

V3062

REPORT NUMBER: SNCAP-CAL-99-5

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

NISSAN MOTOR COMPANY, LTD.
1999.5 NISSAN PATHFINDER
4-DOOR SPORT UTILITY VEHICLE

NHTSA NUMBER: MX5204

TEST NUMBER: 8506-5

VERIDIAN ENGINEERING
TRANSPORTATION SCIENCES CENTER
P.O. BOX 400
BUFFALO, NEW YORK 14225



April 13, 1999

FINAL REPORT

U. S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Performance Standards
Office of Crashworthiness Standards
Mail Code: NPS-10
400 Seventh Street, SW, Room No. 5313
Washington, DC 20590

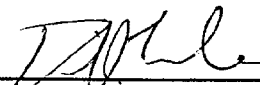
This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-98-C-02001. This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof.

Prepared By:



Patrick G. MacDiarmid, Jr., Project Engineer

Approved By:



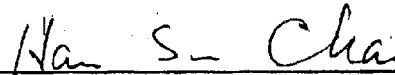
David J. Travale, Program Manager
Transportation Sciences Center

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		6. Performing Organization Code CAL																															
7. Author(s) Patrick G. MacDiarmid, Jr., Project Engineer David J. Travale, Program Manager		8. Performing Organization Report No. 8506-5																															
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		14. Sponsoring Agency Code NPS-10																															
15. Supplementary Notes																																	
16. Abstract A 55/28 kph 90° Impact Moving Deformable Barrier NCAP Side Impact Test Test was conducted on the subject 1999.5 Nissan Pathfinder 4-Door Sport Utility Vehicle 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 April 13, 1999. The impact velocity of the Moving Deformable Barrier (MDB) was 61.7 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 329 mm at level 2. The test or target vehicle's performance is given below: <table border="0" style="margin-left: 40px;"> <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;"><u>33</u></td> <td>g's</td> <td style="text-align: center;"><u>25</u></td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td style="text-align: center;"><u>40</u></td> <td>g's</td> <td style="text-align: center;"><u>28</u></td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td style="text-align: center;"><u>38</u></td> <td>g's</td> <td style="text-align: center;"><u>22</u></td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index (TTI):</td> <td style="text-align: center;"><u>39</u></td> <td>g's</td> <td style="text-align: center;"><u>25</u></td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td style="text-align: center;"><u>56</u></td> <td>g's</td> <td style="text-align: center;"><u>35</u></td> <td>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 and rear tailgate did not open during the side impact event.					<u>Front SID</u>		<u>Rear SID</u>		Left Upper Rib Acceleration:	<u>33</u>	g's	<u>25</u>	g's	Left Lower Rib Acceleration:	<u>40</u>	g's	<u>28</u>	g's	Lower Spine Acceleration:	<u>38</u>	g's	<u>22</u>	g's	Thoracic Trauma Index (TTI):	<u>39</u>	g's	<u>25</u>	g's	Pelvis Acceleration (PEV):	<u>56</u>	g's	<u>35</u>	g's
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SECTION 1

PURPOSE AND TEST PROCEDURE

This side impact test is part of the FY99 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 1999.5 Nissan Pathfinder 4-Door Sport Utility Vehicle. 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 1999.5 Nissan Pathfinder 4-Door Sport Utility Vehicle 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 61.7 kph (38.3 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 April 13, 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)

Position #1 SID was equipped with a Hybrid III head and neck with the following additional instrumentation:

1. Head triaxial accelerometer (X, Y and Z directions)
2. Upper Neck triaxial force and moment load cells (X, Y and Z directions)

A summary of the side impact dummy (SID) configuration and verification test data can be found in Appendix C. A total of 51 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
HIC	32	N/A
TTI (g)	39	25
PEV (g)	56	35

SECTION 3

SUMMARY OF TEST RESULTS

DATA SHEET 1

GENERAL TEST AND VEHICLE PARAMETER DATA

TEST VEHICLE INFORMATION:

Year/Make/Model/Body Style: 1999.5 Nissan Pathfinder 4-Door Sport Utility Vehicle
 Vehicle Body Color: Blue VIN: JN8AR07Y7XW350503
 Vehicle NHTSA No.: MX5204 Month & Year of Manufacture: 12/98
 Engine Data: 6 Cylinders; - CID; 3.3 Liters; - cc
 Engine Placement: X Longitudinal; or - Lateral
 Transmission: 4 Speed; - Manual; X Automatic; X Overdrive
 Final Drive: - Rear Wheel Drive; - Front Wheel Drive; X Four Wheel
 Odometer Reading 19 km
 Options: X A/C; X Power Steering; X Pwr.Brakes; X Pwr. Windows

DATA FROM TIRE PLACARD

Tire Pressure* (at capacity); 180 kPa FRONT
180 kPa REAR
 Recommended Tire Size: P225/65R16
 Tires on Test Vehicle: P225/65R16 ; Manufacturer: Bridgestone
 Vehicle Capacity Data:
 Number of Occupants: 2 Front; 3 Rear; - 3rd Seat; 5 Total
 Type of Front Seats: X Bucket; - Bench; X Split Bench
 Type of Front Seat Back: - Fixed; X Adjustable with X Lever or - Knob
 Vehicle Max Capacity Loading = 381.5 kg (A)
 No. of Occupants x 68.04 kg. = 340.0 kg (B)
 Vehicle Cargo Capacity = 41.5 kg (A-B)

TEST VEHICLE DELIVERED WEIGHT WITH MAXIMUM FLUIDS:

Left Front	=	<u>549.5</u> kg	Left Rear	=	<u>446.5</u> kg
Right Front	=	<u>512.5</u> kg	Right Rear	=	<u>446.0</u> kg
TOTAL FRONT	=	<u>1062.0</u> kg	TOTAL REAR	=	<u>892.5</u> kg
% of Total Weight	=	<u>54.3</u> %	% of Total Weight	=	<u>45.7</u> %
TOTAL WEIGHT	=	<u>1954.5</u> kg			

* Tire pressure used in test.

DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Test Vehicle Delivered Weight with Max. Fluids	=	<u>1954.5</u>		kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle	=	<u>41.5</u>		kg (B)
Weight of instrumented Side Impact Dummies	=	<u>162.0</u>		kg (C)
TEST VEHICLE TARGET WEIGHT:	=	<u>2158.0</u>		kg (A+B+C)

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

Left Front	=	<u>600.0</u>		kg				Left Rear	=	<u>541.5</u>		kg
Right Front	=	<u>508.5</u>		kg				Right Rear	=	<u>514.0</u>		kg
TOTAL FRONT	=	<u>1108.5</u>		kg				TOTAL REAR	=	<u>1055.5</u>		kg
% of Total Weight	=	<u>51.2</u>		%				% of Total Weight	=	<u>48.8</u>		%
TOTAL TEST WEIGHT	=	<u>2164.0</u>		kg								

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

Left Front	=	<u>596.0</u>		kg				Left Rear	=	<u>538.5</u>		kg
Right Front	=	<u>512.0</u>		kg				Right Rear	=	<u>502.5</u>		kg
TOTAL FRONT	=	<u>1108.0</u>		kg				TOTAL REAR	=	<u>1041.0</u>		kg
% of Total Weight	=	<u>51.6</u>		%				% of Total Weight	=	<u>48.4</u>		%
TOTAL TEST WEIGHT	=	<u>2149.0</u>		kg								

TEST VEHICLE ATTITUDE (all dimensions in millimeters):

AS DELIVERED:

Left Front	<u>838</u>	Right Front	<u>851</u>	Left Rear	<u>819</u>	Right Rear	<u>841</u>
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FULLY LOADED:

Left Front	<u>824</u>	Right Front	<u>845</u>	Left Rear	<u>787</u>	Right Rear	<u>820</u>
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READY FOR TEST:

Left Front	<u>824</u>	Right Front	<u>845</u>	Left Rear	<u>788</u>	Right Rear	<u>820</u>
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Test Vehicle Wheelbase: 2702 millimeters

C.G. = 1308.9 millimeters rearward of front wheel centerline

TOTAL VEHICLE LENGTH:

Right Side	=	<u>4592</u>		millimeters
Left Side	=	<u>4592</u>		millimeters
Centerline	=	<u>4626</u>		millimeters

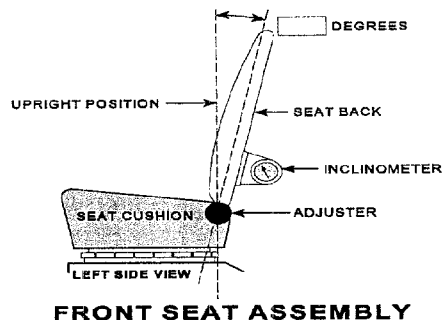
DATA SHEET 1 (continued)

GENERAL TEST VEHICLE PARAMETER DATA

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

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: _____

Total Length of Adjustment Travel: 228 millimeters

Total Number of Adjustment Positions or Detents: 114 mm rearward of the forward most position

FRONT SEAT BACK ADJUSTMENT POSITION: Recline the seat to the required adjustment angle

Seat Back Torso Angle: 17 degrees

SECOND POSITION SEAT:

Total Length of Fore/Aft Adjustment Travel: 0 millimeters

Seat Back Adjustment Position: Second rearward notch

ADJUSTABLE STEERING COLUMN POSITION: _____

WINDOW POSITIONS: Left Front: Closed Left Rear: Closed

Right Front: Open Right Rear: Open

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:

79.1 liters (Fuel Tank Usable Capacity)

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

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

Wheelbase = 2702 millimeters

Impact Point is 411 millimeters rearward of front axle centerline
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 409 millimeters rearward of front axle centerline

DATA SHEET 2

TEST VEHICLE SUMMARY OF RESULTS

VEHICLE IDENTIFICATION:

Vehicle Year/Make/Model: 1999.5 Nissan Pathfinder

Body Style: 4-Door Sport Utility Vehicle

VIN: JN8AR07Y7XW350503

NHTSA No.: MX5204

Test Date: April 13, 1999

Overall Length = 4626 millimeters; Overall Width = 1724 millimeters

VEHICLE TEST WEIGHT (Pre-Test):

Left Front = 596.0 kg Left Rear = 538.5 kg

Right Front = 512.0 kg Right Rear = 502.5 kg

TOTAL FRONT = 1108.0 kg TOTAL REAR = 1041.0 kg

TOTAL VEHICLE WEIGHT 2149.0 kg

Wheelbase = 2702 millimeters

Longitudinal C.G. from Center of Front Axle = 1308.9 millimeters

Impact Angle with Respect to Impactor = 90 degrees

ACTUAL IMPACT POINT

Actual Impact Point is 2 mm forward of nominal impact ref. line (Lateral)

Actual Impact Point is 4 mm above nominal impact point (Vertical)

MAXIMUM EXTERIOR STATIC CRUSH:

1. LEVEL 1 (390 mm above ground) = 295 millimeters

2. LEVEL 2 (732 mm above ground) = 329 millimeters

3. LEVEL 3 (772 mm above ground) = 320 millimeters

4. LEVEL 4 (993 mm above ground) = 205 millimeters

5. LEVEL 5 (1600 mm above ground) = 3 millimeters

Maximum Post-Test Intrusion = 329 millimeters

OCCUPANTS:

Front Passenger:

Rear Passenger:

Dummy Identification 016

027

Restraints Used Seat belt, side airbag

Seat belt

INSTRUMENTATION:

Number of Vehicle Data Channels: = 46

Number of Cameras: Onboard = 3

 Offboard = 9

 TOTAL = 12

DATA SHEET 3

MOVING DEFORMABLE BARRIER (MDB) SUMMARY

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

MDB FACE MANUFACTURER AND SERIAL NUMBER:

Plascore, Inc. 070C1198-2 078C1198 3991-02

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>61.7</u>	kph				

MAXIMUM STATIC CRUSH OF HONEYCOMB IMPACT FACE:

1. Row A at Center of Bumper Level	=	<u>184</u>	millimeters
2. Row B at Top of Bumper Level	=	<u>142</u>	millimeters
3. Row C at Mid Level	=	<u>126</u>	millimeters
4. Row D at Top of Stack Level	=	<u>165</u>	millimeters

INSTRUMENTATION:

Number of MDB Data Channels	=	<u>5</u>
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DATA SHEET 4

POST-TEST OBSERVATIONS

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

VISIBLE DUMMY CONTACT POINTS:

	<u>LEFT FRONT SID</u>	<u>LEFT REAR SID</u>
Head:	<u>Back of head to the center of the headrest. The back and side of the head to side airbag.</u>	<u>The top and the back of the head to the C-Pillar</u>
Upper Torso:	<u>Side Airbag</u>	<u>Interior door panel</u>
Lower Torso:	<u>Side Airbag</u>	<u>Interior door panel</u>
Left Knee:	<u>None</u>	<u>None</u>
Right Knee:	<u>None</u>	<u>Left Knee</u>

DOOR OPENING:

	<u>LEFT DOOR</u>	<u>RIGHT DOOR</u>	<u>TAILGATE/HATCHBACK</u>
Front:	<u>Closed/Inoperable</u>	<u>Closed/Operable</u>	<u>N/A</u>
Rear:	<u>Closed/Inoperable</u>	<u>Closed/Operable</u>	<u>Closed/Operable</u>

MDB DISTANCE FROM TARGET IMPACT POINT:

Vertical: 4 mm above
Horizontal: 2 mm forward

ARM REST LOCATIONS:

Front: The armrest was rotated upward during the event
Rear: The armrest was rotated upward during the event

SEAT MOVEMENT:

Front: The front seat rotated slightly inward (clockwise).
Rear: None

GLAZING DAMAGE:

Windshield: None
Window: None

PILLAR PERFORMANCE:

No visible tears or separation in either the vehicle A-Pillar or B-Pillar

SILL SEPARATION:

There was no sill separation during the event.

AIR BAG DEPLOYMENT STATUS:

	<u>DRIVER</u>	<u>FRONT PASSENGER</u>	<u>REAR PASSENGER</u>
<u>FRONT</u>	<u>No</u>	<u>No</u>	<u>N/A</u>
<u>SIDE</u>	<u>Yes</u>	<u>No</u>	<u>N/A</u>

OTHER NOTABLE IMPACT EFFECTS:

The vehicle right rear tire separated from its bead during the event.

SECTION 4

OCCUPANT AND VEHICLE INFORMATION

DATA SHEET 5 (Continued)

OPTIONAL SID INSTRUMENTATION DATA

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

	Front Dummy ID# 016				Rear Dummy ID# 027			
	Pos. Direction		Neg. Direction		Pos. Direction		Neg. Direction	
HEAD ACCELERATIONS:	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
Head X	5.9	38.6	-10.8	106.3	-	-	-	-
Head Y	9.0	86.1	-4.7	446.0	-	-	-	-
Head Z	19.5	43.1	-7.9	37.9	-	-	-	-
Head Resultant . . . R	19.7	43.1	0.0	-47.1	-	-	-	-
UPPER NECK FORCE:	Max (N)	Time (msec)	Max (N)	Time (msec)	Max (N)	Time (msec)	Max (N)	Time (msec)
Neck Force X	118.2	38.7	-438.3	101.6	-	-	-	-
Neck Force Y	304.5	90.4	-151.8	57.4	-	-	-	-
Neck Force Z	747.1	73.4	-352.1	37.9	-	-	-	-
Neck Resultant . . . R	844.0	73.4	0.0	0.9	-	-	-	-
UPPER NECK MOMENT:	Max (N-m)	Time (msec)	Max (N-m)	Time (msec)	Max (N-m)	Time (msec)	Max (N-m)	Time (msec)
Neck Moment X	24.1	81.6	-23.1	63.9	-	-	-	-
Neck Moment Y	27.4	114.2	-38.1	67.3	-	-	-	-
Neck Moment Z	11.5	120.4	-19.0	442.5	-	-	-	-
Moment Resultant . R	41.8	65.4	0.0	-60.5	-	-	-	-

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

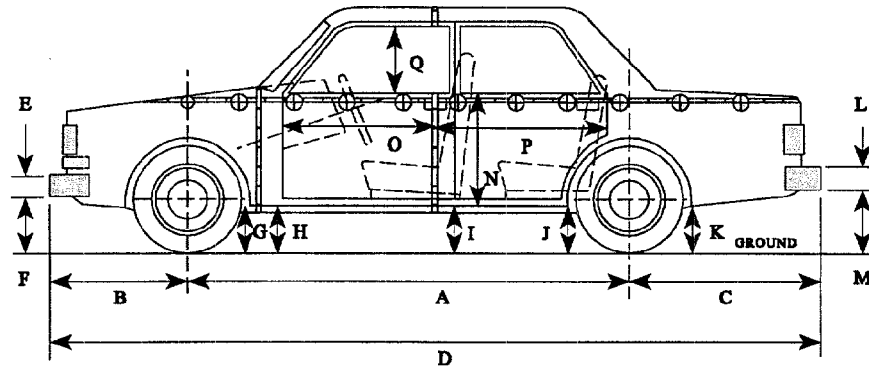
Note: Above data has been SAE filtered, Head Acceleration and Upper Neck Force are filtered at 1000 HZ.
 Upper Neck Moment Data is filtered at 600 HZ
 R designates Resultant Data

DATA SHEET 6

VEHICLE SIDE MEASUREMENTS

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



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	2702	-	2694	-8
B	854	-	824	-30
C	1070	-	1076	6
D	4626	-	4594	-32
E	225	-	225	0
F	340	332	250	-82
G	348	327	341	14
H	293	277	273	-4
I	301	277	268	-9
J1	353	322	322	0
J2	378	348	328	-20
K	401	366	310	-56
L	280	-	280	0
M	488	456	362	-94
N	683	-	646	-37
O	1160	-	1159	-1
P	995	-	986	-9
Q	523	-	522	-1
R	4592	-	4597	5
S	4592	-	4564	-28
T	1724	-	1618	-106

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

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

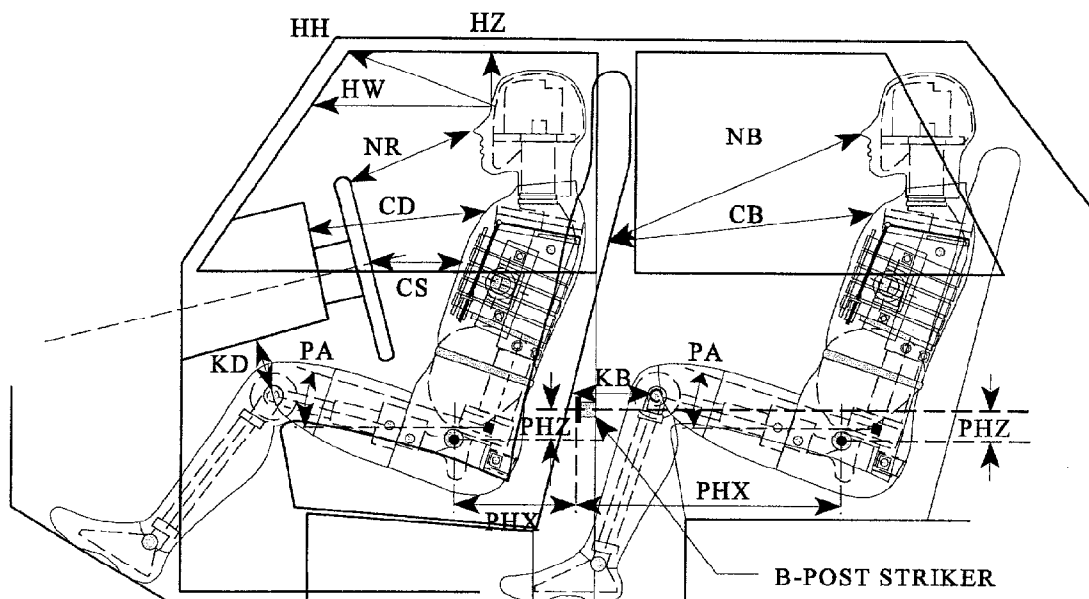
S = Left Side Length

DATA SHEET 7

SID LONGITUDINAL CLEARANCE DIMENSIONS

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



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>016</u>	LEFT REAR PASS. ID# <u>027</u>
HH	459	N/A
HW	587	N/A
HZ	155	148
NR/NB	496	654
CD/CB	581	568
CS	293	N/A
KDL(KDA°)/KBL(KDA°)	165 / (26°)	218 / (35°)
KDR(KBA°)/KBR(KBA°)	154 / (31°)	218 / (34°)
PA°	24.3°	23.5°
PHX	245	244
PHZ	93	227

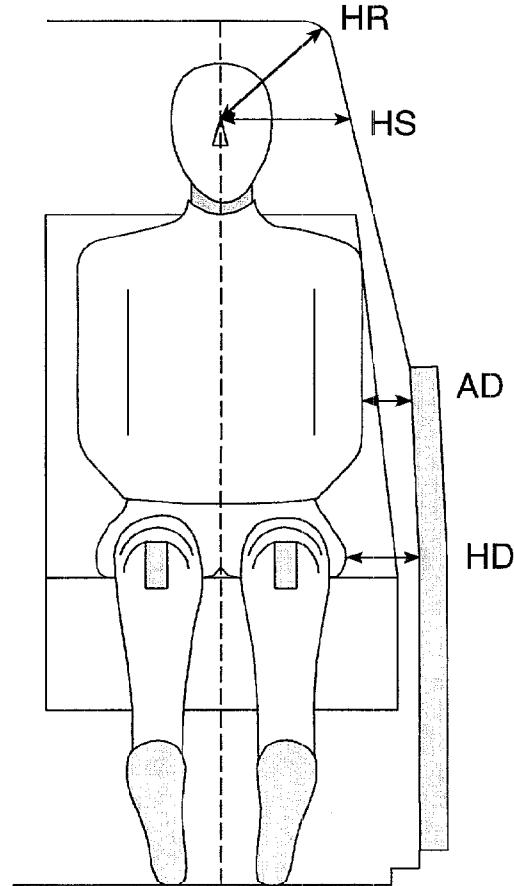
Note: 2-door vehicle shown. Rear dummy PHX & PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

DATA SHEET 8

SID LATERAL CLEARANCE DIMENSIONS

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



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

	DRIVER ID # 016		LEFT REAR PASS. ID # 027	
HR	219		226	
HS	325		335	
AD*	LOWER: 120	UPPER: 175	LOWER: 140	UPPER: 205
HD	177		212	

* 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.

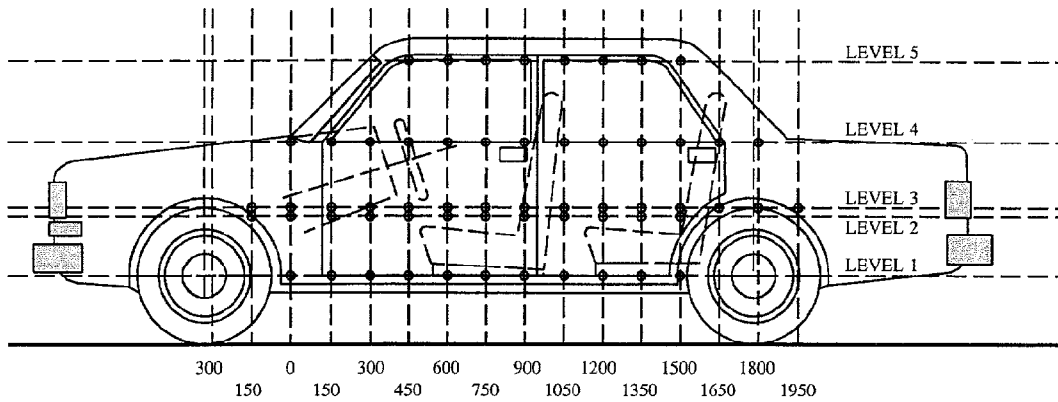
Upper measurement is taken laterally at the center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

DATA SHEET 9

VEHICLE SIDE MEASUREMENTS

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



LEFT SIDE VIEW

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>1600</u>	millimeters
Level 4 @ Window Sill	=	<u>993</u>	millimeters
Level 3 @ Mid Door	=	<u>772</u>	millimeters
Level 2 @ Occupant H-Point	=	<u>732</u>	millimeters
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>390</u>	millimeters

DATA SHEET 10

VEHICLE EXTERIOR CRUSH PROFILES - ALL LEVELS

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

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

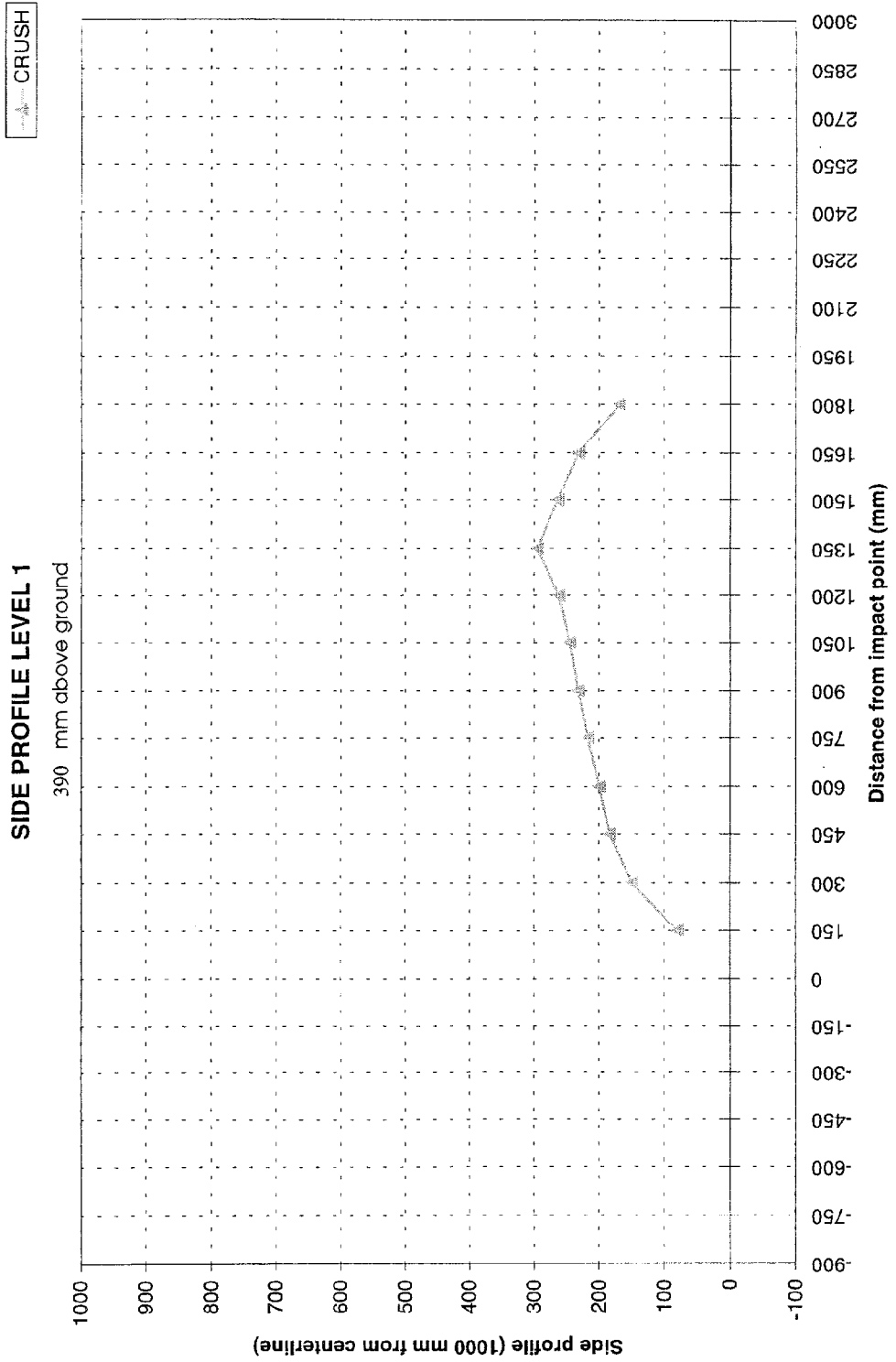
LEVEL	HEIGHT (mm)	DISTANCE IN MILLIMETERS (mm) FROM IMPACT POINT																											
		-900	-750	-600	-450	-300	-150	0	150	300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700	2850	3000	
LEVEL 1 SIDE SILL	390	PRE	--	--	--	--	--	--	250	250	247	245	243	244	246	243	240	241	237	216	--	--	--	--	--	--	--	--	--
		POST	--	--	--	--	--	--	330	400	431	445	460	476	491	505	535	505	469	384	--	--	--	--	--	--	--	--	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	80	150	184	200	217	232	245	262	295	264	232	168	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
LEVEL 2 H POINT	732	PRE	190	170	--	--	--	169	167	165	163	161	160	159	157	157	156	153	154	139	--	--	--	--	--	106	146	155	163
		POST	183	162	--	--	--	207	372	406	419	429	443	453	462	465	486	463	427	355	253	--	--	--	--	140	178	182	187
		CRUSH	-7	-8	N/A	N/A	N/A	N/A	203	239	254	266	282	293	303	308	329	307	274	201	114	N/A	N/A	N/A	N/A	34	32	27	24
LEVEL 3 MID DOOR	772	PRE	200	160	--	--	127	162	161	160	158	156	156	154	154	154	153	151	151	144	108	107	104	105	129	147	159		
		POST	189	154	--	--	149	347	369	385	401	411	425	441	454	474	451	419	353	267	191	162	151	125	177	178	183		
		CRUSH	-11	-6	N/A	N/A	N/A	184	207	224	241	253	269	285	300	320	298	268	202	123	83	55	47	20	48	31	24		
LEVEL 4 WINDOW SILL	993	PRE	280	236	217	204	196	188	186	184	183	180	177	173	172	164	169	168	166	163	161	159	156	155	153	155	157	160	168
		POST	262	223	208	197	192	186	229	246	265	282	298	316	325	356	373	362	308	269	227	215	213	195	182	182	177	180	
		CRUSH	-18	-13	-9	-7	-4	-2	45	63	85	105	125	144	161	187	205	196	145	108	68	59	58	42	27	25	17	12	
LEVEL 5 WINDOW TOP	1600	PRE	--	--	--	--	--	--	--	--	--	--	417	415	415	416	416	414	414	413	413	411	410	410	408	409	410	416	--
		POST	--	--	--	--	--	--	--	--	--	--	258	279	303	329	355	328	303	278	255	413	413	413	411	411	411	417	--
		CRUSH	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	-159	-136	-112	-87	-61	-86	-111	-135	-158	2	3	3	2	1	1	1	1	N/A

DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

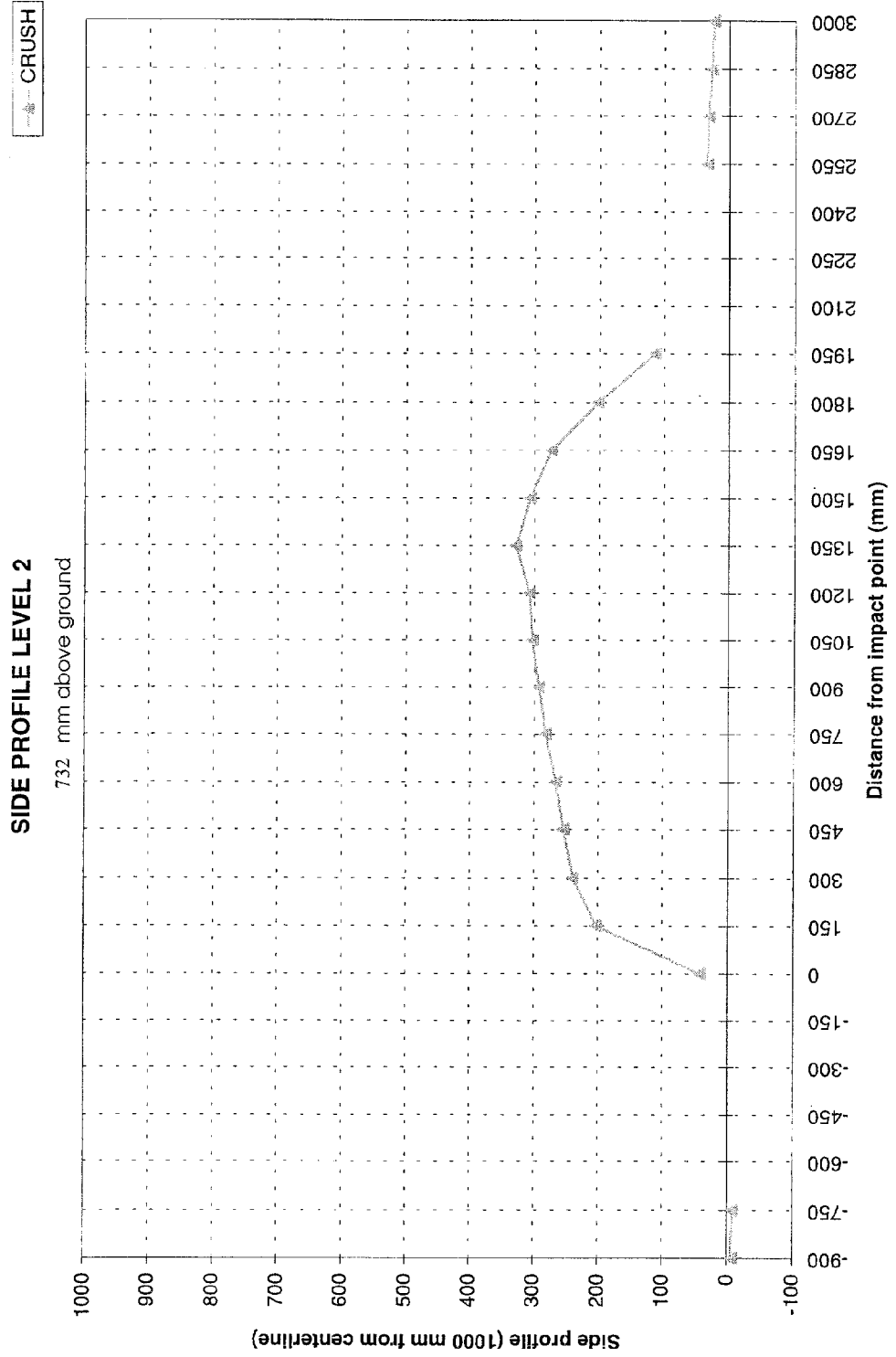


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

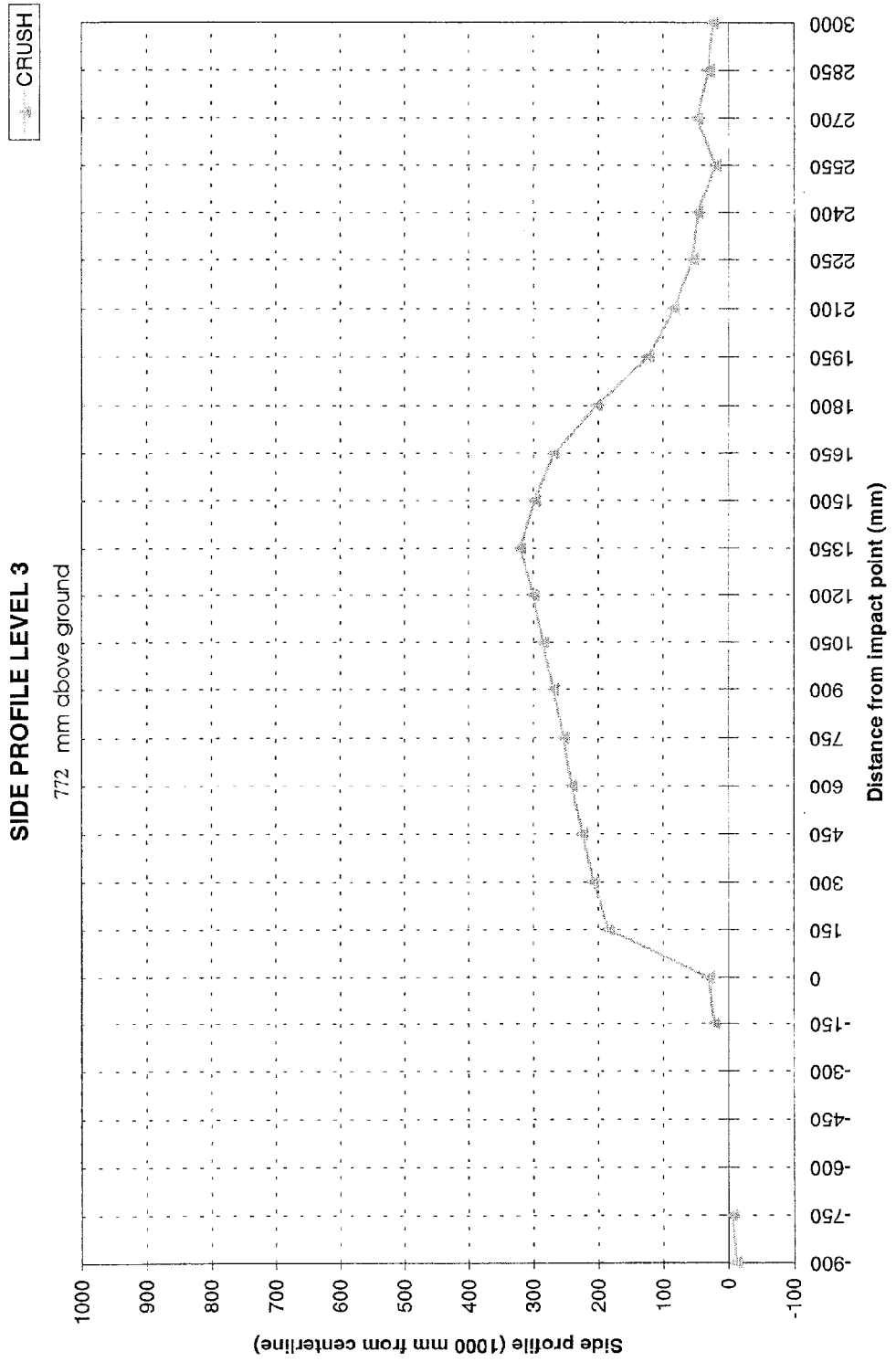


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

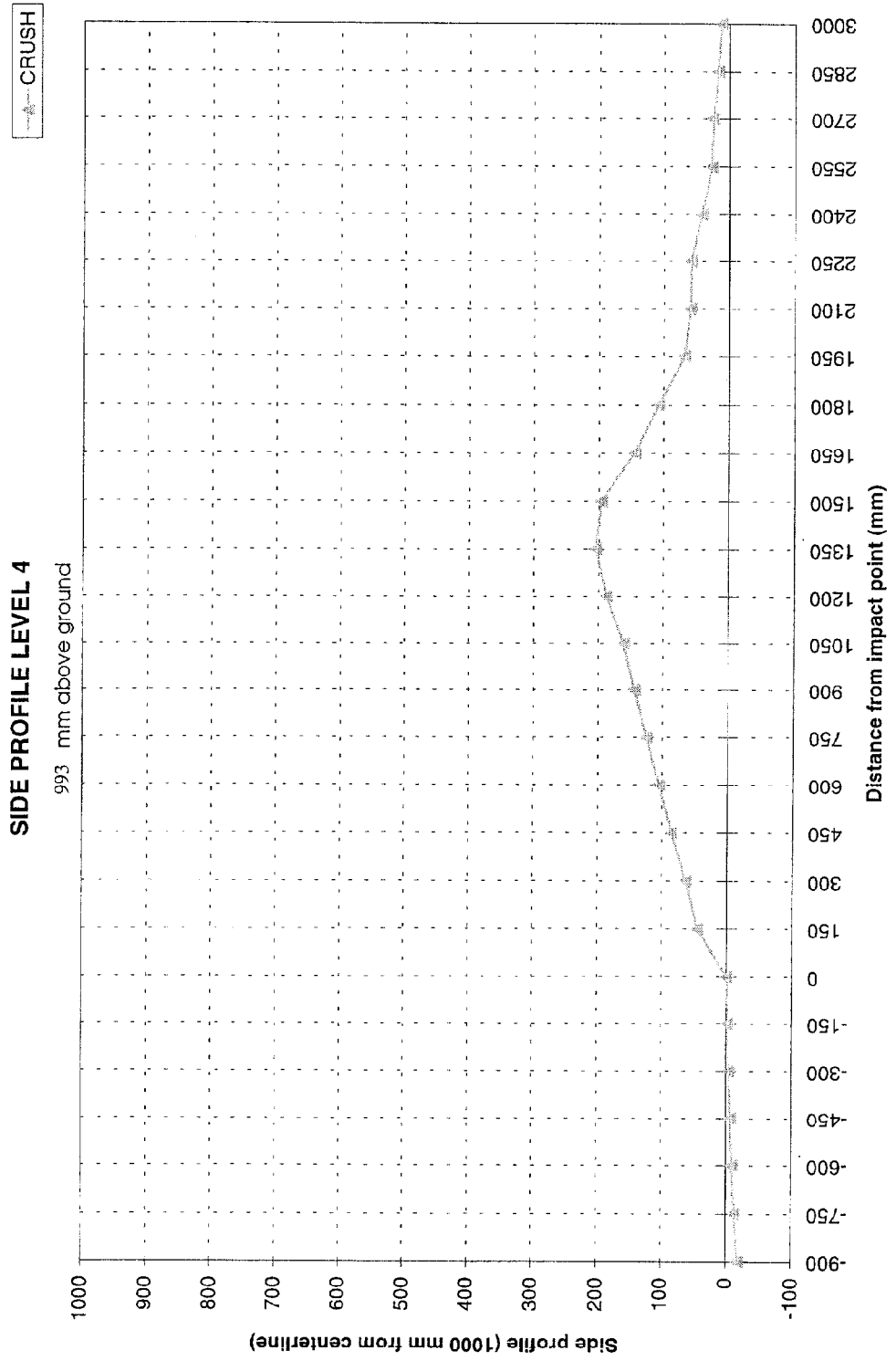


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

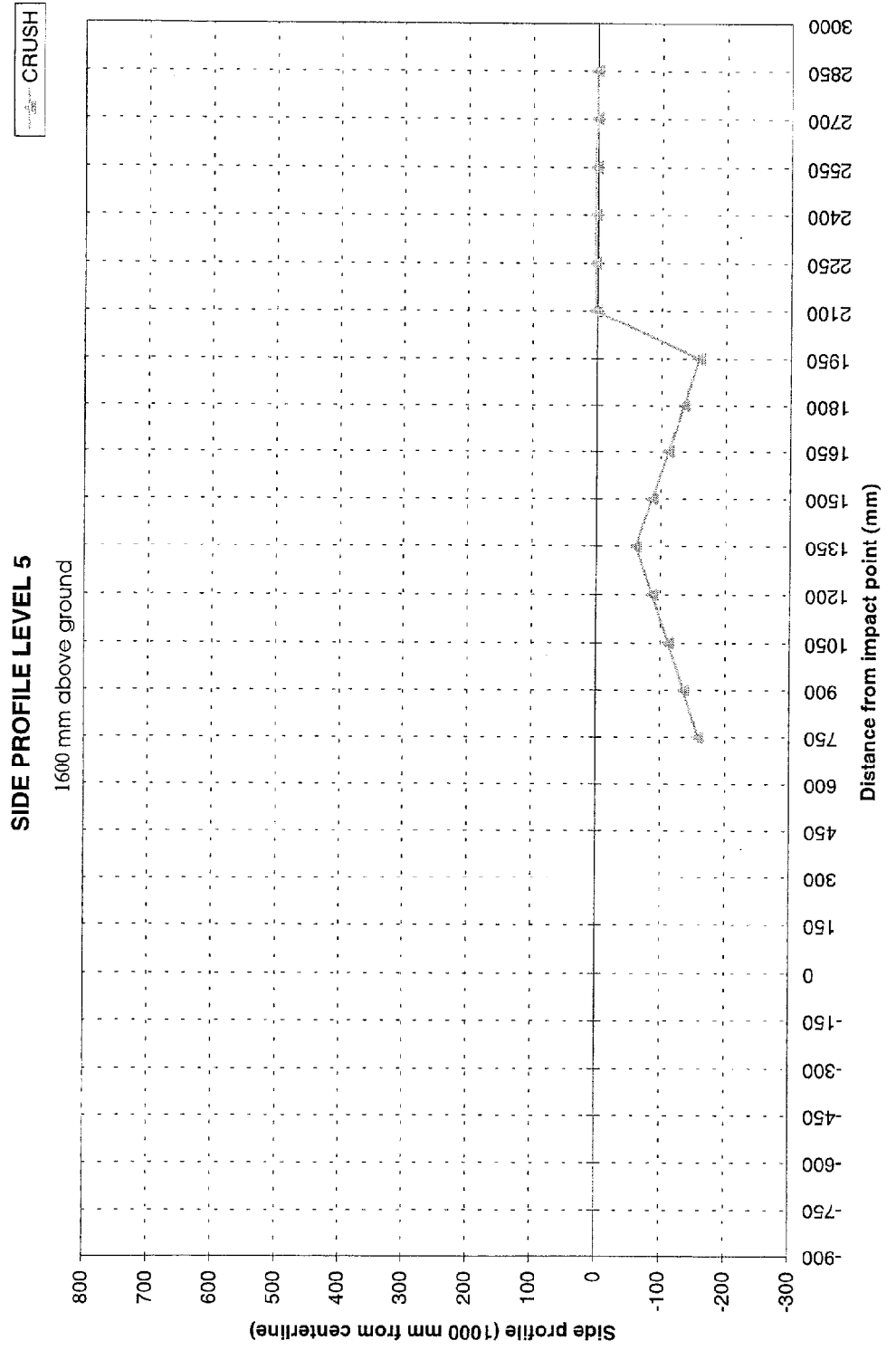


DATA SHEET 10 (continued)

VEHICLE EXTERIOR CRUSH PROFILES

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

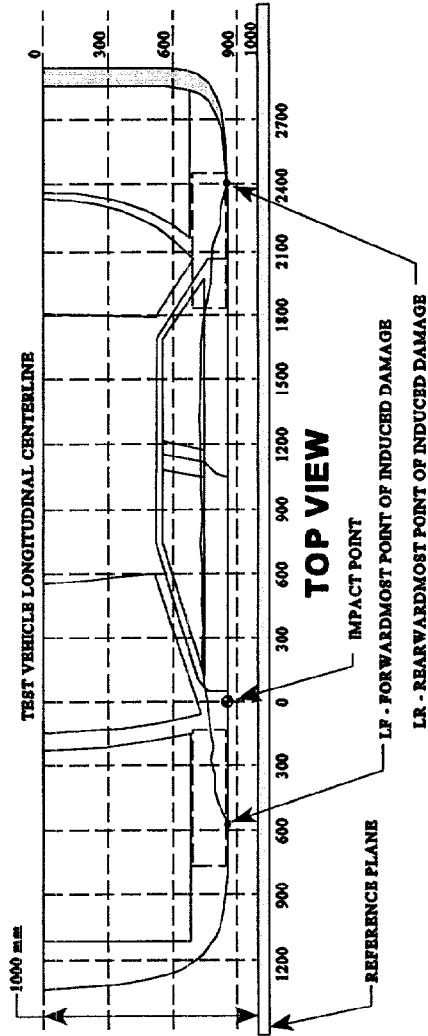


DATA SHEET 11

VEHICLE DAMAGE PROFILE DISTANCES

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-).
 Rearward of the impact point (toward rear 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 = -150 mm)	149	127	22
2 390	379	161	218
3 930	428	156	272
4 1470	456	153	303
5 2010	234	130	104
6 (LR = 2550 mm)	125	105	20

DATA SHEET 12

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

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

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

LEVEL	HEIGHT AT CL (mm)*	DISTANCE RIGHT OF CENTER (mm)								DISTANCE LEFT OF CENTER (mm)								
		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
LEVEL 4		619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
TOP	813	763	723	696	671	658	660	659	670	677	686	696	711	727	744	763	784	
STACK		144	104	77	52	39	41	40	51	58	67	77	92	108	125	144	165	
LEVEL 3		619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
MID	686	723	699	664	645	637	633	635	636	638	640	644	646	655	670	695	745	
LEVEL		104	80	45	26	18	14	16	17	19	21	25	27	36	51	76	126	
LEVEL 2		619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619	619
TOP	533	761	729	696	673	672	675	678	684	686	691	696	703	711	719	735	759	
BUMPER		142	110	77	54	53	56	59	65	67	72	77	84	92	100	116	140	
LEVEL 1		535	519	518	518	518	518	518	518	518	518	518	518	518	518	519	535	
MID	432	693	662	627	600	590	599	601	608	613	619	625	632	639	659	686	719	
BUMPER		158	143	109	82	72	81	83	90	95	101	107	114	121	141	167	184	

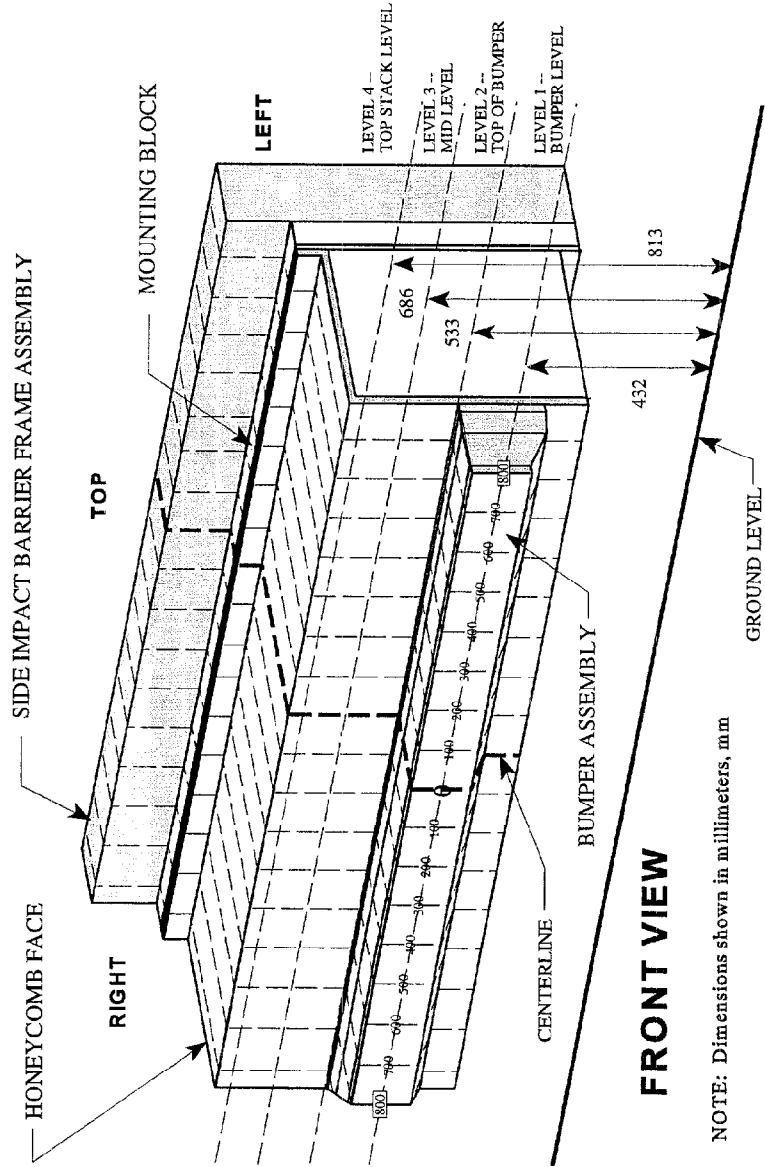
*Heights measured above ground level.

DATA SHEET 12 (continued)

EXTERIOR STATIC CRUSH FOR IMPACTOR FACE

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



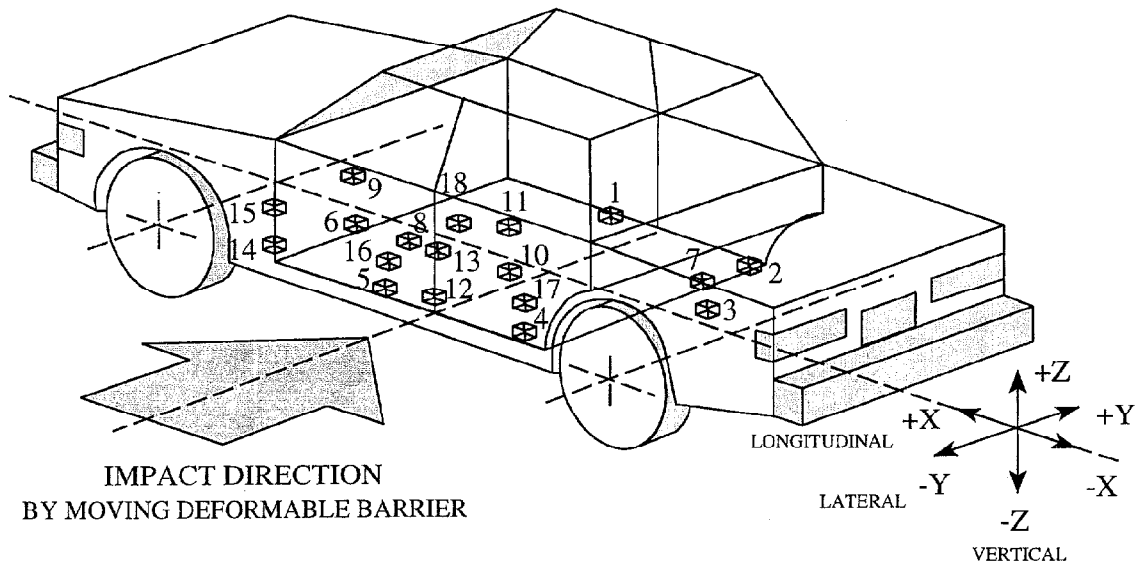
NOTE: Dimensions shown in millimeters, mm

DATA SHEET 13

TEST VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



- 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: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

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	2547	843	377	15.3	22.7	32.2	15.7	15.9	79.6	33.3	15.8
					-11.6	17.7	-9.8	23.1	-20.2	22.7	0.0	-71.2
2	Right Side Sill at Rear Seat	1871	843	377	14.9	22.7	33.8	17.5	12.0	29.1	35.3	17.5
					-9.9	17.4	-5.9	73.2	-24.8	20.9	0.0	-46.0
3	Rear Floorpan Above Axle	1020	0	764	2.3	63.8	28.0	33.6	9.7	18.7	29.3	33.6
					-4.4	44.5	-2.9	402.8	-11.2	27.1	0.0	-75.6
4	Left Side Sill at Rear Seat	1821	-478	618	-	-	26.1	16.4	-	-	-	-
					-	-	-6.1	60.9	-	-	-	-
5	Left Side Sill at Front Seat	2437	696	502	-	-	162.1	9.5	-	-	-	-
					-	-	-5.7	423.5	-	-	-	-
6	Left Front Door on Centerline	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
7	Right Rear Occupant Compartment	1934	330	502	-	-	25.2	29.6	-	-	-	-
					-	-	-2.3	179.3	-	-	-	-
8	Midrear of Left Front Door	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
9	Left Front Door Upper Centerline	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
10	Midrear of Left Rear Door	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-
11	Left Rear Door Upper Centerline	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right) Z - Ground Level (+ Up)

**Accelerometer was not requested by COTR.

DATA SHEET 13 (continued)

VEHICLE ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

Accel. No.	Location	Coordinates (mm) ±3			Time (msec)	Lat. (y)		Vert. (z)		Resultant	
		mm				Max (g)	Time (msec)	Max (g)	Time (msec)	Max (g)	Time (msec)
		X*	Y*	Z*							
12	Left Lower B-Pillar	2171	-726	600	pos.	197.0	10.7	-	-	-	-
					neg.	-35.6	37.2	-	-	-	-
13	Left Middle B-Pillar	2171	-726	843	pos.	164.0	12.0	-	-	-	-
					neg.	-38.8	35.1	-	-	-	-
14	Left Lower A-Pillar	3192	-726	613	pos.	104.1	7.2	-	-	-	-
					neg.	-16.0	53.7	-	-	-	-
15	Left Middle A-Pillar	3614	-671	1061	pos.	43.0	43.1	-	-	-	-
					neg.	-42.8	210.8	-	-	-	-
16	Front Seat Track	2266	-583	565	pos.	A	A	-	-	-	-
					neg.	A	A	-	-	-	-
17	Rear Seat Track	1167	-453	827	pos.	21.5	32.4	-	-	-	-
					neg.	-2.8	169.8	-	-	-	-
18	Vehicle CG	2465	0	620	pos.	27.7	55.7	29.2	33.8	28.9	29.3
					neg.	-41.9	29.8	-62.7	-33.0	25.1	-28.4

*Reference: X - Rear Bumper (+ Forward)

Y - Vehicle Centerline (+ To Right)

Z - Ground Level (+ Up)

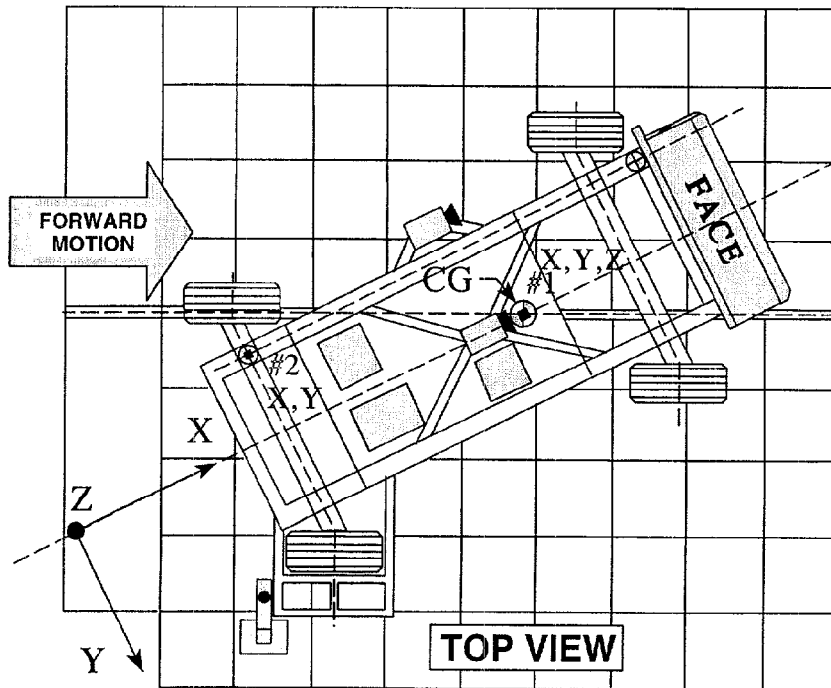
A - Data is not accurate after 20 ms.

DATA SHEET 14

MDB ACCELEROMETER LOCATIONS AND DATA SUMMARY

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



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	1.1	499.9	-23.3	45.0
	Lateral..... Y				0.8	10.0	-10.1	16.2
	Vertical..... Z				15.1	58.8	-16.2	25.9
Resultant..... R	26.4				39.5	-	-	
2	Rear Frame Member							
	Longitudinal... X	386	-660	660	1.8	117.1	-23.4	34.1
Lateral..... Y	5.9				20.7	-3.4	65.7	

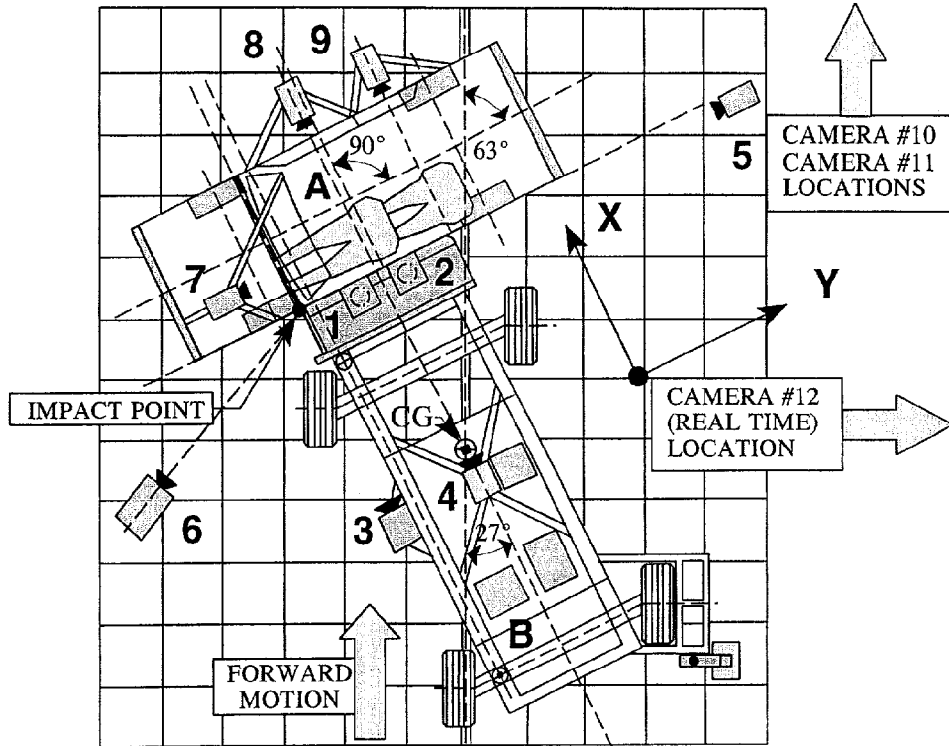
*Reference: X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Up)
 All measurements accurate to within ± 3 mm.

DATA SHEET 15

HIGH SPEED CAMERA LOCATIONS AND DATA SUMMARY

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204



Camera No.	View	Coordinates (millimeters)			Angle (deg.)	Lens (mm)	Film Speed (fps)
		X*	Y*	Z*			
1	Overhead view of test vehicle	-10	762	4880	-90	8	1000
2	Overhead closeup view of impact plane	332	965	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	990
5	Right side ground level overall view	95	9220	1098	-3	25	1000
6	Left side ground level overall view	-2064	1880	1070	-7	13	1000
7	Test vehicle onboard driver front view	530	-272	1462	-15	13	1000
8	Test vehicle onboard driver side view	1378	873	1108	-7	8	1000
9	Test vehicle onboard passenger side view	1382	1656	1135	-7	8	1000
10	Right side ground level rear view	15008	9378	1234	-3	13	725
11	Right side ground level corner view	14168	11070	1154	-1	12.5	500
12	Real time film coverage of test	-	-	-	-	-	24

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

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

DATA SHEET 16

FMVSS 301 FUEL SYSTEM INTEGRITY DATA

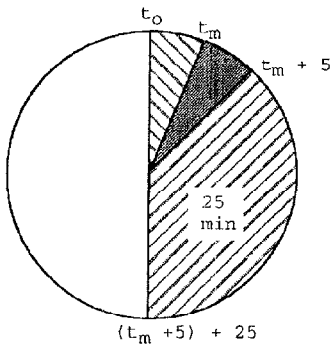
NHTSA No.: MX5204 TEST DATE: April 13, 1999

Vehicle Mfr./Make/Model : 1999.5 Nissan Pathfinder 4-Door Sport Utility Vehicle

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)
- Side Impact Moving Deformable Barrier (62.0 kph) contacting the driver 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

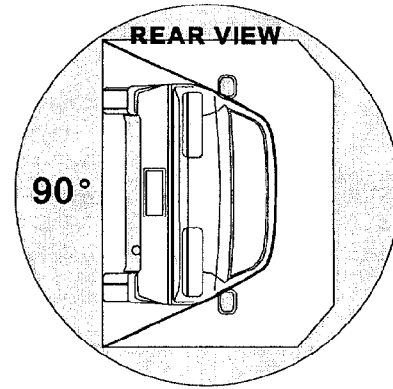
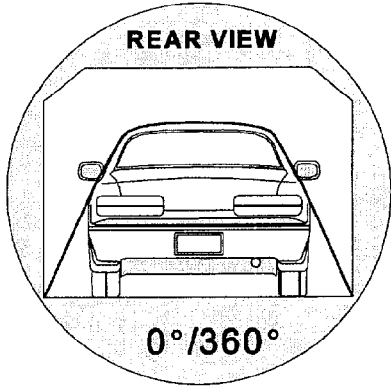
DATA SHEET 17

ROLLOVER DATA

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

0 - 90 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	1	minutes	08	seconds
FMVSS 301 Position Hold Time +	5	minutes	0	seconds
TOTAL	6	minutes	8	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

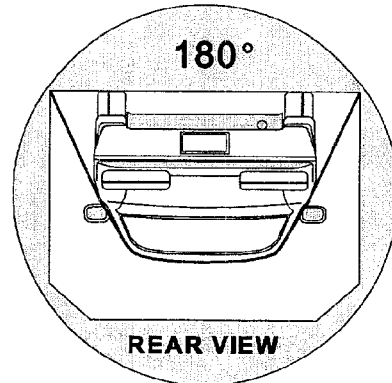
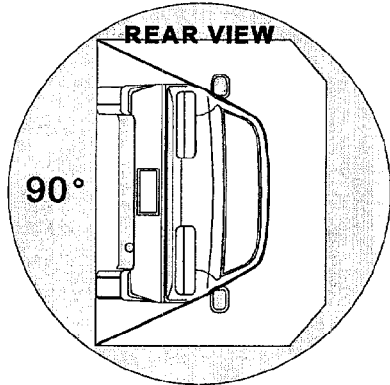
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

90 - 180 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	_____ 1 _____ minutes _____ 05 _____ seconds
FMVSS 301 Position Hold Time +	_____ 5 _____ minutes _____ 0 _____ seconds
TOTAL	_____ 6 _____ minutes _____ 5 _____ 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

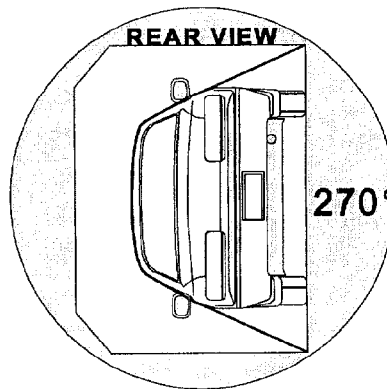
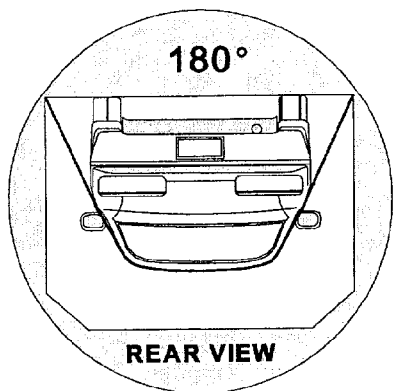
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

180 - 270 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	<u>1</u> minutes <u>01</u> seconds
FMVSS 301 Position Hold Time +	<u>5</u> minutes <u>0</u> seconds
TOTAL	<u>6</u> minutes <u>1</u> seconds
Next whole minute interval	<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

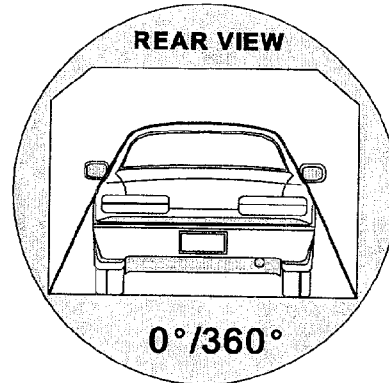
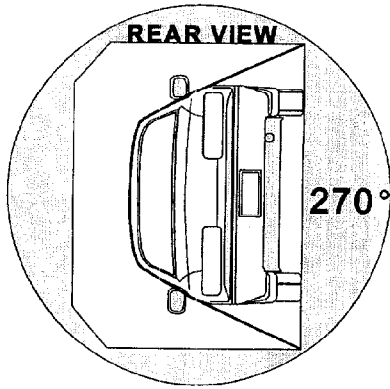
DATA SHEET 17 (continued)

ROLLOVER DATA

Vehicle: 1999.5 Nissan Pathfinder

NHTSA No. MX5204

270 - 360 Degrees



I. DETERMINATION OF SOLVENT COLLECTION TIME PERIOD :

Rollover Fixture 90° Rotation Time (Spec. Range = 1 to 3 minutes)	_____ 1 _____	minutes	_____ 08 _____	seconds
FMVSS 301 Position Hold Time +	_____ 5 _____	minutes	_____ 0 _____	seconds
TOTAL	_____ 6 _____	minutes	_____ 8 _____	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

APPENDIX A
PHOTOGRAPHS

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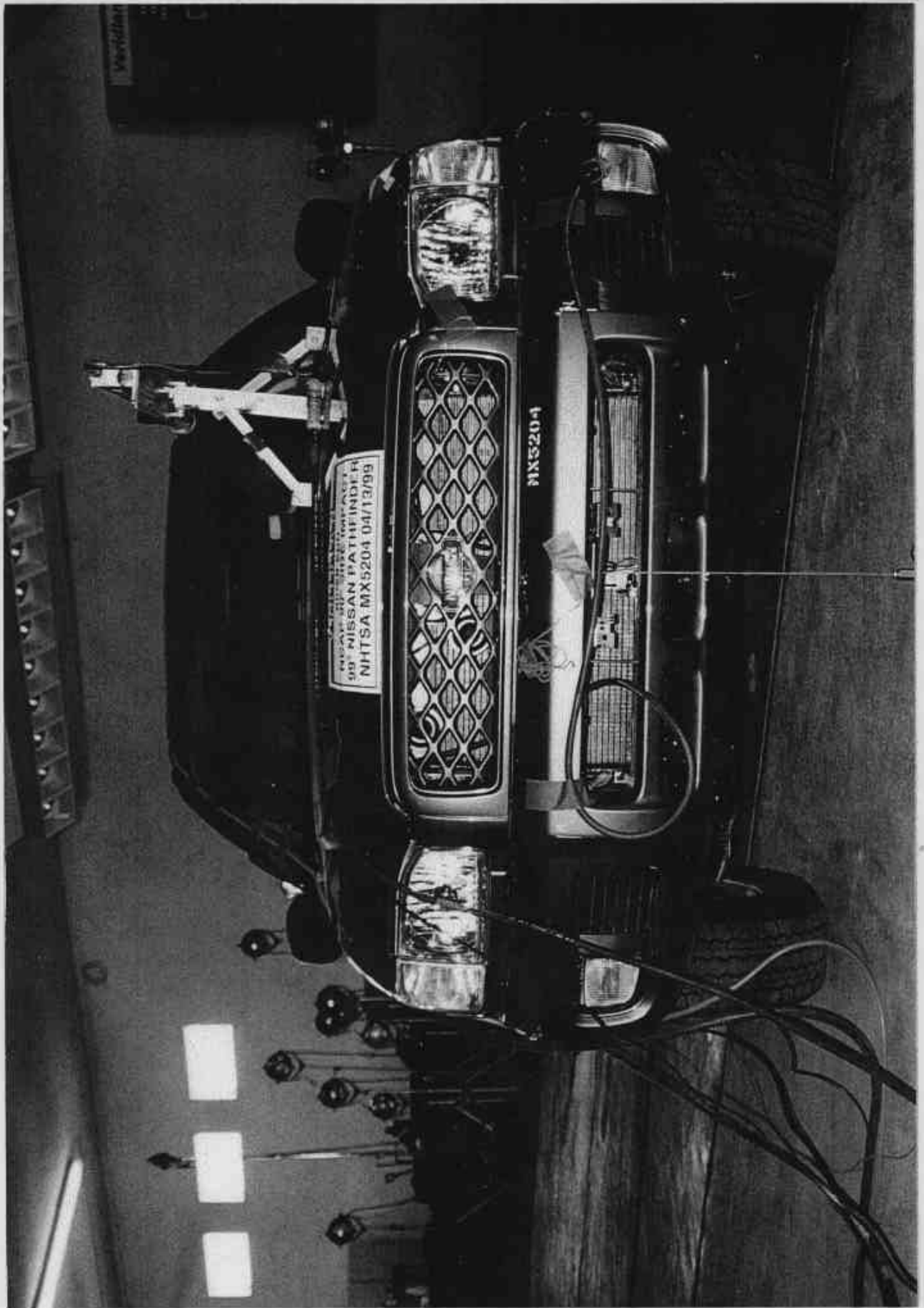


