

REPORT NUMBER: SNCAP-CAL-00-5

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

MAZDA MOTOR CORPORATION
2000 MAZDA MPV
MINIVAN

NHTSA NUMBER: MY5400

VERIDIAN ENGINEERING TEST NUMBER: 8506-10

VERIDIAN ENGINEERING
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December 3, 1999

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
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Washington, DC 20590

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15. Supplementary Notes																																			
16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test Test was conducted on the subject 2000 Mazda MPV Minivan in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. This test was conducted at the Veridian Engineering Crash Test Facility in Buffalo, New York, on December 3, 1999. The impact velocity of the Moving Deformable Barrier (MDB) was 61.47 kph, and the ambient temperature at the struck (driver's) side of the target vehicle at the time of impact was 21 °C. The target vehicle post-test maximum crush was 288 mm at level 2. The test or target vehicle's performance is given below: <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Front SID</u></th> <th></th> <th style="text-align: center;"><u>Rear SID</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td style="text-align: center;">44</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">44</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td style="text-align: center;">38</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">39</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td style="text-align: center;">43</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">40</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td style="text-align: center;">43</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">42</td> <td style="text-align: center;">g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td style="text-align: center;">67</td> <td style="text-align: center;">g's</td> <td style="text-align: center;">84</td> <td style="text-align: center;">g's</td> </tr> </tbody> </table> The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during the side impact event.							<u>Front SID</u>		<u>Rear SID</u>		Left Upper Rib Acceleration:	44	g's	44	g's	Left Lower Rib Acceleration:	38	g's	39	g's	Lower Spine Acceleration:	43	g's	40	g's	Thoracic Trauma Index (TTI):	43	g's	42	g's	Pelvis Acceleration (PEV):	67	g's	84	g's
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17. Key Words New Car Assessment Program (NCAP) Side Impact MDB Side Impact Dummy (SID)			18. Distribution Statement <u>Copies of this report are available from:</u> National Highway Traffic Safety Administration Technical Reference Division Room 5108 (NAD-52) 400 Seventh St., S.W. Washington, D.C. 20590 Telephone No. (202) 366-4946 ATTN: Robert Hornicle																																
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY2000 New Car Assessment Program Side Impact Protection sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-98-C-02001. The purpose of this test was to generate comparative side impact performance in a 2000 Mazda MPV Minivan. The test was conducted in accordance with the Office of Crashworthiness Standards's Laboratory Test Procedure dated July, 1997.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

A 2000 Mazda MPV Minivan was impacted on the left or driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 61.47 kph (38.2 mph). The target vehicle was stationary and was positioned at an angle of 63° to the line of forward motion. The side impact test was conducted by the Veridian Engineering Transportation Sciences Center in Buffalo, New York on December 3, 1999. Pre- and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SIDs) are included in Appendix A.

Two restrained Side Impact Dummies (SIDs) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OCWS Side Impact Laboratory Test Procedure which is dated July, 1997. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SIDs were instrumented with the following accelerometers:

1. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
2. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
3. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
4. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)
5. Head triaxial accelerometers (X-, Y- and Z-direction)

A summary of the side impact dummy (SID) configuration and verification test data can be found in Appendix C. A total of 52 channels of data were recorded. Appendix B contains the vehicle, MDB and dummy response data traces.

The following table summarizes the results of the test.

Injury Criteria	Front SID	Rear SID
TTI (g)	43	42
PEV (g)	67	84

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 2000 Mazda MPV Minivan
 Vehicle Body Color: Red VIN: JM3LW28G5Y0104513
 Vehicle NHTSA No.: MY5400 Month & Year of Manufacture: 5-99
 Engine Data: 6 Cylinders; - CID; 2.5 Liters; - cc
 Engine Placement: - Longitudinal; or X Lateral
 Transmission: 4 Speed; - Manual; X Automatic; X Overdrive
 Final Drive: - Rear Wheel Drive; X Front Wheel Drive; - Four Wheel
 Odometer Reading 224 km
 Options: X A/C; X Power Steering; X Pwr.Brakes; X Pwr. Windows

DATA FROM TIRE PLACARD

Tire Pressure* (at capacity); 240 kPa FRONT
240 kPa REAR

Recommended Tire Size: P205/65R15
 Tires on Test Vehicle: P205/65R15; Manufacturer: Yokohama
 Vehicle Capacity Data:
 Number of Occupants: 2 Front; 2 Rear; 3 3rd Seat; 7 Total
 Type of Front Seats: X Bucket; - Bench; - Split Bench
 Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob
 Vehicle Max Capacity Loading = 539 kg (A)
 No. of Occupants x 68.04 kg. = 476.3 kg (B)
 Vehicle Cargo Capacity = 62.7 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	<u>505.0</u> kg	Left Rear	=	<u>348.5</u> kg
Right Front	=	<u>342.5</u> kg	Right Rear	=	<u>468.0</u> kg
TOTAL FRONT	=	<u>847.5</u> kg	TOTAL REAR	=	<u>816.5</u> kg
% of Total Weight	=	<u>50.9</u> %	% of Total Weight	=	<u>49.1</u> %
TOTAL WEIGHT	=	<u>1664.0</u> kg			

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1664.0</u>	kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>62.7</u>	kg (B)
Weight of instrumented Side Impact Dummies	=	<u>162.4</u>	kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>1889.1</u>	kg (A+B+C)

FULLY LOADED TEST VEHICLE (UDVW + 2 SIDs + CARGO):

Left Front	=	<u>565.0</u>	kg	Left Rear	=	<u>454.5</u>	kg
Right Front	=	<u>404.0</u>	kg	Right Rear	=	<u>475.0</u>	kg
TOTAL FRONT	=	<u>969.0</u>	kg	TOTAL REAR	=	<u>929.5</u>	kg
% of Total Weight	=	<u>51.0</u>	%	% of Total Weight	=	<u>49.0</u>	%
TOTAL TEST WEIGHT	=	<u>1898.5</u>	kg				

AS TESTED WEIGHT OF TEST VEHICLE (2 SIDs + CARGO + EQUIPMENT & INSTRUMENTATION):

Left Front	=	<u>565.0</u>	kg	Left Rear	=	<u>439.0</u>	kg
Right Front	=	<u>485.0</u>	kg	Right Rear	=	<u>394.0</u>	kg
TOTAL FRONT	=	<u>1050.0</u>	kg	TOTAL REAR	=	<u>833.0</u>	kg
% of Total Weight	=	<u>55.8</u>	%	% of Total Weight	=	<u>44.2</u>	%
TOTAL TEST WEIGHT	=	<u>1883.0</u>	kg				

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front <u>746</u>	Right Front <u>750</u>	Left Rear <u>757</u>	Right Rear <u>764</u>
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FULLY LOADED:

Left Front <u>723</u>	Right Front <u>741</u>	Left Rear <u>717</u>	Right Rear <u>739</u>
-----------------------	------------------------	----------------------	-----------------------

READY FOR TEST:

Left Front <u>724</u>	Right Front <u>745</u>	Left Rear <u>725</u>	Right Rear <u>745</u>
-----------------------	------------------------	----------------------	-----------------------

Test Vehicle Wheelbase: 2840 millimeters

C.G. = 1256.4 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side	=	<u>4675</u>	millimeters
Left Side	=	<u>4675</u>	millimeters
Centerline	=	<u>4740</u>	millimeters

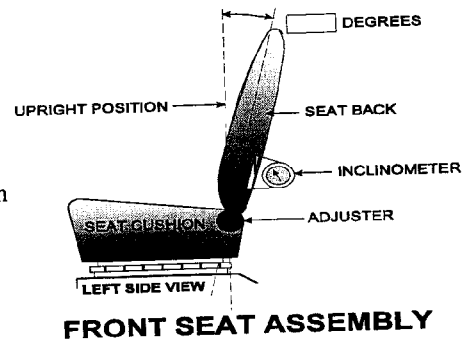
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



FRONT SEAT CUSHION PLACEMENT: Seat was placed in 8th latch position from most forward position 0.

Total Length of Adjustment Travel: 200 millimeters

Total Number of Adjustment Positions or Detents: 17

FRONT SEAT BACK ADJUSTMENT POSITION: Adjust to 8th latch from first detent 0 (most upright).

Seat Back Torso Angle: 18 degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 120 millimeters

Seat Back Adjustment Position: 20° - 1st rearward detent

ADJUSTABLE STEERING COLUMN POSITION: Adjust to mid-travel position.

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Removed Right Rear: Removed

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

AMOUNT OF STODDARD SOLVENT IN FUEL TANK:

70 liters (Fuel Tank Usable Capacity)

64.75 liters used for test (92%-94% of Fuel Tank Usable Capacity)

LOCATION OF IMPACT POINT ON TEST VEHICLE SIDE TO BE IMPACTED:

Wheelbase = 2840 millimeters

Impact Point is 480 millimeters rearward of front axle centerline
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 472 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 2000 Mazda MPV

Body Style: Minivan

NHTSA No.: MY5400

VIN: JM3LW28G5Y0104513

Test Date: December 3, 1999

Overall Length = 4740 millimeters; Overall Width = 1822 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front	=	<u>565.0</u>	kg	Left Rear	=	<u>439.0</u>	kg
Right Front	=	<u>485.0</u>	kg	Right Rear	=	<u>394.0</u>	kg
TOTAL FRONT	=	<u>1050.0</u>	kg	TOTAL REAR	=	<u>833.0</u>	kg
TOTAL VEHICLE WEIGHT <u>1883.0</u> kg							
Wheelbase	=	<u>2840</u>	millimeters				
Longitudinal C.G. from Center of Front Axle	=	<u>1256.4</u>	millimeters				
Impact Angle with Respect to Impactor	=	<u>90</u>	degrees				

ACTUAL IMPACT POINT

Actual Impact Point is 8 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 0 mm on the nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (	<u>301</u>	mm above ground)	=	<u>113</u>	millimeters
2. LEVEL 2 (	<u>655</u>	mm above ground)	=	<u>288</u>	millimeters
3. LEVEL 3 (	<u>595</u>	mm above ground)	=	<u>276</u>	millimeters
4. LEVEL 4 (	<u>948</u>	mm above ground)	=	<u>224</u>	millimeters
5. LEVEL 5 (	<u>1590</u>	mm above ground)	=	<u>7</u>	millimeters

Maximum Post-Test Intrusion = 288 millimeters

OCCUPANTS:

	<u>Front Passenger:</u>	<u>Rear Passenger:</u>
Dummy Identification	<u>268</u>	<u>027</u>
Restraints Used	<u>Seatbelt</u>	<u>Seatbelt</u>

INSTRUMENTATION:

Number of Vehicle Data Channels:	=	<u>47</u>
Number of Cameras:		
Onboard	=	<u>3</u>
Offboard	=	<u>10</u>
TOTAL	=	<u>13</u>

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore, Inc. 106B1098-4 083C1098 2324-01

POSITION OF IMPACT (MDB) ON MONORAIL:

Crabbed 27° to left

MDB DETAILS:

Overall Width of Framework Carriage	=	<u>1250</u>	millimeters
Overall Length of MDB (incl. honeycomb impact face)	=	<u>4120</u>	millimeters
Wheelbase of Framework Carriage	=	<u>2590</u>	millimeters
Tread of Framework Carriage (Front & Rear)	=	<u>1875</u>	millimeters
C.G. Location Rearward of Front Axle	=	<u>1104</u>	millimeters

MDB WEIGHT:

Left Front	=	<u>409.5</u>	kg	Left Rear	=	<u>281.5</u>	kg
Right Front	=	<u>372.5</u>	kg	Right Rear	=	<u>299.0</u>	kg
TOTAL FRONT =		<u>782.0</u>	kg	TOTAL REAR	=	<u>580.5</u>	kg
TOTAL MDB WEIGHT =		<u>1362.5</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>61.47</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>233</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>130</u>	millimeters
3. Row C at Mid Level	=	<u>99</u>	millimeters
4. Row D at Top of Stack Level	=	<u>138</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels = 5

DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

VISIBLE DUMMY CONTACT POINTS:

LEFT FRONT SID

Head: Side of face to the left shoulder; Back of the head to the seatbelt B-pillar anchorage.
 Upper Torso: Door Panel
 Lower Torso: Door Panel
 Left Knee: Door Panel
 Right Knee: Left Knee

LEFT REAR SID

Side of the face to the left shoulder; Back of the head to the intersection of the C-pillar and side door.
Door Panel
Door Panel
Door Panel
Left Knee

DOOR OPENING:

LEFT DOOR

Front: Closed/Inoperable
 Rear: Closed/Inoperable

RIGHT DOOR

Closed/Operable
Closed/Operable

MDB DISTANCE FROM TARGET IMPACT POINT:

Vertical: 0 mm
Horizontal: 8 mm forward

ARM REST LOCATIONS:

Front: The front arm rest rotated inward and upward during the event.
 Rear: Not applicable

SEAT MOVEMENT:

Front: The front seat cushion was pushed inboard.
 Rear: The rear seat cushion was pushed inboard.

GLAZING DAMAGE:

Windshield: None
 Window: The side windows shattered upon impact.

PILLAR PERFORMANCE:

The A- and B-pillars were pushed inboard during the event.

SILL SEPARATION:

None

AIR BAG DEPLOYMENT STATUS:

	DRIVER	FRONT PASSENGER	REAR PASSENGER
FRONT	No	No	N/A
SIDE	N/A	N/A	N/A

OTHER NOTABLE IMPACT EFFECTS:

The secondary target point indicated the impact was 0 mm from the vertical mark and 12 mm forward on the horizontal.
The front door sheet metal began to tear from the forward upper and lower hinge bolt attachments.

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5

SID INSTRUMENTATION DATA

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

	Front Dummy ID# 268				Rear Dummy ID# 027			
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
HEAD ACCELERATIONS:								
Longitudinal X	8.7	168.9	-11.4	81.2	40.8	161.9	-11.9	94.2
Lateral Y	21.4	60.3	-4.6	493.0	27.7	66.8	-15.2	164.3
Vertical Z	26.8	66.7	-0.1	7.1	48.1	74.2	-9.5	173.5
Resultant R	32.7	65.9	0.0	-65.6	51.0	73.1	0.0	-67.3
HIC	99.8				281.9			
RIB ACCELERATIONS:								
Upper Rib Lateral . . Y	43.6	55.7	-8.6	90.0	44.3	53.8	-6.5	96.9
Upper Rib Lateral . . Y(R)	44.6	55.7	-7.9	90.0	40.5	53.8	-6.7	96.9
Lower Rib Lateral . Y	37.7	55.0	-8.0	90.6	39.3	53.2	-6.9	111.9
Lower Rib Lateral . Y(R)	38.0	55.0	-9.2	90.0	39.5	42.5	-6.5	112.5
SPINE ACCELERATIONS:								
Lower Lateral Y	43.1	43.8	-8.1	97.5	39.5	43.8	-4.4	106.3
Lower Lateral Y(R)	42.8	43.8	-8.2	96.9	47.8	43.8	-7.1	106.3
PELVIC ACCELERATIONS:								
Lateral Y	67.0	41.9	-12.7	59.4	84.3	37.5	-12.8	58.8
Lateral Y(R)	76.2	41.9	-14.0	59.4	86.5	37.5	-13.6	58.2

REFERENCE: Positive Direction - Longitudinal (X) = forward
 Lateral (Y) = to right
 Vertical (Z) = up
 Negative Direction - Longitudinal (X) = rearward
 Lateral (Y) = to left
 Vertical (Z) = down

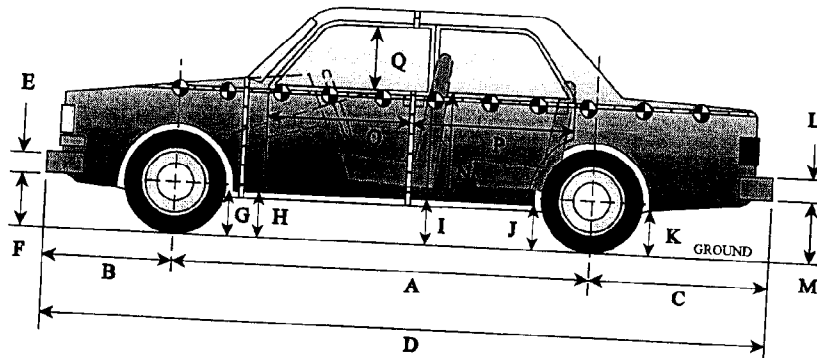
Note: Above data has been FIR filtered, Y(R) denotes redundant Y direction accelerometer.
 Head Accelerations are filtered at SAE Class 1000.

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400



LEFT SIDE VIEW

NOTE: all dimensions are in millimeters with tolerance of ± 3 mm

	PRE-TEST (as delivered)	PRE-TEST (as tested)	POST-TEST (as tested)	Δ CHANGE
A	2840	-	2831	-9
B	895	-	902	7
C	1005	-	1007	2
D	4740	-	4740	0
E	180	-	180	0
F	411	396	436	40
G	292	279	297	18
H	287	264	252	-12
I	293	269	284	15
J1	239	220	241	21
J2	320	293	282	-11
K	295	261	274	13
L	185	-	185	0
M	358	341	324	-17
N	780	-	631	-149
O	1075	-	1000	-75
P	1098	-	1056	-42
Q	567	-	540	-27
R	4675	-	4682	7
S	4675	-	4680	5
T	1822	-	1728	-94

D = Length at Centerline
T = Width at B-Pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

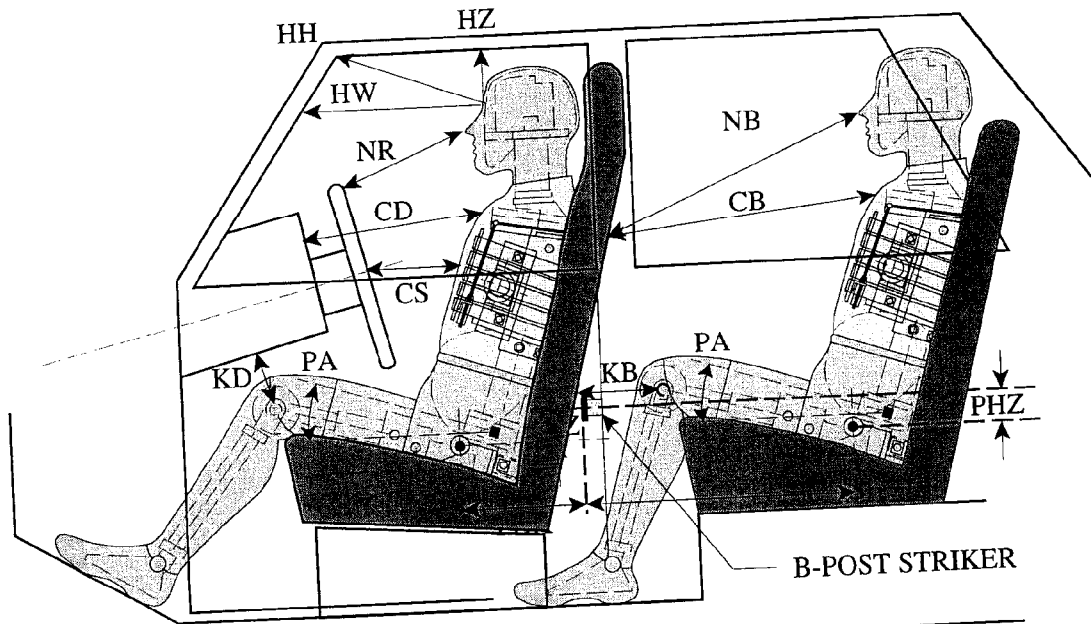
S = Left Side Length

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

NHTSA No. MY5400

Vehicle: 2000 Mazda MPV



LEFT SIDE VIEW

NOTE: 2-DOOR VEHICLE SHOWN.
REAR DUMMY PHX & PHZ
MEASUREMENTS FOR A 4-DOOR
VEHICLE WOULD USE THE C-POST
STRIKER AS A REFERENCE POINT

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID# <u>268</u>	LEFT REAR PASS. ID# <u>027</u>
HH	436	N/A
HW	744	N/A
HZ	230	206
NR/NB	439	621
CD/CB	510	537
CS	259	N/A
KDL(KDA°)/KBL(KDA°)	125 / (31°)	175 / (20°)
KDR(KBA°)/KBR(KBA°)	95 / (22°)	175 / (20°)
PA°	23.2 °	24.0 °
PHX	238	452
PHZ	70	89

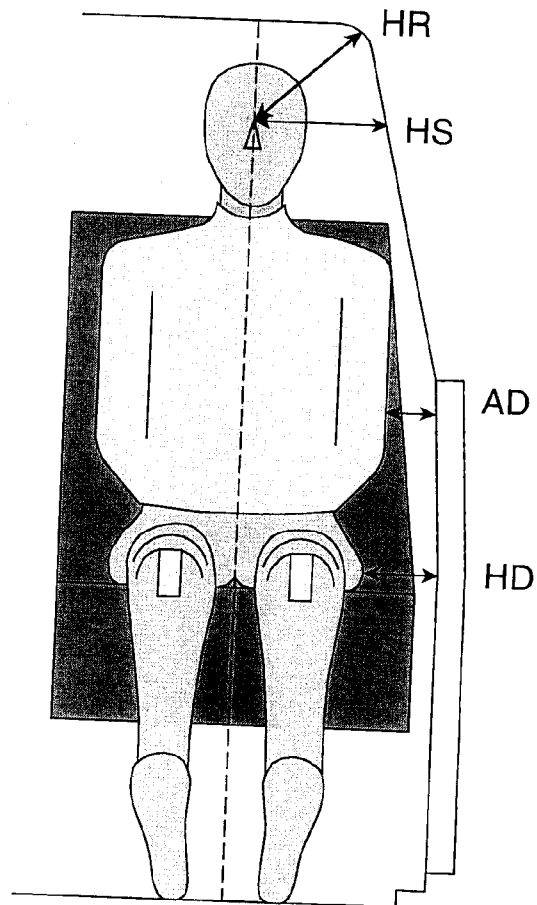
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400



NOTE: All dimensions are in millimeters with tolerance of ± 3 mm

	DRIVER ID # <u>268</u>		LEFT REAR PASS. ID # <u>027</u>	
HR	200		173	
HS	317		298	
AD*	LOWER: 142	UPPER: 144	LOWER: 123	UPPER: 150
HD	164		216	

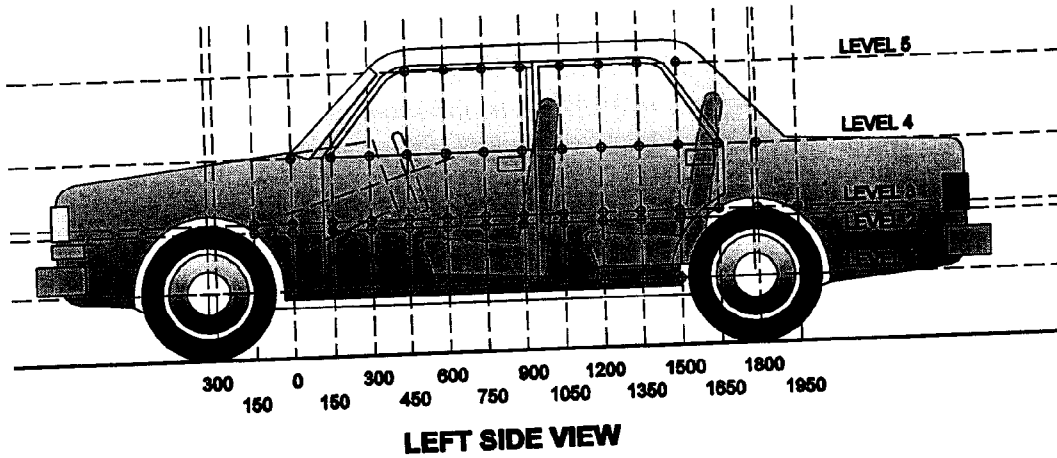
* Lower measurement is taken laterally at the center of the lower rib accelerometer height from the SID arm segment to the closest part of the vehicle side.
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

NHTSA No. MY5400

Vehicle: 2000 Mazda MPV



NOTE: All measurements are in millimeters (mm)

- LEVEL 5 - WINDOW TOP
- LEVEL 4 - WINDOW SILL
- LEVEL 3 - MID-DOOR
- LEVEL 2 - OCCUPANT H-POINT
- LEVEL 1 - AXLE CENTERLINE HEIGHT OR SILL TOP HEIGHT

MEASUREMENTS ARE TAKEN WHEN THE VEHICLE IS IN THE "AS TESTED" CONFIGURATION.
Measurements Along the Vertical 750 mm Line Shown Above:

Level 5 @ Window Top	=	<u>1590</u>	millimeters
Level 4 @ Window Sill	=	<u>948</u>	millimeters
Level 3 @ Mid Door	=	<u>595</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>655</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>301</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

LEVEL		HEIGHT (mm)	DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
LEVEL 1			-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
SIDE SILL	PRE		152	--	--	--	--	--	163	164	164	165	160	167	161	171	166	170	175	177	179	183	--	--	--	--	--	--	193	211
	POST		180	--	--	--	--	--	193	277	273	270	256	251	230	207	198	204	198	185	146	171	--	--	--	--	--	174	187	
	CRUSH		28	N/A	N/A	N/A	N/A	N/A	30	113	109	105	96	84	69	36	32	34	23	8	-33	-12	N/A	N/A	N/A	N/A	N/A	-19	-24	
H POINT	PRE		140	97	--	--	88	94	95	94	99	101	99	99	97	97	99	100	104	106	109	110	112	--	--	116	128	142	162	
	POST		169	137	--	--	178	159	264	370	383	388	387	387	379	346	359	343	333	313	282	213	111	--	--	103	113	122	140	
	CRUSH		29	40	N/A	N/A	N/A	90	65	169	276	284	287	288	288	249	260	243	229	207	173	103	-1	N/A	N/A	-13	-15	-20	-22	
LEVEL 3 MID DOOR	PRE		142	--	--	--	--	86	100	100	101	105	105	105	104	104	107	105	99	99	97	109	123	--	--	--	132	147	159	
	POST		164	--	--	--	--	149	295	372	377	377	379	376	373	344	349	344	326	295	254	228	113	--	--	--	111	128	138	
	CRUSH		22	N/A	N/A	N/A	N/A	N/A	63	195	272	276	272	274	271	269	240	242	239	227	196	157	119	-10	N/A	N/A	N/A	-21	-21	
LEVEL 4 WINDOW SILL	PRE		278	217	180	164	152	143	135	129	124	117	113	113	103	108	95	108	108	108	110	114	117	122	130	133	148	152	168	
	POST		297	238	198	179	168	161	146	243	291	301	325	328	315	332	295	317	277	252	258	187	109	120	119	119	122	134	142	
	CRUSH		19	21	18	15	16	18	11	114	167	184	212	215	212	224	200	209	169	144	148	73	-8	-2	-11	-14	-26	-18	-26	
LEVEL 5 WINDOW TOP	PRE		--	--	--	--	--	--	--	--	--	--	464	404	397	390	384	380	375	373	371	372	370	371	374	375	383	424	--	
	POST		--	--	--	--	--	--	--	--	--	--	470	407	399	397	365	350	335	323	312	303	361	360	359	360	368	405	--	
	CRUSH		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	3	2	7	-19	-30	-40	-50	-59	-69	-9	-11	-15	-15	-15	-19	N/A	

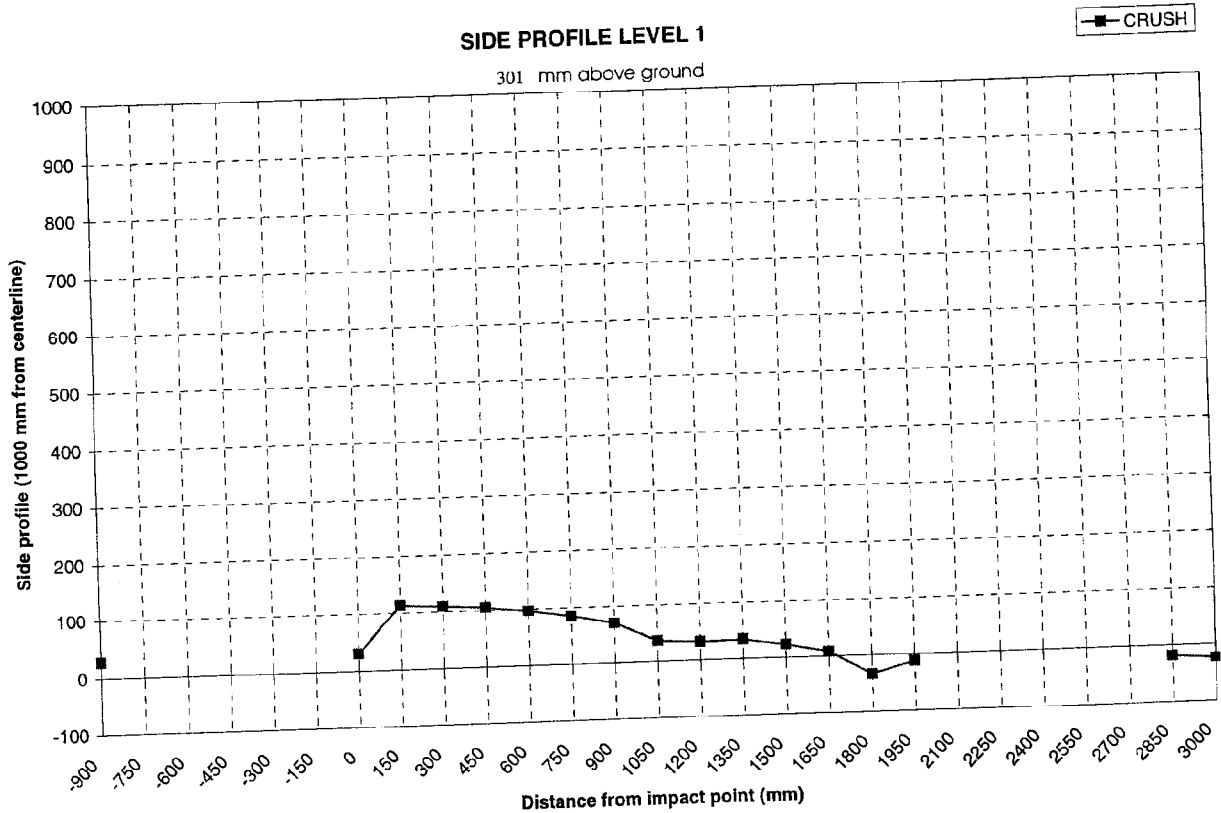
NOTE: All dimensions are in millimeters with a tolerance of ±3 mm

DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

NHTSA No. MY5400

Vehicle: 2000 Mazda MPV

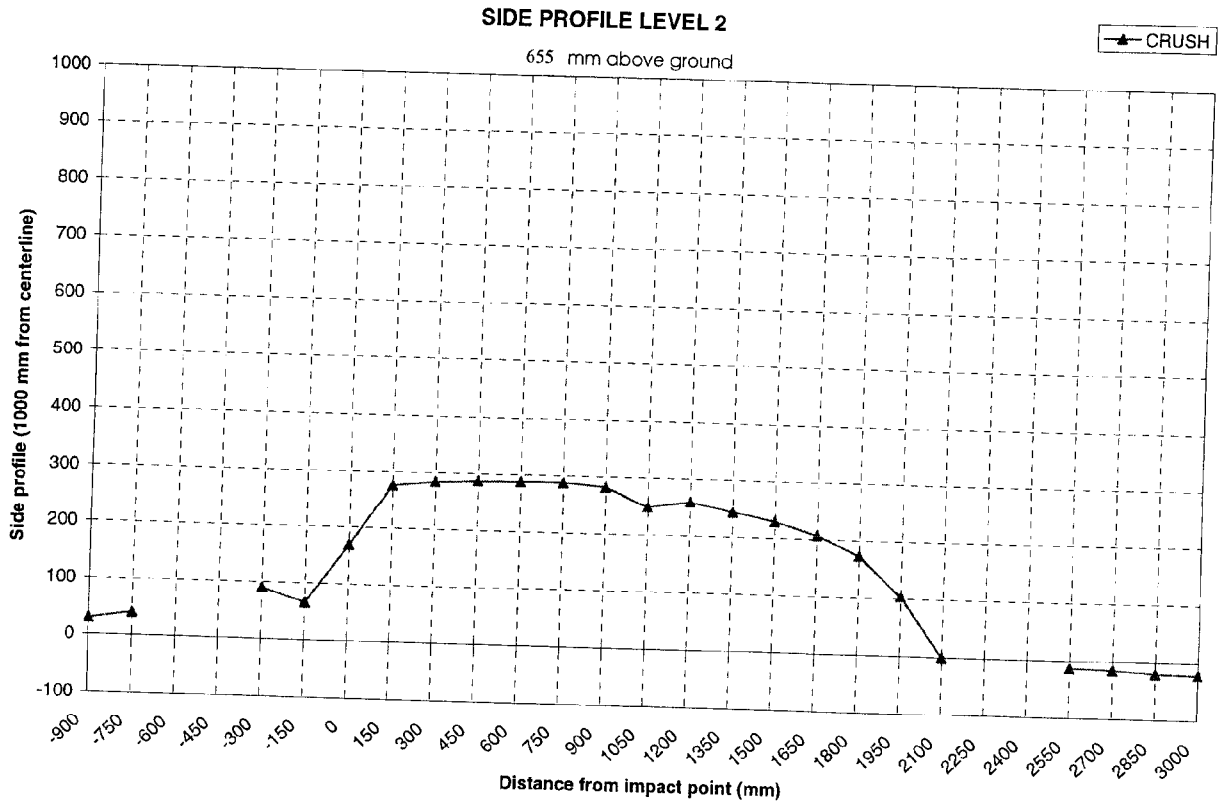


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

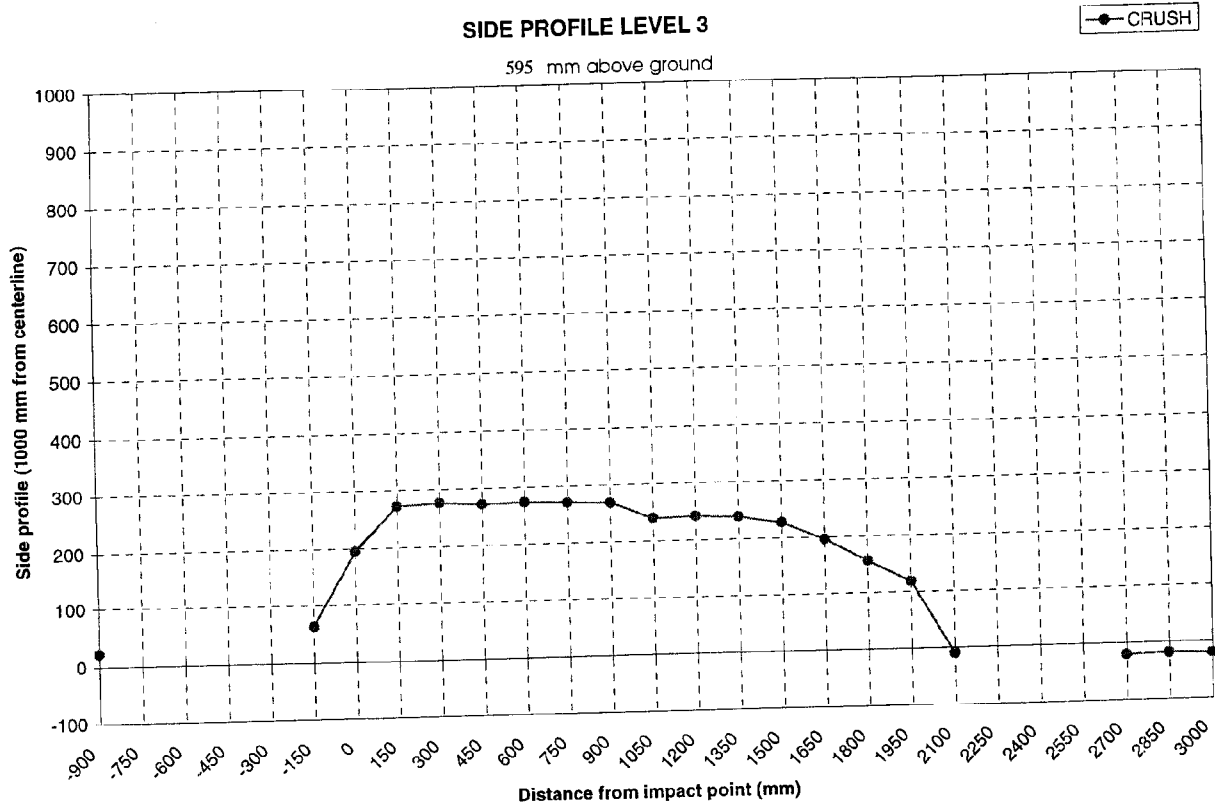


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

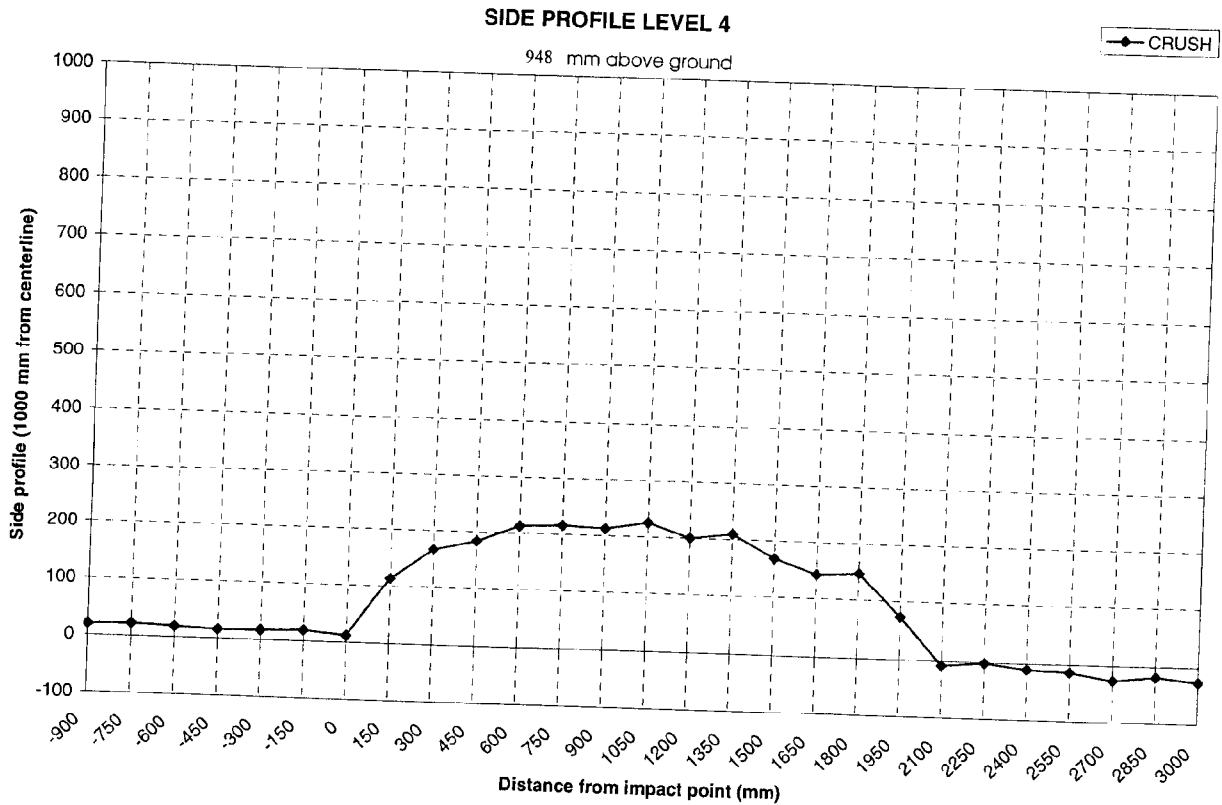


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

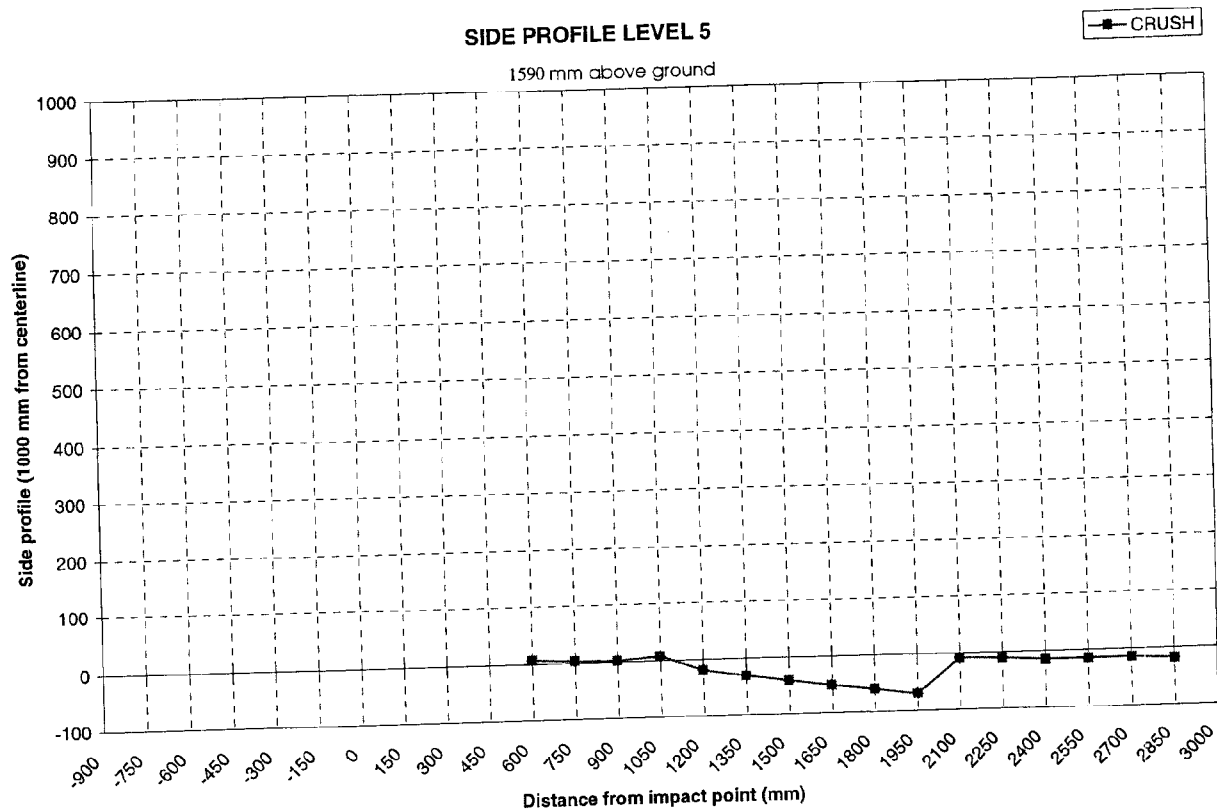


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

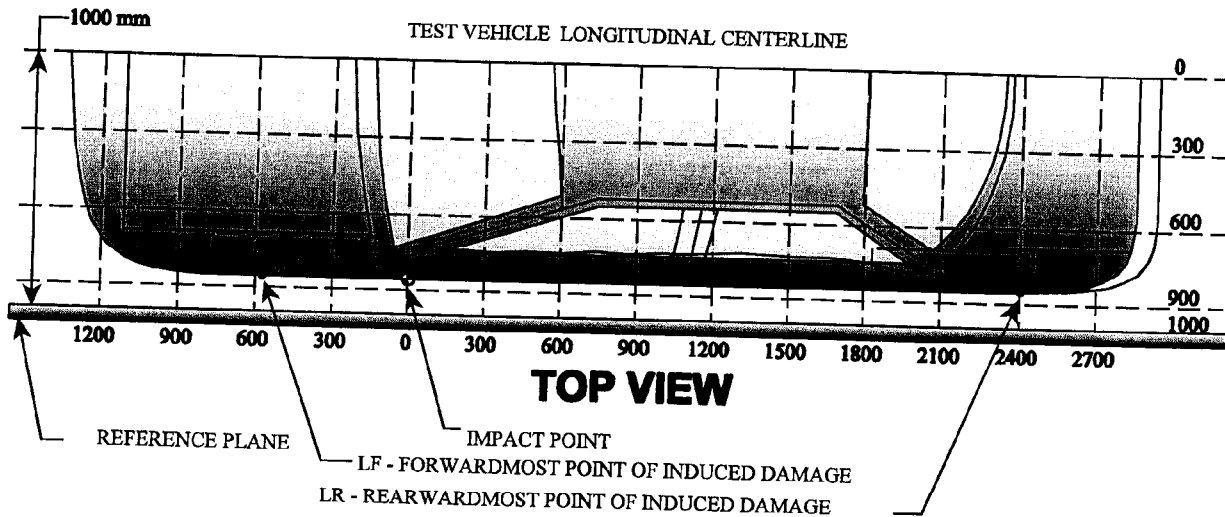


DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400



MEASUREMENT CONVENTIONS:
 Forward of the impact point (towards front of vehicle) is considered negative (-).
 Rearward of the impact point (toward rearend of vehicle) is considered positive (+).

NOTE: All dimensions are in millimeters with tolerance of ± 3 mm.

DPD MEASUREMENTS		POST TEST (mm)	PRETEST (mm)	STATIC CRUSH (mm)
1	(LF = <u>-300</u> mm)	178	88	90
2	180	373	95	278
3	660	387	99	288
4	1140	354	98	256
5	1620	317	106	211
6	(LR = <u>2100</u> mm)	111	112	-1

DATA SHEET 12

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE (Grid as looking at MDB from front)

NHTSA No. MY5400

Vehicle: 2000 Mazda MPV

NOTE: All dimensions are in millimeters with a tolerance of ± 3 mm

NOTE: All dimensions are in millimeters with a tolerance of ±3 mm

		DISTANCE RIGHT OF CENTER (mm)								DISTANCE LEFT OF CENTER (mm)									
LEVEL	HEIGHT AT CL (mm)*	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800	
LEVEL 4 TOP STACK	813		619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	
		POST	713	681	663	653	639	633	641	664	649	651	656	657	665	674	688	710	757
LEVEL 3 MID LEVEL	686	CRUSH	94	62	44	34	20	14	22	45	30	32	37	38	46	55	69	91	138
		PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	718	692	668	666	655	650	653	652	645	635	632	632	635	640	653	672	704
LEVEL 2 TOP BUMPER	533	CRUSH	99	73	49	47	36	31	34	33	26	16	13	13	16	21	34	53	85
		PRE	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
		POST	742	749	744	742	737	730	727	717	705	696	691	686	681	675	672	669	668
LEVEL 1 MID BUMPER	432	CRUSH	123	130	125	123	118	111	108	98	86	77	72	67	62	56	53	50	49
		PRE	535	519	518	518	518	518	518	518	518	518	518	518	518	518	518	519	535
		POST	759	752	744	742	739	743	745	740	718	699	689	682	678	669	664	656	664
		CRUSH	224	233	226	224	221	225	227	222	200	181	171	164	160	151	146	137	129

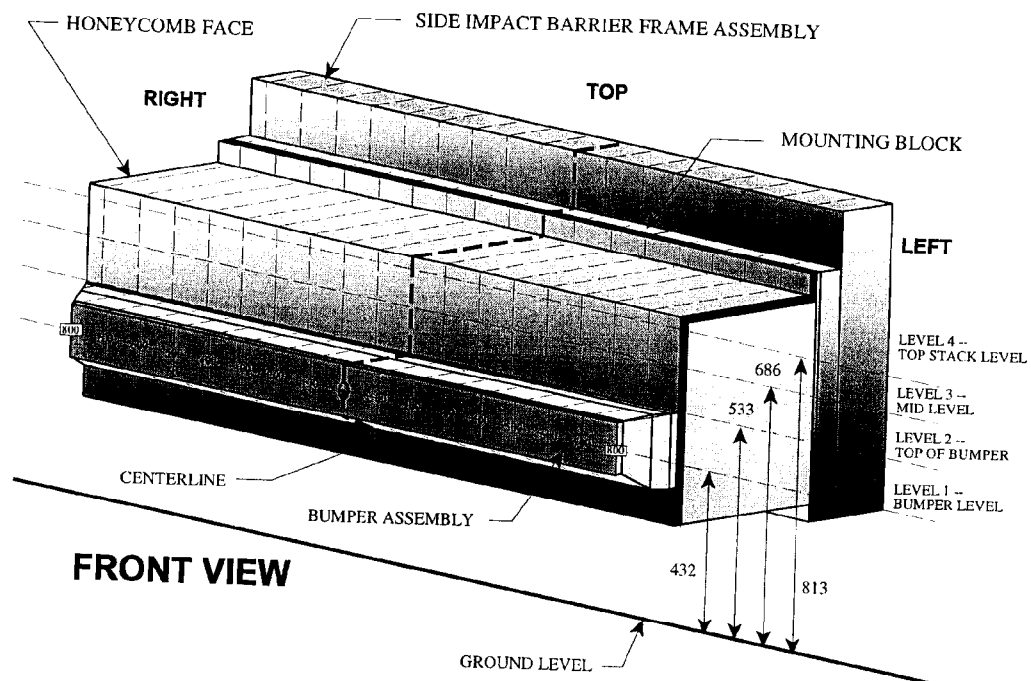
*Heights measured above ground level.

DATA SHEET 12 (continued)

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400



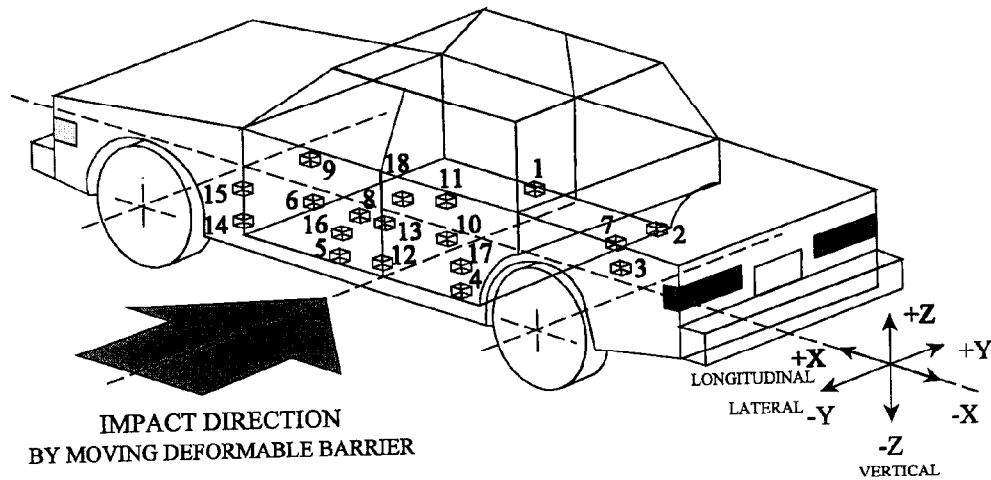
NOTE: Dimensions are shown in millimeters, mm

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400



- 1-Right Side Sill @ Front Seat
- 2-Right Side Sill @ Rear Seat
- 3-Rear Floorpan Above Axle
- 4-Left Side Sill @ Rear Seat
- 5-Left Side Sill @ Front Seat
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Midrear of Left Front Door
- 9-Left Front Door Upper Centerline

- 10-Midrear of Left Rear Door
- 11-Left Rear Door Upper Centerline
- 12-Left Lower B-Pillar
- 13-Left Middle B-Pillar
- 14-Left Lower A-Pillar
- 15-Left Middle A-Pillar
- 16-Front Seat Track
- 17-Rear Seat Track
- 18-Vehicle CG

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

Accel. No.	Location	Coordinates (mm)±3			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
1	Right Side Sill at Front Seat	2955	620	365	pos. 3.7	26.1	20.3	7.4	4.9	27.9	21.9	9.8
2	Right Side Sill at Rear Seat	1800	650	460	neg. -4.5	15.5	-2.0	133.4	-9.3	10.5	0.0	-14.7
3	Rear Floorpan Above Axle	798	0	553	pos. 4.4	26.4	21.3	7.4	9.6	48.4	21.4	7.5
4	Left Side Sill at Rear Seat	1800	-650	455	neg. -5.1	15.9	-1.9	132.6	-0.3	40.6	0.0	-4.8
5	Left Side Sill at Front Seat	2955	-620	362	pos. 5.8	26.3	20.5	38.6	5.0	8.5	21.2	33.4
6	Left Front Door on Centerline	2835	763	764	neg. -11.3	33.3	-1.8	148.9	-6.0	61.5	0.0	-69.7
7	Right Rear Occupant Compartment	1904	427	468	pos. -	-	42.7	18.3	-	-	-	-
8	Midrear of Left Front Door	-	-	-	neg. -	-	-11.9	27.9	-	-	-	-
9	Left Front Door Upper Centerline	2820	-783	895	pos. -	-	31.4	7.1	-	-	-	-
10	Midrear of Left Rear Door	1430	-828	825	neg. -	-	-2.1	135.5	-	-	-	-
11	Left Rear Door Upper Centerline	1745	-828	940	pos. -	-	C	C	-	-	-	-
					neg. -	-	C	C	-	-	-	-

*Reference: X - Rear Bumper (+ Forward)
 **Accelerometer was not requested by COTR.

Y - Vehicle Centerline (+ To Right)
 R - Removed at the request of Mazda

Z - Ground Level (+ Up)
 C - Data is clipped

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

NHTSA No. MY5400

Vehicle: 2000 Mazda MPV

Accel. No.	Location	Coordinates (mm)±3			Long. (x)		Lat. (y)		Vert. (z)		Resultant	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
12	Left Lower B-Pillar	2110	-695	490	-	-	25.4	3.8	-	-	-	-
					-	-	-221.4	17.1	-	-	-	-
13	Left Middle B-Pillar	2107	-745	565	-	-	86.6	12.1	-	-	-	-
					-	-	-64.3	19.7	-	-	-	-
14	Left Lower A-Pillar	3400	-680	654	-	-	A	A	-	-	-	-
					-	-	A	A	-	-	-	-
15	Left Middle A-Pillar	4005	-705	970	-	-	A	A	-	-	-	-
					-	-	A	A	-	-	-	-
16	Front Seat Track	2210	-570	505	-	-	68.0	23.4	-	-	-	-
					-	-	-33.7	50.1	-	-	-	-
17	Rear Seat Track	1335	-570	505	-	-	55.4	24.3	-	-	-	-
					-	-	-17.3	34.9	-	-	-	-
18	Vehicle CG	2210	0	435	2.5	58.2	20.0	7.4	12.3	13.4	20.1	9.7
					-5.4	14.5	-1.6	148.3	-13.2	67.5	0.0	-85.6

A - Not Accurate after 50 ms.

Z - Ground Level (+ Up)

Y - Vehicle Centerline (+ To Right)

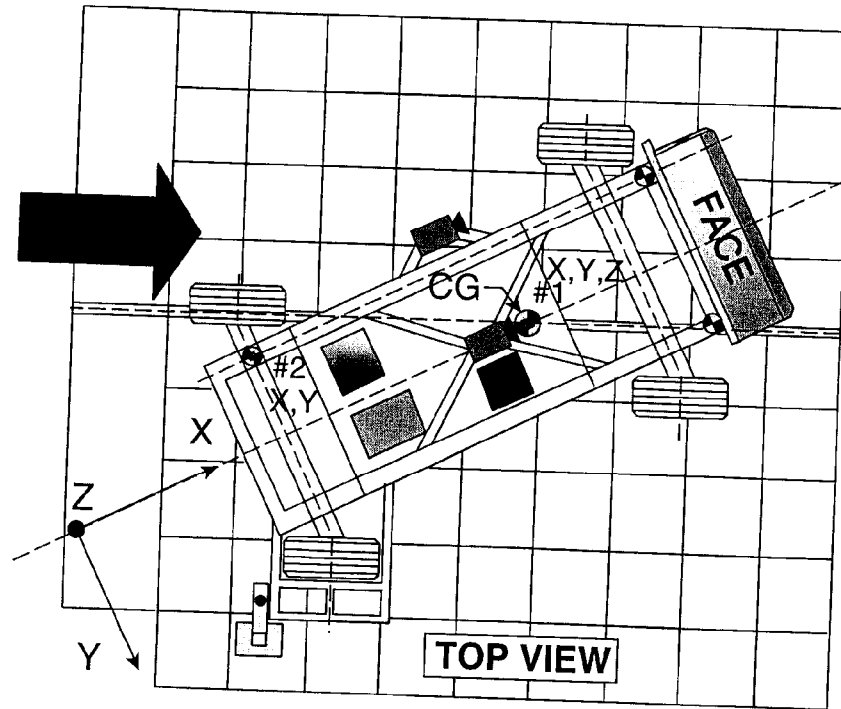
*Reference: X - Rear Bumper (+ Forward)

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400



Accel. No.	Location	Coordinates (millimeters)			Pos. Direct.		Neg. Direct.	
		X*	Y*	Z*	Max (g)	Time (msec)	Max (g)	Time (msec)
1	MDB Center of Gravity							
	Longitudinal... X	1859	0	330	1.6	118.0	-22.2	45.6
	Lateral..... Y				1.7	-100.0	-8.7	34.9
	Vertical..... Z				9.5	63.8	-16.0	20.9
	Resultant..... R				23.5	20.6	0.1	-78.7
2	Rear Frame Member							
	Longitudinal... X	386	-660	660	1.4	112.9	-20.6	37.4
	Lateral..... Y				2.6	20.3	-1.8	71.1

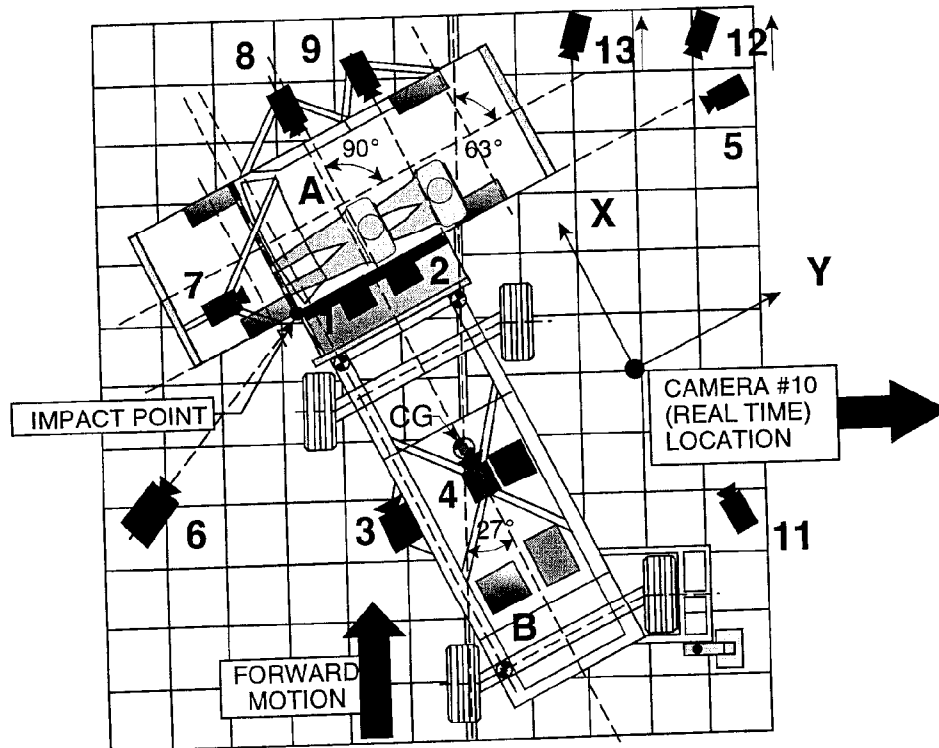
*Reference: X = Rear Bumper (+ Forward)
Y = Vehicle Centerline (+ To Right)
Z = Ground Level (+ Up)
All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	770	819	4880	-90	8	N/A
2	Overhead closeup view of impact plane	925	740	4880	-90	12.5	1000
3	MDB onboard closeup view of impact point	1470	0	847	0	13	1000
4	MDB onboard view of driver dummy	1140	838	1586	-17	7.5	N/A
5	Right side ground level overall view	-855	9423	1033	-3	25	1000
6	Left side ground level overall view	-2854	-1727	1084	-1	13	1000
7	Test vehicle onboard driver front view	515	-620	1392	-6	13	900
8	Test vehicle onboard driver side view	1820	1630	1155	-4	8	1000
9	Test vehicle onboard passenger side view	1754	630	1120	-8	8	1000
10	Real time film coverage of test	-	-	-	-	-	24
11	Secondary Impact Point View	-5247	3537	1038	-2	25	1000
12	Right Rear Rollover View	8103	16942	1085	-2	13	850
13	Rear Rollover View	11506	15621	1085	-3	13	850

+X = Forward +Y = To Right +Z = Upward

N.T. - Indicates no timing

* Reference (from point of impact); all measurements accurate to within ± 6 mm.

SECTION 5

FUEL SYSTEM INTEGRITY

DATA SHEET 16

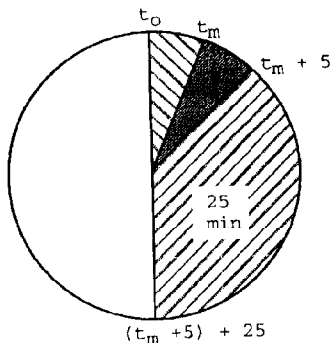
FMVSS 301 FUEL SYSTEM INTEGRITY DATA

NHTSA No.: MY5400 TEST DATE: December 3, 1999
 Vehicle Mfg./Make/Model : 2000 Mazda MPV Minivan

TEST VEHICLE IMPACT TYPE :

- Frontal (48.28 kph)
- Oblique (48.28 kph) with ° barrier face first
 contacting the side
 (driver/passenger)
- Rear Moving Barrier (48.28 kph)
- Lateral Moving Barrier (32.19 kph)
- X Side Impact Moving Deformable Barrier (62.0 kph)
 contacting the driver side side
 (driver/passenger)

FUEL SPILLAGE MEASUREMENT:



1. From impact until vehicle motion ceases
2. For five minute period after vehicle motion ceases
3. For next 25 minutes

ACTUAL	MAX ALLOWED
0 g	28 g
0 g	142 g
0 g	28 g/1 min.

SOLVENT SPILLAGE DETAILS :

None

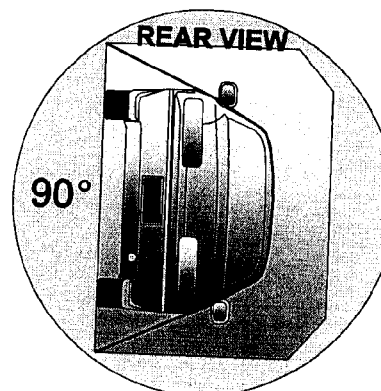
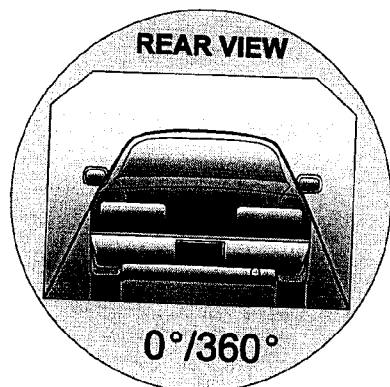
DATA SHEET 17

ROLLOVER DATA

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

0 - 90 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time
(Spec. Range = 1 to 3 minutes)

1 minutes 18 seconds

FMVSS 301 Position Hold Time +

5 minutes 0 seconds

TOTAL

6 minutes 18 seconds

Next whole minute interval

7 minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S) :

None

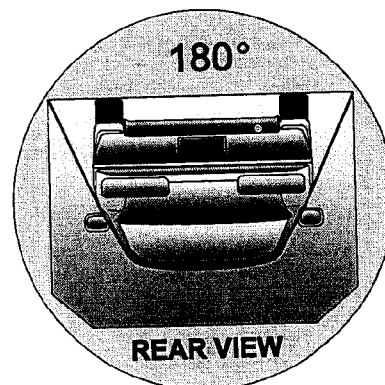
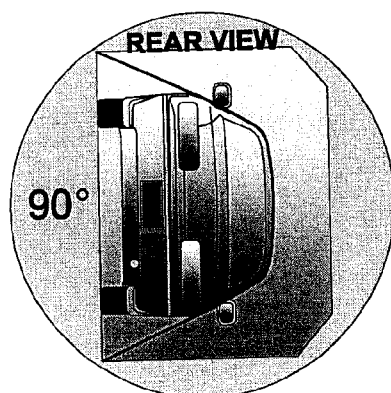
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

90 - 180 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time +

TOTAL

Next whole minute interval

1 minutes 05 seconds
5 minutes 0 seconds
6 minutes 5 seconds
7 minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S) :

None

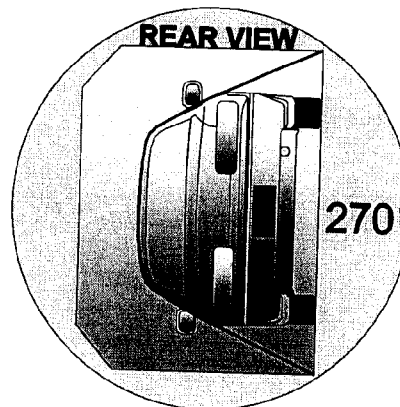
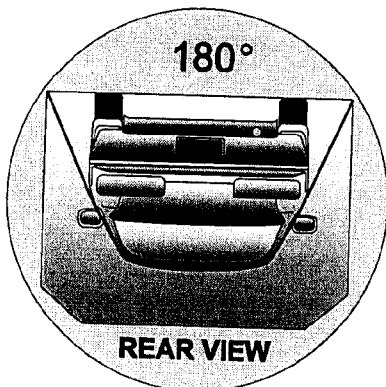
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

180 - 270 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time

(Spec. Range = 1 to 3 minutes)

1 minutes 01 seconds

FMVSS 301 Position Hold Time +

5 minutes 0 seconds

TOTAL

6 minutes 1 seconds

Next whole minute interval

7 minutes

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)
--	----------	----------	------------------------

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S) :

None

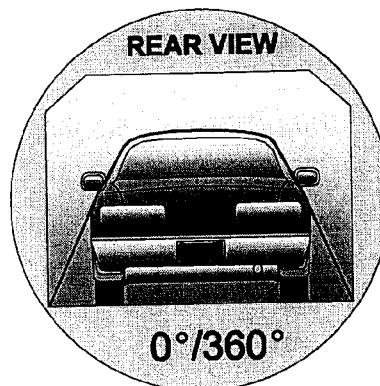
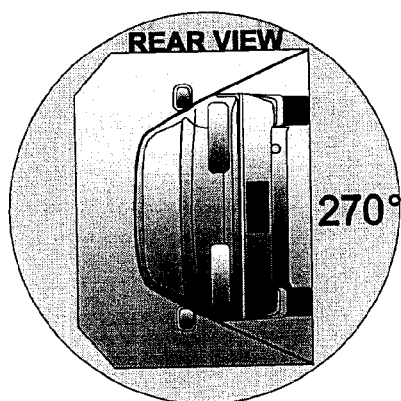
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 2000 Mazda MPV

NHTSA No. MY5400

270 - 360 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time

(Spec. Range = 1 to 3 minutes)

FMVSS 301 Position Hold Time +

TOTAL

Next whole minute interval

<u>1</u>	minutes	<u>07</u>	seconds
<u>5</u>	minutes	<u>0</u>	seconds
<u>6</u>	minutes	<u>7</u>	seconds
<u>7</u>	minutes		

II. FMVSS 301 REQUIREMENTS :

(1) Time Period

First 5 minutes FROM onset of rotation	6th min.	7th min.	8th min. (if required)

(2) Maximum Allowable Solvent Spillage

142 g	28 g	28 g	28 g
-------	------	------	------

III. ACTUAL TEST VEHICLE SOLVENT SPILLAGE:

0 g	0 g	0 g	N/A
-----	-----	-----	-----

Note: Record spillage for whole minute intervals only as determined above.

IV. SOLVENT SPILLAGE LOCATION(S) :

None

APPENDIX A

PHOTOGRAPHS

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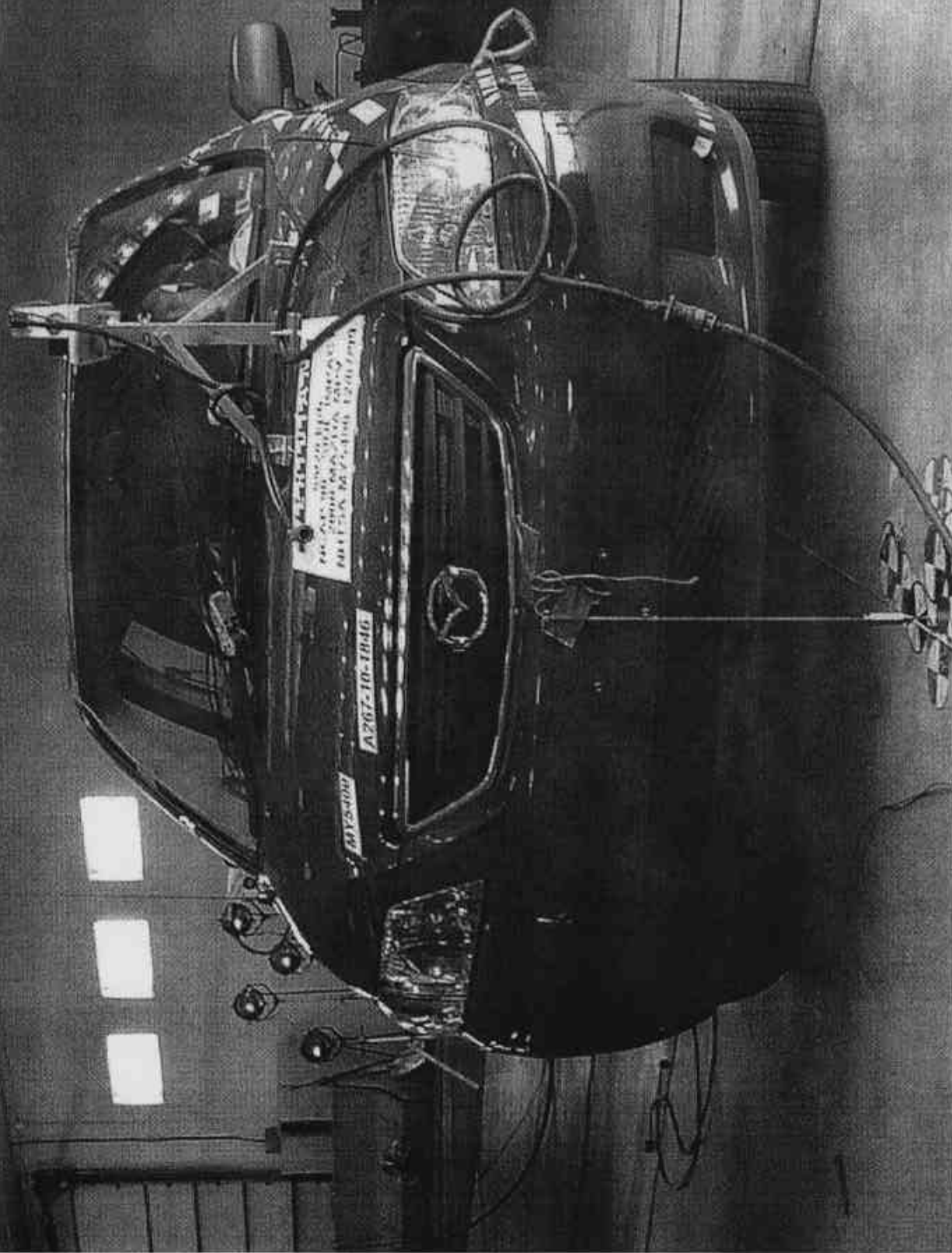


Figure A-1 PRE-TEST FRONTAL VIEW OF TEST VEHICLE

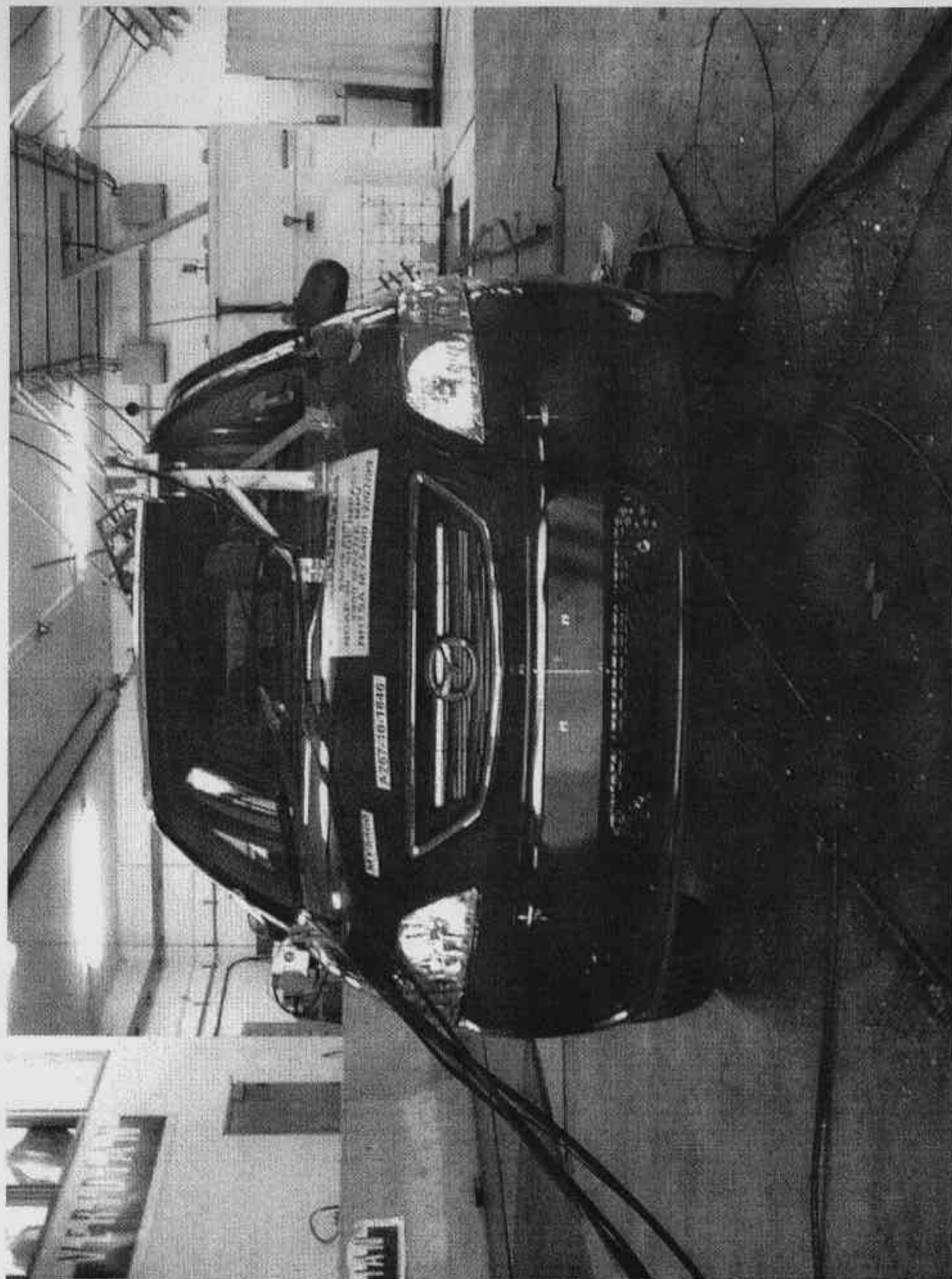


Figure A-2 POST-TEST FRONTAL VIEW OF TEST VEHICLE

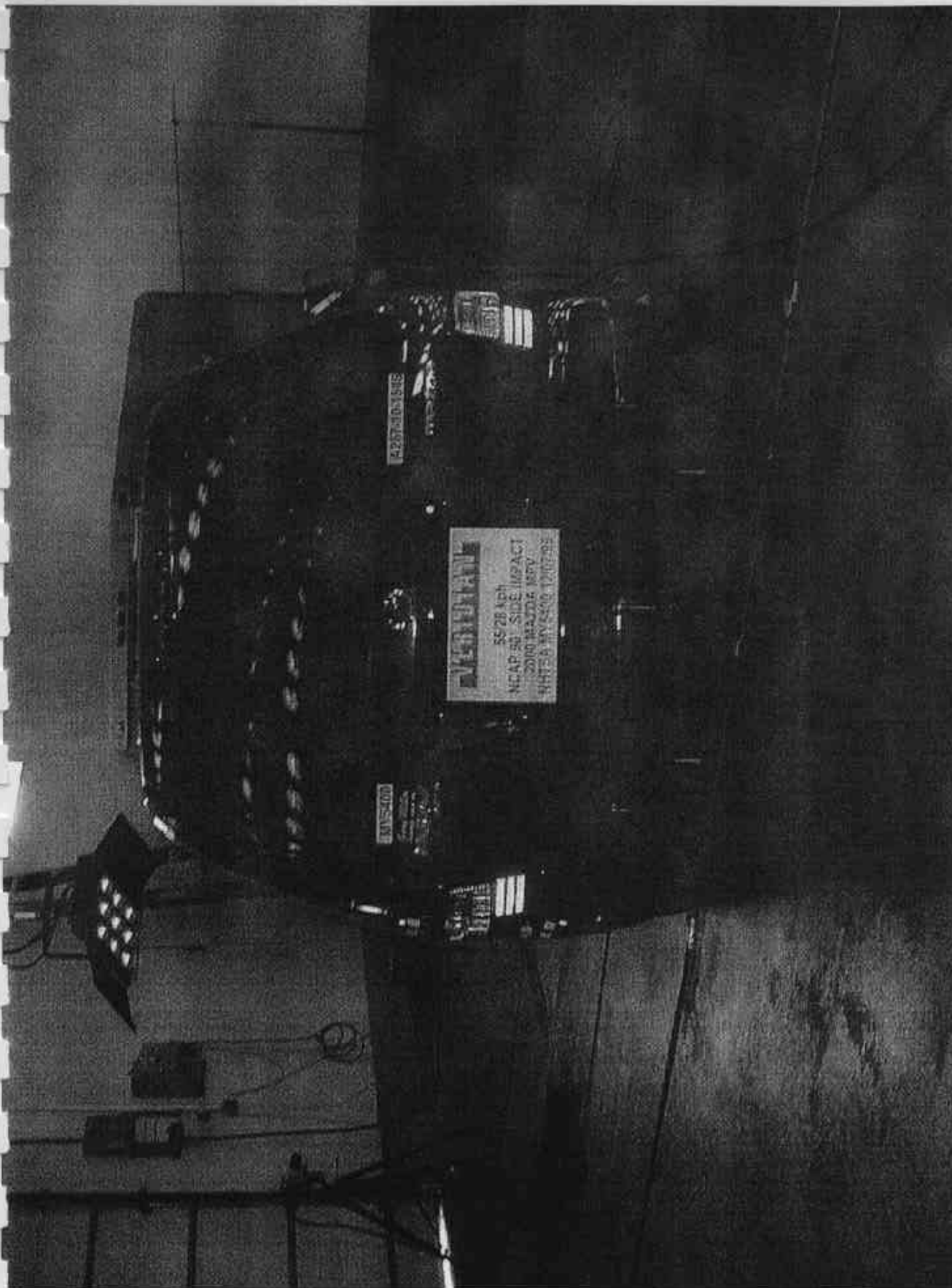


Figure A-3 PRE-TEST REAR VIEW OF TEST VEHICLE

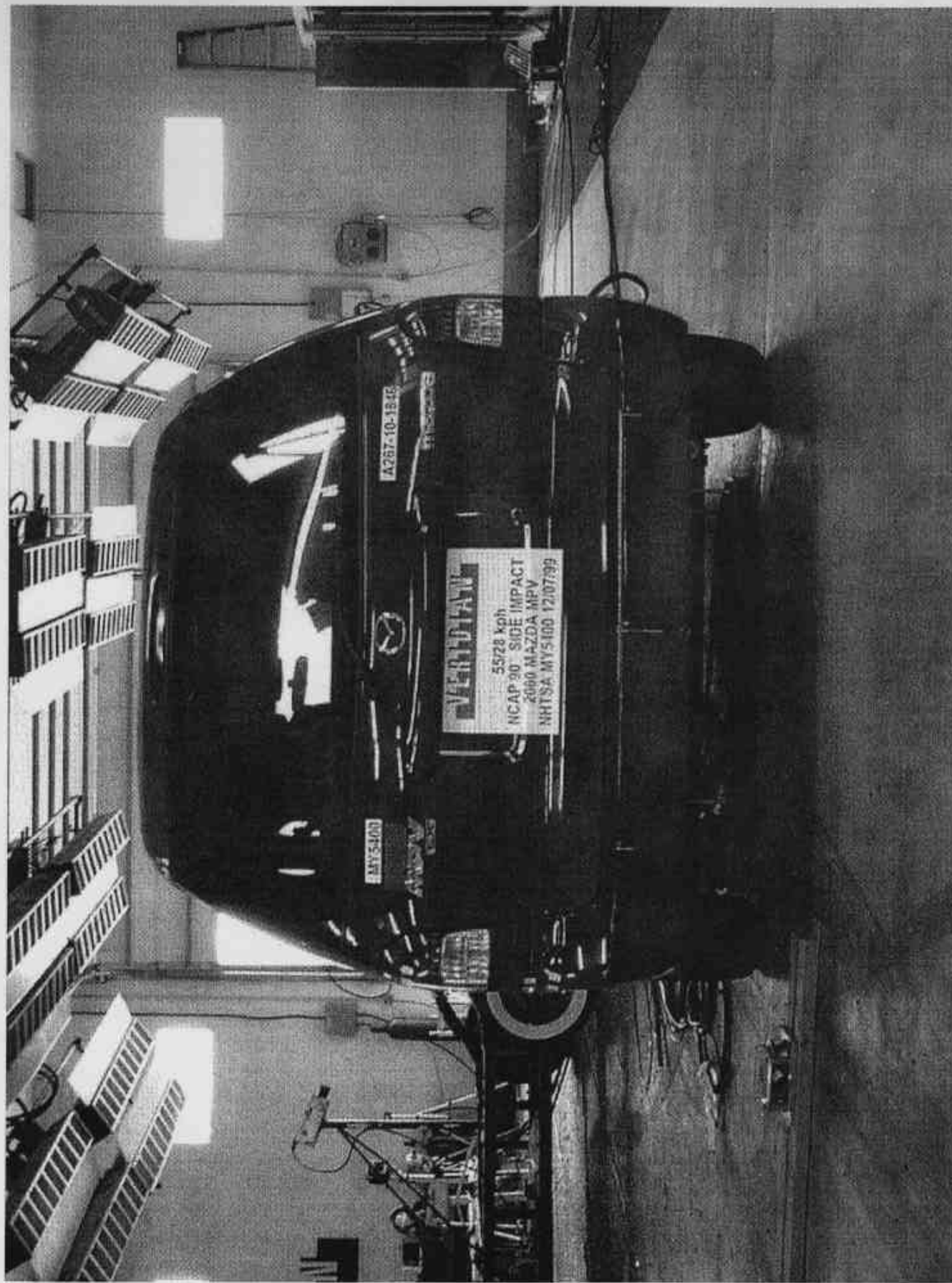


Figure A-4 POST-TEST REAR VIEW OF TEST VEHICLE

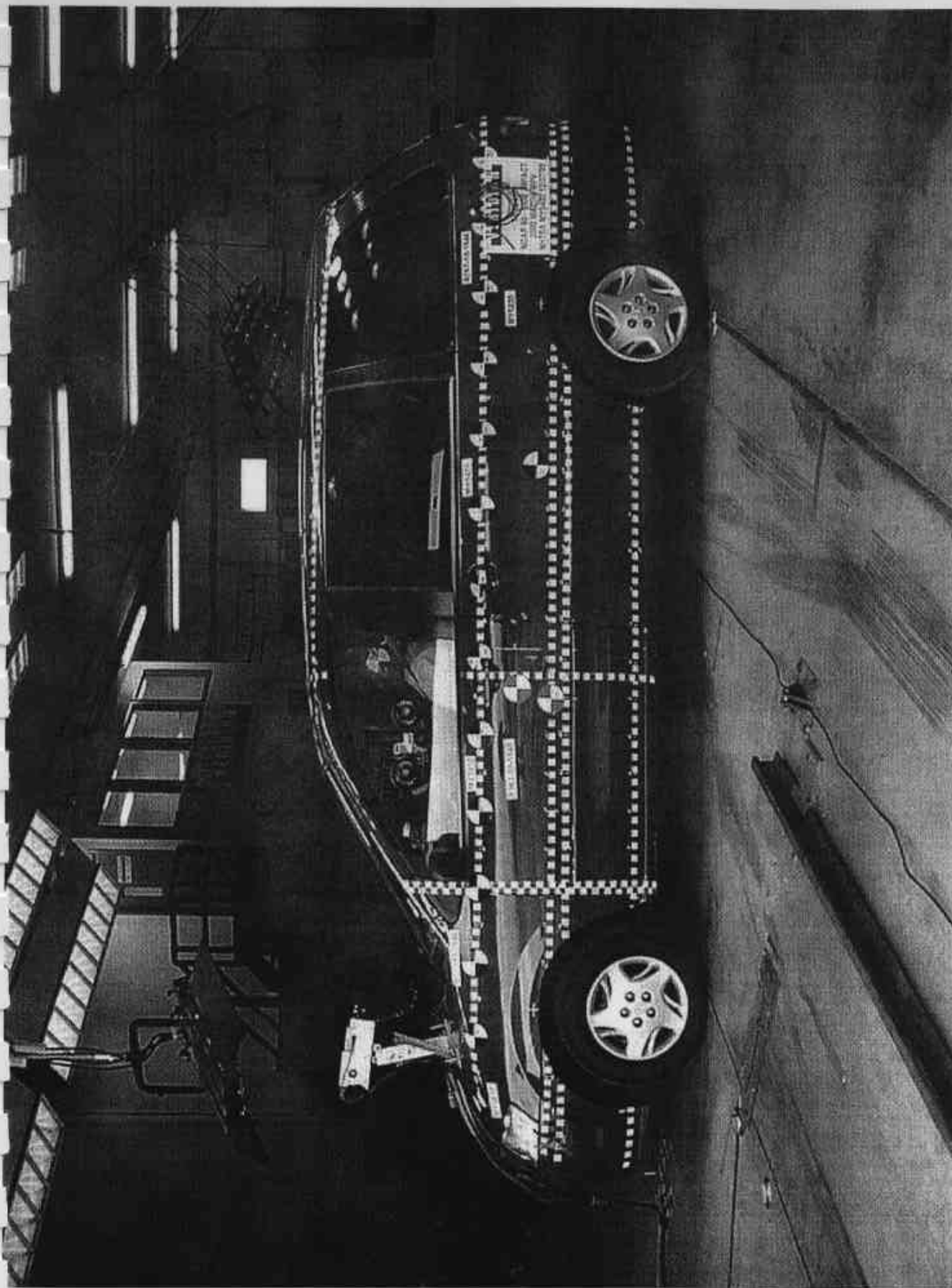


Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

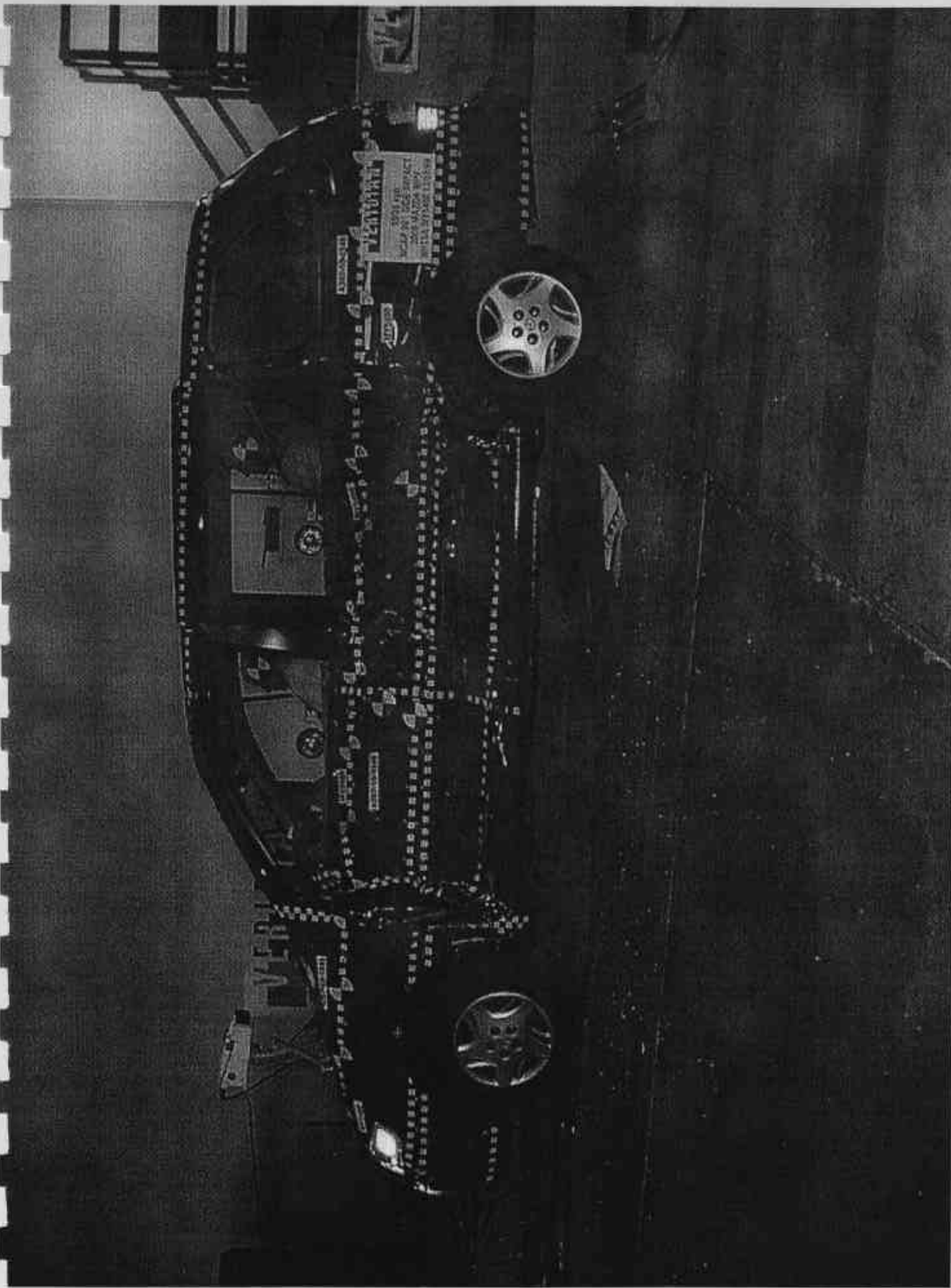


Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

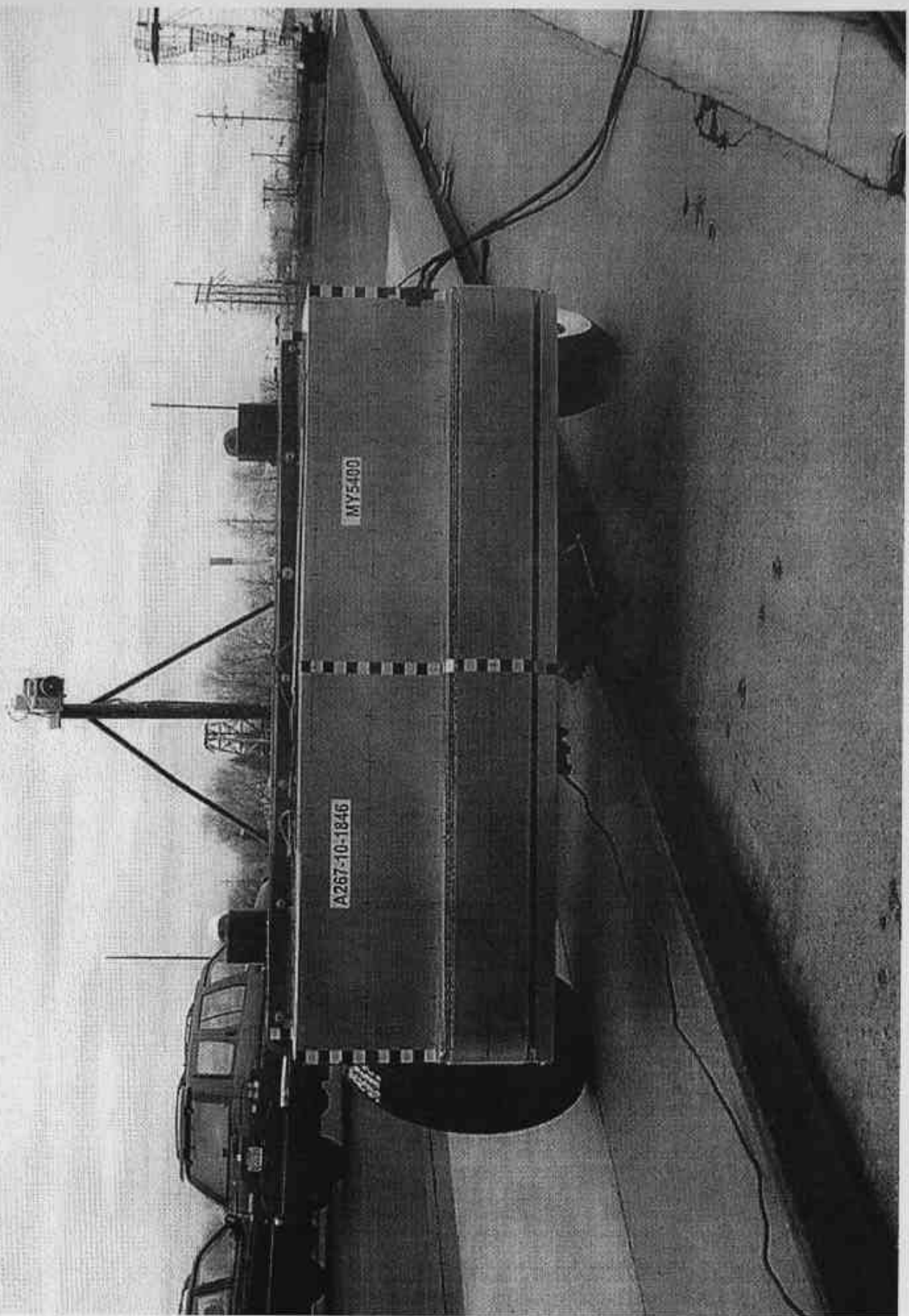


Figure A-7 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE

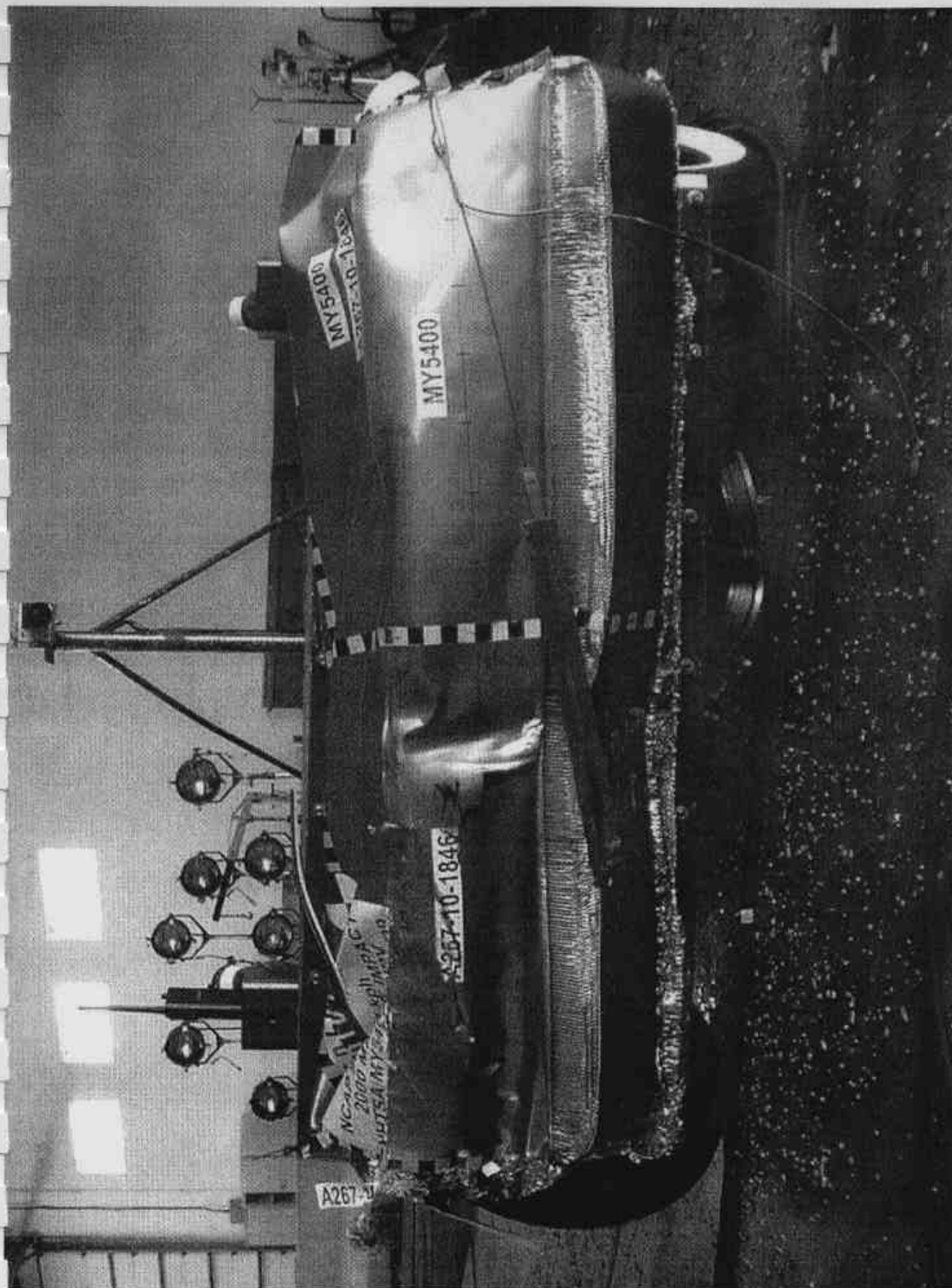


Figure A-8 POST-TEST FRONTAL VIEW OF IMPACTOR FACE



Figure A-9 PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE

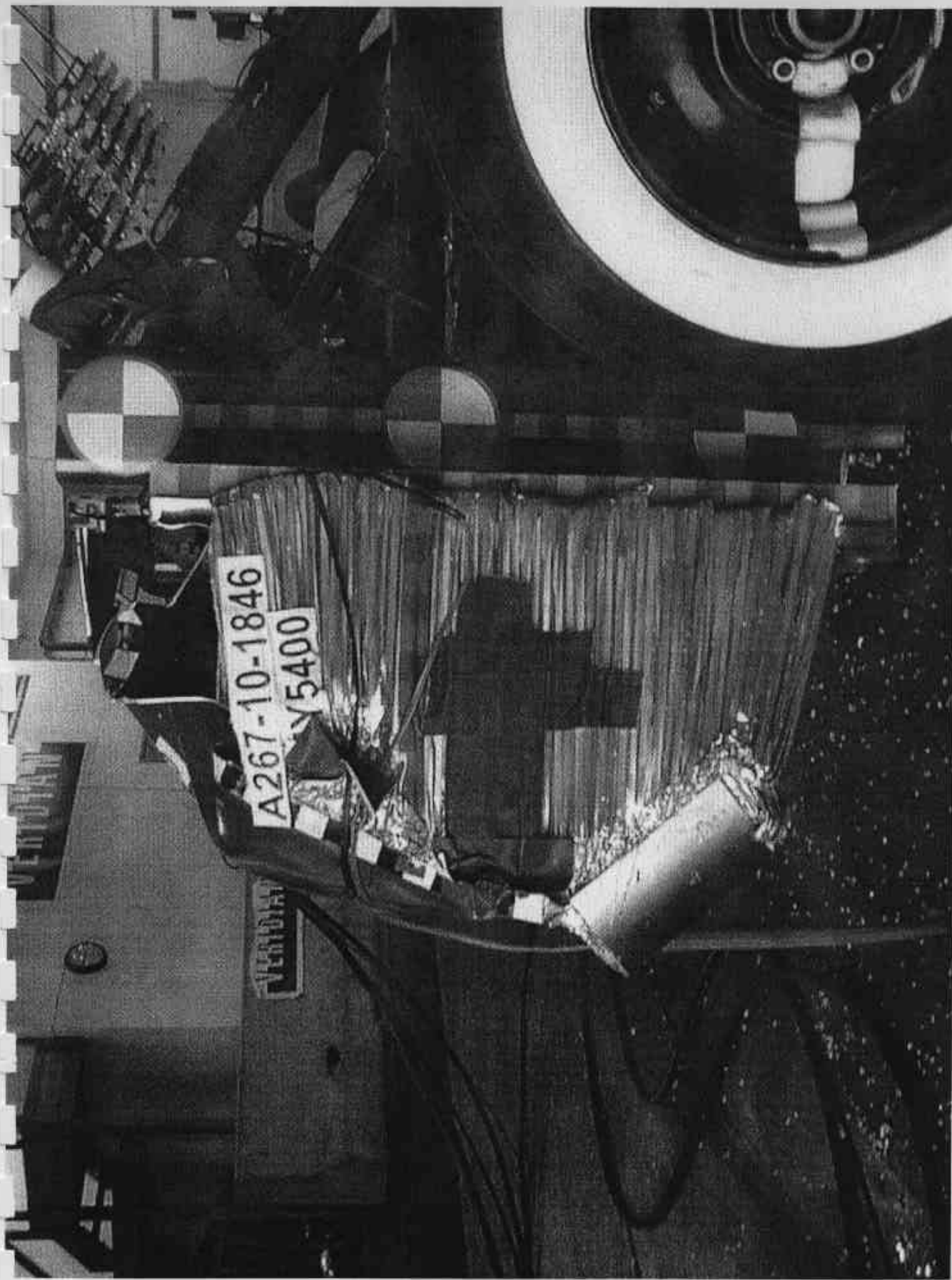


Figure A-10 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE

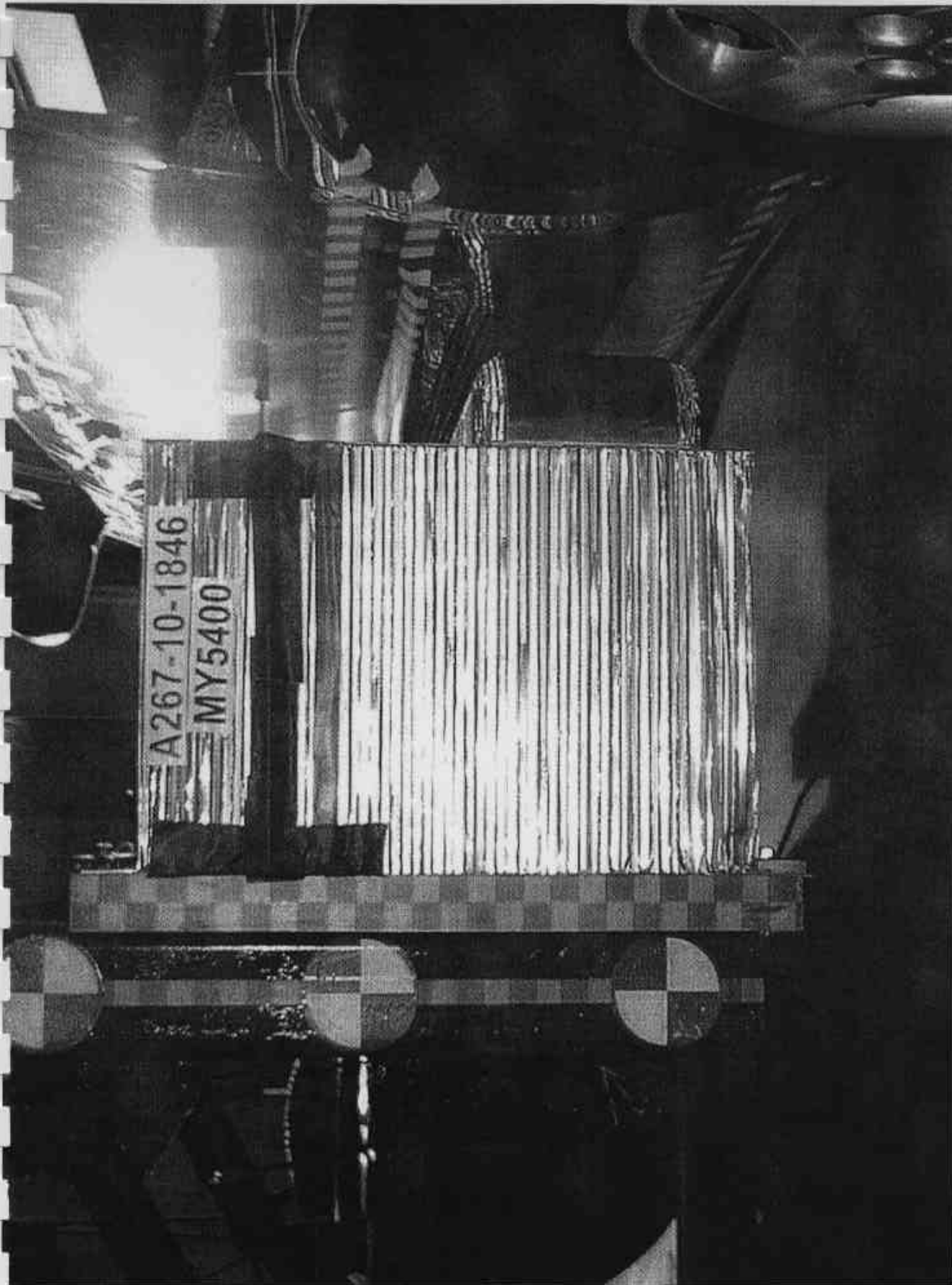


Figure A-11 PRE-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

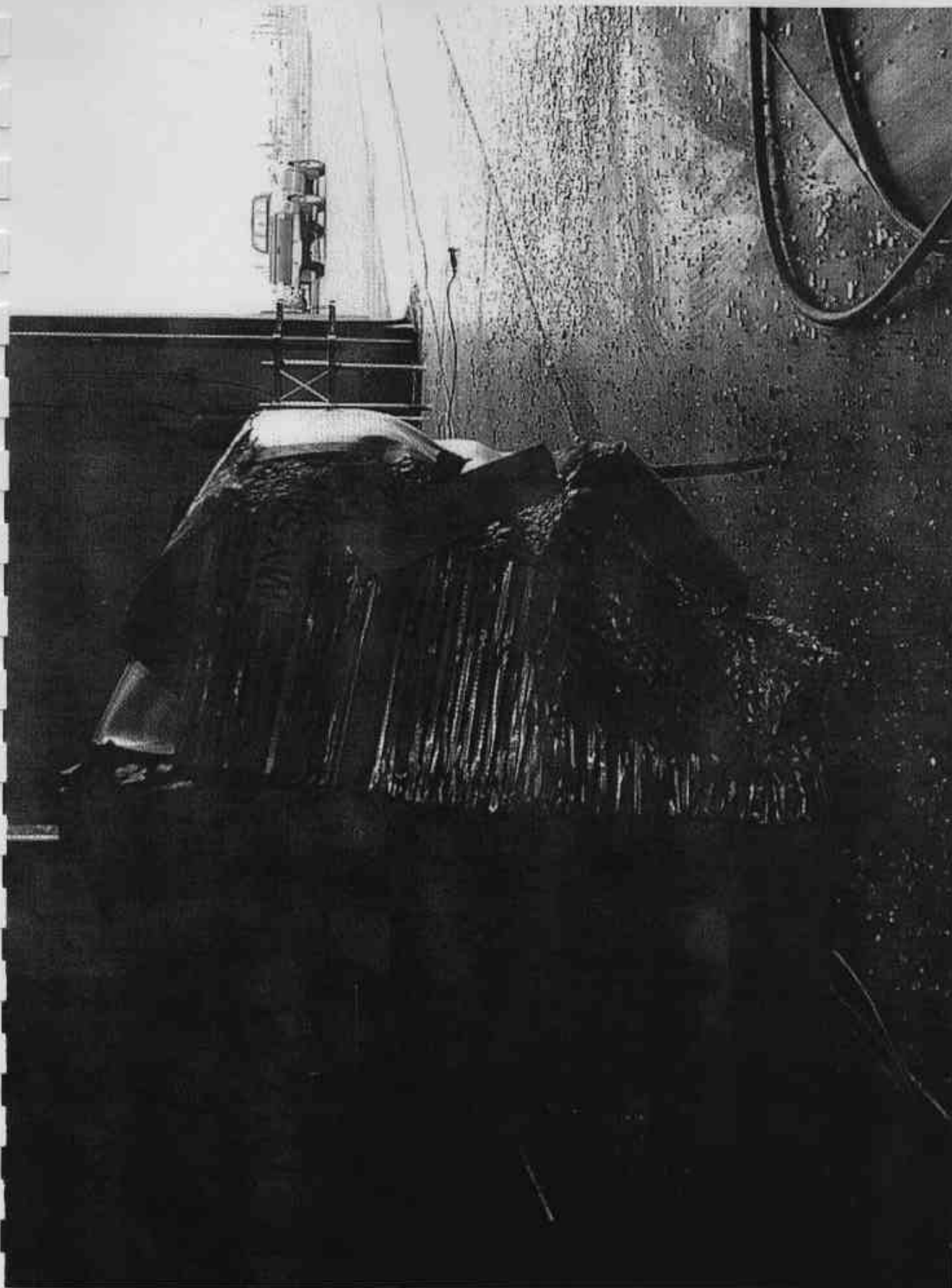


Figure A-12 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

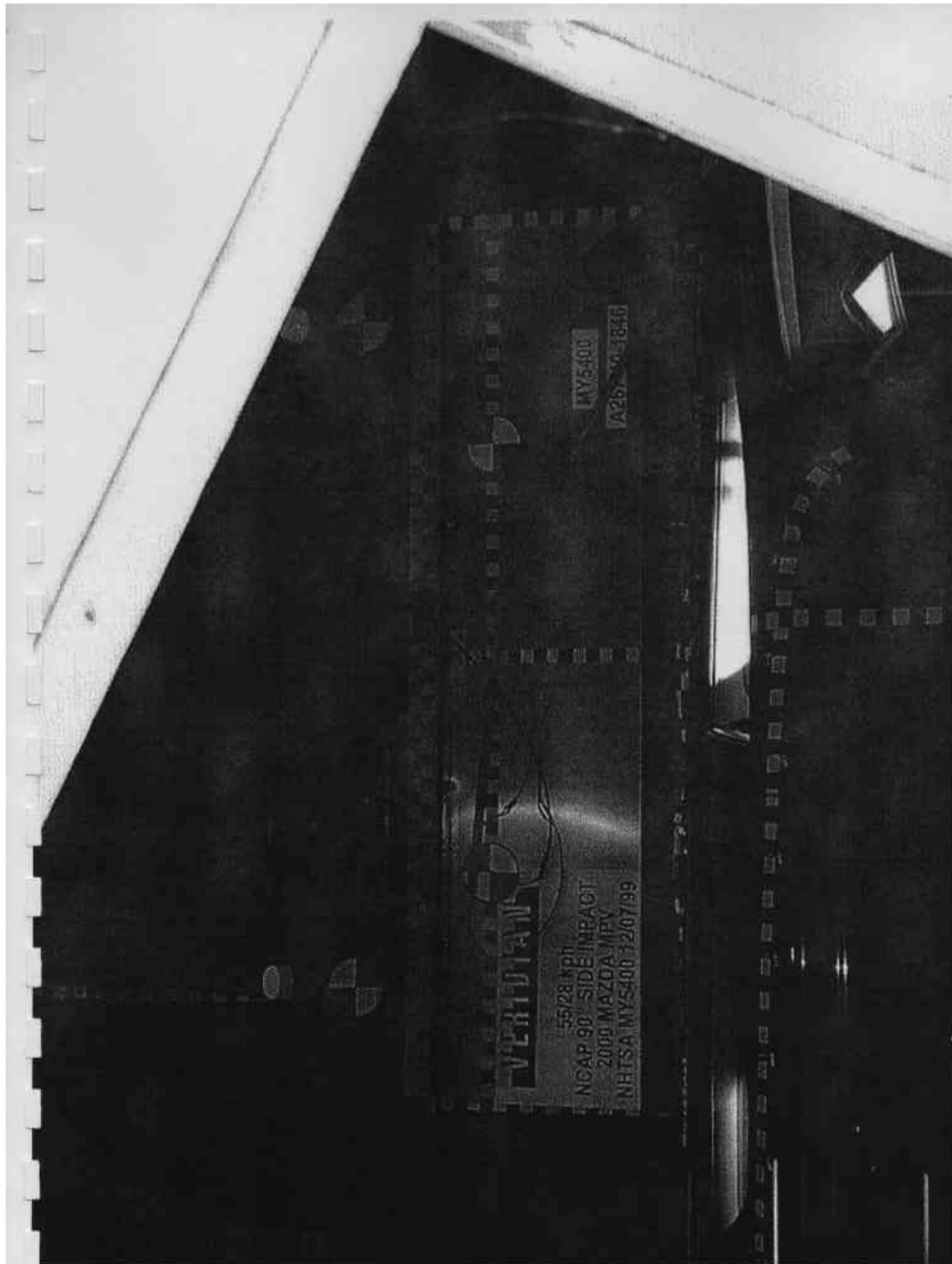


Figure A-13 PRE-TEST TOP VIEW OF IMPACTOR FACE

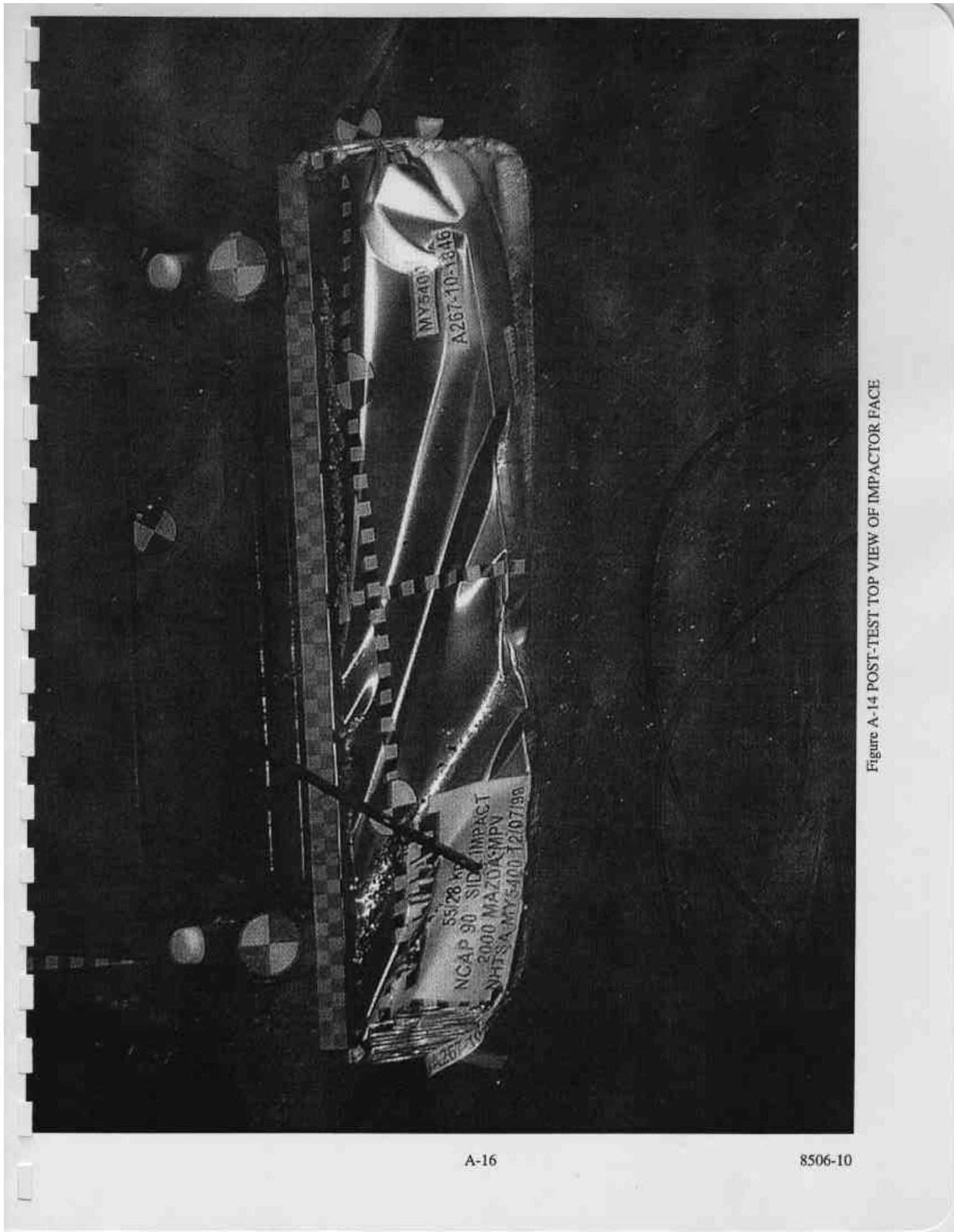


Figure A-14 POST-TEST TOP VIEW OF IMPACTOR FACE

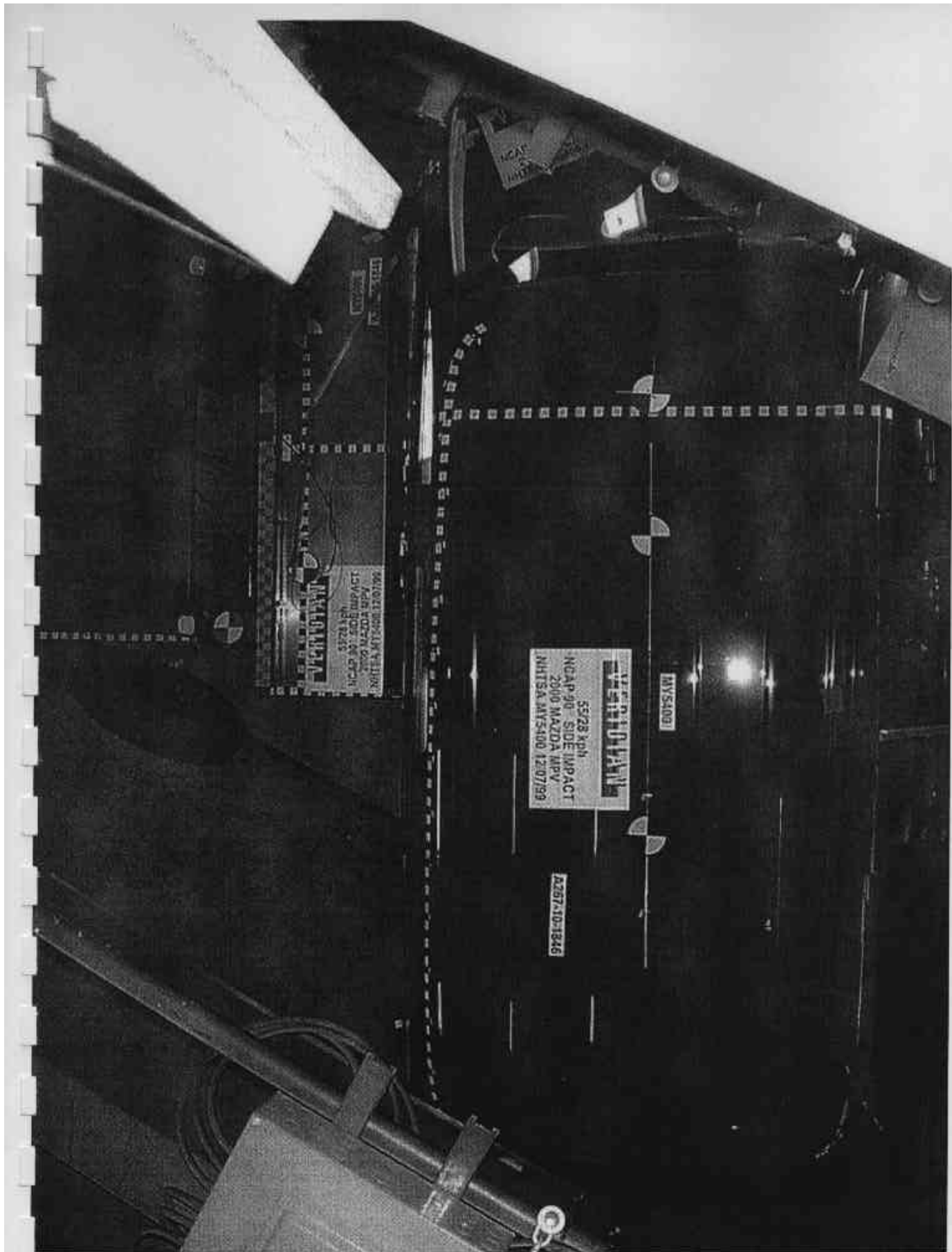


Figure A-15 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE



Figure A-16 POST-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE

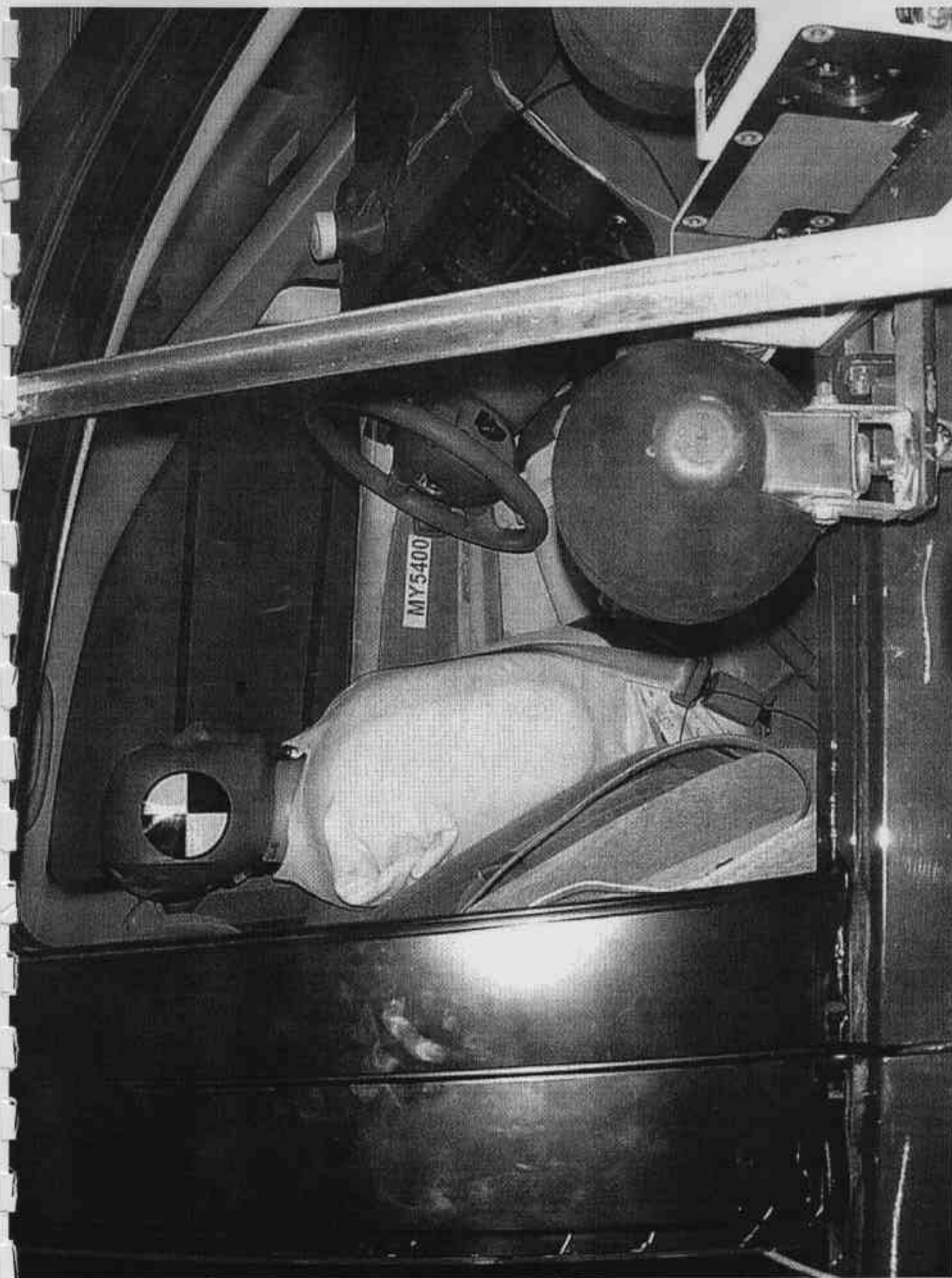


Figure A-17 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-18 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



