

Report Number: 214-TRC-03-003

Safety Compliance Testing For FMVSS 214

Side Impact Protection

Indicant

**Nissan Motor Co., LTD
2003 Nissan 350Z 2-door Coupe**

NHTSA Number: C35201

Transportation Research Center Inc.

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East Liberty, OH 43319



March 6, 2003

Final Report

**U. S. Department Of Transportation
National Highway Traffic Safety Administration
Enforcement**

Office of Vehicle Safety Compliance

400 Seventh Street, S. W.

Room No. 6111 (NVS-220)

Washington, DC 20590

This Final Test Report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-02-D-11114. This publication is distributed by the U. S. Department of Transportation, National Highway Traffic Safety Administration, in the interest of information exchange. The opinions, findings, and conclusions expressed in this publication are those of the author(s) and not necessarily those of the Department of Transportation or the National Highway Traffic Safety Administration. The United States Government assumes no liability for its contents or use thereof. If trade or manufacturers' names or products are mentioned, it is only because they are considered essential to the object of the publication and should not be construed as an endorsement. The United States Government does not endorse products or manufacturers.

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FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: _____

Acceptance Date: _____

1. Report No. 214-TRC-03-003	2. Government Accession No.	3. Recipient's Catalog No.																															
4. Title and Subtitle Final Report of FMVSS 214 Indicant Compliance Side Impact Testing of a 2003 Nissan 350Z 2-door coupe NHTSA No.: C35201		5. Report Date March 6, 2003	6. Performing Organization Code TRC Inc.																														
		8. Performing Organization Report No. 030225																															
7. Author(s) Jeffery W. Sankey, Manager Project Operations Transportation Research Center Inc.		10. Work Unit No. (TRAIS)																															
9. Performing Organization Name and Address Transportation Research Center Inc. 10820 State Route 347 East Liberty, OH 43319		11. Contract or Grant No. DTNH22-02-D-11114																															
		13. Type of Report and Period Covered Final Report February - March 2003																															
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Office of Vehicle Safety Compliance (NVS-220) 400 Seventh Street, S.W., Room 6111 Washington, DC 20590		14. Sponsoring Agency Code NVS-220																															
15. Supplemental Notes																																	
16. Abstract <p>This 55/28 km/h 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject vehicle, a 2003 Nissan 350Z 2-door coupe in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-06 (except the test was conducted 8 km/h (5 mph) faster than the standard specifies) to determine FMVSS 214 Side Impact Protection compliance. This test was conducted by Transportation Research Center Inc. in East Liberty, Ohio, on February 25, 2003.</p> <p>The impact velocity of the Moving Deformable Barrier (MDB) was 62.2 km/h, and the ambient temperature at the struck (driver's side) side of the target vehicle at the time of impact was 21° C. The target vehicle's post-test maximum crush was 216 mm at Level 2.</p> <p>The test or target vehicle's performance is given below:</p> <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;">49.4</td> <td>g's</td> <td style="text-align: center;">-</td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td style="text-align: center;">52.5</td> <td>g's</td> <td style="text-align: center;">-</td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td style="text-align: center;">48.5</td> <td>g's</td> <td style="text-align: center;">-</td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td style="text-align: center;">50.5</td> <td>g's</td> <td style="text-align: center;">-</td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td style="text-align: center;">63.2</td> <td>g's</td> <td style="text-align: center;">-</td> <td>g's</td> </tr> </tbody> </table> <p>The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during side impact event.</p>					<u>Front SID</u>		<u>Rear SID</u>		Left Upper Rib Acceleration:	49.4	g's	-	g's	Left Lower Rib Acceleration:	52.5	g's	-	g's	Lower Spine Acceleration:	48.5	g's	-	g's	Thoracic Trauma Index, (TTI):	50.5	g's	-	g's	Pelvis Acceleration (PEV):	63.2	g's	-	g's
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17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID HIII)		18. Distribution Statement <u>Copies of this report are available from:</u> NHTSA Technical Information Services (TIS) Room 5108 (NPO-230), 400 Seventh Street, S.W. Washington, DC 20590 Telephone No. (202) 366-4946 Attn: Robert Hornicle																															
19. Security Classification (of this report) Unclassified	20. Security Classification (of this page) Unclassified	21. Number of Pages 308	22. Price																														

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Section 1

Purpose and Test Procedure

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-11114. The purpose of this test was to evaluate side impact protection in a 2003 Nissan 350Z 2-door. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 2001), with the exception of the test speed, which was at the NCAP High-Speed Lateral Impact level (61.2 km/h).

Section 2

Summary of Side Impact Test

A 2003 Nissan 350Z 2-door coupe was impacted on the 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 62.2 km/h (38.6 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 Transportation Research Center Inc. in East Liberty, Ohio on February 25, 2003. Pre-test and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SIDs) are included in Appendix A.

One restrained Side Impact Dummy (SID) was placed in the driver (Pos. #1) designated seating position according to the instructions specified in the OVSC Side Impact Laboratory Test Procedure (TP-214D-06, dated July 2001). The SID was certified prior to this test. The side impact test was documented by one real-time camera and 8 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID was instrumented with the following instrumentation:

1. Head (HED) triaxial and redundant accelerometers (X, Y, and Z-directions)
2. Neck (NEK) triaxial force and moment load cells (X, Y, and Z-directions)
3. Left Upper Rib (LUR) uniaxial and redundant accelerometer (Y-direction)
4. Left Lower Rib (LLR) uniaxial and redundant accelerometer (Y-direction)
5. Lower Thoracic Spine (T₁₂) uniaxial and redundant accelerometer (Y-direction)
6. Pelvic (PEV) section uniaxial and redundant accelerometer (Y-direction)

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

The following tables summarize the results of the test:

Injury Criteria	Front SID	Rear SID
TTI (g)	50.5	----
PEV (g)	63.2	----

Head Injury Criteria (HIC)

Injury Criteria	Front SID	Rear SID
HIC	511	----
t ₁ (ms)	47.2	
t ₂ (ms)	77.8	
Average Acceleration t ₁ - t ₂ (g)	48.8	----

HIC is as defined in FMVSS 208. The maximum time interval t₁ to t₂ is 36 ms.

Neck Injury Criteria

Maximum Values	Front SID	Rear SID
Neck X-axis Force (N)	-628	----
Neck Y-axis Force (N)	711	----
Neck Z-axis Force (N)	1924	----
Moment About X-axis (Nm) ¹	68.0	----
Moment About Y-axis (Nm)	-29.4	----
Moment About Z-axis (Nm)	-21.0	----

¹ Calculated about the occipital condyle with the following formula: $M_{occ} = M_x + 0.01778F_y$.

Data Acquisition Explanations

The driver's lower spine Y-axis acceleration data channel, T12YG1, recorded questionable data between approximately 85 and 90 milliseconds. This affected the lower spine Y-axis velocity calculation and the peak acceleration, thus affecting the driver's Thoracic Trauma Index (TTI) calculation. The redundant lower spine Y-axis acceleration data channel was used to calculate the TTI data presented in this report.

The left side sill at front Y-axis acceleration data channel, LFSYG1, recorded questionable data after 24 milliseconds and did not return to zero after the impact event. This affected the left side sill at front velocity and displacement calculations.

The left side sill at rear Y-axis acceleration data channel, LRSYG1, lost data after 16 milliseconds. This affected the left side sill at rear velocity and displacement calculations.

The mid-rear of left front door Y-axis acceleration data channel, LFMYG1, lost data between 41 and 63 milliseconds. This affected the mid-rear of left front door velocity and displacement calculations.

The left lower A-post Y-axis acceleration data channel, LLAYG1, recorded questionable data after 5 milliseconds. This affected the left lower A-post velocity calculation.

The left middle A-post Y-axis acceleration data channel, LMAYG1, lost data after 15 milliseconds. This affected the left middle A-post velocity calculation.

Section 3

Summary of Test Results

Data Sheet 1

General Test Vehicle Parameter Data

Test Vehicle Information:

Vehicle Year/Make/Model: 2003/Nissan/350Z
Vehicle Body Style/Color: 2-door coupe/Black VIN: JN1AZ34D63T107987
Vehicle NHTSA No.: C35201 Build Date: 11/02
Engine Data: 6 Cylinders; CID; 3.5 Liters; cc
Placement: Longitudinal; or Lateral; or Horizontal
Transmission: 6 Speed; X Manual; Automatic; Overdrive
Final Drive: X RWD; FWD; Four-Wheel Drive
Odometer Reading: 236 km
Options: X A/C; X Power steering; X Power brakes; X Power windows

Data From Vehicle's Tire Placard:

Tire Pressure (at capacity)* 240 kPa Front; 240 kPa Rear
Recommended Tire Size: 225/50R17
Tires on Test Vehicle: 235/50R17 Manufacturer: Bridgestone, Potenza

Vehicle Capacity Data:

Number of Occupants: 2 Front; Rear; 3rd seat; 2 Total
Type of Front Seats: X Bucket; Bench; Split bench
Type of Front Seat Back: Fixed; X Adjustable with X Lever or Knob
Vehicle Max. Capacity Loading = 204 kg (A)
No. of Occupants x 68.04 kg. = 136 kg (B)
Vehicle Cargo Capacity (A-B) = 68 kg

Test Vehicle Delivered Weight With Maximum Fluids:

Left Front	=	<u>407.5</u> kg	Left Rear	=	<u>327.0</u> kg
Right Front	=	<u>386.0</u> kg	Right Rear	=	<u>354.5</u> kg
Total Front	=	<u>793.5</u> kg	Total Rear	=	<u>681.5</u> kg
Front % of Total Weight	=	<u>53.8</u> %	Rear % of Total Weight	=	<u>46.2</u> %
Total Weight	=	<u>1475.0</u> kg			

* Tire pressure used in test.

Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Calculation Of Vehicle's Target Test Weight:

Total Test Vehicle Delivered Weight With Max. Fluids = 1475 kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle = 68 kg (B)
Weight of Instrumented Side Impact Dummy (1 X 83 kg) = 83 kg (C)
Test Vehicle Target Weight: = 1626 kg (A+B+C)

Fully Loaded Test Vehicle (UDW + 1 SID + Cargo):

Left Front = 436.5 kg Left Rear = 400.0 kg
Right Front = 390.5 kg Right Rear = 409.0 kg
Total Front = 827.0 kg Total Rear = 809.0 kg
Front % of Total Weight = 50.6 % Rear % of Total Weight = 49.4 %
Total Weight = 1636.0 kg

As Tested Weight of Test Vehicle (1 SID + Cargo + Equipment & Instrumentation):

Left Front = 445.4 kg Left Rear = 371.5 kg
Right Front = 433.0 kg Right Rear = 370.6 kg
Total Front = 878.4 kg Total Rear = 742.1 kg
Front % of Total Weight = 54.2 % Rear % of Total Weight = 45.8 %
Total Weight = 1620.5 kg

Test Vehicle Attitude (all dimensions in millimeters):

As Delivered	Fully Loaded	Ready For Test
Right Front <u>680</u>	Right Front <u>678</u>	Right Front <u>680</u>
Left Front <u>690</u>	Left Front <u>682</u>	Left Front <u>682</u>
Right Rear <u>702</u>	Right Rear <u>685</u>	Right Rear <u>692</u>
Left Rear <u>708</u>	Left Rear <u>685</u>	Left Rear <u>690</u>

Test Vehicle Wheelbase: 2655 mm

C.G. = 1216 mm rearward of front wheel centerline

Total Vehicle Length:

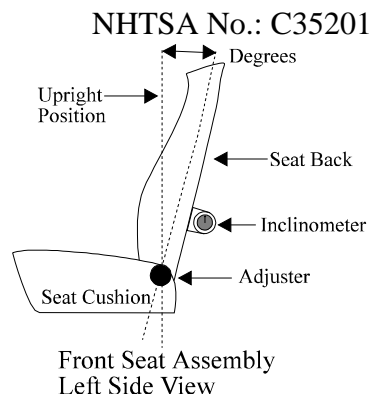
Right Side = 4145 mm
Left Side = 4150 mm
Centerline = 4286 mm

Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Vehicle: 2003 Nissan 350Z 2-door coupe

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: Mid, the tenth notch rearward of the front "zero" position.

Total Length of Fore/Aft Adjustment Travel: 230 mm

Total Number of Adjustment Positions or Detents: 20

Front Seat Back Adjustment Position: The back was adjusted to the 6th notch from full up.

Seat Back Torso Angle: 21.5 degrees

Second Position Seat Placement: Not applicable

Total Length Of Fore/Aft Adjustment Travel: - mm

Seat Back Adjustment Position: -

Adjustable Steering Column Position: Mid between the highest and lowest angles.

Window Positions:

Right Front: Open

Right Rear: Closed

Left Front: Closed

Left Rear: Closed

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:

75.7 liters (fuel tank usable capacity)

70.4 liters used in test (92% - 94% of fuel tank usable capacity)

Location of Impact Point On Test Vehicle Side To Be Impacted:

Wheelbase = 2655 millimeters

Intended impact point is 387.5 millimeters rearward of front axle centerline
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 398 millimeters rearward of front axle centerline

Data Sheet 2

Test Vehicle Summary of Results

Vehicle Year/Make/Model: 2003/Nissan/350Z

Body Style: 2-door coupe

VIN: JN1AZ34D63T107987

NHTSA No.: C35201

Build Date: 11/02

Test Date: 02/25/03

Vehicle Overall Length = 4286 mm

Overall Width = 1790 mm

Vehicle Test Weight (Pre-Test):

Left Front = 445.4 kg Left Rear = 371.5 kg

Right Front = 433.0 kg Right Rear = 370.6 kg

Total Front = 878.4 kg Total Rear = 742.1 kg

Total Weight = 1620.5 kg

Wheelbase = 2655 mm

Longitudinal C.G. From Center Of Front Axle = 1216 mm

Impact Angle With Respect To Impactor = 90 degrees

Impact Point:

Actual Impact Point is 11 mm right of nominal impact ref. line (Lateral)

Actual Impact Point is 13 mm up from nominal impact point (Vertical)

Maximum Exterior Static Crush:

1. Level 1 (181 mm above ground) = 51 mm

2. Level 2 (442 mm above ground) = 216 mm

3. Level 3 (584 mm above ground) = 174 mm

4. Level 4 (874 mm above ground) = 128 mm

5. Level 5 (1229 mm above ground) = 33 mm

Maximum Post-Test Intrusion = 216 mm

Occupants:

Front Passenger

Rear Passenger

Dummy Identification 028 -

Restraints Used Seat belt -

Instrumentation:

Number of Vehicle Data Channels: = 18

Number of Cameras: Onboard = 2 Offboard = 7 Total = 9

Data Sheet 3

Moving Deformable Barrier(MDB) Summary

MDB Face Manufacturer And Serial Number:

Plascore, 050A0602-3-035A0602

Position Of Impactor (MDB) On Monorail:

Crabbed 27°

MDB Specifications:

Overall Width of Framework Carriage = 1251 mm
Overall Length of MDB (Incl. honeycomb impact face) = 4014 mm
Wheelbase of Framework Carriage = 2591 mm
Track of Framework Carriage (Front & Rear) = 1881 mm
C.G. Location Rearward of Front Axle = 1114 mm

MDB Weight:

Left Front	=	<u>376.8</u>	kg	Left Rear	=	<u>304.2</u>	kg
Right Front	=	<u>399.2</u>	kg	Right Rear	=	<u>280.8</u>	kg
Total Front	=	<u>776.0</u>	kg	Total Rear	=	<u>585.0</u>	kg
Total MDB Weight	=	<u>1361.0</u>	kg				
Impact Angle (MDB C/L to Target Vehicle C/L)	=	<u>90</u>	degrees				
Impact Speed	=	<u>62.2</u>	km/h				

Maximum Static Crush of Honeycomb Impact Face:

1. Row A at Center of Bumper Level = 233 millimeters
2. Row B at Top of Bumper Level = 180 millimeters
3. Row C at Mid Level = 176 millimeters
4. Row D at Top of Stack Level = 153 millimeters

Instrumentation:

Number of MDB Data Channels = 5

Data Sheet 4

Post-Test Observations

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Visible Dummy Contact Points:

	<u>Left Front SID</u>	<u>Left Rear SID</u>
Head:	<u>Door panel, head restraint</u>	<u>-</u>
Upper Torso:	<u>Door panel</u>	<u>-</u>
Lower Torso:	<u>None</u>	<u>-</u>
Left Knee:	<u>Door panel</u>	<u>-</u>
Right Knee:	<u>None</u>	<u>-</u>

Door Opening:

	<u>Left Side</u>	<u>Right Side</u>
Front:	<u>Latched, jammed shut</u>	<u>Remained closed & operational</u>
Rear:	<u>-</u>	<u>-</u>

MDB Distance From Target Impact Point:

Vertical: 13 mm up from target
Horizontal: 11 mm right from target

Arm Rest Locations:

Front: 311 mm below the bottom of the window
Rear: mm below the bottom of the window

Seat Movement:

Front: No
Rear: -

Glazing Damage:

Windshield: Entire windshield shattered
Window: Shattered

Pillar Separation: No

Sill Separation: No

Other Notable Impact Effects:

-

Section 4

Occupant and Vehicle Information

Data Sheet 5

SID Instrumentation Data

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

TEST NUMBER: 030225

DRIVER DUMMY SERIAL NUMBER: 028

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	5.0 g	@ 220.7 ms	50.5 g	@ 72.2 ms
LATERAL	90.7 g	@ 72.0 ms	8.5 g	@ 221.0 ms
VERTICAL	47.0 g	@ 54.5 ms	7.2 g	@ 72.1 ms
RESULTANT	103.6 g	@ 72.4 ms		
HIC	511 from 47.2 to 77.8 ms			

LEFT UPPER RIB ACCELERATION

LATERAL (P)	49.4 g	@ 38.1 ms	17.0 g	@ 74.4 ms
LATERAL (R)	49.4 g	@ 38.1 ms	17.4 g	@ 74.4 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	52.5 g	@ 36.3 ms	11.7 g	@ 74.4 ms
LATERAL (R)	53.3 g	@ 36.3 ms	12.0 g	@ 74.4 ms
TTI d (P) ¹	50.5			
TTI d (R)	50.9			

LOWER SPINE ACCELERATION

LATERAL (P) ¹	66.8 g	@ 87.5 ms	16.8 g	@ 67.5 ms
LATERAL (R)	48.5 g	@ 32.5 ms	16.7 g	@ 67.5 ms

PELVIS ACCELERATION

LATERAL (P)	63.2 g	@ 26.3 ms	4.9 g	@ 109.4 ms
LATERAL (R)	63.3 g	@ 26.3 ms	4.9 g	@ 109.4 ms

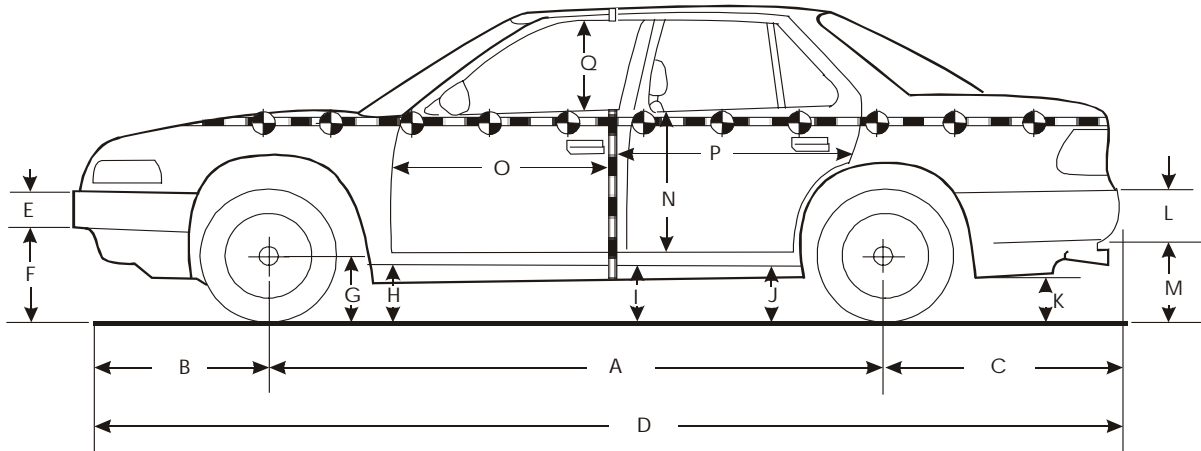
¹ See Data Acquisition Explanations on Page 2-3.

Data Sheet 6

Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



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)	Change
A	2655	2655	2655	0
B	792	792	791	1
C	845	845	845	0
D	4286	4286	4286	0
E	380	380	380	0
F	185	171	202	-31
G	320	315	317	-2
H	134	122	176	-54
I	185	159	201	-42
J1	165	146	135	11
J2	177	140	189	-49
K	210	210	189	21
L	490	490	490	0
M	365	356	334	22
N	-	-	-	-
O	535	535	535	0
P	-	-	-	-
Q	335	335	365	-30
R	4145	4145	4145	0
S	4150	4150	4150	0
T	1307	1307	1265	42

D = Length at centerline
T = Width at B-pillar

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

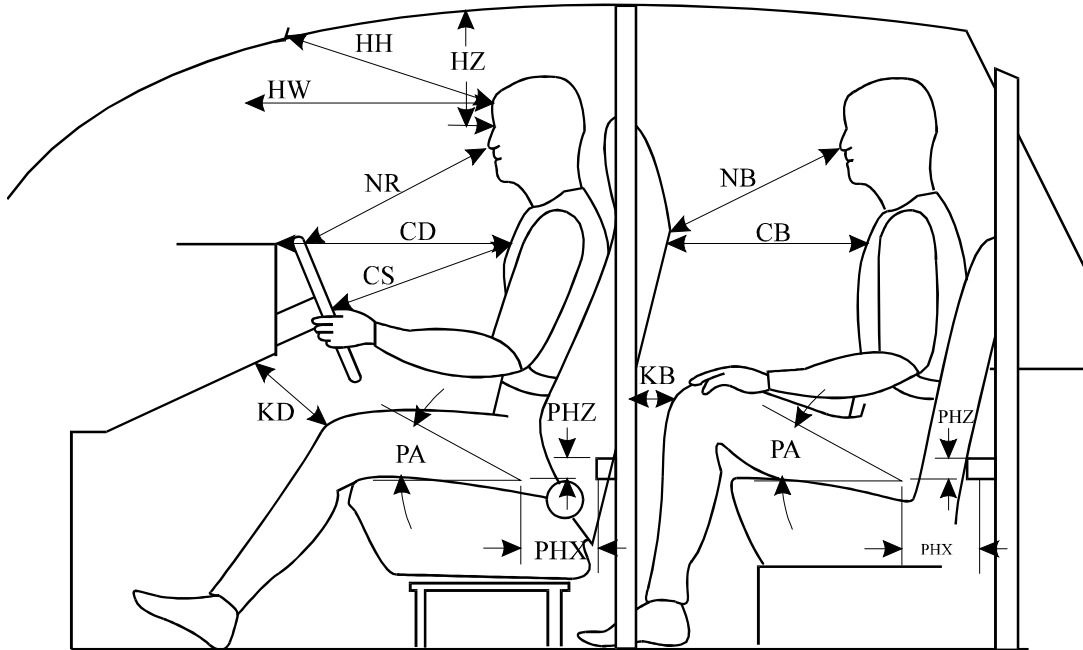
S = Left Side Length

Data Sheet 7

SID Longitudinal Clearance Dimensions

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



Left Side View

Note: All measurements are in millimeters with tolerance of ± 3 mm

Measurement	Driver SID # 028	Left Rear Pass. SID # -
HH	355	-
HW	510	-
HZ	140	-
NR/NB	399	-
CD/CB	495	-
CS	275	-
KDL(KDA°)/KBL(KBA°)	102/(33°)	-
KDR(KDA°)/KBR(KBA°)	103/(41°)	-
PA°	24.9°	-
PHX	441	-
PHZ	215	-

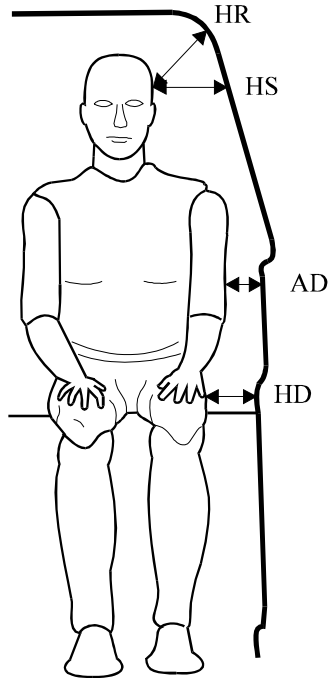
Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

Data Sheet 8

SID Lateral Clearance Dimensions

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



Note: All measurements are in millimeters with tolerance of ± 3 mm

Measurement	Driver SID # 028	Left Rear Pass. SID # -
HR	185	-
HS	285	-
AD*	Lower: 74 Upper: 62	Lower: - Upper: -
HD	139	-

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

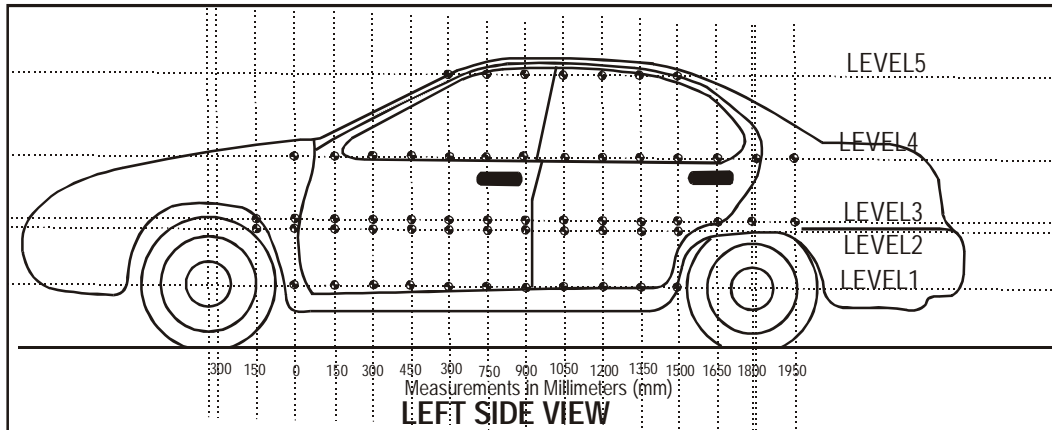
Upper measurement is taken laterally at center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

Data Sheet 9

Vehicle Side Measurements

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



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>1229</u>	mm
Level 4 @ Window Sill	=	<u>874</u>	mm
Level 3 @ Mid Door	=	<u>584</u>	mm
Level 2 @ Occupant H-Point	=	<u>442</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>181</u>	mm

Data Sheet 10

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Location	Height		(mm) From Impact Point													
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750
Level 1 Side Sill	181	Pre	---	---	---	---	---	---	---	---	---	649	649	634	642	643
		Post	---	---	---	---	---	---	---	---	---	673	684	685	683	680
		Crush	---	---	---	---	---	---	---	---	---	24	35	51	41	37
Level 2 H-Point	442	Pre	---	---	---	628	---	---	---	---	602	622	615	605	602	599
		Post	---	---	---	617	---	---	---	---	680	791	811	756	786	800
		Crush	---	---	---	-11	---	---	---	---	78	169	196	151	184	201
Level 3 Mid-Door	584	Pre	---	---	---	655	---	---	---	---	616	627	617	607	601	597
		Post	---	---	---	654	---	---	---	---	714	755	719	753	758	760
		Crush	---	---	---	-1	---	---	---	---	98	128	120	146	157	163
Level 4 Window Sill	874	Pre	---	---	---	---	---	795	777	754	740	625	714	703	696	694
		Post	---	---	---	---	---	801	792	783	770	753	755	745	773	790
		Crush	---	---	---	---	---	6	15	29	30	128	41	42	77	96
Level 5 Window Top	1229	Pre	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Post	---	---	---	---	---	---	---	---	---	---	---	---	---	---
		Crush	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Data Sheet 10 (Continued)

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	181	Pre	641	643	640	647	648	650	645	---	---	---	---	---	628
		Post	683	685	687	685	683	681	665	---	---	---	---	---	639
		Crush	42	42	47	38	35	31	20	---	---	---	---	---	11
Level 2 H-Point	442	Pre	597	597	598	601	605	613	610	---	---	---	---	---	631
		Post	810	813	808	809	802	795	743	---	---	---	---	---	643
		Crush	213	216	210	208	197	182	133	---	---	---	---	---	12
Level 3 Mid-Door	584	Pre	595	595	596	6900	605	614	616	593	---	---	---	608	662
		Post	766	769	770	770	765	762	738	667	---	---	---	625	679
		Crush	171	174	174	170	160	148	122	74	---	---	---	17	17
Level 4 Window Sill	874	Pre	689	687	689	691	695	692	706	712	720	730	750	770	786
		Post	809	805	796	796	807	763	769	738	746	753	771	788	804
		Crush	120	118	107	105	112	71	63	26	26	23	21	18	18
Level 5 Window Top	1229	Pre	882	872	873	878	890	911	943	---	---	---	---	---	---
		Post	909	900	901	909	923	939	966	---	---	---	---	---	---
		Crush	27	28	28	31	33	28	23	---	---	---	---	---	---

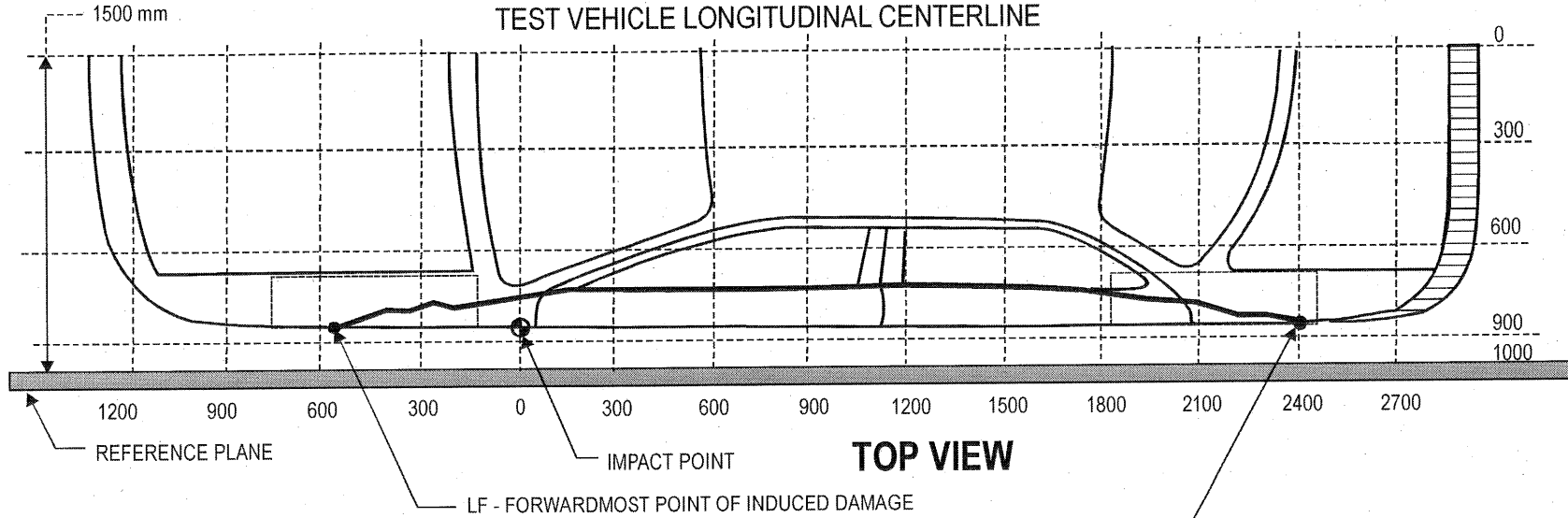
Data Sheet 11

Vehicle Damage Profile Distances

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

NOTE: All measurements are in millimeters (mm) and should be accurate to plus or minus 3mm.



MEASUREMENT CONVENTIONS:

Forward of the impact point (towards front of vehicle) is considered negative (-)

Rearward of the impact point (towards rear end of vehicle) is considered positive (+)

DPD Measurements	Post-Test (mm)	Pre-Test (mm)	Static Crush (mm) ¹
6: LF = -150 mm (Level 4)	783	754	29
5: 300 mm (Level 2)	811	615	196
4: 750 mm (Level 2)	80	599	201
3: 1200 mm (Level 2)	808	598	210
2: 1650 mm (Level 2)	795	613	182
1: LR = 1950 mm (Level 3)	667	593	74

¹ Full length of induced damage was -150 to 1950 mm.

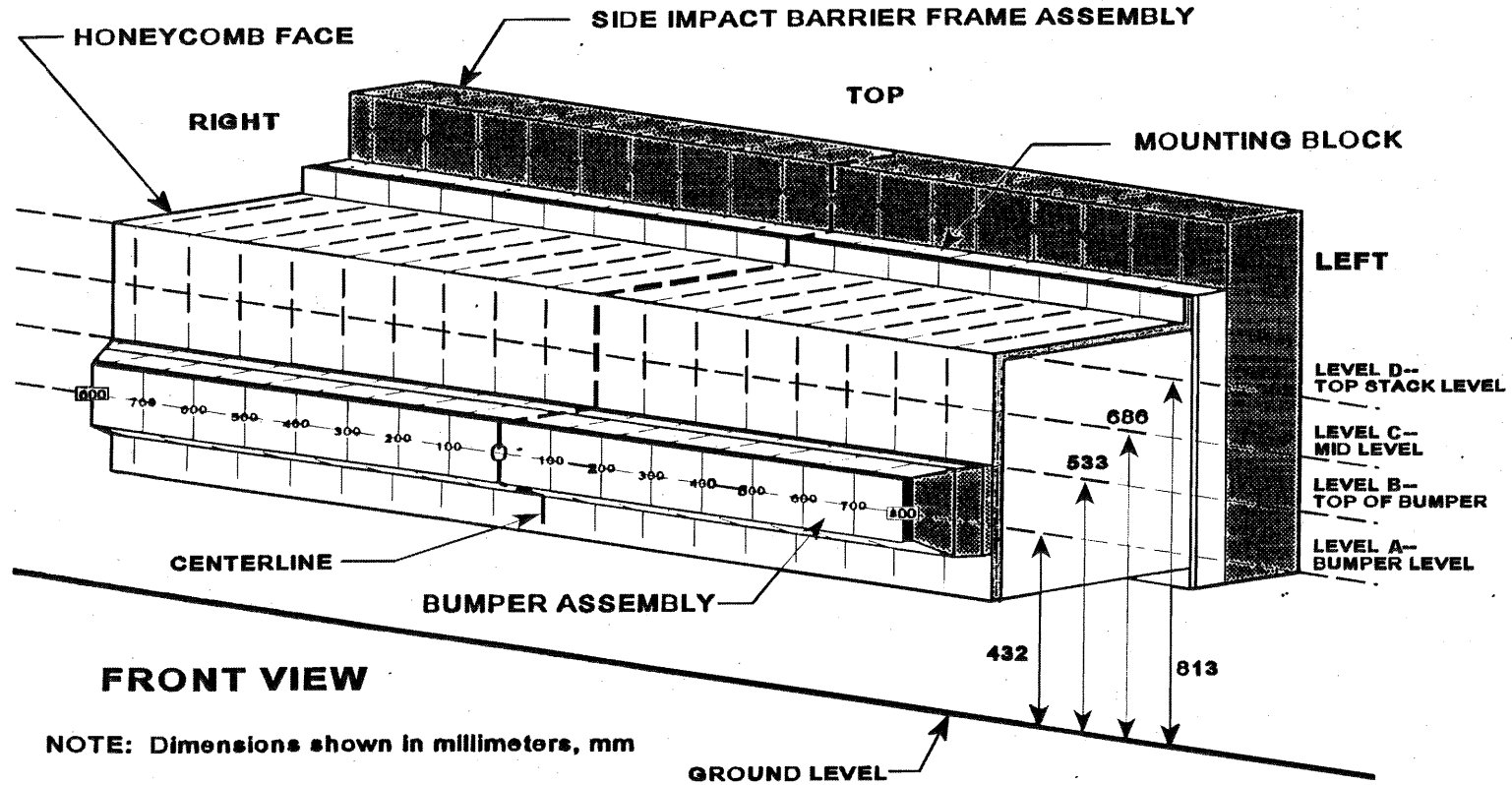
Data Sheet 12

Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



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030225

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Location	Height At CL	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	
Top Stack Level - Level D	811	153	136	105	55	49	40	33	35	40	46	52	63	78	104	124	124	129	
Mid Level Level C	688	176	159	132	76	51	39	30	26	29	28	33	42	57	87	134	121	119	
Top Bumper Level - Level B	559	180	153	142	130	113	96	85	78	76	77	77	77	81	92	102	116	139	
Mid Bumper Level - Level A	432	233	212	195	184	169	151	134	124	121	121	121	124	134	158	174	171	169	

All measurements are in millimeters and have a tolerance of ± 3 mm.

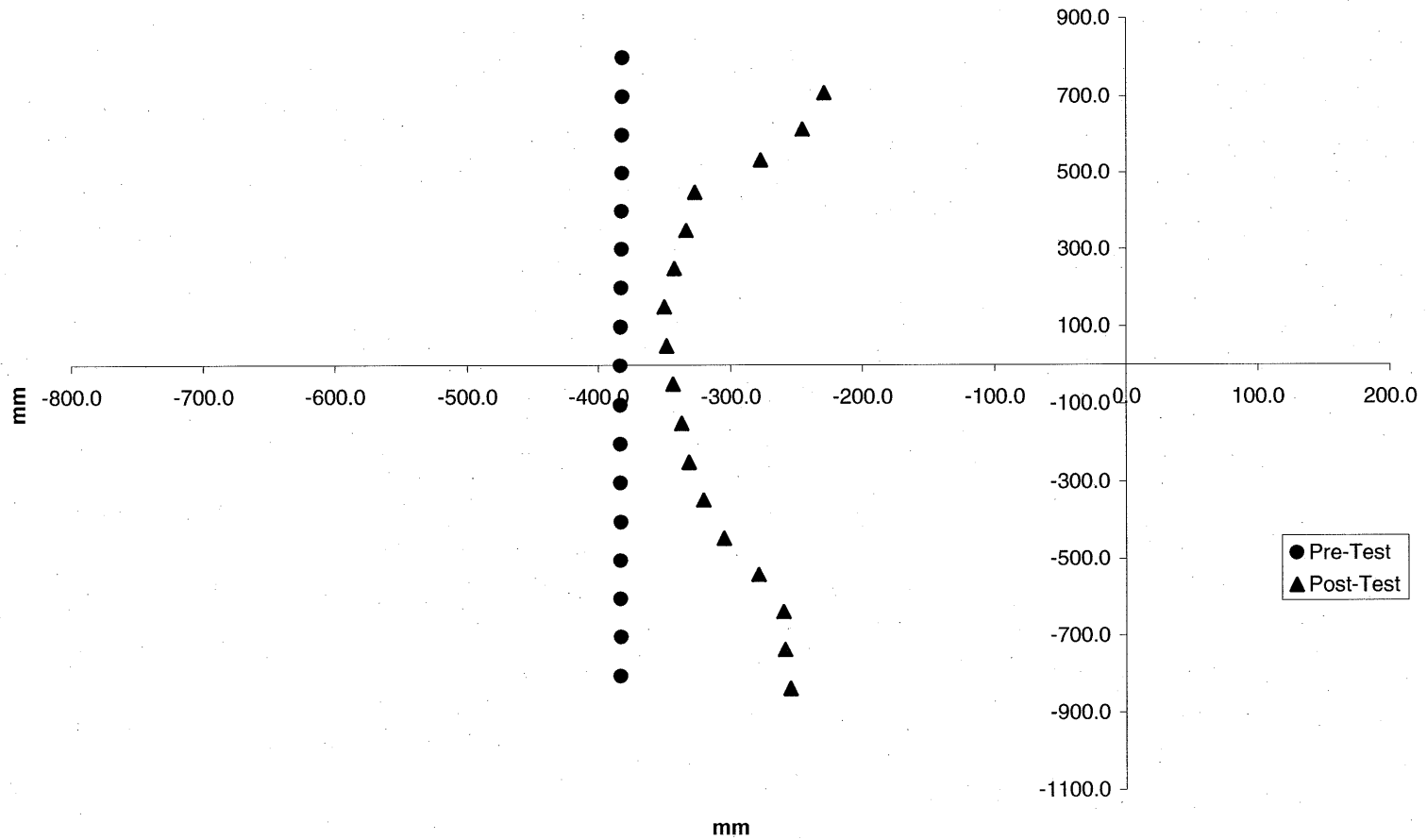
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Level D - Deformable Barrier Face Profile 1-17



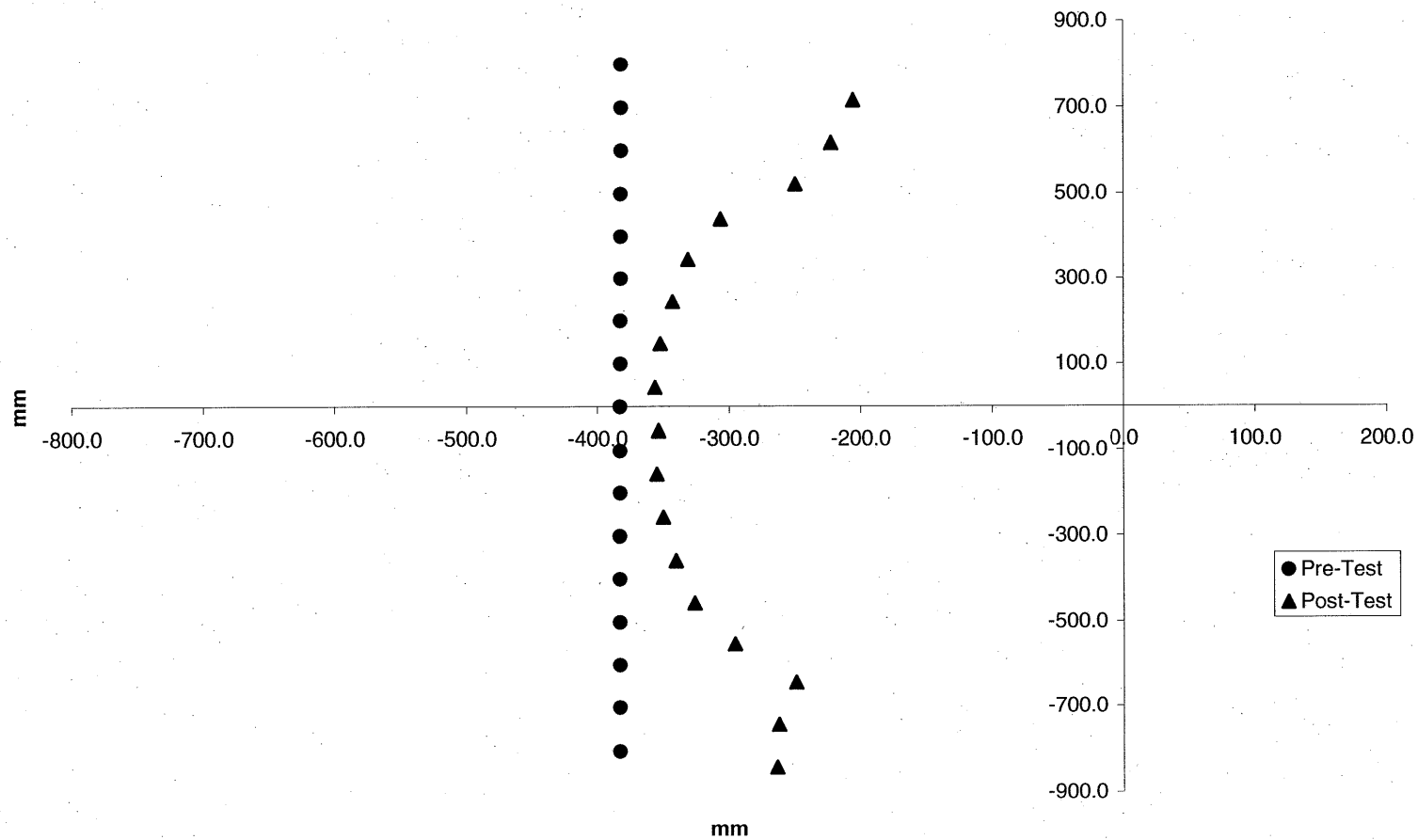
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Level C - Deformable Barrier Face Profile 18-34



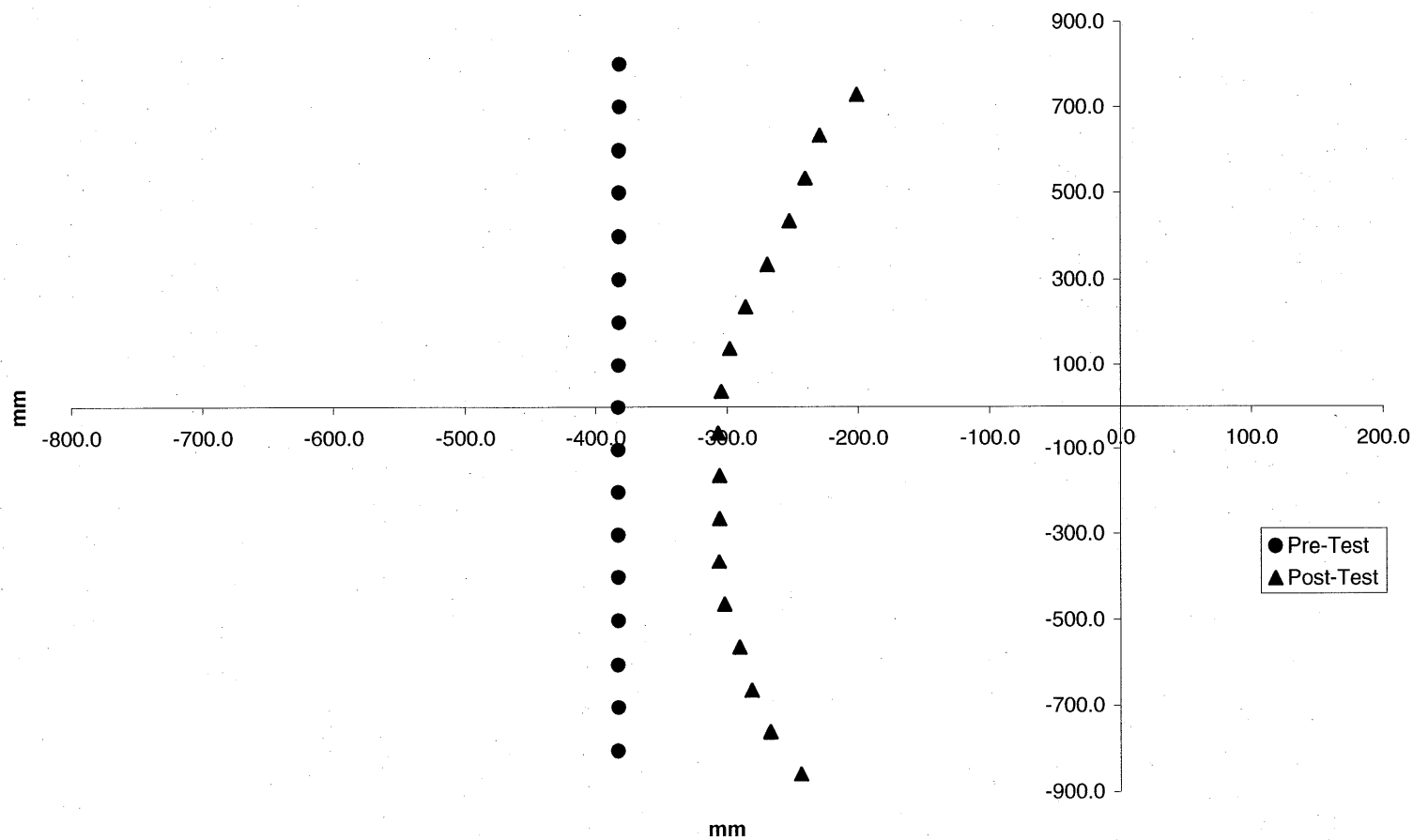
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Level B - Deformable Barrier Face Profile 35-51



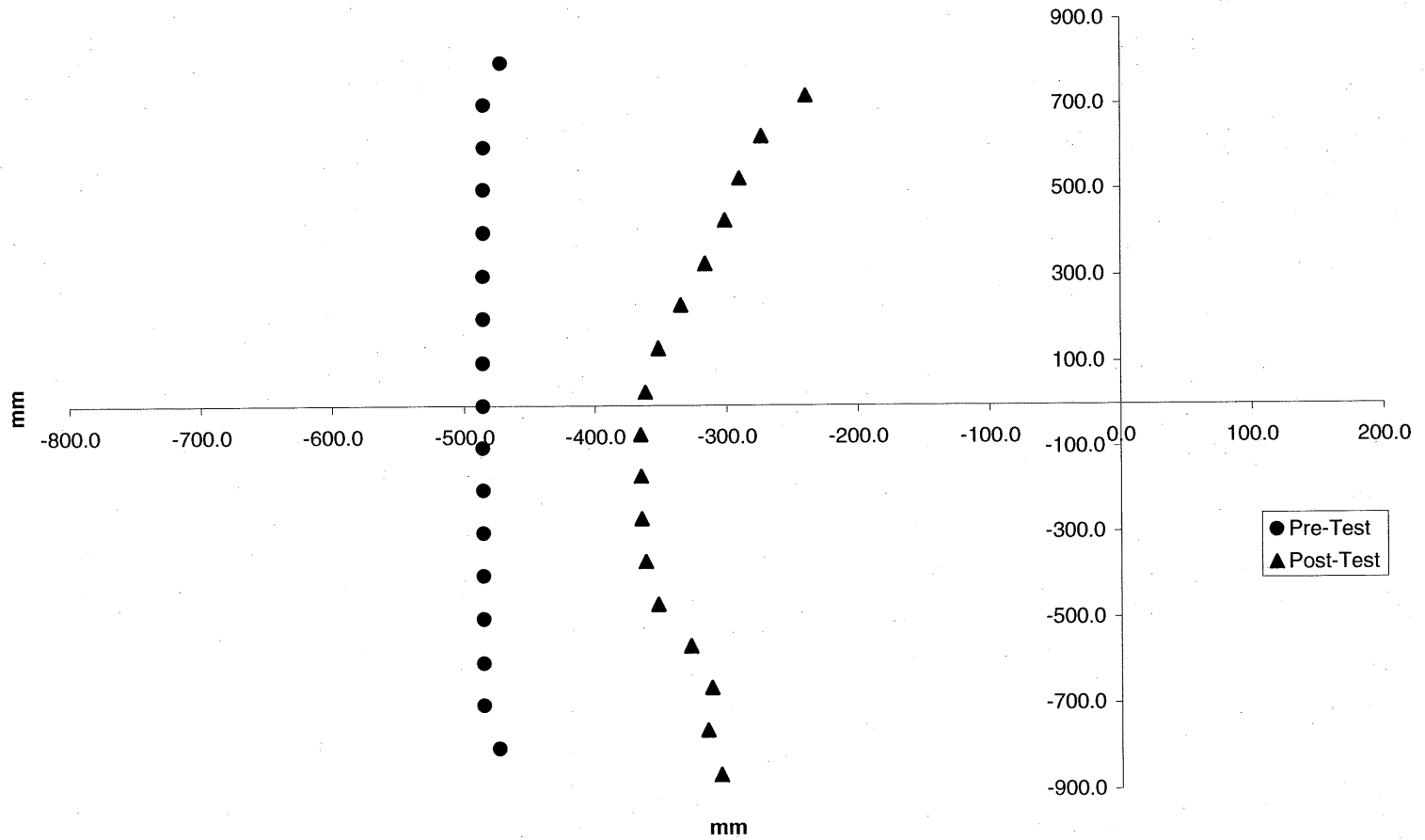
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Level A - Deformable Barrier Face Profile 52-68



Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

Deformable Barrier Face Profile

NHTSA No.: C35201

Level D - Top Stack

Pre-Test

Index	Xmm	Ymm	Zmm
1	-382	800	-43
2	-382	699	-44
3	-382	599	-45
4	-382	499	-45
5	-382	399	-45
6	-383	300	-46
7	-383	199	-46
8	-383	99	-46
9	-383	-1	-46
10	-383	-103	-46
11	-383	-203	-47
12	-384	-302	-47
13	-383	-403	-47
14	-383	-503	-47
15	-383	-603	-47
16	-383	-703	-47
17	-384	-805	-48

Post-Test

Index	Xmm	Ymm	Zmm
1	-229	709	-49
2	-245	615	-60
3	-277	533	-69
4	-327	448	-75
5	-334	349	-74
6	-343	250	-72
7	-350	150	-70
8	-348	51	-64
9	-343	-49	-62
10	-337	-150	-59
11	-331	-249	-60
12	-321	-346	-45
13	-305	-446	-38
14	-279	-542	-33
15	-260	-637	-27
16	-259	-737	-23
17	-255	-838	-20

Difference

Index	Xmm	Ymm	Zmm
1	-153	91	5
2	-136	85	16
3	-105	66	24
4	-55	51	29
5	-49	50	28
6	-40	50	26
7	-33	49	24
8	-35	48	18
9	-40	48	16
10	-46	47	13
11	-52	47	13
12	-63	44	-1
13	-78	42	-9
14	-104	38	-14
15	-124	34	-19
16	-124	34	-25
17	-129	33	-28

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Deformable Barrier Face Profile Cont'd.

Level C - Mid Level

Pre-Test

Index	Xmm	Ymm	Zmm
18	-382	800	-162
19	-382	699	-164
20	-382	599	-165
21	-382	499	-165
22	-382	398	-167
23	-382	299	-166
24	-382	199	-168
25	-382	98	-170
26	-383	-1	-169
27	-383	-102	-171
28	-383	-202	-172
29	-383	-302	-172
30	-383	-402	-173
31	-383	-503	-174
32	-383	-603	-175
33	-383	-703	-175
34	-383	-803	-176

Post-Test

Index	Xmm	Ymm	Zmm
18	-206	716	-165
19	-223	618	-177
20	-250	522	-185
21	-306	439	-192
22	-331	344	-194
23	-343	245	-191
24	-352	146	-190
25	-356	44	-187
26	-354	-56	-181
27	-355	-157	-178
28	-350	-257	-174
29	-341	-358	-167
30	-326	-457	-162
31	-296	-553	-158
32	-249	-644	-154
33	-262	-742	-150
34	-264	-841	-147

Difference

Index	Xmm	Ymm	Zmm
18	-176	84	4
19	-159	81	13
20	-132	77	21
21	-76	60	27
22	-51	54	27
23	-39	54	24
24	-30	54	21
25	-26	54	17
26	-29	55	12
27	-28	55	7
28	-33	55	1
29	-42	55	-5
30	-57	55	-11
31	-87	50	-16
32	-134	41	-21
33	-121	40	-25
34	-119	38	-29

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

Deformable Barrier Face Profile Cont'd.

NHTSA No.: C35201

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-382	801	-297
36	-382	701	-298
37	-382	600	-299
38	-382	500	-298
39	-382	399	-299
40	-382	299	-298
41	-382	200	-299
42	-382	99	-299
43	-383	-1	-298
44	-383	-103	-300
45	-383	-203	-300
46	-383	-302	-300
47	-383	-402	-300
48	-383	-502	-300
49	-383	-603	-301
50	-383	-703	-301
51	-383	-803	-300

Post-Test

Index	Xmm	Ymm	Zmm
35	-201	730	-300
36	-229	634	-306
37	-240	534	-308
38	-252	435	-303
39	-269	335	-304
40	-286	237	-304
41	-298	138	-304
42	-304	37	-302
43	-307	-63	-298
44	-306	-164	-294
45	-306	-264	-290
46	-306	-363	-286
47	-302	-463	-281
48	-290	-562	-273
49	-281	-663	-270
50	-267	-761	-262
51	-244	-857	-252

Difference

Index	Xmm	Ymm	Zmm
35	-180	72	2
36	-153	67	8
37	-142	66	8
38	-130	65	4
39	-113	64	5
40	-96	62	6
41	-85	62	5
42	-78	62	2
43	-76	62	-1
44	-77	62	-6
45	-77	61	-11
46	-77	61	-14
47	-81	61	-19
48	-92	61	-27
49	-102	59	-30
50	-116	58	-39
51	-139	54	-48

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

Deformable Barrier Face Profile Cont'd.

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-472	799	-424
53	-485	699	-424
54	-485	599	-424
55	-485	500	-424
56	-485	400	-424
57	-485	300	-424
58	-486	200	-424
59	-486	99	-424
60	-486	-1	-425
61	-486	-100	-425
62	-486	-200	-425
63	-486	-300	-425
64	-486	-400	-425
65	-486	-501	-425
66	-486	-601	-425
67	-486	-700	-426
68	-474	-802	-426

Post-Test

Index	Xmm	Ymm	Zmm
52	-239	720	-442
53	-273	625	-447
54	-290	526	-447
55	-301	427	-445
56	-316	329	-445
57	-335	230	-446
58	-352	131	-445
59	-362	31	-444
60	-365	-69	-442
61	-365	-167	-438
62	-365	-268	-434
63	-362	-368	-429
64	-352	-467	-423
65	-328	-564	-413
66	-312	-662	-408
67	-315	-761	-410
68	-305	-863	-407

Difference

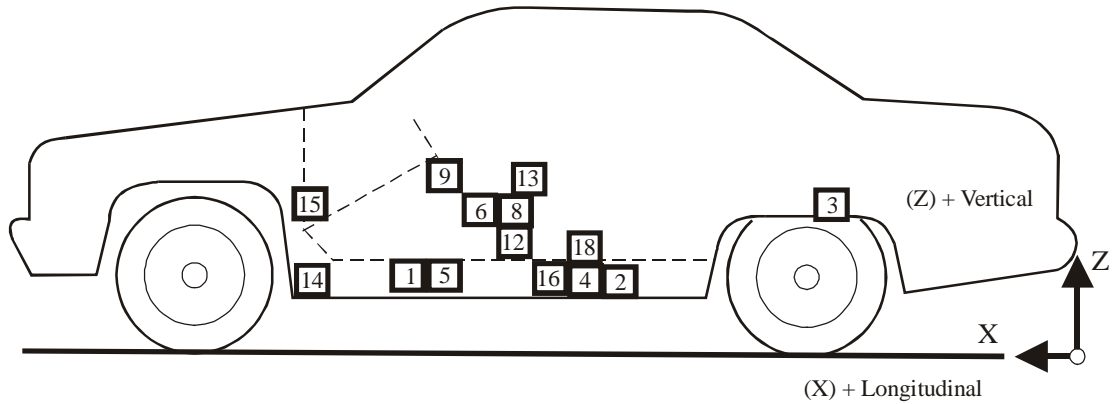
Index	Xmm	Ymm	Zmm
52	-233	79	19
53	-212	75	23
54	-195	73	23
55	-184	73	21
56	-169	71	21
57	-151	70	21
58	-134	68	21
59	-124	68	20
60	-121	68	17
61	-121	68	13
62	-121	67	9
63	-124	67	4
64	-134	67	-2
65	-158	63	-12
66	-174	61	-18
67	-171	60	-15
68	-169	61	-18

Data Sheet 13

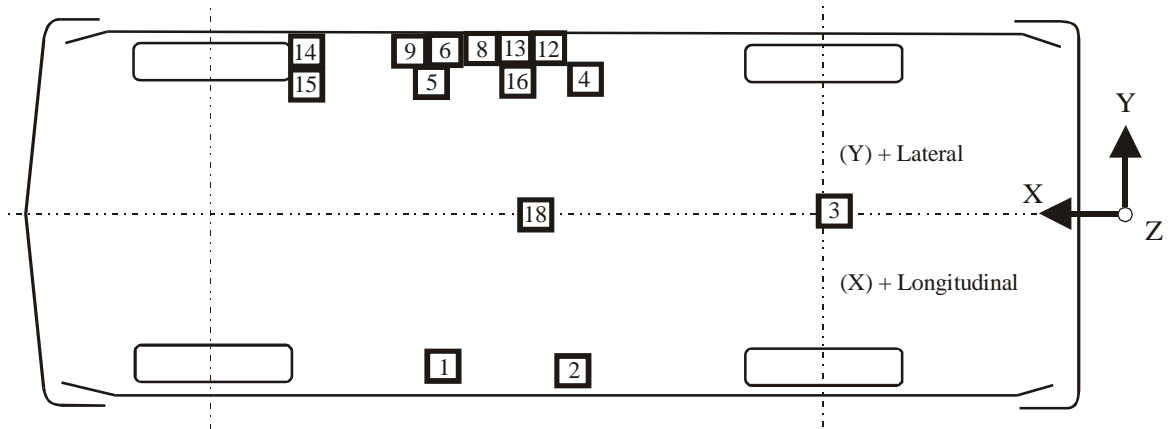
Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



Side View



Bottom View

- | | |
|---|--|
| 1-Right Front Side Sill | 10-Left Rear Door Mid Rear (omitted) |
| 2-Right Side Sill at Rear | 11-Left Rear Door Upper Centerline (omitted) |
| 3-Rear Floorpan Above Axle | 12-Left Side Lower B-pillar |
| 4-Left Side Sill at Rear | 13-Left Side Middle B-pillar |
| 5-Left Front Side Sill | 14-Left Side Lower A-pillar |
| 6-Left Front Door on Centerline | 15-Left Side Middle A-pillar |
| 7-Right Rear Occupant Compartment (omitted) | 16-Left Side Front Seat Track at H-point |
| 8-Left Front Door Mid Rear | 17-Left Rear Seat Track at H-point (omitted) |
| 9-Left Front Door Upper Centerline | 18-Vehicle Center of Gravity |

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

TEST NUMBER: 030225

TEST NUMBER: No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
1 RIGHT SIDE SILL AT FRONT	2575 mm	692 mm	-291 mm				
LONGITUDINAL				5.1 g	@ 52.9 ms	6.9 g	@ 19.7 ms
LATERAL				27.3 g	@ 28.4 ms	3.5 g	@ 54.8 ms
VERTICAL				6.9 g	@ 20.9 ms	5.0 g	@ 63.7 ms
RESULTANT				27.9 g	@ 28.4 ms		
2 RIGHT SIDE SILL AT REAR	1885 mm	692 mm	-330 mm				
LONGITUDINAL				6.9 g	@ 30.6 ms	7.4 g	@ 20.1 ms
LATERAL				23.0 g	@ 7.8 ms	2.0 g	@ 168.9 ms
VERTICAL				10.4 g	@ 33.5 ms	5.8 g	@ 59.8 ms
RESULTANT				23.2 g	@ 7.9 ms		
3 REAR FLOORPAN ABOVE AXLE	1010 mm	0 mm	-646 mm				
LONGITUDINAL				3.3 g	@ 51.5 ms	7.9 g	@ 20.2 ms
LATERAL				27.7 g	@ 33.6 ms	1.9 g	@ 164.9 ms
VERTICAL				8.5 g	@ 11.9 ms	7.2 g	@ 8.4 ms
RESULTANT				27.8 g	@ 33.8 ms		
4 LEFT SIDE SILL AT REAR	2553 mm	-692 mm	-300 mm				
LATERAL ¹				---- g	@ ---- ms	---- g	@ ---- ms
5 LEFT SIDE SILL AT FRONT	1840 mm	-692 mm	-323 mm				
LATERAL ¹				---- g	@ ---- ms	---- g	@ ---- ms

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030225

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

TEST NUMBER: 030225 No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
6 LEFT FRONT DOOR ON CENTERLINE LATERAL	2160 mm	-745 mm	-642 mm	92.0 g	@ 11.7 ms	118.9 g	@ 22.2 ms
8 LEFT FRONT DOOR MIDREAR LATERAL ¹	1730 mm	-754 mm	-602 mm	---- g	@ ---- ms	---- g	@ ---- ms
9 LEFT FRONT DOOR UPPER CENTERLINE LATERAL	2150 mm	-745 mm	-823 mm	327.6 g	@ 16.4 ms	128.8 g	@ 25.1 ms
12 LEFT LOWER B-POST LATERAL	1725 mm	-730 mm	-458 mm	80.7 g	@ 5.3 ms	47.2 g	@ 19.4 ms
13 LEFT MIDDLE B-POST LATERAL	1585 mm	-730 mm	-843 mm	38.4 g	@ 13.0 ms	13.8 g	@ 48.9 ms
14 LEFT LOWER A-POST LATERAL ¹	2745 mm	-805 mm	-325 mm	---- g	@ ---- ms	---- g	@ ---- ms
15 LEFT MIDDLE A-POST LATERAL ¹	2745 mm	-805 mm	-759 mm	---- g	@ ---- ms	---- g	@ ---- ms

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030225

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

TEST NUMBER: 030225 No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
16 LEFT FRONT SEAT TRACK LATERAL	2070 mm	685 mm	-320 mm	94.7 g	@ 9.0 ms	40.8 g	@ 17.9 ms
18 VEHICLE CENTER OF GRAVITY	2416 mm	0 mm	-495 mm				
LONGITUDINAL				2.5 g	@ 51.4 ms	12.6 g	@ 11.0 ms
LATERAL				20.9 g	@ 18.7 ms	1.9 g	@ 72.4 ms
VERTICAL				14.3 g	@ 15.8 ms	5.5 g	@ 60.3 ms
RESULTANT				23.0 g	@ 10.6 ms		

REFERENCE: X: + FORWARD FROM REAR BUMPER
 Y: + RIGHTWARD FROM VEHICLE CENTERLINE
 Z: + DOWNWARD FROM GROUND LEVEL

For acceleration data sign convention, see Report Sign Convention in Appendix D.

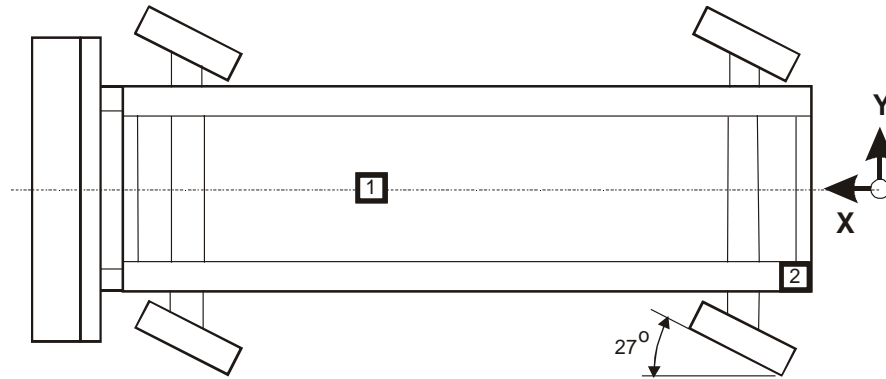
¹ See Data Acquisition Explanations on page 2-3.

Data Sheet 14

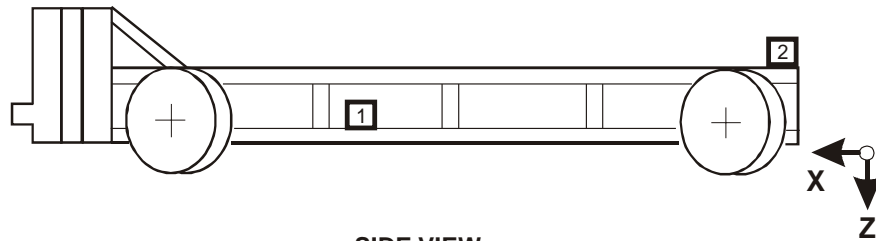
MDB Accelerometer Locations and Data Summary

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



TOP VIEW



SIDE VIEW

Accel. No.	Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
		X*	Y*	Z*	Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	MDB Center of Gravity	1853	0	-519				
	Longitudinal X				7.8	261.8	25.4	39.7
	Lateral Y				4.7	61.5	6.8	19.0
	Vertical Z				5.0	29.8	4.5	53.6
	Resultant R				26.0	39.5	-	-
2	Rear Frame Member	411	-738	-628				
	Longitudinal X				3.2	120.1	26.3	41.4
	Lateral Y				2.1	18.2	3.2	94.2

*Reference: X = Rear Bumper (+ Forward)
 Y = Vehicle Centerline (+ To Right)
 Z = Ground Level (+ Up)

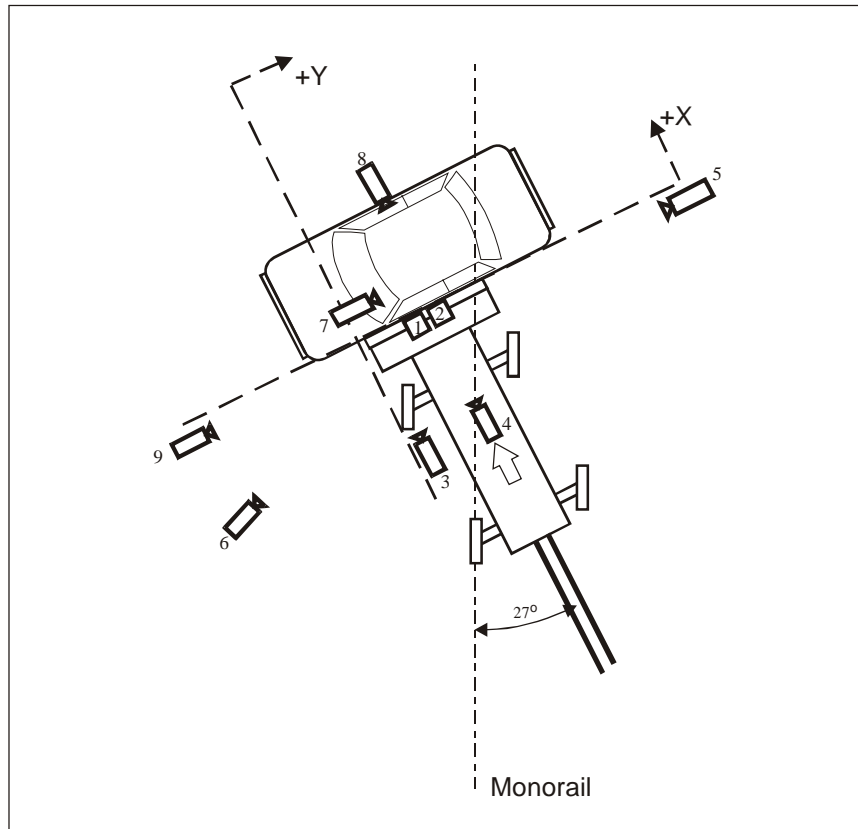
All measurements accurate to within ± 3 mm.