Figure A-1 PRE-TEST FRONTAL VIEW OF TEST VEHICLE

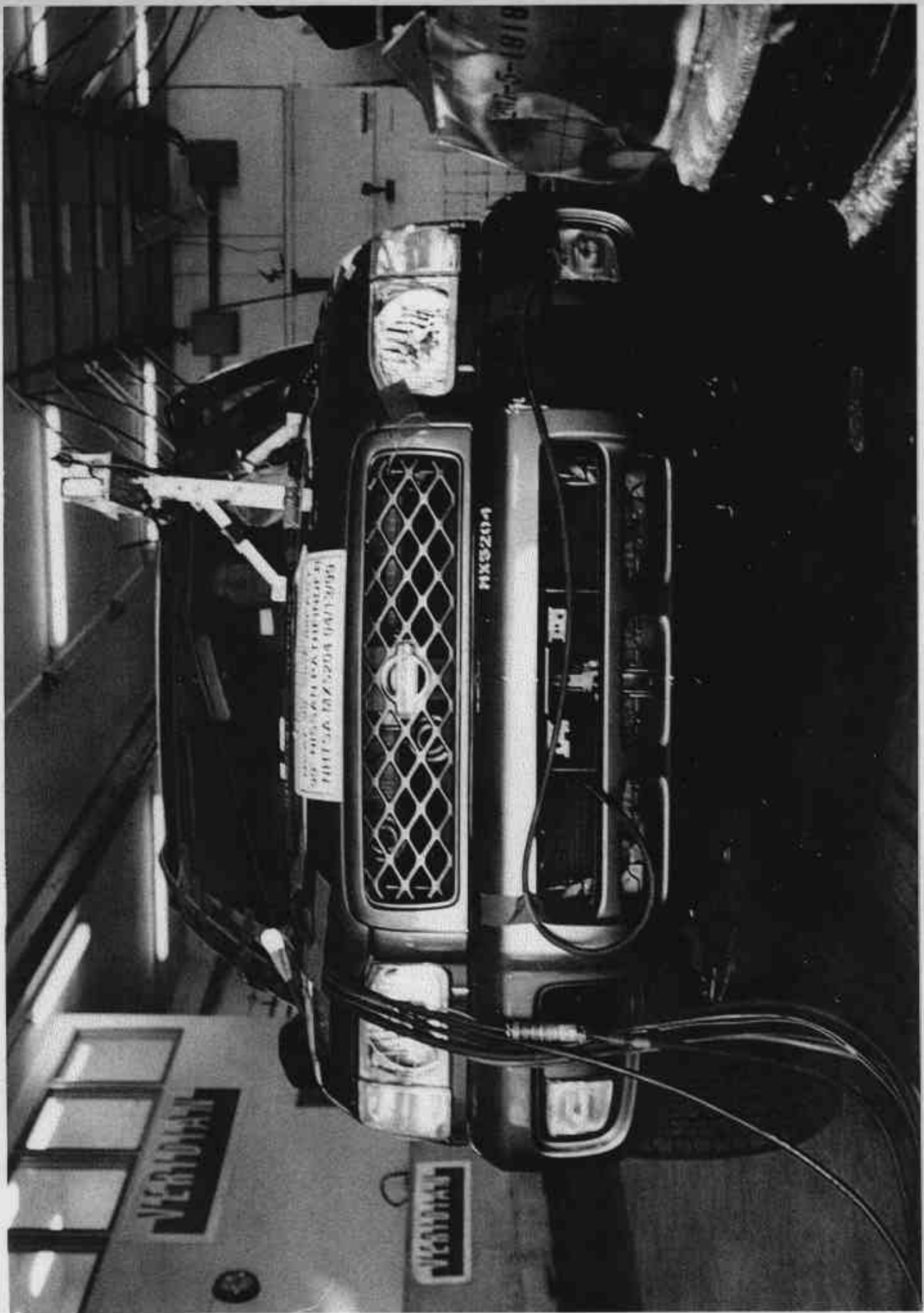


Figure A-2 POST-TEST FRONTAL VIEW OF TEST VEHICLE



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

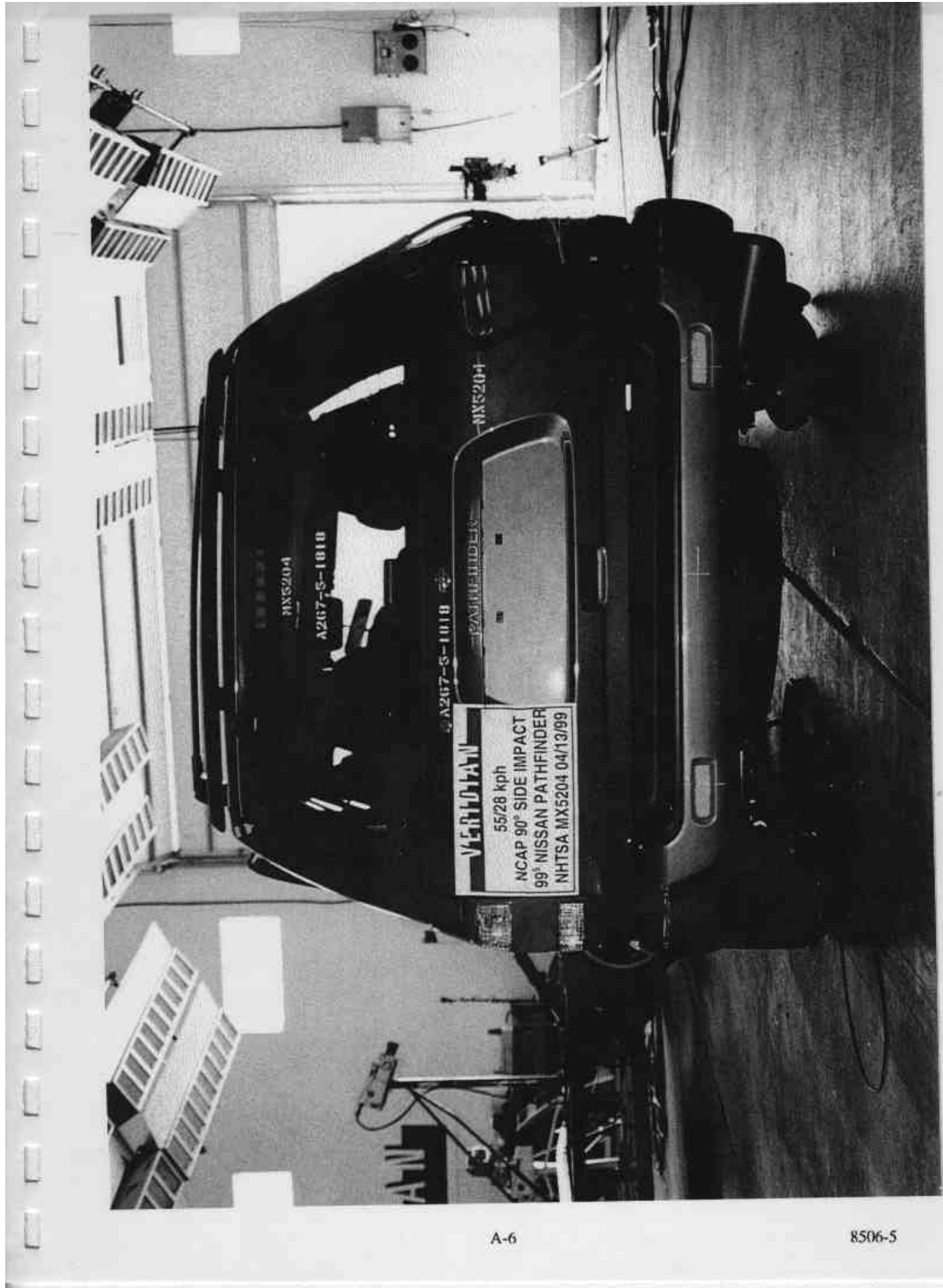


Figure A-4 POST-TEST REAR VIEW OF TEST VEHICLE

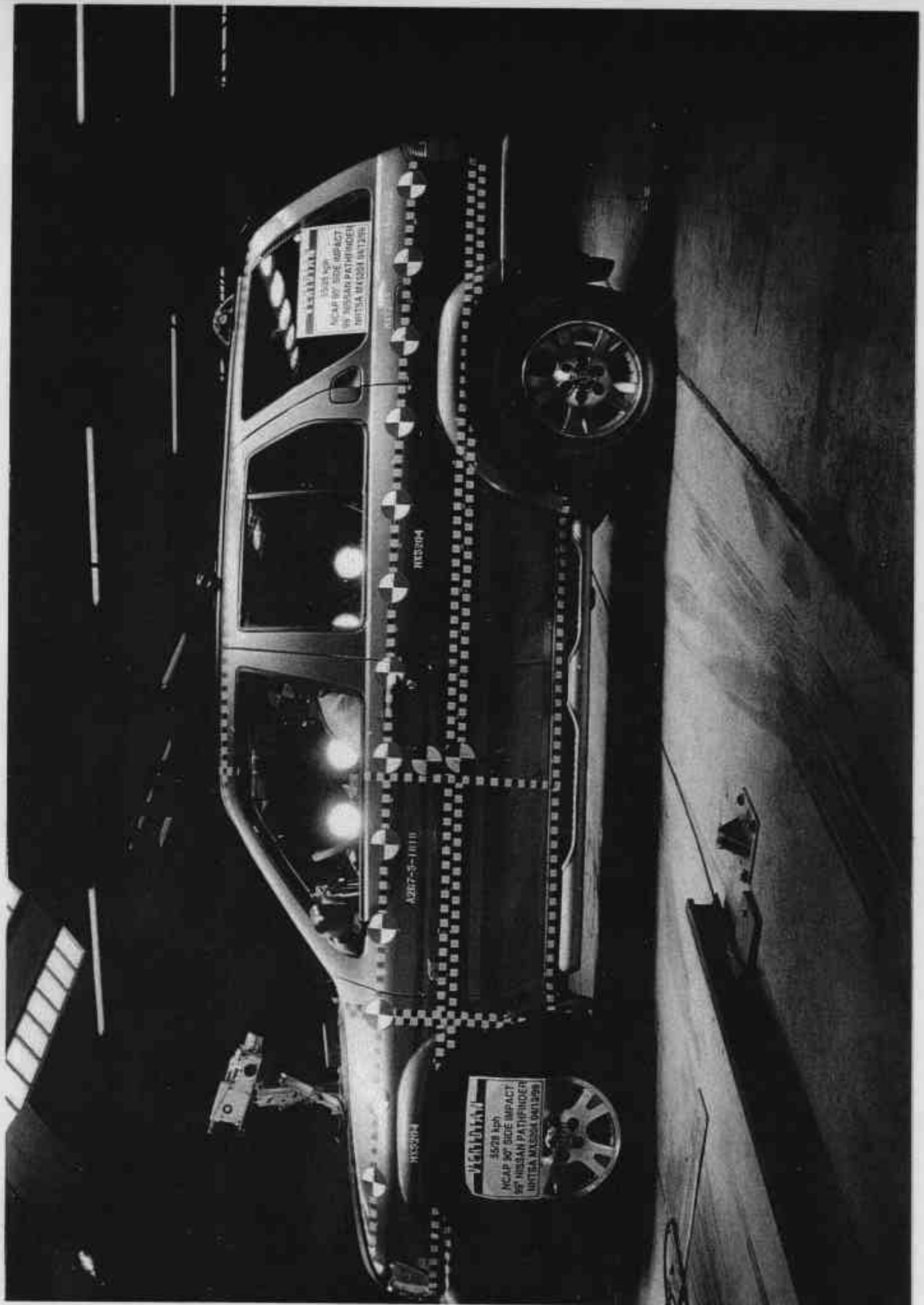


Figure A-5 PRE-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

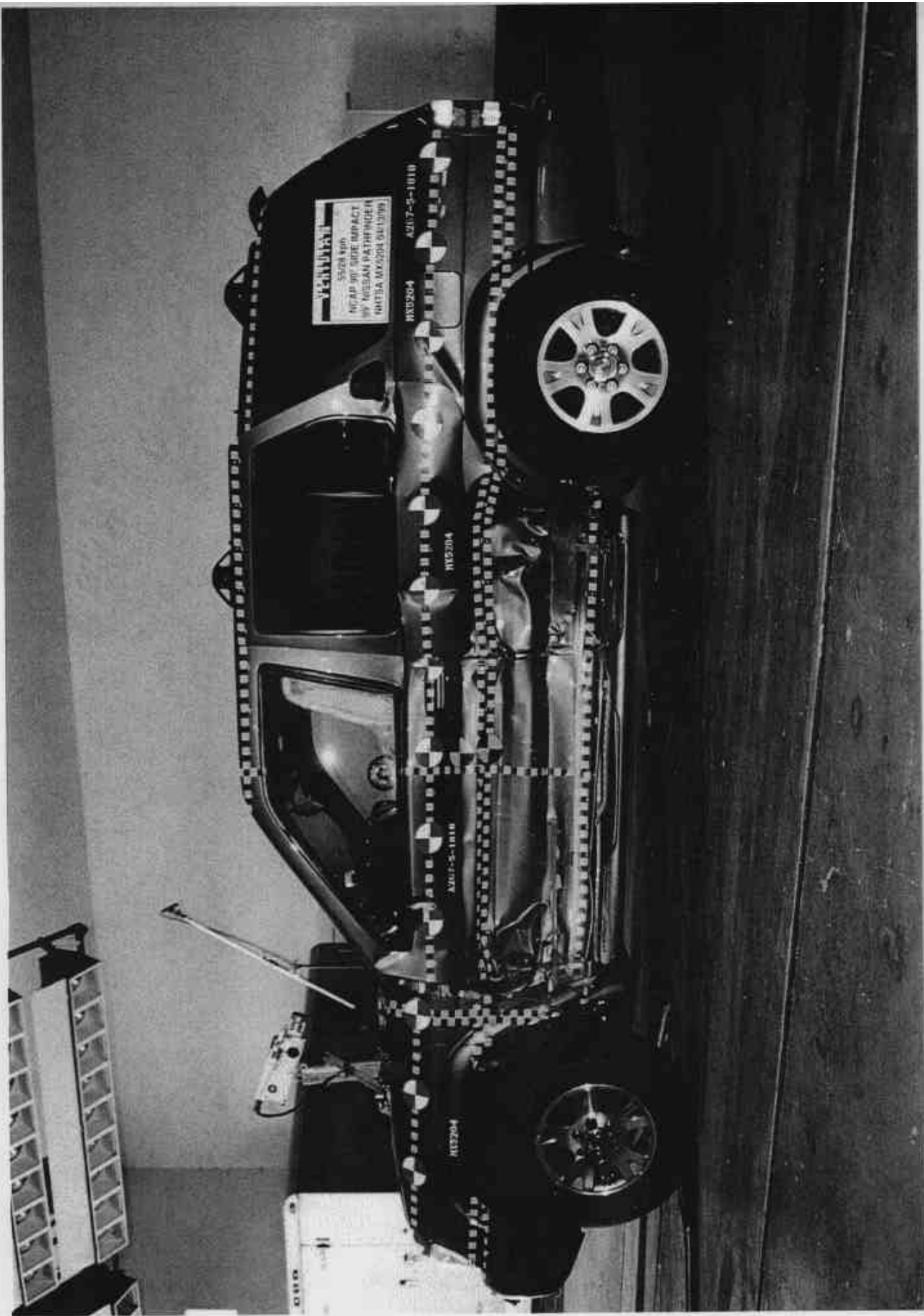


Figure A-6 POST-TEST IMPACTED SIDE VIEW OF TEST VEHICLE

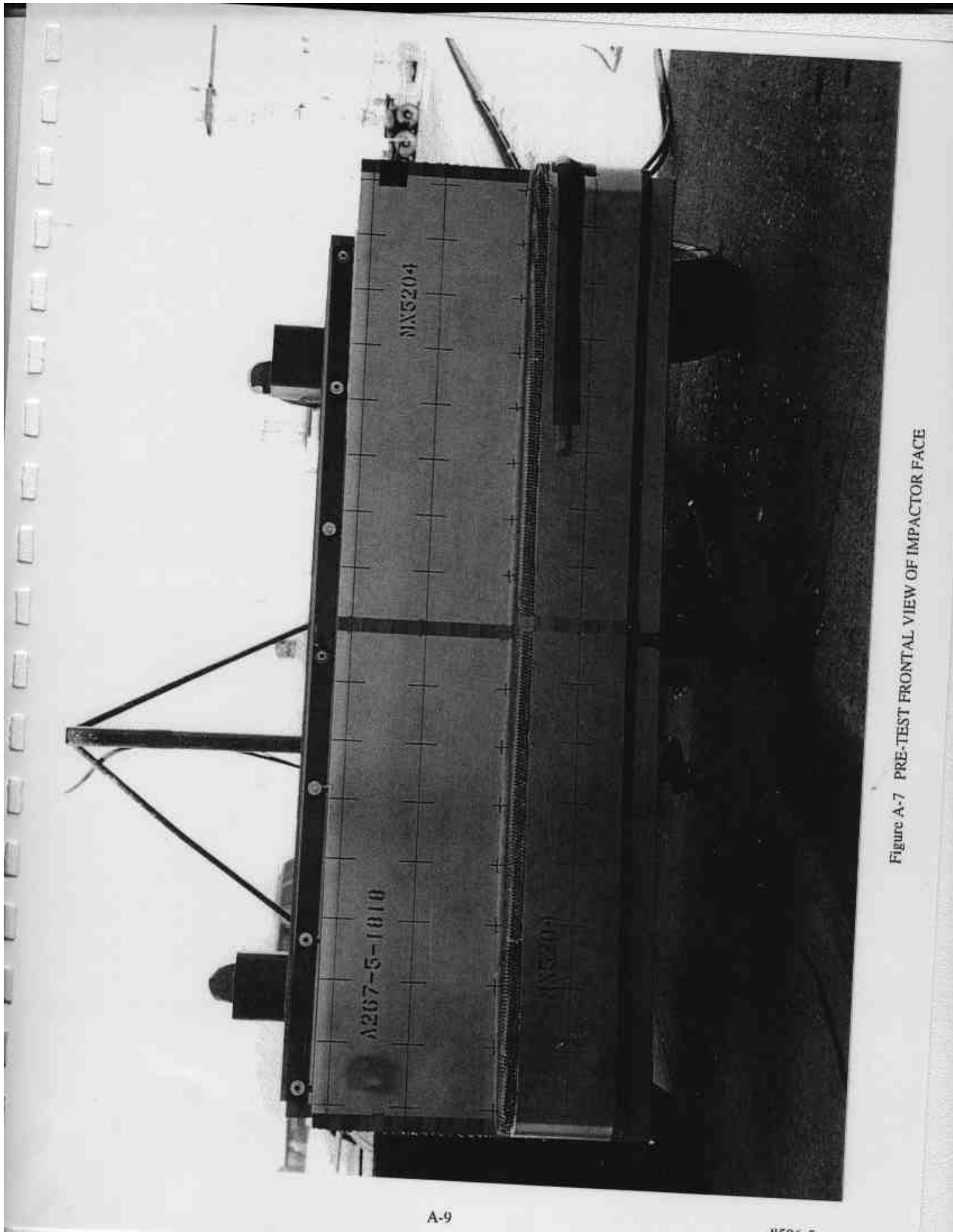


Figure A-7 PRE-TEST FRONTAL VIEW OF IMPACTOR FACE

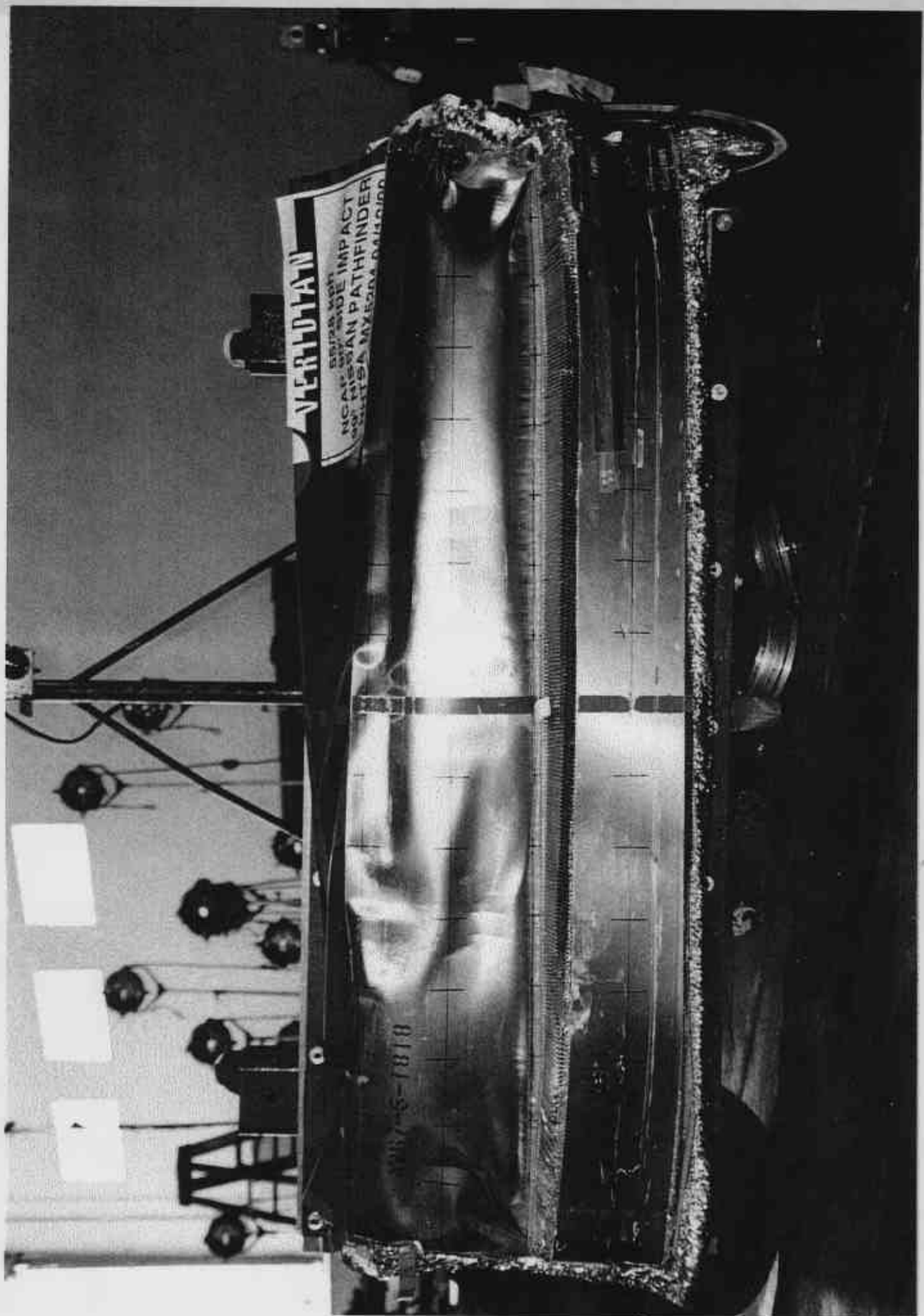


Figure A-8 POST-TEST FRONTAL VIEW OF IMPACTOR FACE

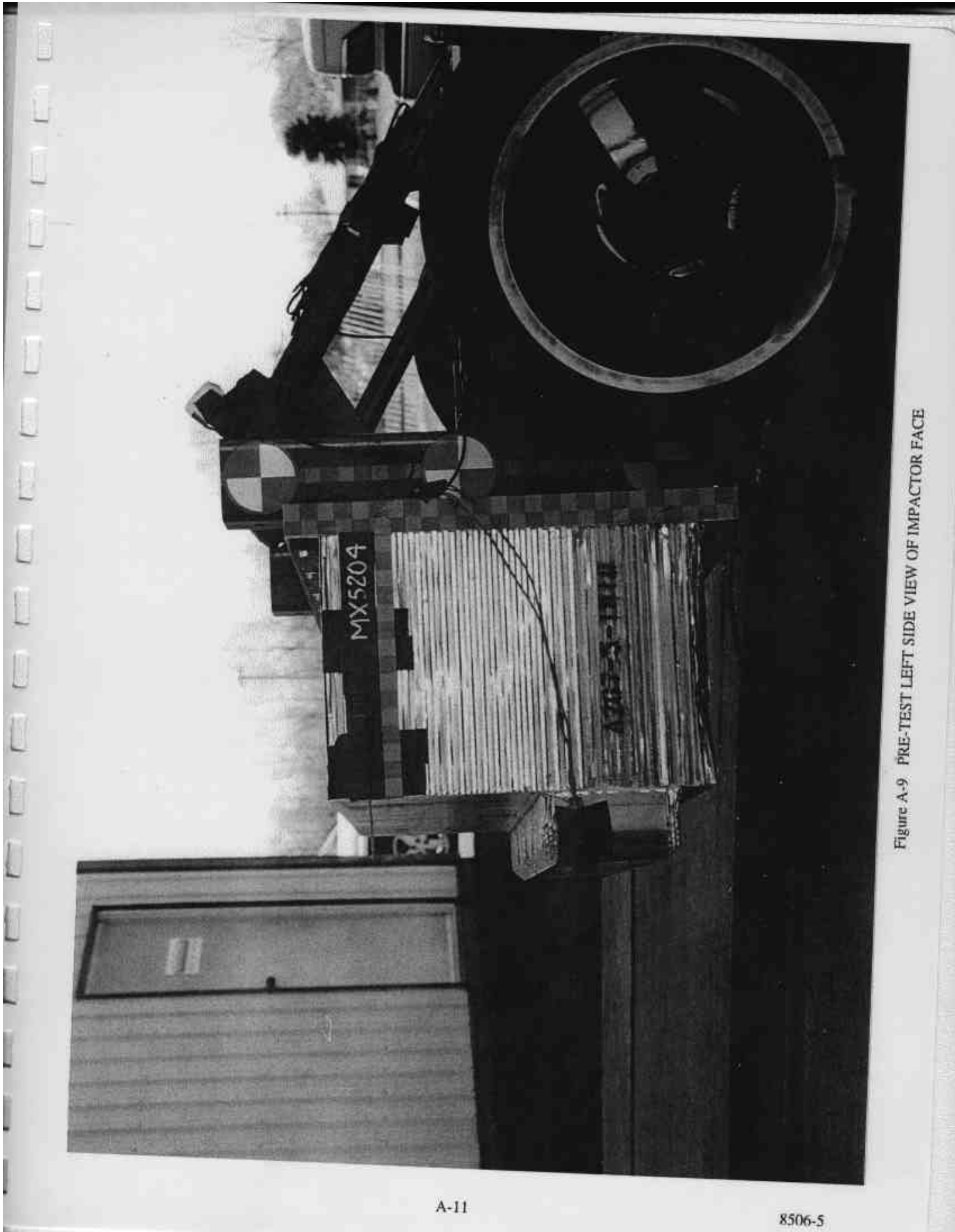


Figure A-9 PRE-TEST LEFT SIDE VIEW OF IMPACTOR FACE

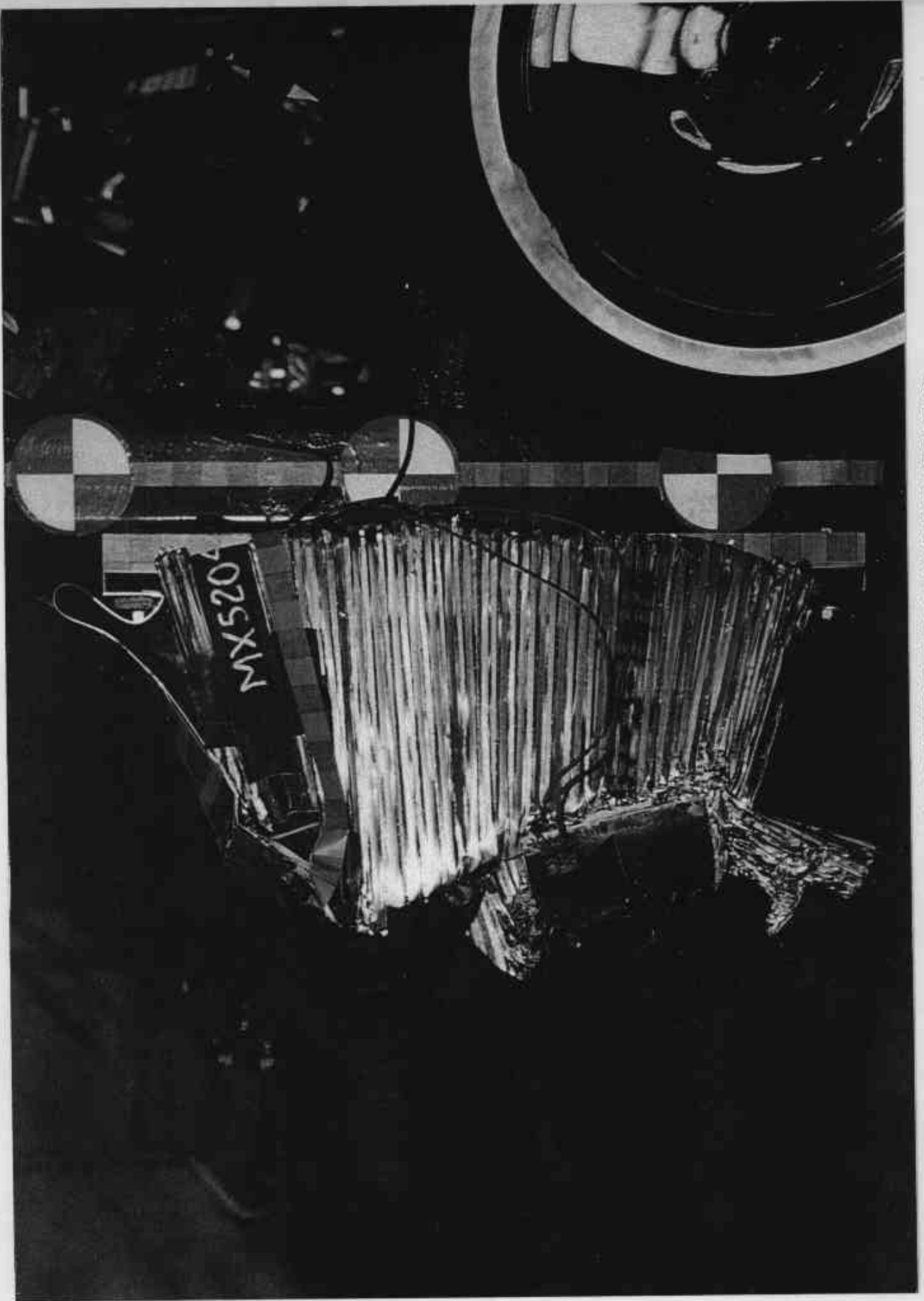


Figure A-10 POST-TEST LEFT SIDE VIEW OF IMPACTOR FACE



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

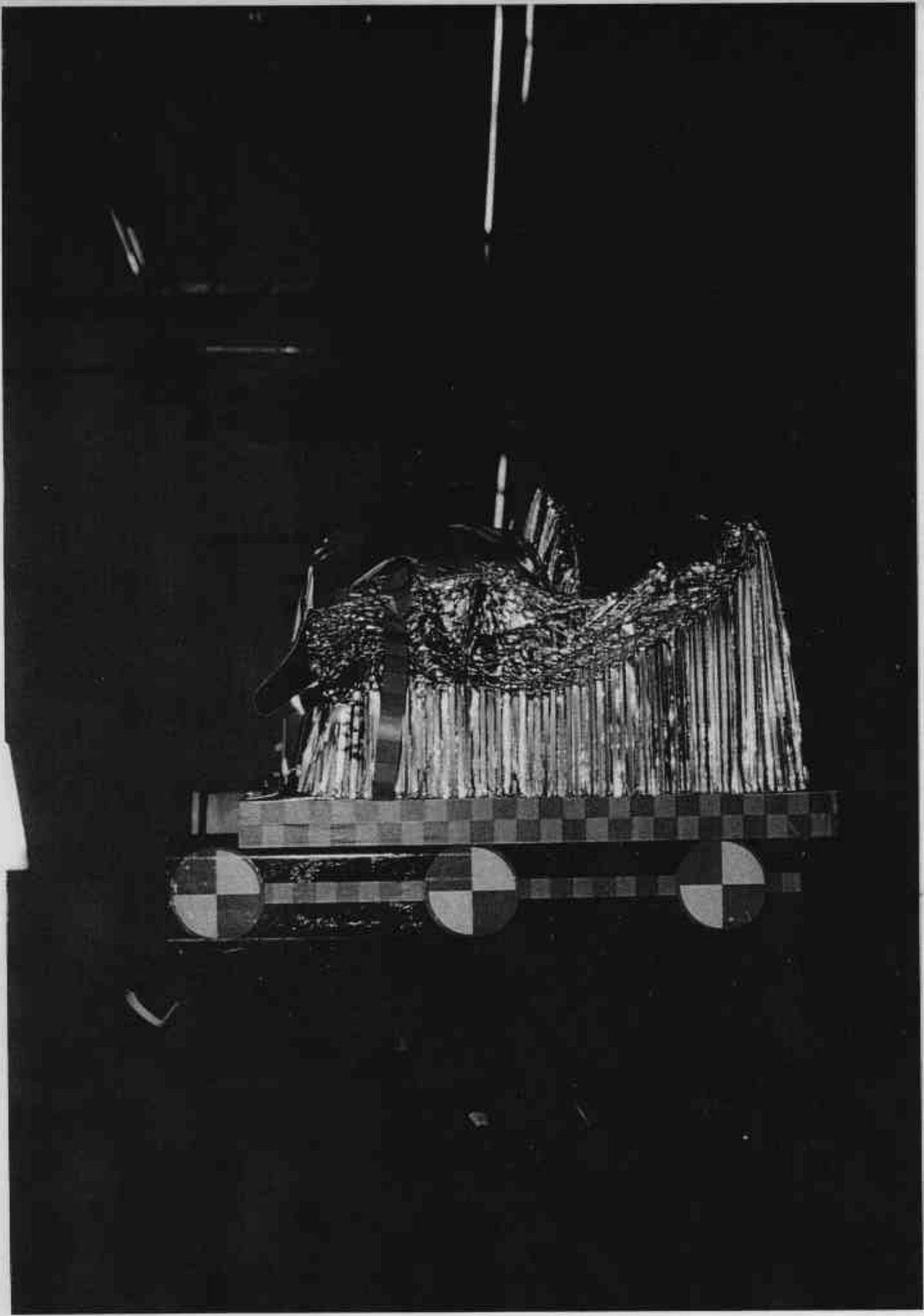


Figure A-12 POST-TEST RIGHT SIDE VIEW OF IMPACTOR FACE

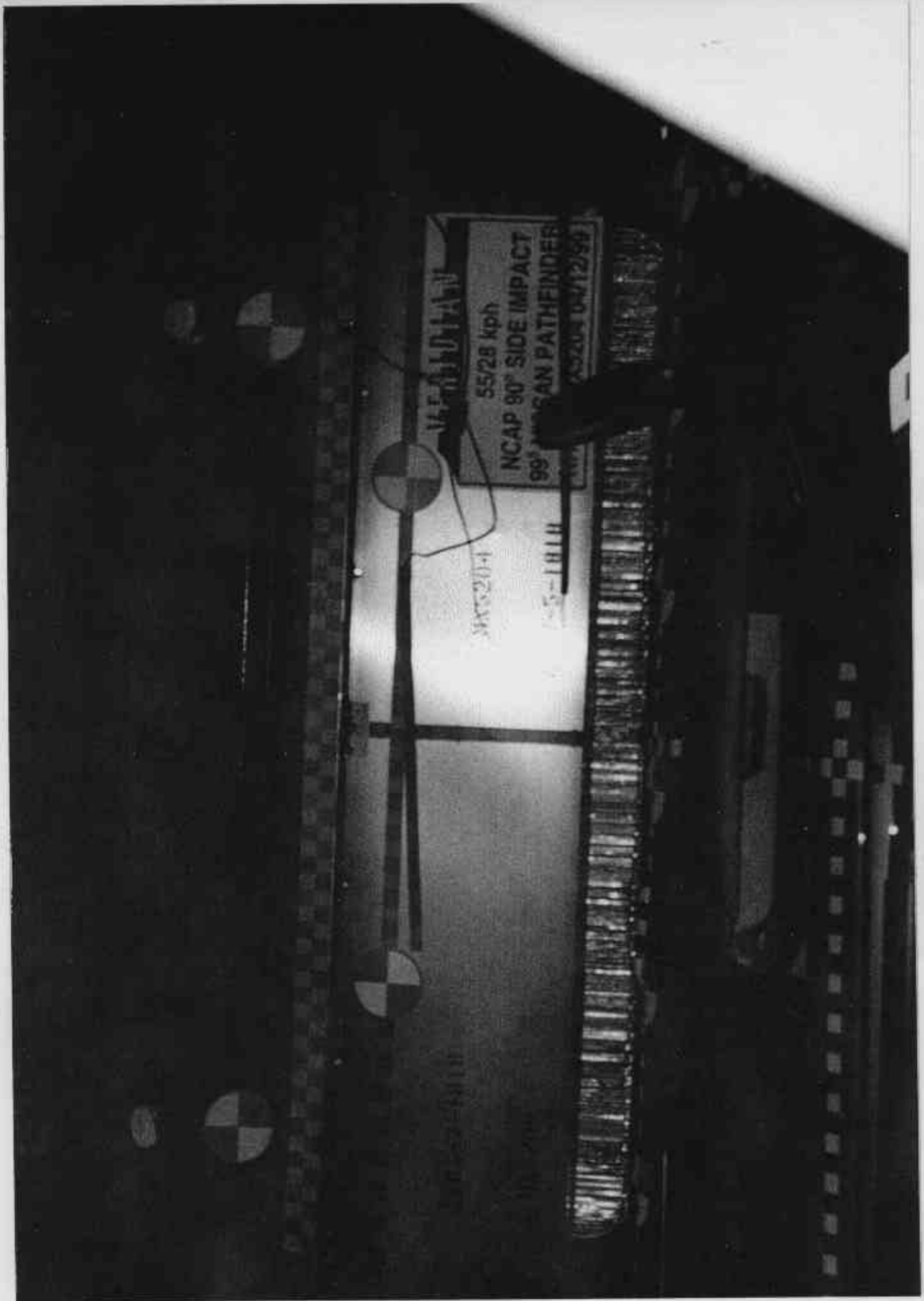


Figure A-13 PRE-TEST TOP VIEW OF IMPACTOR FACE

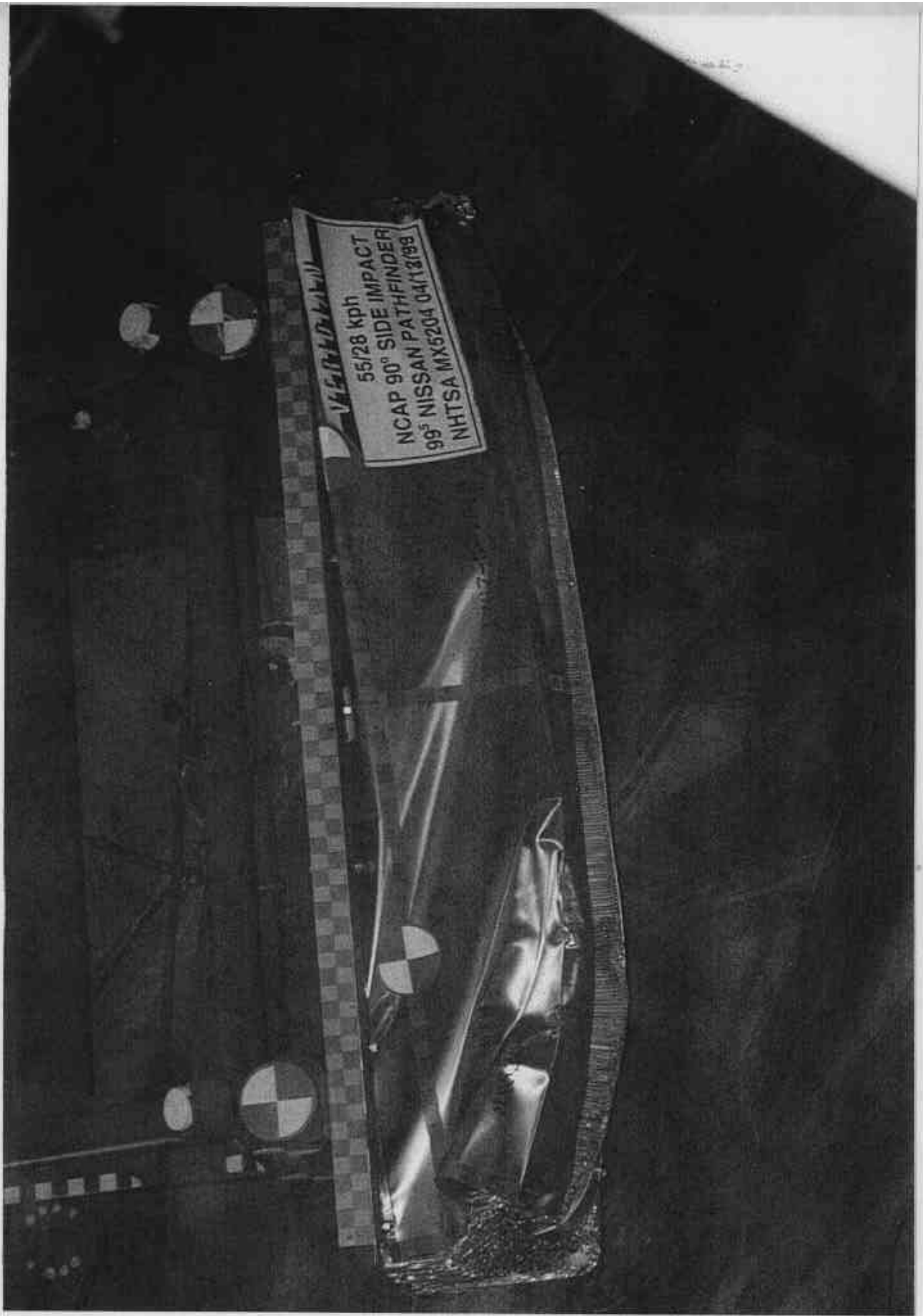


Figure A-14 POST-TEST TOP VIEW OF IMPACTOR FACE

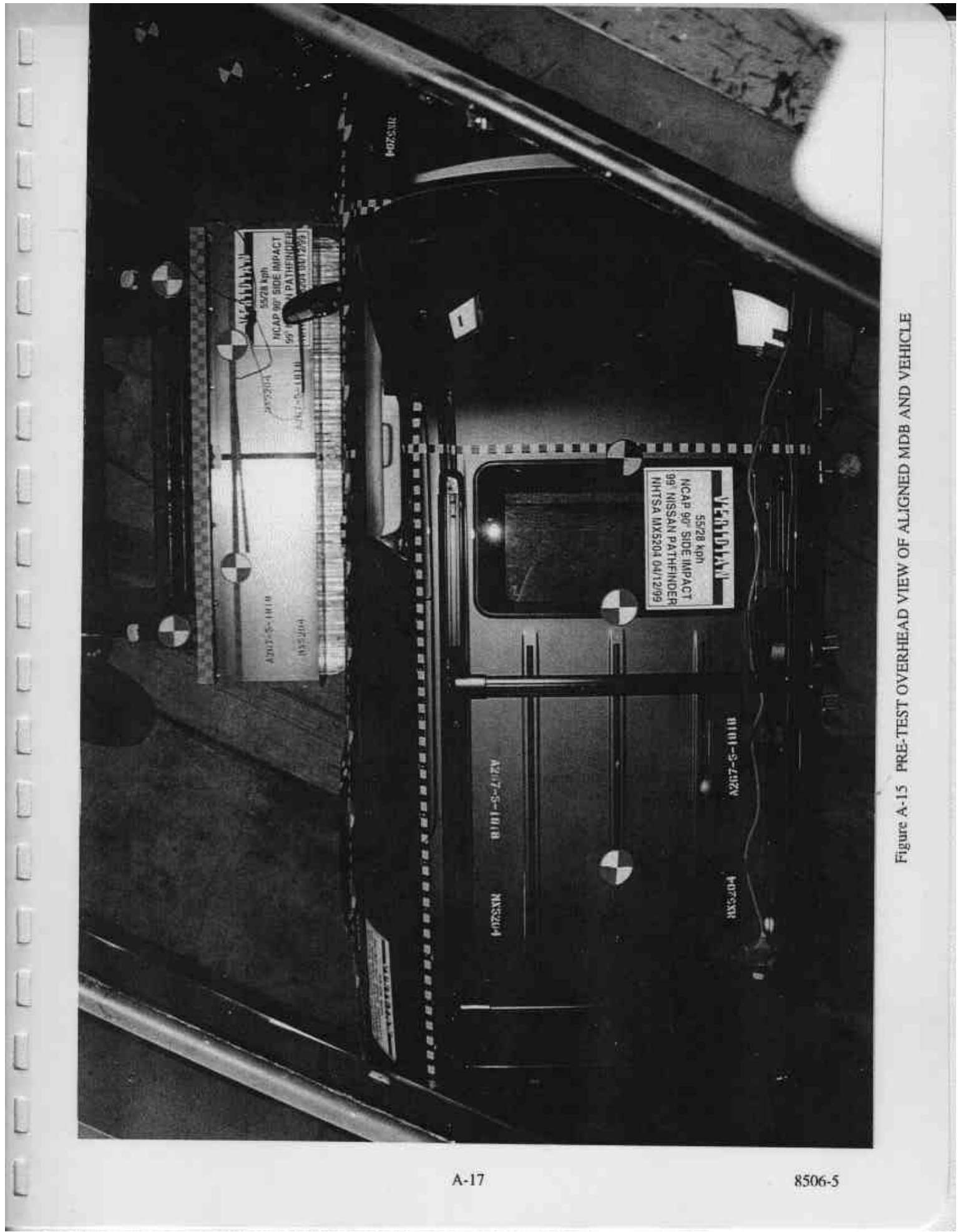


Figure A-15 PRE-TEST OVERHEAD VIEW OF ALIGNED MDB AND VEHICLE

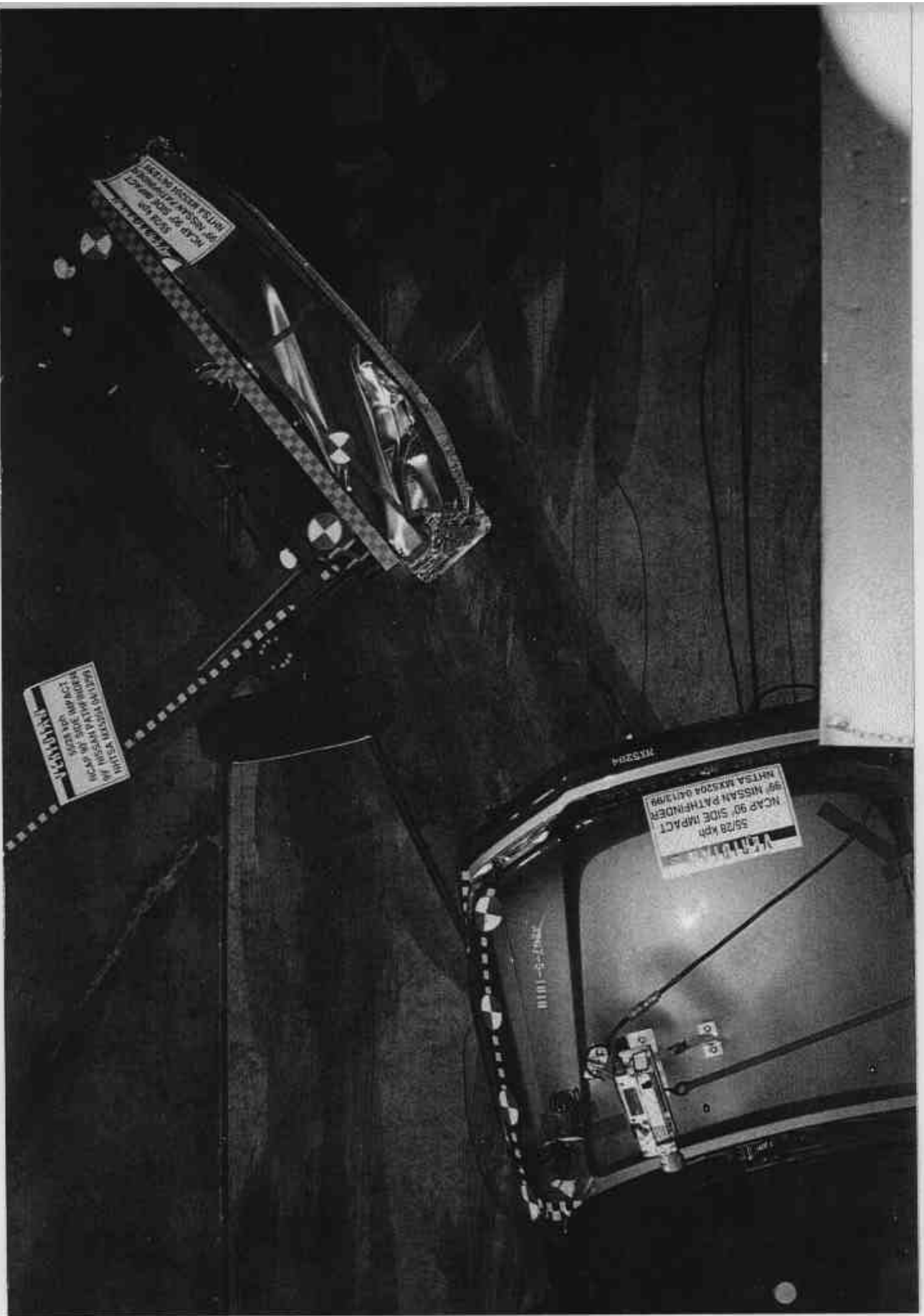


Figure A-16 POST-TEST OVERHEAD VIEW OF MDB AND VEHICLE



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

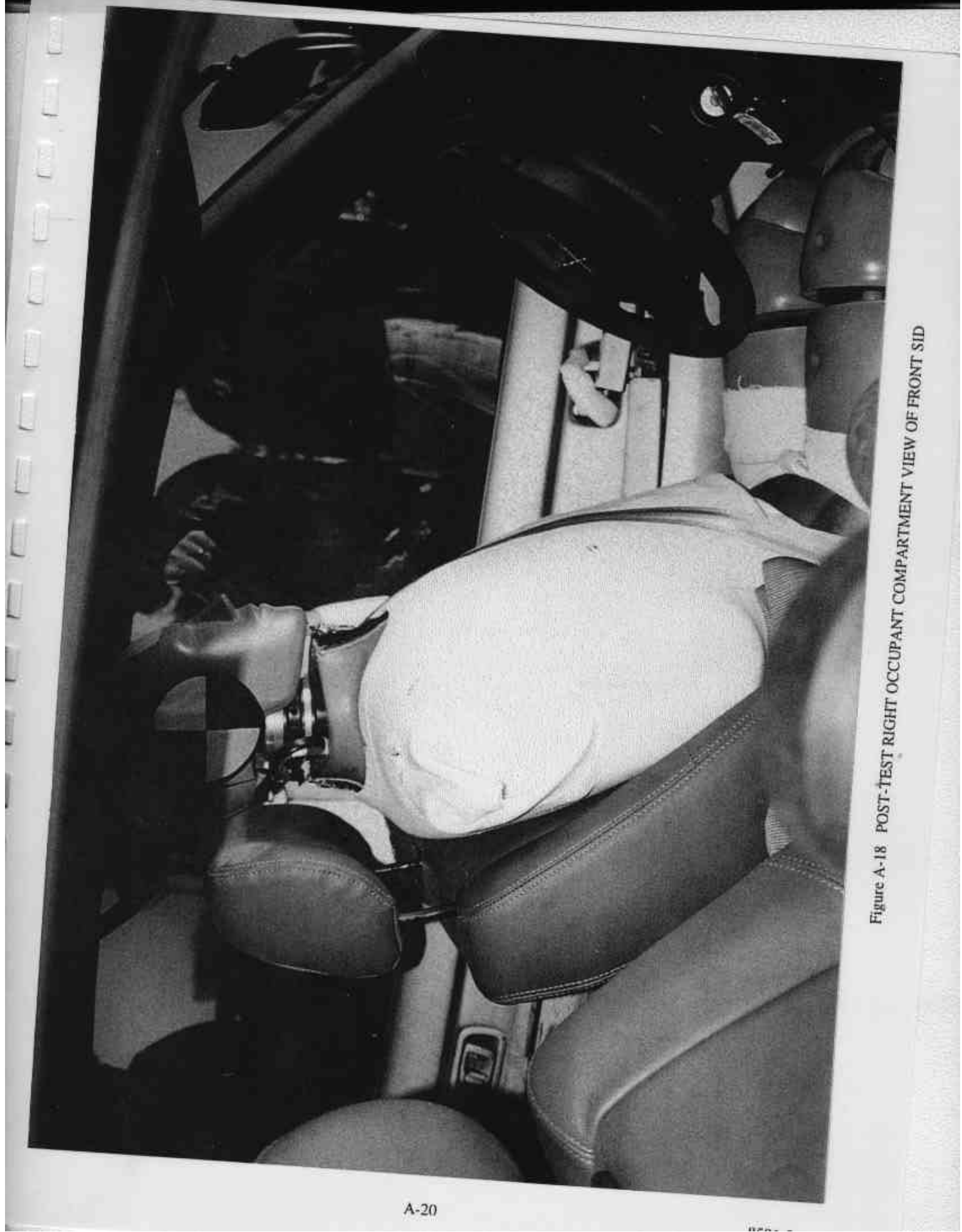


Figure A-18 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF FRONT SID



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

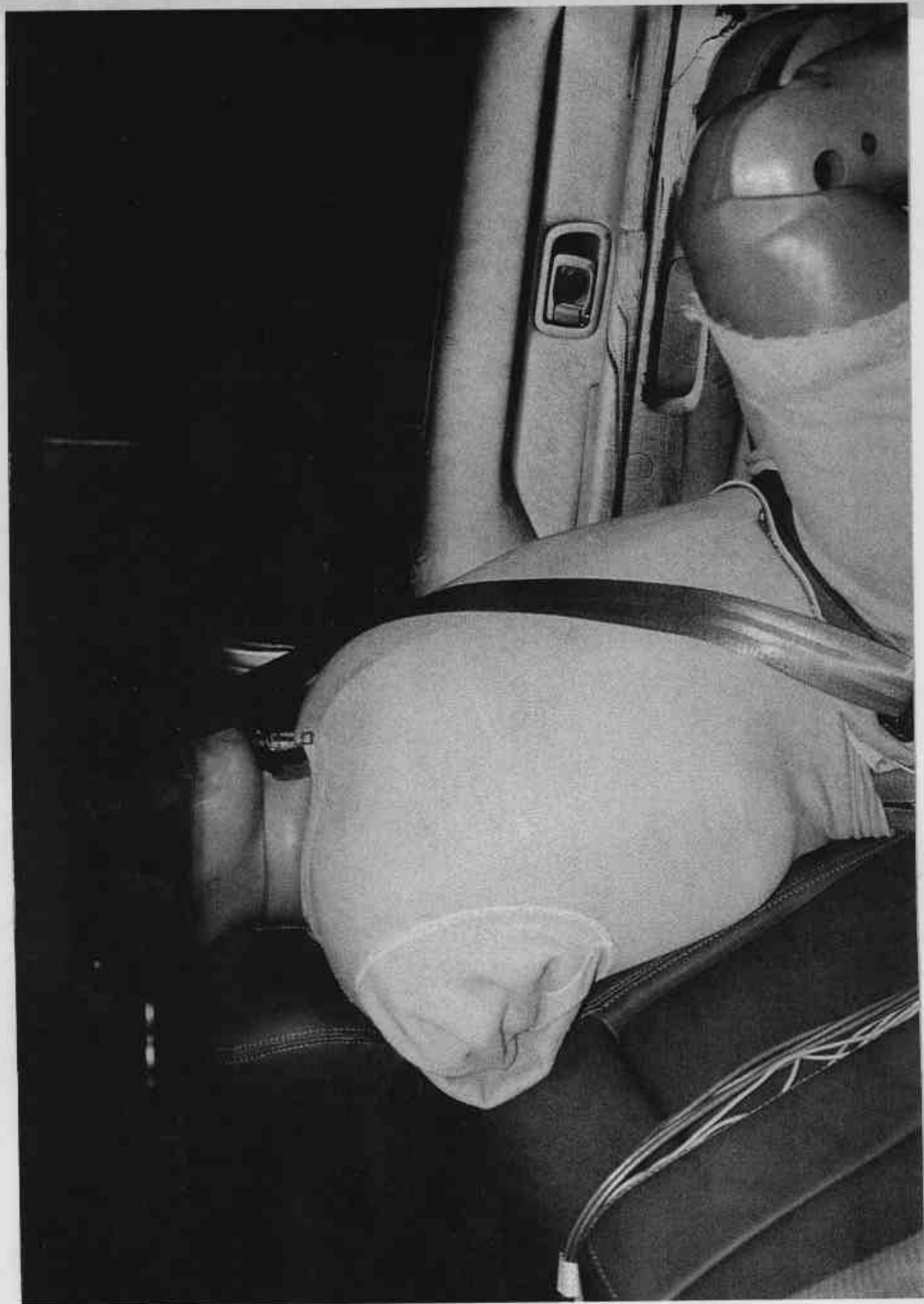


Figure A-20 POST-TEST RIGHT OCCUPANT COMPARTMENT VIEW OF REAR SID

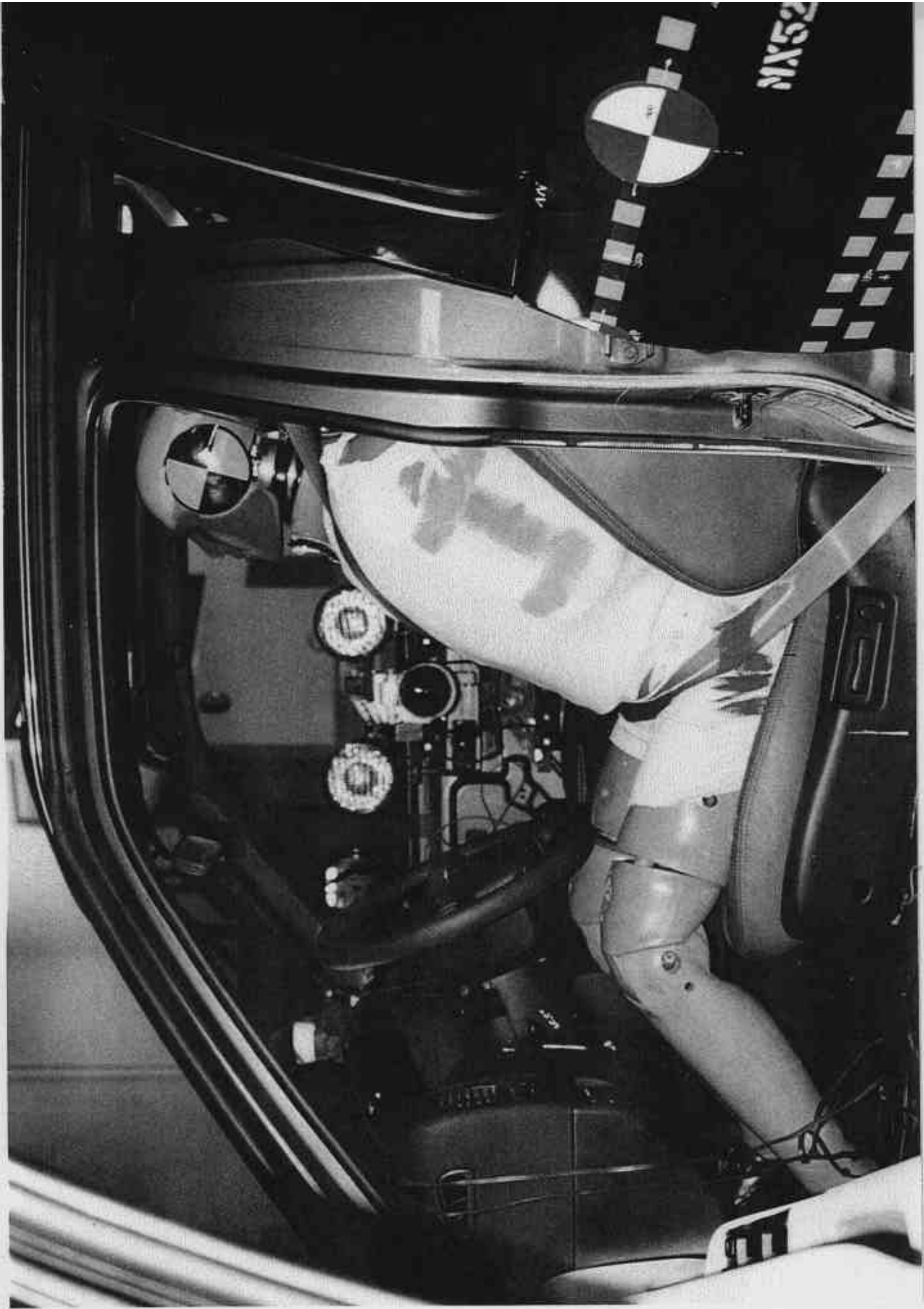


Figure A-21 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

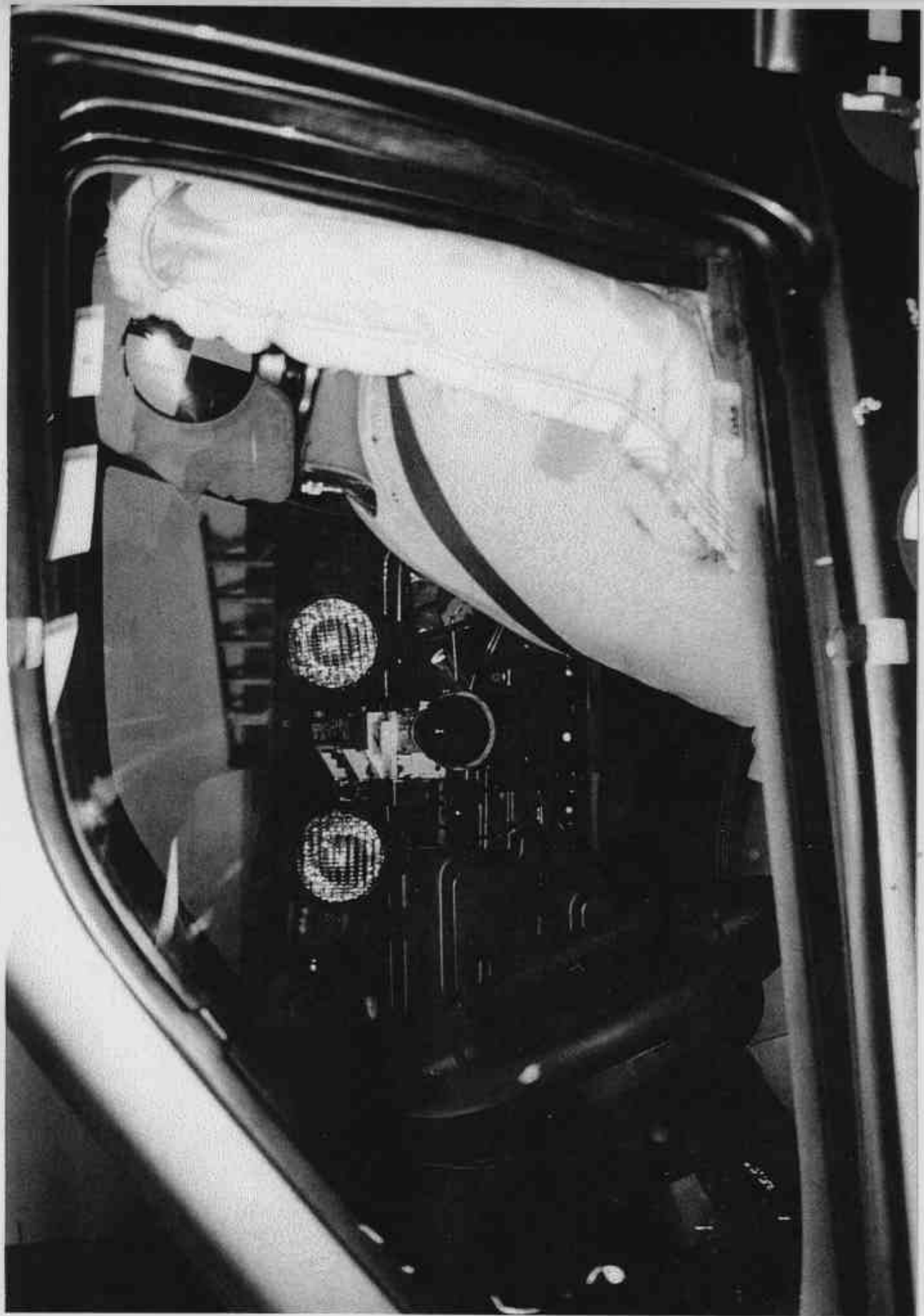


Figure A-22 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF FRONT SID

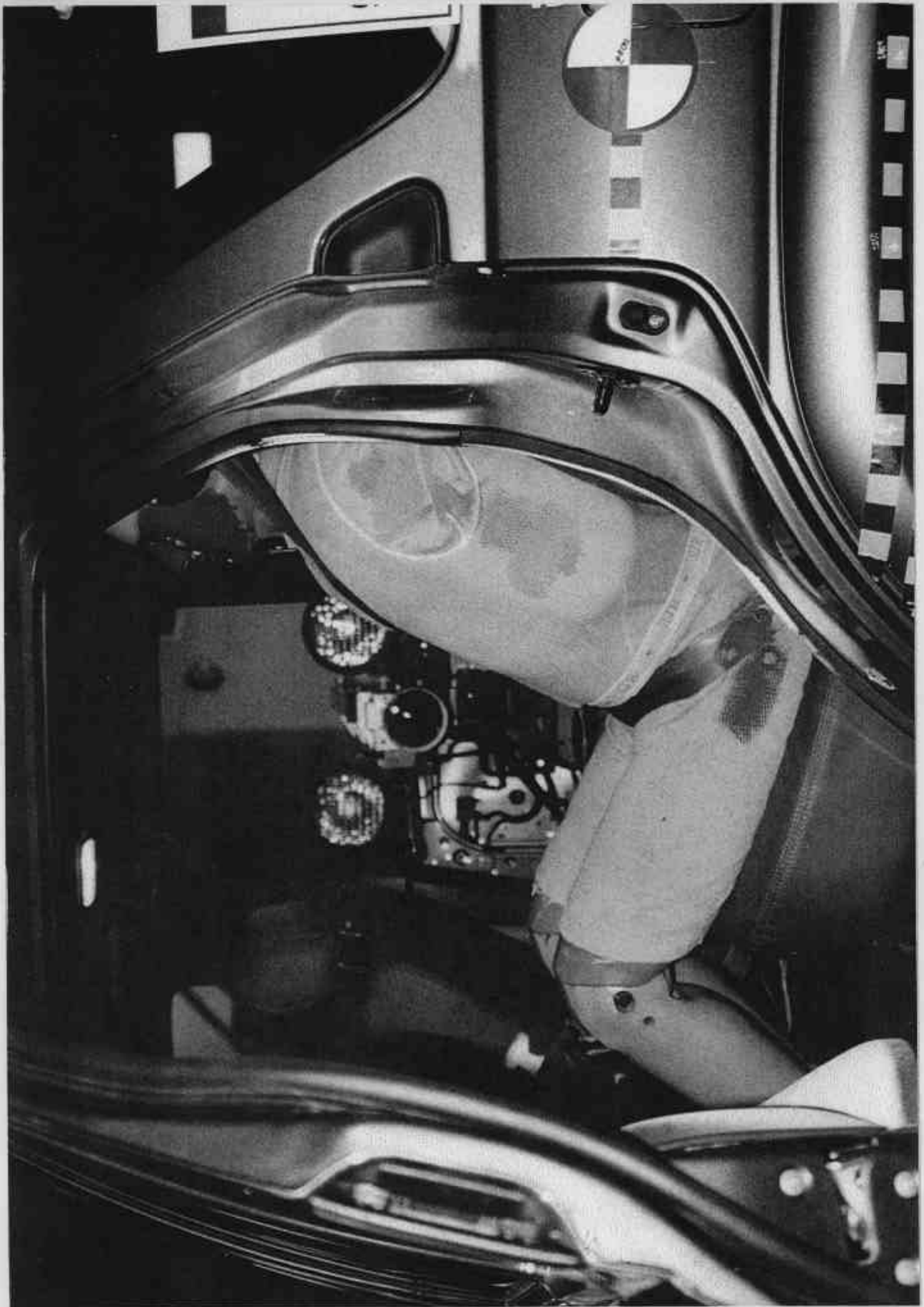


Figure A-23 PRE-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

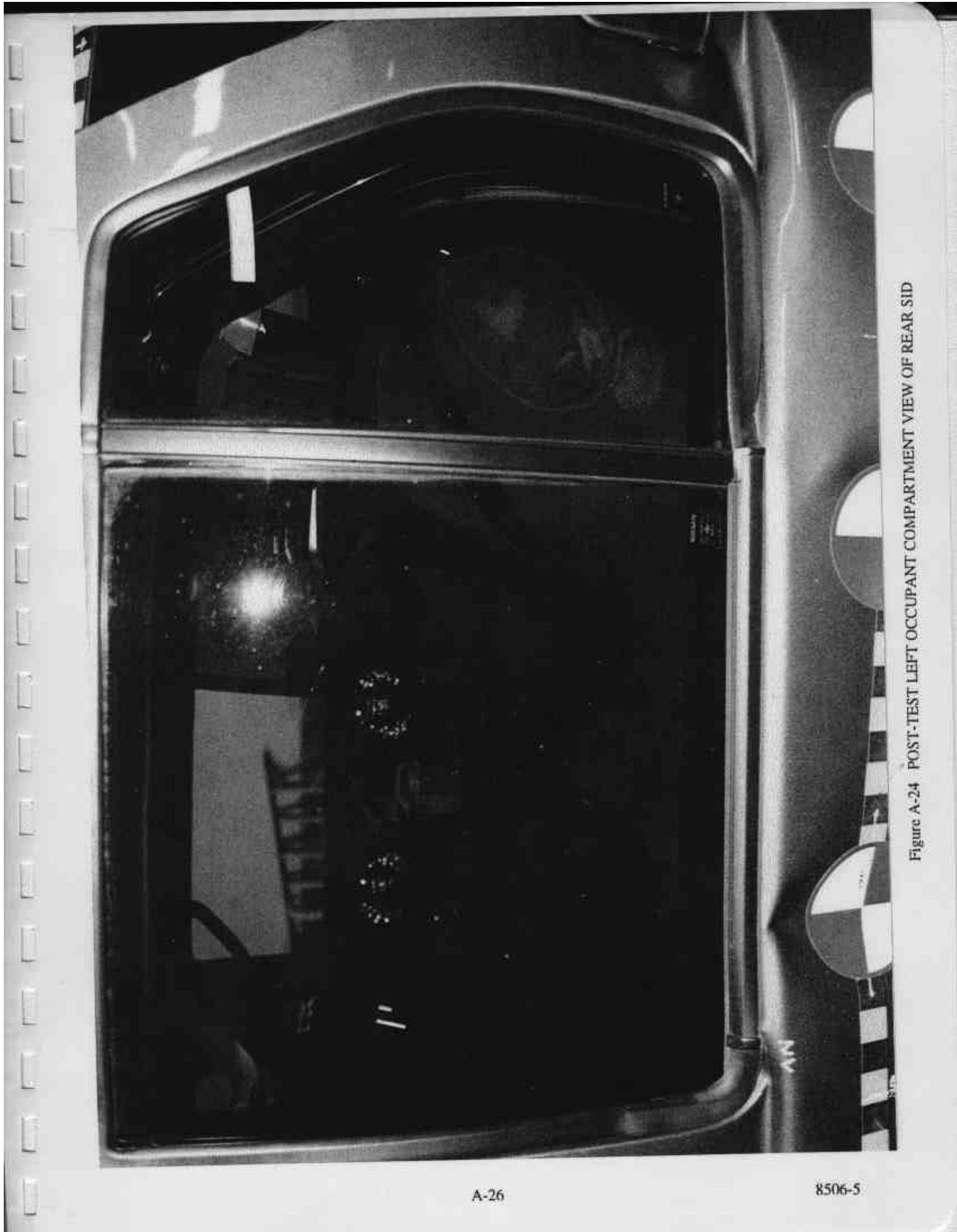


Figure A-24 POST-TEST LEFT OCCUPANT COMPARTMENT VIEW OF REAR SID

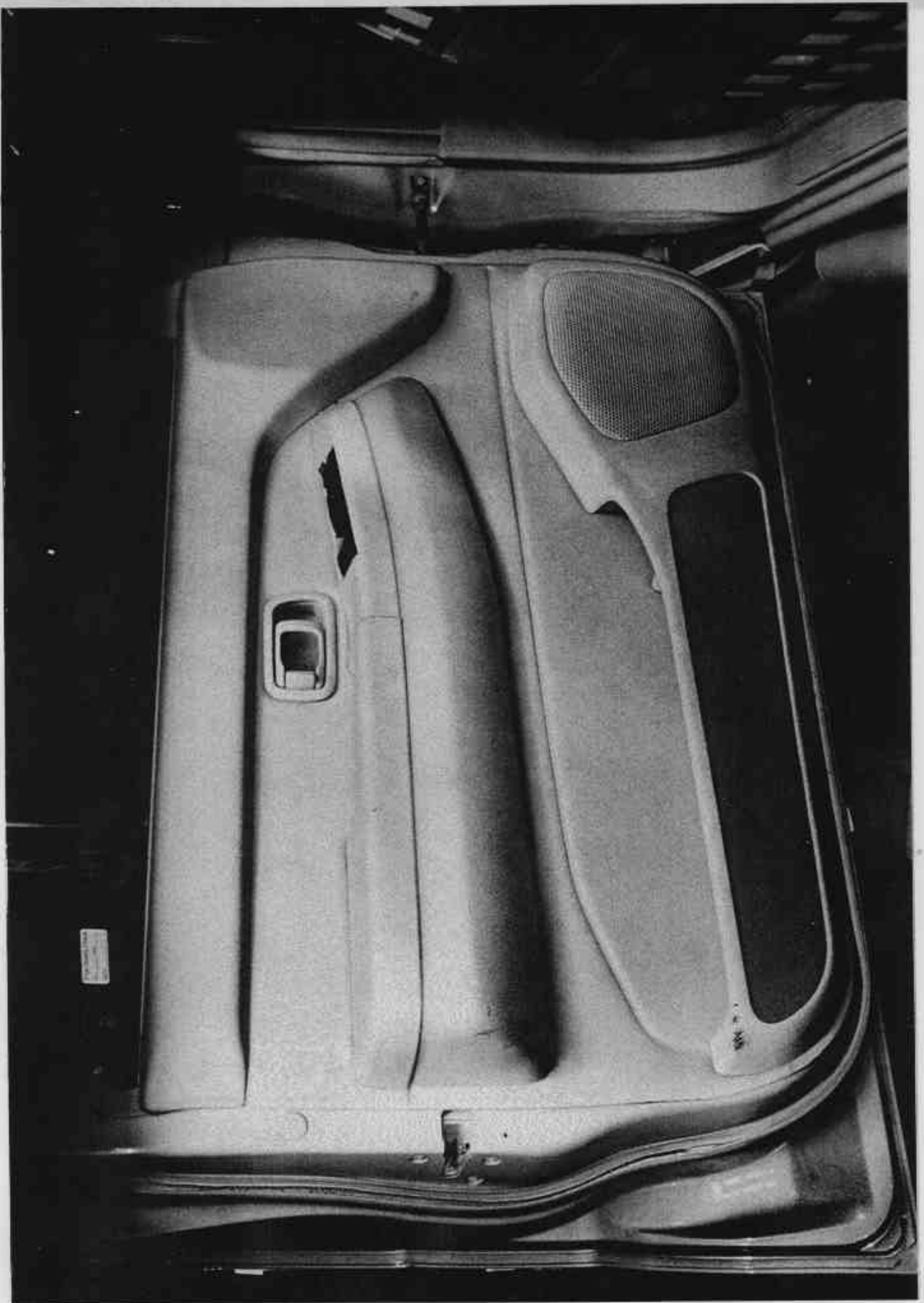


Figure A-25 PRE-TEST INTERIOR OF FRONT DOOR

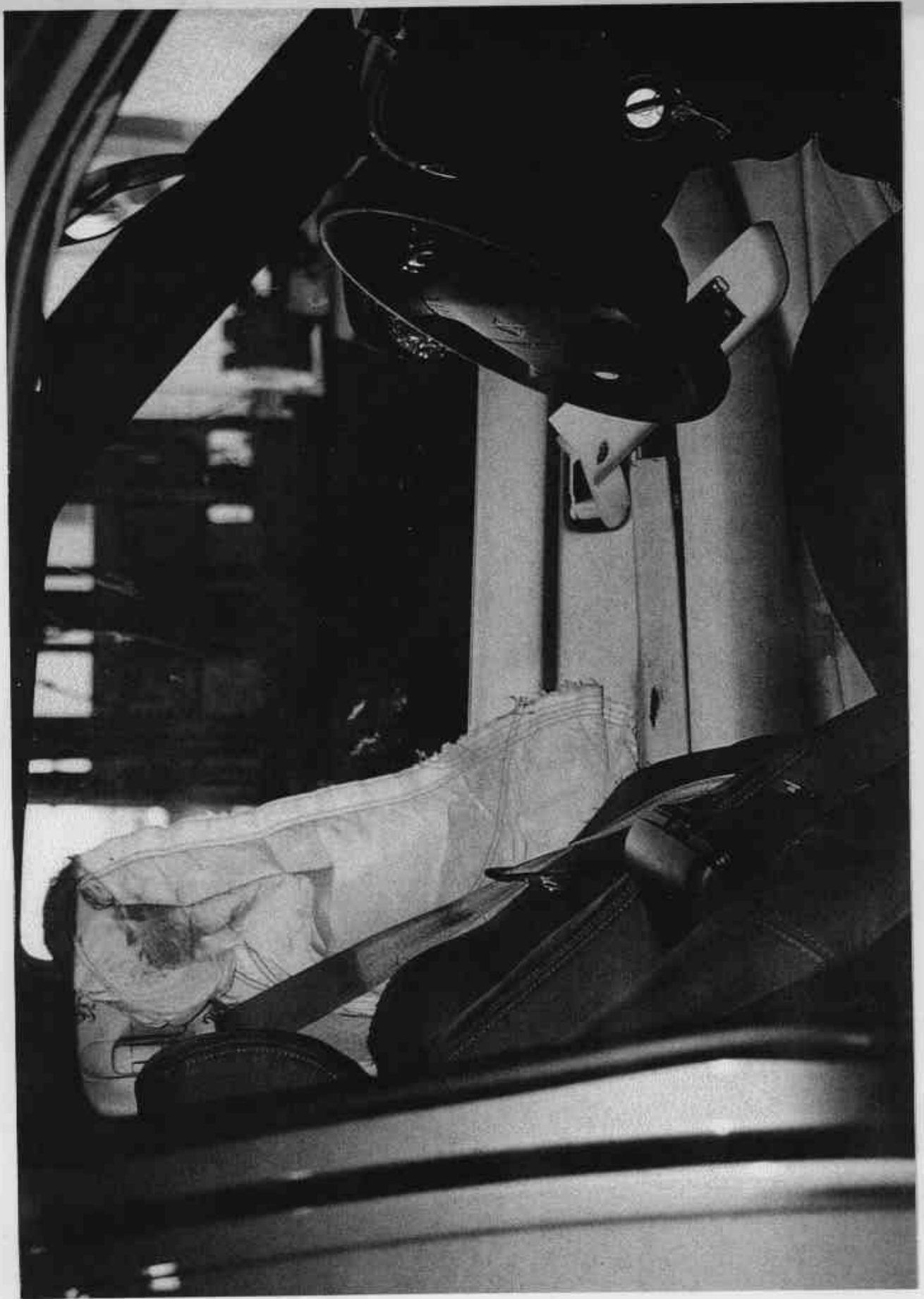


Figure A-26 POST-TEST INTERIOR OF FRONT DOOR SHOWING SID IMPACT LOCATIONS

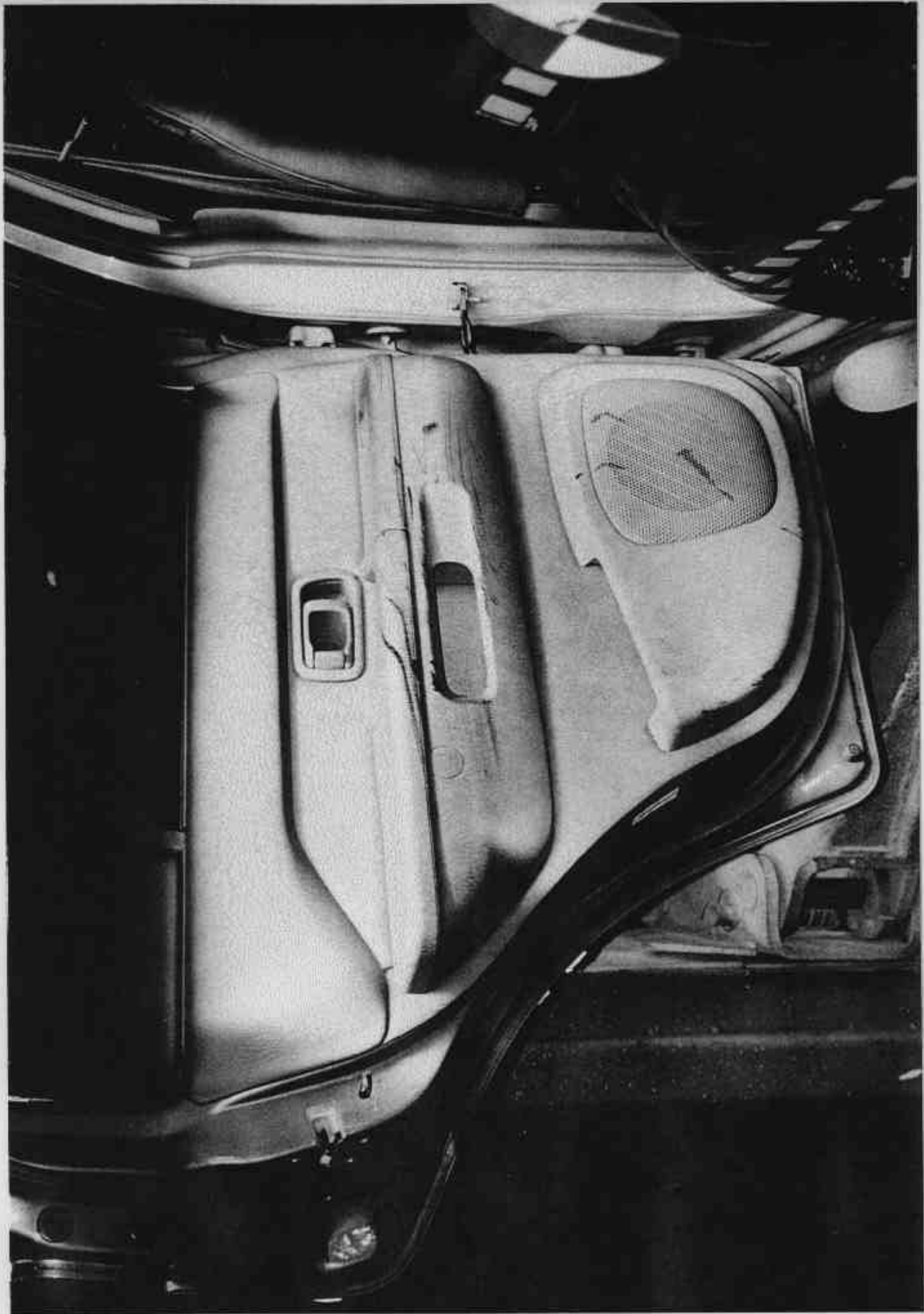


Figure A-27 PRE-TEST INTERIOR OF REAR DOOR



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

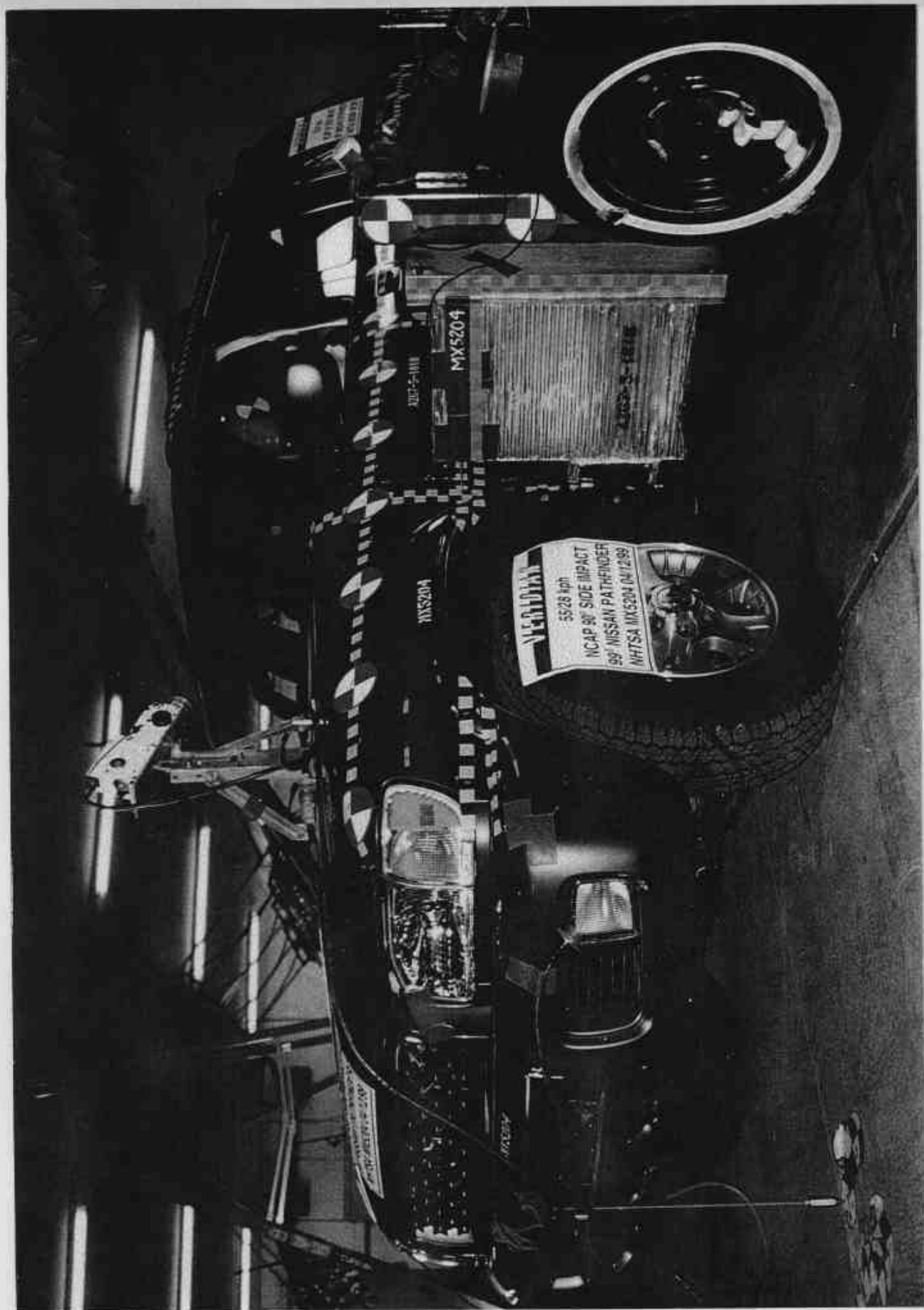


Figure A-29 PRE-TEST LEFT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

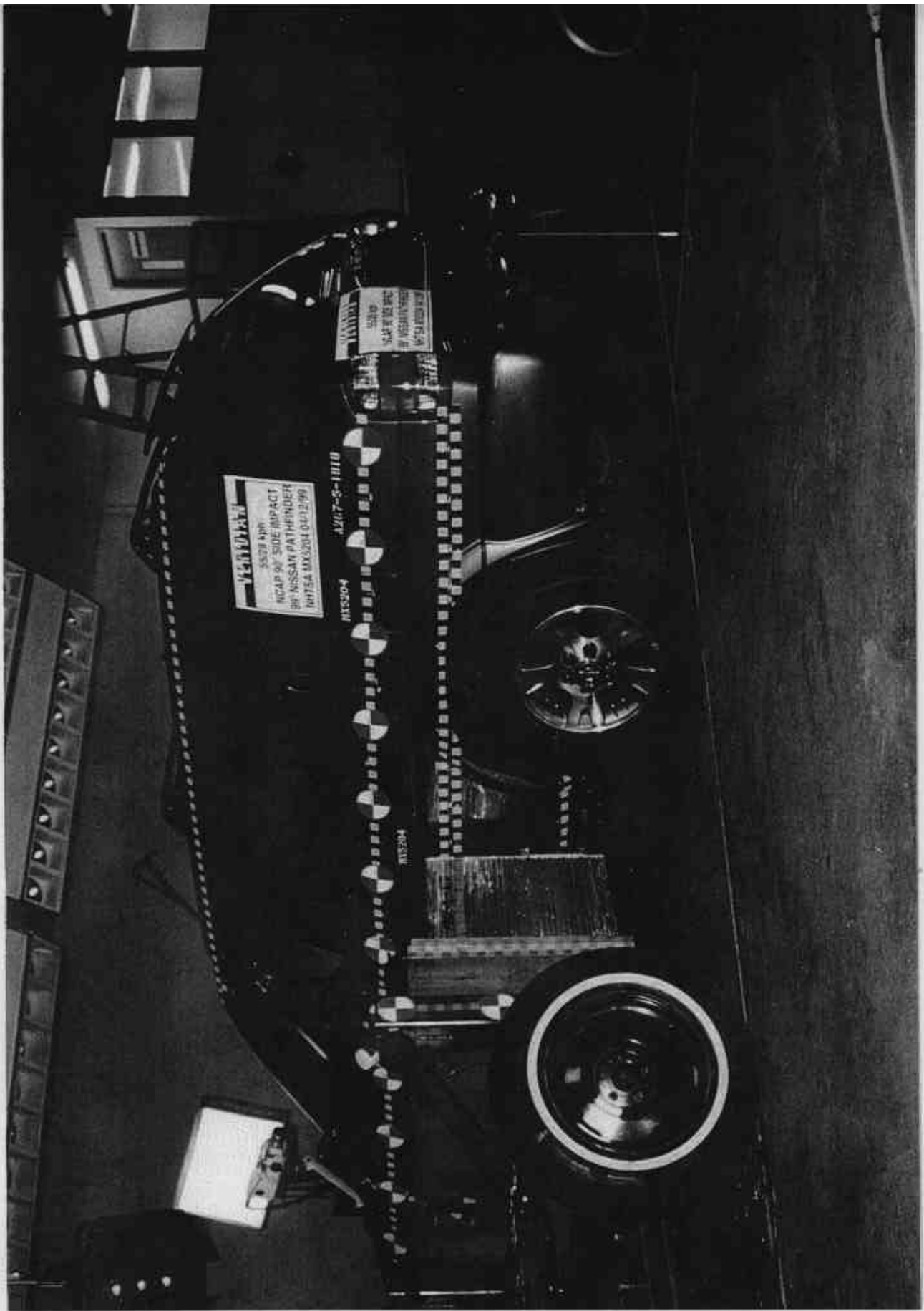


Figure A-30 PRE-TEST RIGHT SIDE VIEW OF MDB WITH IMPACTOR FACE IN POSITION

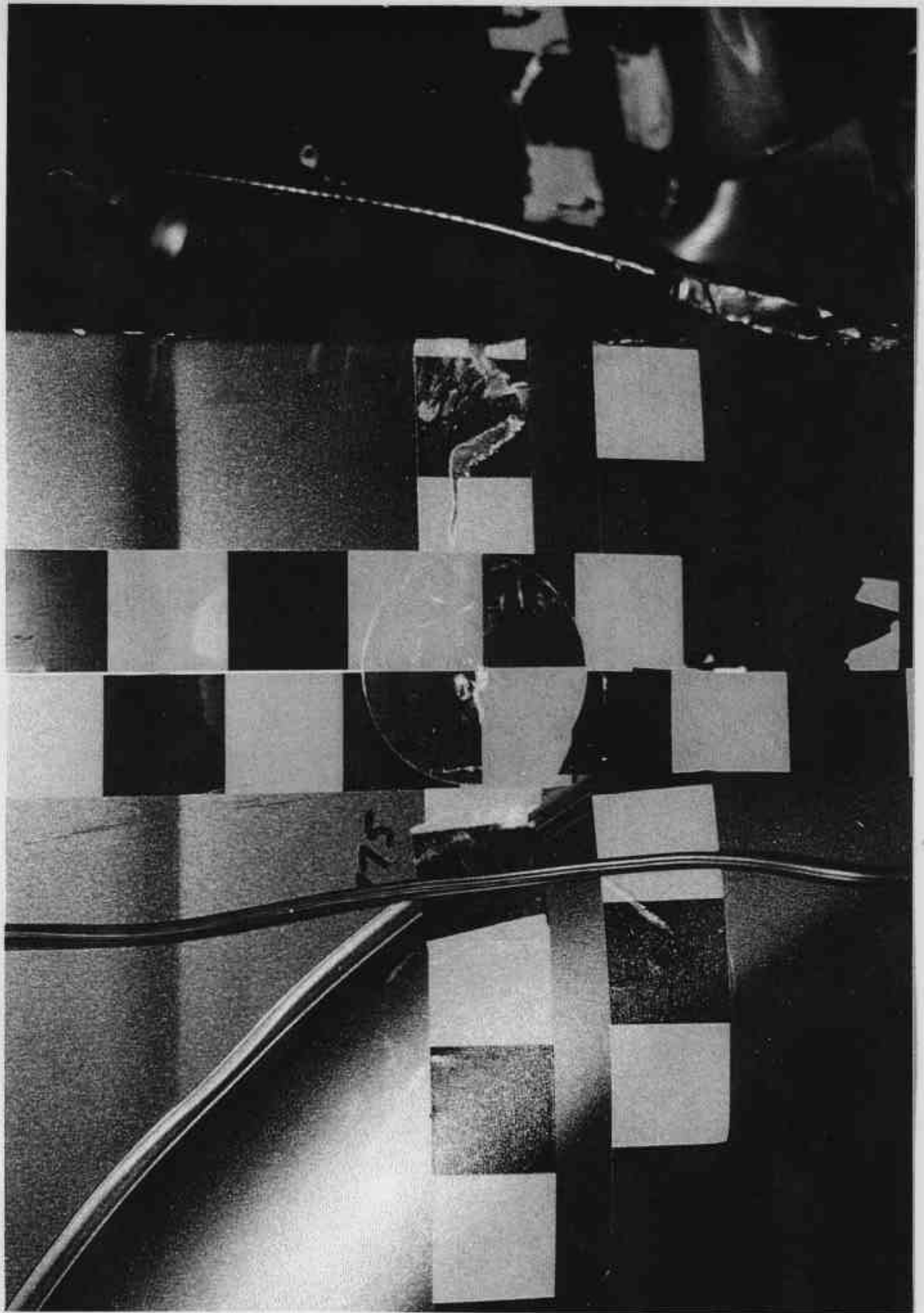


Figure A-31 POST-TEST CLOSE-UP VIEW OF IMPACT POINT TARGET

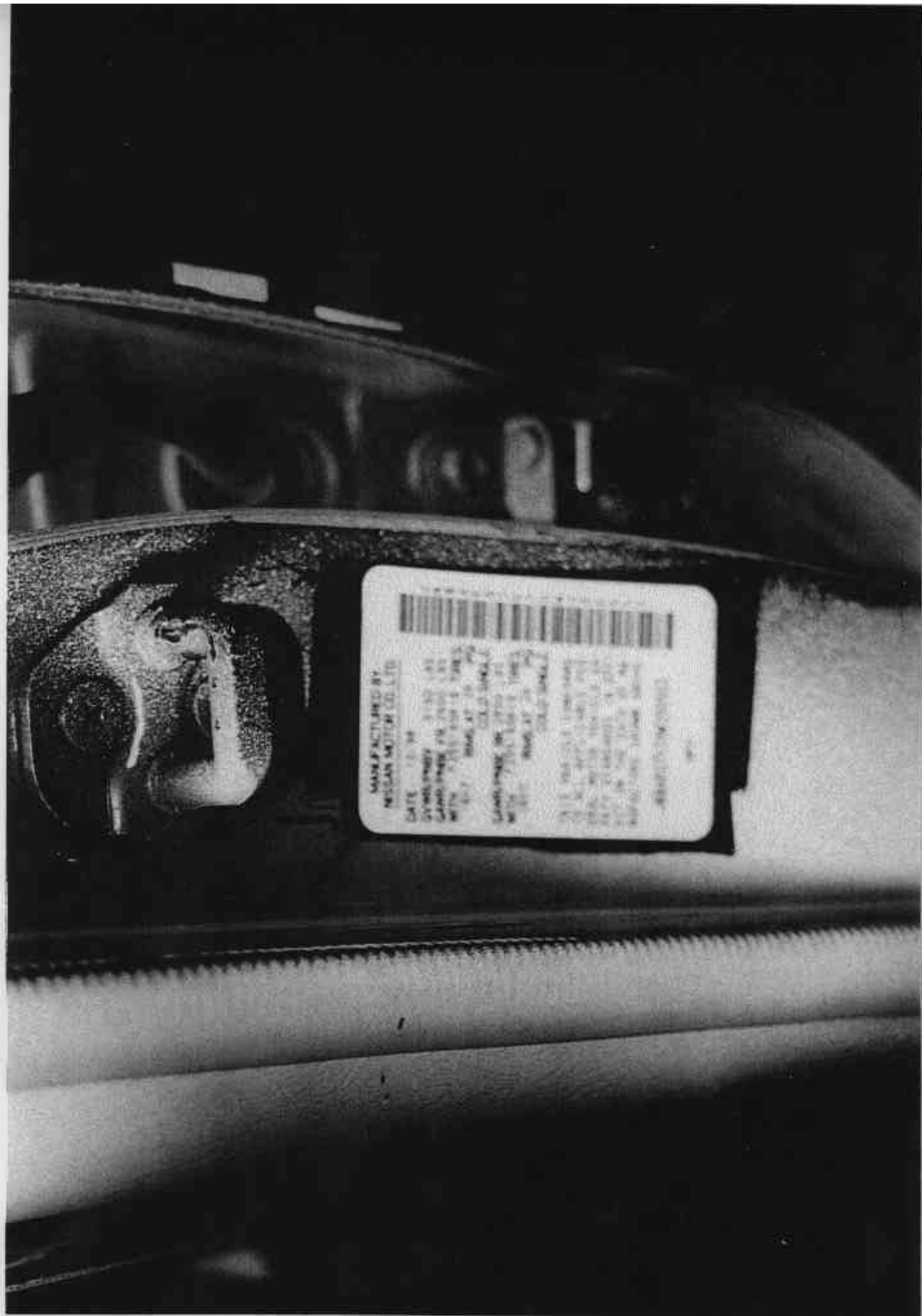


Figure A-32 CLOSE-UP VIEW OF VEHICLE'S CERTIFICATION LABEL

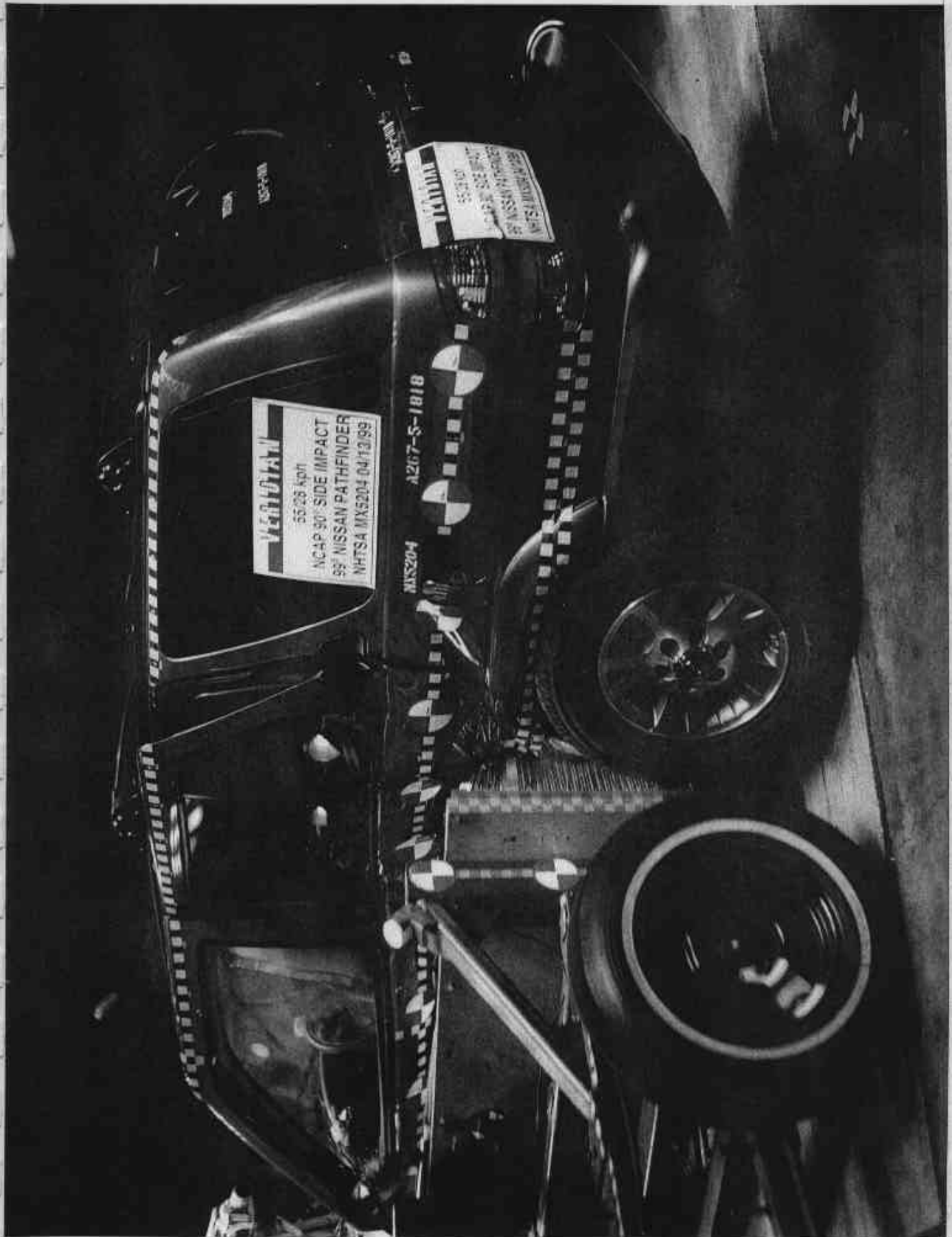


Figure A-34 IMPACT PHOTO

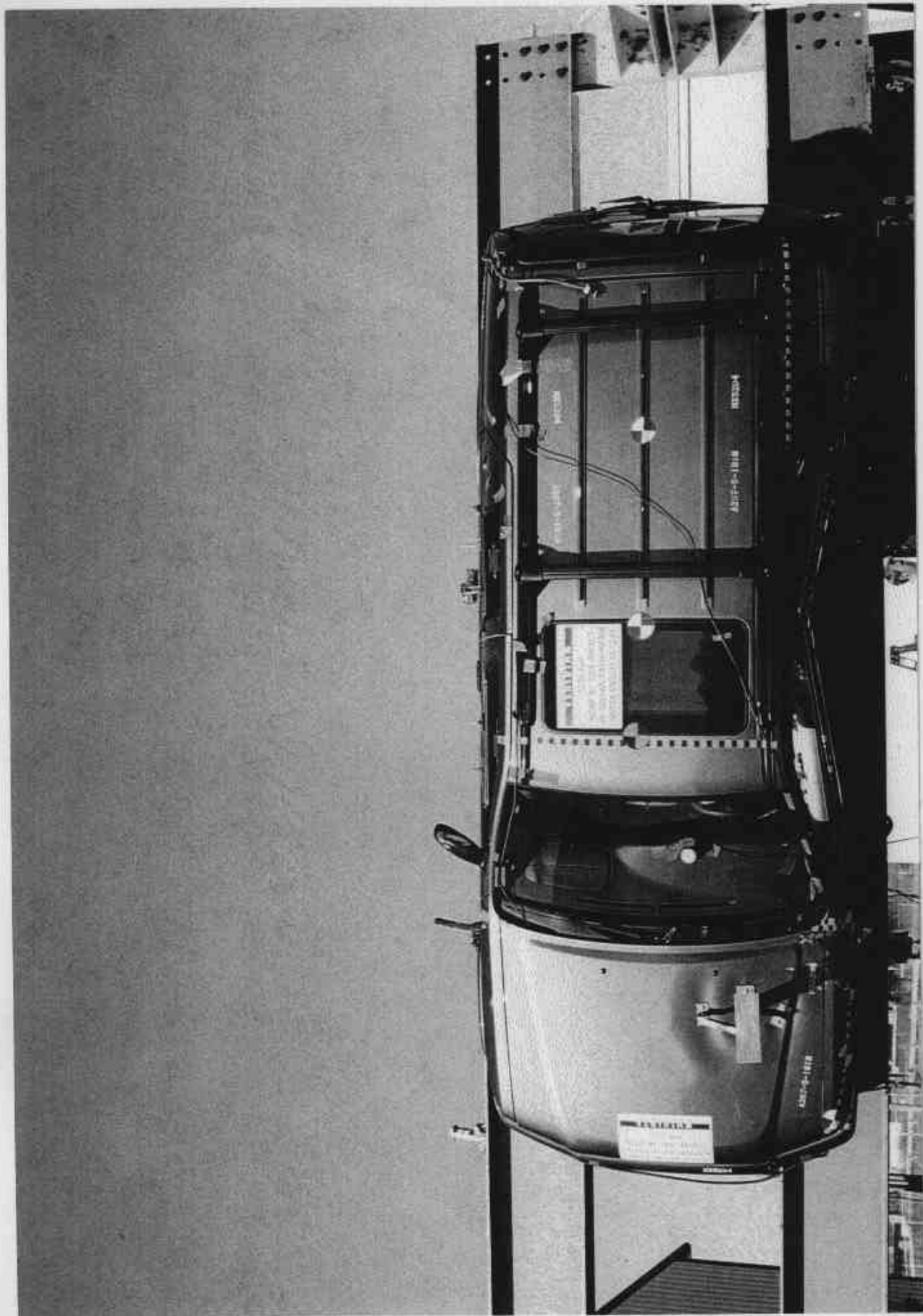


Figure A-35 ROLLOVER 90 DEGREES

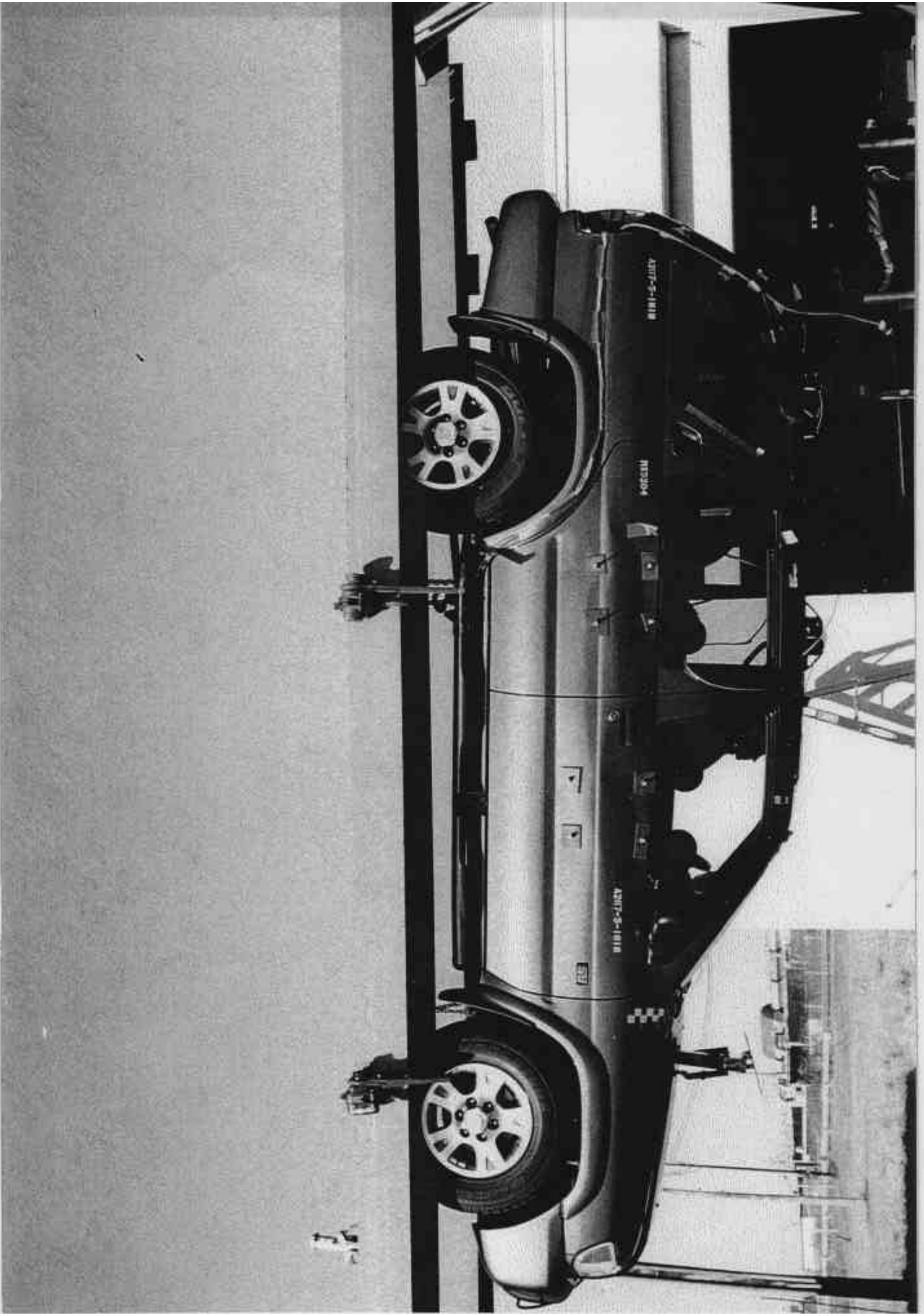


Figure A-36 ROLLOVER 180 DEGREES

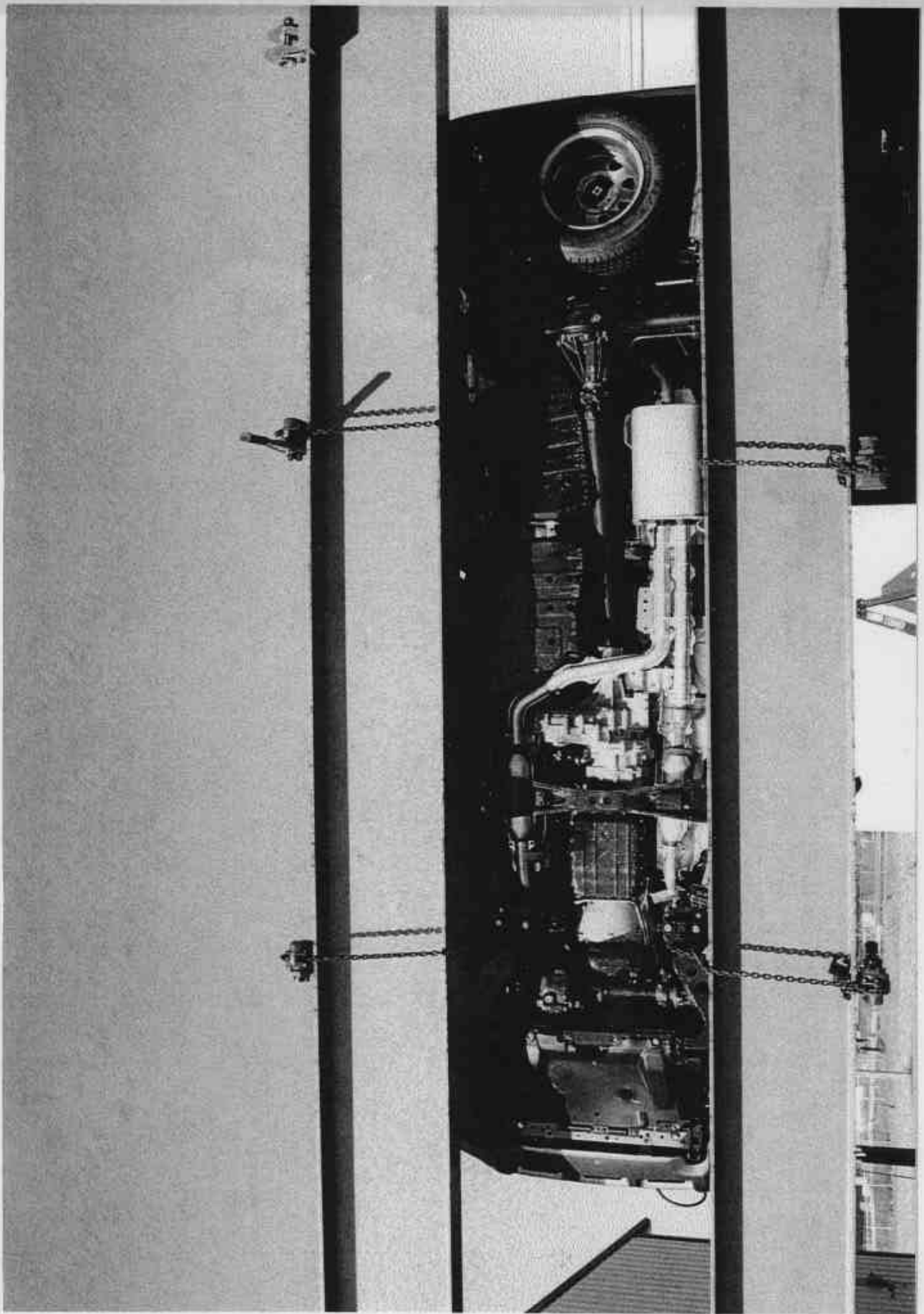


Figure A-37 ROLLOVER 270 DEGREES

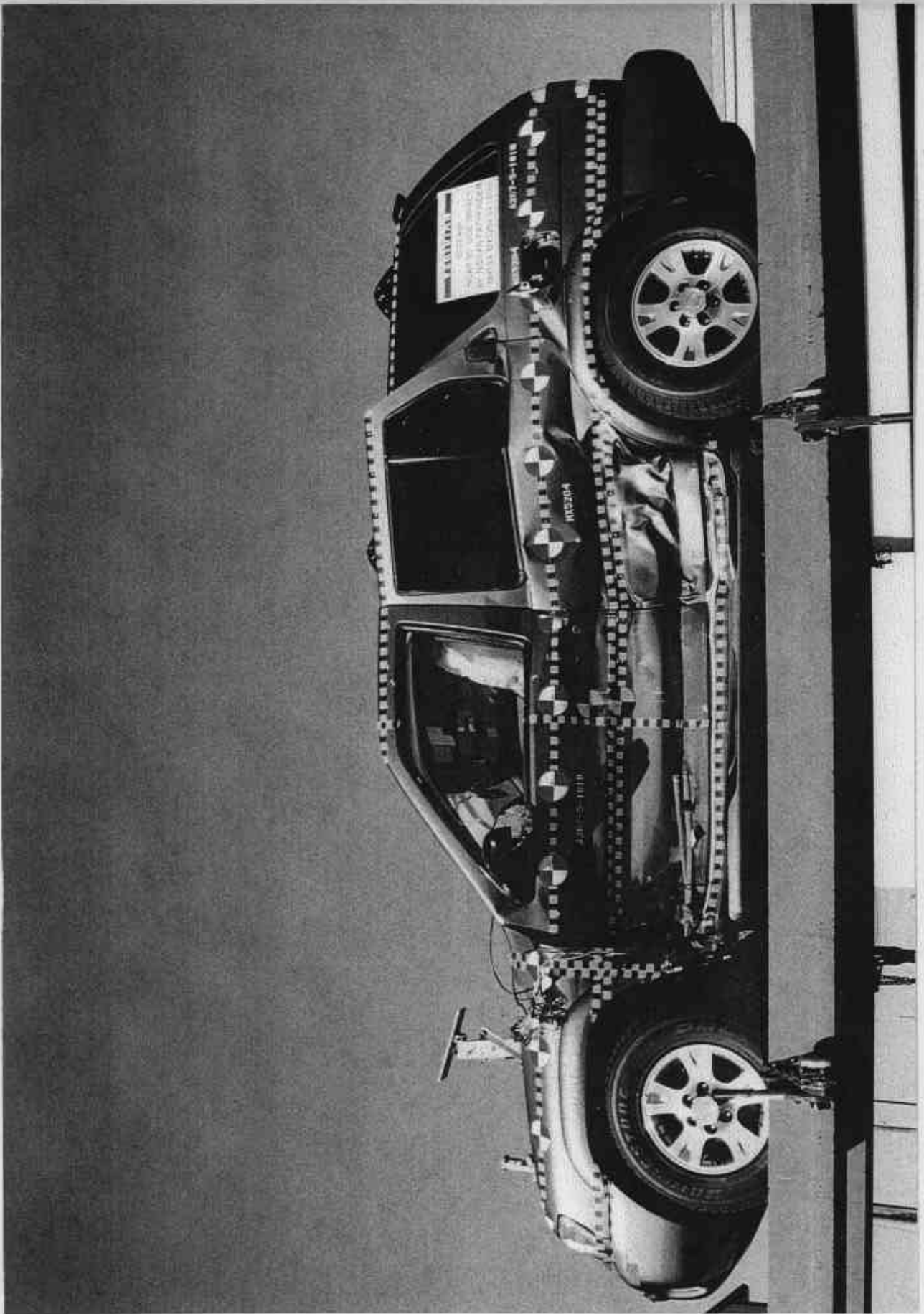


Figure A-38 ROLLOVER 360 DEGREES

PHOTOGRAPH NOT AVAILABLE

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 (Y) ACCELERATION VS TIME	B- 7
3	DRIVER HEAD (Z) ACCELERATION VS TIME	B- 8
4	DRIVER HEAD RESULTANT (R) ACCELERATION VS TIME	B- 9
5	DRIVER UPPER NECK FORCE (X) FORCE VS TIME	B- 10
6	DRIVER UPPER NECK FORCE (Y) FORCE VS TIME	B- 11
7	DRIVER UPPER NECK FORCE (Z) FORCE VS TIME	B- 12
8	DRIVER UPPER NECK FORCE RESULTANT (R) FORCE VS TIME	B- 13
9	DRIVER UPPER NECK MOMENT (X) MOMENT VS TIME	B- 14
10	DRIVER UPPER NECK MOMENT (Y) MOMENT VS TIME	B- 15
11	DRIVER UPPER NECK MOMENT (Z) MOMENT VS TIME	B- 16
12	DRIVER UPPER NECK MOMENT RESULTANT (R) MOMENT VS TIME	B- 17
13	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 18
14	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 19
15	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 20
16	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 21
17	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 22
18	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 23
19	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 24
20	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 25
21	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 26
22	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 27
23	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 28
24	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 29
25	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 30
26	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 31
27	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 32
28	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 33

**DRIVER & PASSENGER DUMMY INSTRUMENTATION PLOTS
ACCELERATION DATA - FIR FILTERED**

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

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>
37	RIGHT SIDE SILL AT FRONT SEAT (X) ACCELERATION VS TIME	B- 42
38	RIGHT SIDE SILL AT FRONT SEAT (X) VELOCITY VS TIME	B- 43
39	RIGHT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 44
40	RIGHT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 45
41	RIGHT SIDE SILL AT FRONT SEAT (Z) ACCELERATION VS TIME	B- 46
42	RIGHT SIDE SILL AT FRONT SEAT (Z) VELOCITY VS TIME	B- 47
43	RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION VS TIME	B- 48
44	RIGHT SIDE SILL AT REAR SEAT (X) ACCELERATION VS TIME	B- 49
45	RIGHT SIDE SILL AT REAR SEAT (X) VELOCITY VS TIME	B- 50
46	RIGHT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 51
47	RIGHT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 52
48	RIGHT SIDE SILL AT REAR SEAT (Z) ACCELERATION VS TIME	B- 53
49	RIGHT SIDE SILL AT REAR SEAT (Z) VELOCITY VS TIME	B- 54
50	RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION VS TIME	B- 55
51	REAR FLOORPAN ABOVE AXLE (X) ACCELERATION VS TIME	B- 56
52	REAR FLOORPAN ABOVE AXLE (X) VELOCITY VS TIME	B- 57
53	REAR FLOORPAN ABOVE AXLE (Y) ACCELERATION VS TIME	B- 58
54	REAR FLOORPAN ABOVE AXLE (Y) VELOCITY VS TIME	B- 59
55	REAR FLOORPAN ABOVE AXLE (Z) ACCELERATION VS TIME	B- 60
56	REAR FLOORPAN ABOVE AXLE (Z) VELOCITY VS TIME	B- 61
57	REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION VS TIME	B- 62
58	LEFT SIDE SILL AT REAR SEAT (Y) ACCELERATION VS TIME	B- 63
59	LEFT SIDE SILL AT REAR SEAT (Y) VELOCITY VS TIME	B- 64
60	LEFT SIDE SILL AT FRONT SEAT (Y) ACCELERATION VS TIME	B- 65
61	LEFT SIDE SILL AT FRONT SEAT (Y) VELOCITY VS TIME	B- 66
62	RIGHT REAR OCCUPANT COMPARTMENT (Y) ACCELERATION VS TIME	B- 67
63	RIGHT REAR OCCUPANT COMPARTMENT (Y) VELOCITY VS TIME	B- 68
64	LOWER B-POST (Y) ACCELERATION VS TIME	B- 69
65	LOWER B-POST (Y) VELOCITY VS TIME	B- 70
66	UPPER B-POST (Y) ACCELERATION VS TIME	B- 71
67	UPPER B-POST (Y) VELOCITY VS TIME	B- 72
68	LOWER A-POST (Y) ACCELERATION VS TIME	B- 73
69	LOWER A-POST (Y) VELOCITY VS TIME	B- 74
70	UPPER A-POST (Y) ACCELERATION VS TIME	B- 75
71	UPPER A-POST (Y) VELOCITY VS TIME	B- 76
72	FRONT SEAT TRACK (Y) ACCELERATION VS TIME	B- 77
73	FRONT SEAT TRACK (Y) VELOCITY VS TIME	B- 78
74	REAR SEAT TRACK (Y) ACCELERATION VS TIME	B- 79
75	REAR SEAT TRACK (Y) VELOCITY VS TIME	B- 80
76	VEHICLE CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 81
77	VEHICLE CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 82
78	VEHICLE CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 83
79	VEHICLE CENTER OF GRAVITY (Y) VELOCITY ACCELERATION VS TIME	B- 84
80	VEHICLE CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 85
81	VEHICLE CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 86
82	VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 87

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>
83	MDB CENTER OF GRAVITY (X) ACCELERATION VS TIME	B- 88
84	MDB CENTER OF GRAVITY (X) VELOCITY VS TIME	B- 89
85	MDB CENTER OF GRAVITY (Y) ACCELERATION VS TIME	B- 90
86	MDB CENTER OF GRAVITY (Y) VELOCITY VS TIME	B- 91
87	MDB CENTER OF GRAVITY (Z) ACCELERATION VS TIME	B- 92
88	MDB CENTER OF GRAVITY (Z) VELOCITY VS TIME	B- 93
89	MDB CENTER OF GRAVITY RESULTANT ACCELERATION VS TIME	B- 94
90	MDB REAR (X) ACCELERATION VS TIME	B- 95
91	MDB REAR (X) VELOCITY VS TIME	B- 96
92	MDB REAR (Y) ACCELERATION VS TIME	B- 97
93	MDB REAR (Y) VELOCITY VS TIME	B- 98

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

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94	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 99
95	DRIVER UPPER RIB (Y) VELOCITY VS TIME	B- 100
96	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 101
97	DRIVER LOWER RIB (Y) VELOCITY VS TIME	B- 102
98	DRIVER LOWER SPINE (Y) ACCELERATION VS TIME	B- 103
99	DRIVER LOWER SPINE (Y) VELOCITY VS TIME	B- 104
100	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 105
101	DRIVER PELVIC (Y) VELOCITY VS TIME	B- 106
102	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 107
103	PASSENGER UPPER RIB (Y) VELOCITY VS TIME	B- 108
104	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 109
105	PASSENGER LOWER RIB (Y) VELOCITY VS TIME	B- 110
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107	PASSENGER LOWER SPINE (Y) VELOCITY VS TIME	B- 112
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109	PASSENGER PELVIC (Y) VELOCITY VS TIME	B- 114

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

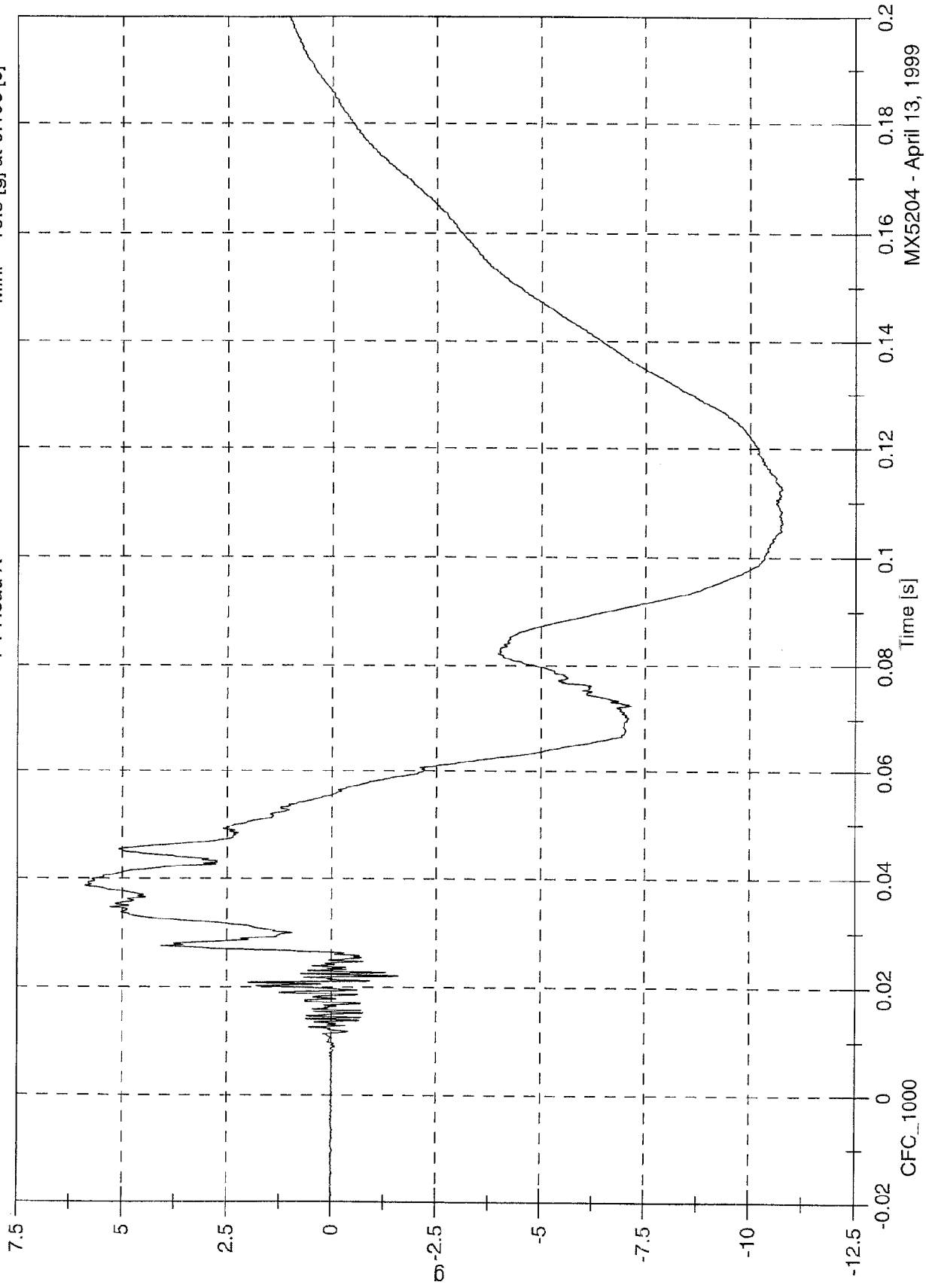
<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
110	DRIVER UPPER RIB (Y) ACCELERATION VS TIME	B- 115
111	DRIVER LOWER RIB (Y) ACCELERATION VS TIME	B- 116
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113	DRIVER PELVIC (Y) ACCELERATION VS TIME	B- 118
114	PASSENGER UPPER RIB (Y) ACCELERATION VS TIME	B- 119
115	PASSENGER LOWER RIB (Y) ACCELERATION VS TIME	B- 120
116	PASSENGER LOWER SPINE (Y) ACCELERATION VS TIME	B- 121
117	PASSENGER PELVIC (Y) ACCELERATION VS TIME	B- 122

SNCAP Test # 5 - 1999 Nissan Pathfinder

P1 Head X

Max: 5.9 [g] at 0.039 [s]

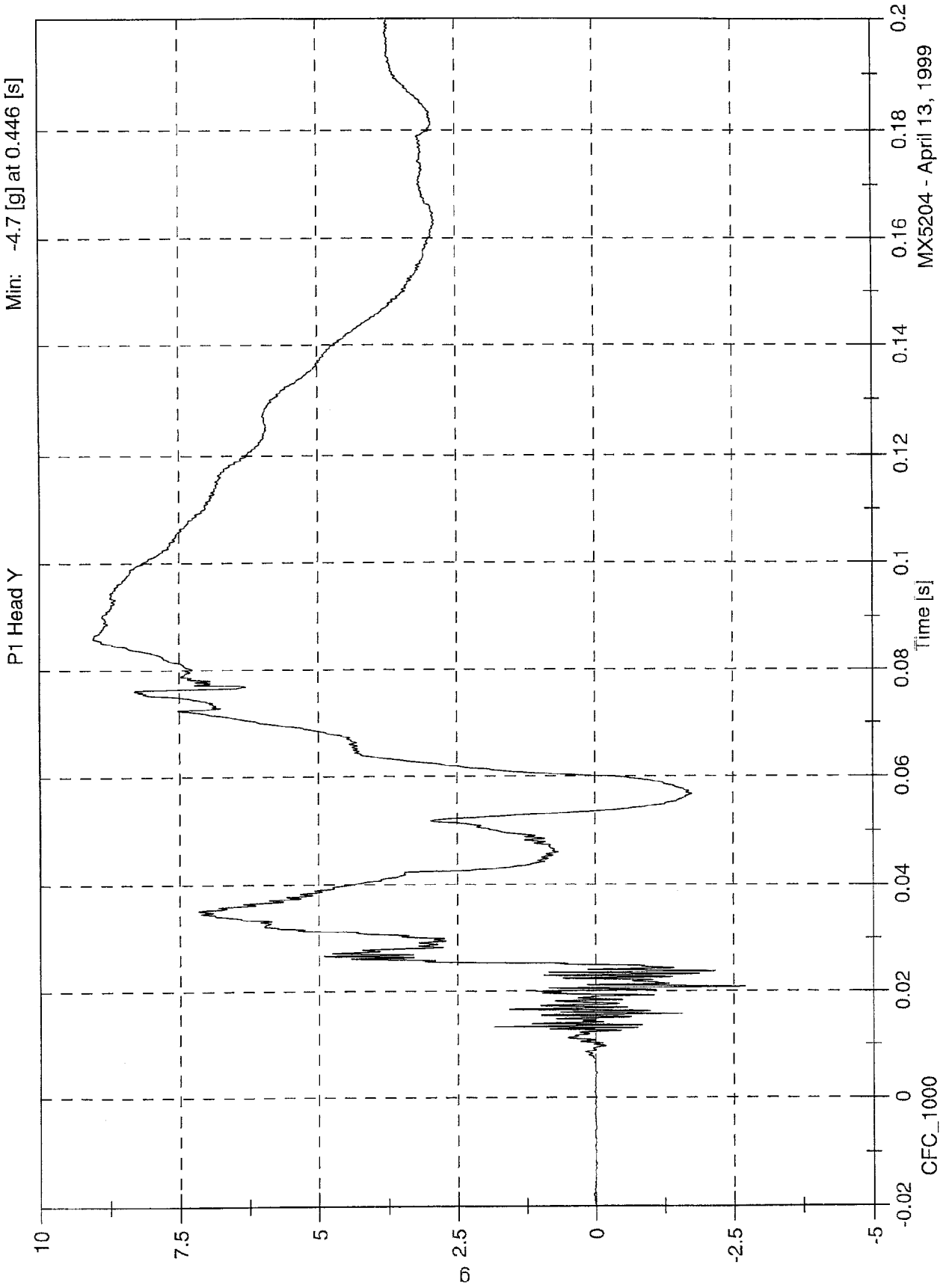
Min: -10.8 [g] at 0.106 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 9.0 [g] at 0.086 [s]
Min: -4.7 [g] at 0.446 [s]



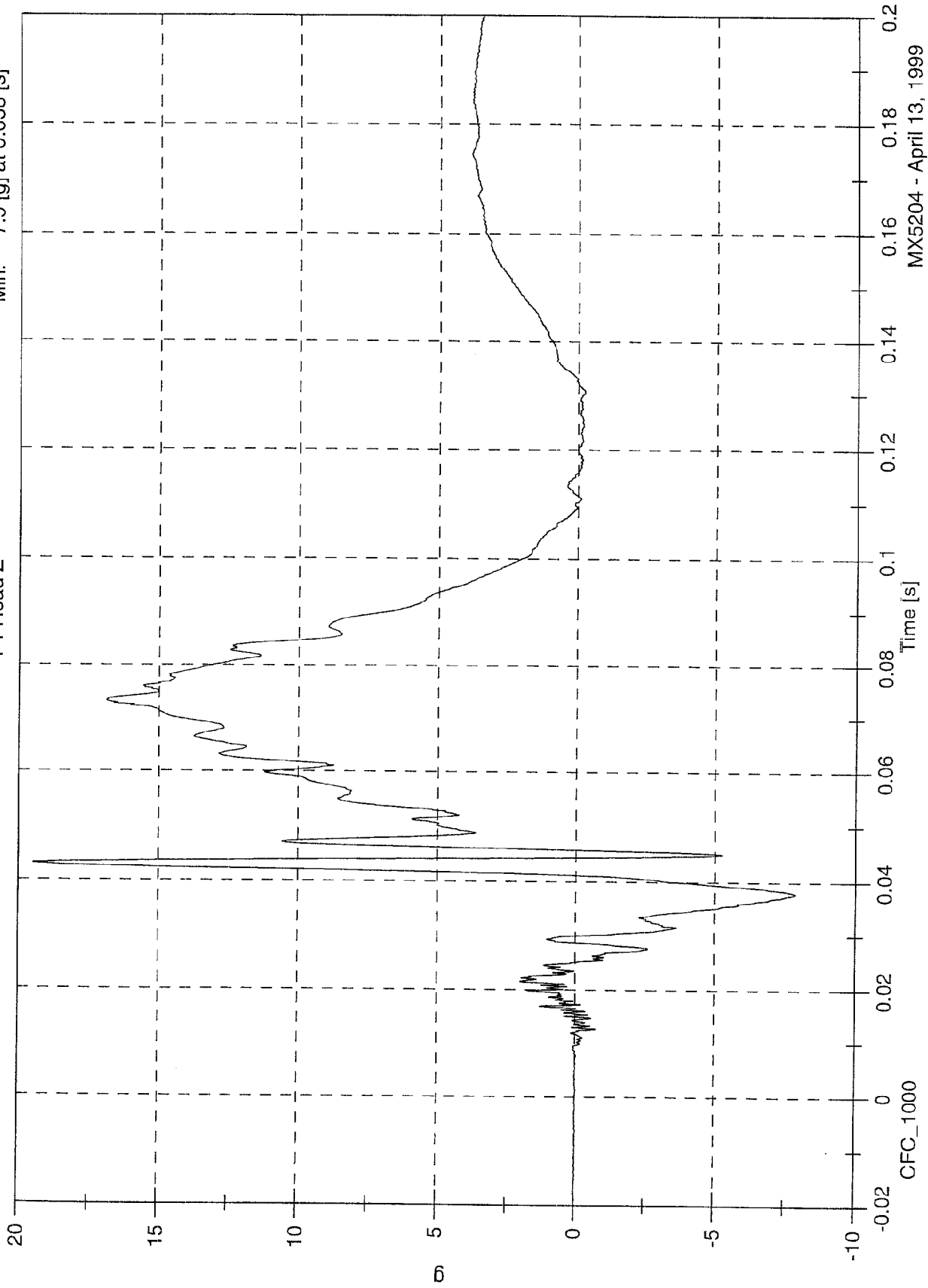
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

P1 Head Z

Max: 19.5 [g] at 0.043 [s]

Min: -7.9 [g] at 0.038 [s]



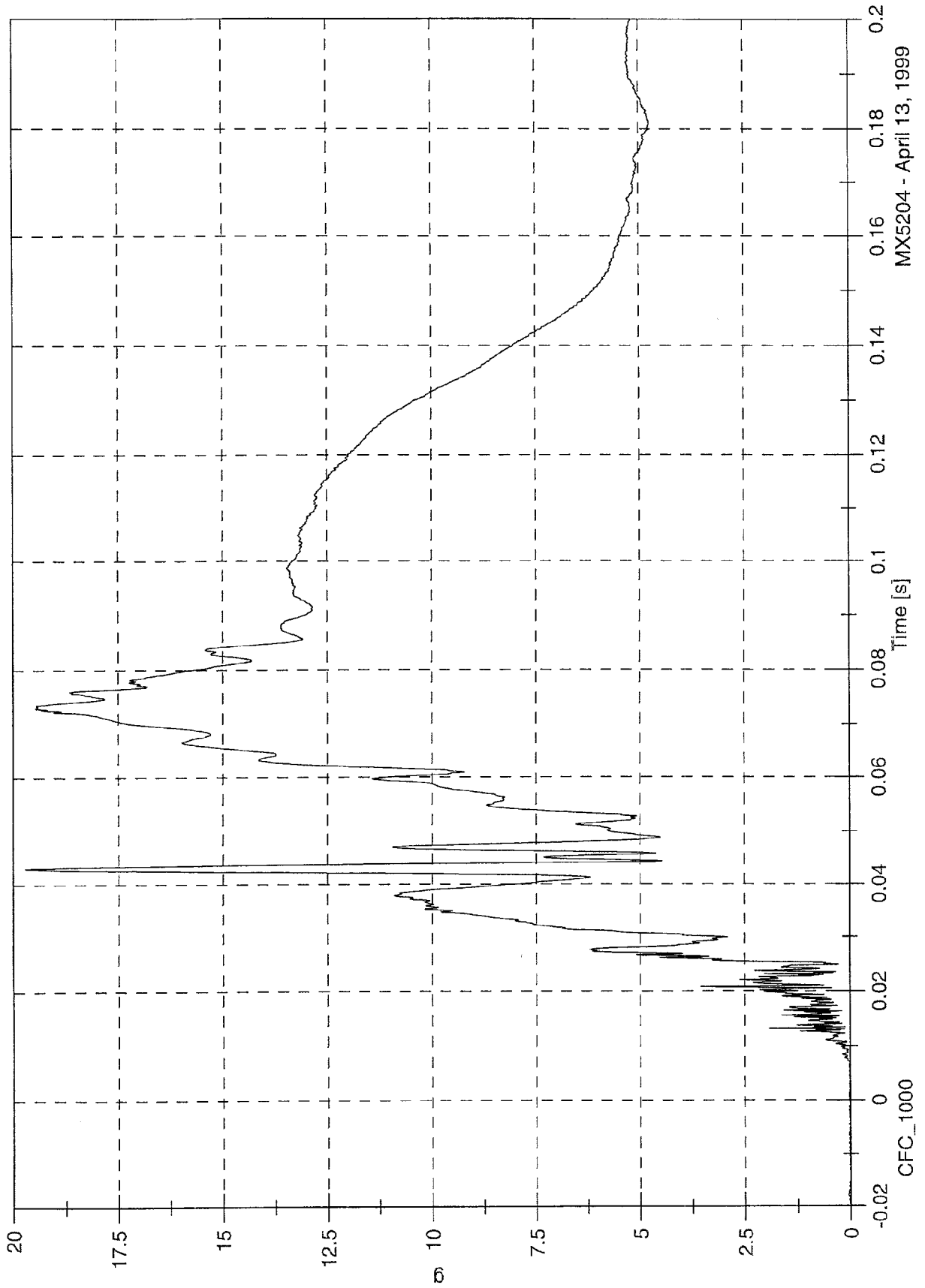
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 19.7 [g] at 0.043 [s]

Min: 0.0 [g] at -0.047 [s]

P1 Head Resultant



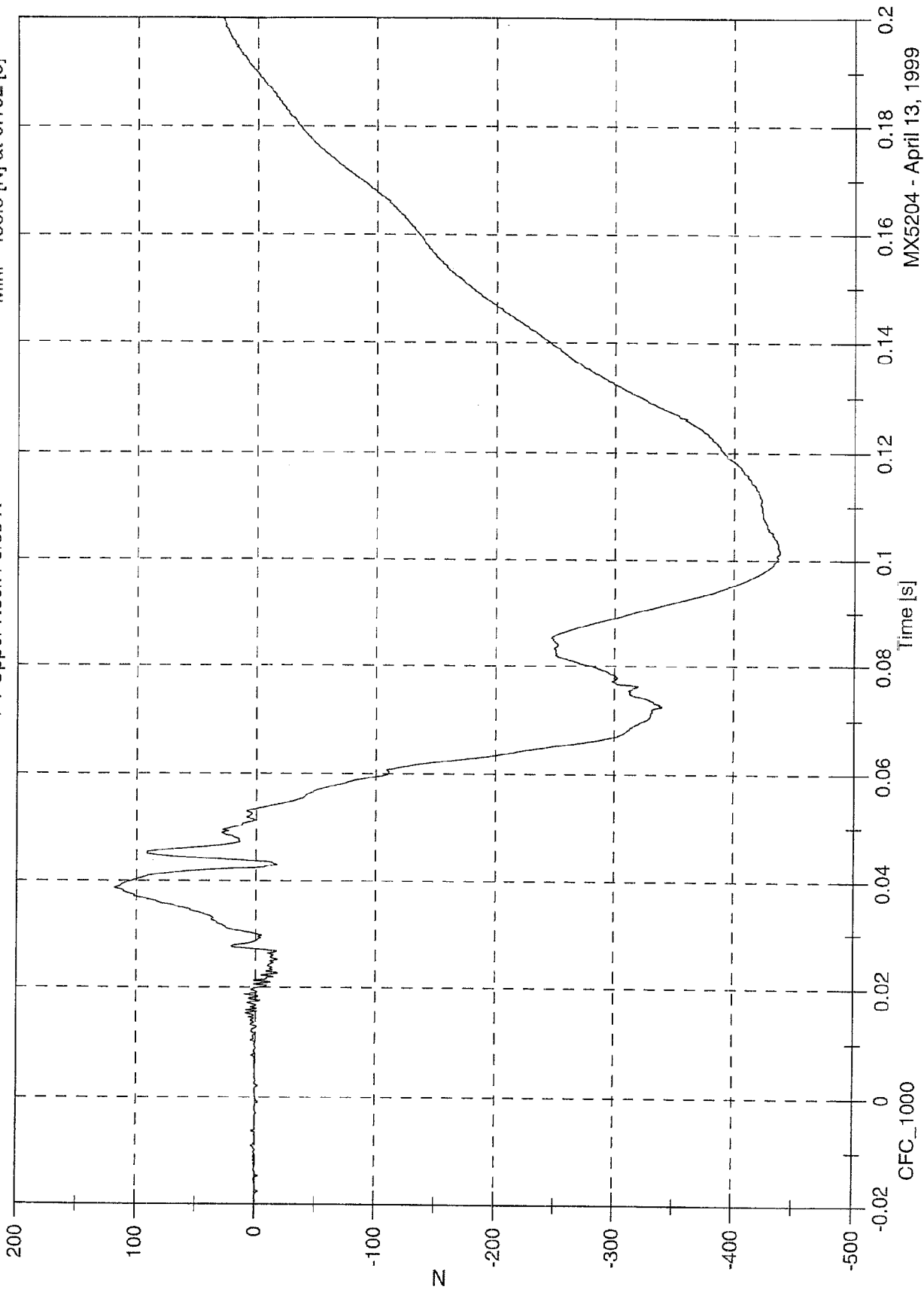
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

P1 Upper Neck Force X

Max: 118.2 [N] at 0.039 [s]

Min: -438.3 [N] at 0.102 [s]



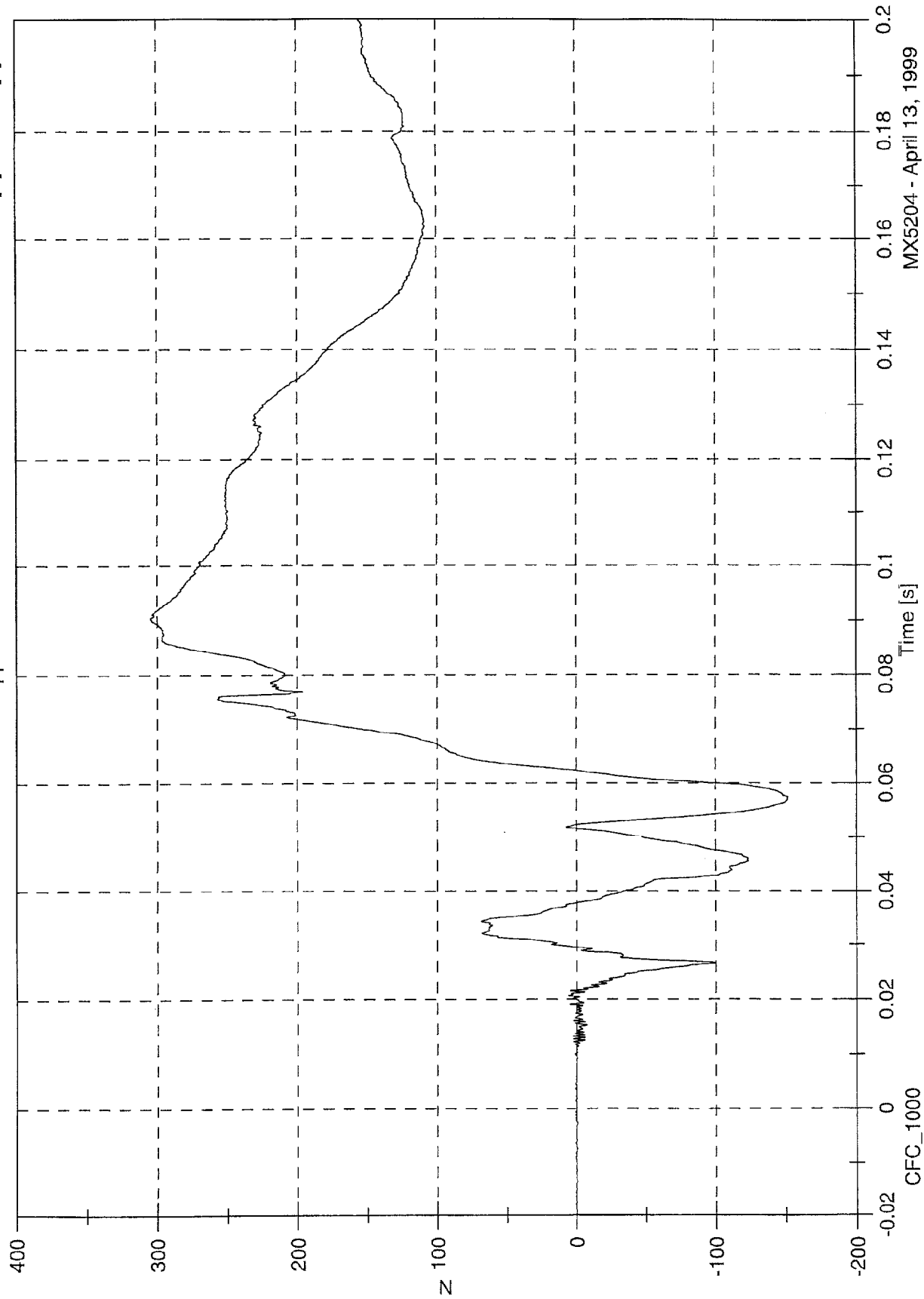
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 304.5 [N] at 0.090 [s]

Min: -151.8 [N] at 0.057 [s]

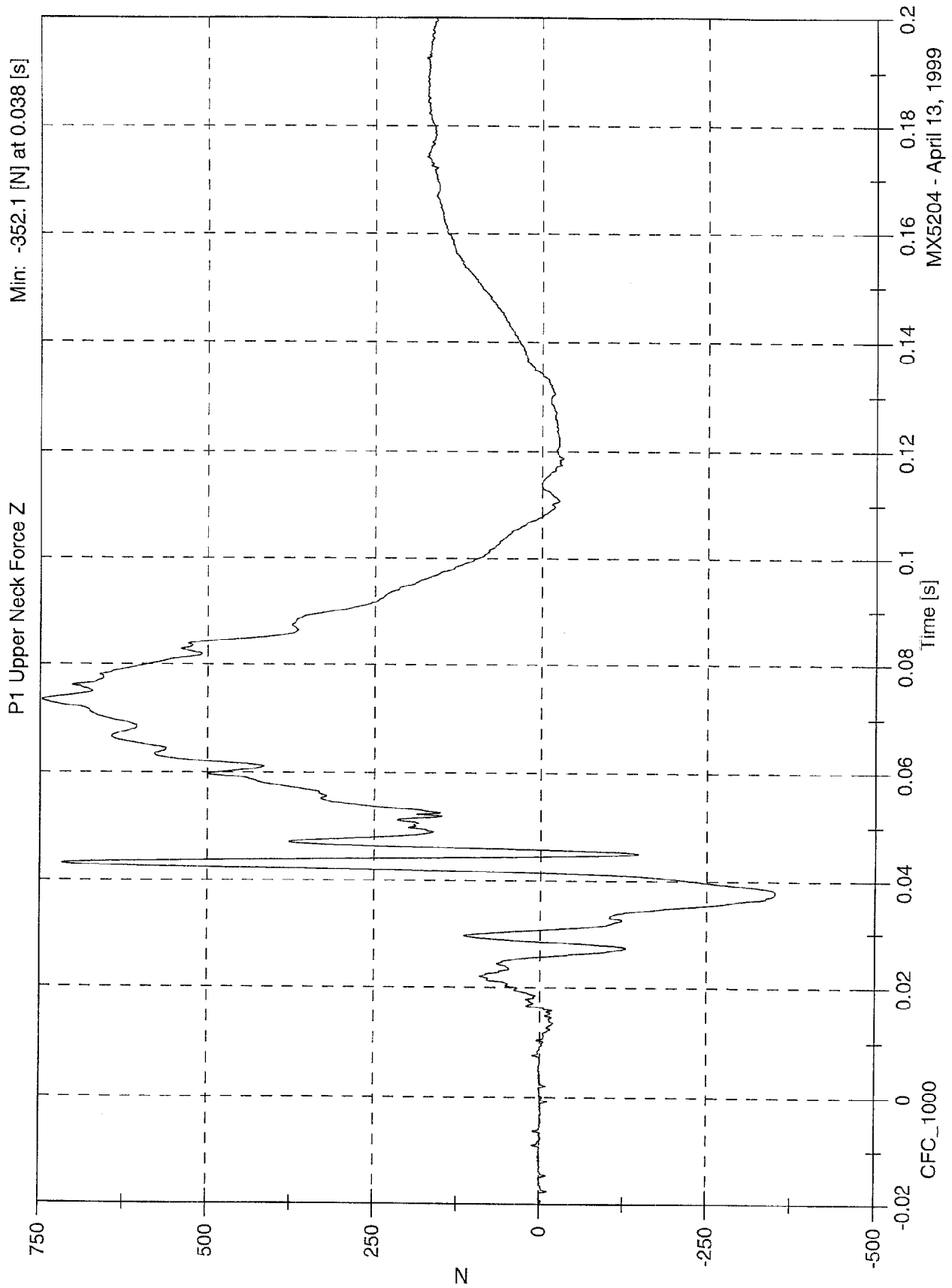
P1 Upper Neck Force Y



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 747.1 [N] at 0.073 [s]
Min: -352.1 [N] at 0.038 [s]



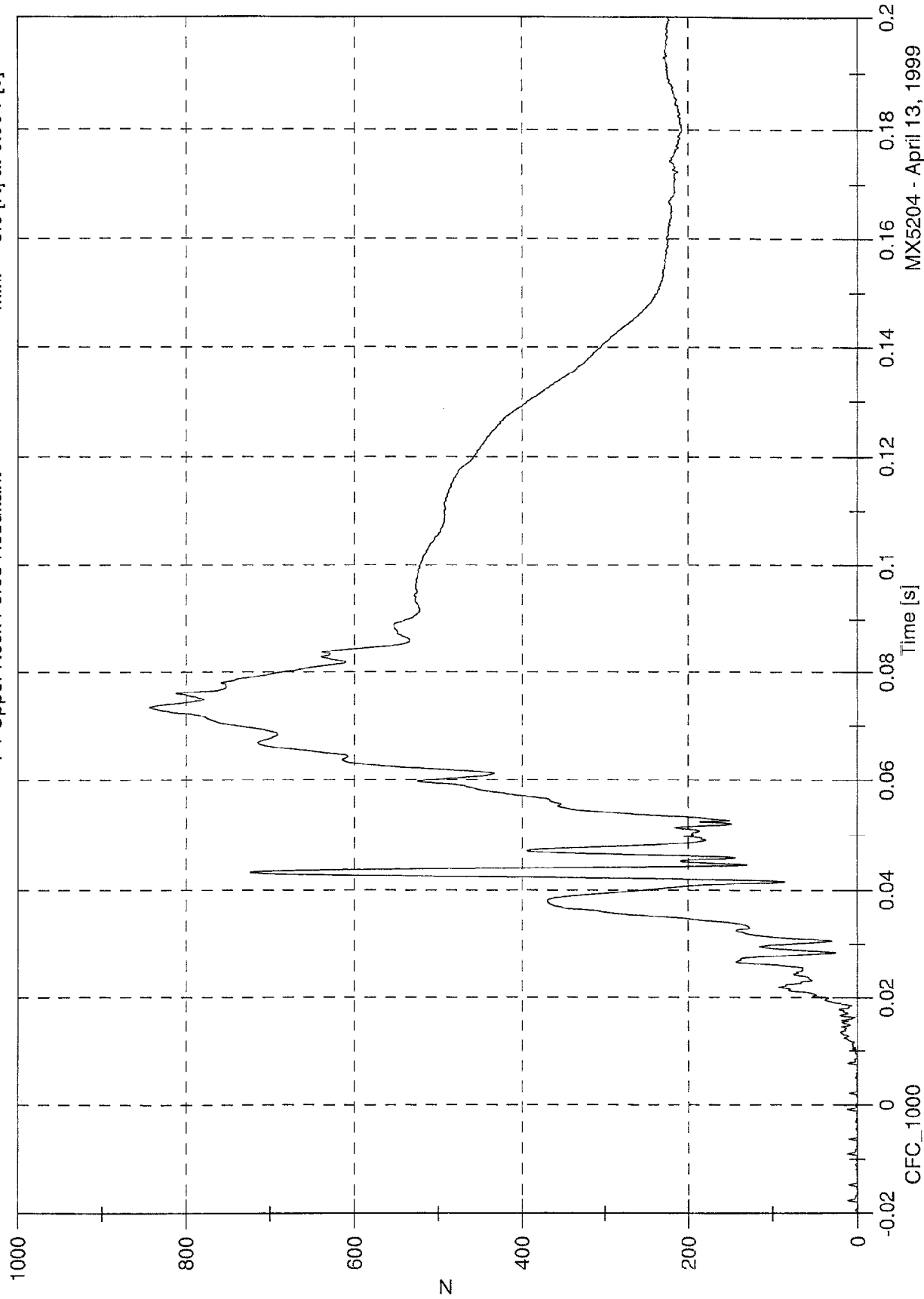
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 844.0 [N] at 0.073 [s]

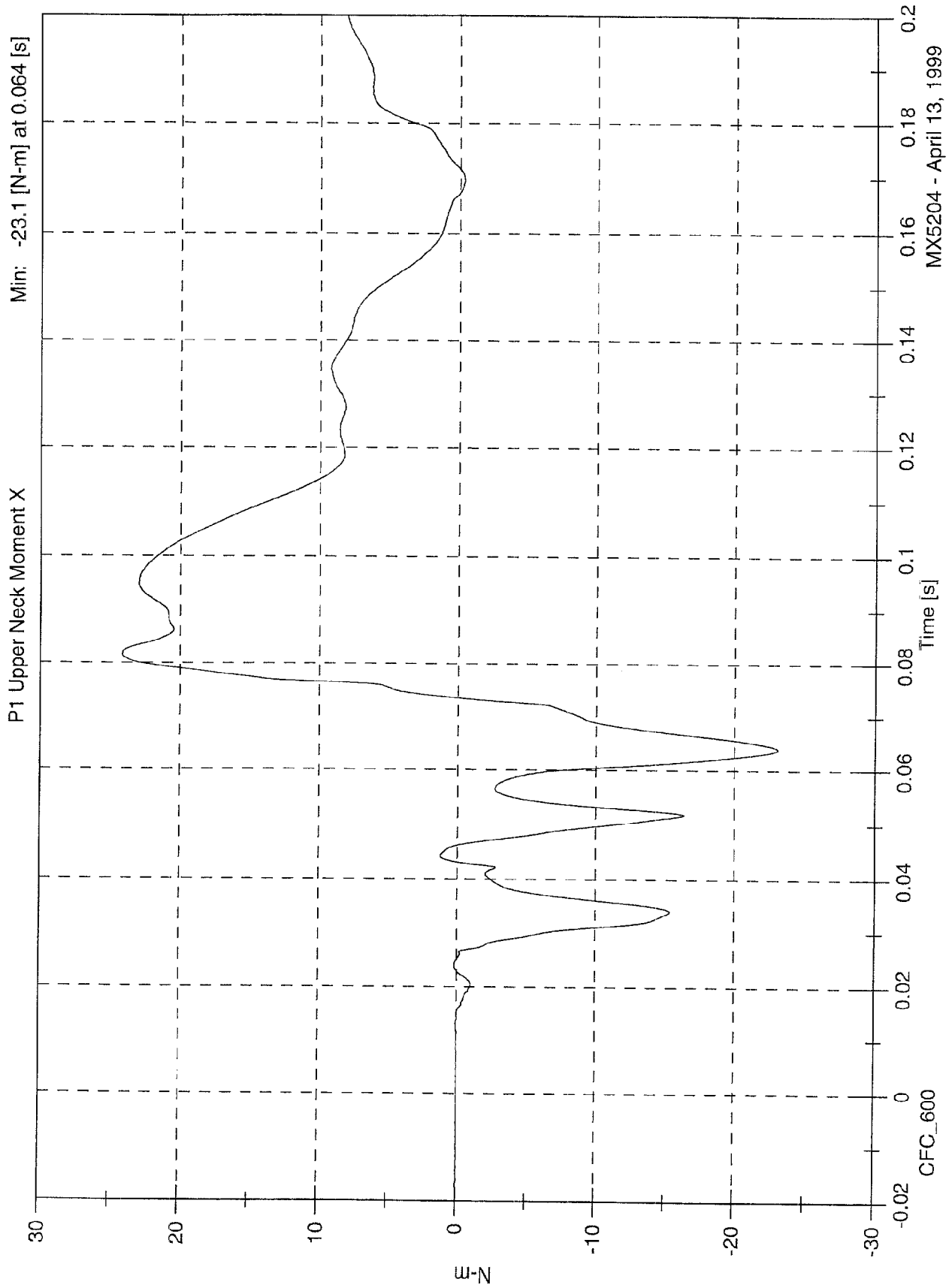
Min: 0.0 [N] at 0.001 [s]

P1 Upper Neck Force Resultant



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

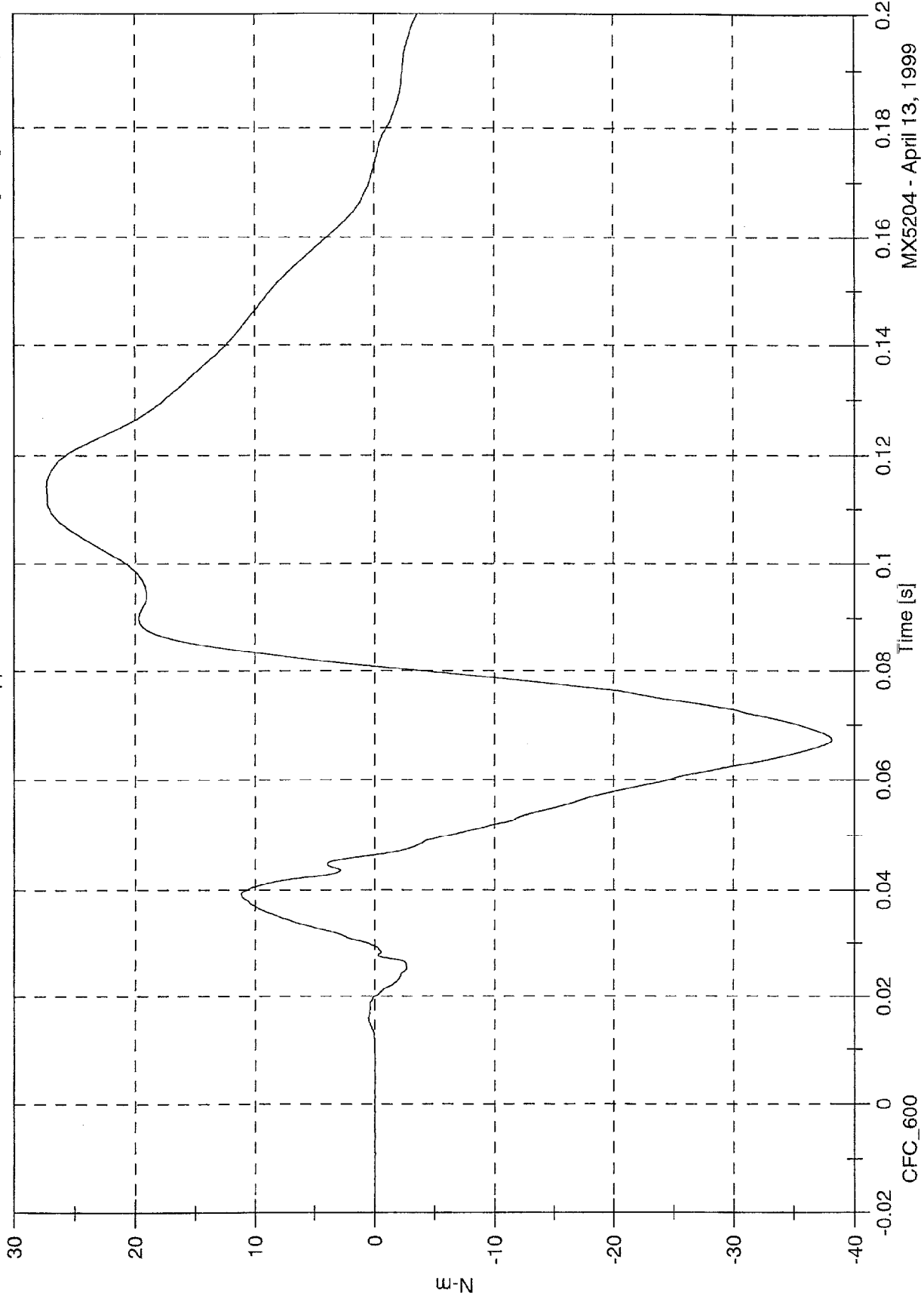


SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 27.4 [N-m] at 0.114 [s]

Min: -38.1 [N-m] at 0.067 [s]