Figure A-19 PRE-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID



Figure A-20 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID

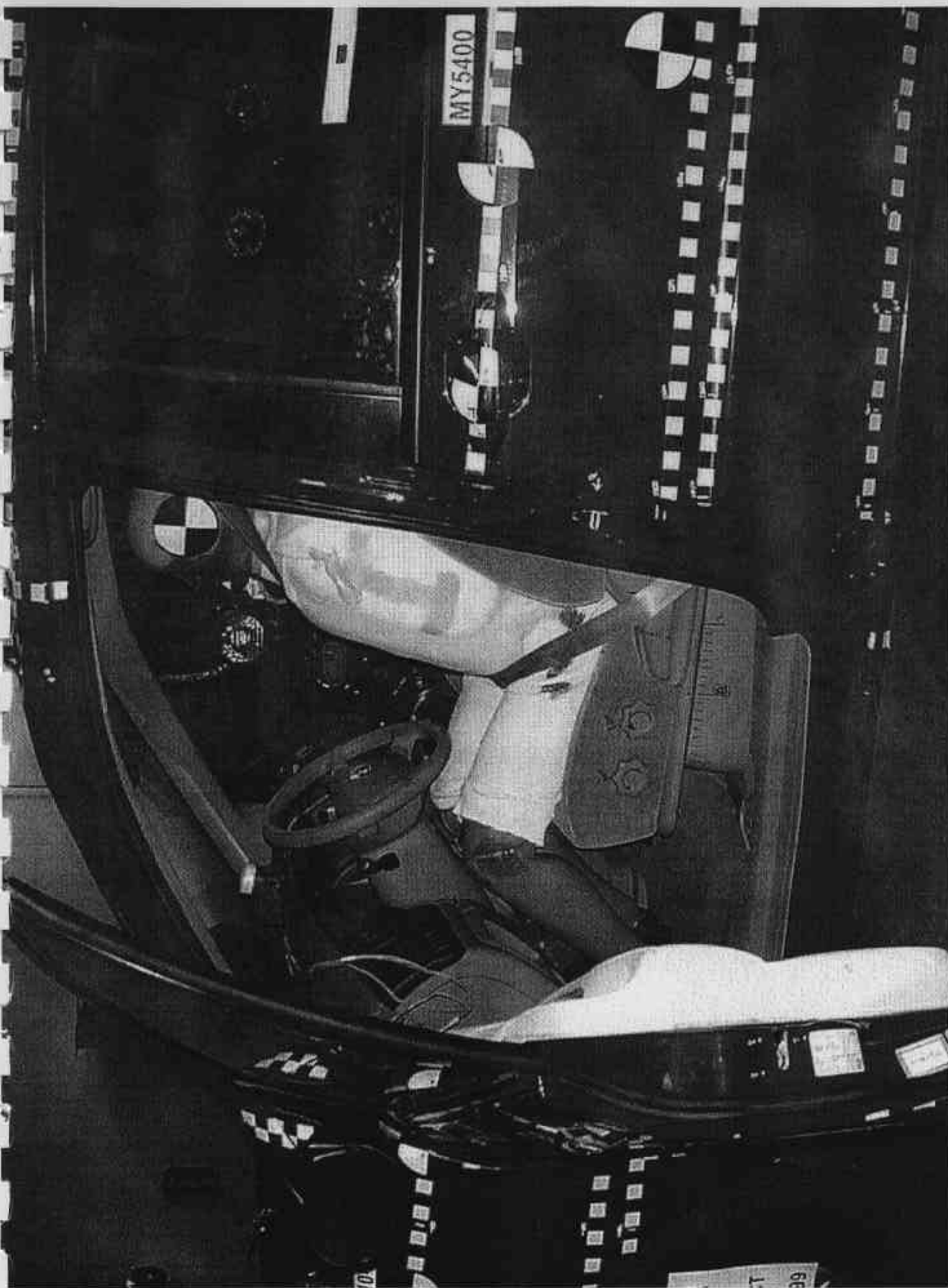


Figure A-21 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

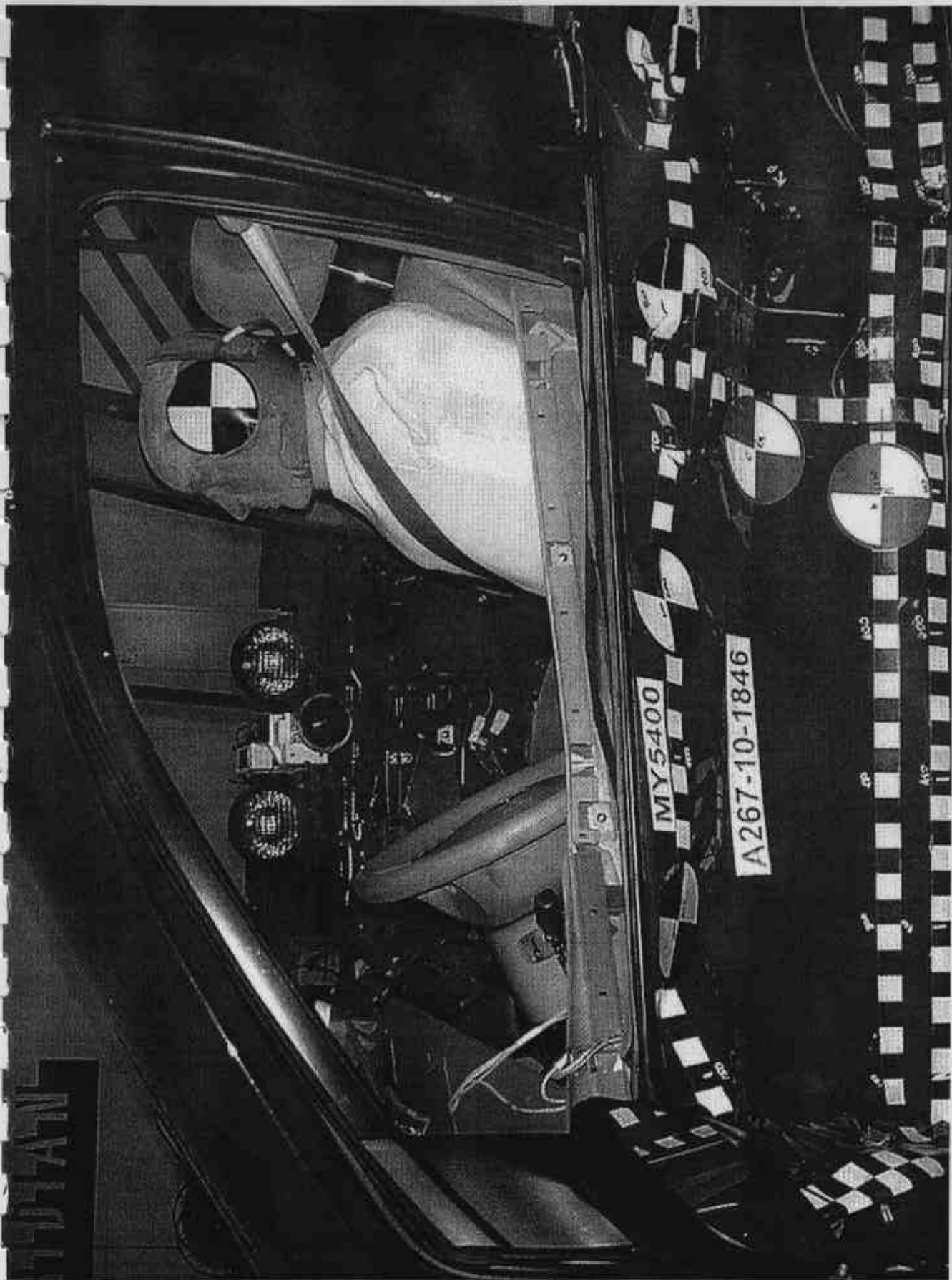


Figure A-22 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

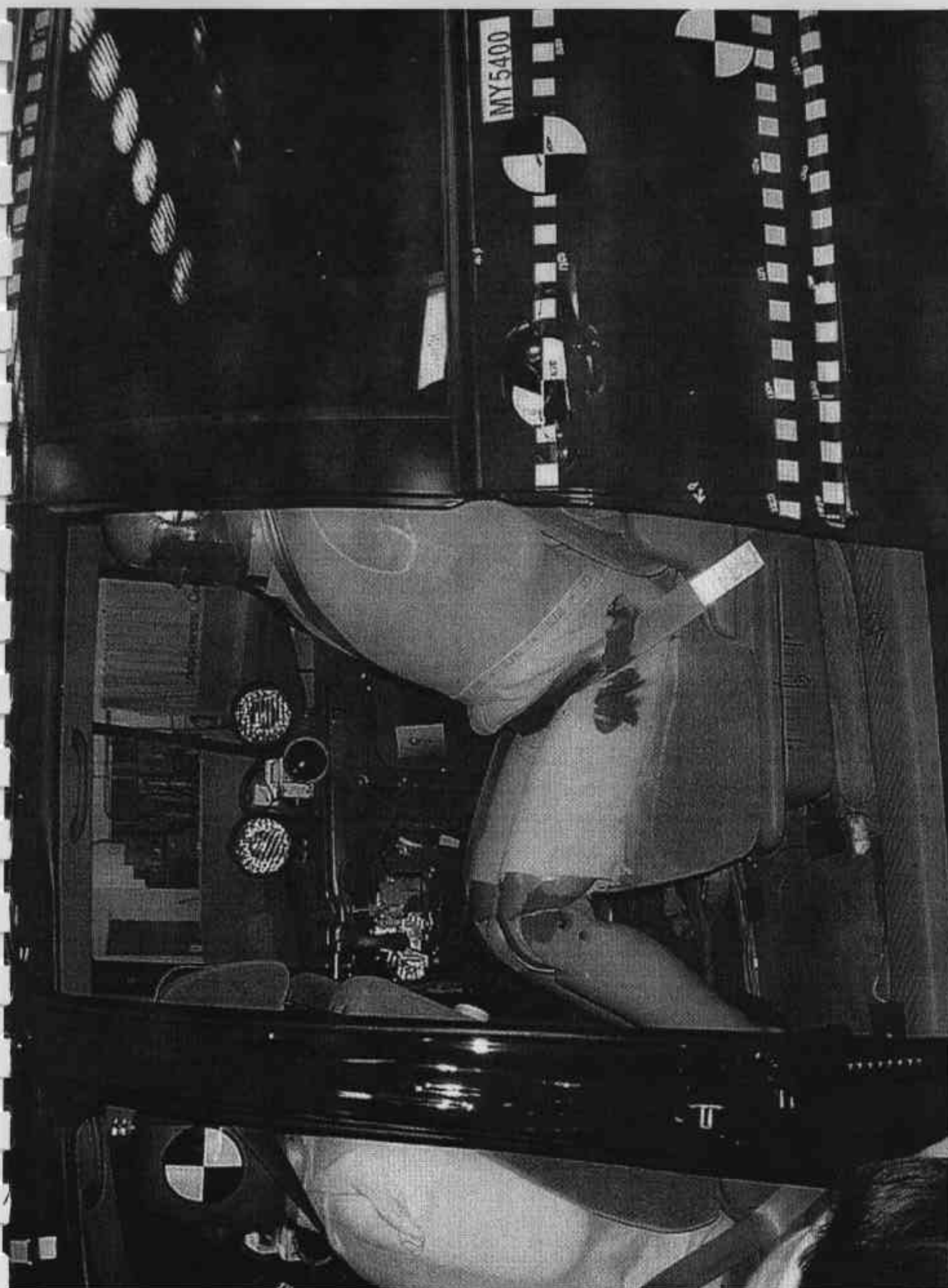


Figure A-23 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

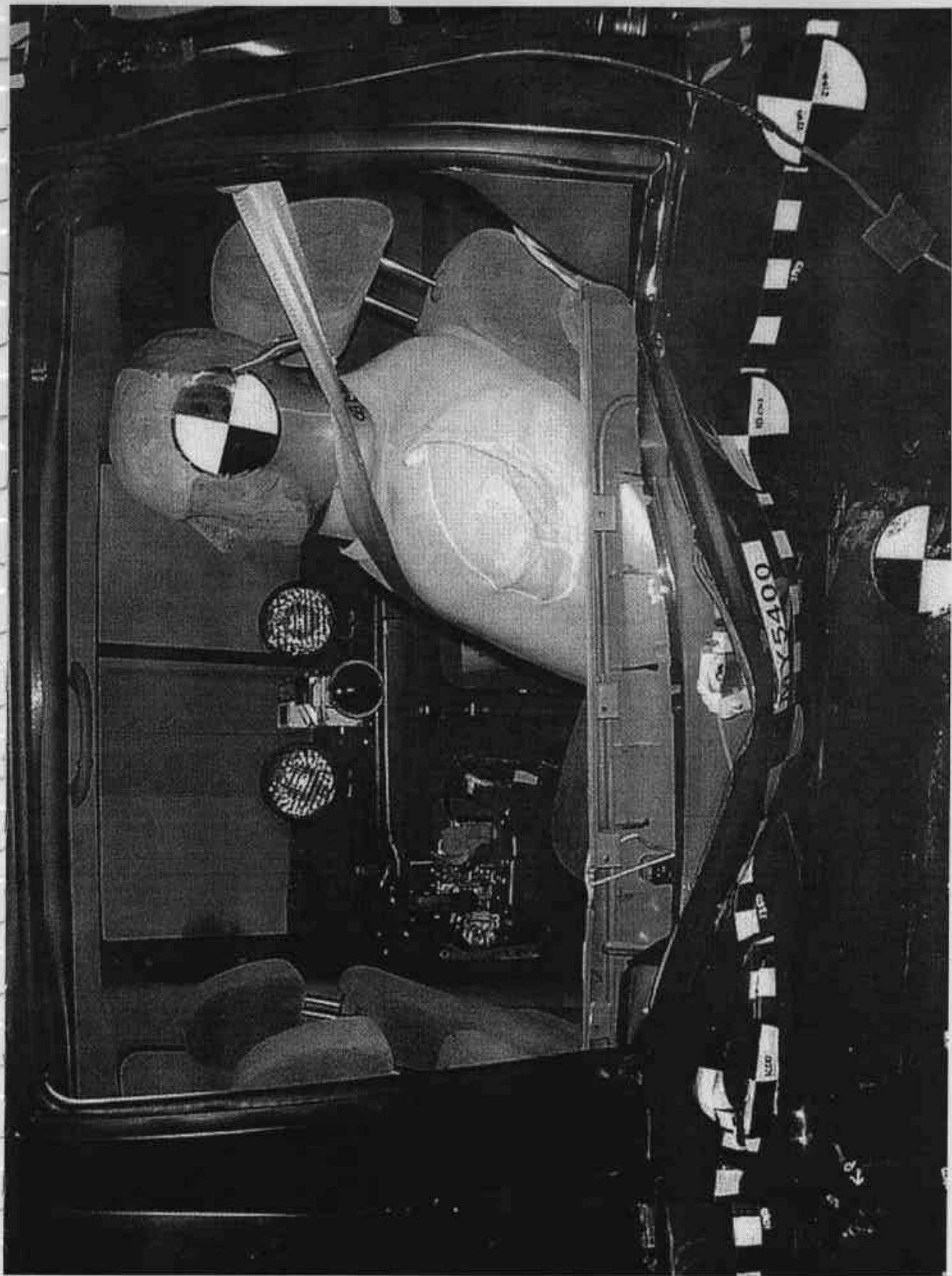


Figure A-24 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

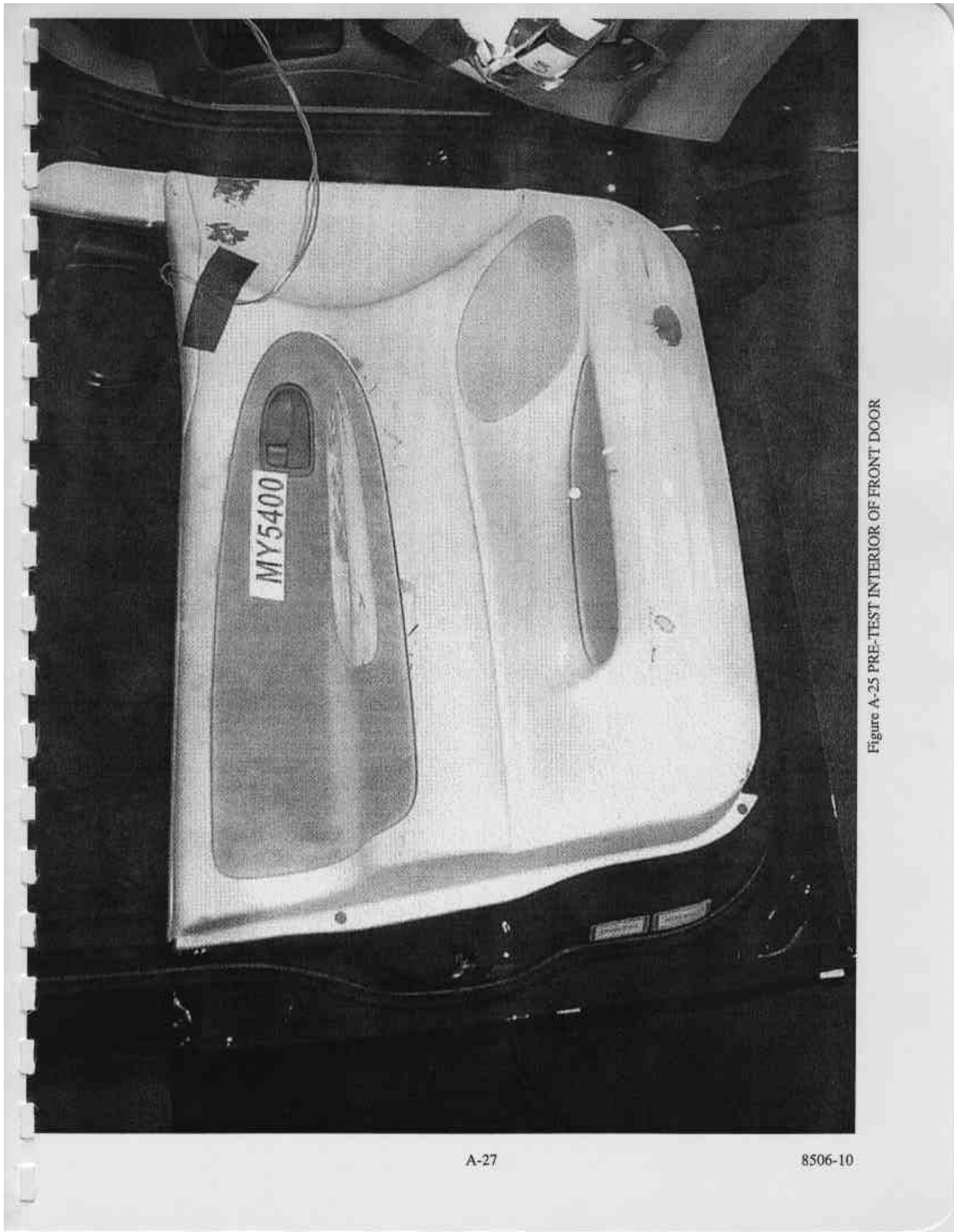


Figure A-25 PRE-TEST INTERIOR OF FRONT DOOR



Figure A-26 POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS



Figure A-27 PRE-TEST INTERIOR OF REAR DOOR



Figure A-28 POST-TEST INTERIOR OF REAR DOOR SHOWING SID IMPACT LOCATIONS

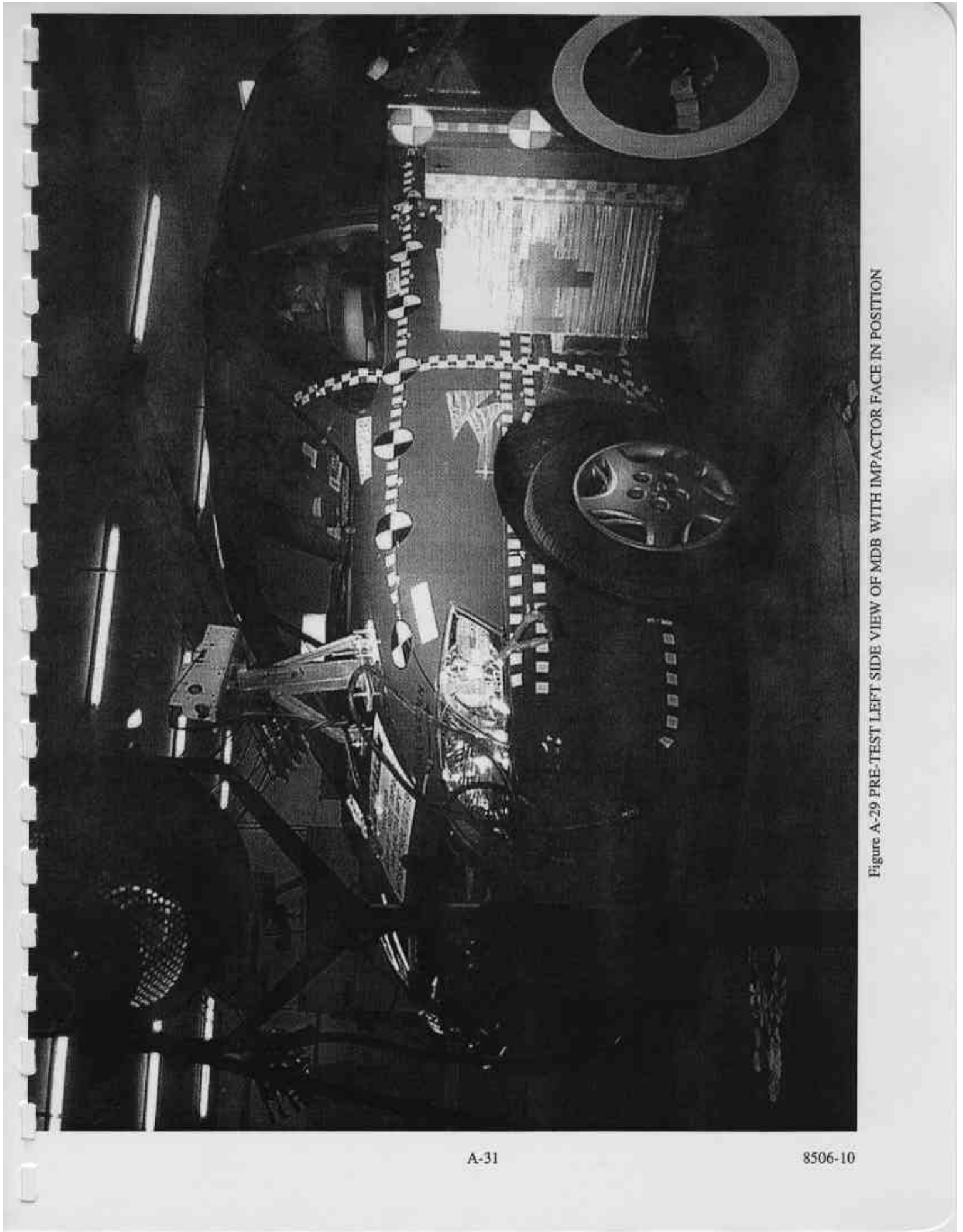


Figure A-29 PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

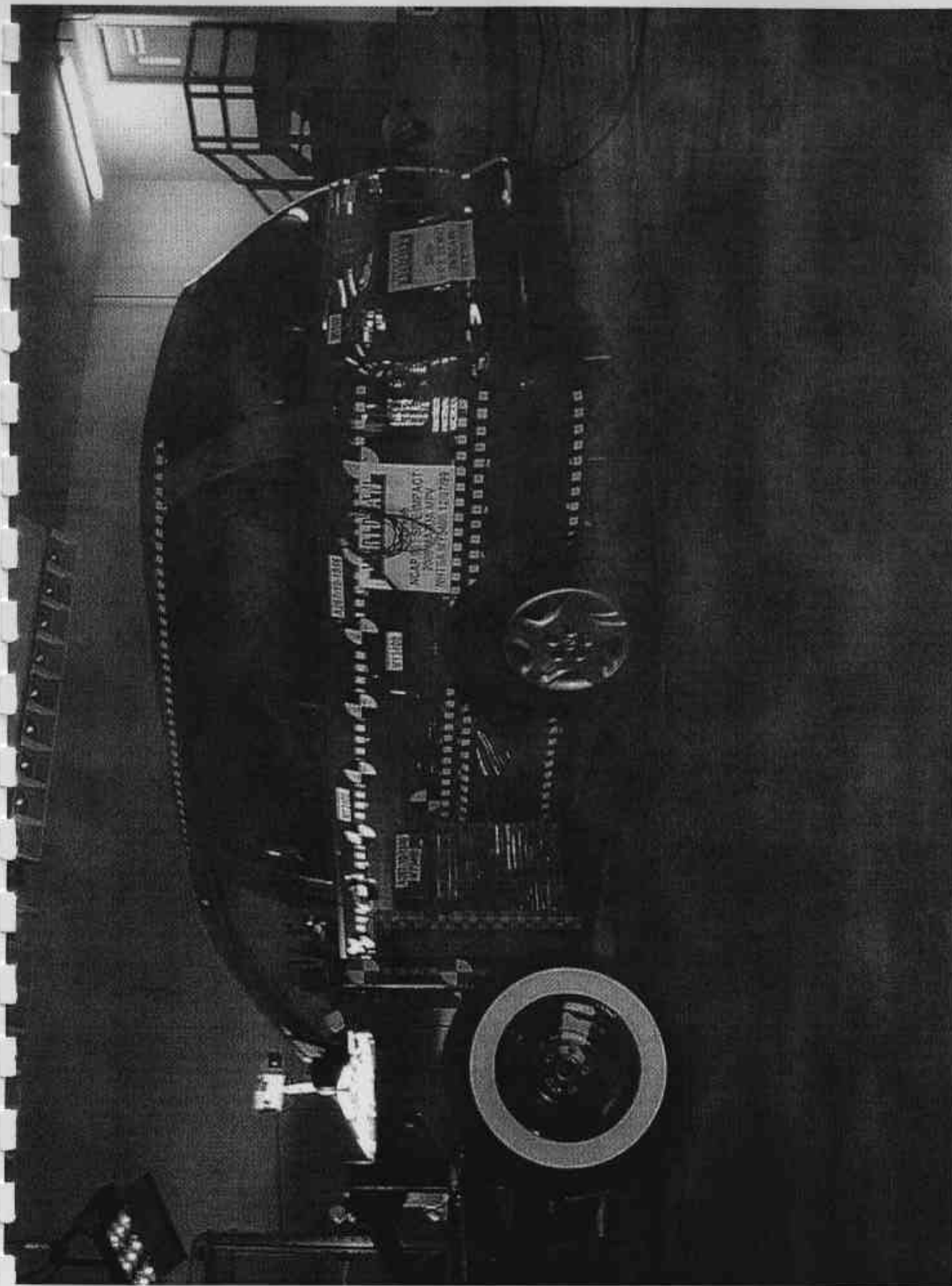


Figure A-30 PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

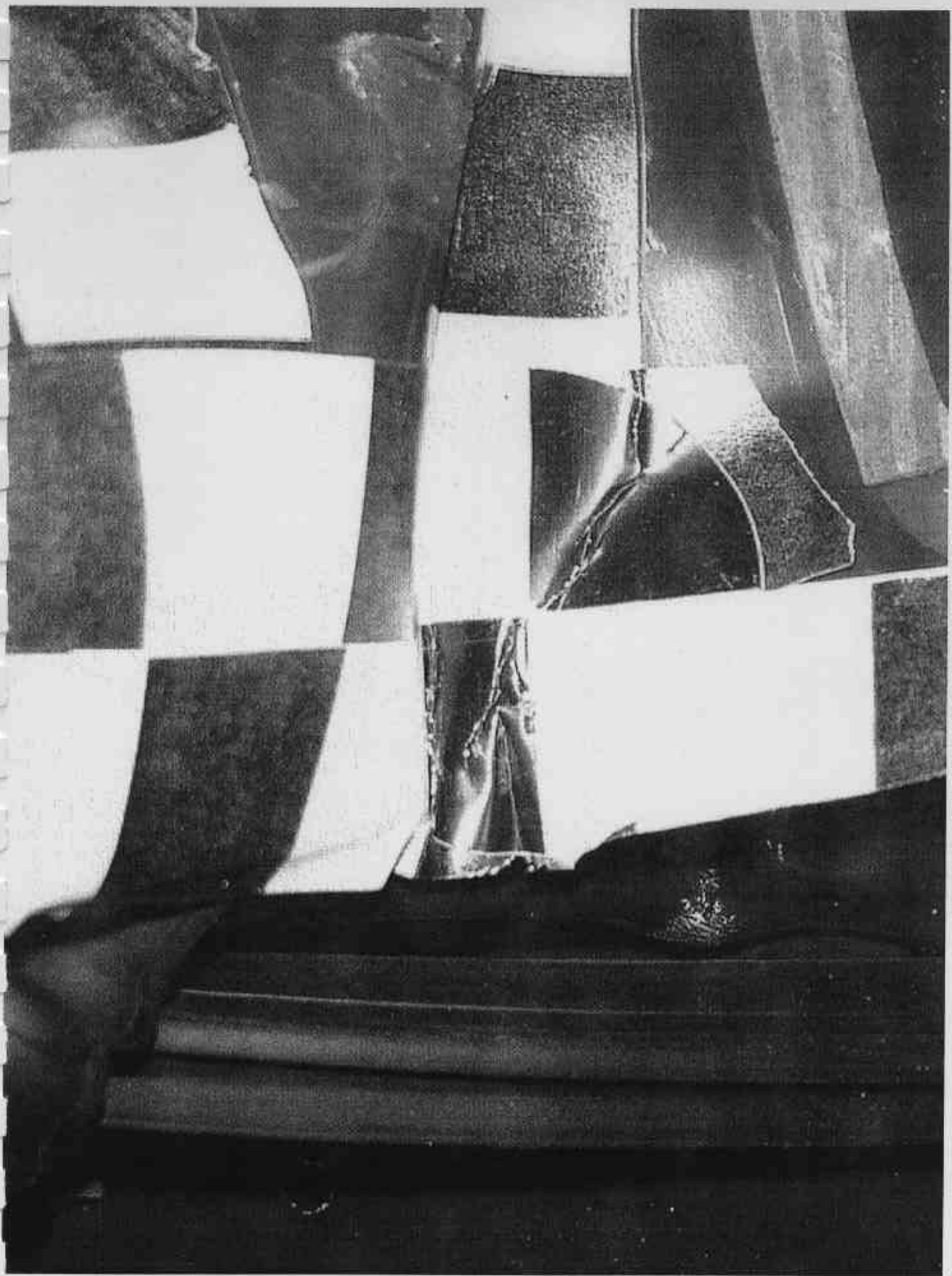


Figure A-31 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET



Figure A-32 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL

VEHICLE CAPACITY WEIGHT
CAPACITE PORTUEUSE DU VEHICULE

SEATING CAPACITY
NOMBRE DE PLACES

TIRE INFLATION PRESSURE
SOUTIEN-PNEU
TIRE INFLATION PRESSURE
SOUTIEN-PNEU

Figure A-33 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL

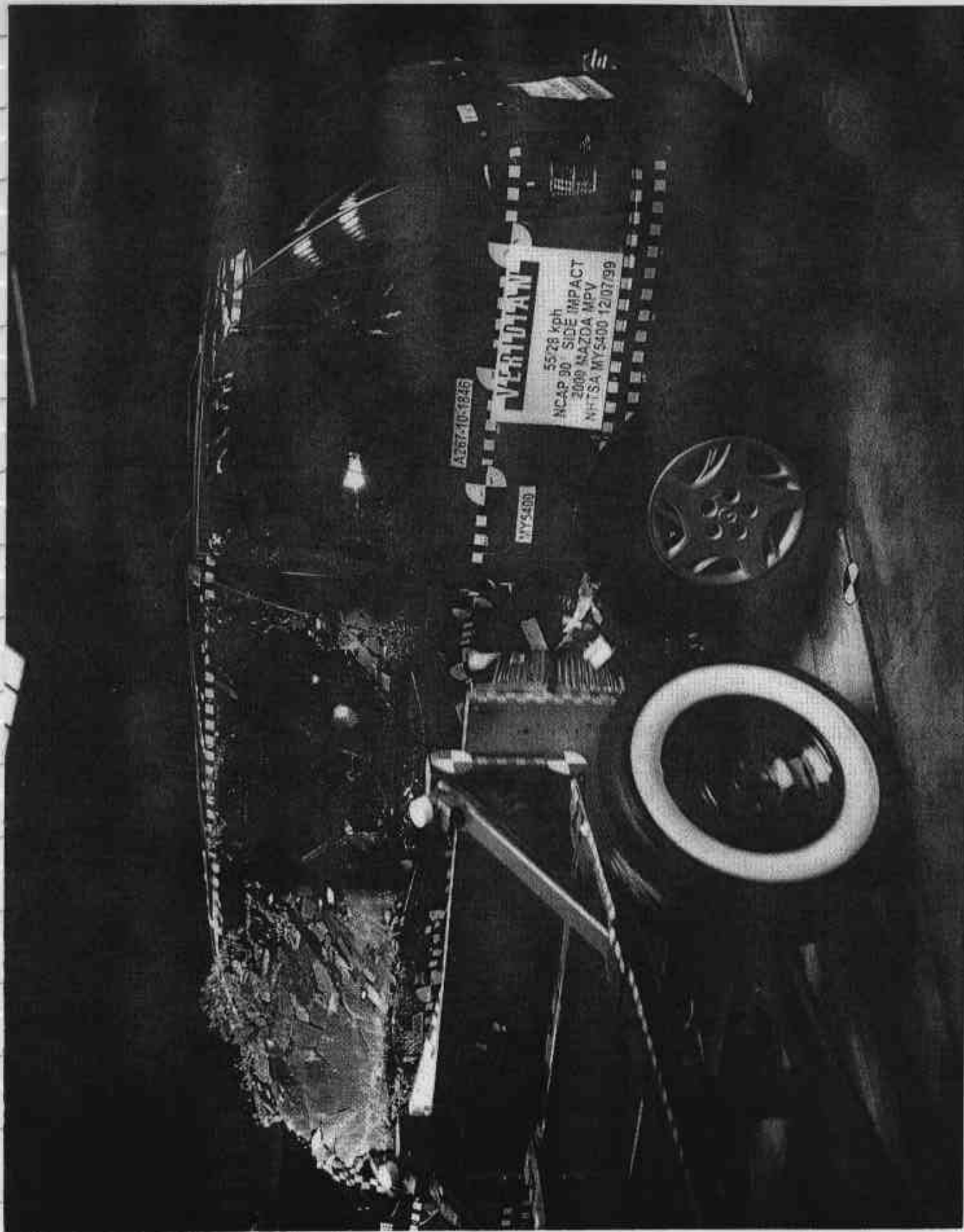


Figure A-34 IMPACT PHOTO

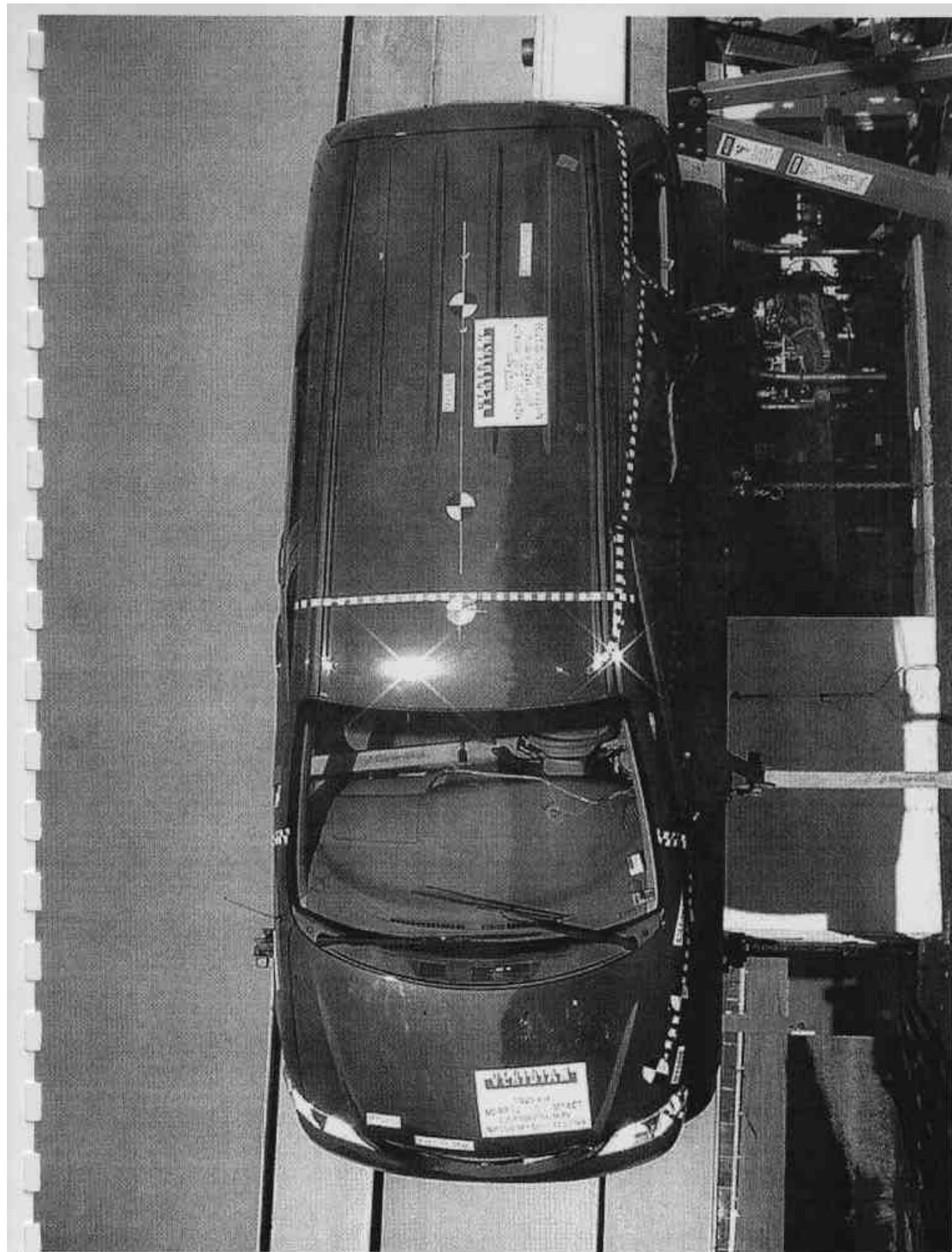


Figure A-35 ROLLOVER 90 DEGREES

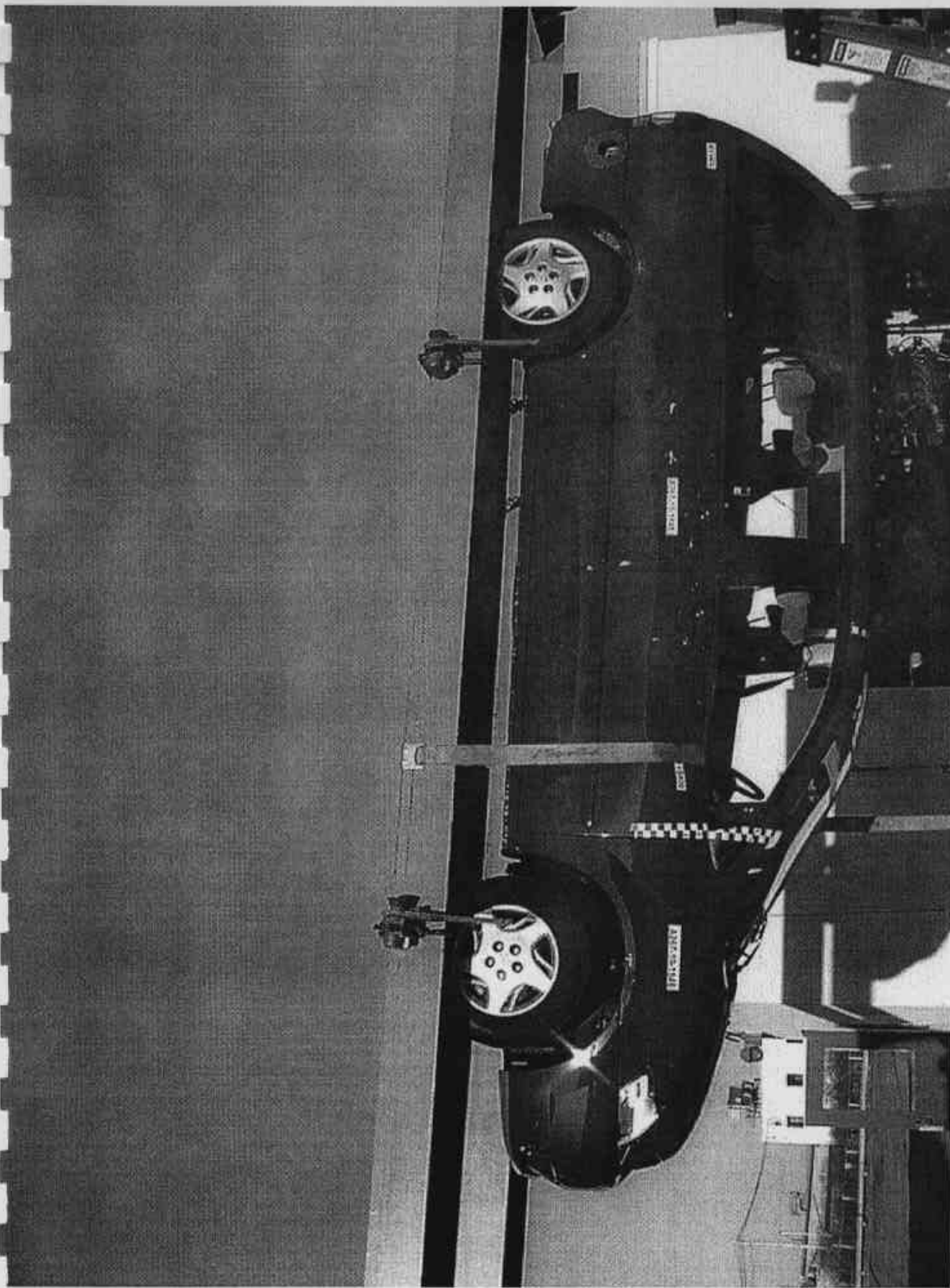


Figure A-36 ROLLOVER 180 DEGREES

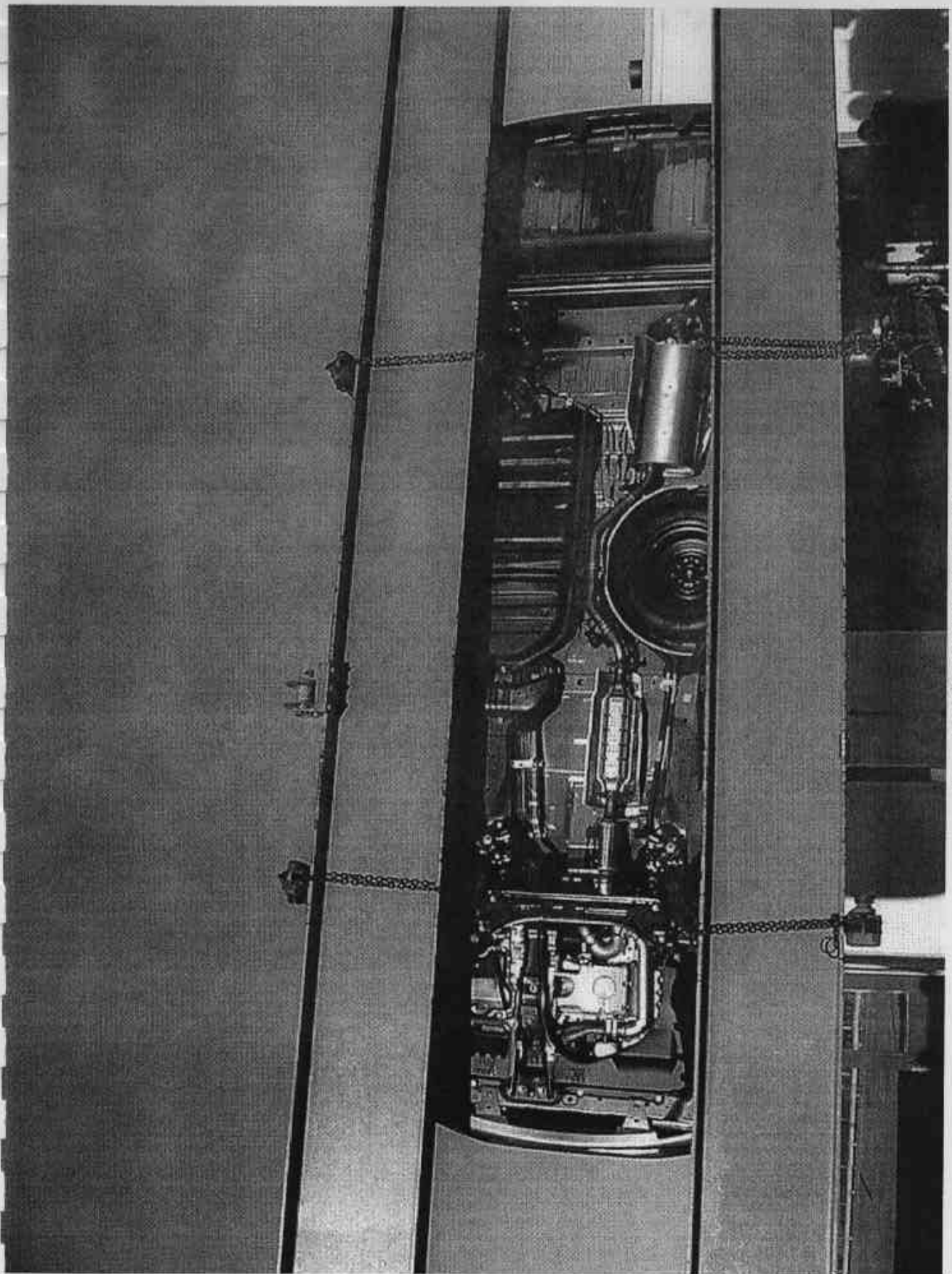


Figure A-37 ROLLOVER 270 DEGREES

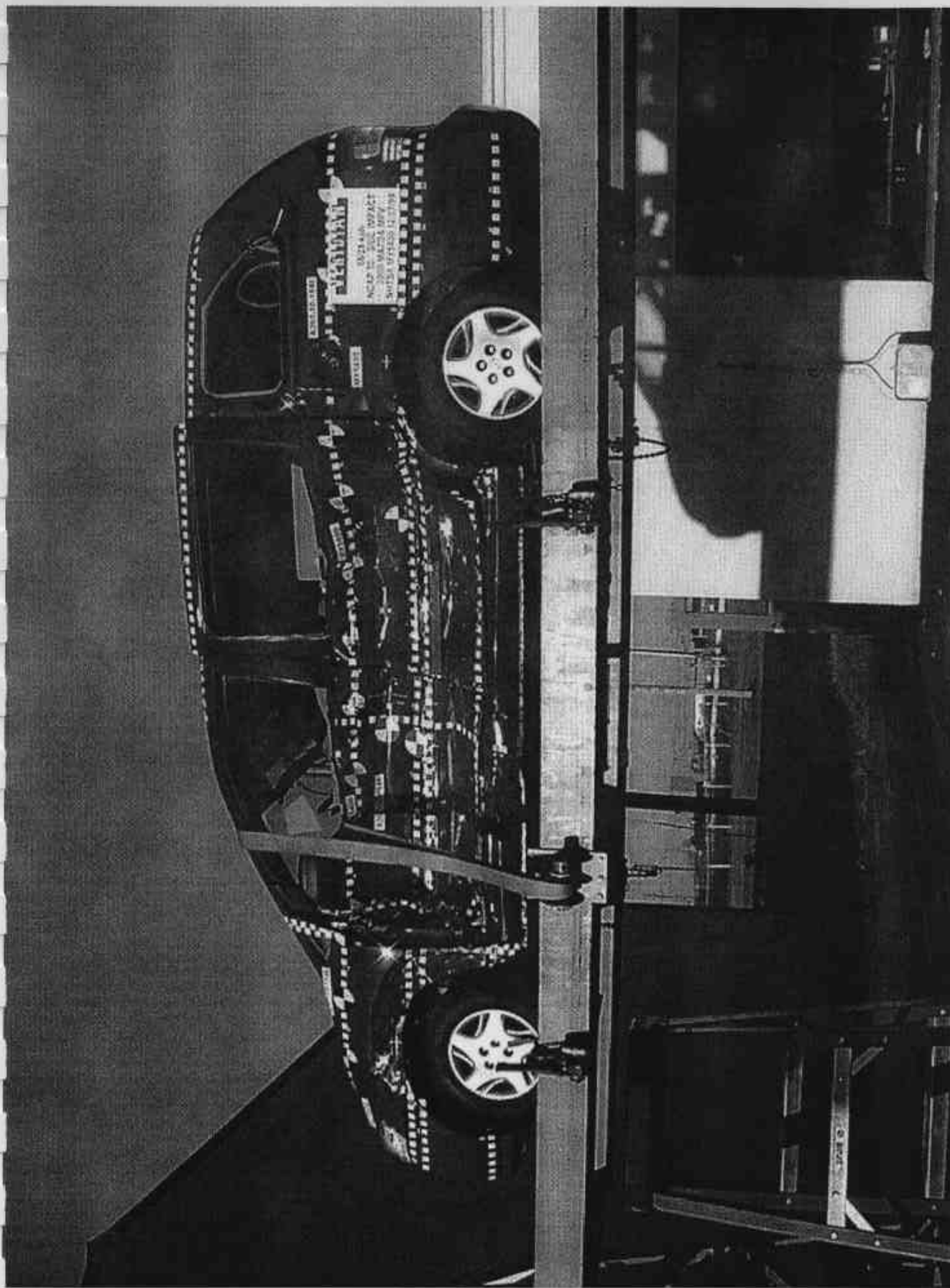


Figure A-38 ROLLOVER 360 DEGREES

APPENDIX B

VEHICLE, MDB AND SID RESPONSE DATA

TABLE OF DATA PLOTS

DRIVER AND PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180 INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
1	DRIVER HEAD (X) ACCELERATION VS TIME	B- 6
2	DRIVER HEAD (X) VELOCITY VS TIME	B- 7
3	DRIVER HEAD (Y) ACCELERATION VS TIME	B- 8
4	DRIVER HEAD (Y) VELOCITY VS TIME	B- 9
5	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 10
6	DRIVER HEAD (Z) VELOCITY VS TIME	B- 11
7	DRIVER HEAD RESULTANT ACCELERATION VS TIME	B- 12
8	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 13
9	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 14
10	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 15
11	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 16
12	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 17
13	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 18
14	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 19
15	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 20
16	PASSENGER HEAD (X) ACCELERATION VS TIME	B- 21
17	PASSENGER HEAD (X) VELOCITY VS TIME	B- 22
18	PASSENGER HEAD (Y) ACCELERATION VS TIME	B- 23
19	PASSENGER HEAD (Y) VELOCITY VS TIME	B- 24
20	PASSENGER HEAD (Z) ACCELERATION VS TIME	B- 25
21	PASSENGER HEAD (Z) VELOCITY VS TIME	B- 26
22	PASSENGER HEAD RESULTANT ACCELERATION VS TIME	B- 27
23	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 28
24	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 29
25	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 30
26	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 31
27	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 32
28	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 33
29	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 34
30	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 35

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
31	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 36
32	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 37
33	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 38
34	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 39
35	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 40
36	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 41
37	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 42
38	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 43

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
39	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 44
40	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 45
41	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 46
42	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 47
43	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 48
44	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 49
45	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 50
46	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 51
47	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 52
48	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 53
49	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 54
50	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 55
51	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 56
52	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 57
53	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 58
54	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 59
55	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 60
56	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 61
57	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 62
58	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 63
59	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 64
60	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 65
61	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 66
62	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 67
63	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 68
64	LEFT FRONT DOOR ON CENTERLINE (Y) ACCELERATION VS TIME	B- 69
65	LEFT FRONT DOOR ON CENTERLINE (Y) VELOCITY VS TIME	B- 70
66	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 71
67	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 72
68	LEFT FRONT DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 73
69	LEFT FRONT DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 74
70	MID REAR OF LEFT REAR DOOR (Y) ACCELERATION VS TIME	B- 75
71	MID REAR OF LEFT REAR DOOR (Y) VELOCITY VS TIME	B- 76
72	LEFT REAR DOOR UPPER CENTERLINE (Y) ACCELERATION VS TIME	B- 77
73	LEFT REAR DOOR UPPER CENTERLINE (Y) VELOCITY VS TIME	B- 78
74	LOWER B-POST (Y) ACCELERATION VS TIME	B- 79
75	LOWER B-POST (Y) VELOCITY VS TIME	B- 80
76	UPPER B-POST (Y) ACCELERATION VS TIME	B- 81
77	UPPER B-POST (Y) VELOCITY VS TIME	B- 82
78	LOWER A-POST (Y) ACCELERATION VS TIME	B- 83

TEST VEHICLE INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
79	LOWER A-POST (Y) VELOCITY VS TIME	B- 84
80	UPPER A-POST (Y) ACCELERATION VS TIME	B- 85
81	UPPER A-POST (Y) VELOCITY VS TIME	B- 86
82	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 87
83	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 88
84	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 89
85	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 90
86	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 91
87	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 92
88	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 93
89	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 94
90	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 95
91	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 96
92	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 97

MDB INSTRUMENTATION PLOTS
ACCELERATION DATA - FILTER CLASS 60
INTEGRATION DATA - FILTER CLASS 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
93	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 98
94	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 99
95	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 100
96	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 101
97	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 102
98	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 103
99	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 104
100	MDB REAR (X) ACCELERATION VS TIME	B- 105
101	MDB REAR (X) VELOCITY VS TIME	B- 106
102	MDB REAR (Y) ACCELERATION VS TIME	B- 107
103	MDB REAR (Y) VELOCITY VS TIME	B- 108

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FILTER CLASS 1000, LOWER SPINE - FILTER CLASS 180
INTEGRATION DATA - FILTER CLASS 180

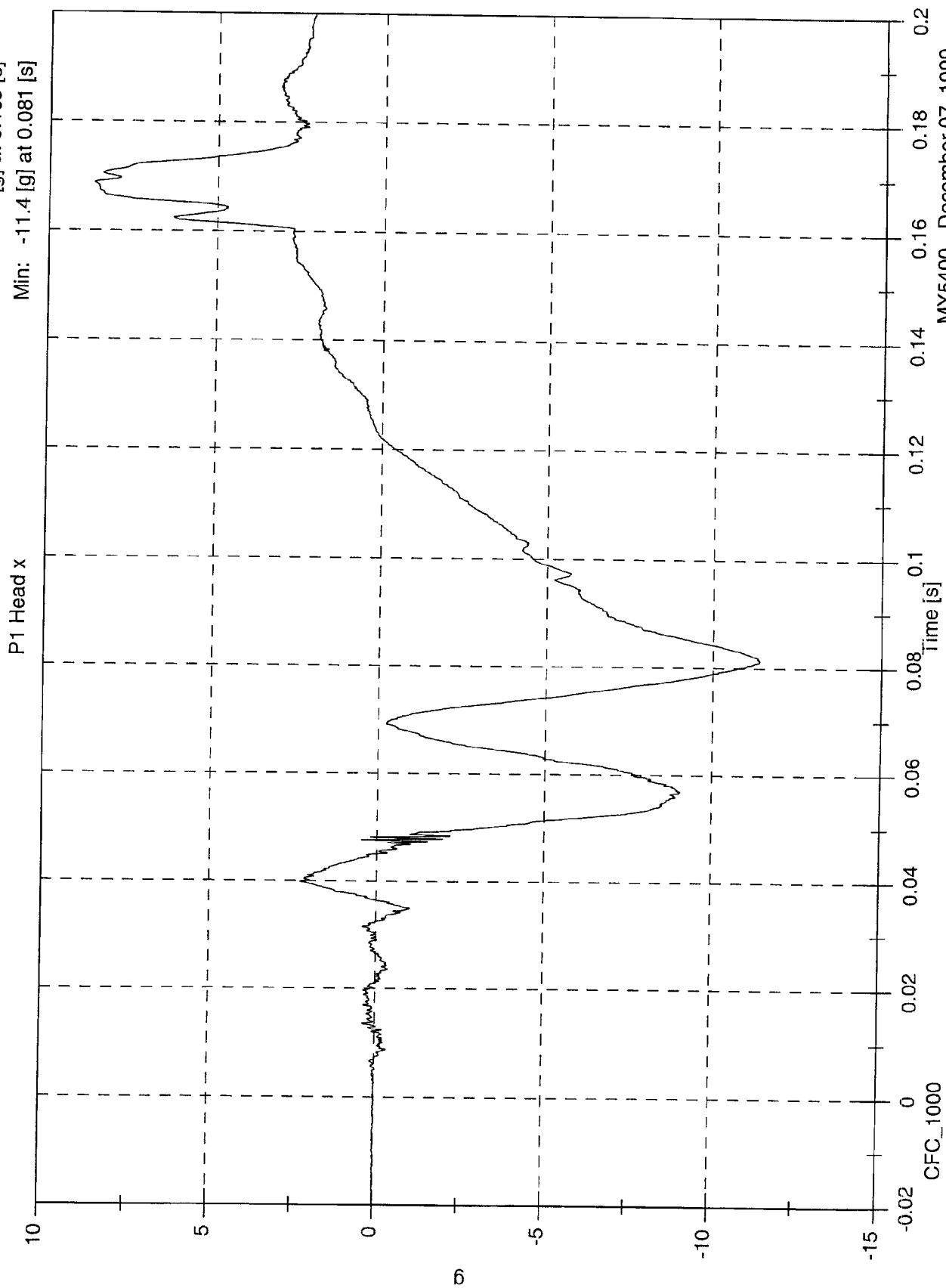
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
104	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 109
105	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 110
106	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 111
107	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 112
108	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 113
109	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 114
110	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 115
111	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 116
112	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 117
113	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 118
114	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 119
115	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 120
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117	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 122
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119	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 124

DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS (REDUNDANT)
ACCELERATION DATA - FIR FILTERED

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
120	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 125
121	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 126
122	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 127
123	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 128
124	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 129
125	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 130
126	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 131
127	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 132

SNCAP 2000 Test# 5 - Mazda MPV

Max: 8.7 [g] at 0.169 [s]
Min: -11.4 [g] at 0.081 [s]

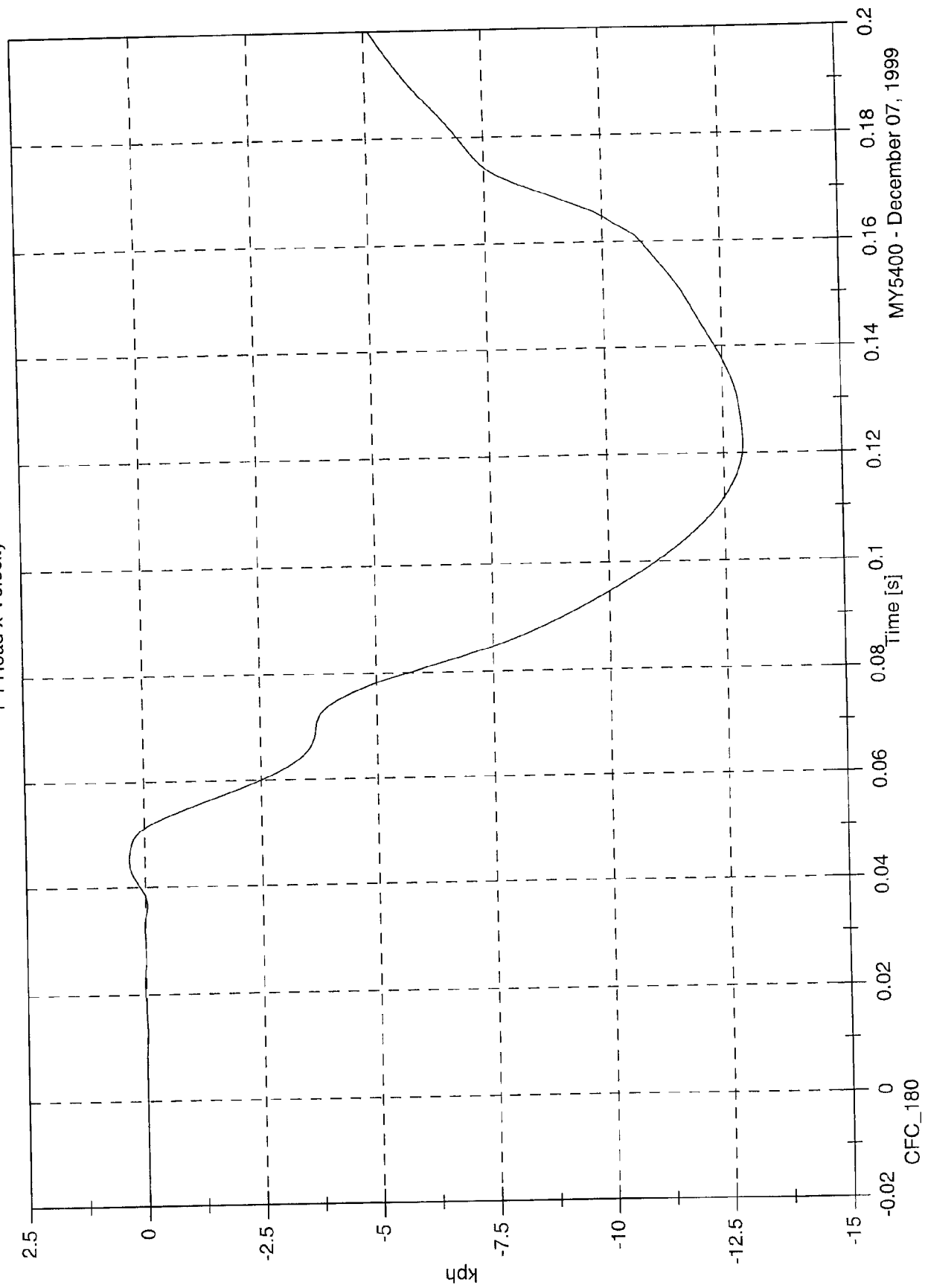


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 0.7 [kph] at 0.409 [s]
Min: -12.9 [kph] at 0.122 [s]

P1 Head x Velocity

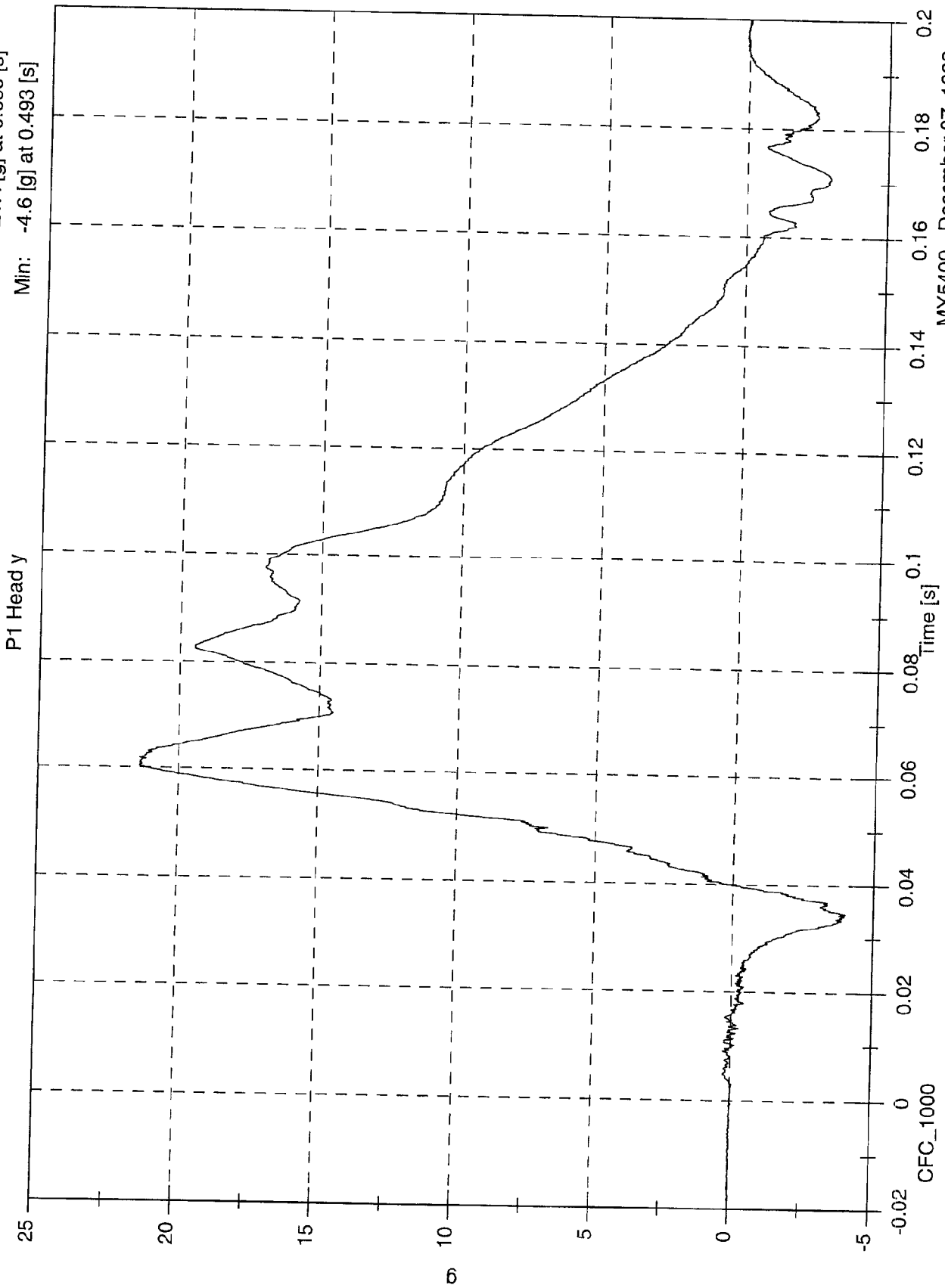


MY5400 - December 07, 1999

CFC_180

SNCAP 2000 Test# 5 - Mazda MPV

Max: 21.4 [g] at 0.060 [s]
Min: -4.6 [g] at 0.493 [s]

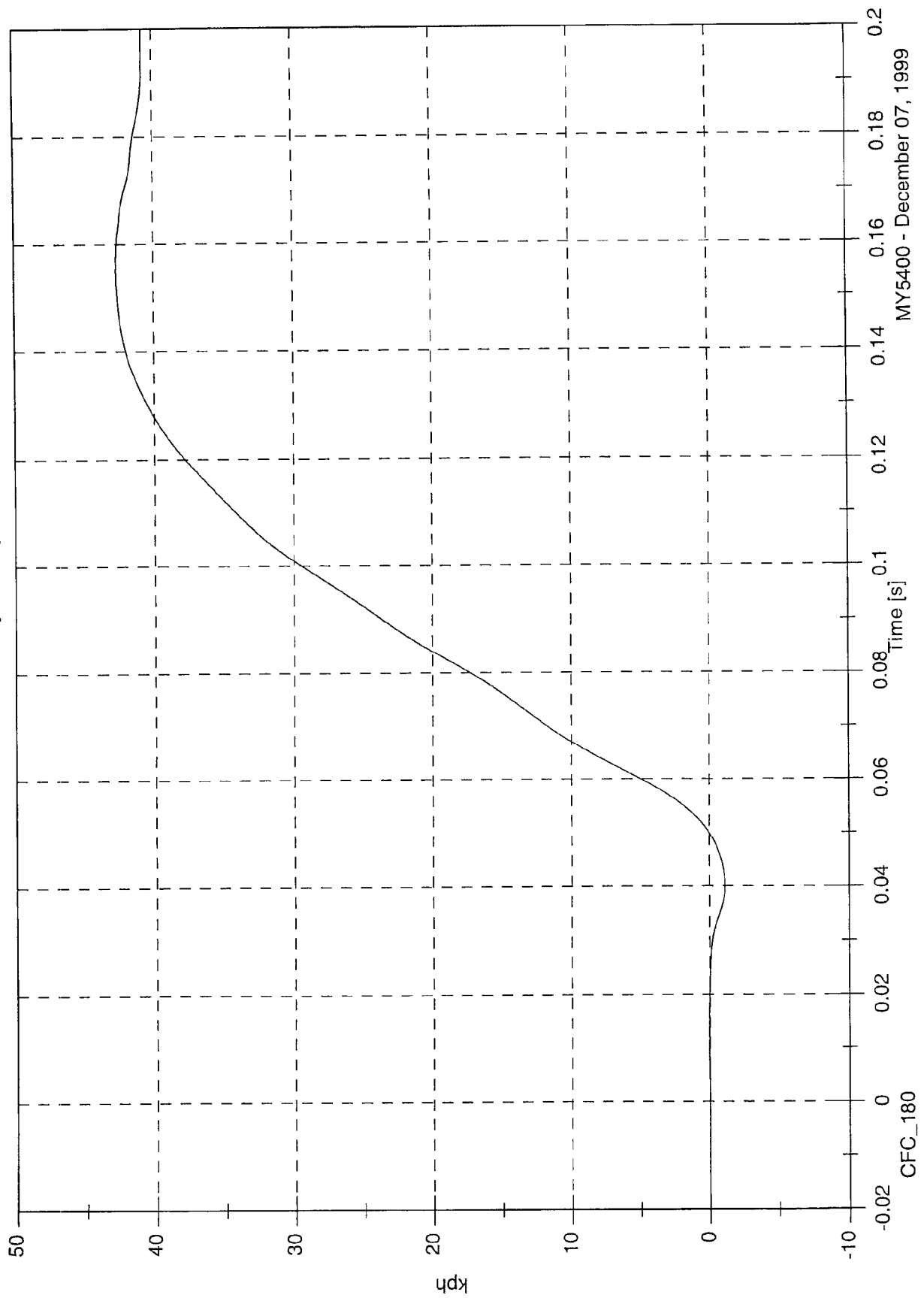


SNCAP 2000 Test# 5 - Mazda MPV

Max: 42.7 [kph] at 0.155 [s]

Min: -1.1 [kph] at 0.040 [s]

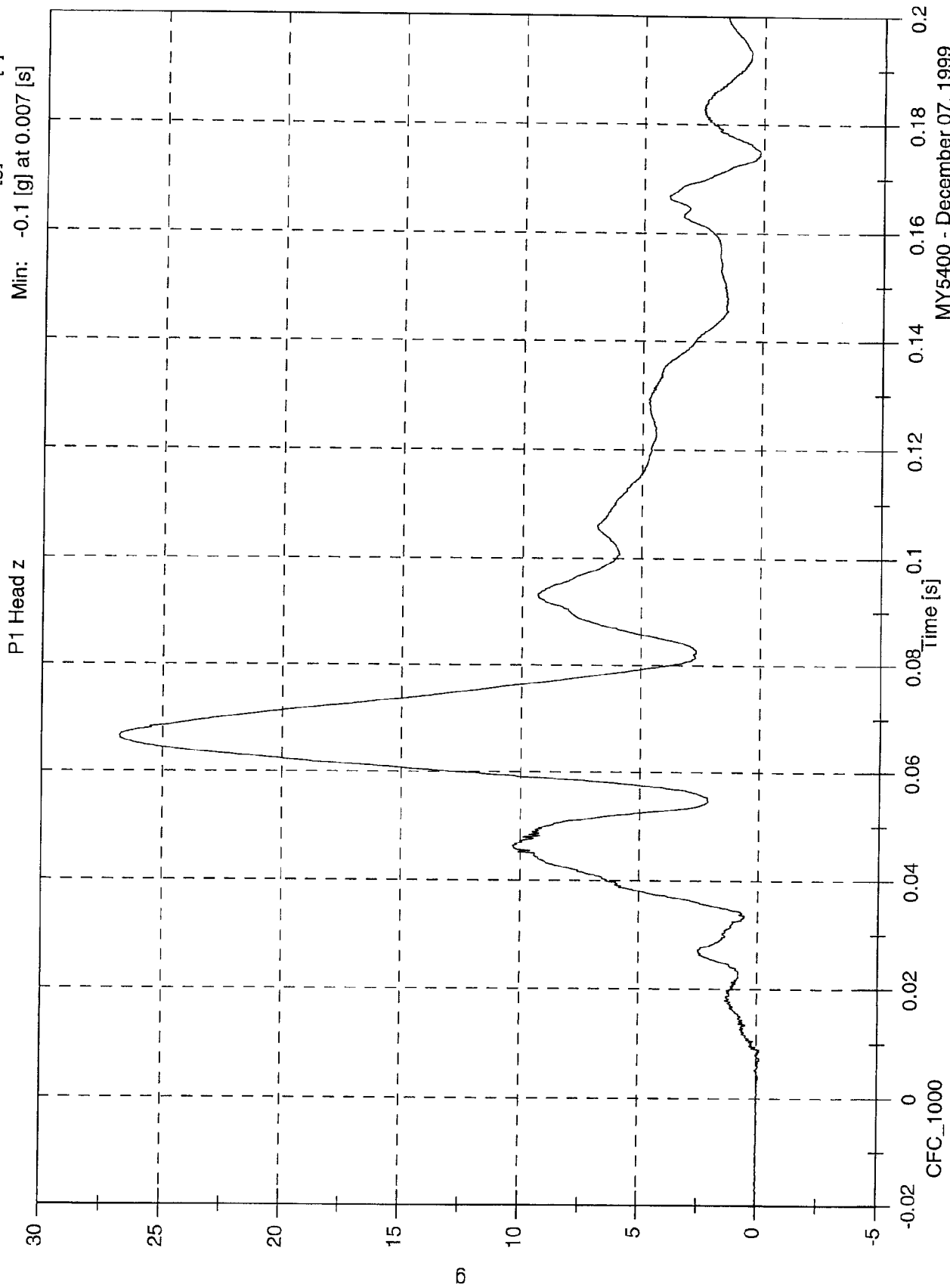
P1 Head y Velocity



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 26.8 [g] at 0.067 [s]
Min: -0.1 [g] at 0.007 [s]

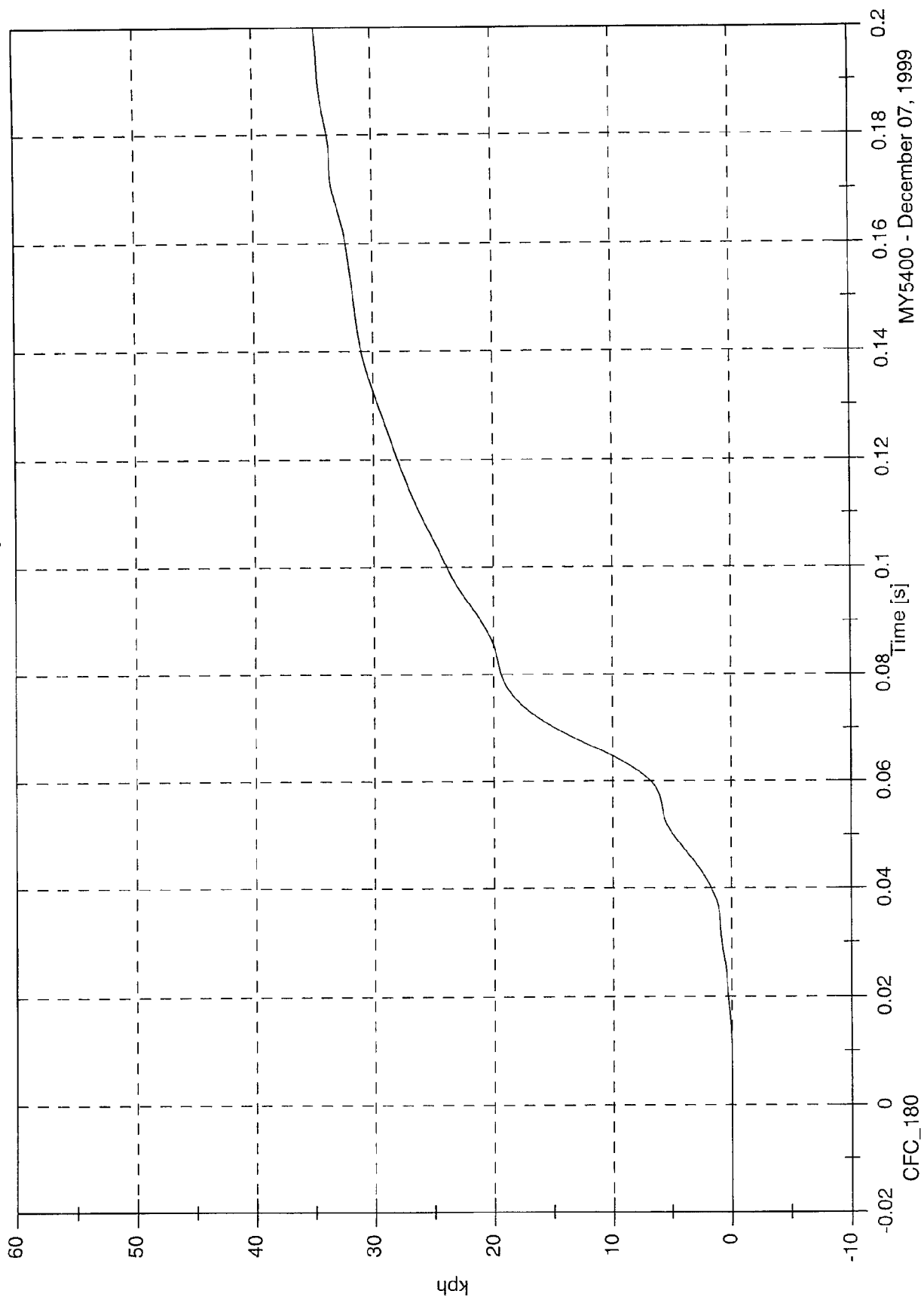


SNCAP 2000 Test# 5 - Mazda MPV

Max: 51.2 [kph] at 0.500 [s]

Min: -0.0 [kph] at -0.068 [s]

P1 Head z Velocity

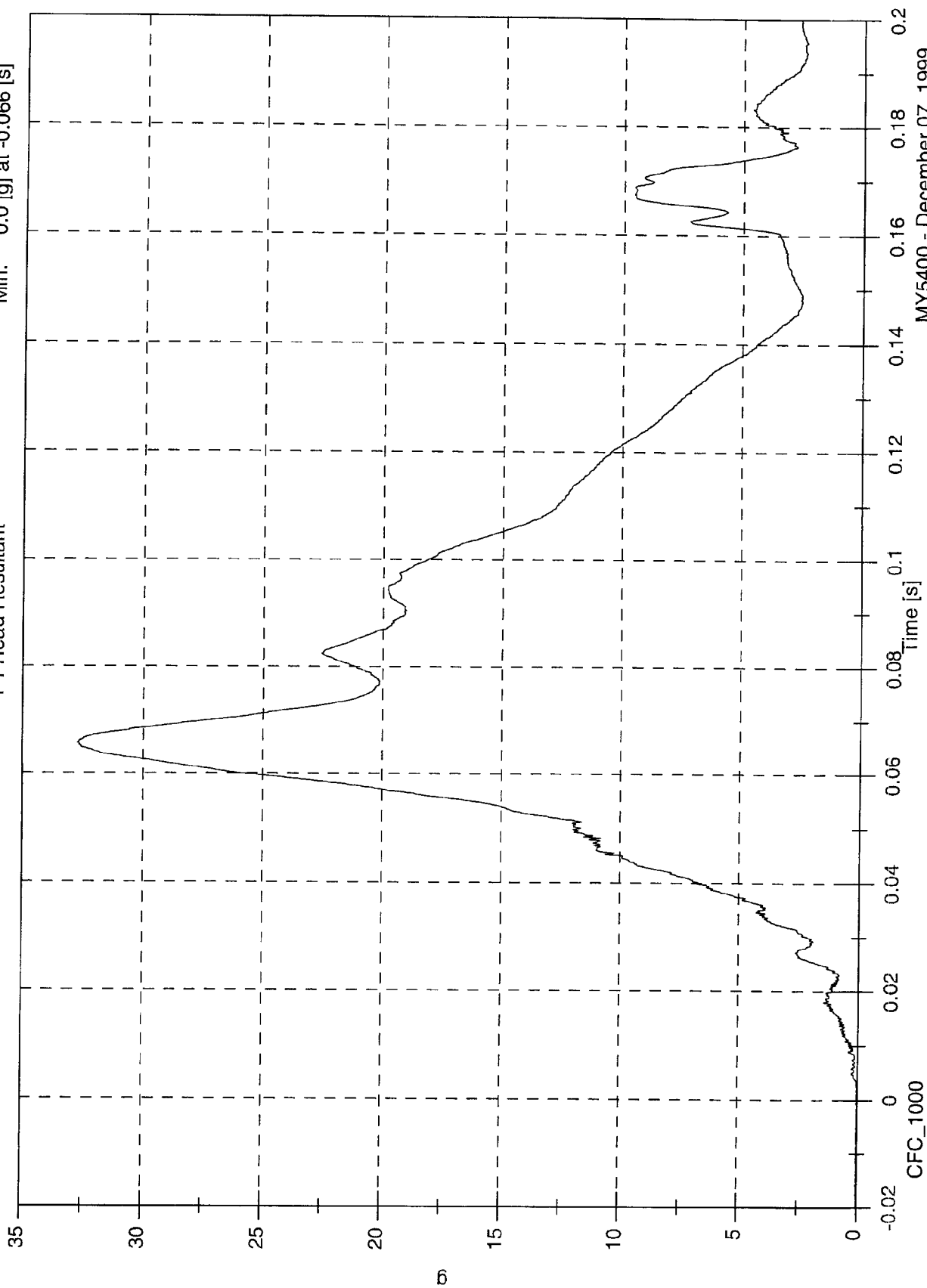


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

P1 Head Resultant

Max: 32.7 [g] at 0.066 [s]
Min: 0.0 [g] at -0.066 [s]



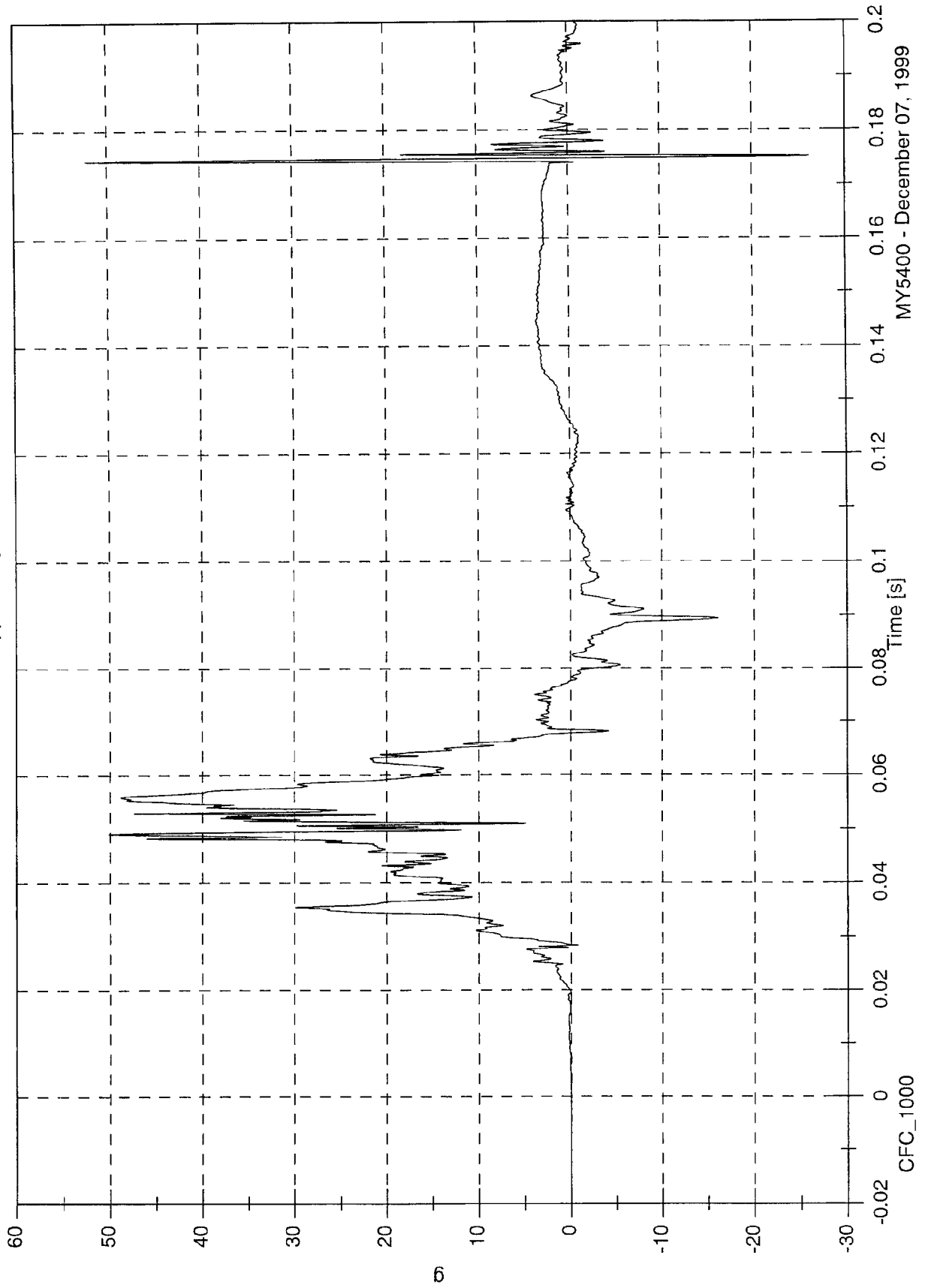
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 52.3 [g] at 0.175 [s]

Min: -26.1 [g] at 0.175 [s]

P1 Upper Rib y



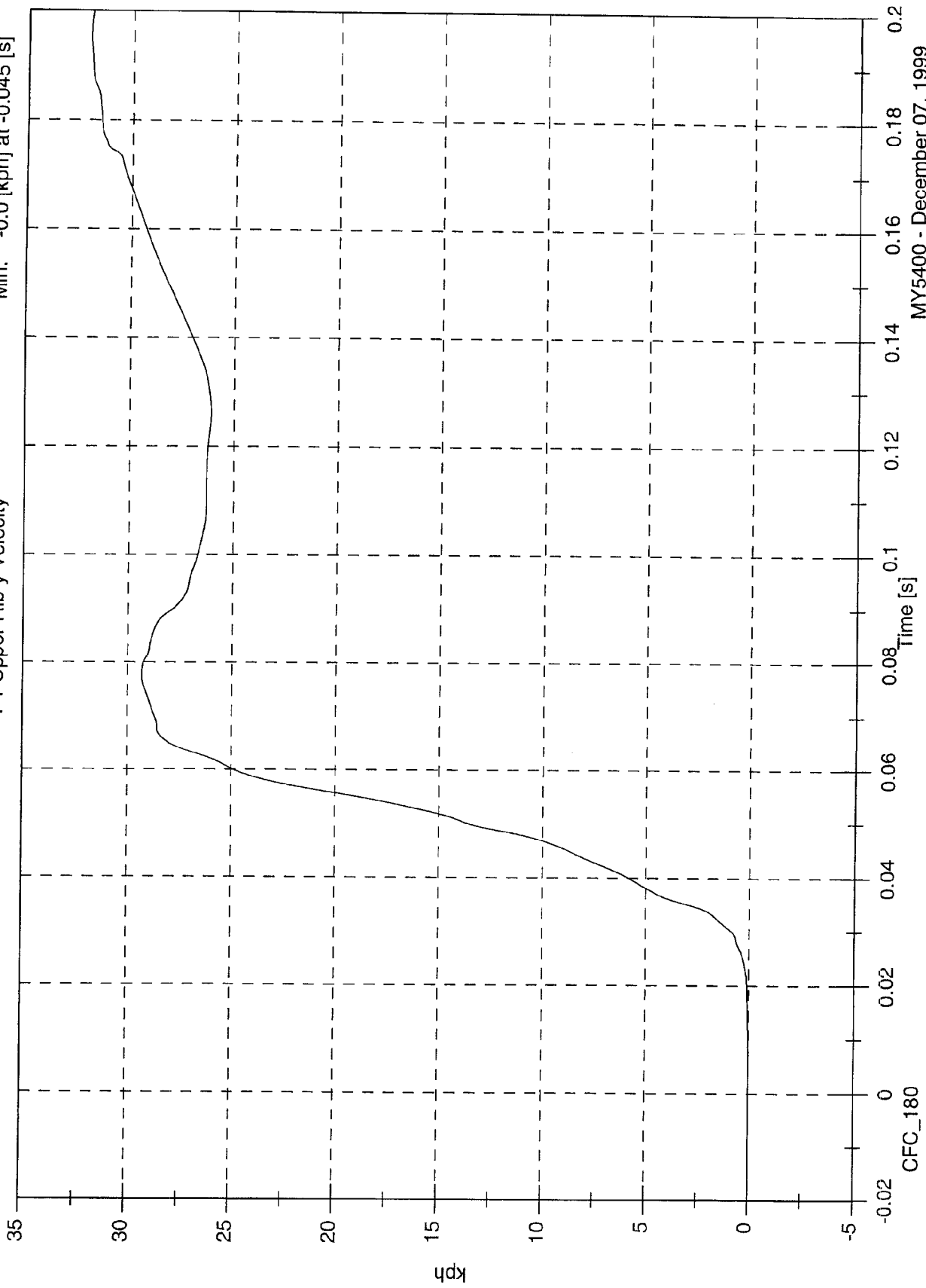
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 32.4 [kph] at 0.232 [s]

Min: -0.0 [kph] at -0.045 [s]

P1 Upper Rib y Velocity



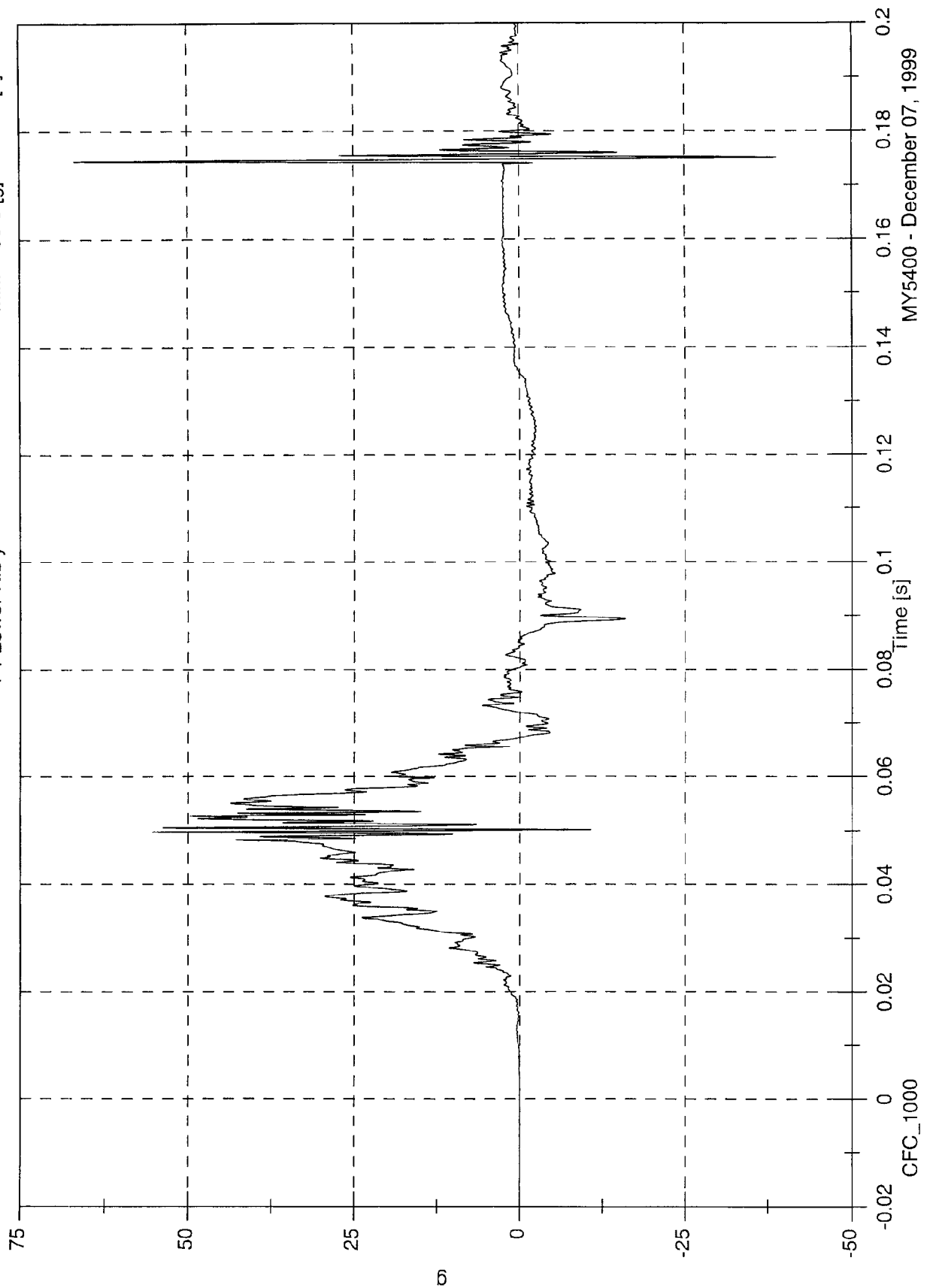
MY5400 - December 07, 1999

CNCA# 2000 Test# 5 - Mazda MPV

Max: 66.9 [g] at 0.175 [s]

Min: -38.8 [g] at 0.175 [s]

P1 Lower Rib y



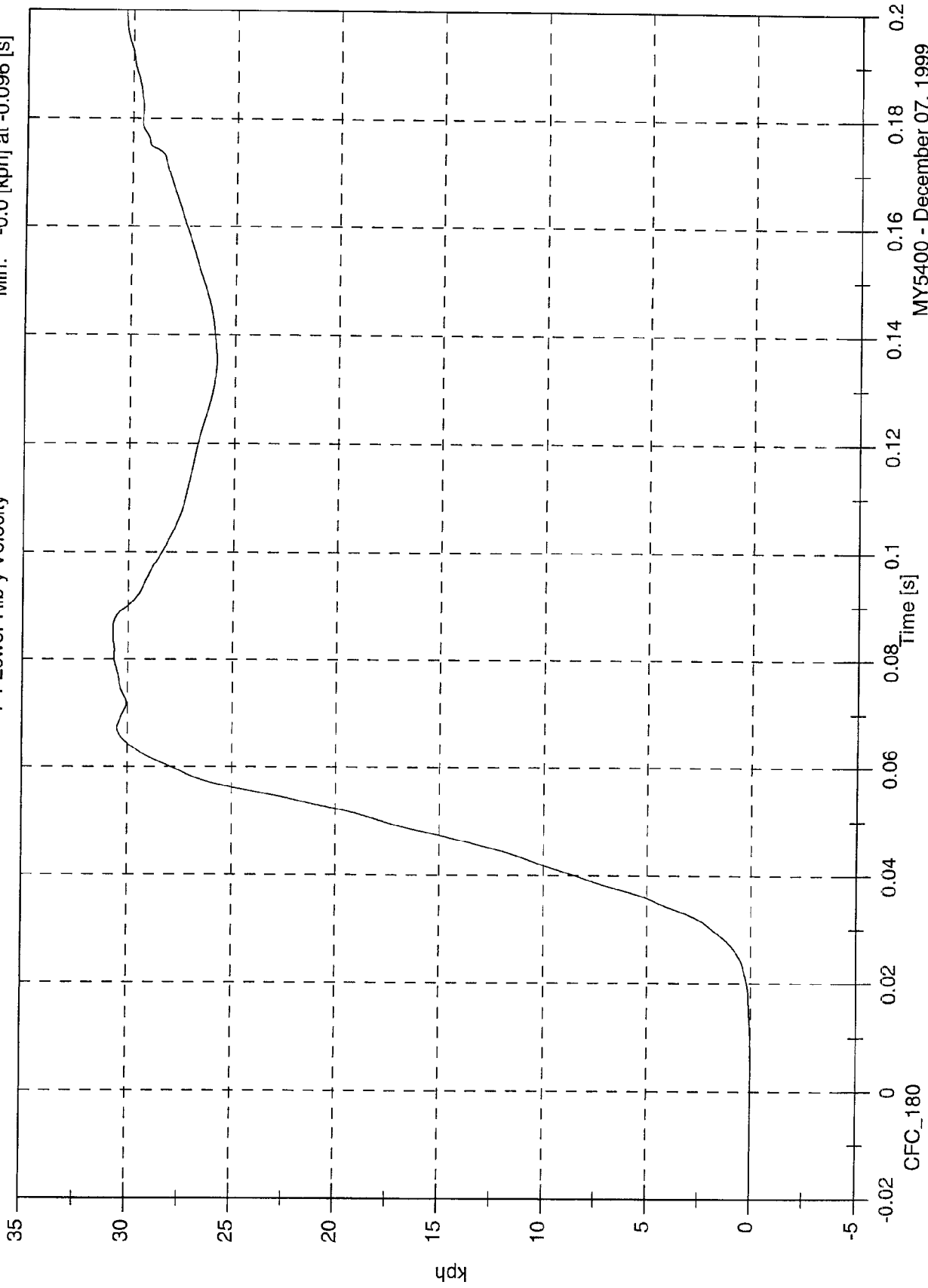
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

P1 Lower Rib y Velocity

Max: 30.7 [kph] at 0.086 [s]

Min: -0.0 [kph] at -0.096 [s]



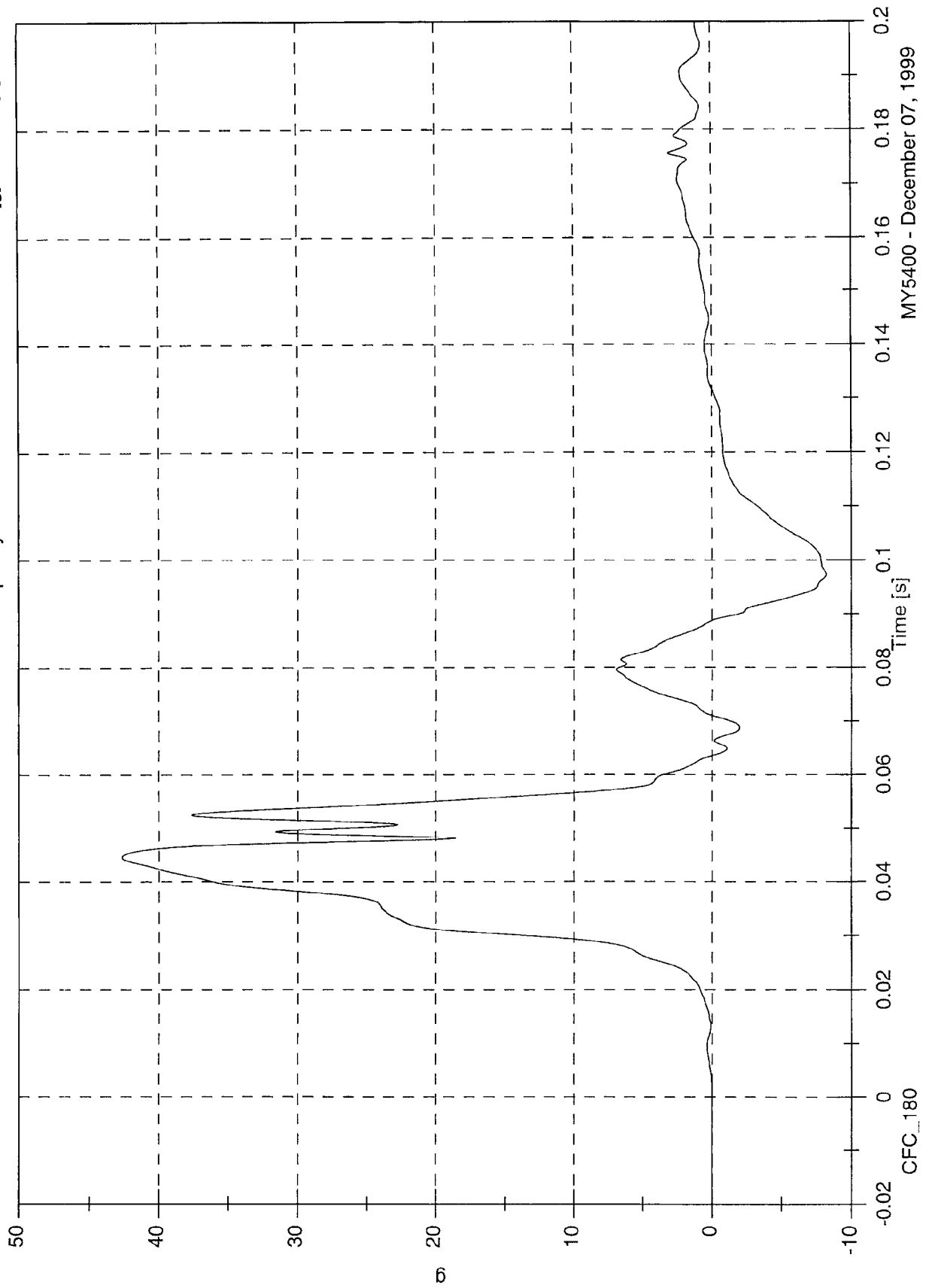
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 42.7 [g] at 0.045 [s]

Min: -8.2 [g] at 0.097 [s]

P1 Lower Spine y

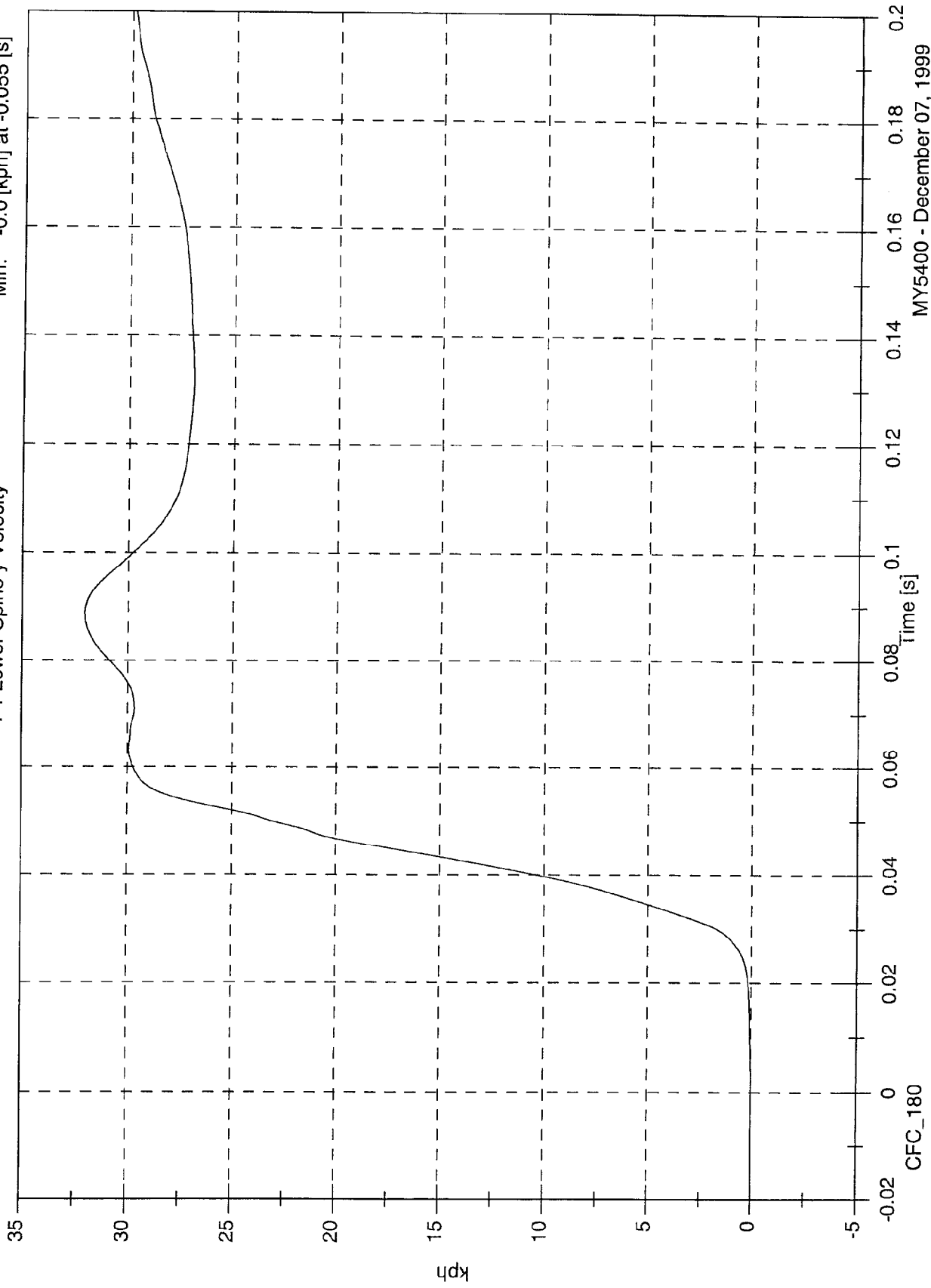


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 32.0 [kph] at 0.089 [s]
 Min: -0.0 [kph] at -0.055 [s]

P1 Lower Spine y Velocity



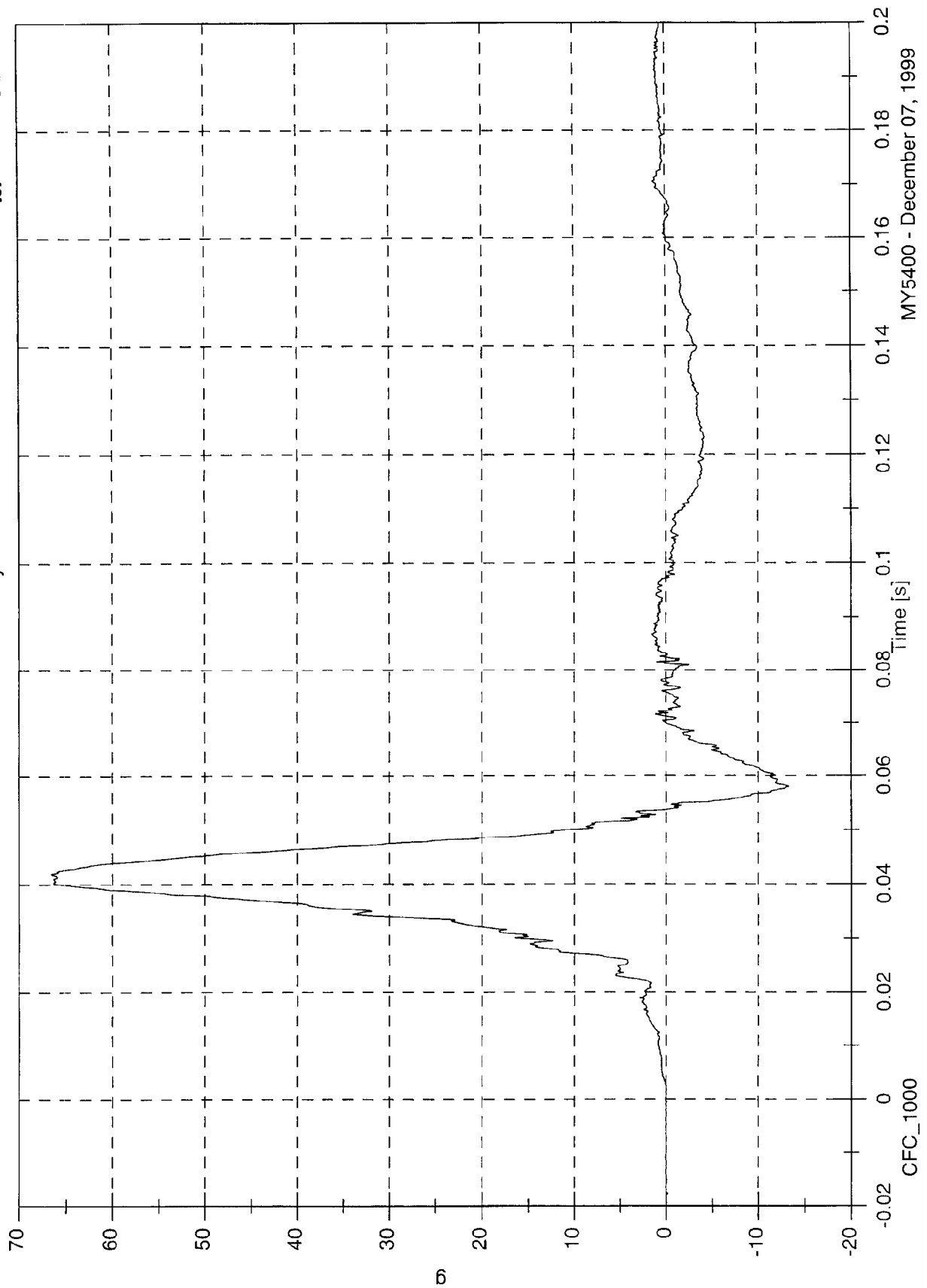
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 66.6 [g] at 0.042 [s]

