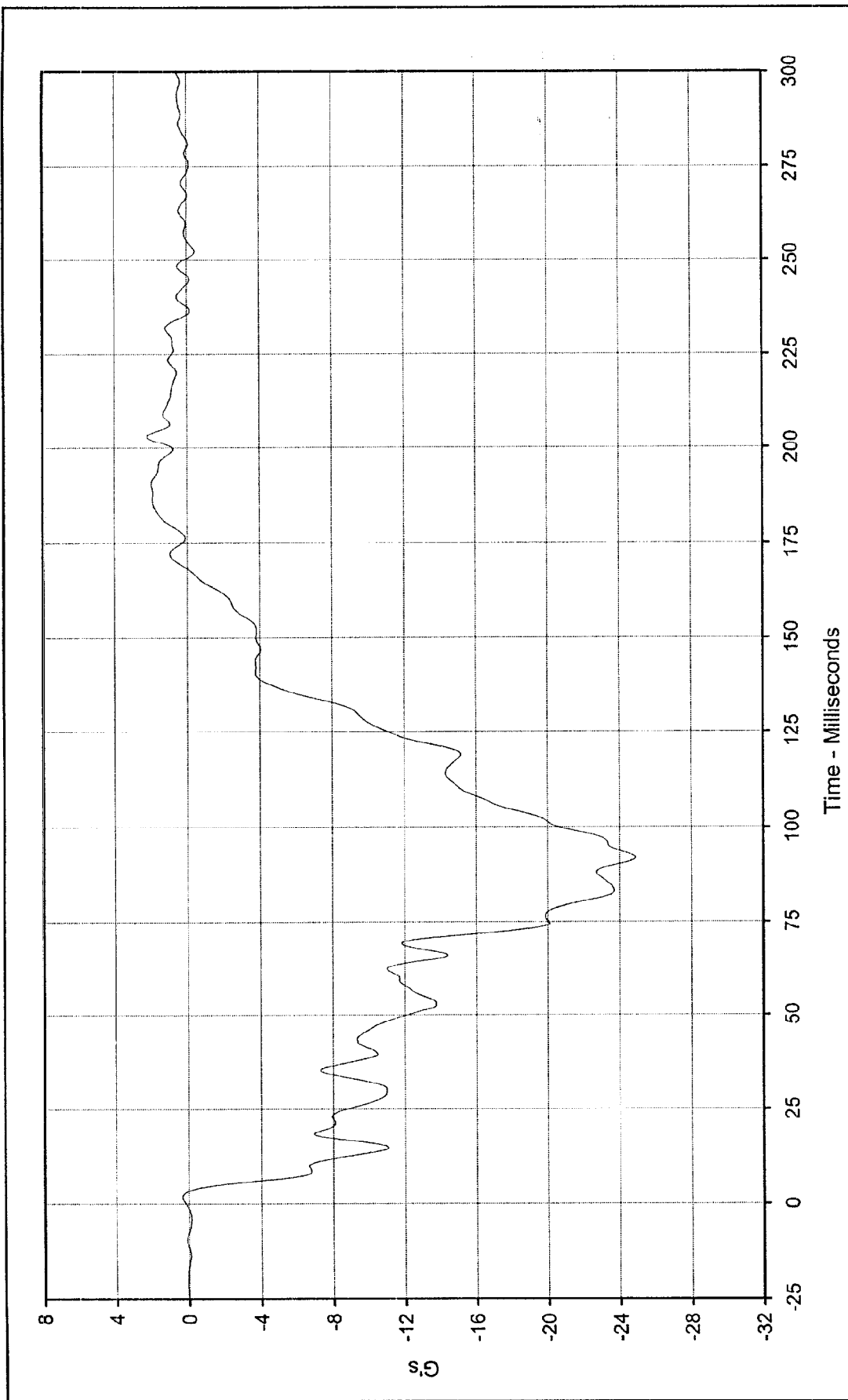
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN2-092





Curve Description: Vehicle Right Sill X Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 2.2 at 203.1 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

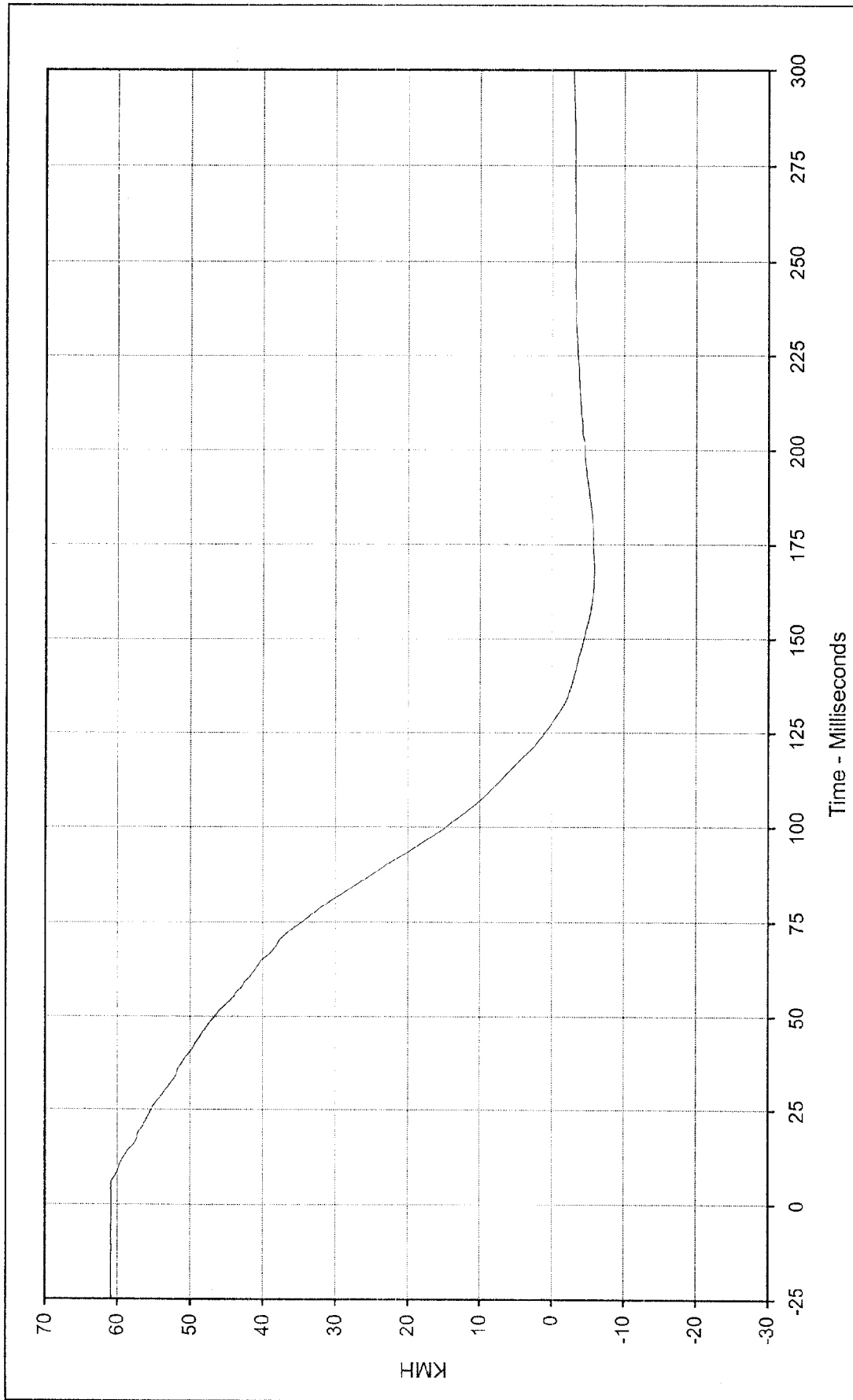
Minimum Value: -24.9 at 91.9 Milliseconds

SAE Filter Class: 60

Date of Test: 8/1/98

Curve Number: FIL-093





Curve Description: Vehicle Right Sill X Velocity

Maximum Value: 60.8 at 5.4 Milliseconds

Minimum Value: -5.9 at 168.7 Milliseconds

SAE Filter Class: 180

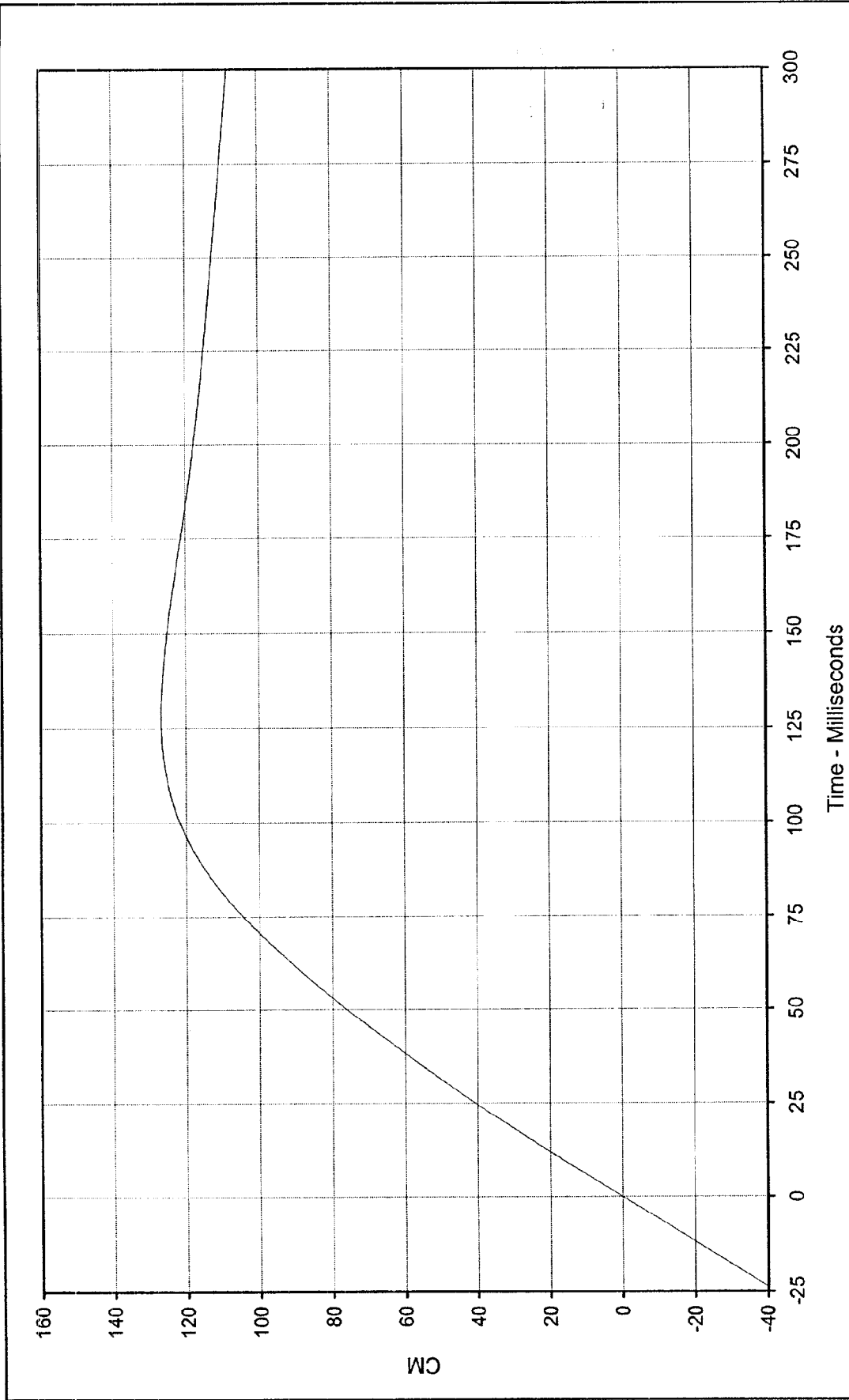
Date of Test: 8/11/98

Curve Number: IN1-093

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Test Vehicle: 1998 Ford Contour 4 Door Sedan





Curve Description: Vehicle Right Sill X Displ. Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 126.8 at 127.6 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

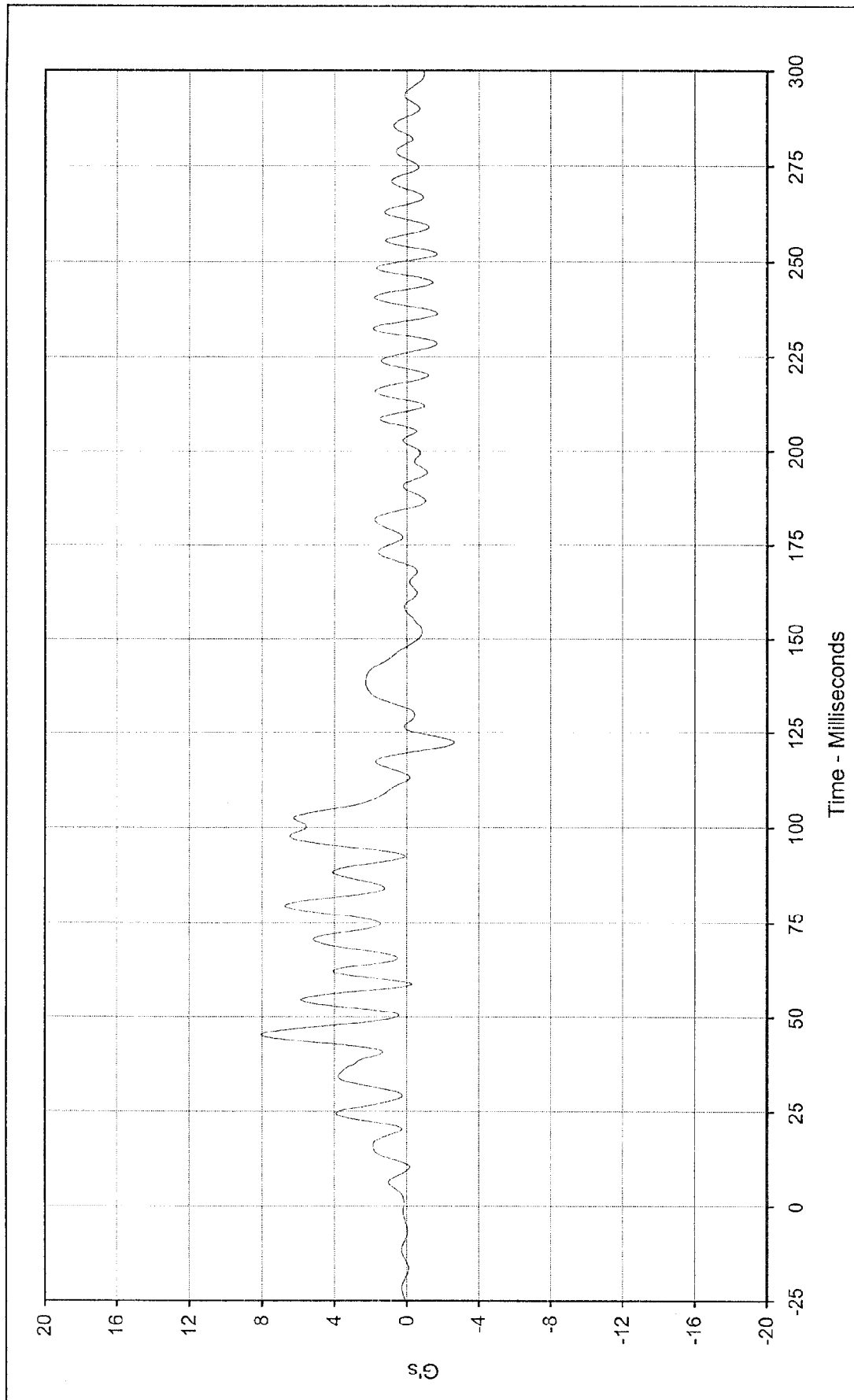
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN2-093





Curve Description: Vehicle Right Sill Y Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 8.1 at 45.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

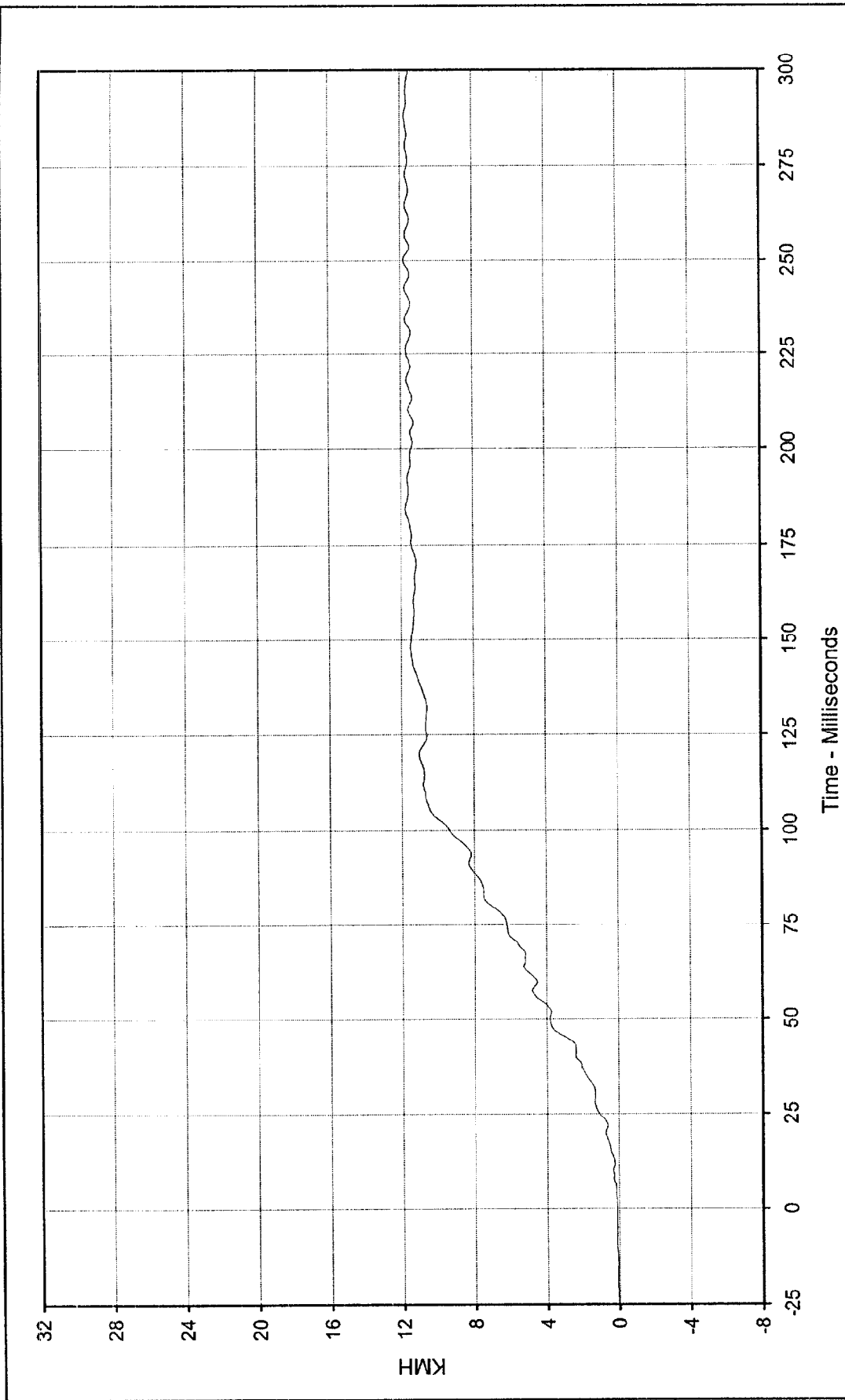
Minimum Value: -2.6 at 122.3 Milliseconds

SAE Filter Class: 60

Date of Test: 8/11/98

Curve Number: FIL-094





Curve Description: Vehicle Right Sill Y Velocity Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 11.8 at 250.3 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

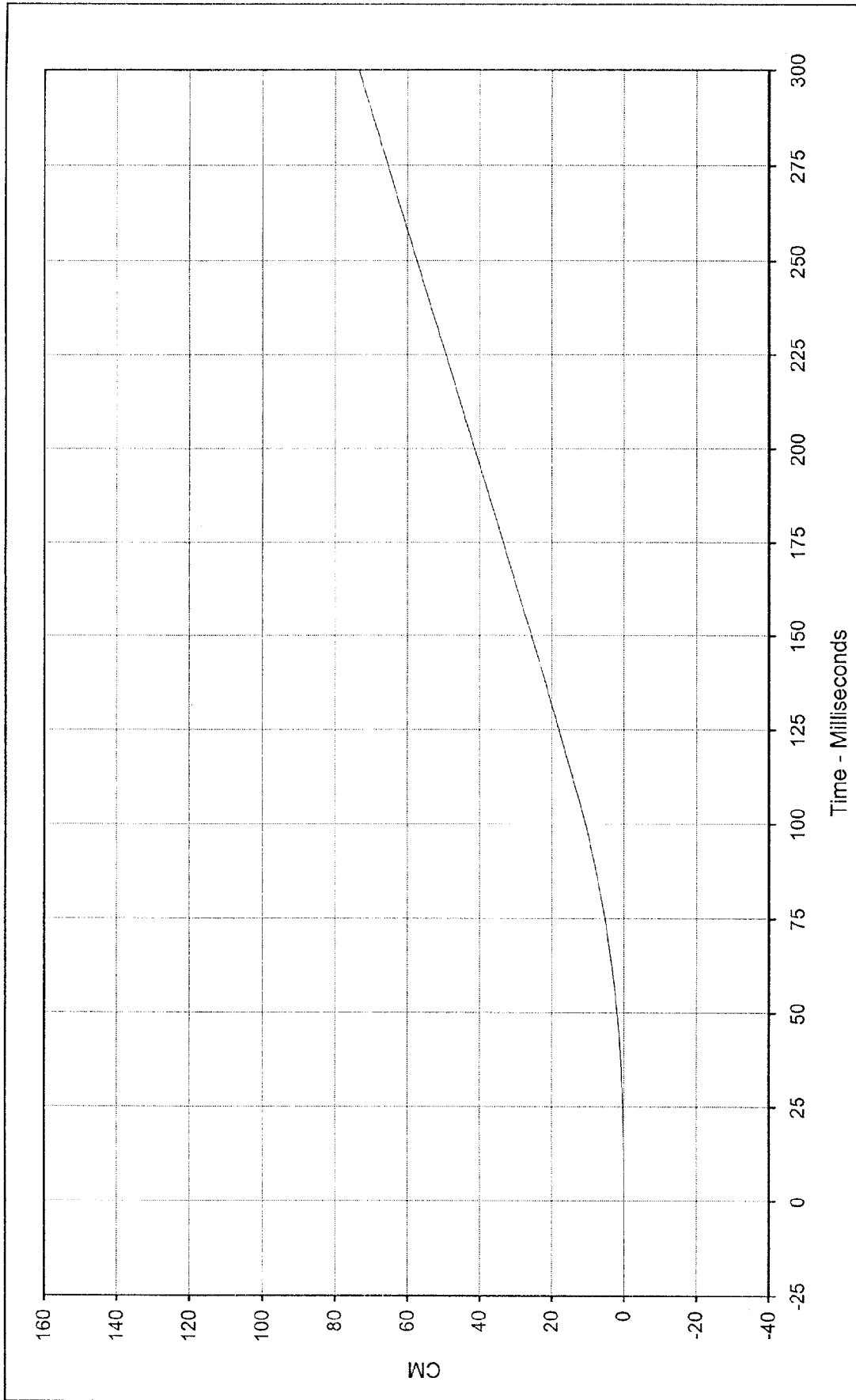
Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN1-094





Curve Description: Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 73.4 at 299.9 Milliseconds