P1 Upper Neck Moment Y



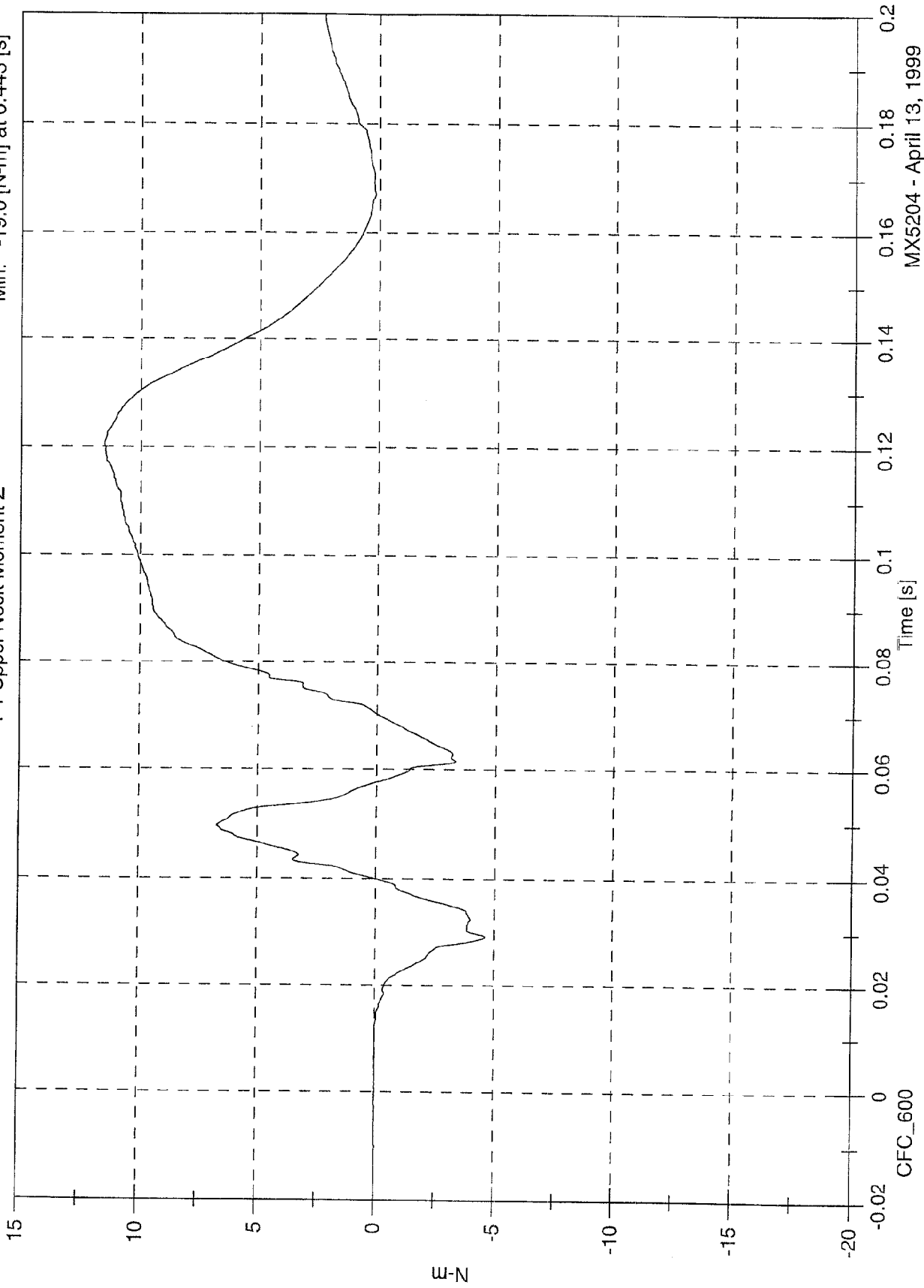
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

P1 Upper Neck Moment Z

Max: 11.5 [N-m] at 0.120 [s]

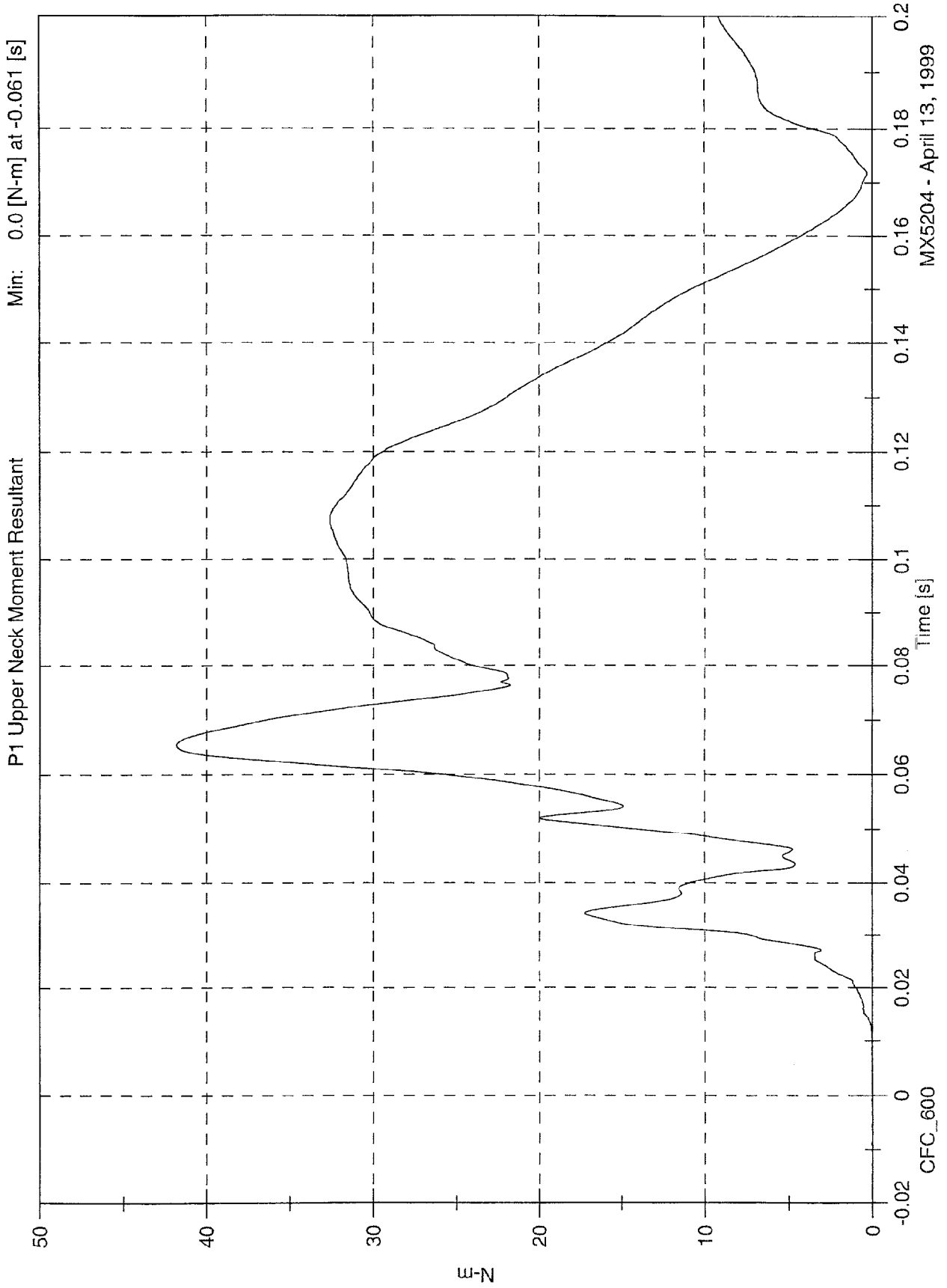
Min: -19.0 [N-m] at 0.443 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 41.8 [N-m] at 0.065 [s]
Min: 0.0 [N-m] at -0.061 [s]

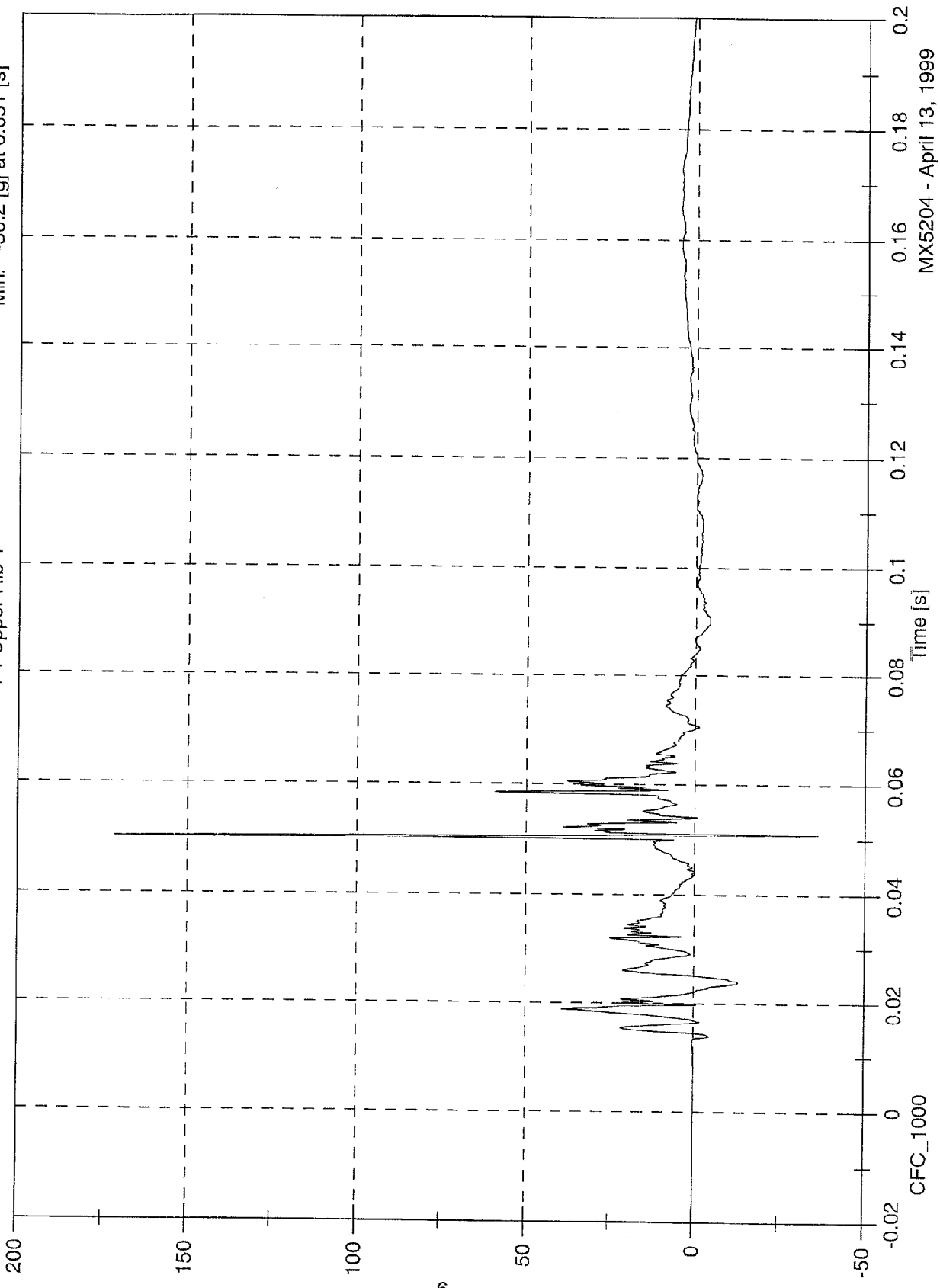


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 171.5 [g] at 0.050 [s]
Min: -36.2 [g] at 0.051 [s]

P1 Upper Rib Y

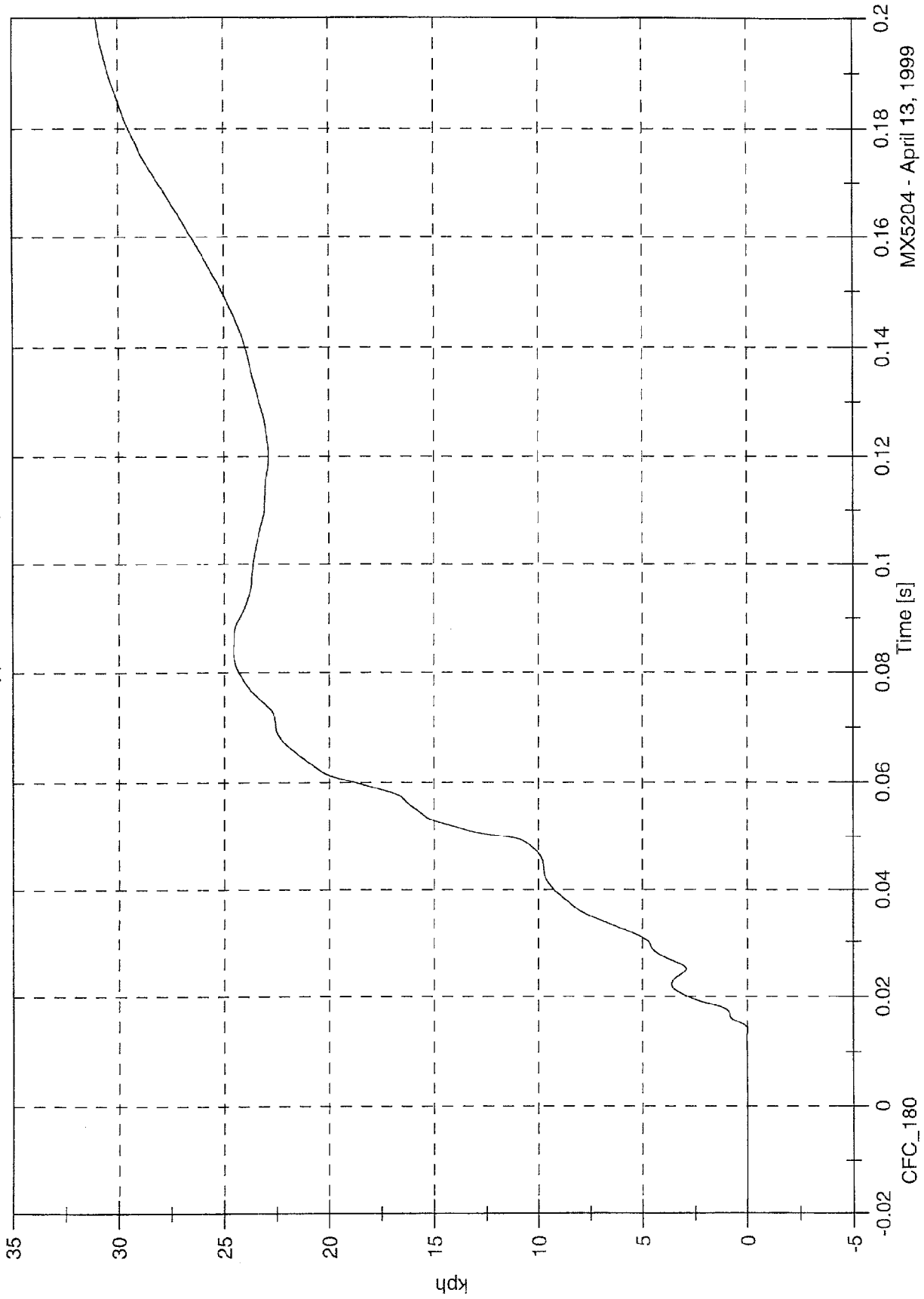


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 33.2 [kph] at 0.334 [s]
Min: -0.0 [kph] at 0.014 [s]

P1 Upper Rib Y Velocity

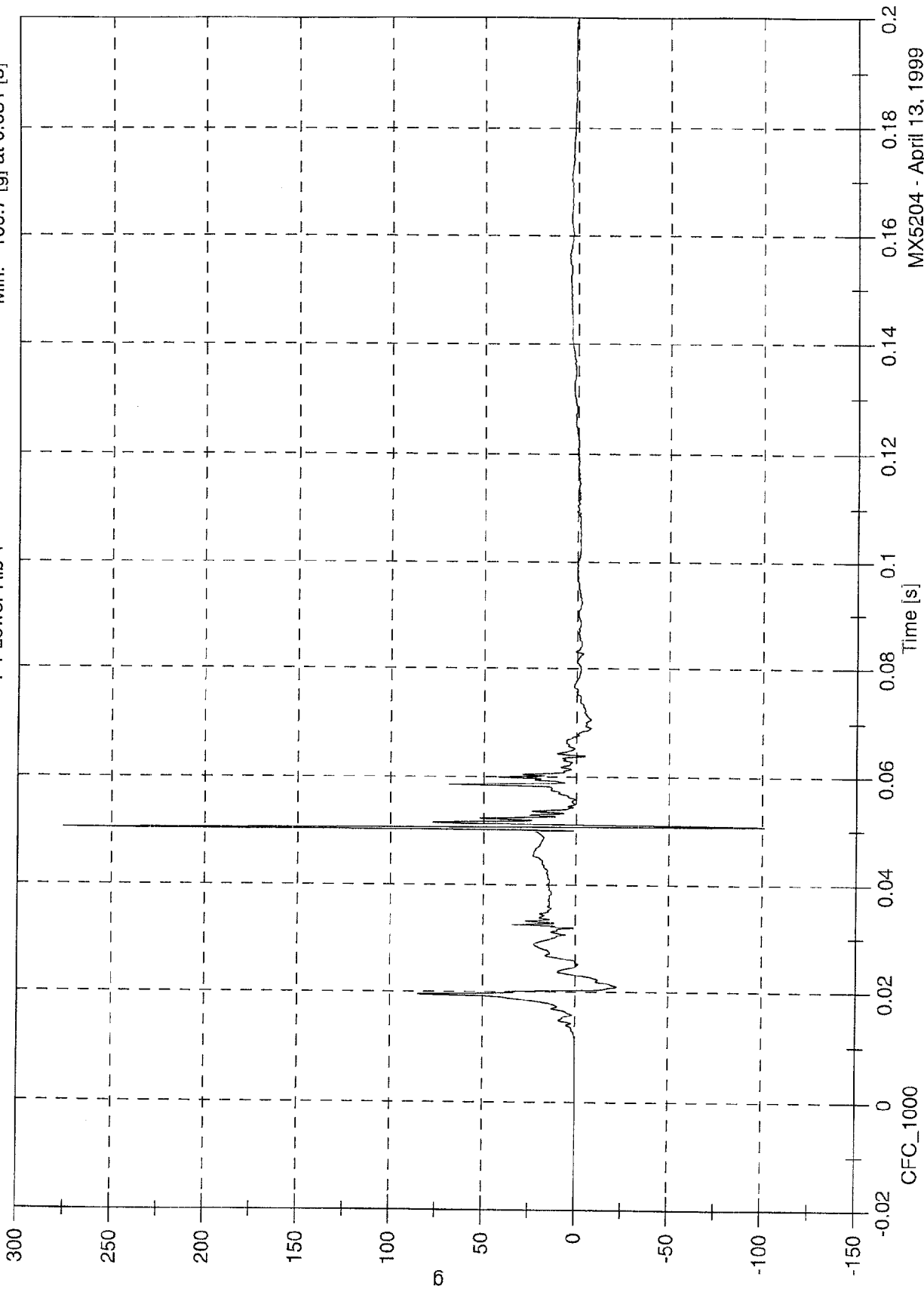


CFC_180

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 275.5 [g] at 0.051 [s]
Min: -100.7 [g] at 0.051 [s]

P1 Lower Rib Y



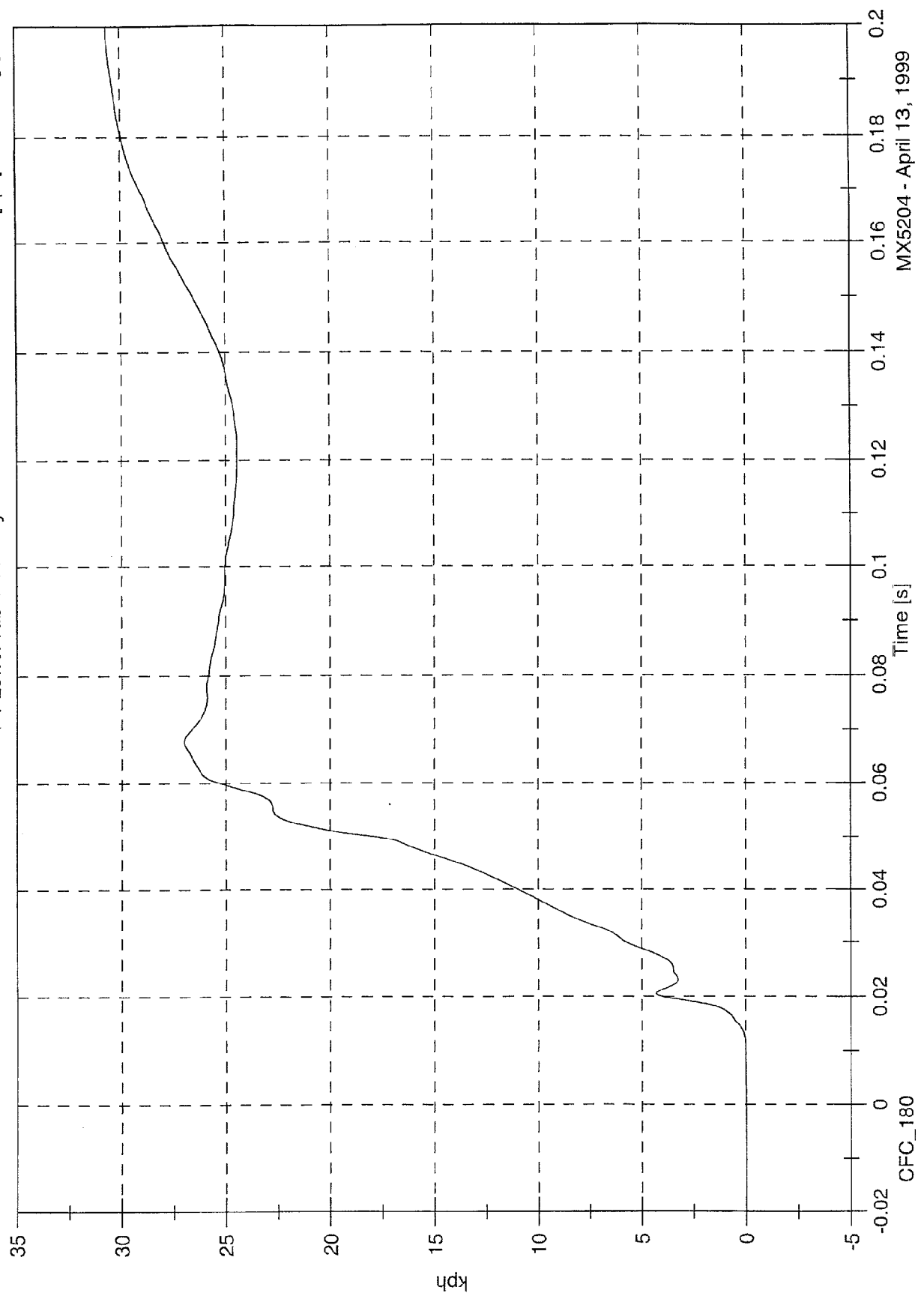
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 32.4 [kph] at 0.335 [s]

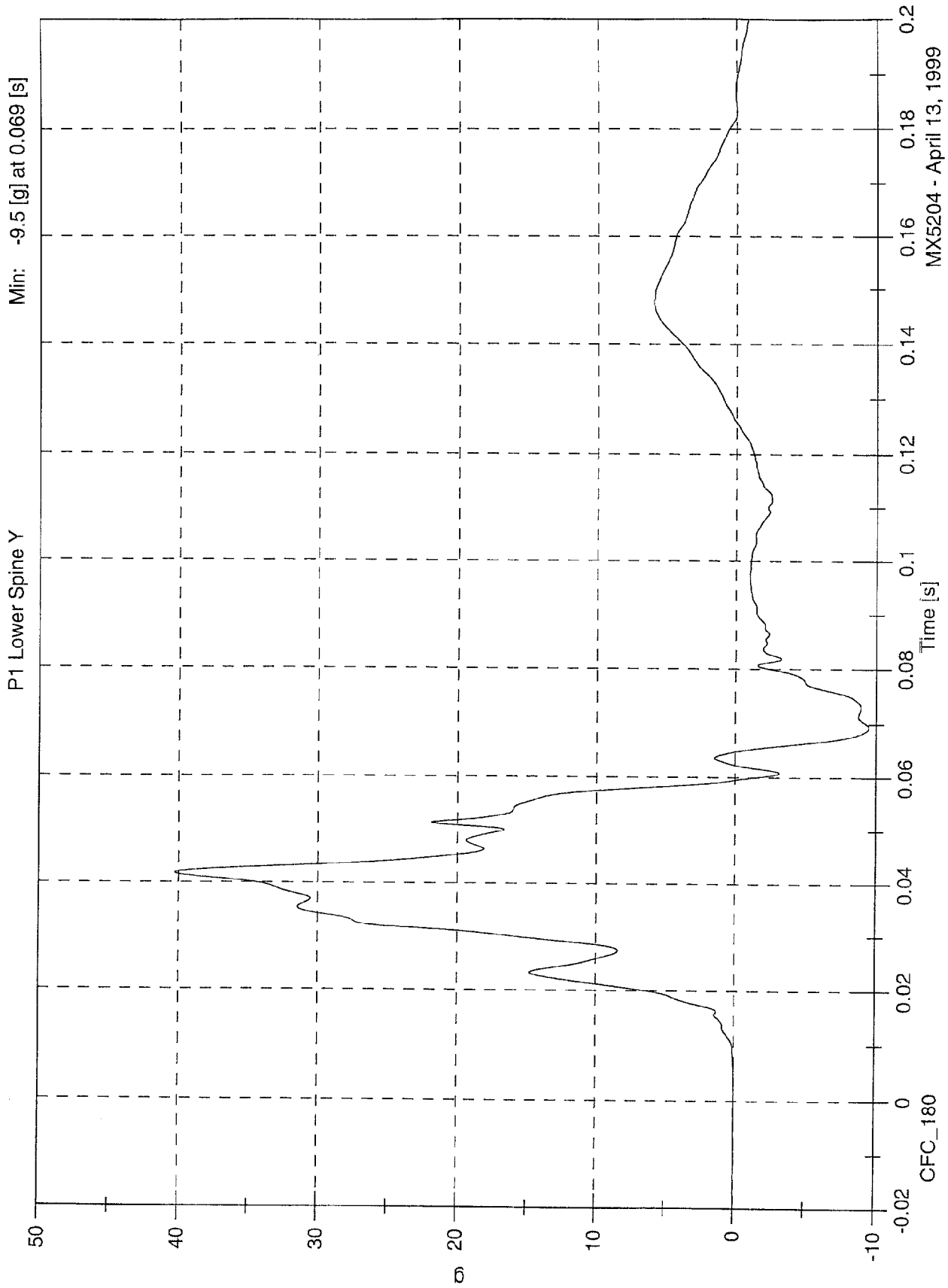
Min: -0.0 [kph] at -0.045 [s]

P1 Lower Rib Y Velocity



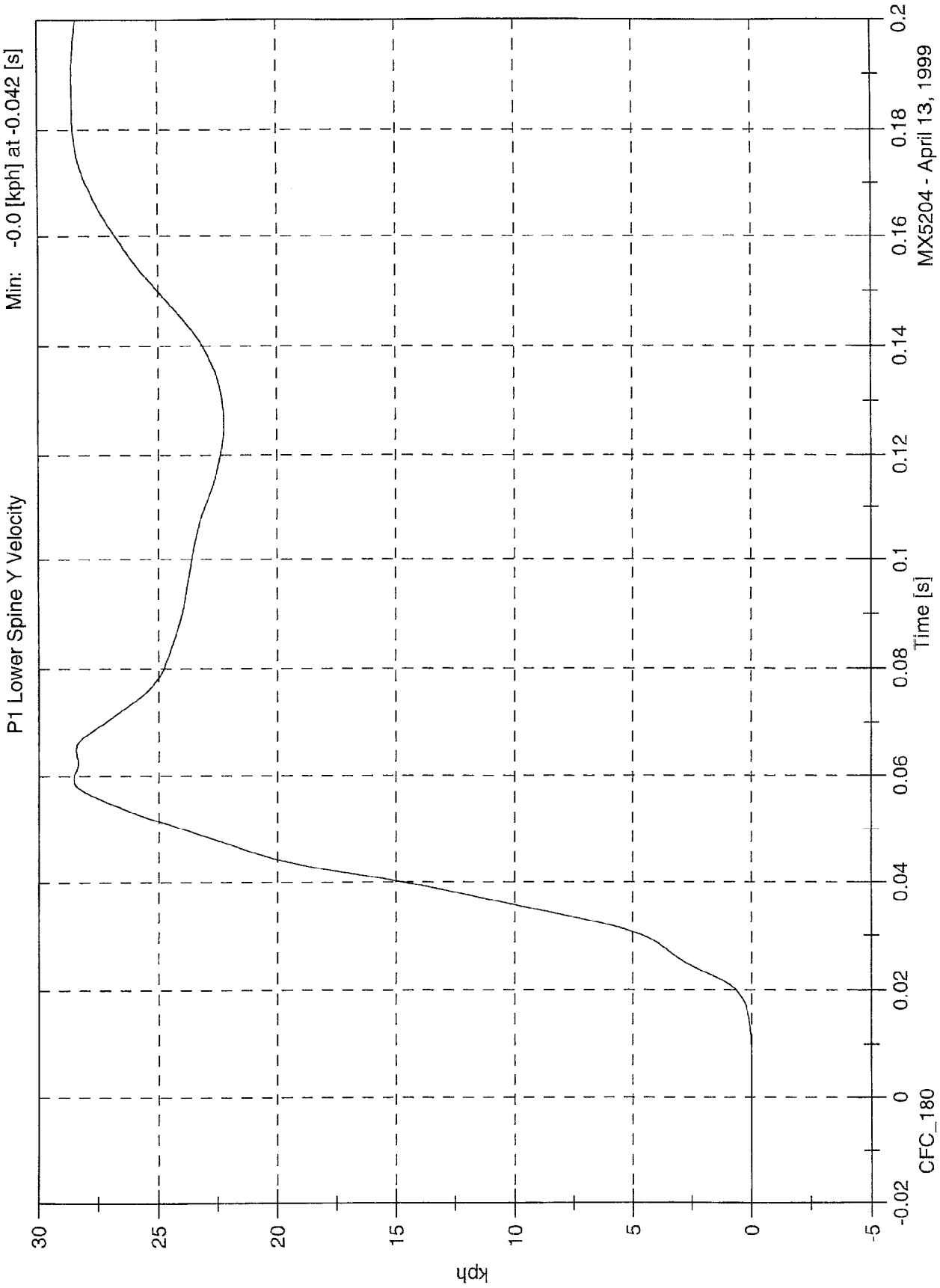
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

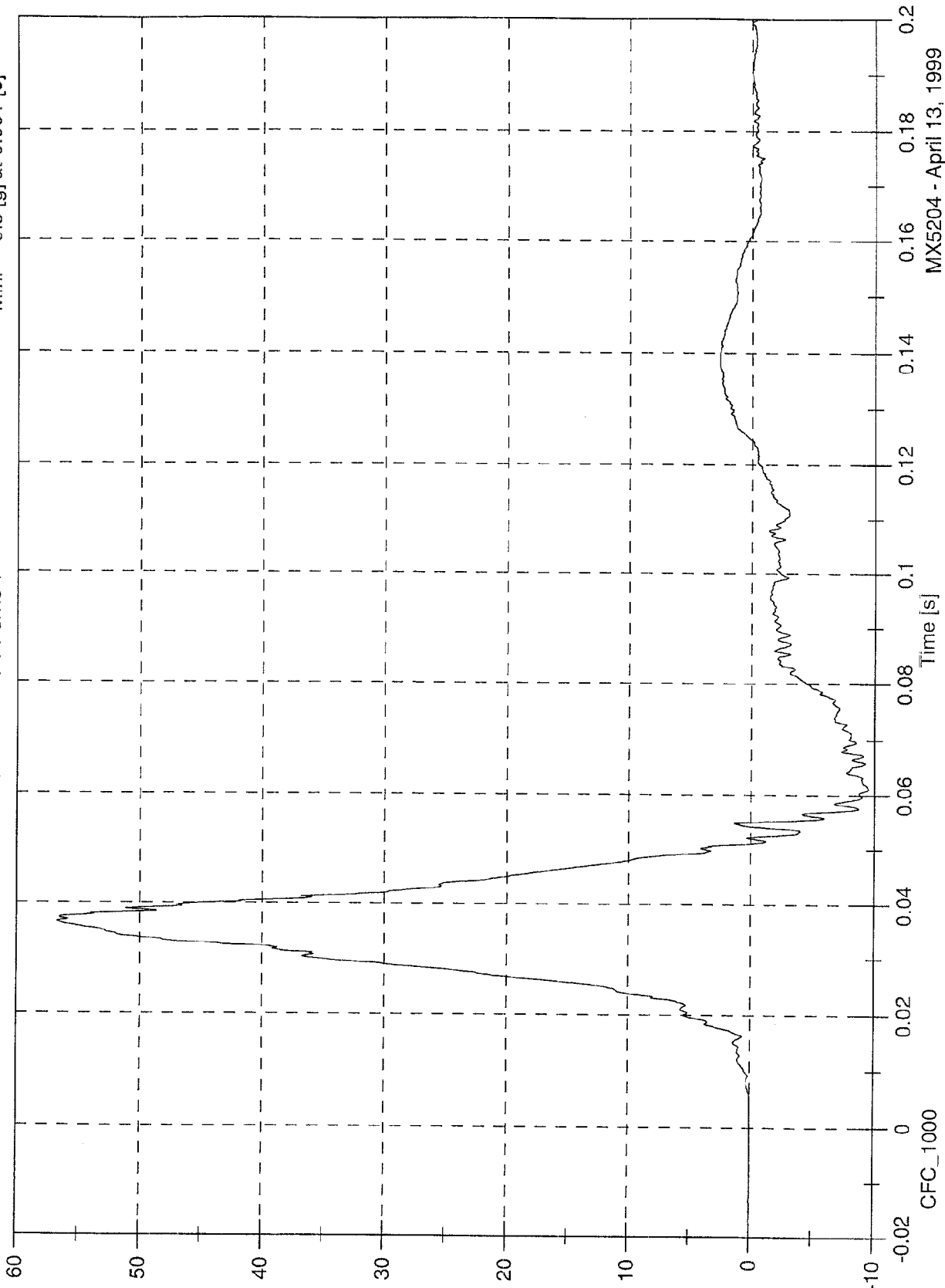


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 56.8 [g] at 0.037 [s]
Min: -9.5 [g] at 0.061 [s]

P1 Pelvic Y



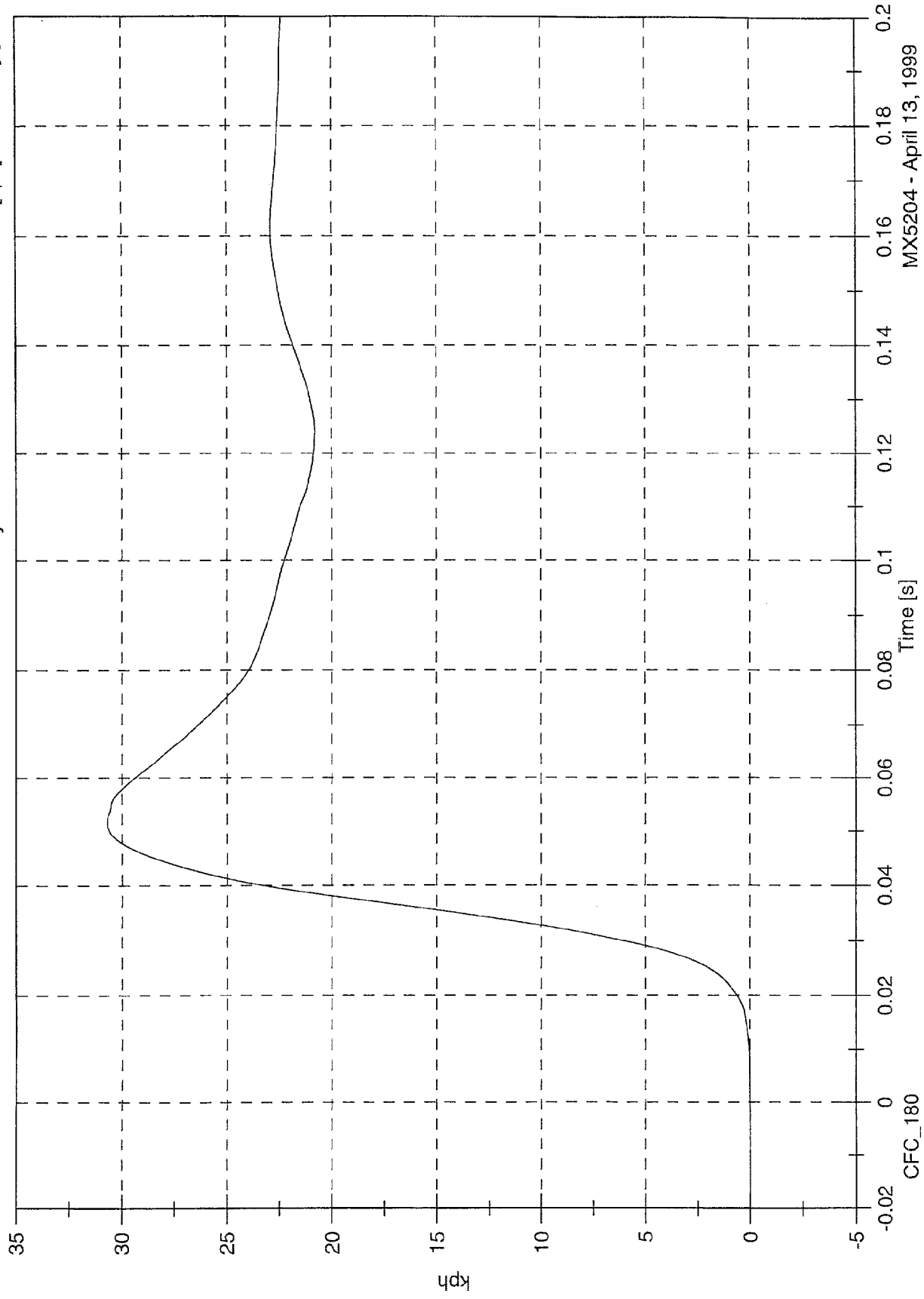
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 30.7 [kph] at 0.052 [s]

Min: -0.0 [kph] at -0.064 [s]

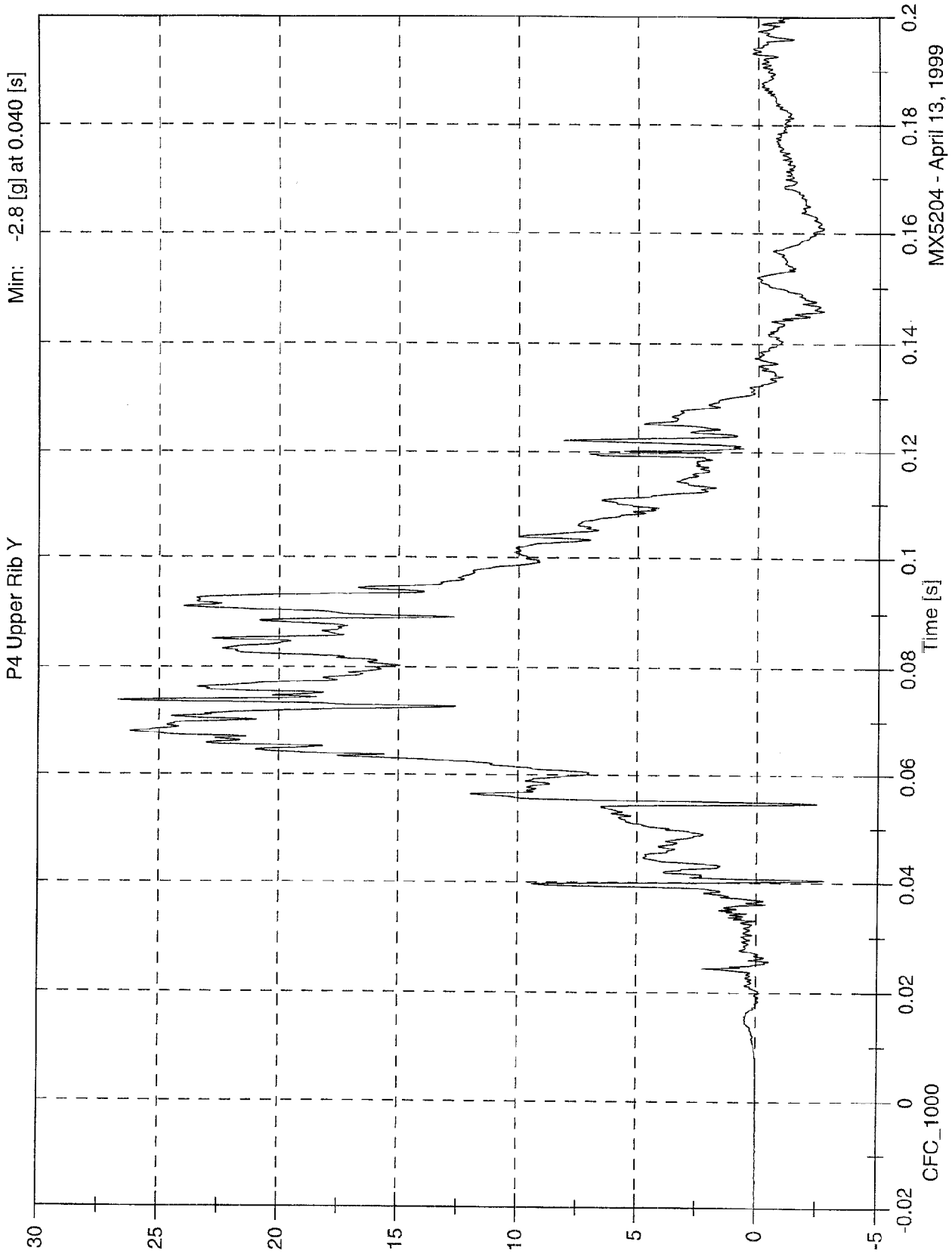
P1 Pelvic Y Velocity



MX5204 - April 13, 1999

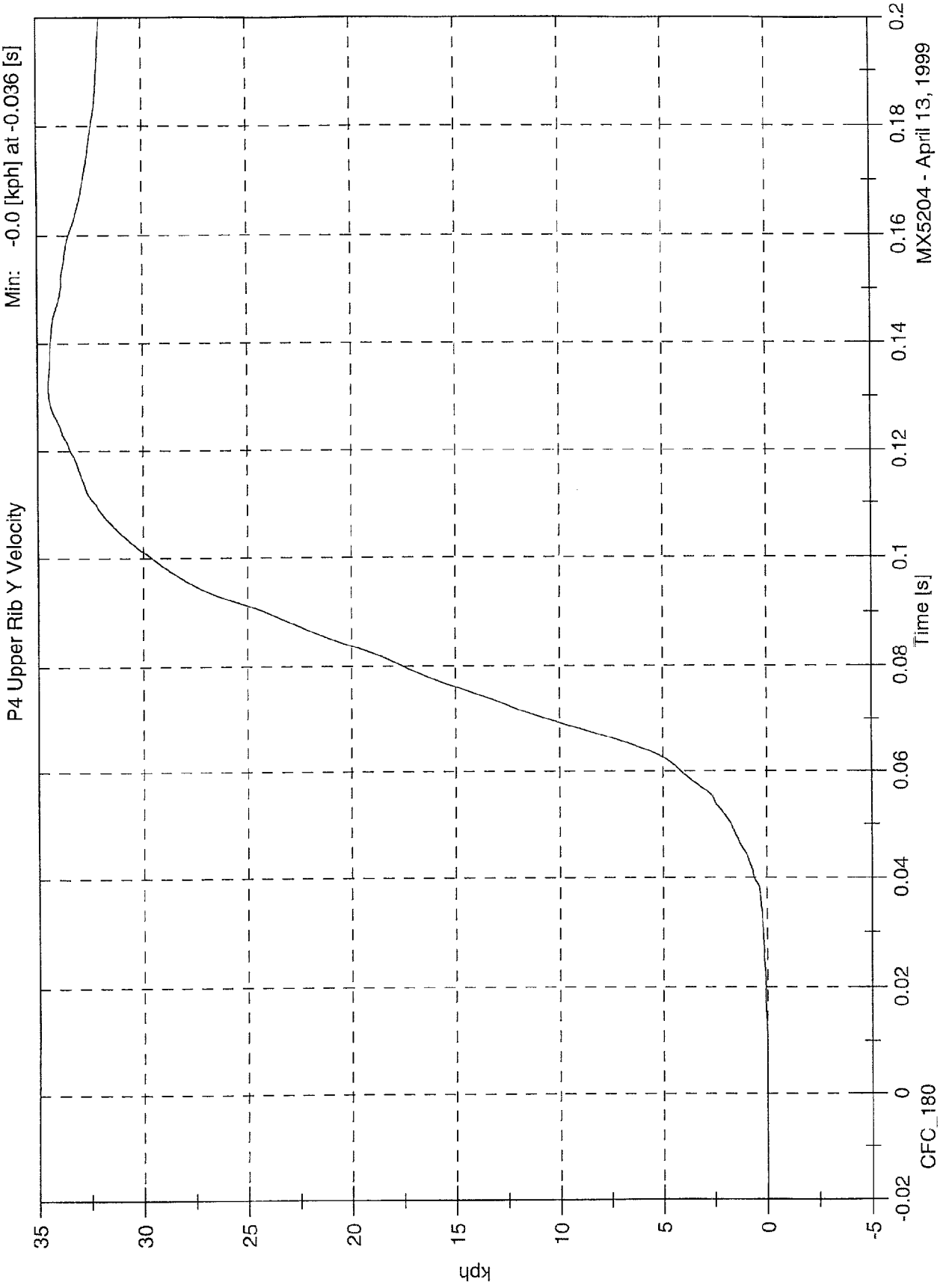
SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 26.7 [g] at 0.074 [s]
Min: -2.8 [g] at 0.040 [s]



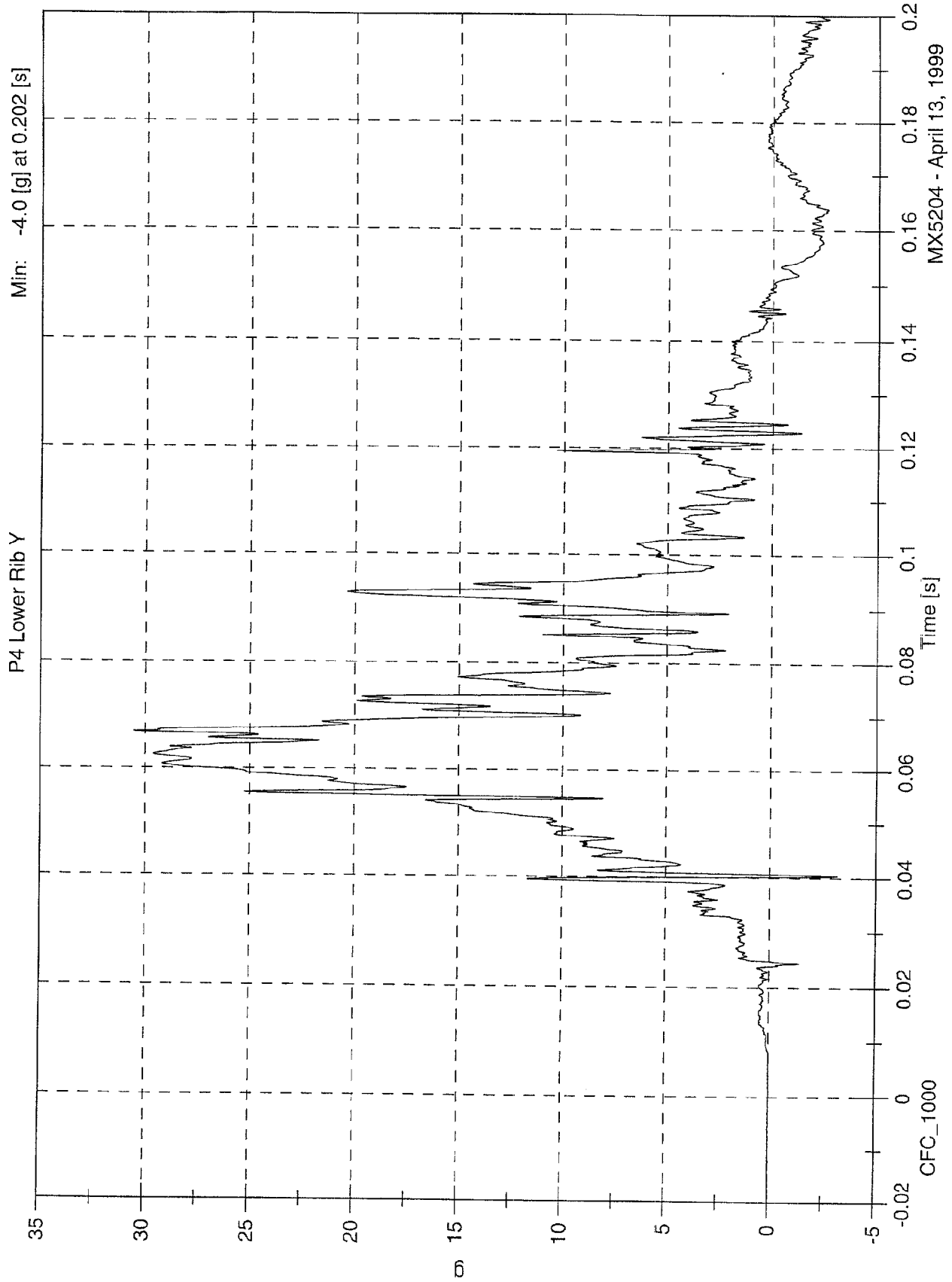
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

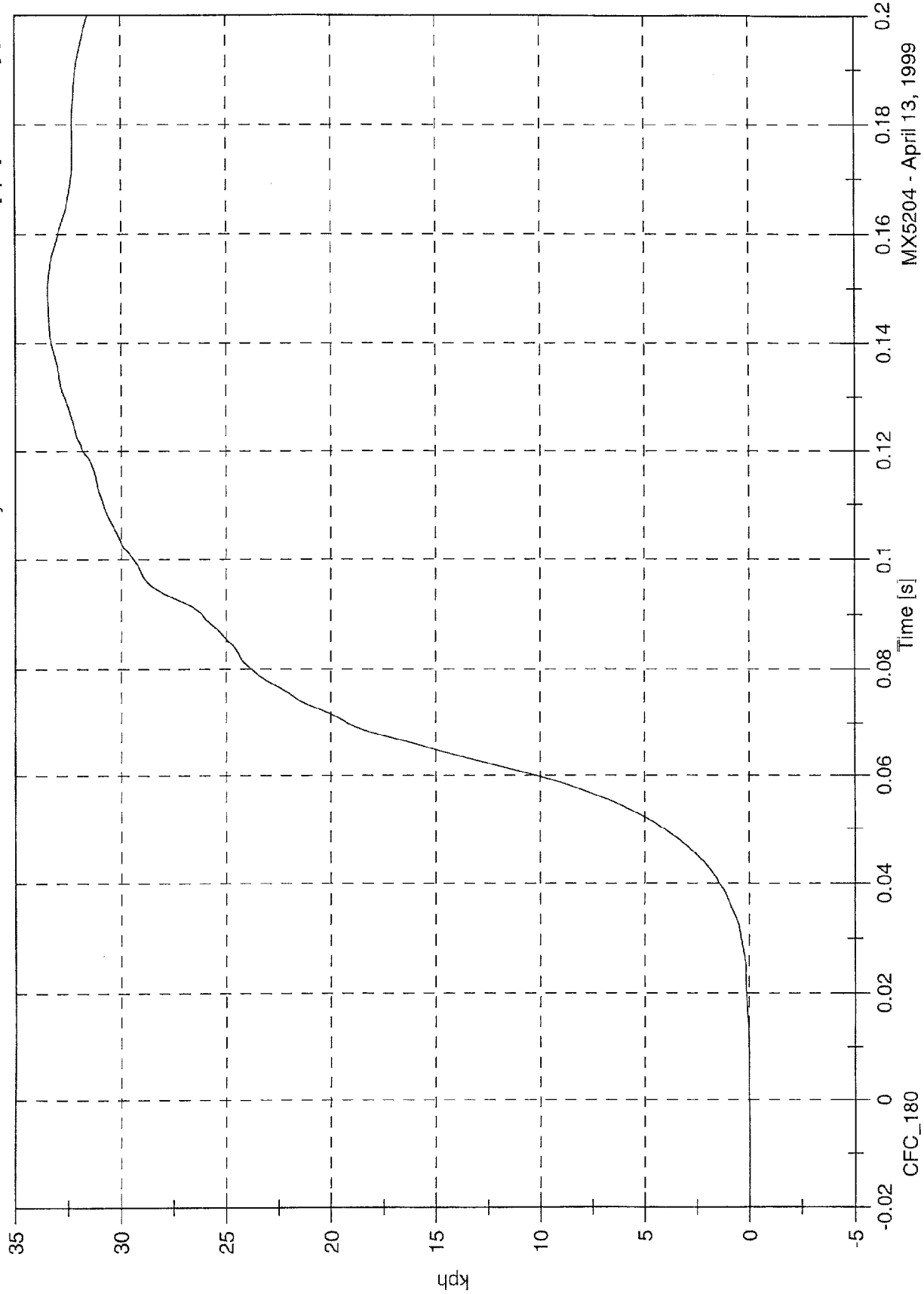


SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 33.5 [kph] at 0.150 [s]

Min: -0.0 [kph] at -0.037 [s]

P4 Lower Rib Y Velocity

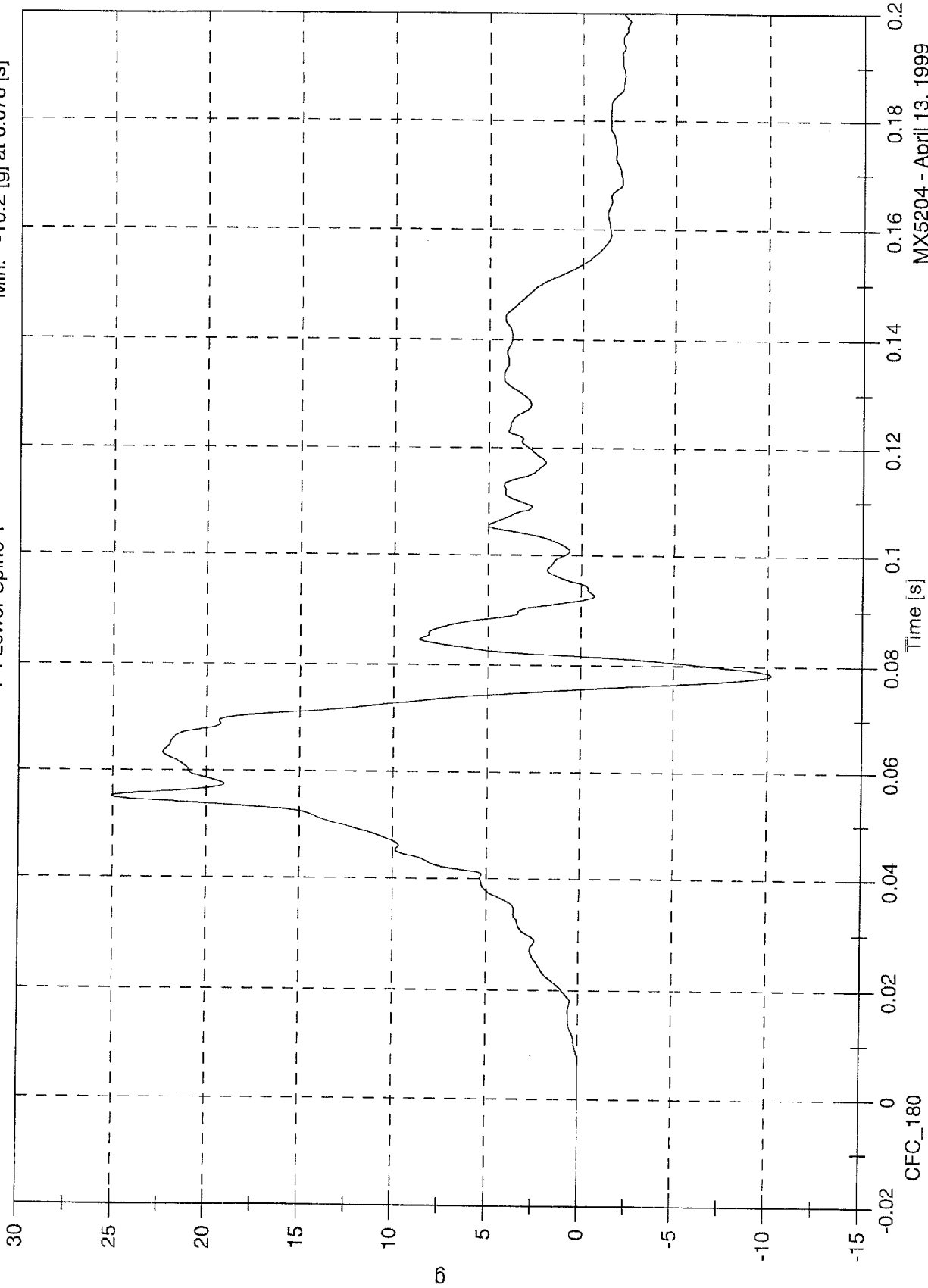


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 25.1 [g] at 0.055 [s]
Min: -10.2 [g] at 0.078 [s]

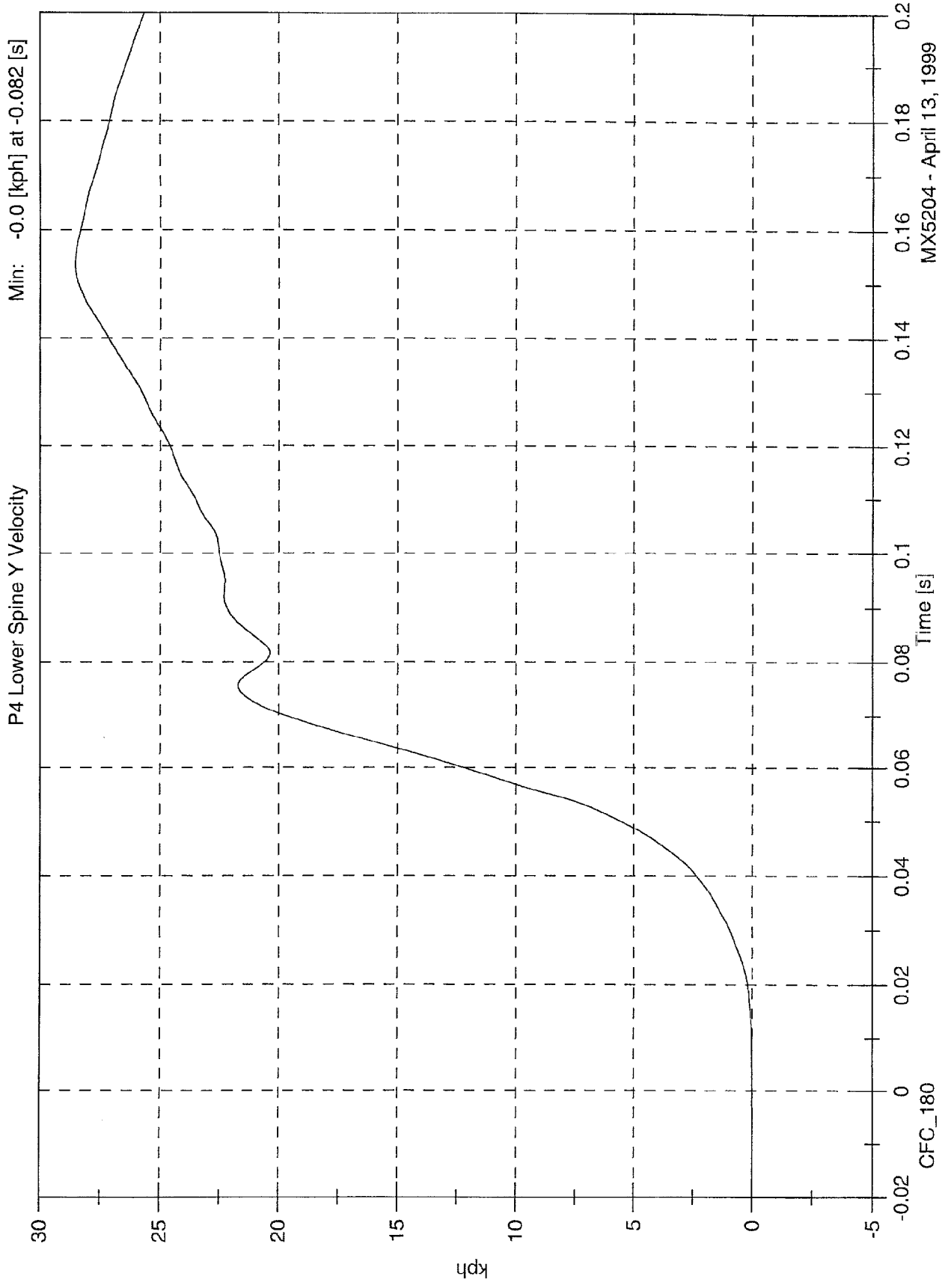
P4 Lower Spine Y



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 28.6 [kph] at 0.154 [s]
Min: -0.0 [kph] at -0.082 [s]



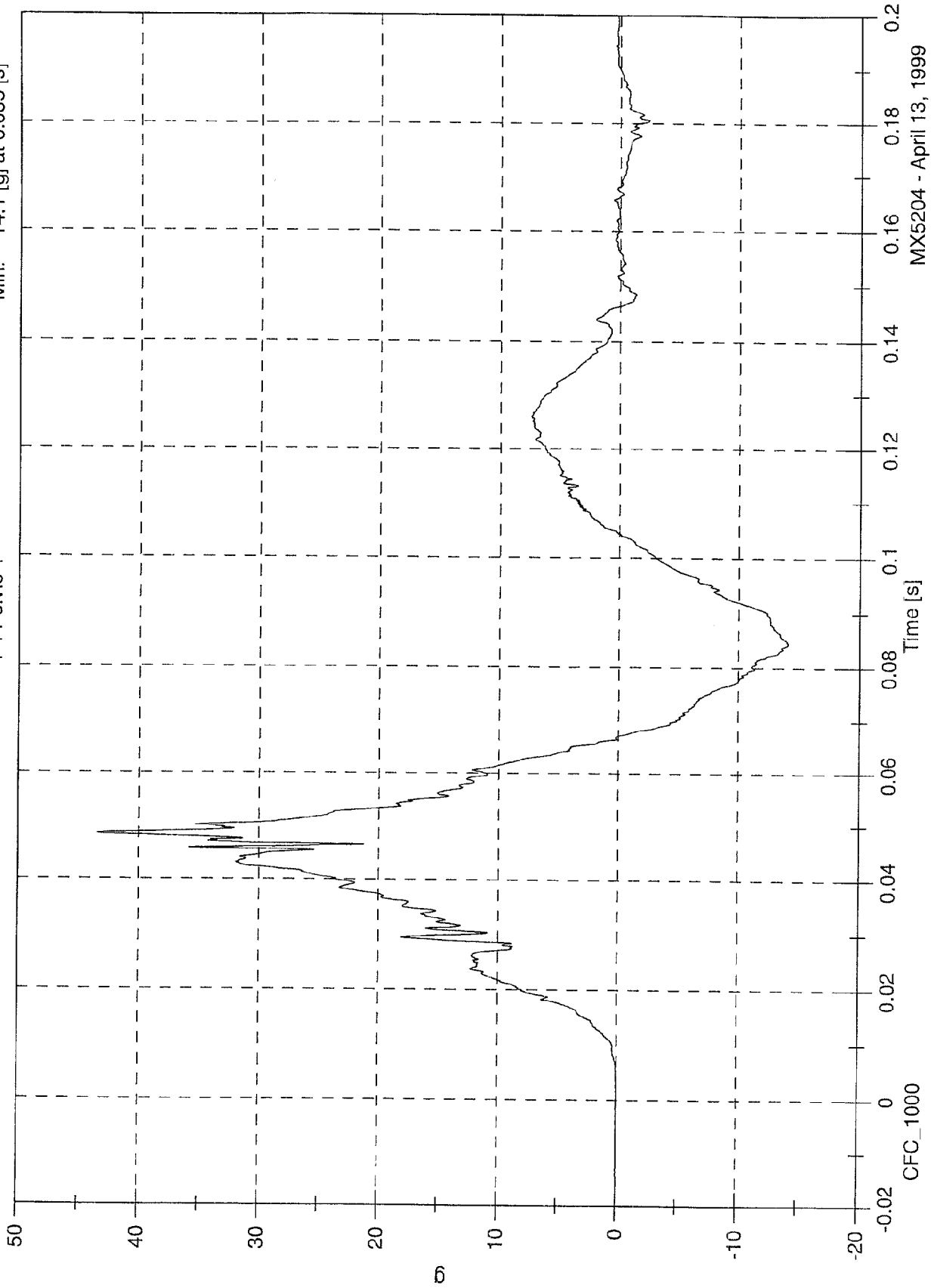
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 43.4 [g] at 0.048 [s]

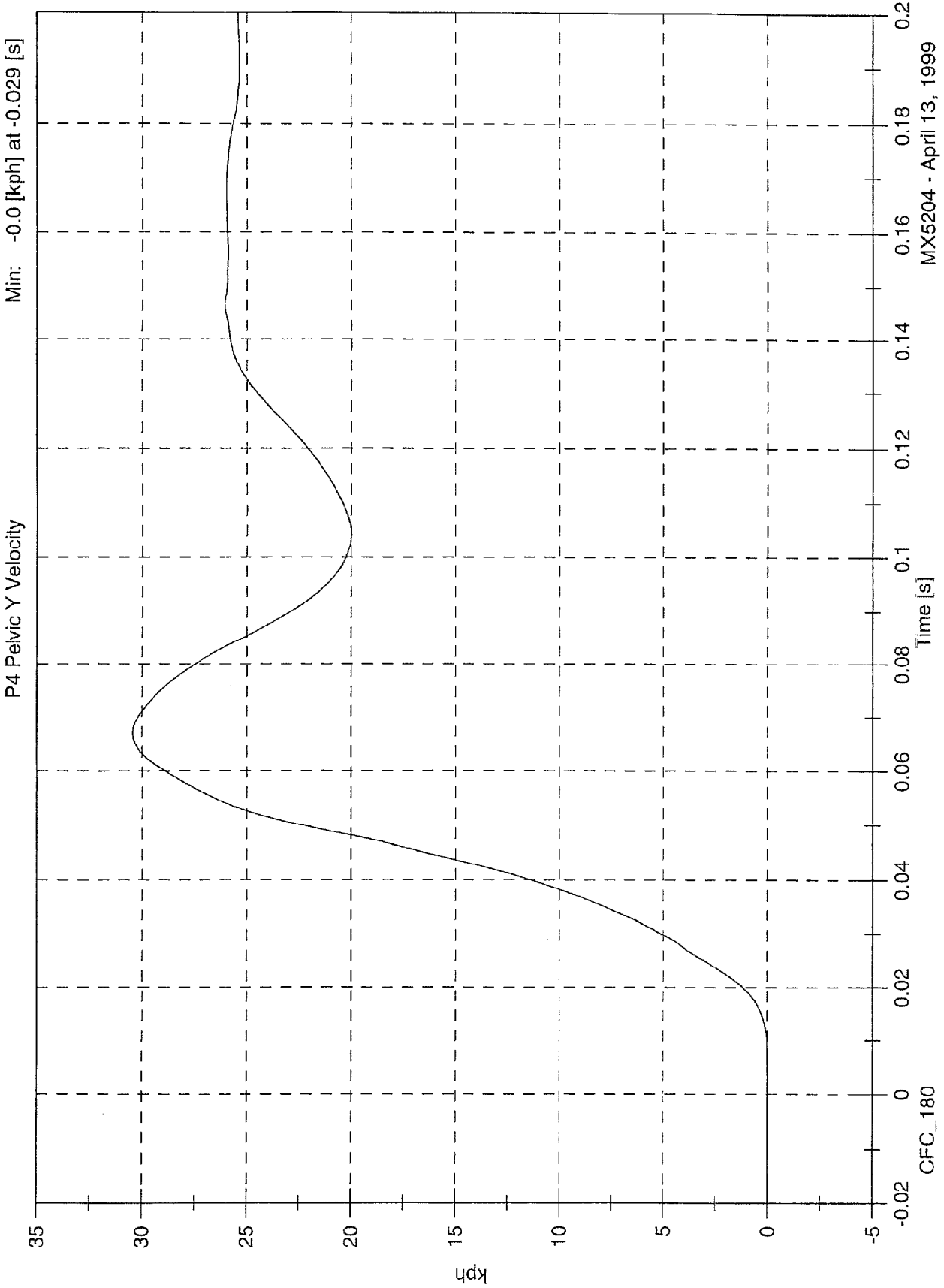
Min: -14.1 [g] at 0.085 [s]

P4 Pelvic Y



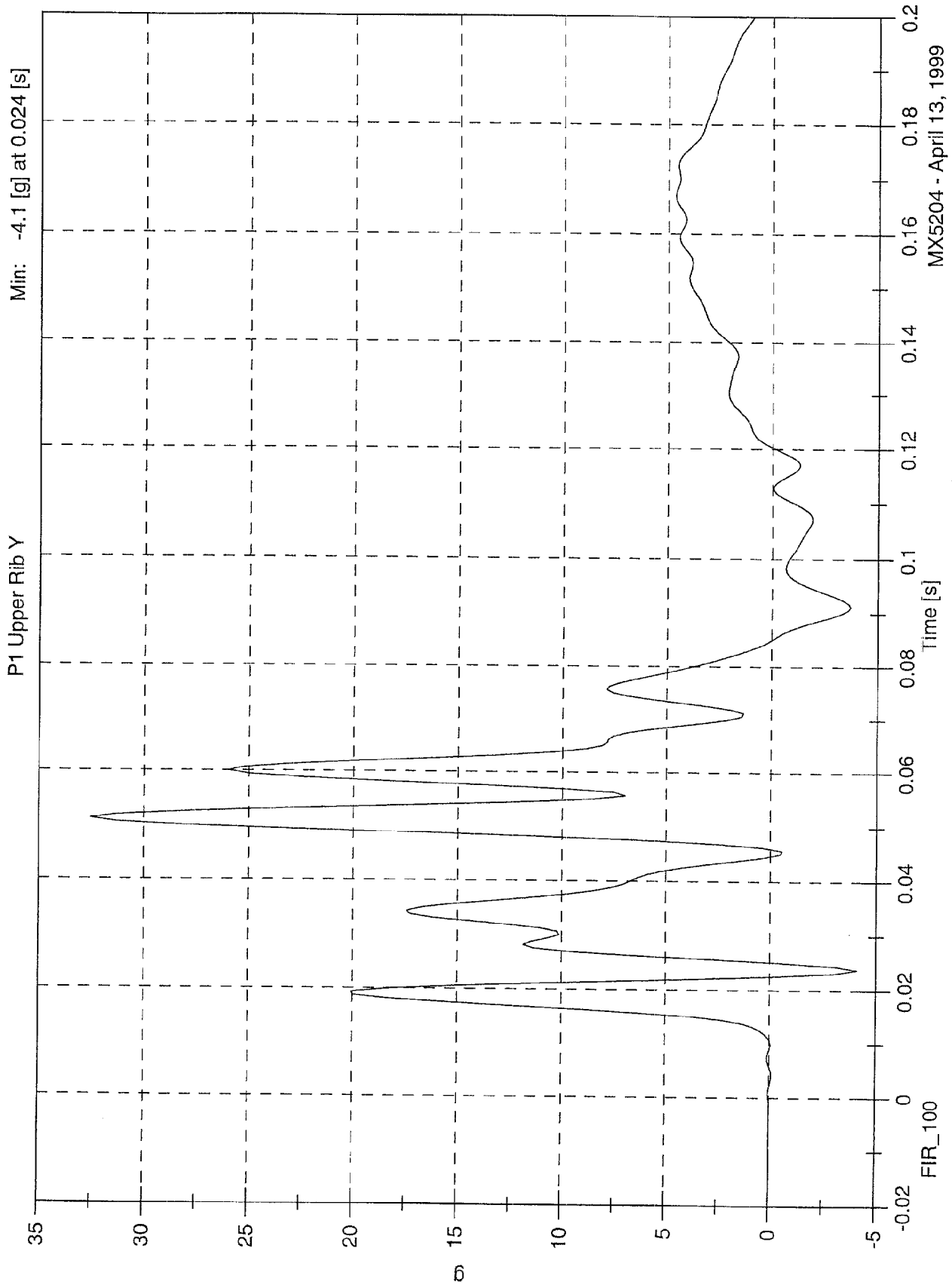
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder



MX5204 - April 13, 1999

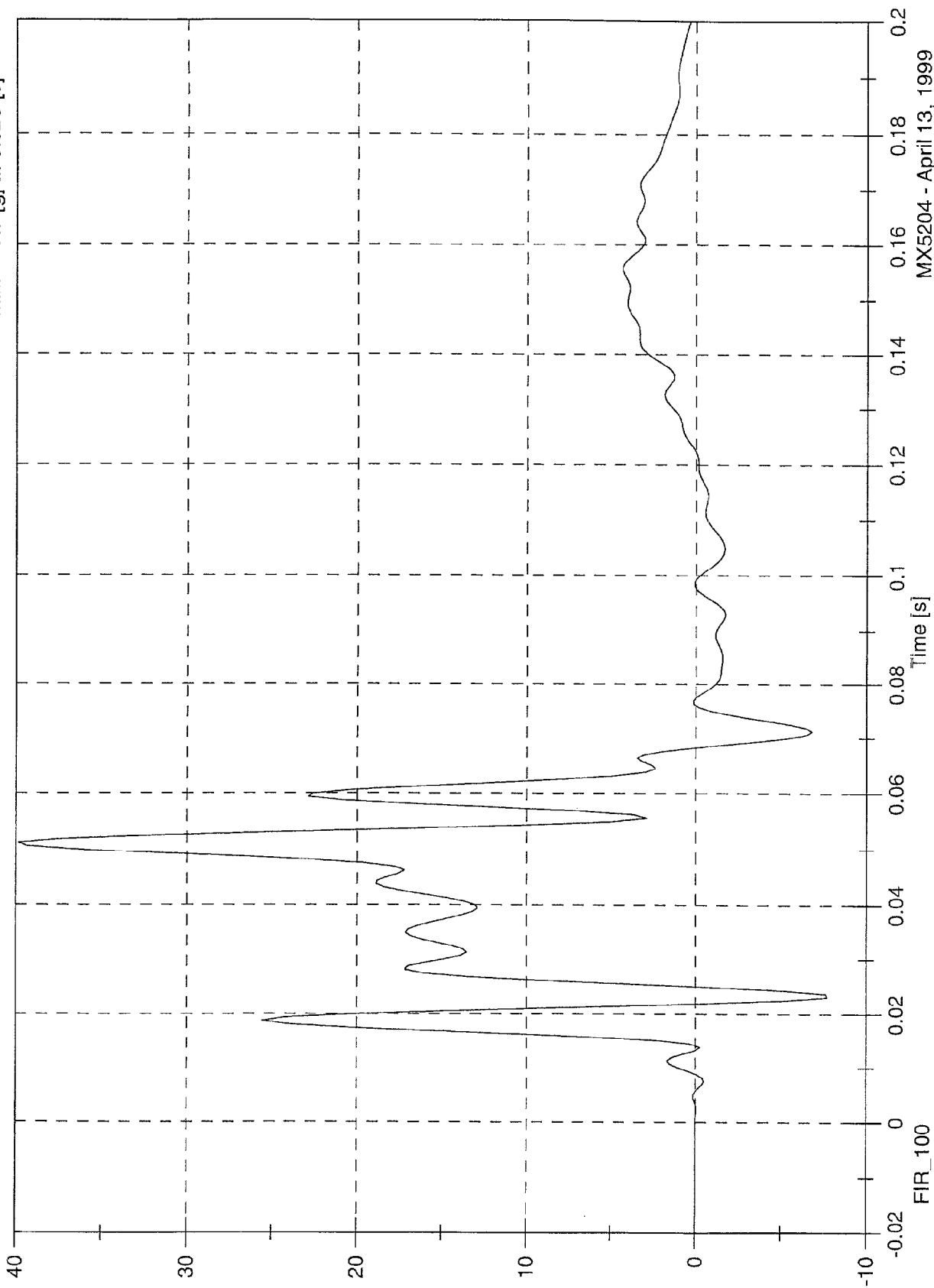
SNCAP Test # 5 - 1999 Nissan Pathfinder



SNCAP Test # 5 - 1999 Nissan Pathfinder

P1 Lower Rib Y

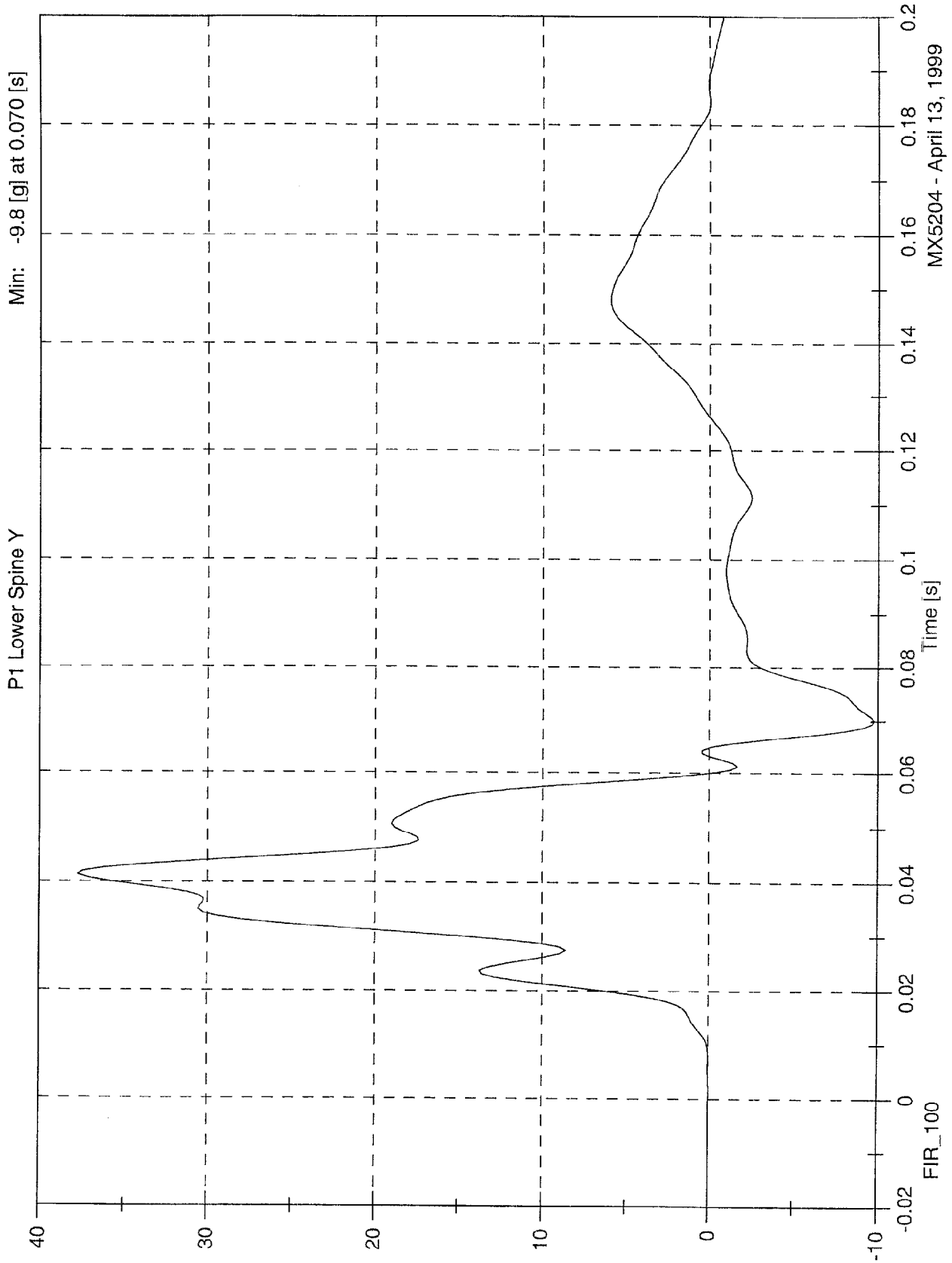
Max: 39.9 [g] at 0.051 [s]
Min: -7.7 [g] at 0.023 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

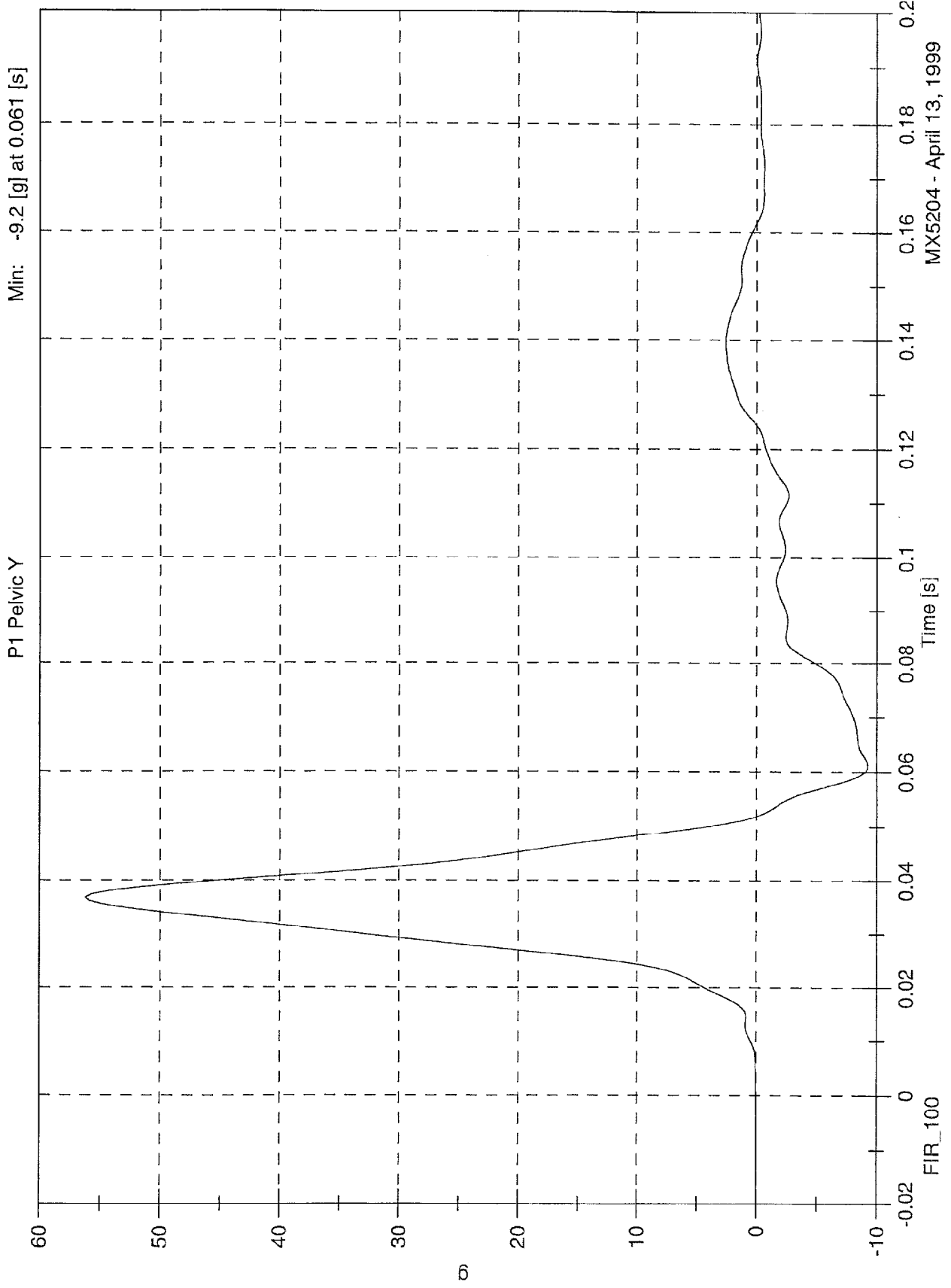
Max: 37.7 [g] at 0.041 [s]
Min: -9.8 [g] at 0.070 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 56.2 [g] at 0.037 [s]
Min: -9.2 [g] at 0.061 [s]

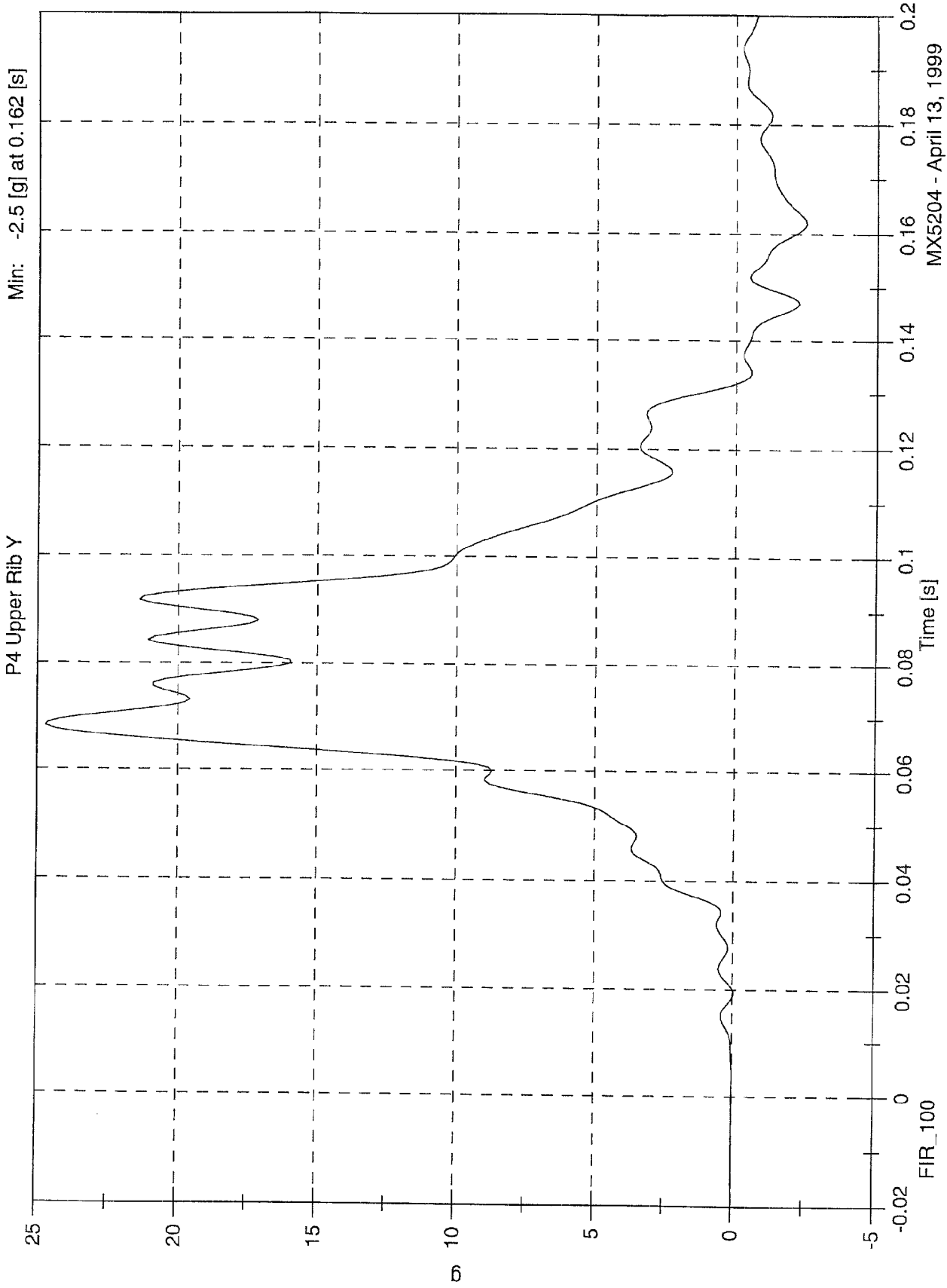


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 24.7 [g] at 0.068 [s]

Min: -2.5 [g] at 0.162 [s]



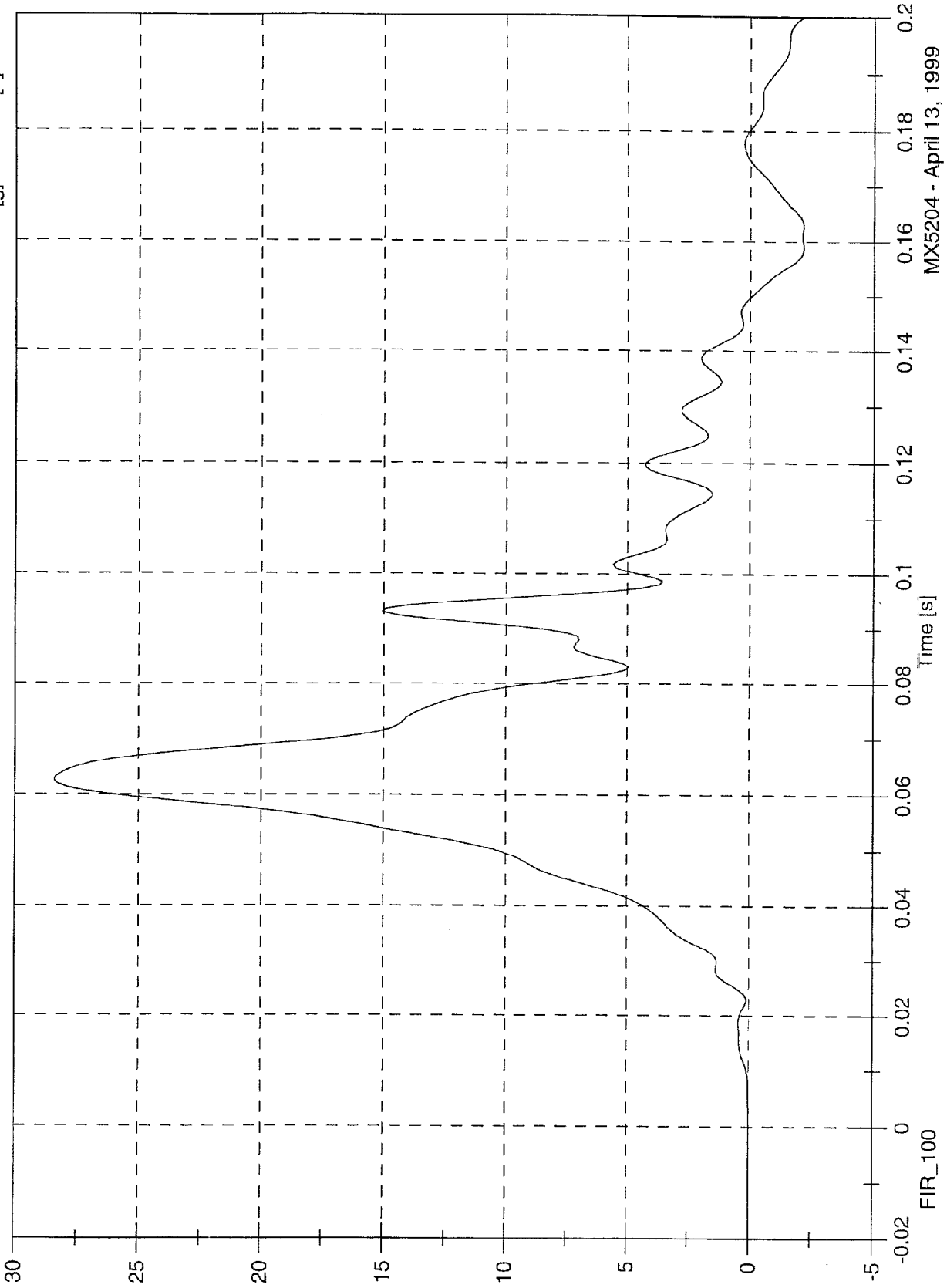
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 28.4 [g] at 0.063 [s]

Min: -2.7 [g] at 0.202 [s]

P4 Lower Rib Y



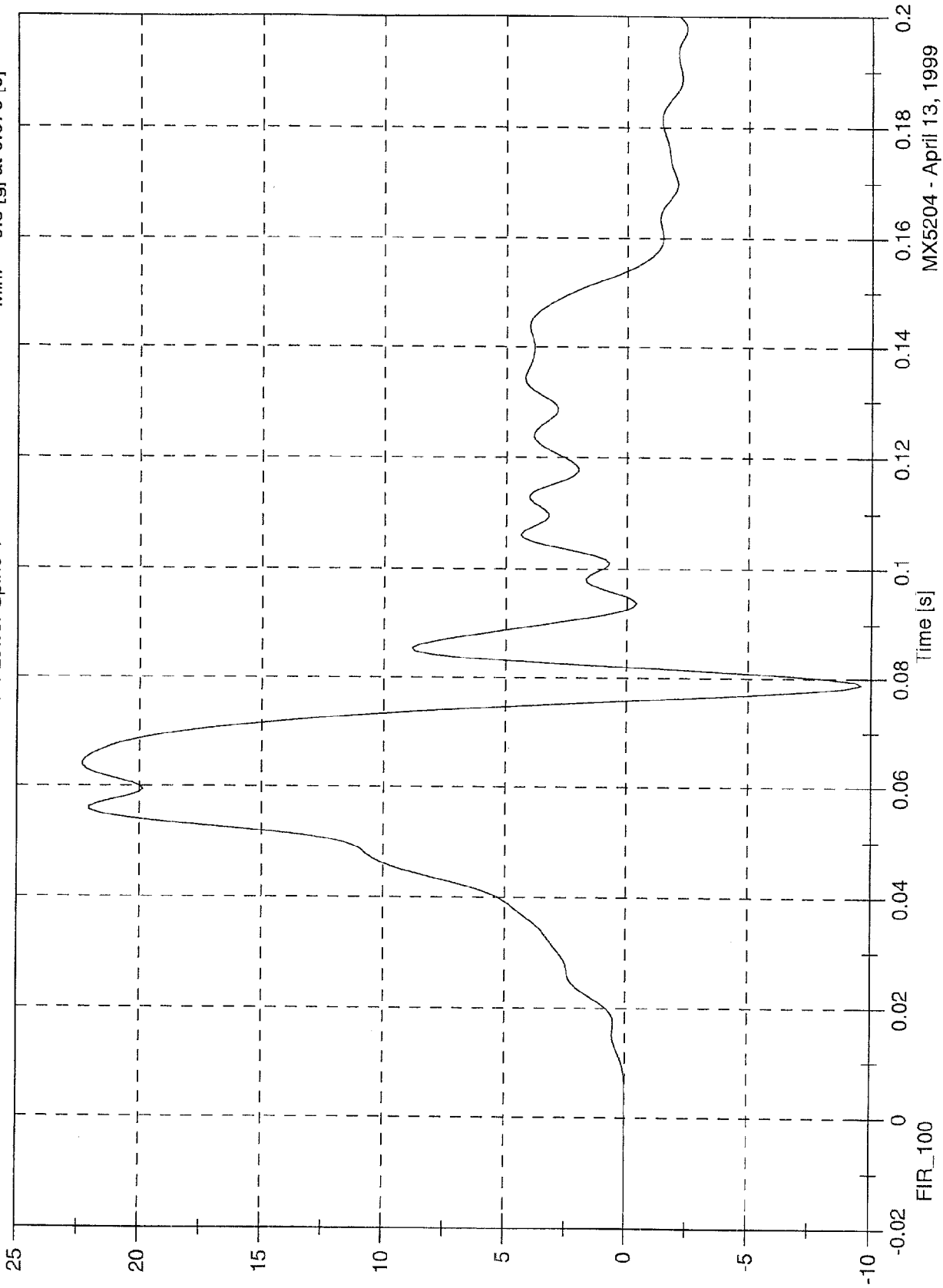
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 22.3 [g] at 0.064 [s]

Min: -9.6 [g] at 0.079 [s]

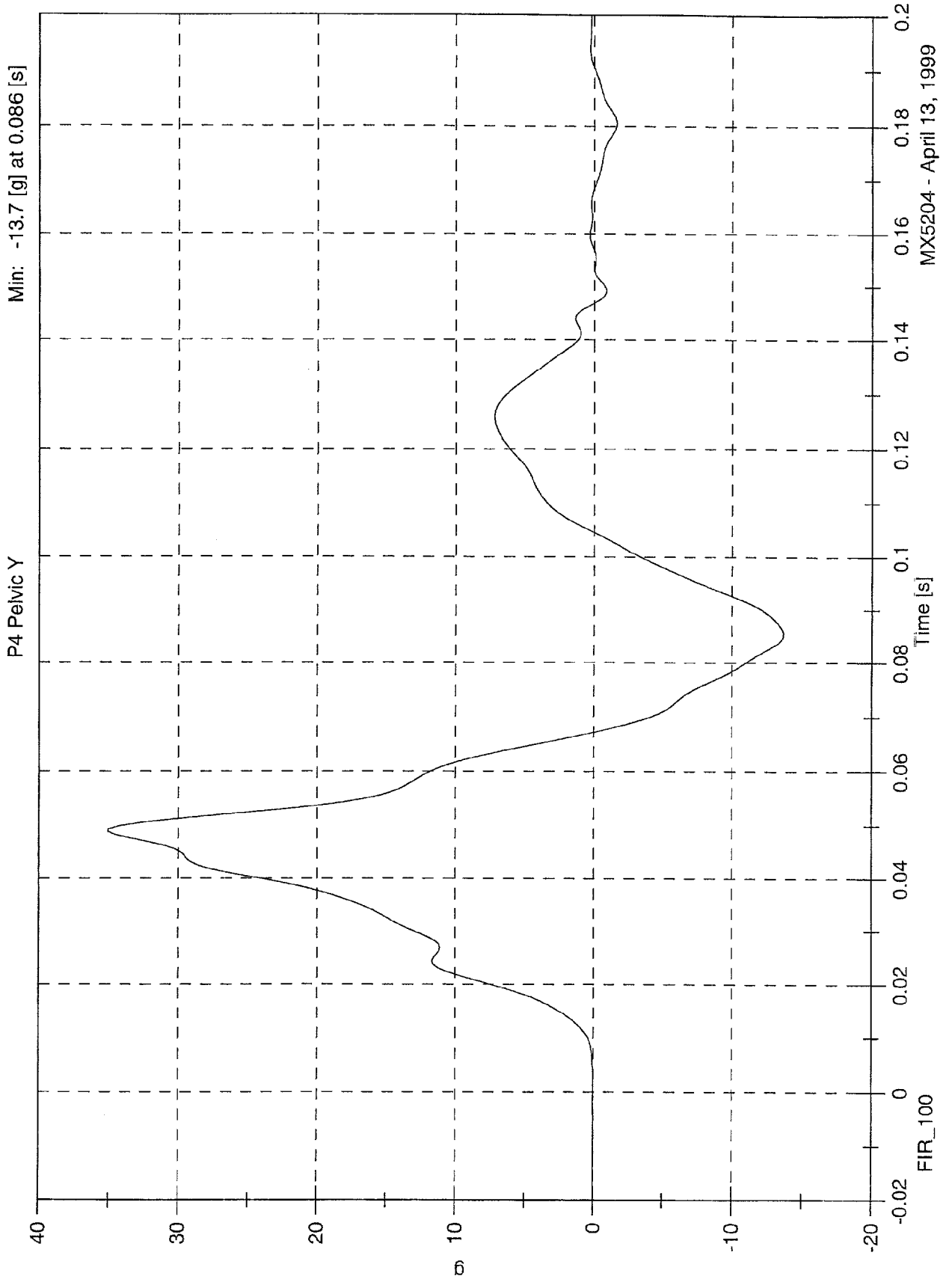
P4 Lower Spine Y



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 35.1 [g] at 0.049 [s]
Min: -13.7 [g] at 0.086 [s]

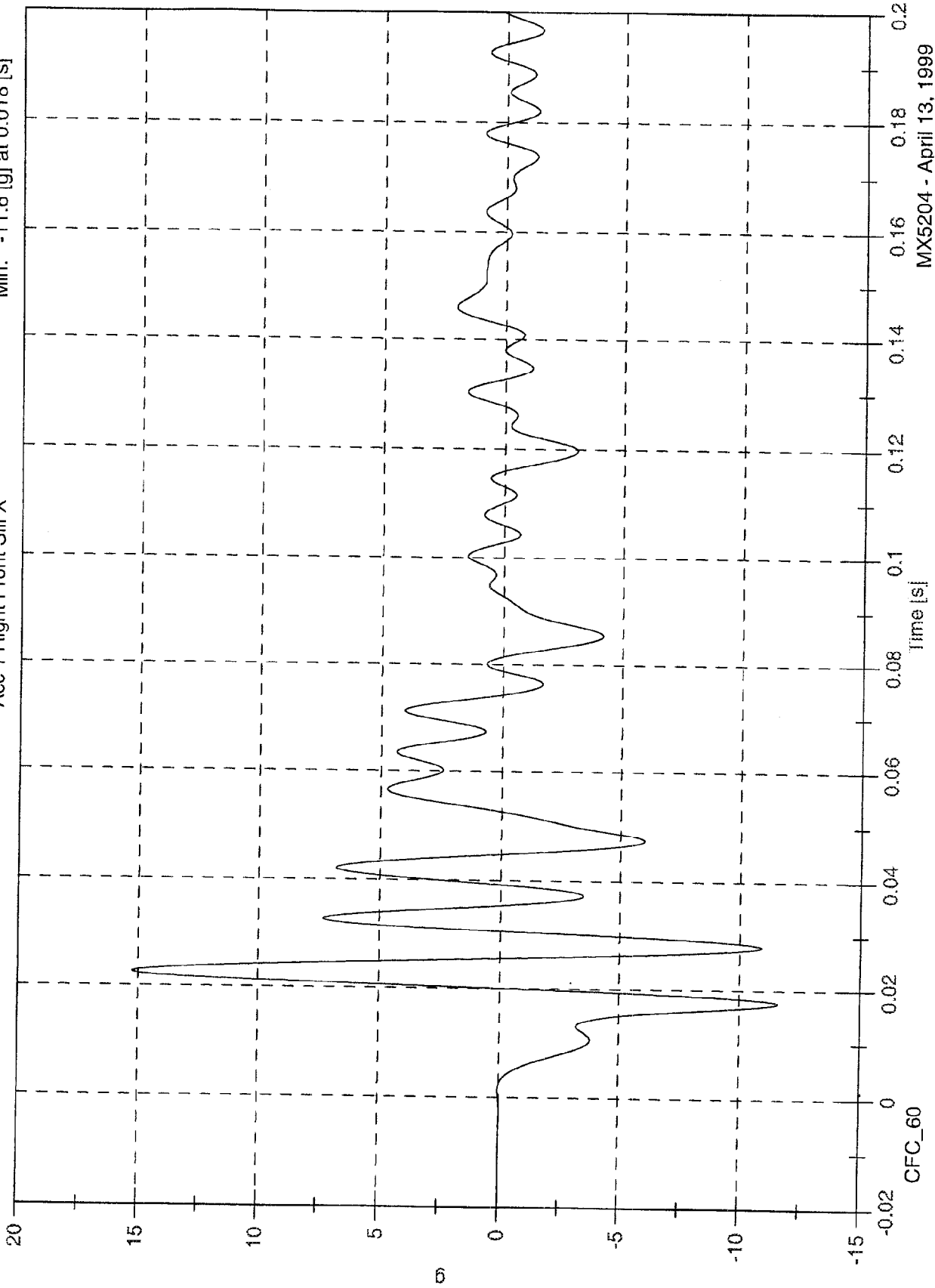


FIR_100
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 15.3 [g] at 0.023 [s]
Min: -11.6 [g] at 0.018 [s]

Acc 1 Right Front Sill X



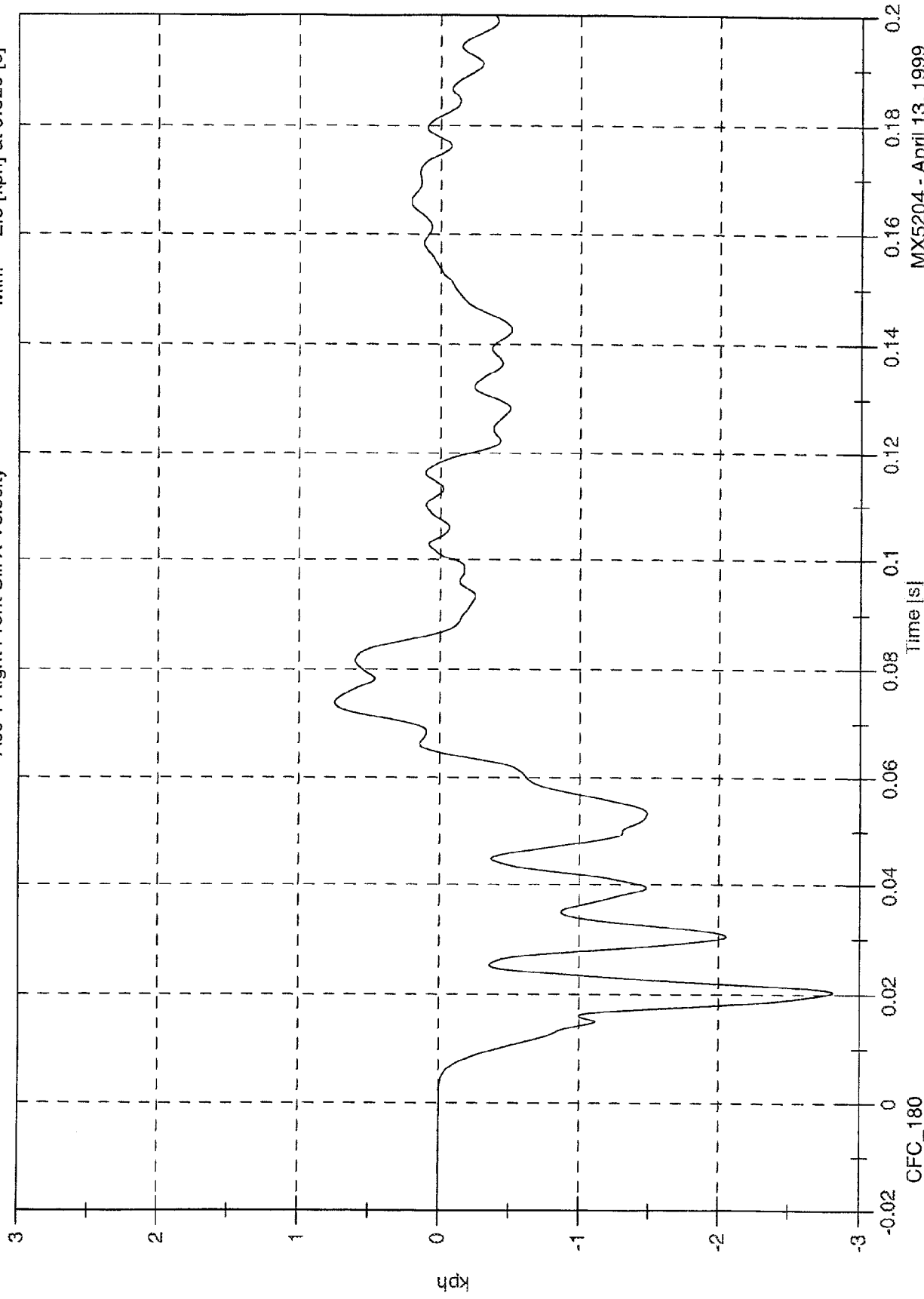
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 2.1 [kph] at 0.500 [s]

Min: -2.8 [kph] at 0.020 [s]

Acc 1 Right Front Sill X Velocity



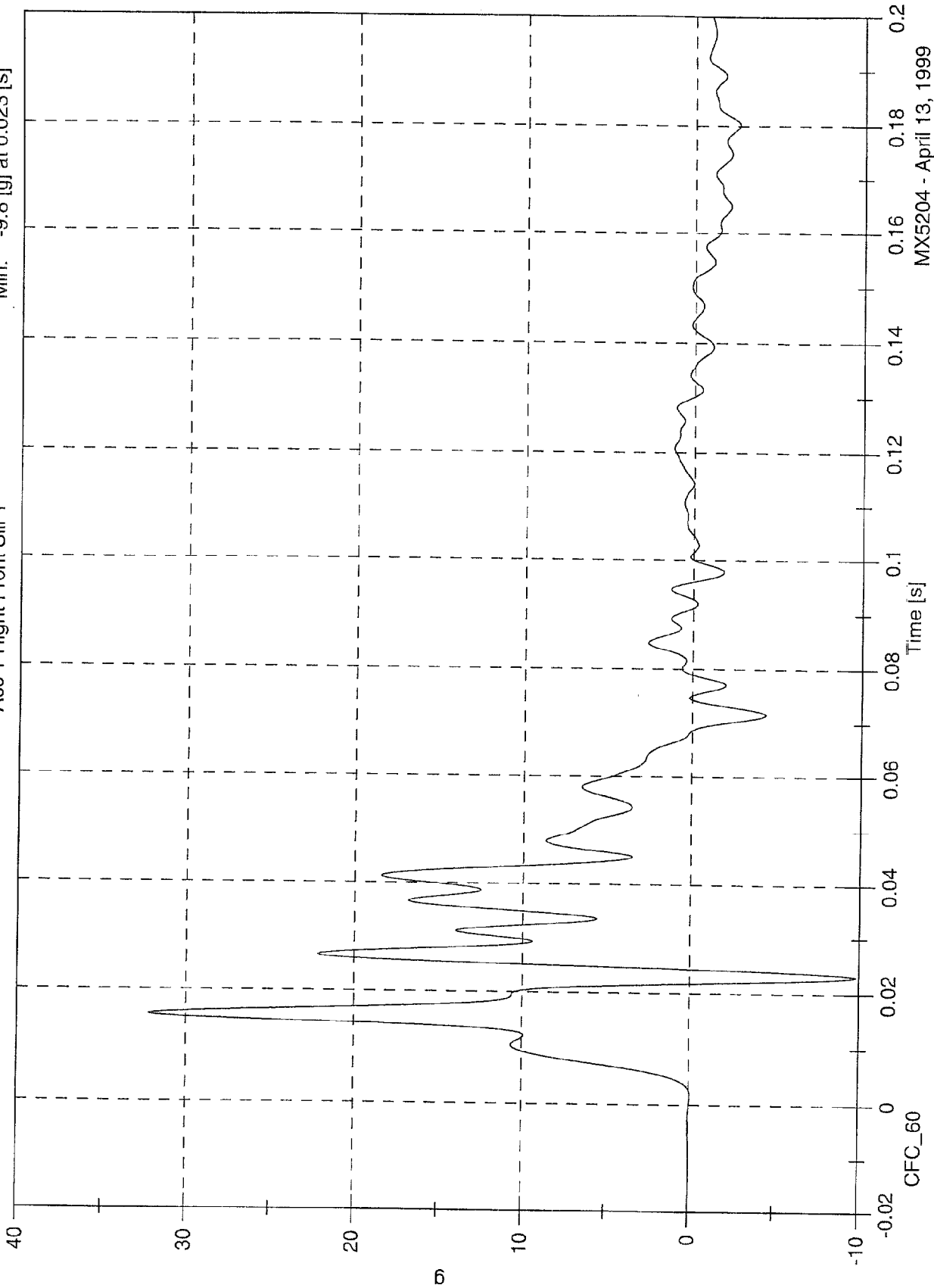
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 1 Right Front Sill Y

Max: 32.2 [g] at 0.016 [s]

Min: -9.8 [g] at 0.023 [s]



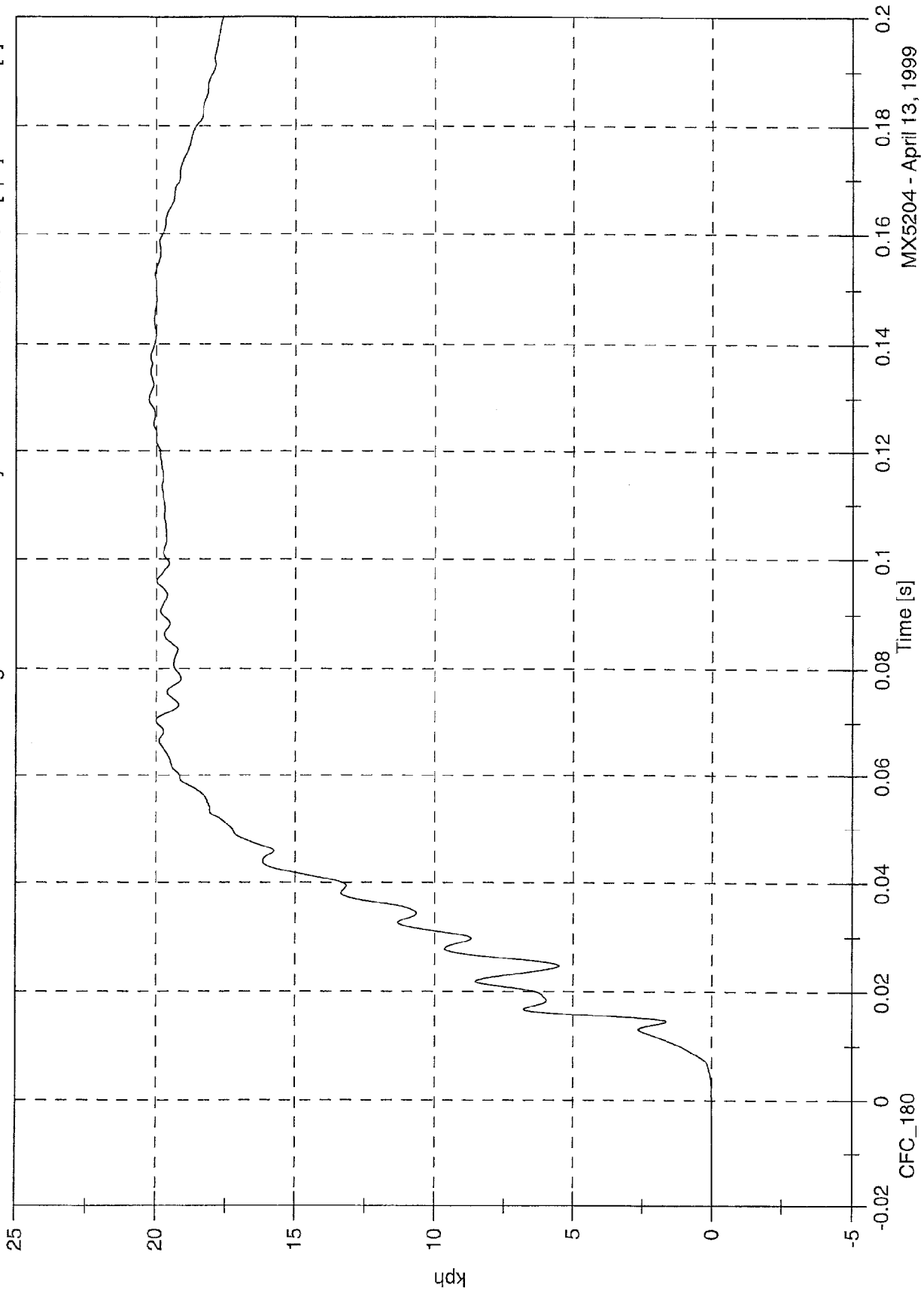
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 20.3 [kph] at 0.130 [s]

Min: -0.1 [kph] at -0.071 [s]

Acc 1 Right Front Sill Y Velocity



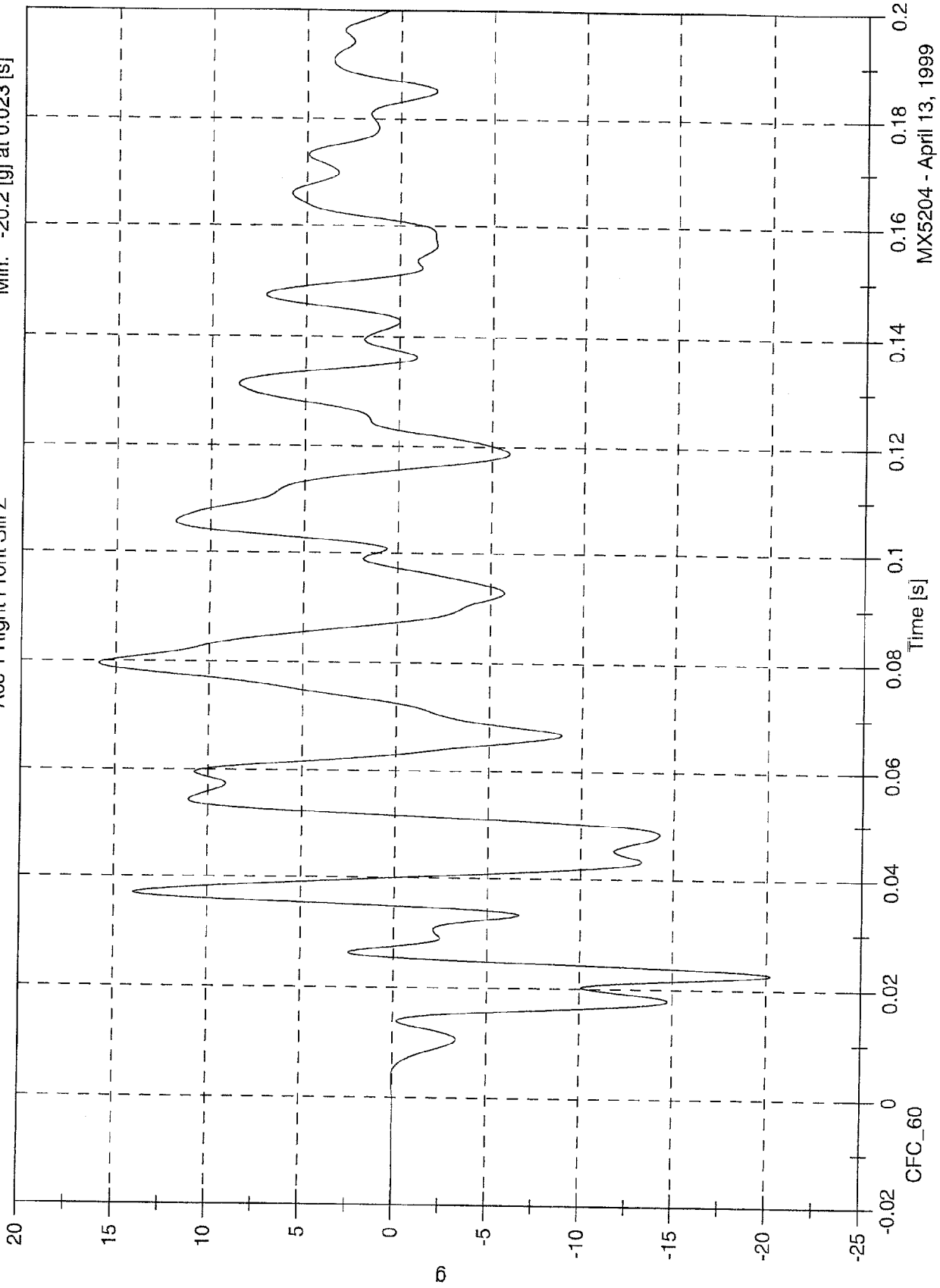
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 15.9 [g] at 0.080 [s]