Min: -13.3 [g] at 0.058 [s]

P1 Pelvic y

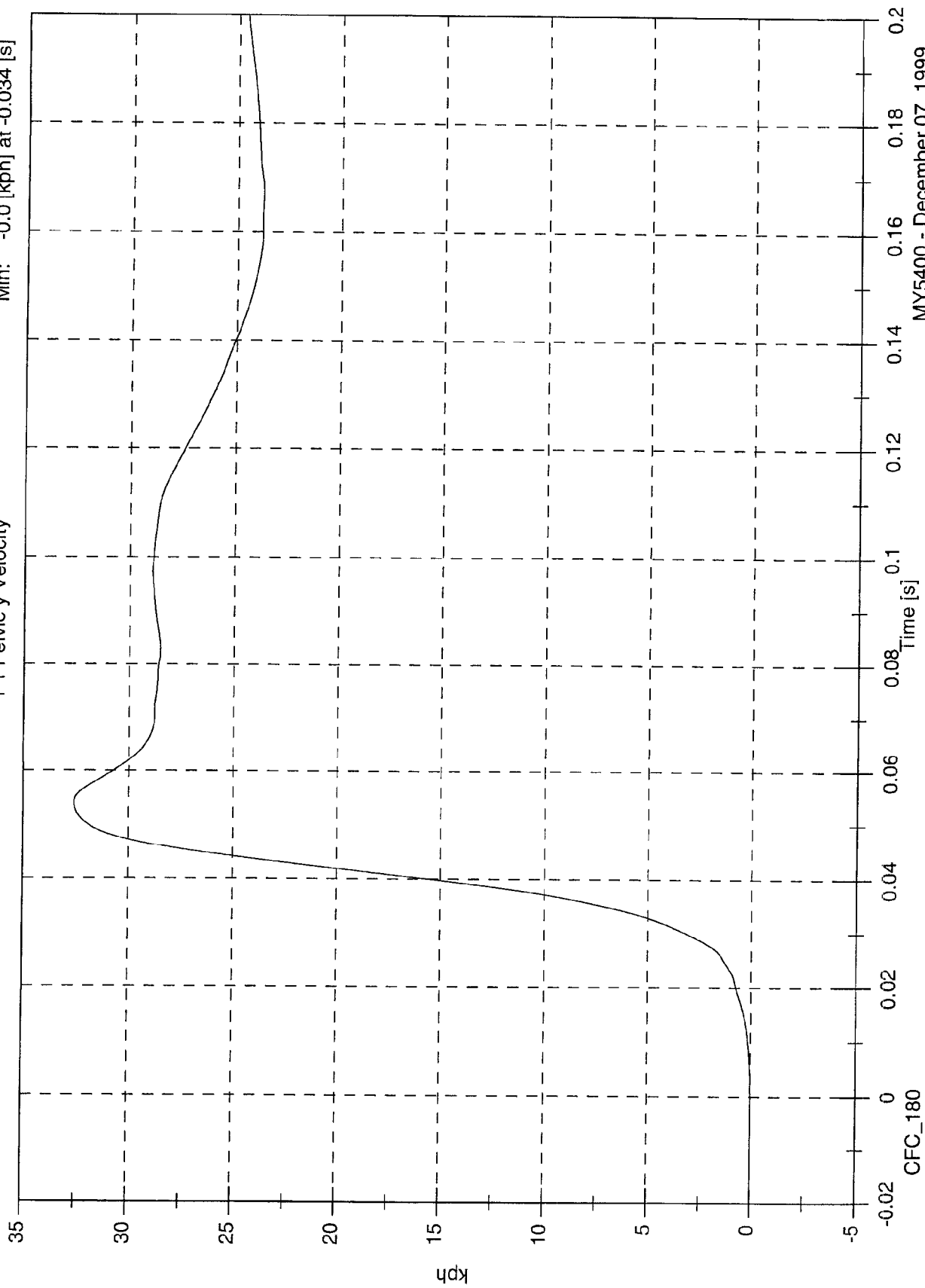


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 32.6 [kph] at 0.054 [s]
Min: -0.0 [kph] at -0.034 [s]

P1 Pelvic y Velocity



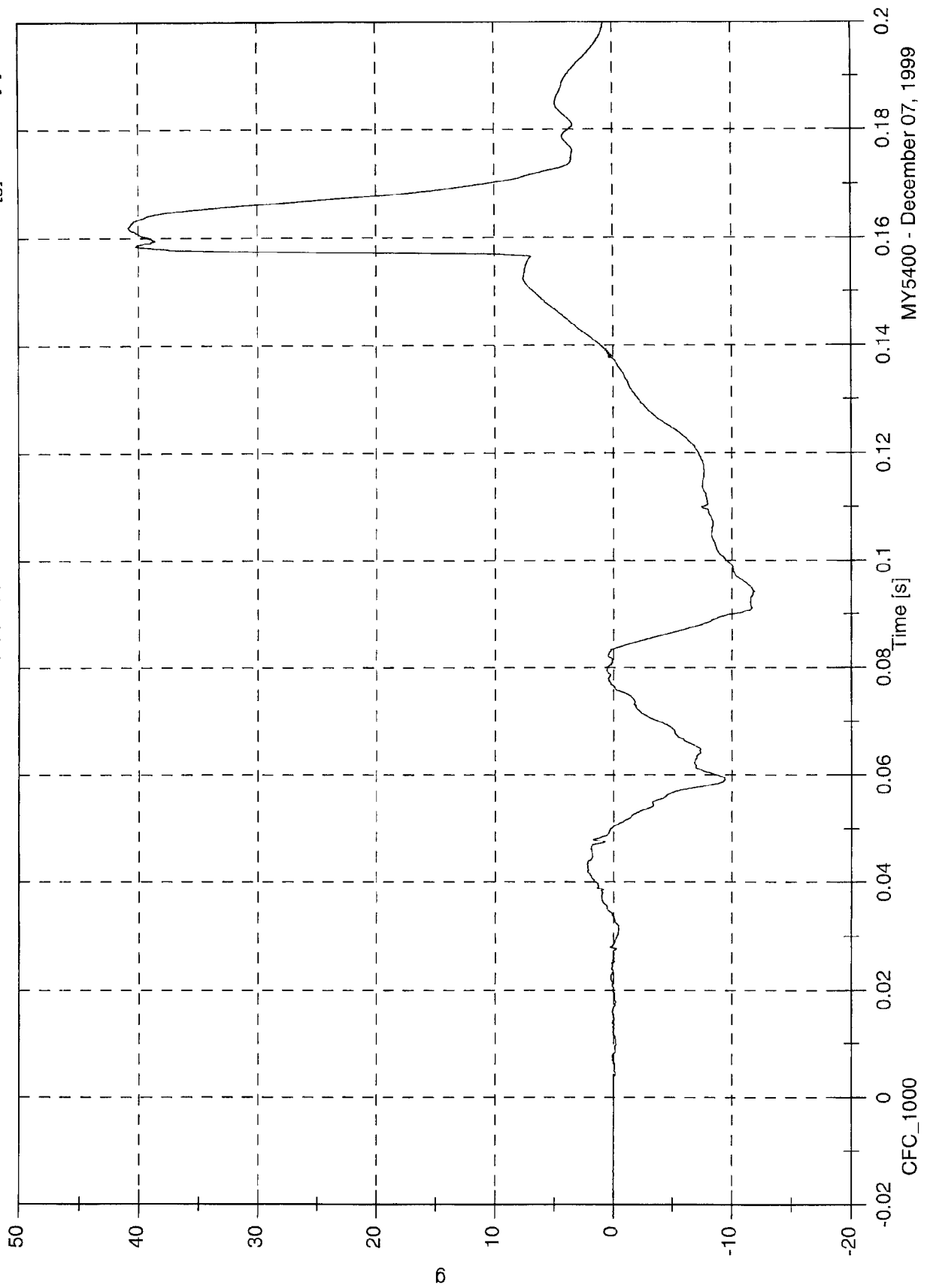
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 40.8 [g] at 0.162 [s]

Min: -11.9 [g] at 0.094 [s]

P4 Head x

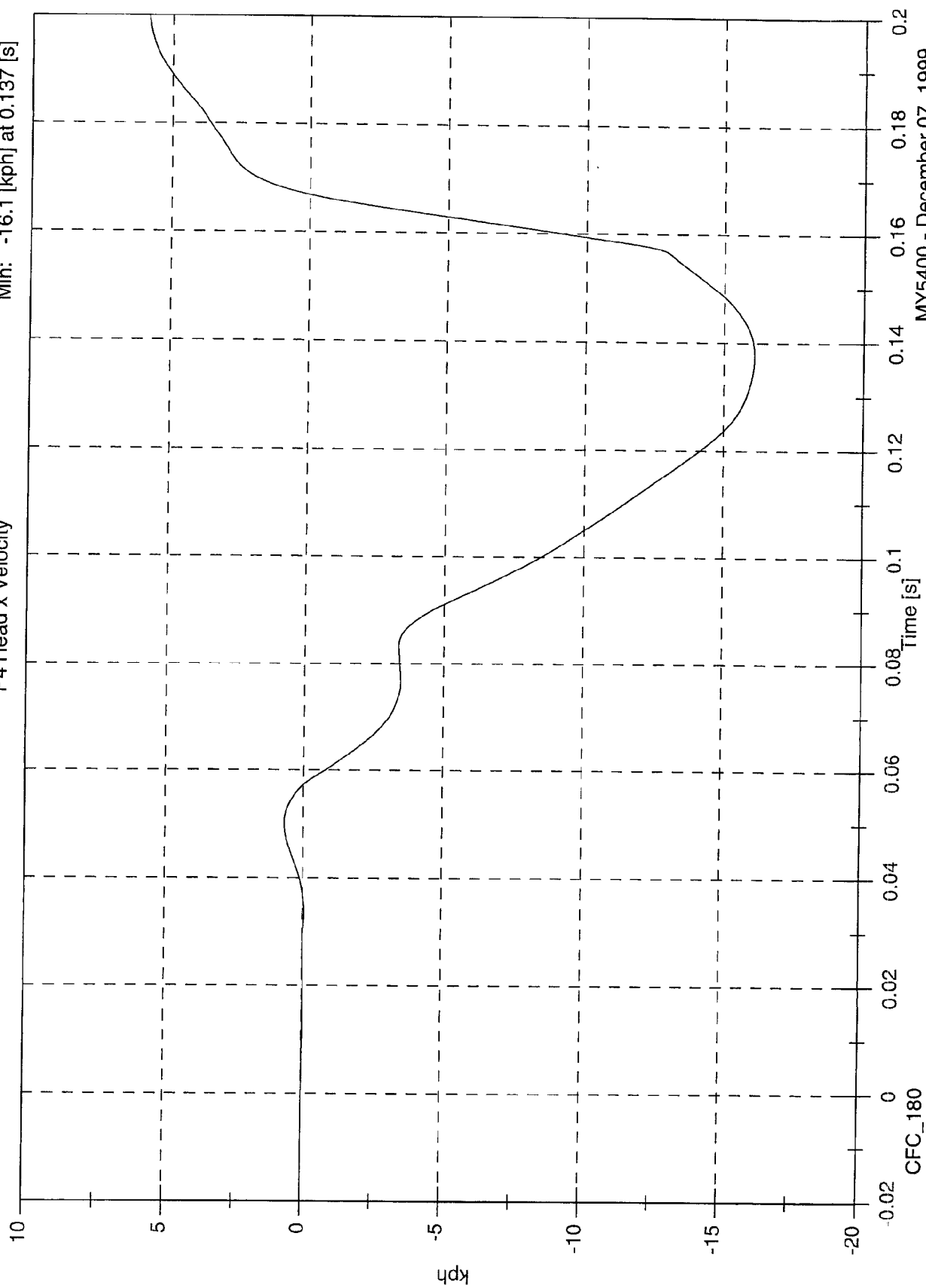


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 7.5 [kph] at 0.412 [s]
Min: -16.1 [kph] at 0.137 [s]

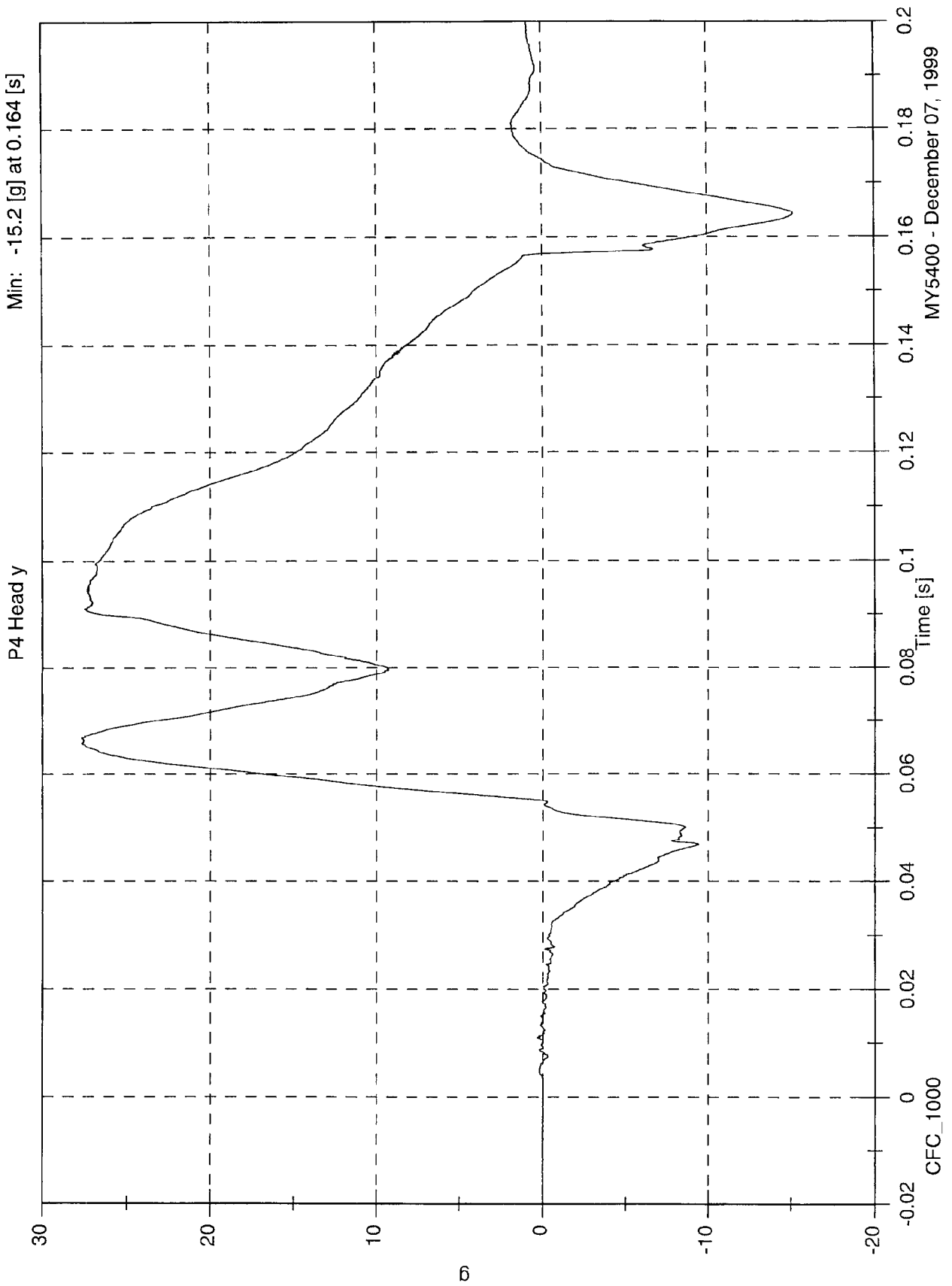
P4 Head x Velocity



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 27.7 [g] at 0.067 [s]
Min: -15.2 [g] at 0.164 [s]

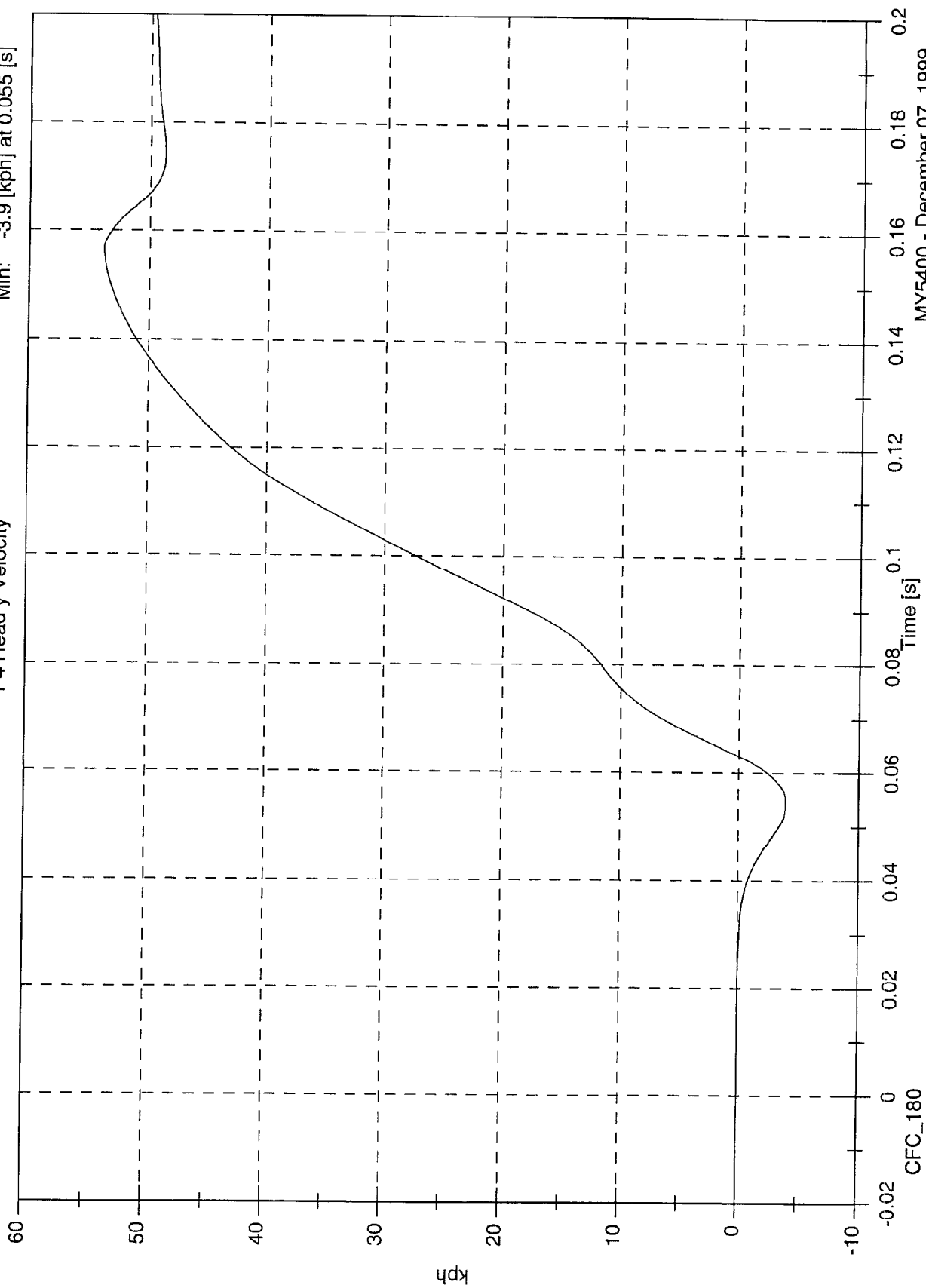


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 53.8 [kph] at 0.157 [s]
 Min: -3.9 [kph] at 0.055 [s]

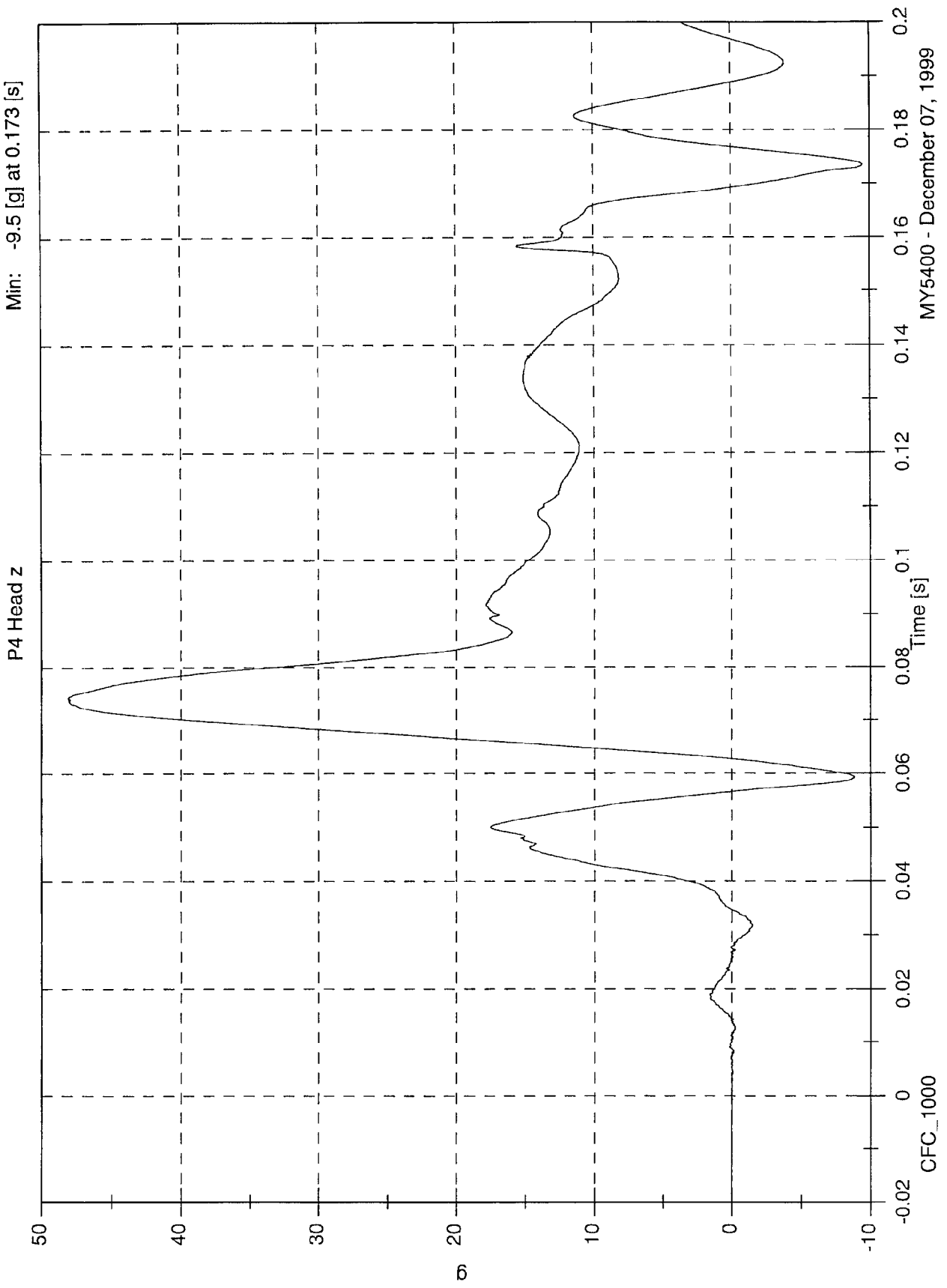
P4 Head y Velocity



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 48.1 [g] at 0.074 [s]
Min: -9.5 [g] at 0.173 [s]

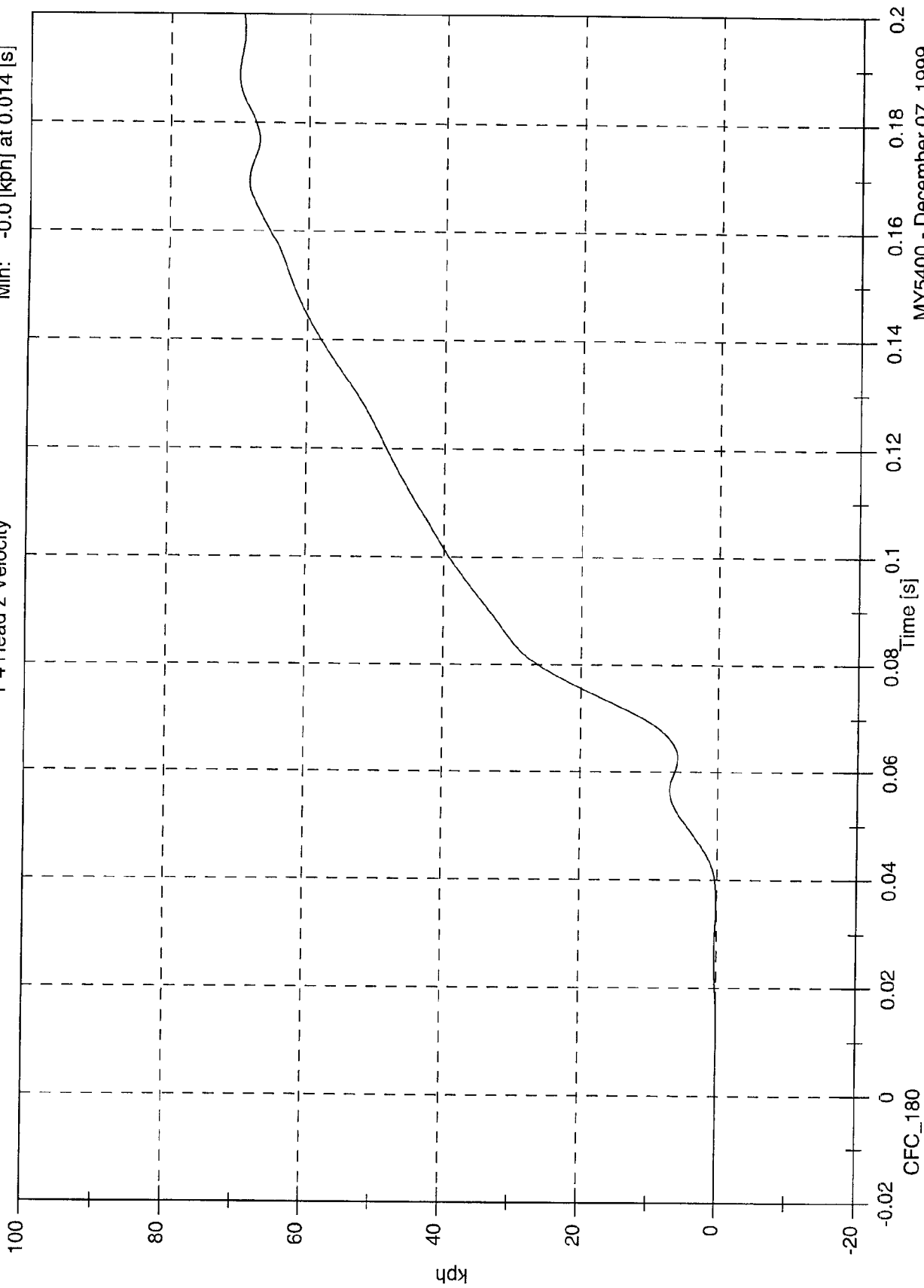


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 89.5 [kph] at 0.500 [s]
 Min: -0.0 [kph] at 0.014 [s]

P4 Head z Velocity

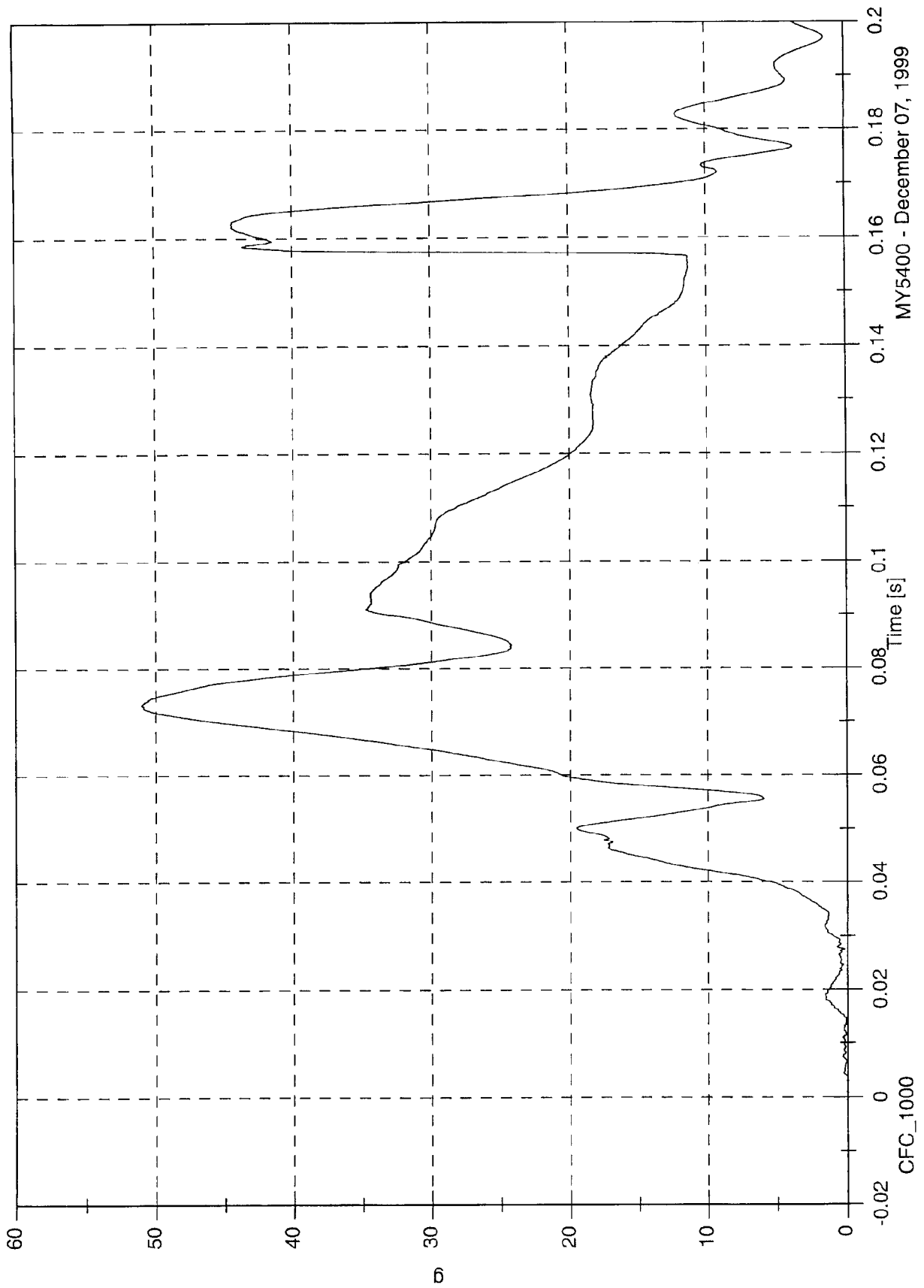


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 51.0 [g] at 0.073 [s]
Min: 0.0 [g] at -0.067 [s]

P4 Head Resultant

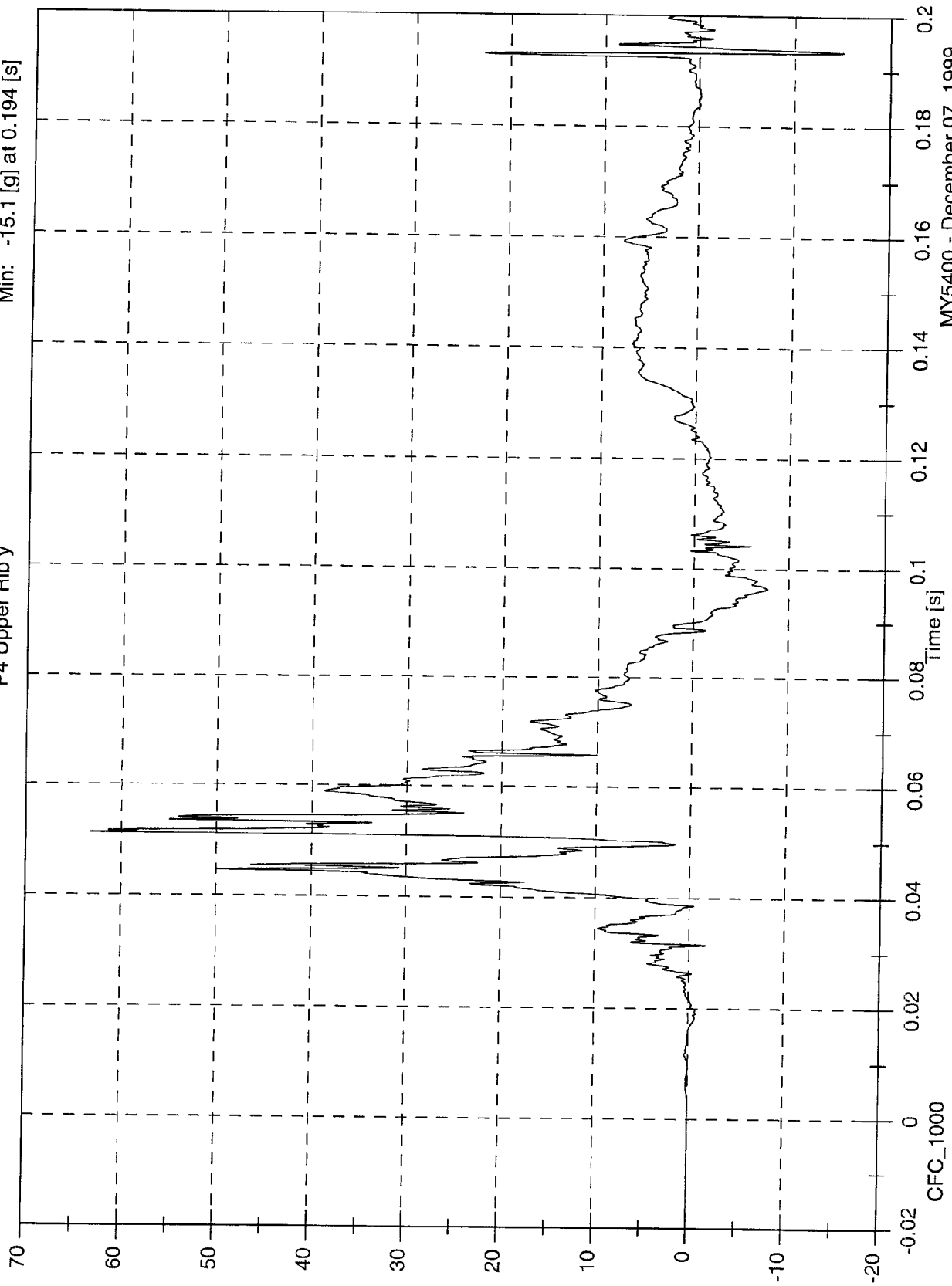


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 63.2 [g] at 0.051 [s]
Min: -15.1 [g] at 0.194 [s]

P4 Upper Rib y



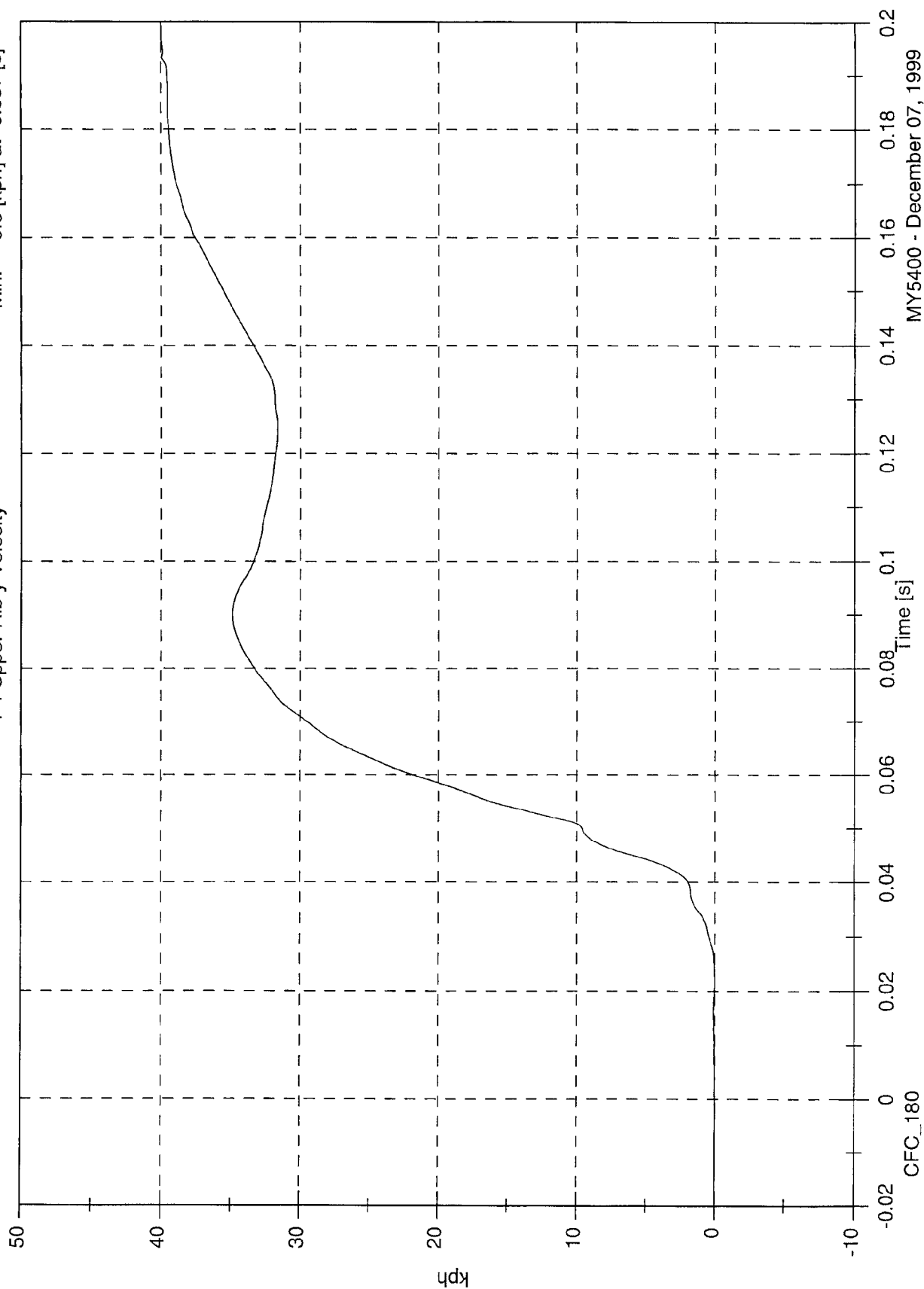
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 40.1 [kph] at 0.202 [s]

Min: -0.0 [kph] at -0.067 [s]

P4 Upper Rib y Velocity

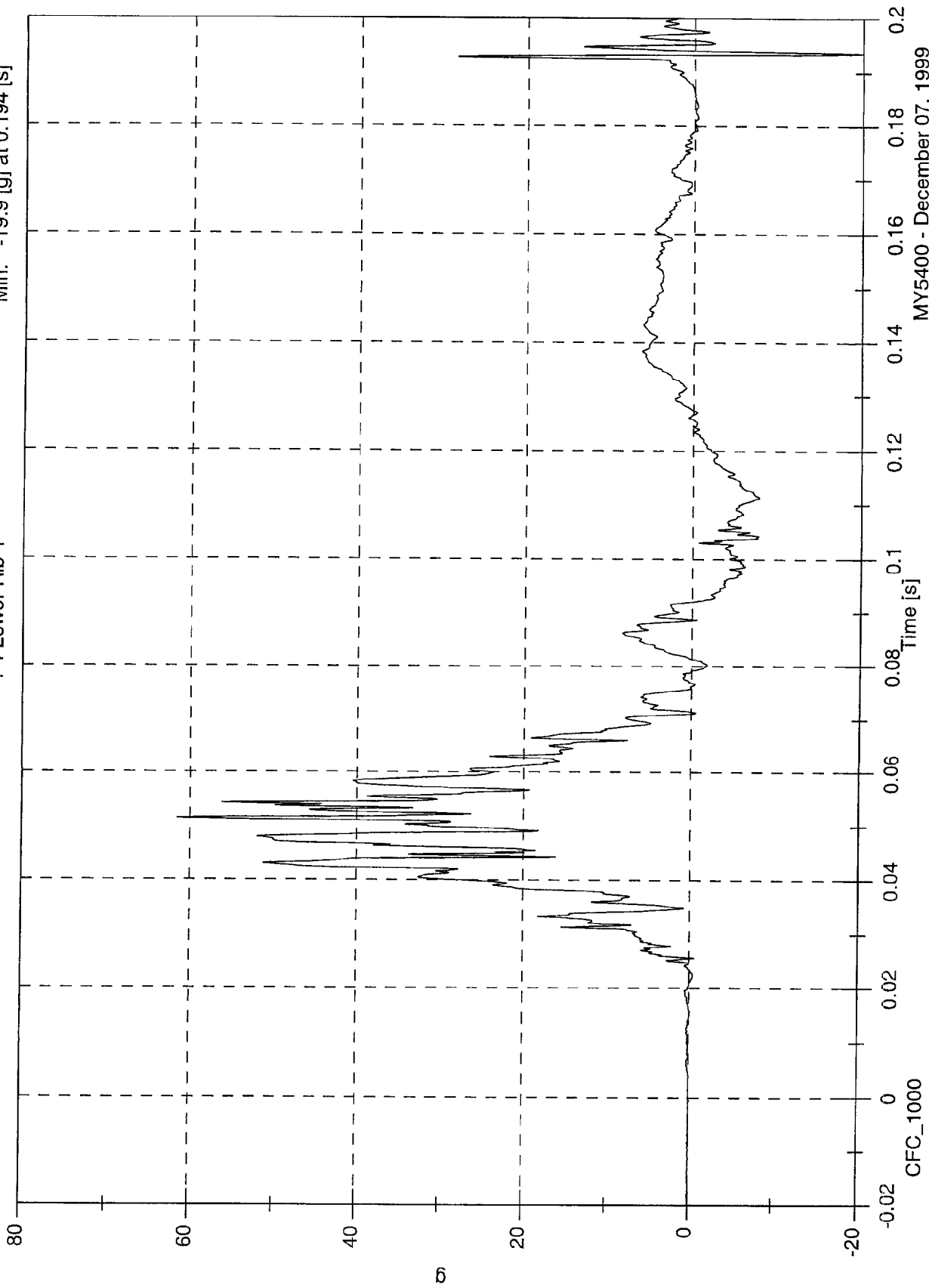


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

P4 Lower Rib Y

Max: 61.5 [g] at 0.051 [s]
Min: -19.9 [g] at 0.194 [s]

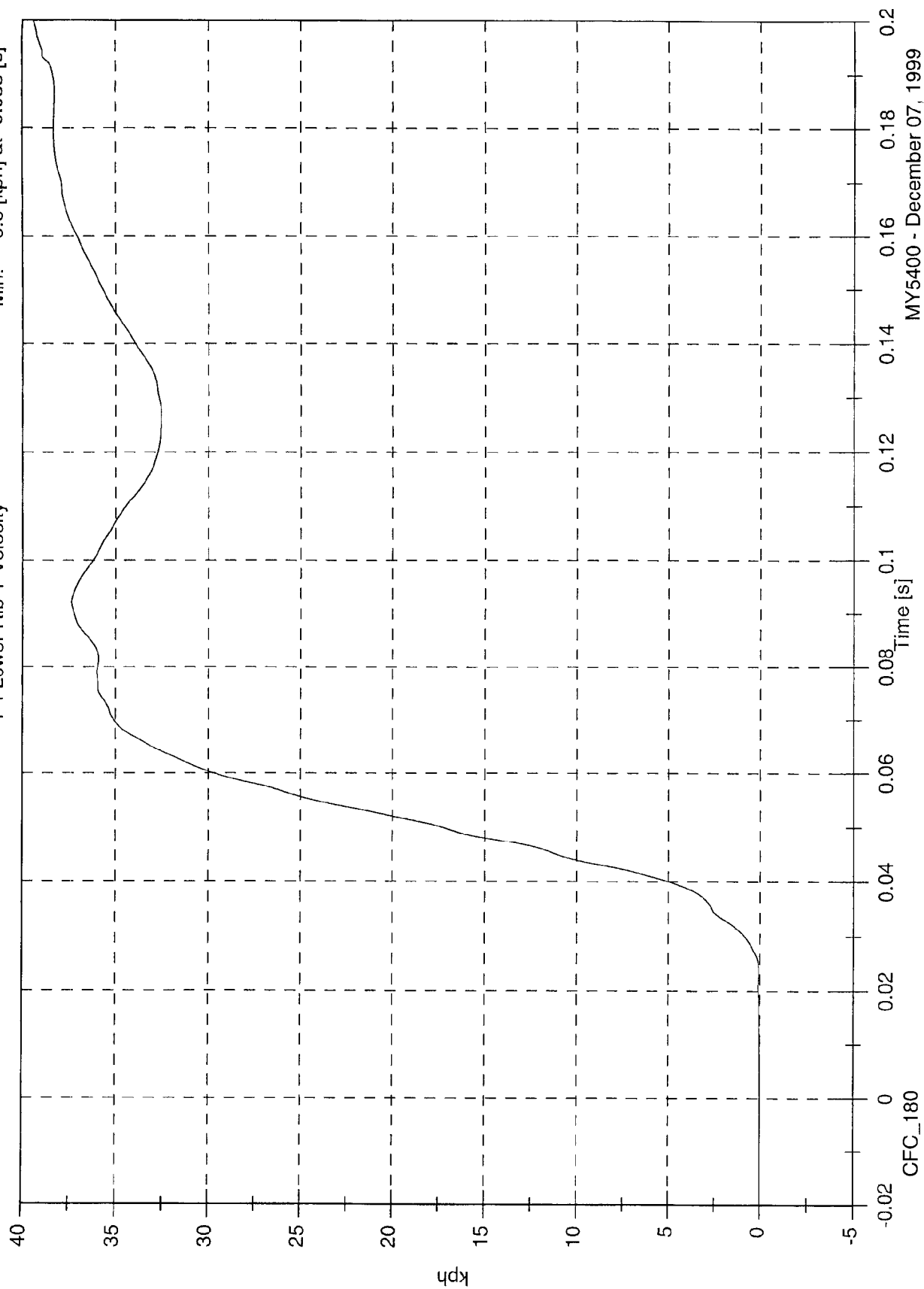


SNCAP 2000 Test# 5 - Mazda MPV

Max: 39.9 [kph] at 0.215 [s]

Min: -0.0 [kph] at -0.033 [s]

P4 Lower Rib Y Velocity



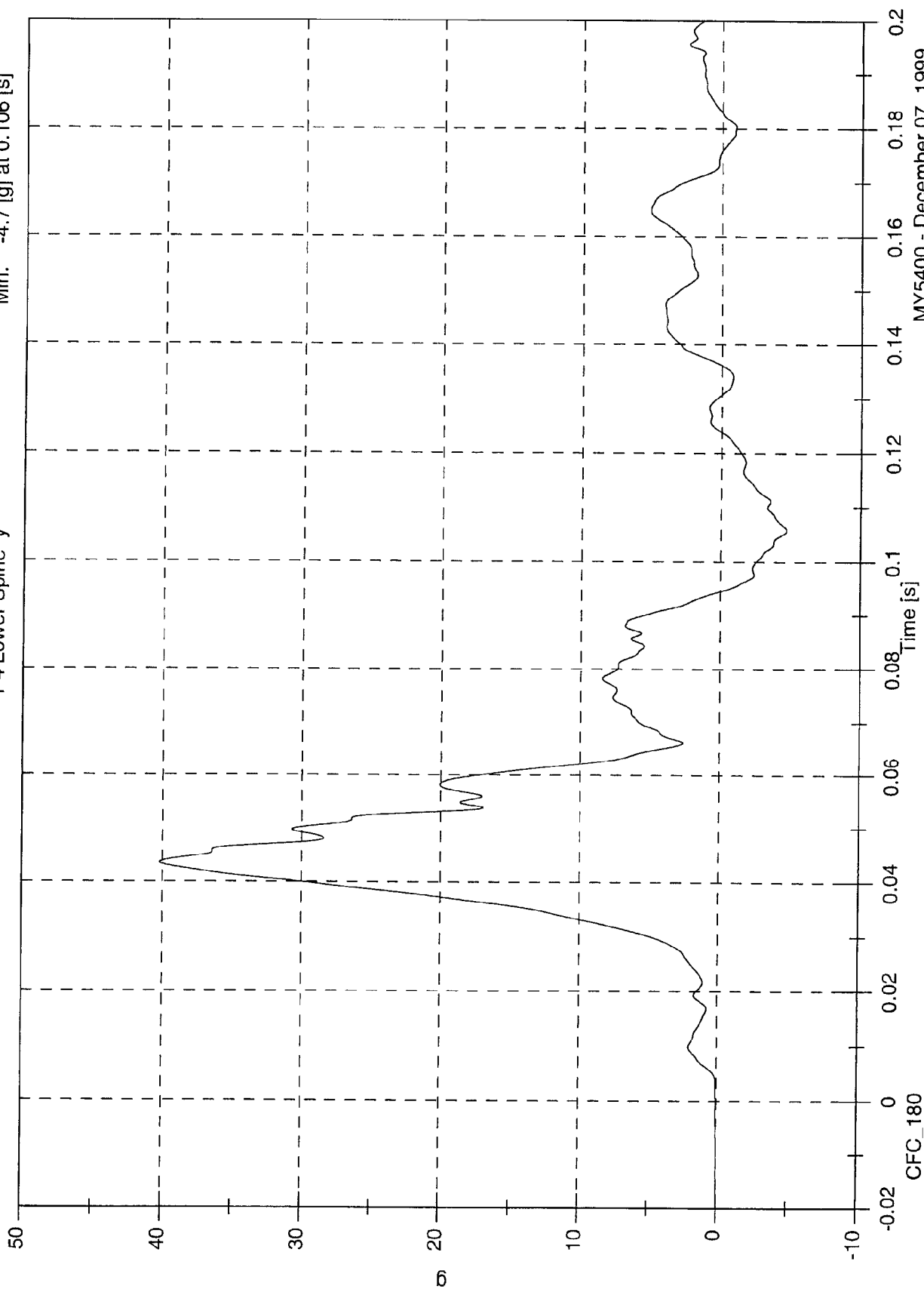
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 40.2 [g] at 0.044 [s]

Min: -4.7 [g] at 0.106 [s]

P4 Lower Spine y

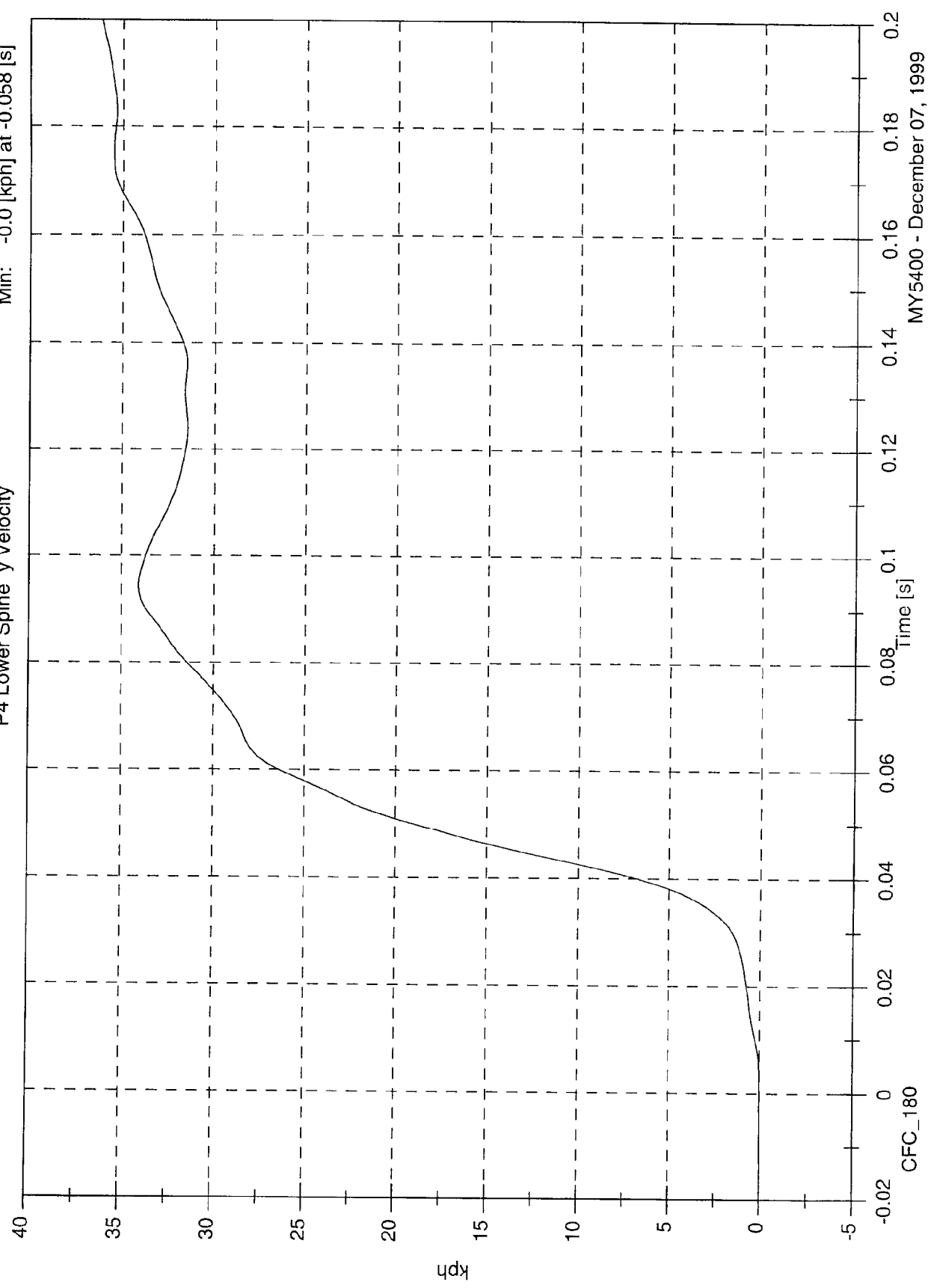


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 36.9 [kph] at 0.221 [s]
Min: -0.0 [kph] at -0.058 [s]

P4 Lower Spine y Velocity

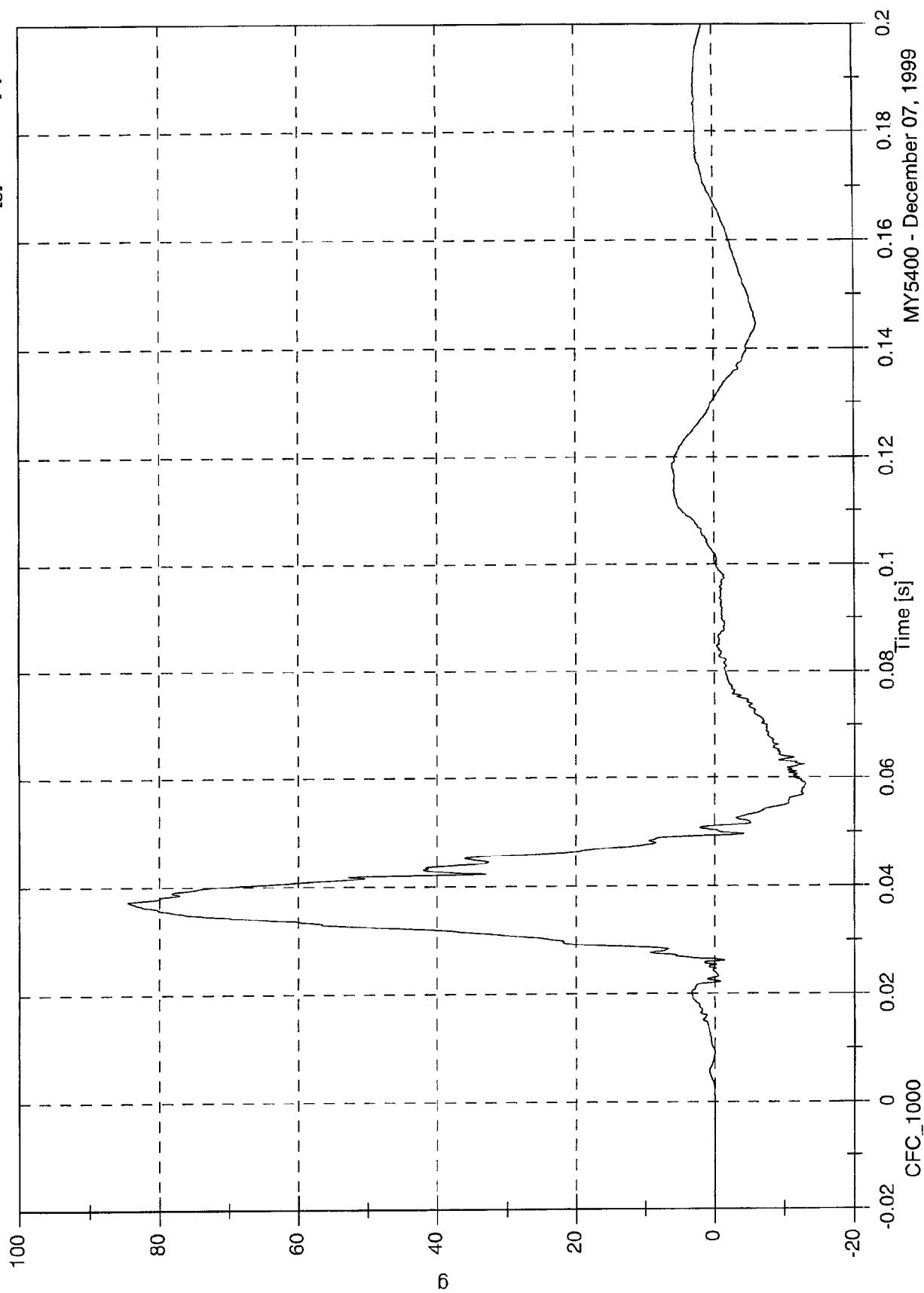


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 84.5 [g] at 0.037 [s]
Min: -13.0 [g] at 0.059 [s]

P4 Pelvic Y



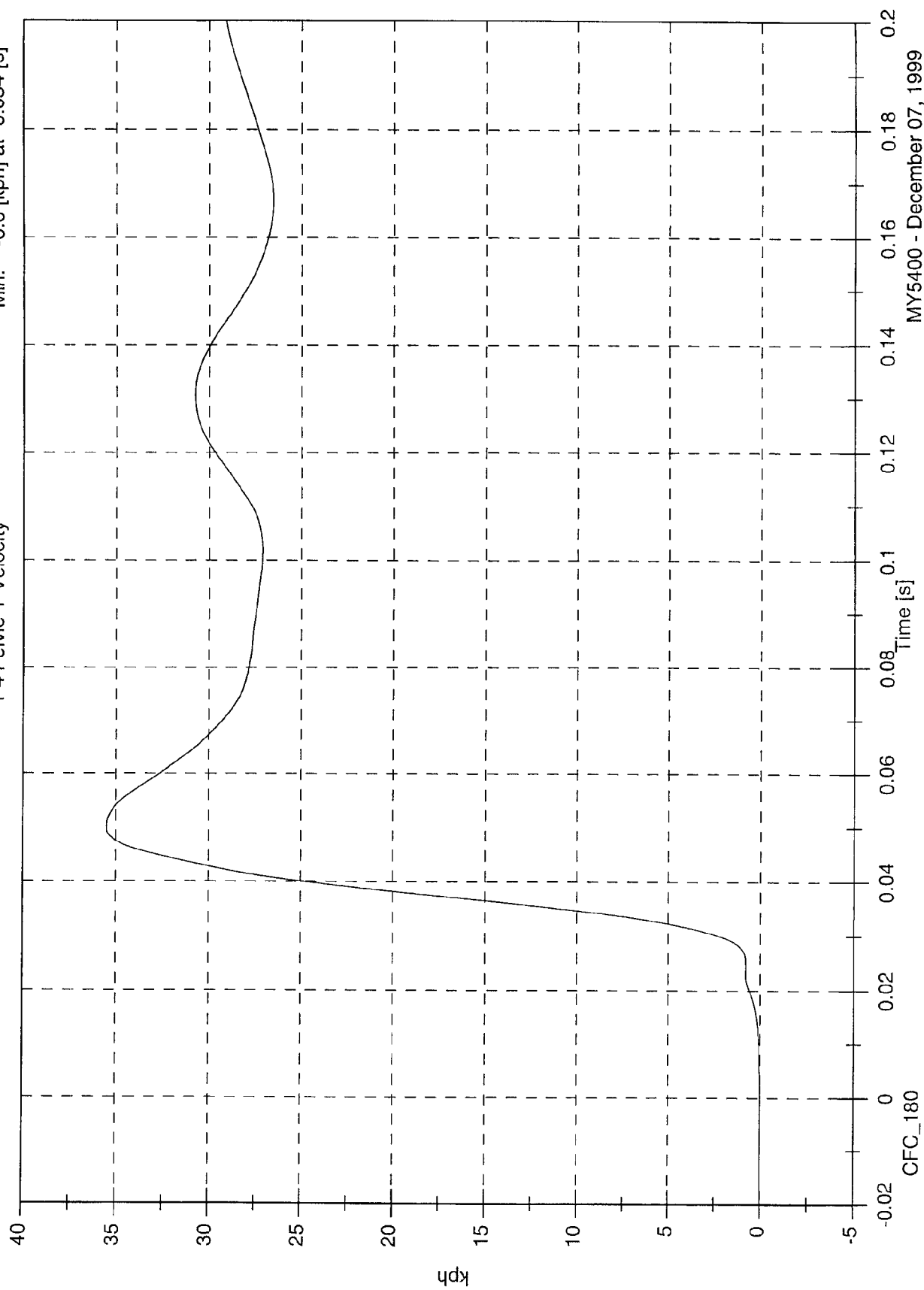
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 35.5 [kph] at 0.050 [s]

Min: -0.0 [kph] at -0.054 [s]

P4 Pelvic Y Velocity

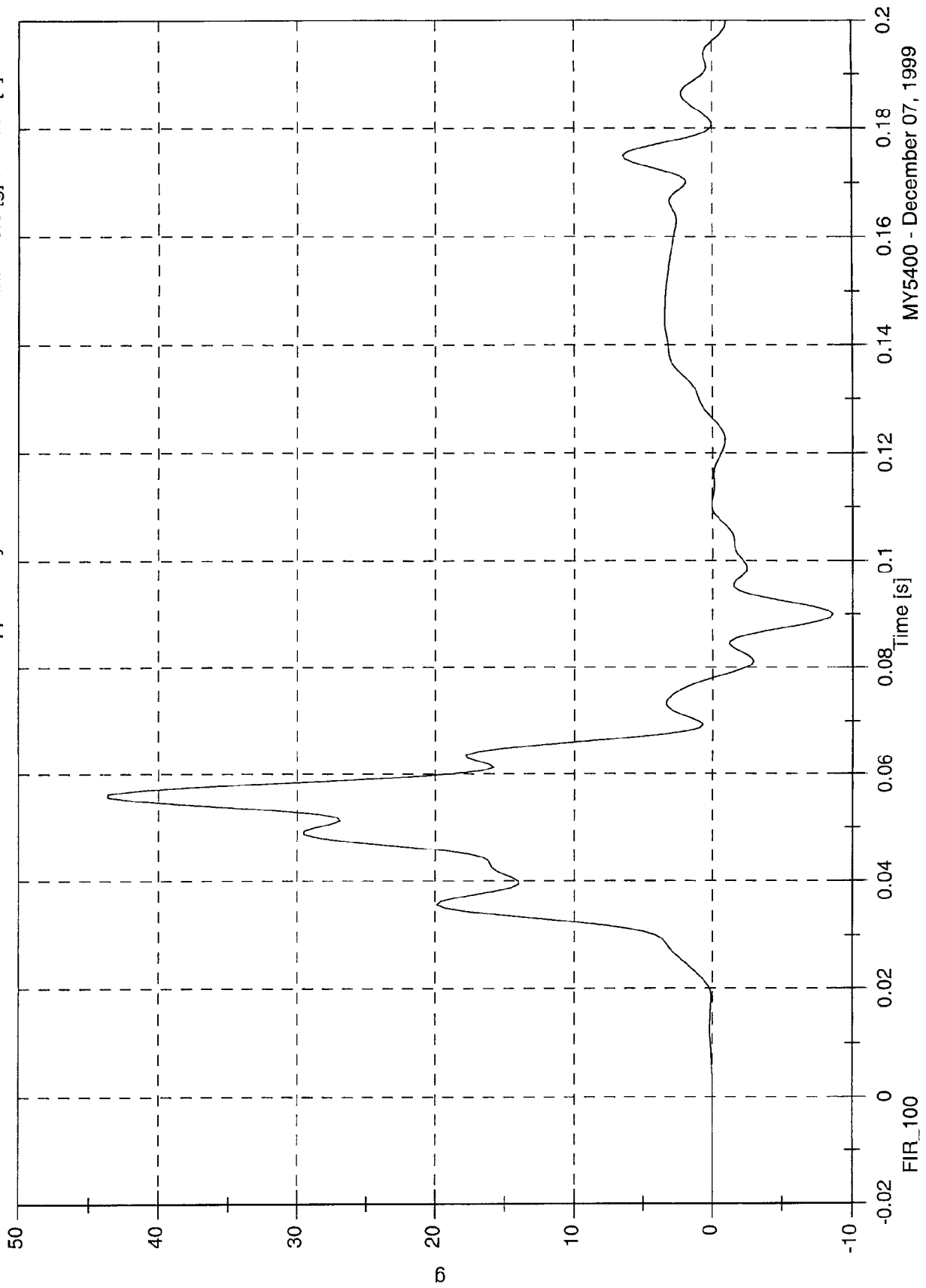


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 43.6 [g] at 0.056 [s]
Min: -8.6 [g] at 0.090 [s]

P1 Upper Rib y



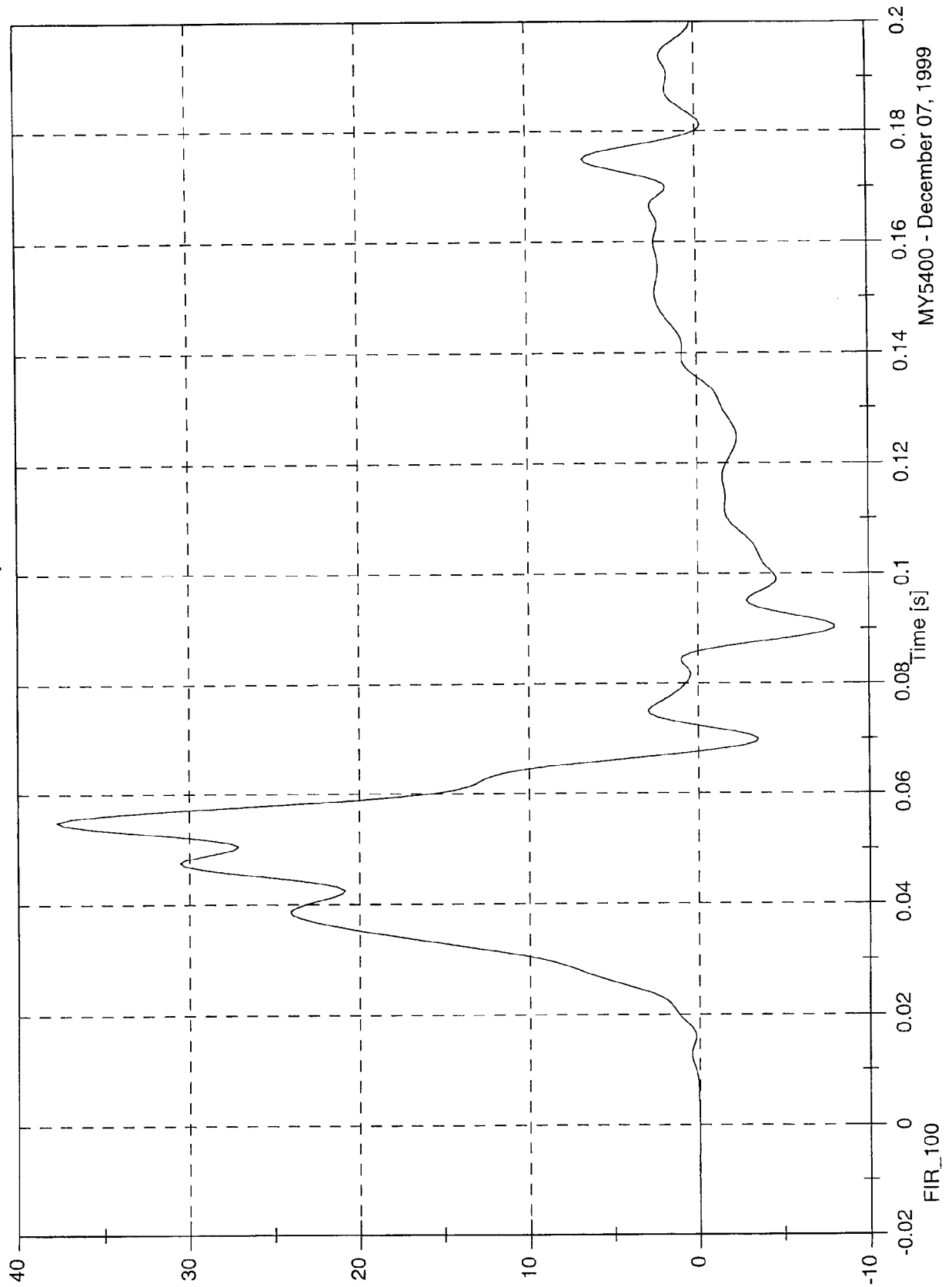
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 37.7 [g] at 0.055 [s]

Min: -8.0 [g] at 0.091 [s]

P1 Lower Rib y



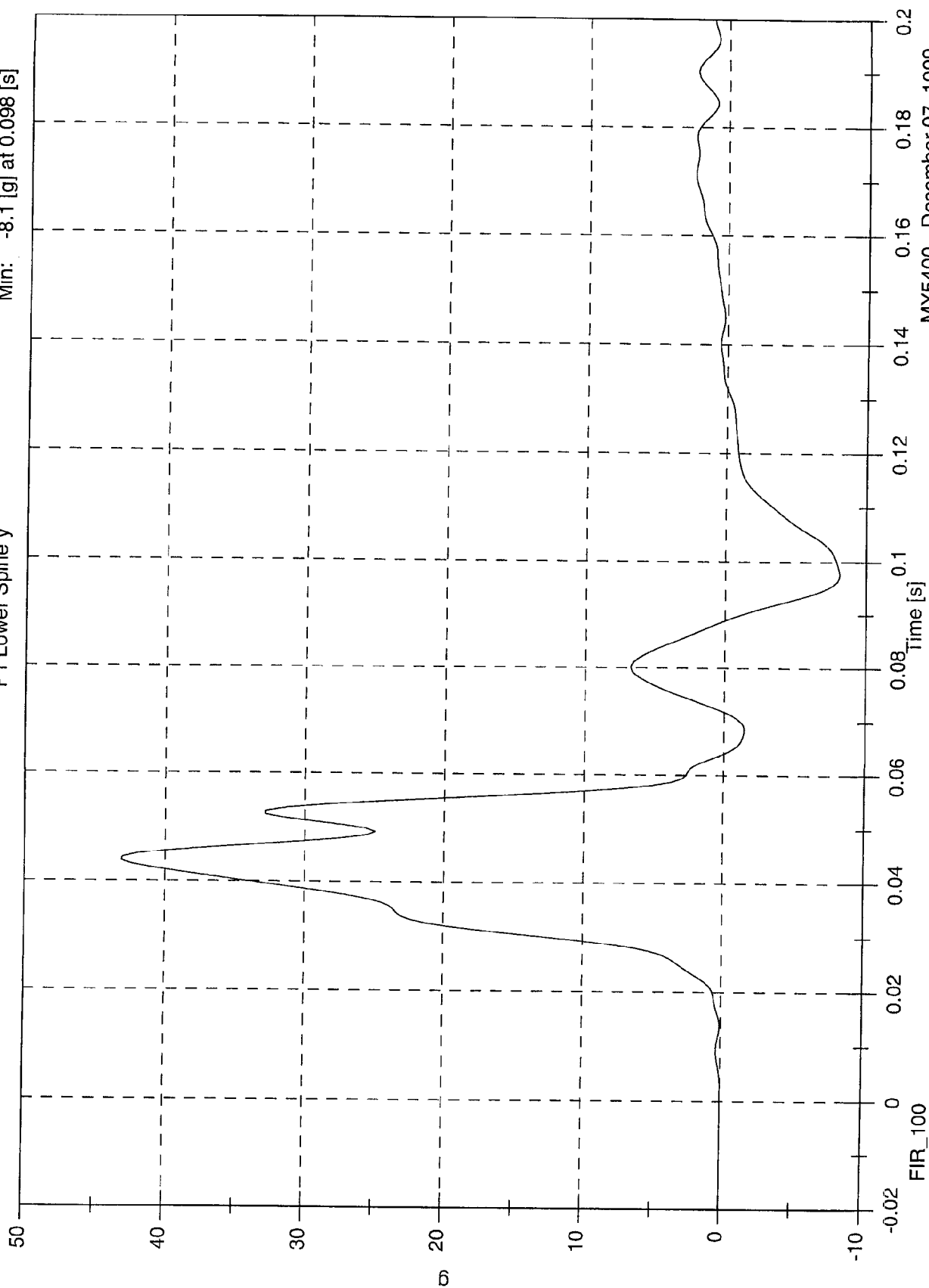
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 43.1 [g] at 0.044 [s]

Min: -8.1 [g] at 0.098 [s]

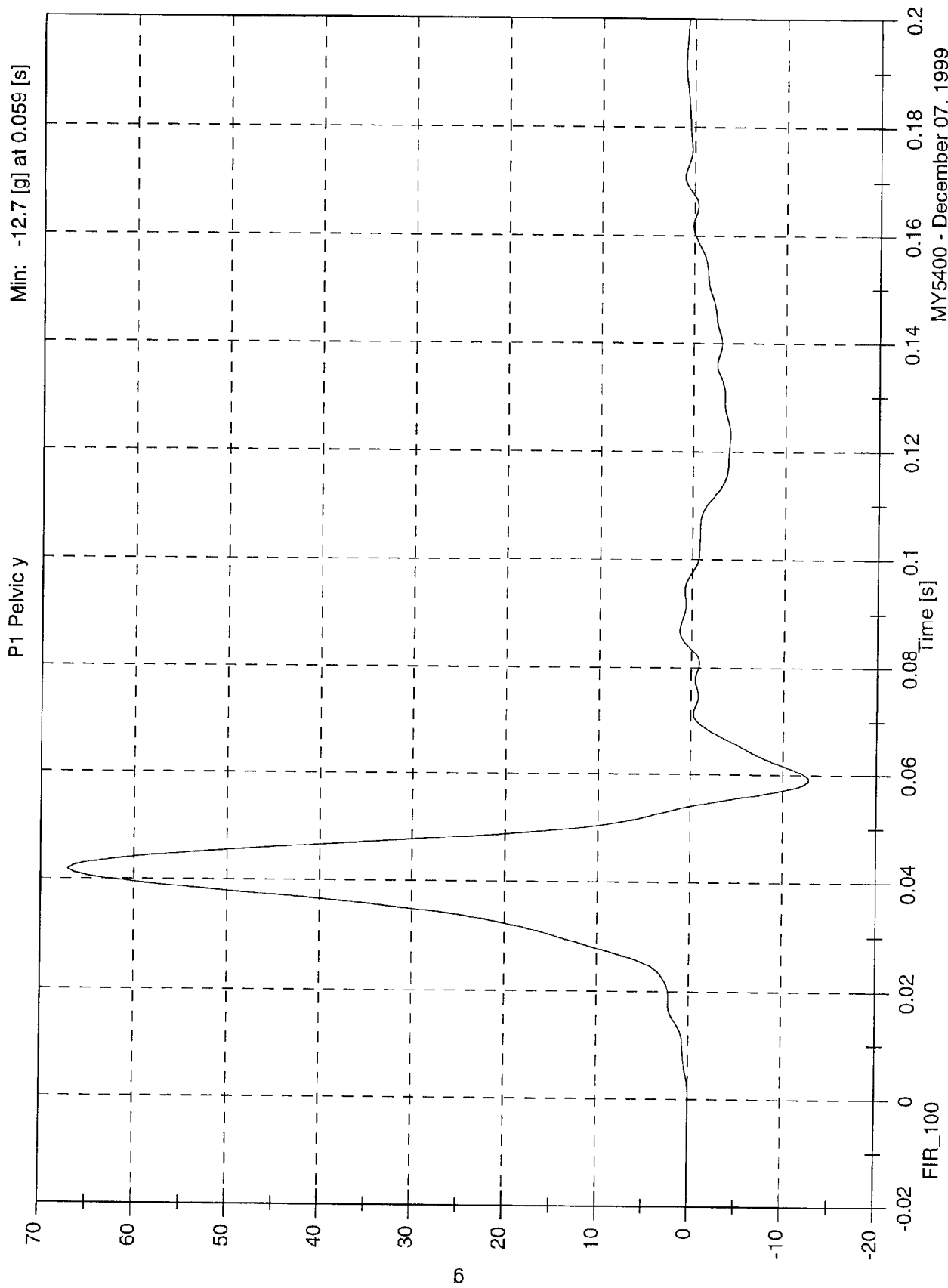
P1 Lower Spine y



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 67.0 [g] at 0.042 [s]
 Min: -12.7 [g] at 0.059 [s]



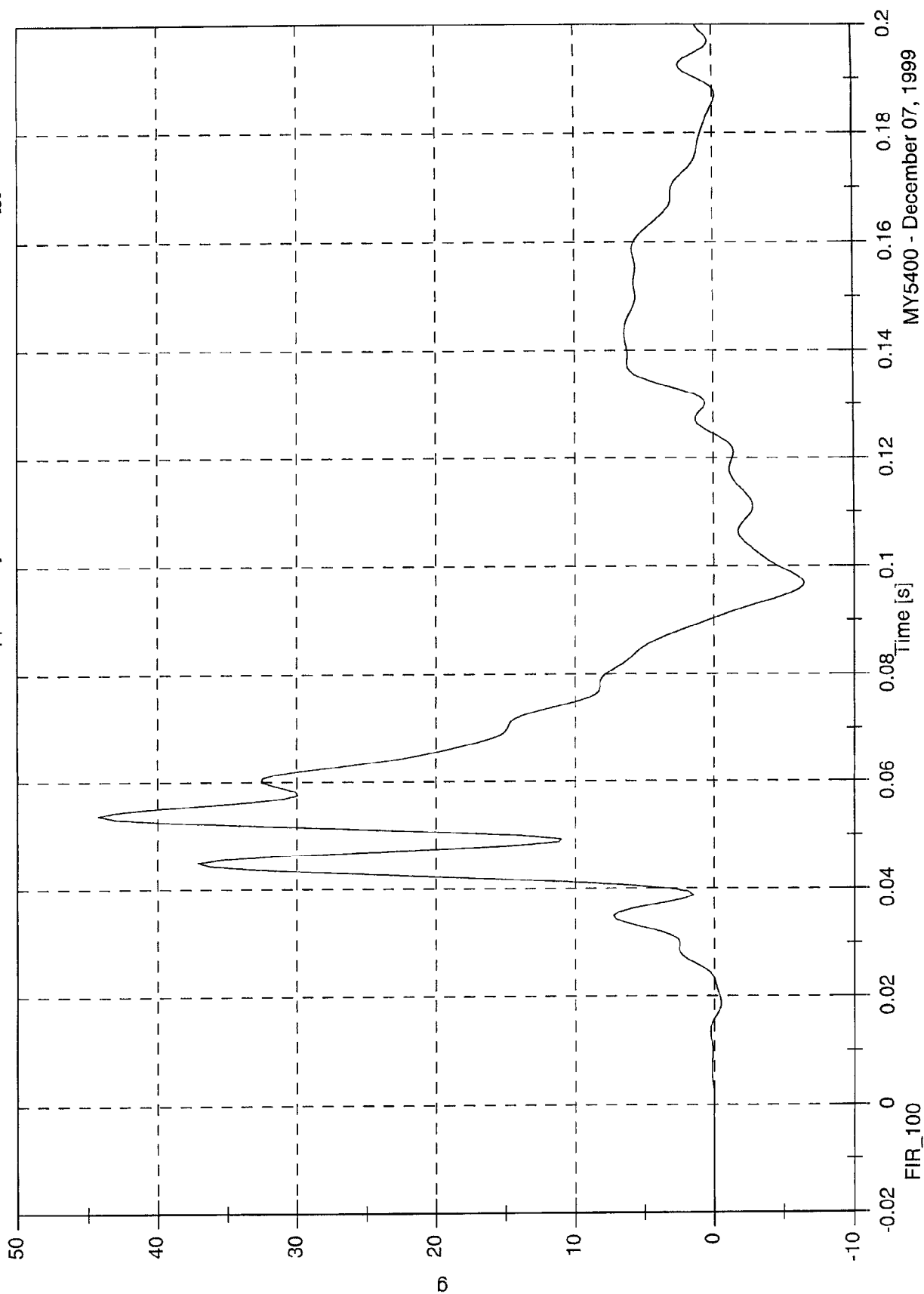
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 44.3 [g] at 0.054 [s]

Min: -6.5 [g] at 0.097 [s]

P4 Upper Rib y



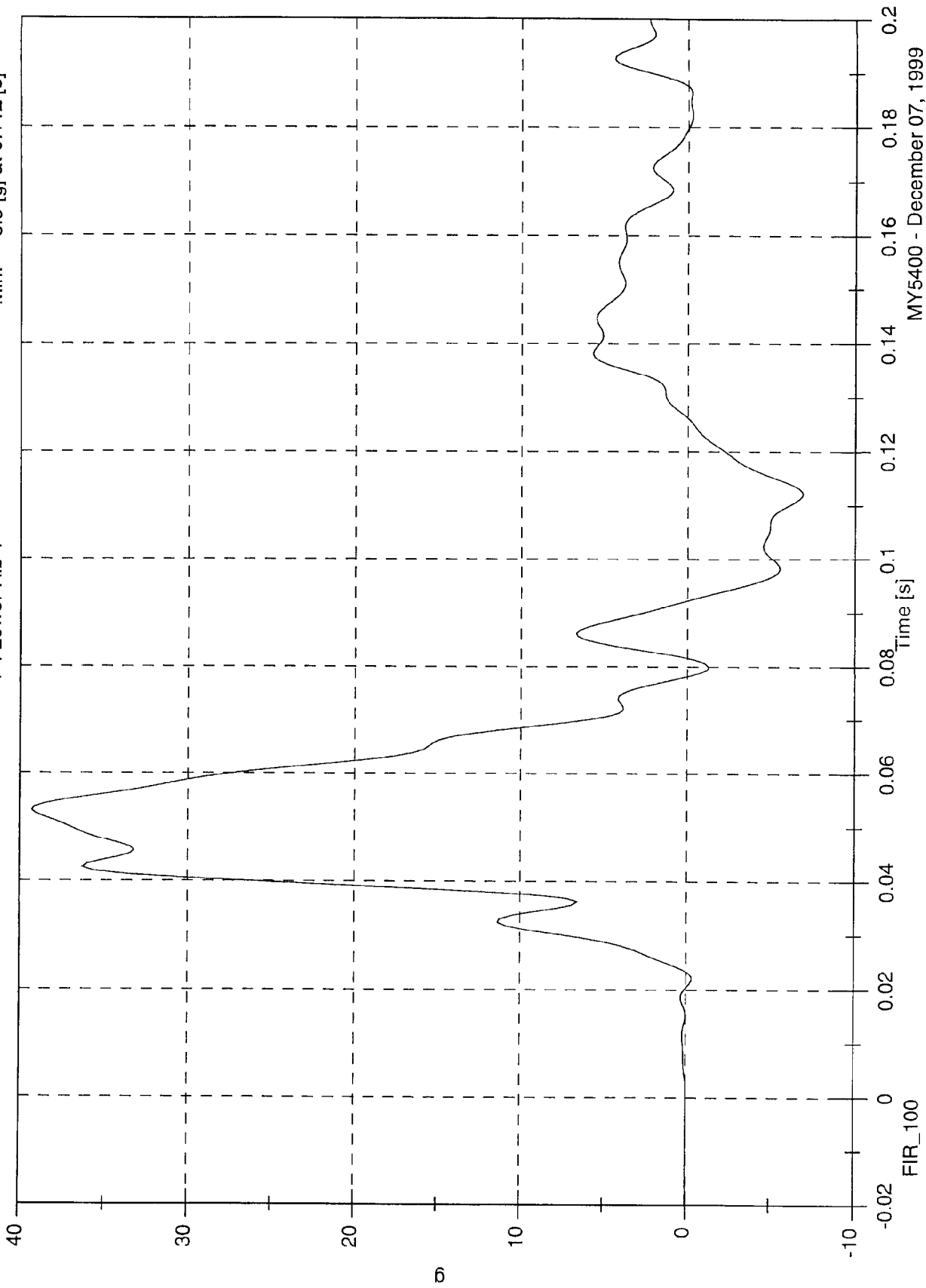
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

P4 Lower Rib Y

Max: 39.3 [g] at 0.053 [s]

Min: -6.9 [g] at 0.112 [s]

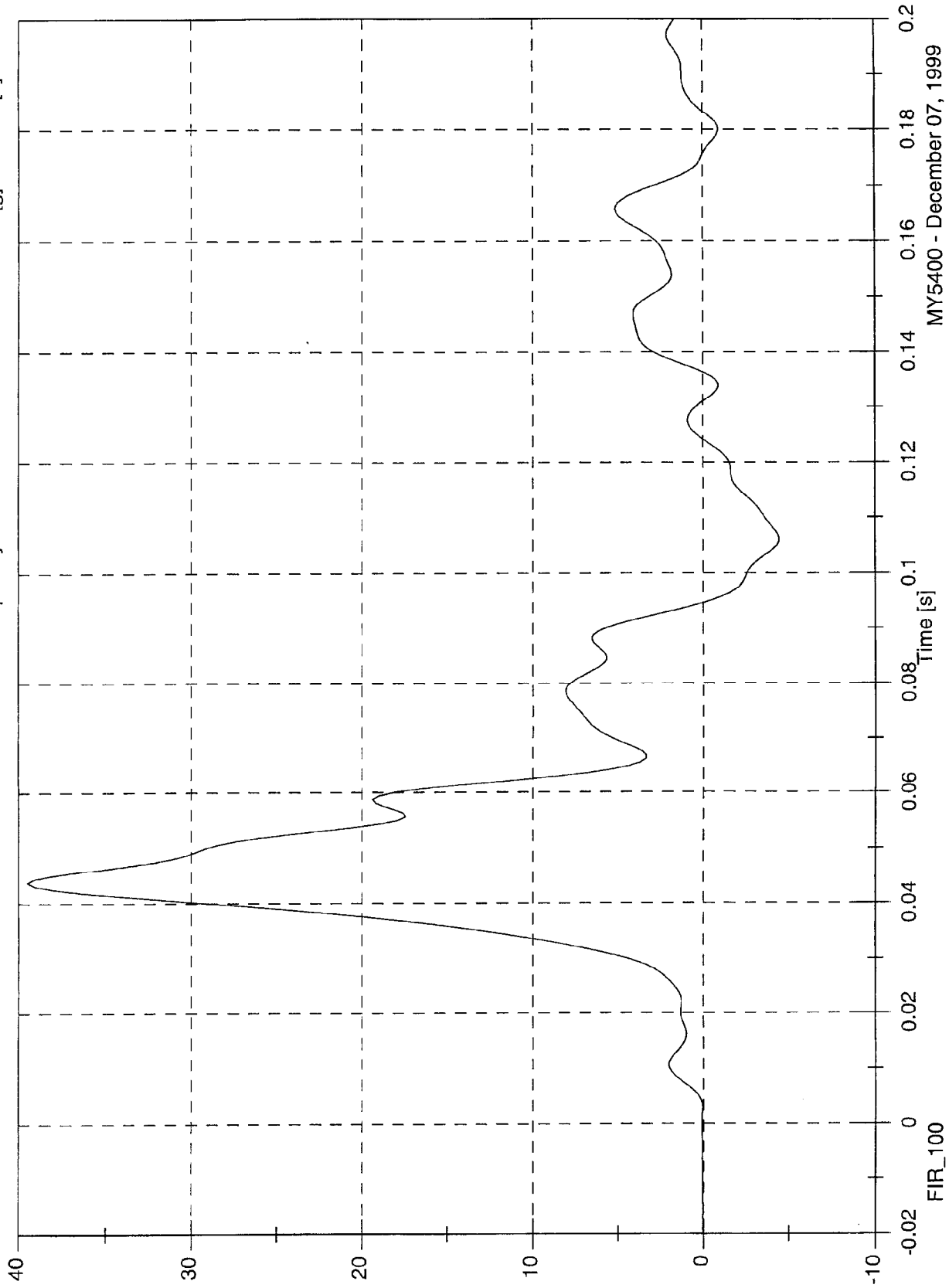


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 39.5 [g] at 0.044 [s]
Min: -4.4 [g] at 0.106 [s]

P4 Lower Spine y



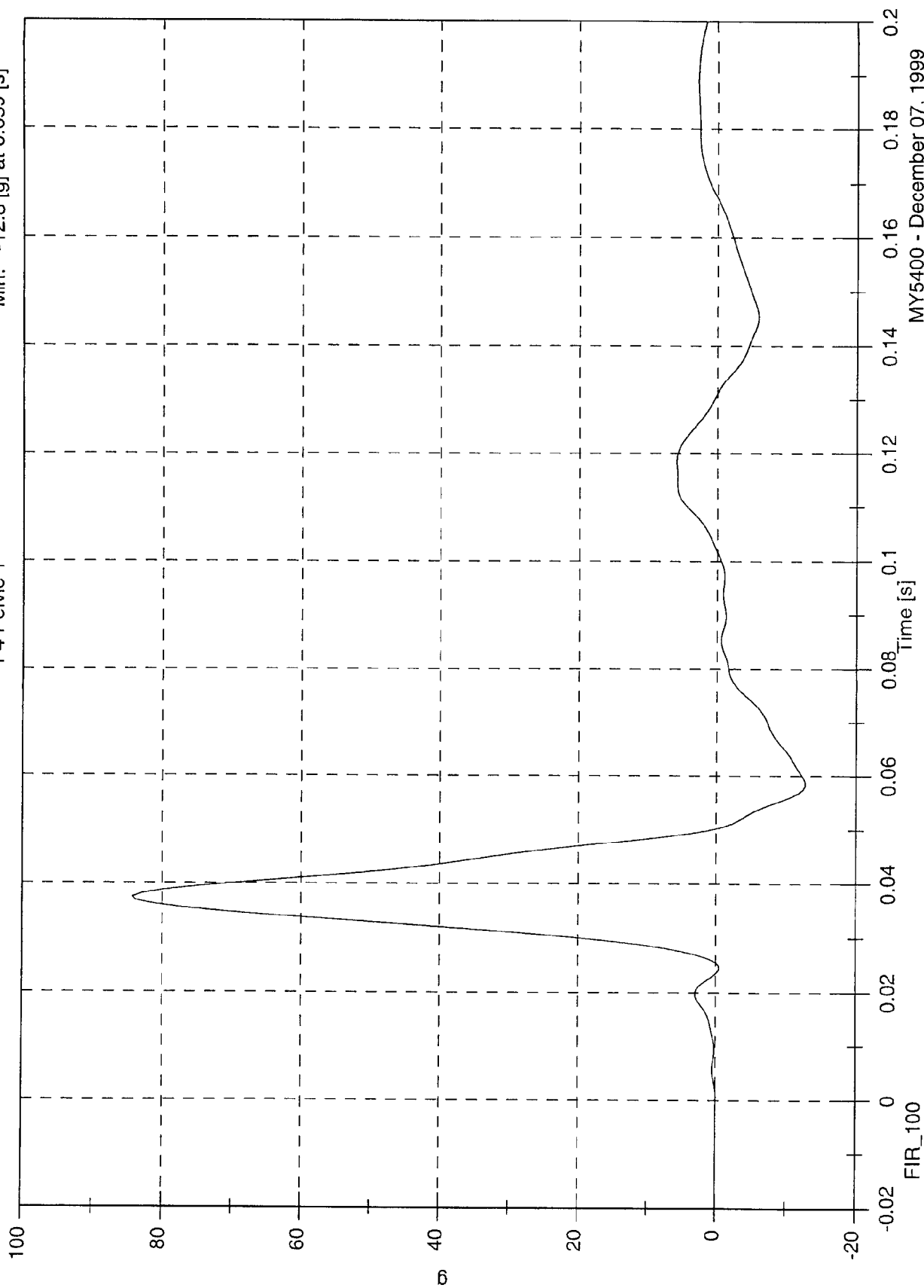
FIR_100

MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 84.3 [g] at 0.038 [s]
Min: -12.8 [g] at 0.059 [s]

P4 Pelvic Y

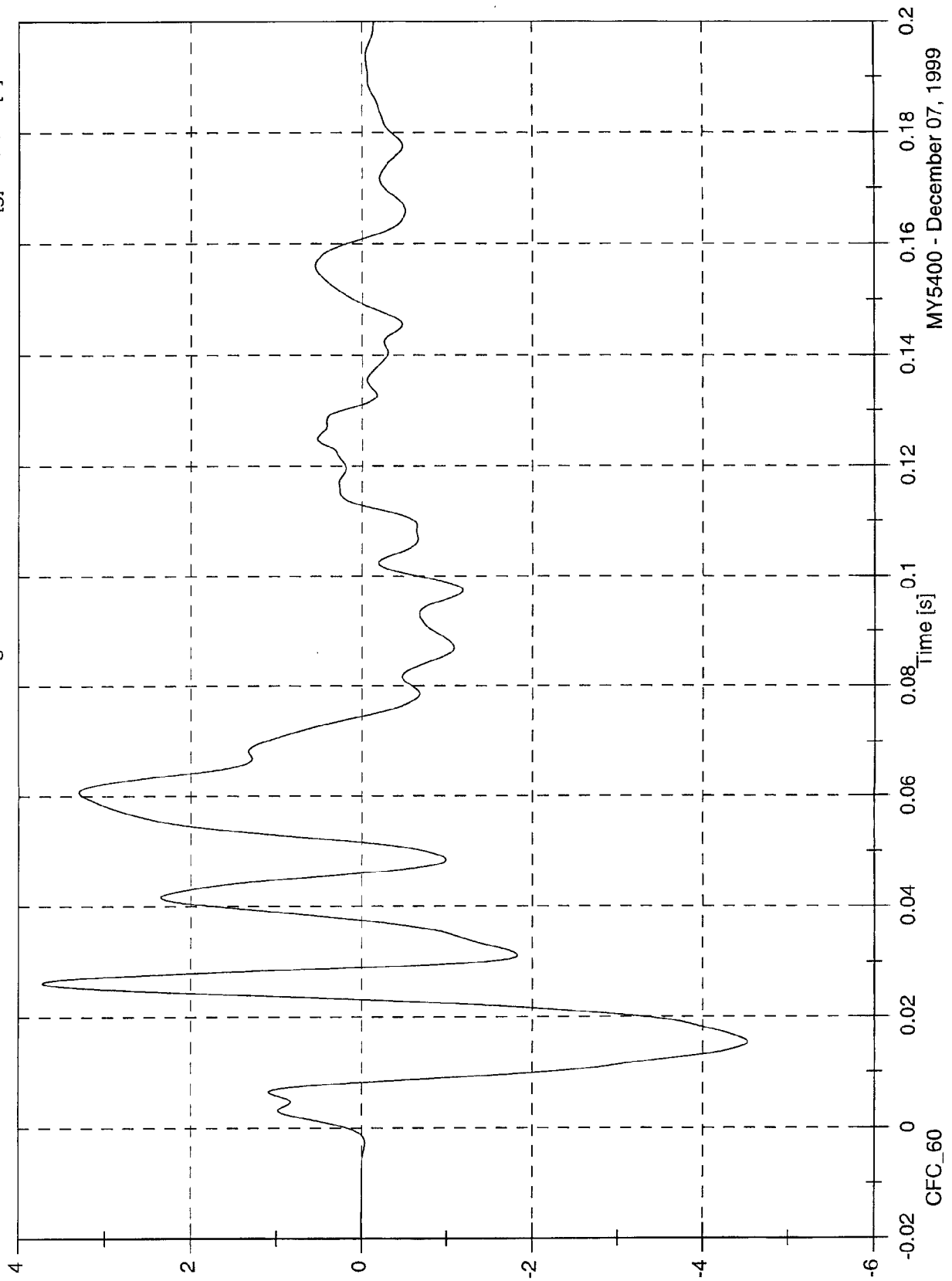


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 3.7 [g] at 0.026 [s]
Min: -4.5 [g] at 0.015 [s]

Acc 1 Right Front Sill X

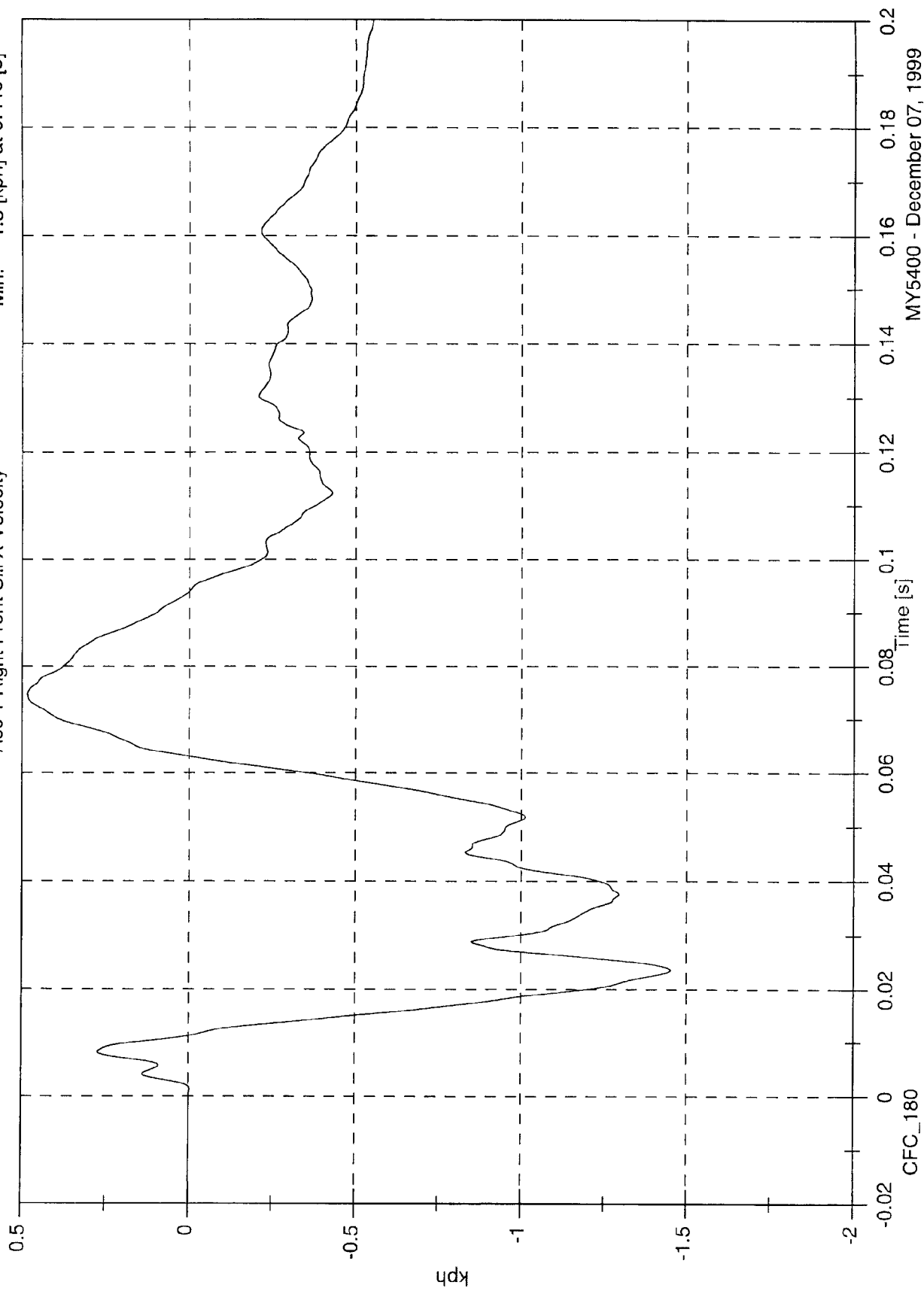


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 0.5 [kph] at 0.075 [s]
Min: -1.5 [kph] at 0.440 [s]

Acc 1 Right Front Sill X Velocity

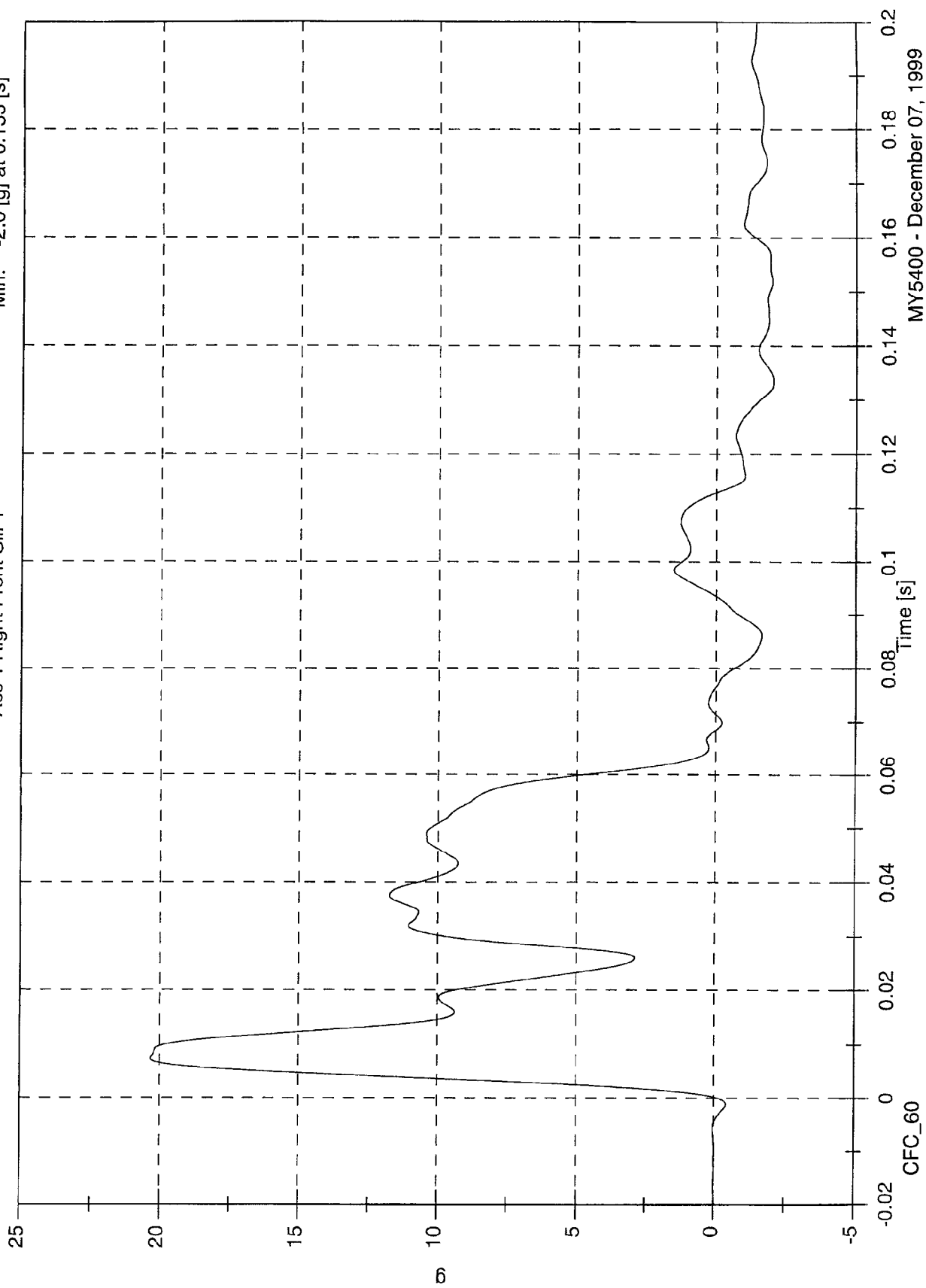


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 1 Right Front Sill Y

Max: 20.3 [g] at 0.007 [s]
Min: -2.0 [g] at 0.133 [s]

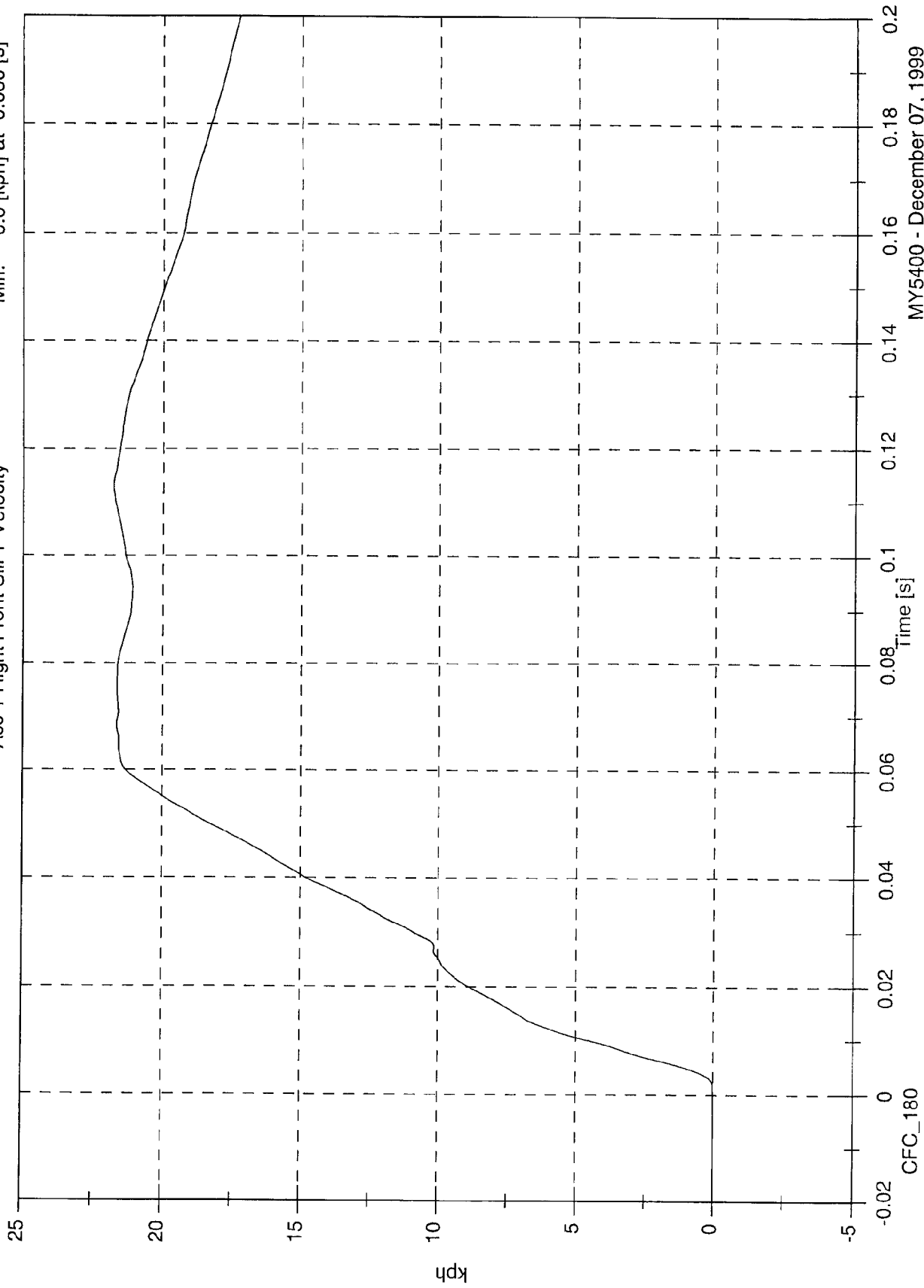


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 21.8 [kph] at 0.113 [s]
Min: -0.0 [kph] at -0.060 [s]

Acc 1 Right Front Sill Y Velocity



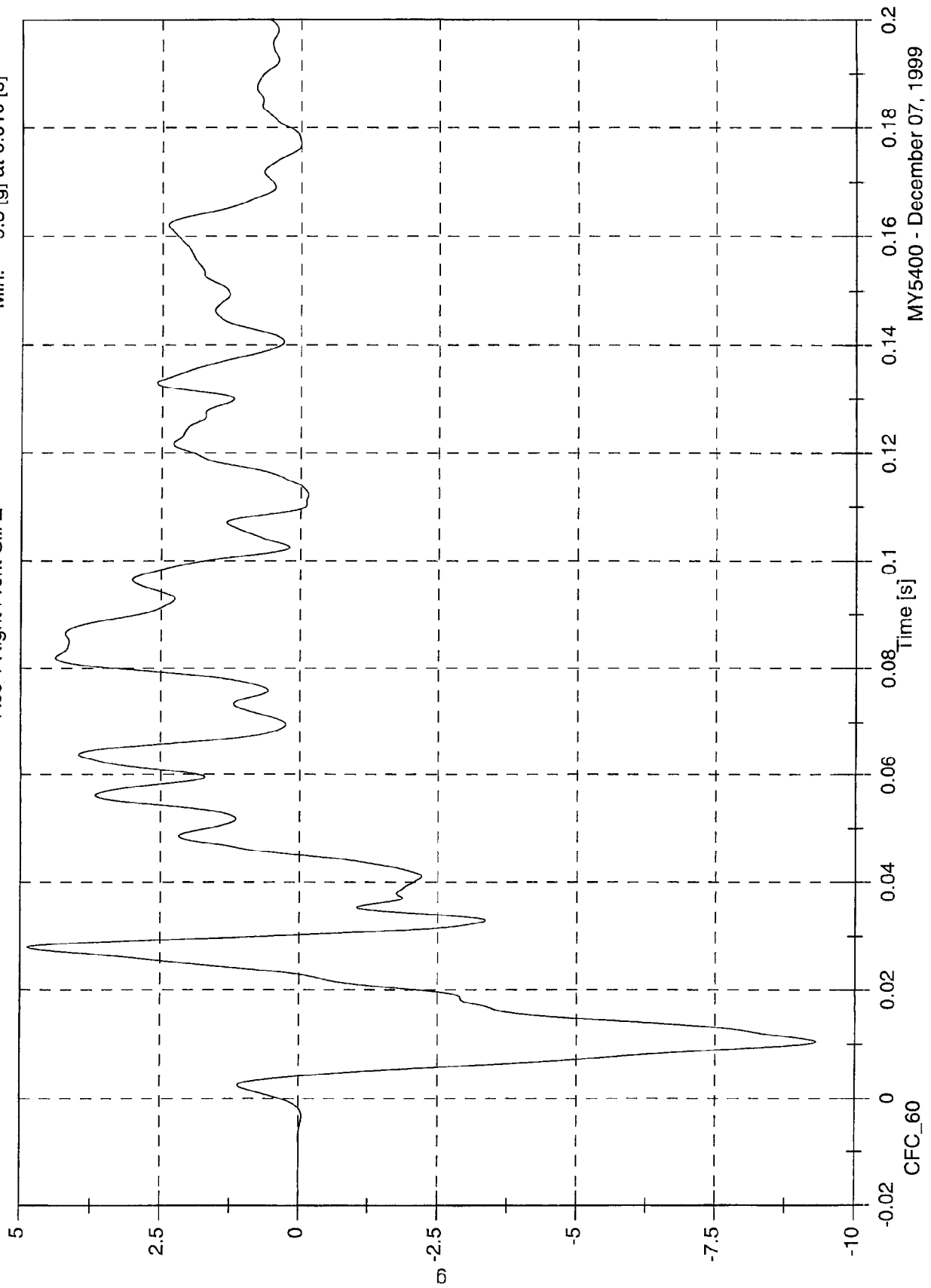
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 4.9 [g] at 0.028 [s]

Min: -9.3 [g] at 0.010 [s]

Acc 1 Right Front Sill Z

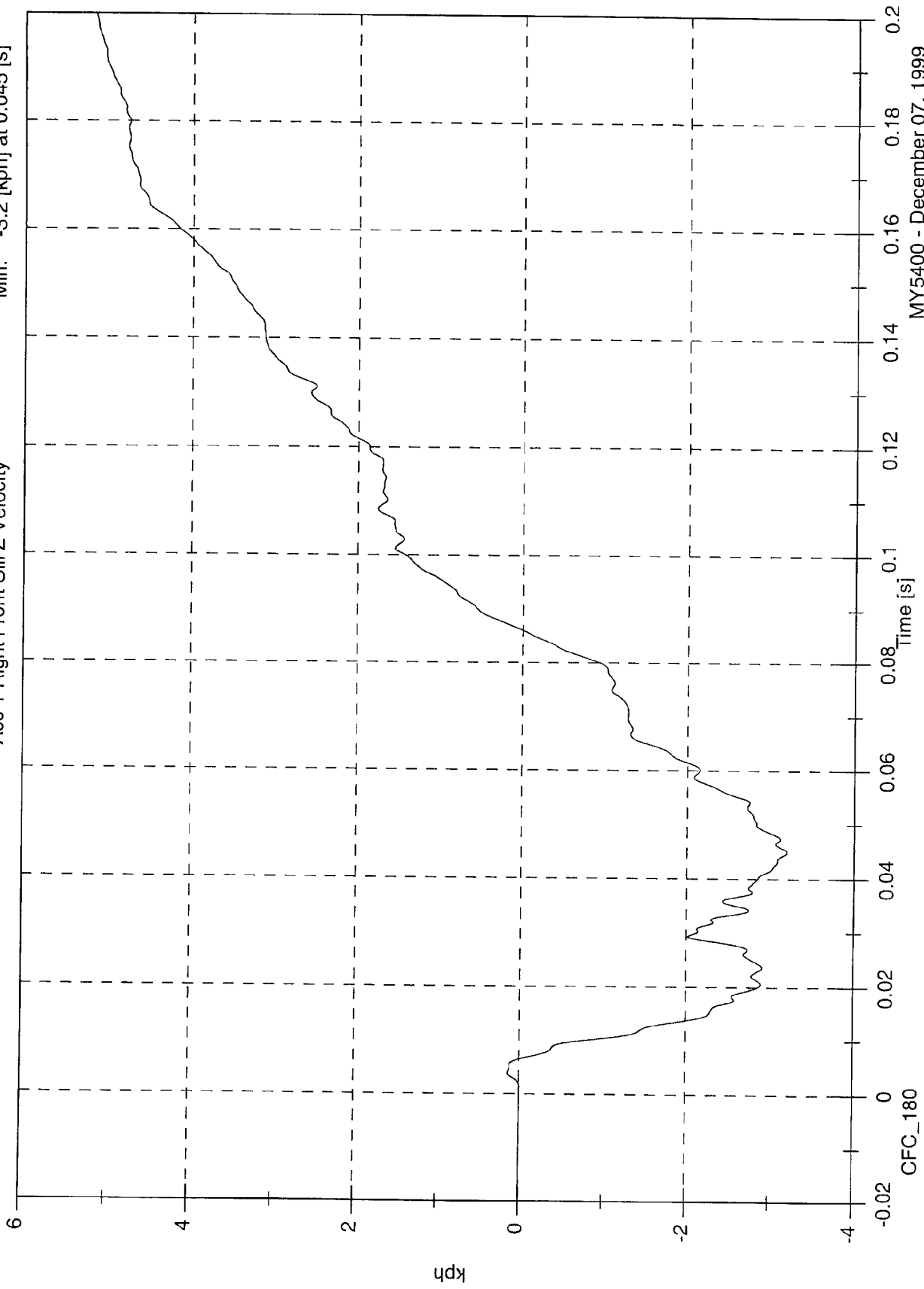


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 5.7 [kph] at 0.223 [s]
Min: -3.2 [kph] at 0.045 [s]