Data Sheet 15

High-Speed Camera Locations and Data Summary

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201



Camera Number	Location	Location, mm			Angle (deg)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Overhead wide	250	2150	-5750	-80.1	8.5	N/A ¹
2	Overhead tight	370	1800	-5750	-88.3	17	1020
3	Onboard MDB left side	-1750	-40	-720	-0.3	13	1954
4	Onboard MDB center	-2480	830	-1353	-4.6	25	1025
5	Right side of MDB	-1250	10380	-901	-0.9	13	1025
6	Left side of MDB	-3400	-5250	-1100	-4.0	13	225
7	Onboard vehicle front	550	-170	-1200	-8.2	8	280
8	Onboard side front door	1750	-1010	-1000	-4.6	8	N/A ²
9	Real-time panning-Video	----	----	-1009	-2.7	Zoom	24

+X: Forward (referenced to MDB) from impact point

+Y: Rightward (referenced to MDB) from impact point

+Z: Downward from ground level

¹ LED's too faint to read

² Too slow to time

Section 5

Vehicle Fuel System Integrity

Data Sheet 16

FMVSS 301 Fuel System Integrity Data

NHTSA No.: C35201

Test Date:

Vehicle Year/Make/Model/Body Style: 2003 Nissan 350Z 2-door coupe

Test Vehicle Impact Type :

- Frontal (48.28 km/h)
- Oblique (48.28 km/h) with ____° barrier face first contacting the (driver/passenger) side
- Rear Moving Barrier (48.28 km/h)
- Lateral Moving Barrier (32.19 km/h)
- Side Impact Moving Deformable Barrier (62.2 km/h) contacting the driver's side side

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	Maximum Allowed
0 g	28 g
0 g	142 g
0 g	28 g/1 minute

Solvent Spillage Details :

None

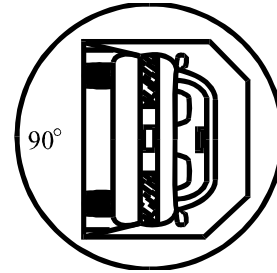
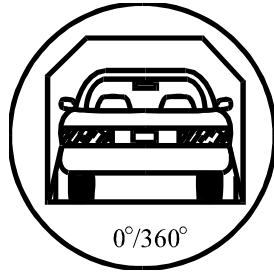
Data Sheet 17

FMVSS 301 Rollover Data

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

0 - 90 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u> 1 </u> minutes	<u> 30 </u> seconds
(Spec. Range = 1 to 3 minutes)		
FMVSS 301 Position Hold Time +	<u> 5 </u> minutes	<u> 0 </u> seconds
Total	<u> 6 </u> minutes	<u> 30 </u> seconds
Next whole minute interval	<u> 7 </u> minutes	

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

3. Actual Test Vehicle Solvent Spillage:

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

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

4. Solvent Spillage Location(s):

None

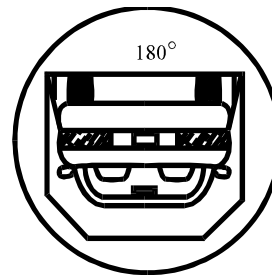
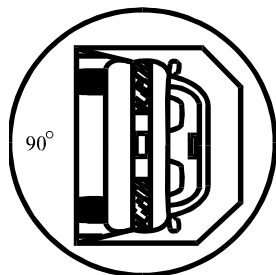
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

90 - 180 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u> 1 </u> minutes	<u> 30 </u> seconds
(Spec. Range = 1 to 3 minutes)		
FMVSS 301 Position Hold Time +	<u> 5 </u> minutes	<u> 0 </u> seconds
Total	<u> 6 </u> minutes	<u> 30 </u> seconds
Next whole minute interval	<u> 7 </u> minutes	

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

3. Actual Test Vehicle Solvent Spillage:

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

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

4. Solvent Spillage Location(s):

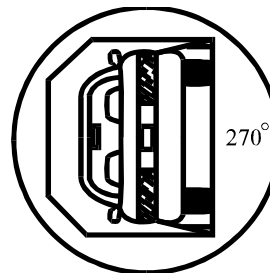
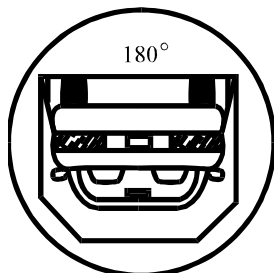
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

180 - 270 Degrees



1. Determination of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u> 1 </u> minutes	<u> 30 </u> seconds
(Spec. Range = 1 to 3 minutes)		
FMVSS 301 Position Hold Time +	<u> 5 </u> minutes	<u> 0 </u> seconds
Total	<u> 6 </u> minutes	<u> 30 </u> seconds
Next whole minute interval	<u> 7 </u> minutes	

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

3. Actual Test Vehicle Solvent Spillage:

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

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

4. Solvent Spillage Location(s):

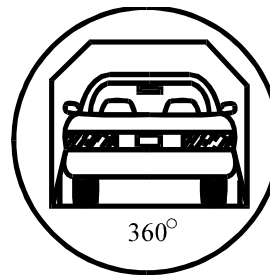
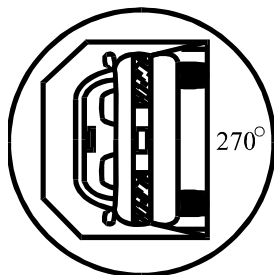
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Nissan 350Z 2-door coupe

NHTSA No.: C35201

270 - 360 Degrees



1. Determination Of Solvent Collection Time Period:

Rollover Fixture 90° Rotation Time	<u> 1 </u> minutes	<u> 30 </u> seconds
(Spec. Range = 1 to 3 minutes)		
FMVSS 301 Position Hold Time +	<u> 5 </u> minutes	<u> 0 </u> seconds
Total	<u> 6 </u> minutes	<u> 30 </u> seconds
Next whole minute interval	<u> 7 </u> minutes	

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

3. Actual Test Vehicle Solvent Spillage:

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

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

4. Solvent Spillage Location(s):

Appendix A

Photographs

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Figure A-1 Pre-Test Front View of Test Vehicle



Figure A-2 Post-Test Front View of Test Vehicle



Figure A-3 Pre-Test Impacted Side View of Test Vehicle



Figure A-4 Post-Test Impacted Side View of Test Vehicle



Figure A-5 Pre-Test Rear View of Test Vehicle



Figure A-6 Post-Test Rear 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

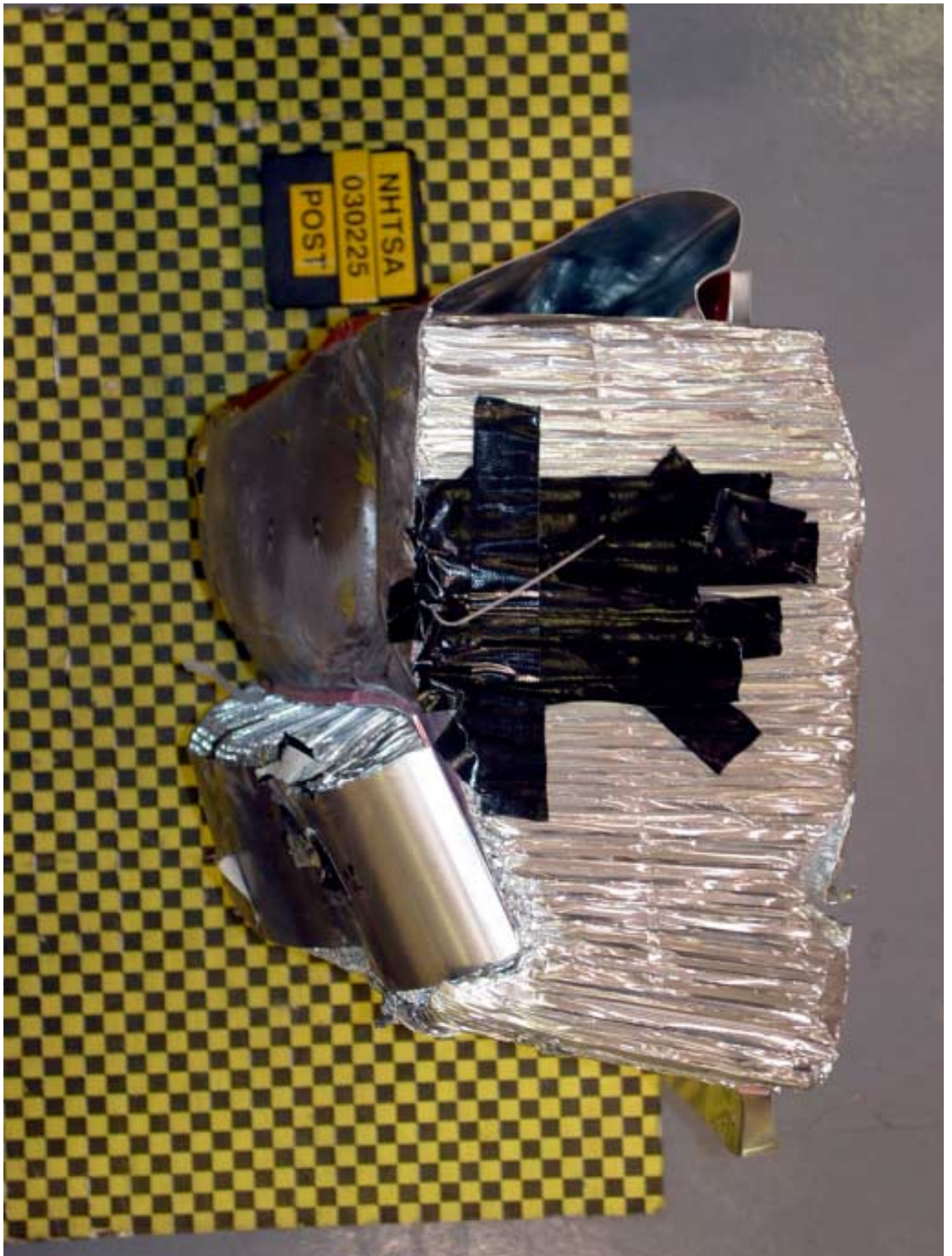


Figure A-10 Post-Test Left Side View of Impactor Face

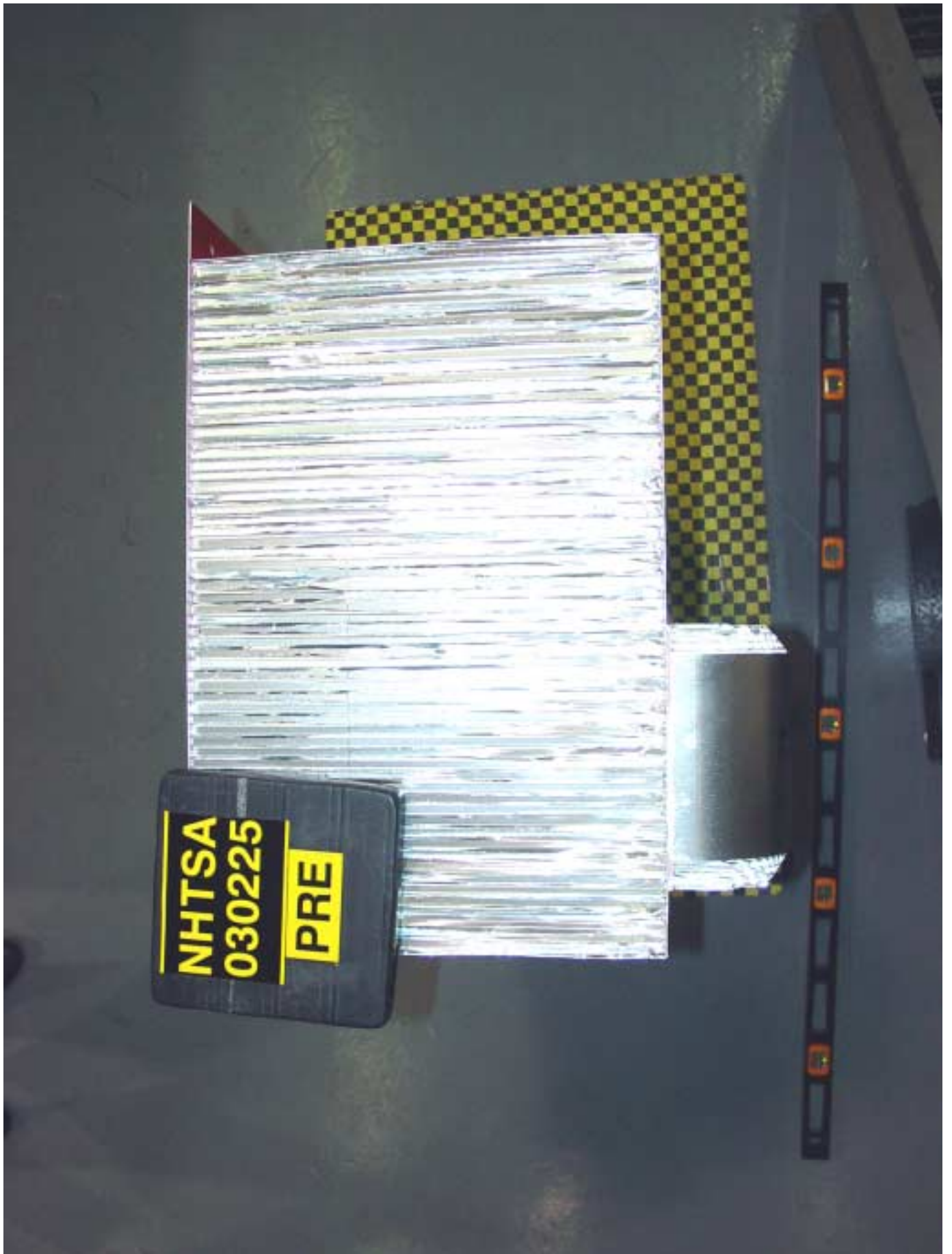


Figure A-11 Pre-Test Right Side View of Impactor Face



Figure A-12 Post-Test Right Side View of Impactor Face

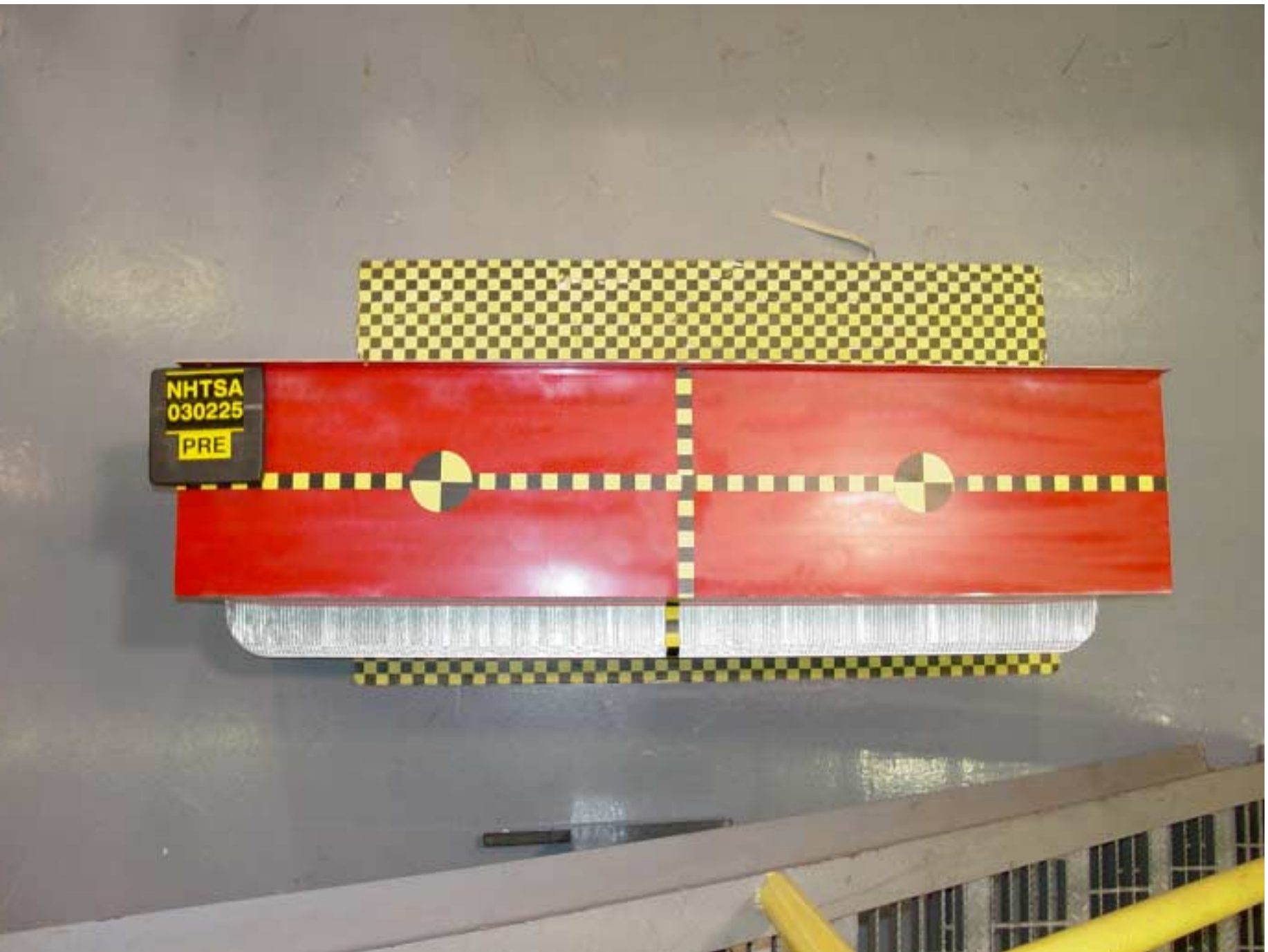


Figure A-13 Pre-Test Top View of Impactor Face

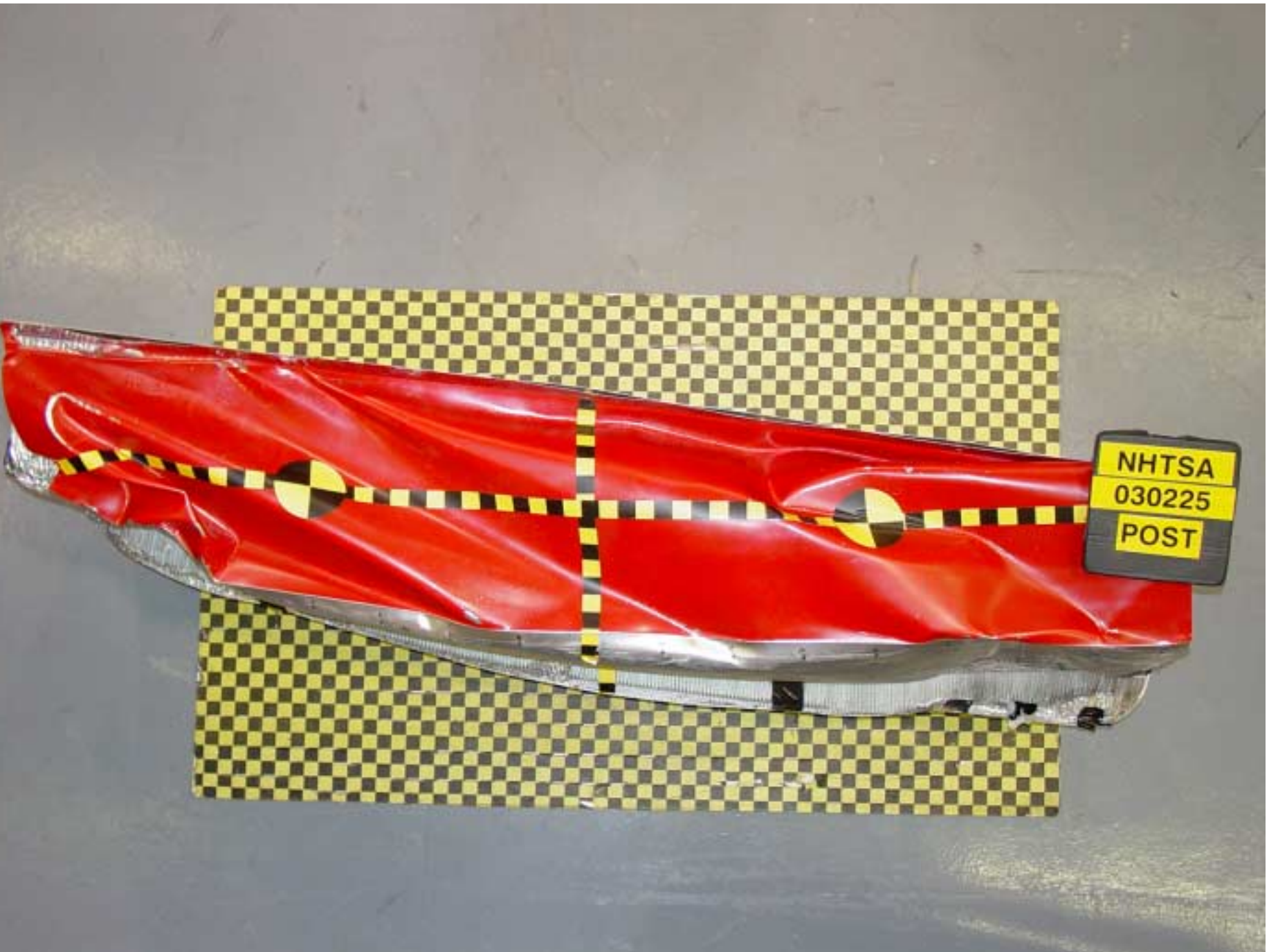


Figure A-14 Post-Test Top View of Impactor Face

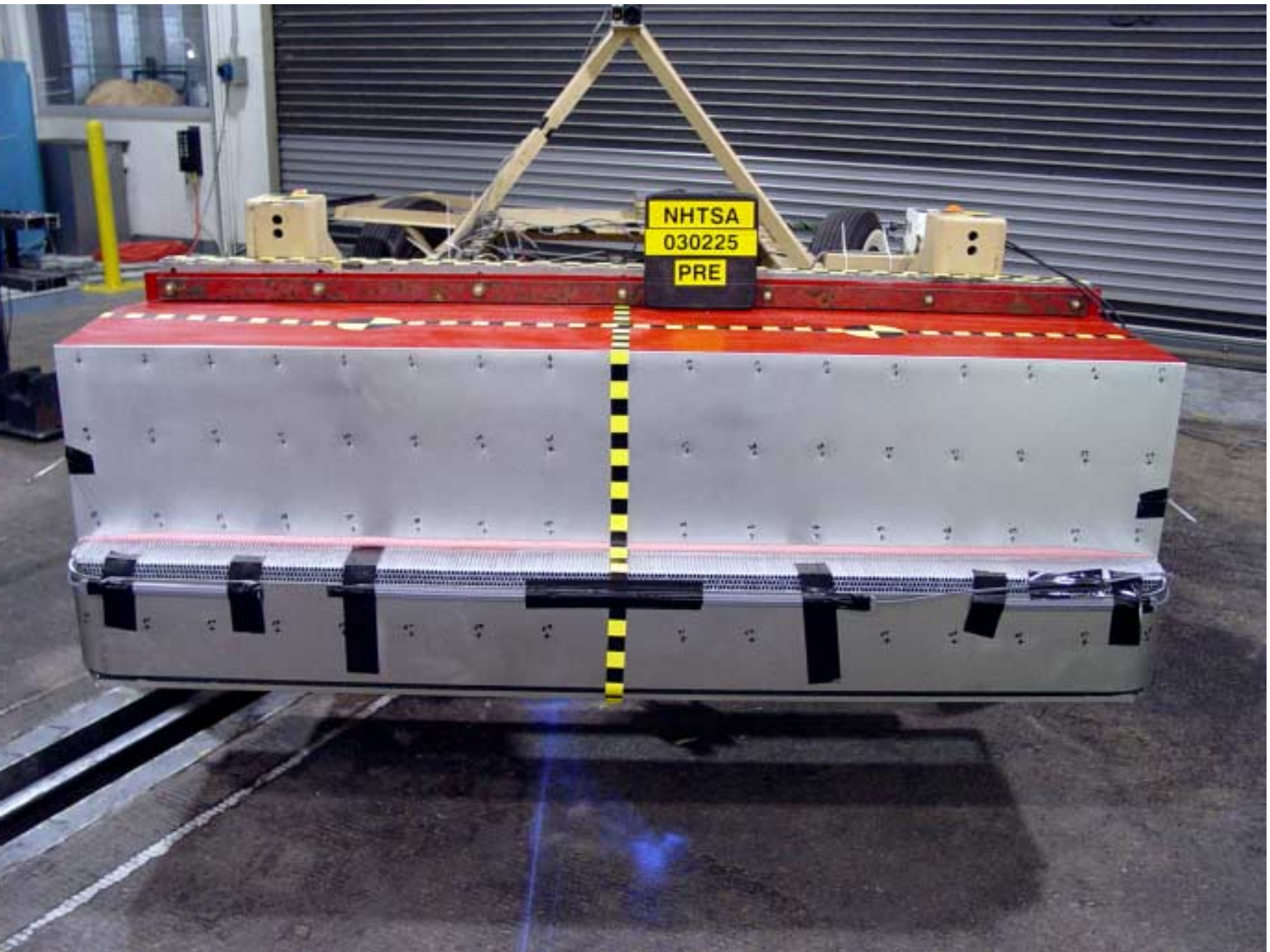


Figure A-15 Pre-Test View of MDB Showing Contact Switches in Place



Figure A-16 Pre-Test Overhead View of MDB Aligned with Vehicle



Figure A-17 Post-Test Overhead View of MDB and Vehicle



Figure A-18 Pre-Test Right Occupant Compartment View of Front SID



Figure A-19 Post-Test Right Occupant Compartment View of Front SID



Figure A-20 Pre-Test Left View of Front SID



Figure A-21 Post-Test Left View of Front SID



Figure A-22 Pre-Test Left View of Front SID and Belt Position



Figure A-23 Pre-Test Left View of Front SID and Door Clearance



Figure A-24 Post-Test Left View of Front SID and Door Clearance



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 Post-Test Front SID Contact - View 1



Figure A-28 Post-Test Front SID Contact - View 2



Figure A-29 Pre-Test Left Side View of MDB With Impactor Face in Position



Figure A-30 Pre-Test Primary Impact Point View



Figure A-31 Post-Test Primary Impact Point View



Figure A-32 Pre-Test Right Side View of MDB With Impactor Face in Position



Figure A-33 Pre-Test Secondary Impact Point View



Figure A-34 Post-Test Secondary Impact Point View

MFD.BY NISSAN MOTOR CO.,LTD

DATE 11/02

GVWR/PNBV 3815 LBS.

GAWR/PNBE FR. 1906 LBS. RR. 1929 LBS.

THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL
MOTOR VEHICLE SAFETY, BUMPER, AND THEFT PREVENTION
STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE
SHOWN ABOVE.

JN1AZ34D63T107987

PASSENGER CAR/VOITURE DE TOURISME



JN1AZ34D63T107987

C35201

Figure A-35 Pre-Test Vehicle Certification Label View

C35201

VEHICLE CAPACITY WEIGHT	450 lbs	SEATING CAPACITY	FRONT AVANT 2	TOTAL TOTAL
POIDS UTILE DU VEHICULE	204 kg	NOMBRE DE PLACES	REAR ARRIERE 0	2
RECOMMENDED COLD TIRE INFLATION PRESSURE PRESSION DE GONFLAGE RECOMMANDEE DES PNEUS FROIDS				
TIRE SIZE DIMENSIONS			kPa (psi)	
FRONT AVANT	225/50R17 94W		240 (35)	
REAR ARRIERE	235/50R17 96W		240 (35)	
SPARE TIRE ROUE DE SECOURS	T145/90D16		420 (60)	
DO NOT USE IN EXCESS OF 50 MPH, 80km/h. SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION. UTILISATION A UNE VITESSE MAX 50 MPH, 80km/h. POUR LES DETAILS SE REFERER AU MANUEL DU CONDUCTEUR.				
GD				
CD101				

Figure A-36 Pre-Test Vehicle Recommended Tire Pressure Label View



Figure A-37 Pre-Test Fuel Cap



Figure A-38 Post-Test Fuel Cap

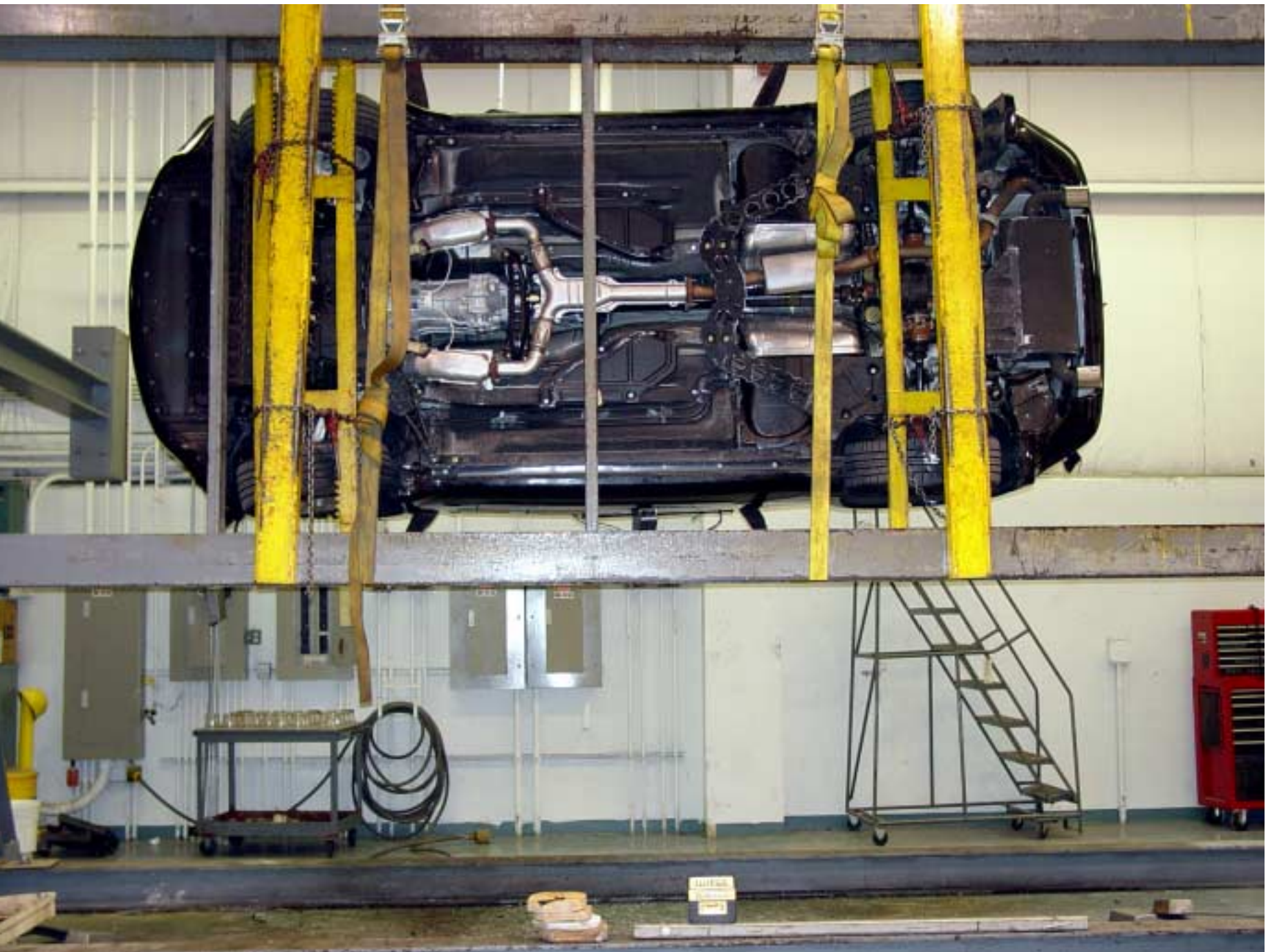


Figure A-39 FMVSS 301 Rollover View at 90°



Figure A-40 FMVSS 301 Rollover View at 180°



Figure A-41 FMVSS 301 Rollover View at 270°



Figure A-42 FMVSS 301 Rollover View at 360°

Appendix B

Data Plots

Table of Data Plots

Driver Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

Force Data - Filter Class 1000

Moment Data - Filter Class 600

Contact Data - Filter Class 1000

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2	Driver Head X-Axis Velocity	B-9
3	Driver Head Y-Axis Acceleration	B-10
4	Driver Head Y-Axis Velocity	B-11
5	Driver Head Z-Axis Acceleration	B-12
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7	Driver Head Resultant Acceleration	B-14
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9	Driver Neck Y-Axis Shear Force	B-16
10	Driver Neck Z-Axis Axial Force	B-17
11	Driver Neck Moment about X Axis	B-18
12	Driver Neck Moment about Y Axis	B-19
13	Driver Neck Moment about Z Axis	B-20
14	Driver Neck Occipital Condyle Moment about X Axis	B-21
15	Driver Upper Rib Y-Axis Acceleration	B-22
16	Driver Upper Rib Y-Axis Velocity	B-23
17	Driver Lower Rib Y-Axis Acceleration	B-24
18	Driver Lower Rib Y-Axis Velocity	B-25
19	Driver Lower Spine Y-Axis Acceleration	B-26
20	Driver Lower Spine Y-Axis Velocity	B-27
21	Driver Pelvis Y-Axis Acceleration	B-28
22	Driver Pelvis Y-Axis Velocity	B-29
23	Driver Shoulder Contact Event	B-30
24	Driver Pelvis Contact Event	B-31

Driver Dummy Instrumentation Plots
Acceleration Data - Filter Class 1000 - Redundant
Integration Data - Filter Class 180 - Redundant

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29	Driver Head Z-Axis Redundant Acceleration	B-37
30	Driver Head Z-Axis Redundant Velocity	B-38
31	Driver Upper Rib Y-Axis Redundant Acceleration	B-39
32	Driver Upper Rib Y-Axis Redundant Velocity	B-40
33	Driver Lower Rib Y-Axis Redundant Acceleration	B-41
34	Driver Lower Rib Y-Axis Redundant Velocity	B-42
35	Driver Lower Spine Y-Axis Redundant Acceleration	B-43
36	Driver Lower Spine Y-Axis Redundant Velocity	B-44
37	Driver Pelvis Y-Axis Redundant Acceleration	B-45
38	Driver Pelvis Y-Axis Redundant Velocity	B-46

Test Vehicle Instrumentation Plots
Acceleration Data - Filter Class 60
Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
39	Right Side Sill at Front X-Axis Acceleration	B-48
40	Right Side Sill at Front X-Axis Velocity	B-49
41	Right Side Sill at Front Y-Axis Acceleration	B-50
42	Right Side Sill at Front Y-Axis Velocity	B-51
43	Right Side Sill at Front Z-Axis Acceleration	B-52
44	Right Side Sill at Front Z-Axis Velocity	B-53
45	Right Side Sill at Front Resultant Acceleration	B-54
46	Right Side Sill at Rear X-Axis Acceleration	B-55
47	Right Side Sill at Rear X-Axis Velocity	B-56
48	Right Side Sill at Rear Y-Axis Acceleration	B-57

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 Test Vehicle Instrumentation Plots (Continued)
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 Integration Data - Filter Class 180

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59	Rear Floorpan Above Axle Resultant Acceleration	B-68
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63	Left Side Sill at Rear Y-Axis Acceleration	B-72
64	Left Side Sill at Rear Y-Axis Velocity	B-73
65	Left Side Sill at Rear Y-Axis Displacement	B-74
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67	Left Front Door on Centerline Y-Axis Velocity	B-76
68	Left Front Door on Centerline Y-Axis Displacement	B-77
69	Left Front Door Mid-Rear Y-Axis Acceleration	B-78
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71	Left Front Door Mid-Rear Y-Axis Displacement	B-80
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 Test Vehicle Instrumentation Plots (Continued)
 Acceleration Data - Filter Class 60
 Integration Data - Filter Class 180

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80	Left Lower B-Post Y-Axis Velocity	B-89
81	Left Middle B-Post Y-Axis Acceleration	B-90
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86	Vehicle Center of Gravity X-Axis Velocity	B-95
87	Vehicle Center of Gravity Y-Axis Acceleration	B-96
88	Vehicle Center of Gravity Y-Axis Velocity	B-97
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90	Vehicle Center of Gravity Z-Axis Velocity	B-99
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MDB Instrumentation Plots
 Acceleration Data - Filter Class 60
 Integration Data - Filter Class 180

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94	MDB Center of Gravity Y-Axis Acceleration	B-104
95	MDB Center of Gravity Y-Axis Velocity	B-105
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97	MDB Center of Gravity Z-Axis Velocity	B-107
98	MDB Center of Gravity Resultant Acceleration	B-108

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 MDB Instrumentation Plots (Continued)
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 Integration Data - Filter Class 180

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104	MDB Left Side Contact Switch	B-114

Driver Dummy Instrumentation Plots
 Acceleration Data - FIR Filtered

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107	Driver Lower Spine Y-Axis Acceleration	B-118
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Driver Dummy Instrumentation Plots
 Acceleration Data - FIR Filtered - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
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110	Driver Lower Rib Y-Axis Redundant Acceleration	B-122
111	Driver Lower Spine Y-Axis Redundant Acceleration	B-123
112	Driver Pelvis Y-Axis Redundant Acceleration	B-124

Driver Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

Force Data - Filter Class 1000

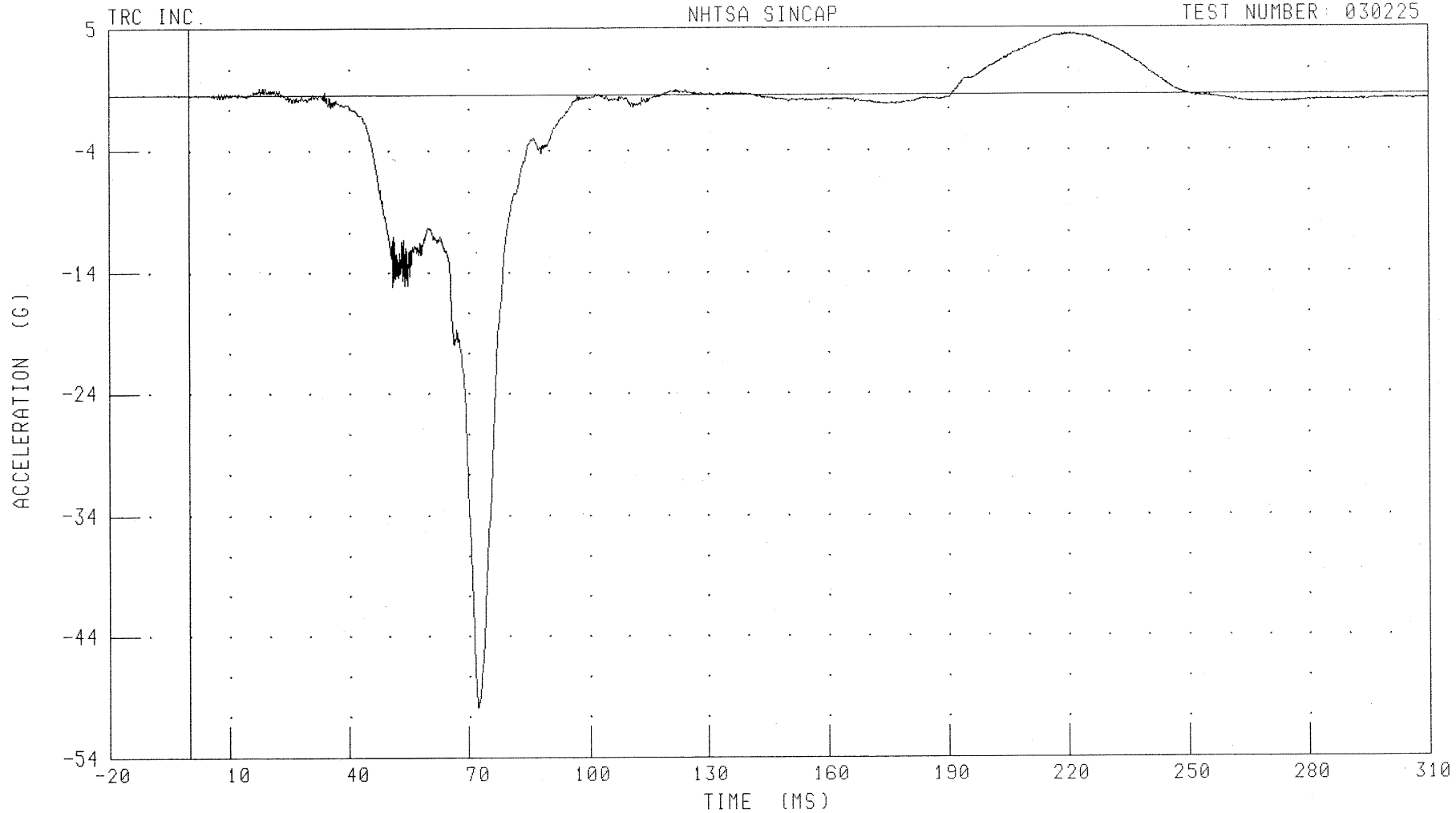
Moment Data - Filter Class 600

Contact Data - Filter Class 1000

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD X-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



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PEAK DATA: 4.95 G @ 220.72 MS; -50.53 G @ 72.24 MS

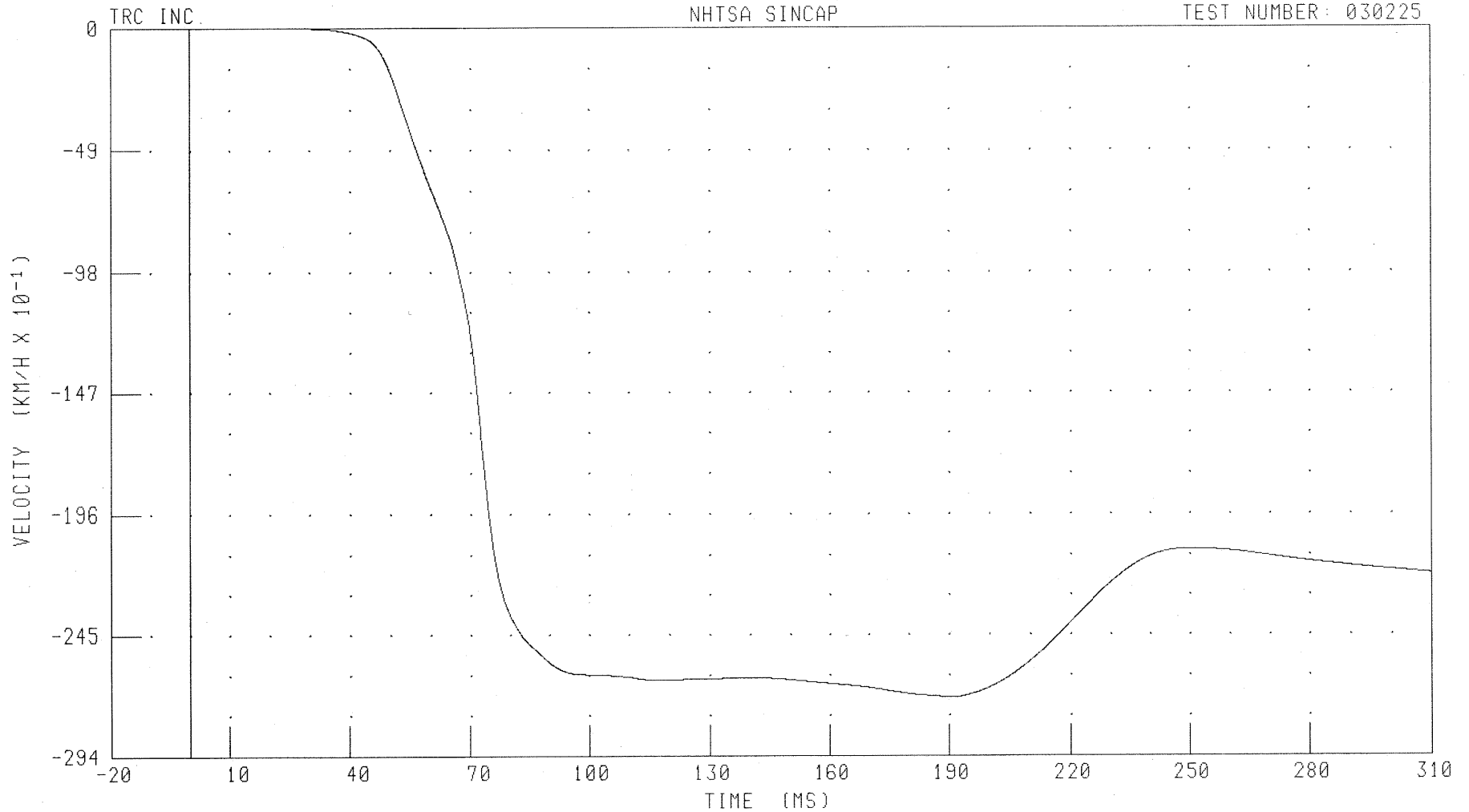
B-8

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD X-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDXV1 FILTER: CH. CLASS 100

PEAK DATA: 0.07 KM/H @ 23.52 MS, -27.05 KM/H @ 190.88 MS

B-9

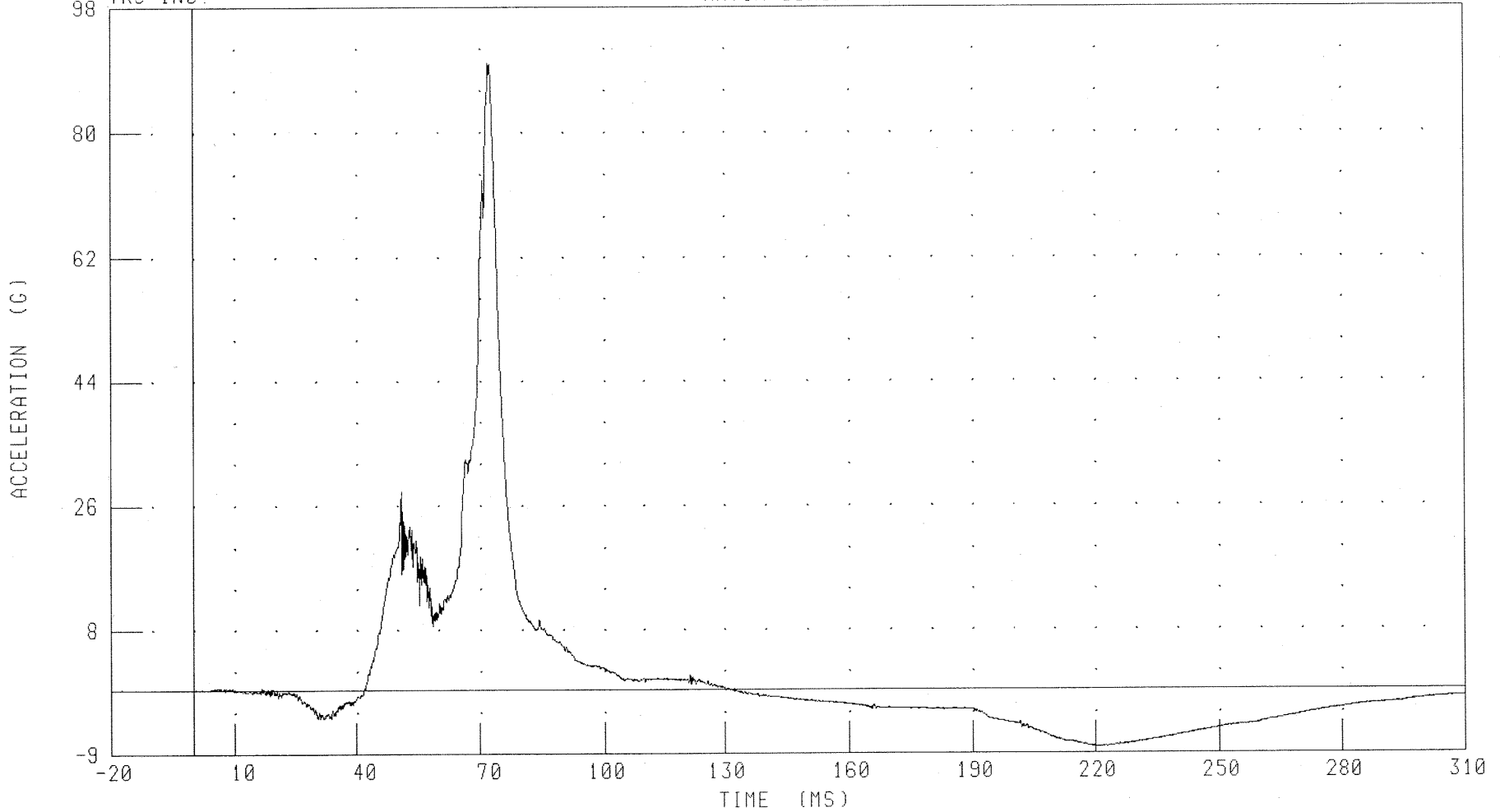
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDYG1 FILTER: CH CLASS 1000

PEAK DATA: 90.69 G @ 72.00 MS; -8.47 G @ 220.96 MS

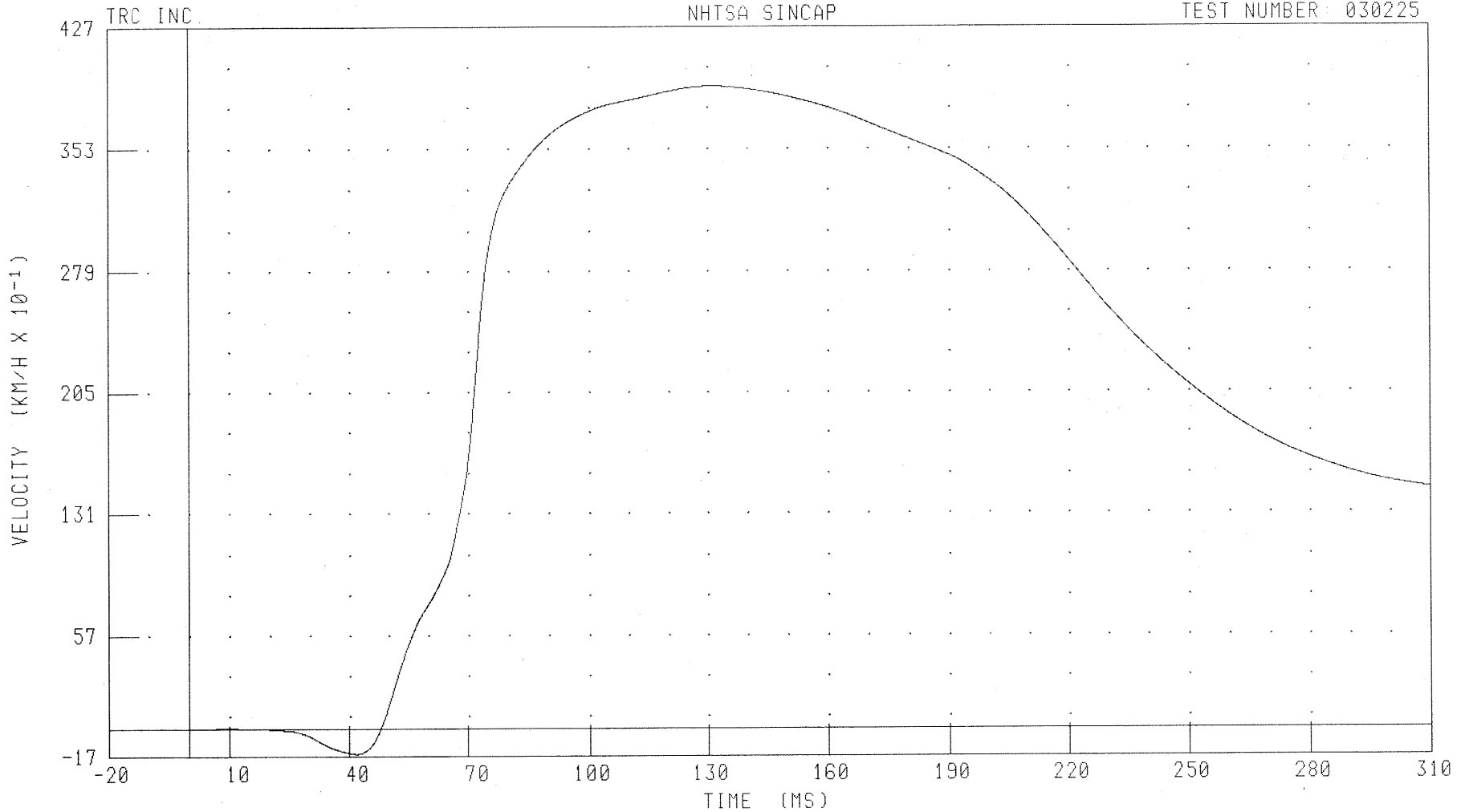
B-10

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDYV1

FILTER: CH. CLASS 180

PEAK DATA: 39.06 KM/H @ 131.12 MS; -1.55 KM/H @ 41.84 MS

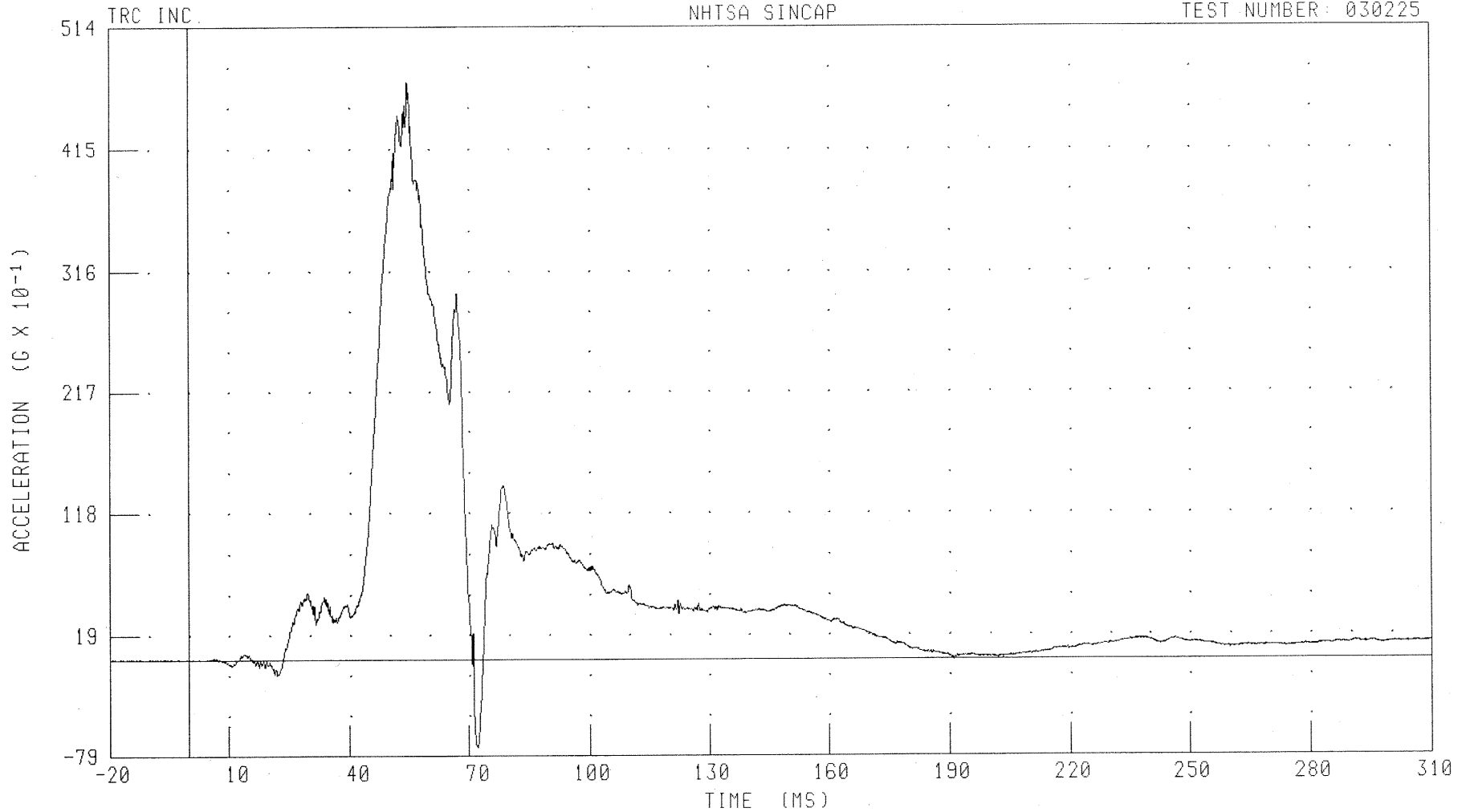
B-11

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Z-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

PEAK DATA: 46.96 G @ 54.48 MS; -7.24 G @ 72.08 MS

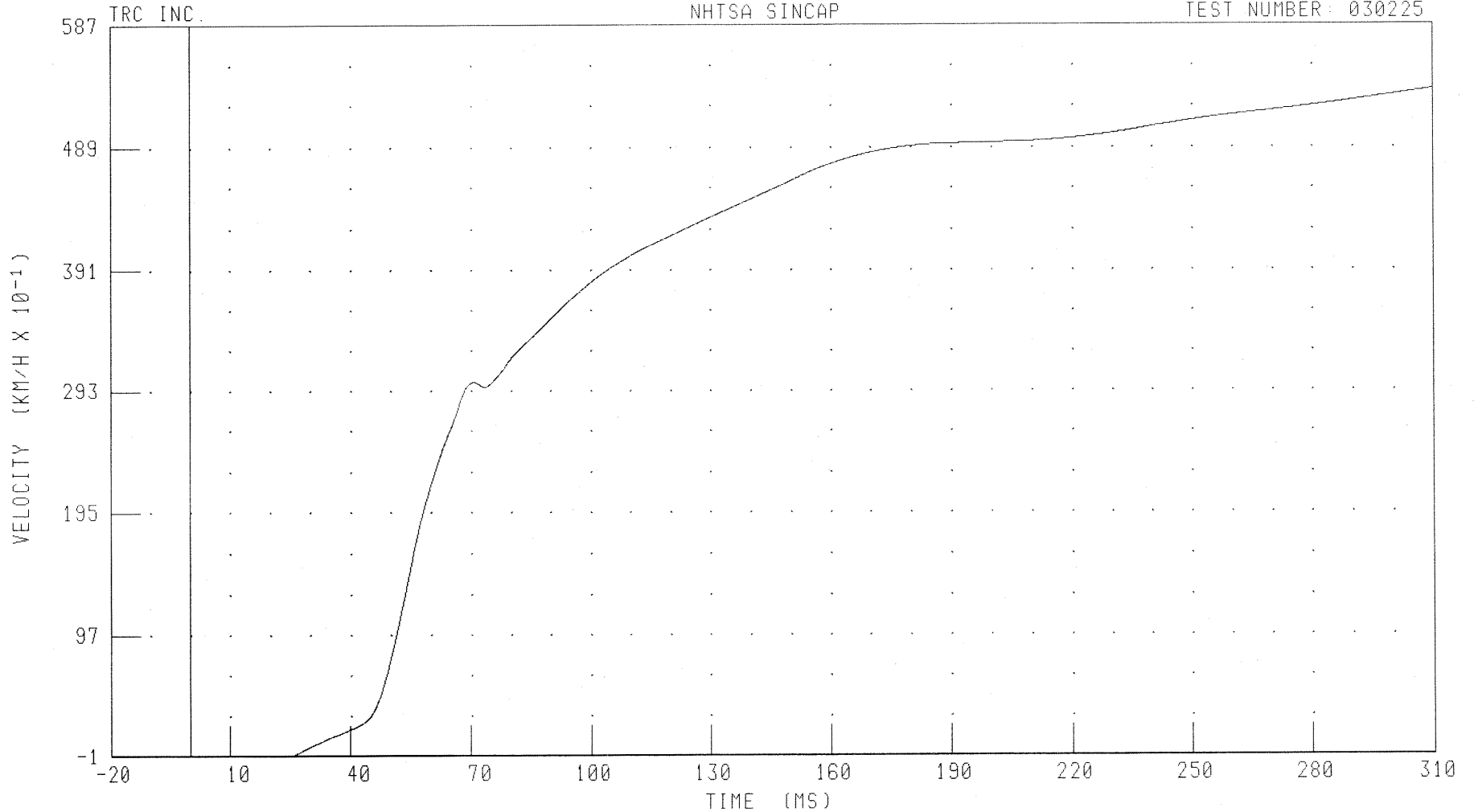
B-12

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Z-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDZV1

FILTER: CH. CLASS 180

PEAK DATA: 53.50 KM/H @ 310.00 MS; -0.14 KM/H @ 23.44 MS

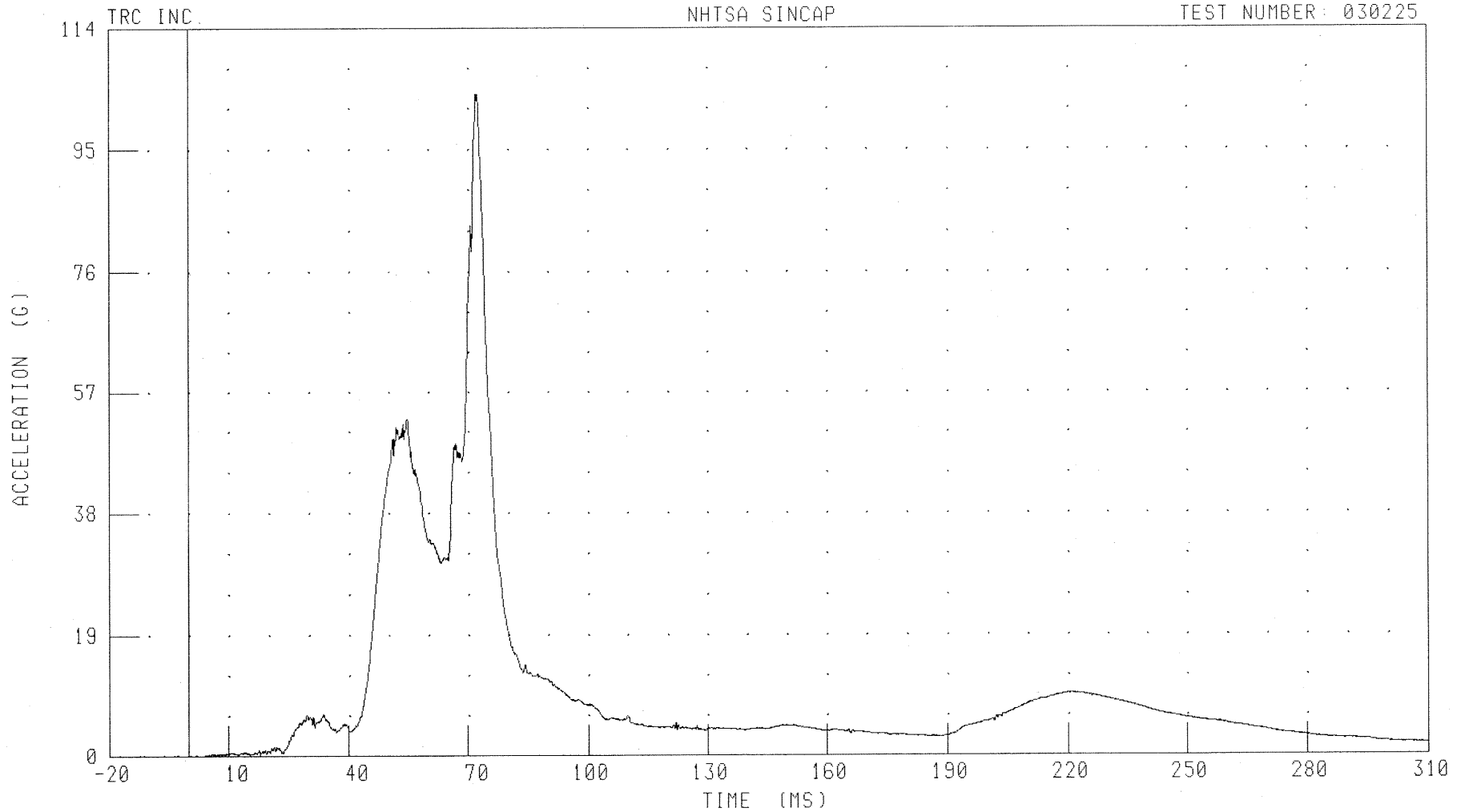
B-13

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD RESULTANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

PEAK DATA: 103.64 G @ 72.40 MS; 0.01 G @ -18.88 MS

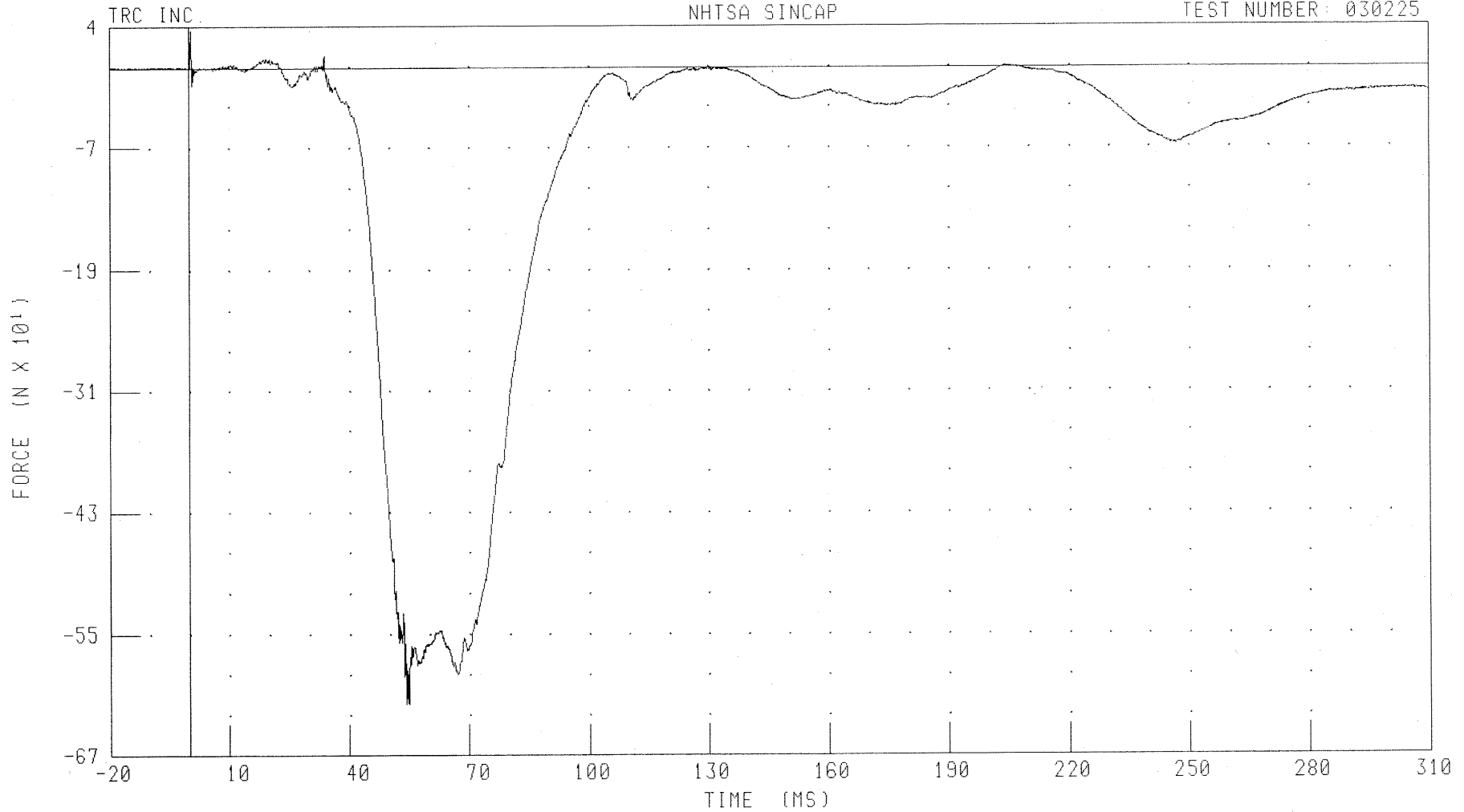
B-14

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER NECK X-AXIS SHEAR FORCE

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: NEKXF1 FILTER: CH. CLASS 1000

PEAK DATA: 37.41 N @ 0.56 MS; -628.13 N @ 54.24 MS

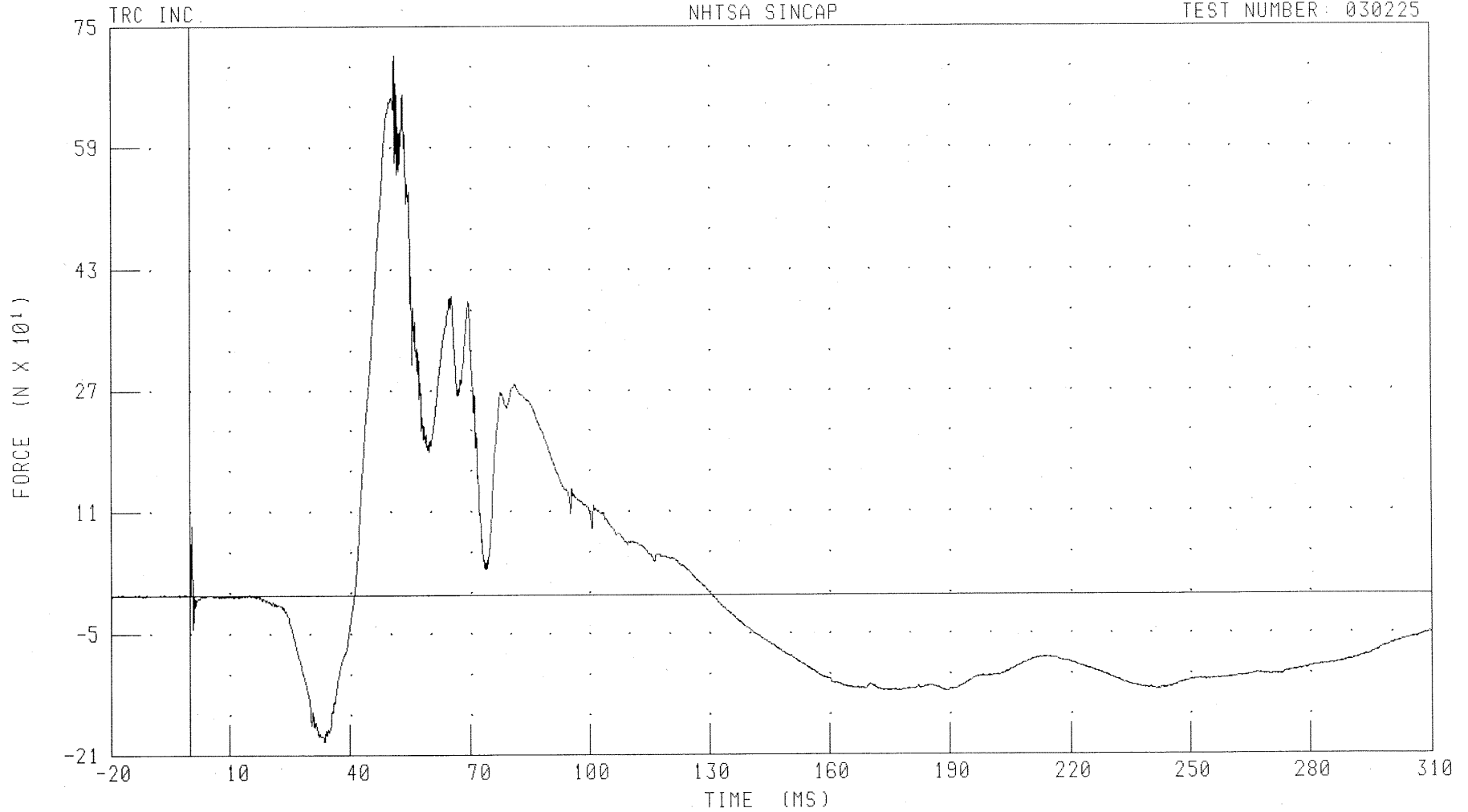
B-15

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER NECK Y-AXIS SHEAR FORCE

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

PEAK DATA: 710.80 N @ 50.96 MS; -192.62 N @ 33.68 MS

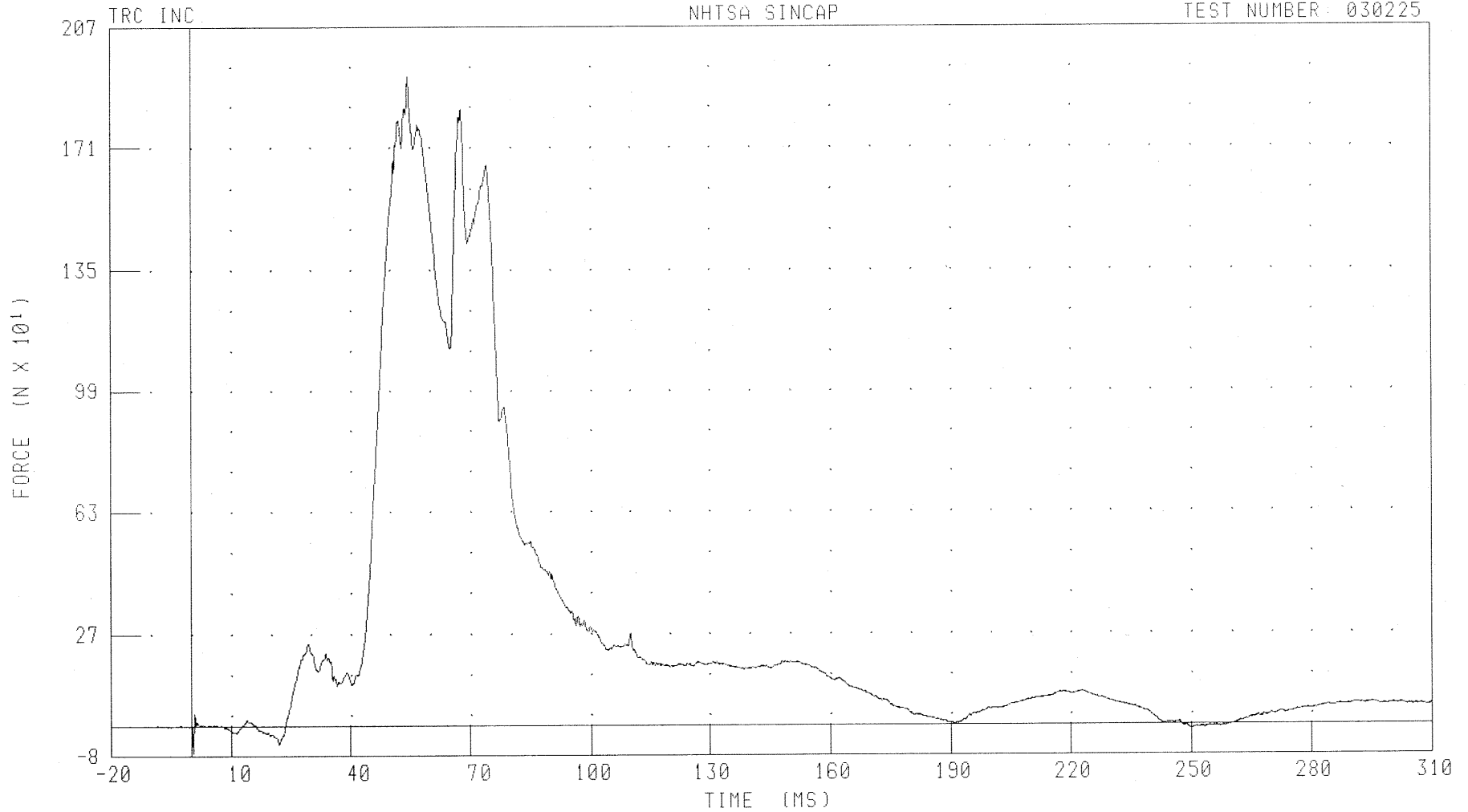
B-16

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER NECK Z-AXIS AXIAL FORCE

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: NEKZF1 FILTER: CH. CLASS 1000

PEAK DATA: 1924.16 N @ 54.64 MS, -80.41 N @ 0.56 MS

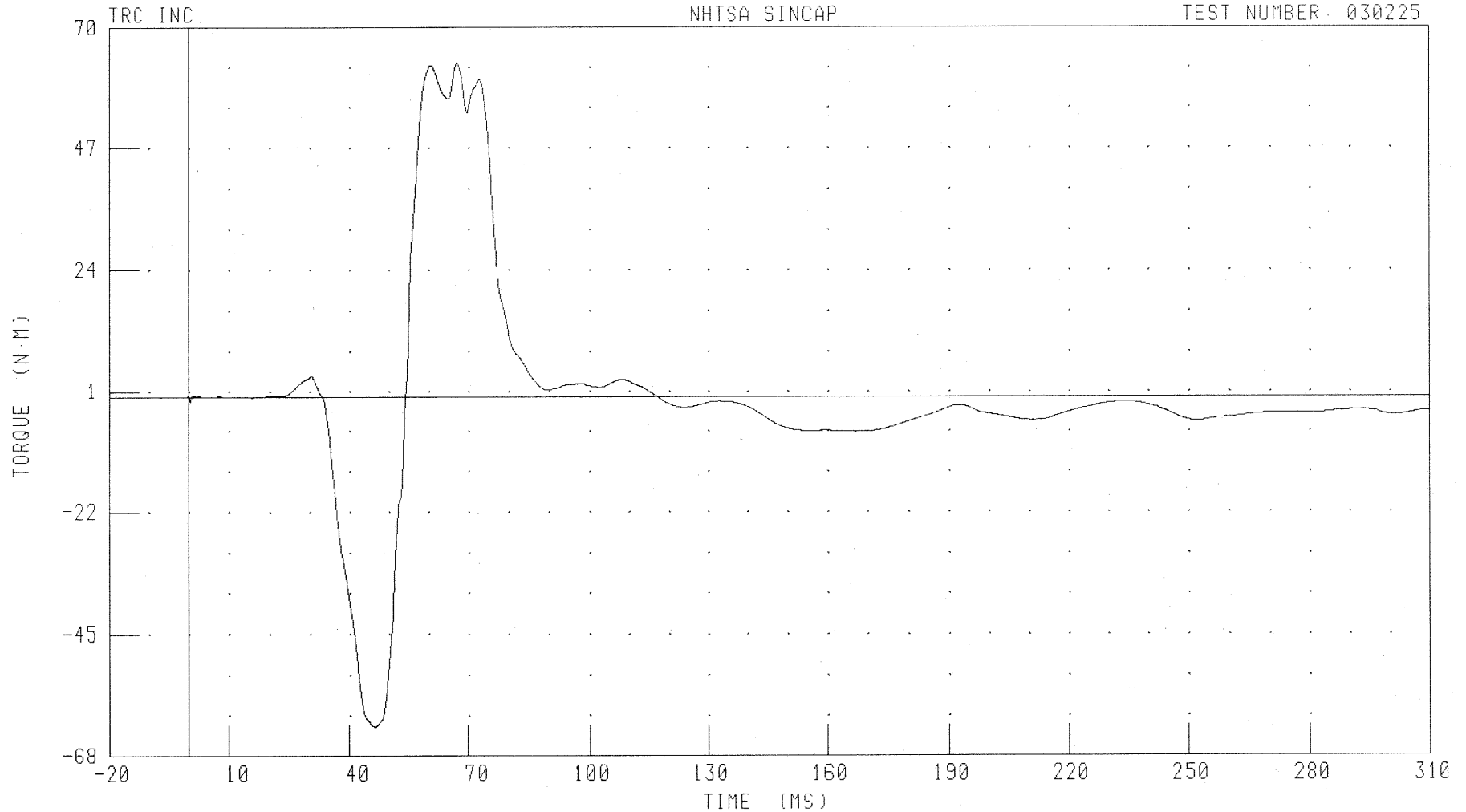
B-17

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER NECK MOMENT ABOUT X AXIS

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: NEKXMI FILTER: CH. CLASS 600

PEAK DATA: 63.18 N·M @ 67.20 MS; -62.54 N·M @ 46.48 MS

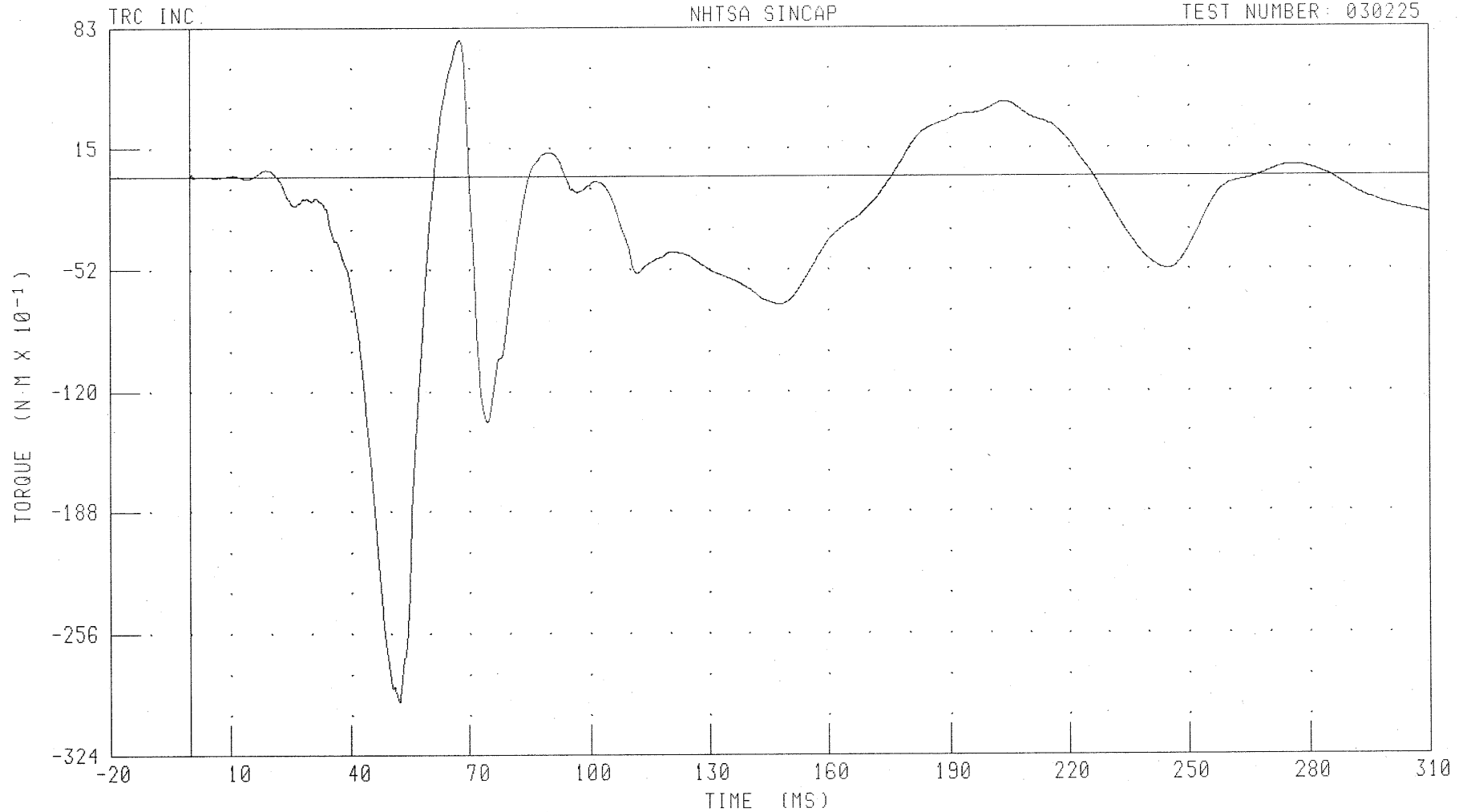
B-18

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER NECK MOMENT ABOUT Y AXIS

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: NEKYM1

FILTER: CH. CLASS 600

PEAK DATA: 7.71 N·M @ 67.68 MS; -29.42 N·M @ 52.16 MS

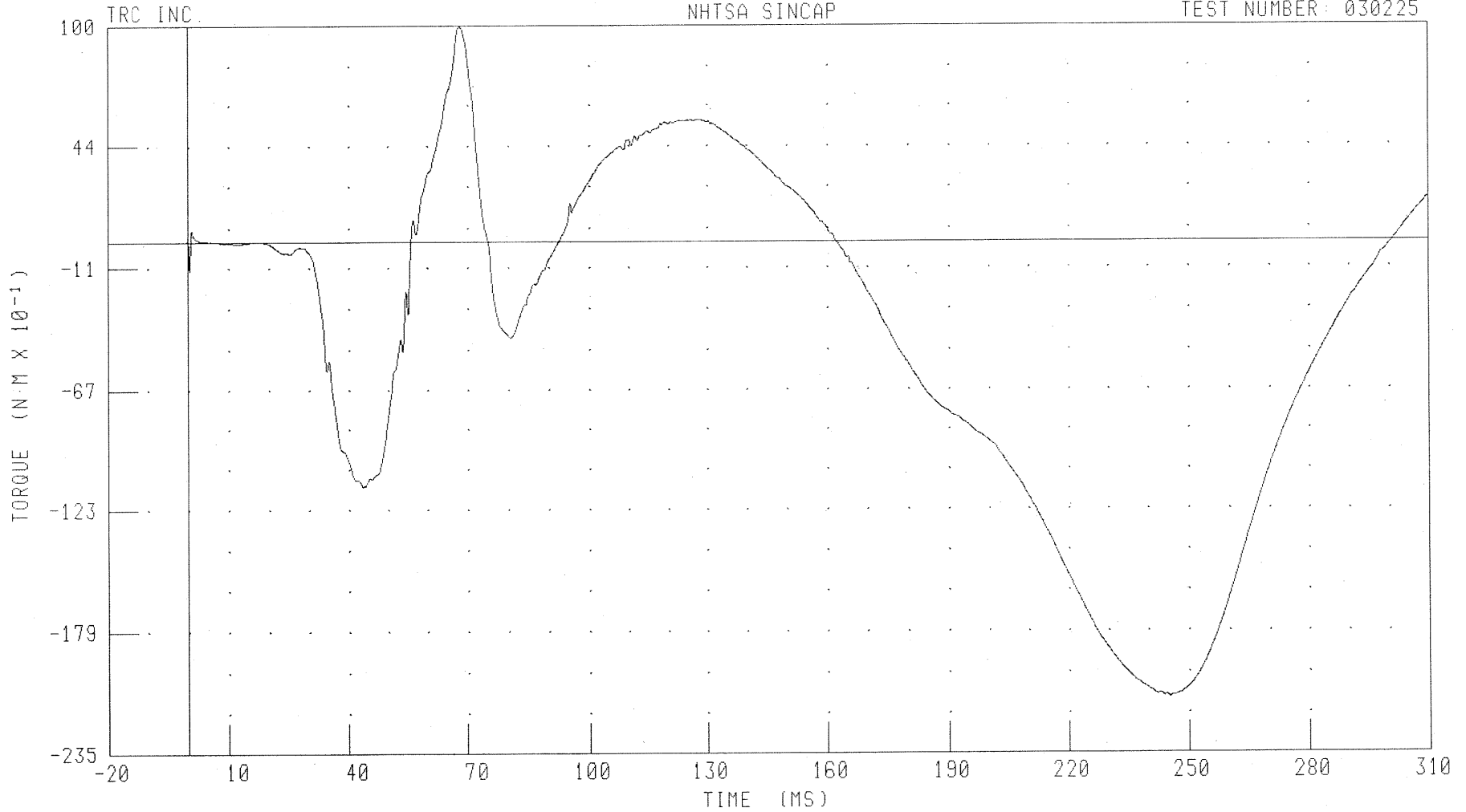
B-19

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER NECK MOMENT ABOUT Z AXIS

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: NEKZM1 FILTER: CH. CLASS 600

PEAK DATA: 9.96 N·M @ 68.08 MS; -21.03 N·M @ 245.28 MS

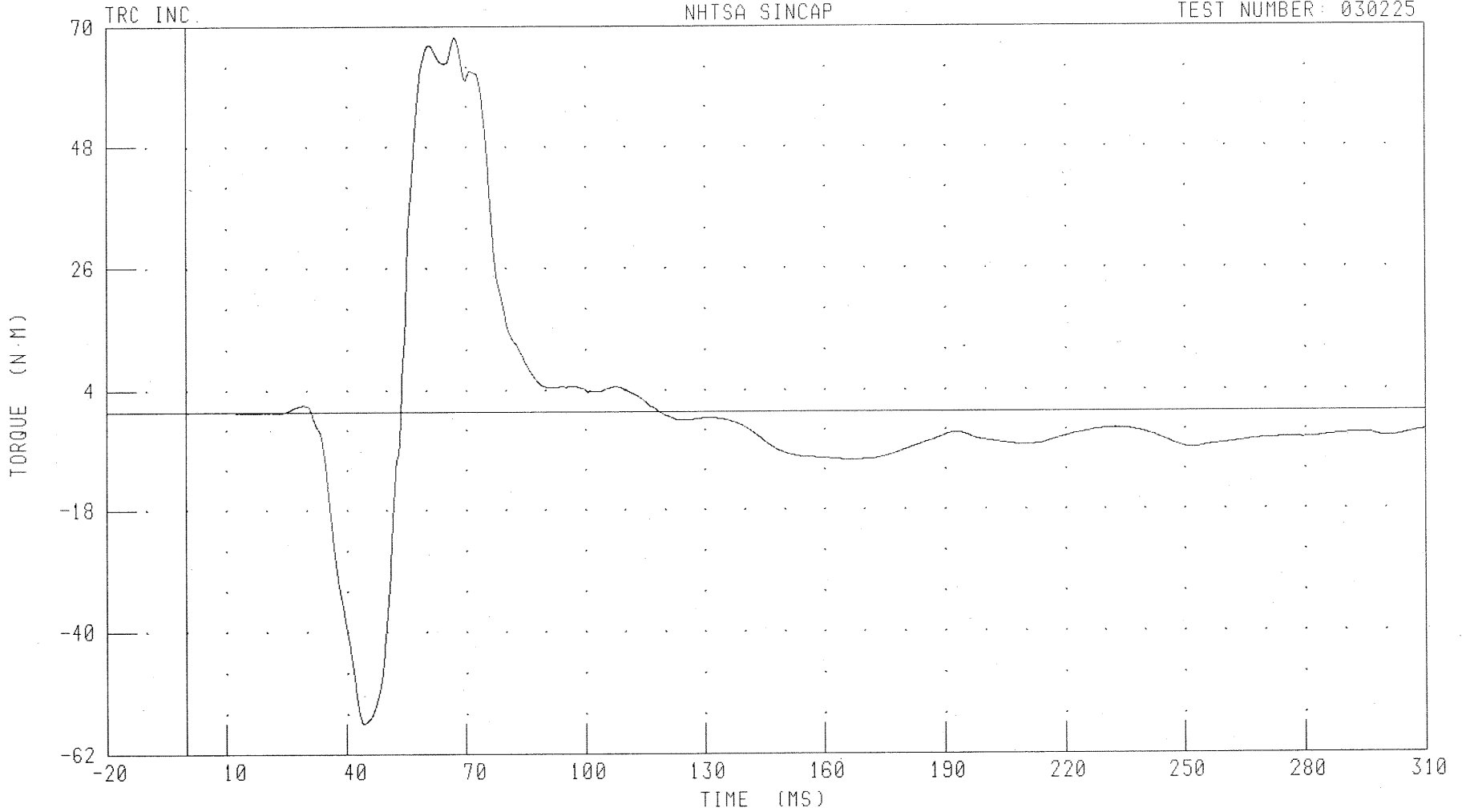
B-20

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER NECK OCCIPITAL CONDYLE MOMENT ABOUT X AXIS

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: NK0XM1 FILTER: CH. CLASS 600