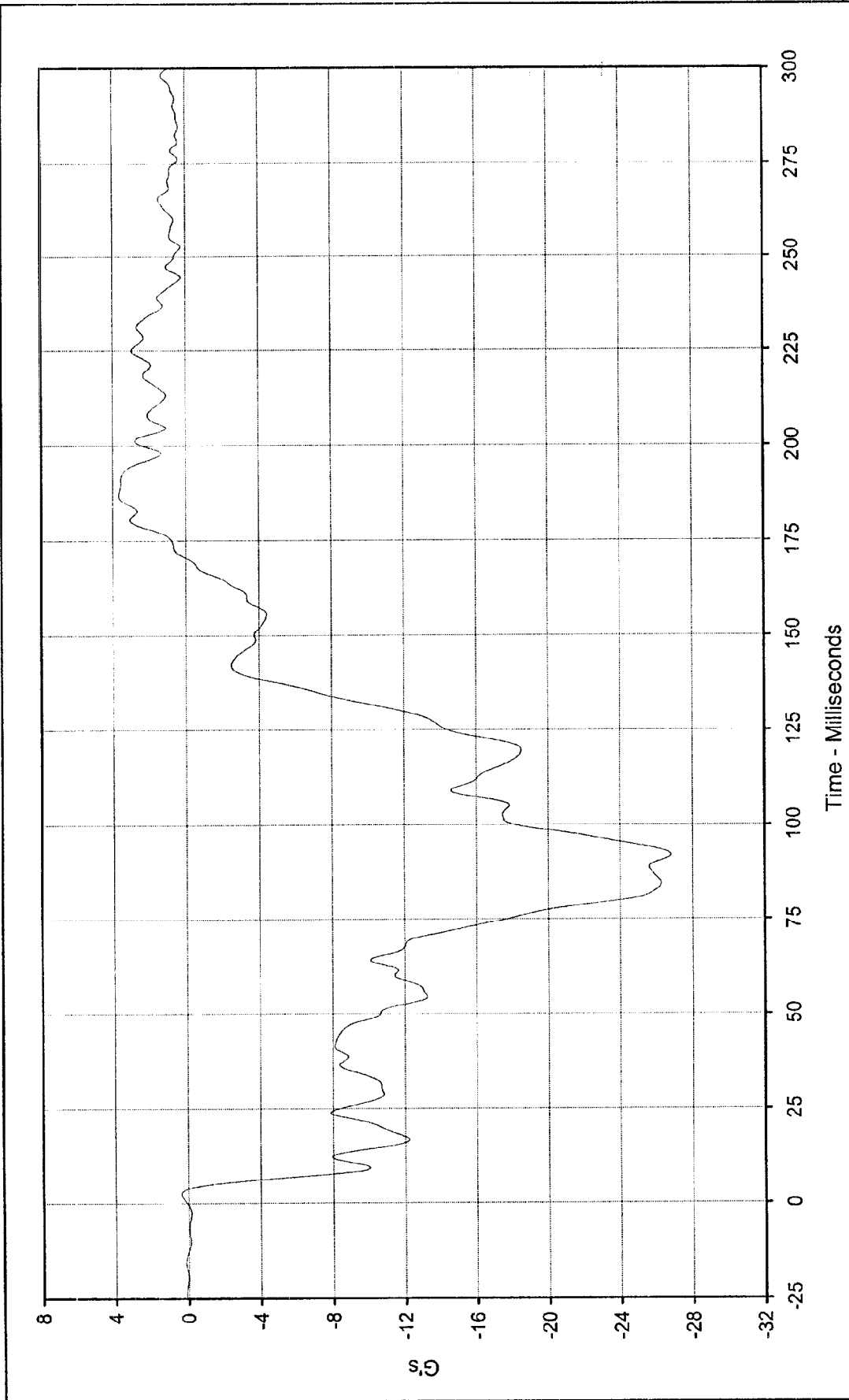
Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/1/98

Curve Number: IN2-094





Curve Description: Vehicle Trunk X

Maximum Value: 3.7 at 187.0 Milliseconds

Minimum Value: -26.8 at 92.0 Milliseconds

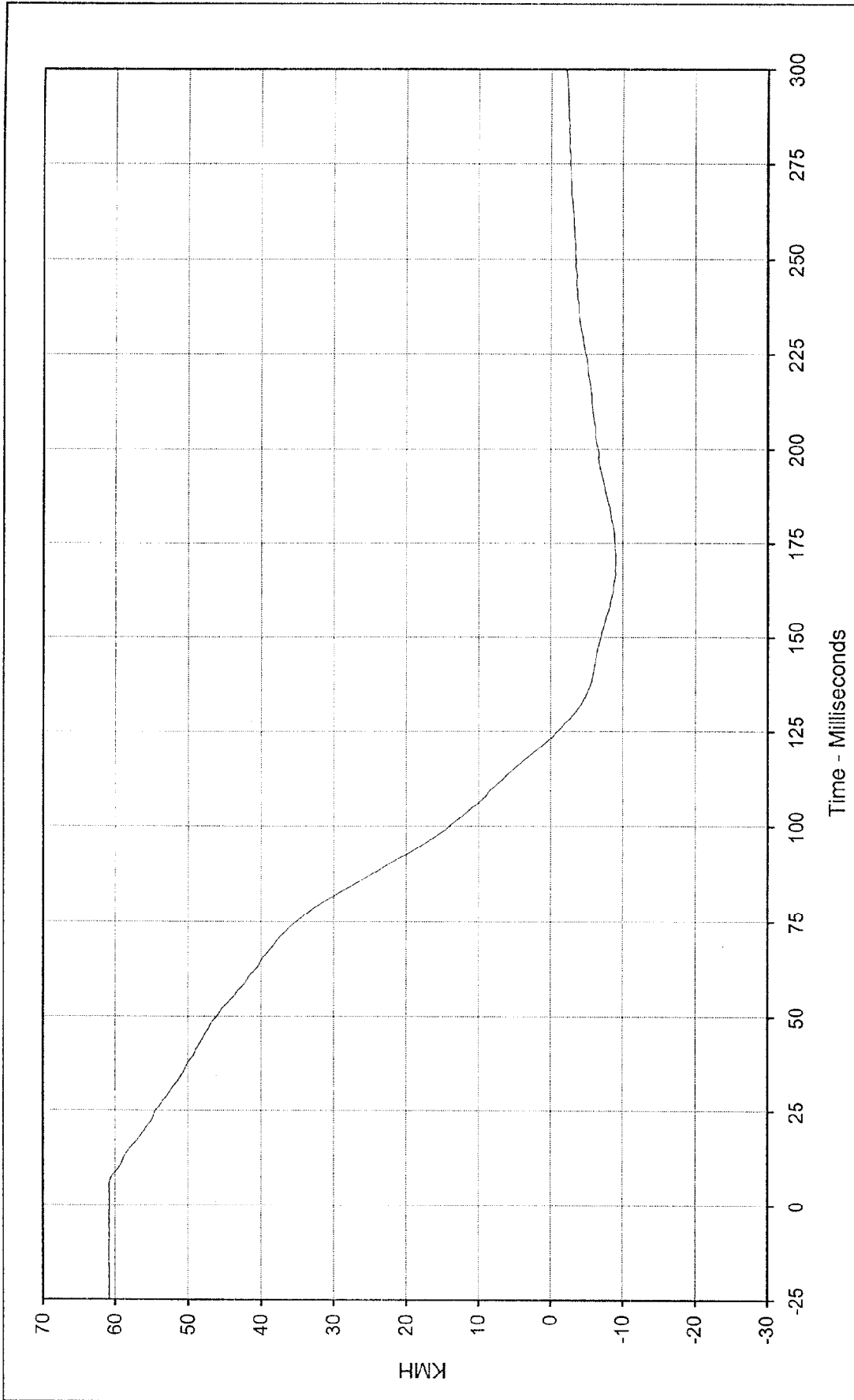
SAE Filter Class: 60

Date of Test: 8/11/98

Curve Number: FIL-095

Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214





Curve Description: Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 60.8 at 5.2 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

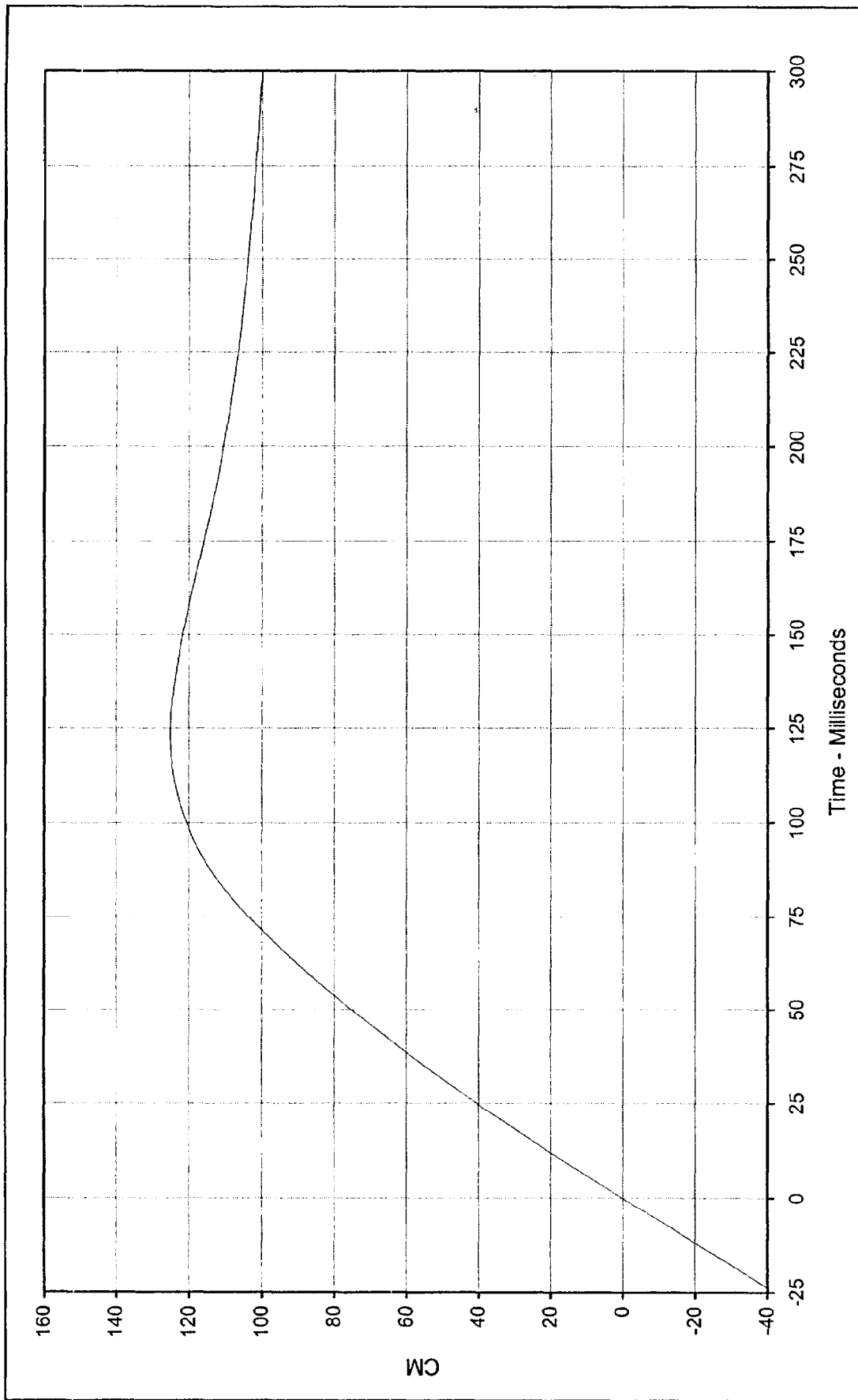
Minimum Value: -9.0 at 170.6 Milliseconds

SAE Filter Class: 180

Date of Test: 8/1/98

Curve Number: IN1-095





Curve Description: _____ Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 125.2 at 123.2 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

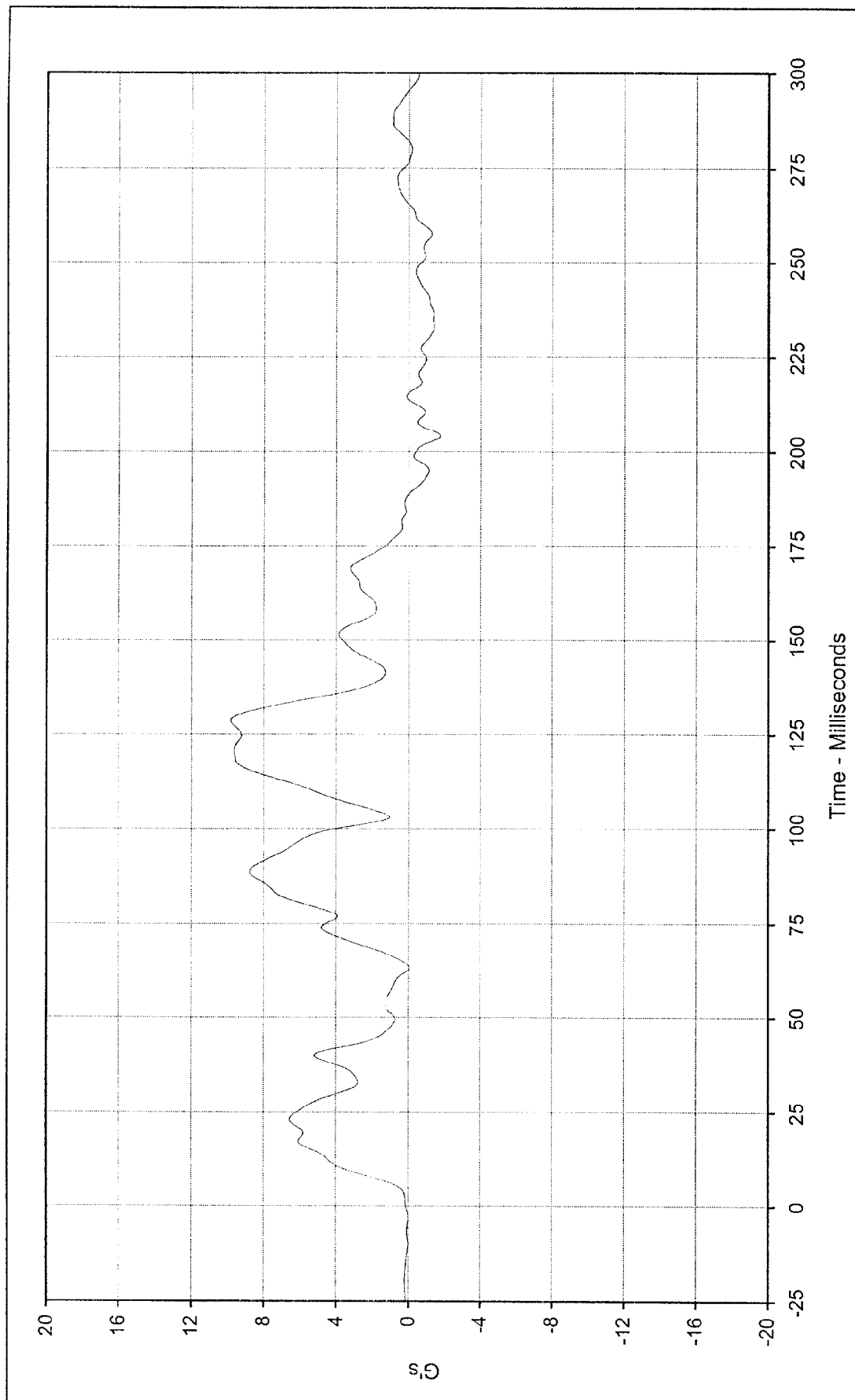
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/11/98

Curve Number: IN2-095





Curve Description: Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 9.8 at 128.7 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

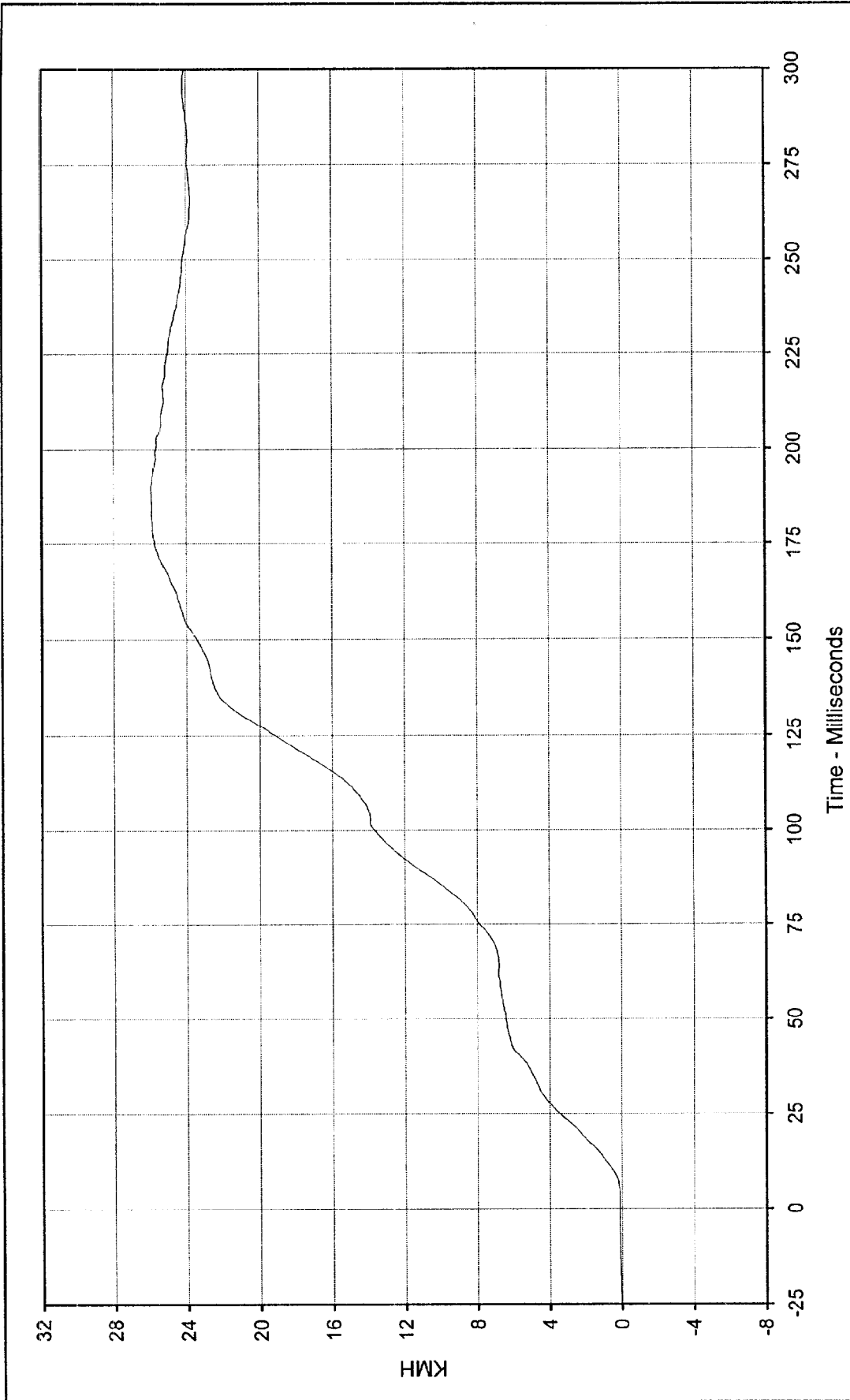
Minimum Value: -1.8 at 204.2 Milliseconds

SAE Filter Class: 60

Date of Test: 8/11/98

Curve Number: FIL-096





Curve Description: _____ Testing Program: 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 26.0 at 189.9 Milliseconds Test Vehicle: 1998 Ford Contour 4 Door Sedan

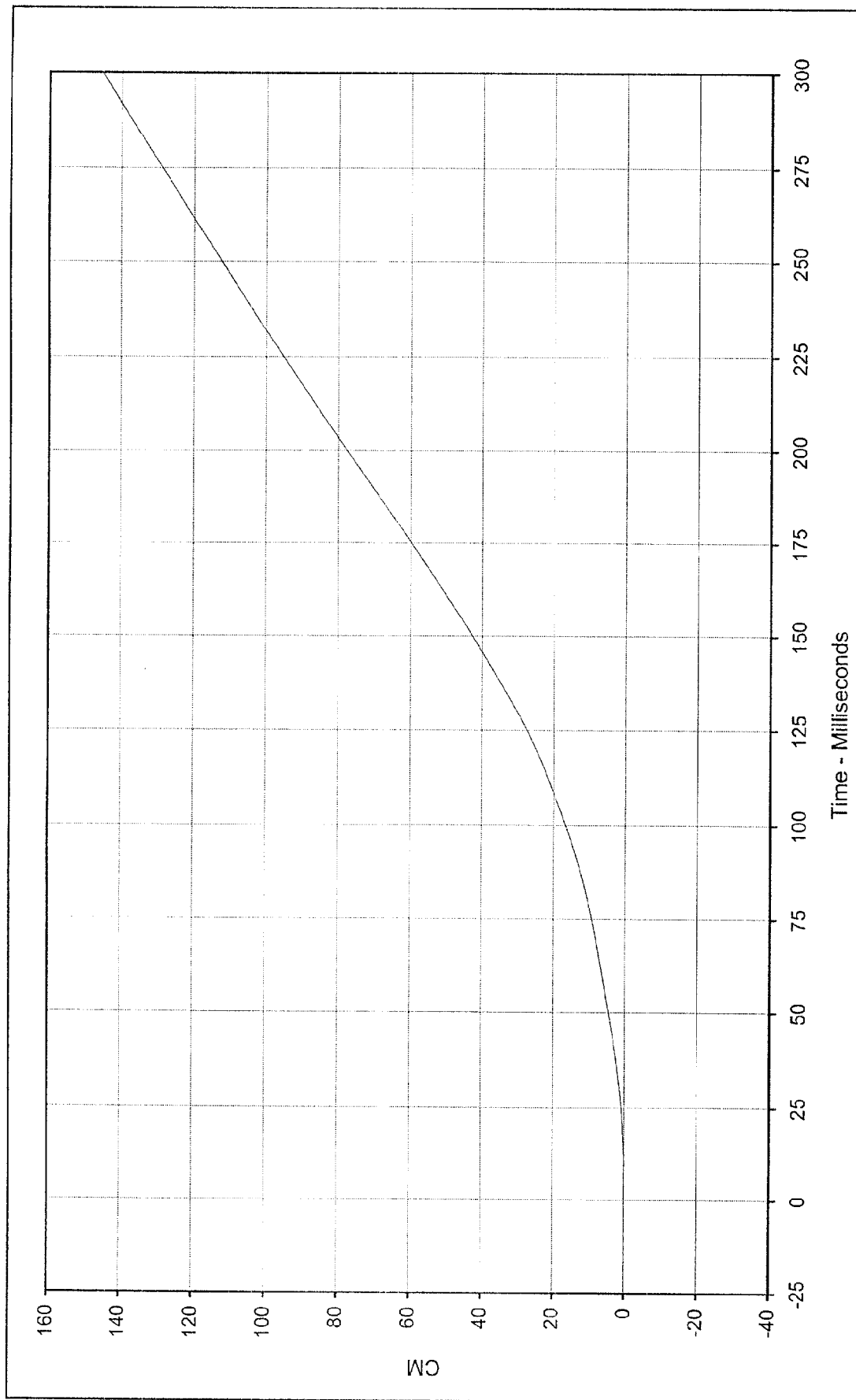
Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 8/1/98

Curve Number: IN1-096





Curve Description: _____ Testing Program 1998 37.5mph Offset, 5th Female No.: MW0214

Maximum Value: 145.3 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: 8/11/98

