

3299

REPORT NUMBER KAR20003-04

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**FORD MOTOR CORPORATION
2000 MERCURY
VILLAGER VAN
NHTSA NUMBER: MY0214**

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



MARCH 27, 2000

FINAL REPORT

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Prepared by: James E. Gorth
Mr. James E. Gorth, Project Engineer
KARCO Engineering

Date: MARCH 27, 2000

Reviewed by: Jerry L. Kratzke
Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering

Date: MARCH 27, 2000

Approved by: Frank D. Richardson
Mr. Frank D. Richardson, Program Manager
KARCO Engineering

Date: MARCH 27, 2000

FINAL REPORT ACCEPTED BY:

Manager, Side Impact NCAP

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16. Abstract A 55/28 km/h 90° Moving Deformable Barrier Side Impact NCAP Test was conducted on the subject 2000 Mercury Villager Mini-Van in accordance with the specifications of the Office of Crash Worthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at KARCO Engineering laboratories in Adelanto, California, on February 29, 2000. The impact velocity of the Moving Deformable Barrier was 61.69 km/h, and the ambient temperature at the struck side (driver's) of the vehicle was 20.0 C. The target vehicle's maximum post test static crush was 401 mm located at level 2 & 3. The test vehicle's occupant performance is as follows: <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 40%;">Measurement Description</th> <th style="width: 20%;">Driver SID</th> <th style="width: 20%;">Passenger SID</th> <th style="width: 20%;"></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) G's</td> <td style="text-align: center;">46</td> <td style="text-align: center;">56</td> <td></td> </tr> <tr> <td>Left Lower Rib (LLR) G's</td> <td style="text-align: center;">42</td> <td style="text-align: center;">62</td> <td></td> </tr> <tr> <td>Lower Spine (T₁₂) G's</td> <td style="text-align: center;">62</td> <td style="text-align: center;">67</td> <td></td> </tr> <tr> <td>Thoracic Trauma Index (TTI) G's</td> <td style="text-align: center;">54</td> <td style="text-align: center;">64</td> <td></td> </tr> <tr> <td>Pelvis (PEV) G's</td> <td style="text-align: center;">69</td> <td style="text-align: center;">87</td> <td></td> </tr> </tbody> </table>				Measurement Description	Driver SID	Passenger SID		Left Upper Rib (LUR) G's	46	56		Left Lower Rib (LLR) G's	42	62		Lower Spine (T ₁₂) G's	62	67		Thoracic Trauma Index (TTI) G's	54	64		Pelvis (PEV) G's	69	87	
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SECTION 1

PURPOSE and TEST PROCEDURE

1.1 PURPOSE

This Side Impact NCAP test is conducted as part of the FY' 2000 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-99-D-02041. The purpose of this test is to generate comparative side impact data in a 2000 Mercury Villager Mini-Van Mini-Van manufactured by Ford Motor Company.

1.2 TEST PROCEDURE

The side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Crashworthiness Standards (OCS), laboratory test procedure NCAP Side Impact Testing, dated July 1997 and the corresponding KARCO Engineering Test Procedure KTP-214D, dated November 18, 1998. The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT NCAP TEST

A model year 2000 Mercury Villager Mini-Van was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.69 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 2035 kg. and the test weight of the MDB was 1361 kg. The test was conducted at KARCO Engineering in Adelanto, California, on February 29, 2000.

One (1) real-time motion picture camera and ten (10) high-speed motion picture cameras were used to document the impact event. The pre-test 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 SID's can be found in Appendix A. Two 50th percentile adult male Side Impact Dummy's (SID's) were placed in the driver's and left rear passenger designated seating positions according to the test procedure. Each SID is instrumented with contact switches on the pelvis and thorax, and eleven accelerometers in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y, and Z axes)

The test vehicle was instrumented with twenty-five (25) structural accelerometers and the MDB was instrumented with five (5) accelerometers and a one (1) contact switch on the right bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board Test Data Acquisition System (TDAS). The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 401 mm at level 2 & 3, 900 mm rearward of the left vertical impact point. The driver SID, Serial No. 057 and the passenger SID, Serial No. 56 were calibrated just prior to this test. The SID injury criteria is summarized as follows:

Measurement	Units	Driver	Passenger
Thoracic Trauma Index (TTI)	G's	54	64
Peak Pelvic G's (PEV)	G's	69	87

Tests summaries and post-test observations are presented in Section 3. The vehicle, camera, and occupant measurements are presented in Section 4. Appendix A contains the still photograph prints. Appendix B contains the driver and passenger SID's, vehicle, and MDB response data traces. Appendix C contains the SID's Configuration and performance verification data. Appendix D contains the test equipment information.

SECTION 3
SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2000 Mercury Villager Mini-Van

NHTSA No. MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 2/29/00

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Old Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	$=(t_f - 32)/1.8$
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

* Based on the Recommended Practice in SAE J916, May 85

DATA SHEET NO. 1
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Program: 55/28 km/h 90° Side Impact NCAP

PROJECT No.: MY0214
 Test Date: 2/29/2000

TEST VEHICLE INFORMATION

Make	Mercury
Model	Villager
Body Style	Mini-Van
PROJECT No.	KAR20003-04
VIN	4M2XV1T8YDJ102744
Color	White/Silver
Delivery Date	2/14/2000
Odometer Reading (mile)	105
Dealer	Ford Motor Company
Transmission	4-Speed Automatic
Final Drive	Front
Number of Cylinders	V6
Engine Displacement (L)	3.3
Engine Placement	Transverse

TEST VEHICLE OPTIONS

Driver Airbag	Yes
Passenger Airbag	Yes
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	No
Anti-lock Brakes	No
AM/FM/Cassette	Yes
Anti-Theft System	No
Cruise Control	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Ford Motor Company	GVWR (kg)	2470
Date of Manufacture	November-99	GAWR Front (kg)	1232
		GAWR Rear (kg)	1290

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	245	245
Cold Pressure (kPa)	245	245
Recommend Tire Size	P215/70R15	P215/70R15
Tire Size on Vehicle	P215/70R15	P215/70R15
Tire Manufacturer	General	General

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	Bench	
Number of Occupants	2	2	3	7
Capacity Wt. (VCW) (kg)				585
Cargo Weight (RCLW) (kg)				109

DATA SHEET NO. 1...(continued)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Program: 55/28 km/h 90° Side Impact NCAP

PROJECT No.: MY0214
 Test Date: 2/29/2000

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	529	373		577	484	
Right	kg	501	369		516	458	
Ratio	%	58.1	41.9		53.7	46.3	
Totals	kg	1030	742	1772	1093	942	2035

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1772
Weight of 2 P572F Side Impact Dummies	kg	161.5
Rated Cargo/Luggage Weight (RCLW)	kg	109
Calculated Vehicle Target Weight (TVTW)	kg	2042.5

*Actual As Tested Weight (ATW) will be TVTW -5/-10 kg

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	764	774	783	794	1202
As Tested	mm	748	767	746	766	1329
Fully Loaded	mm	749	772	743	767	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	2870
Total Vehicle Length at Left Side	mm	3518
Total Vehicle Length at Centerline	mm	4941
Total Vehicle Length at Right Side	mm	3518
Weight of Ballast In Cargo Area	kg	74
Amount of Stoddard Solvent in Fuel Tank	Liters	70.4

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	2870
Target Impact Point Aft of Front Axle	mm	495
Actual Impact Point Aft of Front Axle	mm	504

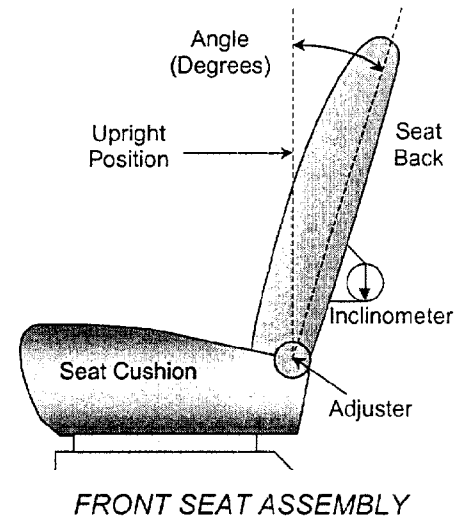
DATA SHEET NO. 1...(continued)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No. MY0214
 Test Date: 2/29/00

NOMINAL DESIGN RIDING POSITION

The driver's seat back is positioned to the manufacturers designated angle. The procedure for the seat is as follows:
 A slit is cut into fabric of the seat at the outboard edge, approximately 10-13 inches above the pivot point to expose the frame of the seat. An inclinometer is firmly placed against the flat portion of the frame surface and the seat back is adjusted to the manufacturers designated angle. The rear passenger seat is fixed; no adjustments can be made.



Driver seat back angle: 20° with a seated dummy
 Rear seat back angle: 10.5° at the headrest.

SEAT FORE/AFT POSITIONS

The driver's seat is electronically operated and the rear passenger seat has no adjustments. The fore/aft is set to the middle position for the driver's seat. The first detent is numbered "1".

Driver seat fore/aft total travel: 16 Seat Positions
 Rear seat fore/aft total travel: Seat is fixed
 Driver seat fore/aft position: Seat Set At The 9th Detent
 Rear seat fore/aft position: Seat is fixed

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with a "D" ring anchorage for the driver's seat positions. There is 5 positions or detents, with the uppermost position numbered "1". The driver's "D" ring anchorage is placed in position 3. The rear seat has 1 fixed position.

DATA SHEET NO. 1...(continued)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2000 Mercury Villager Mini-Van
Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No. MY0214
Test Date: 2/29/00

FUEL TANK CAPACITY DATA

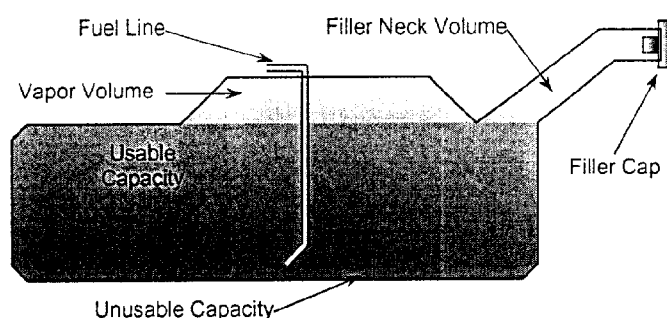
The "Usable Capacity" of the standard equipment fuel tank is: 75.7 liters

The "Usable Capacity" of any optional equipment fuel tank is: N/A liters

92-94% of "Usable Capacity" for certification to FMVSS 301 requirement: 69.6 to 71.1 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 70.4 liters

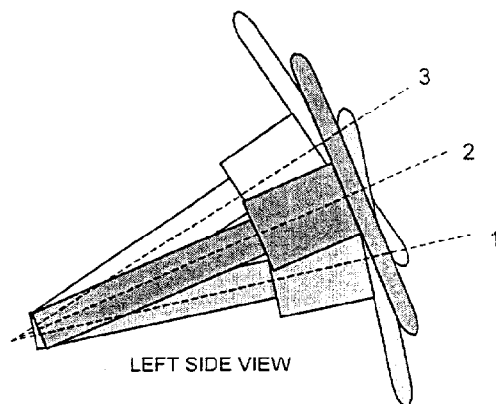
The test vehicle is equipped with an electric fuel pump. The fuel pump will operate for approximately three (3) seconds with the ignition in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

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 motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed onto the plate and the angle is measured. The tested vehicle has its steering column set at position 2 as indicated in the drawing at right and the angle below.



LEFT SIDE VIEW

STEERING COLUMN ASSEMBLY

Lowermost, position 1: 25°

Geometric center, position 2: 27°

Uppermost, position 3: 30°

DATA SHEET NO. 2
TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Program: 55/28 km/h 90° Side Impact NCAP

PROJECT No.: MY0214
 Test Date: 2/29/2000

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	529	373		577	484	
Right	kg	501	369		516	458	
Weight Ratio	%	58.1	41.9		53.7	46.3	
Totals	kg	1030	742	1772	1093	942	2035

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	193	274
Level 2	Occupant H-Point	mm	394	700
Level 3	Mid Door	mm	370	676
Level 4	Window Sill	mm	362	1020
Level 5	Window Top	mm	164	1546
N/A	Maximum Penetration	mm	394	700

INSTRUMENTATION

Driver SID Accelerometers	11
Passenger SID Accelerometers	11
Vehicle Structure Accelerometers	25
MDB Accelerometers	5
Total	52

16mm MOVIE COVERAGE

High Speed, Vehicle On-Board	3
High Speed, Off-Board	5
High Speed, MDB On-Board	2
Real Time, Panning	1
Total	11

DATA SHEET NO. 3
MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Program: 55/28 km/h 90° Side Impact NCAP

PROJECT No.: MY0214
 Test Date: 2/29/2000

MDB SPECIFICATIONS (mm)

Measurement Description	Length
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel base of Framework Carriage	2590
C.G. Location aft of Front Axle	1127

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	384	308	
Right	kg	385	284	
Ratio	%	56.5	43.5	
Totals	kg	769	592	1361

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.69
Trap No. 2 Velocity (Redn.)	km/h	61.1 to 62.7	62.19
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.5

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Left	193
B	Top of Bumper	533	800	Left	105
C	Mid Level	686	800	Left	61
D	Top of Stack	813	800	Right	87

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	2
High Speed Cameras	2

**DATA SHEET NO. 4
POST TEST OBSERVATIONS**

Test Vehicle: 2000 Mercury Villager Mini-Van
Test Program: 55/28 km/h 90° Side Impact NCAP

PROJECT No.: MY0214
Test Date: 2/29/2000

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID	Rear Seat SID
Dummy Type / Serial No.	P572F, SID / No. 057	P572F, SID / No. 056
Head Contact	Head Rest on Rebound	None
Upper Torso Contact	Door Panel	Door Panel
Lower Torso Contact	Door Panel	Door Panel/Seat
Left Knee Contact	Knee Bolster/Panel	B-Pillar
Right Knee Contact	Left Knee	Left Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front	Rear
Left Side Door Opening	Remained closed, inoperable	Remained closed, inoperable
Right Side Door Opening	Remained closed operable	Remained closed, operable
Seat Movement	None	None
Seat Back Failure	None	Broke Anchors

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	Pillars pushed inward with no apparent failure
Sill Separation	No Apparent Visible Failure
Windshield Damage	Glazing Cracks on Struck Side Only
Window Damage	Left Rear Window Shattered During Impact
Other Notable Effects	No significant items to note.

AIR BAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	No	No	N/A
Side	N/A	N/A	N/A

Yes = Deployed No = No deployment N/A = Not Installed

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	27 (left)
Vertical Offset	mm	+/- 20	20 (above)

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5
SID INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2000 Mercury Villager Mini-Van

NHTSA No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00

THORAX AND PELVIS PEAK ACCELERATIONS, PRIMARY (FIR 100 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	46.4	51.5	-11.1	103.0	56.1	54.6	-12.2	103.7
Lower Rib (LLR)	Y	G's	41.9	44.8	-12.2	103.1	61.5	43.9	-9.1	109.1
Lower Spine (T ₁₂)	Y	G's	61.8	46.4	-7.7	125.4	67.4	46.3	-12.3	71.0
Pelvis (PEV)	Y	G's	69.0	39.6	-17.0	55.3	86.6	41.7	-16.5	66.6

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, PRIMARY (FIR 100 Filtered)

Location	Driver				Passenger			
	LUR	T ₁₂	TTI(g)	PEV(g)	LLR	T ₁₂	TTI(g)	PEV(g)
Primary Rib, Spine, and Pelvis	46.434	61.789	54	69	61.512	67.447	64	87

THORAX AND PELVIS PEAK ACCELERATIONS, REDUNDANT (FIR 100 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	47.0	51.5	-11.3	109.9	56.4	54.8	-11.9	104.2
Lower Rib (LLR)	Y	G's	41.4	44.8	-12.3	103.1	61.1	43.9	-9.1	108.9
Lower Spine (T ₁₂)	Y	G's	61.7	46.4	-7.9	125.4	68.2	46.2	-12.2	70.8
Pelvis (PEV)	Y	G's	69.3	39.5	-16.9	55.3	86.3	41.5	-15.2	66.6

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, REDUNDANT (FIR 100 Filtered)

Location	Driver				Passenger			
	LUR	T ₁₂	TTI(g)	PEV(g)	LLR	T ₁₂	TTI(g)	PEV(g)
Redundant Rib, Spine, and Pelvis	46.959	61.700	54	69	61.085	68.203	65	86

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	6.3	73.5	-18.1	84.5	12.1	58.0	-10.9	91.3
Head CG	Y	G's	33.9	88.0	-11.3	180.0	41.8	97.0	-13.0	48.8
Head CG	Z	G's	53.3	66.8	-7.1	29.1	87.8	78.5	-14.3	61.6
Head CG Resultant	N/A	G's	56.5	66.1			88.1	78.5		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G's	HIC	T ¹	T ²	Avg G's
Head CG	314.8	56.8	92.7	37.8	600.2	65.6	101.5	48.9

Positive Acceleration Polarities: Longitudinal (X) = Forward
 (Conforms to SAE J211) Lateral (Y) = Right
 Vertical (Z) = Down

DATA SHEET NO. 6

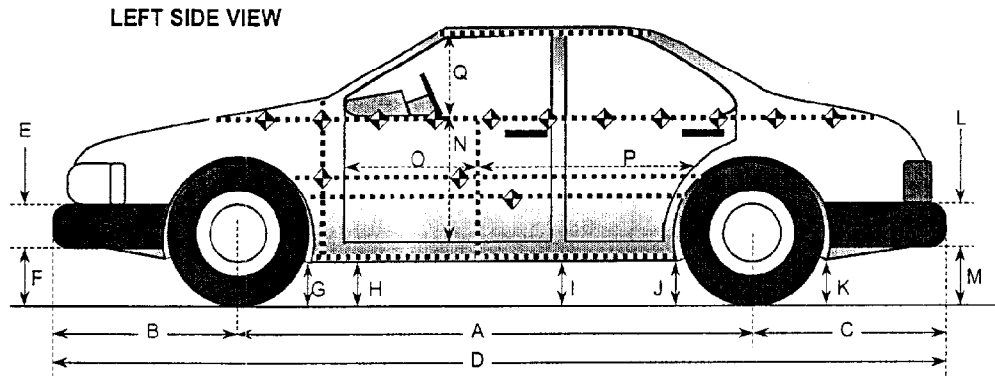
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2000 Mercury Villager Mini-Van

PROJECT No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00



All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	2870	2840	30
B	Front Axle To FSOV	986	1017	-31
C	Rear Axle to RSOV	1085	1080	5
D	Total Length at Centerline	4941	4937	4
E	Front Bumper Thickness	520	270	250
F	Front Bumper Bottom to Ground	205	245	-40
G	Sill Height at Front Wheel Well	232	284	-52
H	Sill Height at Front Door Leading Edge	233	284	-51
I	Sill Height at "B" Pillar	233	300	-67
J1	Sill Height at Rear Wheel Well	217	286	-69
J2	Pinch Weld Height at Rear Wheel Well	236	230	6
K	Sill Height aft of Rear Wheel Well	253	295	-42
L	Rear Bumper Thickness	500	270	230
M	Rear Bumper Bottom to Ground	300	350	-50
N	Sill Height to Window Bottom Sill	740	655	85
O	Front Door Leading Edge to Impact CL	940	800	140
P	Rear Door Trailing Edge to Impact CL	1280	1185	95
Q	Front Window Opening	502	490	12
R	Right Side Length	3518	3705	-187
S	Left Side Length	3518	3640	-122
T	Vehicle Width at "B" Post	1904	1642	262

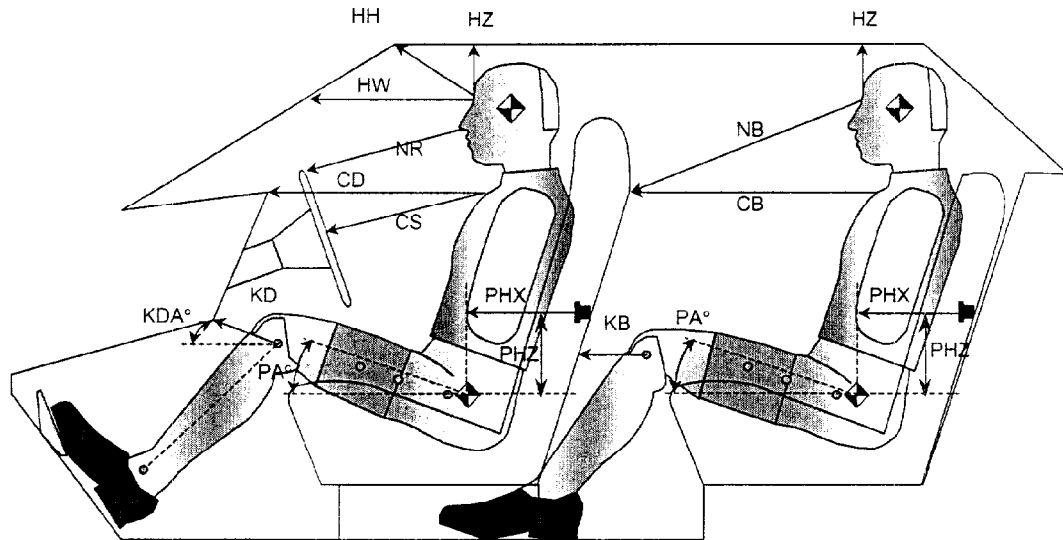
DATA SHEET NO. 7
SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2000 Mercury Villager Mini-Van

PROJECT No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00

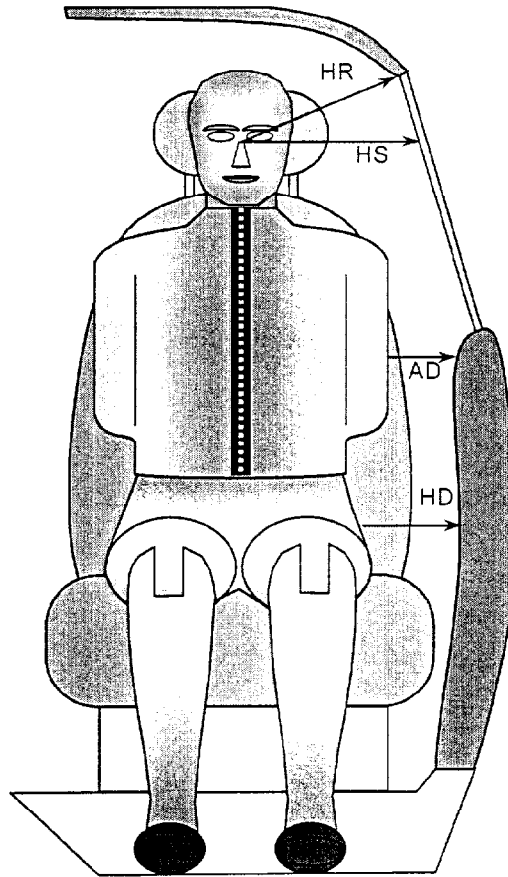


Driver Code	Pass. Code	Measurement Description	Driver		Passenger	
			Length(mm)	Angle(°)	Length(mm)	Angle(°)
HH	HH	Head to Header	482	10		
HW	HW	Head to Windshield	700			
HZ	HZ	Head to Roof	205	90	220	90
NR	NB	Nose to Rim/Nose to Seatback	488	13	575	21
CD	CB	Chest to Dash or Seatback	545	3	515	
CS		Chest to Steering Wheel	310	26		
KDL	KBL	Left Knee to Dash or Seatback	105	35	192	
KDR	KBR	Right Knee to Dash or Seatback	85		215	
PA	PA	Pelvic Angle		23		23.5
PHX	PHX	H-Point to Striker (X-Axis)	290		475	
PHZ	PHZ	H-Point to Striker (Z-Axis)	41		72	

DATA SHEET NO. 8
SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Program: 55/28 km/h 90° Side Impact NCAP

PROJECT No.: MY0214
 Test Date: 02/29/00



FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver	Passenger
HR	Head to Side Header	mm	250	260
HS	Head to Side Window	mm	362	390
AD	Arm to Door	mm	132	198
HD	H-Point to Door	mm	172	278

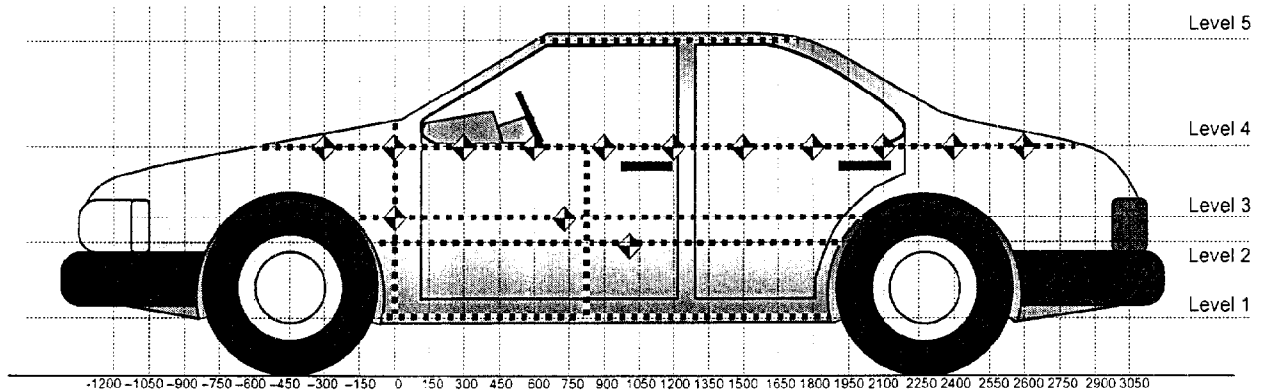
DATA SHEET NO. 9 **VEHICLE SIDE MEASUREMENTS**

Test Vehicle: 2000 Mercury Villager Mini-Van

PROJECT No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

Measurements taken 900mm right of impact reference.

All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window Top	1546
4	Window Sill	1020
3	Mid Door	676
2	Occupant H-Point	700
1	Sill Top	274

DATA SHEET NO. 10 - VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2000 Mercury Villager Mini-Van

PROJECT No.: MY0214

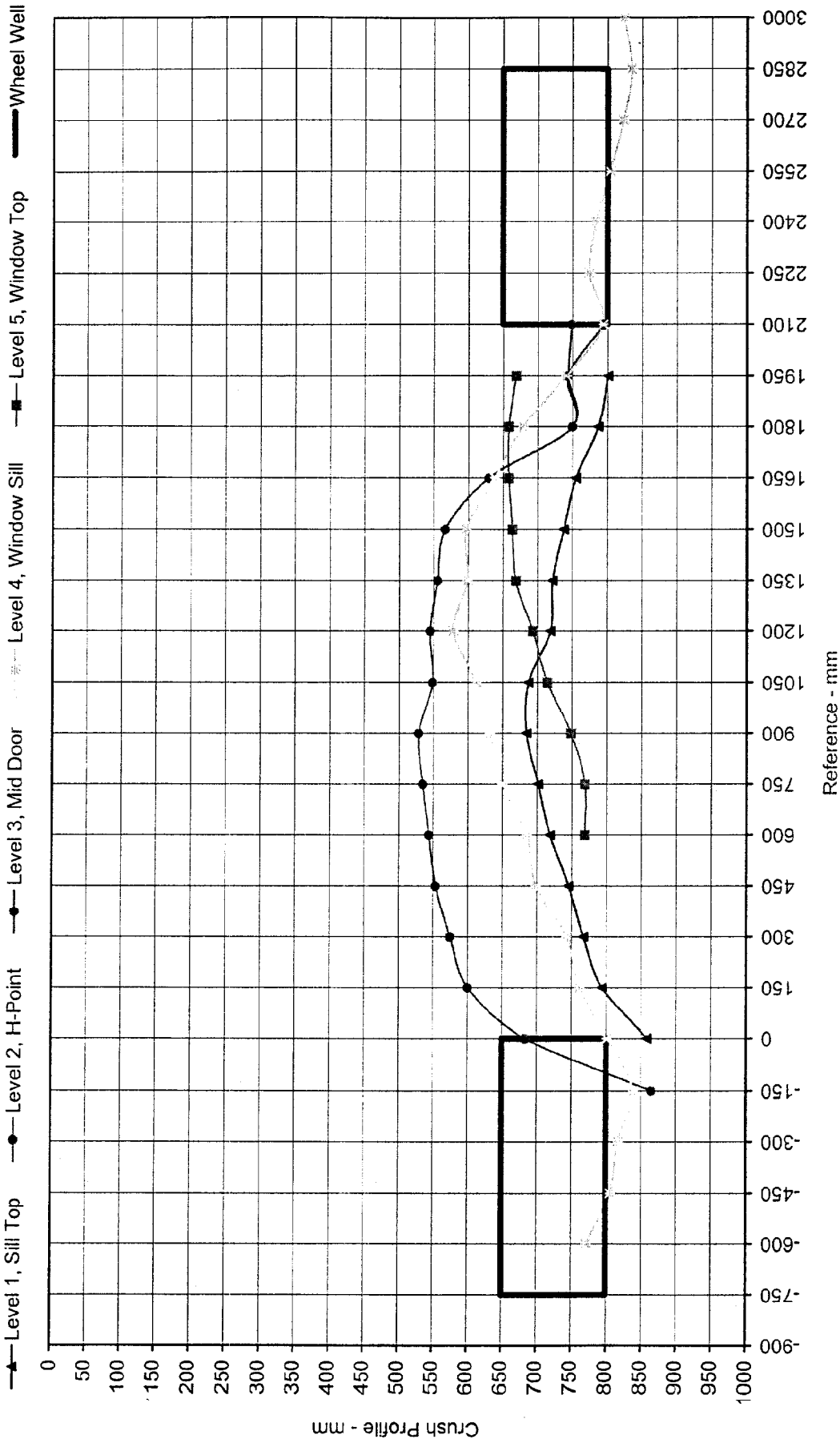
Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 2/29/2000

	Pre-Test					Post-Test					Difference				
	1	2	2	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750															
-600				778					772					6	
-450				819					806					13	
-300				847					817					30	
-150		929	929	869			865	865	839			64	64	30	
0	849	929	929	879		859	684	684	801		-10	245	245	78	
150	849	929	929	887		794	601	601	762		55	328	328	125	
300	849	929	929	891		767	575	575	743		82	354	354	148	
450	849	929	929	895		746	554	554	699		103	375	375	196	
600	846	930	930	900	639	719	544	544	686	769	127	386	386	214	
750	849	930	930	903	649	702	535	535	650	769	147	395	395	253	-120
900	844	930	930	905	662	685	529	529	632	749	159	401	401	273	-87
1050	849	931	931	907	669	688	549	549	613	715	161	382	382	294	-46
1200	846	931	931	909	659	719	545	545	579	694	127	386	386	330	-35
1350	847	930	930	910	658	722	556	556	599	669	125	374	374	311	-11
1500	848	930	930	910	659	738	567	567	598	664	110	363	363	312	-5
1650	846	930	930	910	664	755	630	630	639	659	91	300	300	271	5
1800	844	930	930	910	664	787	750	750	679	659	57	180	180	231	5
1950	844	929	929	909	658	801	744	744	741	669	43	185	185	168	-11
2100		929	929	906			749	795	794			180	134	112	
2250				904					774					130	
2400				891					784					107	
2550				884					804					80	
2700				873					823					50	
2850				856					835					21	
3000				834					824					10	

Pre-Test and Post-Test dimensions are actual distance from centerline of test vehicle.

DATA SHEET NO. 10...(continued)



Test Program: 55/28 km/h 90° Side Impact NCAP No.: MY0203
 Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Date: #####

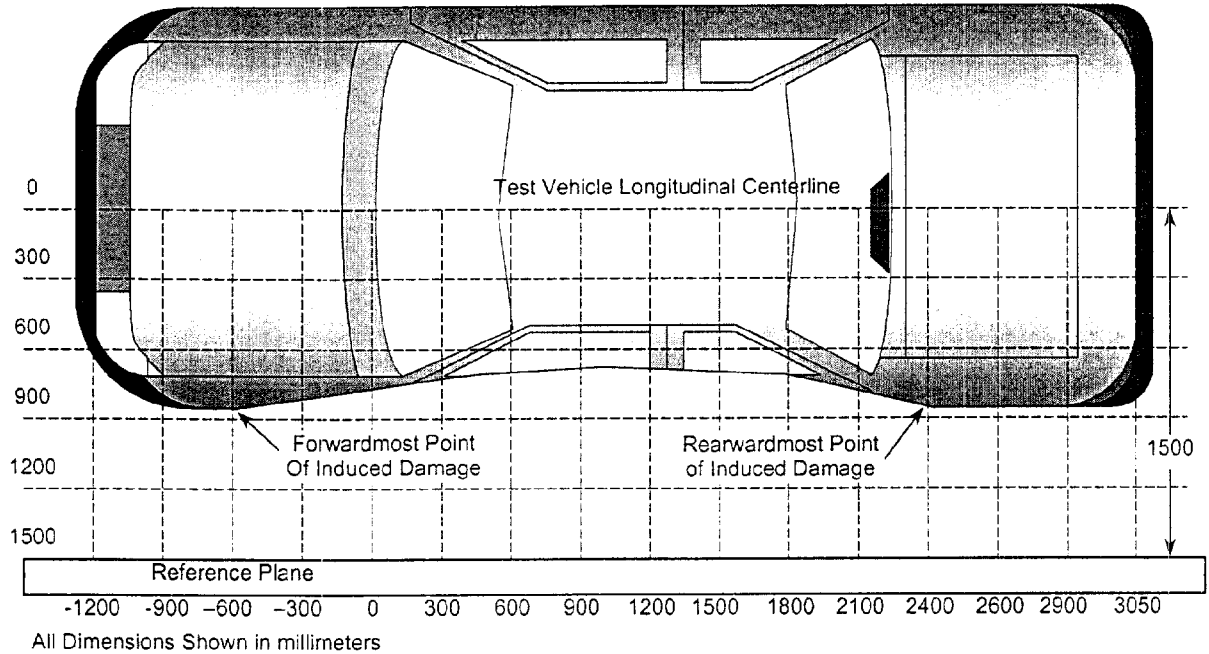
Maximum Crush, Level 1: 161 mm at 1050 mm
 Maximum Crush, Level 2: 401 mm at 900 mm
 Maximum Crush, Level 3: 401 mm at 900 mm
 Maximum Crush, Level 4: 1200 mm at 1200 mm
 Maximum Crush, Level 5: 5 mm at 1650 mm



DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2000 Mercury Villager Mini-Van
 Test Program: 55/28 km/h 90° Side Impact NCAP

PROJECT No.: MY0214
 Test Date: 2/29/00



TOP VIEW

Damage Profile Distances

DPD	Distance From Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	-600 mm	4	778	772	6
2	0 mm	2	929	684	245
3	750 mm	2	930	535	395
4	1500 mm	2	930	567	363
5	2250 mm	4	904	774	130
6	3000 mm	4	834	824	10

Pre-Test and Post-Test measurements are distance from vehicle centerline.

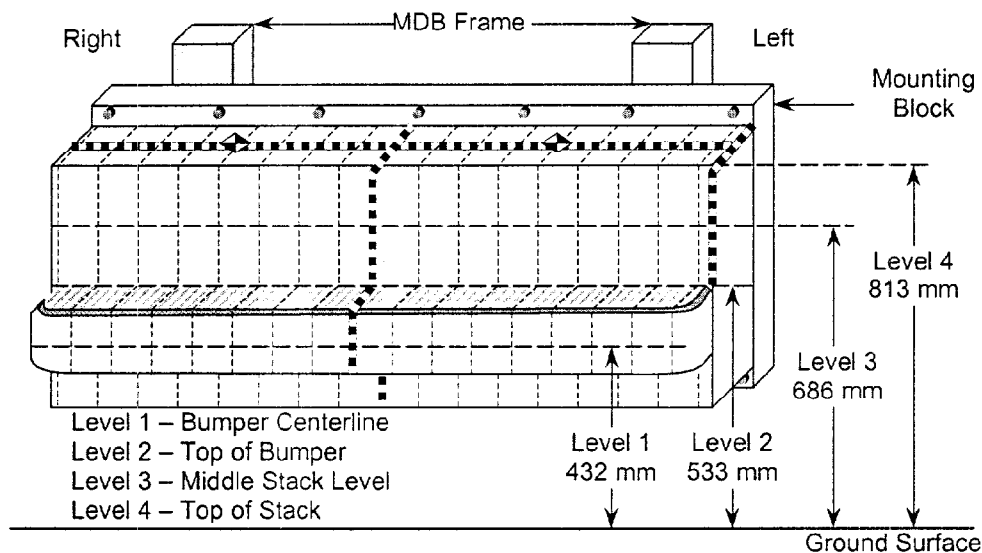
DATA SHEET NO. 12
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2000 Mercury Villager Mini-Van

PROJECT No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 2/29/00



DEFORMABLE BARRIER STATIC CRUSH

Stack	Distance Right of Center								C _L	Distance Left of Center							
Level	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	78	64	62	65	70	74	79	85	89	98	107	112	117	129	143	164	193
2	27	21	21	21	23	24	22	24	24	27	29	43	55	59	68	85	105
3	30	22	13	7	5	3	1	3	5	5	4	4	6	15	33	49	61
4	87	68	50	34	22	11	6	3	3	18	22	13	13	18	31	48	73

All Dimensions in mm

DATA SHEET NO. 13
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

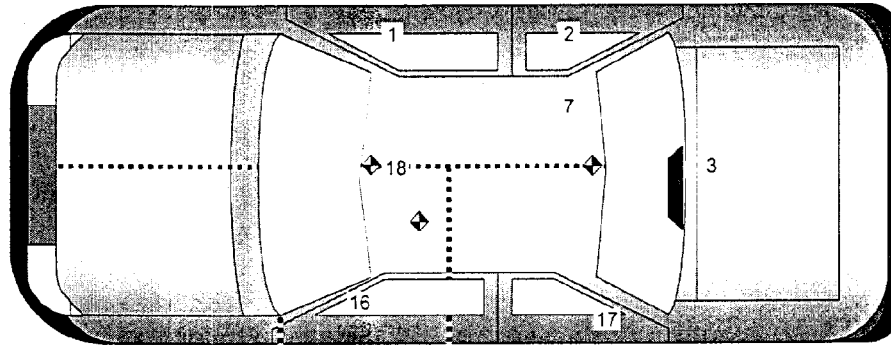
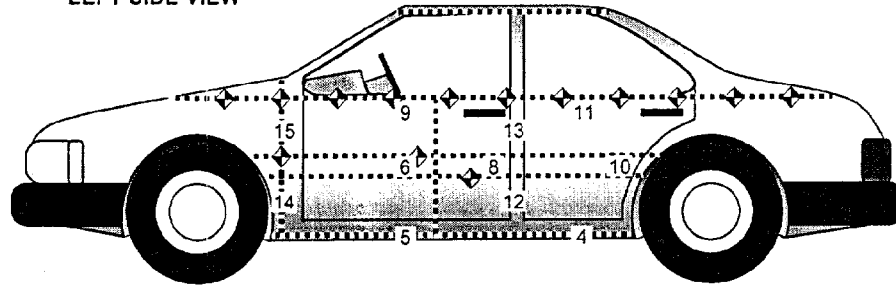
Test Vehicle: 2000 Mercury Villager Mini-Van

NHTSA No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00

LEFT SIDE VIEW



No.	Location
1	Right Sill at Front Seat
2	Right Sill at Rear Seat
3	Rear Floorpan Above Axle
4	Left Sill at Rear Door
5	Left Sill at Front Door
6	Left Front Door Centerline
7	Right Rear Occupant Compartment
8	Left Front Door Mid-Rear
9	Left Front Door Upper Centerline

No.	Location
10	Left Rear Door Mid-Rear
11	Left Rear Door Upper Centerline
12	Left Lower B-Post
13	Left Middle B-Post
14	Left Lower A-Post
15	Left Middle A-Post
16	Front Seat Track
17	Rear Seat Track or Structure
18	Vehicle CG

DATA SHEET NO. 13
VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2000 Mercury Villager Mini-Van

NHTSA No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	Right Sill at Front Seat	2780	740	400	X	3.3	69.1	-5.2	19.0
					Y	25.9	19.7	-2.0	29.0
					Z	6.1	60.7	-5.1	37.4
					RES	26.4	19.7		
2	Right Sill at Rear Seat	1845	775	455	X	3.4	69.5	-4.7	18.8
					Y	26.6	18.9	-2.4	160.3
					Z	9.9	58.1	-10.3	22.4
					RES	27.0	18.9		
3	Rear Floorpan Above Axle	835	50	560	X	2.0	70.0	-4.5	29.0
					Y	16.9	48.1	-1.5	160.4
					Z	7.3	48.8	-5.1	84.9
					RES	18.4	48.6		
4	Left Sill at Rear Door	1900	-695	275	Y	117.7	8.4	-89.4	26.3
5	Left Sill at Front Door	2700	-735	275	Y	169.4	9.2	-75.8	14.2*
6	Front Door Centerline	2880	-830	775	Y	121.9	16.0	-149.3	29.0
7	Rear Occupant Compartment	2260	500	2150	Y	29.2	17.2	-2.1	161.2
8	Front Door Mid-Rear	2520	-825	795	Y	171.7	9.9	-104.6	23.7
9	Front Door Upper Centerline	2795	-855	995	Y	124.9	14.0	-108.4	29.3
10	Rear Door Mid-Rear	1615	-855	795	Y	177.9	11.7	-48.9	32.7*
11	Rear Door Upper Centerline	1865	-860	1005	Y	182.4	11.0	-63.9	31.5
12	B-Post Lower	2160	-810	620	Y	164.0	7.6	-56.3	33.2
13	B-Post Middle	2160	-800	825	Y	130.3	8.1	-42.7	34.3
14	A-Post Lower	3620	-830	495	Y	68.1	3.3	-43.8	7.4
15	A-Post Middle	3620	-830	815	Y	38.5	2.7	-25.4	34.1
16	Front Seat Track	2800	-685	405	Y	19.6	50.8	0.0	1.7*
17	Rear Seat Structure	1960	-420	540	Y	61.0	29.7	-23.9	35.3
18	Vehicle CG	2820	35	395	X	3.1	65.9	-6.5	19.4
					Y	26.9	17.1	-1.8	163.5
					Z	20.1	36.6	-15.6	26.4
					RES	29.9	17.3		

*Channel failed, check plot for time of failure.

DATA SHEET NO. 14
MDB ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2000 Mercury Villager Mini-Van

NHTSA No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00

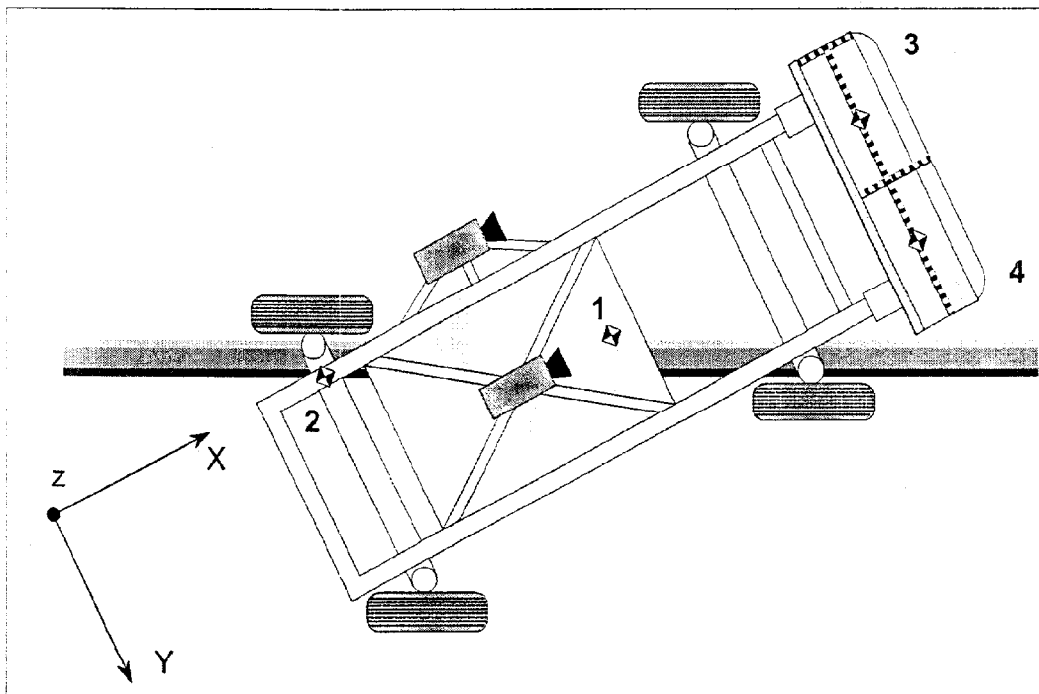
MDB ACCELEROMETER PEAK DATA AND LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	MDB CG	-1195	0	430	X	2.1	168.3	-17.5	43.2
					Y	1.6	104.2	-7.3	43.6
					Z	11.0	172.8	-12.9	180.1
					RES	20.0	49.5		
2	MDB Rear	-2642	-593	608	X	3.0	145.5	-19.3	40.0
					Y	4.6	145.8	-4.3	24.6

Reference Points X - MDB Front Axle Y - MDB Centerline Z - Ground Plane

MDB BUMPER CONTACT SWITCH DATA

Loc. No.	Contact Switch Location	Units	Peak and 50% Crossing Point			
			Max	Time	50%	Time
3	MDB Left Bumper (T=0)	% F.S	100.0	0.0	0.0	0.0
4	MDB Right Bumper	% F.S.	100.8	11.6	50.4	0.6



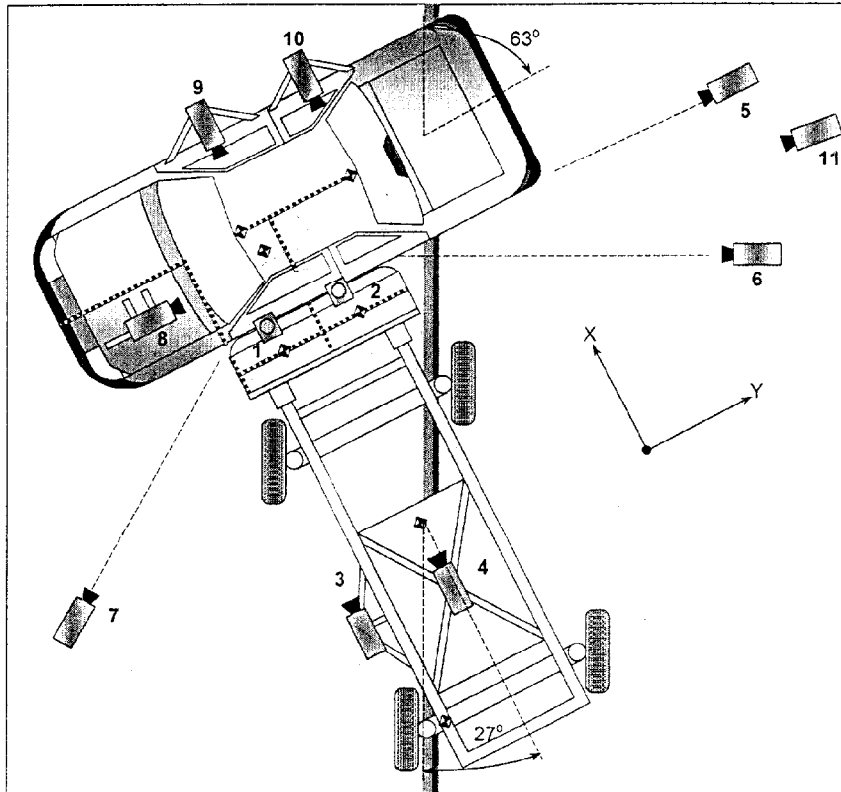
DATA SHEET NO. 15
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2000 Mercury Villager Mini-Van

NHTSA No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X	Y	Z			
1	Overhead Overall	2260	750	5490	90	10	990
2	Overhead Close-up	0	0	5490	90	24	1020
3	MDB Onboard, Impact Point Close-Up	2200	840	1110	7	13	1000
4	MDB Onboard, Centerline of Impact	3420	660	1815	11	13	1010
5	Right Side, Ground Level, Overall	8700	17820	1570	0	25	1030
6	Right Side, Ground Level, Close-up	4300	4270	1495	5	12	1000
7	Left Side, Ground Level, Close-up	440	3785	1670	12	19	1030
8	Vehicle Onboard Front SID, Front	2085	2303	1187	3	10	1000
9	Vehicle Onboard Front SID, Side	2085	1425	1210	2	10	1020
10	Vehicle Onboard Rear SID, Side	1370	19020	725	0	70	1030
11	Real Time Coverage	3000	19300	587	2	Zoom	24

DATA SHEET NO. 16

FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2000 Mercury Villager Mini-Van

NHTSA No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 02/29/00

Test Time: 12:56 PM Temperature at Time of Impact: 20.0 °C

STODDARD SOLVENT SPILLAGE MEASUREMENTS

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

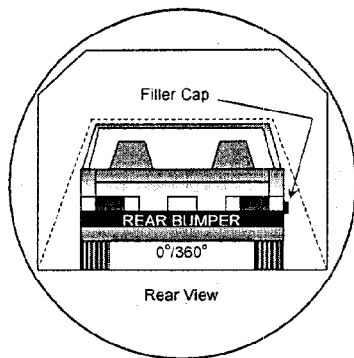
DATA SHEET NO. 17
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2000 Mercury Villager Mini-Van

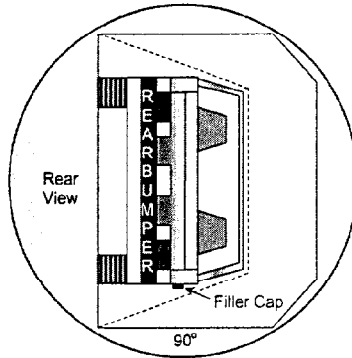
NHTSA No.: MY0214

Test Program: 55/28 km/h 90° Side Impact NCAP

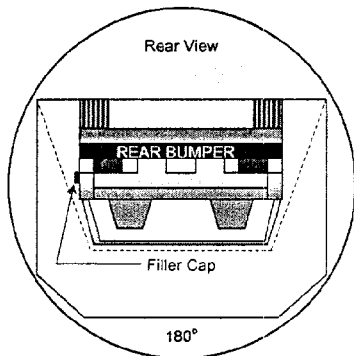
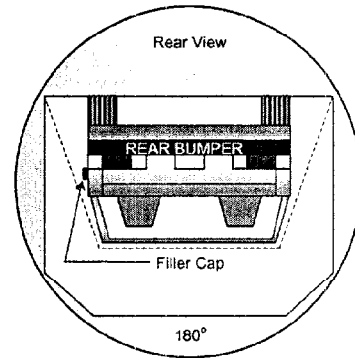
Test Date: 02/29/00



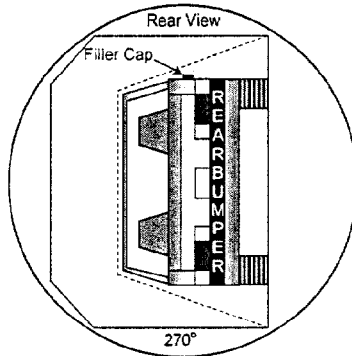
0° TO 90°



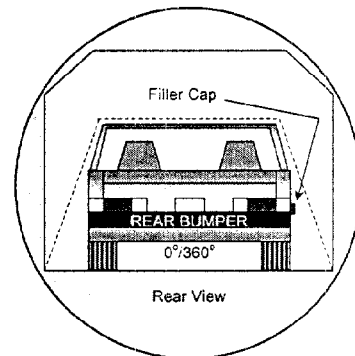
90° TO 180°



180° TO 270°



270° TO 360°



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. Details of Stoddard Solvent spillage locations:

No solvent leakage occurred during static rollover testing.

Rollover Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	81	300	0.0
90° TO 180°	83	300	0.0
180° TO 270°	77	300	0.0
270° TO 360°	82	300	0.0

APPENDIX A
PHOTOGRAPHS

KAR20003-04

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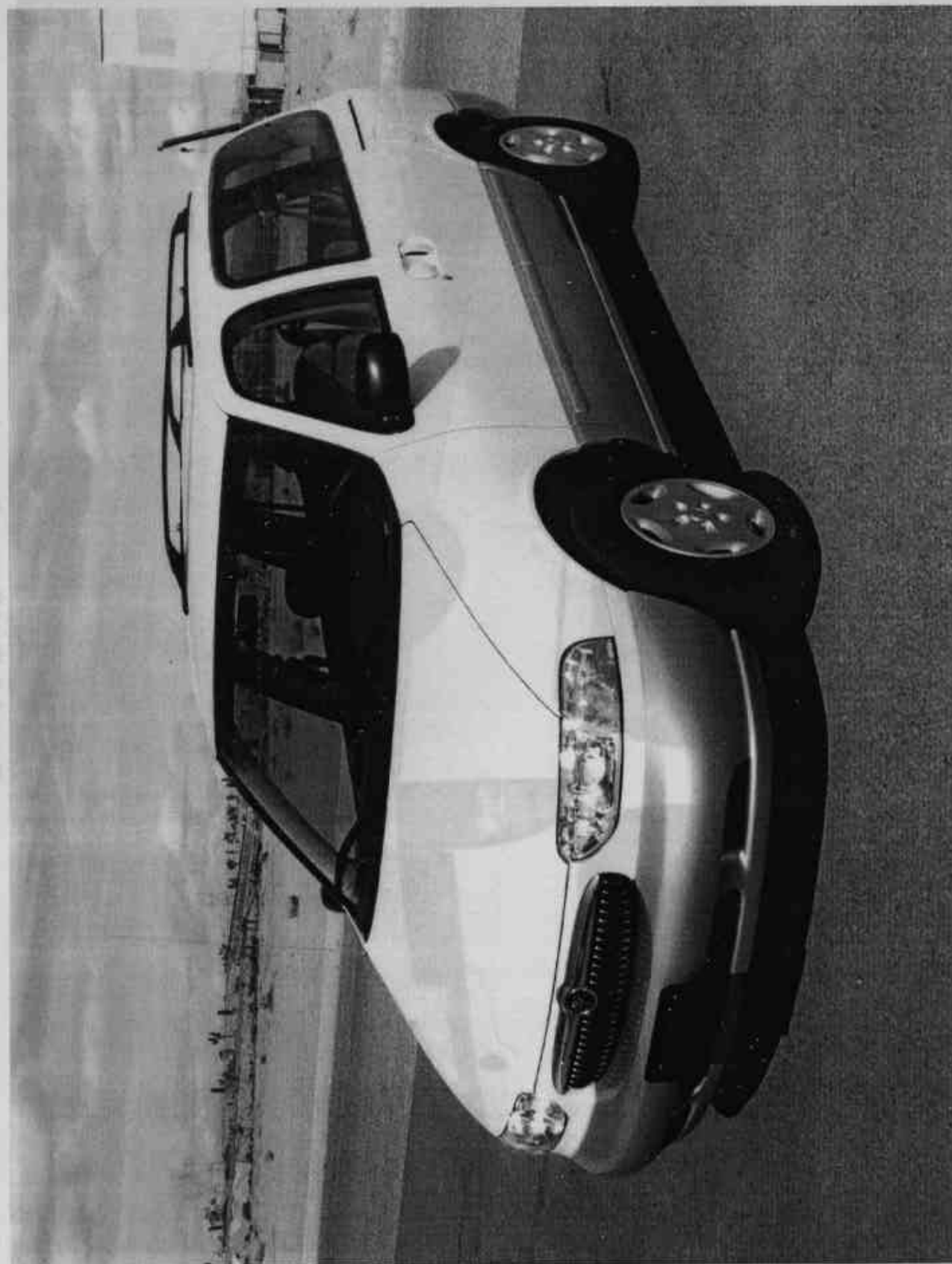
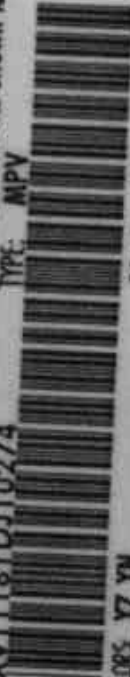


Figure A-1: Left Front, as Received



Figure A-2: Right Rear, as Received

MFD. BY FORD MOTOR CO. DATE: 11/99 GWR: 5445LB/2469KG
 FRONT GAWR: 2716LB 1231KG REAR GAWR: 2844LB 1290KG
 WITH P215/70RX155 TIRES WITH P215/70RX155 TIRES
 15X5.5JJ RIMS 15X5.5JJ RIMS
 AT 35 PSI/ 241 LPS COLD SINGLE AT 35 PSI/ 241 LPS COLD SINGLE
 THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTORVEHICLE SAFETY AND
 THEFT PREVENTION STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
 VIN: 4M2XV11T8YDJ0274 TYPE: MPV



EXT. PAINT COLORS: YZ YN
 WB: BRK INT: TR TP/PS: R AXLE: TR SPR: RC: 54 DSC:
 112 A 6K H 19 P F0082
 1B060 T0738
 UVU F6UB-3520472-AA

Figure A-3: Vehicle Certification Label

RECOMMENDED COLD TIRE INFLATION PRESSURE PRESSIONS DE CONFLANGE RECOMMANDÉES (À FROID)				TEMPERARY SPARE (TIRE DE RÉSERVE PROVISIONNELLE)	FRONT PSI AVANT (kPa)	REAR PSI ARRIÈRE (kPa)
TIRE SIZE DIMENSION DES PNEUS	WIM SIZE DIMENSION DES ROUES	FRONT PSI AVANT (kPa)	REAR PSI ARRIÈRE (kPa)	5.5L x 14.00-14	32.0 kPa (2.3 bar)	32.0 kPa (2.3 bar)
P185/70R14 STD	5.50R14	24.0 kPa	24.0 kPa	5.5L x 14.00-14	32.0 kPa (2.3 bar)	32.0 kPa (2.3 bar)
P185/60R14 STD	5.50R14	1.30 bar (19.0 psi)	1.30 bar (19.0 psi)	5.5L x 14.00-14	32.0 kPa (2.3 bar)	32.0 kPa (2.3 bar)
*Always inflate tires to recommended pressure when cold. *Toujours gonfler les pneus à la pression recommandée quand ils sont froids.				*Always inflate tires to recommended pressure when cold. *Toujours gonfler les pneus à la pression recommandée quand ils sont froids.		