PEAK DATA: 67.97 N·M @ 67.28 MS, -56.44 N·M @ 44.24 MS

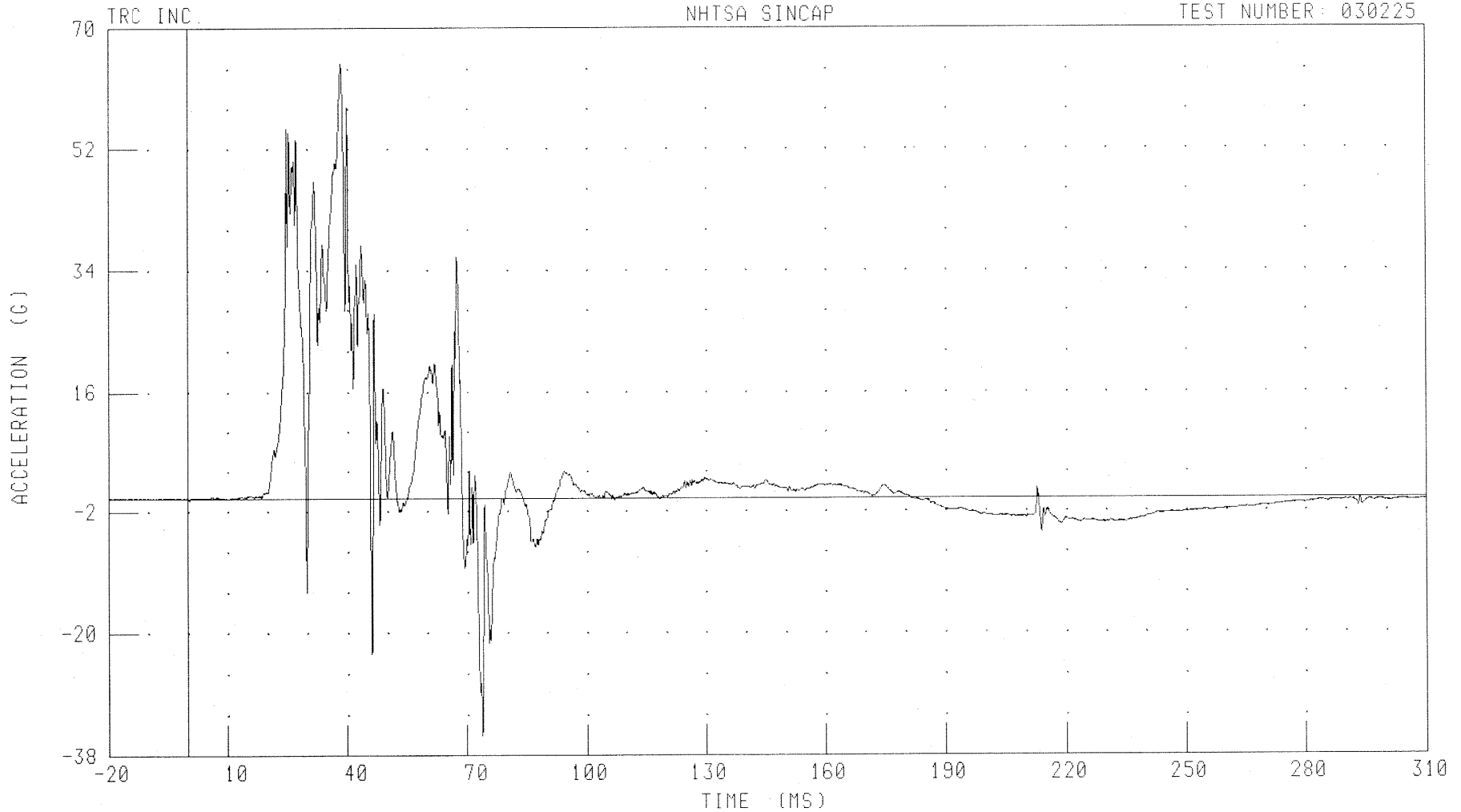
B-21

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER UPPER RIB Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LURYG1 FILTER: CH. CLASS 1000

PEAK DATA: 64.81 G @ 38.40 MS, -35.14 G @ 73.76 MS

B-22

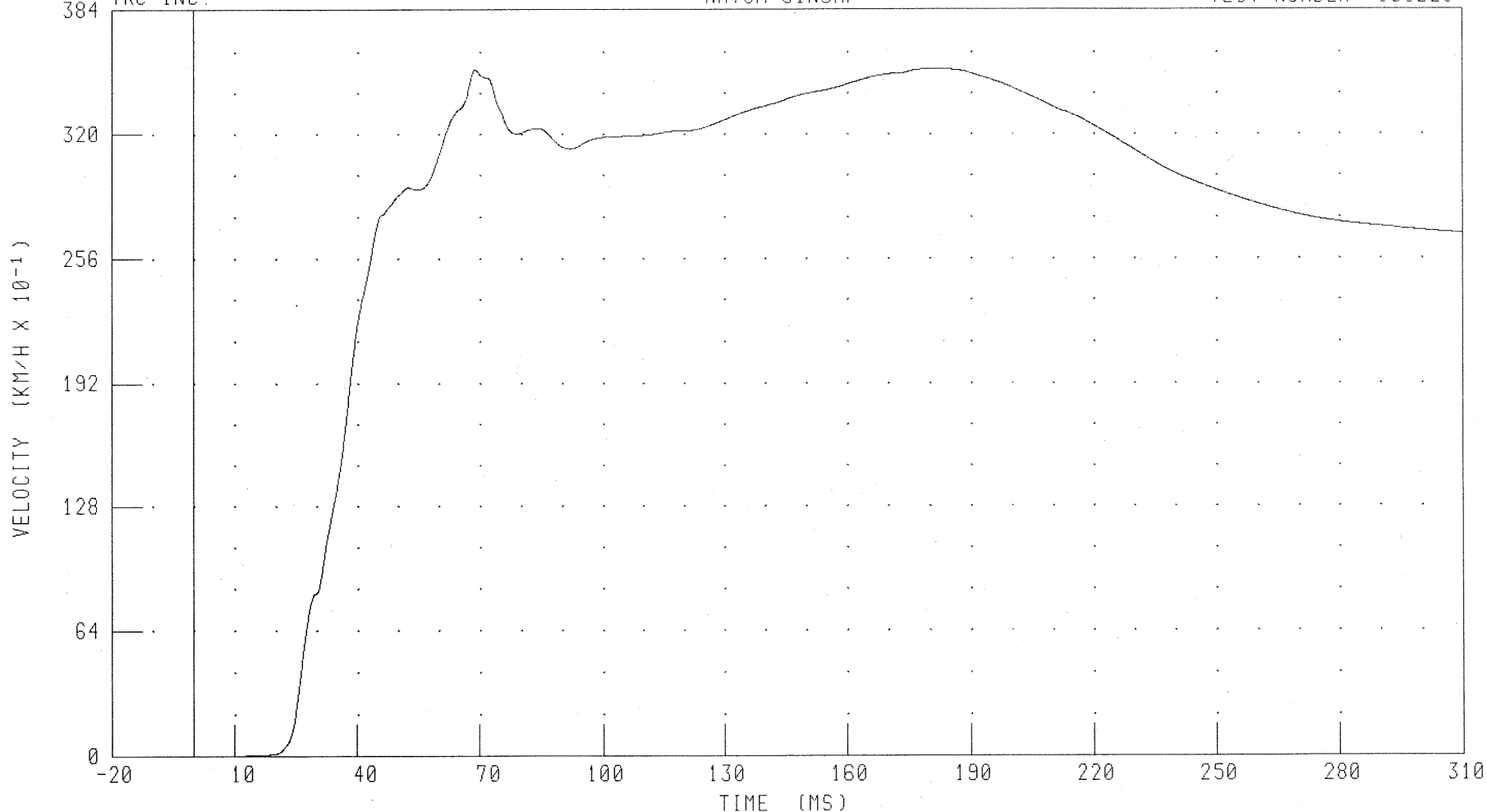
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER UPPER RIB Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LURYV1

FILTER: CH. CLASS 180

PEAK DATA: 35.41 KM/H @ 181.12 MS, 0.00 KM/H @ 0.96 MS

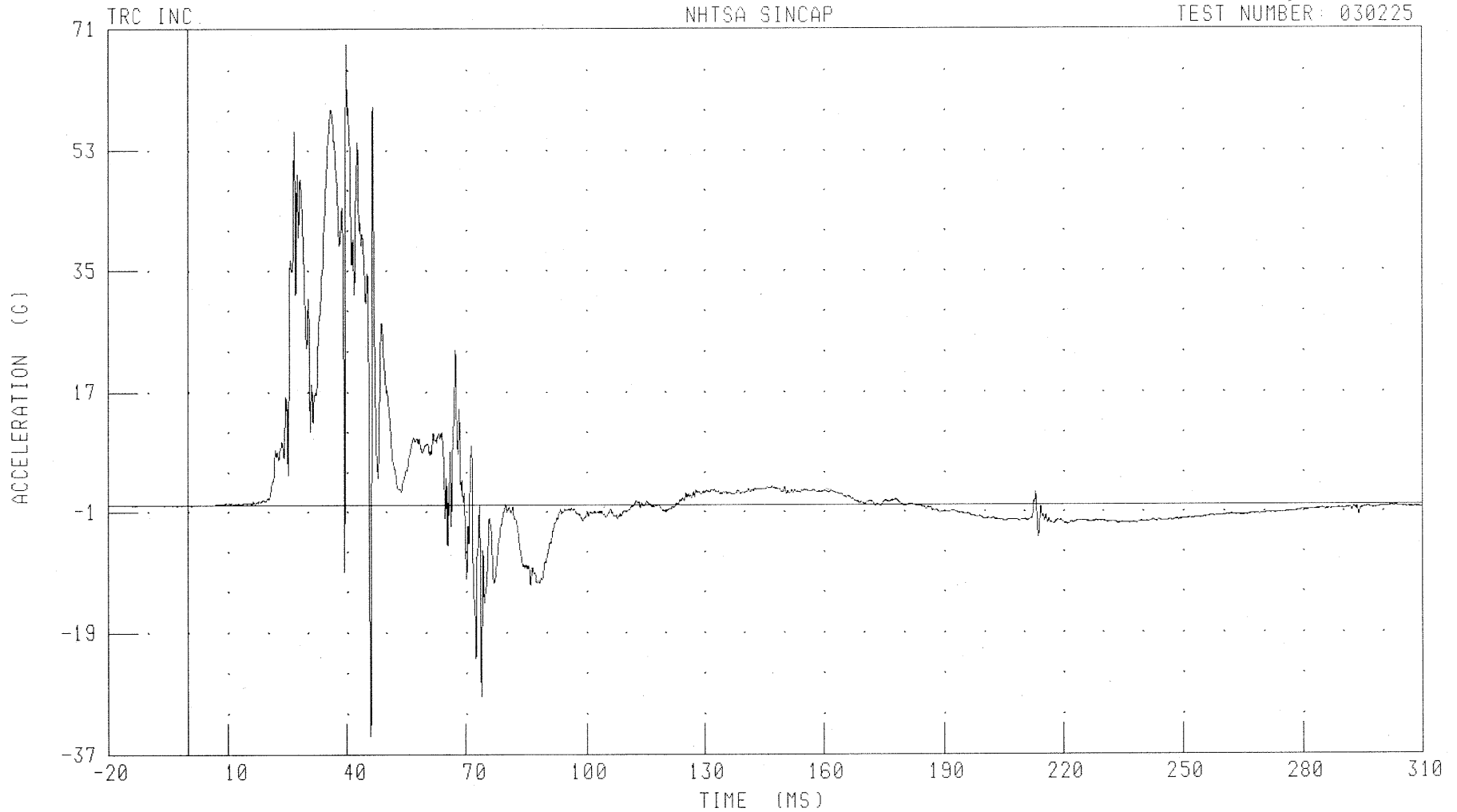
B-23

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER RIB Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLRYG1 FILTER: CH. CLASS 1000

PEAK DATA: 68.77 G @ 39.92 MS, -34.32 G @ 46.08 MS

B-24

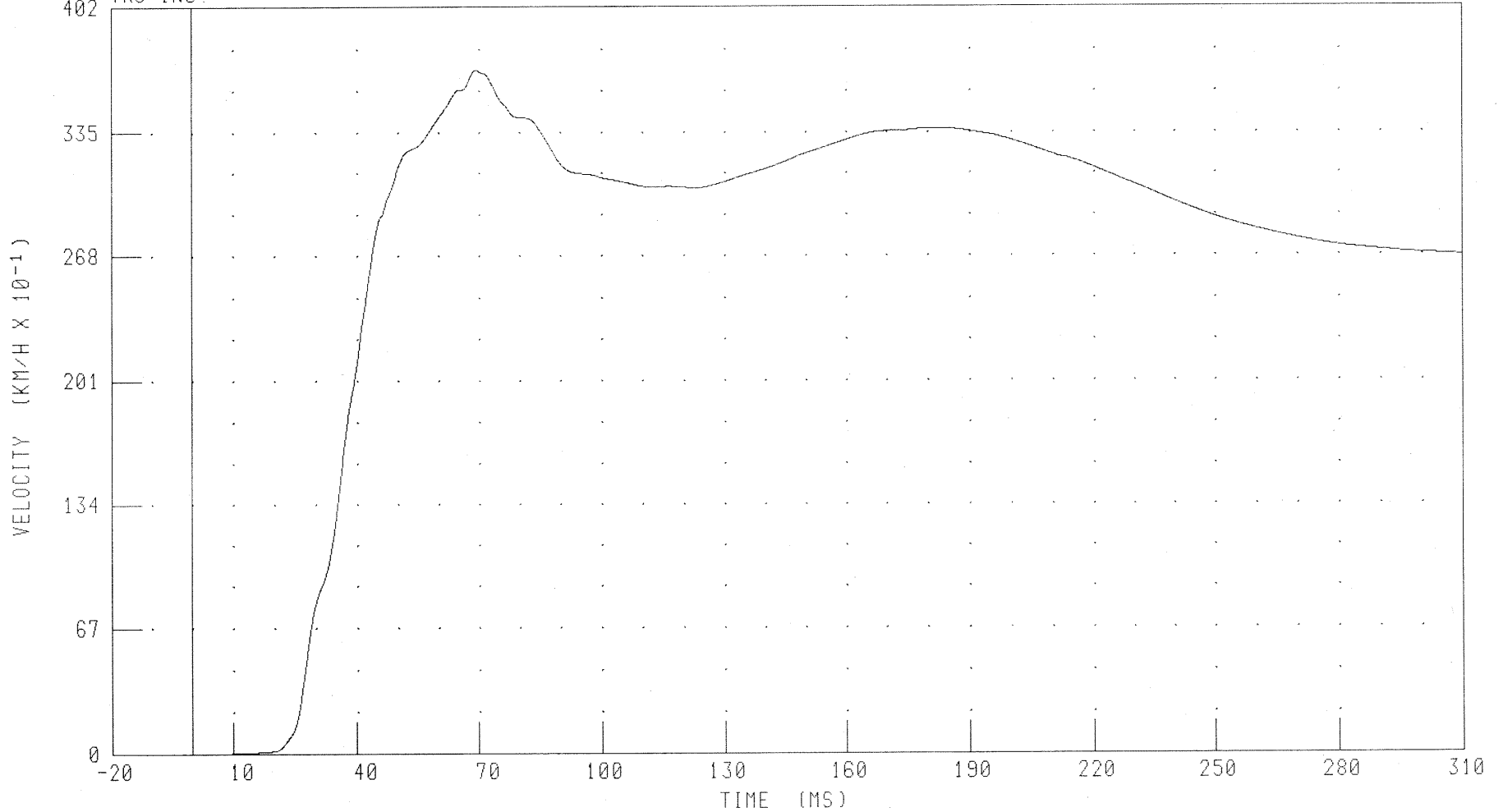
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER RIB Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLRYV1

FILTER: CH. CLASS 180

PEAK DATA: 36.87 KM/H @ 69.36 MS; 0.00 KM/H @ 0.00 MS

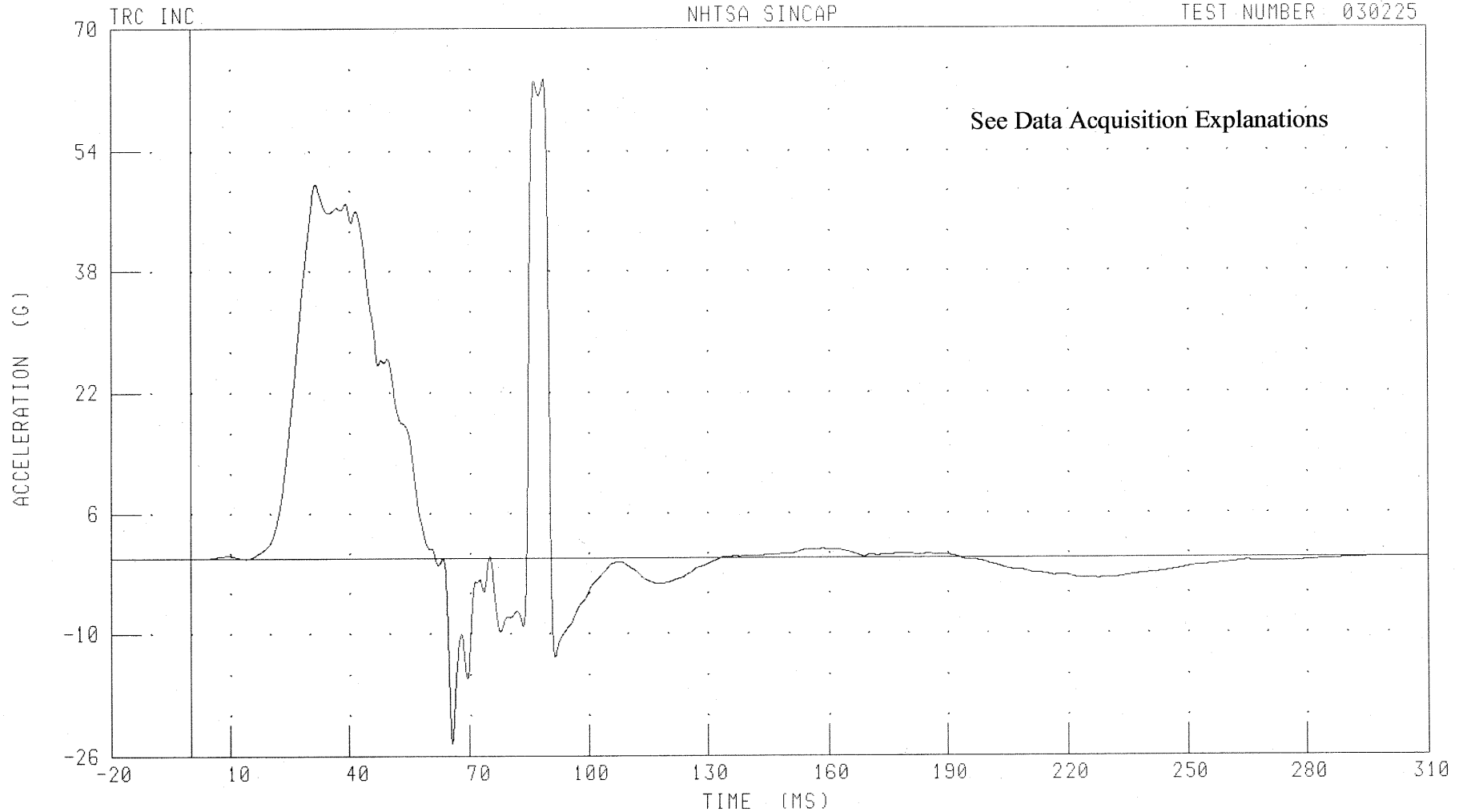
B-25

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER SPINE Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: T12YG1 FILTER: CH. CLASS 180

PEAK DATA: 63.35 G @ 88.56 MS; -24.37 G @ 65.60 MS

B-26

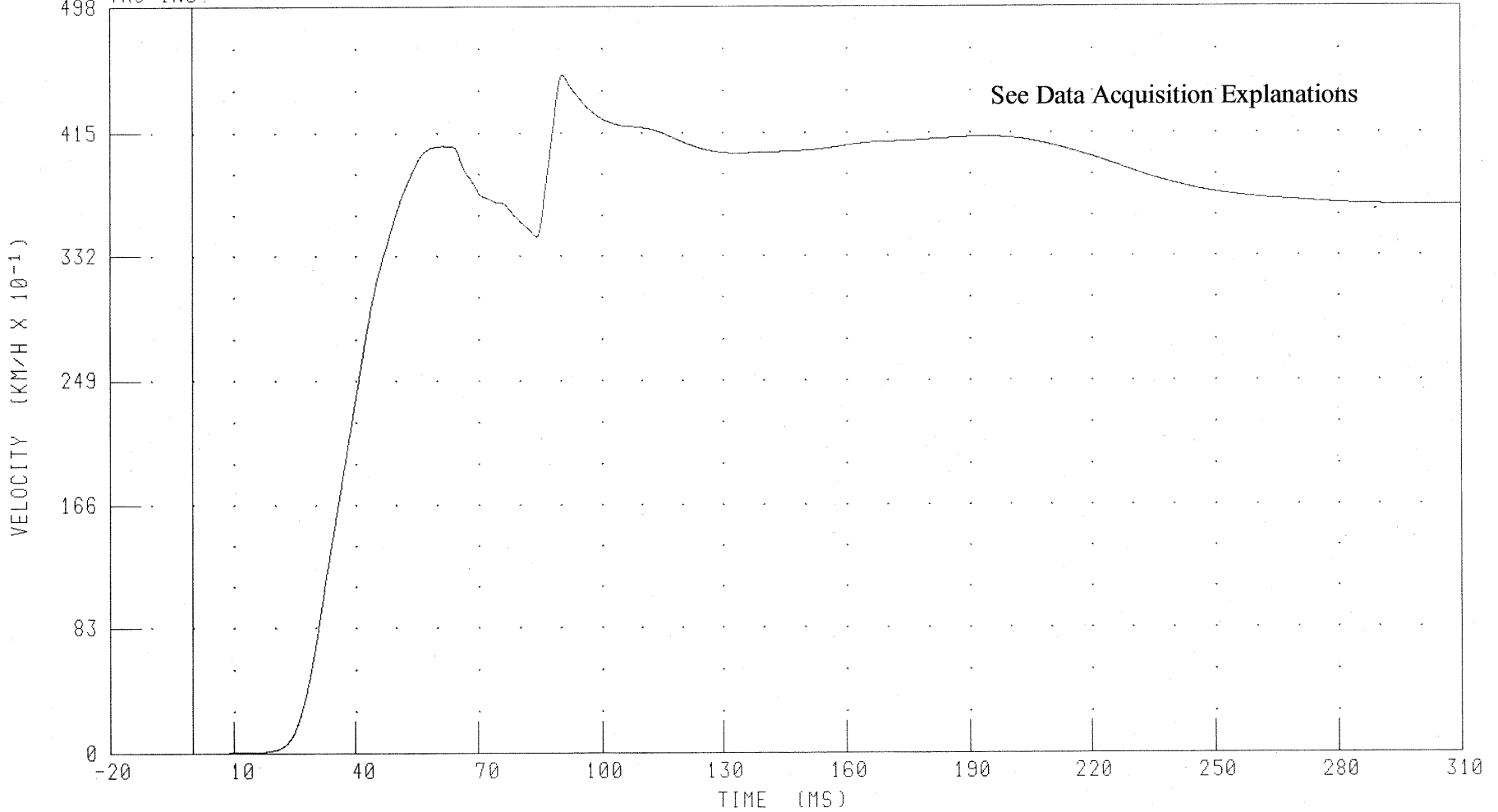
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER SPINE Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: T12YV1 FILTER: CH. CLASS 180

PEAK DATA: 45.33 KM/H @ 90.40 MS; 0.00 KM/H @ 0.80 MS

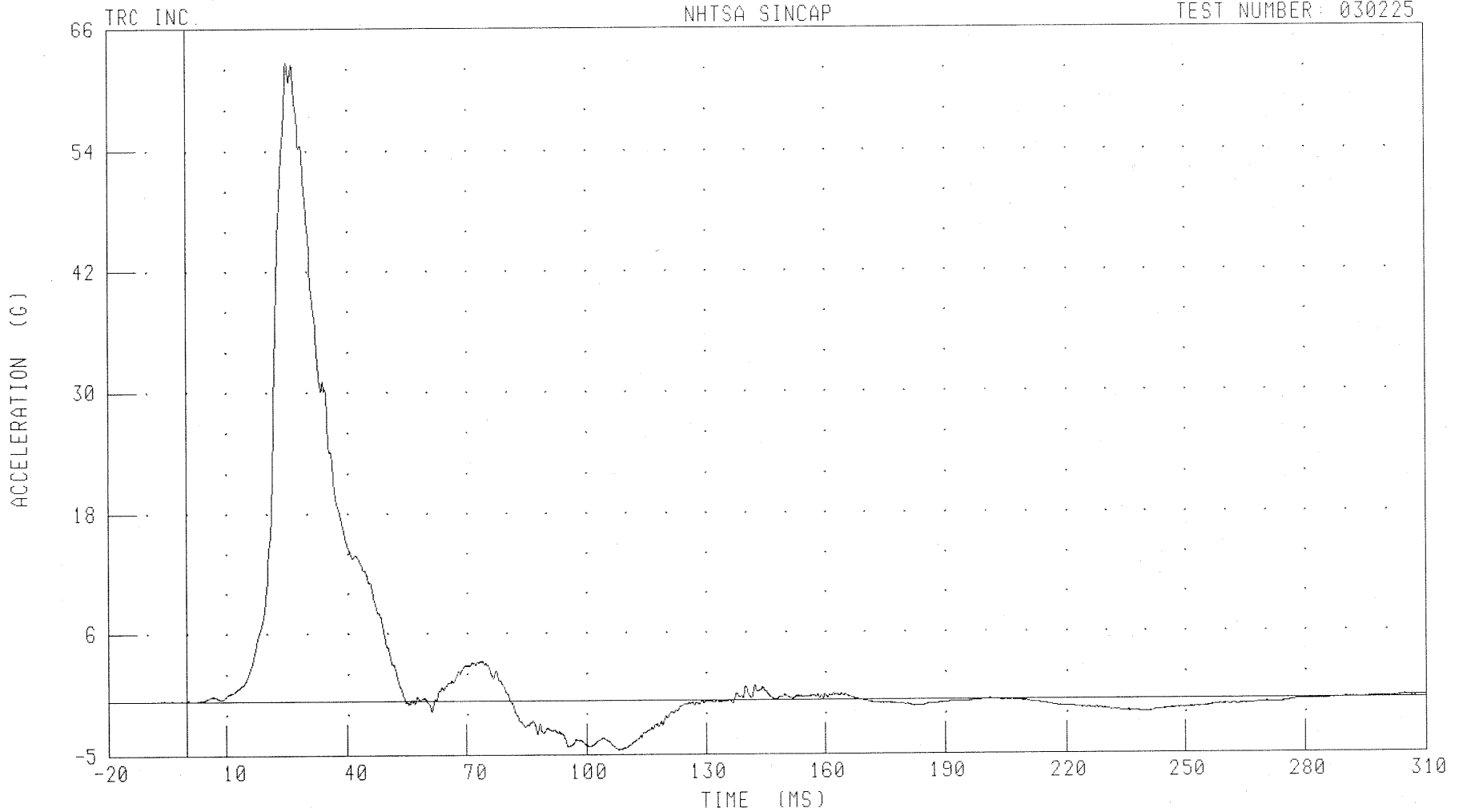
B-27

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER PELVIS Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: PEVYG1 FILTER: CH. CLASS 1000

PEAK DATA: 63.28 G @ 25.20 MS; -4.96 G @ 108.16 MS

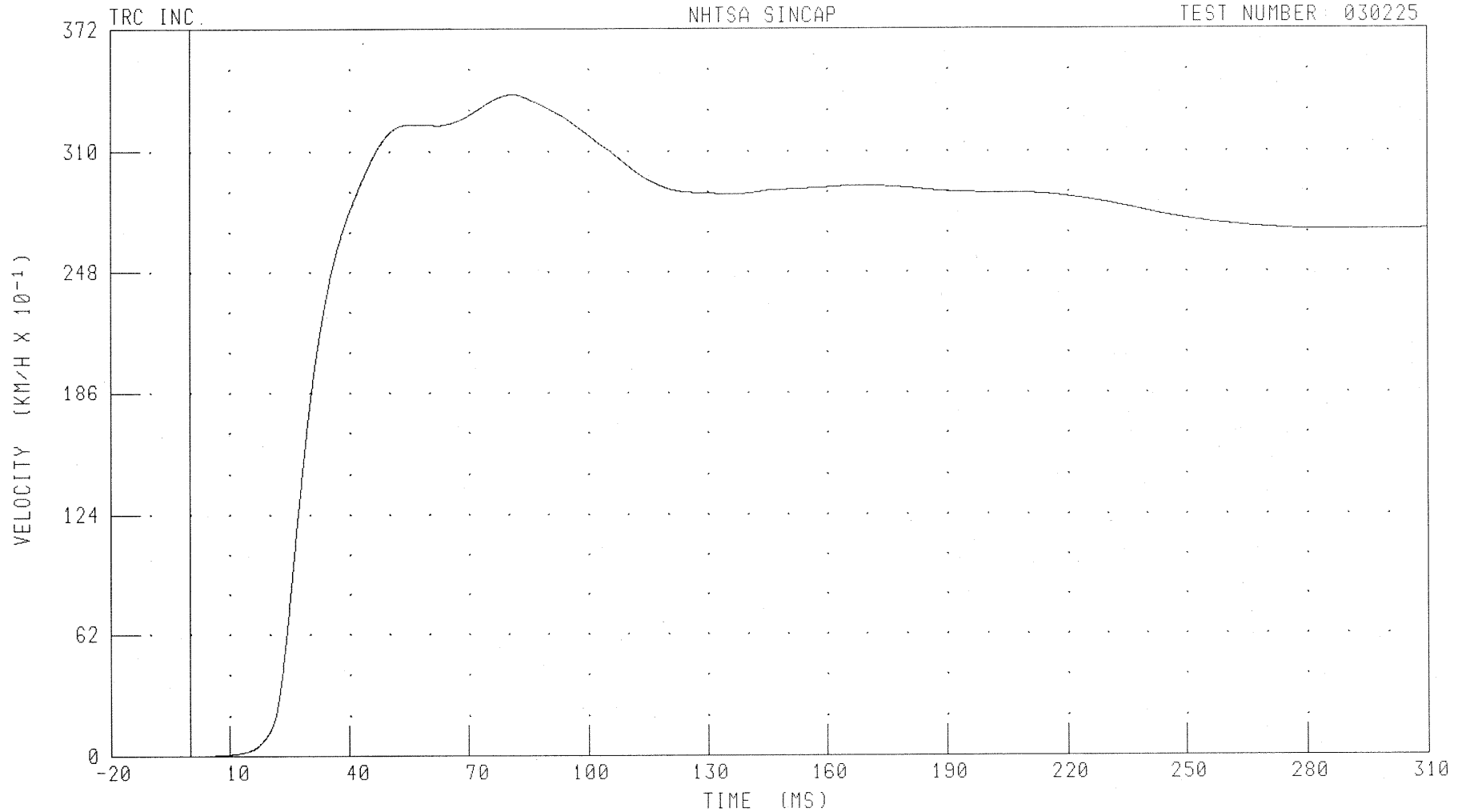
B-28

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER PELVIS Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: PEVYV1

FILTER: CH. CLASS 180

PEAK DATA: 33.85 KM/H @ 81.04 MS; 0.00 KM/H @ 0.00 MS

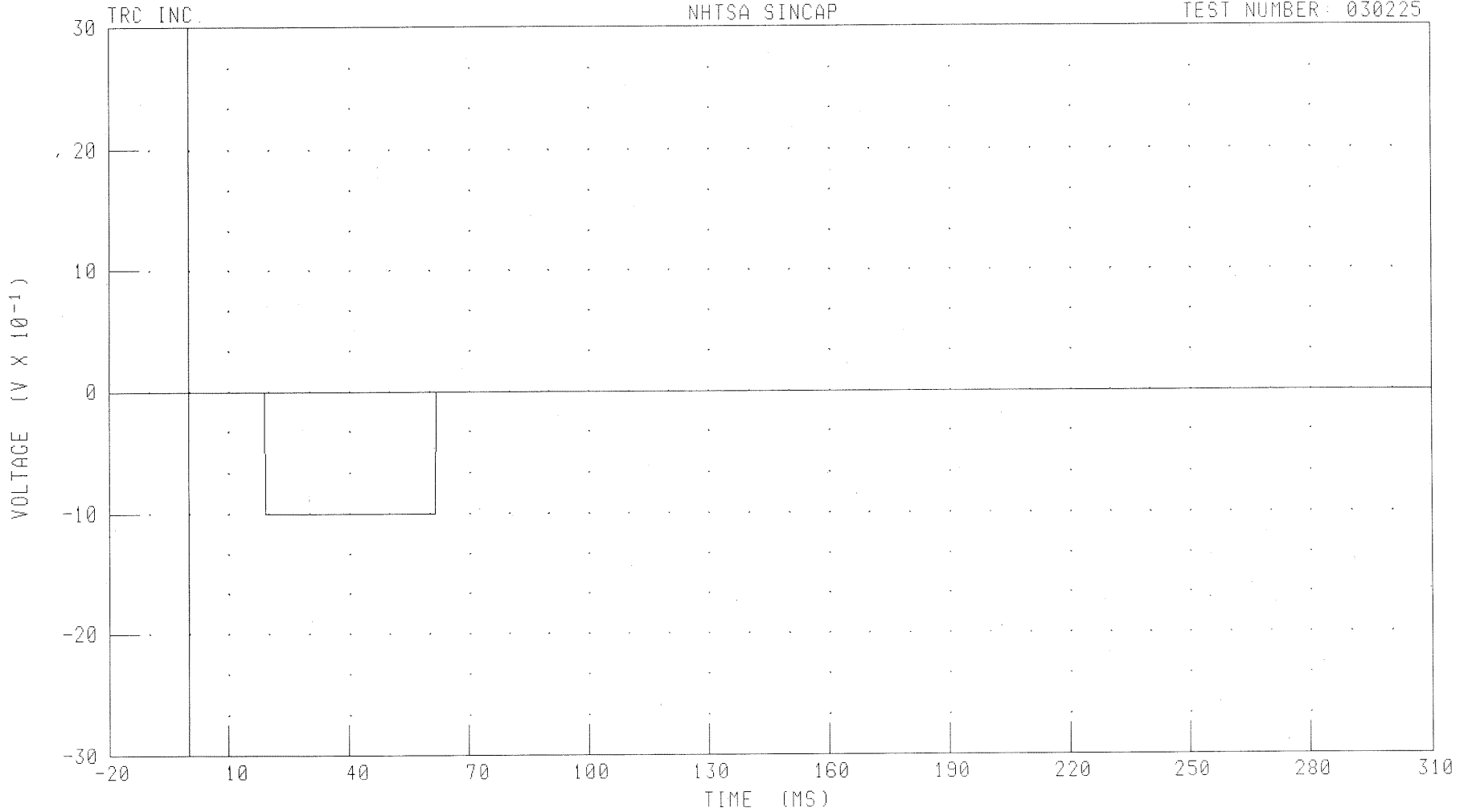
B-29

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER SHOULDER CONTACT SWITCH

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: SHLET1 FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS, -1.00 V @ 19.28 MS

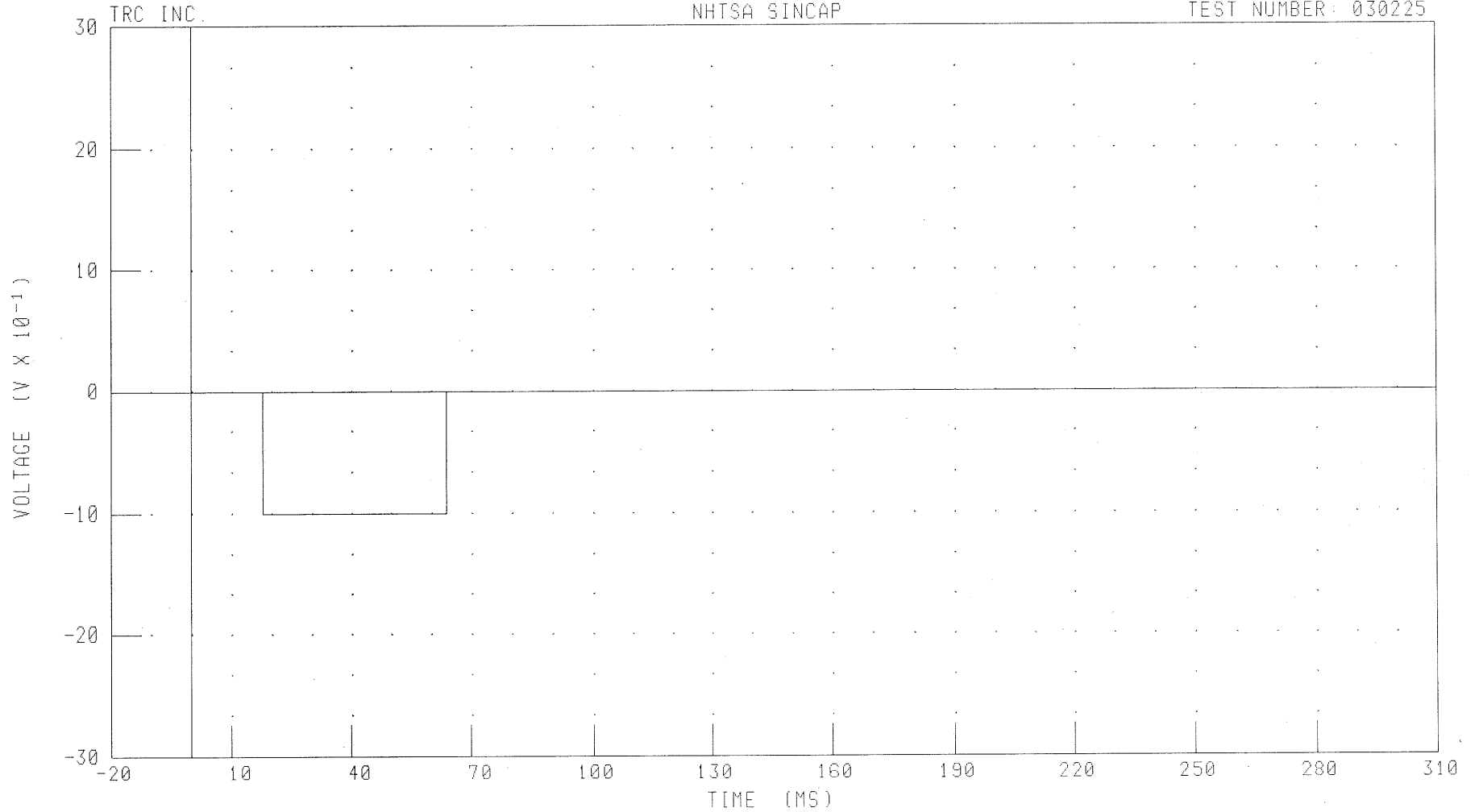
B-30

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER PELVIS CONTACT SWITCH

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: PEVET1 FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 17.84 MS

B-31

030225

Driver Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000 - Redundant

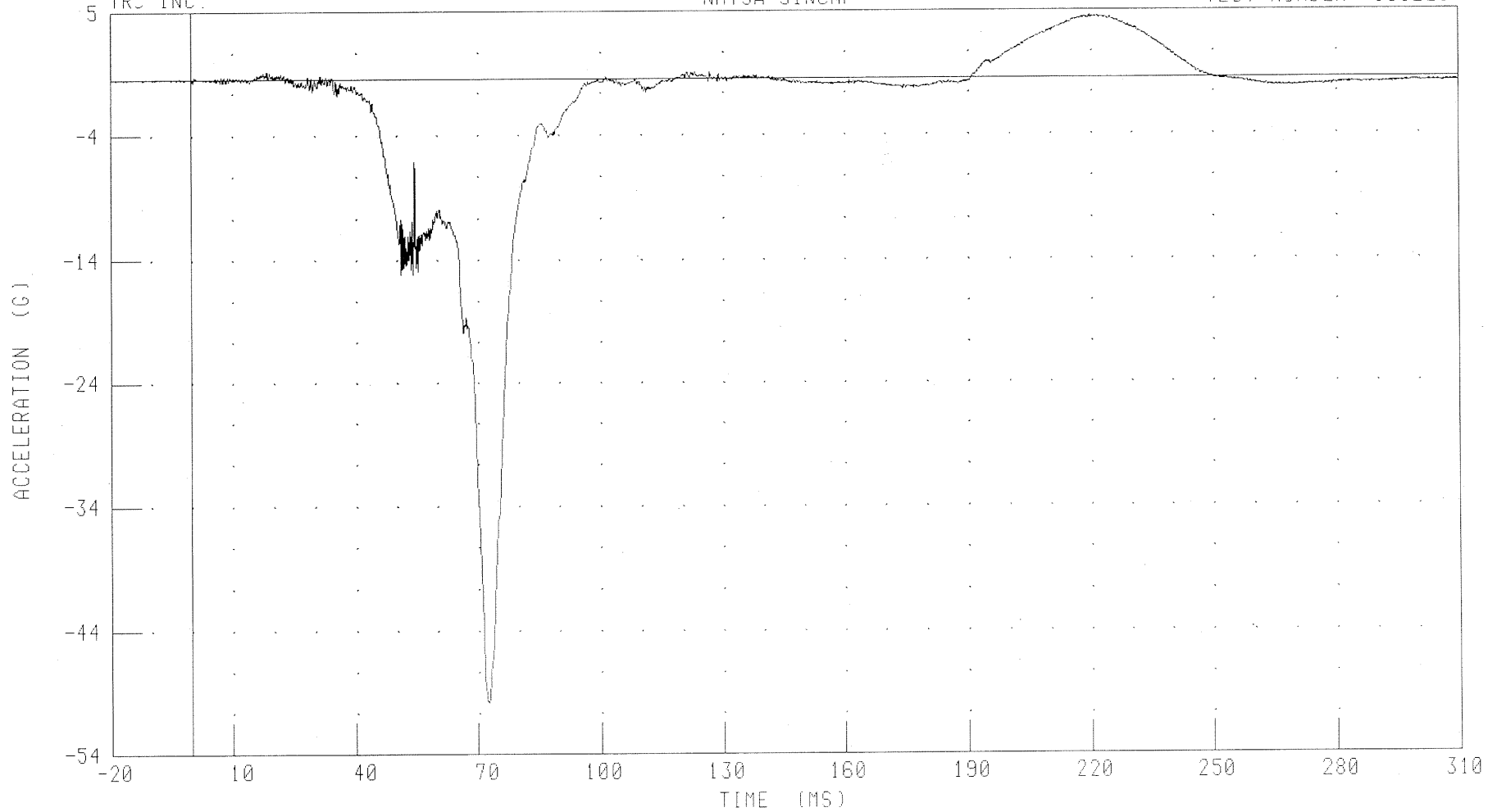
Integration Data - Filter Class 180 - Redundant

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD X-AXIS REDUNDANT ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDXR1

FILTER: CH. CLASS 1000

PEAK DATA: 5.09 G @ 219.68 MS; -50.40 G @ 72.56 MS

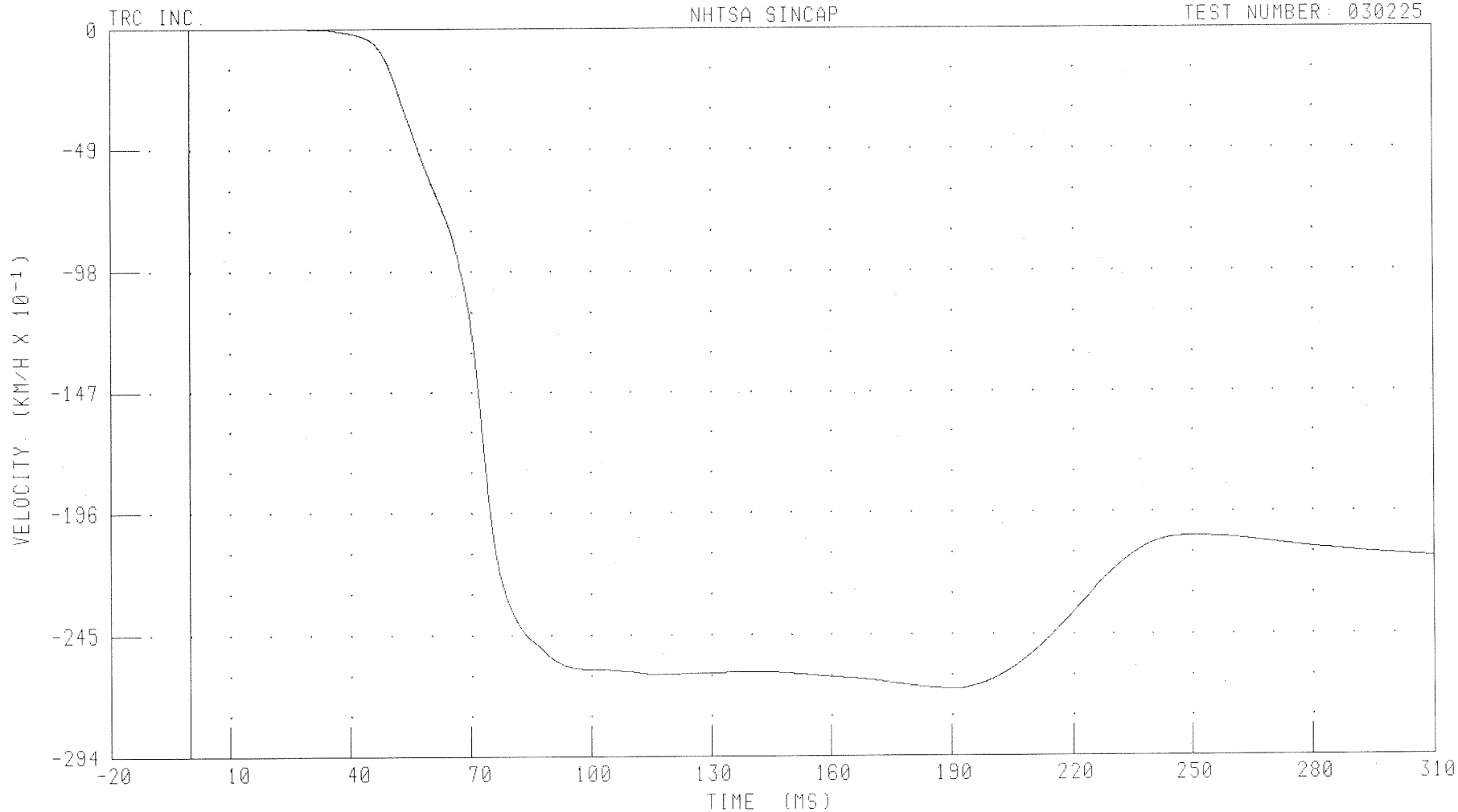
B-33

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD X-AXIS REDUNDANT VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDXVI

FILTER: CH. CLASS 180

PEAK DATA: 0.06 KM/H @ 23.76 MS; -26.72 KM/H @ 190.88 MS

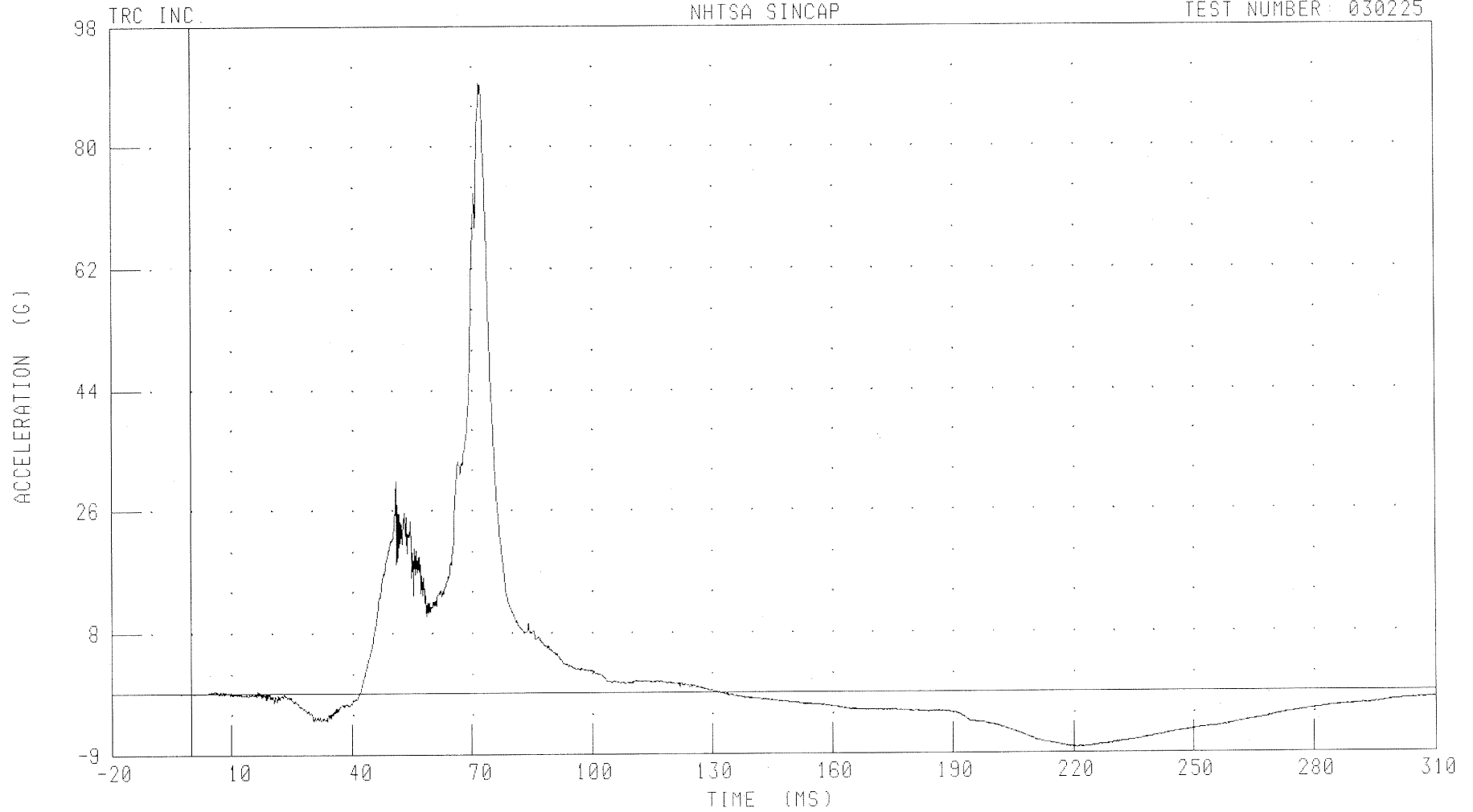
B-34

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Y-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDYR1 FILTER: CH. CLASS 1000

PEAK DATA: 90.39 G @ 72.00 MS; -8.34 G @ 220.64 MS

B-35

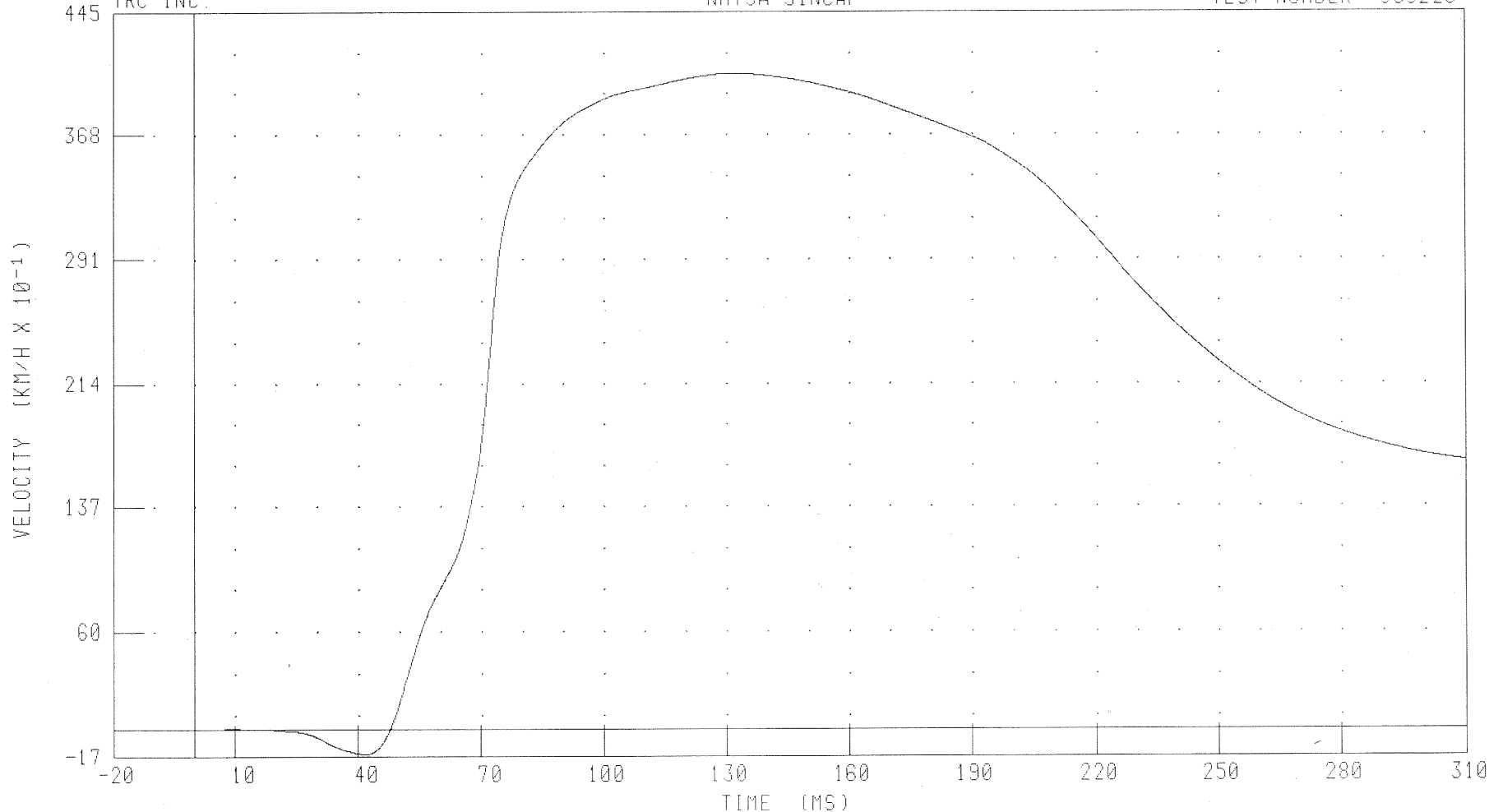
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Y-AXIS REDUNDANT VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDYVI

FILTER: CH. CLASS 180

PEAK DATA: 40.62 KM/H @ 131.84 MS; -1.58 KM/H @ 41.84 MS

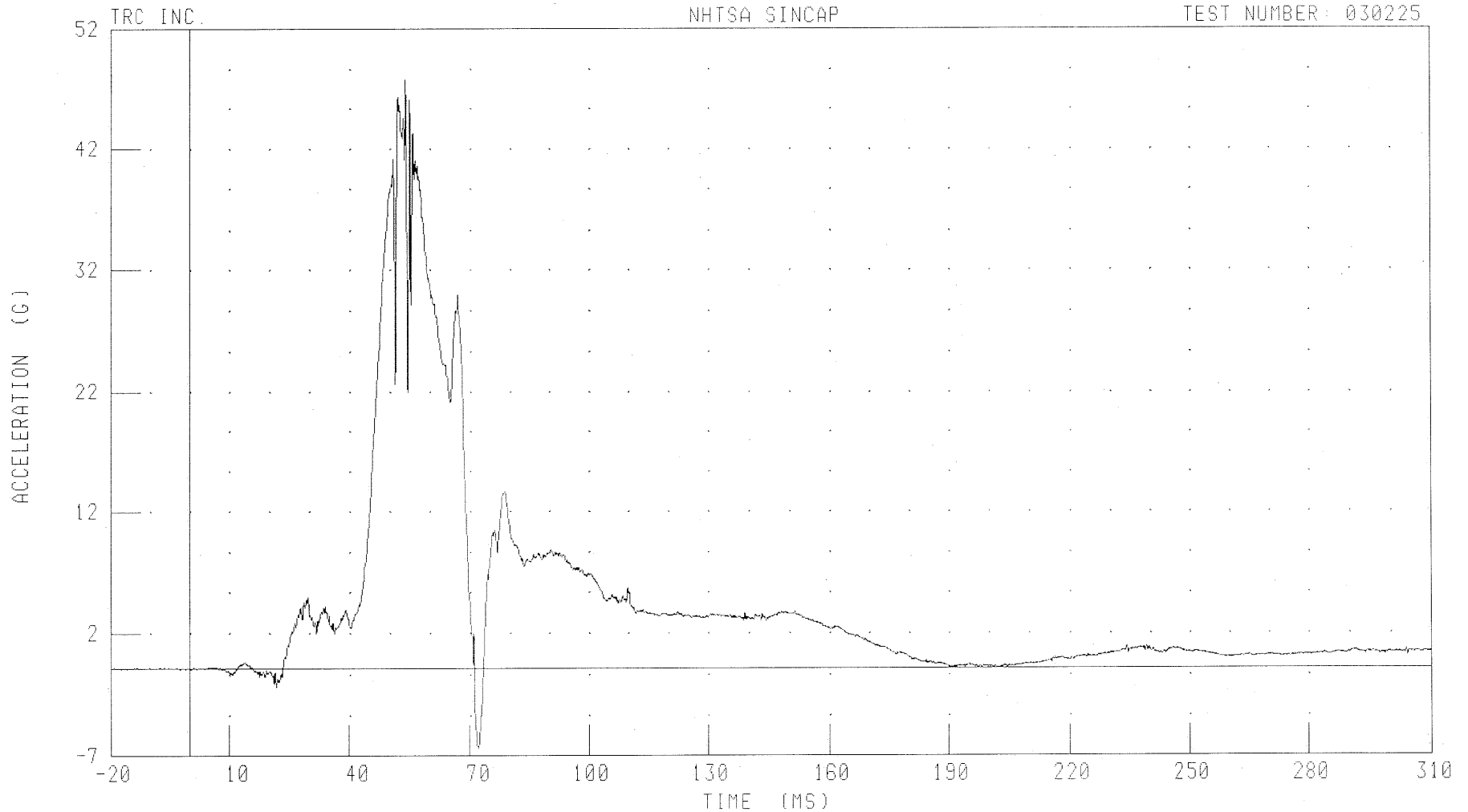
B-36

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Z-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDZR1 FILTER: CH. CLASS 1000

PEAK DATA: 48.62 G @ 53.92 MS; -6.59 G @ 72.16 MS

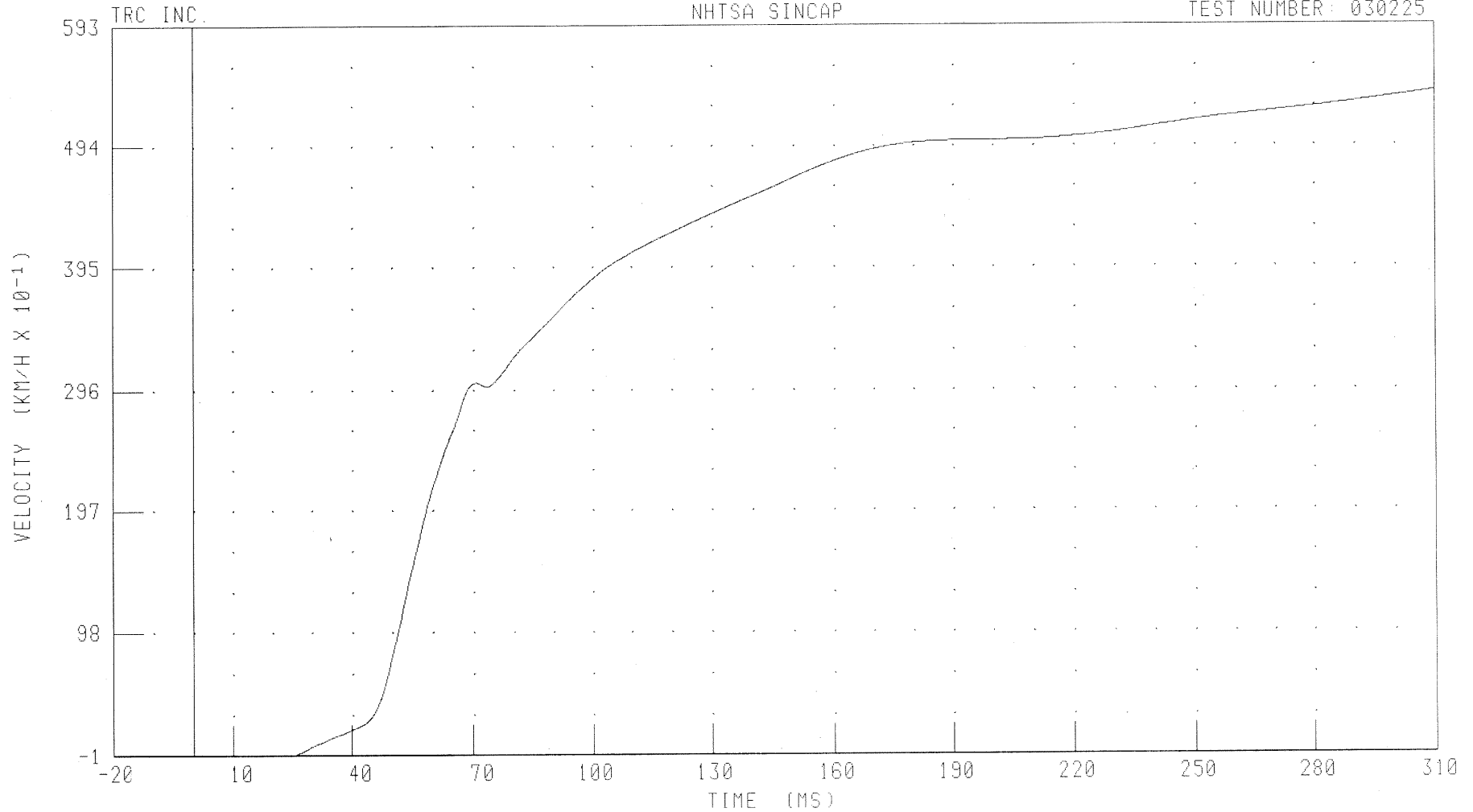
B-37

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER HEAD Z-AXIS REDUNDANT VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: HEDZVI FILTER: CH. CLASS 180

PEAK DATA: 53.89 KM/H @ 310.00 MS; -0.14 KM/H @ 23.52 MS

B-38

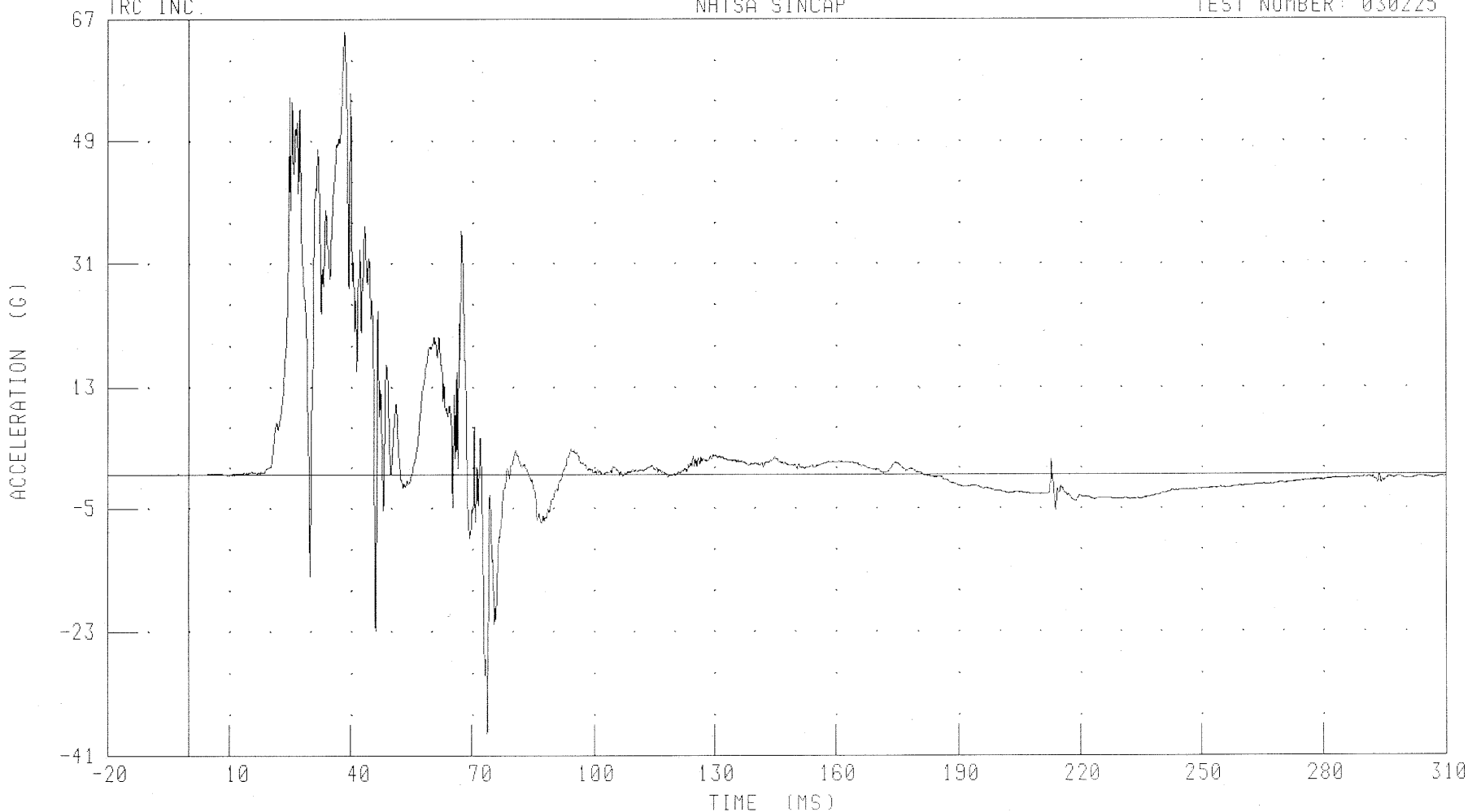
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LURYR1 FILTER: CH. CLASS 1000

PEAK DATA: 65.16 G @ 38.48 MS, -37.75 G @ 73.76 MS

B-39

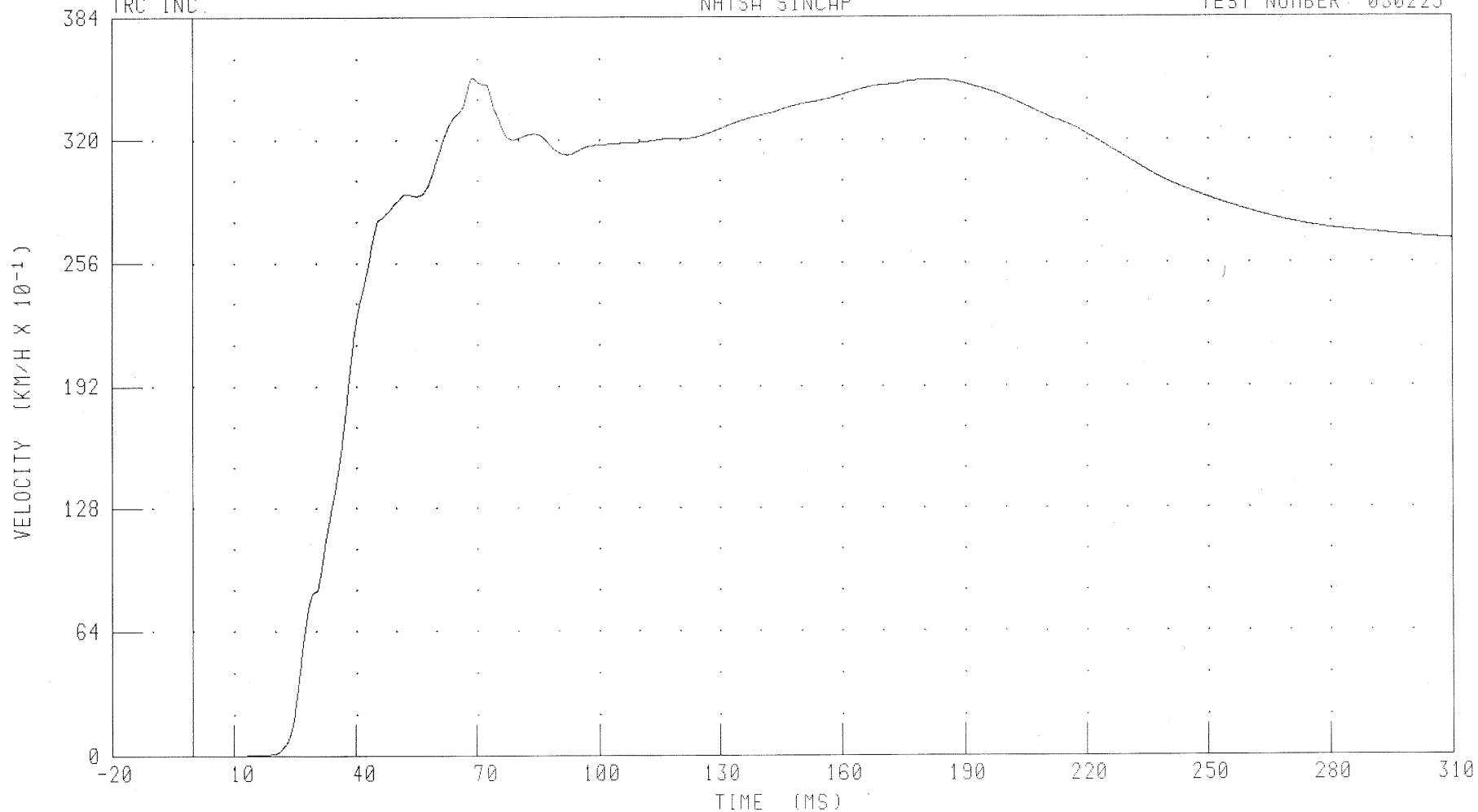
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER UPPER RIB Y-AXIS REDUNDANT VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LURYVI FILTER: CH. CLASS 100

PEAK DATA: 35.28 KM/H @ 68.96 MS; 0.00 KM/H @ 2.56 MS

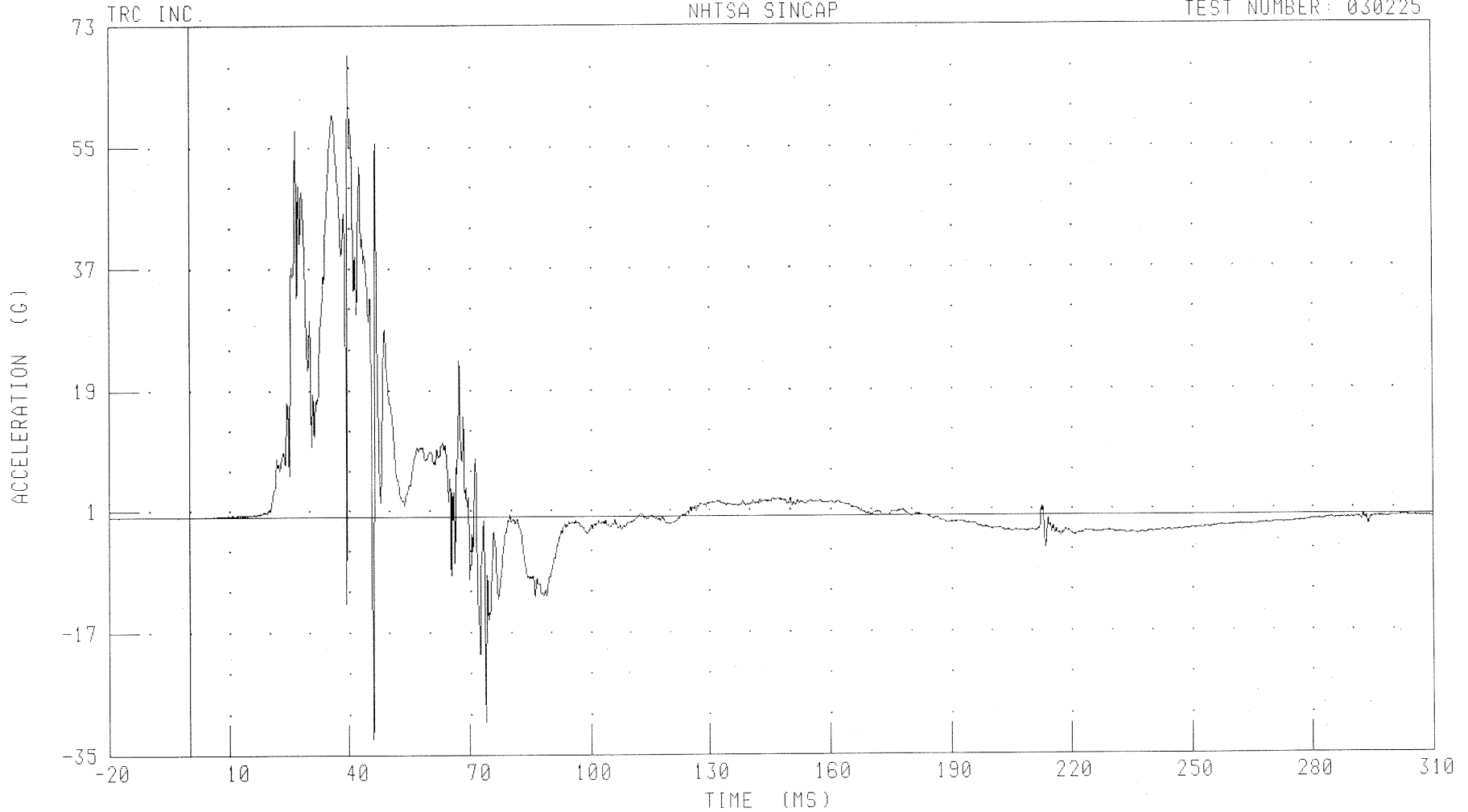
B-40

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLRYR1 FILTER: CH. CLASS 1000

PEAK DATA: 68.79 G @ 39.92 MS, -32.60 G @ 46.08 MS

B-41

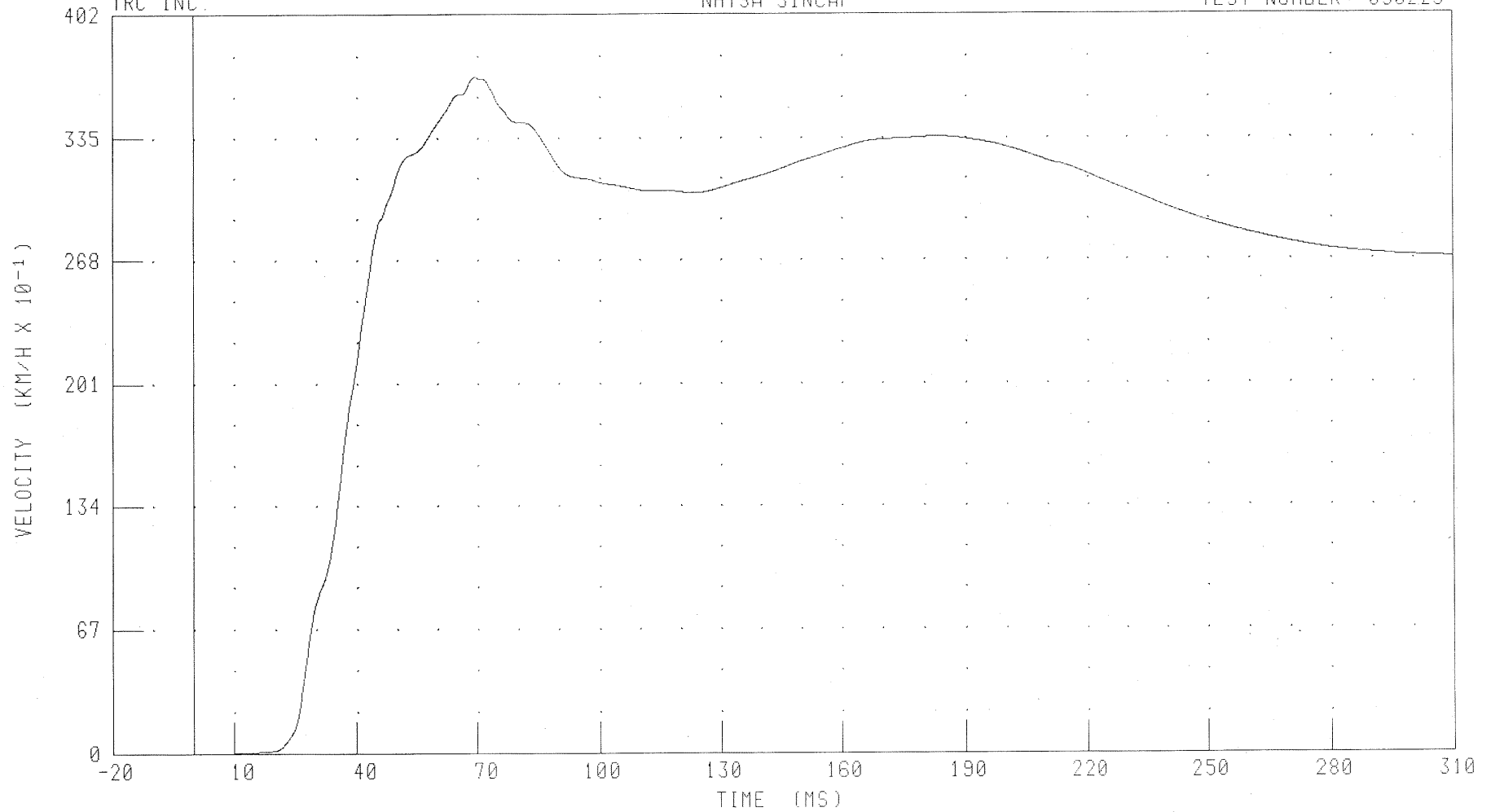
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER RIB Y-AXIS REDUNDANT VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLRYVI

FILTER: CH. CLASS 180

PEAK DATA: 36.85 KM/H @ 69.44 MS; 0.00 KM/H @ 0.00 MS

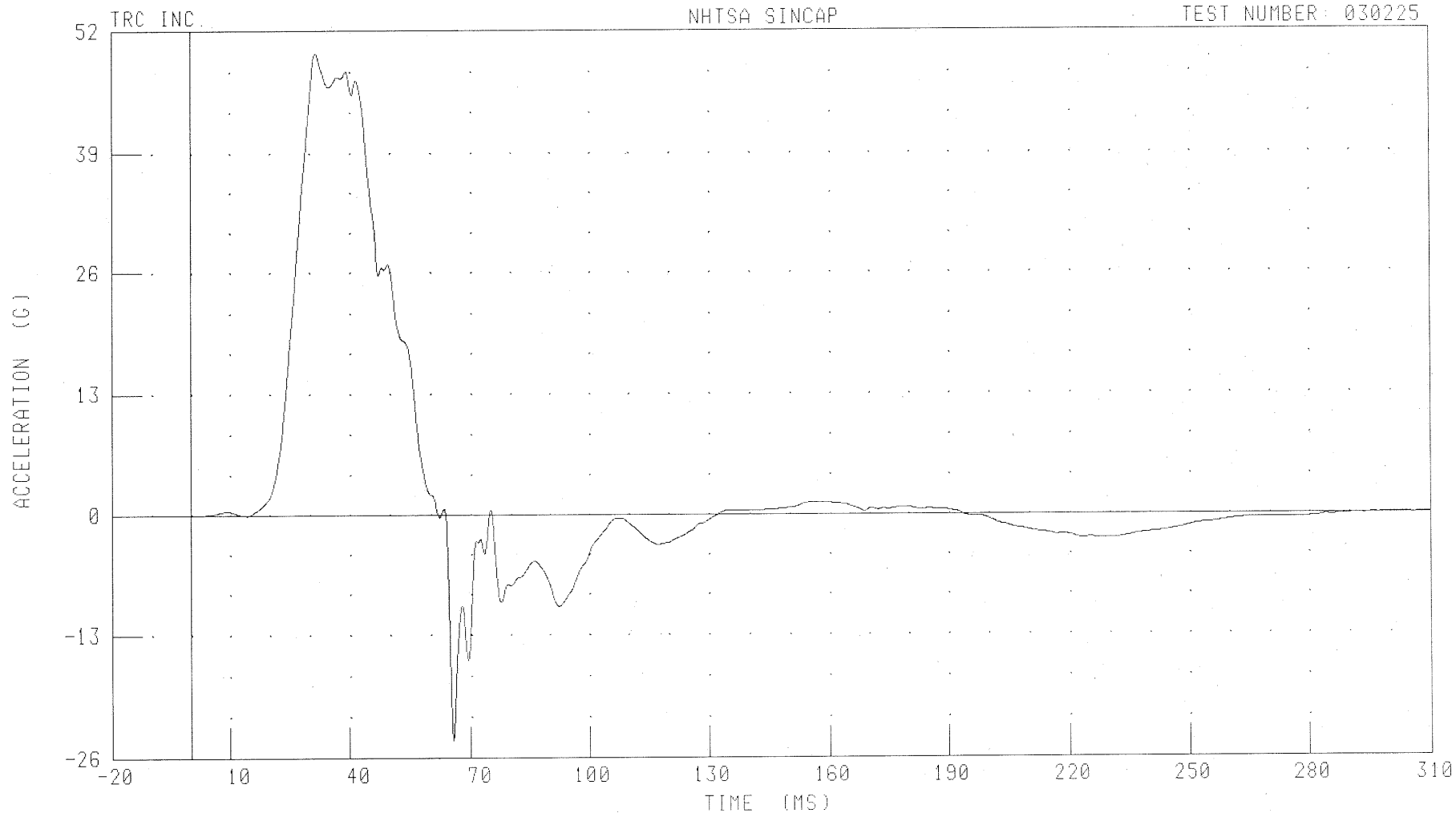
B-42

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: T12YR1 FILTER: CH. CLASS 180