Curve Number: IN2-096



APPENDIX C
DEFORMABLE BARRIER INFORMATION

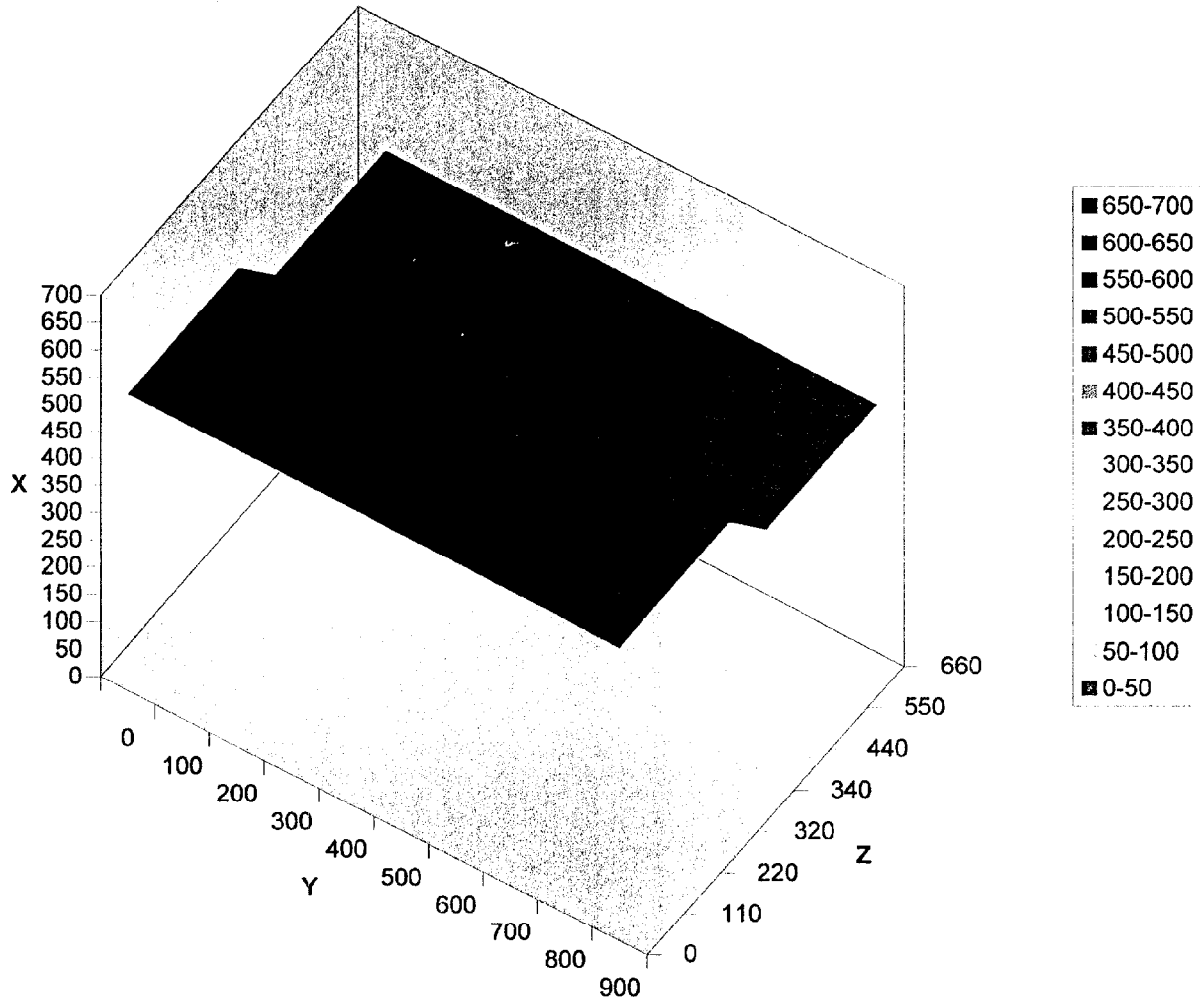
DEFORMABLE BARRIER MEASUREMENTS, PRE-TEST

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0214

TEST PROGRAM: 1998 37.5MPH OFFSET, 5TH FEMALE

TEST DATE: 8/11/98



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

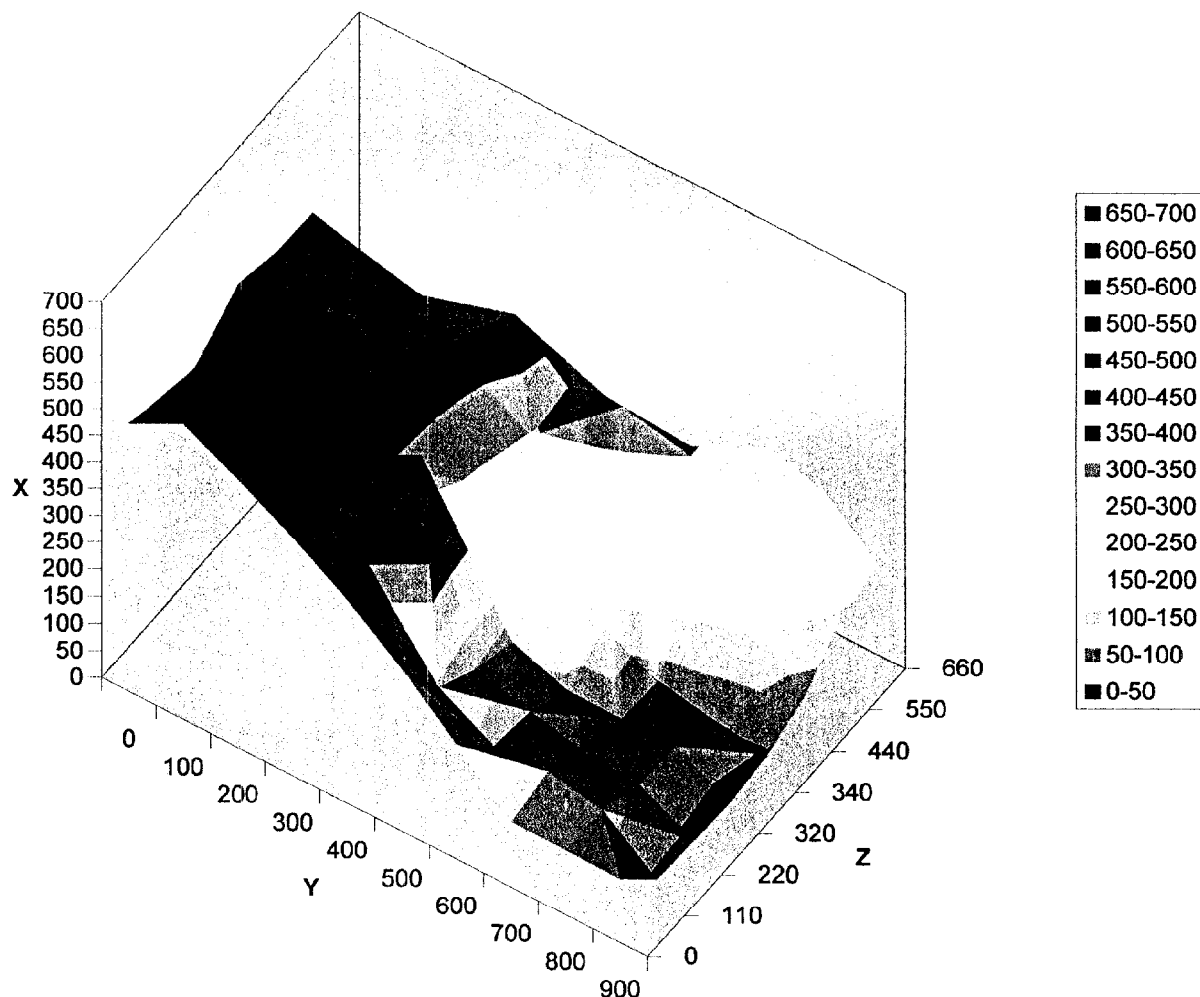
DEFORMABLE BARRIER MEASUREMENTS, POST-TEST

TEST VEHICLE: 1998 FORD CONTOUR 4 DOOR SEDAN

NHTSA No.: MW0214

TEST PROGRAM: 1998 37.5MPH OFFSET, 5TH FEMALE

TEST DATE: 8/11/98



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	8	8	72	157	222	138	204	277	252	164
Level 2	550	323	319	324	399	314	329	307	279	222	144
Level 3	440	508	481	457	357	297	284	266	192	162	75
Level 4	340	510	443	436	341	283	223	124	77	57	45
Level 5	320	531	466	437	333	222	122	84	82	85	33
Level 6	220	475	623	427	439	492	148	121	98	91	38
Level 7	110	424	617	570	443	314	191	134	140	120	42
Level 8	0	496	548	497	439	377	301	214	122	121	119

APPENDIX D
INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

1998 37.5mph Offset w/5th Female
Instrumentation Data Channel Assignments
Driver A.T.D Serial Number 273
8/11/98

1998 Ford Contour 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	KEAC079	Accel., 1/2 bridge	Endevco	7264-2000X	G
2	HEAD, PRIMARY	Y	KEAC080	Accel., 1/2 bridge	Endevco	7264-2000Y	G
3	HEAD, PRIMARY	Z	KEAC081	Accel., 1/2 bridge	Endevco	7264-2000Z	G
4	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
5	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
6	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
7	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	N:m
8	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	N:m
9	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	N:m
10	CHEST , PRIMARY	X	KEAC073	Accel., 1/2 bridge	Endevco	7264-2000X	G
11	CHEST , PRIMARY	Y	KEAC074	Accel., 1/2 bridge	Endevco	7264-2000Y	G
12	CHEST , PRIMARY	Z	KEAC075	Accel., 1/2 bridge	Endevco	7264-2000Z	G
13	CHEST DISPLACEMENT	X	GPCP003	Rotary Pot Chest Female	Servo	14CBI	MM
14	PELVIS, PRIMARY	Y	KEAC033	Accel., 1/2 bridge	Endevco	7264-2000	G
15	PELVIS, PRIMARY	Z	GPAC016	Accel., 1/2 bridge	Endevco	7264-2000	G
16	PELVIS, PRIMARY	X	KEAC035	Accel., 1/2 bridge	Endevco	7264-2000	G
17	LEFT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N
18	RIGHT FEMUR FORCE	Z	KEFF004	Load cell, Femur	R.A. Denton	2121	N
19	UP. TIBIA LEFT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N:m
20	UP. TIBIA LEFT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N:m
21	UP. TIBIA LEFT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
22	UP. TIBIA LEFT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N

1998 37.5mph Offset w/5th Female
Instrumentation Data Channel Assignments
Passenger A.T.D Serial Number 273
8/11/98

1998 Ford Contour 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
23	UP. TIBIA RIGHT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N.m
24	UP. TIBIA RIGHT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N.m
25	UP. TIBIA RIGHT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
26	UP. TIBIA RIGHT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N
27	LWR. TIBIA LEFT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N.m
28	LWR. TIBIA LEFT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N.m
29	LWR. TIBIA LEFT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
30	LWR. TIBIA LEFT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N
31	LWR. TIBIA RIGHT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N.m
32	LWR. TIBIA RIGHT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N.m
33	LWR. TIBIA RIGHT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
34	LWR. TIBIA RIGHT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N
35	FOOT LEFT	X	KEIC007X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT	Z	KEIC007Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT	Z	KEIC007Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT	X	KEIC006X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT	Z	KEIC006Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT	Z	KEIC006Z	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

1998 37.5mph Offset w/5th Female
Instrumentation Data Channel Assignments
Passenger A.T.D Serial Number 274
8/11/98
1998 Ford Contour 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	KEAC070	Accel., 1/2 bridge	Endevco	7264-2000X	G
46	HEAD, PRIMARY	Y	KEAC071	Accel., 1/2 bridge	Endevco	7264-2000Y	G
47	HEAD, PRIMARY	Z	KEAC072	Accel., 1/2 bridge	Endevco	7264-2000Z	G
48	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
49	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
50	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
51	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	N.m
52	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	N.m
53	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	N.m
54	CHEST, PRIMARY	X	KEAC076	Accel., 1/2 bridge	Endevco	7264-2000X	G
55	CHEST, PRIMARY	Y	KEAC077	Accel., 1/2 bridge	Endevco	7264-2000Y	G
56	CHEST, PRIMARY	Z	KEAC078	Accel., 1/2 bridge	Endevco	7264-2000Z	G
57	CHEST DISPLACEMENT	X	GPCP004	Rotary Pot Chest Female	Servo	14CBI	MM
58	PELVIS, PRIMARY	Y	KEAC060	Accel., 1/2 bridge	Endevco	7264-2000	G
59	PELVIS, PRIMARY	Z	KEAC061	Accel., 1/2 bridge	Endevco	7264-2000	G
60	PELVIS, PRIMARY	X	KEAC062	Accel., 1/2 bridge	Endevco	7264-2000	G
61	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
62	RIGHT FEMUR FORCE	Z	GPLC001	Load cell, Femur	G.S.E.	2430	N
63	UP. TIBIA LEFT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N.m
64	UP. TIBIA LEFT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N.m
65	UP. TIBIA LEFT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
66	UP. TIBIA LEFT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N

1998 37.5mph Offset w/5th Female
Instrumentation Data Channel Assignments
Passenger A.T.D Serial Number 274
8/11/98

1998 Ford Contour 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
67	UP. TIBIA RIGHT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N.m
68	UP. TIBIA RIGHT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N.m
69	UP. TIBIA RIGHT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
70	UP. TIBIA RIGHT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N
71	LWR. TIBIA LEFT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N.m
72	LWR. TIBIA LEFT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N.m
73	LWR. TIBIA LEFT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
74	LWR. TIBIA LEFT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N
75	LWR. TIBIA RIGHT MOM.	X	GPLT05MX	4 ch., lower tibia gage	R. A. Denton	3287	N.m
76	LWR. TIBIA RIGHT MOM.	Y	GPLT05MY	4 ch., lower tibia gage	R. A. Denton	3287	N.m
77	LWR. TIBIA RIGHT FORCE	X	GPLT05FX	4 ch., lower tibia gage	R. A. Denton	3287	N
78	LWR. TIBIA RIGHT FORCE	Z	GPLT05FZ	4 ch., lower tibia gage	R. A. Denton	3287	N
79	FOOT LEFT	X	ICST005X	Accel., Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT	Z	ICST005Y	Accel., Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT	Z	ICST005Z	Accel., Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT	X	ICST004X	Accel., Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT	Z	ICST004Y	Accel., Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT	Z	ICST004Z	Accel., 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	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**1998 37.5mph Offset w/5th Female
Instrumentation Data Channel Assignments**

Vehicle Channels

8/11/98

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
5TH Percentile Female
Left Knee Impact Test

ATD Serial No.: 273

Part Serial No.: n/a

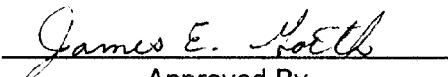
Test I.D.: KL001

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	44	Pass
Probe Velocity	m/s	2.073 to 2.134	2.120	Pass
Peak Probe Force	Newtons	3400 to 4200	3805.3	Pass
Overall Test Results				Pass


Laboratory Technician

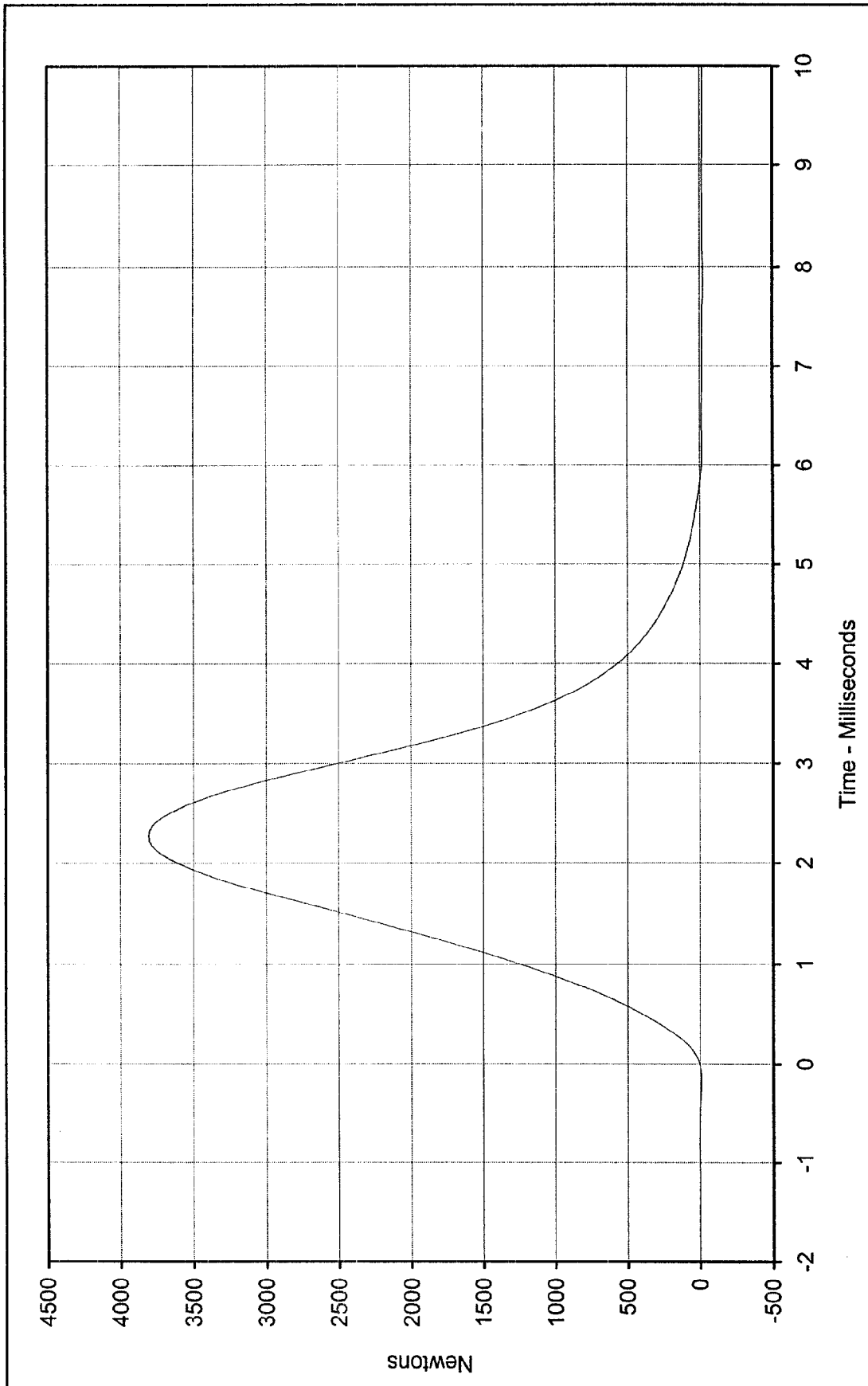
August 9, 1998

Test Date


Approved By

9/18/98

Date



Testing Program: Hybrid III 5th Female Left Knee Impact
 Test Information: Part S/N: n/a Test I.D.: KL001



Curve Description:	Probe Force
Maximum Value:	3805.3 at 2.3 Milliseconds
Minimum Value:	-24.5 at 7.9 Milliseconds
SAE Filter Class:	600
Date of Test:	8/9/98
ATD Serial No.:	273



Hybrid III Calibration Data Sheet

5TH Percentile Female

Right Knee Impact Test

ATD Serial No.: 273

Part Serial No.: n/a

Test I.D.: KR001

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	44	Pass
Probe Velocity	m/s	2.073 to 2.134	2.111	Pass
Peak Probe Force	Newtons	3400 to 4200	3695.3	Pass
Overall Test Results				Pass

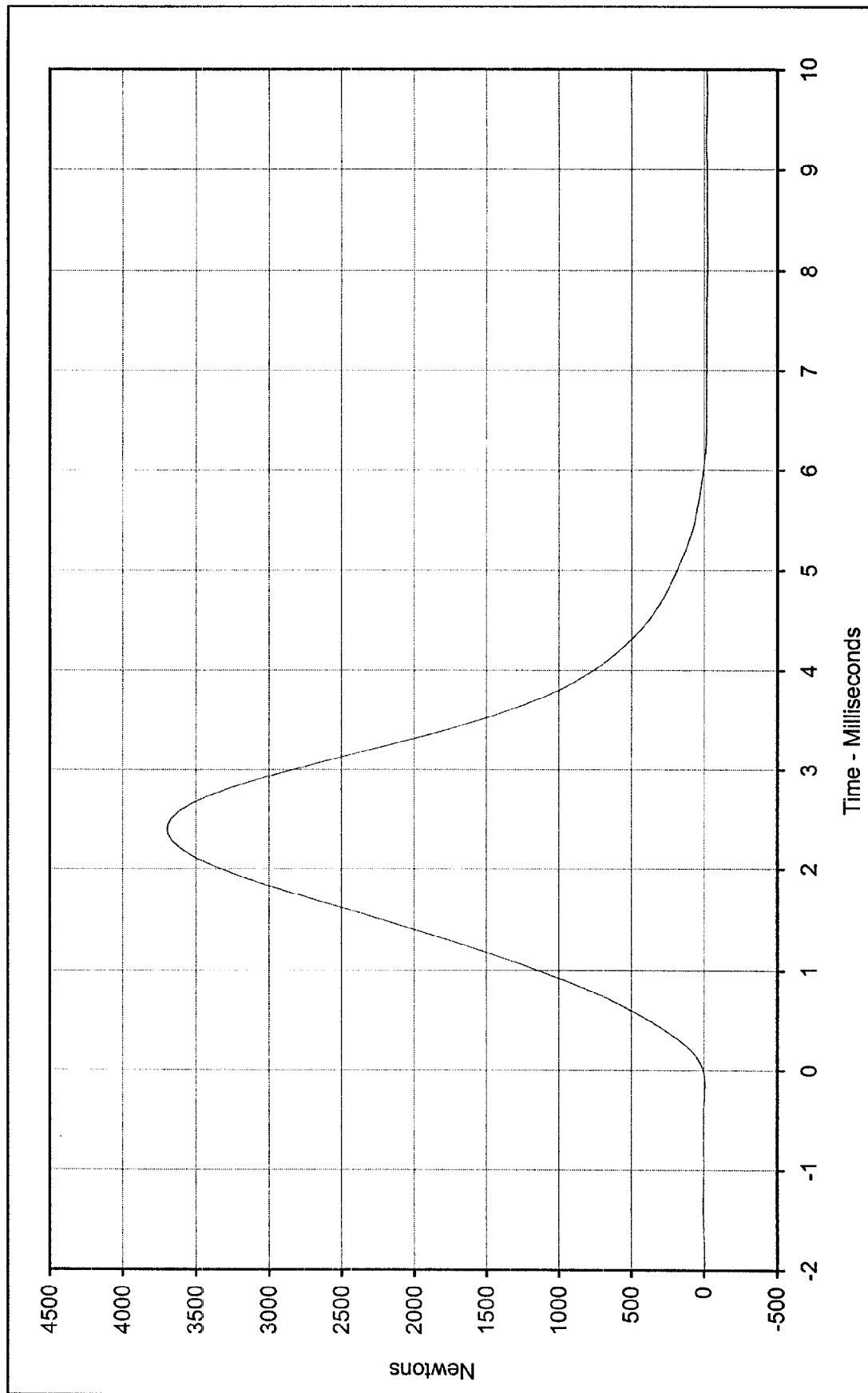
N 2 O P
Laboratory Technician

James E. Keith
Approved By

August 9, 1998

Test Date

9/18/98
Date



Curve Description: Probe Force

Maximum Value: 3695.3 at 2.4 Milliseconds

Minimum Value: -23.0 at 8.0 Milliseconds

SAE Filter Class: 600

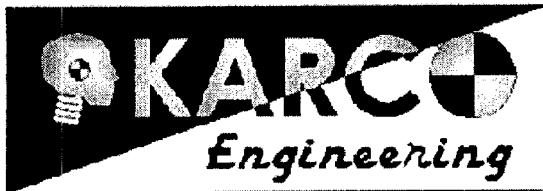
Date of Test: 8/9/98

ATD Serial No.: 273

Testing Program: Hybrid III 5th Female Right Knee Impact

Test Information: Part S/N: n/a Test I.D.: KR001





Hybrid III Calibration Data Sheet

5TH Percentile Female

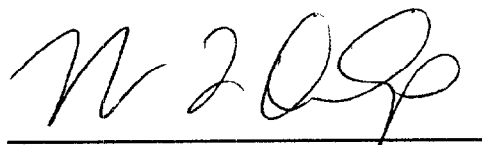
Head Drop Calibration

ATD Serial No.: 273

Part Serial No.: n/a

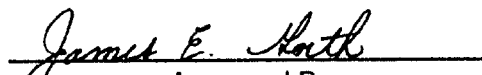
Test I.D.: FH500

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Peak Resultant Acceleration	G's	240.0 to 295.0	262.1	Pass
Peak Lateral Acceleration	G's	≤15.0	5.5	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