Min: -20.2 [g] at 0.023 [s]

Acc 1 Right Front Sill Z

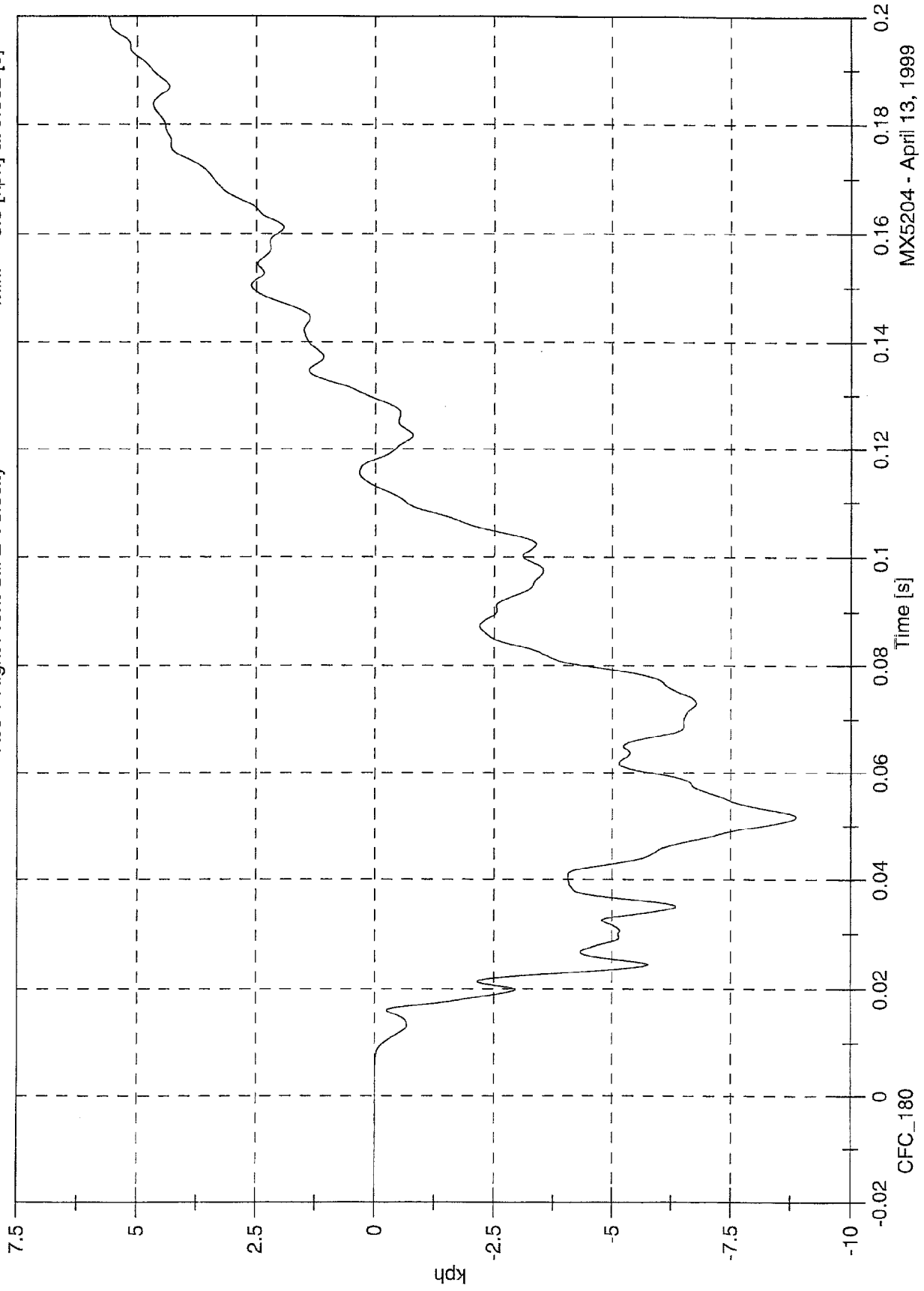


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 7.3 [kph] at 0.252 [s]
Min: -8.9 [kph] at 0.052 [s]

Acc 1 Right Front Sill Z Velocity

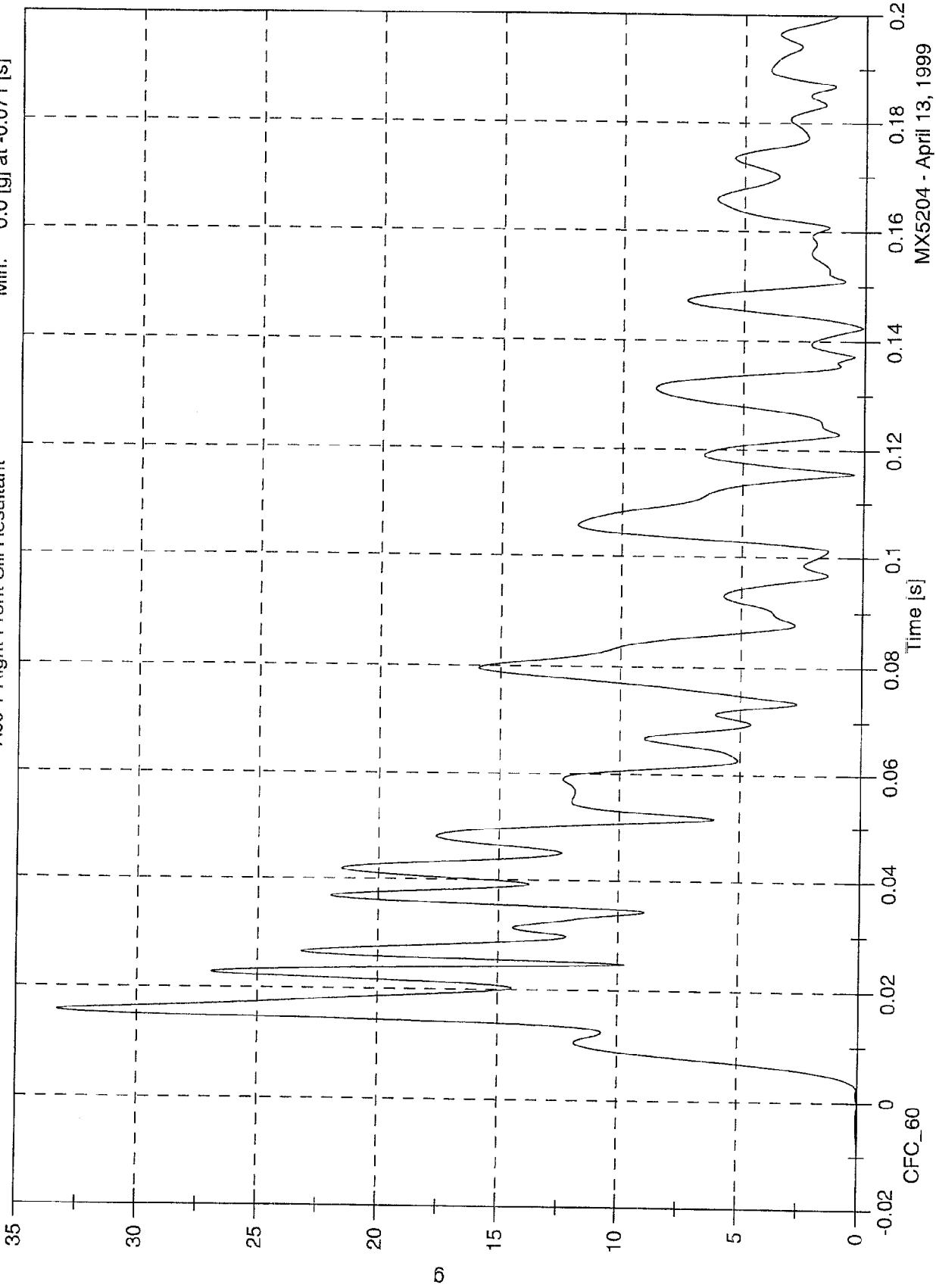


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 33.3 [g] at 0.016 [s]
Min: 0.0 [g] at -0.071 [s]

Acc 1 Right Front Sill Resultant

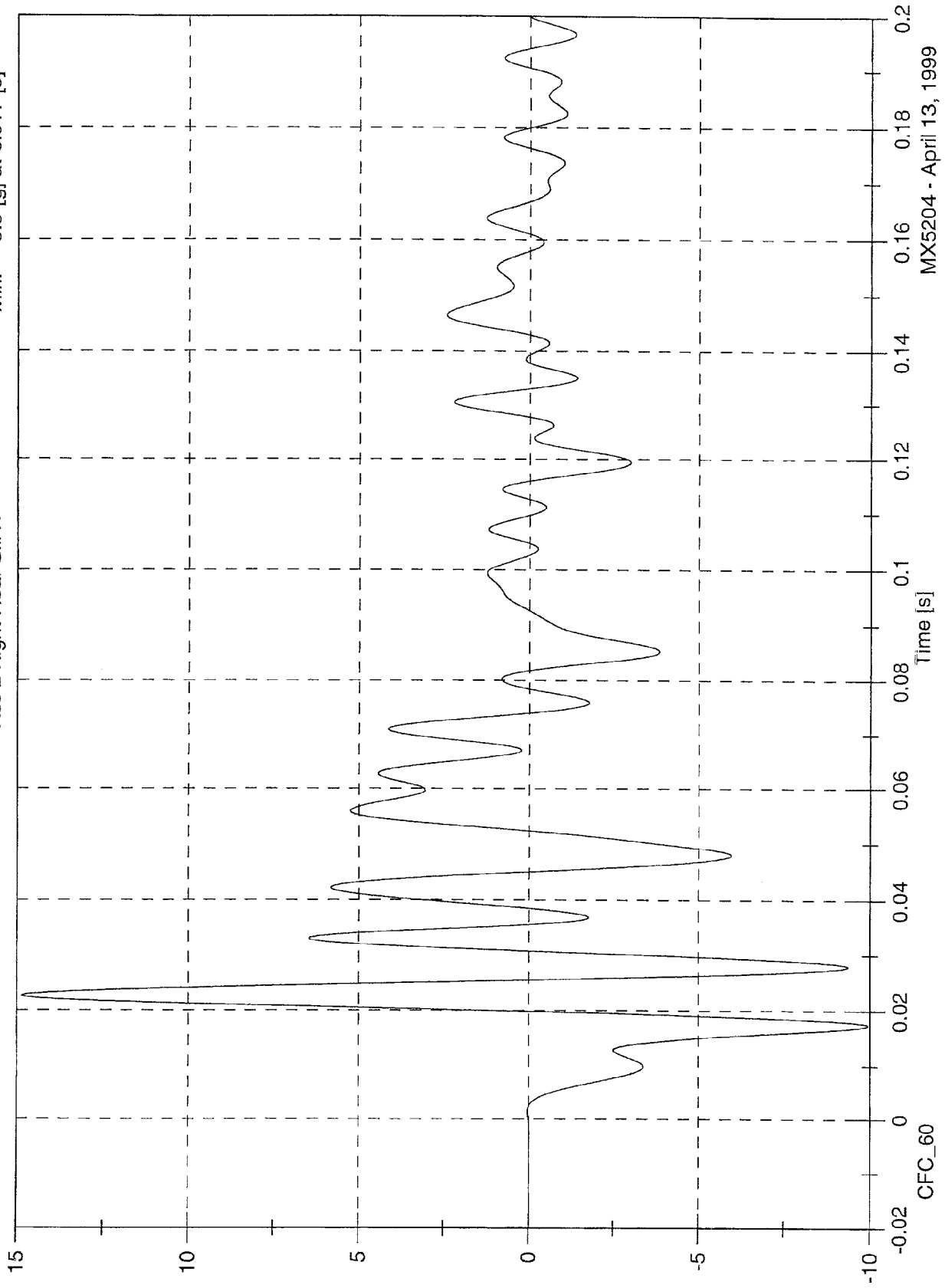


SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 14.9 [g] at 0.023 [s]

Min: -9.9 [g] at 0.017 [s]

Acc 2 Right Rear Sill X



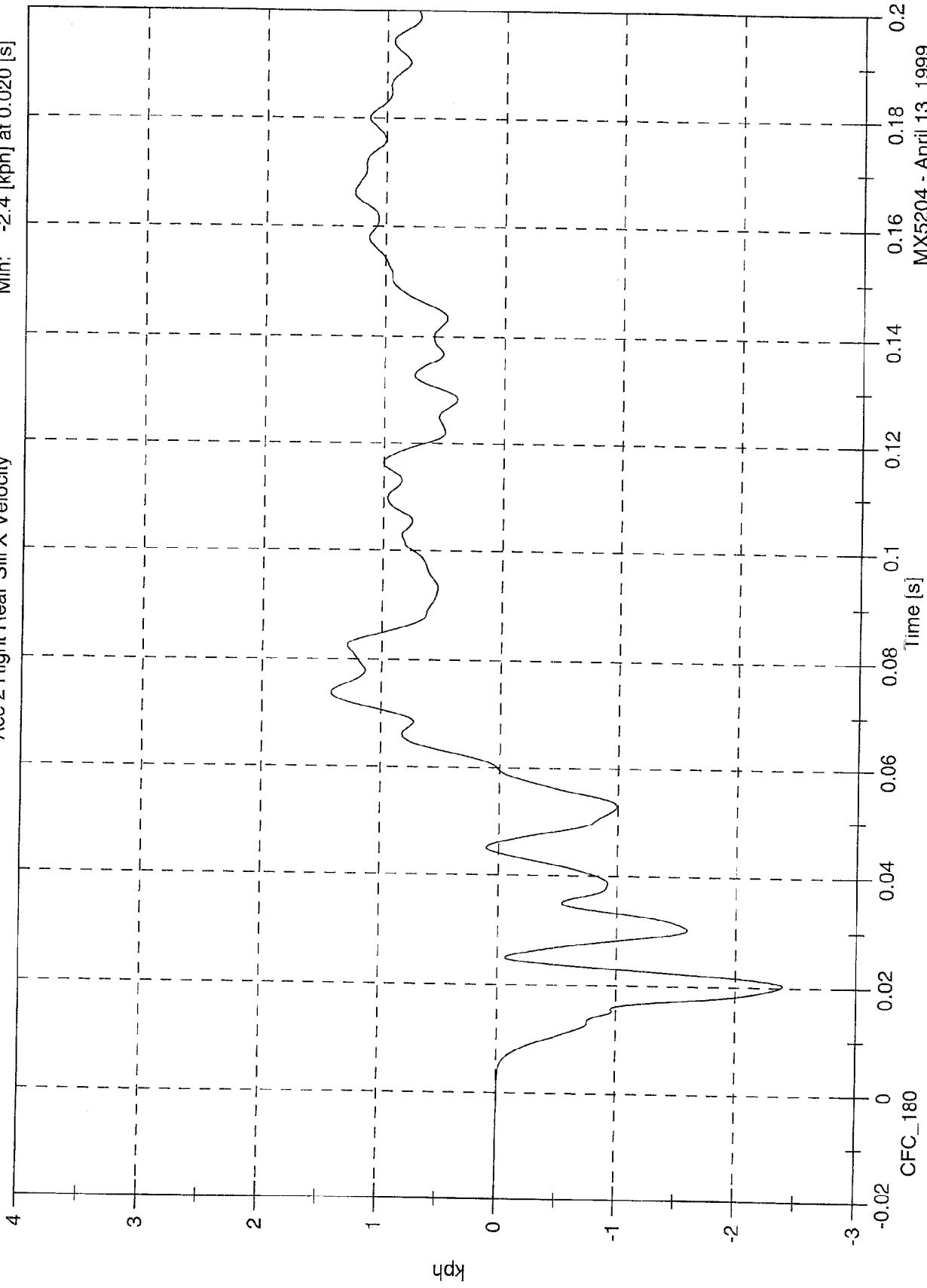
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 3.4 [kph] at 0.500 [s]

Min: -2.4 [kph] at 0.020 [s]

Acc 2 Right Rear Sill X Velocity

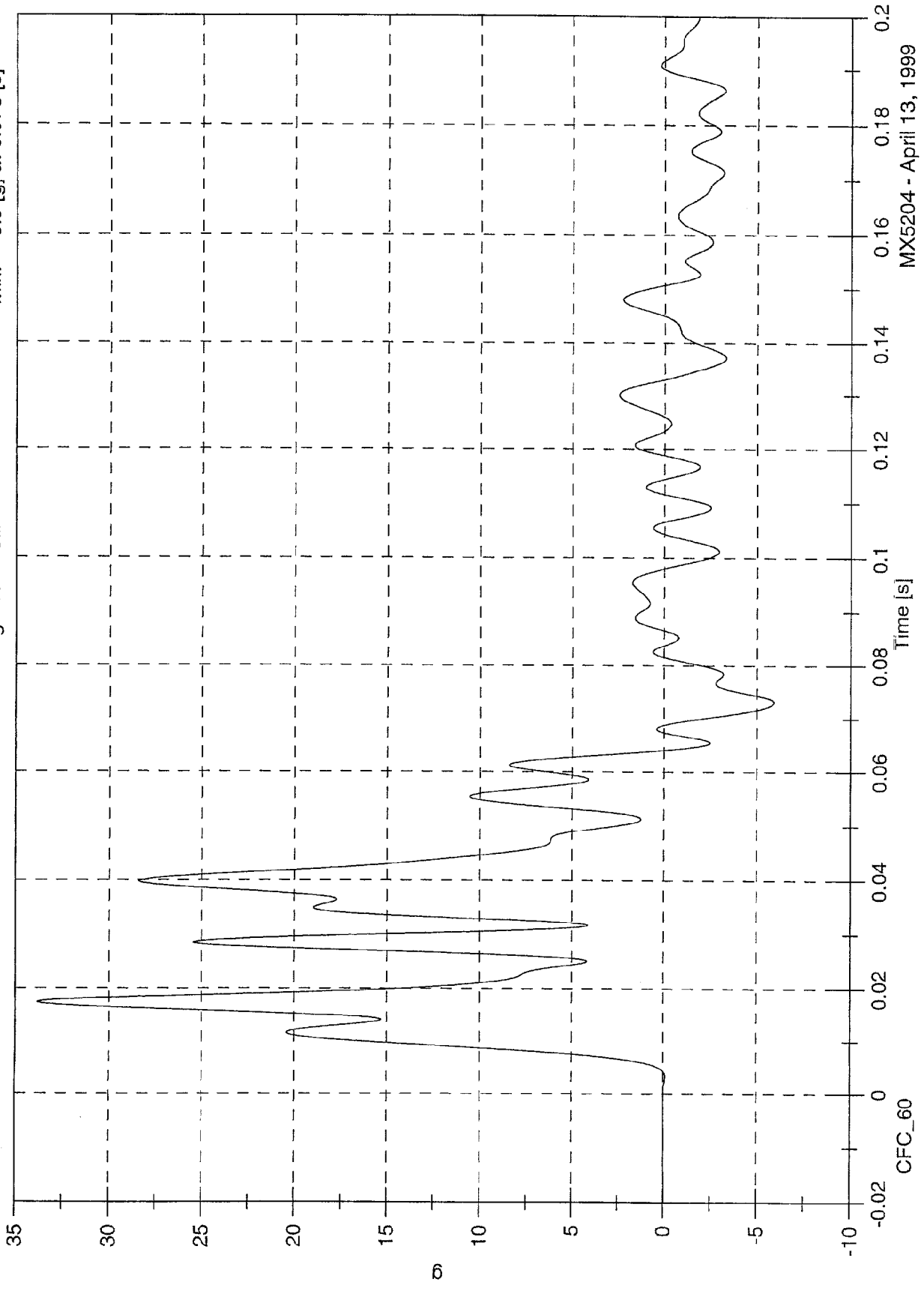


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 33.8 [g] at 0.017 [s]
Min: -5.9 [g] at 0.073 [s]

Acc 2 Right Rear Sill Y

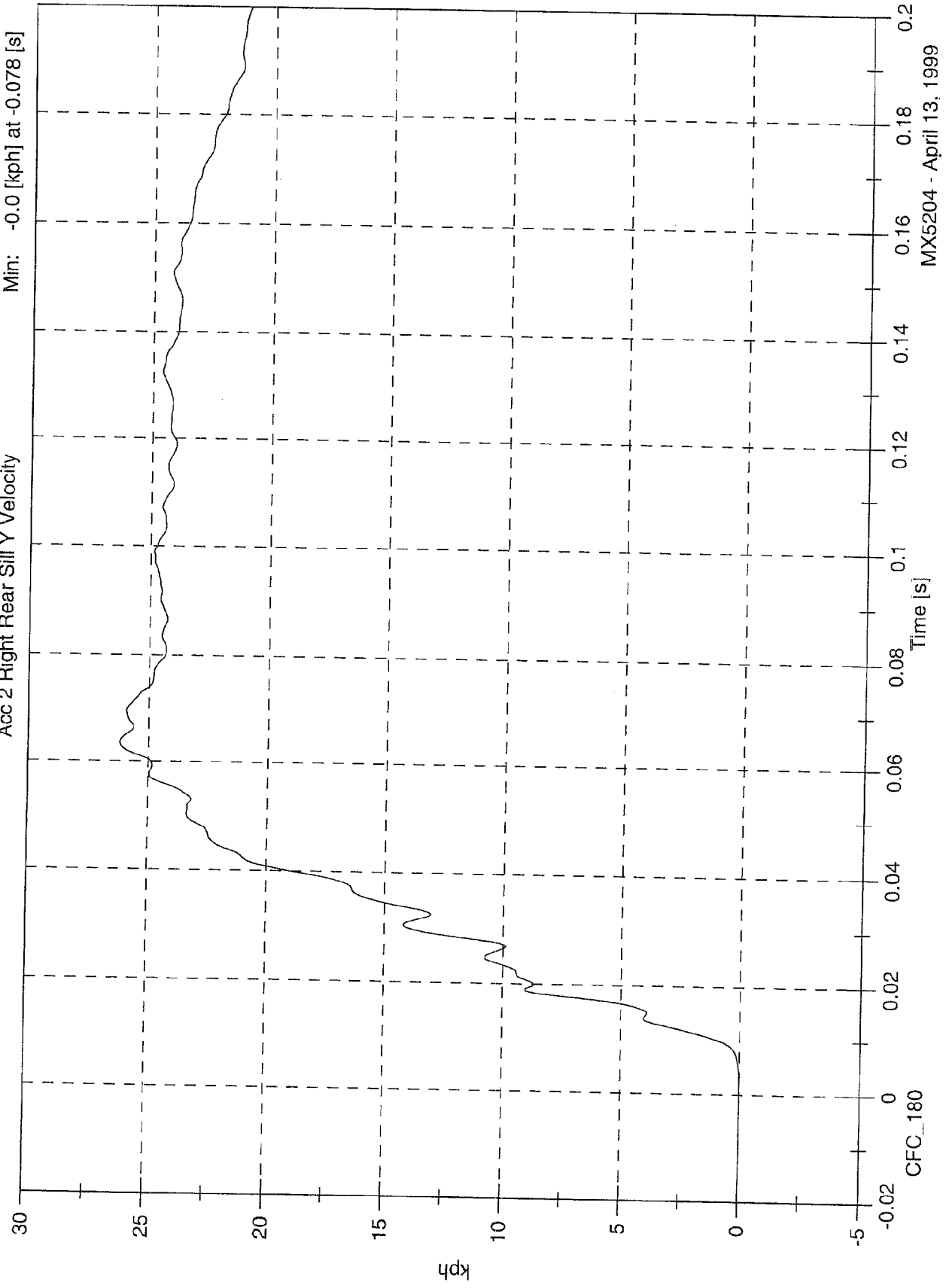


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 26.2 [kph] at 0.063 [s]
Min: -0.0 [kph] at -0.078 [s]

Acc 2 Right Rear Sill Y Velocity



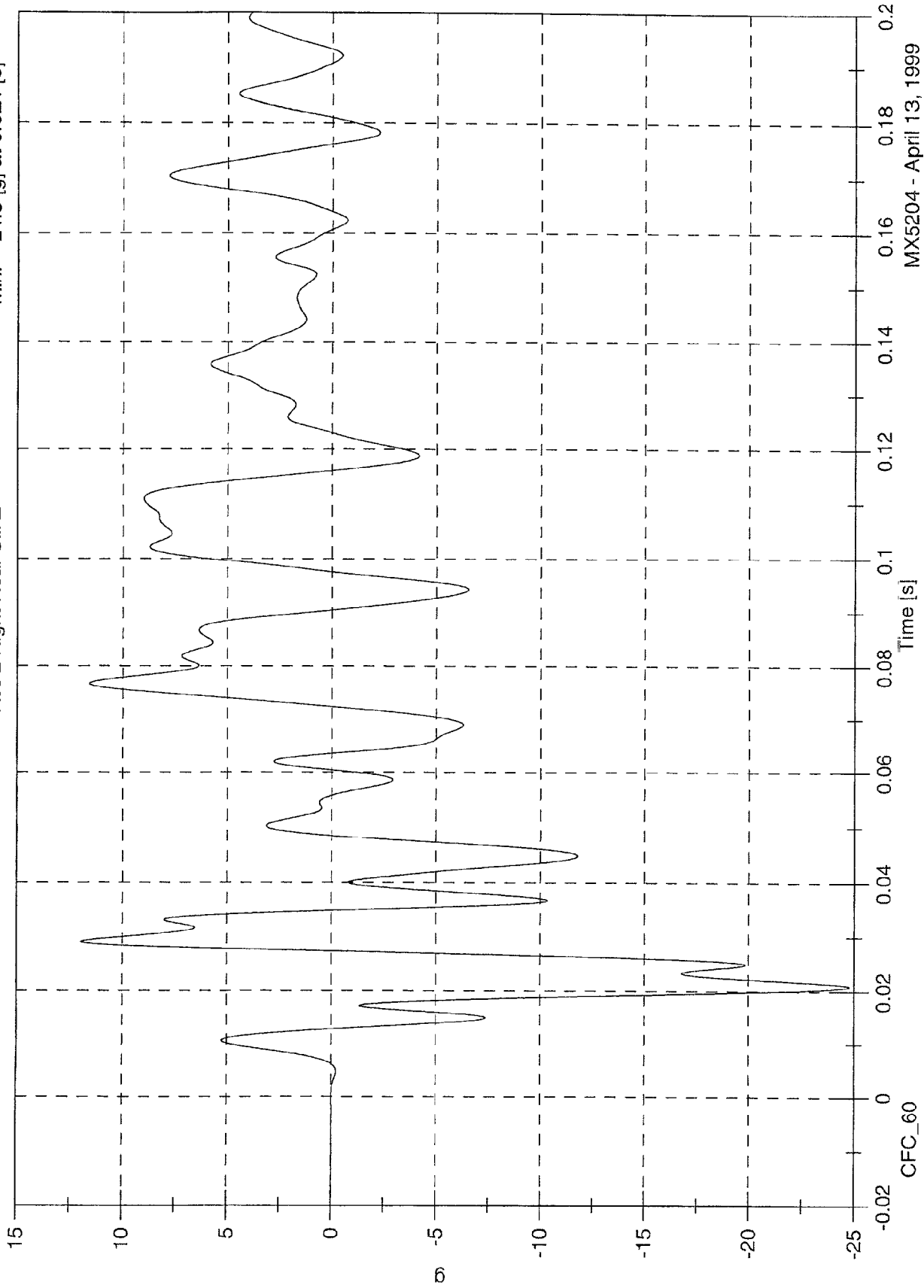
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 2 Right Rear Sill Z

Max: 12.0 [g] at 0.029 [s]

Min: -24.8 [g] at 0.021 [s]



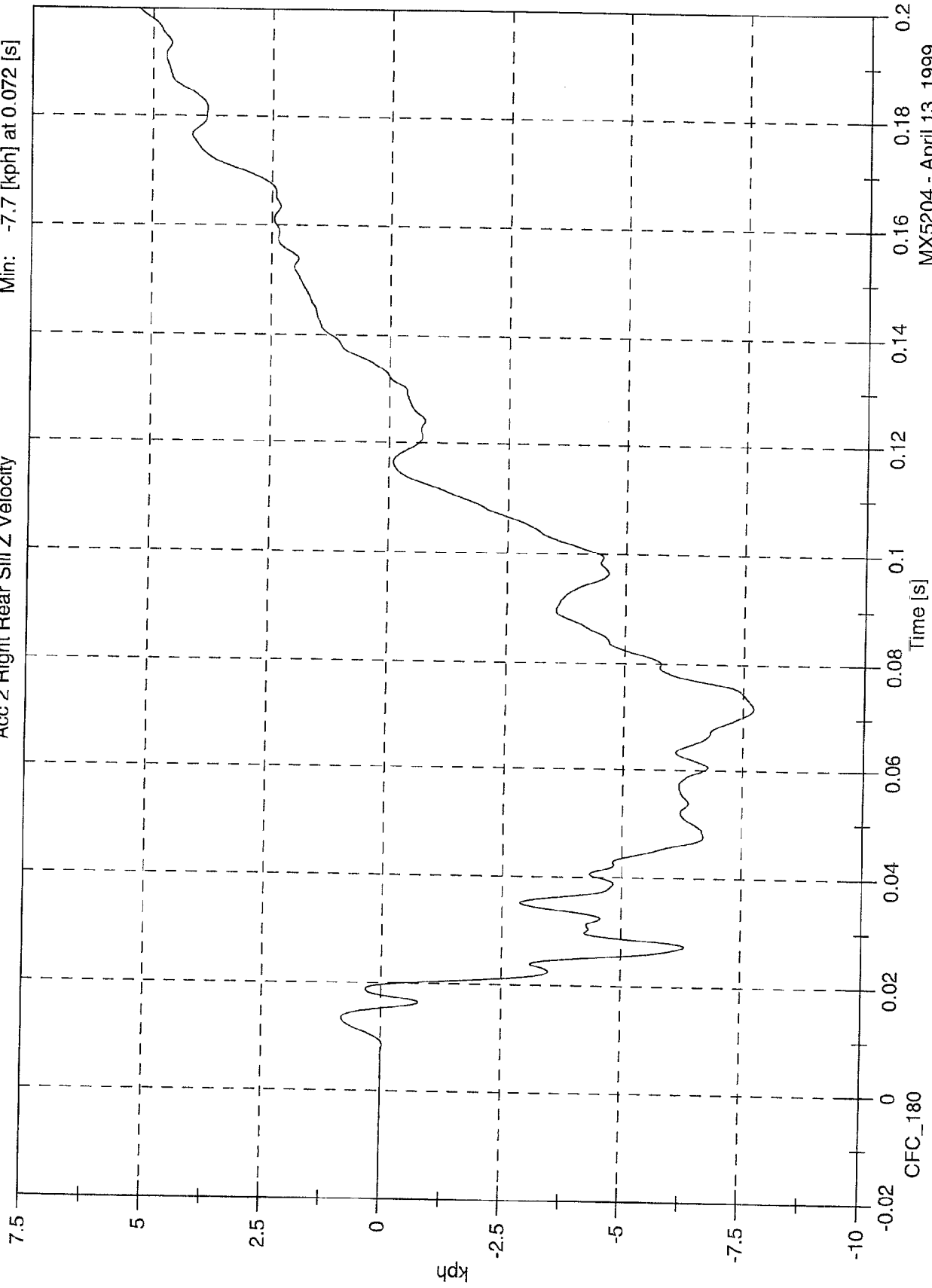
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 6.6 [kph] at 0.250 [s]

Min: -7.7 [kph] at 0.072 [s]

Acc 2 Right Rear Sill Z Velocity

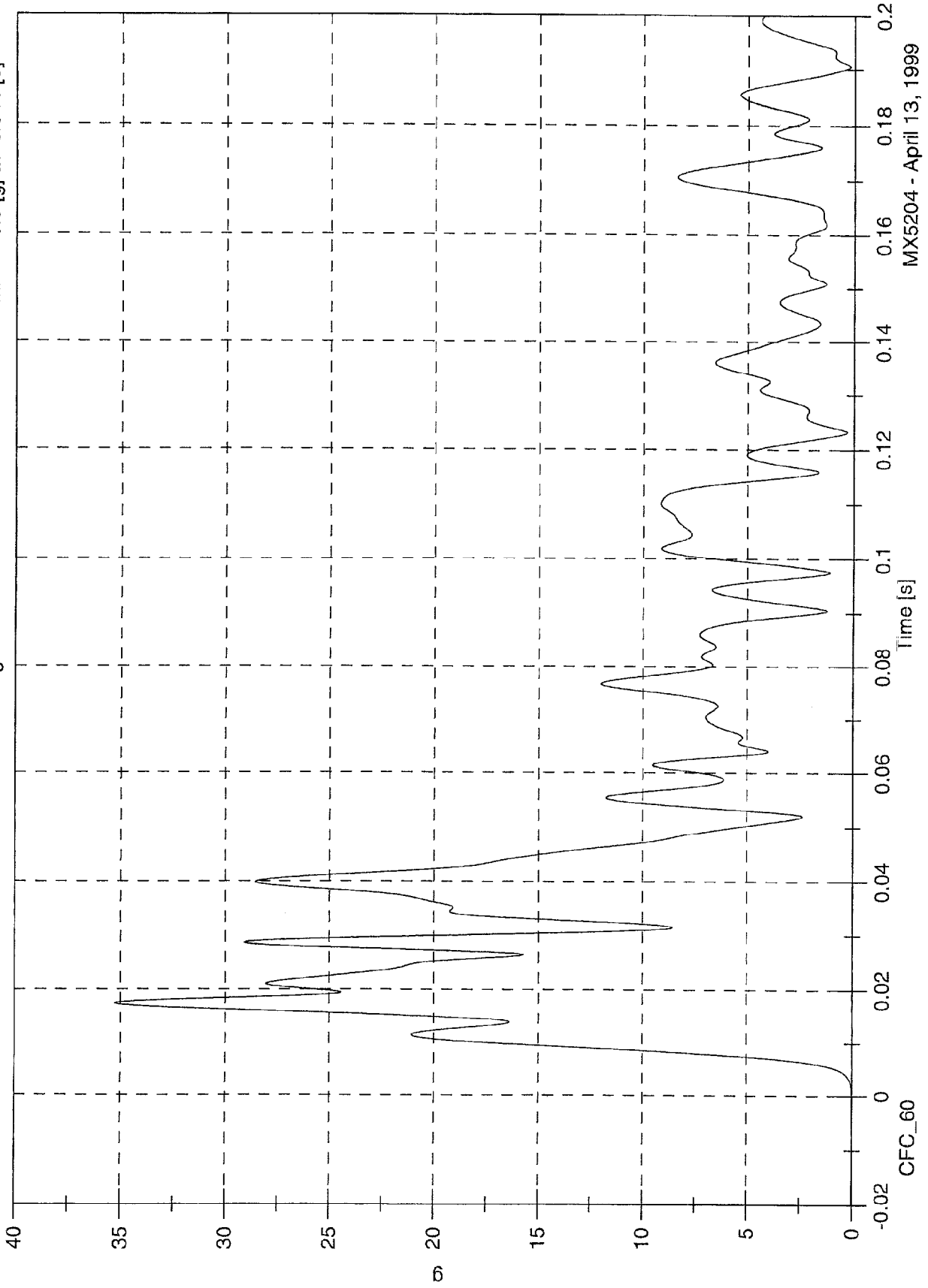


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 35.3 [g] at 0.017 [s]
Min: 0.0 [g] at -0.046 [s]

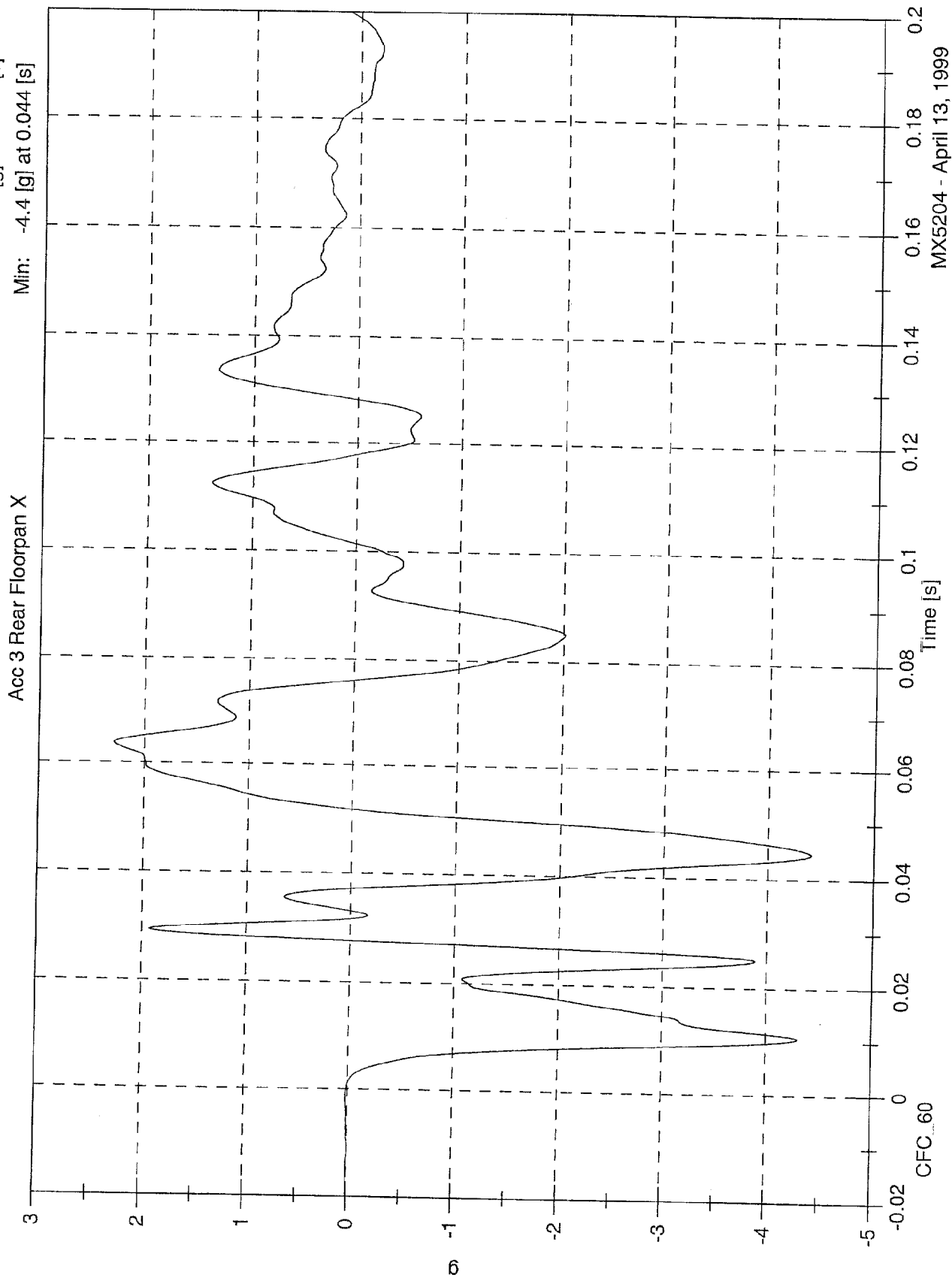
Acc 2 Right Rear Sill Resultant



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 2.3 [g] at 0.064 [s]
Min: -4.4 [g] at 0.044 [s]

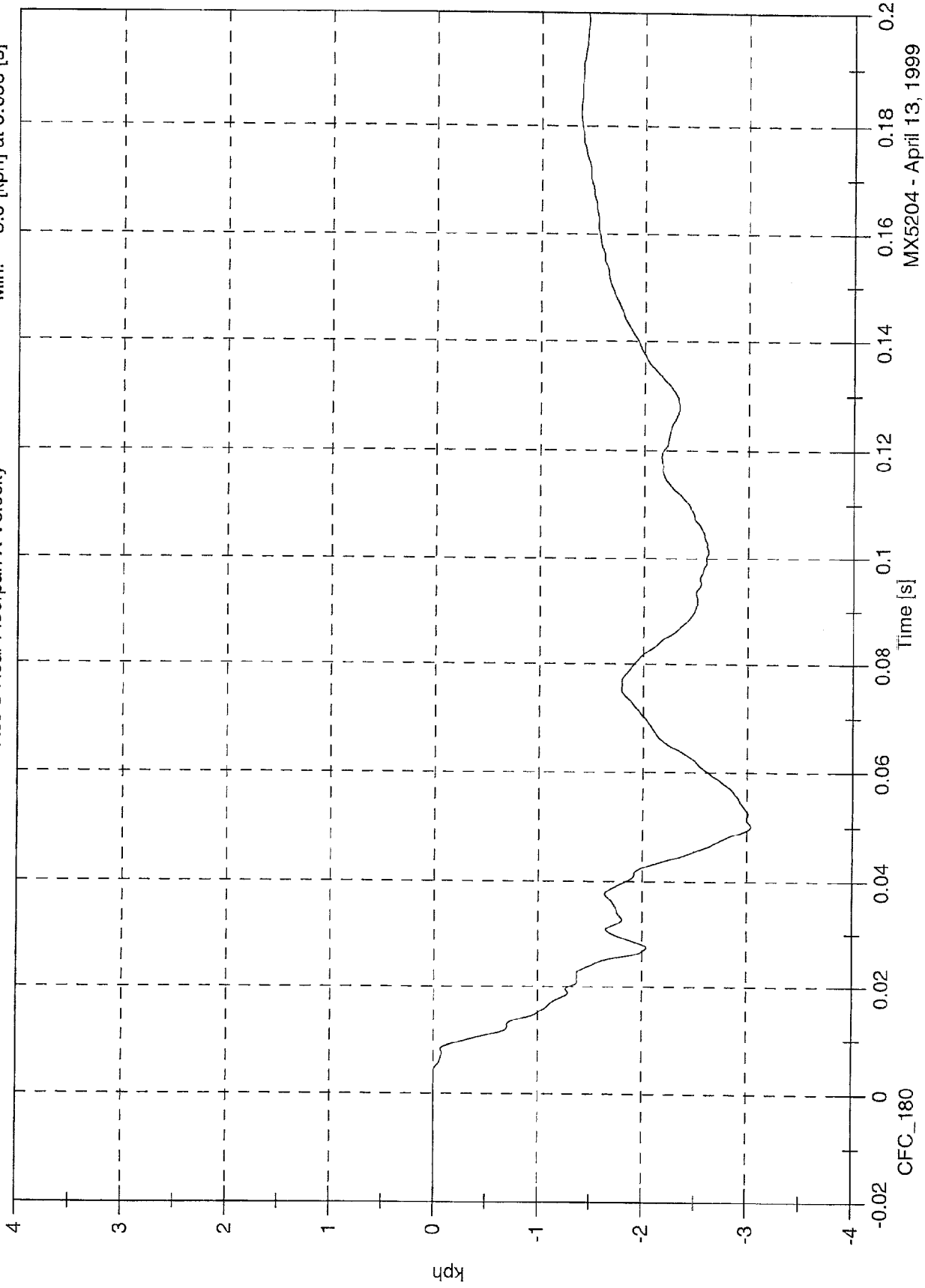


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 3.8 [kph] at 0.500 [s]
Min: -3.0 [kph] at 0.050 [s]

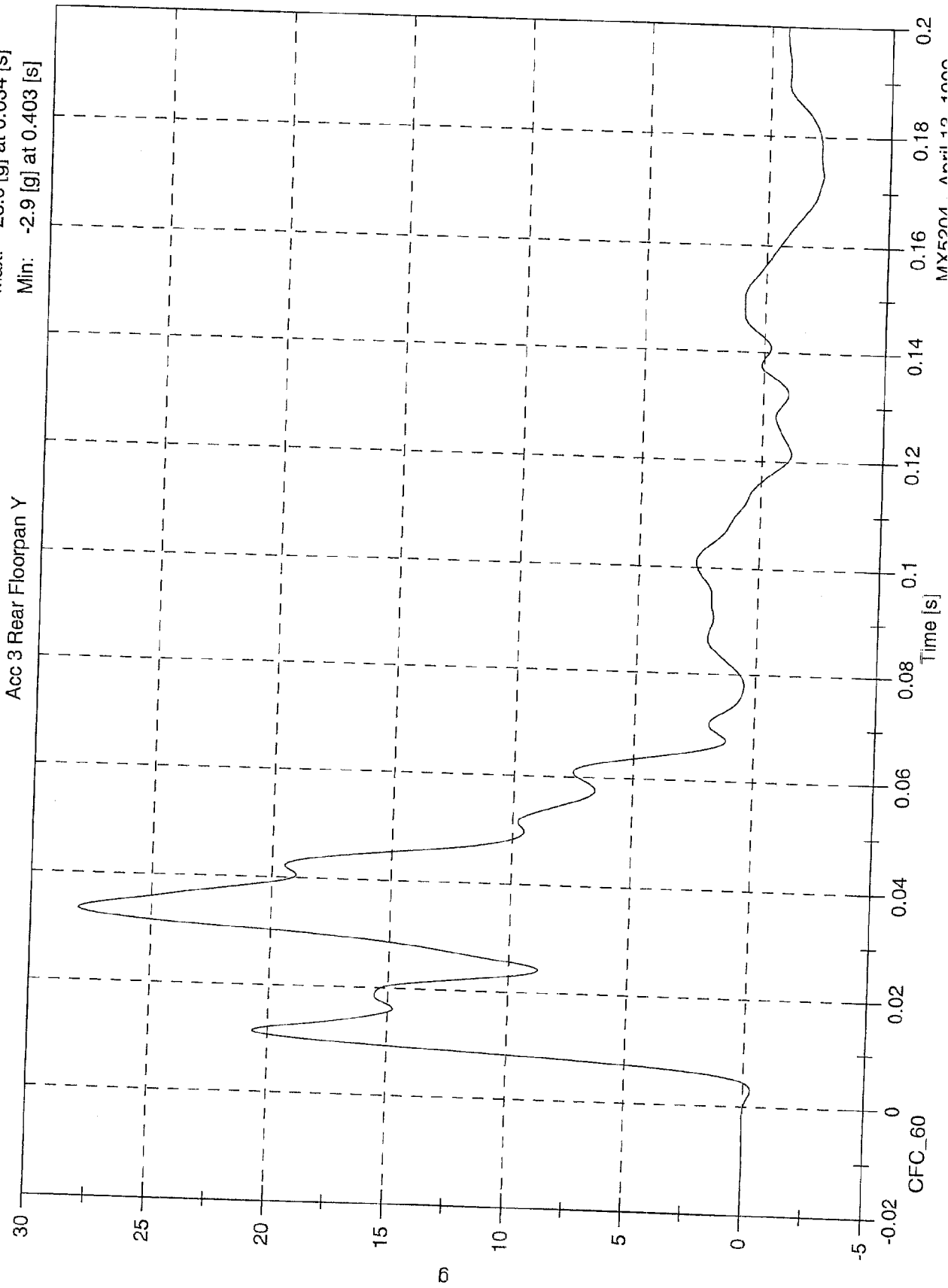
Acc 3 Rear Floorpan X Velocity



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

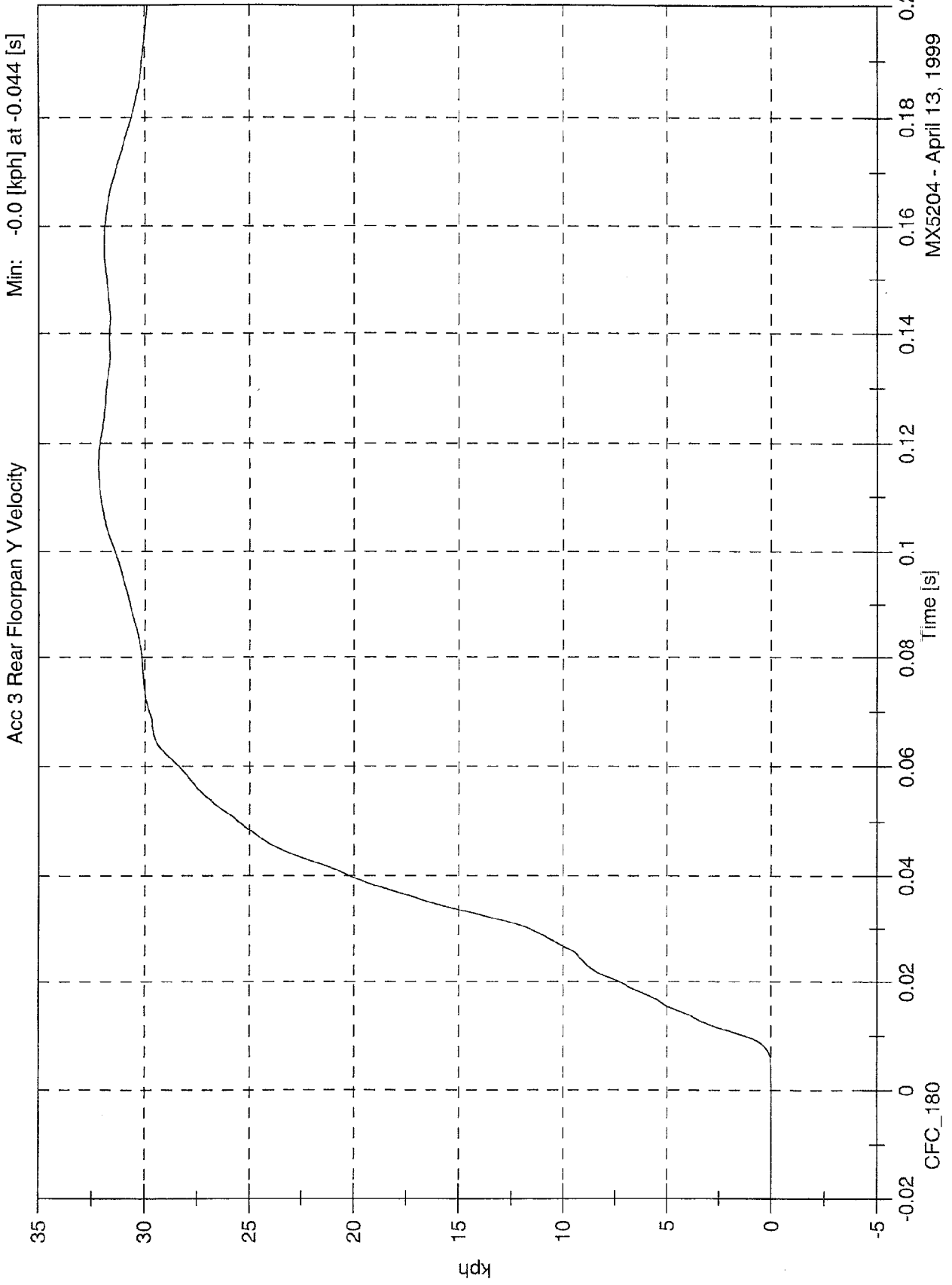
Max: 28.0 [g] at 0.034 [s]
Min: -2.9 [g] at 0.403 [s]



MX5204 April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 32.2 [kph] at 0.115 [s]
Min: -0.0 [kph] at -0.044 [s]



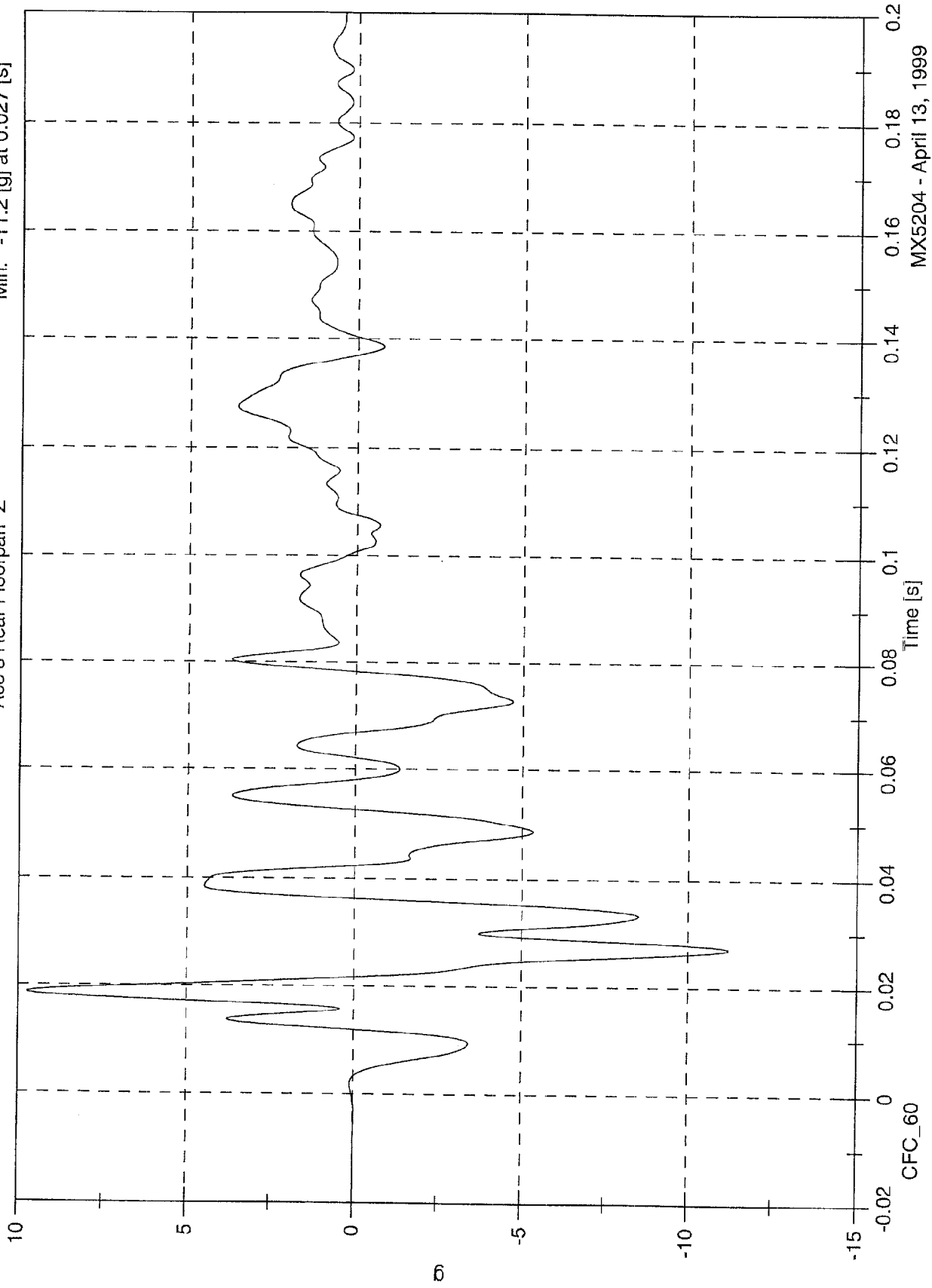
CFC_180
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 9.7 [g] at 0.019 [s]

Min: -11.2 [g] at 0.027 [s]

Acc 3 Rear Floorpan Z



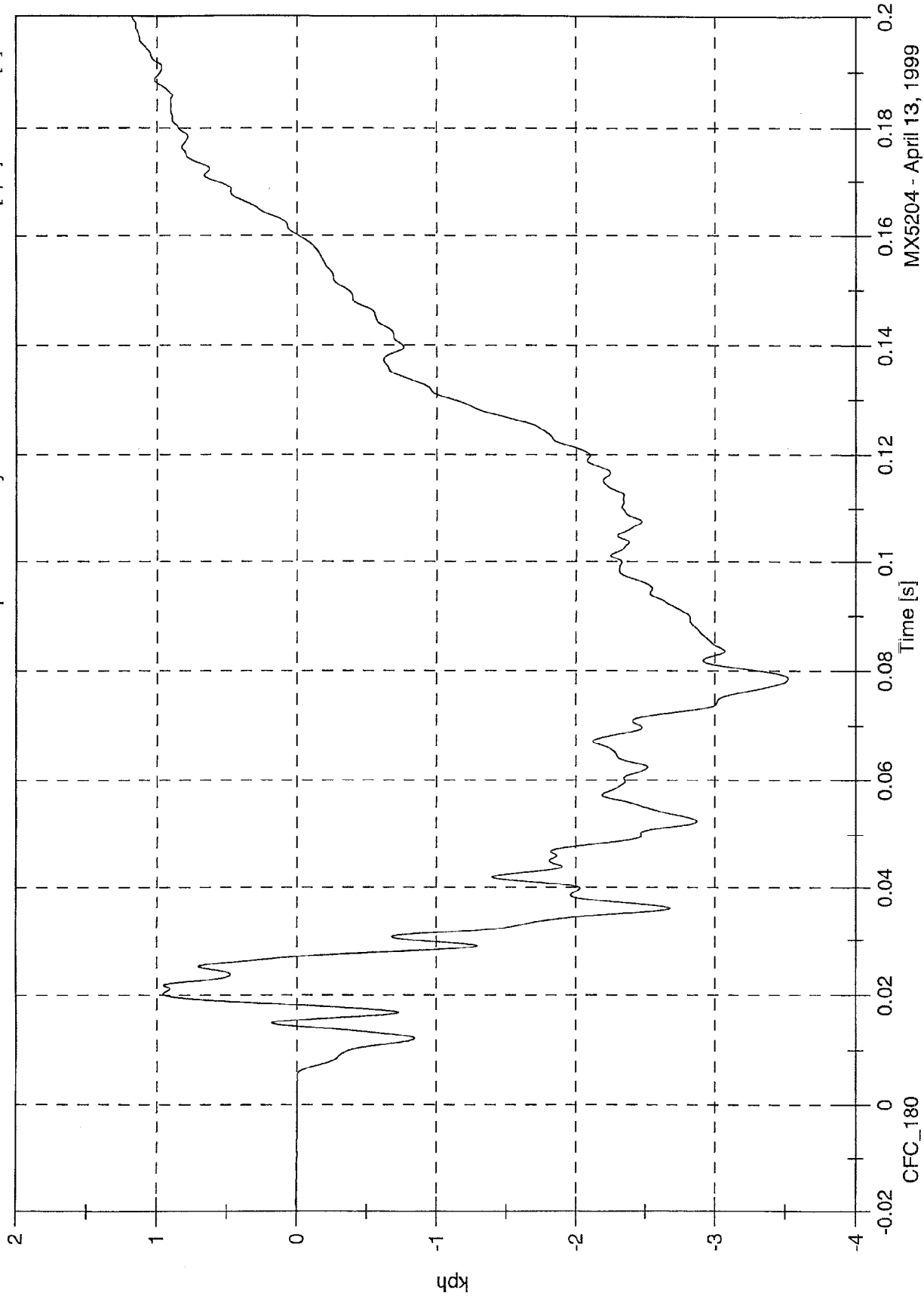
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 1.8 [kph] at 0.268 [s]

Min: -3.5 [kph] at 0.079 [s]

Acc 3 Rear Floorpan Z Velocity



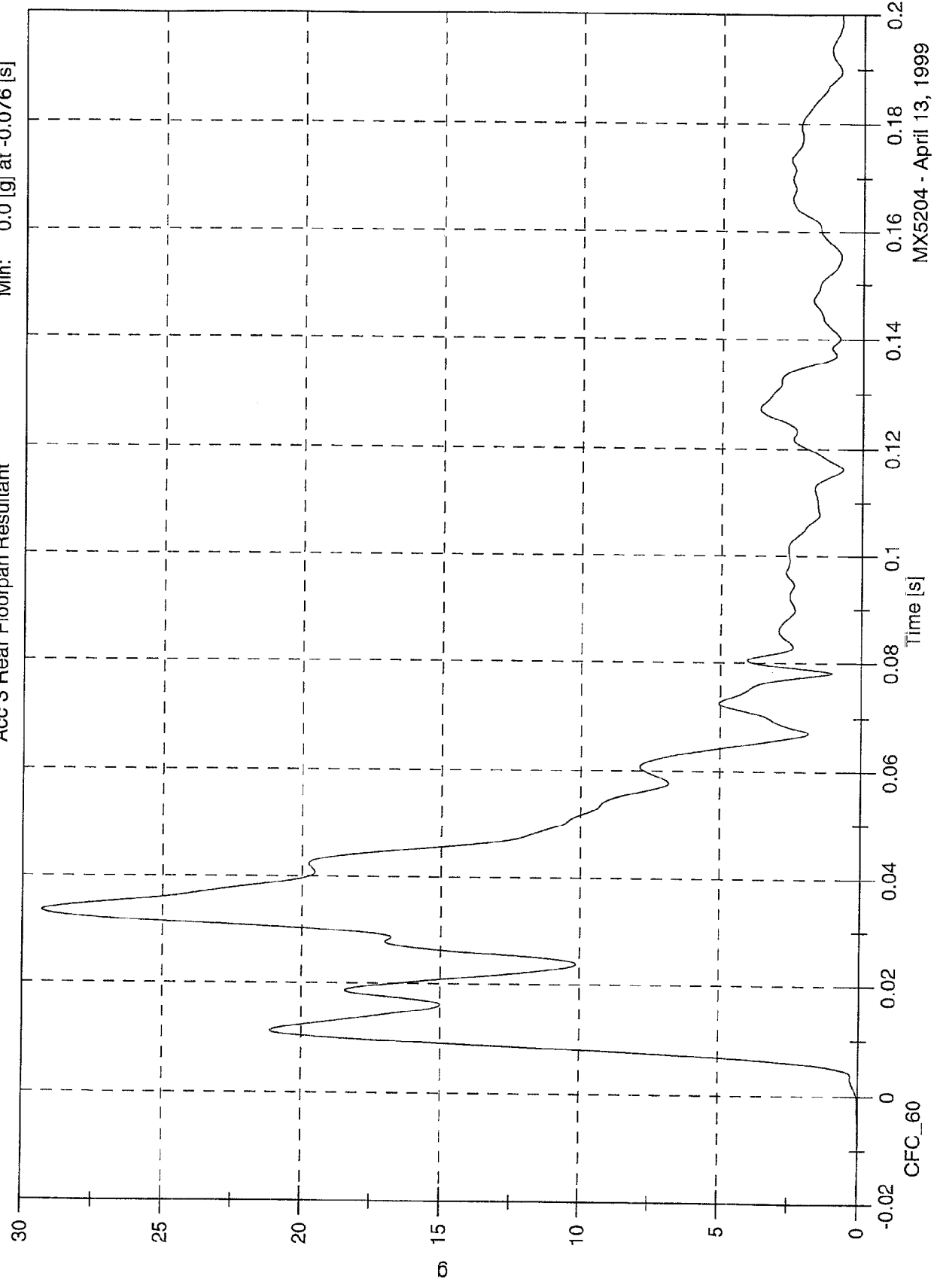
CFC_180

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 29.3 [g] at 0.034 [s]

Min: 0.0 [g] at -0.076 [s]

Acc 3 Rear Floorpan Resultant



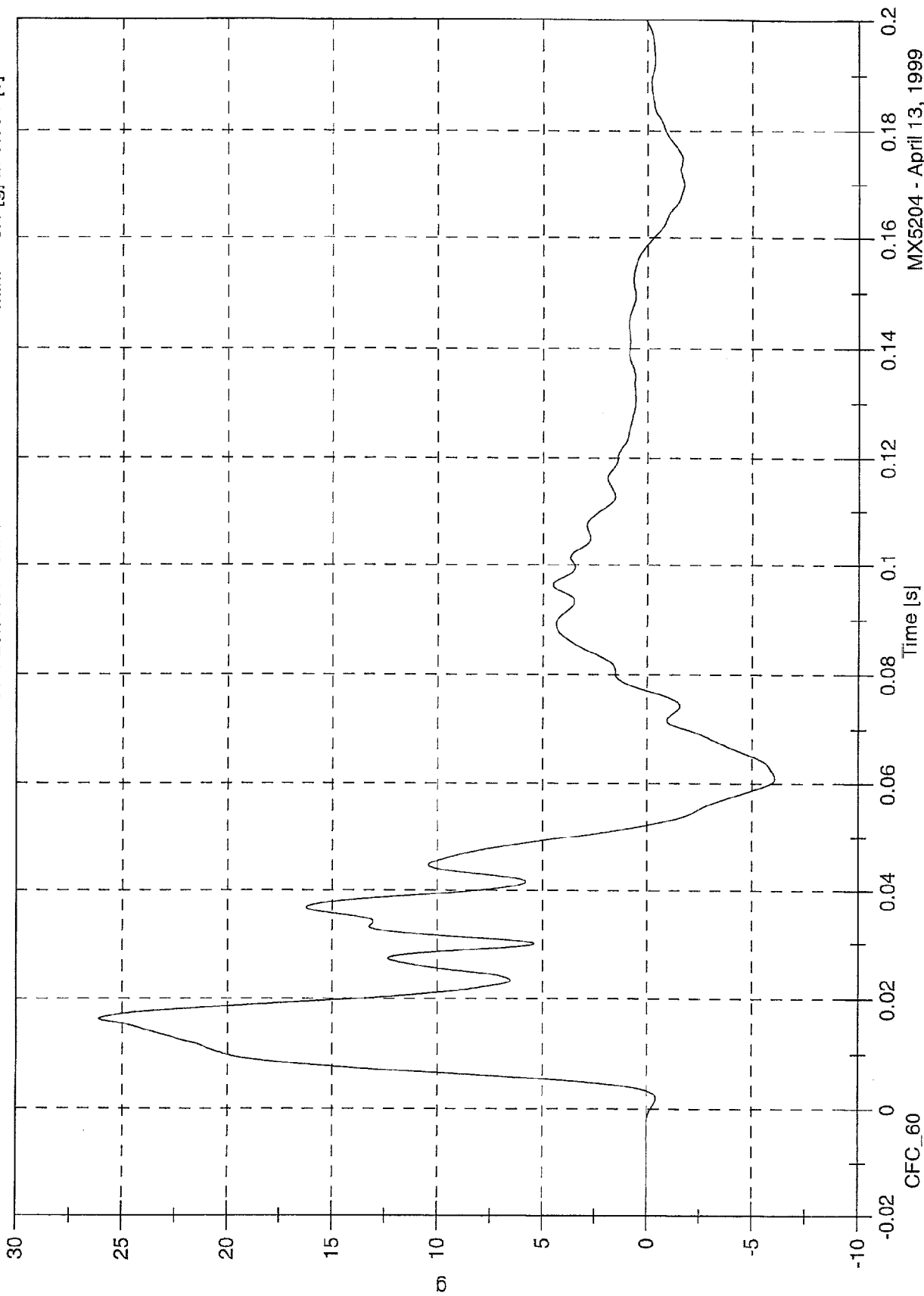
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 4 Left Rear Sill Y

Max: 26.1 [g] at 0.016 [s]

Min: -6.1 [g] at 0.061 [s]

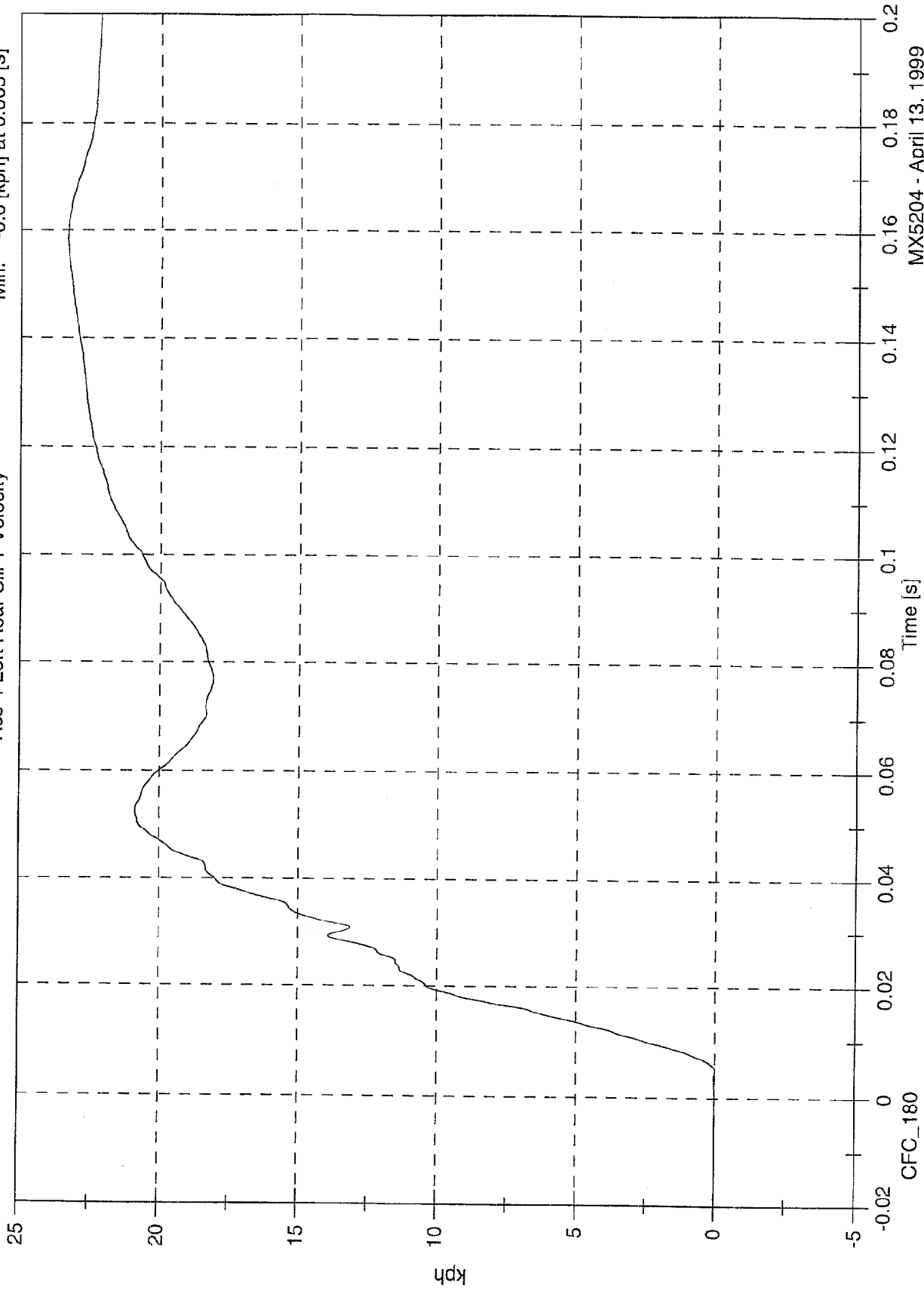


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 23.3 [kph] at 0.158 [s]
Min: -0.0 [kph] at 0.005 [s]

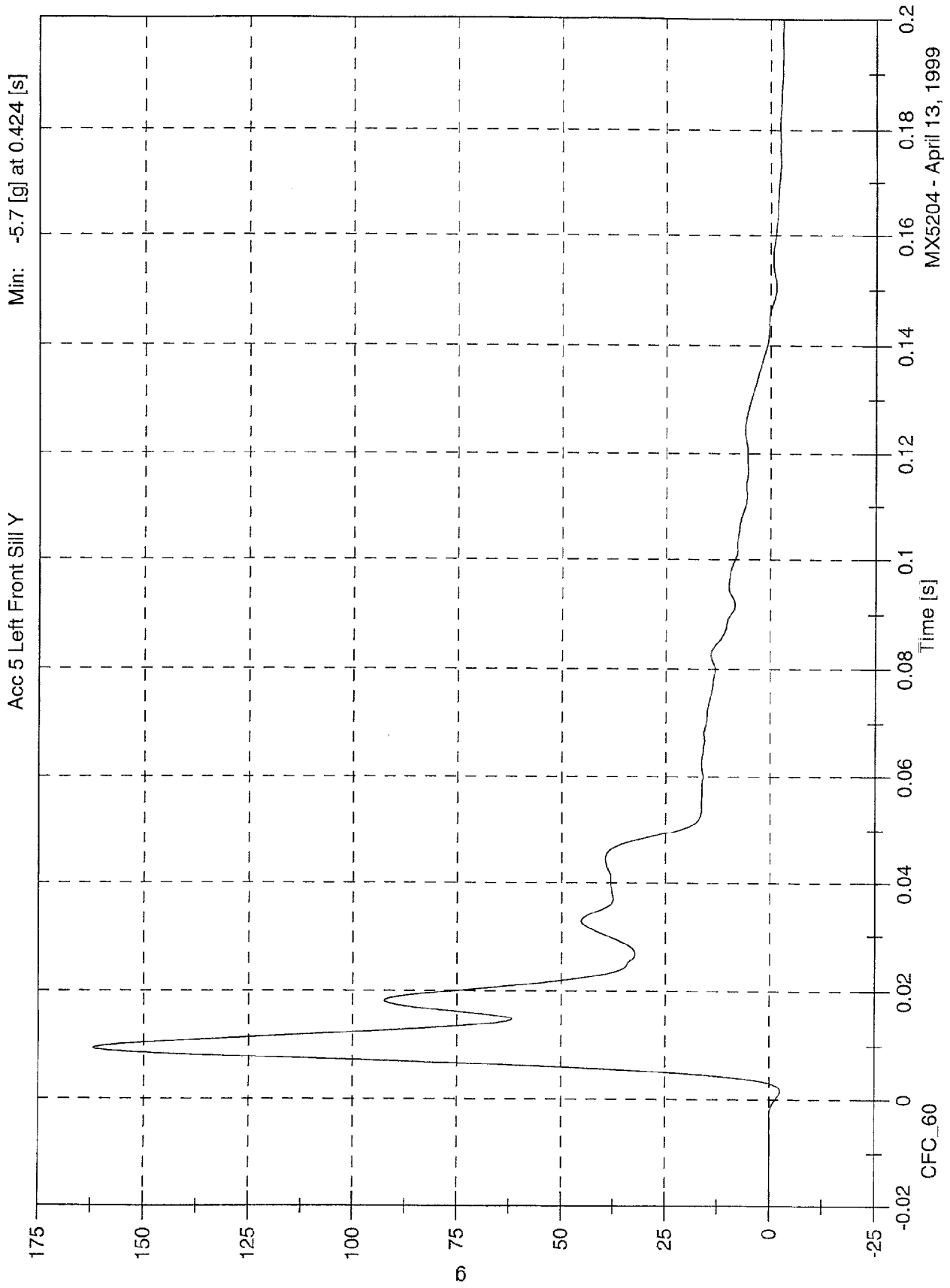
Acc 4 Left Rear Sill Y Velocity



MX5204 - April 13, 1999

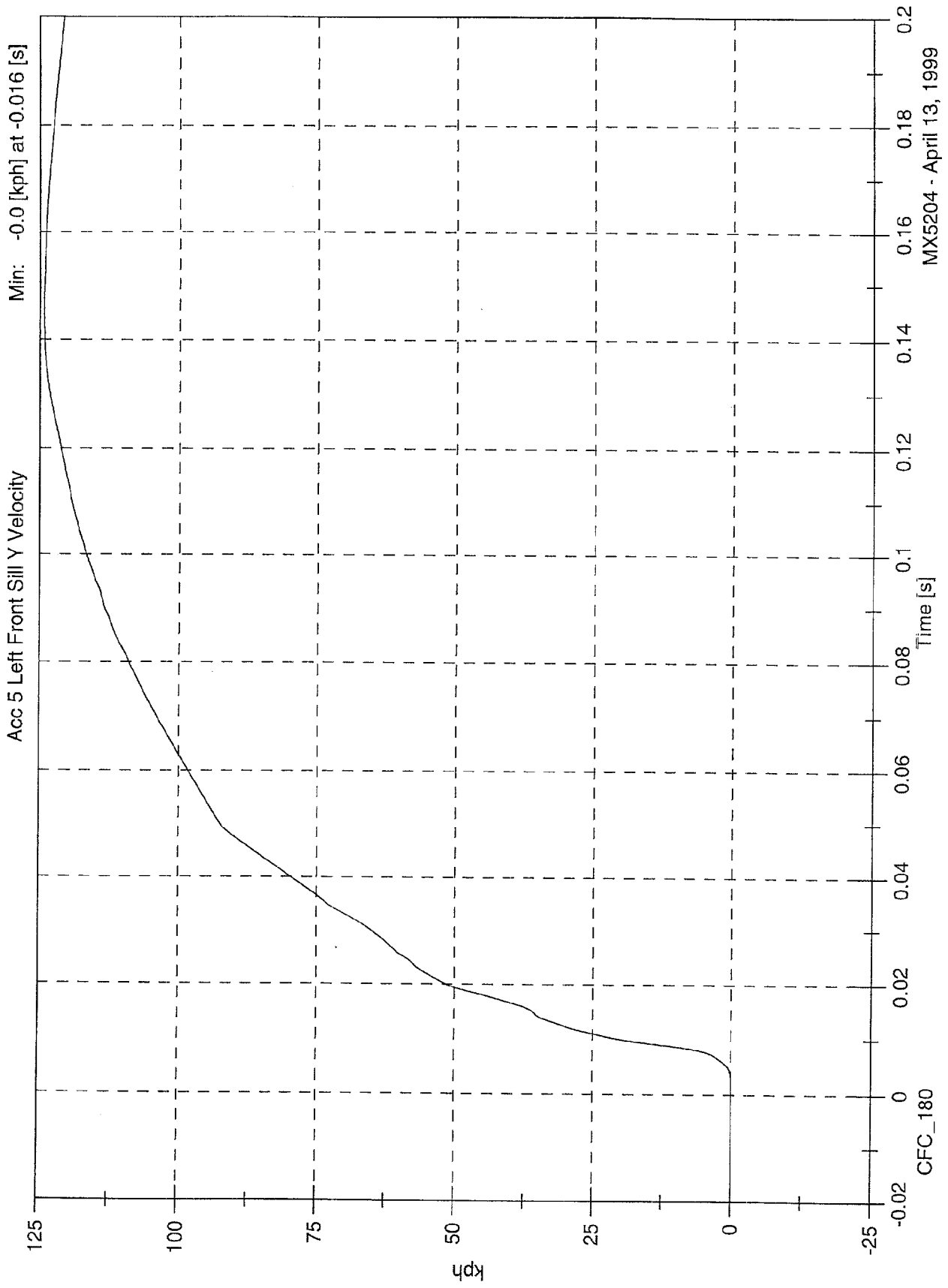
SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 162.1 [g] at 0.010 [s]
Min: -5.7 [g] at 0.424 [s]



MX5204 - April 13, 1999

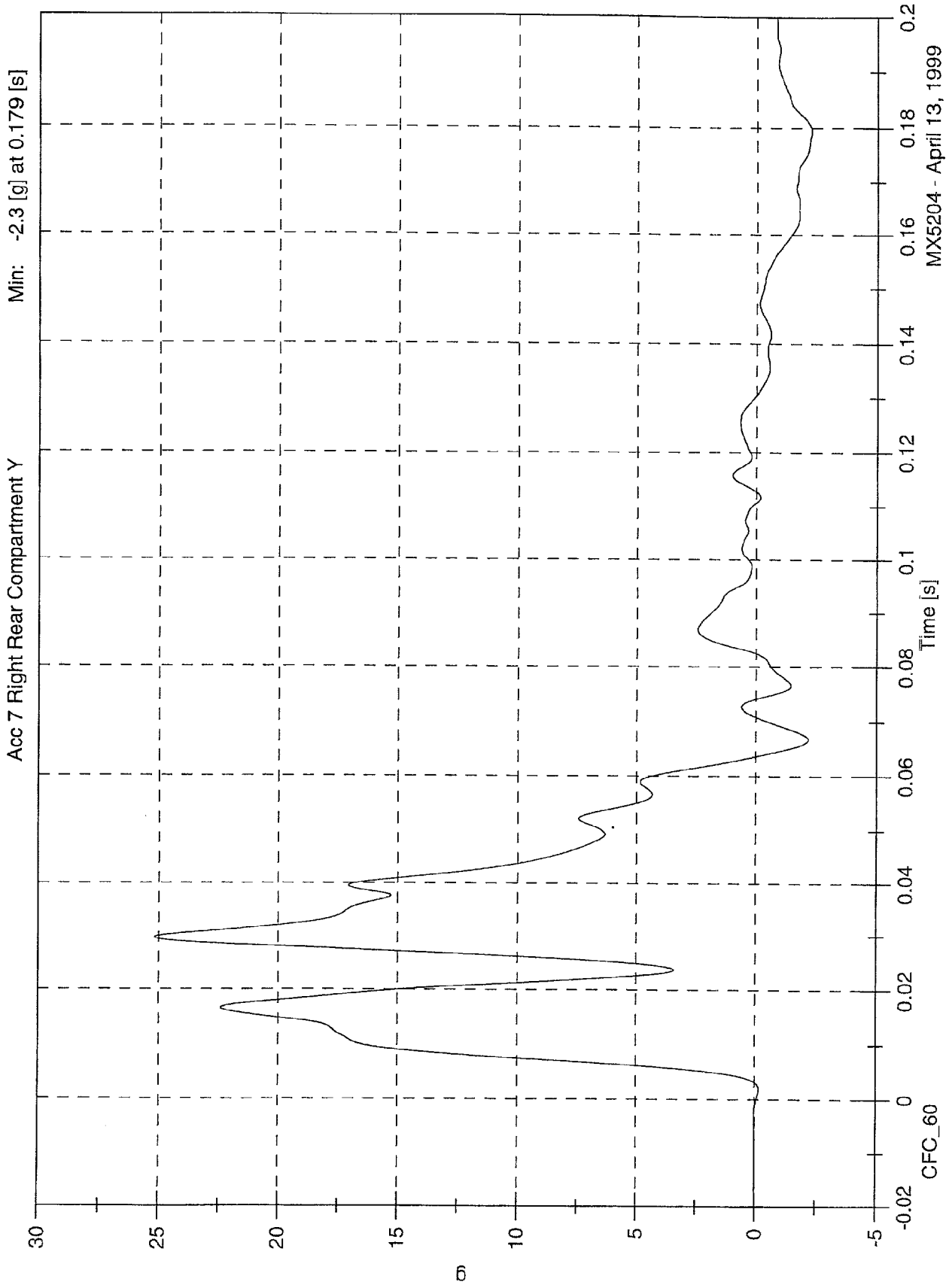
SNCAP Test # 5 - 1999 Nissan Pathfinder



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 25.2 [g] at 0.030 [s]
Min: -2.3 [g] at 0.179 [s]



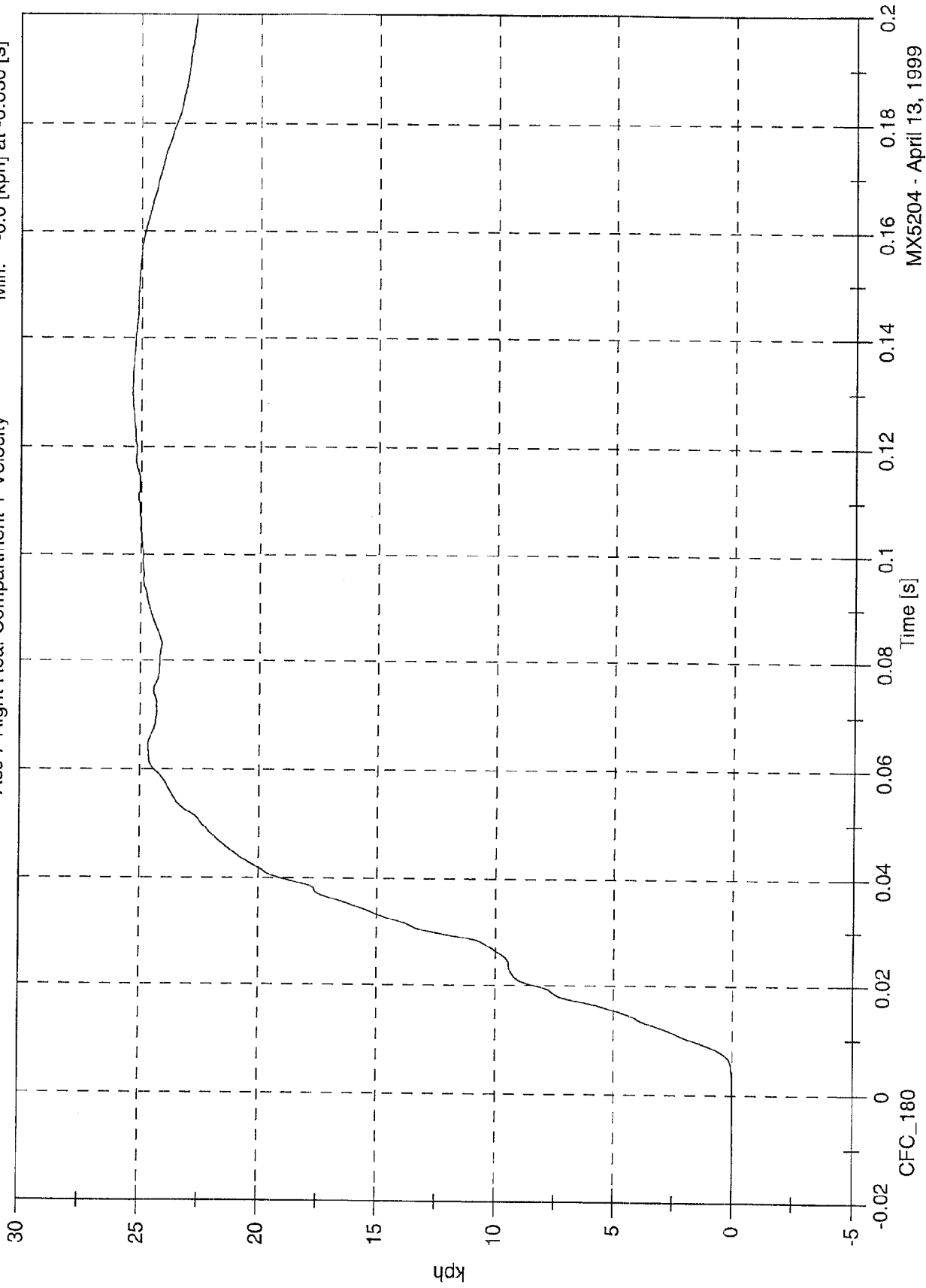
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 25.4 [kph] at 0.131 [s]

Min: -0.0 [kph] at -0.030 [s]

Acc 7 Right Rear Compartment Y Velocity



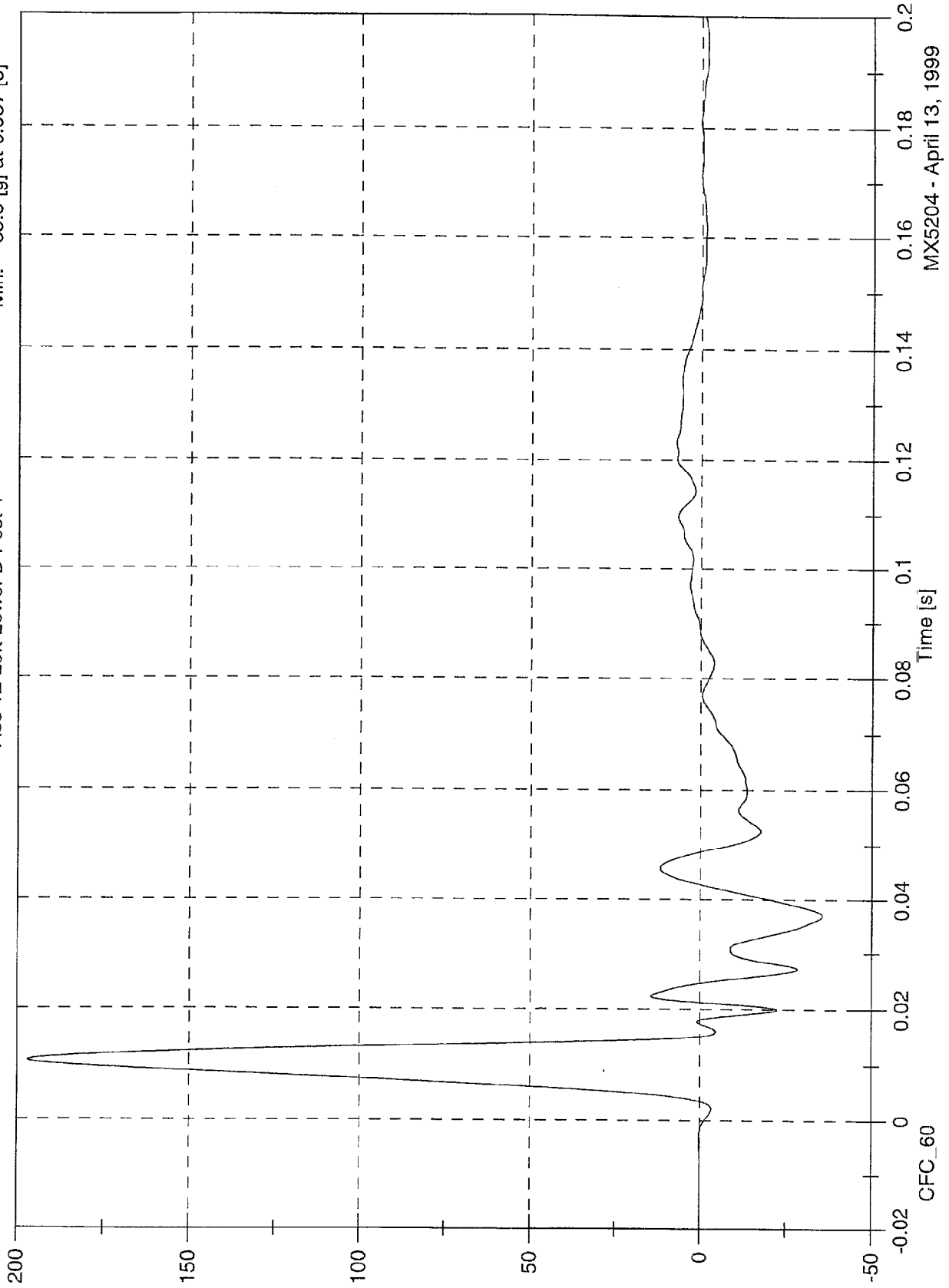
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 197.0 [g] at 0.011 [s]

Min: -35.6 [g] at 0.037 [s]

Acc 12 Left Lower B-Post Y

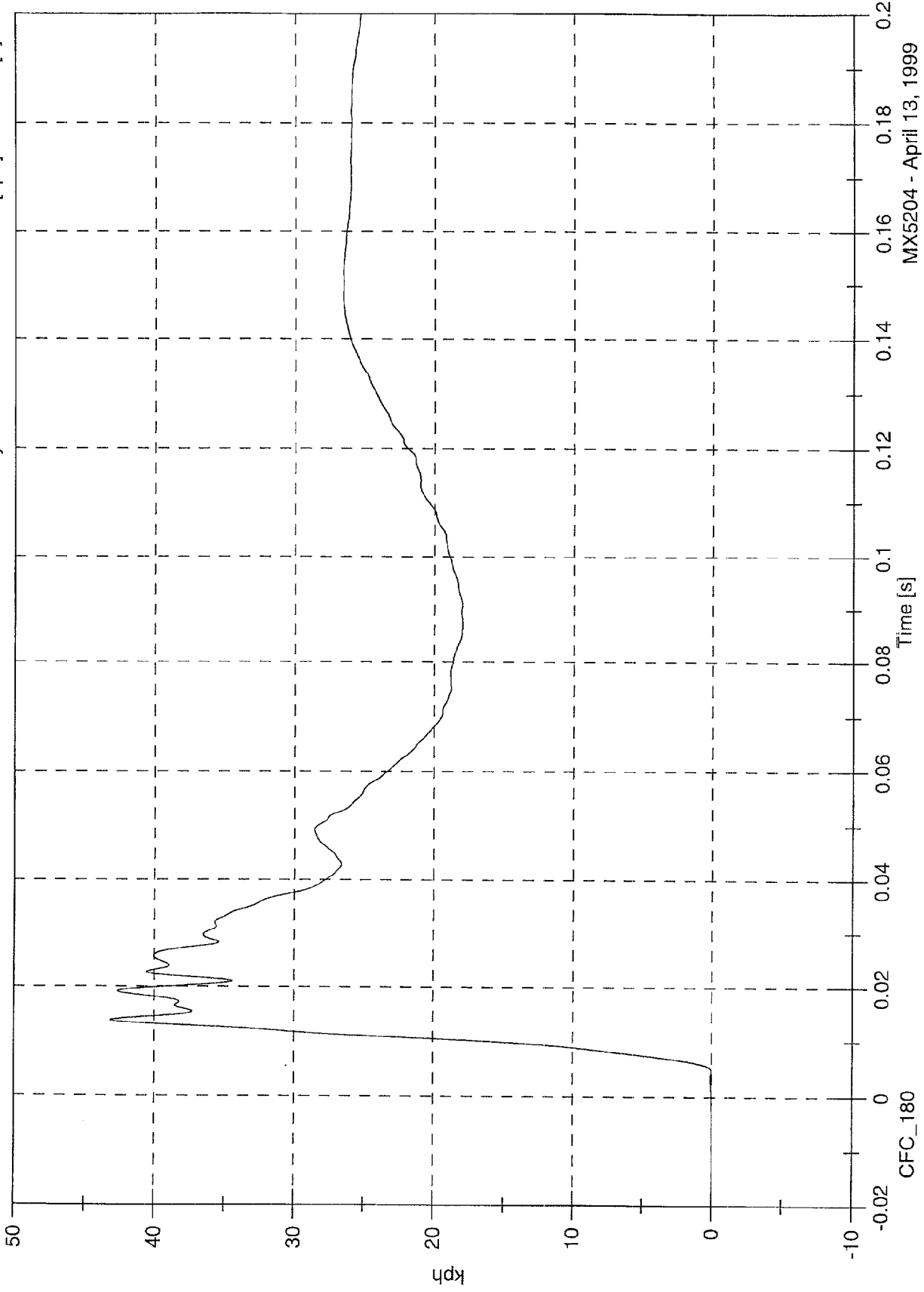


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 12 Left Lower B-Post Y Velocity

Max: 43.1 [kph] at 0.014 [s]
Min: -0.0 [kph] at -0.043 [s]

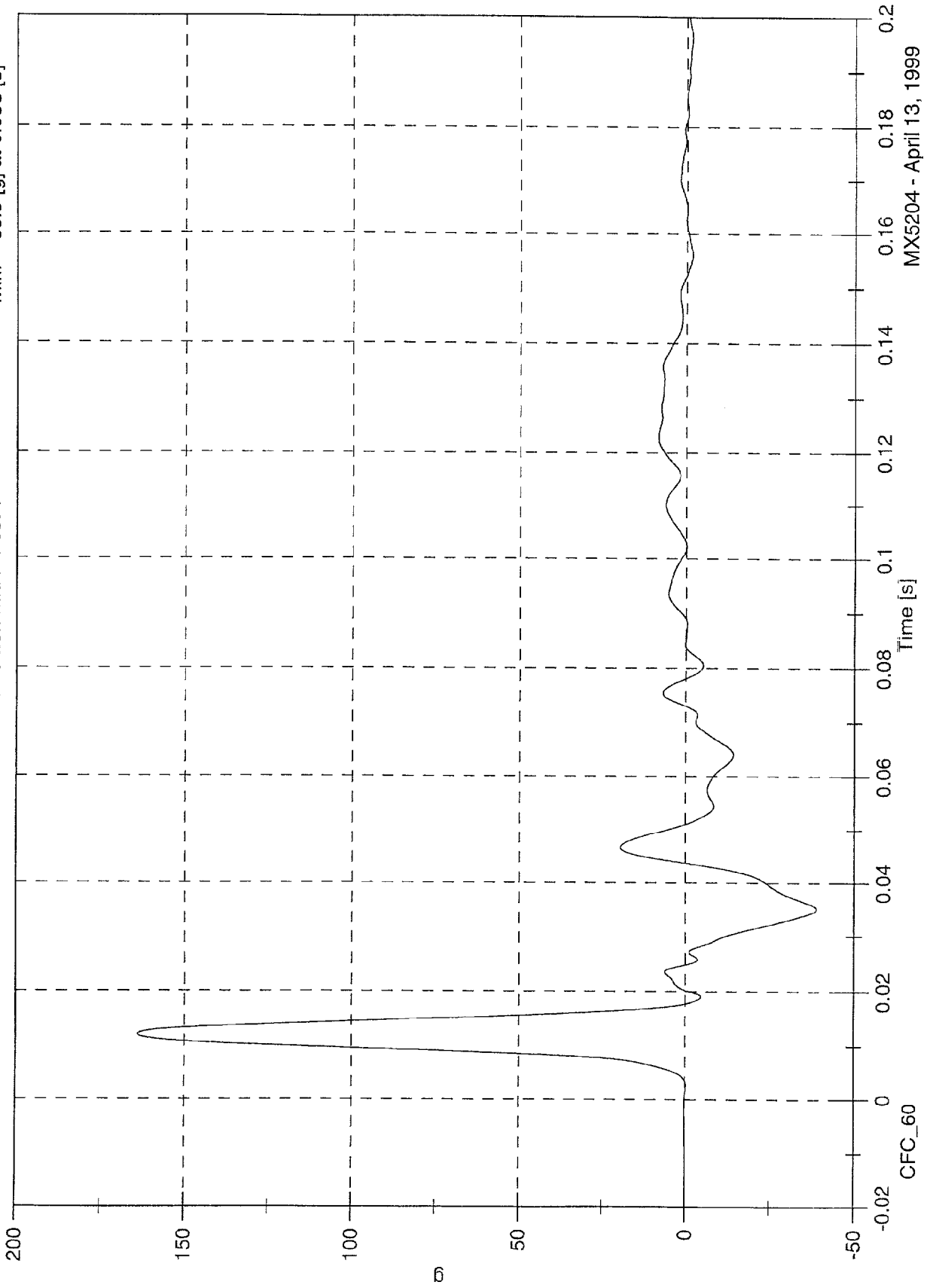


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 13 Left Mid B-Post Y

Max: 164.0 [g] at 0.012 [s]
Min: -38.8 [g] at 0.035 [s]



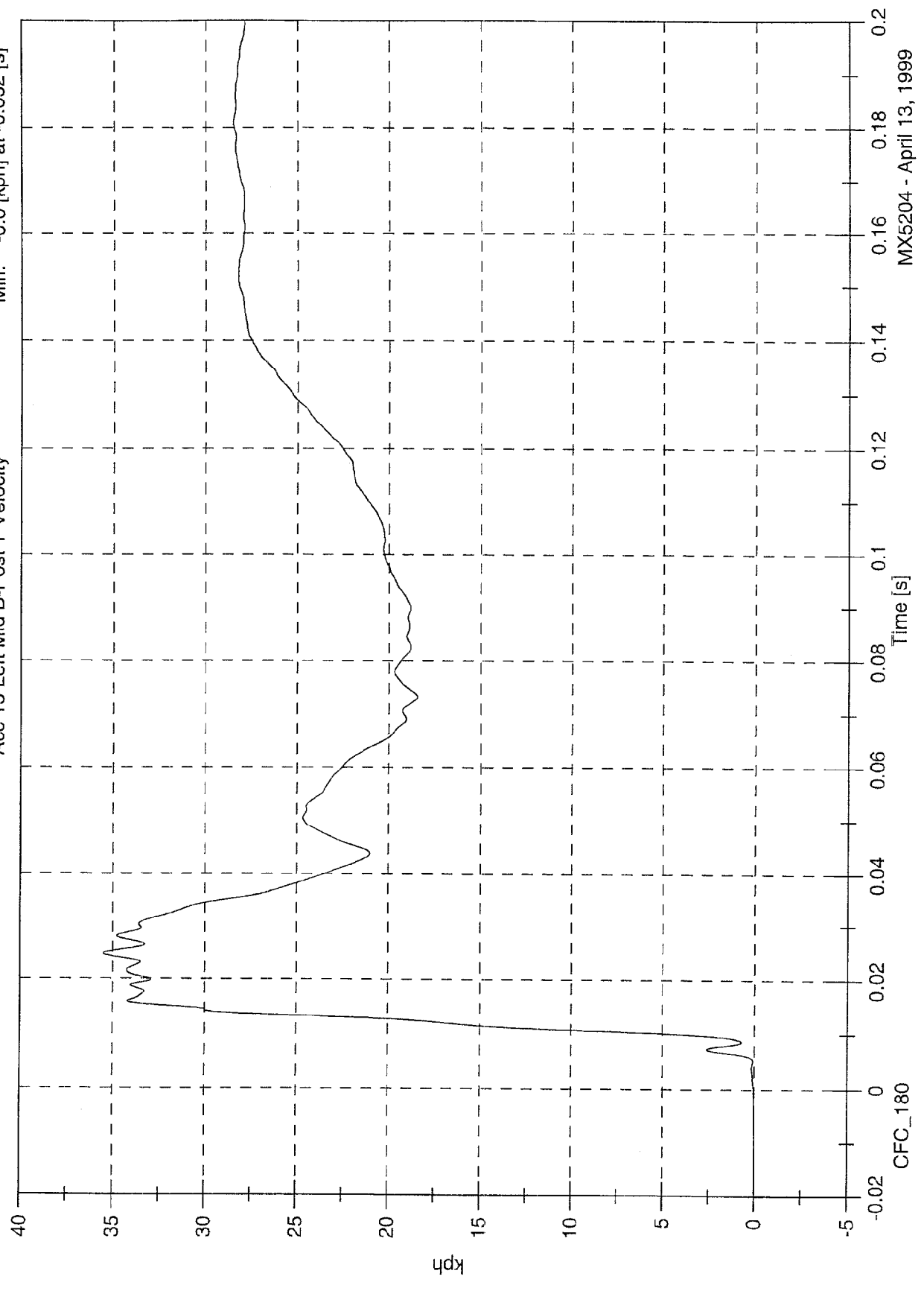
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 35.5 [kph] at 0.025 [s]

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

Acc 13 Left Mid B-Post Y Velocity



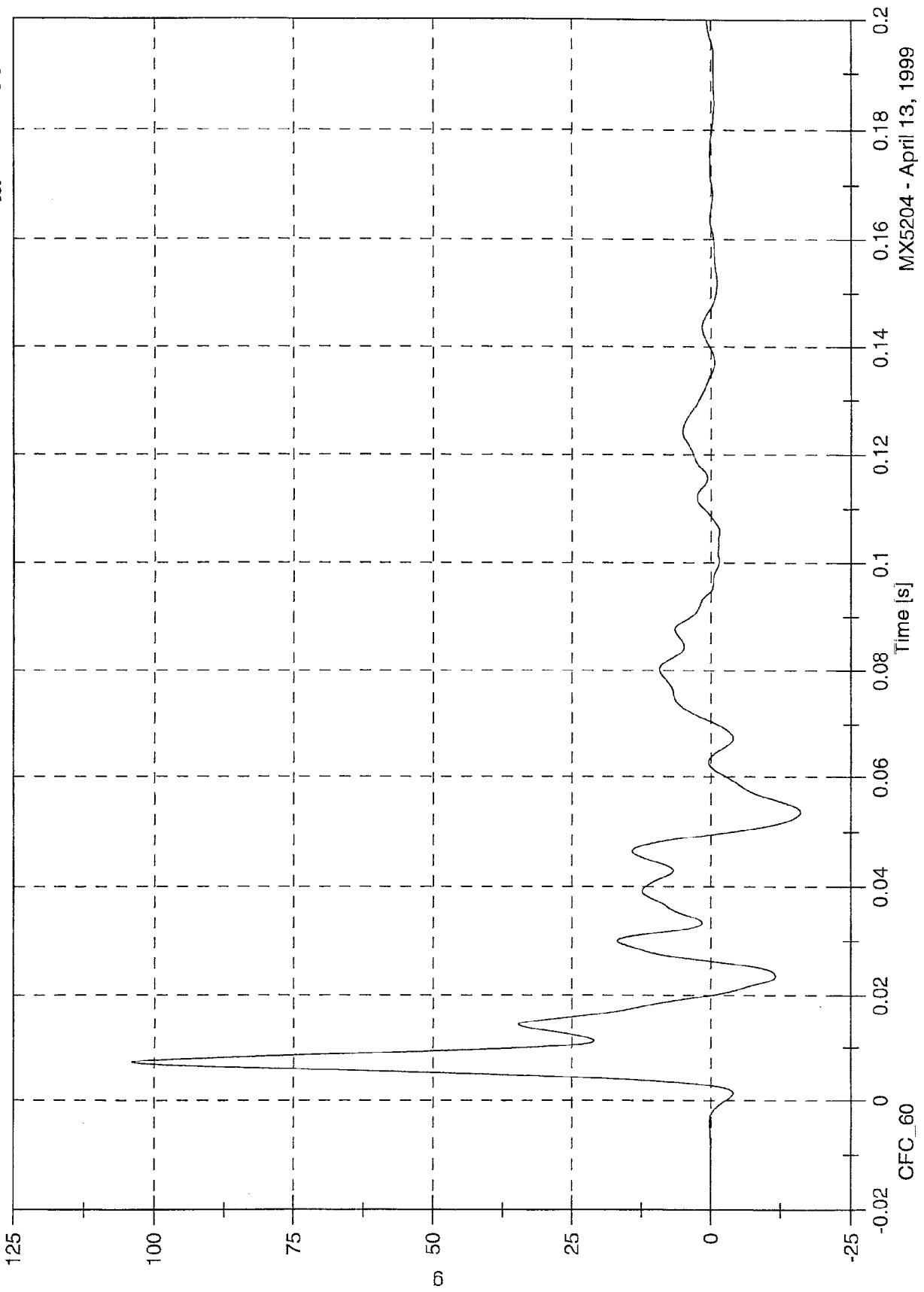
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 14 Left Lower A Pillar Y

Max: 104.1 [g] at 0.007 [s]

Min: -16.0 [g] at 0.054 [s]



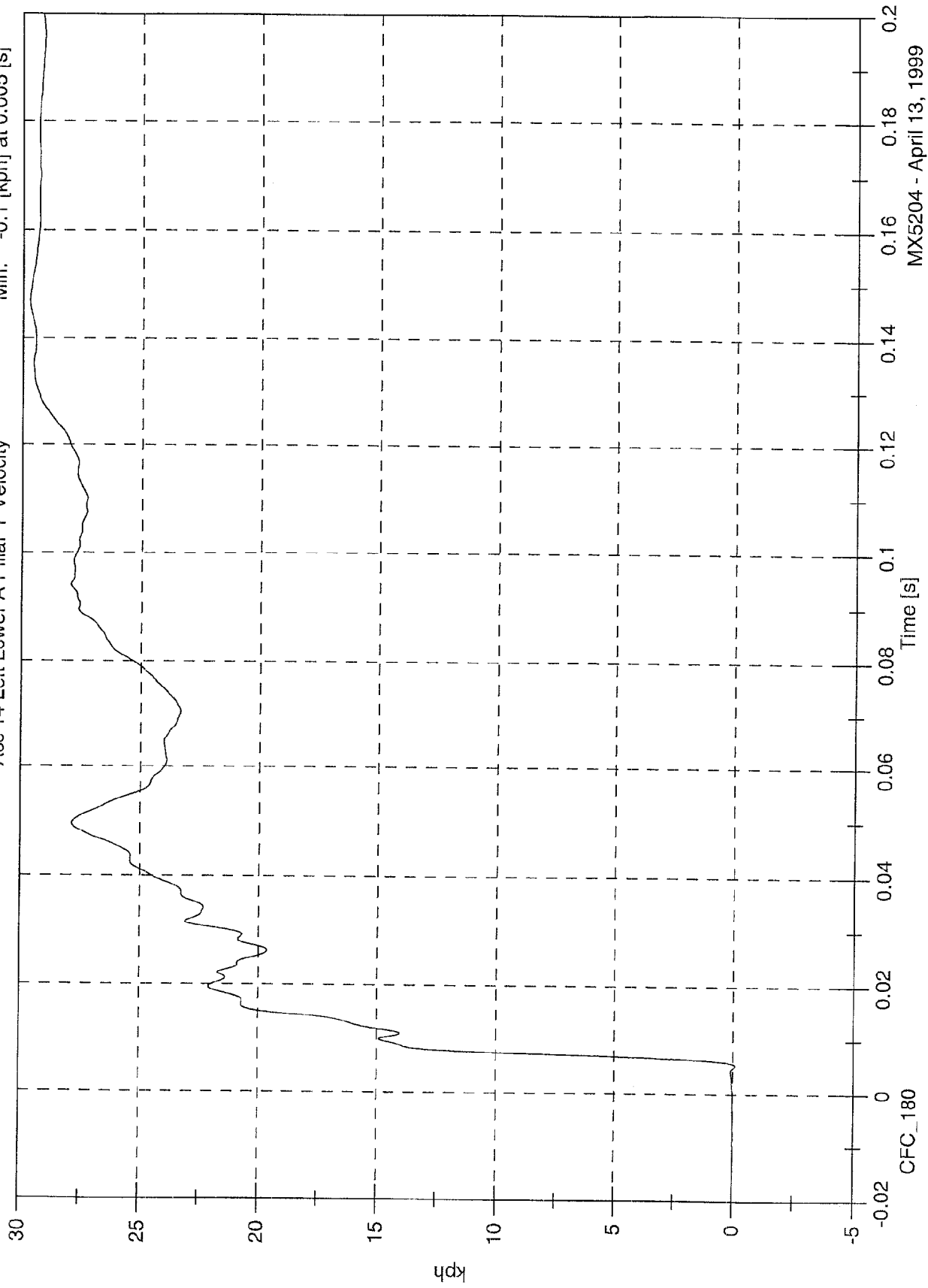
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 30.0 [kph] at 0.261 [s]

Min: -0.1 [kph] at 0.005 [s]

Acc 14 Left Lower A Pillar Y Velocity



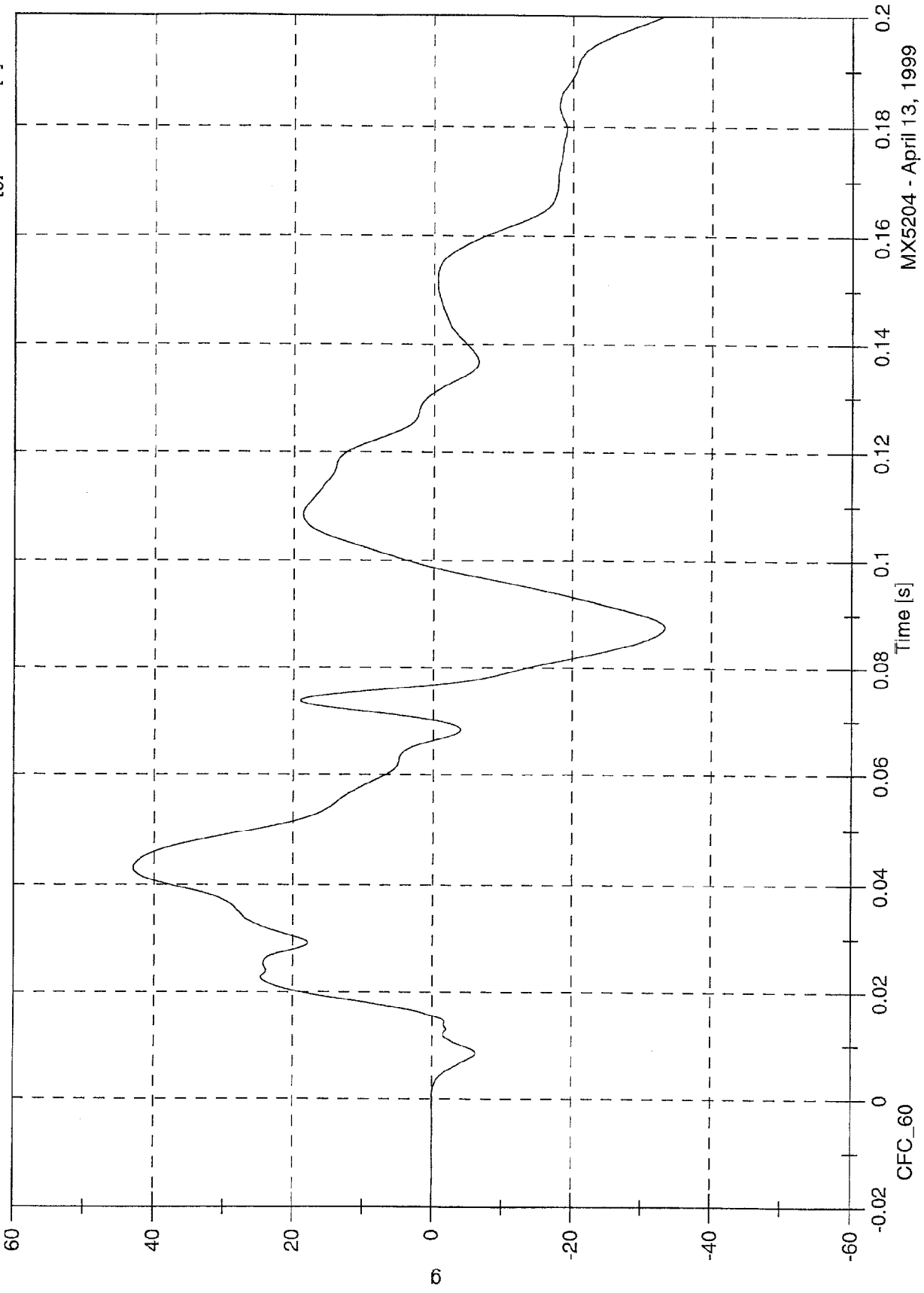
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 15 Left Mid A Pillar Y

Max: 43.0 [g] at 0.043 [s]

Min: -42.8 [g] at 0.211 [s]

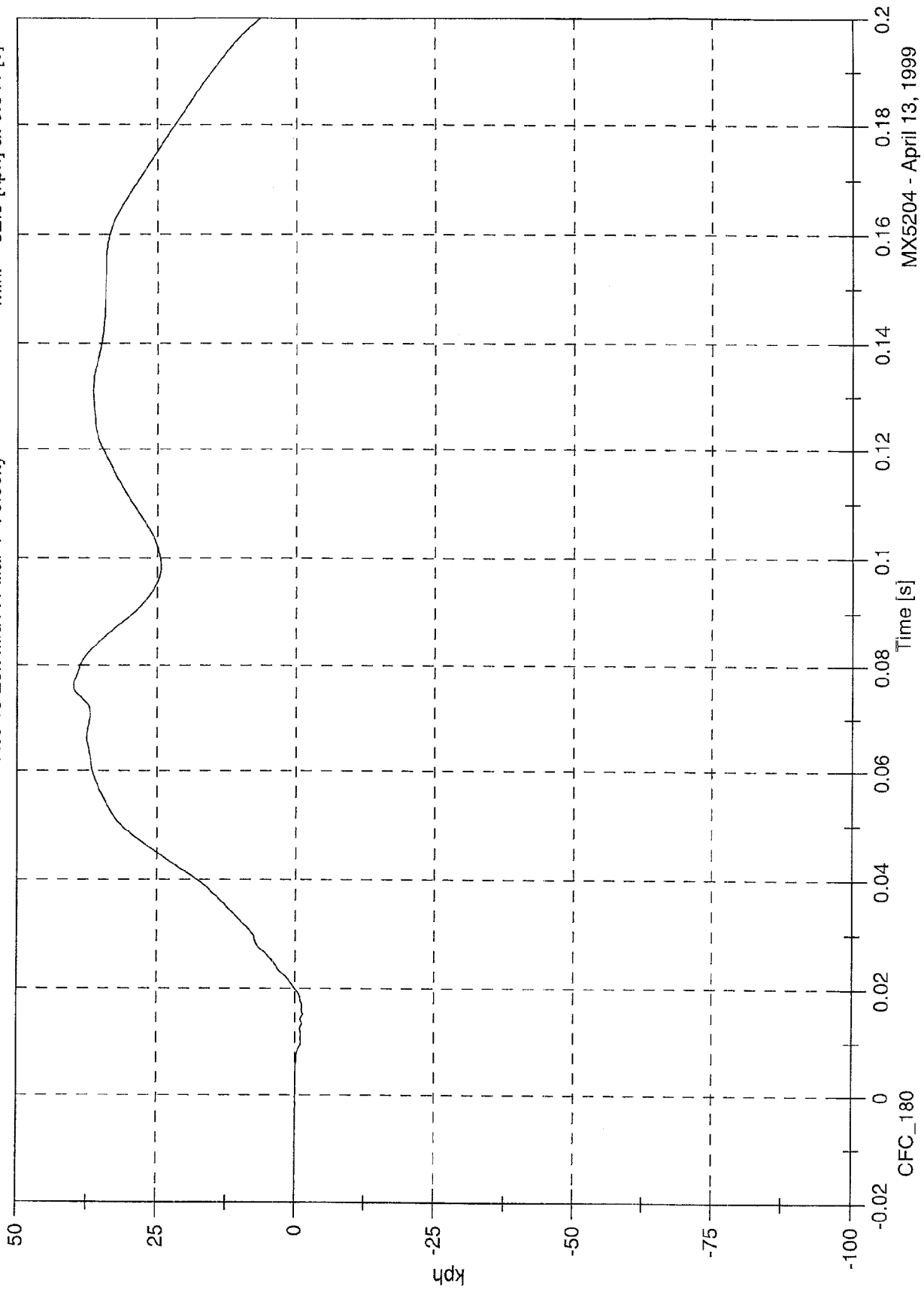


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 40.0 [kph] at 0.076 [s]
Min: -92.9 [kph] at 0.341 [s]