PEAK DATA: 49.65 G @ 31.68 MS; -24.16 G @ 65.60 MS

B-43

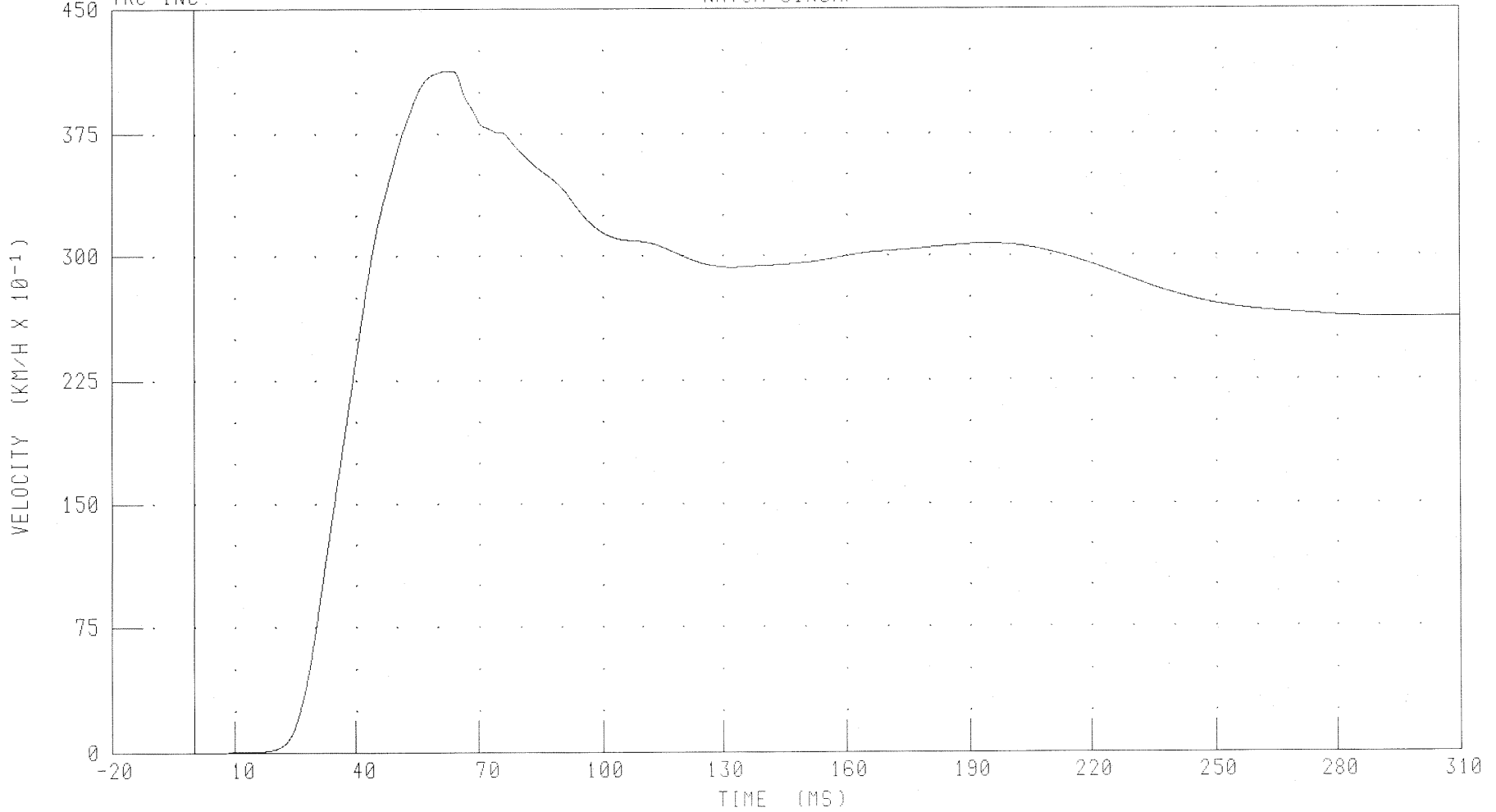
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: T12YVI FILTER: CH. CLASS 180

PEAK DATA: 41.27 KM/H @ 63.76 MS, 0.00 KM/H @ 0.00 MS

B-44

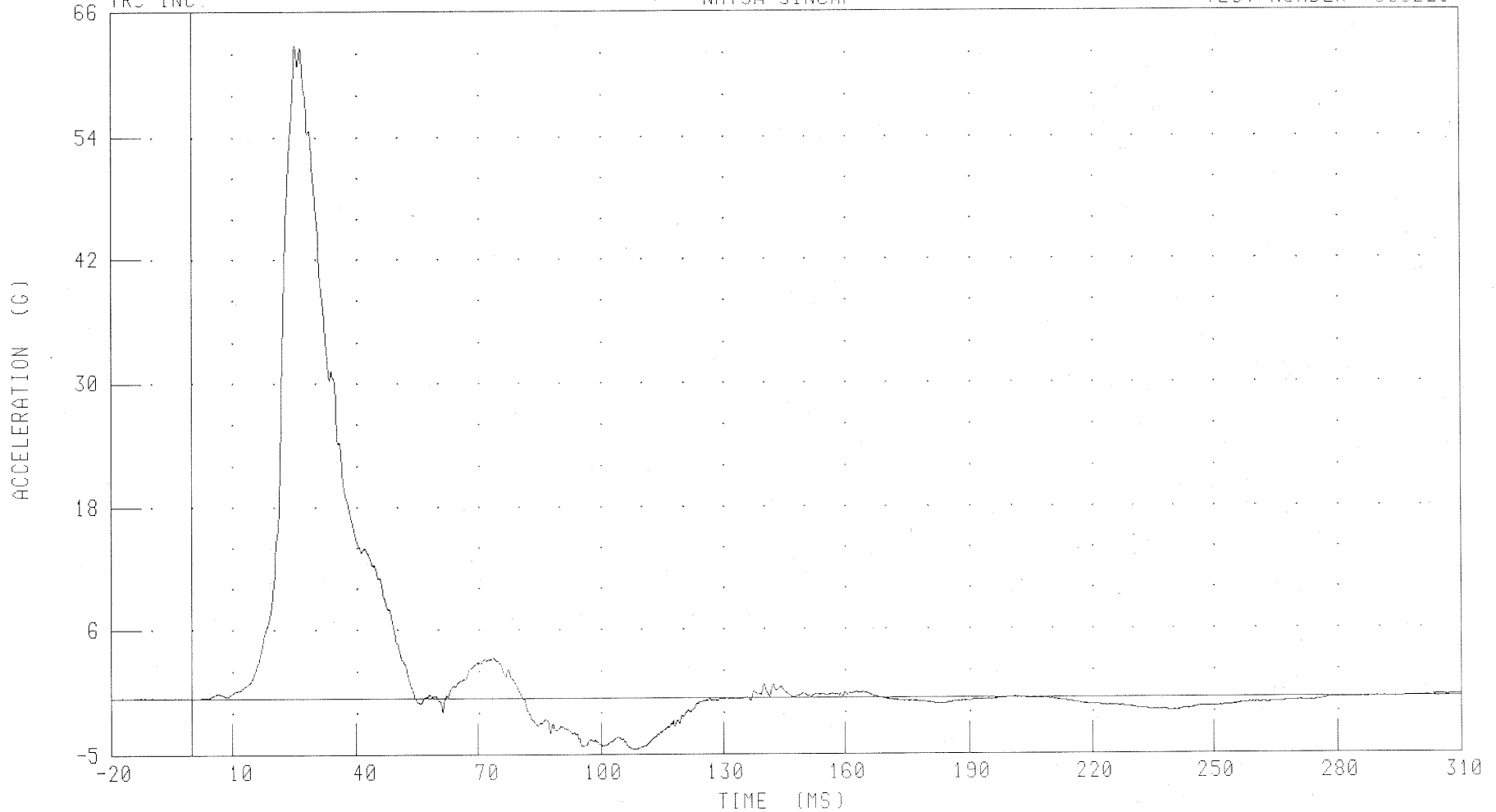
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: PEVYR1 FILTER: CH. CLASS 1000

PEAK DATA: 63.40 G @ 25.20 MS; -4.95 G @ 108.88 MS

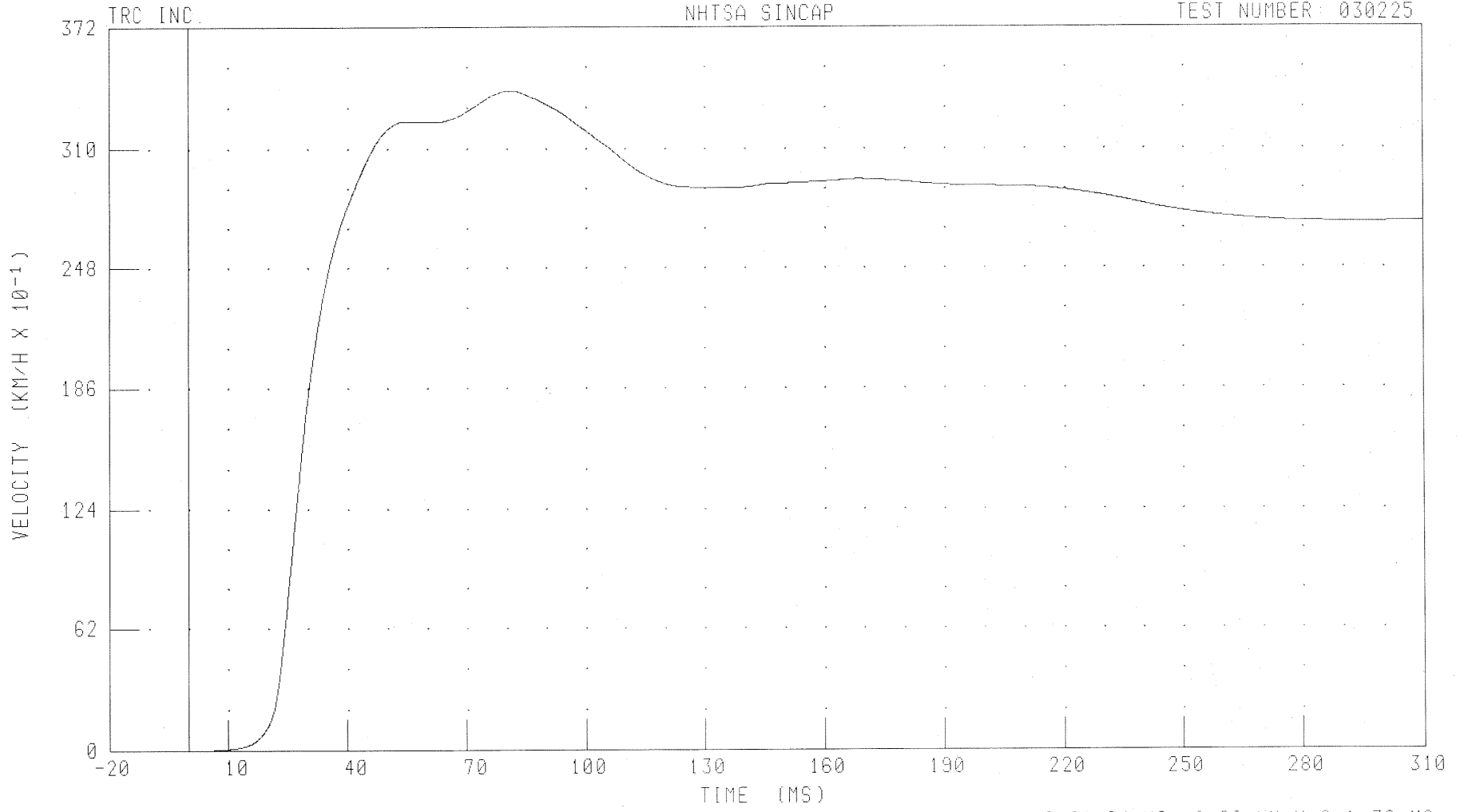
B-45

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER PELVIS Y-AXIS REDUNDANT VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: PEVYVI FILTER: CH. CLASS 180

PEAK DATA: 33.93 KM/H @ 81.04 MS; 0.00 KM/H @ 1.36 MS

B-46

030225

Test Vehicle Instrumentation Plots

Acceleration Data - Filter Class 60

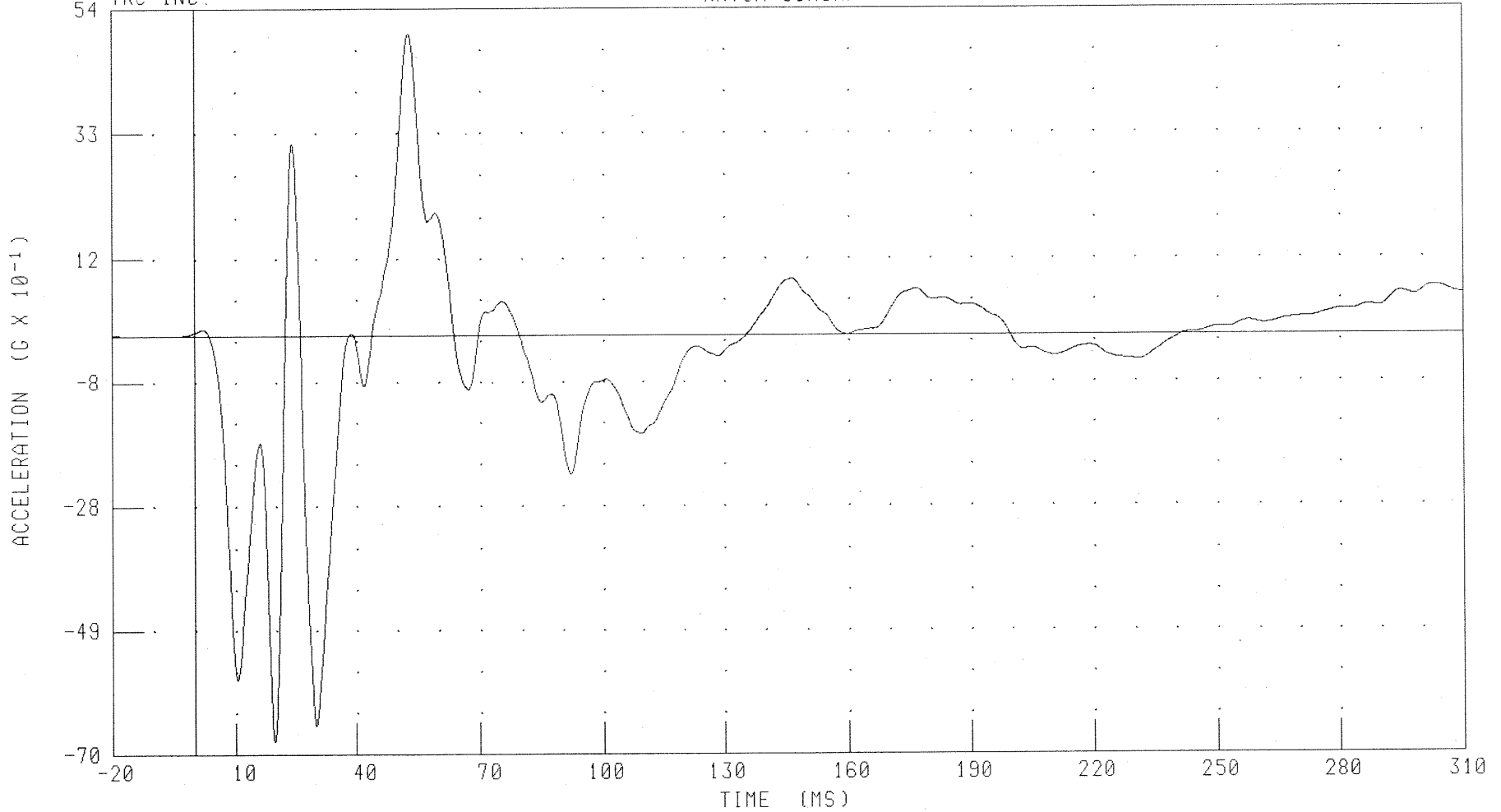
Integration Data - Filter Class 180

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT FRONT X-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RFSXG1 FILTER: CH. CLASS 60

PEAK DATA: 5.08 G @ 52.88 MS; -6.88 G @ 19.68 MS

B-48

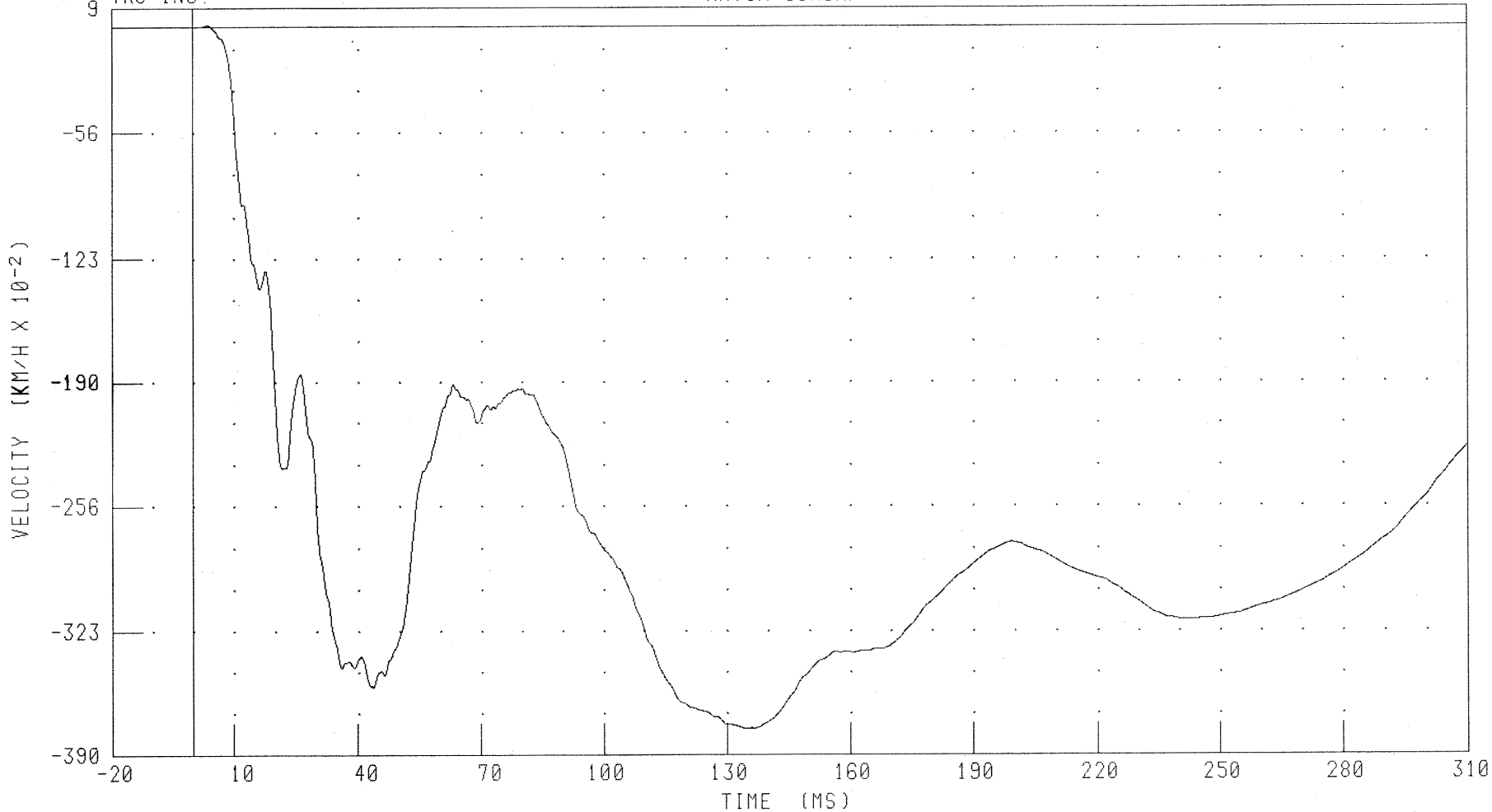
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT FRONT X-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



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030225

CHANNEL: RFSXV1

FILTER: CH. CLASS 180

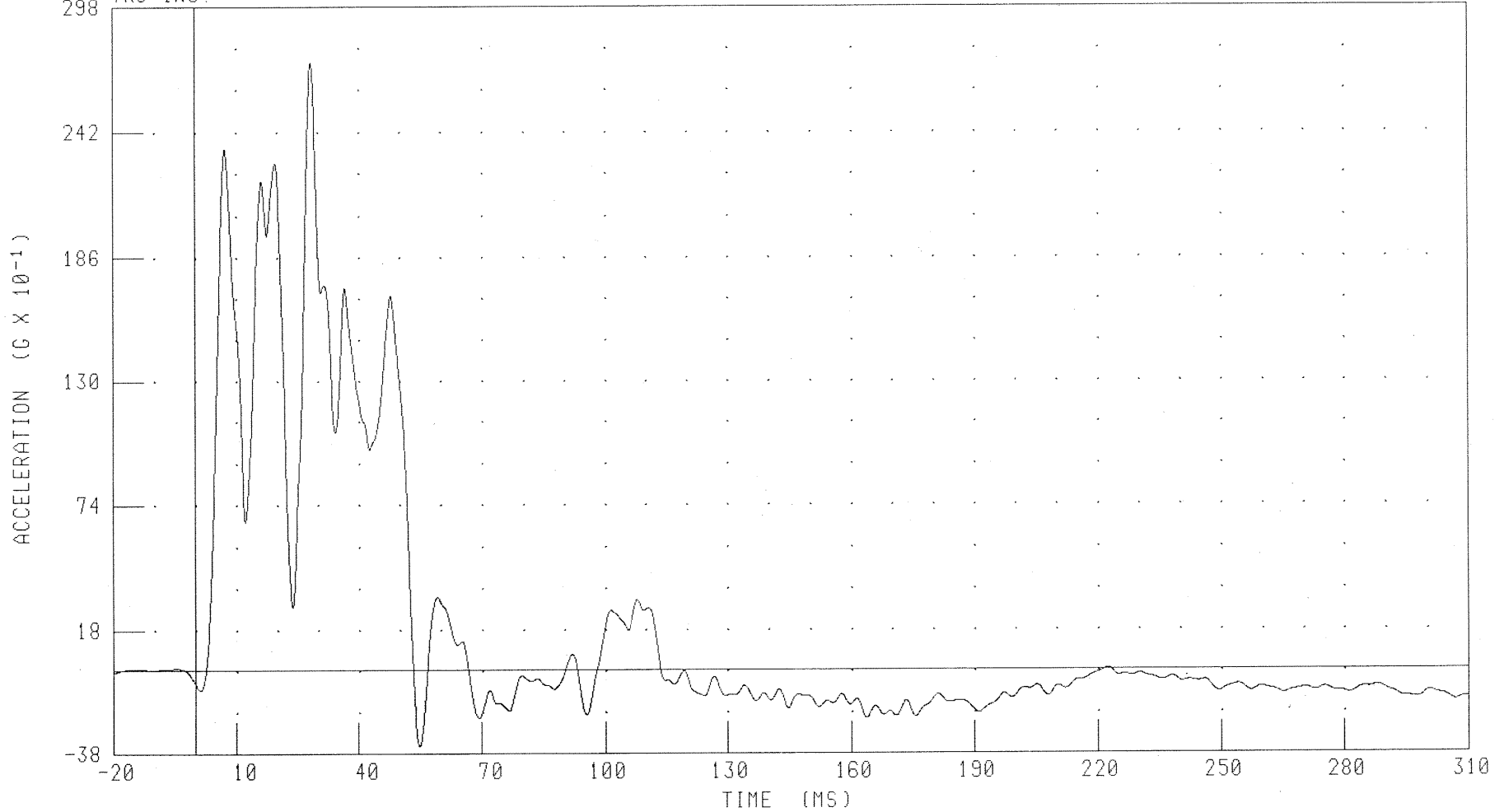
PEAK DATA: 0.01 KM/H @ 3.60 MS; -3.76 KM/H @ 136.80 MS

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT FRONT Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RFSYG1

FILTER: CH. CLASS 60

PEAK DATA: 27.28 G @ 28.40 MS; -3.46 G @ 54.80 MS

B-50

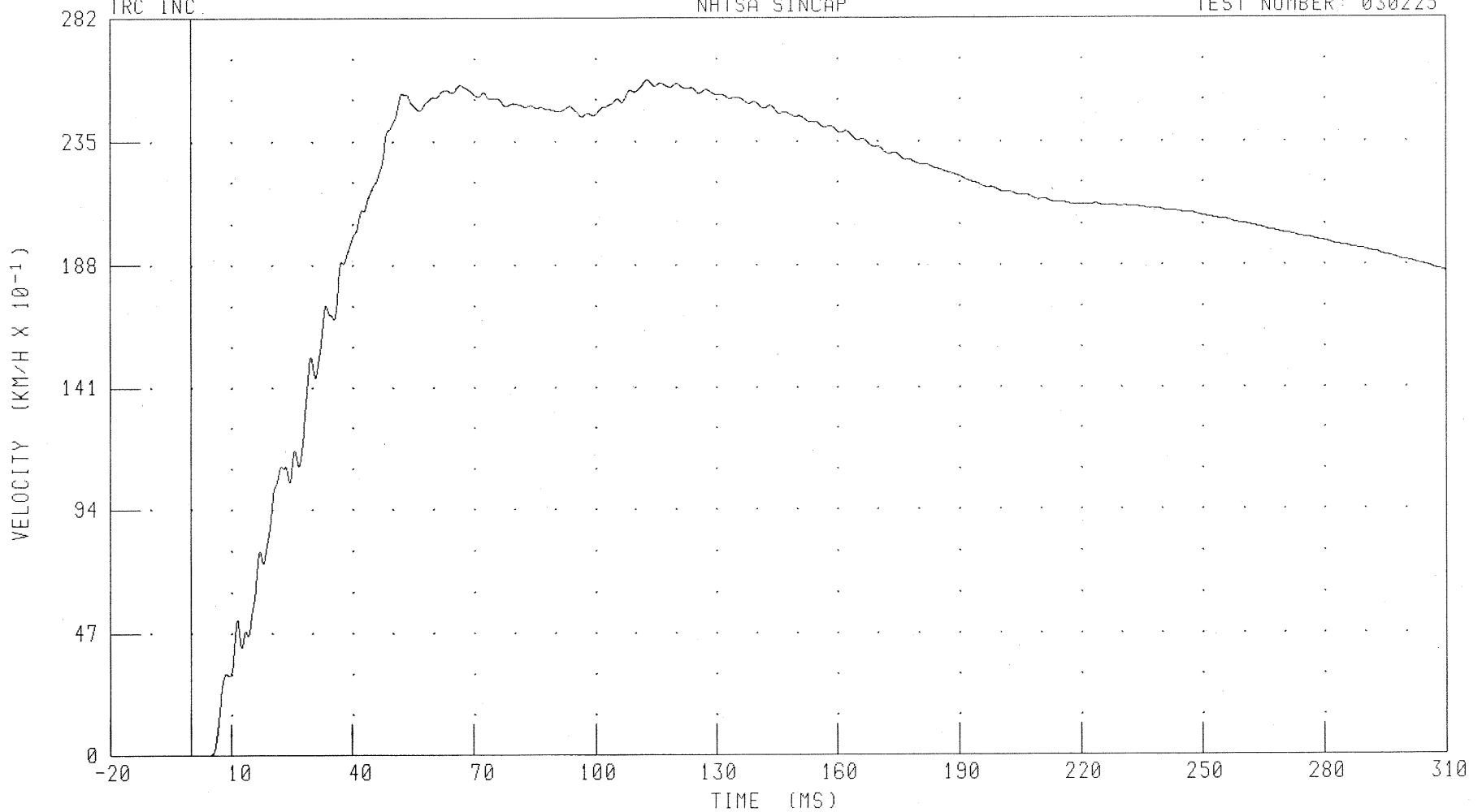
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT FRONT Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RFSYV1

FILTER: CH. CLASS 180

PEAK DATA: 25.81 KM/H @ 113.04 MS; -0.02 KM/H @ 4.48 MS

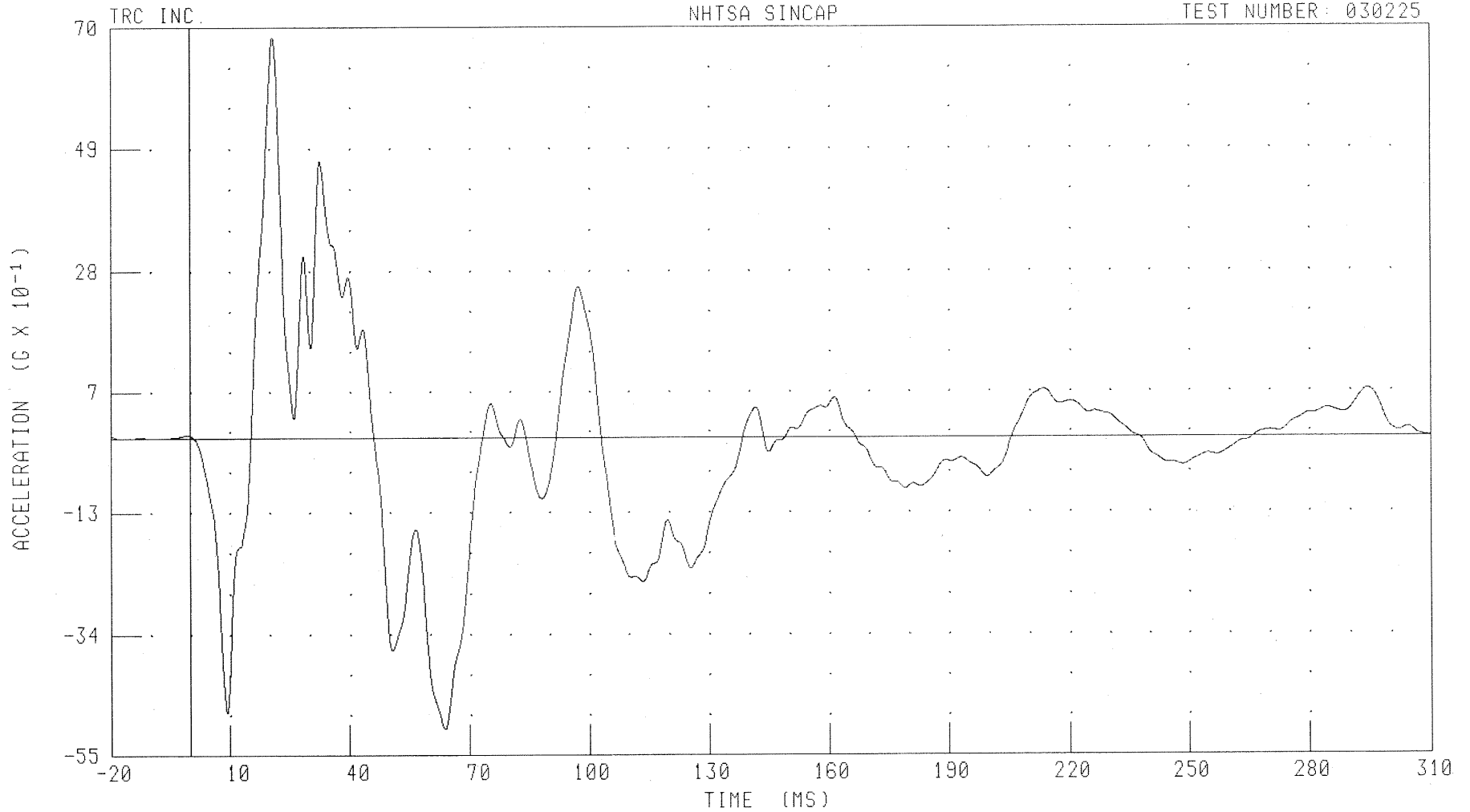
B-51

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT FRONT Z-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RFSZG1 FILTER: CH. CLASS 60

PEAK DATA: 6.94 G @ 20.88 MS; -5.04 G @ 63.68 MS

B-52

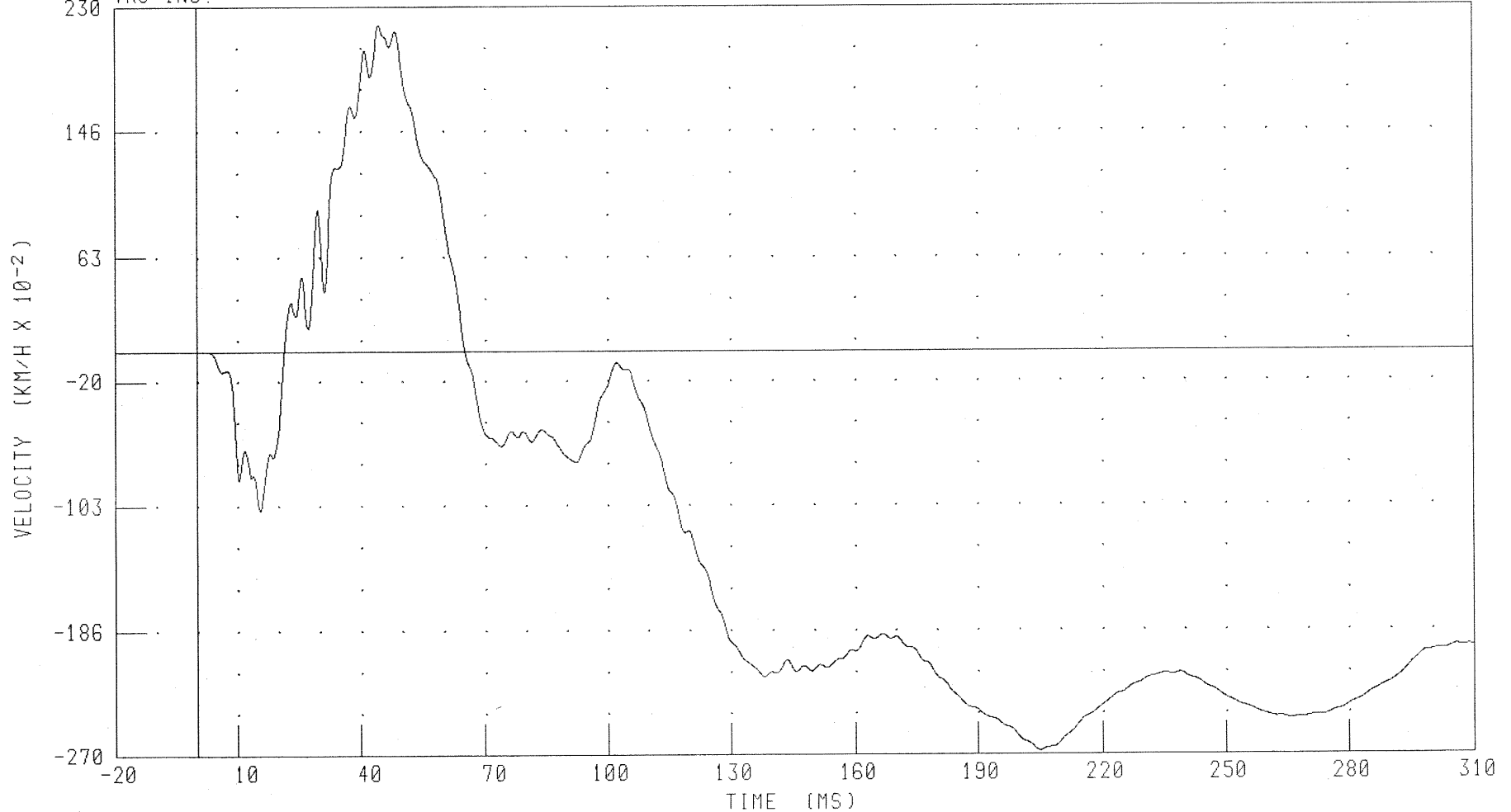
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT FRONT Z-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RFSZV1 FILTER: CH. CLASS 100

PEAK DATA: 2.18 KM/H @ 44.56 MS; -2.68 KM/H @ 204.96 MS

B-53

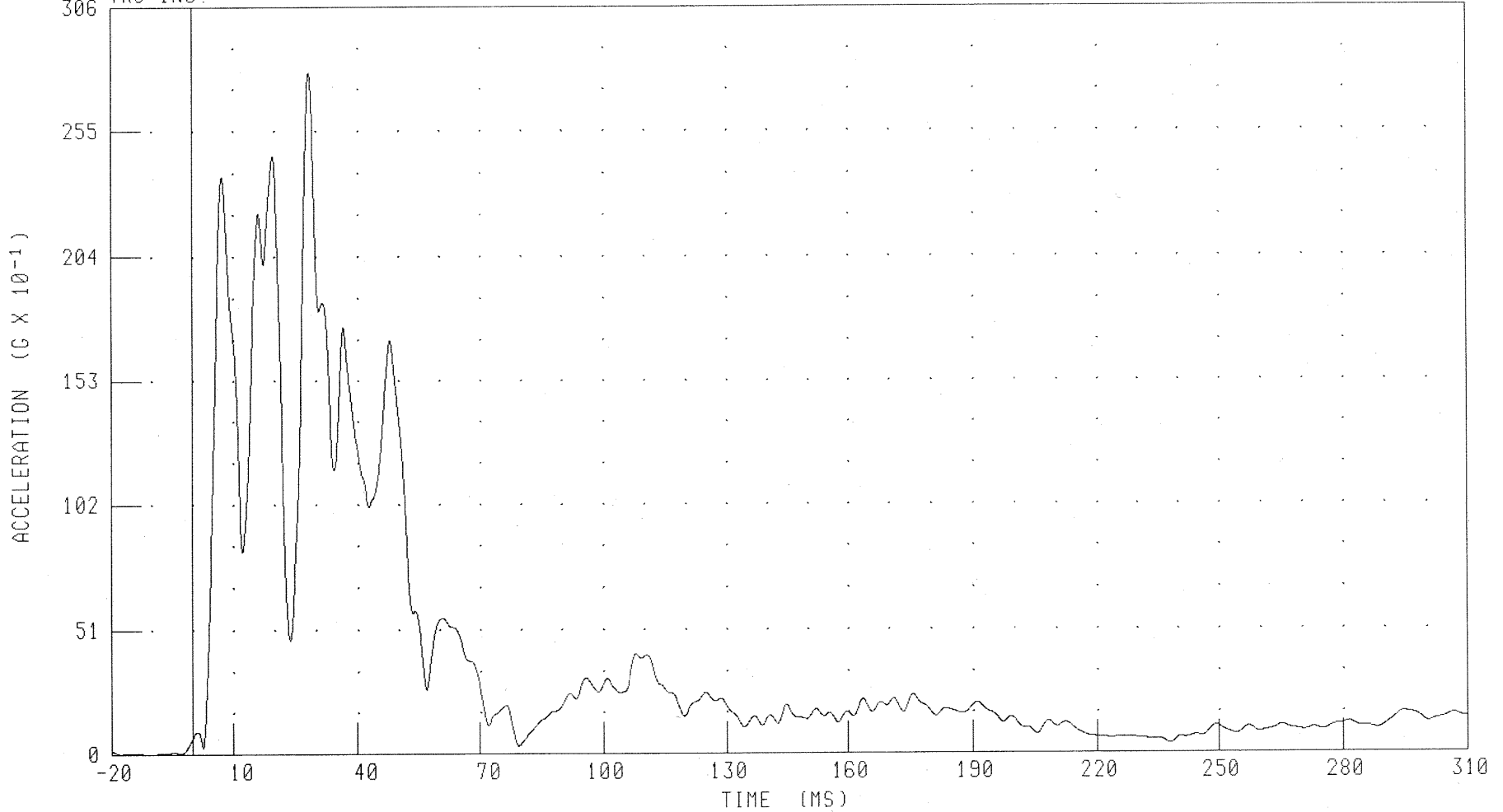
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT FRONT RESULTANT ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RFSRG1

FILTER: CH. CLASS 60

PEAK DATA: 27.90 G @ 28.40 MS; 0.00 G @ -10.48 MS

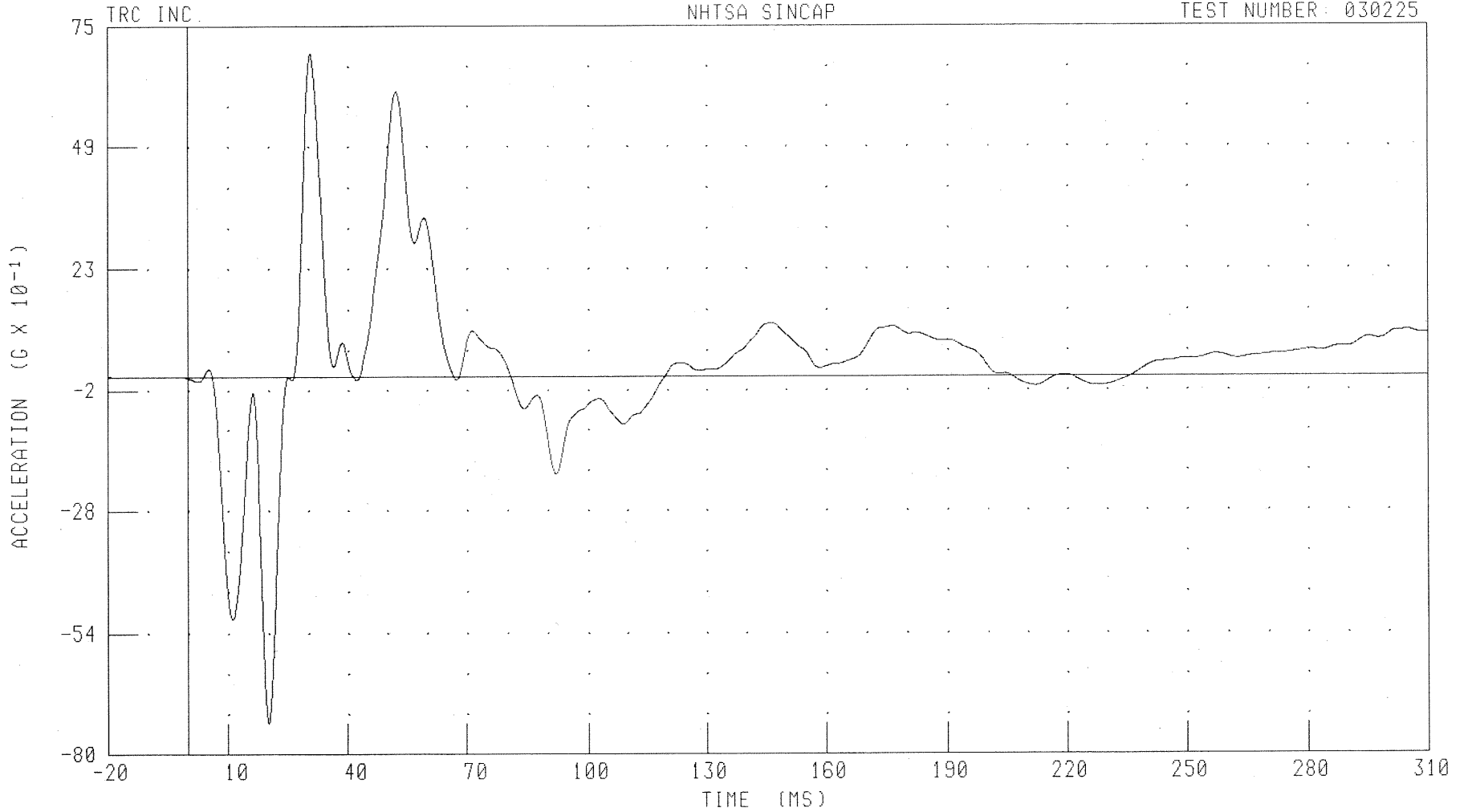
B-54

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT REAR X-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RRSXC1 FILTER: CH. CLASS 60

PEAK DATA: 6.91 G @ 30.56 MS; -7.45 G @ 20.08 MS

B-55

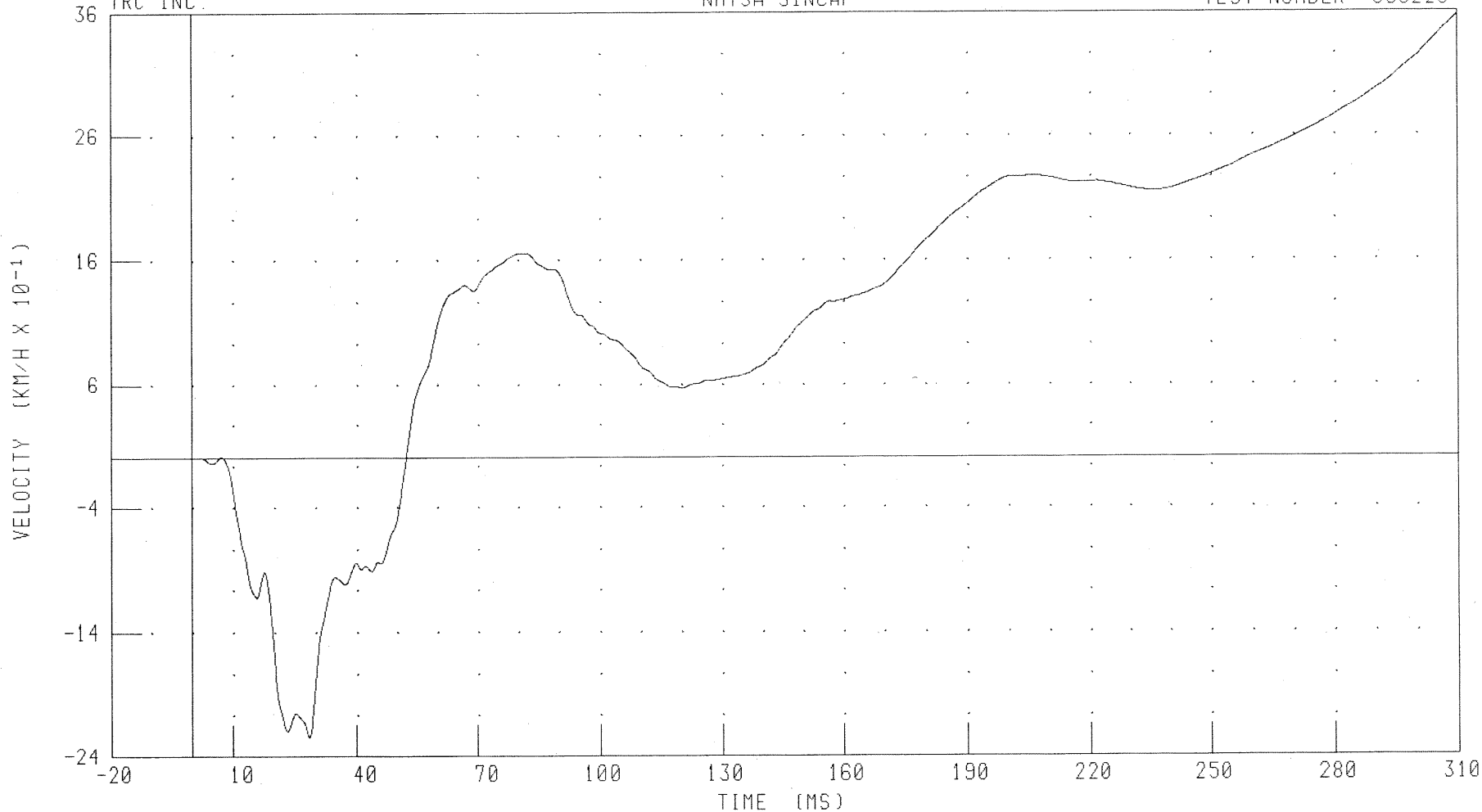
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT REAR X-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RRSXV1 FILTER: CH. CLASS 180

PEAK DATA: 3.58 KM/H @ 310.00 MS; -2.24 KM/H @ 28.56 MS

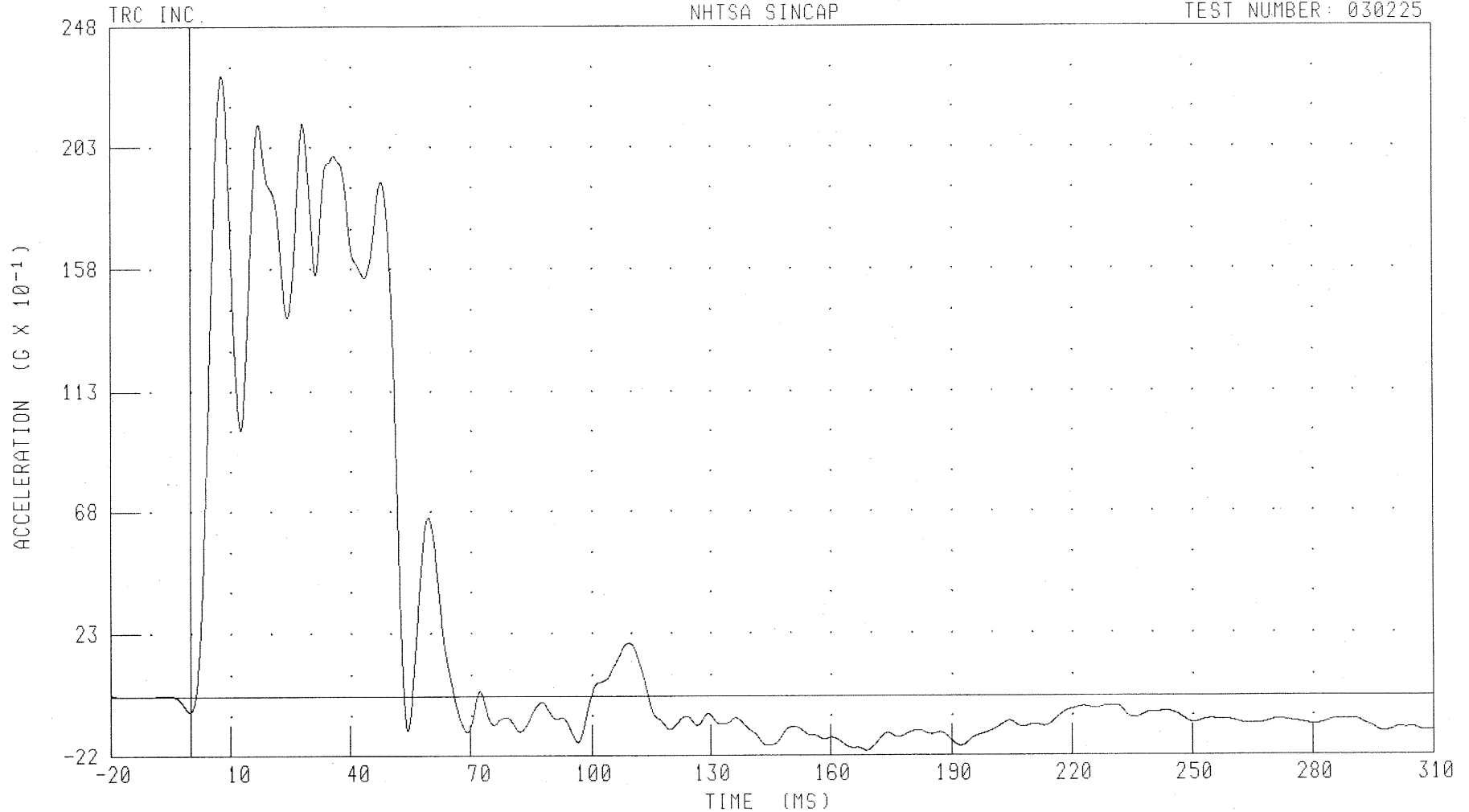
B-56

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT REAR Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RRSYG1

FILTER: CH. CLASS 60

PEAK DATA: 22.97 G @ 7.84 MS, -2.03 G @ 168.88 MS

B-57

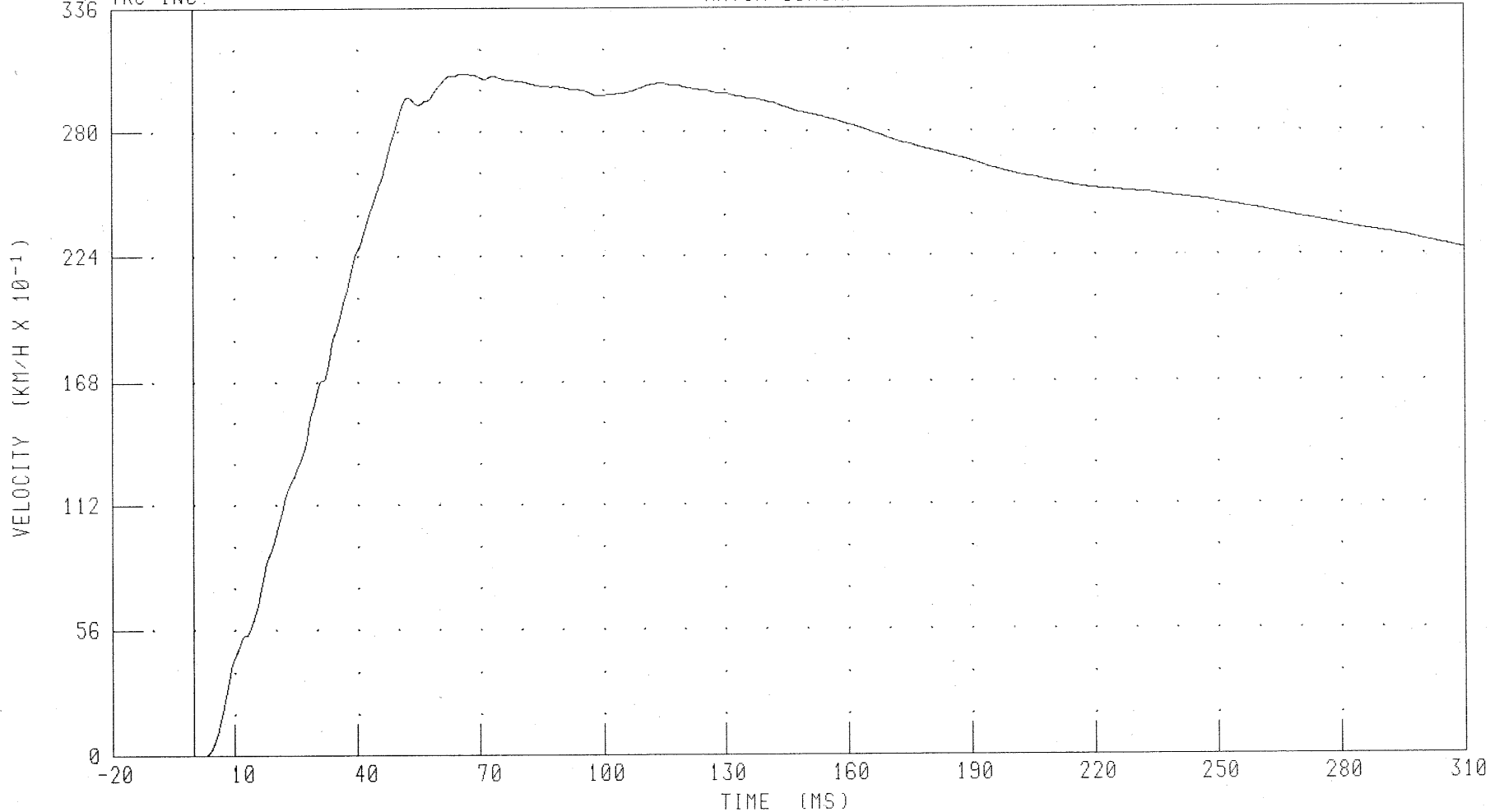
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT REAR Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 30.64 KM/H @ 65.76 MS; 0.00 KM/H @ 2.40 MS

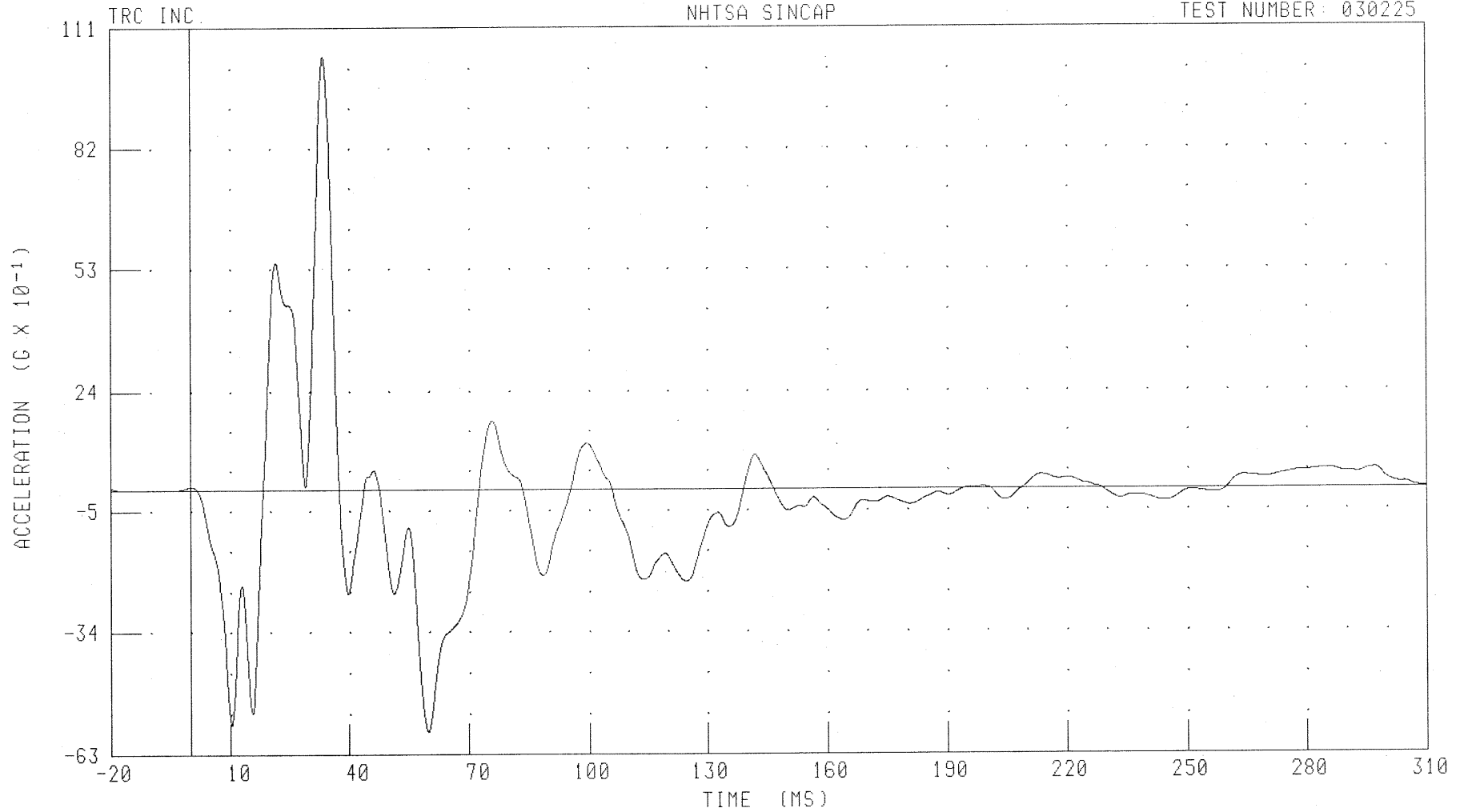
B-58

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT REAR Z-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RRSZG1

FILTER: CH. CLASS 60

PEAK DATA: 10.42 G @ 33.52 MS; -5.76 G @ 59.76 MS

B-59

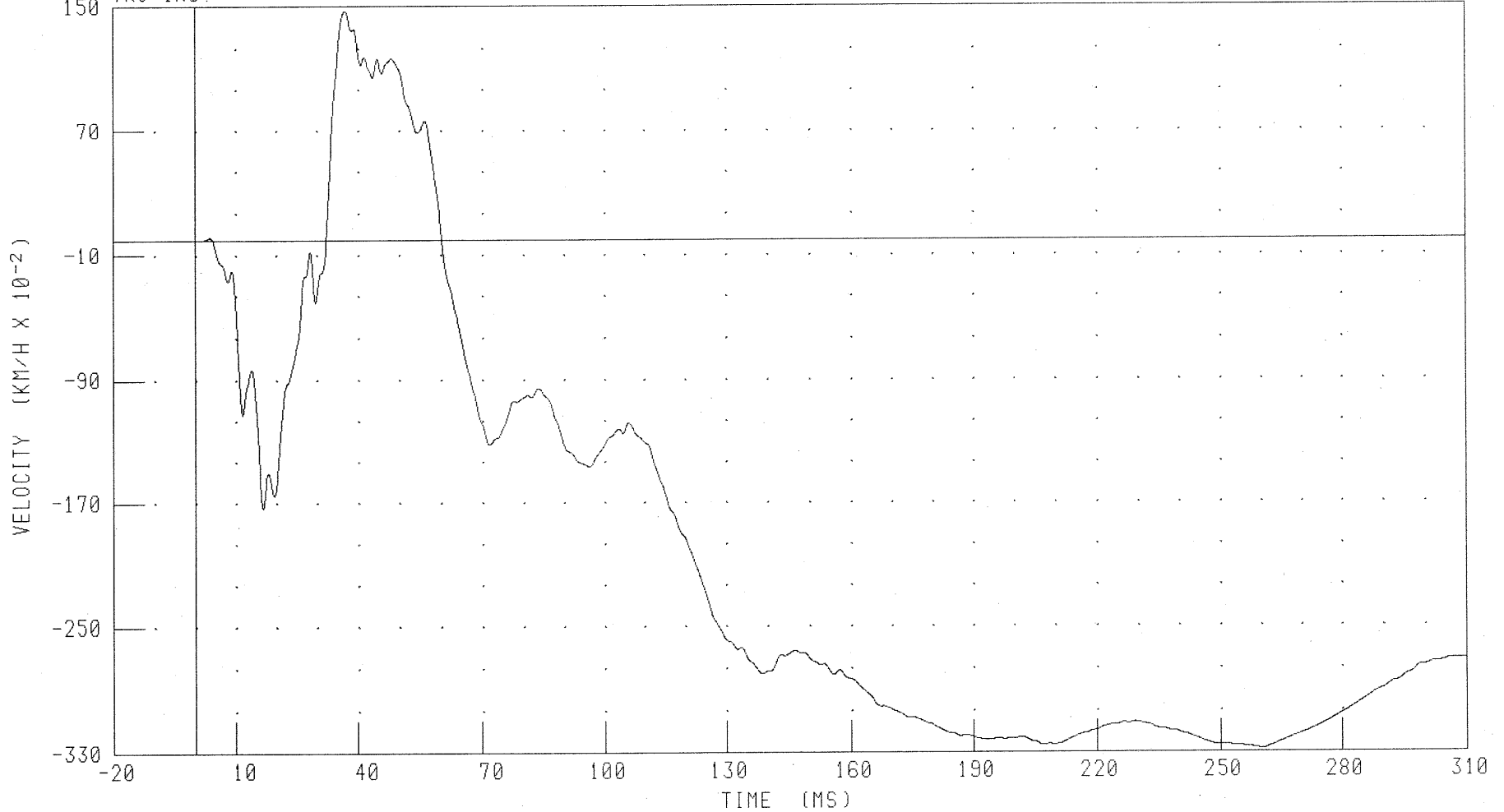
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT REAR Z-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RRSZV1 FILTER: CH. CLASS 180

PEAK DATA: 1.47 KM/H @ 36.88 MS; -3.28 KM/H @ 260.40 MS

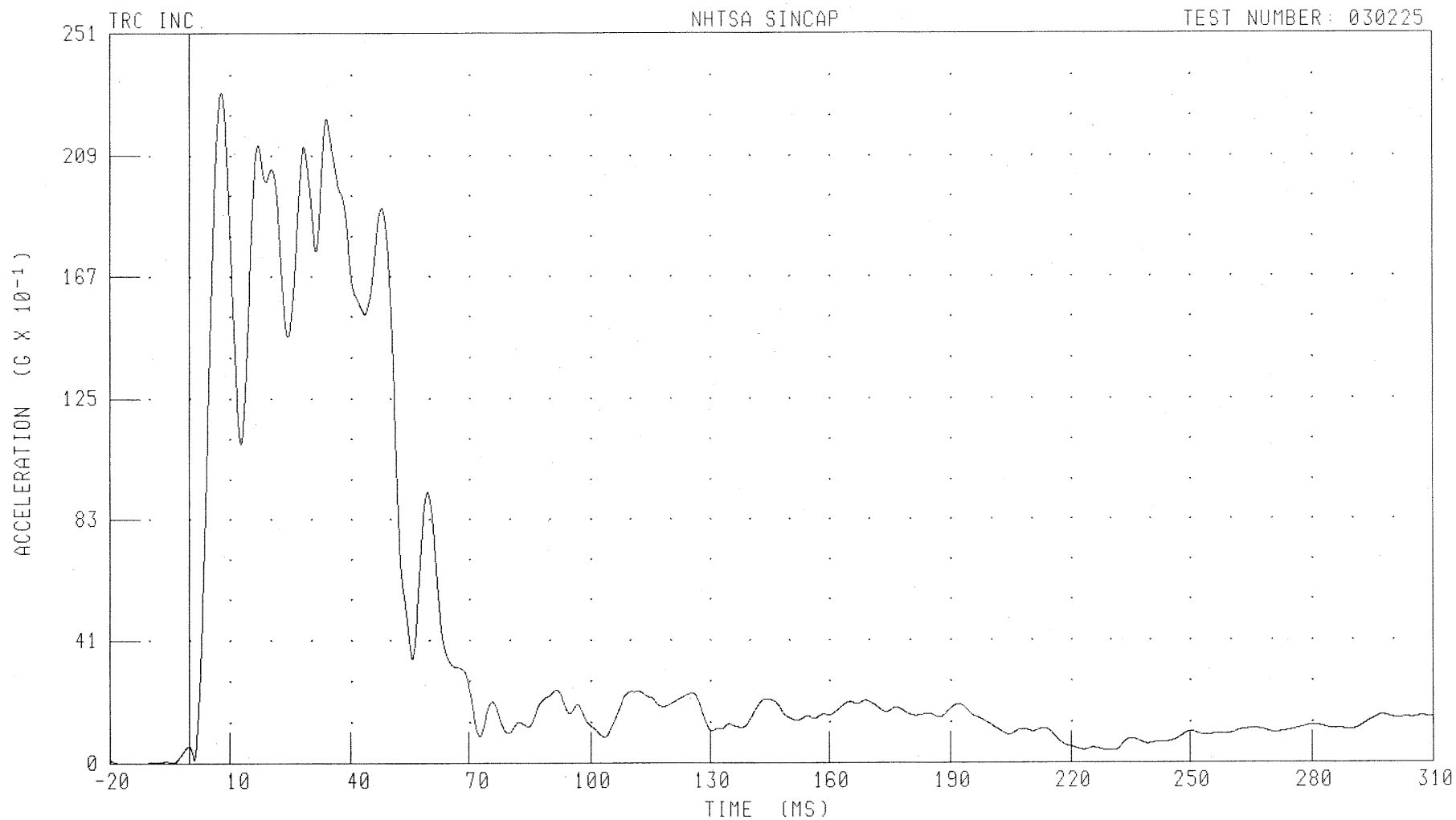
B-60

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
RIGHT SIDE SILL AT REAR RESULTANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RRSRG1

FILTER: CH. CLASS 60

PEAK DATA: 23.19 G @ 7.92 MS; 0.00 G @ -16.08 MS

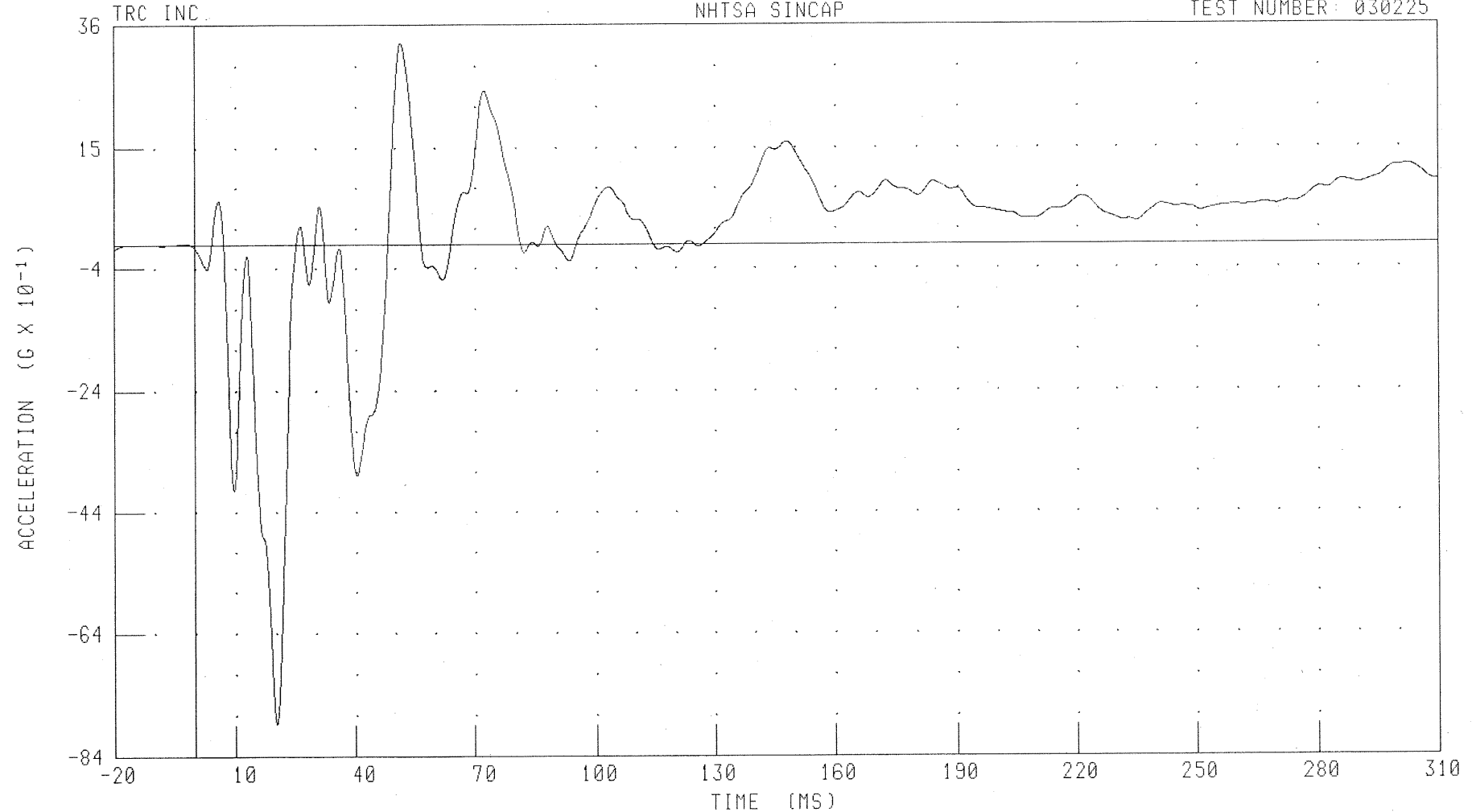
B-61

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
REAR FLOORPAN ABOVE AXLE X-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RDKXG1 FILTER: CH. CLASS 60

PEAK DATA: 3.30 G @ 51.52 MS; -7.87 G @ 20.16 MS

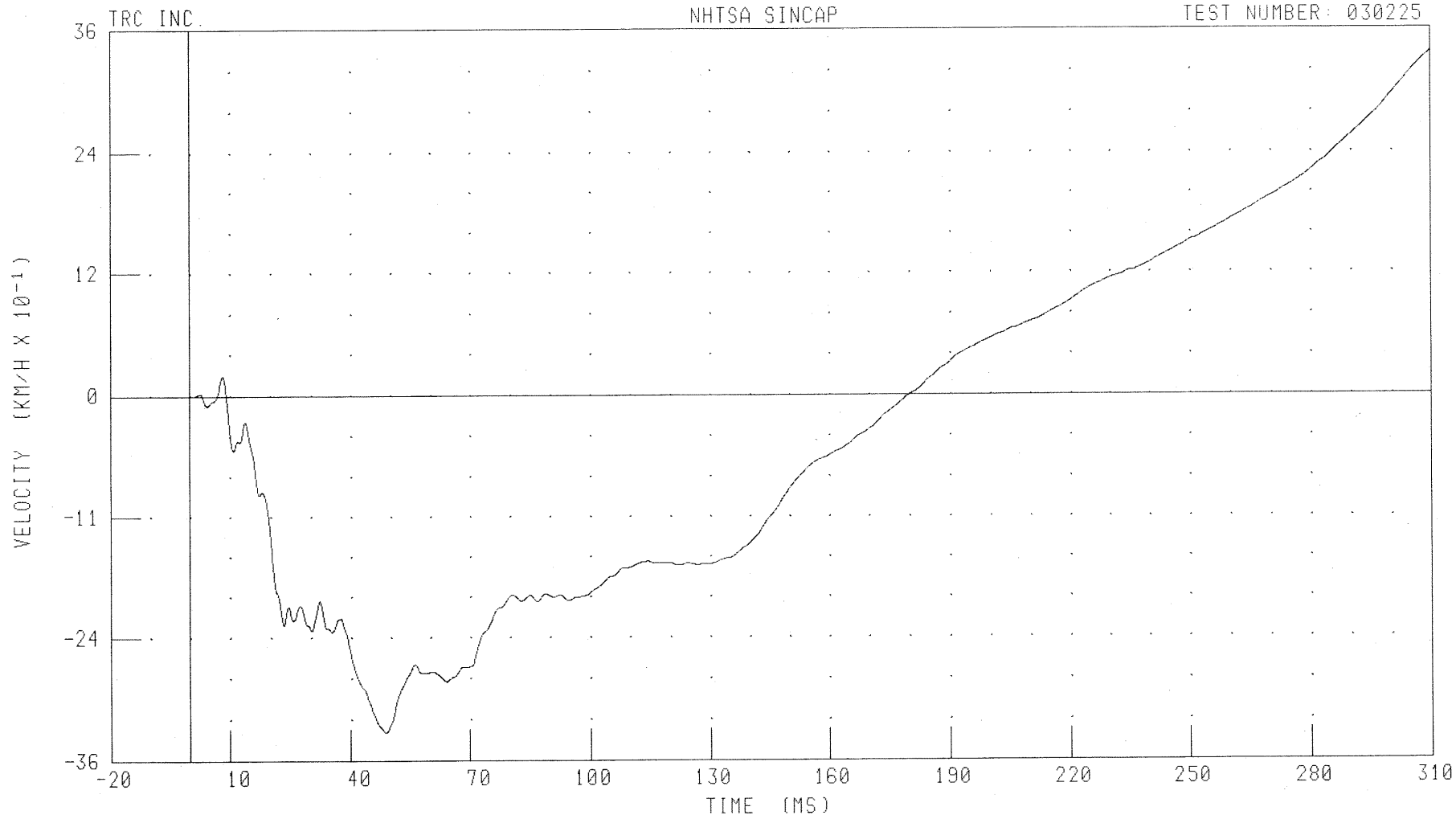
B-62

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
REAR FLOORPAN ABOVE AXLE X-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RDKXV1 FILTER: CH. CLASS 180

PEAK DATA: 3.38 KM/H @ 310.00 MS; -3.33 KM/H @ 48.72 MS

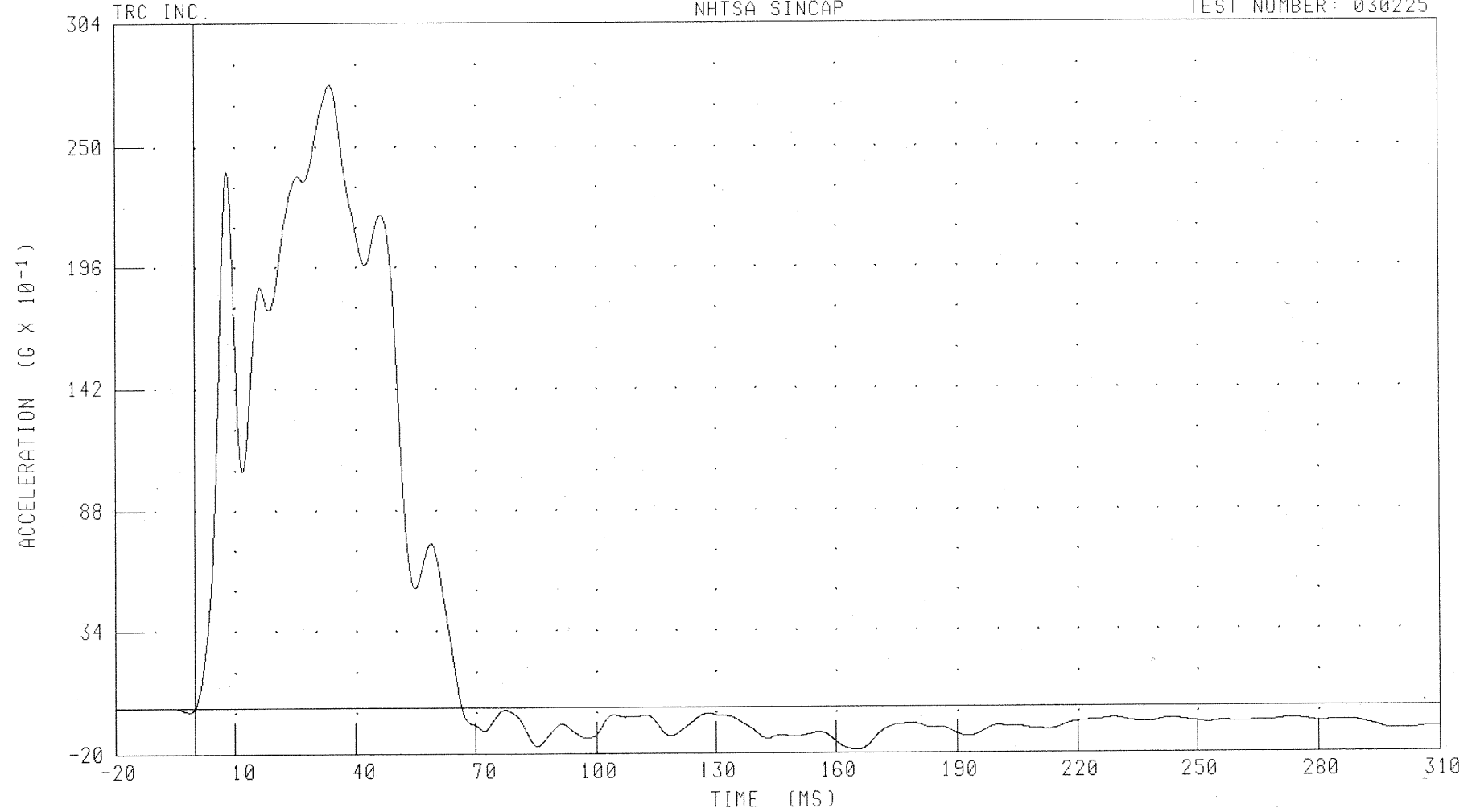
B-63

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
REAR FLOORPAN ABOVE AXLE Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RDKYG1 FILTER: CH. CLASS 60