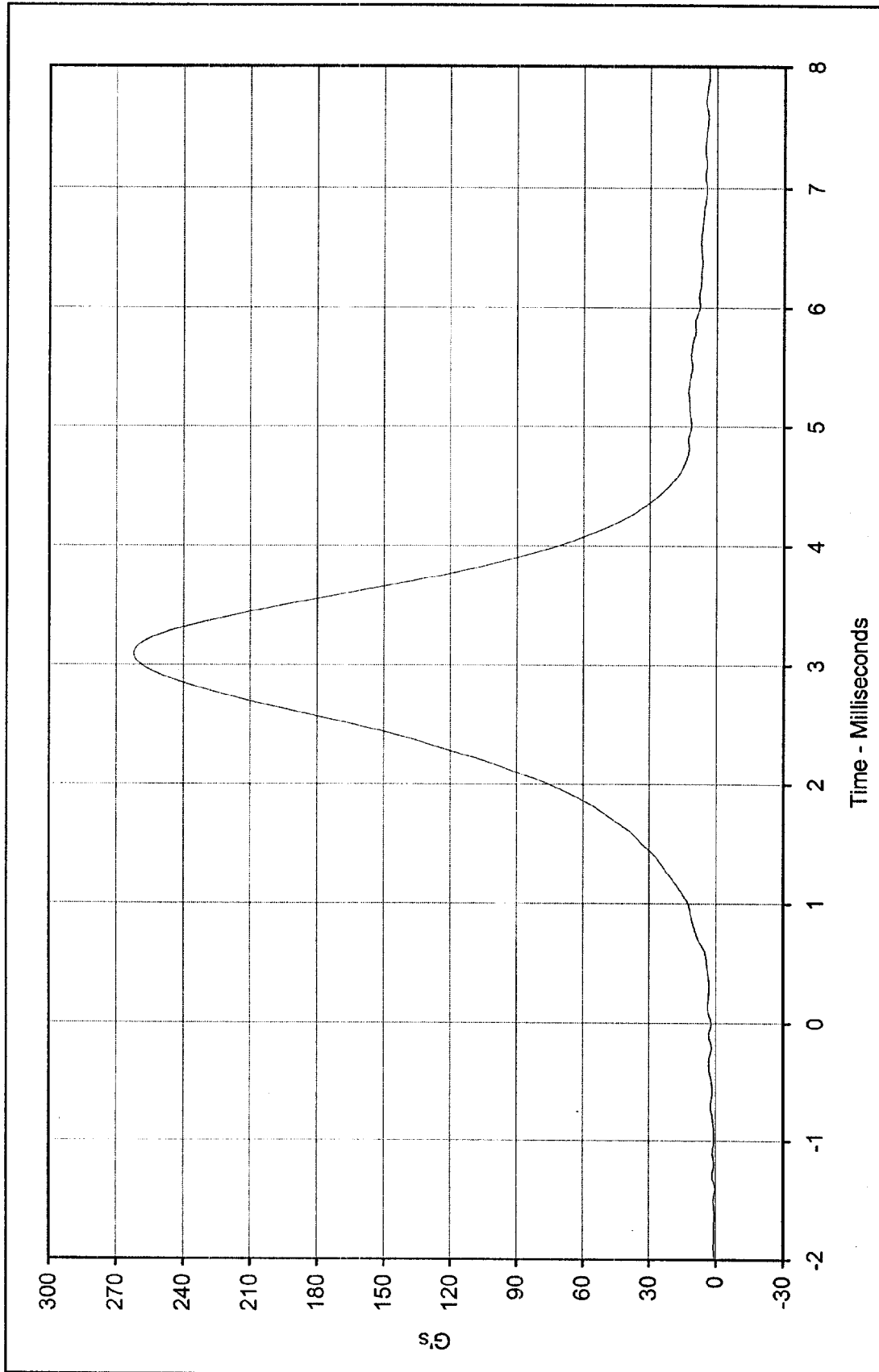
June 17, 1998

Test Date


Approved By

9/18/98

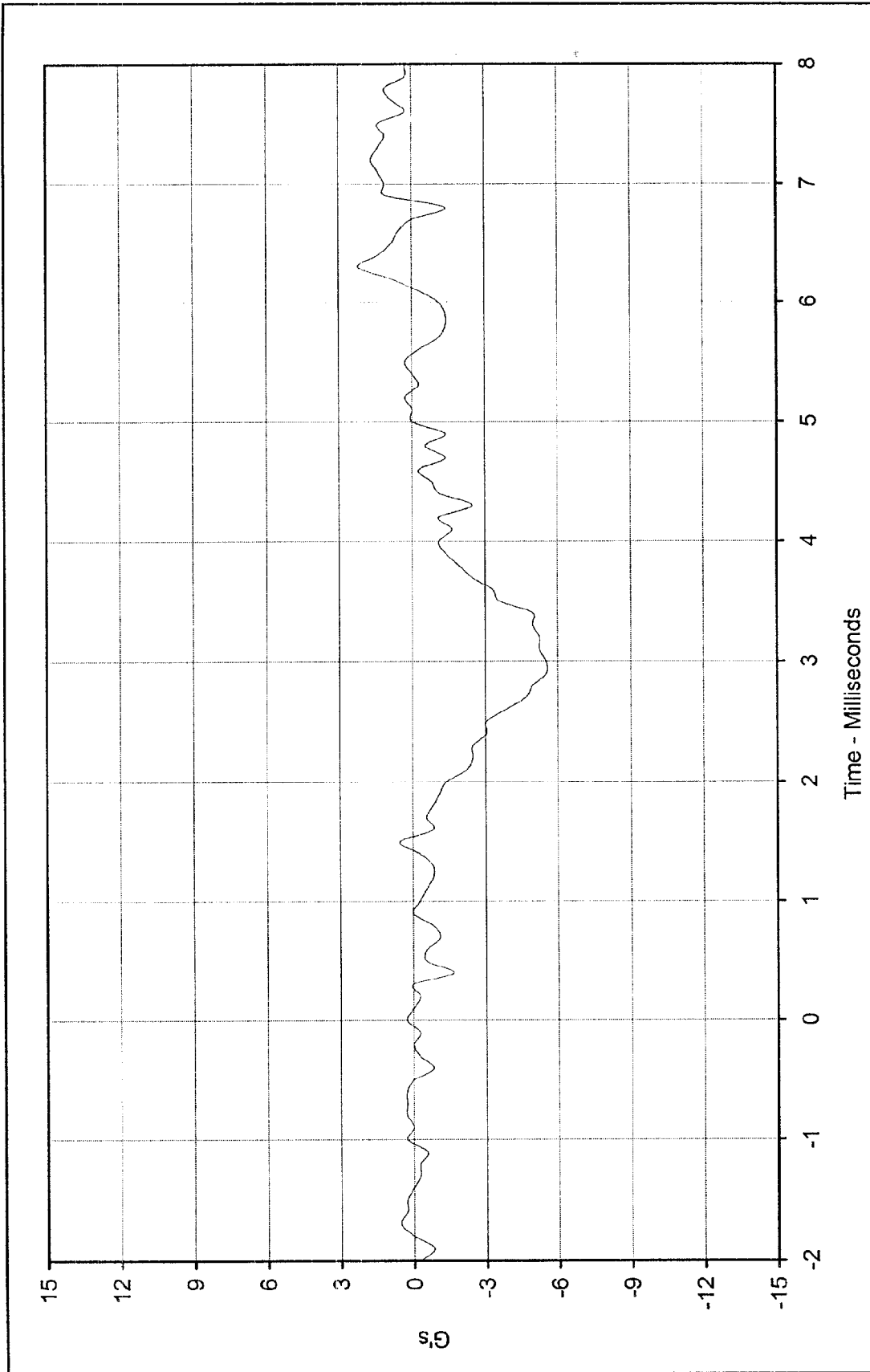
Date



Testing Program Hybrid III Head Drop Calibration (Female)
 Test Information: S/N of Part: n/a Test I.D.: FH500



Curve Description: Head Acceleration Resultant
 Maximum Value: 262.1 at 3.1 Milliseconds
 Minimum Value: 0.4 at -1.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/17/98
 ATD Serial No.: 273



Testing Program Hybrid III Head Drop Calibration (Female)
 Test Information: S/N of Part: n/a Test I.D.: FH500



Curve Description:	Head Acceleration Y Axis			
Maximum Value:	2.2	at	6.3	Milliseconds
Minimum Value:	-5.5	at	2.9	Milliseconds
SAE Filter Class:	1000			
Date of Test:	6/17/98			
ATD Serial No.:	273			



Hybrid III Calibration Data Sheet

5TH Percentile Female

Thorax Impact Test

ATD Serial No.: 273

Part Serial No.: N/A

Test I.D.: 73C01

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	6.58 to 6.82	6.65	Pass
Peak Probe Force	Newtons	3800 to 4300	4052	Pass
Peak Sternum Displacement	mm	51.0 to 58.0	53.3	Pass
Internal Hysteresis	%	69.0 to 85.0	79.3	Pass
Overall Test Results				Pass

N 200P
Laboratory Technician

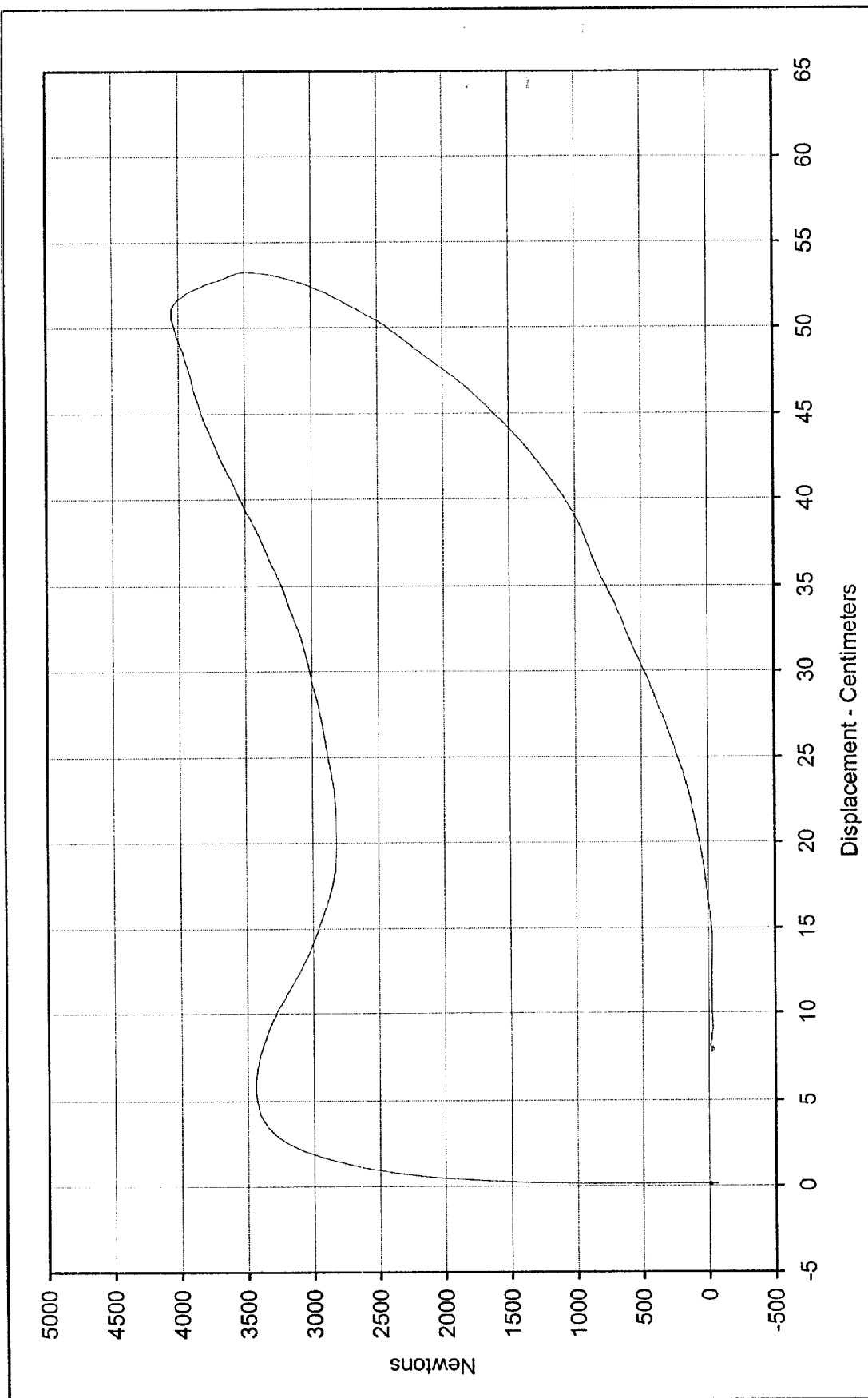
James E. North
Approved By

June 11, 1998

Test Date

9/18/98

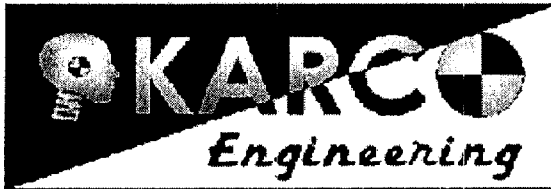
Date



Curve Description:	Probe Force vs. Chest Displacement	Testing Program	Hybrid III Thorax Impact Test (5 TH Female)
Probe Force:	4052.2 Newtons	Test Information:	S/N of Part: N/A Test I.D.: 73C01

Chest Displ.:	53.3 Millimeters
SAE Filter Class:	180
Date of Test:	6/1/98
ATD Serial No.:	273





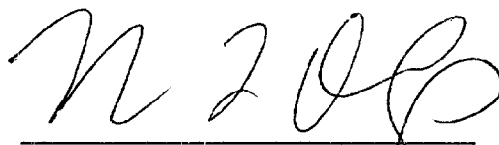
Hybrid III Calibration Data Sheet

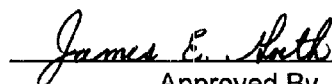
5TH Percentile Female

Neck Flexion Test

ATD Serial No.: 273Part Serial No.: N/ATest I.D.: FNF52

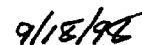
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	31	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.06	Pass
Pendulum Deceleration	10 Msec	m/s	2.10 to 2.50	2.13	Pass
	20 Msec	m/s	4.00 to 5.00	4.26	Pass
	30 Msec	m/s	5.80 to 7.00	6.25	Pass
Maximum "D" Plane Rotation		Degrees	78.0 to 96.0	85.2	Pass
"D" Plane Rotation Decay, Time From Peak Value To Zero Crossing		Msec.	57.0 to 69.0	60.1	Pass
Moment About Occipital Condyle		N • m	69.0 to 84.0	71.2	Pass
Moment About Occipital Condyle Decay, Time From Peak Value To Zero Crossing		Msec.	41.0 to 50.0	49.5	Pass
Time of Peak Rotation With Respect to Peak Moment		Msec.	2.0 to 12.0	8.5	Pass
Overall Test Results				Pass	


Laboratory Technician

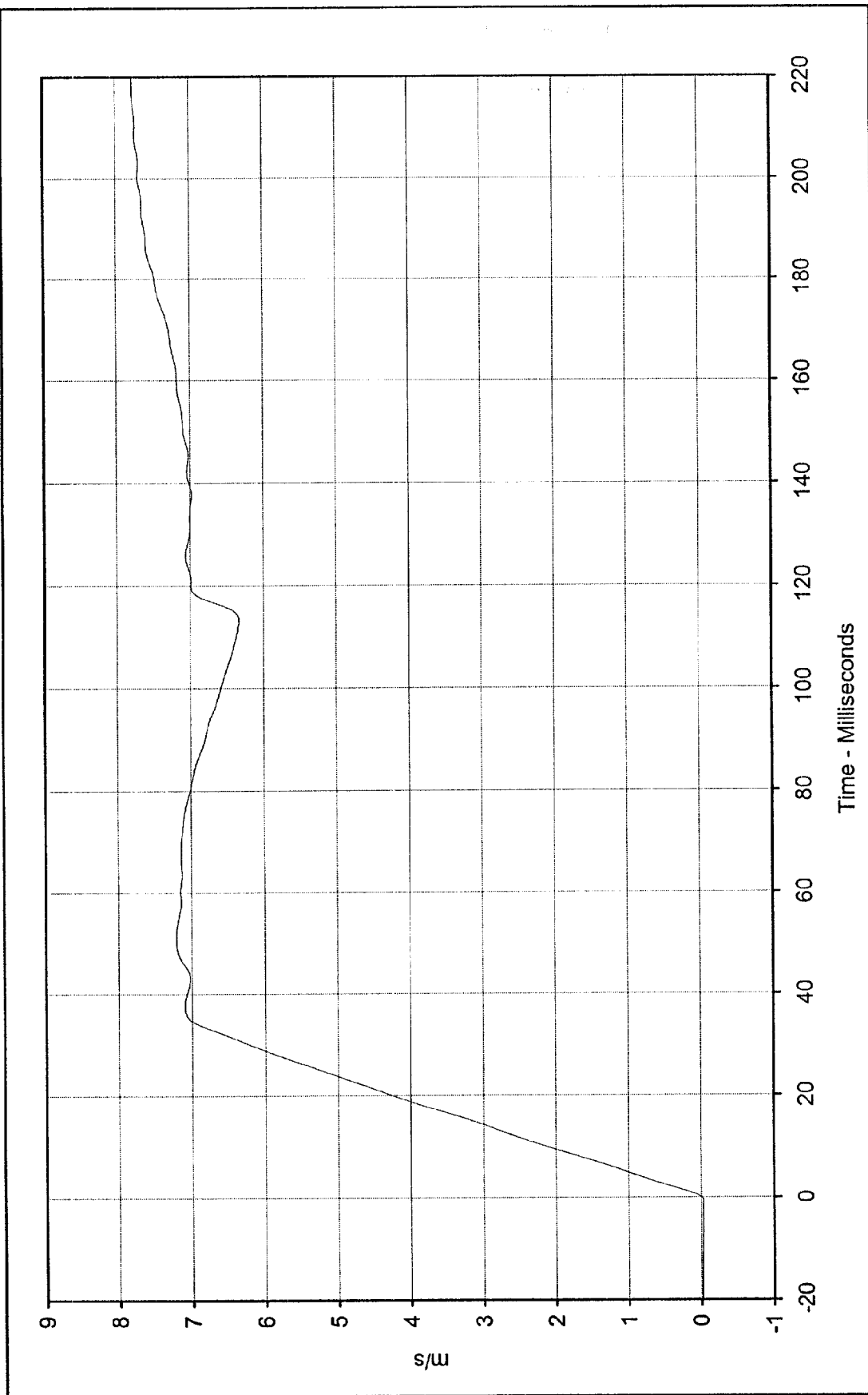

Approved By

June 17, 1998

Test Date



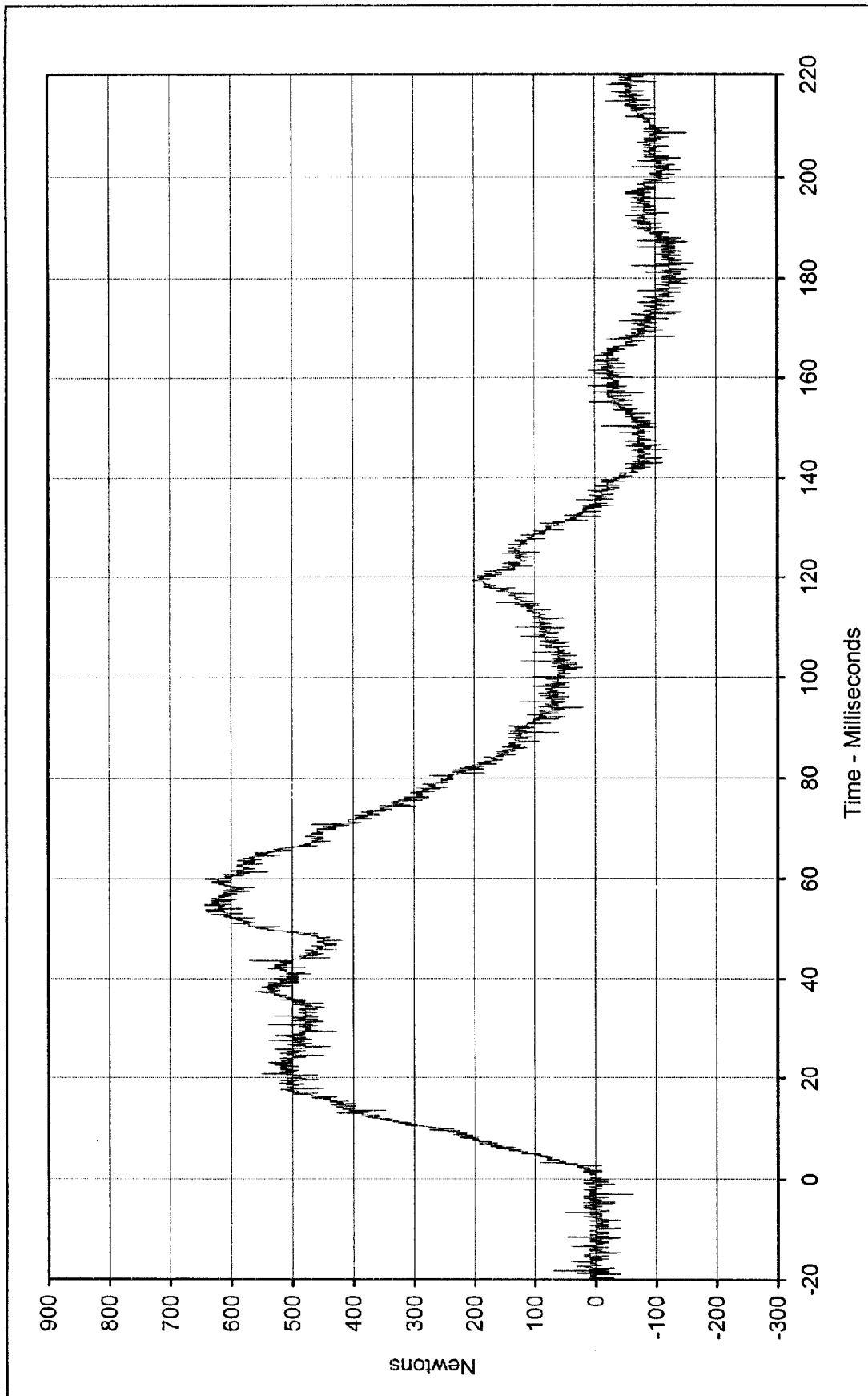
Date



Testing Program Hybrid III Neck Flexion Test (Female)
 Test Information: S/N of Part: N/A Test I.D.: FNF52



Curve Description: Pendulum Velocity
 Maximum Value: 7.8 at 220.0 Milliseconds
 Minimum Value: 0.0 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/17/98
 ATD Serial No.: 273



Curve Description: Neck Force X

Maximum Value: 641.9 at 53.4 Milliseconds

Minimum Value: -163.0 at 182.9 Milliseconds

SAE Filter Class: 1000

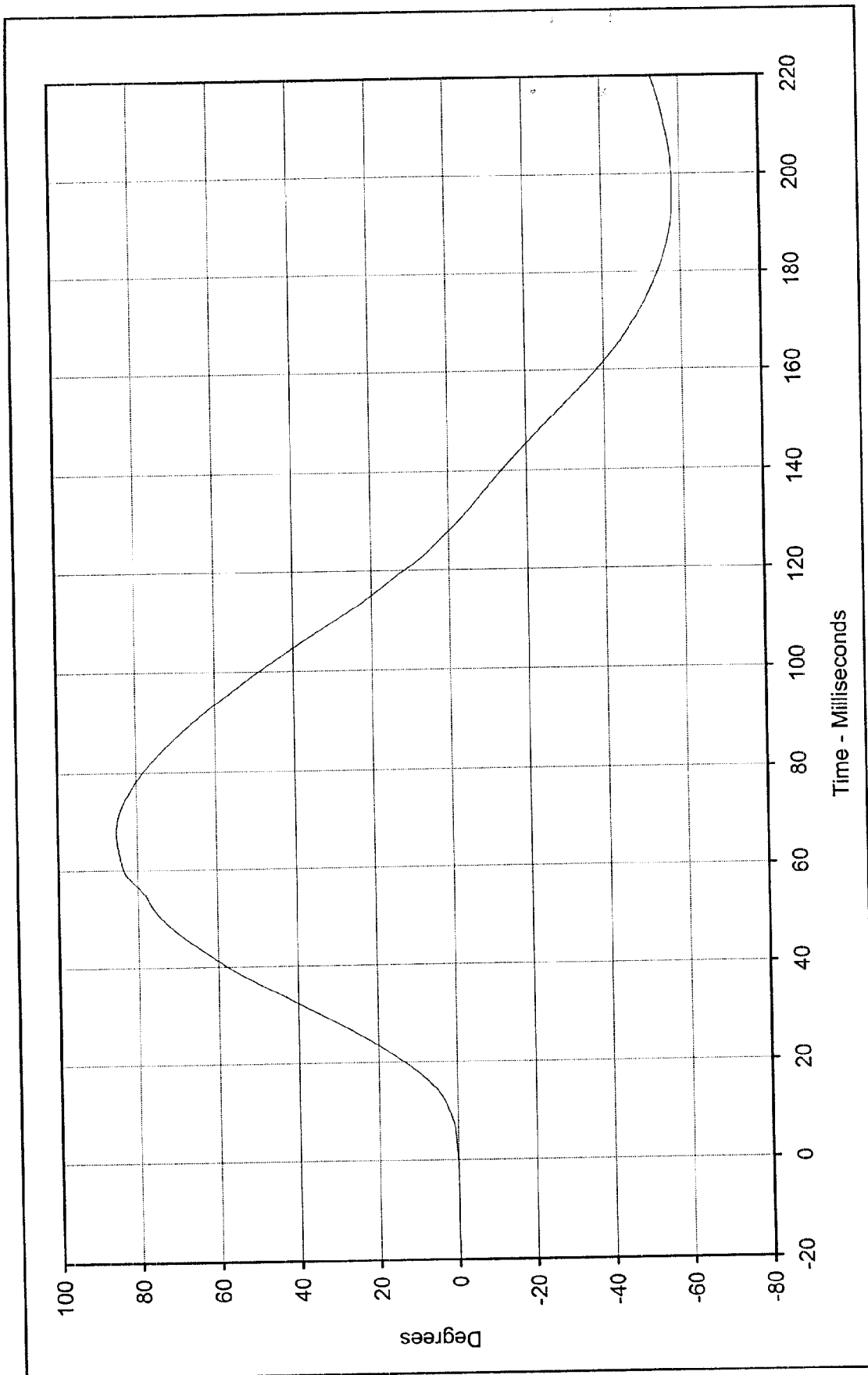
Date of Test: 6/17/98

ATD Serial No.: 273

Testing Program Hybrid III Neck Flexion Test (Female)