Acc 15 Left Mid A Pillar Y Velocity



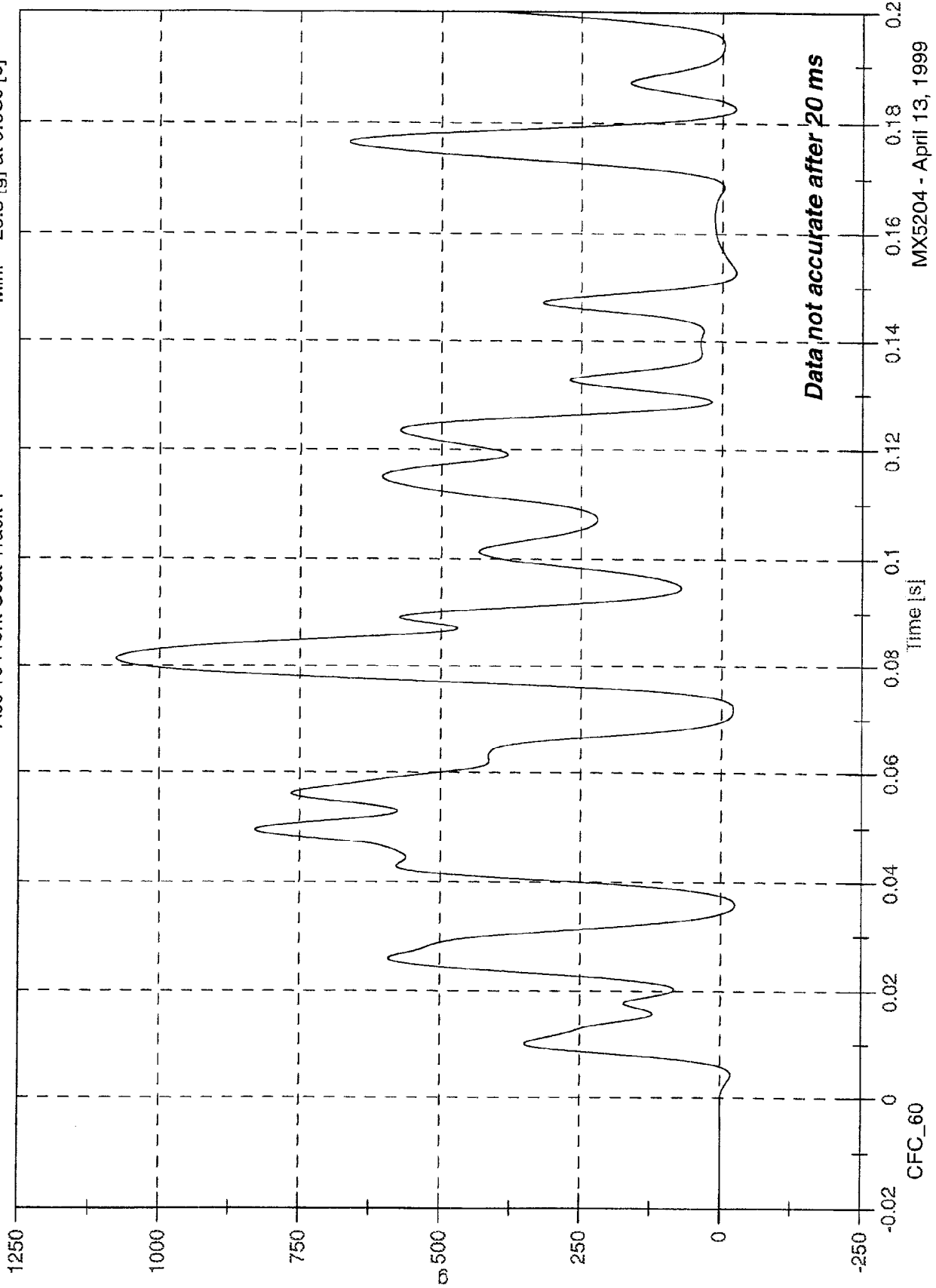
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 1078.9 [g] at 0.081 [s]

Min: -25.5 [g] at 0.036 [s]

Acc 16 Front Seat Track Y



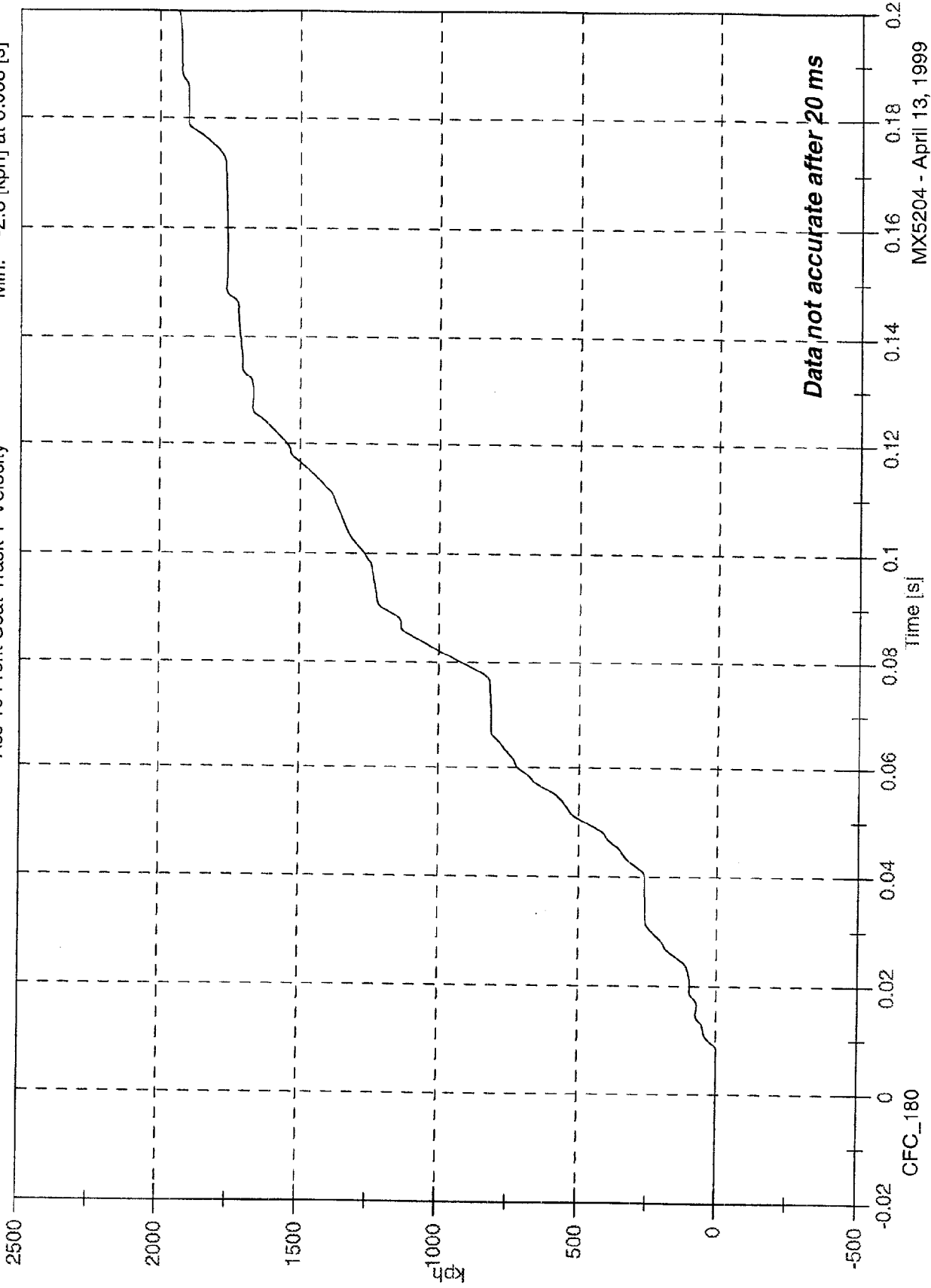
Data not accurate after 20 ms

MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 2362.5 [kph] at 0.406 [s]
Min: -2.8 [kph] at 0.008 [s]

Acc 16 Front Seat Track Y Velocity



Data not accurate after 20 ms

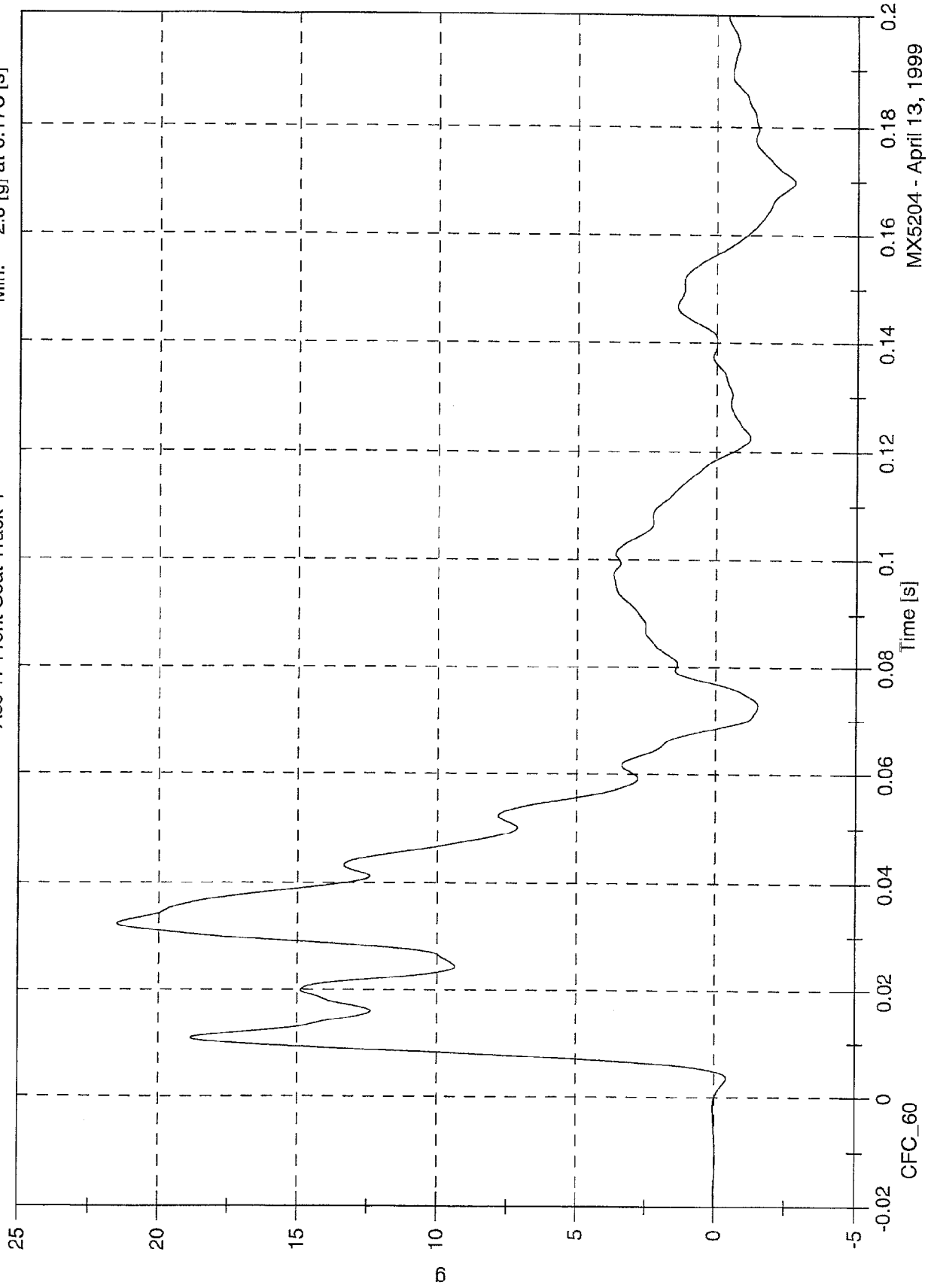
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 21.5 [g] at 0.032 [s]

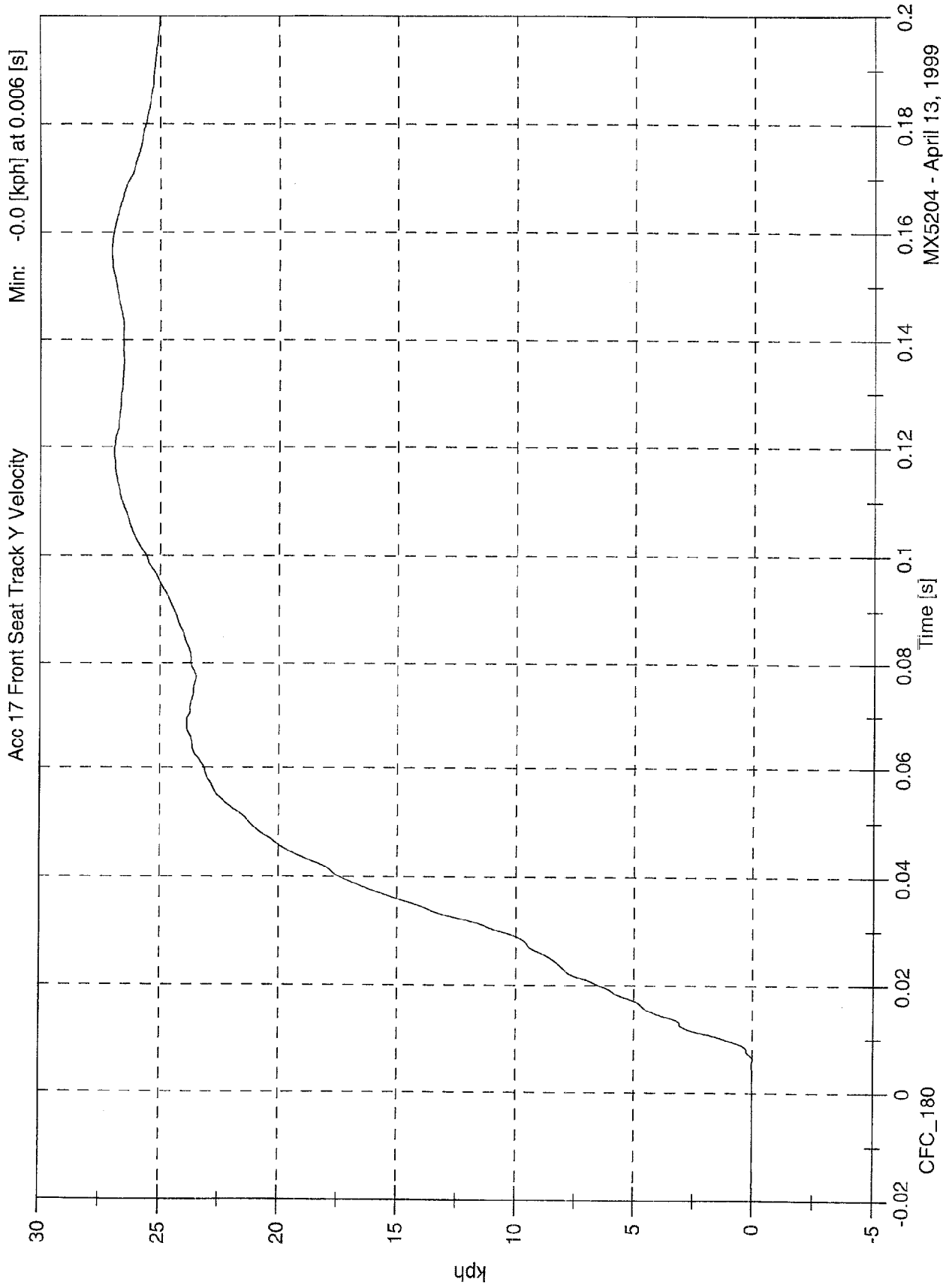
Min: -2.8 [g] at 0.170 [s]

Acc 17 Front Seat Track Y



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder



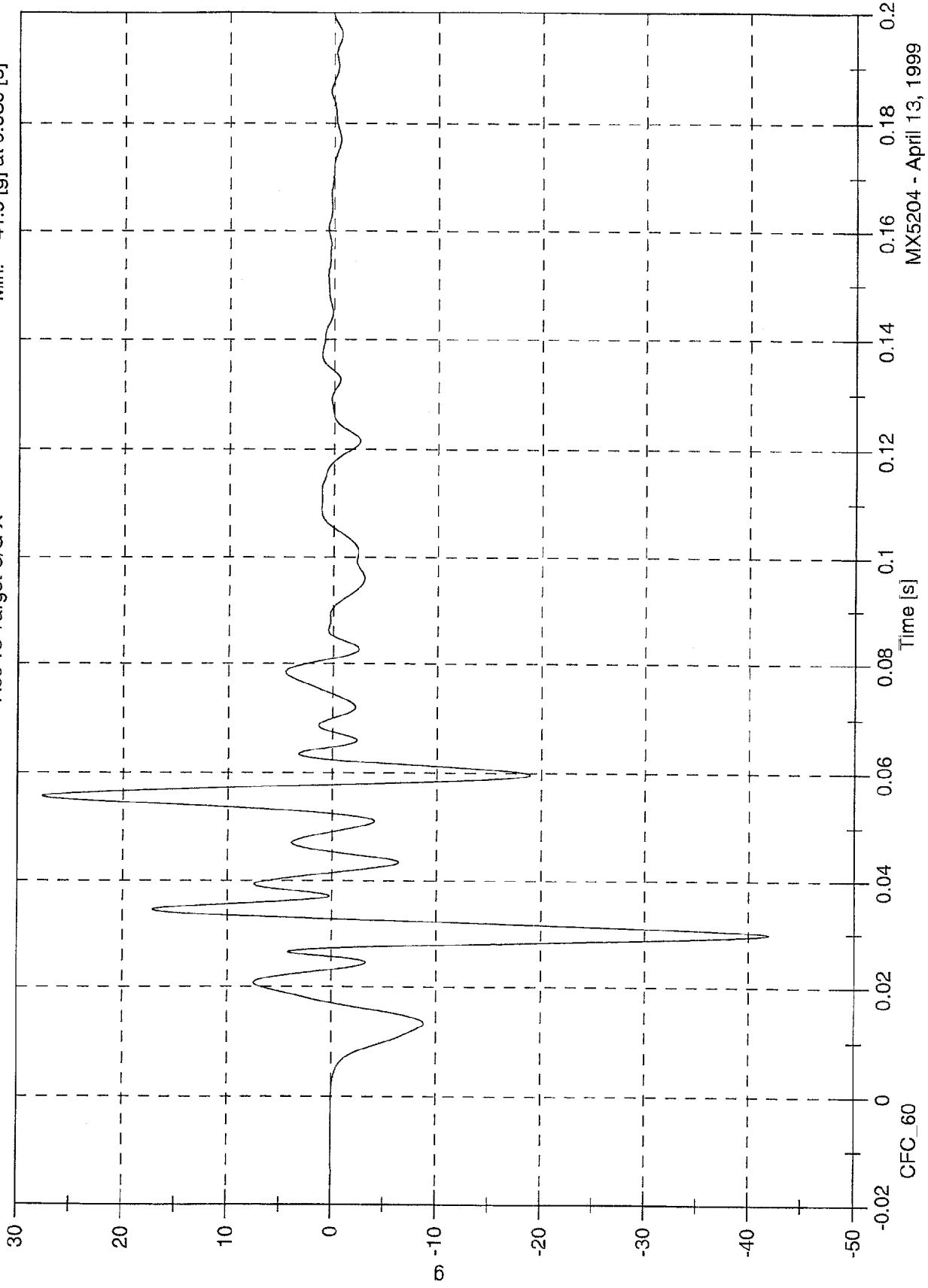
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Acc 18 Target C/G X

Max: 27.7 [g] at 0.056 [s]

Min: -41.9 [g] at 0.030 [s]



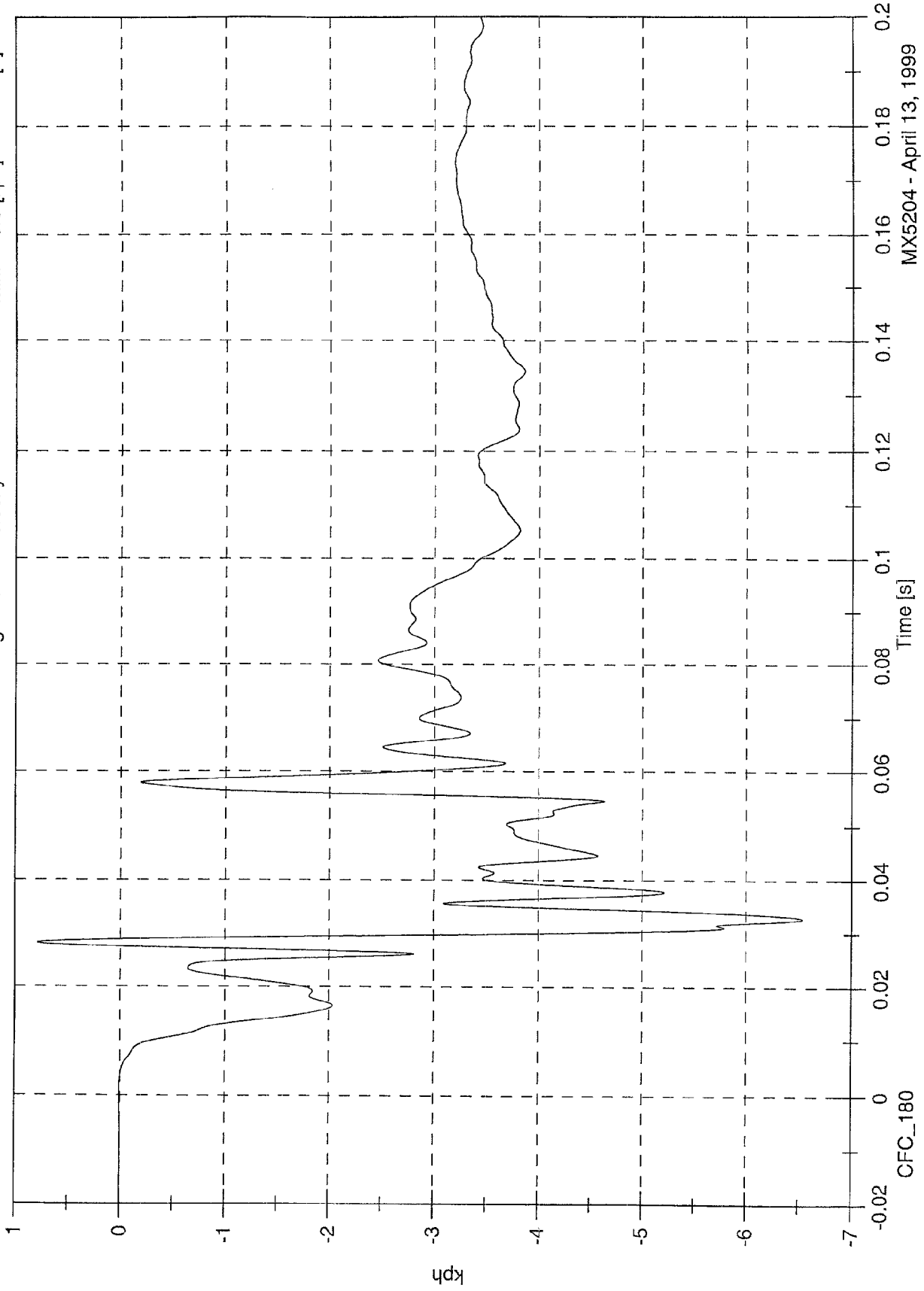
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 0.8 [kph] at 0.028 [s]

Min: -6.5 [kph] at 0.033 [s]

Acc 18 Target C/G X Velocity



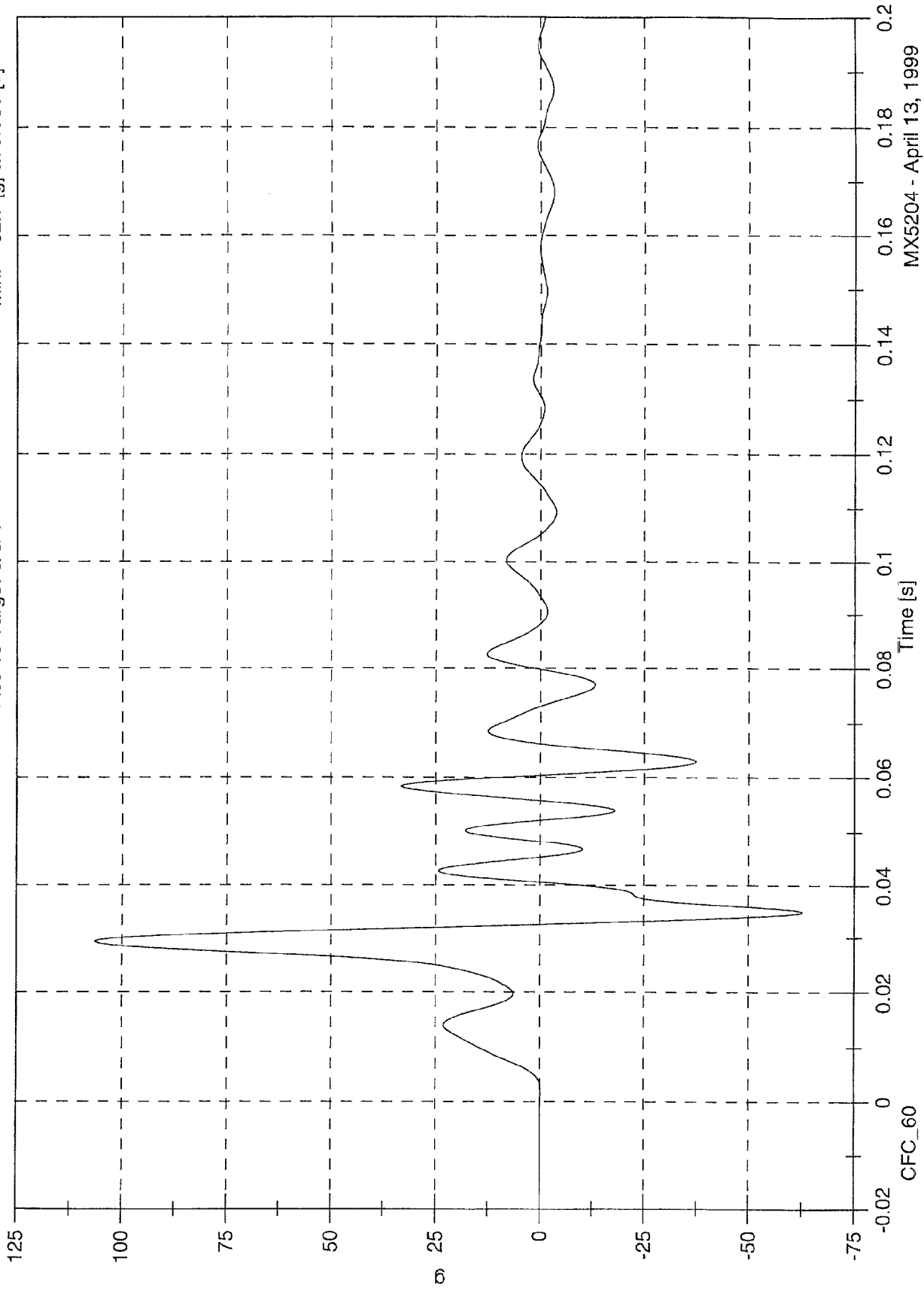
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 106.5 [g] at 0.029 [s]

Min: -62.7 [g] at 0.035 [s]

Acc 18 Target C/G Y

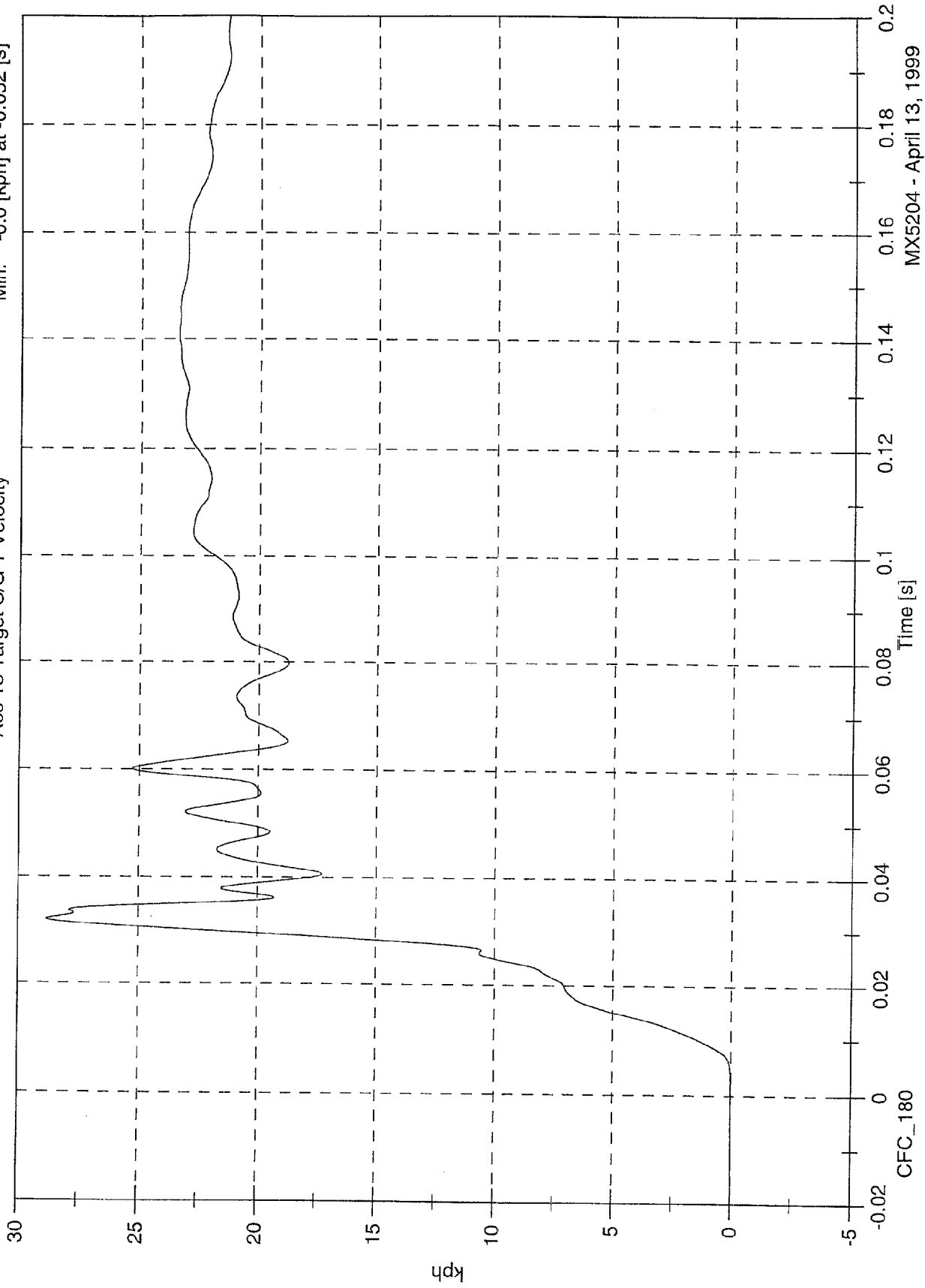


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 28.8 [kph] at 0.032 [s]
Min: -0.0 [kph] at -0.052 [s]

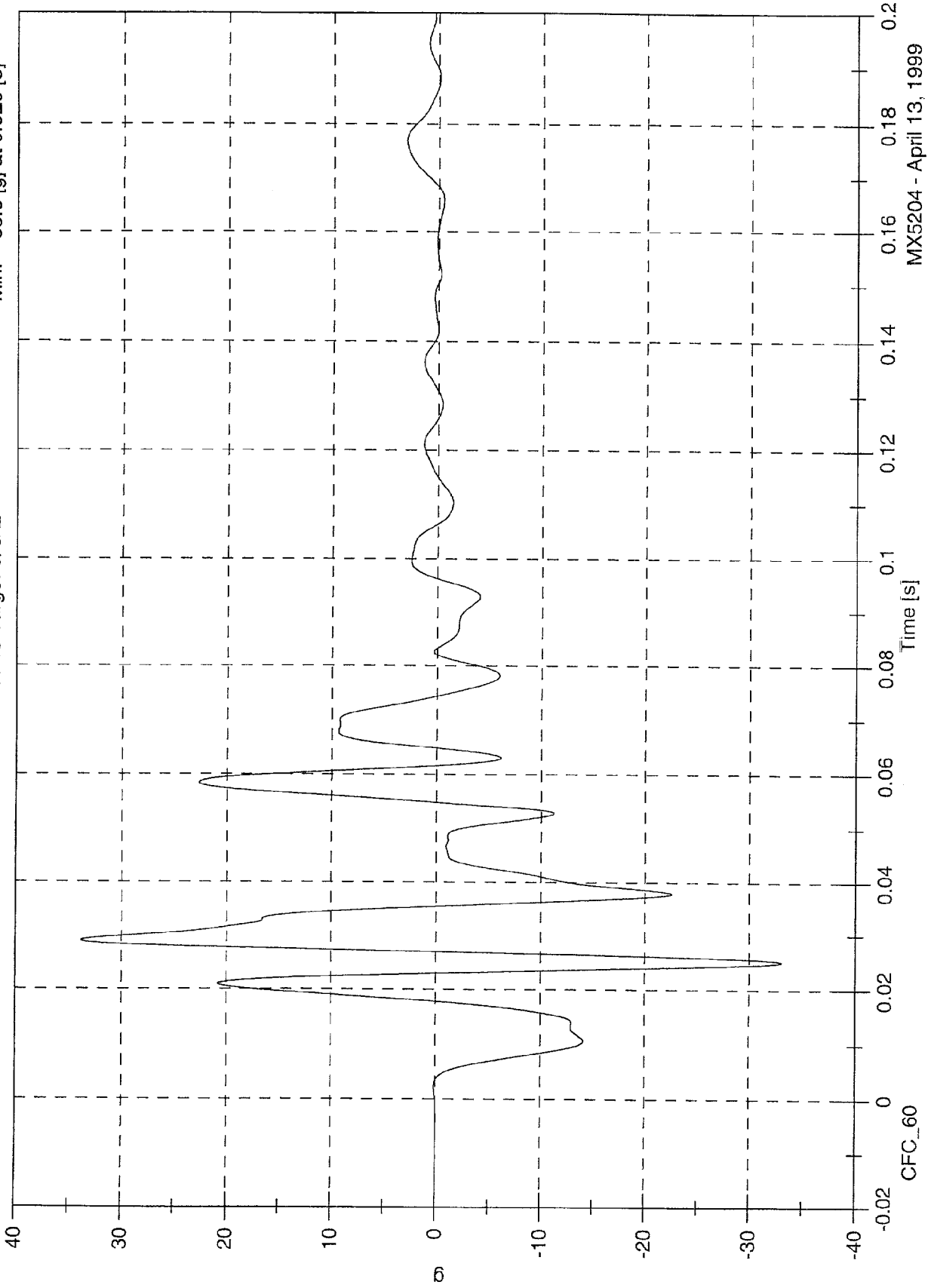
Acc 18 Target C/G Y Velocity



SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 33.8 [g] at 0.029 [s]
Min: -33.0 [g] at 0.025 [s]

Acc 18 Target C/G Z



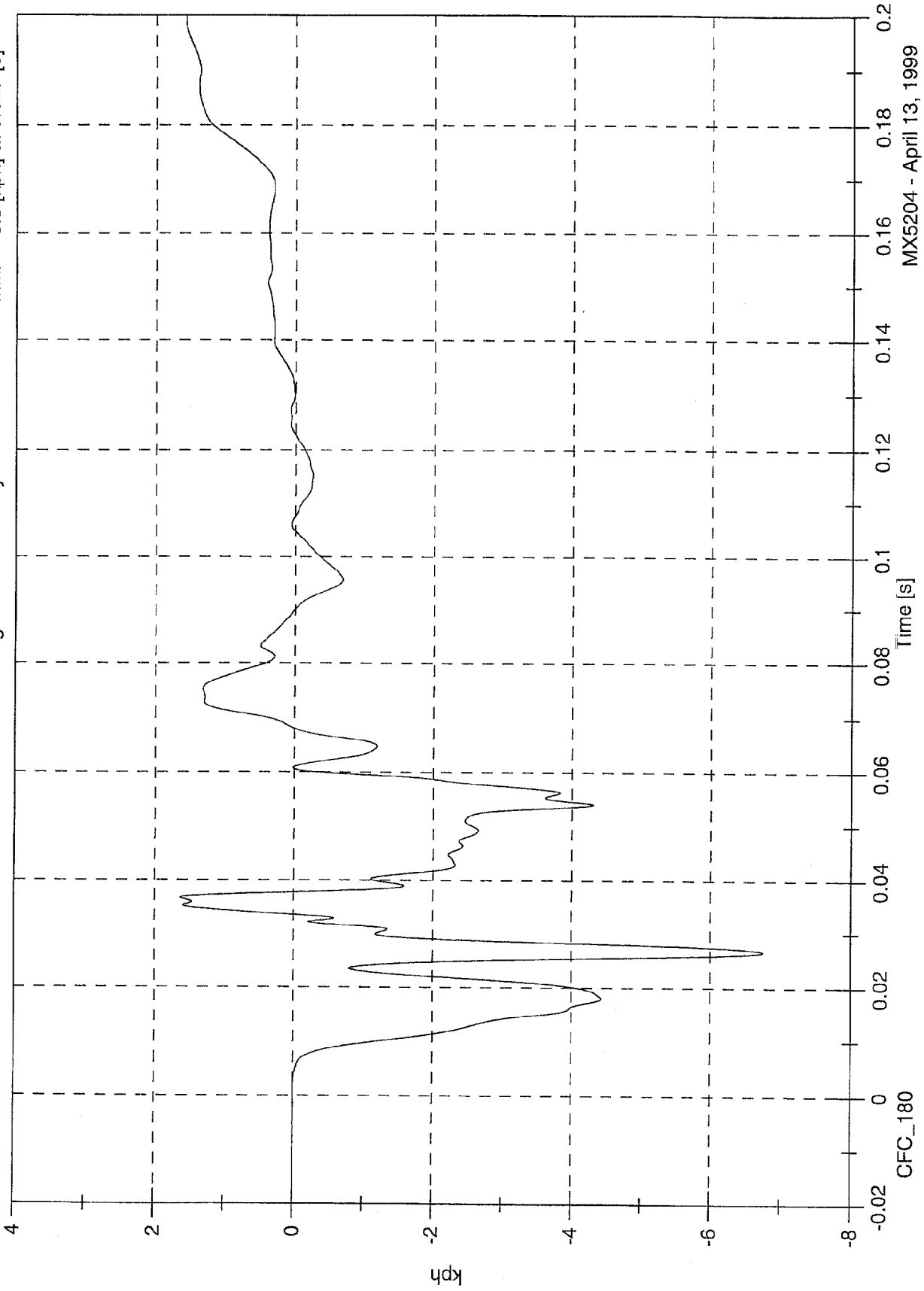
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 2.8 [kph] at 0.323 [s]

Min: -6.8 [kph] at 0.027 [s]

Acc 18 Target C/G Z Velocity

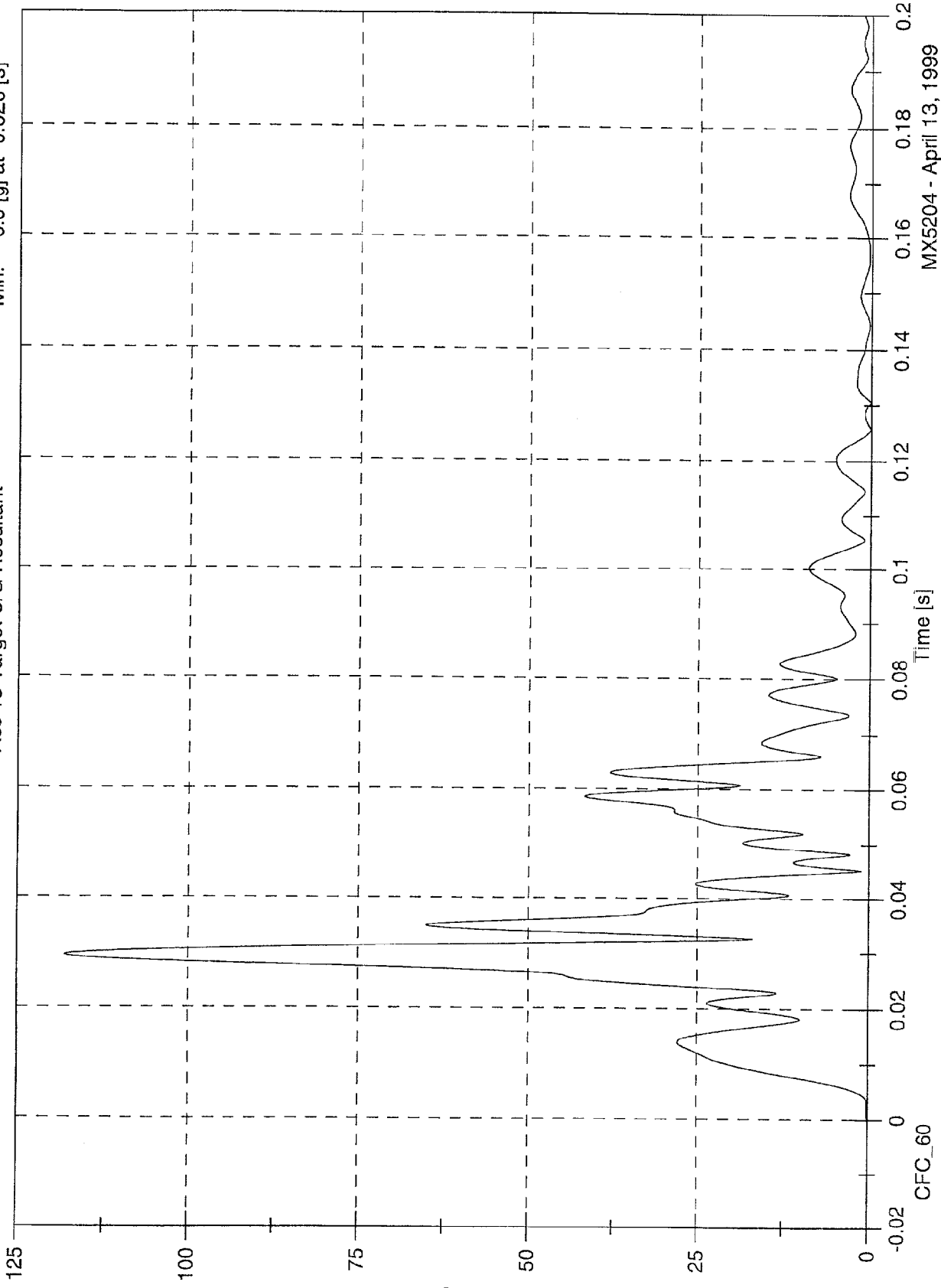


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 118.1 [g] at 0.029 [s]
Min: 0.0 [g] at -0.028 [s]

Acc 18 Target C/G Resultant

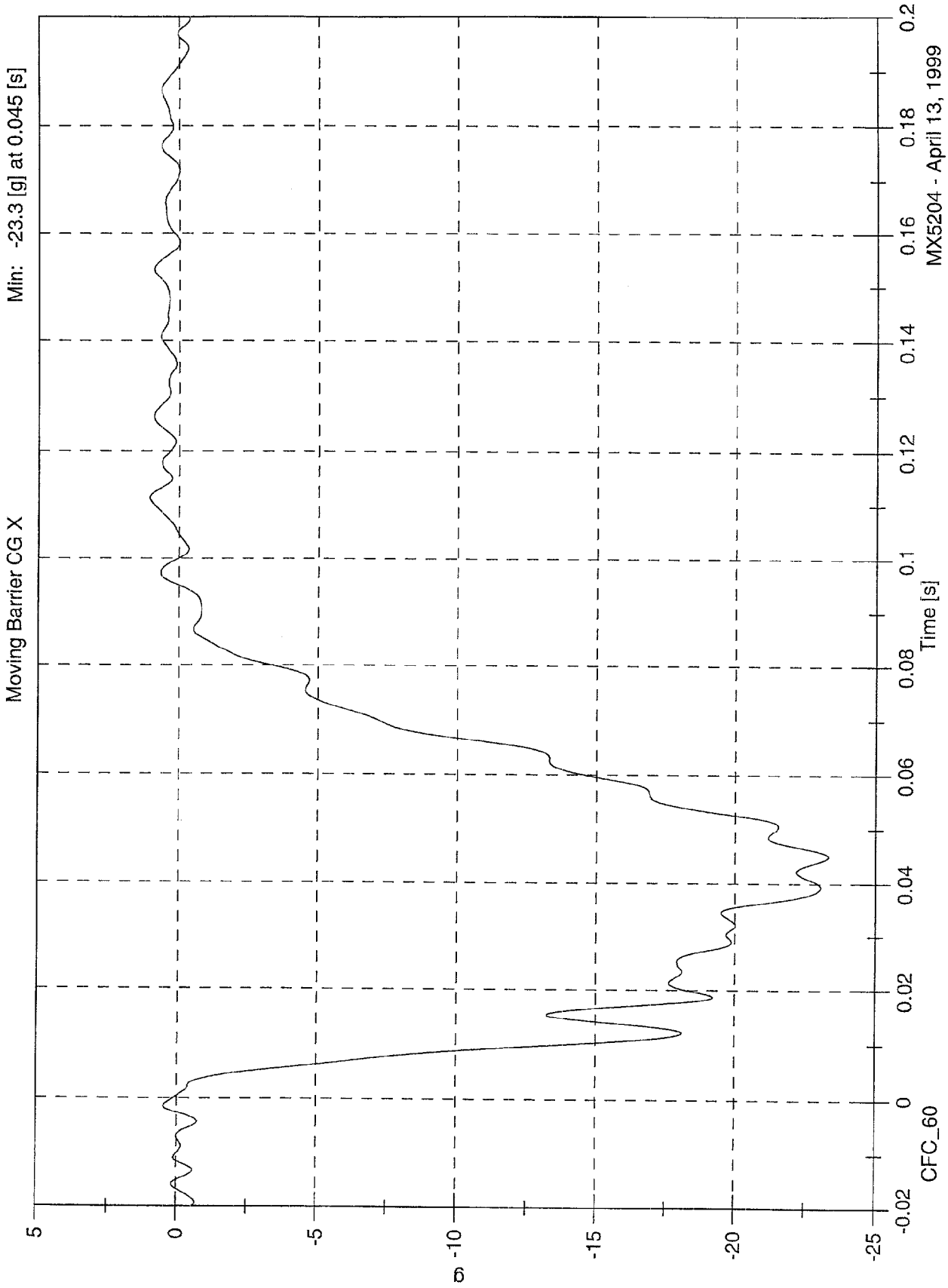


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 1.1 [g] at 0.500 [s]

Min: -23.3 [g] at 0.045 [s]



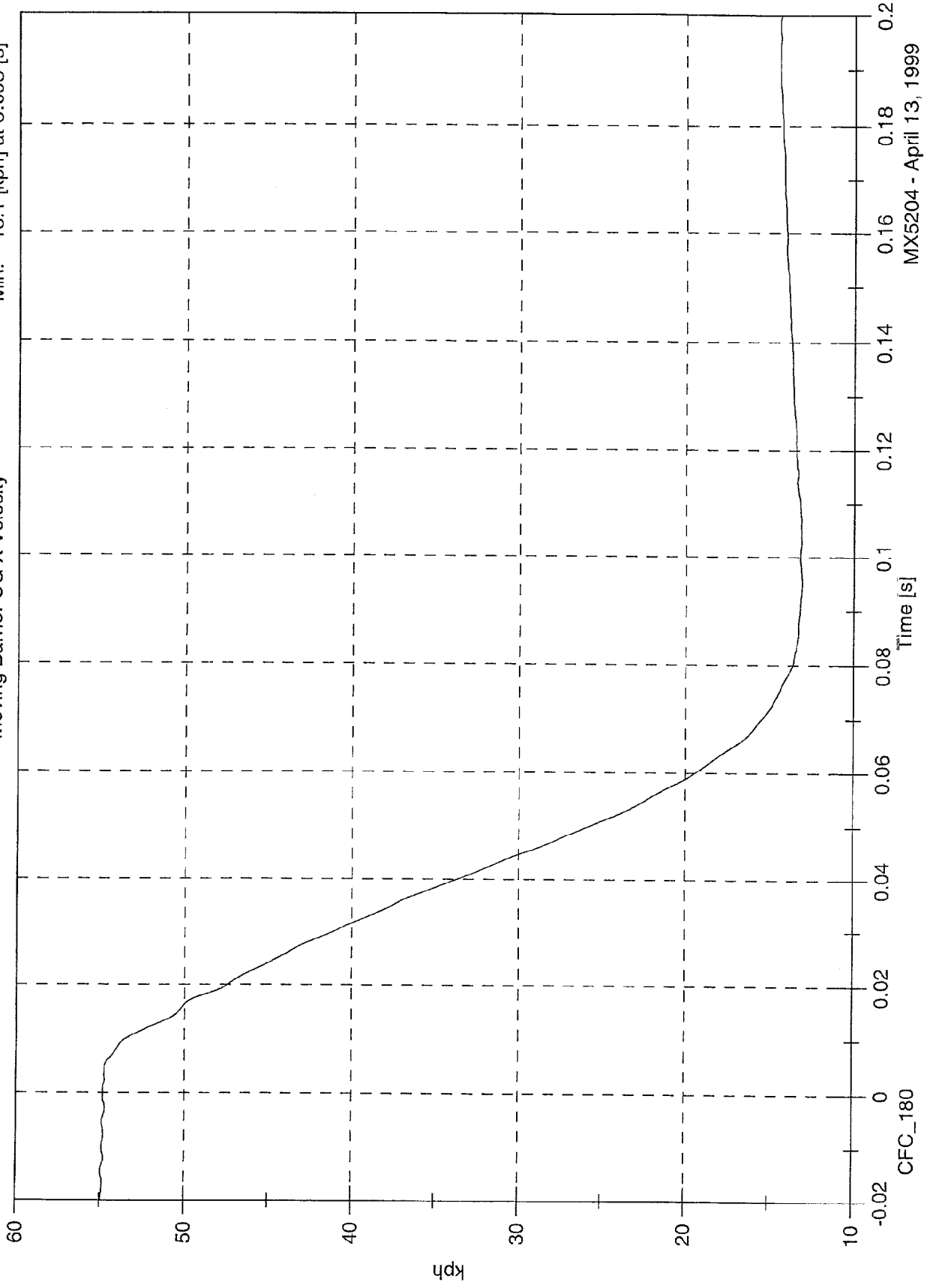
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Moving Barrier CG X Velocity

Max: 55.2 [kph] at -0.040 [s]

Min: 13.1 [kph] at 0.095 [s]

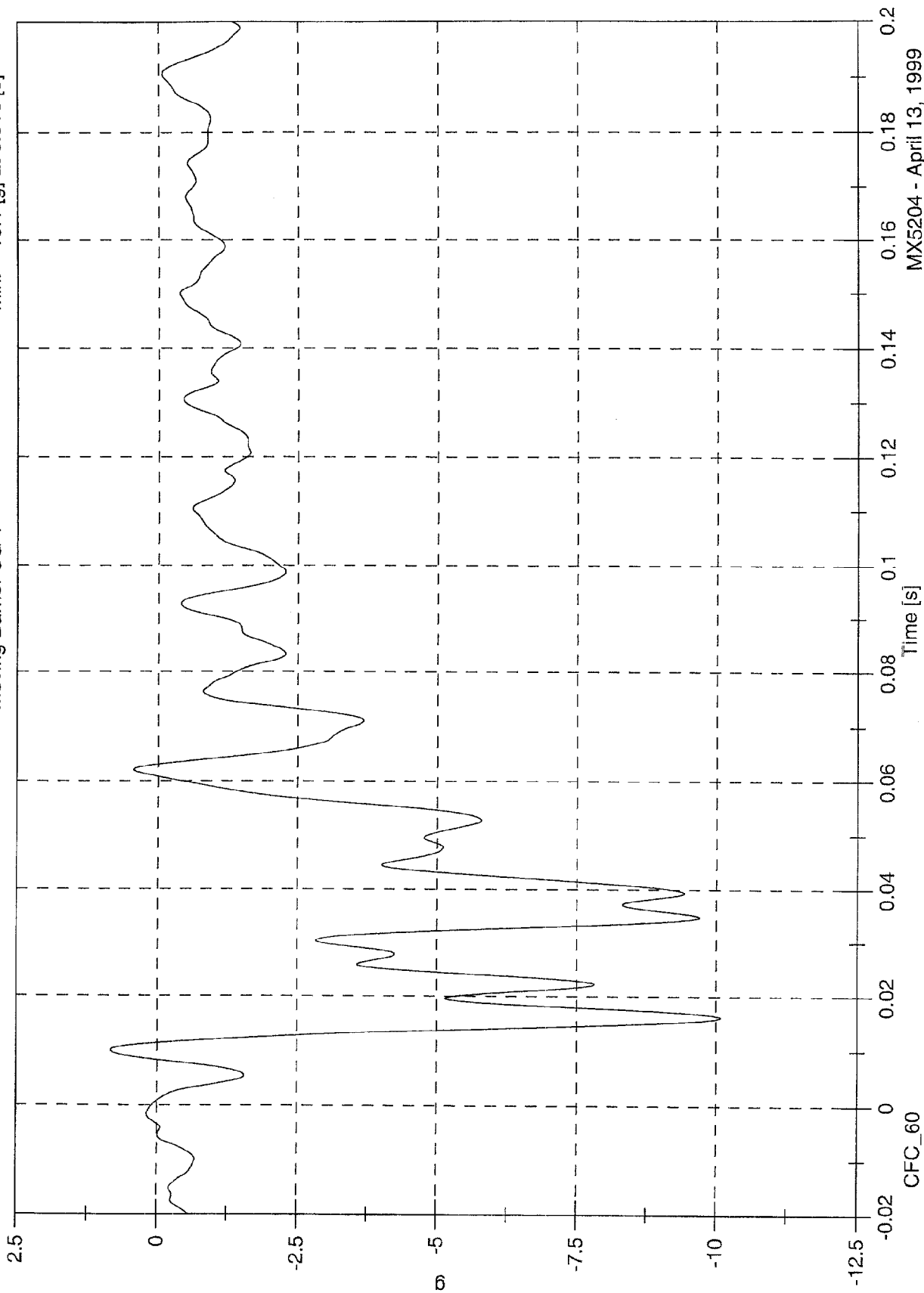


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 0.8 [g] at 0.010 [s]
Min: -10.1 [g] at 0.016 [s]

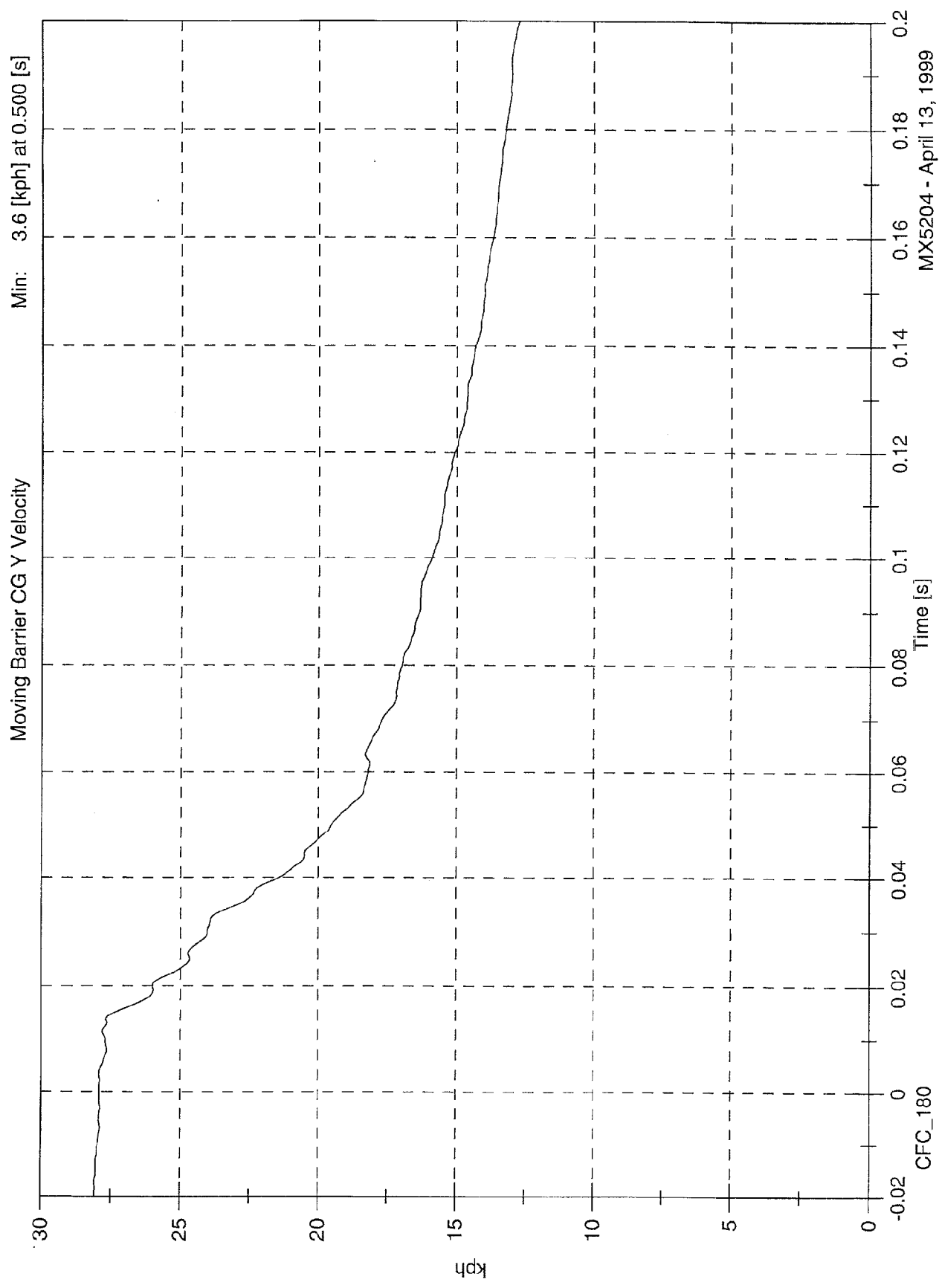
Moving Barrier CG Y



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 28.4 [kph] at -0.045 [s]
Min: 3.6 [kph] at 0.500 [s]



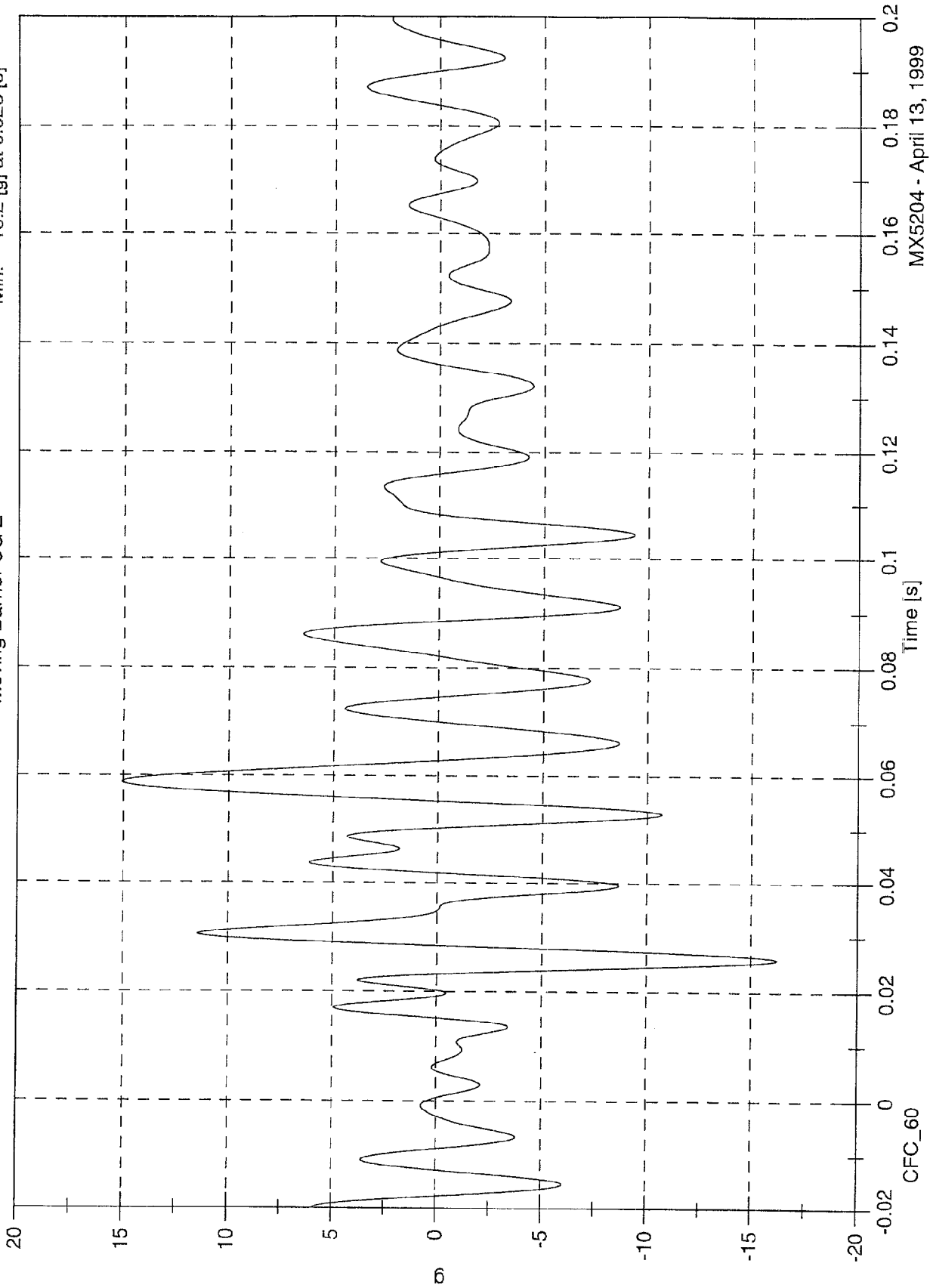
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 15.1 [g] at 0.059 [s]

Min: -16.2 [g] at 0.026 [s]

Moving Barrier CG Z

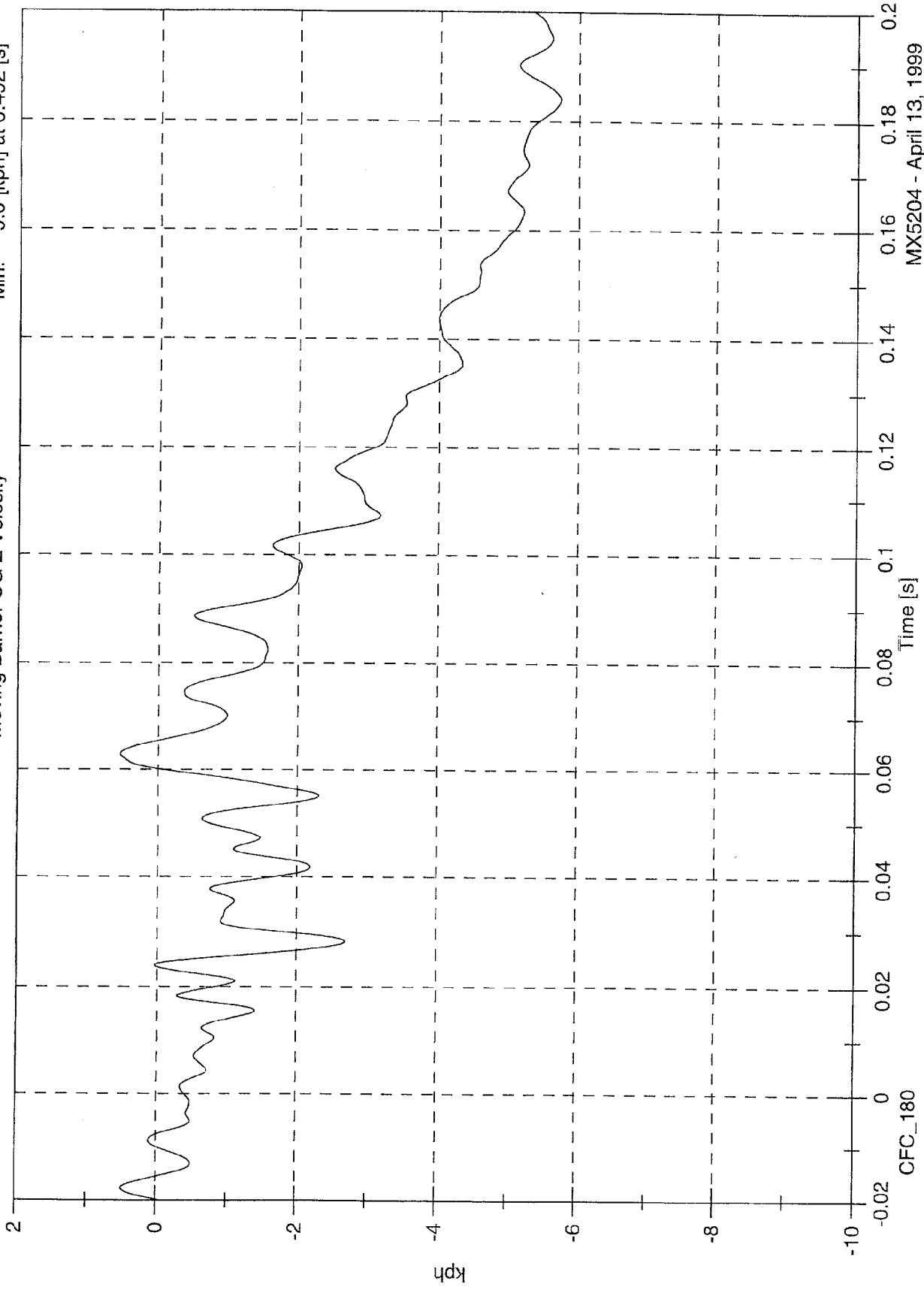


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 0.5 [kph] at 0.063 [s]
Min: -9.0 [kph] at 0.492 [s]

Moving Barrier CG Z Velocity

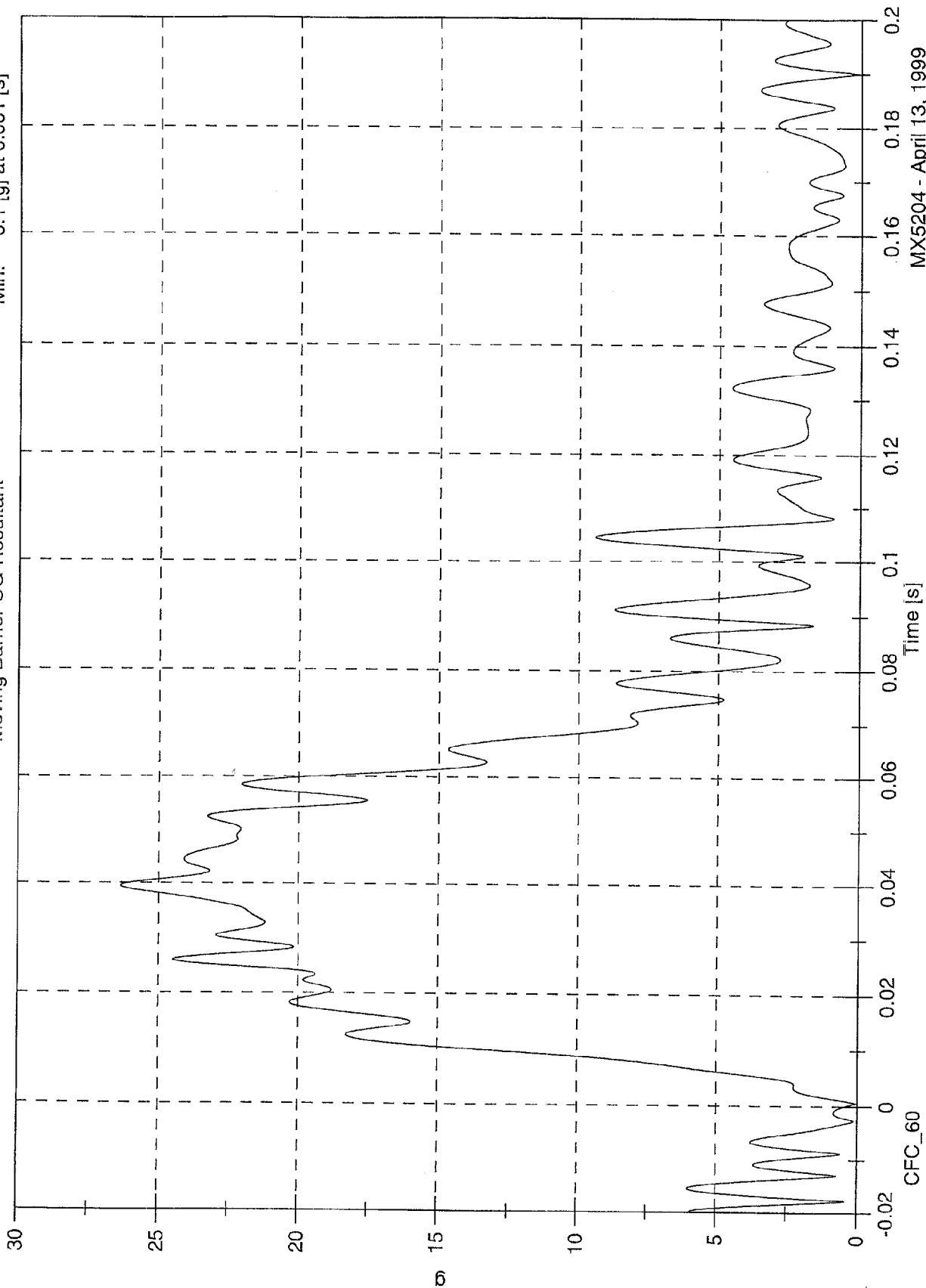


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

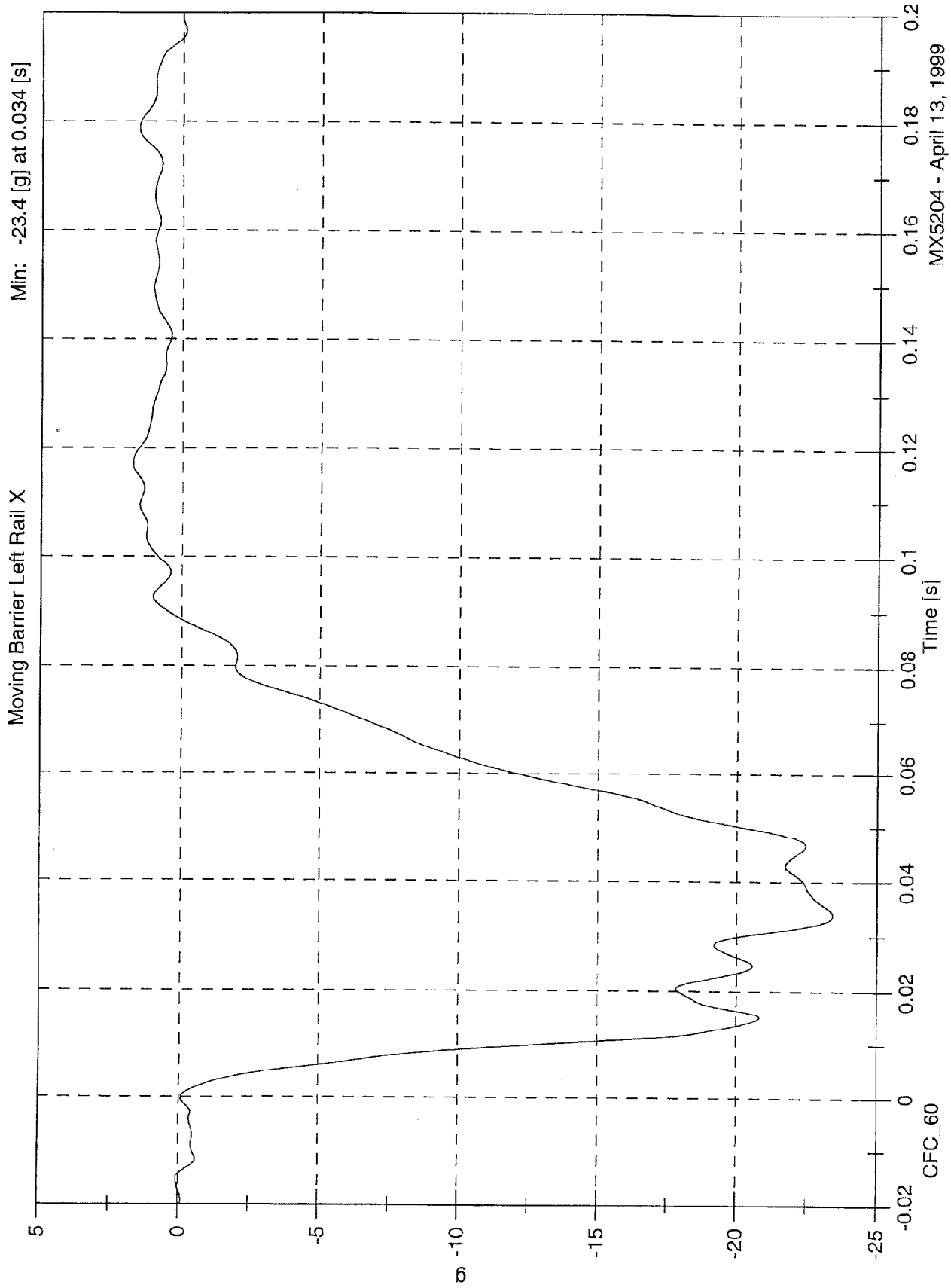
Max: 26.4 [g] at 0.039 [s]
Min: 0.1 [g] at 0.001 [s]

Moving Barrier CG Resultant



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder



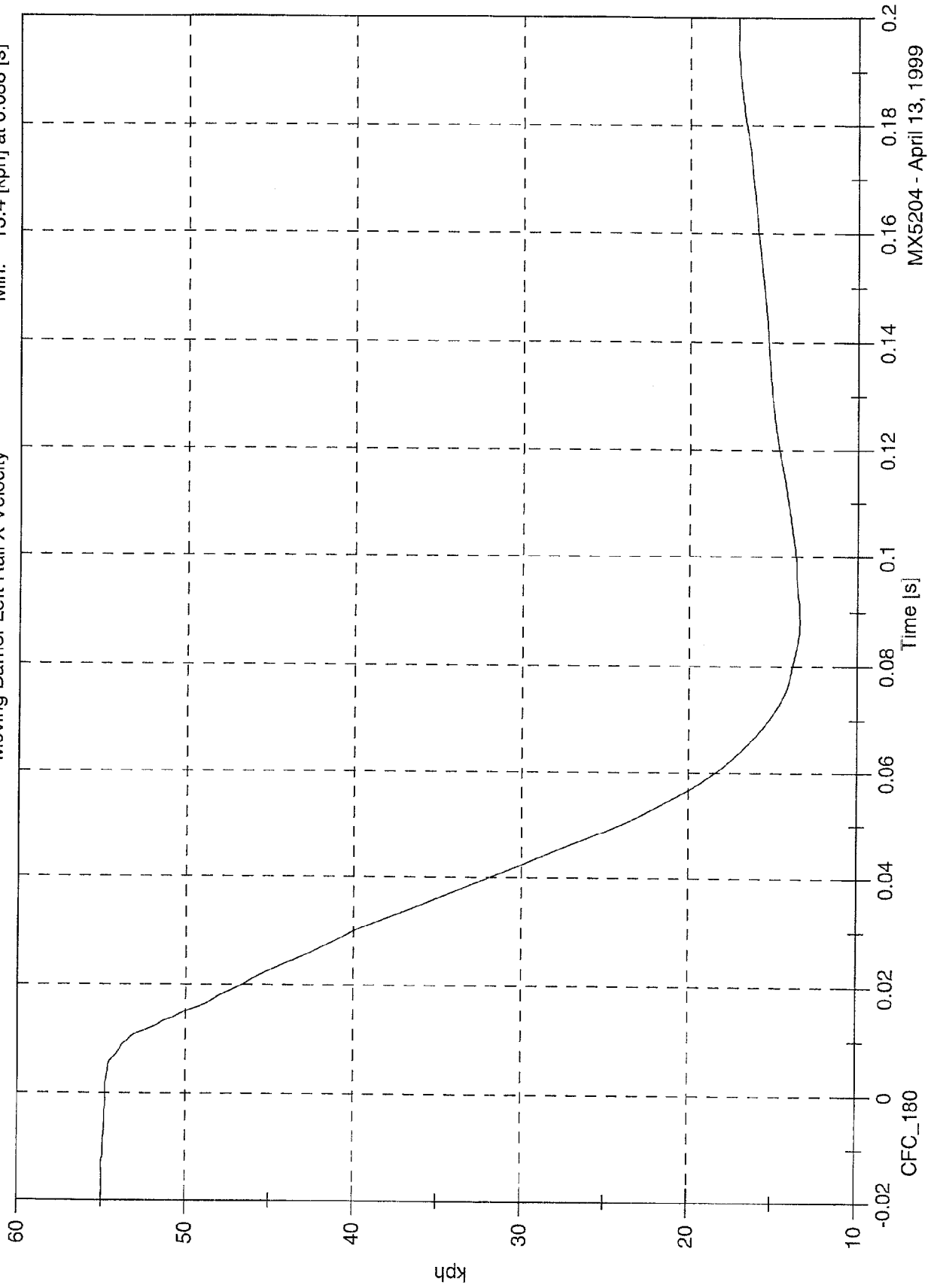
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 55.1 [kph] at -0.038 [s]

Min: 13.4 [kph] at 0.088 [s]

Moving Barrier Left Rail X Velocity



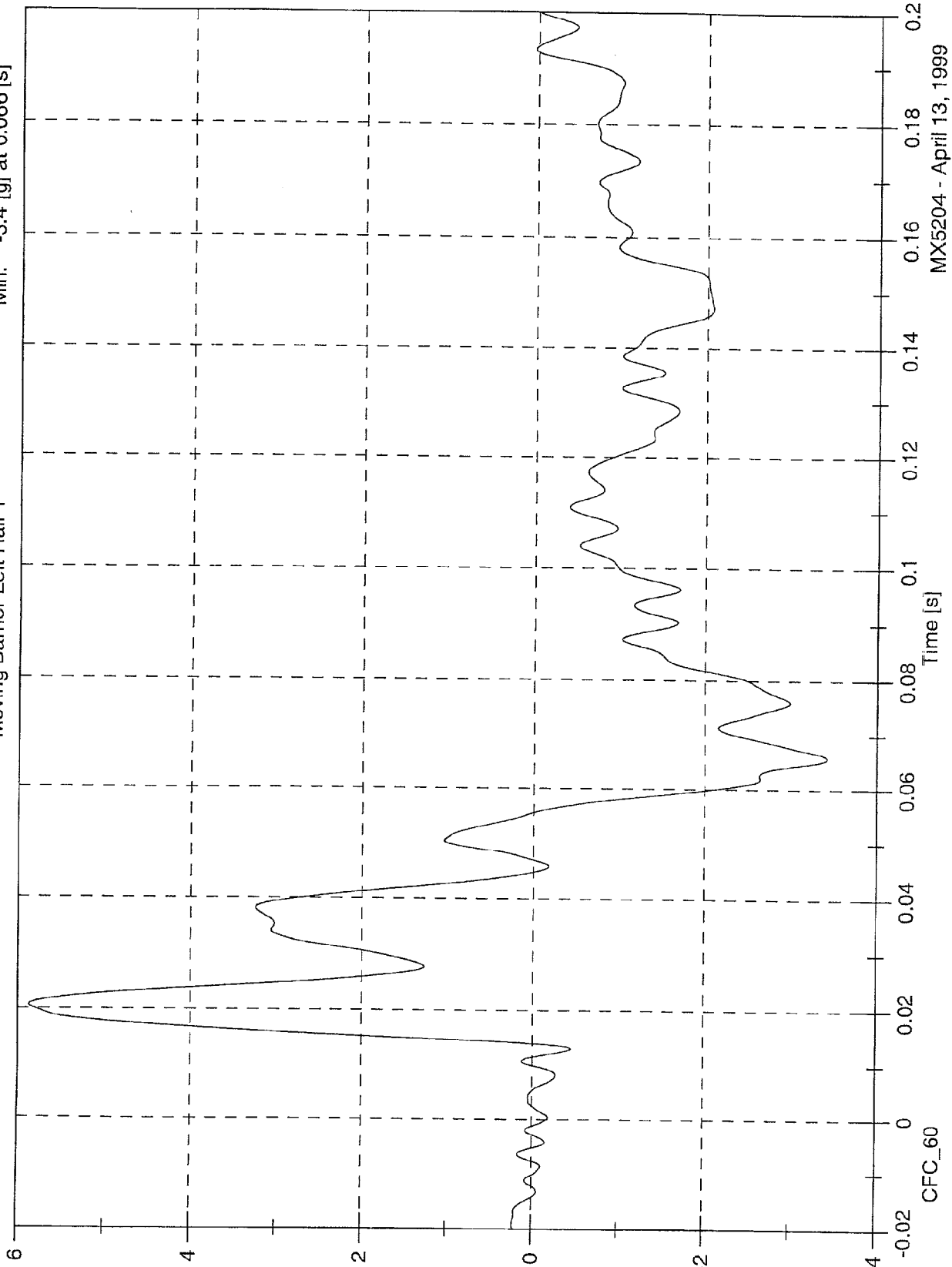
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 5.9 [g] at 0.021 [s]

Min: -3.4 [g] at 0.066 [s]

Moving Barrier Left Rail Y



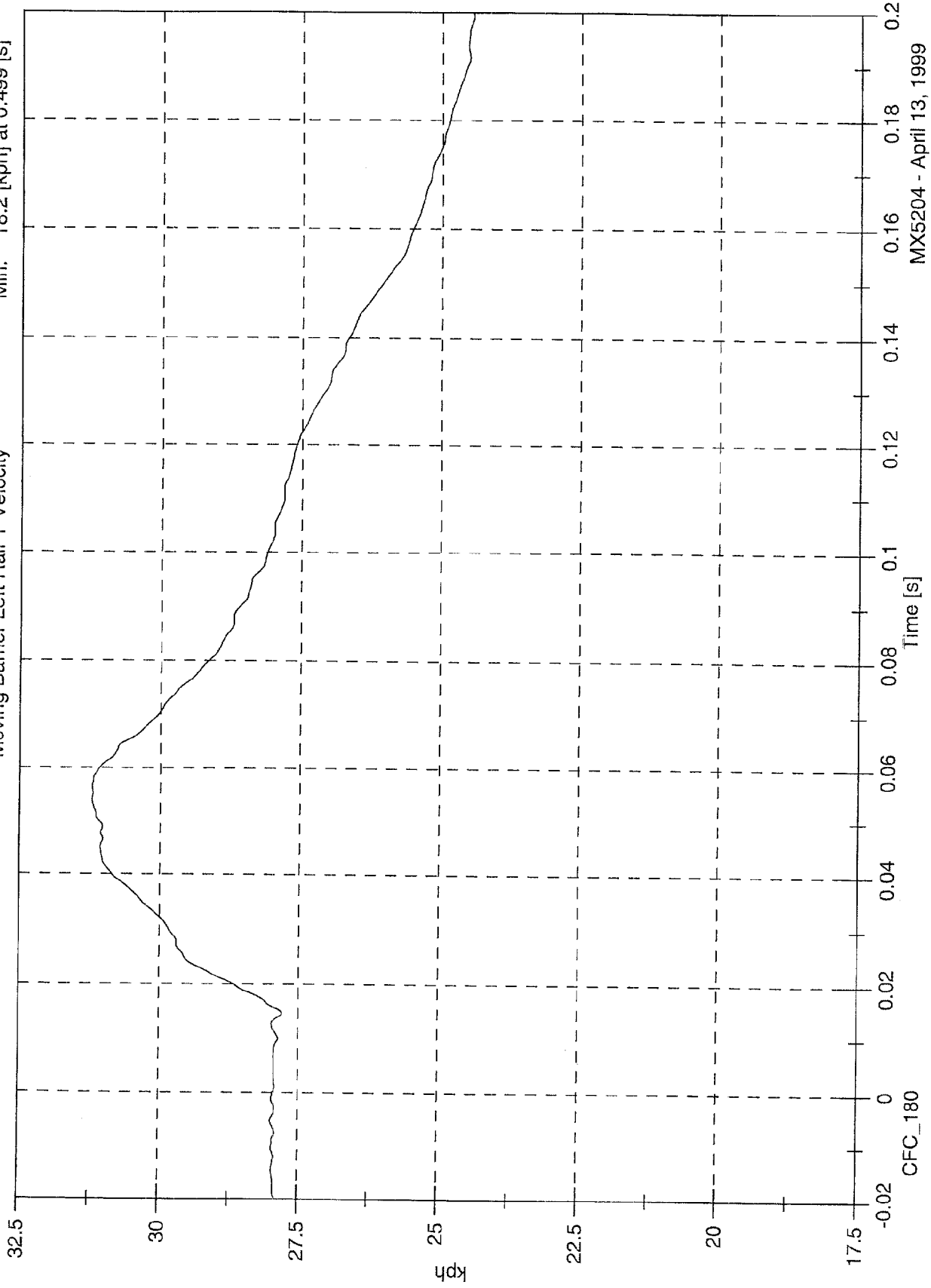
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 31.2 [kph] at 0.054 [s]

Min: 18.2 [kph] at 0.499 [s]

Moving Barrier Left Rail Y Velocity



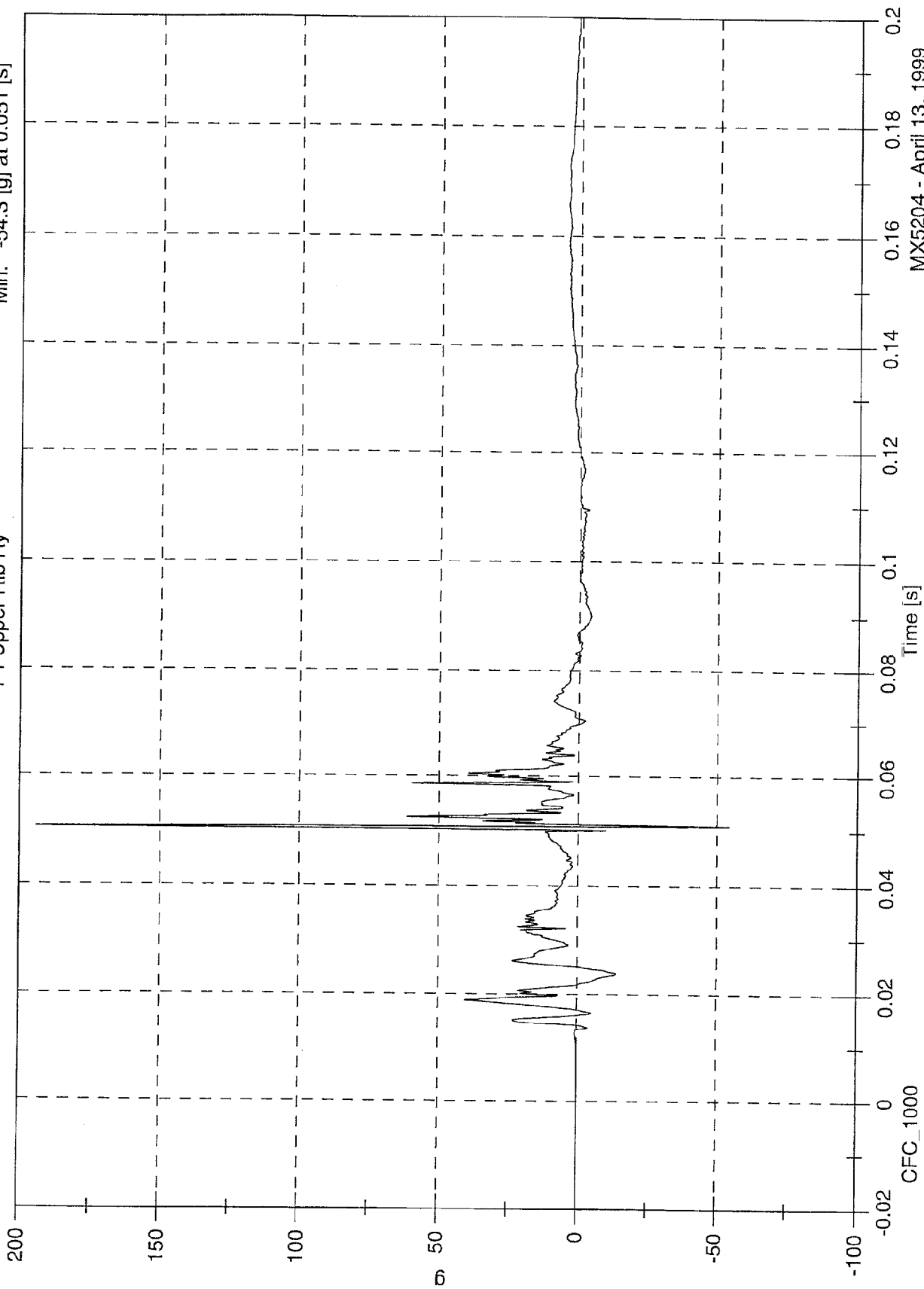
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

P1 Upper Rib Ry

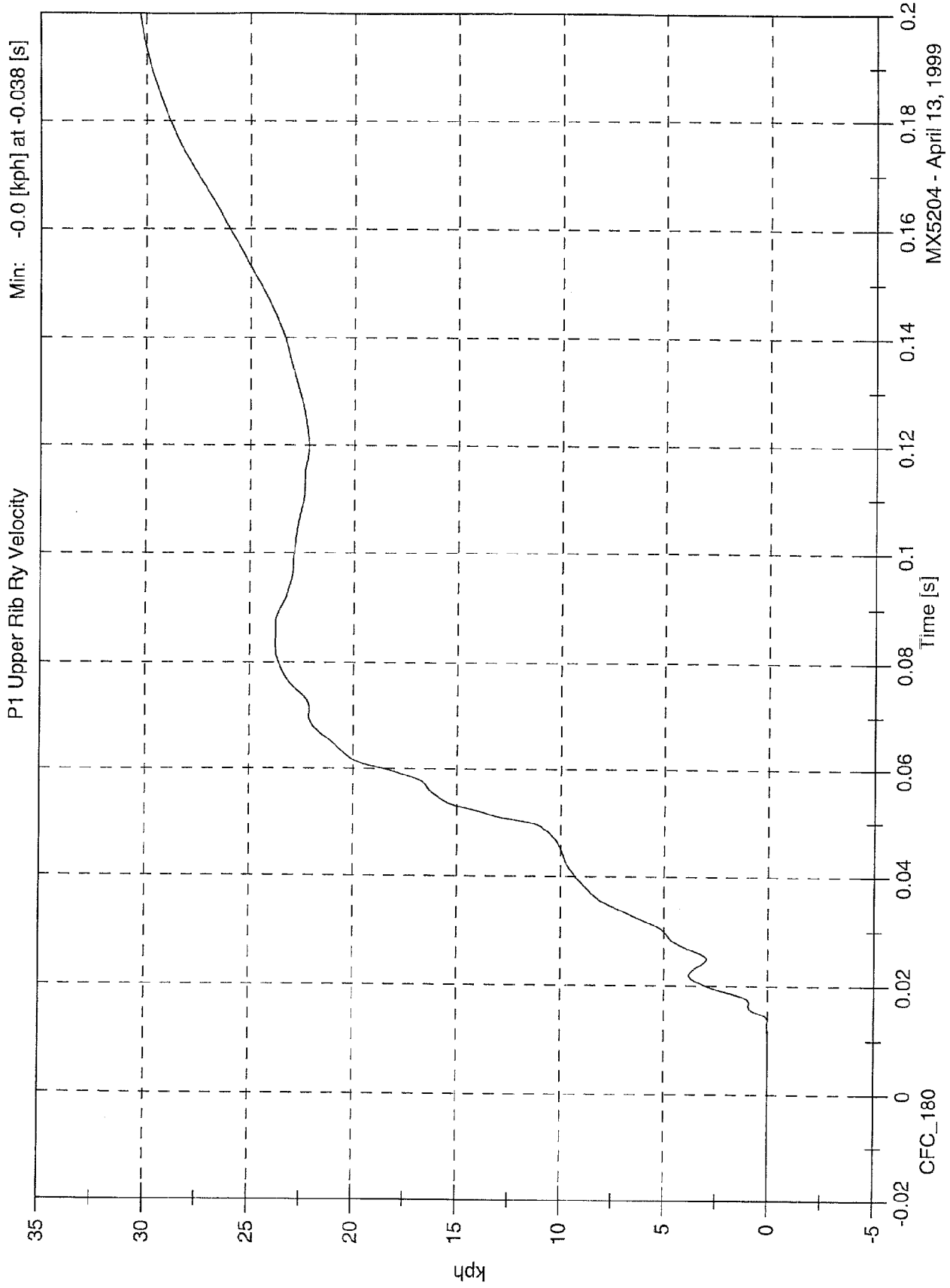
Max: 194.0 [g] at 0.051 [s]

Min: -54.3 [g] at 0.051 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

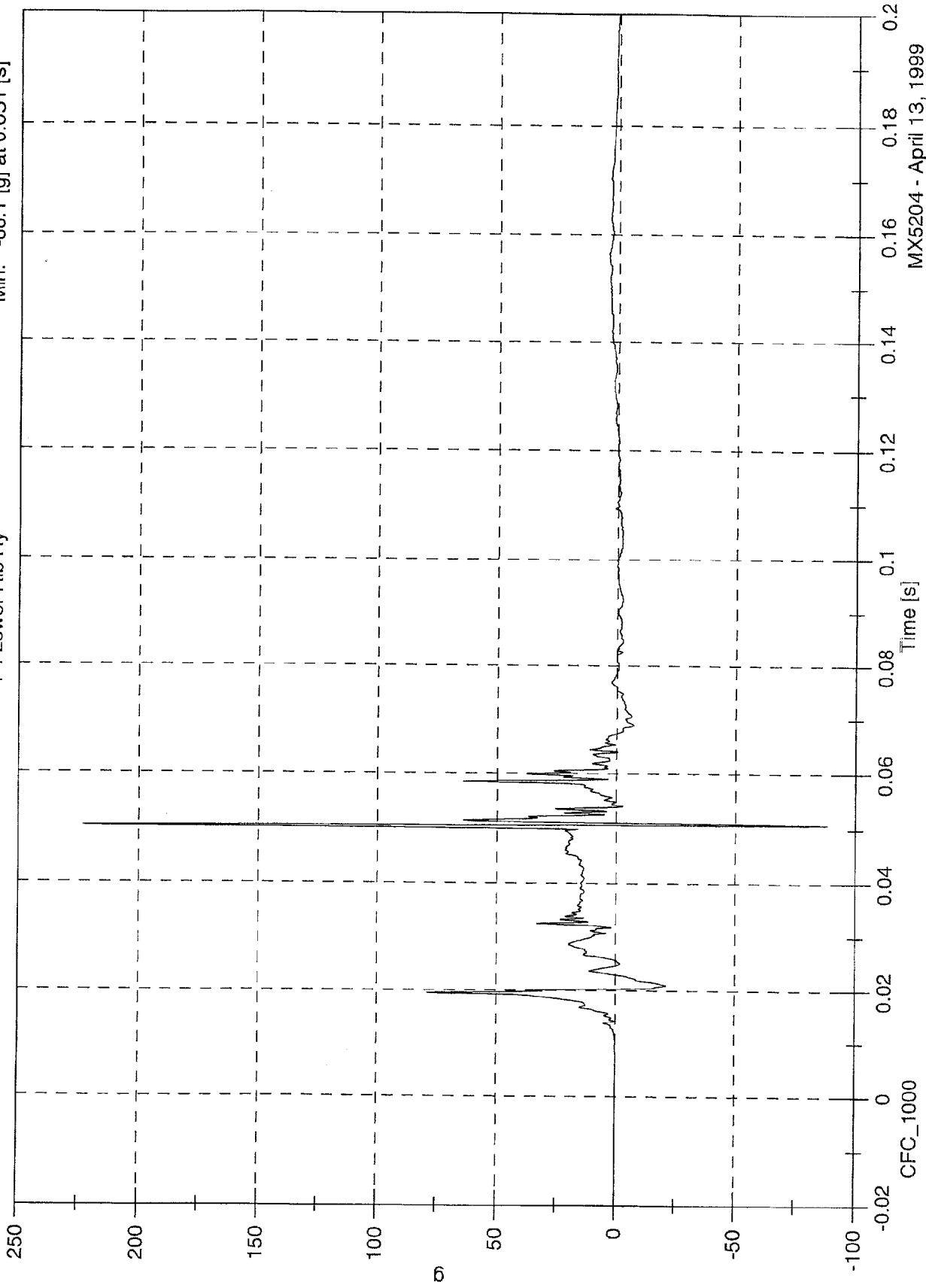


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 223.0 [g] at 0.050 [s]
Min: -88.1 [g] at 0.051 [s]

P1 Lower Rib Ry



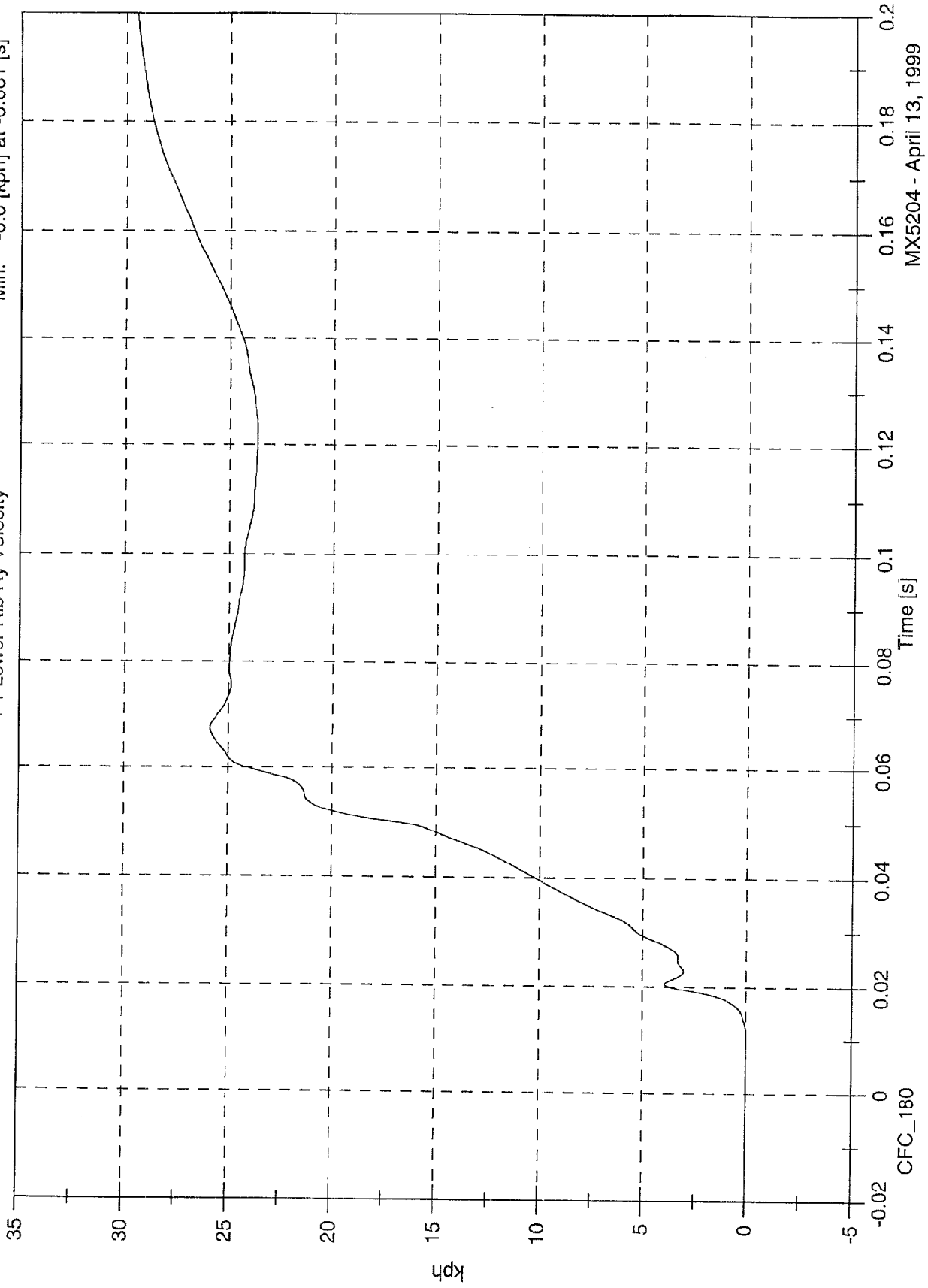
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 31.4 [kph] at 0.335 [s]

Min: -0.0 [kph] at -0.061 [s]

P1 Lower Rib Ry Velocity



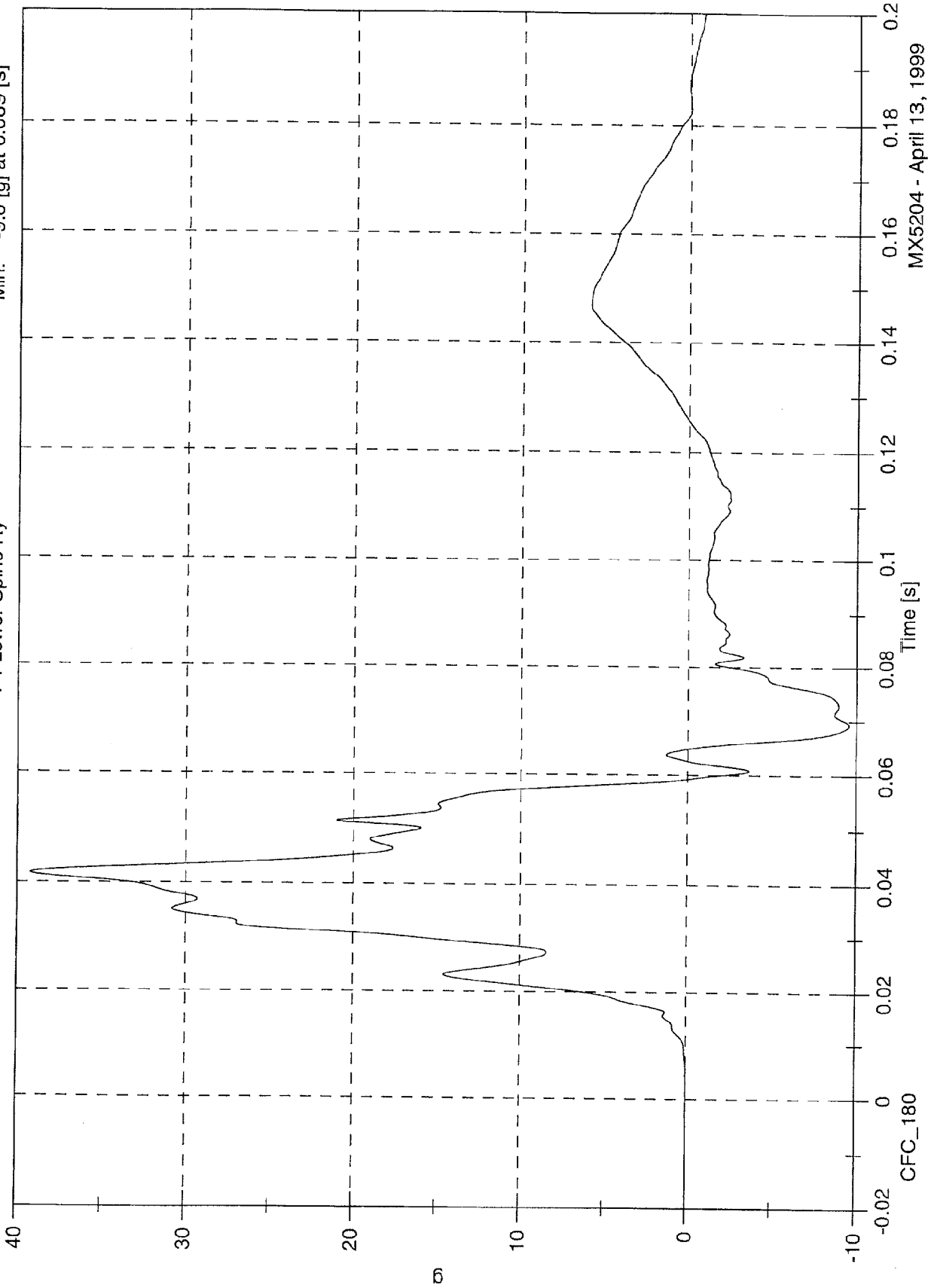
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

P1 Lower Spine Ry

Max: 39.2 [g] at 0.042 [s]

Min: -9.6 [g] at 0.069 [s]



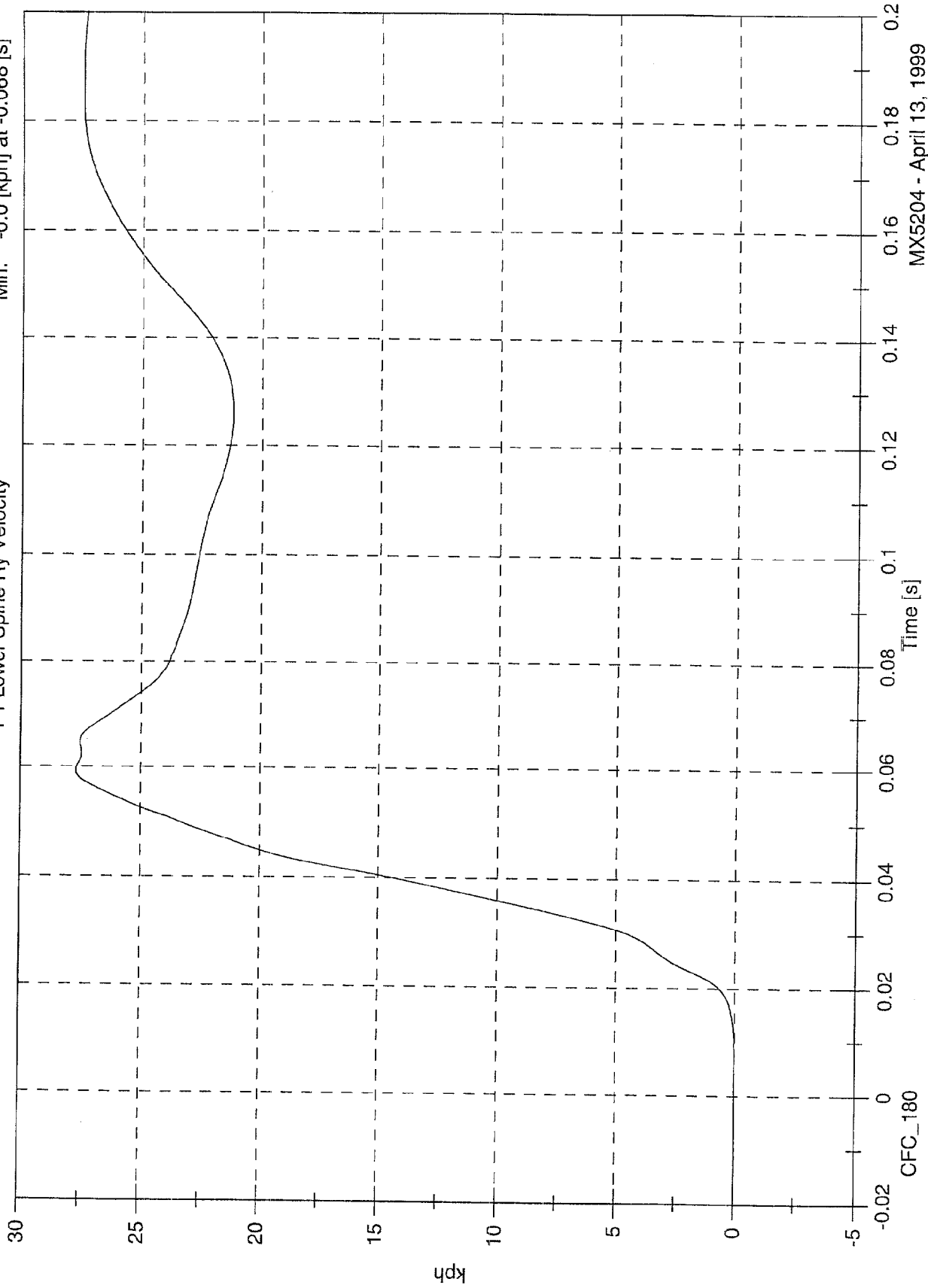
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 27.7 [kph] at 0.059 [s]

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

P1 Lower Spine Ry Velocity

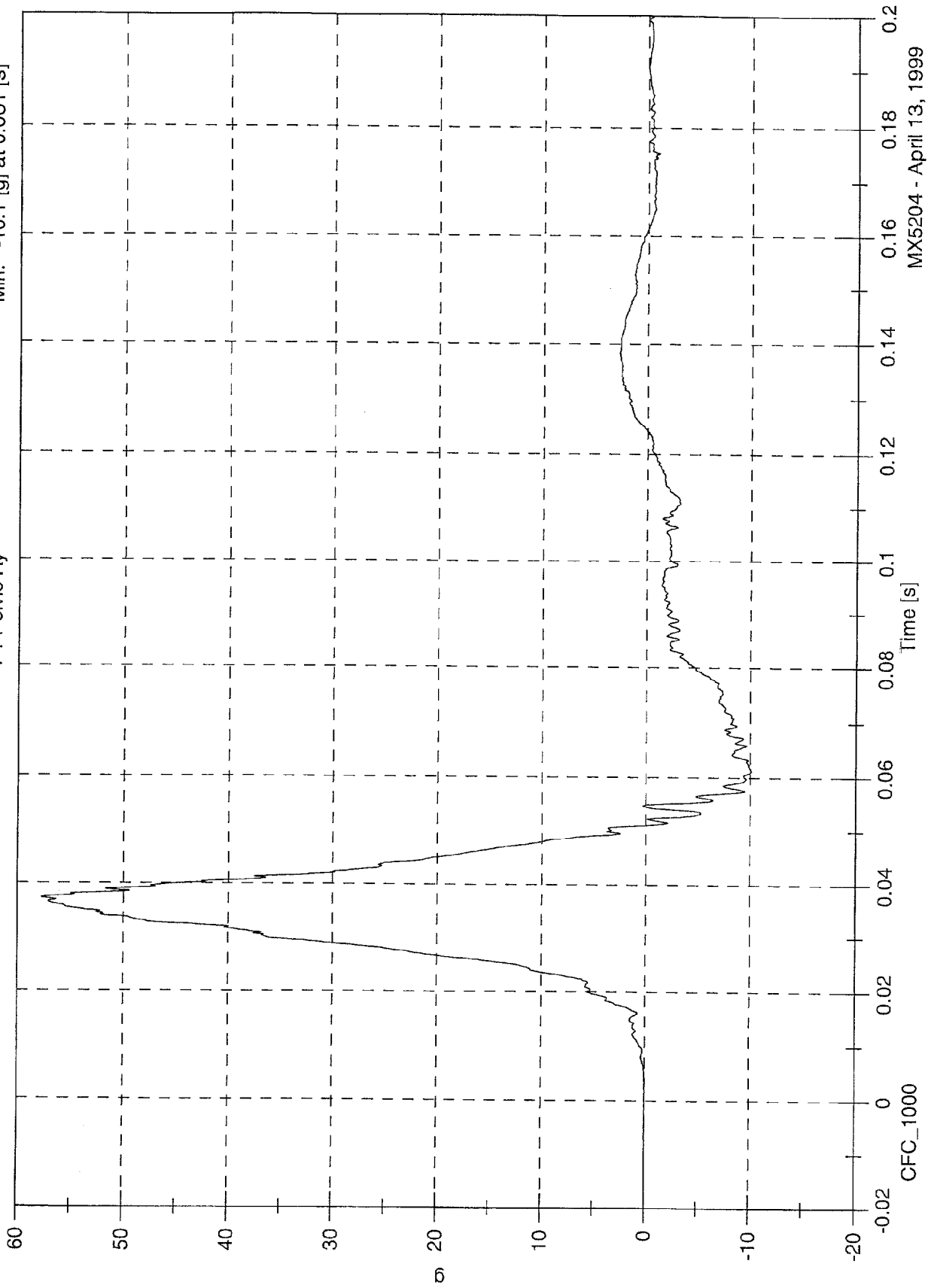


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 57.7 [g] at 0.037 [s]
Min: -10.1 [g] at 0.061 [s]

P1 Pelvic Ry



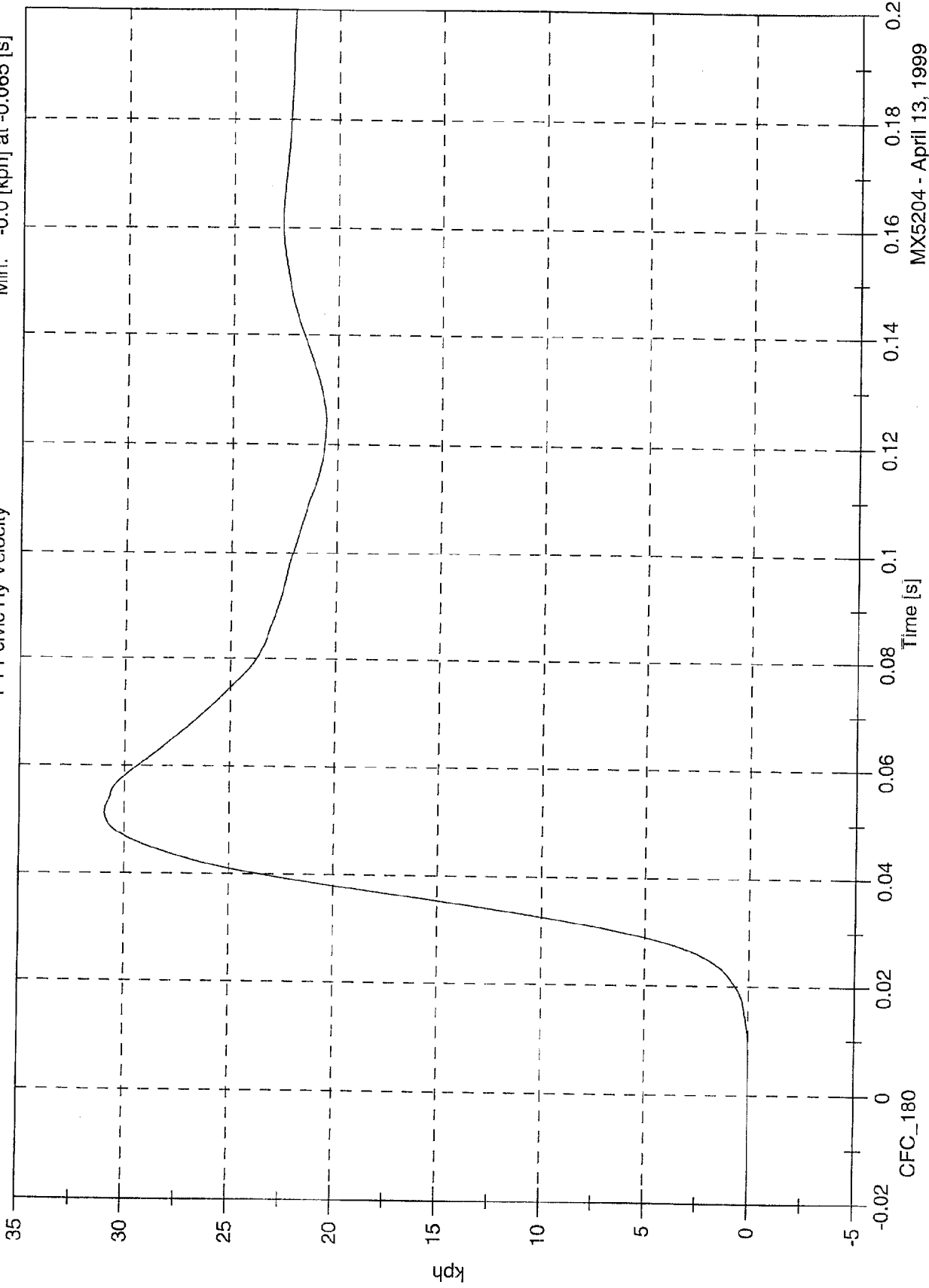
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 31.0 [kph] at 0.051 [s]

Min: -0.0 [kph] at -0.065 [s]

P1 Pelvic Ry Velocity

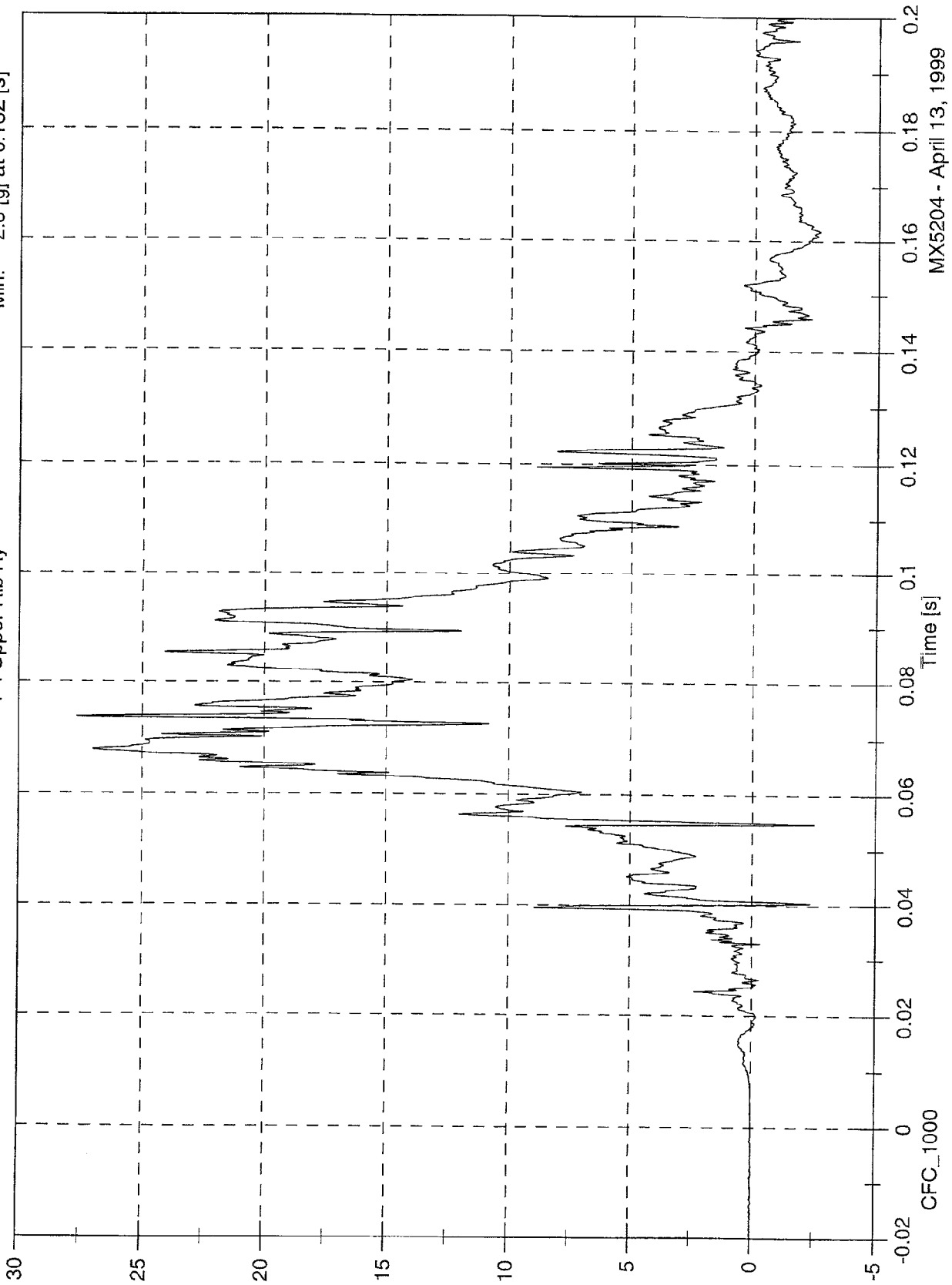


SNCAP Test # 5 - 1999 Nissan Pathfinder

P4 Upper Rib Ry

Max: 27.7 [g] at 0.074 [s]