PEAK DATA: 27.70 G @ 33.60 MS, -1.87 G @ 164.88 MS

B-64

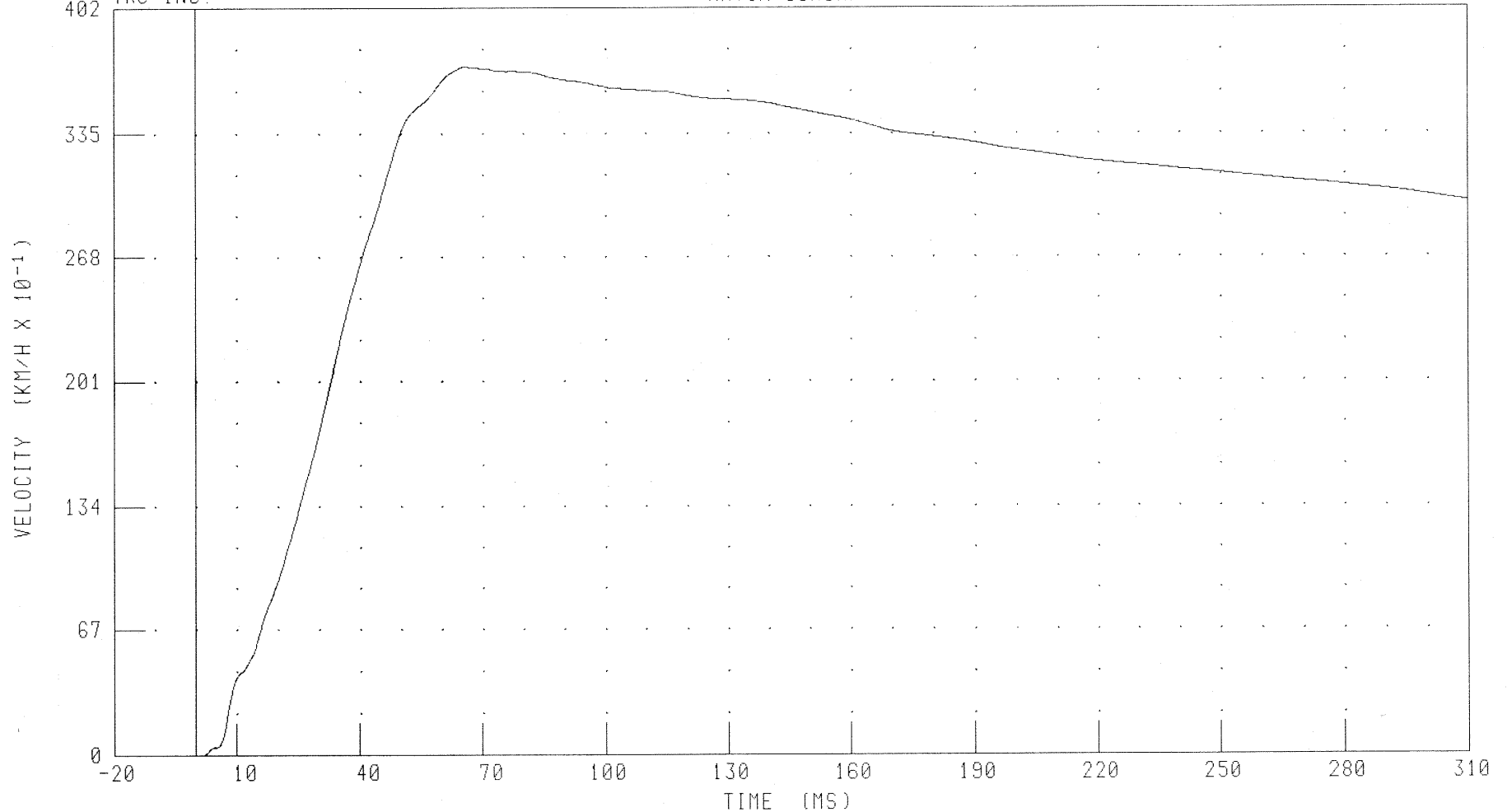
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
REAR FLOORPAN ABOVE AXLE Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RDKYV1

FILTER: CH. CLASS 100

PEAK DATA: 37.03 KM/H @ 65.68 MS; -0.01 KM/H @ 1.36 MS

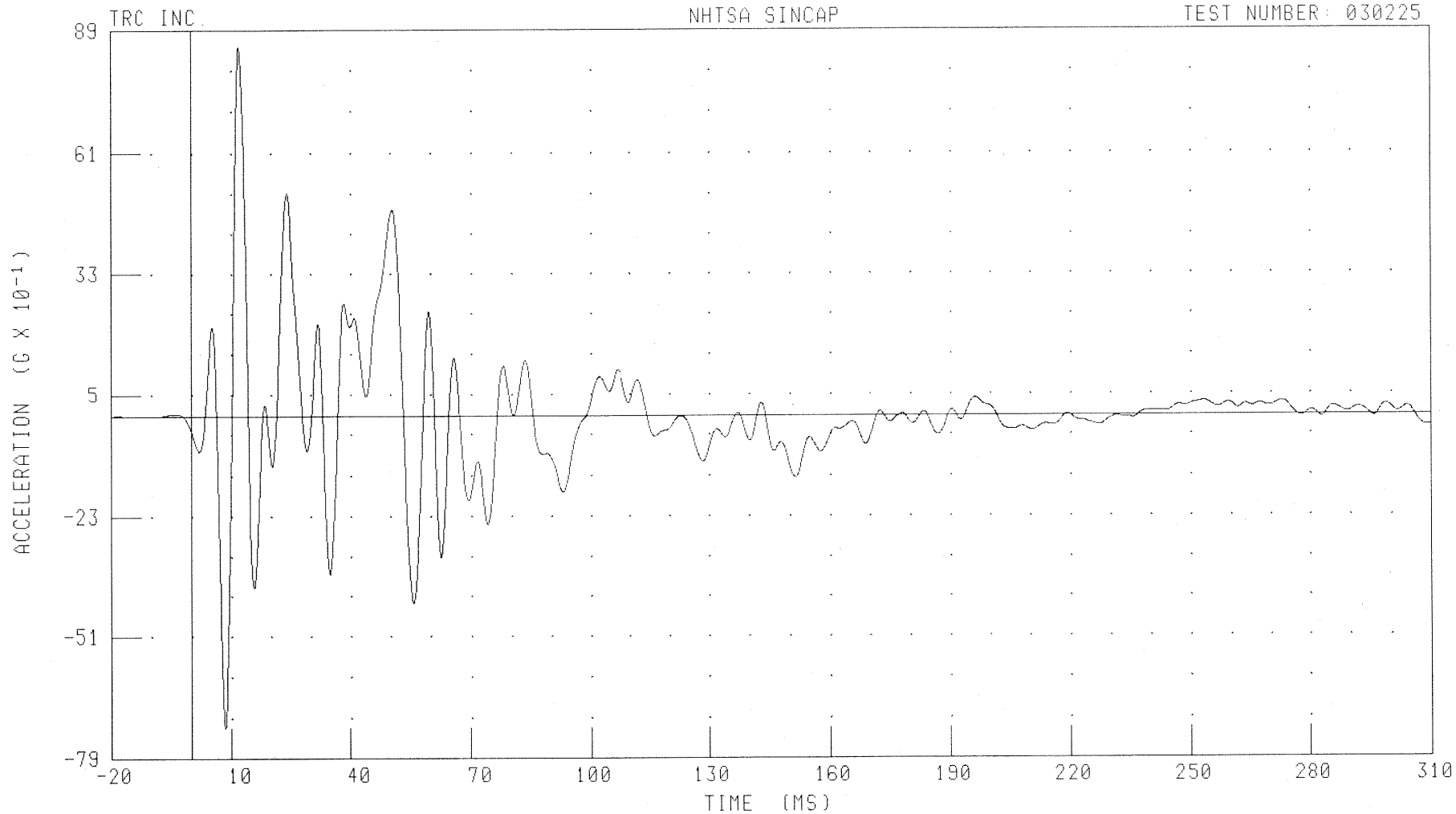
B-65

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
REAR FLOORPAN ABOVE AXLE Z-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RDKZG1 FILTER: CH. CLASS 60

PEAK DATA: 8.51 G @ 11.92 MS; -7.19 G @ 8.40 MS

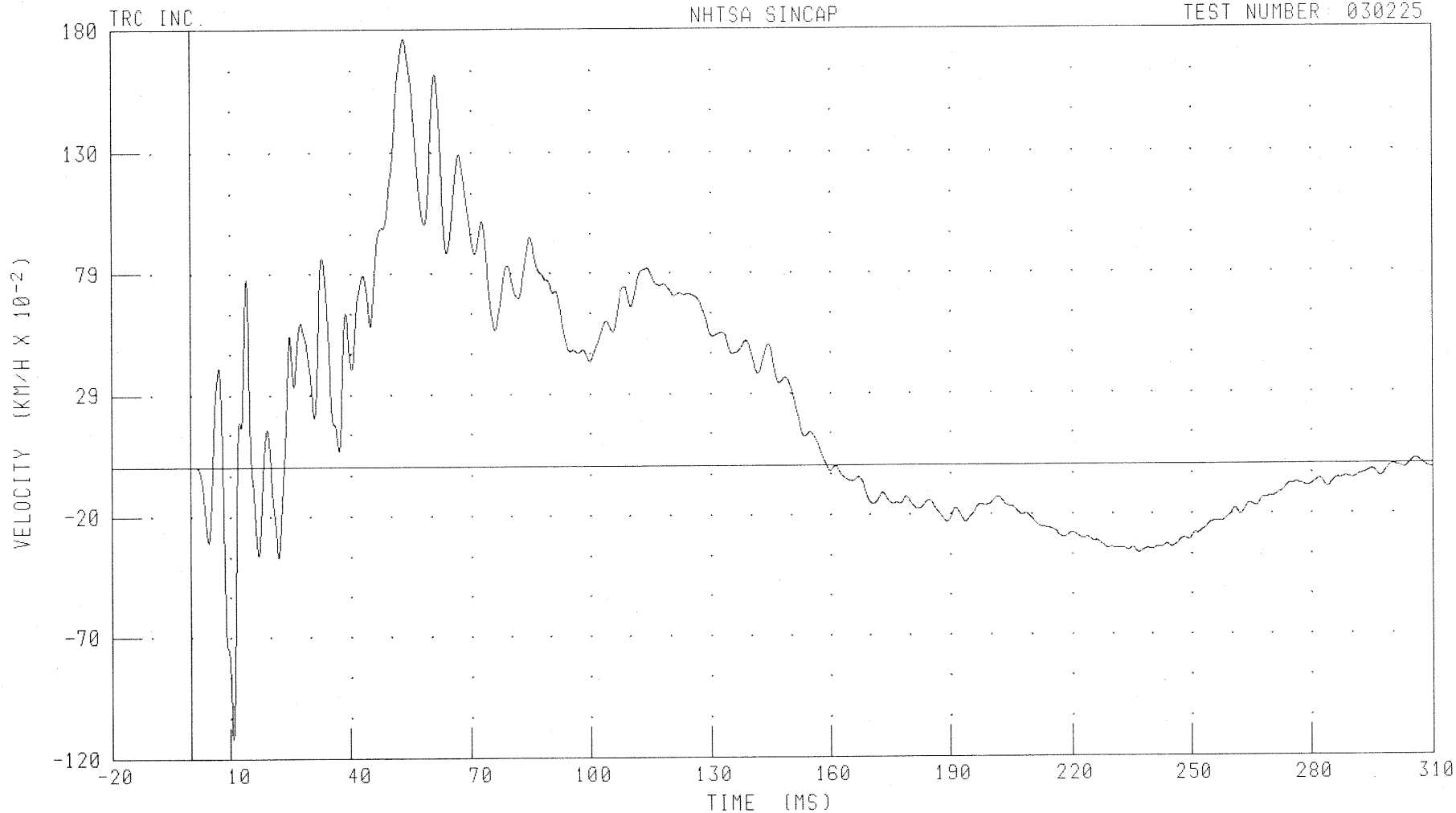
B-66

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
REAR FLOORPAN ABOVE AXLE Z-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RDKZV1 FILTER: CH. CLASS 180

PEAK DATA: 1.76 KM/H @ 53.28 MS; -1.12 KM/H @ 10.72 MS

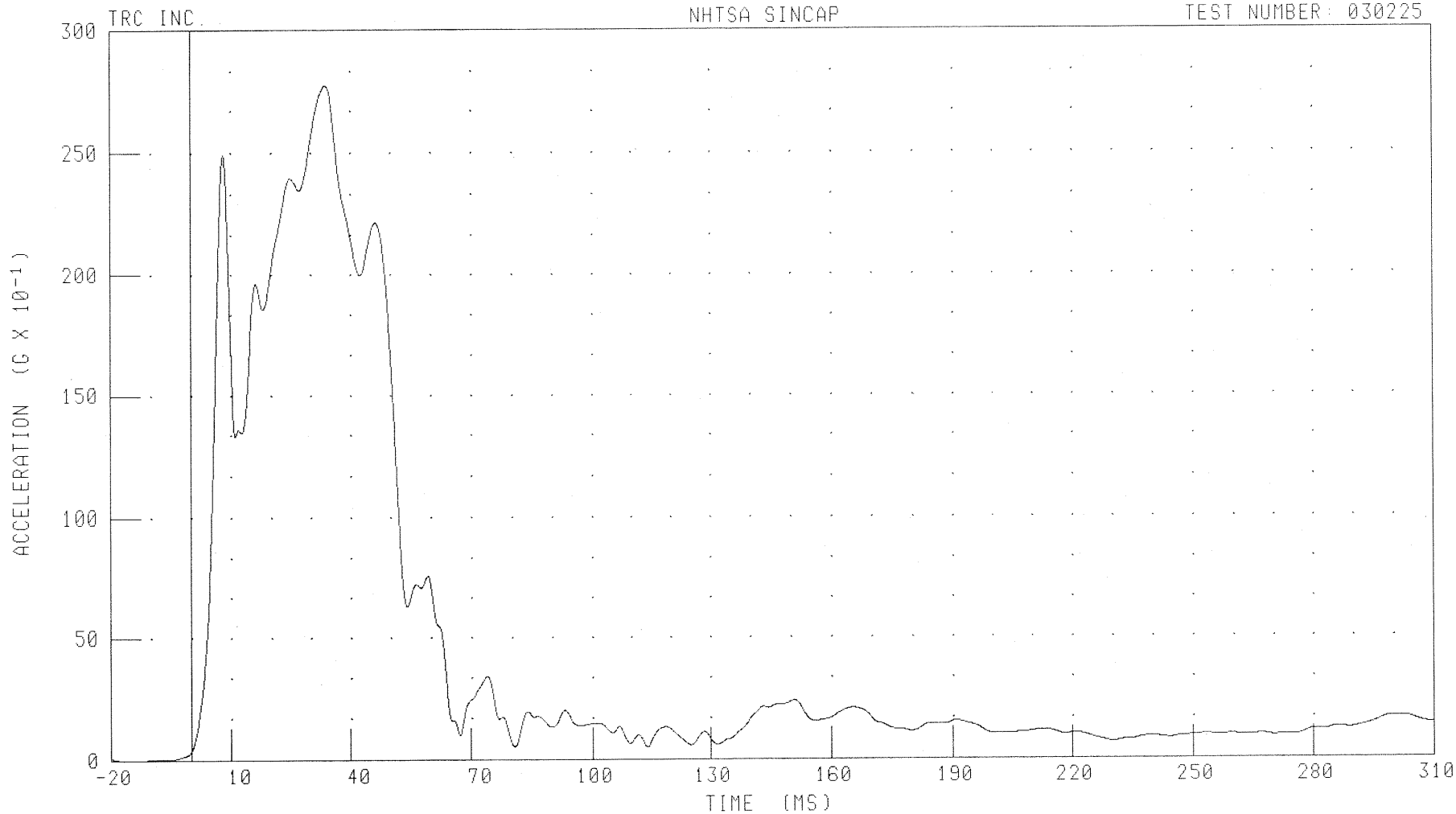
B-67

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: RDKRG1

FILTER: CH. CLASS 60

PEAK DATA: 27.77 G @ 33.84 MS; 0.01 G @ -17.04 MS

B-68

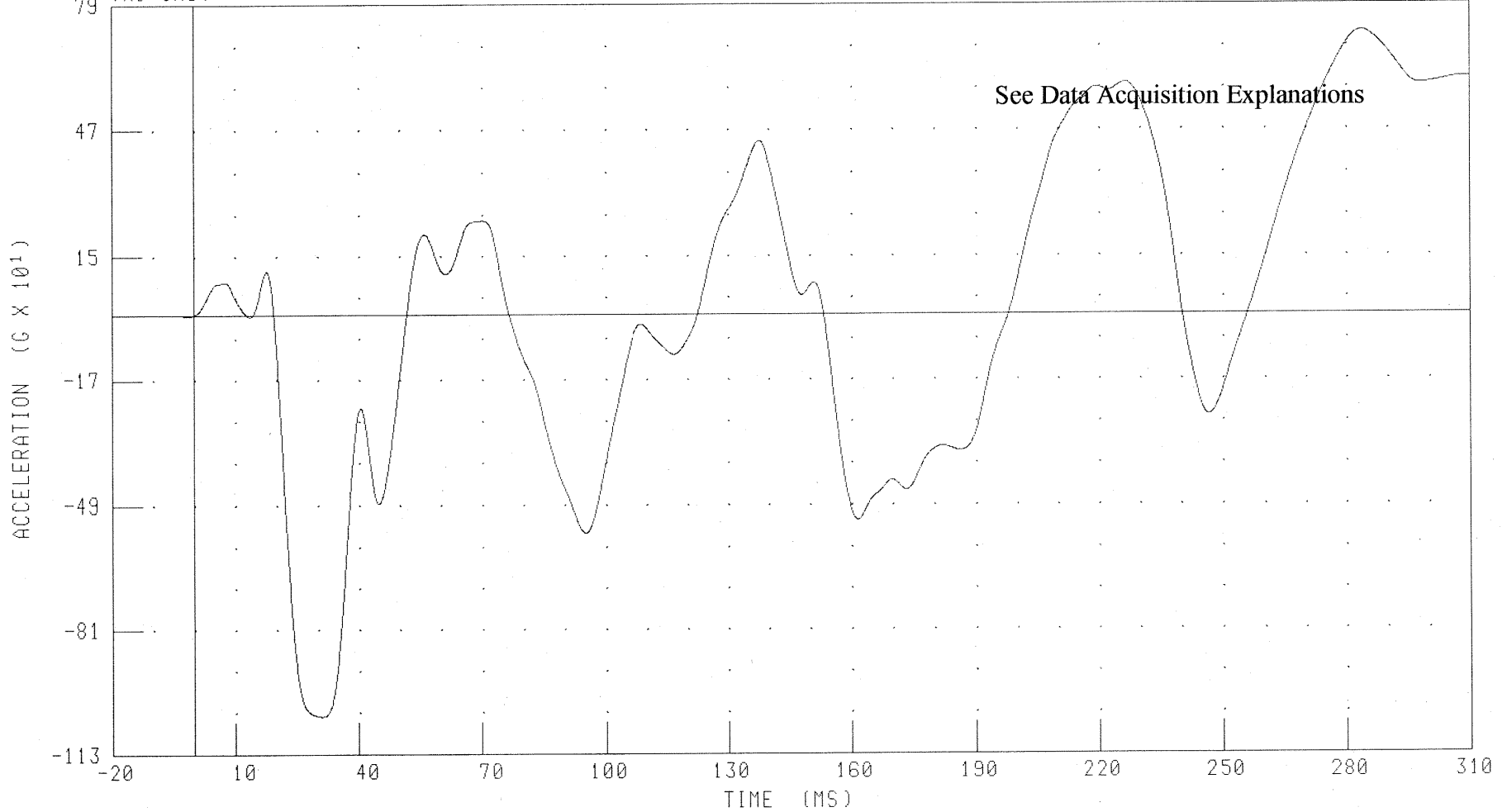
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT SIDE SILL AT FRONT Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFSYG1 FILTER: CH. CLASS 60

PEAK DATA: 720.70 G @ 283.76 MS; -1034.24 G @ 31.04 MS

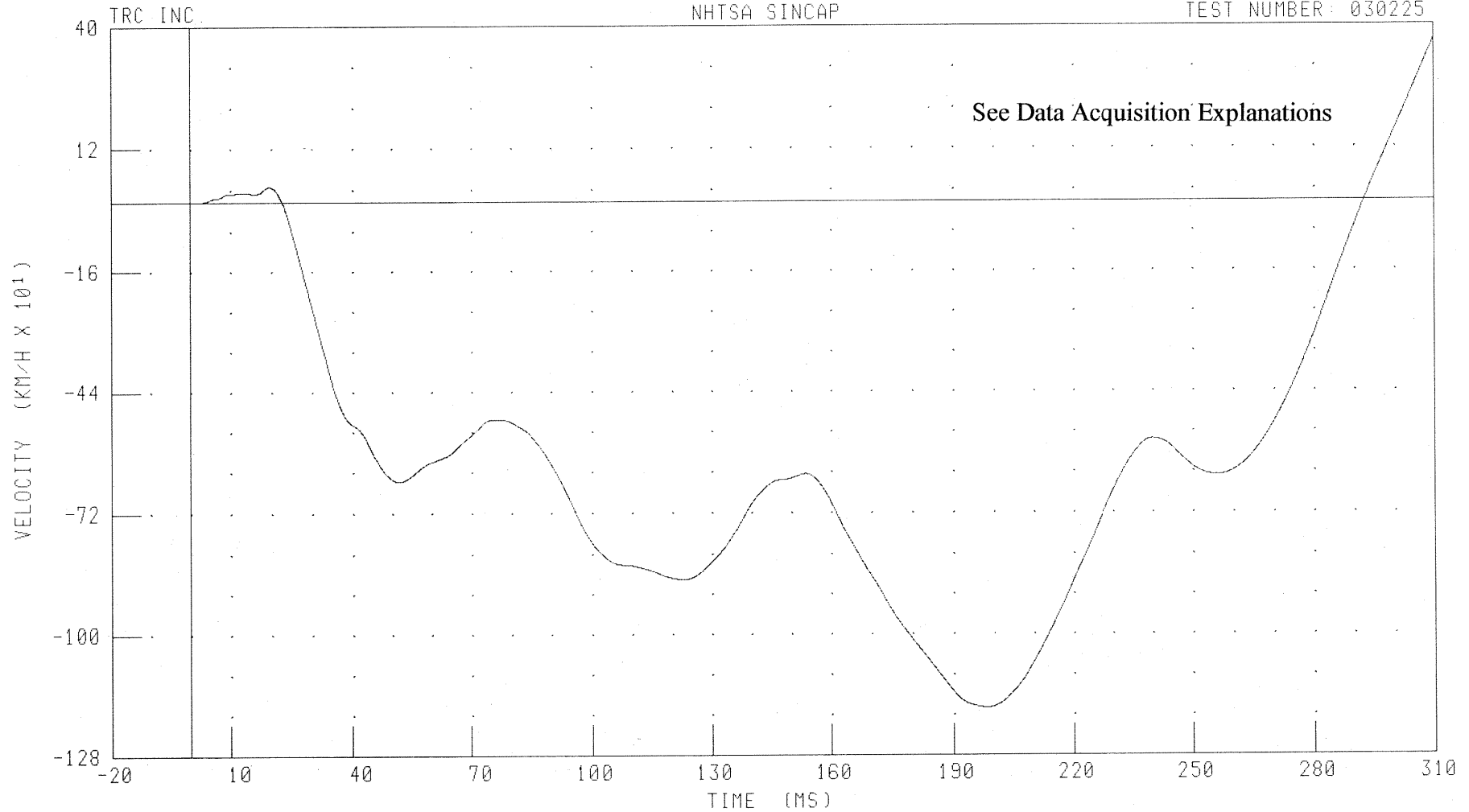
B-69

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT SIDE SILL AT FRONT Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFSYV1 FILTER: CH. CLASS 180

PEAK DATA: 368.92 KM/H @ 310.00 MS; -1170.69 KM/H @ 198.08 MS

B-70

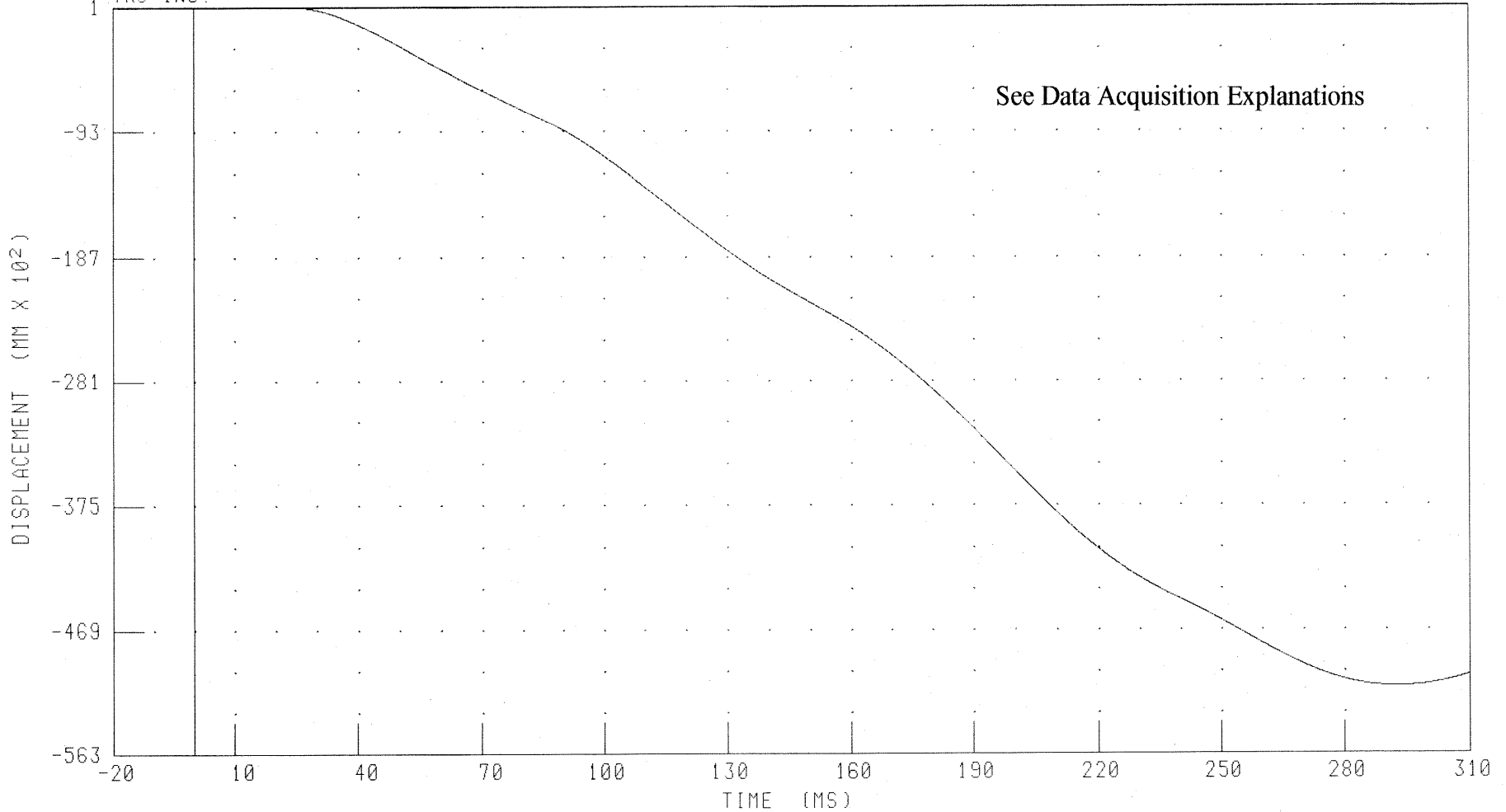
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT SIDE SILL AT FRONT Y-AXIS DISPLACEMENT

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFSYD1 FILTER: CH CLASS 180

PEAK DATA: 99.45 MM @ 22.80 MS; -51224.66 MM @ 292.56 MS

B-71

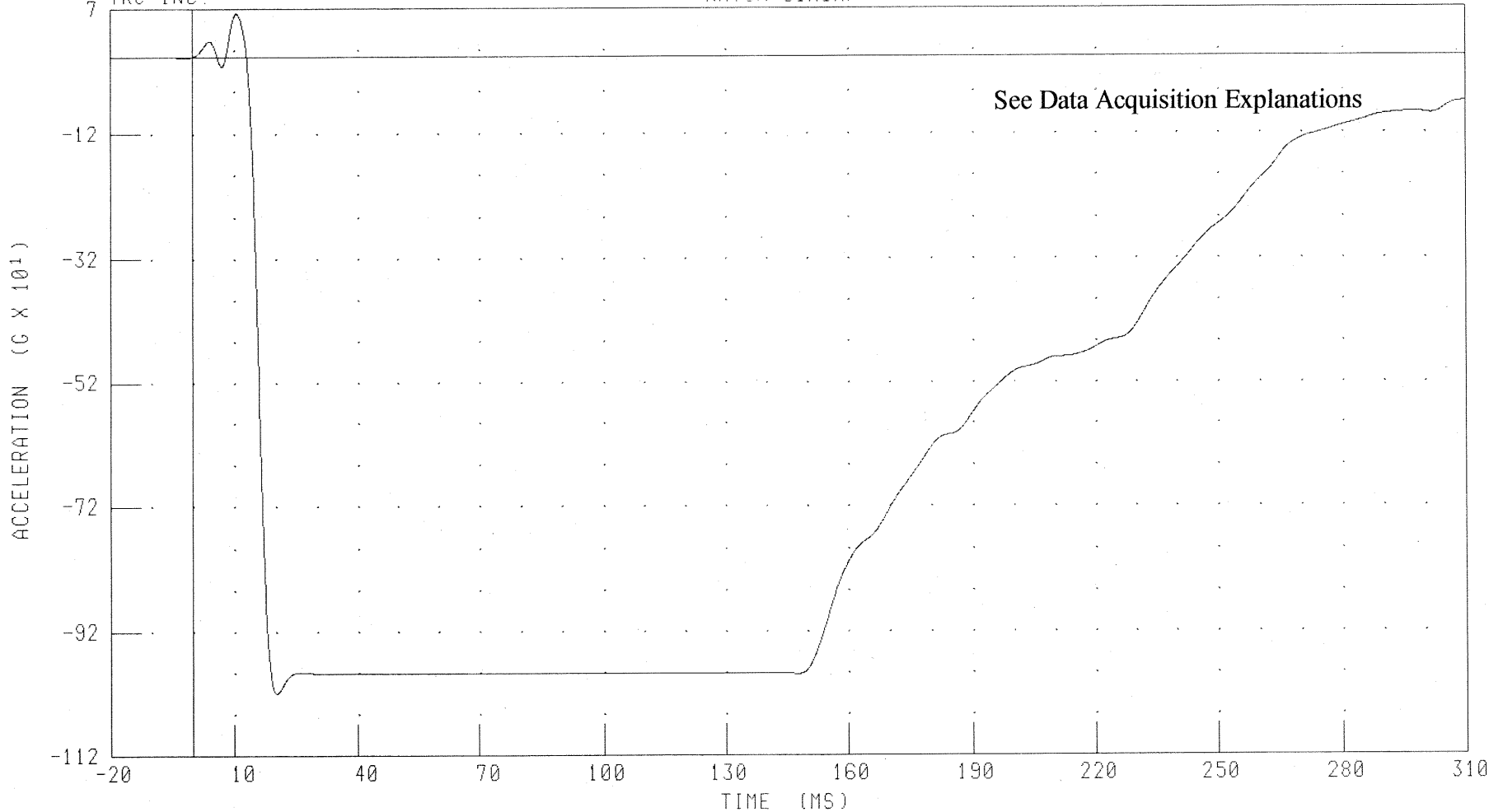
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT SIDE SILL AT REAR Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LRSYG1 FILTER: CH. CLASS 60

PEAK DATA: 71.31 G @ 10.56 MS; -1021.91 G @ 20.16 MS

B-72

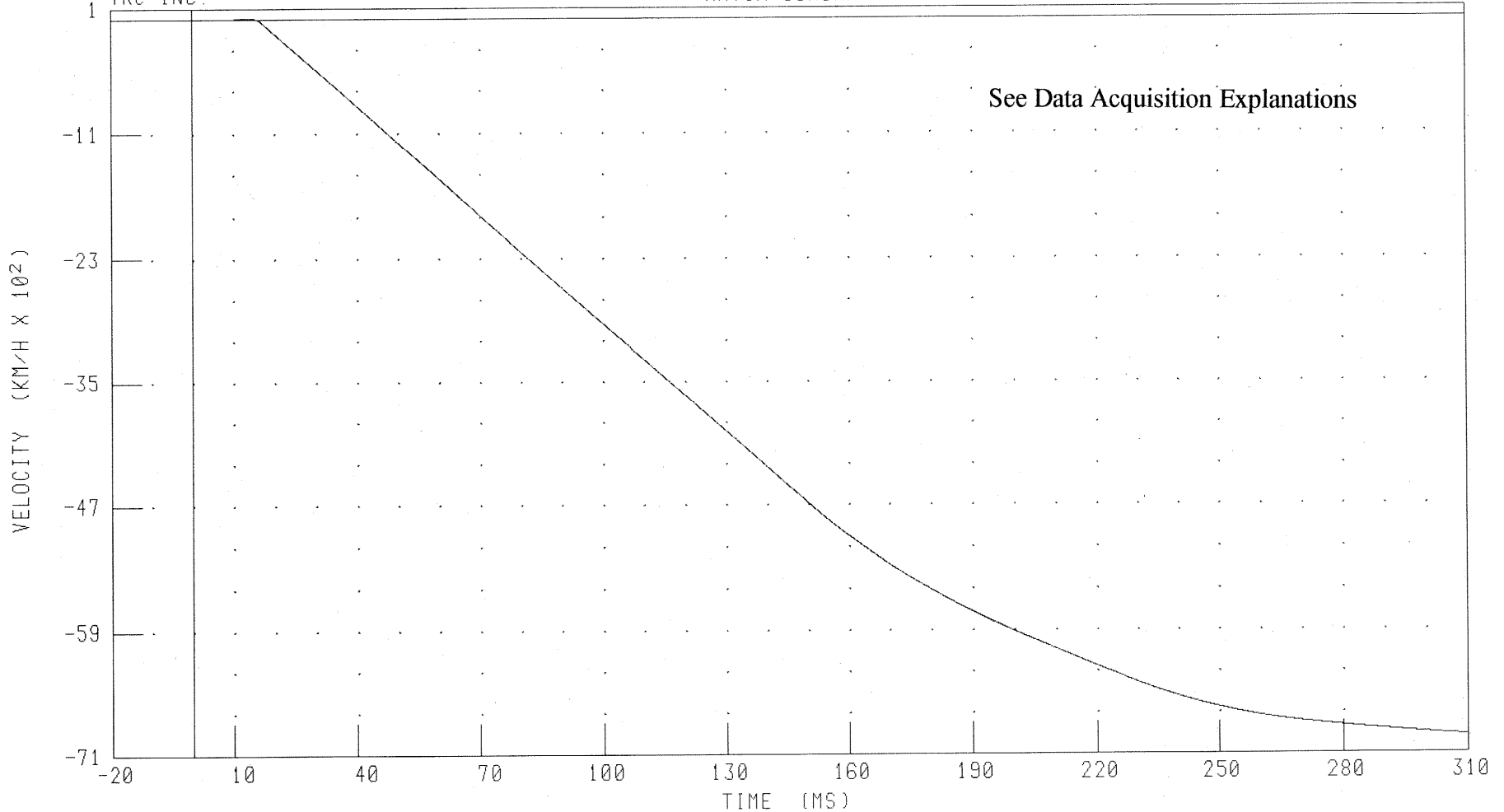
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT SIDE SILL AT REAR Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LRSYV1 FILTER: CH. CLASS 180

TIME (MS)

PEAK DATA: 8.39 KM/H @ 11.28 MS; -6929.91 KM/H @ 310.00 MS

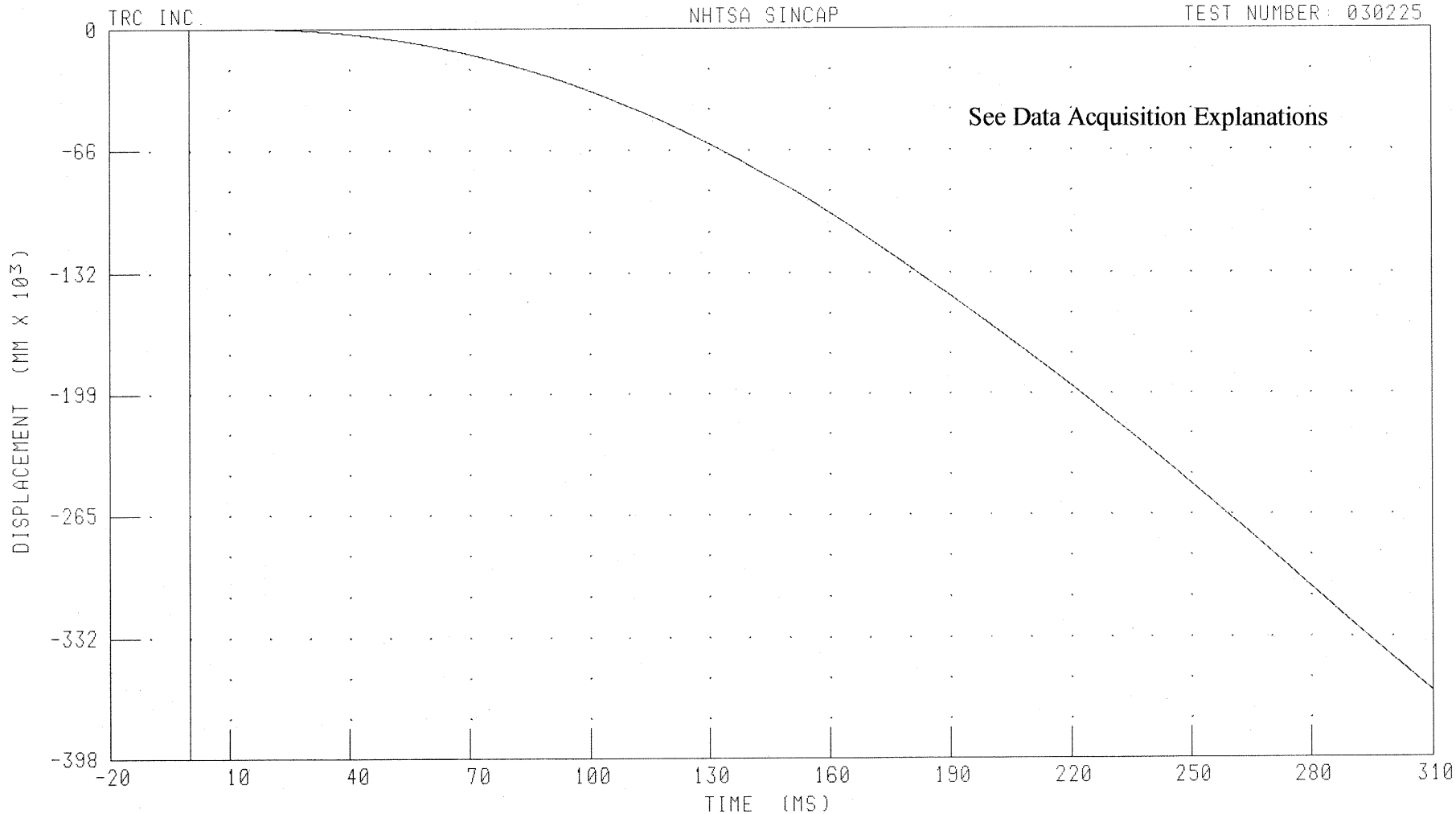
B-73

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT SIDE SILL AT REAR Y-AXIS DISPLACEMENT

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LRSYD1 FILTER: CH. CLASS 100

PEAK DATA: 15.04 MM @ 15.92 MS; -362815.19 MM @ 310.00 MS

B-74

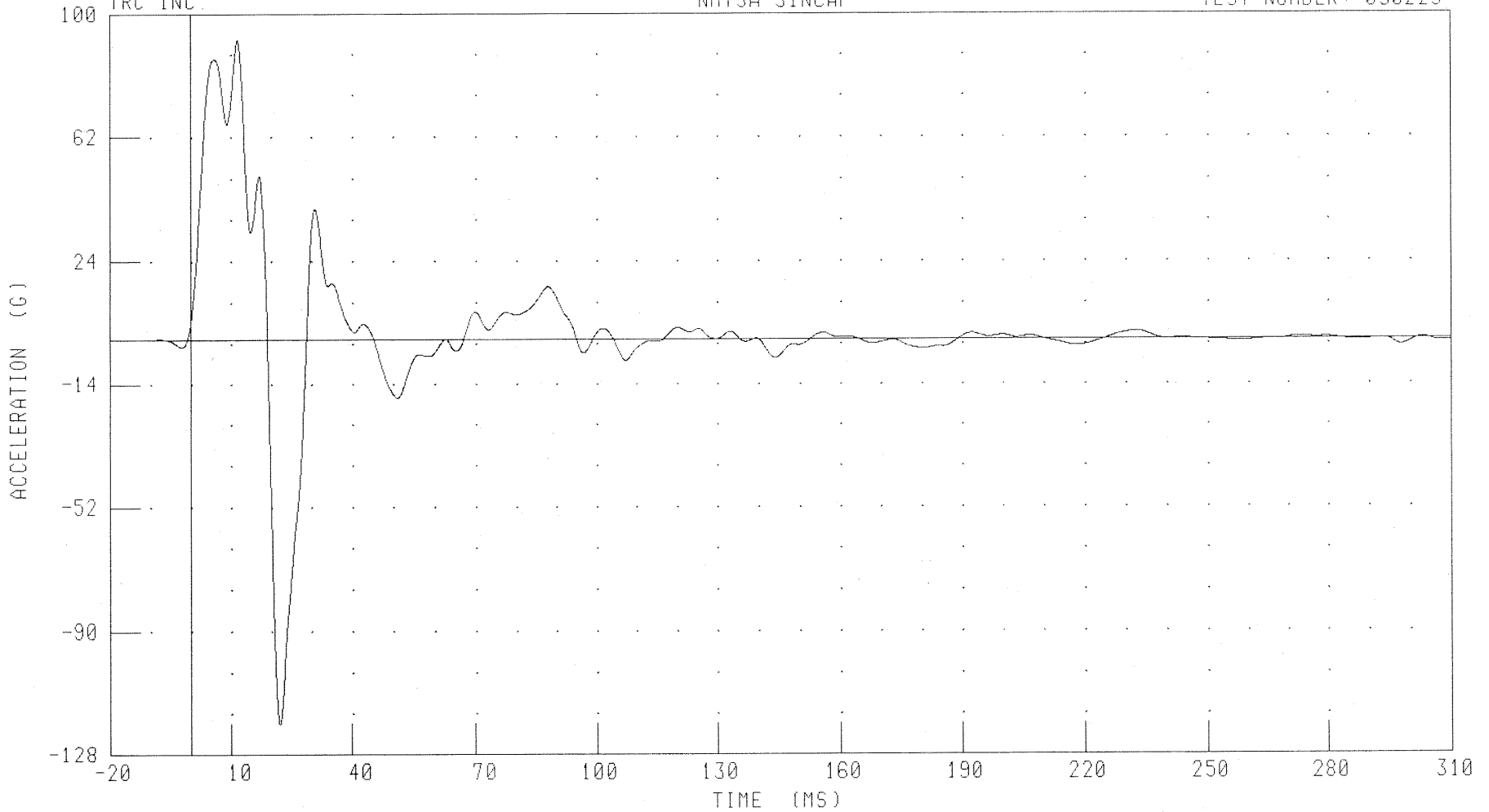
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR ON CENTERLINE Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFCYG1

FILTER: CH. CLASS 60

PEAK DATA: 91.97 G @ 11.68 MS; -118.86 G @ 22.16 MS

B-75

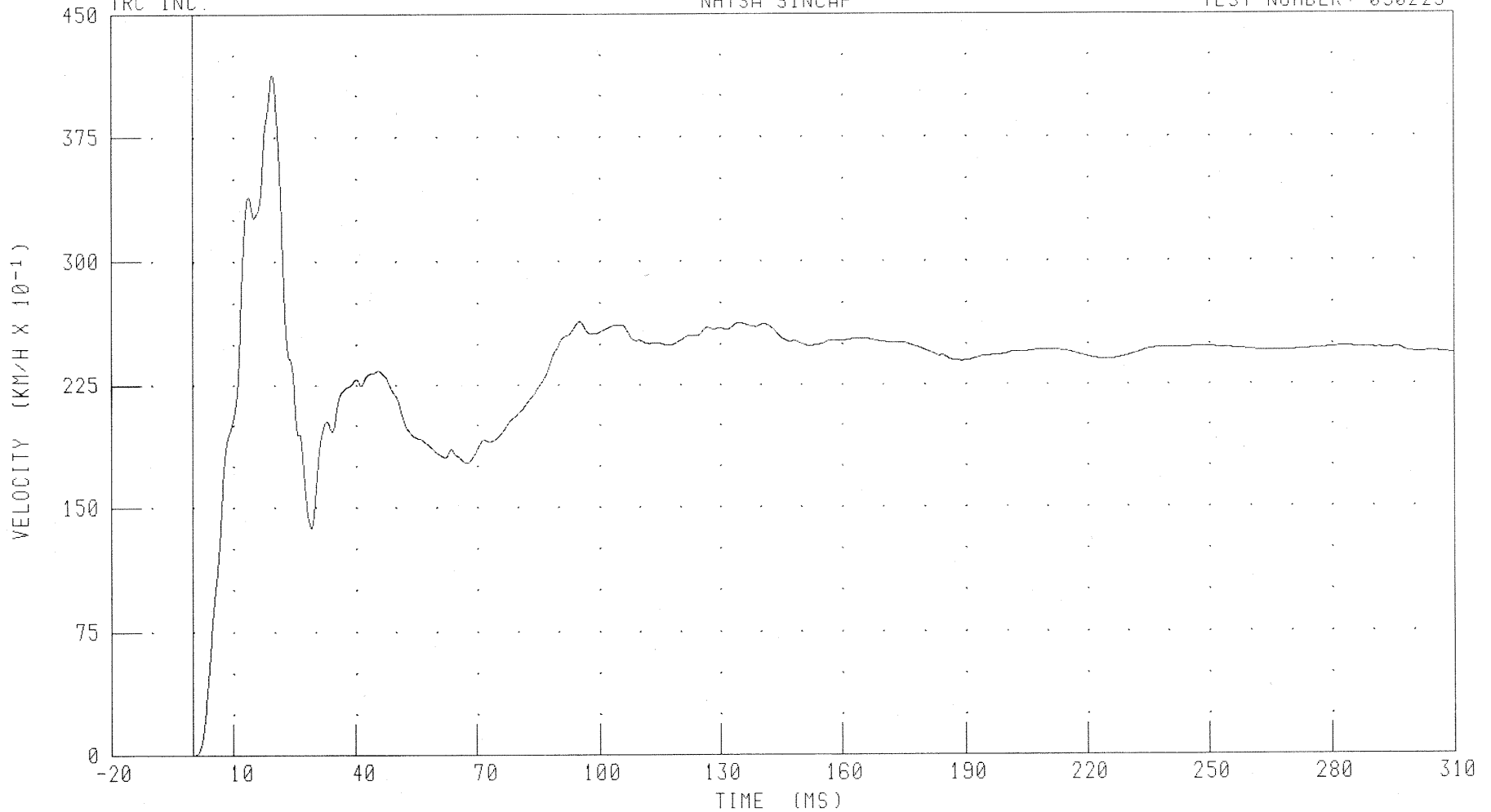
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR ON CENTERLINE Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFCYV1

FILTER: CH. CLASS 180

PEAK DATA: 41.30 KM/H @ 19.52 MS; 0.00 KM/H @ 0.00 MS

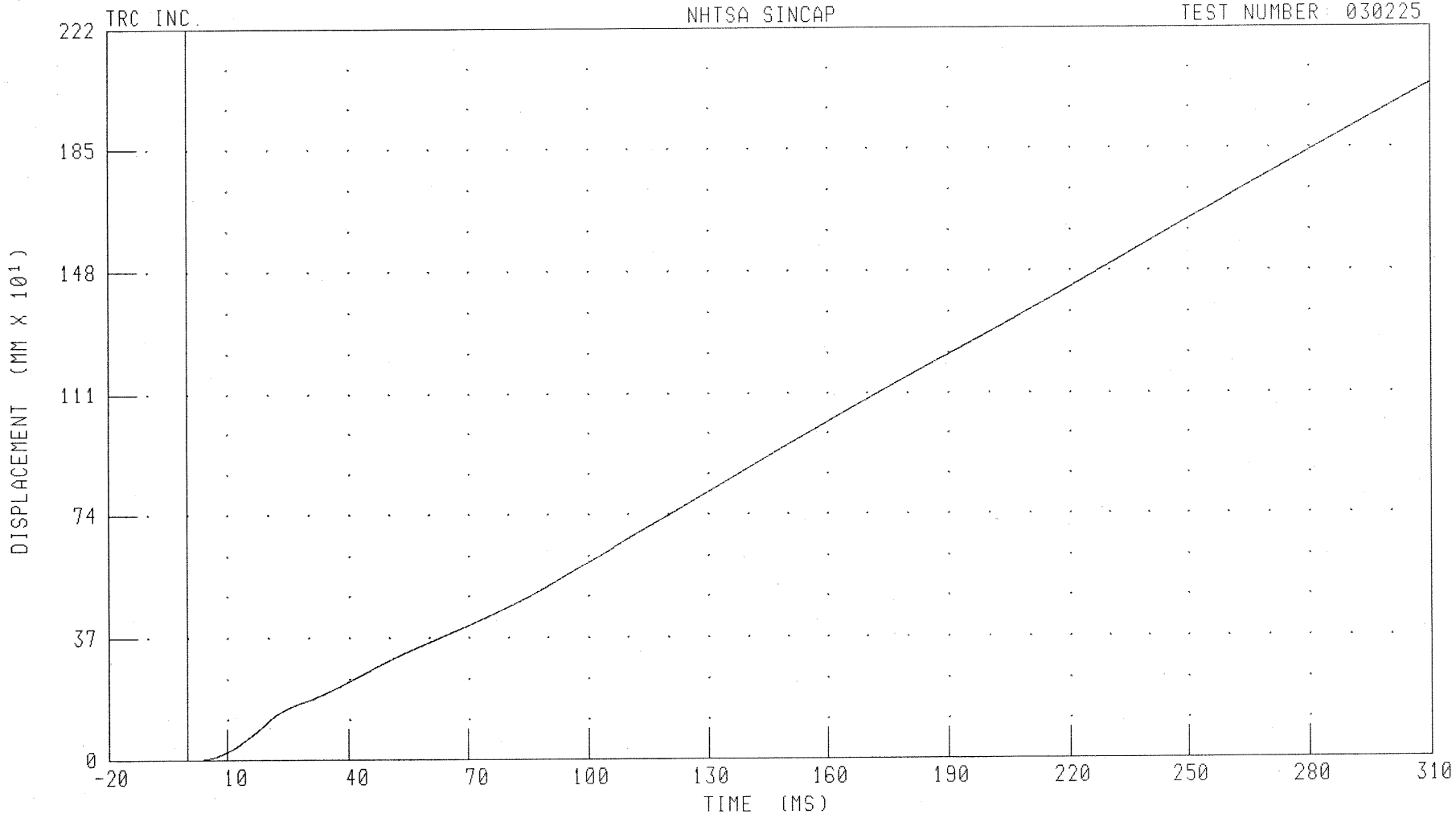
B-76

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR ON CENTERLINE Y-AXIS DISPLACEMENT

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFCYD1

FILTER: CH. CLASS 180

PEAK DATA: 2045.02 MM @ 310.00 MS; 0.00 MM @ 0.00 MS

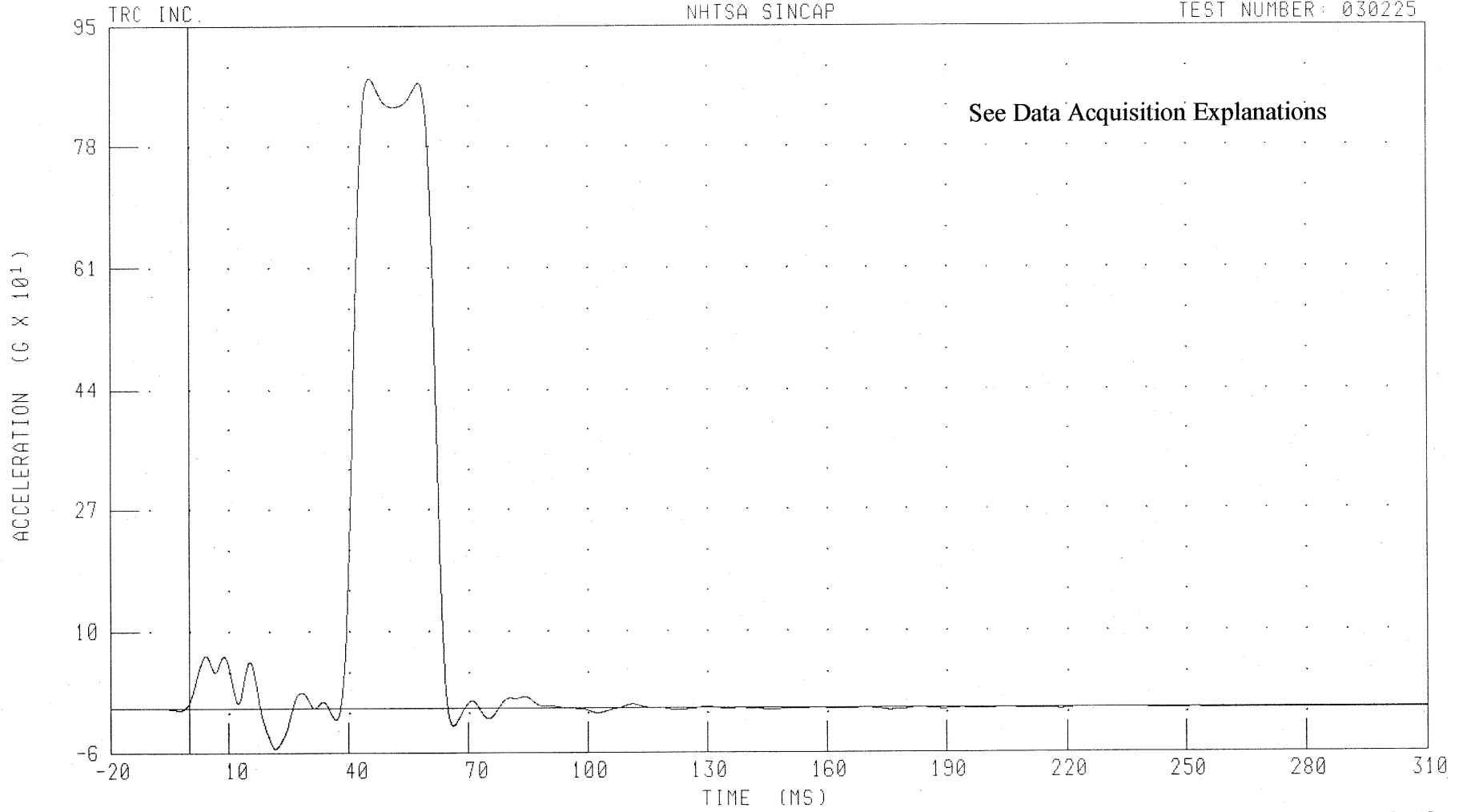
B-77

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR MID-REAR Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFMYG1 FILTER: CH. CLASS 60

PEAK DATA: 883.01 G @ 45.28 MS; -57.33 G @ 21.68 MS

B-78

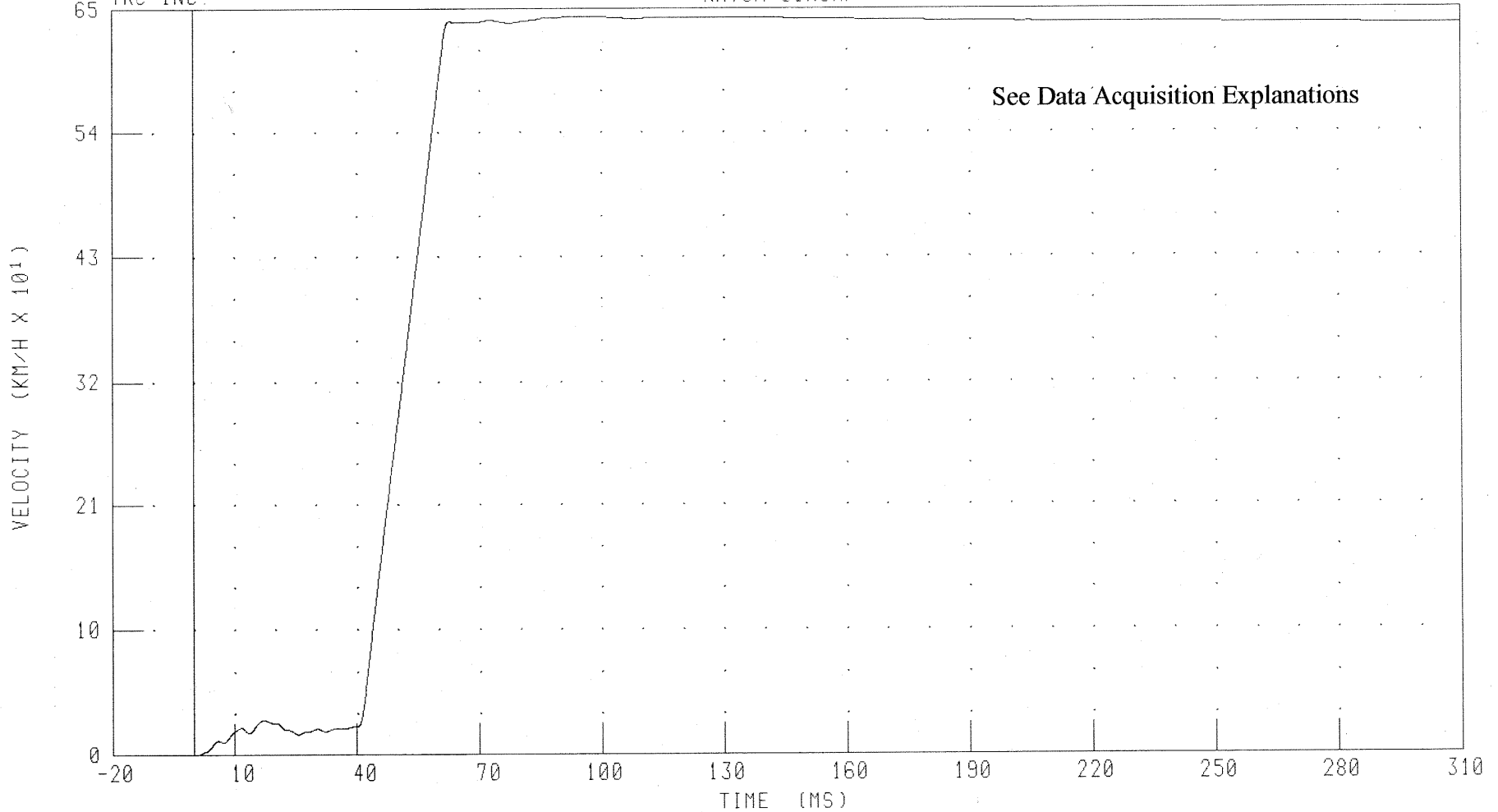
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR MID-REAR Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFMYV1 FILTER: CH. CLASS 180

PEAK DATA: 652.57 KM/H @ 96.40 MS; -0.15 KM/H @ 0.88 MS

B-79

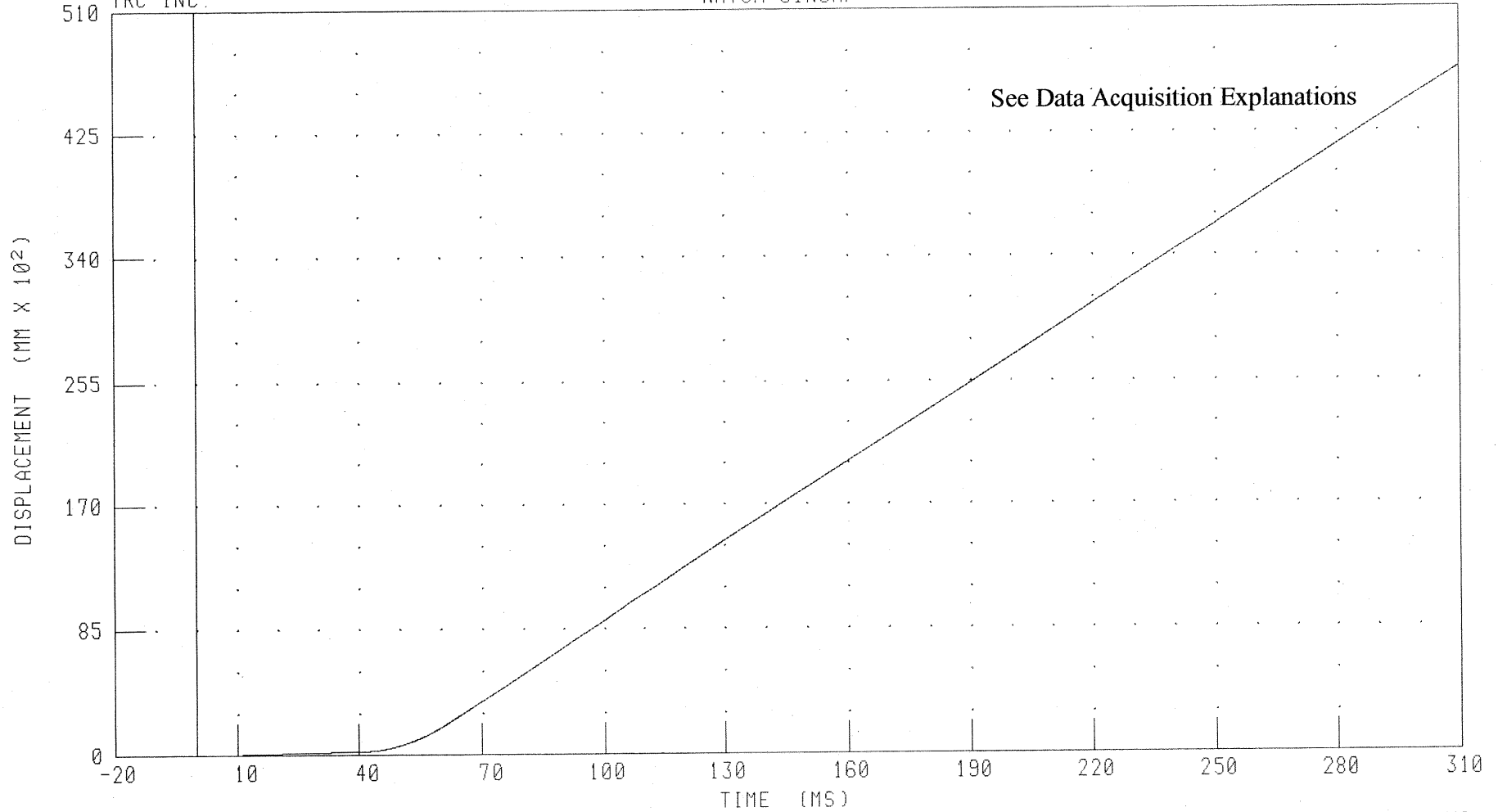
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR MID-REAR Y-AXIS DISPLACEMENT

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFMYD1 FILTER: CH. CLASS 180

PEAK DATA: 46902.66 MM @ 310.00 MS; -0.03 MM @ 1.28 MS

B-80

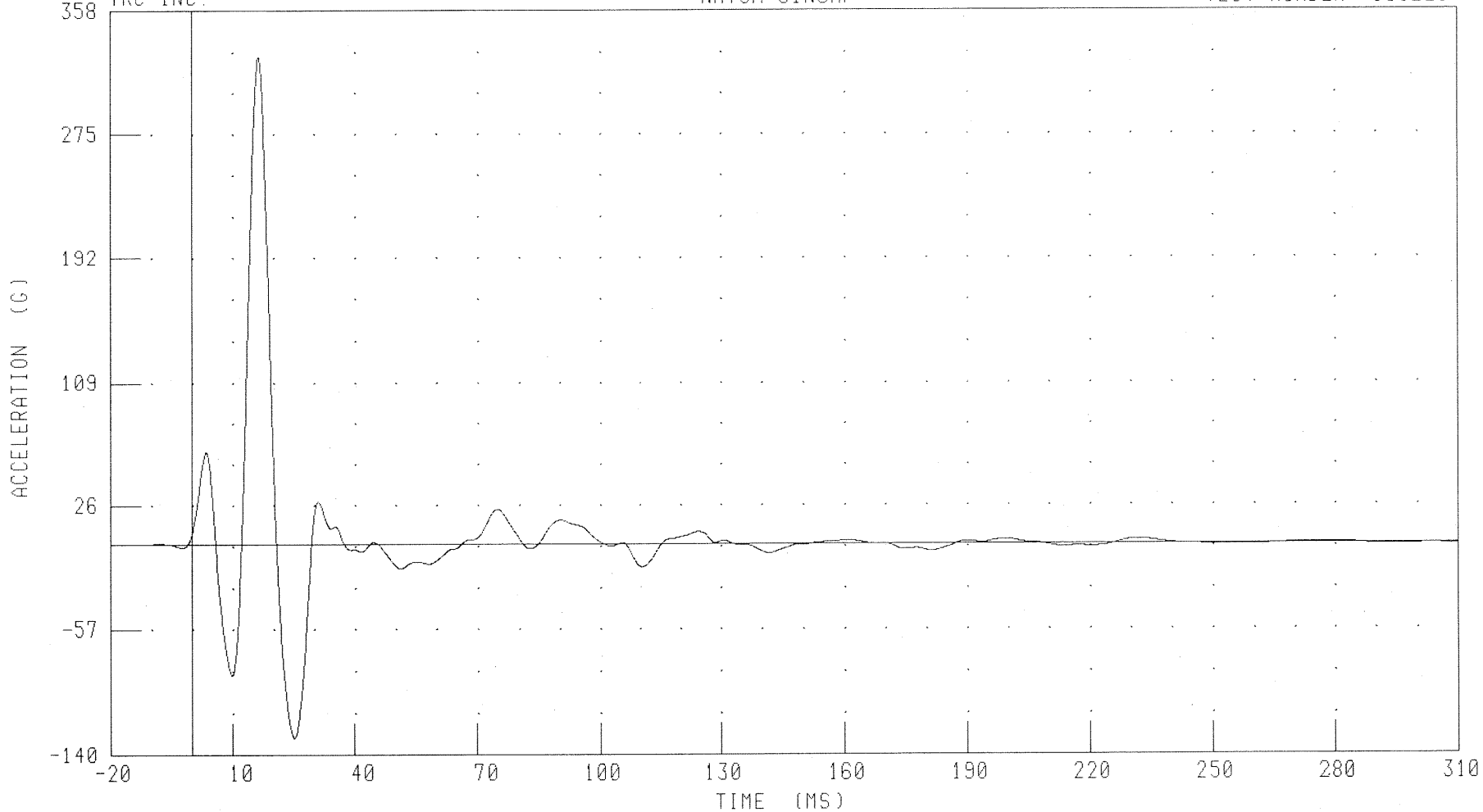
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR UPPER CENTERLINE Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFUYG1

FILTER: CH. CLASS 60

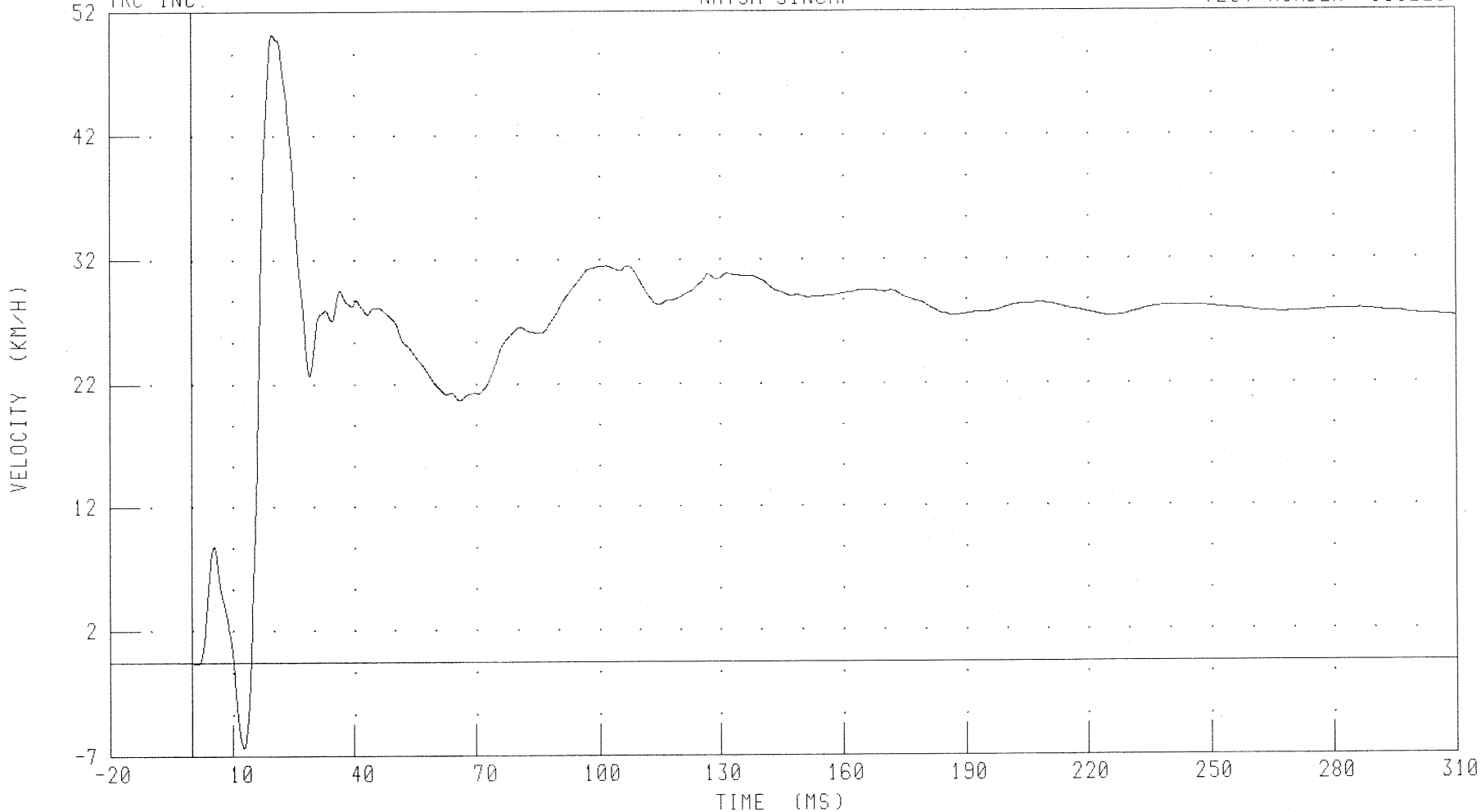
PEAK DATA: 327.57 G @ 16.40 MS; -128.80 G @ 25.12 MS

B-81

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR UPPER CENTERLINE Y-AXIS VELOCITY

TRC INC. NHTSA SINCAP TEST NUMBER: 030225



CHANNEL: LFUYV1 FILTER: CH. CLASS 180 PEAK DATA: 50.80 KM/H @ 19.84 MS; -6.74 KM/H @ 12.64 MS

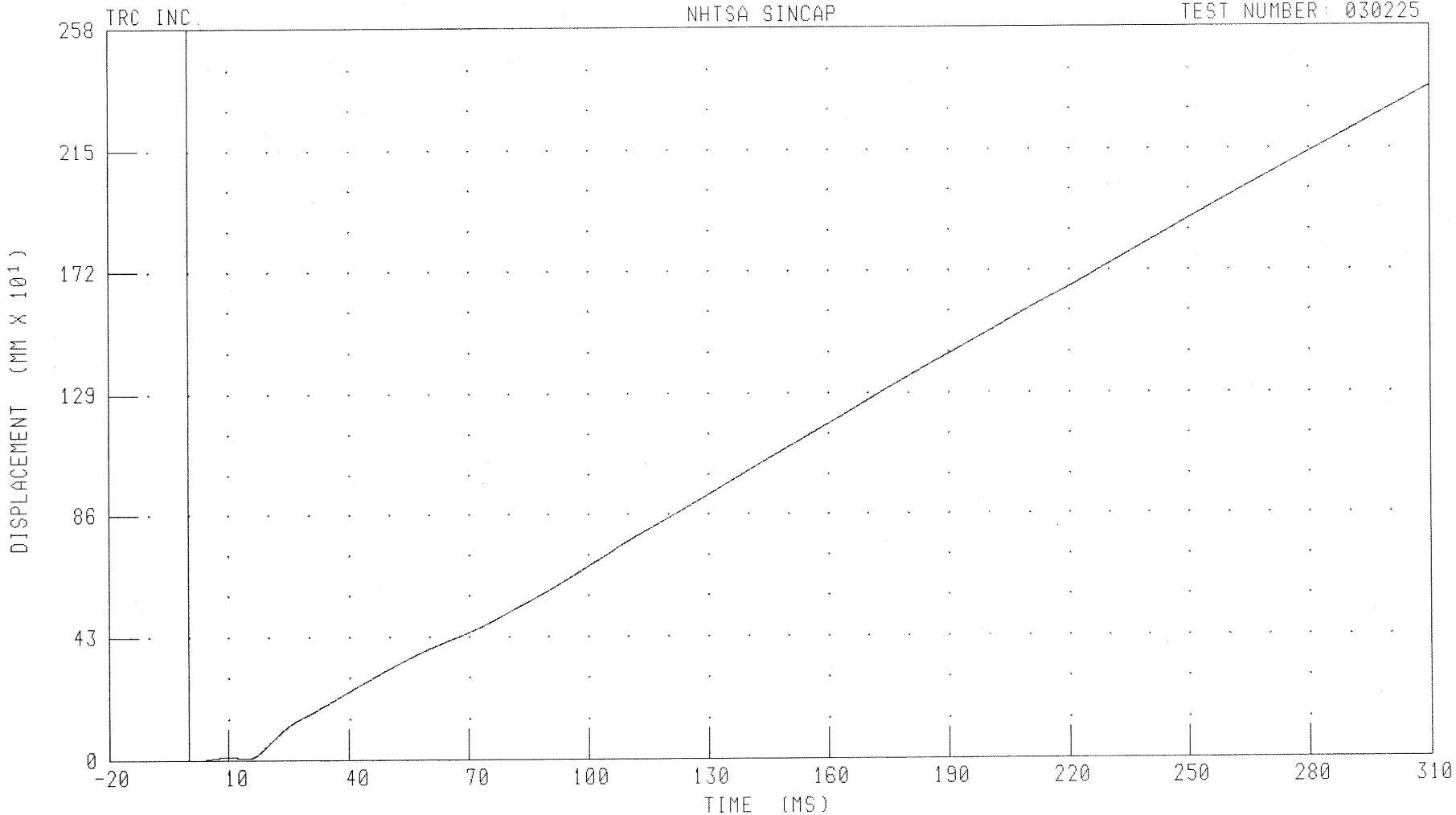
B-82

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT DOOR UPPER CENTERLINE Y-AXIS DISPLACEMENT

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFUYD1

FILTER: CH. CLASS 180

PEAK DATA: 2370.90 MM @ 310.00 MS; -0.01 MM @ 1.84 MS

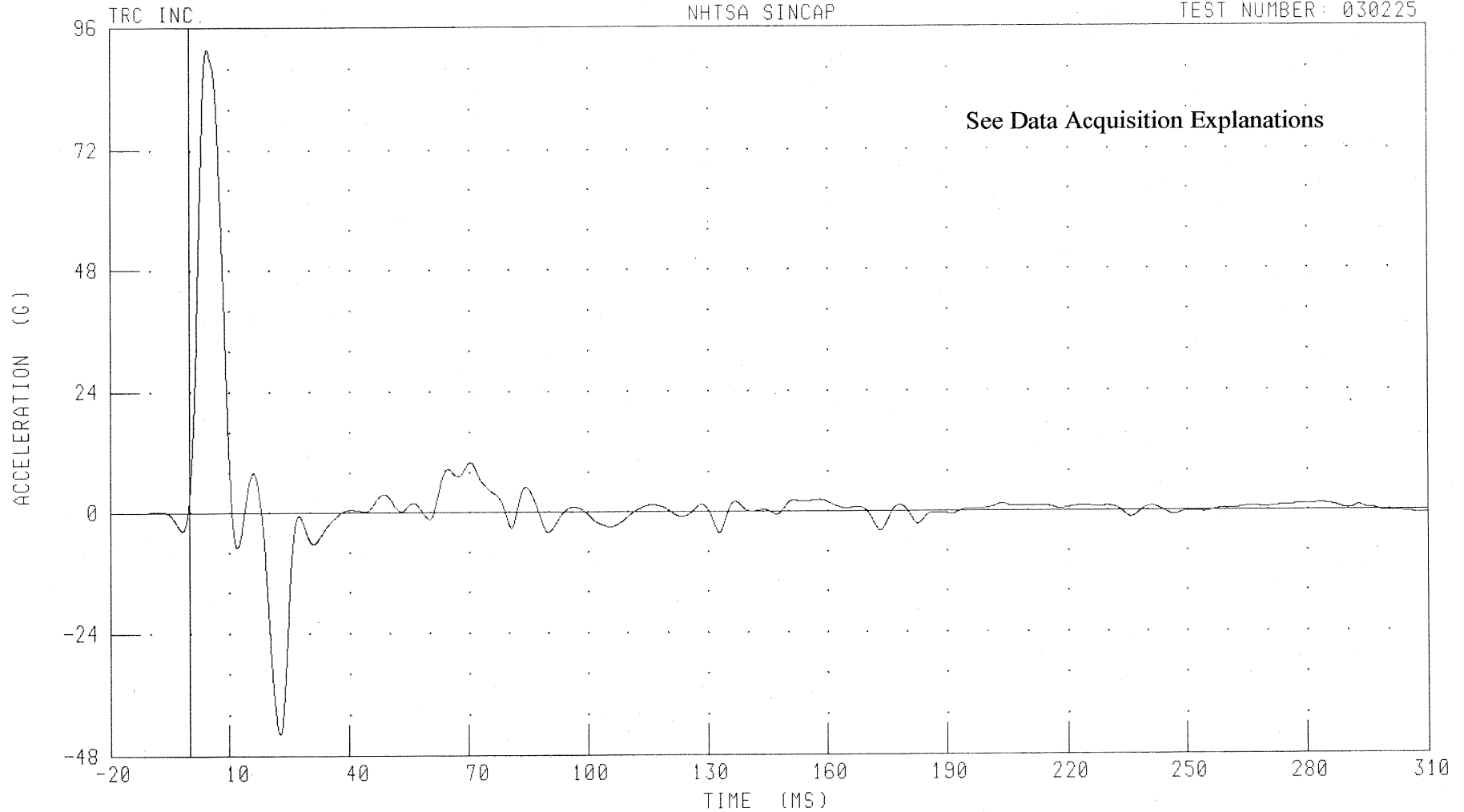
B-83

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT LOWER A-POST Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLAG1 FILTER: CH: CLASS 60

PEAK DATA: 91.79 G @ 4.56 MS; -43.74 G @ 22.72 MS

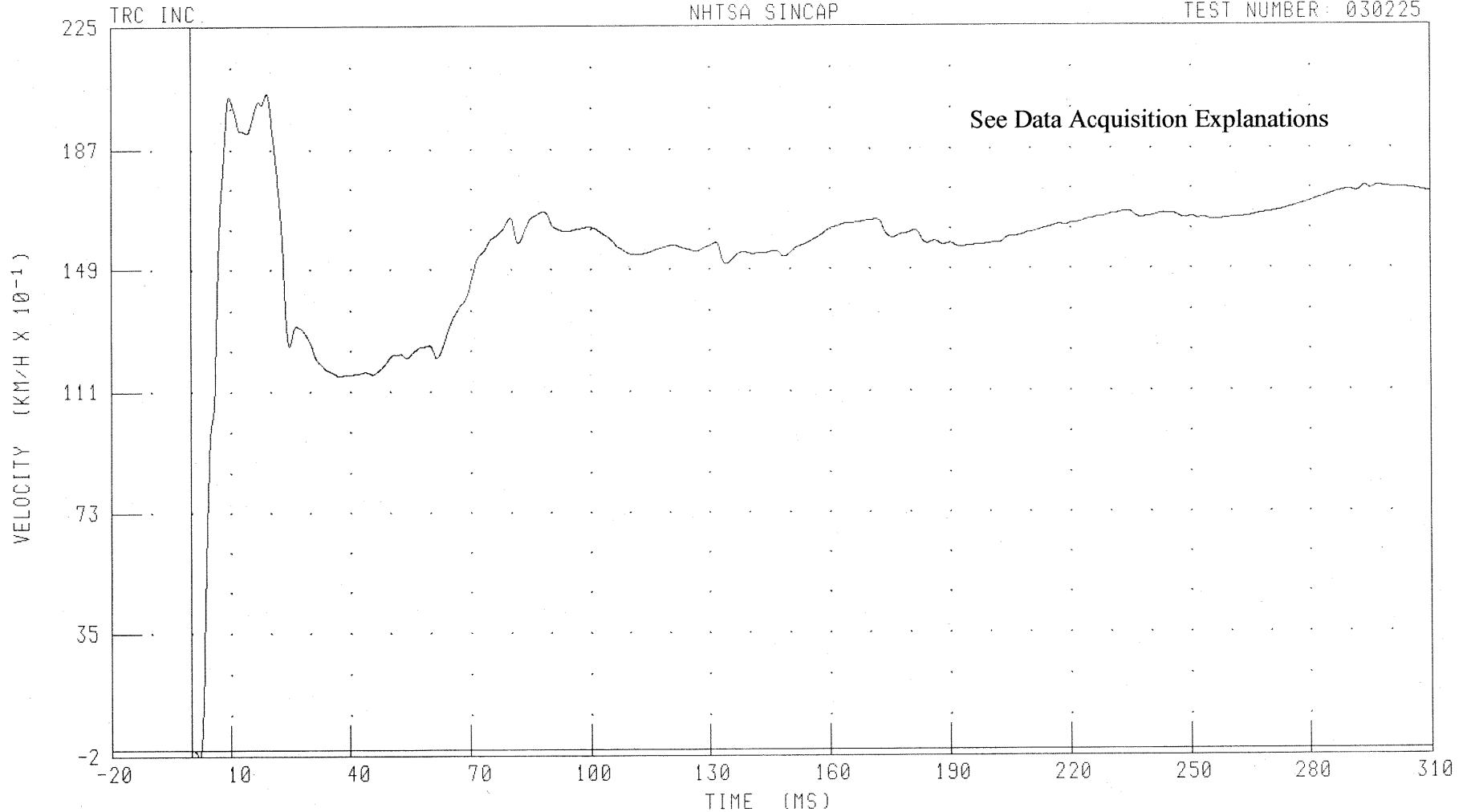
B-84

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT LOWER A-POST Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLAYV1 FILTER: CH. CLASS 180