Test Information: S/N of Part: N/A Test I.D.: FNF52

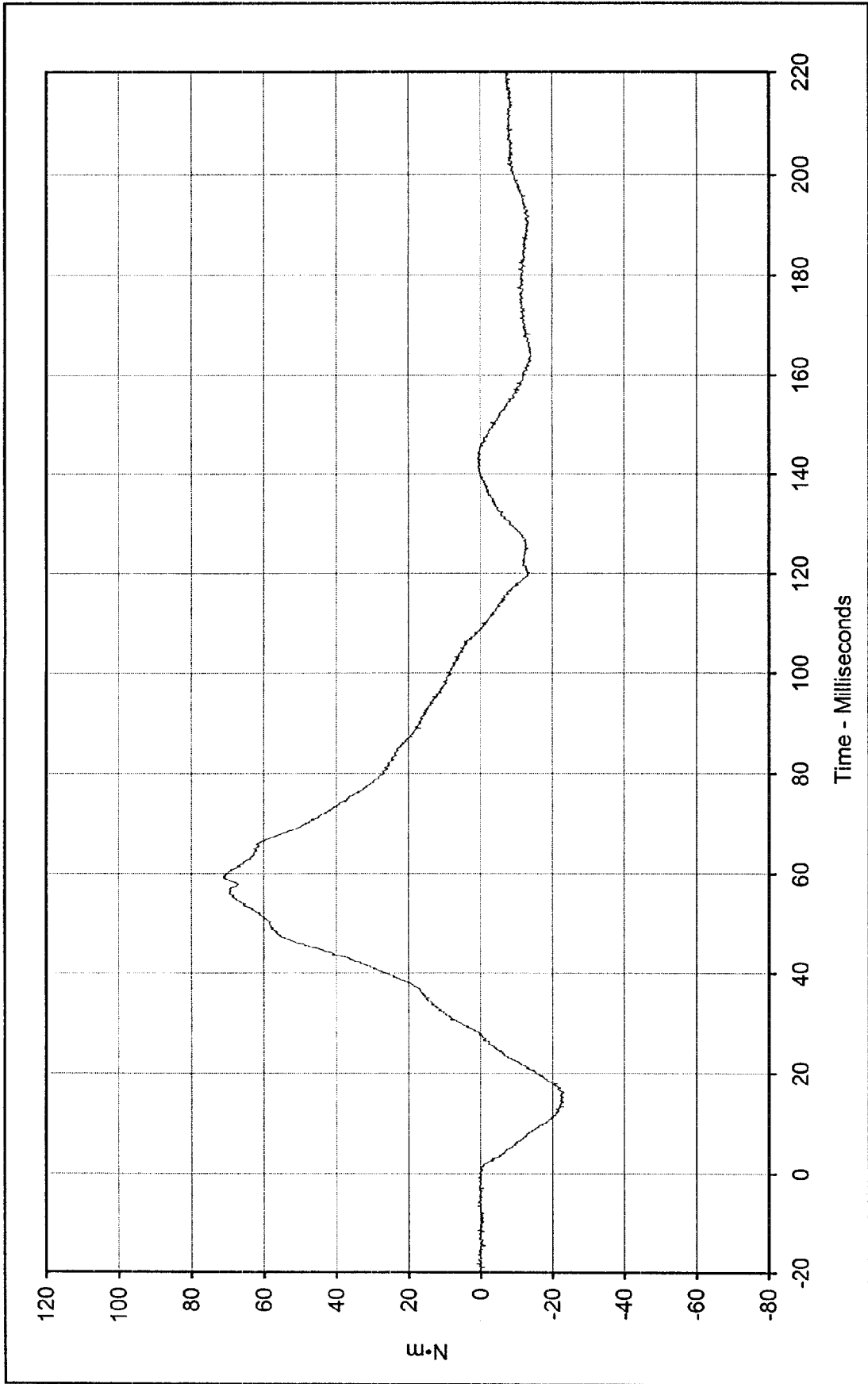




Testing Program: Hybrid III Neck Flexion Test (Female)
 Test Information: S/N of Part: N/A Test I.D.: FNF52



Curve Description: "D" Plane Rotation
 Maximum Value: 85.2 at 67.7 Milliseconds
 Minimum Value: -58.0 at 197.2 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/17/98
 ATD Serial No.: 273



Curve Description:	Moment About Occipital Condyles		Testing Program	Hybrid III Neck Flexion Test (Female)	
Maximum Value:	71.2	at 59.2	Test Information:	S/N of Part:	N/A
Minimum Value:	-23.1	at 16.1		Test I.D.:	FNF52
SAE Filter Class:	600				
Date of Test:	6/17/98				
ATD Serial No.:	273				





Hybrid III Calibration Data Sheet

5TH Percentile Female

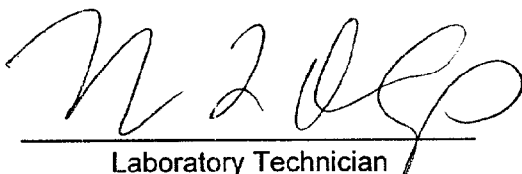
Neck Extension Test

ATD Serial No.: 273

Part Serial No.: N/A

Test I.D.: FNE54

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.09	Pass
Pendulum Deceleration	10 Msec	m/s	1.50 to 1.90	1.81	Pass
	20 Msec	m/s	3.10 to 3.90	3.62	Pass
	30 Msec	m/s	4.60 to 5.60	5.31	Pass
Maximum "D" Plane Rotation		Degrees	97.0 to 119.0	106.8	Pass
"D" Plane Rotation Decay, Angle When the Decaying Y Moment is at -10 N•m		Degrees	80.0 to 96.0	84.5	Pass
Calculated Moment About Occipital Condyle		N•m	-54.0 to -67.0	-66.9	Pass
Moment About Occipital Condyle Decay, Time From Negative Peak Value To -10 N•m		Msec.	28.0 to 38.0	36.3	Pass
Overall Test Results					Pass


Laboratory Technician

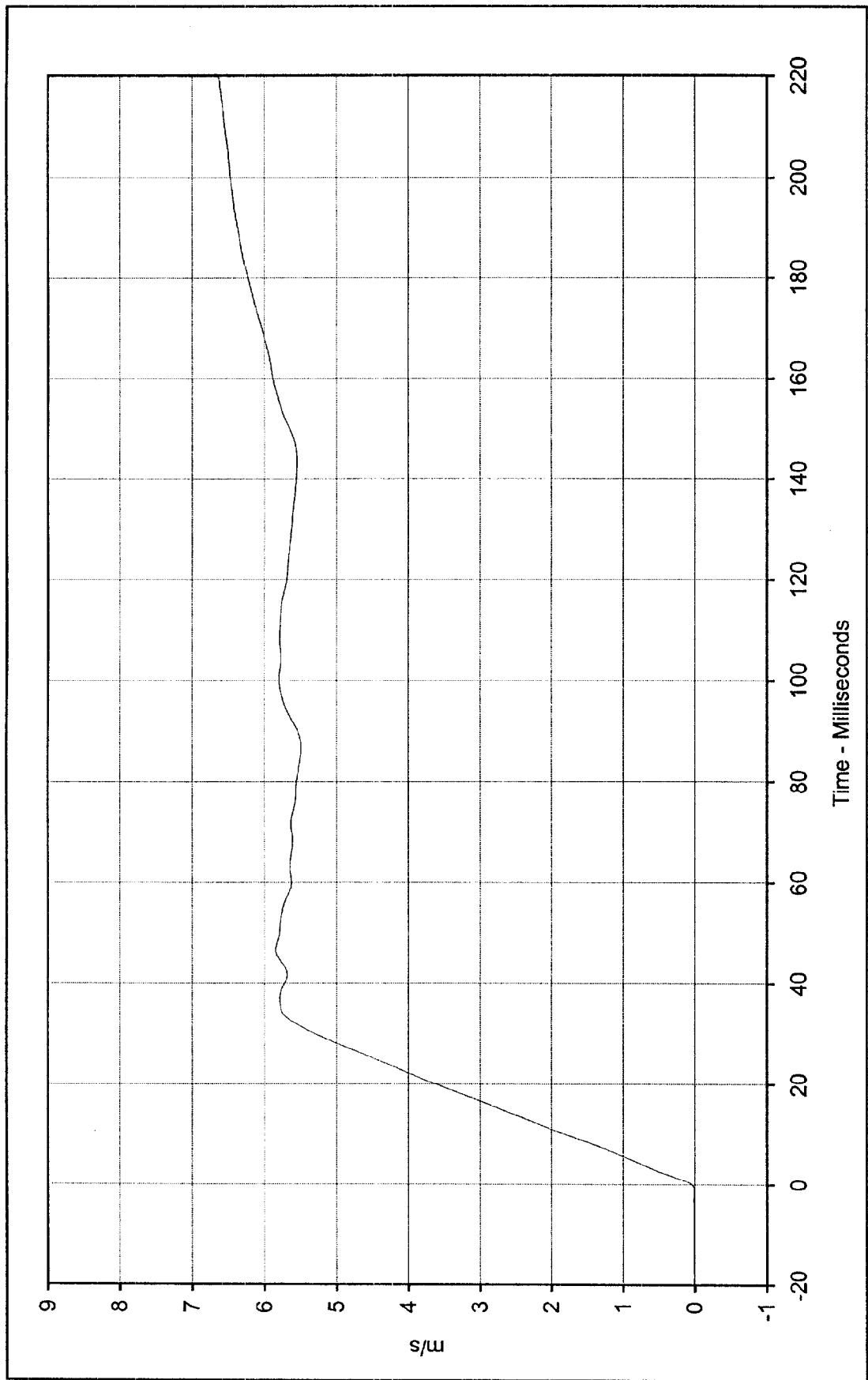

Approved By

June 17, 1998

Test Date

9/18/98

Date



Testing Program Hybrid III Neck Extension Test (Female)

Test Information: S/N of Part: N/A Test I.D.: FNE54



Curve Description: Pendulum Velocity

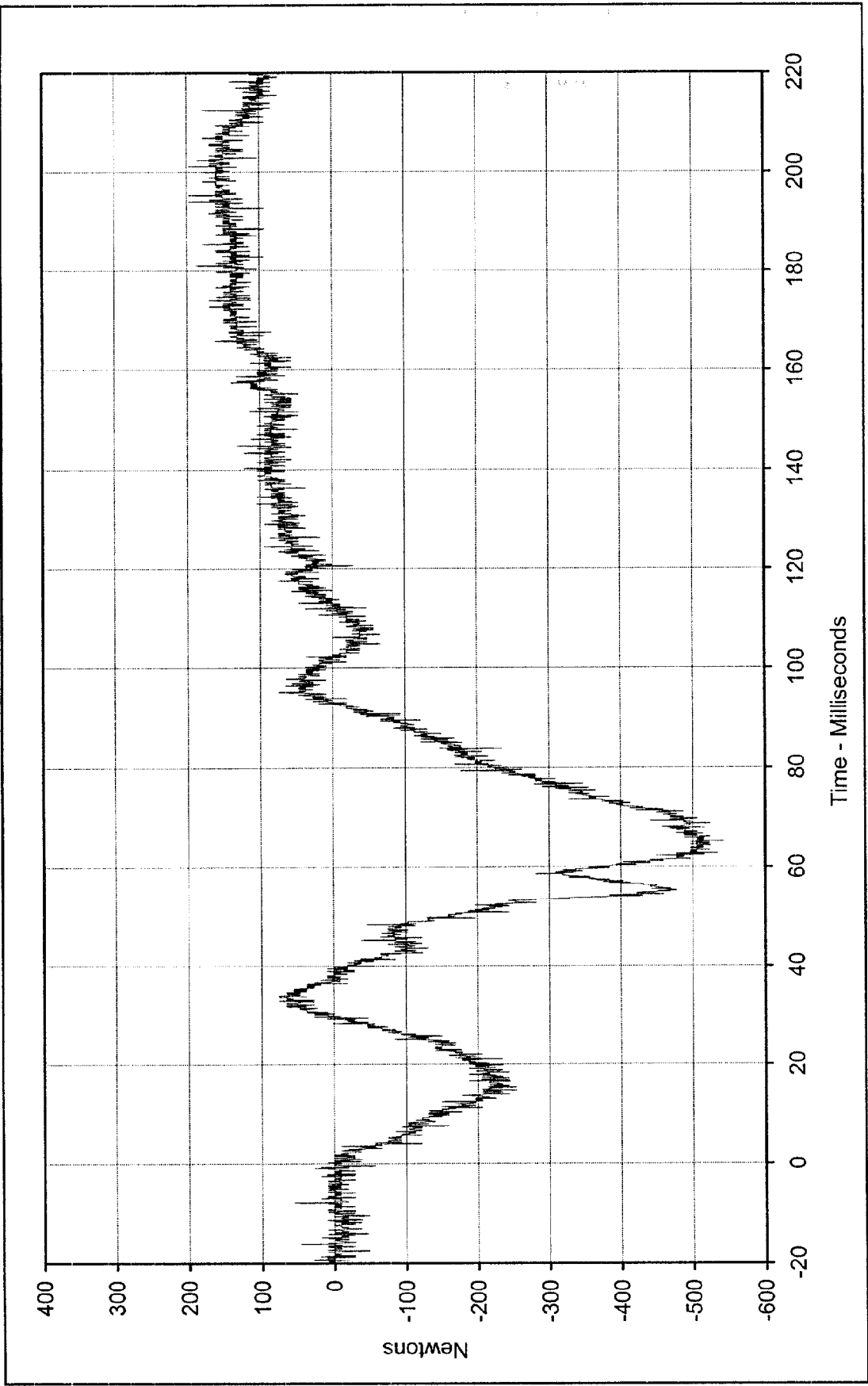
Maximum Value: 6.6 at 220.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/17/98

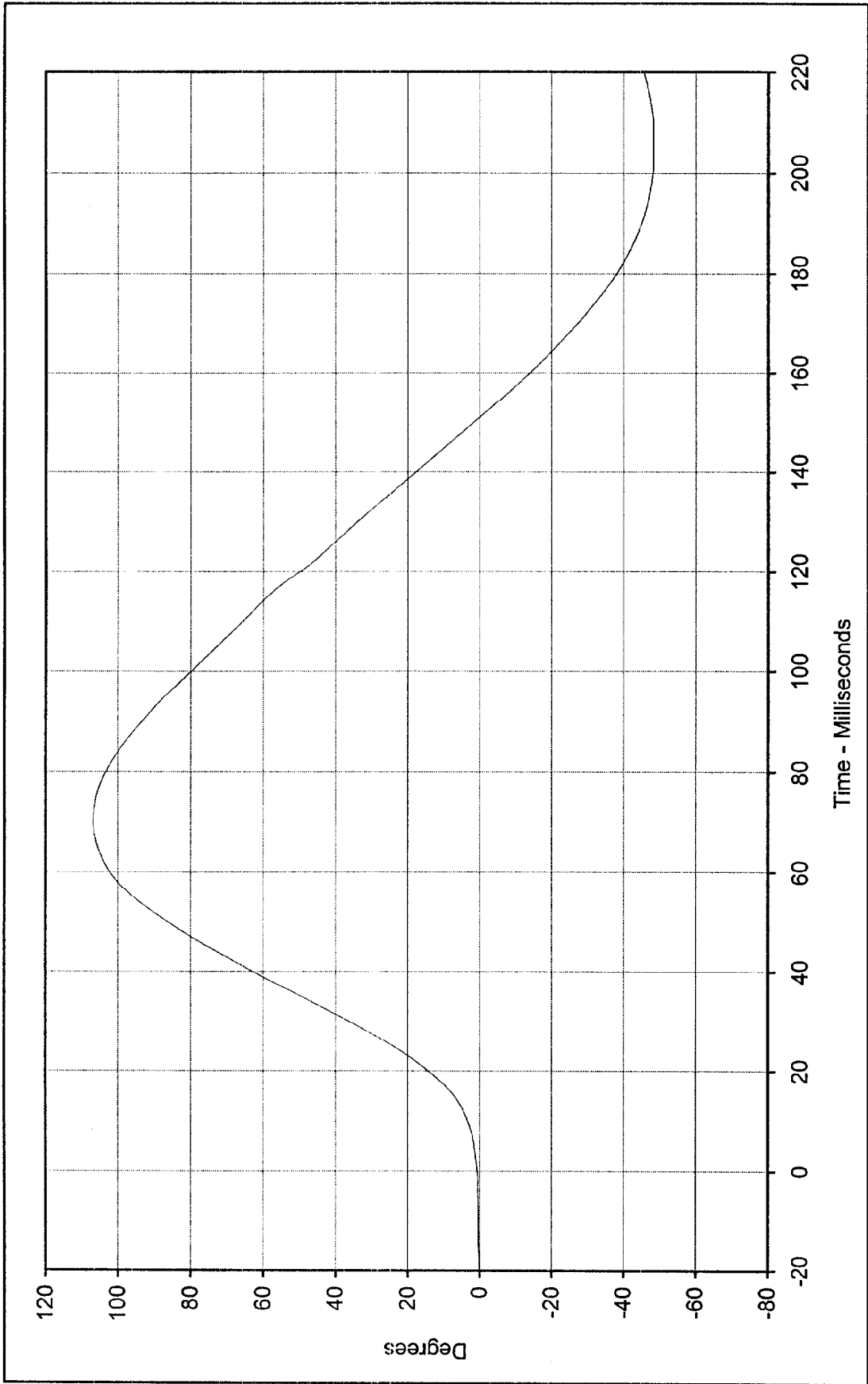
ATD Serial No.: 273



Testing Program Hybrid III Neck Extension Test (Female)
Test Information: S/N of Part: N/A Test I.D.: FNE54

Curve Description:	Neck Force X			
Maximum Value:	196.8	at	194.2	Milliseconds
Minimum Value:	-543.6	at	65.2	Milliseconds
SAE Filter Class:	1000			
Date of Test:	6/17/98			
ATD Serial No.:	273			

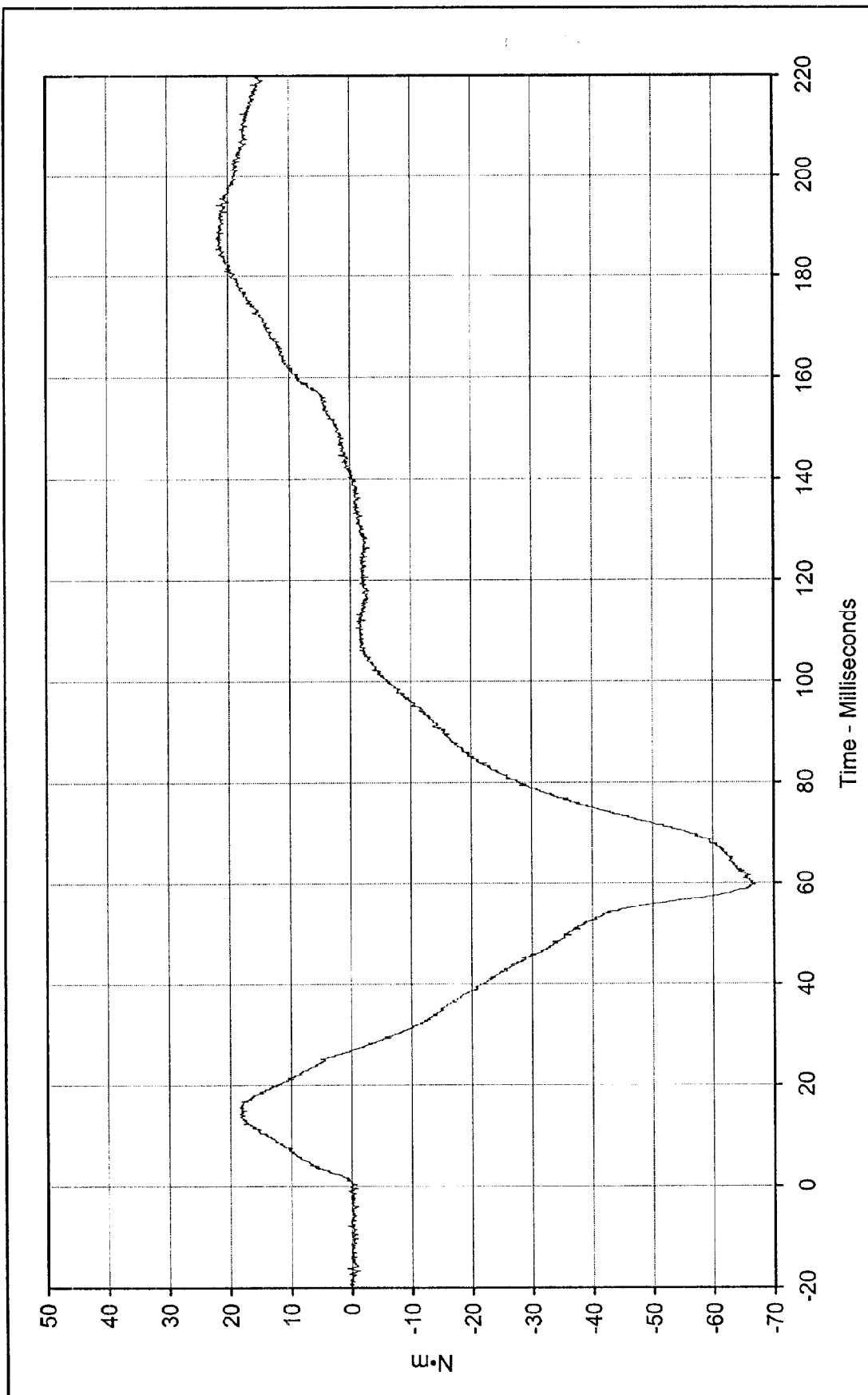




Curve Description: "D" Plane Rotation Testing Program Hybrid III Neck Extension Test (Female)
Maximum Value: 106.8 at 70.1 Milliseconds Test Information: S/N of Part: N/A Test I.D.: FNE54
Minimum Value: -48.3 at 205.1 Milliseconds



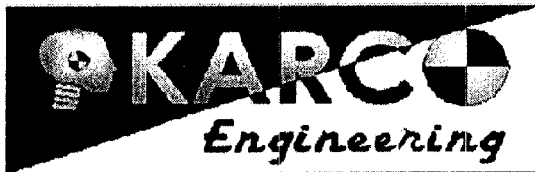
SAE Filter Class: 60
Date of Test: 6/17/98
ATD Serial No.: 273



Curve Description: Moment About Occipital Condyles
 Testing Program: Hybrid III Neck Extension Test (Female)
 Test Information: S/N of Part: N/A Test I.D.: FNE54

Maximum Value: 22.0 at 185.4 Milliseconds
 Minimum Value: -66.9 at 59.8 Milliseconds
 SAE Filter Class: 600
 Date of Test: 6/17/98
 ATD Serial No.: 273