Acc 1 Right Front Sill Z Velocity

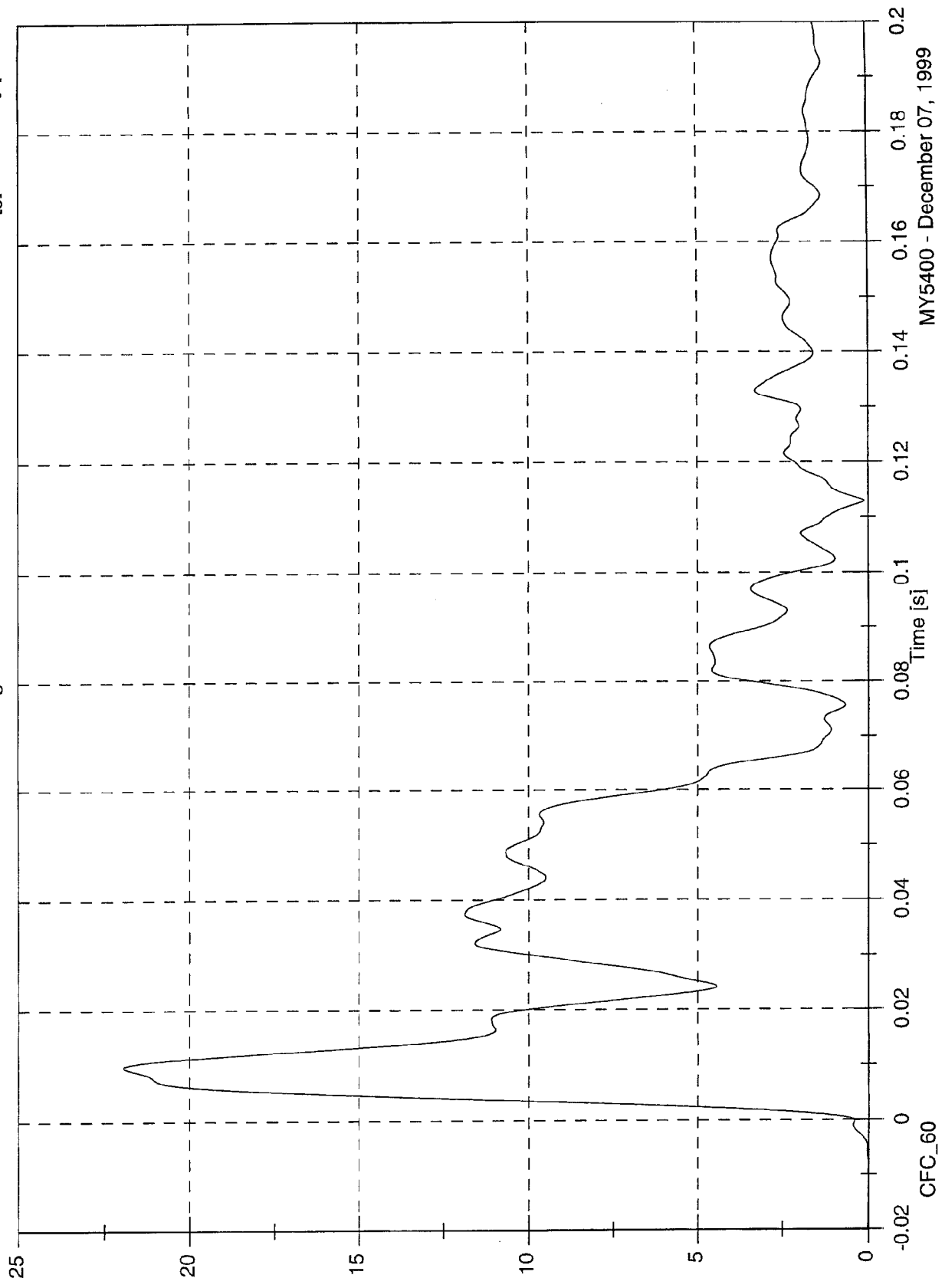


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 1 Right Front Sill Resultant

Max: 21.9 [g] at 0.010 [s]
Min: 0.0 [g] at -0.015 [s]

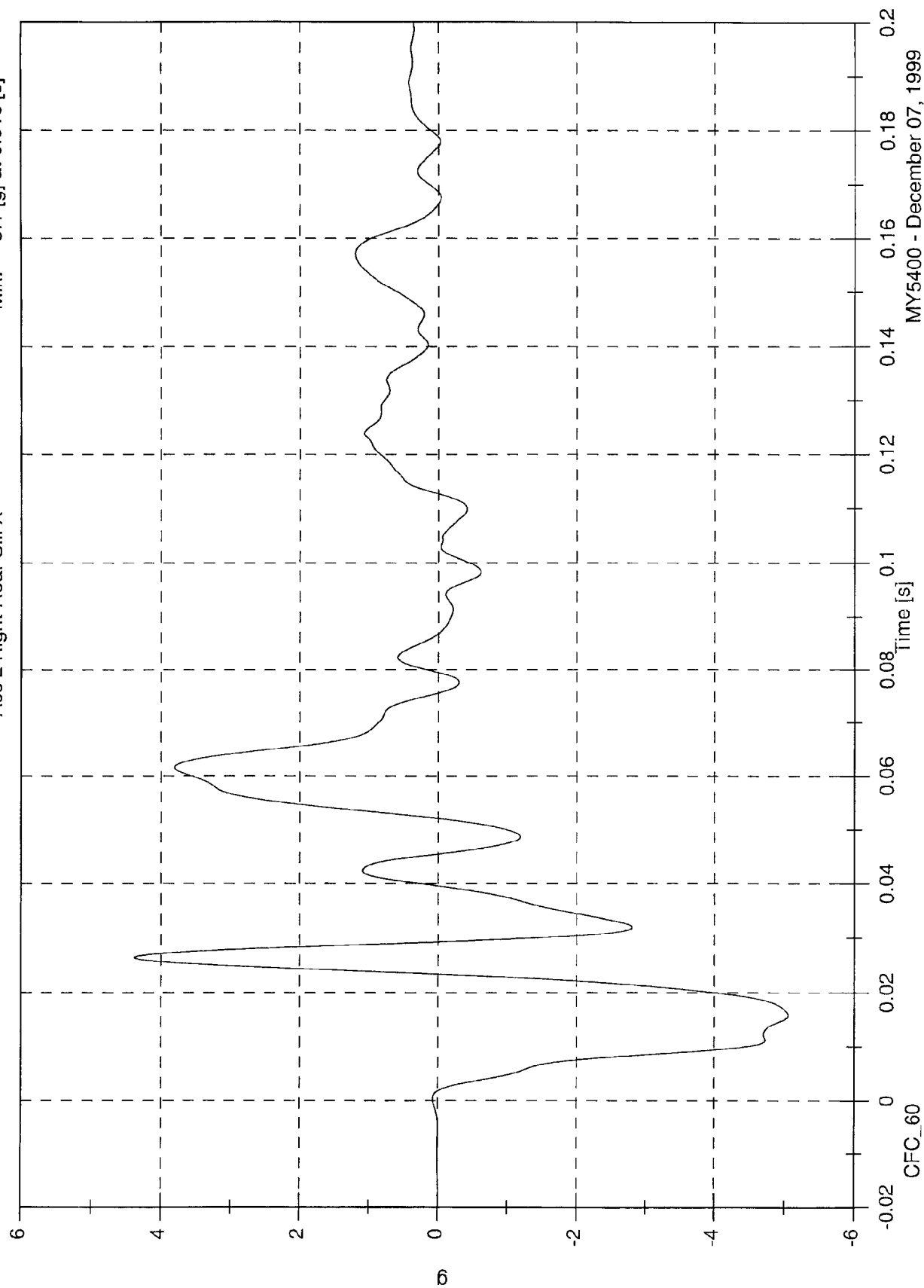


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 4.4 [g] at 0.026 [s]
Min: -5.1 [g] at 0.016 [s]

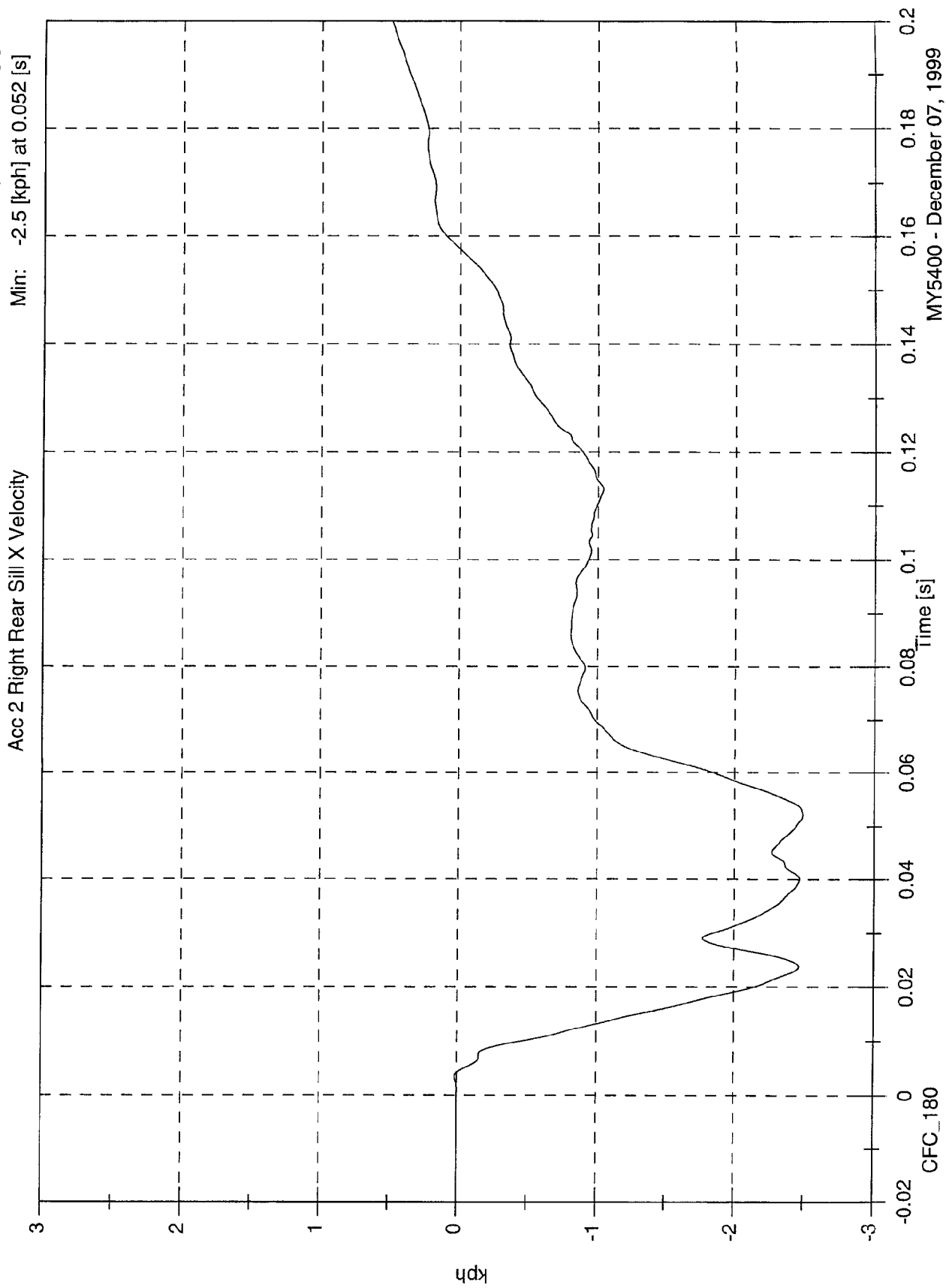
Acc 2 Right Rear Sill X



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

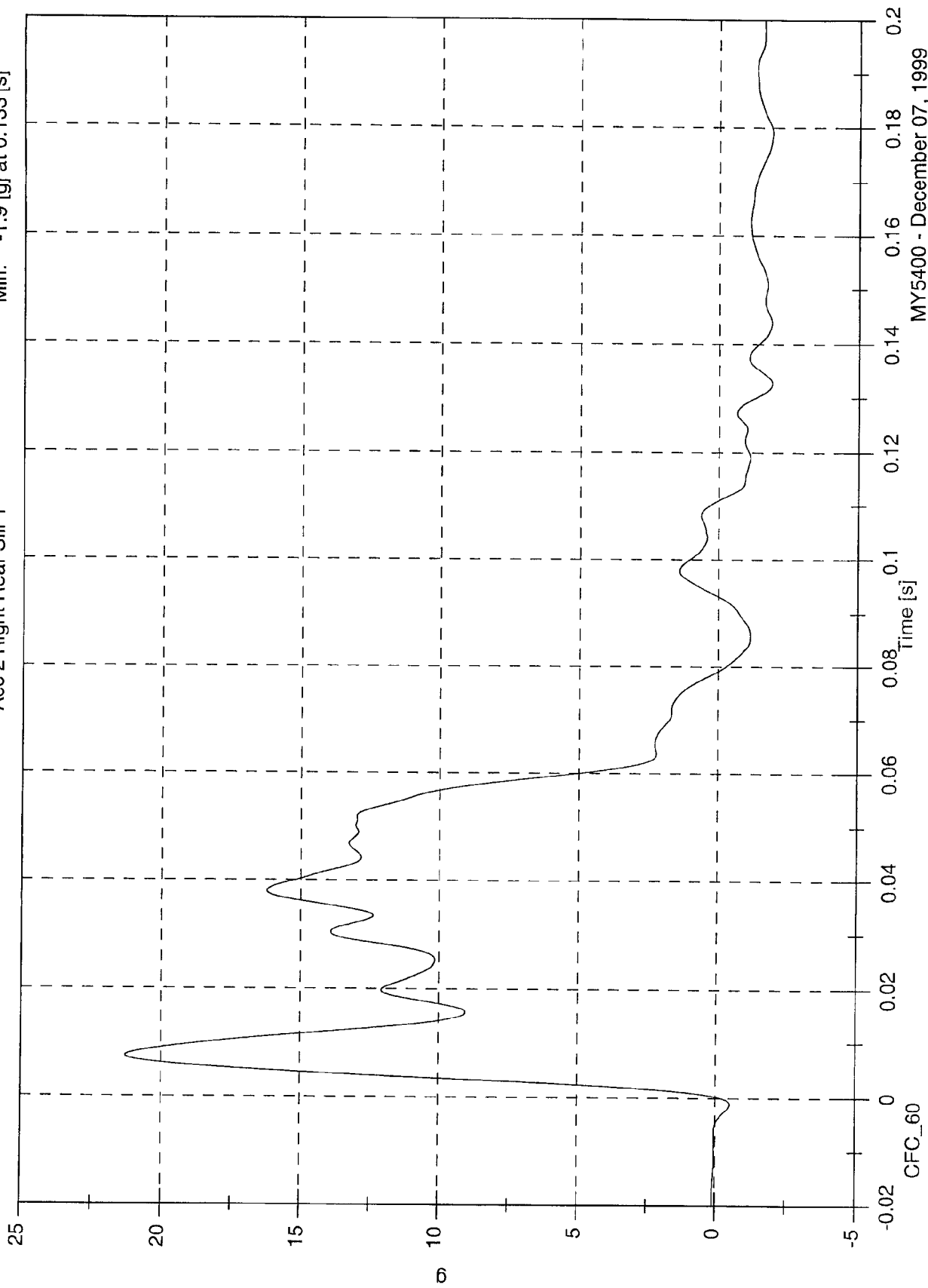
Max: 2.7 [kph] at 0.500 [s]
Min: -2.5 [kph] at 0.052 [s]



SNCAP 2000 Test# 5 - Mazda MPV

Max: 21.3 [g] at 0.007 [s]
 Min: -1.9 [g] at 0.133 [s]

Acc 2 Right Rear Sill Y

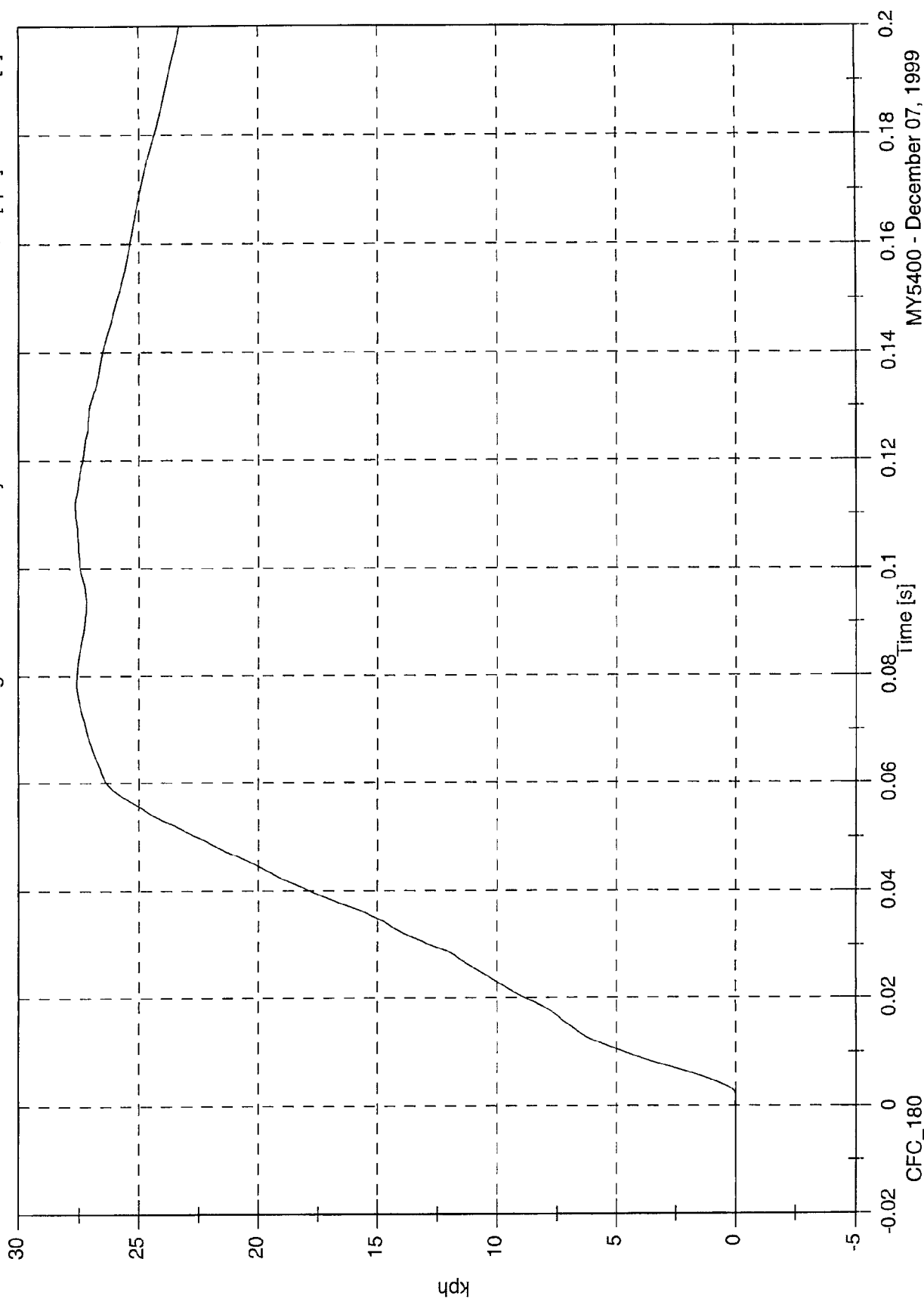


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 2 Right Rear Sill Y Velocity

Max: 27.7 [kph] at 0.112 [s]
Min: -0.1 [kph] at -0.062 [s]

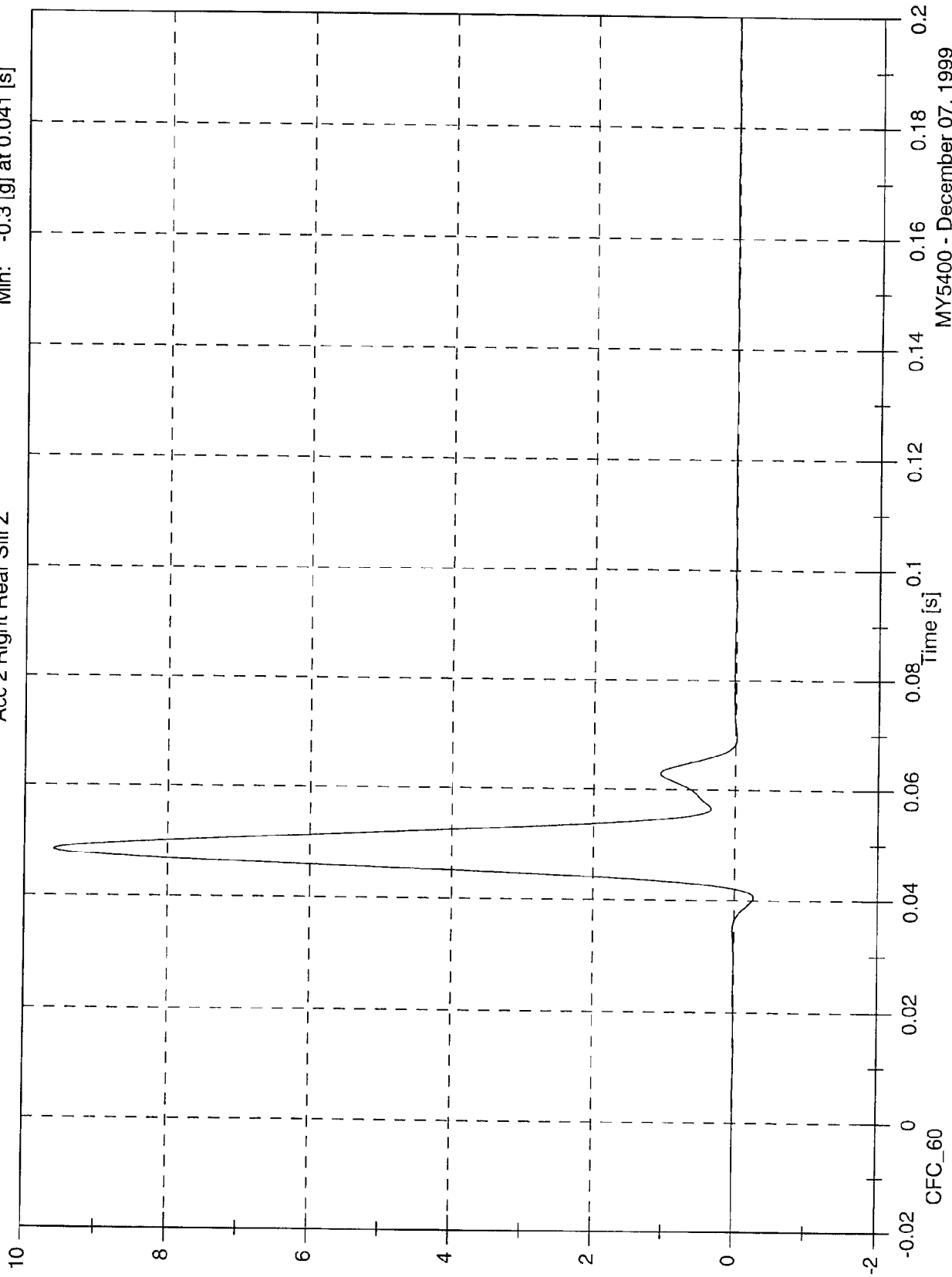


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 9.6 [g] at 0.048 [s]
Min: -0.3 [g] at 0.041 [s]

Acc 2 Right Rear Sill Z

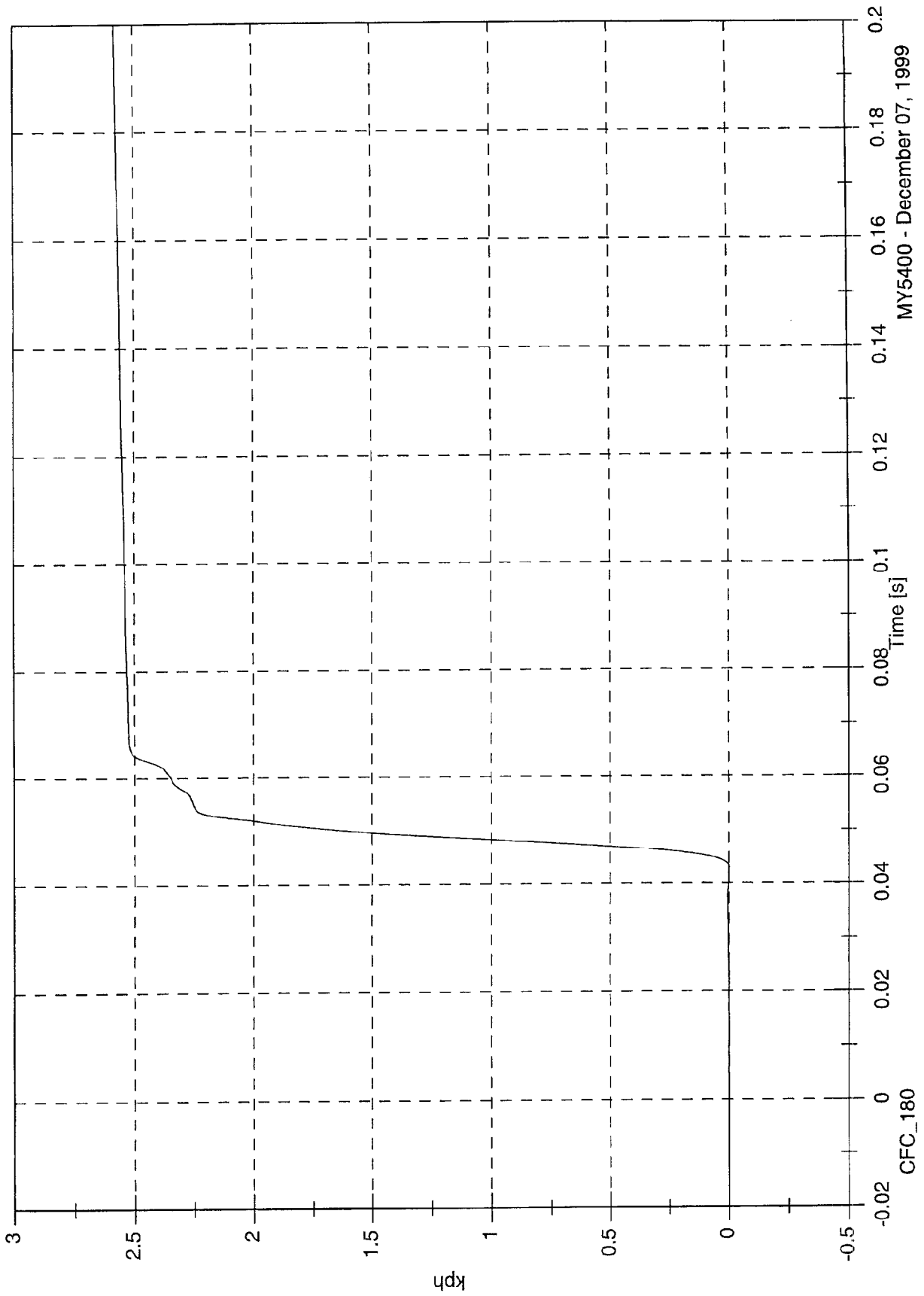


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 2 Right Rear Sill Z Velocity

Max: 2.7 [kph] at 0.500 [s]
Min: -0.0 [kph] at 0.043 [s]



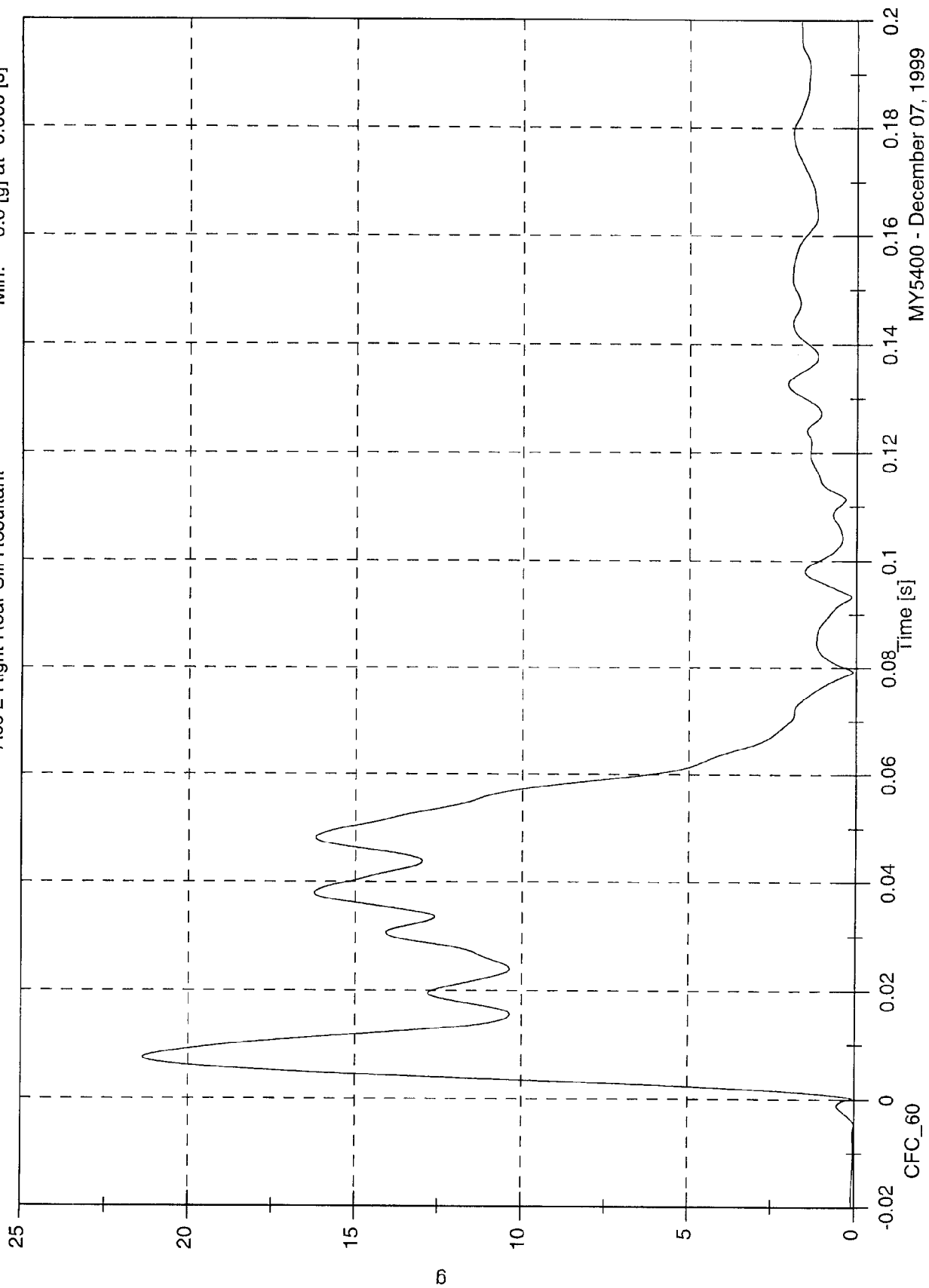
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 2 Right Rear Sill Resultant

Max: 21.4 [g] at 0.007 [s]

Min: 0.0 [g] at -0.005 [s]



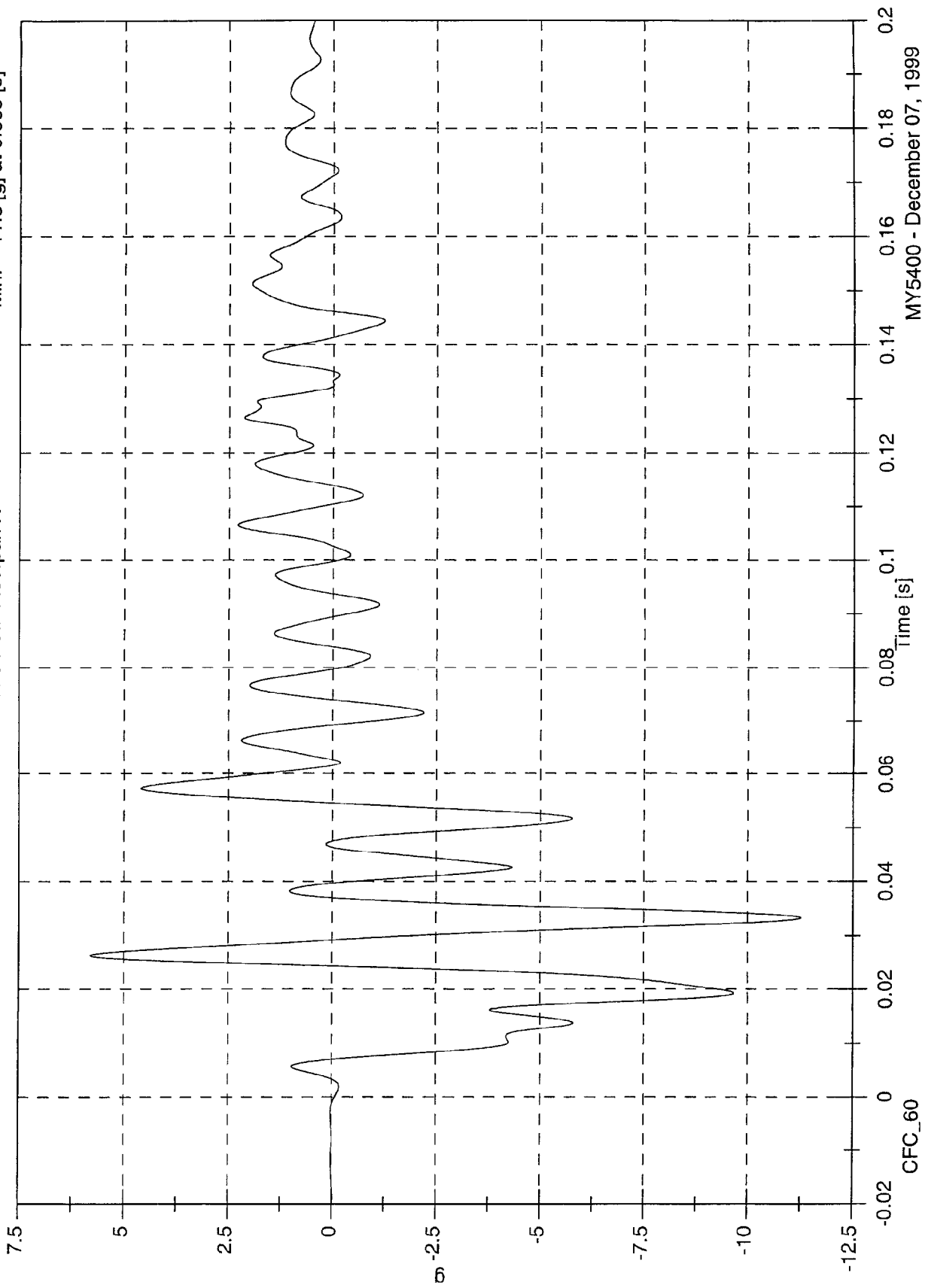
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 3 Rear Floorpan X

Max: 5.8 [g] at 0.026 [s]

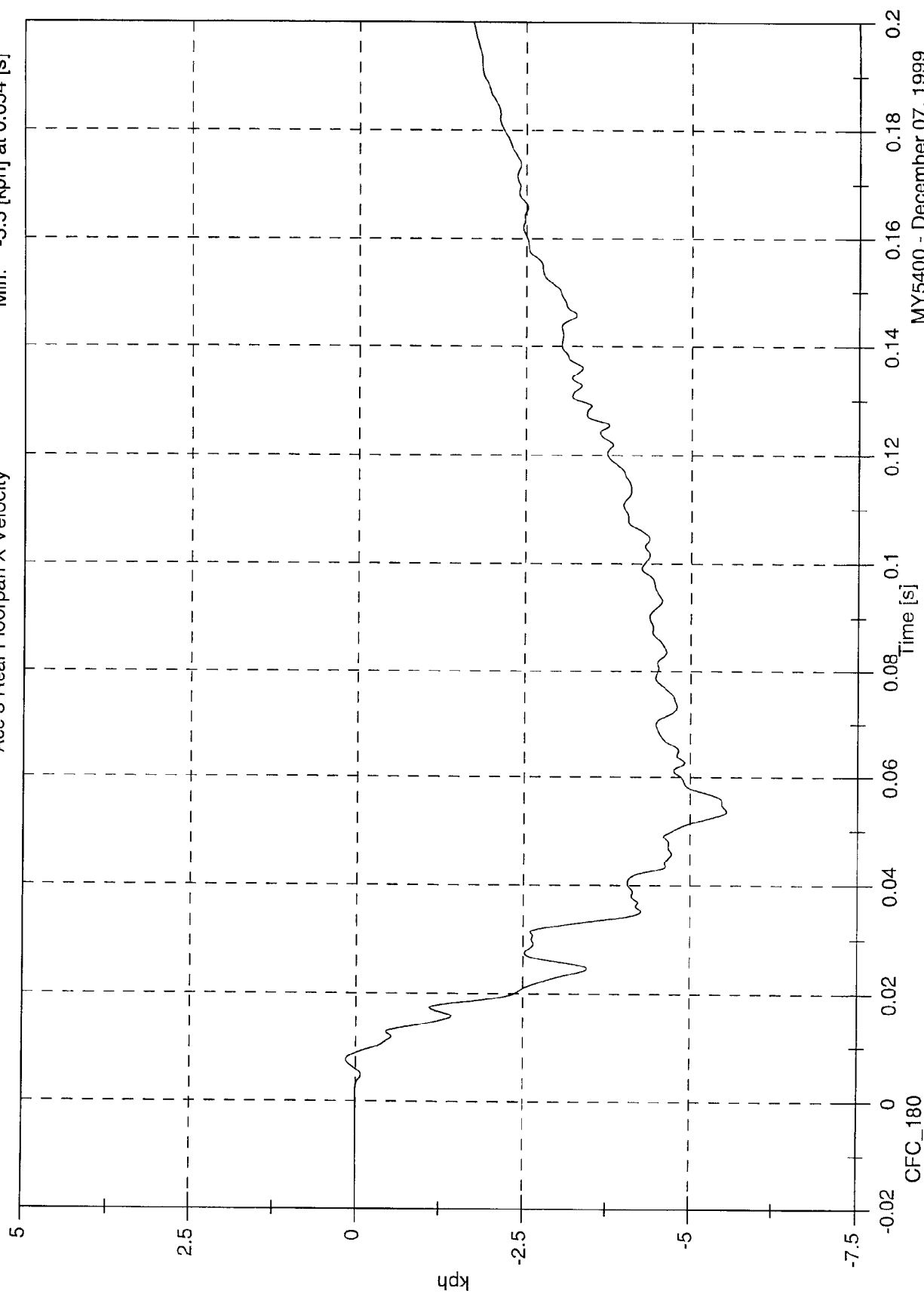
Min: -11.3 [g] at 0.033 [s]



SNCAP 2000 Test# 5 - Mazda MPV

Max: 4.6 [kph] at 0.500 [s]
Min: -5.5 [kph] at 0.054 [s]

Acc 3 Rear Floorpan X Velocity

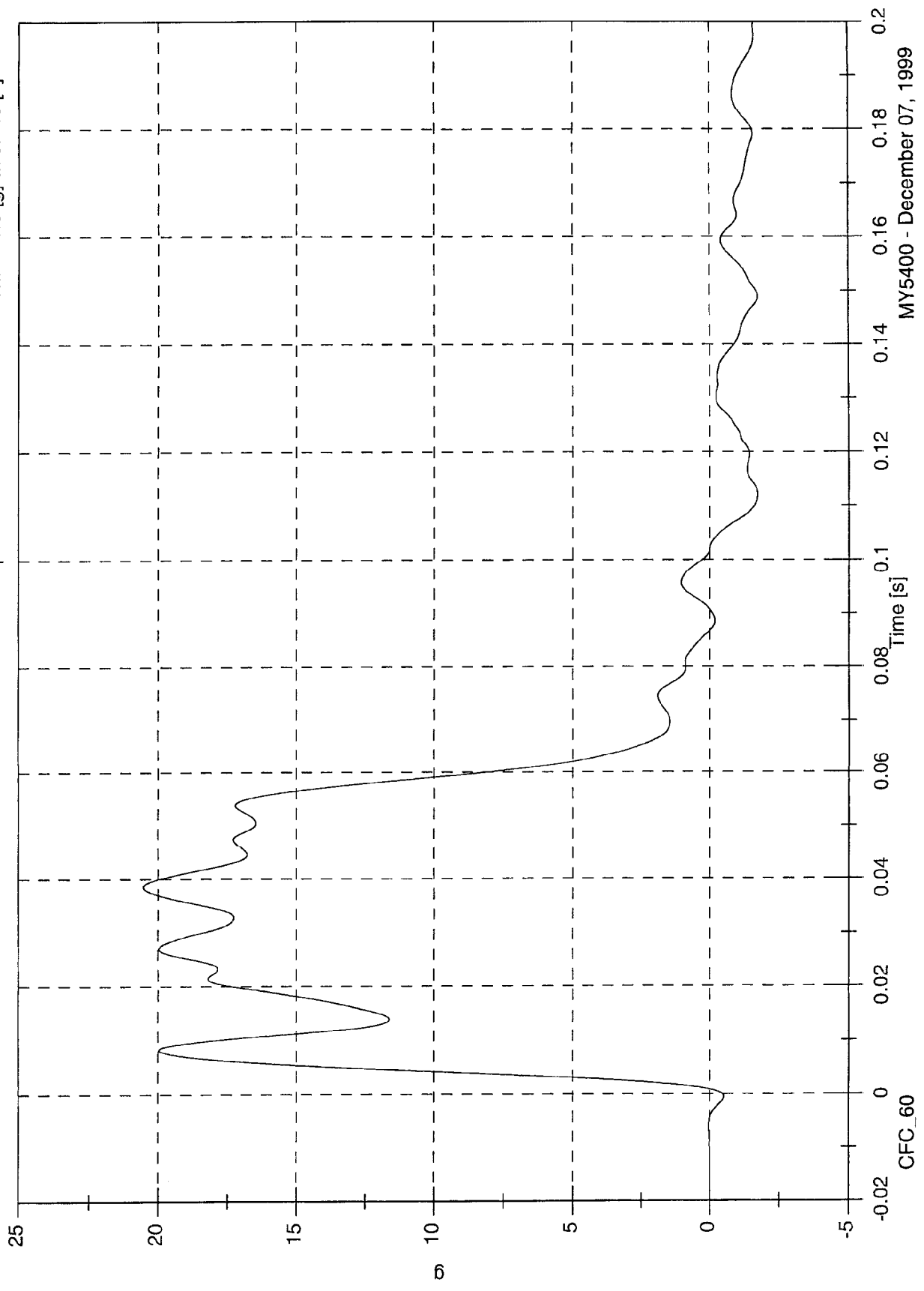


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 3 Rear Floorpan Y

Max: 20.5 [g] at 0.039 [s]
Min: -1.8 [g] at 0.149 [s]



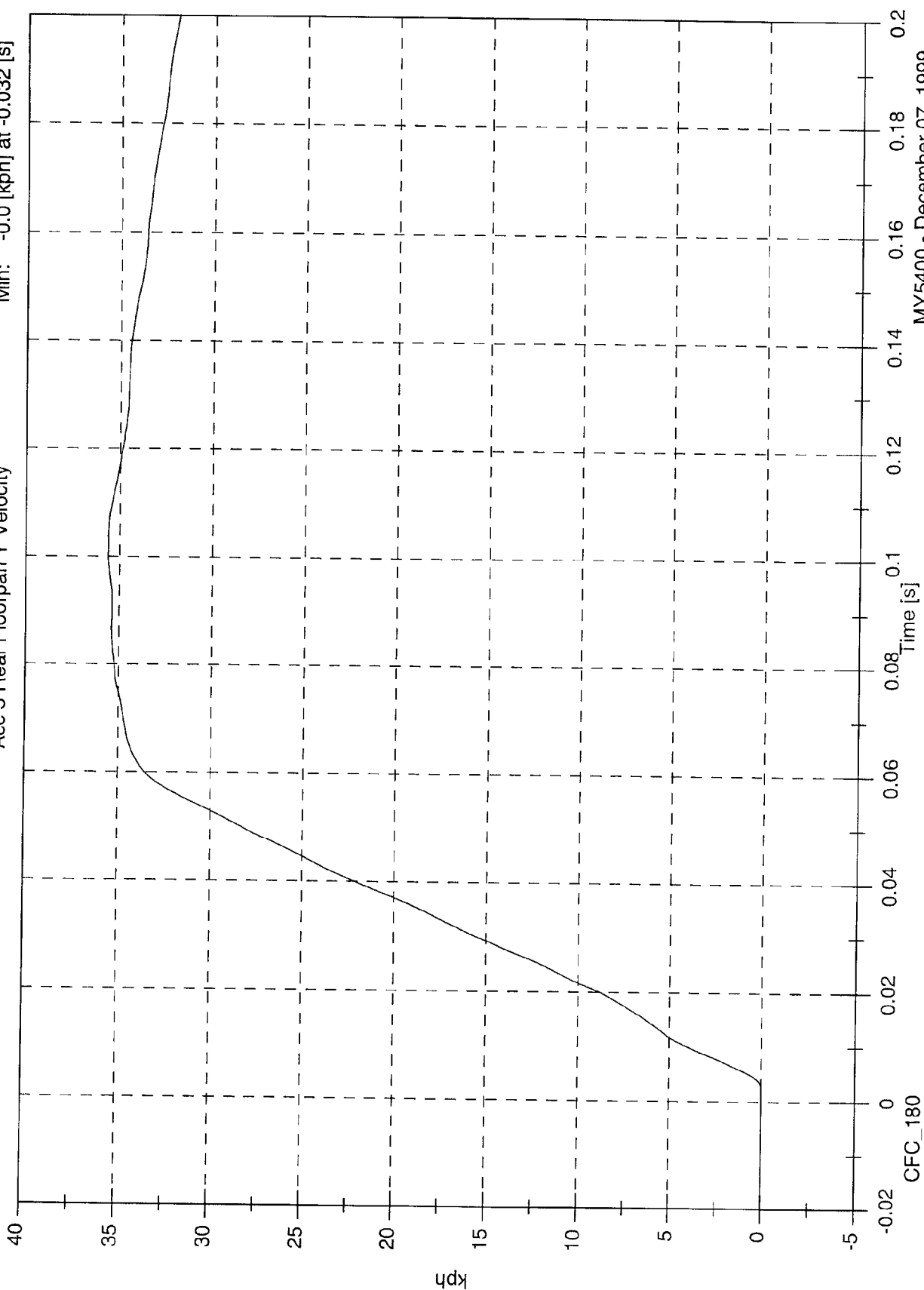
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 35.6 [kph] at 0.100 [s]

Min: -0.0 [kph] at -0.032 [s]

Acc 3 Rear Floorpan Y Velocity



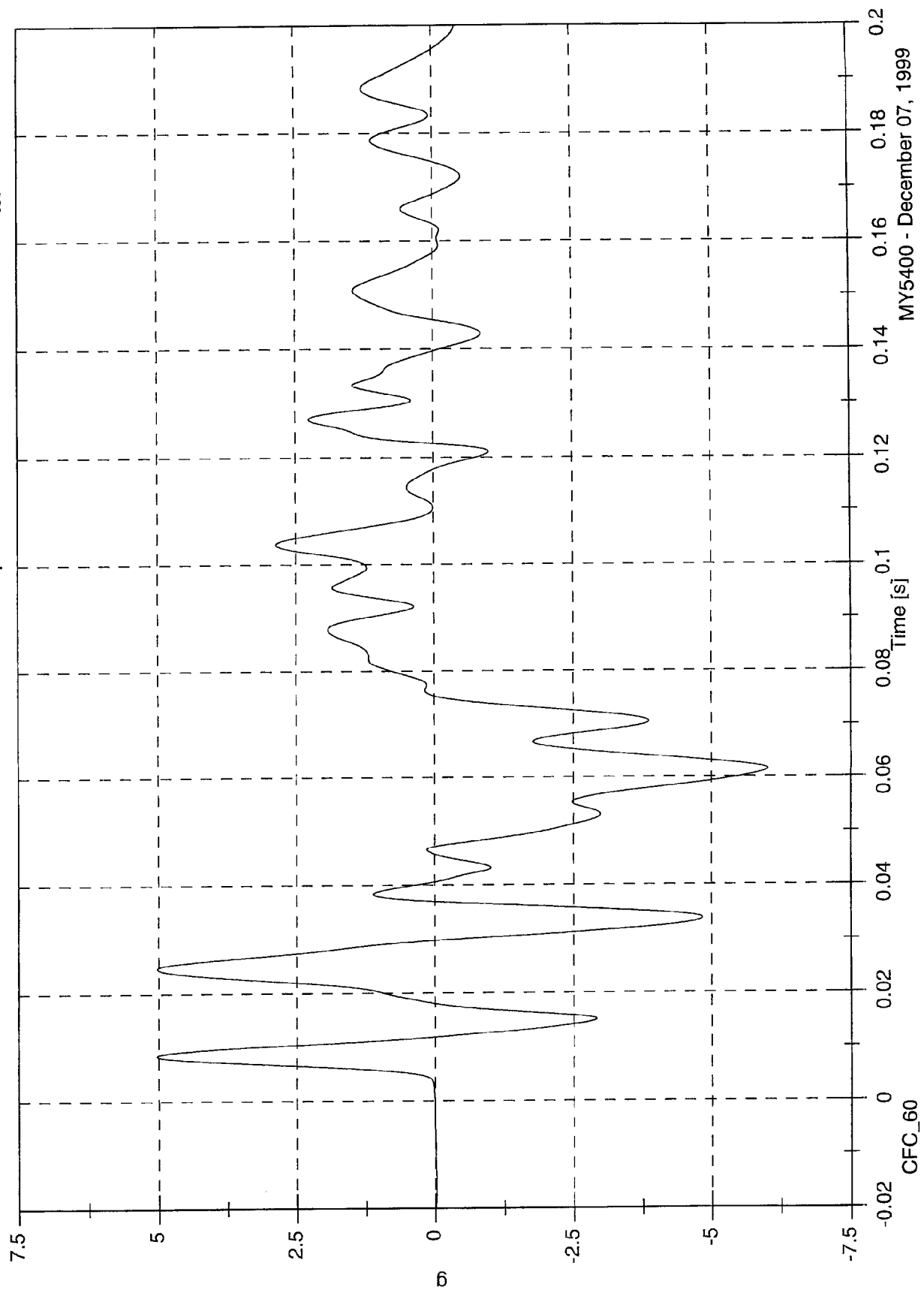
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 3 Rear Floorpan Z

Max: 5.0 [g] at 0.008 [s]

Min: -6.0 [g] at 0.061 [s]

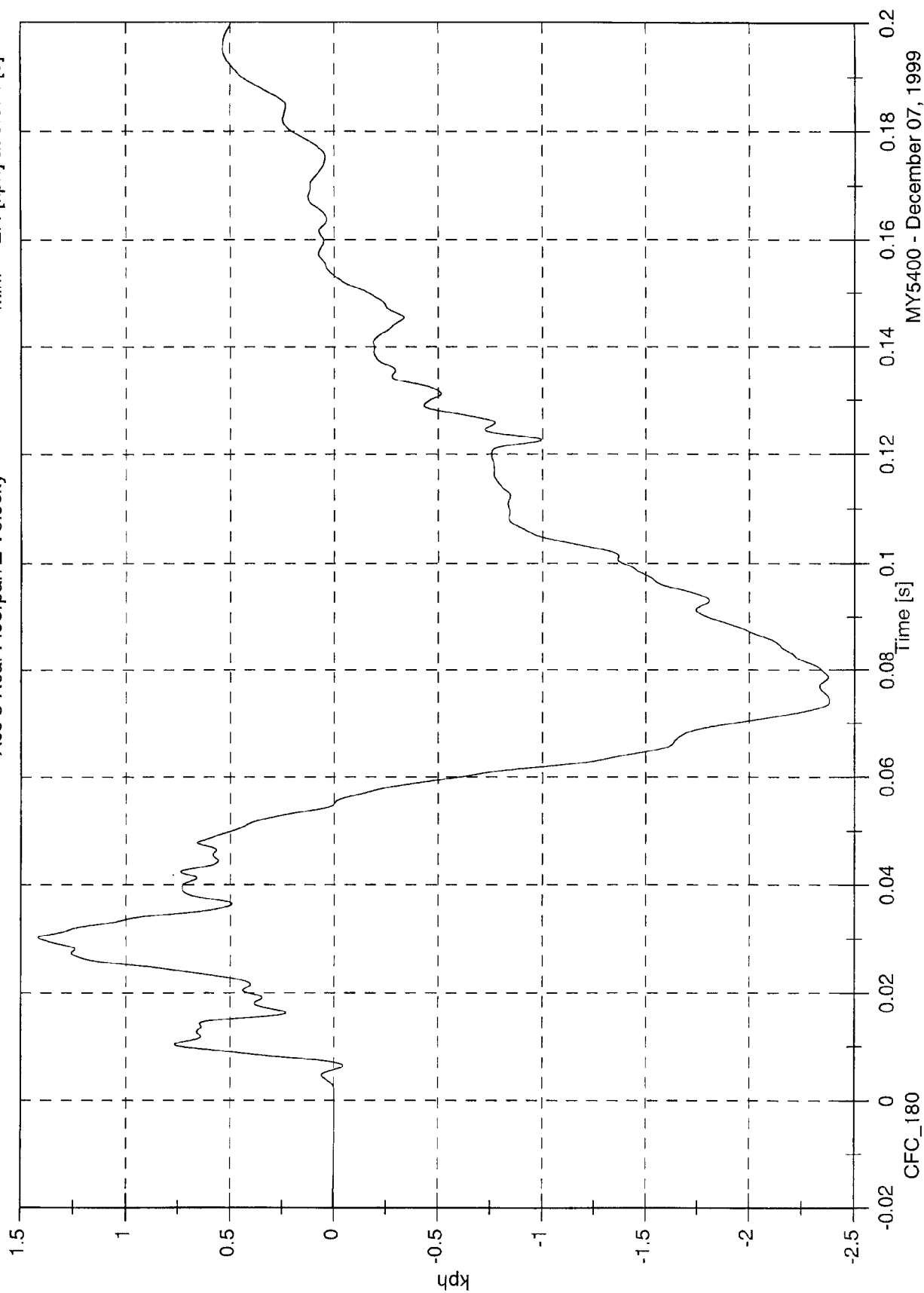


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 1.4 [kph] at 0.030 [s]
Min: -2.4 [kph] at 0.074 [s]

Acc 3 Rear Floorpan Z Velocity

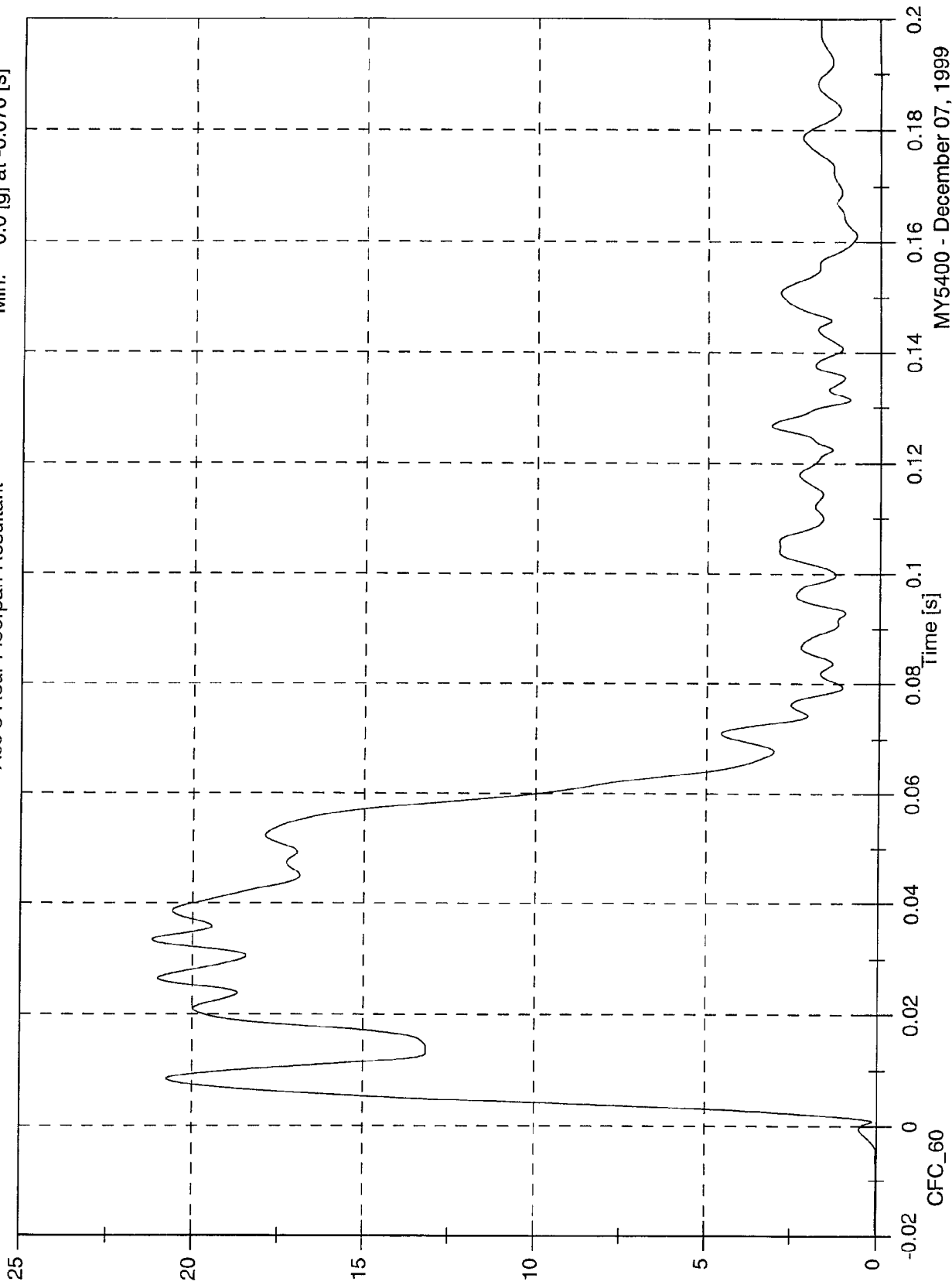


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 21.2 [g] at 0.033 [s]
Min: 0.0 [g] at -0.070 [s]

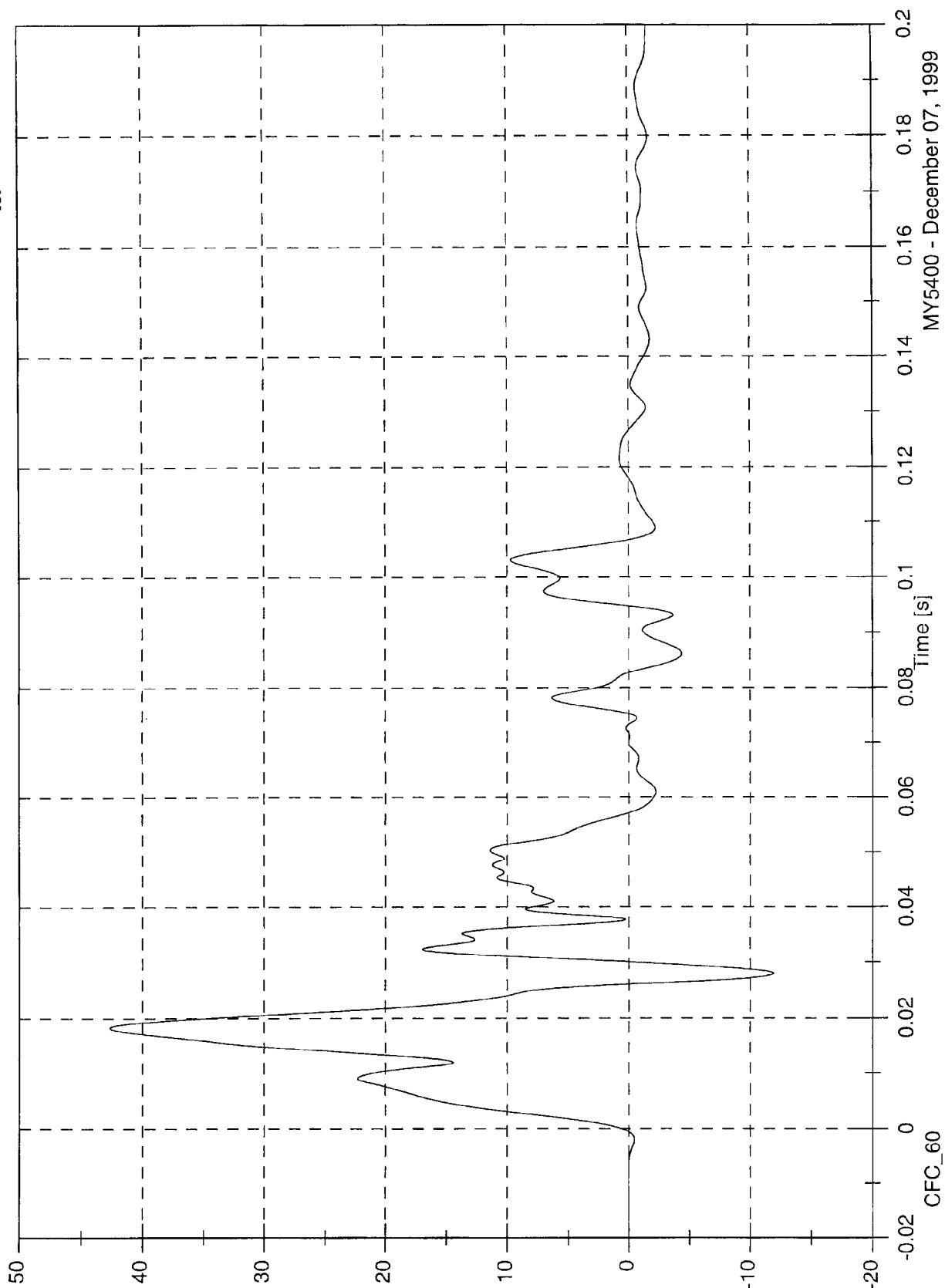
Acc 3 Rear Floorpan Resultant



SNCAP 2000 Test# 5 - Mazda MPV

Max: 42.7 [g] at 0.018 [s]
Min: -11.9 [g] at 0.028 [s]

Acc 4 Left Rear Sill Y

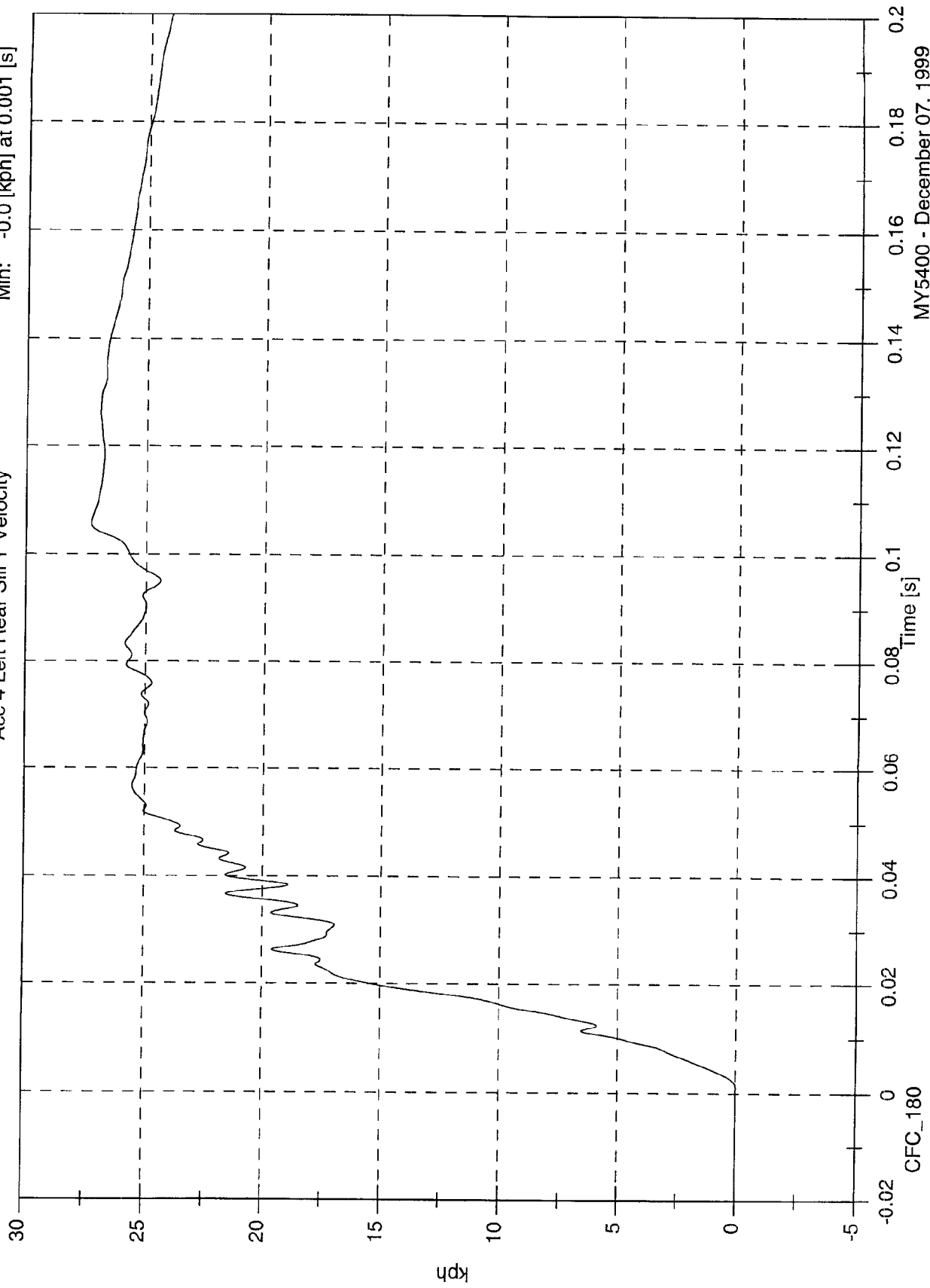


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 27.3 [kph] at 0.106 [s]
 Min: -0.0 [kph] at 0.001 [s]

Acc 4 Left Rear Sill Y Velocity

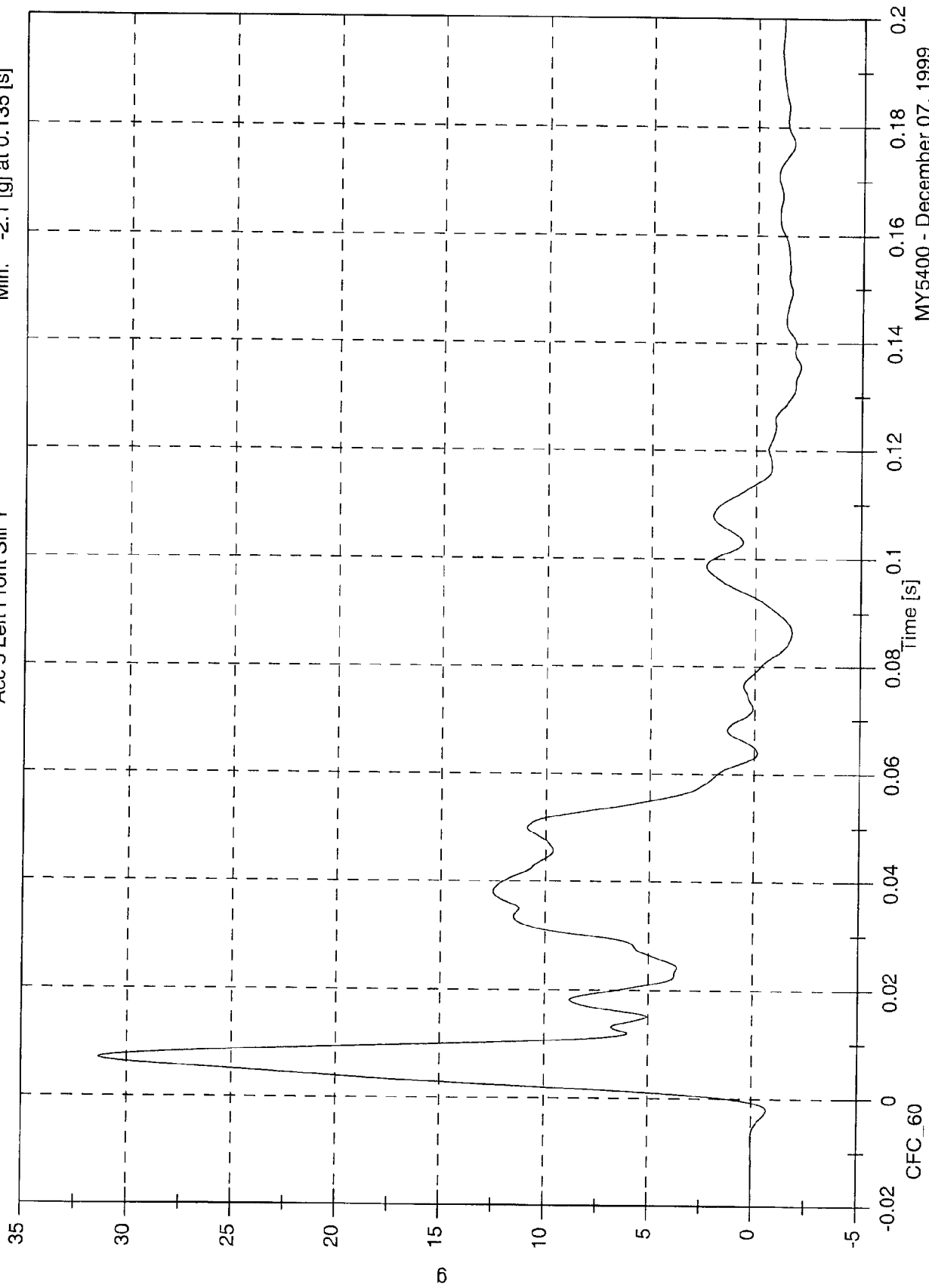


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 31.4 [g] at 0.007 [s]
Min: -2.1 [g] at 0.135 [s]

Acc 5 Left Front Sill Y

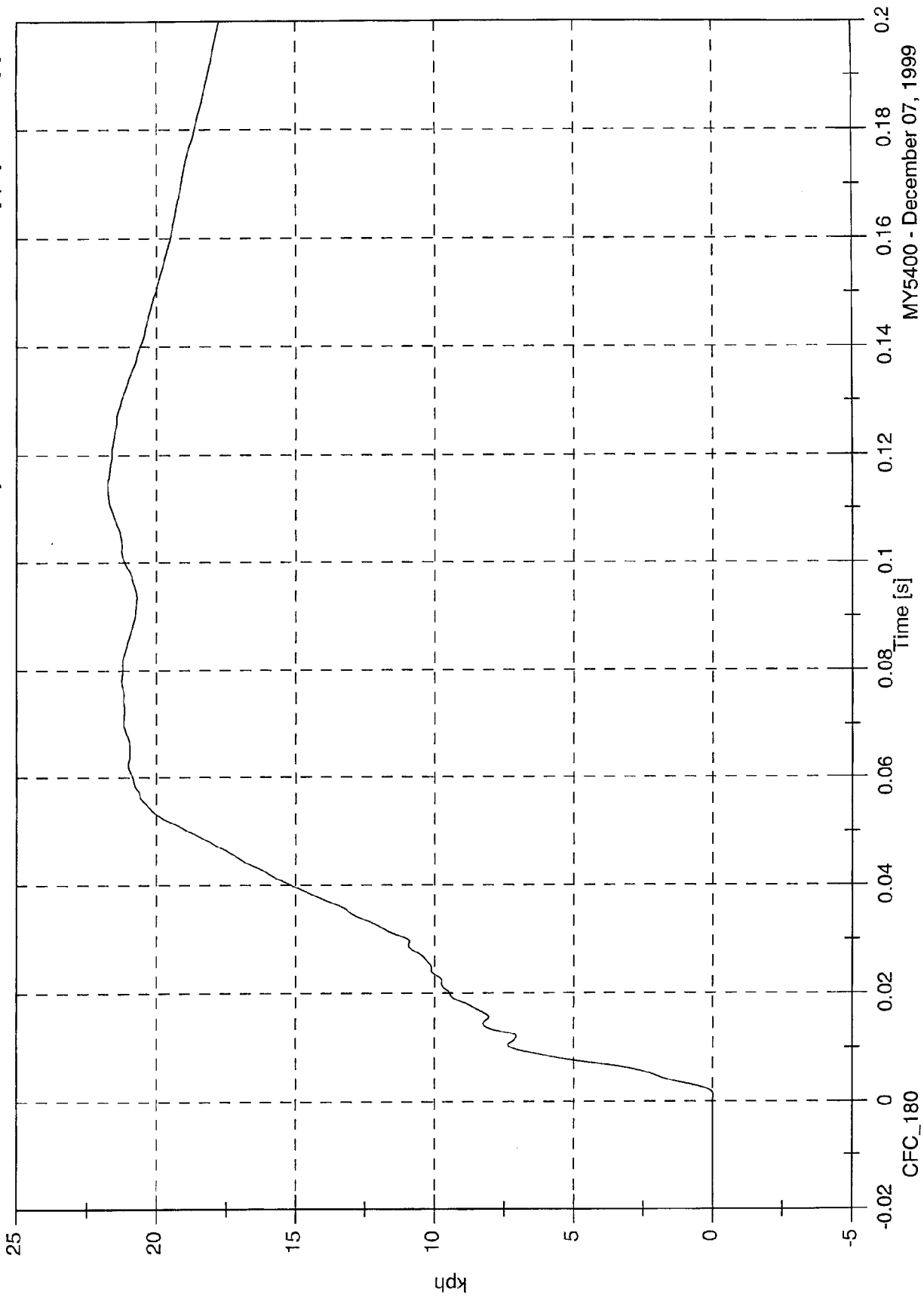


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 5 Left Front Sill Y Velocity

Max: 21.8 [kph] at 0.114 [s]
Min: -0.0 [kph] at 0.001 [s]

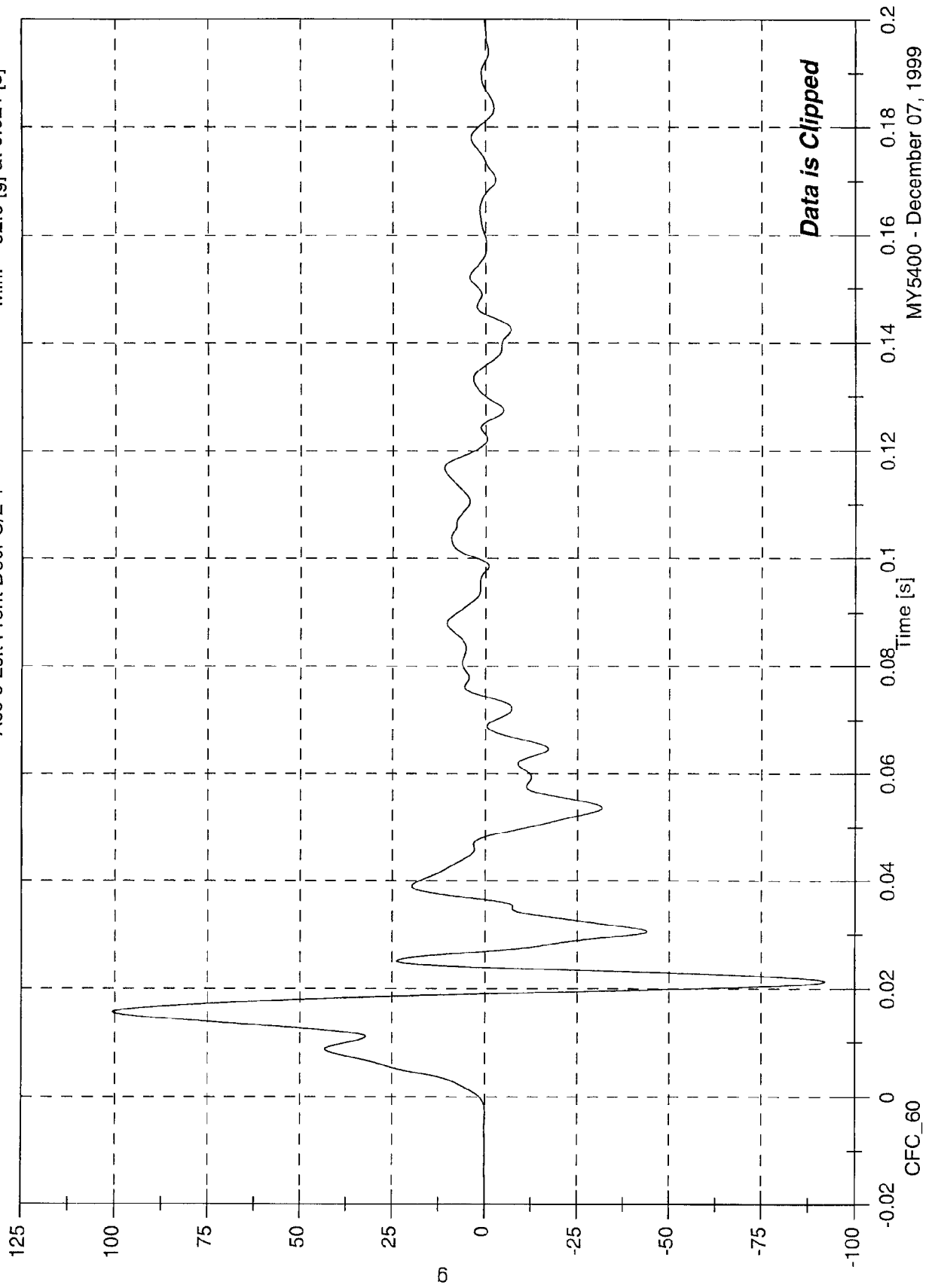


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 6 Left Front Door C/L Y

Max: 100.7 [g] at 0.016 [s]
Min: -92.0 [g] at 0.021 [s]

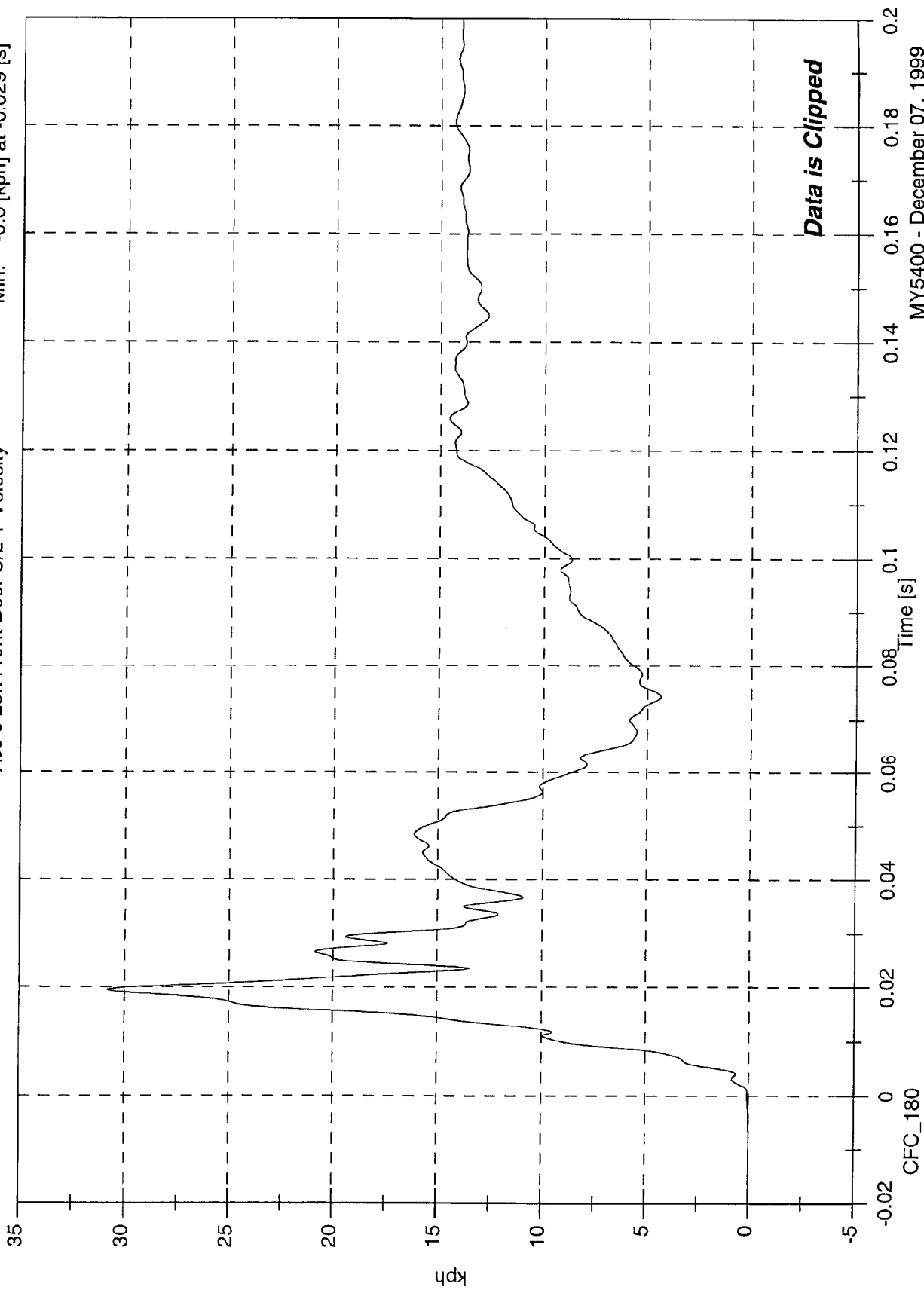


SNCAP 2000 Test# 5 - Mazda MPV

Max: 30.8 [kph] at 0.019 [s]

Min: -0.0 [kph] at -0.029 [s]

Acc 6 Left Front Door C/L Y Velocity



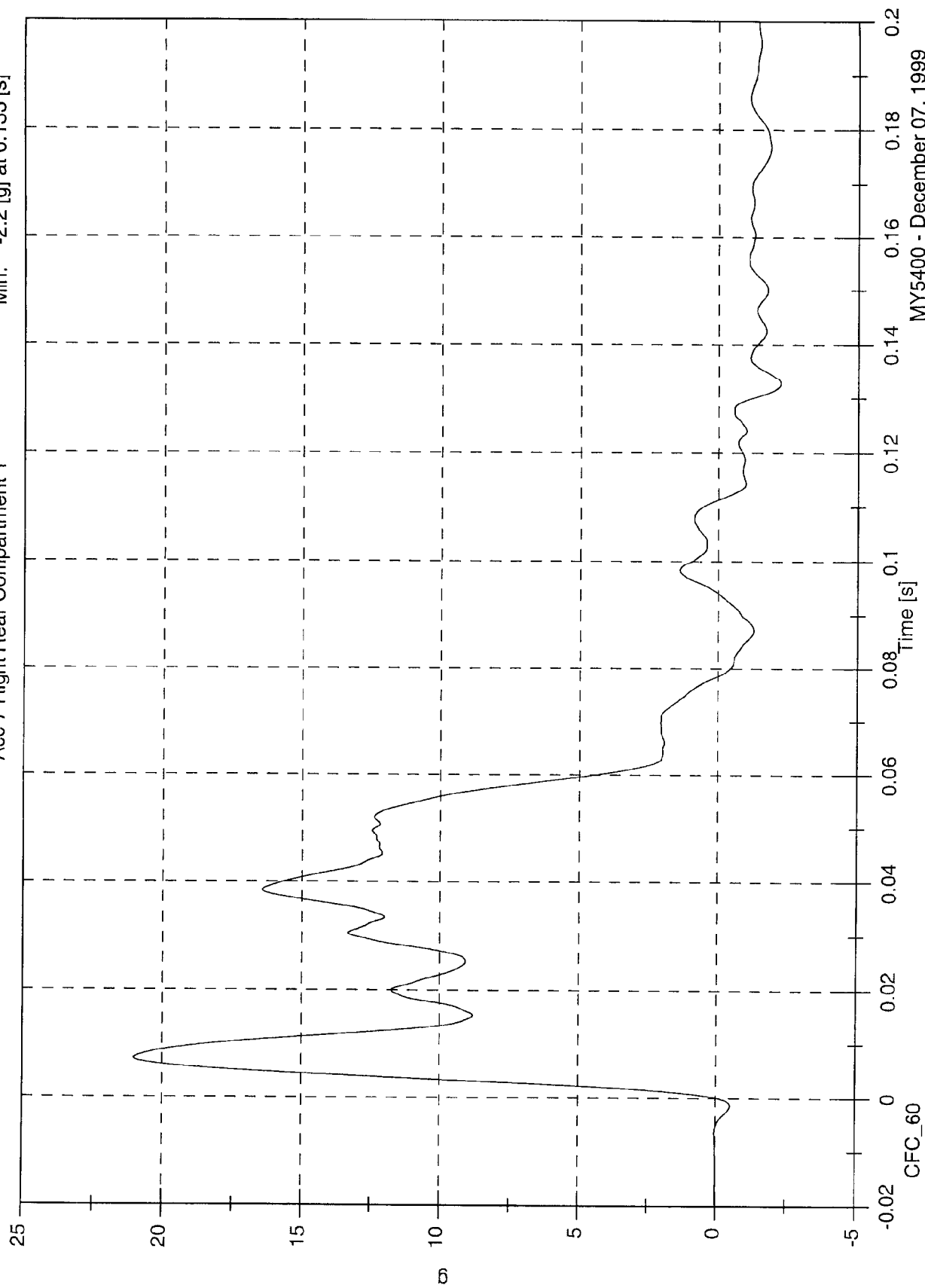
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 7 Right Rear Compartment Y

Max: 21.0 [g] at 0.007 [s]

Min: -2.2 [g] at 0.133 [s]



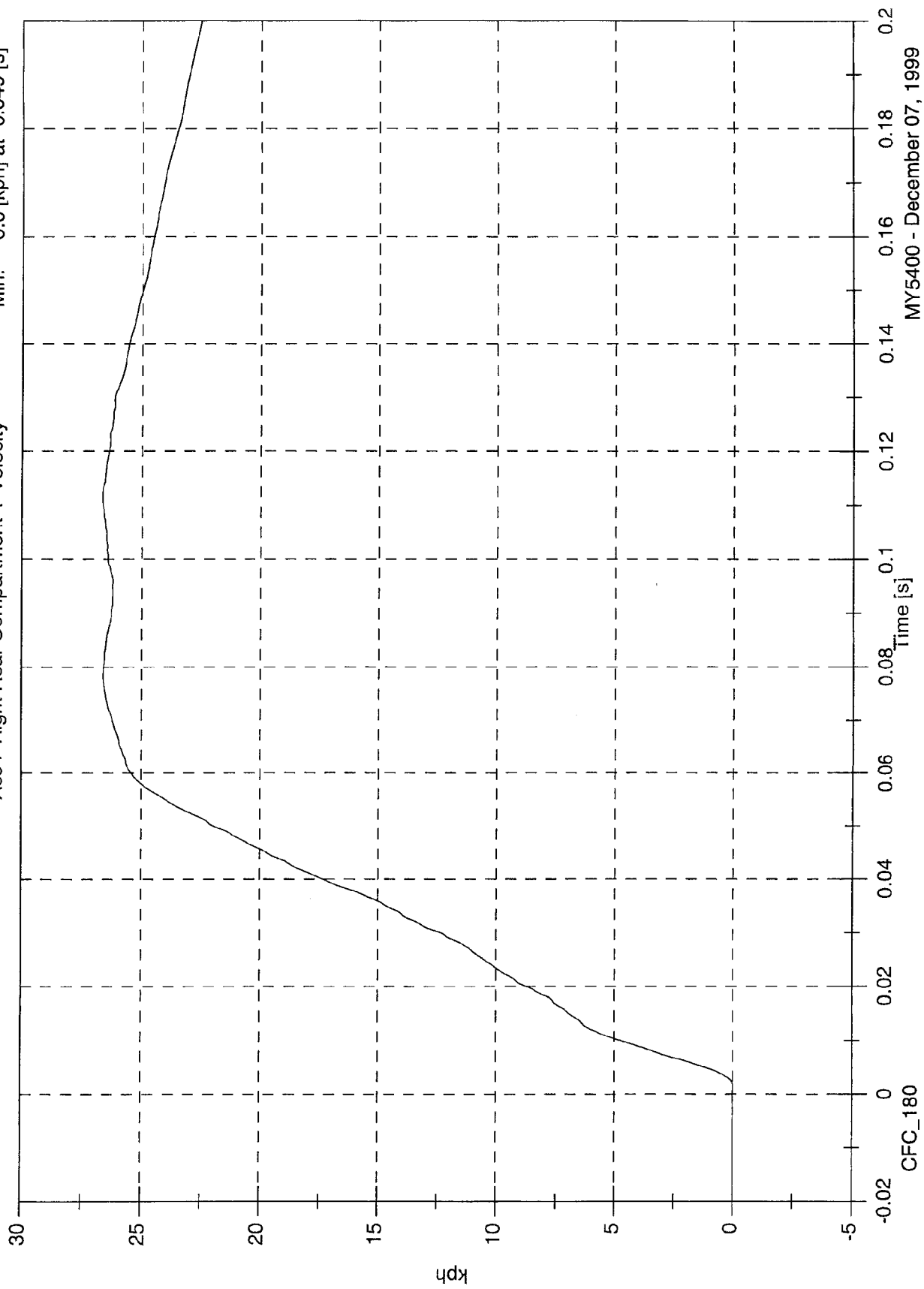
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 26.7 [kph] at 0.111 [s]

Min: -0.0 [kph] at -0.049 [s]

Acc 7 Right Rear Compartment Y Velocity



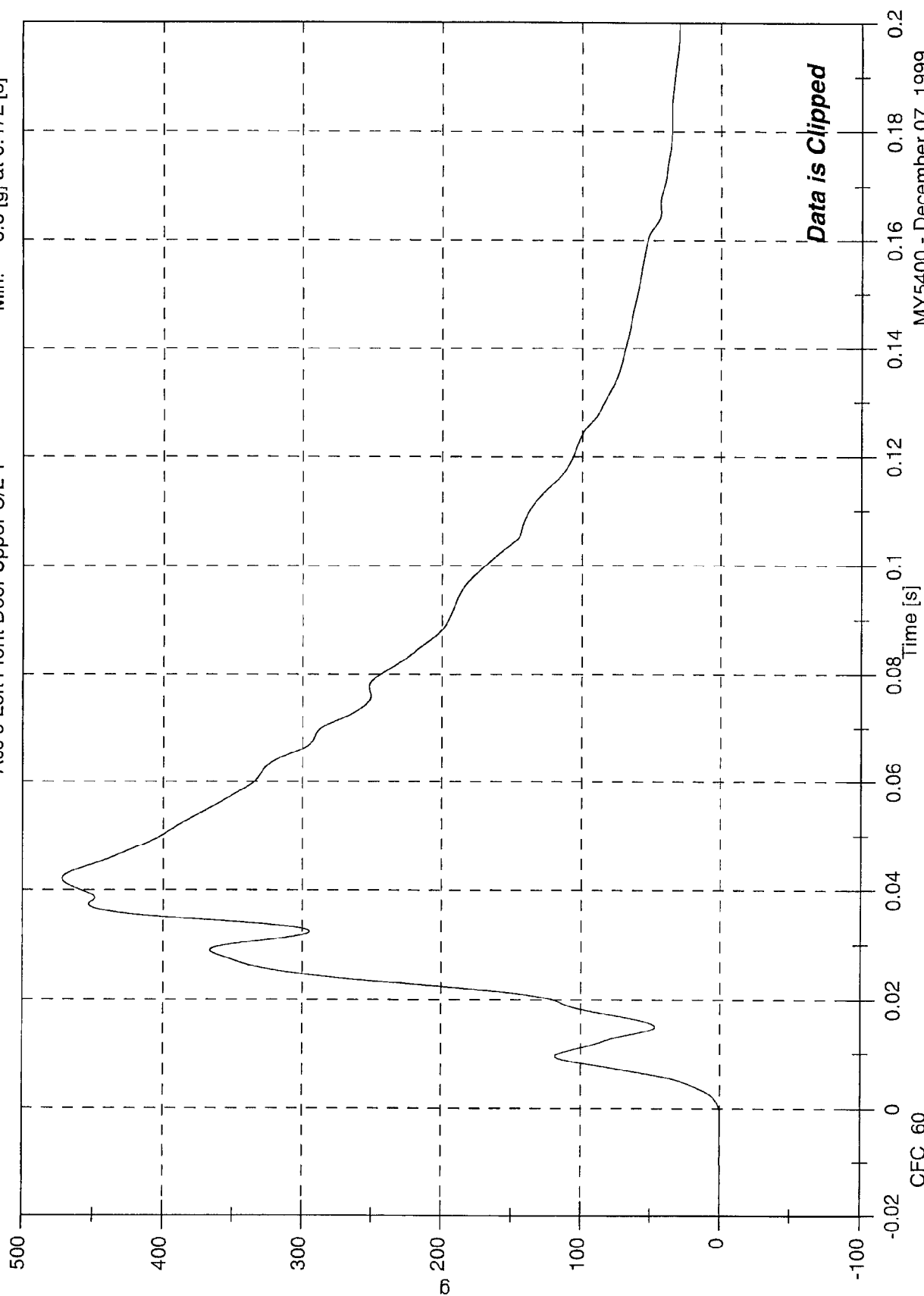
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 9 Left Front Door Upper C/L Y

Max: 471.8 [g] at 0.042 [s]

Min: -6.6 [g] at 0.472 [s]



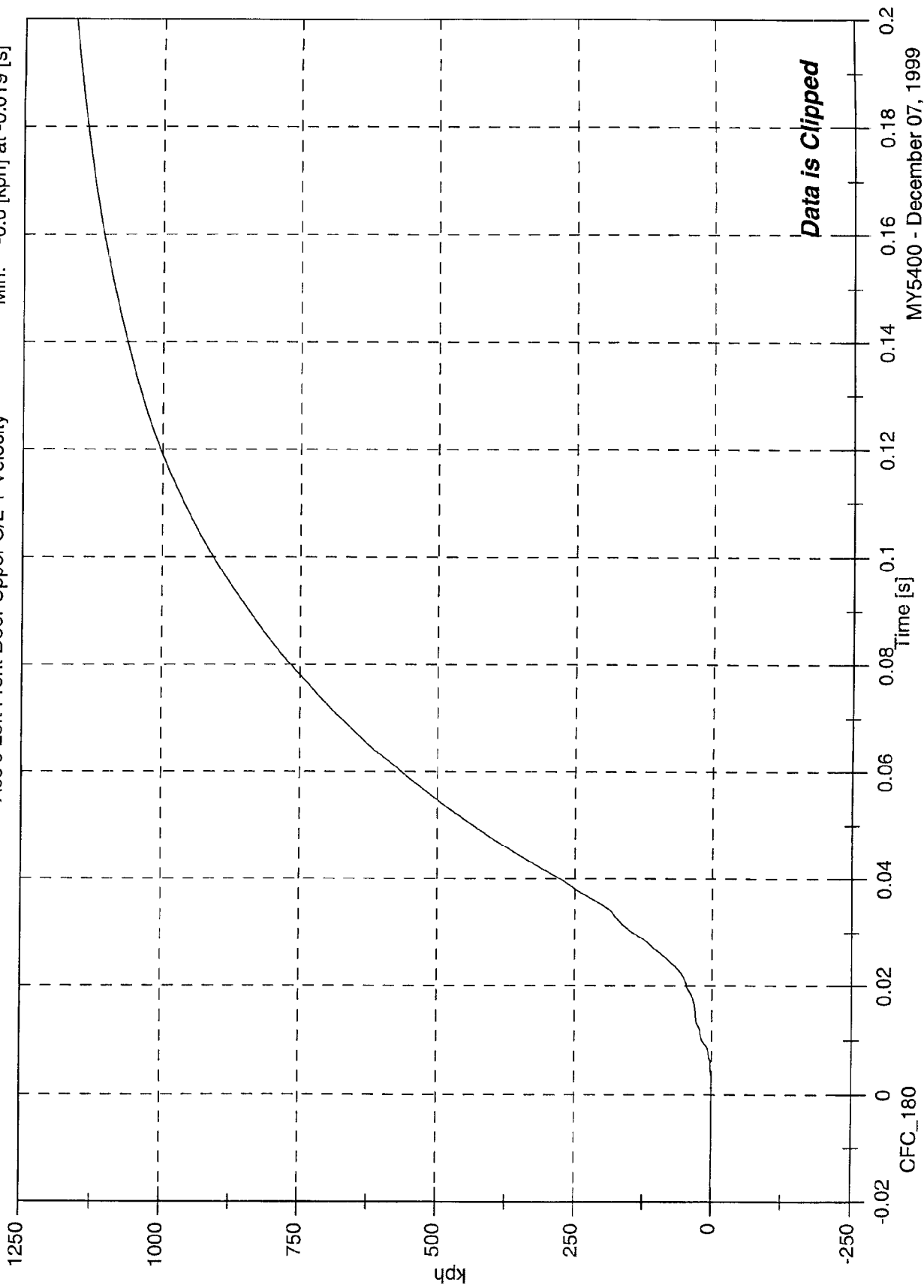
Data is Clipped

MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 1224.6 [kph] at 0.388 [s]
Min: -0.0 [kph] at -0.019 [s]

Acc 9 Left Front Door Upper C/L Y Velocity

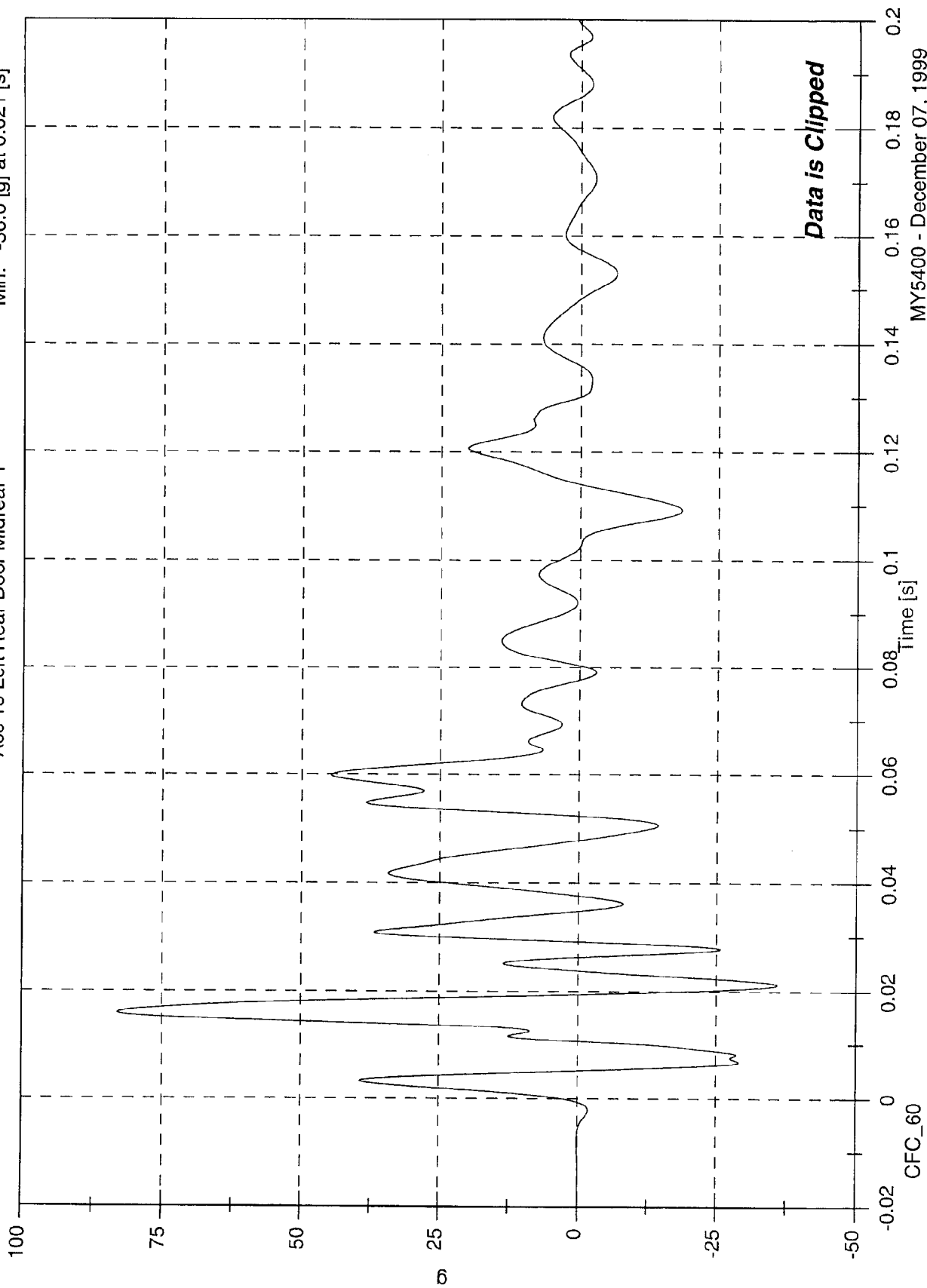


SNCAP 2000 Test# 5 - Mazda MPV

Max: 82.9 [g] at 0.016 [s]

Min: -36.0 [g] at 0.021 [s]

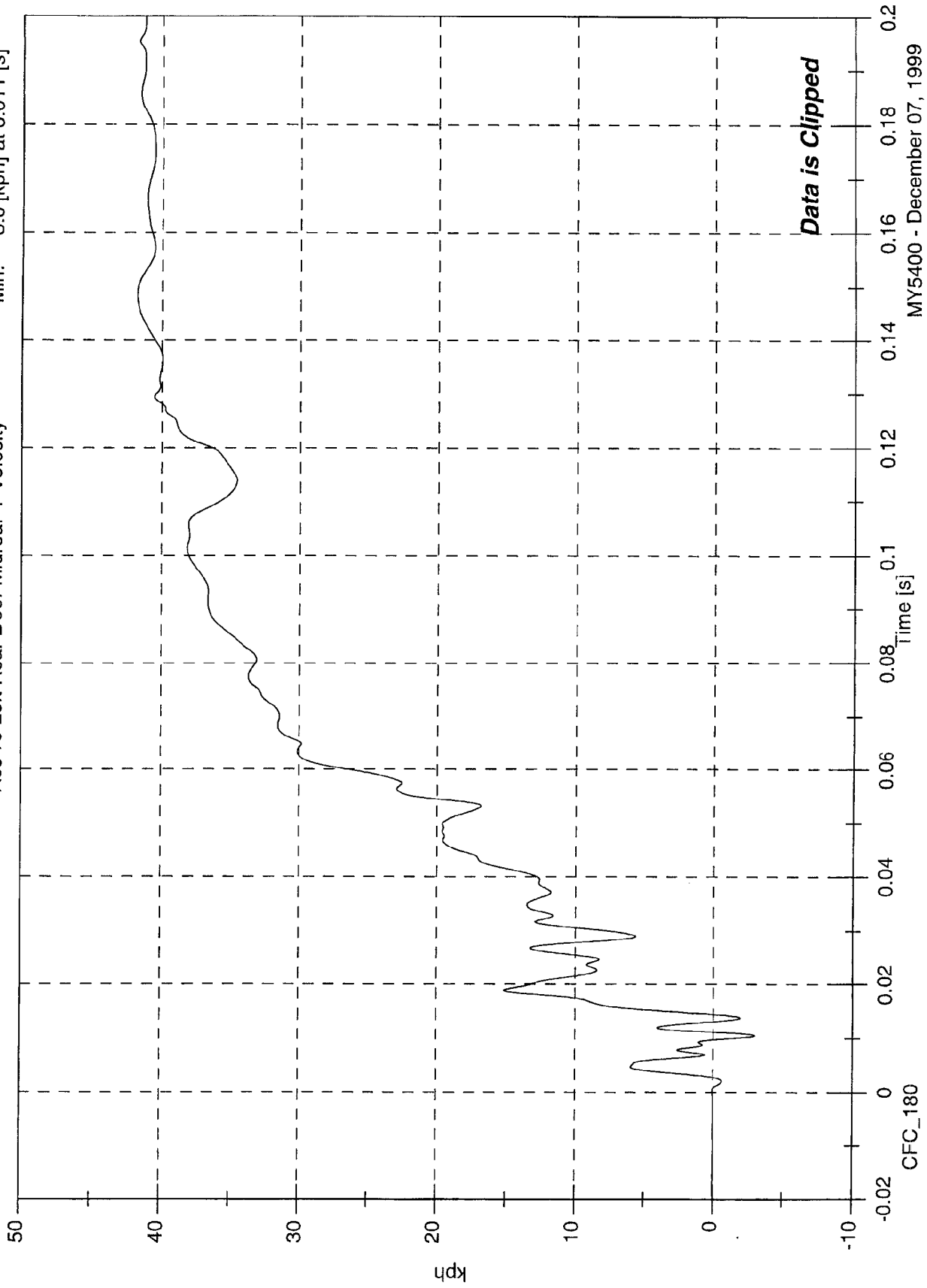
Acc 10 Left Rear Door Midrear Y



SNCAP 2000 Test# 5 - Mazda MPV

Max: 41.8 [kph] at 0.149 [s]
 Min: -3.0 [kph] at 0.011 [s]

Acc 10 Left Rear Door Midrear Y Velocity



Data is Clipped

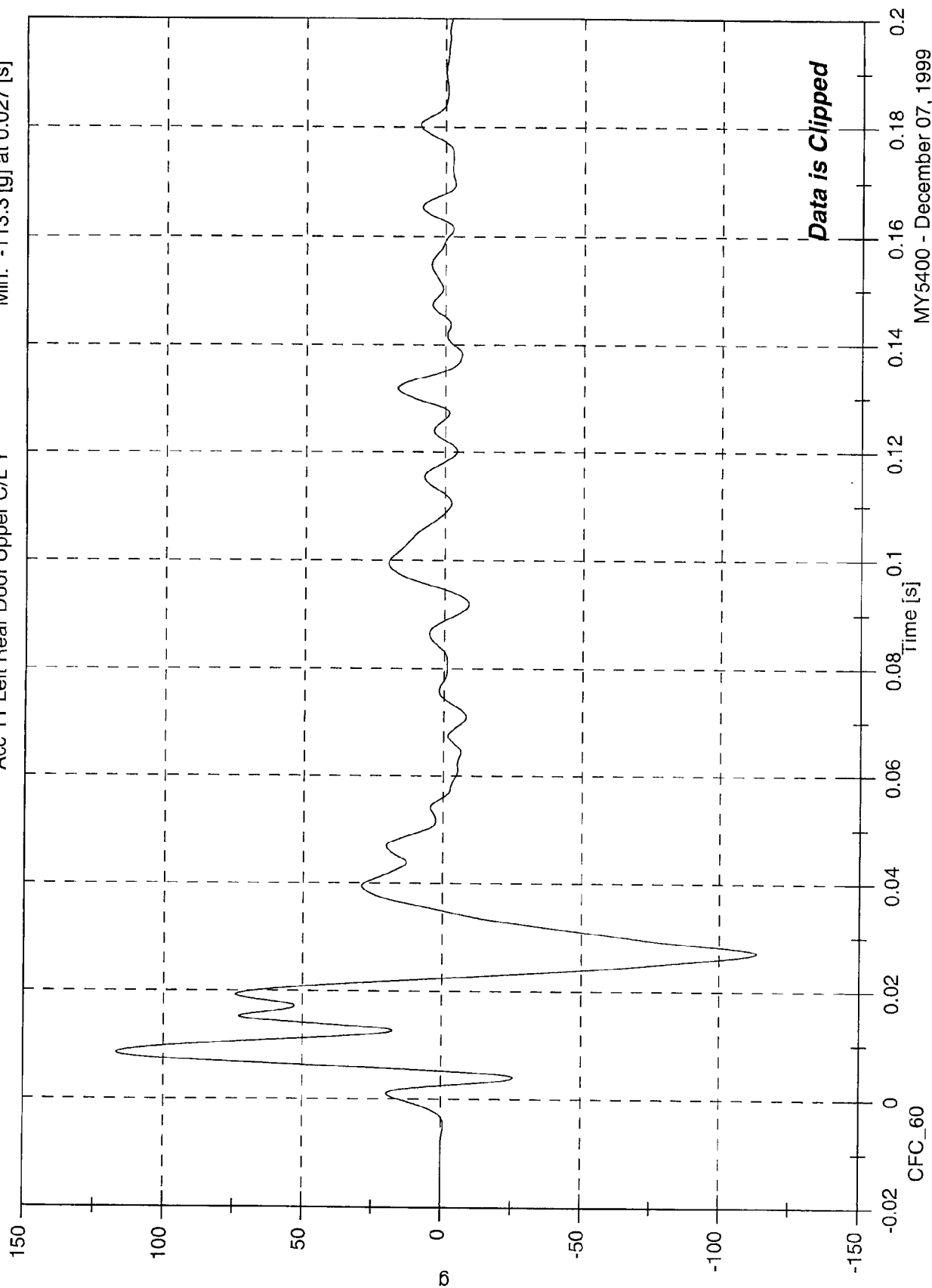
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 117.0 [g] at 0.008 [s]

Min: -113.3 [g] at 0.027 [s]

Acc 11 Left Rear Door Upper C/L Y

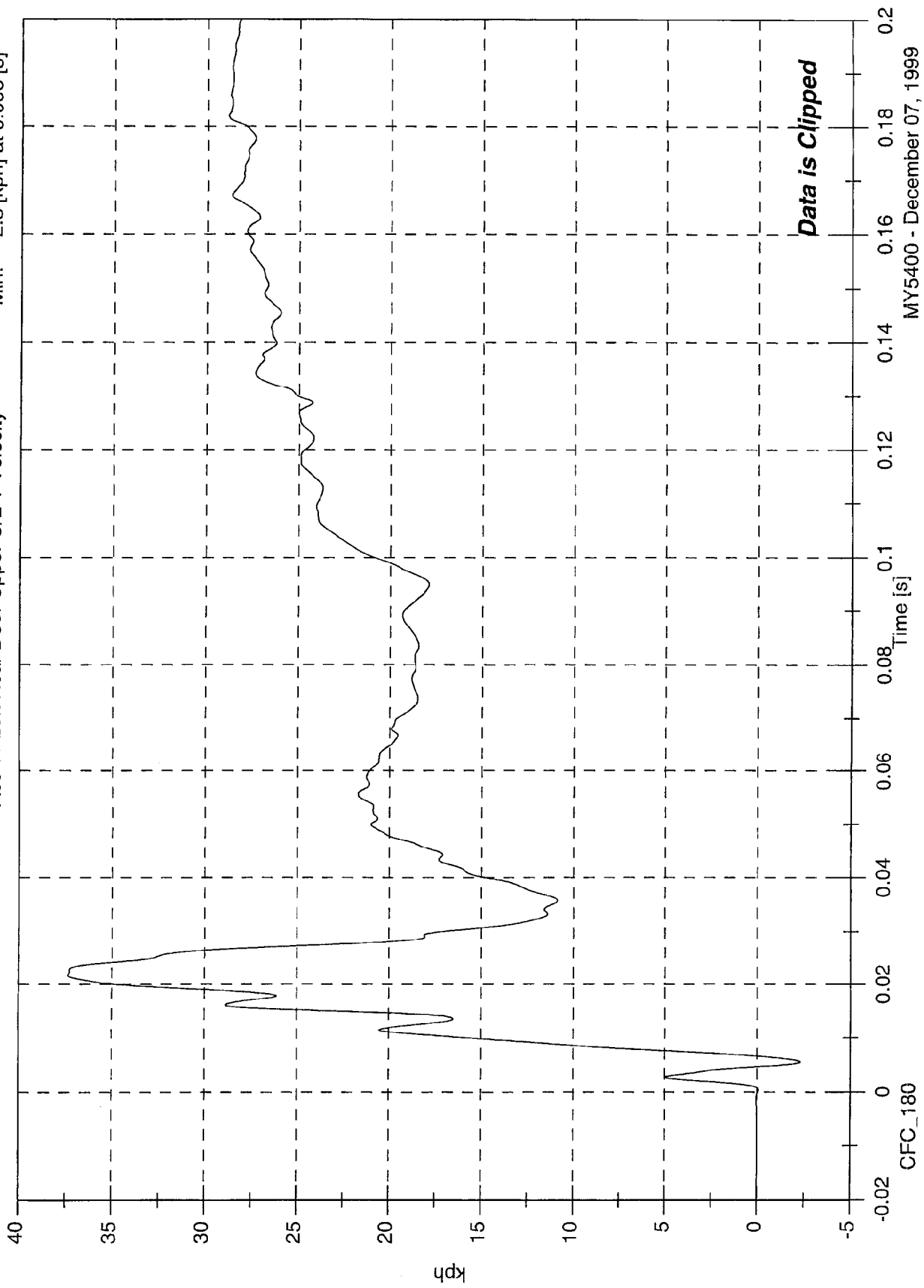


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 37.4 [kph] at 0.022 [s]
 Min: -2.3 [kph] at 0.006 [s]

Acc 11 Left Rear Door Upper C/L Y Velocity



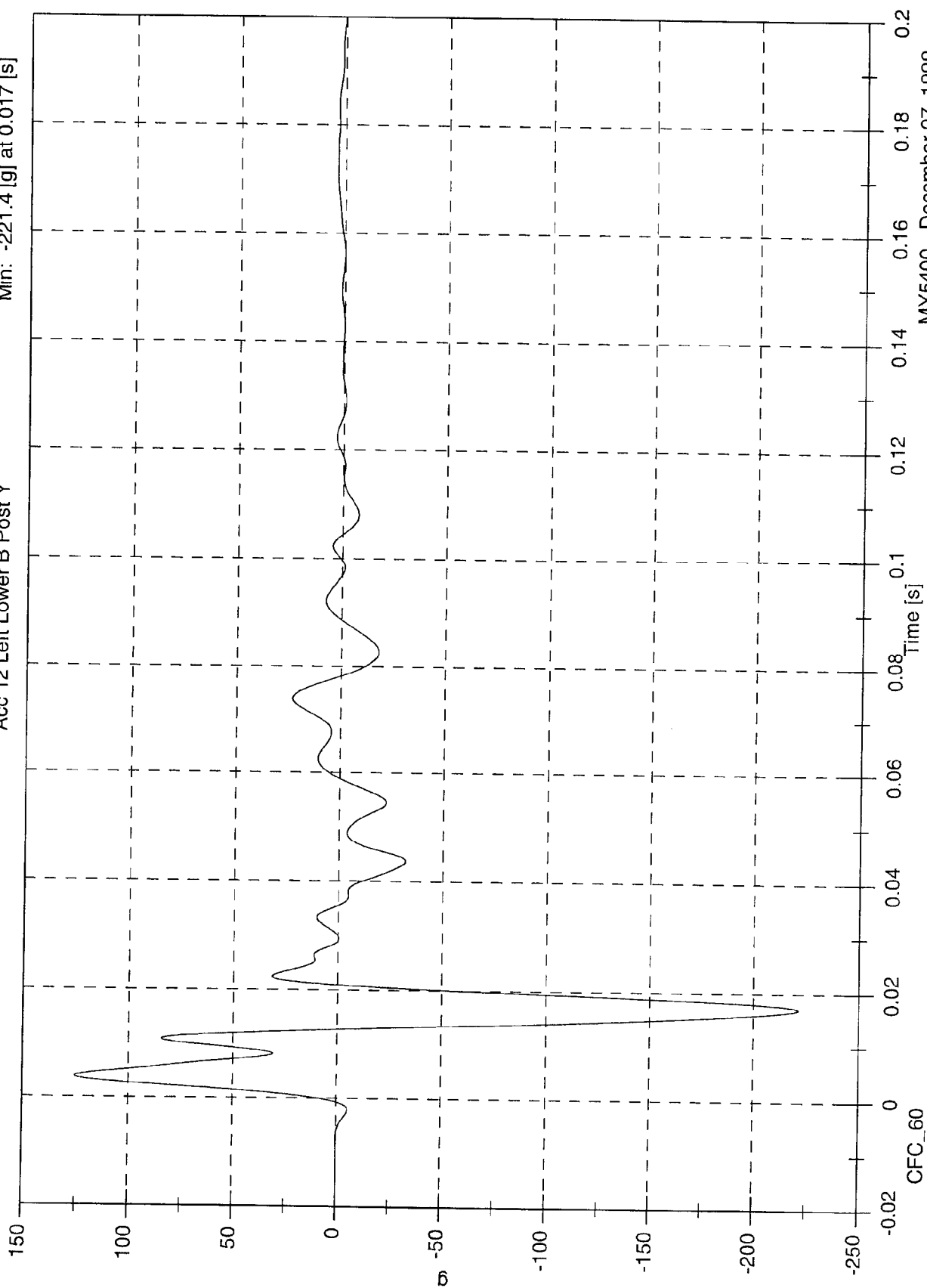
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 12 Left Lower B Post Y