Figure A-4: Vehicle Tire Label

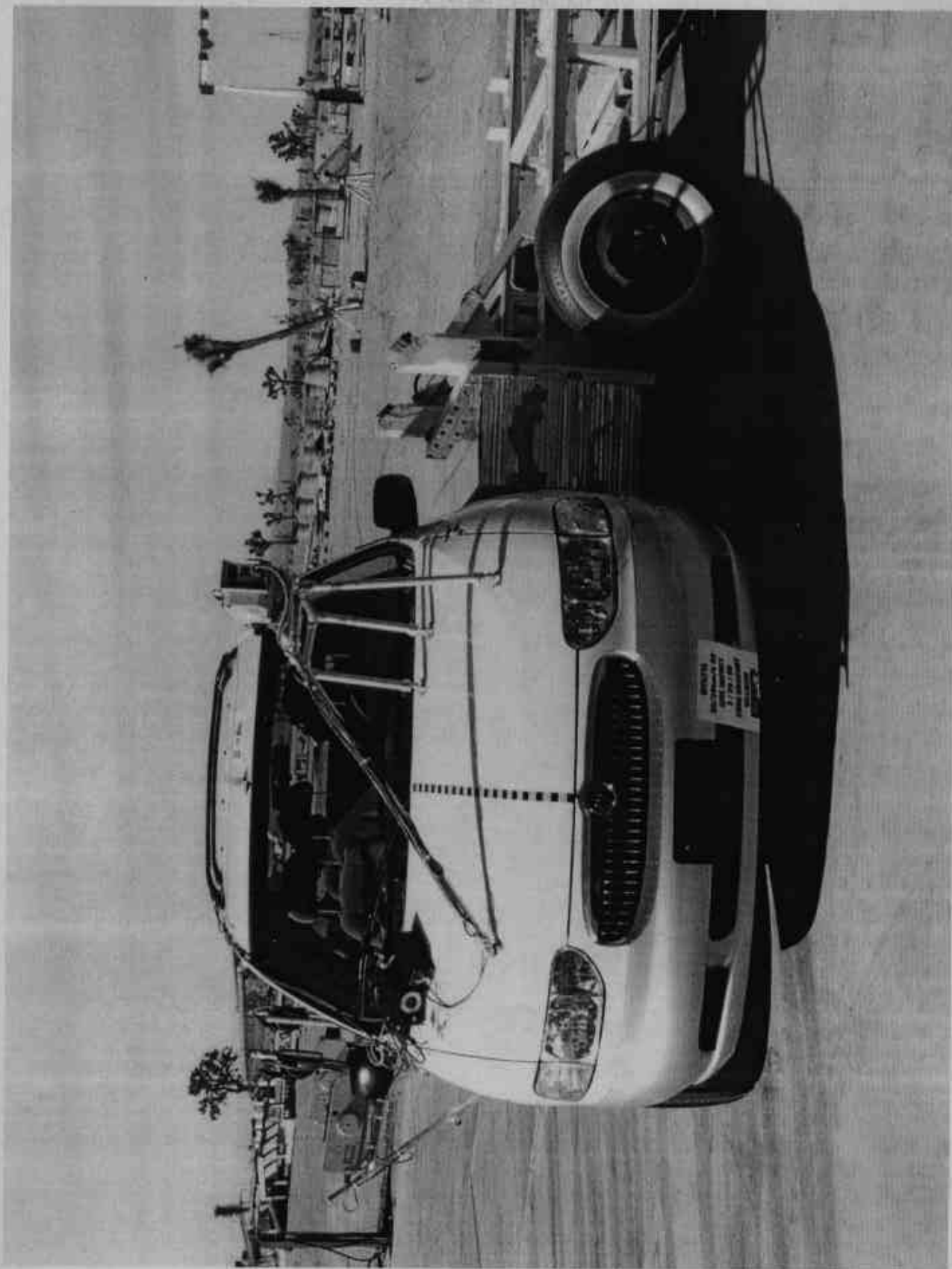


Figure A-5: Front View, Pre-Test



Figure A-6: Front View, Post-Test



Figure A-7: Rear View, Pre-Test

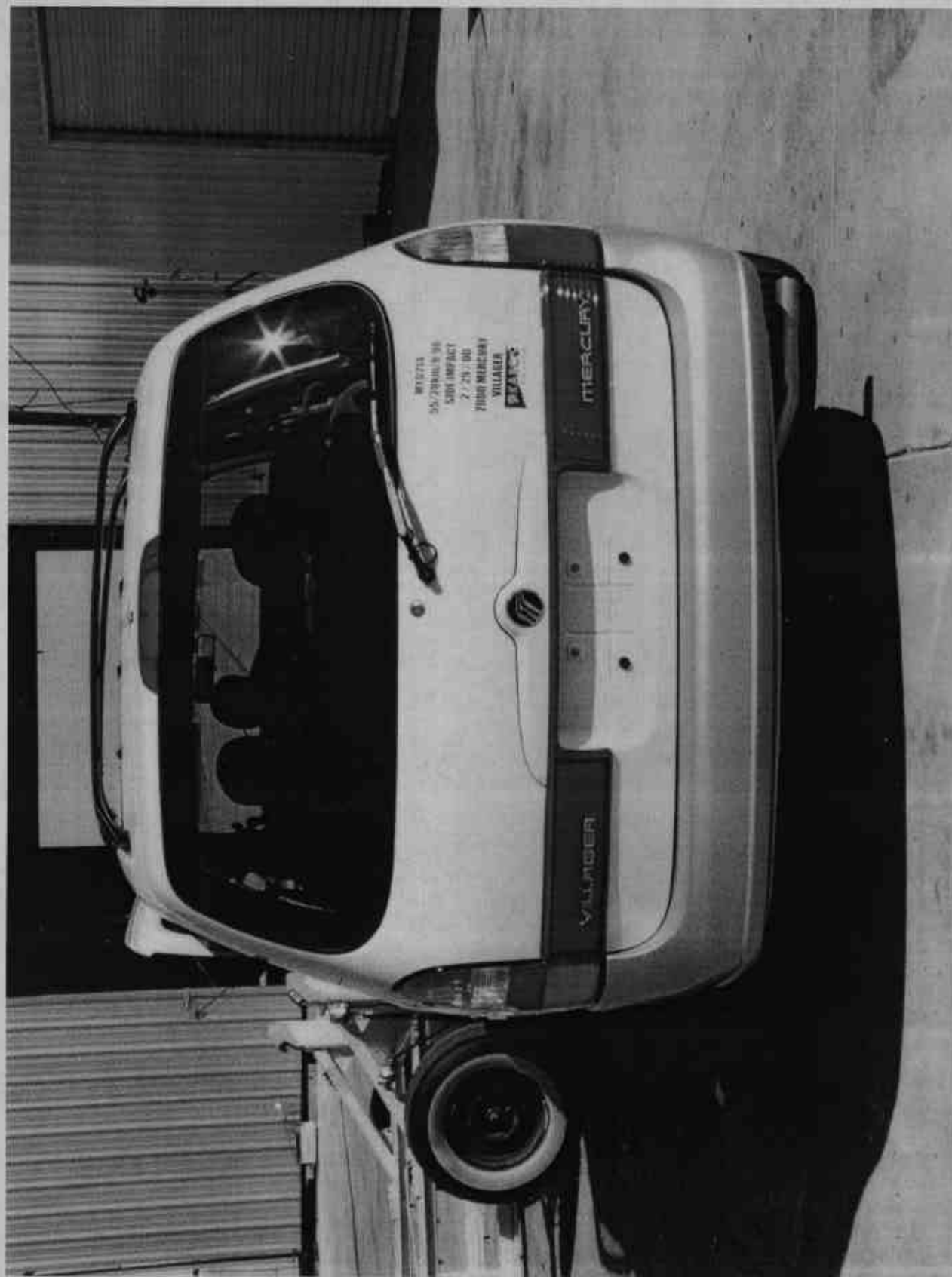


Figure A-8: Rear View, Post-Test

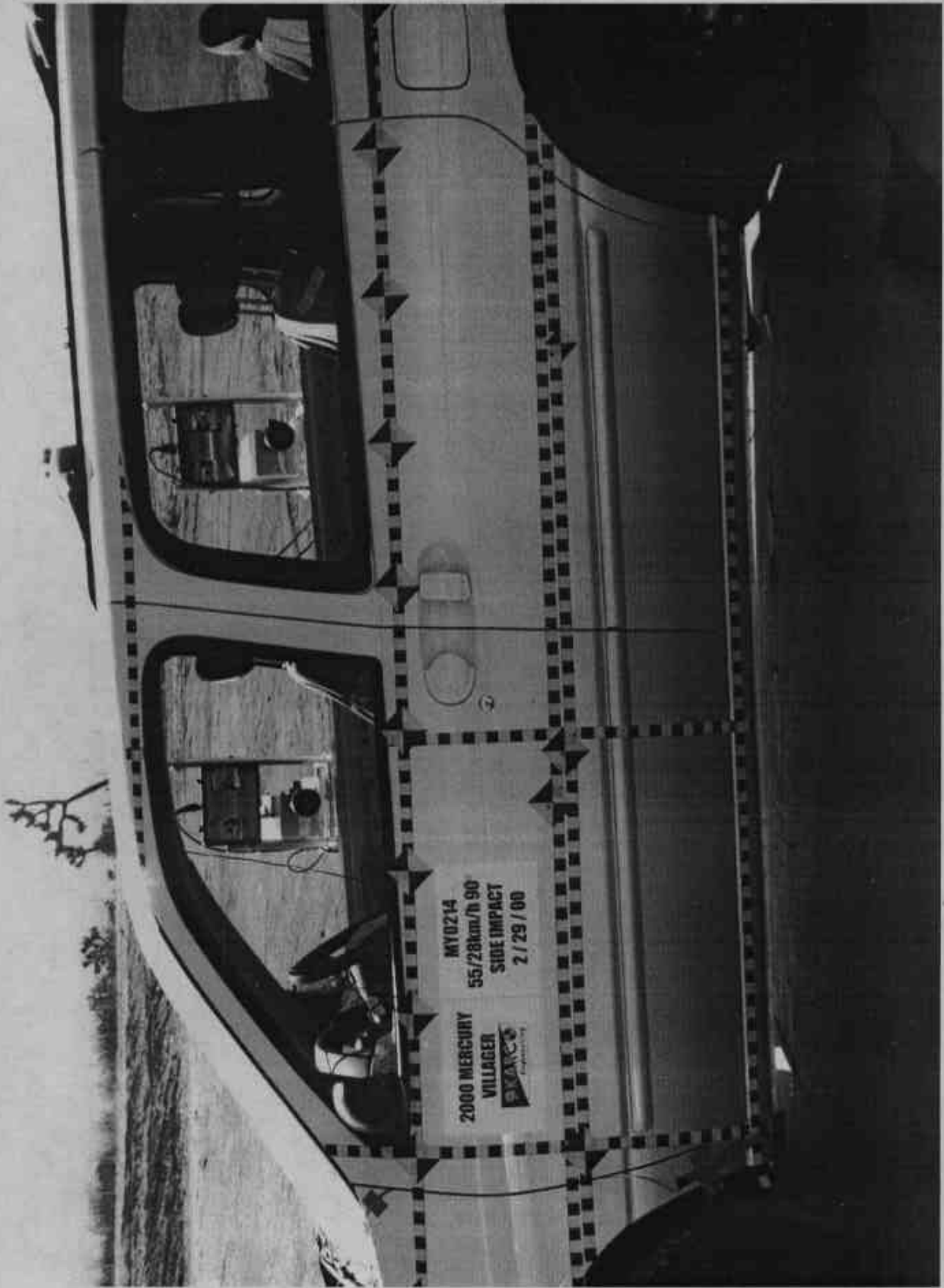


Figure A-9: Left (Impacted) Side View, Pre-Test

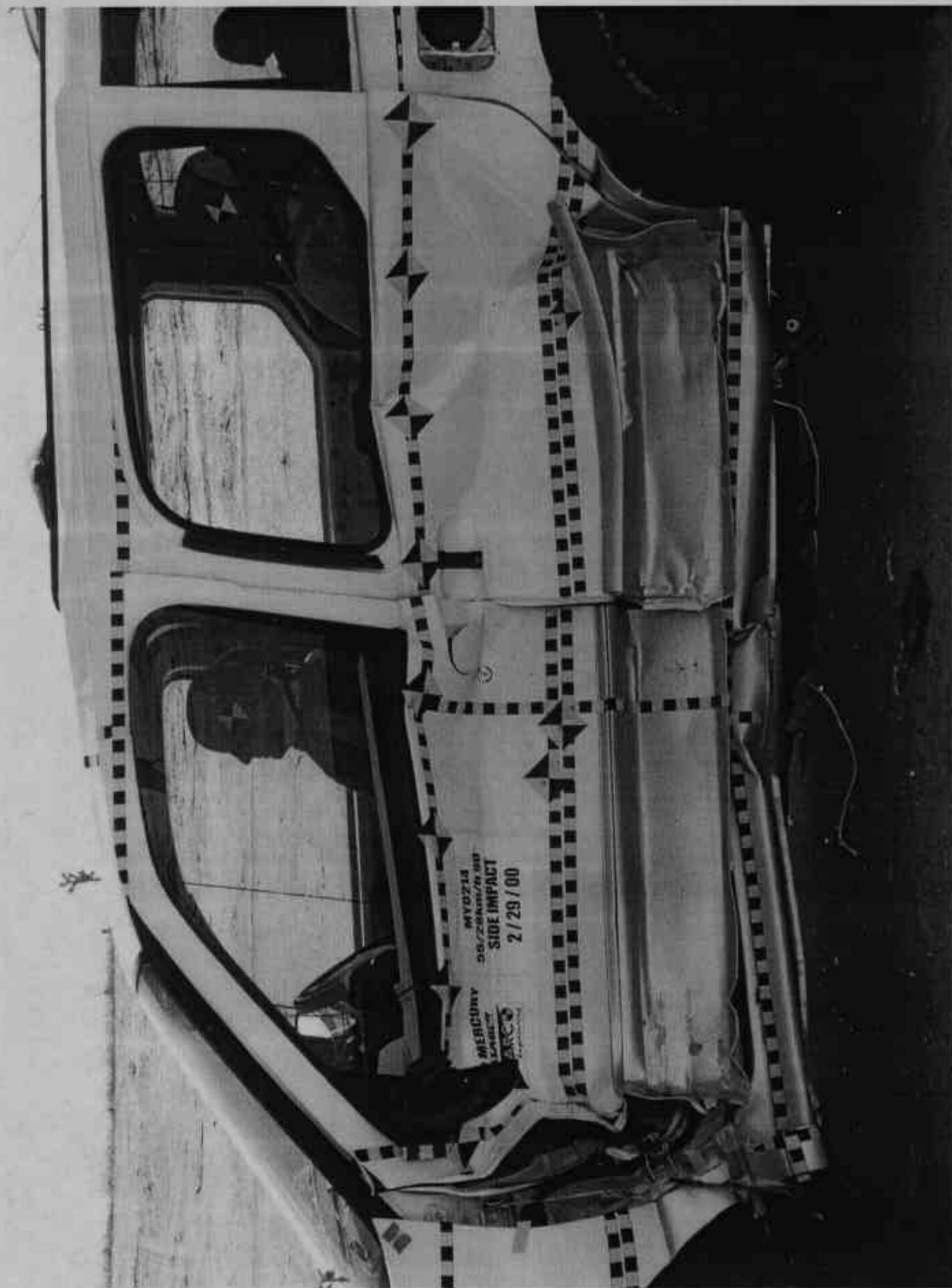


Figure A-10: Left (Impacted) Side View, Post-Test

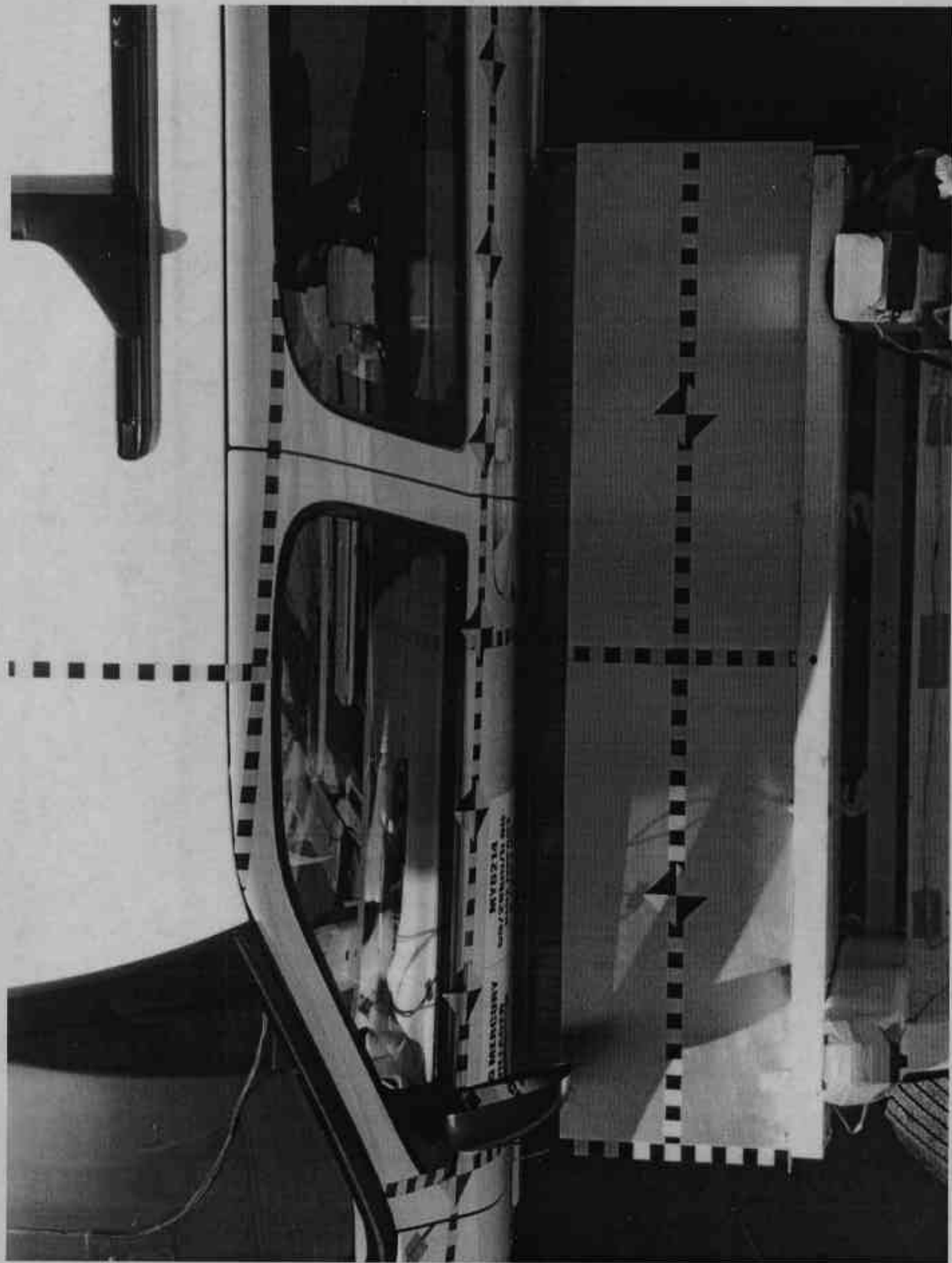


Figure A-11: Overhead Close-up View at Impact Position, Pre-Test



Figure A-12: Overhead Overall View, Pre-Test

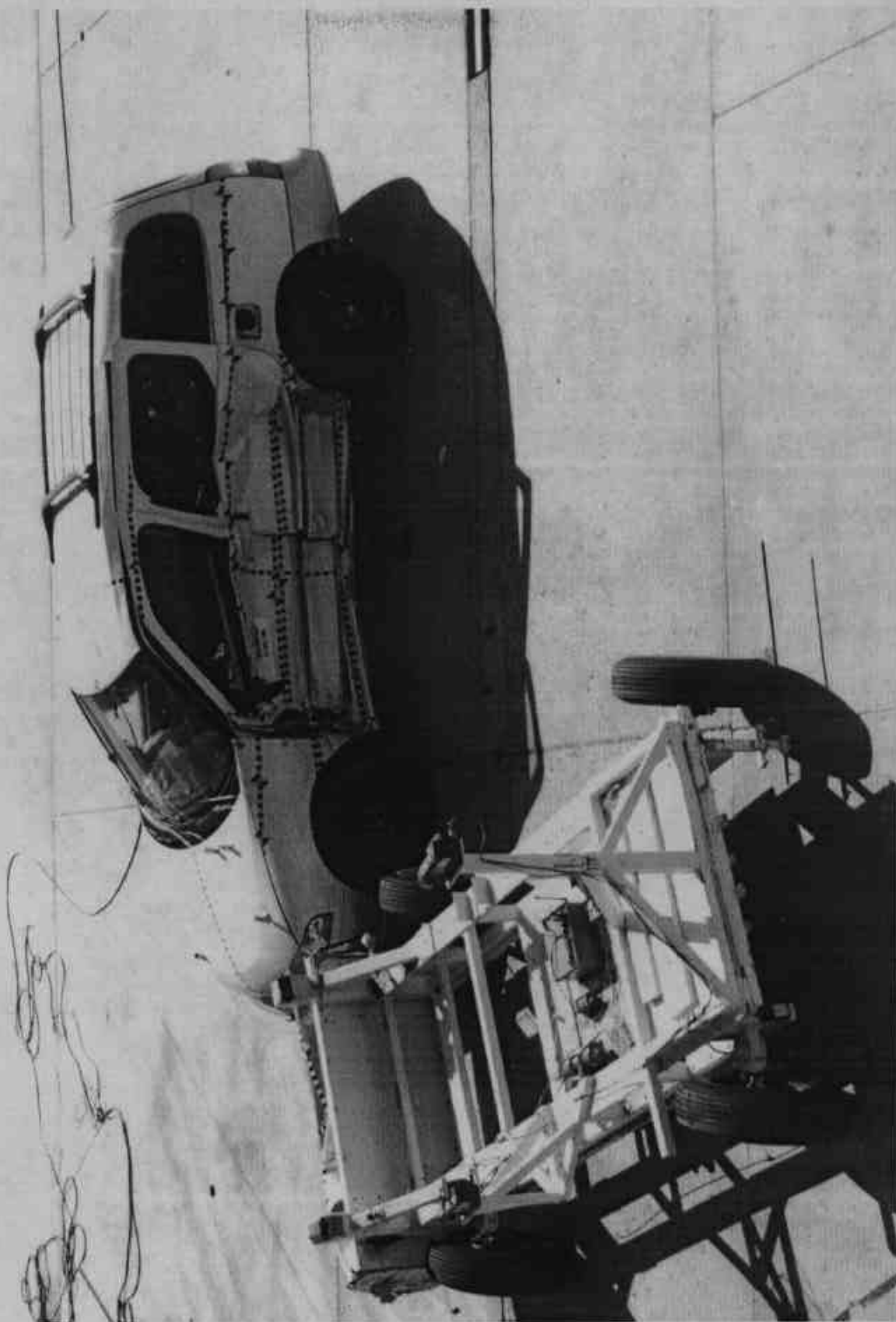


Figure A-13: Overhead Overall View, Post-Test

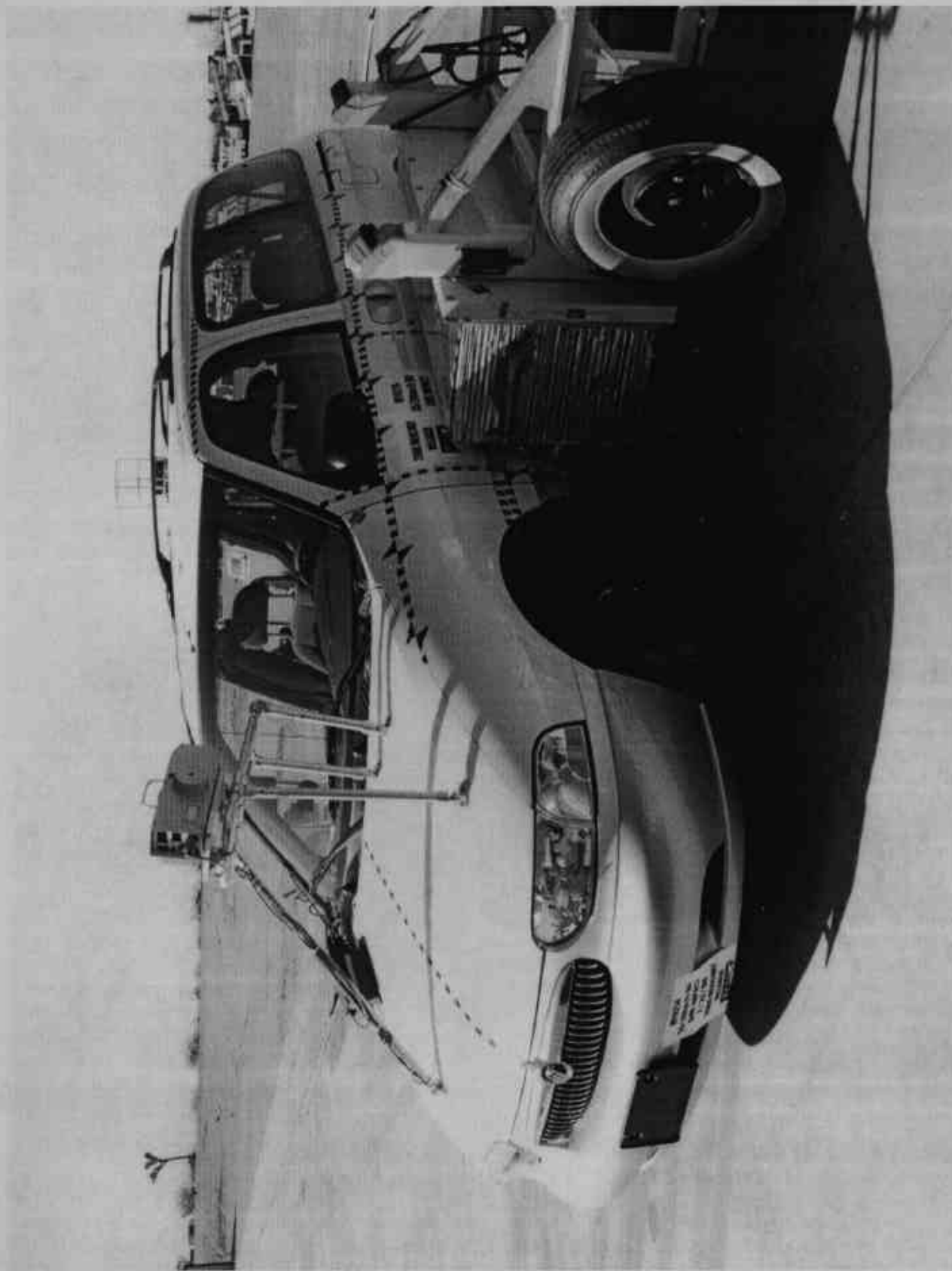


Figure A-14: MDB Left Side View at Impact Position, Pre-Test

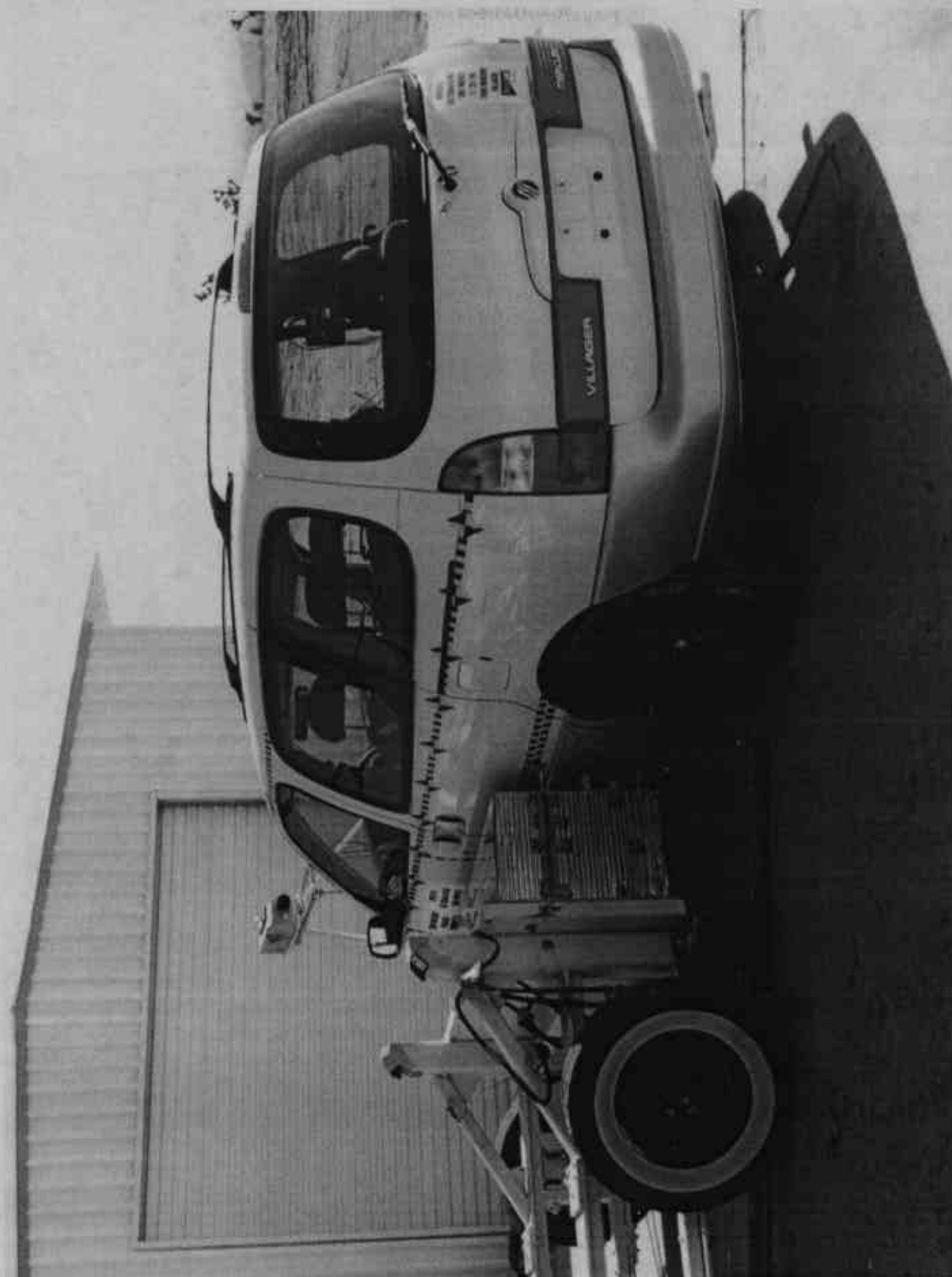


Figure A-15: MDB Right Side View at Impact Position, Pre-Test



Figure A-16: Impact Point Target Close-up, Pre-Test



Figure A-17: Impact Point Target Close-up, Post-Test



Figure A-18: Driver Dummy Left Side with Door Open, Pre-Test

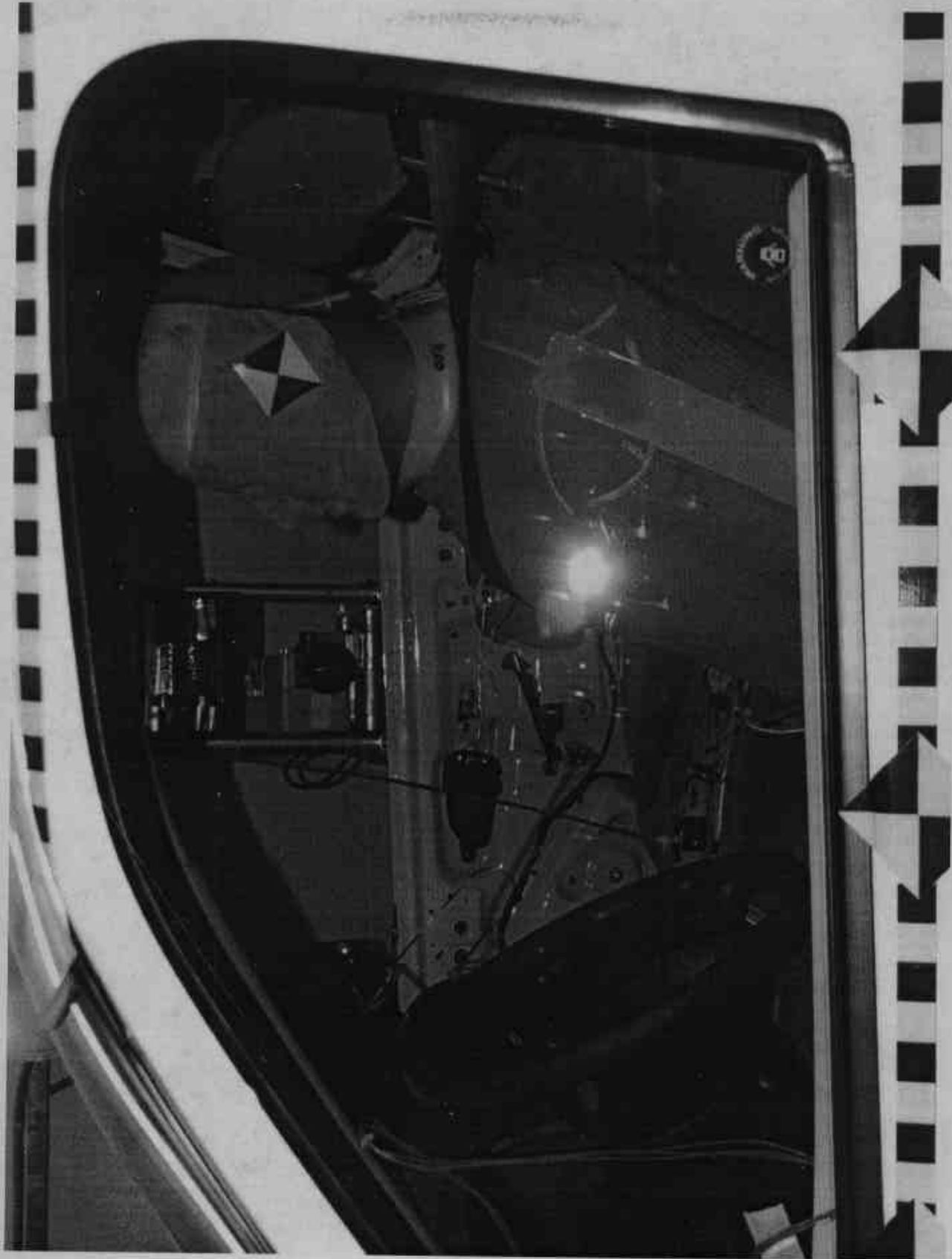


Figure A-19: Driver Dummy Left Side, Pre-test



Figure A-20: Driver Dummy Left Side, Post-Test

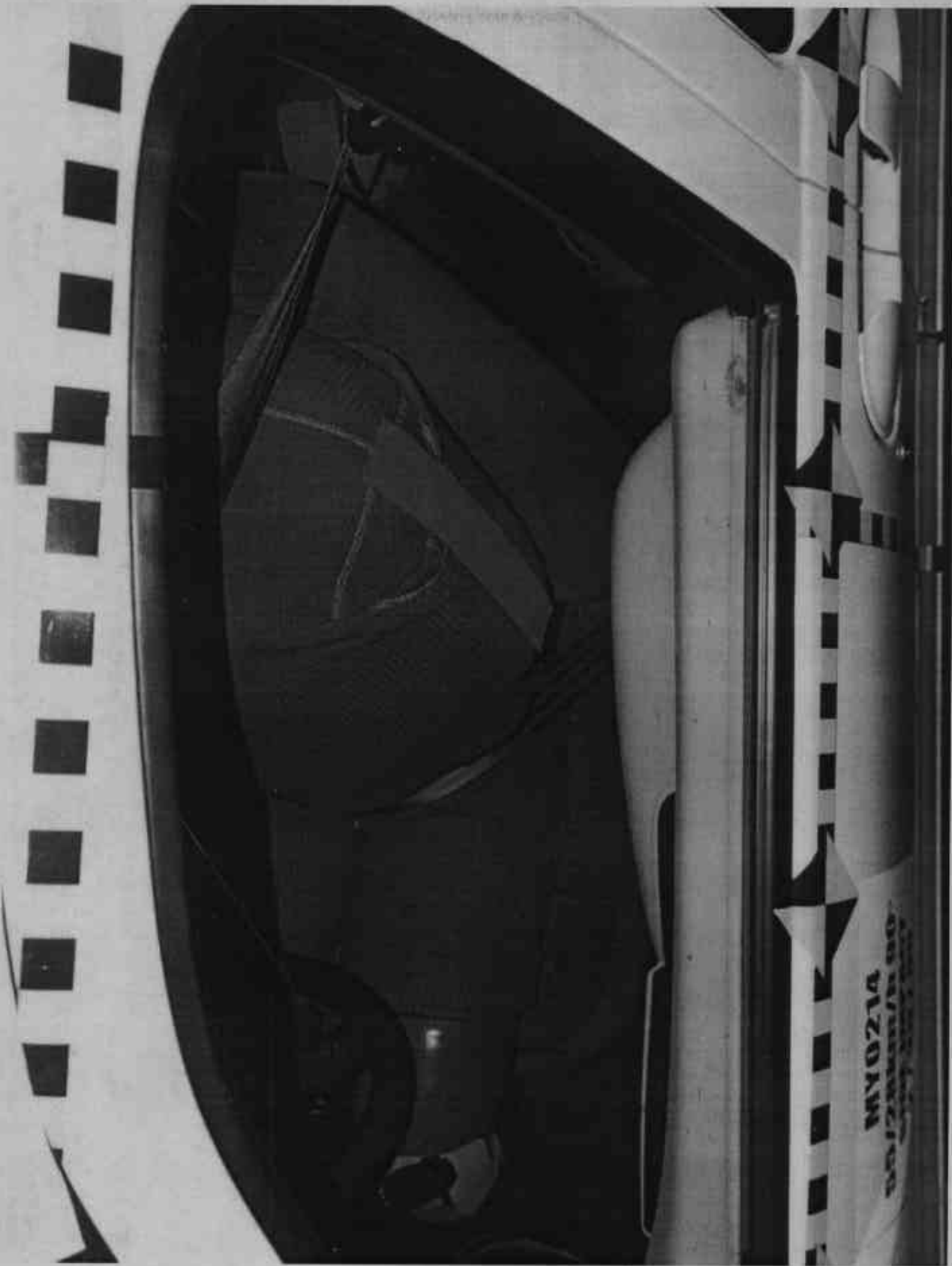


Figure A-21: Driver Dummy Clearance, Pre-Test

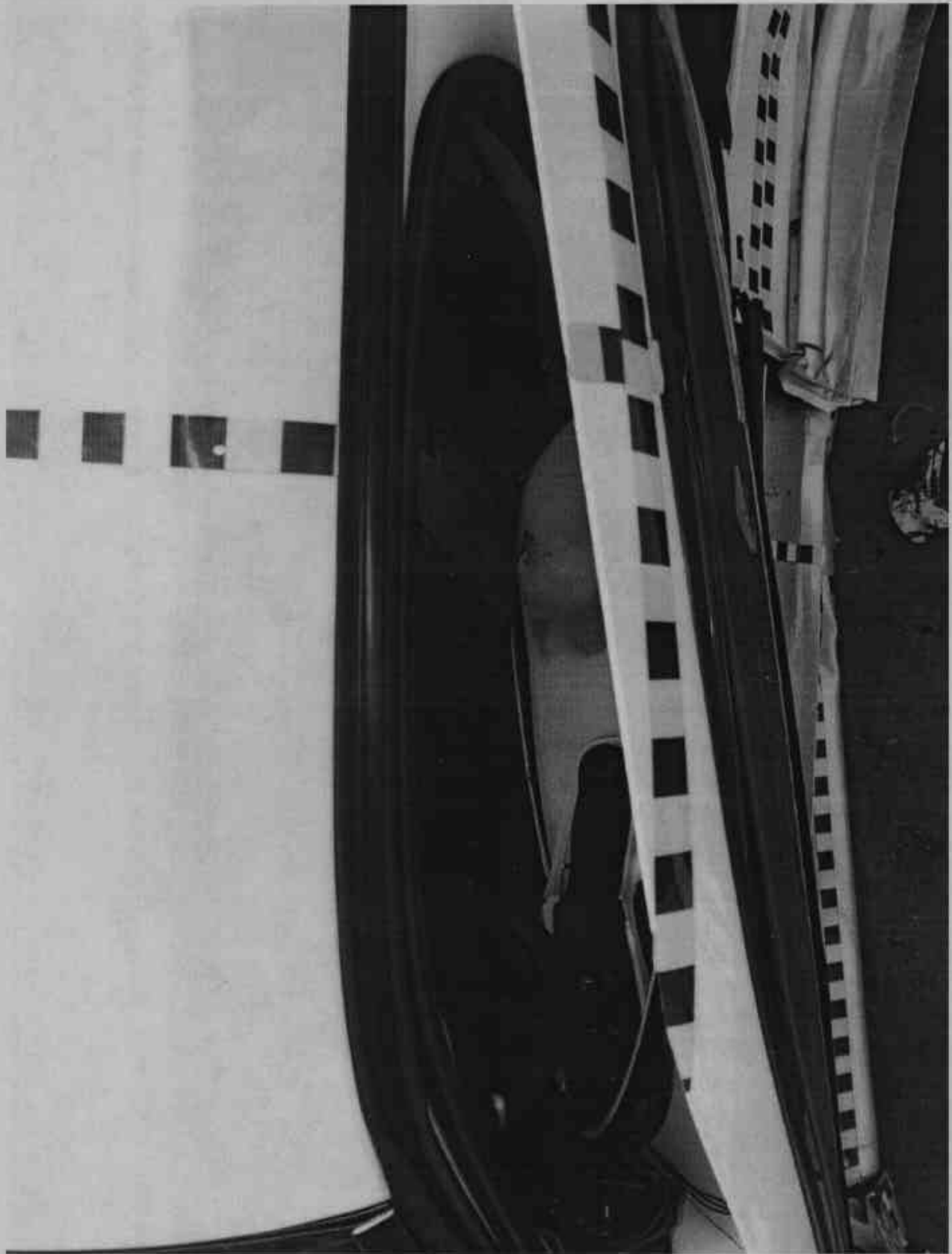


Figure A-22: Driver Dummy Clearance, Post-Test

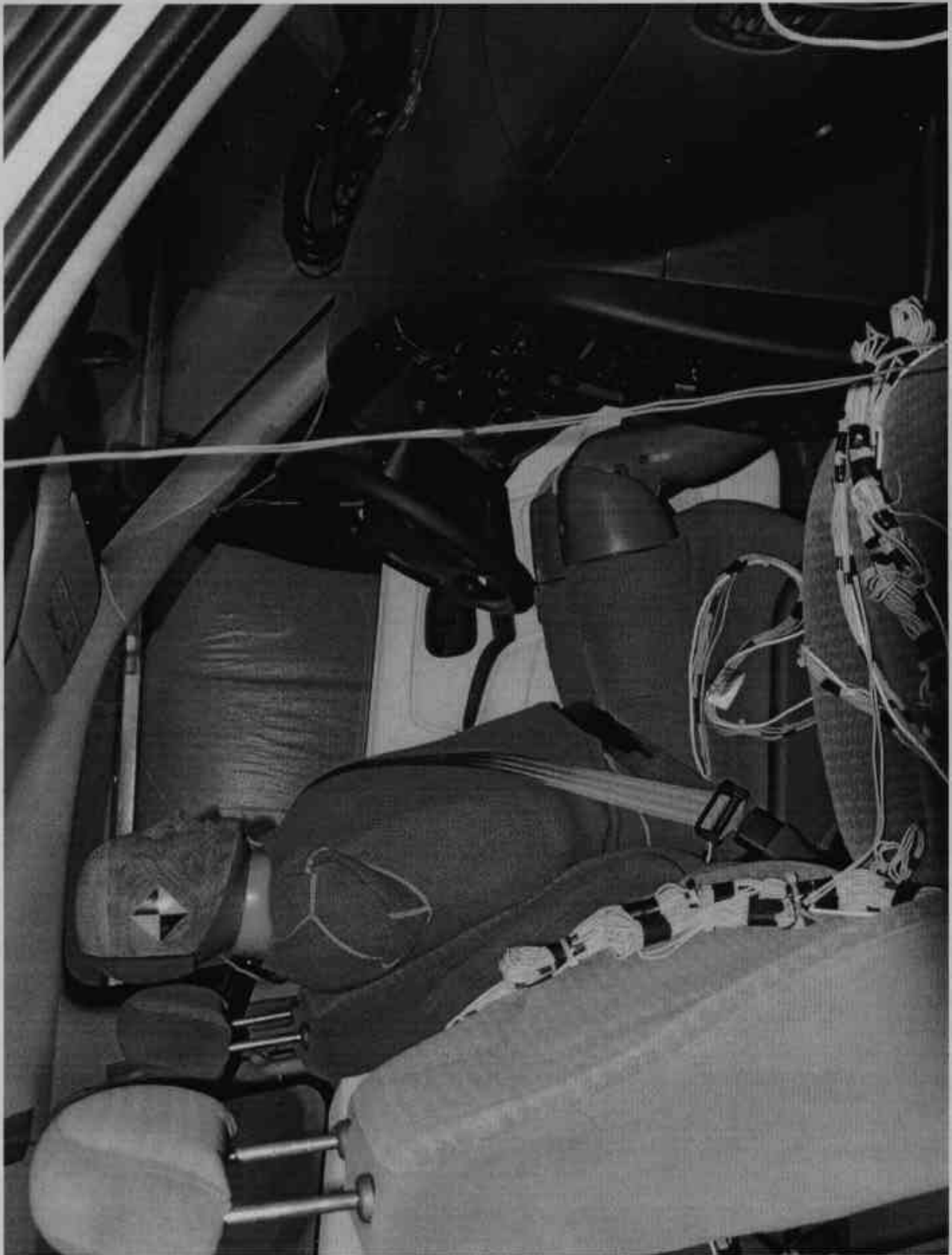


Figure A-23: Driver Dummy Inside View, Pre-Test



Figure A-24: Driver Dummy Inside View, Post-Test



Figure A-25: Driver Door Inside View, Pre-Test



Figure A-26: Driver Dummy Contact Points Inside View, Post-Test

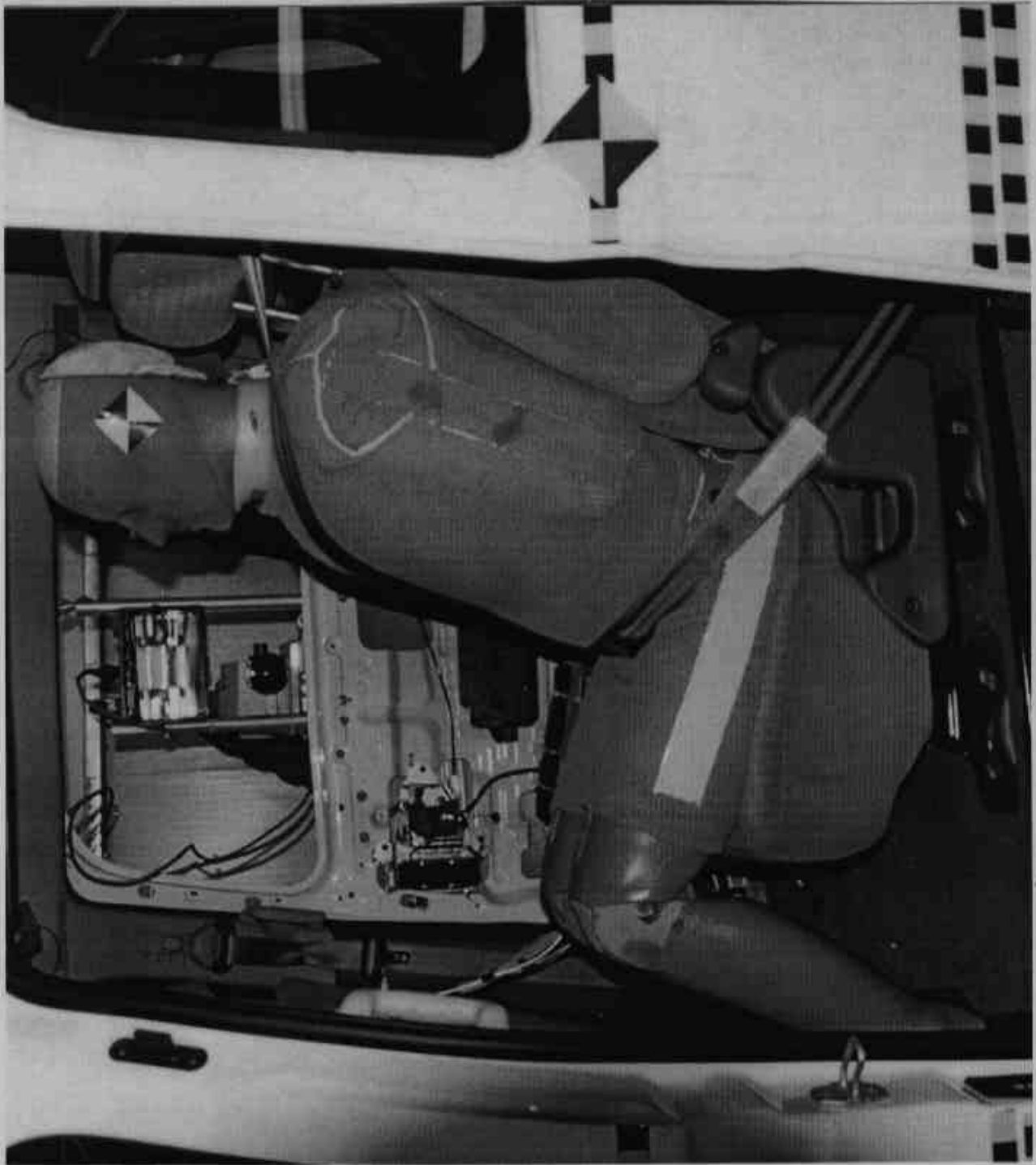


Figure A-27: Passenger Dummy Left Side with Door Open, Pre-Test

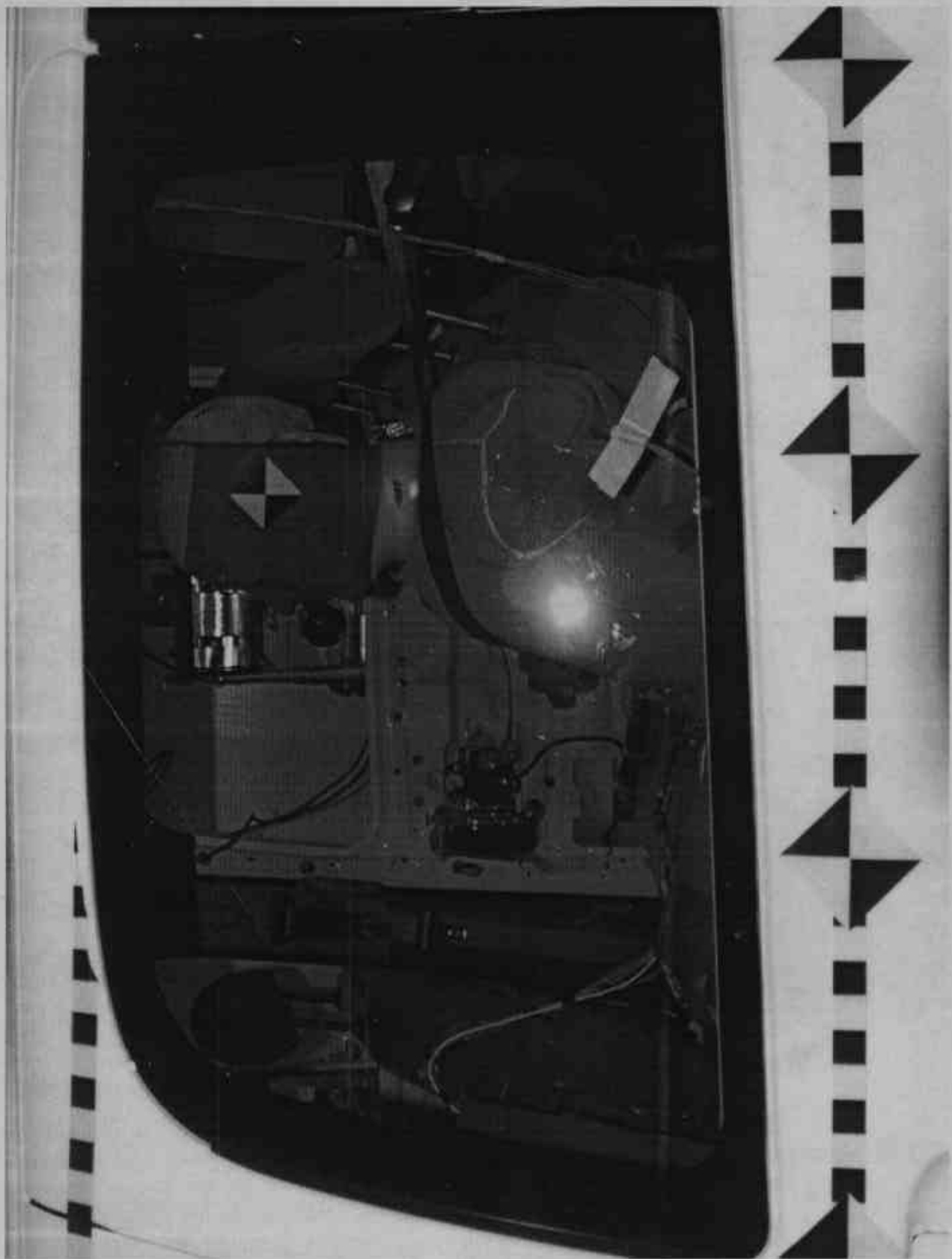


Figure A-28: Passenger Dummy Left Side, Pre-Test

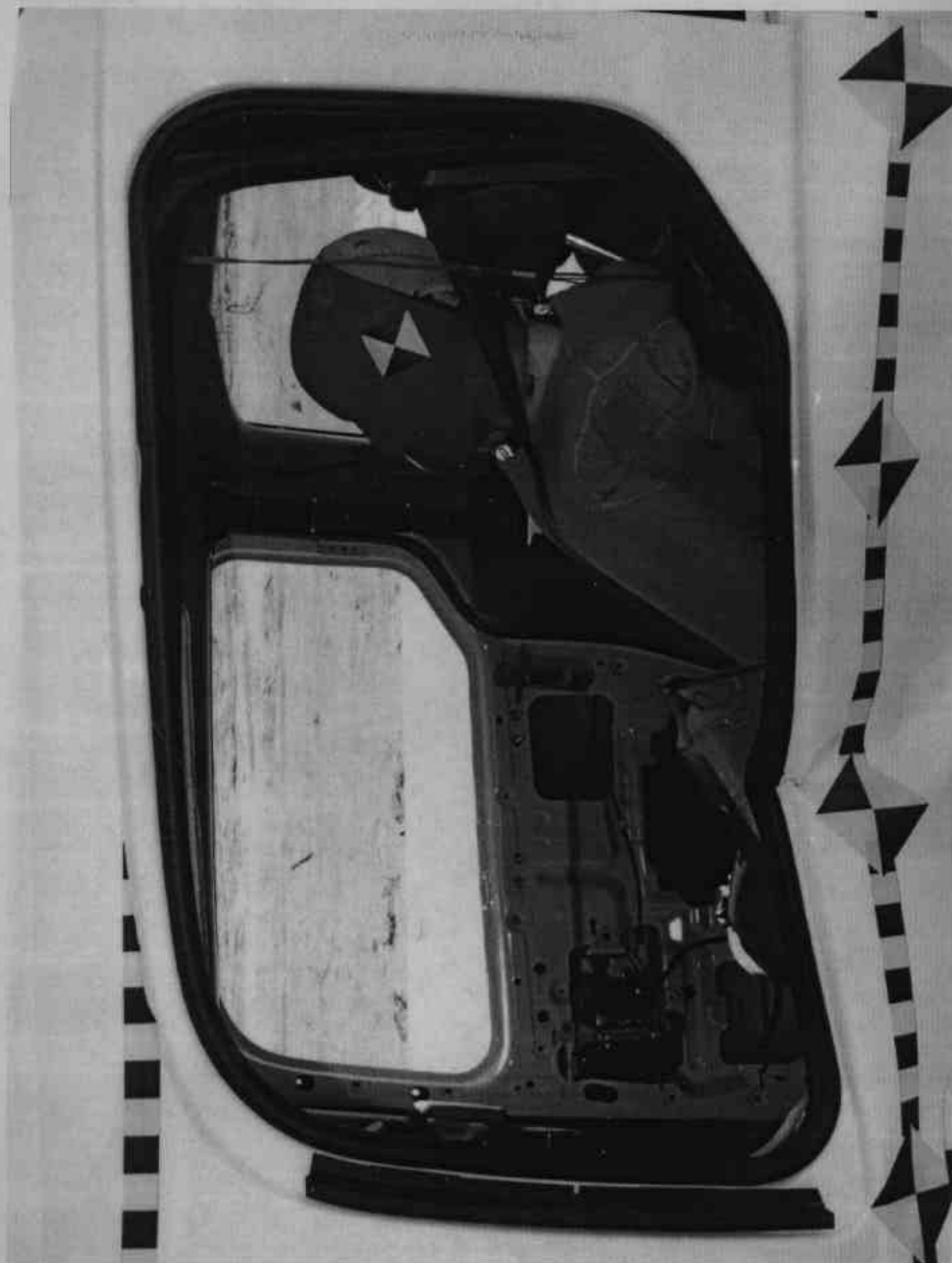


Figure A-29: Passenger Dummy Left Side, Post-Test

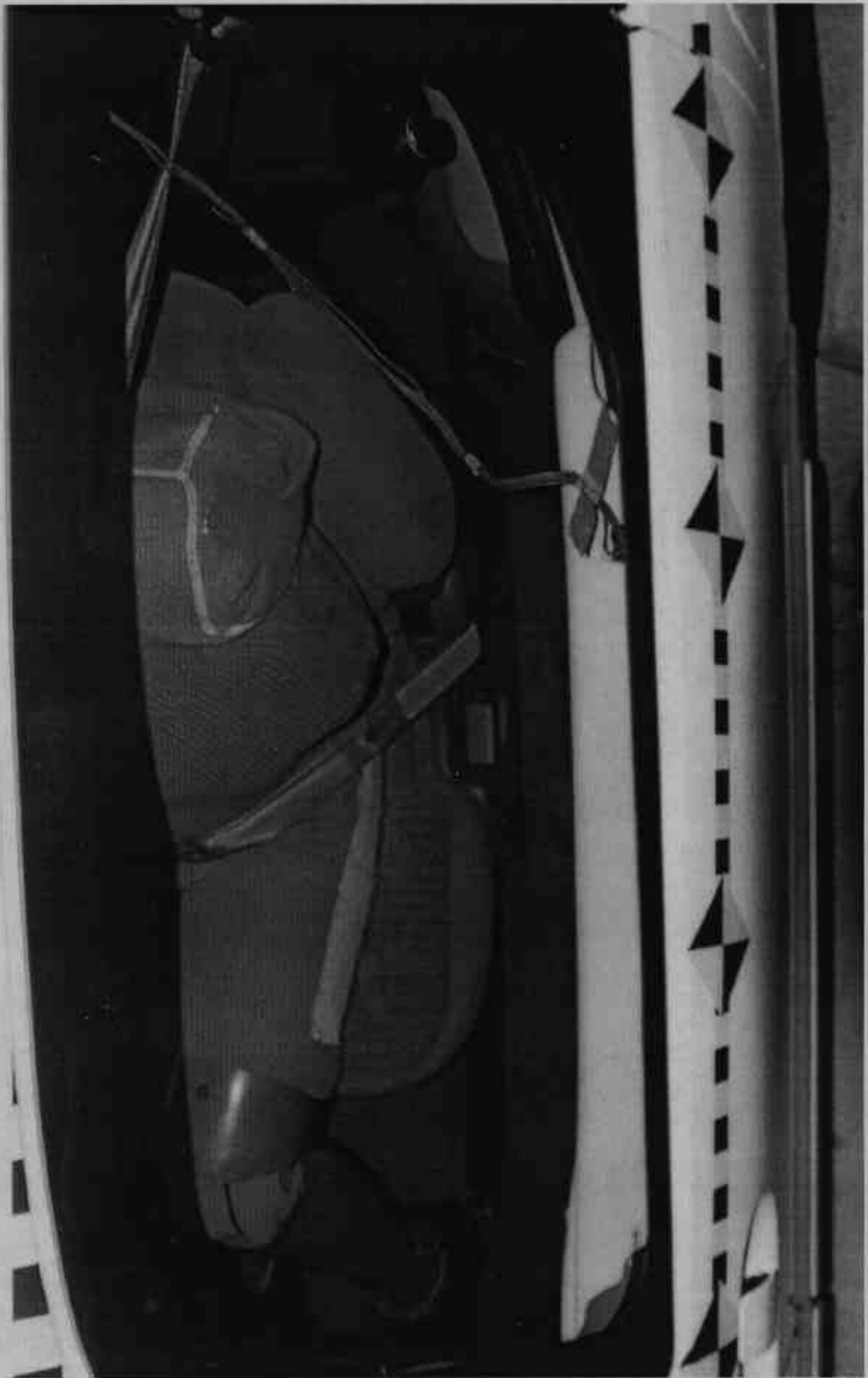


Figure A-30: Passenger Dummy Clearance, Pre-Test



Figure A-31: Passenger Dummy Clearance, Post-Test



Figure A-32: Passenger Dummy Inside View, Pre-Test



Figure A-33: Passenger Dummy Inside View, Post-Test



Figure A-34: Passenger Door Inside View, Pre-Test



Figure A-35; Passenger Dummy Contact Points Inside View, Post-Test

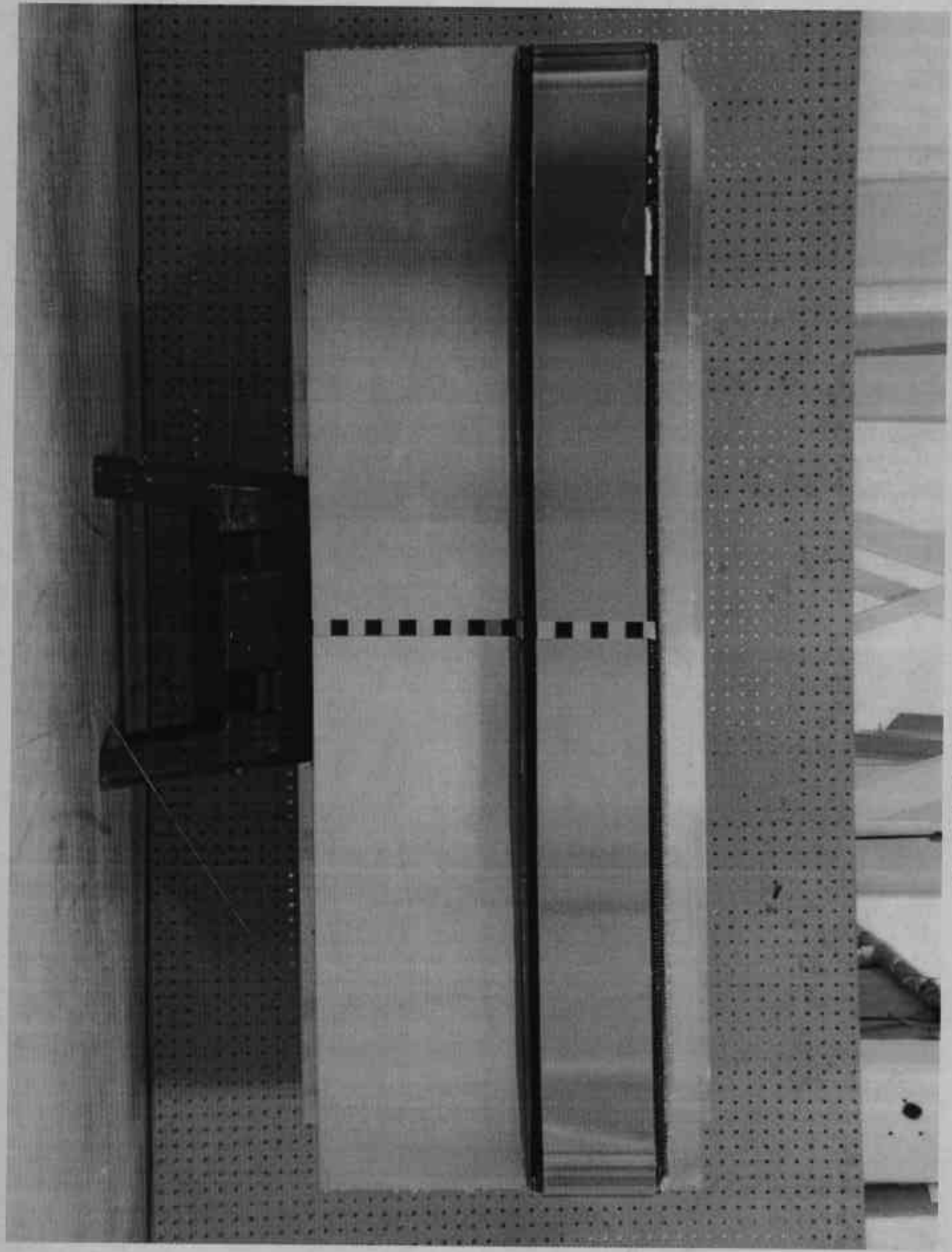


Figure A-36: Front View of Deformable Barrier, Pre-Test

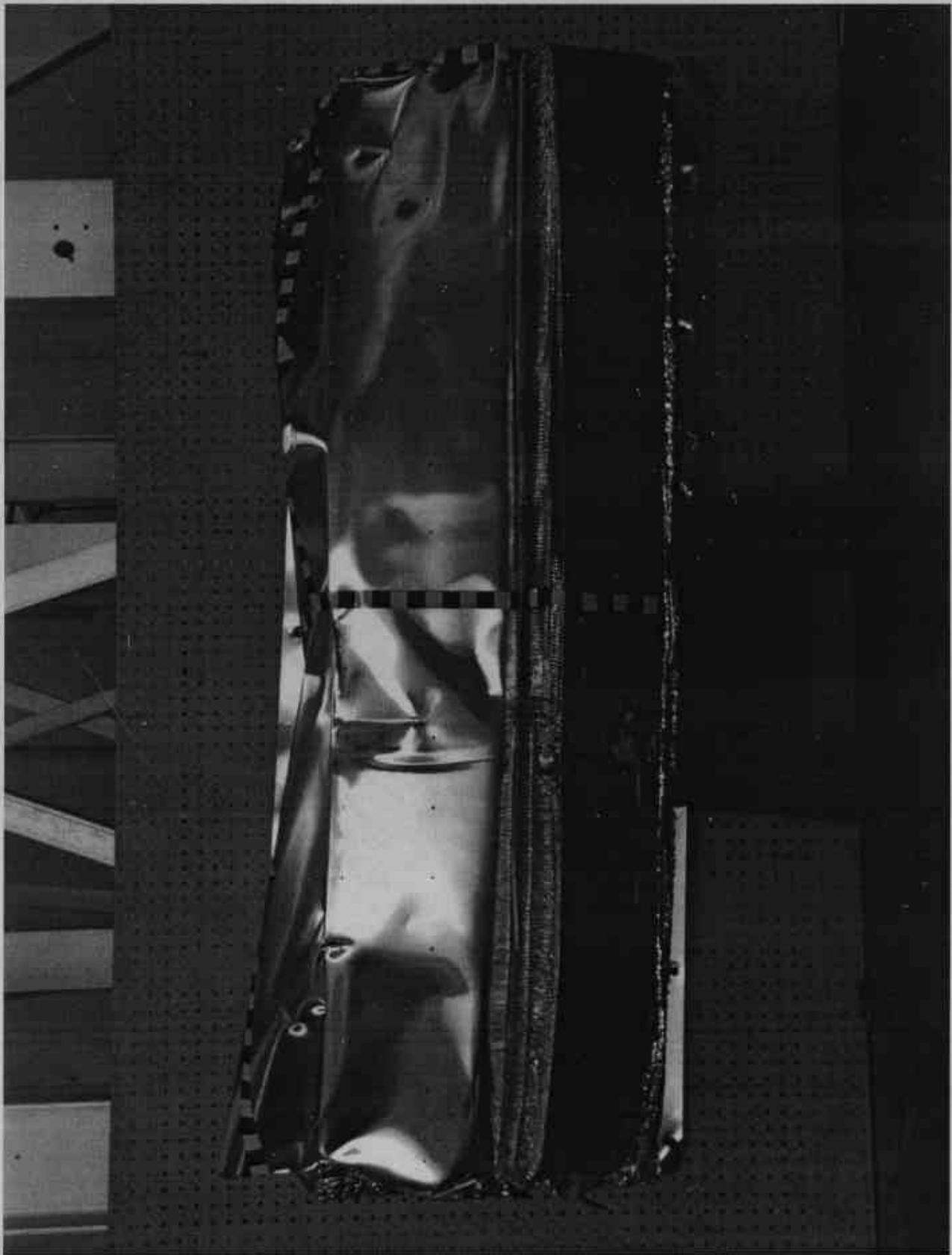


Figure A-37: Front View of Deformable Barrier, Post-Test

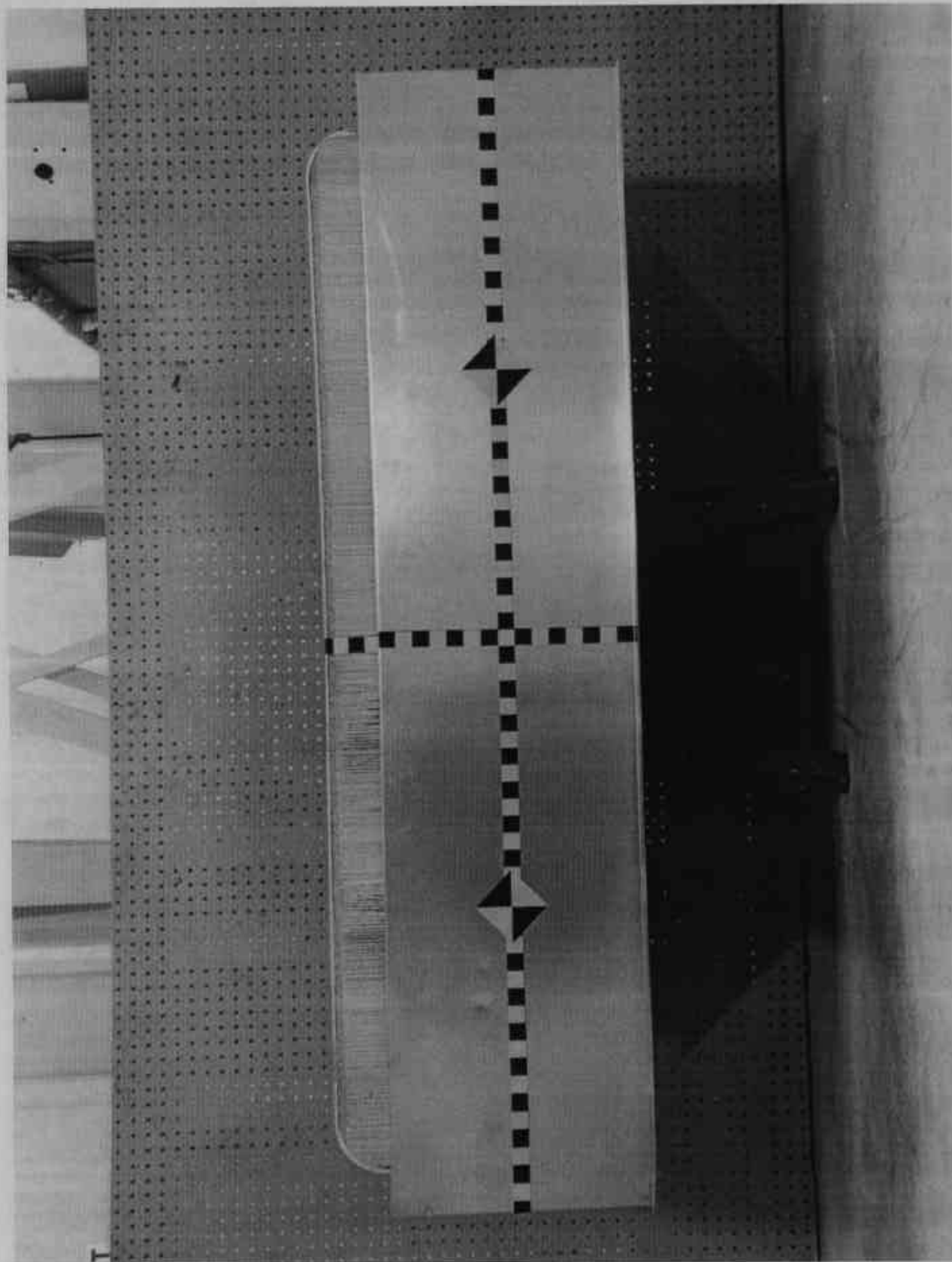


Figure A-38: Top View of Deformable Barrier, Pre-Test

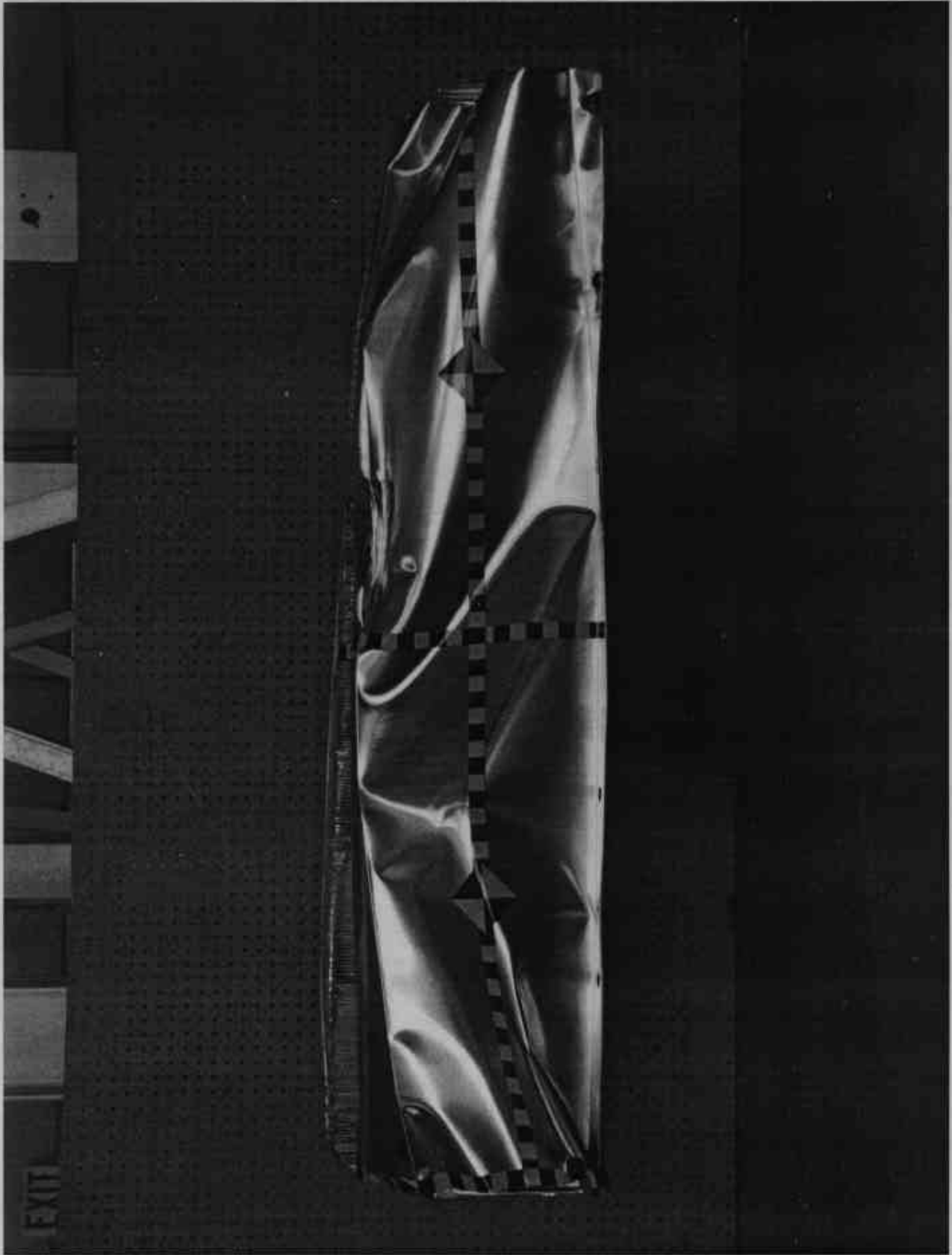


Figure A-39: Top View of Deformable Barrier, Post-Test

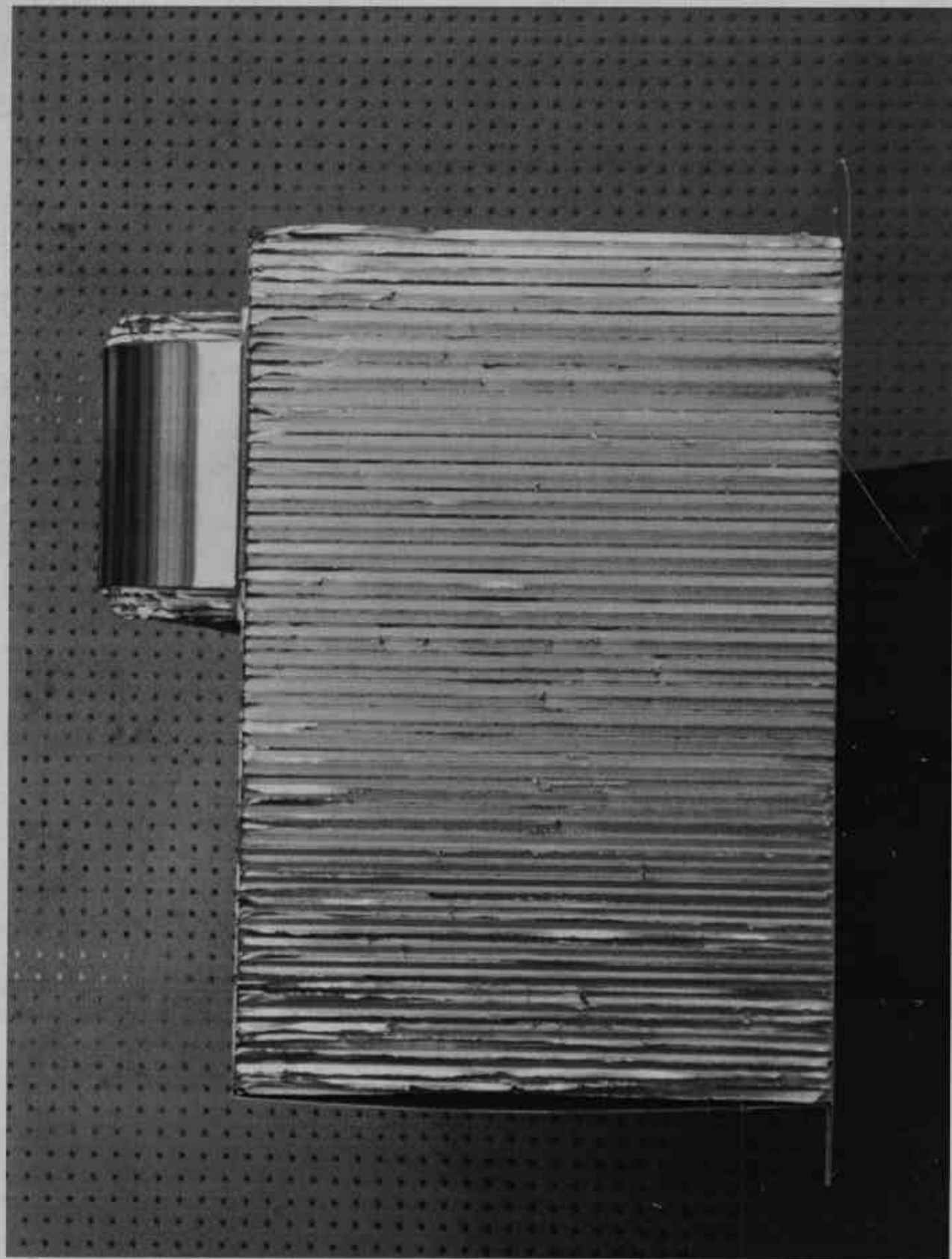


Figure A-40: Right Side View of Deformable Barrier, Pre-Test



Figure A-41: Right Side View of Deformable Barrier, Post-Test

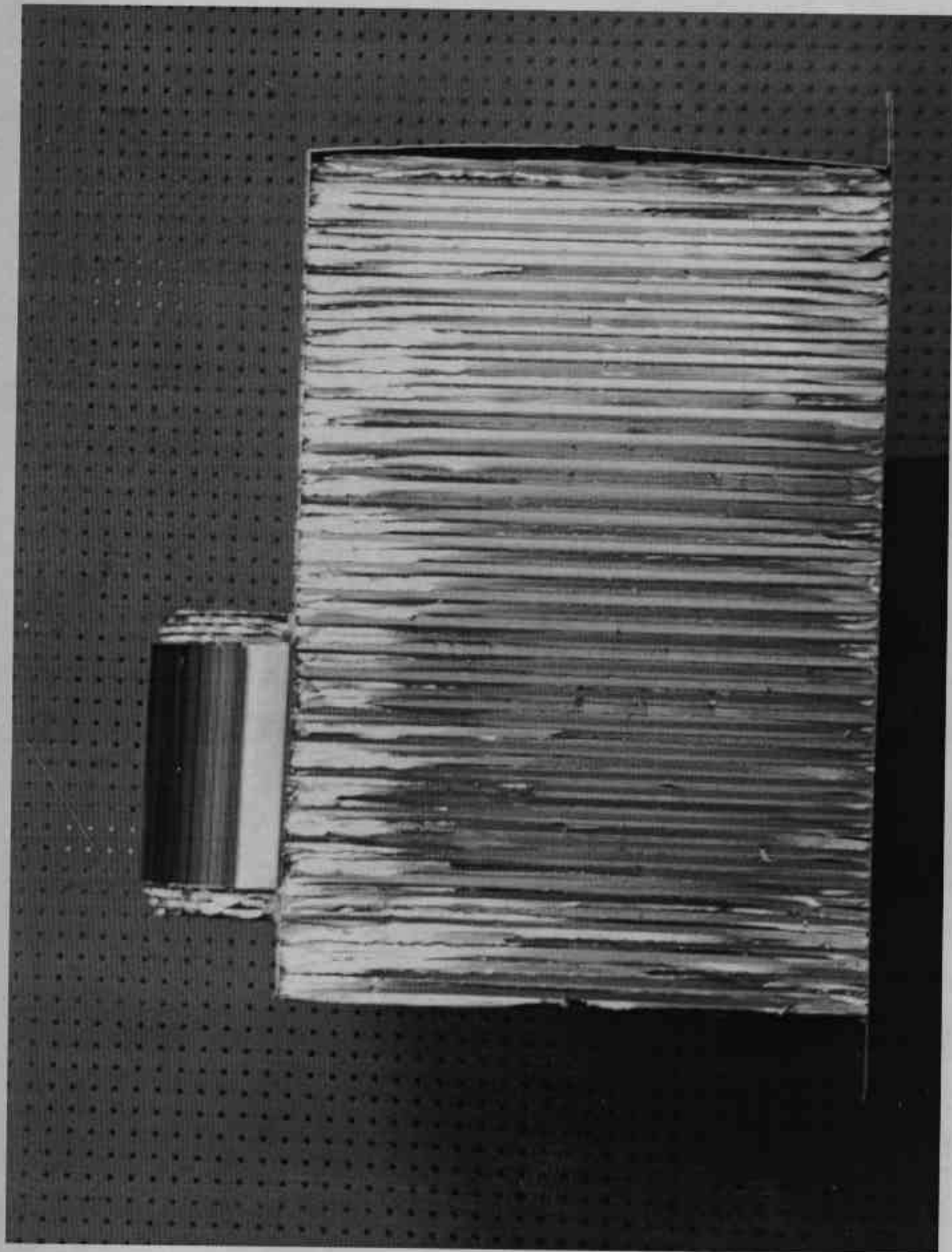


Figure A-42: Left Side View of Deformable Barrier, Pre-Test



Figure A-43: Left Side View of Deformable Barrier, Post-Test

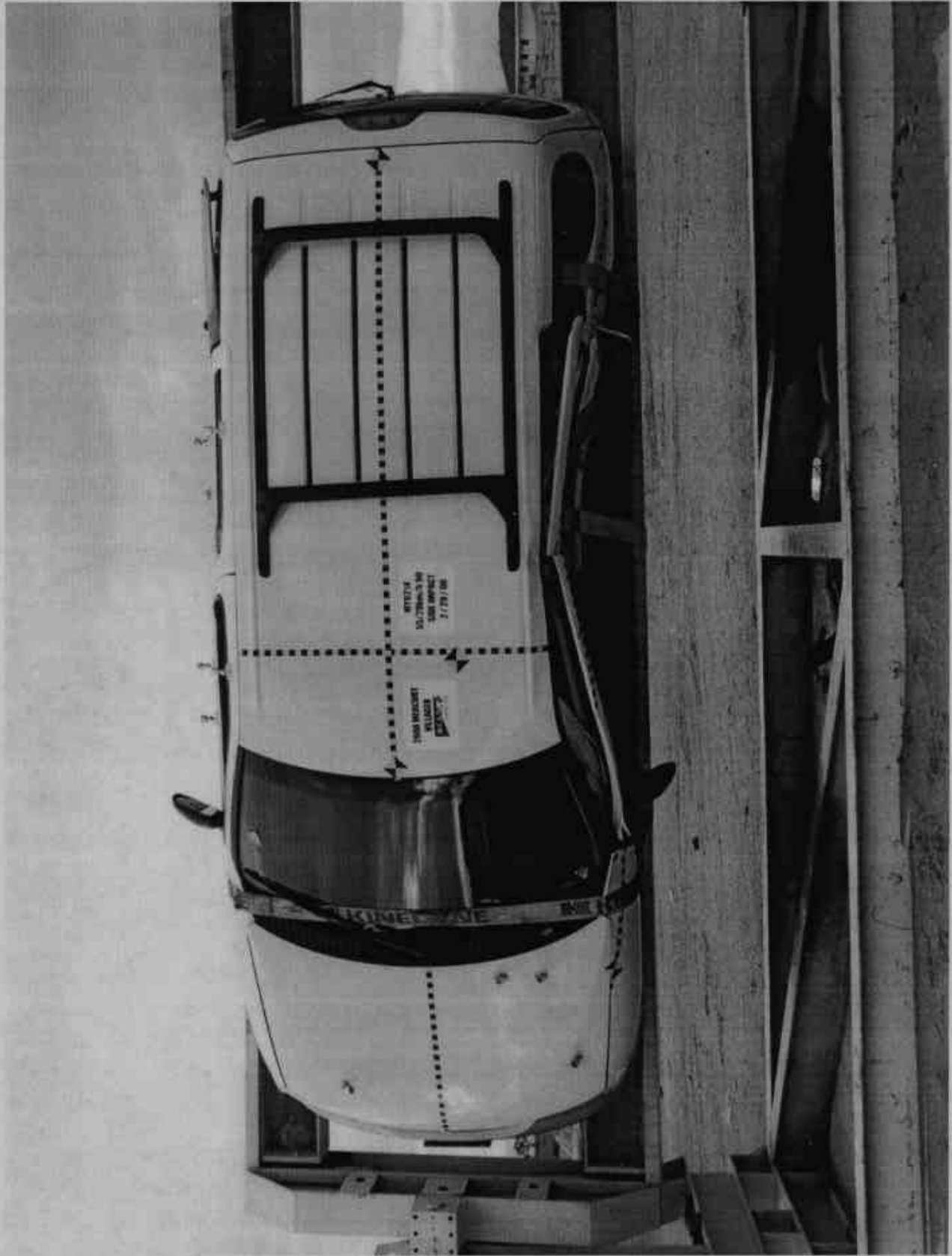


Figure A-44: Vehicle on Rollover Device, Top View

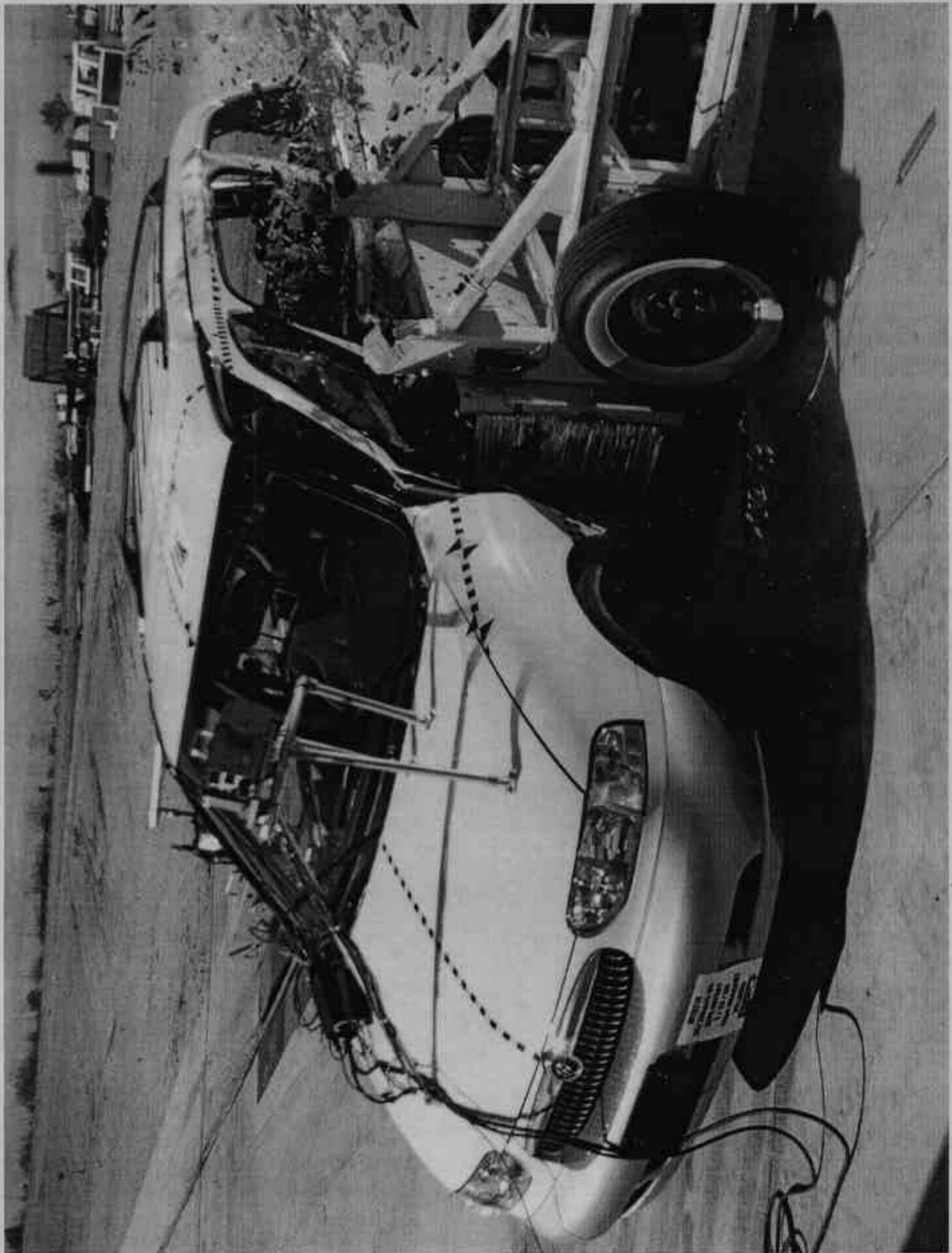


Figure A-45: Vehicle During Impact

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SID, VEHICLE, AND MDB RESPONSE DATA

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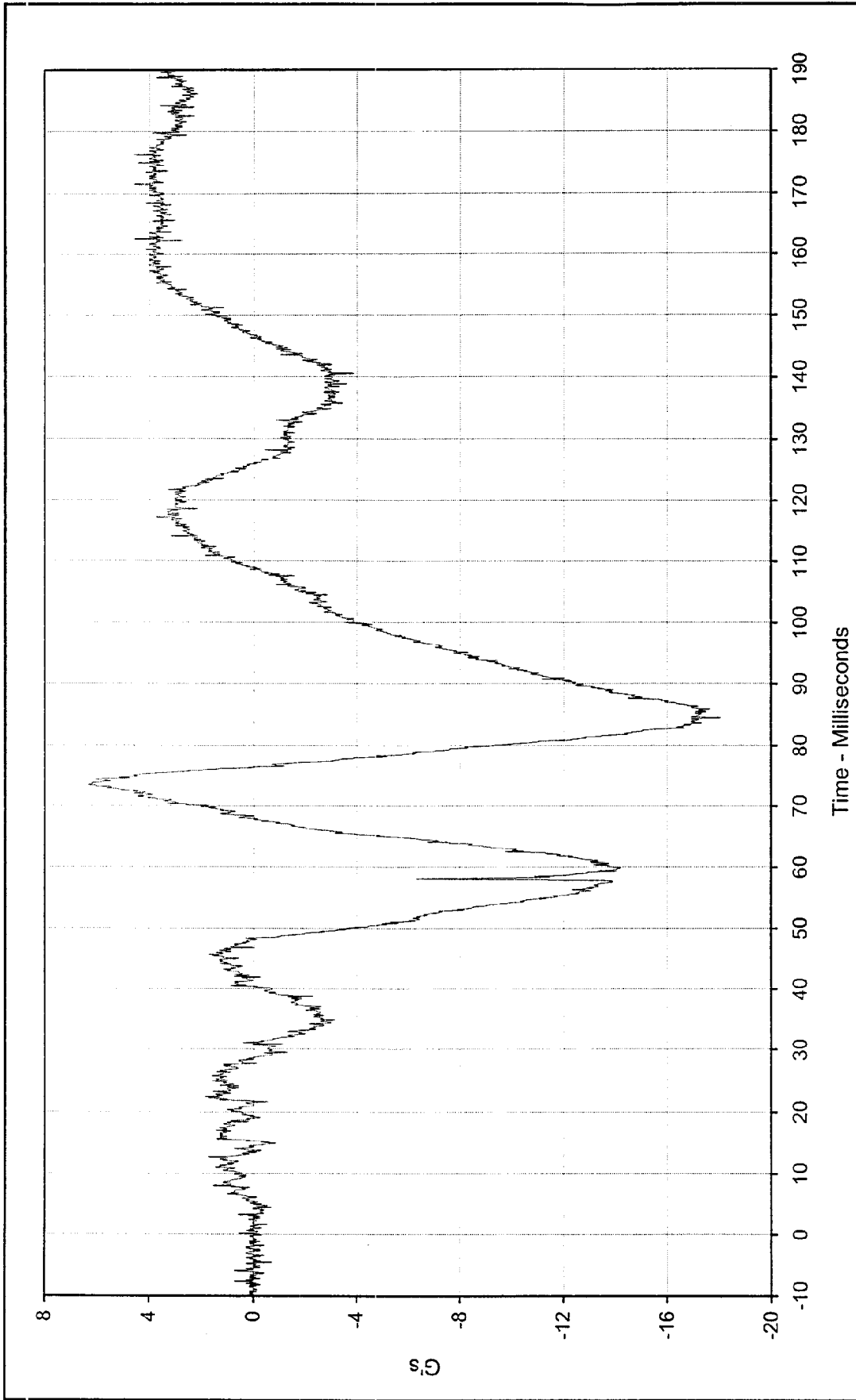
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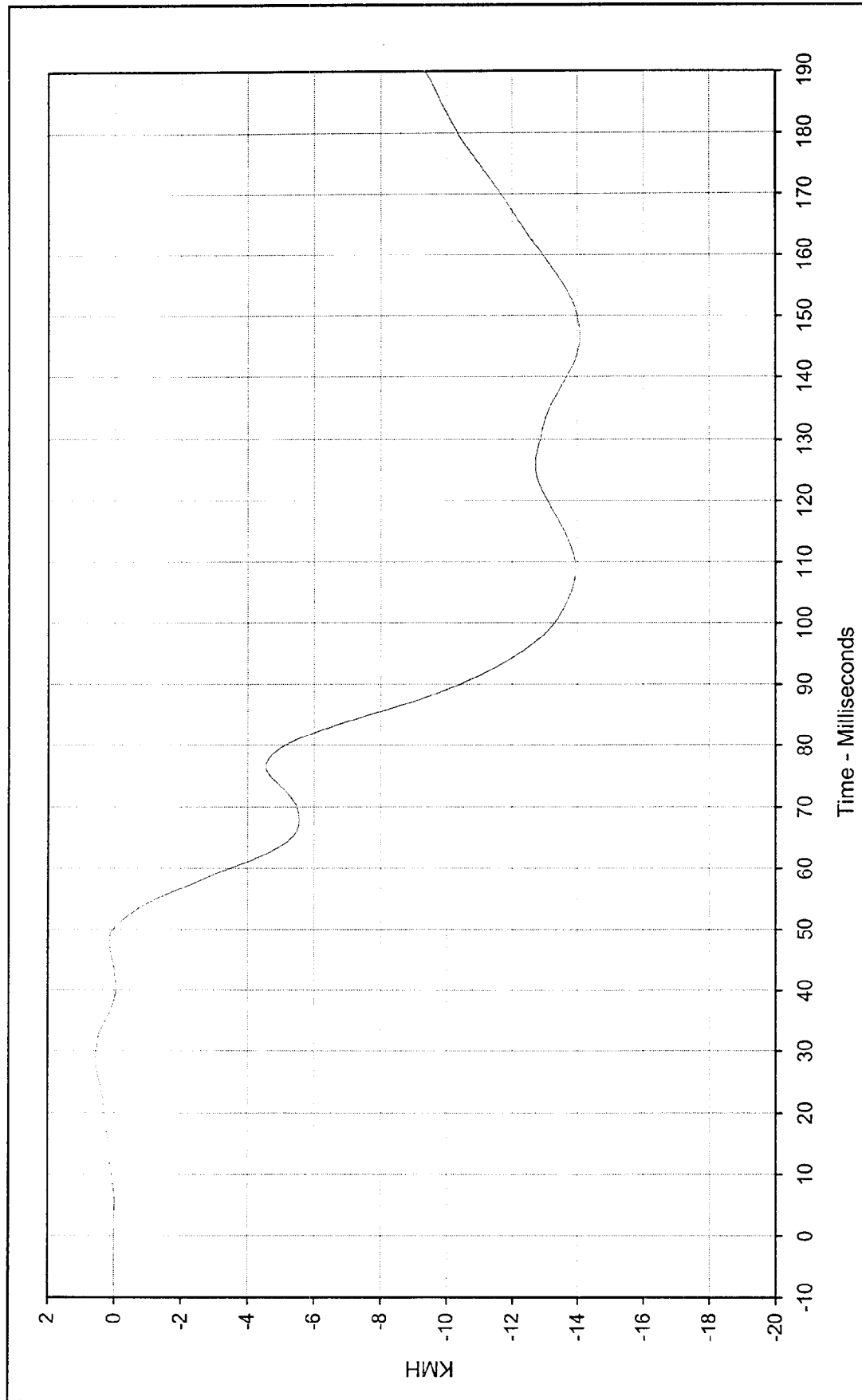
LIST OF DATA PLOTS

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Curve Description:	Driver Head CG X	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	6.3 at 73.5 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-18.1 at 84.5 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-001			





Curve Description: Driver Head CG X Velocity

Maximum Value: 0.6 at 28.6 Milliseconds

Minimum Value: -14.1 at 146.7 Milliseconds

SAE Filter Class: 180

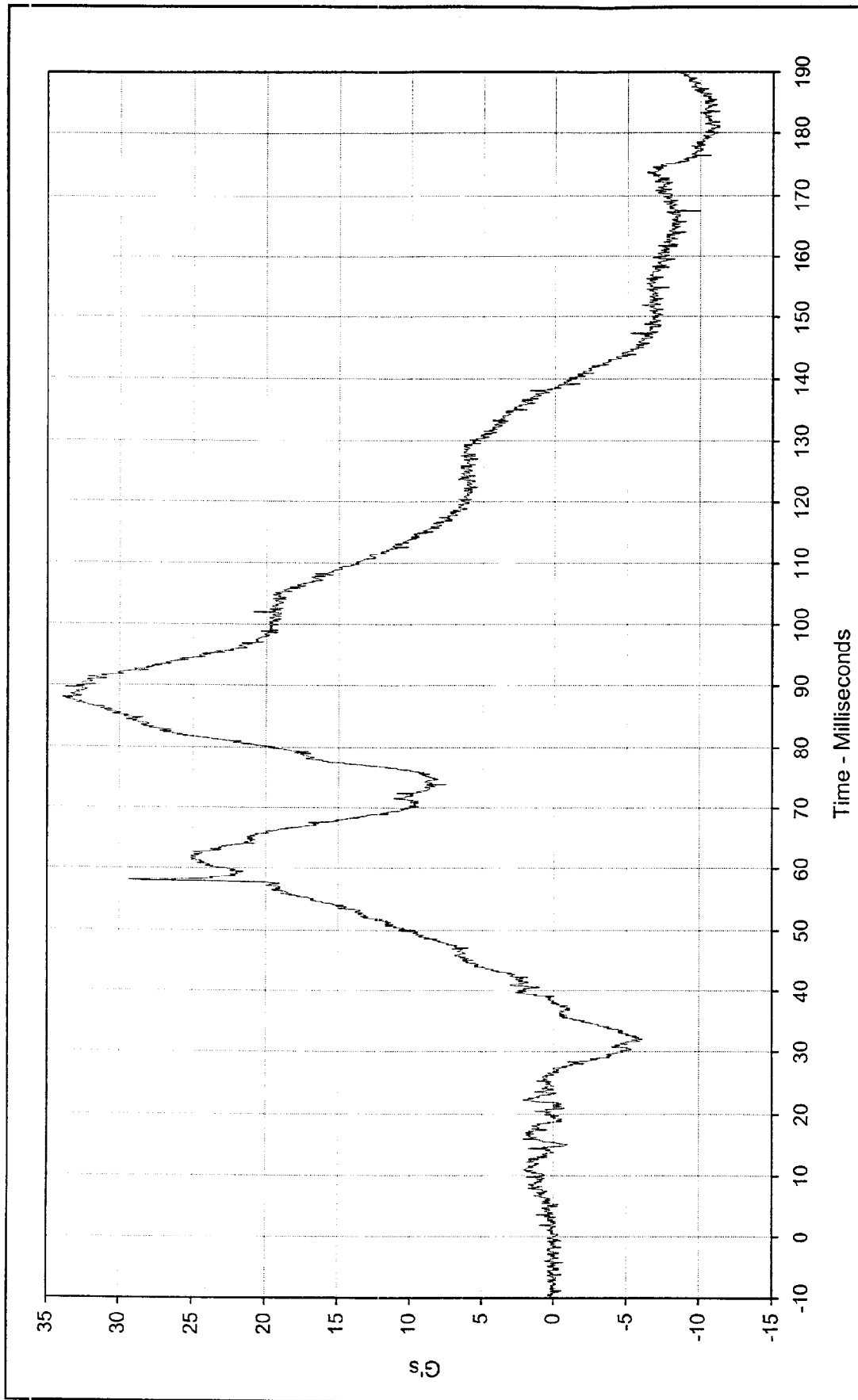
Date of Test: 02/29/00

Curve Number: IN1-001

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Driver Head CG Y

Maximum Value: 33.9 at 88.0 Milliseconds

Minimum Value: -11.3 at 180.0 Milliseconds

SAE Filter Class: 1000

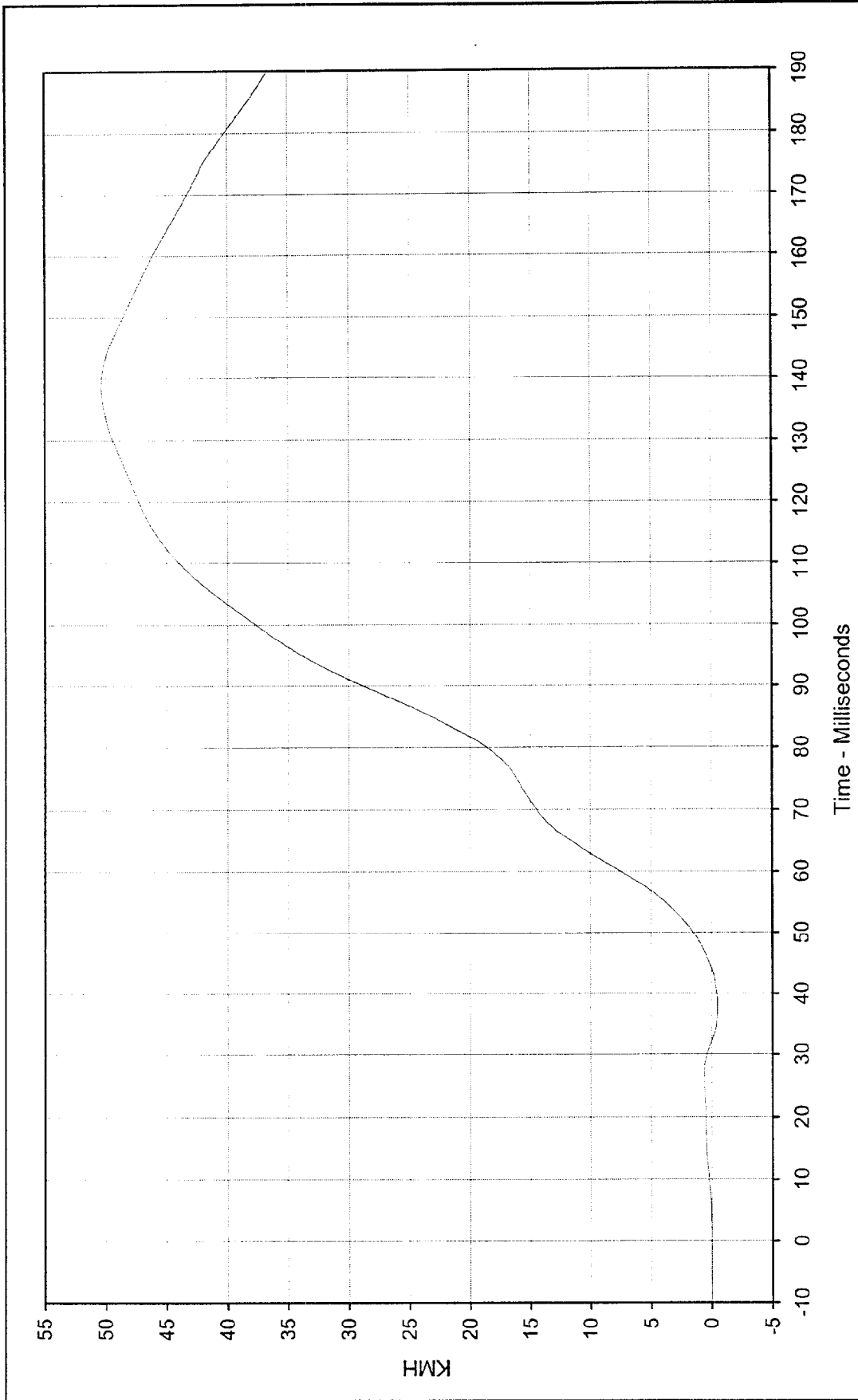
Date of Test: 02/29/00

Curve Number: FIL-002

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

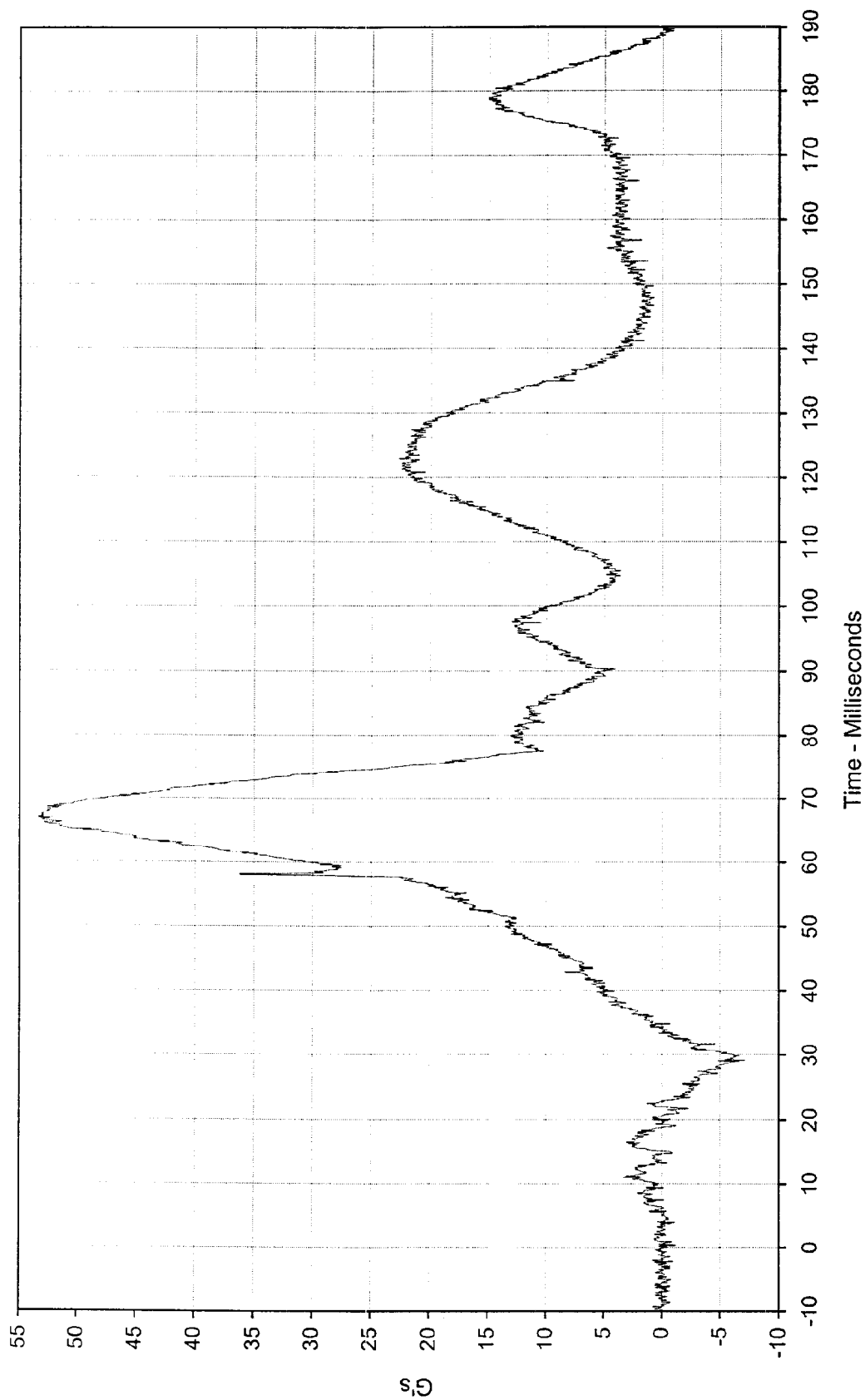




Curve Description: Driver Head CG Y Velocity
 Maximum Value: 50.4 at 138.7 Milliseconds
 Minimum Value: -0.5 at 38.3 Milliseconds
 SAE Filter Class: 180
 Date of Test: 02/29/00
 Curve Number: IN1-002

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Driver Head CG Z

Maximum Value: 53.3 at 66.8 Milliseconds

Minimum Value: -7.1 at 29.1 Milliseconds

SAE Filter Class: 1000

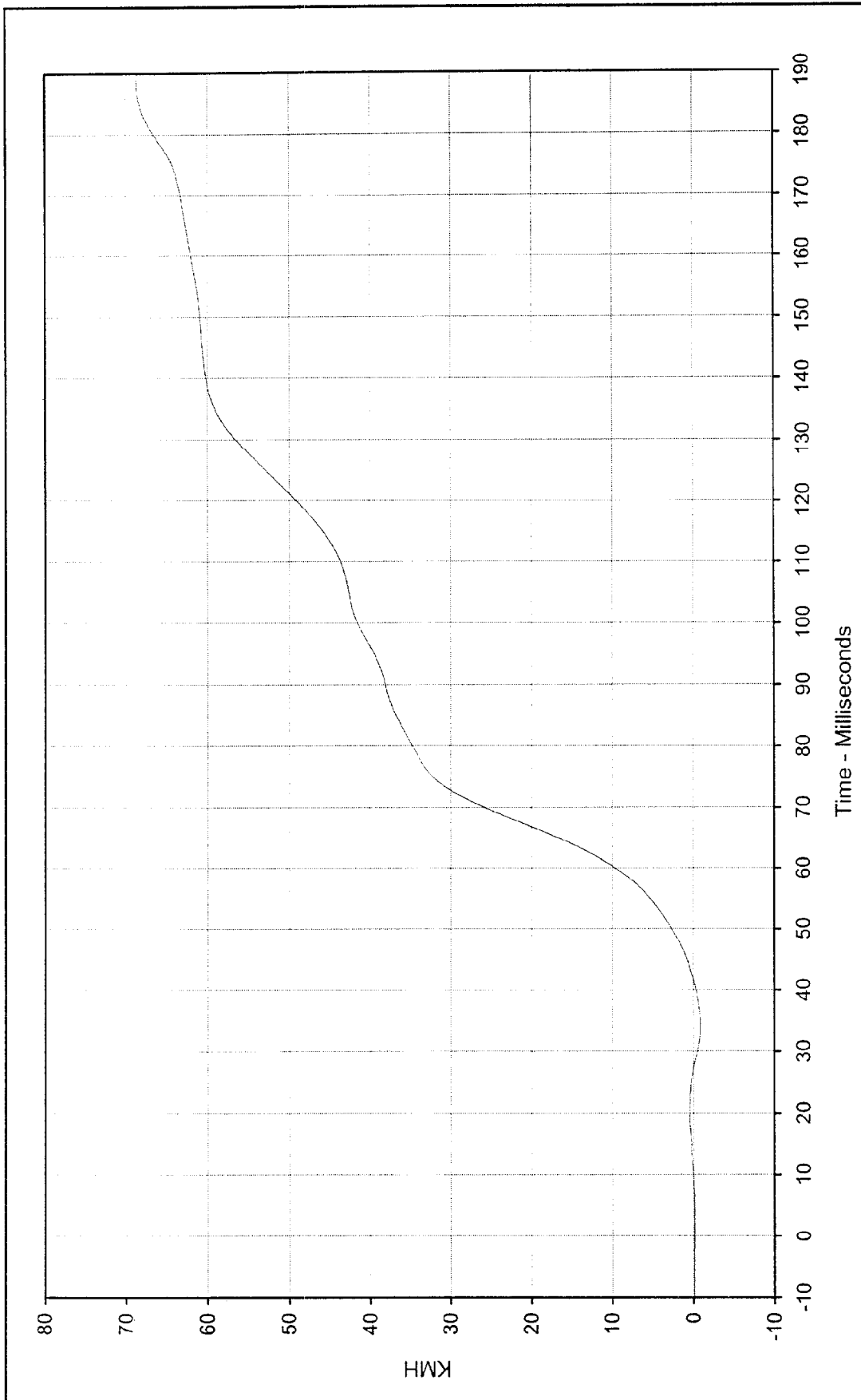
Date of Test: 02/29/00

Curve Number: FIL-003

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Driver Head CG Z Velocity

Maximum Value: 68.7 at 188.8 Milliseconds

Minimum Value: -0.9 at 34.1 Milliseconds

SAE Filter Class: 180

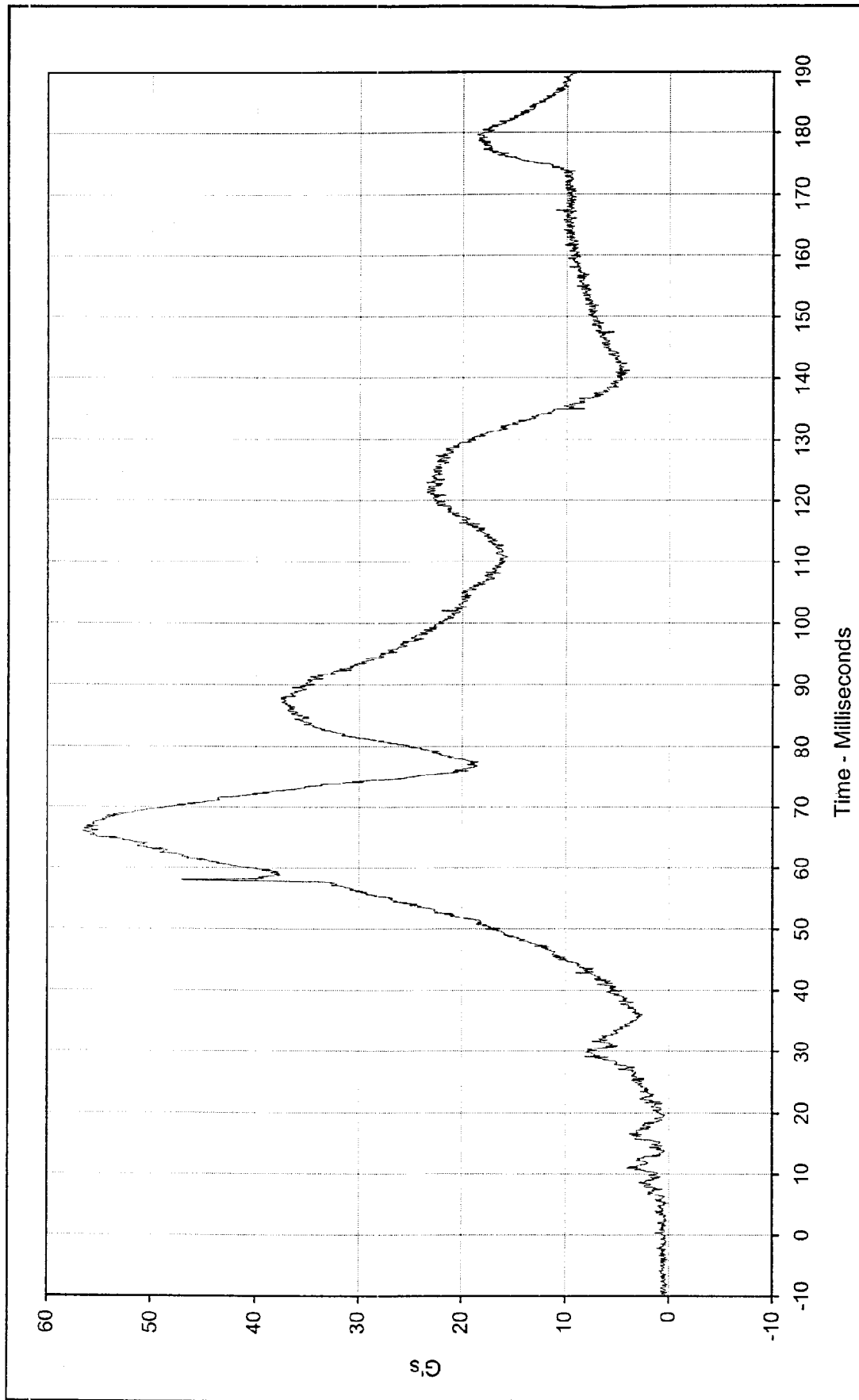
Date of Test: 02/29/00

Curve Number: IN1-003

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

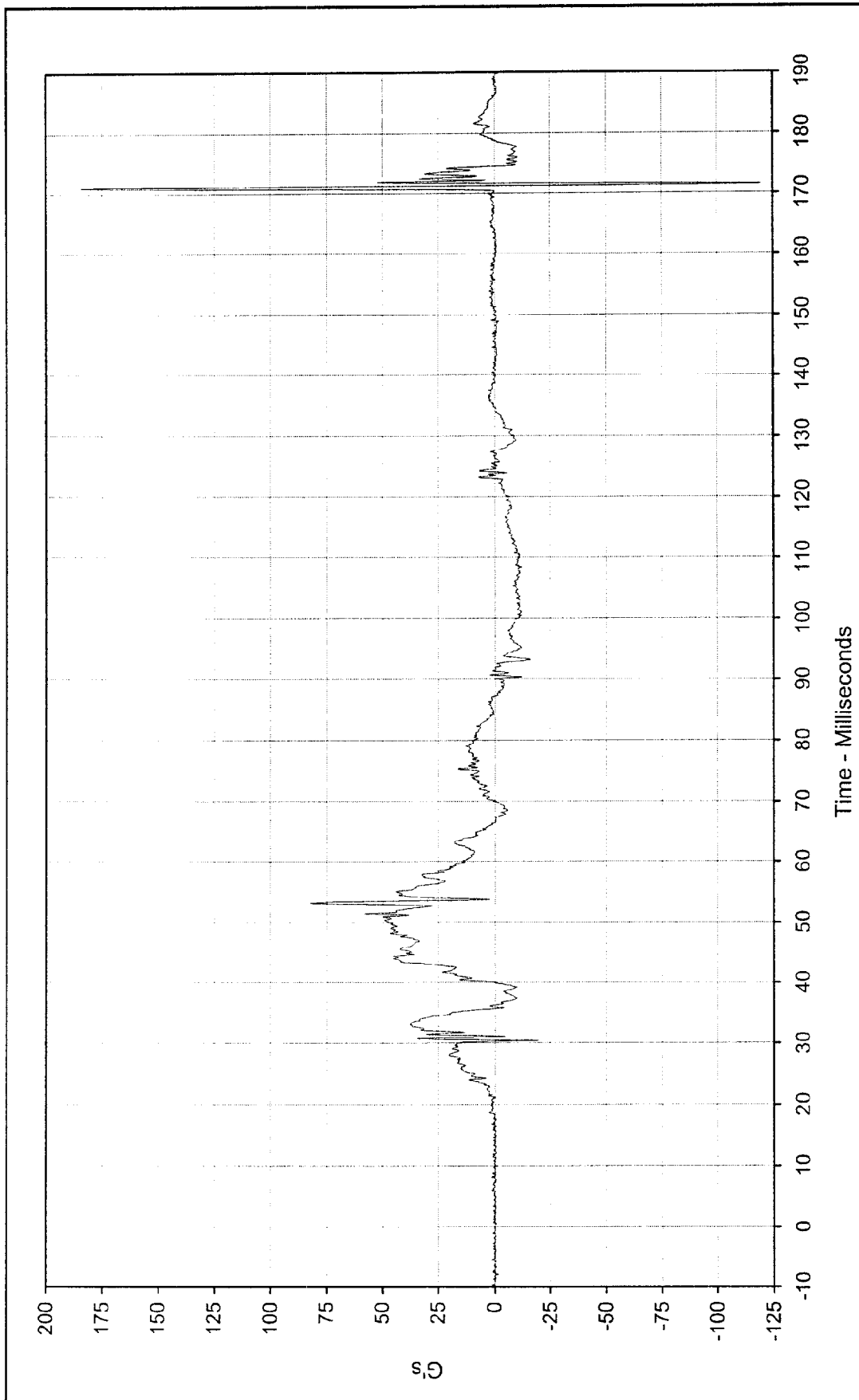
Test Vehicle: 2000 Mercury Villager Mini-Van





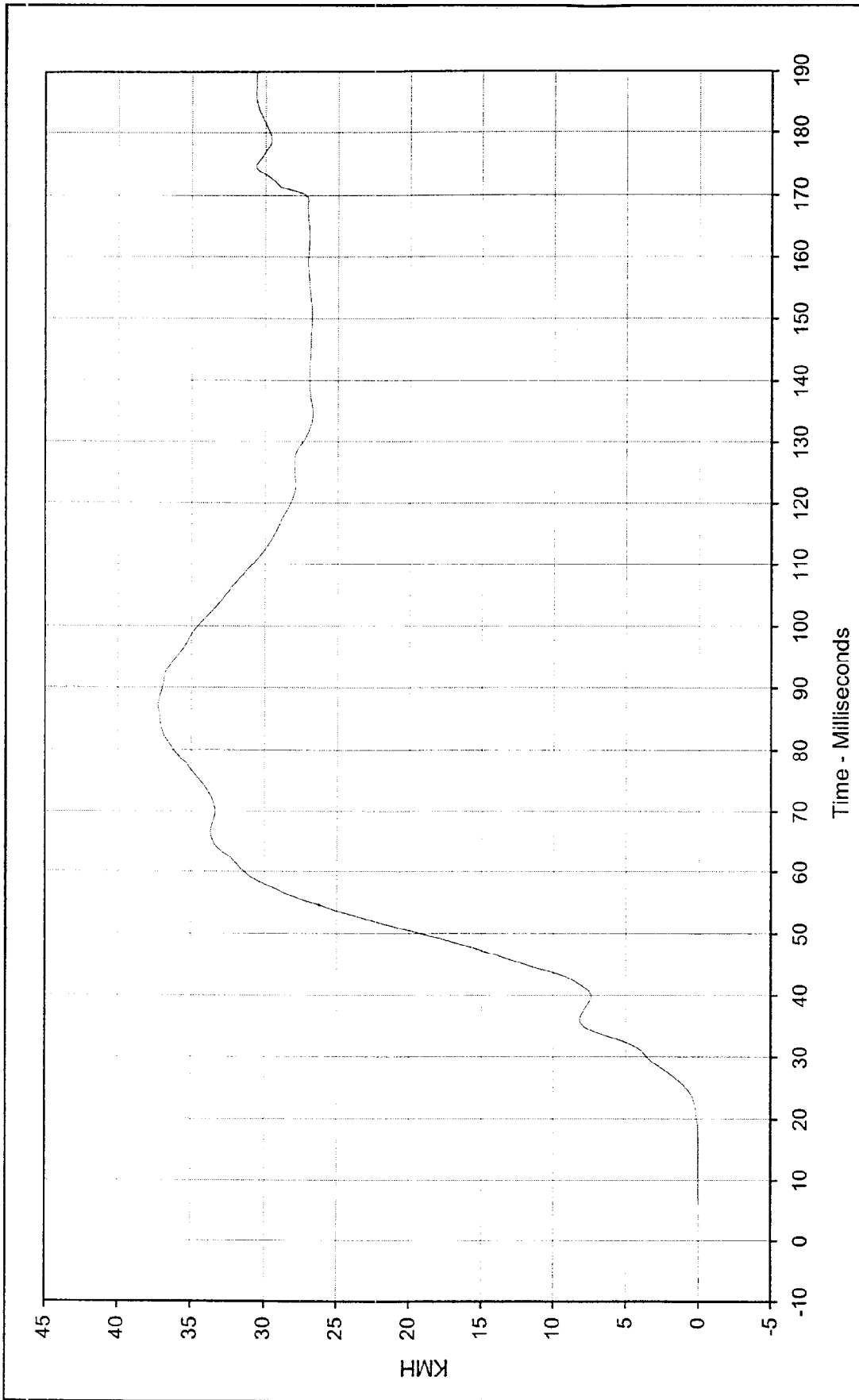
Curve Description:	Driver Head CG Resultant	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	56.5 at 66.1 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	0.0 at 5.2 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	RES-001			





Curve Description:		Driver Upper Rib Primary		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	184.5	at	171.0	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-119.7	at	171.4			
SAE Filter Class:	1000					
Date of Test:	02/29/00					
Curve Number:	FIL-004					

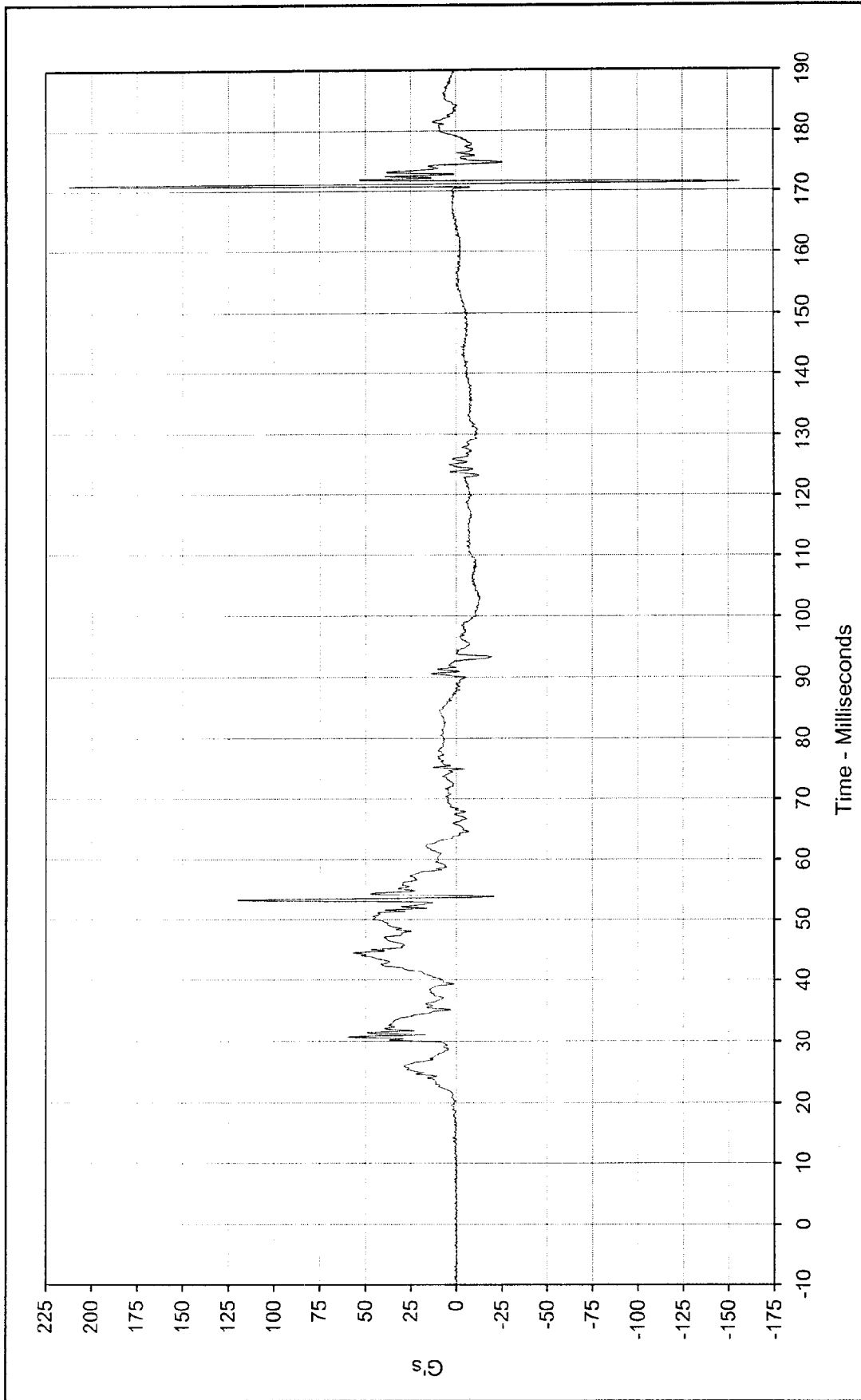




Curve Description:		Driver Upper Rib Primary Y Velocity		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	37.2	at	87.3	Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van
Minimum Value:	0.0	at	0.5	Milliseconds		
SAE Filter Class:	180					
Date of Test:	02/29/00					
Curve Number:	IN1-004					

The logo for KARCO Engineering. It features the word "KARCO" in a large, bold, sans-serif font. To the left of the letters "A" and "R" is a stylized lightbulb icon. To the right of "KARCO" is the word "Engineering" in a script font. The entire logo is set against a black background with a white diagonal stripe running from the bottom left to the top right.





Curve Description: Driver Lower Rib Primary Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 211.8 at 170.9 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

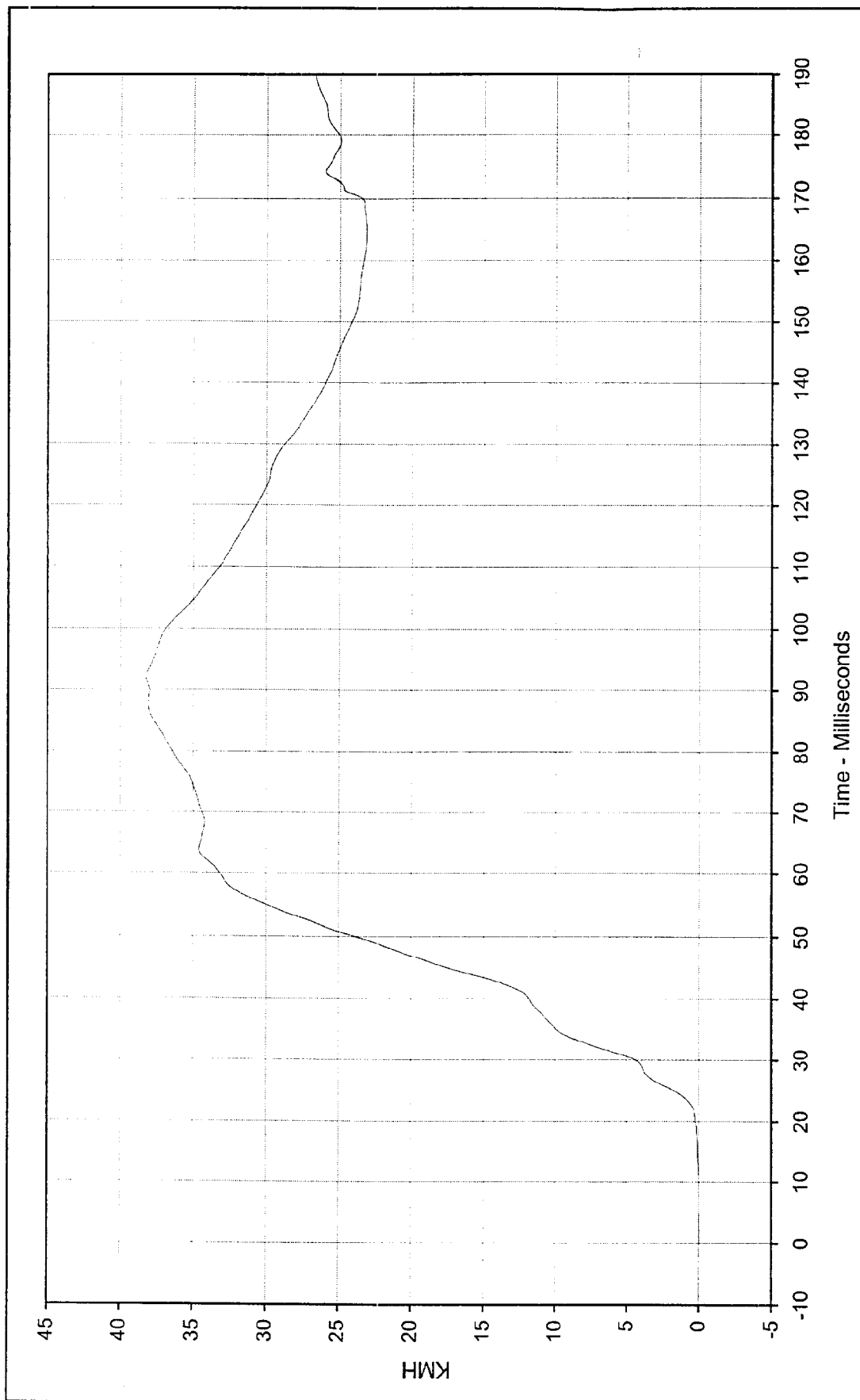
Minimum Value: -156.2 at 171.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 02/29/00

Curve Number: FIL-005





Curve Description: Driver Lower Rib Primary Y Velocity

Maximum Value: 38.3 at 92.2 Milliseconds

Minimum Value: 0.0 at 4.2 Milliseconds

SAE Filter Class: 180

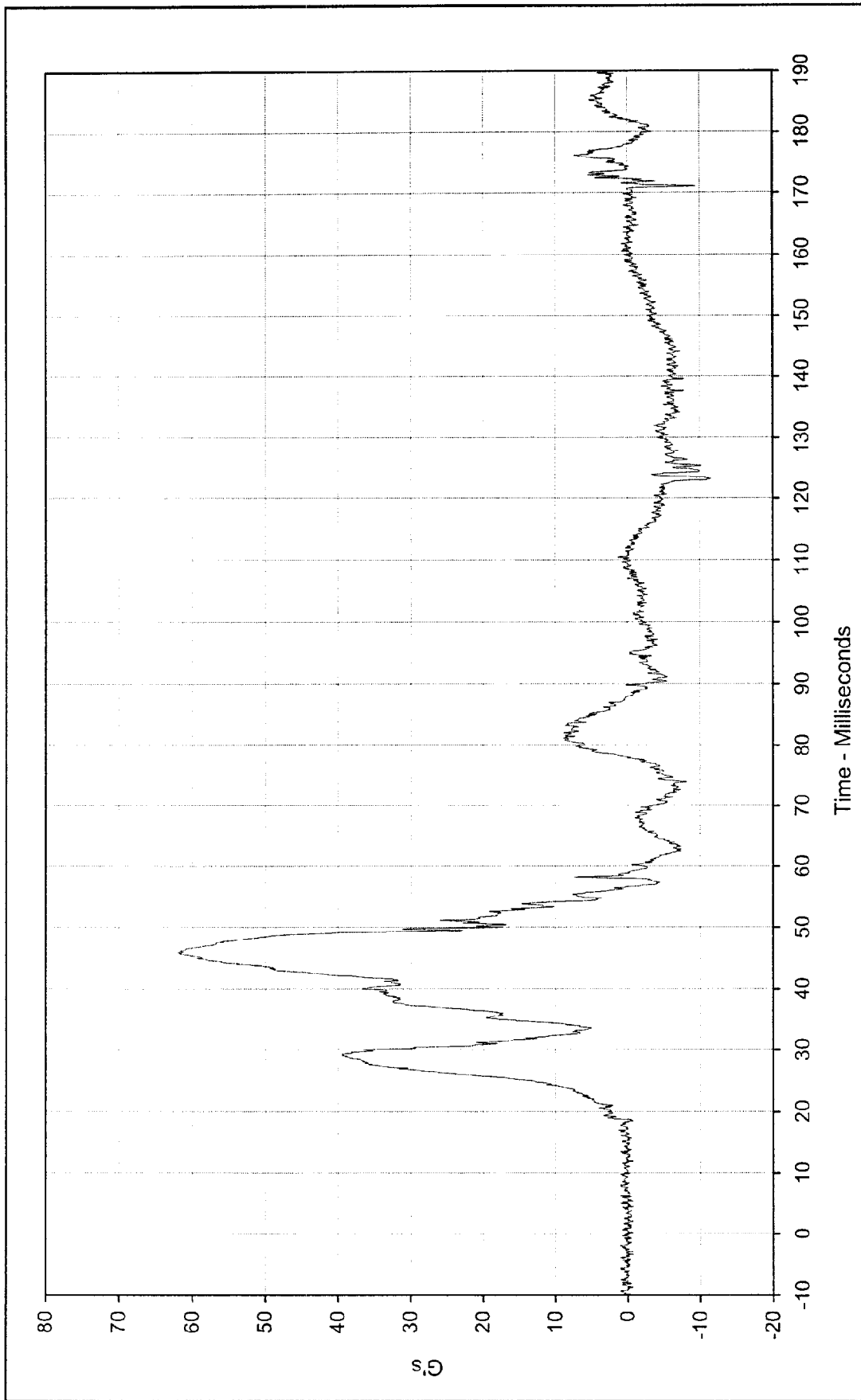
Date of Test: 02/29/00

Curve Number: IN1-005

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Driver Lower Spine Primary

Test Program: 55/28 km/h Side Impact NCAP

Test Vehicle: 2000 Mercury Villager Mini-Van

No.: MY0214

Maximum Value: 62.0 at 45.8 Milliseconds

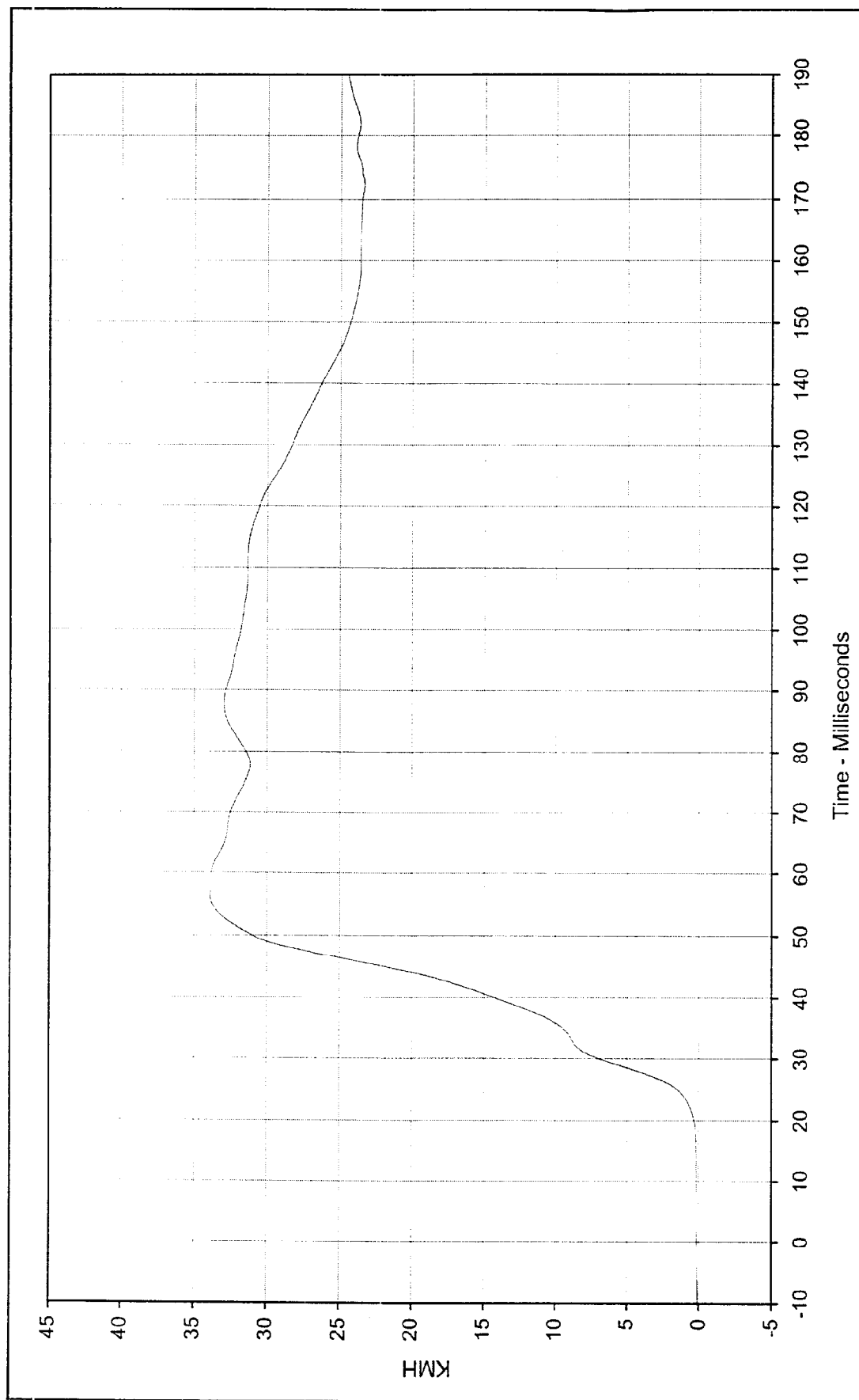
Minimum Value: -11.5 at 123.1 Milliseconds

SAE Filter Class: 1000

Date of Test: 02/29/00

Curve Number: FIL-006





Curve Description: Driver Lower Spine Primary Y Velocity

Maximum Value: 33.9 at 56.4 Milliseconds

Minimum Value: 0.1 at 4.5 Milliseconds

SAE Filter Class: 180

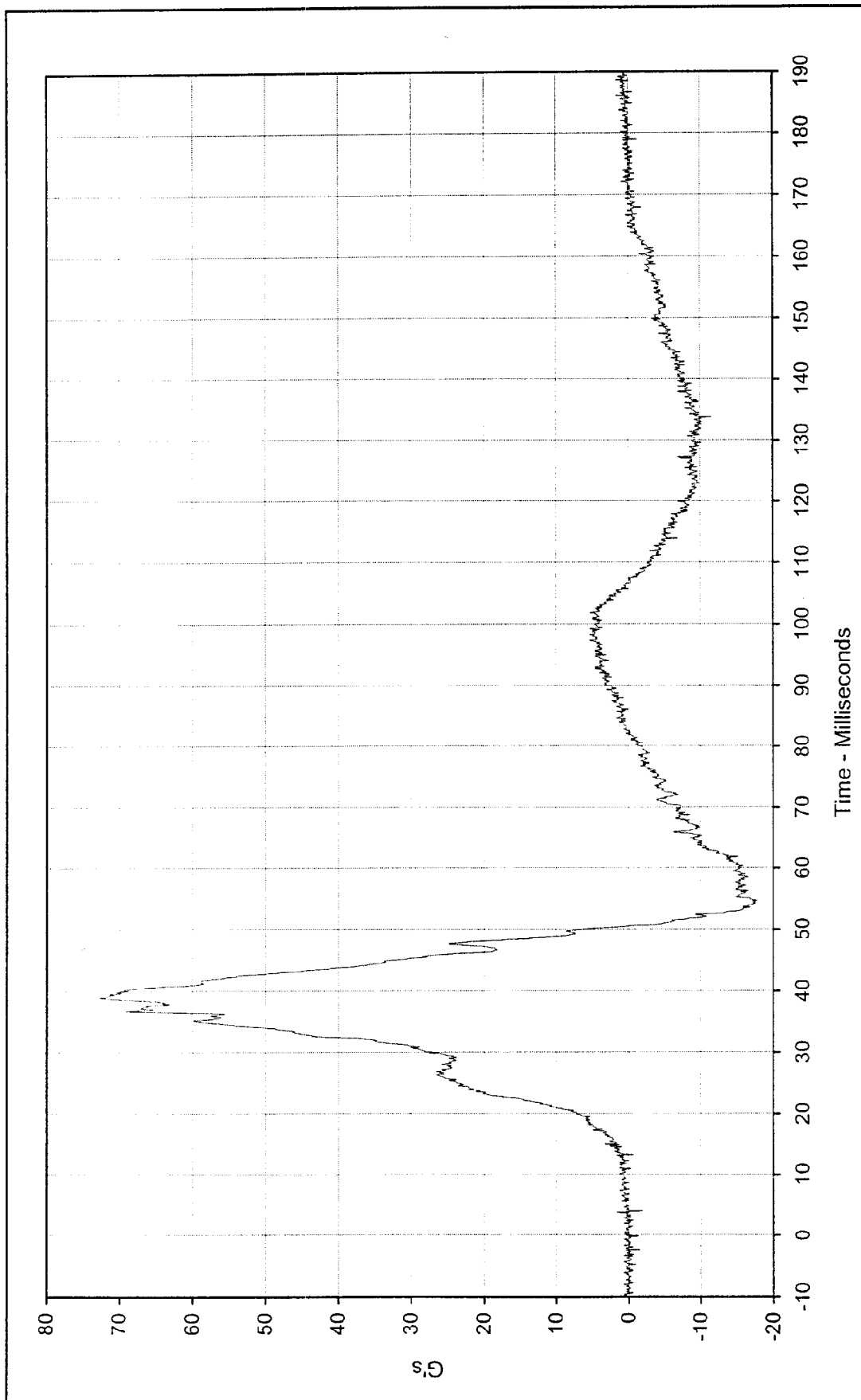
Date of Test: 02/29/00

Curve Number: IN1-006

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van



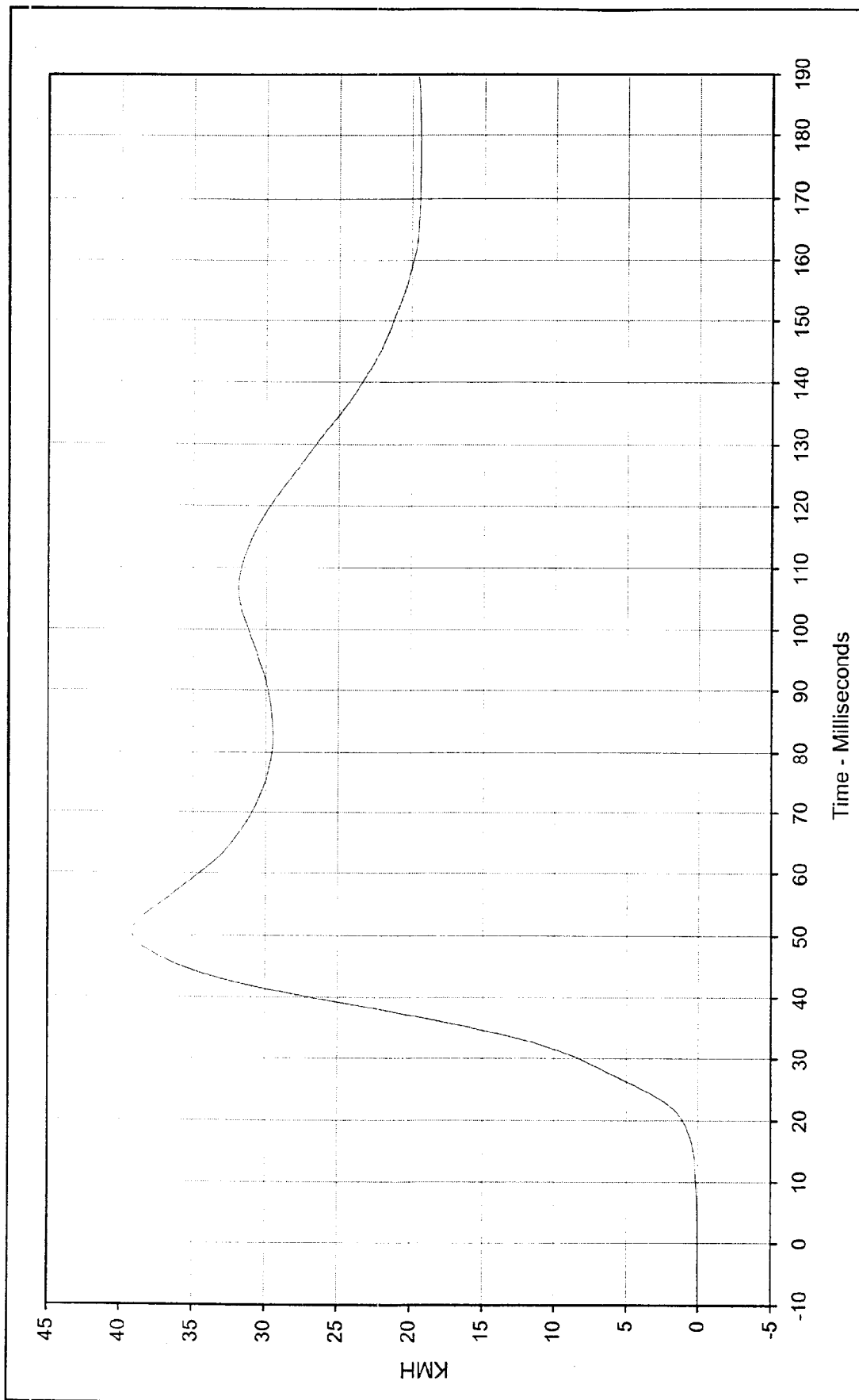


Curve Description:		Driver Pelvis Primary Y		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	72.7	at	38.9	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-17.8	at	54.6			
SAE Filter Class:	1000					
Date of Test:	02/29/00					
Curve Number:	FIL-007					



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Curve Description: Driver Pelvis Primary Y Velocity

Maximum Value: 39.1 at 50.6 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