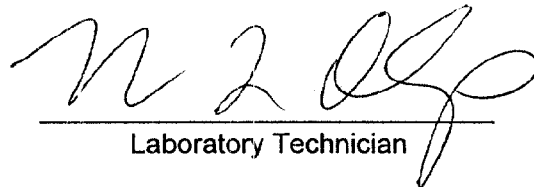
Hybrid III Calibration Data Sheet

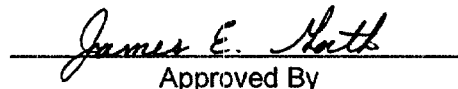
5TH Percentile Female

External Measurements

ATD Serial No.: 273Part Serial No.: N/ATest I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.0	Pass
Laboratory relative humidity	%	10 to 70	43	Pass
A - Total sitting height	mm	785.0 to 795.0	790.0	Pass
B - Shoulder pivot height	mm	434.0 to 450.0	450.0	Pass
C - "H" point height	mm	81.5 to 86.5	84.0	Pass
D - "H" point from seat back	mm	144.5 to 149.5	147.0	Pass
E - Shoulder pivot from back	mm	71.0 to 81.0	80.0	Pass
F - Thigh clearance	mm	114.0 to 130.0	125.0	Pass
G - Elbow to finger tip	mm	393.0 to 409.0	396.0	Pass
H - Skull cap to back line	mm	43.2 to 48.5	48.0	Pass
I - Shoulder to elbow length	mm	287.0 to 303.0	298.0	Pass
J - Elbow rest height	mm	191.0 to 211.0	210.0	Pass
K - Buttock to knee length	mm	509.5 to 533.5	530.0	Pass
L - Popliteal height	mm	349.5 to 373.5	370.0	Pass
M - Knee to floor height	mm	449.0 to 465.0	460.0	Pass
N - Buttock popliteal length	mm	399.5 to 423.5	421.0	Pass
O - Chest depth	mm	183.0 to 200.0	197.0	Pass
P - Foot length	mm	216.0 to 232.0	229.0	Pass
R - Foot width	mm	76.0 to 92.0	89.0	Pass
V - Shoulder width	mm	348.0 to 364.0	360.0	Pass
W - Hip width at "H" point	mm	299.0 to 315.0	300.0	Pass
X - Chest circumference	mm	783.0 to 813.0	790.0	Pass
Y - Waist circumference	mm	757.0 to 787.0	780.0	Pass
AA - Location for chest circumference	mm	300.0 to 310.0	309.0	Pass
BB - Location for waist circumference	mm	160.0 to 170.0	165.0	Pass
Overall Test Results				Pass


Laboratory Technician


Approved By

June 18, 1998

Test Date

9/18/98

Date



Hybrid III Calibration Data Sheet

5TH Percentile Female

Left Knee Impact Test

ATD Serial No.: 274

Part Serial No.: n/a

Test I.D.: KL003

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	44	Pass
Probe Velocity	m/s	2.073 to 2.134	2.127	Pass
Peak Probe Force	Newtons	3400 to 4200	3421.7	Pass
Overall Test Results				Pass

N2 QGP
Laboratory Technician

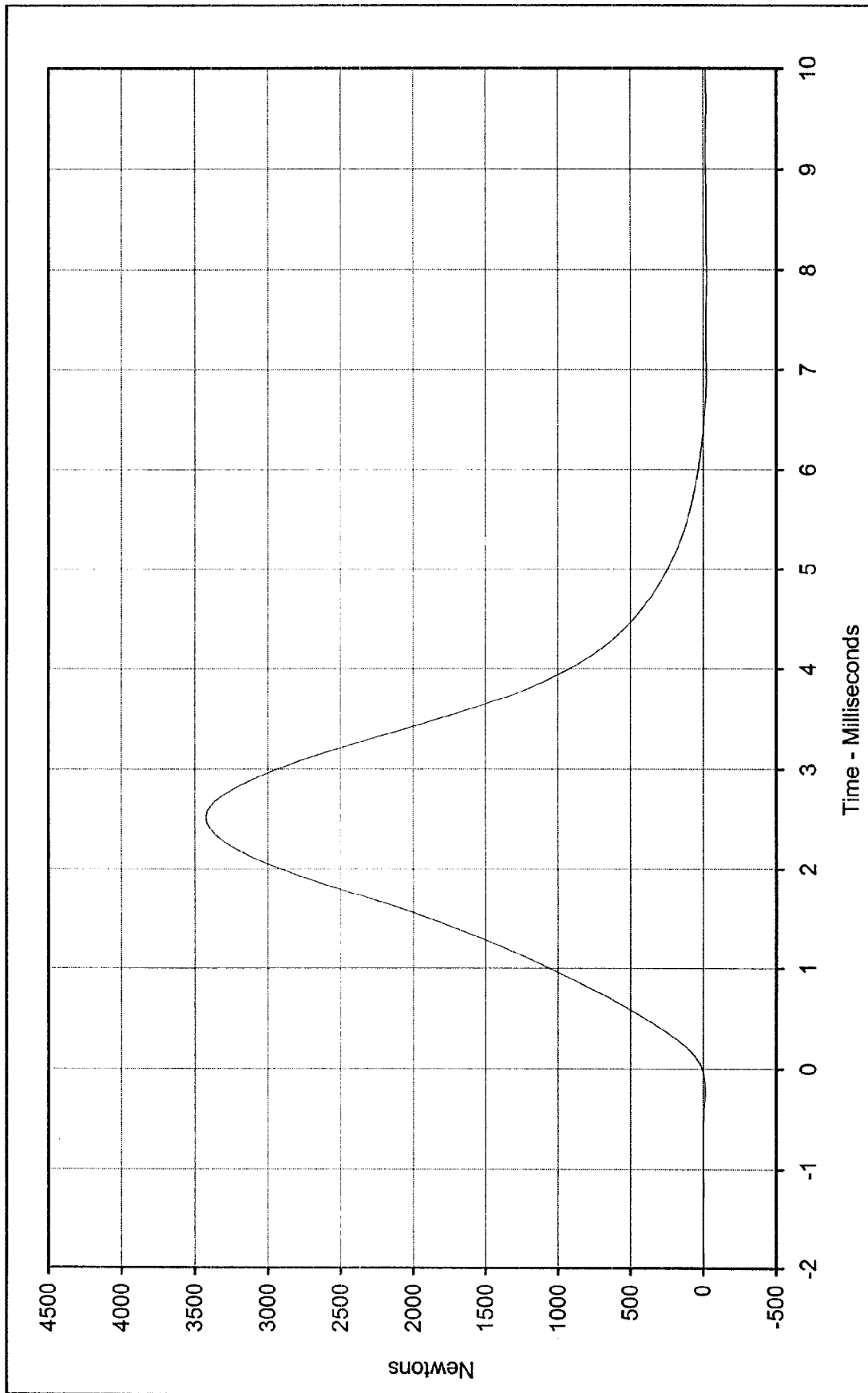
James E. Smith
Approved By

August 9, 1998

Test Date

9/18/98

Date



Testing Program: Hybrid III 5th Female Left Knee Impact
 Test Information: Part S/N: n/a Test I.D.: KL003



Curve Description:		Probe Force	
Maximum Value:	3421.7	at	2.5 Milliseconds
Minimum Value:	-26.7	at	7.9 Milliseconds
SAE Filter Class:	600		
Date of Test:	8/9/98		
ATD Serial No.:	274		



Hybrid III Calibration Data Sheet

5TH Percentile Female

Right Knee Impact Test

ATD Serial No.: 274

Part Serial No.: n/a

Test I.D.: KR003

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	44	Pass
Probe Velocity	m/s	2.073 to 2.134	2.127	Pass
Peak Probe Force	Newtons	3400 to 4200	3414.8	Pass
Overall Test Results				Pass

N202
Laboratory Technician

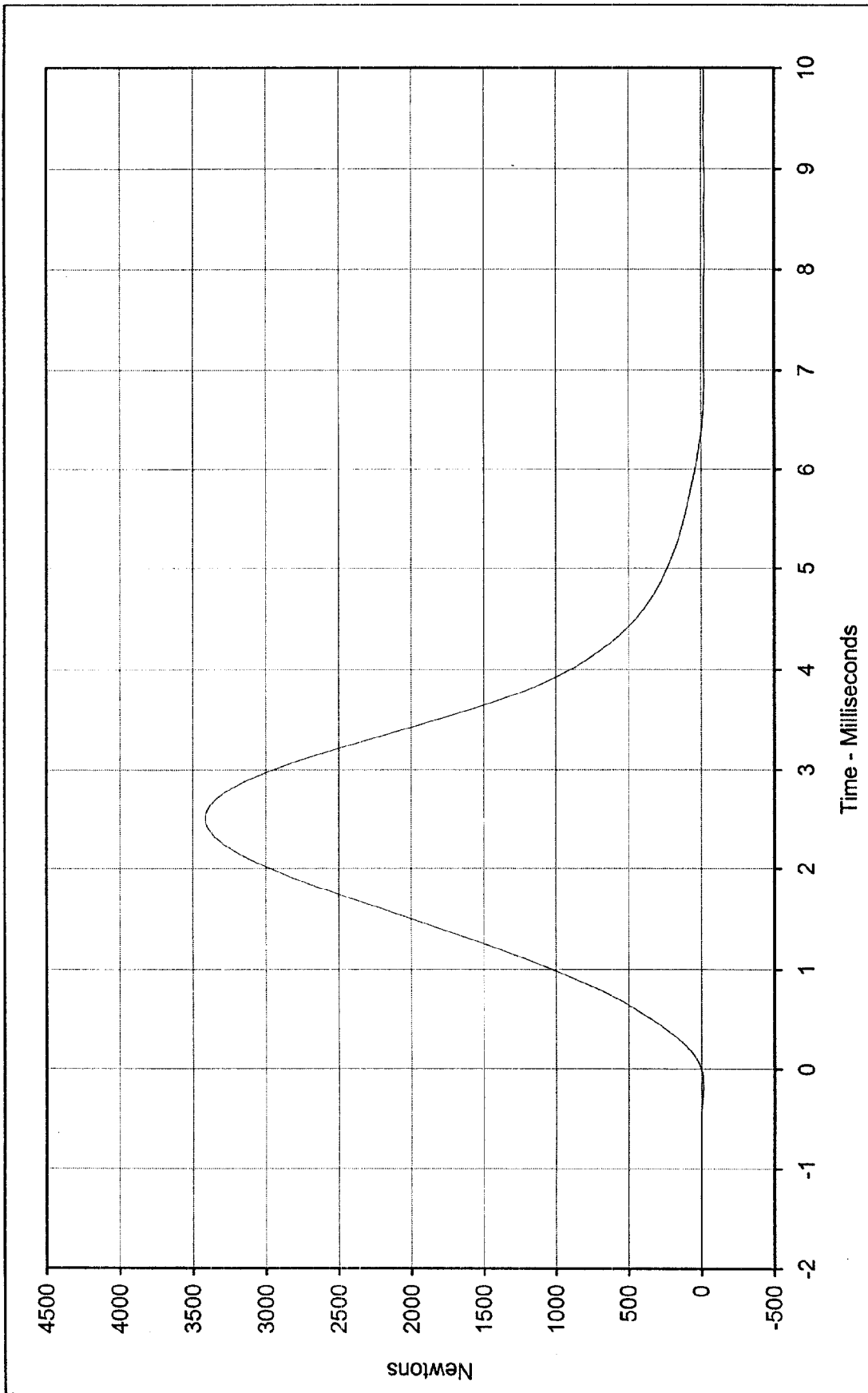
James E. Smith
Approved By

August 9, 1998

Test Date

9/18/98

Date



Testing Program Hybrid III 5th Female Right Knee Impact
 Test Information: Part S/N: n/a Test I.D.: KR003



Curve Description: Probe Force
 Maximum Value: 3414.8 at 2.5 Milliseconds
 Minimum Value: -22.0 at 8.0 Milliseconds
 SAE Filter Class: 600
 Date of Test: 8/9/98
 ATD Serial No.: 274



Hybrid III Calibration Data Sheet

5TH Percentile Female

Head Drop Calibration

ATD Serial No.: 274

Part Serial No.: n/a

Test I.D.: FH501

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Peak Resultant Acceleration	G's	240.0 to 295.0	278.0	Pass
Peak Lateral Acceleration	G's	≤15.0	10.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

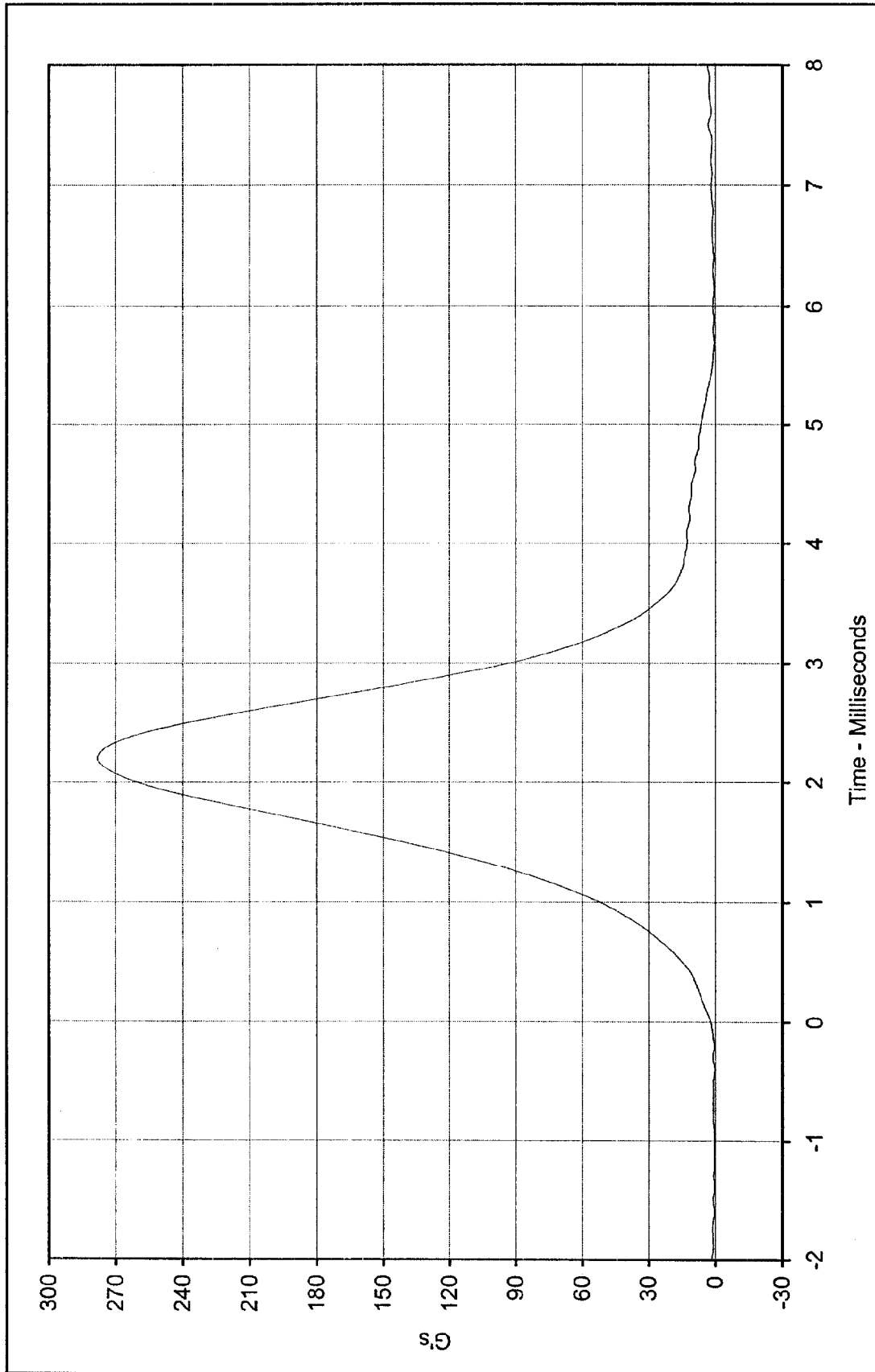
June 17, 1998

Test Date


Approved By

9/12/98

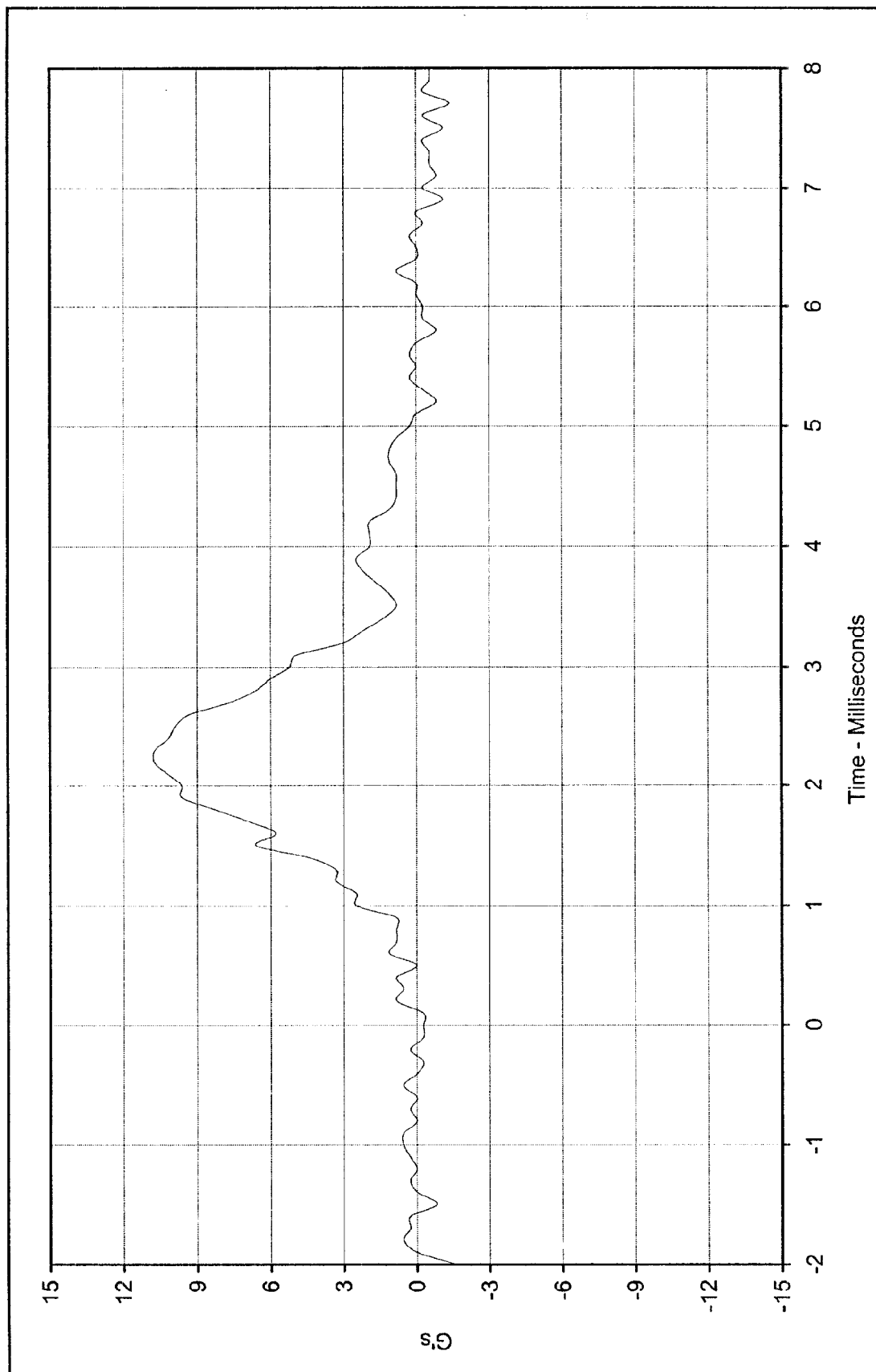
Date



Testing Program Hybrid III Head Drop Calibration (Female)
 Test Information: S/N of Part: n/a Test I.D.: FH501



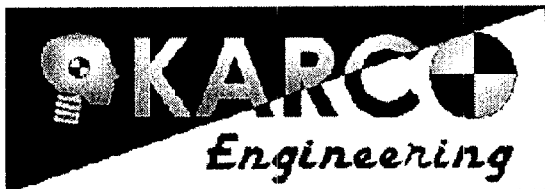
Curve Description: Head Acceleration Resultant
 Maximum Value: 278.0 at 2.2 Milliseconds
 Minimum Value: 0.2 at -0.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/17/98
 ATD Serial No.: 274



Curve Description: Head Acceleration Y Axis
 Testing Program Hybrid III Head Drop Calibration (Female)
 Test Information: S/N of Part: n/a Test I.D.: FH501

Maximum Value: 10.7 at 2.2 Milliseconds
 Minimum Value: -1.7 at -2 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/17/98
 ATD Serial No.: 274





Hybrid III Calibration Data Sheet

5TH Percentile Female

Thorax Impact Test

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: 74C04

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	6.58 to 6.82	6.81	Pass
Peak Probe Force	Newtons	3800 to 4300	3953	Pass
Peak Sternum Displacement	mm	51.0 to 58.0	53.0	Pass
Internal Hysteresis	%	69.0 to 85.0	76.1	Pass
Overall Test Results				Pass


Laboratory Technician

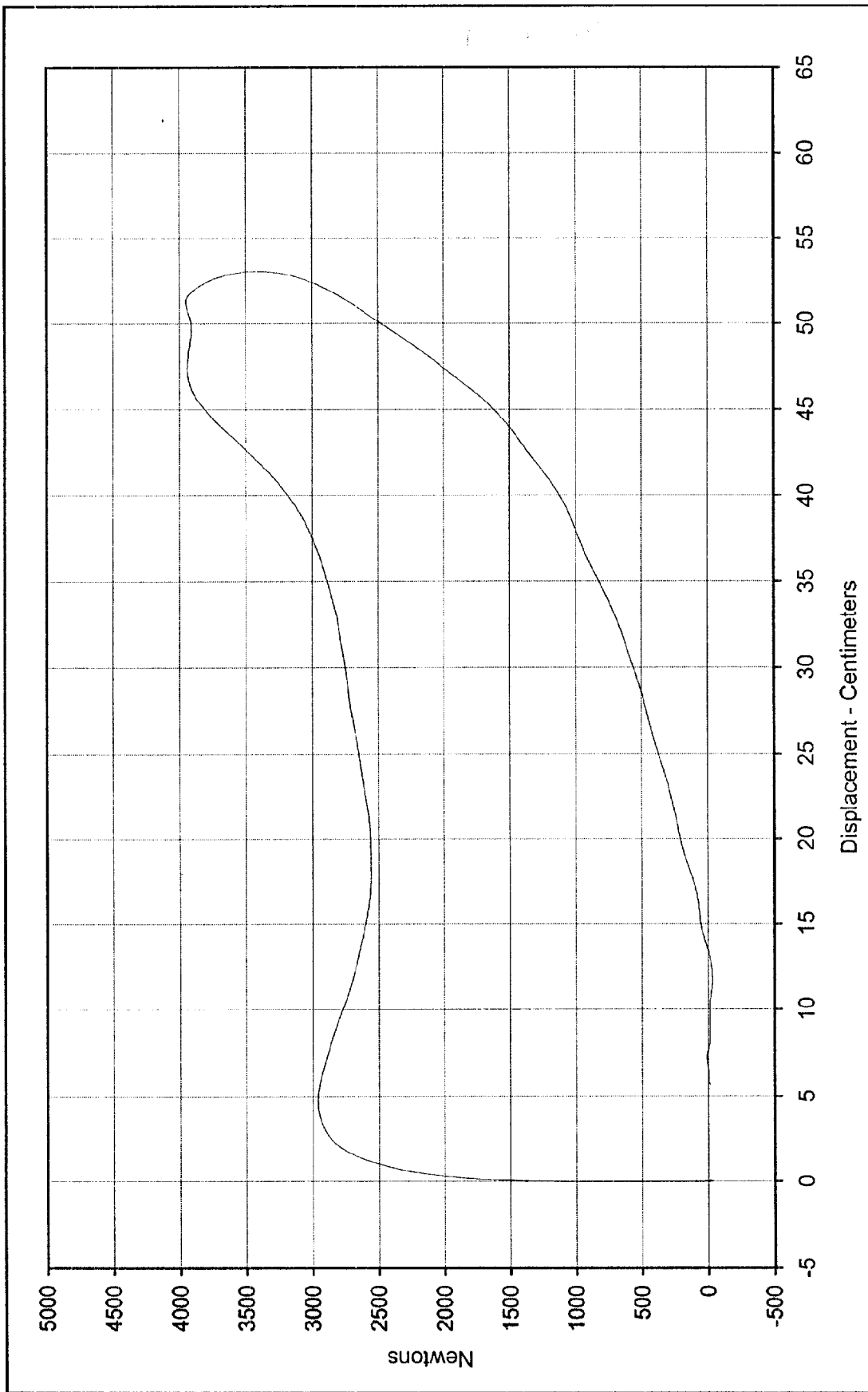
June 15, 1998

Test Date


Approved By

9/18/98

Date



Curve Description: Probe Force vs. Chest Displacement Testing Program Hybrid III Thorax Impact Test (5TH Female)