PEAK DATA: 20.56 KM/H @ 19.20 MS; -0.25 KM/H @ 2.00 MS

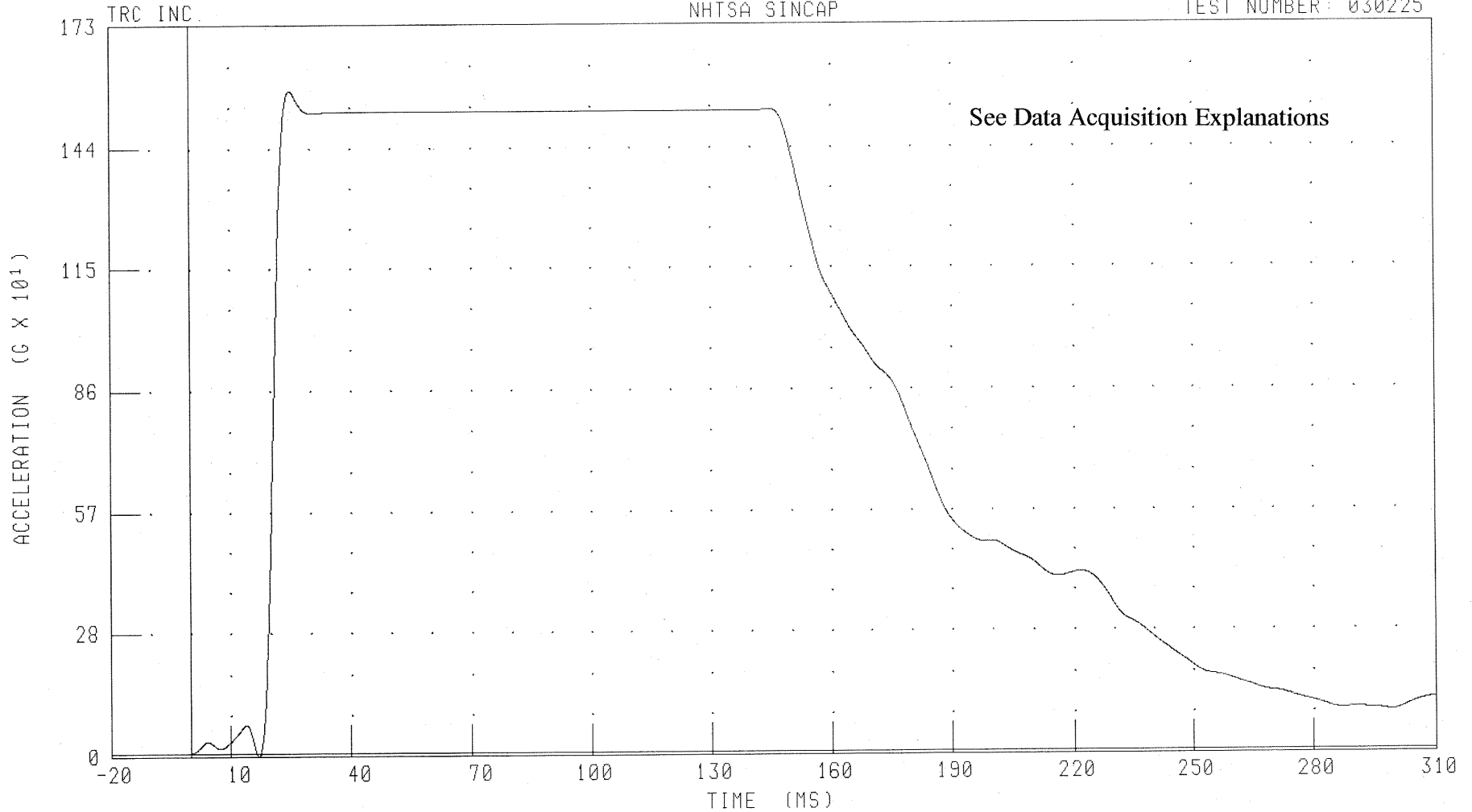
B-85

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT MIDDLE A-POST Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



See Data Acquisition Explanations

CHANNEL: LMAYG1 FILTER: CH. CLASS 60

PEAK DATA: 1579.25 G @ 25.04 MS, -6.72 G @ 17.04 MS

B-86

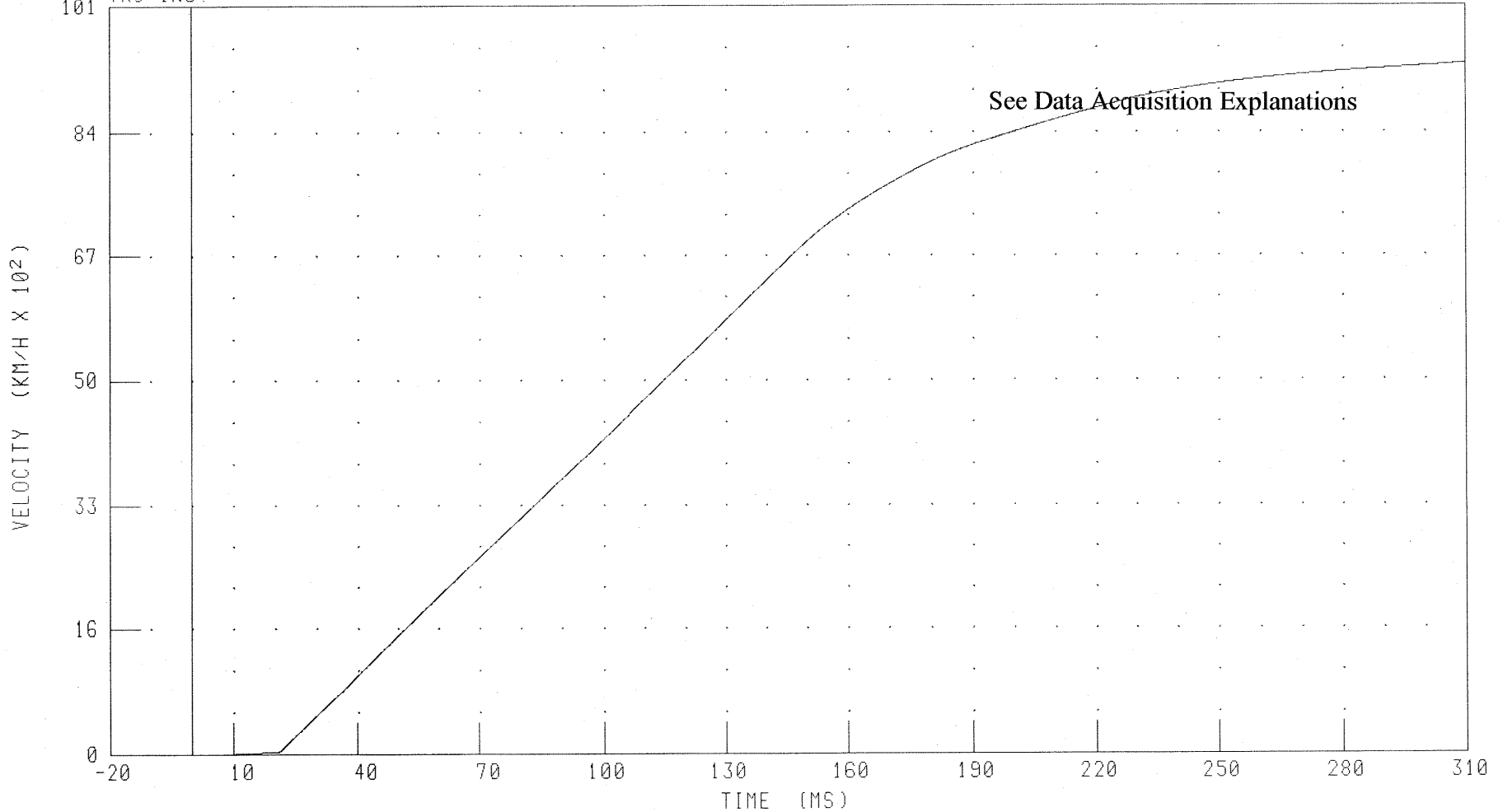
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT MIDDLE A-POST Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LMAYV1

FILTER: CH. CLASS 180

TIME (MS)

PEAK DATA: 9417.74 KM/H @ 310.00 MS; -0.19 KM/H @ 2.40 MS

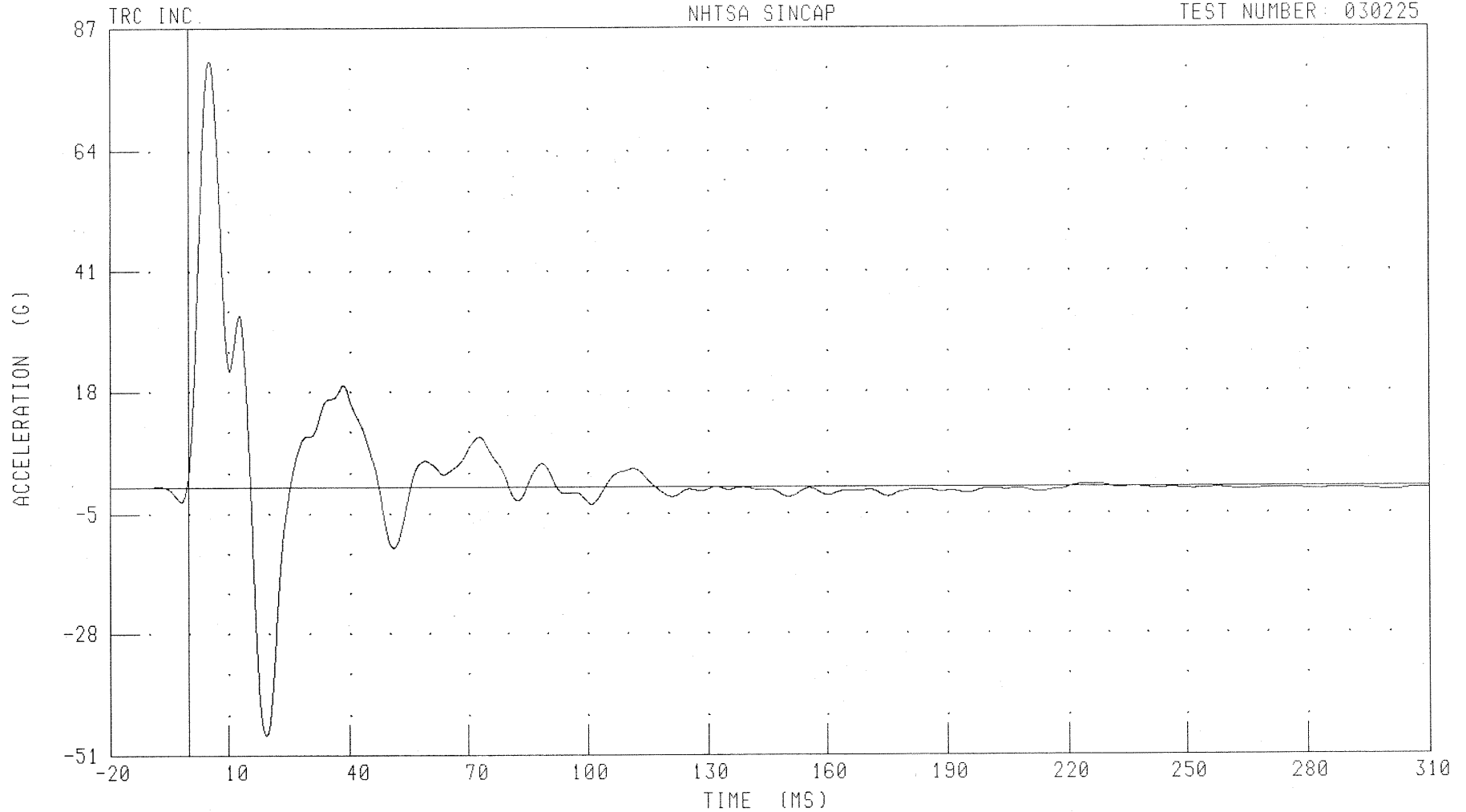
B-87

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT LOWER B-POST Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLBYG1 FILTER: CH. CLASS 60

PEAK DATA: 80.69 G @ 5.28 MS; -47.25 G @ 19.36 MS

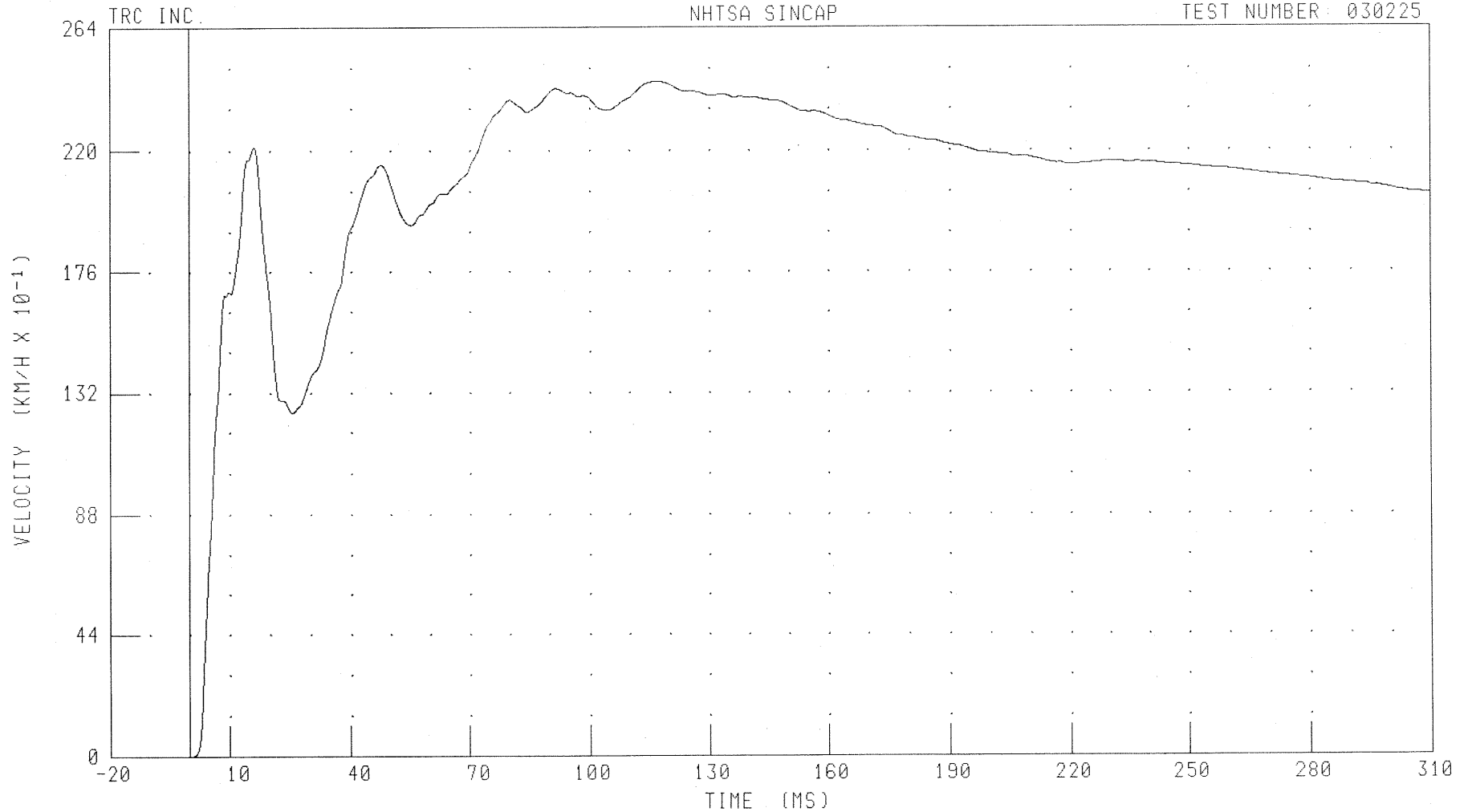
B-88

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT LOWER B-POST Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLBYV1 FILTER: CH. CLASS 180

PEAK DATA: 24.43 KM/H @ 117.68 MS; -0.00 KM/H @ 0.24 MS

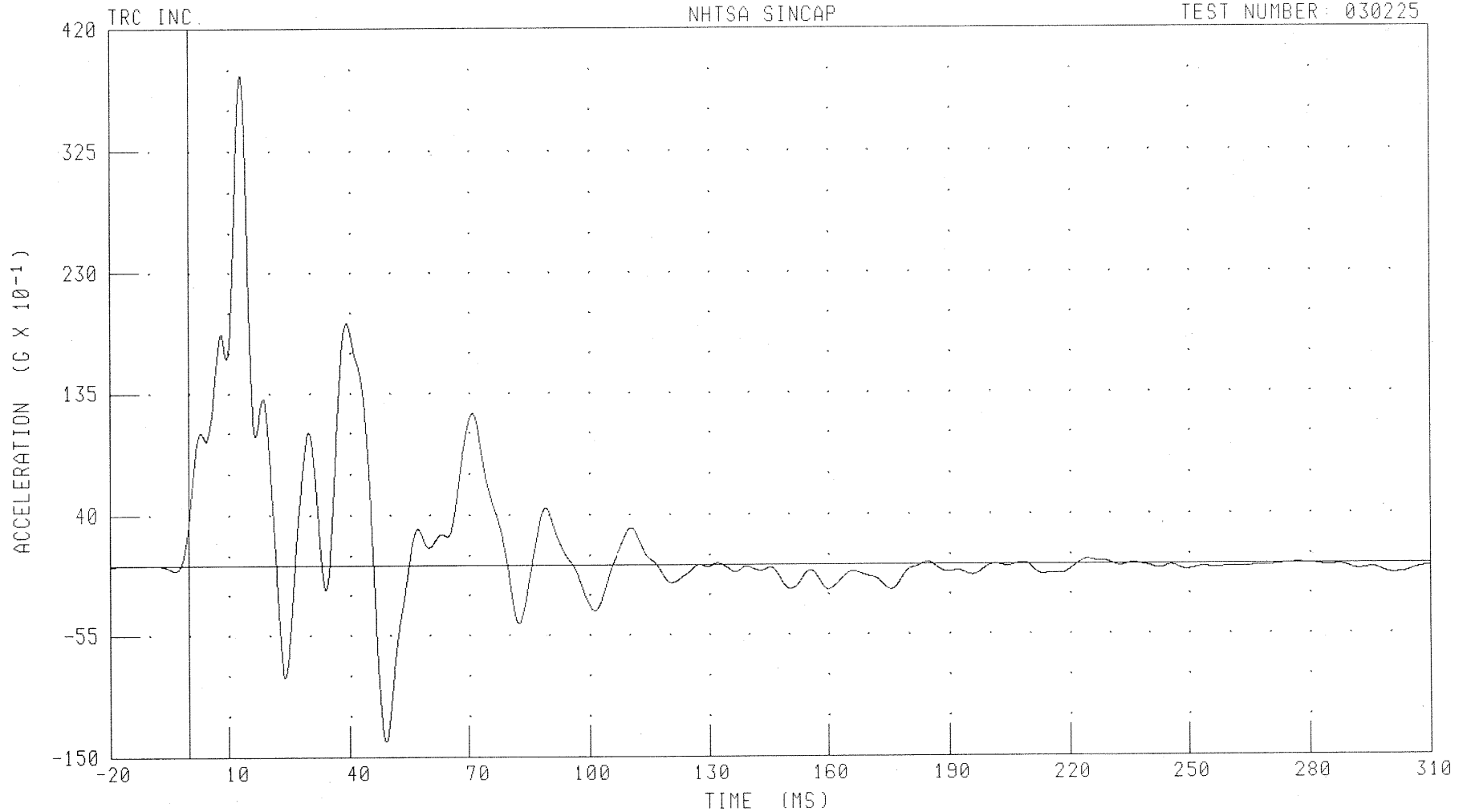
B-89

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT MIDDLE B-POST Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LMBYG1

FILTER: CH. CLASS 60

PEAK DATA: 38.39 G @ 13.04 MS; -13.84 G @ 48.88 MS

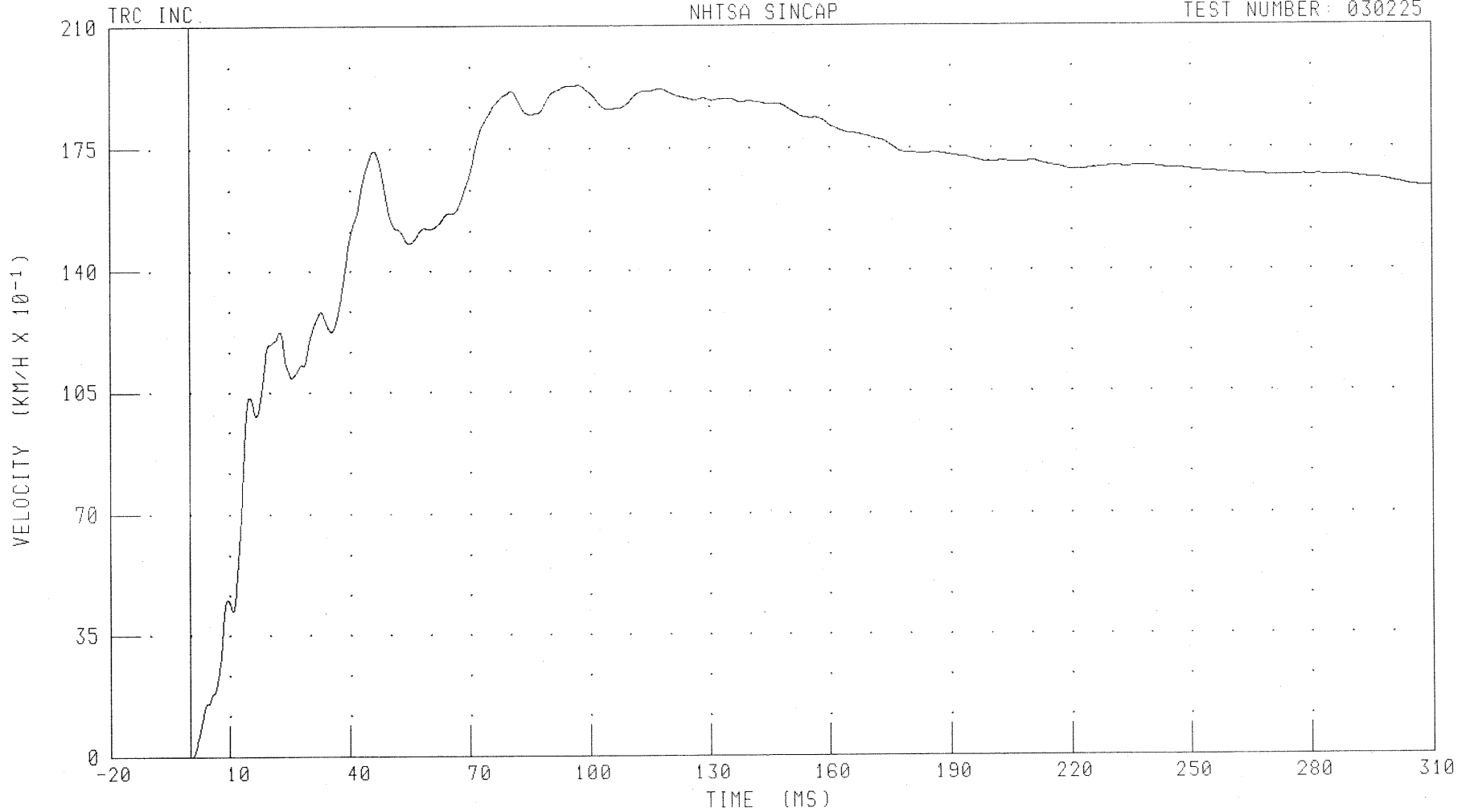
B-90

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT MIDDLE B-POST Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LMBYV1 FILTER: CH. CLASS 180

PEAK DATA: 19.31 KM/H @ 97.36 MS; 0.00 KM/H @ 0.24 MS

B-91

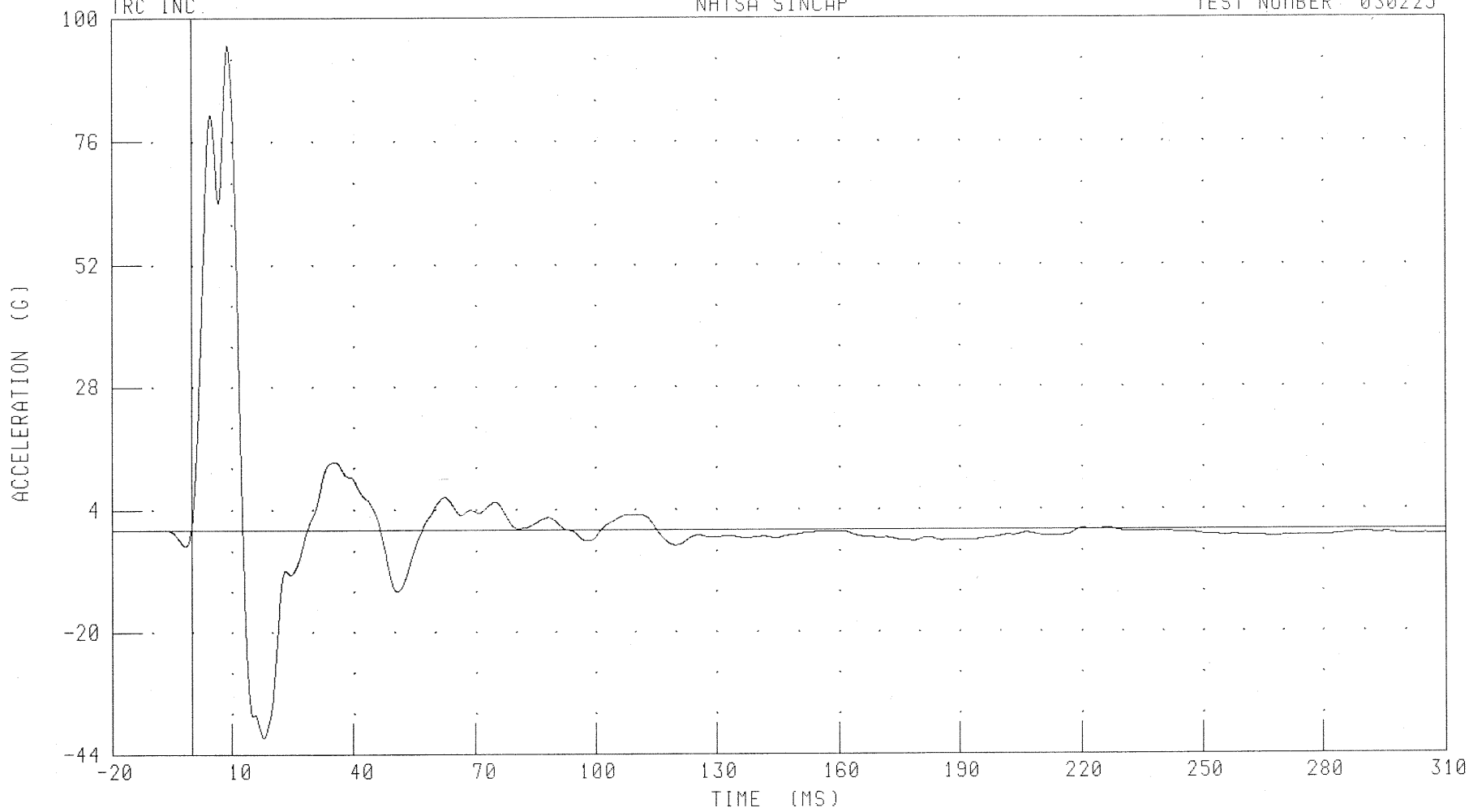
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT SEAT TRACK Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFTYG1

FILTER: CH. CLASS 60

PEAK DATA: 94.73 G @ 9.04 MS; -40.80 G @ 17.92 MS

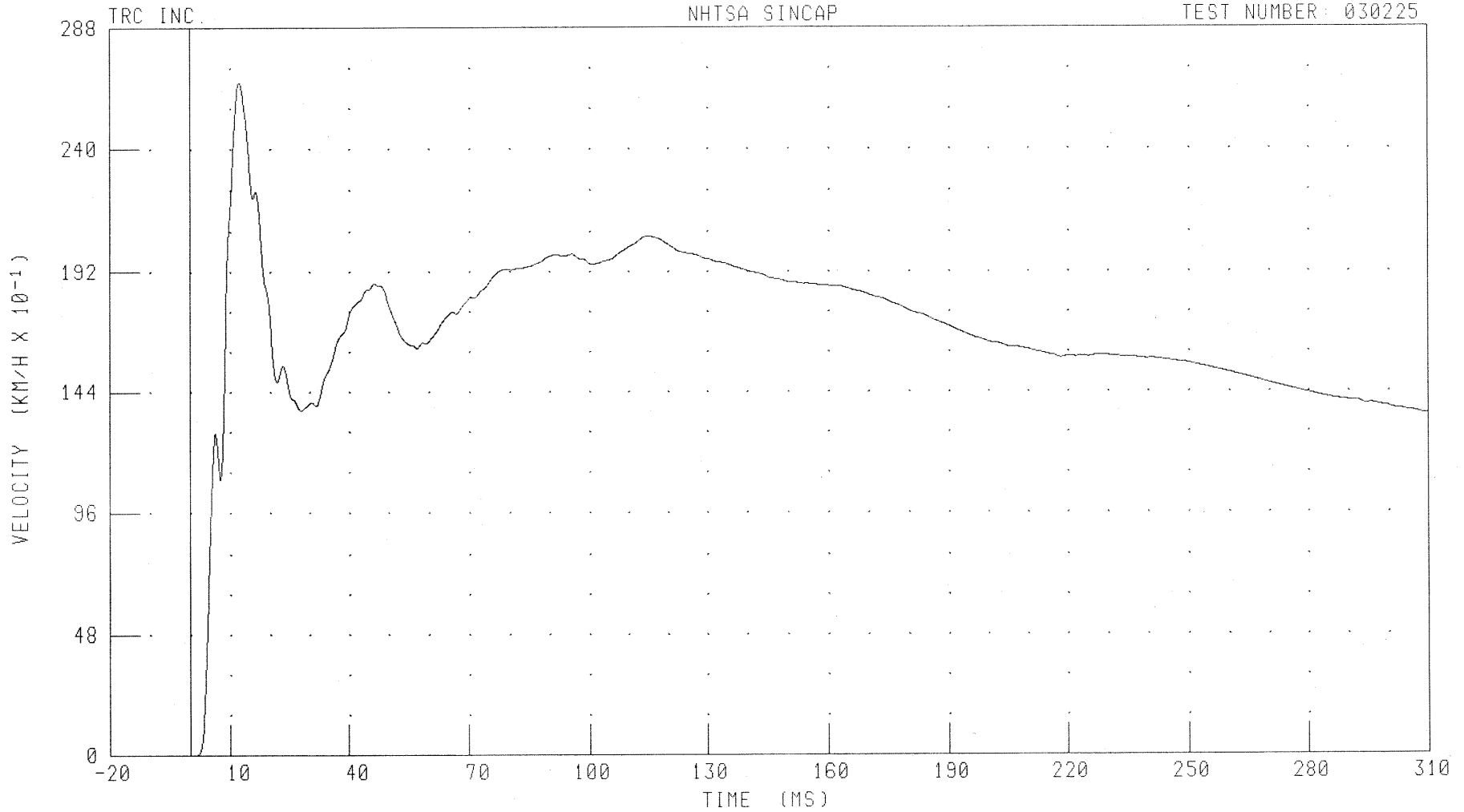
B-92

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
LEFT FRONT SEAT TRACK Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LFTYV1 FILTER: CH. CLASS 180

PEAK DATA: 26.62 KM/H @ 12.32 MS; -0.01 KM/H @ 1.12 MS

B-93

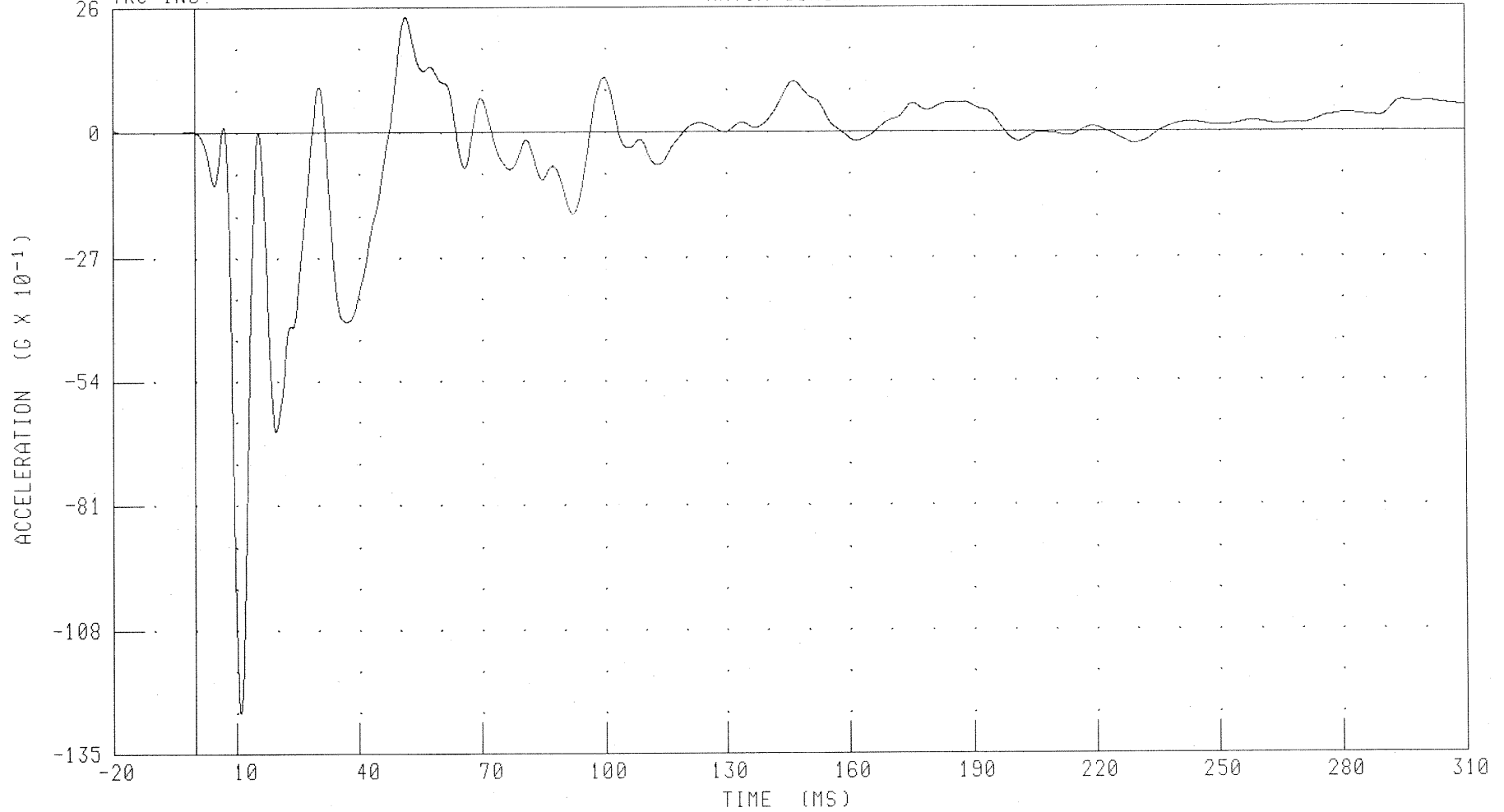
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: VCGXG1

FILTER: CH. CLASS 60

PEAK DATA: 2.50 G @ 51.44 MS, -12.61 G @ 10.96 MS

B-94

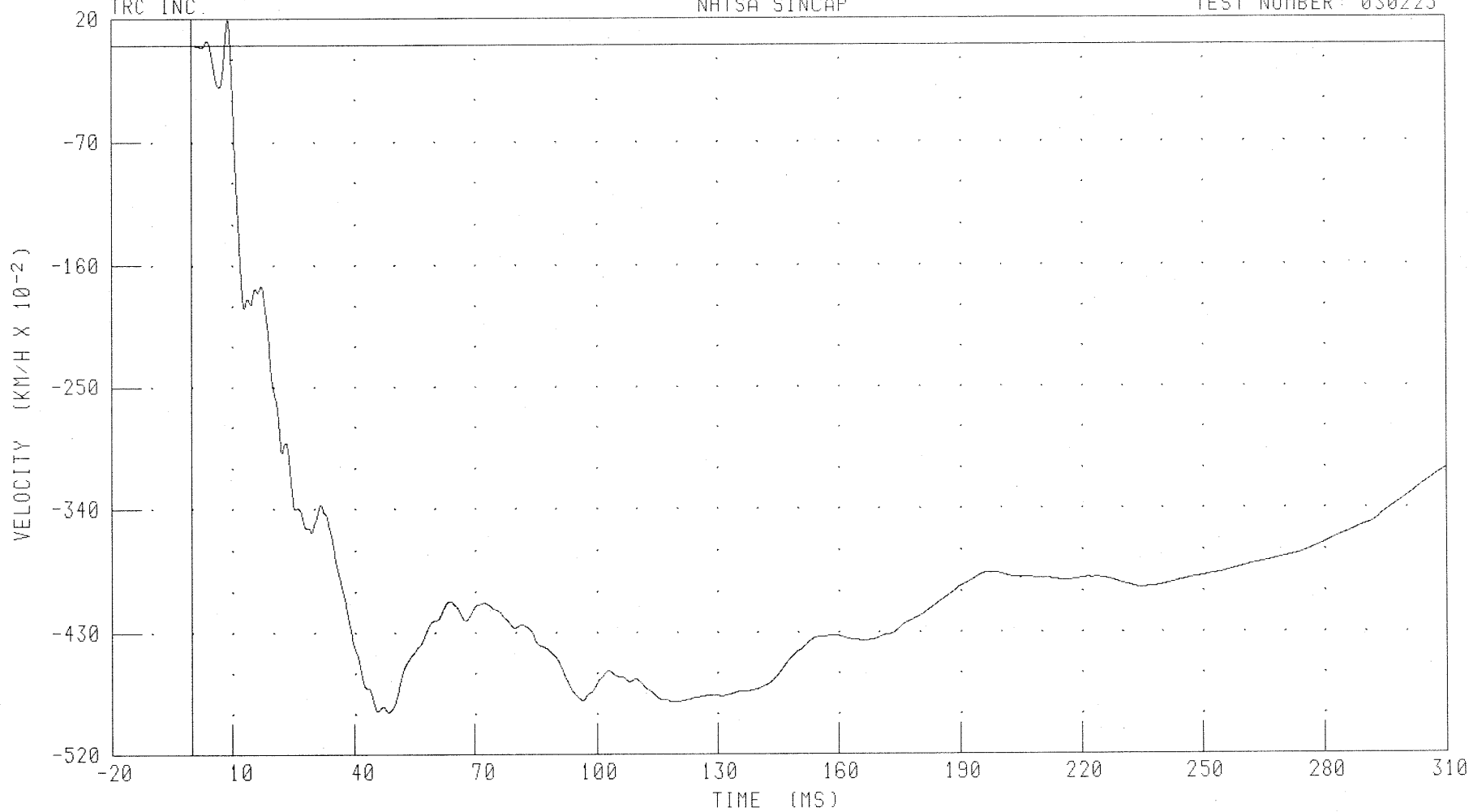
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: VCGXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.19 KM/H @ 8.96 MS; -4.89 KM/H @ 48.48 MS

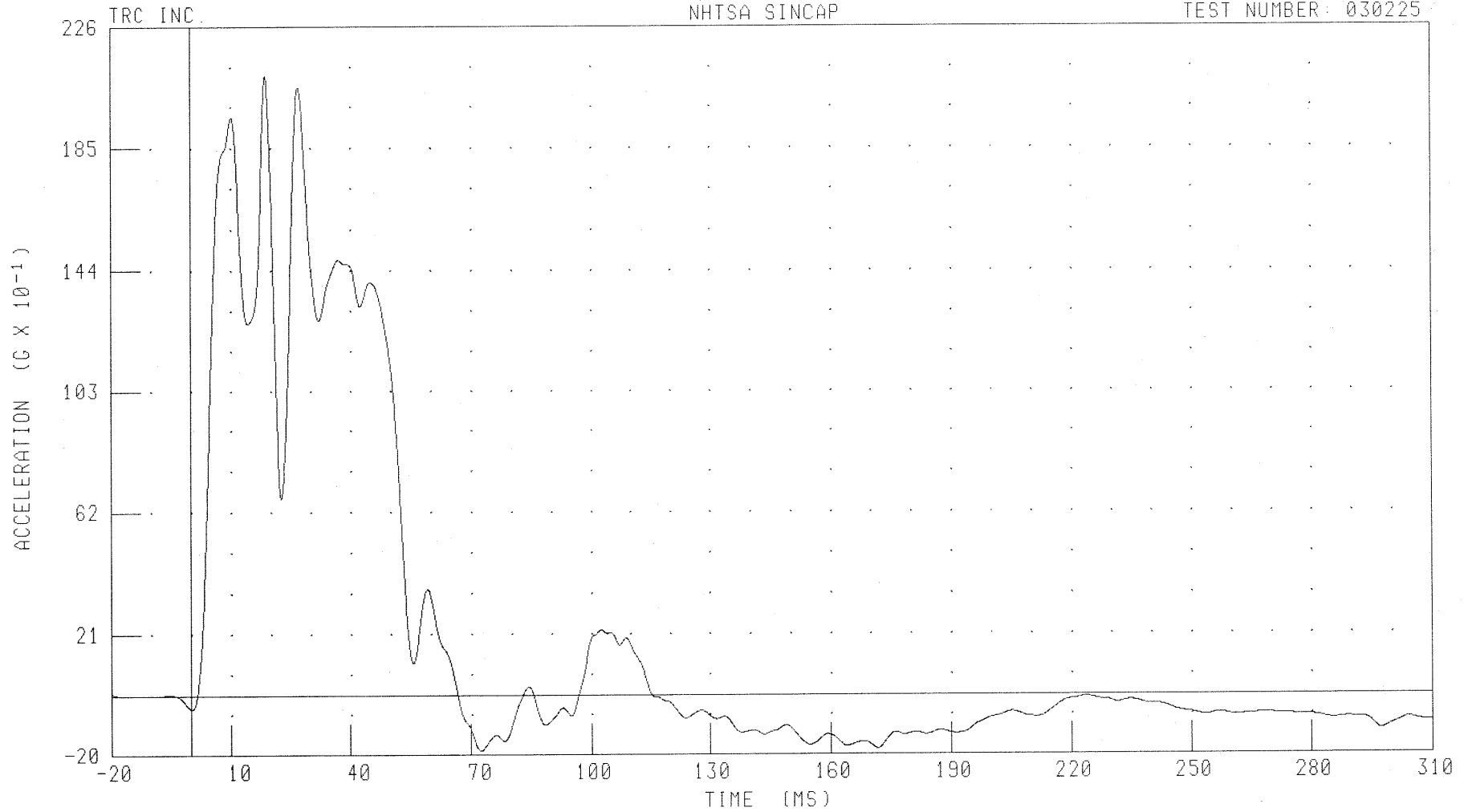
B-95

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: VCGYG1

FILTER: CH. CLASS 60

PEAK DATA: 20.94 G @ 18.72 MS; -1.87 G @ 72.40 MS

B-96

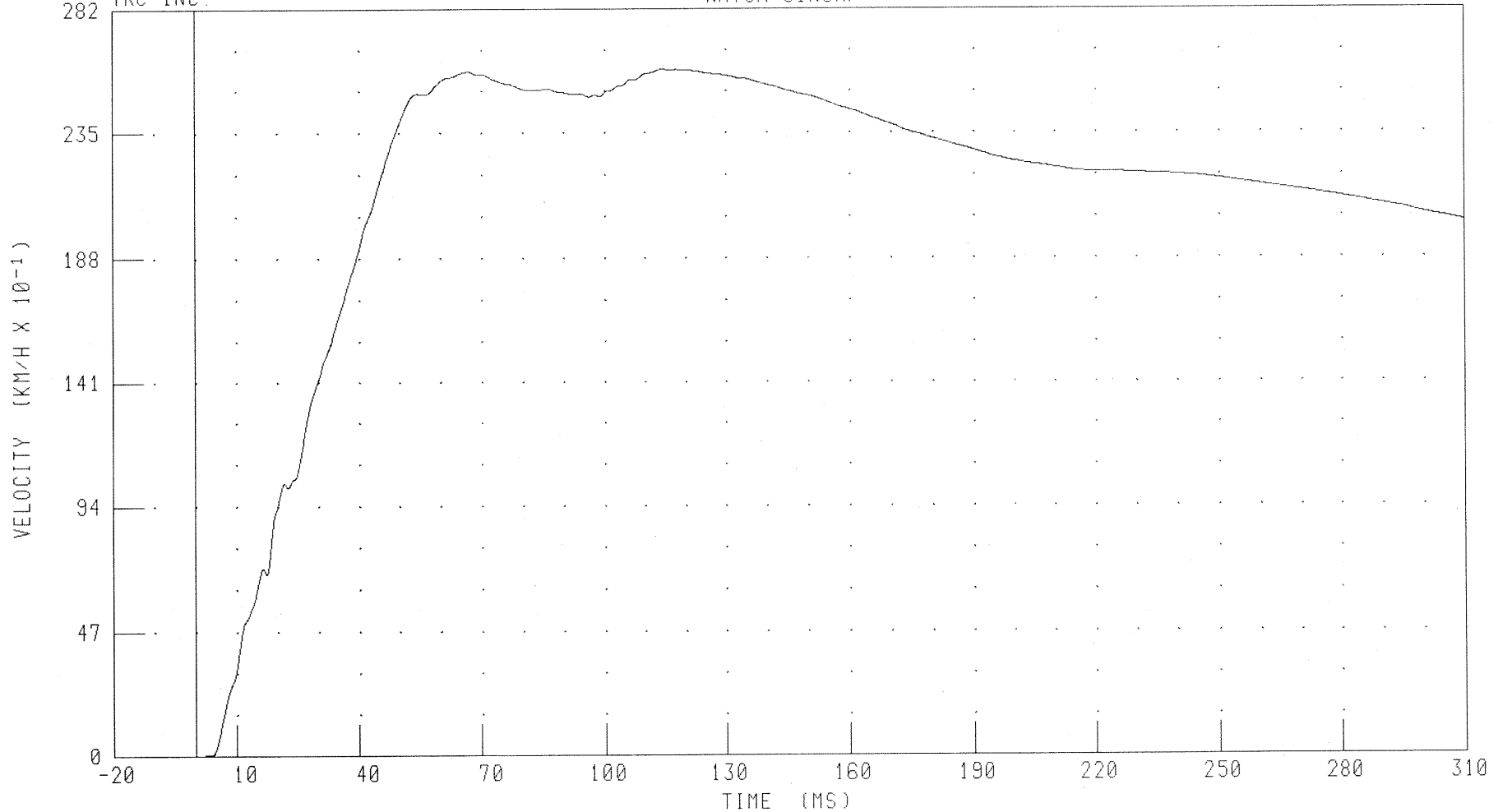
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: VCGYV1

FILTER: CH. CLASS 180

PEAK DATA: 25.90 KM/H @ 114.48 MS; 0.00 KM/H @ 0.00 MS

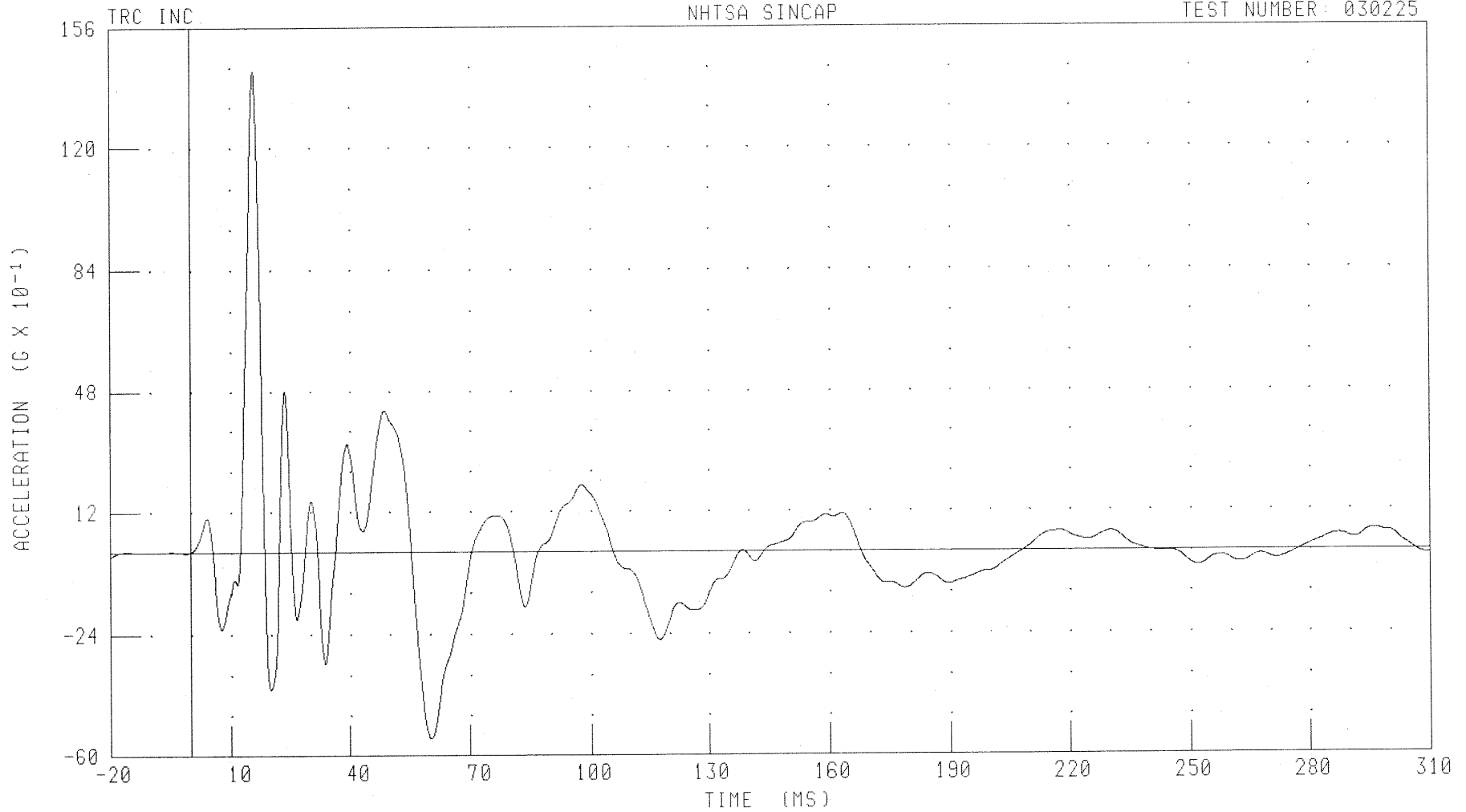
B-97

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
VEHICLE CENTER OF GRAVITY Z-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: VCGZG1

FILTER: CH. CLASS 60

PEAK DATA: 14.30 G @ 15.76 MS; -5.50 G @ 60.32 MS

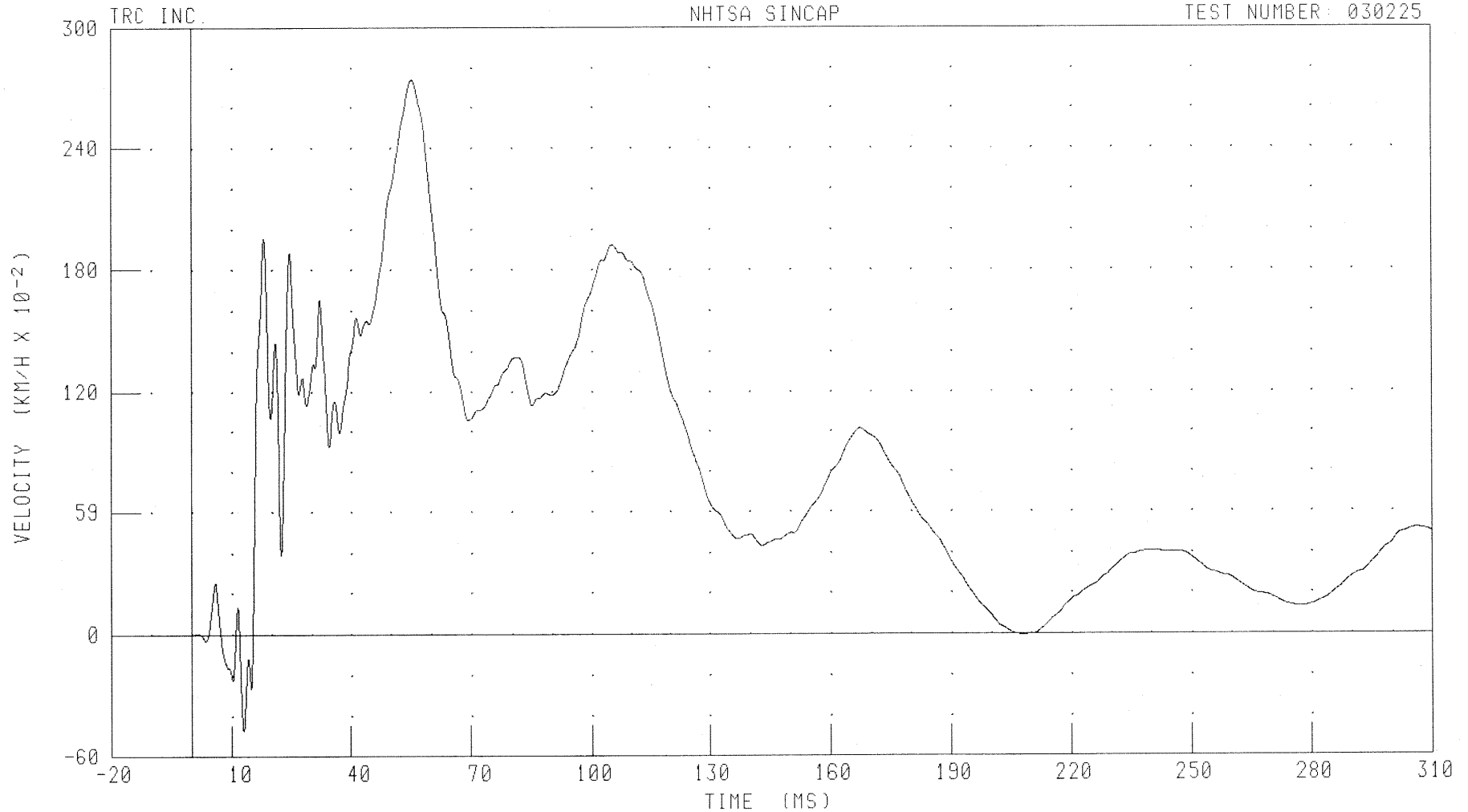
B-98

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
VEHICLE CENTER OF GRAVITY Z-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: VCGZV1 FILTER: CH. CLASS 180

PEAK DATA: 2.74 KM/H @ 55.36 MS; -0.47 KM/H @ 12.96 MS

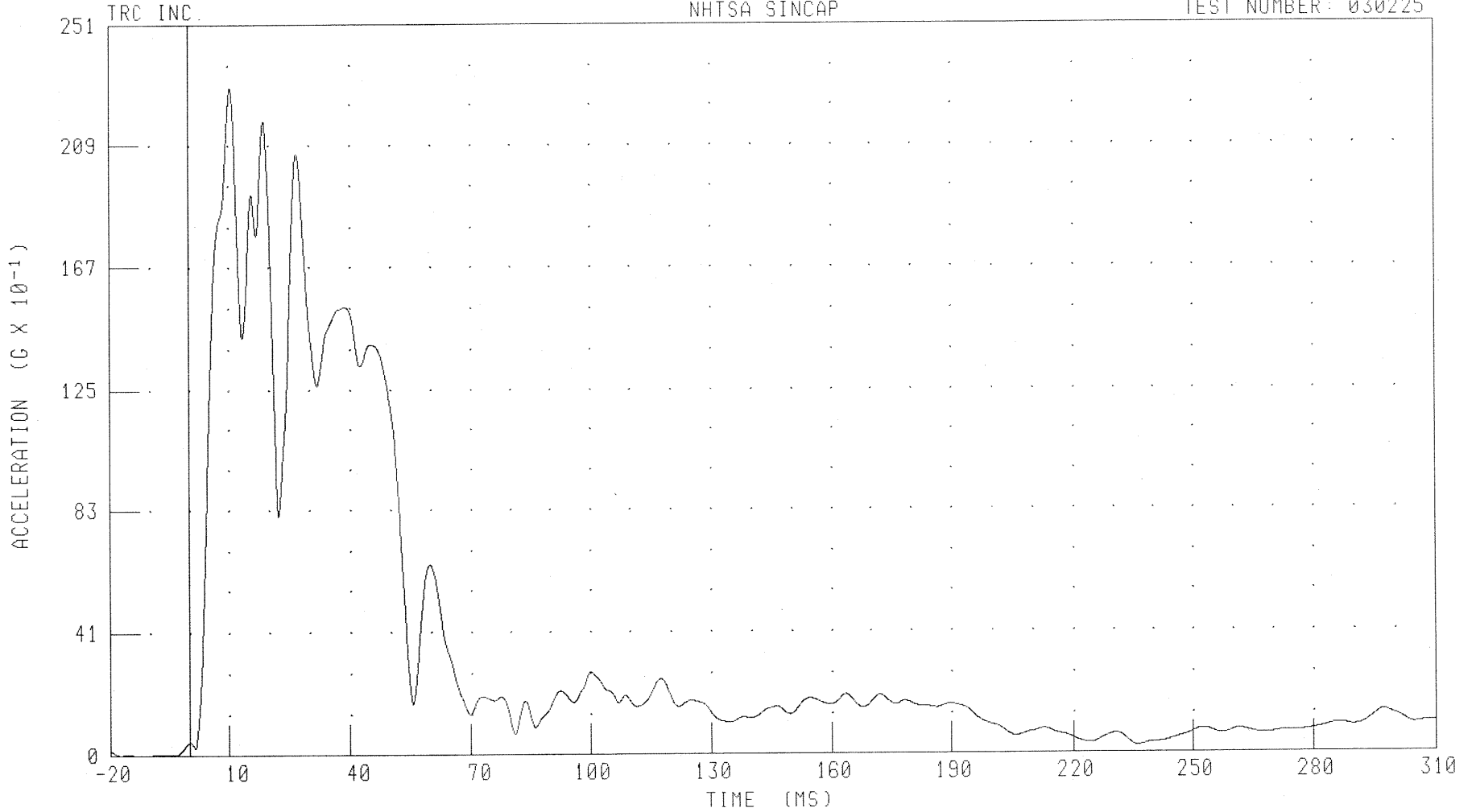
B-99

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: VCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 23.02 G @ 10.64 MS; 0.01 G @ -12.08 MS

B-100

030225

MDB Instrumentation Plots

Acceleration Data - Filter Class 60

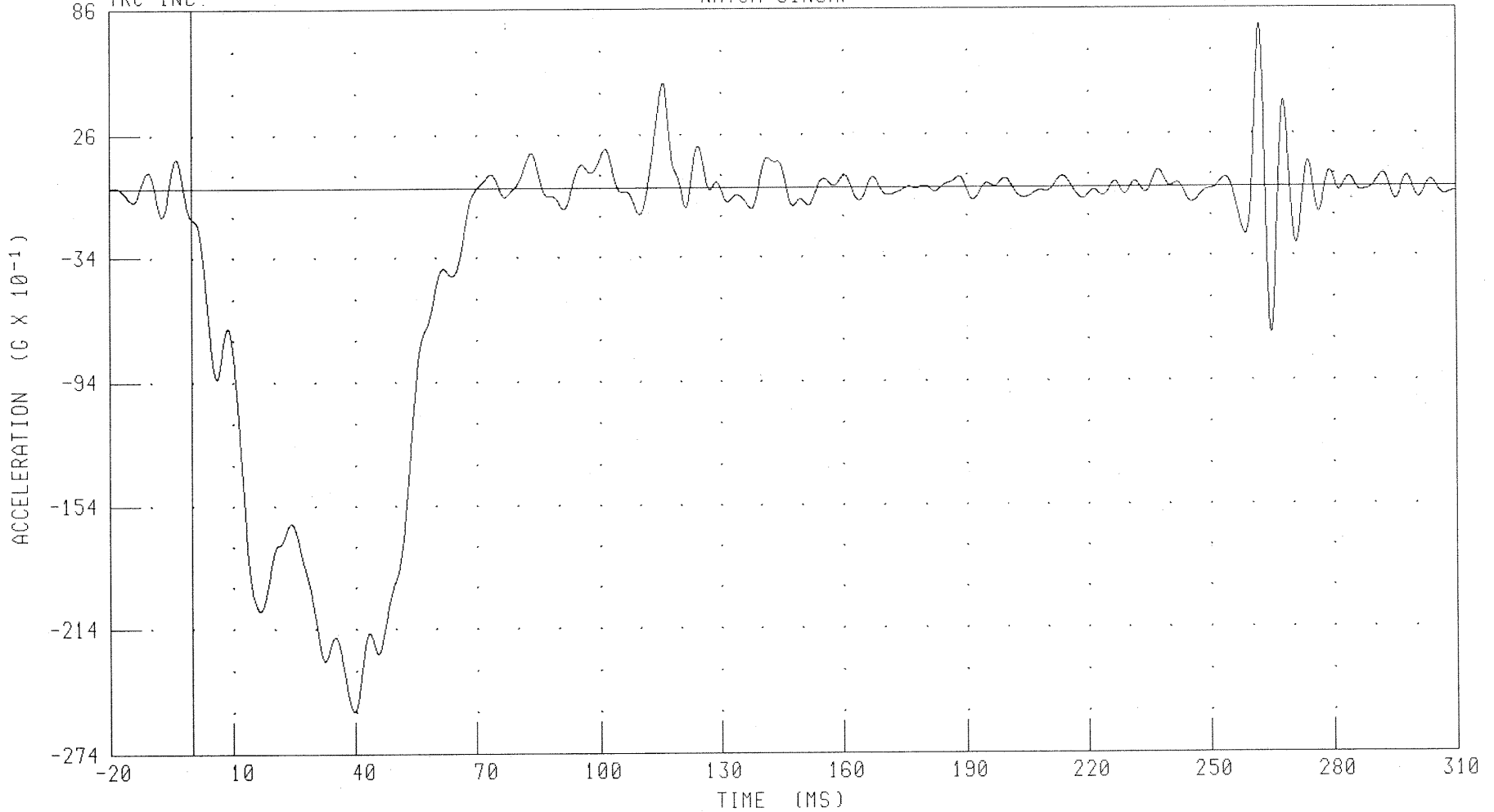
Integration Data - Filter Class 180

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER CENTER OF GRAVITY X-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: BCGXG1

FILTER: CH. CLASS 60

PEAK DATA: 7.82 G @ 261.76 MS; -25.39 G @ 39.68 MS

B-102

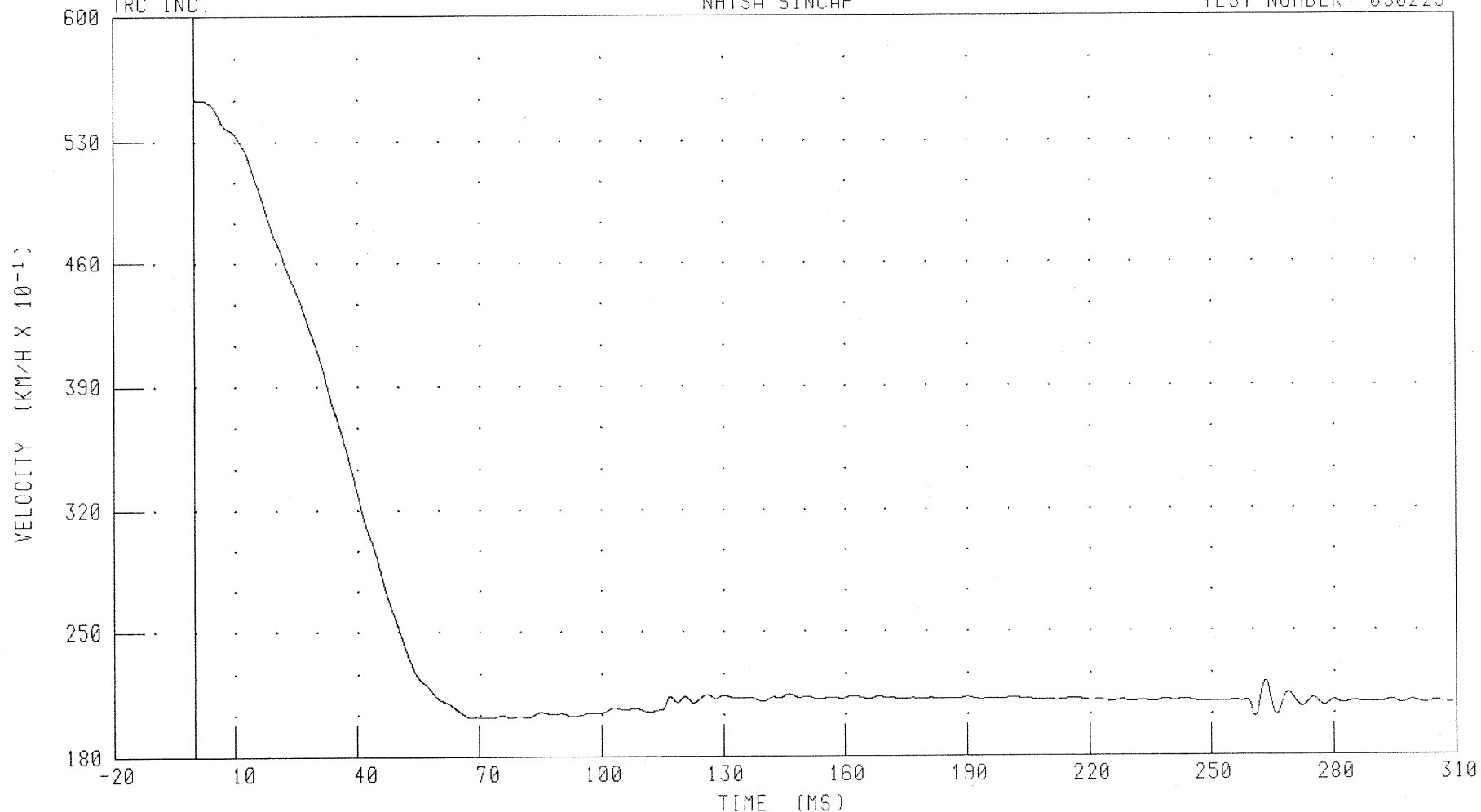
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER CENTER OF GRAVITY X-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: BCGXV1 FILTER: CH. CLASS 180

PEAK DATA: 55.40 KM/H @ 0.00 MS; 20.15 KM/H @ 260.72 MS

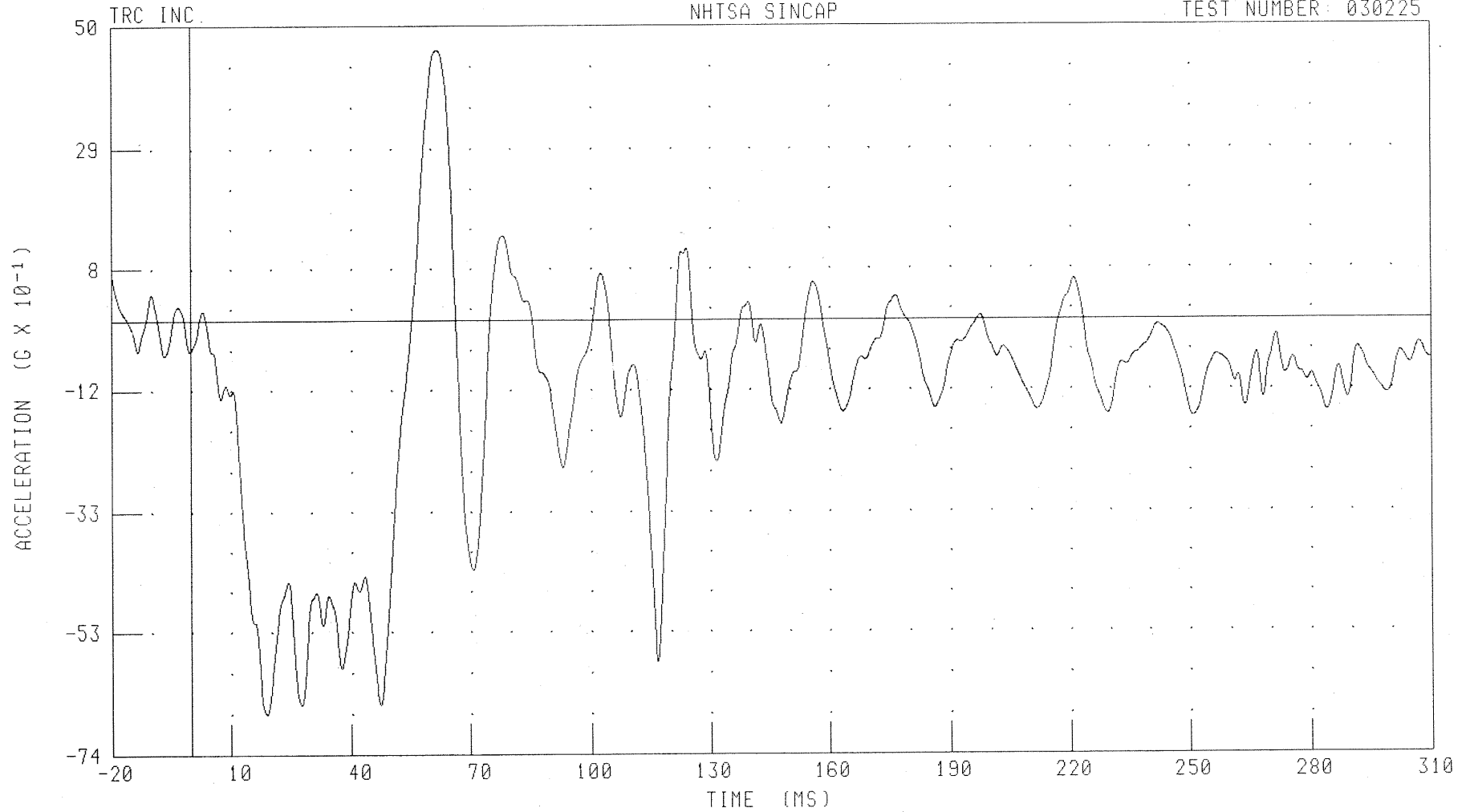
B-103

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER CENTER OF GRAVITY Y-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: BCGYG1 FILTER: CH. CLASS 60

PEAK DATA: 4.68 G @ 61.52 MS; -6.80 G @ 18.96 MS

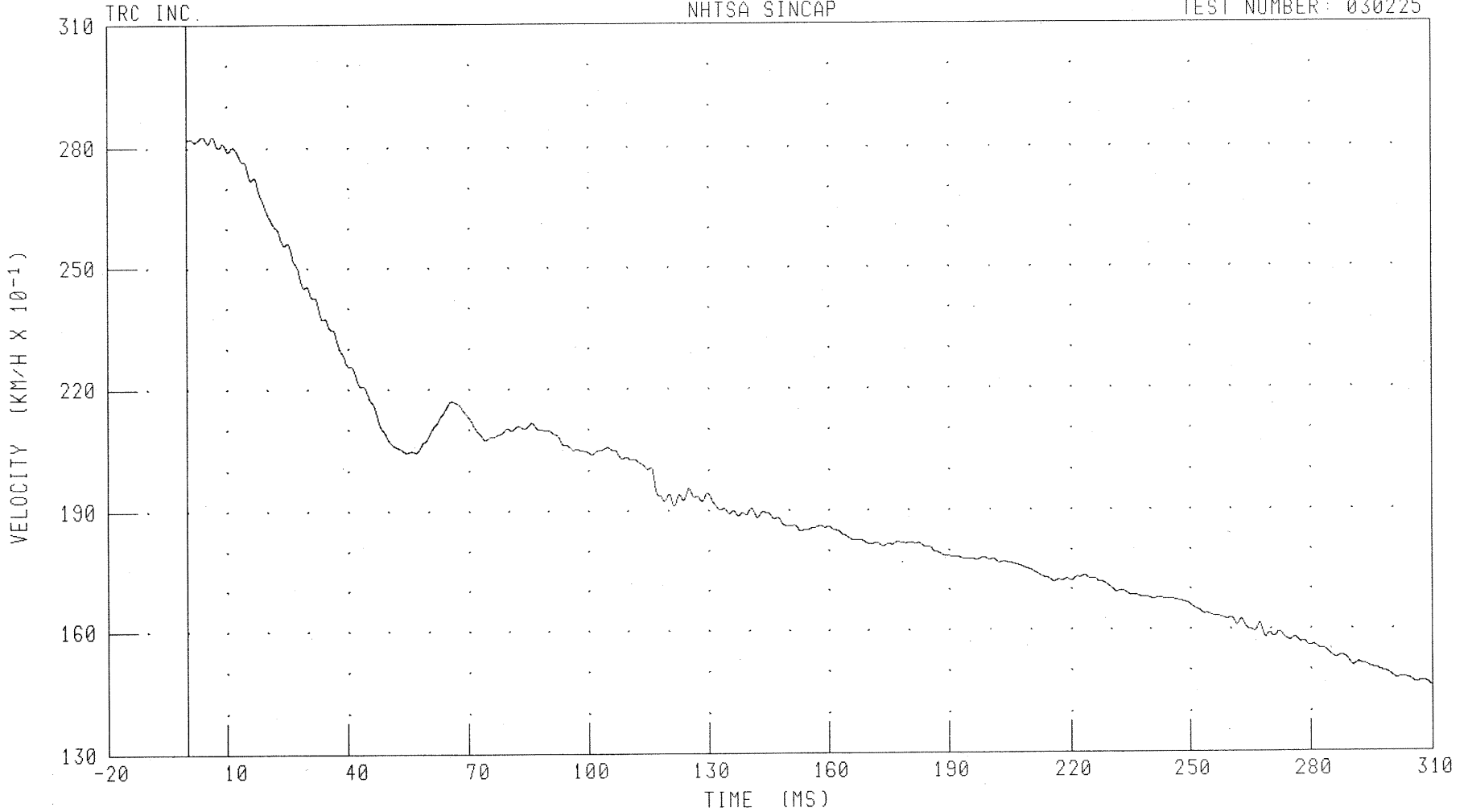
B-104

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER CENTER OF GRAVITY Y-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: BCGYV1 FILTER: CH. CLASS 180

PEAK DATA: 28.27 KM/H @ 6.56 MS; 14.57 KM/H @ 310.00 MS

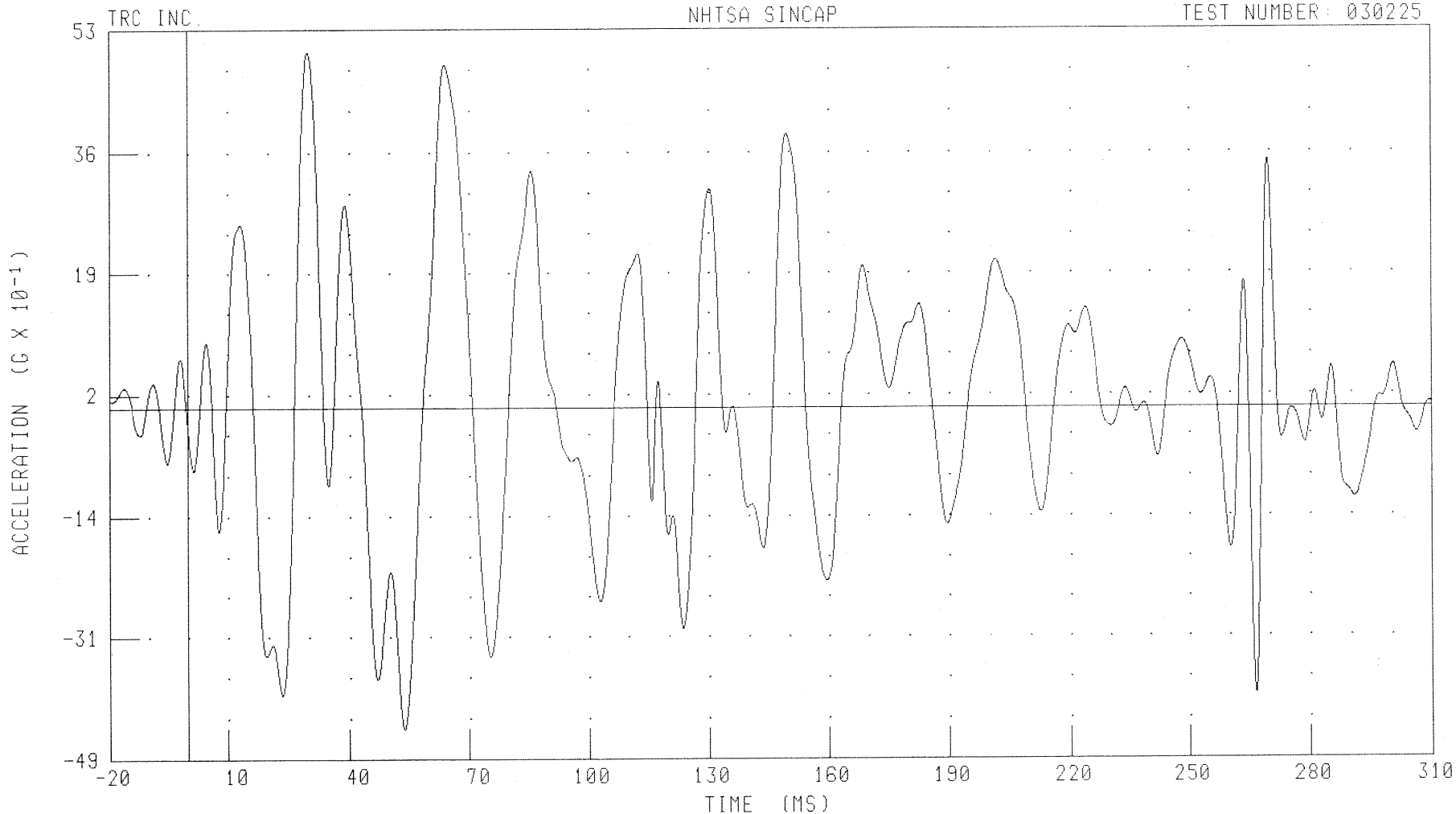
B-105

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER CENTER OF GRAVITY Z-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: BCGZG1