Max: 125.4 [g] at 0.004 [s]

Min: -221.4 [g] at 0.017 [s]

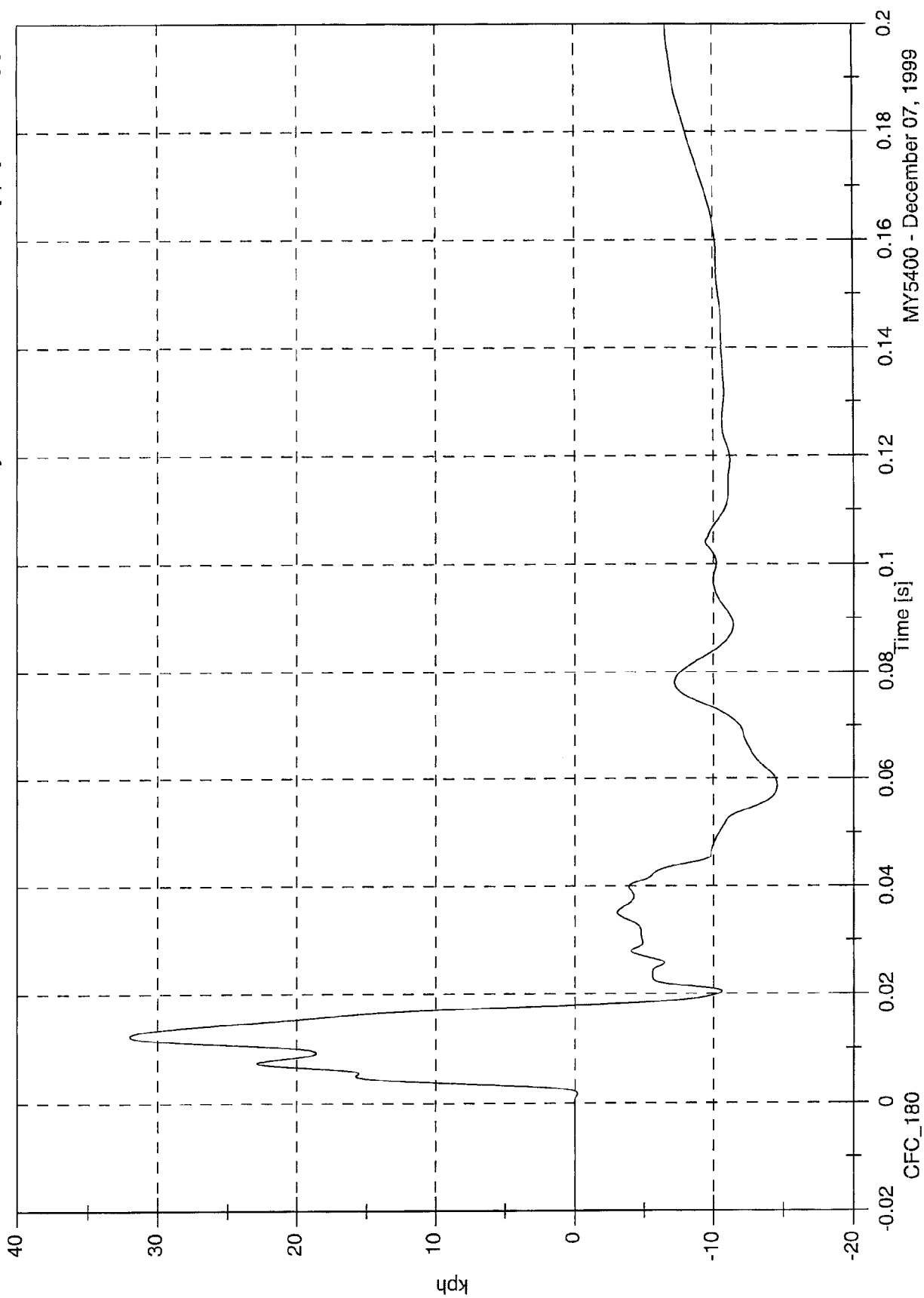


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 12 Left Lower B Post Y Velocity

Max: 32.0 [kph] at 0.013 [s]
Min: -14.6 [kph] at 0.059 [s]



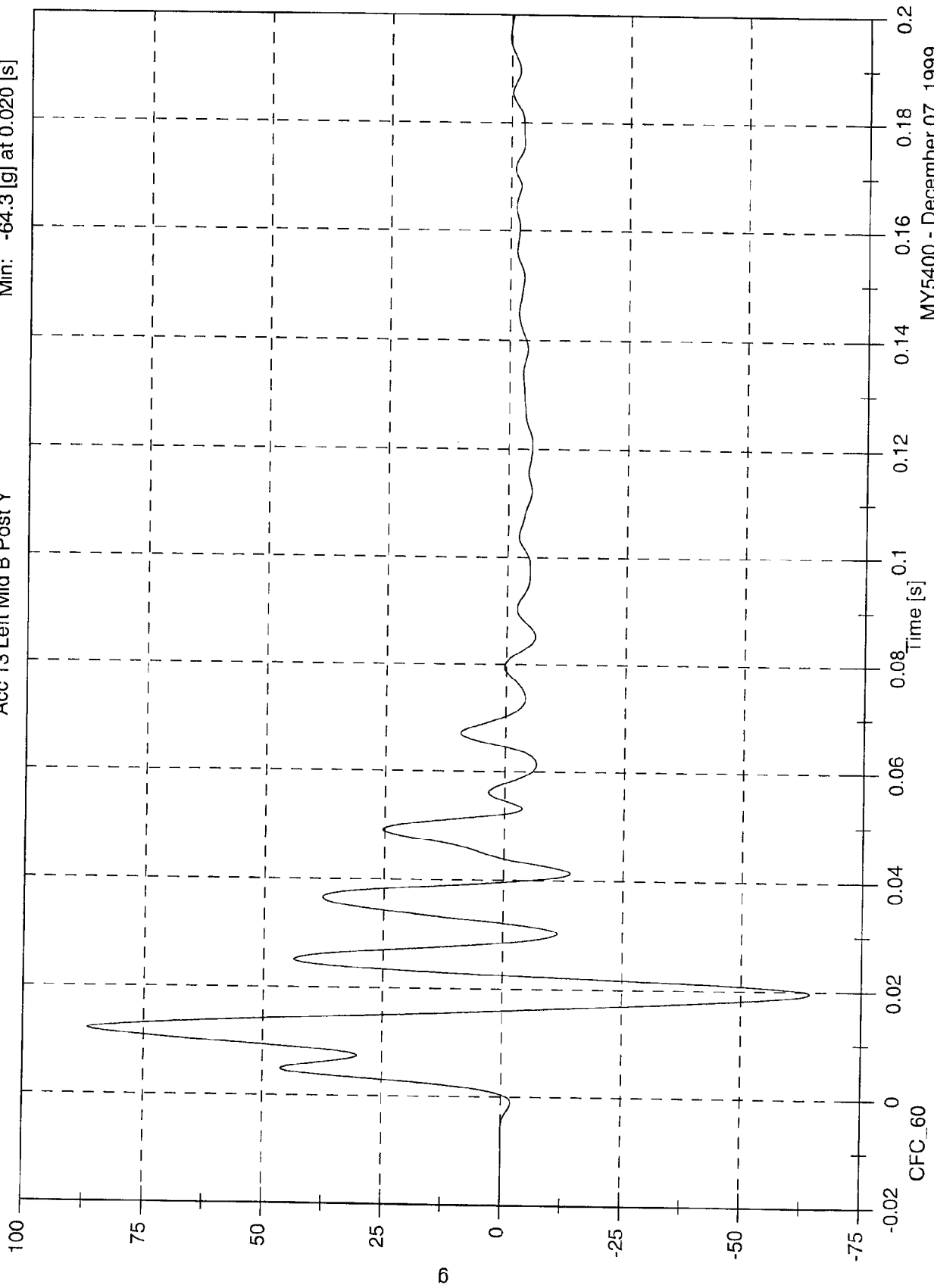
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 13 Left Mid B Post Y

Max: 86.6 [g] at 0.012 [s]

Min: -64.3 [g] at 0.020 [s]

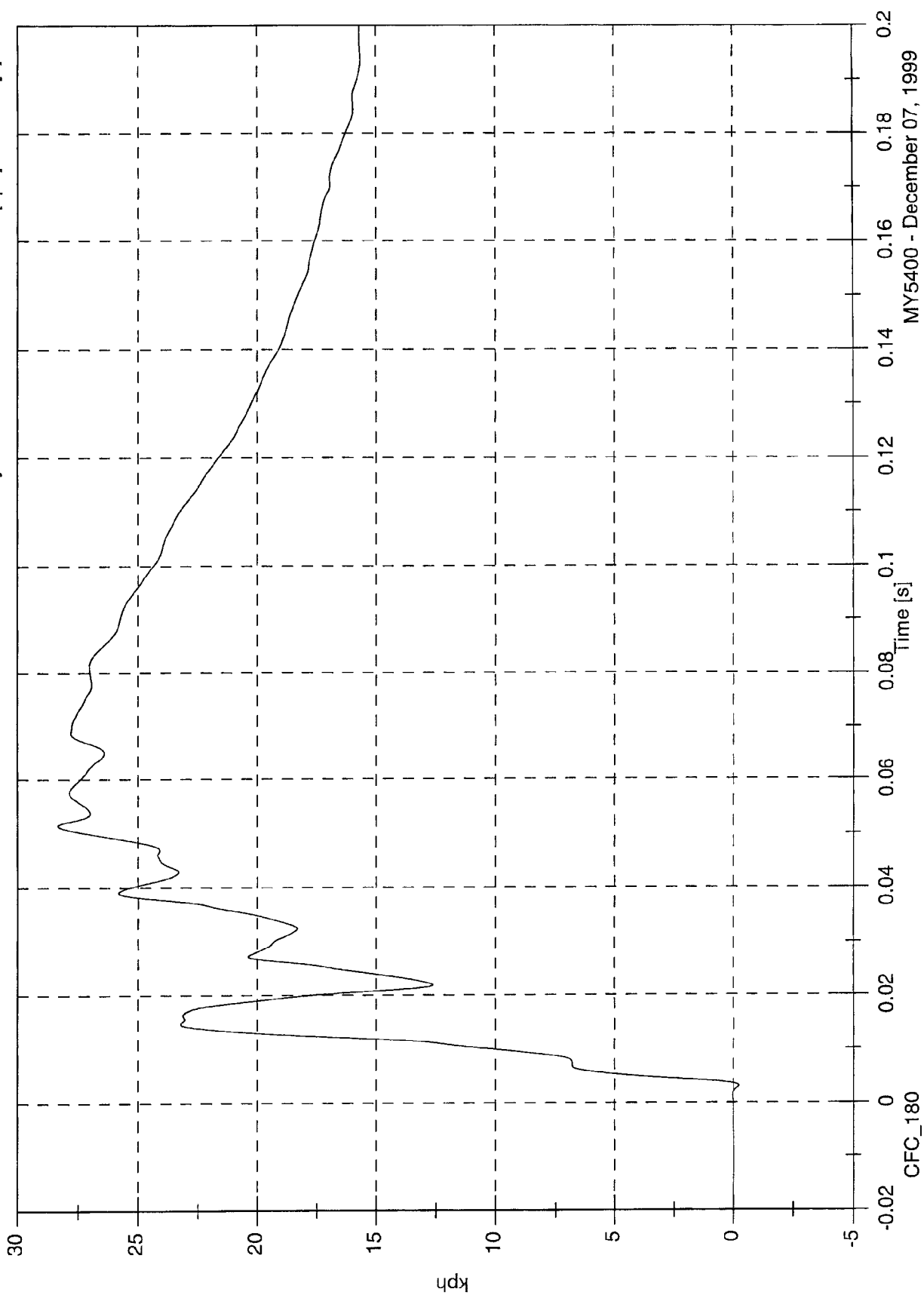


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 28.3 [kph] at 0.052 [s]
Min: -0.2 [kph] at 0.003 [s]

Acc 13 Left Mid B Post Y Velocity



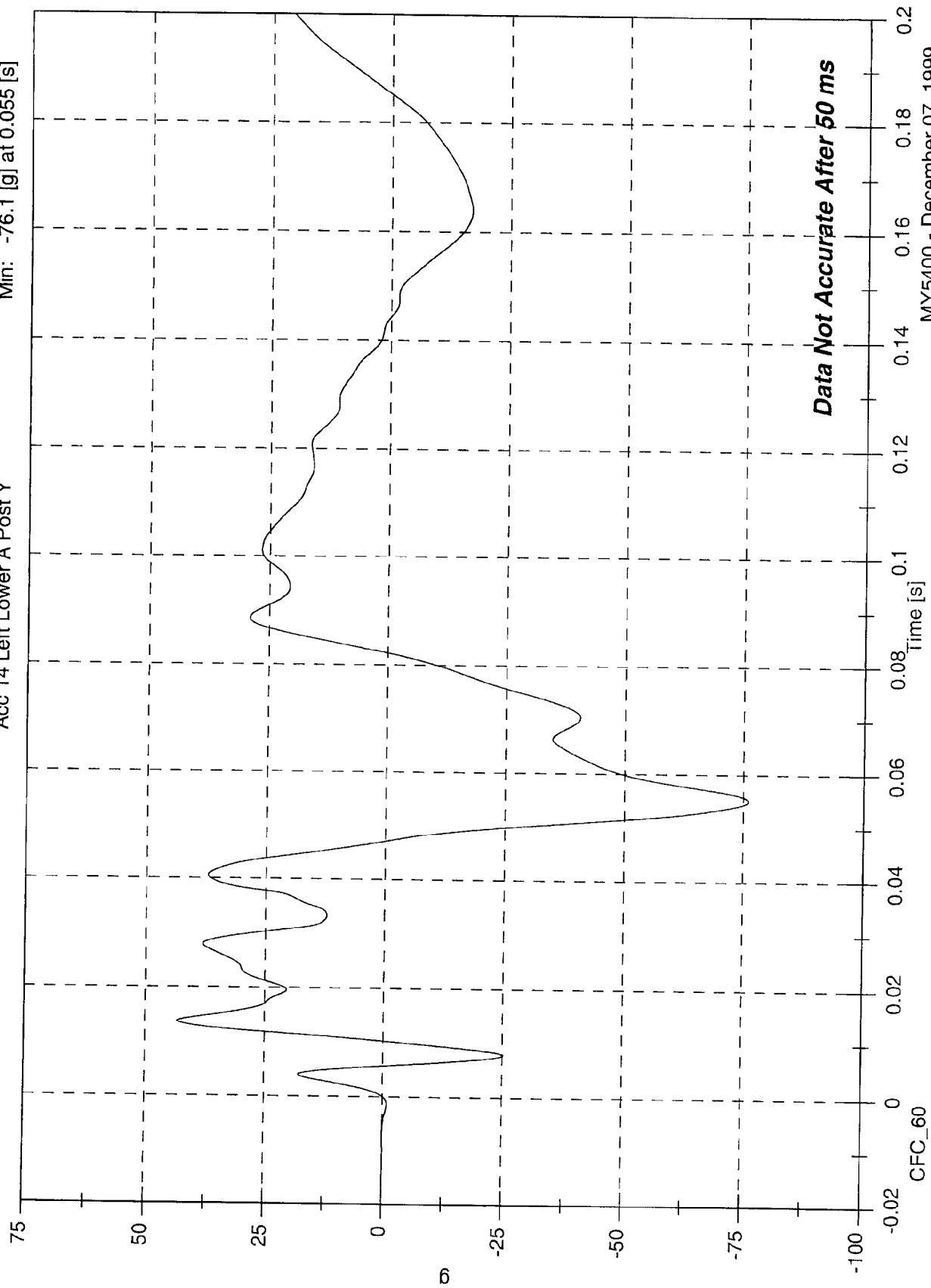
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 14 Left Lower A Post Y

Max: 53.3 [g] at 0.235 [s]

Min: -76.1 [g] at 0.055 [s]



Data Not Accurate After 50 ms

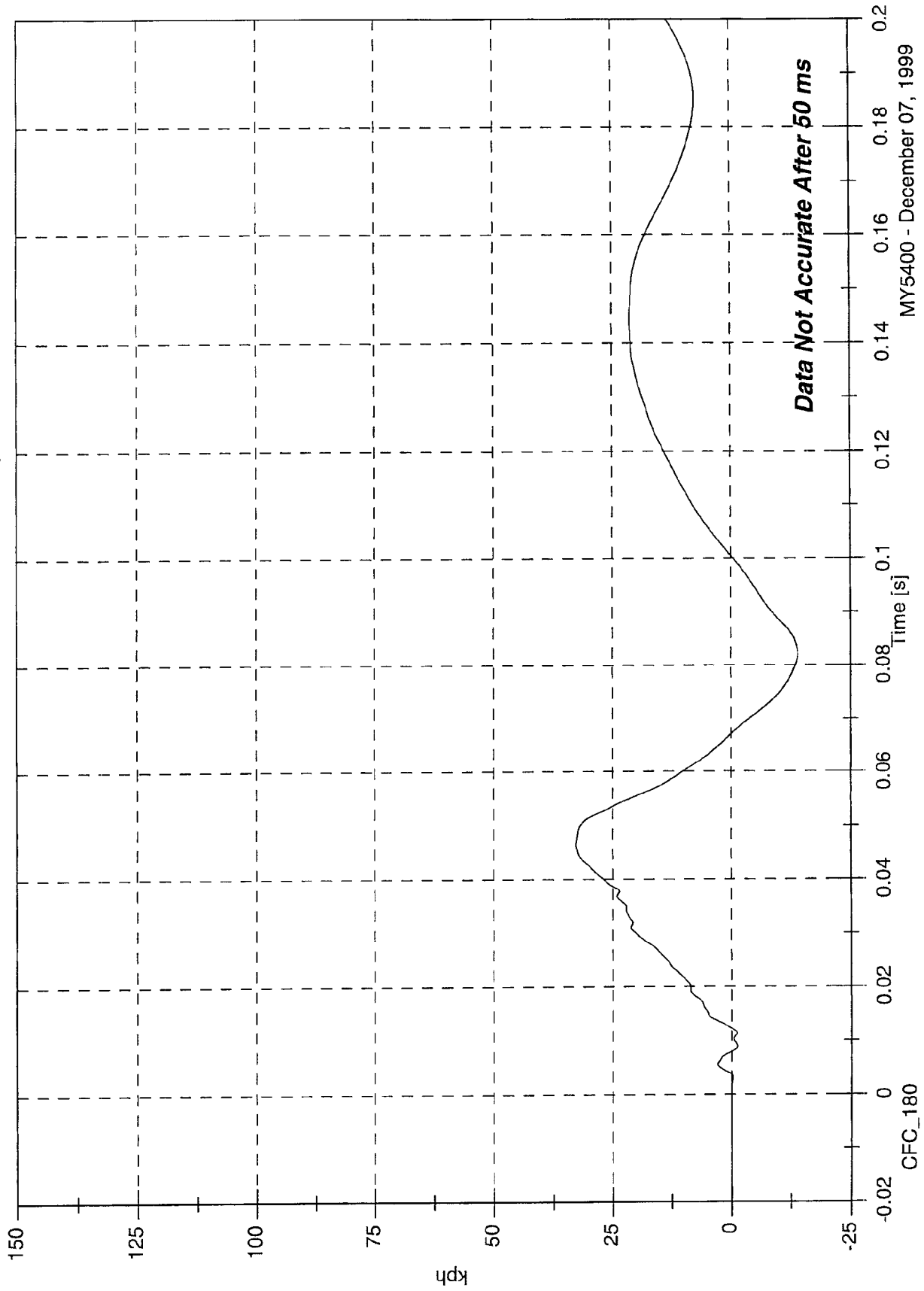
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 14 Left Lower A Post Y Velocity

Max: 137.5 [kph] at 0.397 [s]

Min: -14.0 [kph] at 0.082 [s]



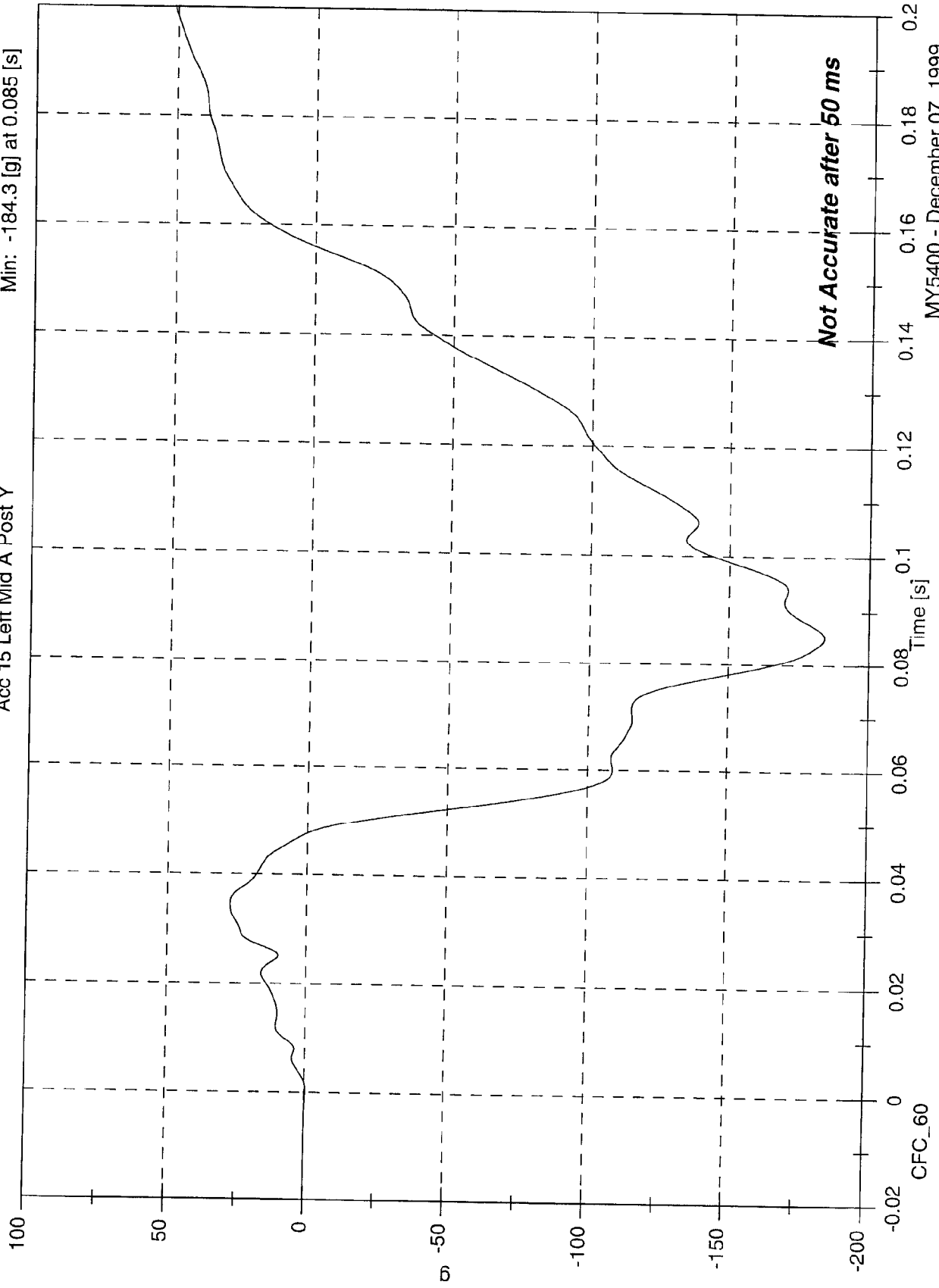
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 15 Left Mid A Post Y

Max: 51.1 [g] at 0.201 [s]

Min: -184.3 [g] at 0.085 [s]



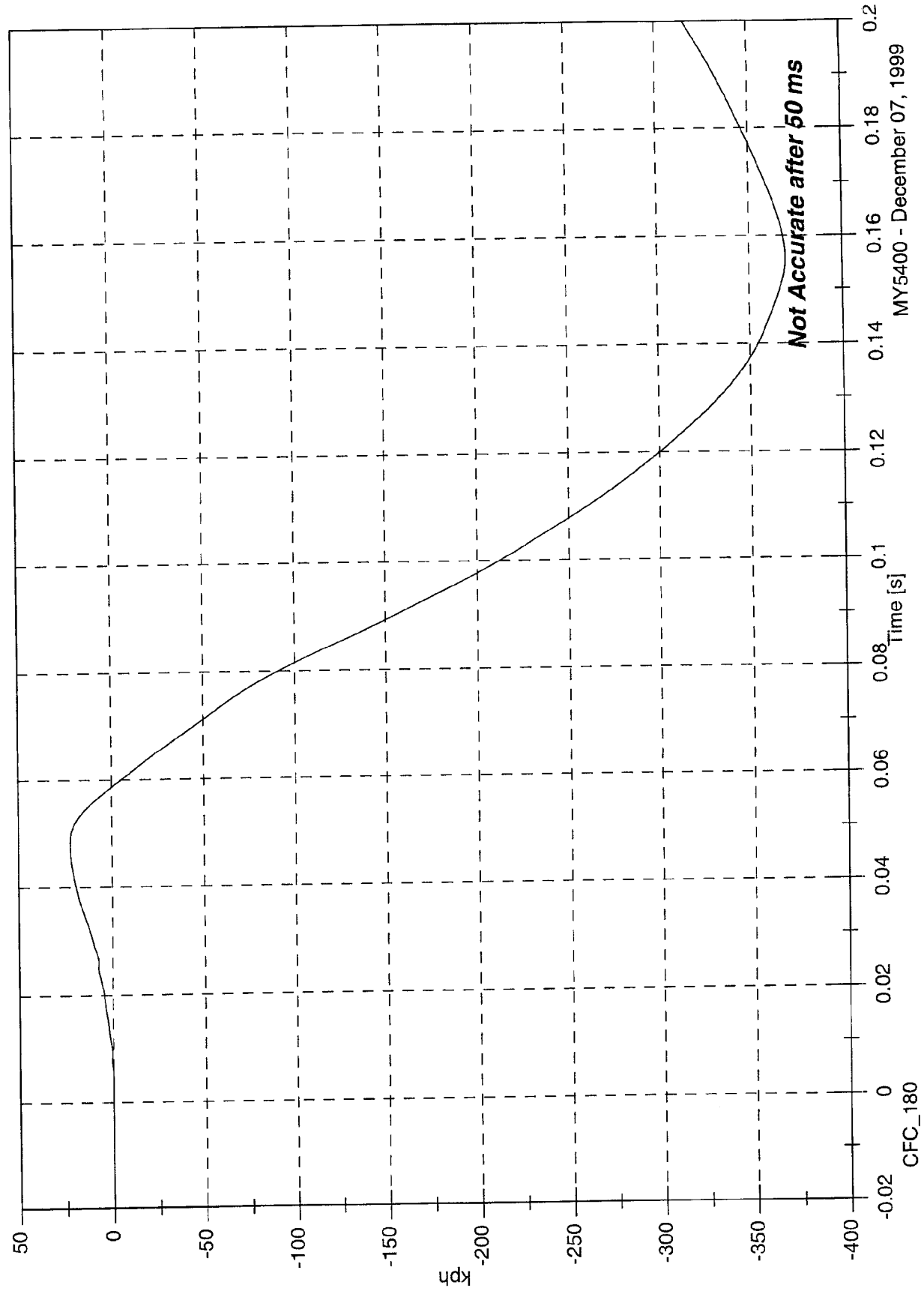
Not Accurate after 50 ms

MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 15 Left Mid A Post Y Velocity

Max: 22.3 [kph] at 0.048 [s]
Min: -369.6 [kph] at 0.156 [s]



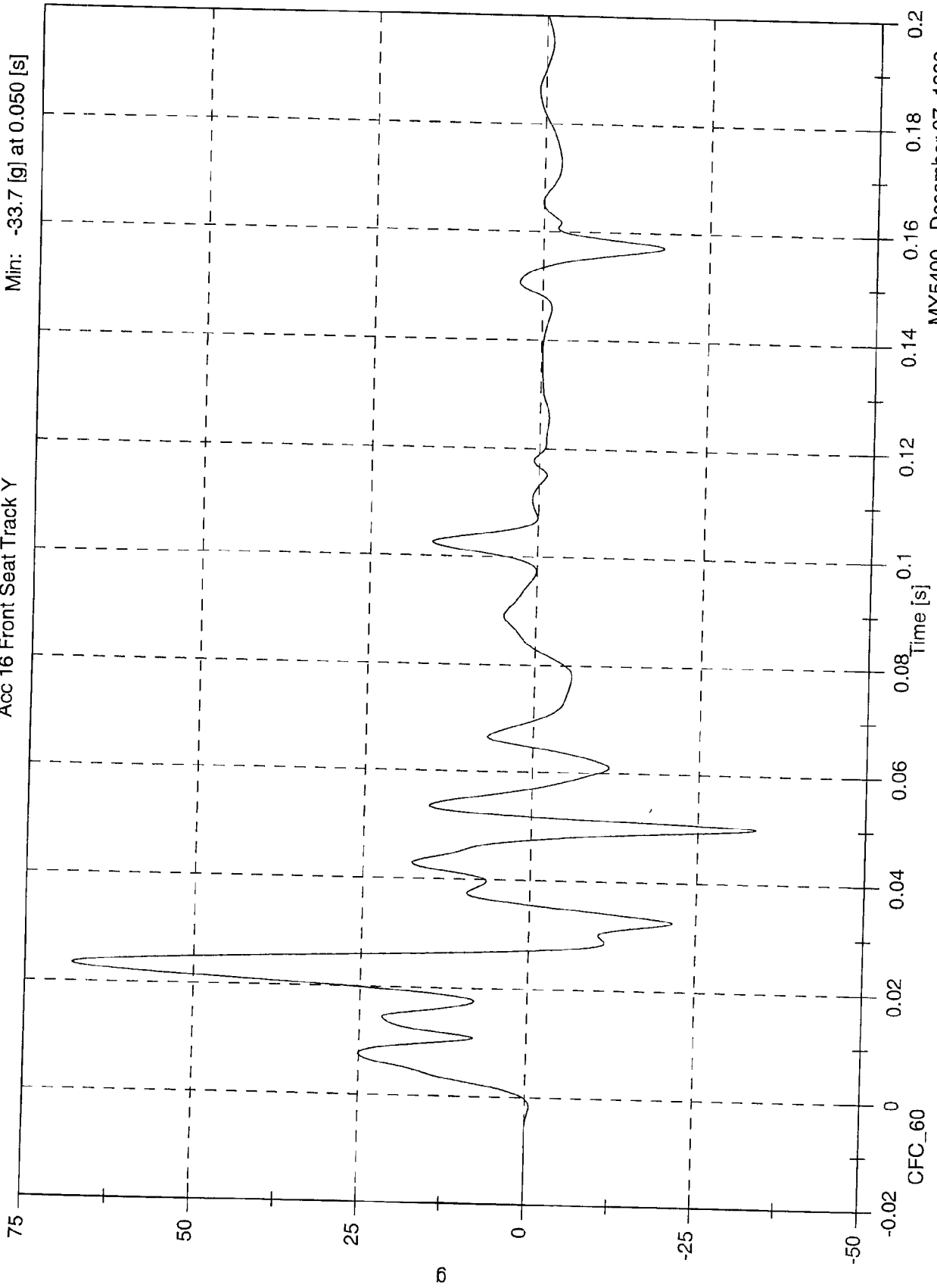
Not Accurate after 50 ms

MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 68.0 [g] at 0.023 [s]
Min: -33.7 [g] at 0.050 [s]

Acc 16 Front Seat Track Y

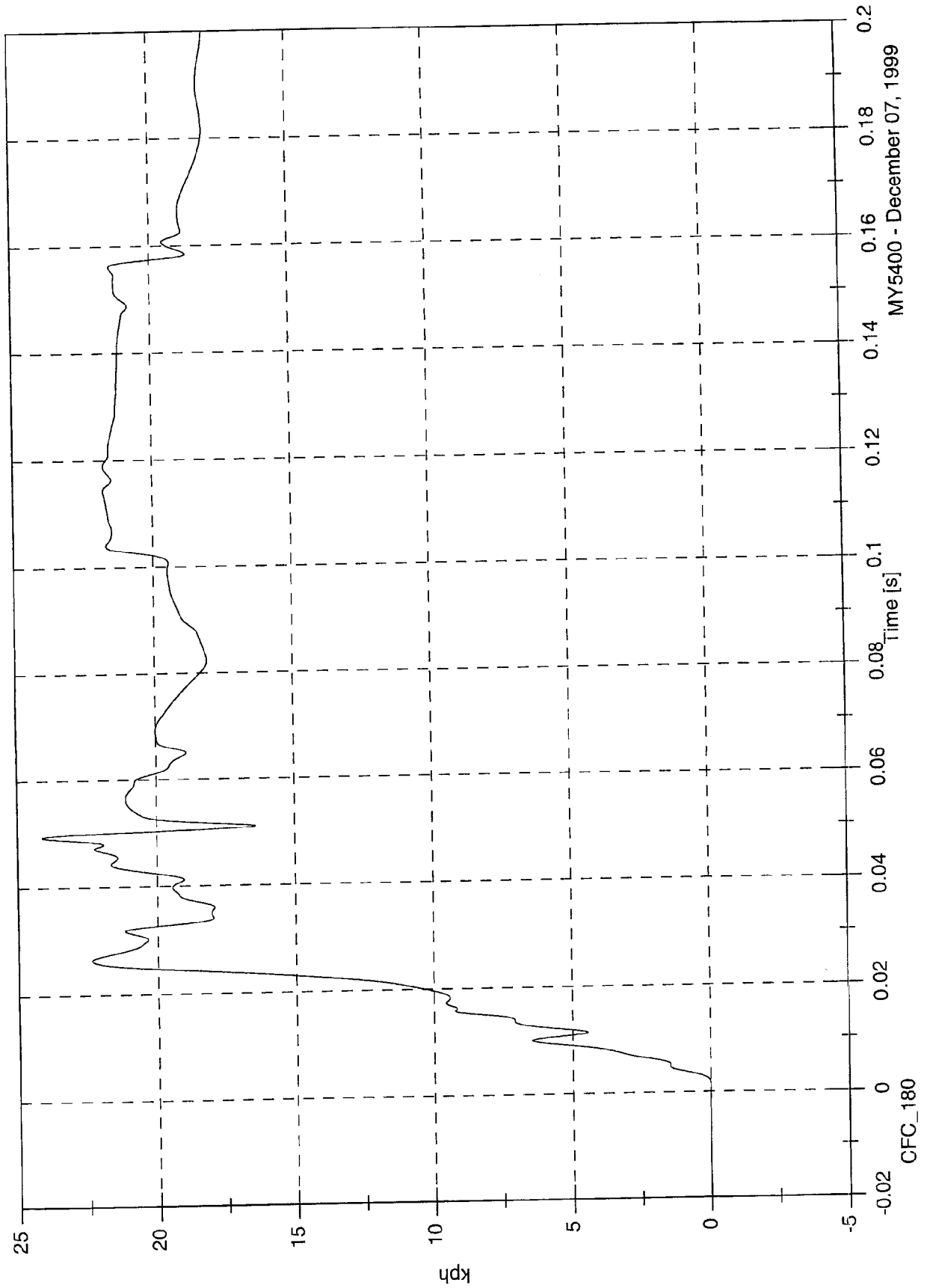


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 24.1 [kph] at 0.049 [s]
Min: -0.0 [kph] at -0.051 [s]

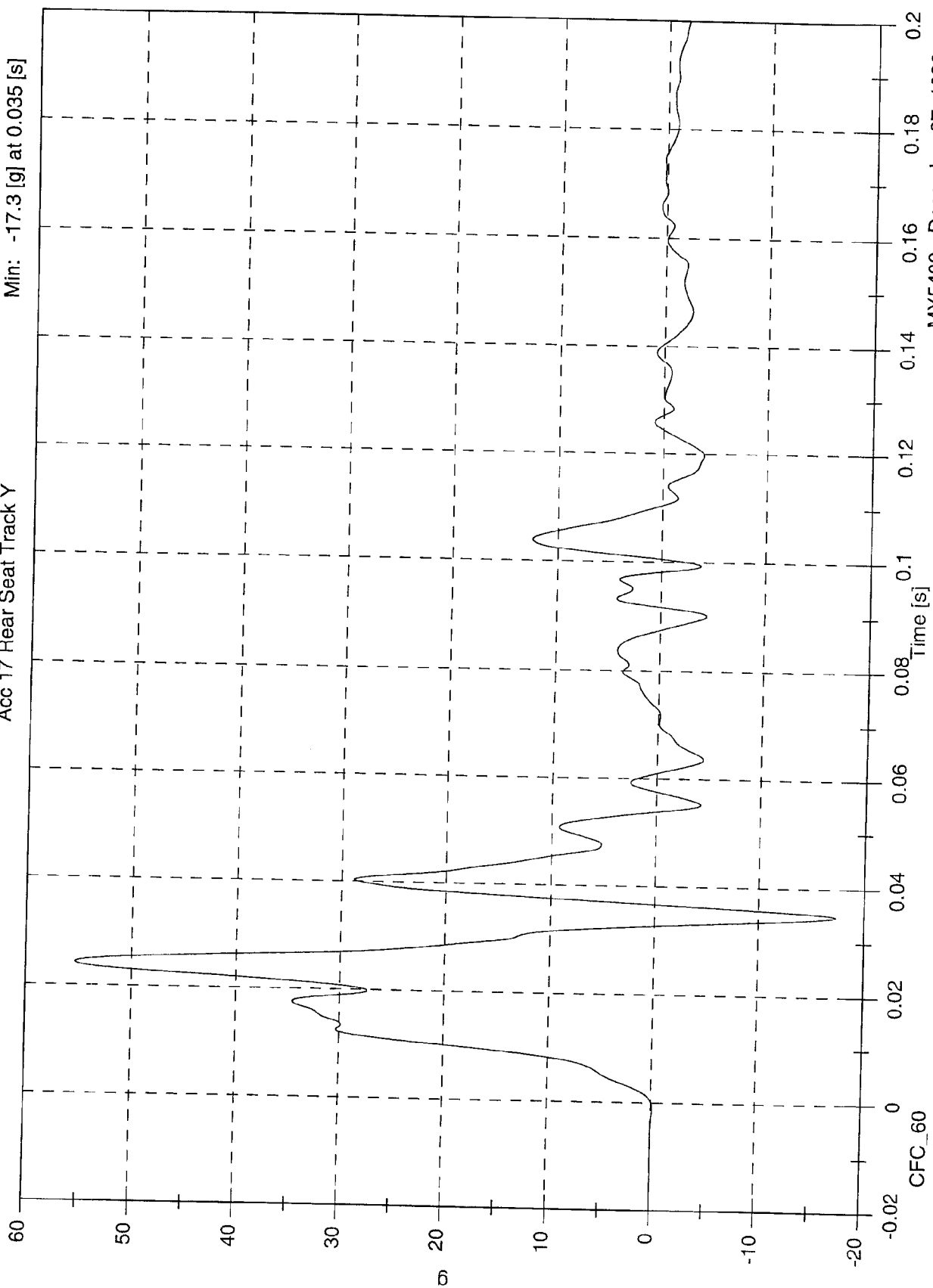
Acc 16 Front Seat Track Y Velocity



SNCAP 2000 Test# 5 - Mazda MPV

Max: 55.4 [g] at 0.024 [s]
Min: -17.3 [g] at 0.035 [s]

Acc 17 Rear Seat Track Y

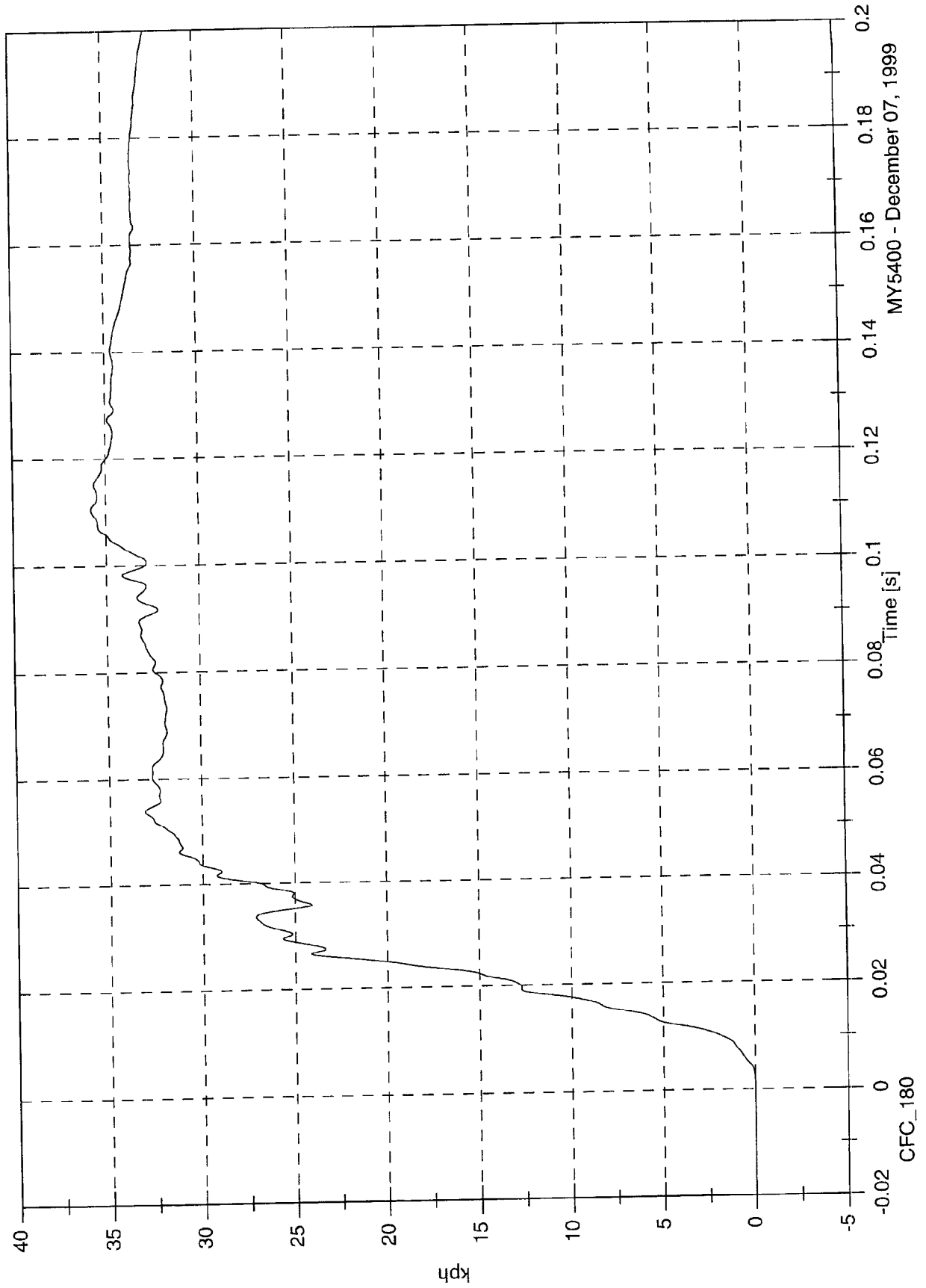


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 35.8 [kph] at 0.111 [s]
Min: -0.0 [kph] at -0.084 [s]

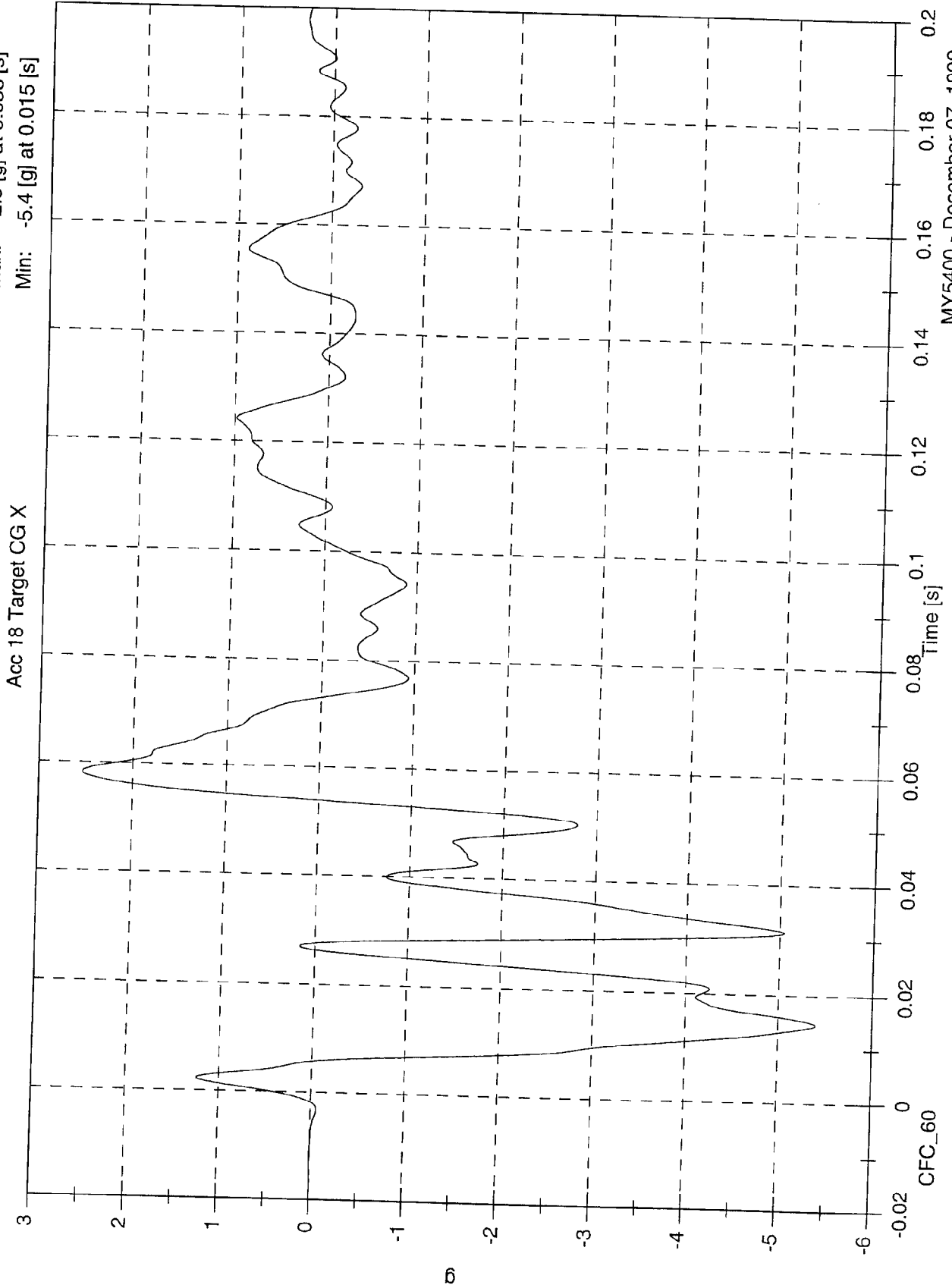
Acc 17 Rear Seat Track Y Velocity



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 2.5 [g] at 0.058 [s]
Min: -5.4 [g] at 0.015 [s]

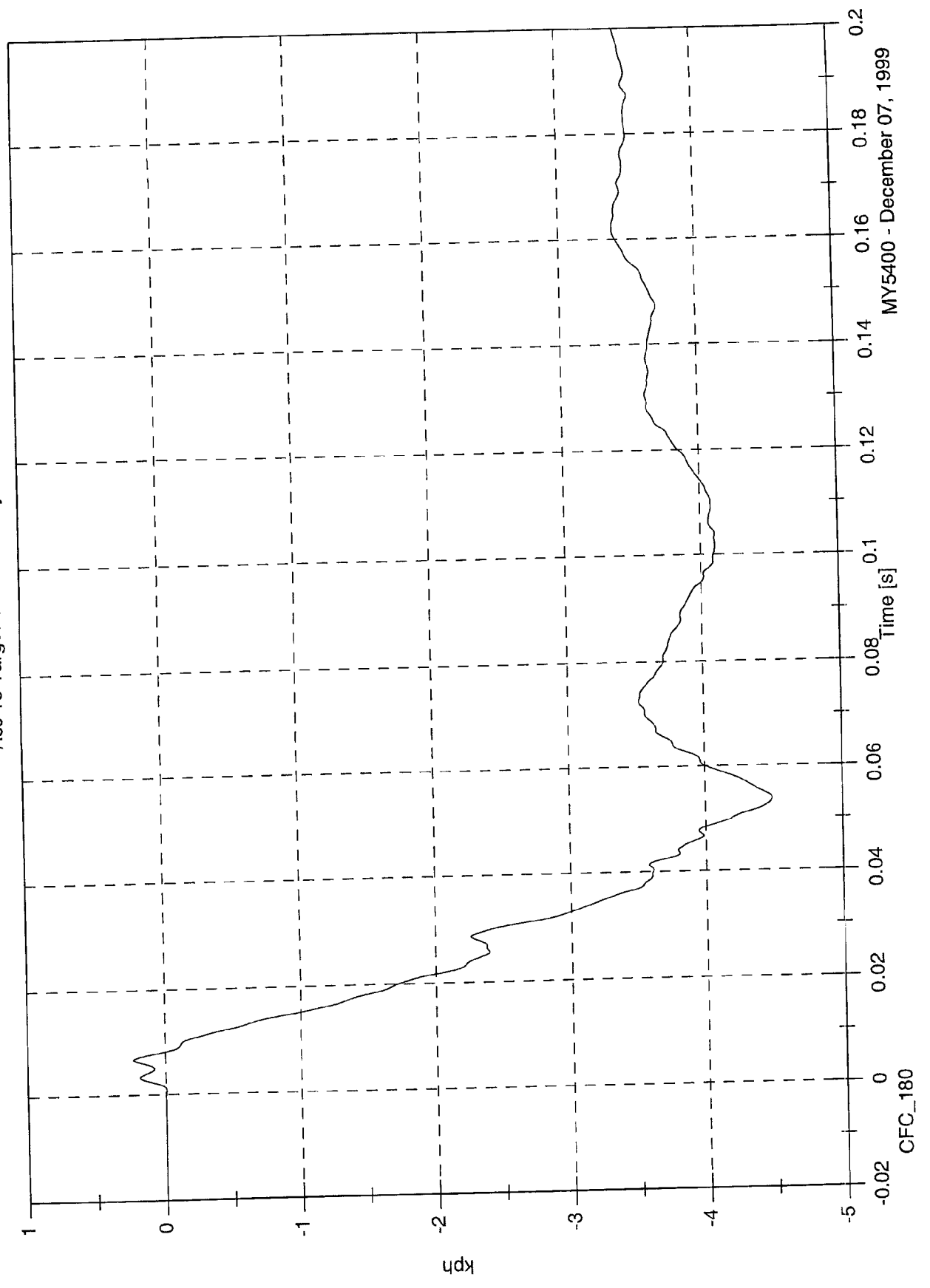


MY5400 - December 07, 1999

Max: 0.2 [kph] at 0.007 [s]
Min: -4.5 [kph] at 0.054 [s]

SNCAP 2000 Test# 5 - Mazda MPV

Acc 18 Target CG X Velocity

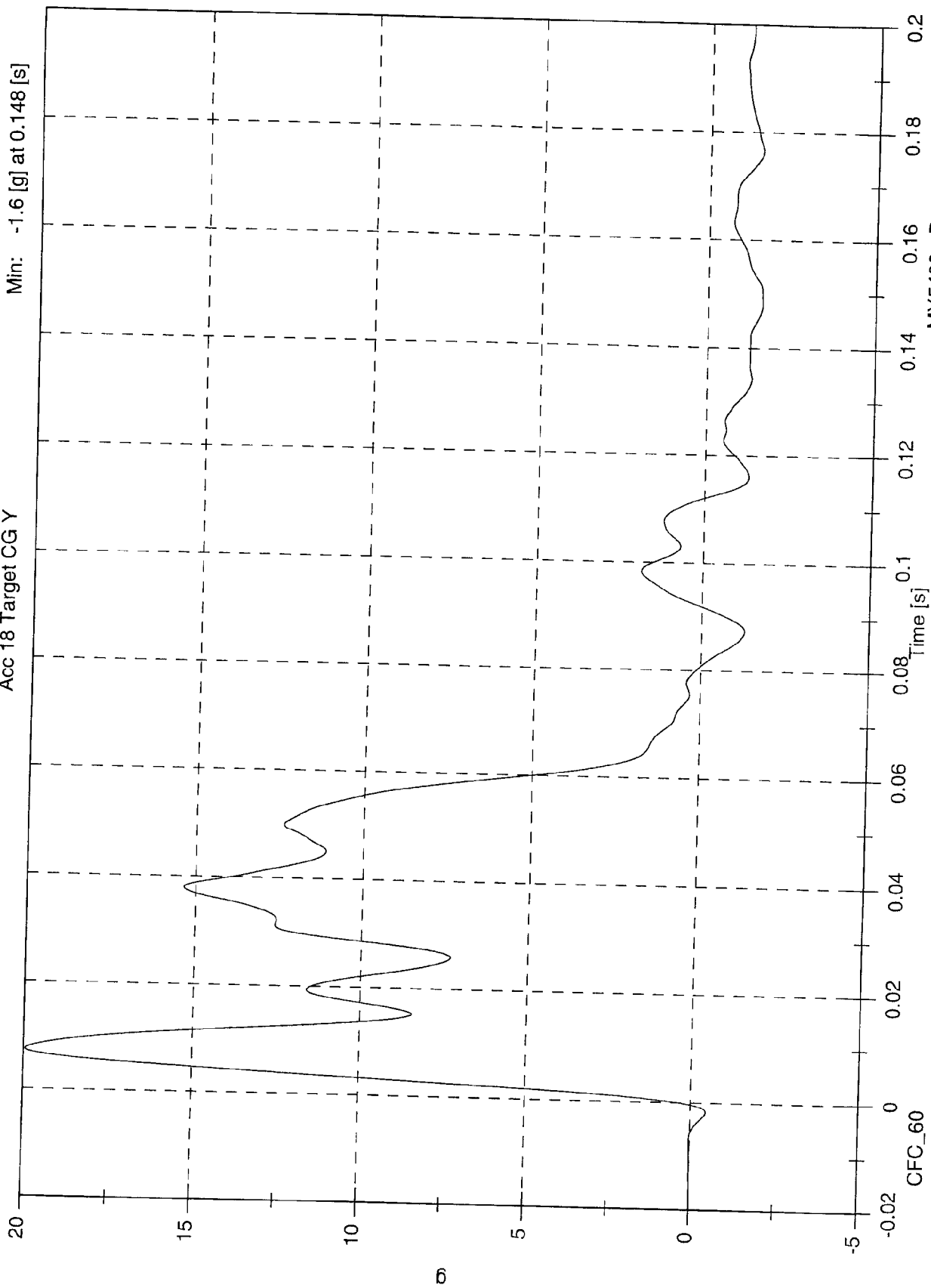


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 20.0 [g] at 0.007 [s]
Min: -1.6 [g] at 0.148 [s]

Acc 18 Target CG Y

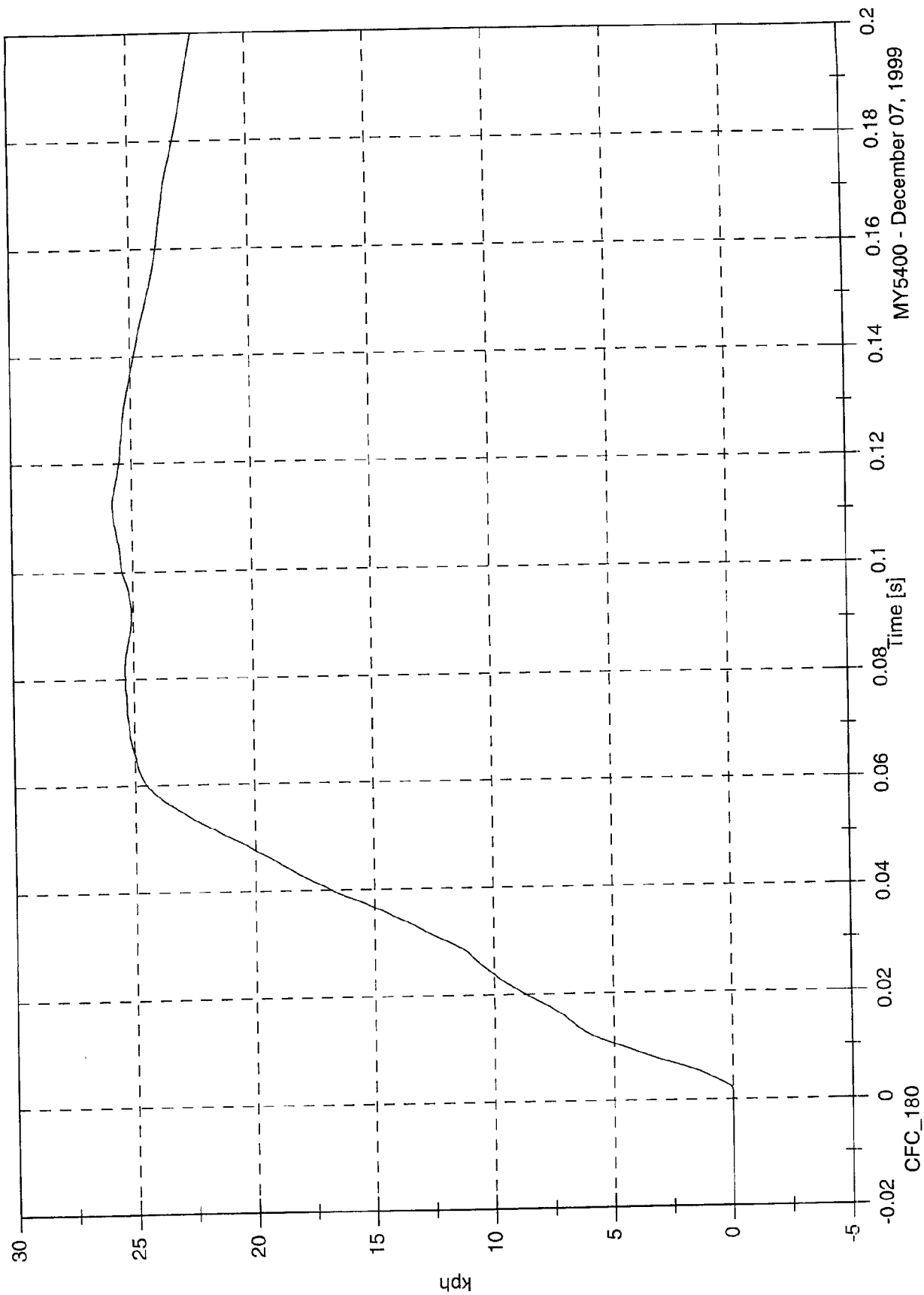


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 18 Target CG Y Velocity

Max: 25.8 [kph] at 0.113 [s]
Min: -0.0 [kph] at -0.048 [s]



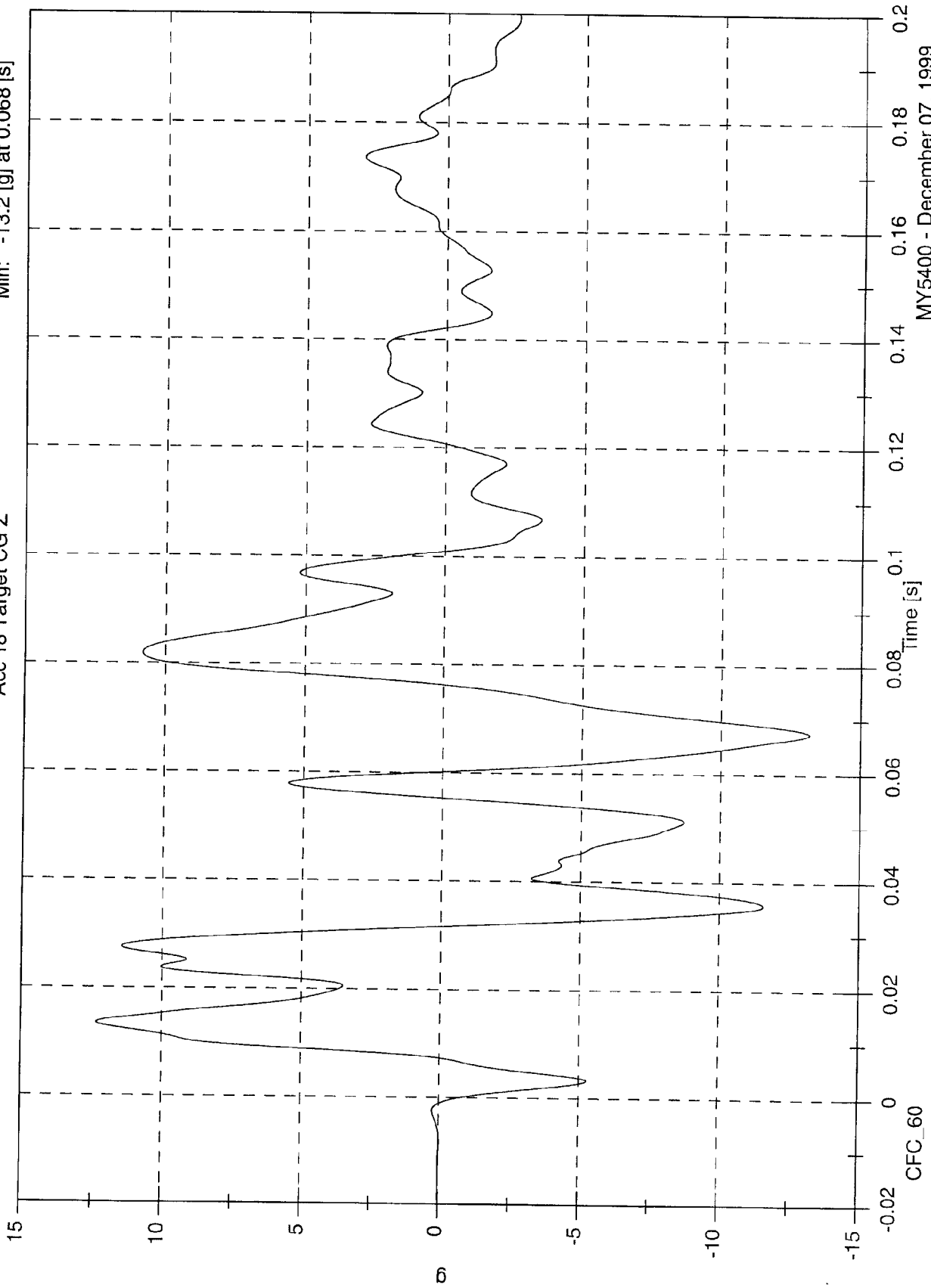
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 12.3 [g] at 0.013 [s]

Min: -13.2 [g] at 0.068 [s]

Acc 18 Target CG Z



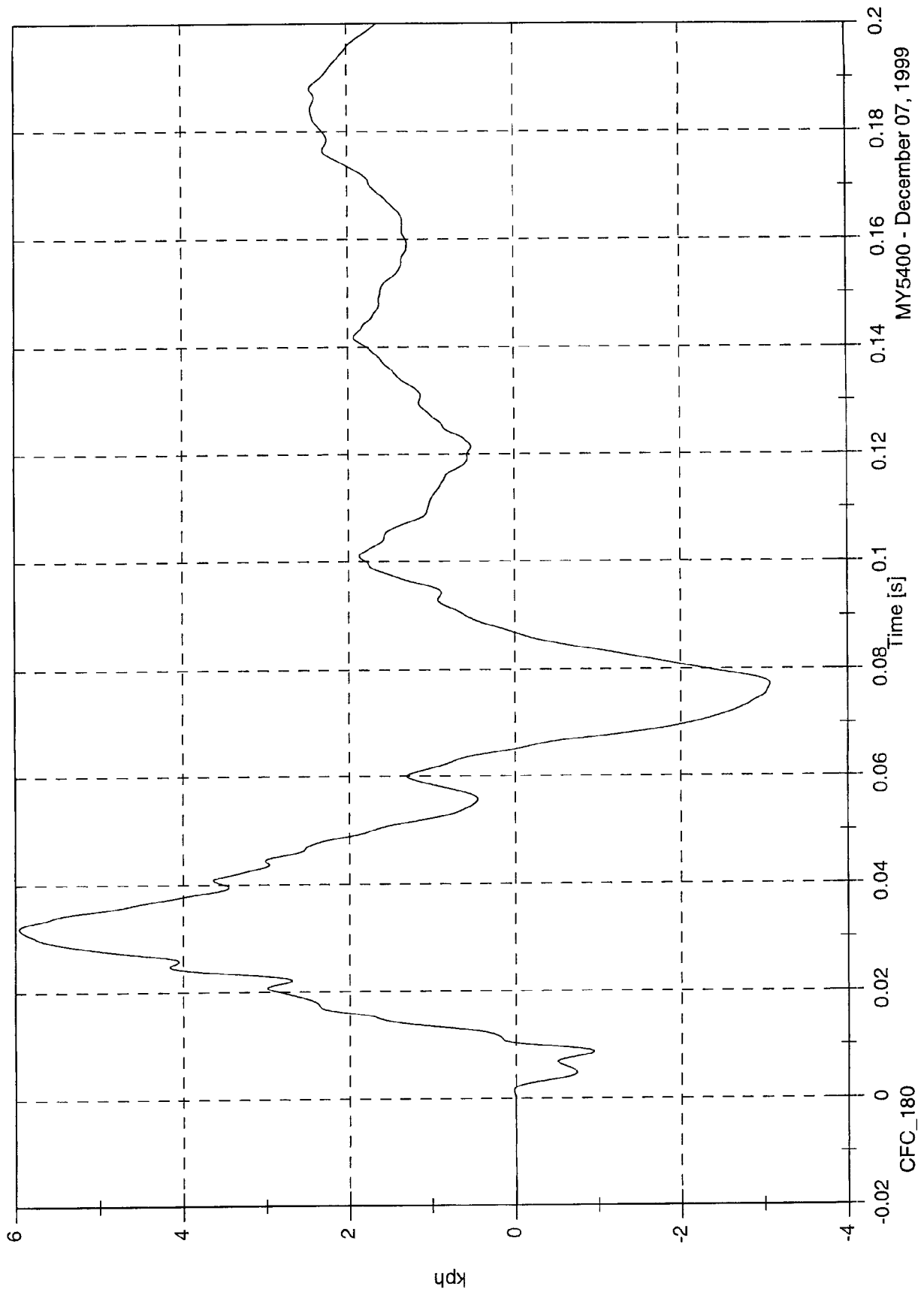
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 6.0 [kph] at 0.032 [s]

Min: -3.1 [kph] at 0.077 [s]

Acc 18 Target CG Z Velocity

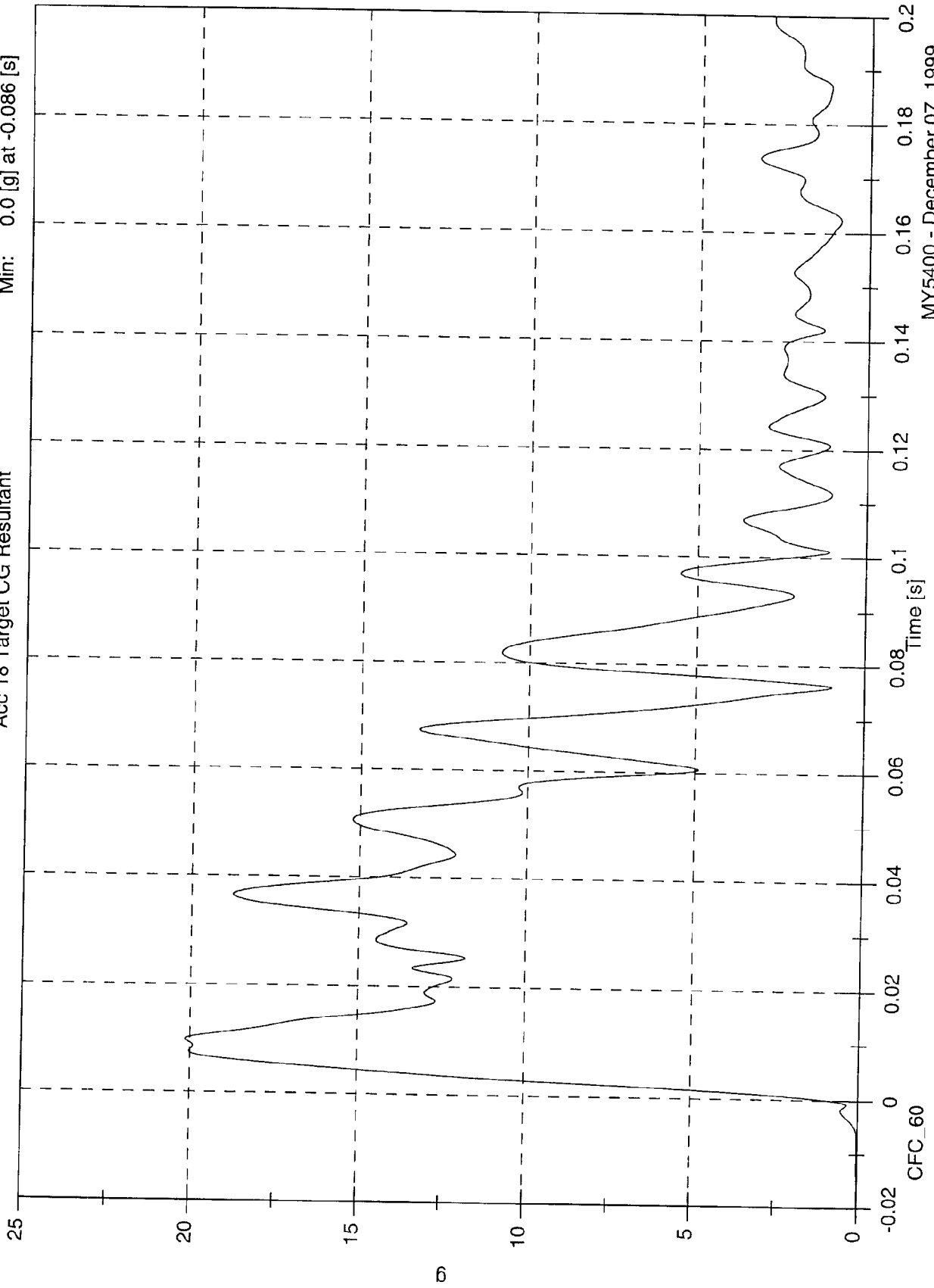


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Acc 18 Target CG Resultant

Max: 20.1 [g] at 0.010 [s]
Min: 0.0 [g] at -0.086 [s]



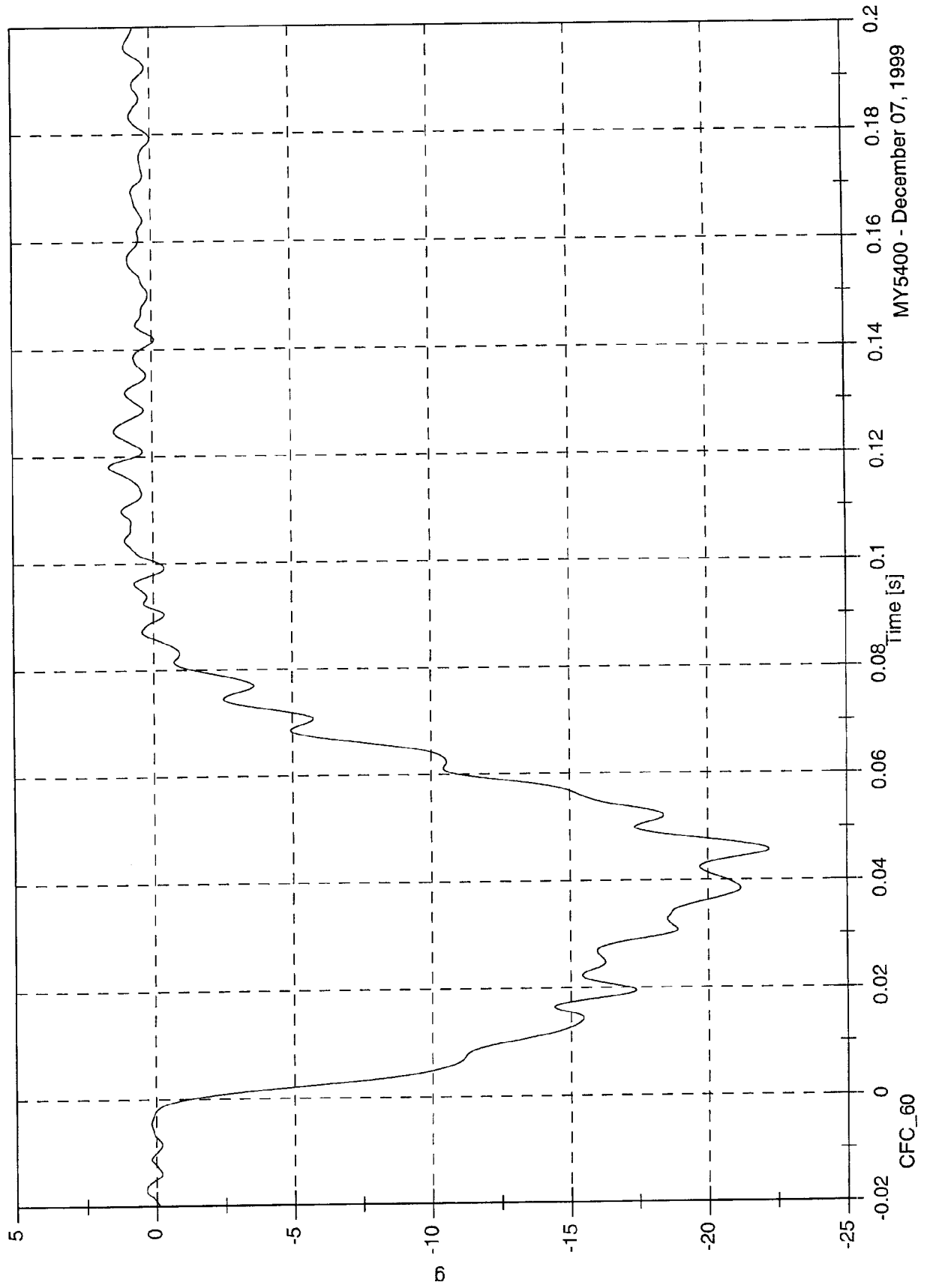
MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Moving Barrier CG X

Max: 1.6 [g] at 0.118 [s]

Min: -22.2 [g] at 0.046 [s]

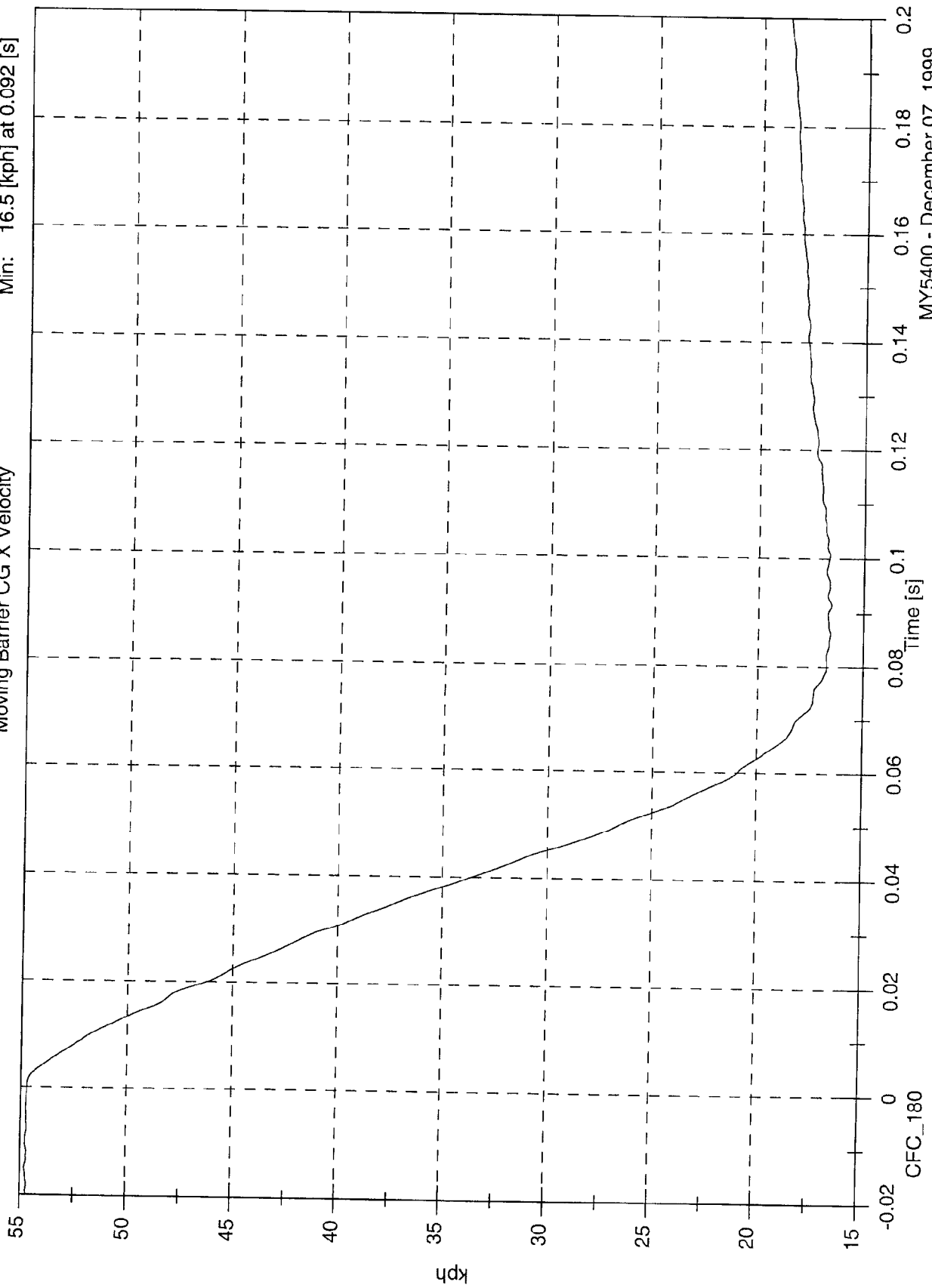


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 54.9 [kph] at -0.054 [s]
Min: 16.5 [kph] at 0.092 [s]

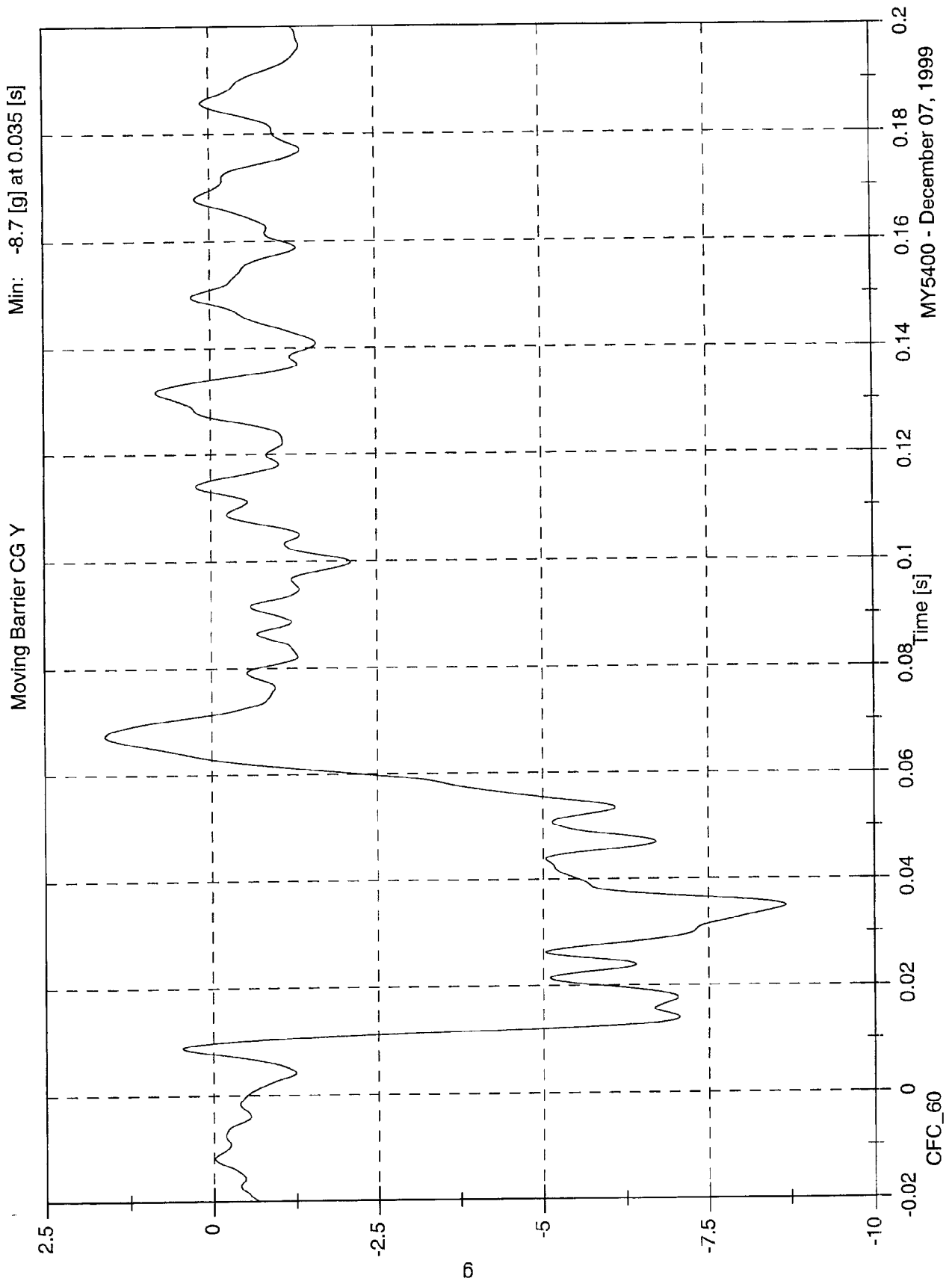
Moving Barrier CG X Velocity



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

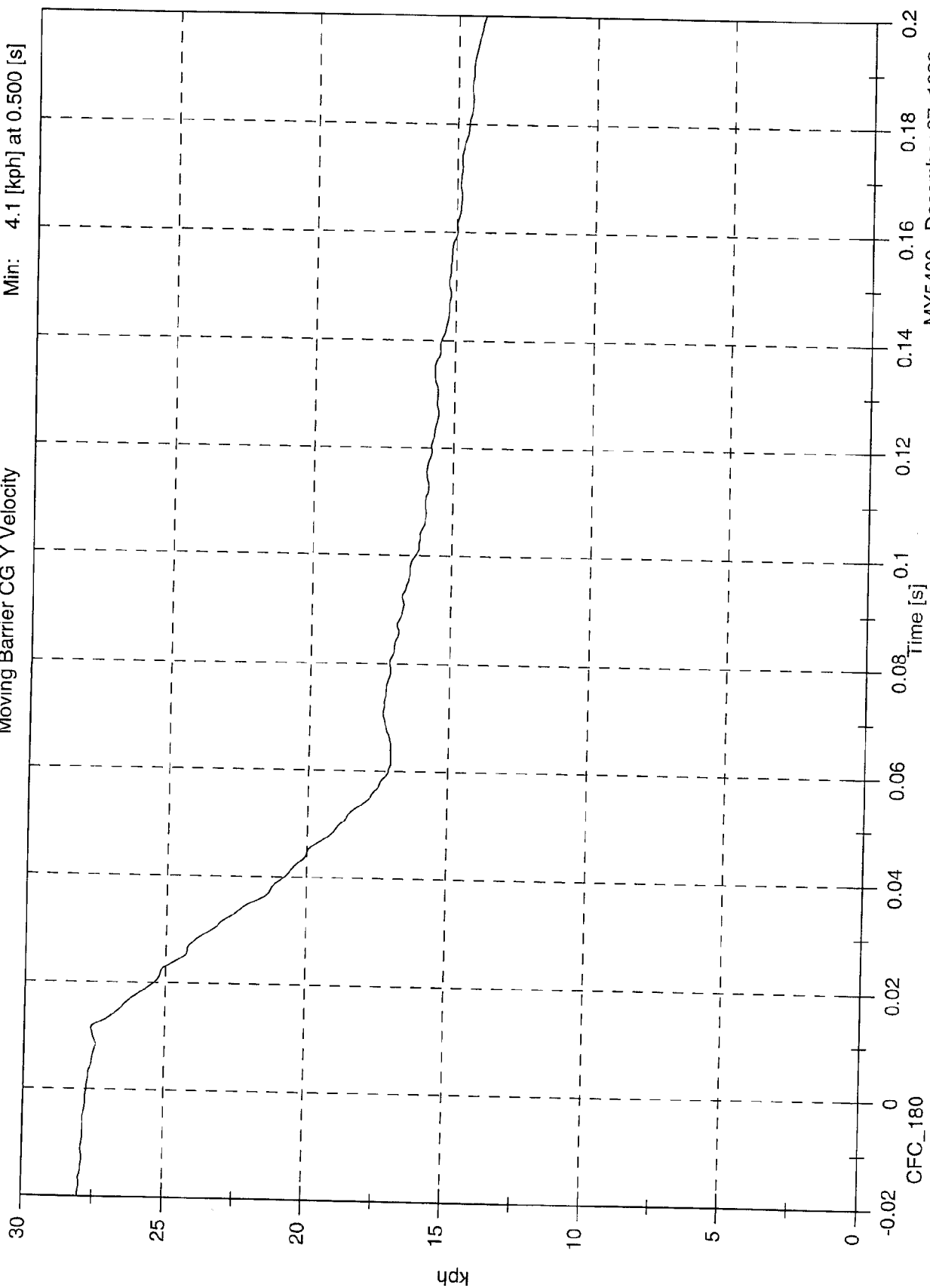
Max: 1.7 [g] at -0.100 [s]
Min: -8.7 [g] at 0.035 [s]



SNCAP 2000 Test# 5 - Mazda MPV

Max: 28.3 [kph] at -0.037 [s]
Min: 4.1 [kph] at 0.500 [s]

Moving Barrier CG Y Velocity

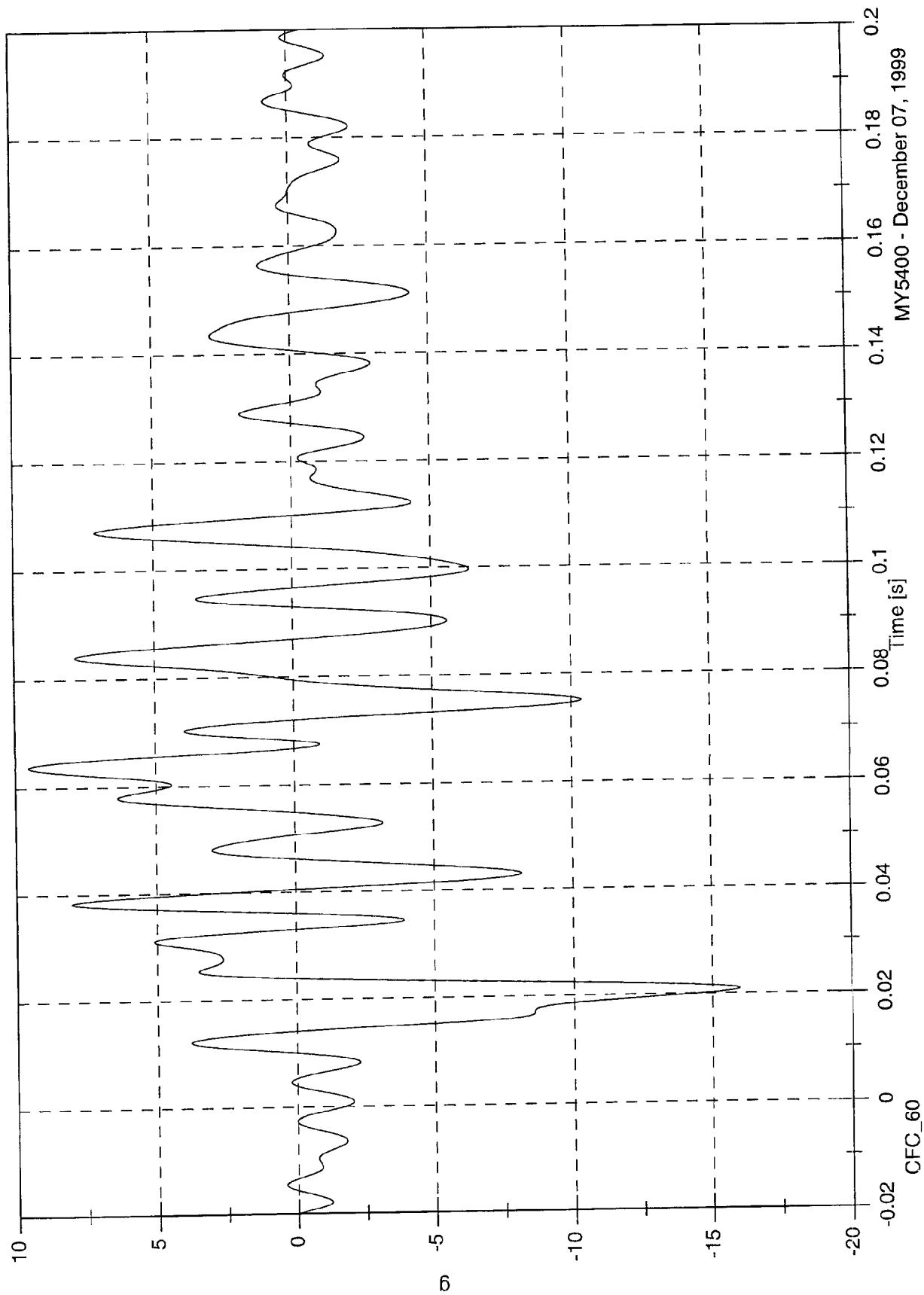


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

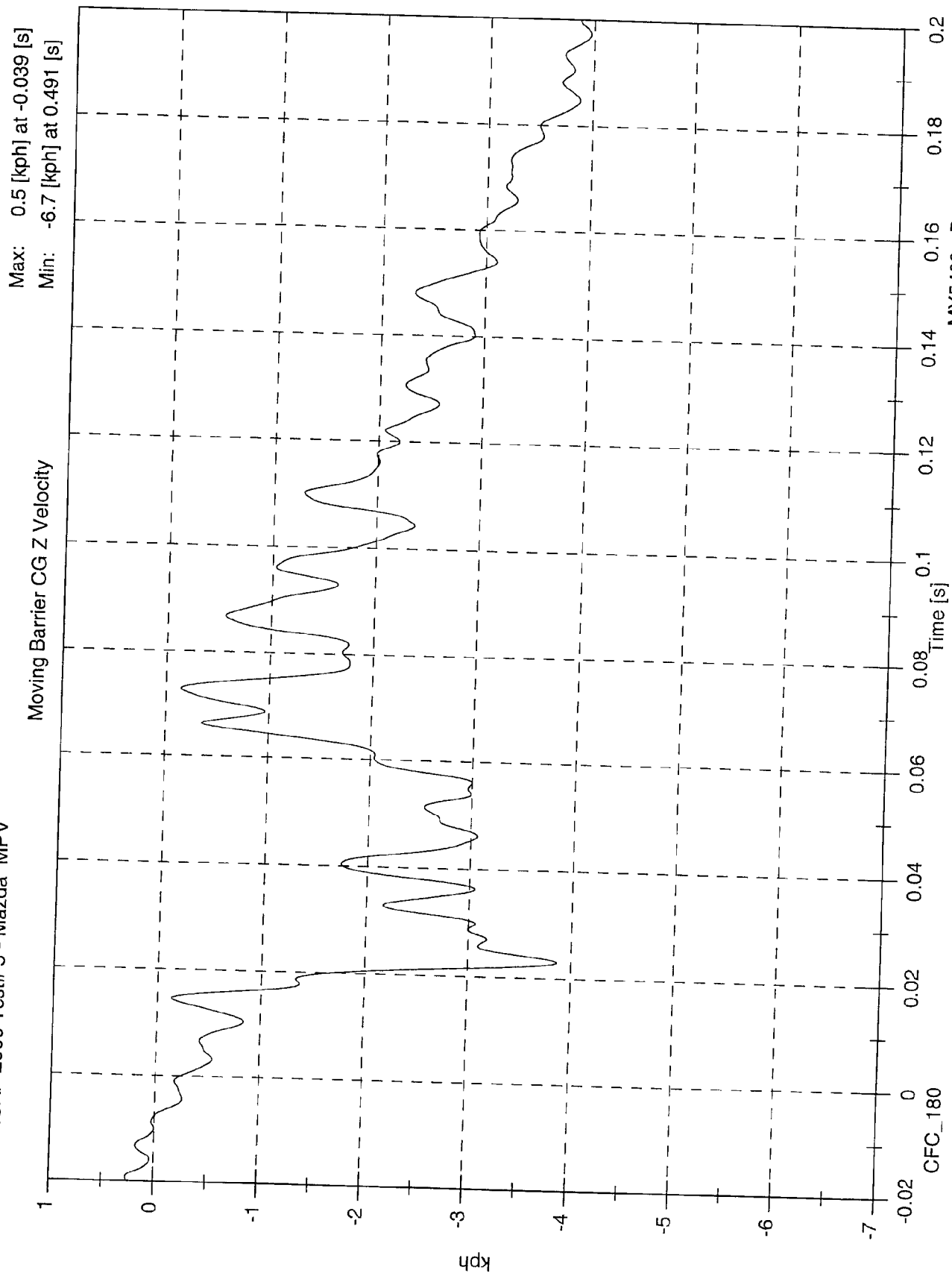
Max: 9.5 [g] at 0.064 [s]
Min: -16.0 [g] at 0.021 [s]

Moving Barrier CG Z



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

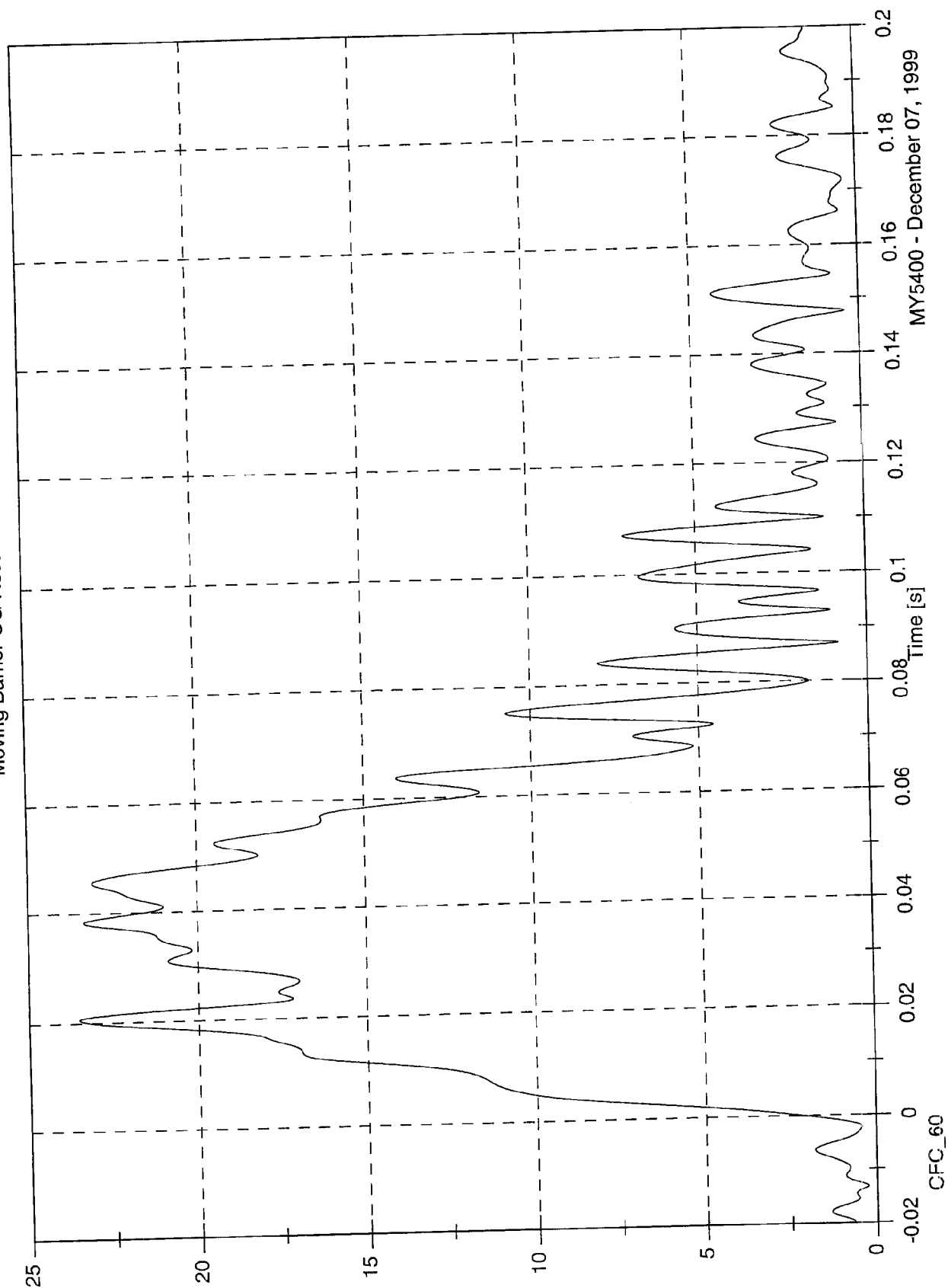


MY5400 - December 07, 1999

Max: 23.5 [g] at 0.021 [s]
Min: 0.1 [g] at -0.079 [s]

SNCAP 2000 Test# 5 - Mazda MPV

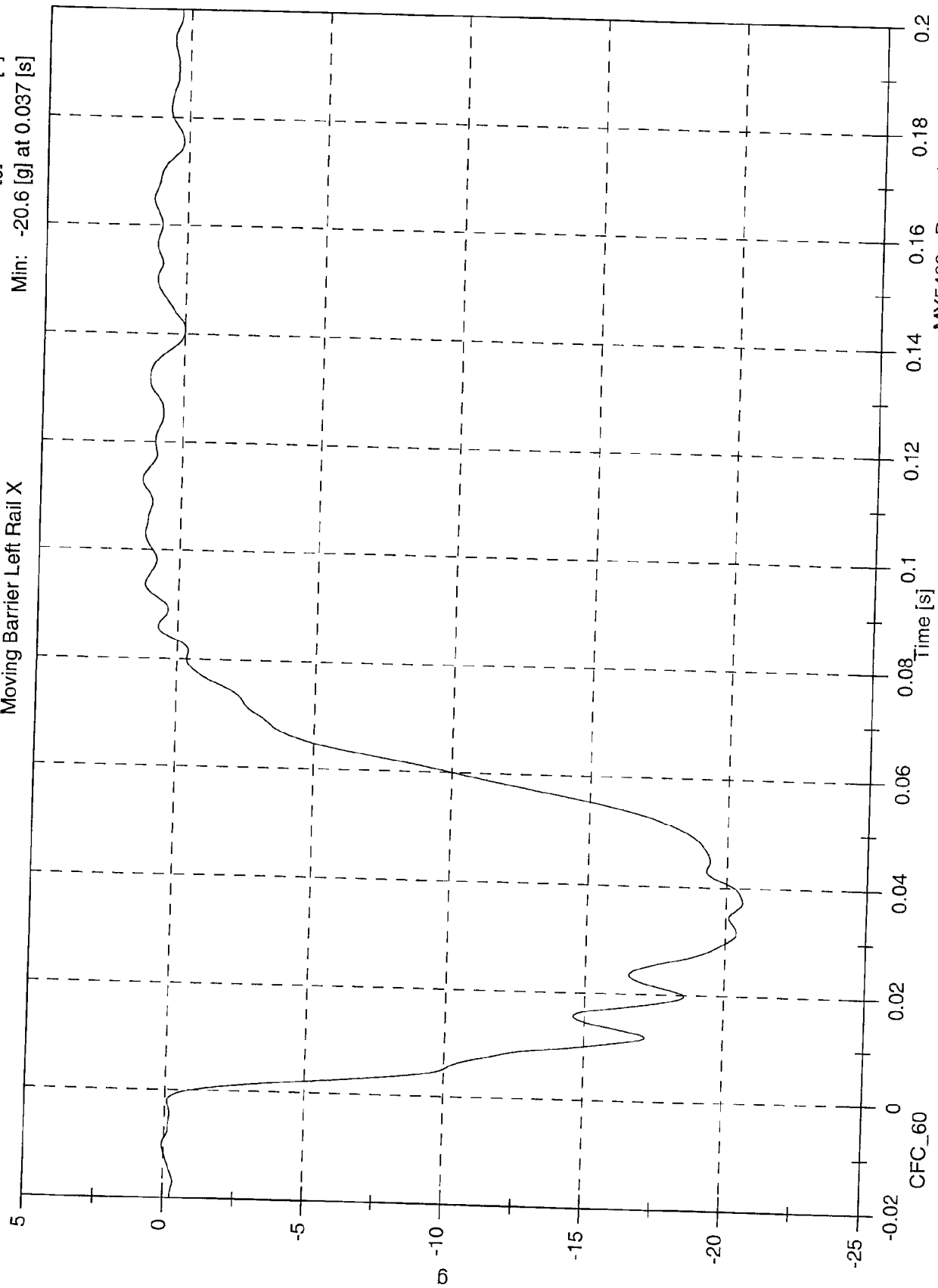
Moving Barrier CG Resultant



SNCAP 2000 Test# 5 - Mazda MPV

Max: 1.4 [g] at 0.113 [s]
Min: -20.6 [g] at 0.037 [s]

Moving Barrier Left Rail X

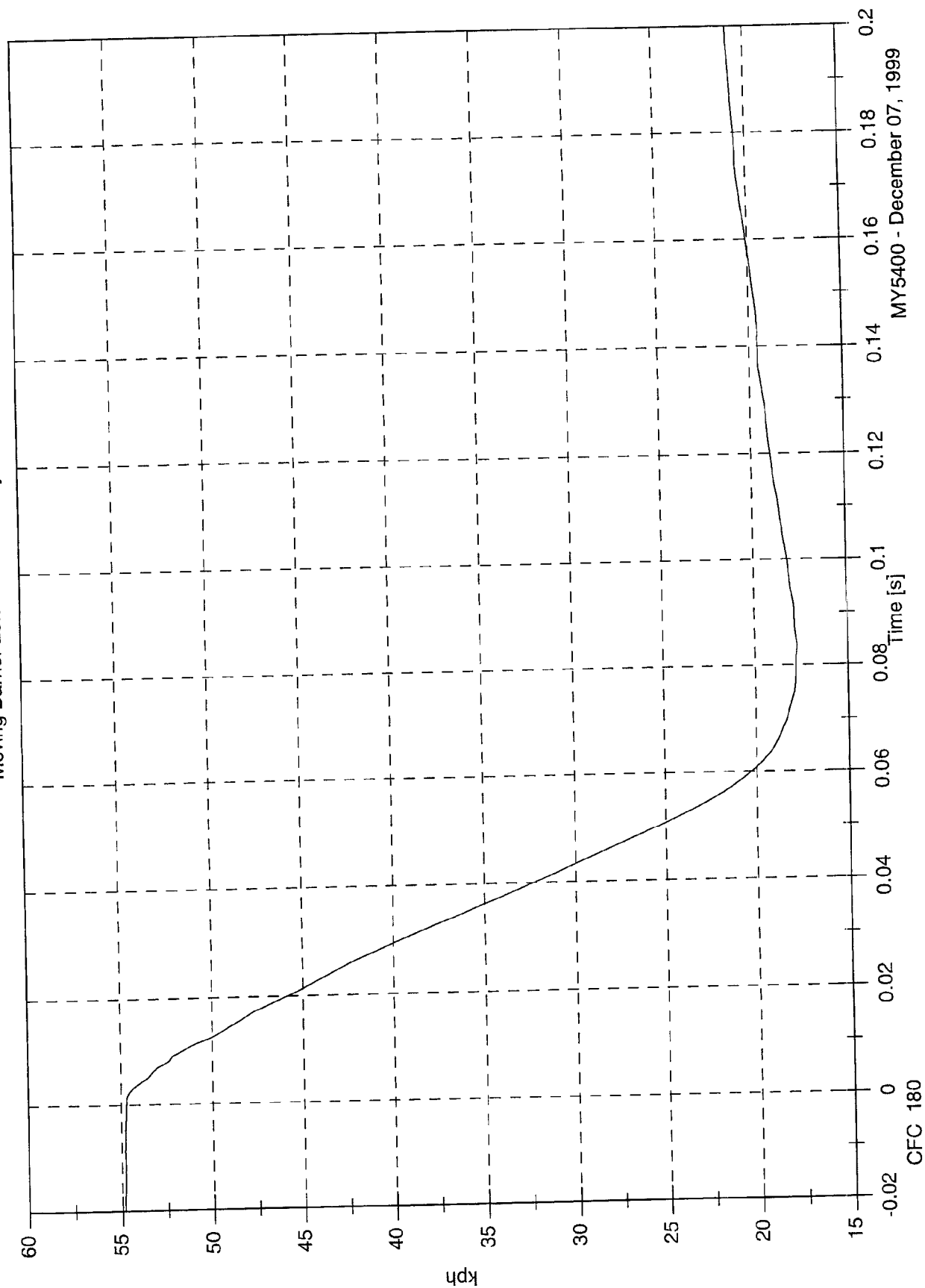


MY5400 - December 07, 1999

Max: 55.0 [kph] at -0.041 [s]
Min: 17.7 [kph] at 0.084 [s]

SNCAP 2000 Test# 5 - Mazda MPV

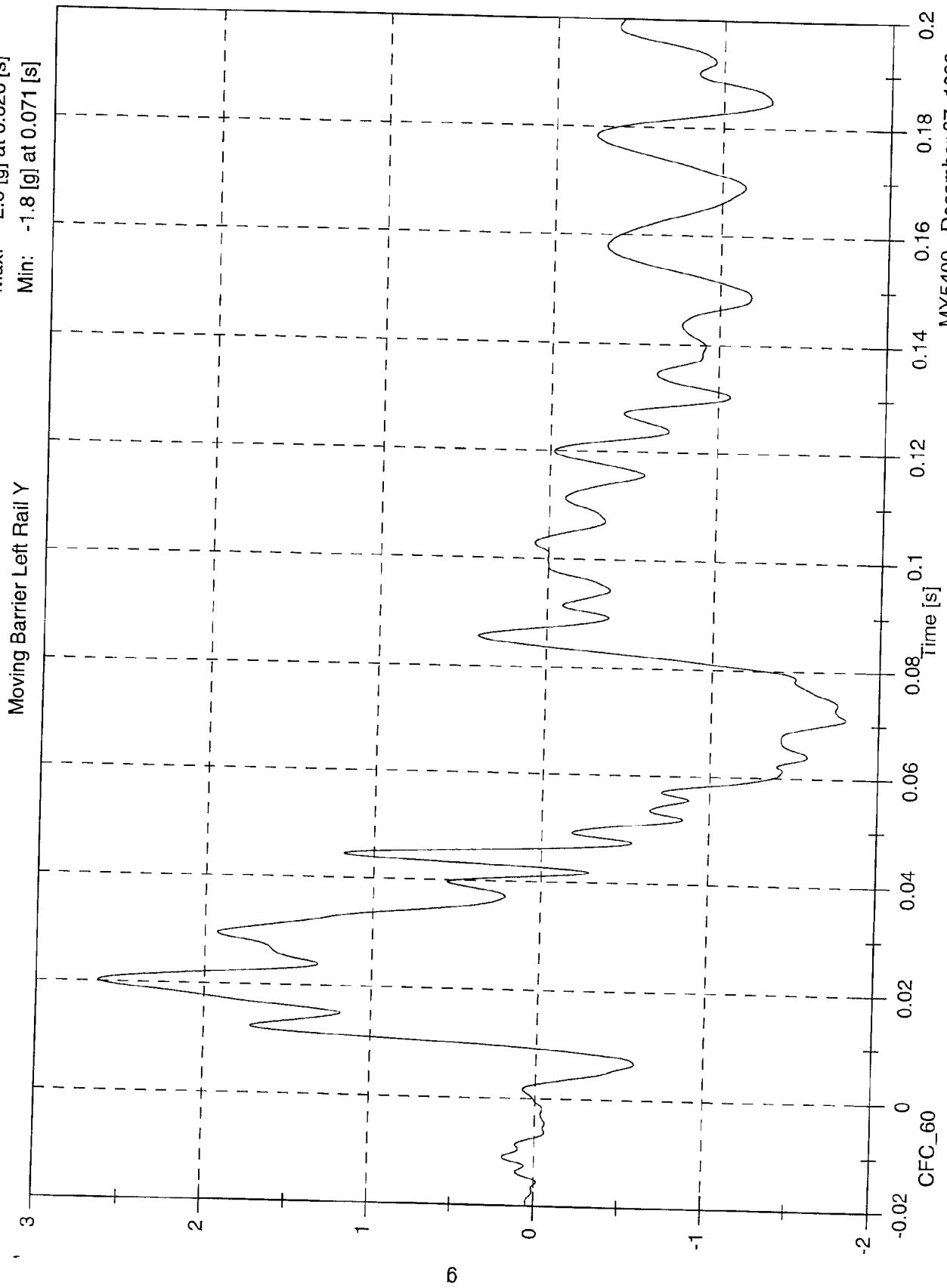
Moving Barrier Left Rail X Velocity



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 2.6 [g] at 0.020 [s]
Min: -1.8 [g] at 0.071 [s]

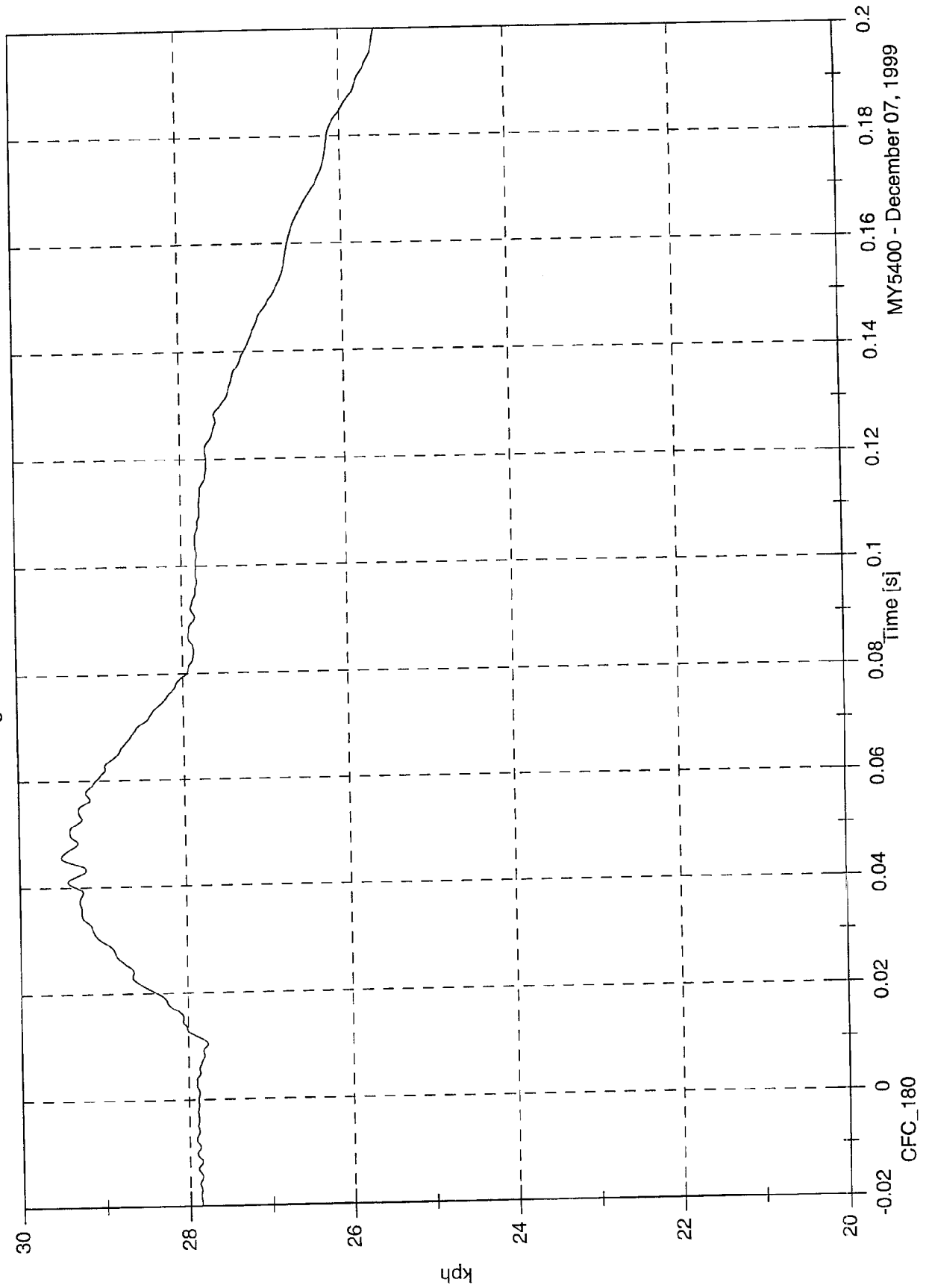


MY5400 - December 07, 1999

Max: 29.5 [kph] at 0.046 [s]
Min: 21.0 [kph] at 0.465 [s]

Moving Barrier Left Rail Y Velocity

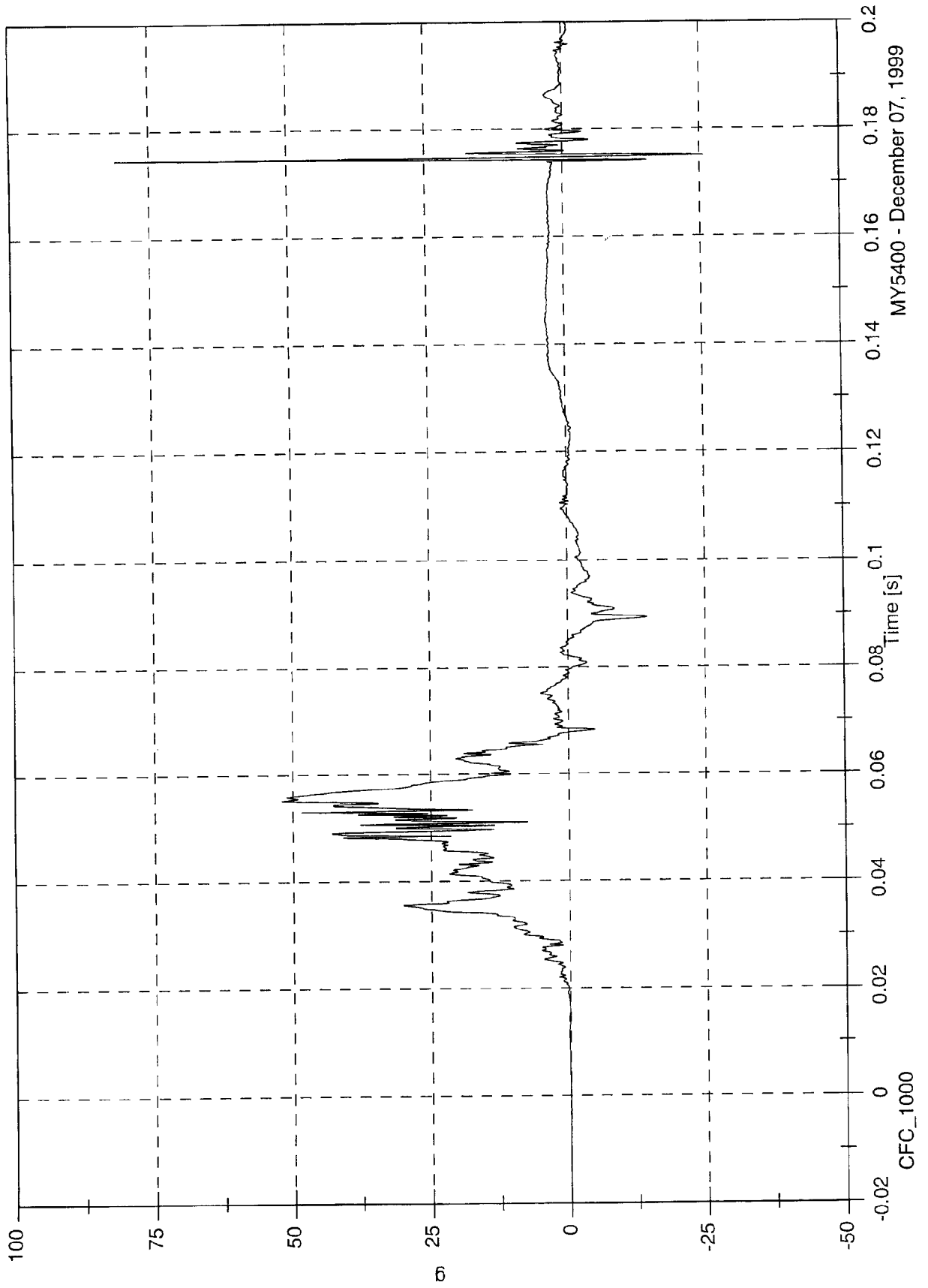
SNCAP 2000 Test# 5 - Mazda MPV



SNCAP 2000 Test# 5 - Mazda MPV

Max: 80.9 [g] at 0.175 [s]
Min: -25.6 [g] at 0.175 [s]