Probe Force: 3952.9 Newtons Test Information: S/N of Part: N/A Test I.D.: 74C04

Chest Displ.: 53.0 Millimeters

SAE Filter Class: 180

Date of Test: 6/15/98

ATD Serial No.: 274





Hybrid III Calibration Data Sheet

5TH Percentile Female

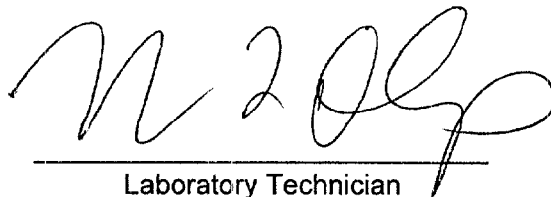
Neck Flexion Test

ATD Serial No.: 274

Part Serial No.: N/A

Test I.D.: FNF51

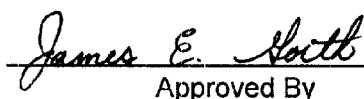
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.7	Pass
Laboratory Relative Humidity		%	10 to 70	31	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.03	Pass
Pendulum Deceleration	10 Msec	m/s	2.10 to 2.50	2.27	Pass
	20 Msec	m/s	4.00 to 5.00	4.27	Pass
	30 Msec	m/s	5.80 to 7.00	6.17	Pass
Maximum "D" Plane Rotation		Degrees	78.0 to 96.0	85.0	Pass
"D" Plane Rotation Decay, Time From Peak Value To Zero Crossing		Msec.	57.0 to 69.0	65.9	Pass
Moment About Occipital Condyle		N • m	69.0 to 84.0	72.0	Pass
Moment About Occipital Condyle Decay, Time From Peak Value To Zero Crossing		Msec.	41.0 to 50.0	50.0	Pass
Time of Peak Rotation With Respect to Peak Moment		Msec.	2.0 to 12.0	4.3	Pass
Overall Test Results					Pass



Laboratory Technician

June 17, 1998

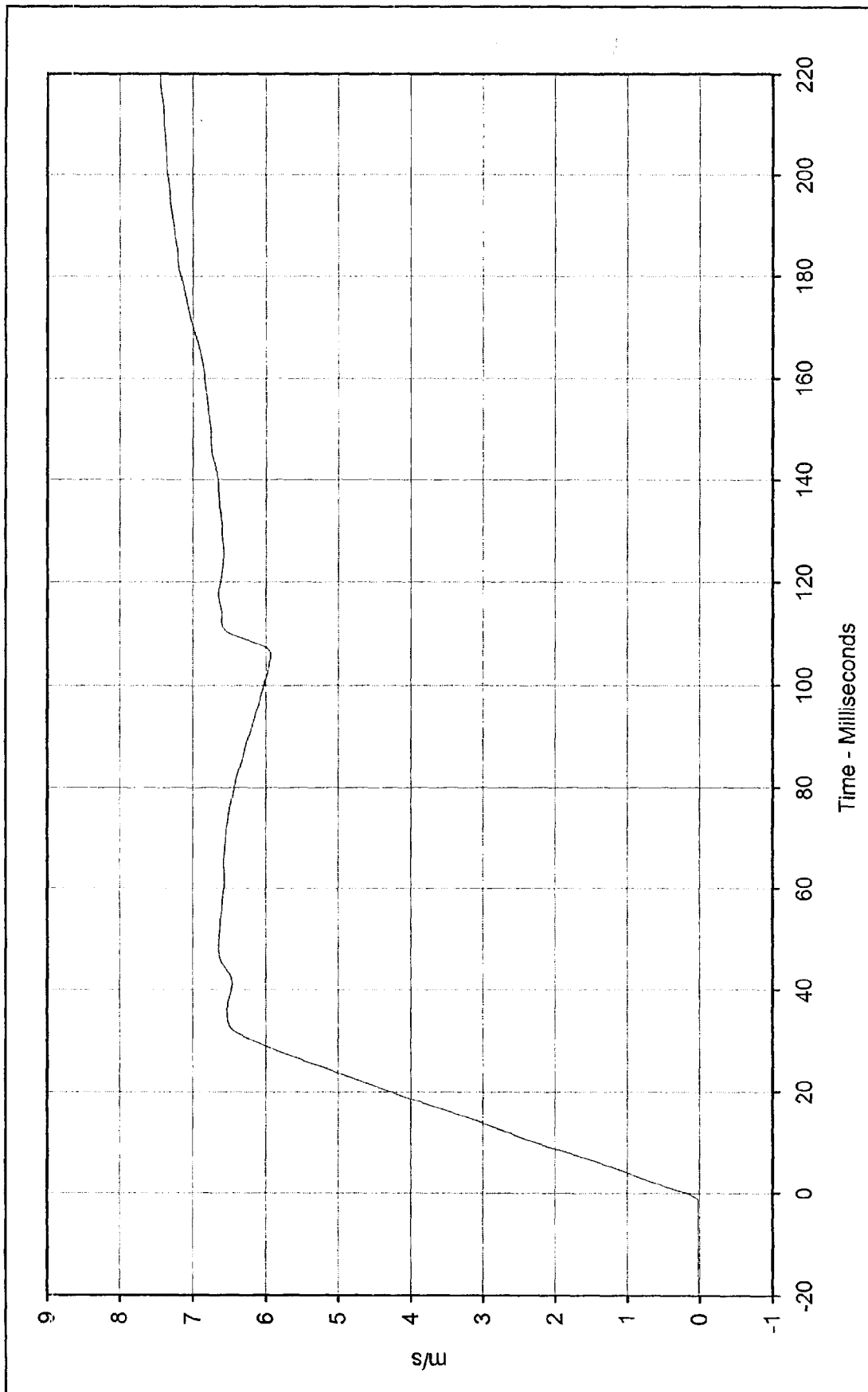
Test Date



Approved By

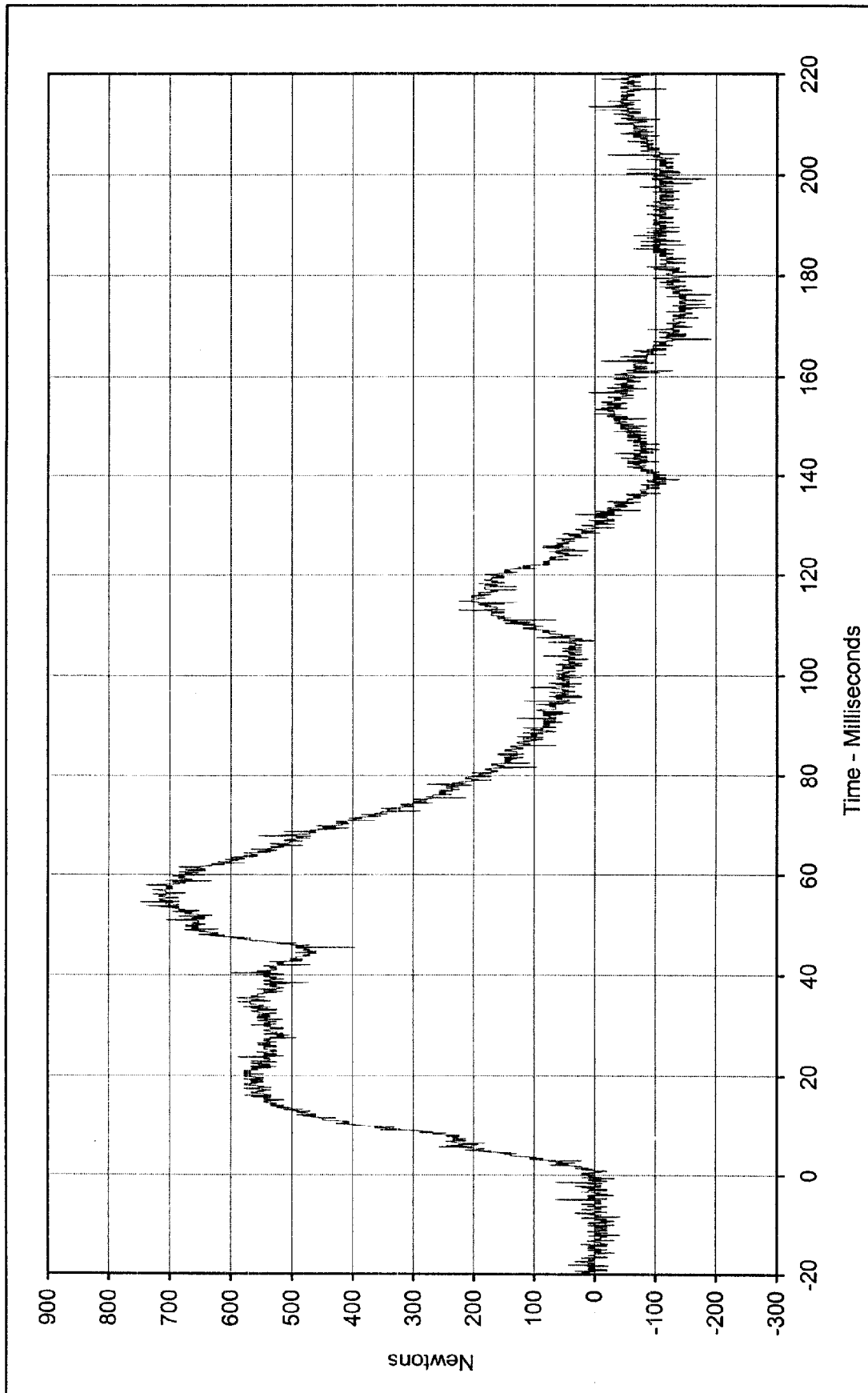
9/18/98

Date



Curve Description: Hybrid III Neck Flexion Test (Female)
 Maximum Value: 7.4 at 220.0 Milliseconds
 Minimum Value: 0.2 at 0.0 Milliseconds
 SAE Filter Class: 180
 Date of Test: 6/17/98
 ATD Serial No.: 274

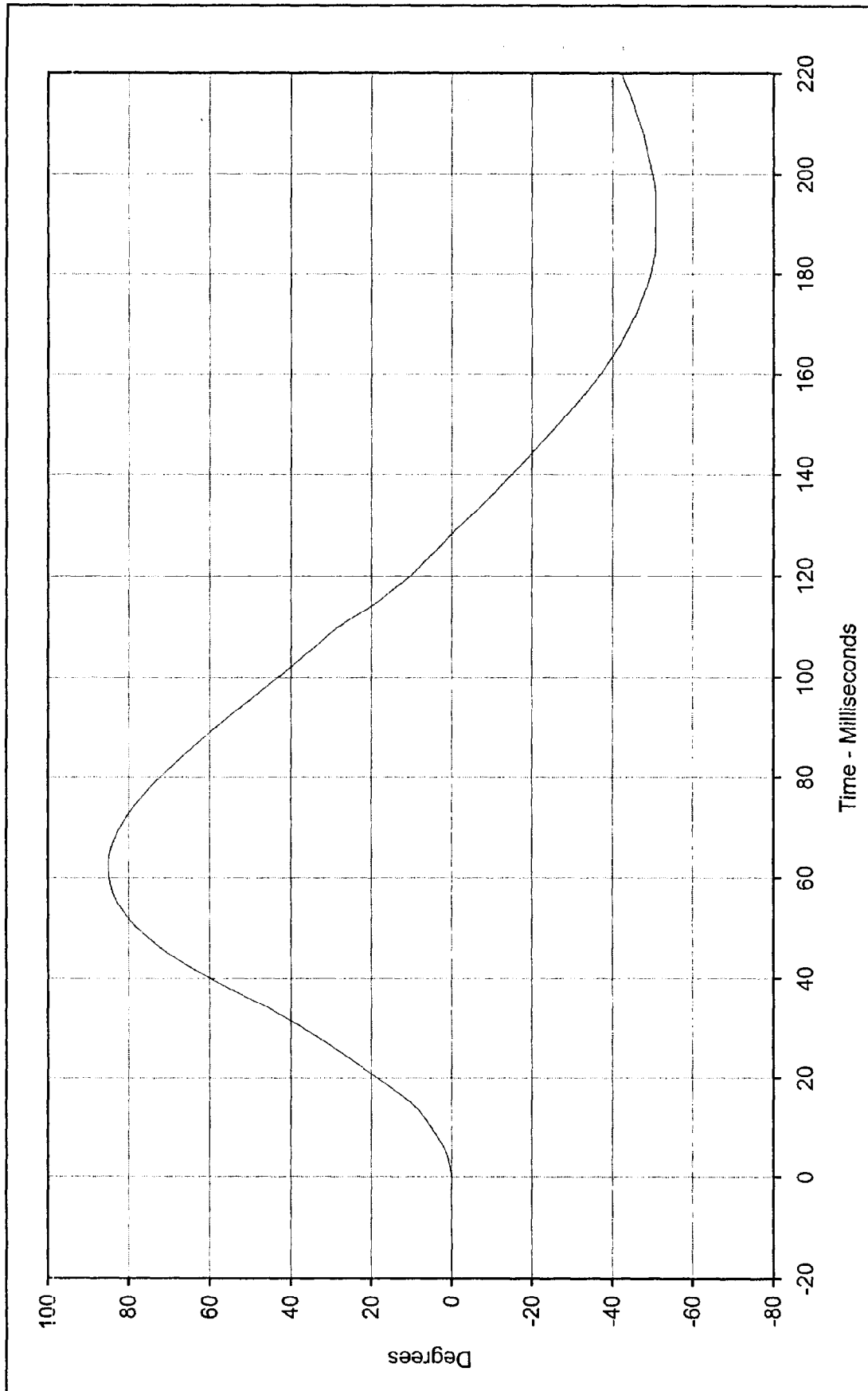




Testing Program: Hybrid III Neck Flexion Test (Female)
 Test Information: S/N of Part: N/A Test I.D.: FNF51



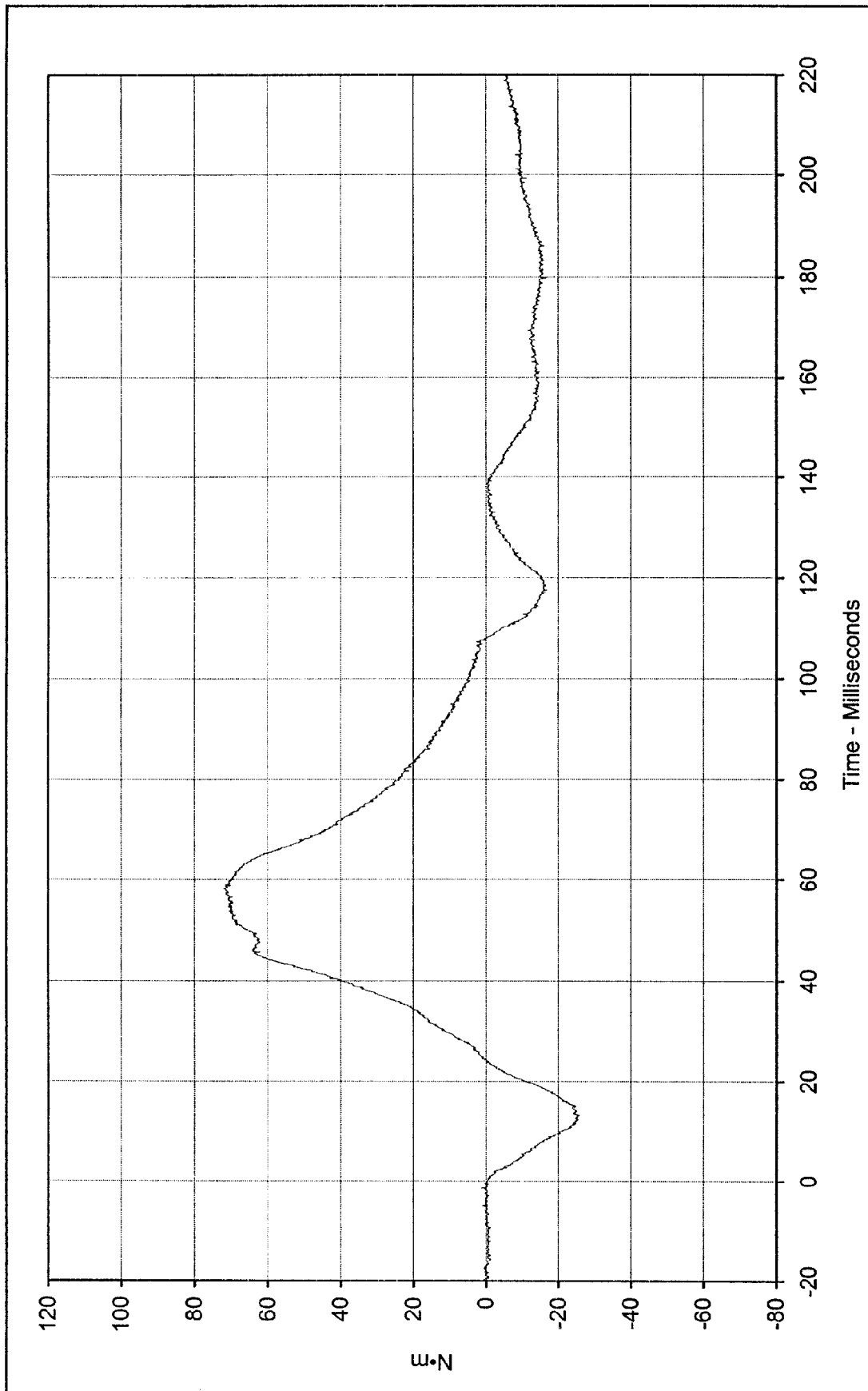
Curve Description:		Neck Force X	
Maximum Value:	748.9	at	54.5 Milliseconds
Minimum Value:	-192.6	at	167.4 Milliseconds
SAE Filter Class:	1000		
Date of Test:	6/17/98		
ATD Serial No.:	274		



Curve Description: "D" Plane Rotation
 Testing Program: Hybrid III Neck Flexion Test (Female)
 Test Information: S/N of Part: N/A Test I.D.: FNF51

Maximum Value: 85.0 at 62.3 Milliseconds
 Minimum Value: -50.8 at 190.6 Milliseconds
 SAE Filter Class: 60
 Date of Test: 6/17/98
 ATD Serial No.: 274





E-34

Curve Description: Moment About Occipital Condyles Testing Program Hybrid III Neck Flexion Test (Female)

Maximum Value: 72.0 at 58.0 Milliseconds Test Information: S/N of Part: N/A Test I.D.: FNF51

Minimum Value: -25.7 at 13.2 Milliseconds

SAE Filter Class: 600

Date of Test: 6/17/98

ATD Serial No.: 274



KAR98002-06



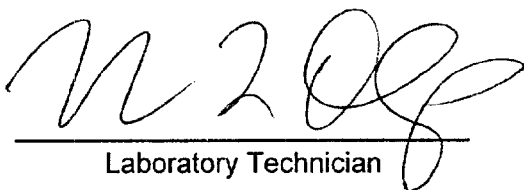
Hybrid III Calibration Data Sheet

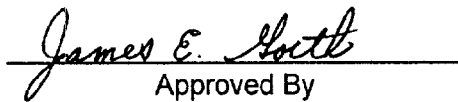
5TH Percentile Female

Neck Extension Test

ATD Serial No.: 274Part Serial No.: N/ATest I.D.: FNE52

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	40	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.15	Pass
Pendulum Deceleration	10 Msec	m/s	1.50 to 1.90	1.61	Pass
	20 Msec	m/s	3.10 to 3.90	3.36	Pass
	30 Msec	m/s	4.60 to 5.60	5.05	Pass
Maximum "D" Plane Rotation		Degrees	97.0 to 119.0	99.9	Pass
"D" Plane Rotation Decay, Angle When the Decaying Y Moment is at -10 N•m		Degrees	80.0 to 96.0	89.6	Pass
Calculated Moment About Occipital Condyle		N•m	-54.0 to -67.0	-65.8	Pass
Moment About Occipital Condyle Decay, Time From Negative Peak Value To -10 N•m		Msec.	28.0 to 38.0	29.3	Pass
Overall Test Results					Pass


Laboratory Technician

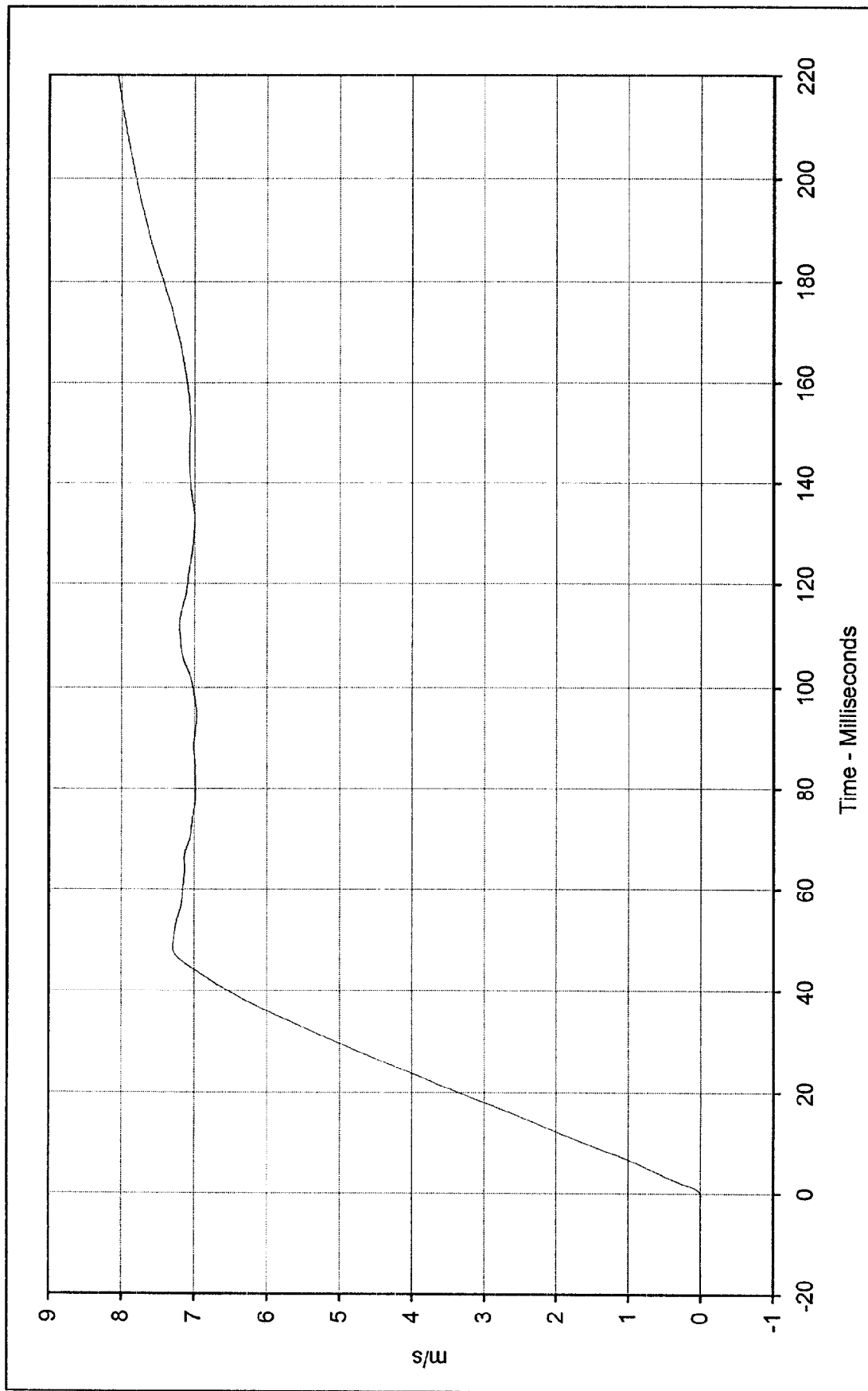

Approved By

June 17, 1998

Test Date

9/18/98

Date



Curve Description: _____ Testing Program Hybrid III Neck Extension Test (Female)

Maximum Value: 8.1 at 220.0 Milliseconds Test Information: S/N of Part: N/A Test I.D.: FNE52