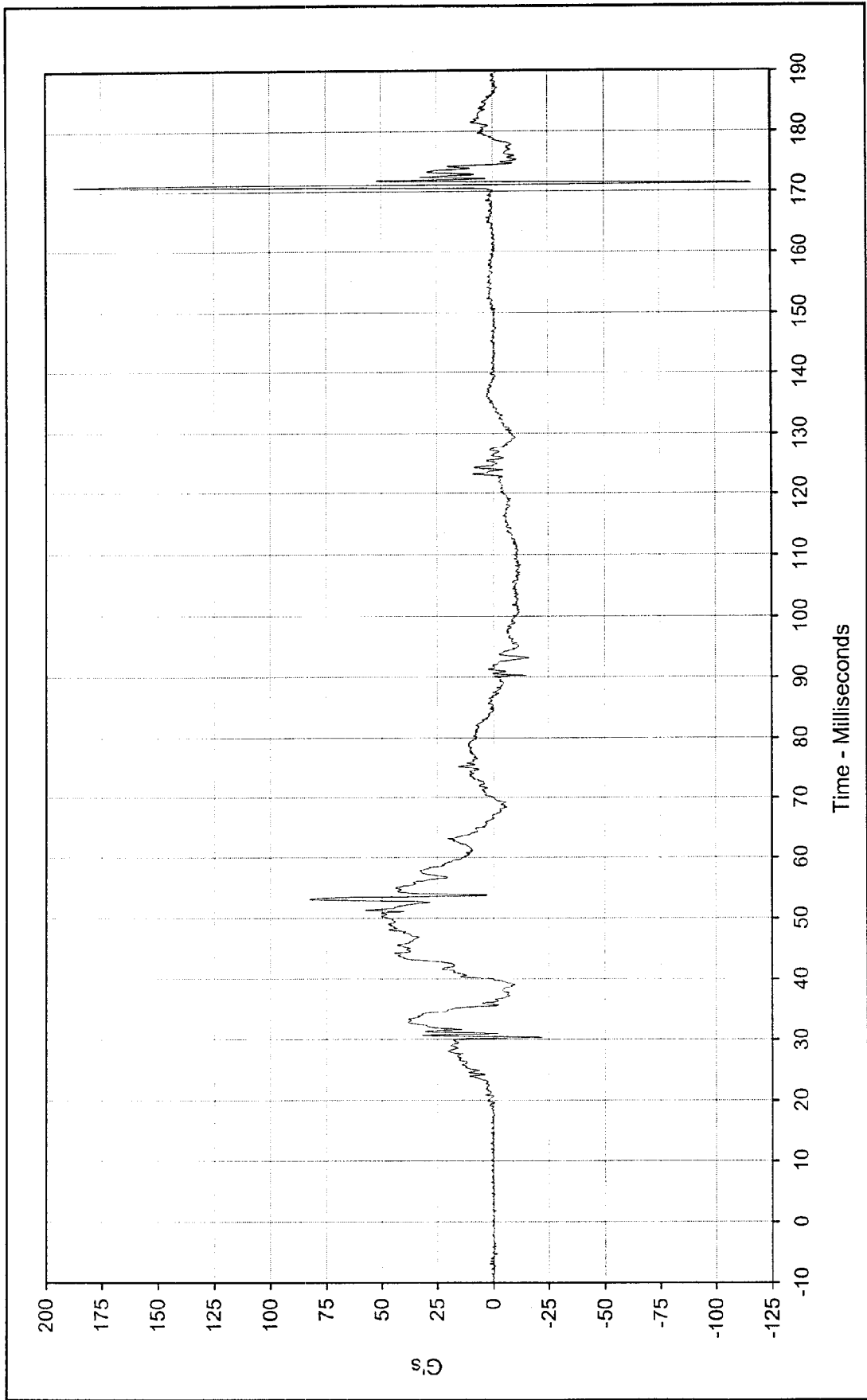
Date of Test: 02/29/00

Curve Number: IN1-007

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

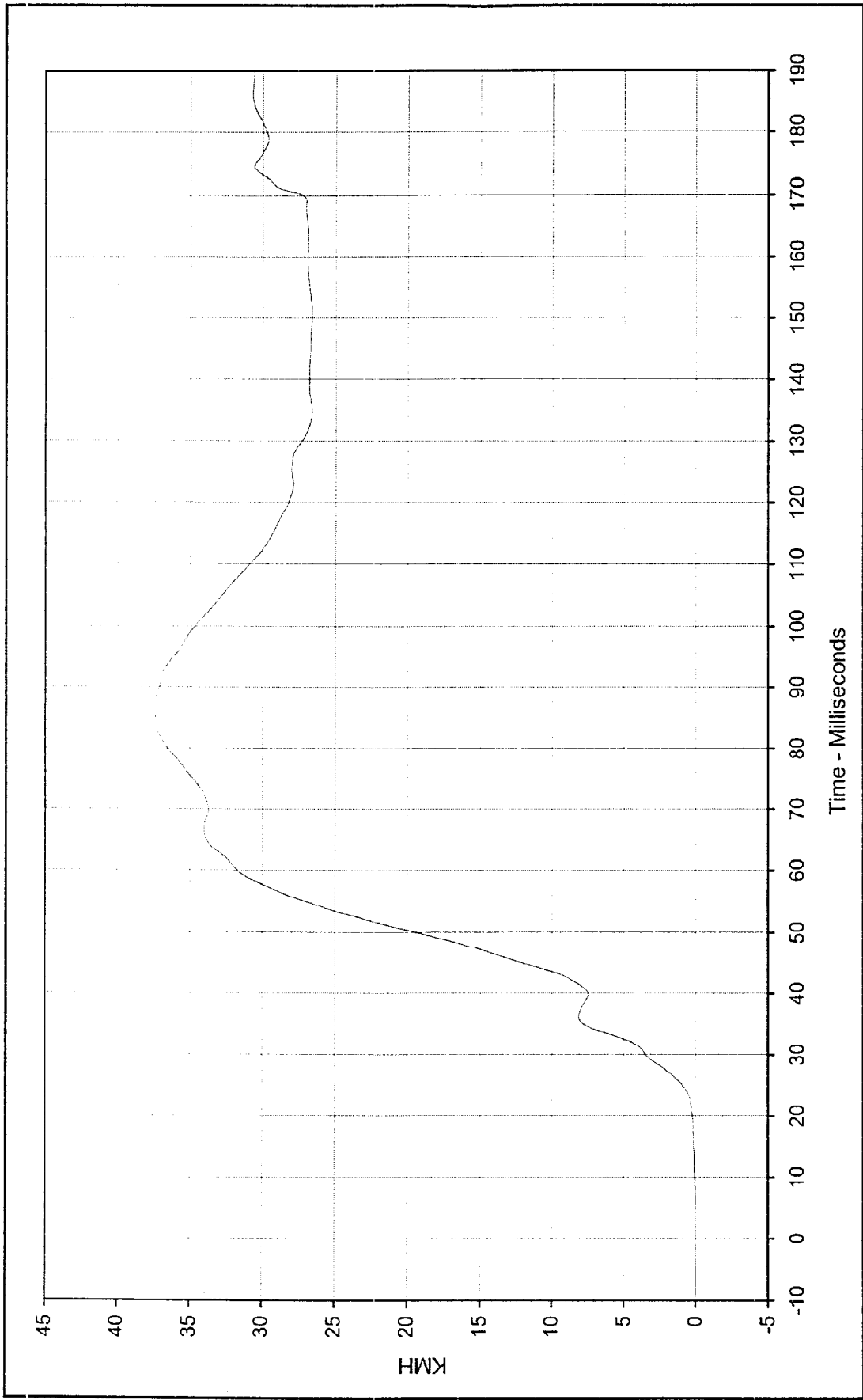
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:		Driver Upper Rib Redundant		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	187.2	at	170.9	Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van
Minimum Value:	-116.4	at	171.3	Milliseconds		
SAE Filter Class:	1000					
Date of Test:	02/29/00					
Curve Number:	FIL-008					





Curve Description: Driver Upper Rib Redundant Y Velocity

Maximum Value: 37.4 at 86.9 Milliseconds

Minimum Value: 0.0 at 2.0 Milliseconds

SAE Filter Class: 180

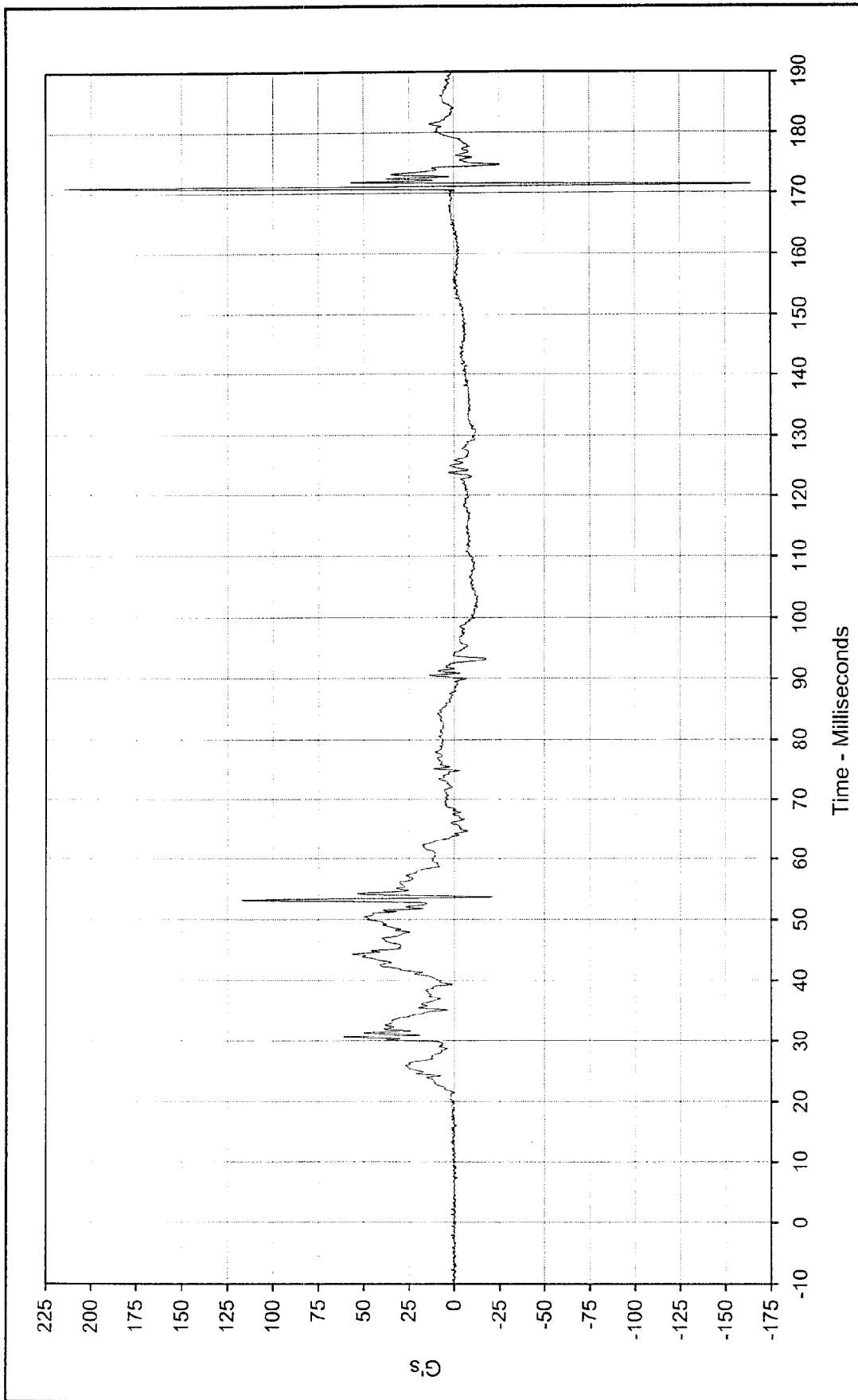
Date of Test: 02/29/00

Curve Number: IN1-008

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Driver Lower Rib Redundant Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 214.9 at 170.9 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

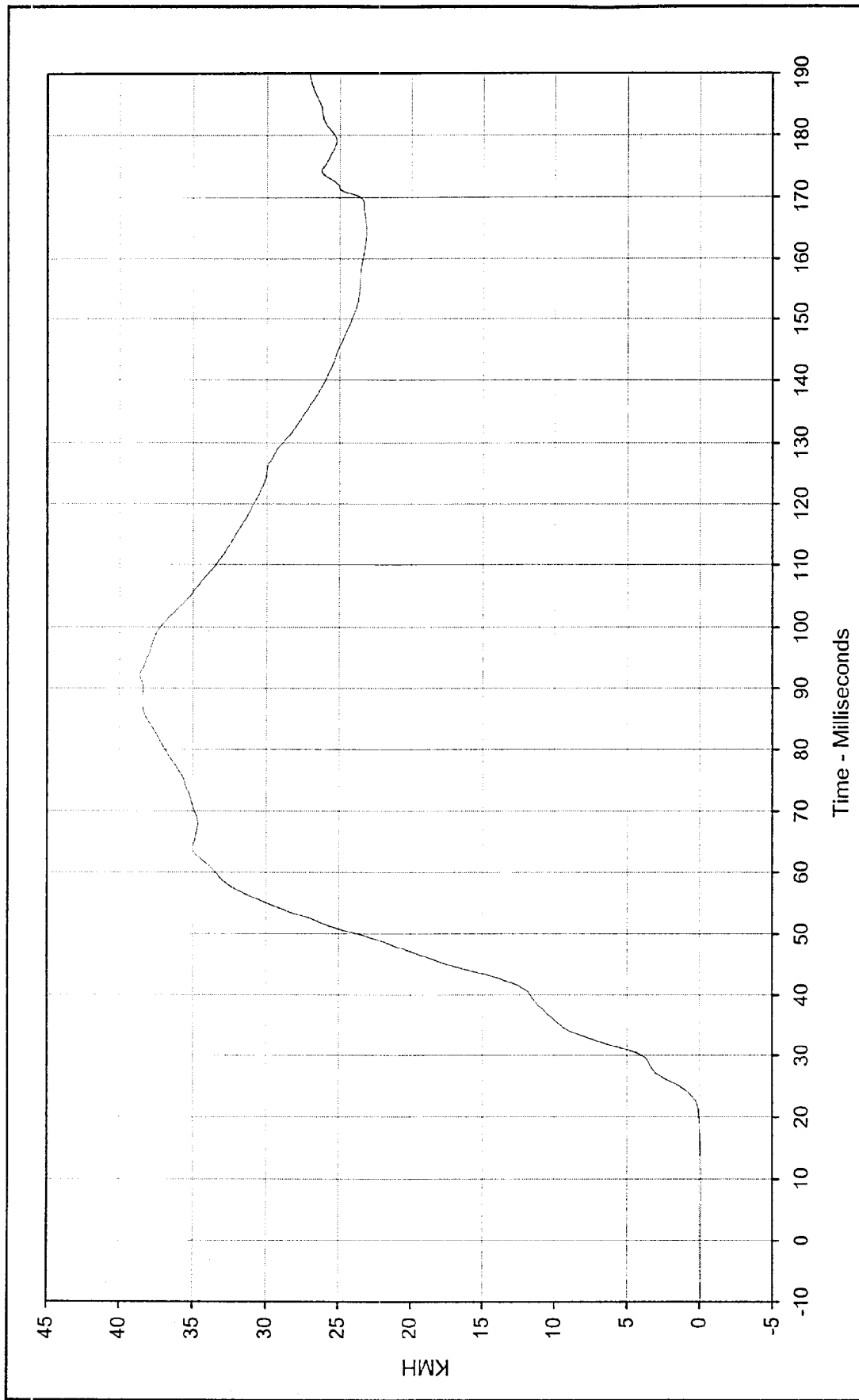
Minimum Value: -164.0 at 171.4 Milliseconds

SAE Filter Class: 1000

Date of Test: 02/29/00

Curve Number: FIL-009





Curve Description: Driver Lower Rib Redundant Y Velocity

Maximum Value: 38.6 at 92.2 Milliseconds

Minimum Value: -0.1 at 9.2 Milliseconds

SAE Filter Class: 180

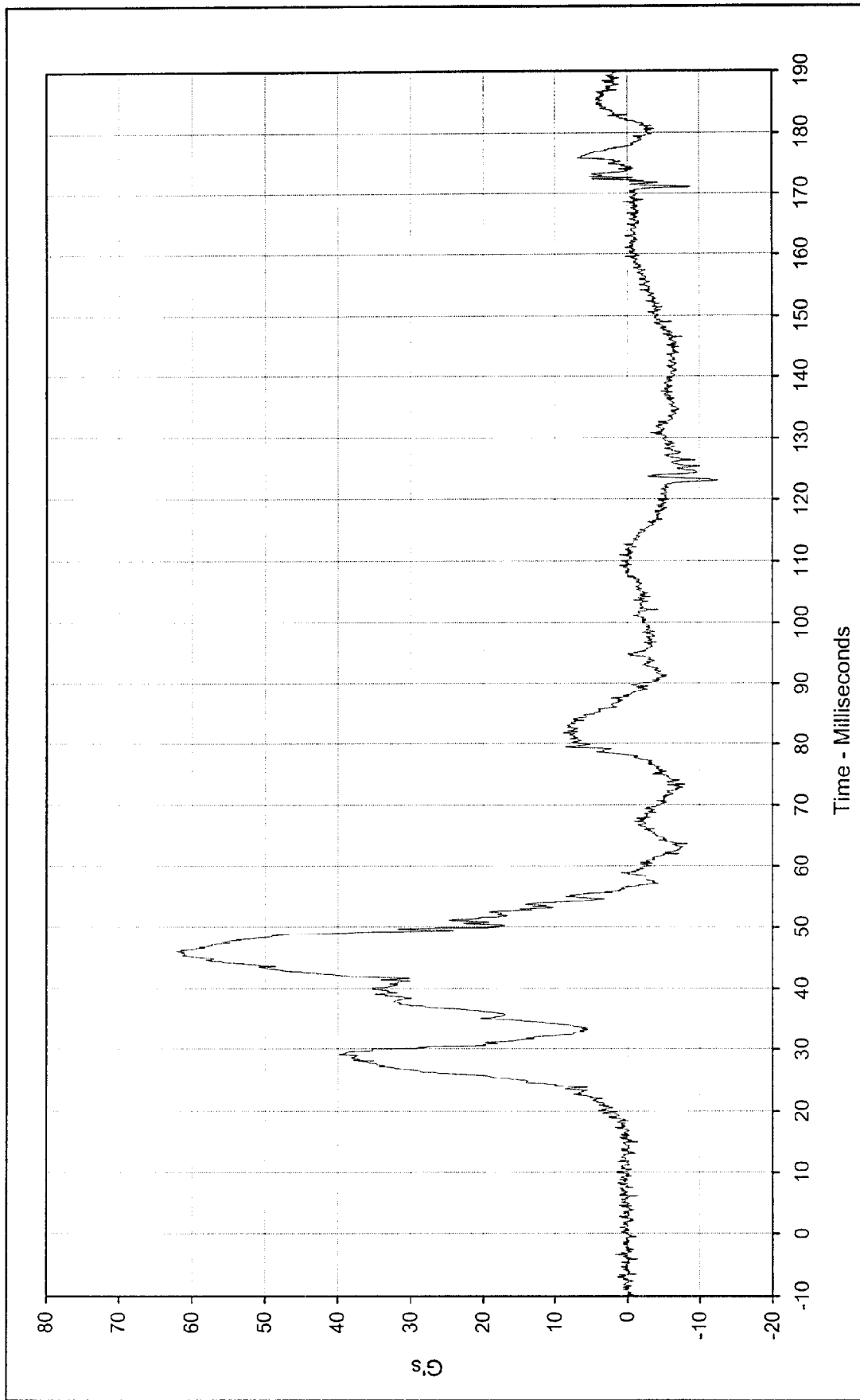
Date of Test: 02/29/00

Curve Number: IN1-009

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van



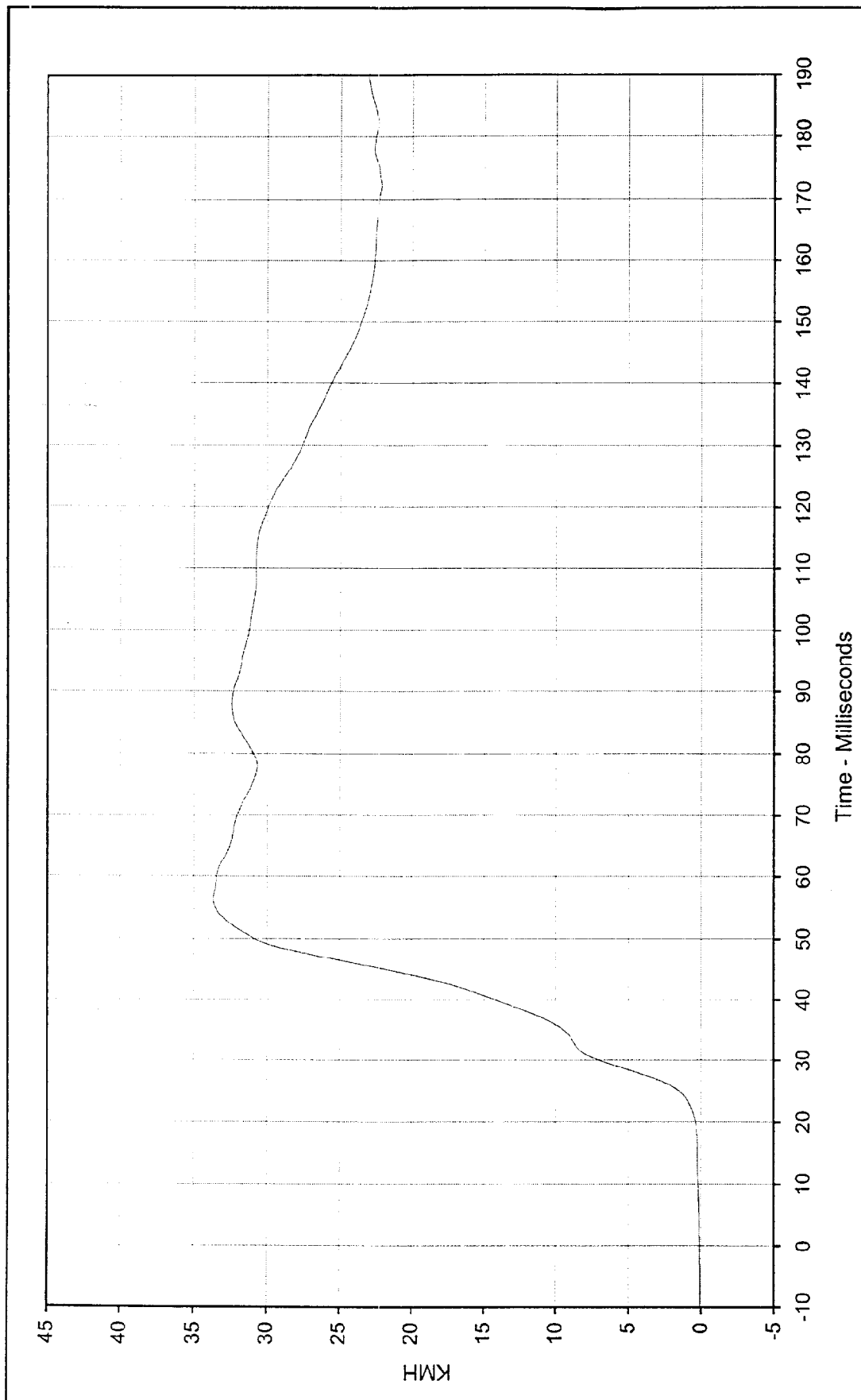


Curve Description:		Driver Lower Spine Redundant		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	62.2	at	46.0	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-12.6	at	123.0			
SAE Filter Class:	1000					
Date of Test:	02/29/00					
Curve Number:	FIL-010					



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Curve Description: Driver Lower Spine Redundant Y Velocity

Maximum Value: 33.7 at 56.4 Milliseconds

Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

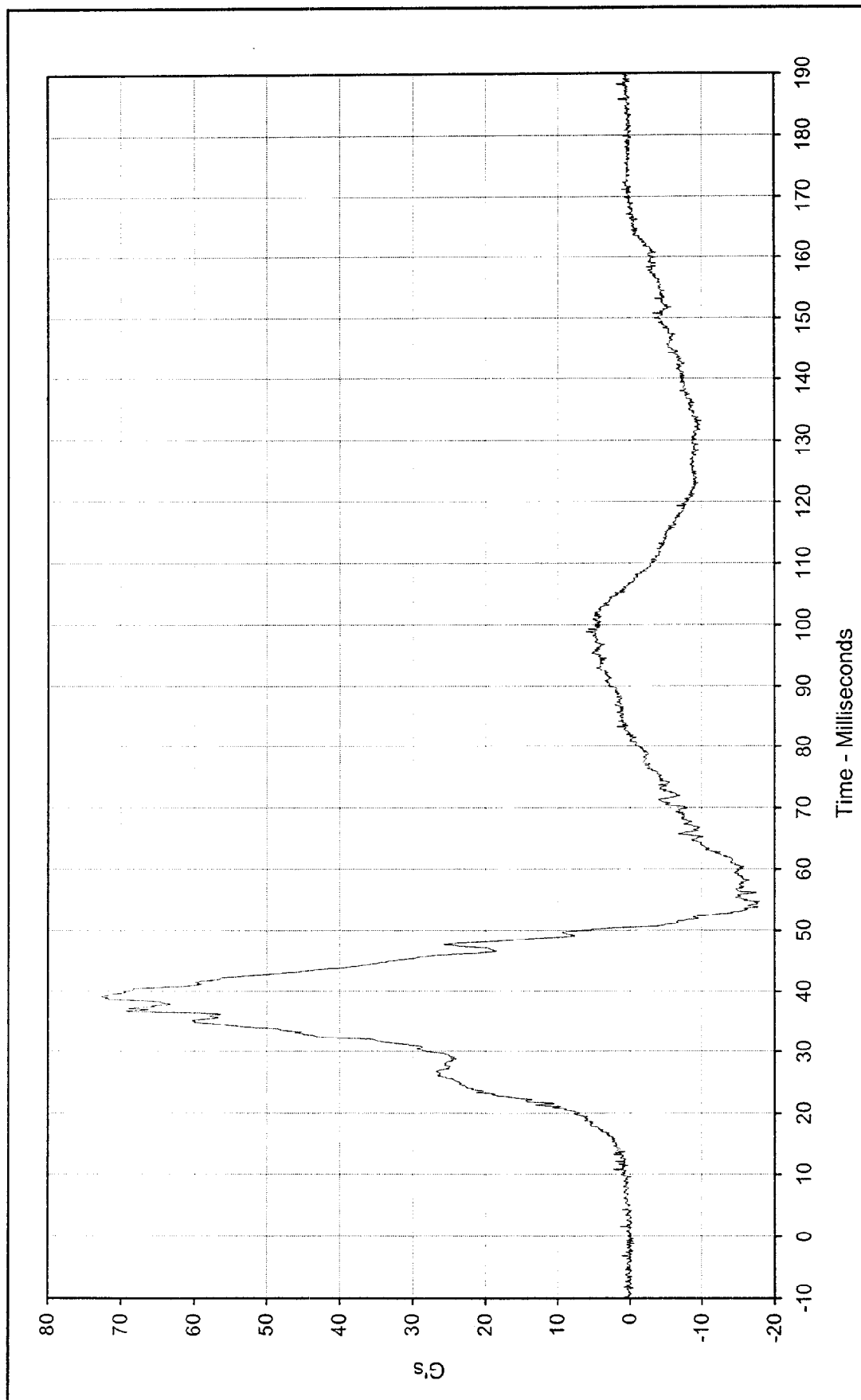
Date of Test: 02/29/00

Curve Number: IN1-0010

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

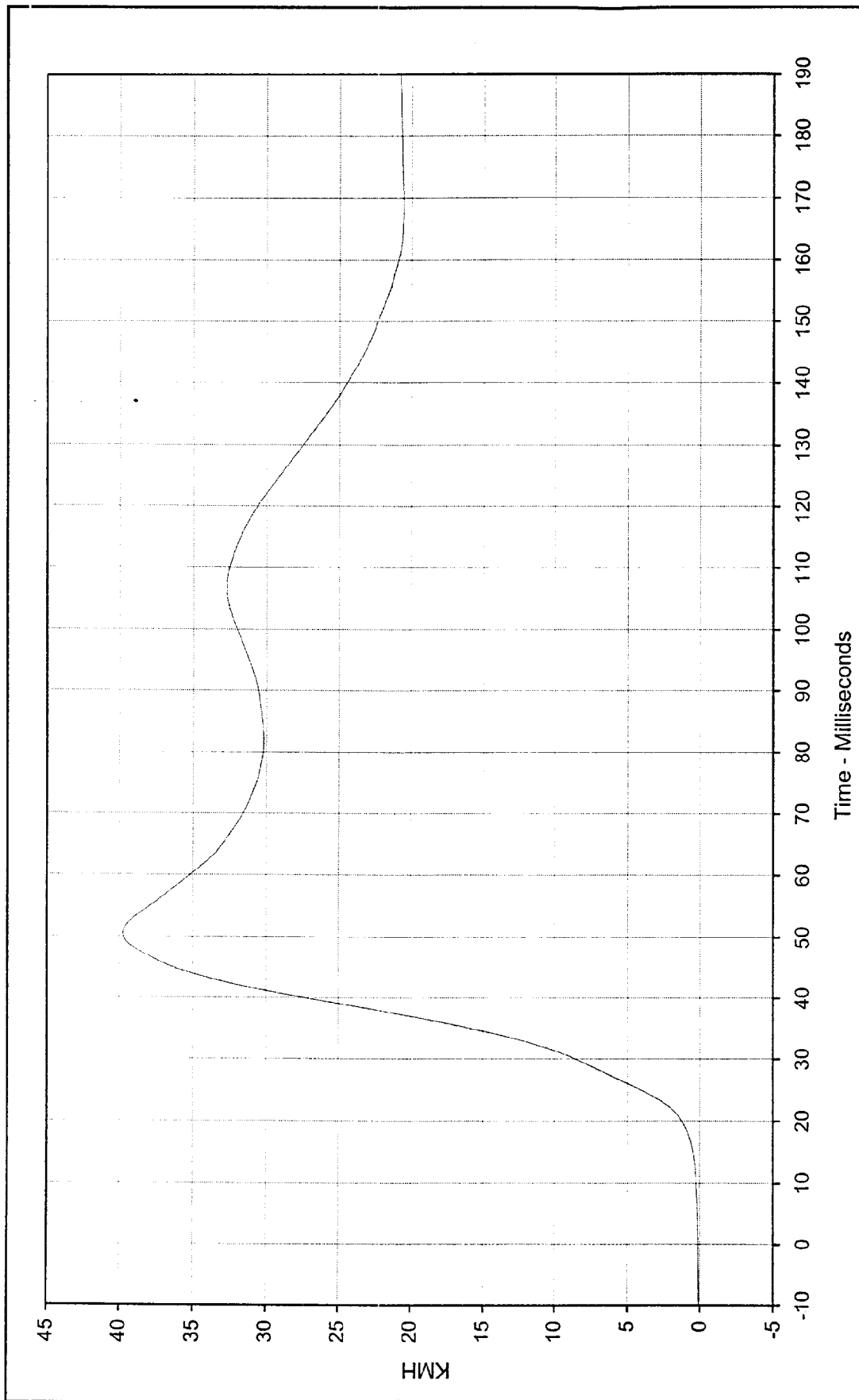
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Driver Pelvis Redundant Y	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	72.6	at	39.1	Milliseconds
Minimum Value:	-18.0	at	54.6	Milliseconds
SAE Filter Class:	1000	Test Vehicle:	2000 Mercury Villager Mini-Van	
Date of Test:	02/29/00			
Curve Number:	FIL-011			





Curve Description: Driver Pelvis Redundant Y Velocity

Maximum Value: 39.8 at 50.6 Milliseconds

Minimum Value: 0.1 at 0.2 Milliseconds

SAE Filter Class: 180

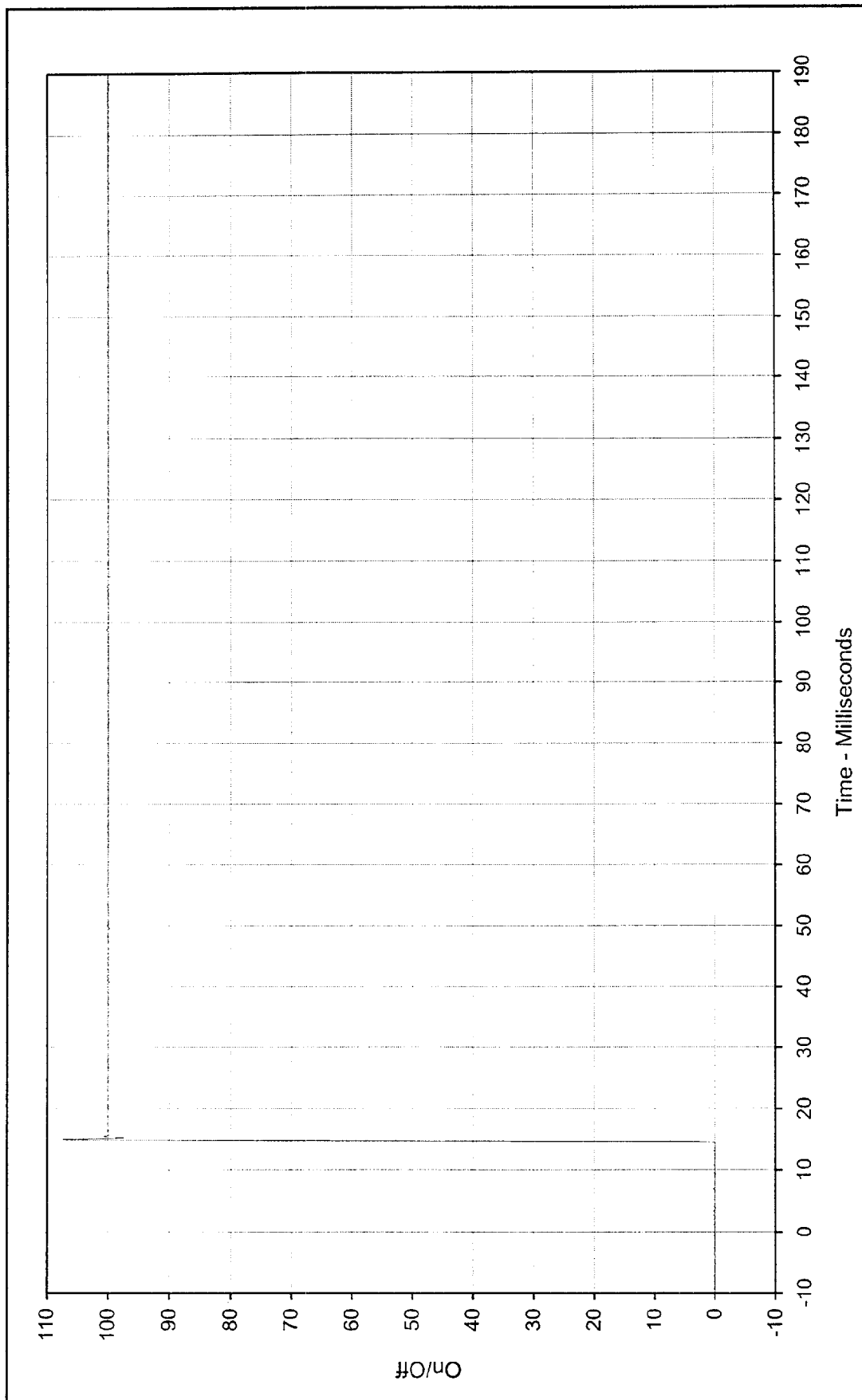
Date of Test: 02/29/00

Curve Number: IN1-011

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

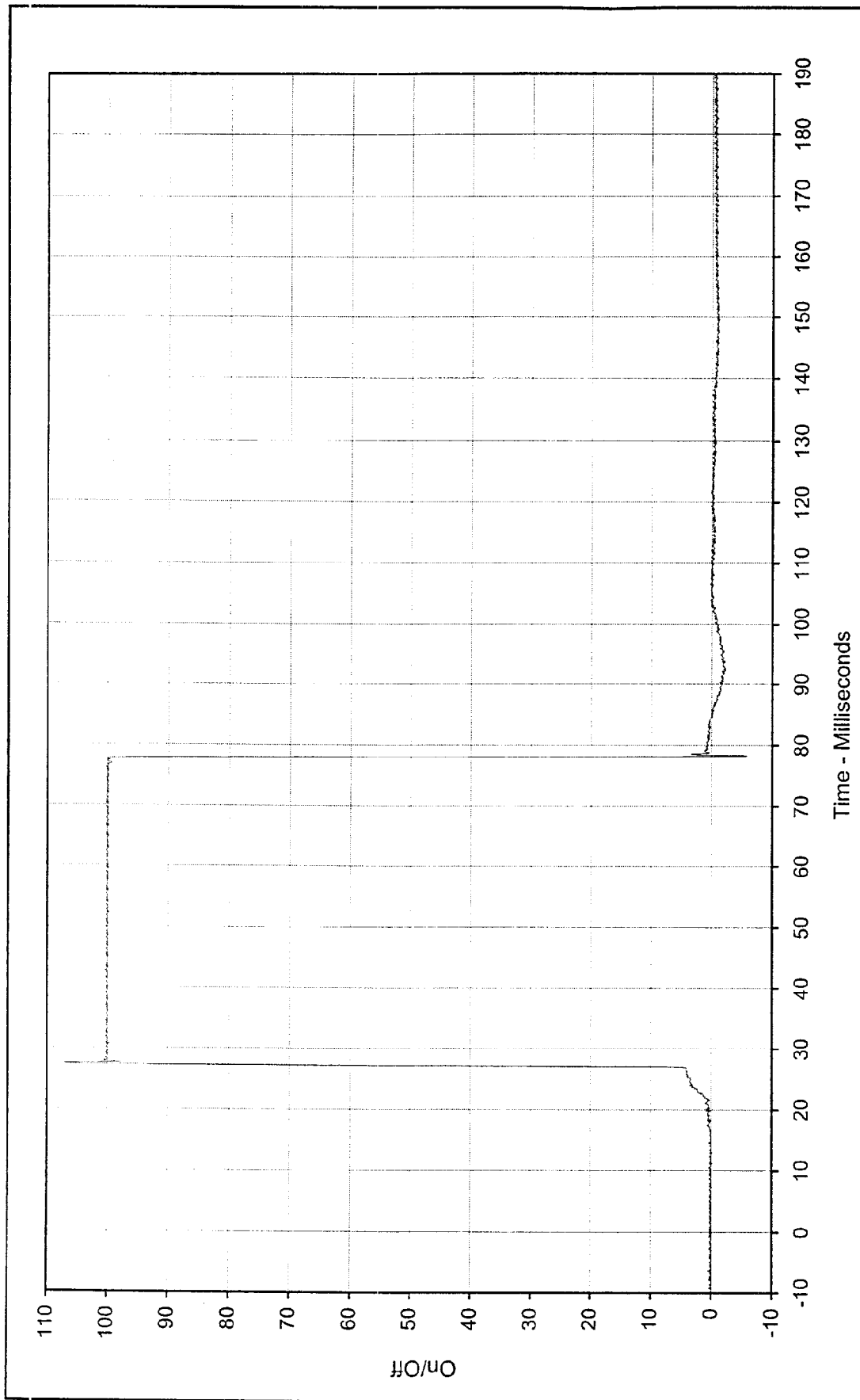
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Driver Thorax Contact	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	107.4 at 15.0 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Crossing Point:	50% at 14.8 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-012			





Curve Description: Driver Pelvis Contact

Maximum Value: 107.1 at 27.4 Milliseconds

Crossing Point: 50% at 27.2 Milliseconds

SAE Filter Class: 1000

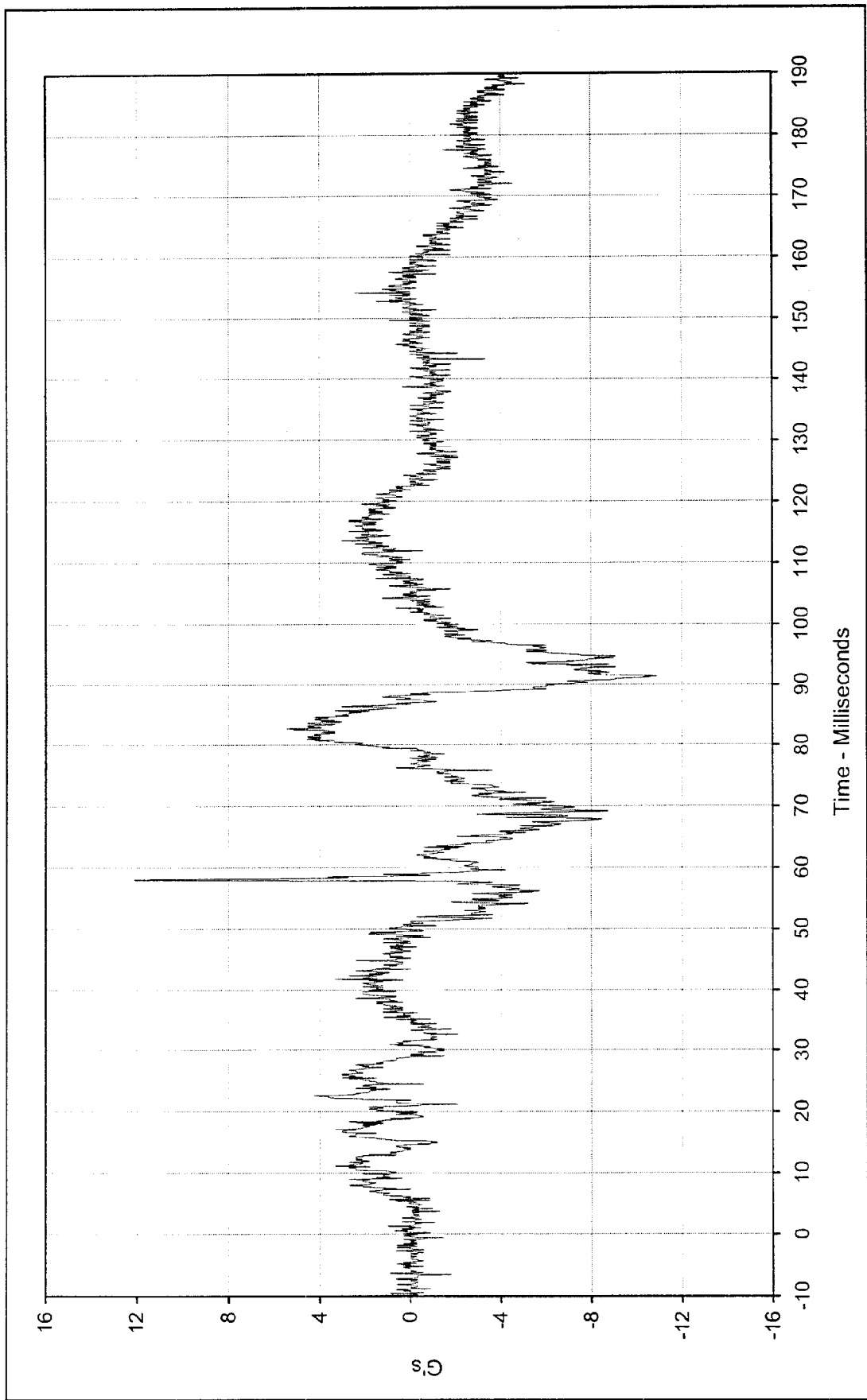
Date of Test: 02/29/00

Curve Number: FIL-013

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

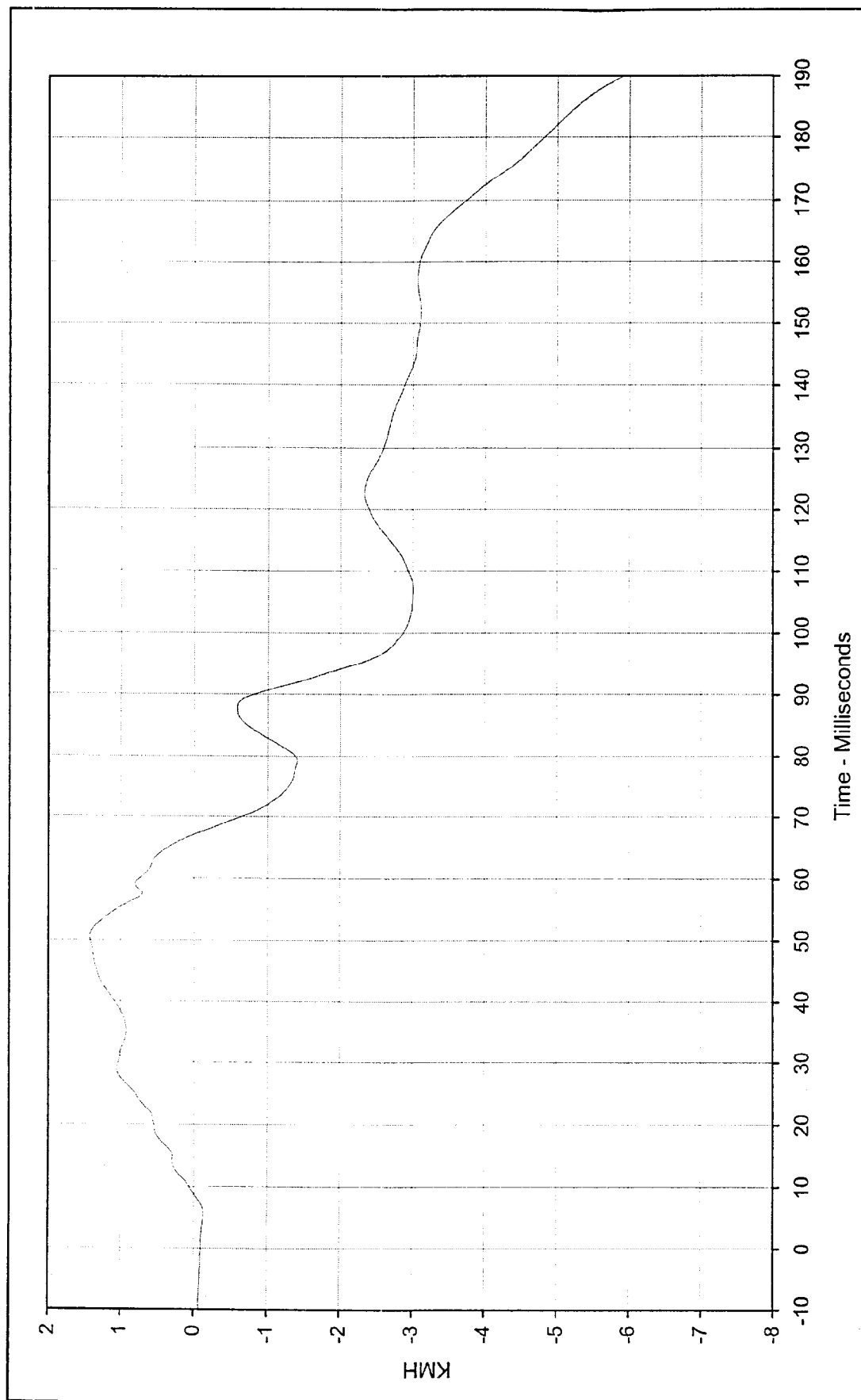




Curve Description:		Pass. Head CG X		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	12.1	at	58.0	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-10.9	at	91.3			
SAE Filter Class:	1000					
Date of Test:	02/29/00					
Curve Number:	FIL-014					

The logo for KARCO Engineering features a stylized lightbulb with a gear-like base, followed by the word "KARCO" in large, bold, sans-serif capital letters. To the right of "KARCO", the word "Engineering" is written in a smaller, italicized, sans-serif font. The entire logo is set against a black background with a white border.





Curve Description: Pass. Head CG X Velocity

Maximum Value: 1.4 at 50.6 Milliseconds

Minimum Value: -5.9 at 189.9 Milliseconds

SAE Filter Class: 180

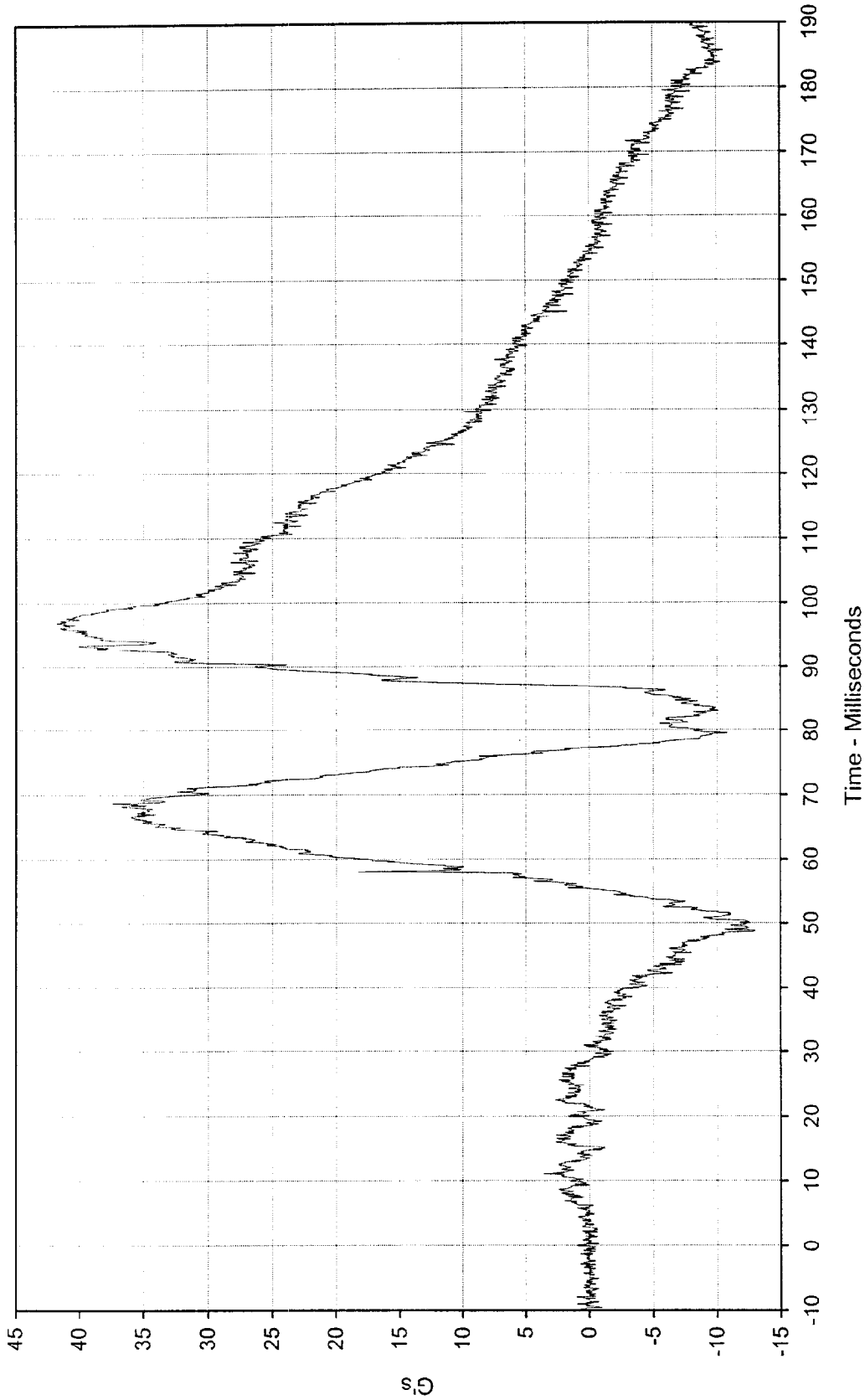
Date of Test: 02/29/00

Curve Number: IN1-014

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van



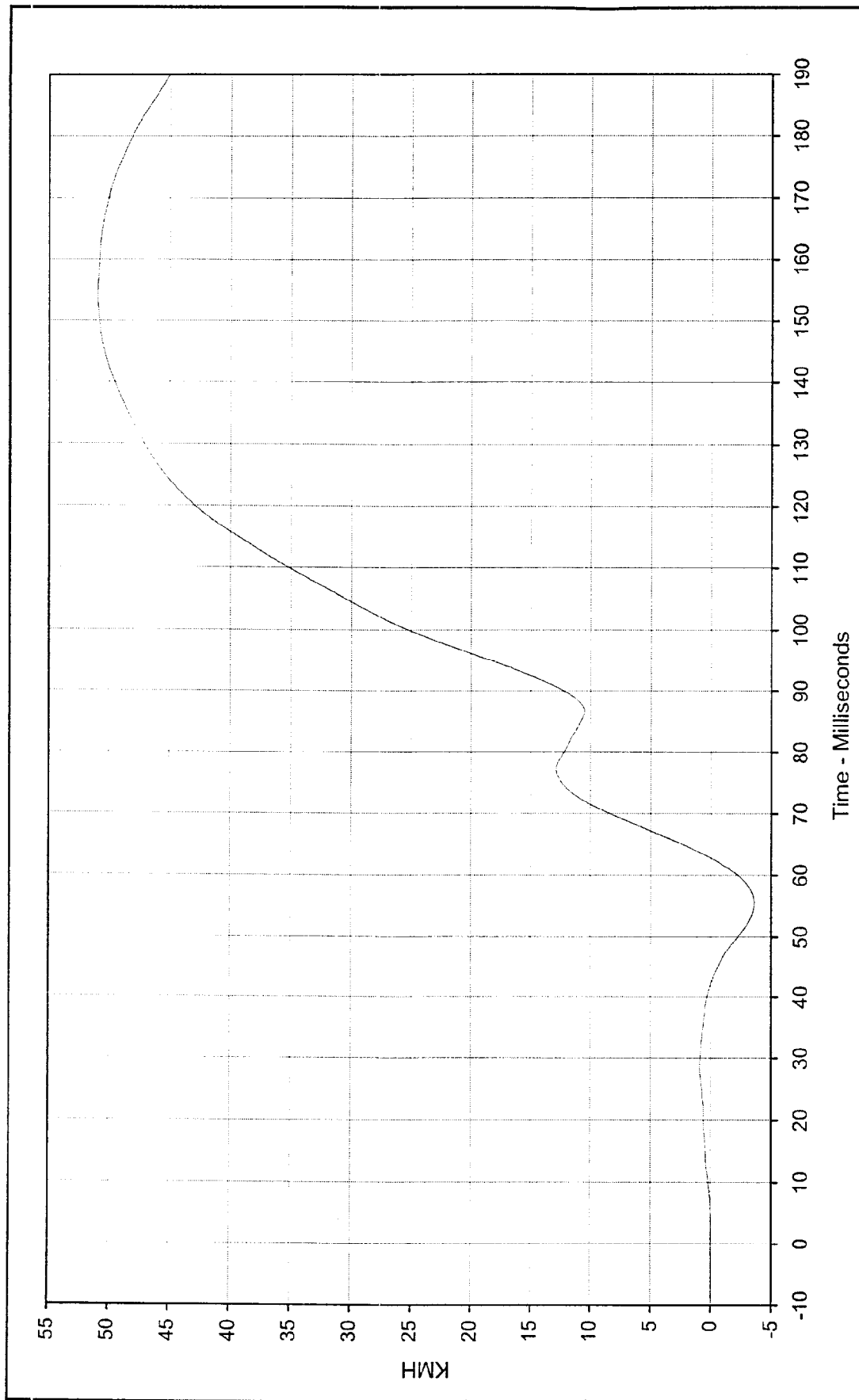


Curve Description:		Pass. Head CG Y		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	41.8	at	97.0	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-13.0	at	48.8			
SAE Filter Class:	1000					
Date of Test:	02/29/00					
Curve Number:	FIL-015					



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Curve Description: Pass. Head CG Y Velocity

Maximum Value: 51.0 at 154.4 Milliseconds

Minimum Value: -3.6 at 55.4 Milliseconds

SAE Filter Class: 180

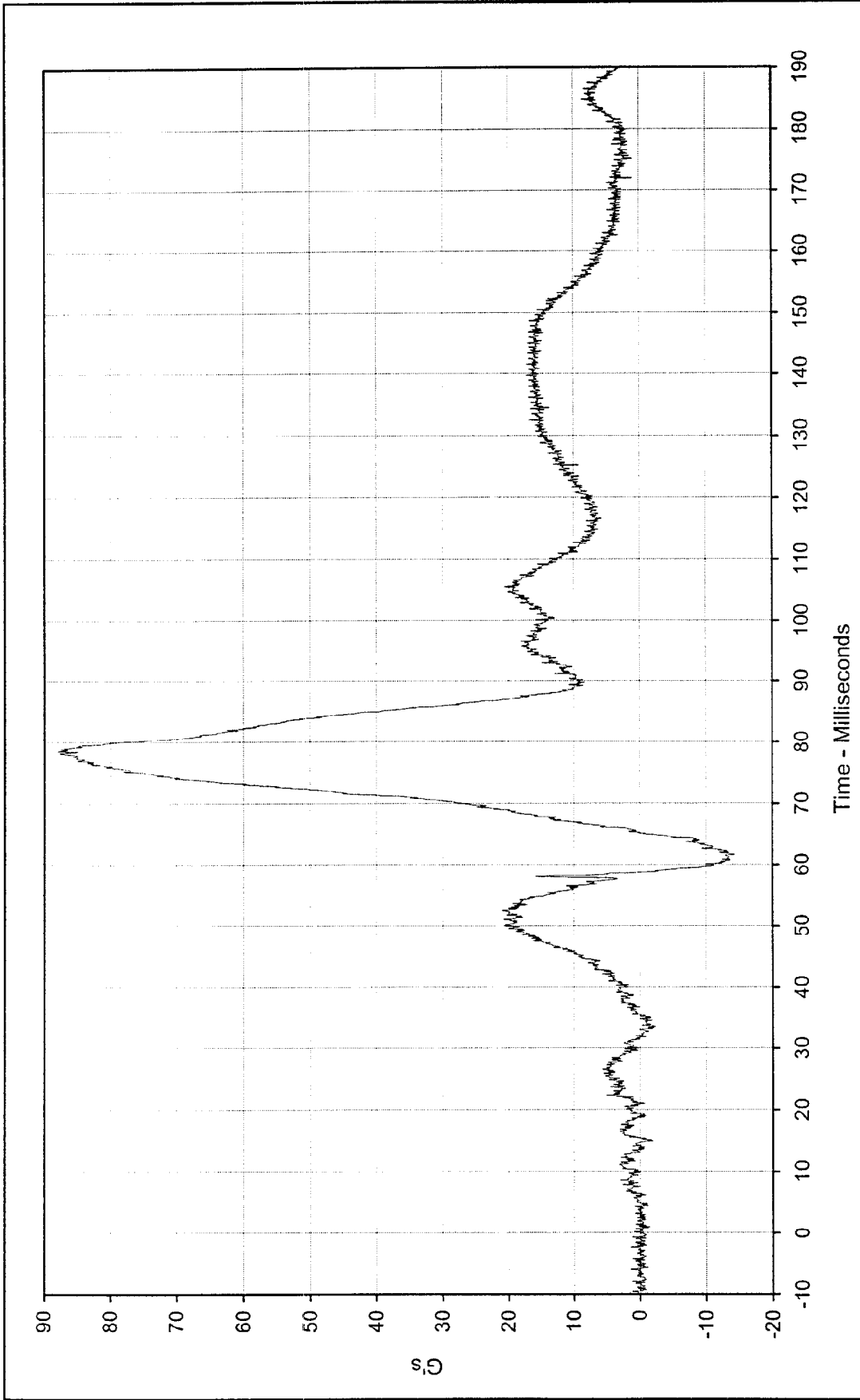
Date of Test: 02/29/00

Curve Number: IN1-015

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

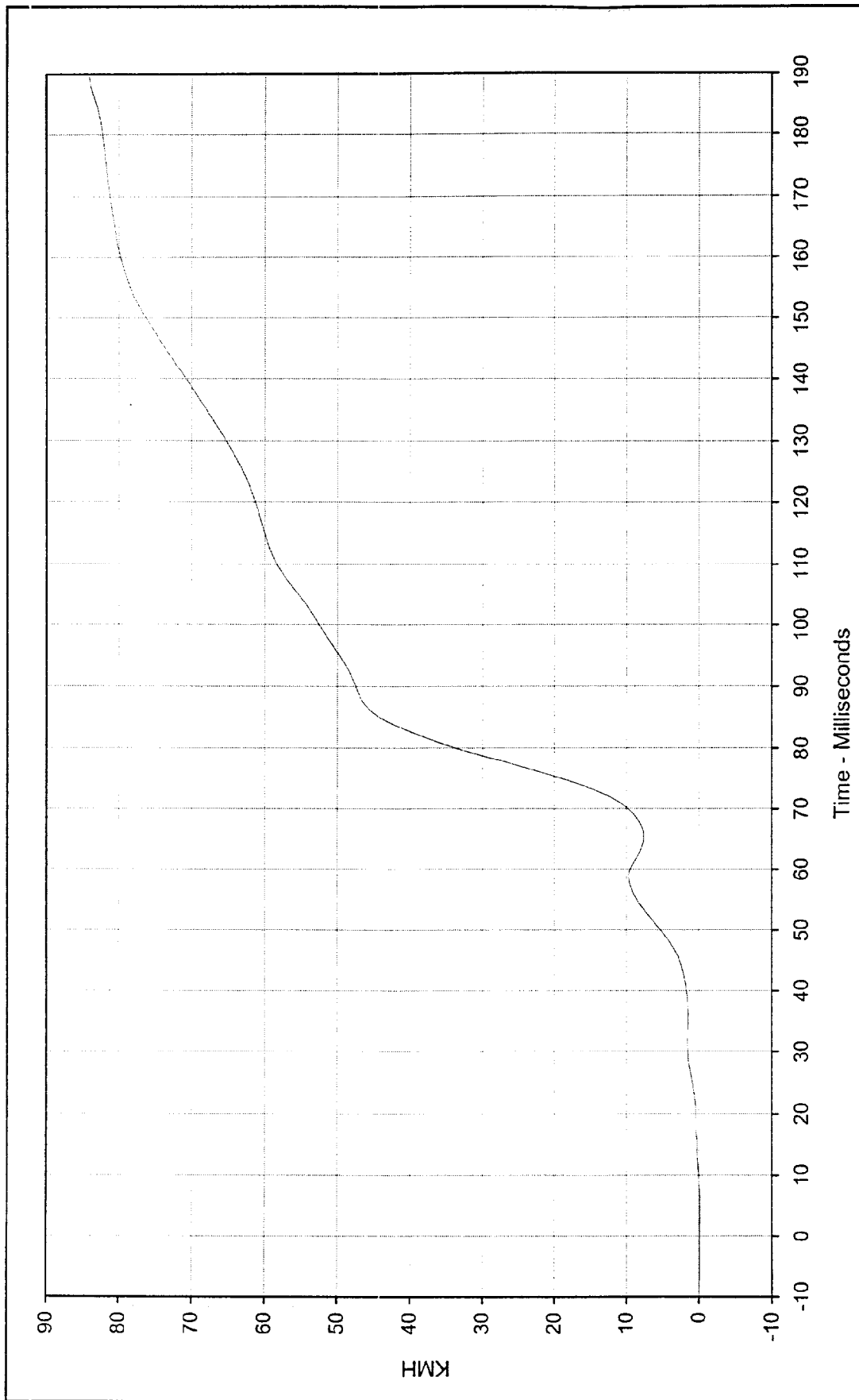




Curve Description:		Pass. Head CG Z		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	87.8	at	78.5	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-14.3	at	61.6			
SAE Filter Class:	1000					
Date of Test:	02/29/00					
Curve Number:	FIL-016					



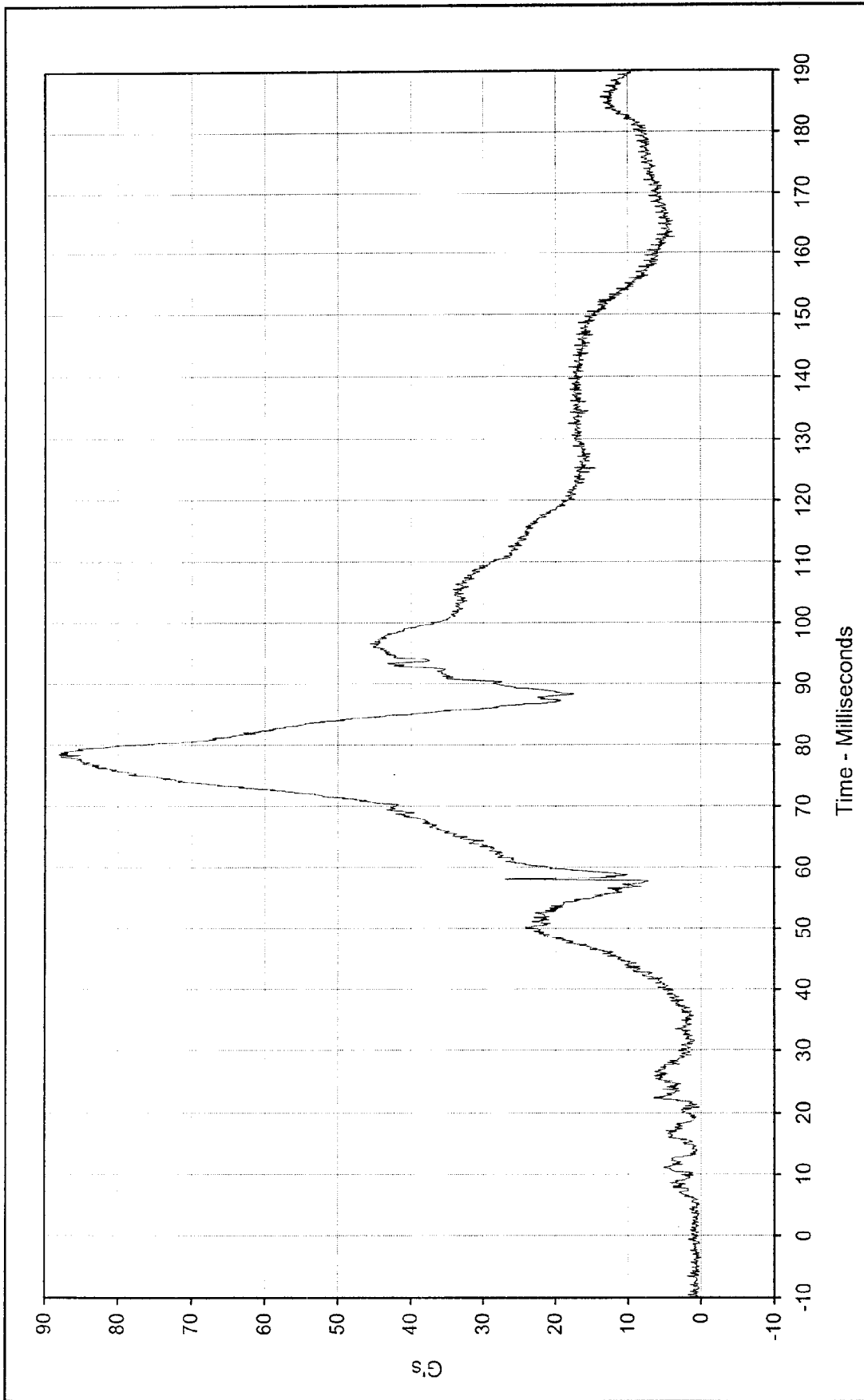




Curve Description:	Pass. Head CG Z Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	84.2 at 189.9 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-0.1 at 5.1 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-016			

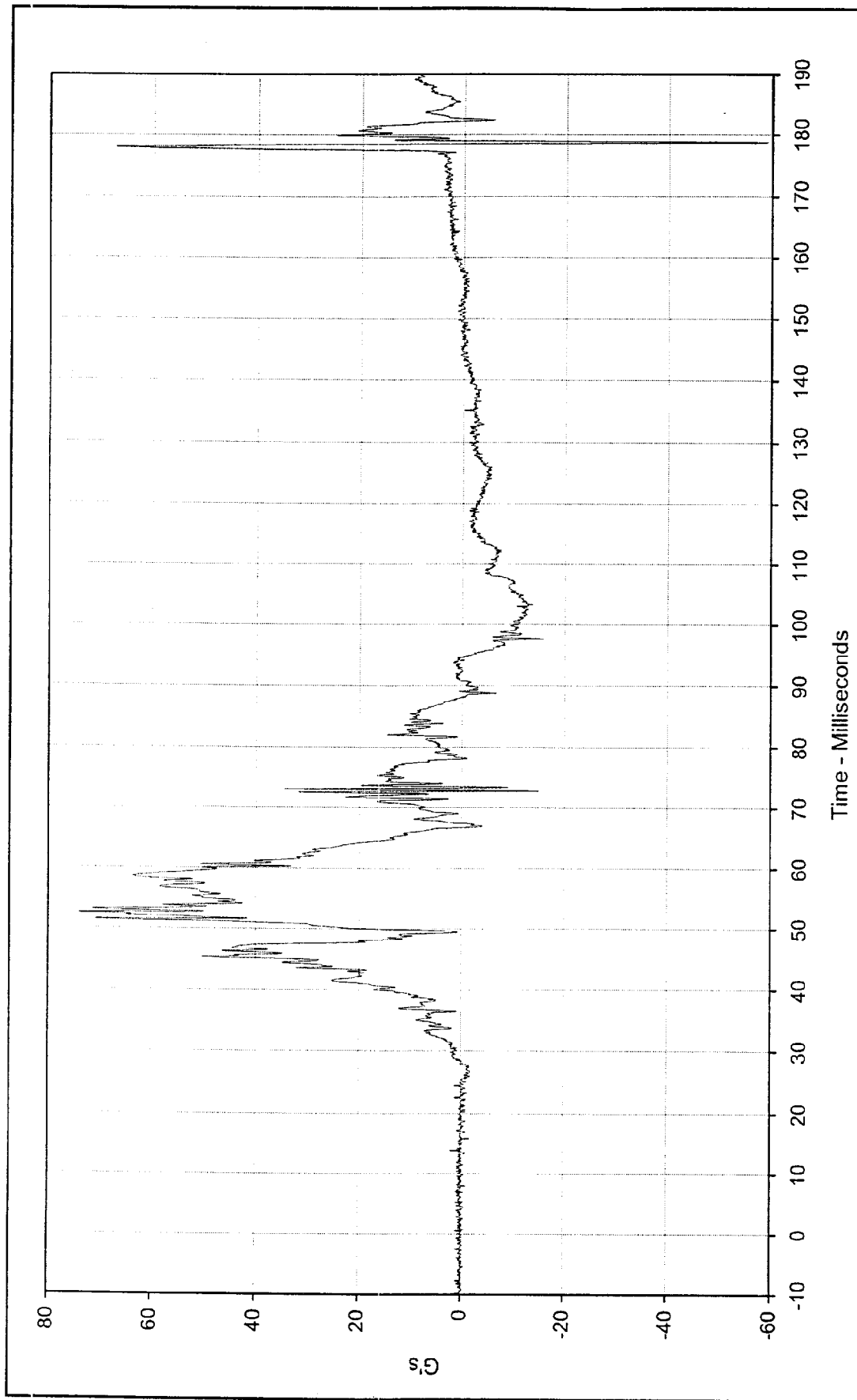
The logo for KARCO Engineering. It features a stylized lightbulb with a gear-like base, positioned to the left of the word "KARCO" in a bold, sans-serif font. To the right of "KARCO", the word "Engineering" is written in a script font. The entire logo is set against a background that is split diagonally from the bottom-left to the top-right, with the top-left half being black and the bottom-right half being white.





Curve Description:	Pass. Head CG Resultant	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	88.1	at	78.5	Milliseconds
Minimum Value:	0.1	at	5.2	Milliseconds
SAE Filter Class:	1000	Test Vehicle:	2000 Mercury Villager Mini-Van	
Date of Test:	02/29/00			
Curve Number:	RES-014			

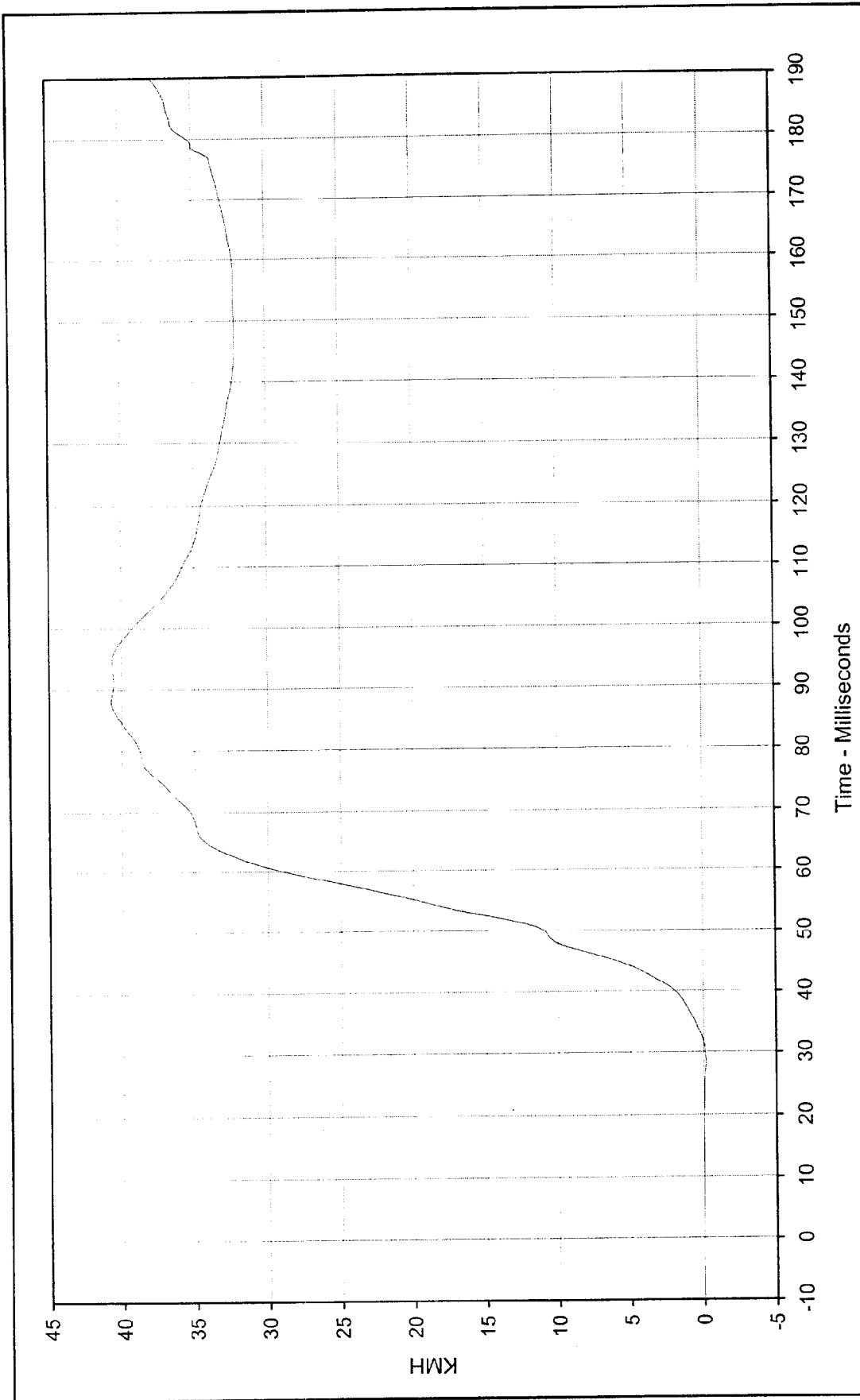




Curve Description:	Pass. Upper Rib Primary	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	73.9	at	52.5	Milliseconds
Minimum Value:	-58.9	at	178.7	Milliseconds
SAE Filter Class:	1000	Test Vehicle:	2000 Mercury Villager Mini-Van	
Date of Test:	02/29/00			
Curve Number:	FIL-017			







Curve Description: Pass. Upper Rib Primary Y Velocity

Maximum Value: 40.7 at 88.1 Milliseconds

Minimum Value: -0.2 at 28.4 Milliseconds

SAE Filter Class: 180

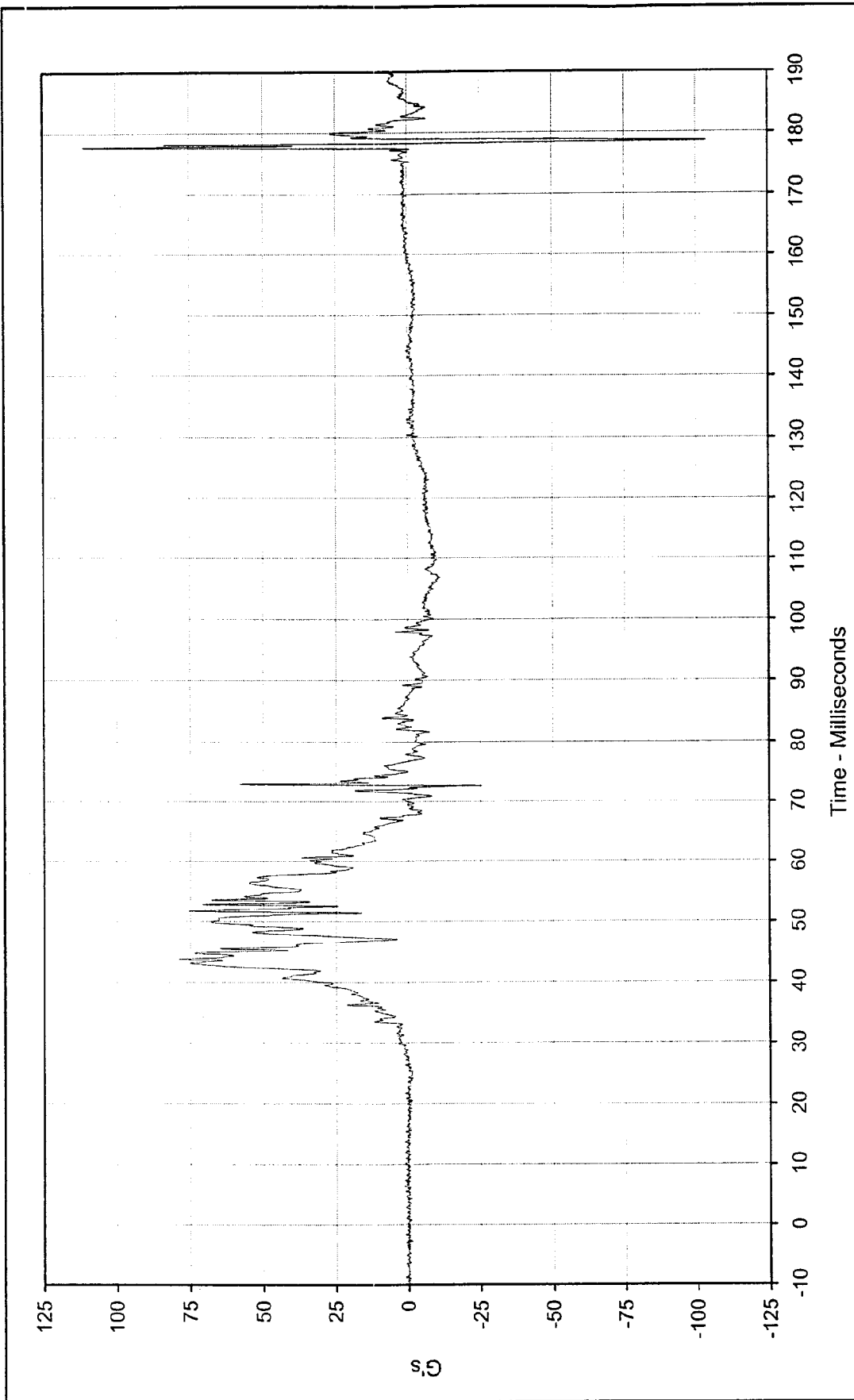
Date of Test: 02/29/00

Curve Number: IN1-017

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

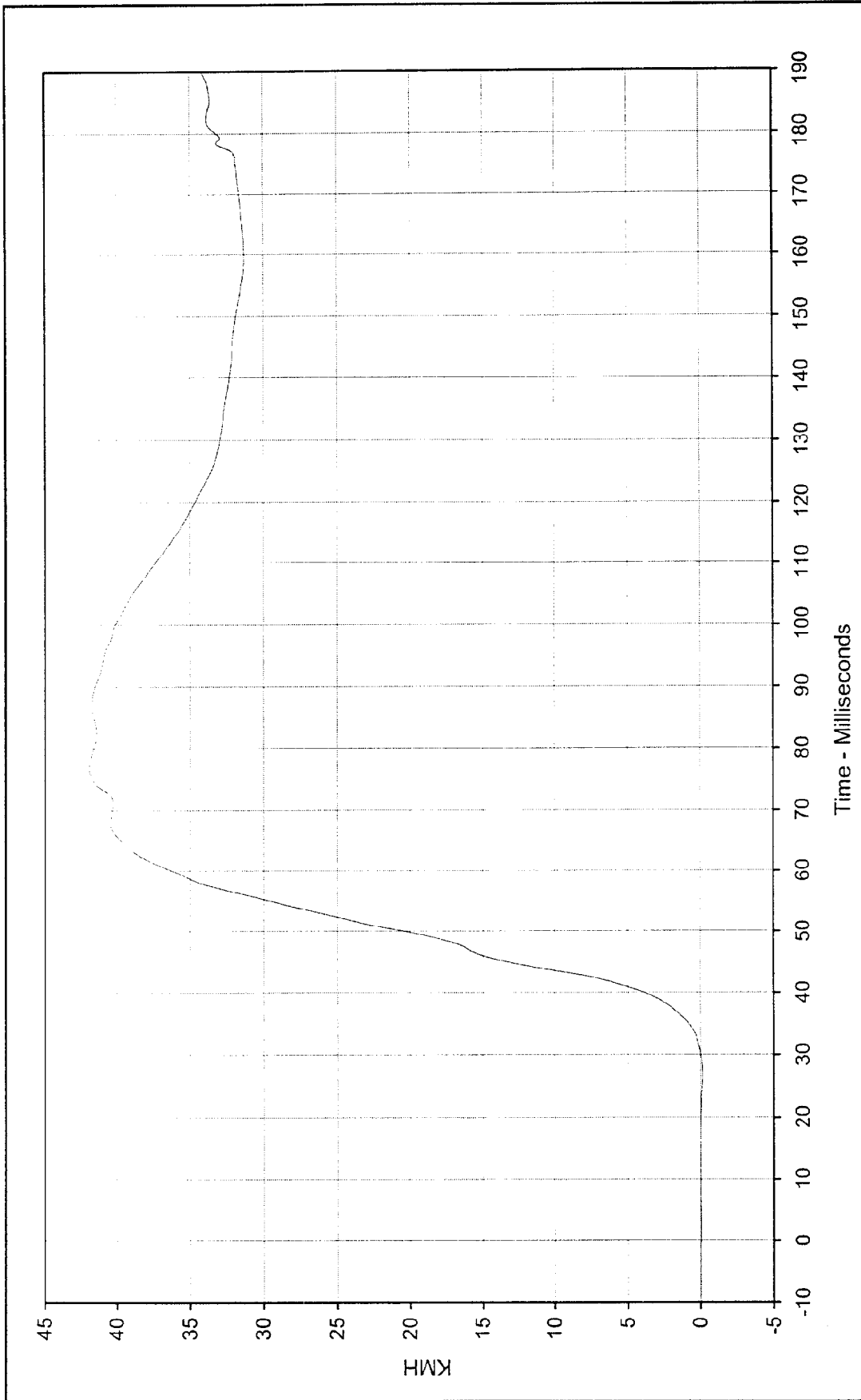
Test Vehicle: 2000 Mercury Villager Mini-Van





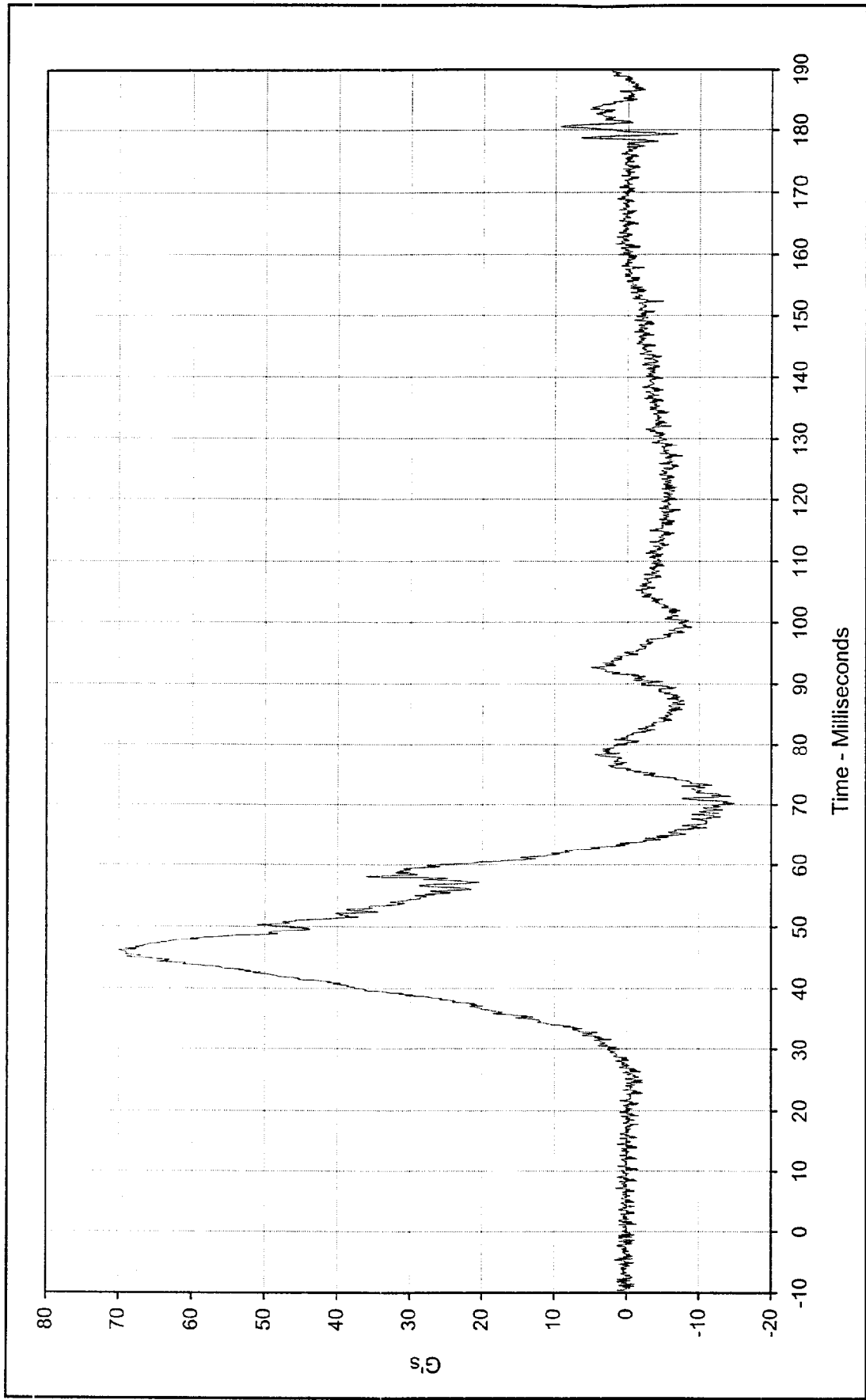
Curve Description:	Pass. Lower Rib Primary	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	110.7 at 177.8 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-103.9 at 178.6 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-018			





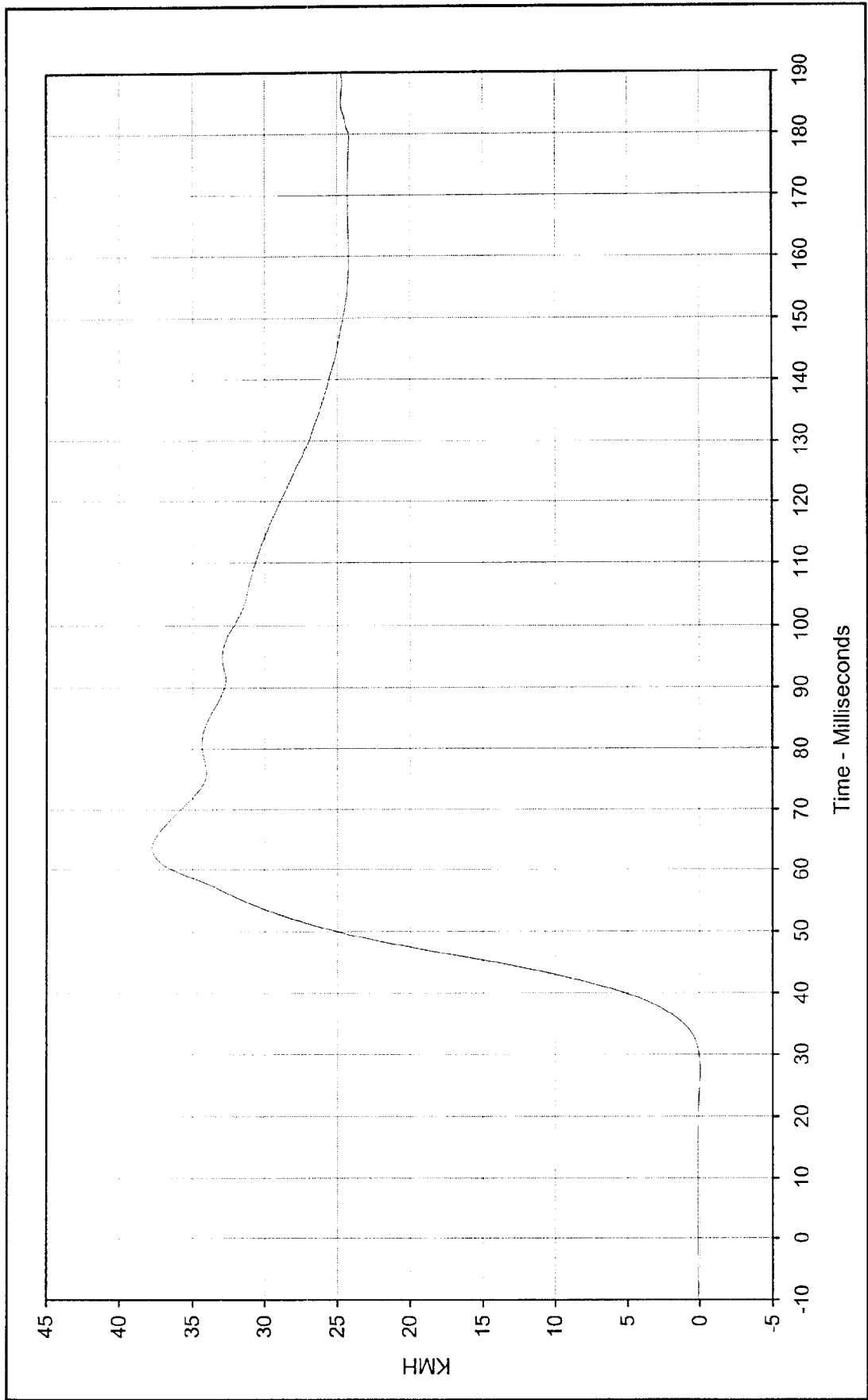
Curve Description:	Pass. Lower Rib Primary Y Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	41.9 at 76.8 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-0.1 at 26.7 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-018			





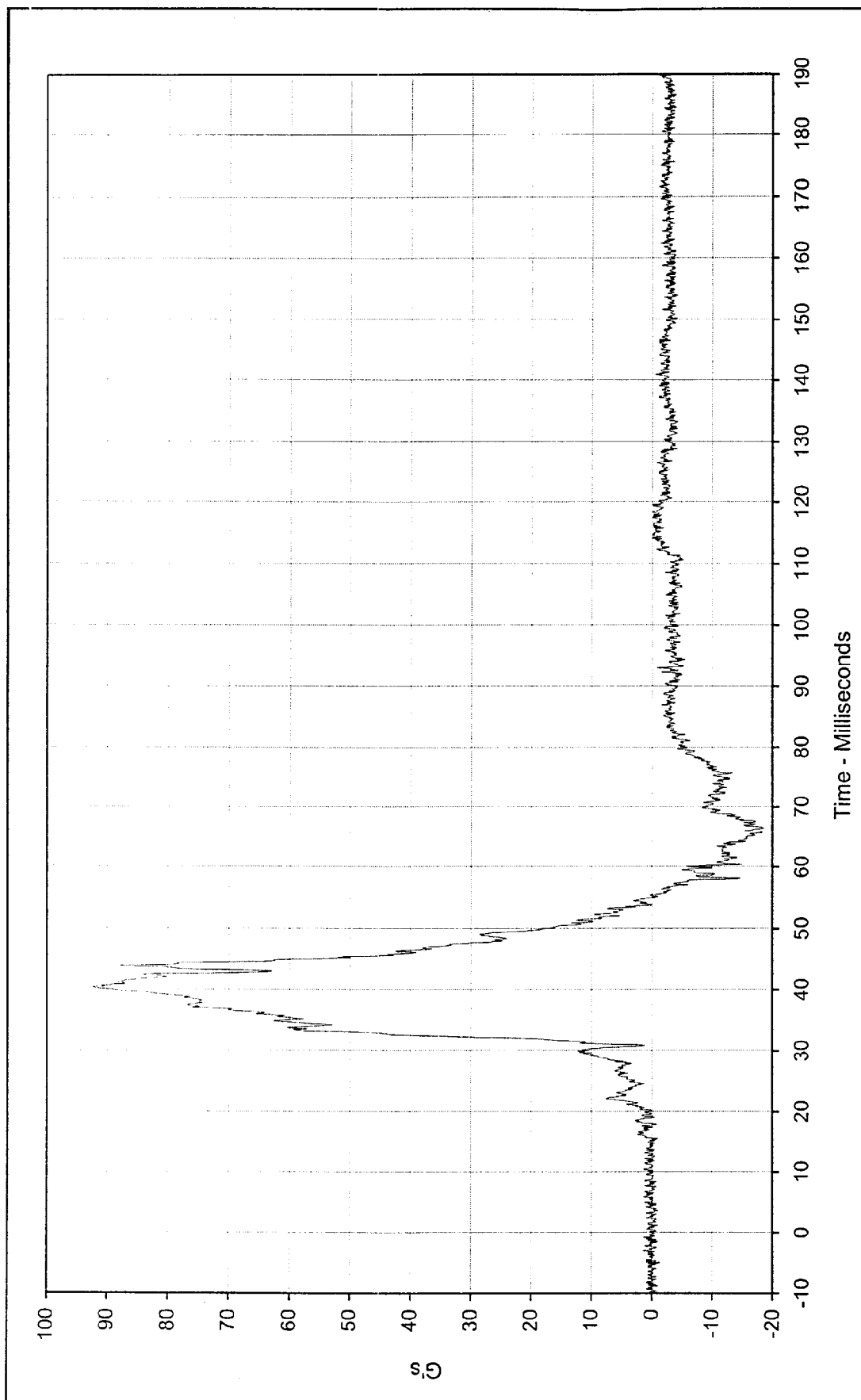
Curve Description:	Pass. Lower Spine Primary	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	70.0 at 46.1 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-14.9 at 70.2 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-019			





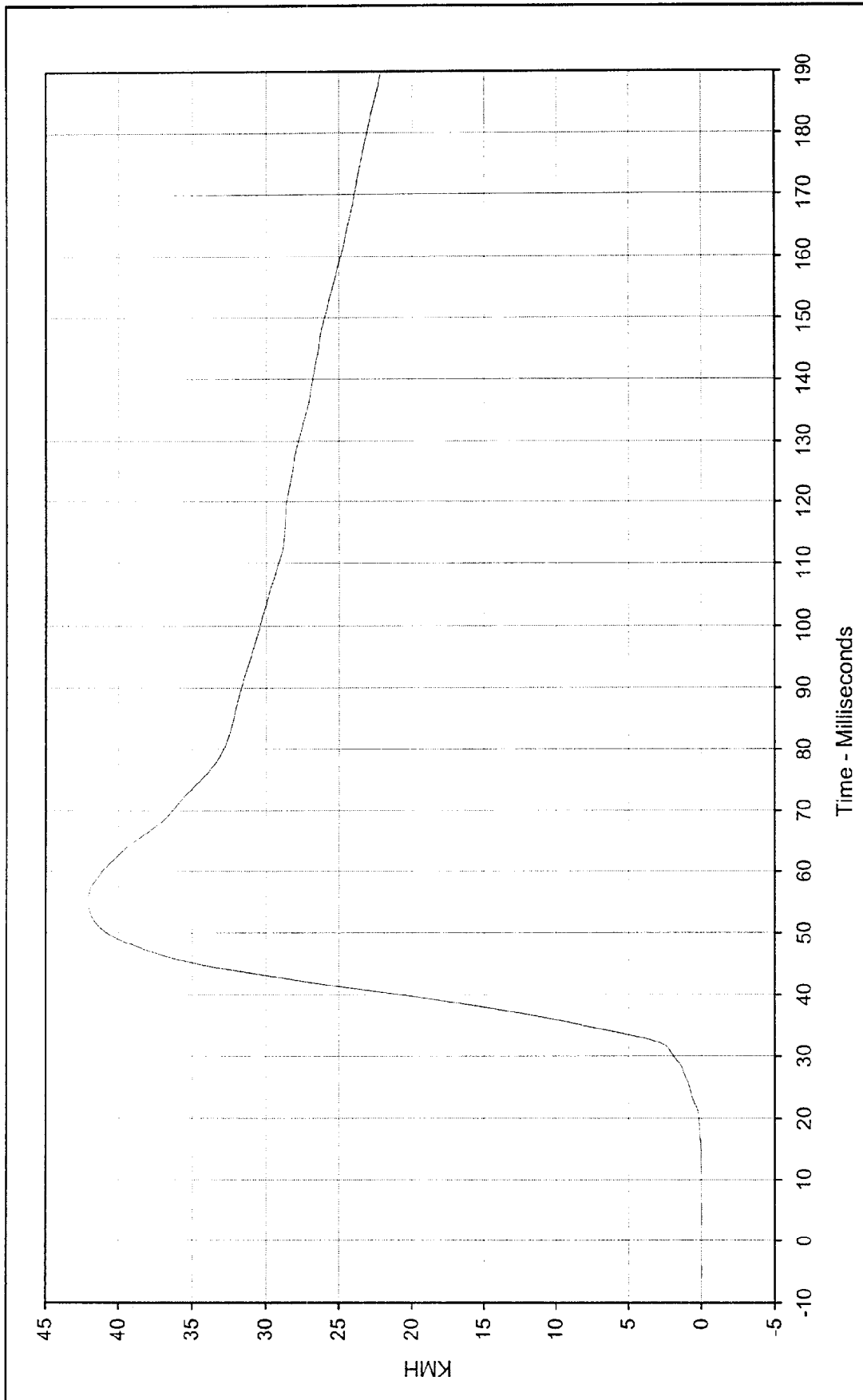
Curve Description:	Pass. Lower Spine Primary Y Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.:	MY0214
Maximum Value:	37.8	at	63.6	Test Vehicle:	2000 Mercury Villager Mini-Van
Minimum Value:	-0.1	at	27.2		
SAE Filter Class:	180				
Date of Test:	02/29/00				
Curve Number:	IN1-019				





Curve Description:	Pass. Pelvis Primary Y	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	92.3 at 40.3 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-18.6 at 66.4 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-020			





Curve Description: Pass. Pelvis Primary Y Velocity

Maximum Value: 42.1 at 55.1 Milliseconds

Minimum Value: 0.0 at 4.6 Milliseconds

SAE Filter Class: 180

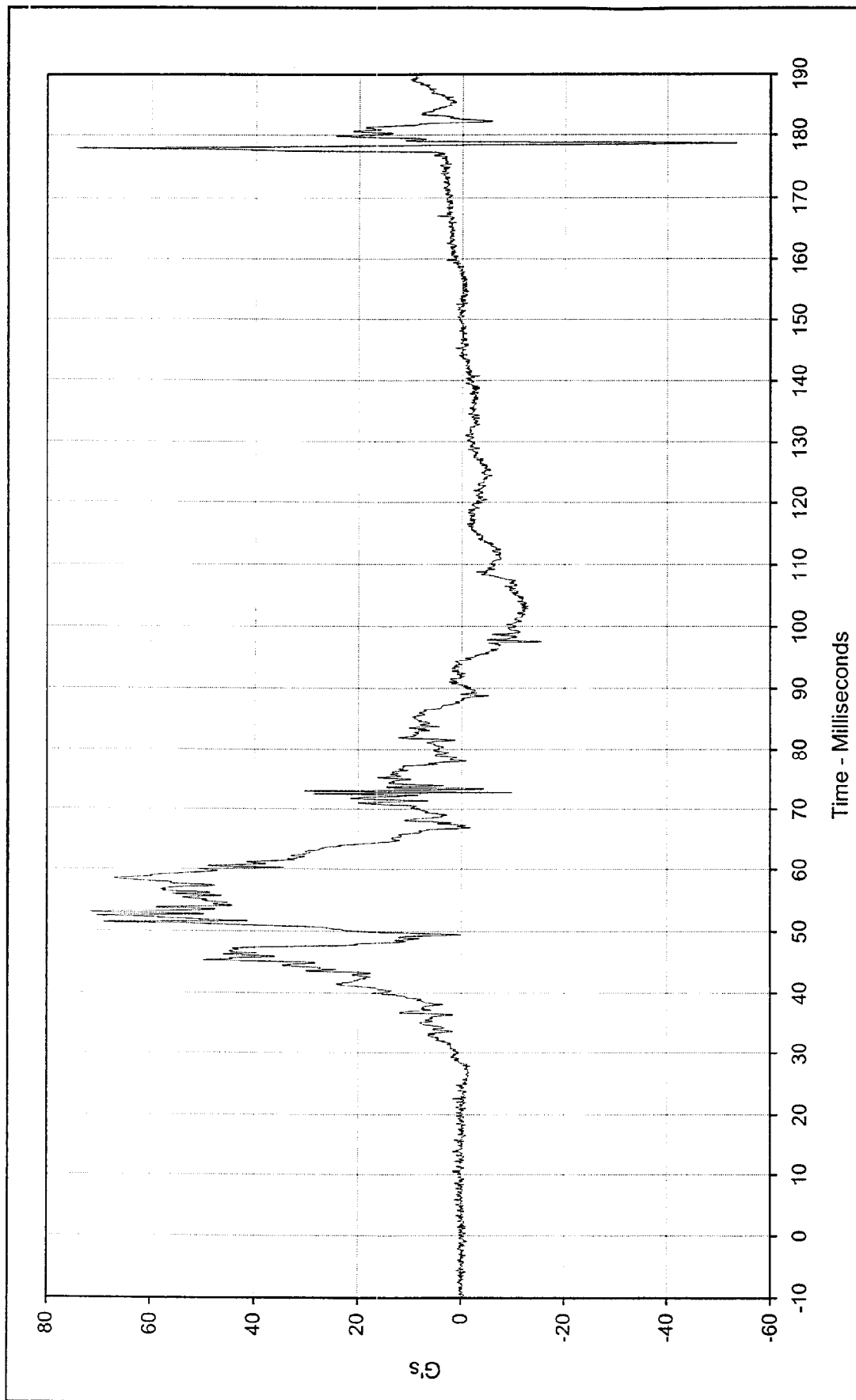
Date of Test: 02/29/00

Curve Number: IN1-020

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Pass. Upper Rib Redundant

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 74.3 at 177.9 Milliseconds

Test Vehicle: 2000 Mercury Villager Mini-Van

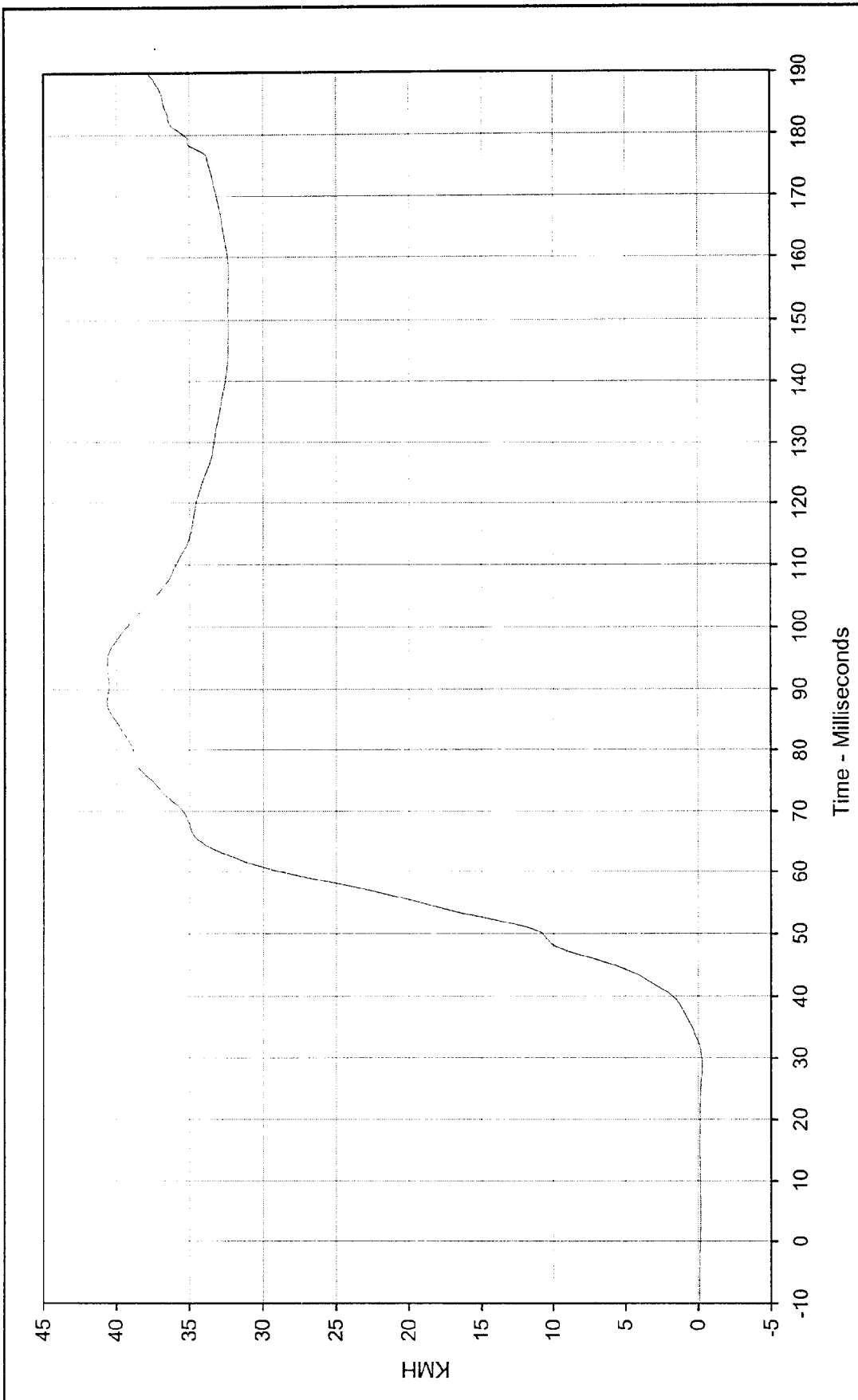
Minimum Value: -53.4 at 178.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 02/29/00