P1 Upper Rib Ry

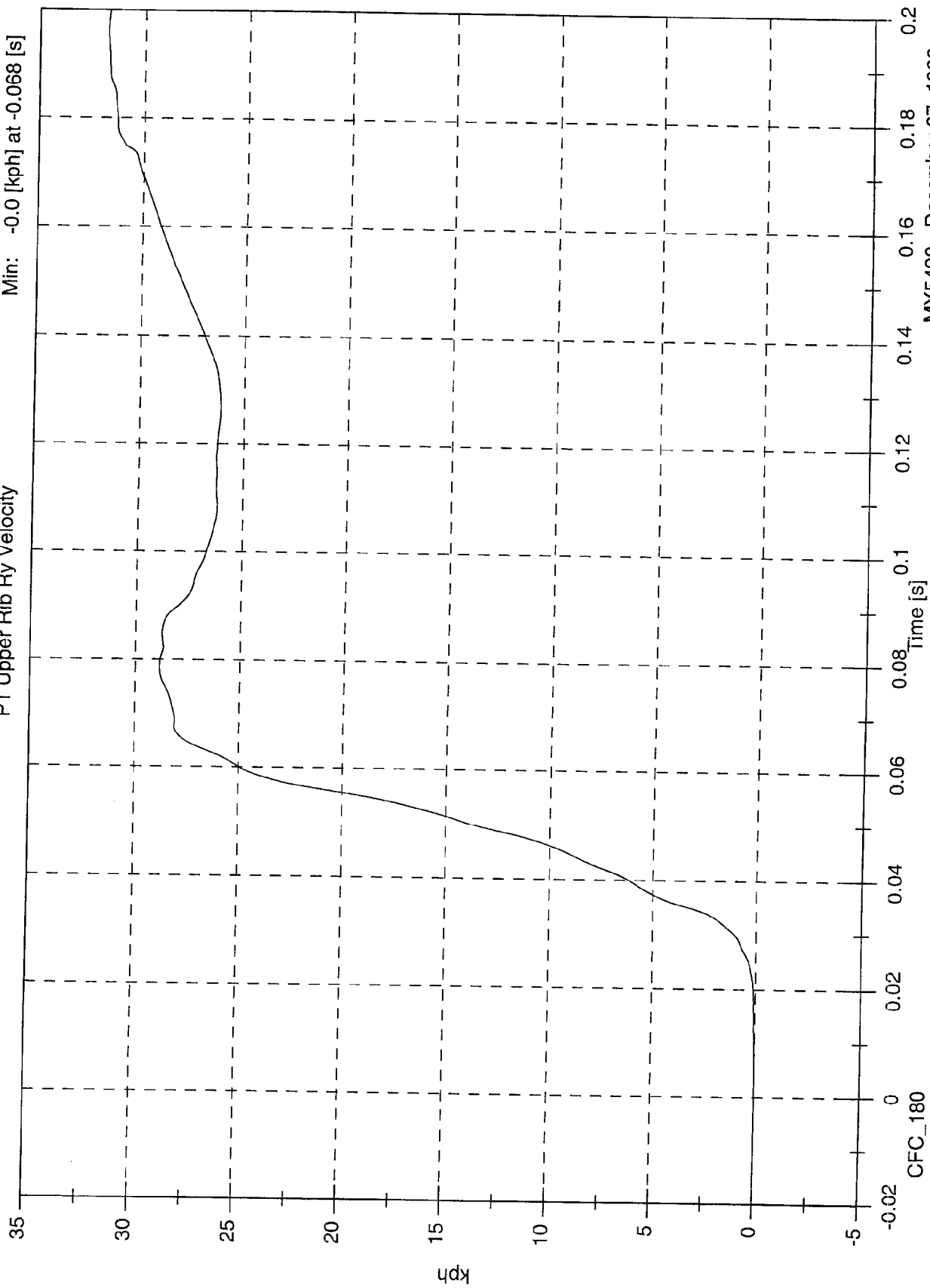


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 32.2 [kph] at 0.233 [s]
Min: -0.0 [kph] at -0.068 [s]

P1 Upper Rib Ry Velocity

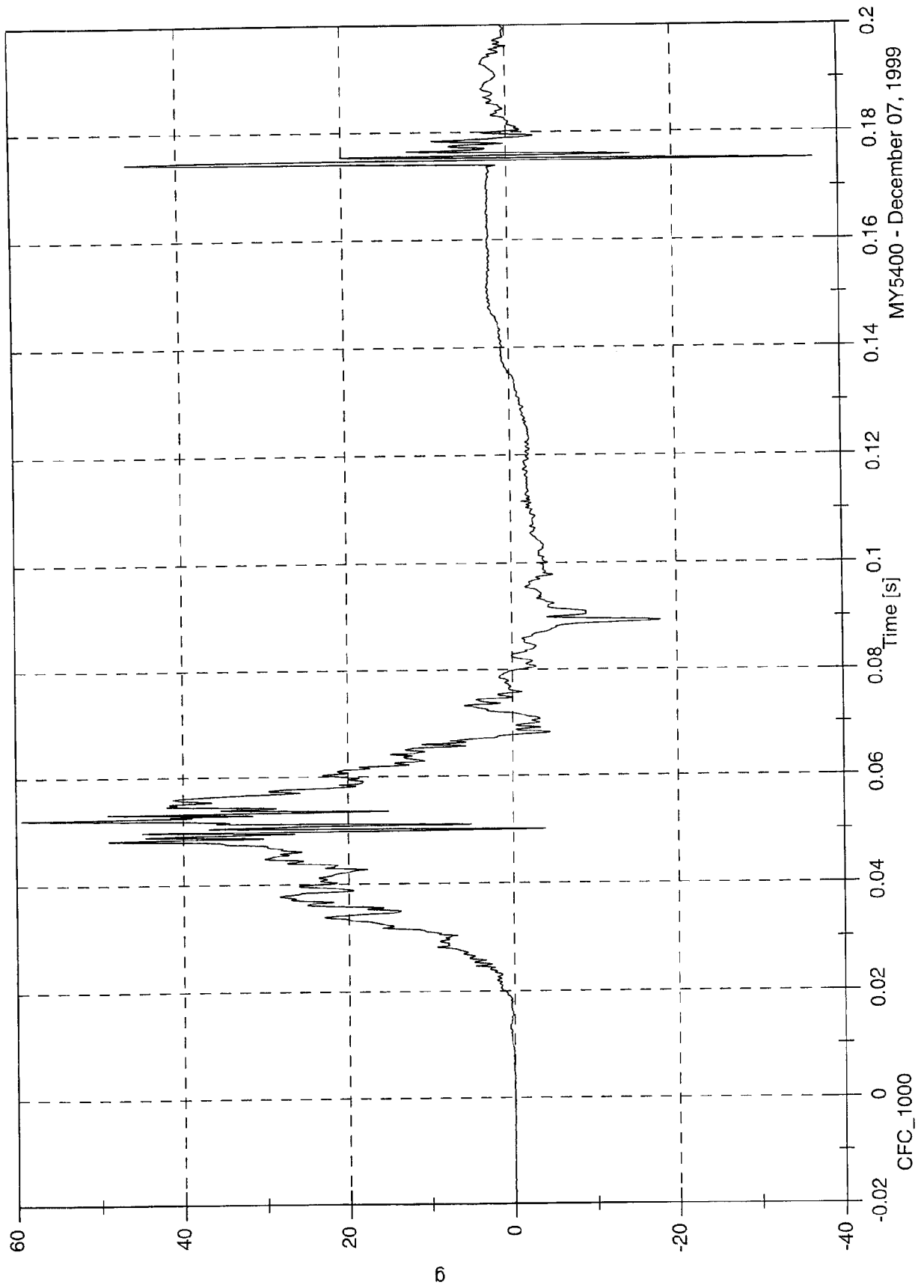


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 59.4 [g] at 0.052 [s]
Min: -37.0 [g] at 0.175 [s]

P1 Lower Rib Ry

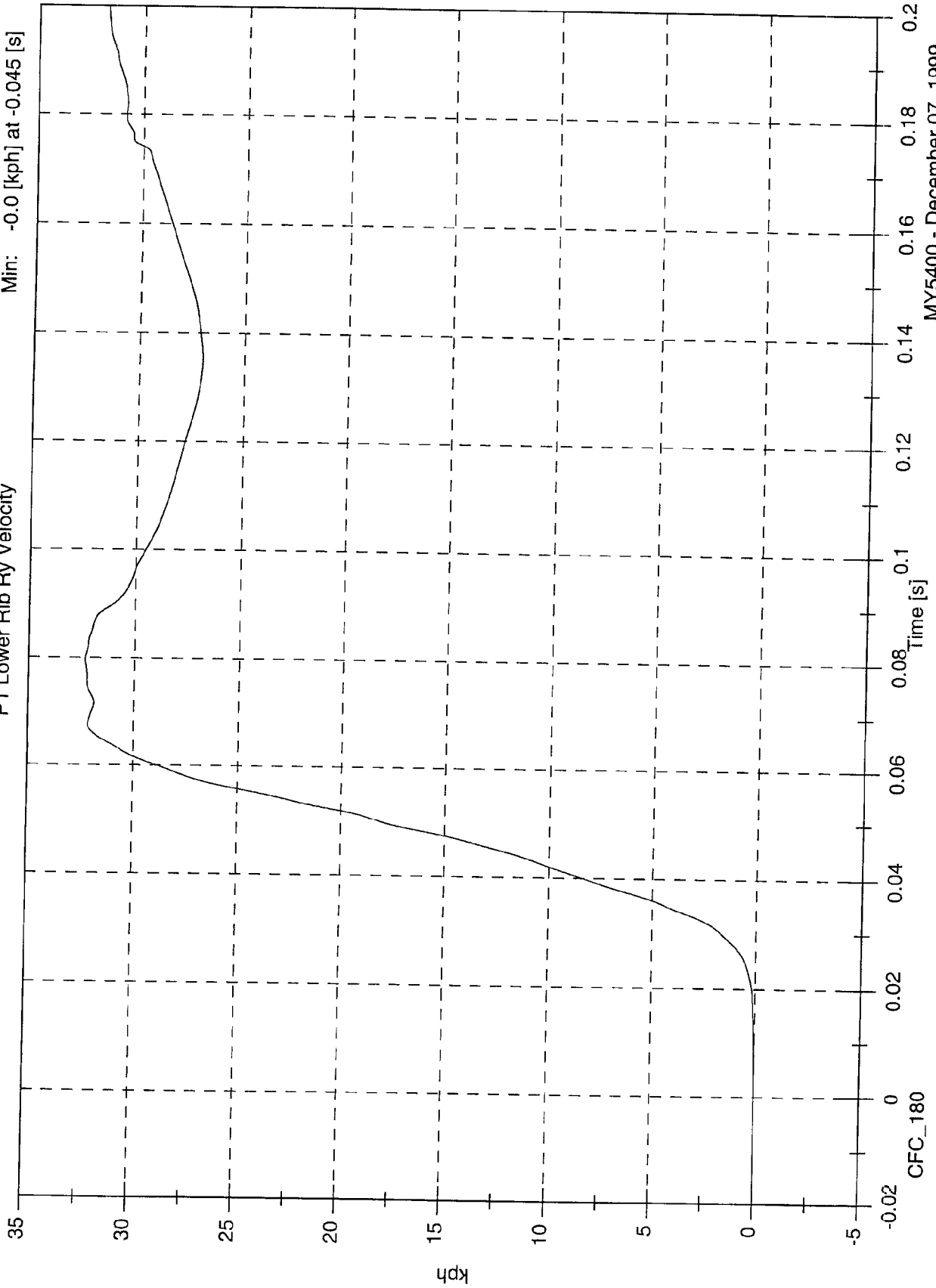


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 32.3 [kph] at 0.080 [s]
Min: -0.0 [kph] at -0.045 [s]

P1 Lower Rib Ry Velocity

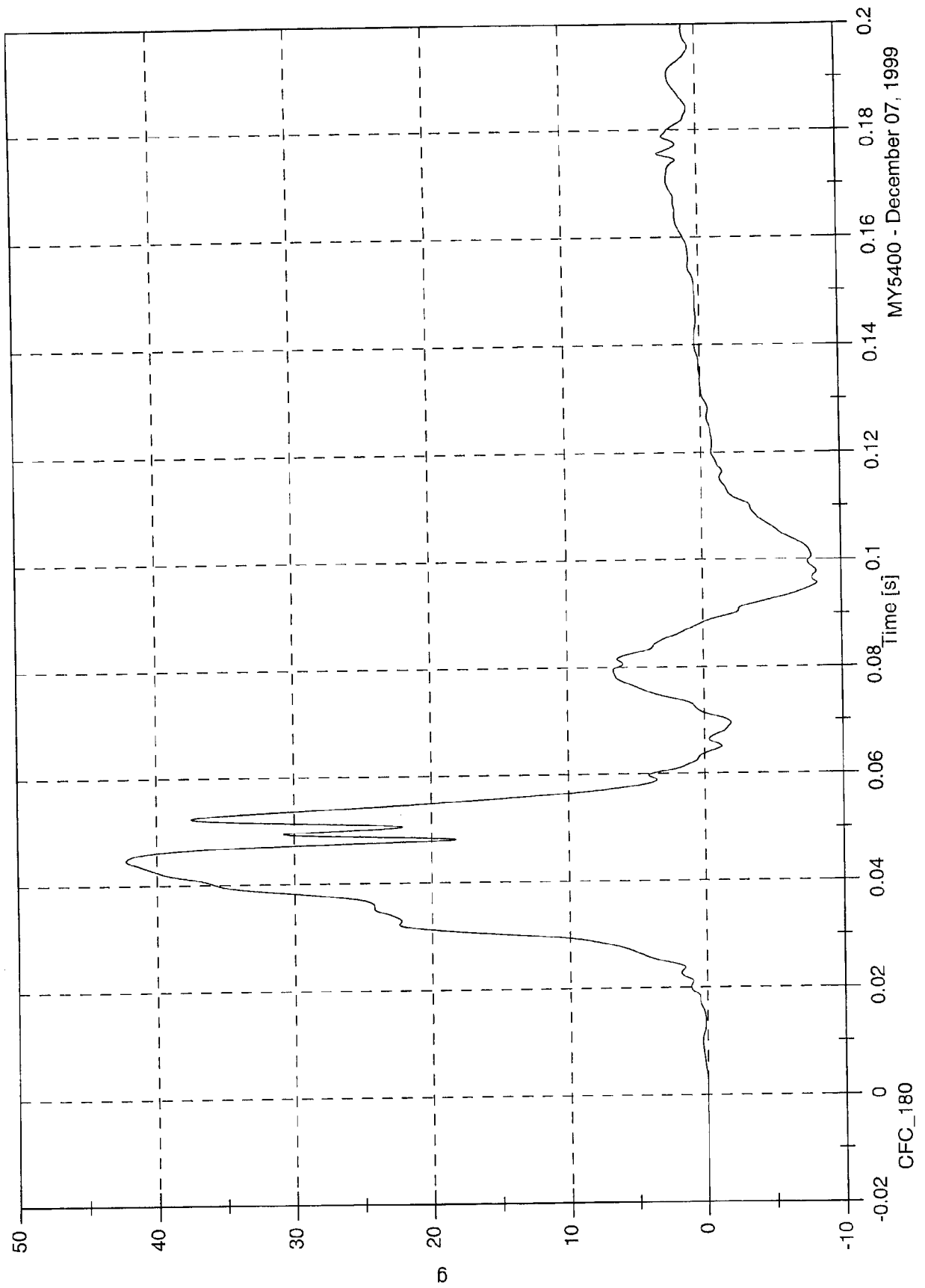


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 42.2 [g] at 0.045 [s]
Min: -8.3 [g] at 0.096 [s]

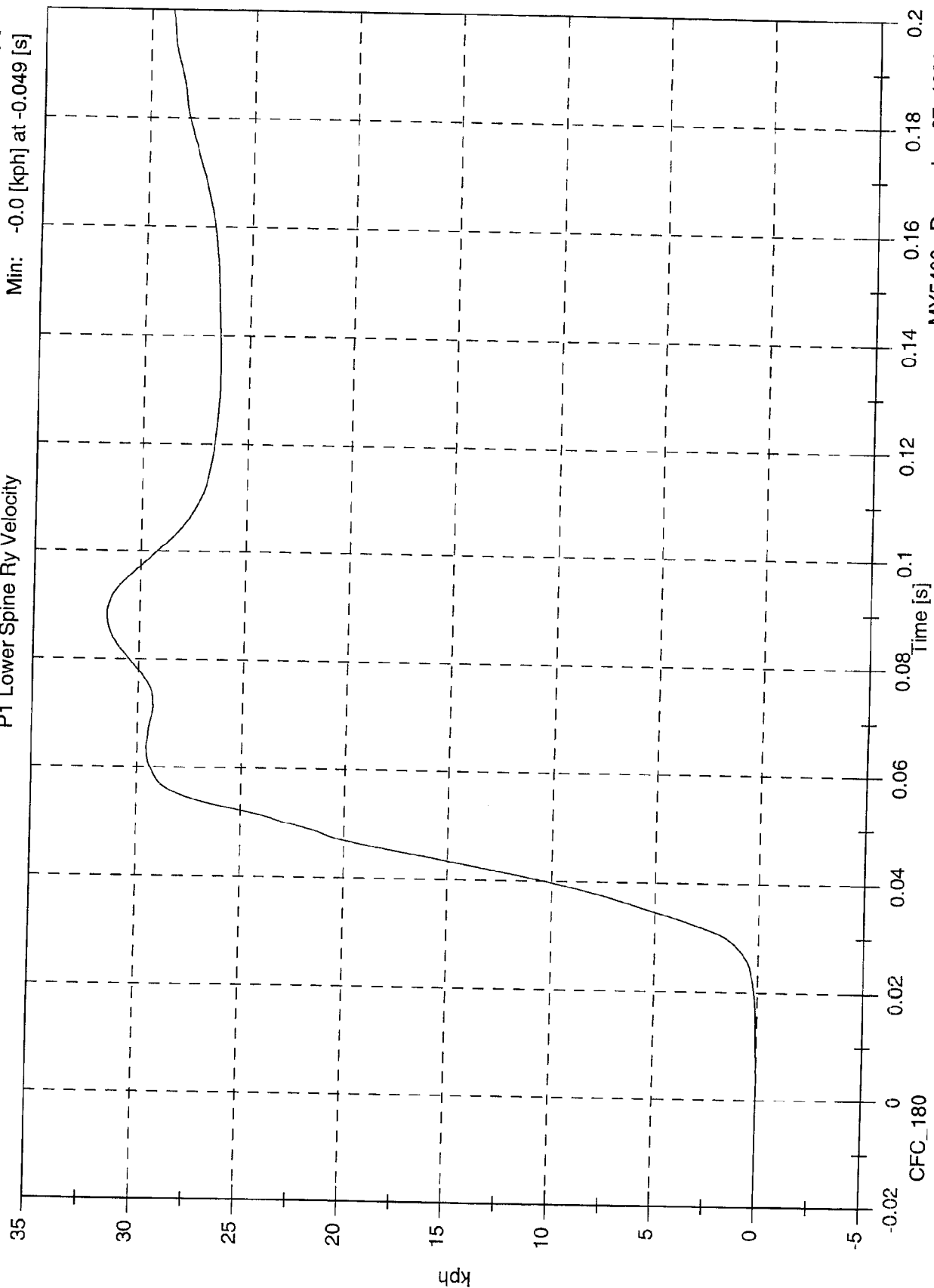
P1 Lower Spine Ry



SNCAP 2000 Test# 5 - Mazda MPV

Max: 31.5 [kph] at 0.088 [s]
Min: -0.0 [kph] at -0.049 [s]

P1 Lower Spine Ry Velocity

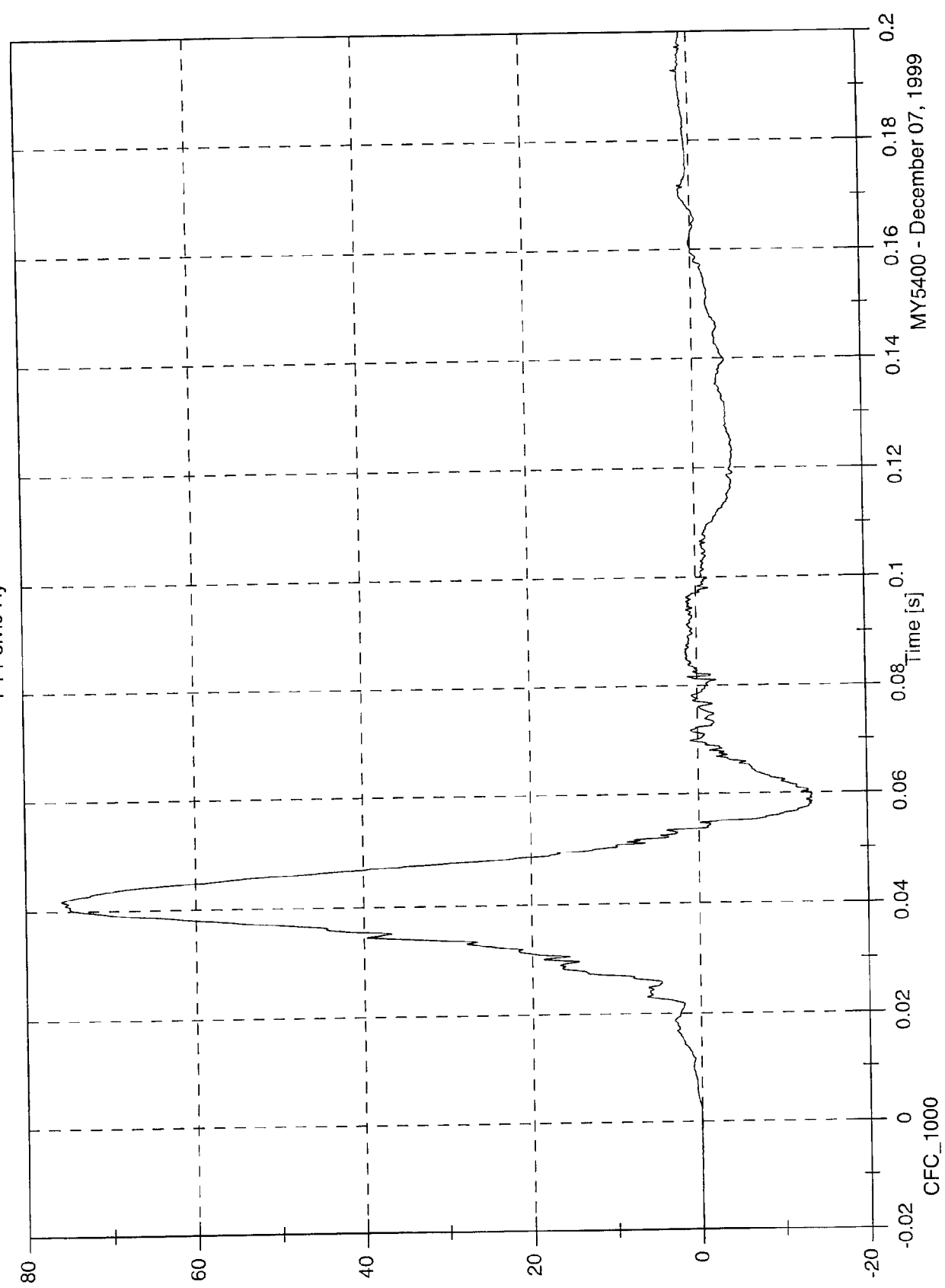


MY5400 - December 07, 1999

Max: 75.8 [g] at 0.042 [s]
Min: -13.5 [g] at 0.060 [s]

SNCAP 2000 Test# 5 - Mazda MPV

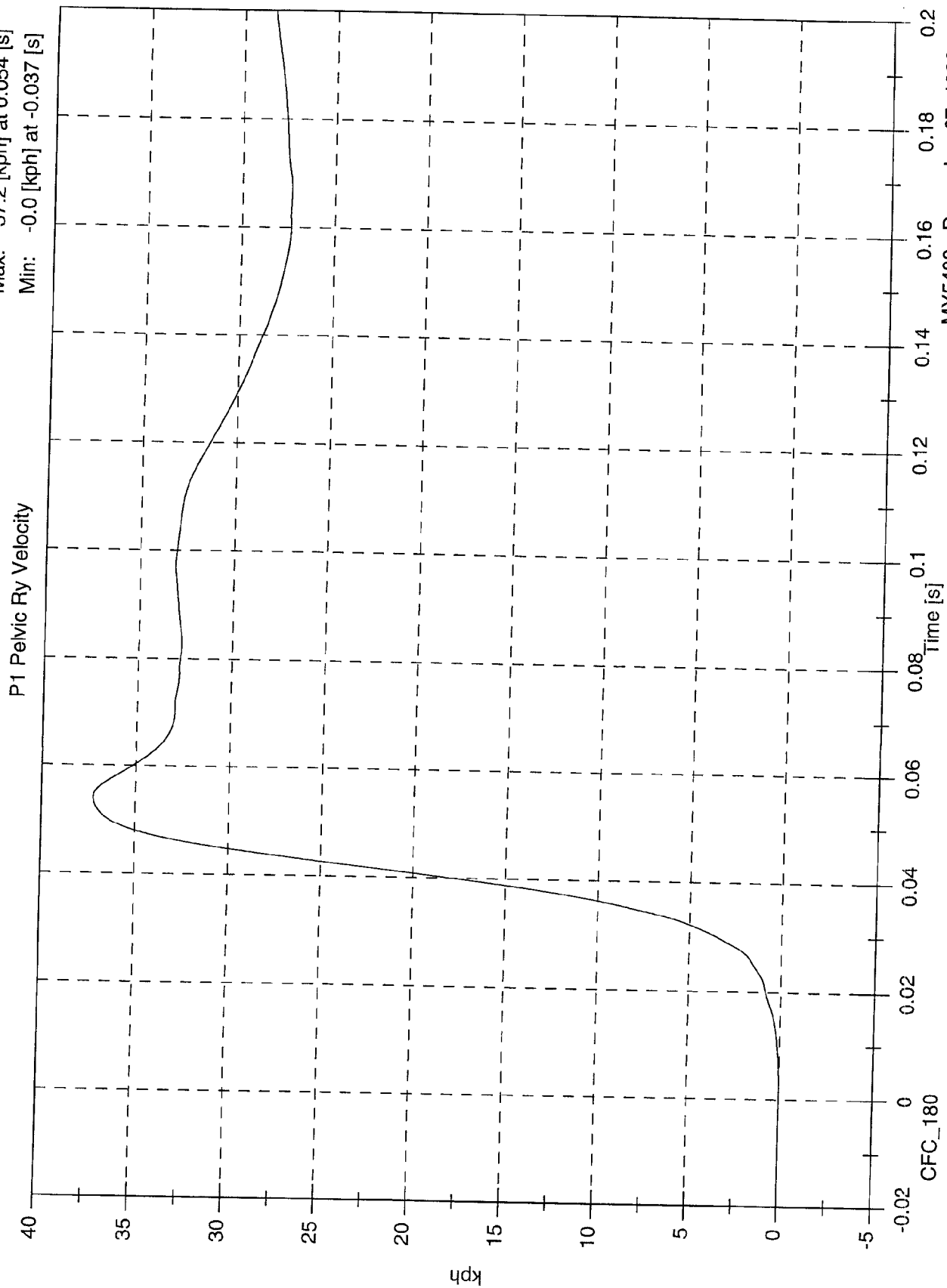
P1 Pelvic Ry



MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 37.2 [kph] at 0.054 [s]
Min: -0.0 [kph] at -0.037 [s]

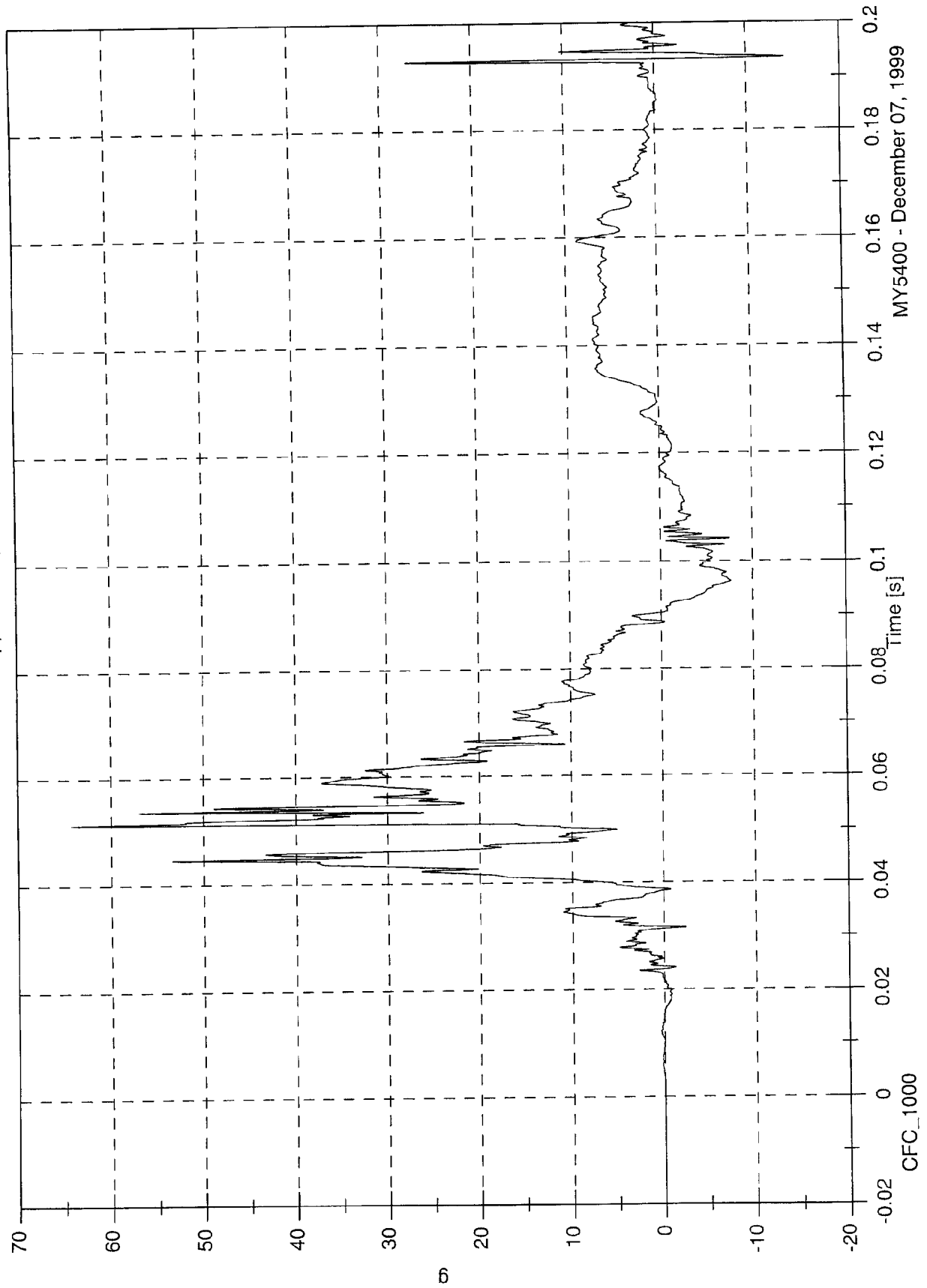


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

P4 Upper Rib Ry

Max: 64.2 [g] at 0.051 [s]
Min: -14.1 [g] at 0.194 [s]

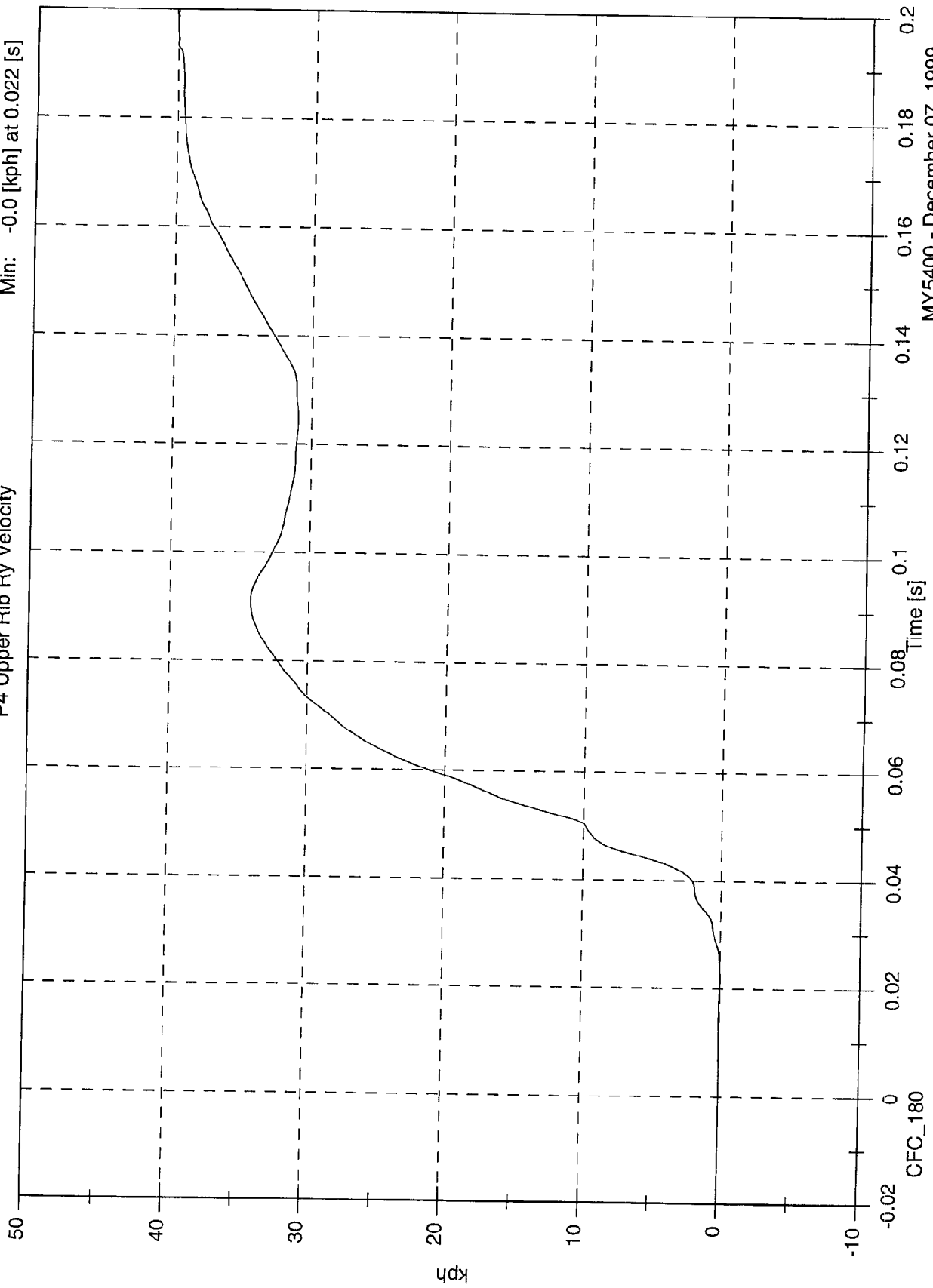


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 40.2 [kph] at 0.238 [s]
Min: -0.0 [kph] at 0.022 [s]

P4 Upper Rib Ry Velocity

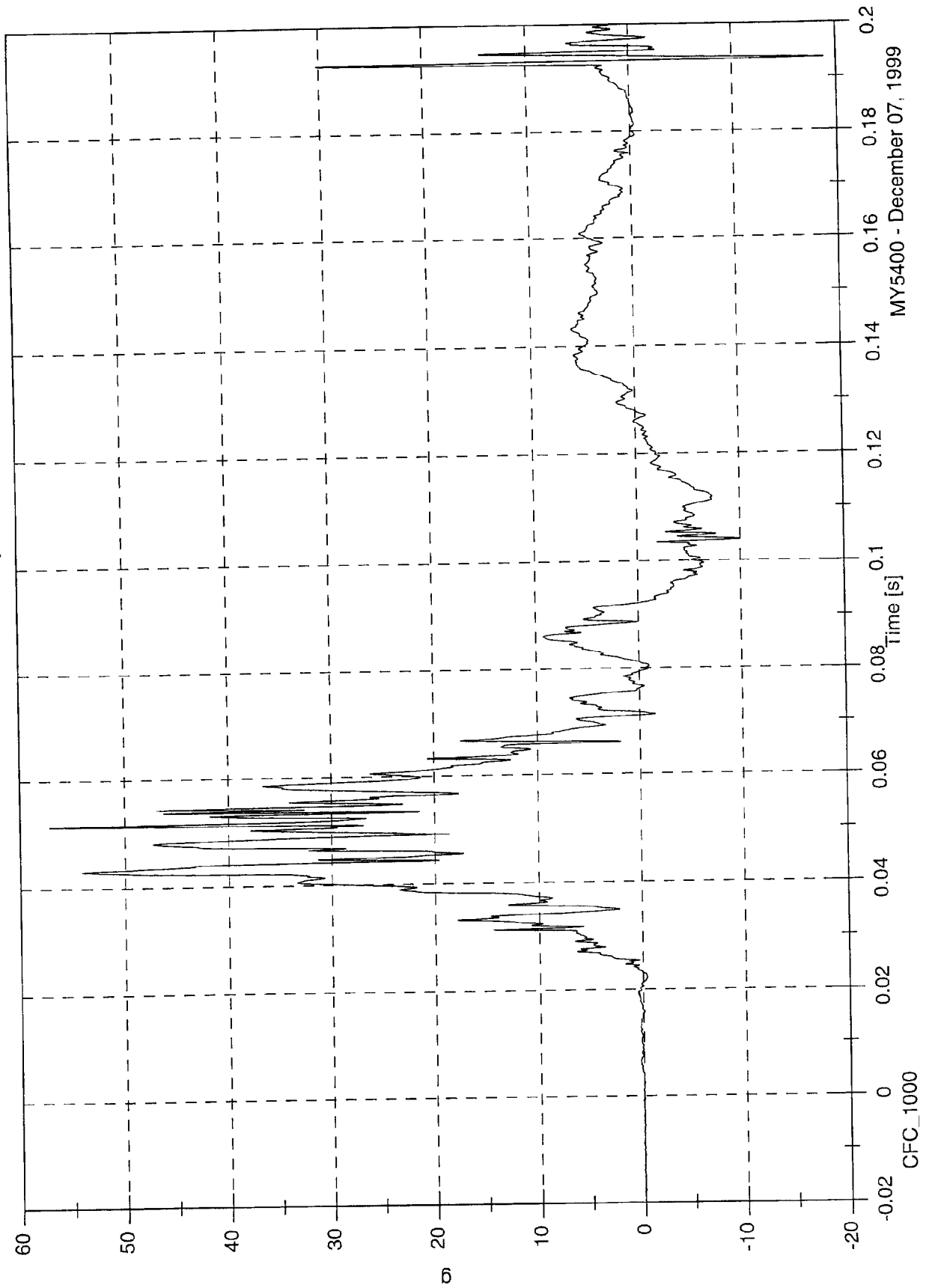


MY5400 - December 07, 1999

Max: 57.2 [g] at 0.051 [s]
Min: -18.8 [g] at 0.194 [s]

SNCAP 2000 Test# 5 - Mazda MPV

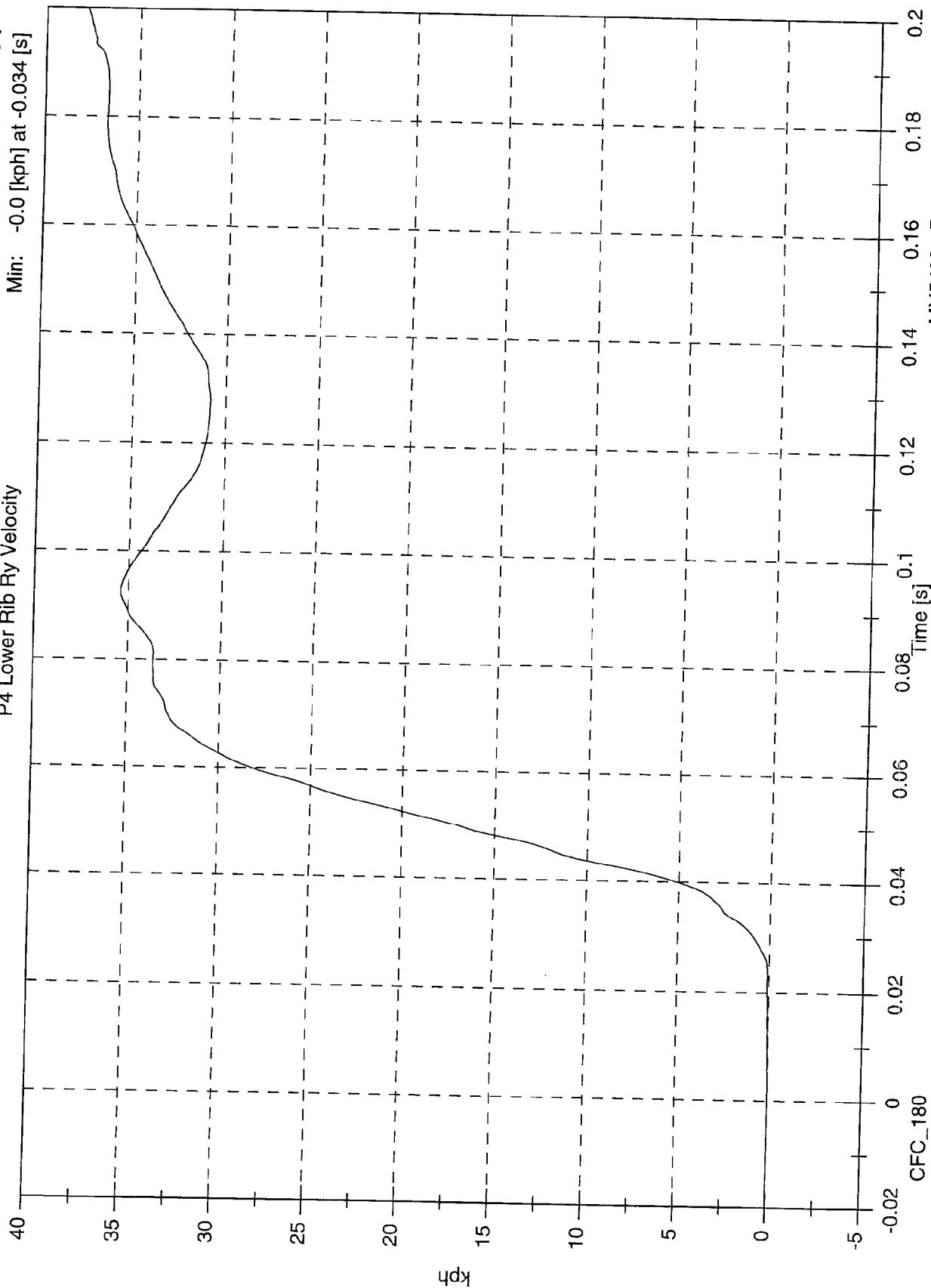
P4 Lower Rib Ry



SNCAP 2000 Test# 5 - Mazda MPV

Max: 38.3 [kph] at 0.216 [s]
Min: -0.0 [kph] at -0.034 [s]

P4 Lower Rib Ry Velocity

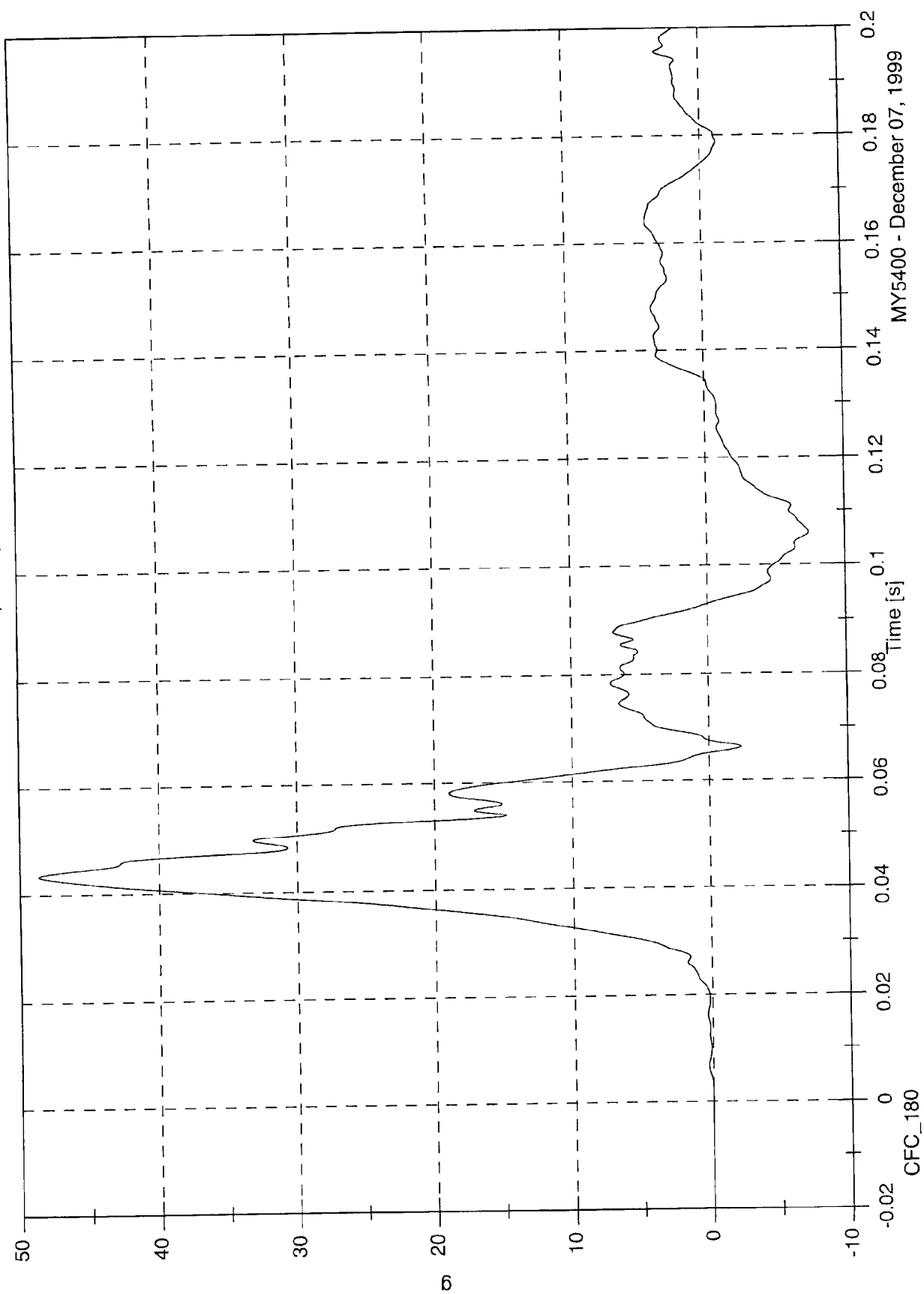


MY5400 - December 07, 1999

Max: 48.7 [g] at 0.043 [s]
Min: -7.4 [g] at 0.106 [s]

SNCAP 2000 Test# 5 - Mazda MPV

P4 Lower Spine Ry

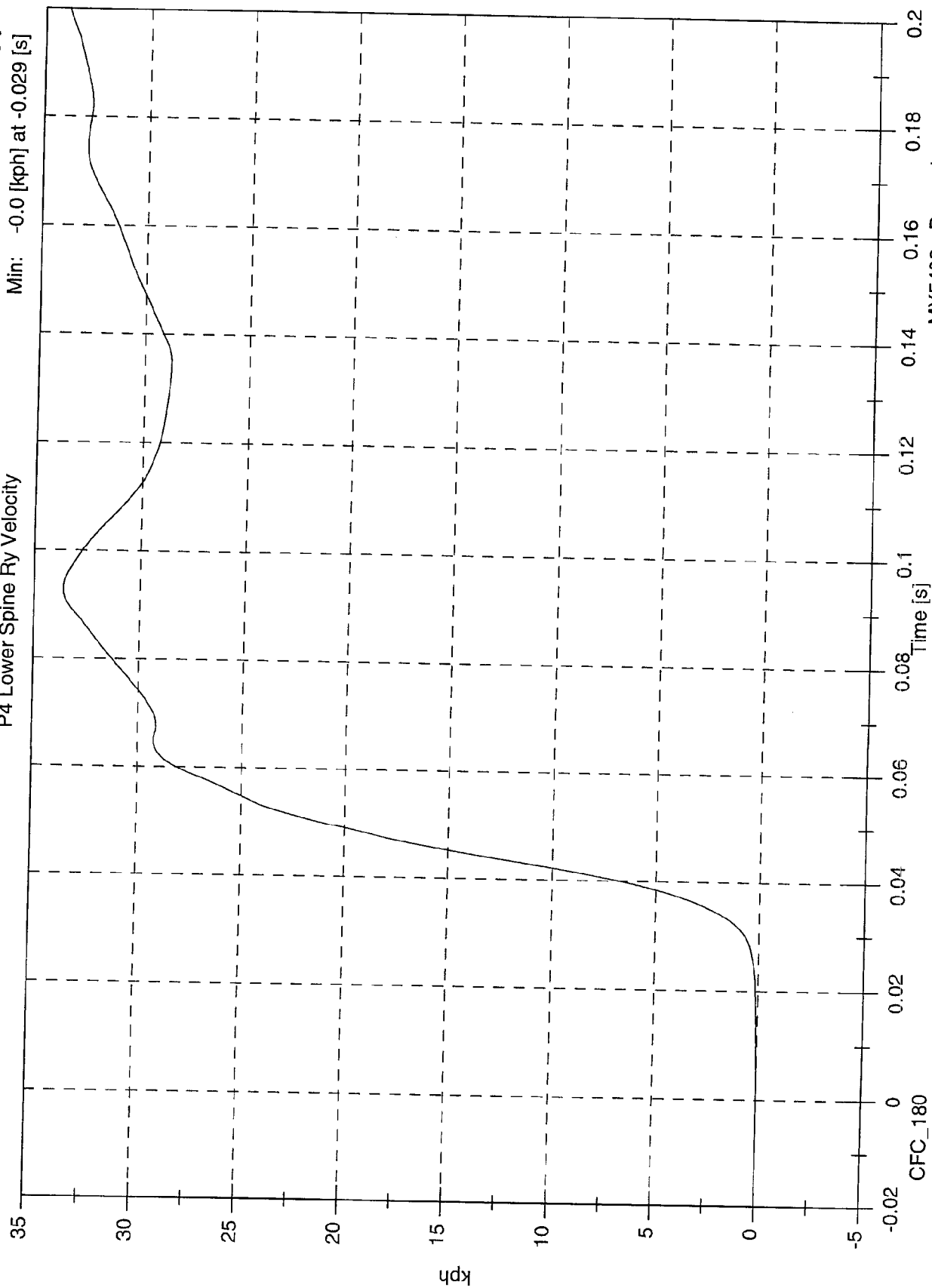


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 34.9 [kph] at 0.222 [s]
Min: -0.0 [kph] at -0.029 [s]

P4 Lower Spine Ry Velocity

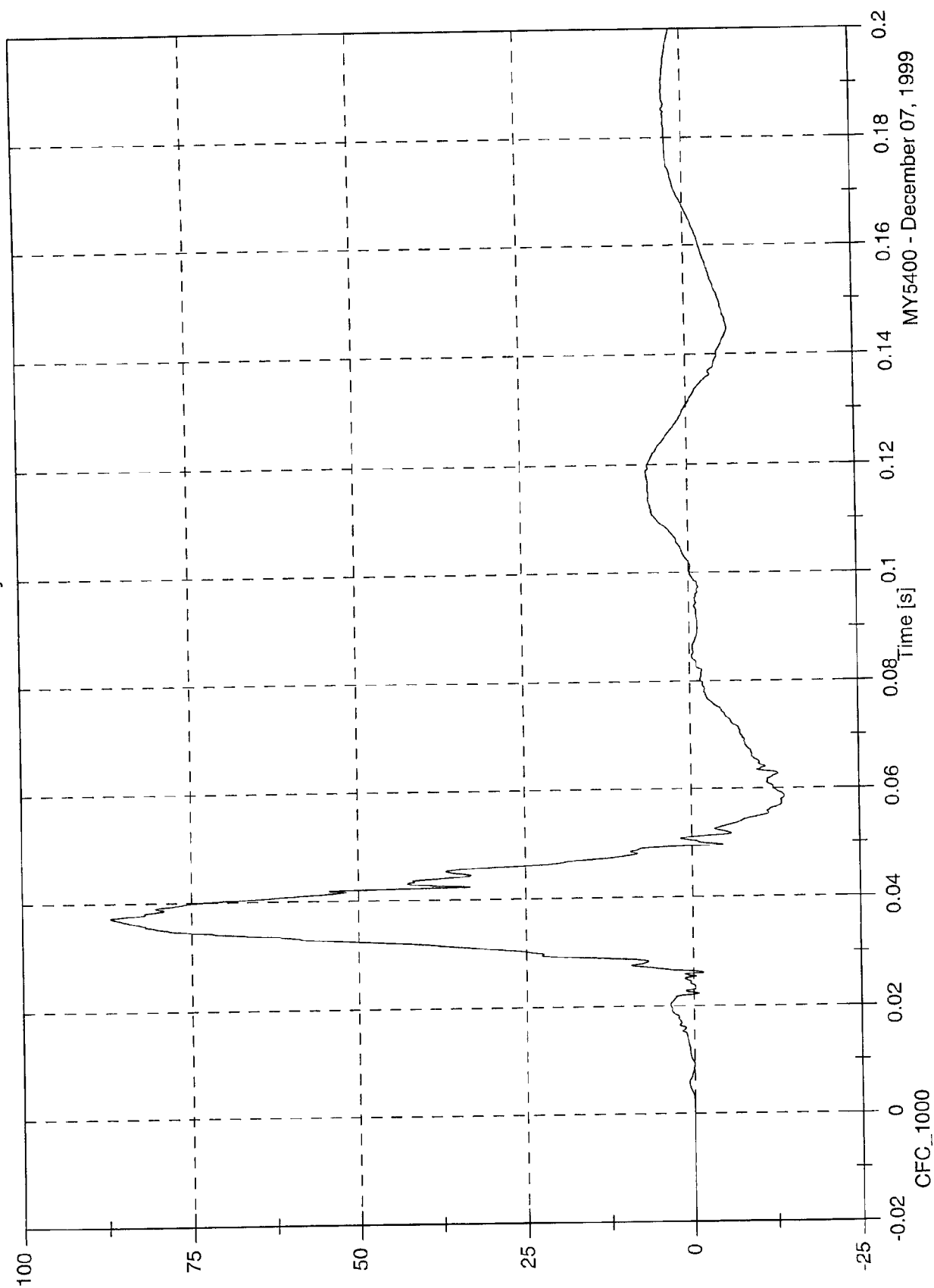


MY5400 - December 07, 1999

Max: 87.0 [g] at 0.037 [s]
Min: -13.9 [g] at 0.059 [s]

SNCAP 2000 Test# 5 - Mazda MPV

P4 Pelvic Ry

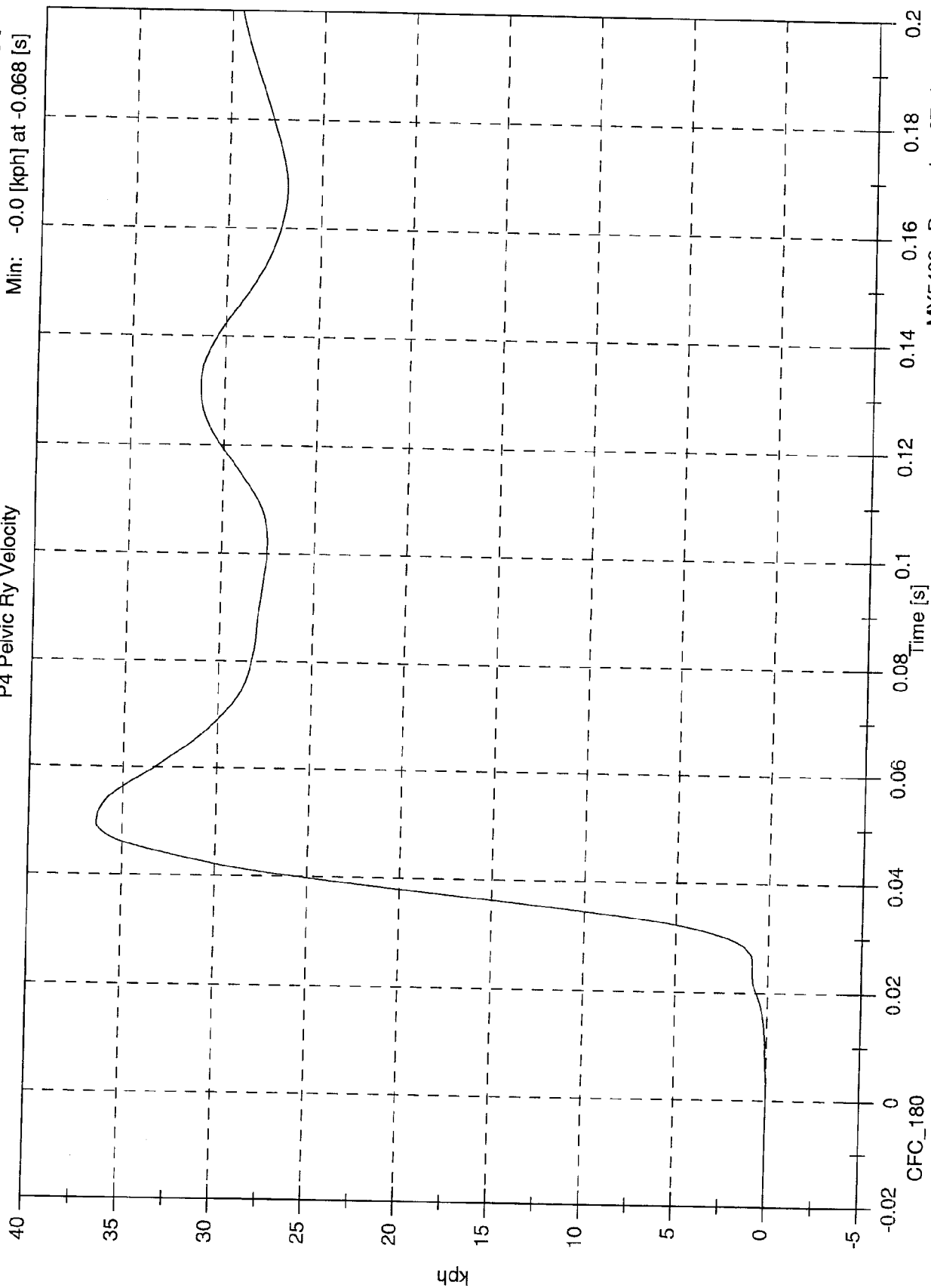


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 36.4 [kph] at 0.050 [s]
 Min: -0.0 [kph] at -0.068 [s]

P4 Pelvic Ry Velocity

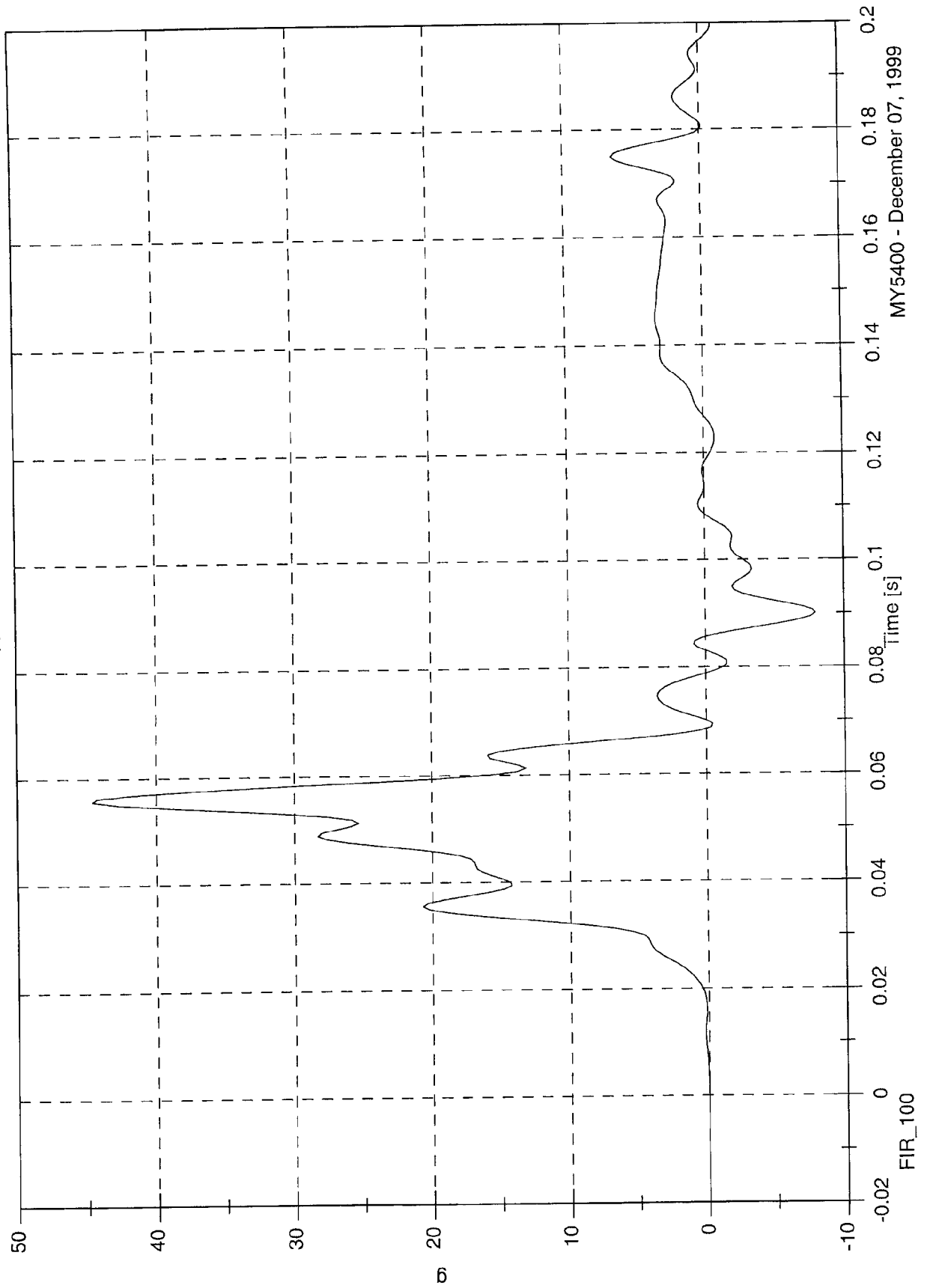


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 44.6 [g] at 0.056 [s]
Min: -7.9 [g] at 0.090 [s]

P1 Upper Rib Ry

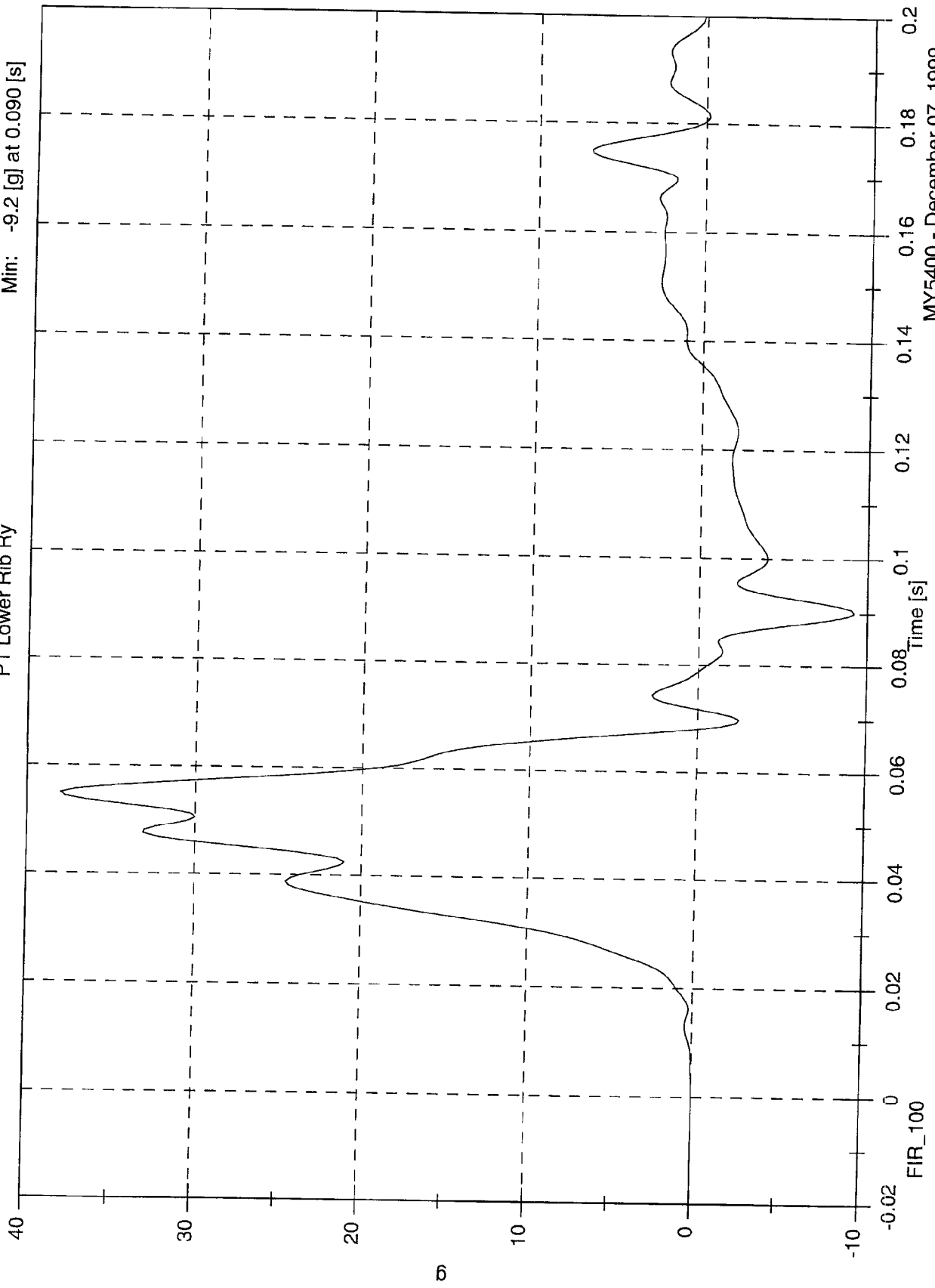


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 38.0 [g] at 0.055 [s]
Min: -9.2 [g] at 0.090 [s]

P1 Lower Rib Ry

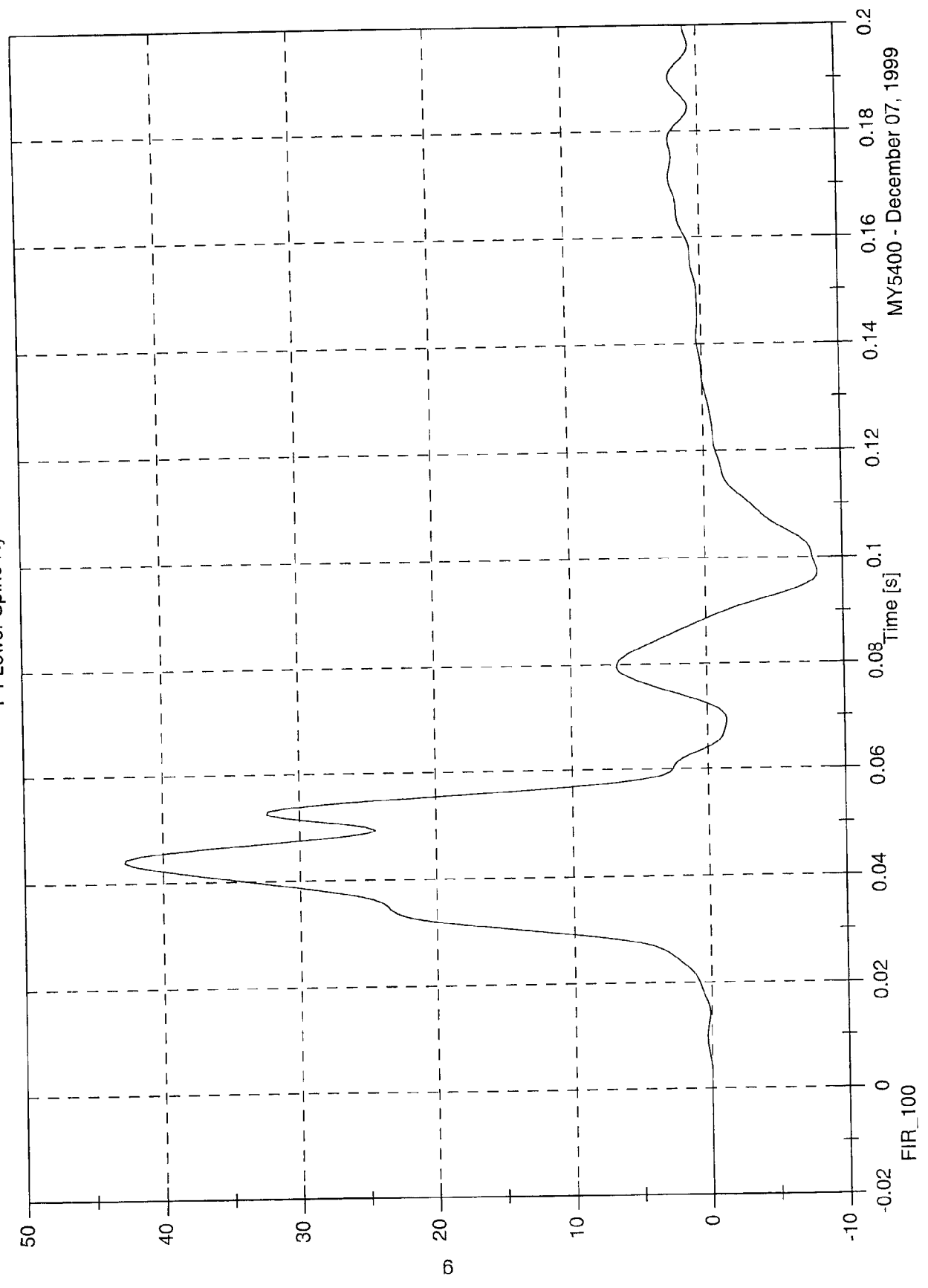


MY5400 - December 07, 1999

Max: 42.8 [g] at 0.044 [s]
Min: -8.2 [g] at 0.097 [s]

SNCAP 2000 Test# 5 - Mazda MPV

P1 Lower Spine Ry

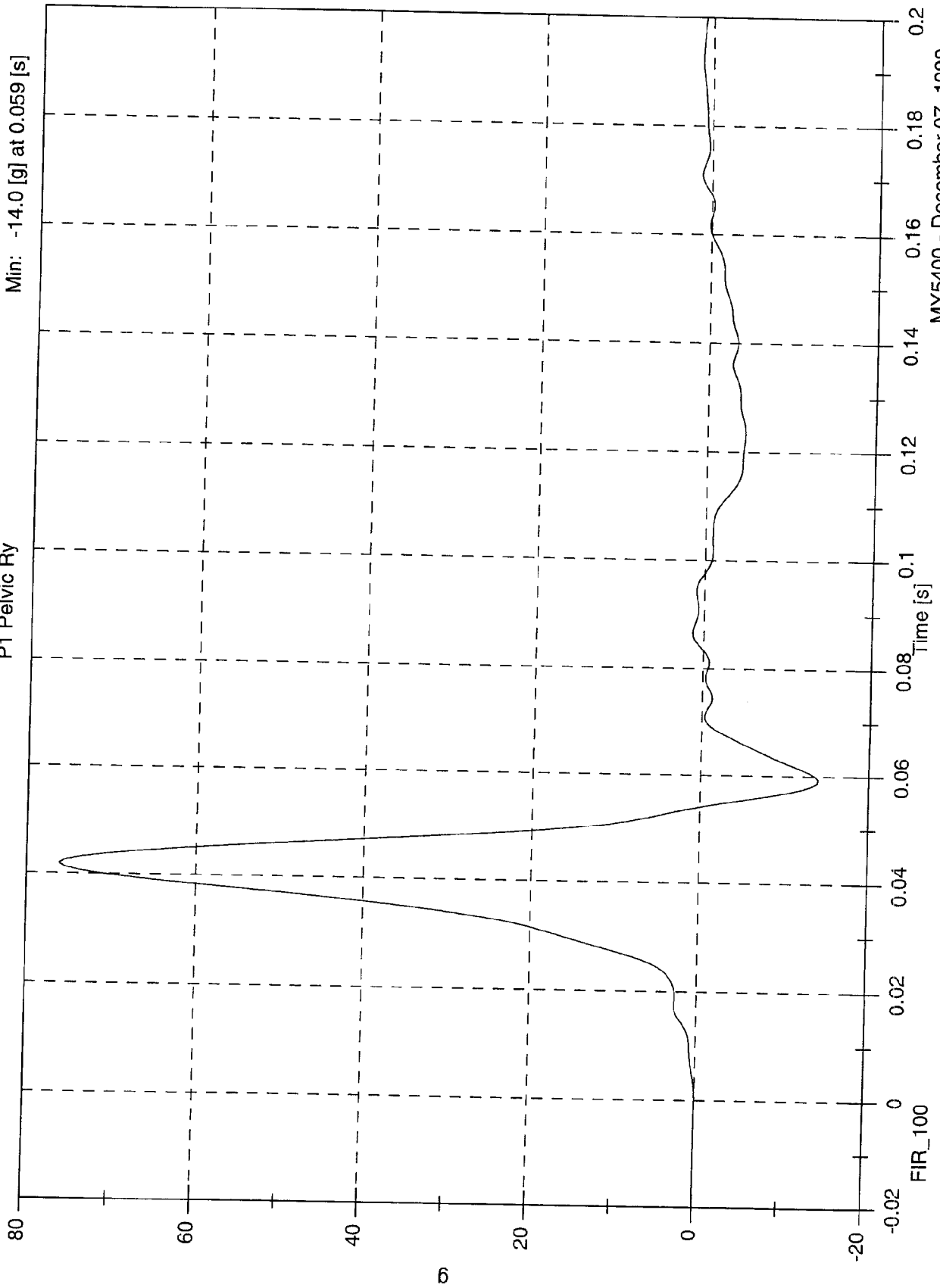


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 76.2 [g] at 0.042 [s]
Min: -14.0 [g] at 0.059 [s]

P1 Pelvic Ry

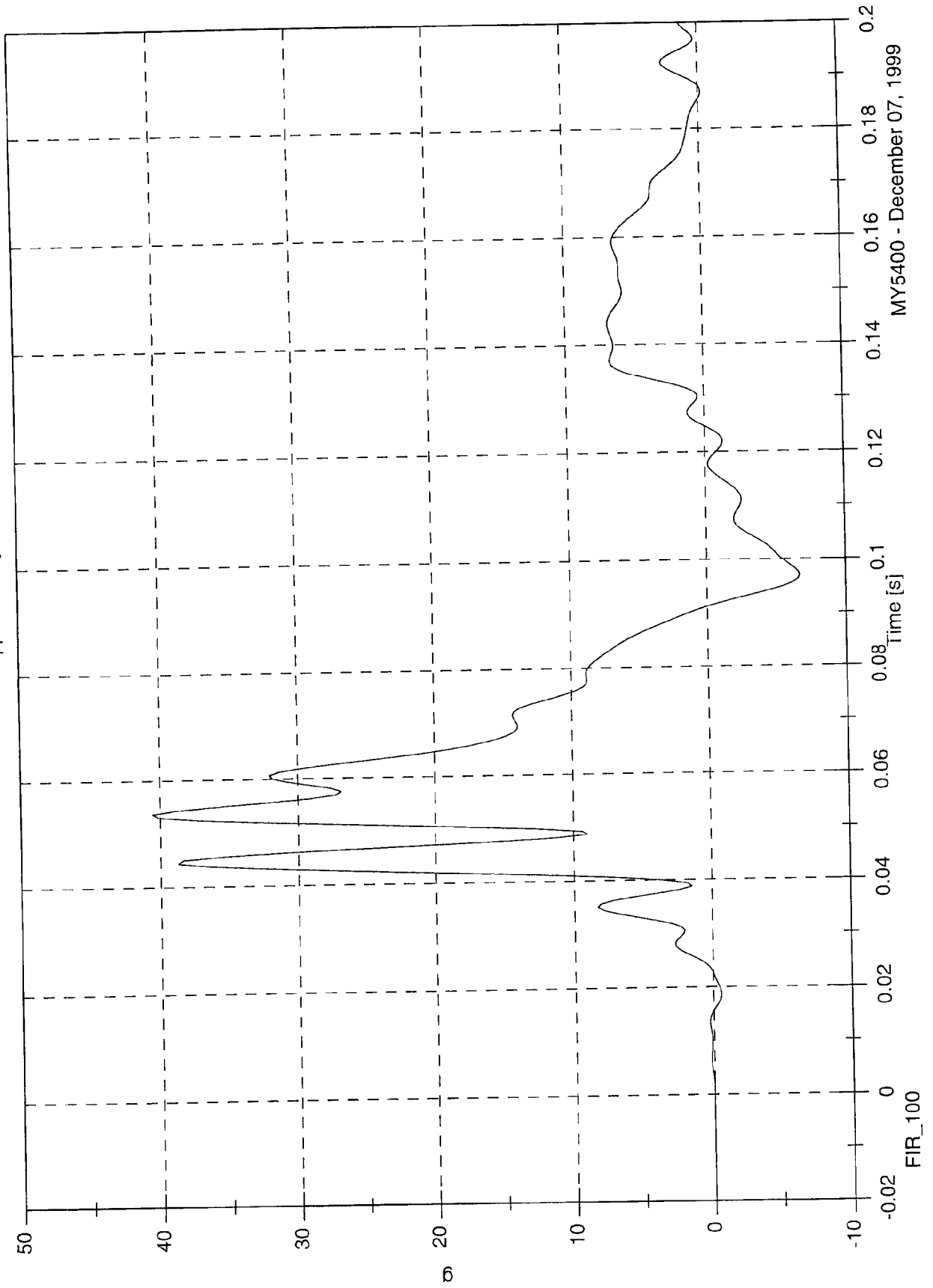


MY5400 - December 07, 1999

Max: 40.5 [g] at 0.054 [s]
Min: -6.7 [g] at 0.097 [s]

SNCAP 2000 Test# 5 - Mazda MPV

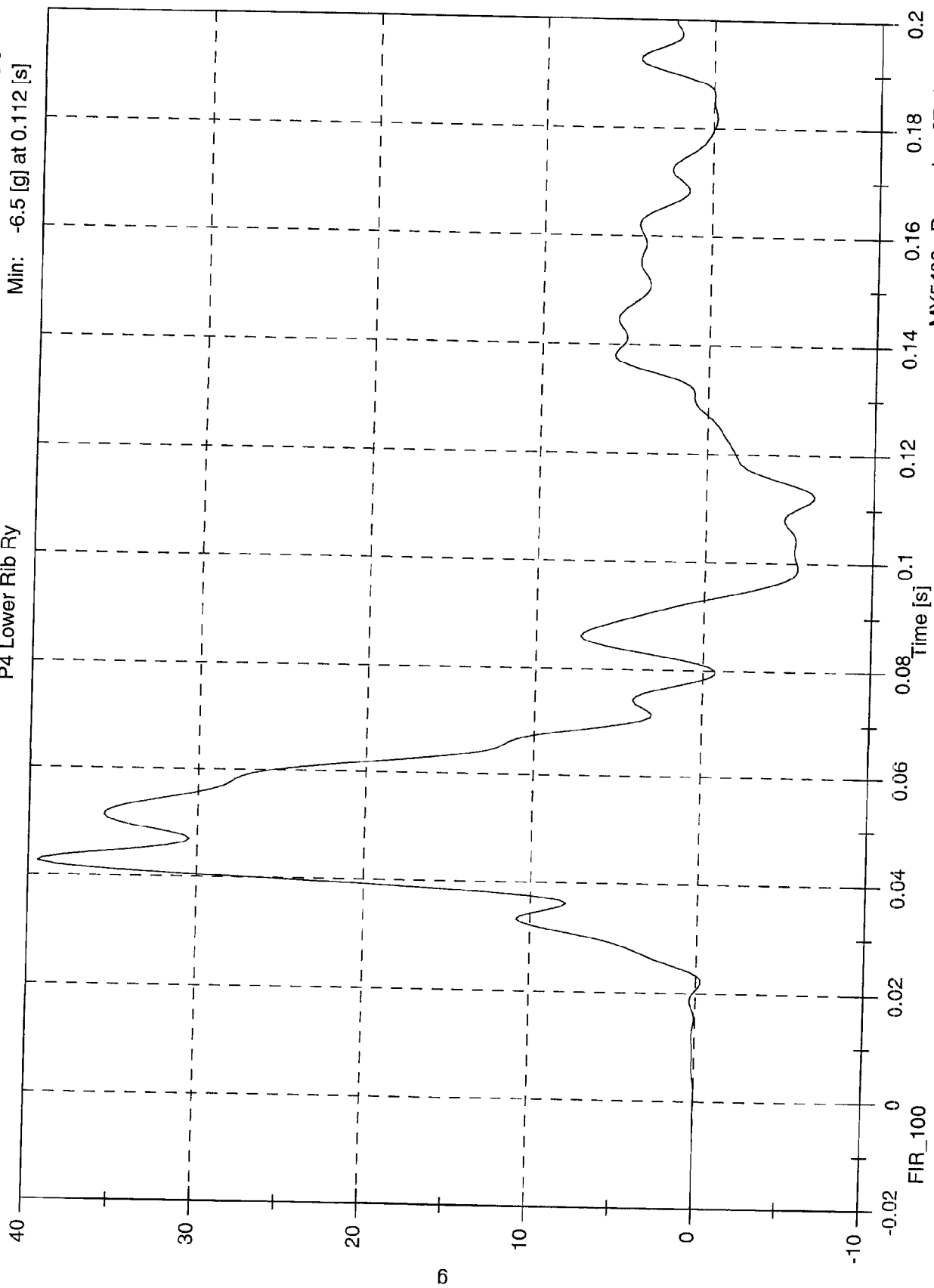
P4 Upper Rib Ry



SNCAP 2000 Test# 5 - Mazda MPV

Max: 39.5 [g] at 0.043 [s]
Min: -6.5 [g] at 0.112 [s]

P4 Lower Rib Ry

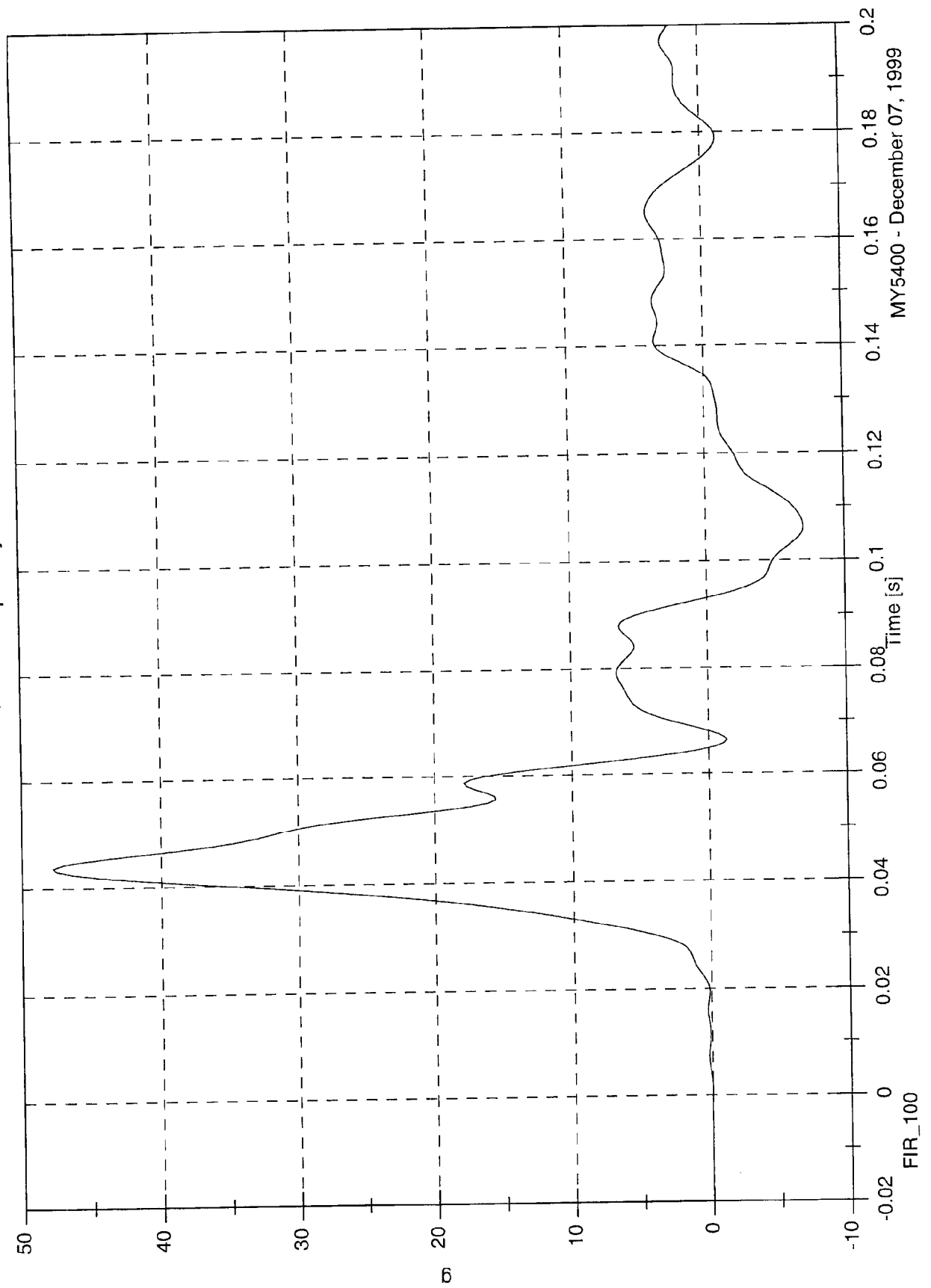


MY5400 - December 07, 1999

Max: 47.8 [g] at 0.044 [s]
Min: -7.1 [g] at 0.106 [s]

SNCAP 2000 Test# 5 - Mazda MPV

P4 Lower Spine Ry

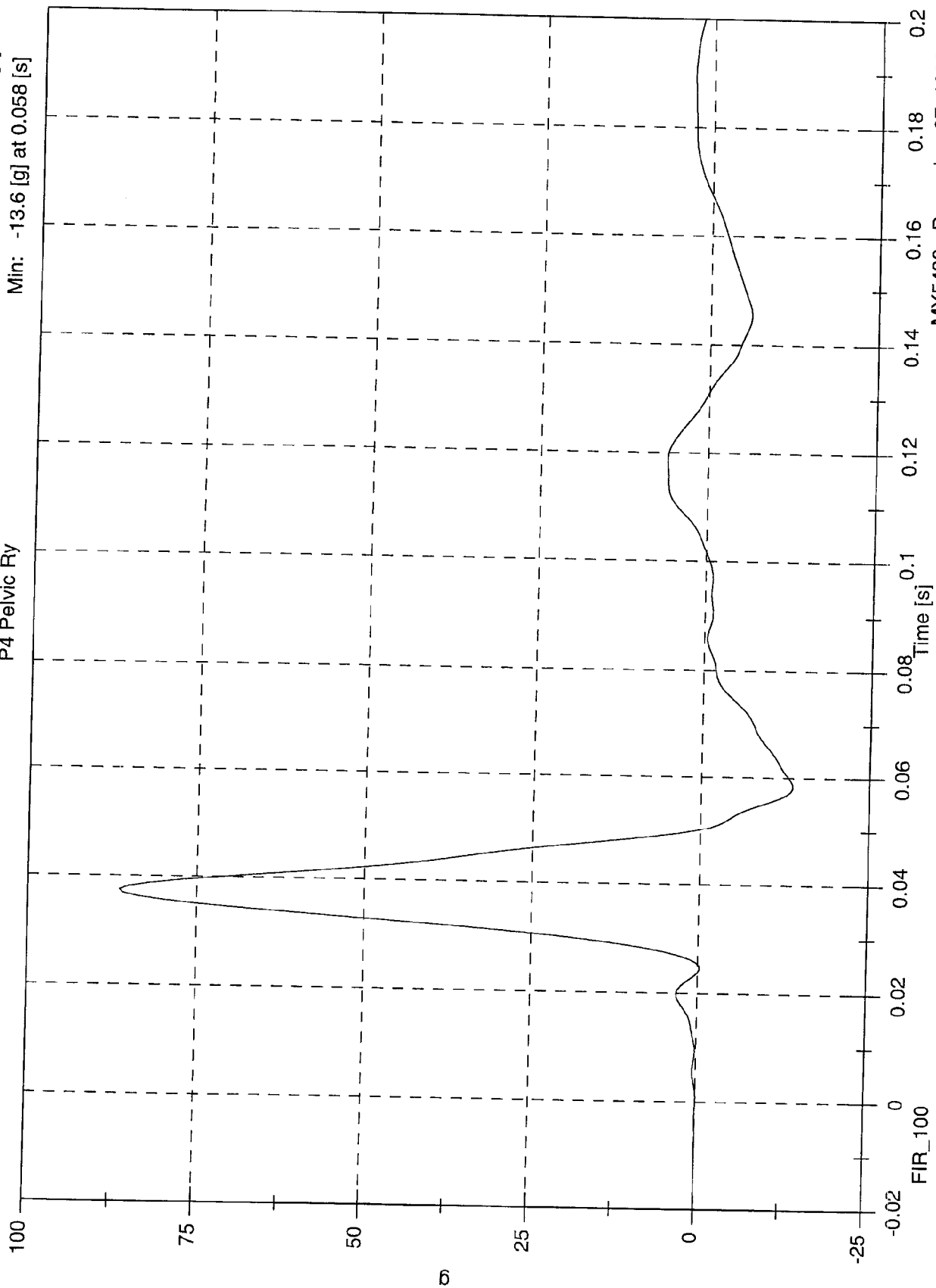


MY5400 - December 07, 1999

SNCAP 2000 Test# 5 - Mazda MPV

Max: 86.5 [g] at 0.038 [s]
Min: -13.6 [g] at 0.058 [s]

P4 Pelvic Ry



MY5400 - December 07, 1999

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: November 30, 1999; January 4, 2000

Sequential Test Number:

4,5; 2,3

Laboratory Technician:

B. Swiecicki; M. Kilgallon

TEST PARAMETER	SPECIFICATION	SID NO.: 268		SID NO.: 027	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	899	902	907	897
RH- Rib Height (mm)	501 - 521	513	506	518	513
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	235	236	236	236
KV- Knee Pivot from Back Line (mm)	511 - 526	518	521	518	521
SW- Knee Pivot to Floor (mm)	490 - 505	495	493	493	498
HW- Hip Width (mm)	356 - 391	376	368	368	366
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.7	21.1	21.7	21.1
RELATIVE HUMIDITY (%)	10 - 70	32	30	32	30
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.32	4.28	4.30
UPPER RIB (g's)	37 - 46	38.8	44.7	38.0	42.8
LOWER RIB (g's)	37 - 46	38.9	42.2	37.3	42.5
LOWER SPINE (g's)	15 - 22	20.2	21.1	20.6	21.2
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.7	21.1	21.7	21.1
RELATIVE HUMIDITY (%)	10 - 70	32	30	32	30
PROBE SPEED (m/s)	4.27 - 4.33	4.32	4.28	4.32	4.30
PELVIS (g's)	40 - 60	53.1	43.7	52.6	49.9

REMARKS: None

**CALIBRATION TEST RESULTS
PRE-TEST**

SID NO.: 268

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 4
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268
Date: November 30, 1999

Sequential Test Number: 4
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	899
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	235
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	495
HW- Hip Width (mm)	356 - 391	376

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 1.4
Date: August 27, 1999 Laboratory Technician: B. Swiecicki

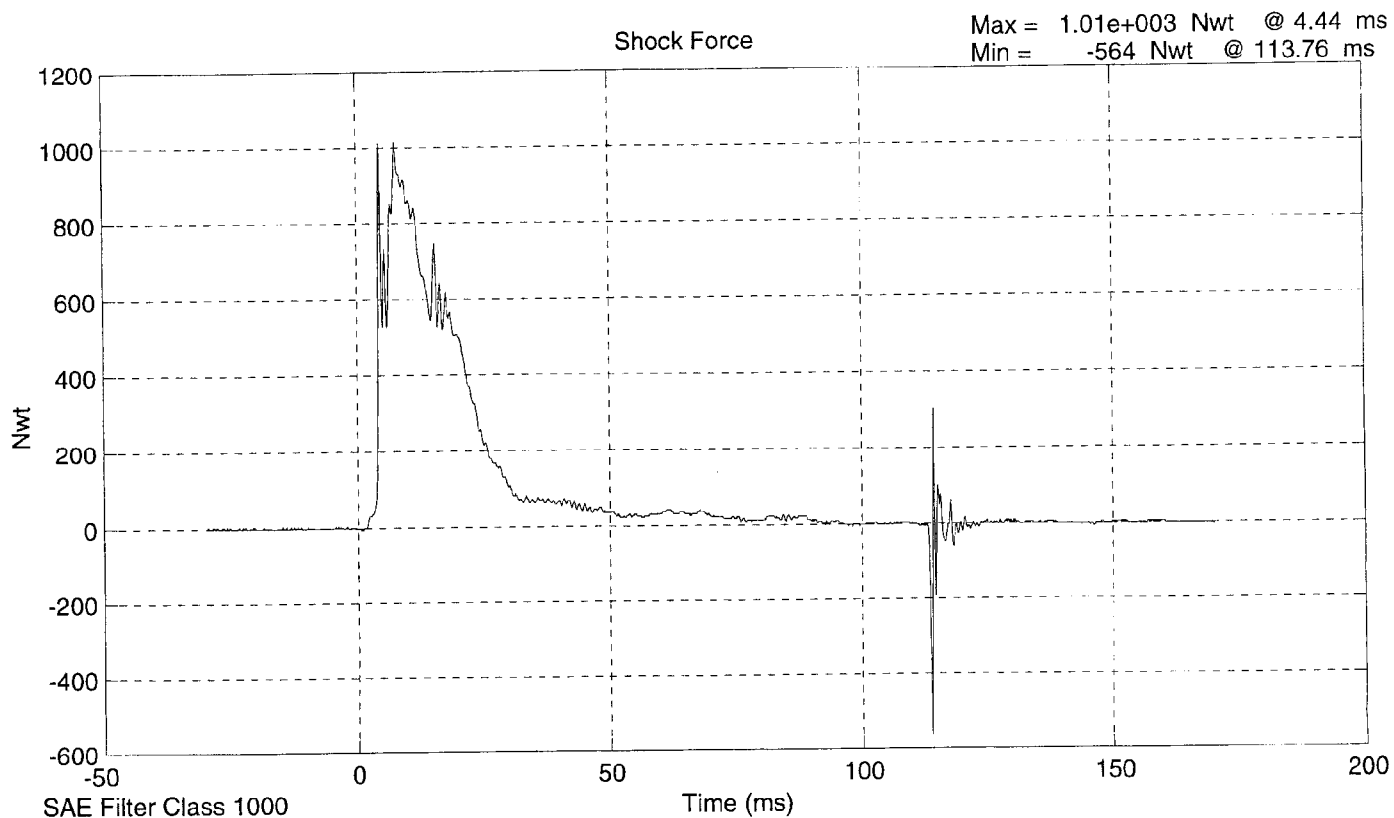
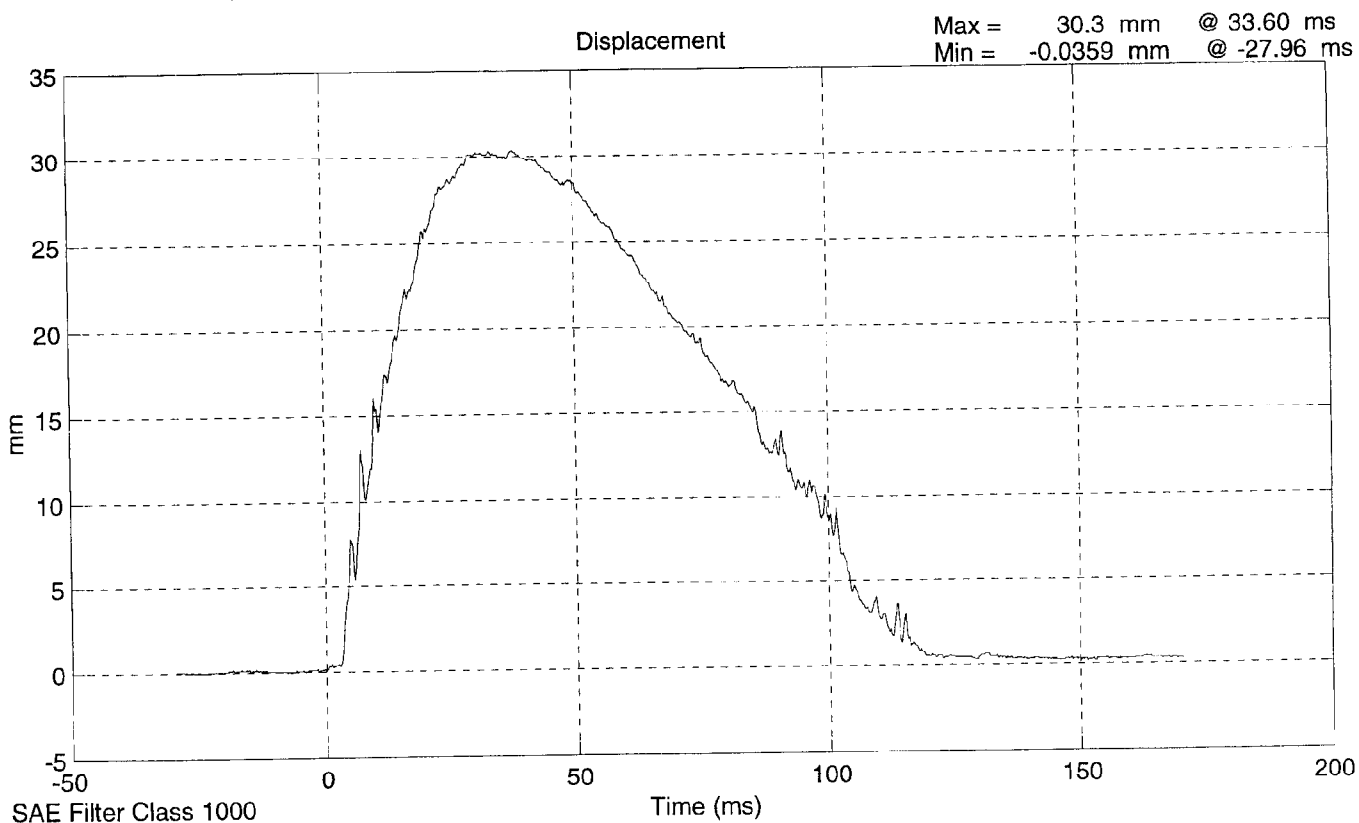
DAMPER IDENTIFICATION: 268

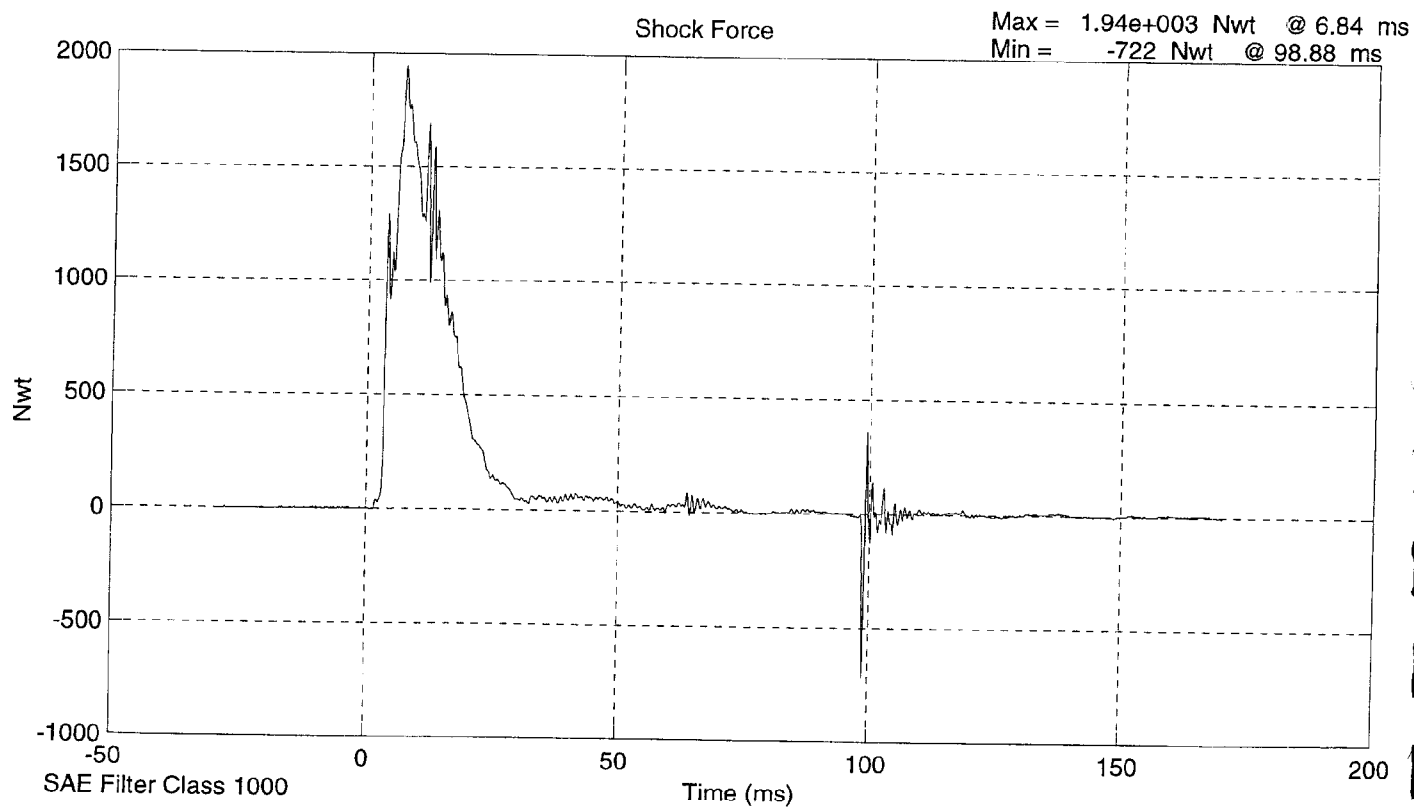
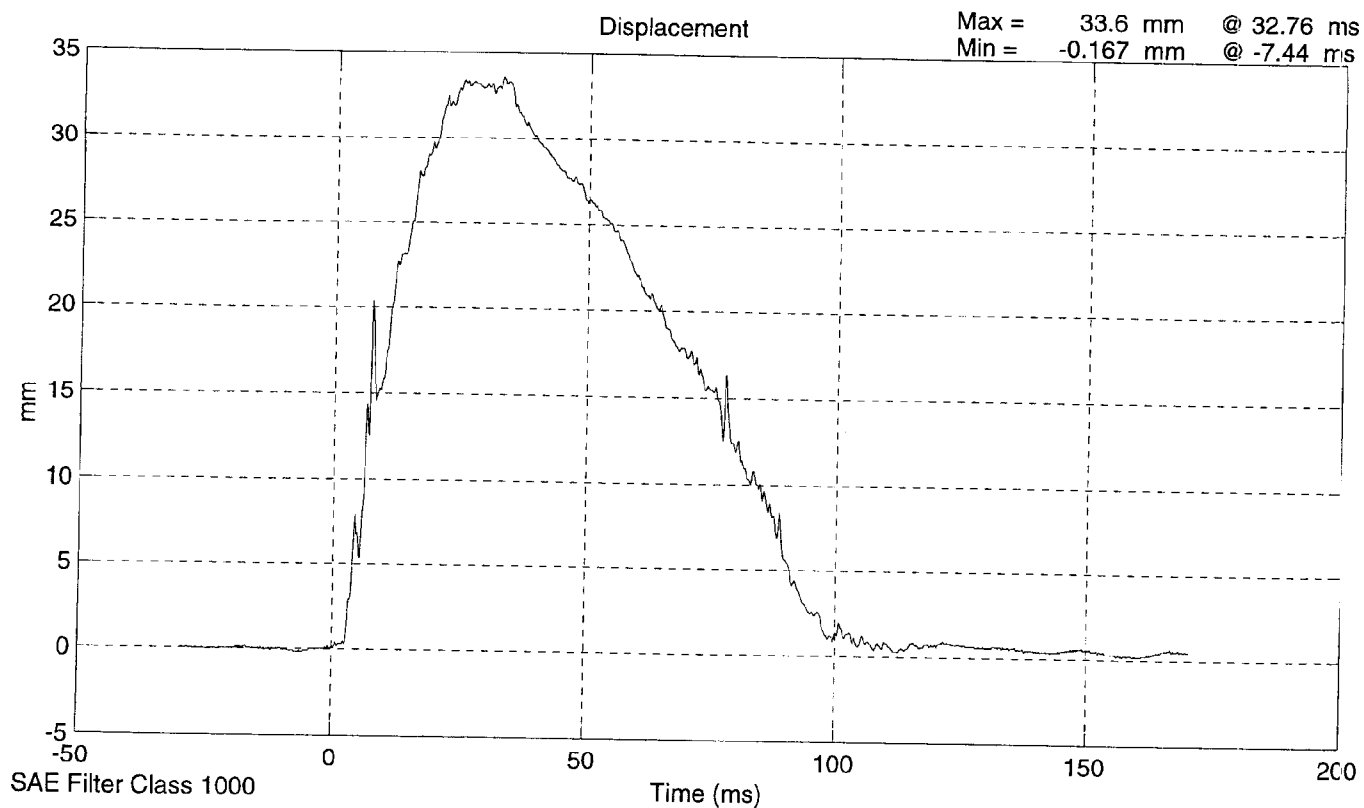
TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)		10 - 70	30
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1011
	DISPLACEMENT (mm)	30 - 35	30
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1942
	DISPLACEMENT (mm)	32 - 37	34
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3931
	DISPLACEMENT (mm)	33 - 40	36

DAMPER SETTING: 5

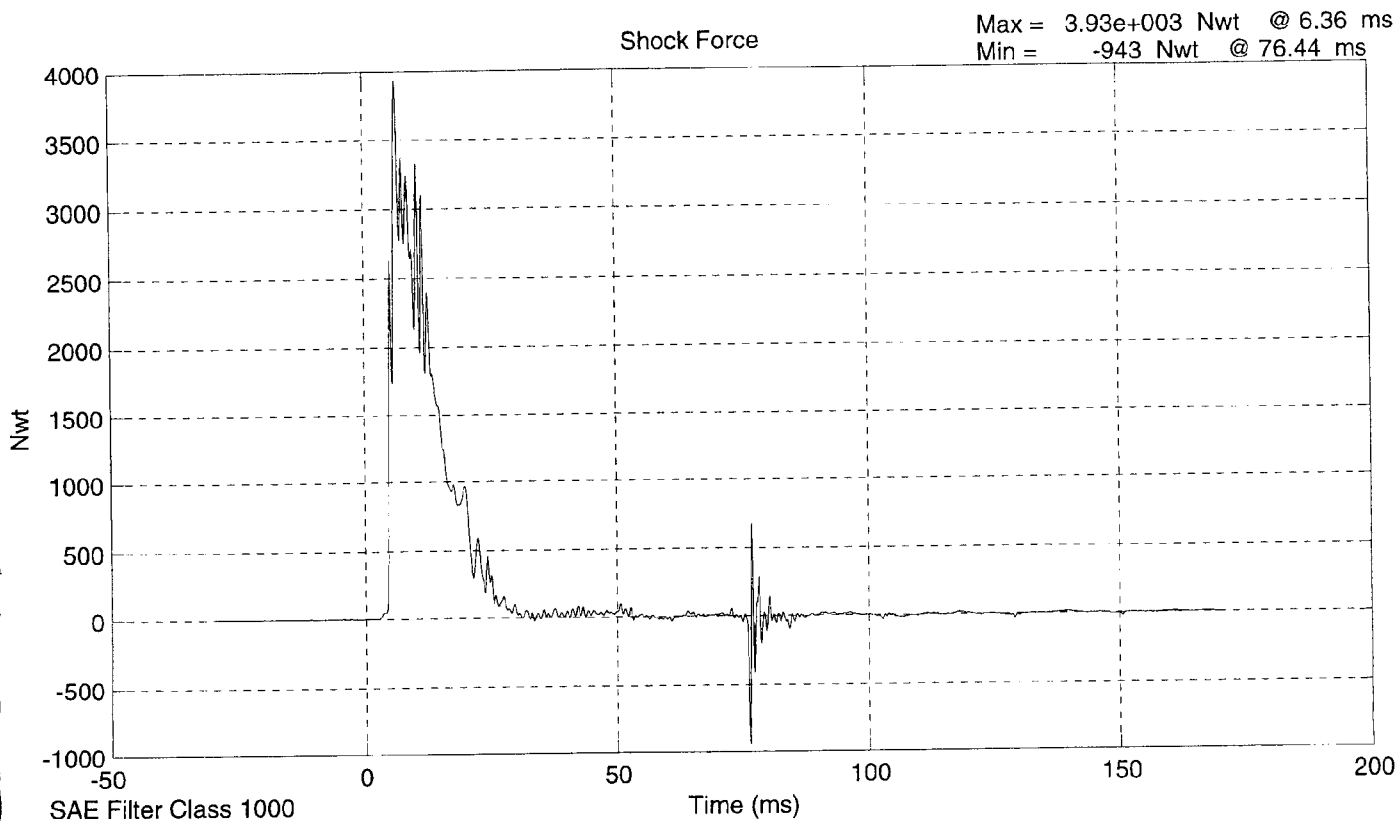
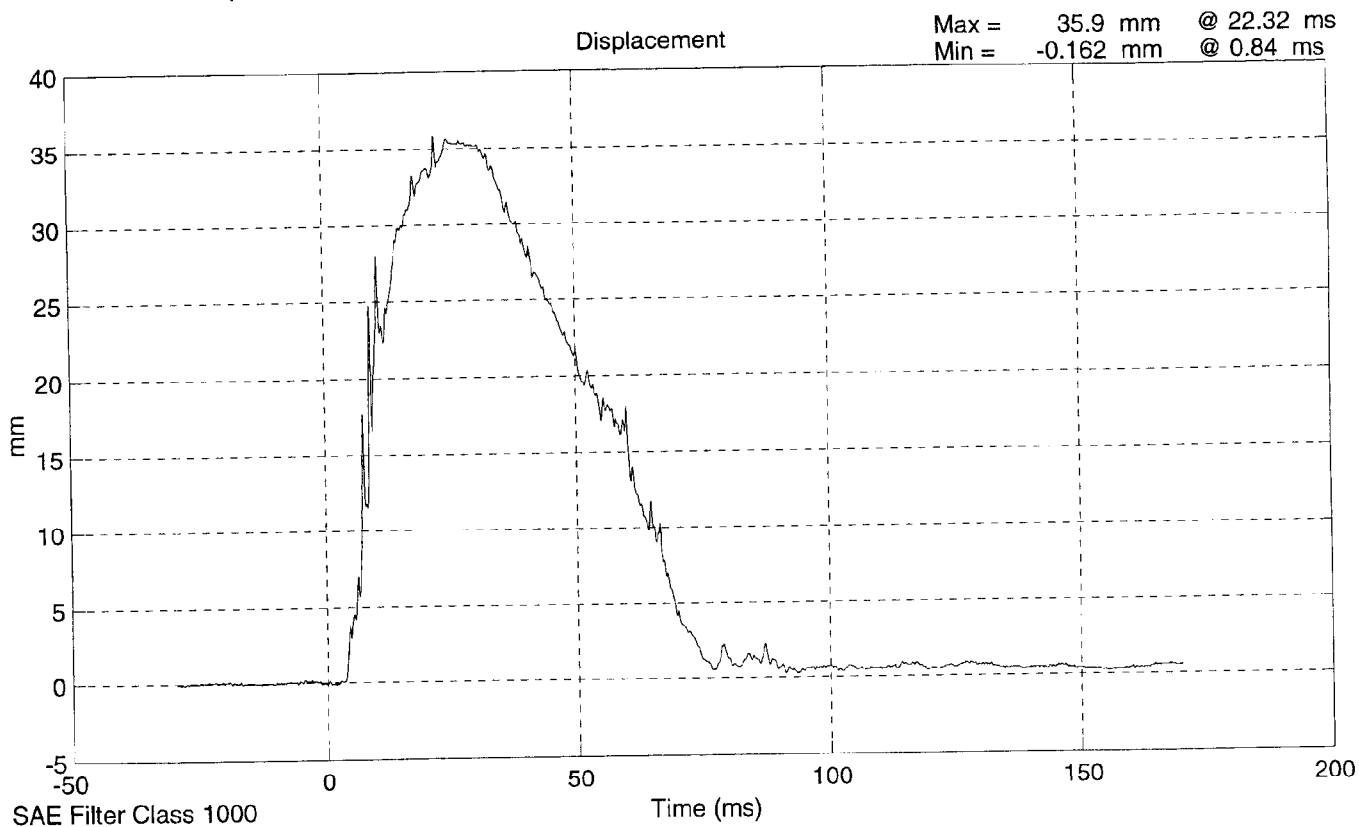
REMARKS: None

SID Shock Absorber Impact Test 268 @ 3.048 m/s





SID Shock Absorber Impact Test 268 @ 6.096 m/s



**LATERAL THORAX IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

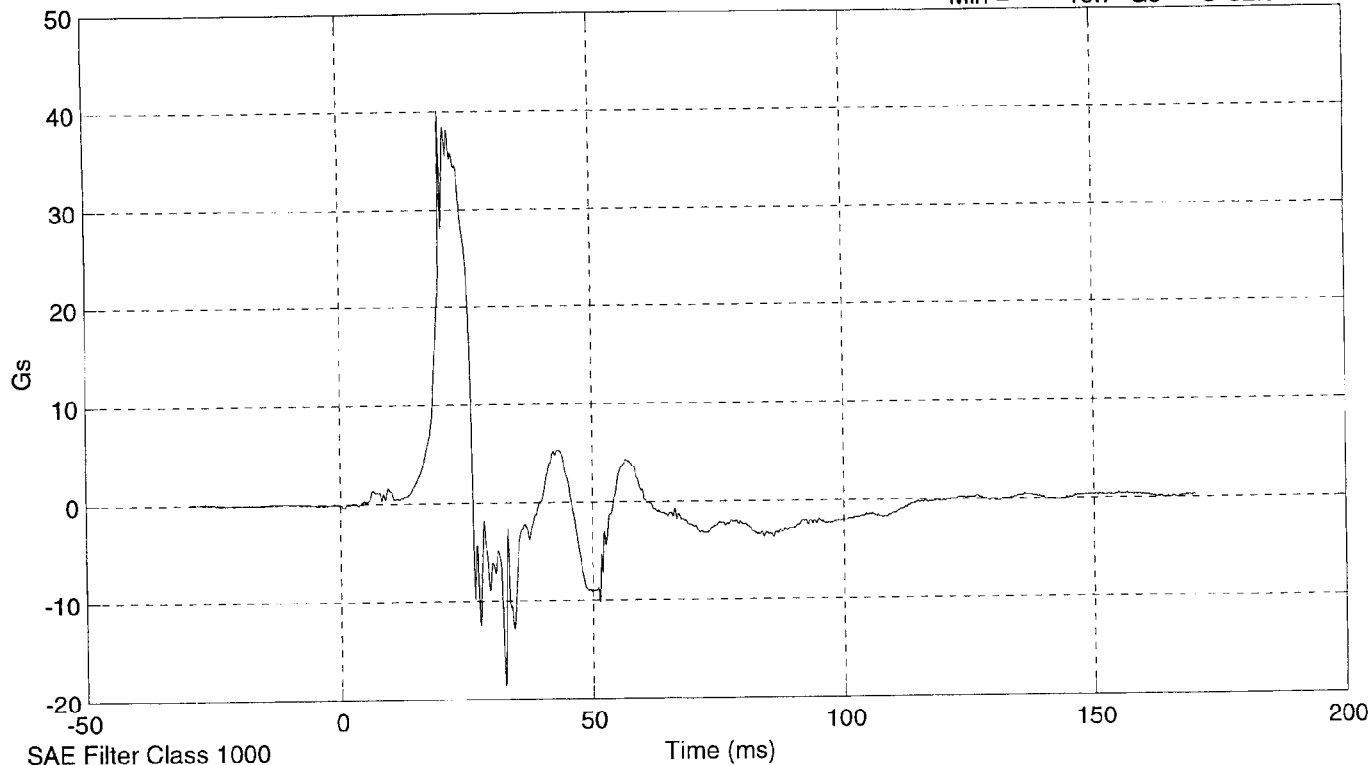
SID Serial No.: 268 Sequential Test Number: 4
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	38.8
LOWER RIB (g's)	37 - 46	38.9
LOWER SPINE (g's)	15 - 22	20.2