Min: -2.6 [g] at 0.162 [s]



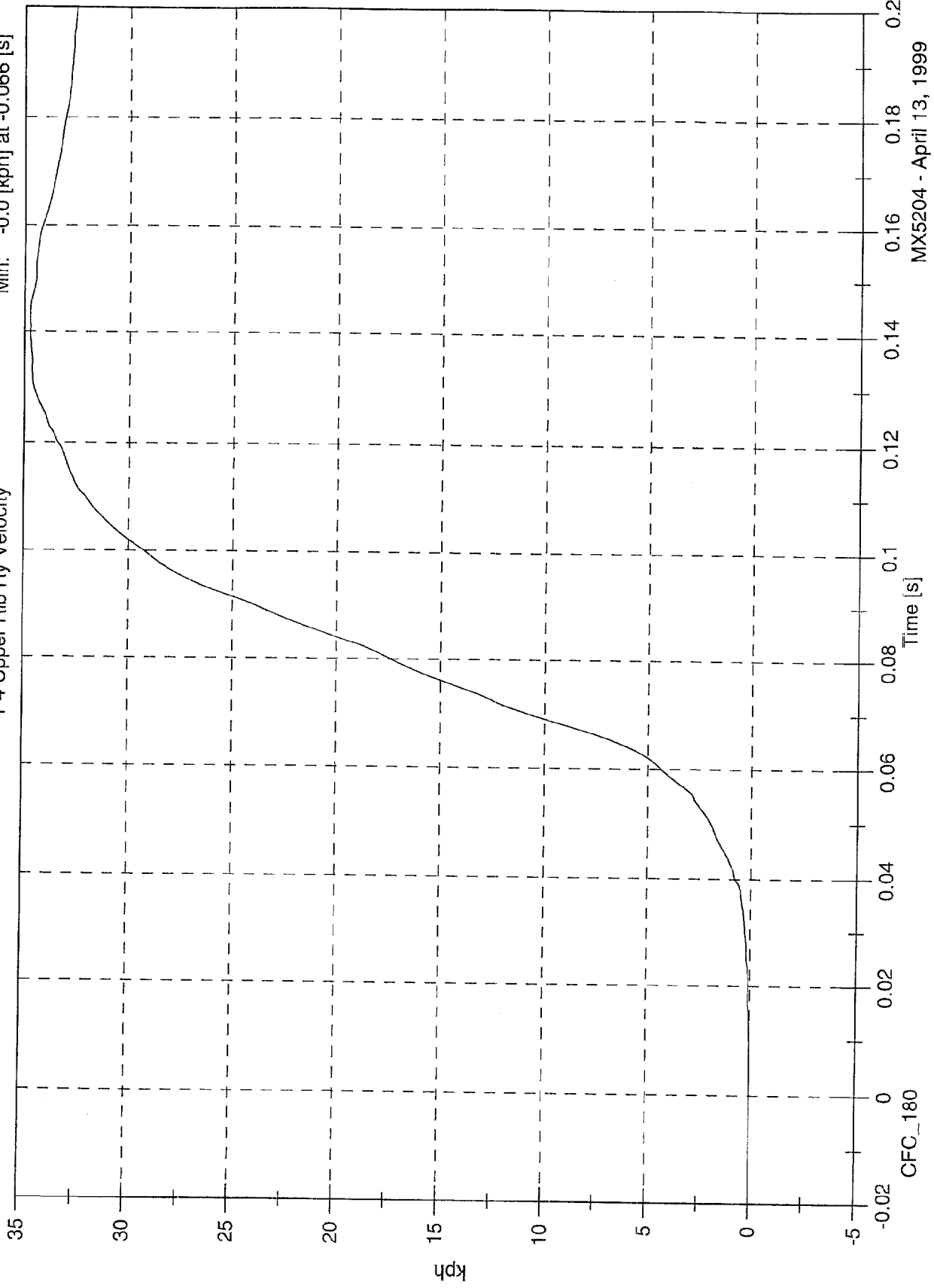
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 34.7 [kph] at 0.143 [s]

Min: -0.0 [kph] at -0.066 [s]

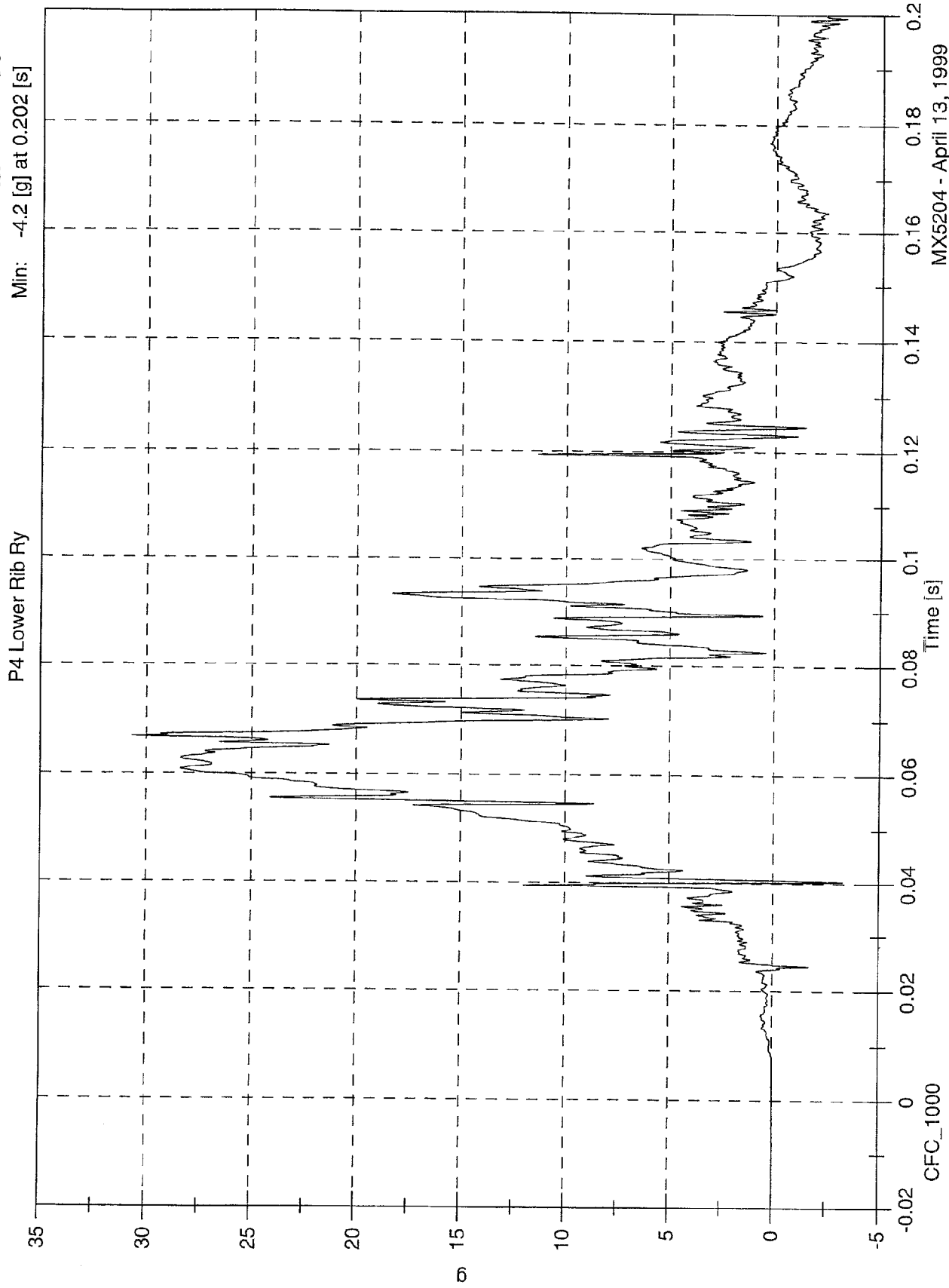
P4 Upper Rib Ry Velocity



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 30.7 [g] at 0.067 [s]
Min: -4.2 [g] at 0.202 [s]

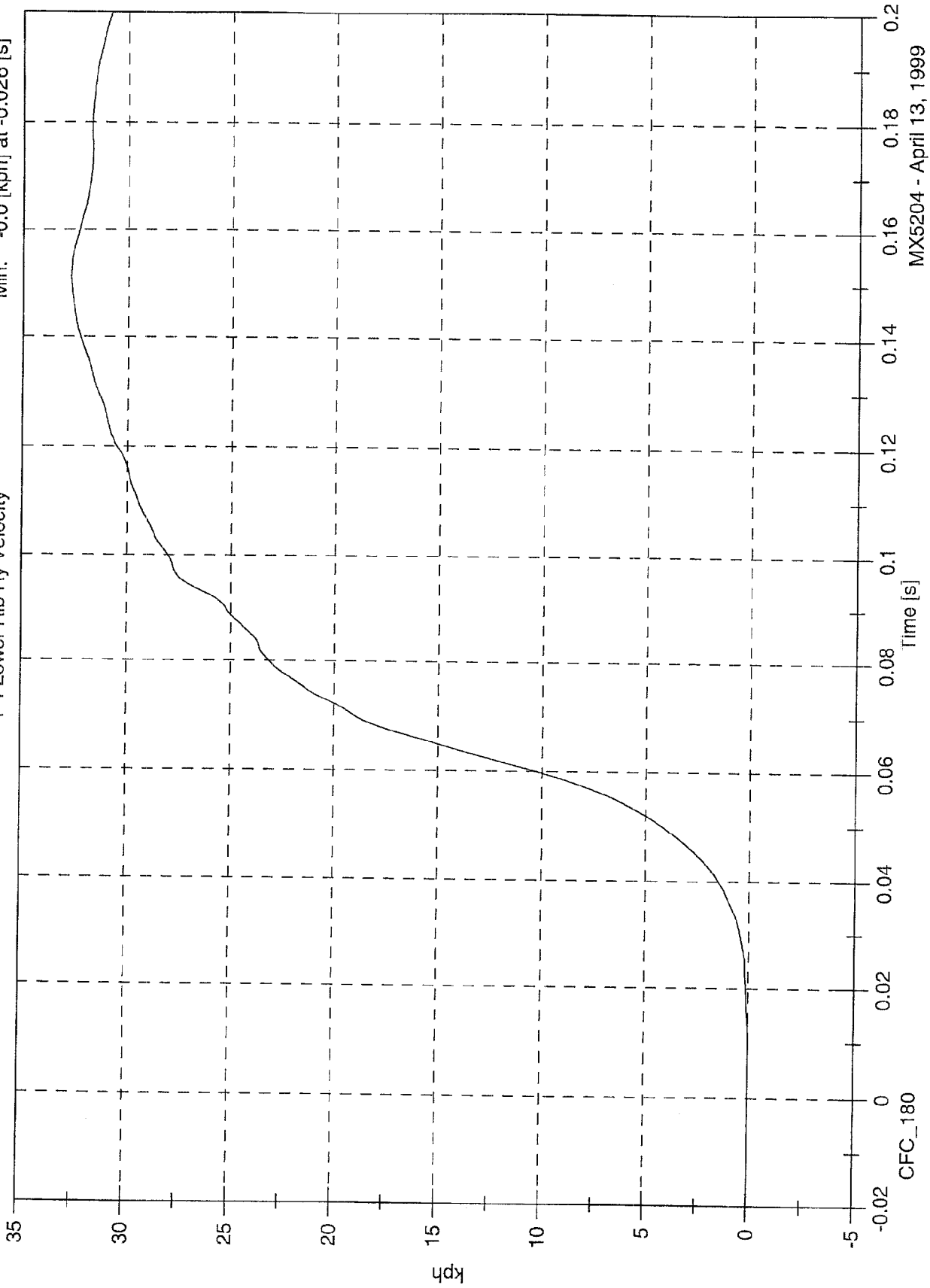


MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 32.7 [kph] at 0.151 [s]
Min: -0.0 [kph] at -0.026 [s]

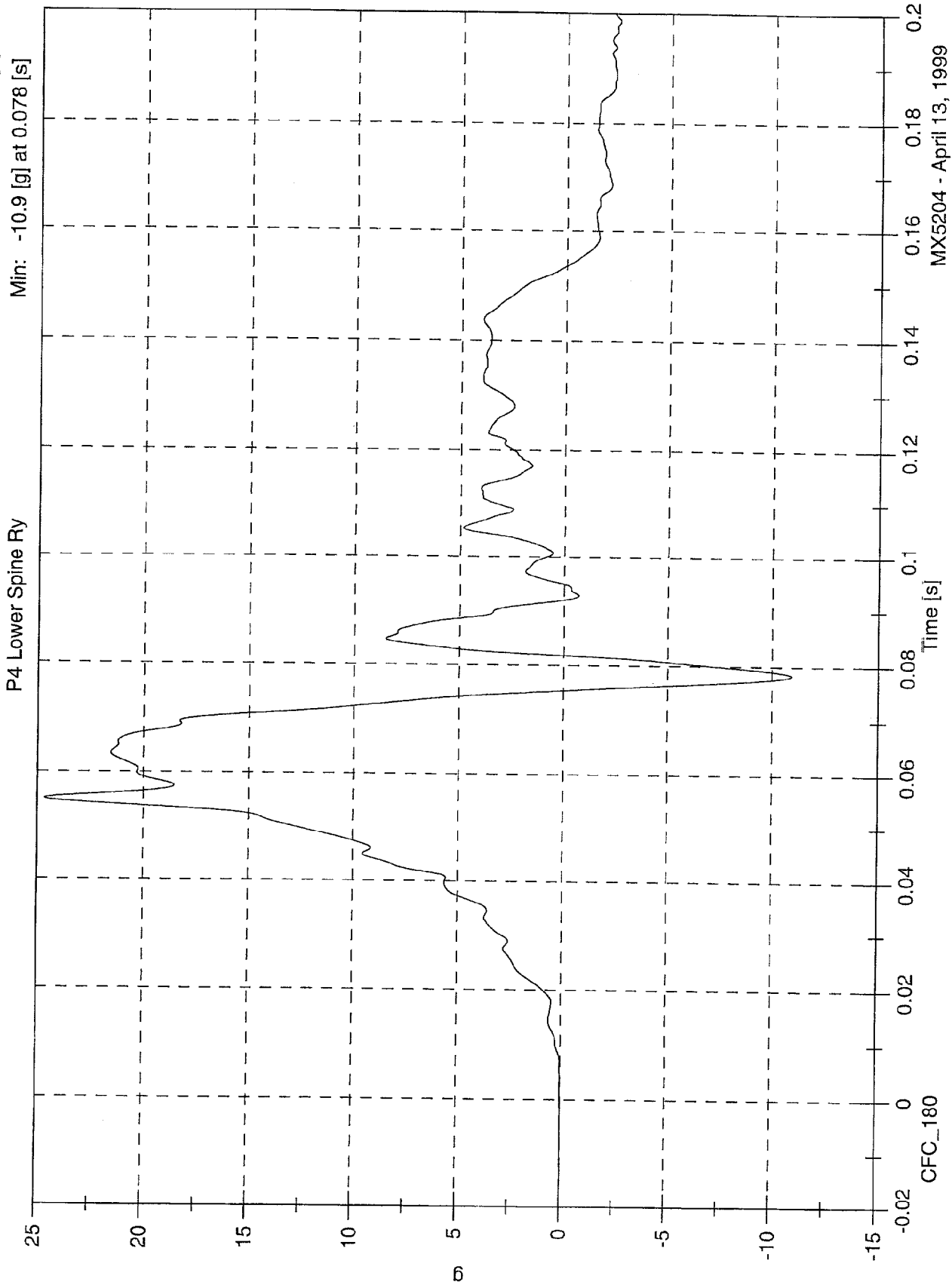
P4 Lower Rib Ry Velocity



MX5204 - April 13, 1999

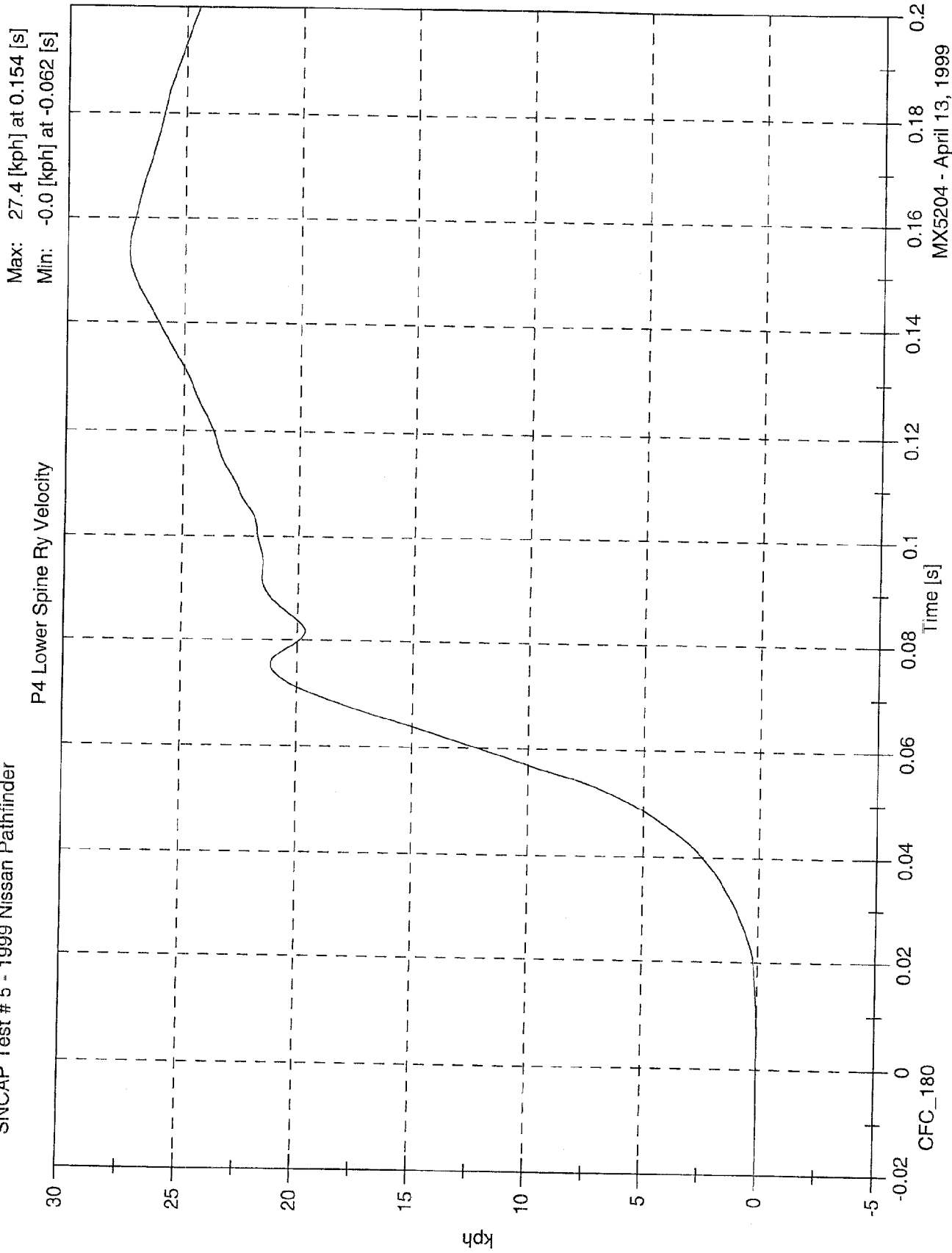
SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 24.7 [g] at 0.055 [s]
Min: -10.9 [g] at 0.078 [s]



MX5204 - April 13, 1999

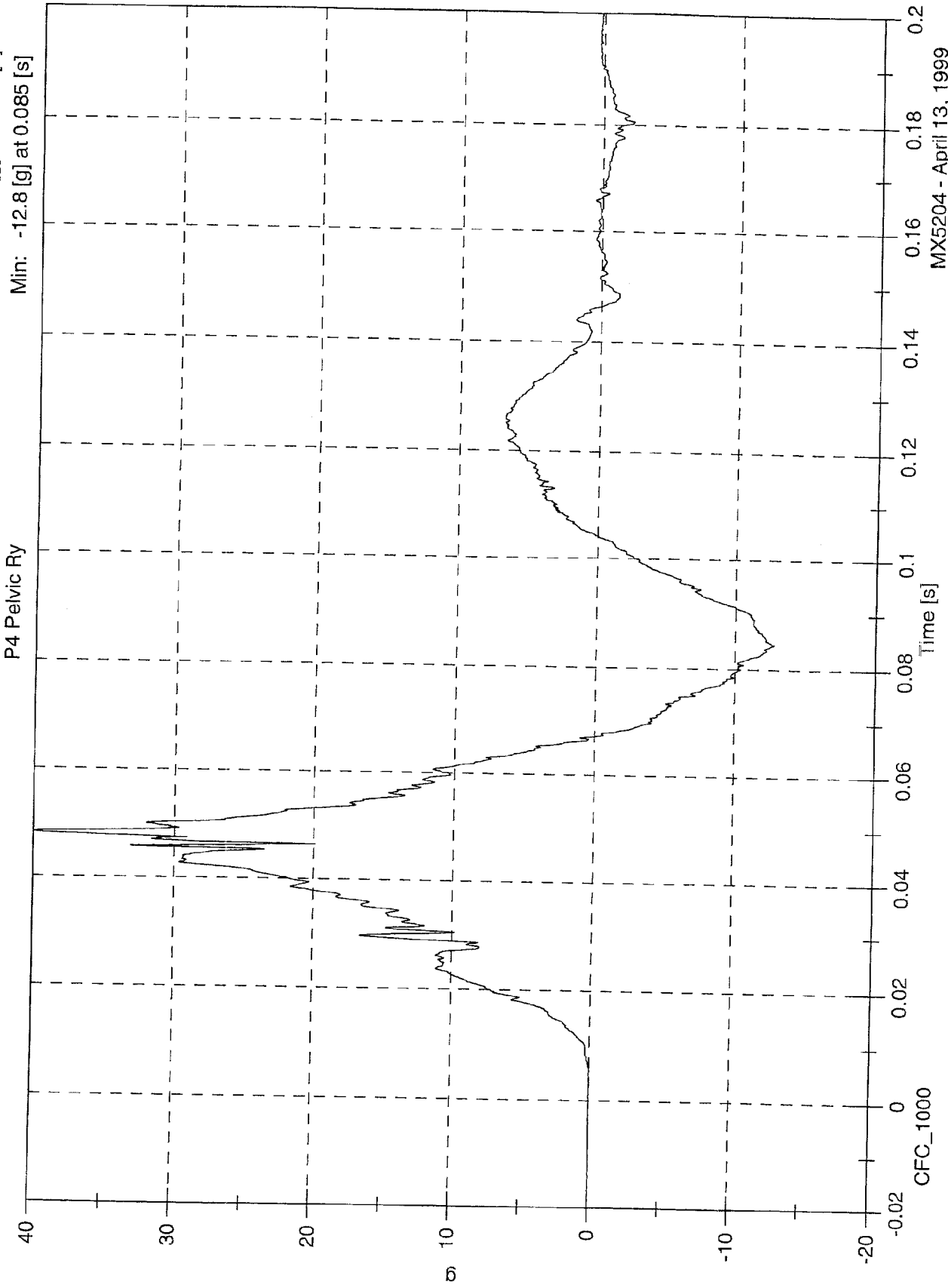
SNCAP Test # 5 - 1999 Nissan Pathfinder



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

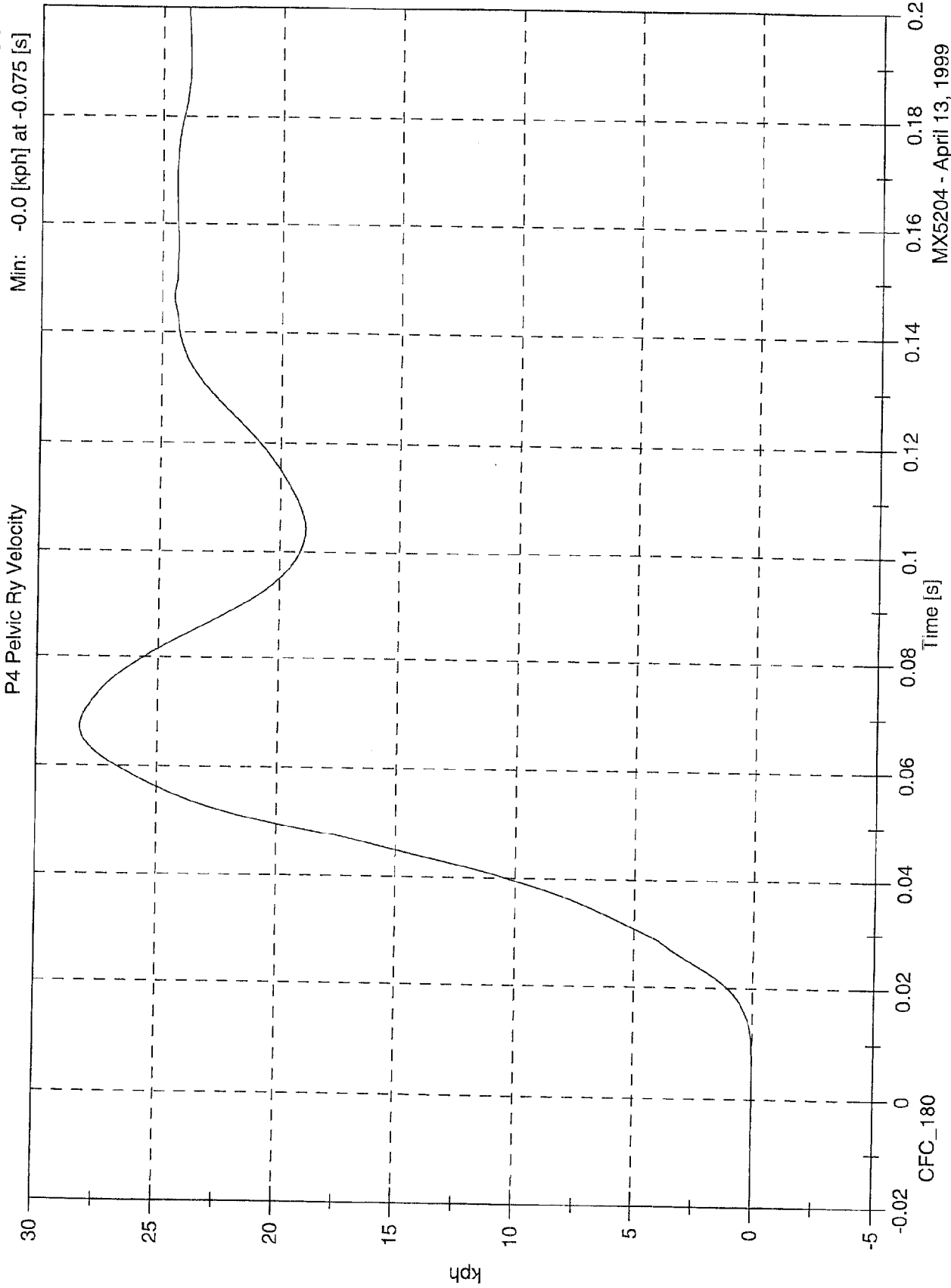
Max: 39.9 [g] at 0.048 [s]
Min: -12.8 [g] at 0.085 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

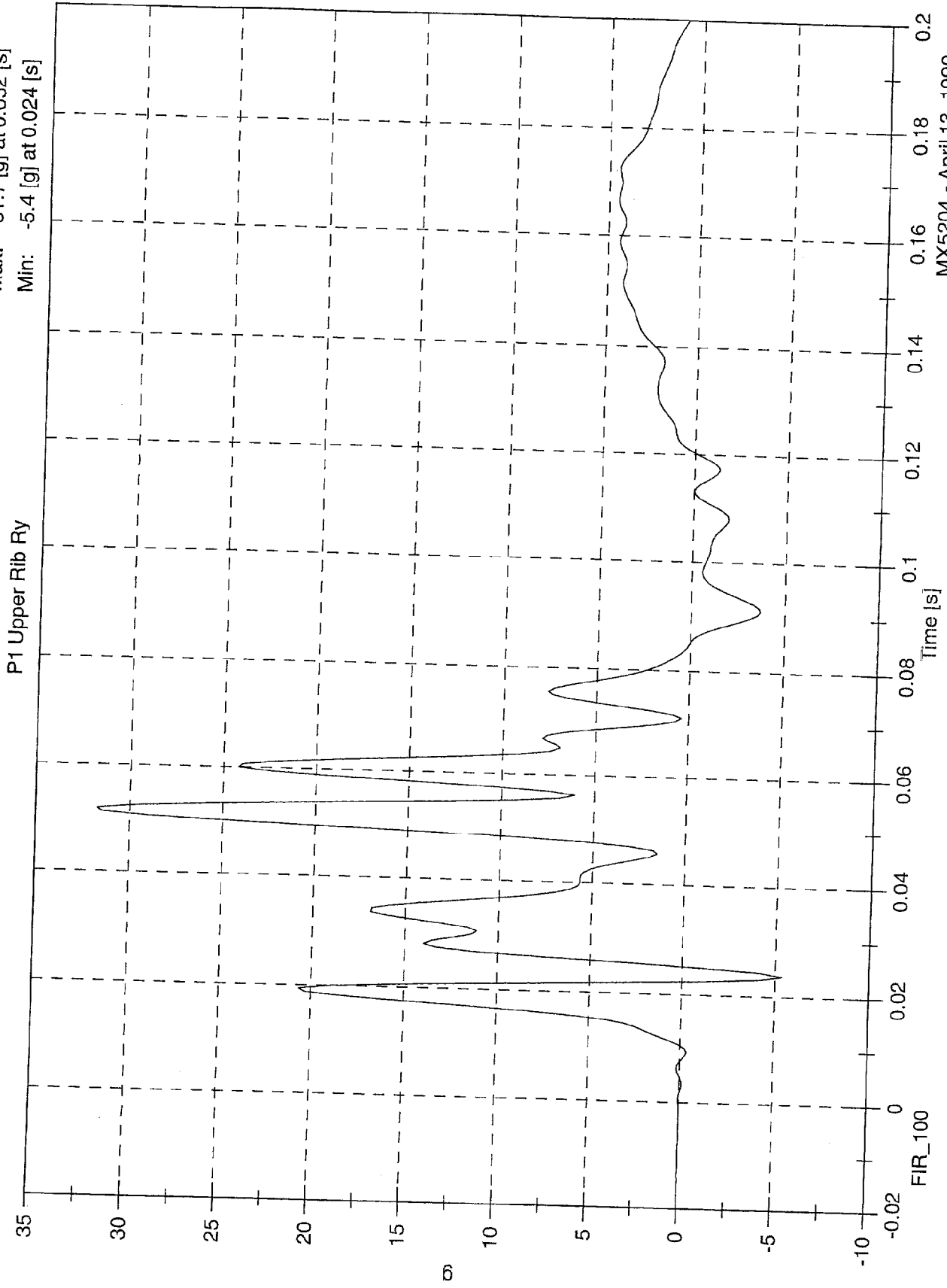
Max: 28.2 [kph] at 0.067 [s]
Min: -0.0 [kph] at -0.075 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 31.7 [g] at 0.052 [s]
Min: -5.4 [g] at 0.024 [s]



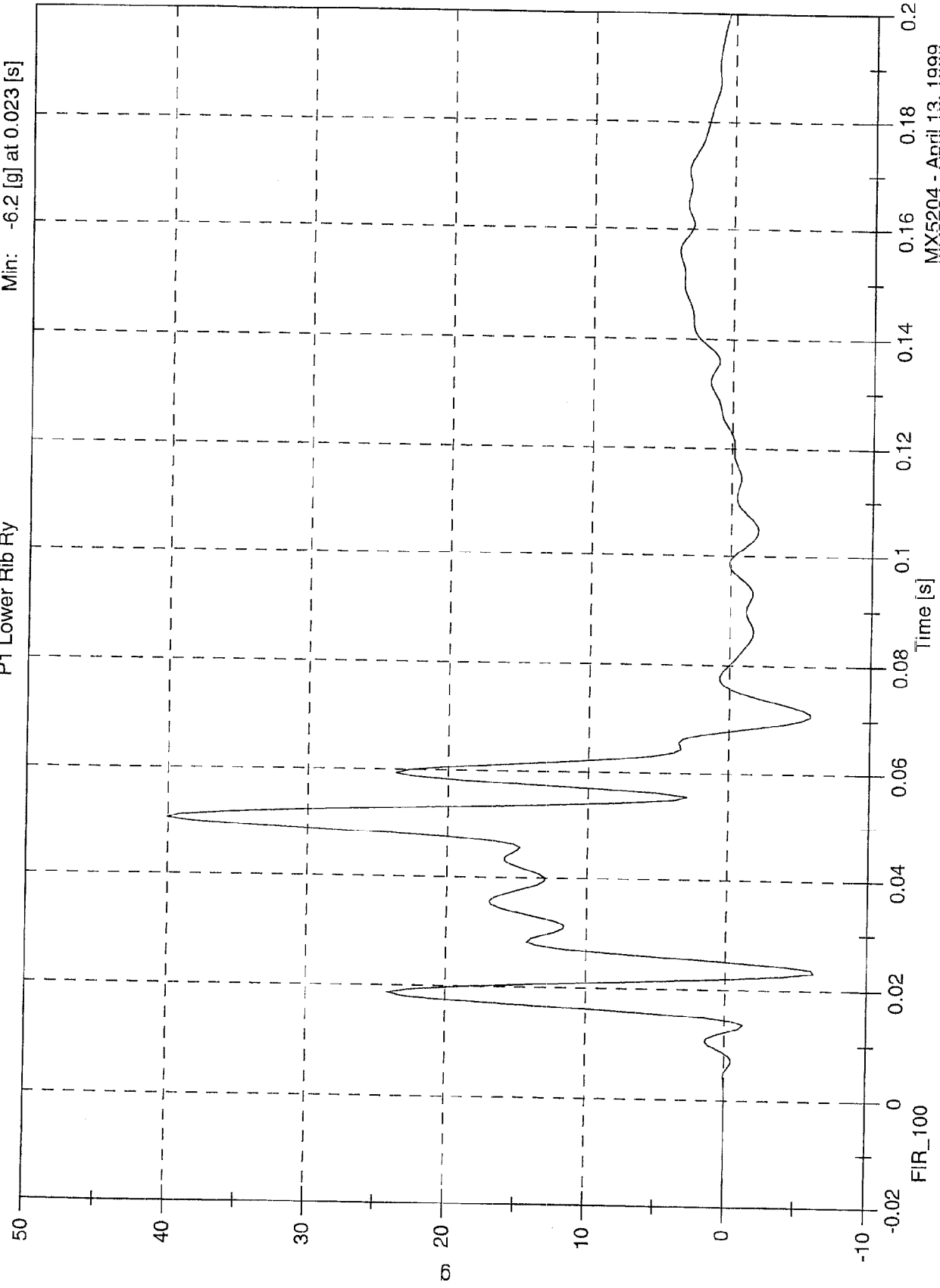
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 40.1 [g] at 0.051 [s]

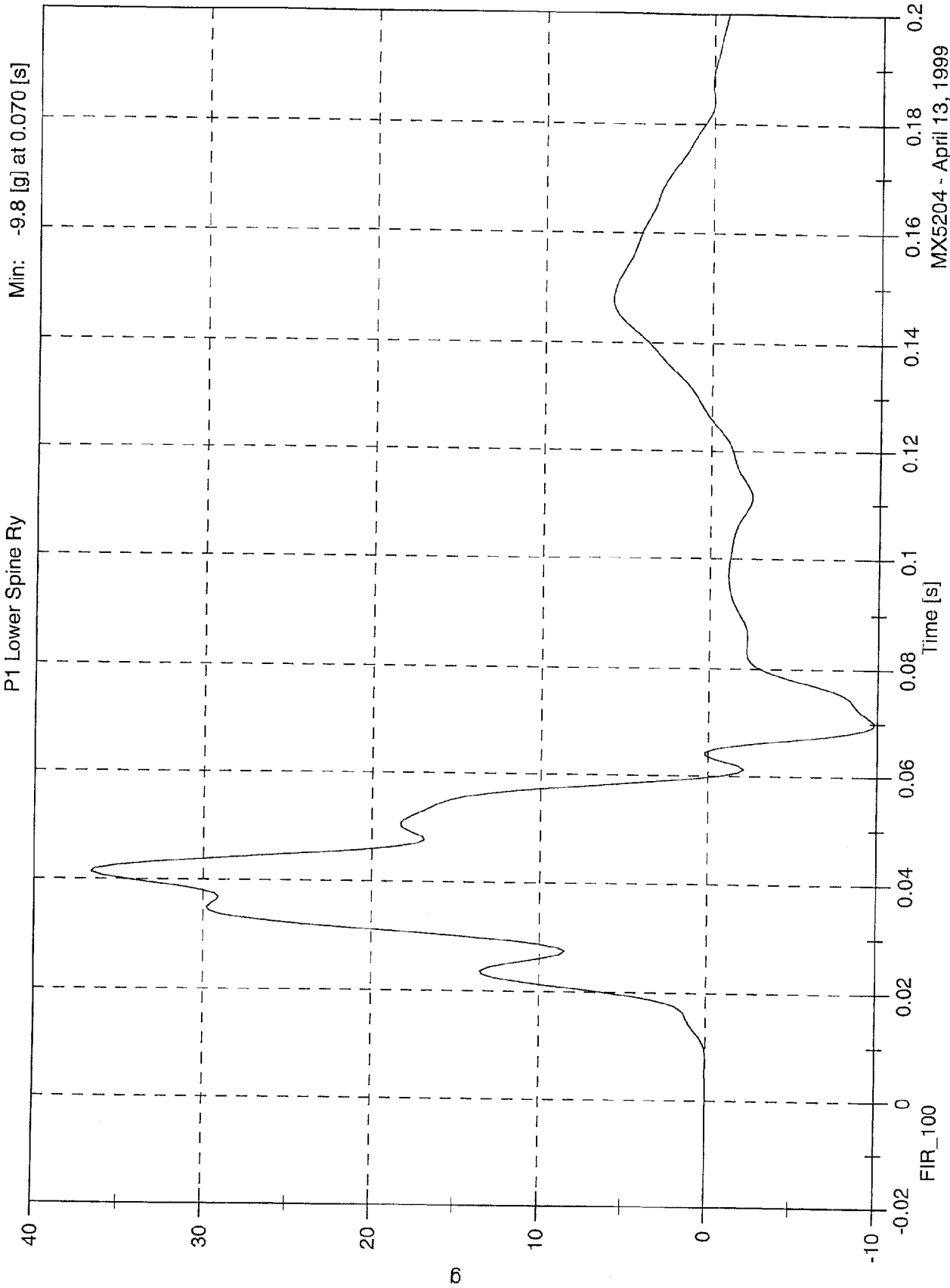
Min: -6.2 [g] at 0.023 [s]

P1 Lower Rib Ry



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder



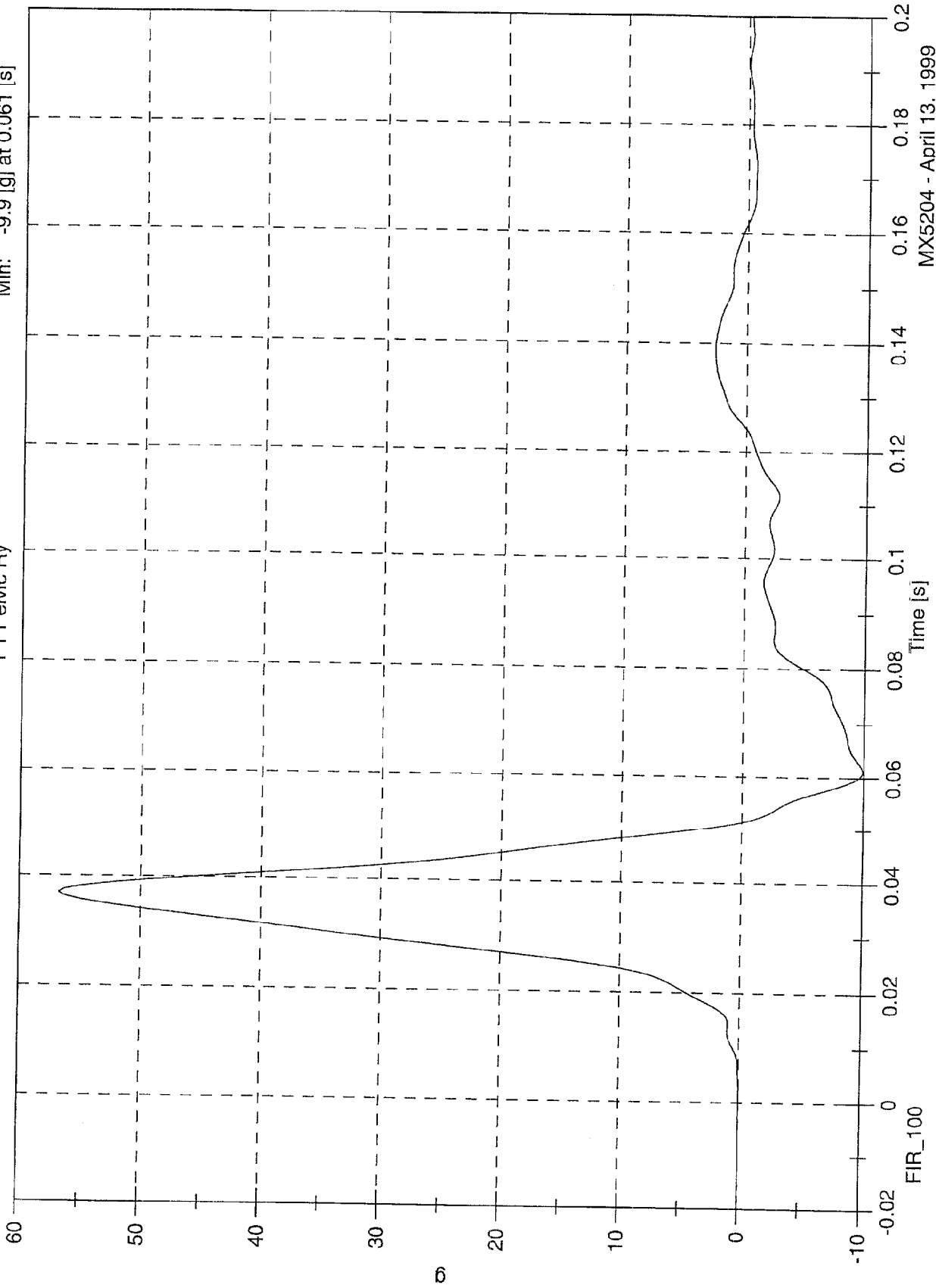
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 56.8 [g] at 0.037 [s]

Min: -9.9 [g] at 0.061 [s]

P1 Pelvic Ry



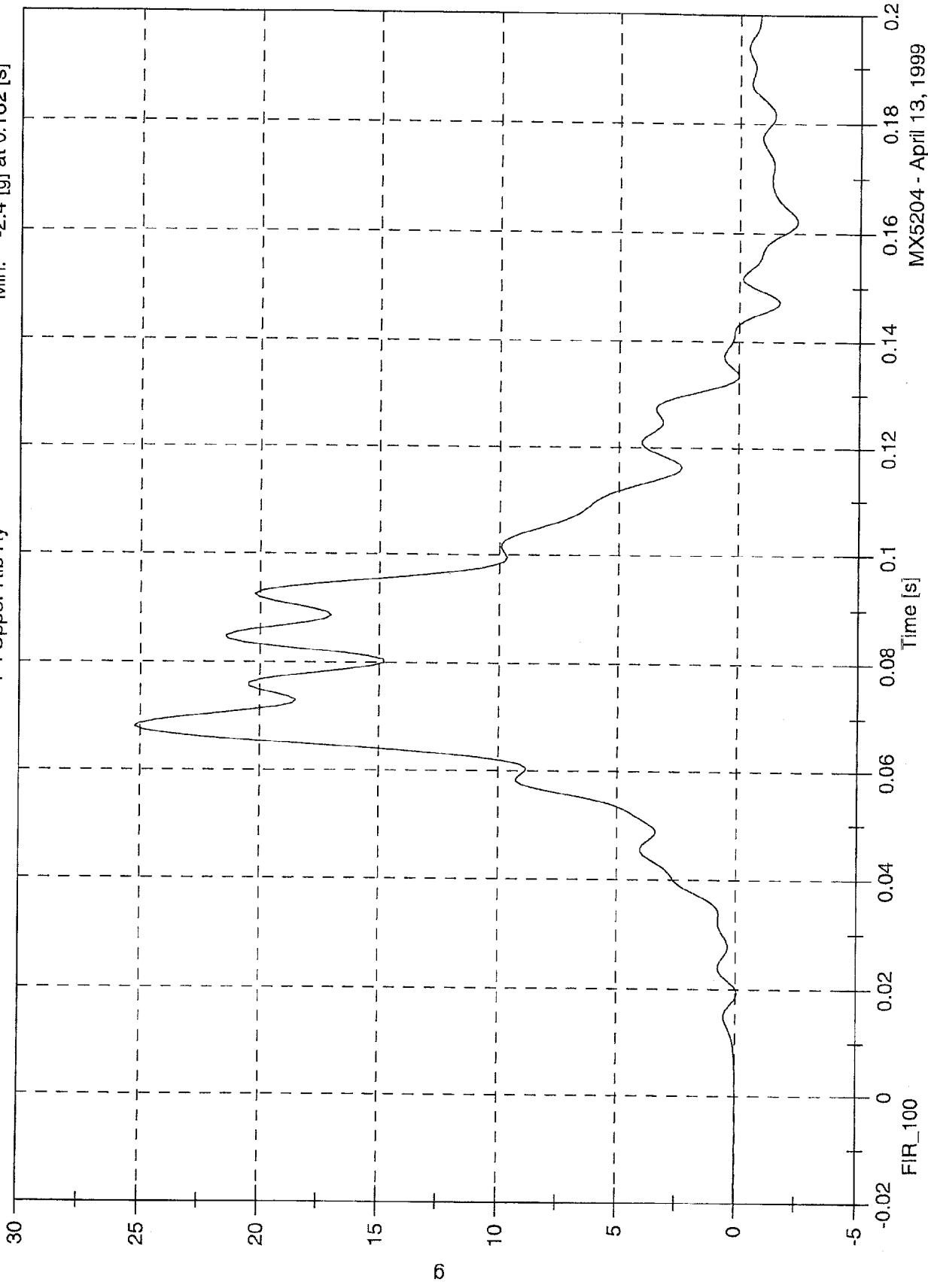
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 25.2 [g] at 0.068 [s]

Min: -2.4 [g] at 0.162 [s]

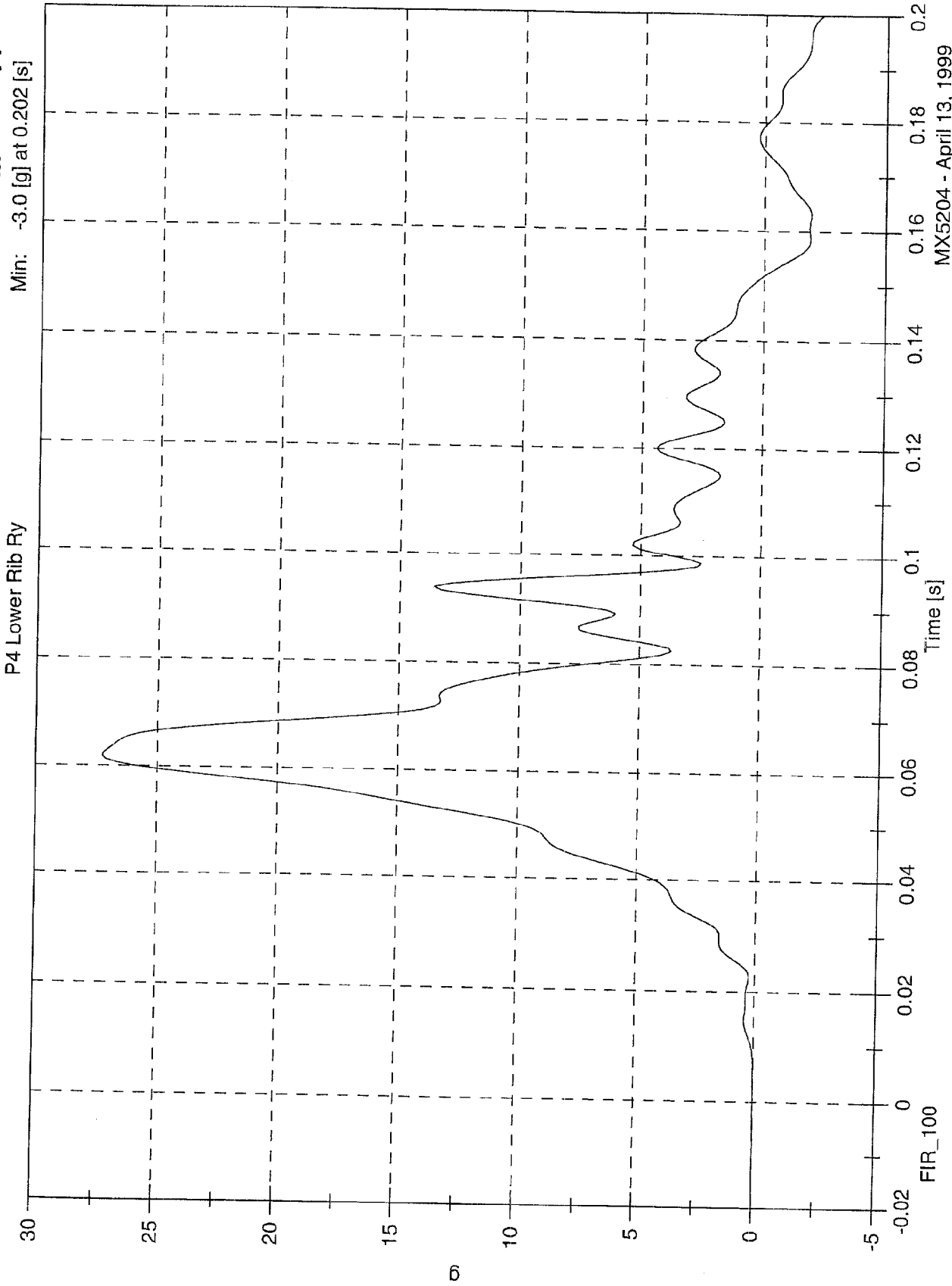
P4 Upper Rib Ry



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

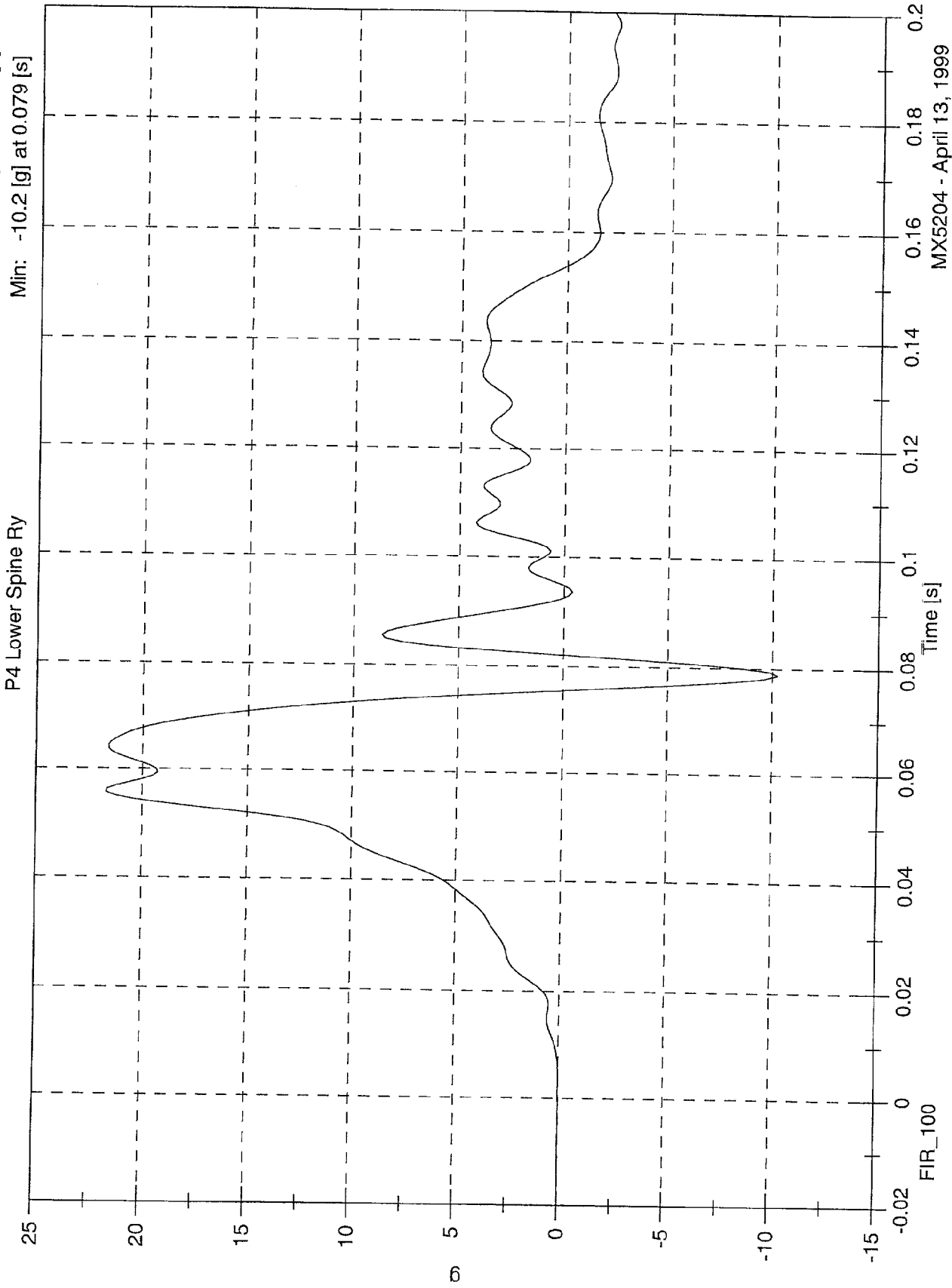
Max: 27.3 [g] at 0.062 [s]
Min: -3.0 [g] at 0.202 [s]



MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 21.7 [g] at 0.056 [s]
Min: -10.2 [g] at 0.079 [s]



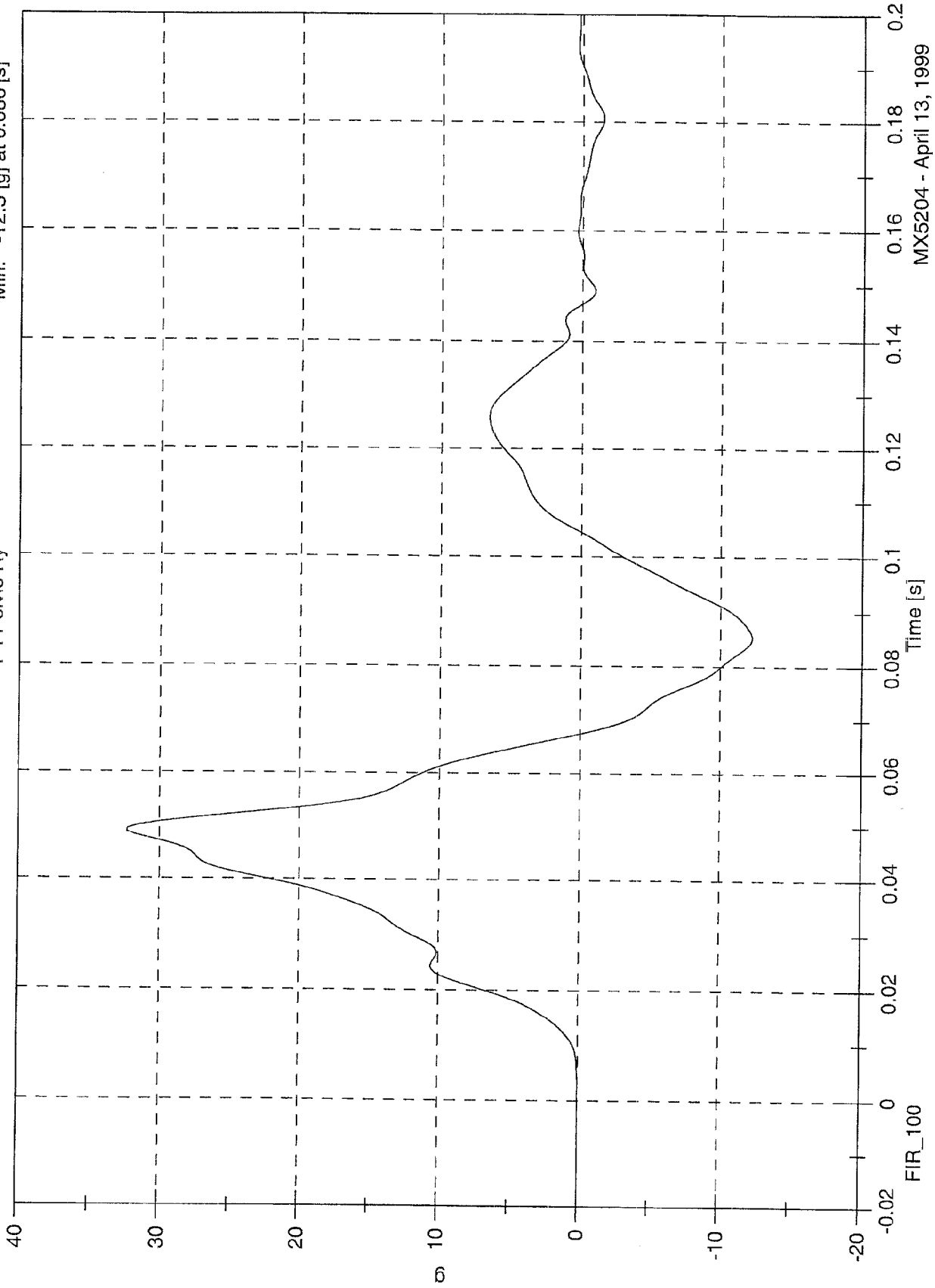
MX5204 - April 13, 1999

SNCAP Test # 5 - 1999 Nissan Pathfinder

Max: 32.3 [g] at 0.049 [s]

Min: -12.3 [g] at 0.086 [s]

P4 Pelvic Ry



MX5204 - April 13, 1999

APPENDIX C

SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

SUMMARY
SID PRE & POST TEST CALIBRATION

CONFIGURED FOR LEFT SIDE IMPACT

Date: 04-09-99, 04-30-99

Veridian Sequential Test Number: 1

Laboratory Technician: _____

B. Swiecicki

TEST PARAMETER	SPECIFICATION	SID NO.: 016		SID NO.: 027	
		PRE TEST	POST TEST	PRE TEST	POST TEST
SH- Seated Height (mm)	889 - 909	902	902	909	909
RH- Rib Height (mm)	501 - 521	513	516	516	516
HP- Hip Pivot Height (mm)	99 ref.	99	99	99	99
RD- Rib from Back Line (mm)	229 - 241	240	240	236	236
KV- Knee Pivot from Back Line (mm)	511 - 526	525	523	516	516
SW- Knee Pivot to Floor (mm)	490 - 505	494	494	493	493
HW- Hip Width (mm)	356 - 391	361	362	366	368
THORAX IMPACTS					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	31	30	30	30
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.29	4.29	4.32
UPPER RIB (g's)	37 - 46	43.6	42.3	43.0	40.9
LOWER RIB (g's)	37 - 46	43.8	41.6	43.0	39.1
LOWER SPINE (g's)	15 - 22	21.5	21.1	21.9	20.2
PELVIS IMPACT					
TEMPERATURE (°C)	18.9 - 25.5	21.1	21.1	21.1	21.1
RELATIVE HUMIDITY (%)	10 - 70	31	30	30	30
PROBE SPEED (m/s)	4.27 - 4.33	4.30	4.28	4.30	4.30
PELVIS (g's)	40 - 60	40.3	43.2	48.8	48.2

REMARKS: None

**CALIBRATION TEST RESULTS
PRE-TEST**

SID NO.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-09-99 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.
ABDOMINAL COMPRESSION TEST*	Passed all requirements.
LUMBAR FLEXION TEST*	Passed all requirements.
LATERAL HEAD DROP TEST*	Passed all requirements.
LATERAL NECK BENDING TEST*	Passed all requirements.

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-09-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	513
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	240
KH- Knee Pivot from Back Line (mm)	511 - 526	525
KV- Knee Pivot to Floor (mm)	490 - 505	494
HW- Hip Width (mm)	356 - 391	361

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
 Date: 02-15-99 Laboratory Technician: B. Swiecicki, G. Serbinowski

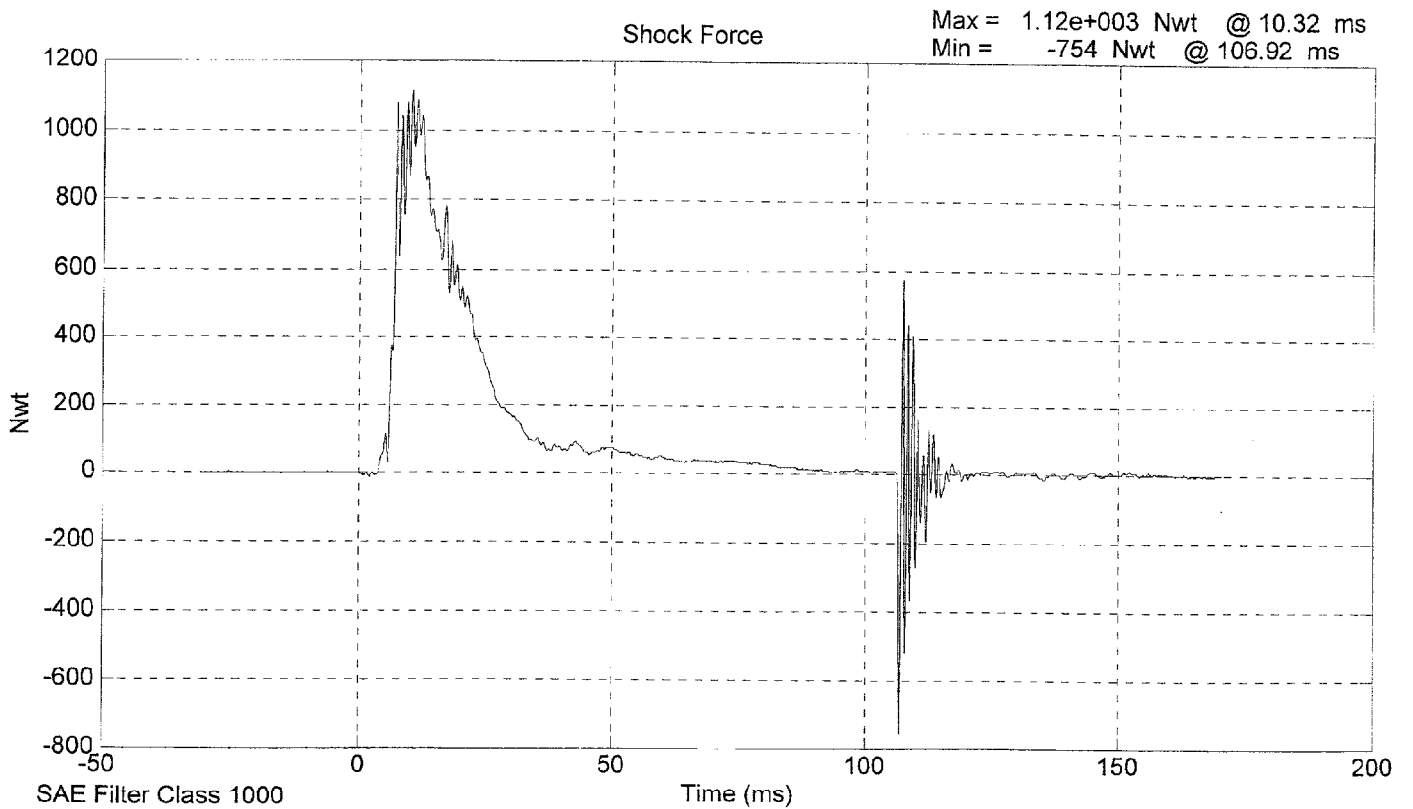
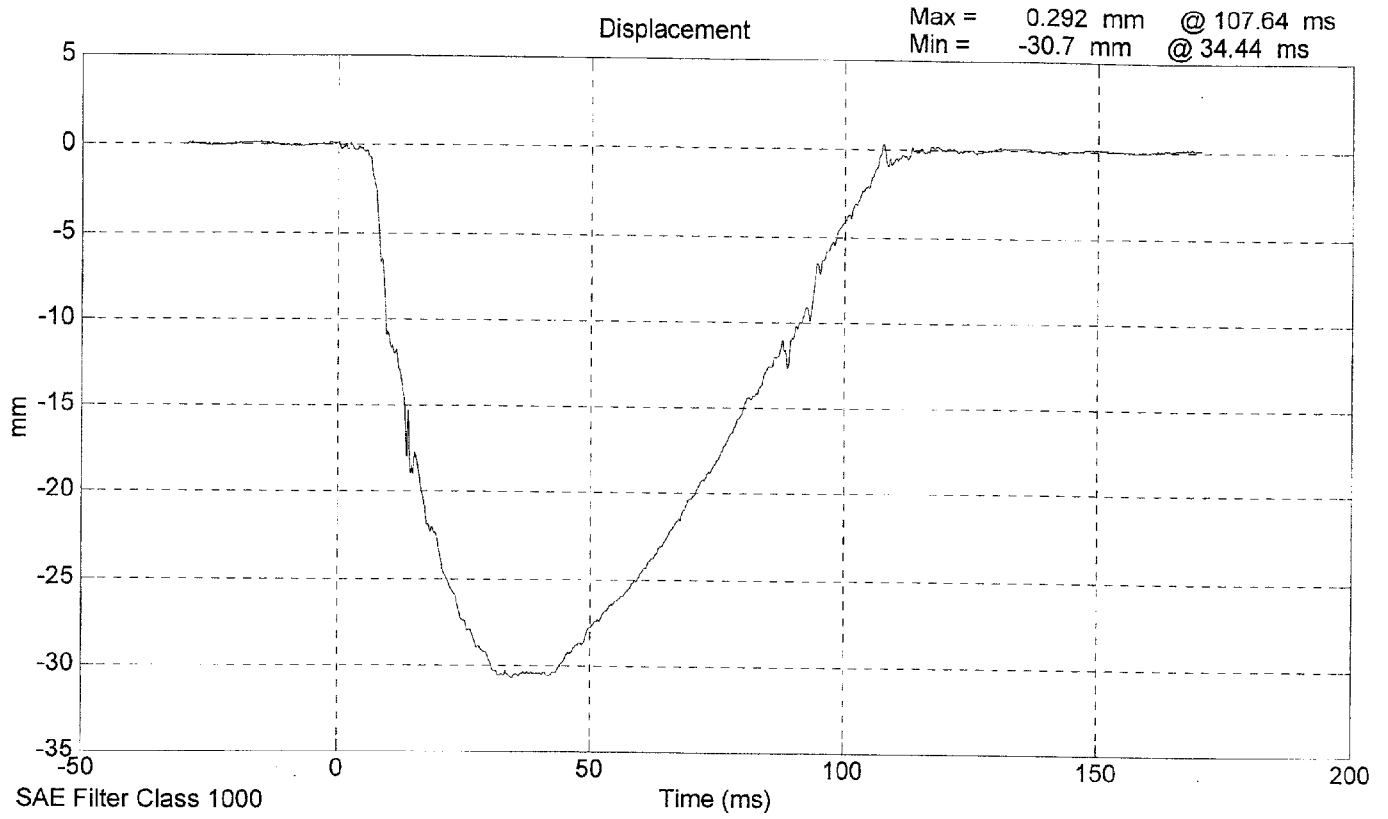
DAMPER IDENTIFICATION: 016

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)		10 - 70	15
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	1116.6
	DISPLACEMENT (mm)	30 - 35	30.7
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	2065.0
	DISPLACEMENT (mm)	32 - 37	33.2
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3980.3
	DISPLACEMENT (mm)	33 - 40	35.0

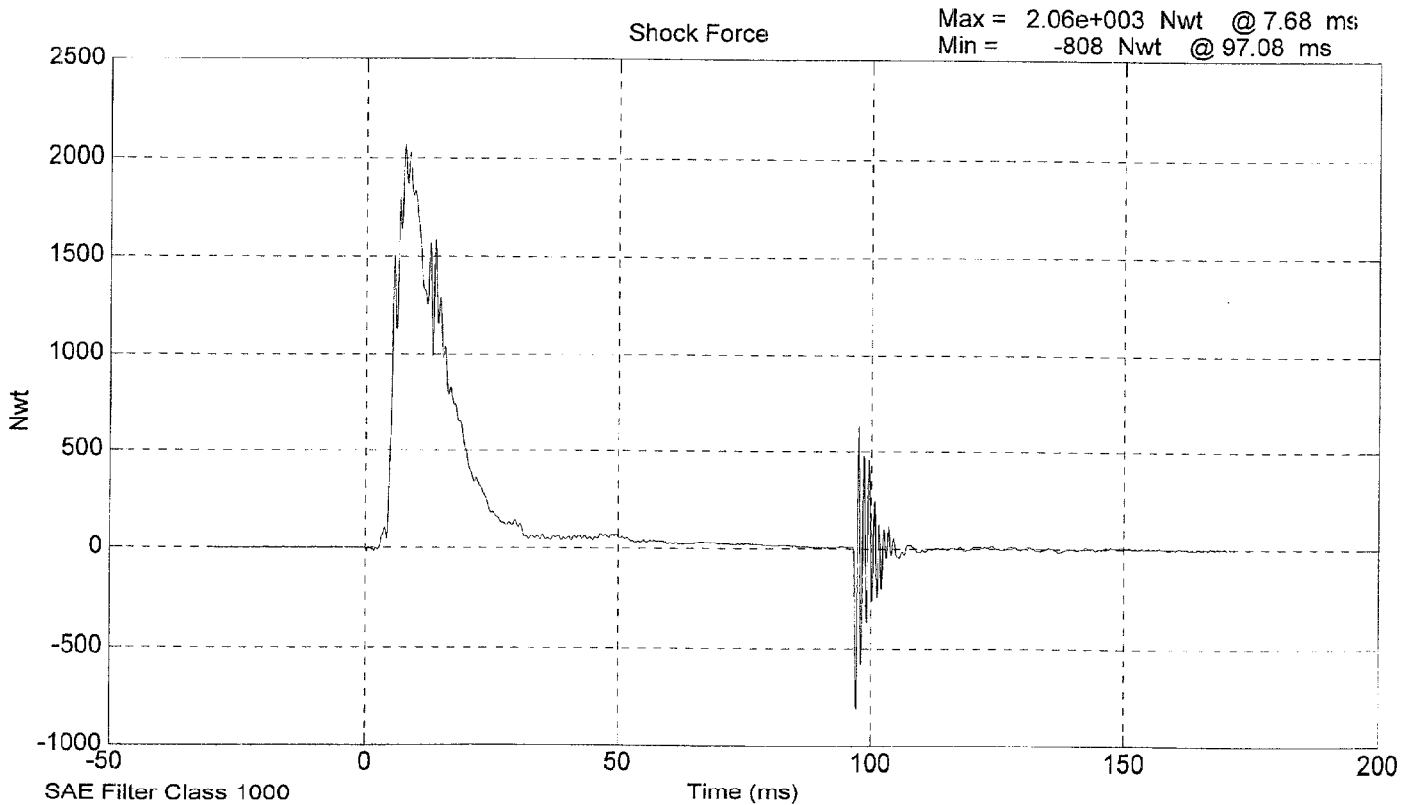
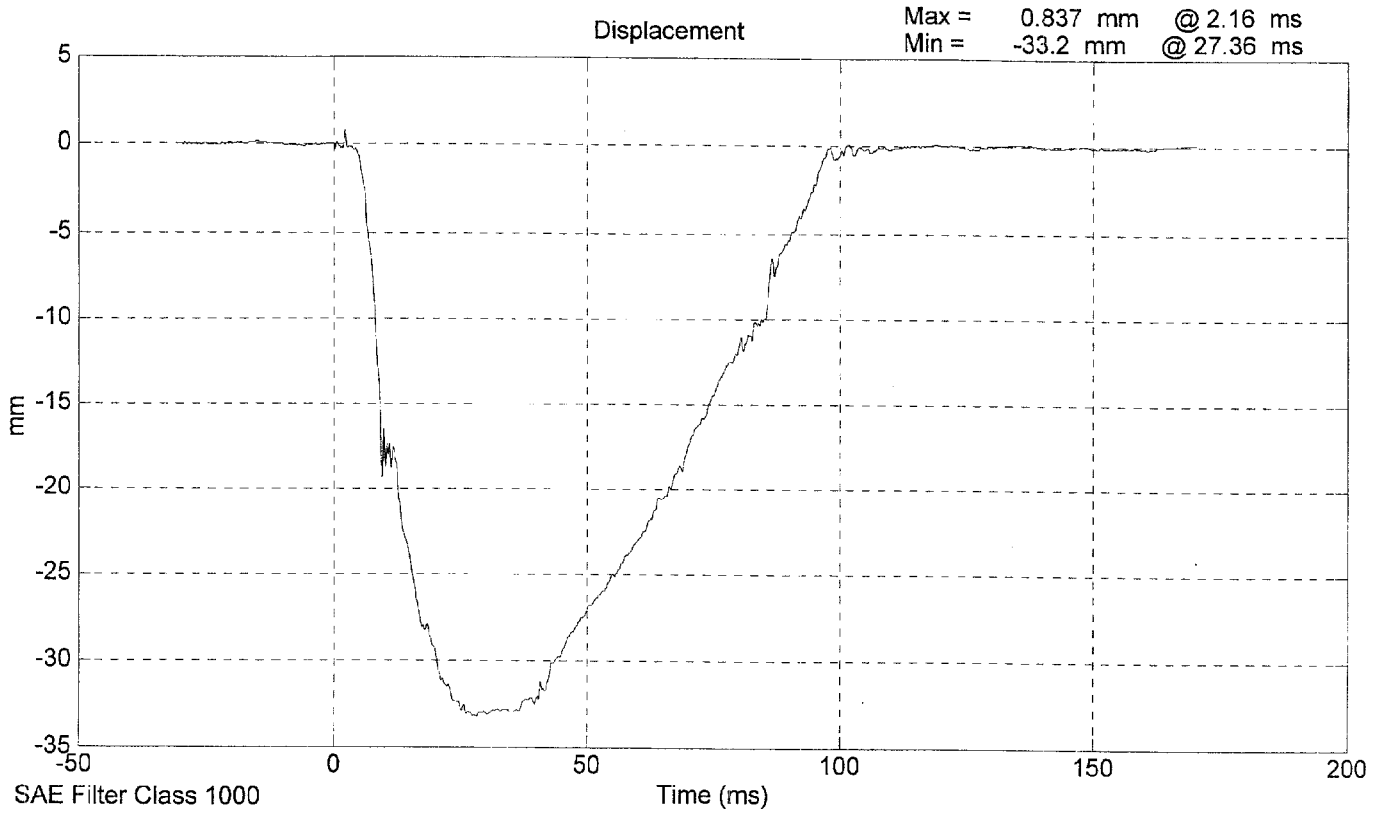
DAMPER SETTING: 5

REMARKS: None

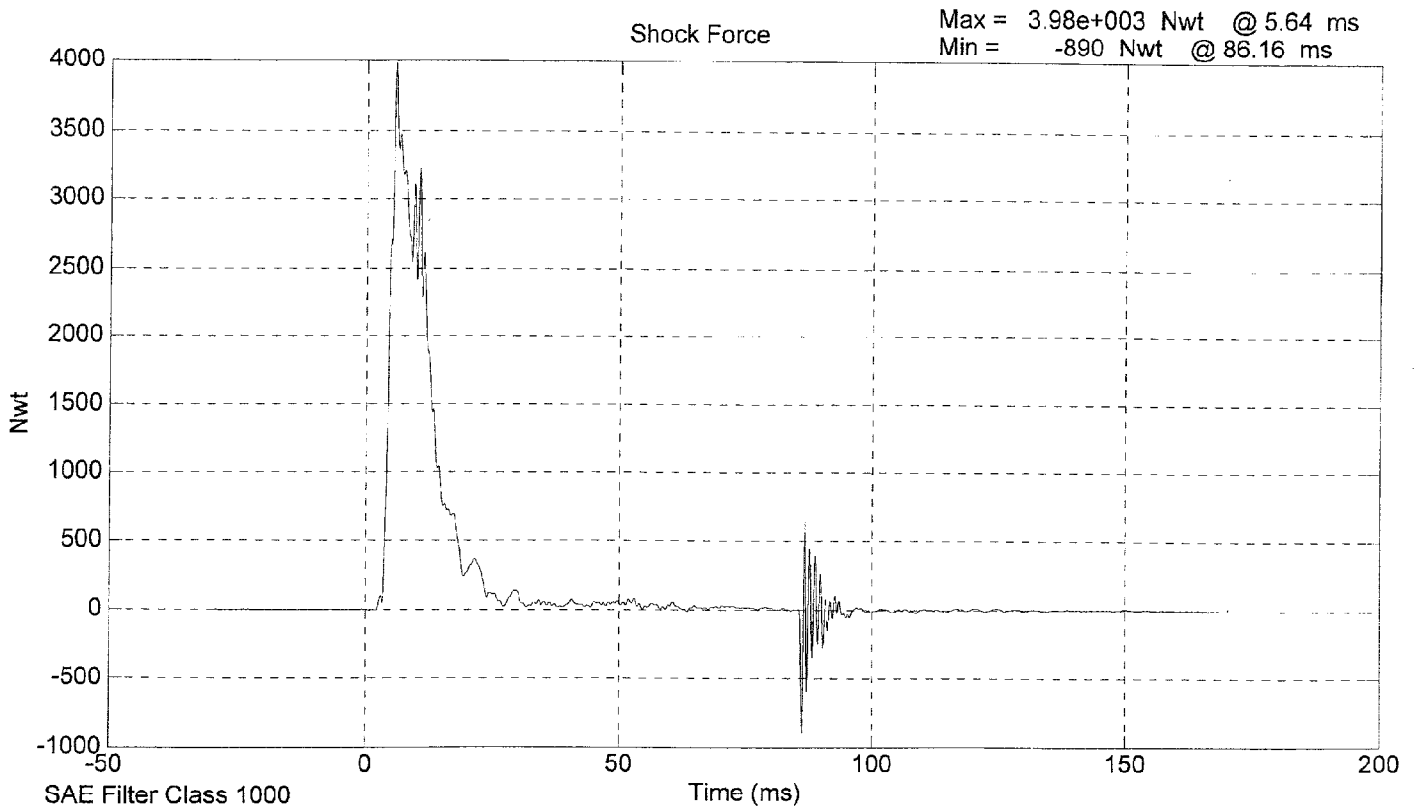
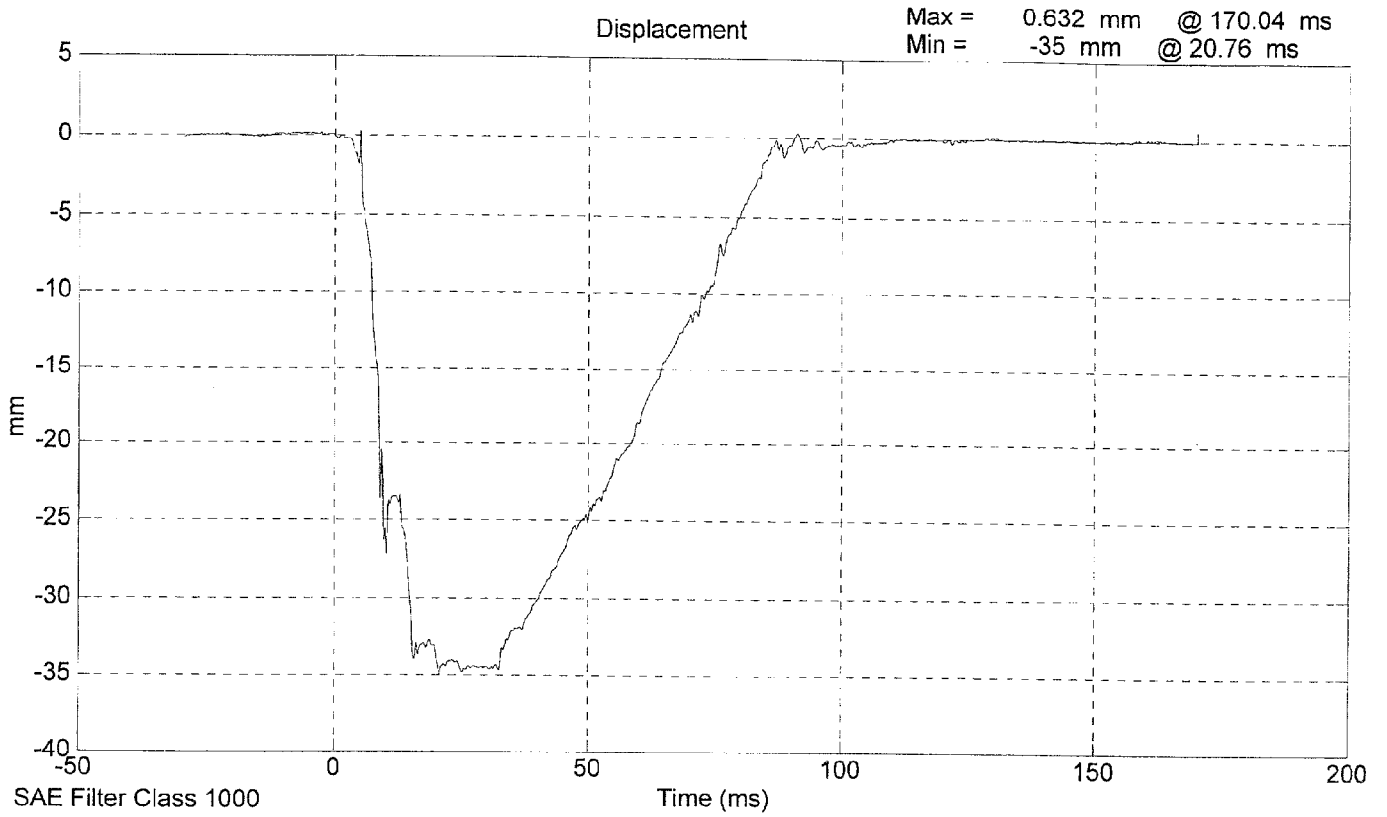
SID Shock Absorber Impact Test 016 @ 3.0358 m/s



SID Shock Absorber Impact Test 016 @ 4.2855 m/s



SID Shock Absorber Impact Test 016 @ 6.1021 m/s



**LATERAL THORAX IMPACT TEST
PRE-TEST**

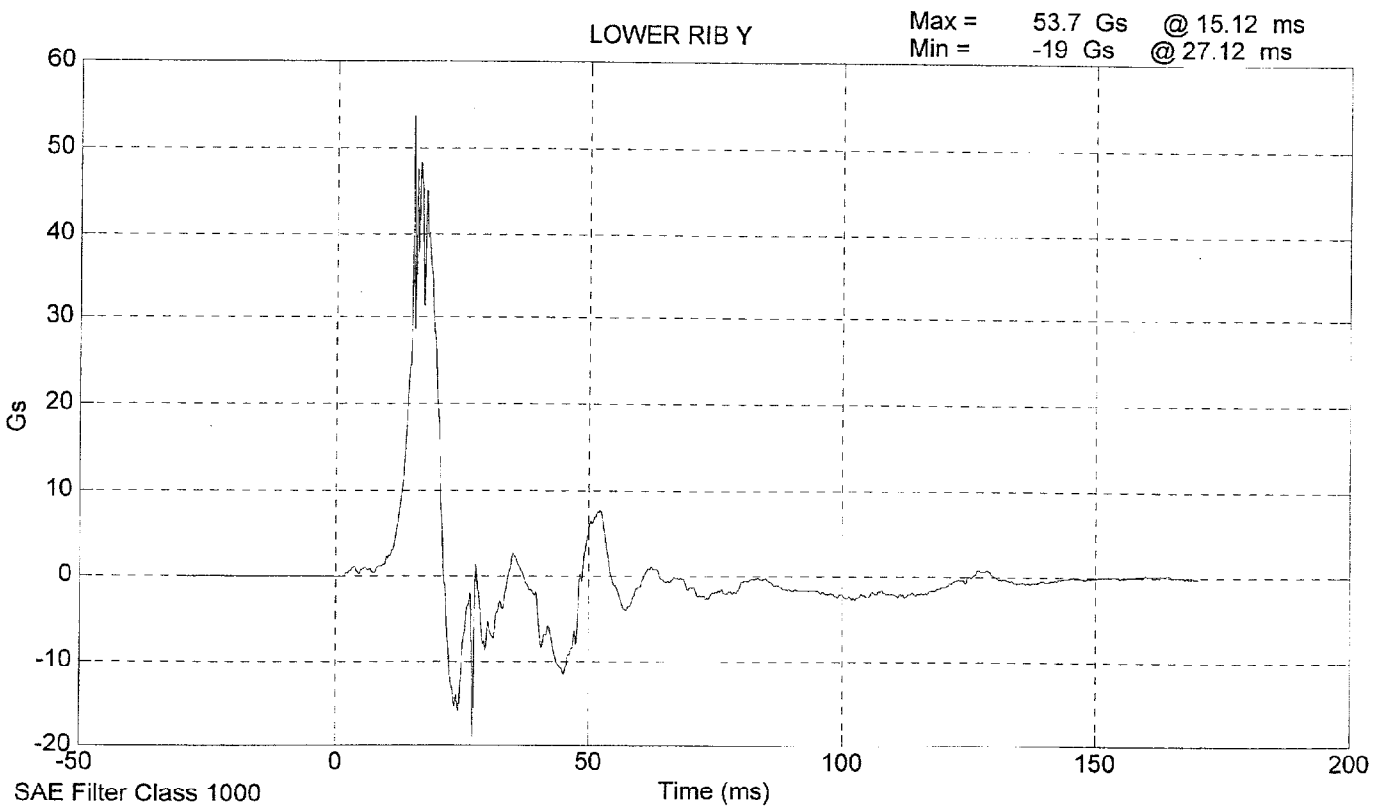
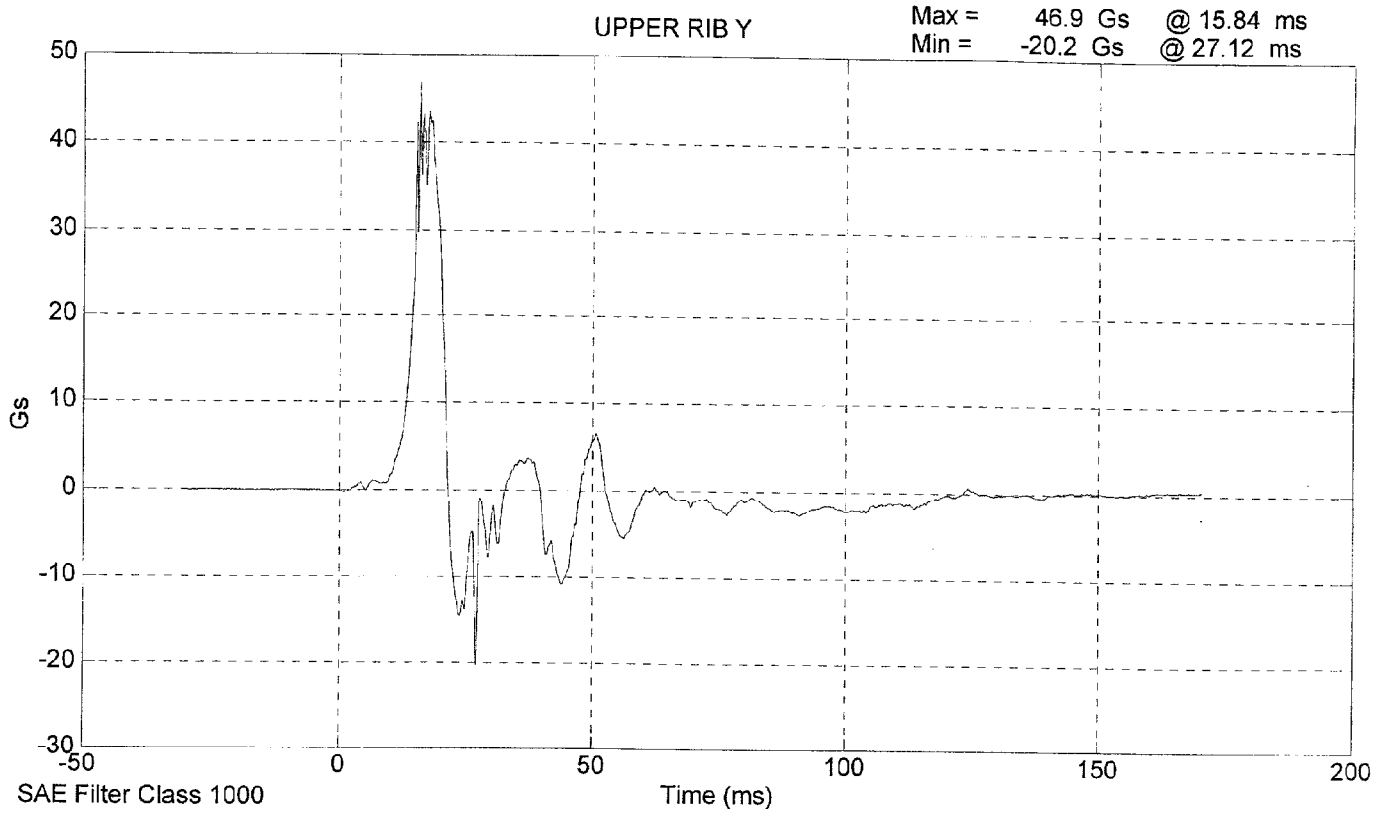
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-07-99 Laboratory Technician: B. Swiecicki

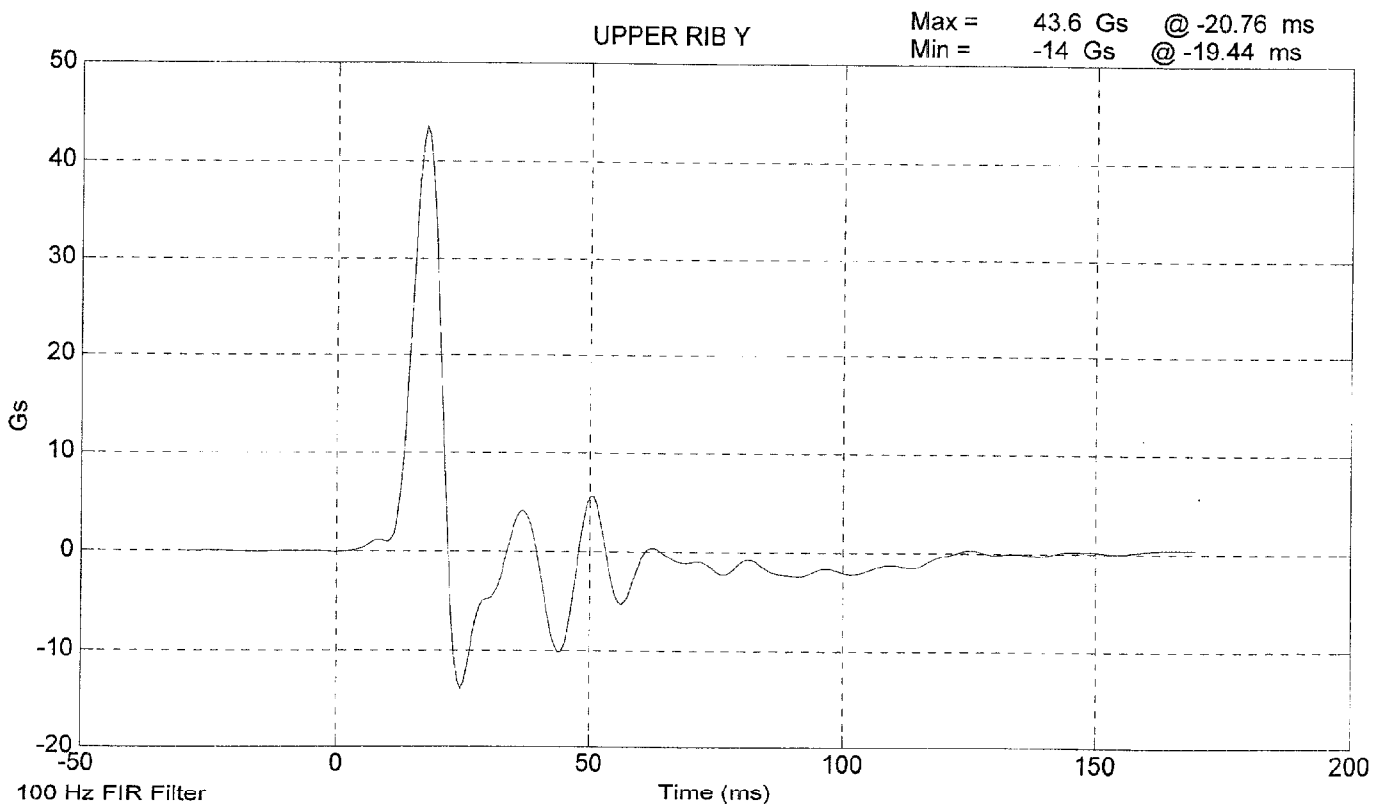
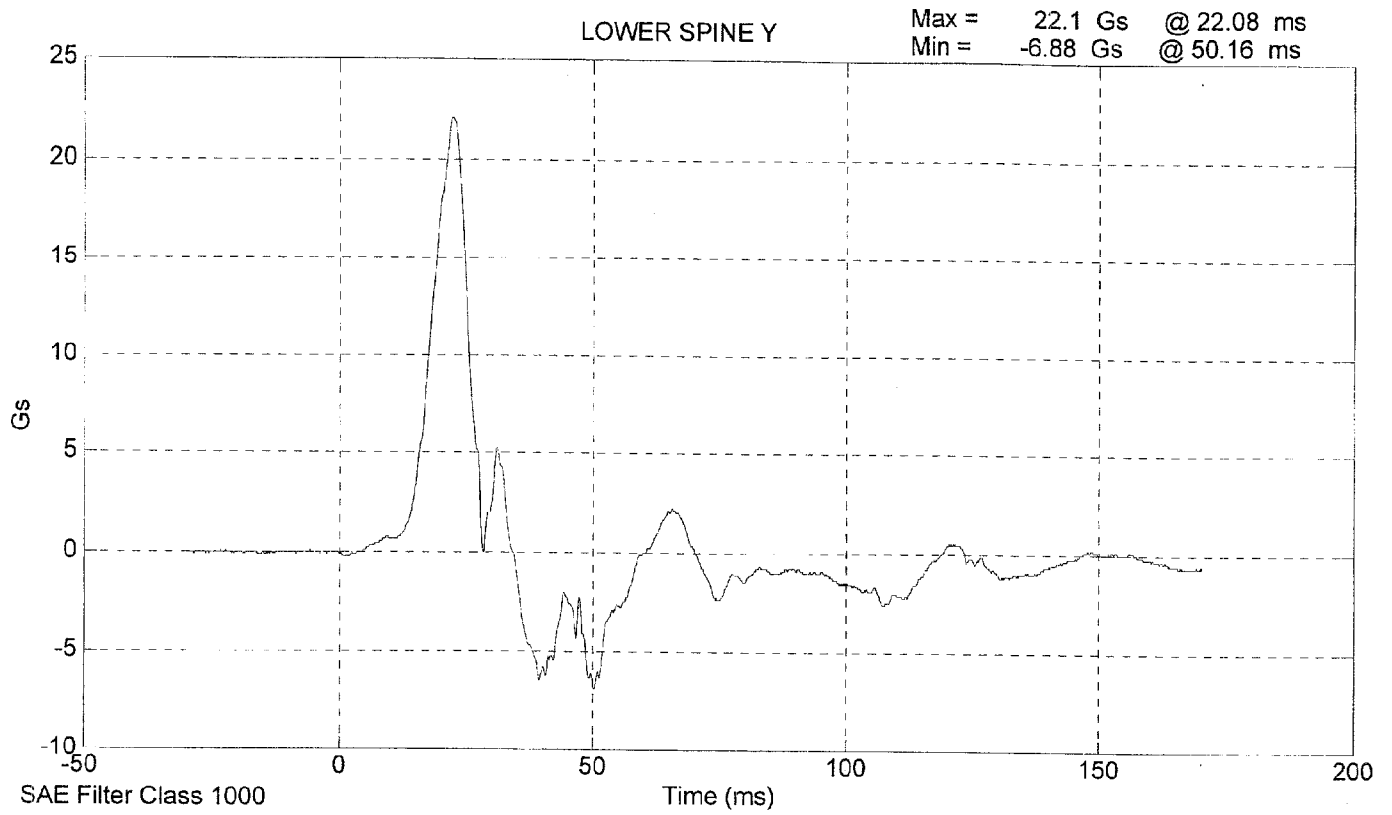
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.30
UPPER RIB (g's)	37 - 46	43.56
LOWER RIB (g's)	37 - 46	43.79
LOWER SPINE (g's)	15 - 22	21.54

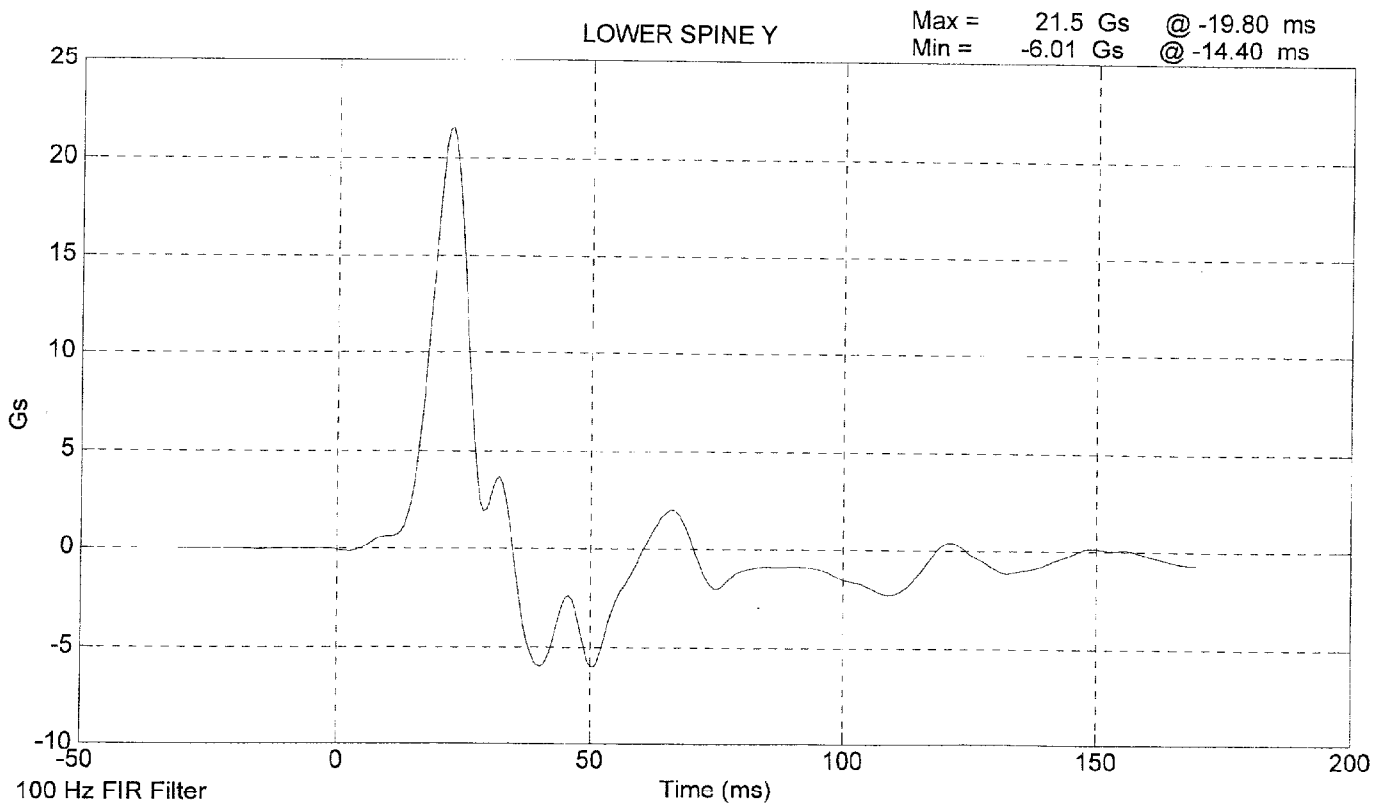
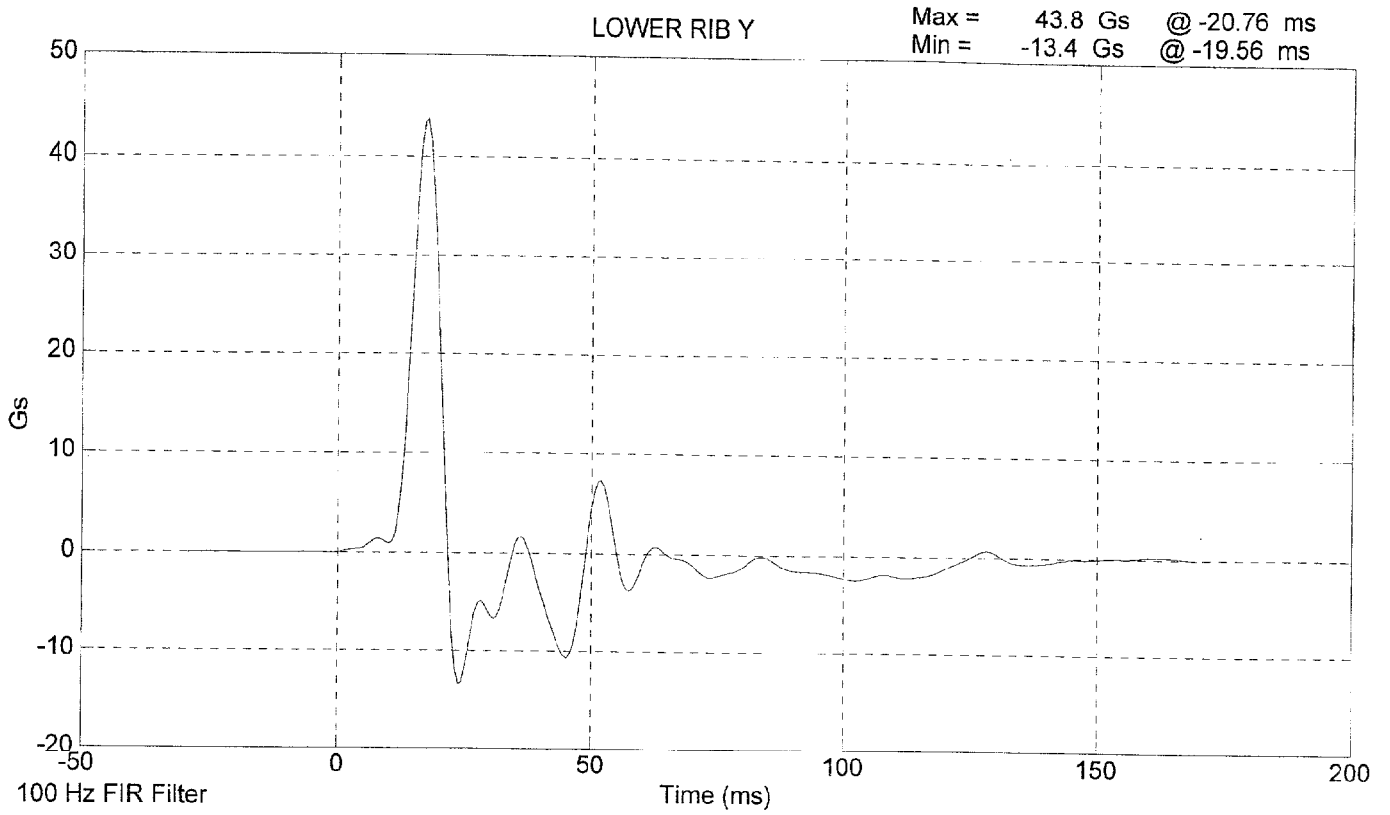
REMARKS: None

SID 016 THORAX IMPACT TEST @ 4.2977 m/s



SID 016 THORAX IMPACT TEST @ 4.2977 m/s





**LATERAL PELVIS IMPACT TEST
PRE-TEST**

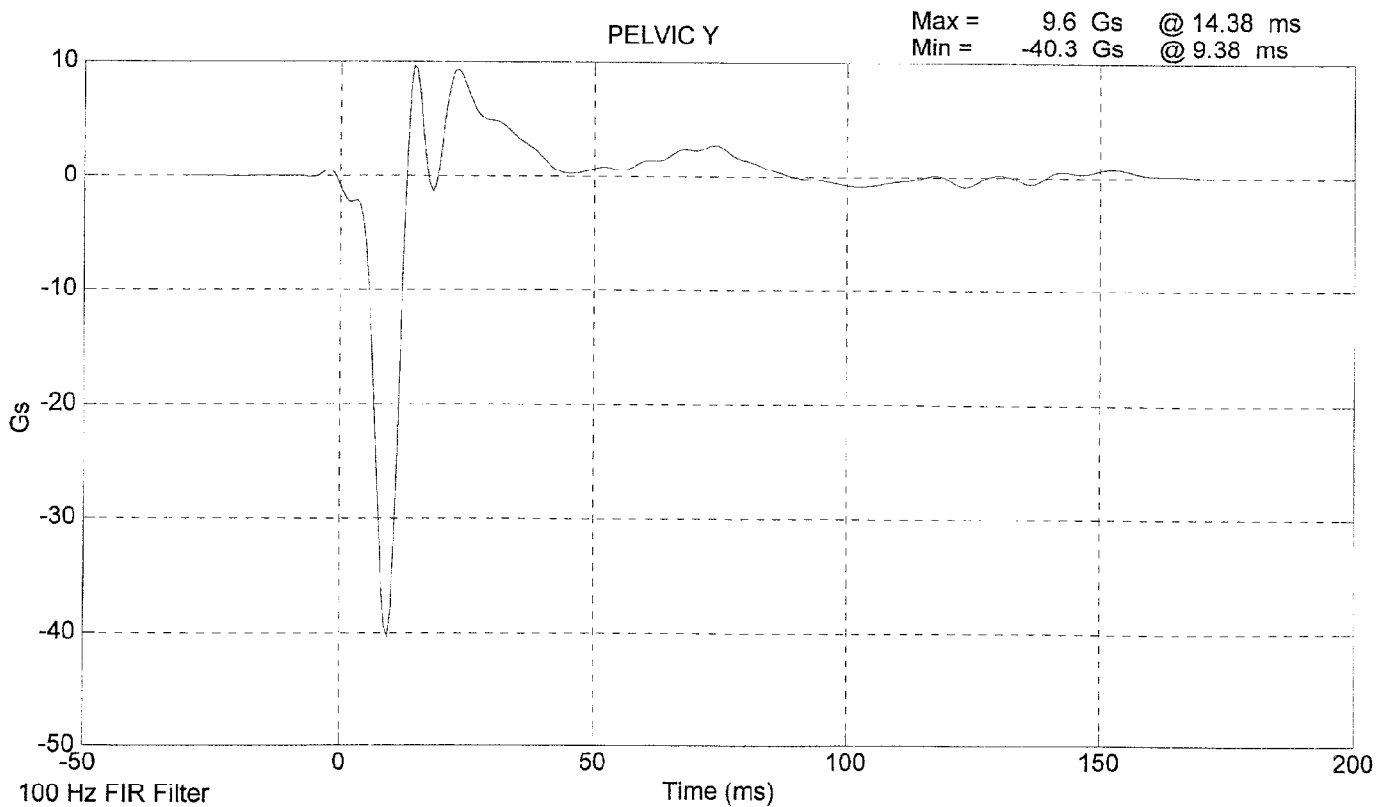
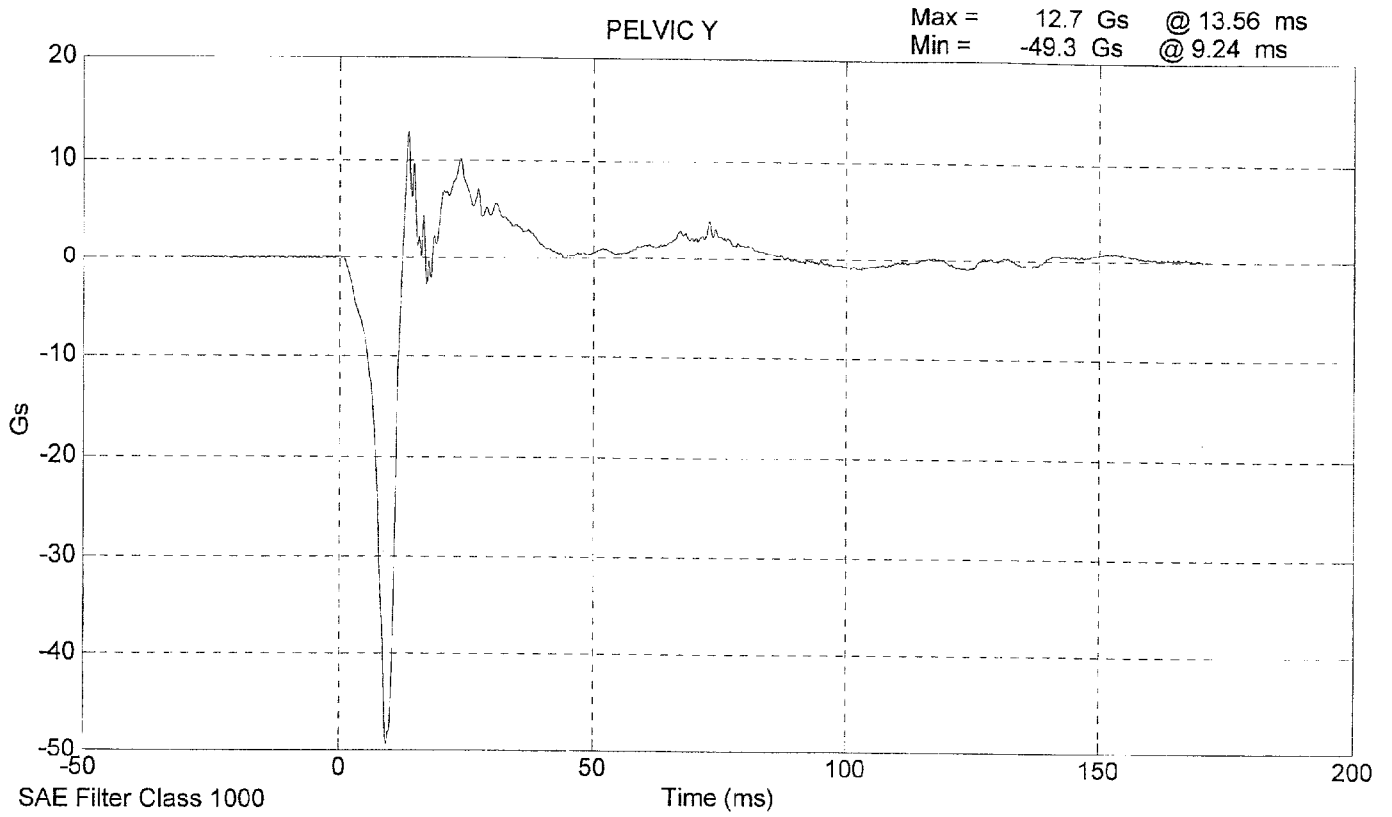
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-07-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
PROBE SPEED (m/s)	4.27 - 4.33	4.30
PELVIS ACCELERATION (g's)	40 - 60	40.33

REMARKS: None

SID 016 PELVIC IMPACT TEST @ 4.3038 m/s



ABDOMINAL COMPRESSION TEST

PRE-TEST

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016

Veridian Sequential Test Number: 1

Date: 04-07-99

Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	109
FORCE @ 19 mm (N)	163 - 221	176
FORCE @ 25 mm (N)	222 - 280	260
FORCE @ 33 mm (N)	325 - 391	389

REMARKS: None

Dummy S/N 016

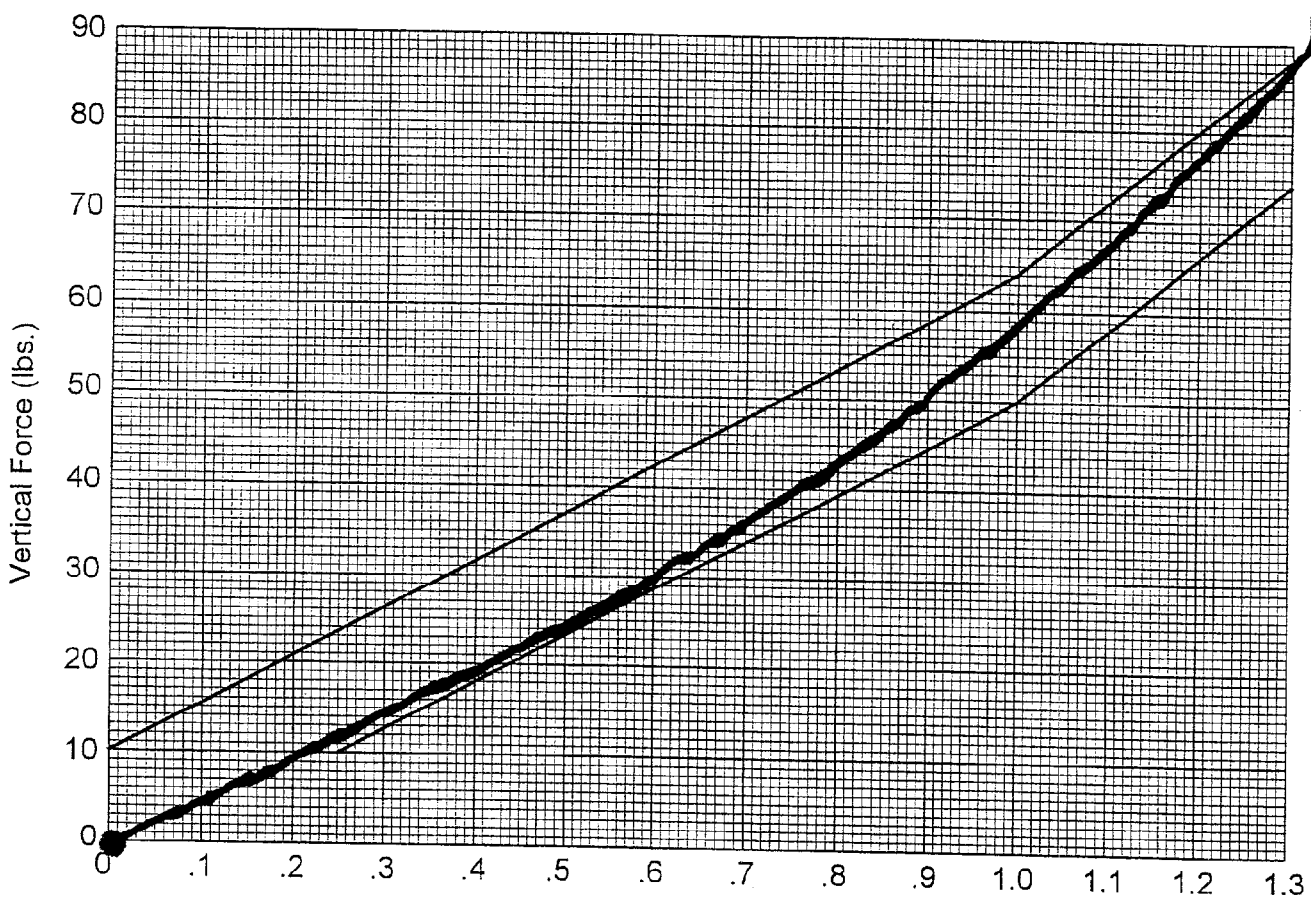
W/A _____

Date 4-7-99

Performed By [Signature]