Curve Number: FIL-021





Curve Description: Pass. Upper Rib Redundant Y Velocity

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 40.7 at 88.0 Milliseconds

Test Vehicle: 2000 Mercury Villager Mini-Van

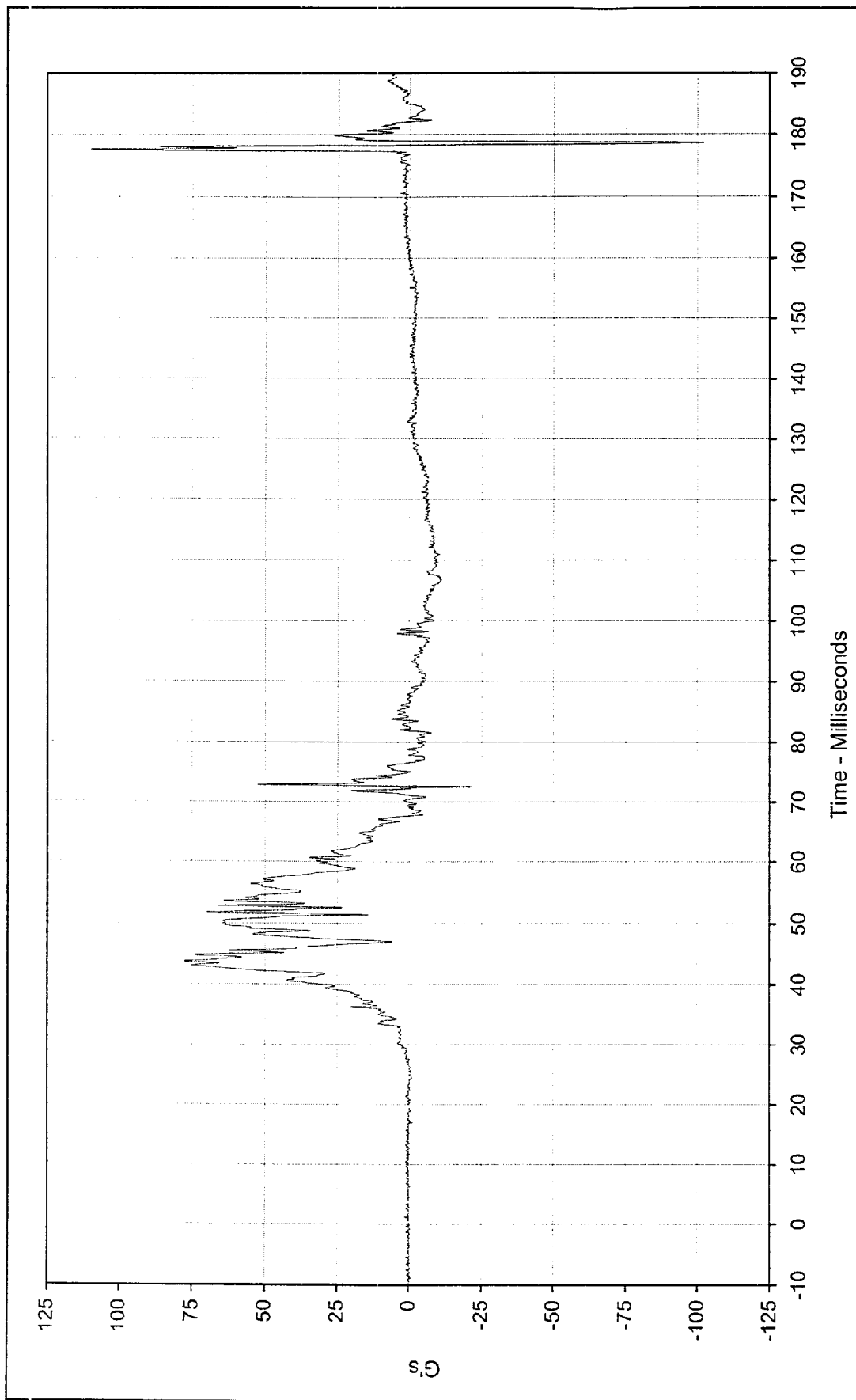
Minimum Value: -0.3 at 28.4 Milliseconds

SAE Filter Class: 180

Date of Test: 02/29/00

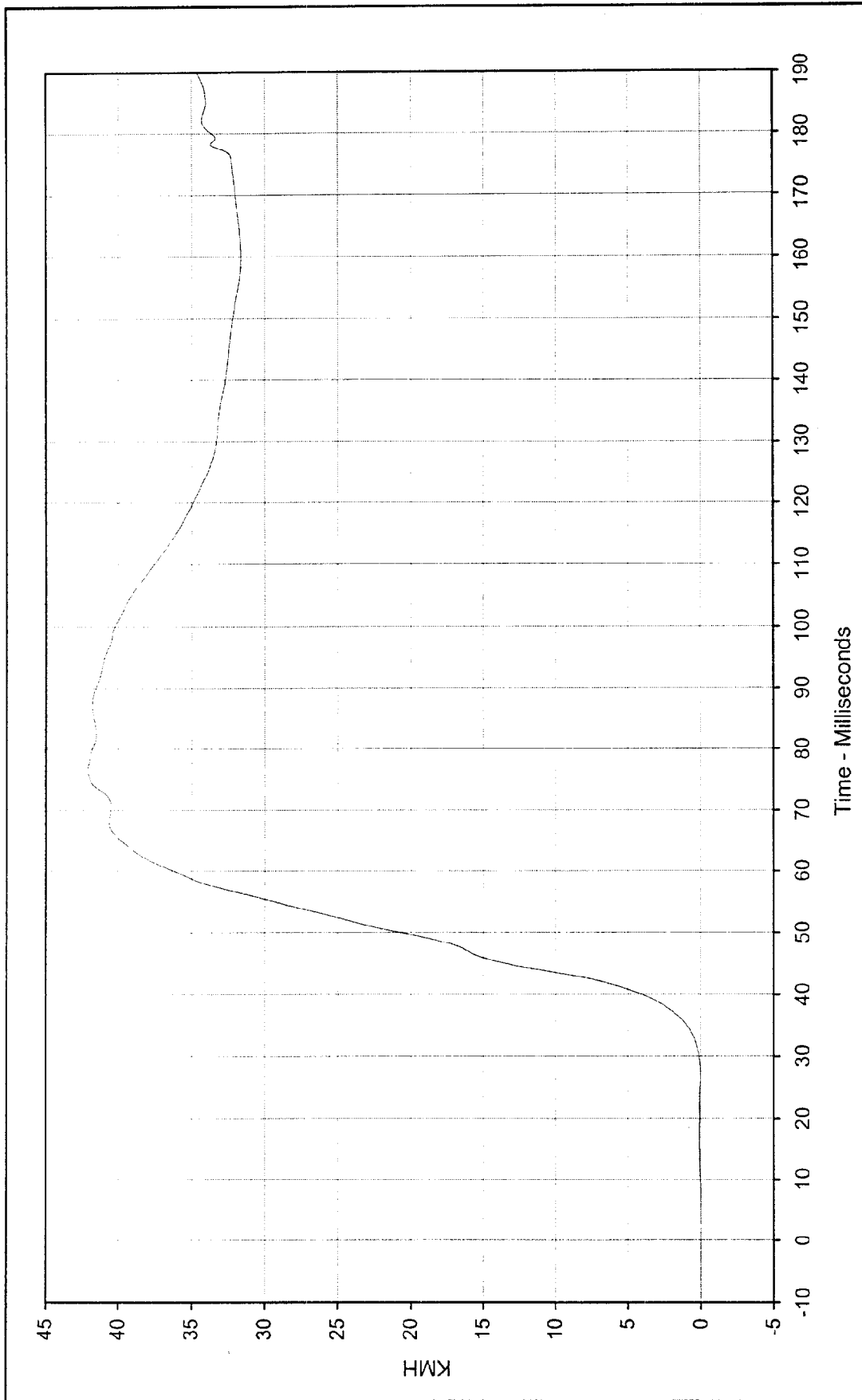
Curve Number: IN1-021





Curve Description:	Pass. Lower Rib Redundant	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	109.9 at 177.7 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-102.0 at 178.6 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-022			





Curve Description: Pass. Lower Rib Redundant Y Velocity

Test Program: 55/28 km/h Side Impact NCAP

No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

Maximum Value: 42.1 at 76.6 Milliseconds

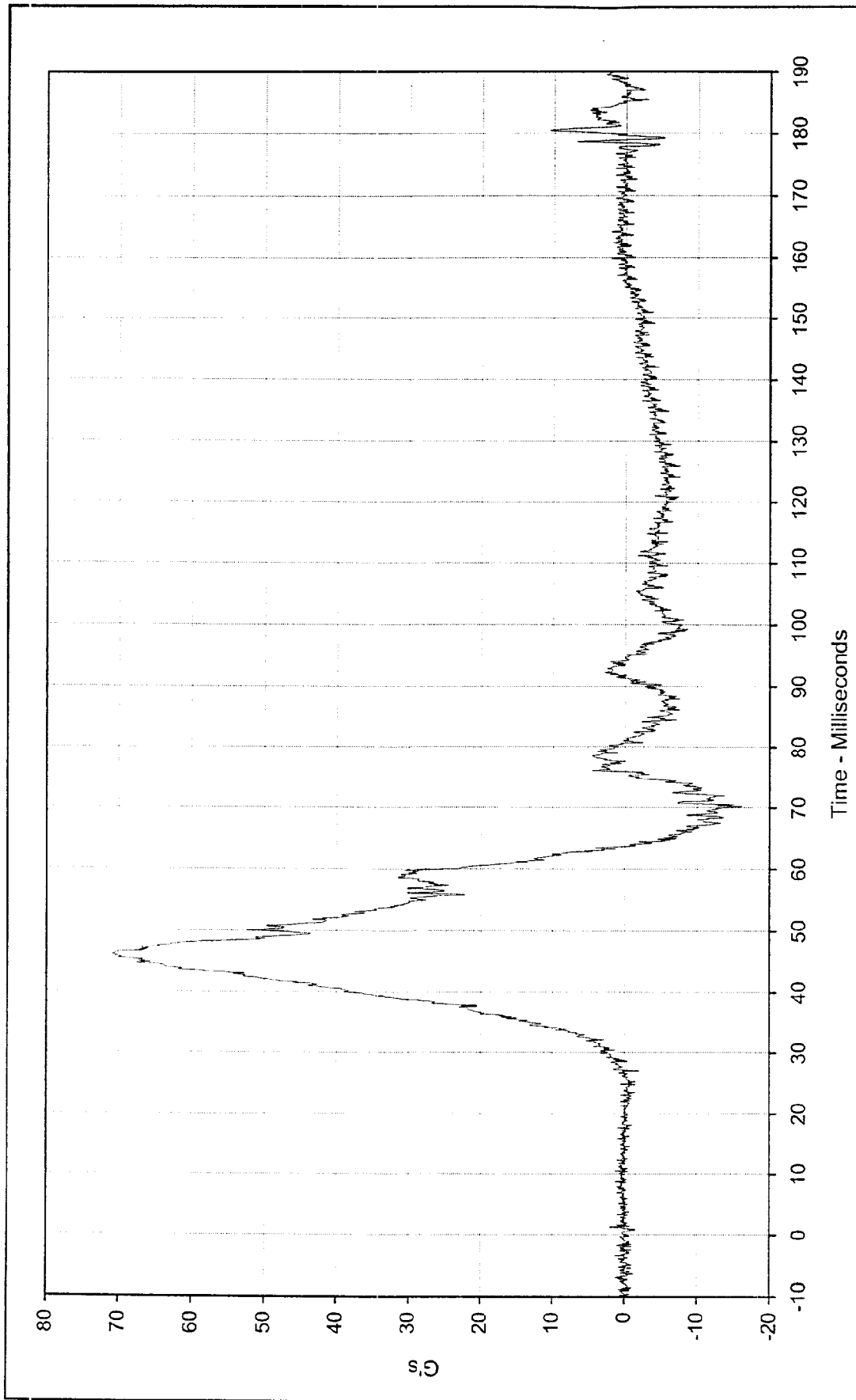
Minimum Value: 0.0 at 0.2 Milliseconds

SAE Filter Class: 180

Date of Test: 02/29/00

Curve Number: IN1-022

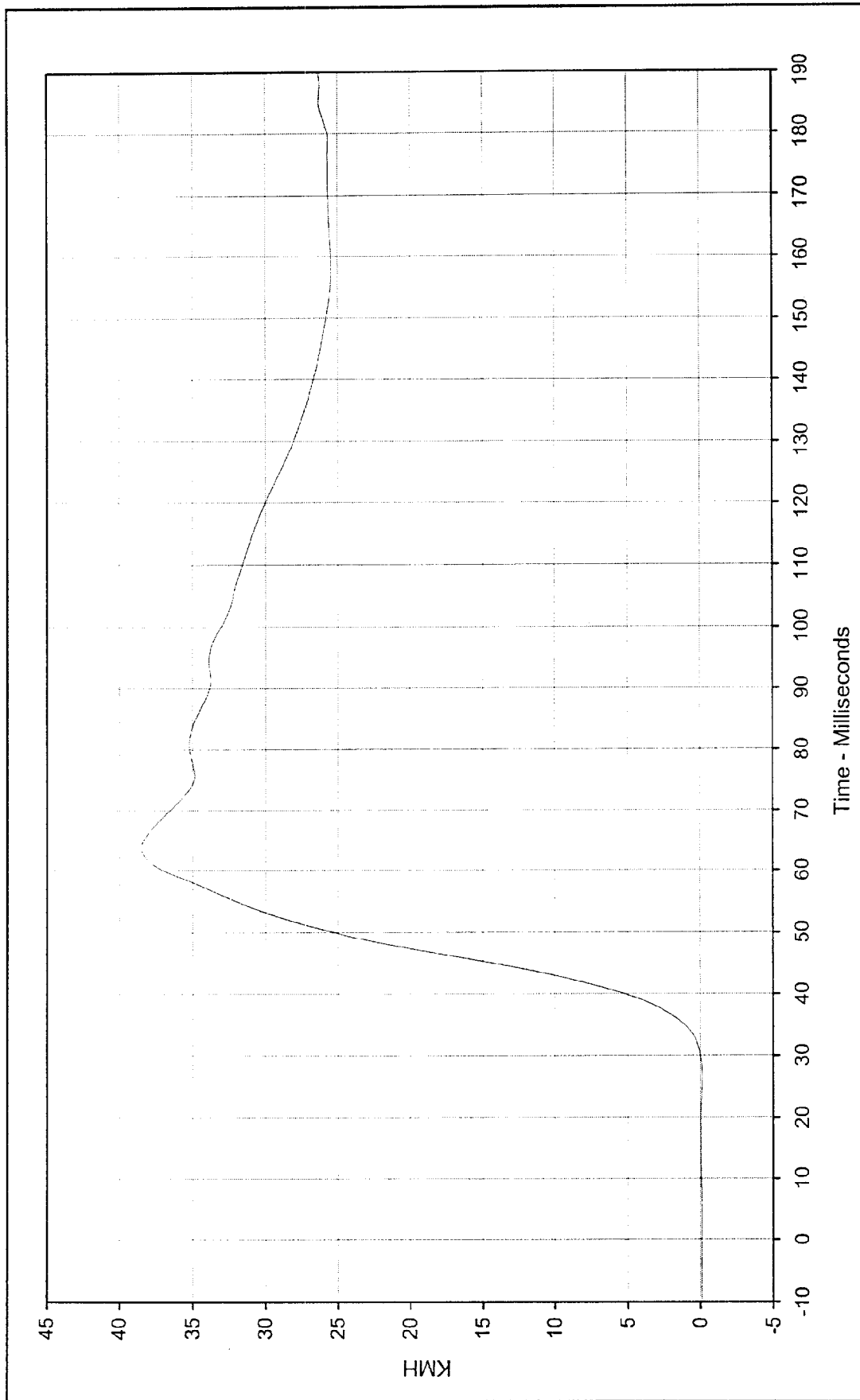




Curve Description:	Pass. Lower Spine Redundant	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	70.9 at 46.1 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-16.1 at 70.2 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-023			

The logo for KARCO Engineering features a stylized lightbulb with a gear inside, positioned to the left of the word "KARCO" in large, bold, sans-serif capital letters. Below "KARCO", the word "Engineering" is written in a smaller, italicized, sans-serif font. The entire logo is set against a black background with a white diagonal stripe running from the bottom left to the top right.

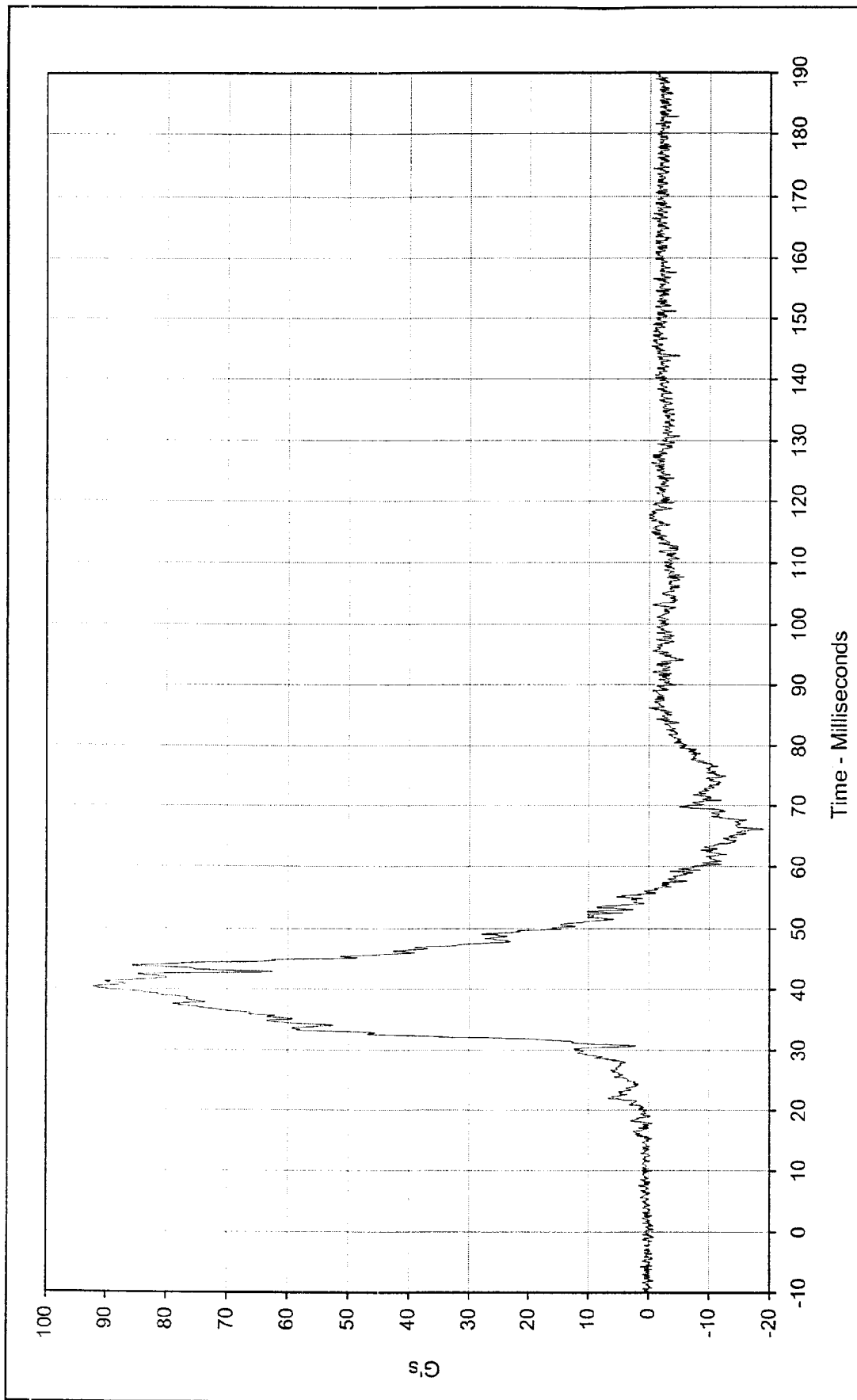




Curve Description: Pass. Lower Spine Redundant Y Velocity				Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	38.5	at	63.8	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-0.1	at	26.7			
SAE Filter Class:	180					
Date of Test:	02/29/00					
Curve Number:	IN1-023					

The logo for KARCO Engineering. It features a stylized lightbulb with a gear inside, next to the word "KARCO" in a bold, sans-serif font. Below "KARCO" is the word "Engineering" in a script font. The entire logo is set against a black background with a white diagonal stripe.

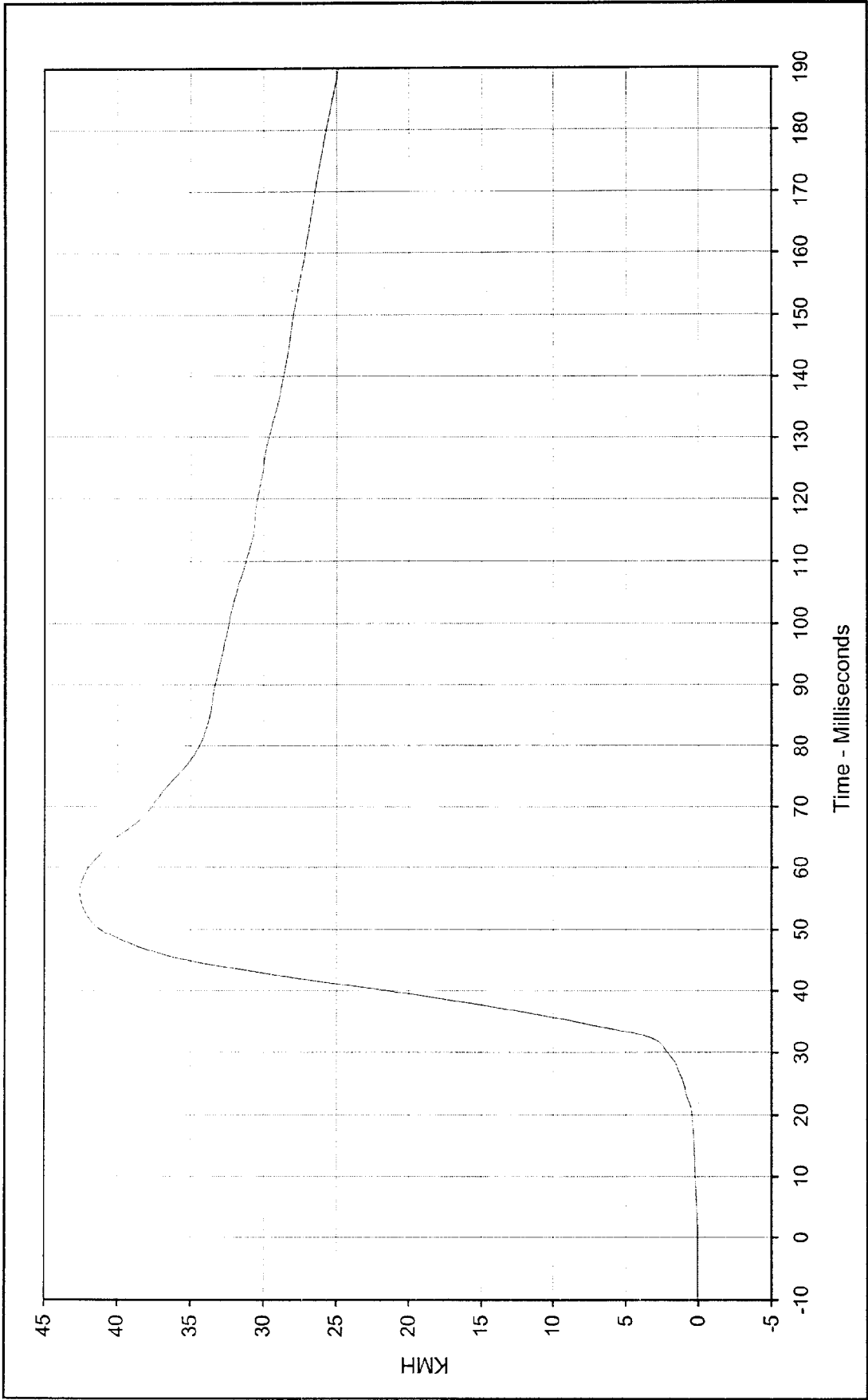




Curve Description:	Pass. Pelvis Redundant Y
Maximum Value:	92.1 at 40.3 Milliseconds
Minimum Value:	-19.1 at 66.1 Milliseconds
SAE Filter Class:	1000
Date of Test:	02/29/00
Curve Number:	FIL-024

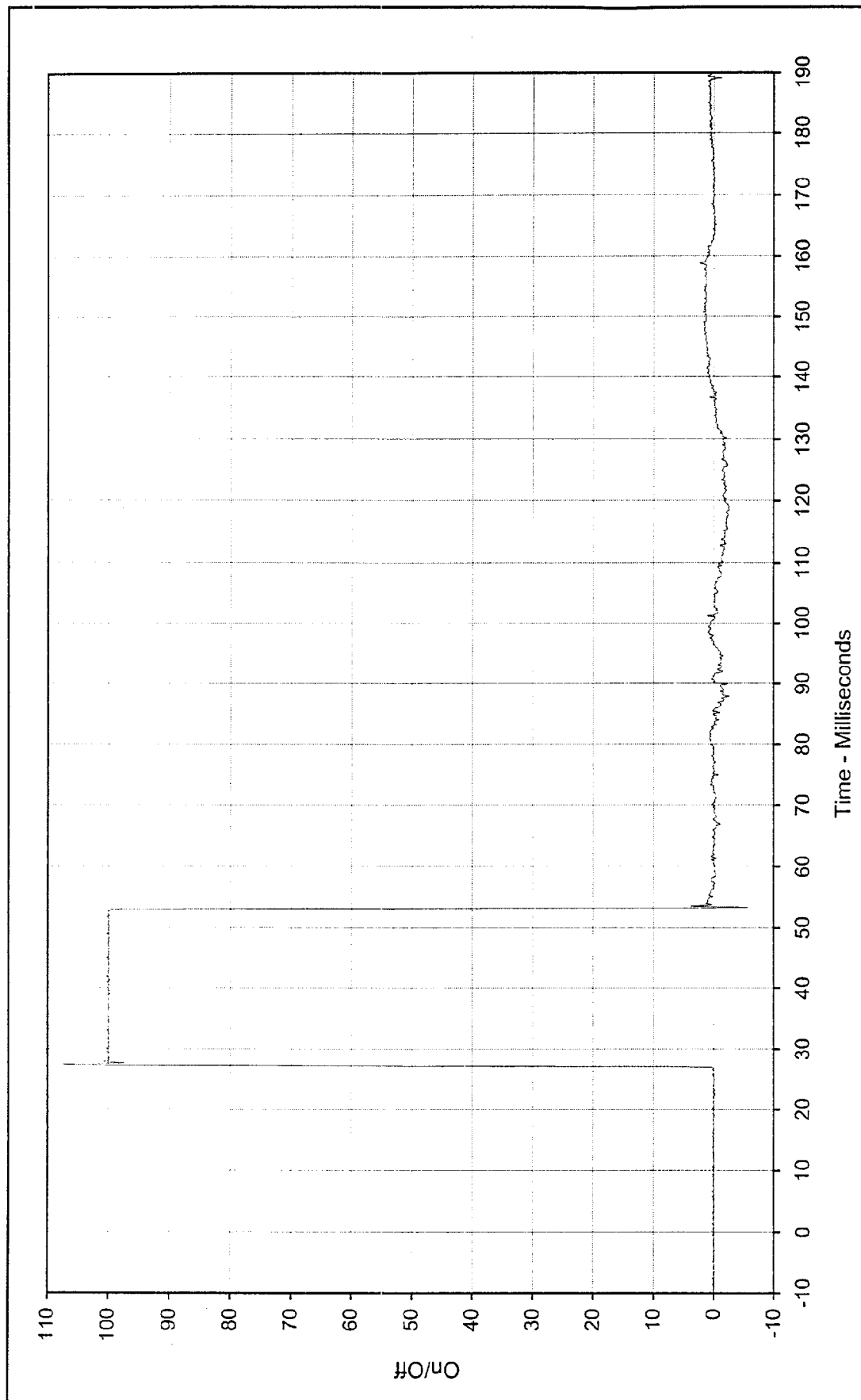
Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





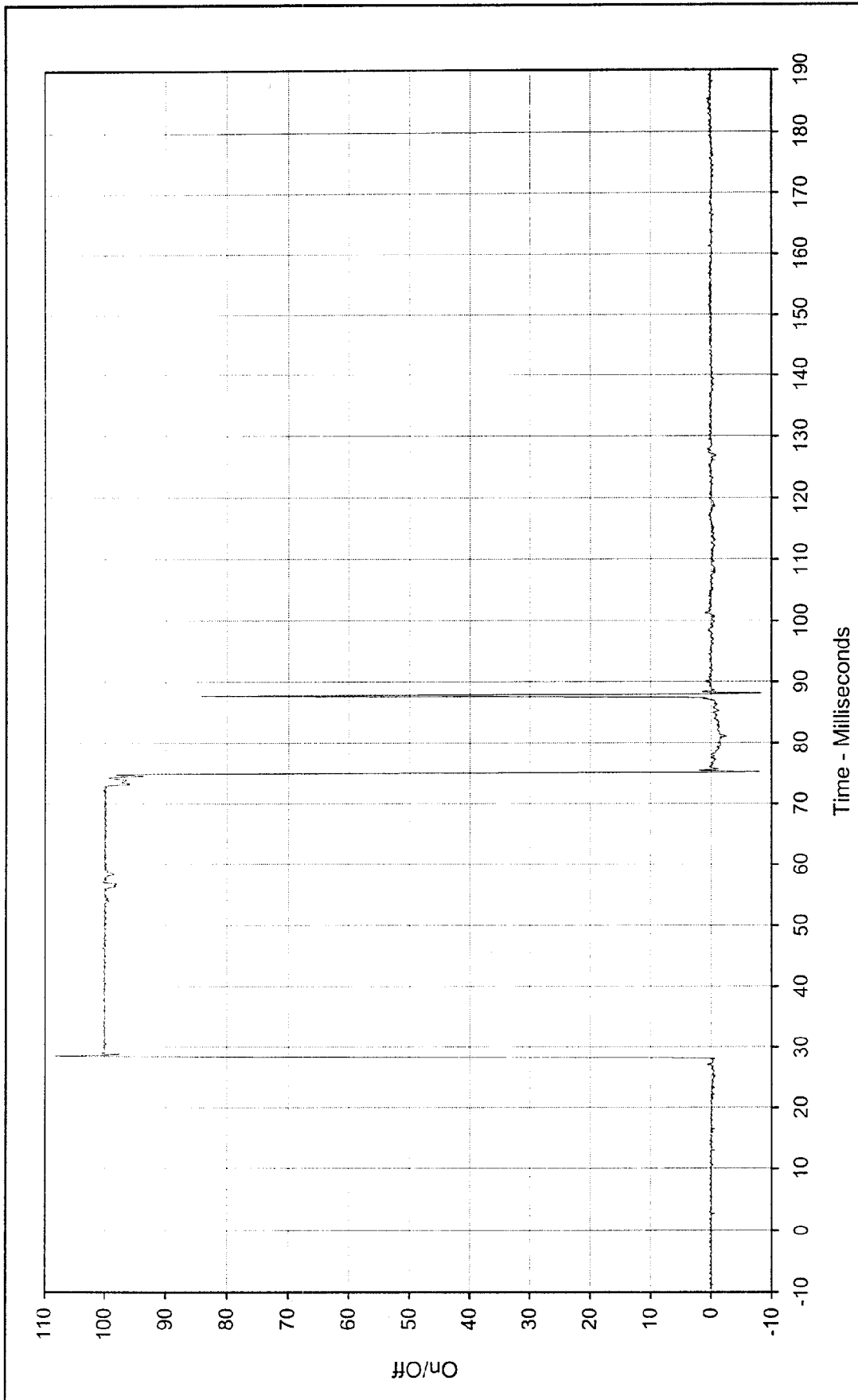
Curve Description:	Pass. Pelvis Redundant Y Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	42.6 at 56.0 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	0.1 at 1.4 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-024			





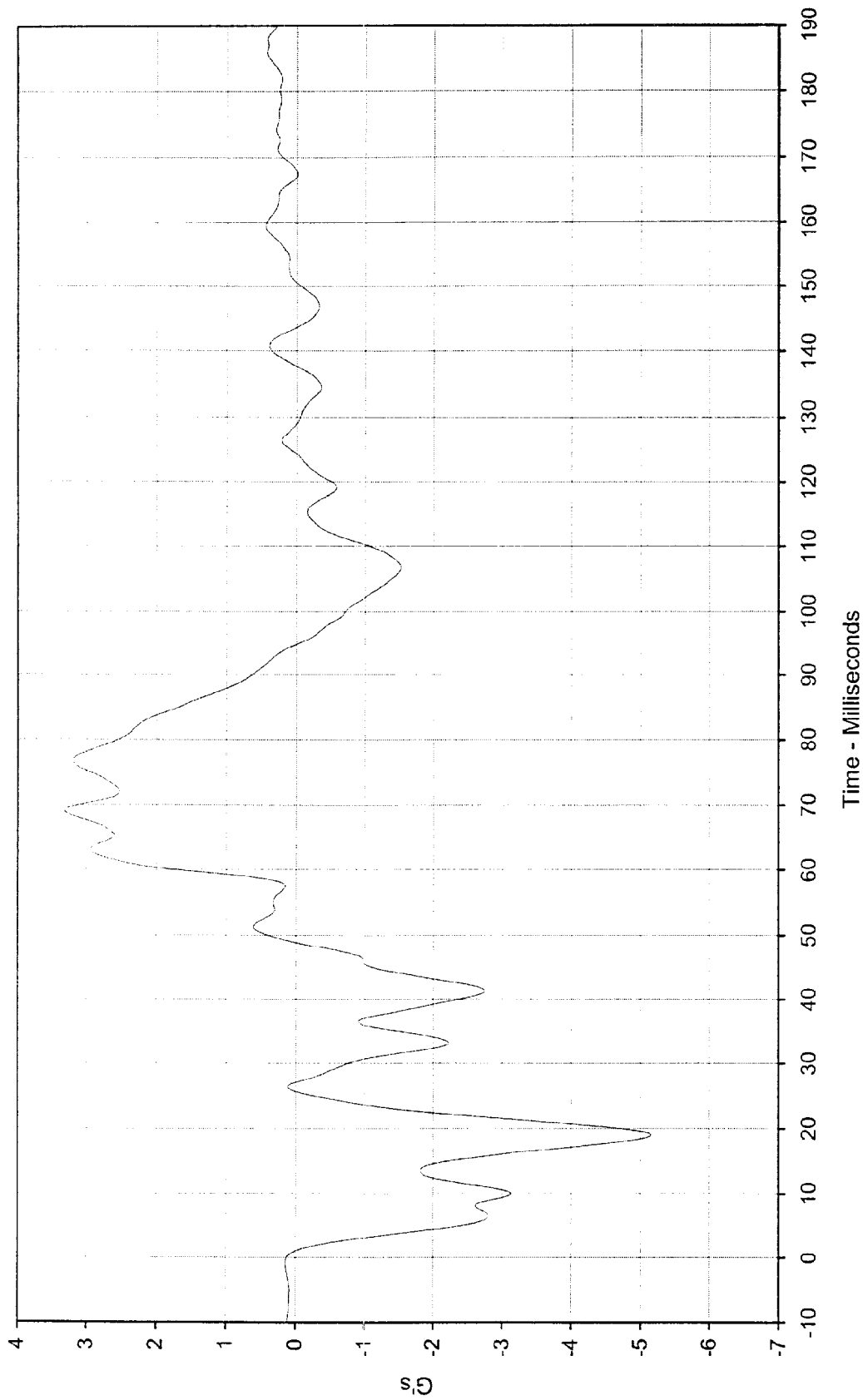
Curve Description:	Pass. Thorax Contact	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	107.3 at 27.3 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Crossing Point:	50% at 27.2 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-025			





Curve Description:	Pass. Pelvis Contact	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	107.9 at 28.5 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Crossing Point:	50% at 28.3 Milliseconds			
SAE Filter Class:	1000			
Date of Test:	02/29/00			
Curve Number:	FIL-026			

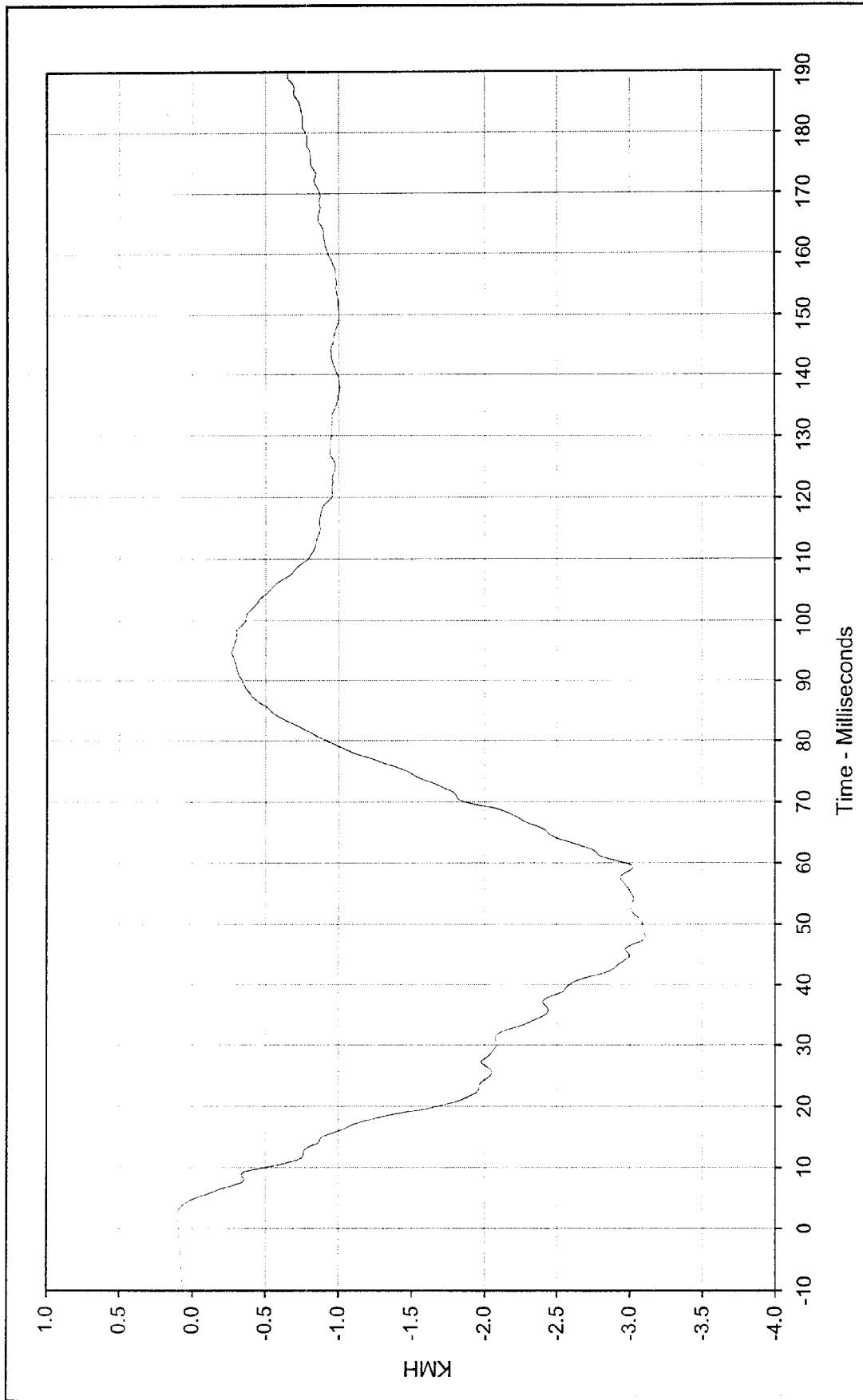




Curve Description: Right Sill at Front Seat X
 Maximum Value: 3.3 at 69.1 Milliseconds
 Minimum Value: -5.2 at 19.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 02/29/00
 Curve Number: FIL-027

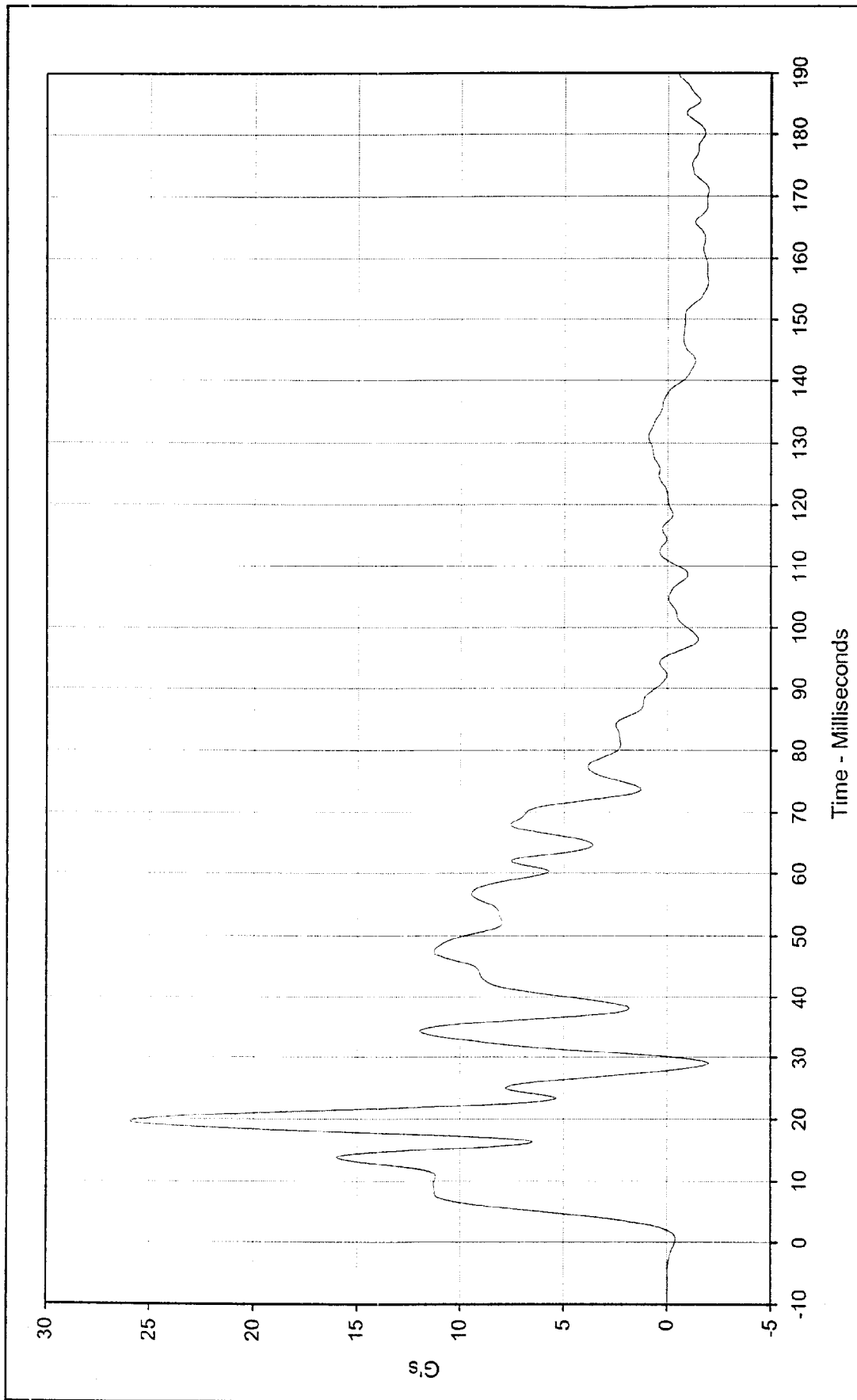
Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Right Sill at Front Seat X Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	0.1 at 2.5 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-3.1 at 47.8 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-027			

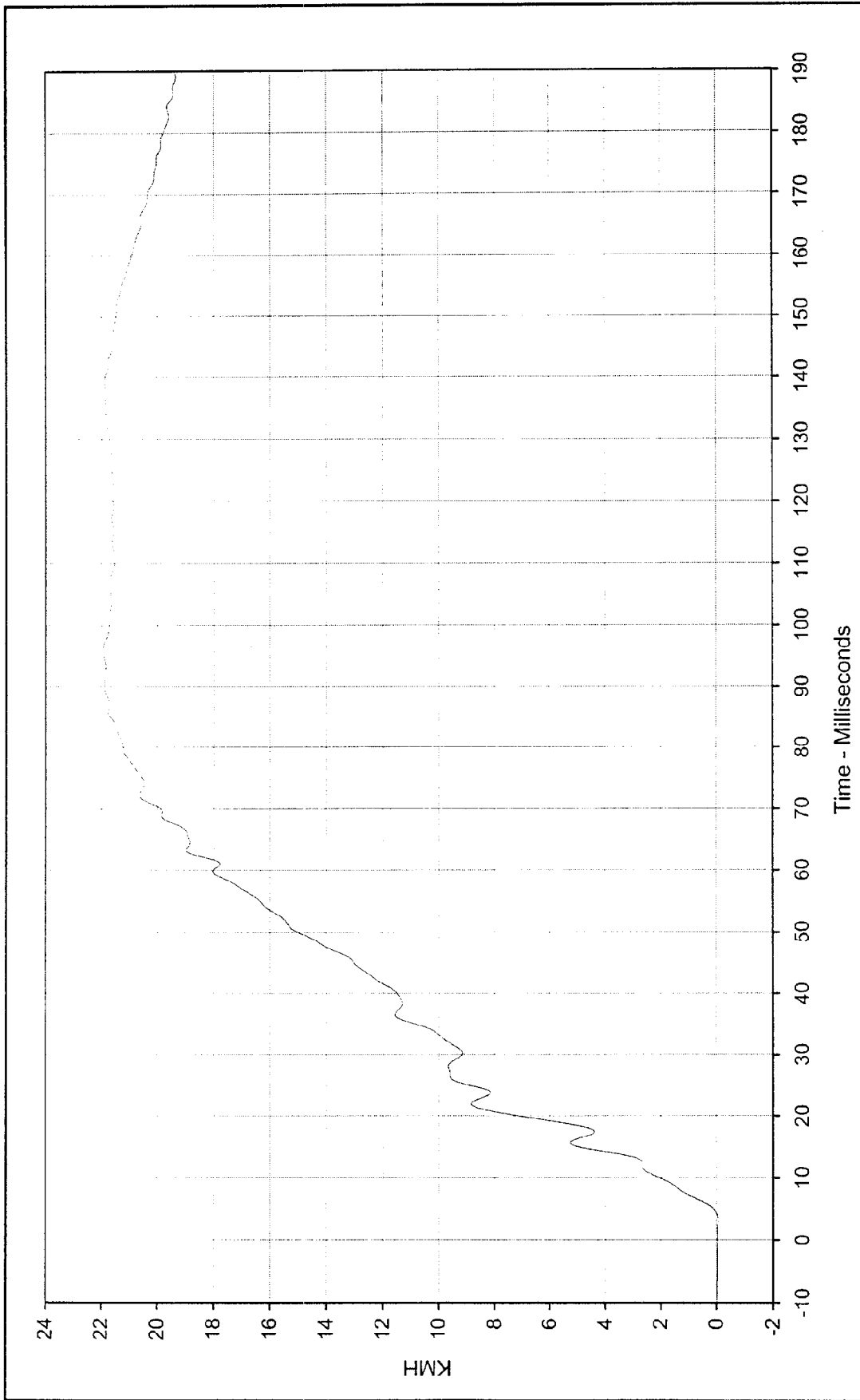




Curve Description: Right Sill at Front Seat Y
 Maximum Value: 25.9 at 19.7 Milliseconds
 Minimum Value: -2.0 at 29.0 Milliseconds
 SAE Filter Class: 60
 Date of Test: 02/29/00
 Curve Number: FIL-028

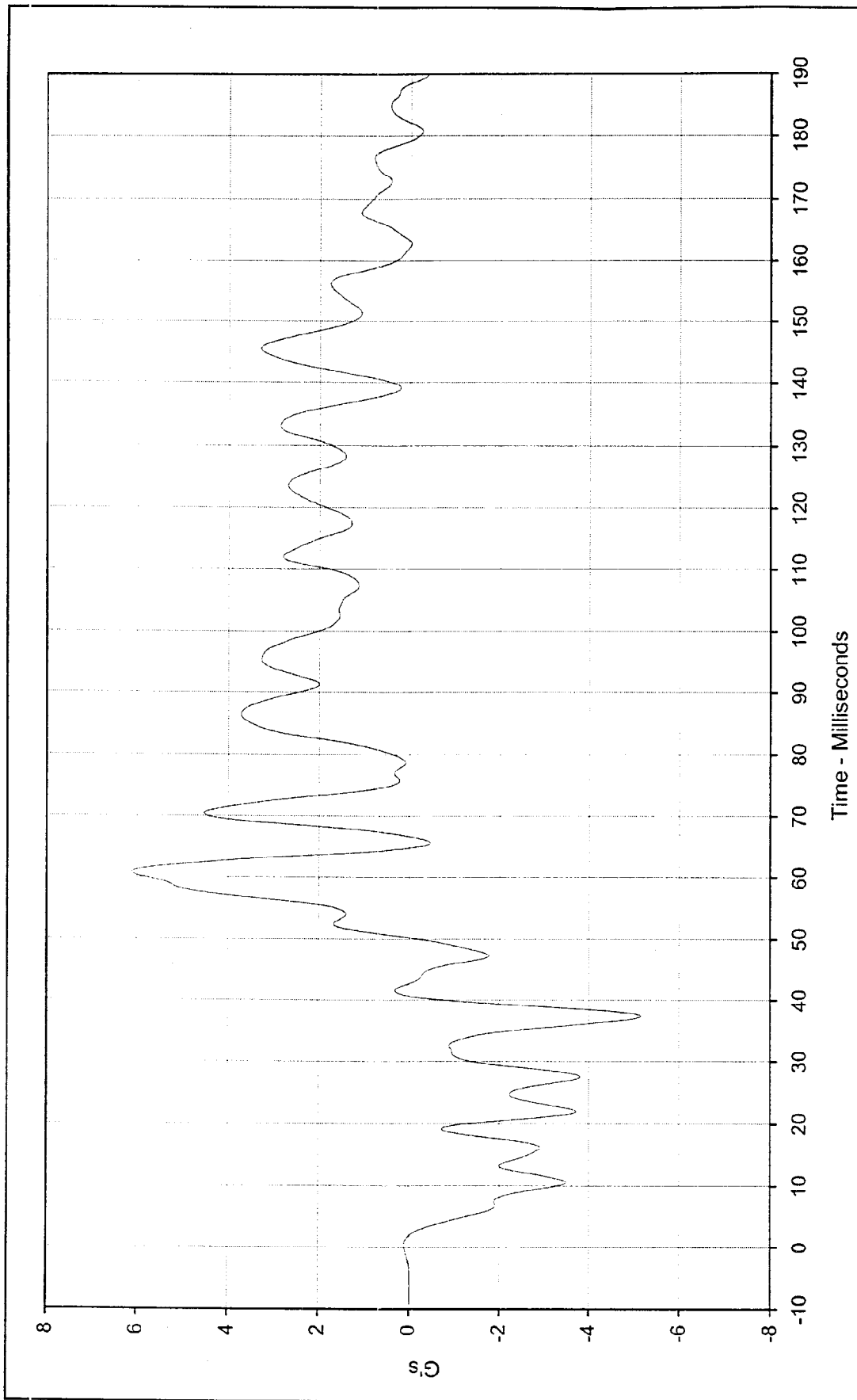
Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





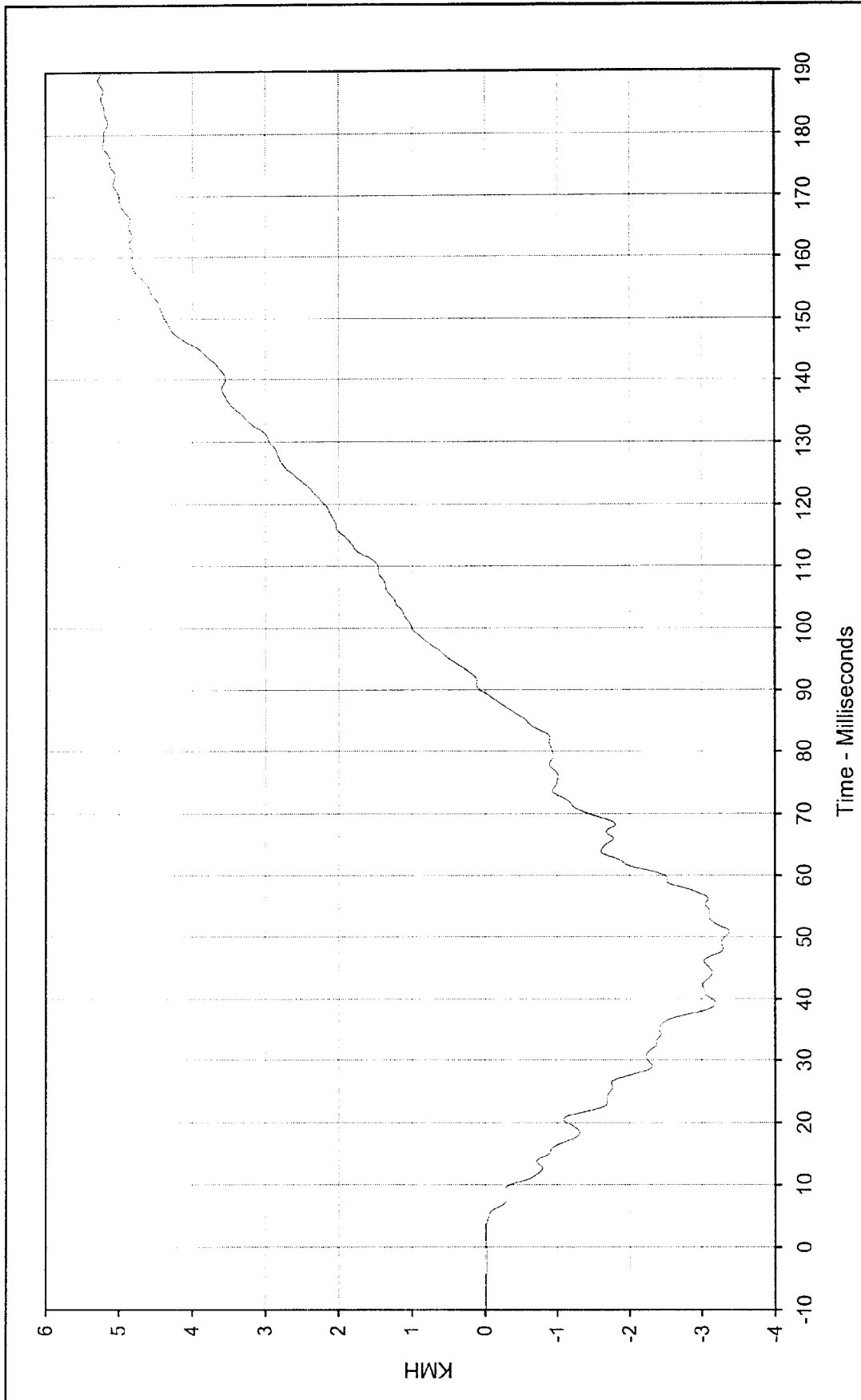
Curve Description:	Right Sill at Front Seat Y Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	21.9 at 96.1 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-0.1 at 3.4 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-028			





Curve Description:		Right Sill at Front Seat Z		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	6.1	at	60.7	Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van
Minimum Value:	-5.1	at	37.4	Milliseconds		
SAE Filter Class:	60					
Date of Test:	02/29/00					
Curve Number:	FIL-029					

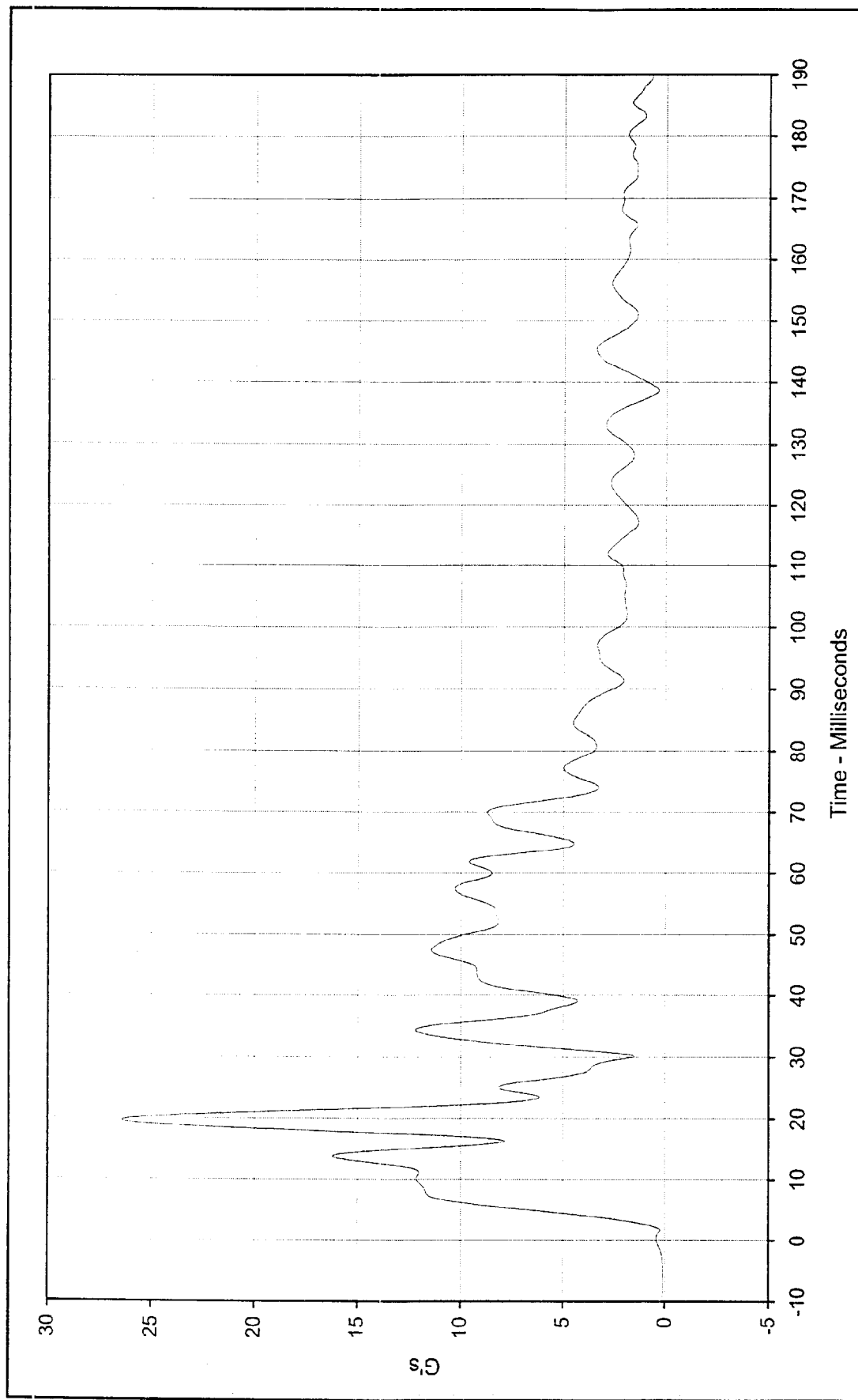




Curve Description: Right Sill at Front Seat Z Velocity
Maximum Value: 5.3 at 188.7 Milliseconds
Minimum Value: -3.4 at 51.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/29/00
Curve Number: IN1-029

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Right Sill Front Seat Resultant

Maximum Value: 26.4 at 19.7 Milliseconds

Minimum Value: 0.2 at 1.7 Milliseconds

SAE Filter Class: 60

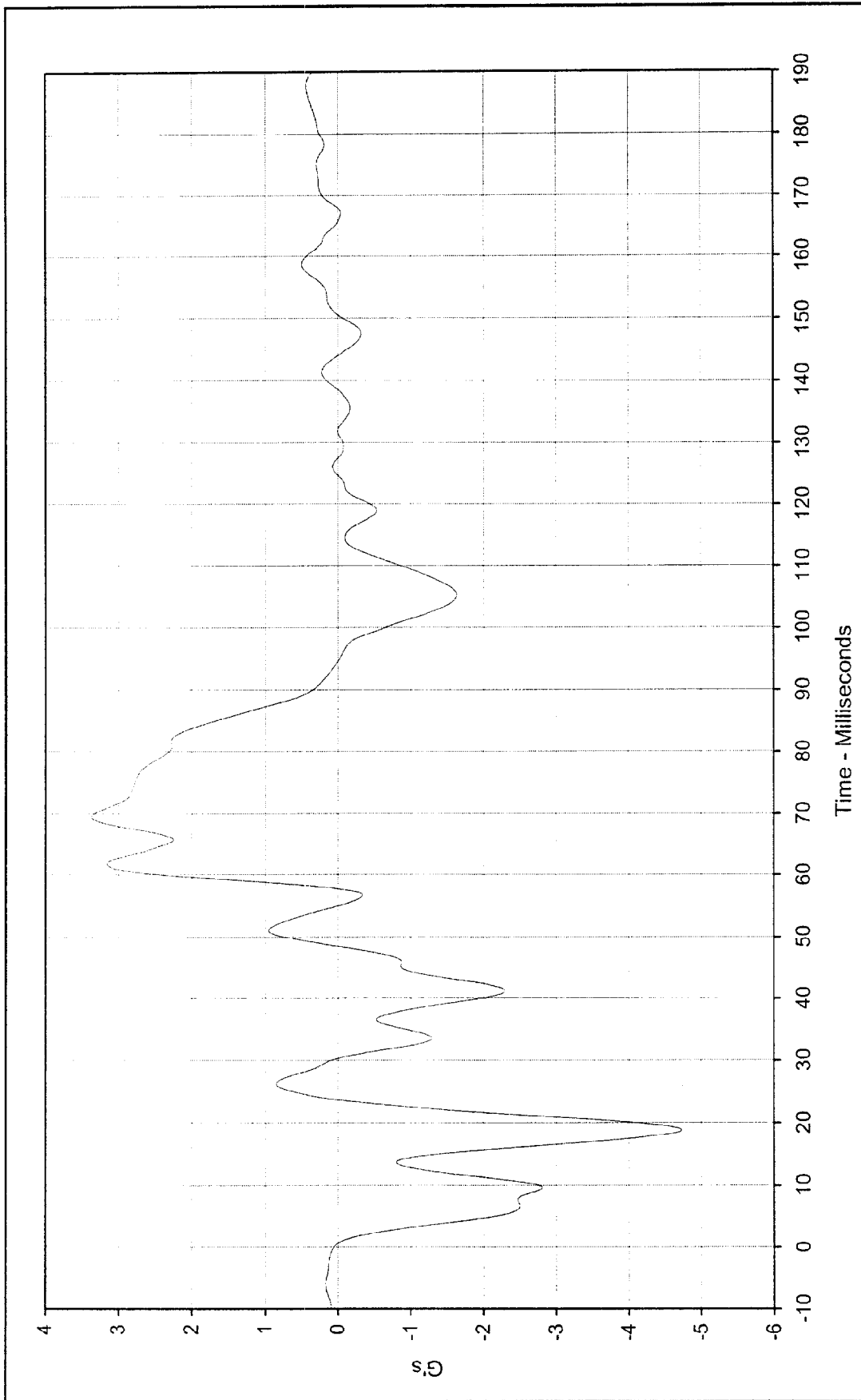
Date of Test: 02/29/00

Curve Number: RES-027

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

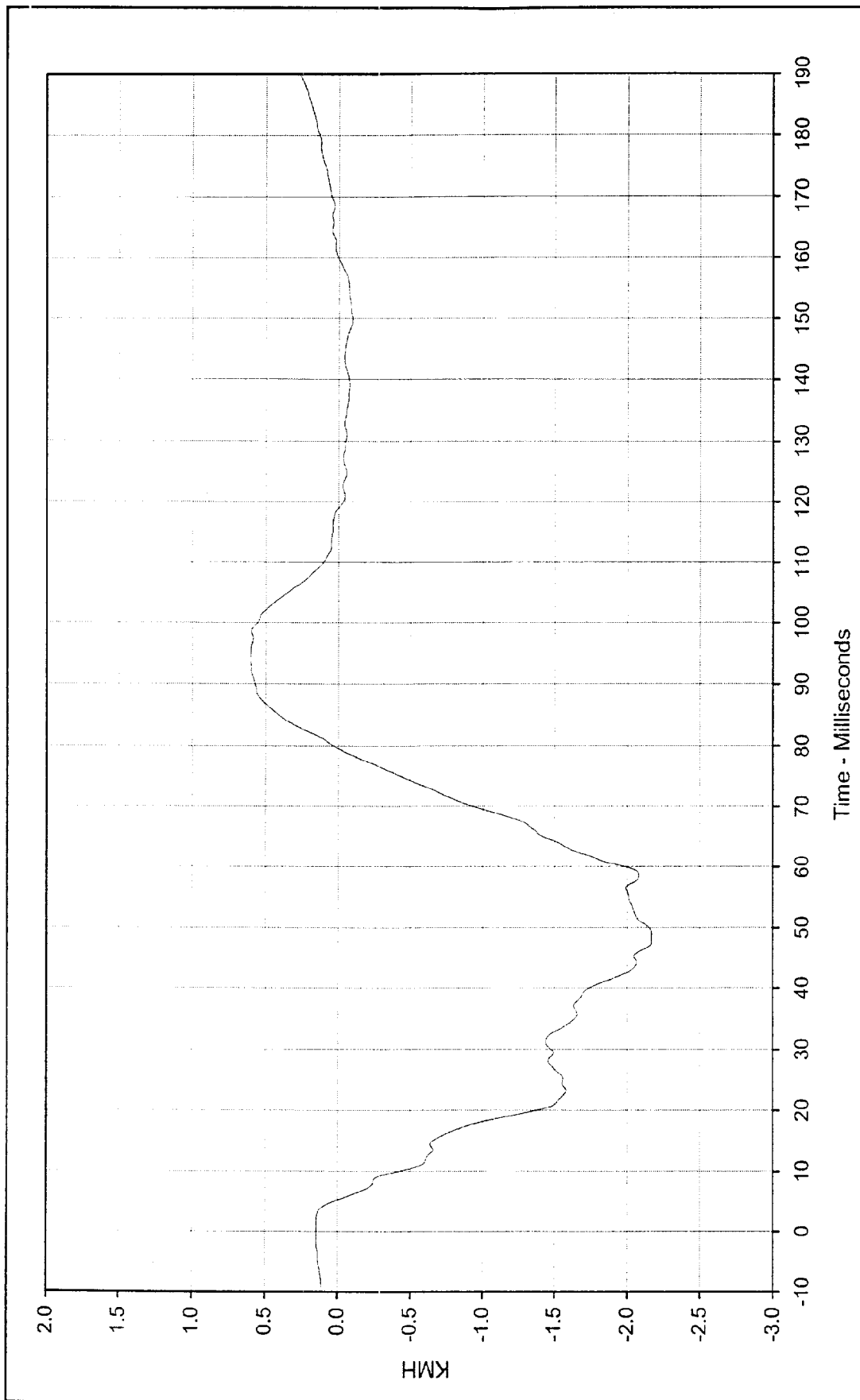
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Right Sill at Rear Seat X	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	3.4 at 3.4 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-4.7 at 18.8 Milliseconds			
SAE Filter Class:	60			
Date of Test:	02/29/00			
Curve Number:	FIL-030			





Curve Description: Right Sill at Rear Seat X Velocity

Maximum Value: 0.6 at 94.0 Milliseconds

Minimum Value: -2.2 at 47.6 Milliseconds

SAE Filter Class: 180

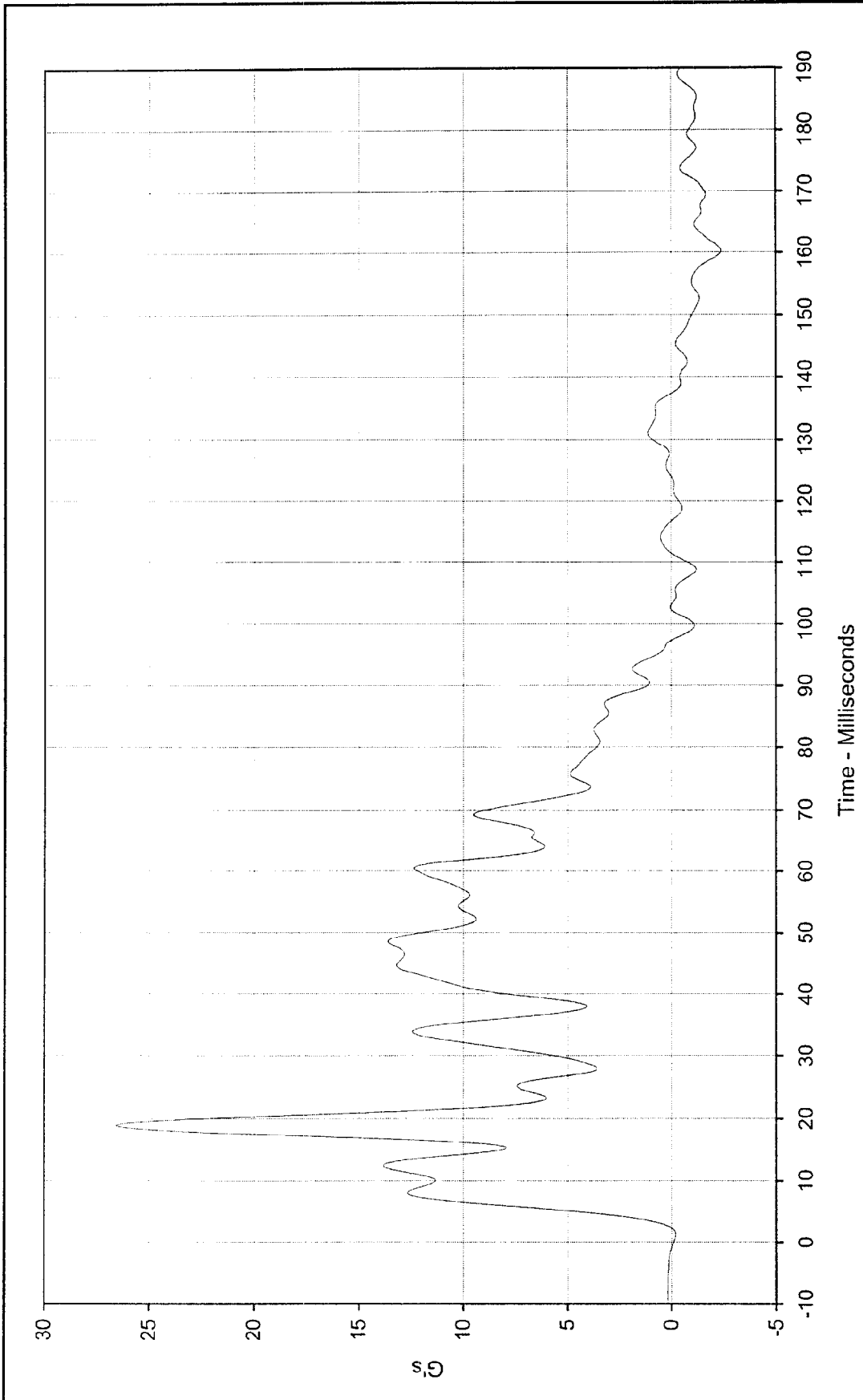
Date of Test: 02/29/00

Curve Number: IN1-030

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van



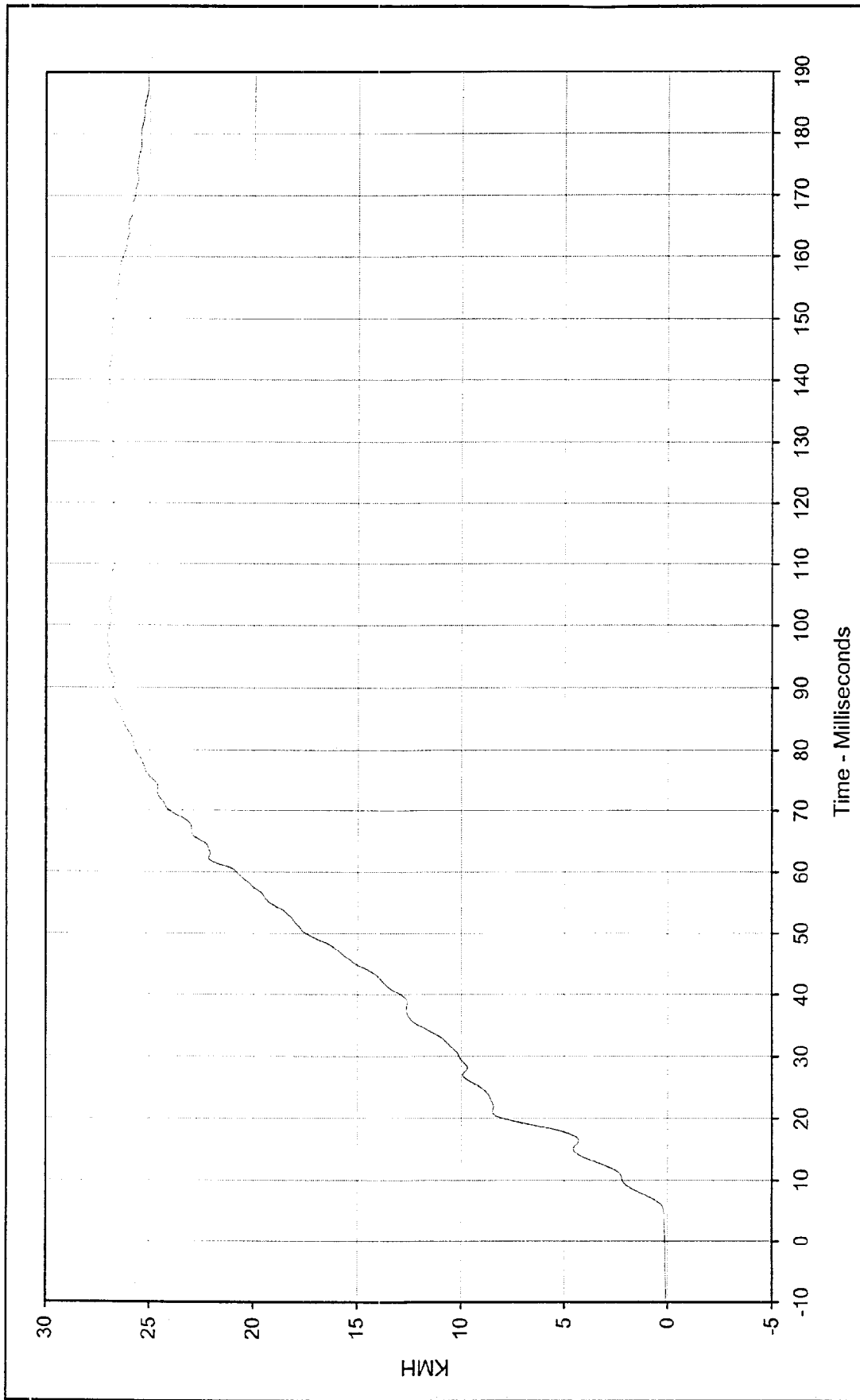


Curve Description:	Right Sill At Rear Seat Y		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	26.6	at 18.9	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-2.4	at 160.3			
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	FIL-031				



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Curve Description: Right Sill at Rear Seat Y Velocity

Maximum Value: 27.1 at 97.8 Milliseconds

Minimum Value: 0.1 at 0.0 Milliseconds

SAE Filter Class: 180

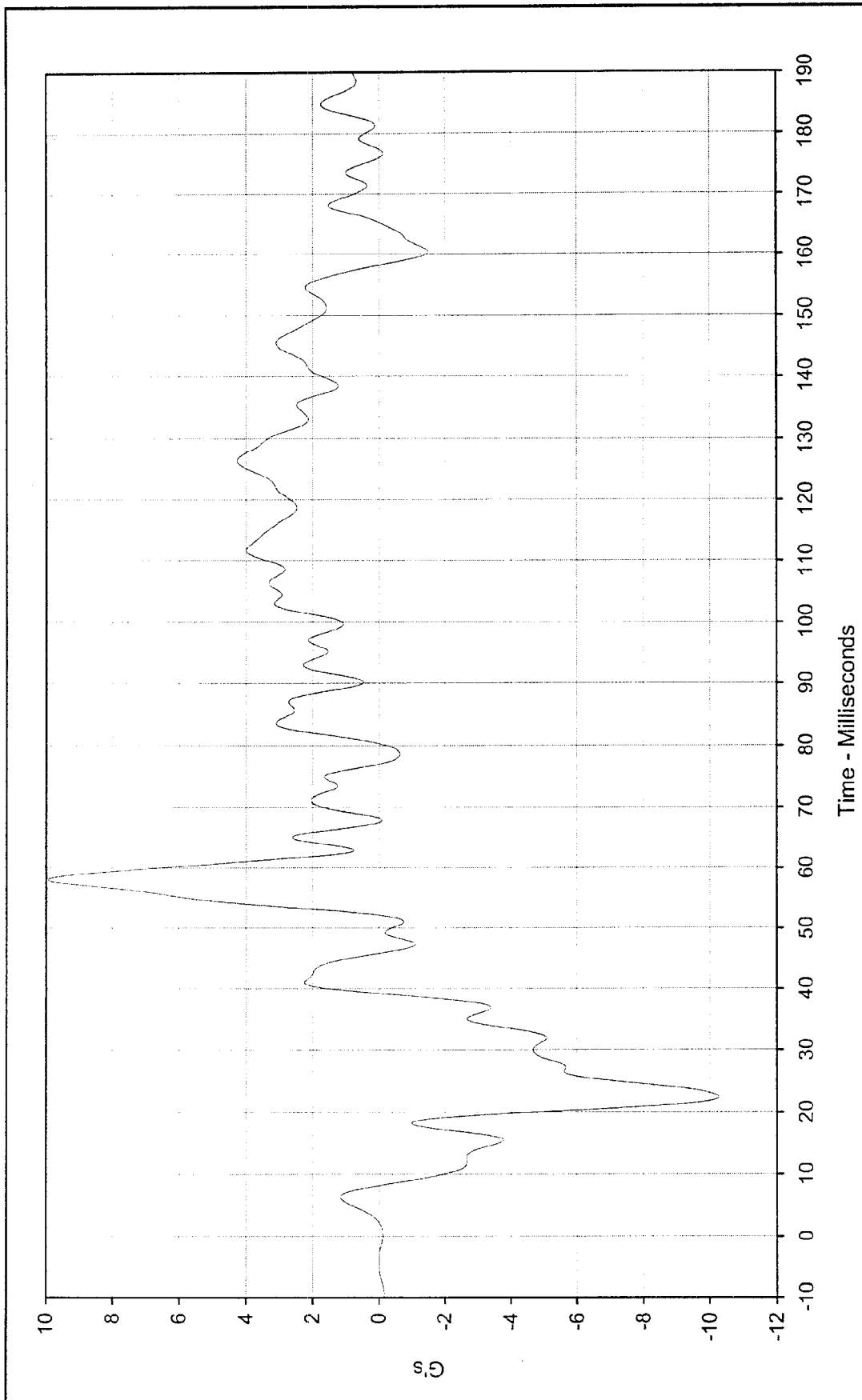
Date of Test: 02/29/00

Curve Number: IN1-031

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

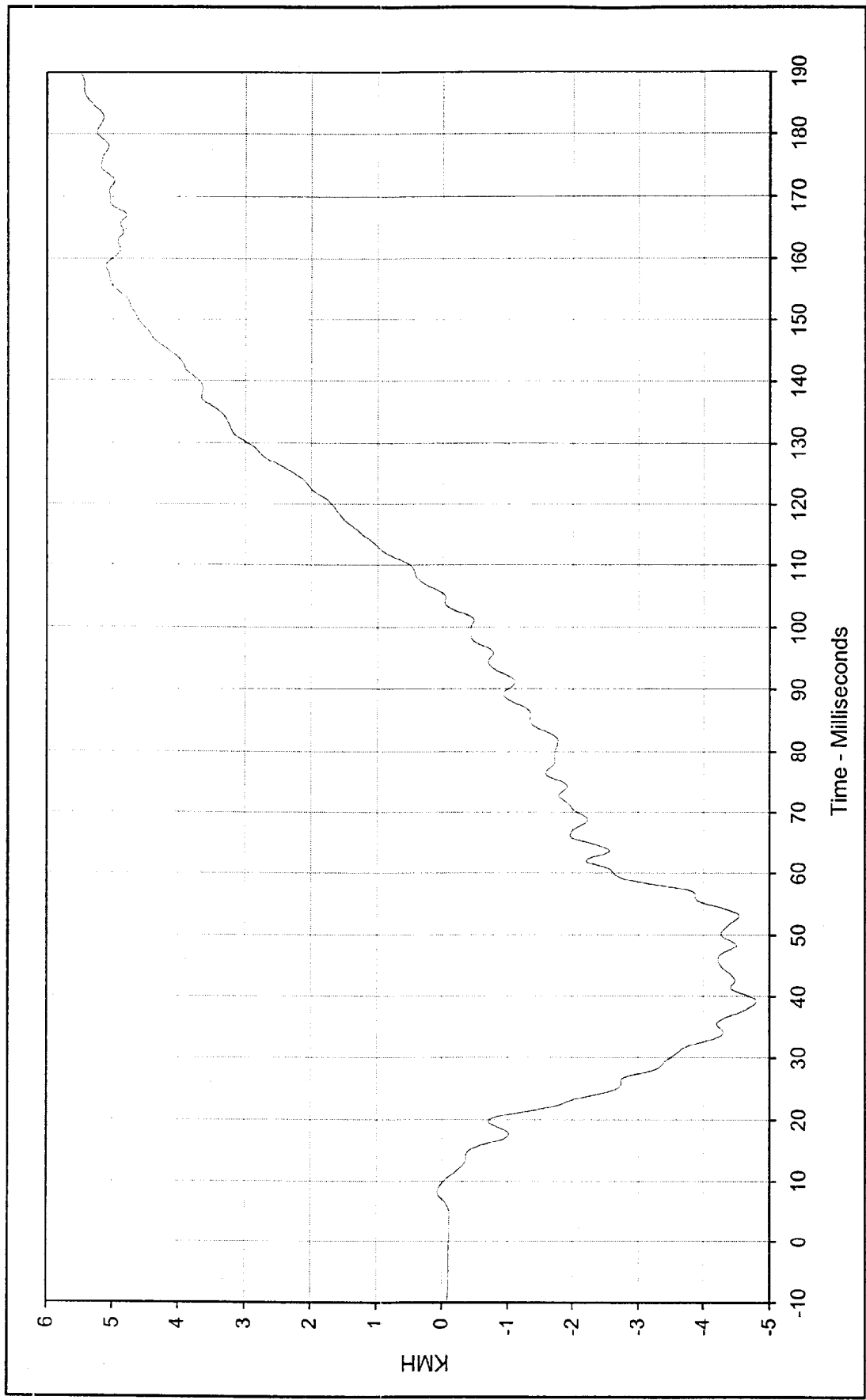
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Right Sill At Rear Seat Z	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	9.9 at 58.1 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-10.3 at 22.4 Milliseconds			
SAE Filter Class:	60			
Date of Test:	02/29/00			
Curve Number:	FIL-032			

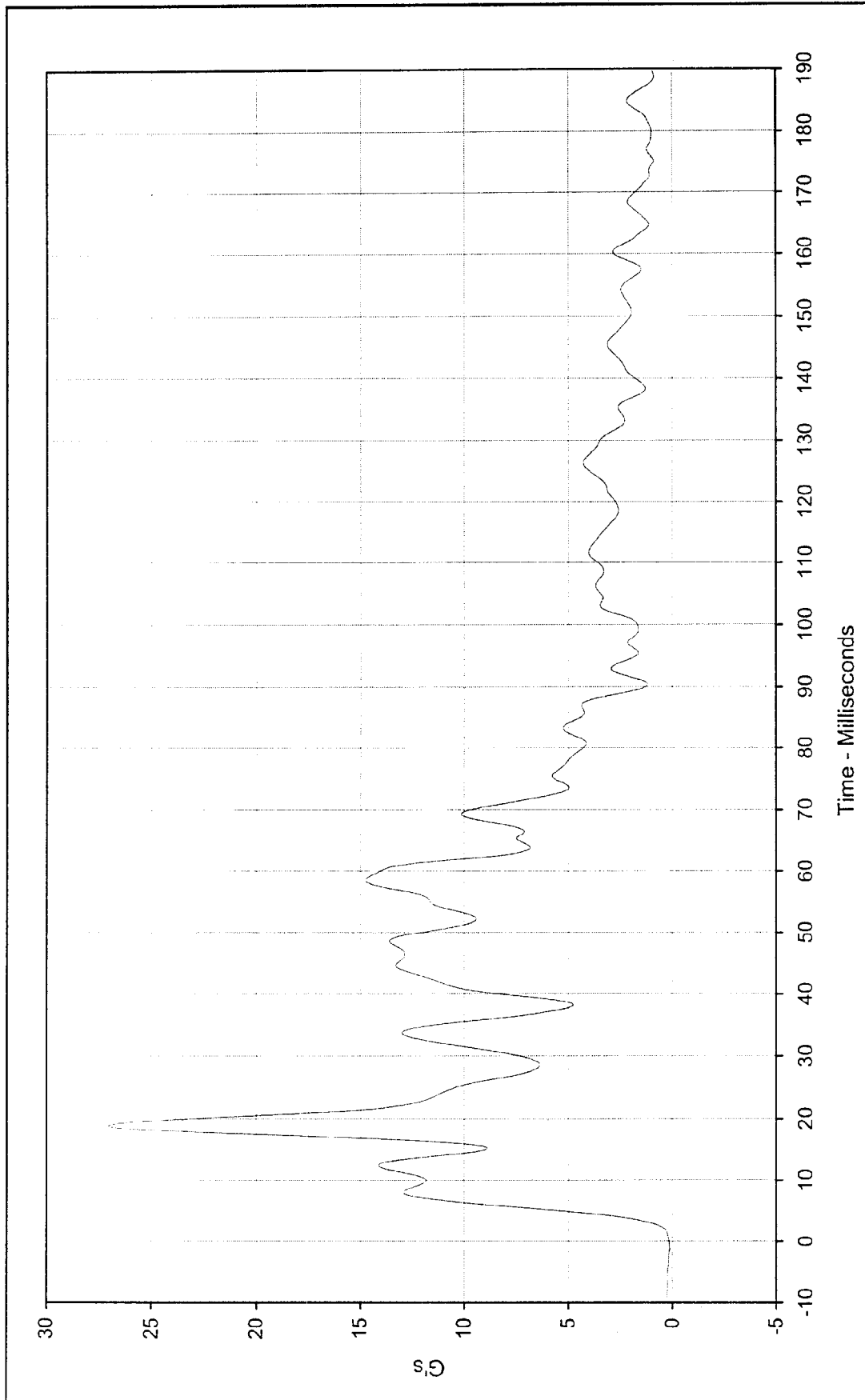




Curve Description: Right Sill at Rear Seat Z Velocity
Maximum Value: 5.5 at 5.5 milliseconds
Minimum Value: -4.8 at 39.2 milliseconds
SAE Filter Class: 180
Date of Test: 02/29/00
Curve Number: IN1-032

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
Test Vehicle: 2000 Mercury Villager Mini-Van

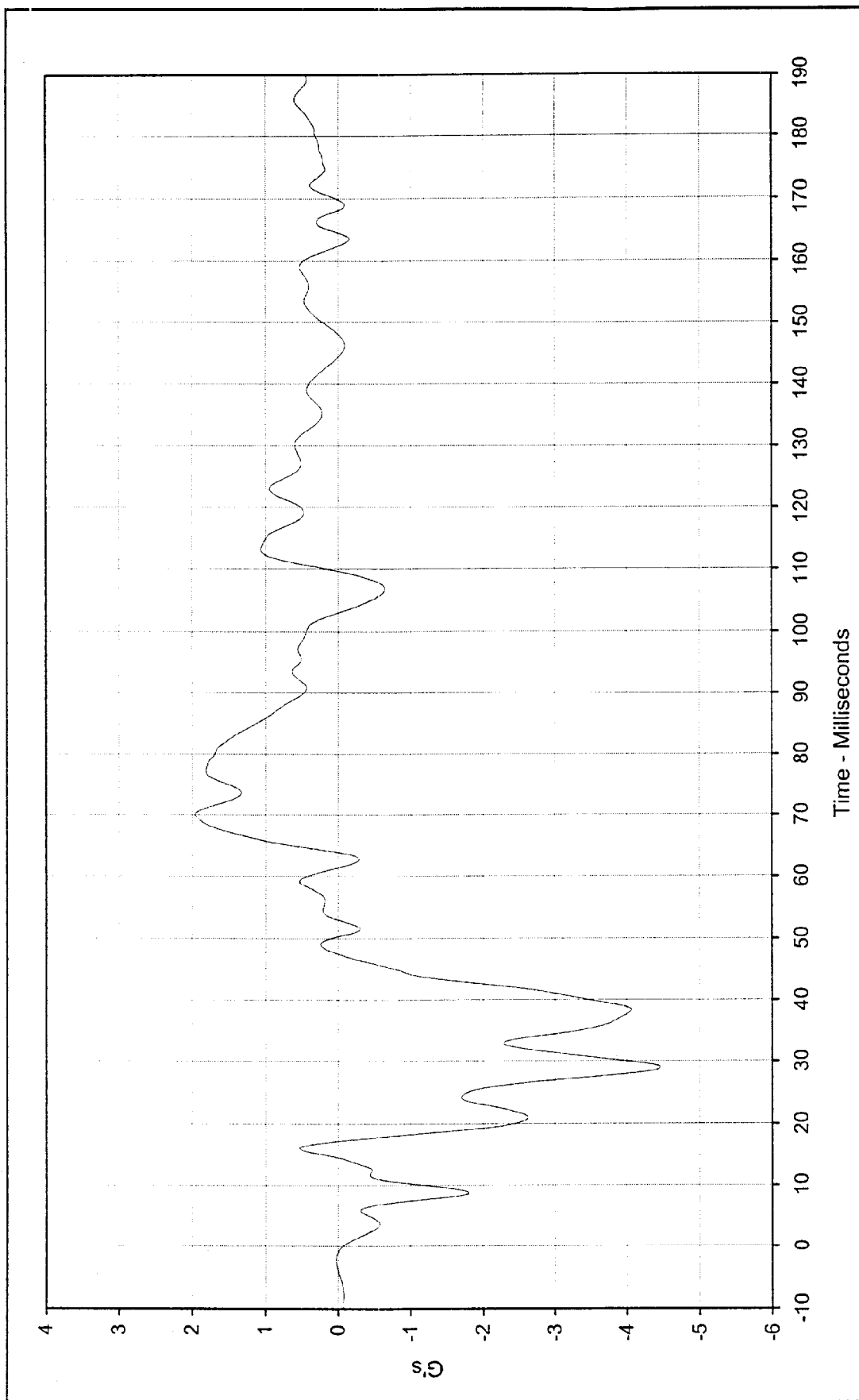




Curve Description:	Right Sill Rear Seat Resultant		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	27.0	at 18.9	Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van
Minimum Value:	0.2	at 0.0	Milliseconds		
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	RES-030				







Curve Description: Rear Floor Above Axle X

Maximum Value: 2.0 at 70.0 Milliseconds

Minimum Value: -4.5 at 29.0 Milliseconds

SAE Filter Class: 60

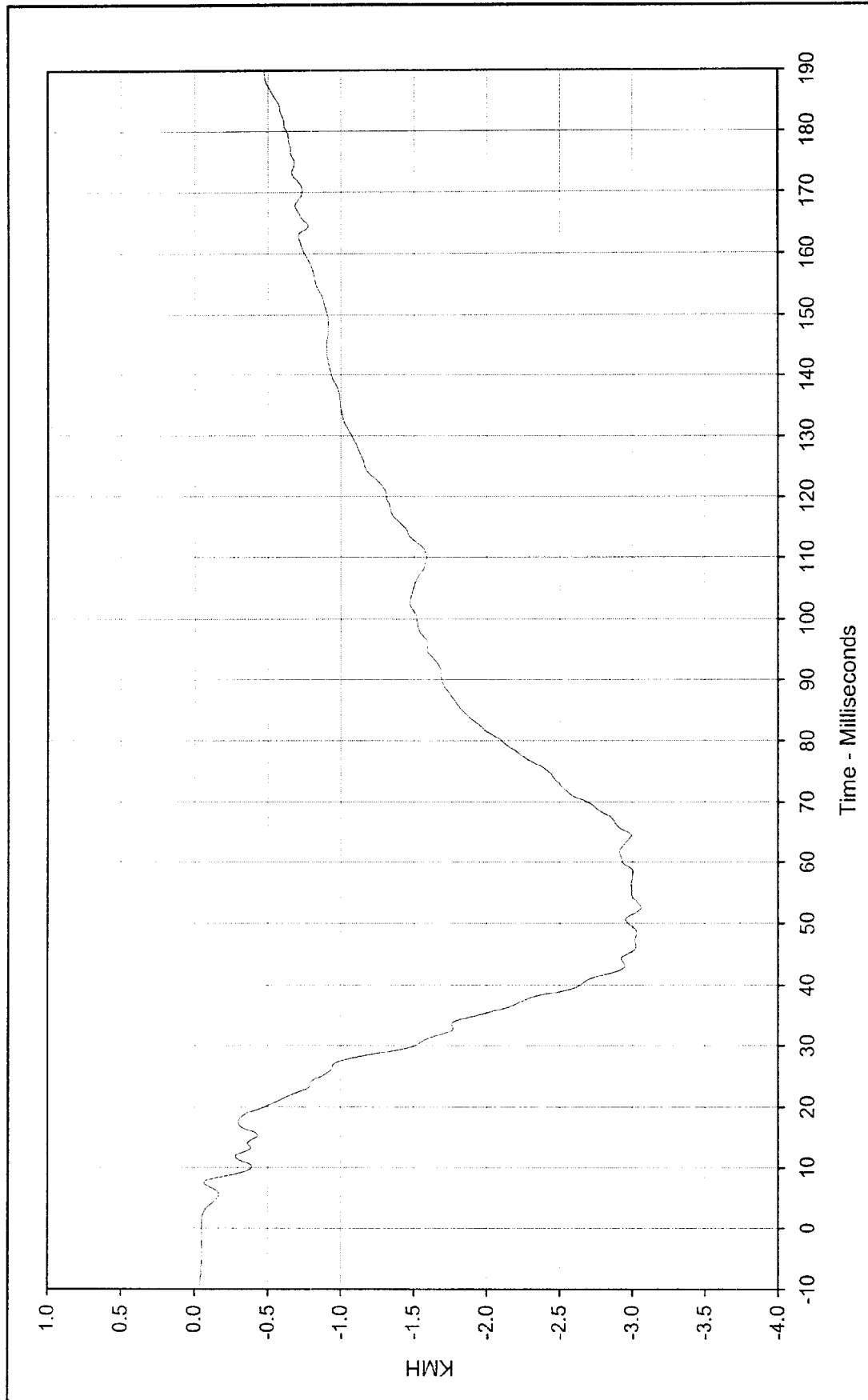
Date of Test: 02/29/00

Curve Number: FIL-033

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van



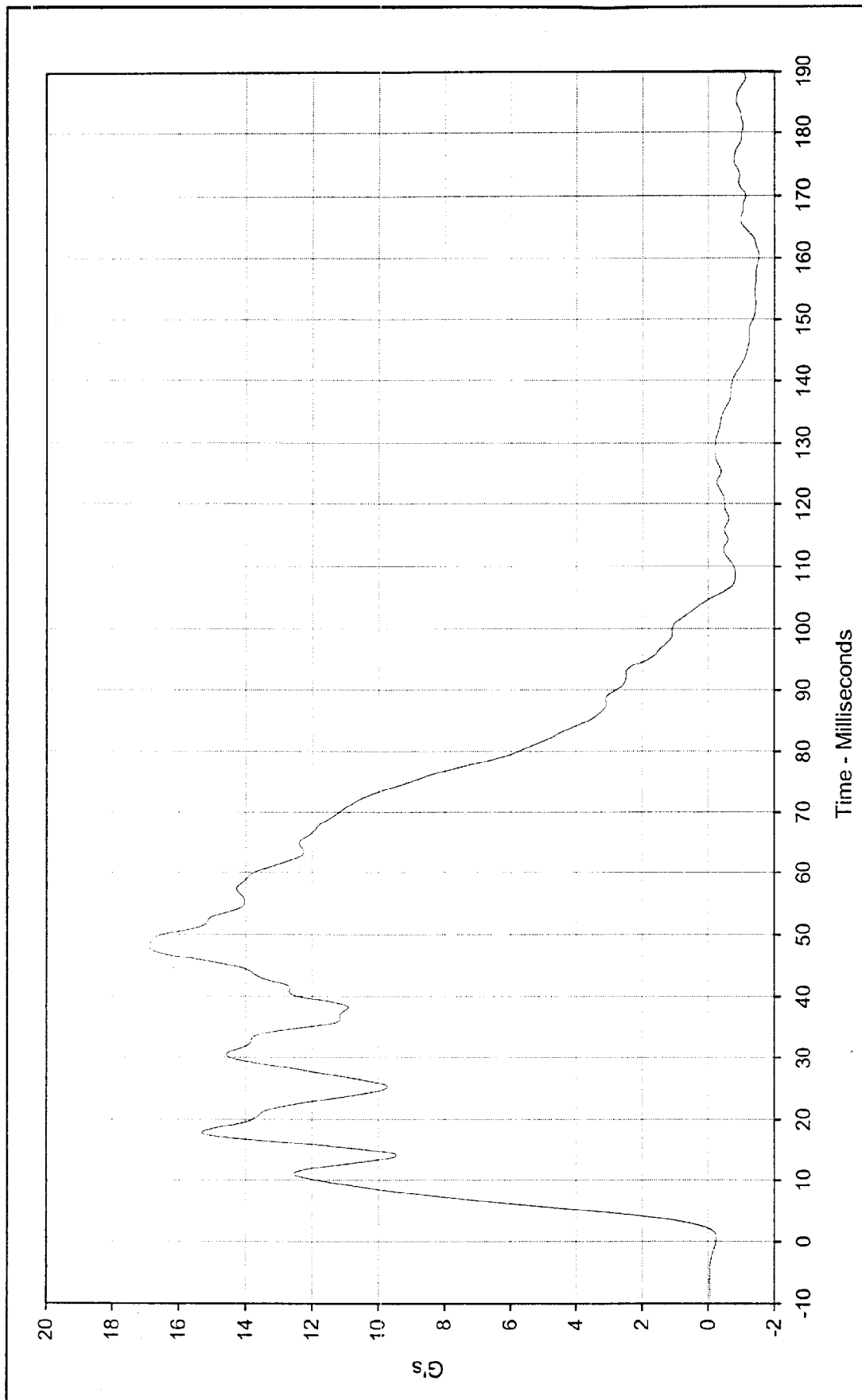


Curve Description: Rear Floor Above Axle X Velocity
 Maximum Value: 0.0 at 0.8 Milliseconds
 Minimum Value: -3.1 at 52.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 02/29/00
 Curve Number: IN1-033

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

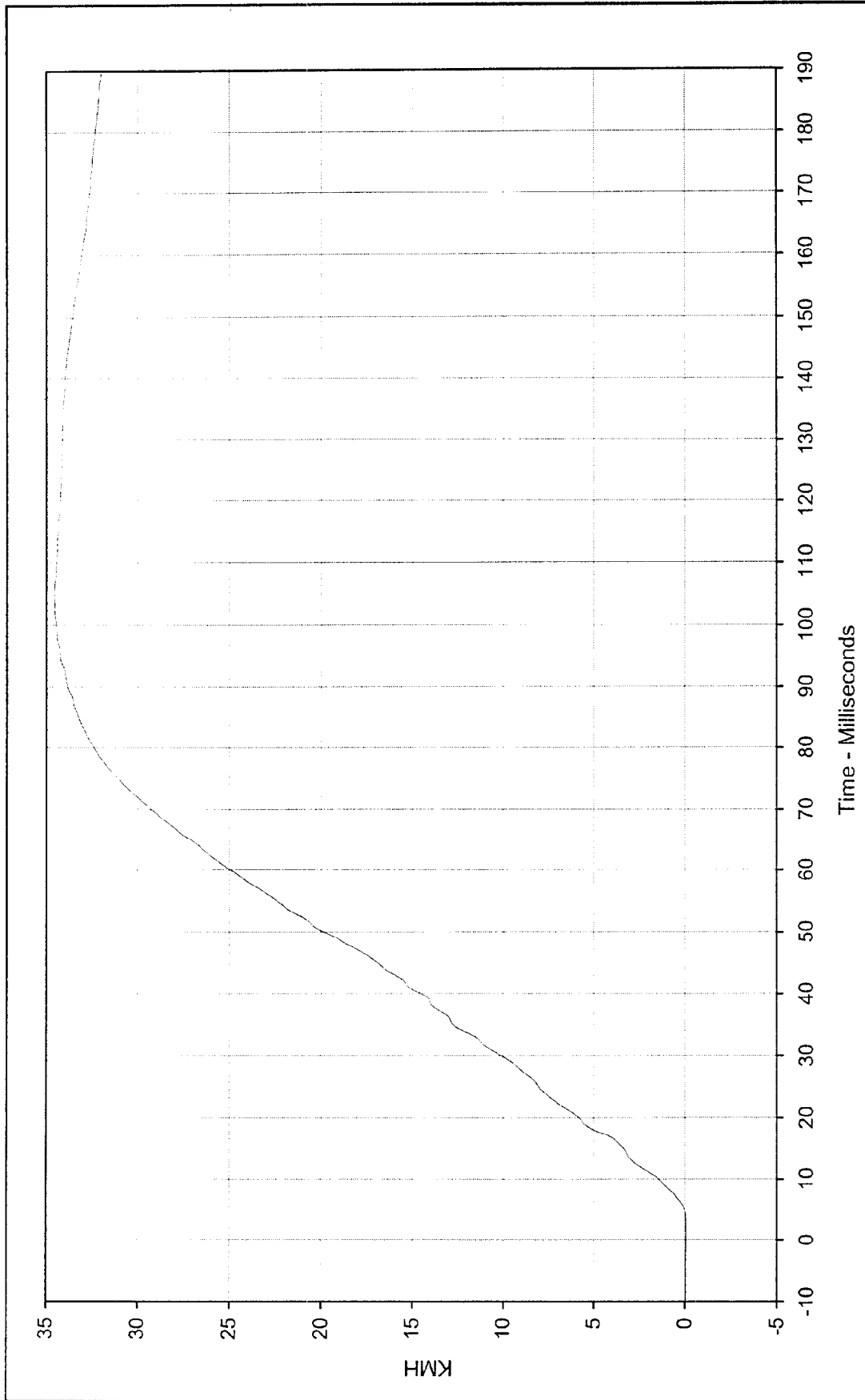
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Rear Floor Above Axle Y	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	16.9 at 48.1 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-1.5 at 160.4 Milliseconds			
SAE Filter Class:	60			
Date of Test:	02/29/00			
Curve Number:	FIL-034			