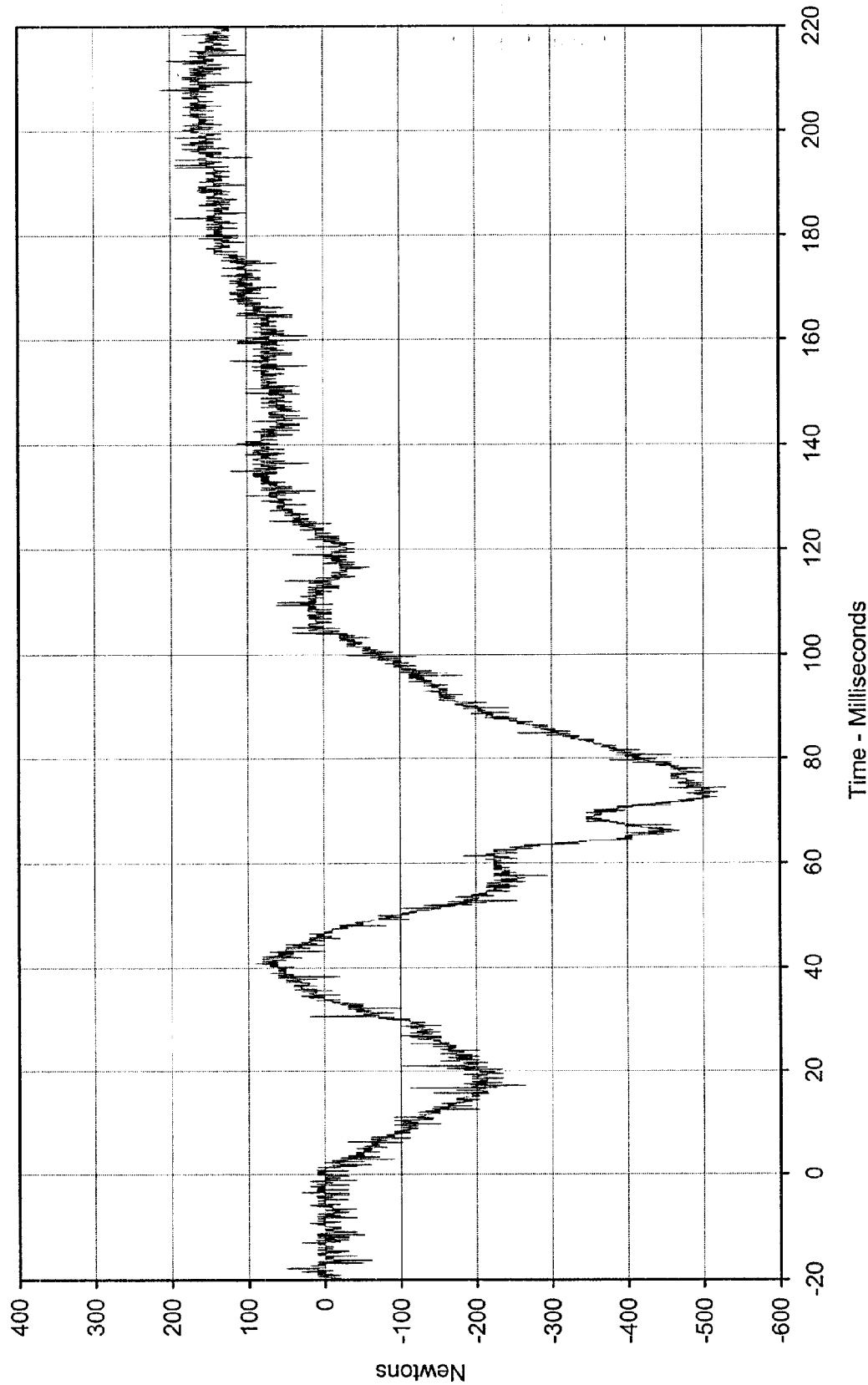
Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 6/17/98

ATD Serial No.: 274

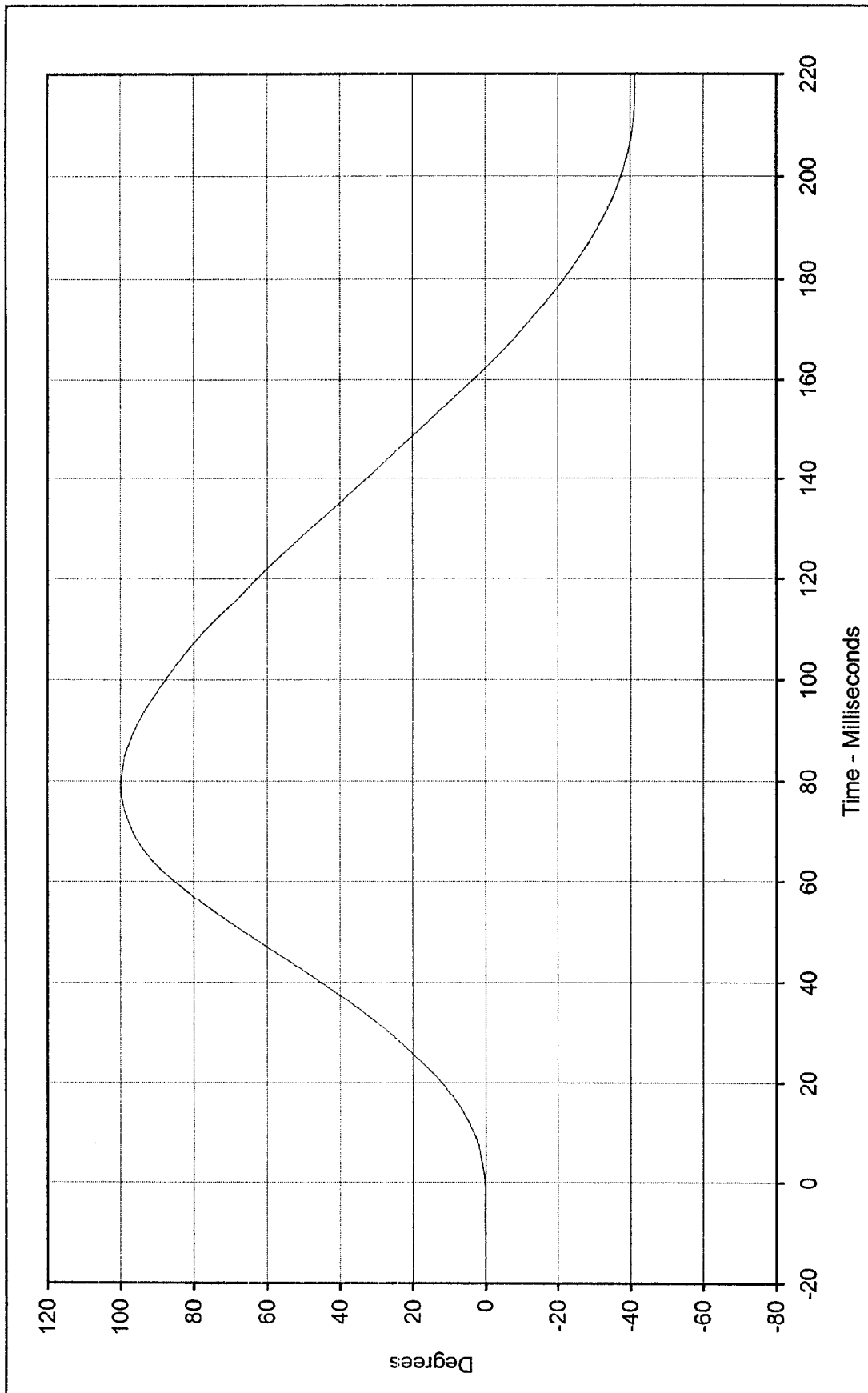




Curve Description: Neck Force X
 Maximum Value: 213.6 at 207.9 Milliseconds
 Minimum Value: -529.0 at 74.4 Milliseconds
 SAE Filter Class: 1000
 Date of Test: 6/17/98
 ATD Serial No.: 274

Testing Program Hybrid III Neck Extension Test (Female)
 Test Information: S/N of Part: N/A Test I.D.: FNE52

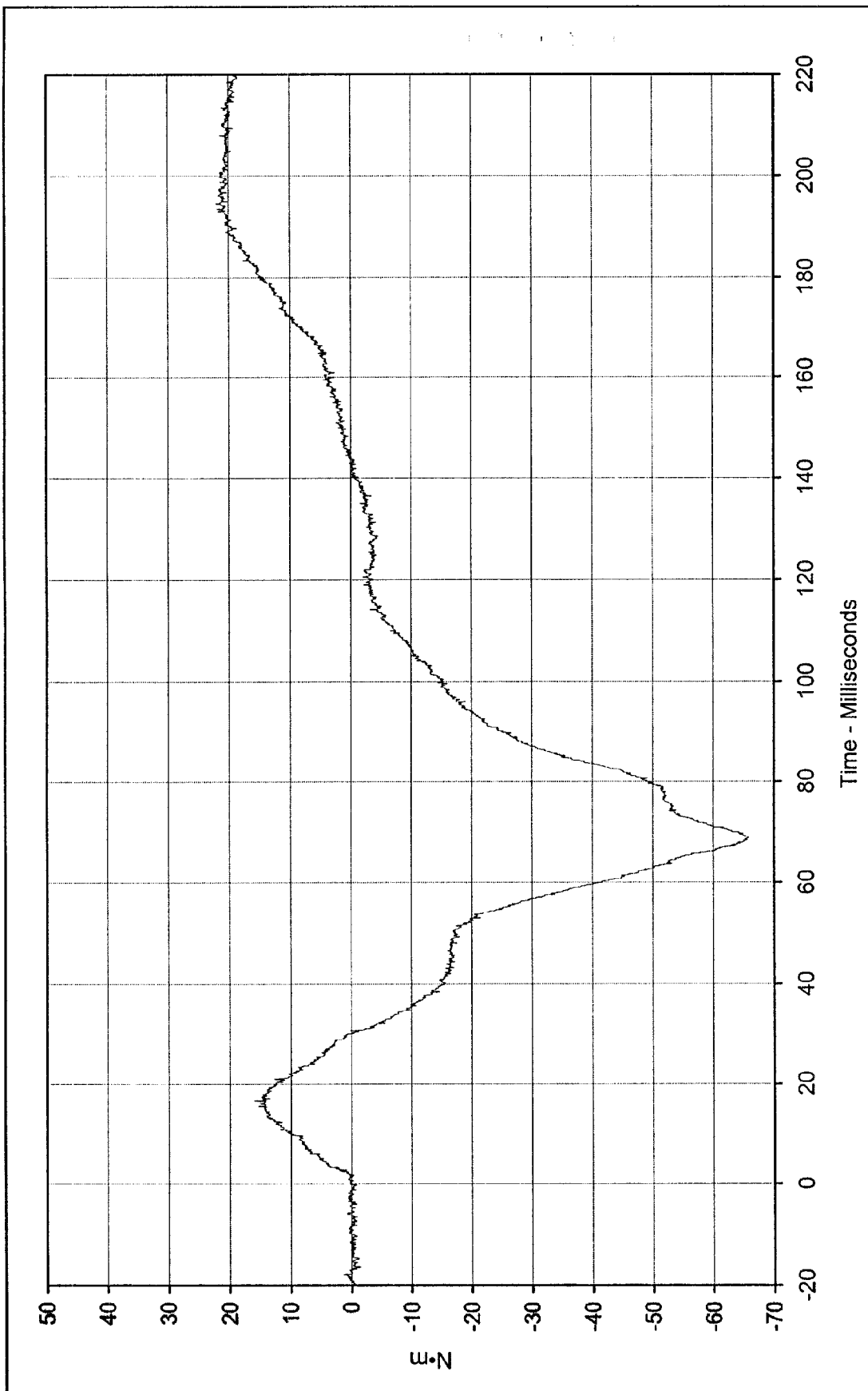




Curve Description:	"D" Plane Rotation			
Maximum Value:	99.9	at	79.1	Milliseconds
Minimum Value:	-41.2	at	219.1	Milliseconds
SAE Filter Class:	60			
Date of Test:	6/17/98			
ATD Serial No.:	274			

Testing Program	Hybrid III Neck Extension Test (Female)
Test Information:	S/N of Part: N/A Test I.D.: FNE52





E-39

Curve Description:	Moment About Occipital Condyles	Testing Program	Hybrid III Neck Extension Test (Female)
Maximum Value:	22.0 at 194.5 Milliseconds	Test Information:	S/N of Part: N/A Test I.D.: FNE52
Minimum Value:	-65.8 at 68.8 Milliseconds		
SAE Filter Class:	600		
Date of Test:	6/17/98		
ATD Serial No.:	274		



KAR98002-06



Hybrid III Calibration Data Sheet

5TH Percentile Female

External Measurements

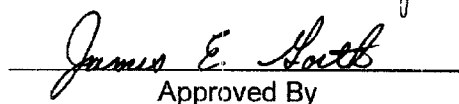
ATD Serial No.: 274Part Serial No.: N/ATest I.D.: N/A

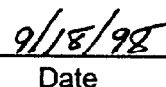
External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.0	Pass
Laboratory relative humidity	%	10 to 70	43	Pass
A - Total sitting height	mm	785.0 to 795.0	791.0	Pass
B - Shoulder pivot height	mm	434.0 to 450.0	445.0	Pass
C - "H" point height	mm	81.5 to 86.5	86.0	Pass
D - "H" point from seat back	mm	144.5 to 149.5	145.0	Pass
E - Shoulder pivot from back	mm	71.0 to 81.0	80.0	Pass
F - Thigh clearance	mm	114.0 to 130.0	127.0	Pass
G - Elbow to finger tip	mm	393.0 to 409.0	396.0	Pass
H - Skull cap to back line	mm	43.2 to 48.5	47.0	Pass
I - Shoulder to elbow length	mm	287.0 to 303.0	298.0	Pass
J - Elbow rest height	mm	191.0 to 211.0	200.0	Pass
K - Buttock to knee length	mm	509.5 to 533.5	510.0	Pass
L - Popliteal height	mm	349.5 to 373.5	360.0	Pass
M - Knee to floor height	mm	449.0 to 465.0	460.0	Pass
N - Buttock popliteal length	mm	399.5 to 423.5	420.0	Pass
O - Chest depth	mm	183.0 to 200.0	185.0	Pass
P - Foot length	mm	216.0 to 232.0	229.0	Pass
R - Foot width	mm	76.0 to 92.0	90.0	Pass
V - Shoulder width	mm	348.0 to 364.0	350.0	Pass
W - Hip width at "H" point	mm	299.0 to 315.0	310.0	Pass
X - Chest circumference	mm	783.0 to 813.0	800.0	Pass
Y - Waist circumference	mm	757.0 to 787.0	760.0	Pass
AA - Location for chest circumference	mm	300.0 to 310.0	308.0	Pass
BB - Location for waist circumference	mm	160.0 to 170.0	168.0	Pass
Overall Test Results				Pass


Laboratory Technician

June 18, 1998

Test Date


Approved By


Date

APPENDIX F
VEHICLE OWNER'S MANUAL
OCCUPANT RESTRAINT INSTRUCTIONS

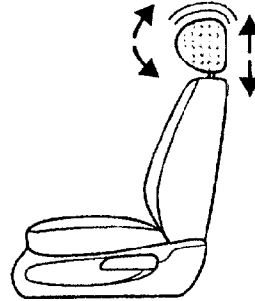
Controls **and** features

HEAD RESTRAINTS (if equipped)

Adjusting the head restraints

Push or pull the head restraint to the desired height.

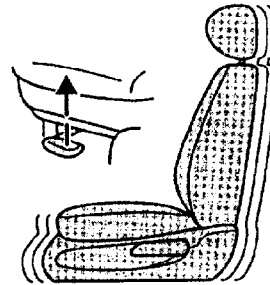
Swivel the head restraint forward or backward to the desired angle.



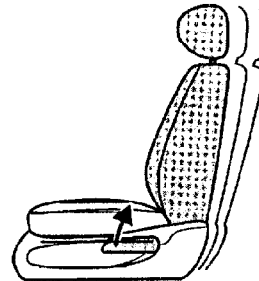
SEATING

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.

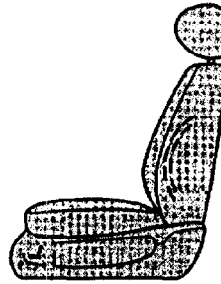


 Never adjust the driver's seat or seat back when the vehicle is moving.

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

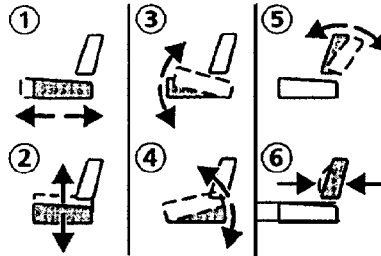
- (1) Forward and backward
- (2) Height of the entire seat
- (3) Height of the front of the seat
- (4) Height of the rear of the seat

Seat back

- (5) Seat back inclination

Lumbar support

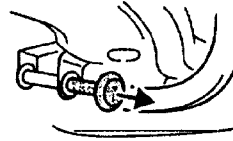
- (6) Lumbar support



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 make sure that the seat is fully latched and locked. When the seat back is latched and locked, the seat back cannot be folded down. Keep the seat back latched and locked until you are ready to fold it down again.

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.

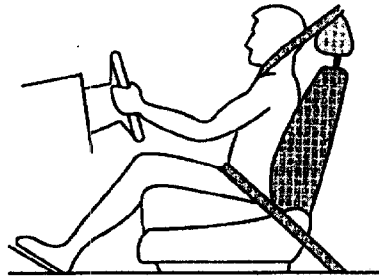
Always wear your seat belt. Front and rear seat belts are designed to hold you in place in the event of a collision.

Always drive and ride with your seat belt properly fastened, buckled, and low across hips.

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

Carpets should always be secured to prevent them from sliding and causing damage to the vehicle or harm to passengers.

To prevent the risk of injury, always use child safety seats. They can be properly restrained.



Seating and safety restraints

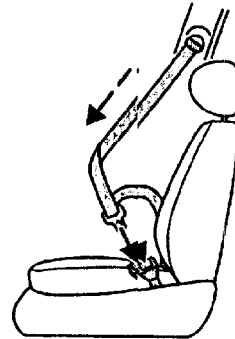
Using safety restraints properly

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.



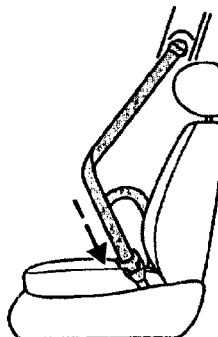
⚠ Each seating position in your vehicle has a specific safety belt assembly which is made up of one buckle and one tongue that are designed to be used as a pair. Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. Never swing it around your neck over the inside 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.



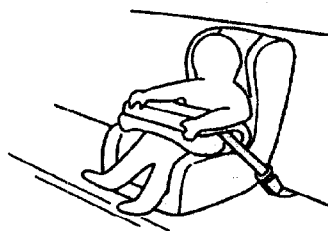
Automatic locking mode

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.

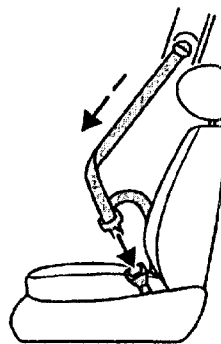


Seating and safety restraints

Using automatic locking mode

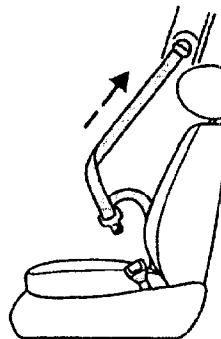
The automatic locking mode must be used when installing a child safety seat in any passenger seat.

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.



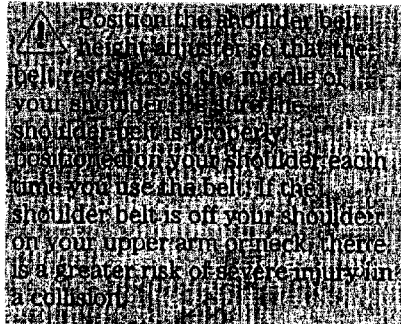
Canceling automatic locking mode

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.

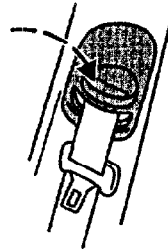


Seating and safety restraints

Front seat safety belt height adjustment



Position the shoulder belt height adjuster so the belt rests across the middle of your shoulder. If the shoulder belt is properly positioned on your shoulder each time you use the belt, 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

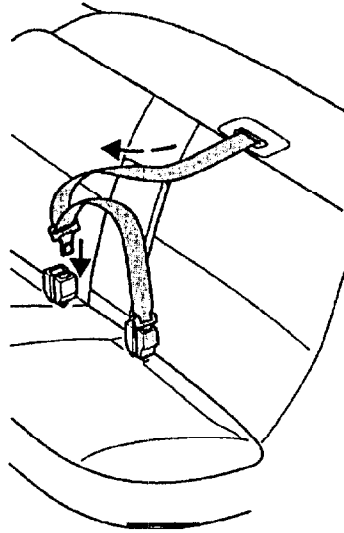
Center position three-point safety belts

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.

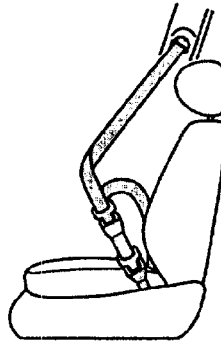
If the driver safety belt is buckled while the indicator light is illuminated and the reminder chime is sounding, the safety belt indicator light and reminder turn off.

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.

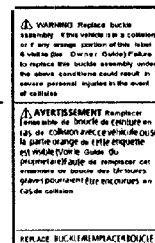
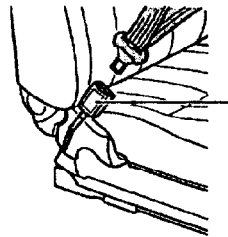
Belts subjected to strain, as in the result of an accident, should be replaced and the anchorages checked by your dealer or a qualified technician.

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

Safety belt warning label

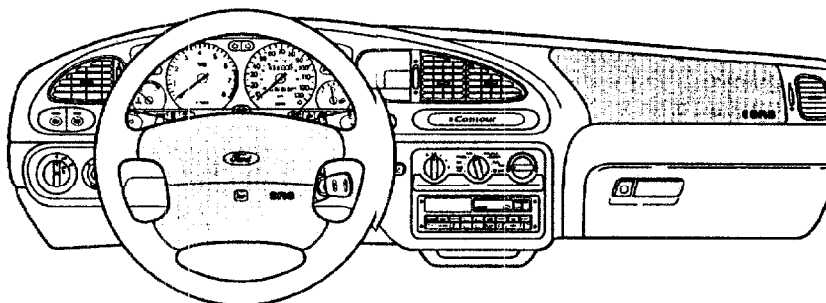
A warning label has been placed on the buckle of each of your vehicle's front seat safety belts.

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

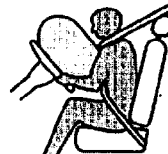


AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

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.

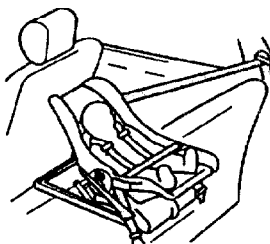
 Do not attempt to service, repair, or modify the air bag Supplemental Restraint System (SRS) or its fuses. See your Ford or Lincoln-Mercury dealer.

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

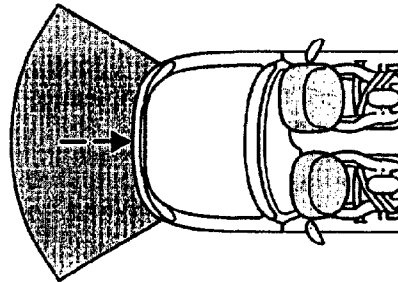
How does the air bag supplemental restraint system (SRS) work?

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.

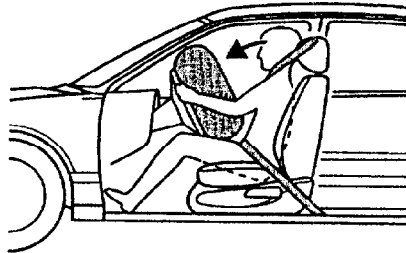
After air bag deployment, it is normal to notice a smoke-like, powdery residue or smell the burned propellant. This may consist of cornstarch, talcum powder (to lubricate the bag), or sodium compounds (e.g., baking soda) that result from the combustion process that inflates the air bag. Small amounts 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 deploys, the air bag will not function again and must be replaced immediately. If the air bag is not replaced or repaired, it 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

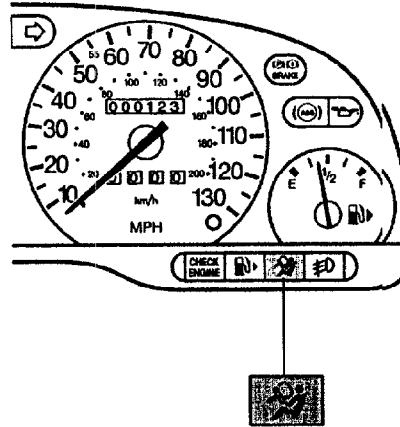
Determining if the system is operational

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.