FILTER: CH. CLASS 60

PEAK DATA: 4.99 G @ 29.84 MS, -4.49 G @ 53.60 MS

B-106

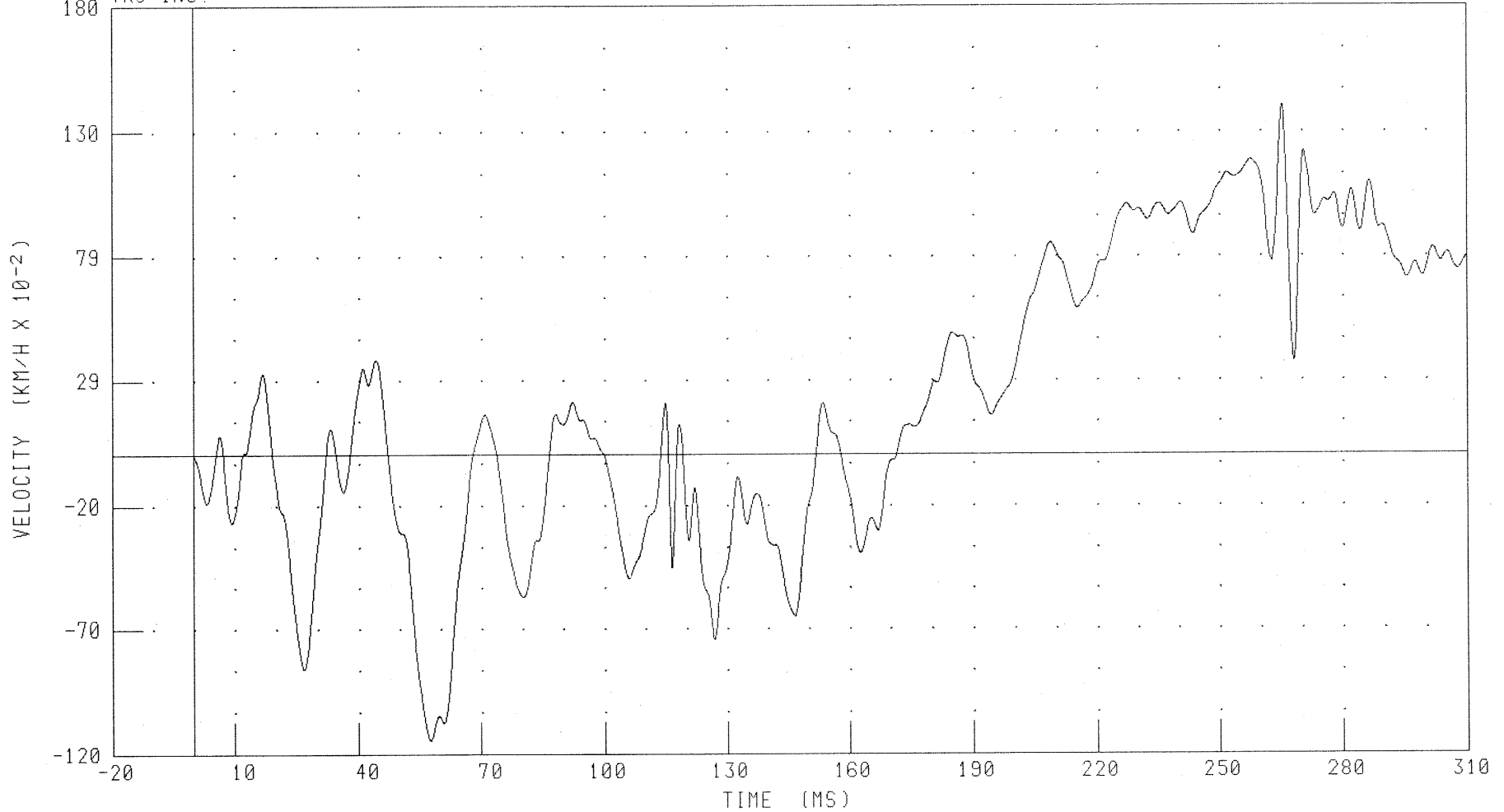
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER CENTER OF GRAVITY Z-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: BCGZV1 FILTER: CH. CLASS 180

PEAK DATA: 1.40 KM/H @ 265.28 MS; -1.14 KM/H @ 57.52 MS

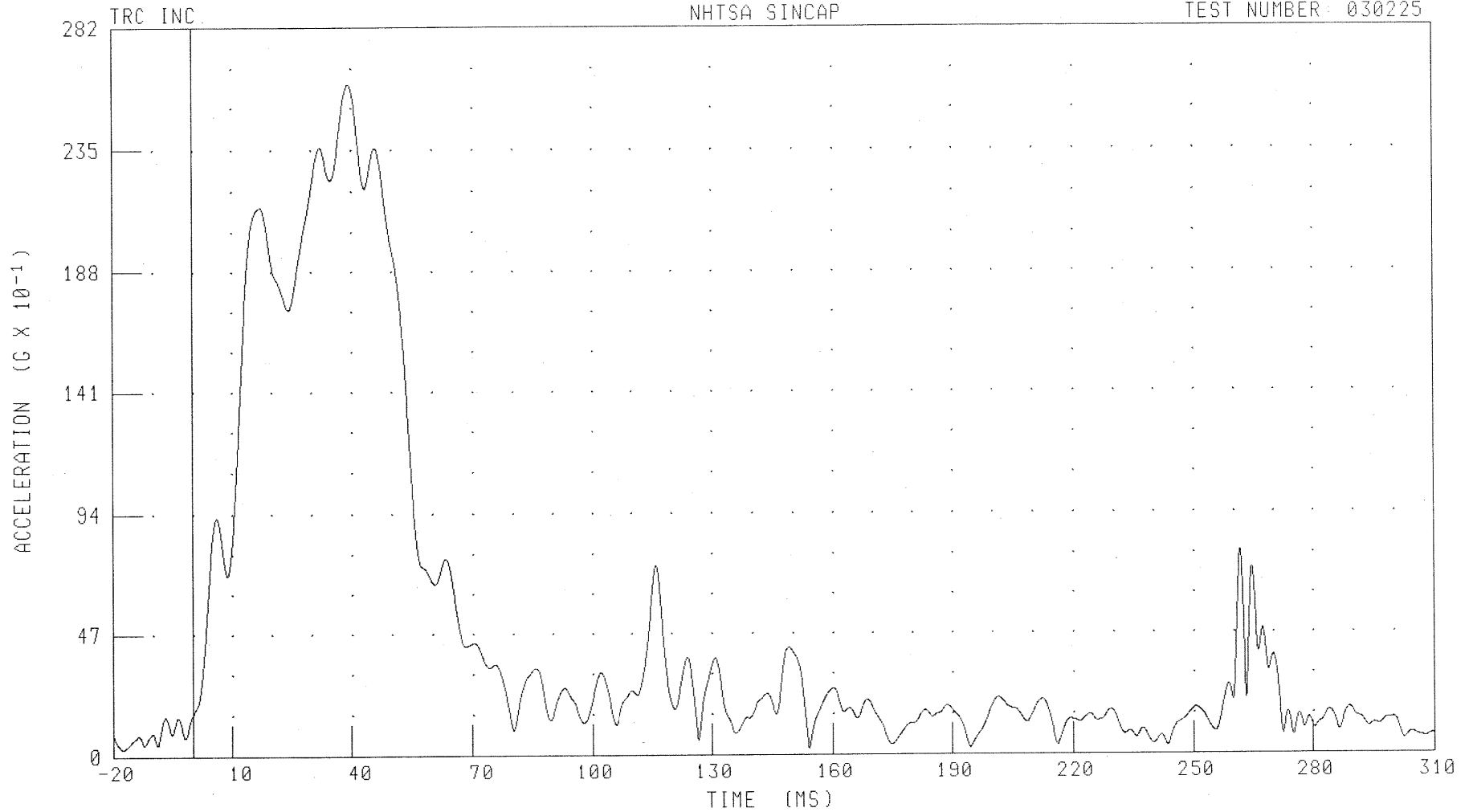
B-107

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER CENTER OF GRAVITY RESULTANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: BCGRG1

FILTER: CH. CLASS 60

PEAK DATA: 26.04 G @ 39.52 MS; 0.22 G @ 154.24 MS

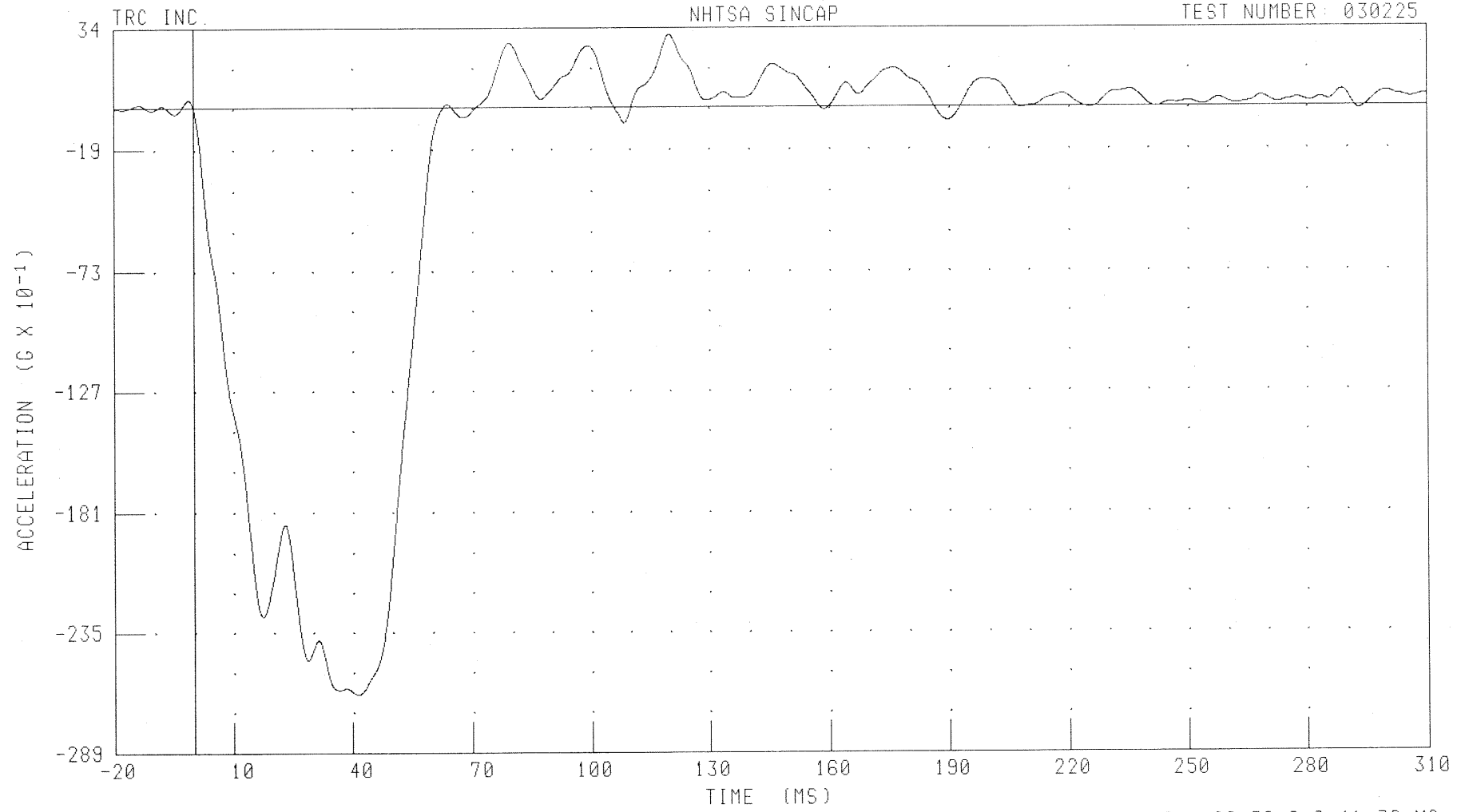
B-108

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER LEFT REAR X-AXIS ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LRRXG1 FILTER: CH. CLASS 60

PEAK DATA: 3.19 G @ 120.08 MS; -26.30 G @ 41.36 MS

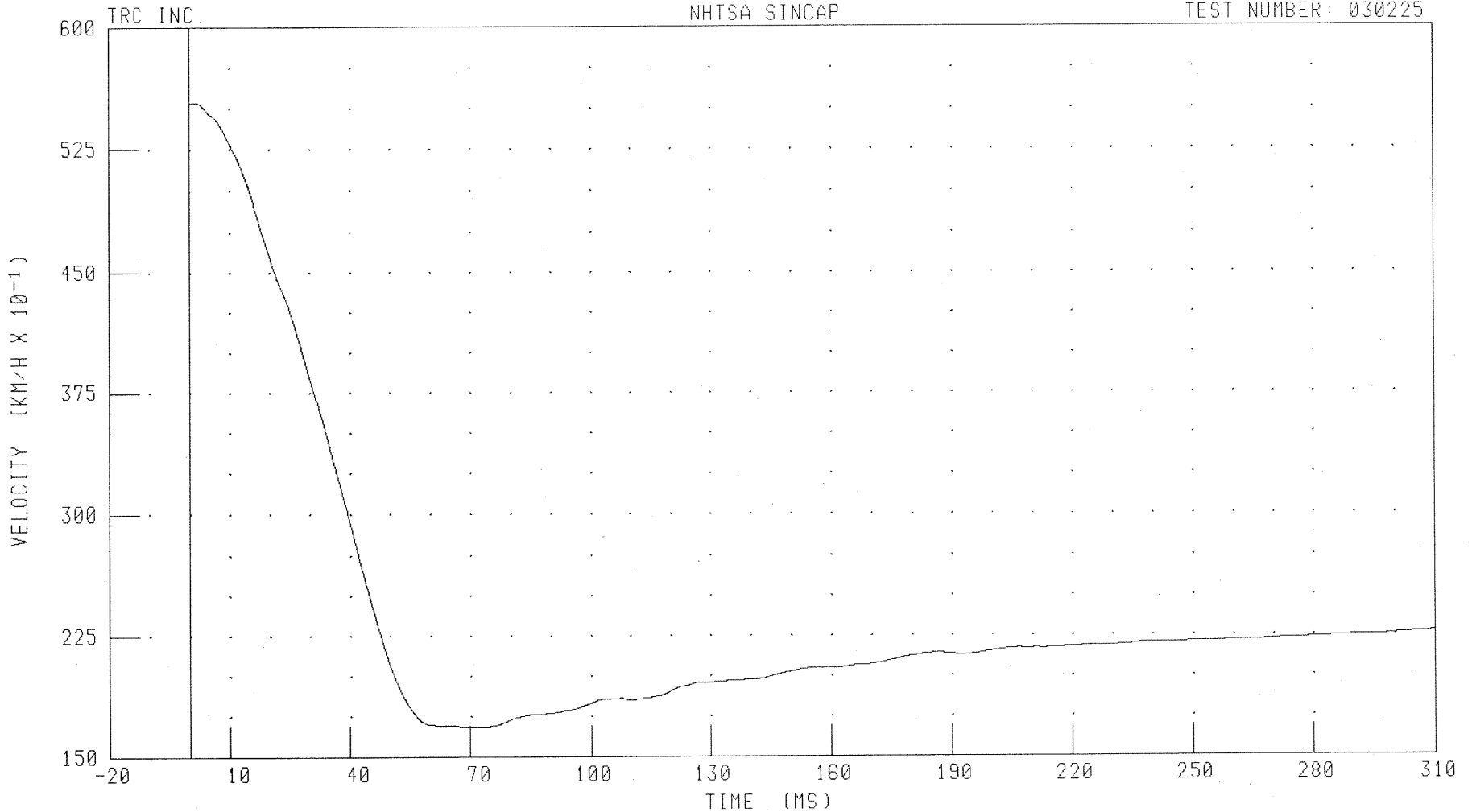
B-109

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER LEFT REAR X-AXIS VELOCITY

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LRRXV1 FILTER: CH. CLASS 180

PEAK DATA: 55.40 KM/H @ 0.08 MS; 16.82 KM/H @ 70.00 MS

B-110

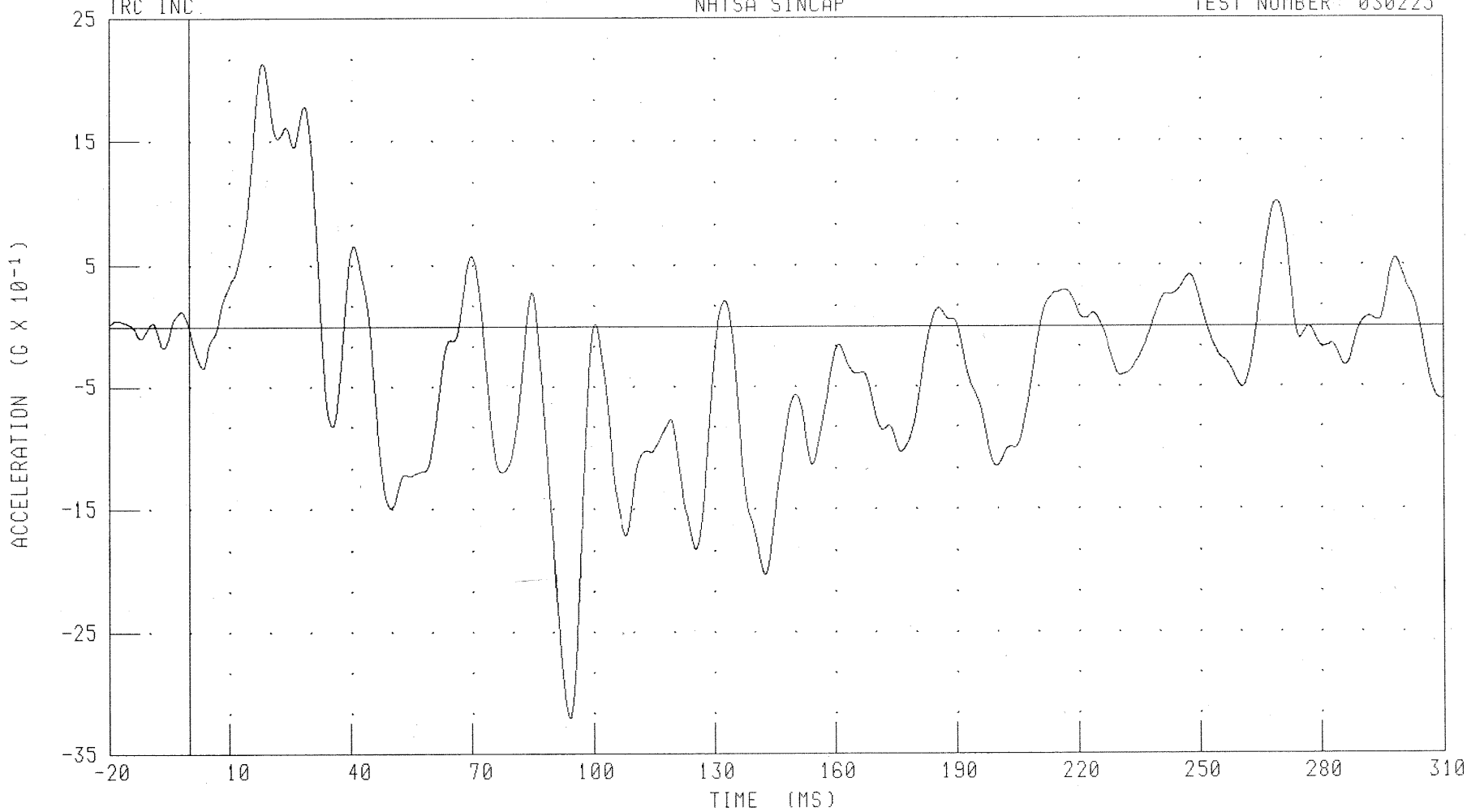
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER LEFT REAR Y-AXIS ACCELERATION

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LRRYG1 FILTER: CH. CLASS 60

PEAK DATA: 2.13 G @ 18.24 MS; -3.21 G @ 94.24 MS

B-111

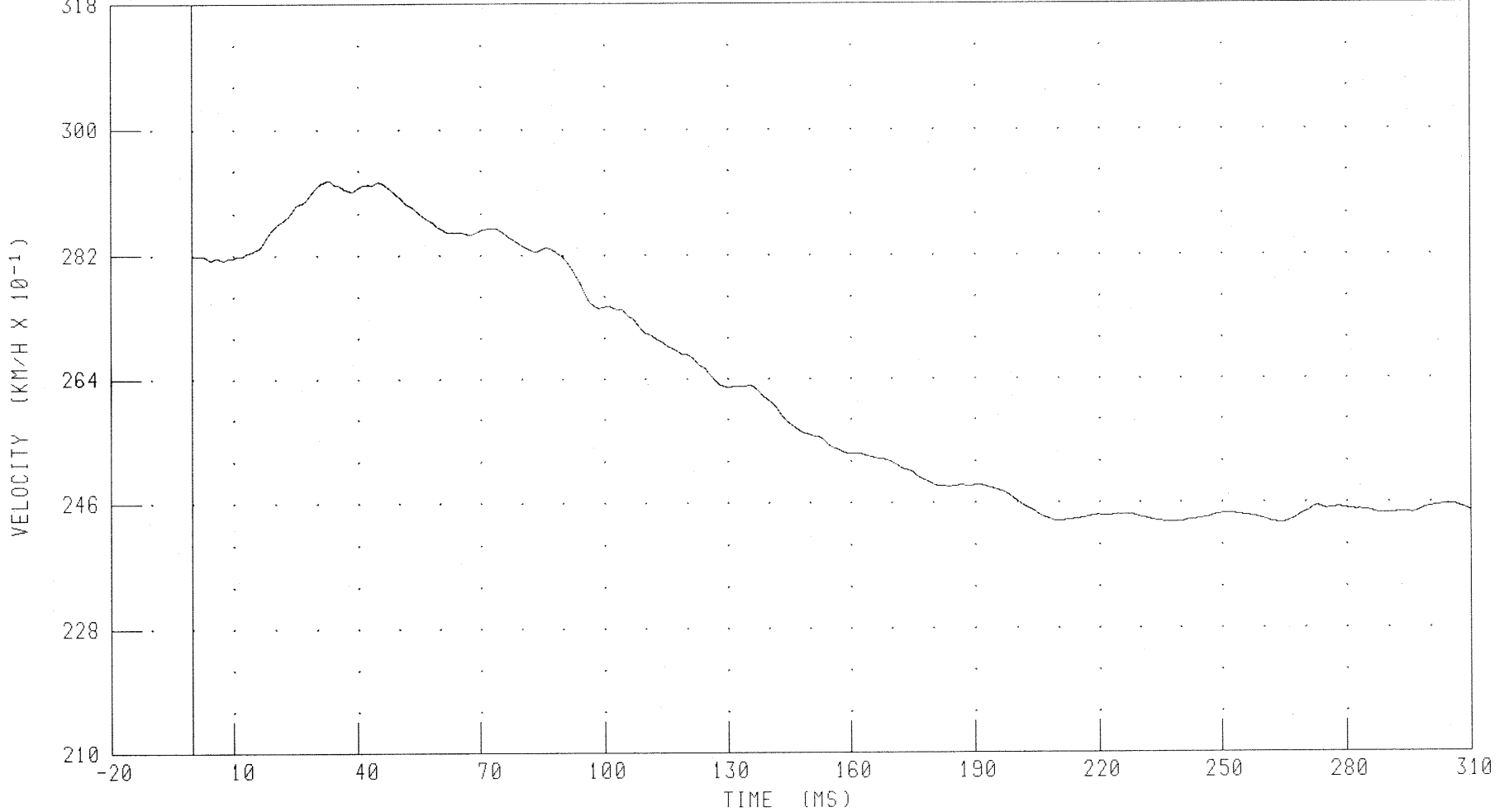
030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MOVING BARRIER LEFT REAR Y-AXIS VELOCITY

TRC INC.

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LRRYV1 FILTER: CH. CLASS 180

PEAK DATA: 29.27 KM/H @ 32.88 MS; 24.31 KM/H @ 264.40 MS

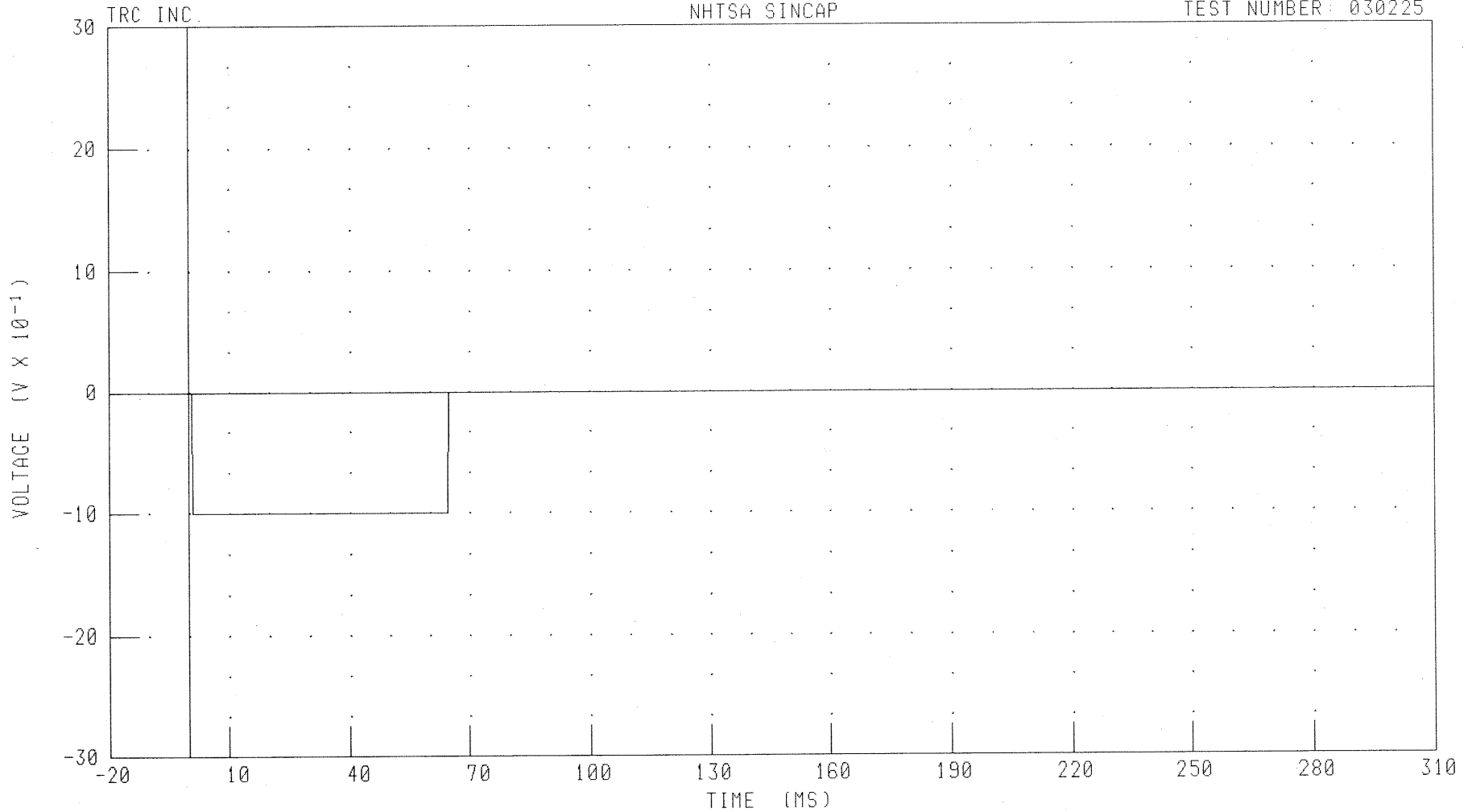
B-112

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MDB RIGHT SIDE CONTACT SWITCH

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: MDBR1 FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 0.96 MS

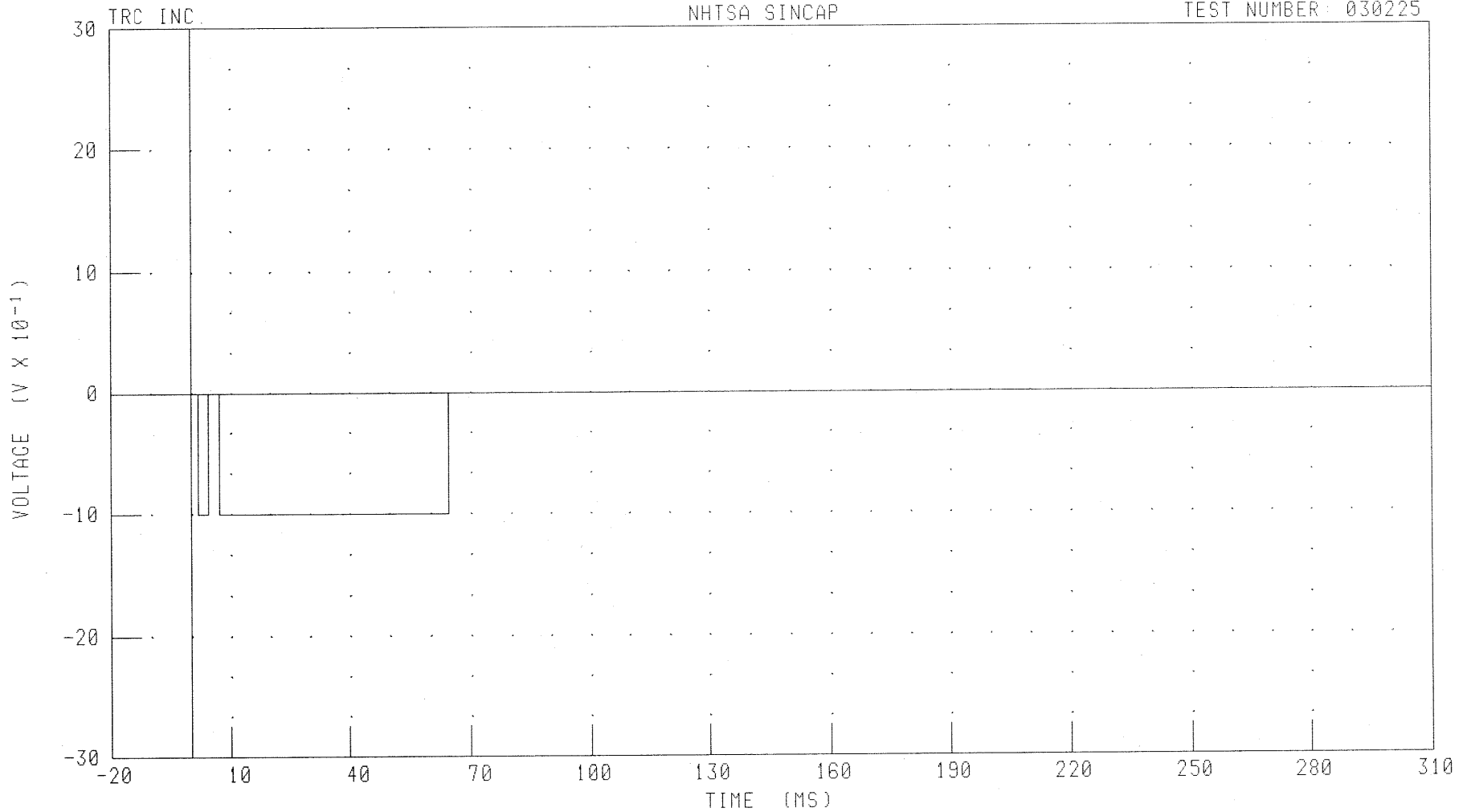
B-113

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
MDB LEFT SIDE CONTACT SWITCH

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: M0BL1

FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 1.92 MS

B-114

030225

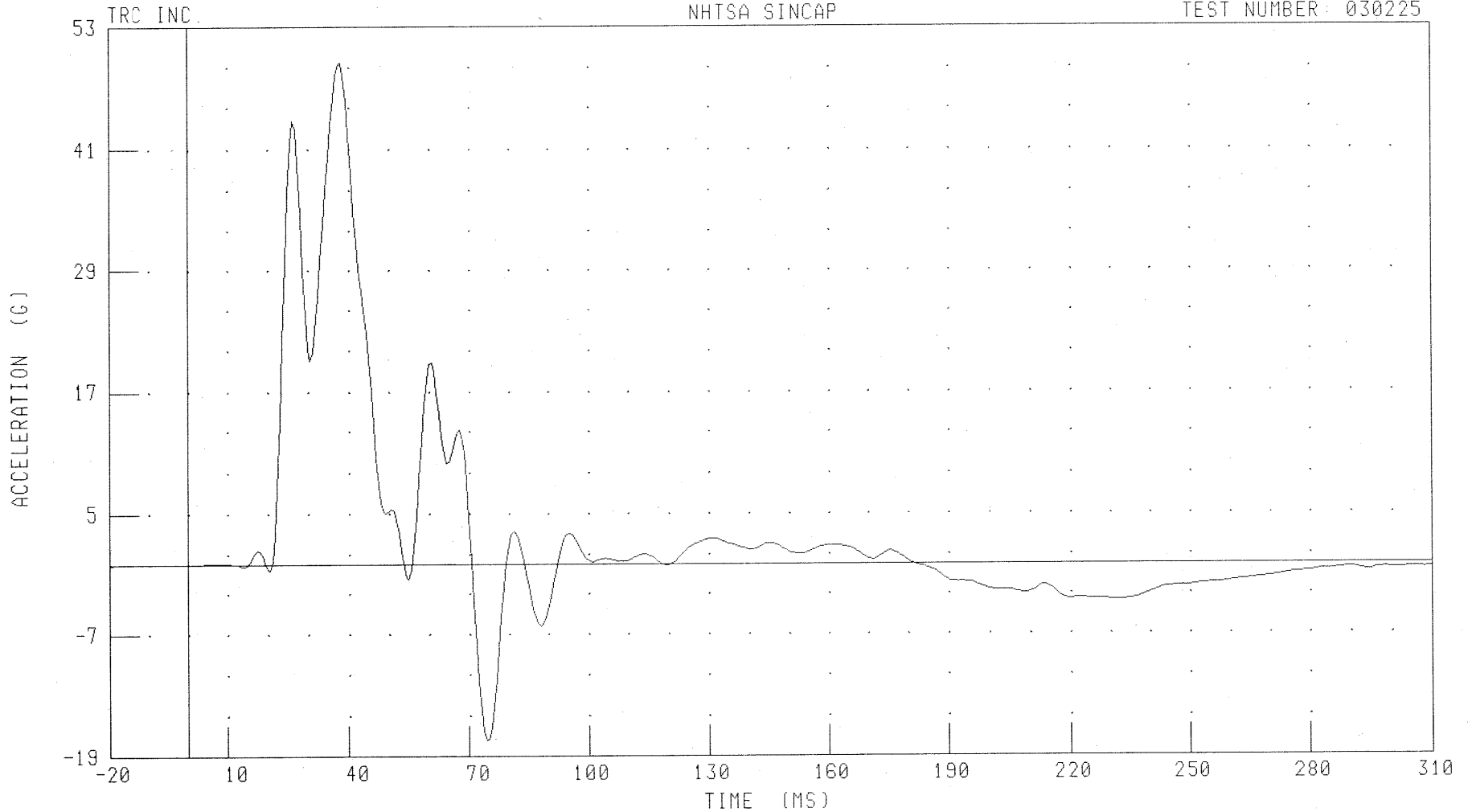
Driver Dummy Instrumentation Plots
Acceleration Data - FIR Filtered

Driver Dummy Instrumentation Plots
Acceleration Data - FIR Filtered - Redundant

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LURYR1 FILTER: FIR 100

PEAK DATA: 49.42 G @ 38.13 MS; -17.43 G @ 74.37 MS

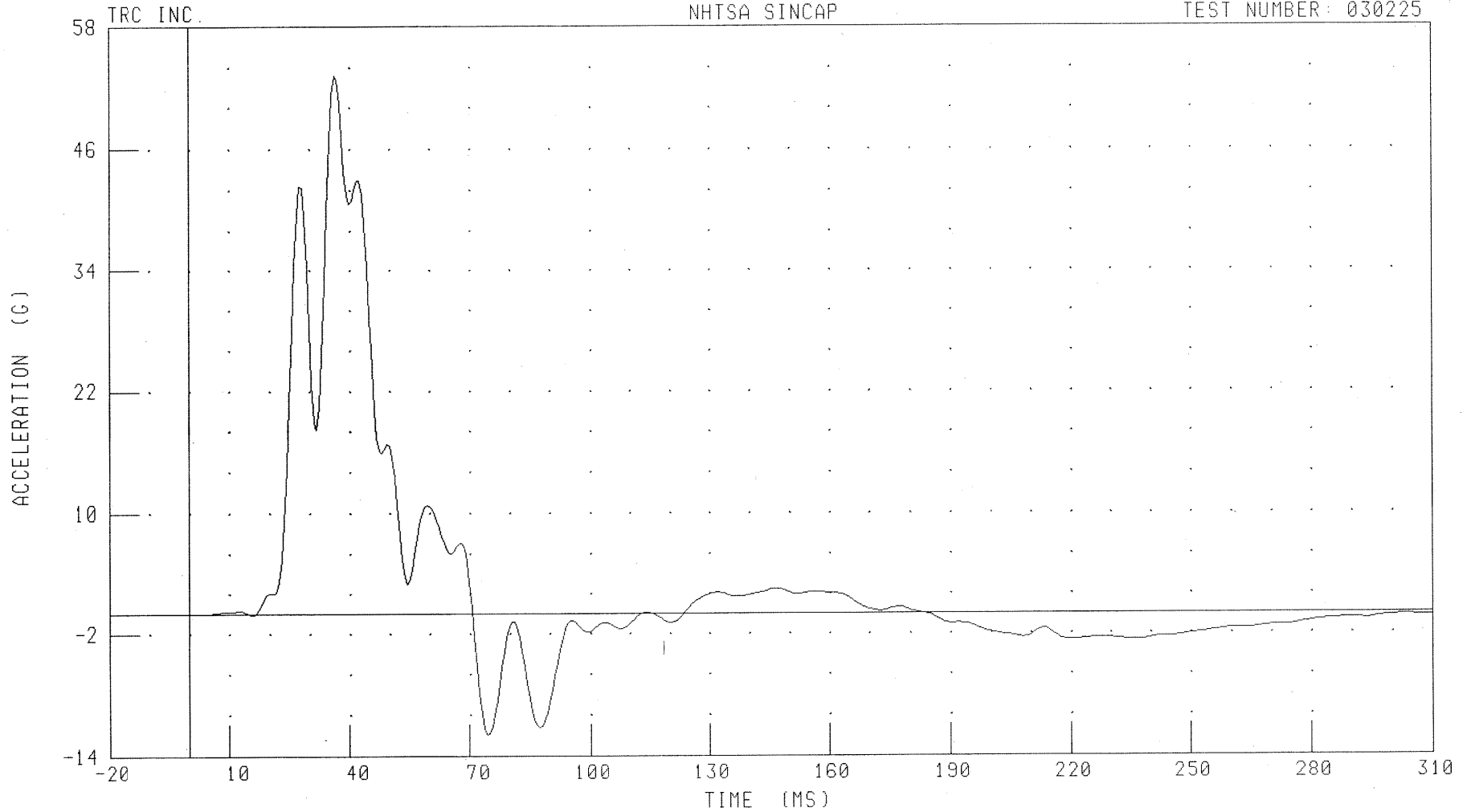
B-121

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: LLRYR1 FILTER: FIR 100

PEAK DATA: 53.26 G @ 36.25 MS; -11.95 G @ 74.37 MS

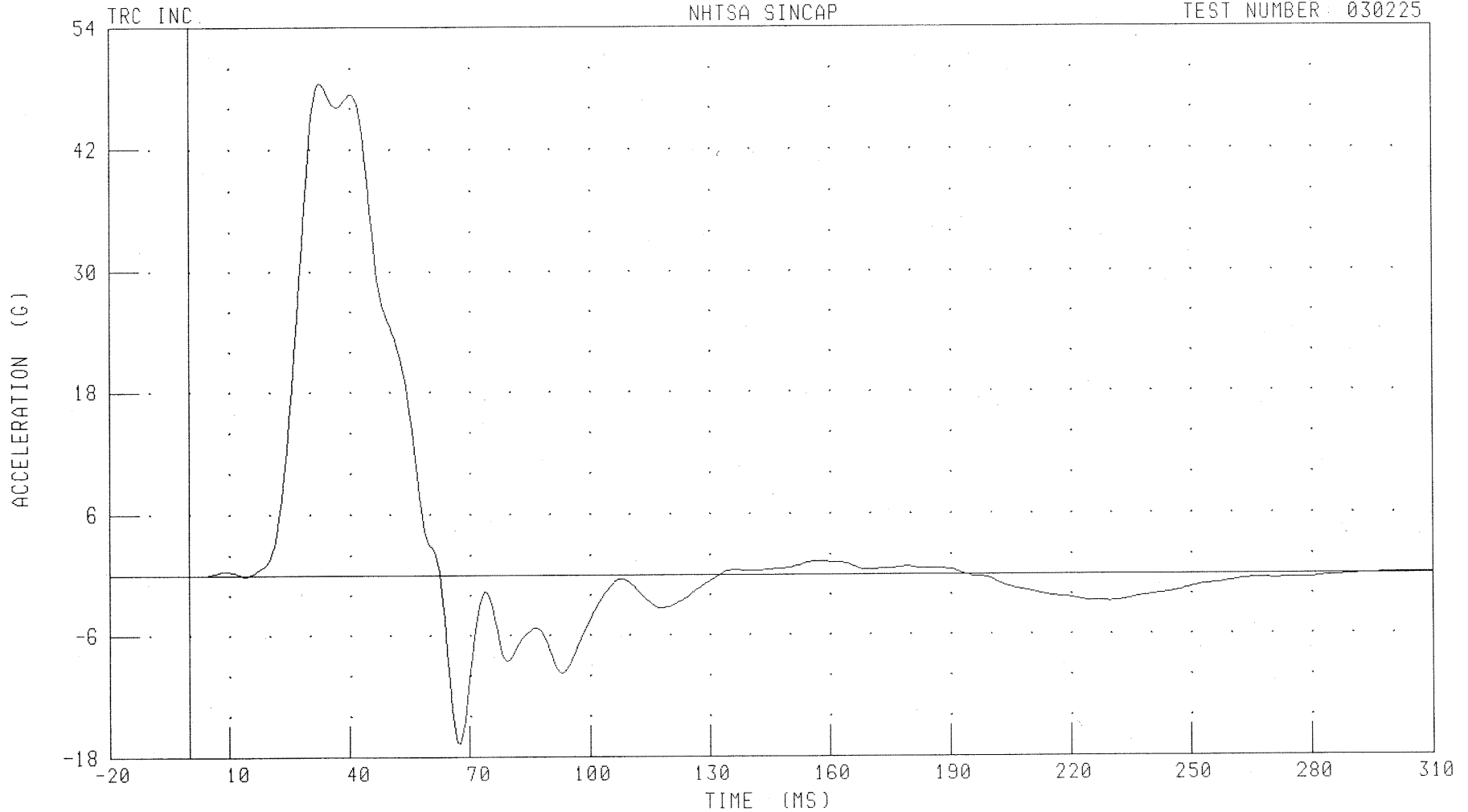
B-122

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: T12YR1 FILTER: FIR 100

PEAK DATA: 48.53 G @ 32.50 MS; -16.68 G @ 67.50 MS

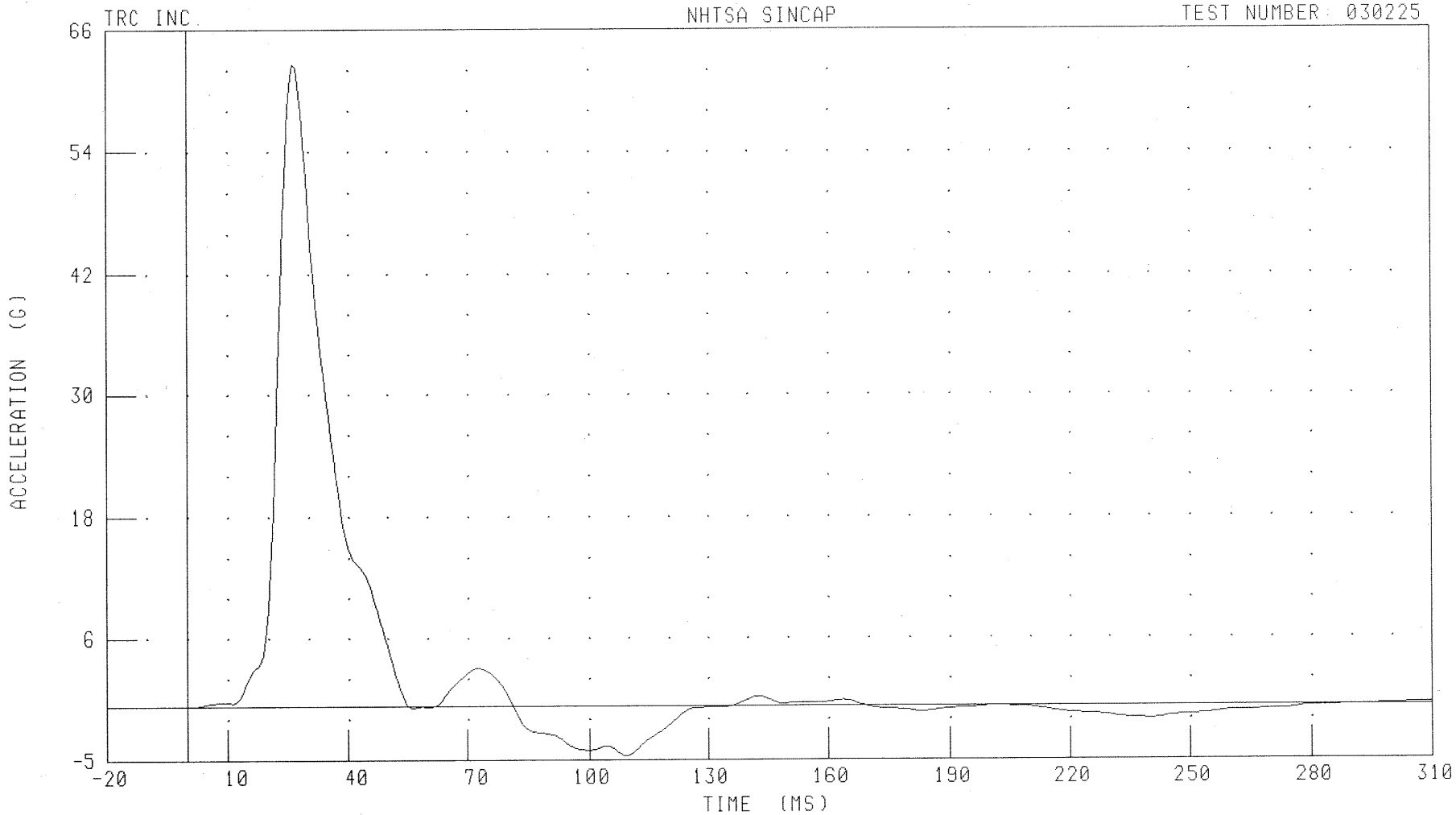
B-123

030225

55/28 KPH 90 DEGREE NCAP SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 NISSAN 350Z
DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

NHTSA SINCAP

TEST NUMBER: 030225



CHANNEL: PEVYR1 FILTER: FIR 100

PEAK DATA: 63.32 G @ 26.25 MS; -4.91 G @ 109.38 MS

B-124

030225

Appendix C

SID Configuration and Performance Verification Data

Summary
 SID Pre-Test and Post-Test Calibration
 Configured For Left Side Impact

Date: Jan. 24 - March 5, 2003

TRC Inc. Test Number: 028C01 & C02

Laboratory Technician: Jack Willeke

Test Parameter	Specification	SID 028		SID	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH - seated height (mm)	889-909	901	900	-	-
RH - Rib Height (mm)	502-520	503	504	-	-
HP - Hip Pivot Height (mm)	99 ref	---	99	-	-
RD - Rib from Back Line (mm)	229-241	236	236	-	-
KH - Knee Pivot from Back Line (mm)	511-526	515	514	-	-
KV - Knee Pivot to Floor (mm)	490-505	496	497	-	-
HW - Hip Width (mm)	356-391	375	375	-	-
Thorax Impacts					
Temperature (°C)	18.9-25.5	21.7	21.7	-	-
Relative Humidity (%)	10-70	32	29	-	-
Probe Speed (m/s)	4.27-4.33	4.29	4.28	-	-
Upper Rib (g's)	37-46	42.9	39.1	-	-
Lower Rib (g's)	37-46	40.8	37.3	-	-
Lower Spine (g's)	15-22	16.4	16.5	-	-
Pelvis Impacts					
Temperature (°C)	18.9-25.5	21.7	21.7	-	-
Relative Humidity (%)	10-70	32	29	-	-
Probe Speed (m/s)	4.27-4.33	4.28	4.28	-	-
Pelvis (g's)	40-60	48.4	48.4	-	-

Calibration Test Results

Pre-Test

SID: 028

Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The lateral thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber passed all test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.

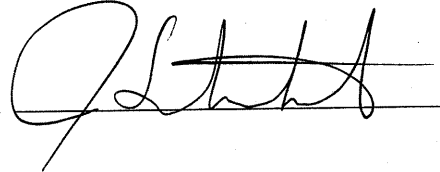
Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 028 Calibration No. 01

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	901 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	515 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	496 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	375 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	503 mm	Yes
Rib From Backline	RD	228.6 - 241.3 mm	236 mm	Yes
Top Rib Width From CL	RW-1	165.1 - 180.3 mm	173 mm	Yes
Bottom Rib Width From CL	RW-2	165.1 - 180.3 mm	172 mm	Yes
Difference Between Top & Bottom Rib Width from CL		<= 2.5 mm	1.0 mm	Yes

Technician



Approved




TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

HYBRIDIII SID DUMMY

24-FEB-03

LEFT SIDE CONFIGURATION

TRC INC.

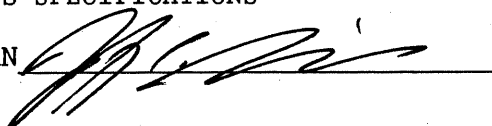
TEST NO. HDL02801

H3/SID SN028 HEAD DROP CAL01

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	31.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	137.53 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-7.07 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



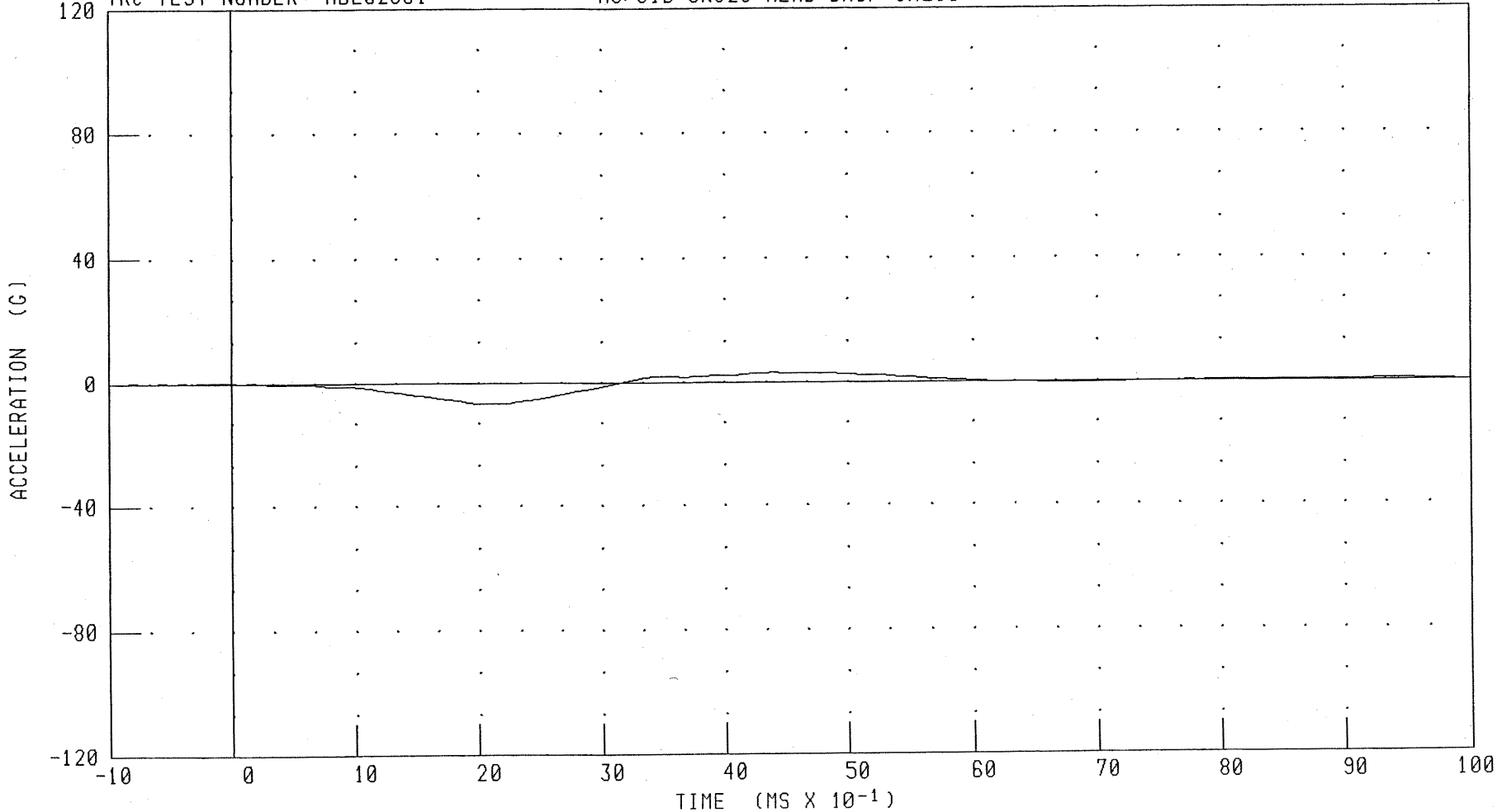
RUN NUMBER: 022403.0931;1

SID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP
HEAD ACCELERATION X AXIS

TRC TEST NUMBER: HDL02801

H3/SID SN028 HEAD DROP CAL01

RUN NUMBER: 022403.1129;3



CHANNEL: HEDXC

FILTER: CH. CLASS 1000

PEAK DATA: 3.12 G @ 4.40 MS; -7.07 G @ 2.08 MS

C-6

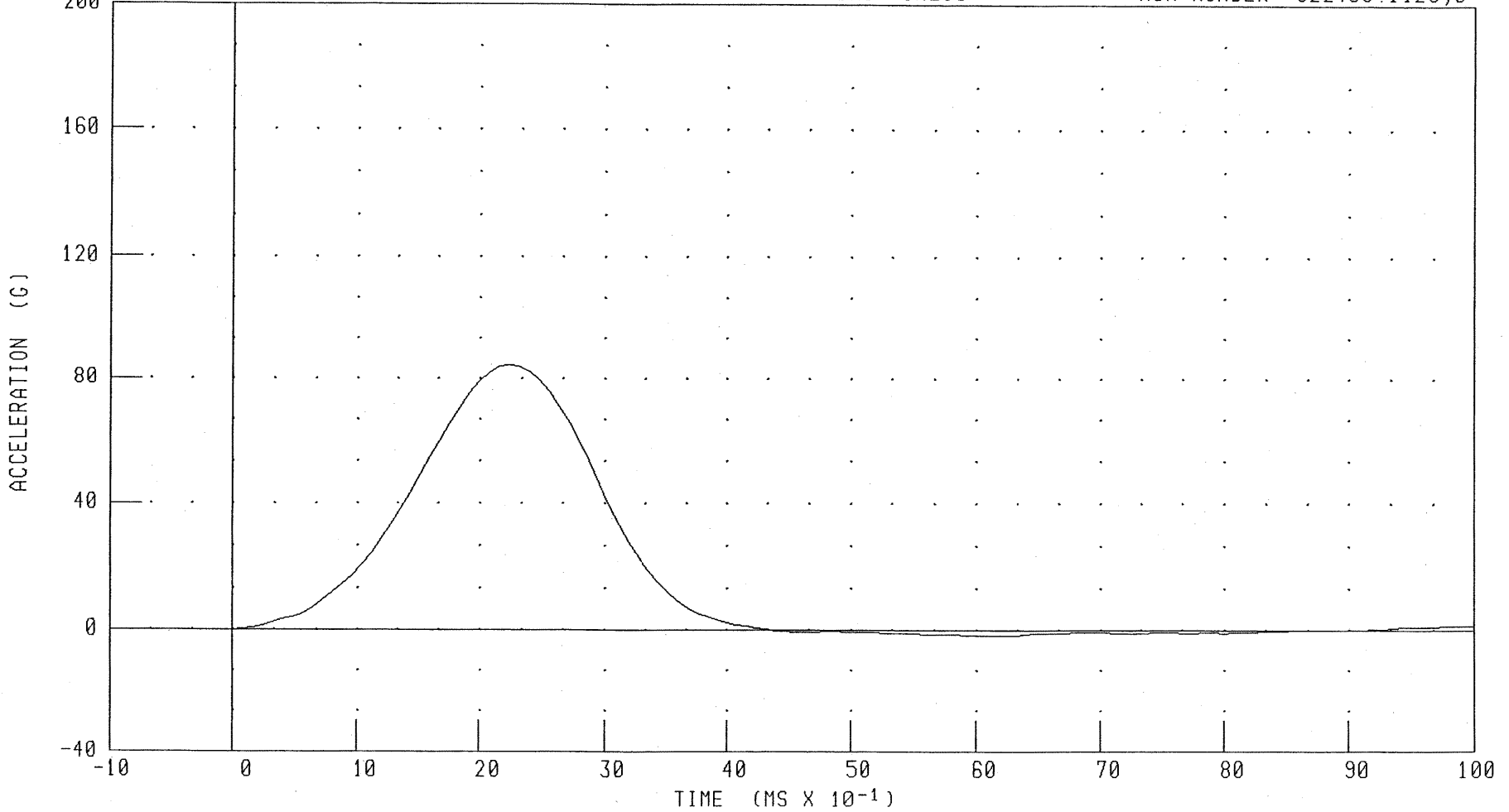
030225

SID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP
HEAD ACCELERATION Y AXIS

TRC TEST NUMBER: HDL02801

H3/SID SN028 HEAD DROP CAL01

RUN NUMBER: 022403.1129;3



CHANNEL: HEDYC

FILTER: CH. CLASS 1000

PEAK DATA: 84.41 G @ 2.24 MS; -1.80 G @ 6.00 MS

C-7

030225

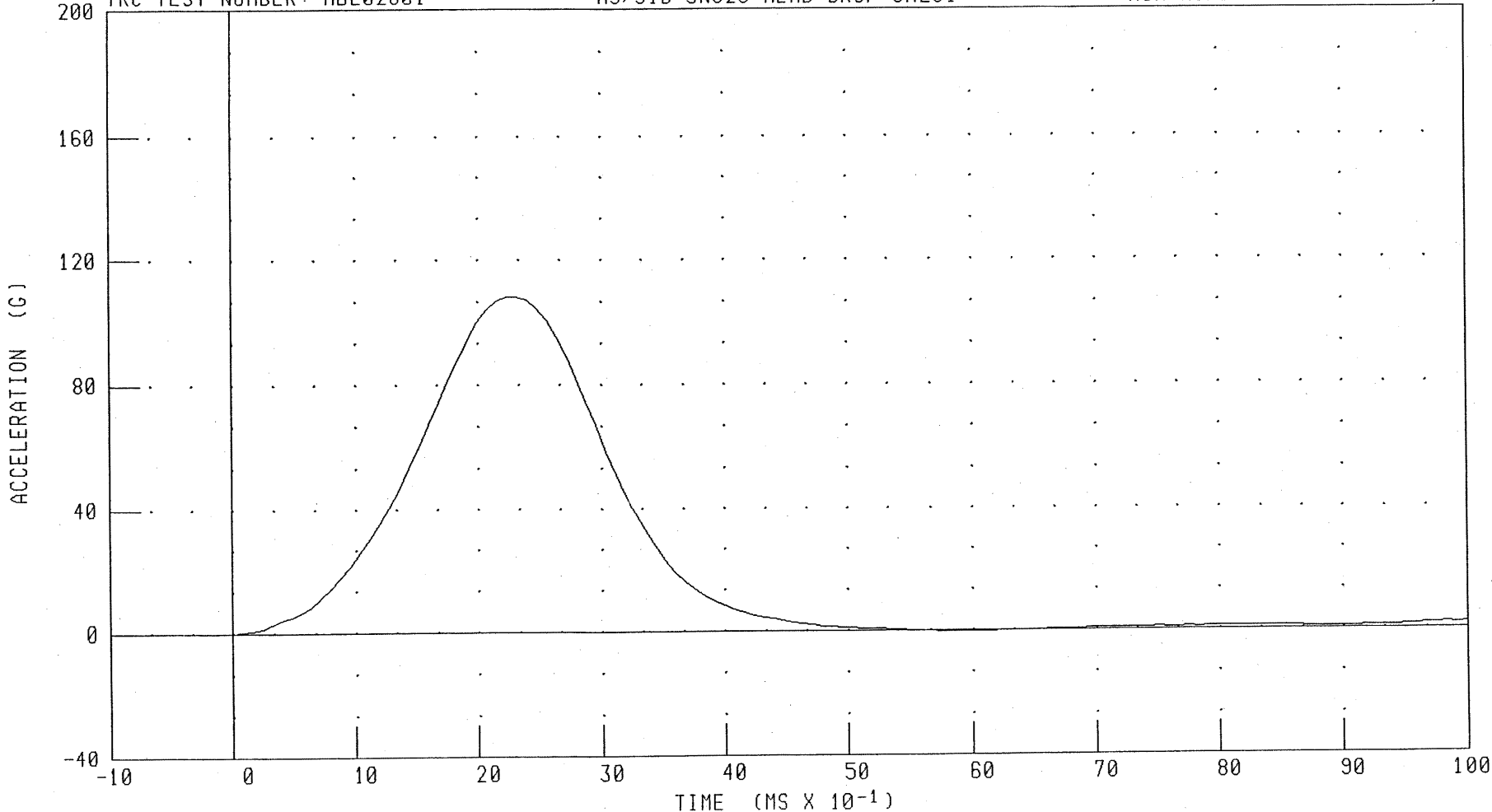
SID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

TRC TEST NUMBER: HDL02801

H3/SID SN028 HEAD DROP CAL01

RUN NUMBER: 022403.1129;3



CHANNEL: HEDZG

FILTER: CH. CLASS 1000

PEAK DATA: 108.42 G @ 2.32 MS; -0.40 G @ 5.92 MS

8-8

030225

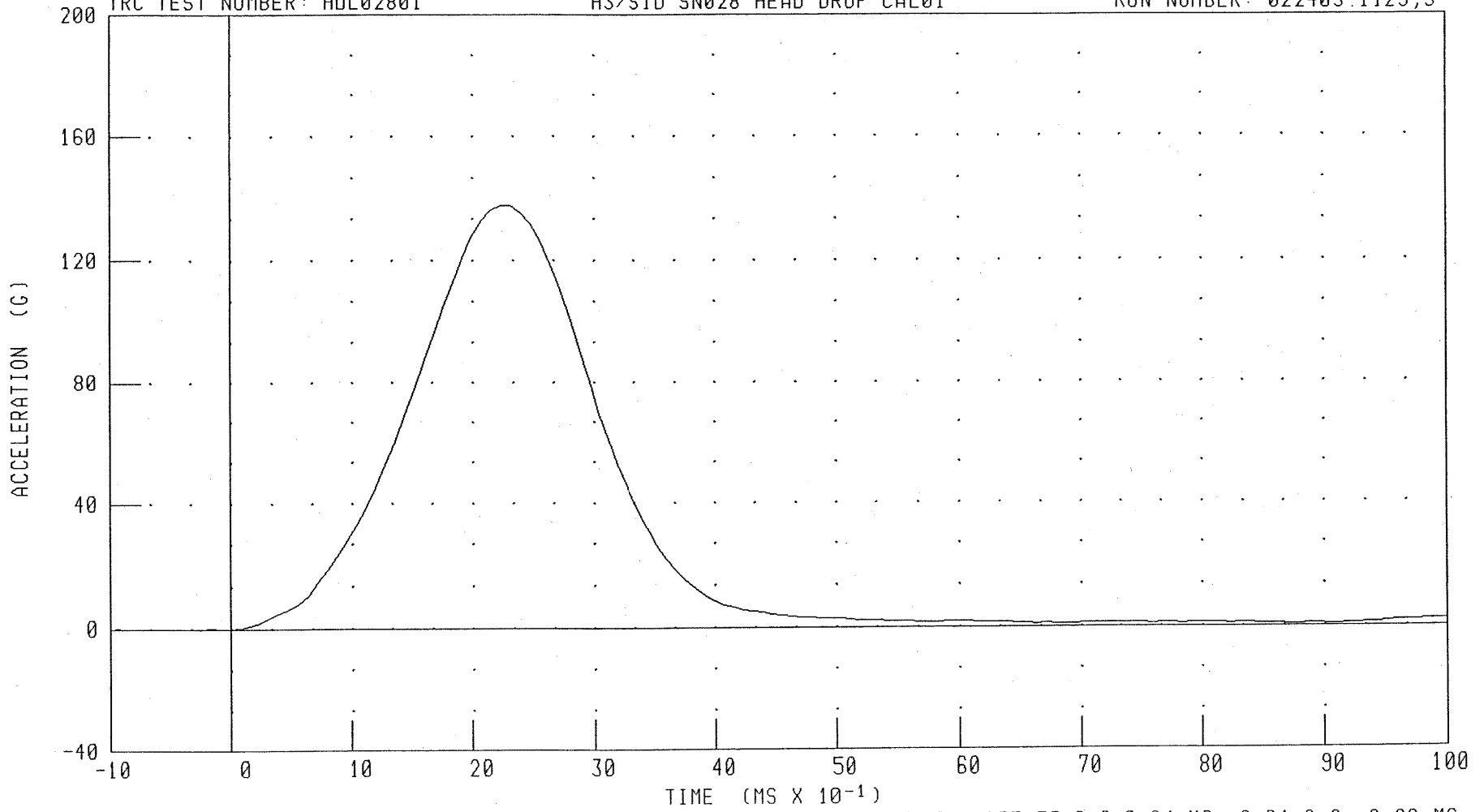
SID DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

TRC TEST NUMBER: HDL02801

H3/SID SN028 HEAD DROP CAL01

RUN NUMBER: 022403.1129;3



CHANNEL: HEDRG

FILTER: CH. CLASS 1000

PEAK DATA: 137.53 G @ 2.24 MS; 0.04 G @ -0.08 MS

C-9

030225

TRANSPORTATION RESEARCH CENTER INC.

LATERAL NECK TEST

HYBRIDIII SID DUMMY

24-FEB-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO. NFL02801

H3/SID SNO28 NECK LEFT CAL01

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 - 22.2 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	31.00 %
IMPACT VELOCITY	6.89 - 7.13 M/S	6.99 M/S
INTEGRATED VELOCITY	10 MS 1.96 - 2.55 M/S	2.27 M/S
	20 MS 4.12 - 5.10 M/S	4.50 M/S
	30 MS 5.73 - 7.01 M/S	6.37 M/S
	40 - 70 MS 6.27 - 7.64 M/S	7.10- 7.24 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION	66 - 82 deg.	67.74 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO	58 - 67 MS	60.64 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE	73 - 88 NM	78.26 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO	49 - 64 MS	54.96 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT	2 - 16 MS	8.08 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN 

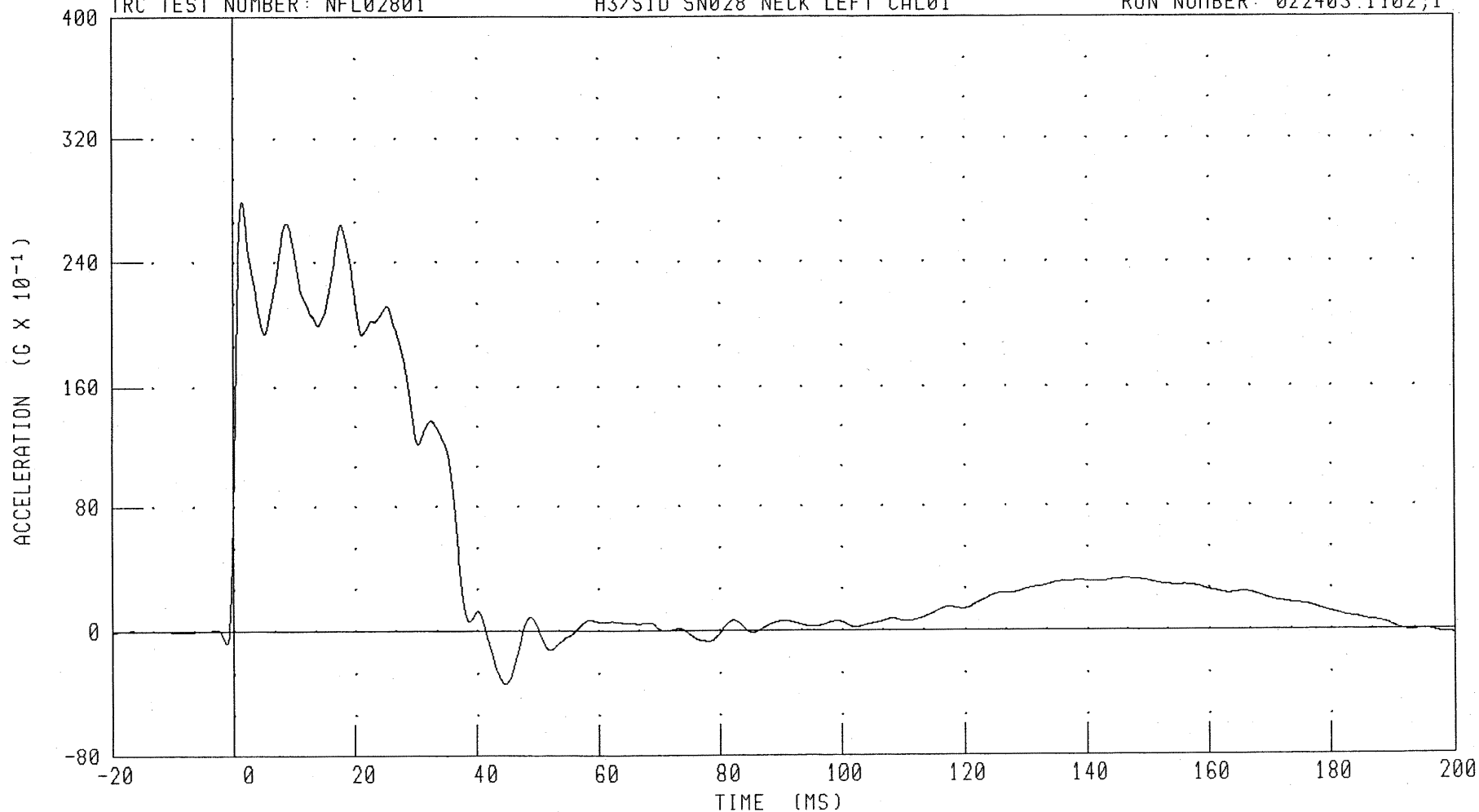
RUN NUMBER: 022403.1055;1

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST
PENDULUM DECELERATION

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



C-11

CHANNEL: PENXC

FILTER: CH. CLASS 100

PEAK DATA: 27.88 G @ 1.52 MS; -3.36 G @ 44.56 MS

030225

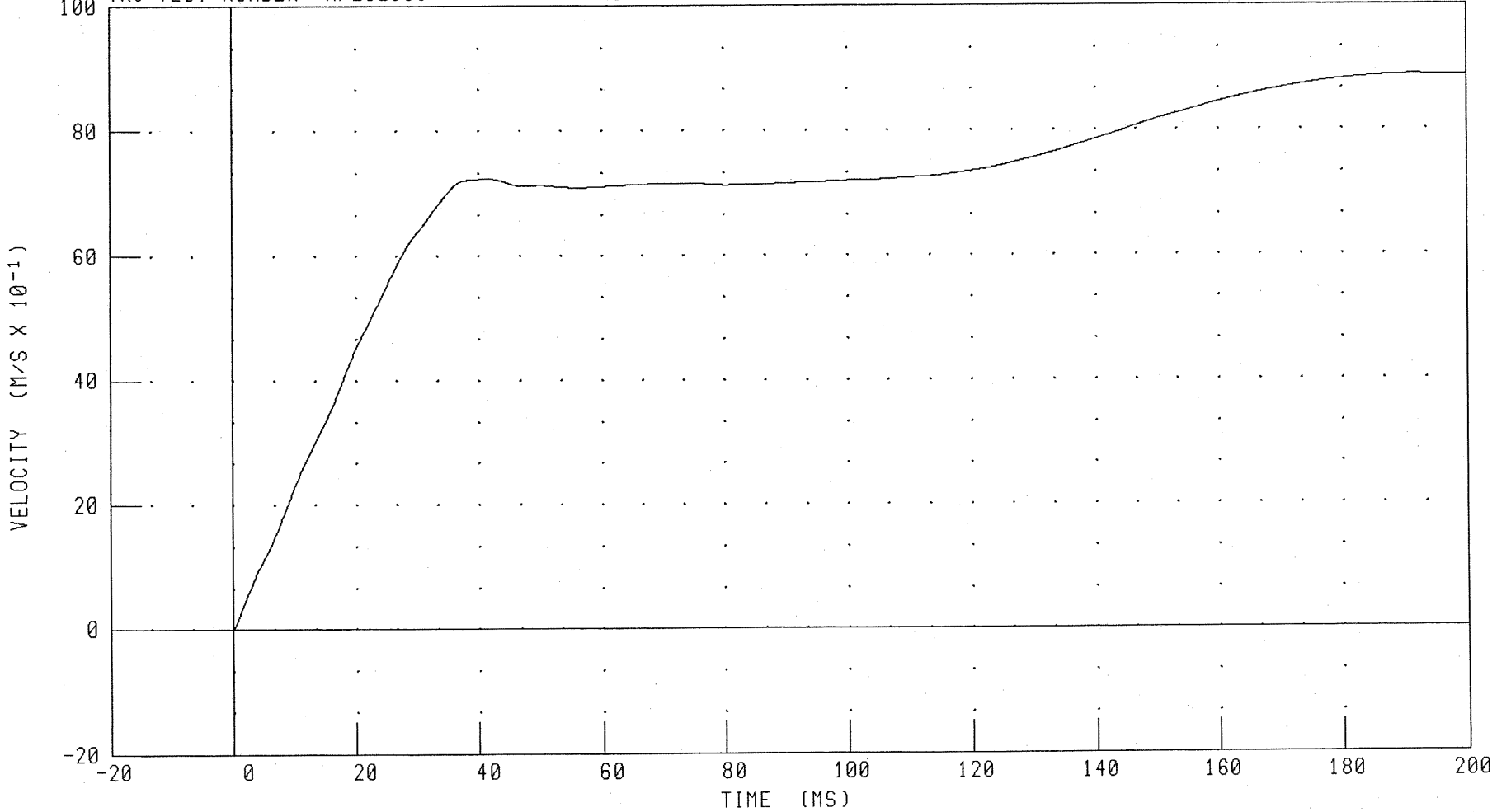
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

INTEGRATED PENDULUM VELOCITY

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



CHANNEL: PENXVI FILTER: CH. CLASS 180

PEAK DATA: 8.90 M/S @ 191.52 MS; -0.01 M/S @ -0.72 MS

C-12

030225

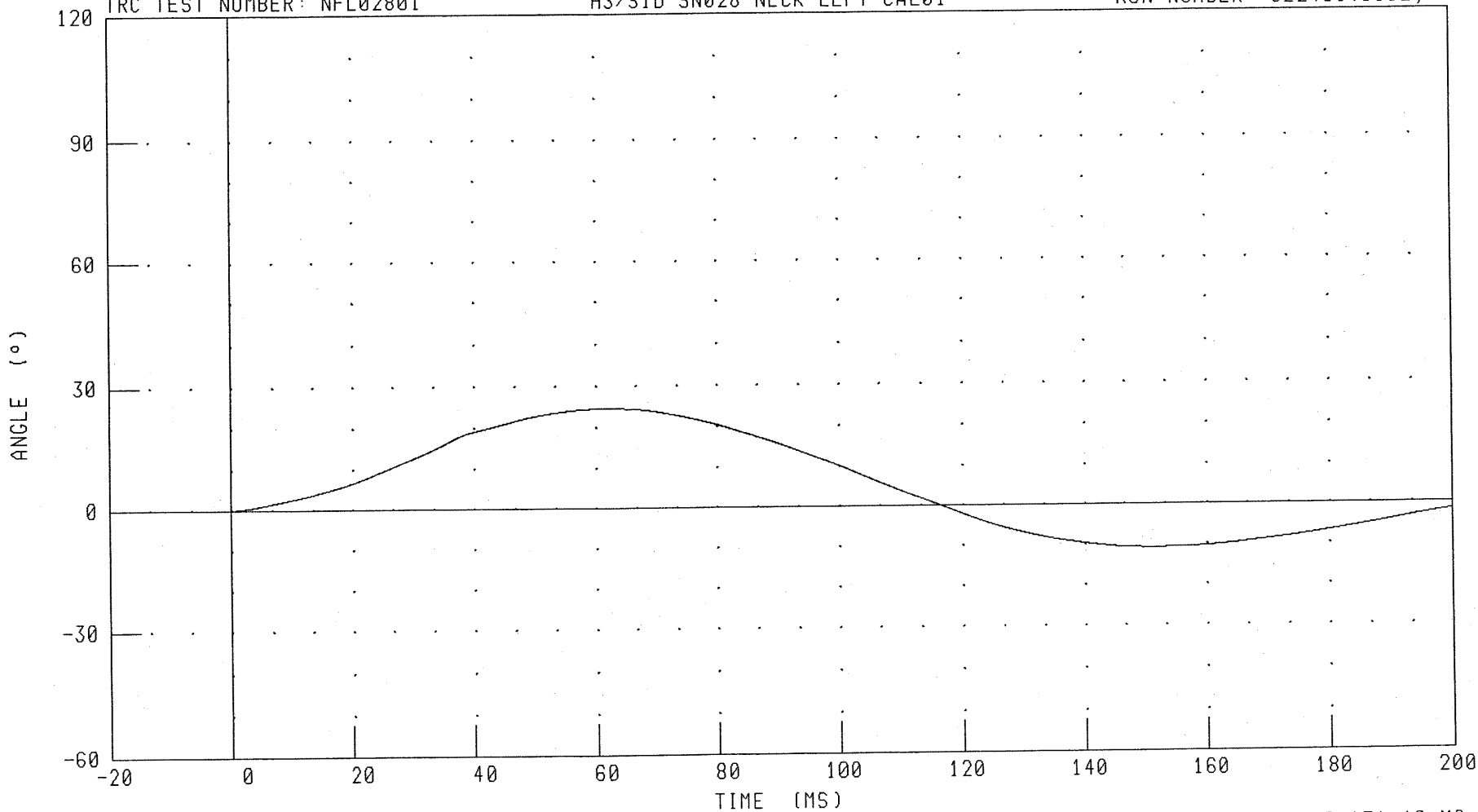
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



CHANNEL: BETA

FILTER: CH. CLASS 60

PEAK DATA: 24.51 ° @ 61.44 MS; -10.89 ° @ 151.12 MS

C-13

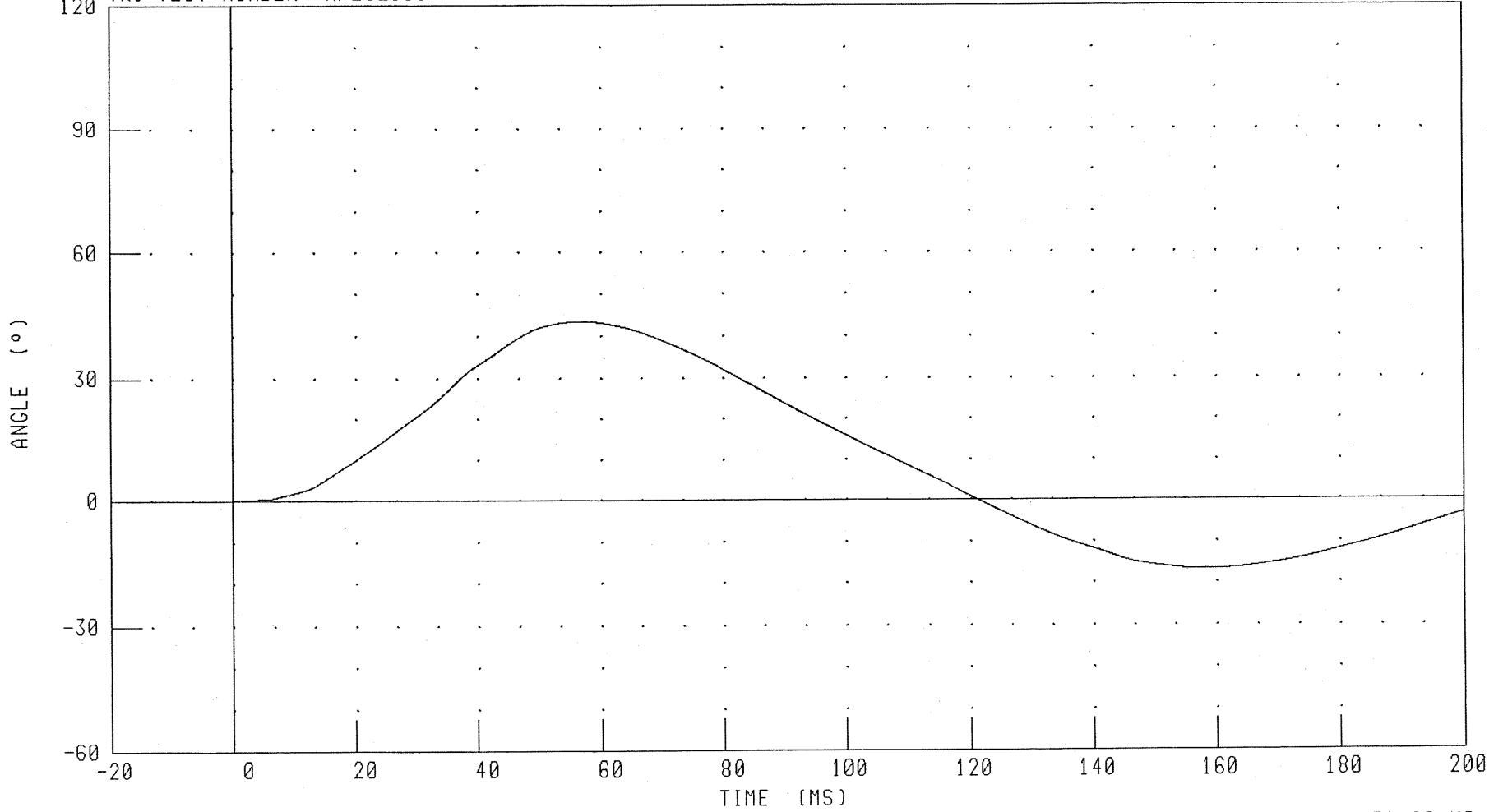
030225

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST
ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