Curve Description: Rear Floor Above Axle Y Velocity

Maximum Value: 34.6 at 105.4 Milliseconds

Minimum Value: -0.1 at 2.2 Milliseconds

SAE Filter Class: 180

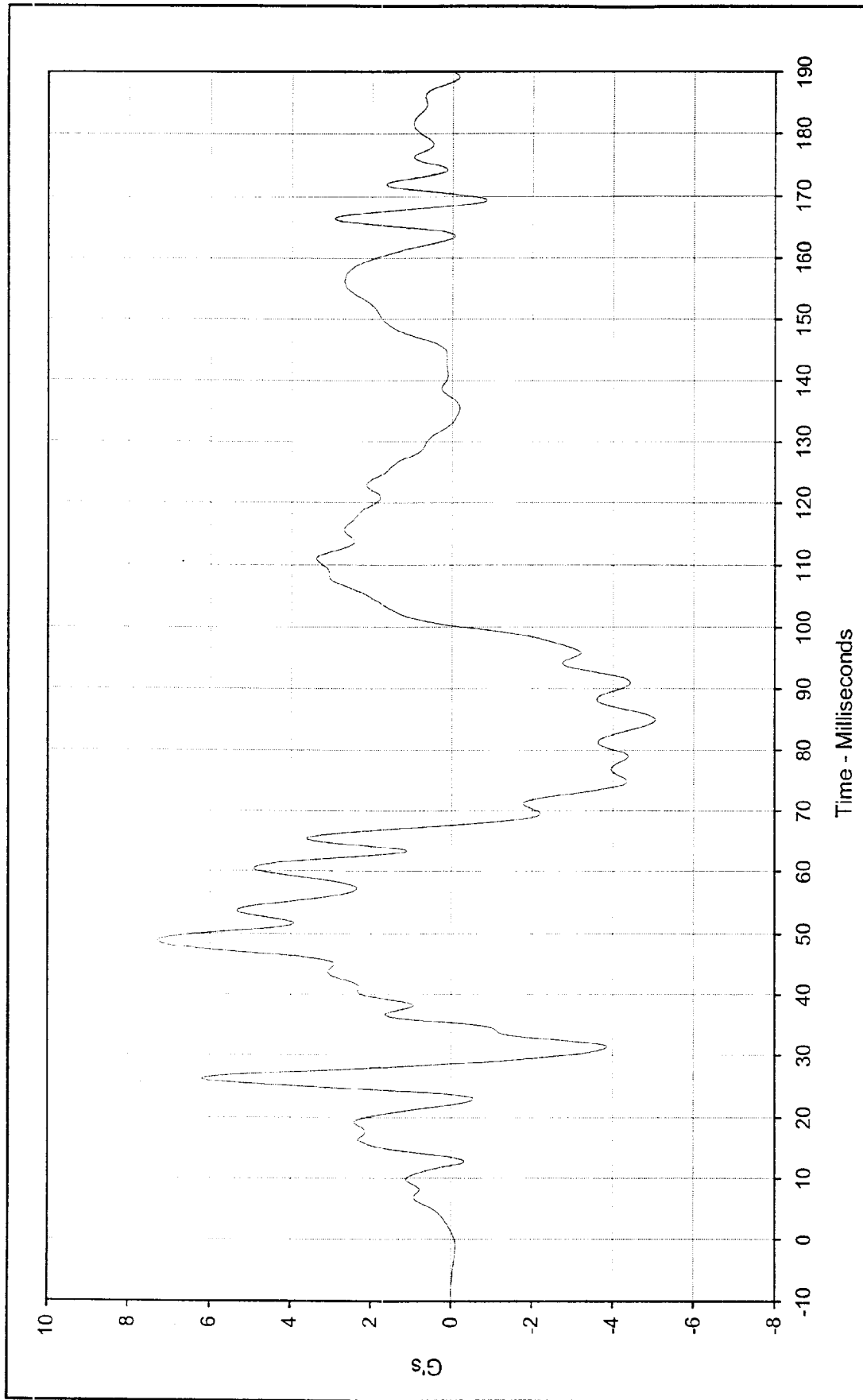
Date of Test: 02/29/00

Curve Number: IN1-034

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

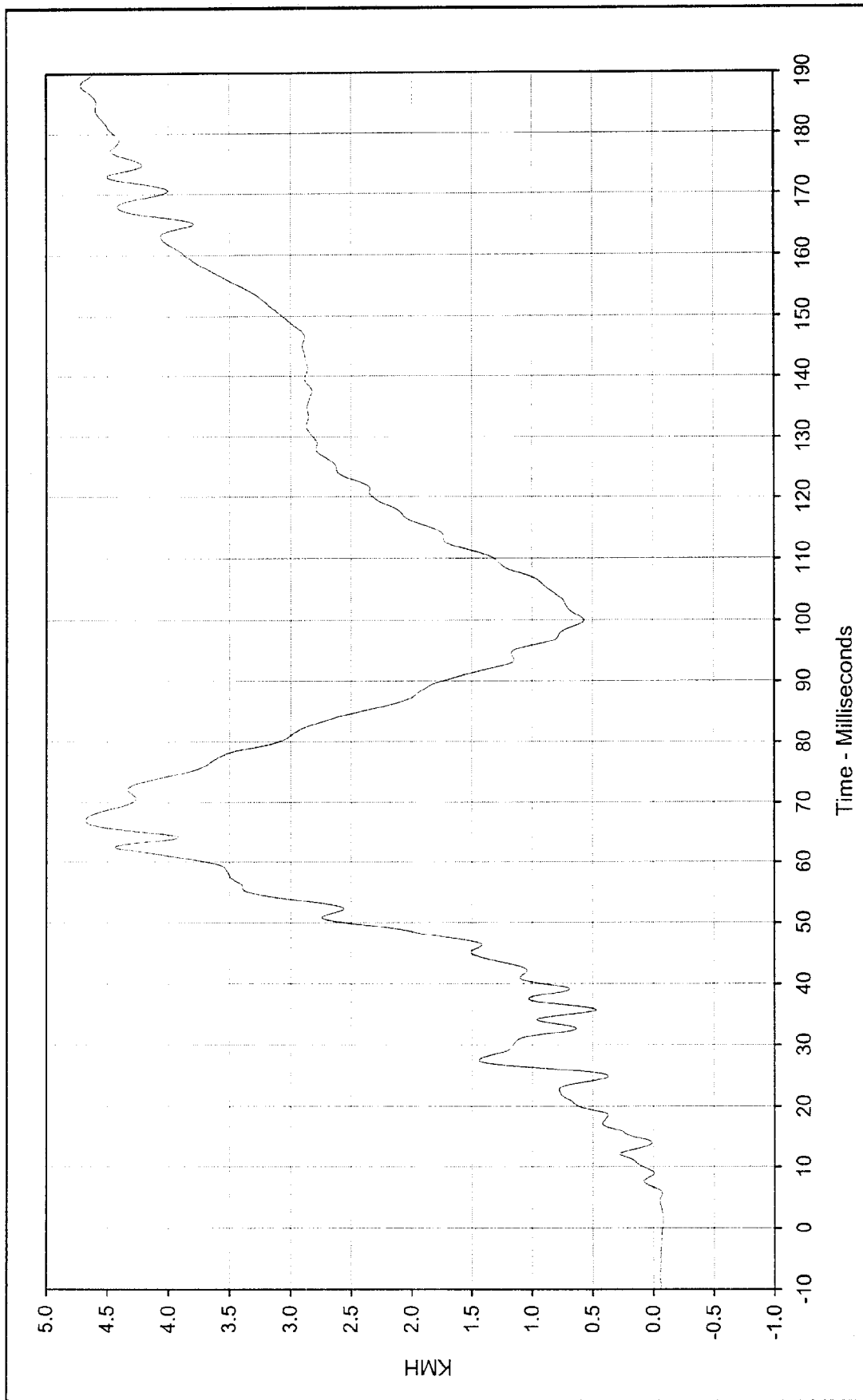
Test Vehicle: 2000 Mercury Villager Mini-Van





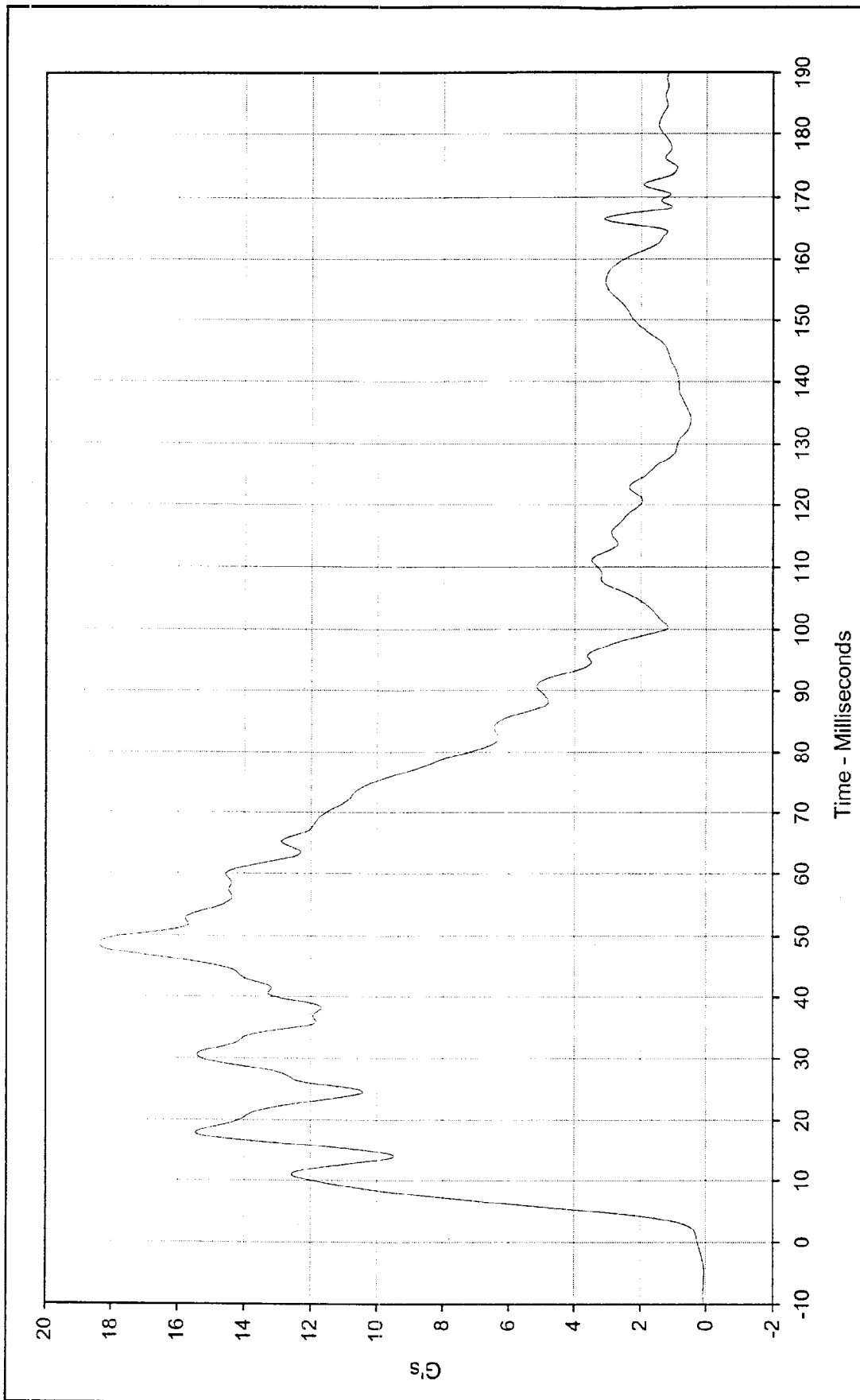
Curve Description:	Rear Floor Above Axle Z		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	7.3	at 48.8	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-5.1	at 84.9			
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	FIL-035				





Curve Description:		Rear Floor Above Axle Z Velocity		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	4.7	at	188.1	Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van
Minimum Value:	-0.1	at	1.1	Milliseconds		
SAE Filter Class:	180					
Date of Test:	02/29/00					
Curve Number:	IN1-035					





Curve Description: Rear Floor Above Axle Resultant Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 18.4 at 48.6 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

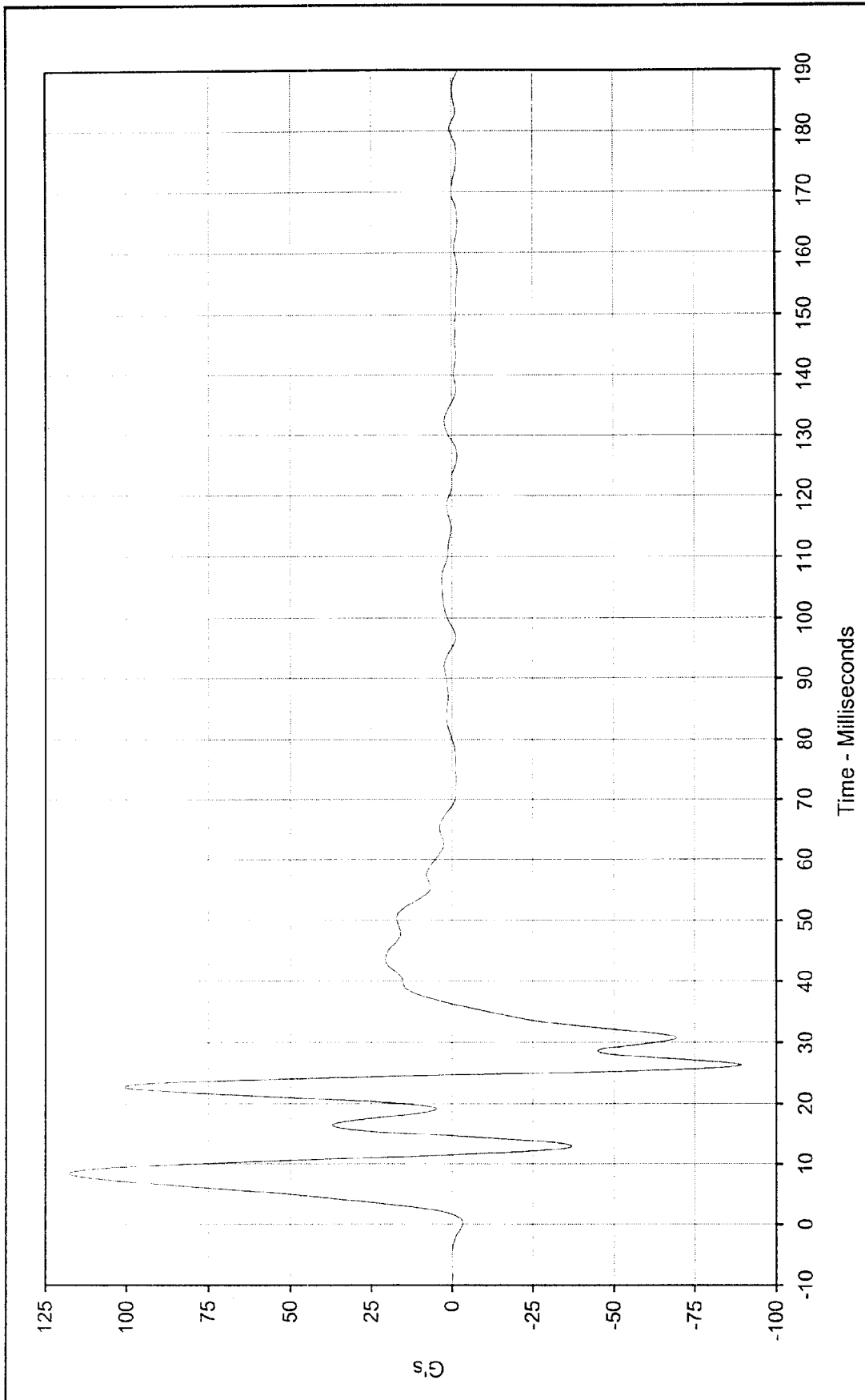
Minimum Value: 0.3 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 02/29/00

Curve Number: RES-033

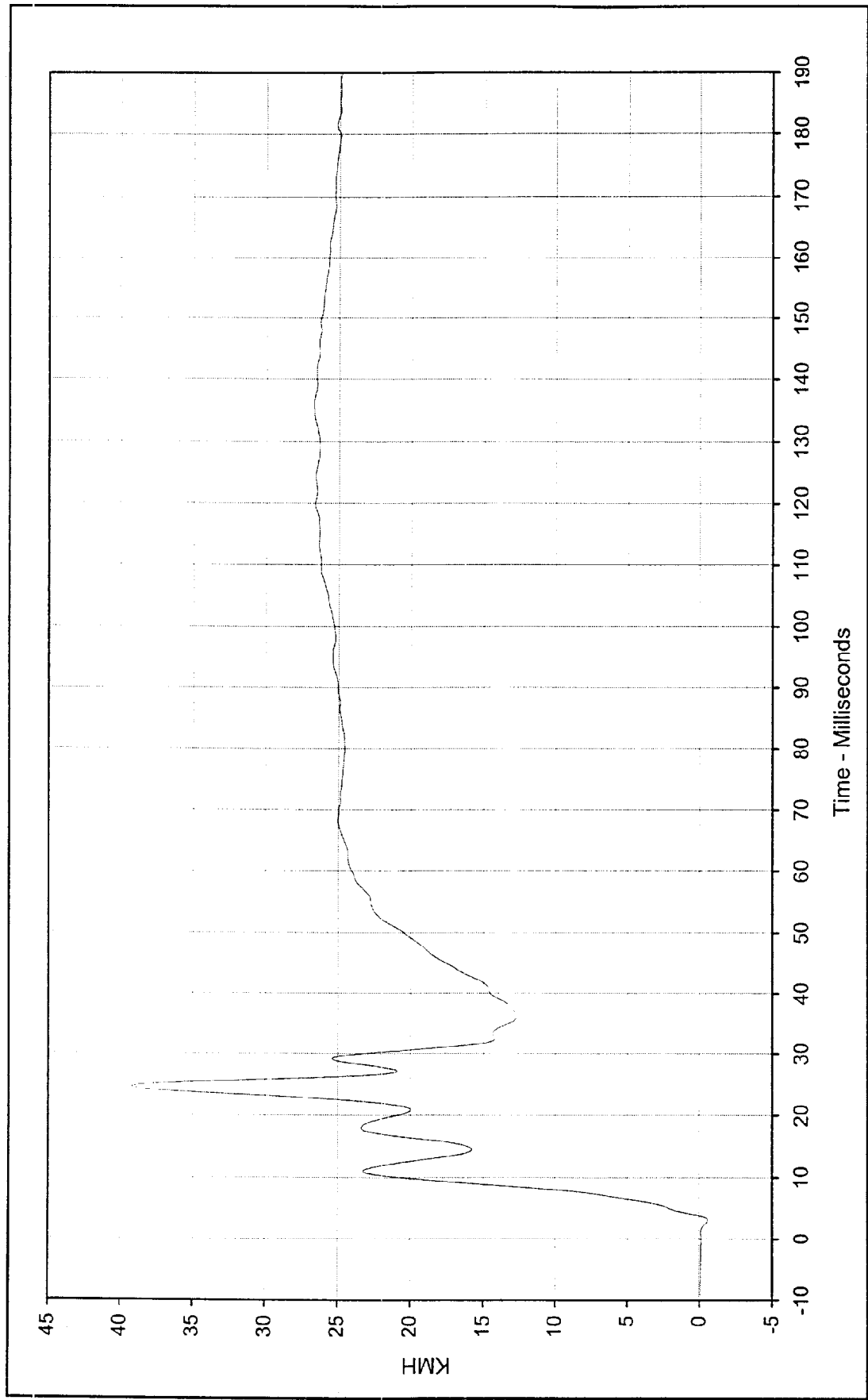




Curve Description: Left Sill at Rear Door Y
 Maximum Value: 117.7 at 8.4 Milliseconds
 Minimum Value: -89.4 at 26.3 Milliseconds
 SAE Filter Class: 60
 Date of Test: 02/29/00
 Curve Number: FIL-036

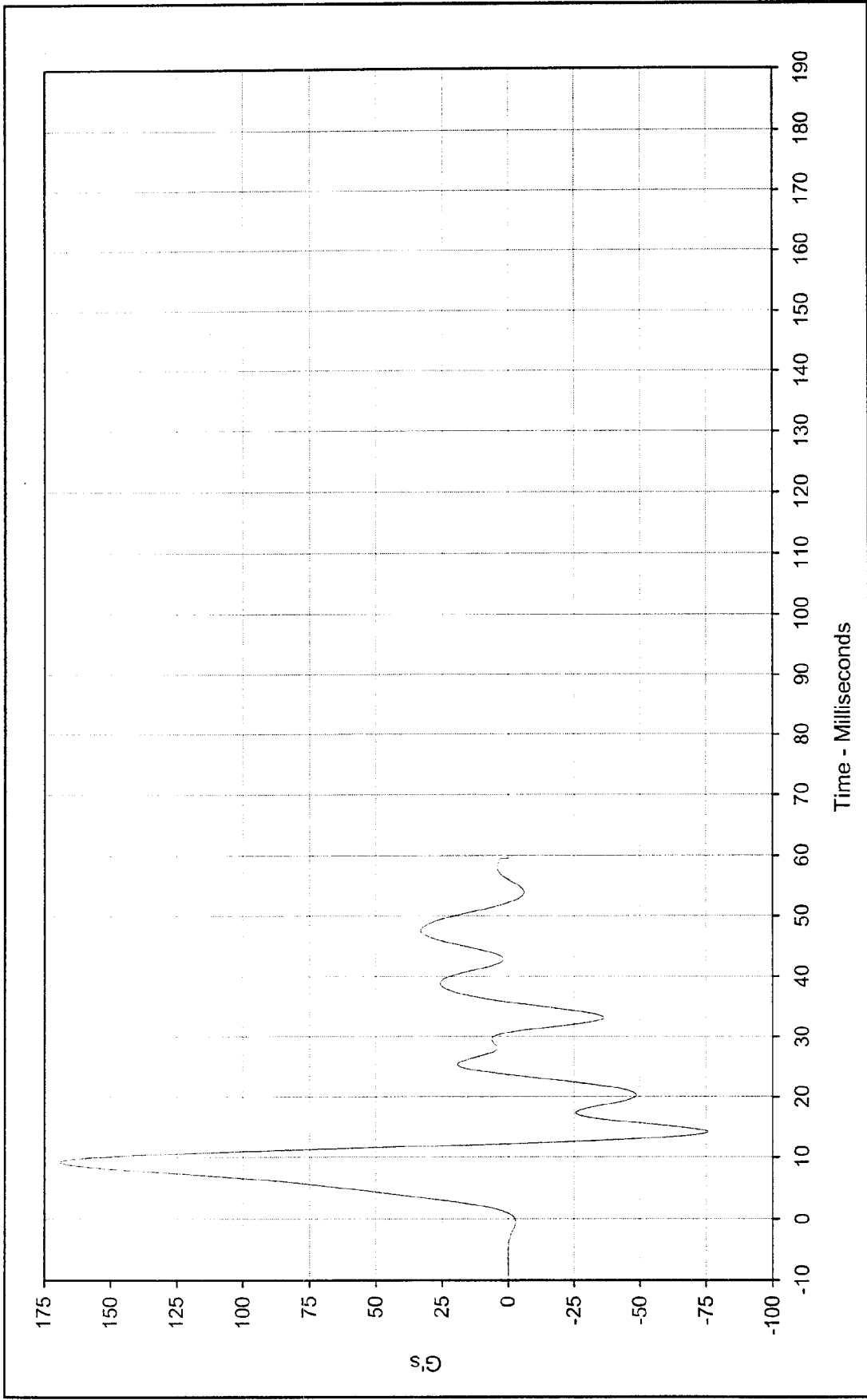
Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Left Sill at Rear Door Y Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	39.2 at 24.7 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-0.6 at 3.0 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-036			

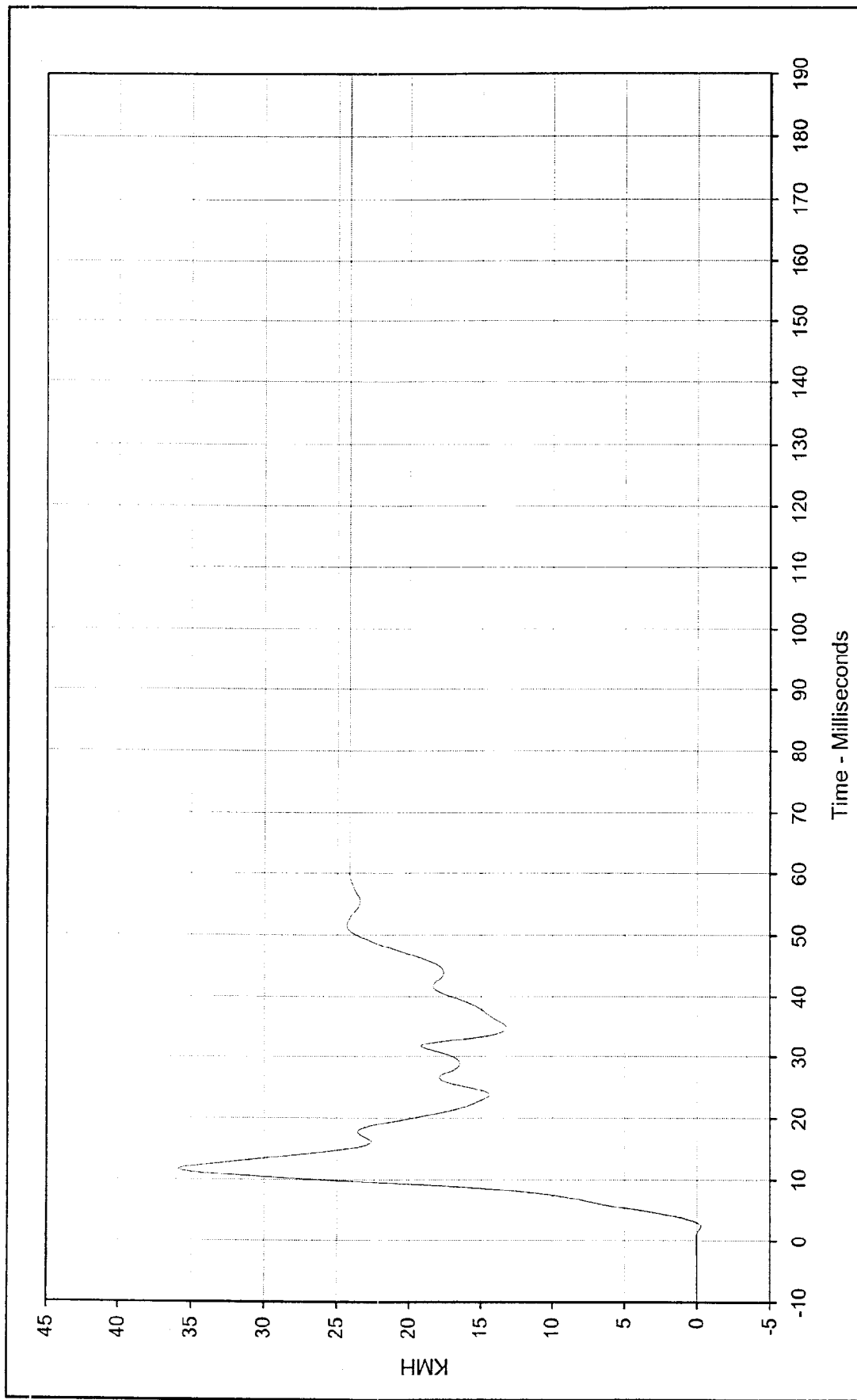




Curve Description:	Left Sill at Front Door Y	*	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	169.4	at 9.2	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-75.8	at 14.2			
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	FIL-037				



* Channel Failed at 59.6 Msec.



Curve Description: Left Sill at Front Door Y Velocity * Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 35.8 at 11.7 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

Minimum Value: -0.3 at 2.4 Milliseconds

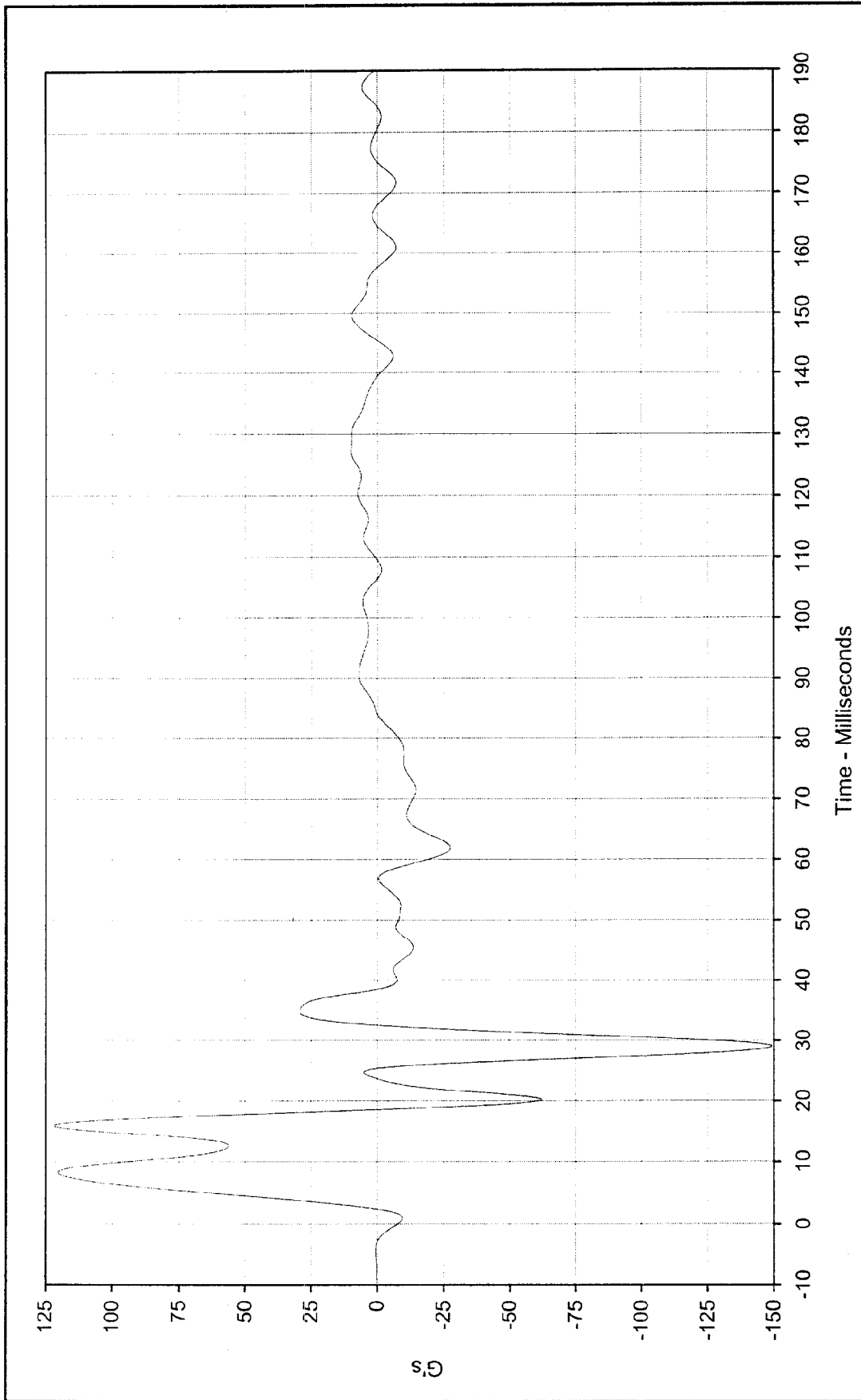
SAE Filter Class: 180

Date of Test: 02/29/00

Curve Number: IN1-037



* Channel Failed at 59.6 Msec.



Curve Description: Left Front Door Centerline Y Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 121.9 at 16.0 Milliseconds

Minimum Value: -149.3 at 29.0 Milliseconds

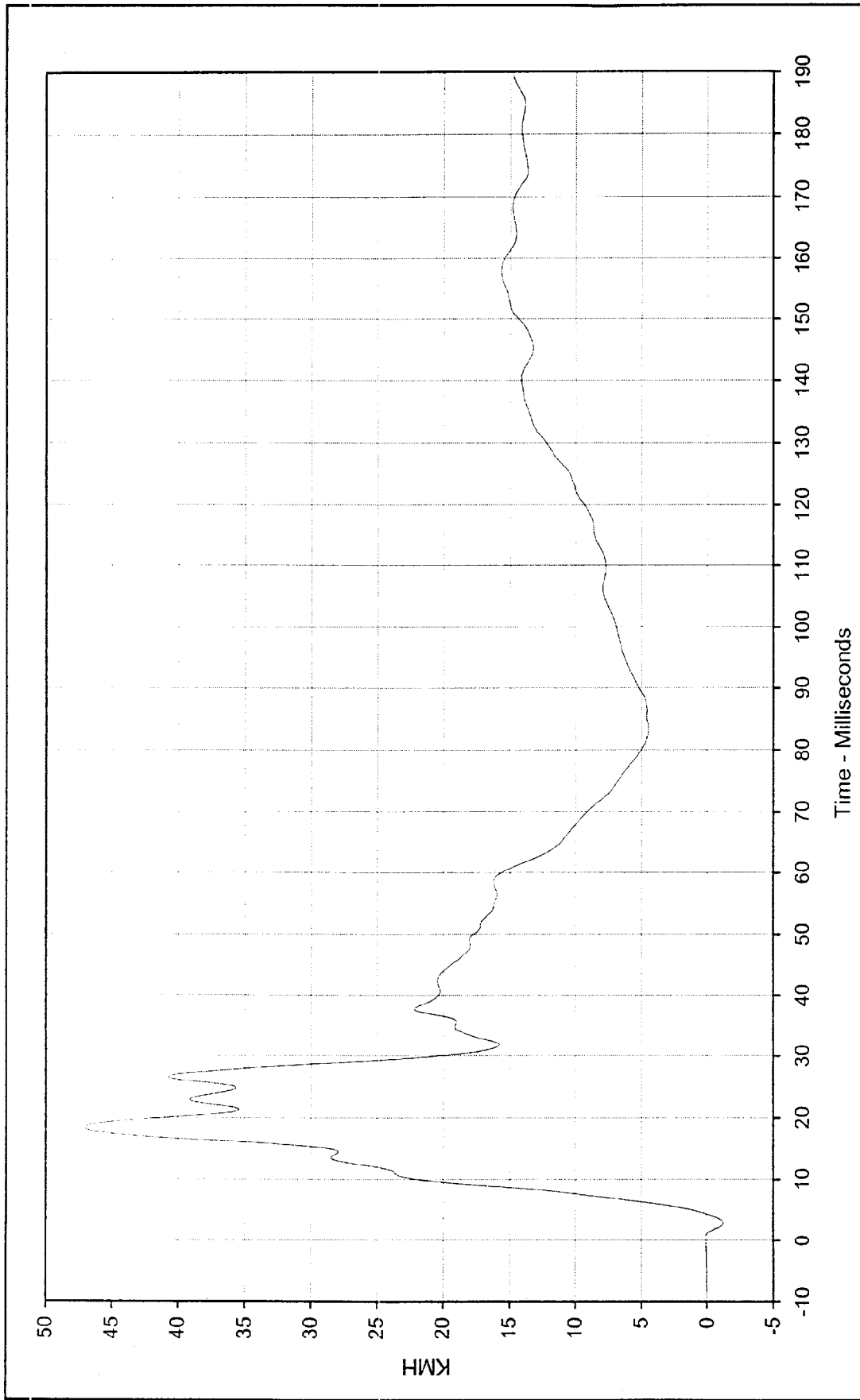
SAE Filter Class: 60

Date of Test: 02/29/00

Curve Number: FIL-038

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Left Front Door CL Y Velocity

Maximum Value: 47.0 at 18.4 Milliseconds

Minimum Value: -1.2 at 2.8 Milliseconds

SAE Filter Class: 180

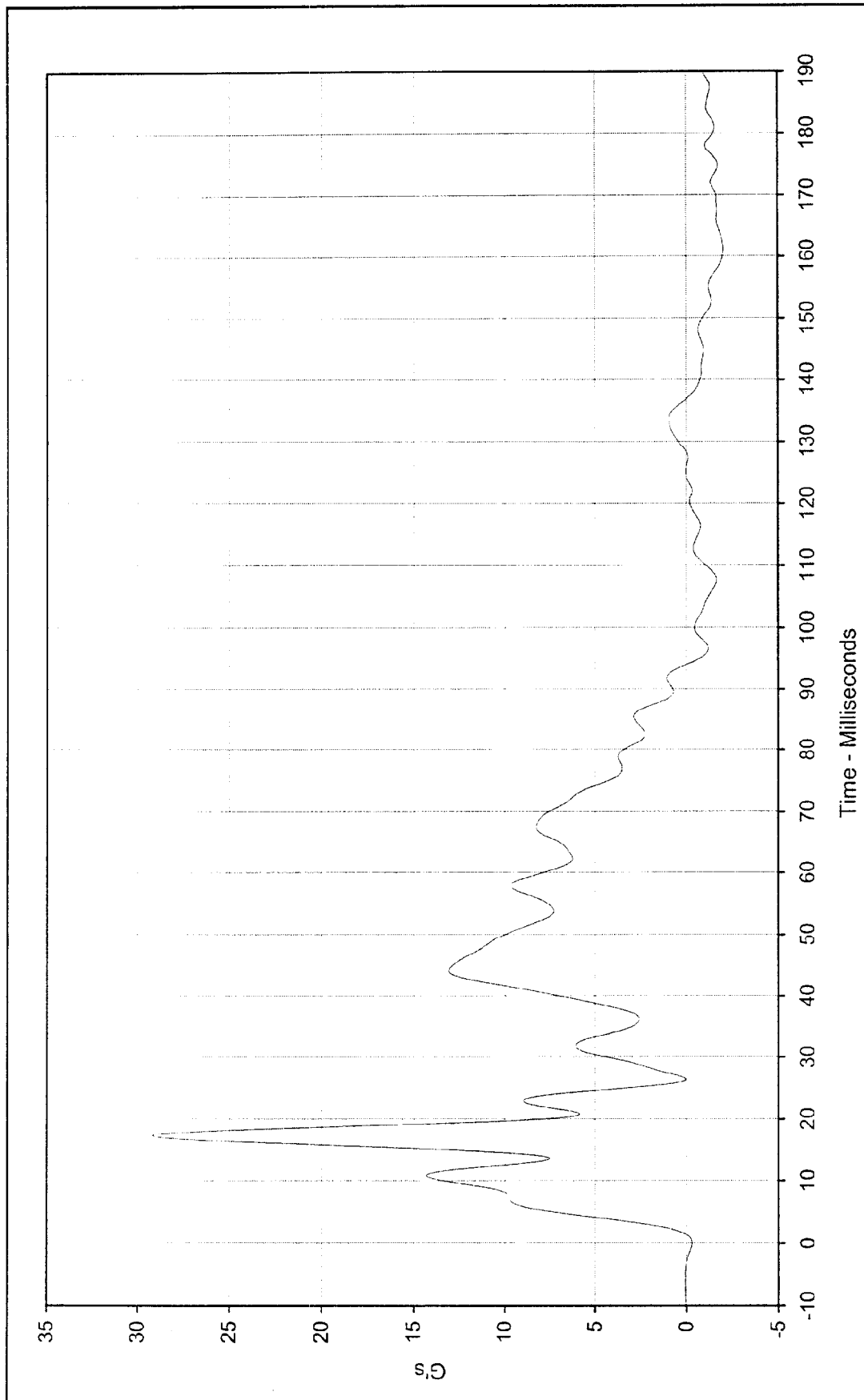
Date of Test: 02/29/00

Curve Number: IN1-038

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Right Rear Occ. Compartment Y

Maximum Value: 29.2 at 17.2 Milliseconds

Minimum Value: -2.1 at 161.2 Milliseconds

SAE Filter Class: 60

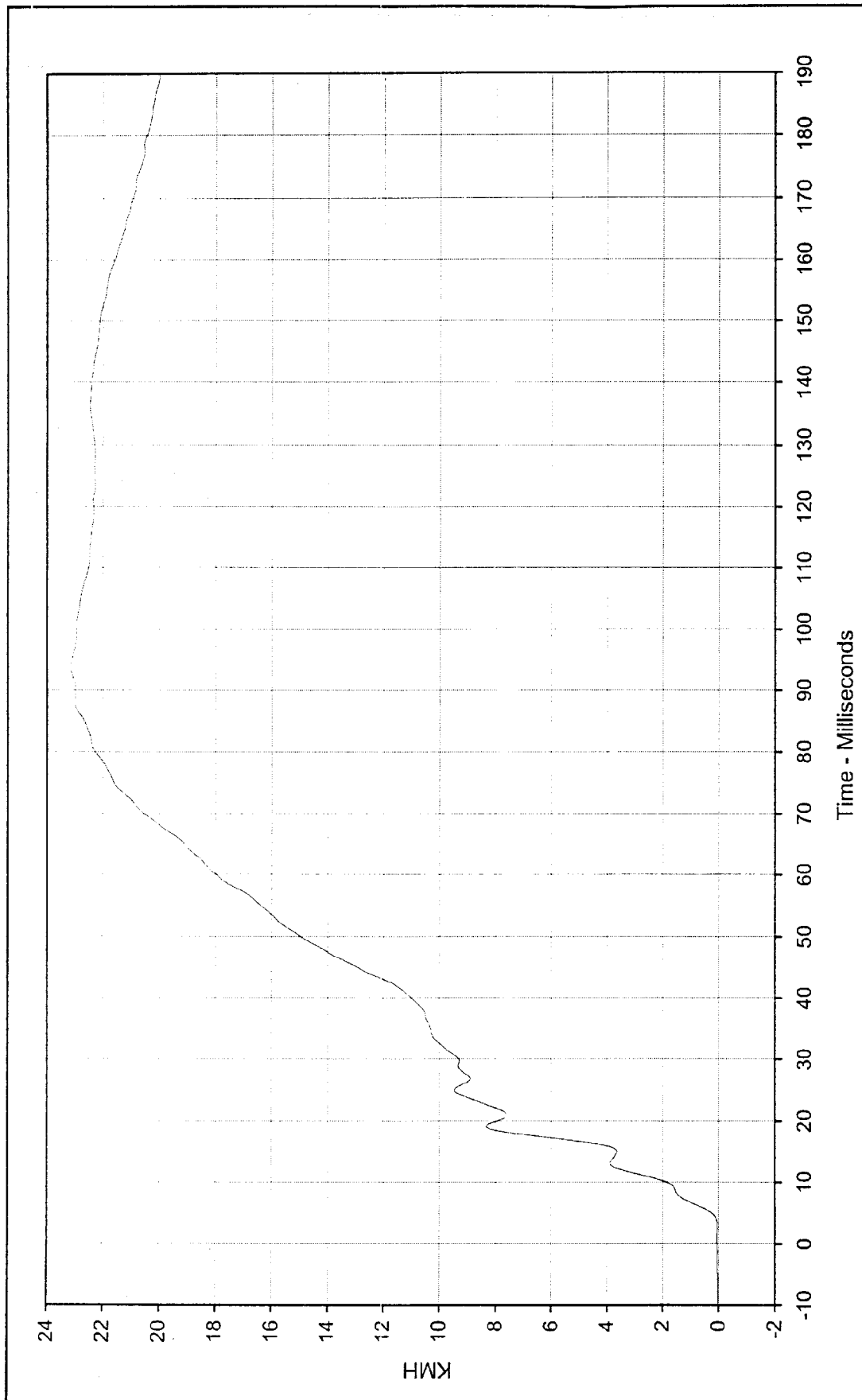
Date of Test: 02/29/00

Curve Number: FIL-039

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

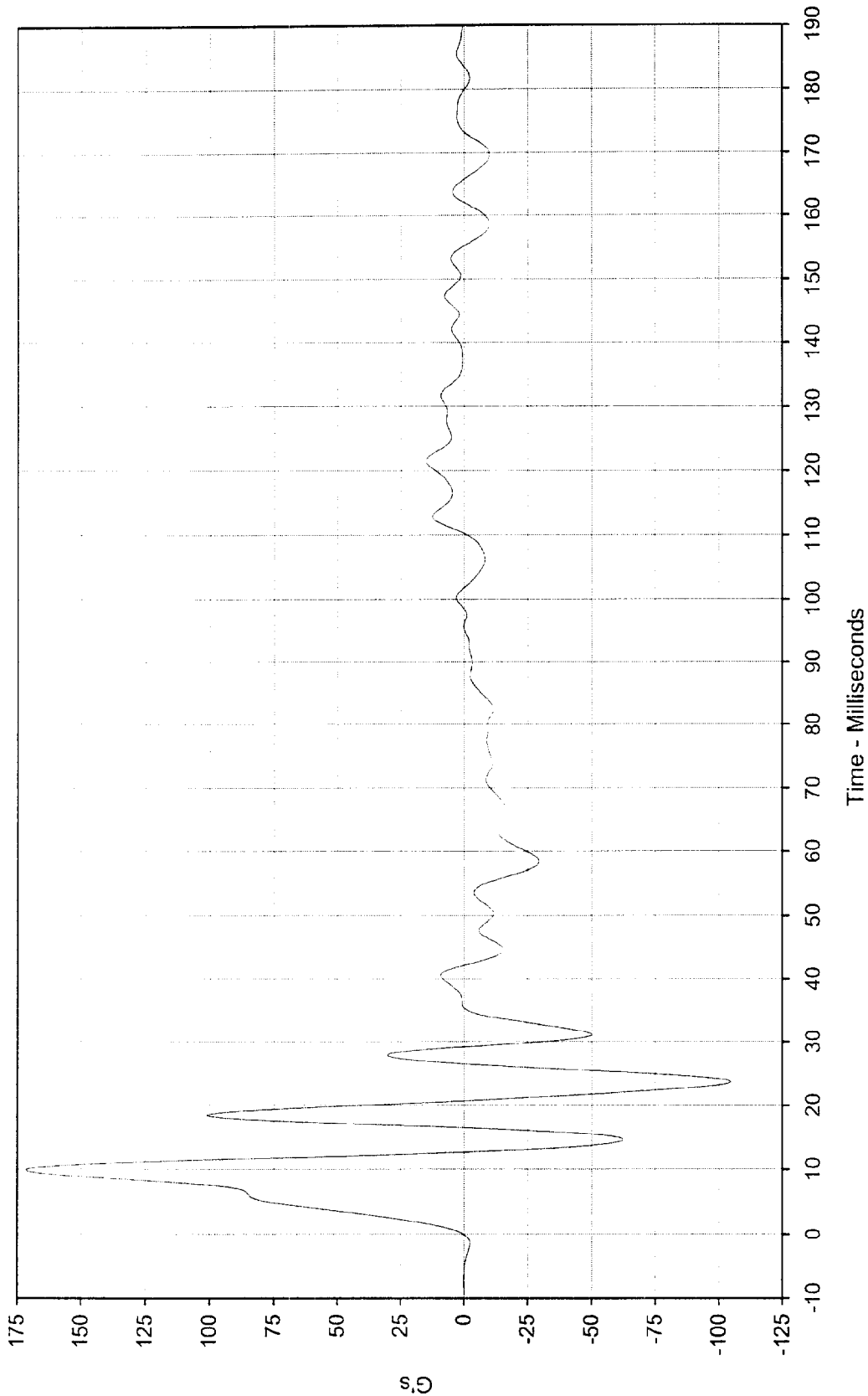




Curve Description: Right Rear Occ. Comp. Y Velocity
 Maximum Value: 23.2 at 23.2 Milliseconds
 Minimum Value: 0.0 at 2.9 Milliseconds
 SAE Filter Class: 180
 Date of Test: 02/29/00
 Curve Number: IN1-039

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





Time - Milliseconds

Curve Description: Left Front Door Mid Rear Y

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 171.7 at 9.9 Milliseconds

Test Vehicle: 2000 Mercury Villager Mini-Van

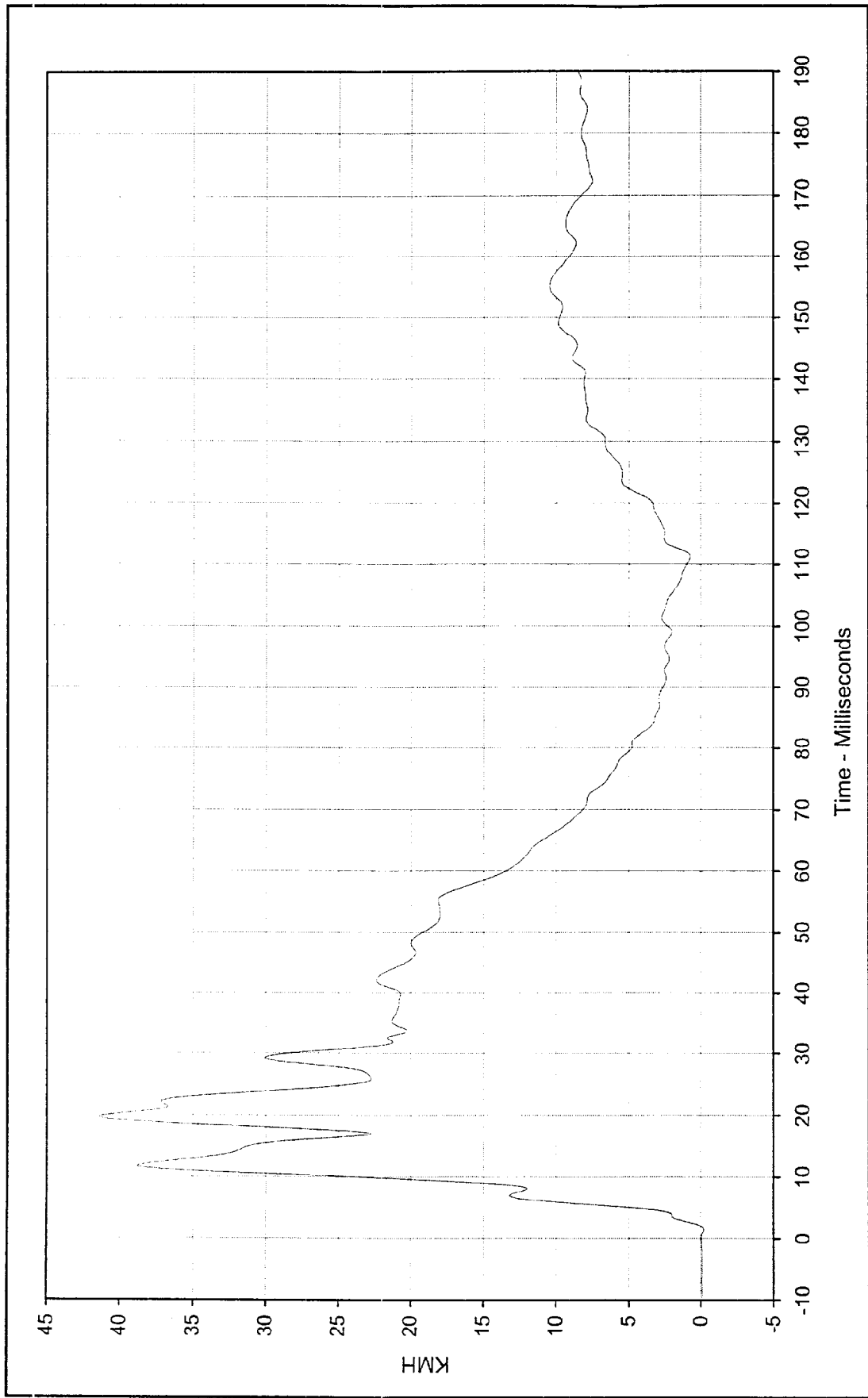
Minimum Value: -104.6 at 23.7 Milliseconds

SAE Filter Class: 60

Date of Test: 02/29/00

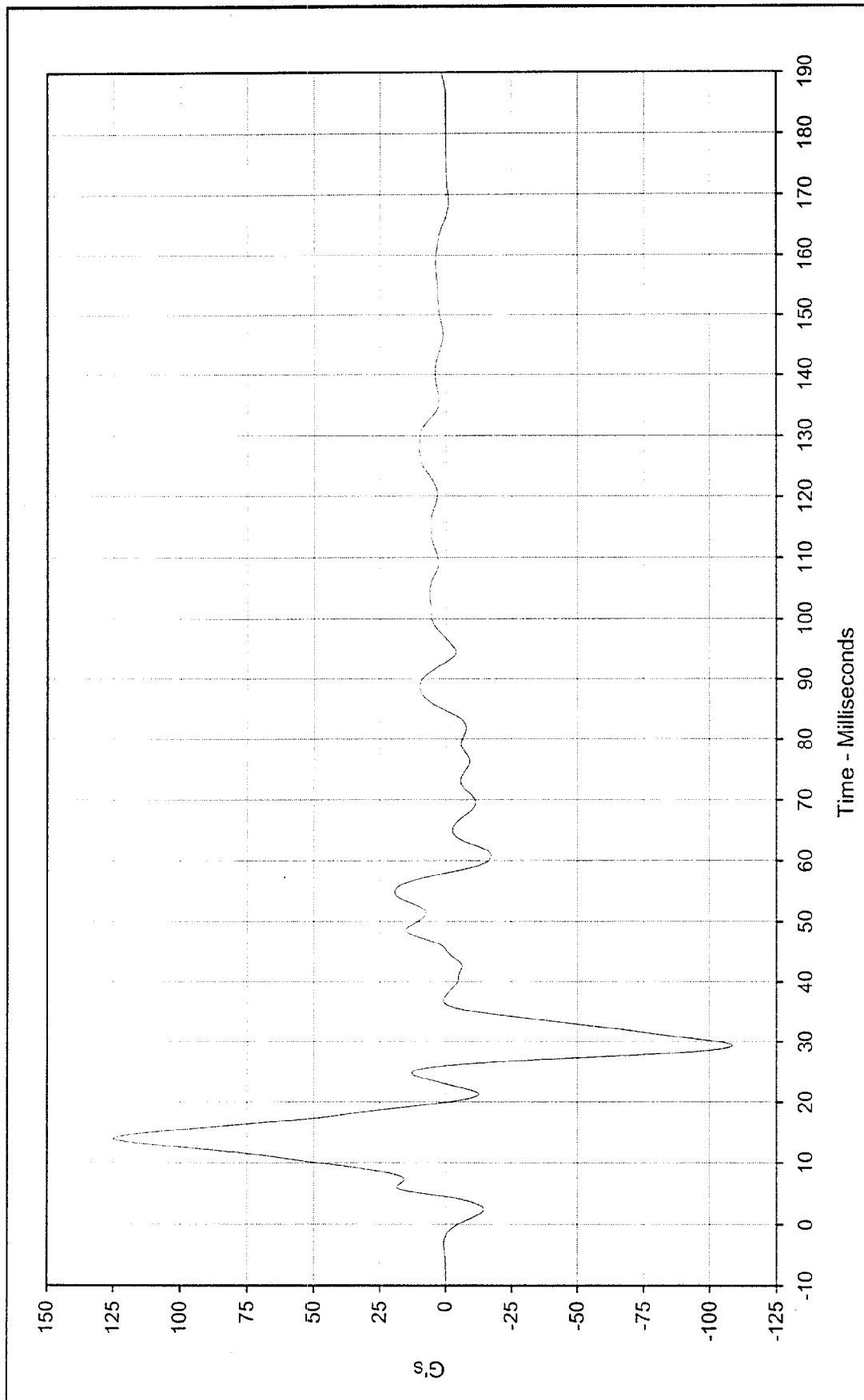
Curve Number: FIL-040





Curve Description:		Left Front Door Mid-Rear Y Velocity		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	41.4	at	19.7	Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van
Minimum Value:	-0.2	at	1.5	Milliseconds		
SAE Filter Class:	180					
Date of Test:	02/29/00					
Curve Number:	IN1-040					





Curve Description: Left Front Door Upper CL Y

Test Program: 55/28 km/h Side Impact NCAP

No.: MY0214

Maximum Value: 124.9 at 14.0 Milliseconds

Test Vehicle: 2000 Mercury Villager Mini-Van

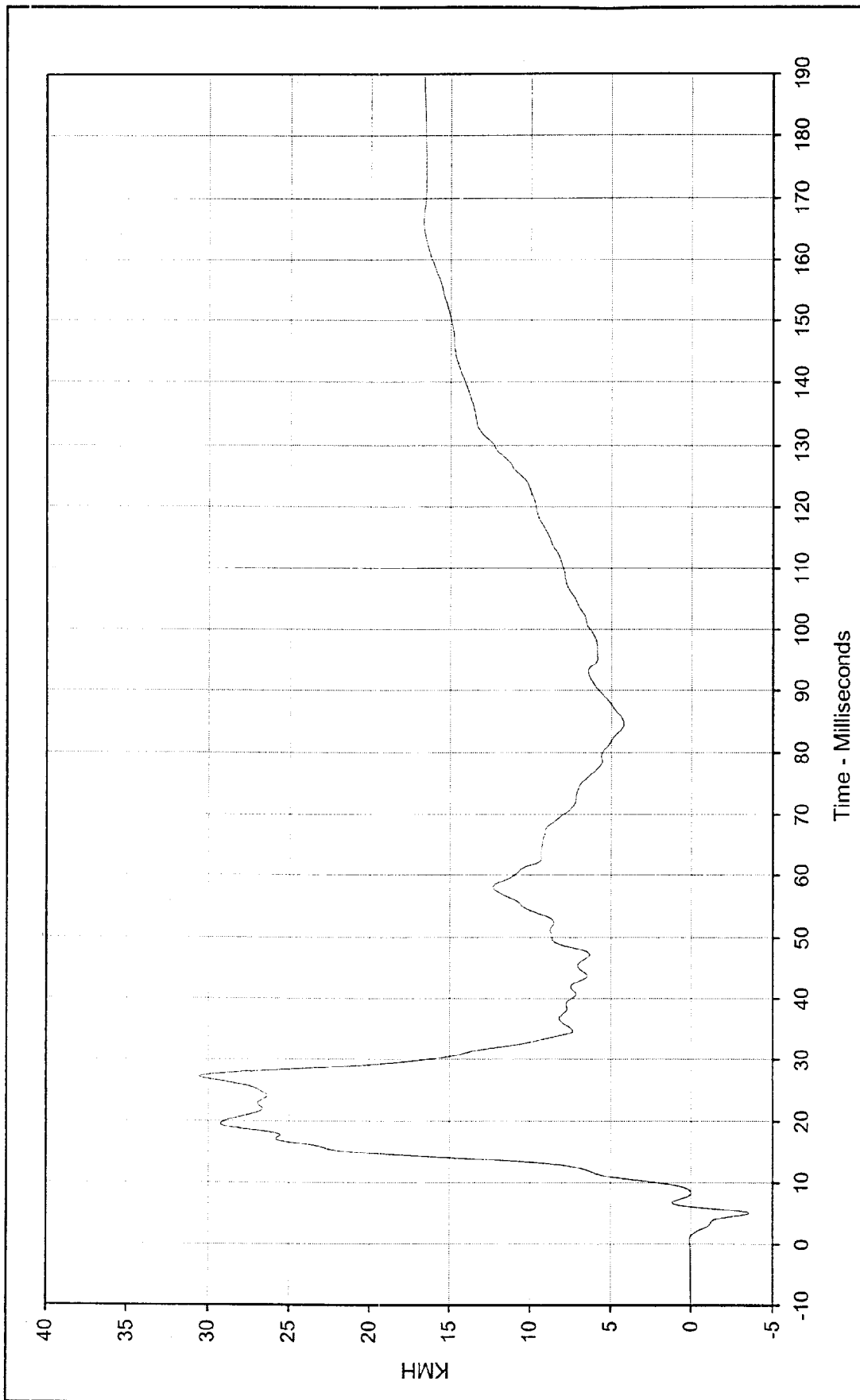
Minimum Value: -108.4 at 29.3 Milliseconds

SAE Filter Class: 60

Date of Test: 02/29/00

Curve Number: FIL-041





Curve Description: Left Front Door Upper CL Y Velocity

Maximum Value: 30.6 at 27.2 Milliseconds

Minimum Value: -3.6 at 5.0 Milliseconds

SAE Filter Class: 180

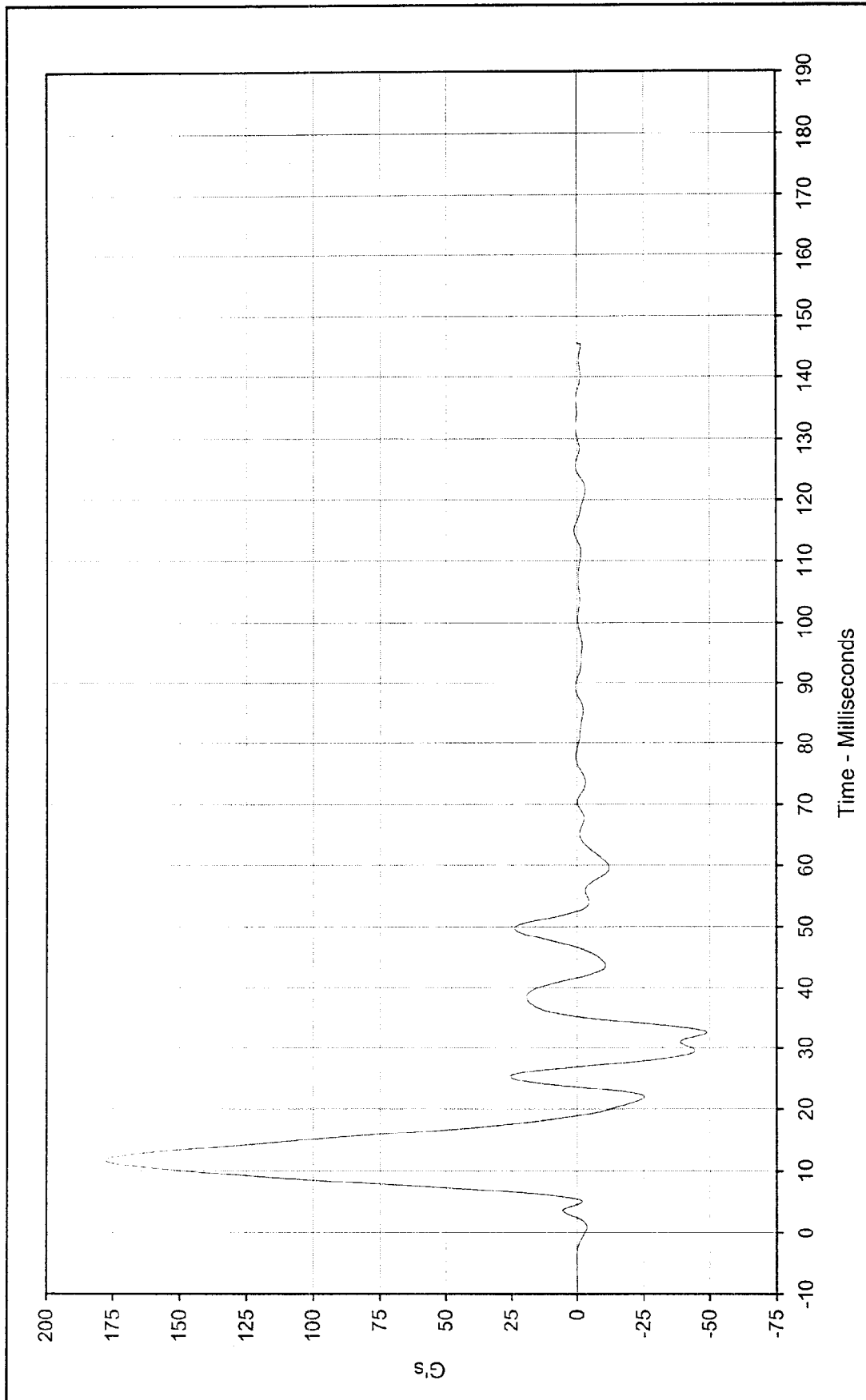
Date of Test: 02/29/00

Curve Number: IN1-041

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

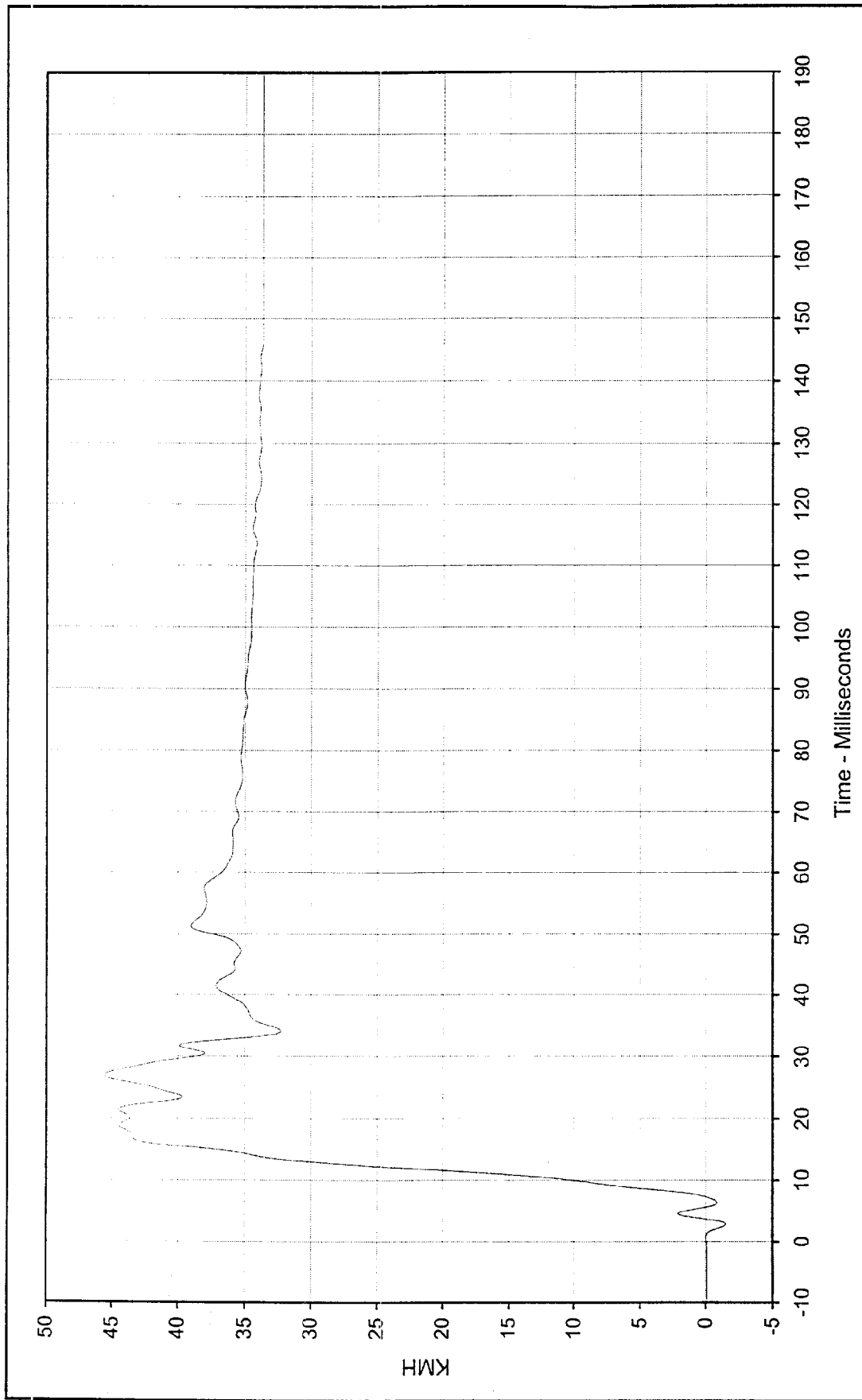




Curve Description:	Left Rear Door Mid Rear Y	*	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	177.9	at 11.7	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-48.9	at 32.7			
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	FIL-042				



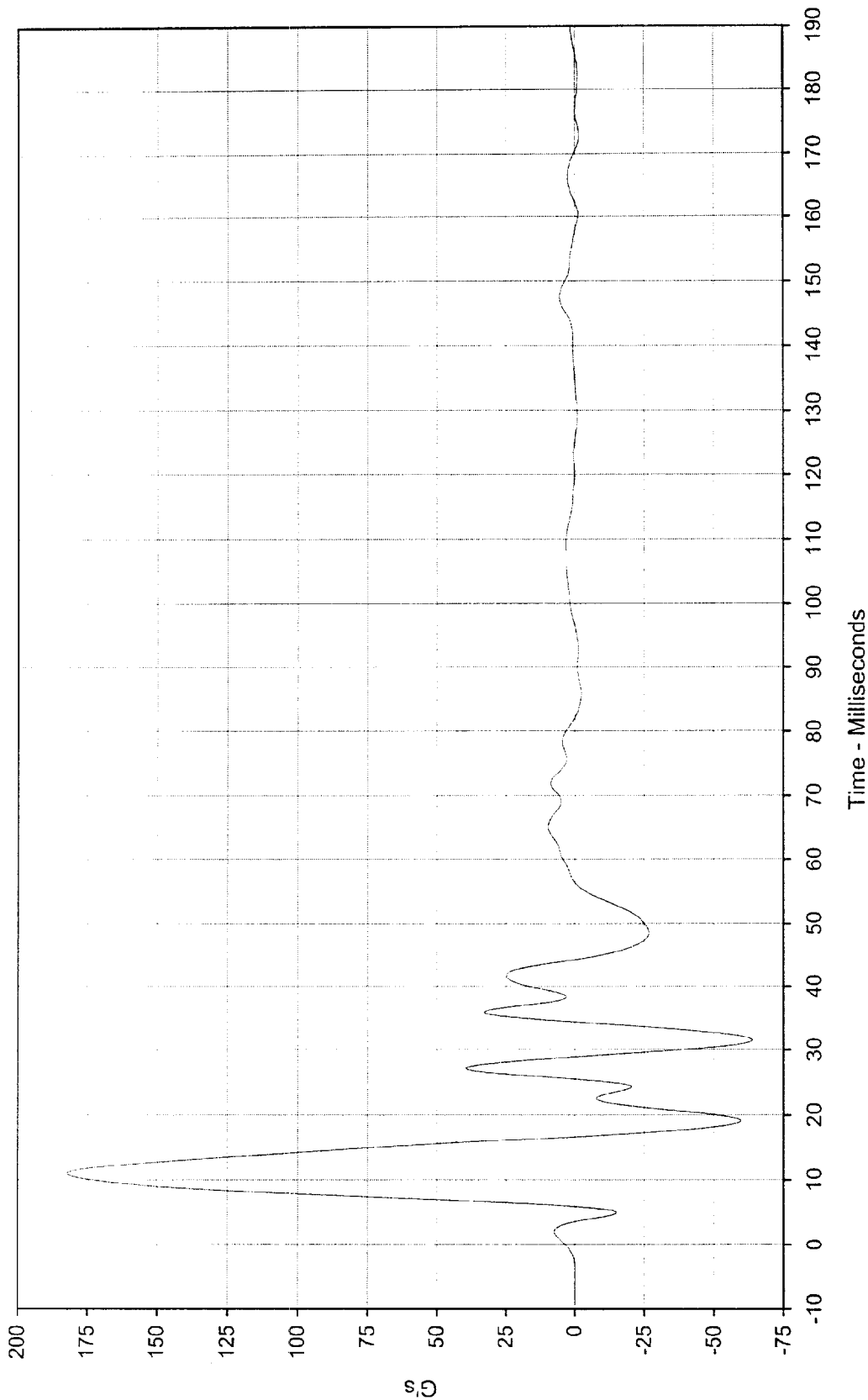
* Channel failed at 145.6 Msec



Curve Description: Left Rear Door Mid Rear Y Velocity
Maximum Value: 45.6 at 26.9 Milliseconds
Minimum Value: -1.5 at 2.8 Milliseconds
SAE Filter Class: 180
Date of Test: 02/29/00
Curve Number: IN1-042

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Left Rear Door Upper CL Y Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 182.4 at 11.0 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

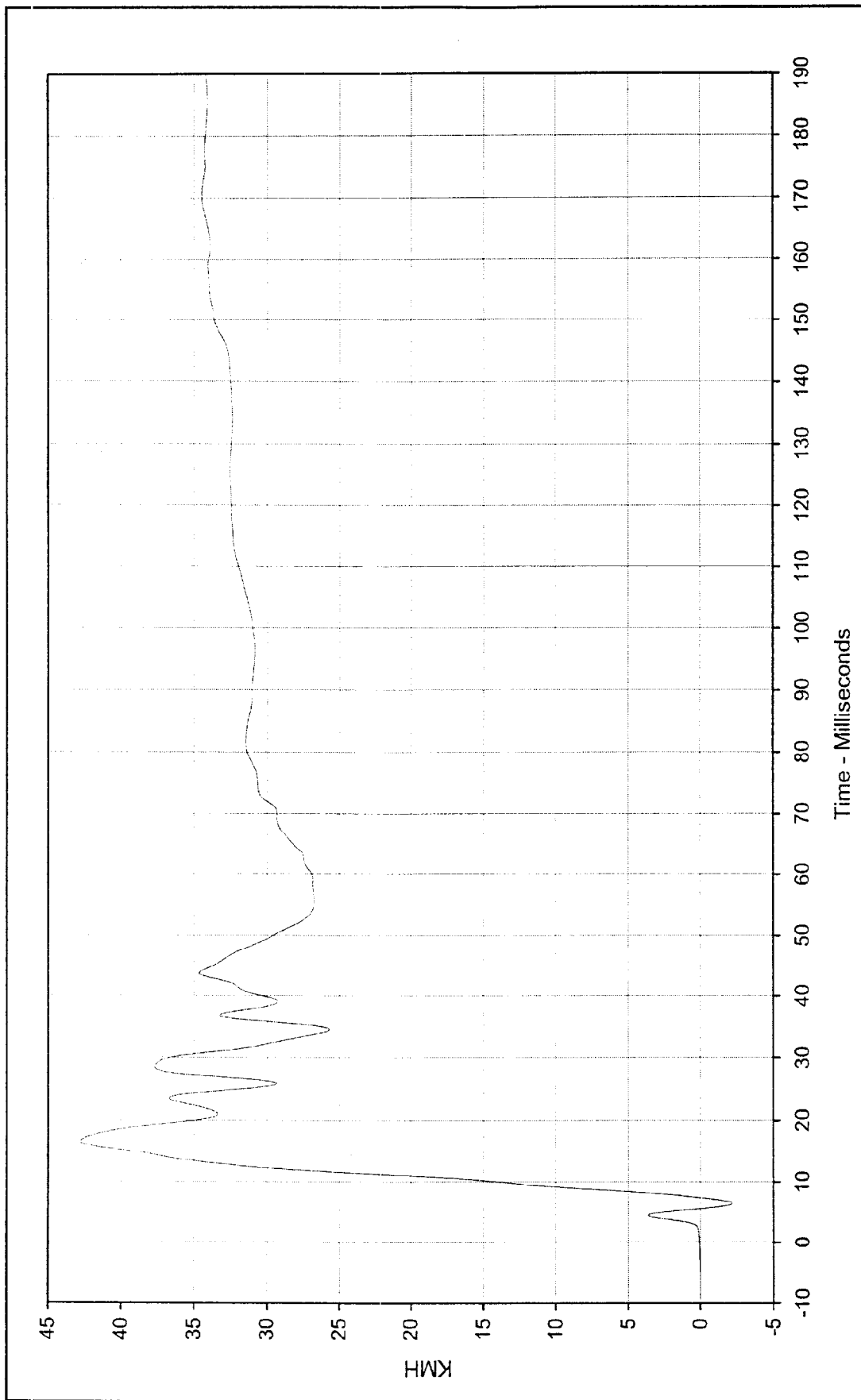
Minimum Value: -63.9 at 31.5 Milliseconds

SAE Filter Class: 60

Date of Test: 02/29/00

Curve Number: FIL-043

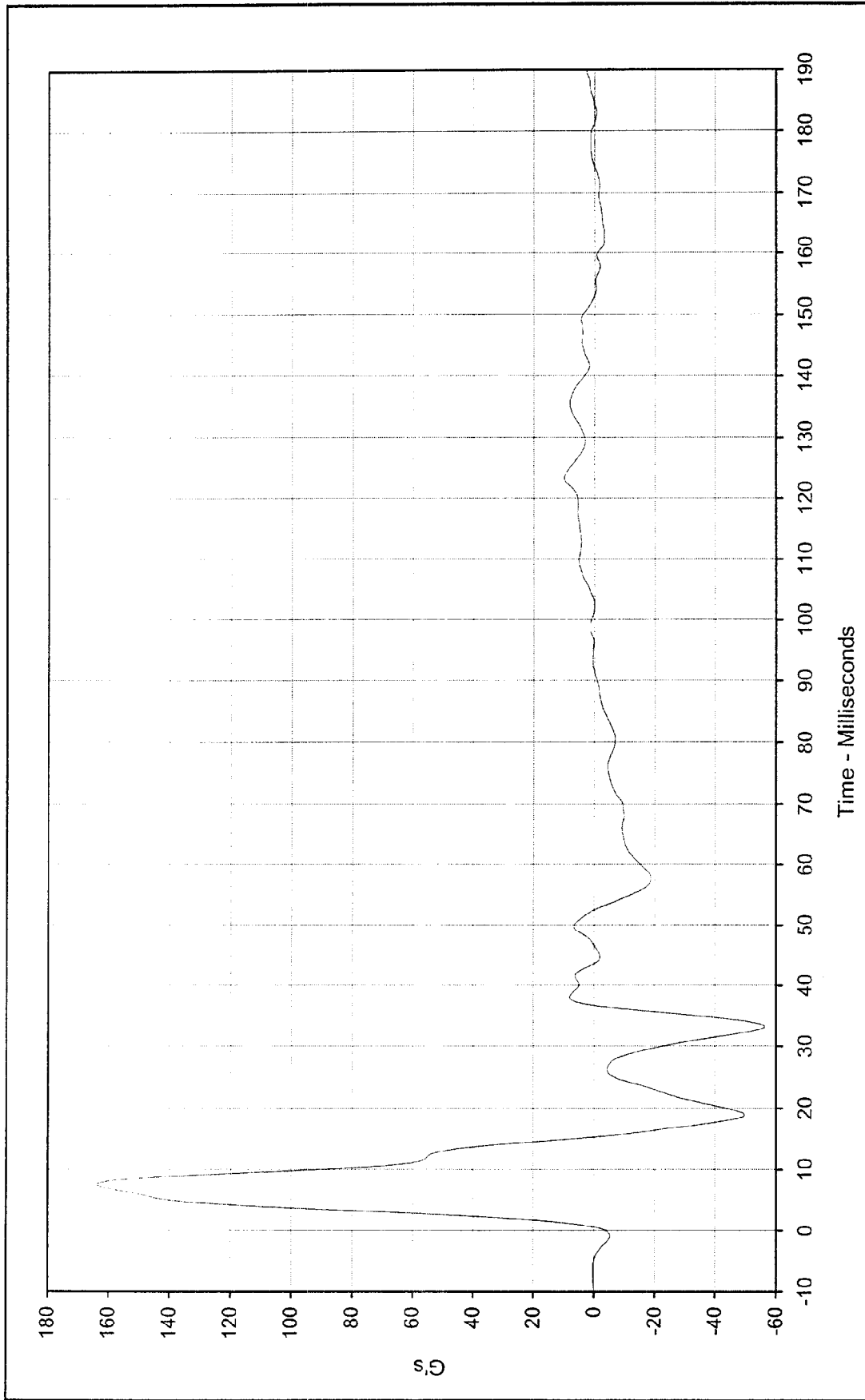




Curve Description: Left Rear Door Upper CL Y Velocity
 Maximum Value: 42.8 at 16.6 Milliseconds
 Minimum Value: -2.2 at 6.5 Milliseconds
 SAE Filter Class: 180
 Date of Test: 02/29/00
 Curve Number: IN1-043

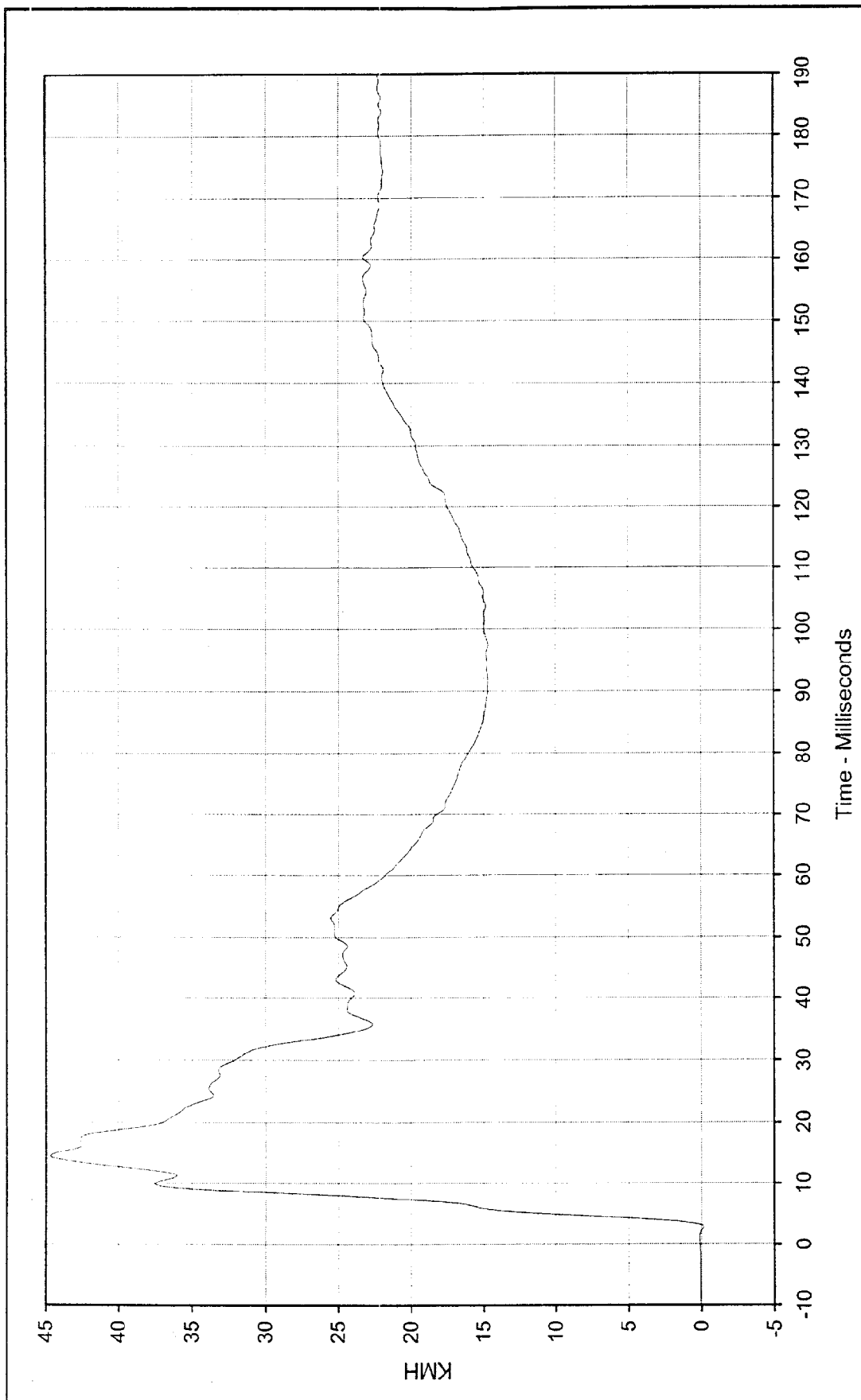
Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Left B-Post Lower Y		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
	Maximum Value:	164.0	at	7.6	Milliseconds
	Minimum Value:	-56.3	at	33.2	Milliseconds
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	FIL-044				
			Test Vehicle:	2000 Mercury Villager Mini-Van	





Curve Description: Left B-Post Lower Y Velocity

Maximum Value: 44.7 at 14.5 Milliseconds

Minimum Value: -0.2 at 2.8 Milliseconds

SAE Filter Class: 180

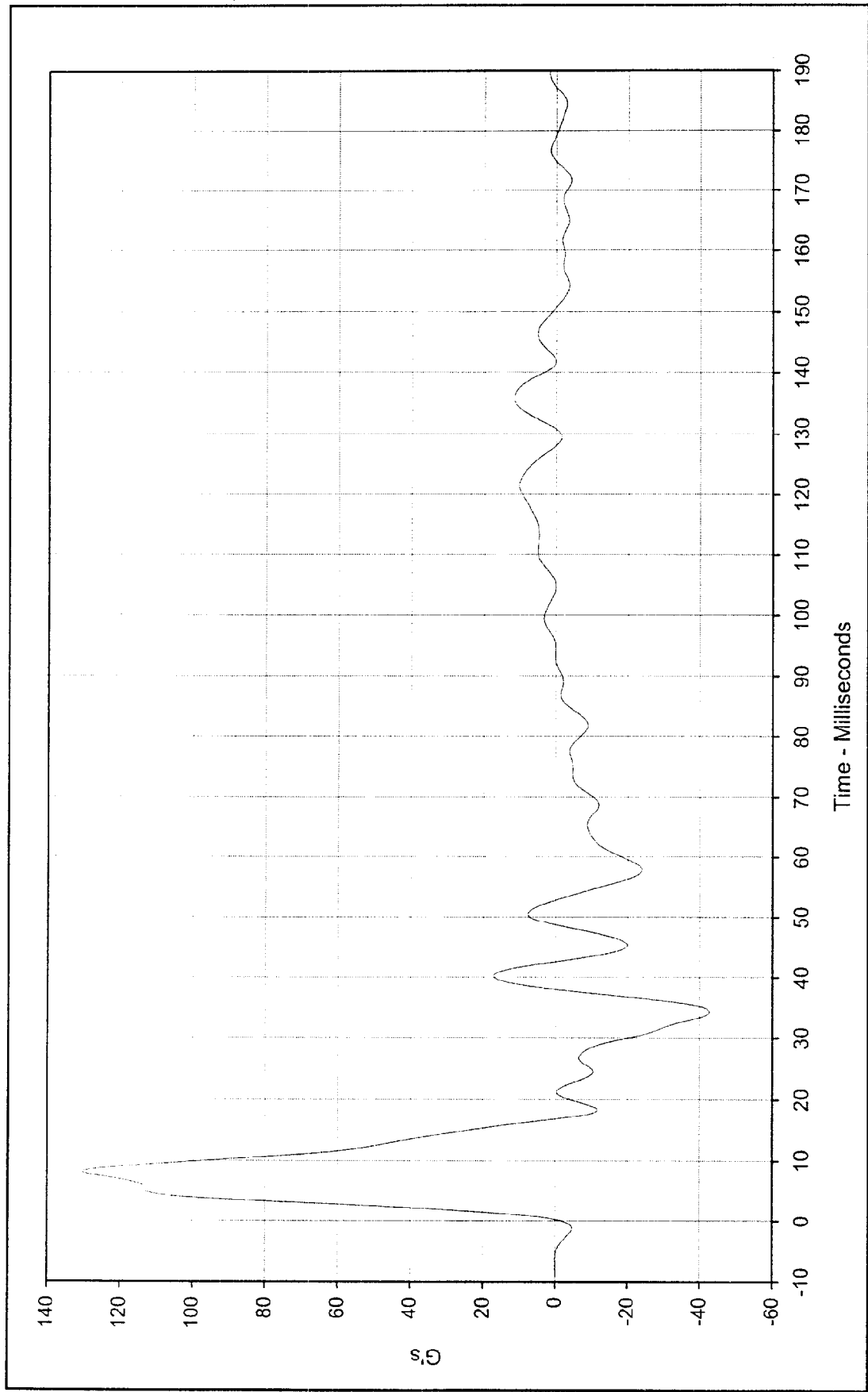
Date of Test: 02/29/00

Curve Number: IN1-044

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

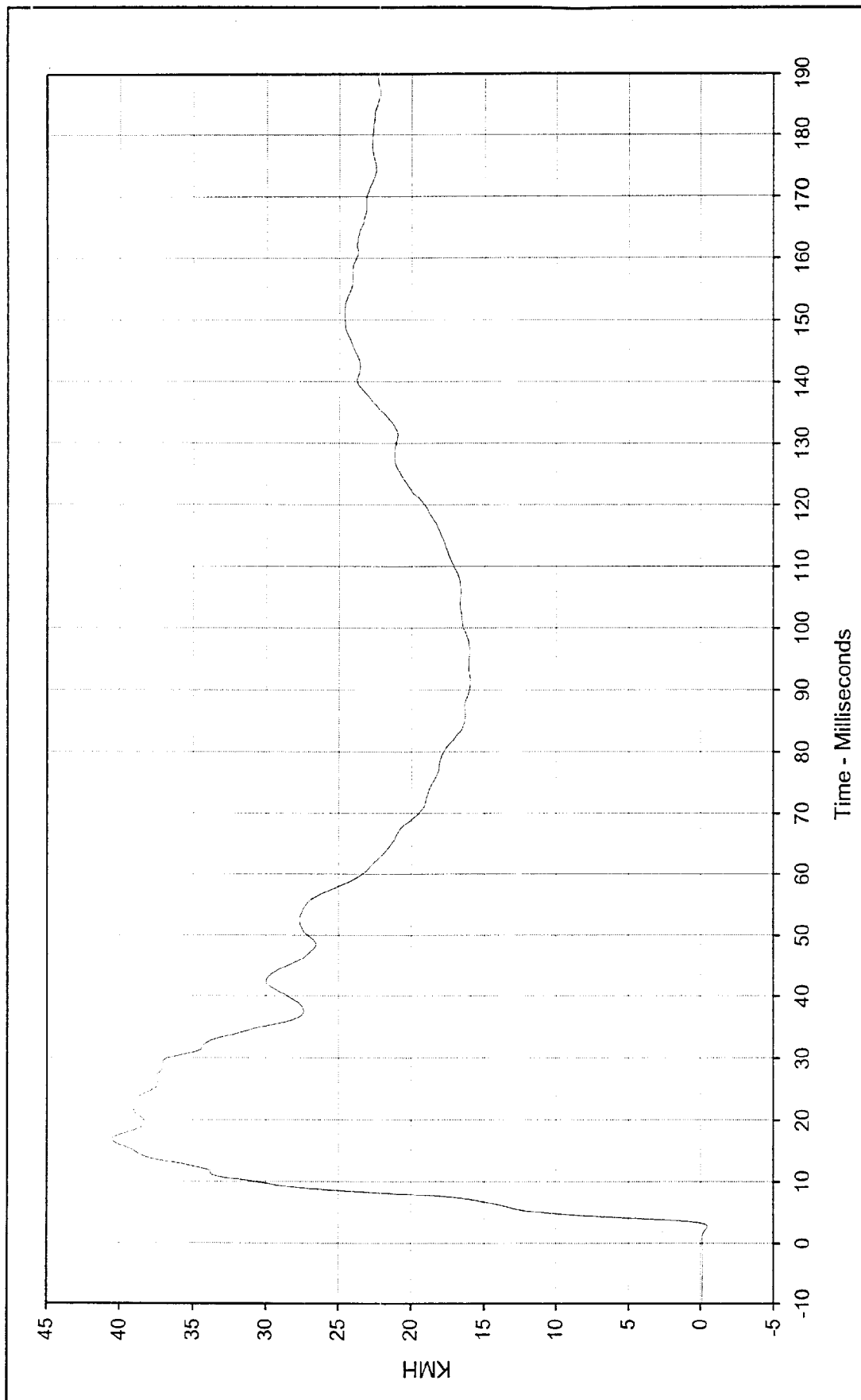
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Left B-Post Middle Y		Test Program:	55/28 km/h Side Impact NCAP No.: MY0214	
Maximum Value:	130.3	at 8.1	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-42.7	at 34.3			
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	FIL-045				

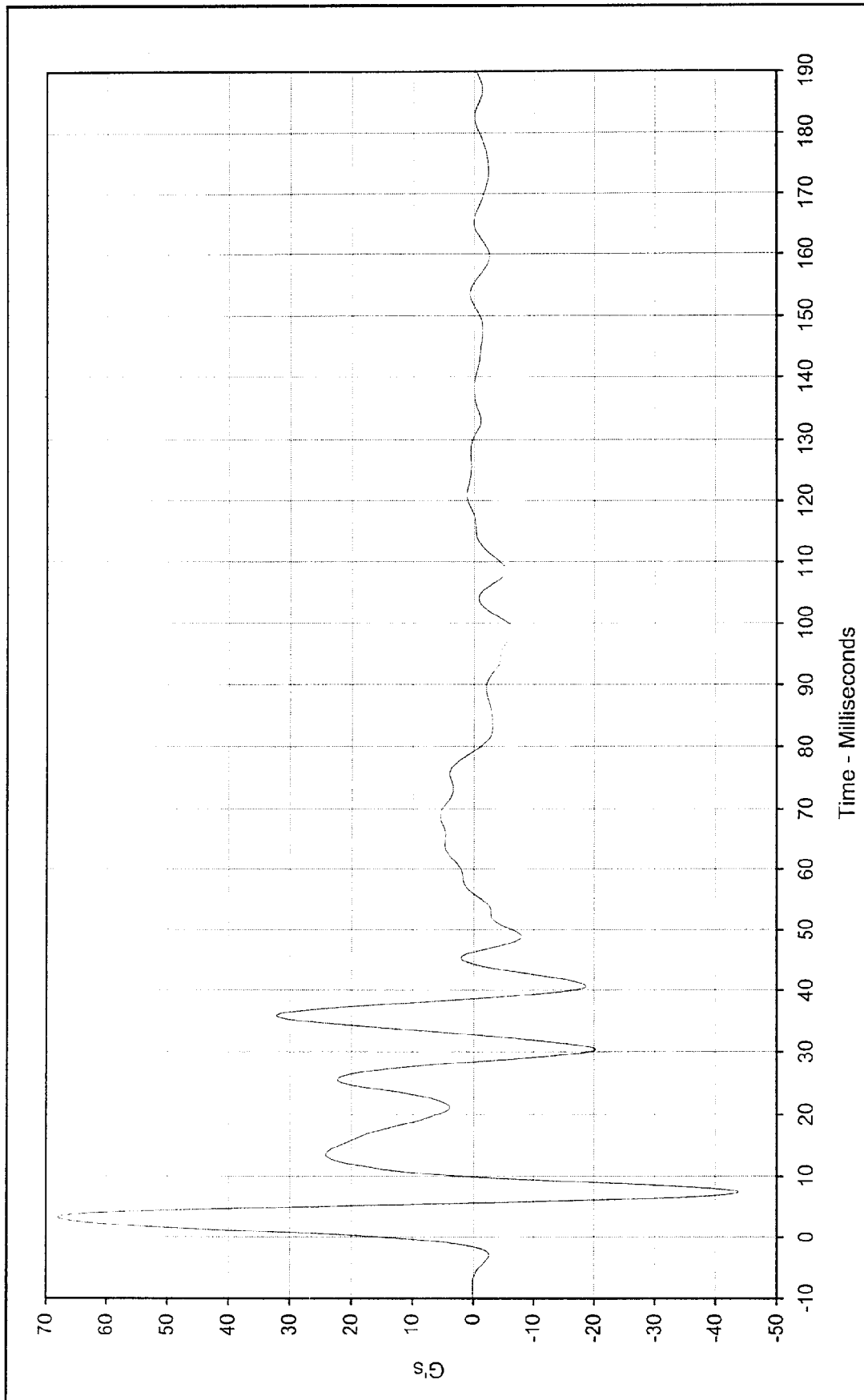




Curve Description: Left B-Post Middle Y Velocity
 Maximum Value: 40.5 at 17.0 Milliseconds
 Minimum Value: -0.5 at 2.7 Milliseconds
 SAE Filter Class: 180
 Date of Test: 02/29/00
 Curve Number: IN1-045

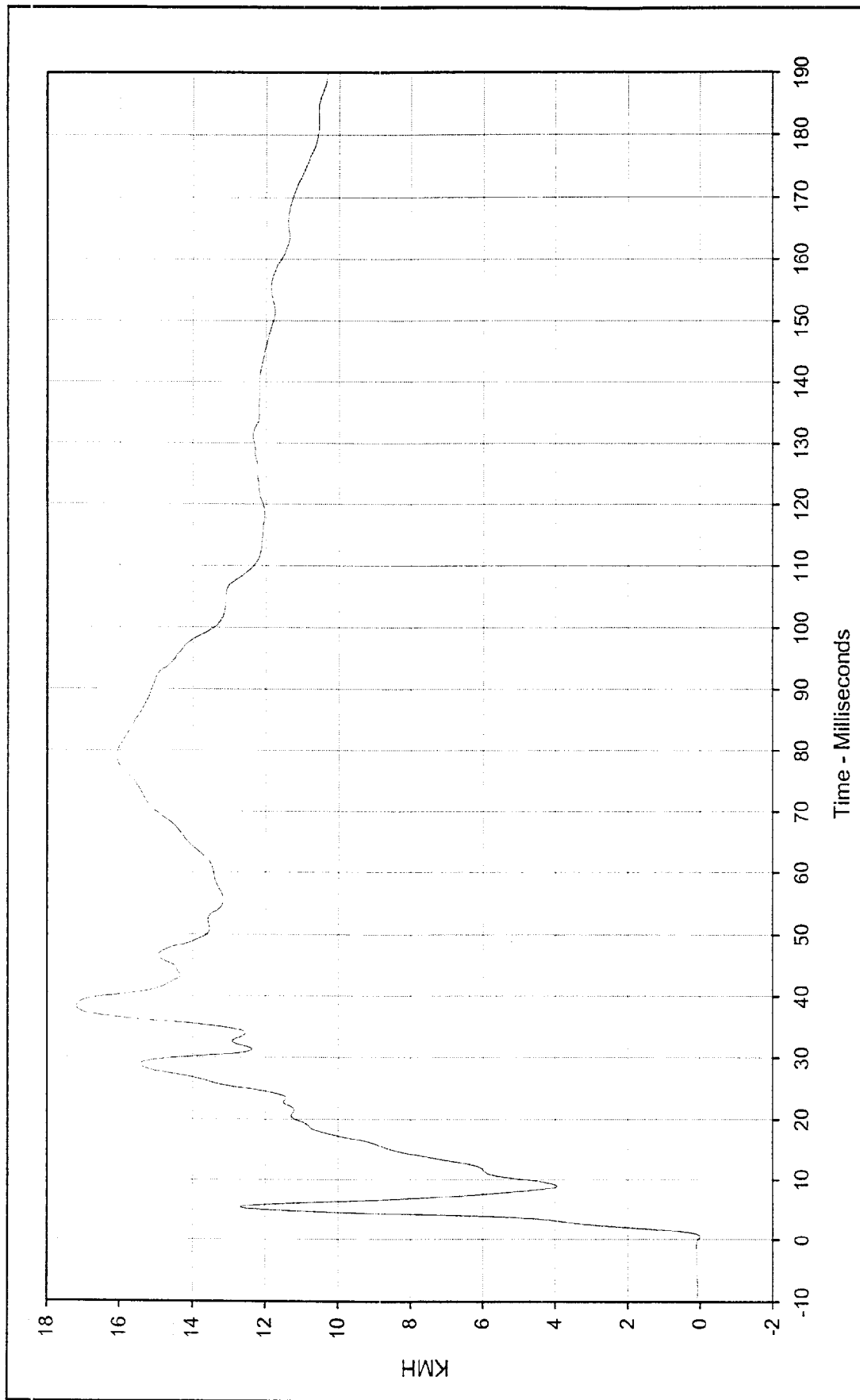
Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Left A-Post Lower Y	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	68.1 at 3.3 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-43.8 at 7.4 Milliseconds			
SAE Filter Class:	60			
Date of Test:	02/29/00			
Curve Number:	FIL-046			





Curve Description: Left A-Post Lower Y Velocity

Maximum Value: 17.2 at 38.3 Milliseconds

Minimum Value: 0.0 at 0.5 Milliseconds

SAE Filter Class: 180

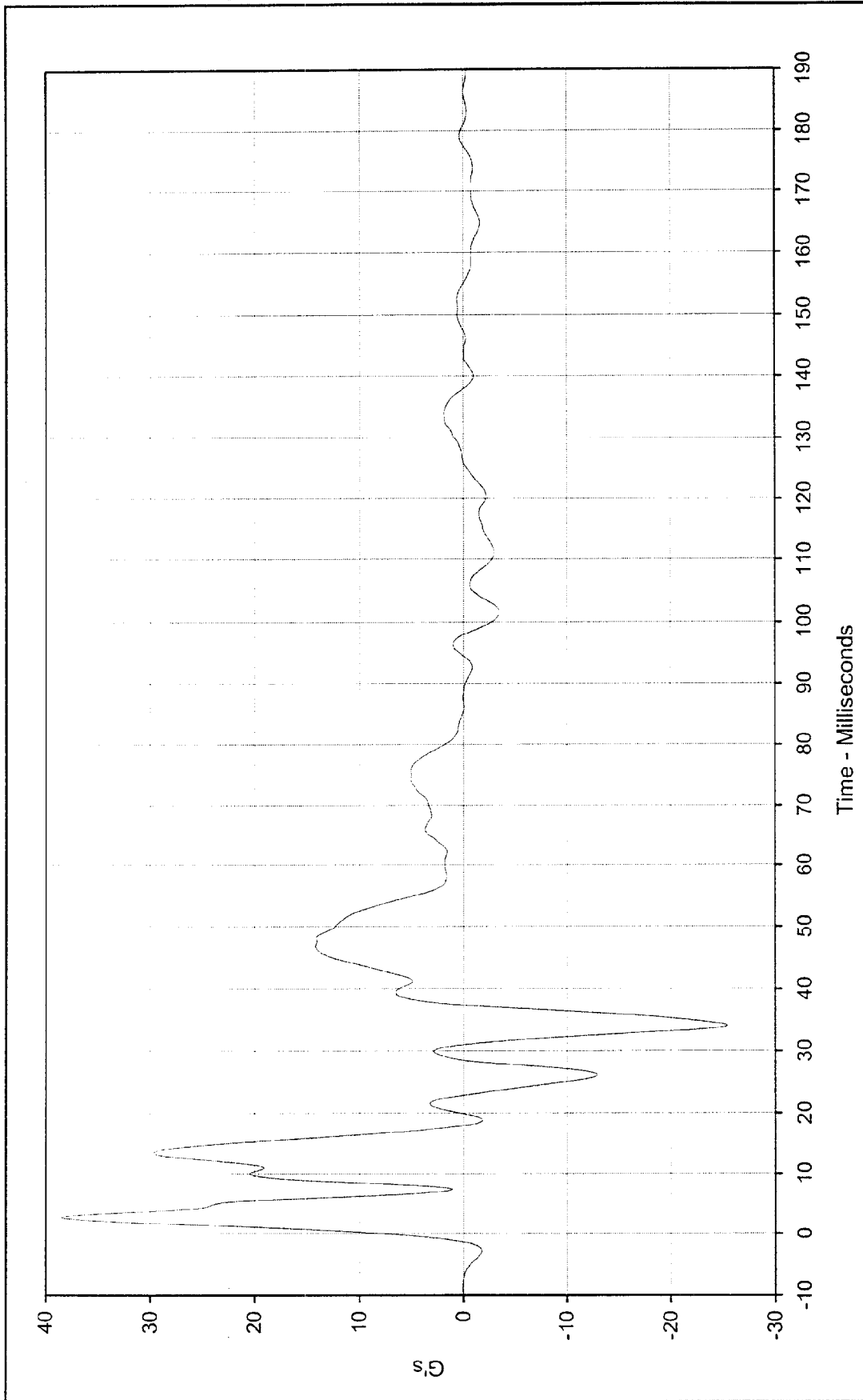
Date of Test: 02/29/00

Curve Number: IN1-046

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Left A-Post Middle Y Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 38.5 at 2.7 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

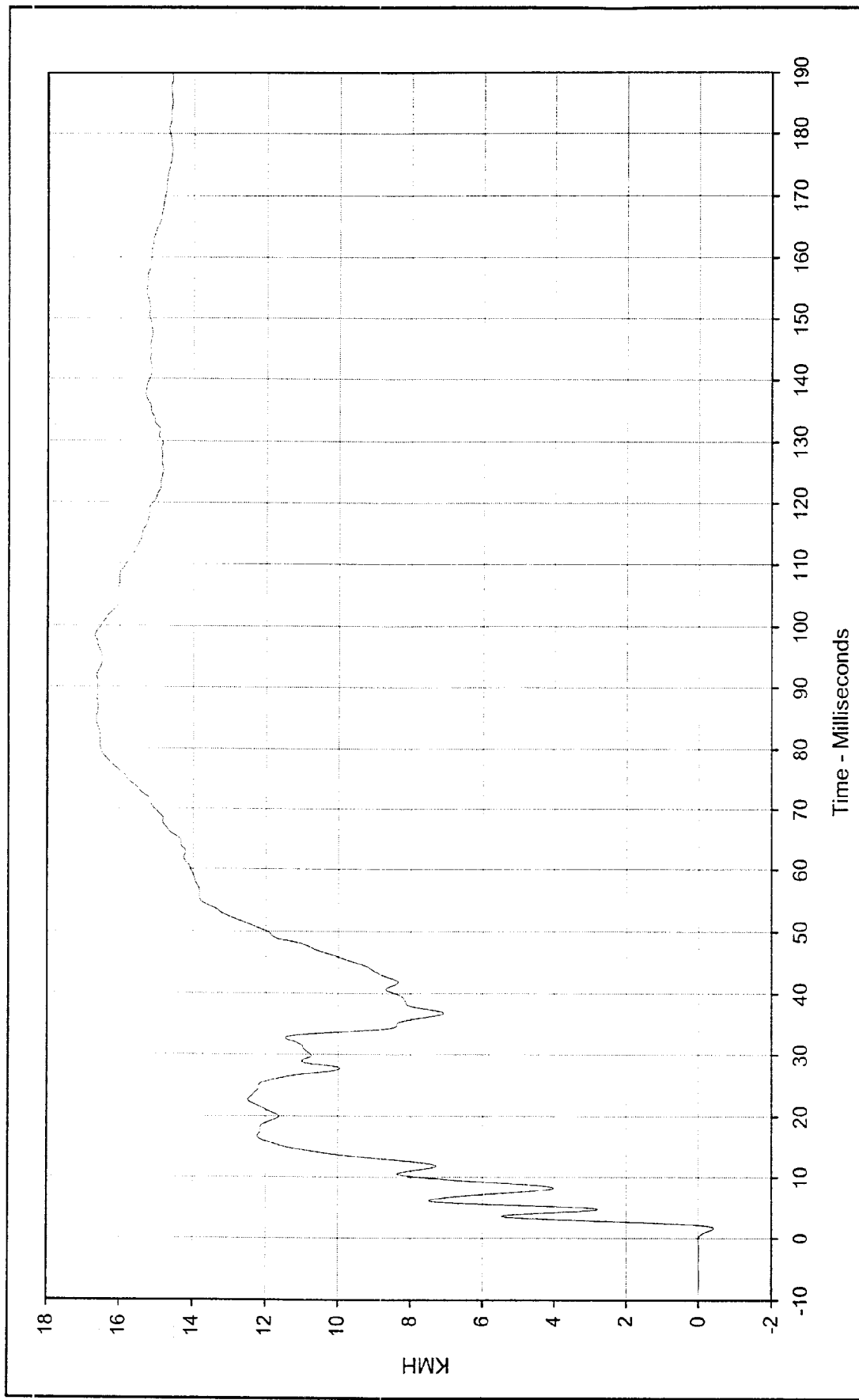
Minimum Value: -25.4 at 34.1 Milliseconds

SAE Filter Class: 60

Date of Test: 02/29/00

Curve Number: FIL-047

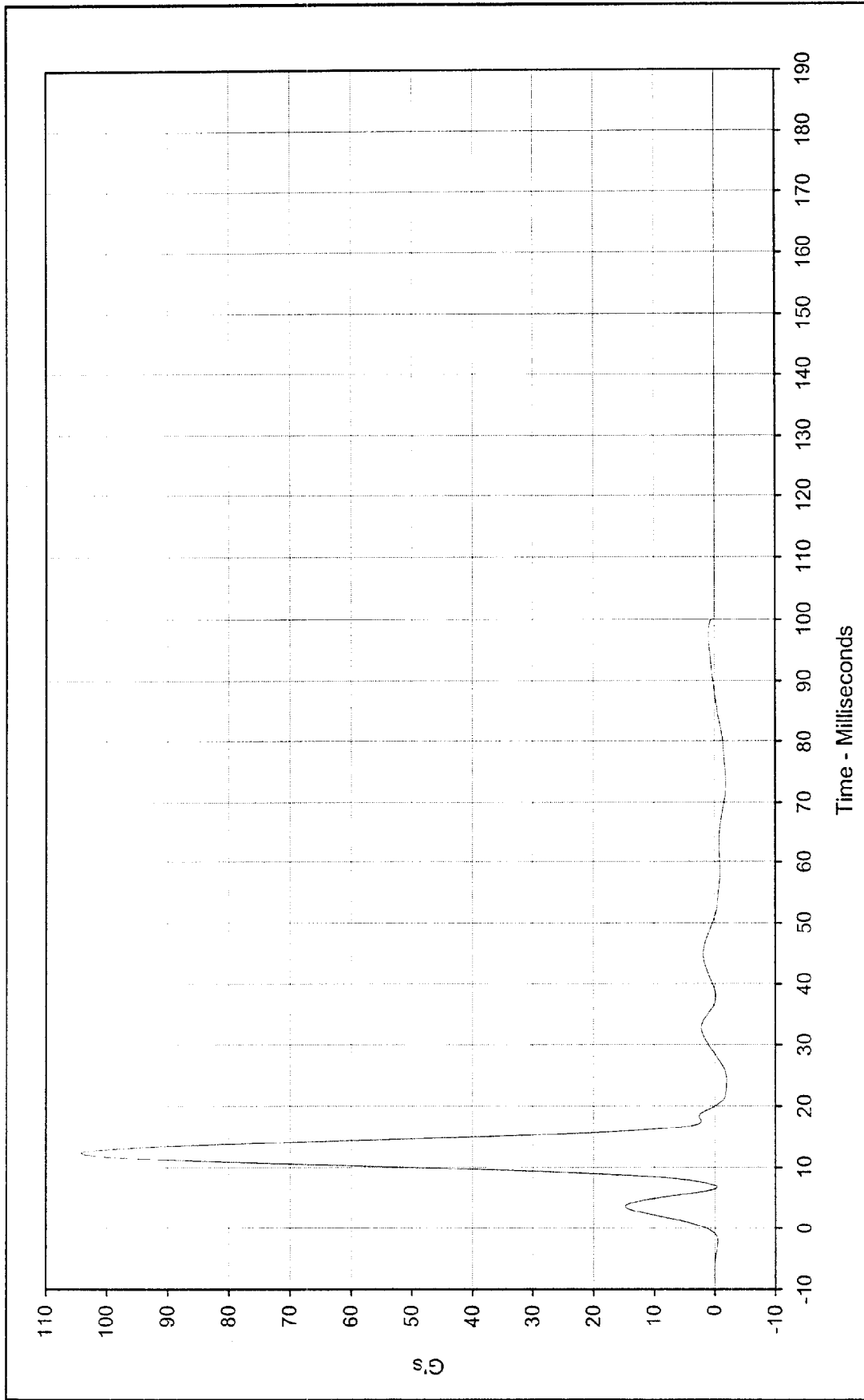




Curve Description: Left A-Post Middle Y Velocity
Maximum Value: 16.7 at 16.4 Milliseconds
Minimum Value: -0.4 at 1.5 Milliseconds
SAE Filter Class: 180
Date of Test: 02/29/00
Curve Number: IN1-047

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Left Front Seat Track Y * Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 104.2 at 12.3 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

Minimum Value: -2.0 at 24.3 Milliseconds

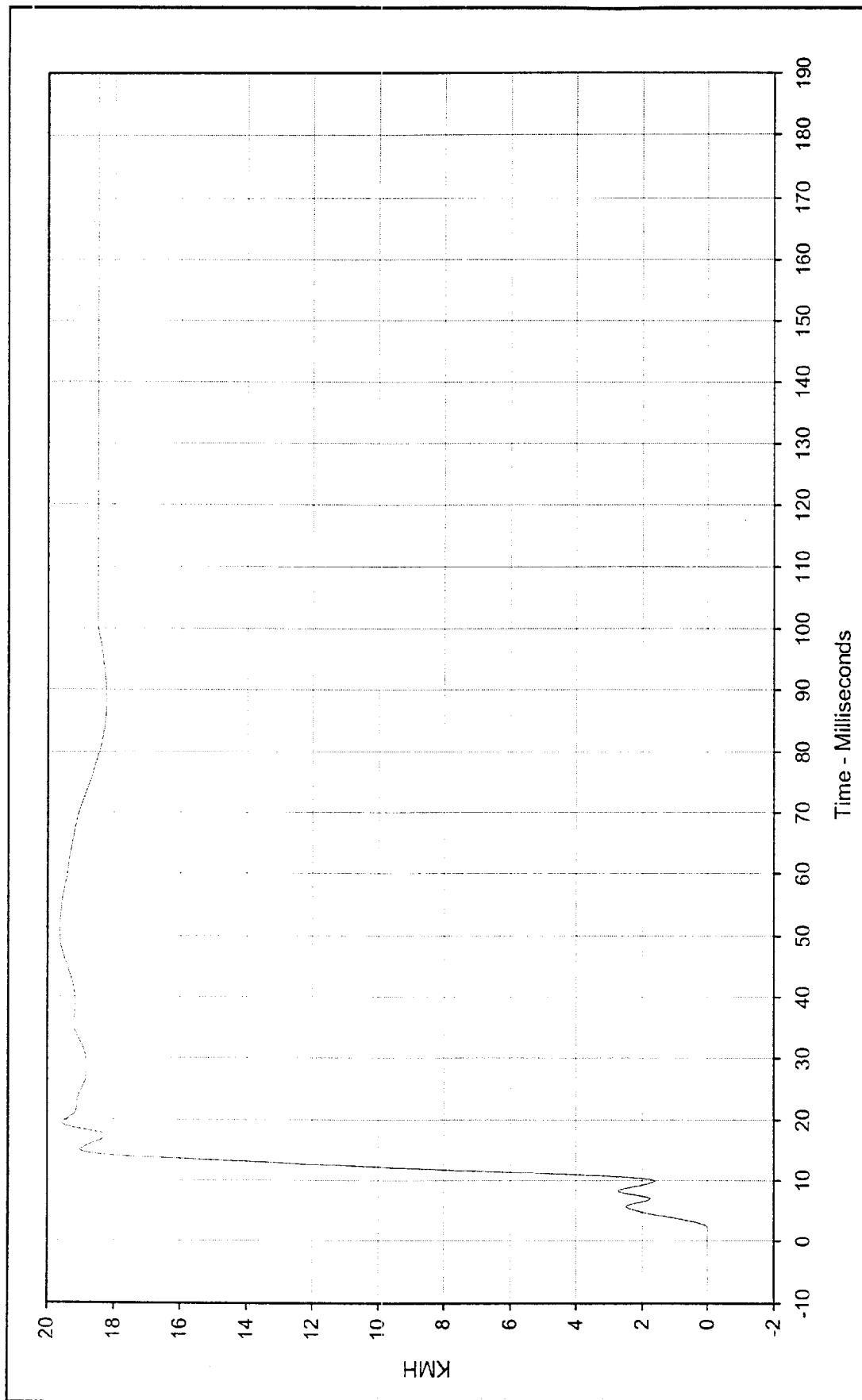
SAE Filter Class: 60

Date of Test: 02/29/00

Curve Number: FIL-048



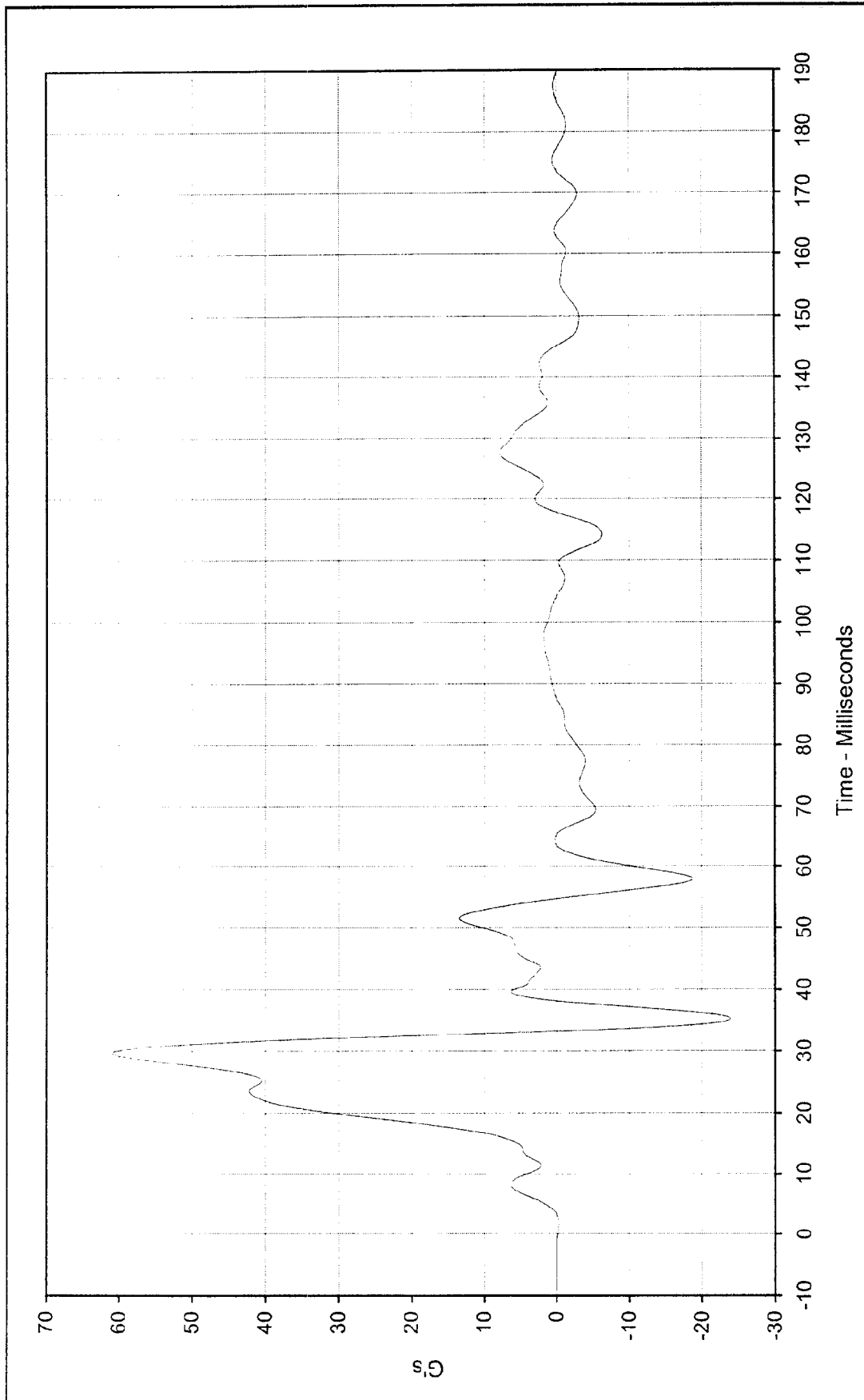
* Channel failed at 100.0 Msec.