REMARKS: None

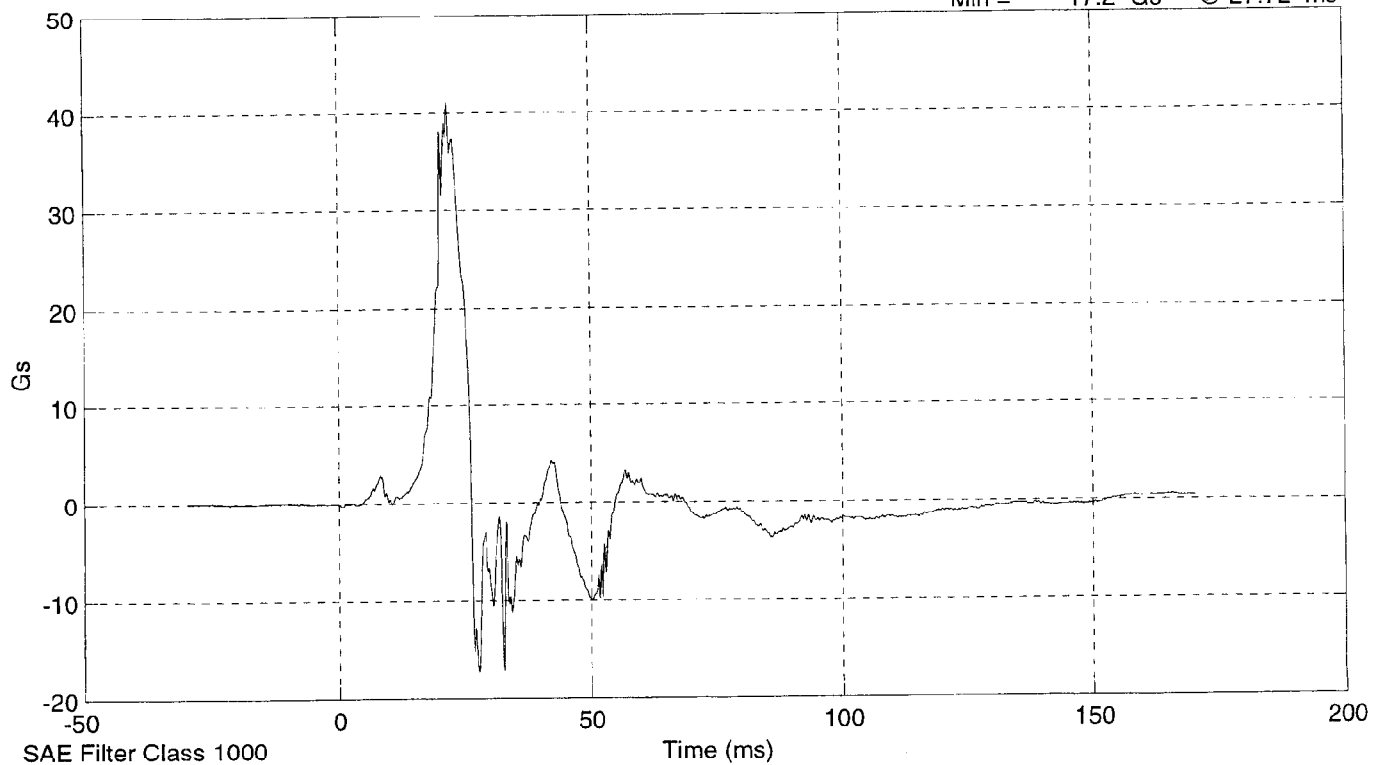
UPPER RIB Y

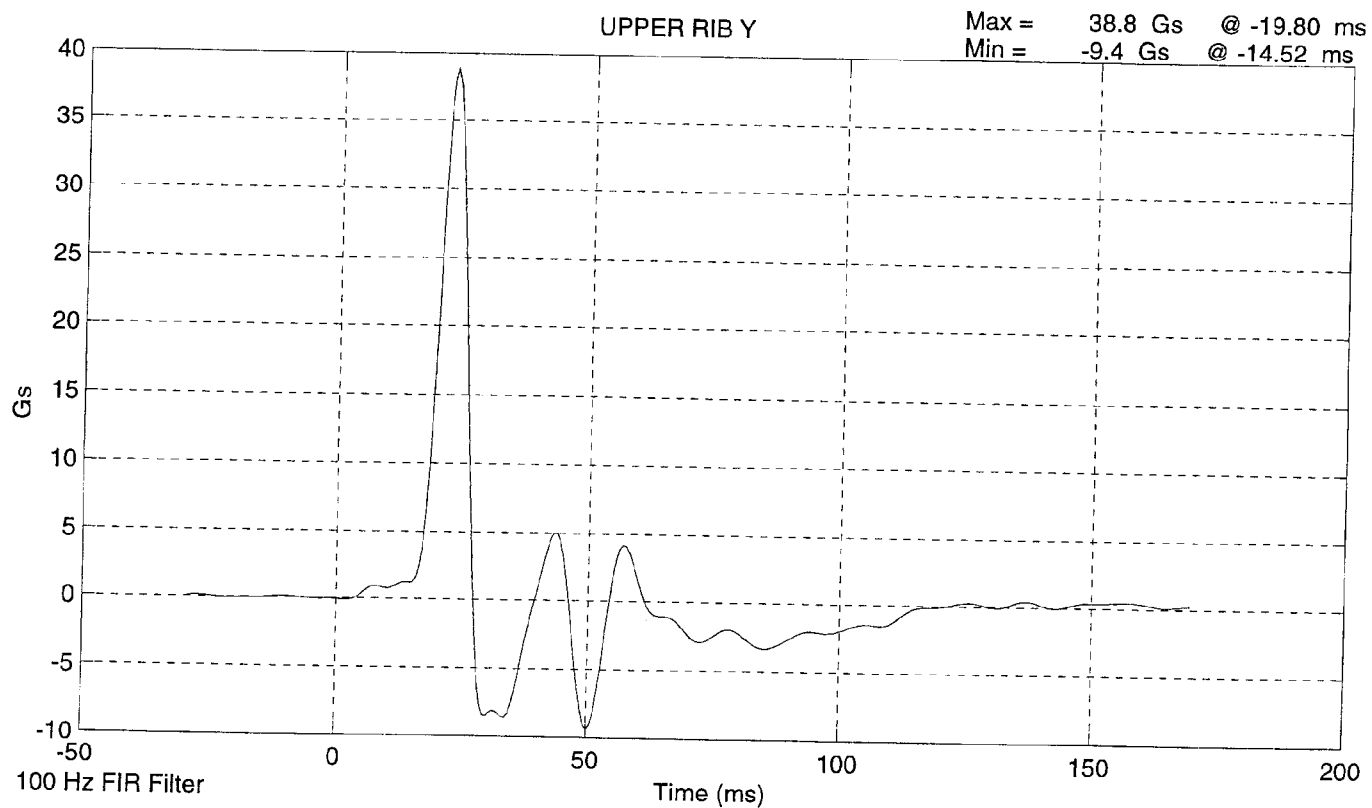
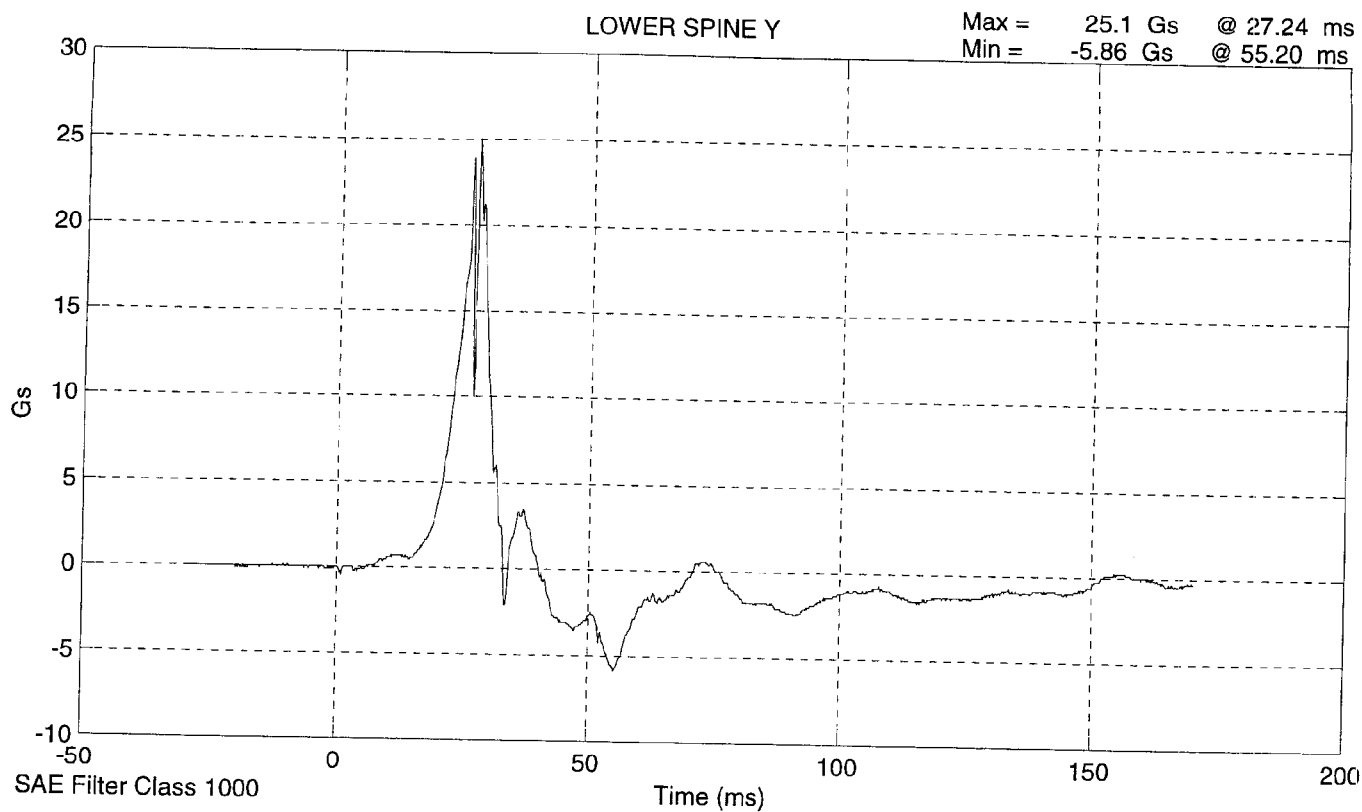
Max = 40.2 Gs @ 20.04 ms
Min = -18.7 Gs @ 32.52 ms

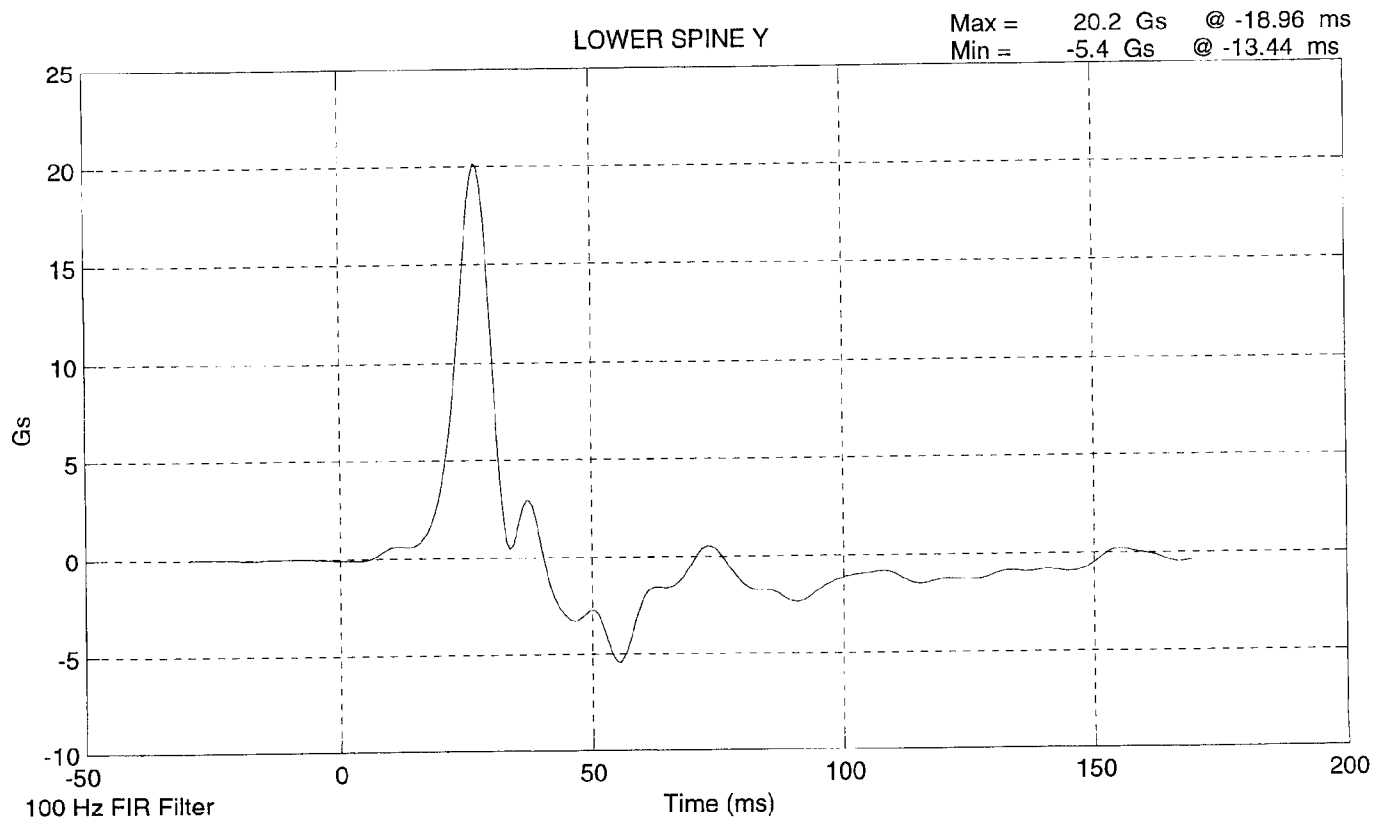
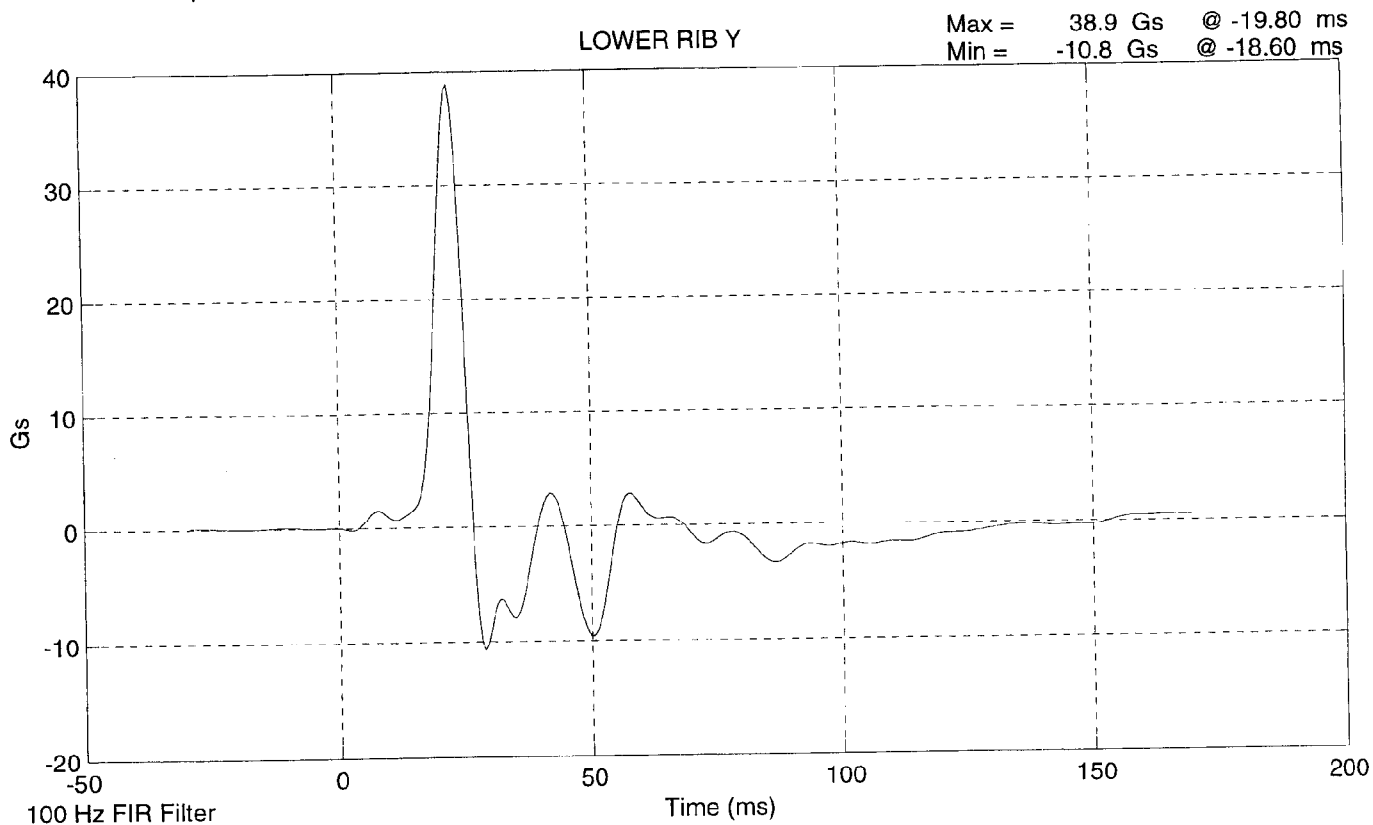


LOWER RIB Y

Max = 41.1 Gs @ 21.84 ms
Min = -17.2 Gs @ 27.72 ms







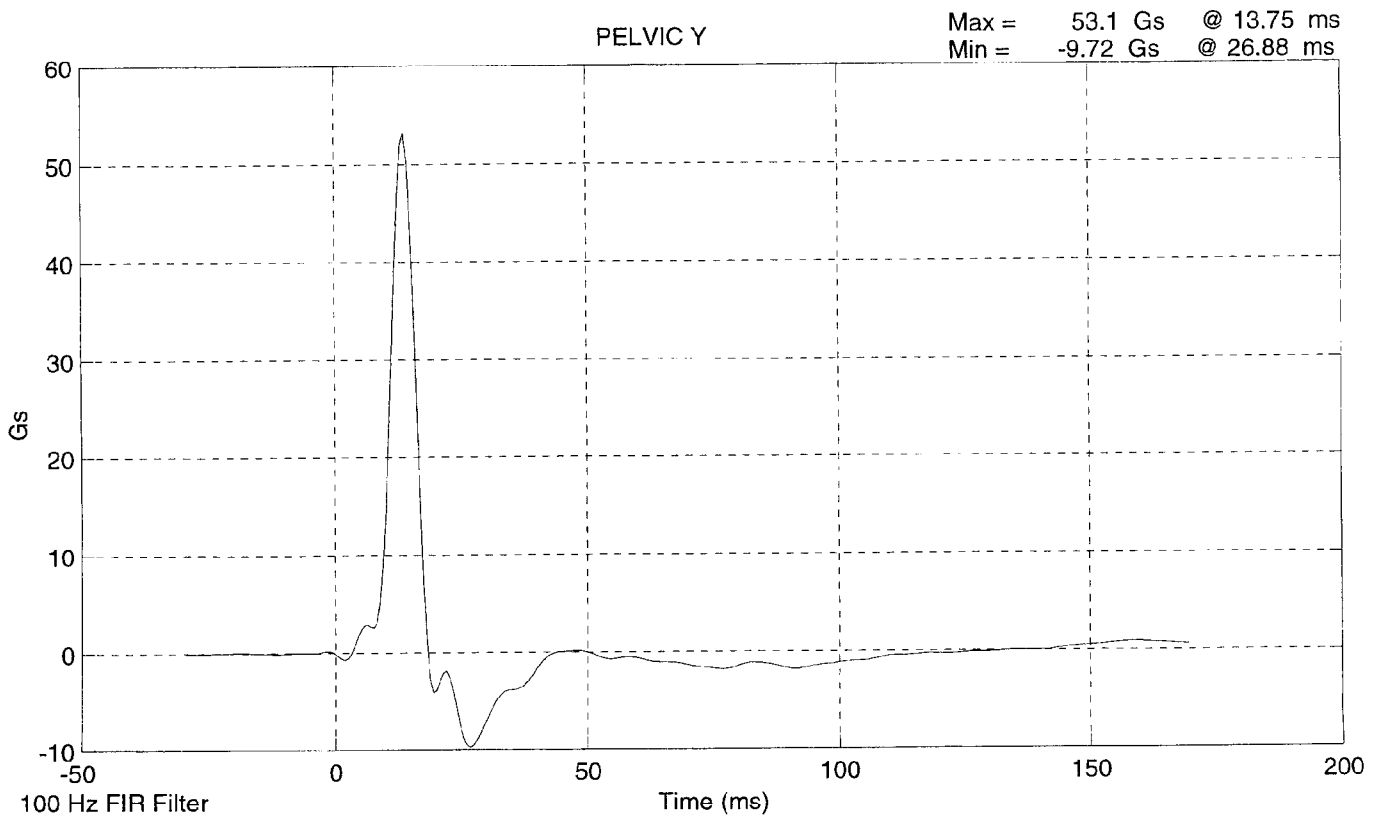
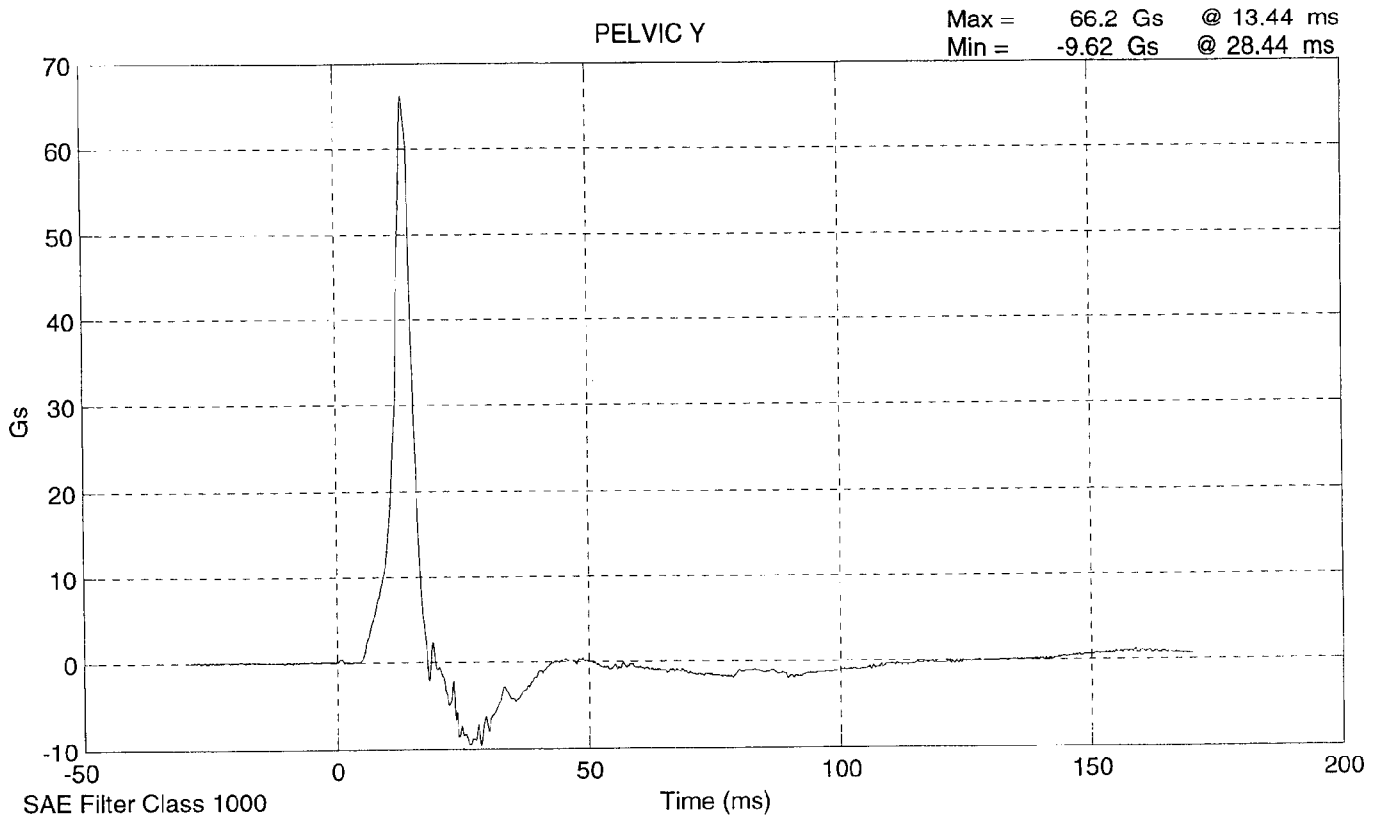
**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 4
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.32
PELVIS ACCELERATION (g's)	40 - 60	53.1

REMARKS: None



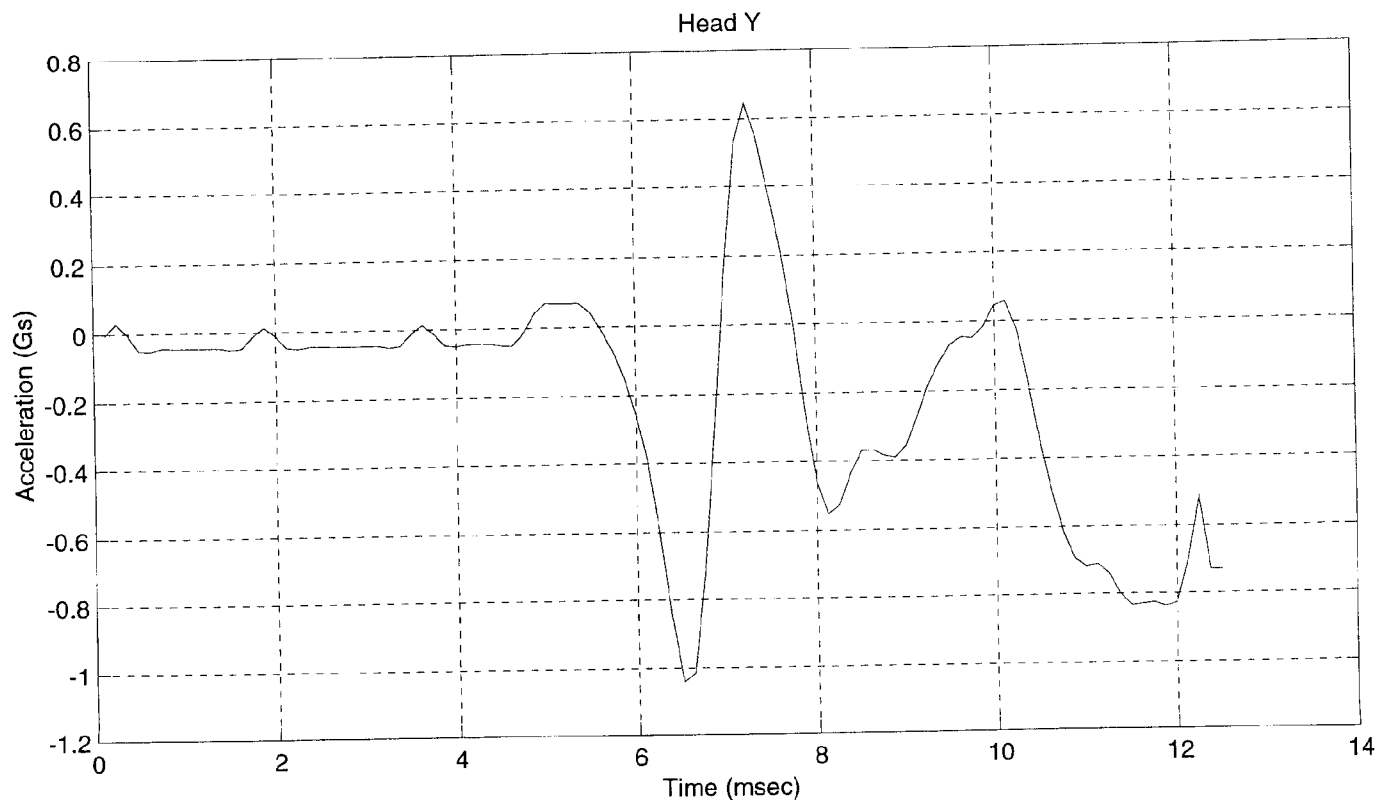
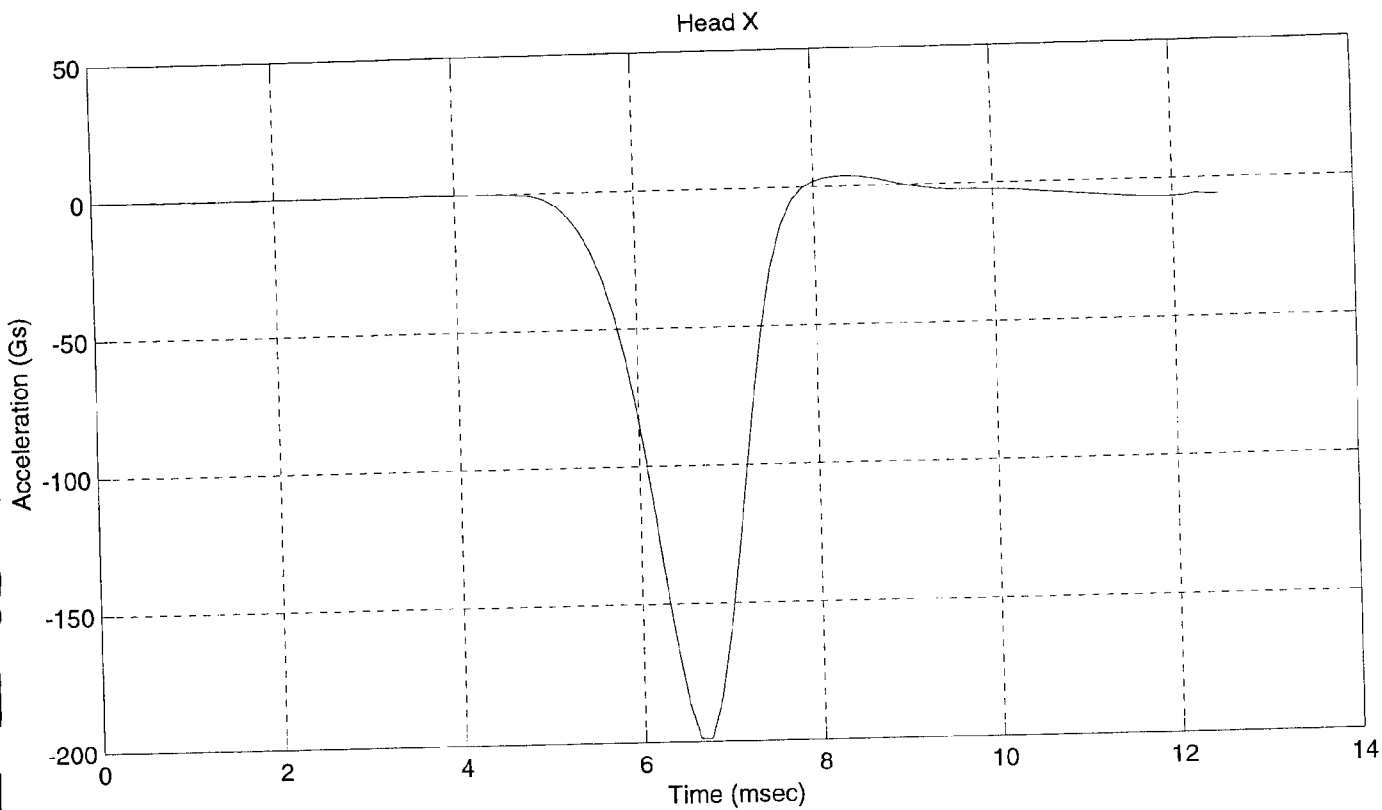
HEAD DROP TEST
PRE-TEST
(Test not required for SID certification)

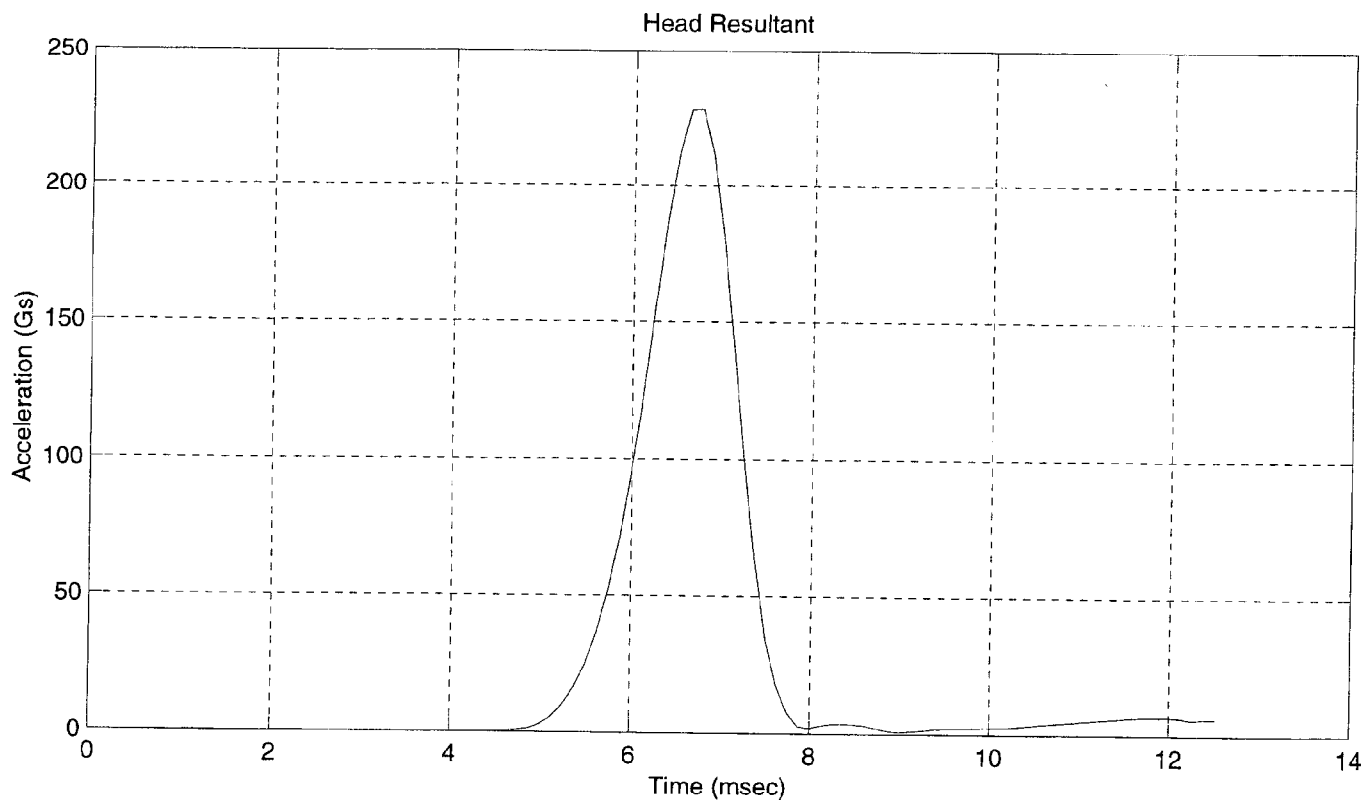
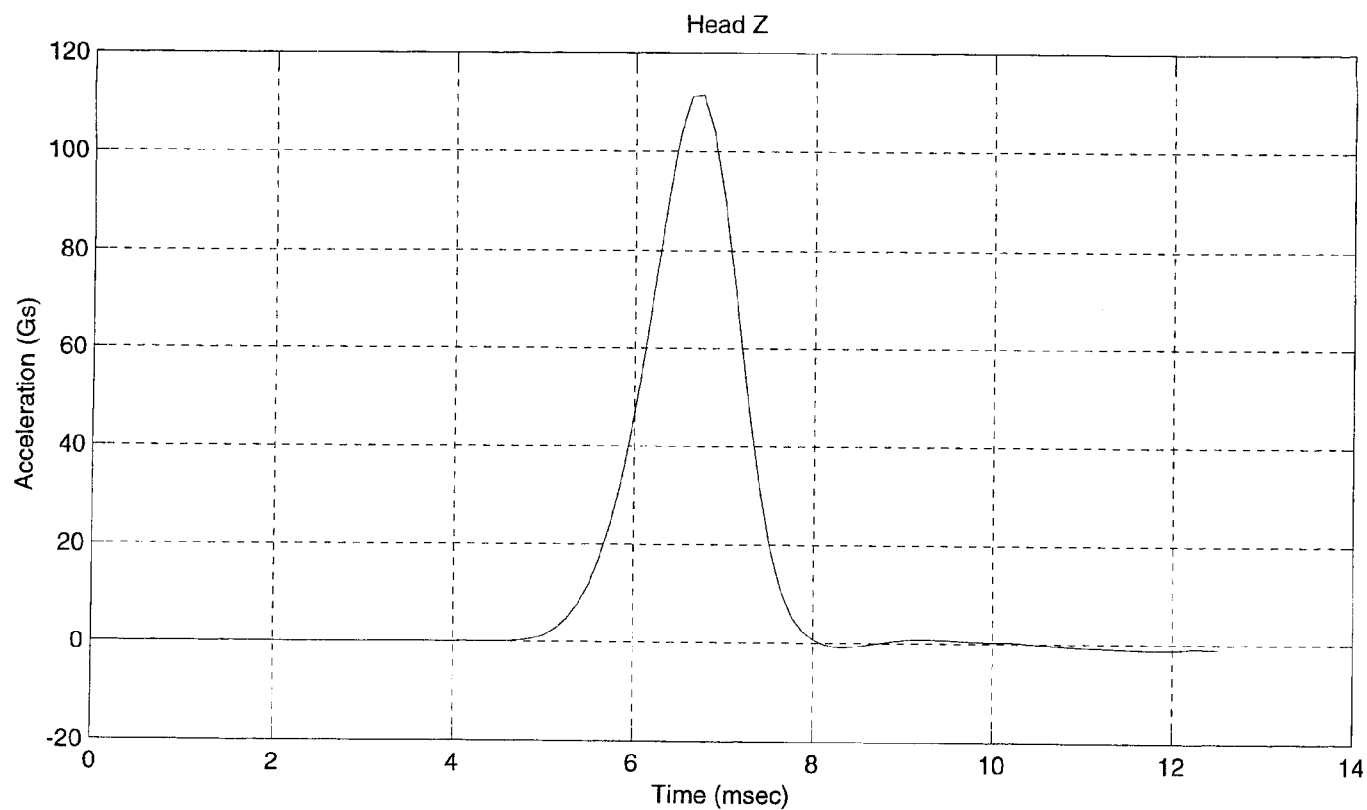
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 4
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	227.2
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	1.2
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.13

REMARKS: None





ABDOMINAL COMPRESSION TEST**PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 4
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	29
FORCE @ 13 mm (N)	104 - 162	120.1
FORCE @ 19 mm (N)	163 - 221	182.4
FORCE @ 25 mm (N)	222 - 280	258.0
FORCE @ 33 mm (N)	325 - 391	373.7

REMARKS: None

Dummy S/N 268

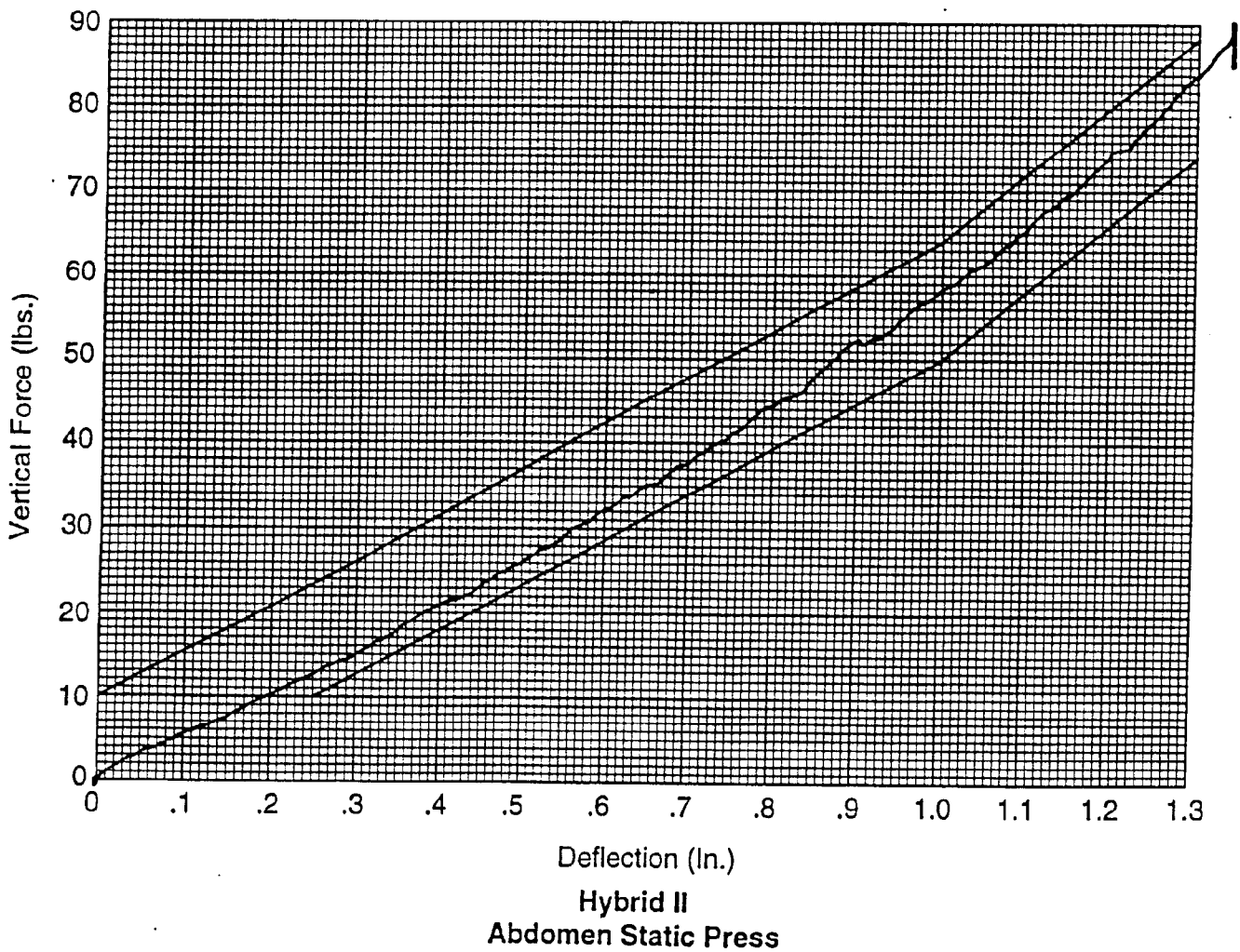
W/A _____

Date 11-30-99

Performed By [Signature]

Temp. 70°

Humidity 29%



LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 4
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 0° (N)	0 - 26.7	13.3
FORCE @ 20° (N)	97.8 - 151.2	144.6
FORCE @ 30° (N)	151.2 - 204.6	191.3
FORCE @ 40° (N)	204.6 - 258	231.3
RETURN ANGLE	12° max.	7

REMARKS: None

Dummy S/N 268

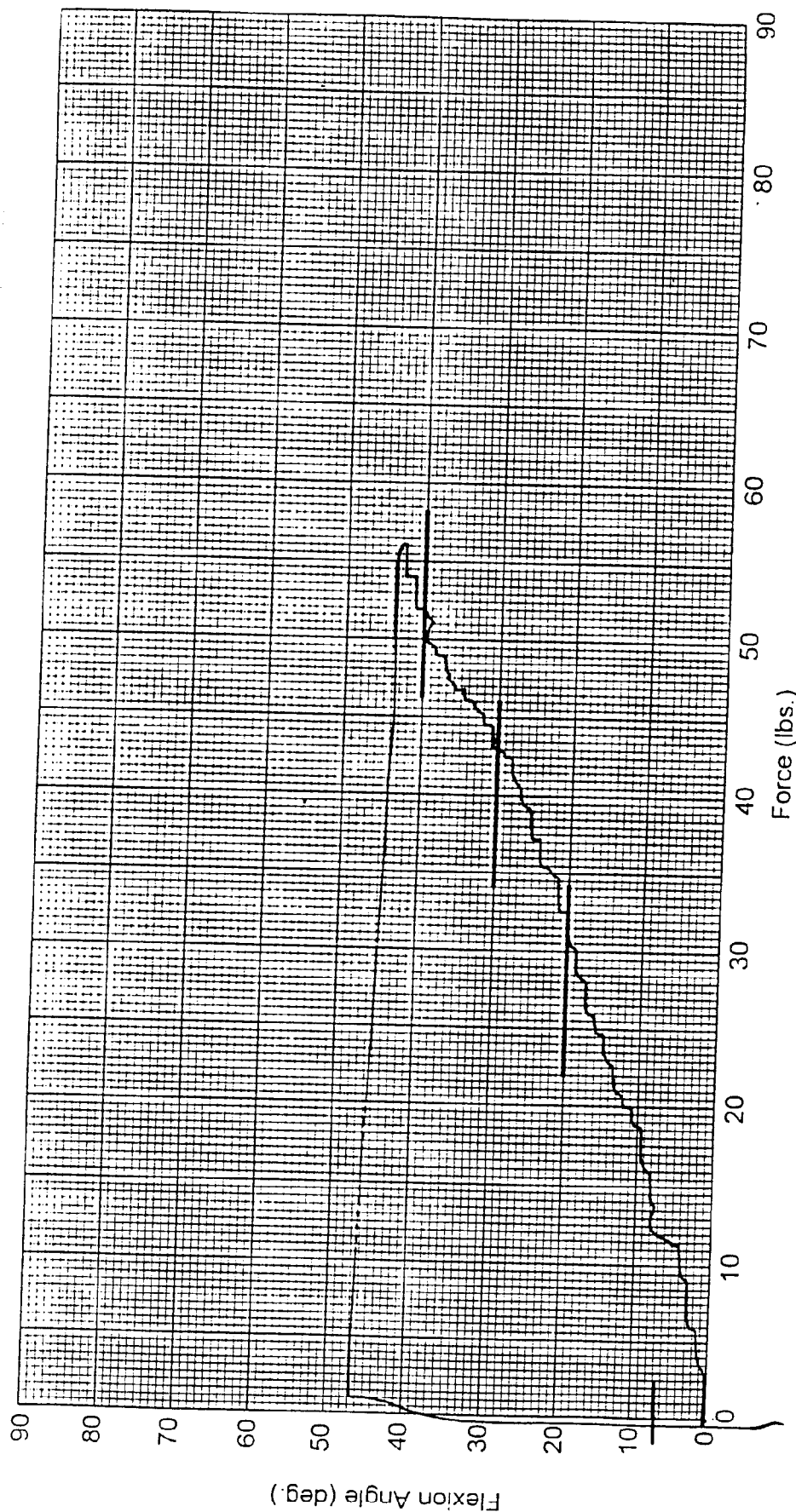
W/A

Date 11-29-99

Performed By *[Signature]*

Temp. 70°

Humidity 31%



Hybrid II Lumbar Spine Flexion Test

FM-052-CERT-005-R00

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 4
 Date: November 30, 1999 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

**CALIBRATION TEST RESULTS
PRE-TEST**

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 2
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
THORACIC SHOCK ABSORBER TEST	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 2
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	907
RH- Rib Height (mm)	502 - 520	518
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	518
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

THORACIC SHOCK ABSORBER TESTS
PRE-TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 1.2
Date: September 30, 1999 Laboratory Technician: B. Swiecicki

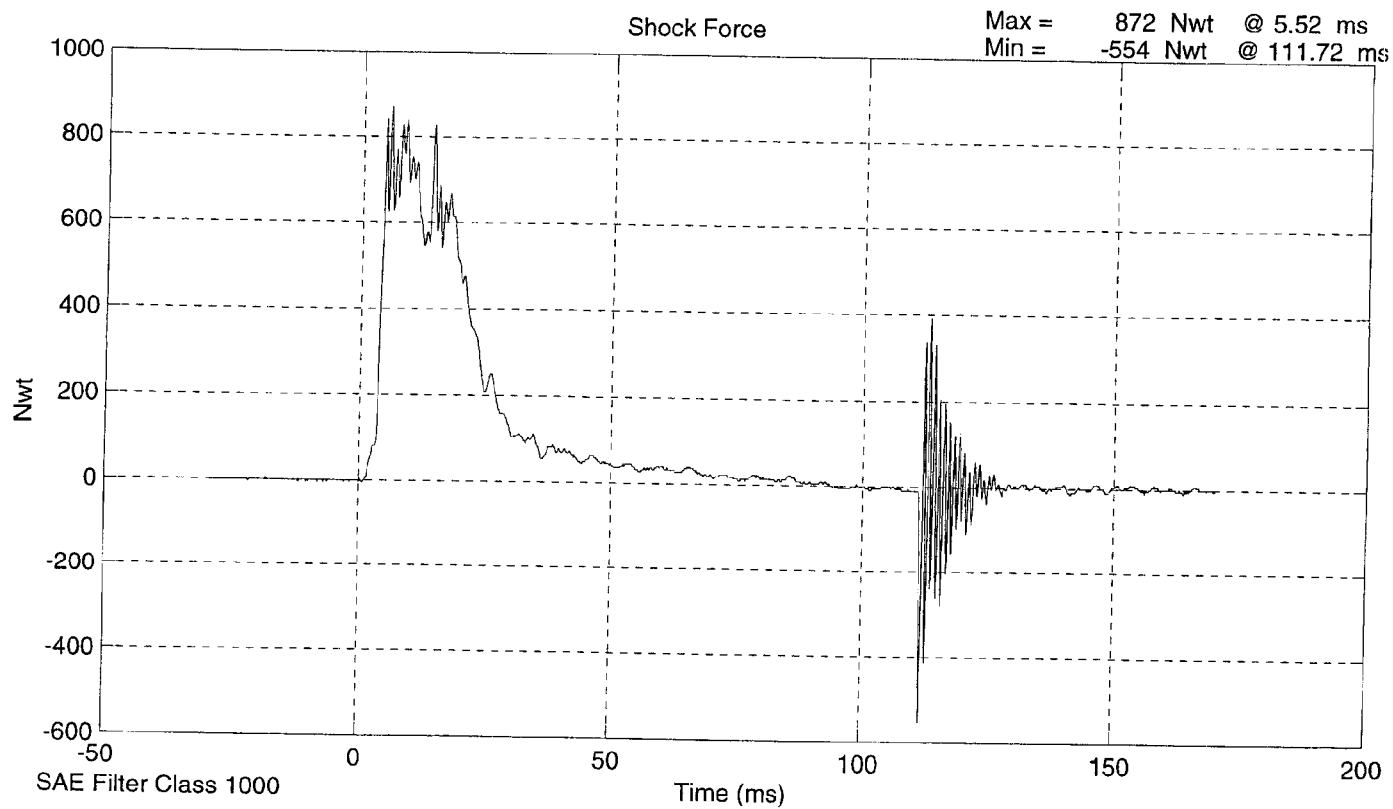
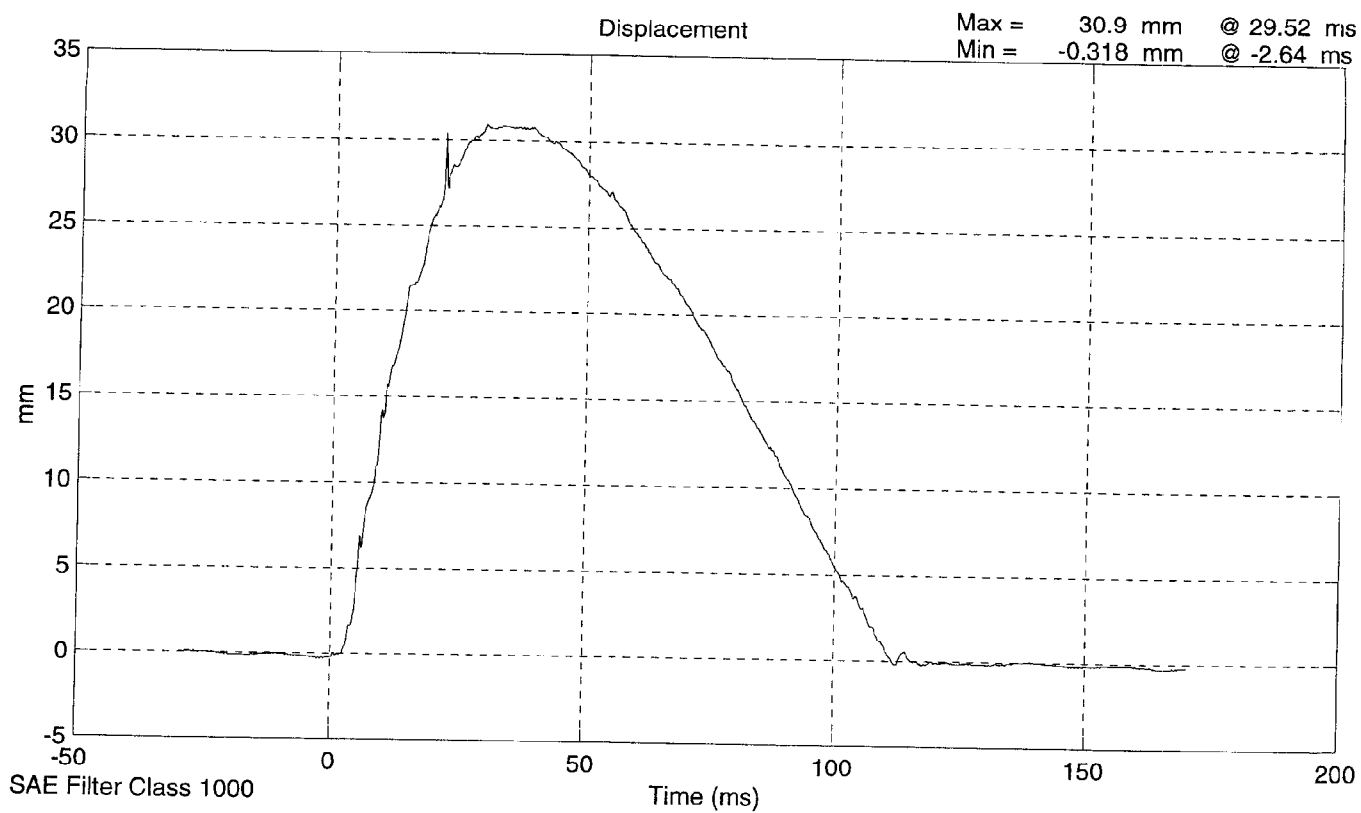
DAMPER IDENTIFICATION: 027

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)		10 - 70	30
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	871.5
	DISPLACEMENT (mm)	30 - 35	30.9
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1751.7
	DISPLACEMENT (mm)	32 - 37	33.9
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3758
	DISPLACEMENT (mm)	33 - 40	36.6

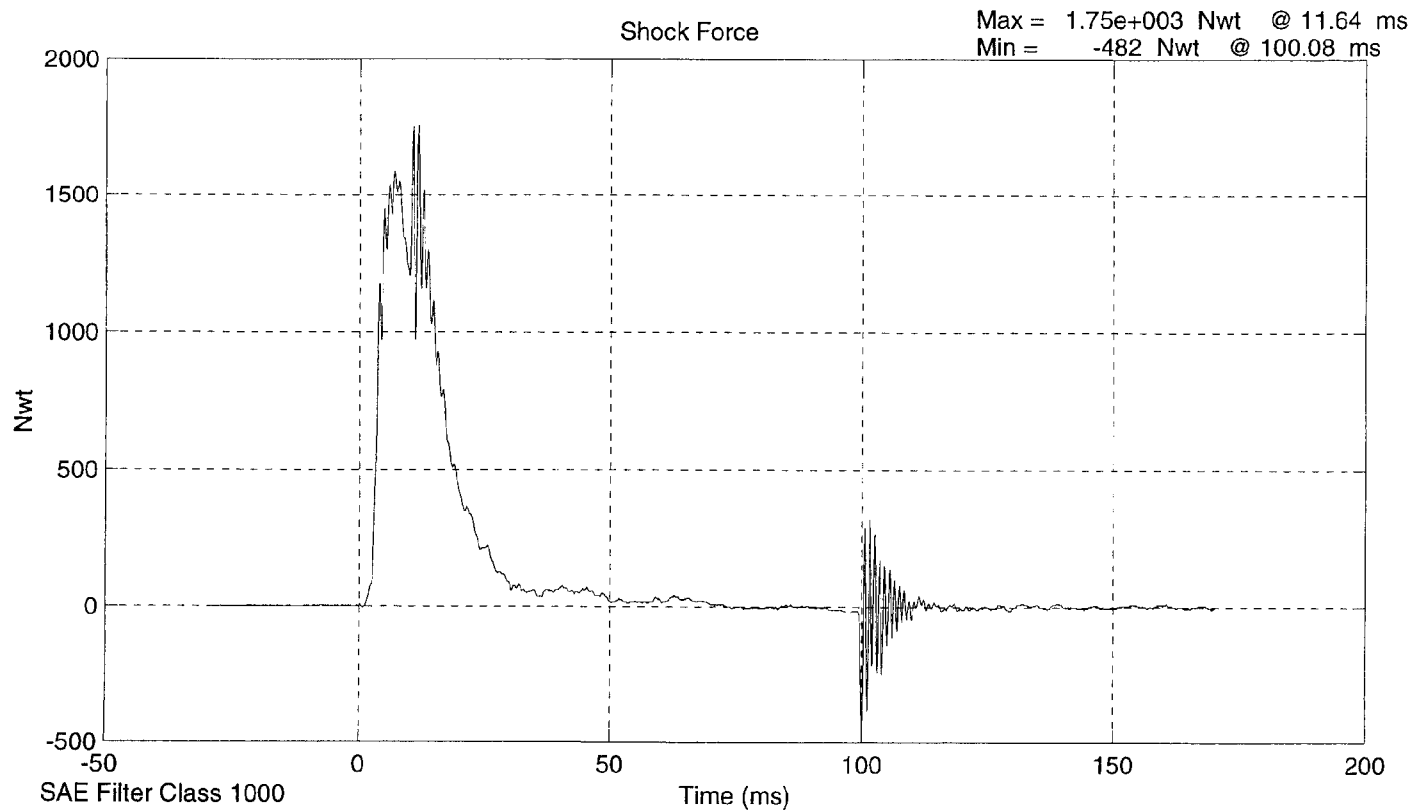
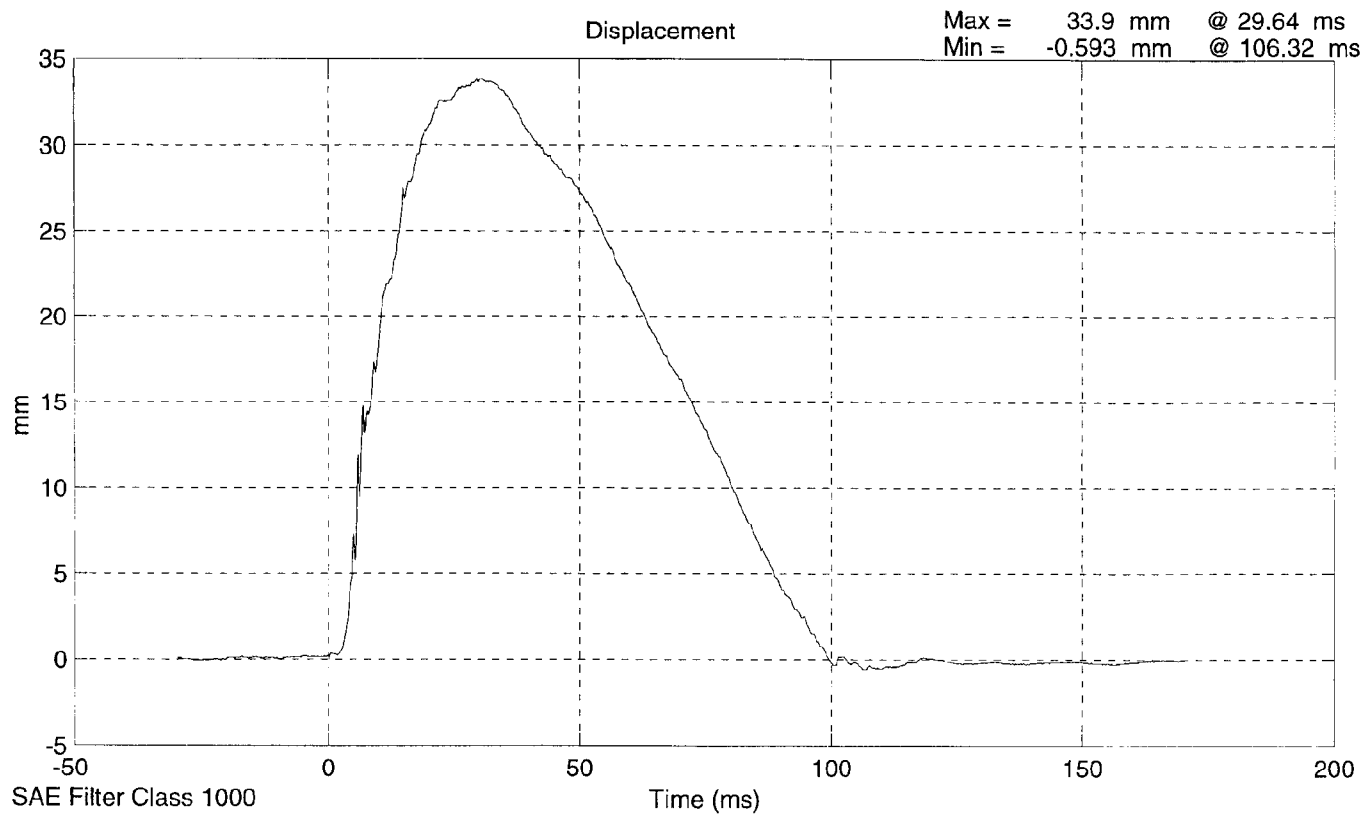
DAMPER SETTING: 5

REMARKS: None

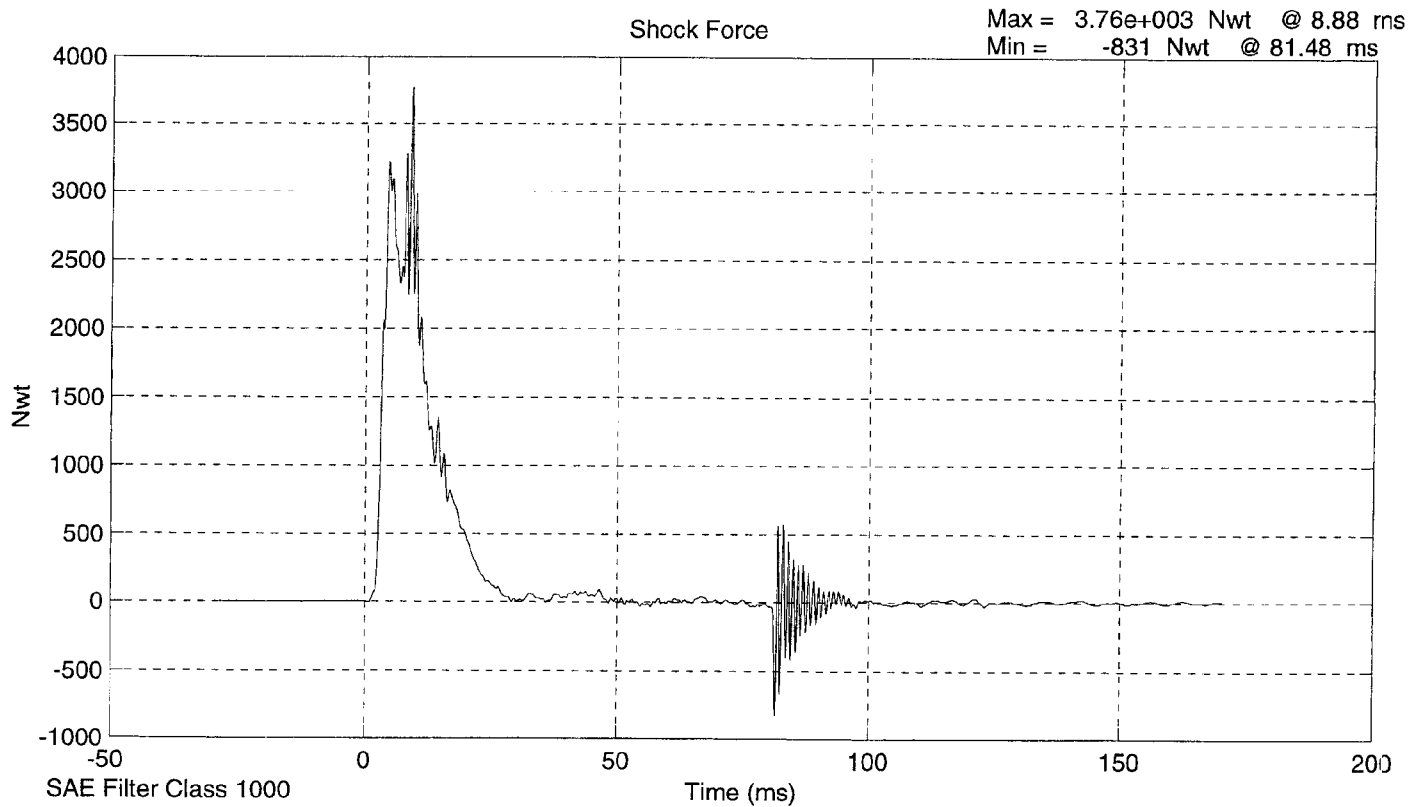
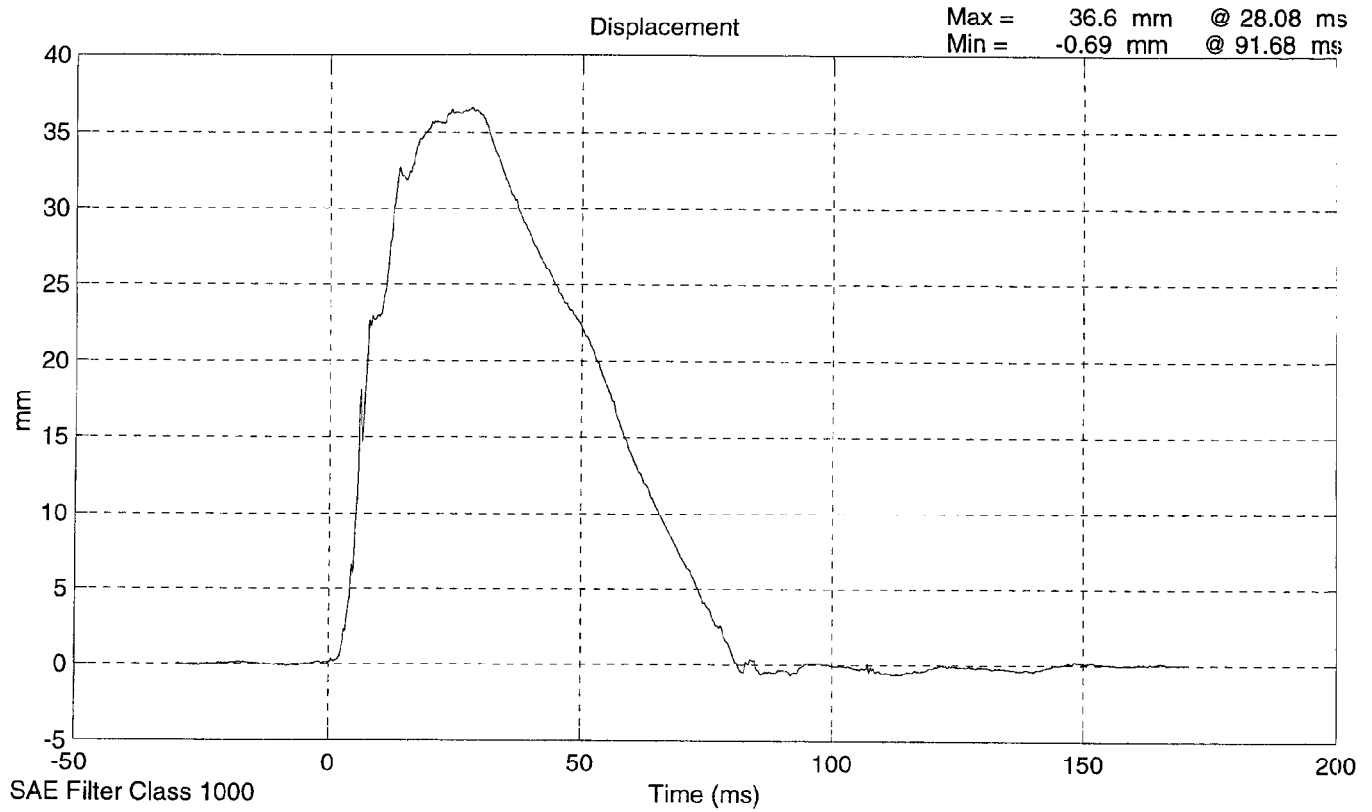
SID Shock Absorber Impact Test 027 @ 3.048 m/s



SID Shock Absorber Impact Test 027 @ 4.2672 m/s



SID Shock Absorber Impact Test 027 @ 6.096 m/s



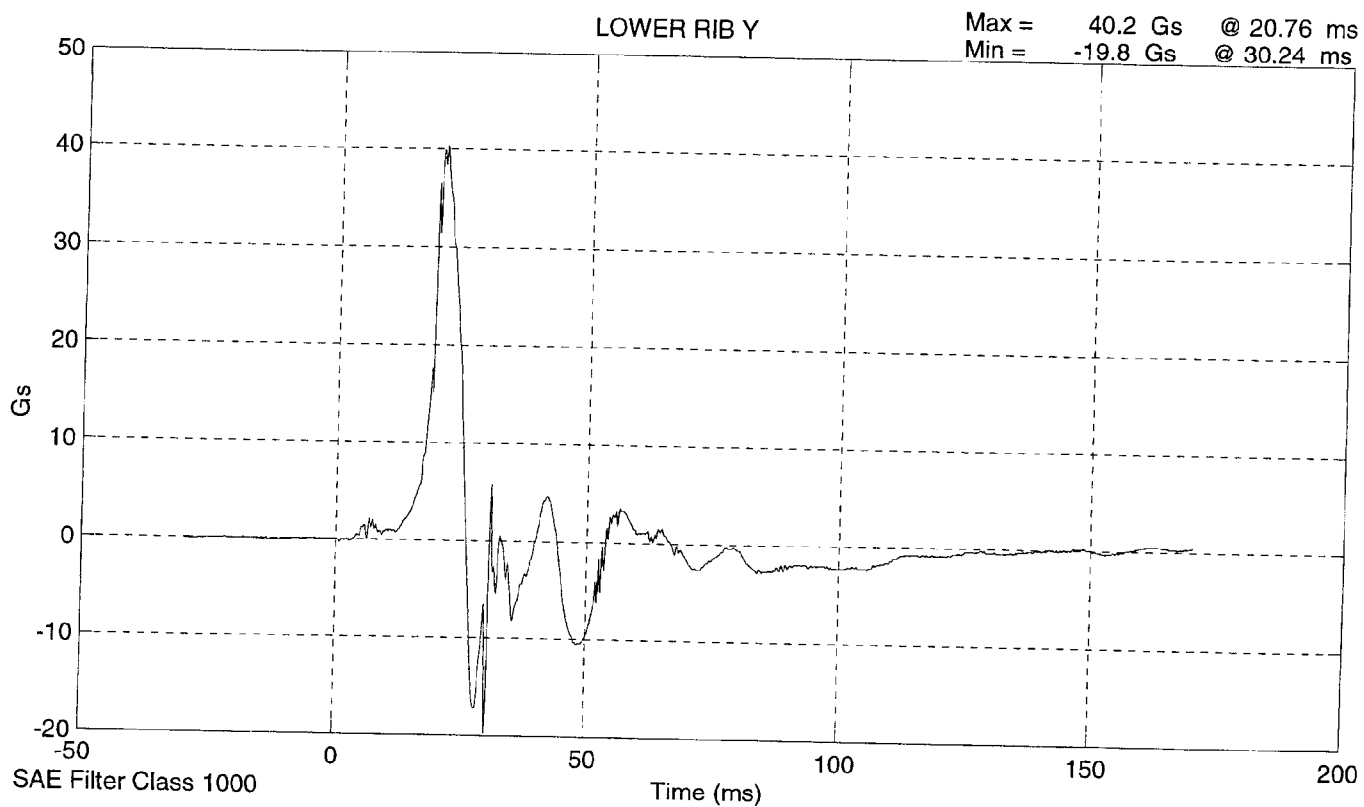
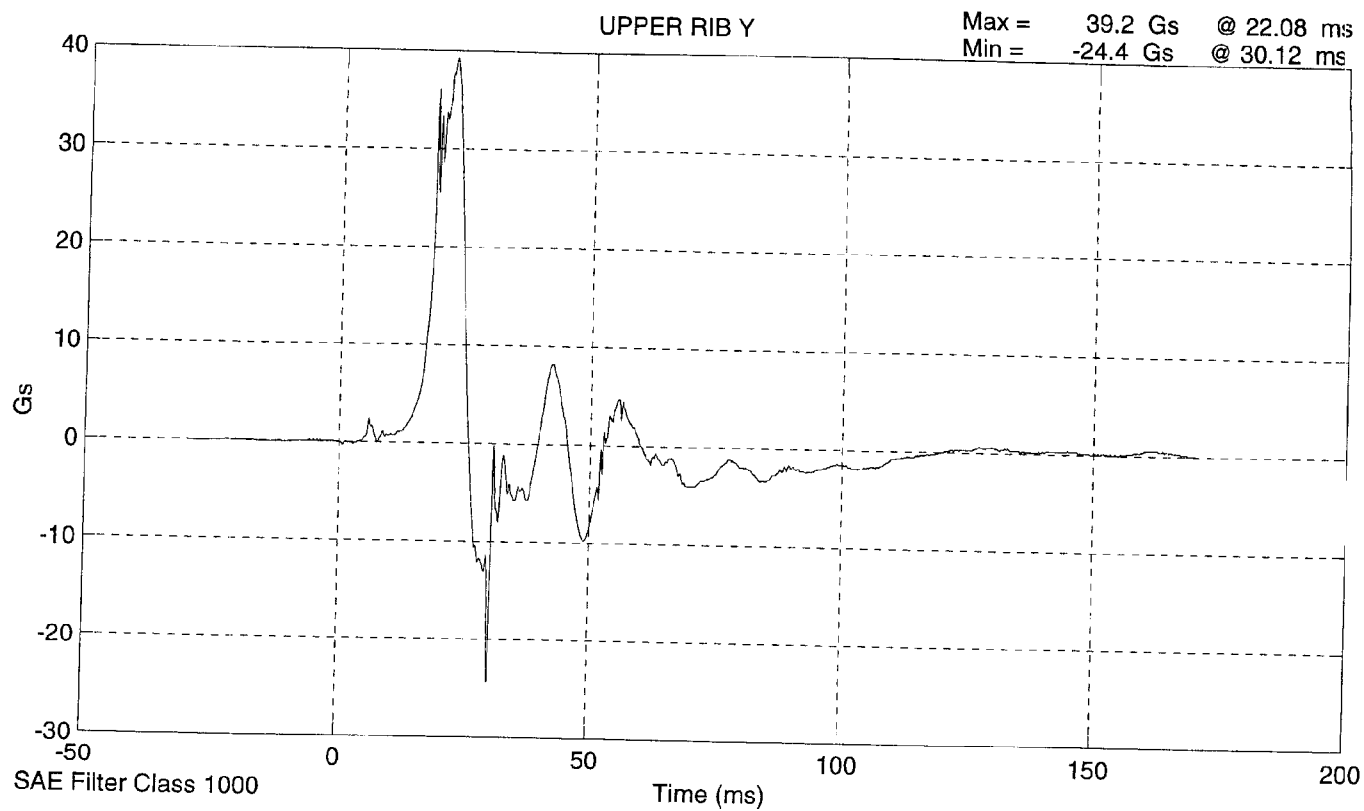
**LATERAL THORAX IMPACT TEST
PRE-TEST**

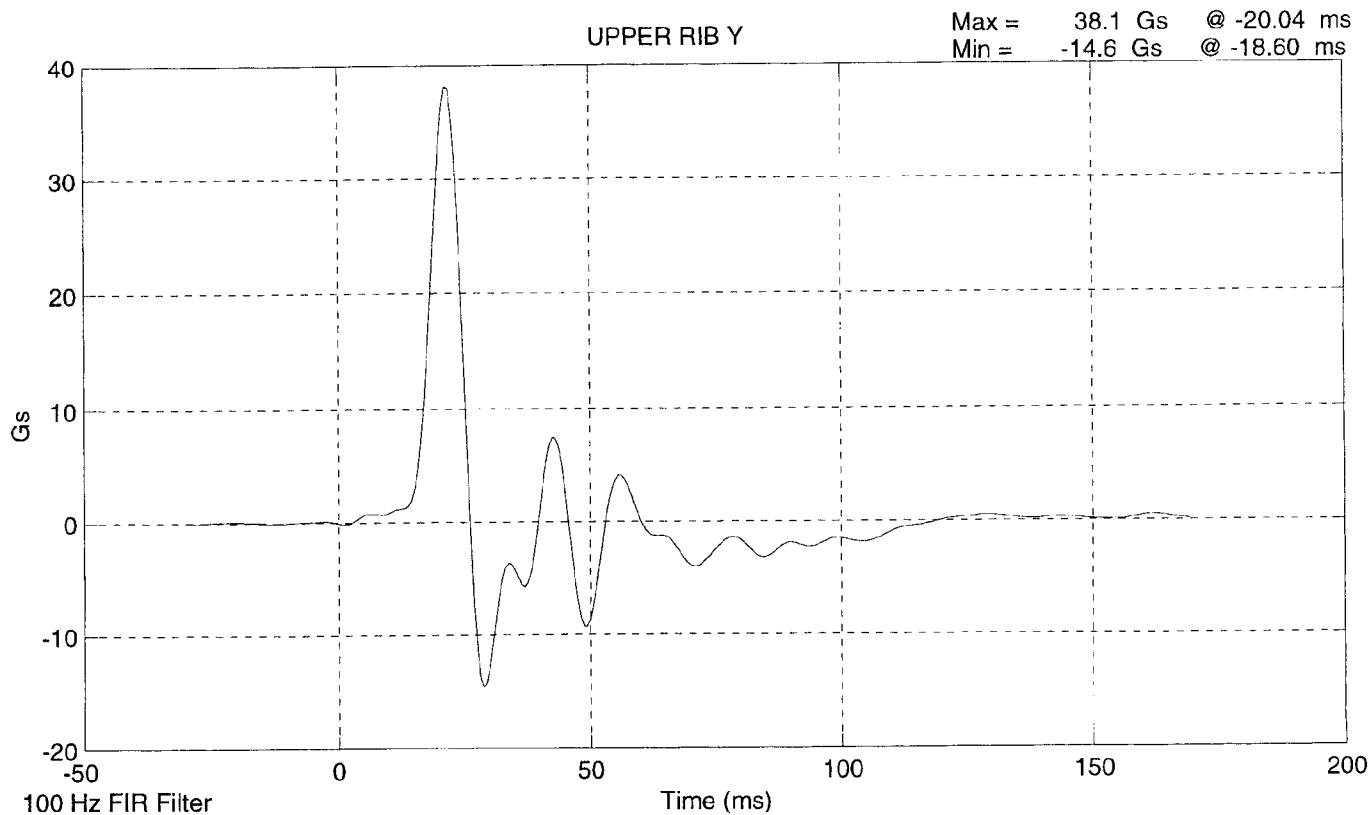
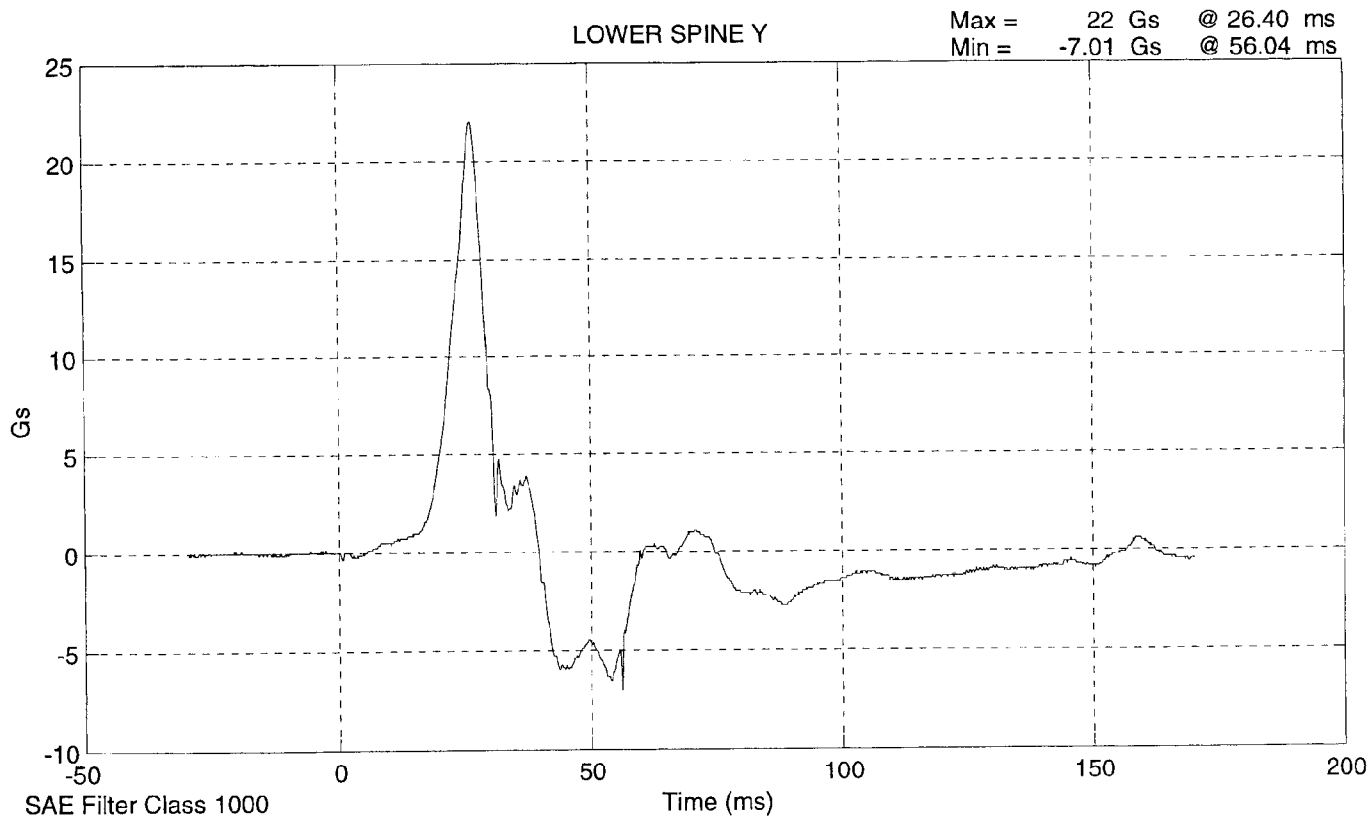
CONFIGURED FOR LEFT SIDE IMPACT

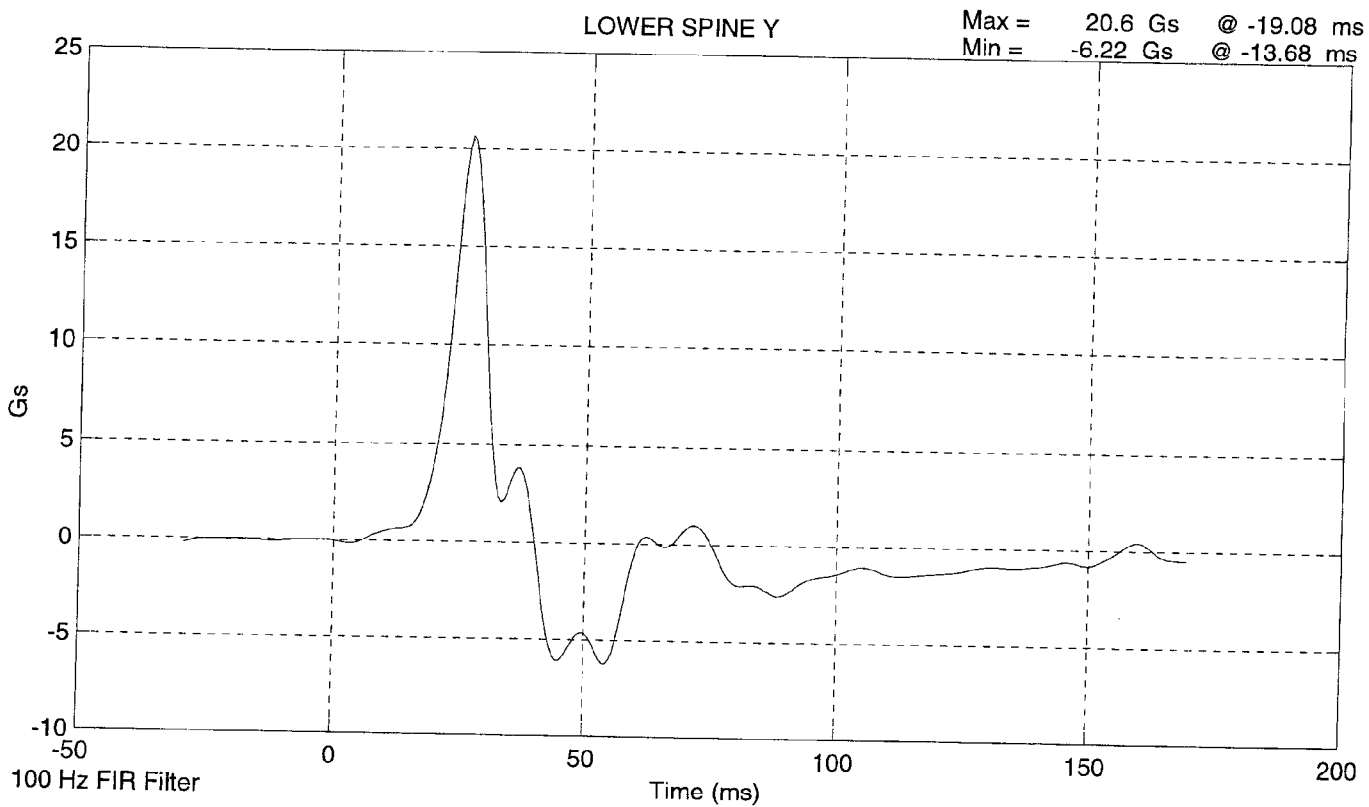
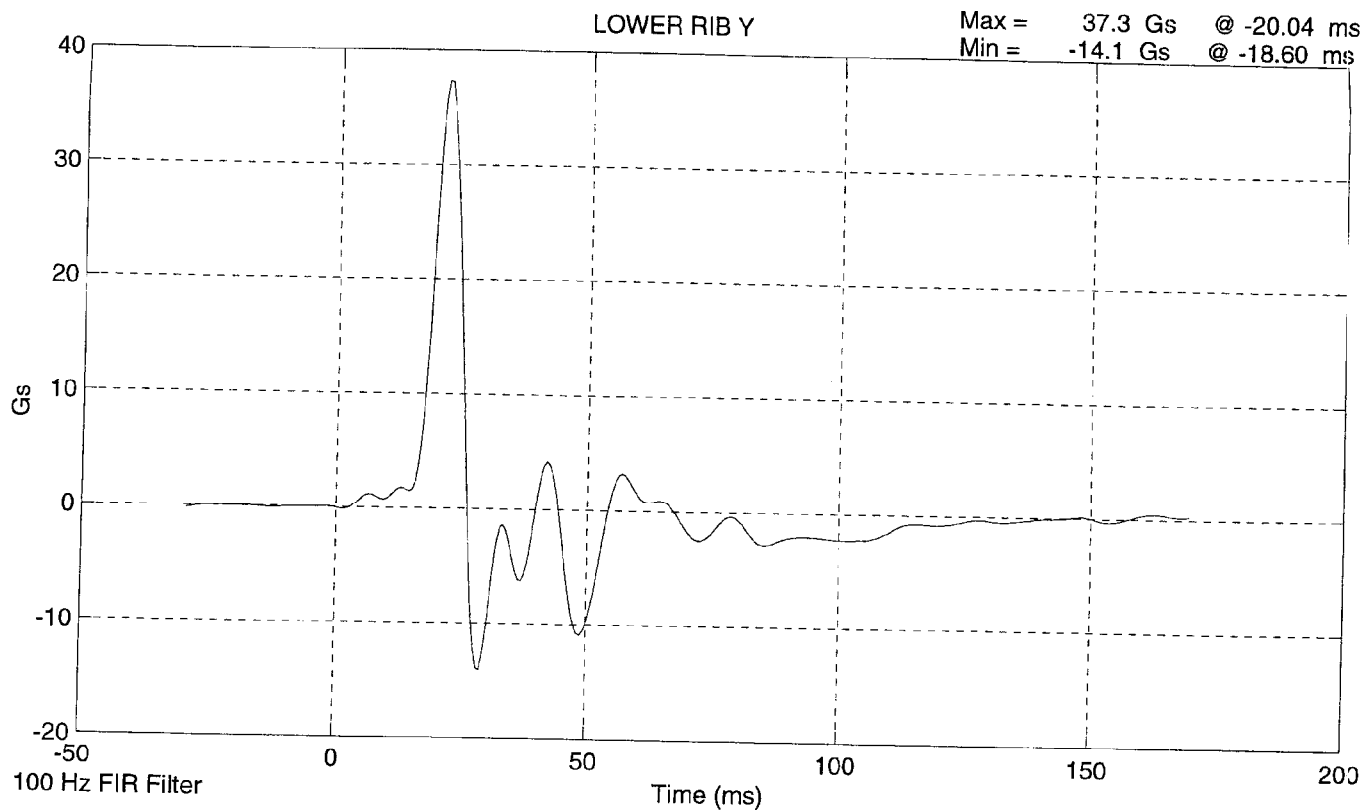
SID Serial No.: 027 Sequential Test Number: 2
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.28
UPPER RIB (g's)	37 - 46	38.0
LOWER RIB (g's)	37 - 46	37.3
LOWER SPINE (g's)	15 - 22	20.6

REMARKS: None







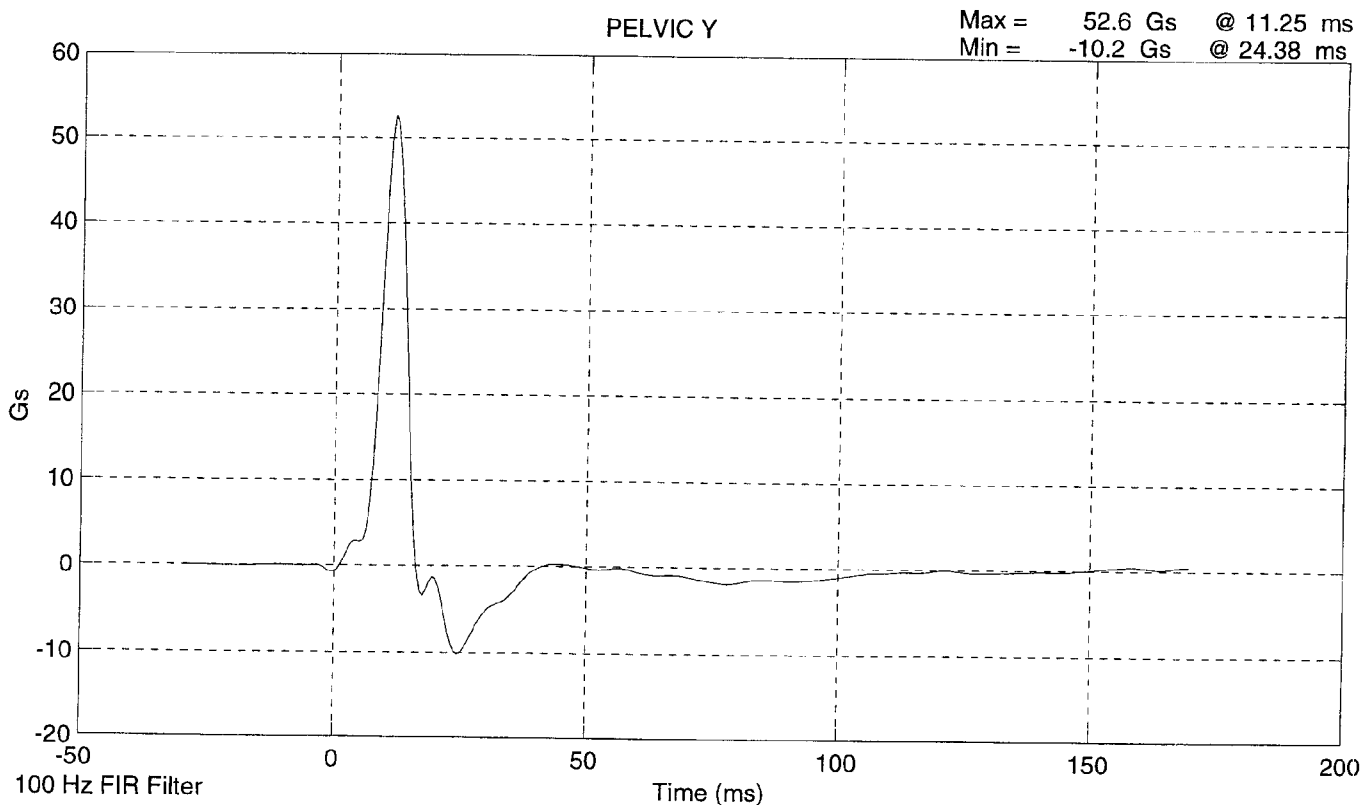
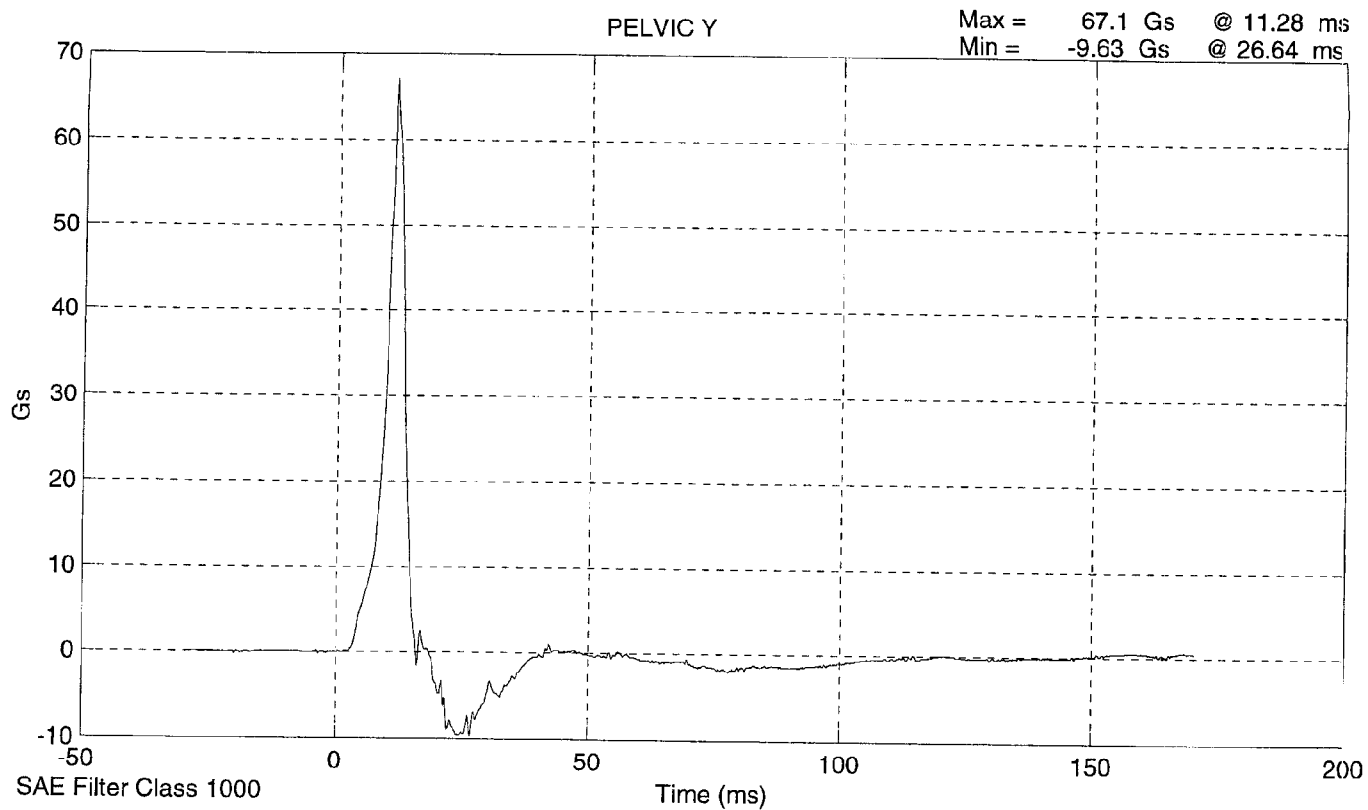
**LATERAL PELVIS IMPACT TEST
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 2
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PROBE SPEED (m/s)	4.27 - 4.33	4.32
PELVIS ACCELERATION (g's)	40 - 60	52.6

REMARKS: None



HEAD DROP TEST

PRE-TEST

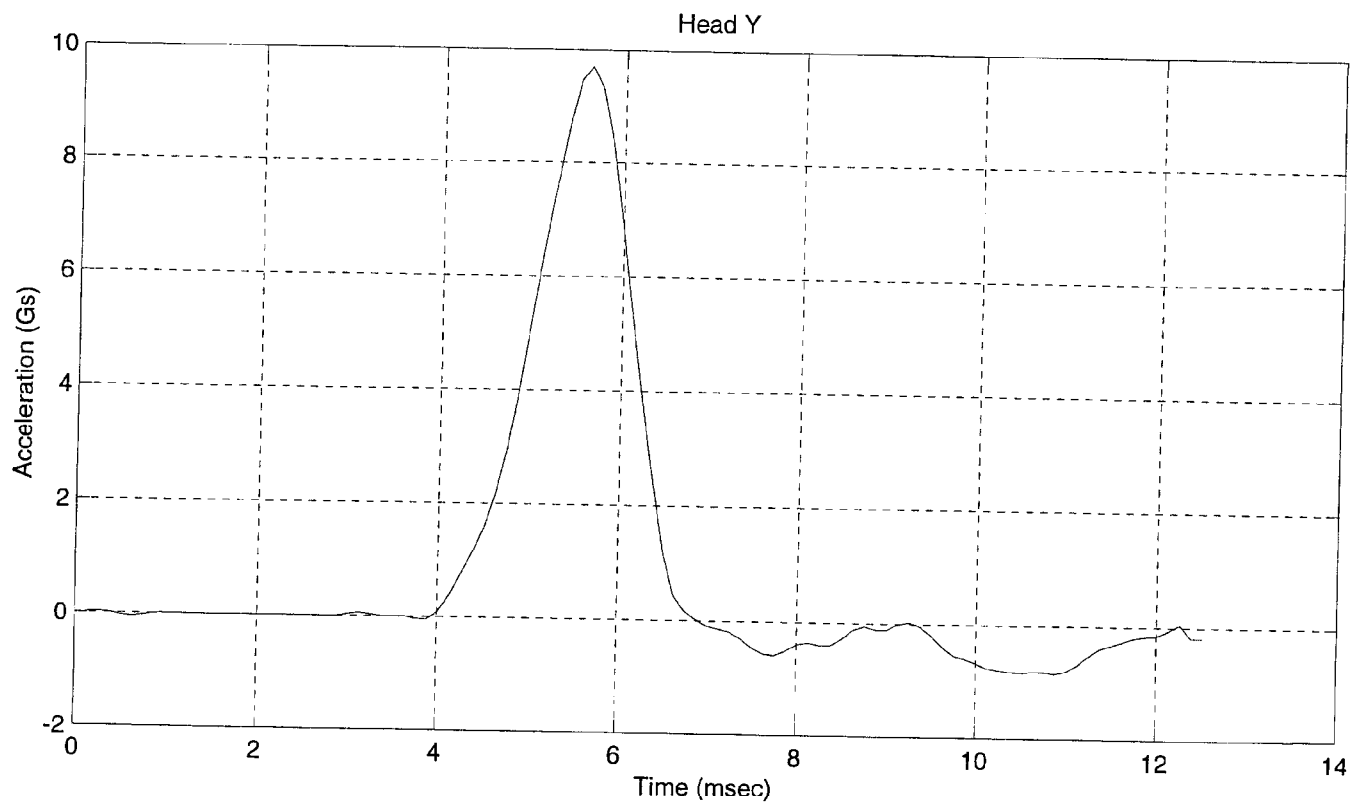
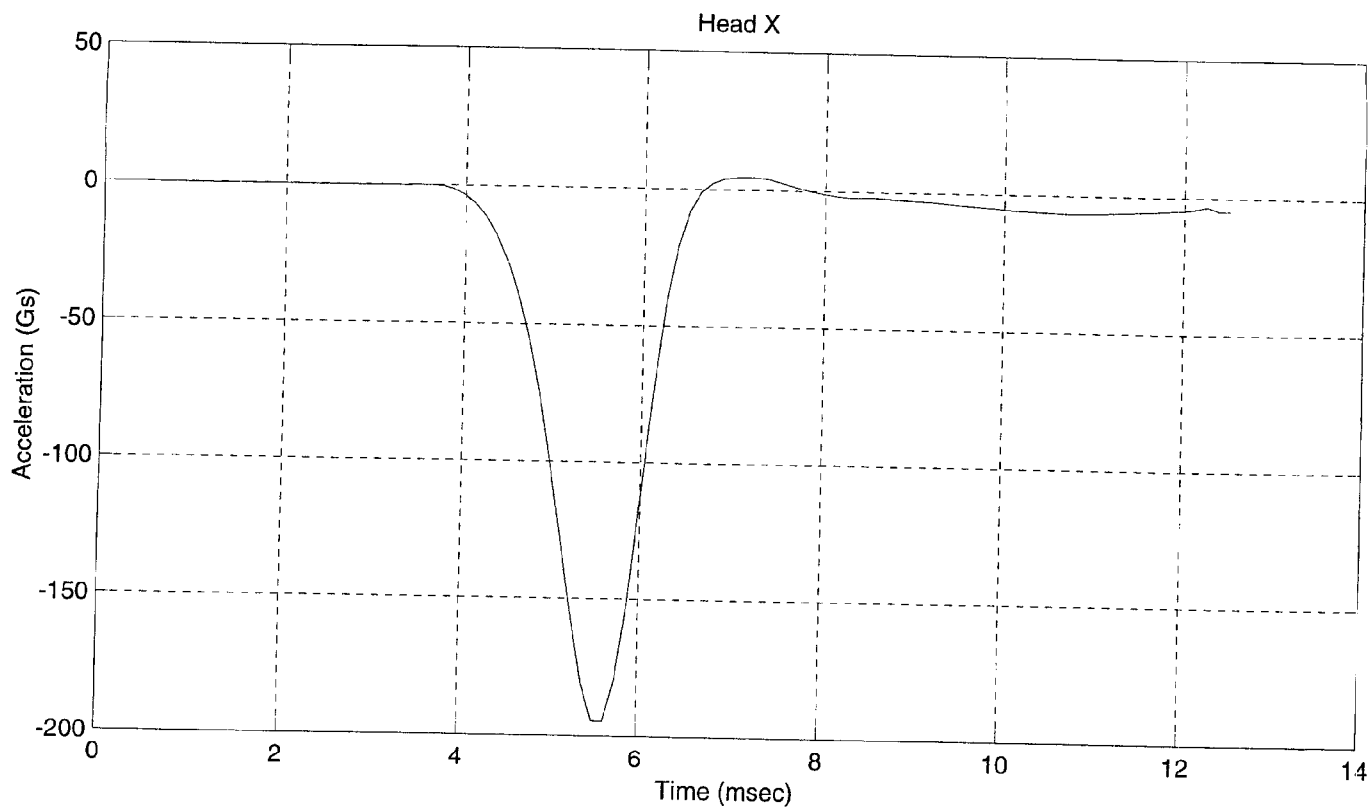
(Test not required for SID certification)

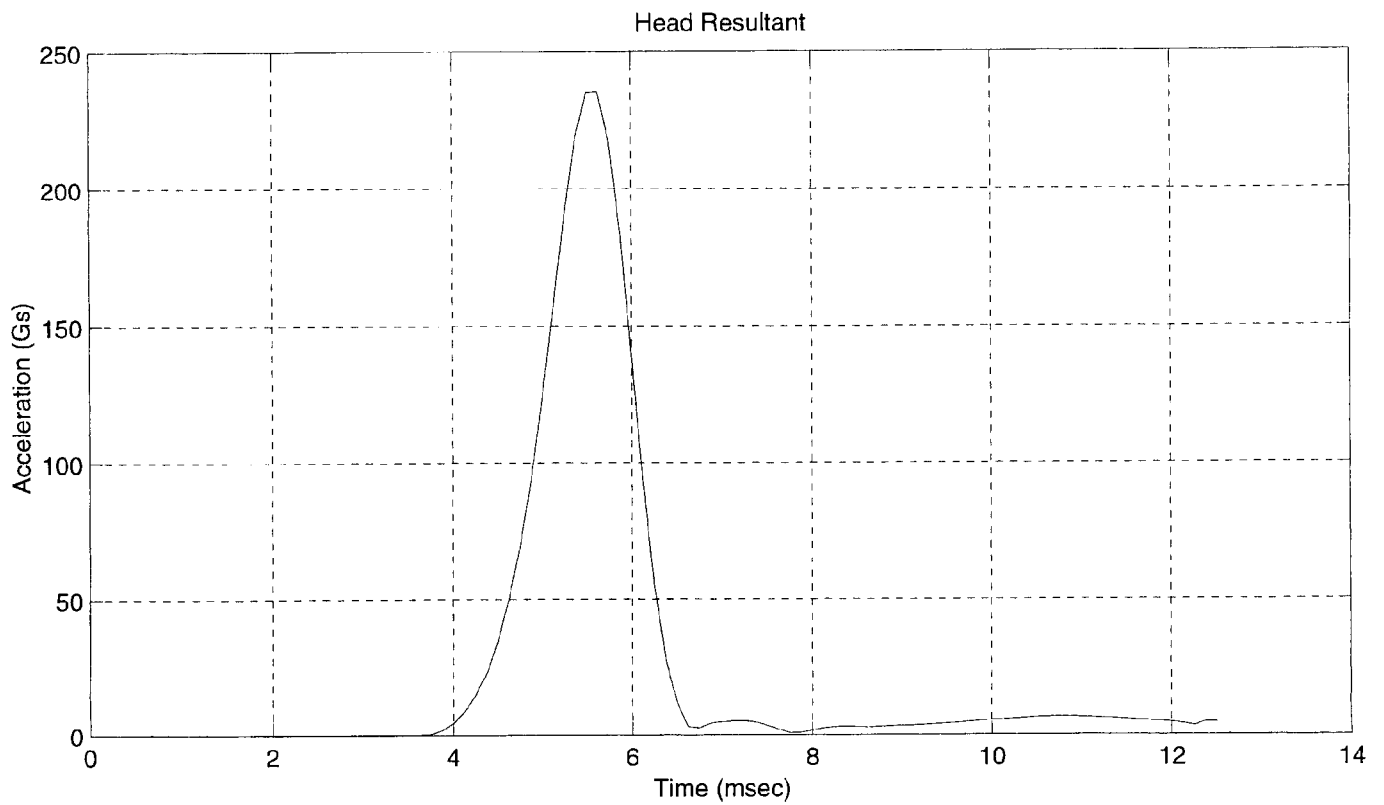
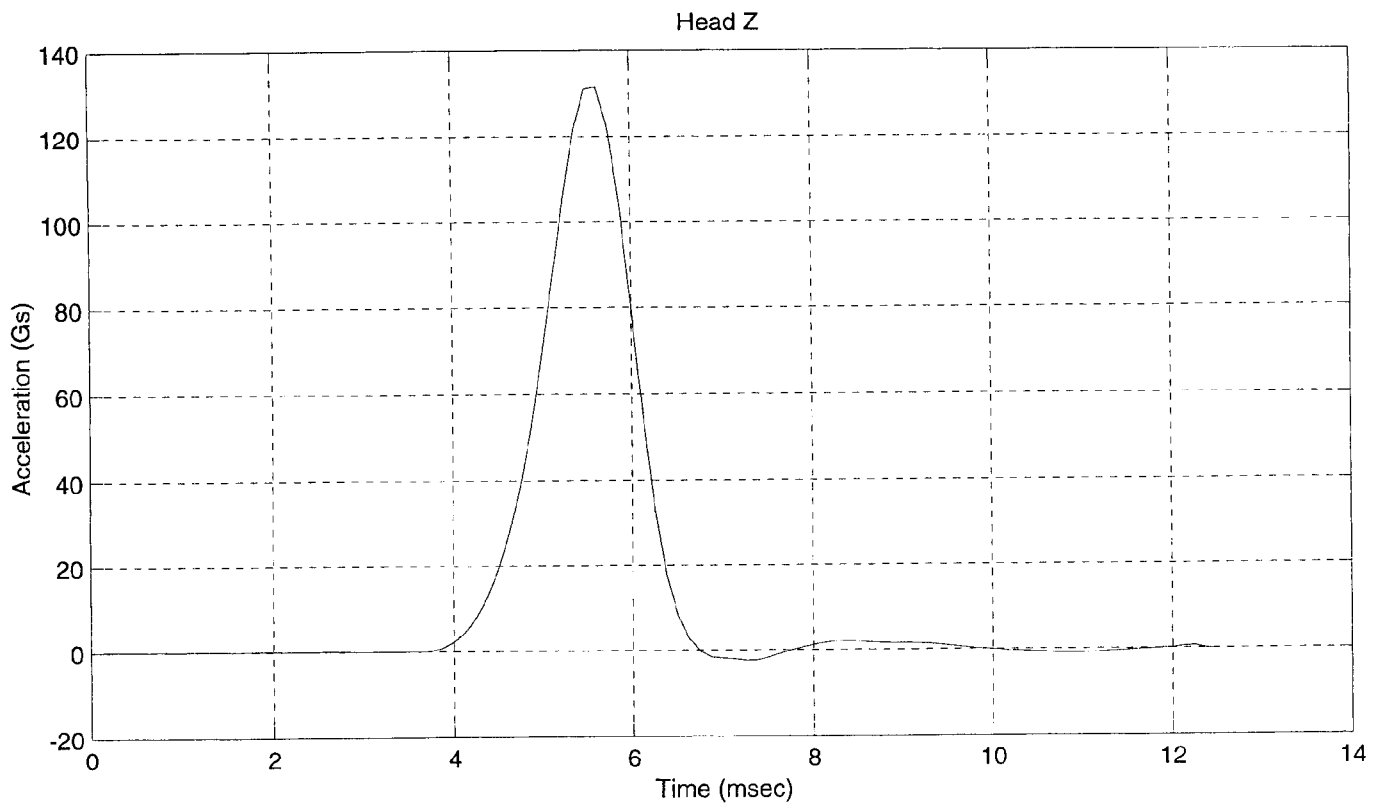
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 2
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)	10 - 70	32
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	234.4
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	9.4
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.13

REMARKS: None





ABDOMINAL COMPRESSION TEST**PRE-TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 2
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	32
FORCE @ 13 mm (N)	104 - 162	111.2
FORCE @ 19 mm (N)	163 - 221	173.5
FORCE @ 25 mm (N)	222 - 280	251.3
FORCE @ 33 mm (N)	325 - 391	360.3

REMARKS: None

Dummy S/N 027

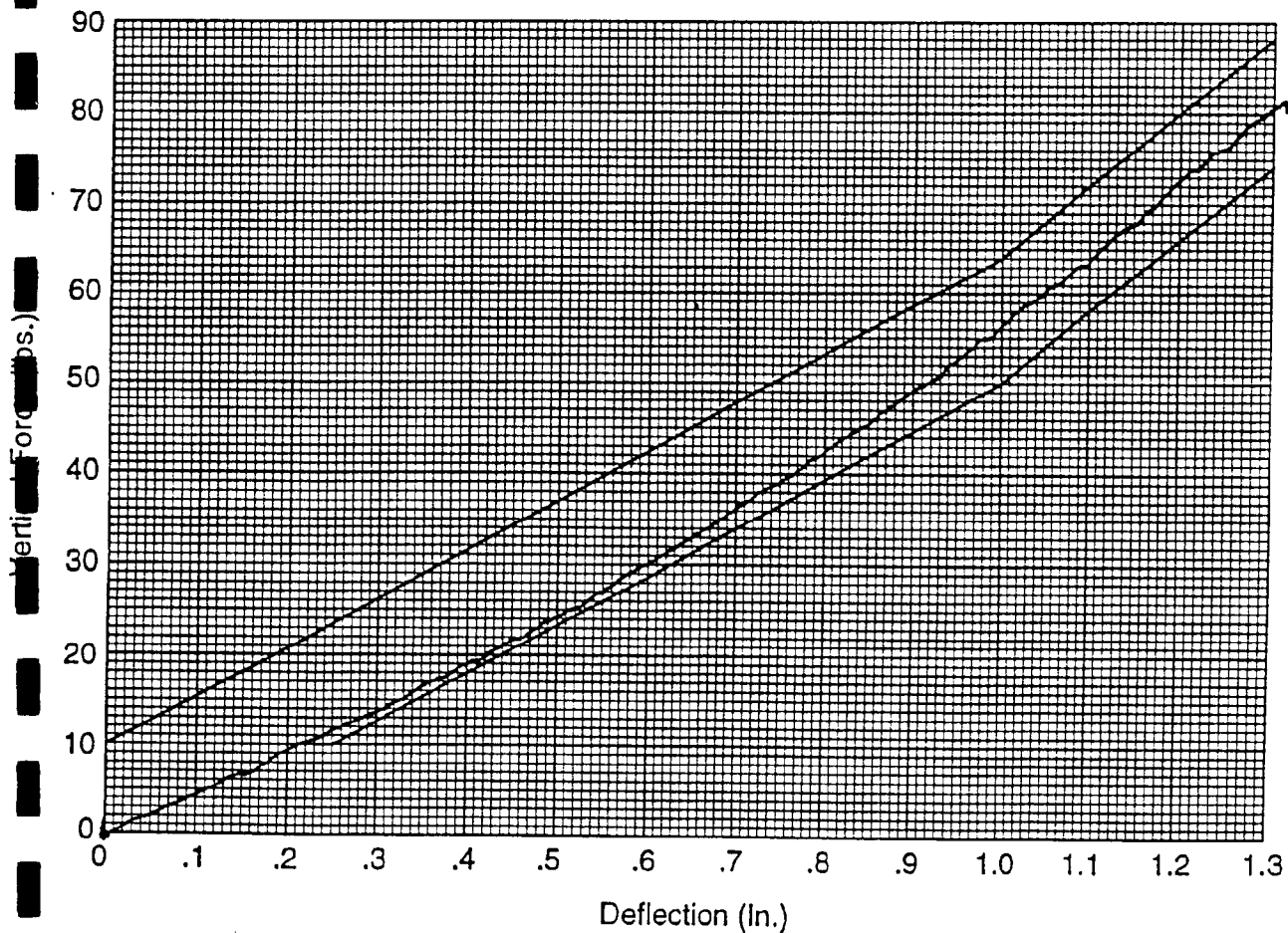
W/A _____

Date 11-29-99

Performed By BS

Temp. 70°

Humidity 32%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 2
Date: November 30, 1999 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	124.6
FORCE @ 30° (N)	151.2 - 204.6	166.8
FORCE @ 40° (N)	204.6 - 258	231.3
RETURN ANGLE	12° max.	9

REMARKS: None

27

Dummy S/N

W/A

Date

11-29-99

Performed By

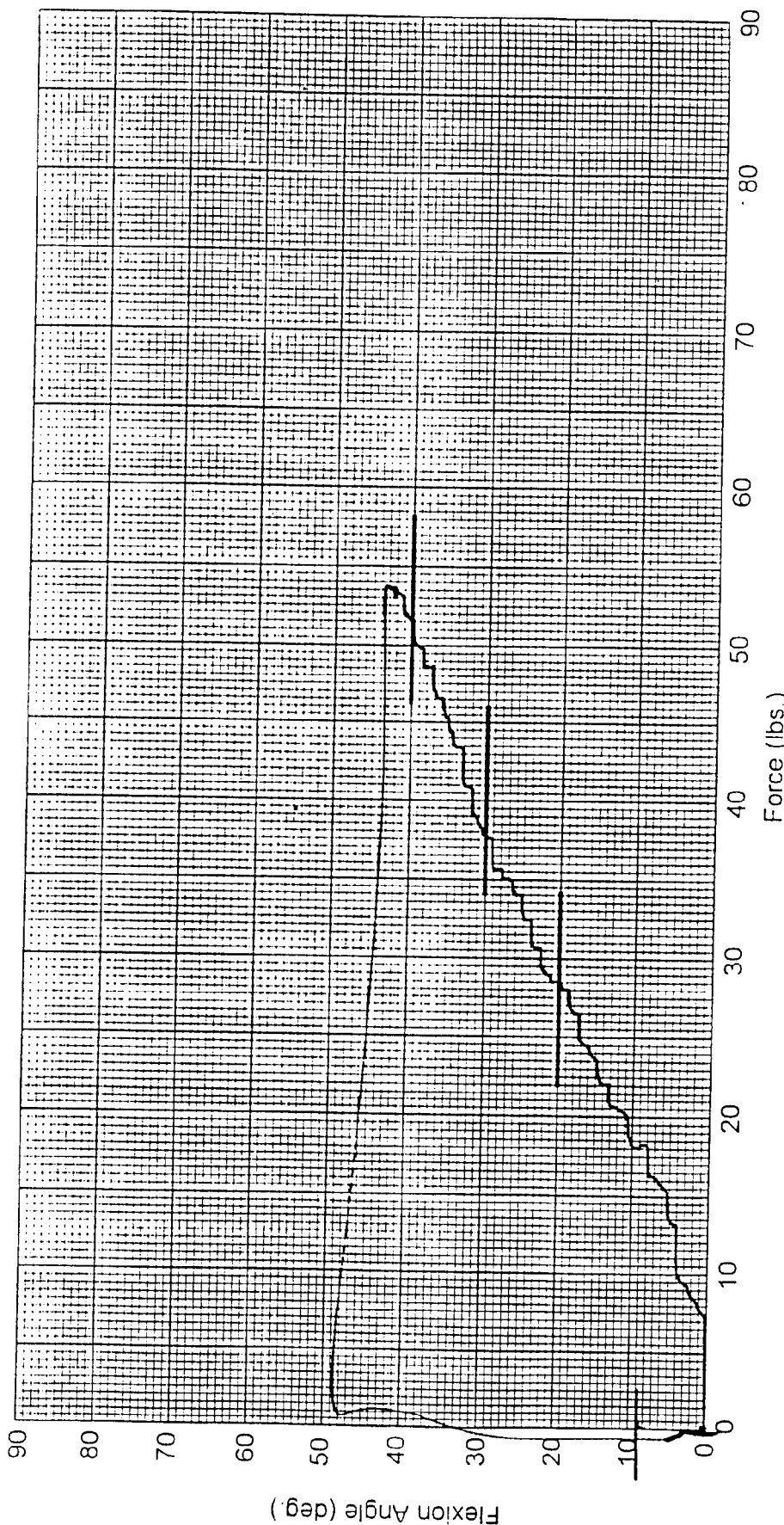
BB

Temp.