Temp. 70°

Humidity 31%



Hybrid II
Abdomen Static Press

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

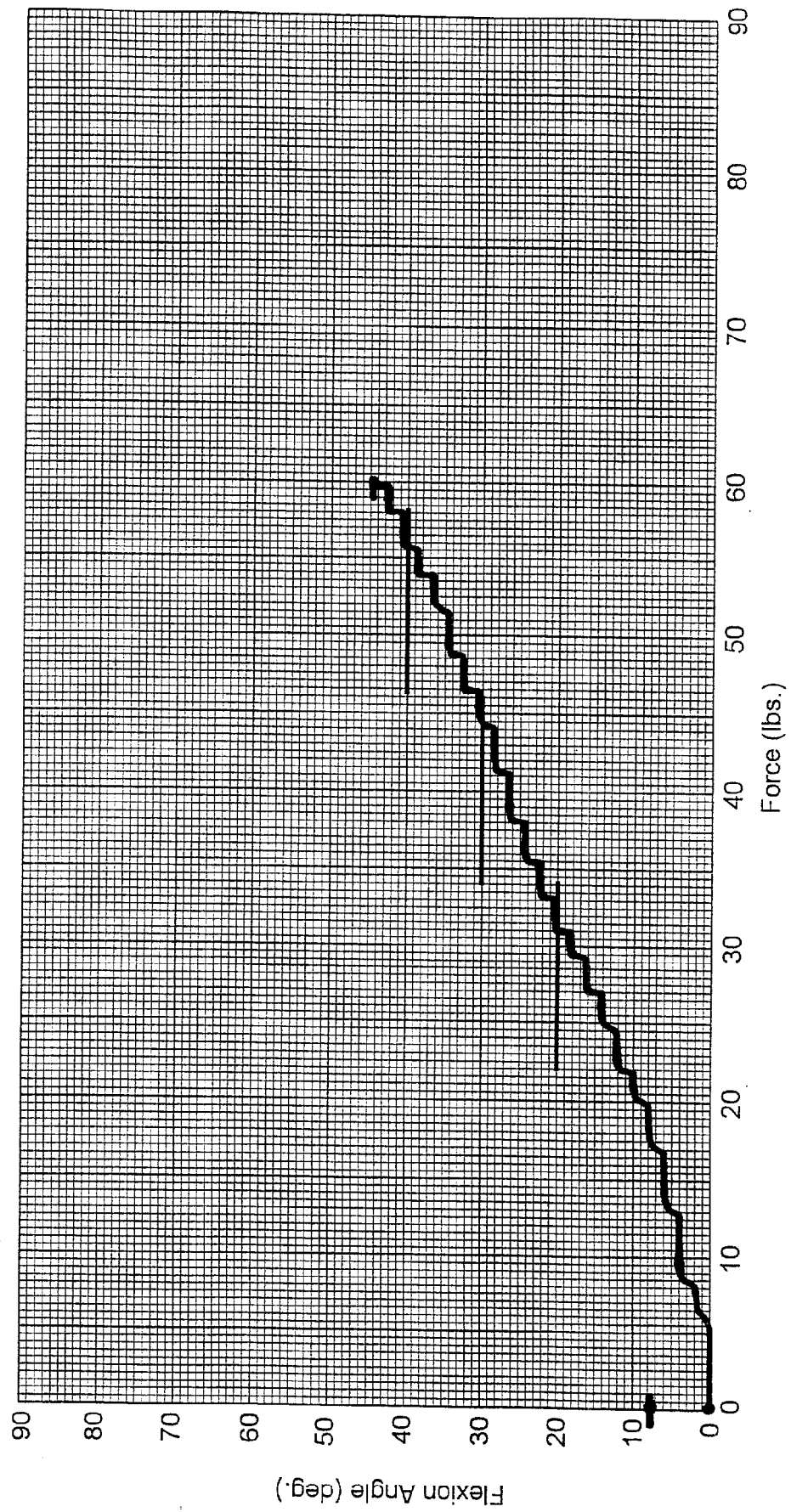
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-07-99 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	24.5
FORCE @ 20° (N)	97.8 - 151.2	147.9
FORCE @ 30° (N)	151.2 - 204.6	197.9
FORCE @ 40° (N)	204.6 - 258	257.9
RETURN ANGLE	12° max.	7.5

REMARKS: None

Dummy S/N 016
 W/A _____
 Date 4-7-99
 Performed By [Signature]
 Temp. 70°
 Humidity 31%



Hybrid II Lumbar Spine Flexion Test

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

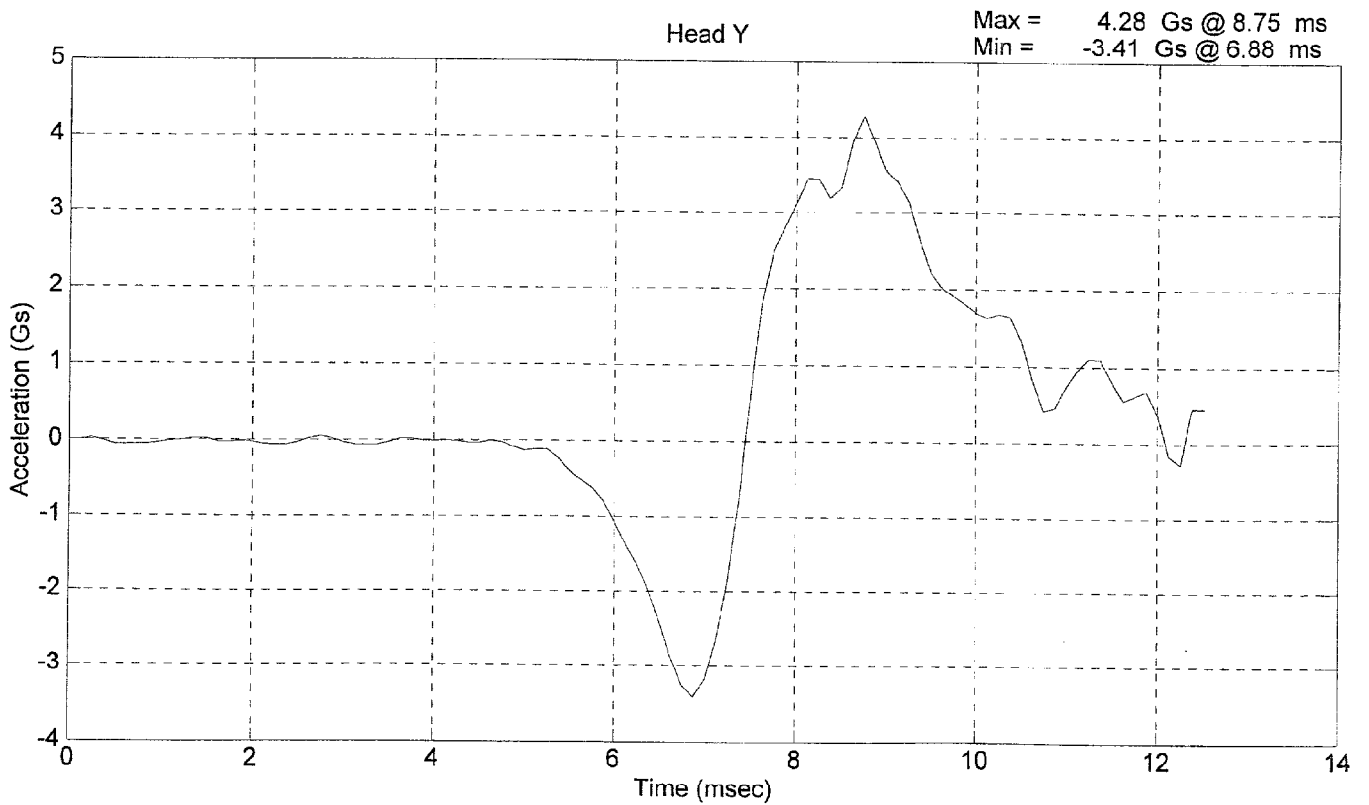
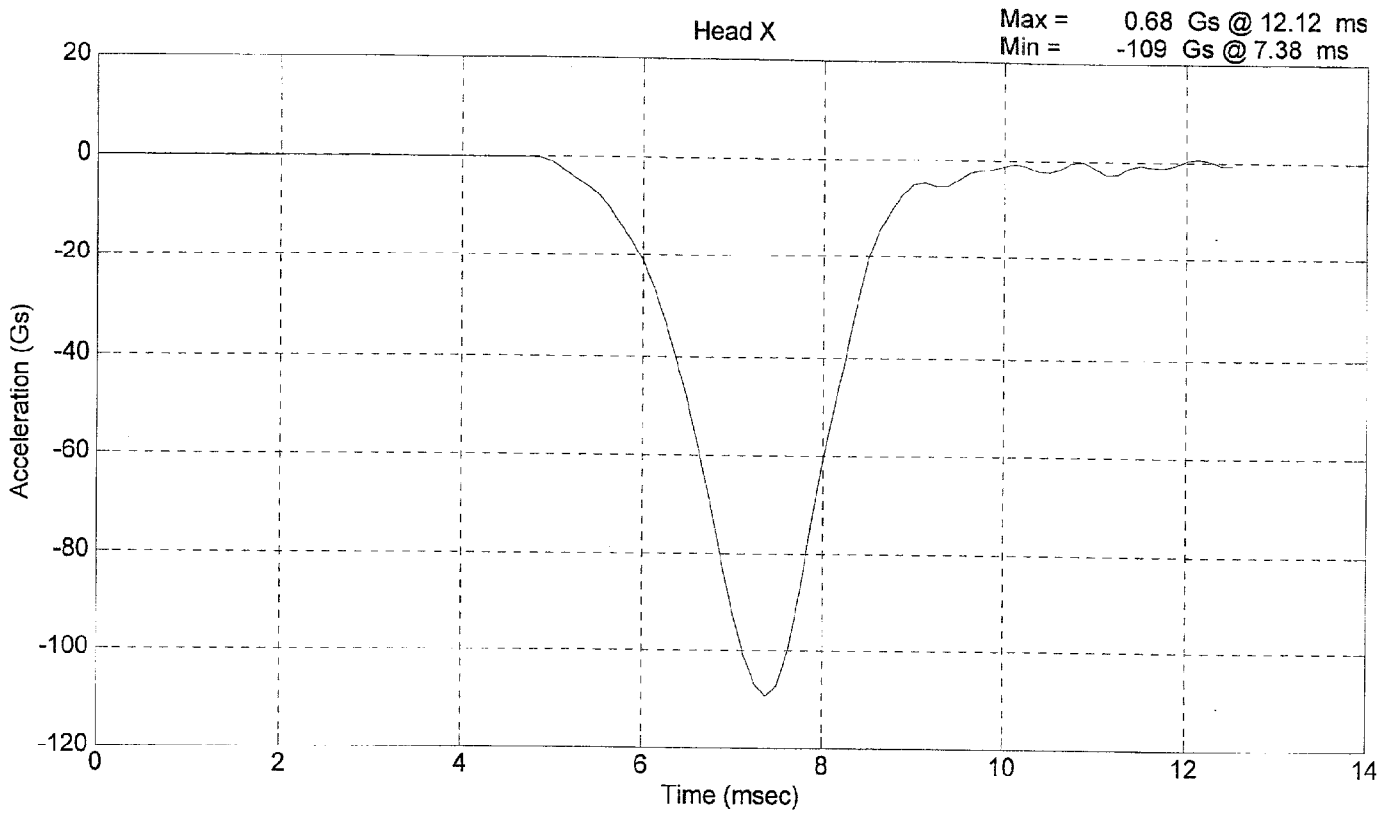
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
 Date: 02-23-99 Laboratory Technician: B. Swiecicki

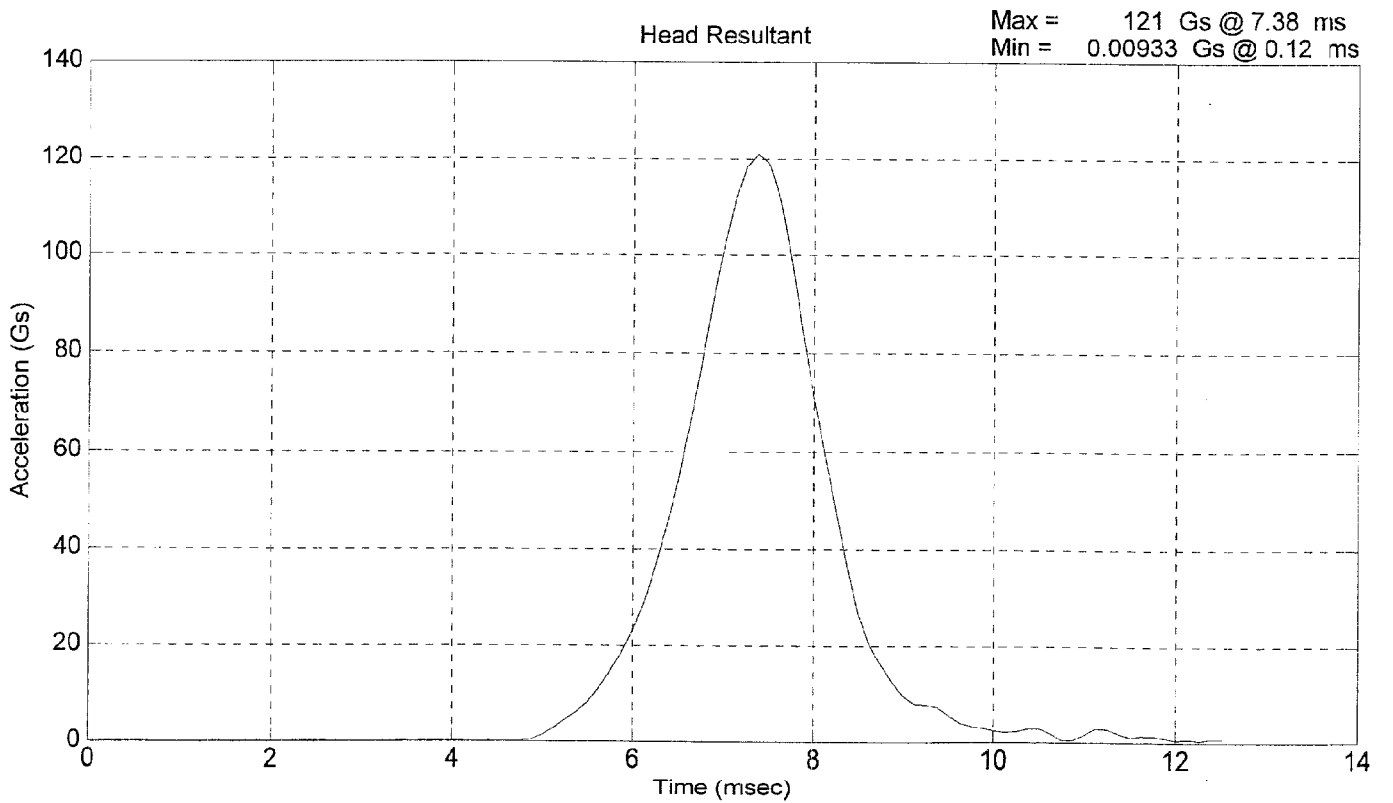
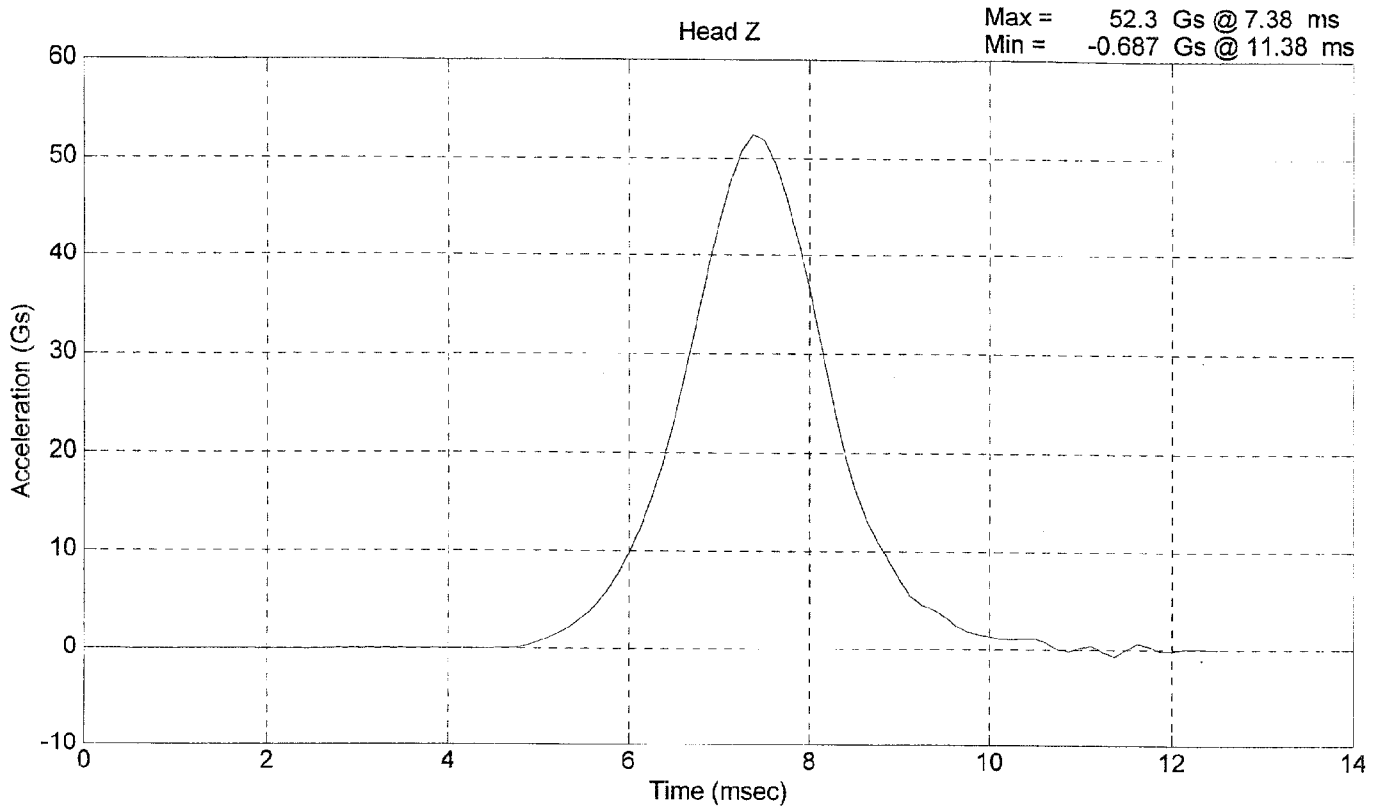
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
PEAK RESULTANT ACCELERATION (g's)	120 - 150	121.1
PEAK LATERAL ACCELERATION (g's)	15 G's max	4.3
IS THE ACCELERATION CURVE UNIMODAL?	Less than 15 %	2.4 %

REMARKS: None

Hybrid III Head Drop Calibration SID Head Drop



Hybrid III Head Drop Calibration SID Head Drop



**LATERAL NECK BENDING TEST
PRE-TEST**

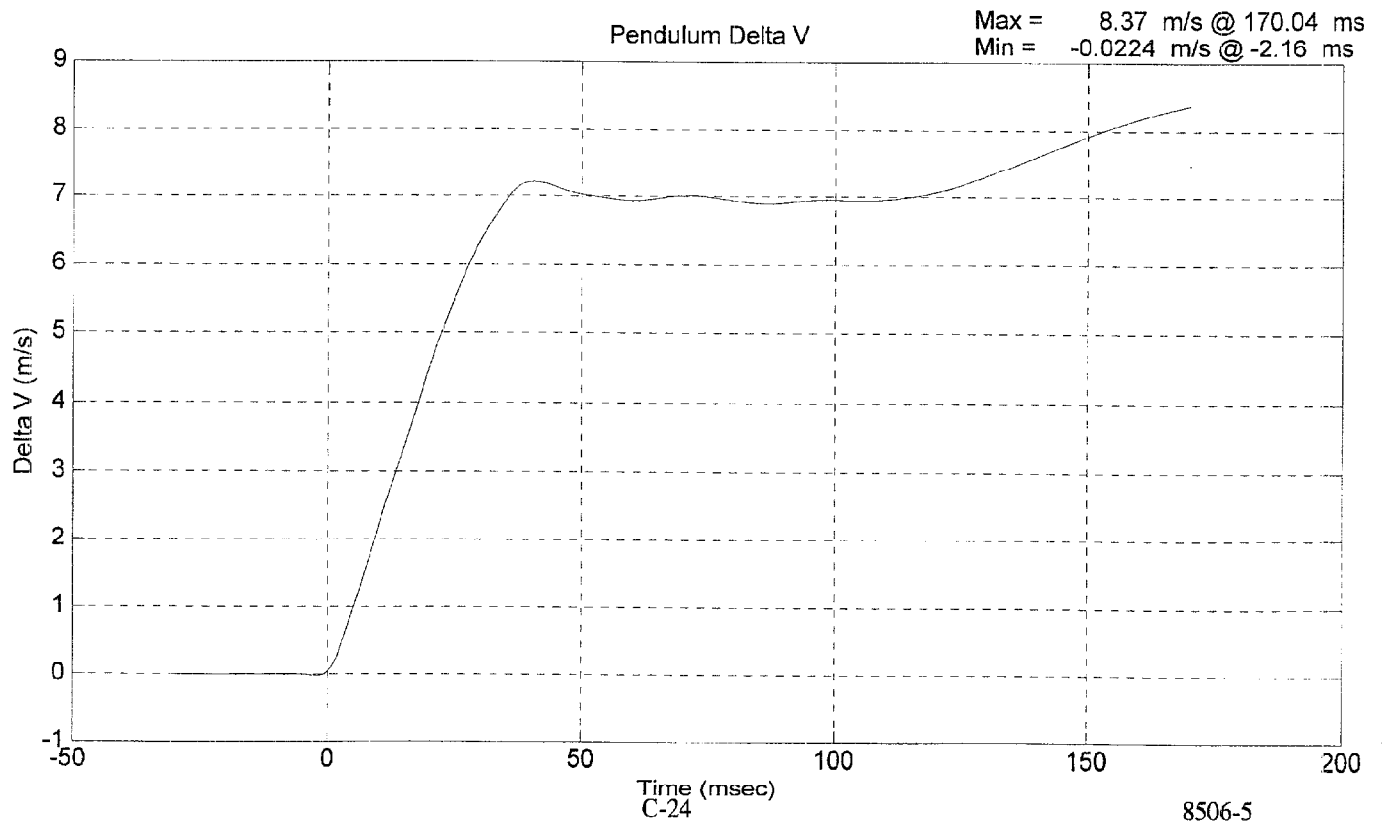
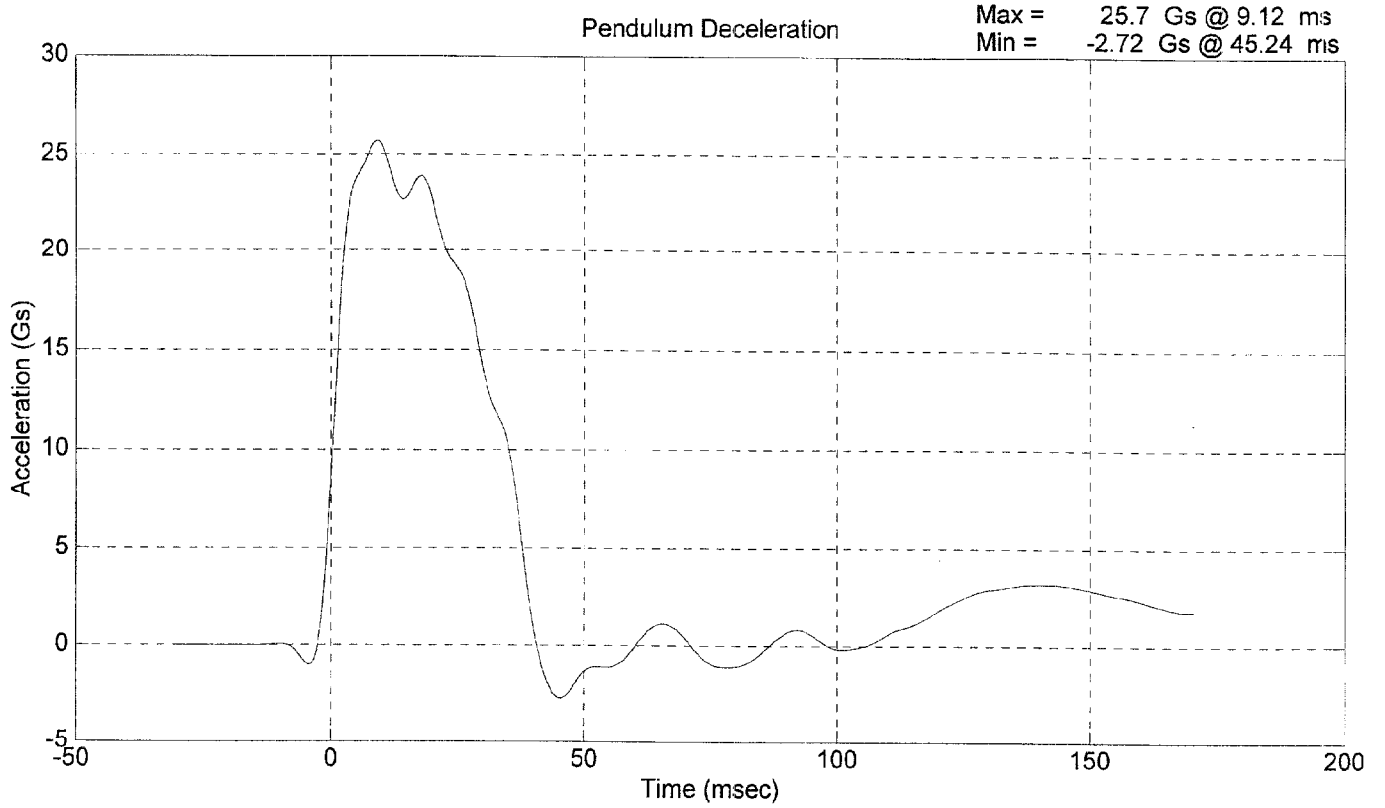
(Test not required for SID certification)

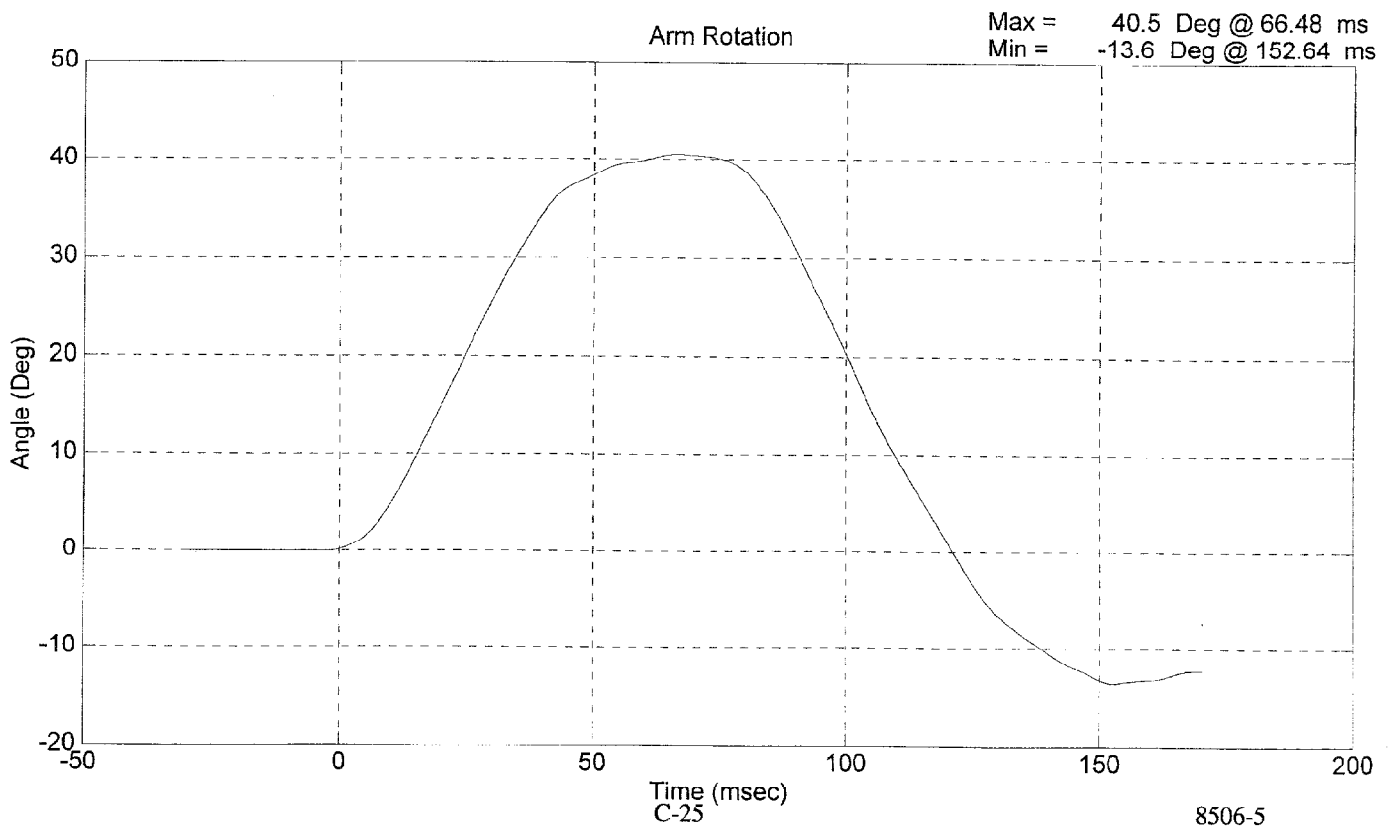
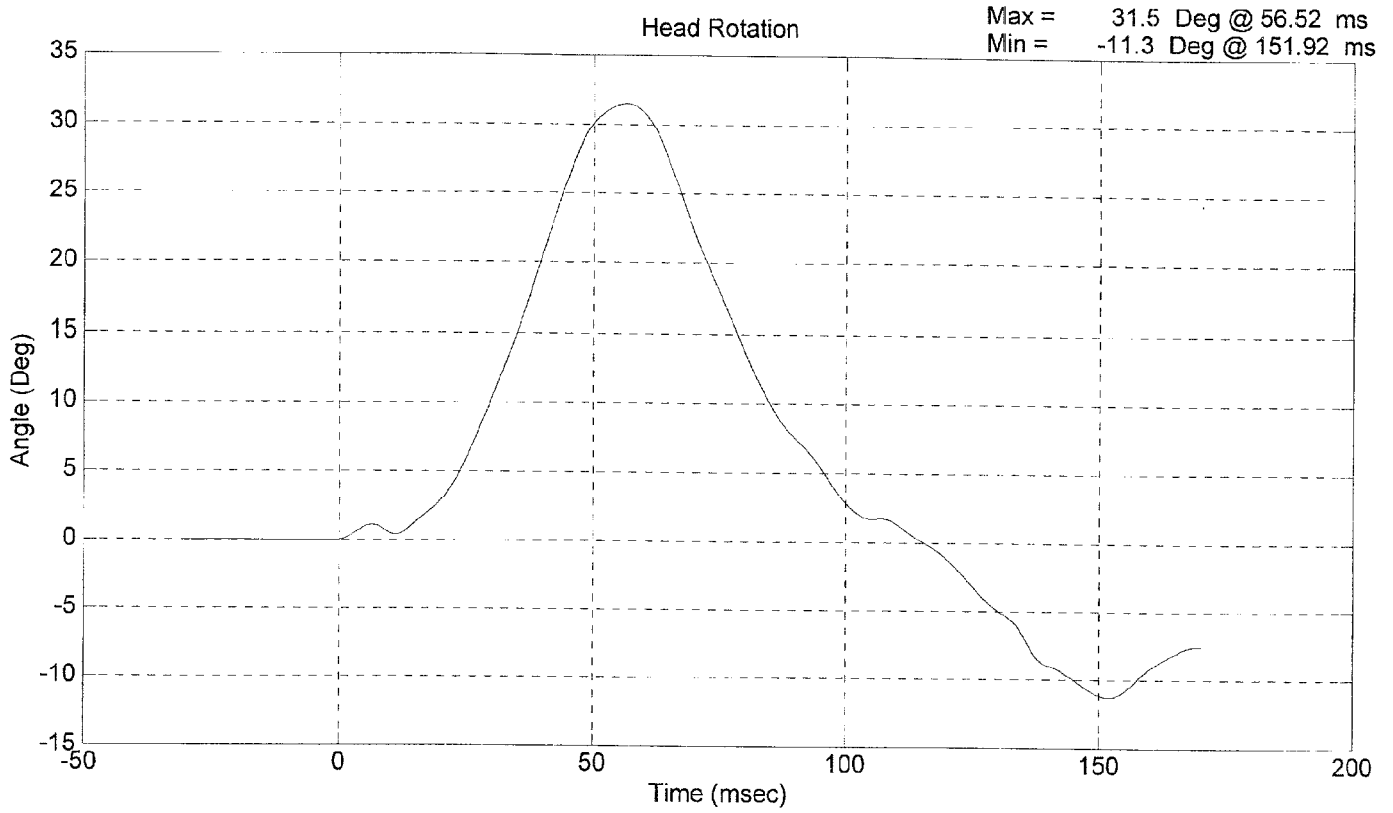
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
 Date: 02-23-99 Laboratory Technician: B. Swiecicki

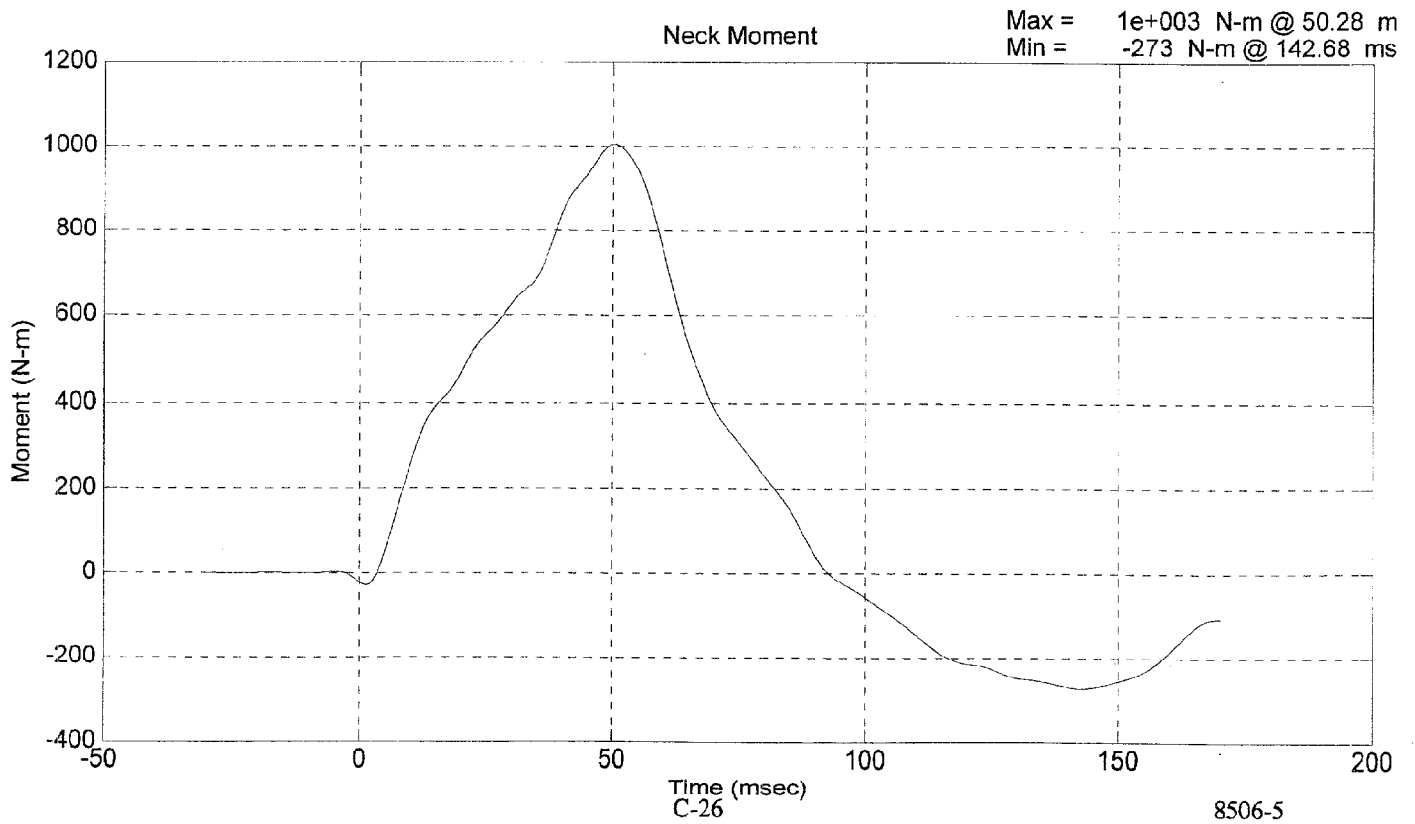
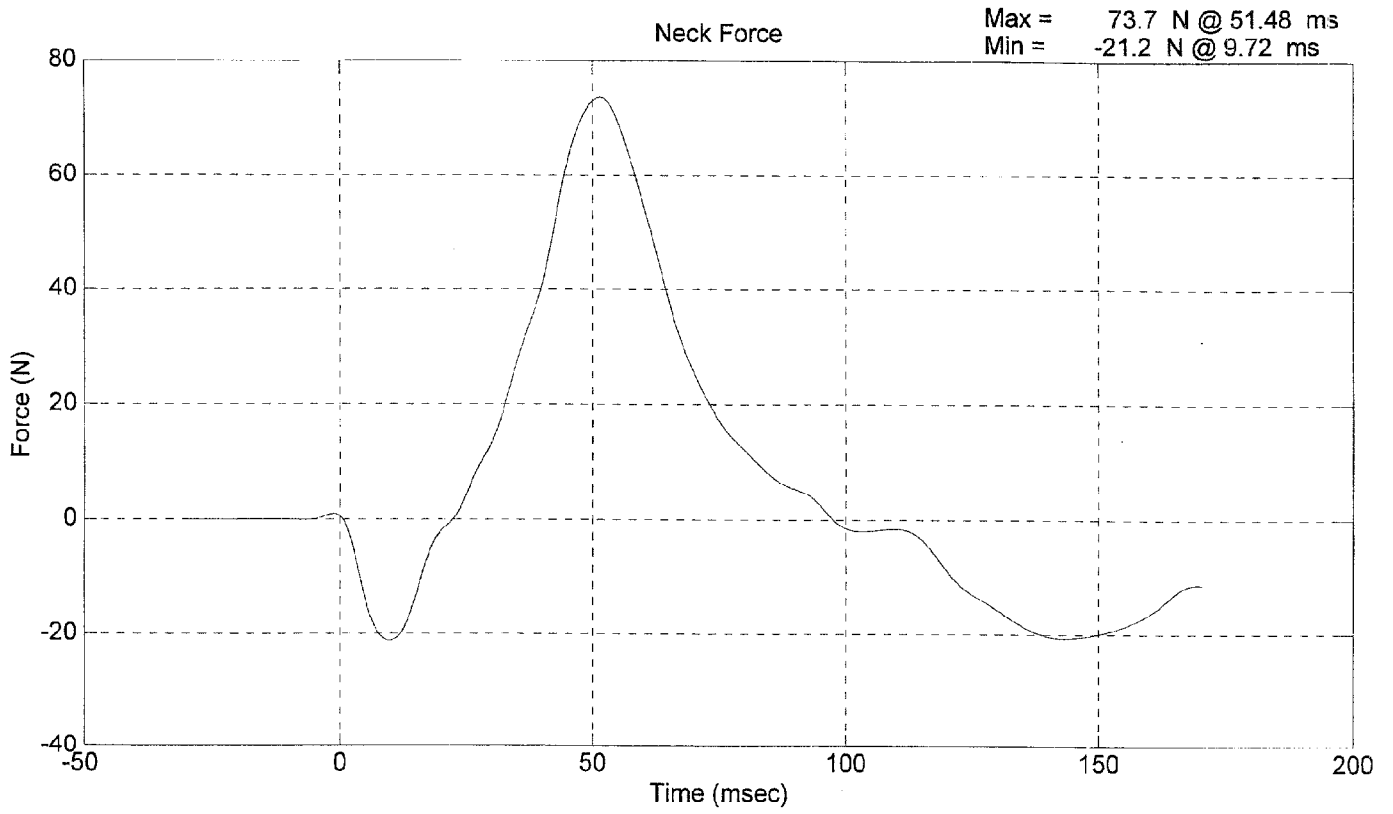
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	20
IMPACT VELOCITY (m/s)	6.89 - 7.13	7.09
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.15
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.48
DELTA V @ 30 ms (m/s)	5.73 - 7.01	6.31
DELTA V from 40-70 ms (m/s)	6.27 - 7.64	7.16
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	71.19
ROT. ANGLE TIME to ZERO (ms)	50 - 70	62.64
TIME AT MAX. ROTATION (ms)	-	57.12
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	91.53
TIME AT MAX. MOMENT (ms)	-	51.24
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	5.88

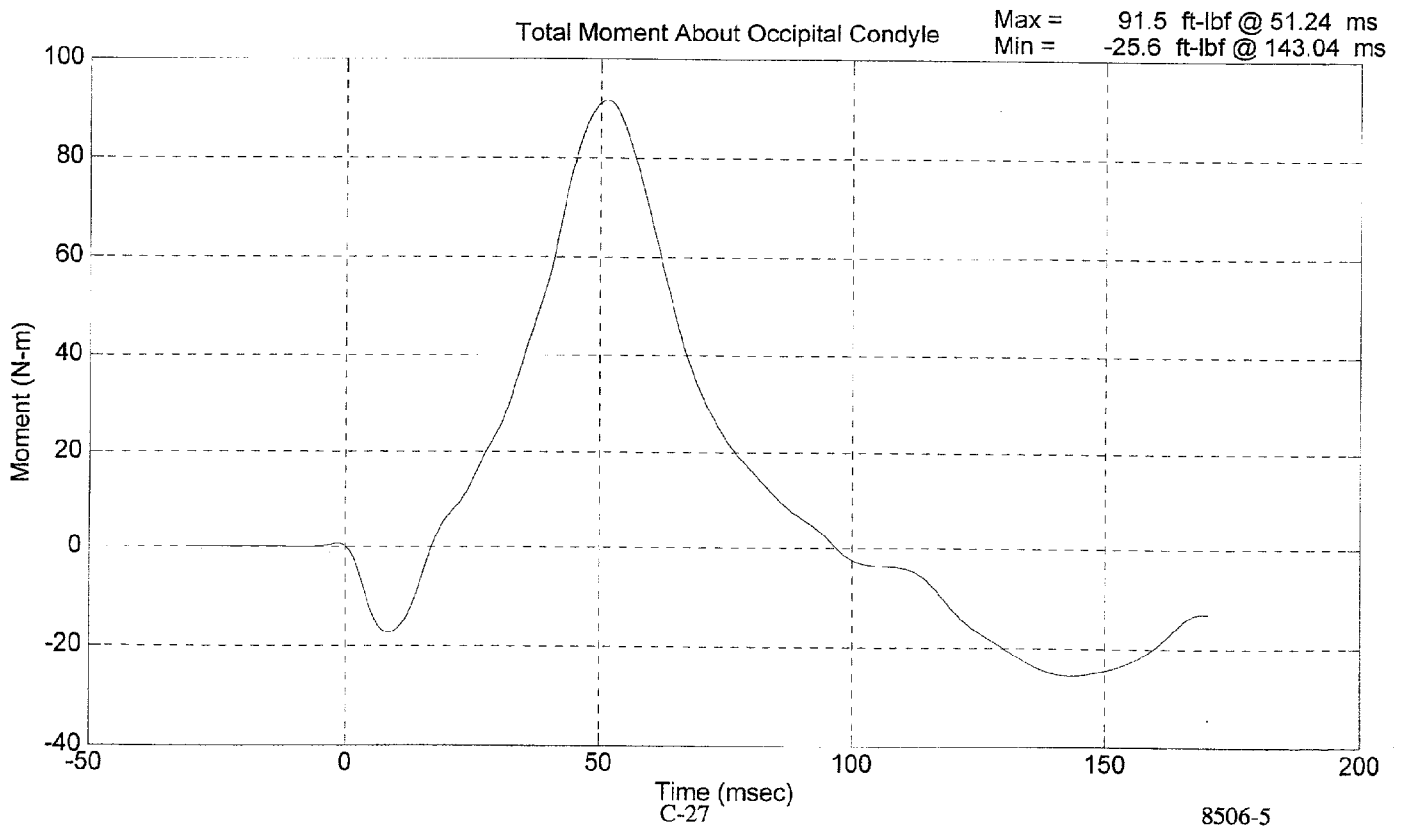
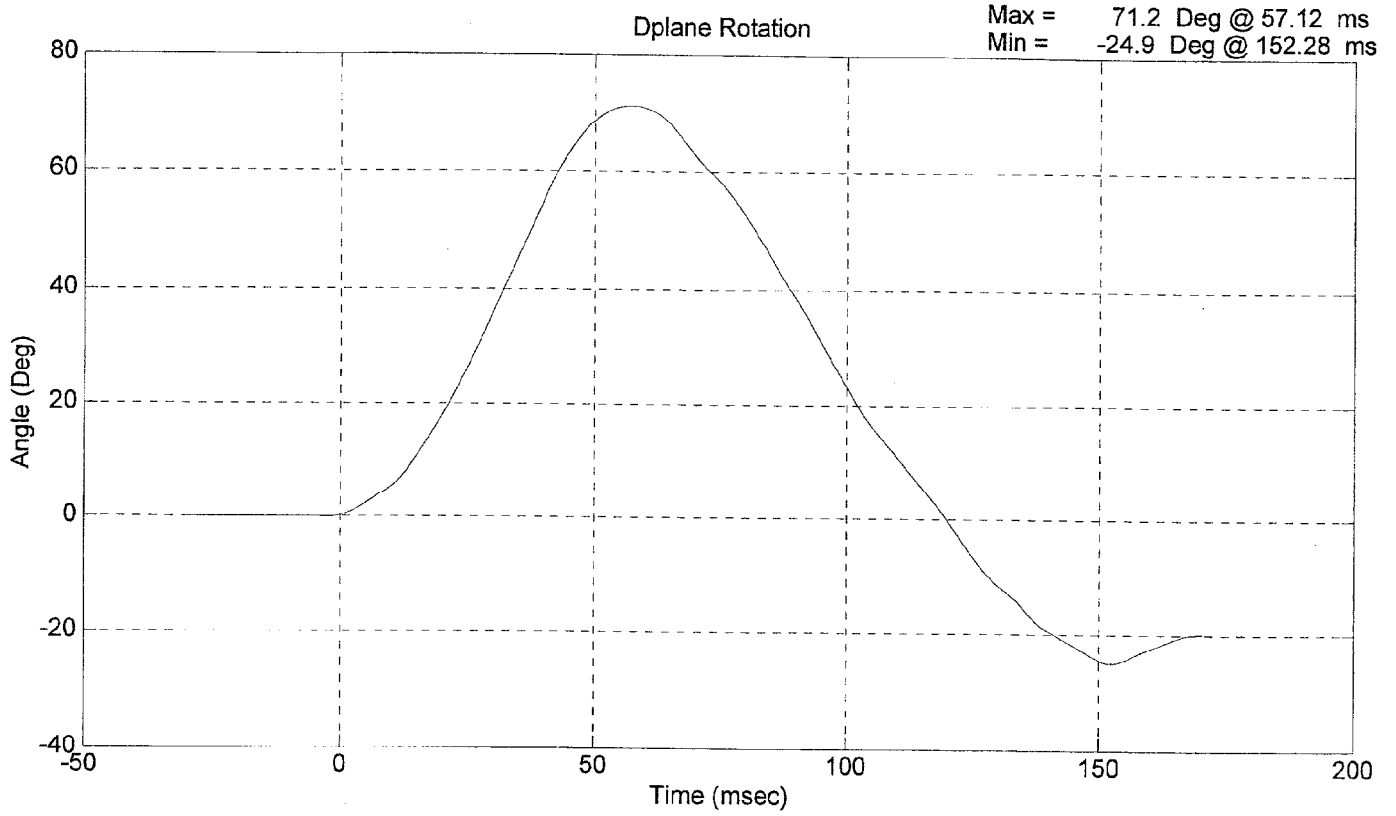
REMARKS: None





Hybrid III Neck Bend Calibration Test2.raw





PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016
 Date: 04-09-99

Veridian Sequential Test Number: 1
 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

Veridian Sequential Test Number: 1

Date: 04-09-99

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.
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
Date: 04-09-99

Veridian Sequential Test Number: 1
Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	909
RH- Rib Height (mm)	502 - 520	516
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	516
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	366

REMARKS: None

**THORACIC SHOCK ABSORBER TESTS
PRE-TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 02-15-99 Laboratory Technician: B. Swiecicki, G. Serbinowski

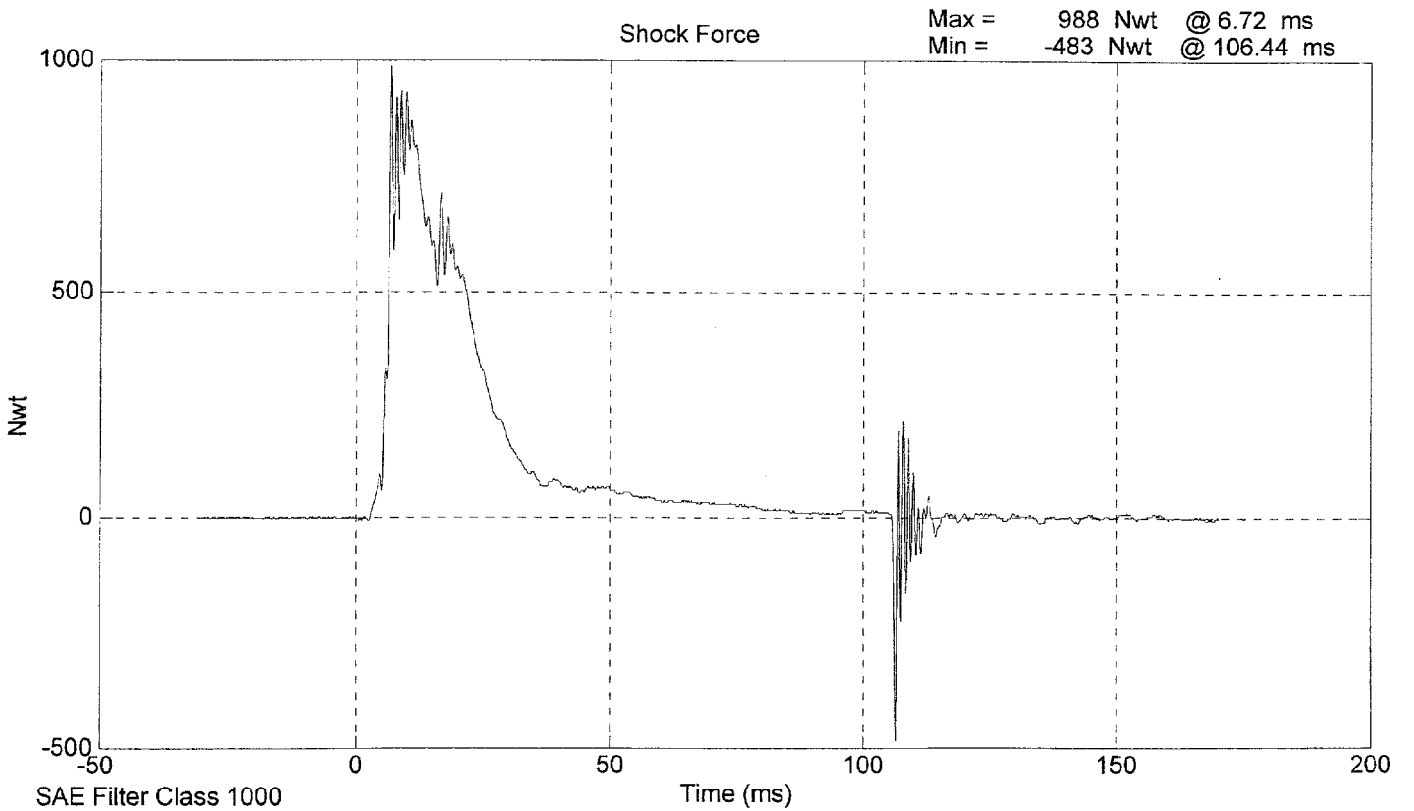
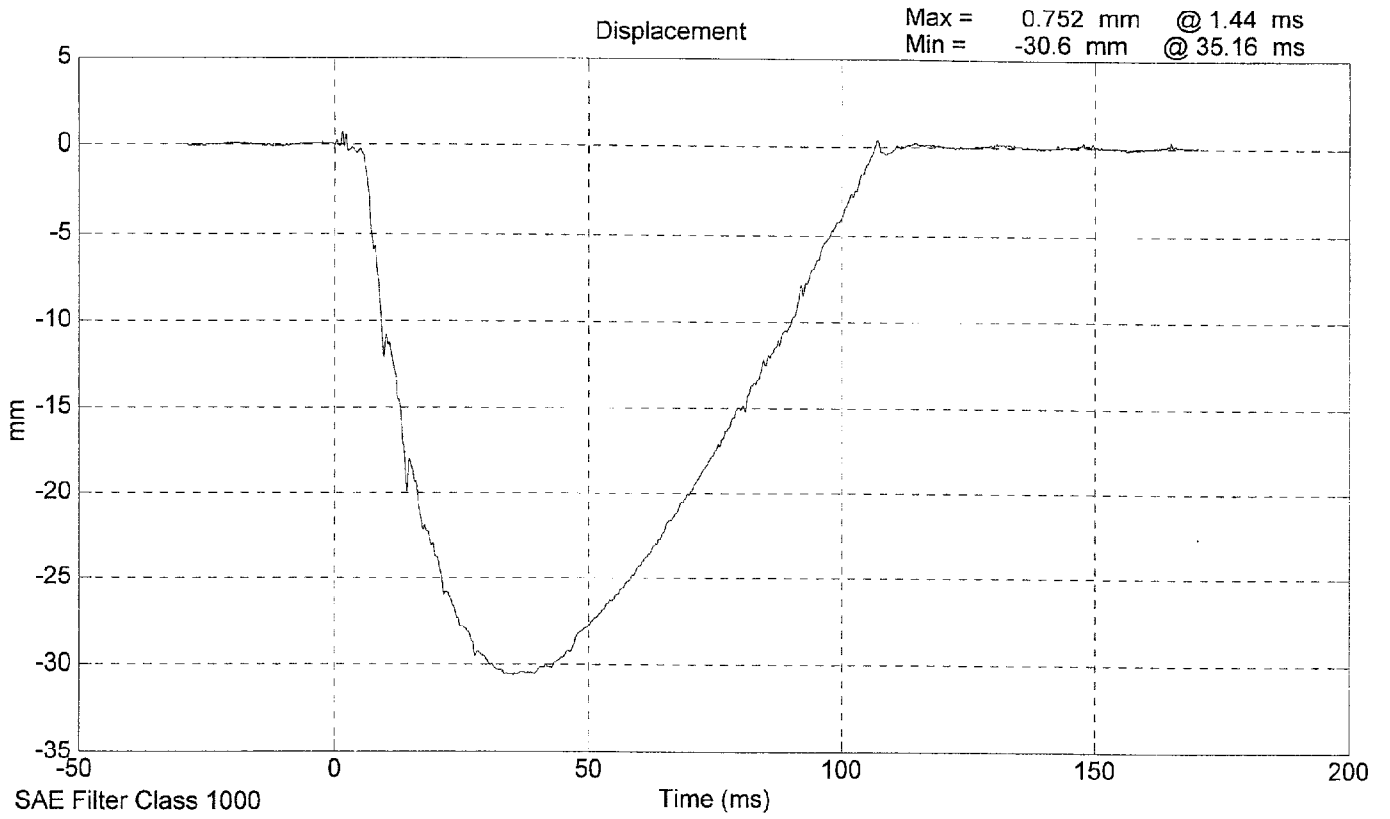
DAMPER IDENTIFICATION: 027

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)		18.9 - 25.5	21.7
RELATIVE HUMIDITY (%)		10 - 70	15
VELOCITY 3.05 m/s	FORCE (N)	836 - 1125	988.0
	DISPLACEMENT (mm)	30 - 35	30.6
VELOCITY 4.27 m/s	FORCE (N)	1730 - 2099	1736.9
	DISPLACEMENT (mm)	32 - 37	34.6
VELOCITY 6.10 m/s	FORCE (N)	3741 - 4448	3771.1
	DISPLACEMENT (mm)	33 - 40	36.4

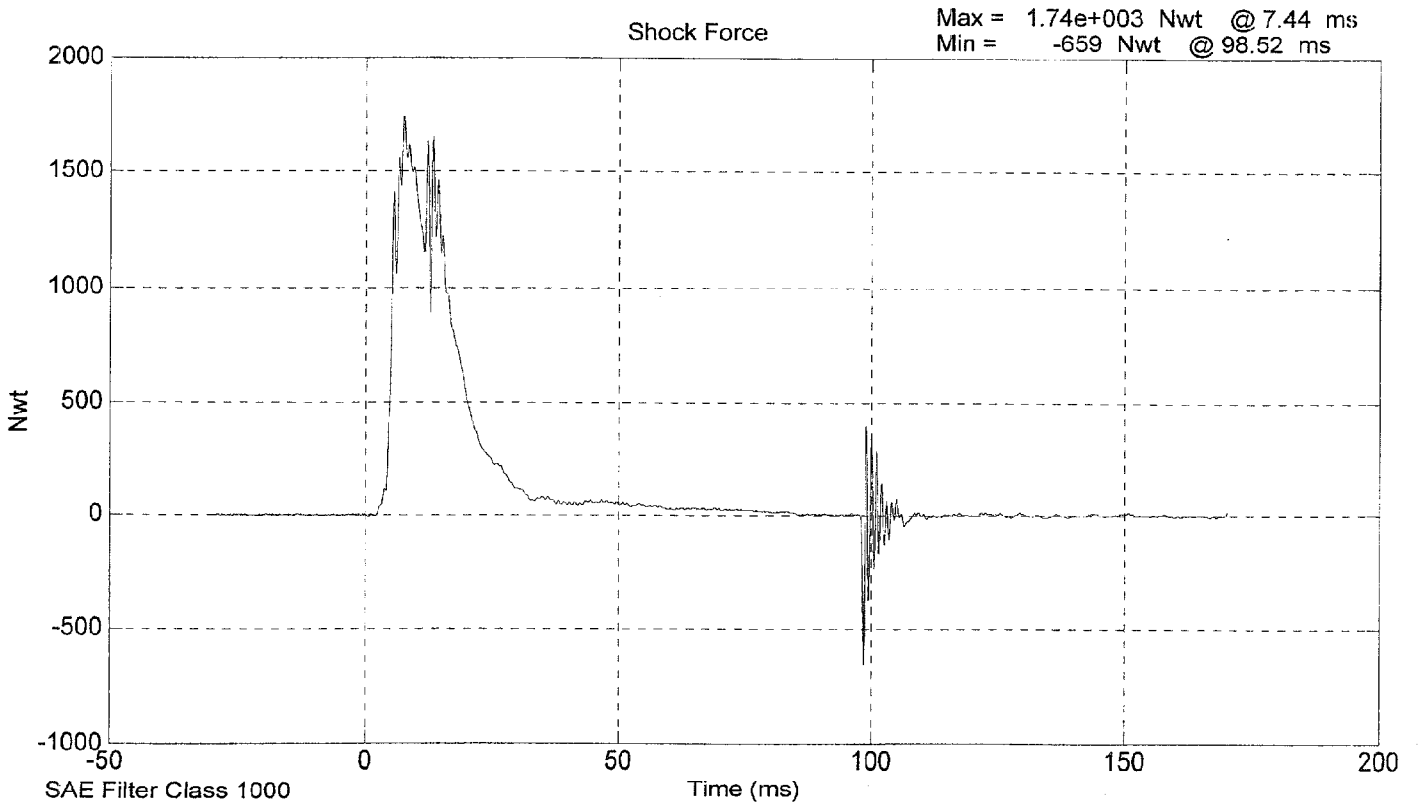
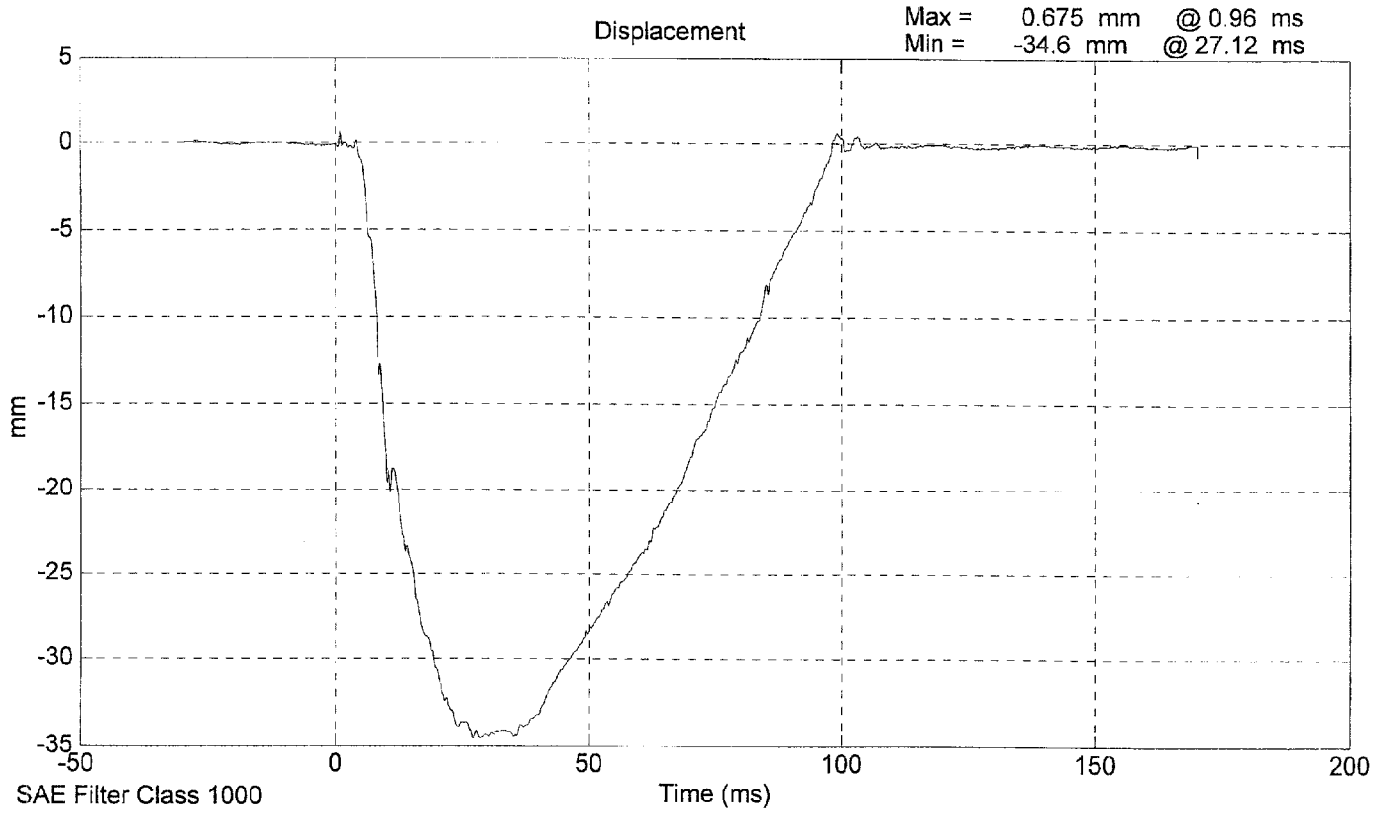
DAMPER SETTING: 5

REMARKS: None

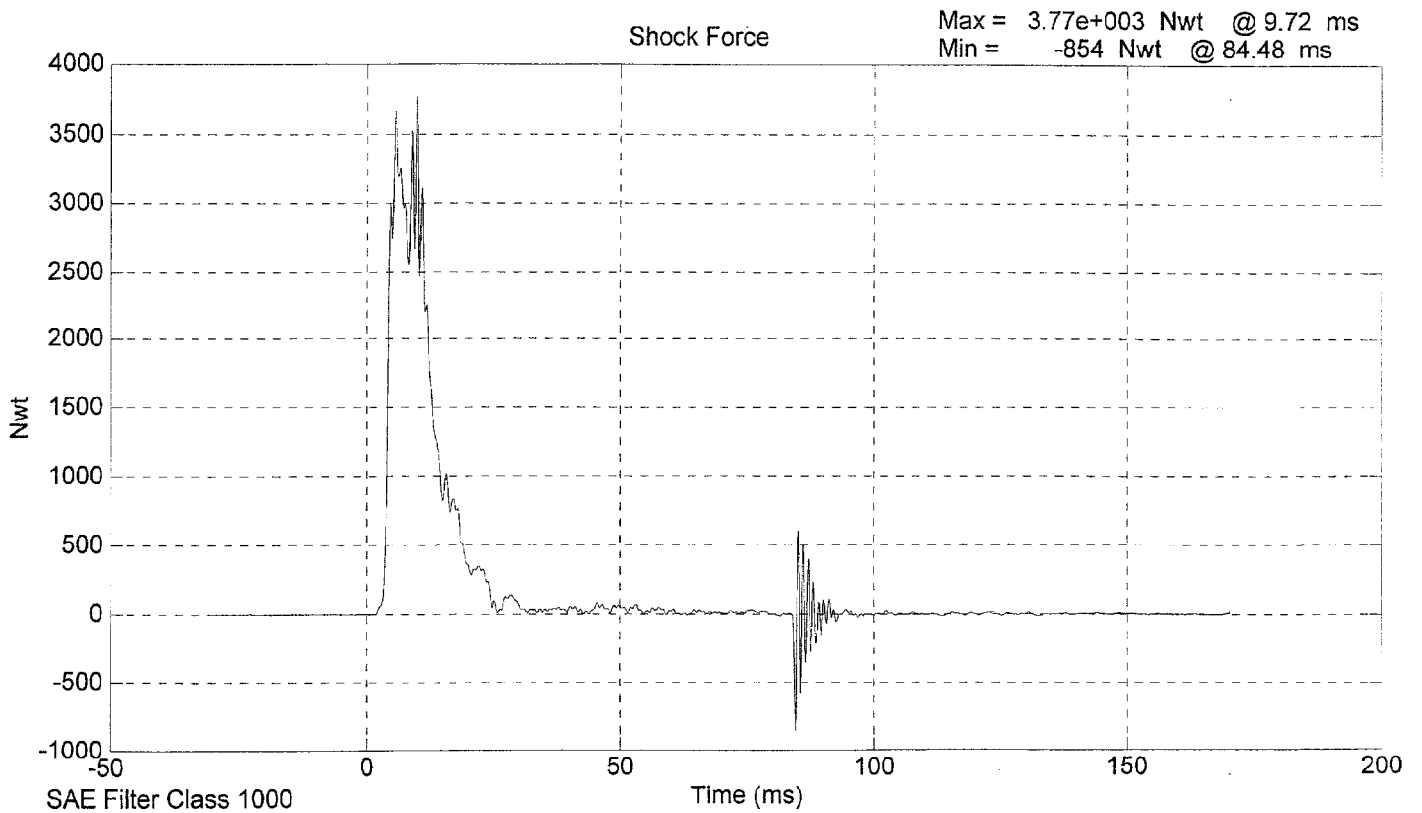
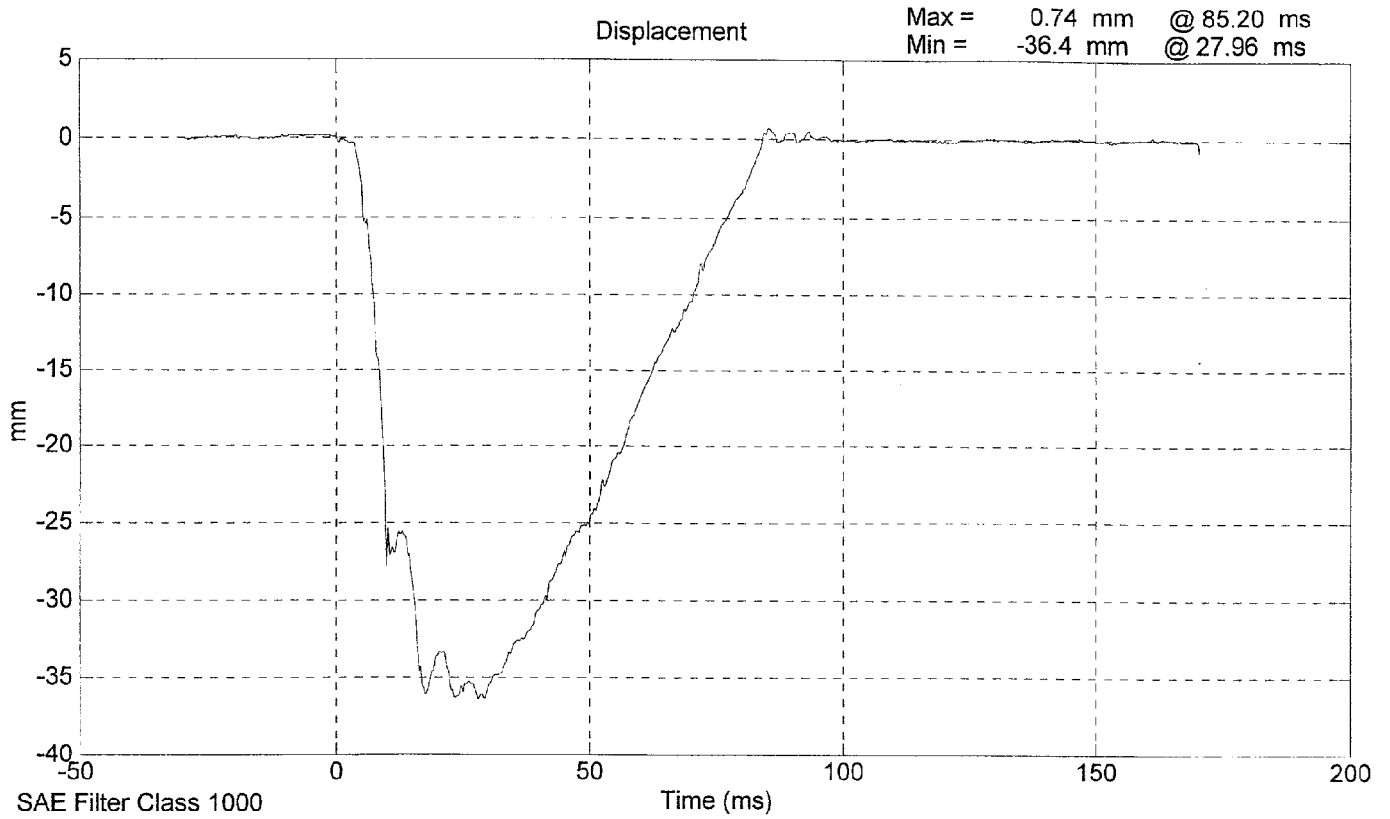
SID Shock Absorber Impact Test 027 @ 3.048 m/s



SID Shock Absorber Impact Test 027 @ 4.2824 m/s



SID Shock Absorber Impact Test 027 @ 6.1204 m/s



**LATERAL THORAX IMPACT TEST
PRE-TEST**

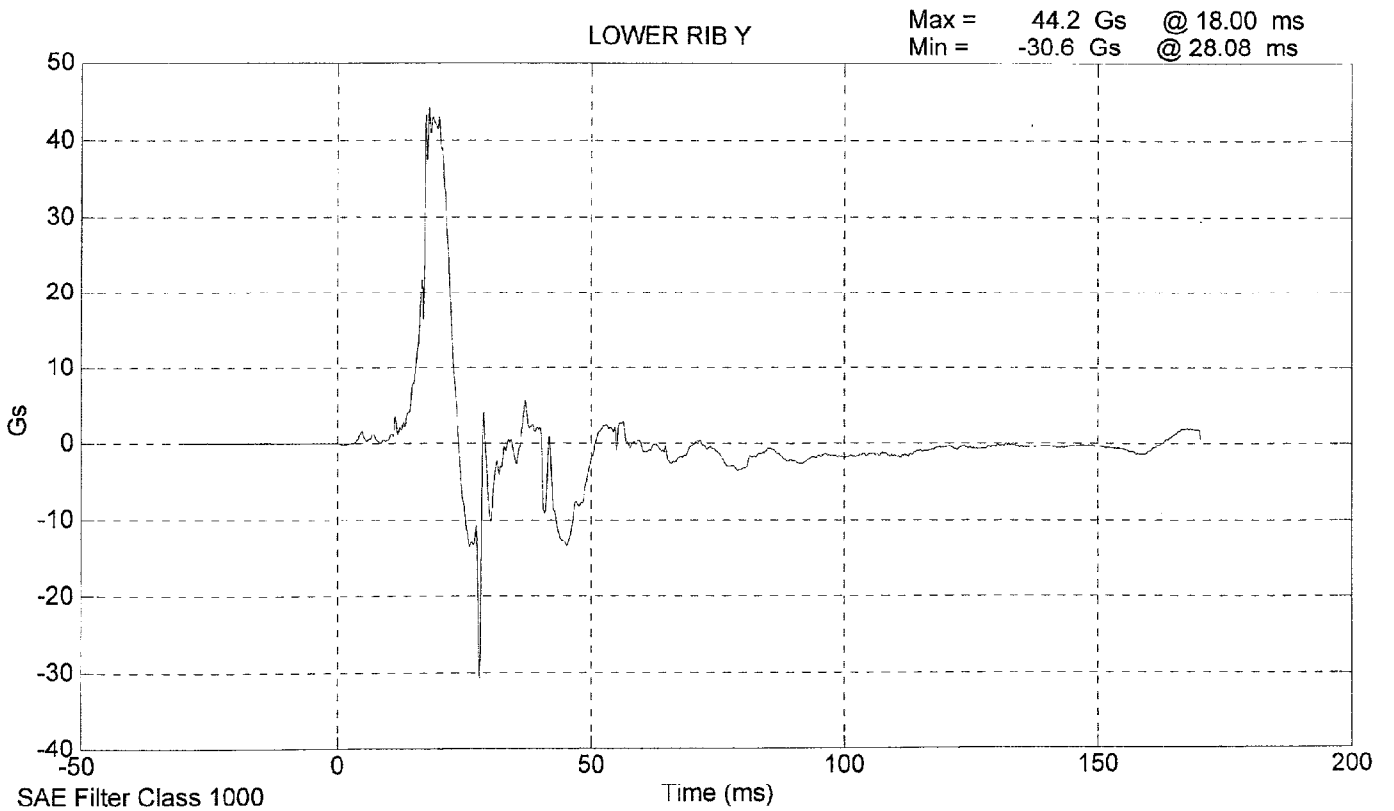
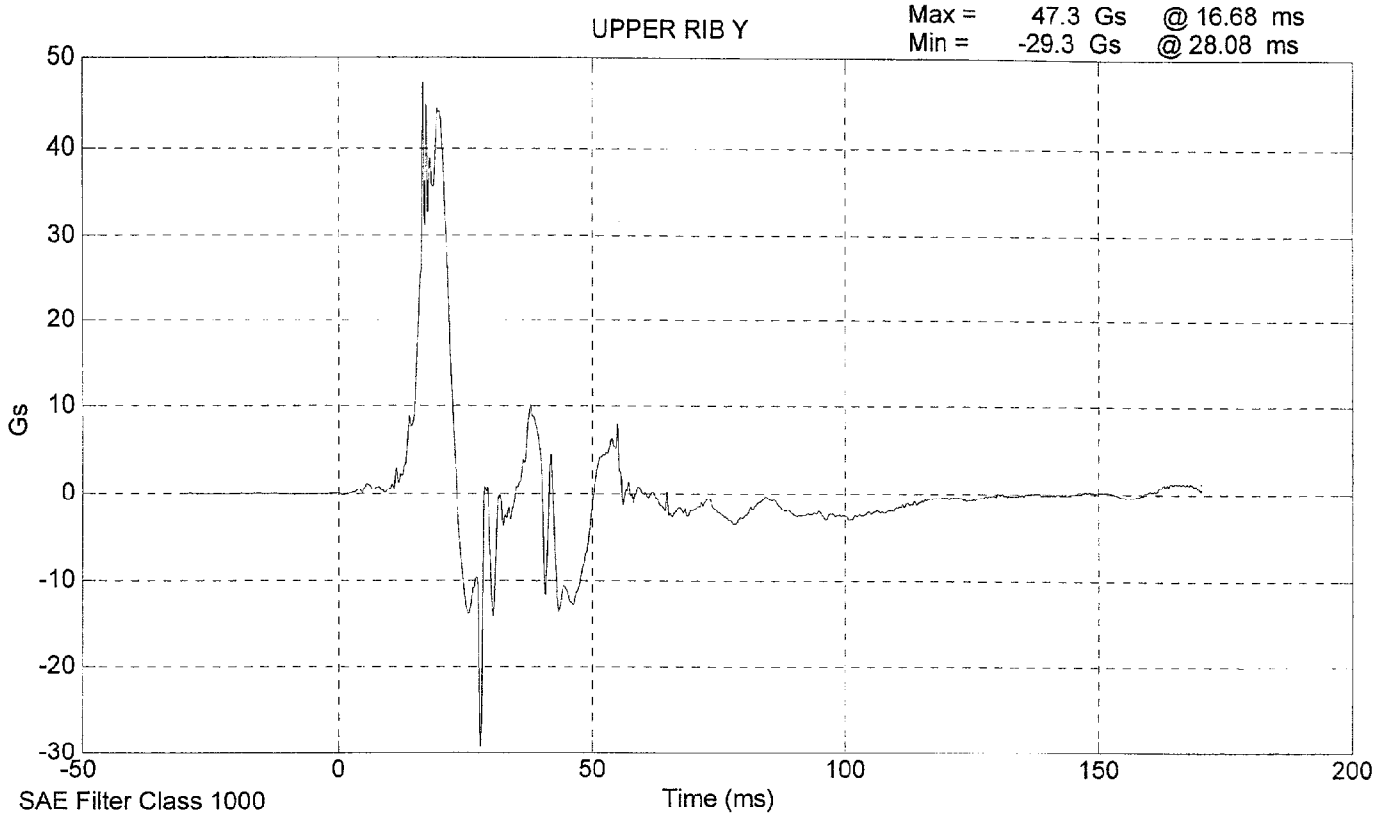
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 04-08-99 Laboratory Technician: B. Swiecicki

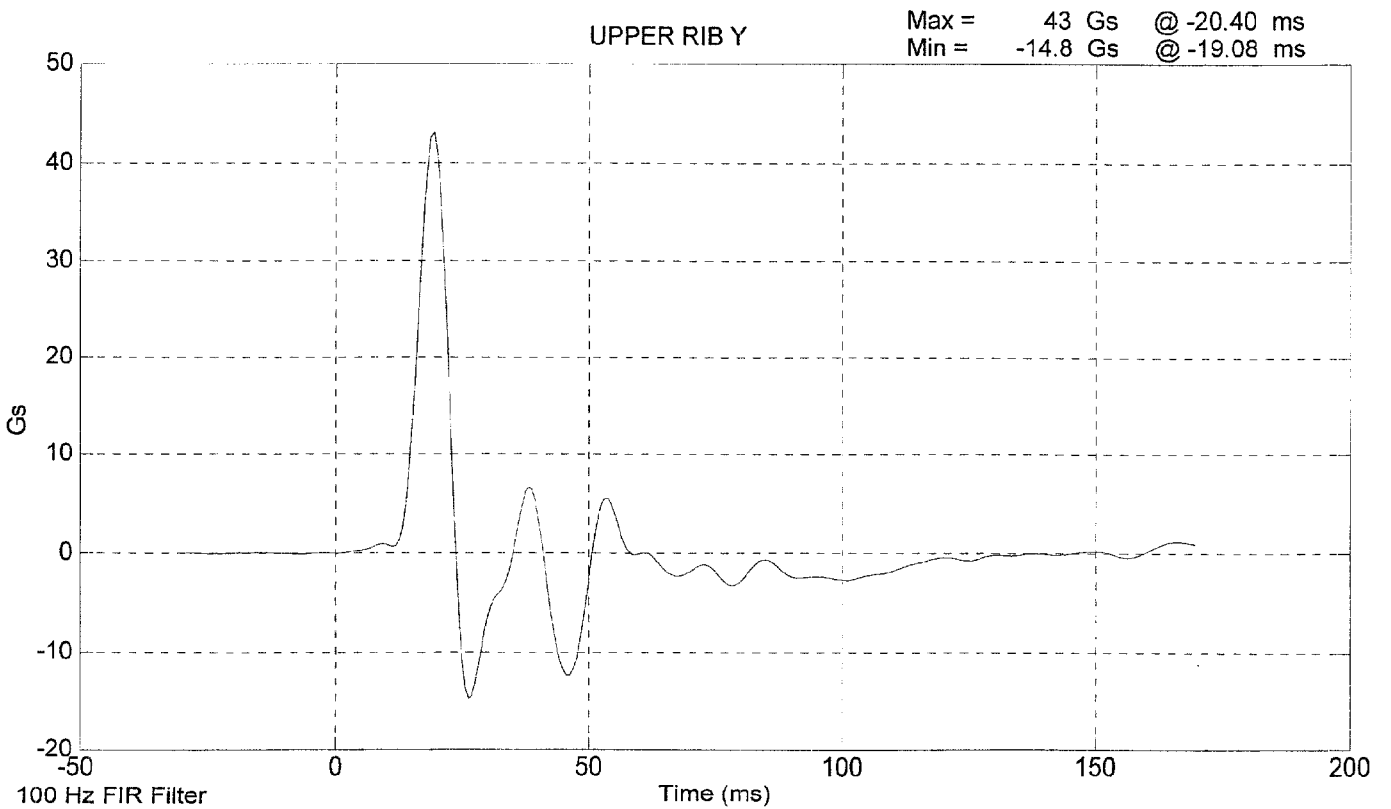
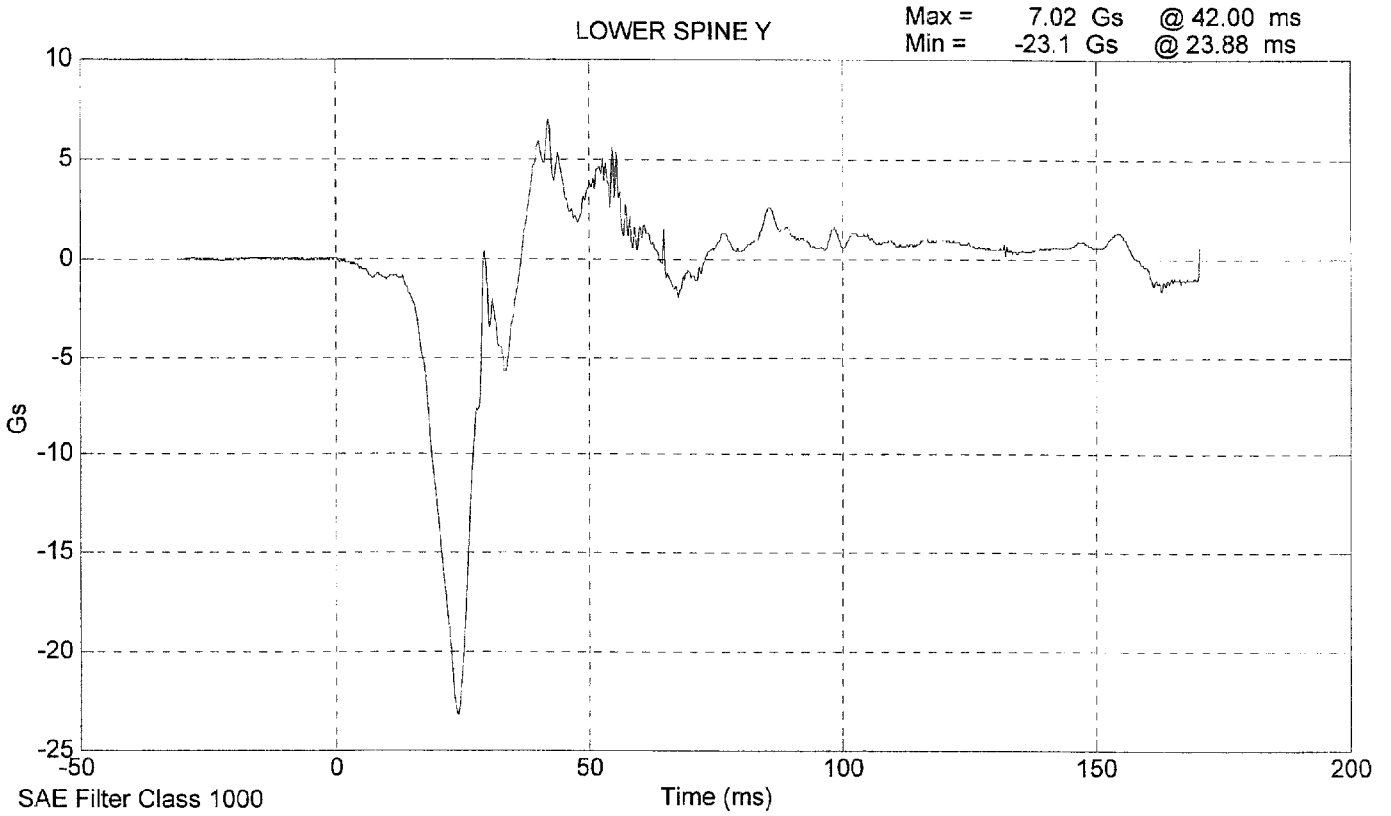
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PROBE SPEED (m/s)	4.27 - 4.33	4.29
UPPER RIB (g's)	37 - 46	43.00
LOWER RIB (g's)	37 - 46	43.04
LOWER SPINE (g's)	15 - 22	21.89

REMARKS: None

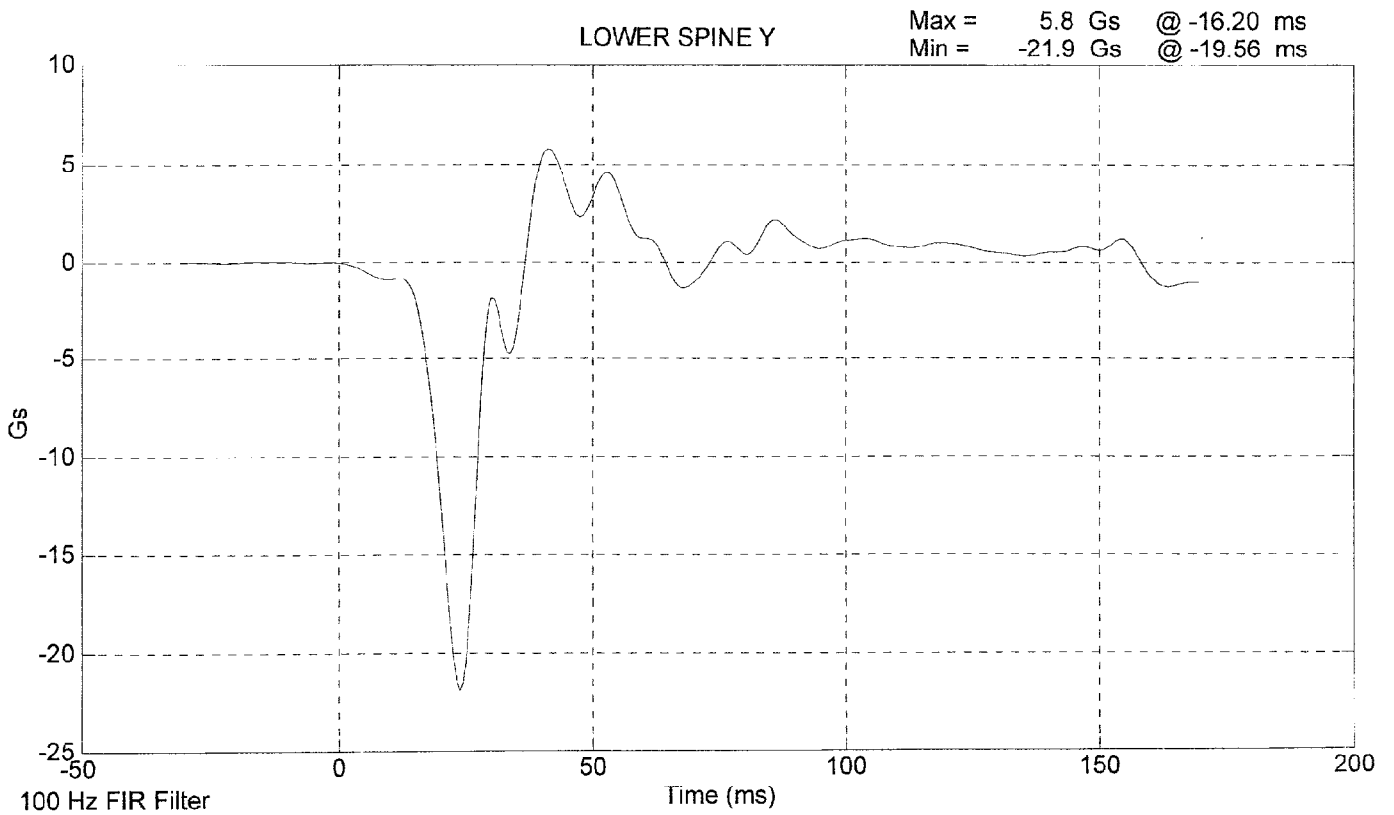
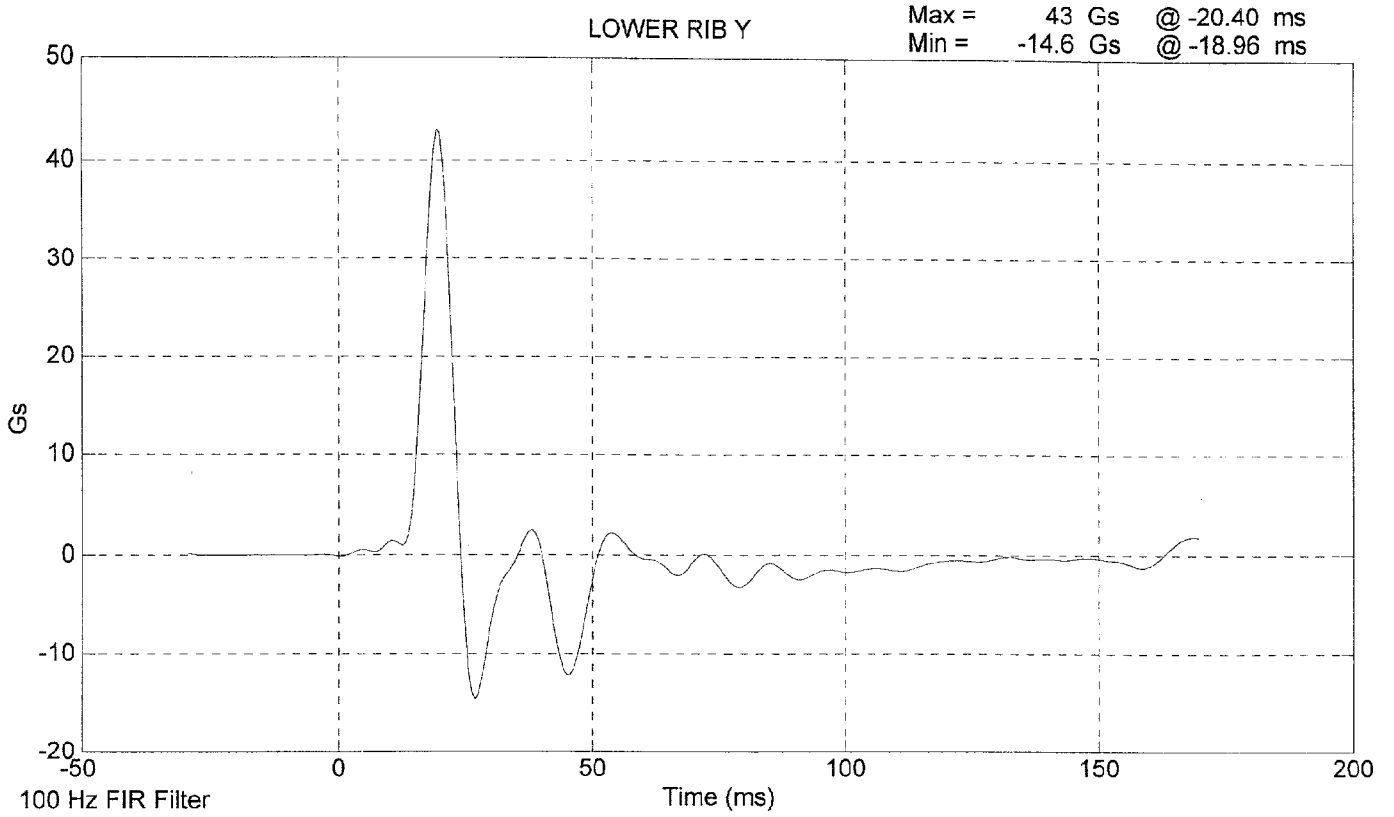
SID 027 THORAX IMPACT TEST @ 4.2885 m/s



SID 027 THORAX IMPACT TEST @ 4.2885 m/s



SID 027 THORAX IMPACT TEST @ 4.2885 m/s



**LATERAL PELVIS IMPACT TEST
PRE-TEST**

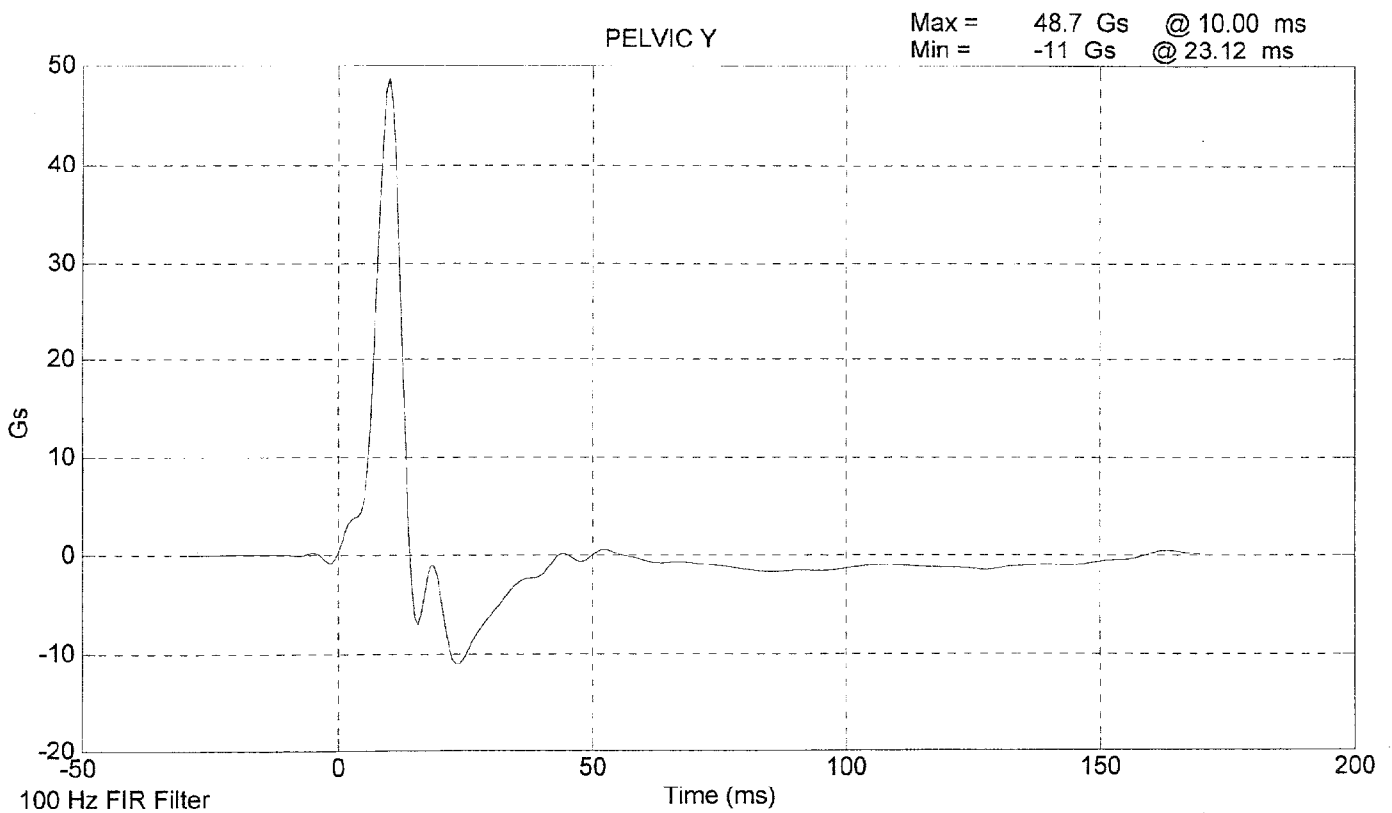
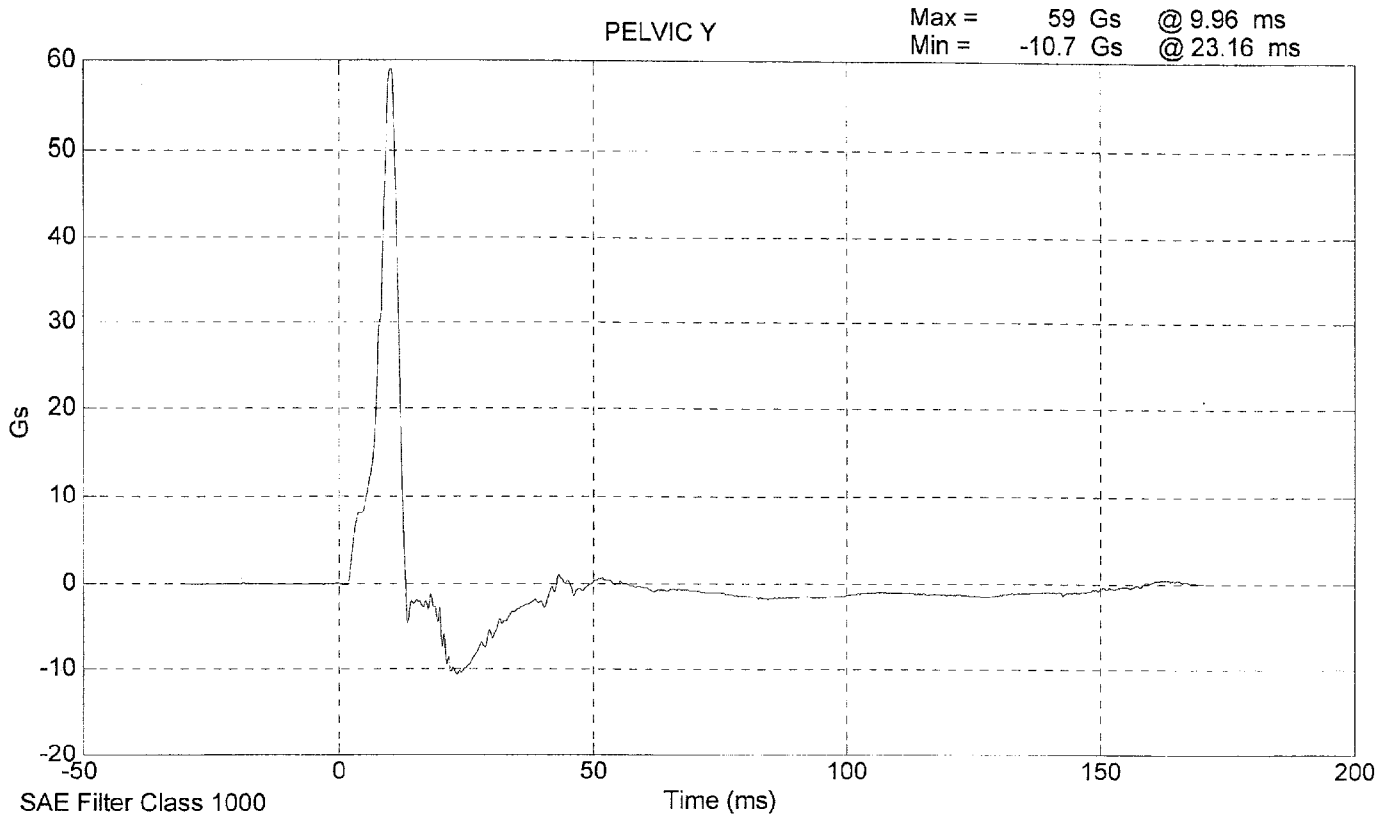
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 04-08-99 Laboratory Technician: B. Swiecicki

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	48.75

REMARKS: None

SID 027 PELVIC IMPACT TEST @ 4.3007 m/s



ABDOMINAL COMPRESSION TEST
PRE-TEST
(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 04-08-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
FORCE @ 13 mm (N)	104 - 162	107
FORCE @ 19 mm (N)	163 - 221	165
FORCE @ 25 mm (N)	222 - 280	247
FORCE @ 33 mm (N)	325 - 391	371

REMARKS: None

Dummy S/N 027

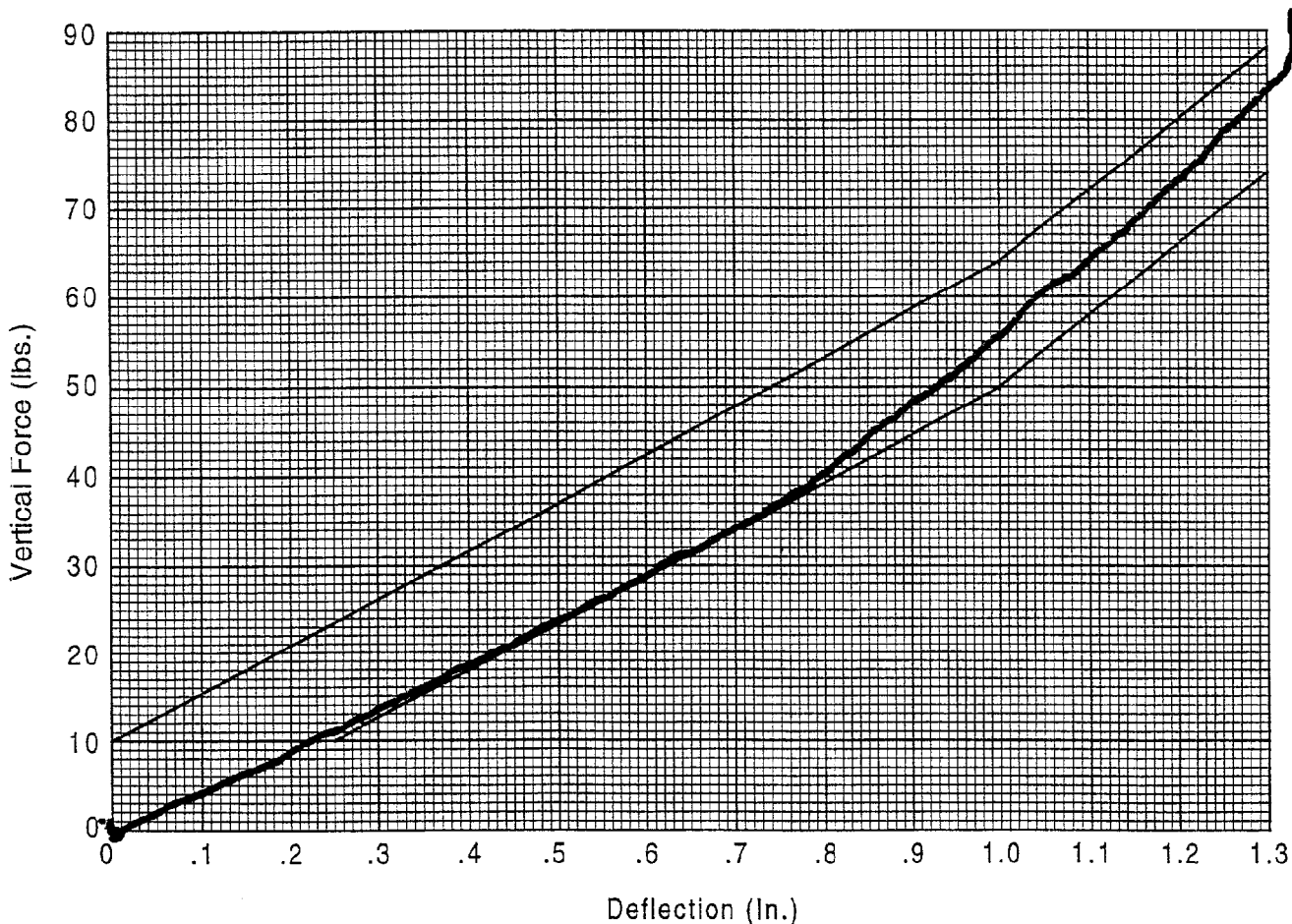
W/A _____

Date 4-8-99

Performed By [Signature]

Temp. 70°

Humidity 30%



Hybrid II
Abdomen Static Press

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

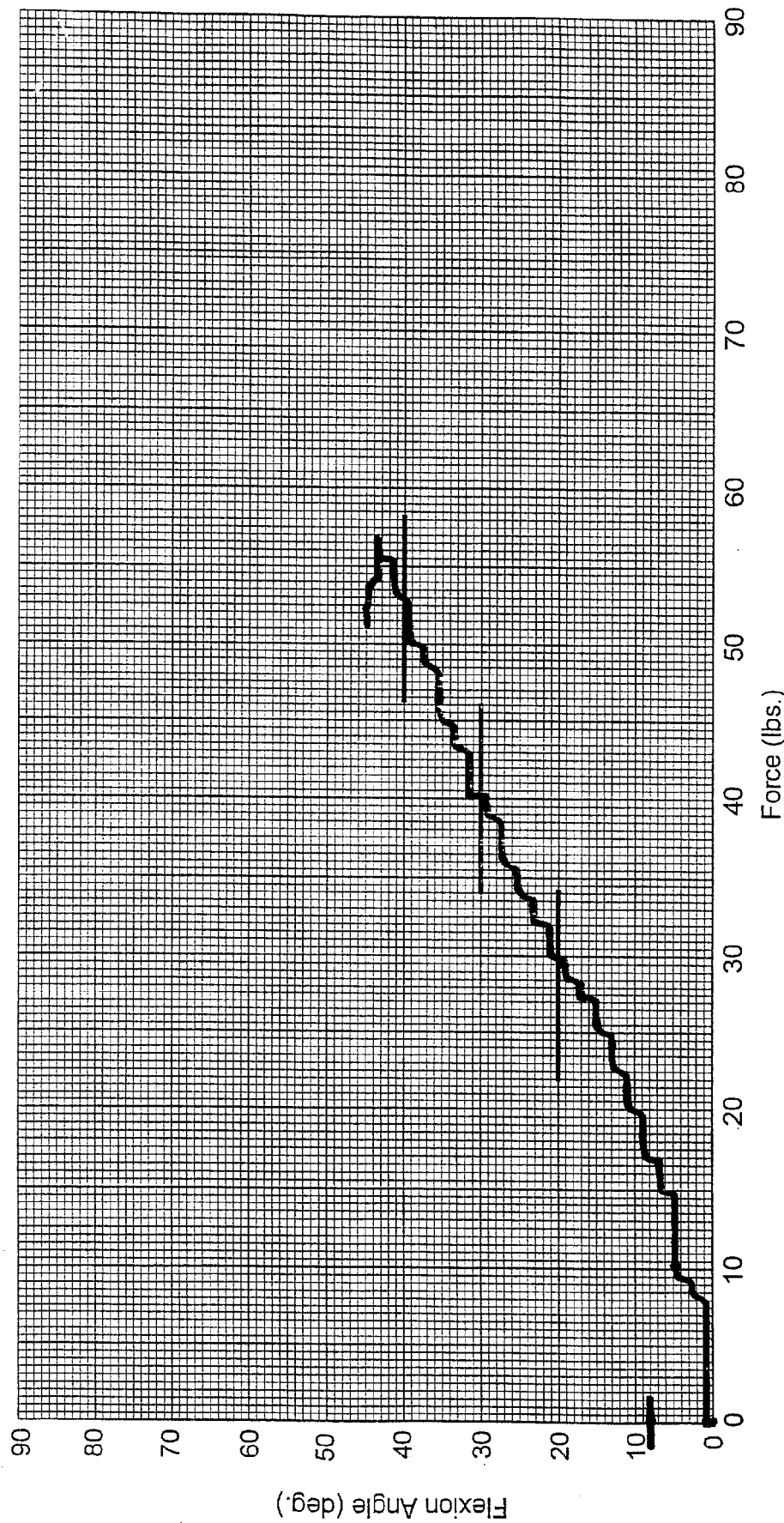
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
 Date: 04-07-99 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	133.0
FORCE @ 30° (N)	151.2 - 204.6	177.9
FORCE @ 40° (N)	204.6 - 258	234.9
RETURN ANGLE	12° max.	8

REMARKS: None

Dummy S/N 027
 W/A _____
 Date 4-7-99
 Performed By [Signature]
 Temp. 70°
 Humidity 31%



Hybrid II Lumbar Spine Flexion Test

PRE-TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
 Date: 04-09-99 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.: 016

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016

Veridian Sequential Test Number: 1

Date: 04-30-99

Laboratory Technician: B. Swiecicki

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

* Test not required for SID certification.