Curve Description:	Left Front Seat Track Y Velocity	*	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	19.6	at 50.8 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	0.0	at 1.7 Milliseconds			
SAE Filter Class:	180				
Date of Test:	02/29/00				
Curve Number:	IN1-048				

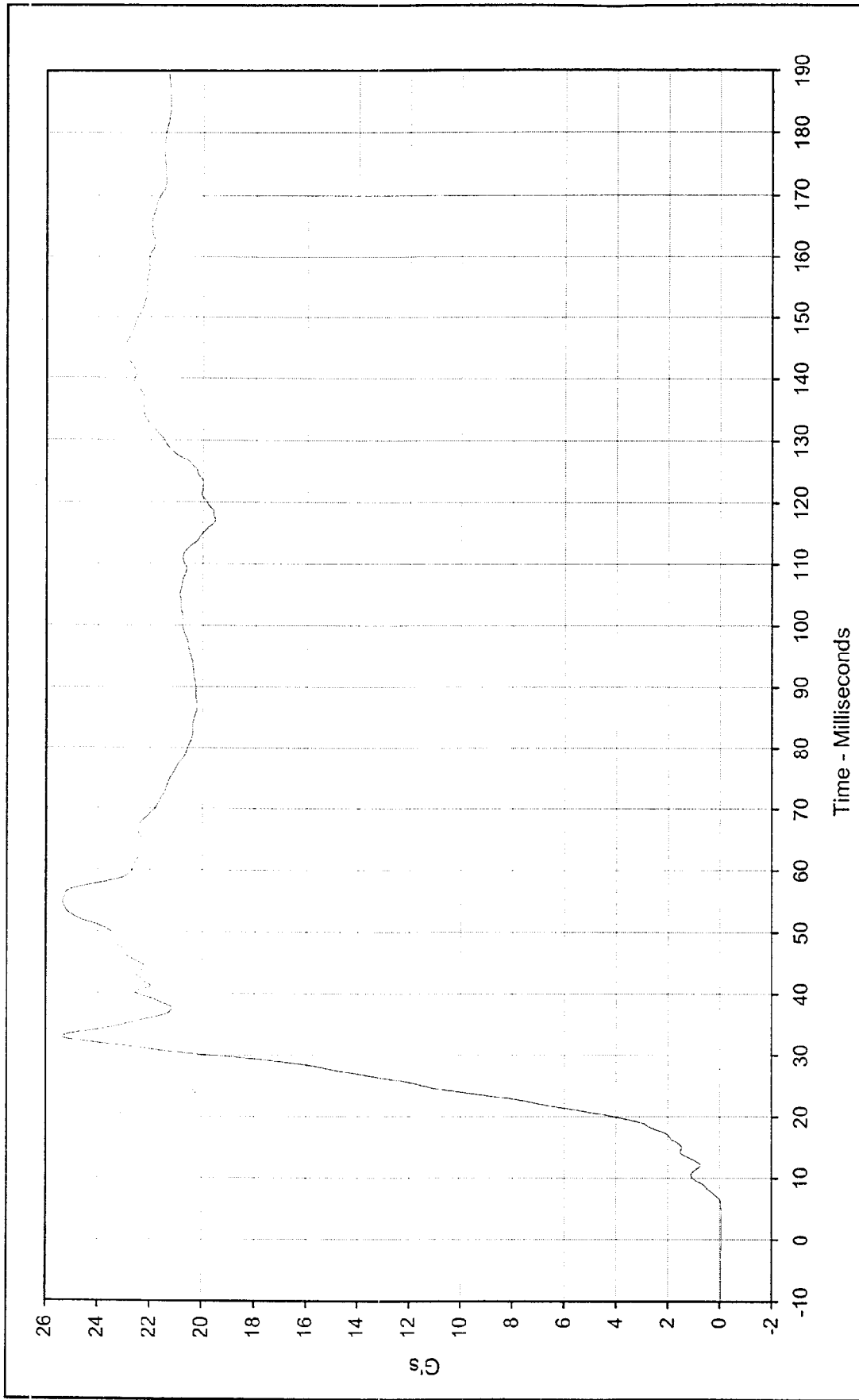


* Channel failed at 100.0 Msec.



Curve Description:	Left Rear Seat Structure Y	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	61.0 at 29.7 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-23.9 at 35.3 Milliseconds			
SAE Filter Class:	60			
Date of Test:	02/29/00			
Curve Number:	FIL-049			



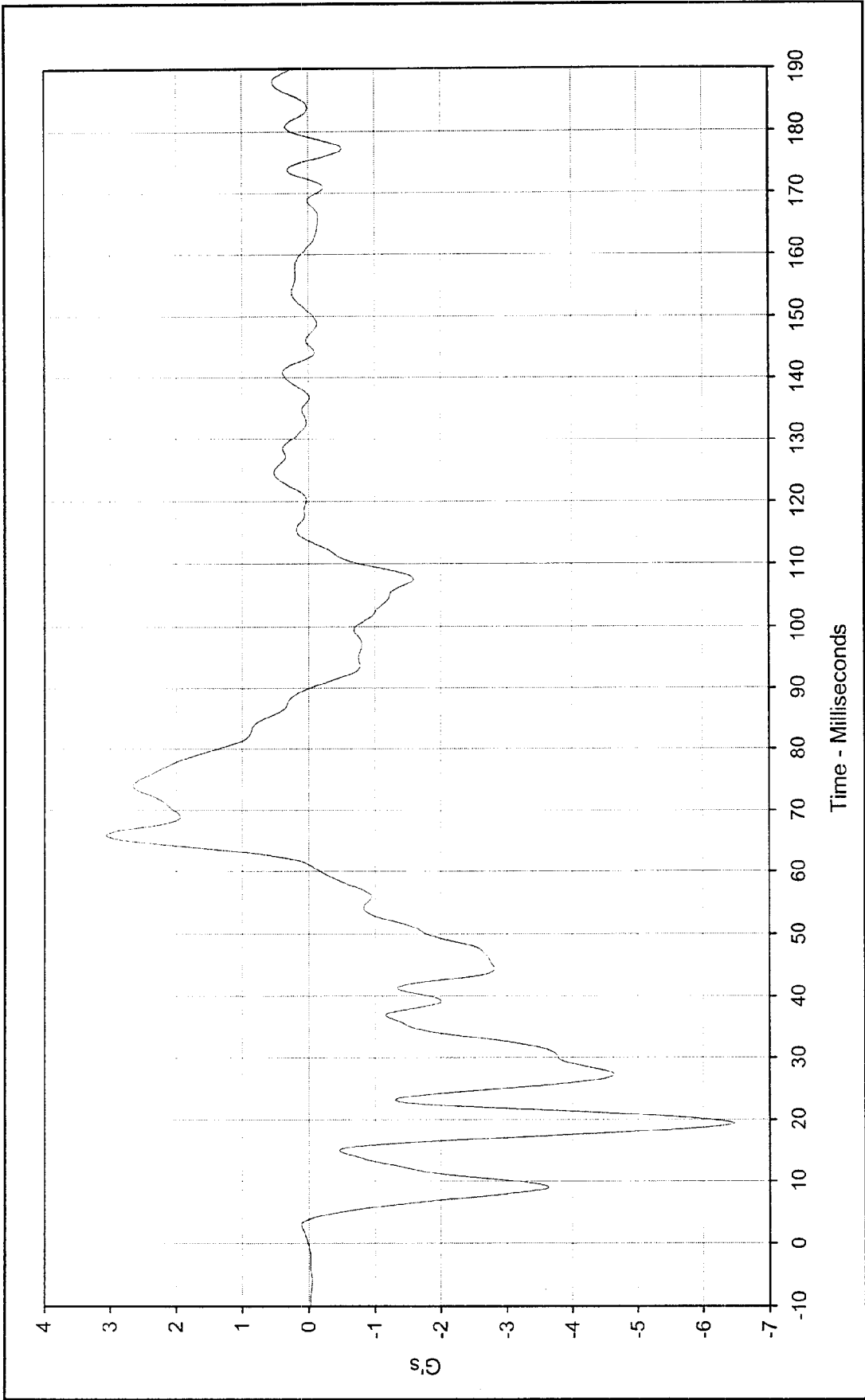


Curve Description: Left Rear Seat Structure Y Velocity

Maximum Value:	25.4	at	33.0	Milliseconds
Minimum Value:	-0.1	at	4.4	Milliseconds
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-049			

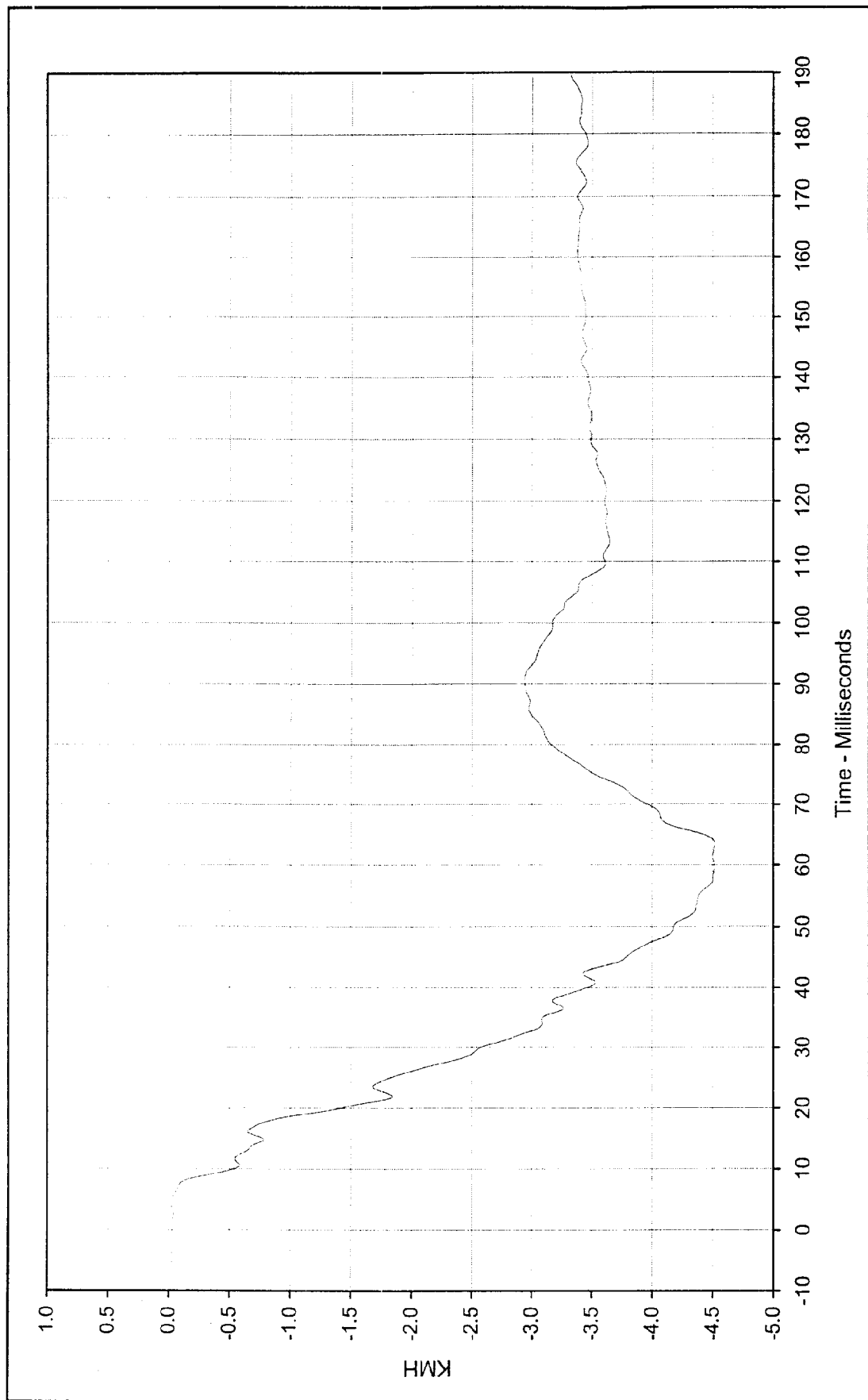
Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Test Vehicle:	2000 Mercury Villager Mini-Van	





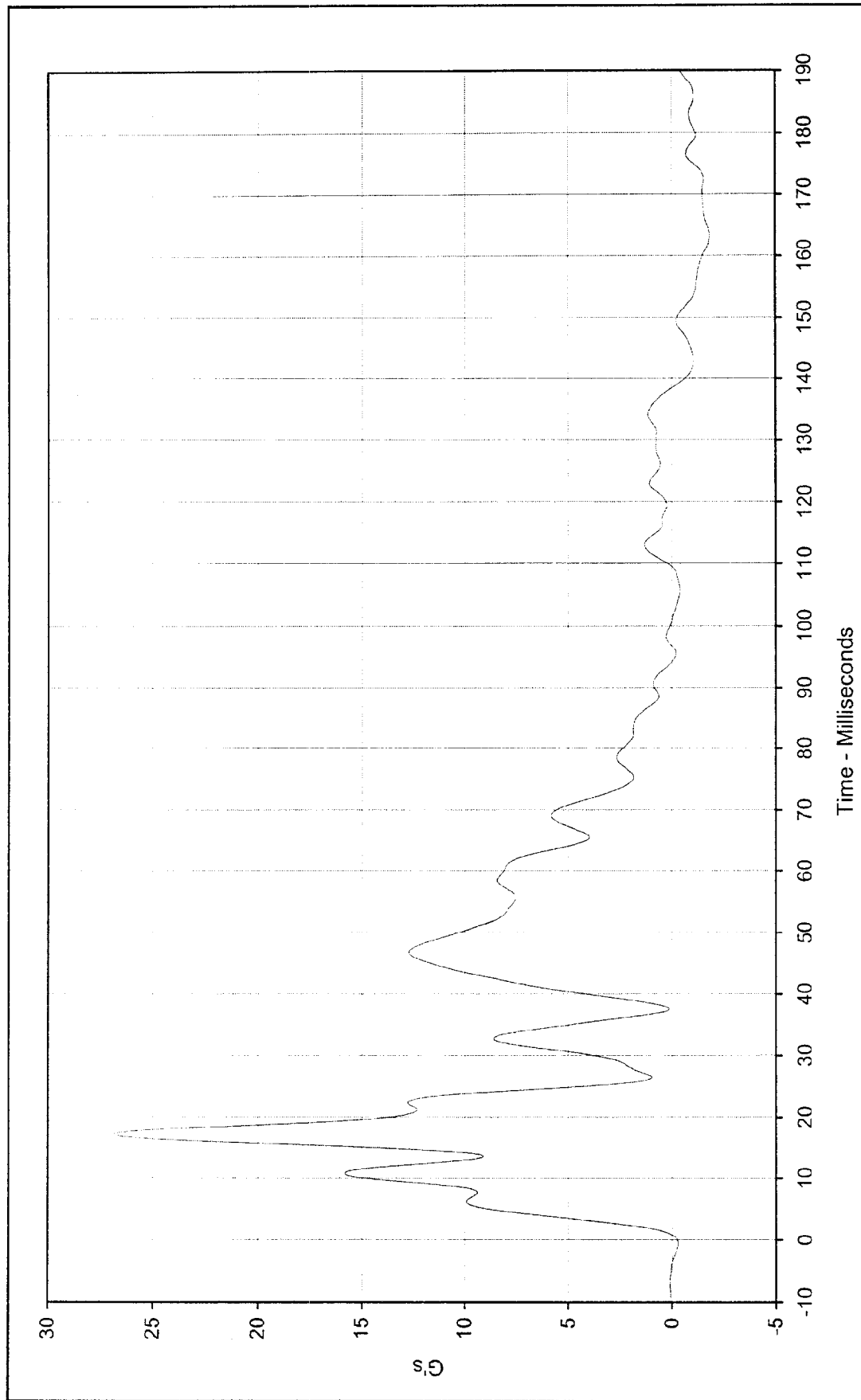
Curve Description:	Vehicle CG X		Test Program:	55/28 km/h Side Impact NCAP No.: MY0214	
Maximum Value:	3.1	at 65.9 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-6.5	at 19.4 Milliseconds			
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	FIL-050				





Curve Description:	Vehicle CG X Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	0.0 at 4.4 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-4.5 at 63.5 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-050			





Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

Curve Description: Vehicle CG Y

Maximum Value: 26.9 at 17.1 Milliseconds

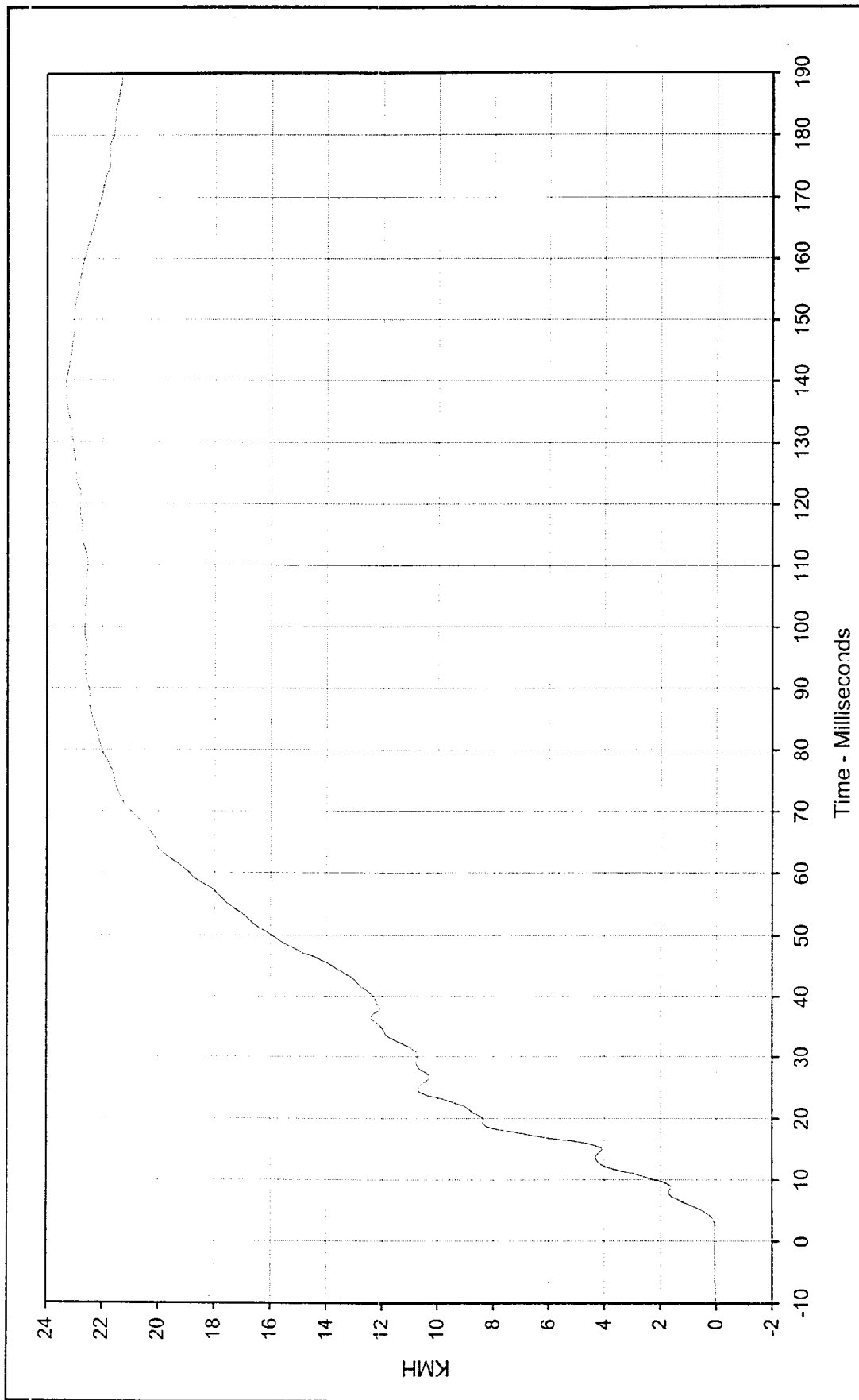
Minimum Value: -1.8 at 163.5 Milliseconds

SAE Filter Class: 60

Date of Test: 02/29/00

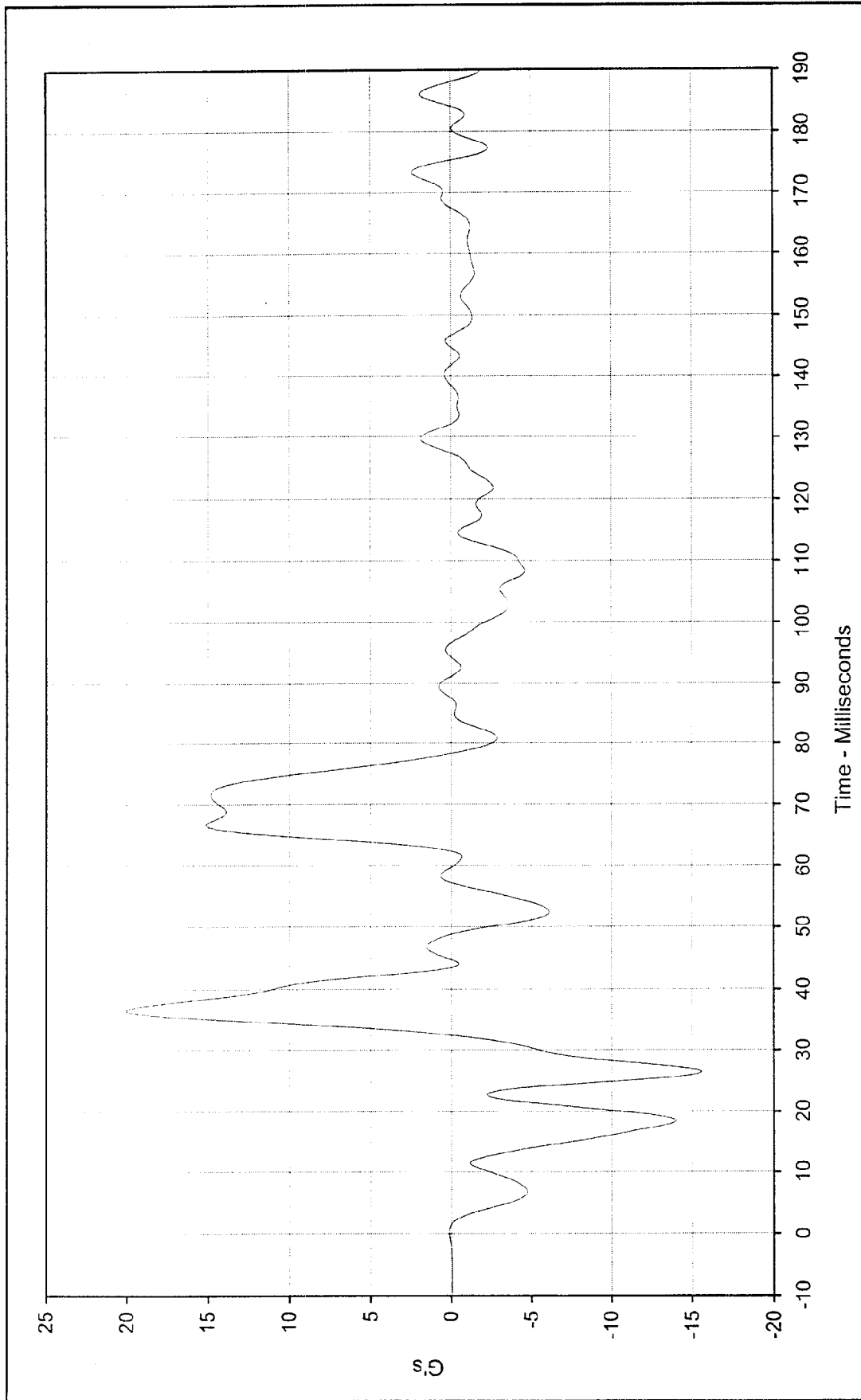
Curve Number: FIL-051





Curve Description:	Vehicle CG Y Velocity	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	23.3 at 138.8 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	0.1 at 2.5 Milliseconds			
SAE Filter Class:	180			
Date of Test:	02/29/00			
Curve Number:	IN1-051			

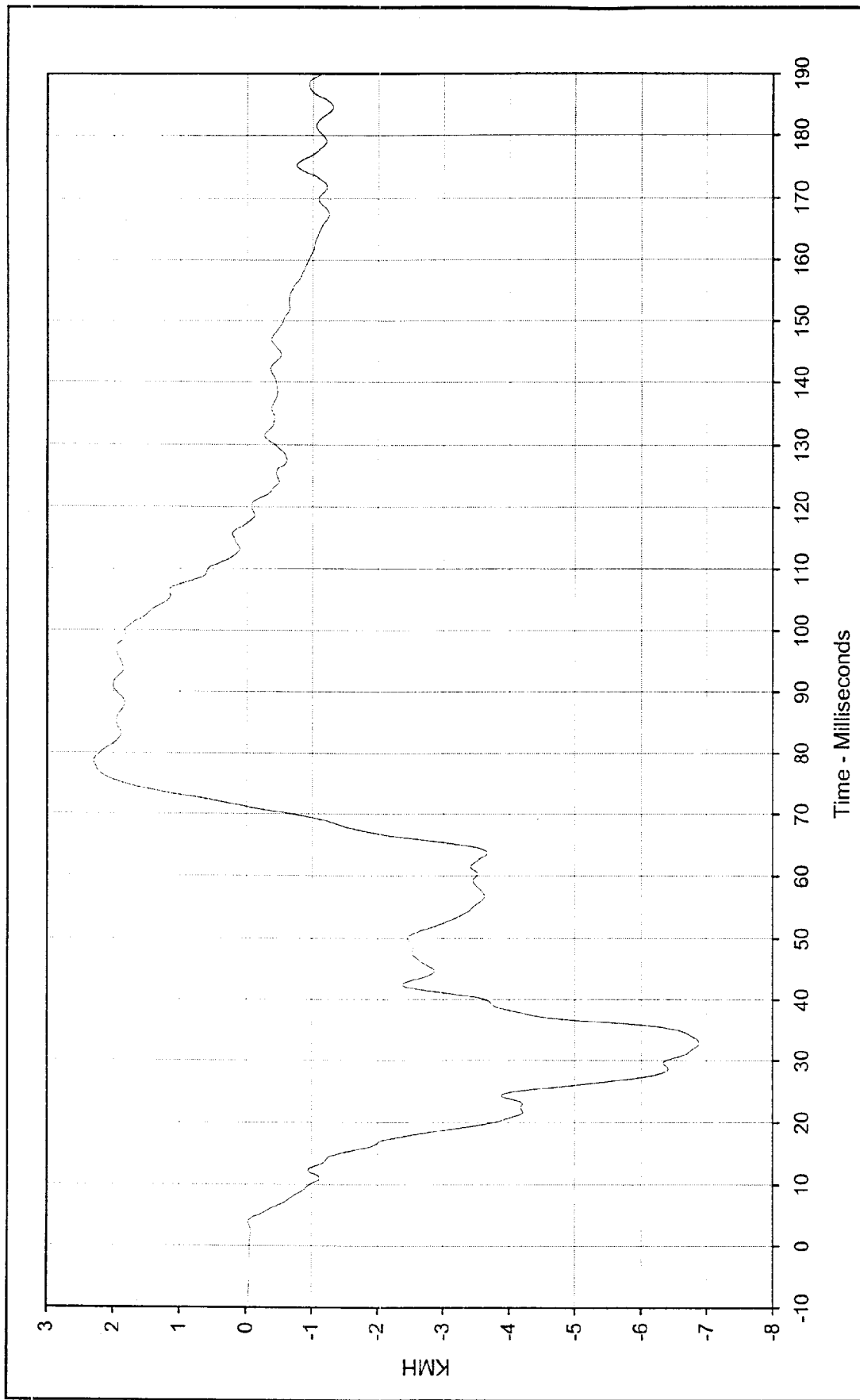




Curve Description:		Vehicle CG Z		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	20.1	at	36.6	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-15.6	at	26.4			
SAE Filter Class:	60					
Date of Test:	02/29/00					
Curve Number:	FIL-052					

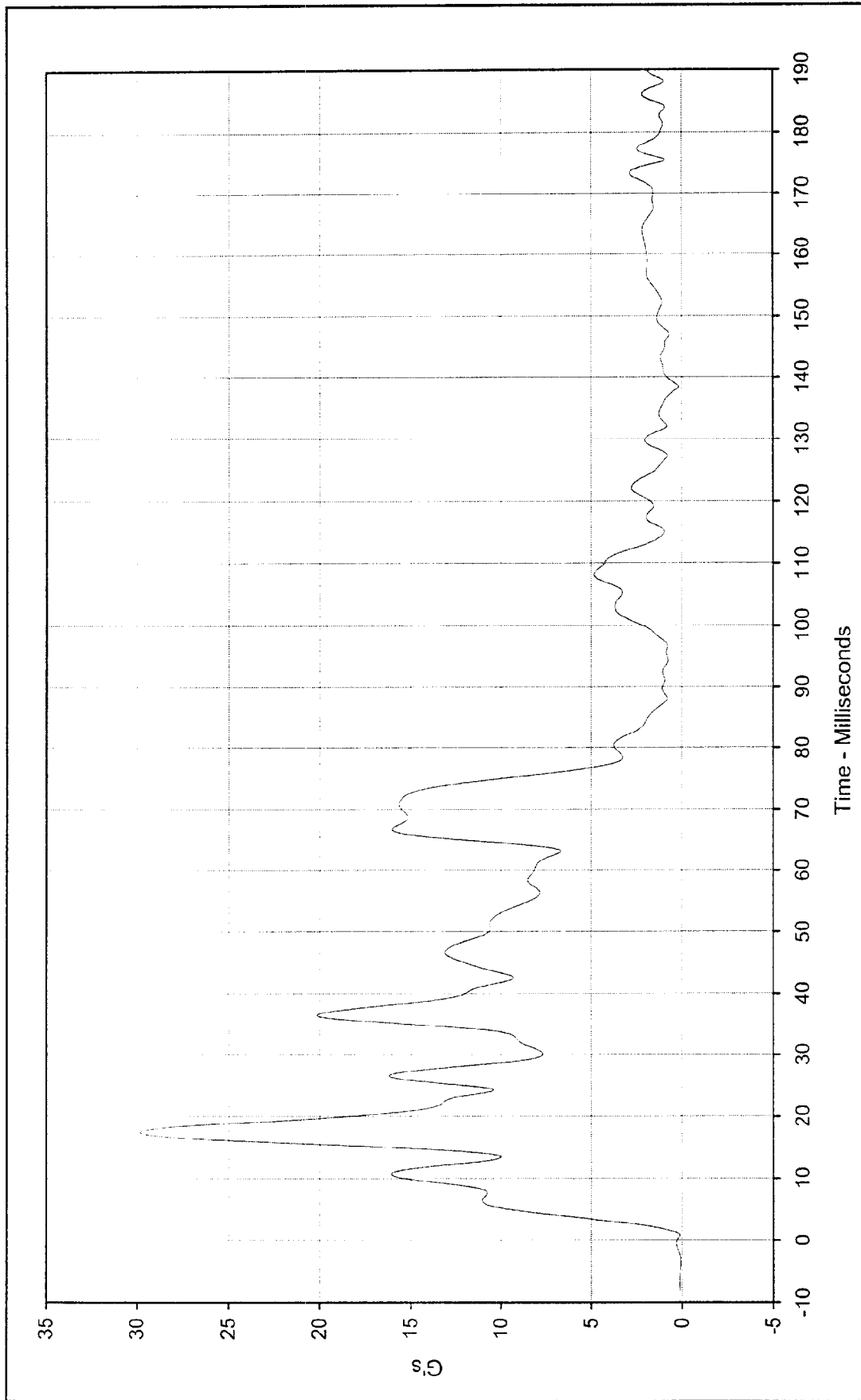
The logo for KARCO Engineering. It features a stylized lightbulb with a gear-like base, positioned to the left of the word "KARCO" in a bold, sans-serif font. To the right of "KARCO", the word "Engineering" is written in a script font, slanted upwards. The entire logo is set against a background that is black on the left and white on the right, separated by a diagonal line.





Curve Description:	Vehicle CG Z Velocity		Test Program:	55/28 km/h Side Impact NCAP No.: MY0214	
Maximum Value:	2.3	at 78.6 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-6.9	at 33.0 Milliseconds			
SAE Filter Class:	180				
Date of Test:	02/29/00				
Curve Number:	IN1-052				



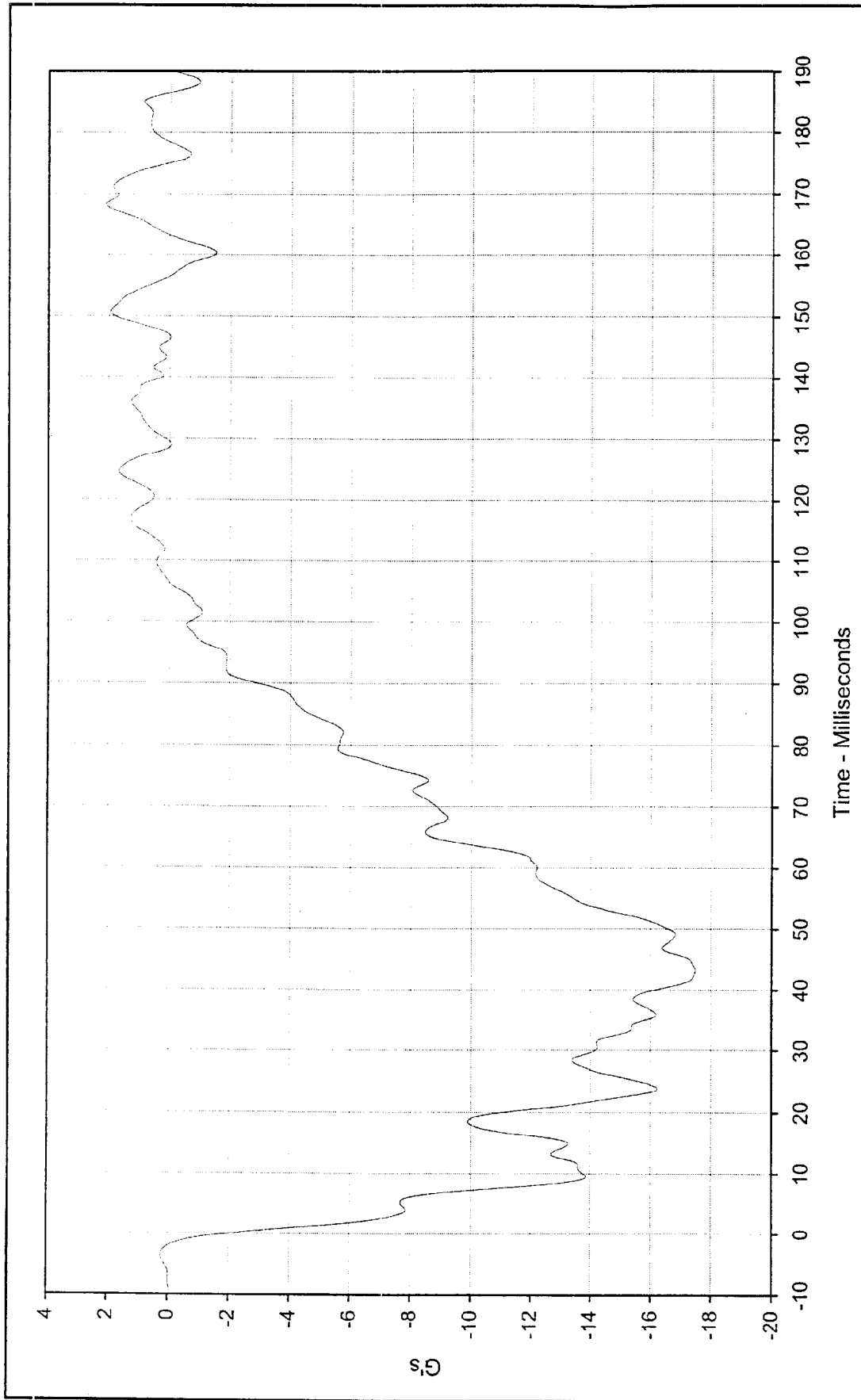


Curve Description:	Vehicle CG Resultant		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	29.9	at 17.3	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	0.1	at 0.7			
SAE Filter Class:	60				
Date of Test:	02/29/00				
Curve Number:	RES-050				



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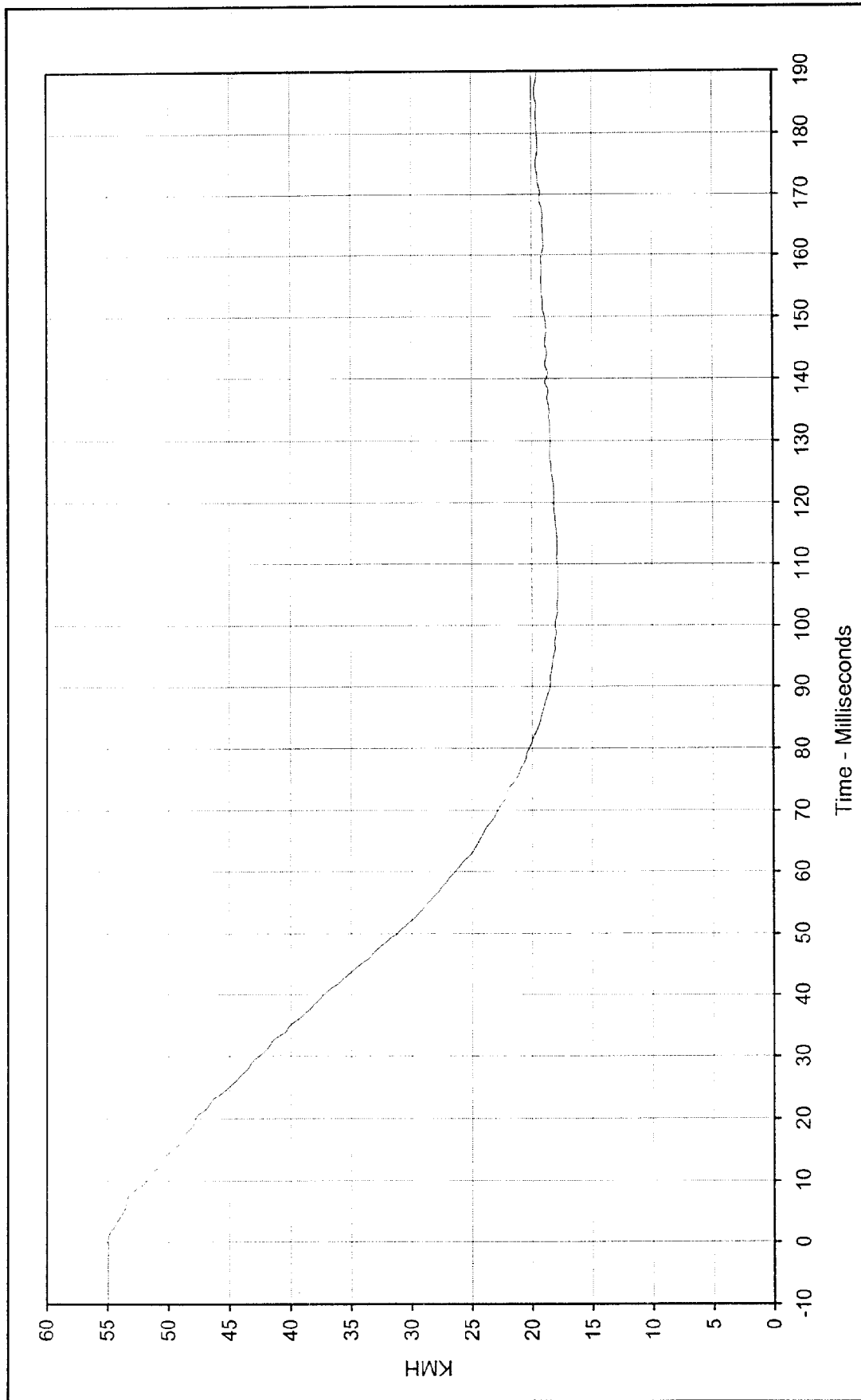




Curve Description:		MDB CG X		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	2.1	at	168.3	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-17.5	at	43.2			
SAE Filter Class:	60					
Date of Test:	02/29/00					
Curve Number:	FIL-053					

The logo for KARCO Engineering features a stylized lightbulb with a checkered pattern inside, positioned to the left of the word "KARCO" in a large, bold, sans-serif font. Below "KARCO", the word "Engineering" is written in a smaller, italicized, sans-serif font. The entire logo is set against a black background with a white diagonal stripe.

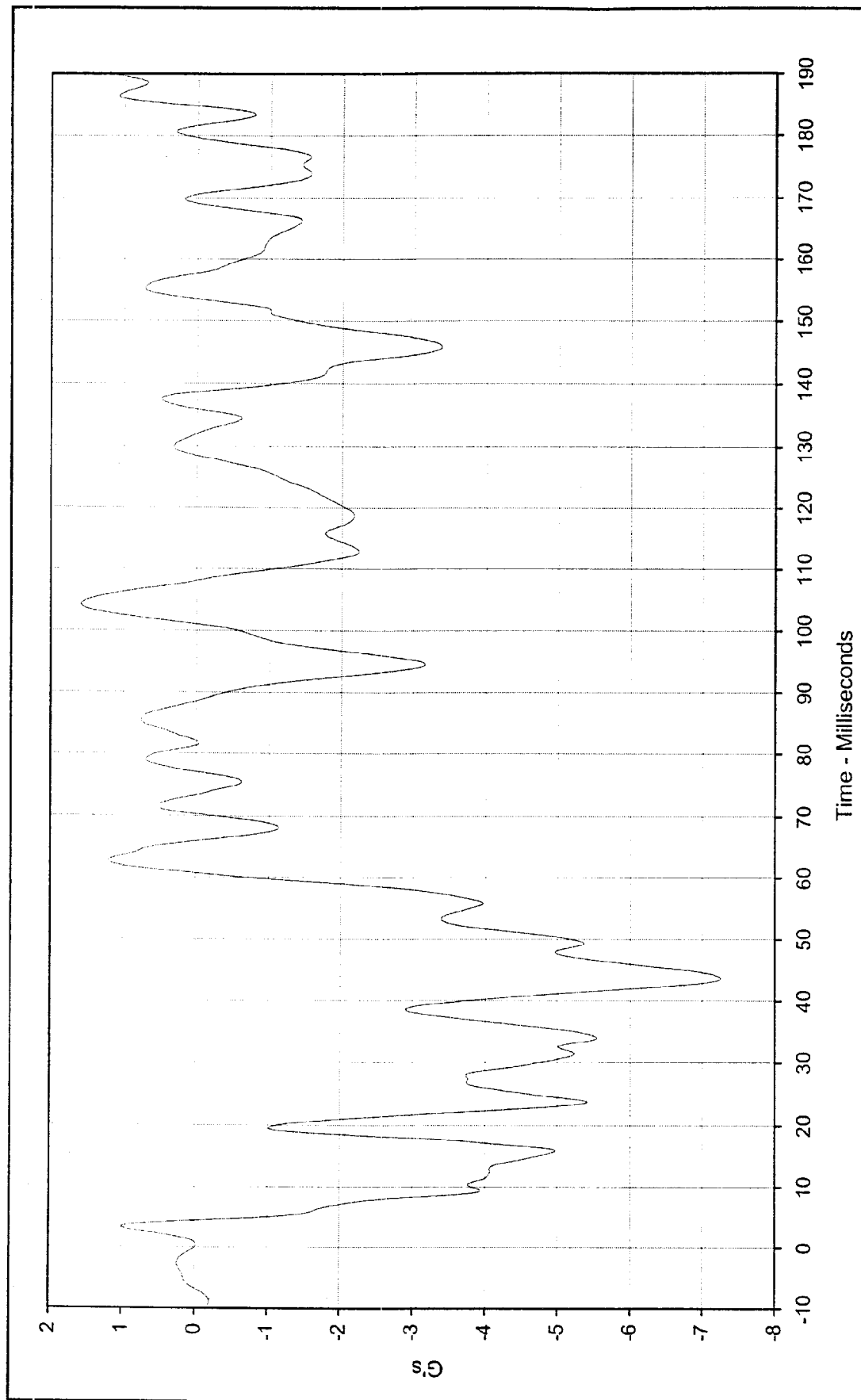




Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van



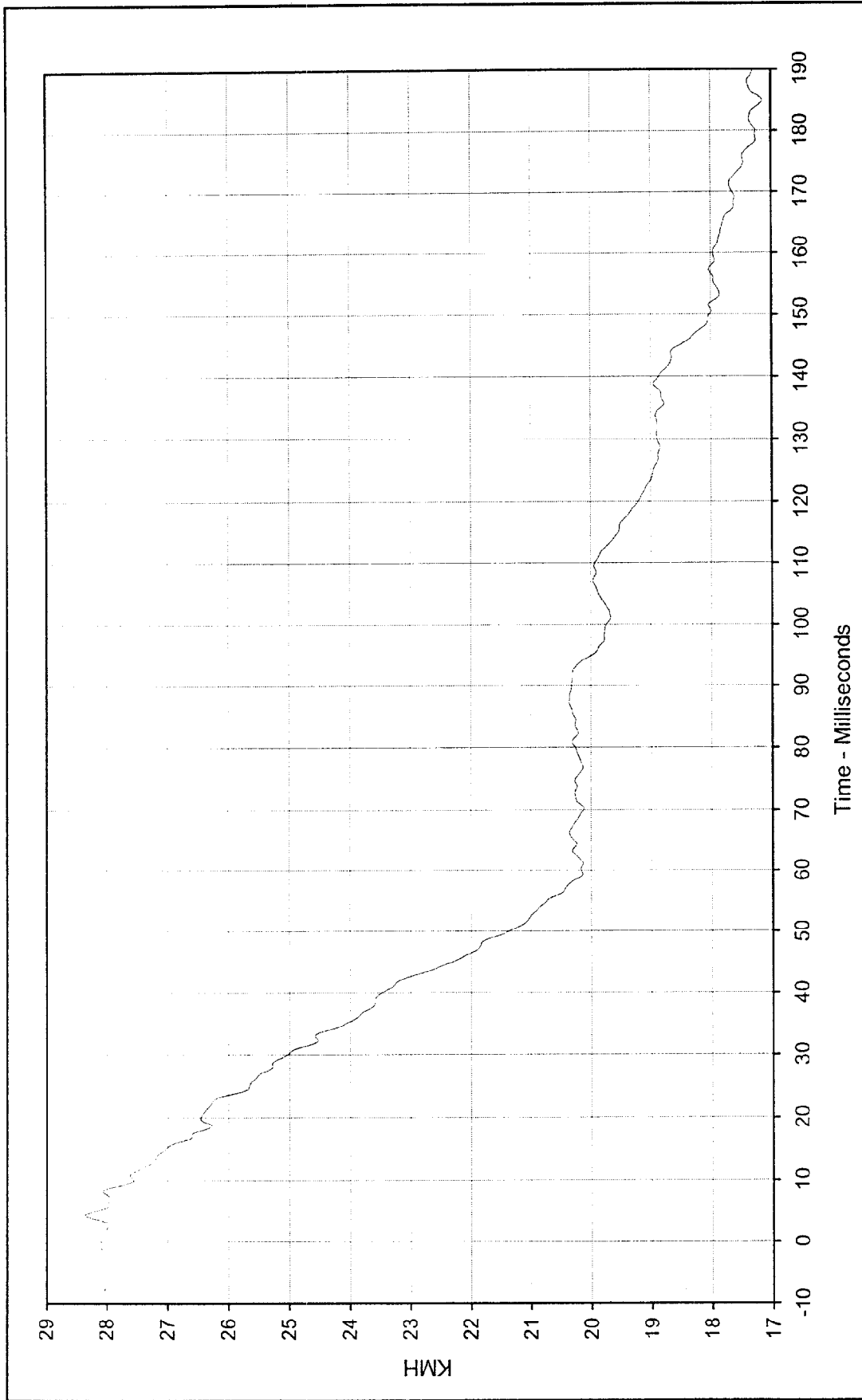
Curve Description: MDB CG X Velocity
 Maximum Value: 54.9 at 0.3 Milliseconds
 Minimum Value: 17.8 at 105.2 Milliseconds
 SAE Filter Class: 180
 Date of Test: 02/29/00
 Curve Number: IN1-053



Curve Description:		MDB CG Y		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	1.6	at	104.2	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-7.3	at	43.6			
SAE Filter Class:	60					
Date of Test:	02/29/00					
Curve Number:	FIL-054					







Curve Description: MDB CG Y Velocity

Maximum Value: 28.4 at 4.4 Milliseconds

Minimum Value: 17.1 at 184.9 Milliseconds

SAE Filter Class: 180

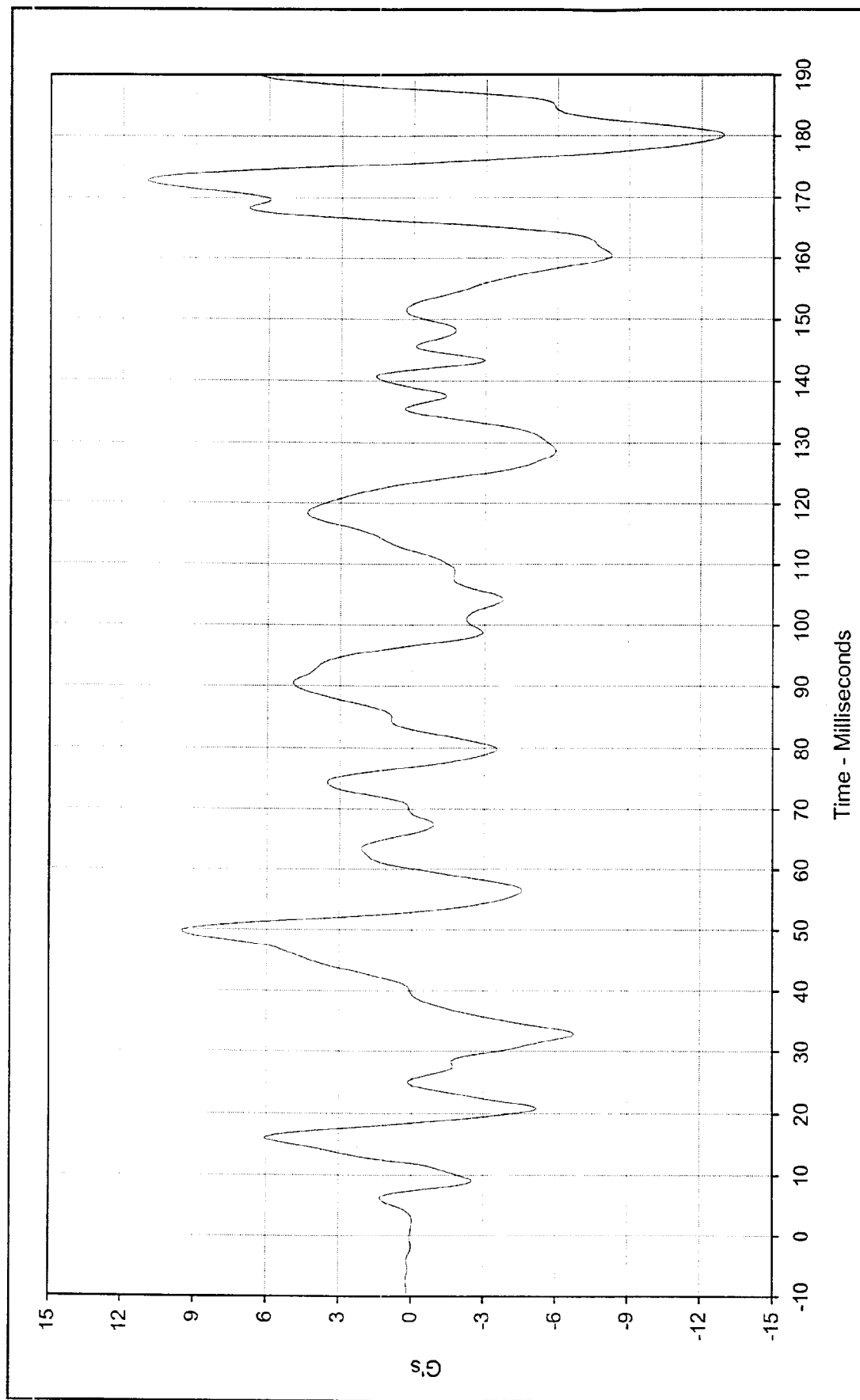
Date of Test: 02/29/00

Curve Number: IN1-054

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: MDB CG Z

Maximum Value: 11.0 at 172.8 Milliseconds

Minimum Value: -12.9 at 180.1 Milliseconds

SAE Filter Class: 60

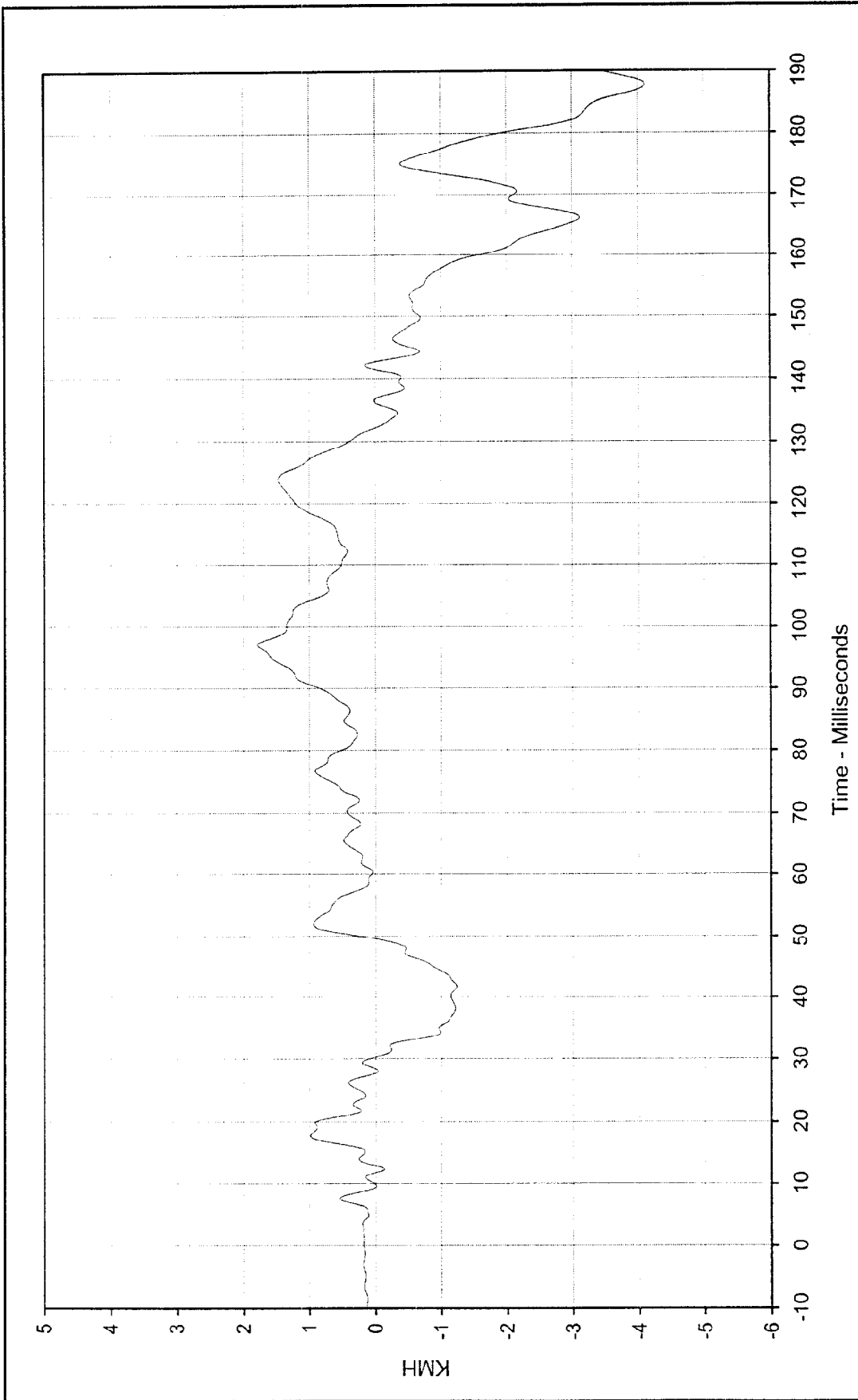
Date of Test: 02/29/00

Curve Number: FIL-055

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

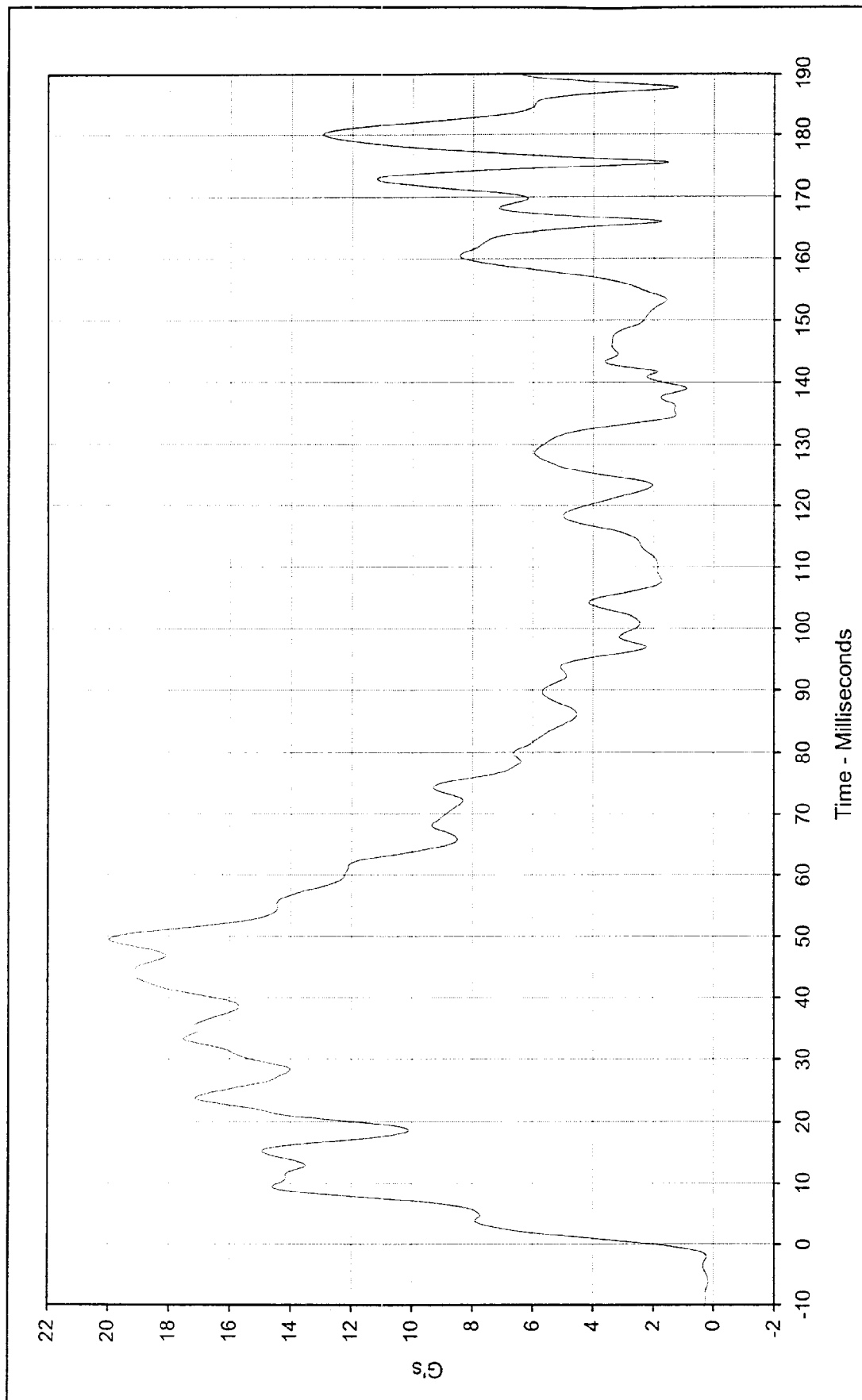
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:		MDB CG Z Velocity		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	1.8	at	97.1	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-4.1	at	187.8			
SAE Filter Class:	180					
Date of Test:	02/29/00					
Curve Number:	IN1-055					





Curve Description: MDB CG Resultant Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 20.0 at 49.5 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

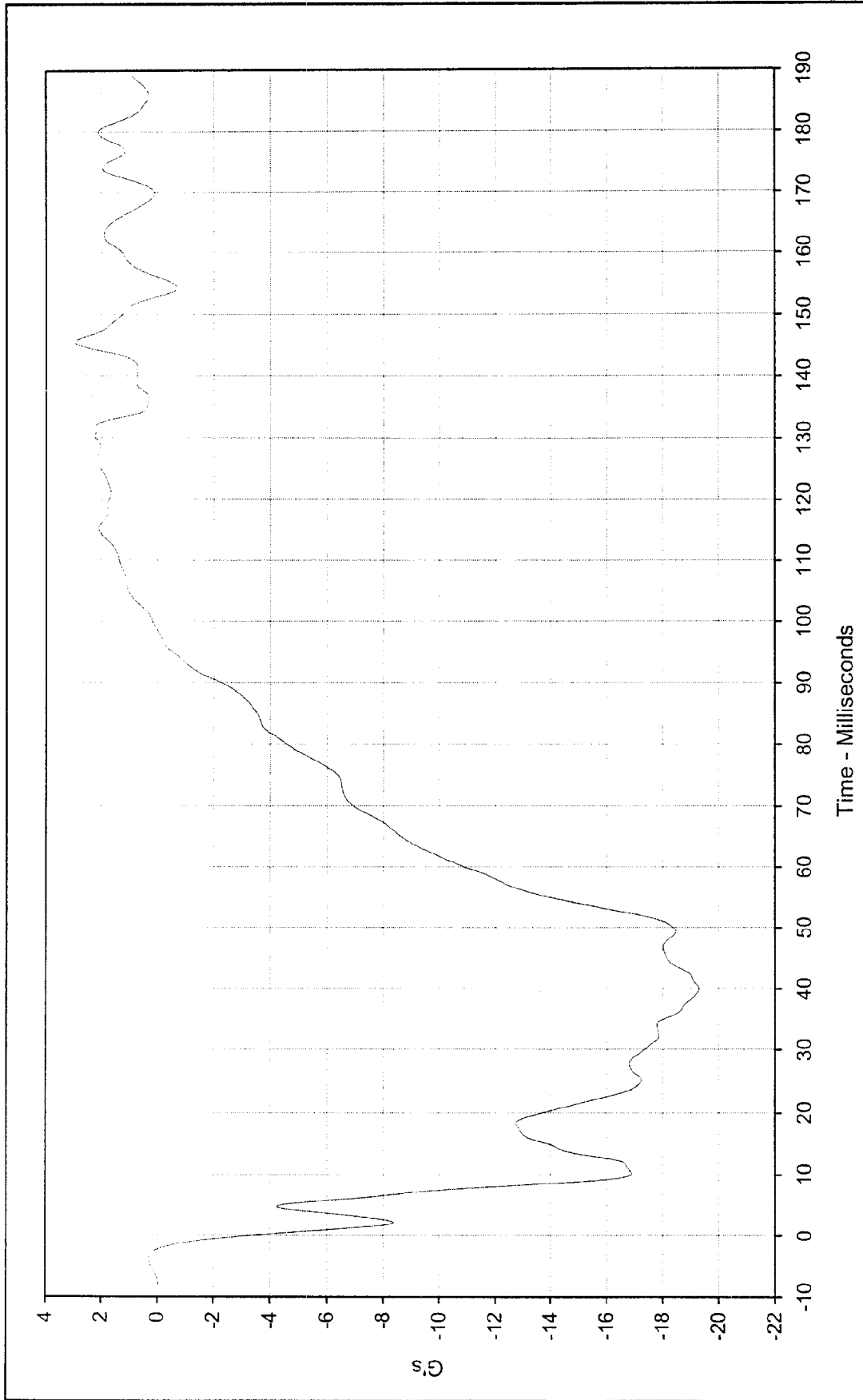
Minimum Value: 0.9 at 139.0 Milliseconds

SAE Filter Class: 60

Date of Test: 02/29/00

Curve Number: RES-053



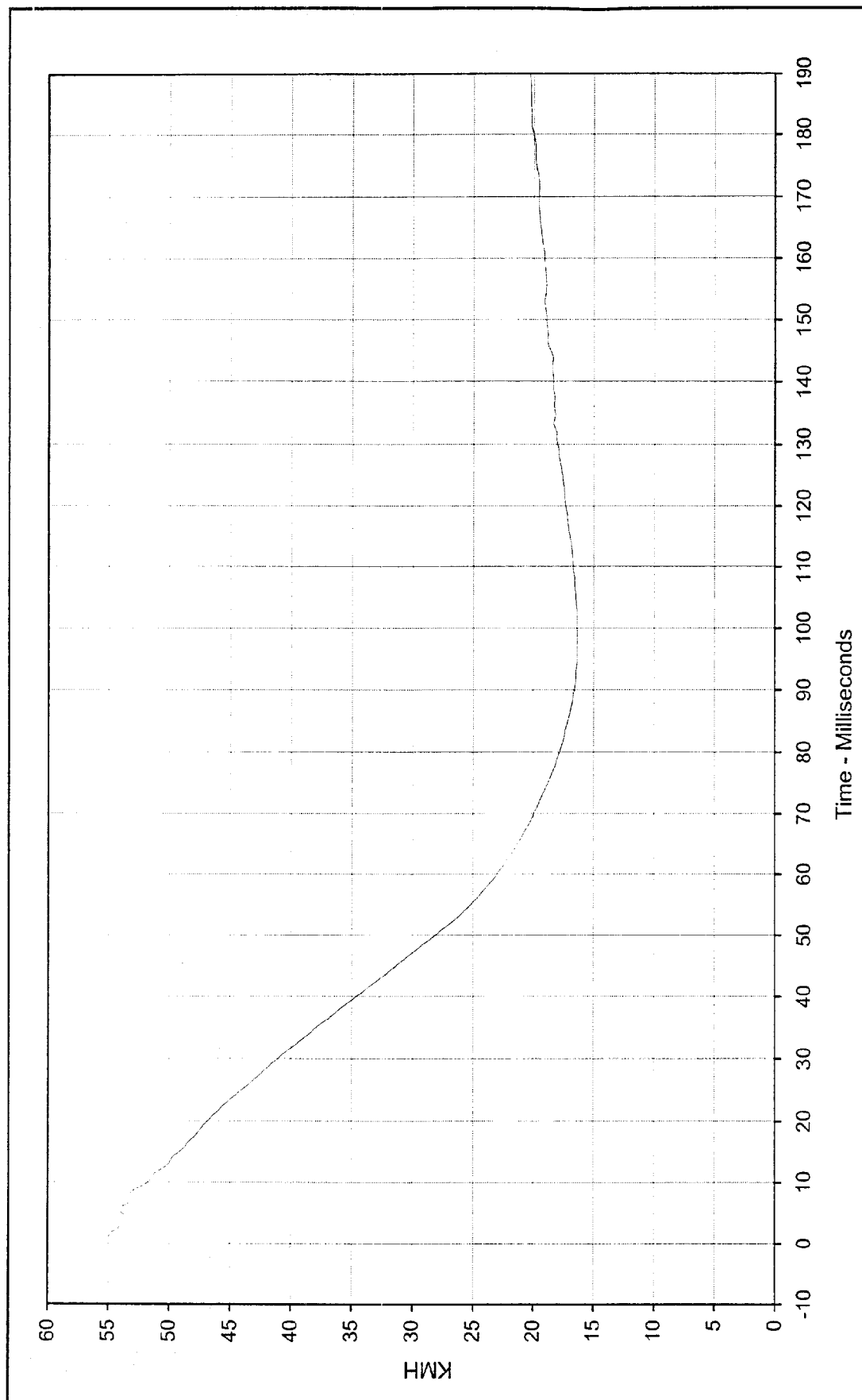


Curve Description:		MDB Rear X		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	3.0	at	145.5	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-19.3	at	40.0			
SAE Filter Class:	60					
Date of Test:	02/29/00					
Curve Number:	FIL-056					



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Curve Description: 55/28 km/h Side Impact NCAP No.: MY0214

Test Program: 2000 Mercury Villager Mini-Van

Test Vehicle:

MDB Rear X Velocity

Maximum Value: 55.0 at 0.5 Milliseconds

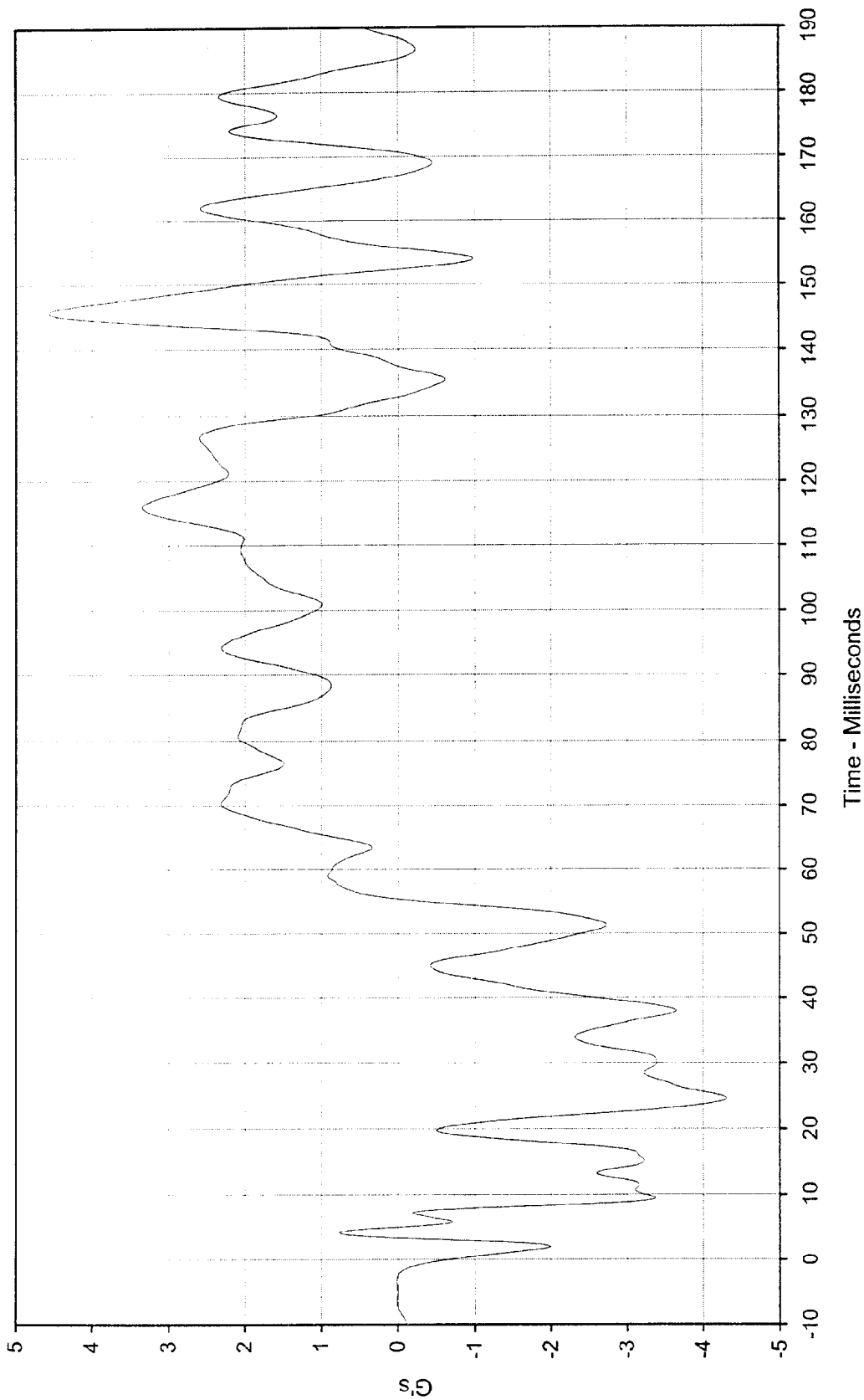
Minimum Value: 16.4 at 98.9 Milliseconds

SAE Filter Class: 180

Date of Test: 02/29/00

Curve Number: IN1-056





Curve Description:

MDB Rear Y

Test Program:

55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value:

4.6 at 145.8 Milliseconds

Minimum Value:

-4.3 at 24.6 Milliseconds

SAE Filter Class:

60

Date of Test:

02/29/00

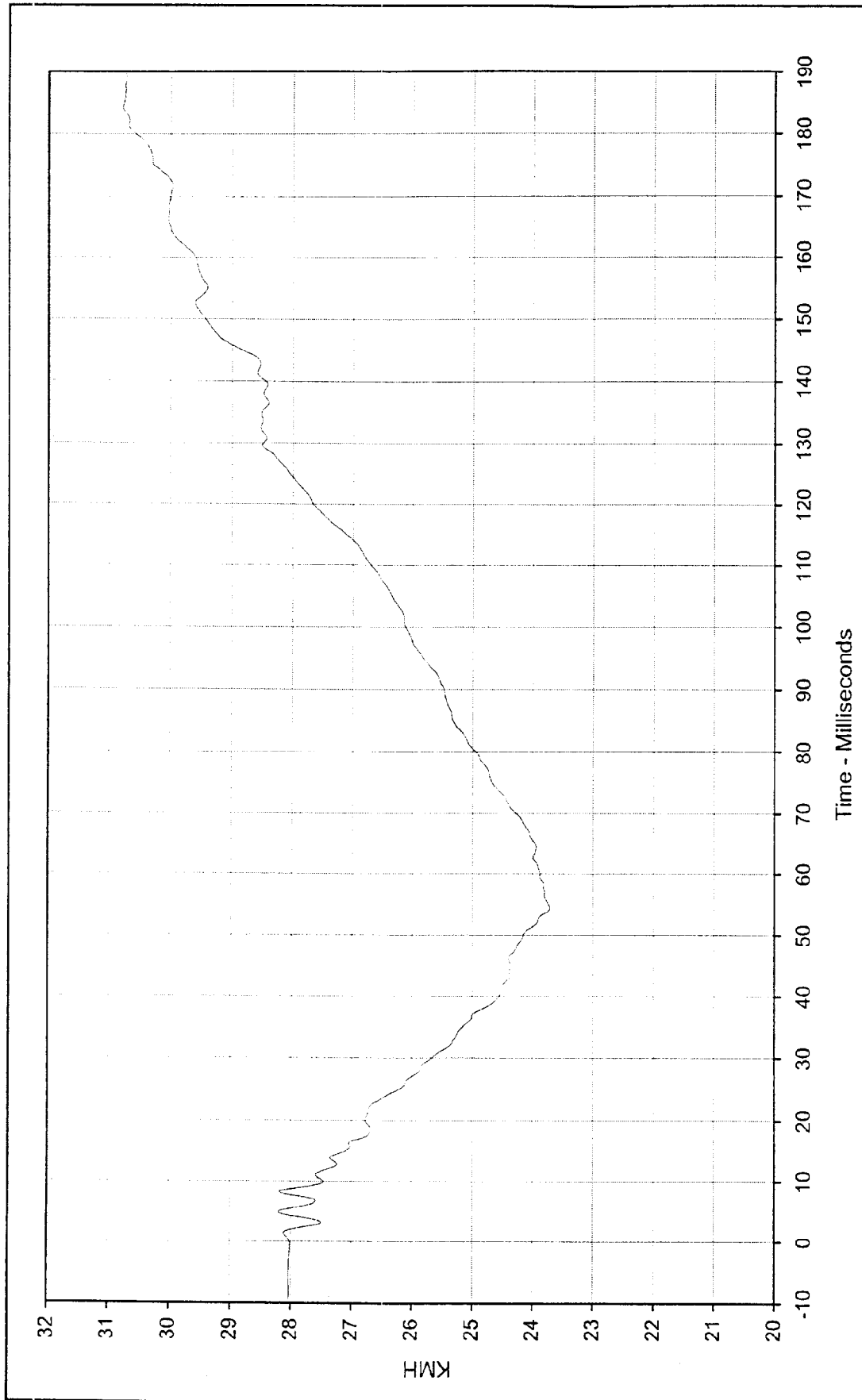
Curve Number:

FIL-057

Test Vehicle:

2000 Mercury Villager Mini-Van

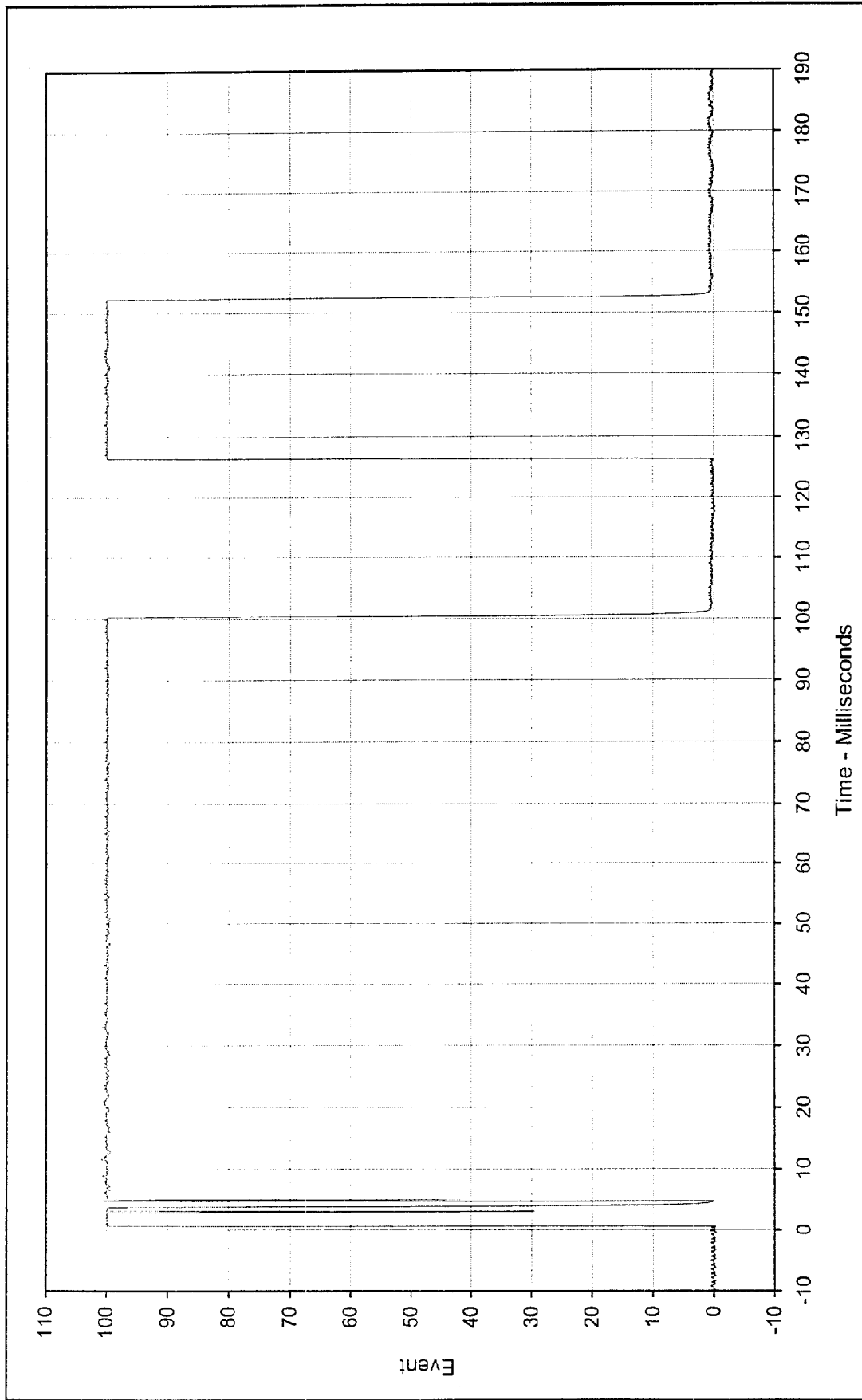




Curve Description:		MDB Rear Y Velocity		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	30.8	at	184.3	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	23.7	at	54.4			
SAE Filter Class:	180					
Date of Test:	02/29/00					
Curve Number:	IN1-057					

The logo for KARCO Engineering. It features a stylized lightbulb icon with a circular arrow inside, positioned to the left of the word "KARCO" in a bold, sans-serif font. Below "KARCO" is the word "Engineering" in a script font. The entire logo is set against a black background with a white diagonal stripe.