70°

Humidity

31%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 2
 Date: November 30, 1999 Laboratory Technician: B. Swiecicki

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

**CALIBRATION TEST RESULTS
POST TEST**

SID NO.: 268

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	506
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

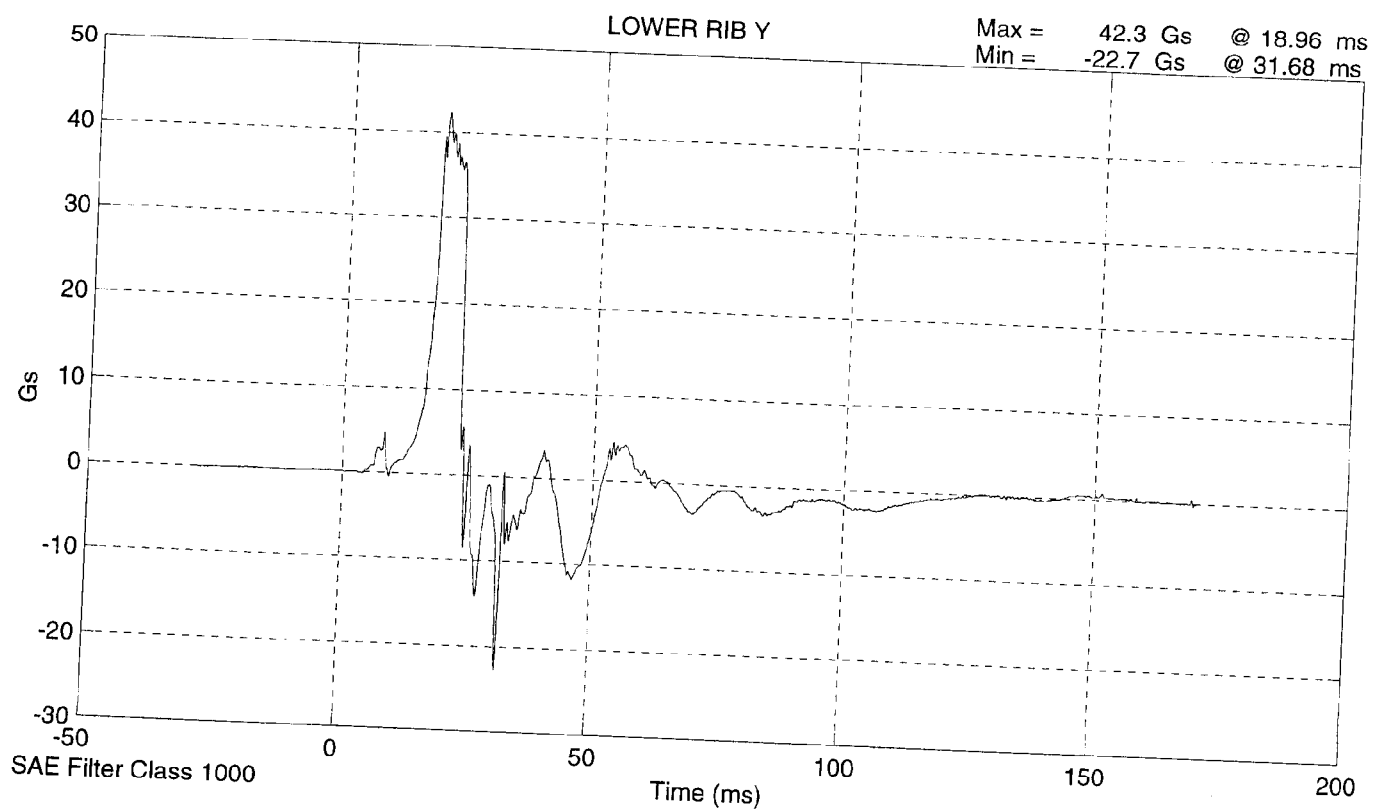
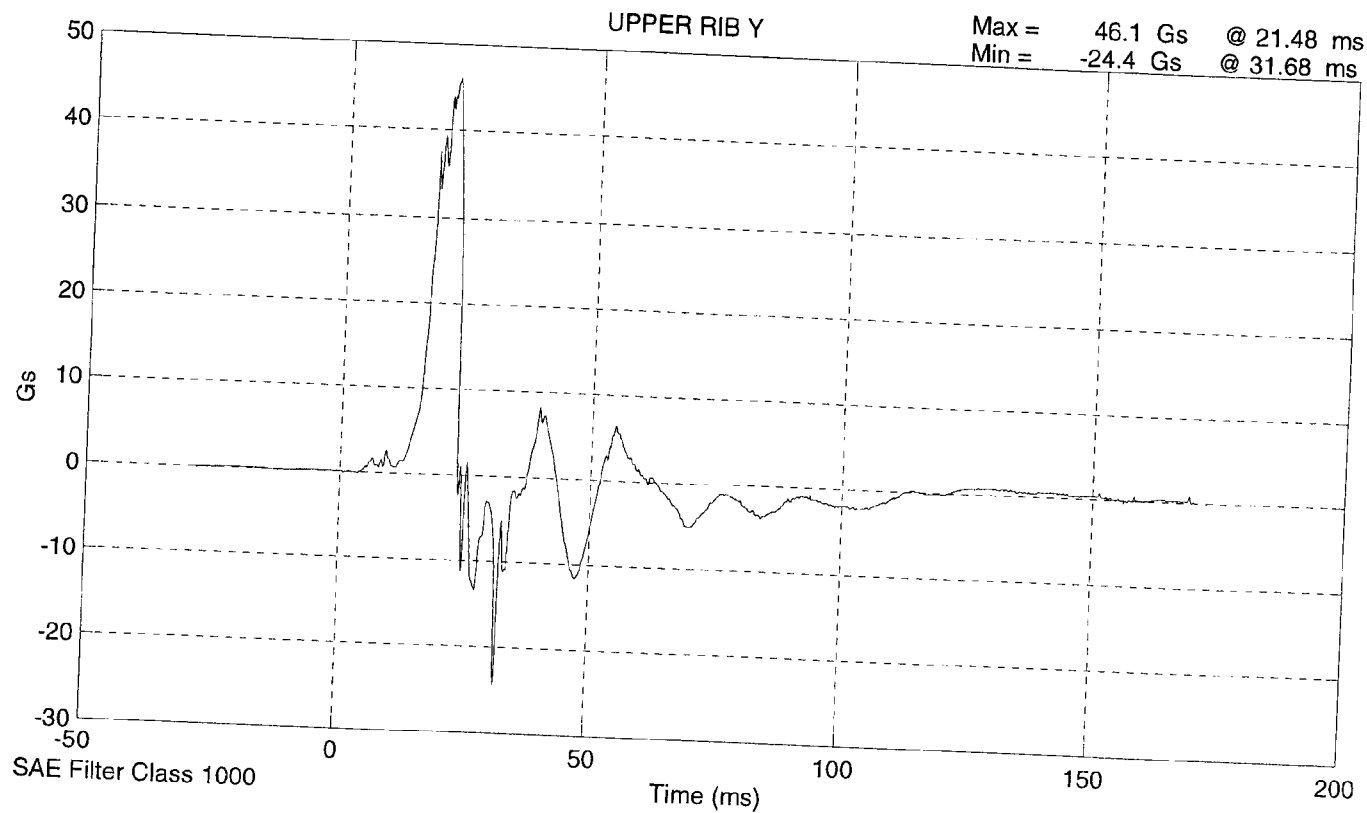
**LATERAL THORAX IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.32
UPPER RIB (g's)	37 - 46	44.7
LOWER RIB (g's)	37 - 46	42.2
LOWER SPINE (g's)	15 - 22	21.2

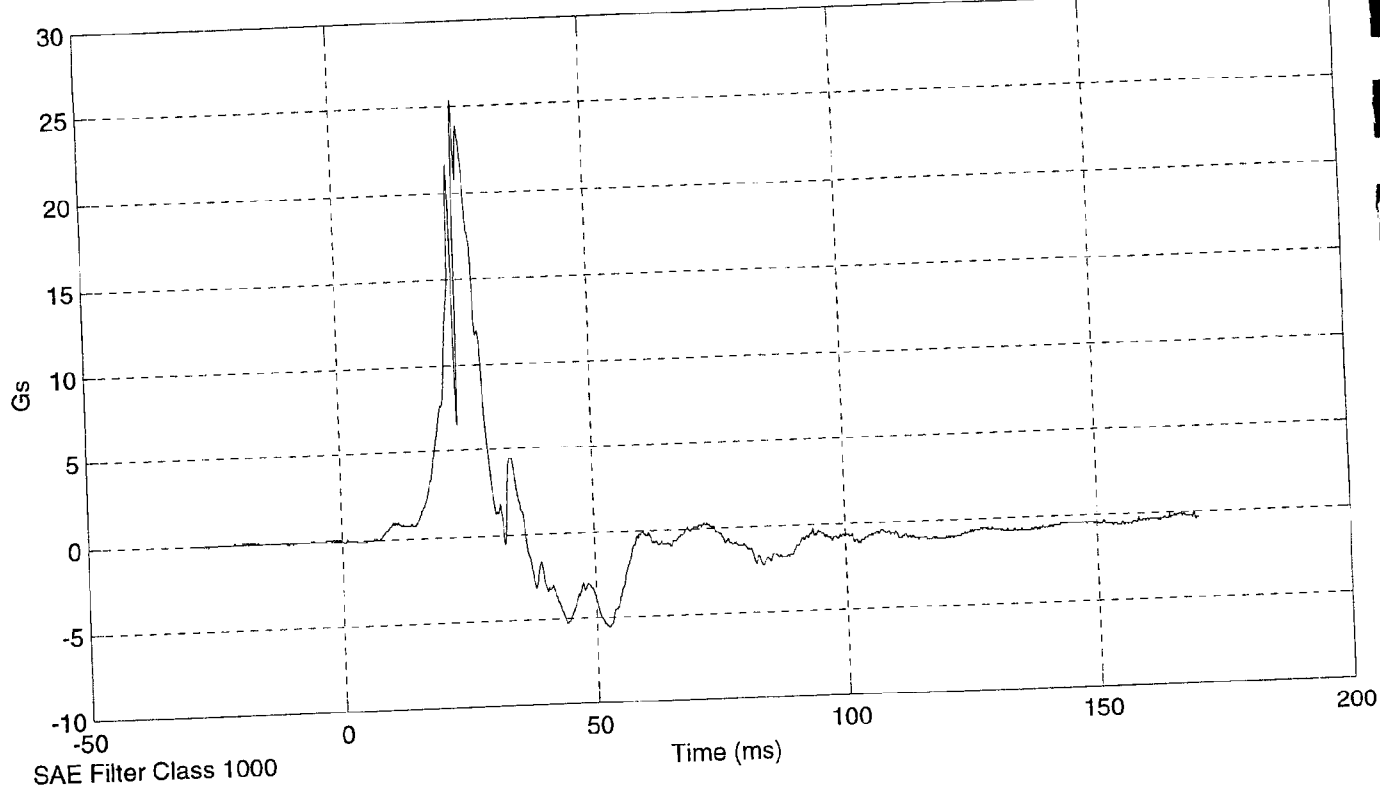
REMARKS: None



SID 268 Thorax Impact Test @ 4.316 m/s

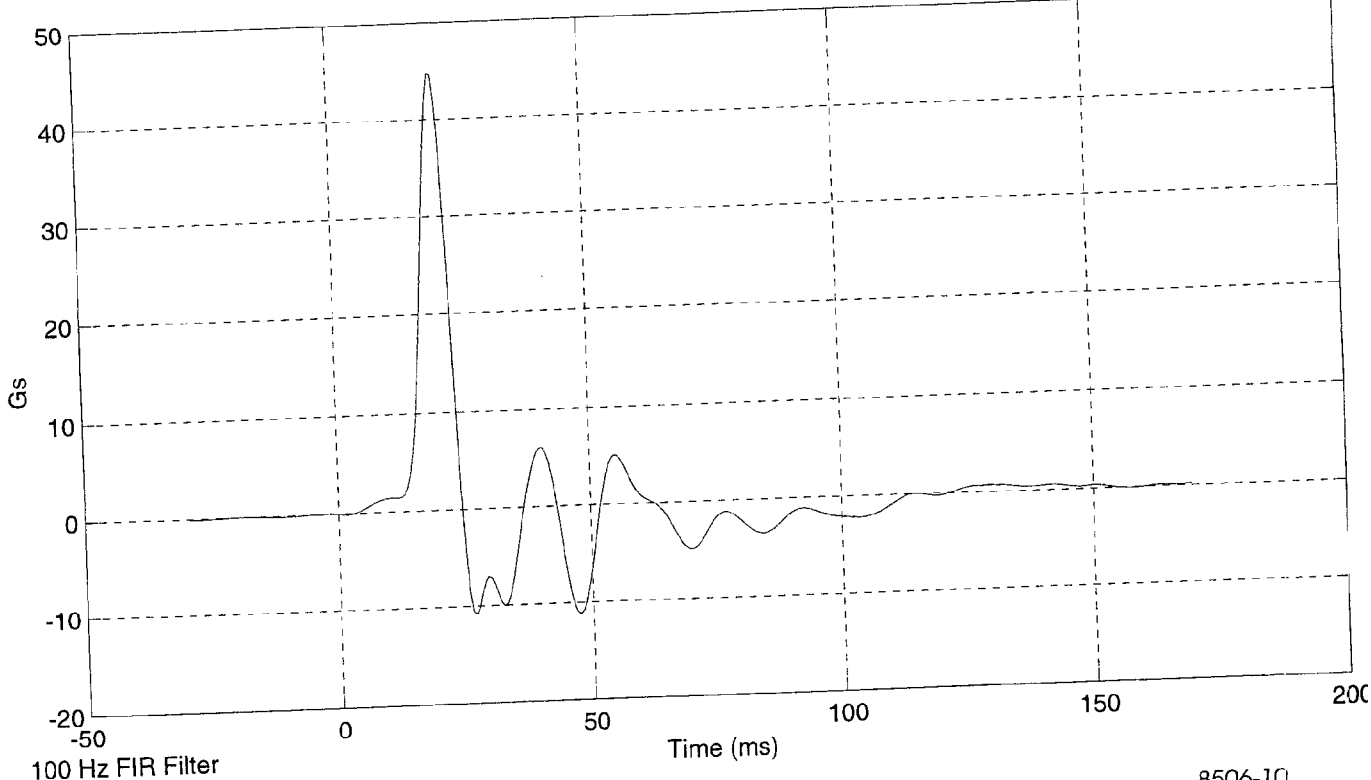
LOWER SPINE Y

Max = 25.3 Gs @ 24.00 ms
Min = -5.59 Gs @ 52.44 ms



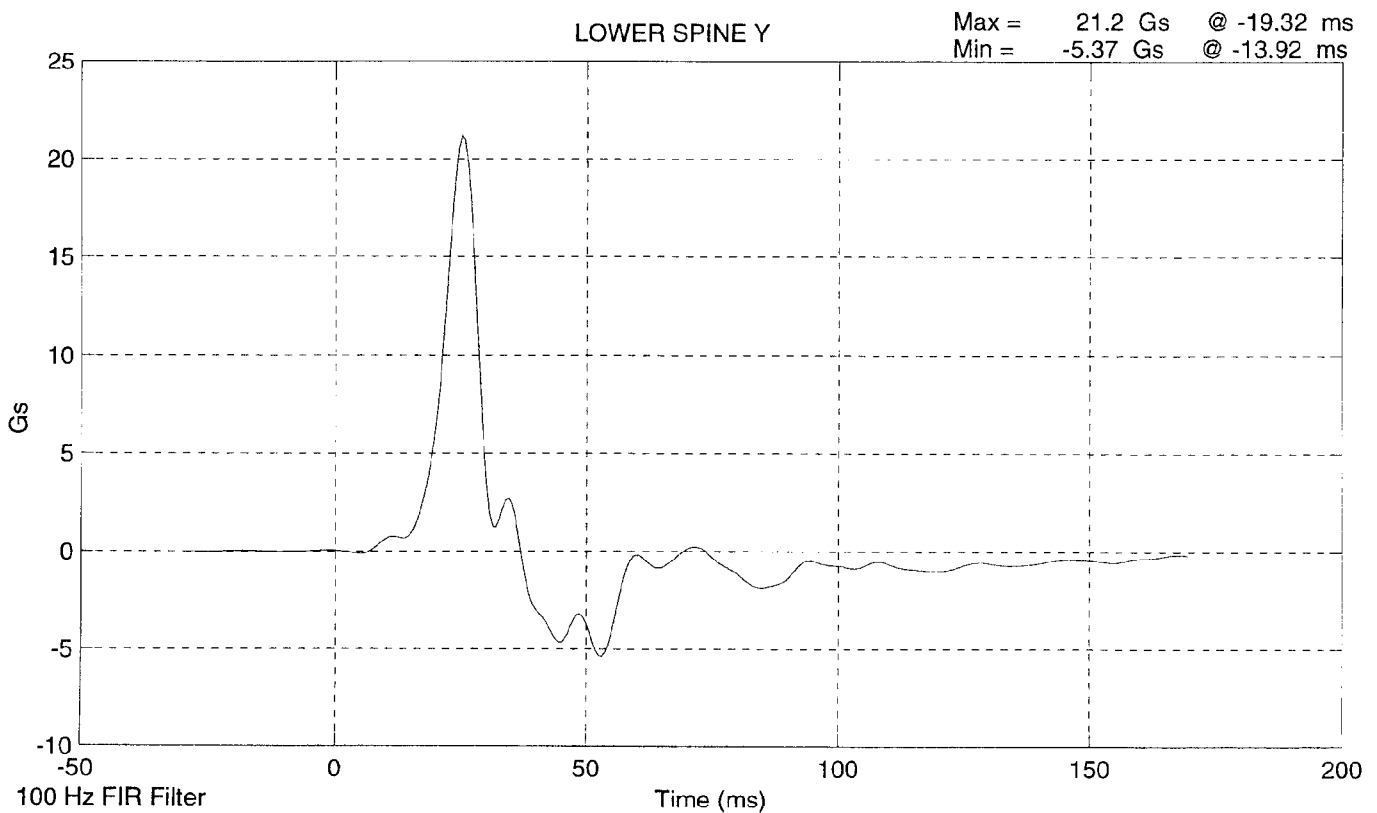
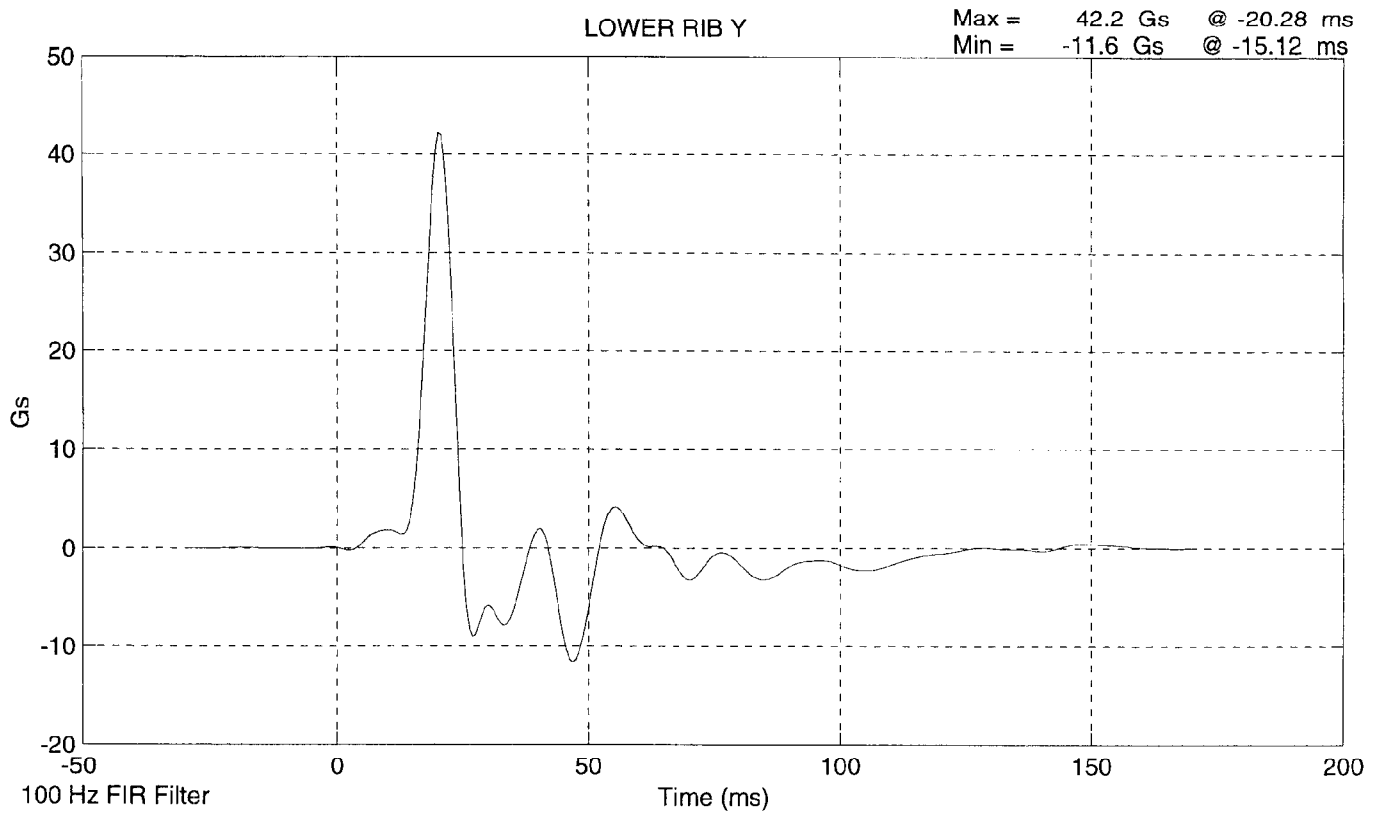
UPPER RIB Y

Max = 44.7 Gs @ -20.28 ms
Min = -11.2 Gs @ -15.00 ms



C-50

8506-10



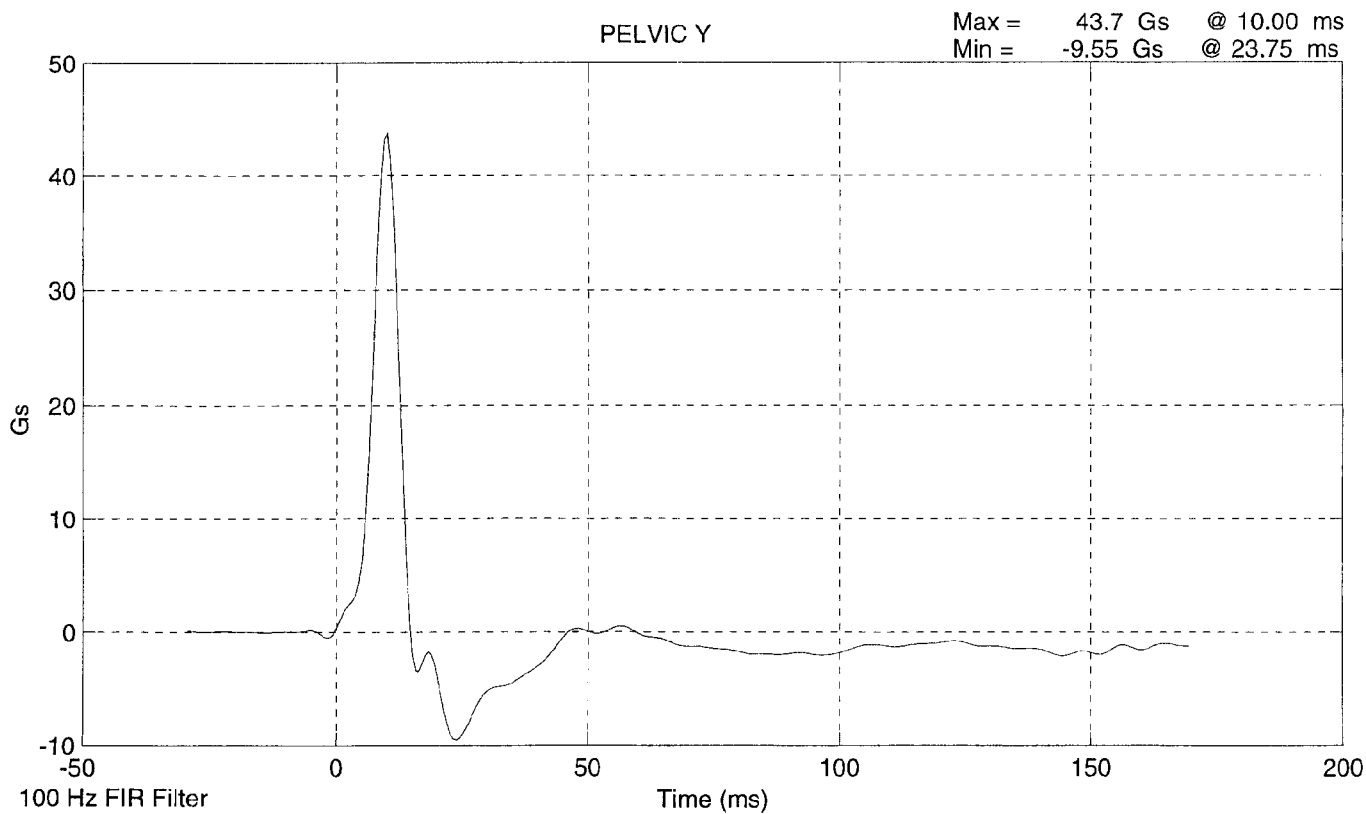
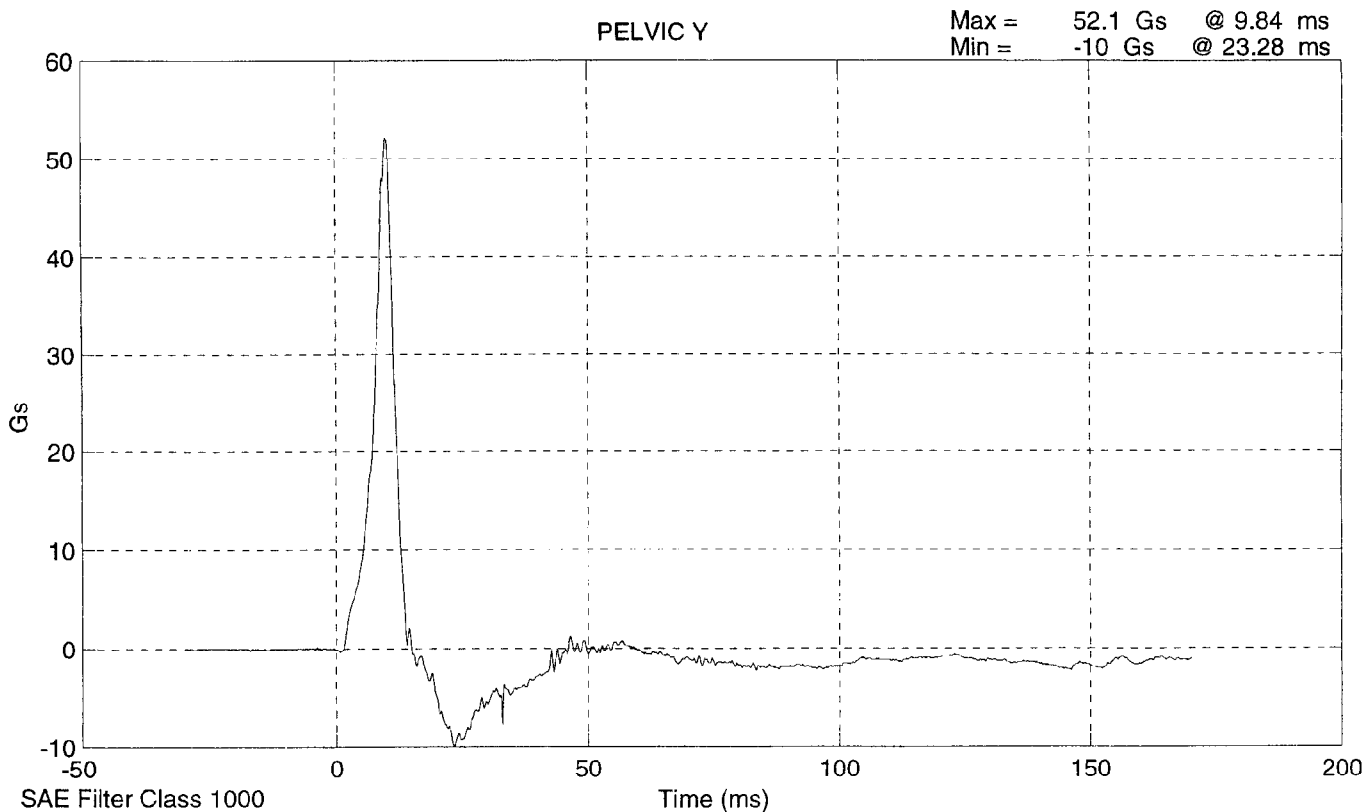
**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.28
PELVIS ACCELERATION (g's)	40 - 60	43.7

REMARKS: None



**HEAD DROP TEST
POST-TEST**

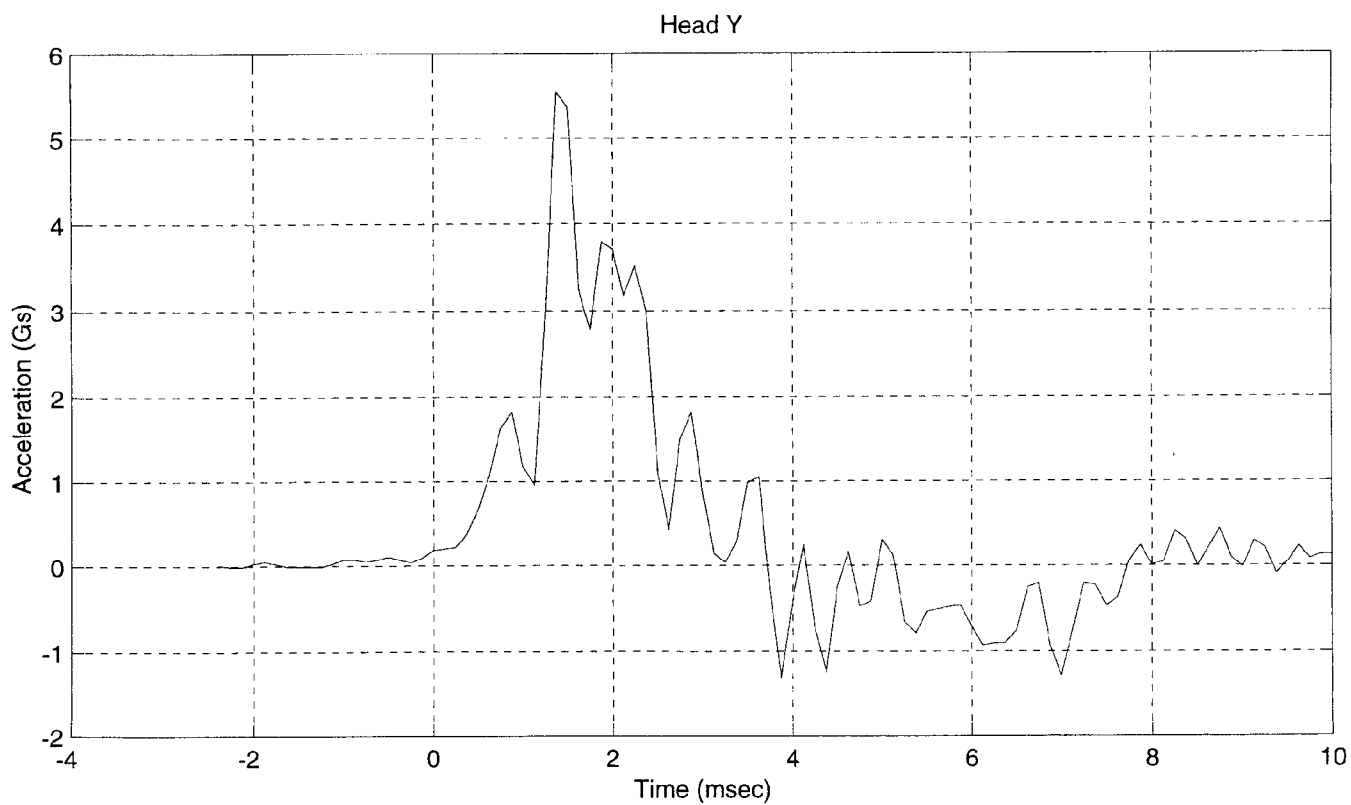
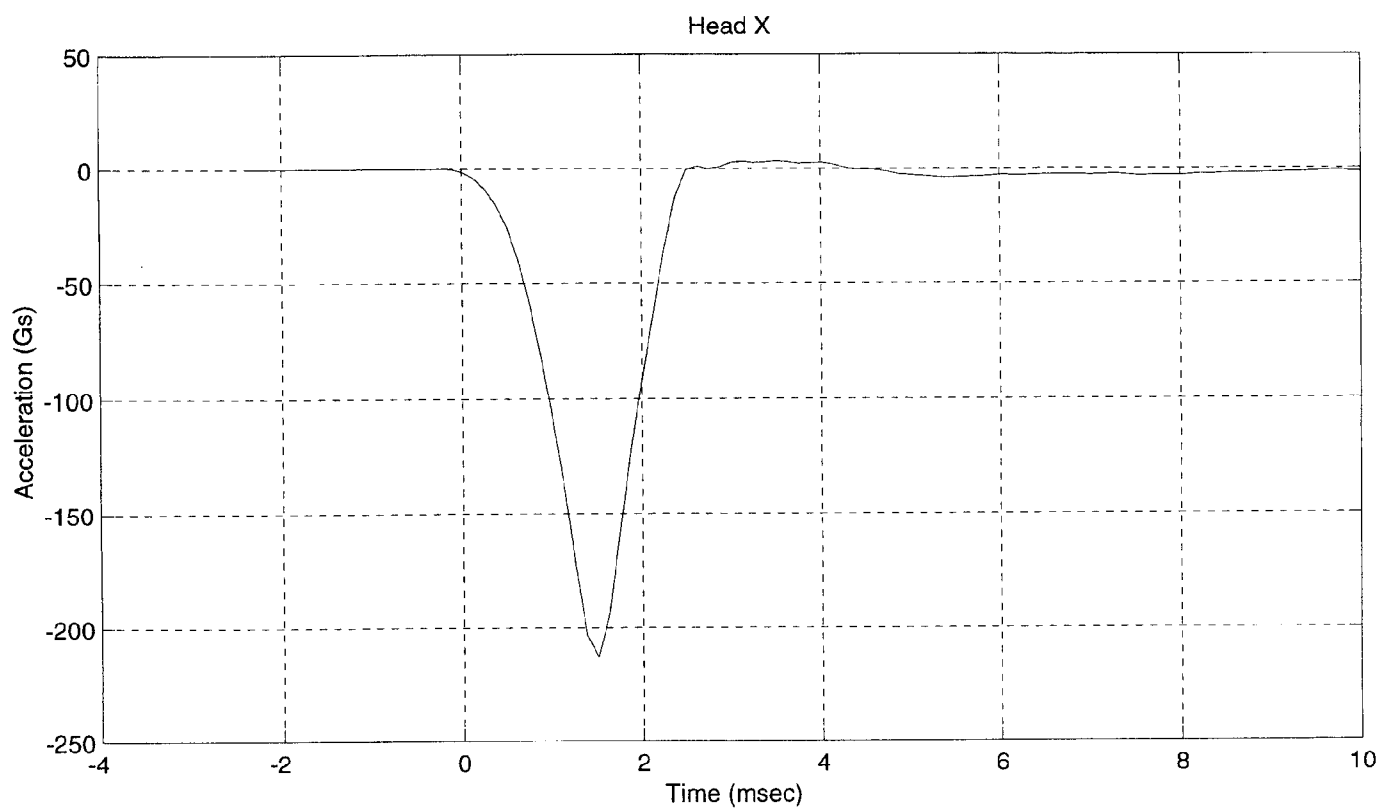
(Test not required for SID certification)

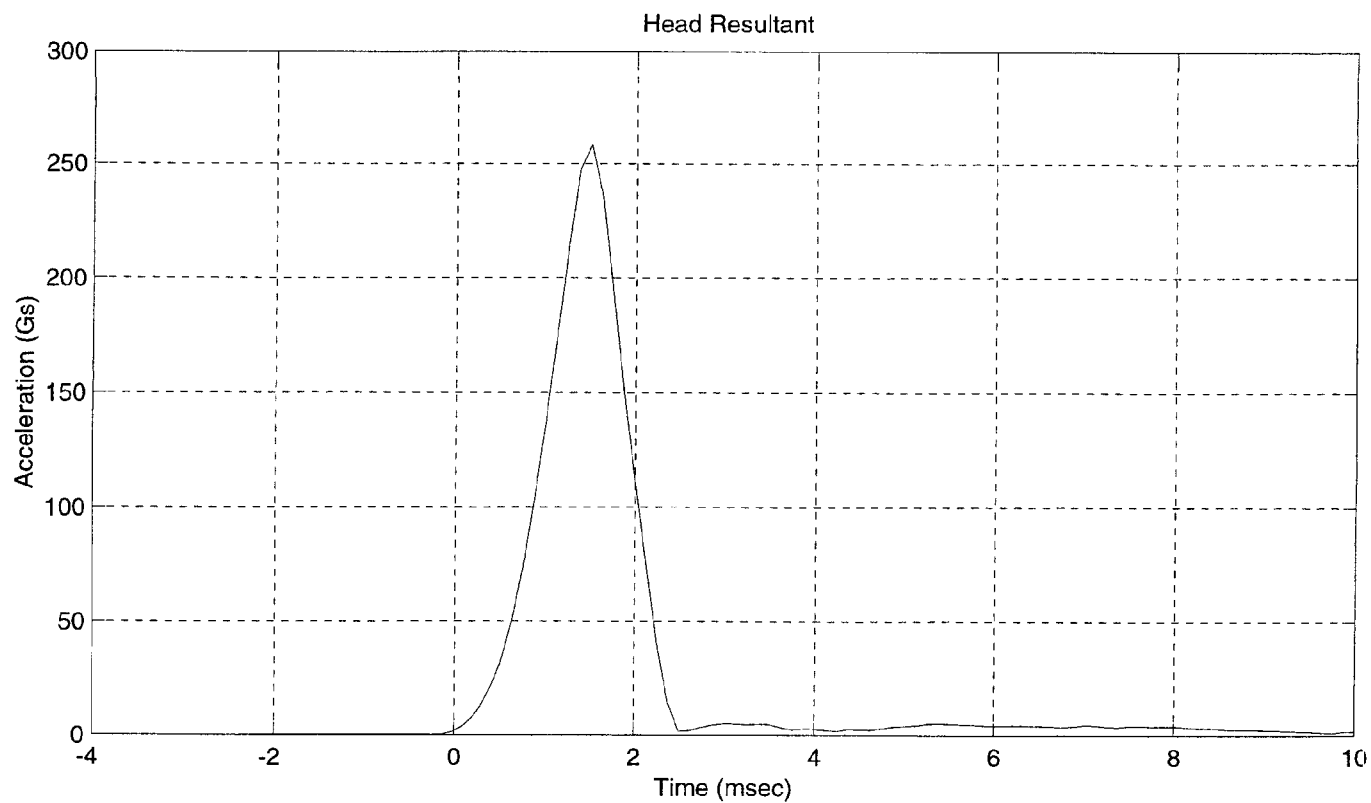
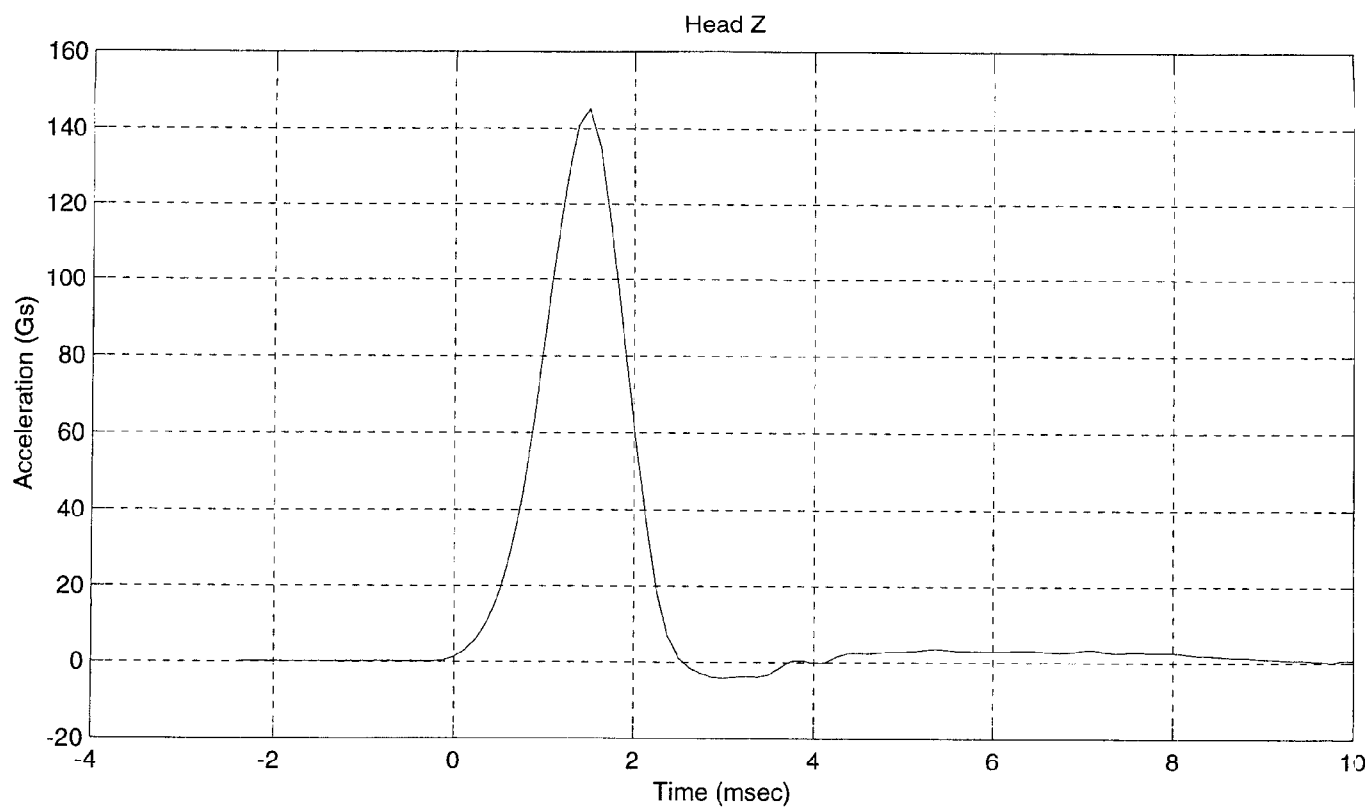
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	258.18
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	5.54
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.12

REMARKS: None





ABDOMINAL COMPRESSION TEST**POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
FORCE @ 13 mm (N)	104 - 162	113.4
FORCE @ 19 mm (N)	163 - 221	177.9
FORCE @ 25 mm (N)	222 - 280	266.9
FORCE @ 33 mm (N)	325 - 391	387.0

REMARKS: None

Dummy S/N 268

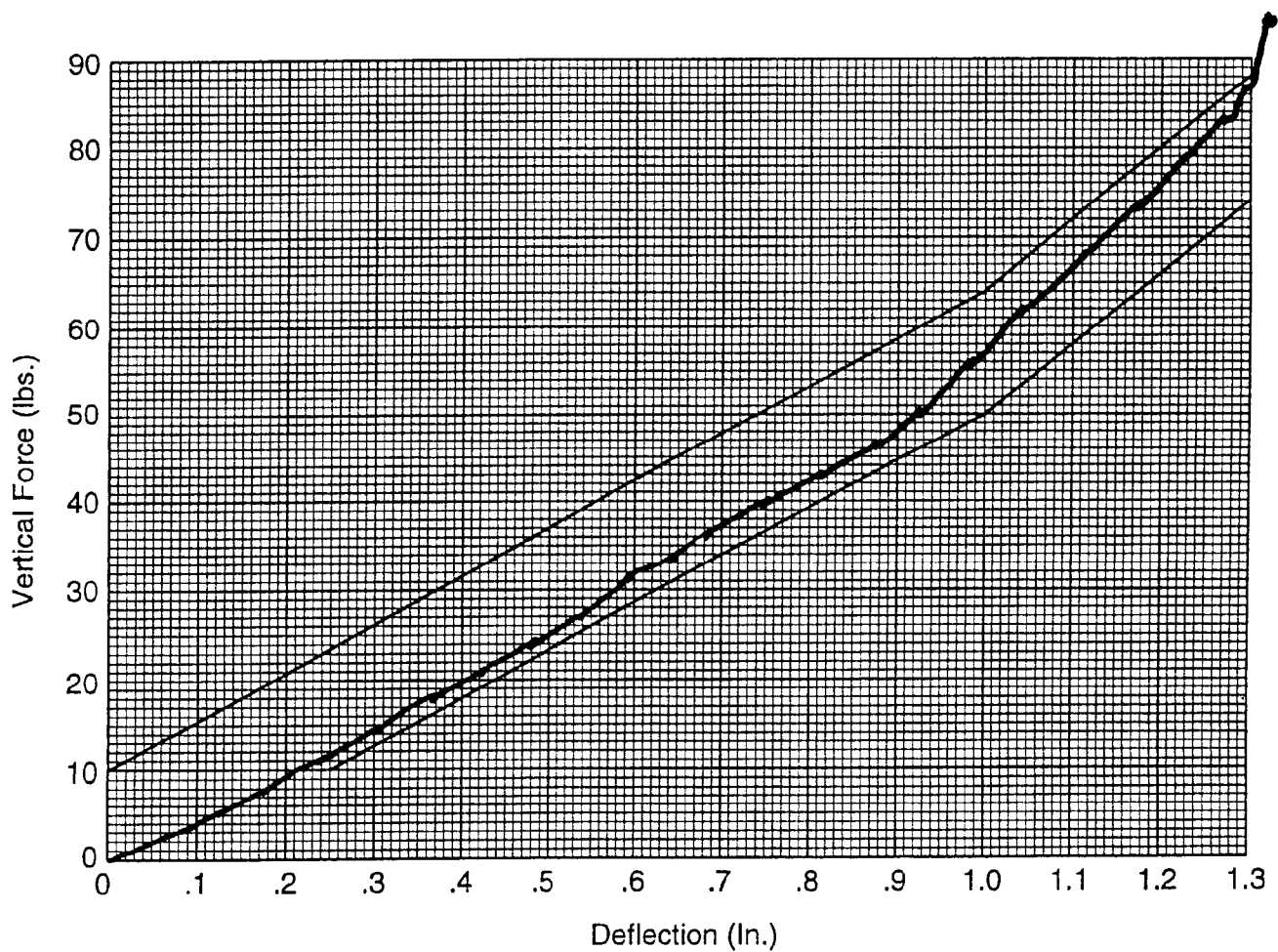
W/A _____

Date 1-4-2000

Performed By MJK

Temp. 70°

Humidity 30%



Hybrid II
Abdomen Static Press

LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

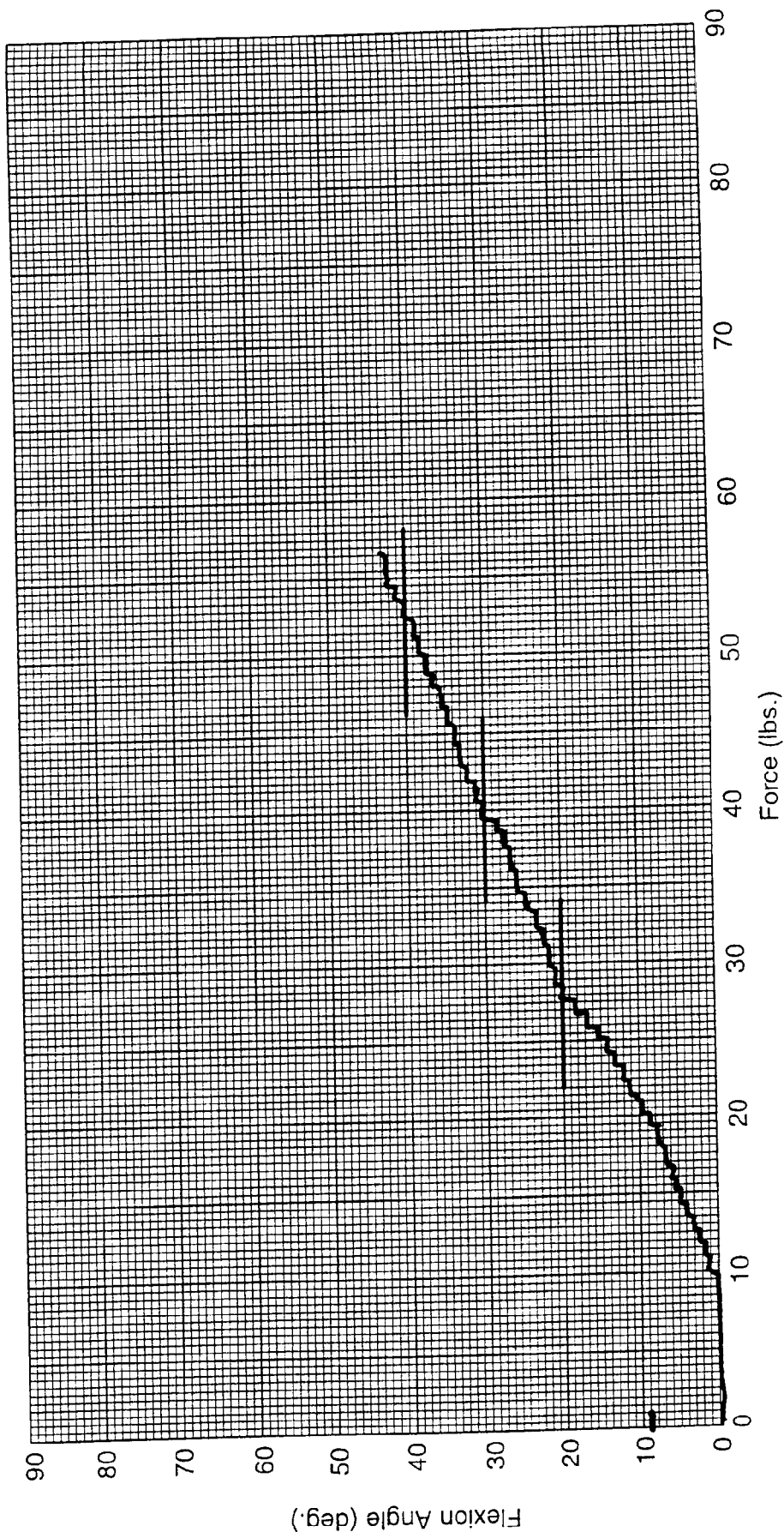
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	123.4
FORCE @ 30° (N)	151.2 - 204.6	175.7
FORCE @ 40° (N)	204.6 - 258	233.5
RETURN ANGLE	12° max.	9

REMARKS: None

Dummy S/N 268
W/A _____
Date 1-4-2000
Performed By MJK
Temp. 70°
Humidity 30%



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 268 Sequential Test Number: 5
 Date: January 4, 2000 Laboratory Technician: M. Kilgallon

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None

**CALIBRATION TEST RESULTS
POST TEST**

SID NO.: 027

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 3
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT TEST	Passed all requirements.
HEAD DROP TEST*	Passed all requirements.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

EXTERNAL DIMENSIONS
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 3
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	897
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	236
KH- Knee Pivot from Back Line (mm)	511 - 526	521
KV- Knee Pivot to Floor (mm)	490 - 505	498
HW- Hip Width (mm)	356 - 391	366

REMARKS: None

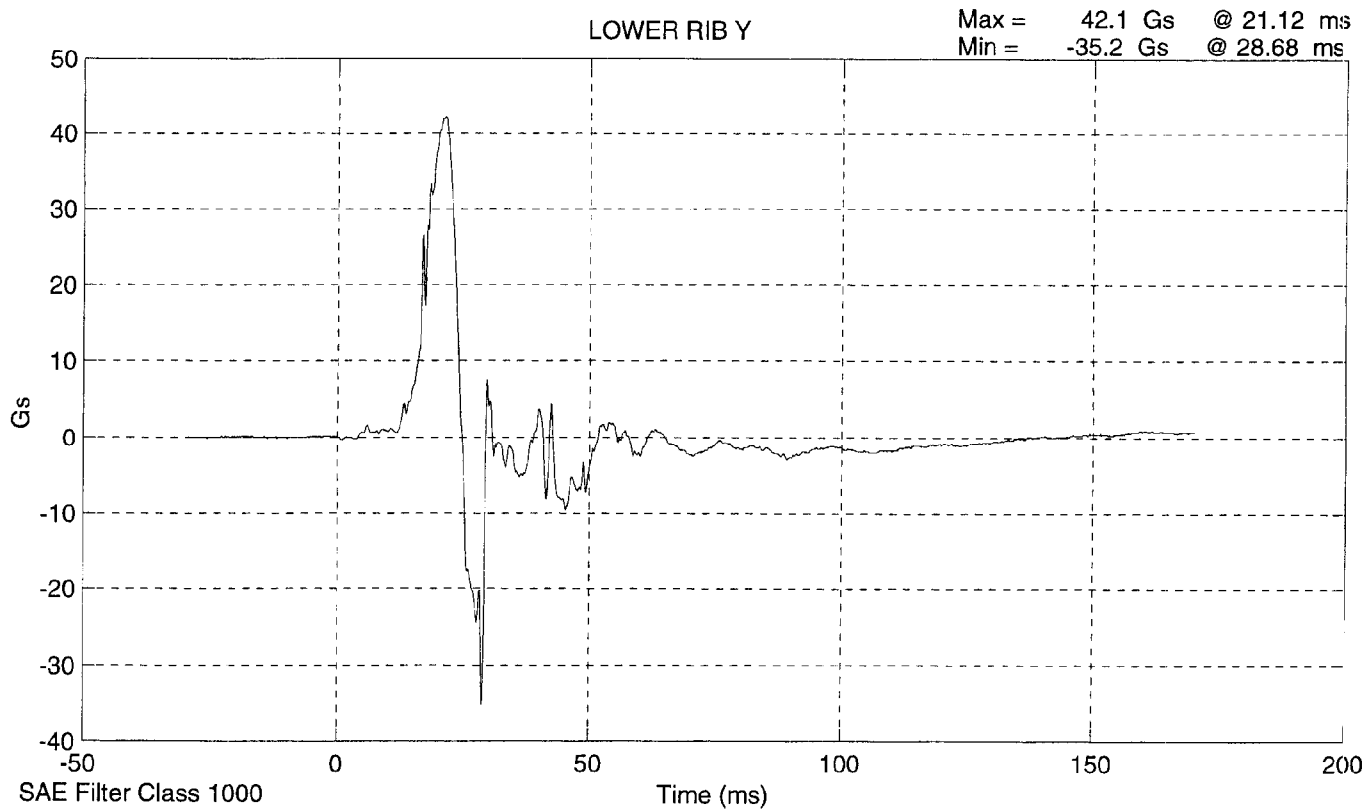
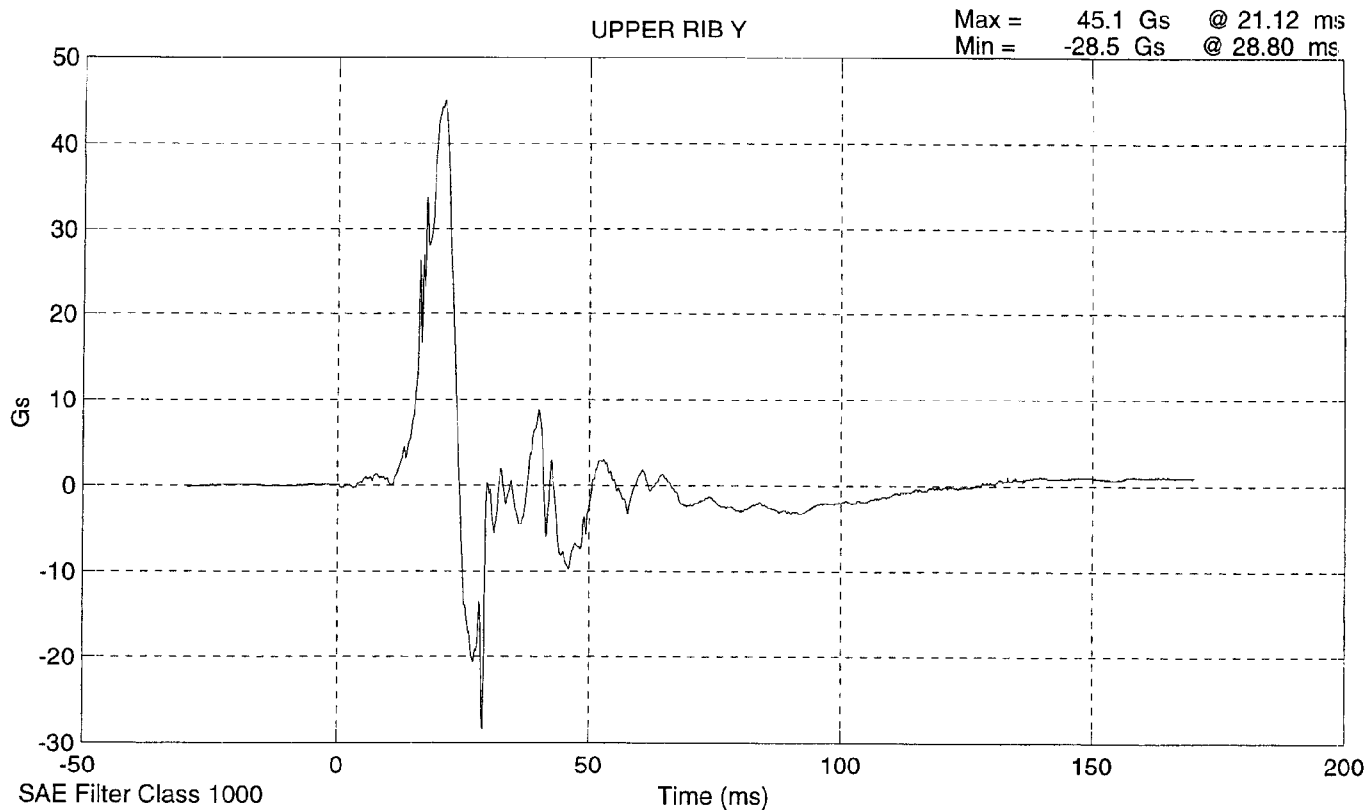
**LATERAL THORAX IMPACT TEST
POST TEST**

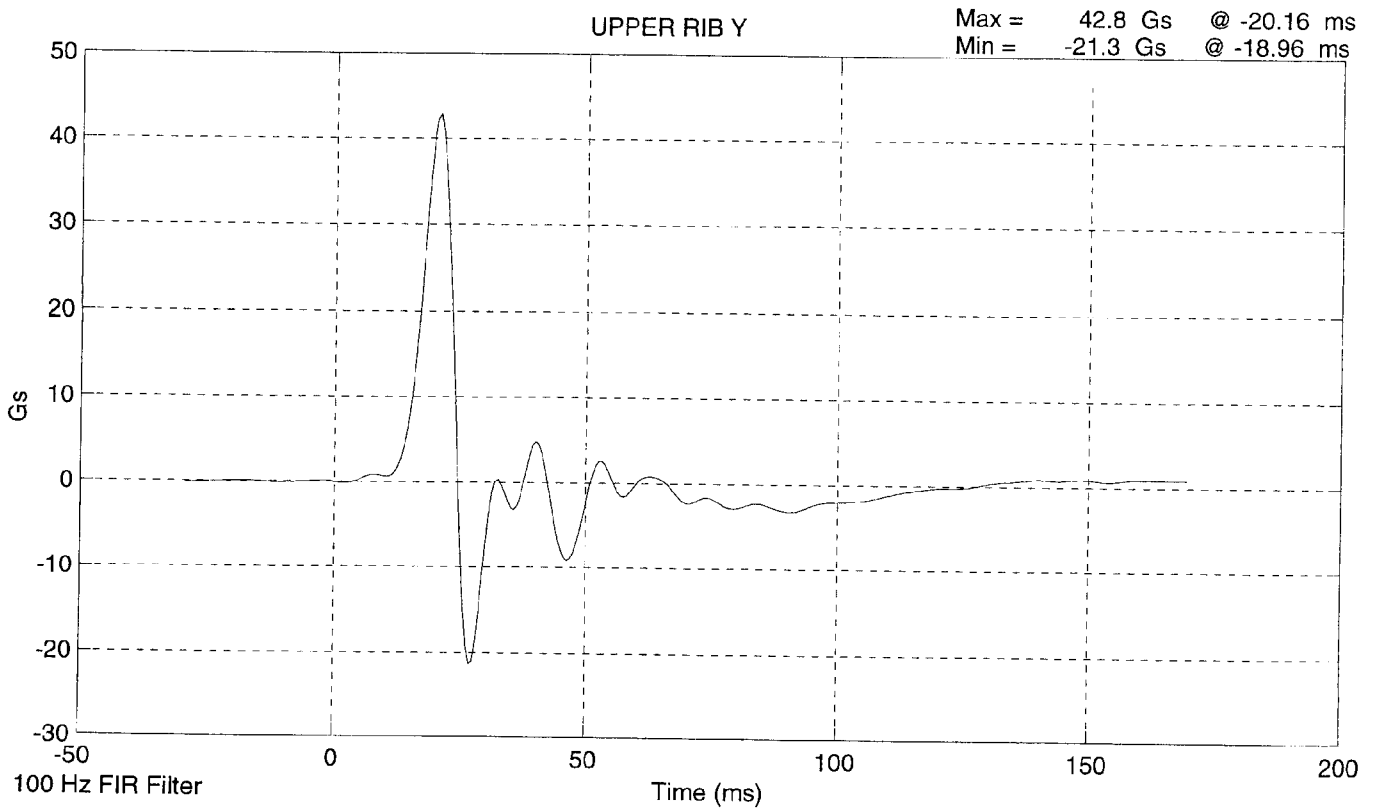
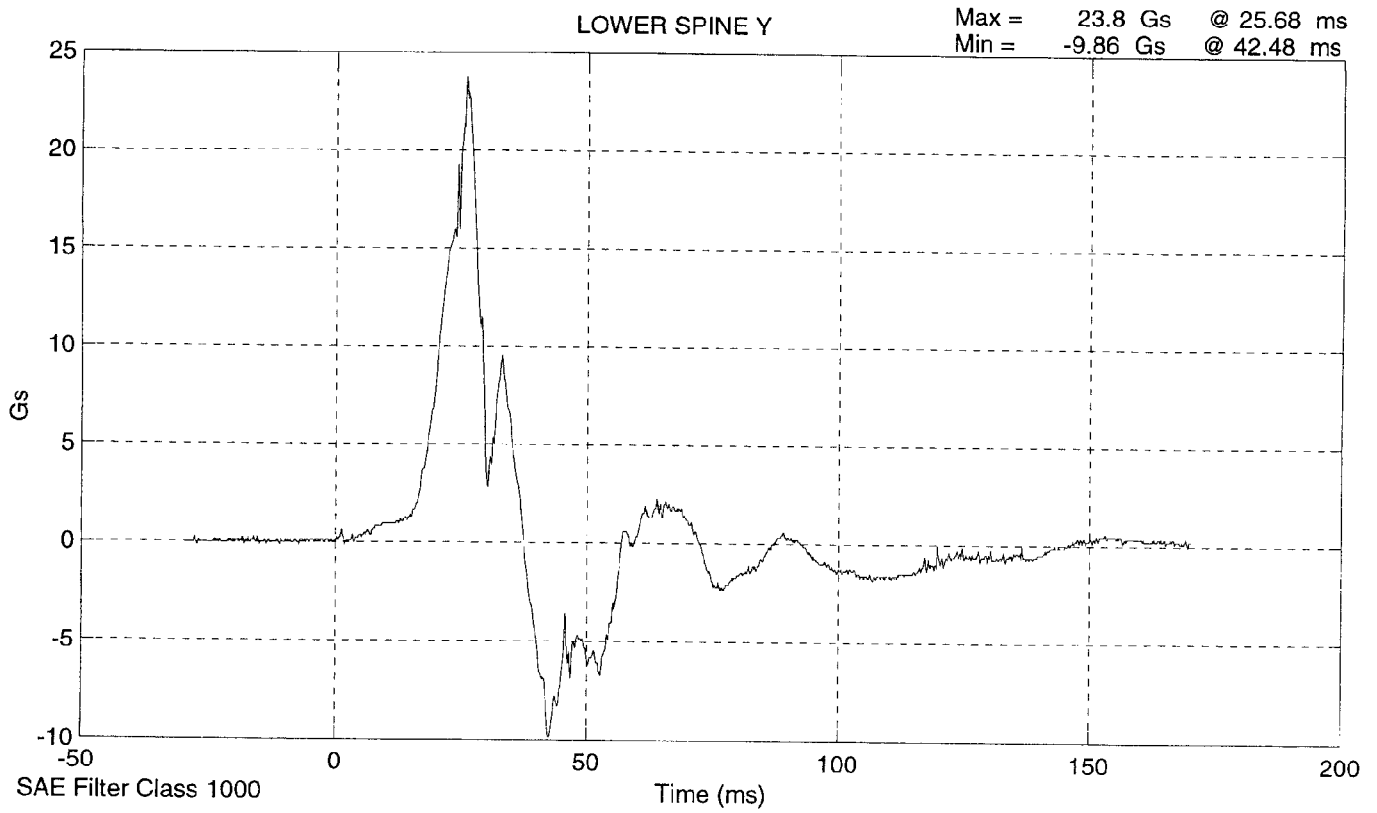
CONFIGURED FOR LEFT SIDE IMPACT

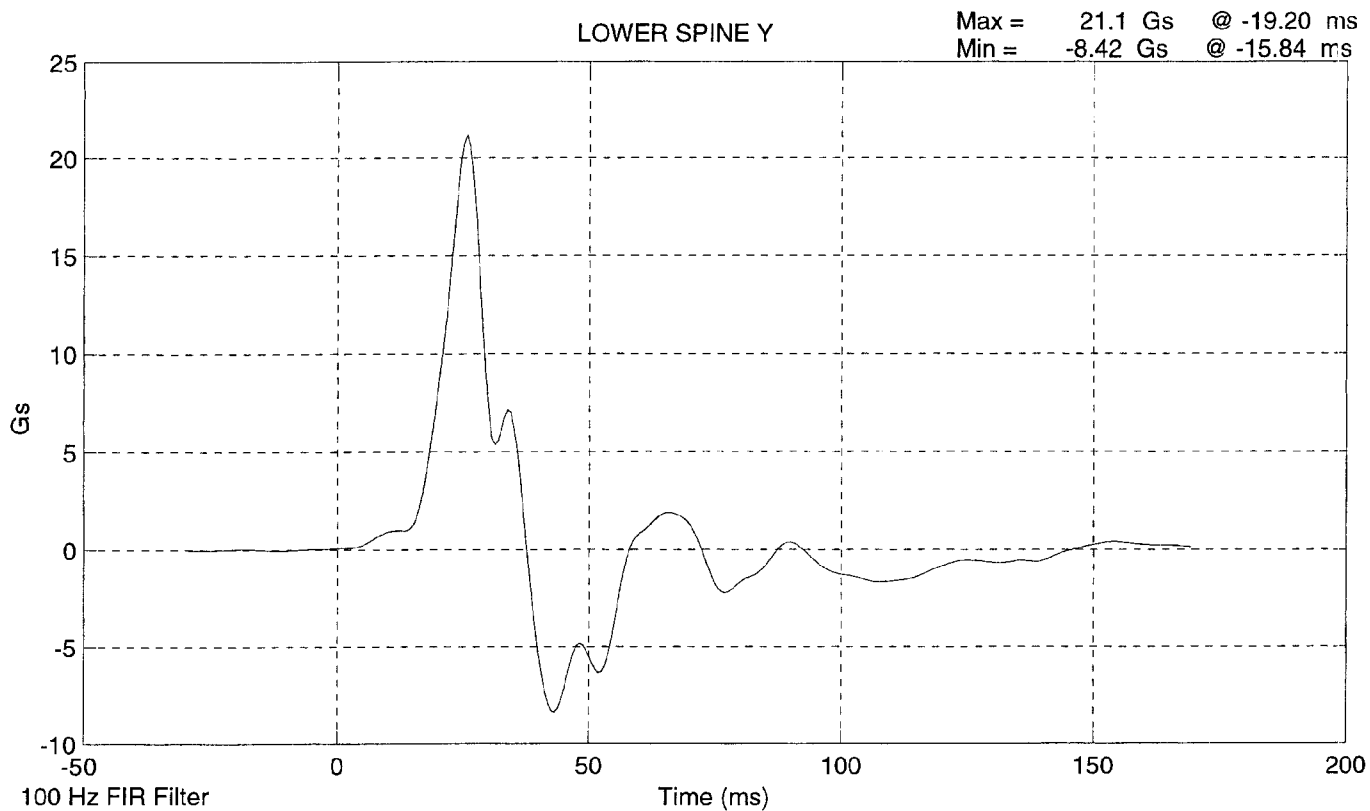
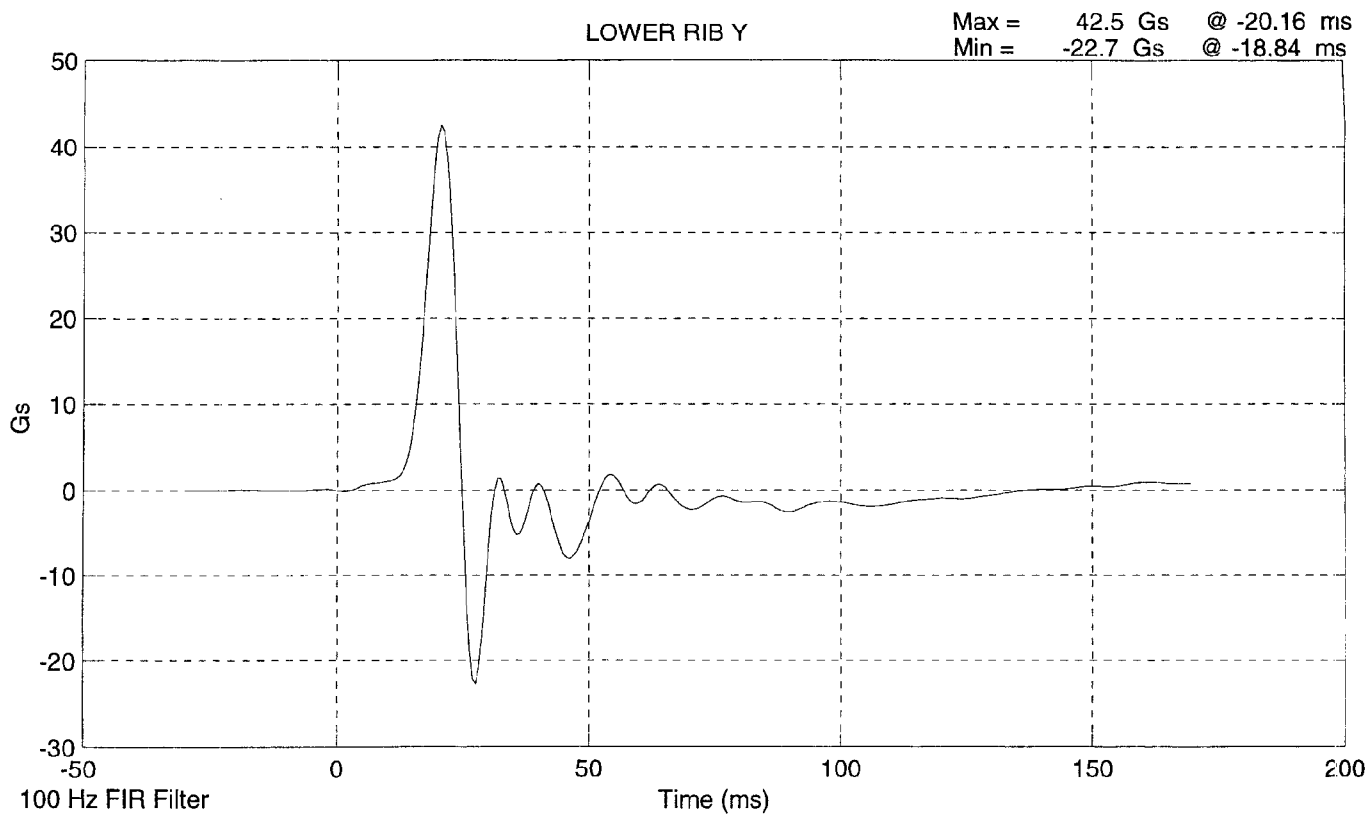
SID Serial No.: 027 Sequential Test Number: 3
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	42.8
LOWER RIB (g's)	37 - 46	42.5
LOWER SPINE (g's)	15 - 22	21.1

REMARKS: None







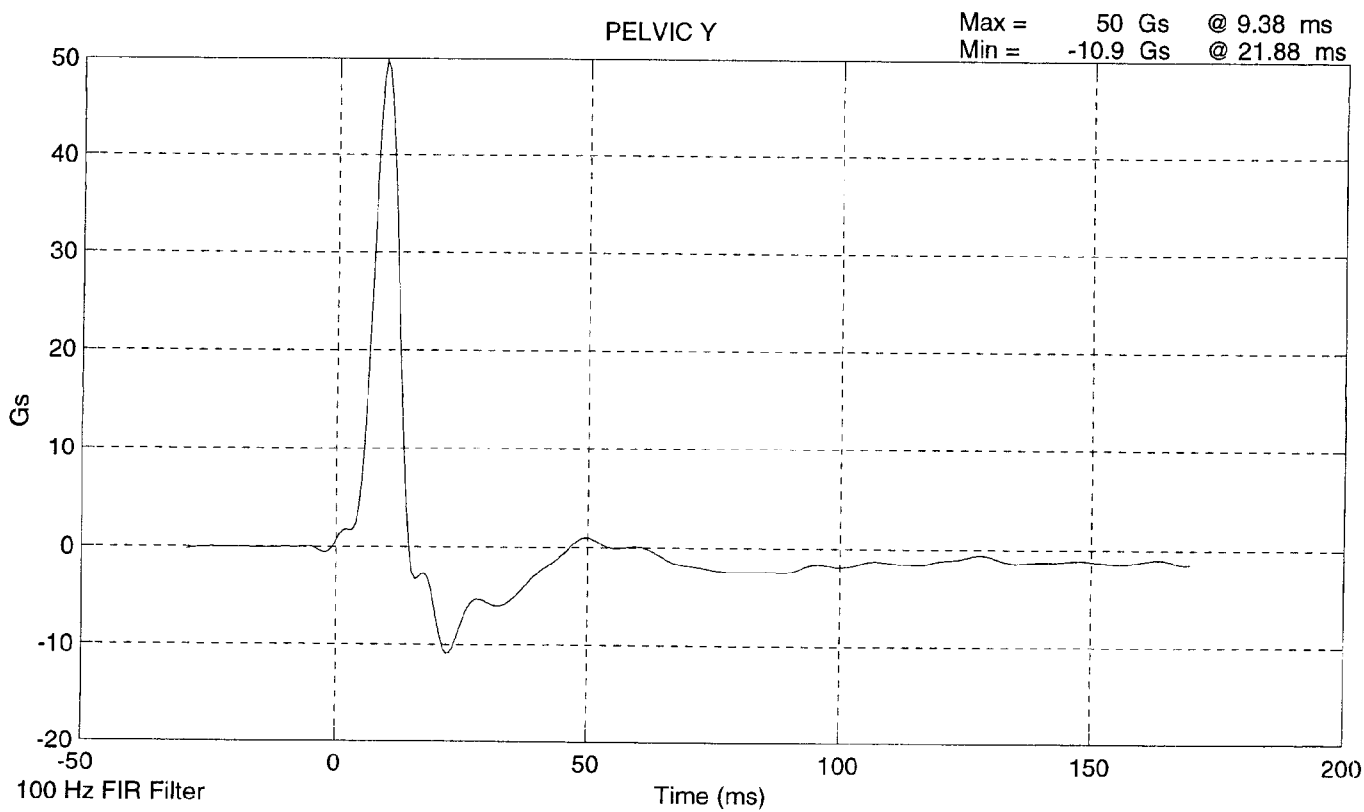
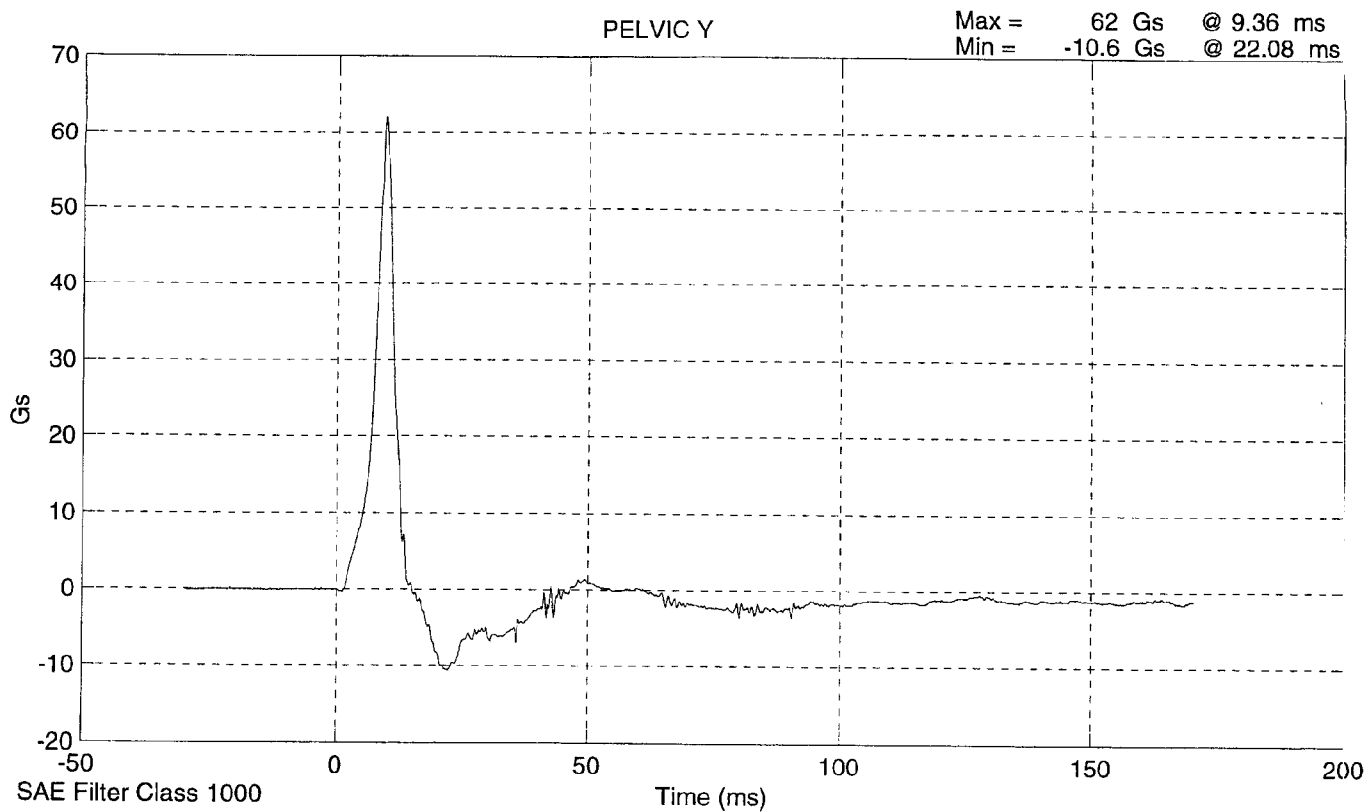
**LATERAL PELVIS IMPACT TEST
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 3
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.30
PELVIS ACCELERATION (g's)	40 - 60	50.0

REMARKS: None



**HEAD DROP TEST
POST-TEST**

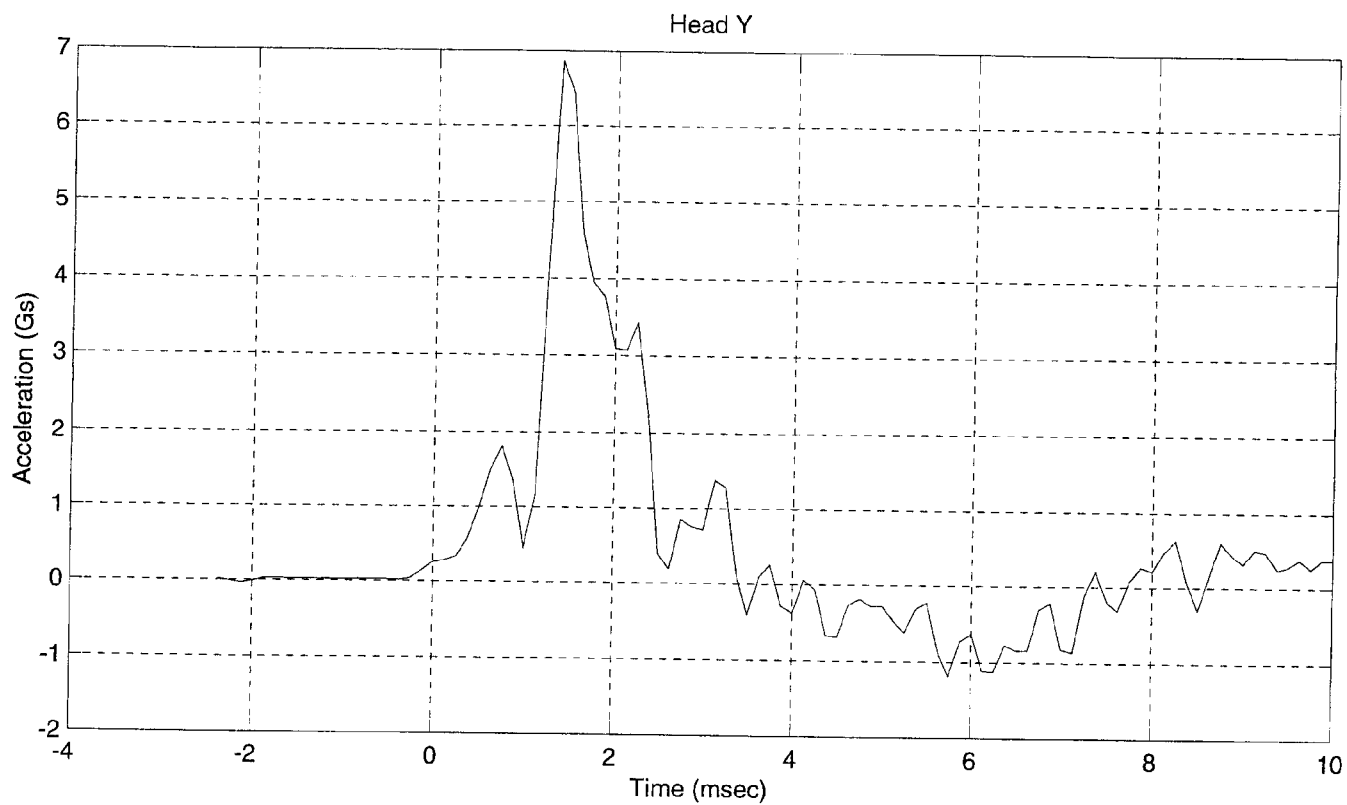
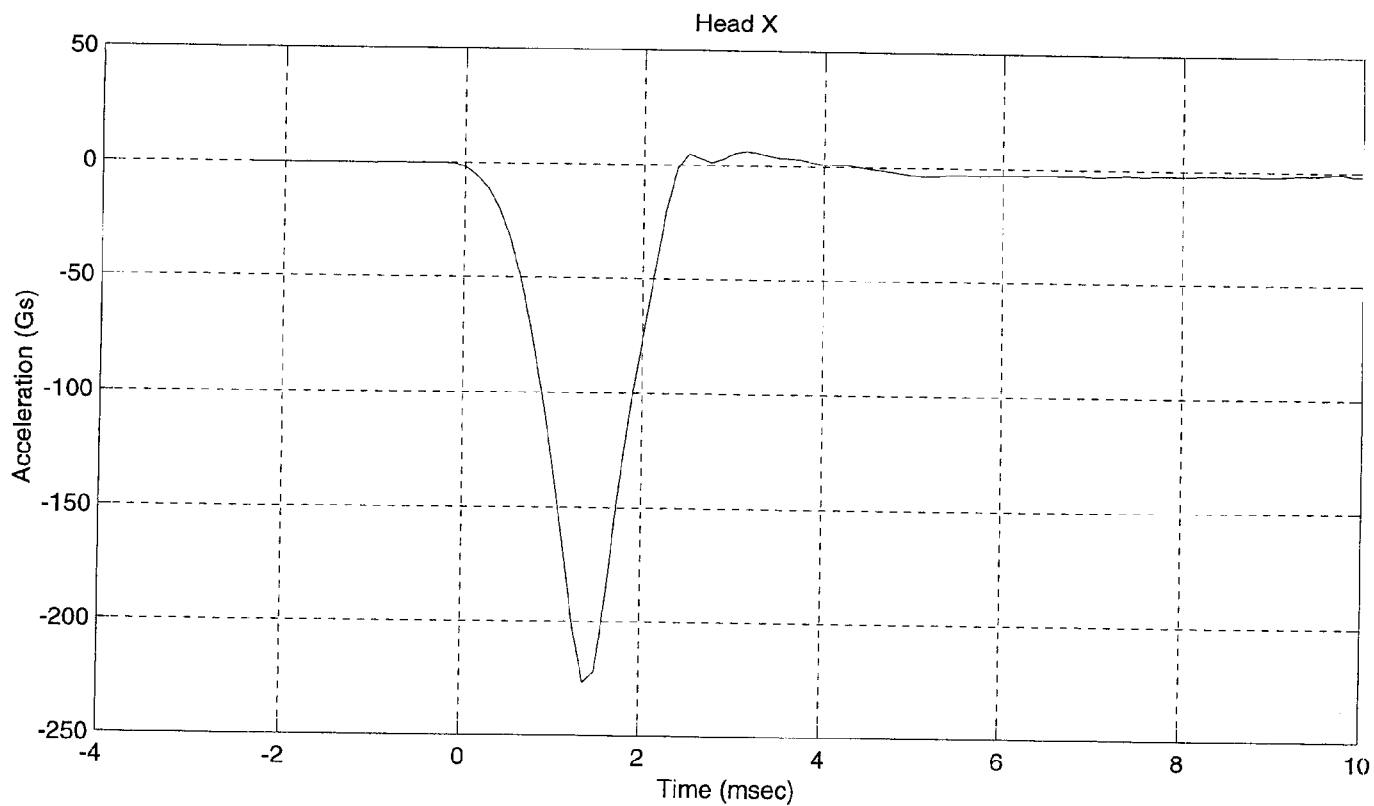
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

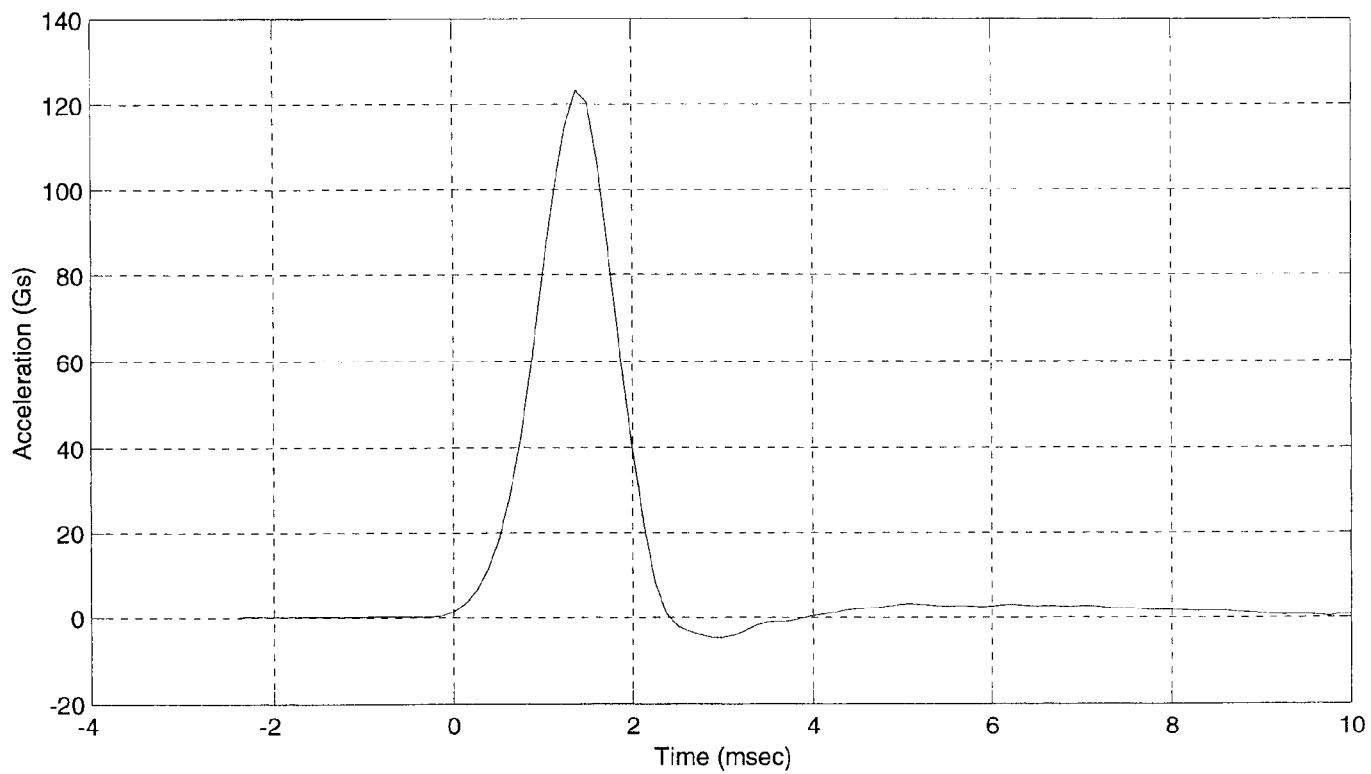
SID Serial No.: 027 Sequential Test Number: 3
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PEAK RESULTANT ACCELERATION (Gs)	210 - 260	258.48
PEAK LATERAL ACCELERATION (Gs)	Not to Exceed 10	6.87
UNIMODAL CRITERIA ABOVE 100 Gs (ms)	0.9 - 1.5	1.12

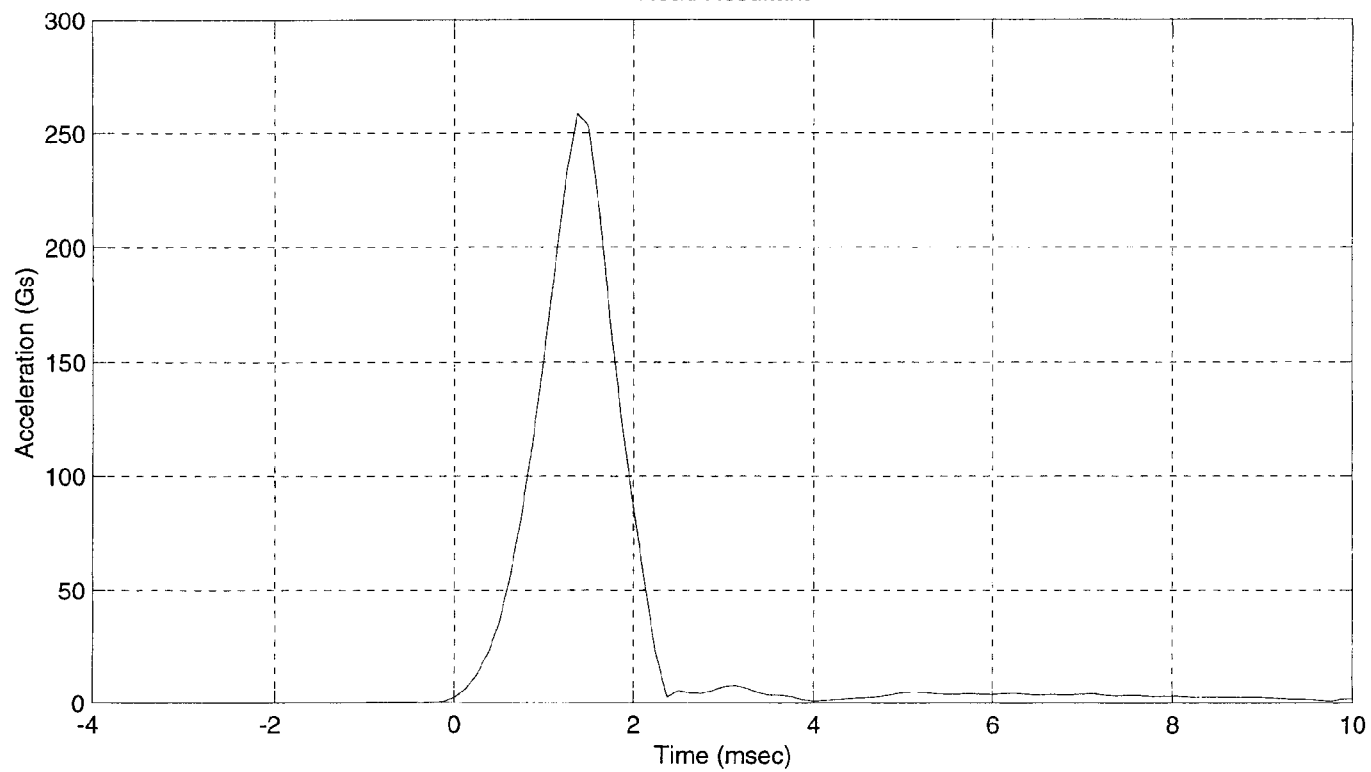
REMARKS: None



Head Z



Head Resultant



**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 3
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
FORCE @ 13 mm (N)	104 - 162	117.9
FORCE @ 19 mm (N)	163 - 221	182.4
FORCE @ 25 mm (N)	222 - 280	235.8
FORCE @ 33 mm (N)	325 - 391	389.2

REMARKS: None

Dummy S/N 027

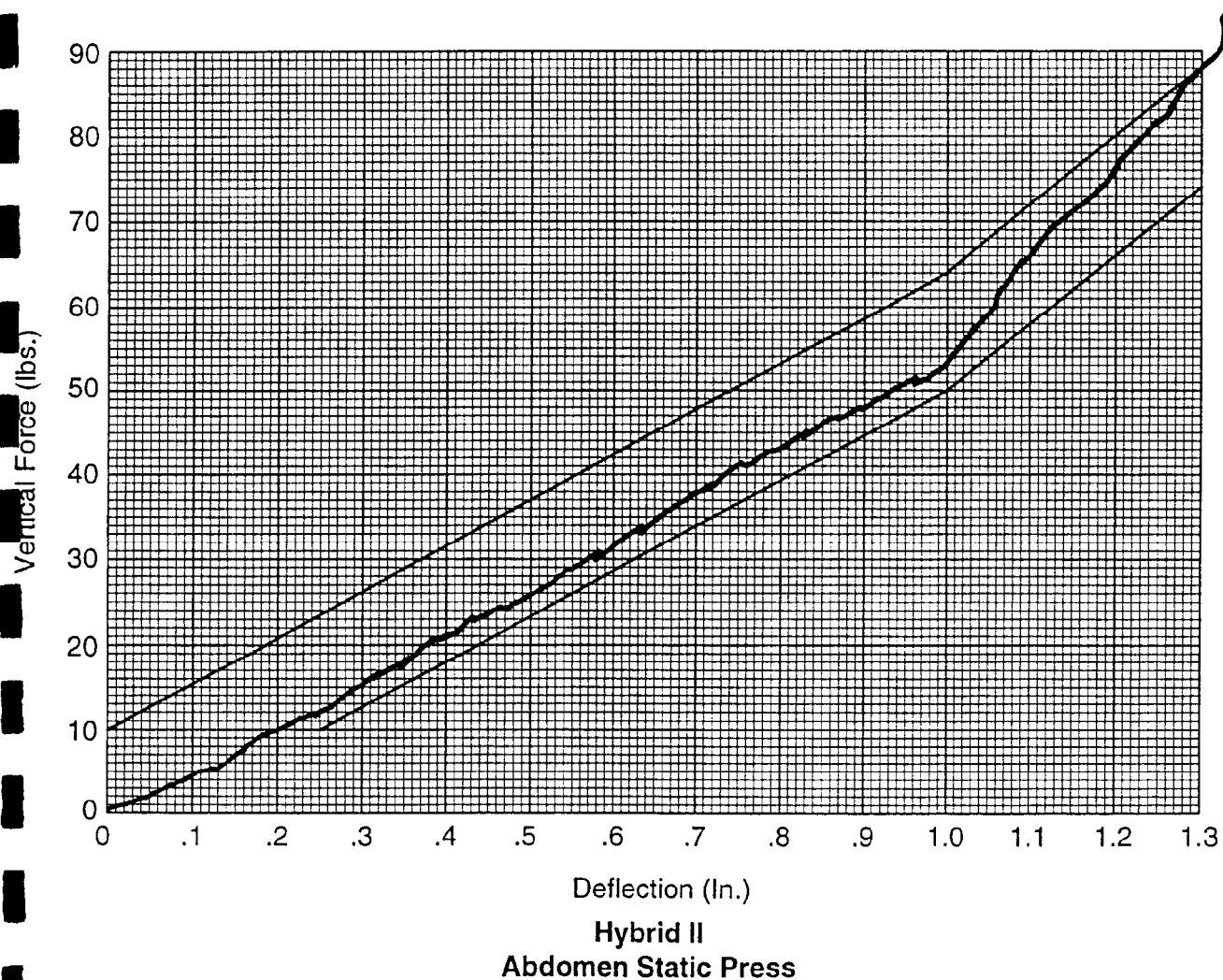
W/A _____

Date 1-4-2000

Performed By M/K

Temp. 70°

Humidity 30%



LUMBAR FLEXION TEST
POST TEST
(Test not required for SID certification)

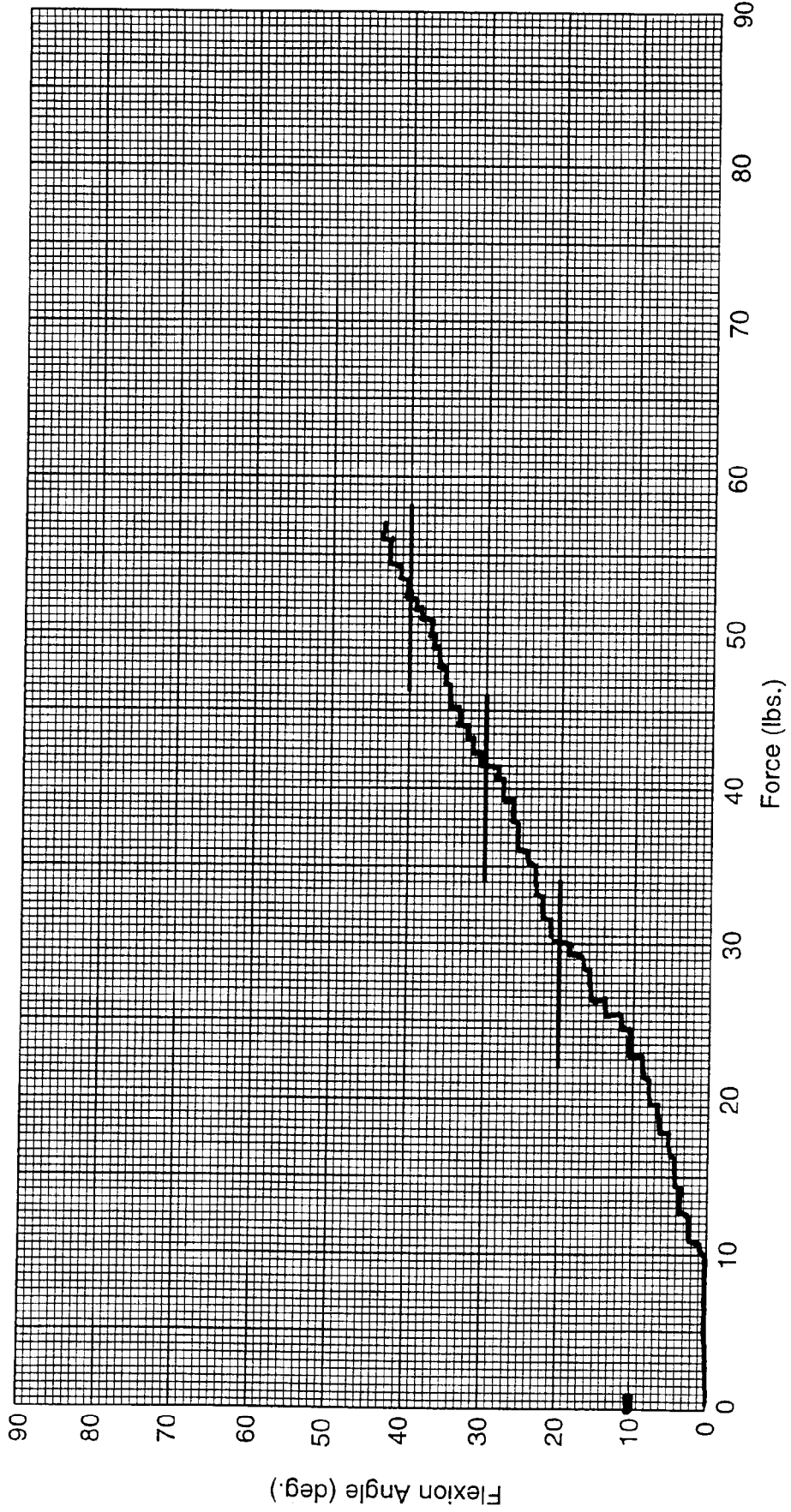
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 3
Date: January 4, 2000 Laboratory Technician: M. Kilgallon

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
FORCE @ 0° (N)	0 - 26.7	0
FORCE @ 20° (N)	97.8 - 151.2	133.4
FORCE @ 30° (N)	151.2 - 204.6	184.6
FORCE @ 40° (N)	204.6 - 258	233.5
RETURN ANGLE	12° max.	10

REMARKS: None

Dummy S/N 022
 W/A _____
 Date 1-4-2000
 Performed By MJK
 Temp. 70°
 Humidity 30%



Hybrid II Lumbar Spine Flexion Test

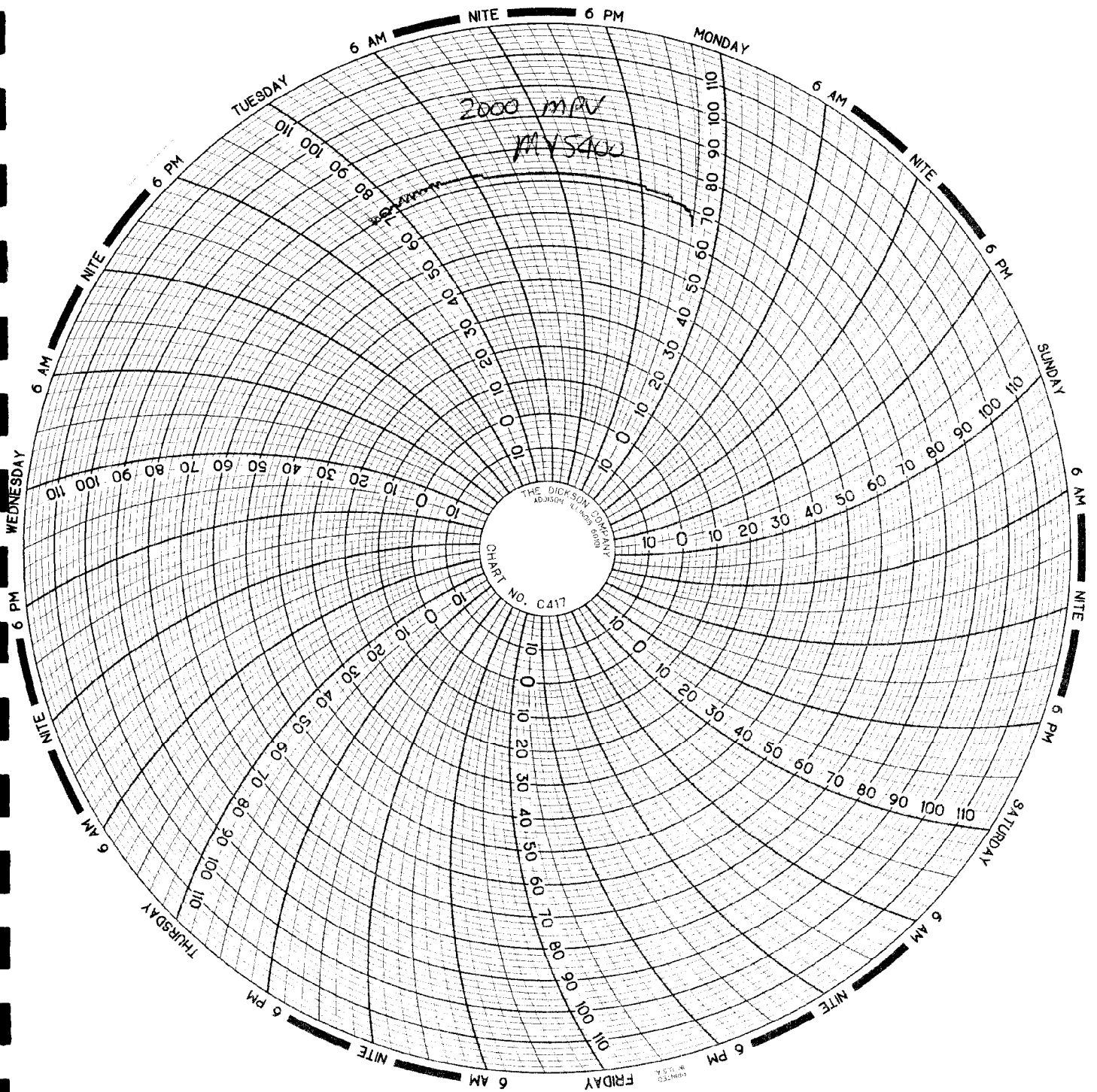
POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Sequential Test Number: 3
 Date: January 4, 2000 Laboratory Technician: M. Kilgallon

PART	ITEMS CHECKED	COMMENTS
SKIN	VISUAL INSPECTION	OK
HEAD	VISUAL, BALLAST, ACCELEROMETER MOUNT	OK
NECK	VISUAL, CABLE TORQUE	OK
SPINE BOX	VISUAL, BALLAST, WELDMENT, ACCELEROMETER MOUNT	OK
RIB CAGE	VISUAL, MEASURE, STIFFENERS	OK
STERNUM	VISUAL	OK
LUMBAR SPINE	VISUAL	OK
ABDOMEN	VISUAL	OK
PELVIS	VISUAL, PALPATE, ACCELEROMETER MOUNT	OK
UPPER LEGS	VISUAL	OK
KNEES	VISUAL, STOPS, INSERTS	OK
LOWER LEGS	VISUAL, RANGE OF MOTION	OK
ANKLES	VISUAL, RANGE OF MOTION	OK
FEET	VISUAL, RANGE OF MOTION	OK
JOINTS	1 TO 2 g RANGE	OK
OTHER	NONE	-

REMARKS: None



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID INSTRUMENTATION

FRONT SID NO.: 268			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X	AC-AL6C4	ENDEVCO	10-Sep-99
HEAD Y	AC-GD52	ENDEVCO	10-Nov-99
HEAD Z	AC-AHM59	ENDEVCO	10-Sep-99
UPPER RIB	AC-A13599	ENDEVCO	21-Jun-99
LOWER RIB	AC-A14131	ENDEVCO	18-Jun-99
LOWER SPINE	AC-A14381	ENDEVCO	30-Jun-99
PELVIS	AC-A14307	ENDEVCO	30-Jun-99
UPPER RIB REDUNDANT	AC-A13883	ENDEVCO	16-Jun-99
LOWER RIB REDUNDANT	AC-A14314	ENDEVCO	18-Jun-99
LOWER SPINE REDUNDANT	AC-A14510	ENDEVCO	30-Jun-99
PELVIS REDUNDANT	AC-A14126	ENDEVCO	25-Jun-99

REAR SID NO.: 027			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X	AC-EL79	ENDEVCO	10-Sep-99
HEAD Y	AC-CF82	ENDEVCO	10-Sep-99
HEAD Z	AC-CP30	ENDEVCO	10-Sep-99
UPPER RIB	AC-A14342	ENDEVCO	16-Jun-99
LOWER RIB	AC-A14261	ENDEVCO	16-Jun-99
LOWER SPINE	AC-J32174	ENDEVCO	07-Oct-99
PELVIS	AC-A13565	ENDEVCO	18-Jun-99
UPPER RIB REDUNDANT	AC-A14246	ENDEVCO	16-Jun-99
LOWER RIB REDUNDANT	AC-A14358	ENDEVCO	16-Jun-99
LOWER SPINE REDUNDANT	AC-A13926	ENDEVCO	18-Jun-99
PELVIS REDUNDANT	AC-A12776	ENDEVCO	18-Jun-99

REMARKS: None

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

VEHICLE AND MDB INSTRUMENTATION

	VEHICLE AND MDB INSTRUMENTS		
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
RIGHT FRONT SILL (X)	AC-B11073	ENDEVCO	24-Sep-99
RIGHT FRONT SILL (Y)	AC-AP1A2	ENDEVCO	24-Sep-99
RIGHT FRONT SILL (Z)	AC-B10954	ENDEVCO	24-Sep-99
RIGHT REAR SILL (X)	AC-J18622	ENDEVCO	24-Sep-99
RIGHT REAR SILL (Y)	AC-J18649	ENDEVCO	24-Sep-99
RIGHT REAR SILL (Z)	AC-APBB6	ENDEVCO	24-Sep-99
REAR FLOORPAN ABOVE AXLE (X)	AC-D52	ICS	16-Sep-99
REAR FLOORPAN ABOVE AXLE (Y)	AC-D41	ICS	16-Sep-99
REAR FLOORPAN ABOVE AXLE (Z)	AC-D40	ICS	16-Sep-99
LEFT REAR SILL (Y)	AC-D69	ICS	01-Sep-99
LEFT FRONT SILL (Y)	AC-D71	ICS	01-Sep-99
LEFT FRONT DOOR CENTERLINE (Y)	AC-J18400	ENDEVCO	24-Sep-99
RIGHT REAR SEAT OCCUPANT COMP. (Y)	AC-D61	ICS	02-Sep-99
MID REAR OF LEFT FRONT DOOR (Y)	-	-	-
LEFT FRONT DOOR UPPER CL (Y)	AC-AY03	ENDEVCO	24-Sep-99
MID REAR OF LEFT REAR DOOR (Y)	AC-J18570	ENDEVCO	06-Dec-99
LEFT REAR DOOR UPPER CL (Y)	AC-AC7W8	ENDEVCO	06-Dec-99
LOWER LEFT B- PILLAR (Y)	AC-B10951	ENDEVCO	07-Oct-99
MIDDLE LEFT B-PILLAR (Y)	AC-AA35	ENDEVCO	14-Sep-99
LOWER LEFT A-PILLAR (Y)	AC-BA65	ENDEVCO	03-Sep-99
UPPER LEFT A-PILLAR (Y)	AC-BA80	ENDEVCO	24-Sep-99
FRONT SEAT TRACK (Y)	AC-APBD7	ENDEVCO	24-Sep-99
REAR SEAT TRACK (Y)	AC-D03	ENTRAN	03-Sep-99
VEHICLE CG (X)	AC-B11351	ENDEVCO	27-Sep-99
VEHICLE CG (Y)	AC-ACC06	ENDEVCO	27-Sep-99
VEHICLE CG (Z)	AC-B10481	ENDEVCO	27-Sep-99
MDB CG (X)	AC-CL60	ENDEVCO	21-Jun-99
MDB CG (Y)	AC-CJ54	ENDEVCO	21-Jun-99
MDB CG (Z)	AC-GK12	ENDEVCO	21-Jun-99
MDB REAR FRAME MEMBER (X)	AC-CX05	ENDEVCO	27-Jul-99
MDB REAR FRAME MEMBER (Y)	AC-A27F	ENDEVCO	27-Jul-99

REMARKS: None