REMARKS: None

**EXTERNAL DIMENSIONS
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-30-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	902
RH- Rib Height (mm)	502 - 520	516
HP- Hip Pivot Height (mm)	99 ref.	99
RD- Rib from Back Line (mm)	229 - 241	240
KH- Knee Pivot from Back Line (mm)	511 - 526	523
KV- Knee Pivot to Floor (mm)	490 - 505	494
HW- Hip Width (mm)	356 - 391	362

REMARKS: None

**LATERAL THORAX IMPACT TEST
POST TEST**

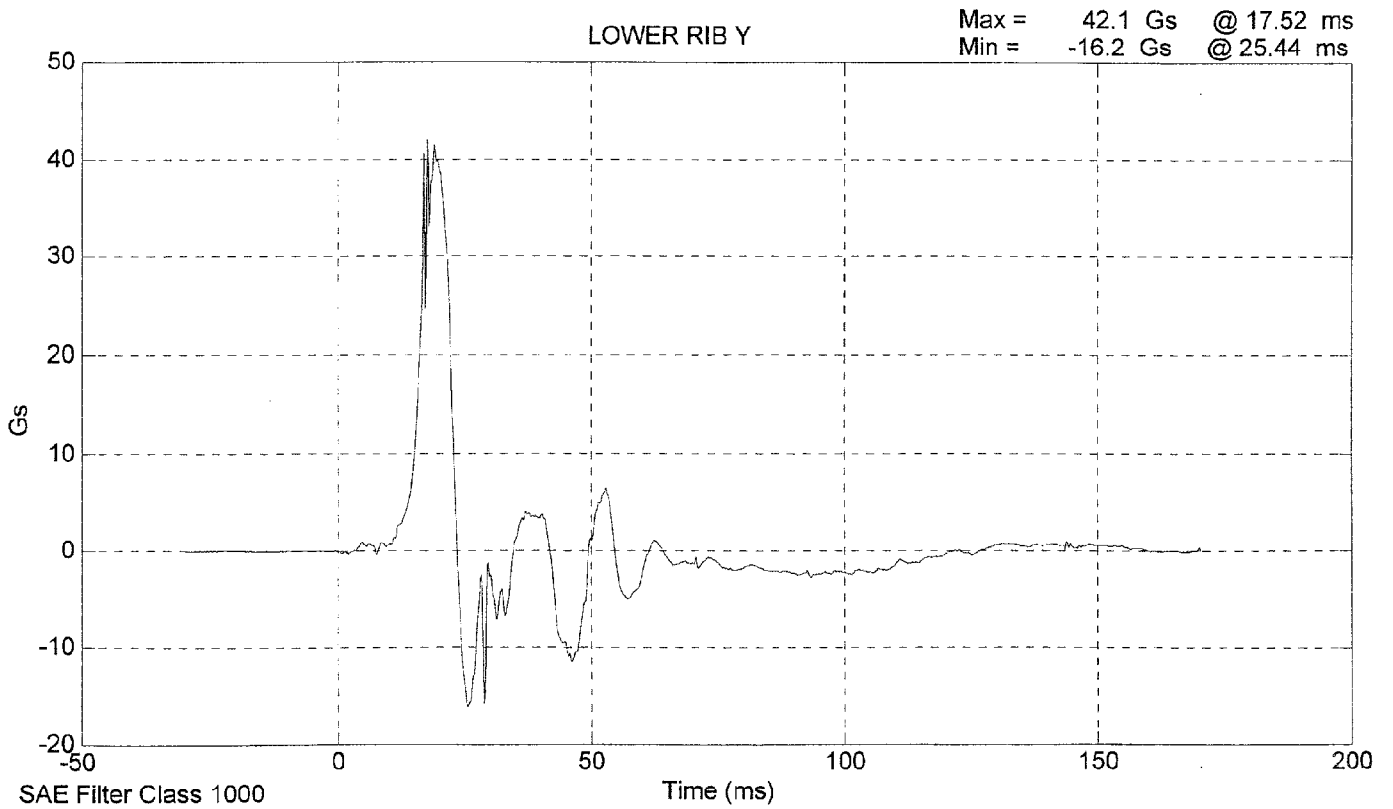
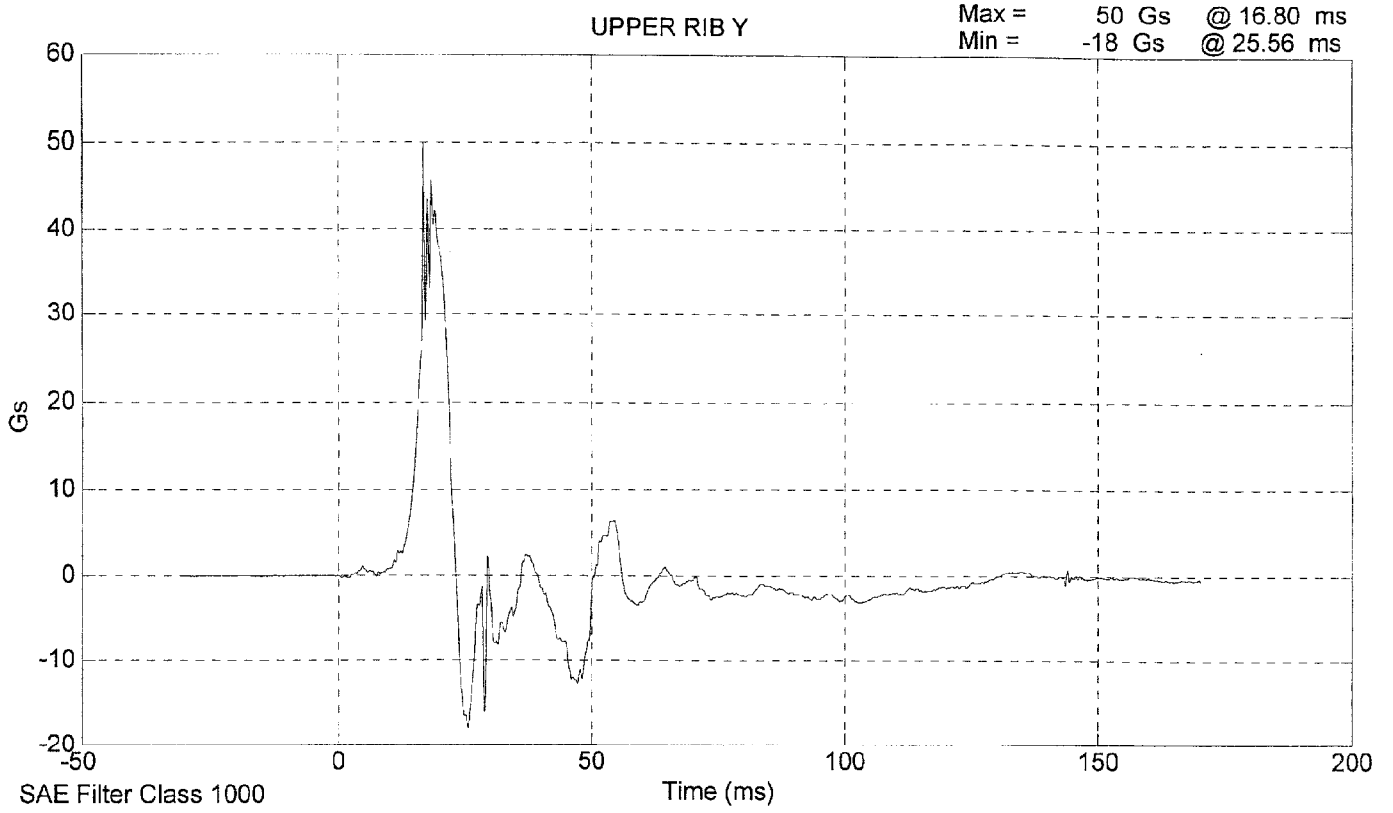
CONFIGURED FOR LEFT SIDE IMPACT

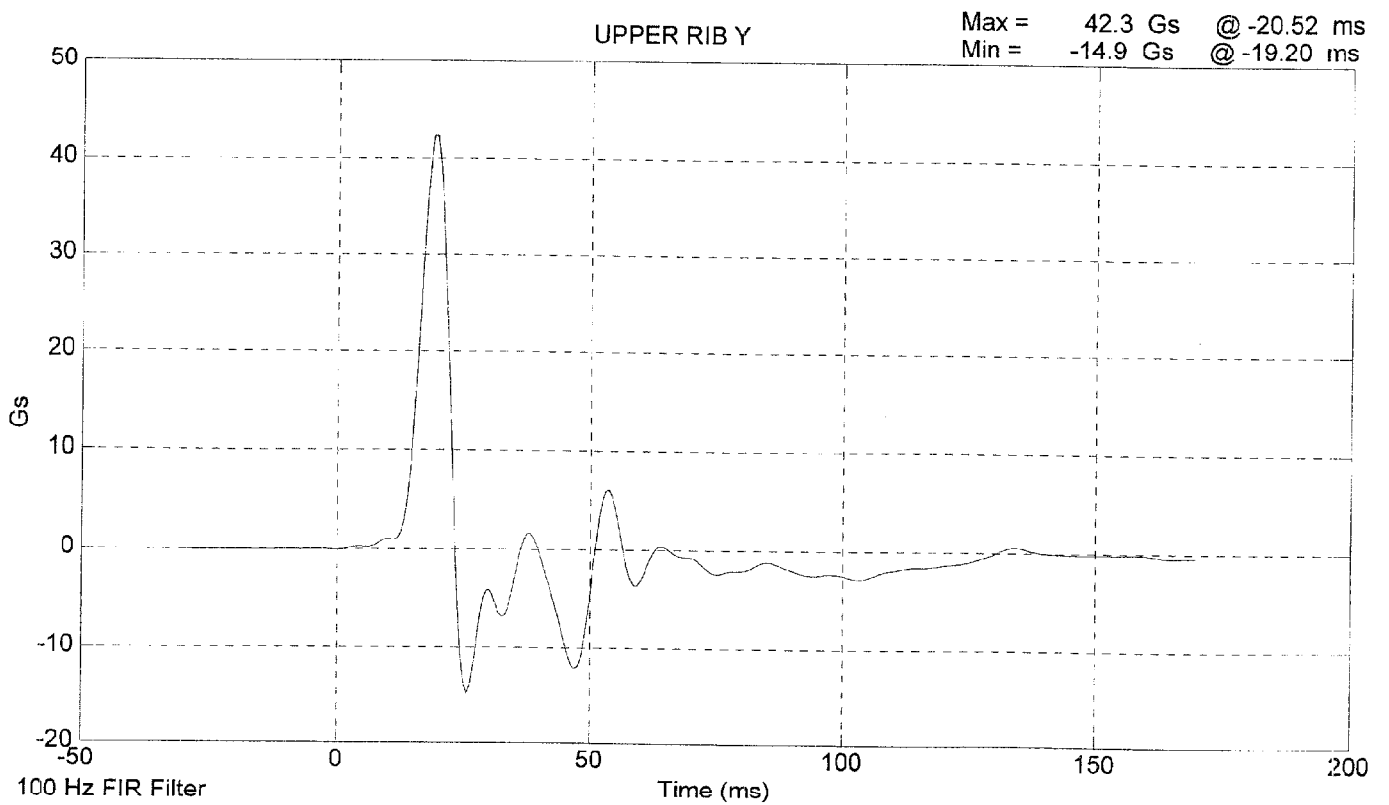
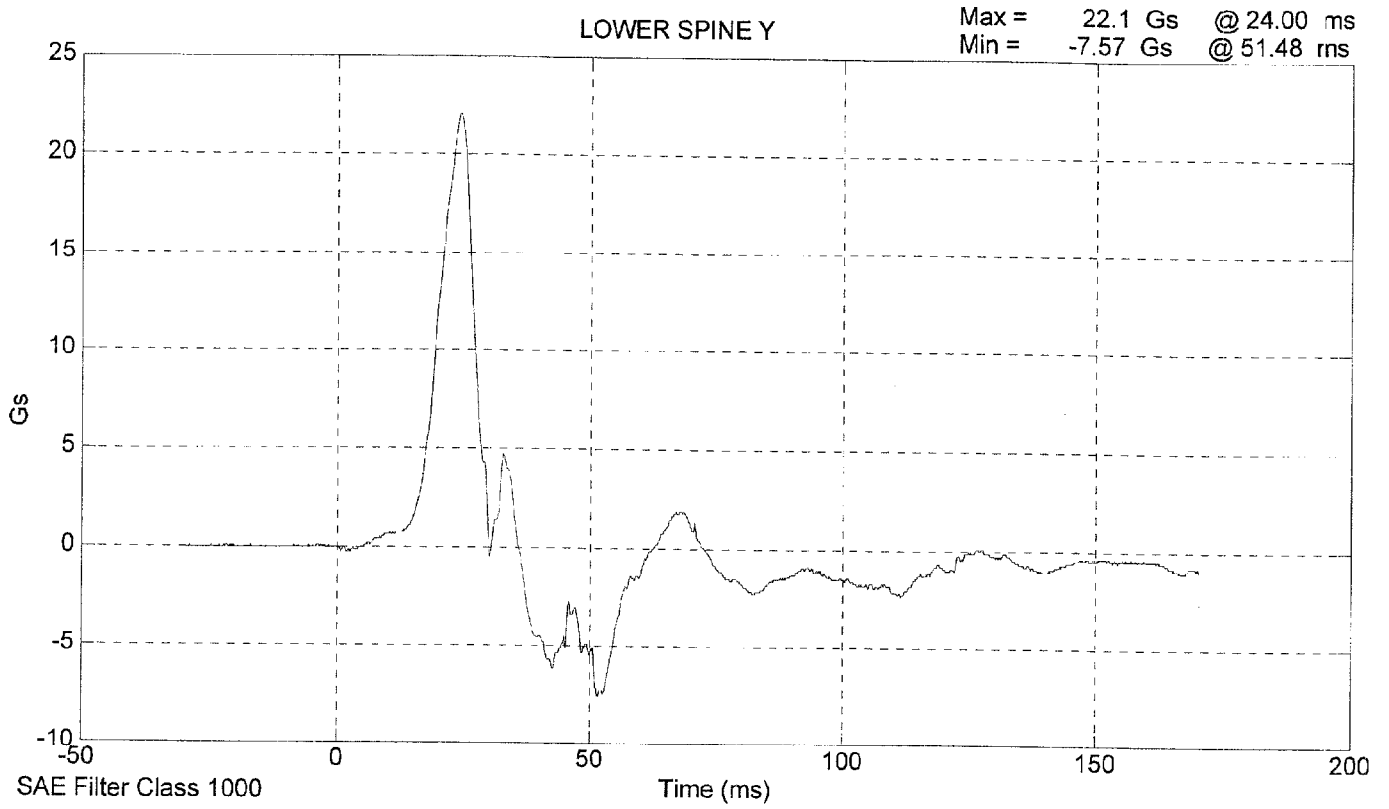
SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-29-99 Laboratory Technician: B. Swiecicki

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	4.29
UPPER RIB (g's)	37 - 46	42.3
LOWER RIB (g's)	37 - 46	41.6
LOWER SPINE (g's)	15 - 22	21.5

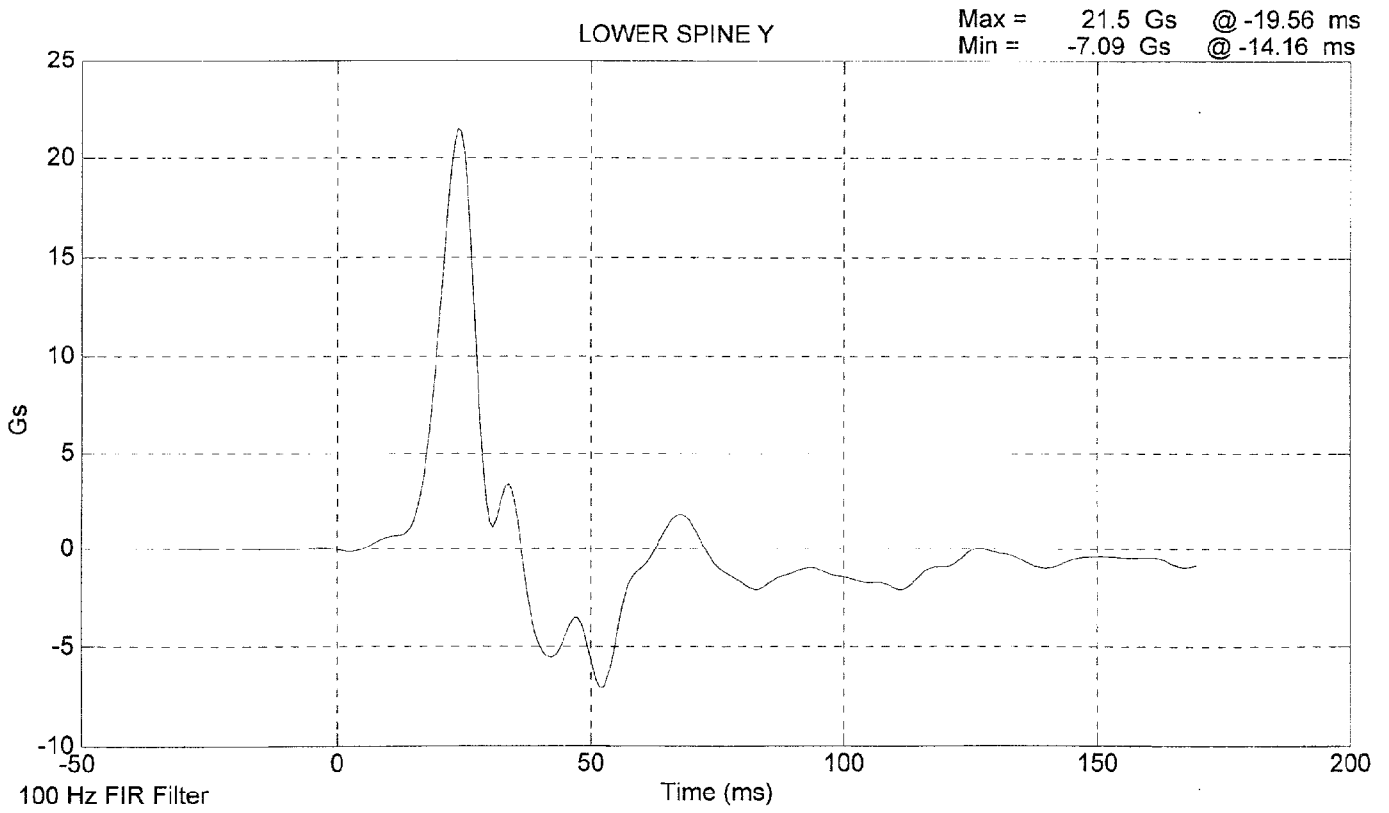
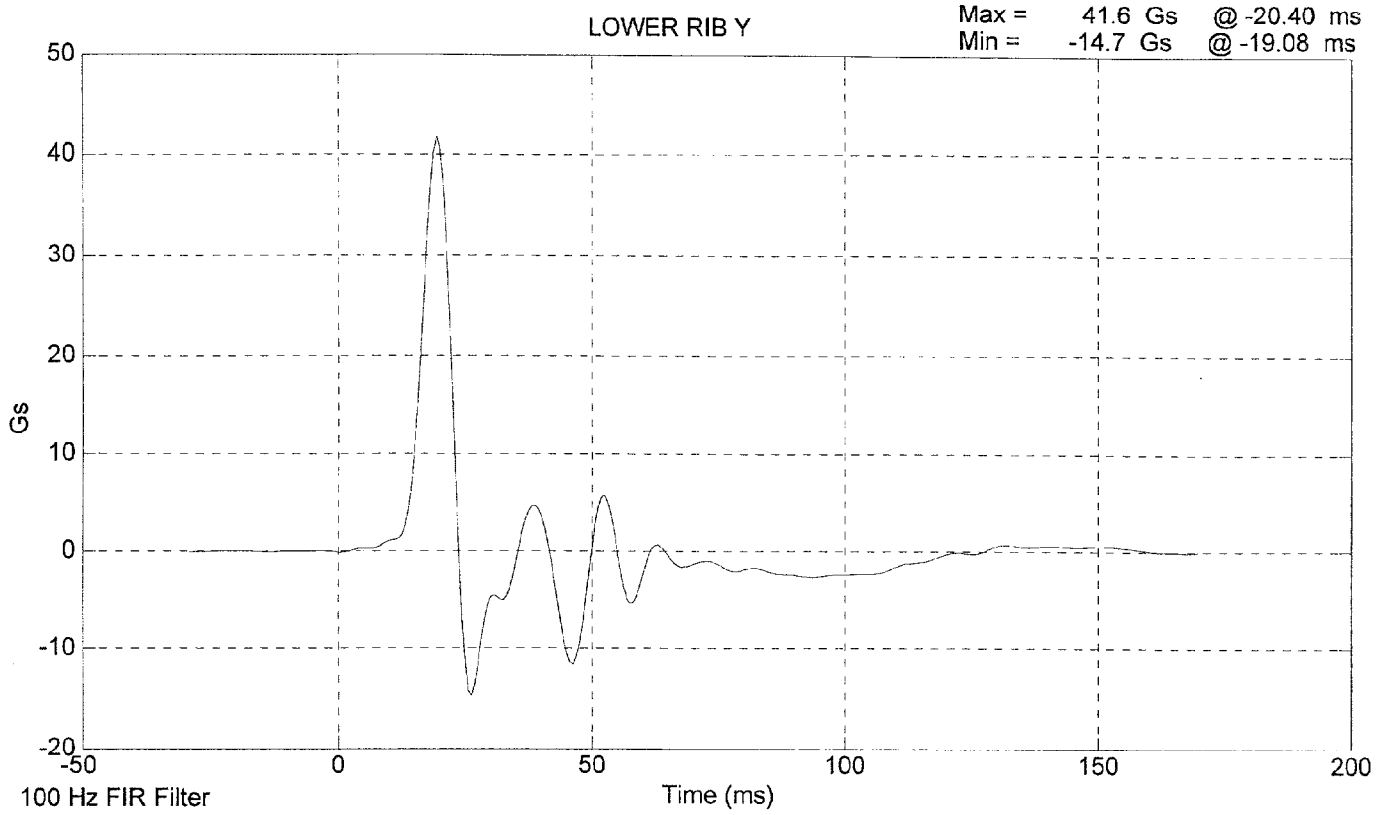
REMARKS: None

SID 016 THORAX IMPACT TEST @ 4.2885 m/s





SID 016 THORAX IMPACT TEST @ 4.2885 m/s



**LATERAL PELVIS IMPACT TEST
POST TEST**

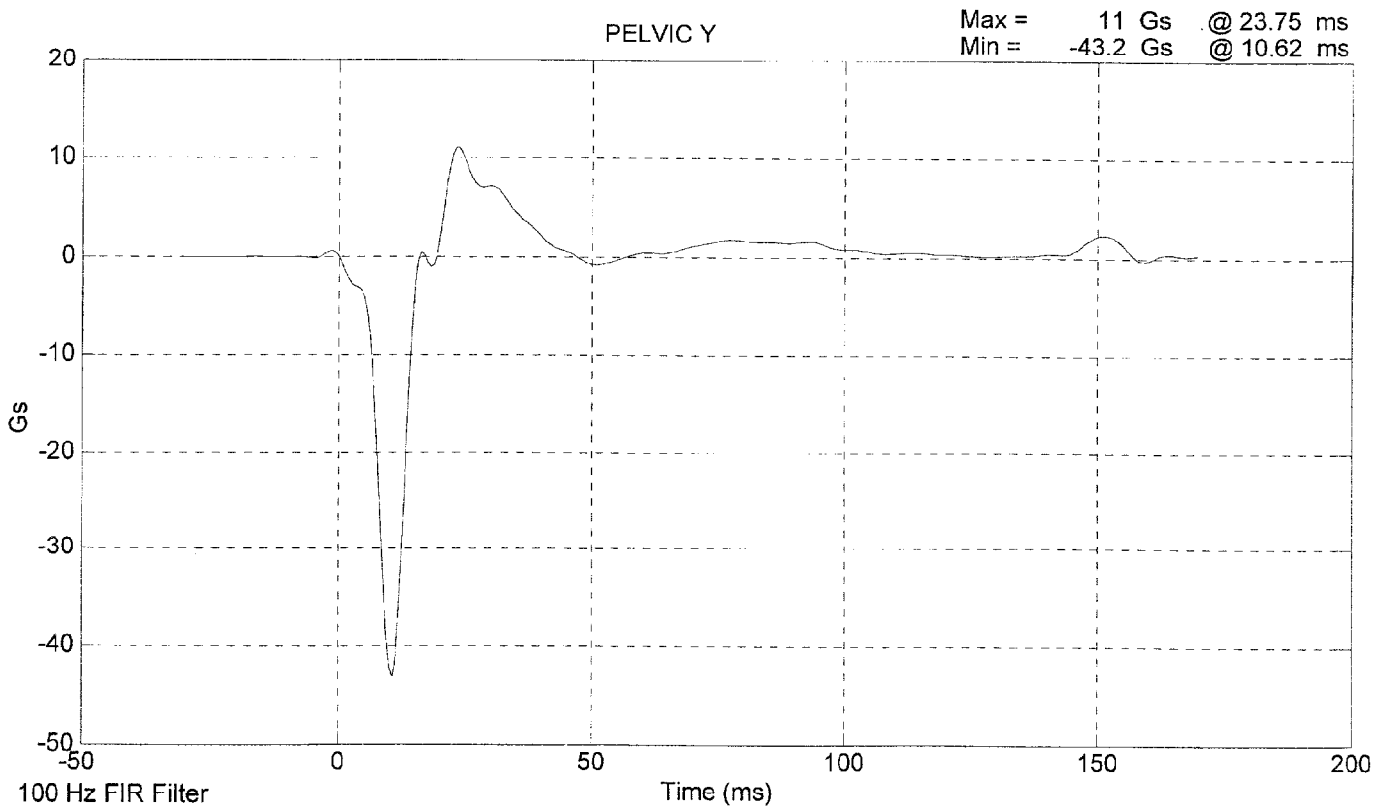
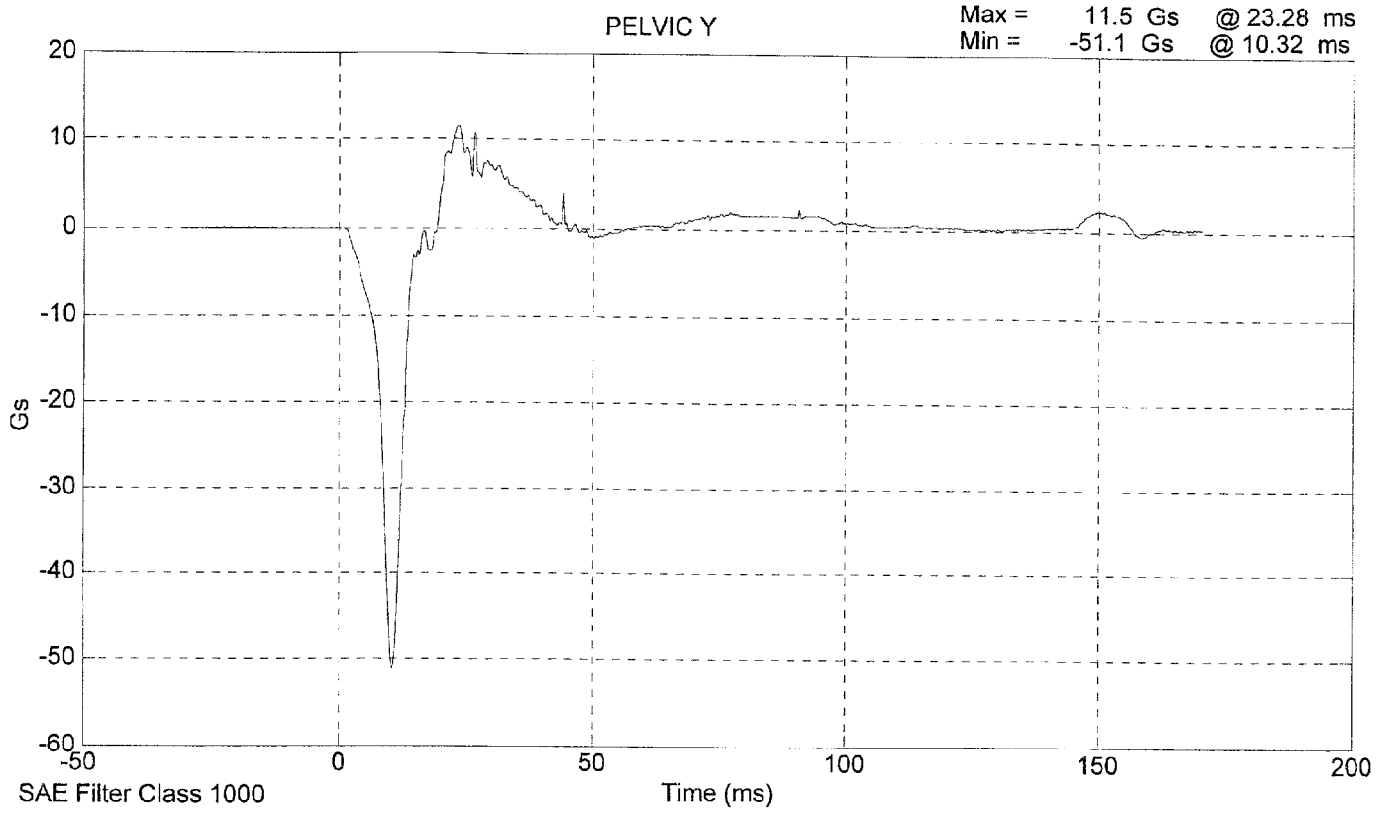
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-29-99 Laboratory Technician: B. Swiecicki

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	43.2

REMARKS: None

SID 016 PELVIC IMPACT TEST @ 4.2763 m/s



**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-30-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	112
FORCE @ 19 mm (N)	163 - 221	174
FORCE @ 25 mm (N)	222 - 280	258
FORCE @ 33 mm (N)	325 - 391	391

REMARKS: None

Dummy S/N 016

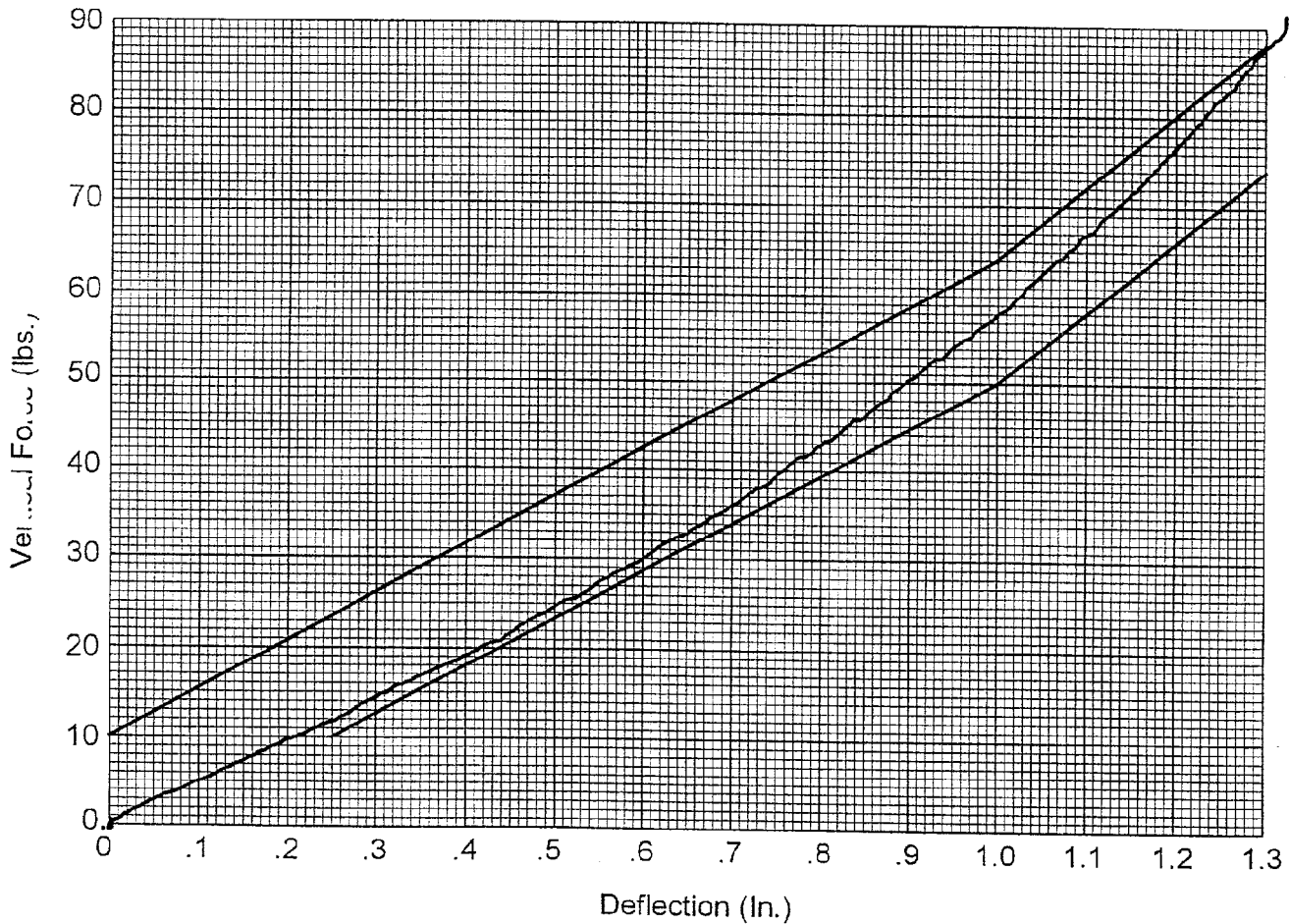
W/A _____

Date 4-30-99

Performed By BS

Temp. 70

Humidity 31



**Hybrid II
Abdomen Static Press**

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

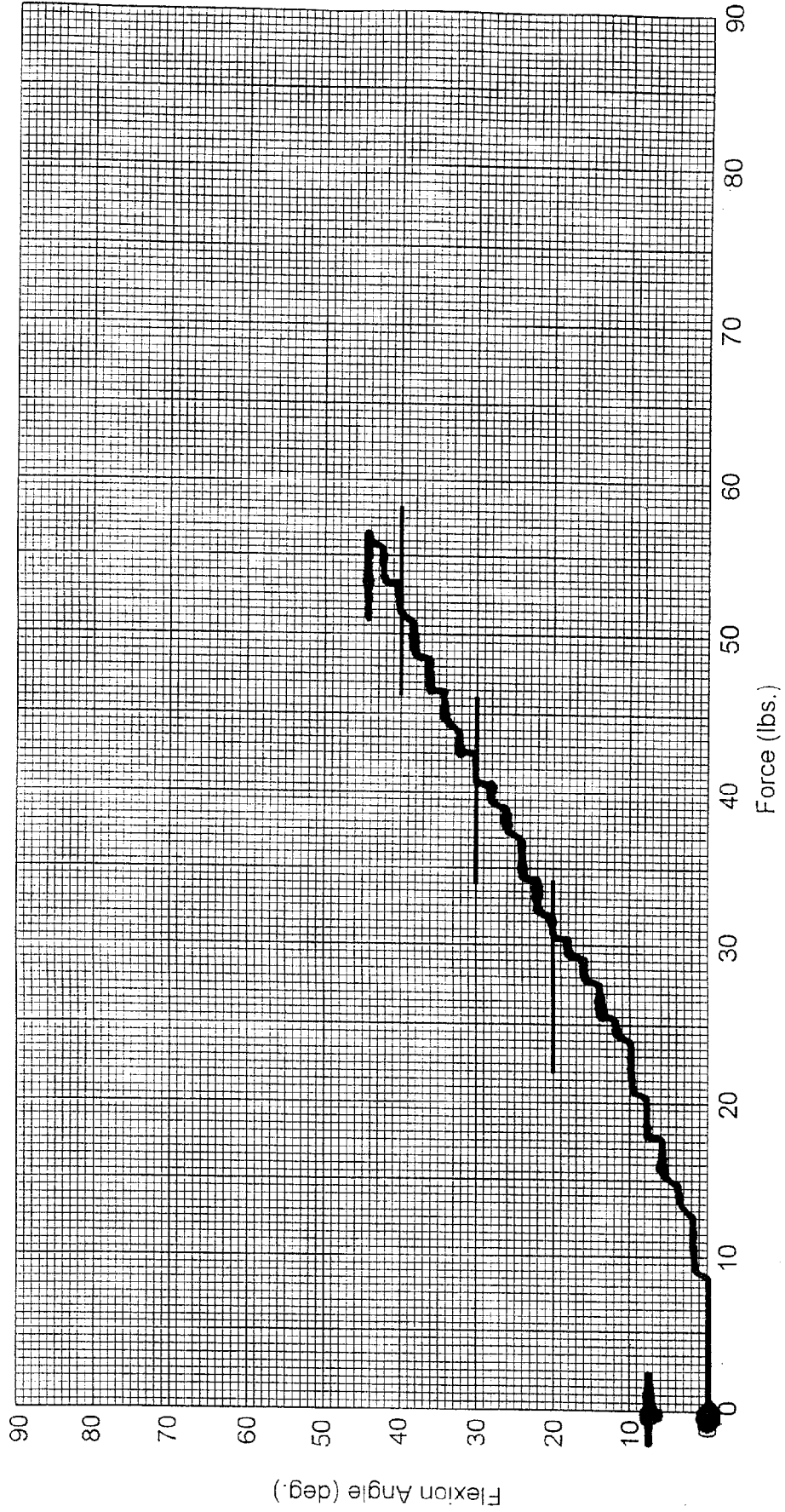
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
 Date: 04-30-99 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	142.3
FORCE @ 30° (N)	151.2 - 204.6	189.0
FORCE @ 40° (N)	204.6 - 258	237.5
RETURN ANGLE	12° max.	7.5

REMARKS: None

Dummy S/N 016
 W/A
 Date 4-30-99
 Performed By [Signature]
 Temp. 70
 Humidity 31



Hybrid II Lumbar Spine Flexion Test

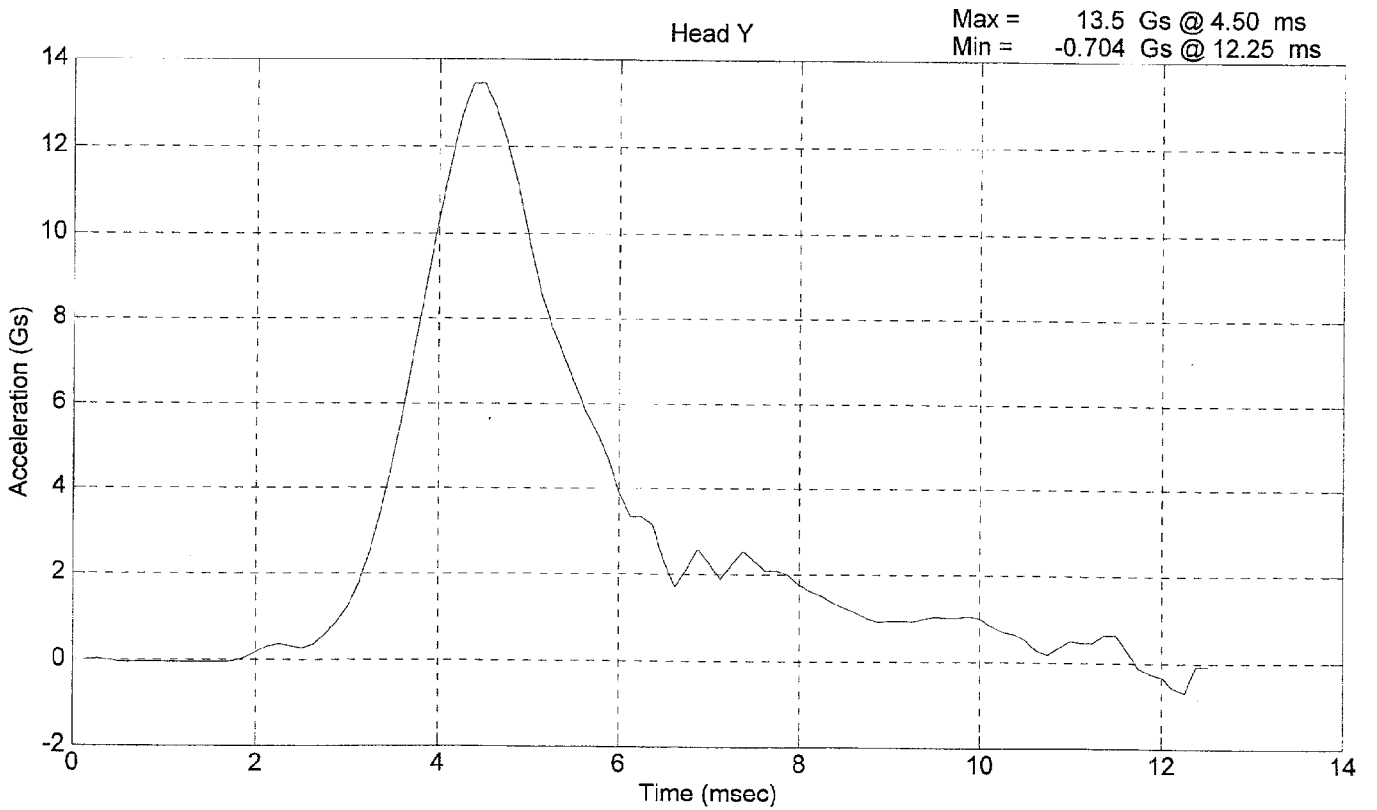
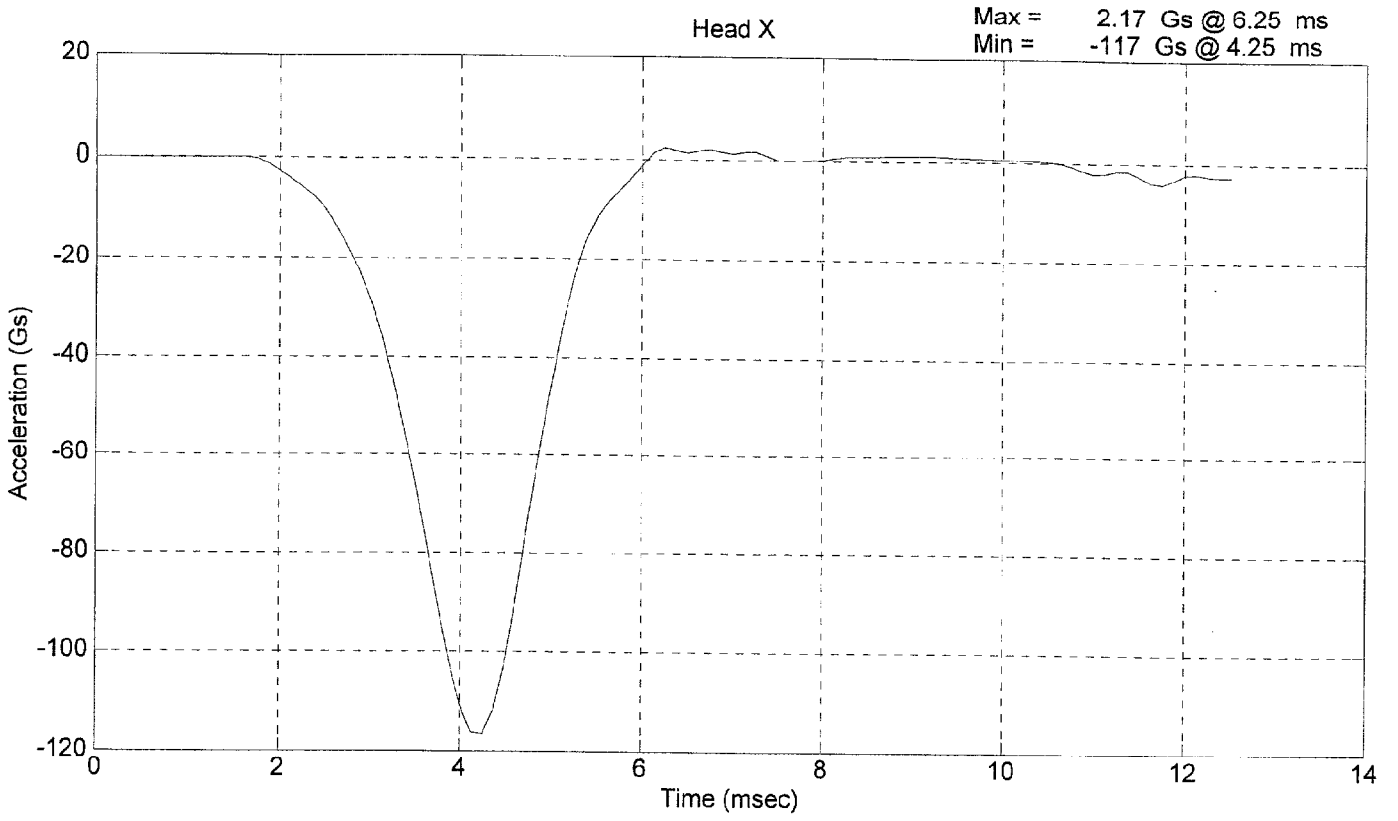
LATERAL HEAD DROP TEST
POST-TEST
(Test not required for SID certification)

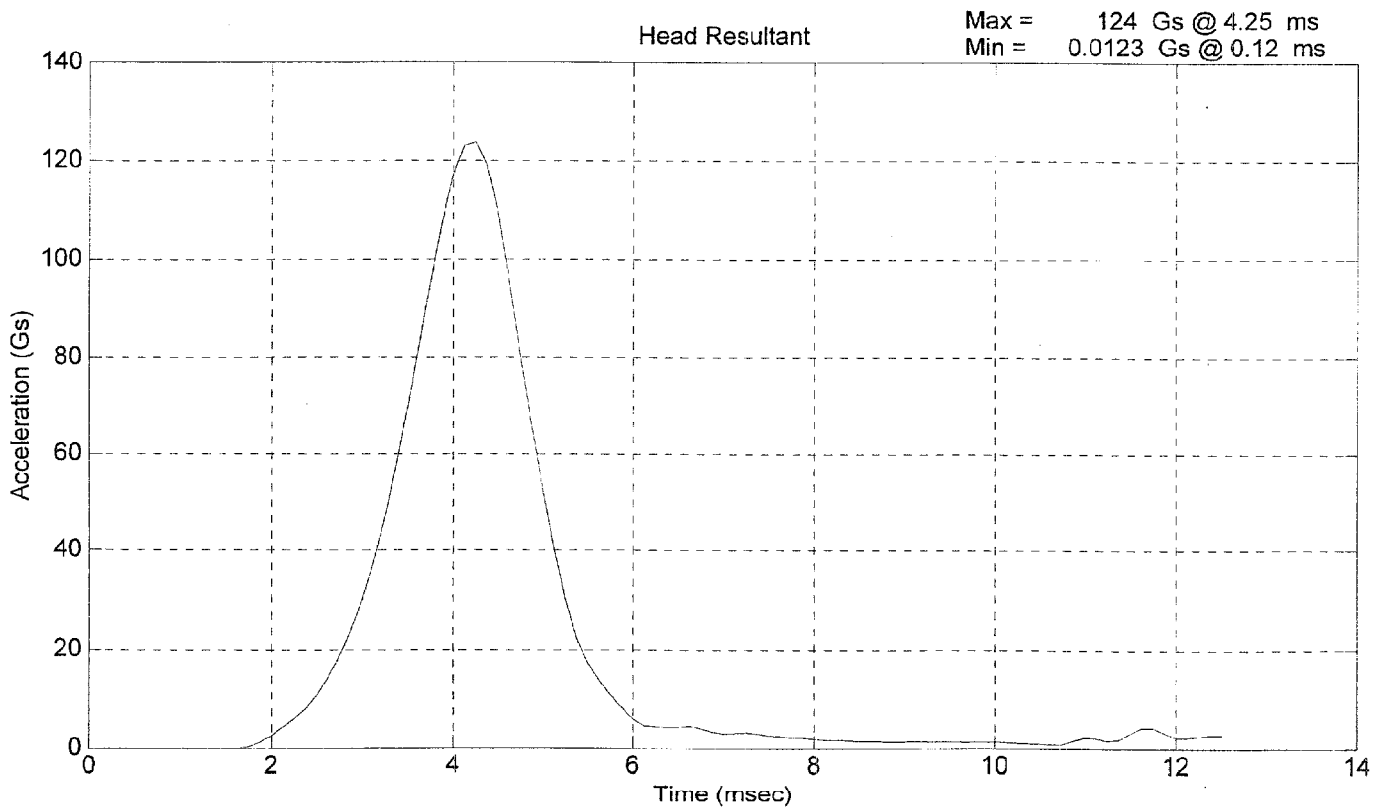
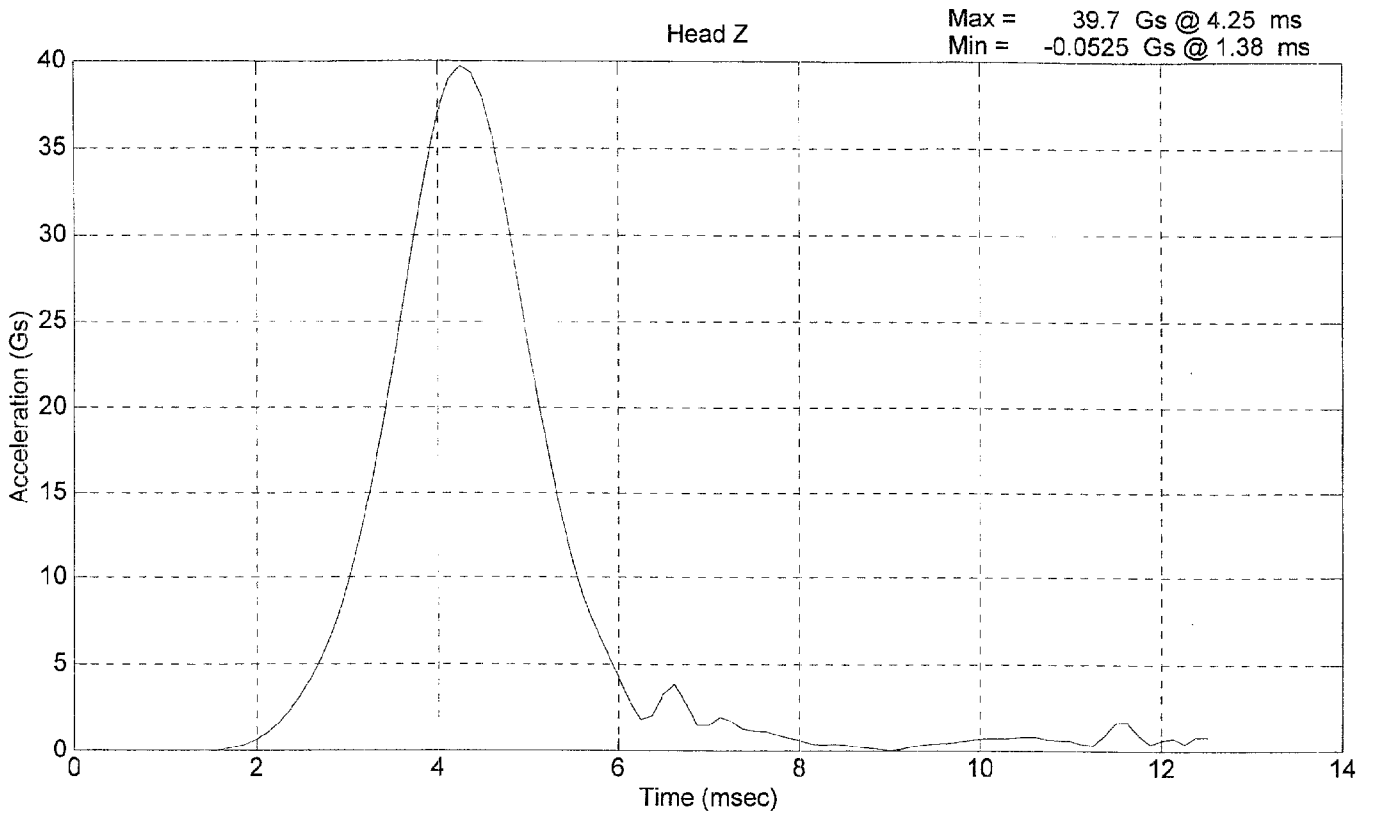
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 2
Date: 04-29-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
PEAK RESULTANT ACCELERATION (g's)	120 - 150	123.76
PEAK LATERAL ACCELERATION (g's)	15 G's max	13.45
IS THE ACCELERATION CURVE UNIMODAL?	Less than 15 %	3.64

REMARKS: None





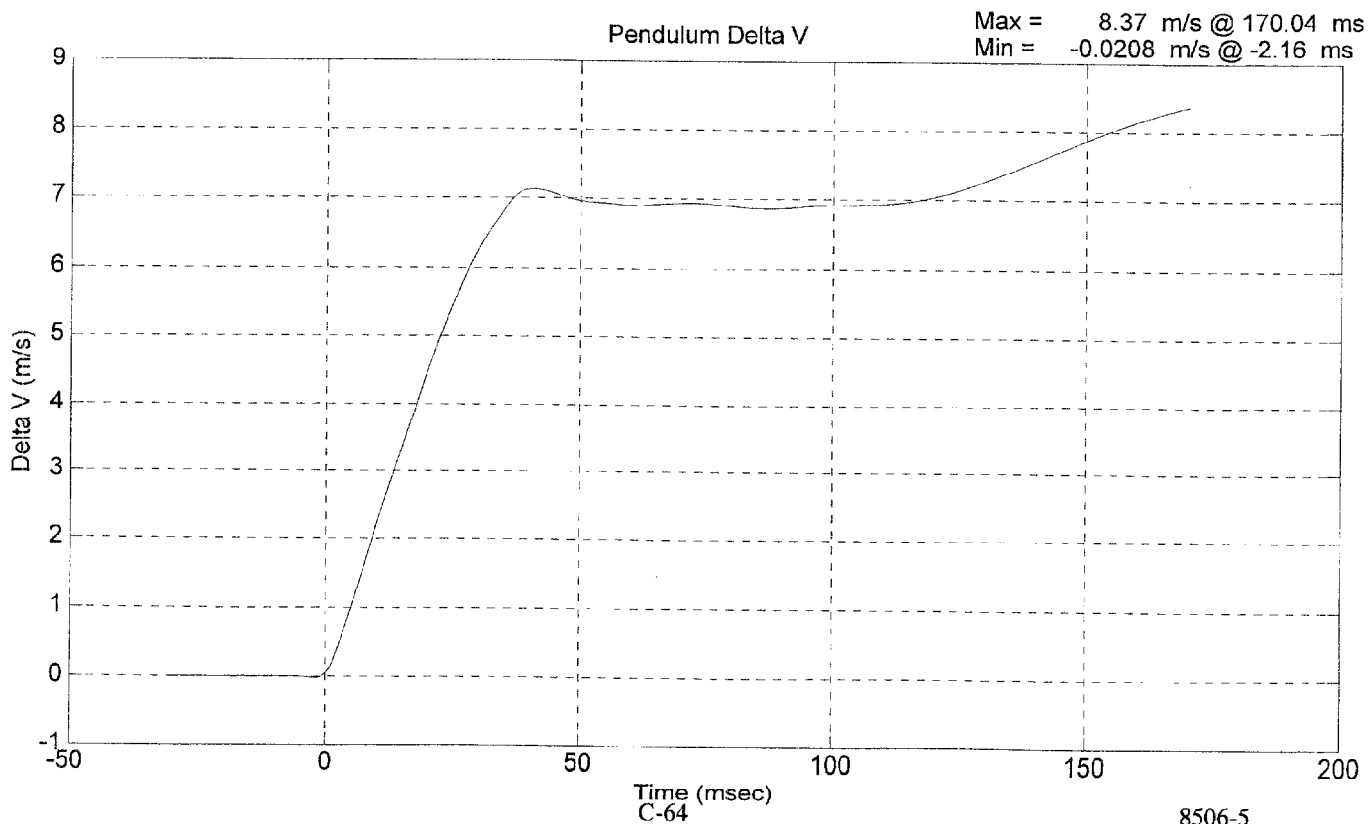
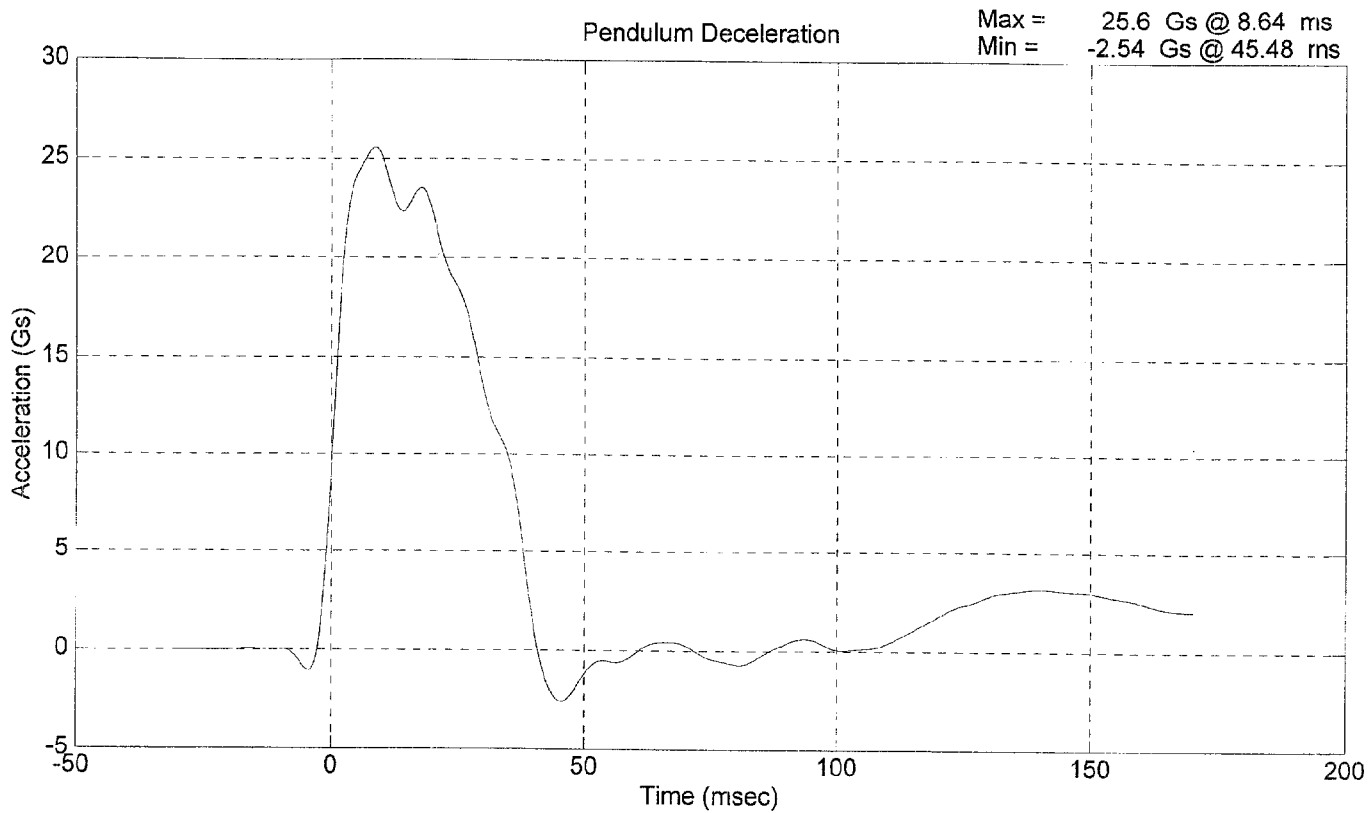
LATERAL NECK BENDING TEST
POST-TEST
(Test not required for SID certification)

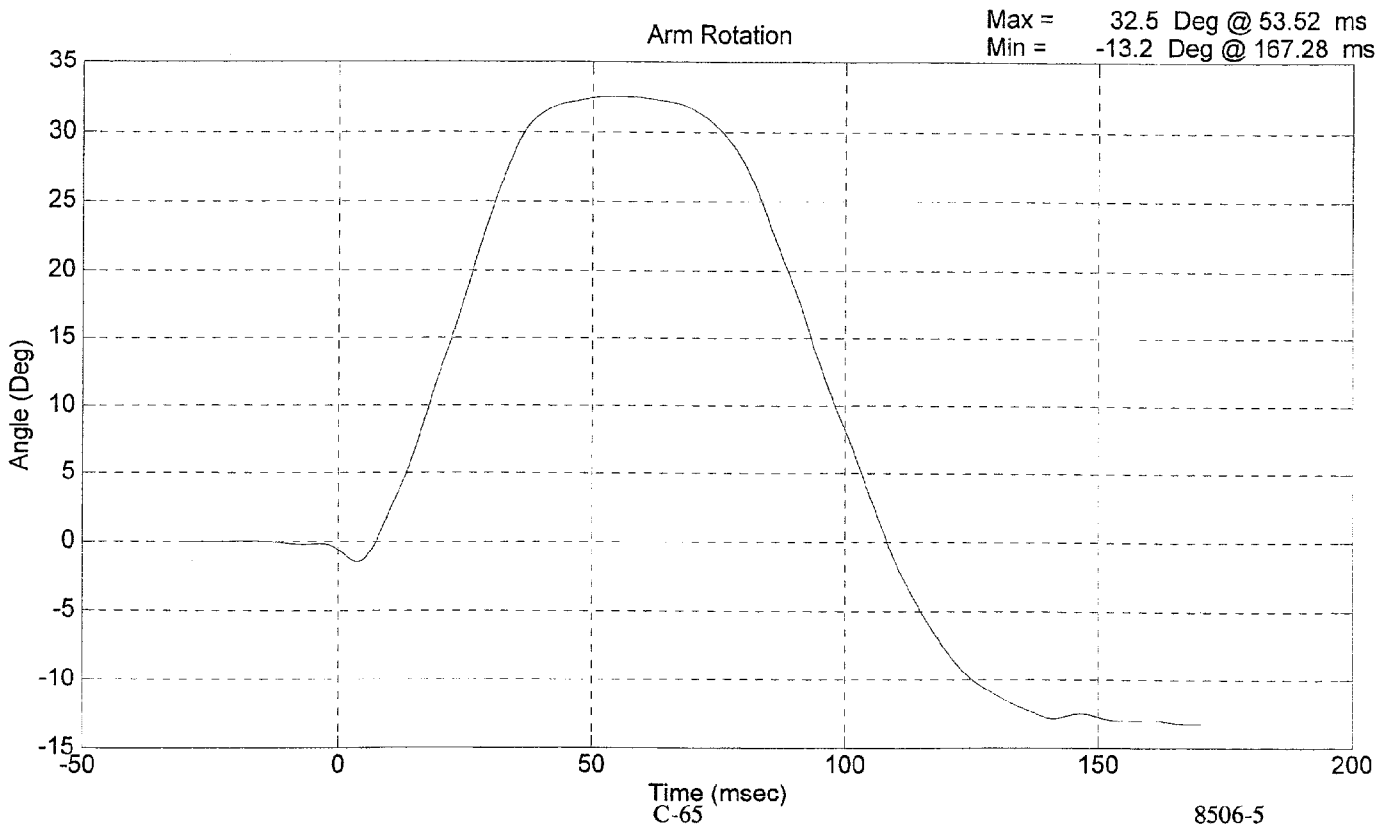
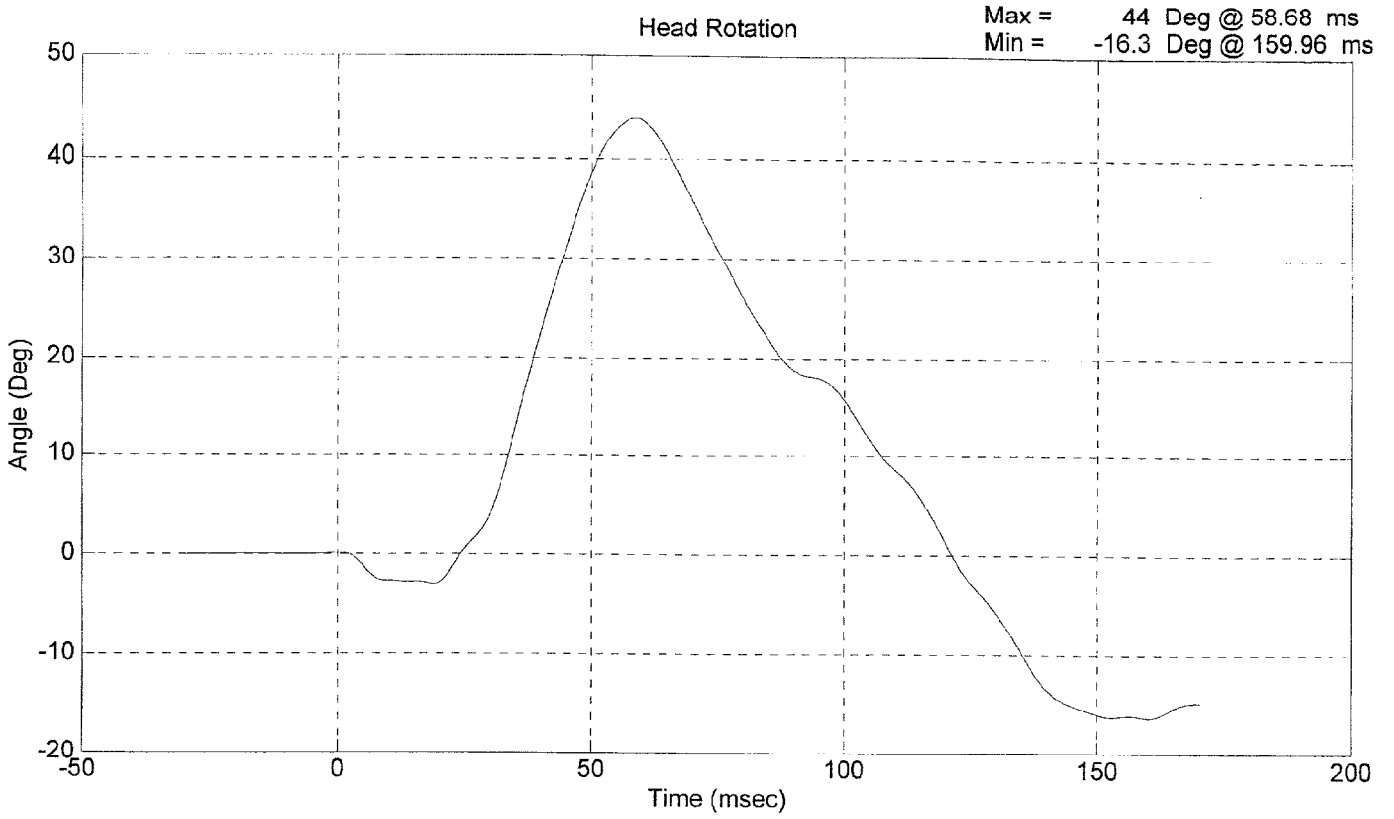
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
Date: 04-28-99 Laboratory Technician: B. Swiecicki

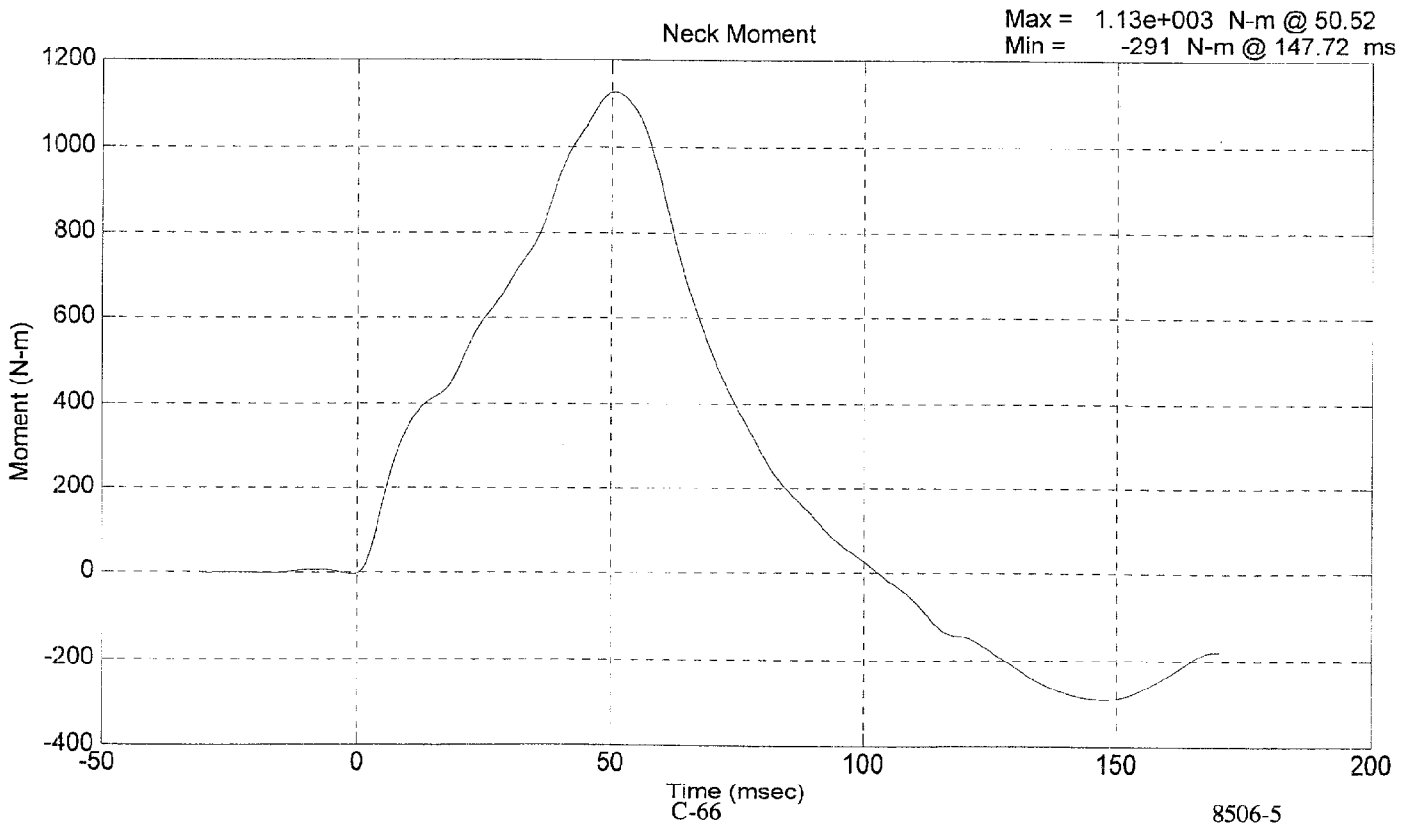
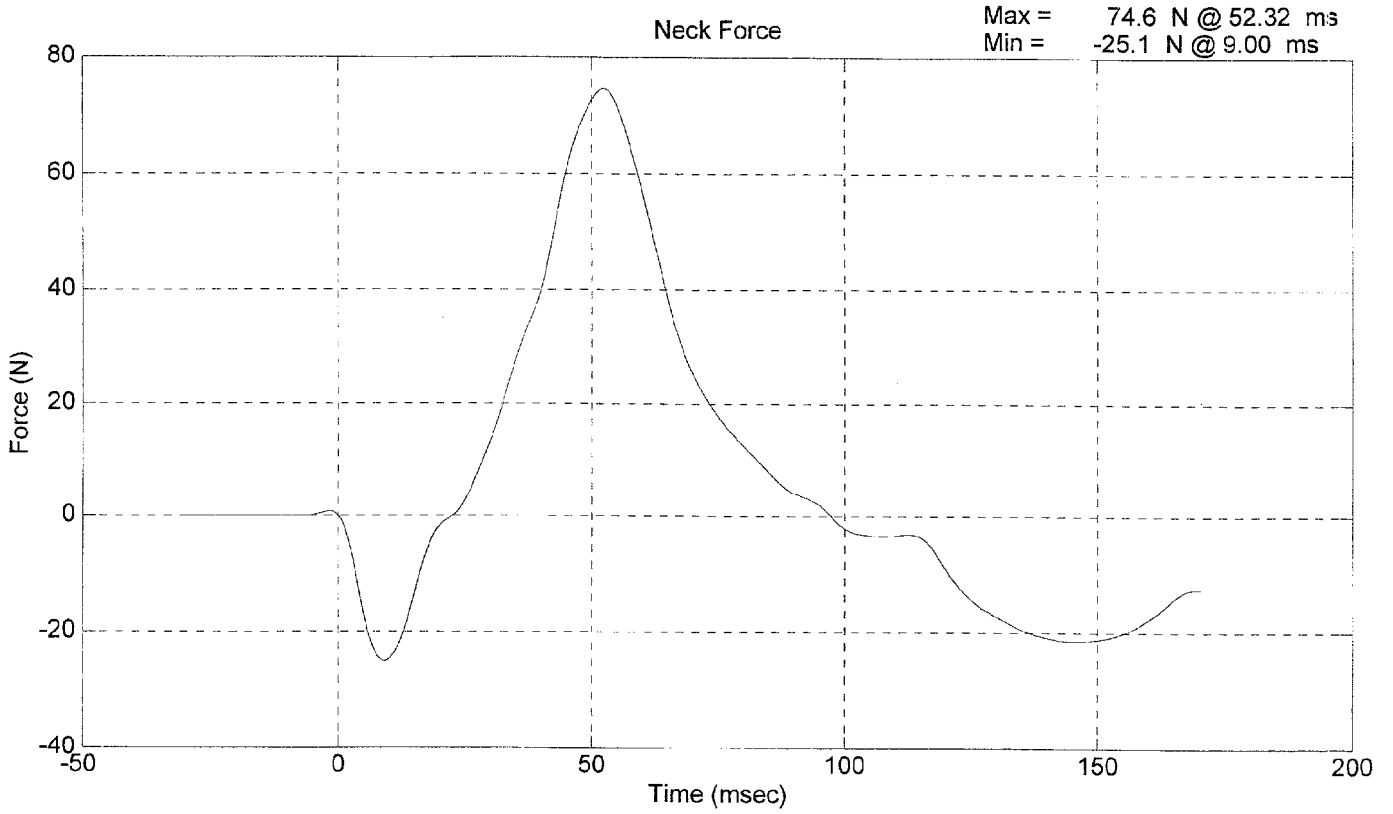
TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	20.6 - 22.2	21.1
RELATIVE HUMIDITY (%)	10 - 70	30
IMPACT VELOCITY (m/s)	6.89 - 7.13	7.01
PENDULUM DELTA V		
DELTA V @ 10 ms (m/s)	1.96 - 2.55	2.23
DELTA V @ 20 ms (m/s)	4.12 - 5.10	4.54
DELTA V @ 30 ms (m/s)	5.73 - 7.01	6.29
DELTA V from 40-70 ms (m/s)	6.27 - 7.64	7.13
D PLANE ROTATION		
MAXIMUM ROTATION (deg)	64 - 78	76.49
ROT. ANGLE TIME to ZERO (ms)	50 -70	56.88
TIME AT MAX. ROTATION (ms)	-	58.56
MOMENT ABOUT THE OCCIPITAL CONDYLE		
MAX OCCIPITAL MOMENT (Nm)	88 - 108	94.48
TIME AT MAX. MOMENT (ms)	-	52.20
HEAD ROTATION TIME WITH RESPECT TO THE OCCIPITAL CONDYLE MOMENT		
ROTATION wrt MOMENT (ms)	0 - 20	6.36

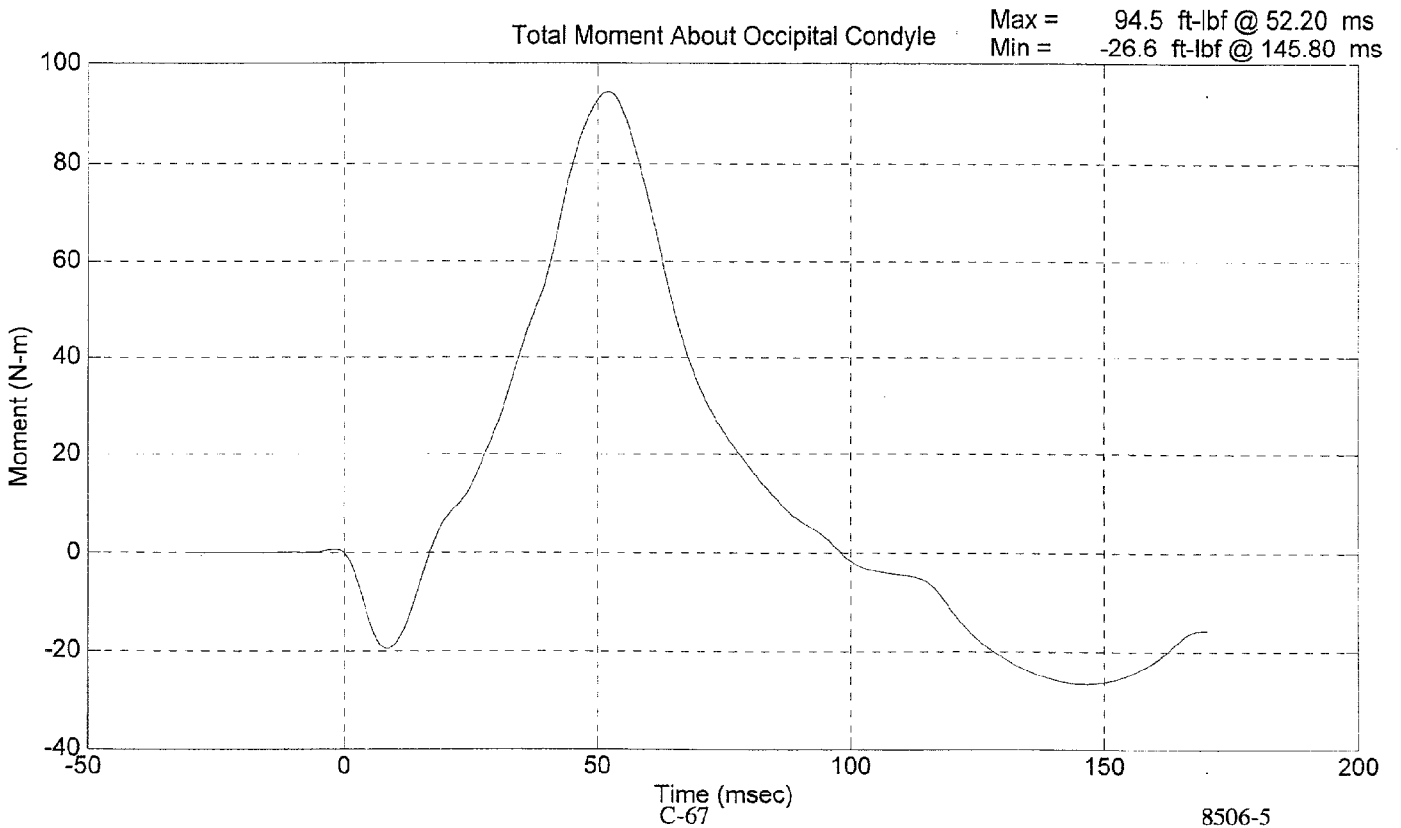
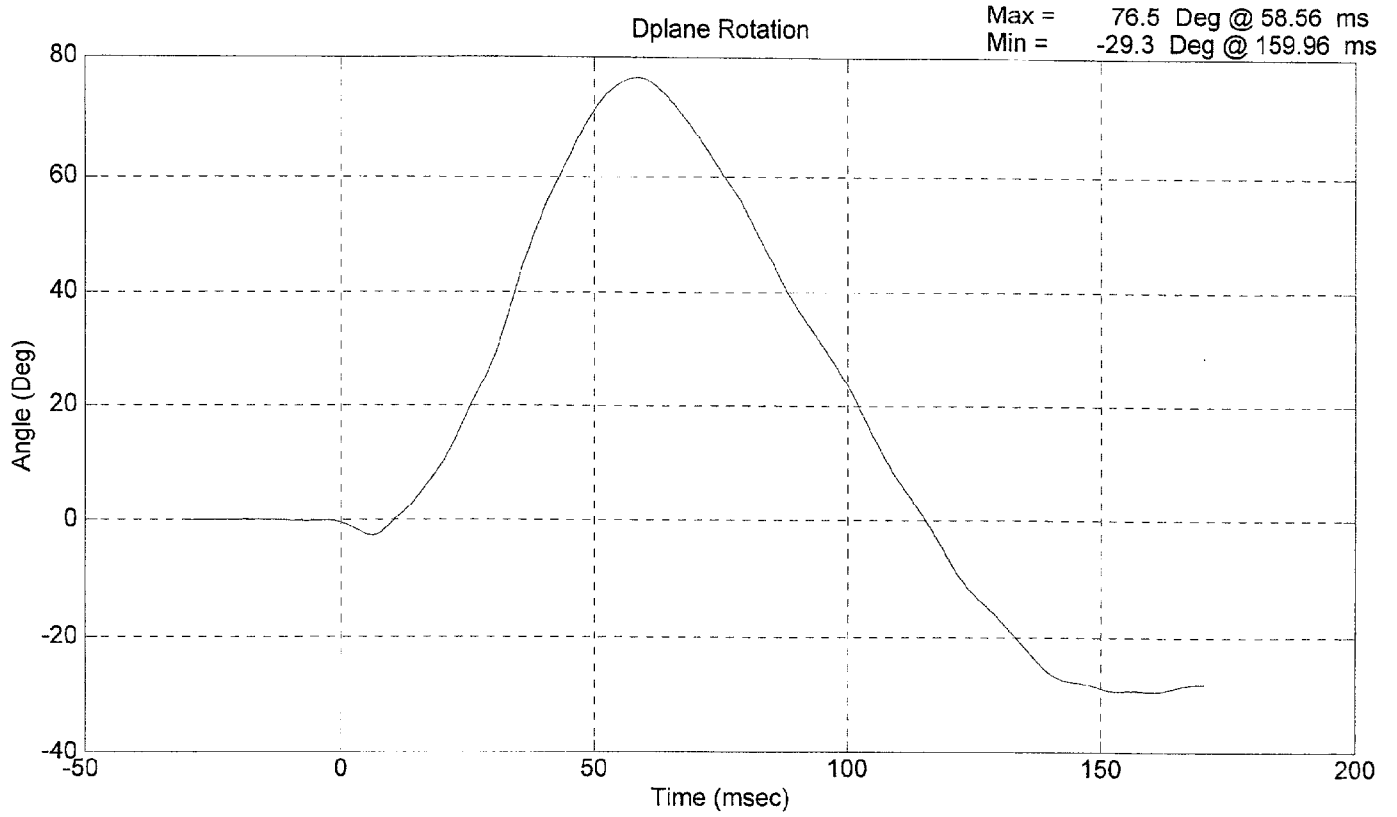
REMARKS: None





Hybrid III Neck Bend Calibration test4.raw





POST TEST DUMMY INSPECTION LIST
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 016 Veridian Sequential Test Number: 1
 Date: 04-30-99 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.: 027

CONFIGURED FOR LEFT SIDE IMPACT

**CALIBRATION TEST RESULTS SUMMARY
POST TEST**

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 04-30-99 Laboratory Technician: B. Swiecicki

TEST	COMMENTS
EXTERNAL DIMENSIONS	Passed all requirements.
LATERAL THORAX IMPACT TEST	Passed all requirements.
LATERAL PELVIS IMPACT 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 Veridian Sequential Test Number: 1
Date: 04-30-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
SH- Seated Height (mm)	889 - 909	909
RH- Rib Height (mm)	502 - 520	516
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	516
KV- Knee Pivot to Floor (mm)	490 - 505	493
HW- Hip Width (mm)	356 - 391	368

REMARKS: None

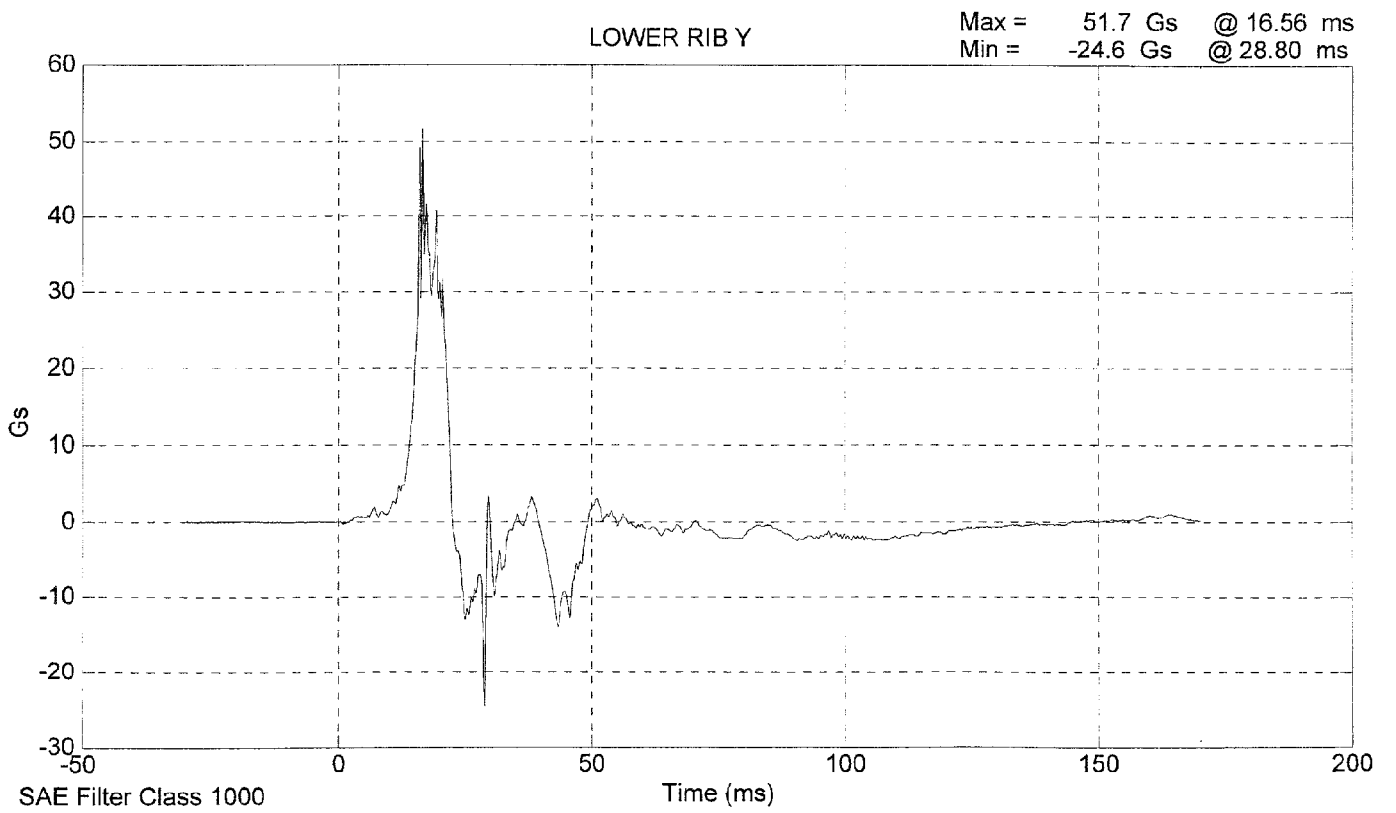
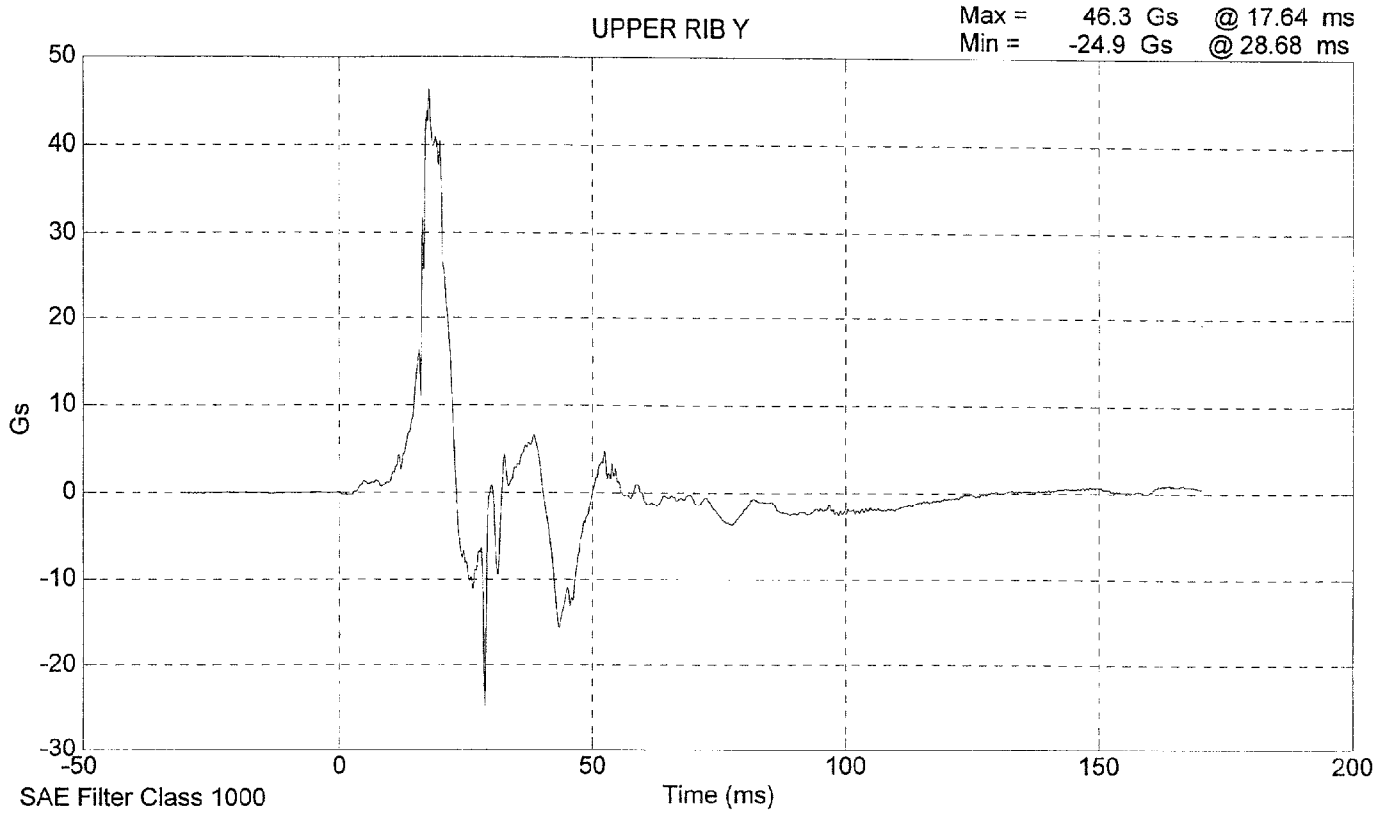
LATERAL THORAX IMPACT TEST
POST TEST

CONFIGURED FOR LEFT SIDE IMPACT

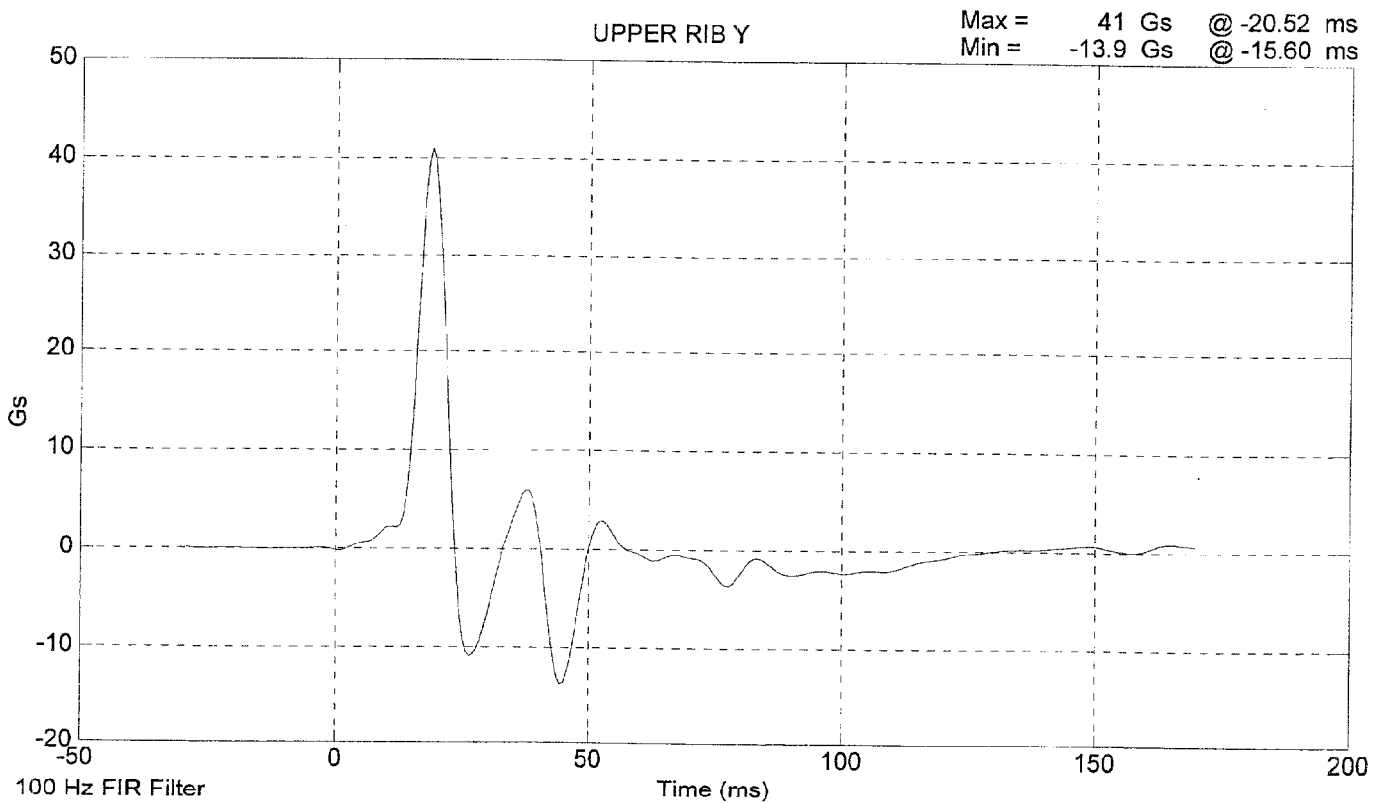
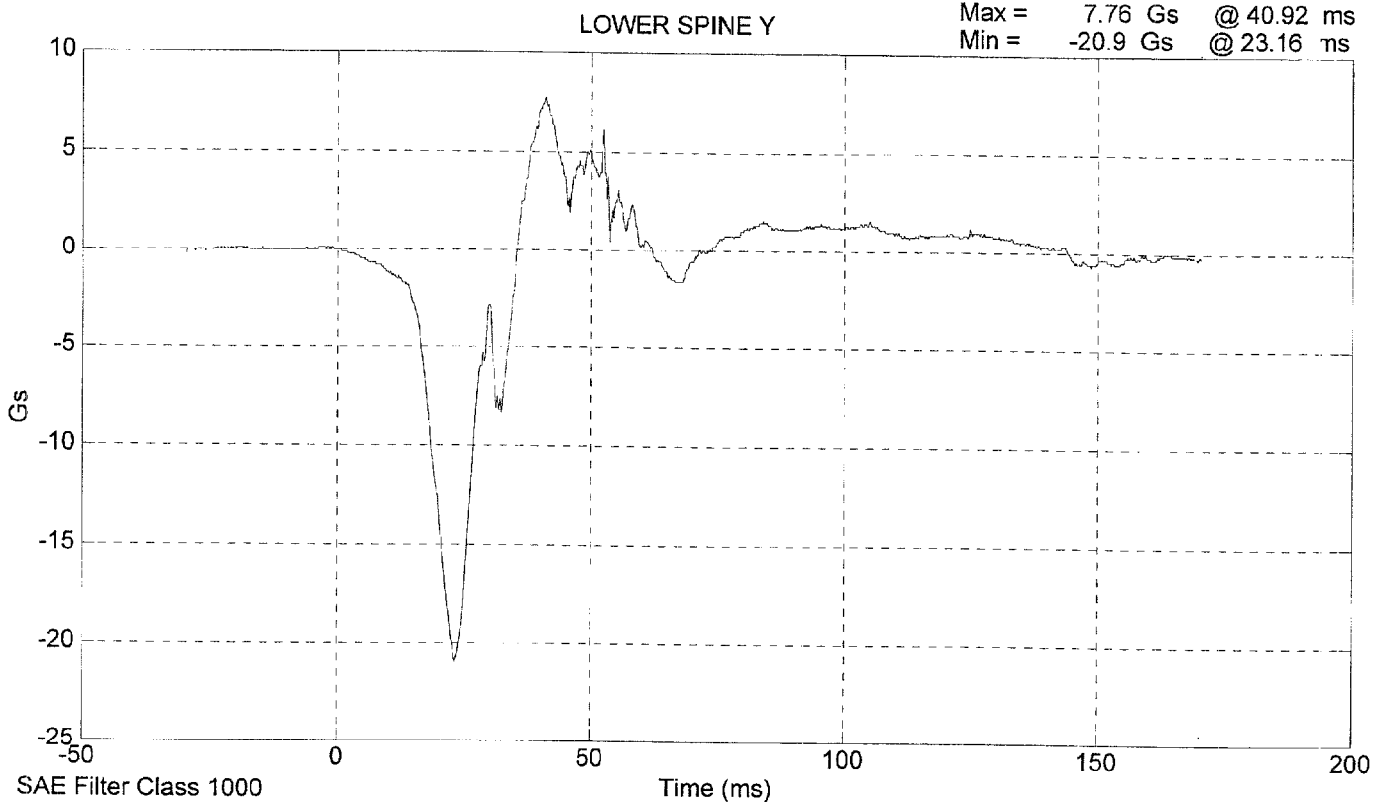
SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 04-29-99 Laboratory Technician: B. Swiecicki

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	40.9
LOWER RIB (g's)	37 - 46	39.1
LOWER SPINE (g's)	15 - 22	20.2

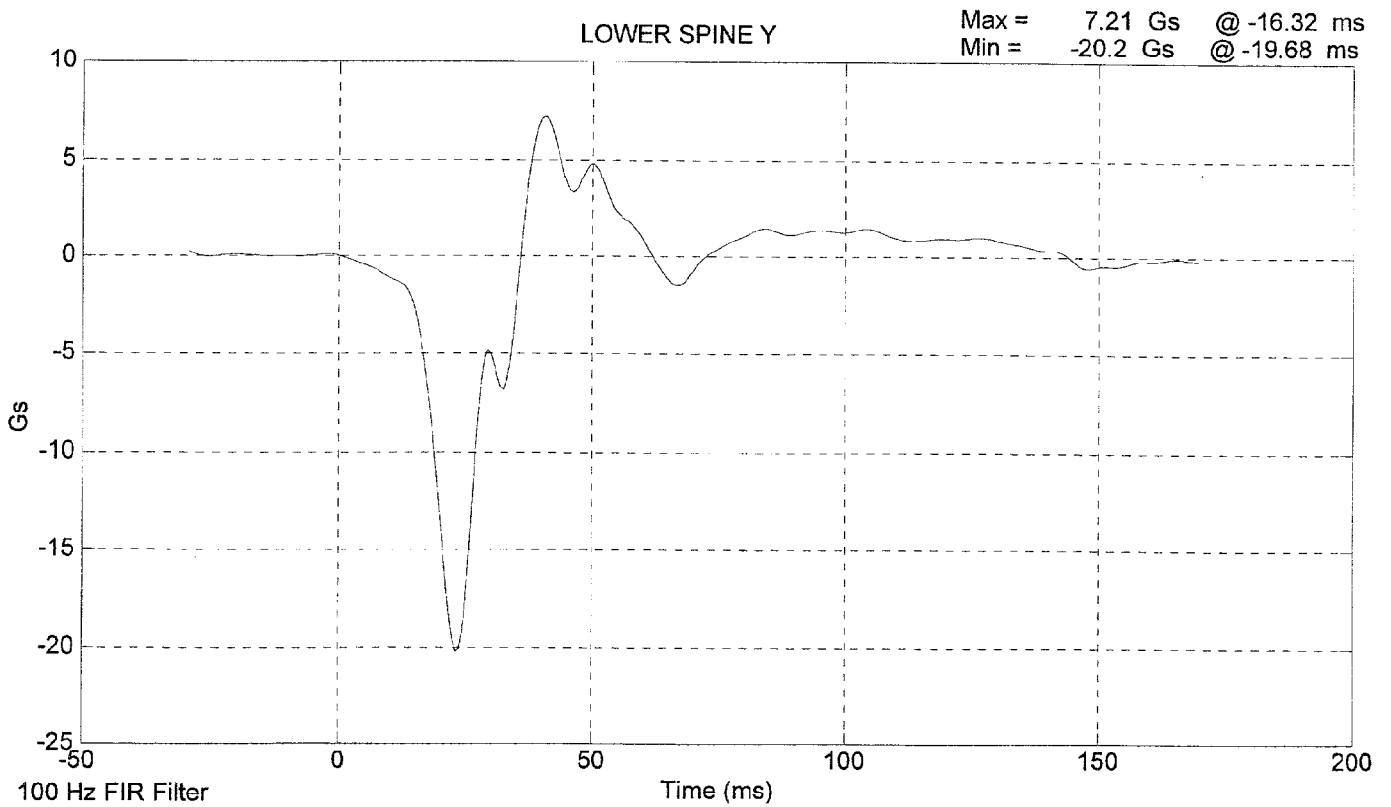
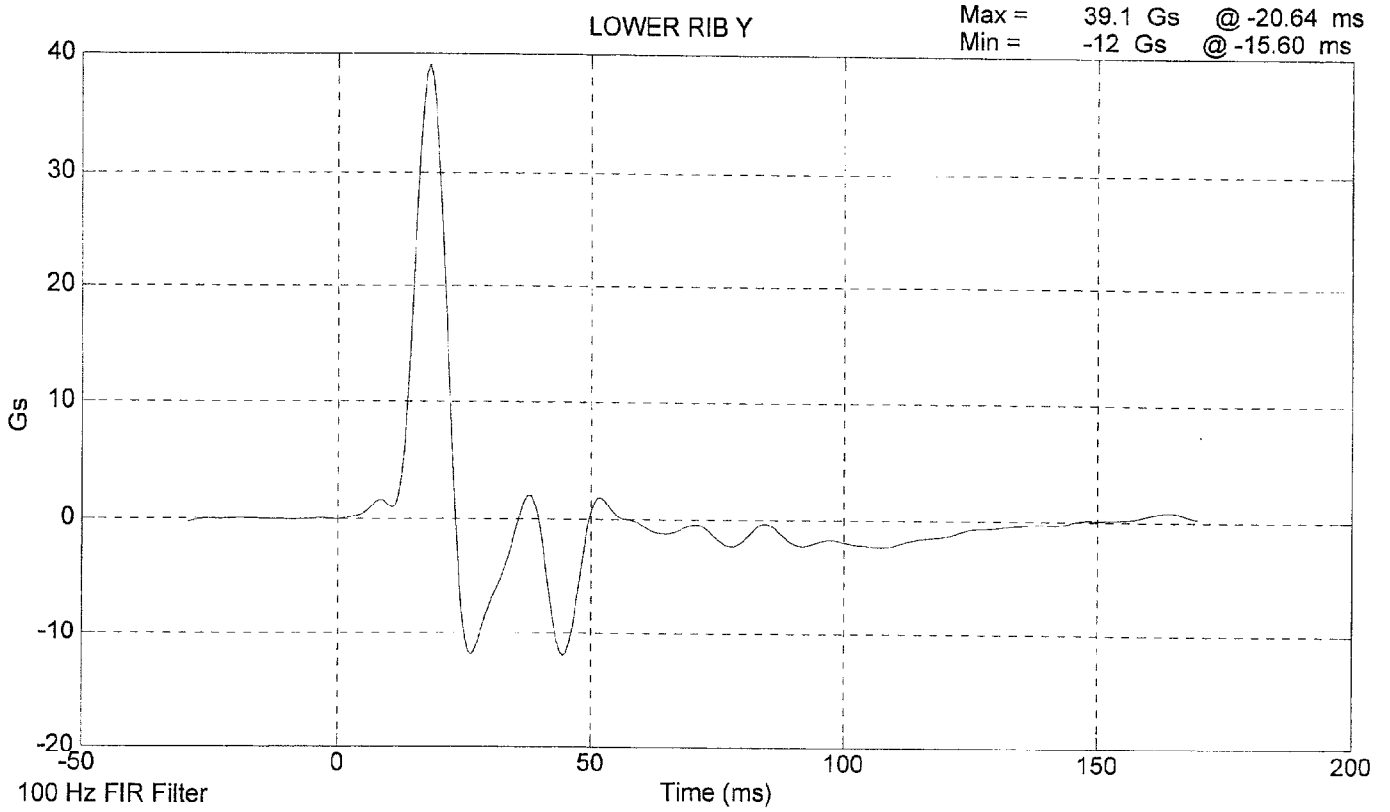
REMARKS: None



SID 027 THORAX IMPACT TEST @ 4.319 m/s



SID 027 THORAX IMPACT TEST @ 4.319 m/s



LATERAL PELVIS IMPACT TEST
POST TEST

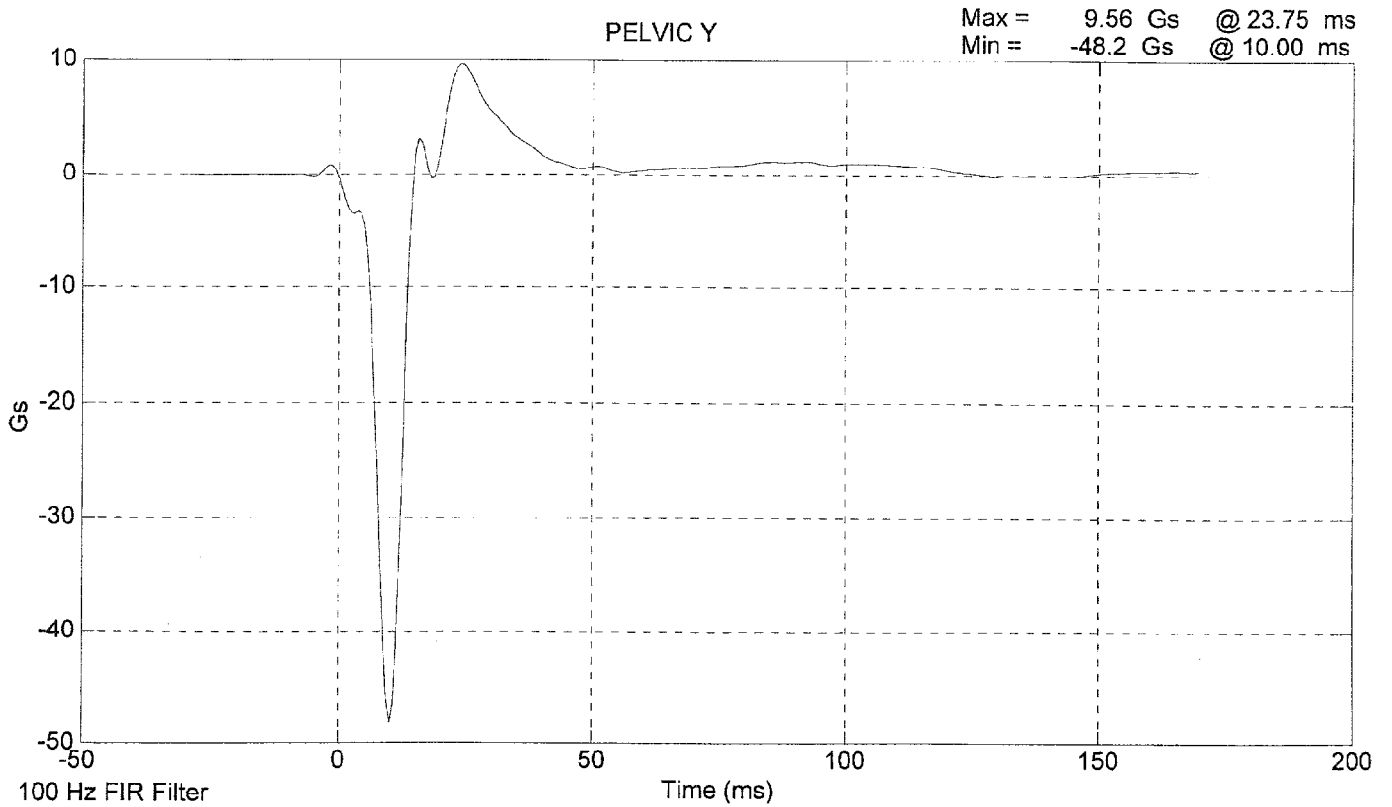
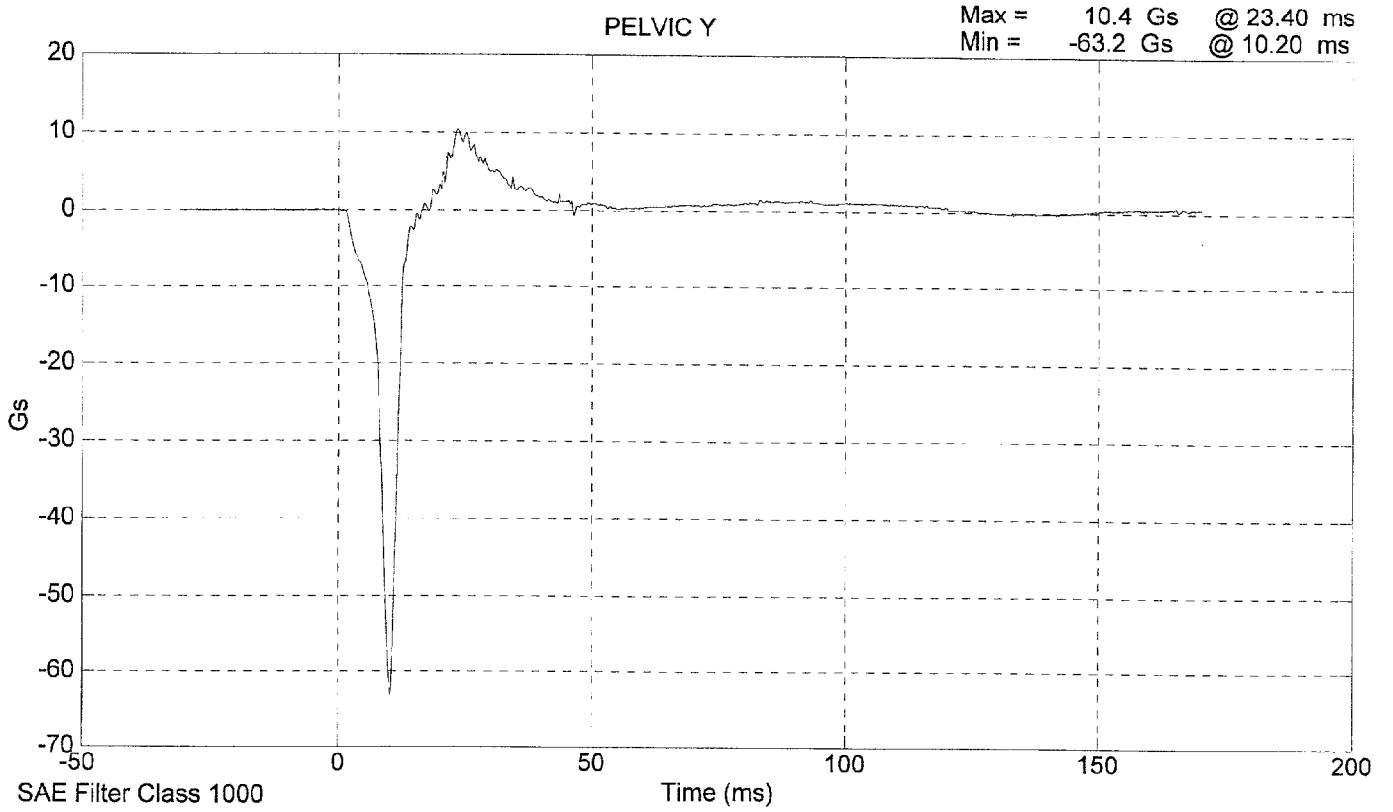
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 04-29-99 Laboratory Technician: B. Swiecicki

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	48.2

REMARKS: None

SID 027 PELVIC IMPACT TEST @ 4.3038 m/s



**ABDOMINAL COMPRESSION TEST
POST TEST**

(Test not required for SID certification)

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
Date: 04-30-99 Laboratory Technician: B. Swiecicki

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE (°C)	18.9 - 25.5	21.1
RELATIVE HUMIDITY (%)	10 - 70	31
FORCE @ 13 mm (N)	104 - 162	111
FORCE @ 19 mm (N)	163 - 221	178
FORCE @ 25 mm (N)	222 - 280	258
FORCE @ 33 mm (N)	325 - 391	389

REMARKS: None

Dummy S/N 027

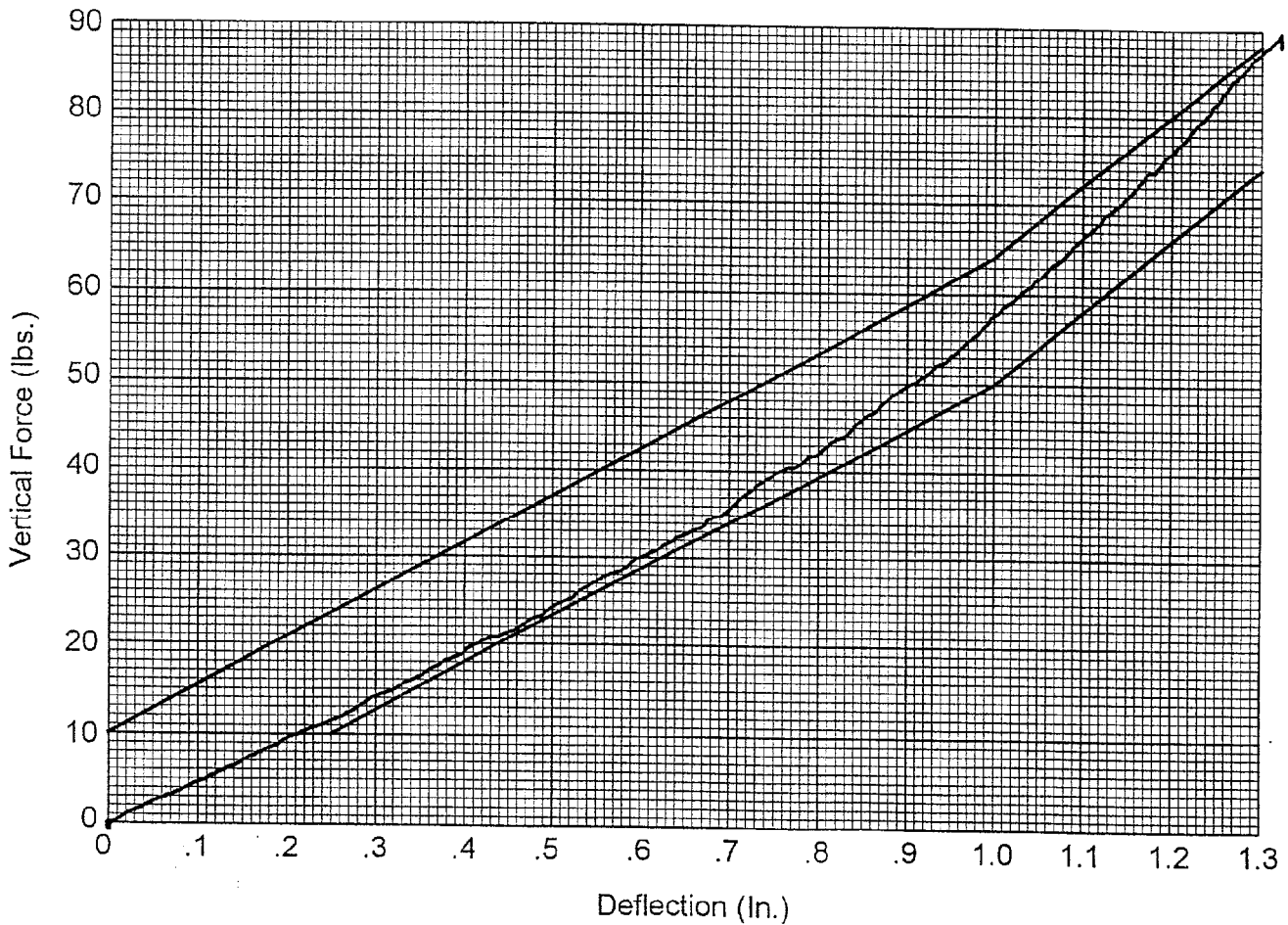
W/A _____

Date 4-30-99

Performed By [Signature]

Temp. 70

Humidity 31



Hybrid II
Abdomen Static Press

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

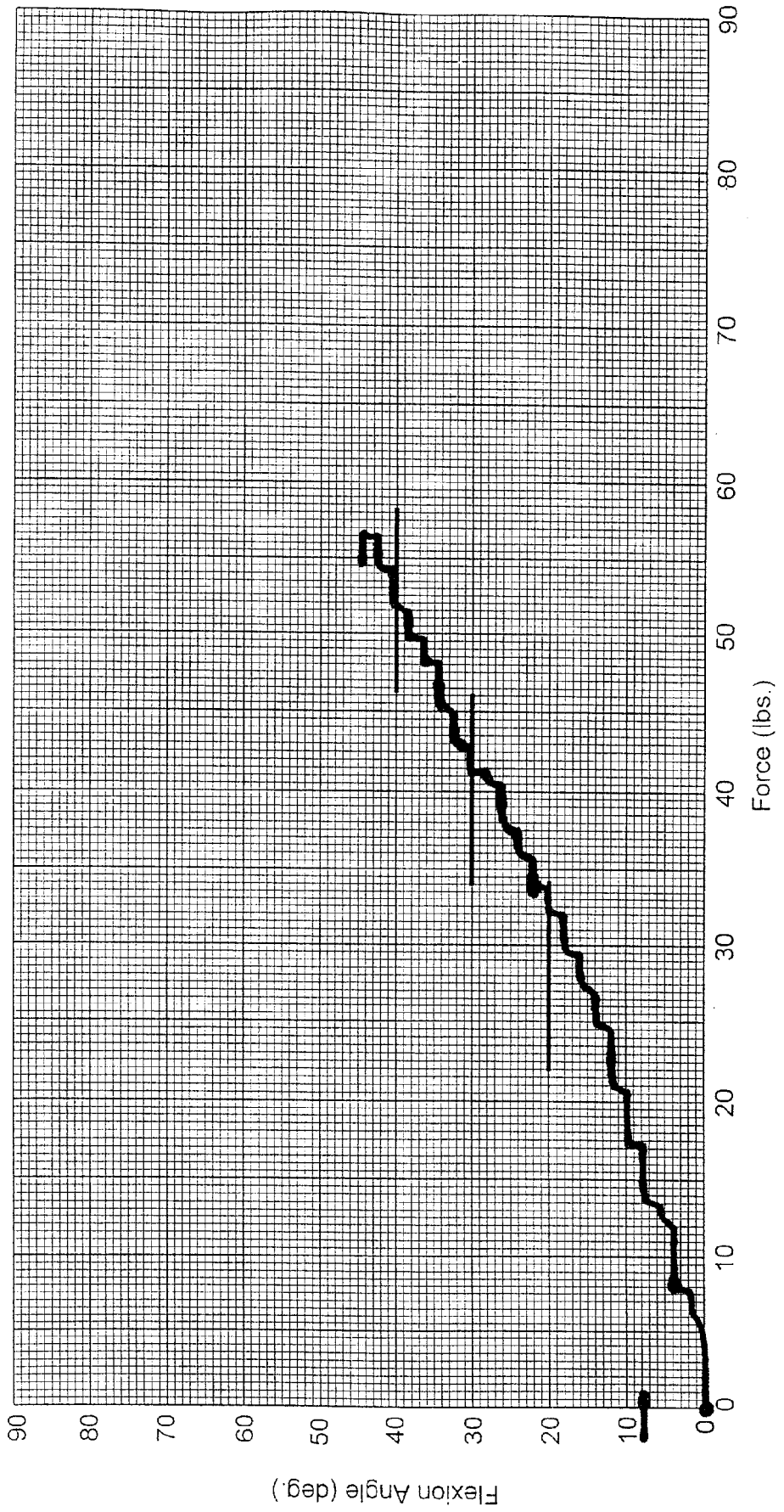
CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027 Veridian Sequential Test Number: 1
 Date: 04-30-99 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	20.0
FORCE @ 20° (N)	97.8 - 151.2	149.0
FORCE @ 30° (N)	151.2 - 204.6	189.0
FORCE @ 40° (N)	204.6 - 258	242.4
RETURN ANGLE	12° max.	8

REMARKS: None

Dummy S/N 027
 W/A _____
 Date 4-30-99
 Performed By [Signature]
 Temp. 70
 Humidity 31



Hybrid II Lumbar Spine Flexion Test

POST TEST DUMMY INSPECTION LIST

CONFIGURED FOR LEFT SIDE IMPACT

SID Serial No.: 027

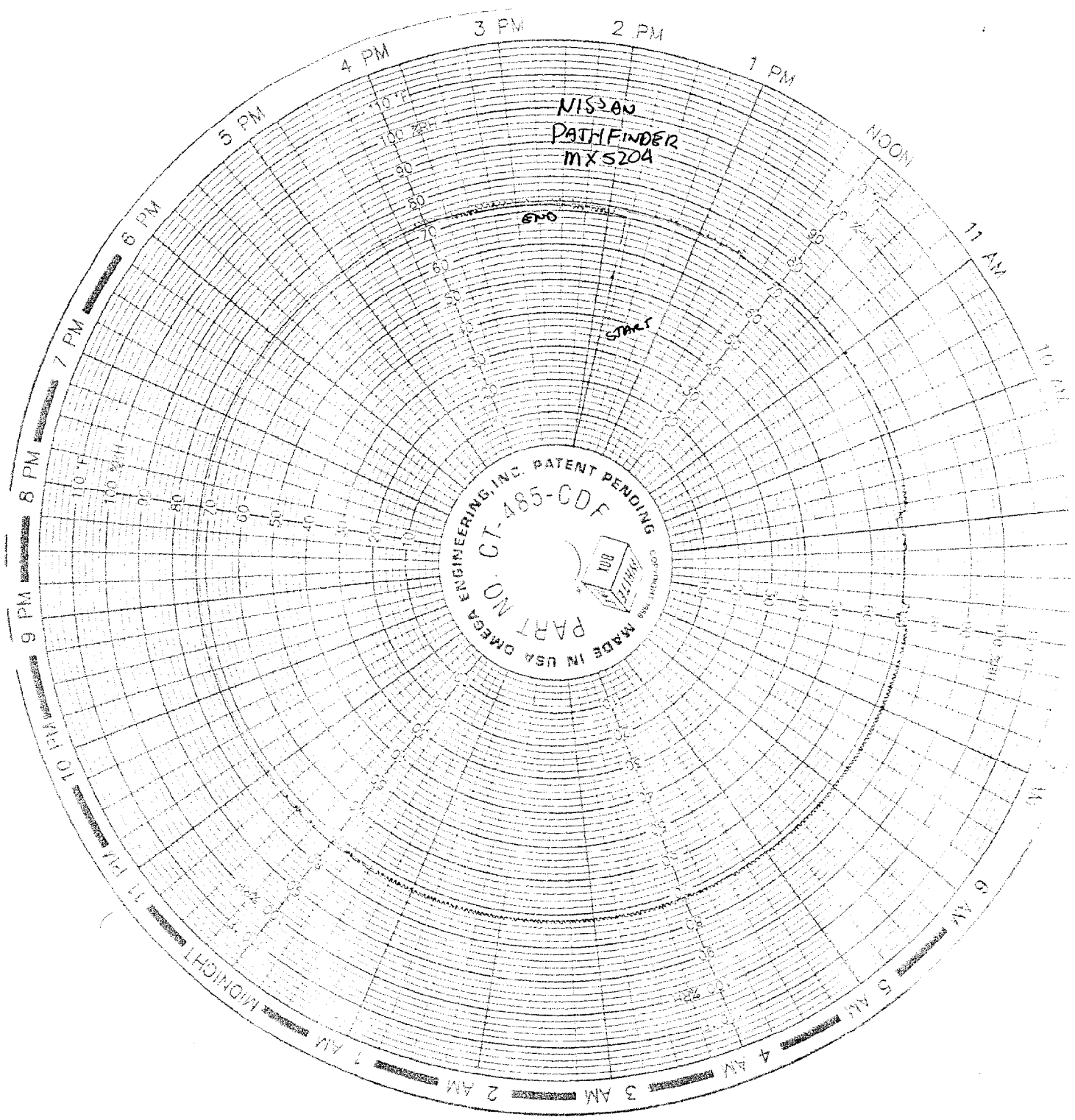
Veridian Sequential Test Number: 1

Date: 04-30-99

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



APPENDIX D

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

SID INSTRUMENTATION

FRONT SID NO. : 016			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
HEAD X	C15021	Endevco	3/99
HEAD Y	AL511	Endevco	3/99
HEAD Z	AH5N0	Endevco	3/99
UPPER NECK FORCE X	269	Denton	4/99
UPPER NECK FORCE Y	269	Denton	4/99
UPPER NECK FORCE Z	269	Denton	4/99
UPPER NECK MOMENT X	269	Denton	4/99
UPPER NECK MOMENT Y	269	Denton	4/99
UPPER NECK MOMENT Z	269	Denton	4/99
UPPER RIB	A14321	Endevco	12/98
LOWER RIB	A11544	Endevco	12/98
LOWER SPINE	A14372	Endevco	12/98
PELVIS	A13492	Endevco	12/98
UPPER RIB REDUNDANT	A13513	Endevco	12/98
LOWER RIB REDUNDANT	A13517	Endevco	12/98
LOWER SPINE REDUNDANT	A14158	Endevco	12/98
PELVIS REDUNDANT	A13498	Endevco	12/98

REAR SID NO. : 027			
	SERIAL NUMBER	MANUFACTURER	CALIBRATION DATE
UPPER RIB	A14342	Endevco	12/98
LOWER RIB	A14261	Endevco	12/98
LOWER SPINE	A13938	Endevco	12/98
PELVIS	B11118	Endevco	12/98
UPPER RIB REDUNDANT	A14246	Endevco	12/98
LOWER RIB REDUNDANT	A14358	Endevco	12/98
LOWER SPINE REDUNDANT	A13811	Endevco	12/98
PELVIS REDUNDANT	A13883	Endevco	12/98

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)	AP062=4	Endevco	10/98
RIGHT FRONT SILL (Y)	BB14	Endevco	1/99
RIGHT FRONT SILL (Z)	B10955	Endevco	3/99
RIGHT REAR SILL (X)	J18622	Endevco	4/99
RIGHT REAR SILL (Y)	J18649	Endevco	4/99
RIGHT REAR SILL (Z)	APBB6	Endevco	4/99
REAR FLOORPAN ABOVE AXLE (X)	A14150	Endevco	3/99
REAR FLOORPAN ABOVE AXLE (Y)	A14126	Endevco	3/99
REAR FLOORPAN ABOVE AXLE (Z)	B10954	Endevco	3/99
LEFT REAR SILL (Y)	J18408	Endevco	4/99
LEFT FRONT SILL (Y)	BA65	Endevco	2/99
RIGHT REAR SEAT OCCUPANT COMP. (Y)	Y89	ICS	2/99
LOWER LEFT B- PILLAR (Y)	J18570	Endevco	12/98
MIDDLE LEFT B-PILLAR (Y)	APBD7	Endevco	4/99
LOWER LEFT A-PILLAR (Y)	AC814	Endevco	1/99
UPPER LEFT A-PILLAR (Y)	BC48	Endevco	3/99
FRONT SEAT TRACK (Y)	J18577	Endevco	1/99
REAR SEAT TRACK (Y)	D19	ICS	1/99
VEHICLE CG (X)	AN967	Endevco	4/99
VEHICLE CG (Y)	ACC06	Endevco	4/99
VEHICLE CG (Z)	J18400	Endevco	4/99
MDB CG (X)	CL60	Endevco	3/99
MDB CG (Y)	CJ54	Endevco	3/99
MDB CG (Z)	GK12	Endevco	4/99
MDB REAR FRAME MEMBER (X)	CX05	Endevco	1/99
MDB REAR FRAME MEMBER (Y)	A27F	Endevco	2/99

REMARKS: None

PHOTOGRAPH NOT AVAILABLE

Figure A-33 CLOSE-UP VIEW OF VEHICLE'S TIRE PLACARD LABEL
A-35