Curve Description: MDB Right Bumper Contact Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 100.8 at 11.6 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

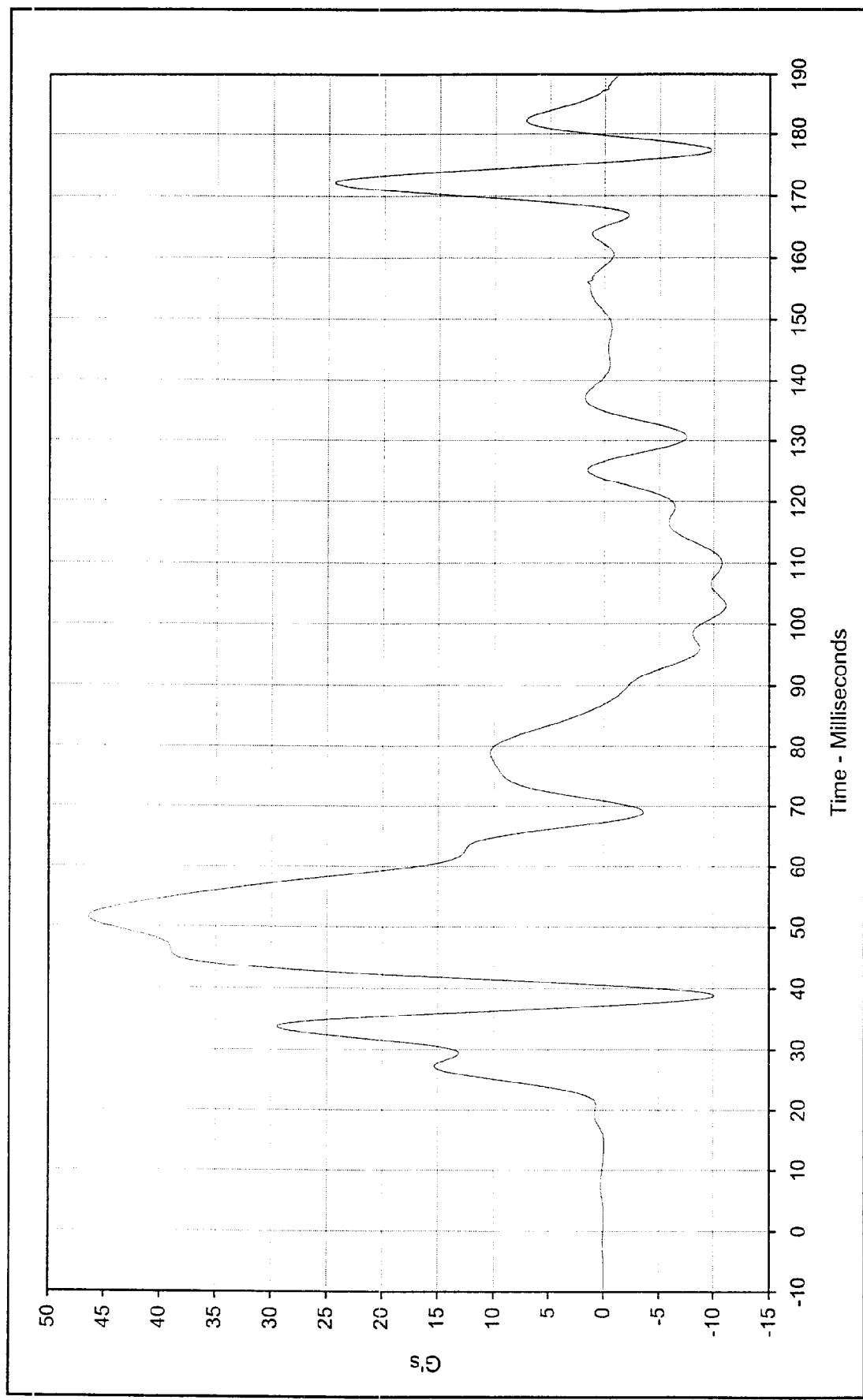
Crossing Point: 50% at 0.6 Milliseconds

SAE Filter Class: 1000

Date of Test: 02/29/00

Curve Number: FIL-058





Curve Description: Driver Upper Rib Primary Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 46.4 at 51.5 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

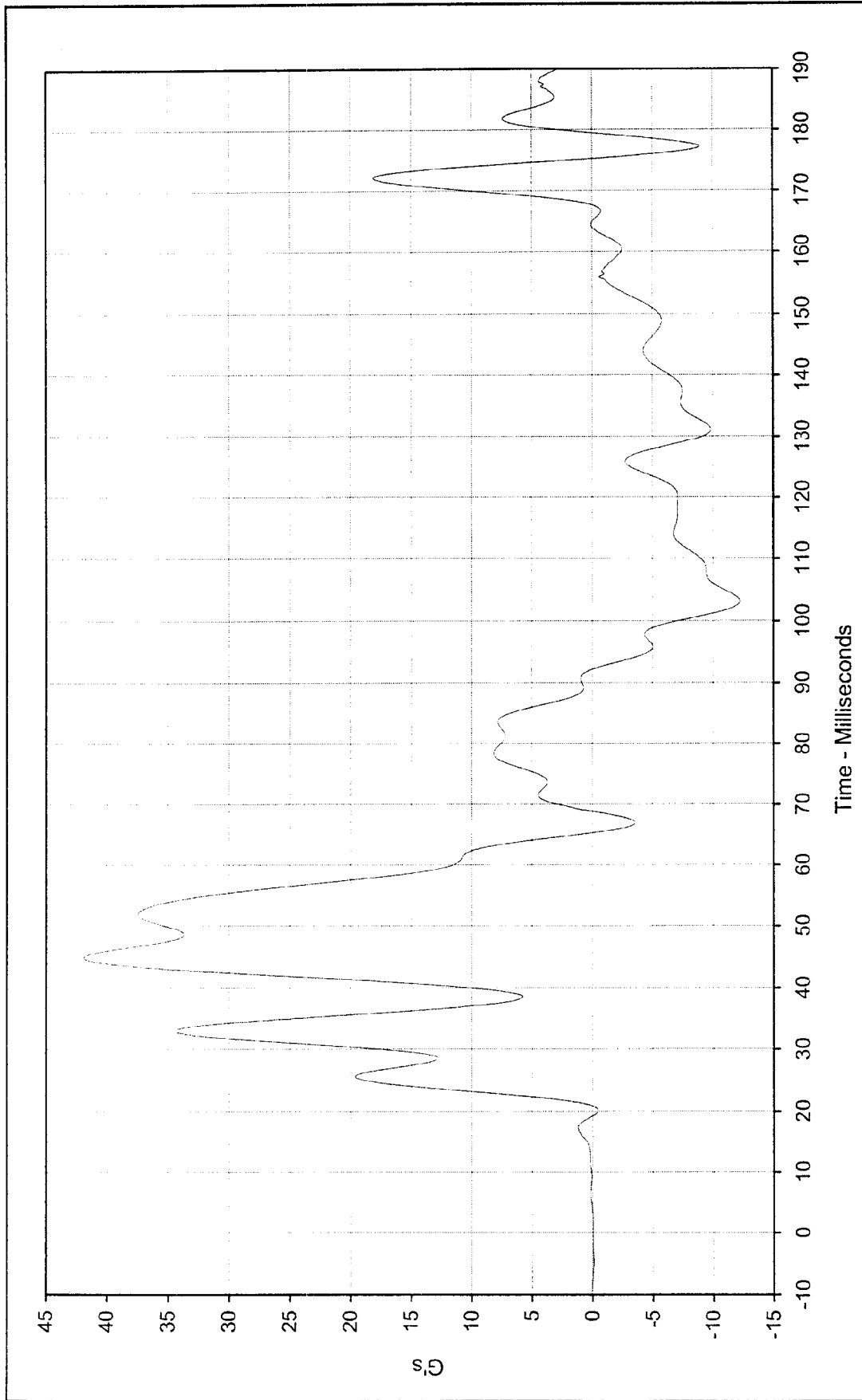
Minimum Value: -11.1 at 103.0 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 02/29/00

Curve Number: FIR-004





Curve Description: Driver Lower Rib Primary

Maximum Value: 41.9 at 44.8 Milliseconds

Minimum Value: -12.2 at 103.1 Milliseconds

SAE Filter Class: FIR 100

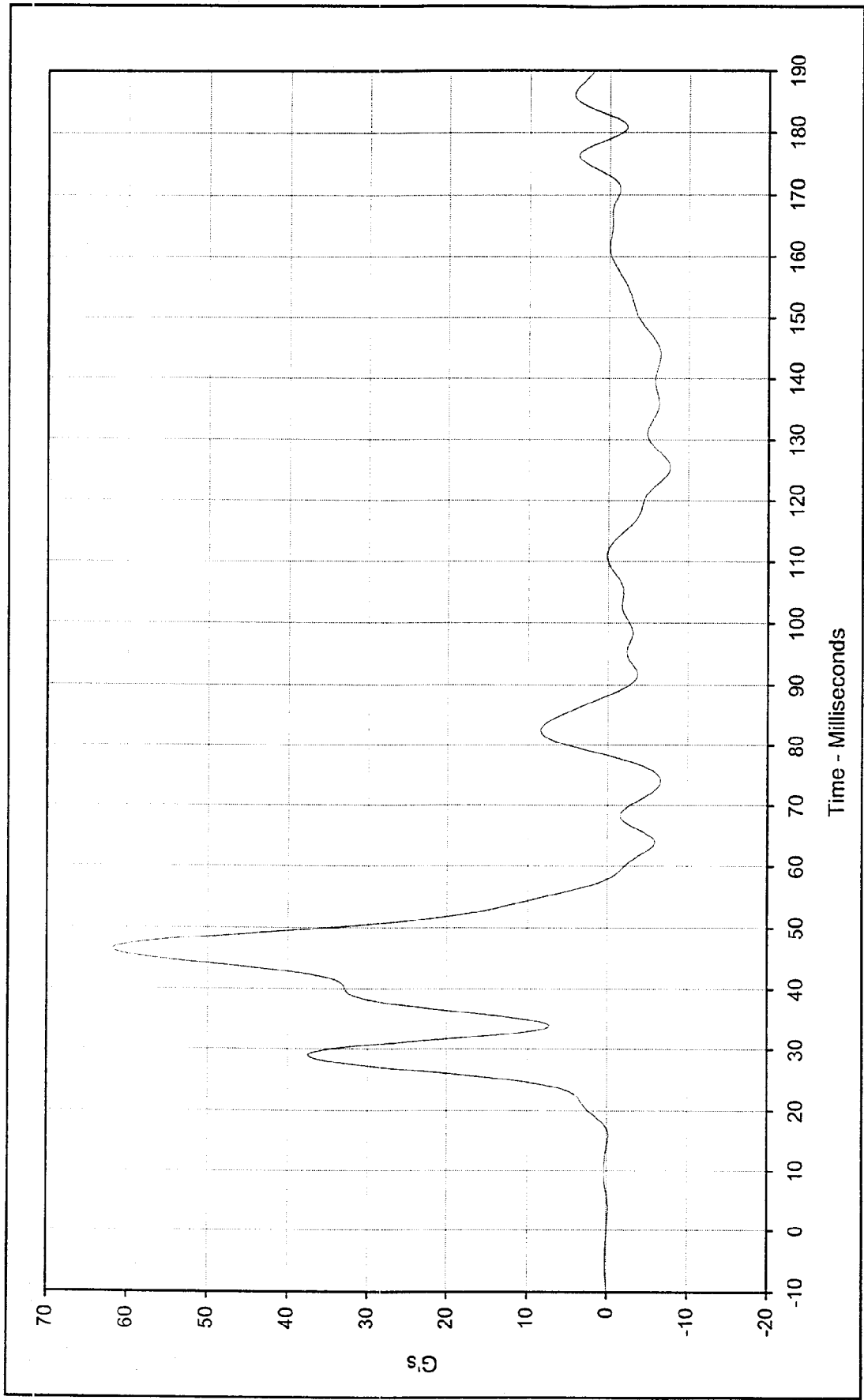
Date of Test: 02/29/00

Curve Number: FIR-005

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

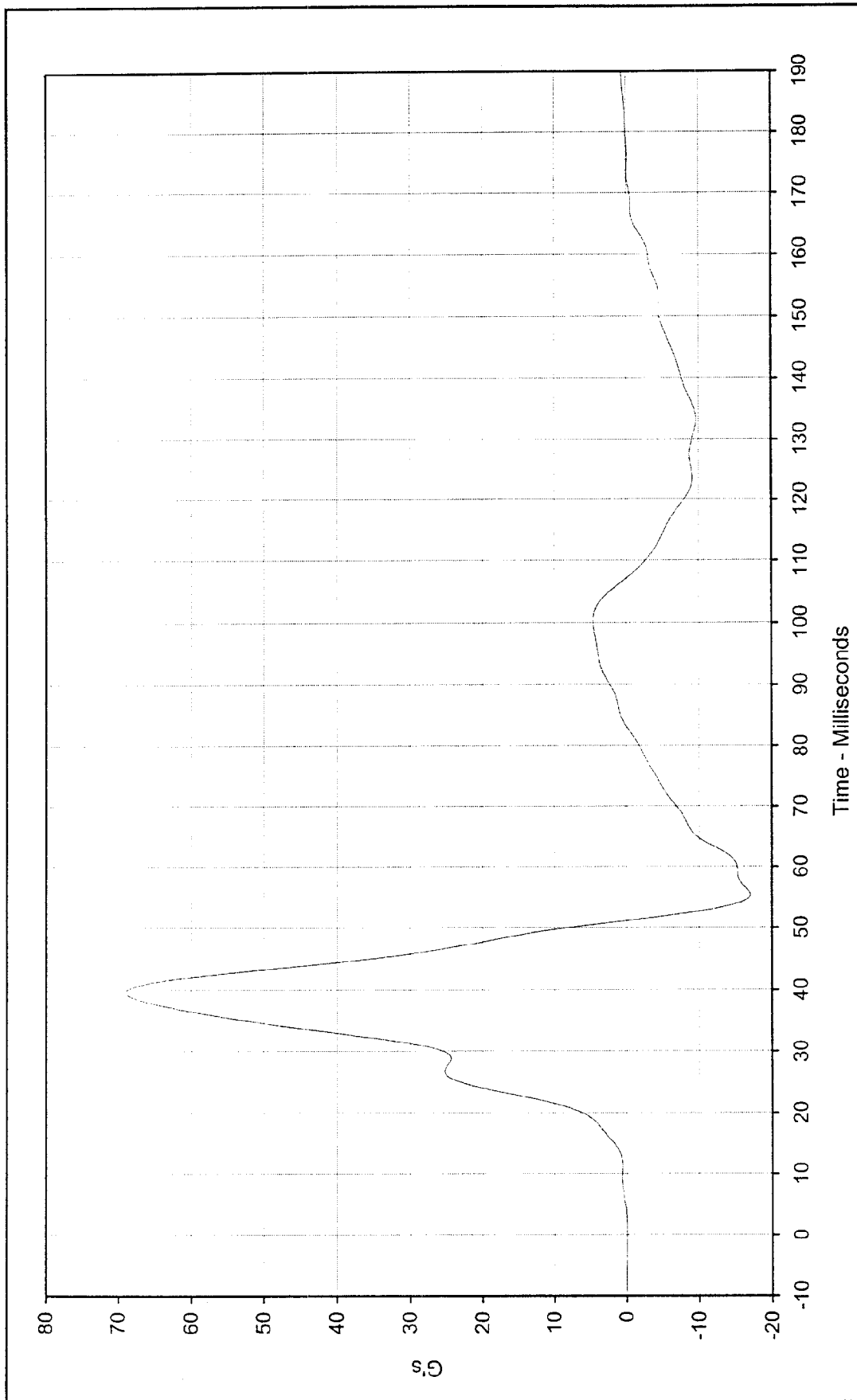
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description:	Driver Lower Spine Primary	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	61.8 at 46.4 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-7.7 at 125.4 Milliseconds			
SAE Filter Class:	FIR 100			
Date of Test:	02/29/00			
Curve Number:	FIR-006			





Curve Description: Driver Pelvis Primary Y

Maximum Value: 69.0 at 39.6 Milliseconds

Minimum Value: -17.0 at 55.3 Milliseconds

SAE Filter Class: FIR 100

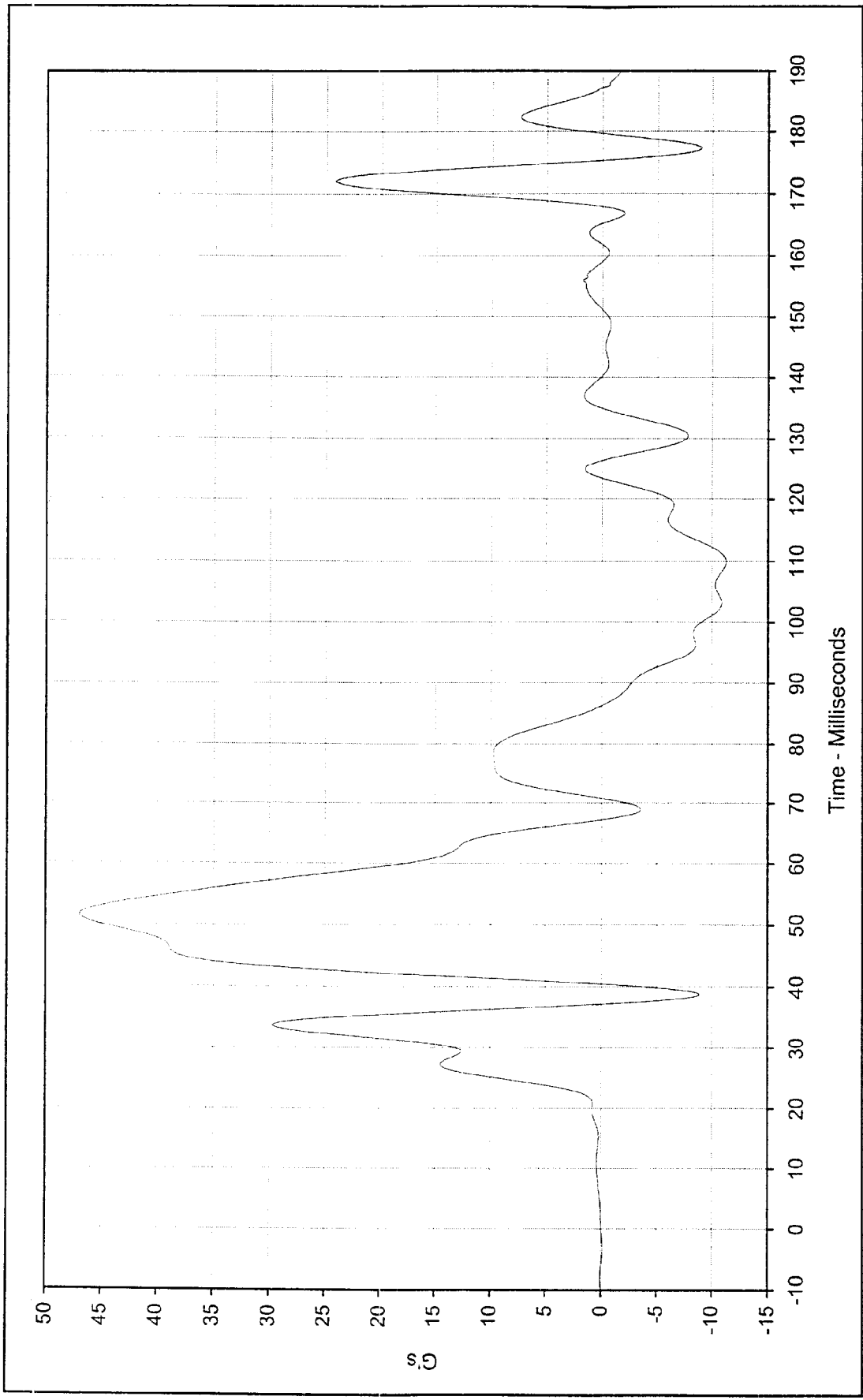
Date of Test: 02/29/00

Curve Number: FIR-007

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

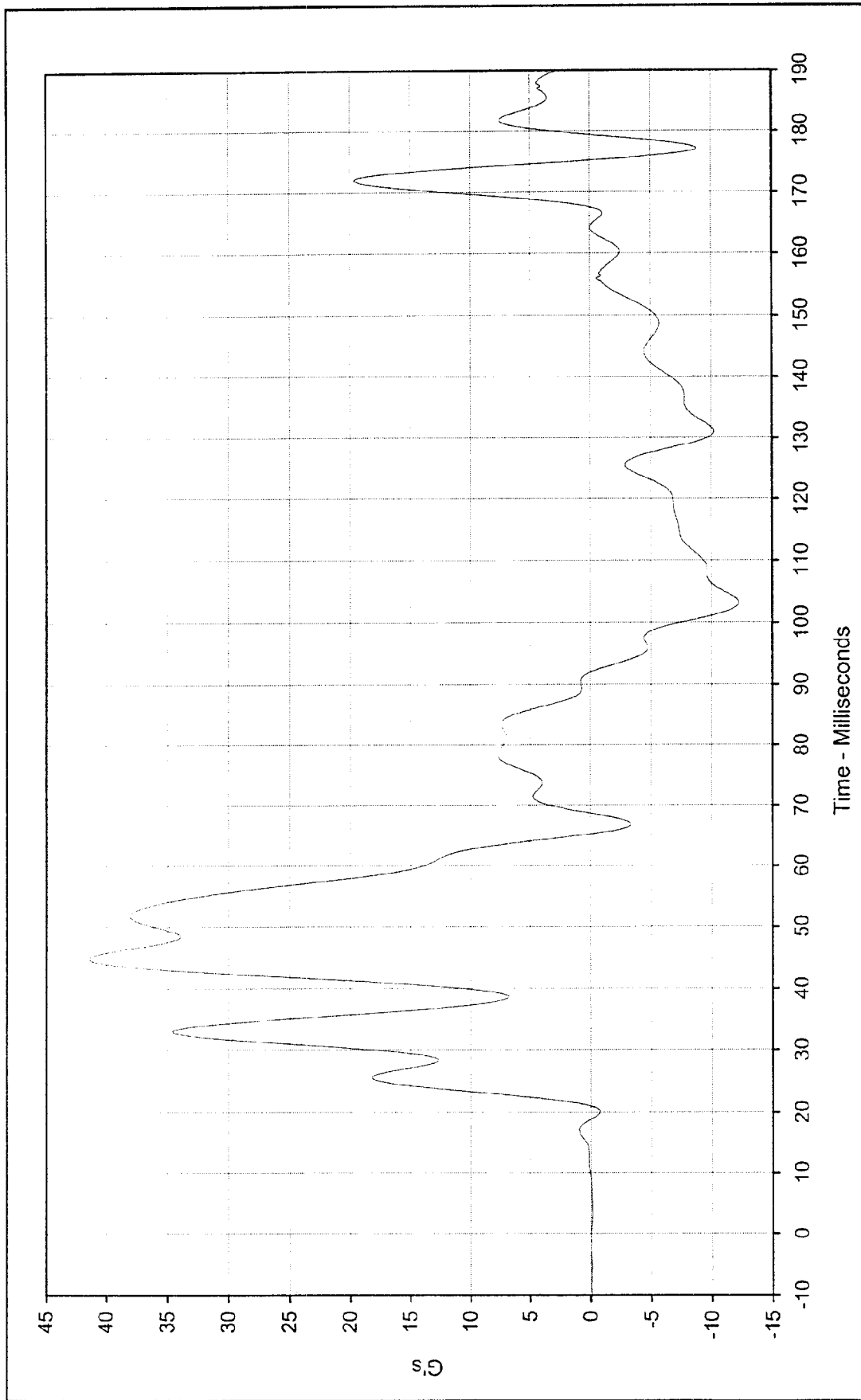




Curve Description: Driver Upper Rib Redundant
Maximum Value: 47.0 at 47.0 Milliseconds
Minimum Value: -11.3 at 109.9 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 02/29/00
Curve Number: FIR-008

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
Test Vehicle: 2000 Mercury Villager Mini-Van





Curve Description: Driver Lower Rib Redundant

Maximum Value: 41.4 at 44.8 Milliseconds

Minimum Value: -12.3 at 103.1 Milliseconds

SAE Filter Class: FIR 100

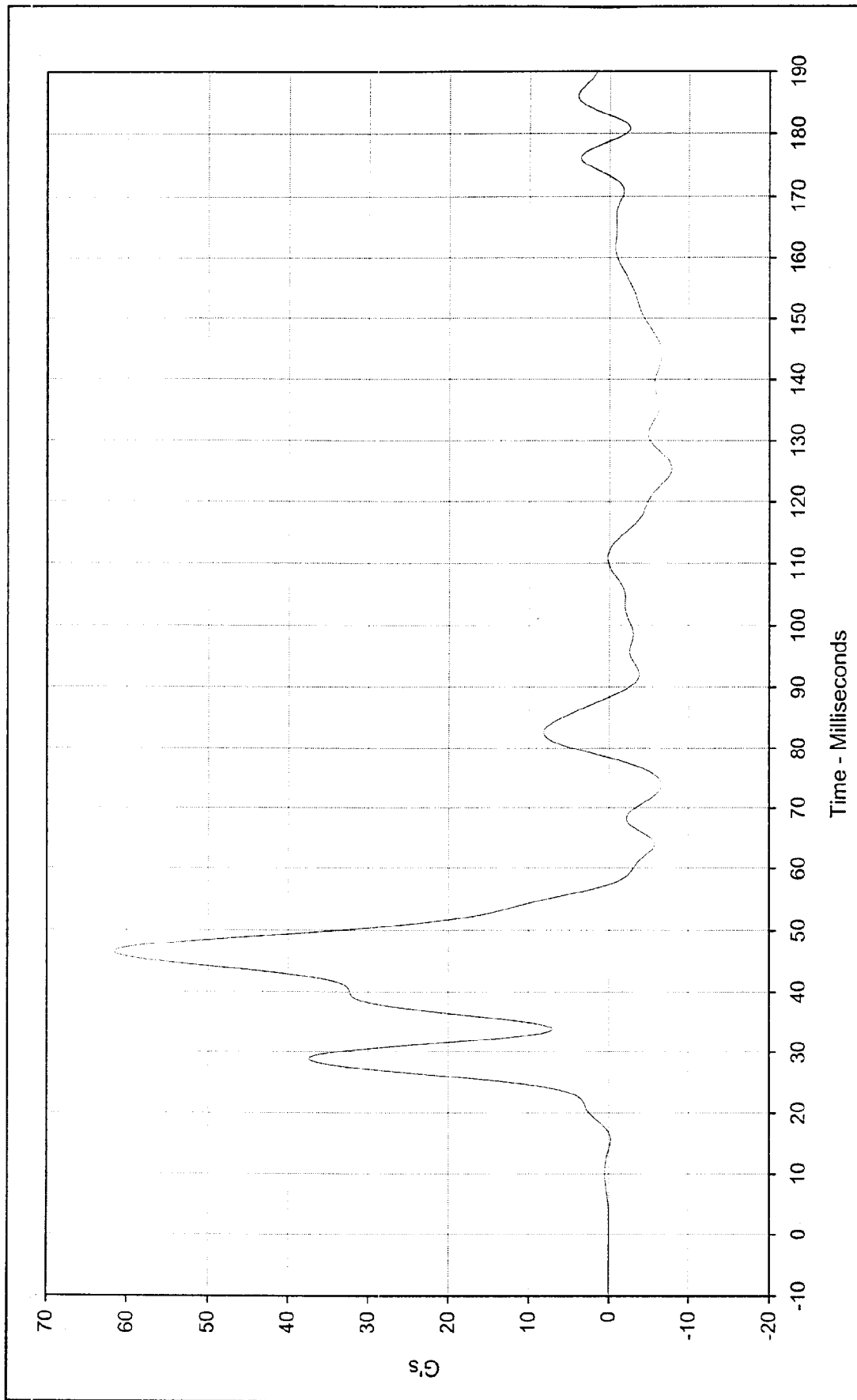
Date of Test: 02/29/00

Curve Number: FIR-009

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

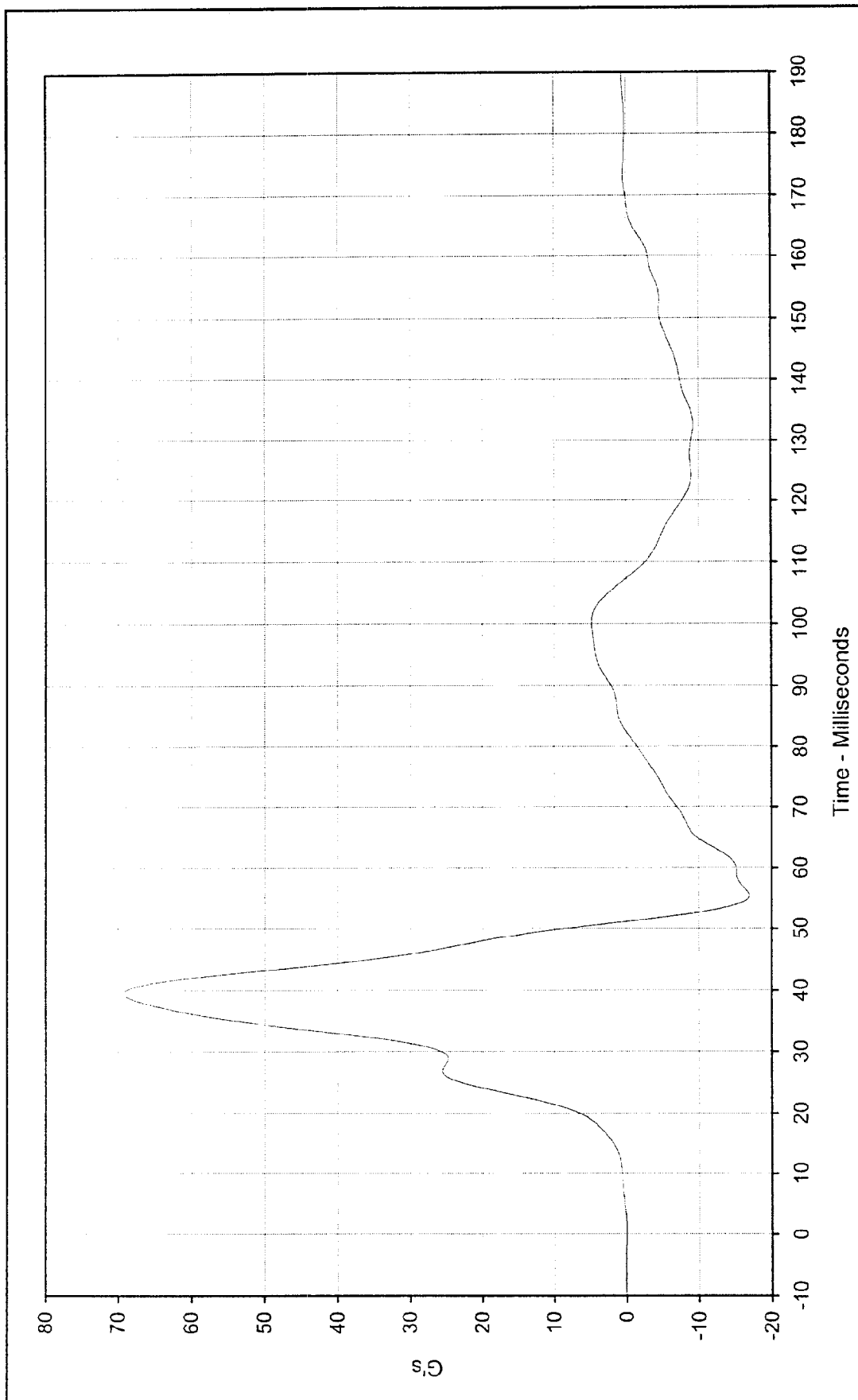




Curve Description: Driver Lower Spine Redundant
 Maximum Value: 61.7 at 46.4 Milliseconds
 Minimum Value: -7.9 at 125.4 Milliseconds
 SAE Filter Class: FIR 100
 Date of Test: 02/29/00
 Curve Number: FIR-010

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214
 Test Vehicle: 2000 Mercury Villager Mini-Van

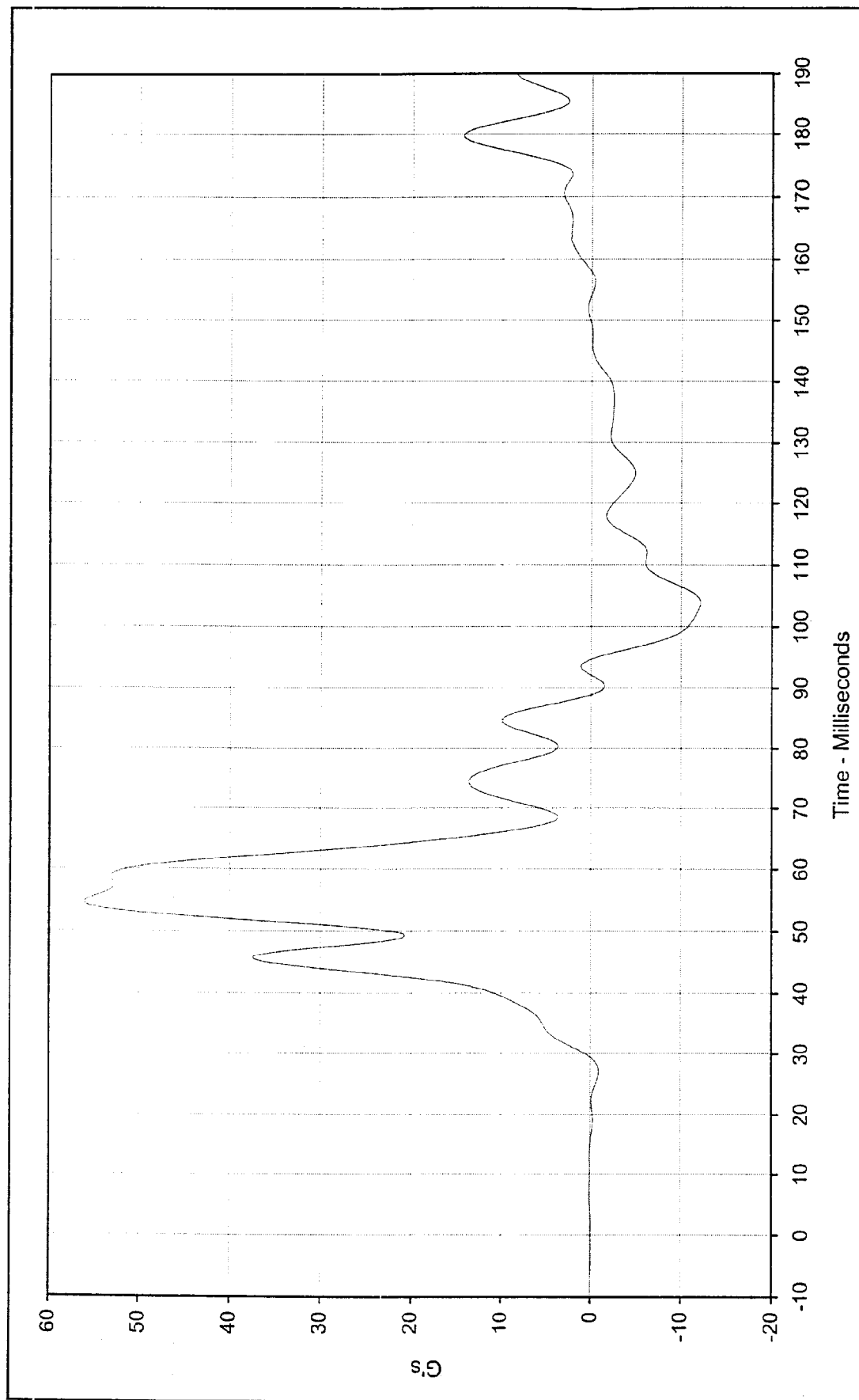




Curve Description:		Driver Pelvis Redundant Y		Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	69.3	at	39.5	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-16.9	at	55.3			
SAE Filter Class:	FIR 100					
Date of Test:	02/29/00					
Curve Number:	FIR-011					



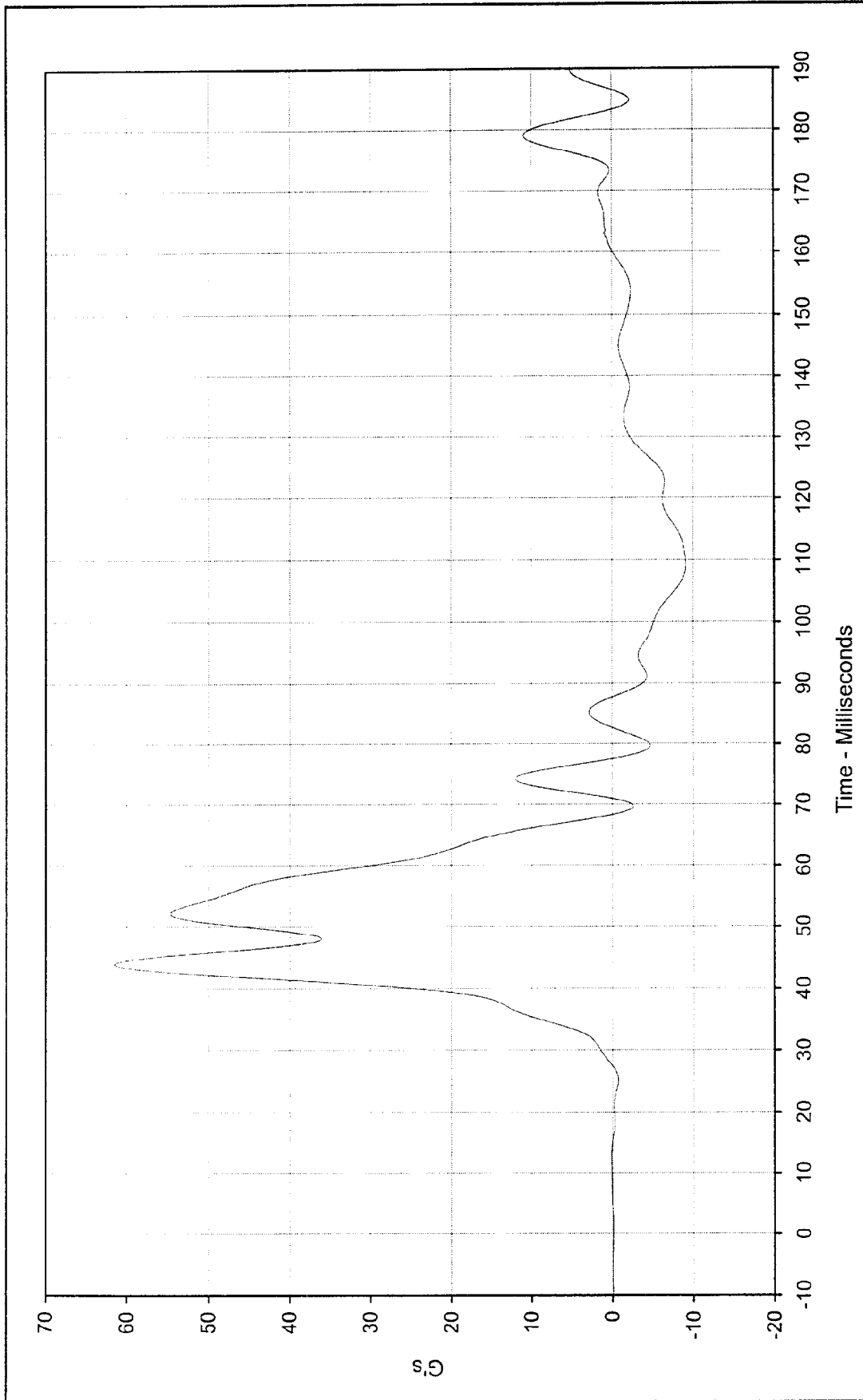




Curve Description:	Pass. Upper Rib Primary
Maximum Value:	56.1 at 54.6 Milliseconds
Minimum Value:	-12.2 at 103.7 Milliseconds
SAE Filter Class:	FIR 100
Date of Test:	02/29/00
Curve Number:	FIR-017

Test Program:	55/28 km/h Side Impact NCAP No.: MY0214
Test Vehicle:	2000 Mercury Villager Mini-Van





Curve Description: Pass. Lower Rib Primary Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 61.5 at 43.9 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

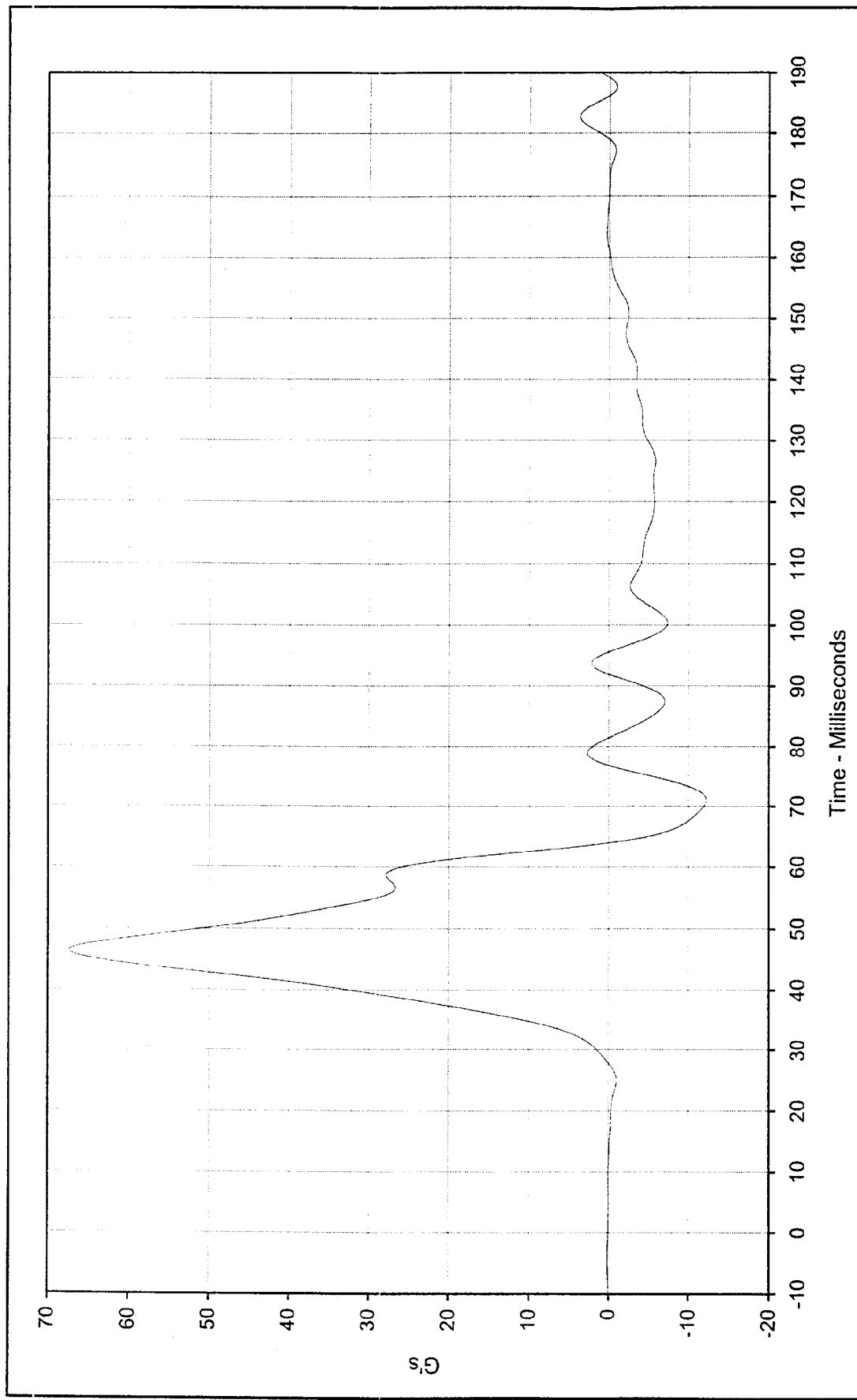
Minimum Value: -9.1 at 109.1 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 02/29/00

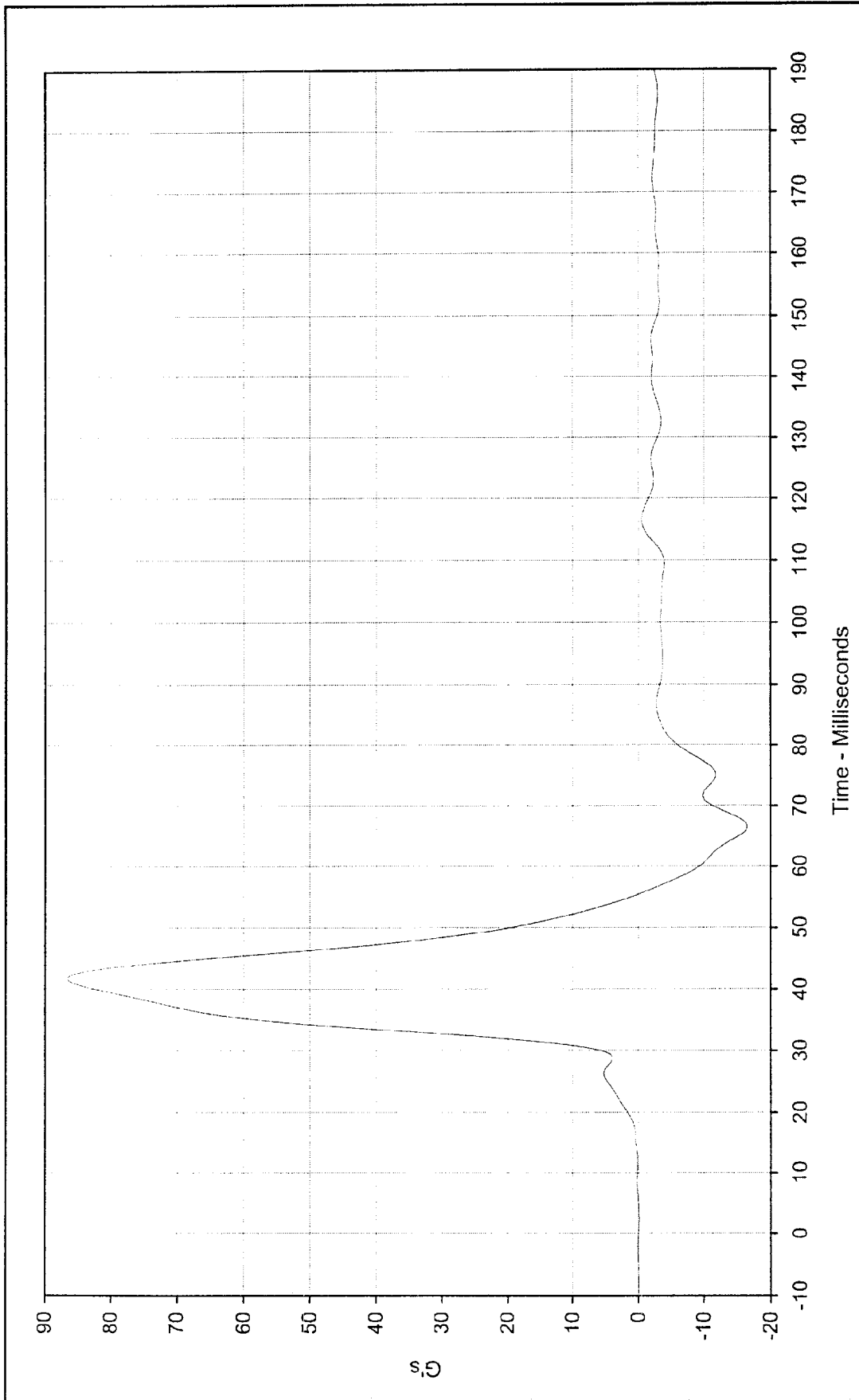
Curve Number: FIR-018





Curve Description:	Pass. Lower Spine Primary	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	67.4 at 46.3 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-12.3 at 71.0 Milliseconds			
SAE Filter Class:	FIR 100			
Date of Test:	02/29/00			
Curve Number:	FIR-019			





Curve Description: Pass. Pelvis Primary Y Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Maximum Value: 86.6 at 41.7 Milliseconds Test Vehicle: 2000 Mercury Villager Mini-Van

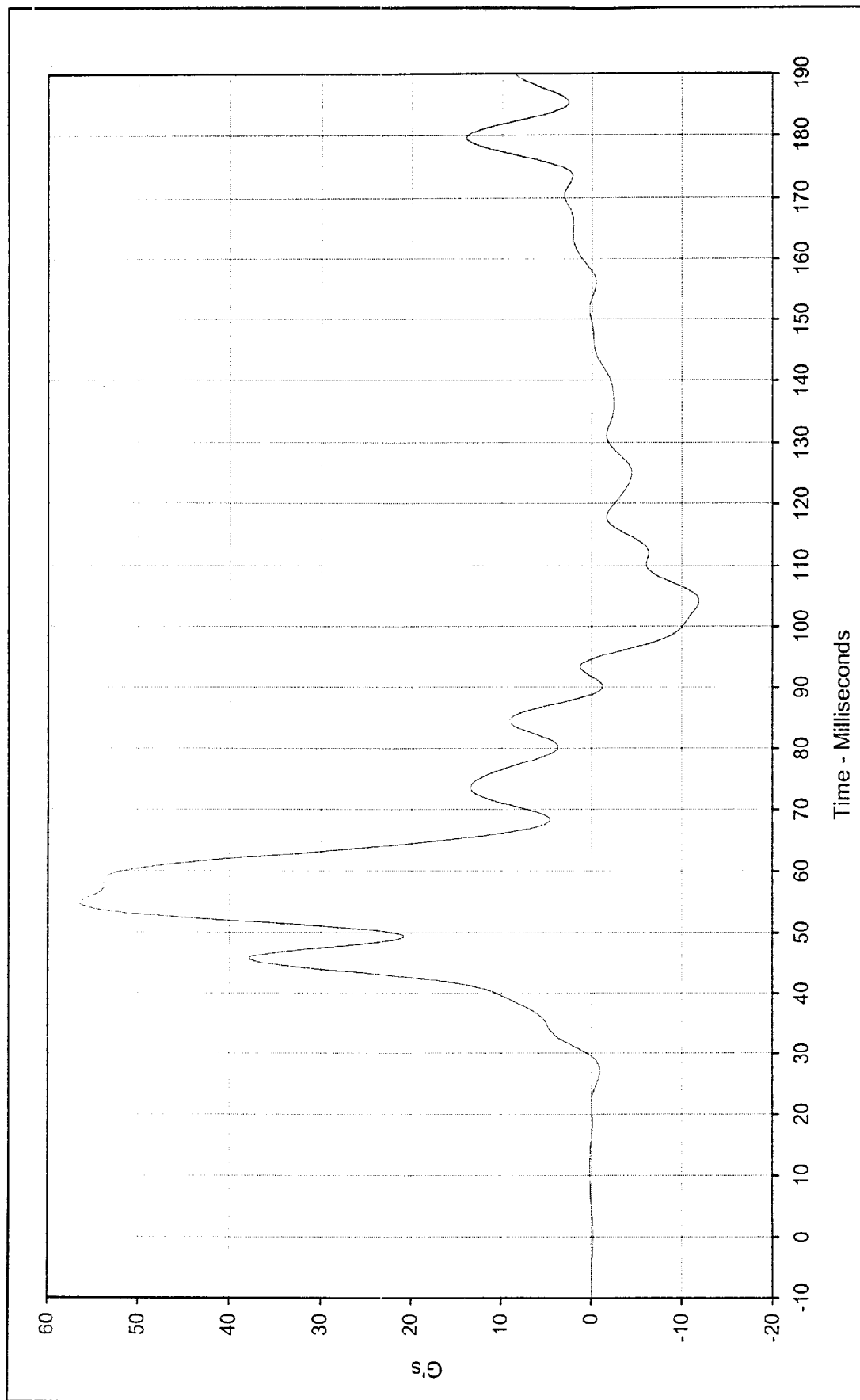
Minimum Value: -16.5 at 66.6 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 02/29/00

Curve Number: FIR-020



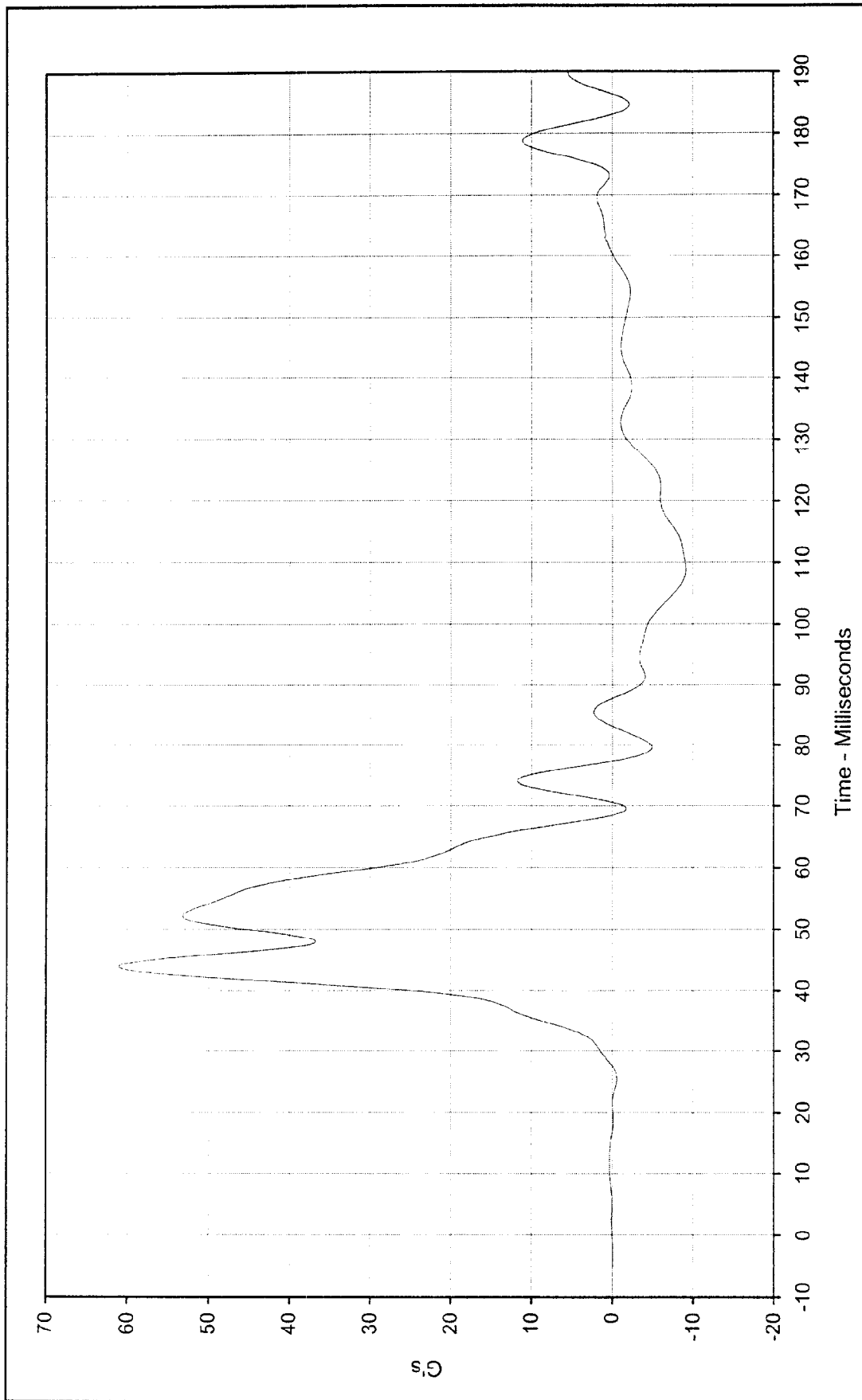


Curve Description:	Pass. Upper Rib Redundant	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	56.4 at 54.8 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-11.9 at 104.2 Milliseconds			
SAE Filter Class:	FIR 100			
Date of Test:	02/29/00			
Curve Number:	FIR-021			



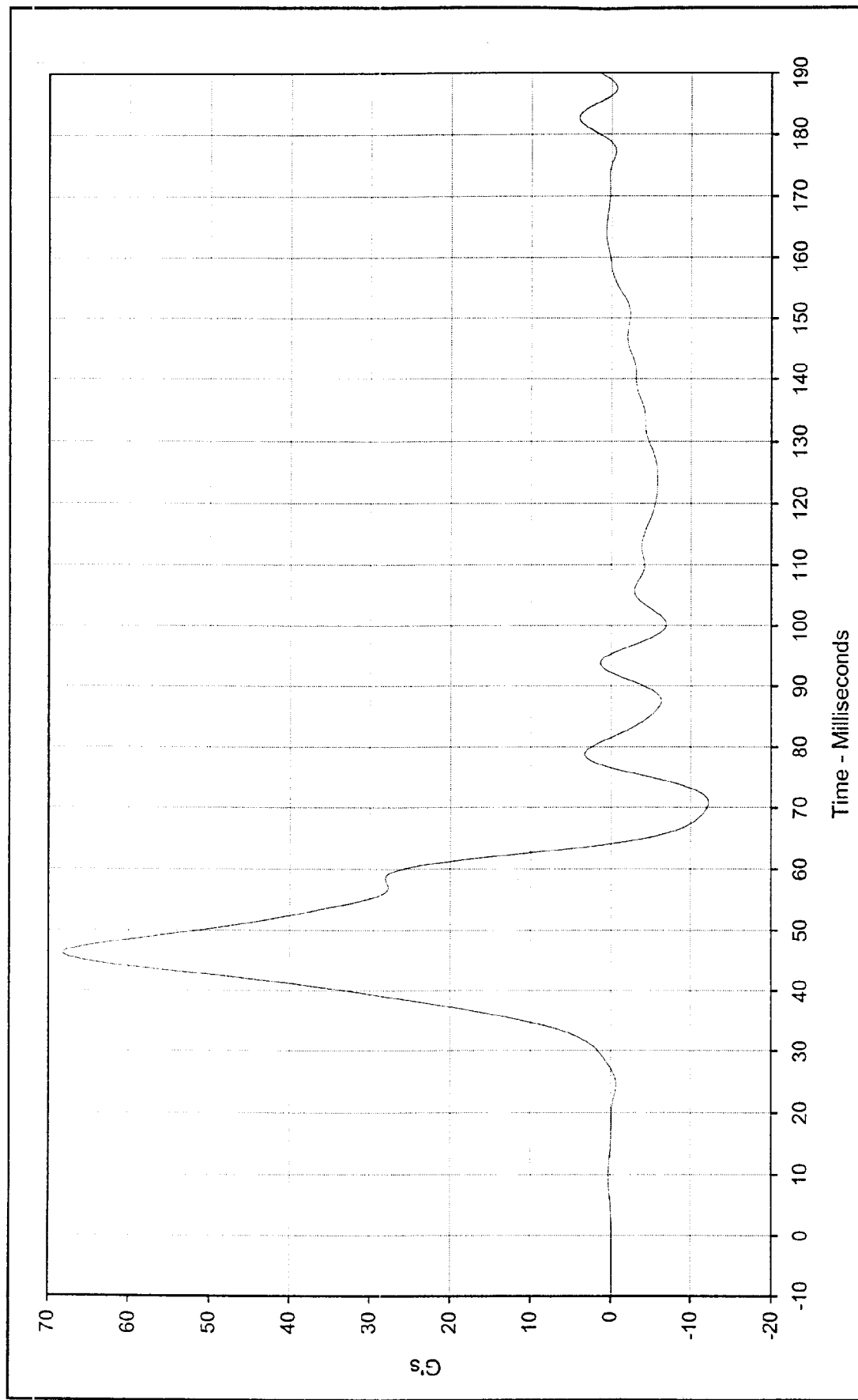
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Curve Description:	Pass. Lower Rib Redundant	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	61.1 at 43.9 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-9.1 at 108.9 Milliseconds			
SAE Filter Class:	FIR 100			
Date of Test:	02/29/00			
Curve Number:	FIR-022			
				





Curve Description: Pass. Lower Spine Redundant

Test Program: 55/28 km/h Side Impact NCAP No.: MY0214

Test Vehicle: 2000 Mercury Villager Mini-Van

Maximum Value: 68.2 at 46.2 Milliseconds

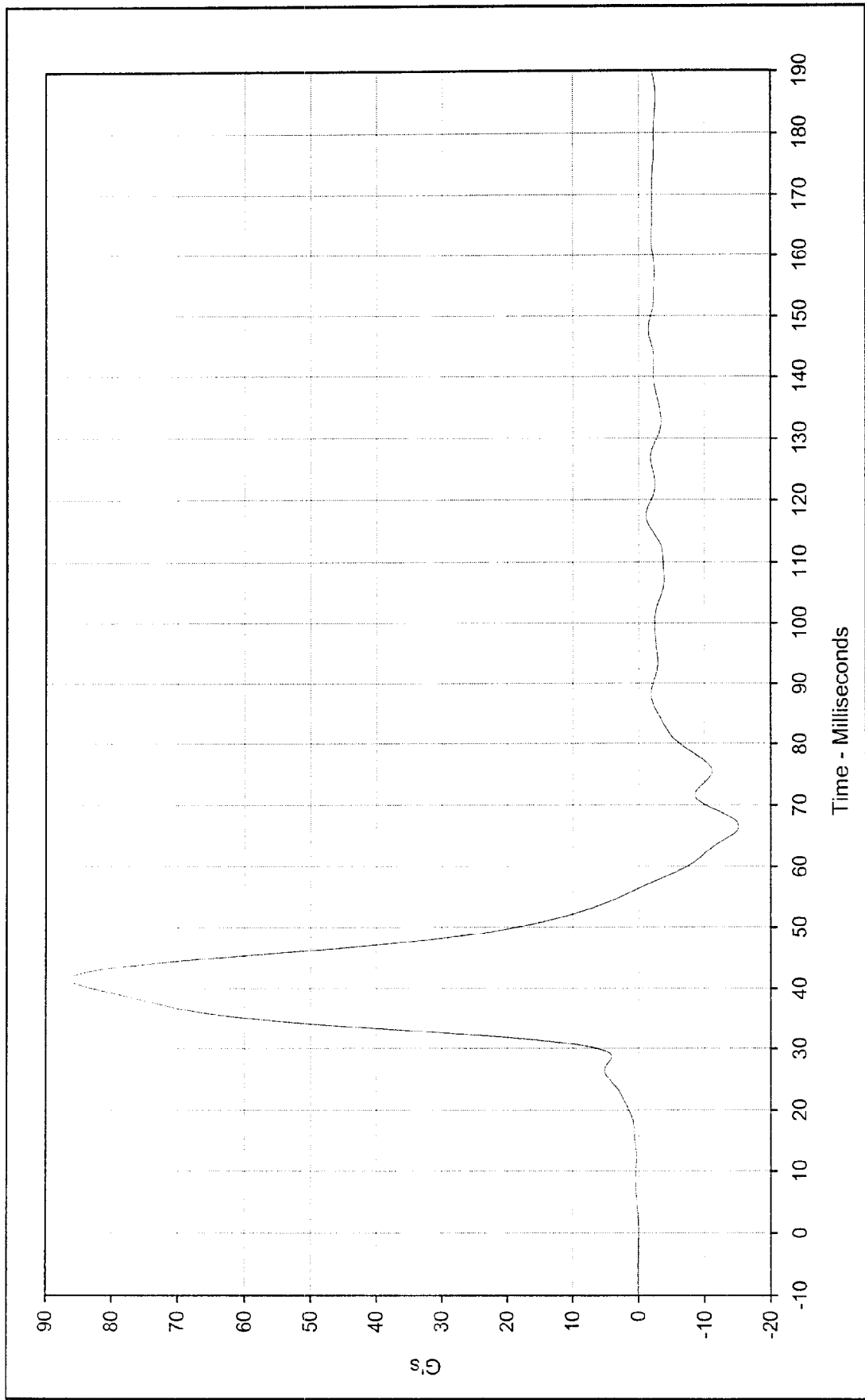
Minimum Value: -12.2 at 70.8 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 02/29/00

Curve Number: FIR-023





Curve Description:	Pass. Pelvis Redundant Y	Test Program:	55/28 km/h Side Impact NCAP	No.: MY0214
Maximum Value:	86.3 at 41.5 Milliseconds	Test Vehicle:	2000 Mercury Villager Mini-Van	
Minimum Value:	-15.2 at 66.6 Milliseconds			
SAE Filter Class:	FIR 100			
Date of Test:	02/29/00			
Curve Number:	FIR-024			



APPENDIX C
SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA



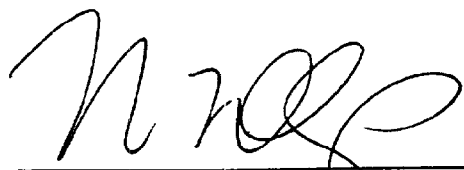
Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 056

Part Serial No.: N/A

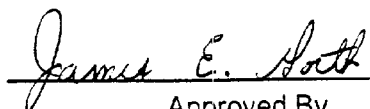
Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	900	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	521	Pass
KV- Knee Pivot From Floor	mm	490 to 505	501	Pass
HW- Hip Width	mm	356 to 391	363	Pass
Overall Test Results				Pass


Laboratory Technician

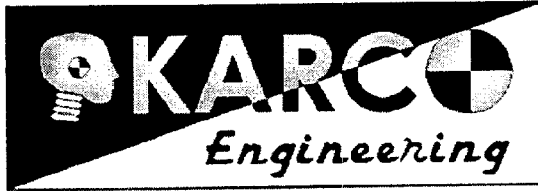
February 18, 2000

Test Date


Approved By

2/18/00

Date



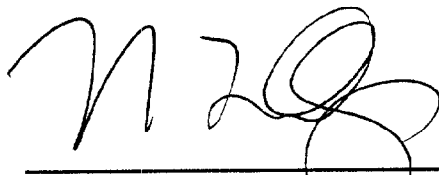
Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 056

Part Serial No.: N/A

Test I.D.: TI02E

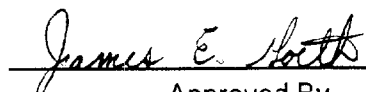
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	32	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Left Upper Spine Acceleration	G's	37.0 to 46.0	39.5	Pass
Left Lower Spine Acceleration	G's	37.0 to 46.0	40.3	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	20.5	Pass
Overall Test Results				Pass



Laboratory Technician

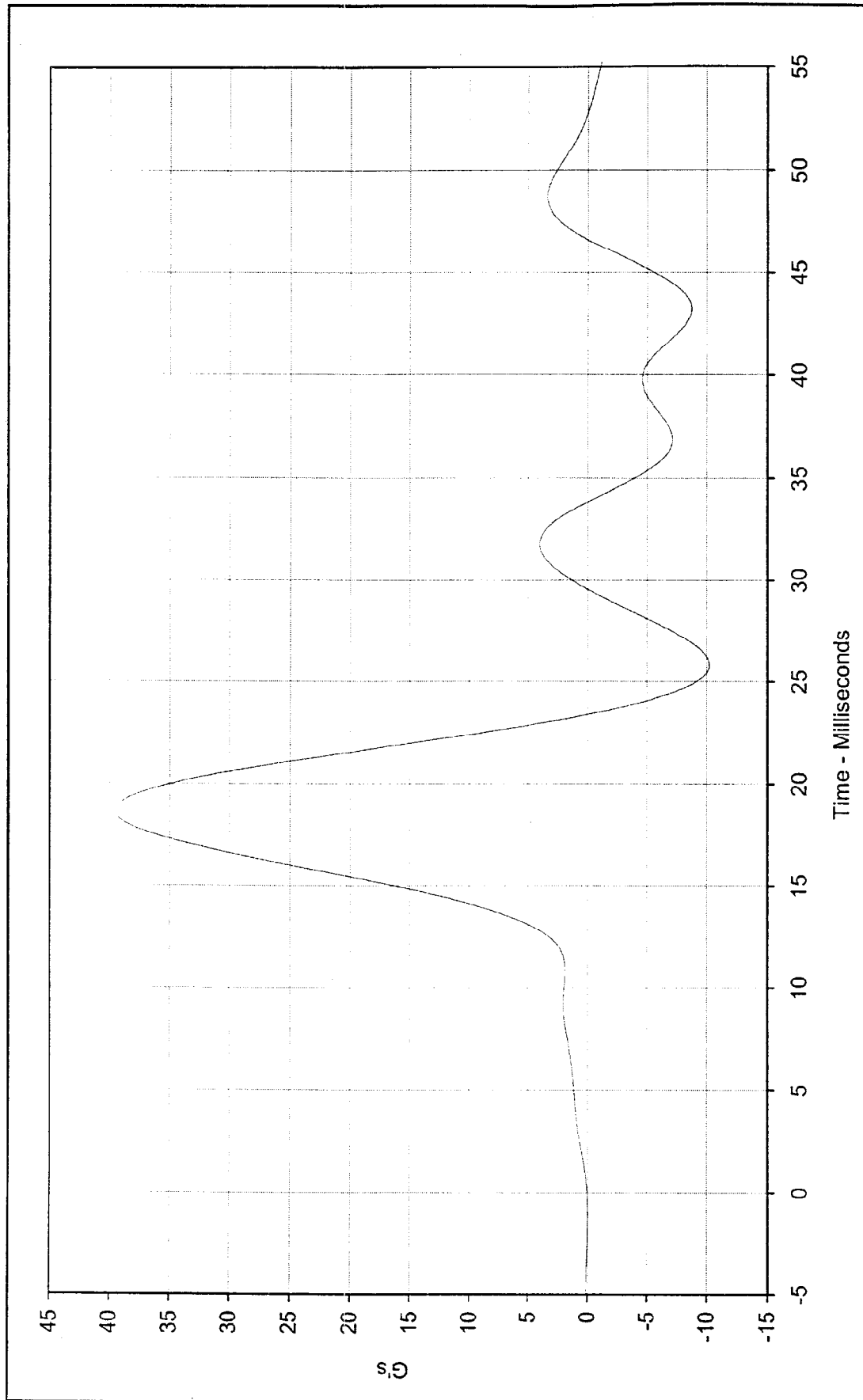
February 14, 2000

Test Date



Approved By

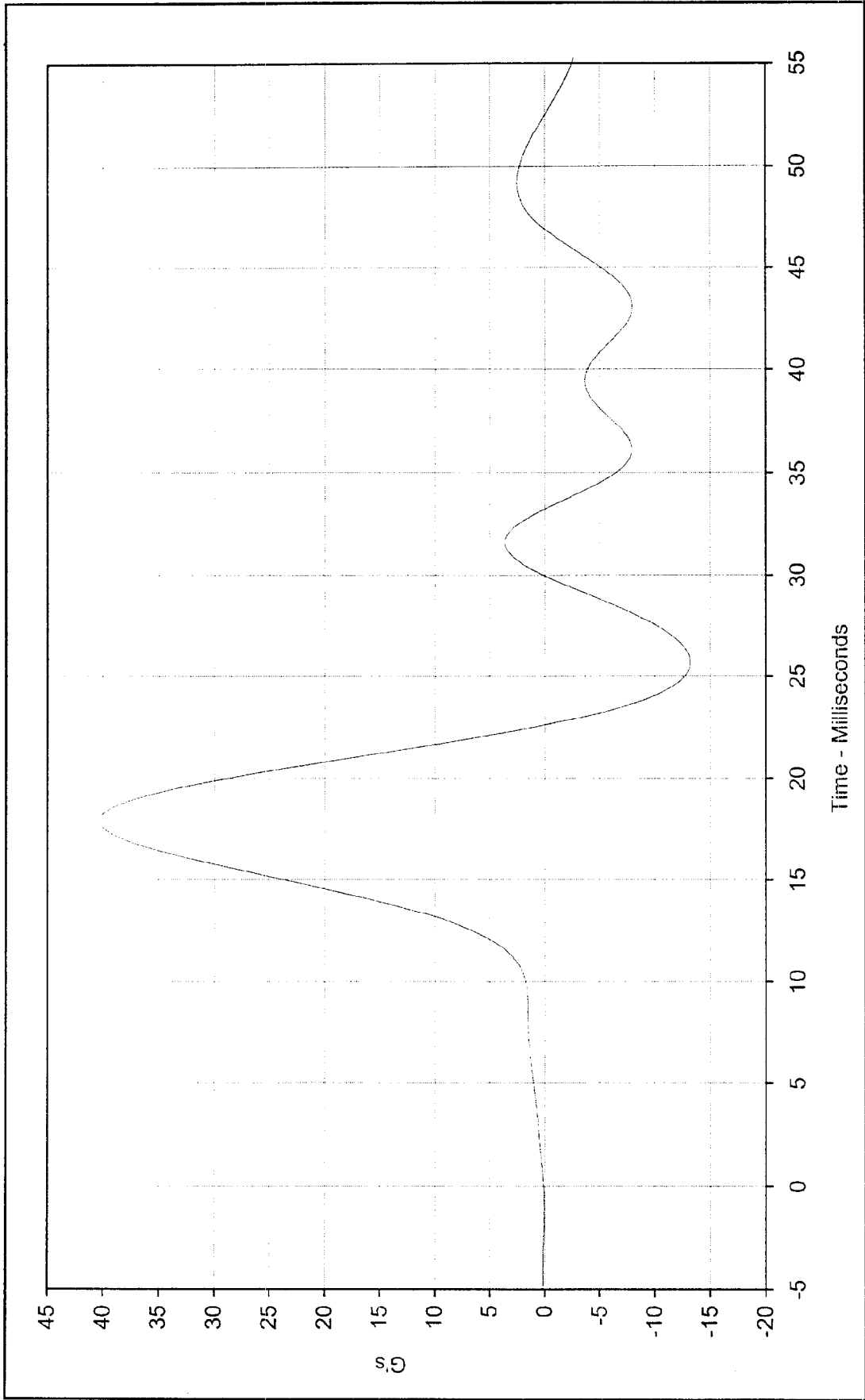
2/14/00
Date



Curve Description: Left Upper Rib Y Acceleration
 Maximum Value: 39.5 at 18.7 Milliseconds
 Minimum Value: -10.2 at 25.8 Milliseconds
 SAE Filter Class: FIR 100
 Date of Test: 2/14/00

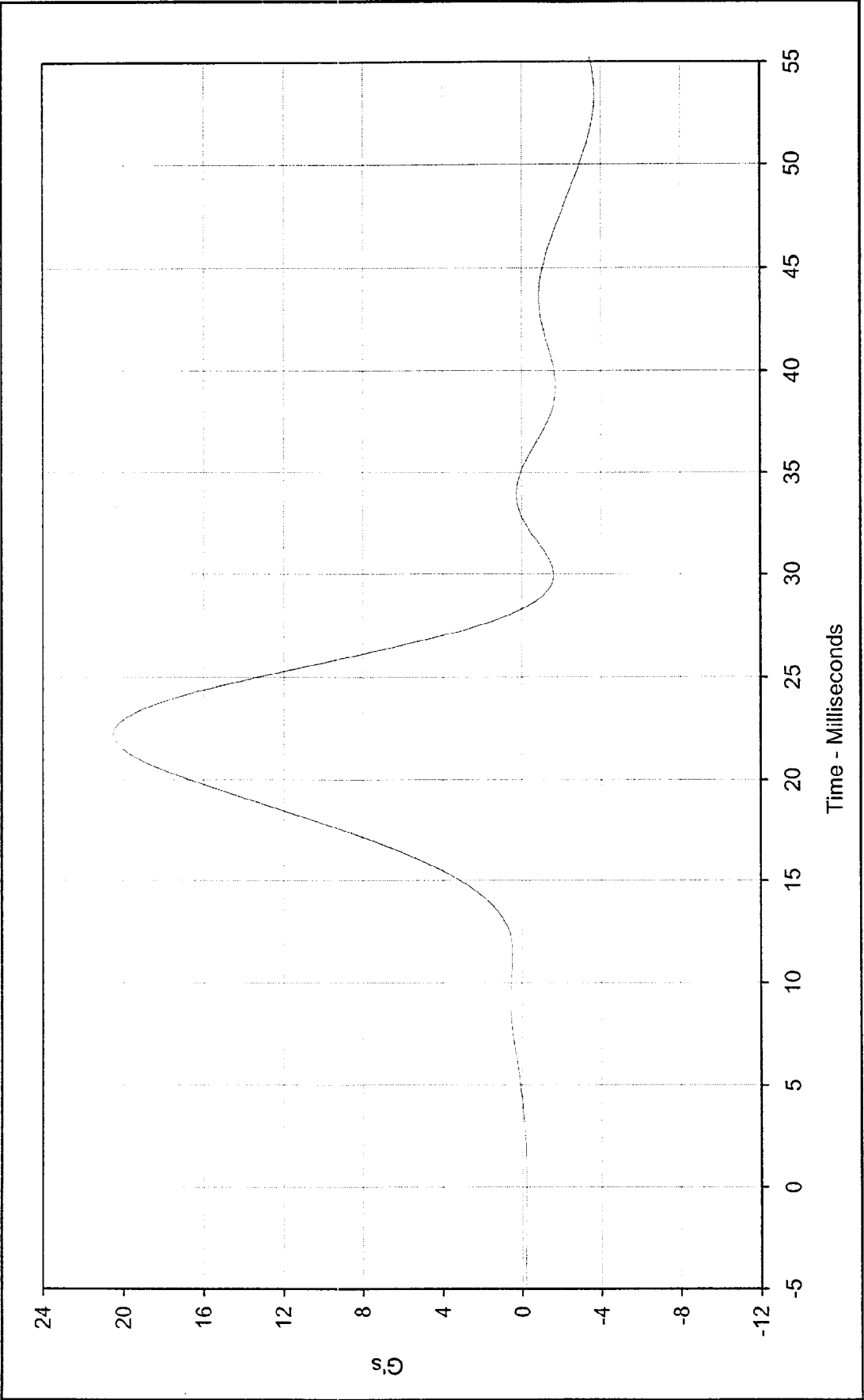
Test Program: SID Thorax Lateral Impact Test
 Test Information: SID S/N: 056 Test I.D.: TI02E





Curve Description:	Left Lower Rib Y Acceleration	Test Program:	SID Thorax Lateral Impact Test
Maximum Value:	40.3 at 17.9 Milliseconds	Test Information:	SID S/N: 056 Test I.D.: TI02E
Minimum Value:	-13.2 at 25.7 Milliseconds		
SAE Filter Class:	FIR 100		
Date of Test:	2/14/00		





Curve Description:	Lower Spine Y Acceleration	Test Program:	SID Thorax Lateral Impact Test
Maximum Value:	20.5 at 22.2 Milliseconds	Test Information:	SID S/N: 056 Test I.D.: T102E
Minimum Value:	-3.7 at 53.4 Milliseconds		
SAE Filter Class:	FIR 100		
Date of Test:	2/14/00		





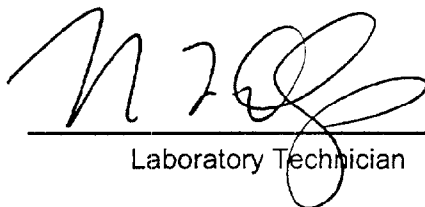
**Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact**

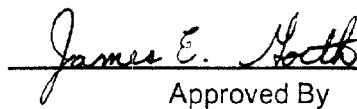
ATD Serial No.: 056

Part Serial No.: N/A

Test I.D.: PI02C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	43.9	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

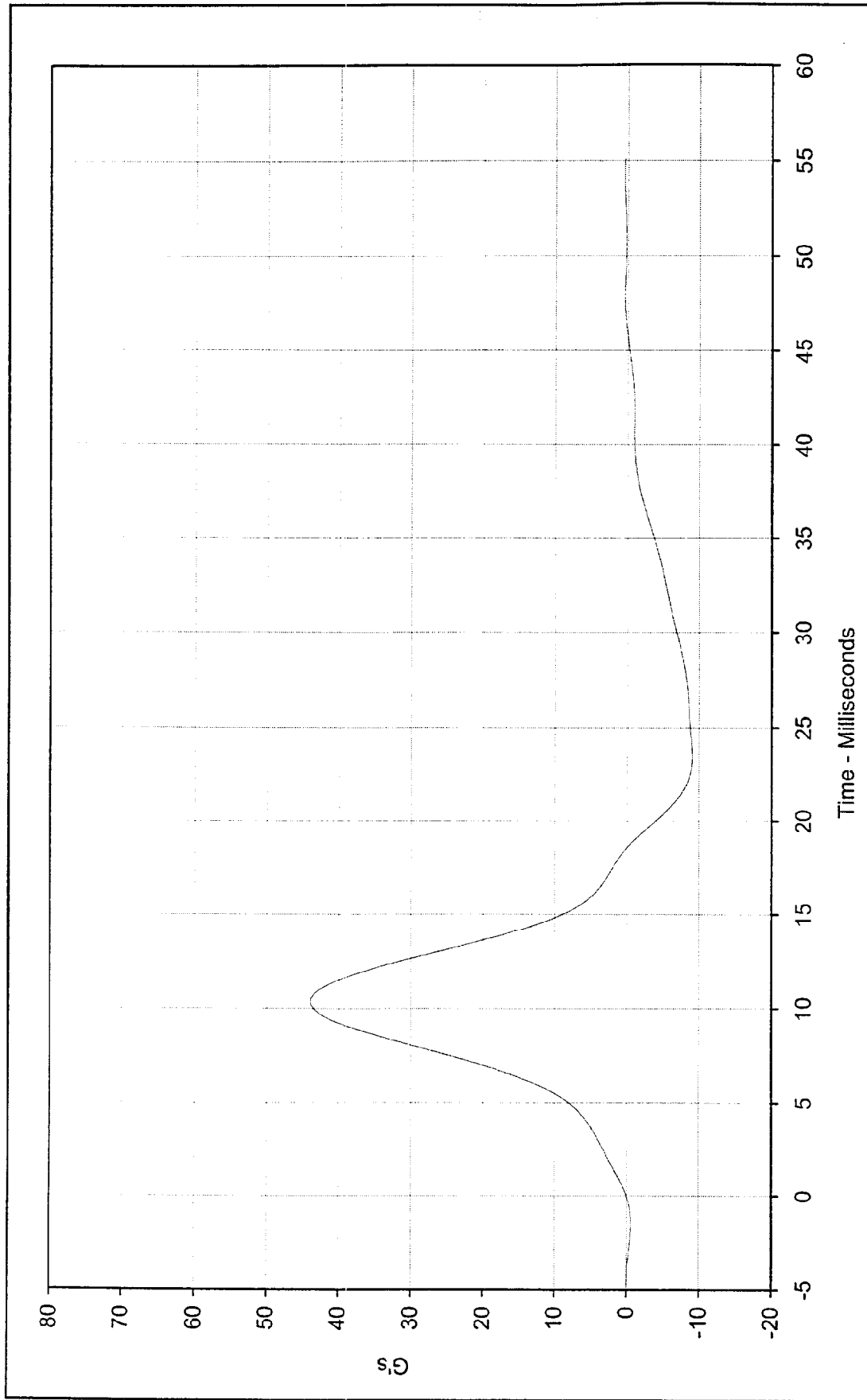

Laboratory Technician


Approved By

February 14, 2000

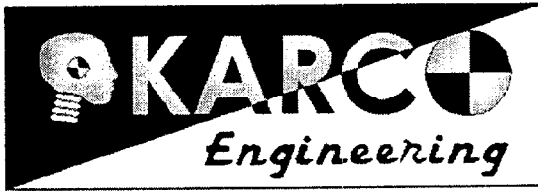
Test Date

2/14/00
Date



Curve Description:	Pelvis Y Axis Acceleration		Test Program:	Left Side Pelvis Lateral Impact	
Maximum Value:	43.9	at 10.4	Test Information:	SID S/N: 056	Test I.D.: PI02C
Minimum Value:	-9.1	at 23.4			
SAE Filter Class:	FIR 100				
Date of Test:	2/14/00				





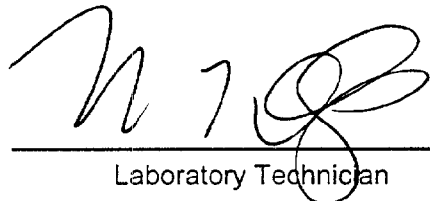
Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 056

Part Serial No.: N/A

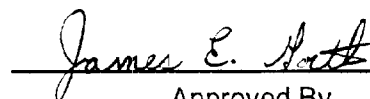
Test I.D.: AB02A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	28.1	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	38.9	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	53.1	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	75.3	Pass
Overall Test Results				Pass


Laboratory Technician

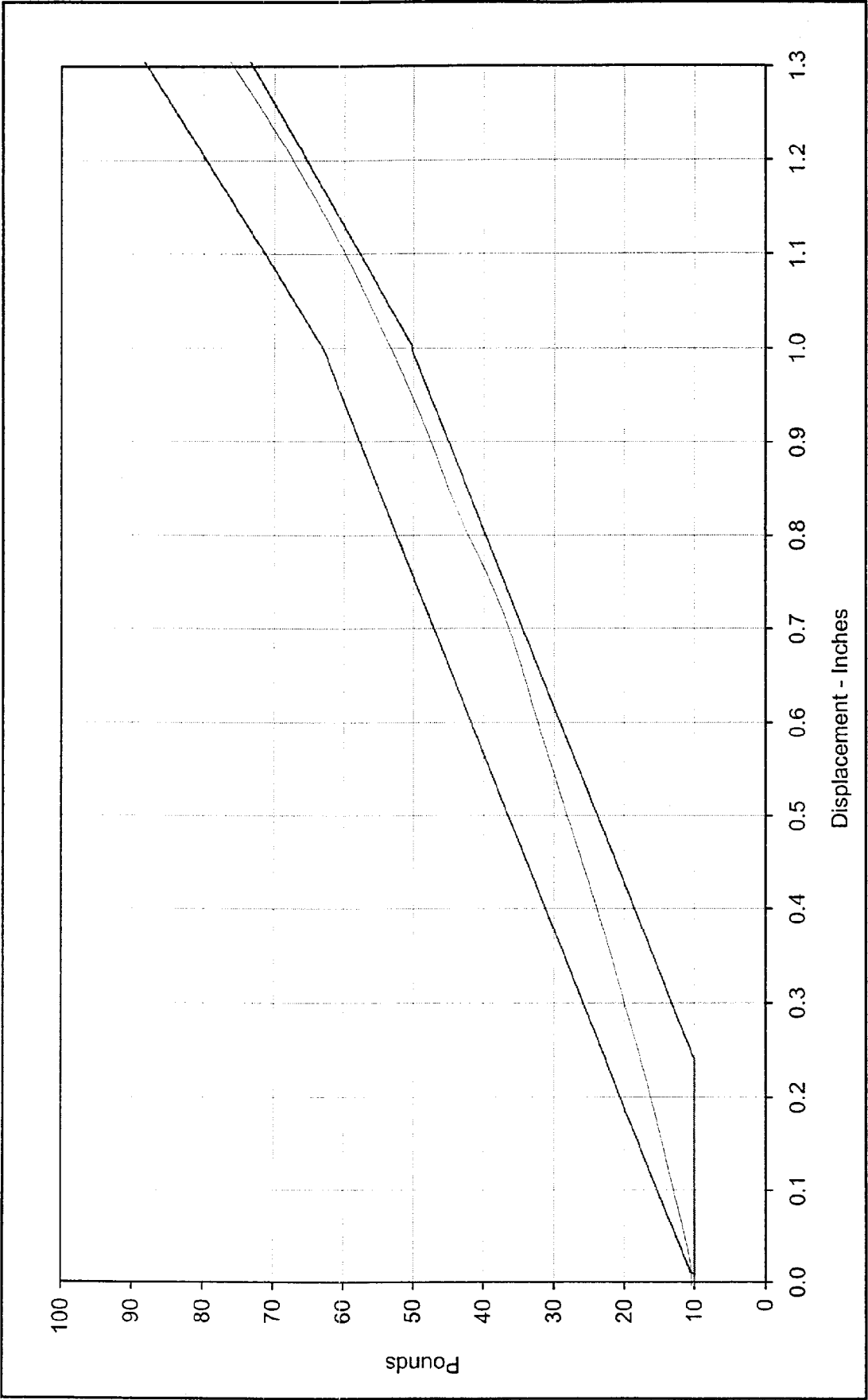
February 16, 2000

Test Date


Approved By

2/16/00

Date



Curve Description: Abdomen Force vs. Displacement Test Program: Hybrid II Abdominal Compression
Force at 0.5 In.: 28.1 Pounds Test Information: SID S/N: 056 Test I.D.: AB02A
Force at 0.75 In.: 38.9 Pounds
Force at 1.0 In.: 53.1 Pounds
Force at 1.3 In.: 75.3 Pounds

Date of Test: 2/16/00





Performance Verification Data

Side Impact Dummy (SID)

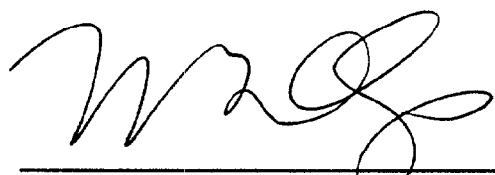
Lumbar Flexion Test

ATD Serial No.: 056

Part Serial No.: N/A

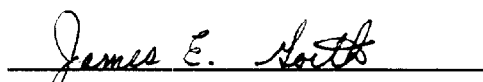
Test I.D.: LF00A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Applied Force at 0° of Flexion	Pounds	0.0	0.0	Pass
Applied Force at 20° of Flexion	Pounds	22.0 to 34.0	23.8	Pass
Applied Force at 30° of Flexion	Pounds	34.0 to 46.0	38.3	Pass
Applied Force at 40° of Flexion	Pounds	46.0 to 58.0	54.1	Pass
Return Angle 3 Minutes After Release	Degrees	≤12.0	6.0	Pass
Overall Test Results				Pass


Laboratory Technician

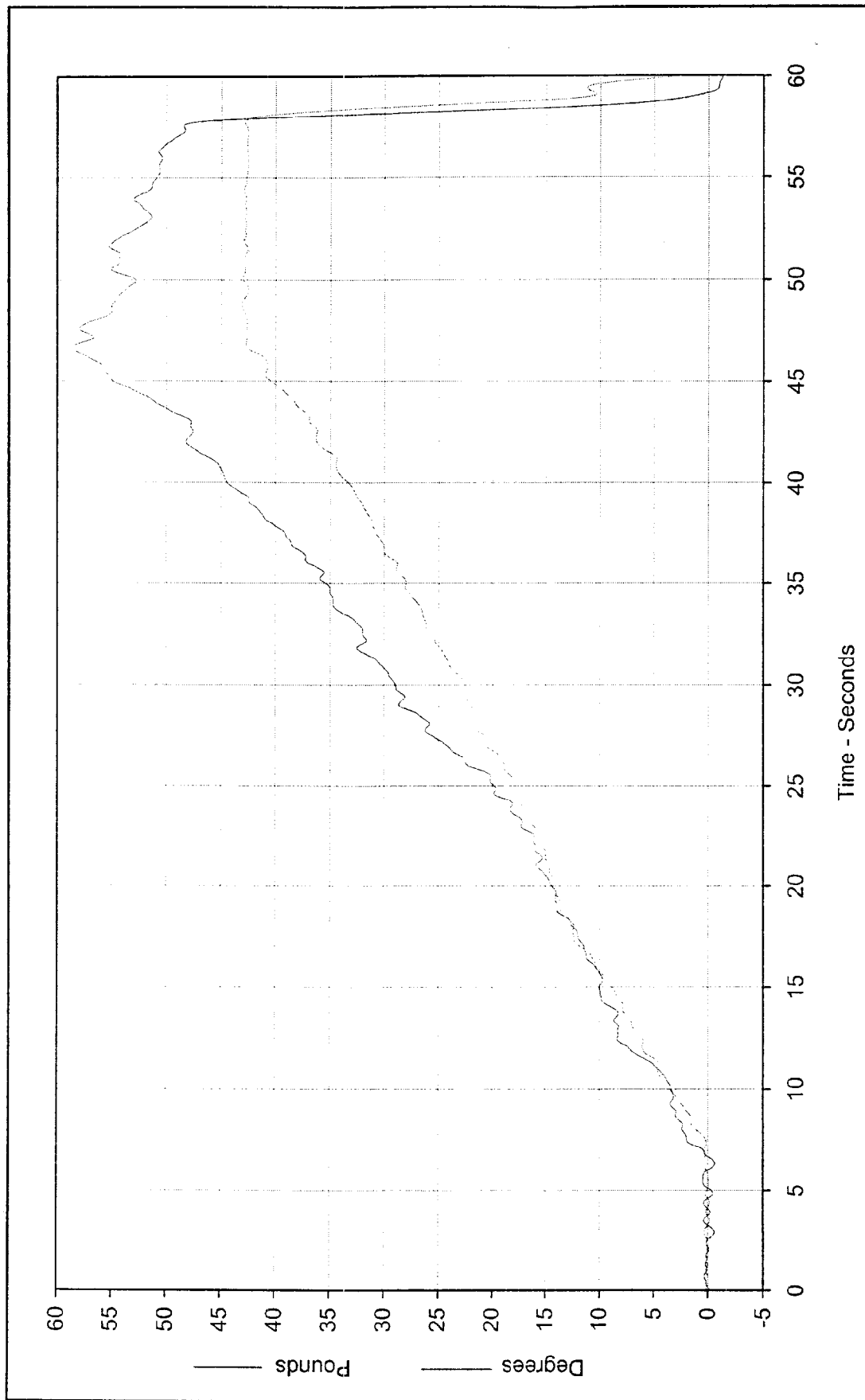
February 17, 2000

Test Date


Approved By

2/17/00

Date



Curve Description: Applied Lumbar Force And Angle Test Program: Hybrid II Lumbar Flexion
 Force at 20°: 23.8 Pounds Test Information: SID S/N: 056 Test I.D.: LF00A
 Force at 30°: 38.3 Pounds
 Force at 40°: 54.1 Pounds
 Return Angle: 6.0 Degrees



Test Date: 2/17/00



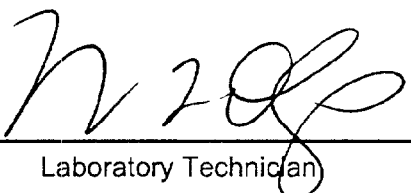
Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 056

Part Serial No.: N/A

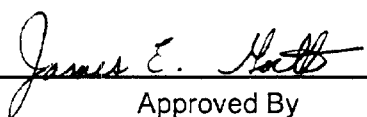
Test I.D.: SH00A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	250.0	Pass
Peak Lateral Acceleration	G's	≤10.0	4.1	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.2	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

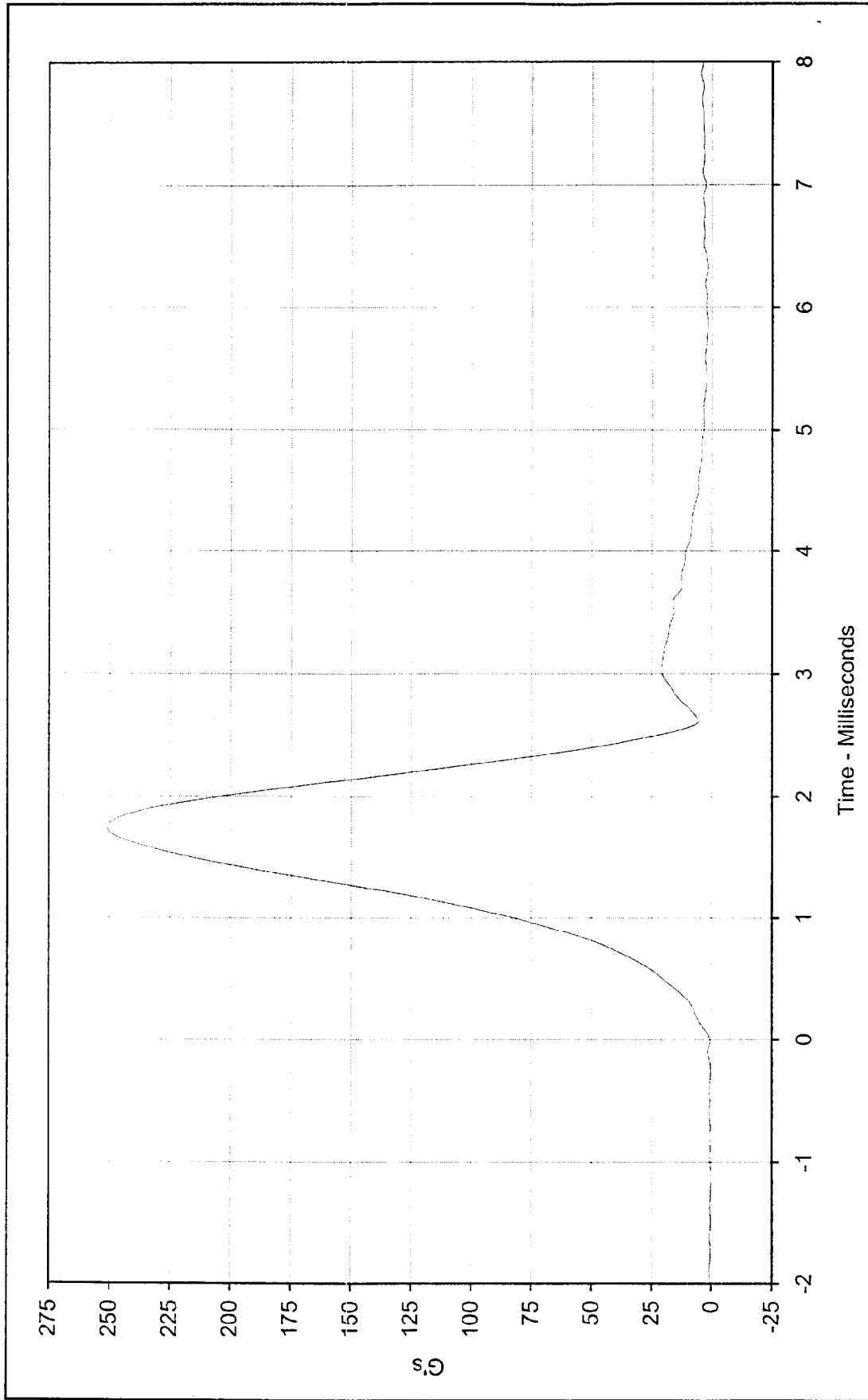

Laboratory Technician

February 15, 2000

Test Date

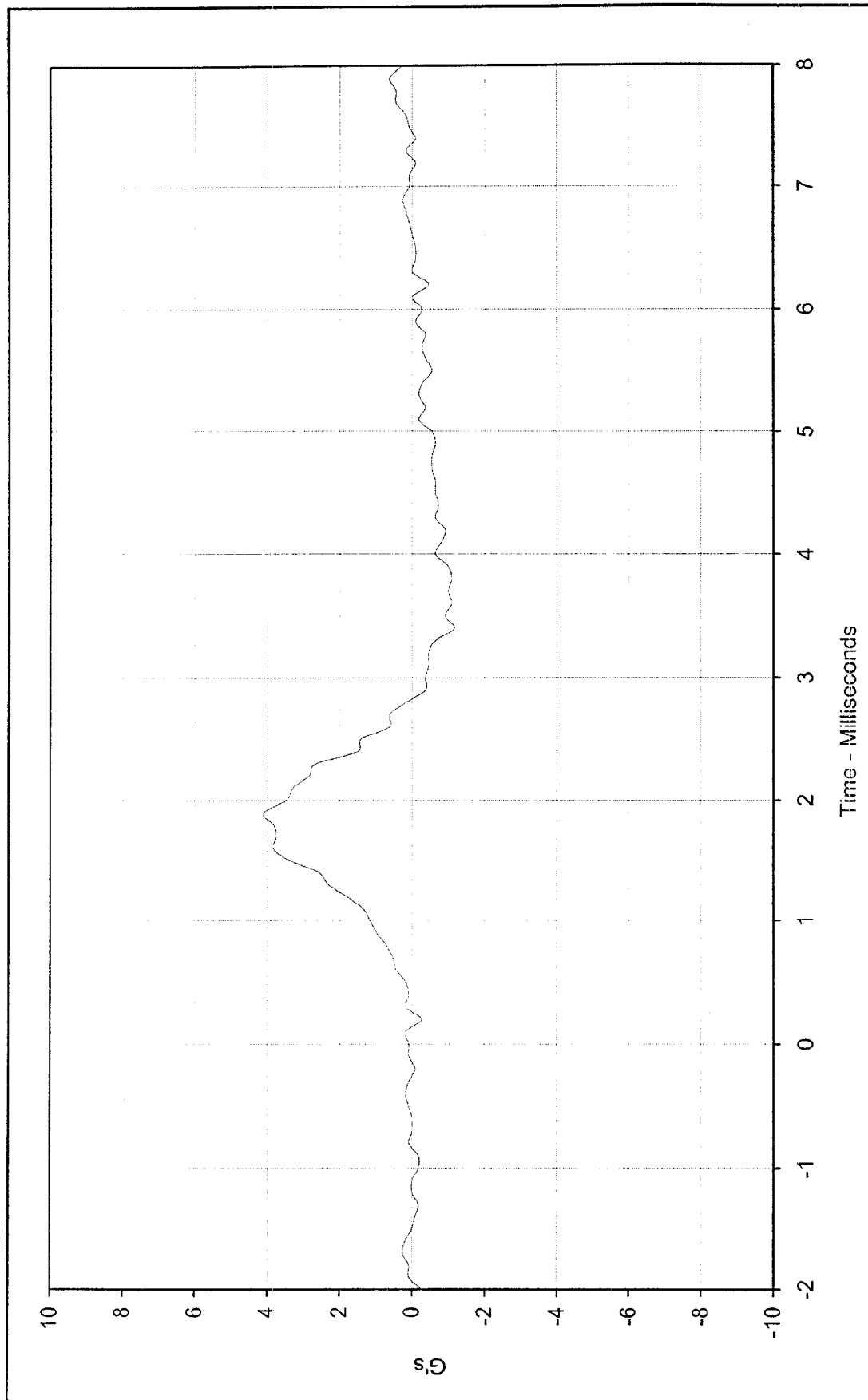

Approved By

2/15/00
Date



Curve Description:	Head Resultant Acceleration	Test Program:	Hybrid II Head Drop Calibration
Maximum Value:	250.0 at 1.7 Milliseconds	Test Information:	SID S/N: 056 Test I.D.: SH00A
Minimum Value:	0.6 at 0.0 Milliseconds		
SAE Filter Class:	1000		
Date of Test:	2/15/00		





Curve Description:	Head Y Axis Acceleration	Test Program:	Hybrid II Head Drop Calibration
Maximum Value:	4.1 at 1.9 Milliseconds	Test Information:	SID S/N: 056 Test I.D.: SH00A
Minimum Value:	-1.2 at 3.4 Milliseconds		
SAE Filter Class:	1000		
Date of Test:	2/15/00		





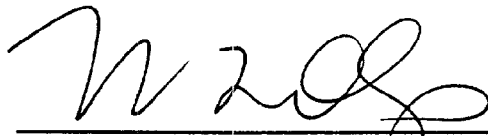
Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 057

Part Serial No.: N/A

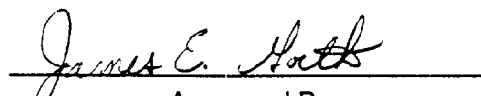
Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	900	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	520	Pass
KV- Knee Pivot From Floor	mm	490 to 505	502	Pass
HW- Hip Width	mm	356 to 391	365	Pass
Overall Test Results				Pass


Laboratory Technician

February 18, 2000

Test Date


Approved By

2/18/00
Date



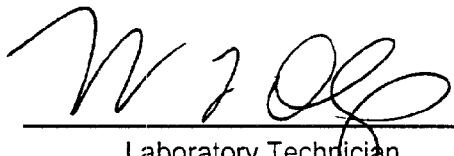
Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 057

Part Serial No.: N/A

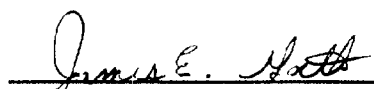
Test I.D.: TI02F

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Left Upper Spine Acceleration	G's	37.0 to 46.0	38.9	Pass
Left Lower Spine Acceleration	G's	37.0 to 46.0	39.7	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	20.9	Pass
Overall Test Results				Pass

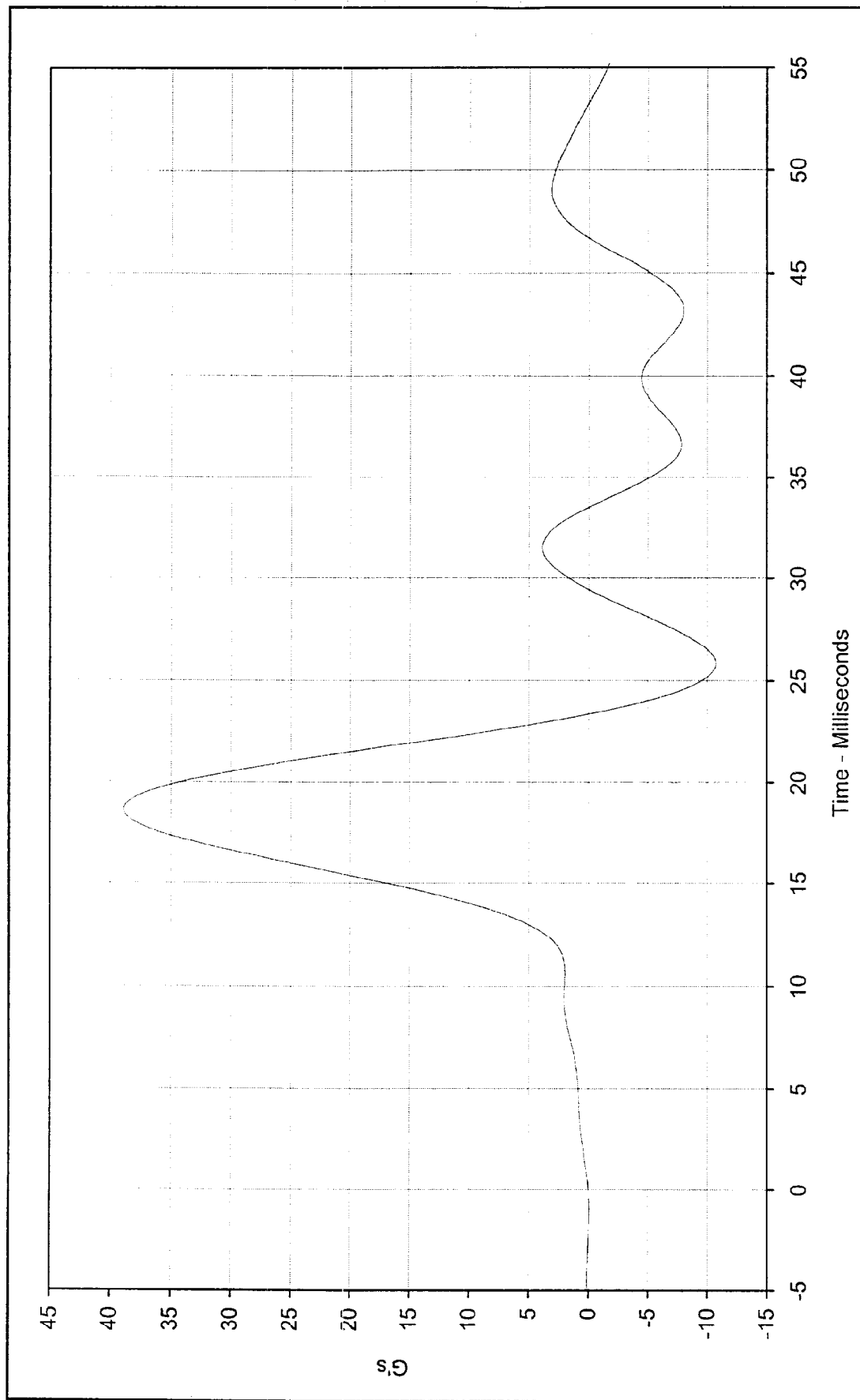

Laboratory Technician

February 14, 2000

Test Date


Approved By

2/14/00
Date



Curve Description: Left Upper Rib Y Acceleration

Maximum Value: 38.9 at 18.6 Milliseconds

Minimum Value: -10.7 at 25.8 Milliseconds

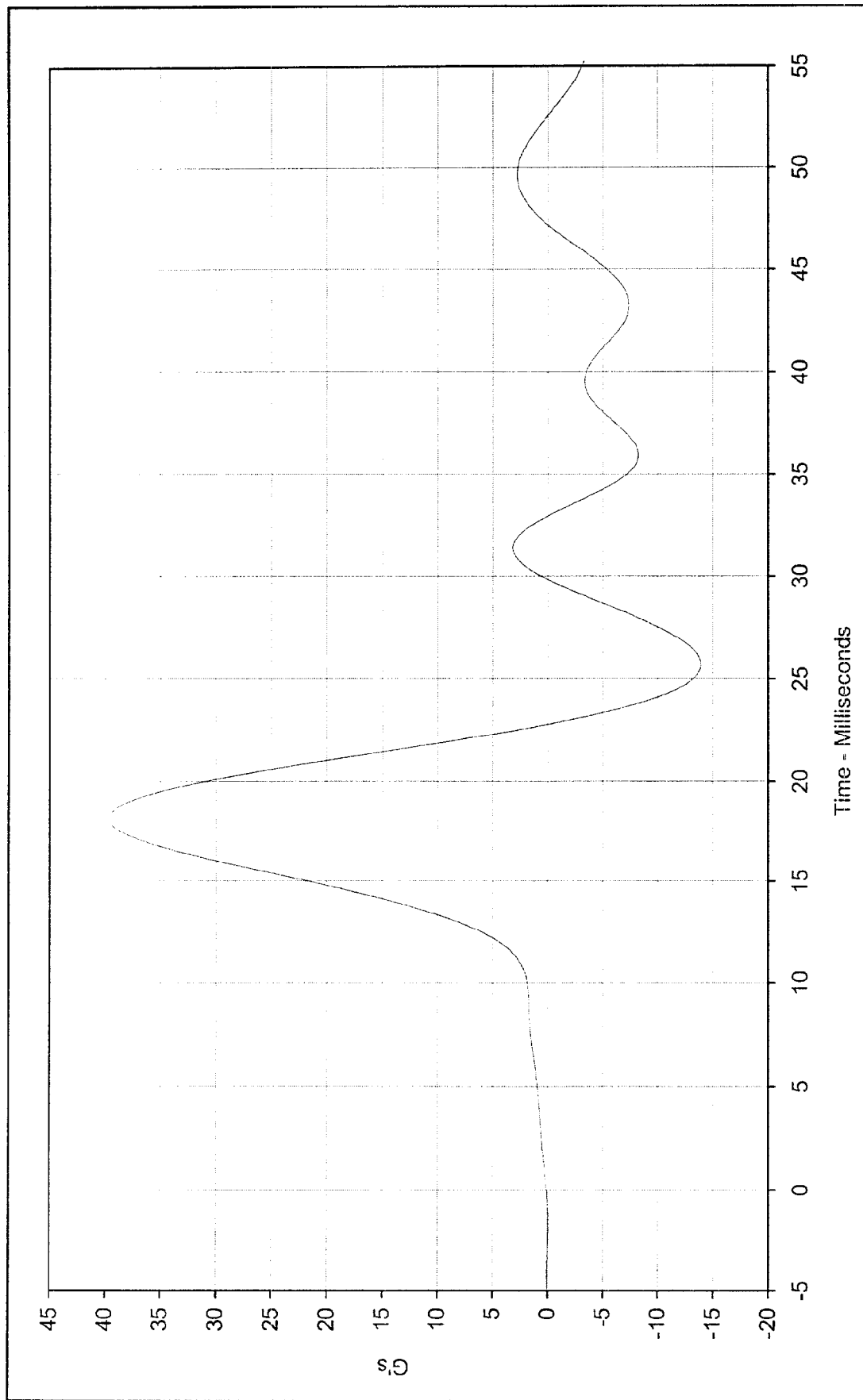
SAE Filter Class: FIR 100

Date of Test: 2/14/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 057 Test I.D.: T102F

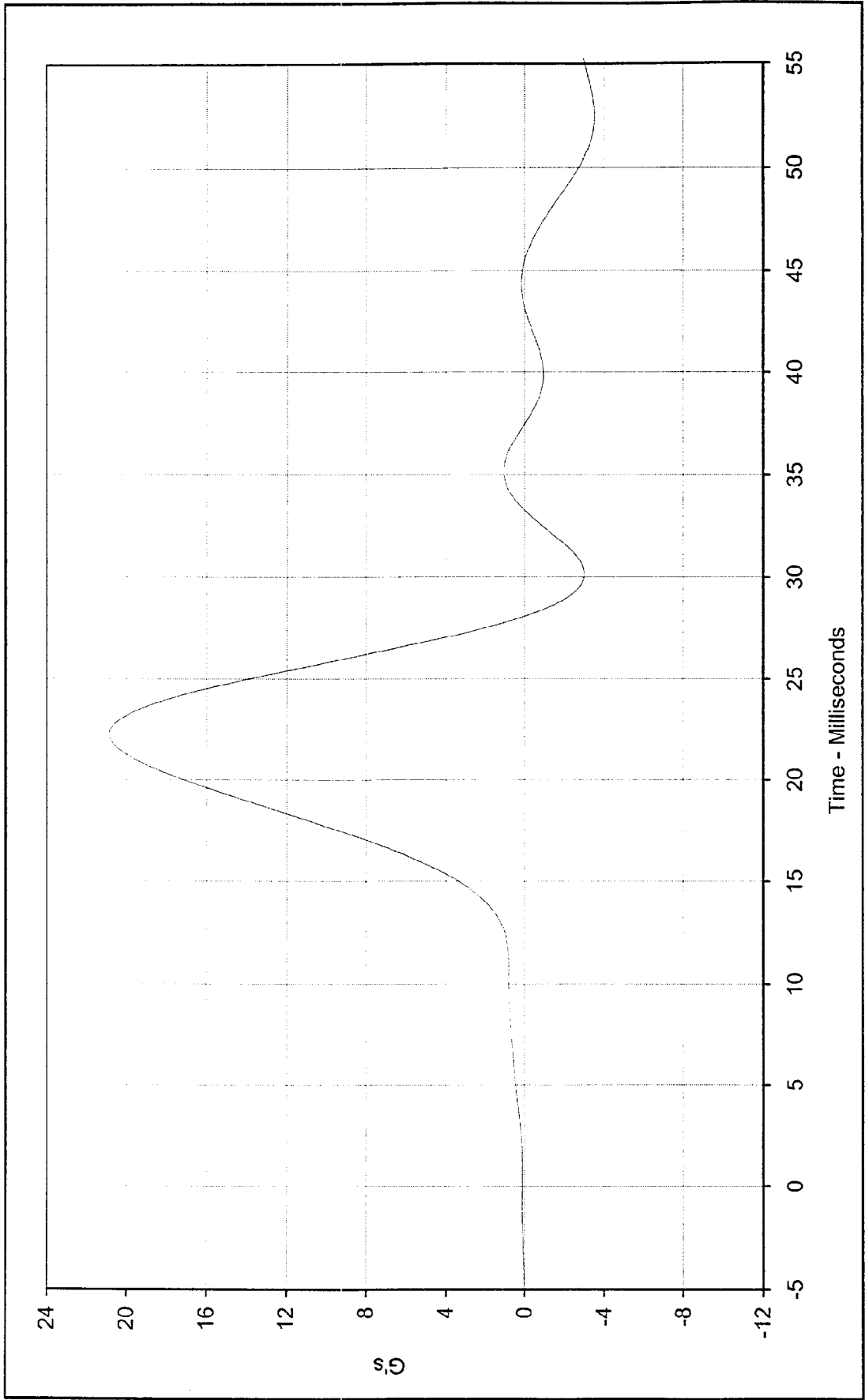




Curve Description: Left Lower Rib Y Acceleration
 Maximum Value: 39.7 at 18.2 Milliseconds
 Minimum Value: -13.9 at 25.7 Milliseconds
 SAE Filter Class: FIR 100
 Date of Test: 2/14/00

Test Program: SID Thorax Lateral Impact Test
 Test Information: SID S/N: 057 Test I.D.: T102F





Curve Description: Lower Spine Y Acceleration

Maximum Value: 20.9 at 22.3 Milliseconds

Minimum Value: -3.5 at 52.5 Milliseconds

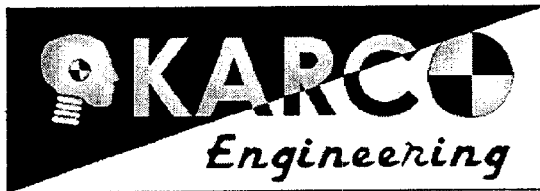
SAE Filter Class: FIR 100

Date of Test: 2/14/00

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 057 Test I.D.: T102F





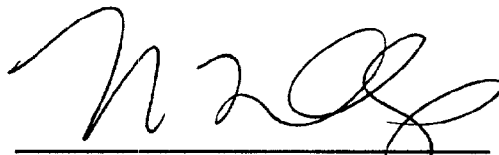
**Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact**

ATD Serial No.: 057

Part Serial No.: N/A

Test I.D.: PI02D

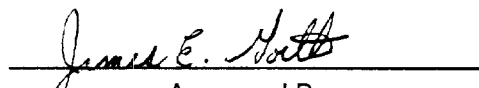
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	43.2	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.8	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass



Laboratory Technician

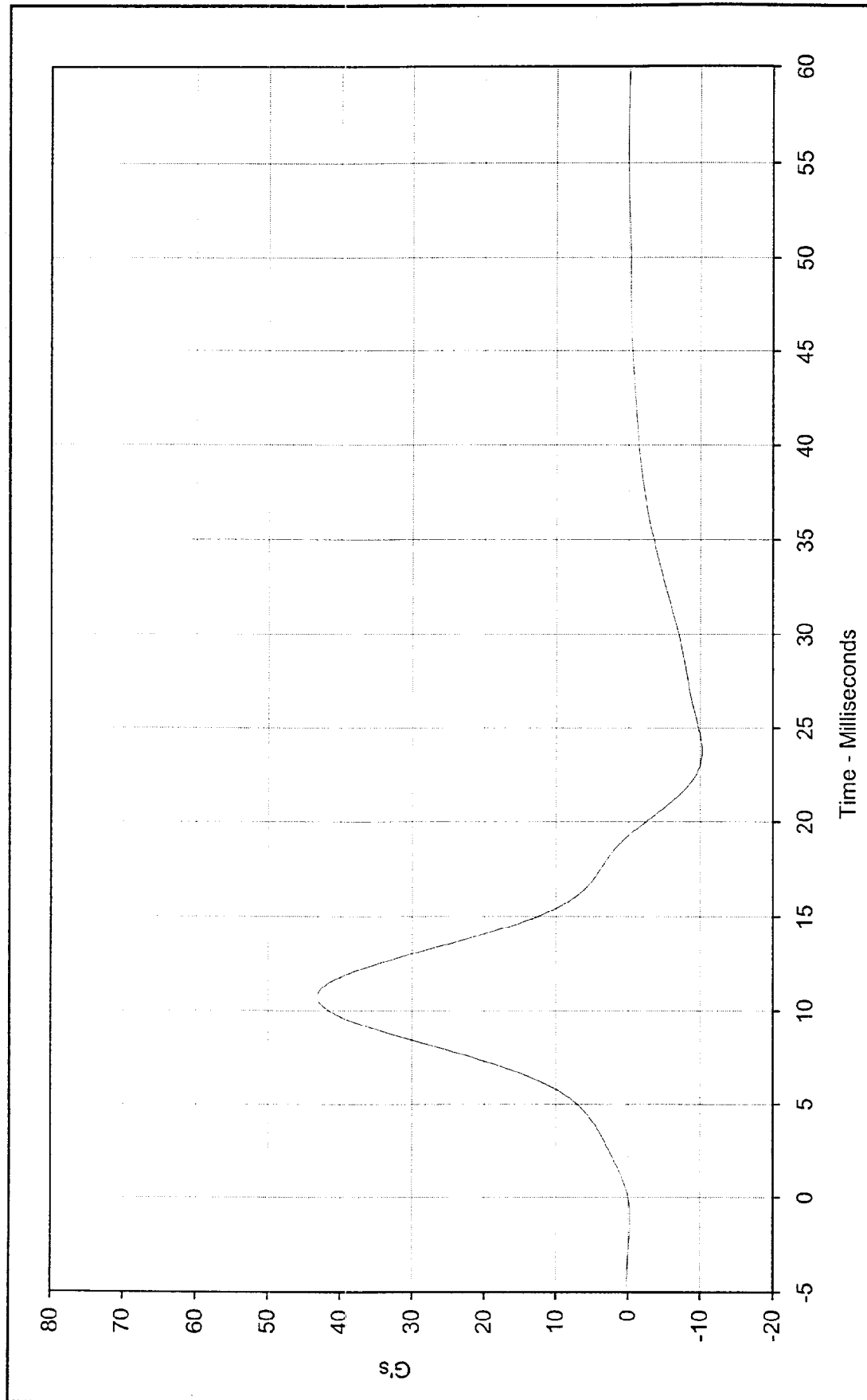
February 14, 2000

Test Date



Approved By

2/14/00
Date



Curve Description:	Pelvis Y Axis Acceleration	Test Program:	Left Side Pelvis Lateral Impact
Maximum Value:	43.2 at 10.7 Milliseconds	Test Information:	SID S/N: 057 Test I.D.: PI02D
Minimum Value:	-10.2 at 23.7 Milliseconds		
SAE Filter Class:	FIR 100		
Date of Test:	2/14/00		





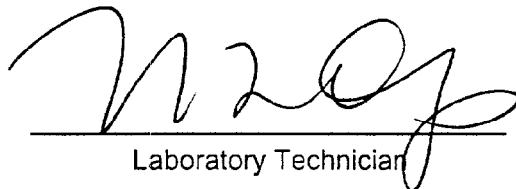
Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 057

Part Serial No.: N/A

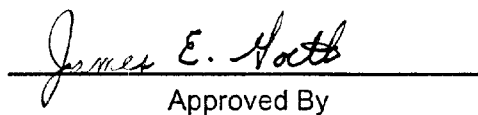
Test I.D.: AB02B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	31	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	25.7	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	39.0	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	56.8	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	86.9	Pass
Overall Test Results				Pass

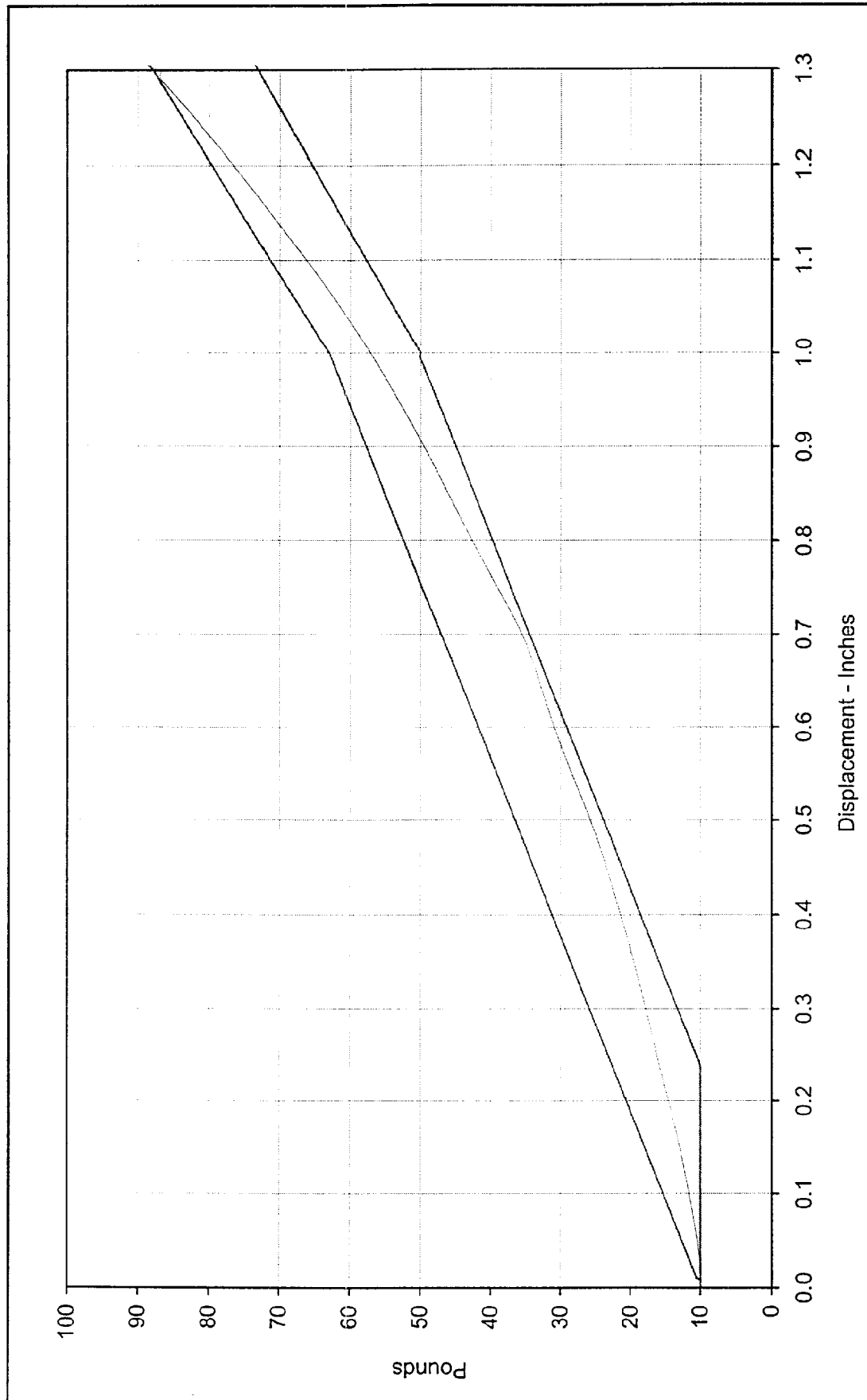

Laboratory Technician

February 16, 2000

Test Date


Approved By

2/16/00
Date



Curve Description: Abdomen Force vs. Displacement Test Program: Hybrid II Abdominal Compression
 Force at 0.5 In.: 25.7 Pounds Test Information: SID S/N: 057 Test I.D.: AB02B
 Force at 0.75 In.: 39.0 Pounds
 Force at 1.0 In.: 56.8 Pounds
 Force at 1.3 In.: 86.9 Pounds
 Date of Test: 2/16/00





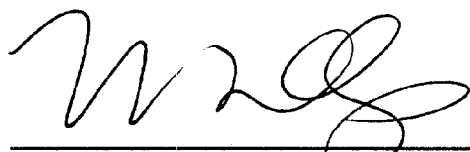
Performance Verification Data Side Impact Dummy (SID) Lumbar Flexion Test

ATD Serial No.: 057

Part Serial No.: N/A

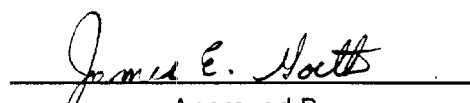
Test I.D.: LF00B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Applied Force at 0° of Flexion	Pounds	0.0	0.0	Pass
Applied Force at 20° of Flexion	Pounds	22.0 to 34.0	27.3	Pass
Applied Force at 30° of Flexion	Pounds	34.0 to 46.0	39.0	Pass
Applied Force at 40° of Flexion	Pounds	46.0 to 58.0	46.4	Pass
Return Angle 3 Minutes After Release	Degrees	≤12.0	4.5	Pass
Overall Test Results				Pass


Laboratory Technician

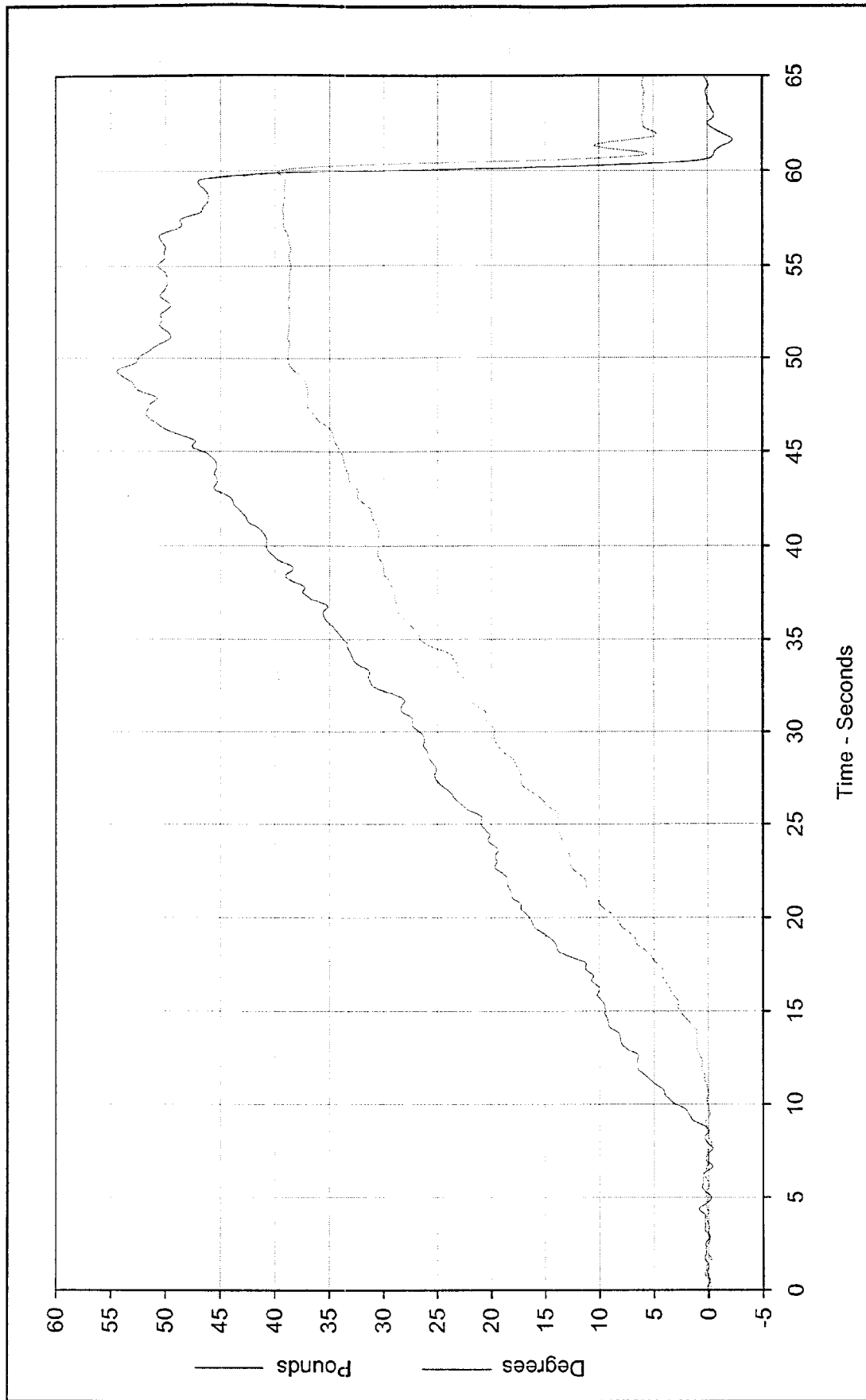
February 17, 2000

Test Date


Approved By

2/17/00

Date



Curve Description: Applied Lumbar Force And Angle Test Program: Hybrid II Lumbar Flexion

Force at 20°: 27.3 Pounds Test Information: SID S/N: 057 Test I.D.: LF00B



Force at 30°: 39.0 Pounds

Force at 40°: 46.4 Pounds

Return Angle: 4.5 Degrees

Test Date: 2/17/00



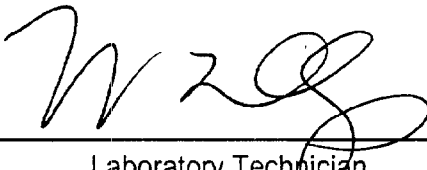
Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 057

Part Serial No.: N/A

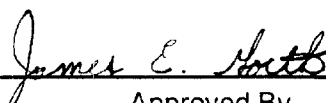
Test I.D.: SH00B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	221.3	Pass
Peak Lateral Acceleration	G's	≤10.0	1.5	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.0	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

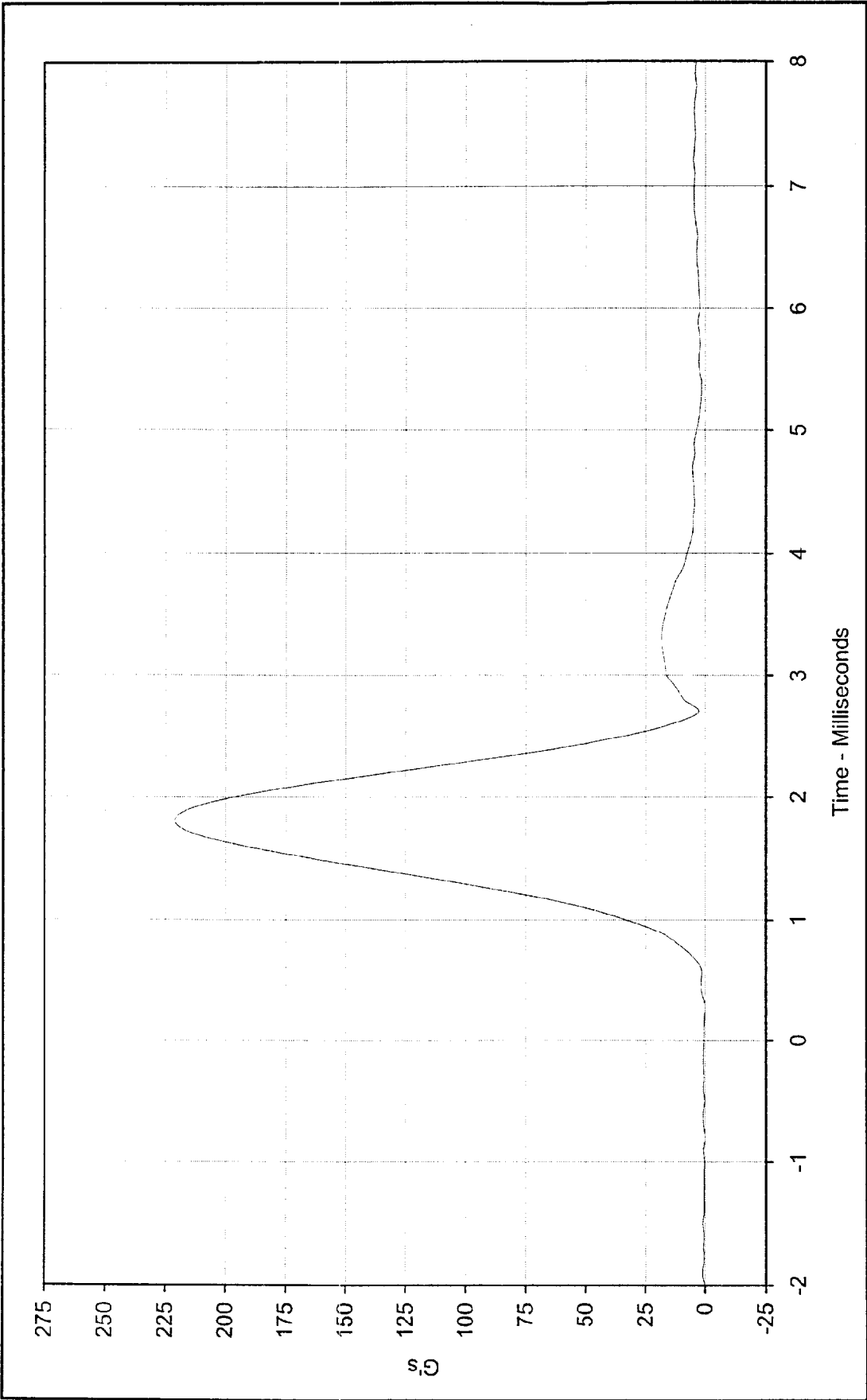

Laboratory Technician

February 15, 2000

Test Date

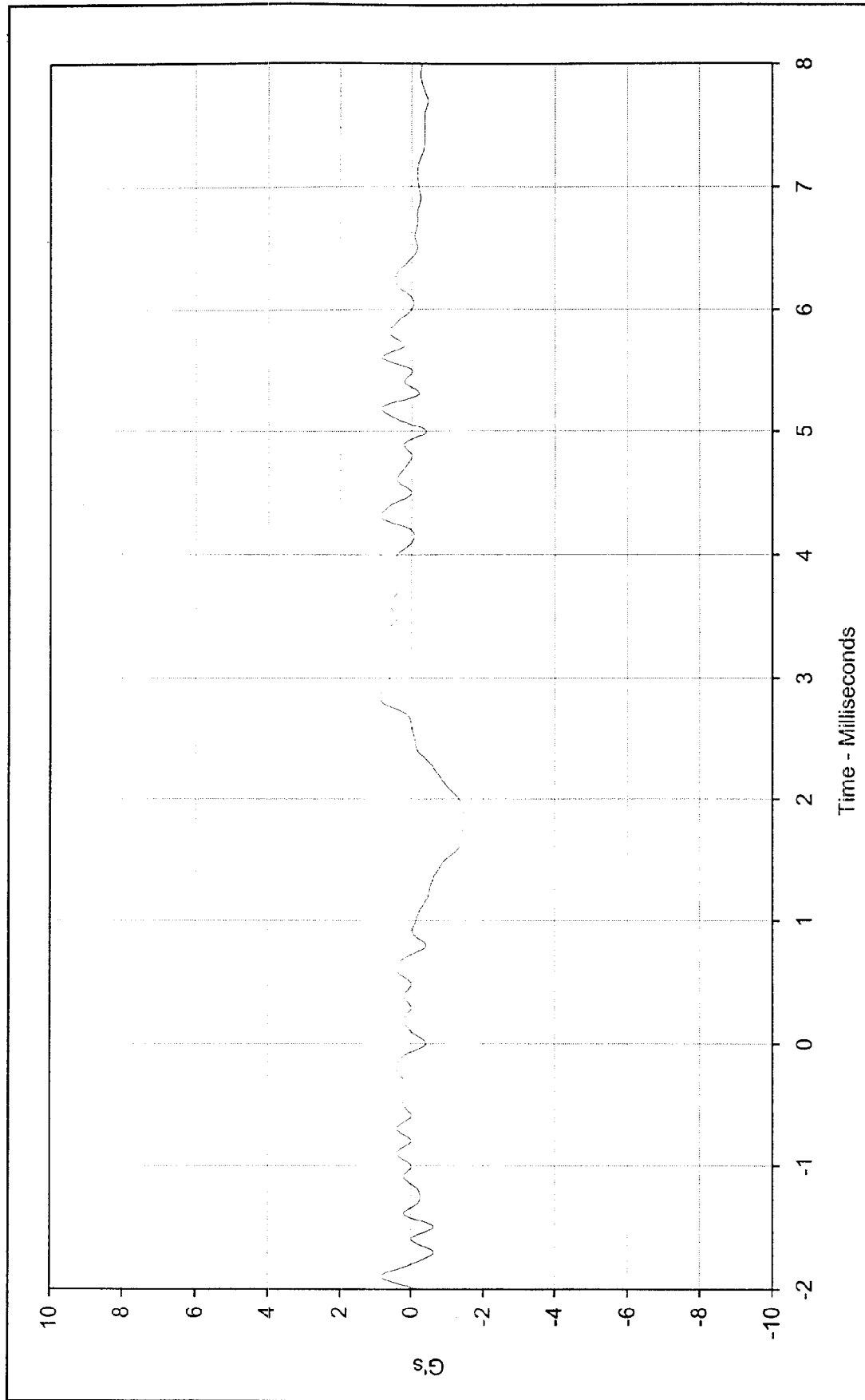

Approved By

2/15/00
Date



Curve Description:	Head Resultant Acceleration	Test Program:	Hybrid II Head Drop Calibration
Maximum Value:	221.3 at 1.8 Milliseconds	Test Information:	SID S/N: 057 Test I.D.: SH00B
Minimum Value:	0.0 at 0.3 Milliseconds		
SAE Filter Class:	1000		
Date of Test:	2/15/00		





Curve Description:		Head Y Axis Acceleration		Test Program:		Hybrid II Head Drop Calibration	
Maximum Value:	0.8	at	2.8	Milliseconds	Test Information:		
Minimum Value:	-1.5	at	1.8	Milliseconds	SID S/N: 057 Test I.D.: SH00B		
SAE Filter Class:	1000						
Date of Test:	2/15/00						

The logo for QKARCO Engineering features the company name in a bold, sans-serif font. A stylized lightbulb icon is positioned to the left of the text. The word "Engineering" is written in a smaller, italicized font below "QKARCO". The entire logo is set against a black background with a white diagonal stripe.





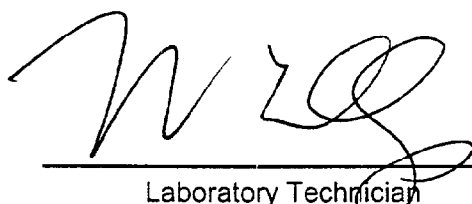
Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 056

Part Serial No.: N/A

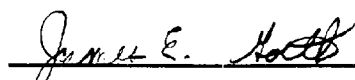
Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.6	Pass
Laboratory relative humidity	%	10 to 70	29	Pass
SH- Seated Height	mm	889 to 909	900	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	521	Pass
KV- Knee Pivot From Floor	mm	490 to 505	501	Pass
HW- Hip Width	mm	356 to 391	363	Pass
Overall Test Results				Pass


Laboratory Technician

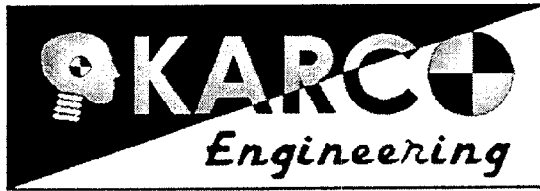
March 2, 2000

Test Date


Approved By

3/2/00

Date



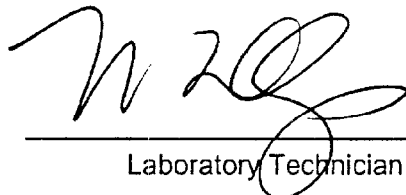
Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 056

Part Serial No.: N/A

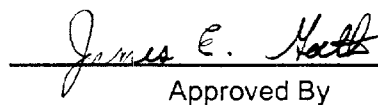
Test I.D.: TI02D

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	22.8	Pass
Laboratory Relative Humidity	%	10 to 70	29	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Left Upper Spine Acceleration	G's	37.0 to 46.0	39.0	Pass
Left Lower Spine Acceleration	G's	37.0 to 46.0	38.7	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	19.6	Pass
Overall Test Results				Pass


Laboratory Technician

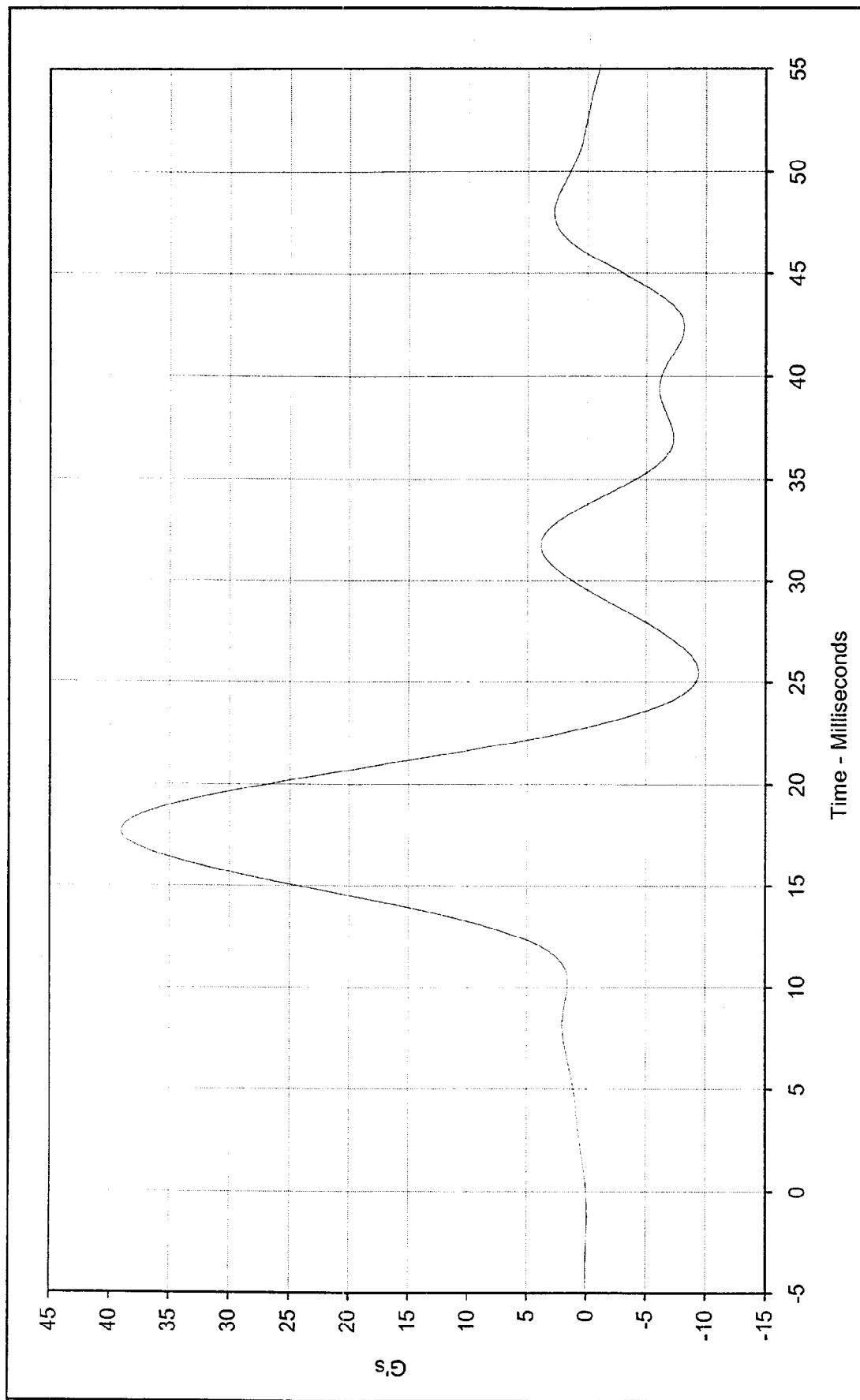
March 1, 2000

Test Date


Approved By

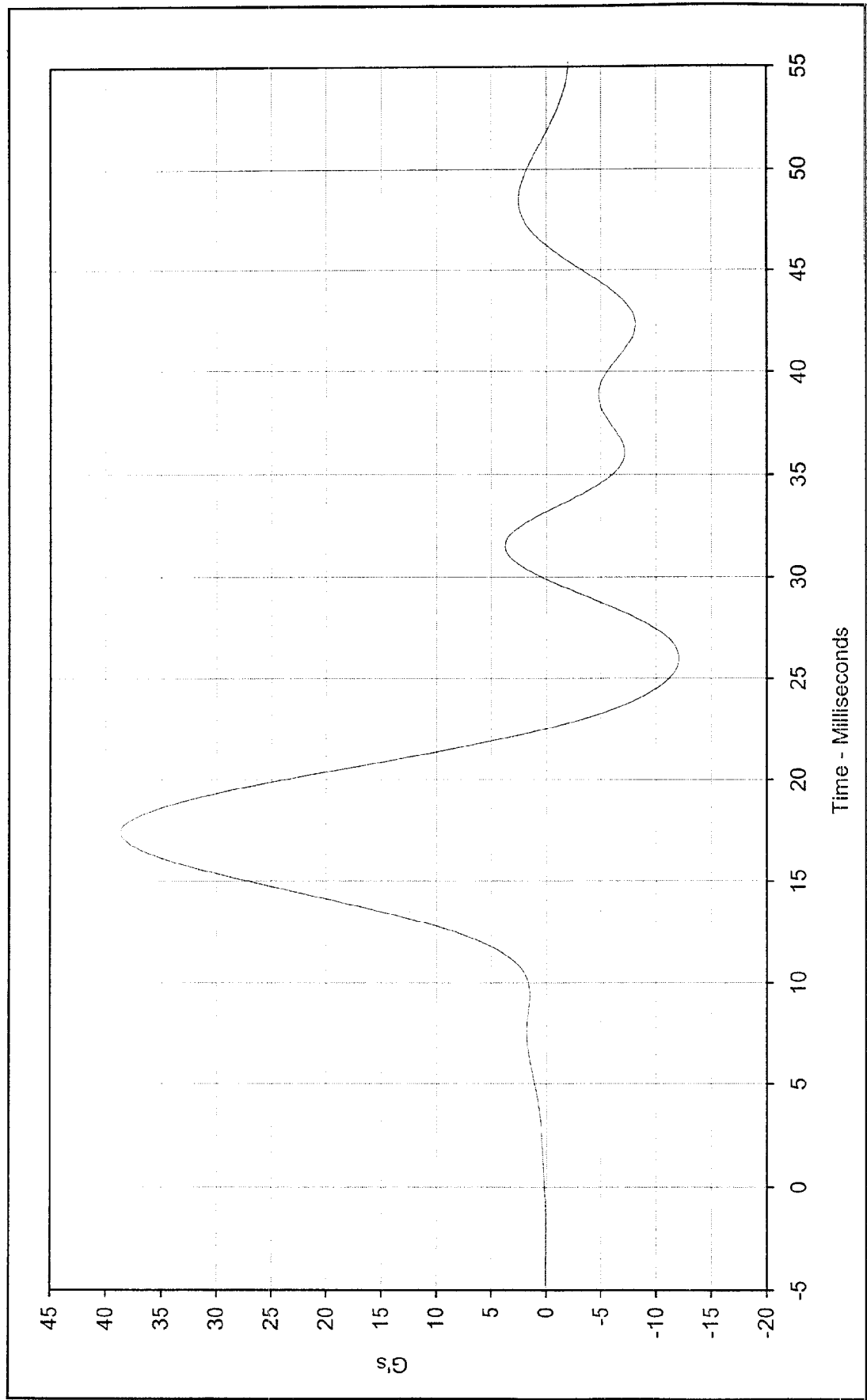


Date



Curve Description:	Left Upper Rib Y Acceleration		Test Program:	SID Thorax Lateral Impact Test
Maximum Value:	39.0	at 17.7 Milliseconds	Test Information:	SID S/N: 056 Test I.D.: T102D
Minimum Value:	-9.4	at 25.5 Milliseconds		
SAE Filter Class:	FIR 100			
Date of Test:	3/1/00			

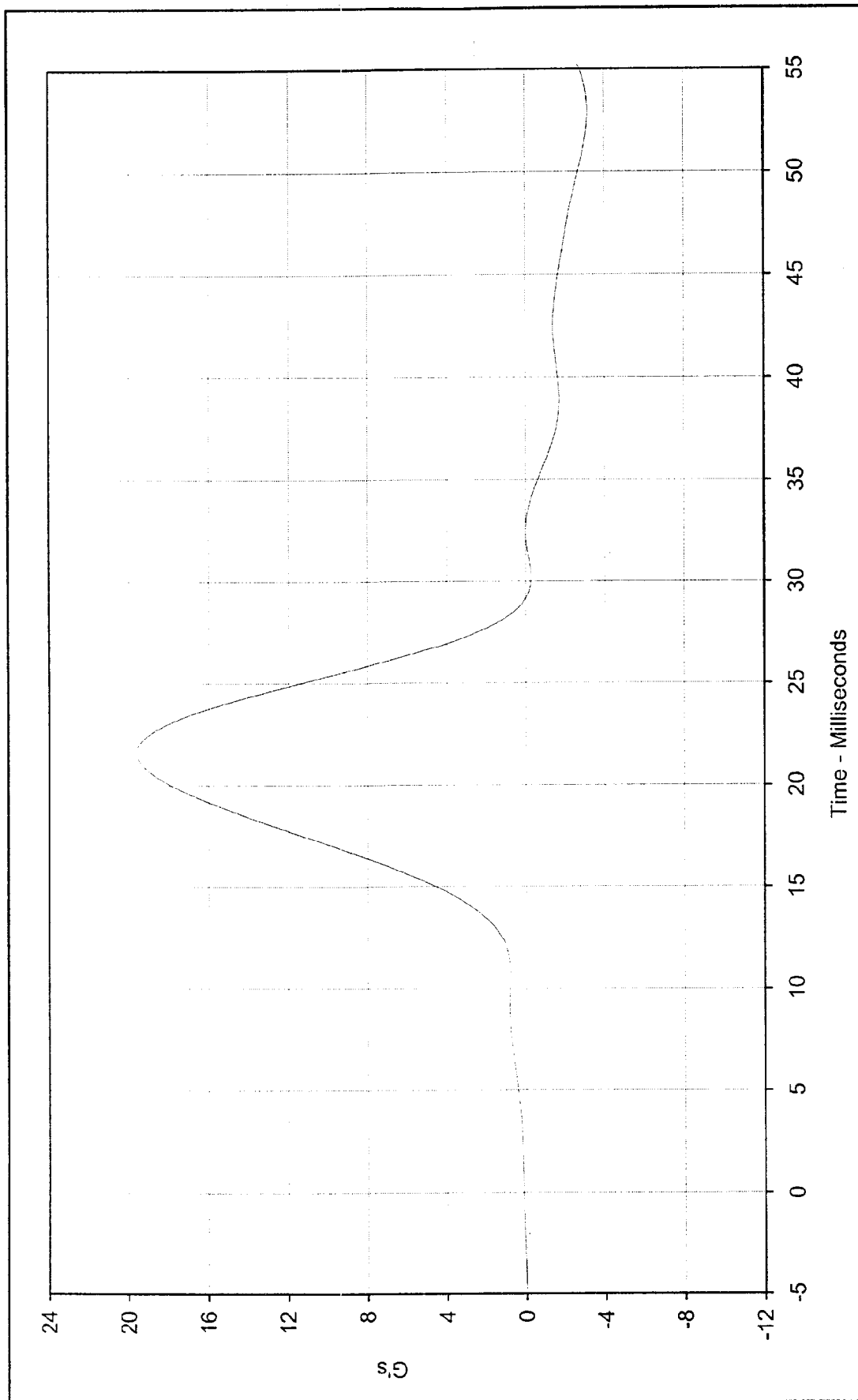




Curve Description: Left Lower Rib Y Acceleration
Maximum Value: 38.7 at 17.4 Milliseconds
Minimum Value: -12.1 at 26.0 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 3/1/00

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 056 Test I.D.: TI02D





Curve Description: Lower Spine Y Acceleration Test Program: SID Thorax Lateral Impact Test
Maximum Value: 19.6 at 21.6 Milliseconds Test Information: SID S/N: 056 Test I.D.: TI02D
Minimum Value: -3.2 at 53.0 Milliseconds

SAE Filter Class: FIR 100
Date of Test: 3/1/00





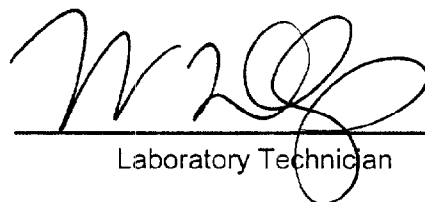
**Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact**

ATD Serial No.: 056

Part Serial No.: N/A

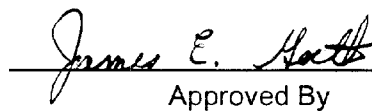
Test I.D.: PI01F

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	43.2	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

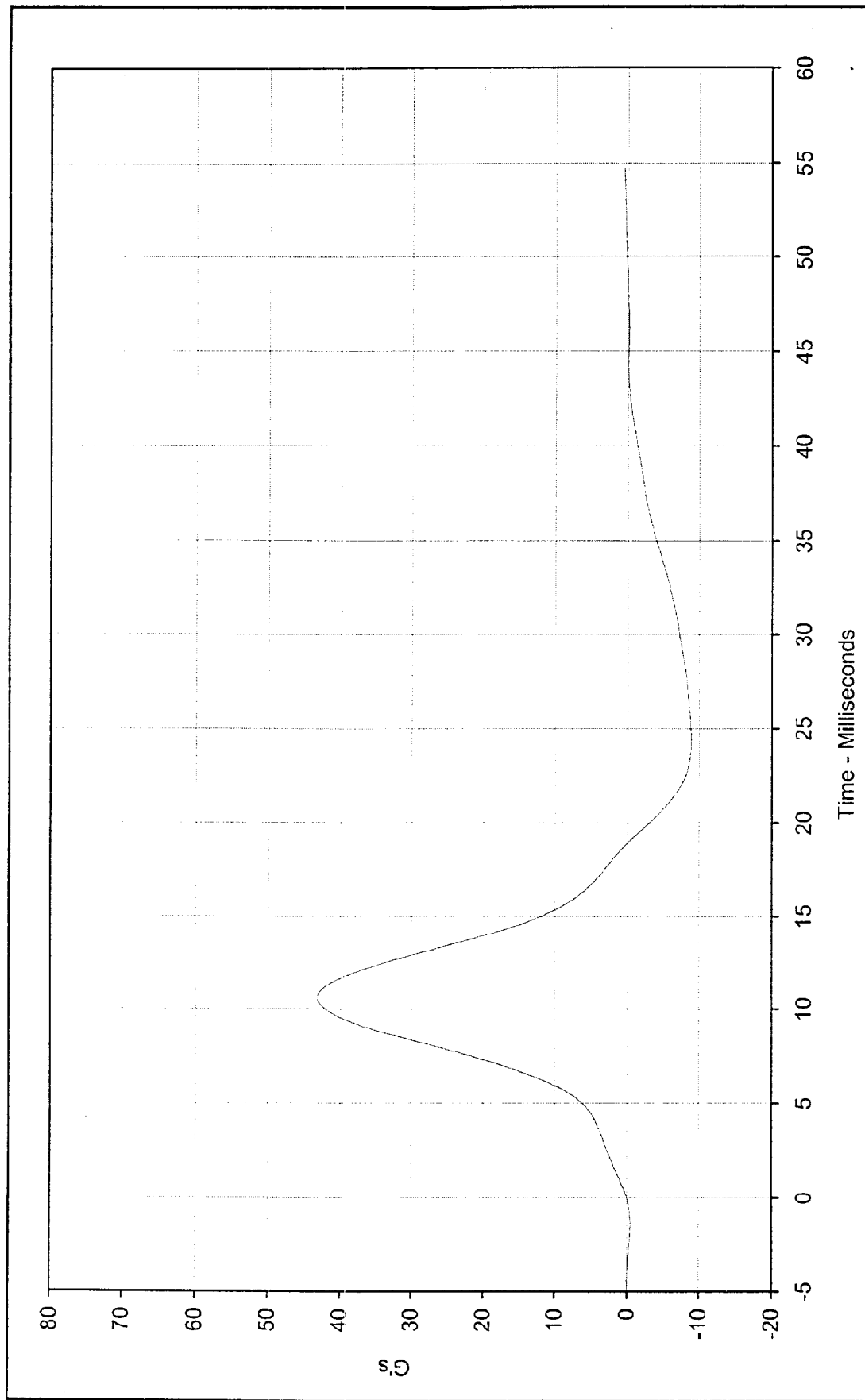
March 1, 2000

Test Date


Approved By

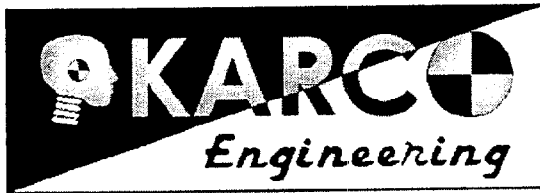
3/1/00

Date



Curve Description:	Pelvis Y Axis Acceleration	Test Program:	Left Side Pelvis Lateral Impact
Maximum Value:	43.2 at 10.6 Milliseconds	Test Information:	SID S/N: 056 Test I.D.: PI01F
Minimum Value:	-8.9 at 24.3 Milliseconds		
SAE Filter Class:	FIR 100		
Date of Test:	3/1/00		





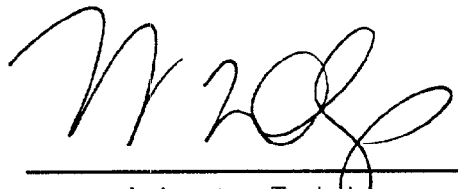
Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 056

Part Serial No.: N/A

Test I.D.: AB01A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	29	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	32.1	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	44.7	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	58.3	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	79.3	Pass
Overall Test Results				Pass



Laboratory Technician

March 2, 2000

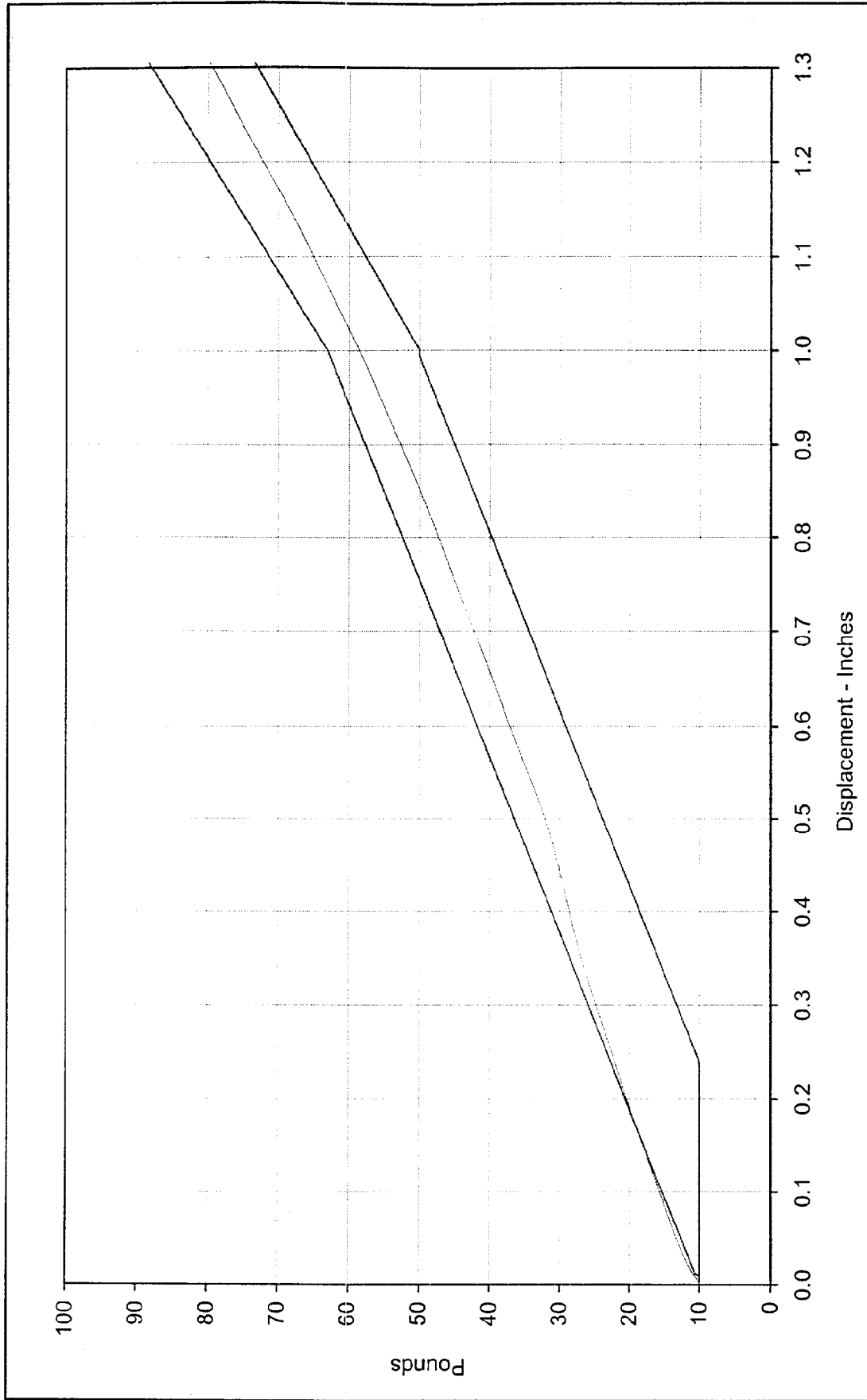
Test Date



Approved By

3/2/00

Date



Curve Description: Abdomen Force vs. Displacement Test Program: Hybrid II Abdominal Compression

Force at 0.5 In.: 32.1 Pounds Test Information: SID S/N: 056 Test I.D.: AB01A

Force at 0.75 In.: 44.7 Pounds

Force at 1.0 In.: 58.3 Pounds

Force at 1.3 In.: 79.3 Pounds

Date of Test: 3/2/00





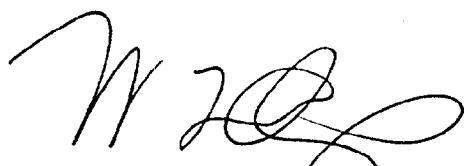
Performance Verification Data Side Impact Dummy (SID) Lumbar Flexion Test

ATD Serial No.: 056

Part Serial No.: N/A

Test I.D.: LM01A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Applied Force at 0° of Flexion	Pounds	0.0	0.0	Pass
Applied Force at 20° of Flexion	Pounds	22.0 to 34.0	22.8	Pass
Applied Force at 30° of Flexion	Pounds	34.0 to 46.0	36.0	Pass
Applied Force at 40° of Flexion	Pounds	46.0 to 58.0	51.4	Pass
Return Angle 3 Minutes After Release	Degrees	≤12.0	4.1	Pass
Overall Test Results				Pass



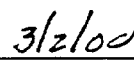
Laboratory Technician

March 2, 2000

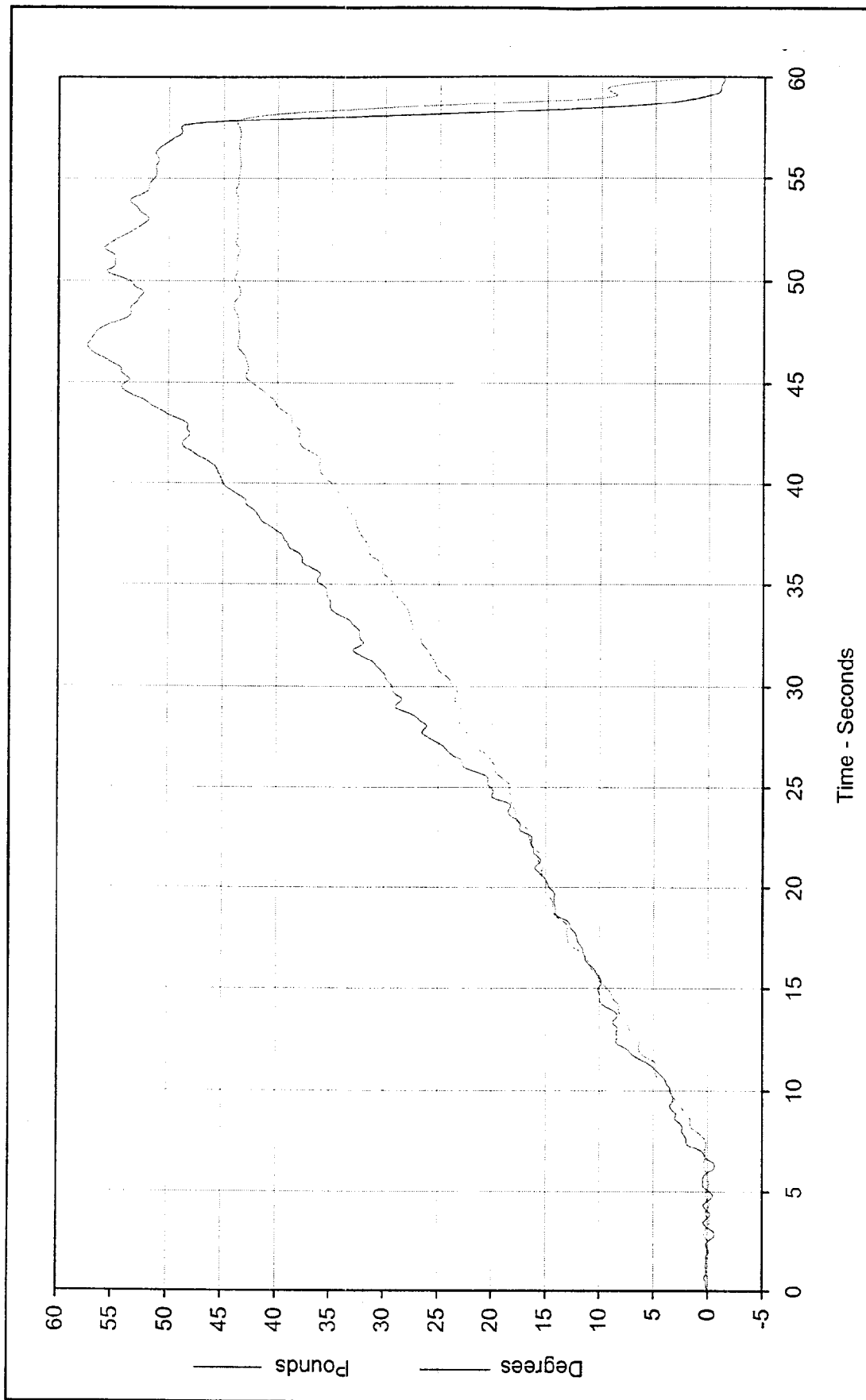
Test Date



Approved By

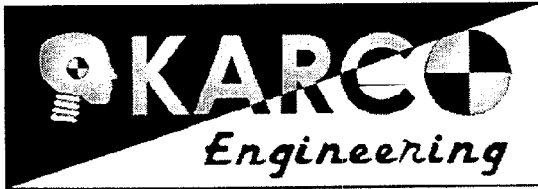


Date



Curve Description:		Test Program:	
Applied Lumbar Force And Angle		Hybrid II Lumbar Flexion	
Force at 20°:	22.8 Pounds	Test Information:	
Force at 30°:	36.0 Pounds	SID S/N: 056 Test I.D.: LM01A	
Force at 40°:	51.4 Pounds		
Return Angle:	4.1 Degrees		
Test Date:	3/2/00		





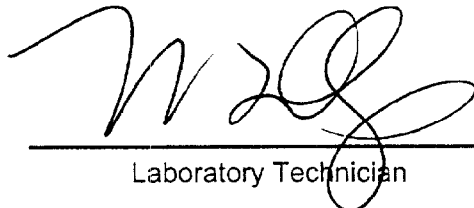
Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 056

Part Serial No.: N/A

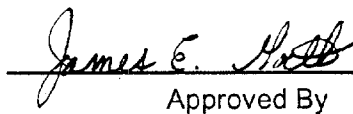
Test I.D.: HD01A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	256.4	Pass
Peak Lateral Acceleration	G's	≤10.0	2.9	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.2	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

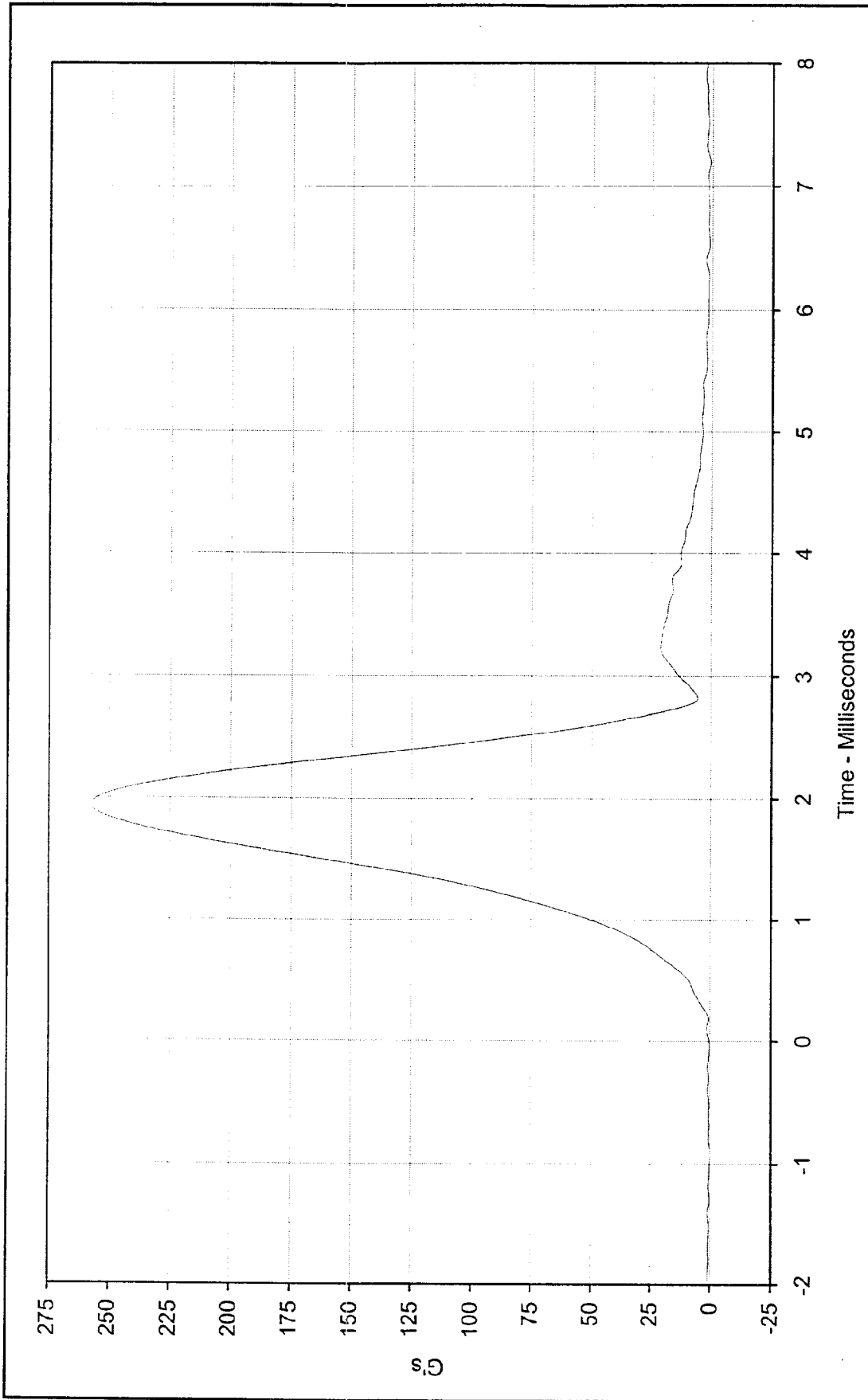
March 1, 2000

Test Date


Approved By

3/1/00

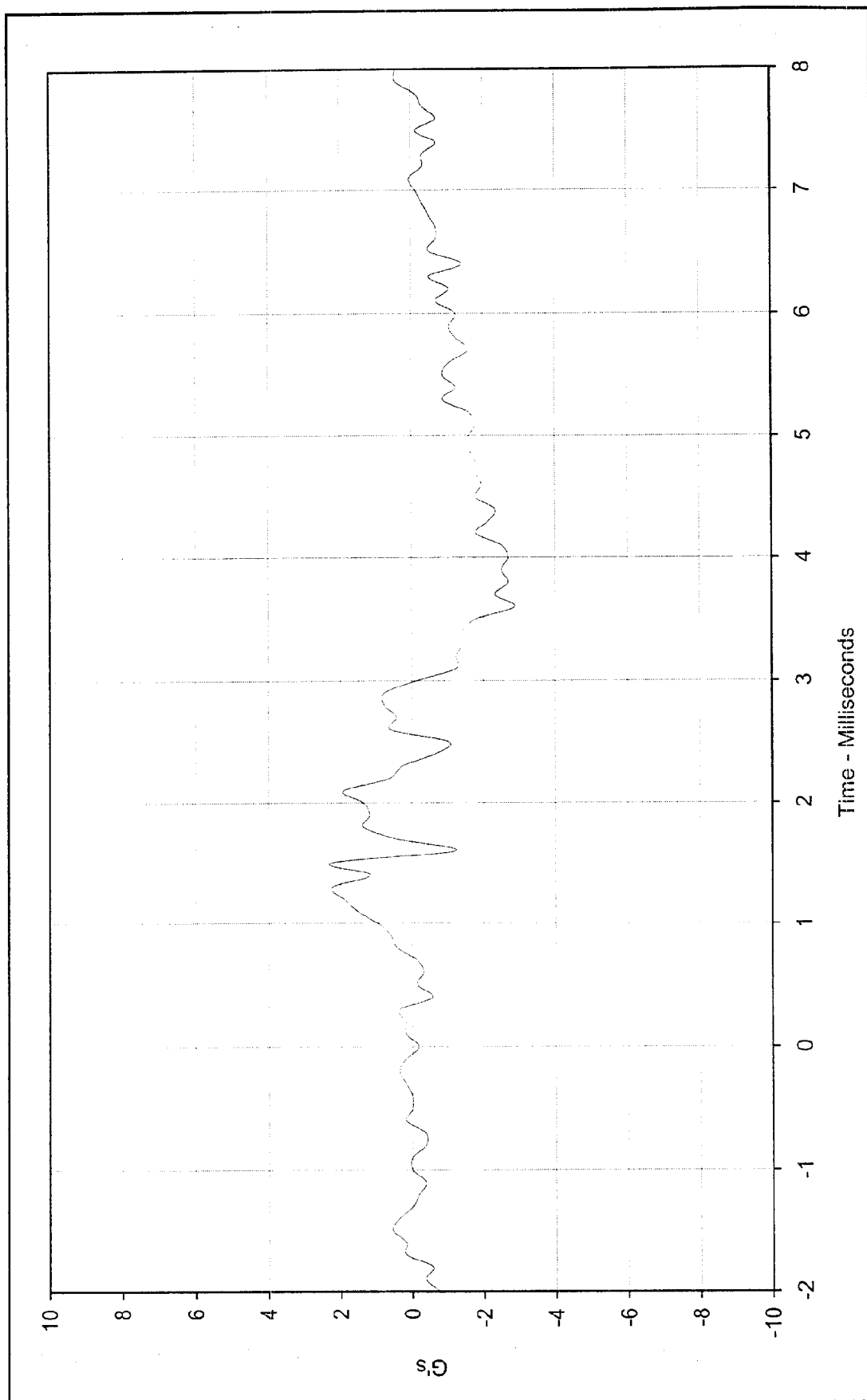
Date



Curve Description: Head Resultant Acceleration
Maximum Value: 256.4 at 1.9 Milliseconds
Minimum Value: 0.5 at 0.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 3/1/00

Test Program: Hybrid II Head Drop Calibration
Test Information: SID S/N: 056 Test I.D.: HD01A





Curve Description:		Head Y Axis Acceleration		Test Program:		Hybrid II Head Drop Calibration	
Maximum Value:	2.3	at	1.5	Milliseconds	Test Information:	SID S/N: 056	Test I.D.: HD01A
Minimum Value:	-2.9	at	3.6	Milliseconds			
SAE Filter Class:	1000						
Date of Test:	3/1/00						





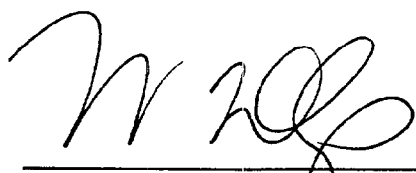
Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 057

Part Serial No.: N/A

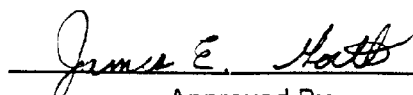
Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.7	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	901	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	505	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	522	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	364	Pass
Overall Test Results				Pass


Laboratory Technician

March 2, 2000

Test Date


Approved By

3/2/00

Date



Performance Verification Data

Side Impact Dummy (SID)

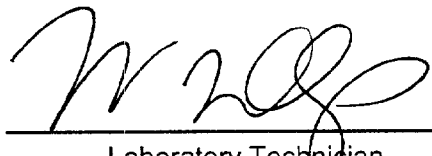
Thorax Lateral Impact

ATD Serial No.: 057

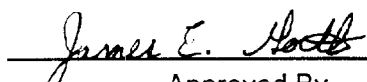
Part Serial No.: N/A

Test I.D.: TI02C

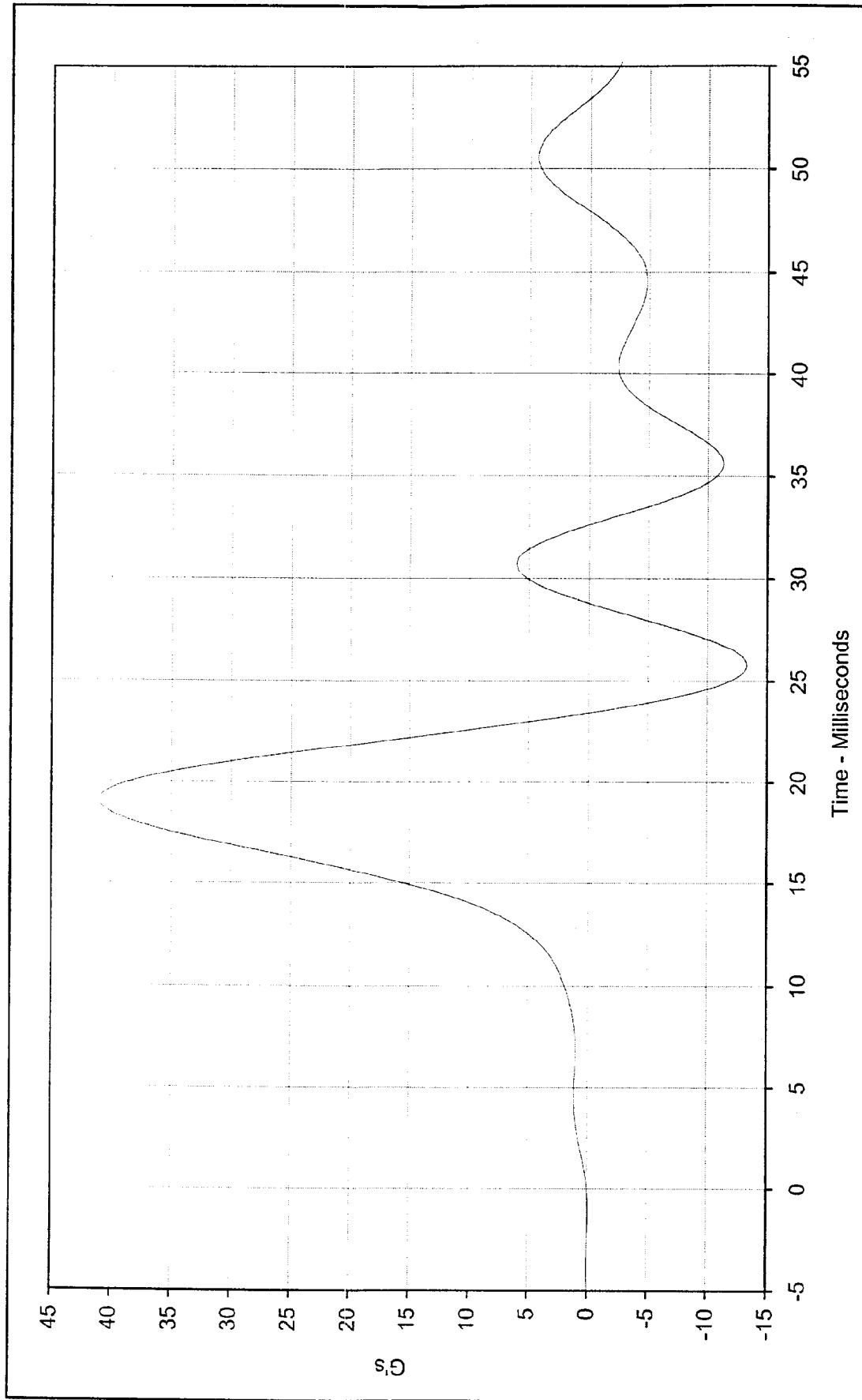
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	22.8	Pass
Laboratory Relative Humidity	%	10 to 70	29	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Left Upper Spine Acceleration	G's	37.0 to 46.0	41.0	Pass
Left Lower Spine Acceleration	G's	37.0 to 46.0	38.5	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	21.0	Pass
Overall Test Results				Pass


Laboratory Technician

March 1, 2000
Test Date

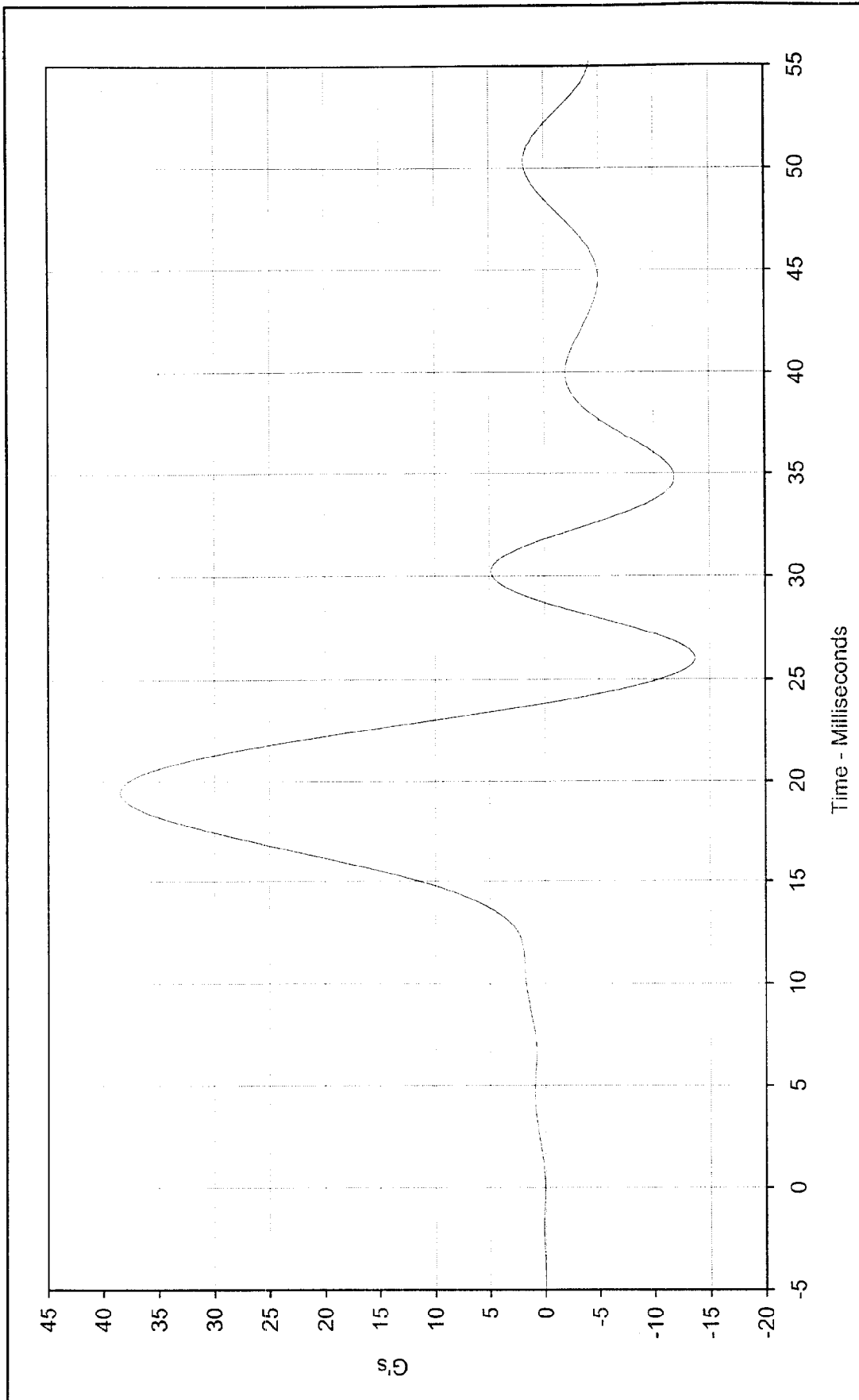

Approved By

3/1/00
Date



Curve Description:	Left Upper Rib Y Acceleration	Test Program:	SID Thorax Lateral Impact Test
Maximum Value:	41.0 at 19.1 Milliseconds	Test Information:	SID S/N: 057 Test I.D.: T102C
Minimum Value:	-13.3 at 25.8 Milliseconds		
SAE Filter Class:	FIR 100		
Date of Test:	3/1/00		

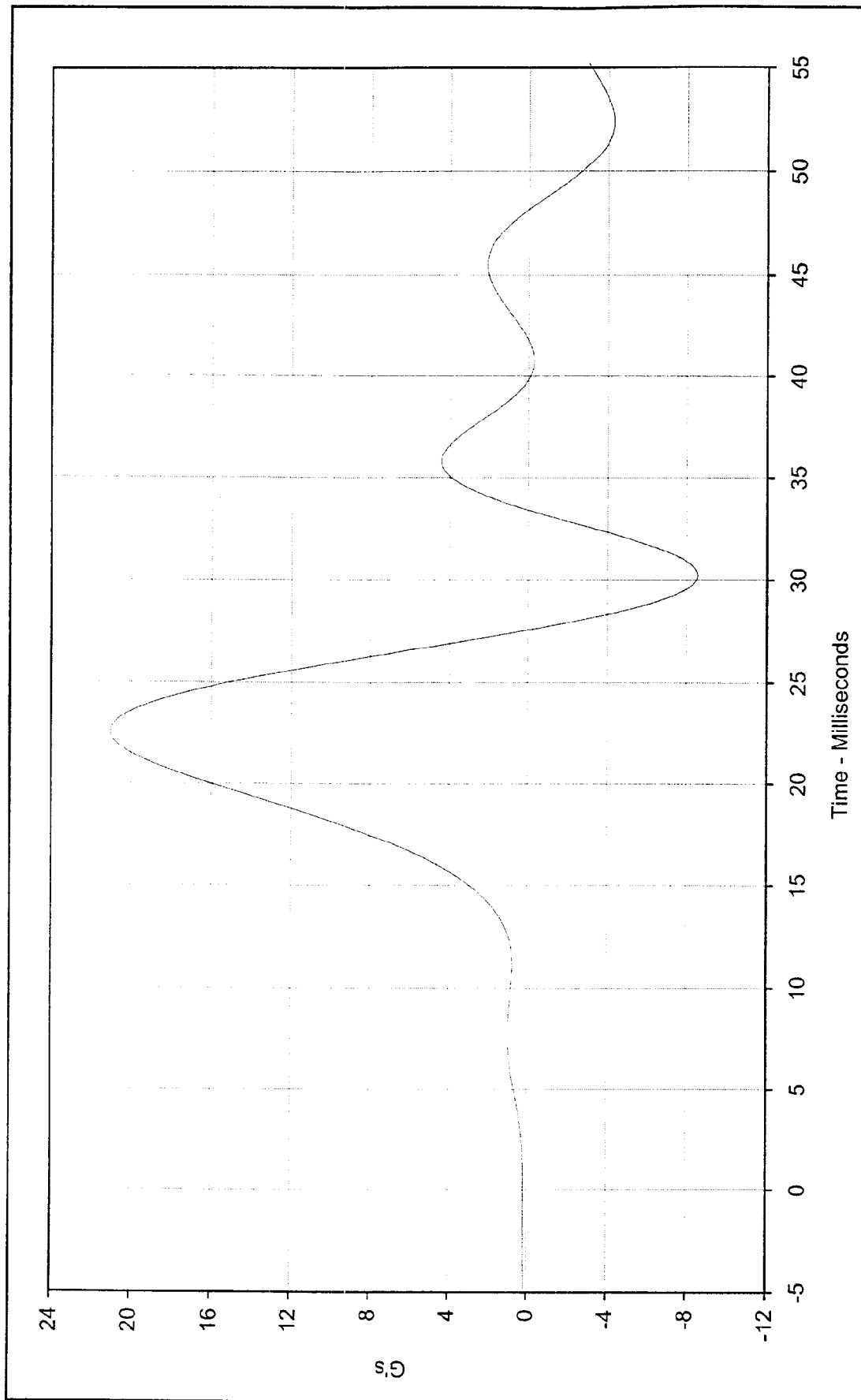




Curve Description: Left Lower Rib Y Acceleration
 Maximum Value: 38.5 at 19.5 Milliseconds
 Minimum Value: -13.7 at 26.0 Milliseconds
 SAE Filter Class: FIR 100
 Date of Test: 3/1/00

Test Program: SID Thorax Lateral Impact Test
 Test Information: SID S/N: 057 Test I.D.: T102C





Curve Description: Lower Spine Y Acceleration
 Maximum Value: 21.0 at 22.6 Milliseconds
 Minimum Value: -8.6 at 30.2 Milliseconds
 SAE Filter Class: FIR 100
 Date of Test: 3/1/00

Test Program: SID Thorax Lateral Impact Test
 Test Information: SID S/N: 057 Test I.D.: T102C





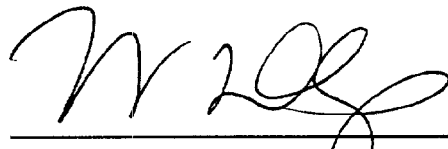
**Performance Verification Data
Side Impact Dummy (SID)
Left Side Pelvis Lateral Impact**

ATD Serial No.: 057

Part Serial No.: N/A

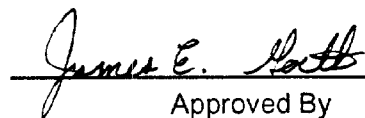
Test I.D.: PI01E

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.7	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	44.9	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

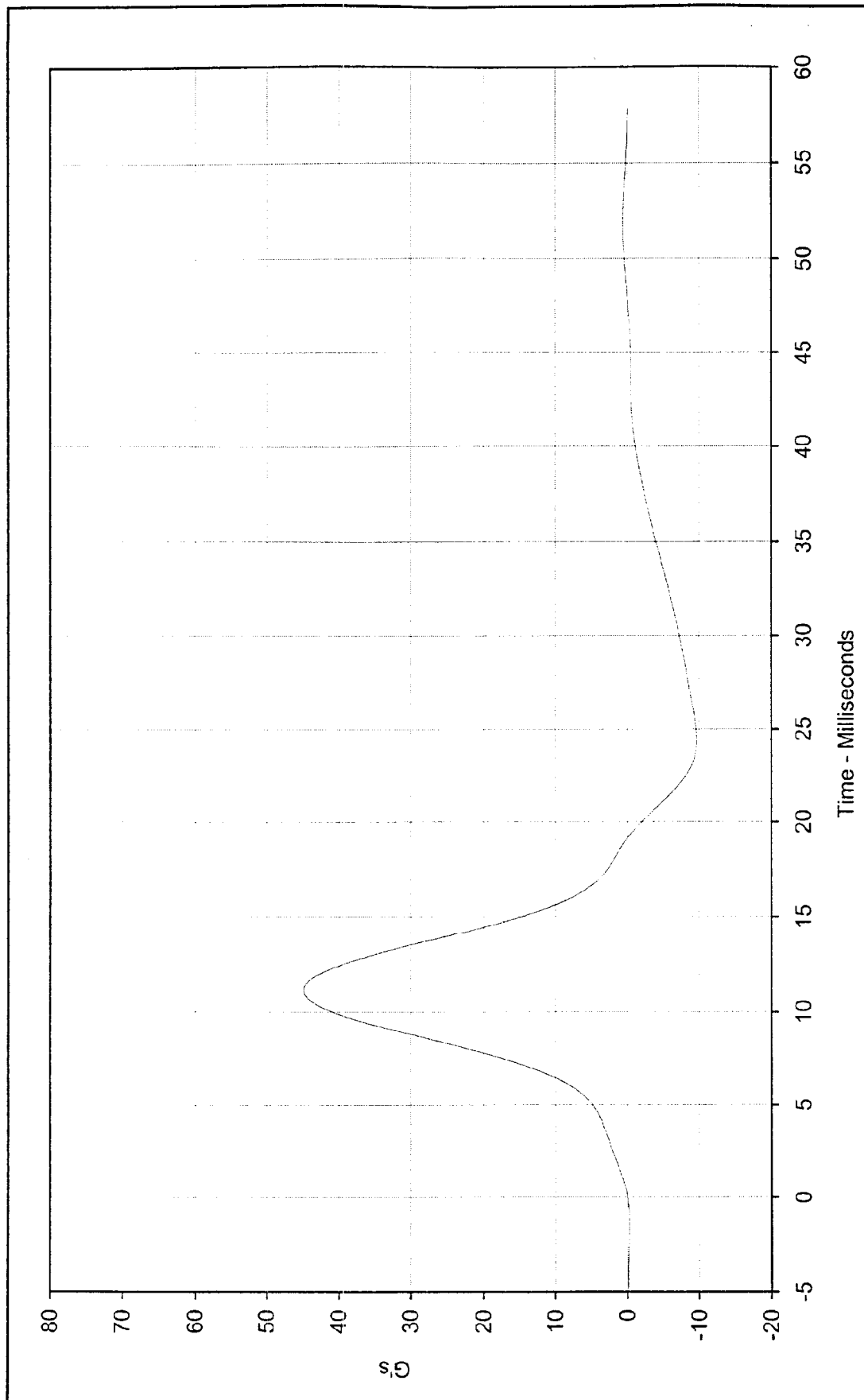
March 1, 2000

Test Date


Approved By

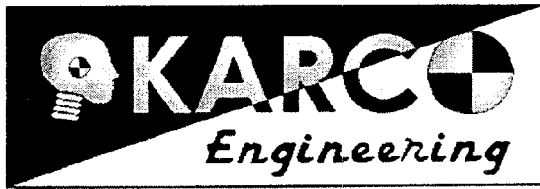
3/1/00

Date



Curve Description:	Pelvis Y Axis Acceleration	Test Program:	Left Side Pelvis Lateral Impact
Maximum Value:	44.9 at 11.1 Milliseconds	Test Information:	SID S/N: 057 Test I.D.: PI01E
Minimum Value:	-9.7 at 24.4 Milliseconds		
SAE Filter Class:	FIR 100		
Date of Test:	3/1/00		





Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 057

Part Serial No.: N/A

Test I.D.: AB01B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	29	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	32.2	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	44.4	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	60.2	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	86.8	Pass
Overall Test Results				Pass

Laboratory Technician

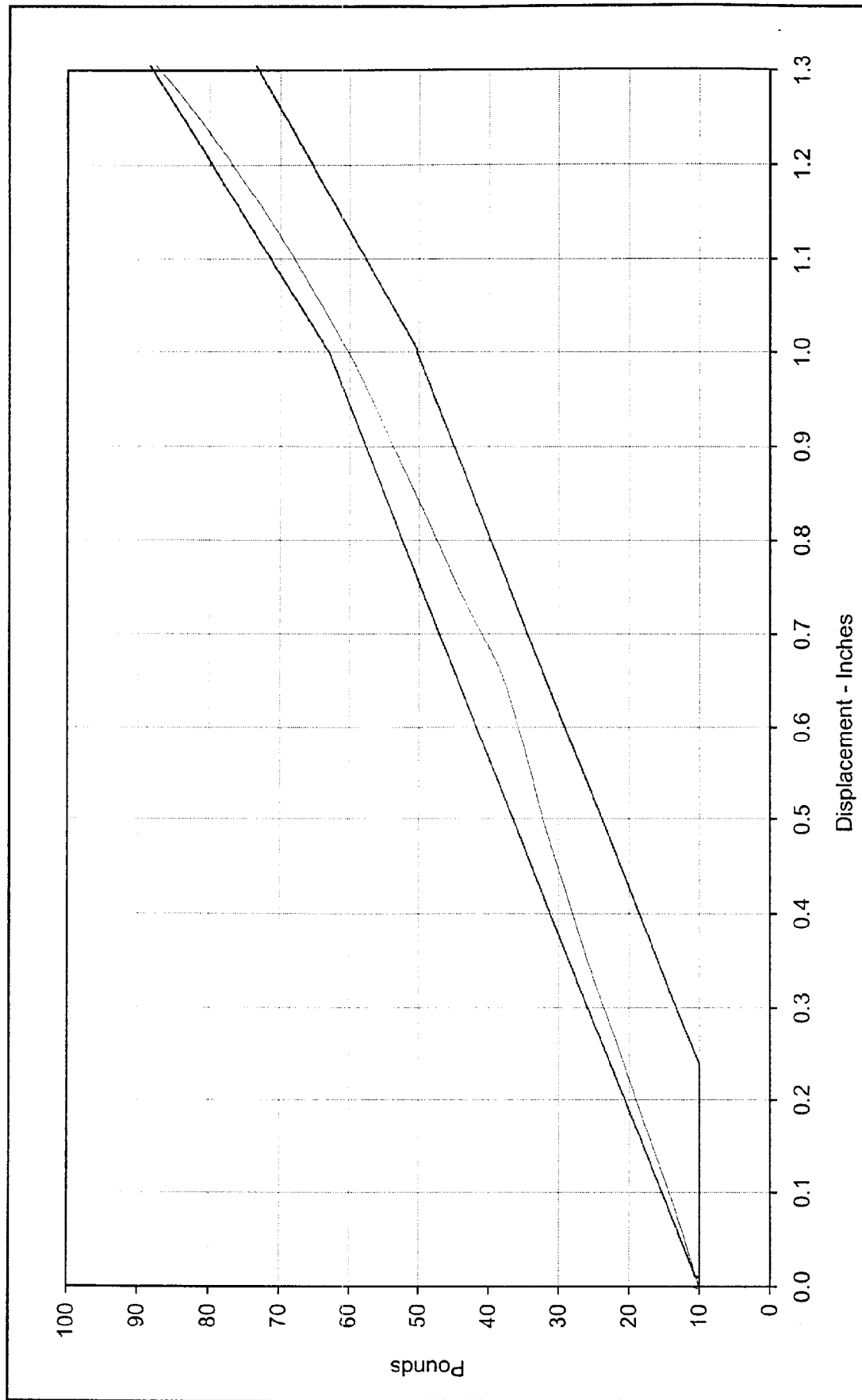
March 2, 2000

Test Date

Approved By

3/2/00

Date



Curve Description: Abdomen Force vs. Displacement
 Test Program: Hybrid II Abdominal Compression
 Test Information: SID S/N: 057 Test I.D.: AB01B



Force at 0.5 In.: 32.2 Pounds
 Force at 0.75 In.: 44.4 Pounds
 Force at 1.0 In.: 60.2 Pounds
 Force at 1.3 In.: 86.8 Pounds
 Date of Test: 3/2/00



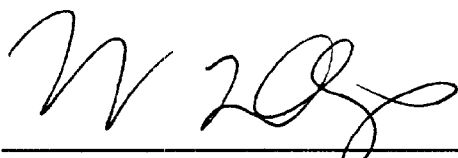
Performance Verification Data Side Impact Dummy (SID) Lumbar Flexion Test

ATD Serial No.: 056

Part Serial No.: N/A

Test I.D.: LM01B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Applied Force at 0° of Flexion	Pounds	0.0	0.0	Pass
Applied Force at 20° of Flexion	Pounds	22.0 to 34.0	27.4	Pass
Applied Force at 30° of Flexion	Pounds	34.0 to 46.0	39.3	Pass
Applied Force at 40° of Flexion	Pounds	46.0 to 58.0	46.9	Pass
Return Angle 3 Minutes After Release	Degrees	≤12.0	5.6	Pass
Overall Test Results				Pass


Laboratory Technician

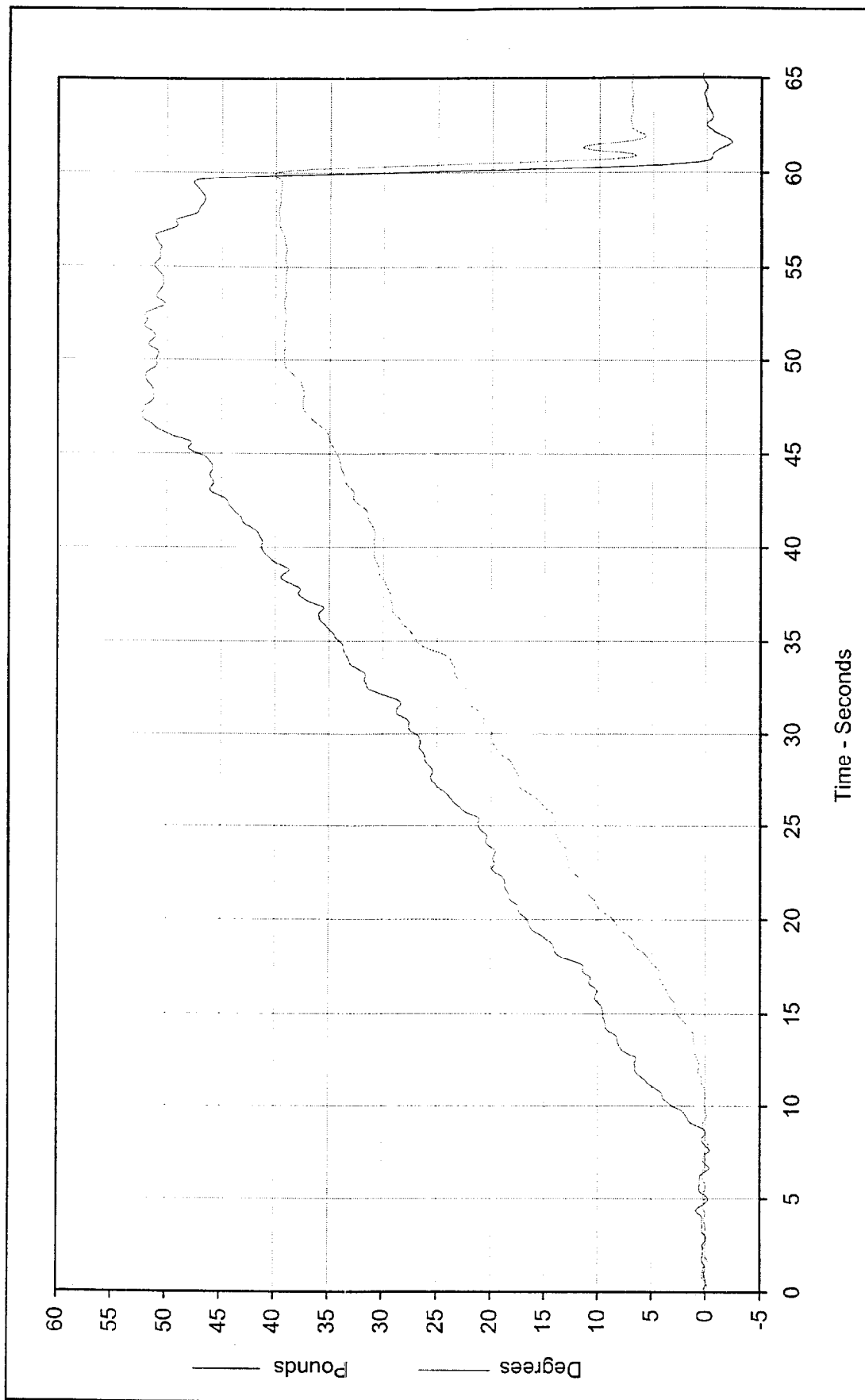
March 2, 2000

Test Date


Approved By

3/2/00

Date



Curve Description: Applied Lumbar Force And Angle Test Program: Hybrid II Lumbar Flexion
 Force at 20°: 27.4 Pounds Test Information: SID S/N: 056 Test I.D.: LM01B
 Force at 30°: 39.3 Pounds
 Force at 40°: 46.9 Pounds
 Return Angle: 5.6 Degrees

Test Date: 3/2/00





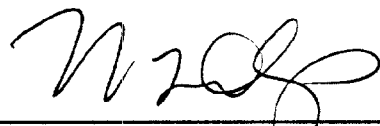
Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 057

Part Serial No.: N/A

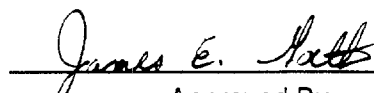
Test I.D.: HD01B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	69	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	256.4	Pass
Peak Lateral Acceleration	G's	≤10.0	2.9	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.2	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass


Laboratory Technician

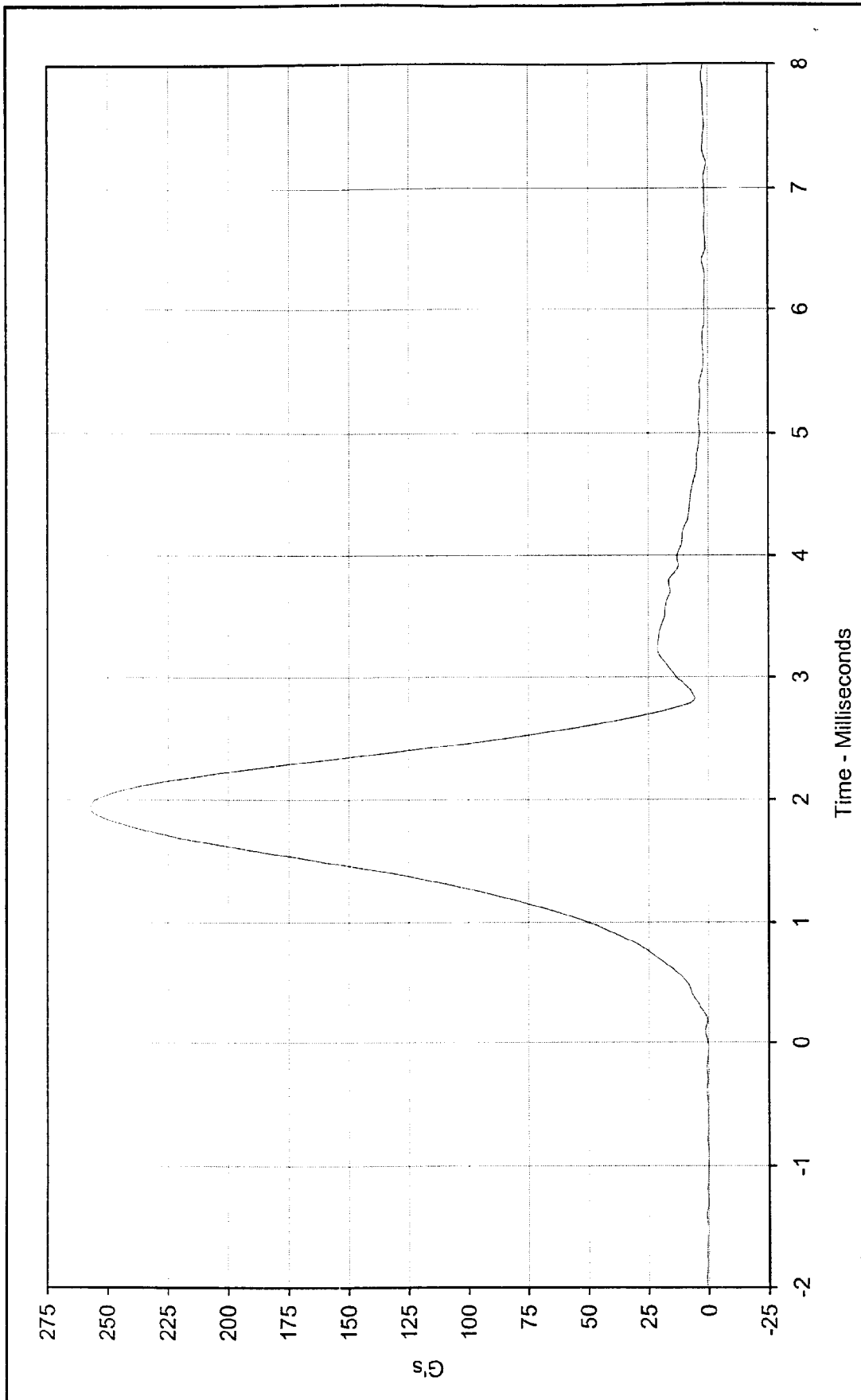
March 1, 2000

Test Date


Approved By

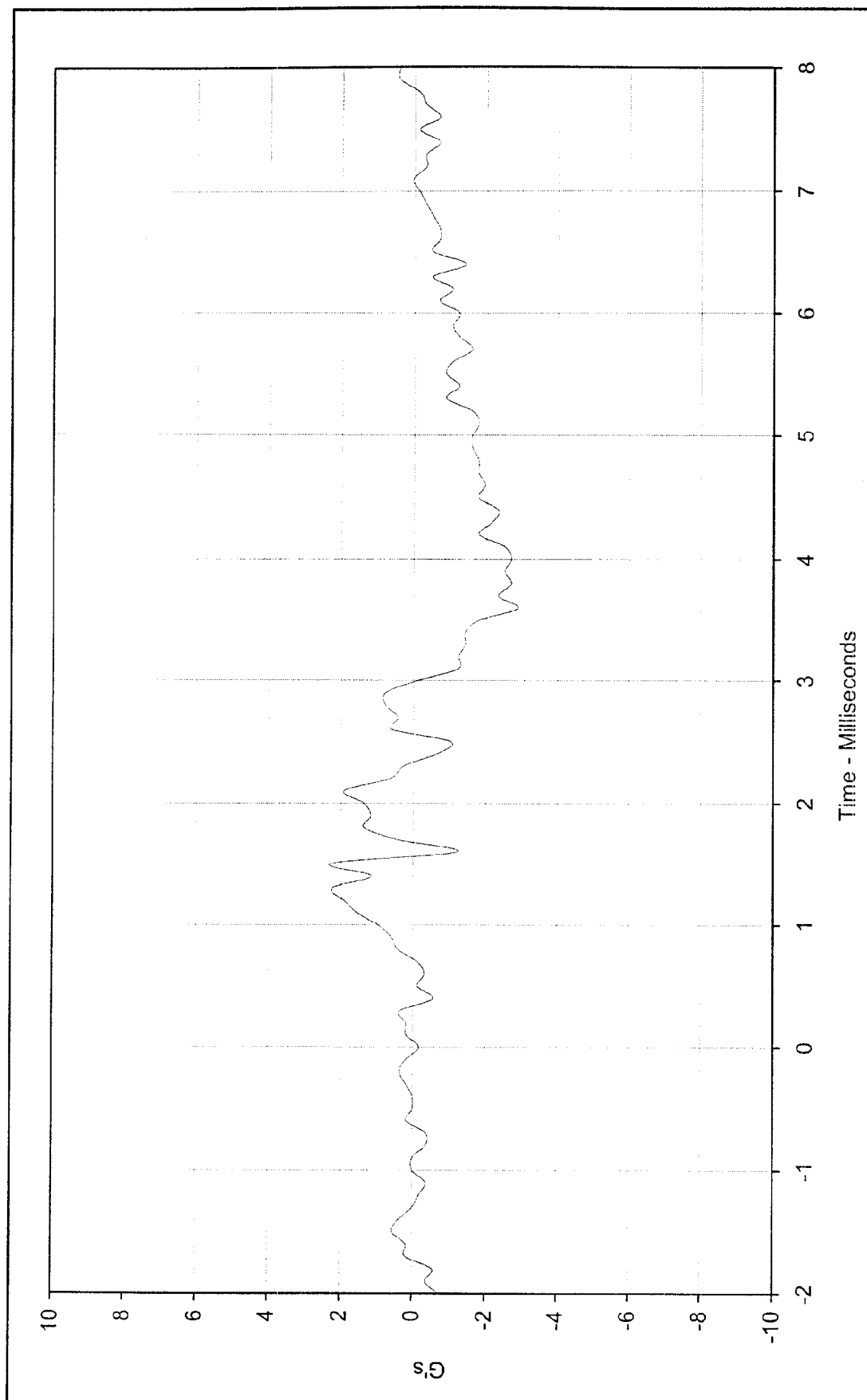
3/1/00

Date



Curve Description:	Head Resultant Acceleration	Test Program:	Hybrid II Head Drop Calibration
Maximum Value:	256.4 at 1.9 Milliseconds	Test Information:	SID S/N: 057 Test I.D.: HD01B
Minimum Value:	0.5 at 0.0 Milliseconds		
SAE Filter Class:	1000		
Date of Test:	3/1/00		





Curve Description:	Head Y Axis Acceleration		Test Program: Hybrid II Head Drop Calibration	
	Maximum Value:	2.3 at 1.5 Milliseconds	Test Information: SID S/N: 057 Test I.D.: HD01B	
	Minimum Value:	-2.9 at 3.6 Milliseconds		
	SAE Filter Class:	1000		
	Date of Test:	3/1/00		



APPENDIX D
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

KAR20003-04

55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Driver S.I.D. Serial Number 056
02/29/00
2000 Mercury Villager Mini-Van

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	Head CG	X	KEAC070	Accel., 1/2 bridge	Endevco	7264-2000X	G
2	Head CG	Y	KEAC071	Accel., 1/2 bridge	Endevco	7264-2000Y	G
3	Head CG	Z	KEAC072	Accel., 1/2 bridge	Endevco	7264-2000Z	G
4	Upper Rib Primary	Y	KEAC070	Accel., 1/2 bridge	Endevco	7264-2000X	G
5	Lower Rib, Primary	Y	KEAC071	Accel., 1/2 bridge	Endevco	7264-2000Y	G
6	Lower Spine, Primary	Y	KEAC072	Accel., 1/2 bridge	Endevco	7264-2000Z	G
7	Pelvis, Primary	Y	KEAC090	Accel., Full bridge	Endevco	7264-2000X	G
8	Upper Rib Redundant	Y	KEAC076	Accel., 1/2 bridge	Endevco	7264-2000X	G
9	Lower Rib, Redundant	Y	KEAC077	Accel., 1/2 bridge	Endevco	7264-2000Y	G
10	Lower Spine, Redundant	Y	KEAC078	Accel., 1/2 bridge	Endevco	7264-2000Z	G
11	Pelvis, Redundant	Y	KEAC089	Accel., 1/2 bridge	Endevco	7264-2000X	G
12	Thorax Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Grey	%
13	Pelvis Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Grey	%

55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Passenger S.I.D. Serial Number 057
02/29/00
2000 Mercury Villager Mini-Van

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
14	Head CG	X	KEAC039	Accel., 1/2 bridge	Endevco	7264-2000	G
15	Head CG	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
16	Head CG	Z	KEAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
17	Upper Rib Primary	Y	KEAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
18	Lower Rib, Primary	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
19	Lower Spine, Primary	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
20	Pelvis, Primary	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
21	Upper Rib Redundant	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
22	Lower Rib, Redundant	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
23	Lower Spine, Redundant	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
24	Pelvis, Redundant	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G
25	Thorax Contact	Y	T0	Contact Switch	Tapeswitch	8 oz. Grey	%
26	Pelvis Contact	Y	T0	Contact Switch	Tapeswitch	8 oz. Grey	%

**55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers**

02/29/00

2000 Mercury Villager Mini-Van

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
27	Right at Sill Front Seat	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
28	Right at Sill Front Seat	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
29	Right at Sill Front Seat	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G
30	Right at Sill Rear Seat	X	KETX3A	Accel., Triax	I.C. Sensor	3031-500	G
31	Right at Sill Rear Seat	Y	KETX3B	Accel., Triax	I.C. Sensor	3031-500	G
32	Right at Sill Rear Seat	Z	KETX3C	Accel., Triax	I.C. Sensor	3031-500	G
33	Rear Floorpan Above Axle	X	KETX4A	Accel., Triax	I.C. Sensor	3031-500	G
34	Rear Floorpan Above Axle	Y	KETX4B	Accel., Triax	I.C. Sensor	3031-500	G
35	Rear Floorpan Above Axle	Z	KETX4C	Accel., Triax	I.C. Sensor	3031-500	G
36	Left Sill at Rear Door	Y	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-500	G
37	Left Sill at Front Door	Y	KEVA005	Accel., Vehicle block	I.C. Sensor	3031-500	G
38	Left Front Door Centerline	Y	ICST004X	Accel., Triax	I.C. Sensor	3031-500	G
39	Rear Occupant Compartment	Y	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
40	Left Front Door Mid-Rear	Y	ICST004Y	Accel., Triax	I.C. Sensor	3031-500	G
41	Left Front Door Upper Centerline	Y	ICST004Z	Accel., Triax	I.C. Sensor	3031-500	G
42	Rear Door Mid-Rear	Y	ICST005X	Accel., Triax	I.C. Sensor	3031-500	G
43	Rear Door Upper Centerline	Y	ICST005Y	Accel., Triax	I.C. Sensor	3031-500	G
44	B-Post Lower	Y	KEBX2A	Accel., Bi-ax	I.C. Sensor	3031-500	G
45	B-Post Middle	Y	KEBX2B	Accel., Bi-ax	I.C. Sensor	3031-500	G
46	A-Post Lower	Y	KEBX1A	Accel., Bi-ax	I.C. Sensor	3031-500	G
47	A-Post Middle	Y	KEBX1B	Accel., Bi-ax	I.C. Sensor	3031-500	G
48	Front Seat Track	Y	KEIC008Y	Single	I.C. Sensor	3031-500	G
49	Rear Seat Structure	Y	N/A	N/A	N/A	N/A	N/A
50	Vehicle CG	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
51	Vehicle CG	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
52	Vehicle CG	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G

55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Moving Deformable Barrier
02/29/00
2000 Mercury Villager Mini-Van

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
53	MDB CG	X	ICST001X	Accel., Triax	I.C. Sensor	3031-500	G
54	MDB CG	Y	ICST001Y	Accel., Triax	I.C. Sensor	3031-500	G
55	MDB CG	Z	ICST001Z	Accel., Triax	I.C. Sensor	3031-500	G
56	MDB Rear Centerline	X	ICST002X	Accel., Triax	I.C. Sensor	3031-50	G
57	MDB Rear Centerline	Y	ICST002Y	Accel., Triax	I.C. Sensor	3031-50	G
58	Right Bumper Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Grey	%