CHANNEL: THETA FILTER: CH. CLASS 60

PEAK DATA: 43.43 ° @ 56.88 MS; -16.94 ° @ 158.00 MS

C-14

030225

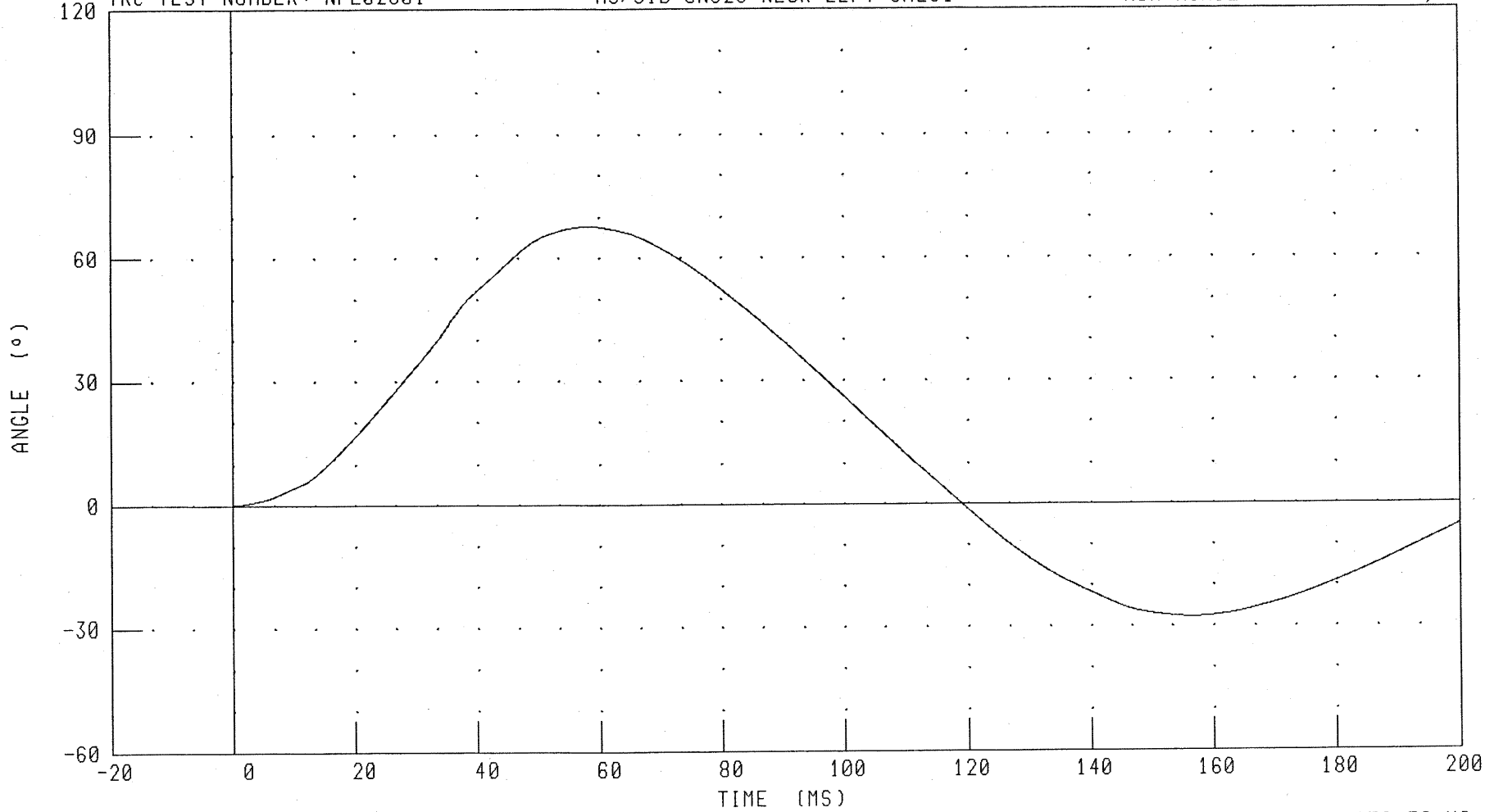
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

TOTAL ROTATION

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



CHANNEL: TOTAN

FILTER: CH. CLASS 60

PEAK DATA: 67.74 ° @ 58.40 MS; -27.70 ° @ 156.56 MS

C-15

030225

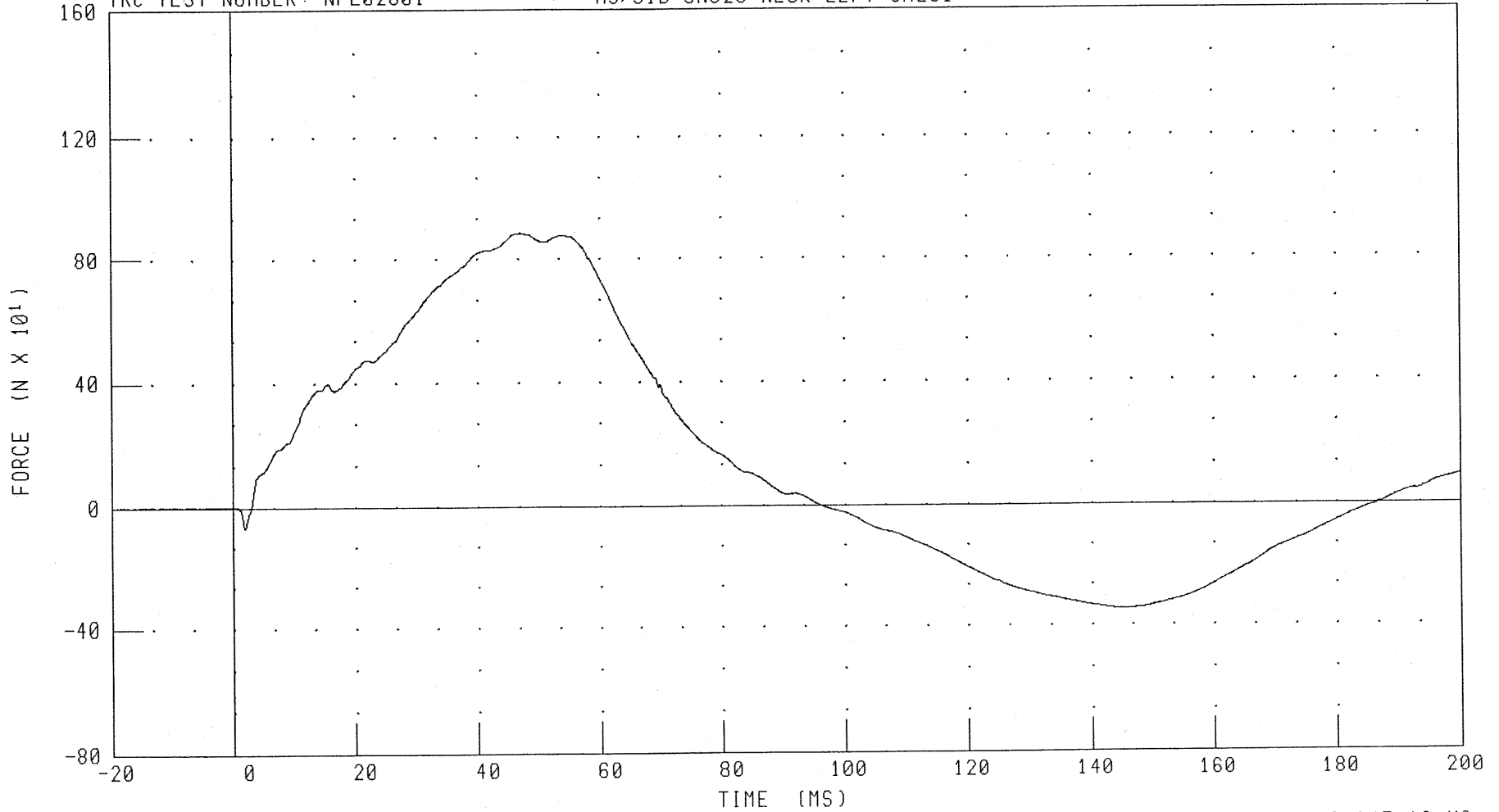
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



CHANNEL: NEKYF

FILTER: CH: CLASS 1000

PEAK DATA: 884.95 N @ 47.12 MS; -346.94 N @ 145.12 MS

C-16

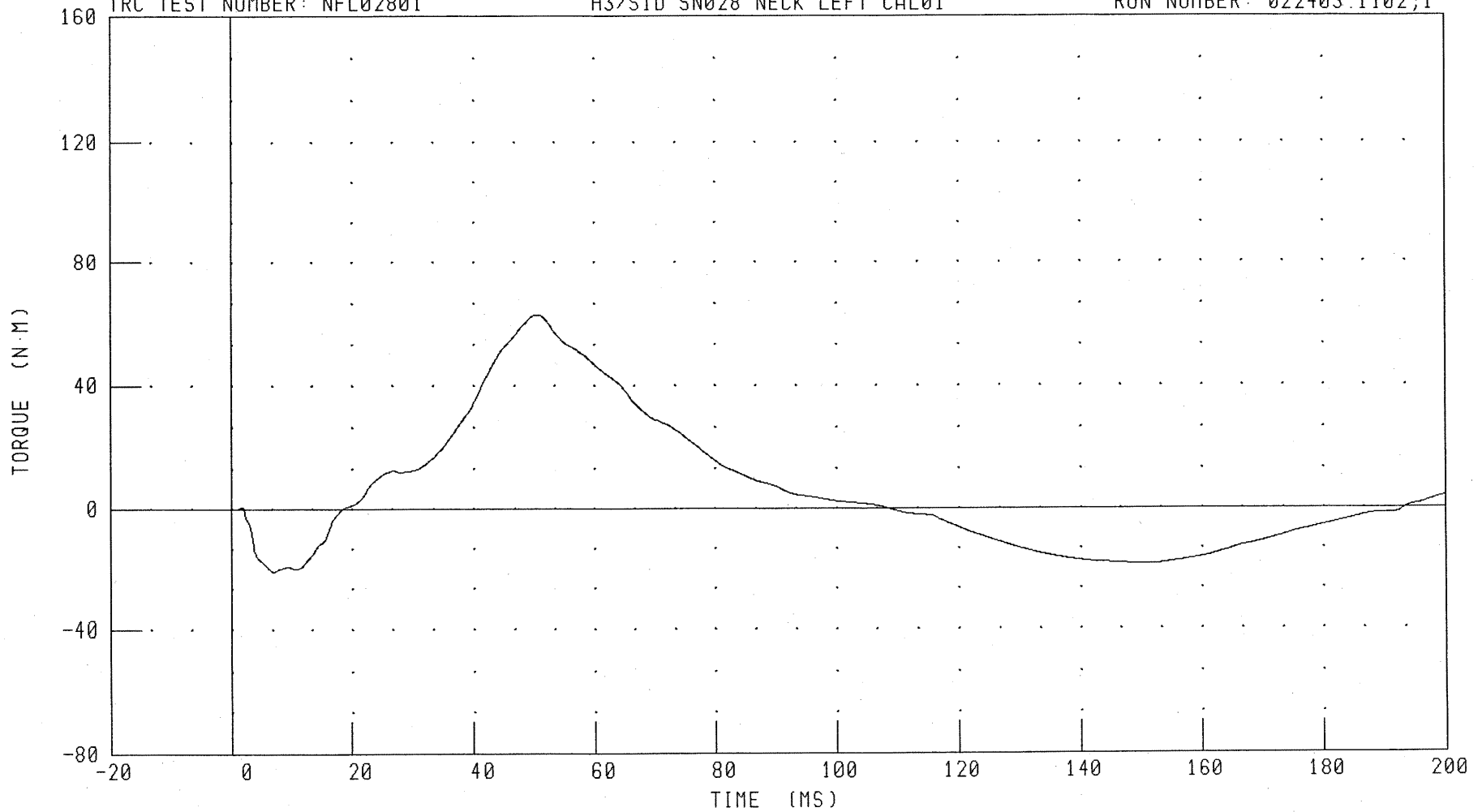
030225

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST
NECK MOMENT X AXIS

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



CHANNEL: NEKXM

FILTER: CH. CLASS 600

PEAK DATA: 63.02 N·M @ 50.40 MS; -21.02 N·M @ 6.96 MS

C-17

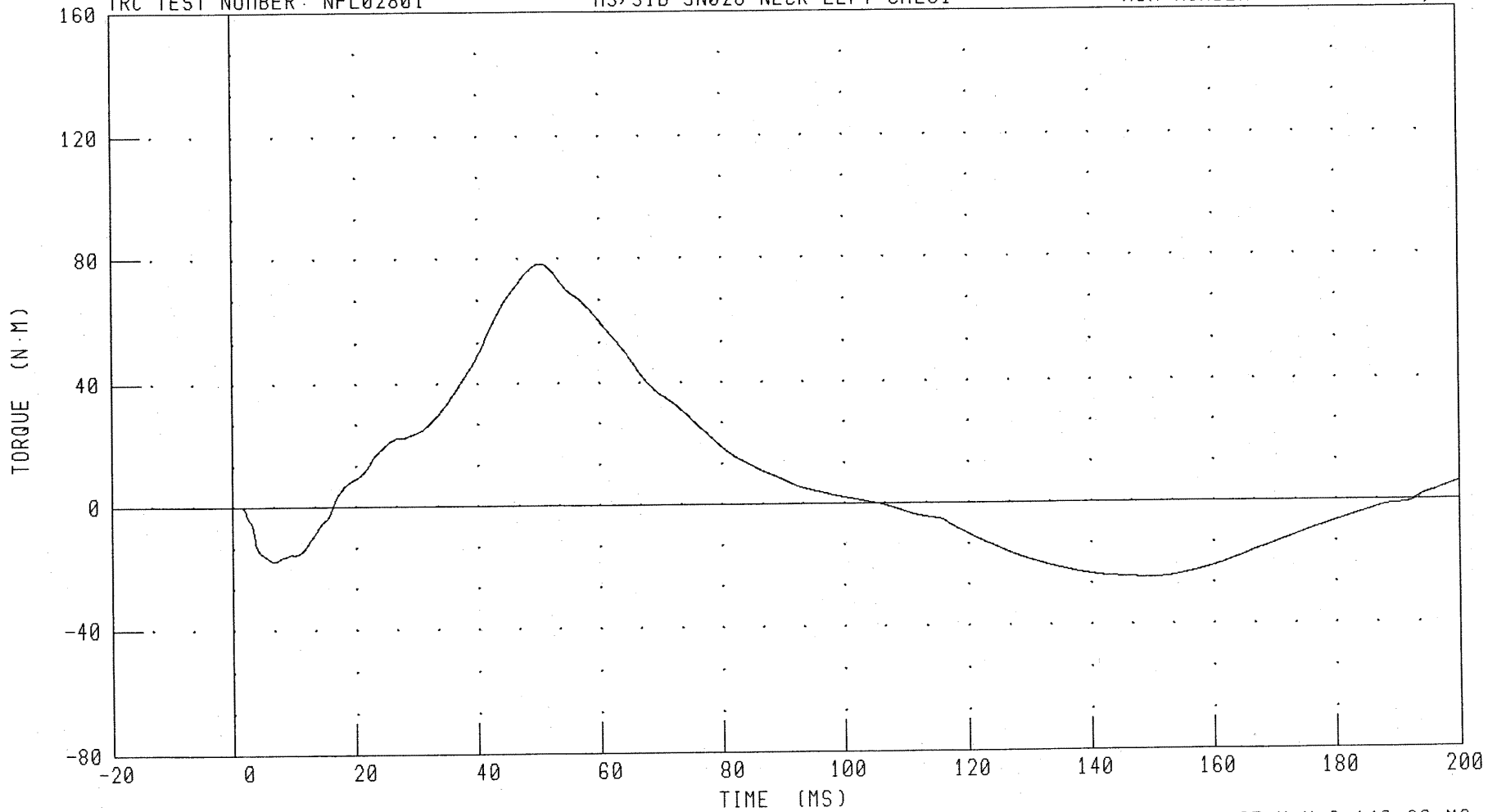
030225

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST
TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL02801

H3/SID SN028 NECK LEFT CAL01

RUN NUMBER: 022403.1102;1



CHANNEL: NEKOM FILTER: CH. CLASS 600

PEAK DATA: 78.26 N·M @ 50.32 MS; -24.85 N·M @ 149.92 MS

C-18

030225

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

06-FEB-03

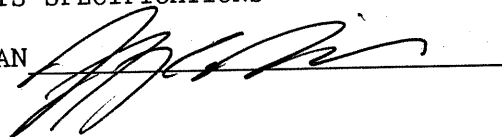
LEFT SIDE CONFIGURATION

TRC INC. TEST NO: STL02801A 572F SID SN028 L.THORAX CAL01

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	32.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.29 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	42.9 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	40.8 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	16.4 G

TEST MEETS SPECIFICATIONS

TECHNICIAN



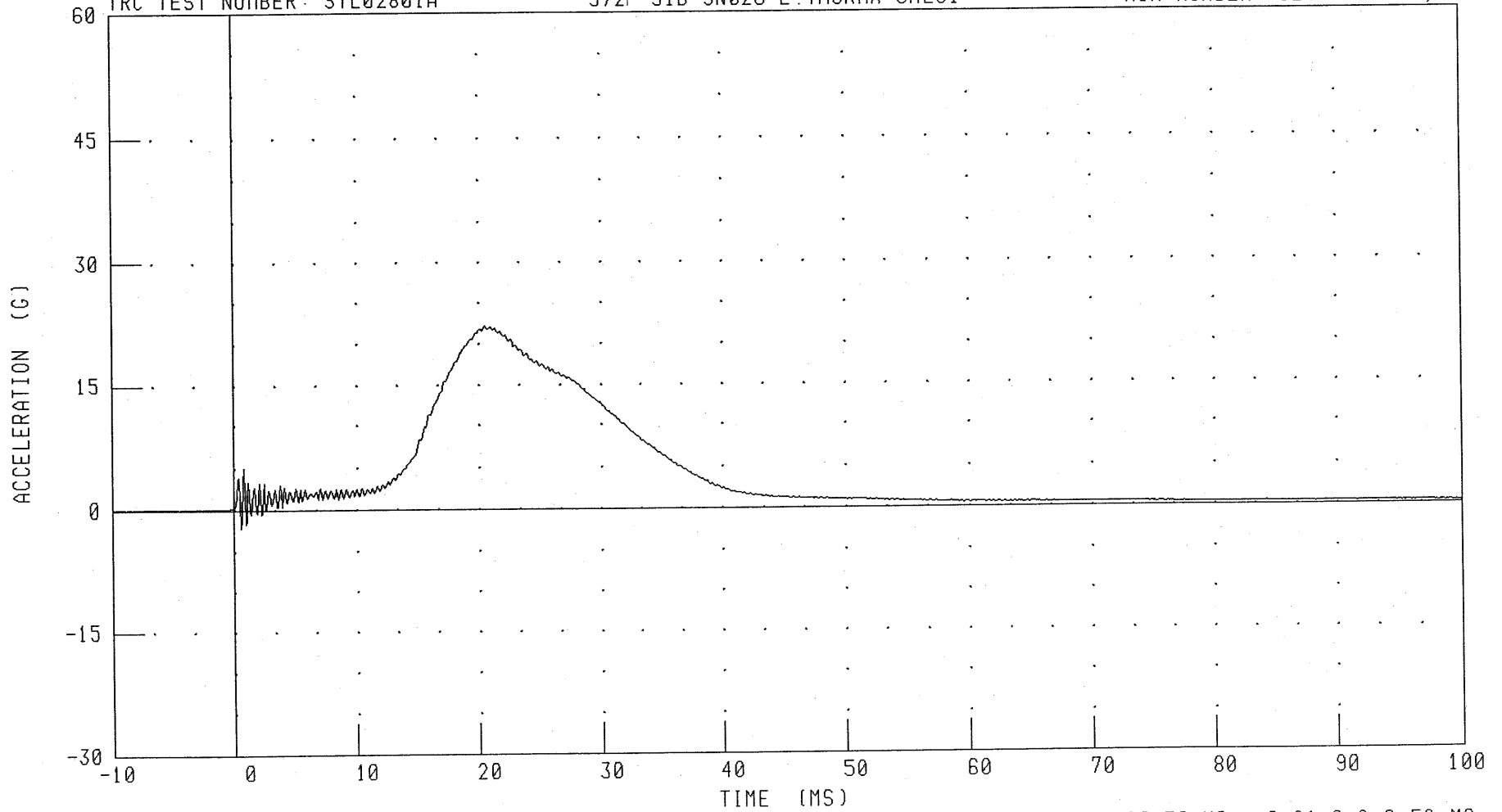
RUN NUMBER: 020603.1511;1

PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)
PENDULUM DECELERATION

TRC TEST NUMBER: STL02801A

572F SID SN028 L.THORAX CAL01

RUN NUMBER: 020603.1511;1



CHANNEL: PENXC

FILTER: CH. CLASS 1000

PEAK DATA: 22.16 G @ 20.56 MS; -2.21 G @ 0.56 MS

C-20

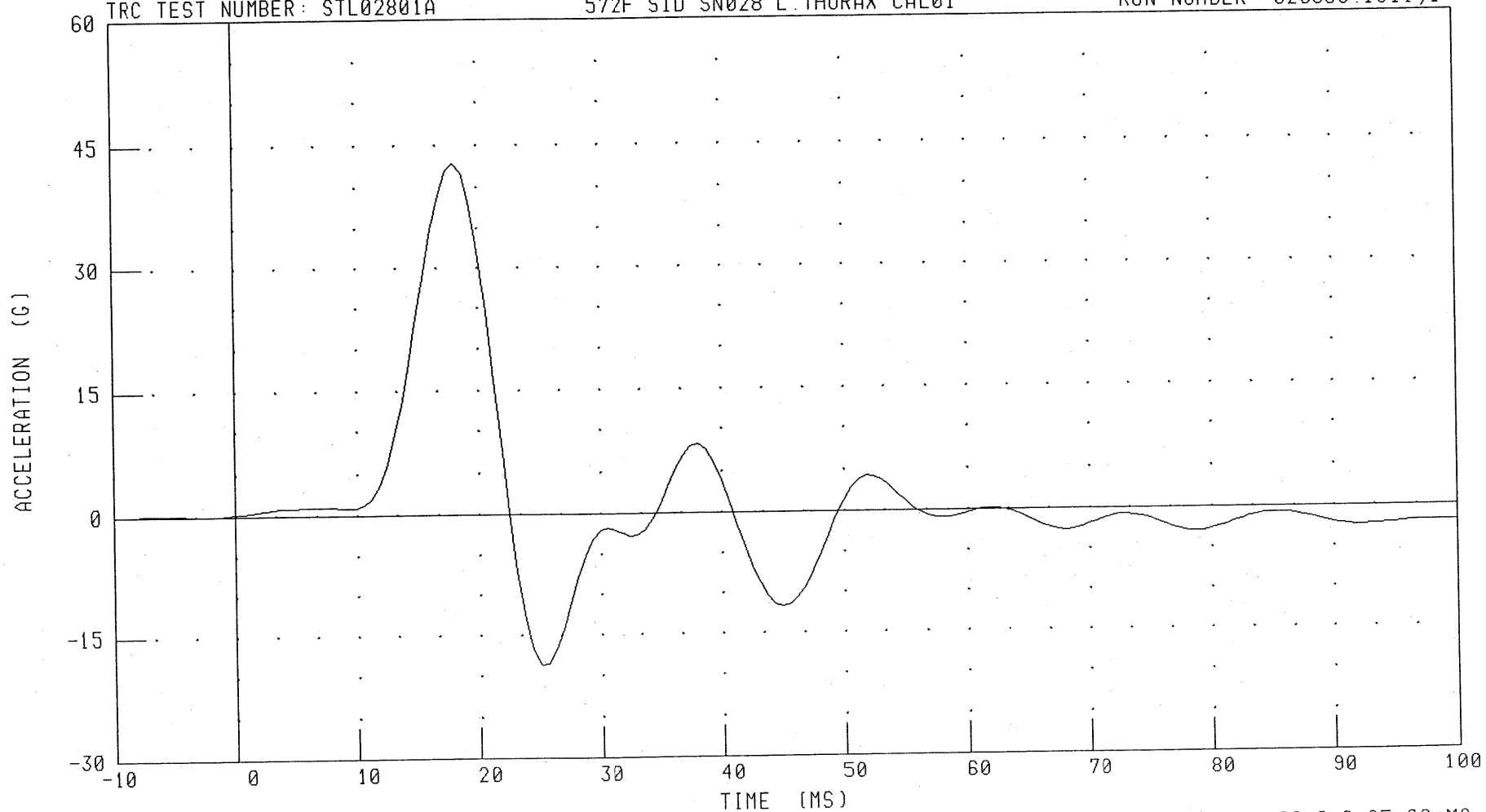
030225

PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)
LEFT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL02801A

572F SID SN028 L THORAX CAL01

RUN NUMBER: 020603.1511;1



CHANNEL: LURYG

FILTER: FIR 100

PEAK DATA: 42.92 G @ 18.13 MS; -18.66 G @ 25.00 MS

C-21

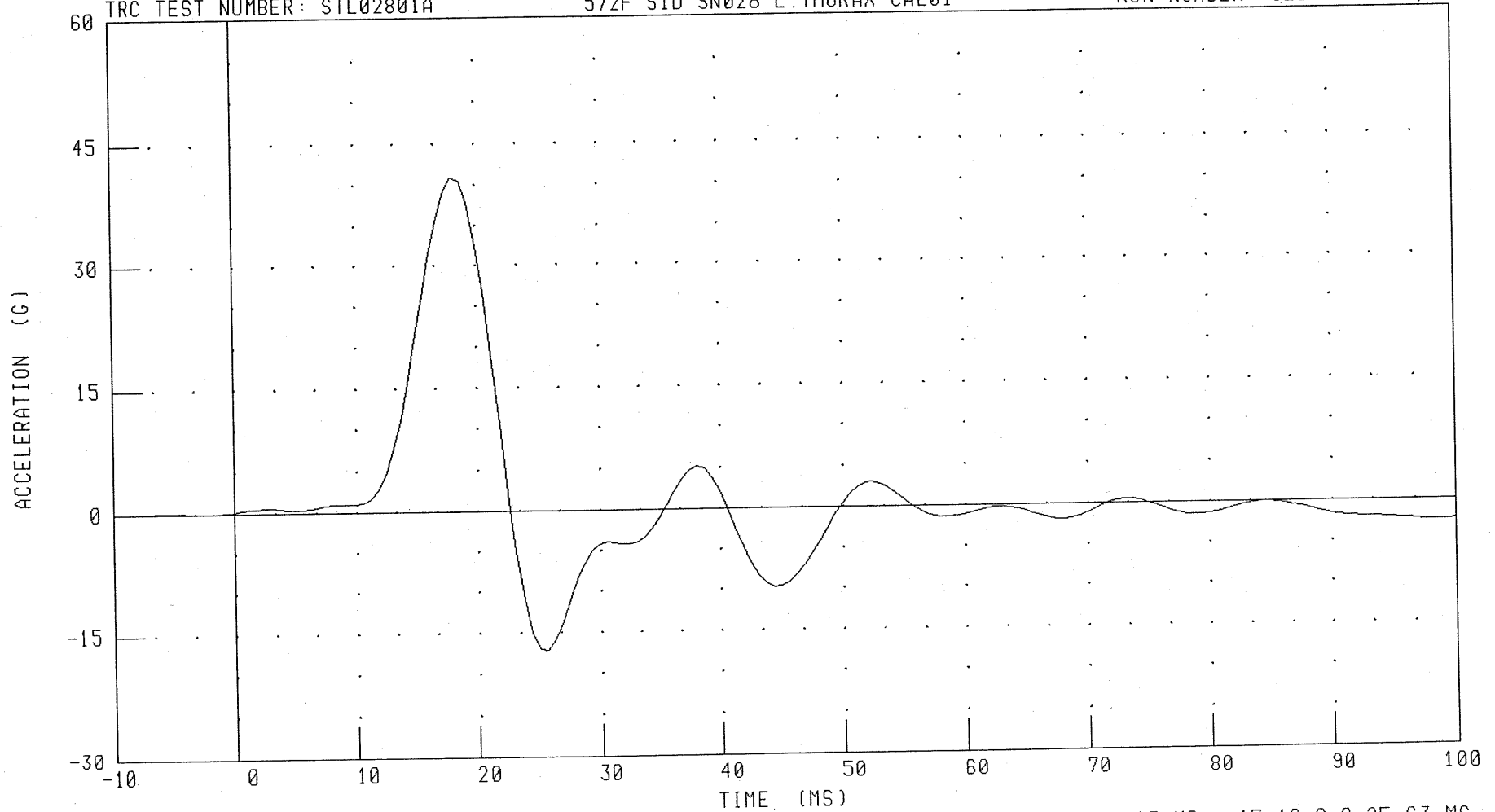
030225

PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)
LEFT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL02801A

572F SID SN028 L THORAX CAL01

RUN NUMBER: 020603.1511;1



CHANNEL: LLRYG

FILTER: FIR 100

PEAK DATA: 40.83 G @ 18.13 MS; -17.18 G @ 25.63 MS

C-22

030225

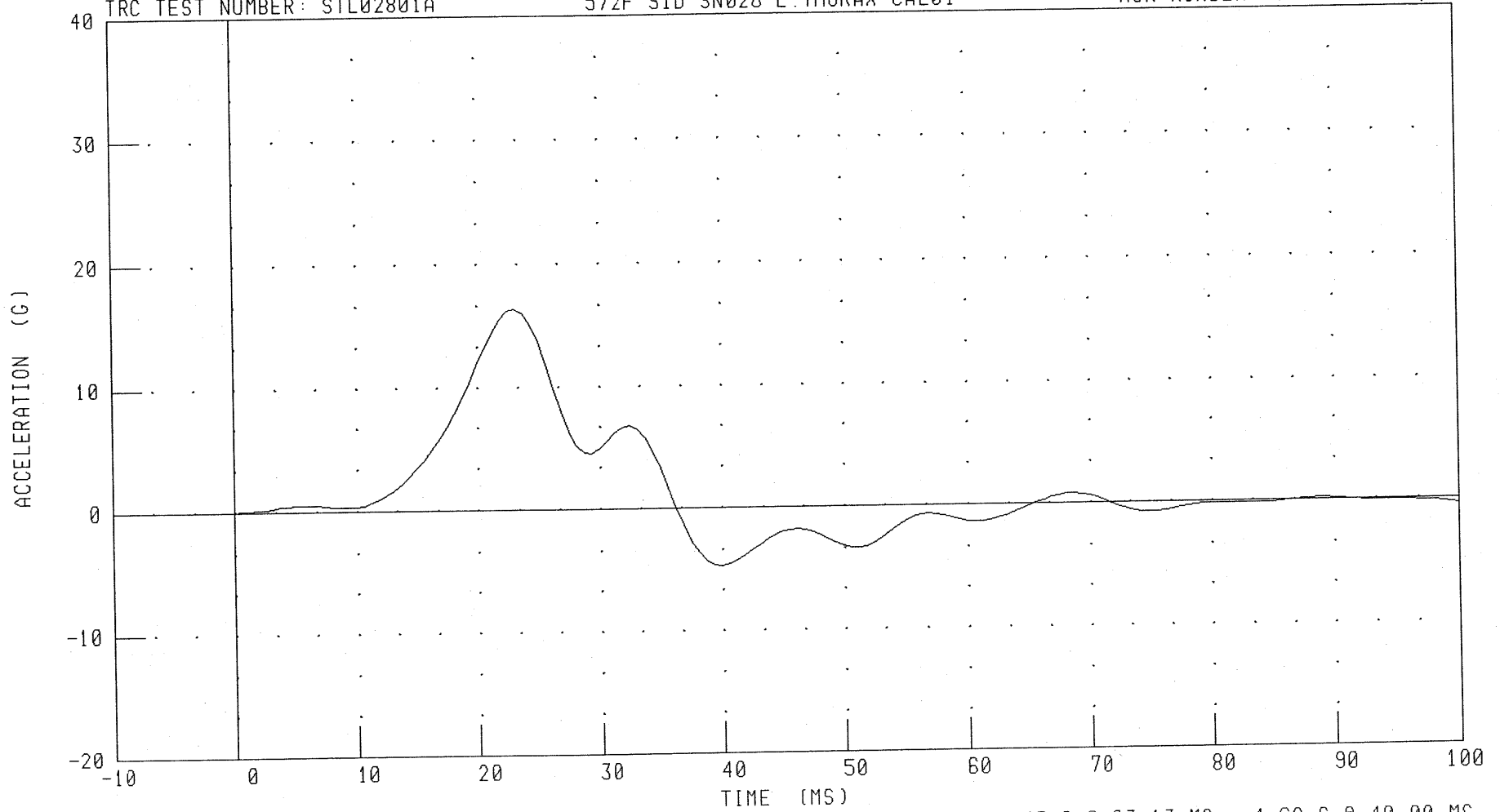
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

RUN NUMBER: 020603.1511;1

TRC TEST NUMBER: STL02801A

572F SID SN028 L.THORAX CAL01



CHANNEL: T12YG

FILTER: FIR 100

PEAK DATA: 16.43 G @ 23.13 MS; -4.68 G @ 40.00 MS

C-23

030225

TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

03-FEB-03

TRC INC.

572F SN028 DAMPER TEST CAL01

TEST NUMBERS: DP02801A, DP02801B, DP02801C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	46.0 %
VELOCITY	FORCE	667 - 925 N	750 N
2.69 M/S	DISPLACEMENT	29.7 - 34.5 MM	29.9 MM
VELOCITY	FORCE	1733 - 2100 N	1791 N
4.26 M/S	DISPLACEMENT	31.6 - 37.2 MM	34.9 MM
VELOCITY	FORCE	3784 - 4495 N	4259 N
6.12 M/S	DISPLACEMENT	33.3 - 39.6 MM	37.8 MM

DAMPER SETTING = 5.6

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 020303.1116;2

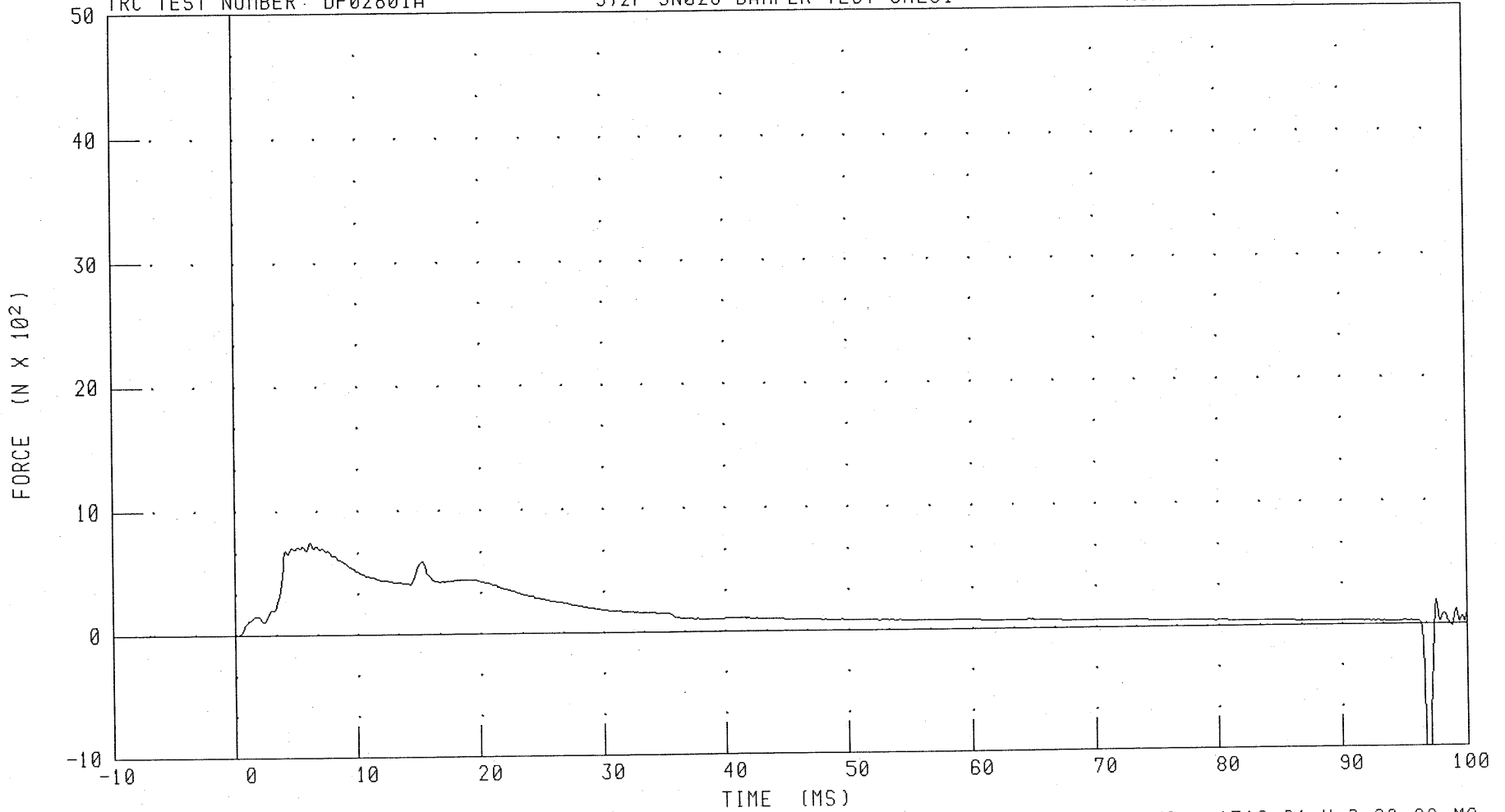
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP02801A

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116;2



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 749.74 N @ 6.16 MS; -1712.81 N @ 96.80 MS

C-25

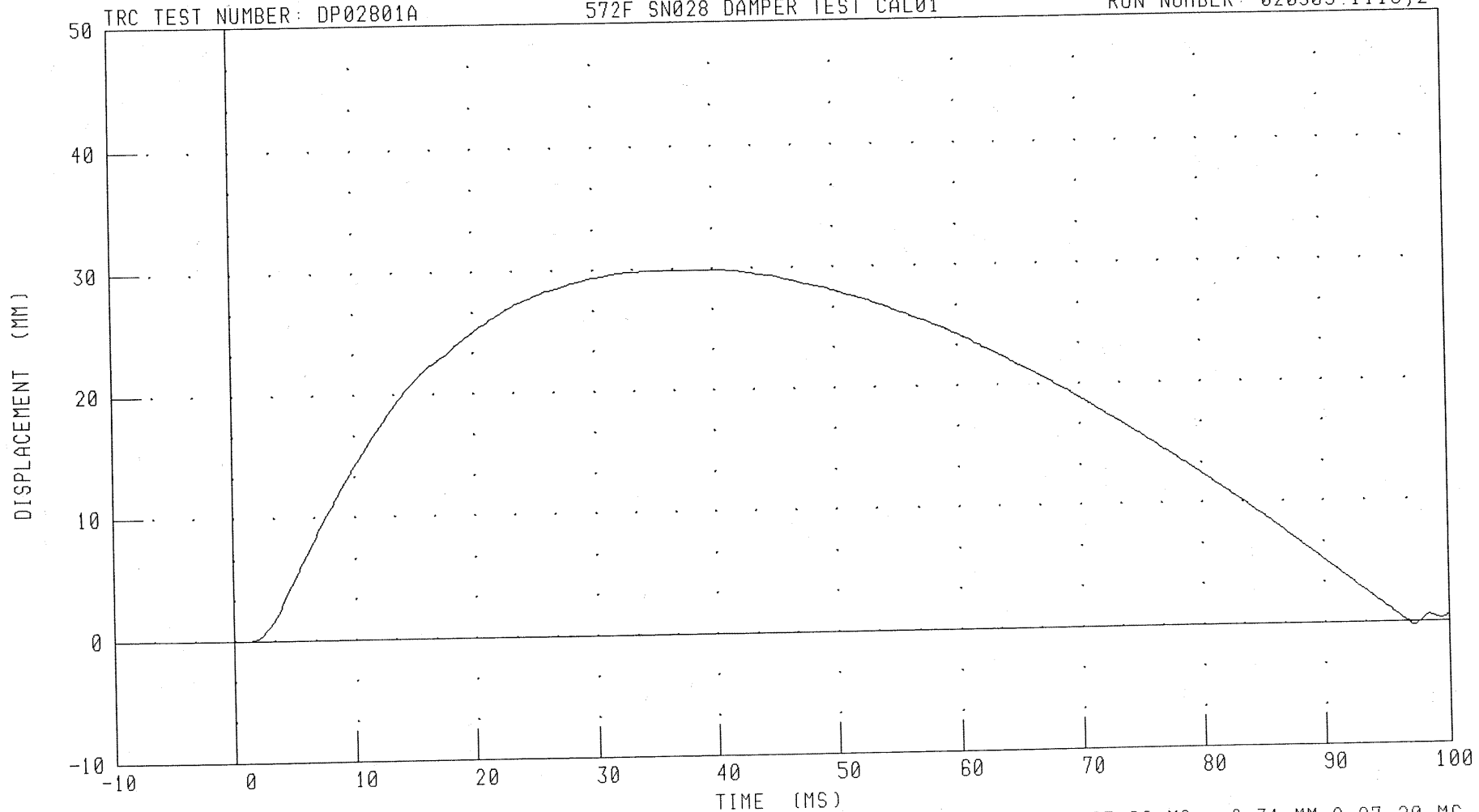
030225

PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER DISPLACEMENT
572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116;2

TRC TEST NUMBER: DP02801A



CHANNEL: CSTYD FILTER: CH. CLASS 1000

PEAK DATA: 29.87 MM @ 35.20 MS; -0.31 MM @ 97.20 MS

C-26

030225

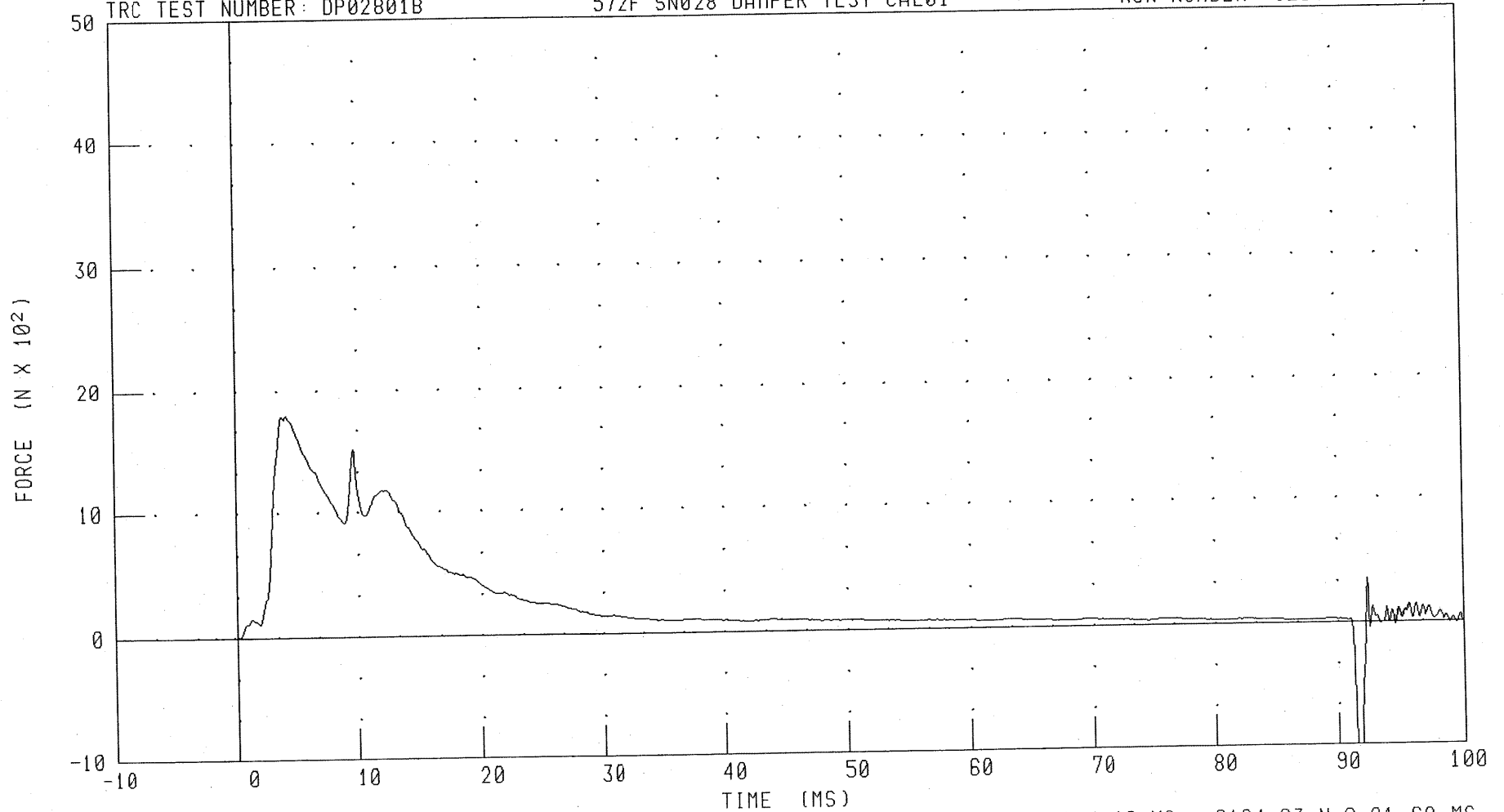
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

RUN NUMBER: 020303.1116;2

TRC TEST NUMBER: DP02801B

572F SN028 DAMPER TEST CAL01



CHANNEL: DAMPF FILTER: CH. CLASS 1000

PEAK DATA: 1791.40 N @ 4.16 MS; -2164.23 N @ 91.68 MS

C-27

030225

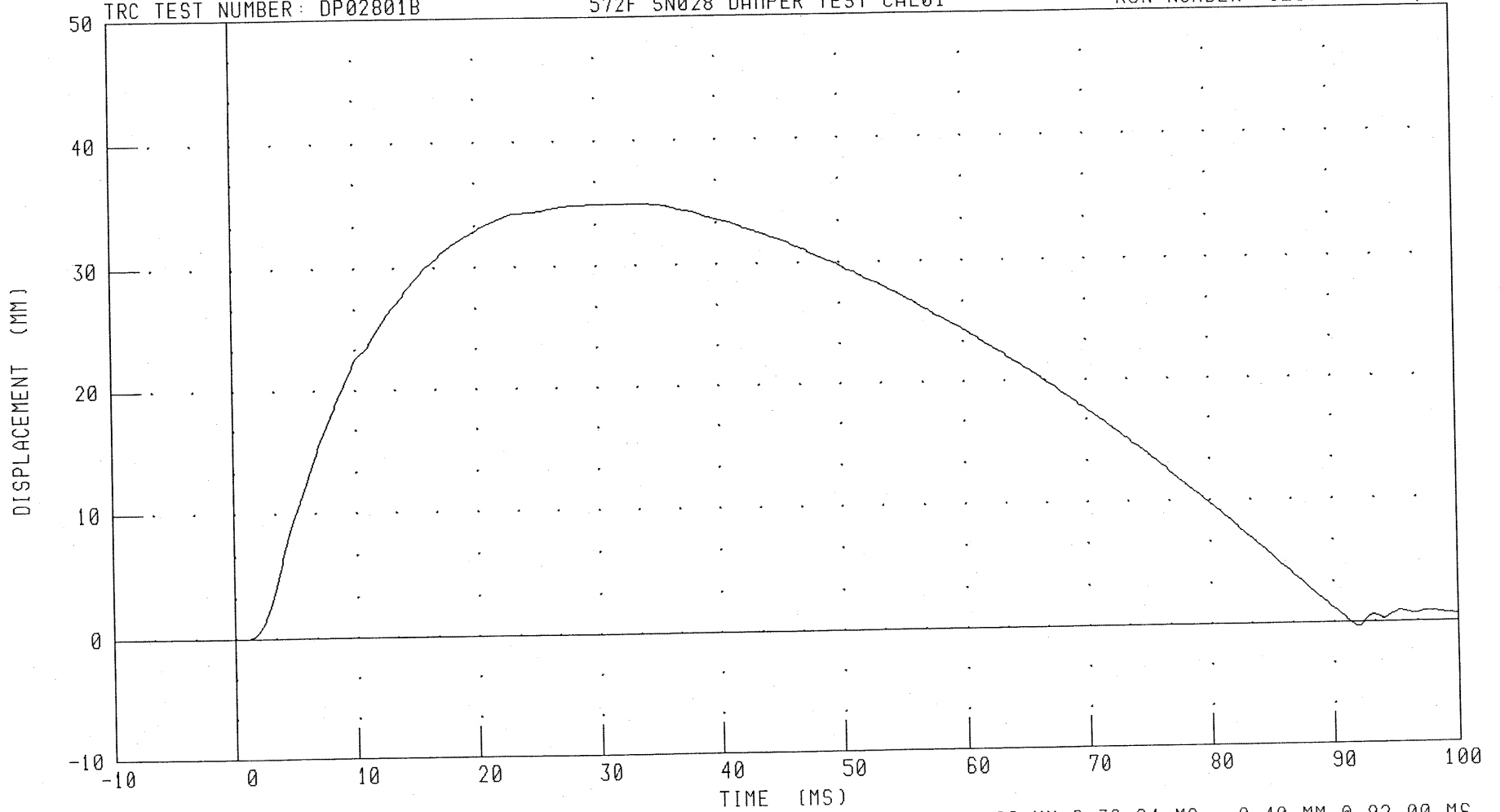
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116;2

TRC TEST NUMBER: DP02801B



CHANNEL: CSTYD FILTER: CH. CLASS 1000

PEAK DATA: 34.90 MM @ 30.64 MS; -0.40 MM @ 92.00 MS

C-28

030225

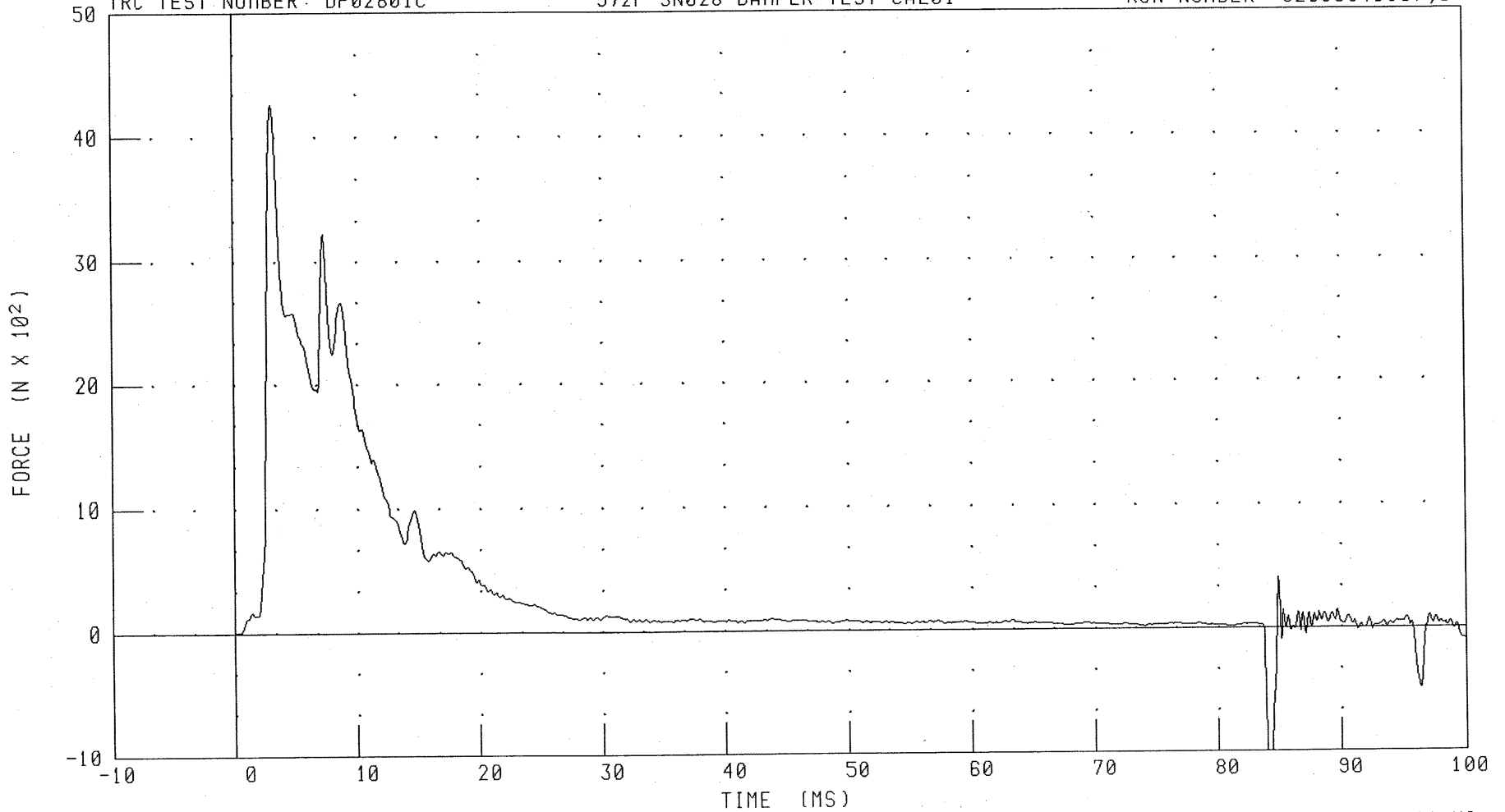
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP02801C

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1117;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 4259.31 N @ 3.12 MS; -2213.42 N @ 84.24 MS

C-29

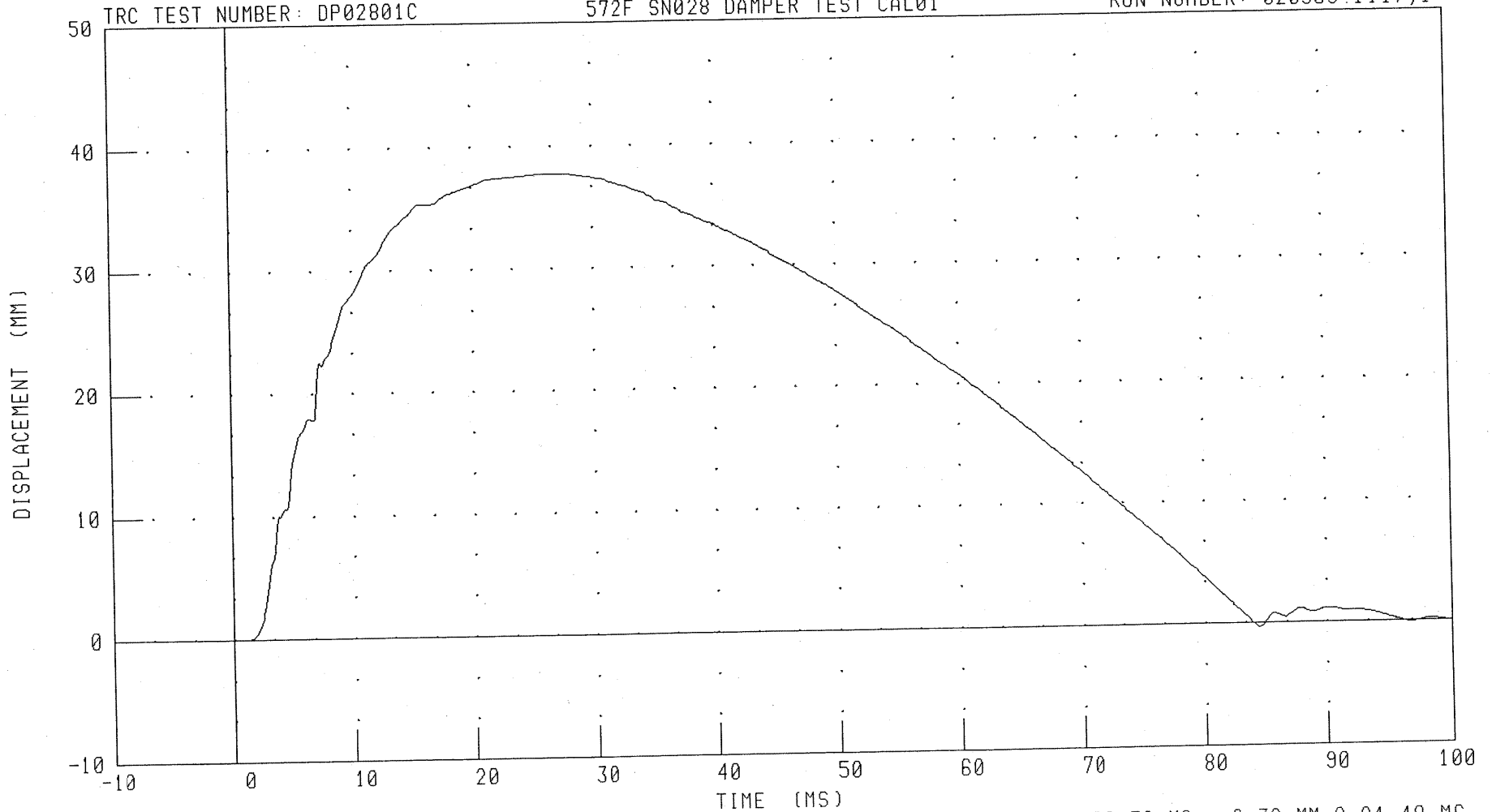
030225

PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT
572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1117;1

TRC TEST NUMBER: DP02801C



CHANNEL: CSTYD FILTER: CH. CLASS 1000

PEAK DATA: 37.75 MM @ 26.56 MS; -0.36 MM @ 84.48 MS

C-30

030225

TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

06-FEB-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO: SPL02801

572F SN028 LEFT PELVIS CAL01

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	32.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	48.4 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.3 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 020603.1123;1

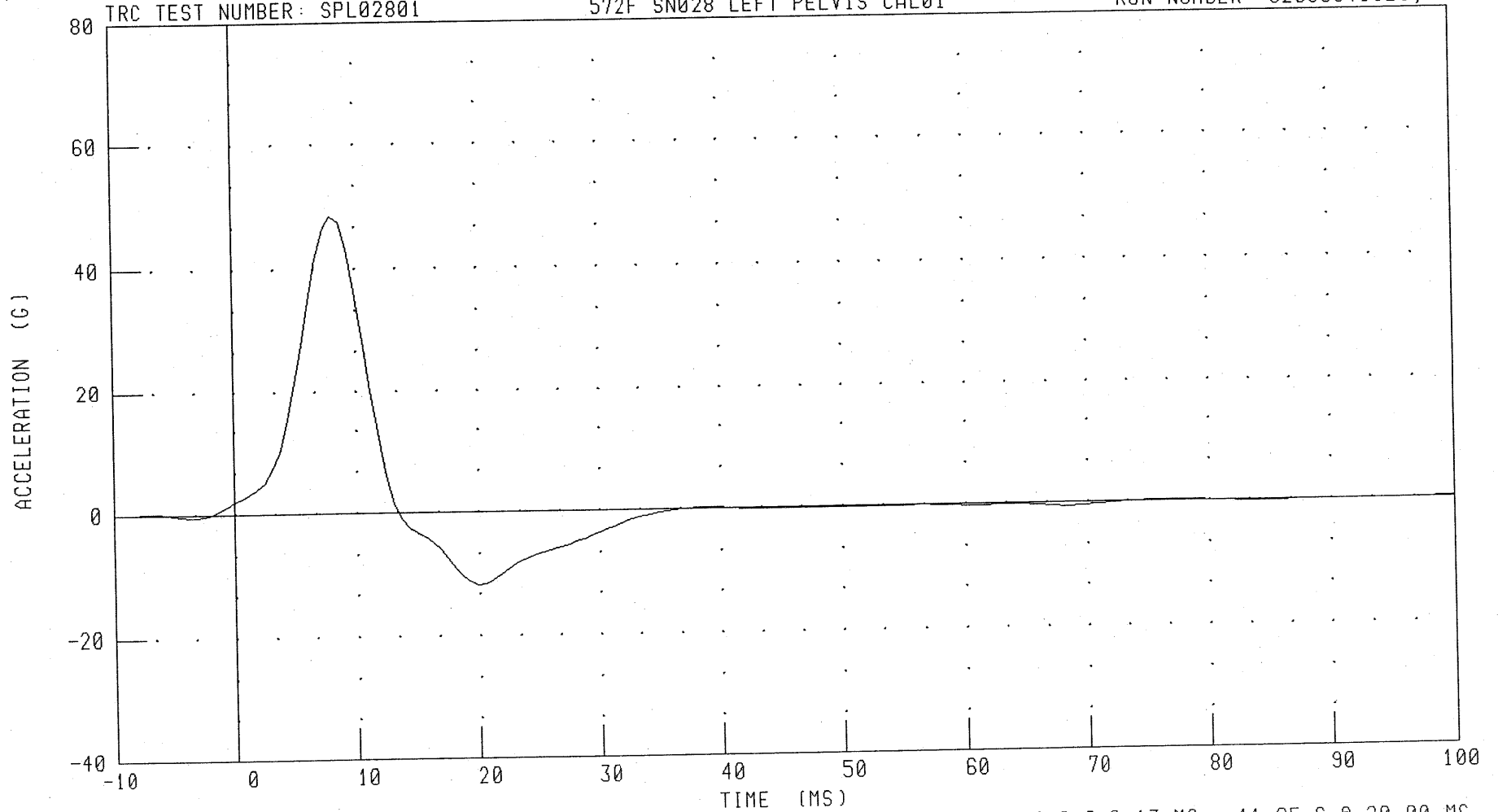
PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

RUN NUMBER: 020603.1128;1

TRC TEST NUMBER: SPL02801

572F SN028 LEFT PELVIS CAL01



CHANNEL: PEVYG

FILTER: FIR 100

PEAK DATA: 48.42 G @ 8.13 MS; -11.85 G @ 20.00 MS

C-32

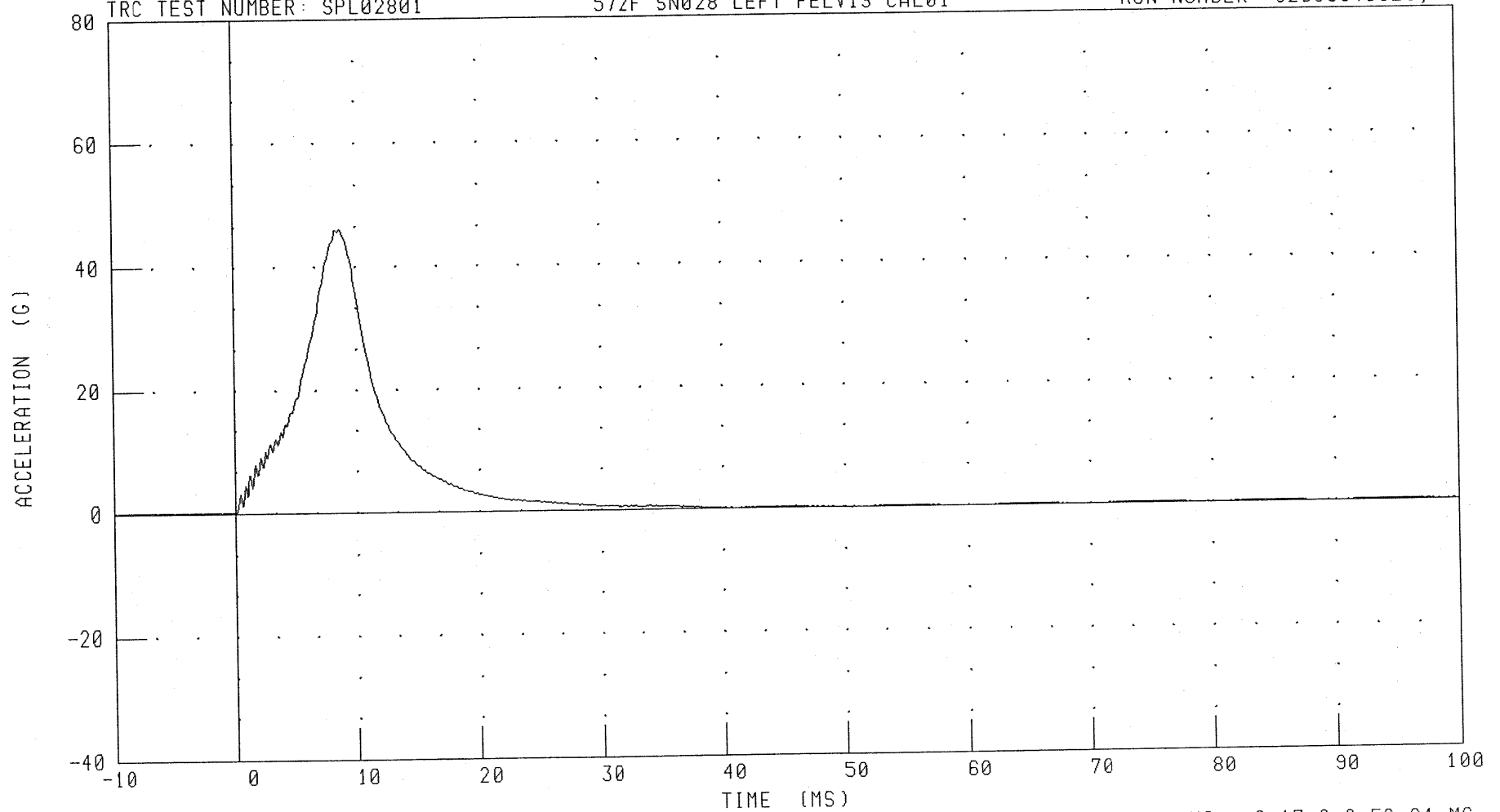
030225

PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)
PENDULUM DECELERATION

TRC TEST NUMBER: SPL02801

572F SN028 LEFT PELVIS CAL01

RUN NUMBER: 020603.1128;1



CHANNEL: PENXG

FILTER: CH. CLASS 1000

PEAK DATA: 46.11 G @ 8.80 MS; -0.17 G @ 50.64 MS

C-33

030225

Transportation Research Center Inc.

572B Abdomen Compression Test

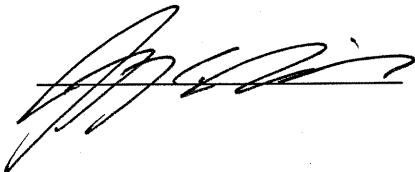
SID Serial No. 028 Calibration No. 01 - 1

Test Date 01/24/2003

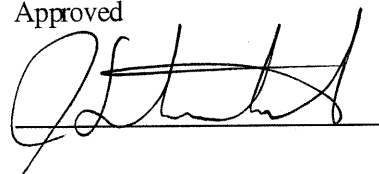
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	34 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.4 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



01.24.2003 13:13:46 23

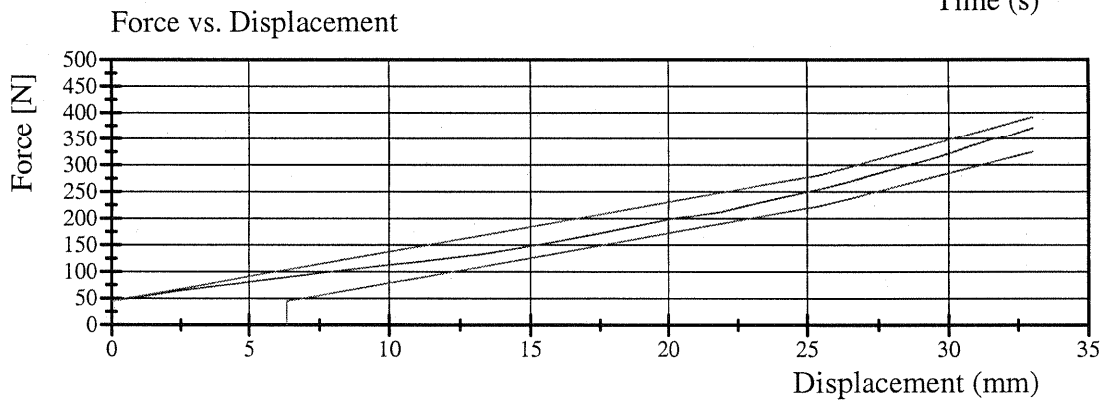
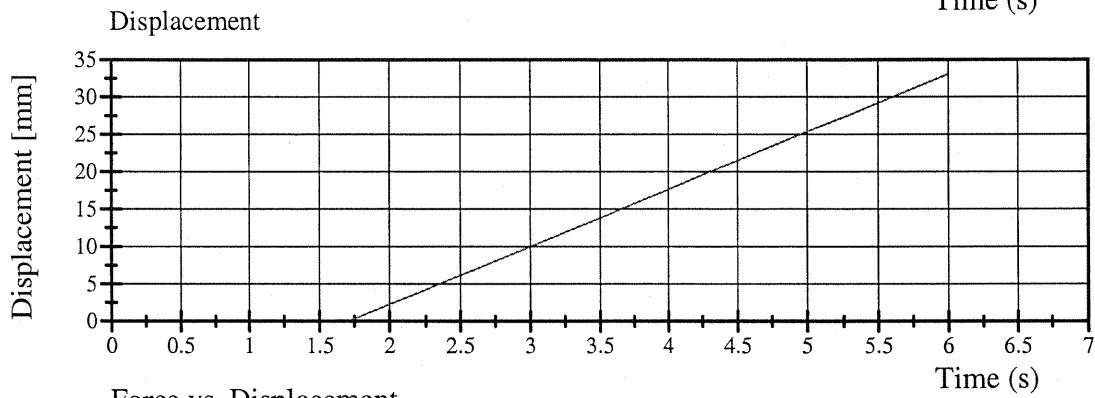
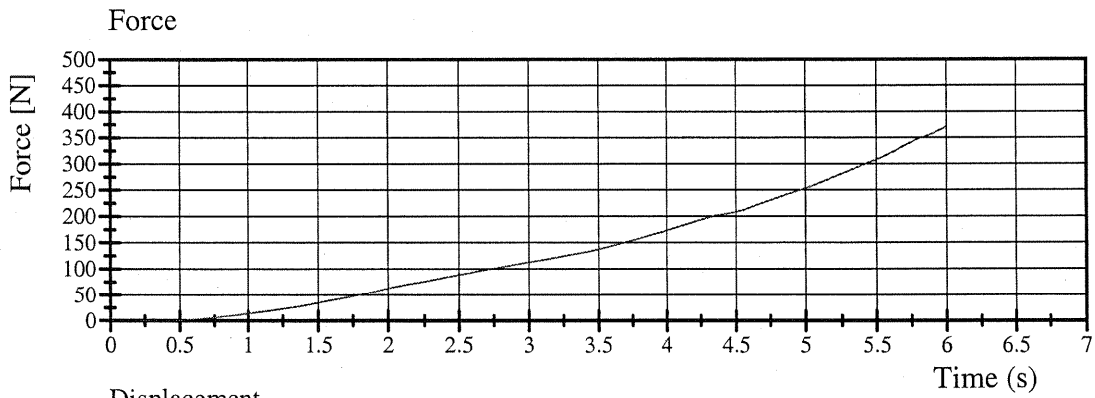


Transportation Research Center Inc.

572B Abdomen Compression Test

SID Serial No. 028 Calibration No. 01 - 1

Test Date 01/24/2003



TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 24-Jan-03

TRC, INC.

TEST NO: LF02801

572B SN 028 TORSO FLEX CAL 01

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6 DEG. C	21.1 DEG. C
RELATIVE HUMIDITY	10 – 70 %	31 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	125 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	175 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	241 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 DEG.	7 Deg

TEST MEETS SPECIFICATIONS

TECHNICIAN



Calibration Test Results

Post-Test

SID: 028

Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The lateral thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber was not tested at this time.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.

Transportation Research Center Inc.

SID Pre-Use Inspection

Type: HIII SID S/N: 028

Mfr: Vector

Test Date: 02/25/03

Proj./Seg. No.: 20020455/1200

Test Eng.: Virginia Watters

ITEM	PRE-USE	
HEAD:		
Head Ballast Condition	X	
Accel. Mount Bolts and Cables	X	
Skull Cap Bolts	X	
Head Skin Condition	X	
Accel. Cable Exit (left or right)	(Left) X	(Right)
NECK:		
Rubber Condition and Separation From End Caps	X	
THORAX:		
Stacked Shoulder Foams and Bolts	X	
* Rib Cage Spring and Support Assembly	X	
* Rib Cage Bolts	X	
* Damper Rear Attachment Ring, Pivot Pins, and Bracket	X	
* Location and Adjustment of Chest Pot Bracket and Collars	X	
* Chest Pot Rod End Nuts and Eyebolt	X	
Arm Foam Orientation	X	
Thorax/Lumbar Spine Bolts	X	
PELVIS:		
Tightness and Alignment of H-Point Tool Insert	X	
* Hips Range of Motion and 1-2g Adjustment (before calibration only)	X	
Upper Femur Bolt Adjustment and Position	X	
Check Spine Kits (Yellow tape = Kits/No tape = No kits)	(With) X	(Without)
LEGS AND FEET:		
Femur Load Cell Bolts (40 ft/lbs)	X	
Breakaway Femur Bolts (5-6 ft/lbs)	X	
Knee Joint Function and Range of Motion	X	
Leg Skin Condition and Position	X	
Ankle Range of Motion	X	
Foot Condition	X	
OTHER:		
Cleanliness	X	
Target Position	X	
Clothes	X	
Shoes	X	
Knee & Ankle One G Joint Adjustments	X	

Inspection Completed By: Jack Willeke

Date: 02/24/03

TRANSPORTATION RESEARCH CENTER INC.

SID Post-Use Inspection

S/N: 028/HII SID

Mfg: Vector

Test Date: 2/25/03

Proj./Seg. No.: 20020455/1200

Test Eng.: Virginia Watters

ITEM	POST-USE
HEAD: Driver	
Head Skin Condition	X
Head Ballast Condition	X
NECK:	
Rubber Condition and Separation From End Caps	X
THORAX:	
Jacket Condition	X
Arm Foam Condition	X
Damper and Chest Pot Movement and Condition	X
Rib Cage Spring and Support Assembly Condition	X
Rib Wrap Condition	X
Abdomen condition	X
Thorax/Lumbar Spine Bolts	X
Lumbar Spine Condition and Separation From End Caps	X
PELVIS:	
Illioc Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
LEGS AND FEET:	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: Jacket zipper is starting to come off the dummy on the back left bottom area.

Inspection Completed By: Jack Willeke

Date: 2/28/03

Appendix D

Test Equipment List and Calibration Information

Sign Convention
SAE J211 MAR95

Accelerometers:

+X: Forward
+Y: Rightward
+Z: Downward

Potentiometers:

+Chest longitudinal deflection: Outward
+Chest lateral deflection: Rightward
+Seat belt displacement: Outward
+Seat belt extension: Elongation
+Knee slider displacement: Distance between femur and tibia
increased (in relation to a seated
dummy)

Rotation potentiometers:

+About the X-axis: Left foot-eversion
Right foot-inversion
+About the Y-axis: Left/right foot-dorsiflexion
+About the Z-axis: Left foot-internal
Right foot-external

Load cells:

+Femur force: Tension
+Seat belt force: Tension
+Barrier force: Tension

Neck load cells:

+X force: Head pushed rearward
+Y force: Head pushed leftward
+Z force: Head pulled upward (tension on neck)
+X moment: Left ear rotating toward left shoulder
+Y moment: Chin rotating toward chest
+Z moment: Chin rotating toward left shoulder

Tibia load cells:

+X force: Ankle forward, knee rearward
+Y force: Ankle rightward, knee leftward
+Z force: Tension
+X moment: Bottom of tibia moving leftward
+Y moment: Bottom of tibia moving rearward

Sign Convention, Cont'd.
SAE J211 MAR95

Lumbar load cells: +X force: Chest rearward, pelvis forward
+Y force: Chest leftward, pelvis rightward
+Z force: Chest upward, pelvis downward
+X moment: Left shoulder toward left hip
+Y moment: Sternum toward front of legs
+Z moment: Right shoulder forward, left shoulder rearward

Frequency Response Classes
SAE J211 MAR95

<u>Typical Test Measurements</u>	<u>Channel Class</u>
Vehicle Structural Accelerations for use in:	
Total vehicle comparison	60
Collision simulation input	60
Component analysis	600
Integration for velocity or displacement	180
Barrier Face Forces	60
Belt Restraint System Loads	60
Anthropomorphic Test Device	
Head accelerations (linear and angular)	1000
Neck	
Forces	1000
Moments	600
Thorax	
Spine accelerations	180
Rib accelerations	1000
Sternum accelerations	1000
Deflections	600
Lumbar	
Forces	1000
Moments	1000
Pelvis	
Accelerations	1000
Forces	1000
Moments	1000
Femur/Knee/Tibia/Ankle	
Forces	600
Moments	600
Displacements	180
Sled Accelerations	60
Steering Column Loads	600
Head form Accelerations	1000

The direction column on the following sheets describes the transducer output as mounted and wired in the test location. The polarity column indicates whether a polarity change occurred during data acquisition to conform to J211 MAR95. See Report Sign Convention sheet for description of data output as presented in the report: occasionally channels have been adjusted in post-acquisition processing to conform to J211 MAR95.

Channel Report

2/25/2003 8:30:44 AM

Name of Test 030225

System MINIDAU

Name of DAU DAUB

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	EVENT	SYNCB	SYNCB		5.12	V	+ 10/15/2002	OK -1	TRC	Event
0002	J37150	BCGXG1	MDB CG X-AXIS	FWD	601.10829	g	+ 7/11/2002	--- -1	Endevco	7264-2000TZ
0003	J38043	BCGYG1	MDB CG Y-AXIS	RT	591.76384	g	+ 7/11/2002	--- -1	Endevco	7264-2000TZ
0004	J27288	BCGZG1	MDB CG Z-AXIS	UP	598.64136	g	- 7/11/2002	--- -1	Endevco	7264-2000TZ
0005	P25324	LRRXG1	MDB LT RR X-AXIS	LT	598.41047	g	- 1/22/2003	OK -1	Endevco	7264C-2K-2-180
0006	P24531	LRRYG1	MDB LT RR Y-AXIS	LT	593.27238	g	- 11/21/2002	OK -1	Endevco	7264C-2K-2-180

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030225

Channel Report

2/25/2003 8:30:44 AM

Name of Test 030225

System MINIDAU

Name of DAU DAUC

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	P25307	HEDXG1	Head Accel X	Rwd	809.10240	g	- 1/22/2003	OK 028nlr	Endevco	7264C-2K-2-180
0002	P25326	HEDYG1	Head Accel Y	Lft	808.84676	g	- 1/22/2003	OK 028nlr	Endevco	7264C-2K-2-180
0003	P25298	HEDZG1	Head Accel Z	Up	807.64741	g	- 1/22/2003	OK 028nlr	Endevco	7264C-2K-2-180
0004	P25318	HEDXR1	Head Accel X Red	Rwd	810.61397	g	- 1/22/2003	OK 028nlr	Endevco	7264C-2K-2-180
0005	P25301	HEDYR1	Head Accel Y Red	Lt	802.80983	g	- 1/22/2003	OK 028nlr	Endevco	7264C-2K-2-180
0006	P25305	HEDZR1	Head Accel Z Red	Up	807.23993	g	- 1/21/2003	OK 028nlr	Endevco	7264C-2K-2-180
0007	1716A-1532-FX	NEKXF1	Neck Force X	Hd	8897.6474	N	- 8/29/2002	OK 028nlr	Denton	1716A
0008	1716A-1532-FY	NEKYF1	Neck Force Y	Hd	8895.2129	N	+ 8/29/2002	OK 028nlr	Denton	1716A
0009	1716A-1532-FZ	NEKZF1	Neck Force Z	Hd	13348.030	N	+ 8/29/2002	OK 028nlr	Denton	1716A
0010	1716A-1532-MX	NEKXM1	Neck Moment X	Rt Ear	282.53421	N·m	- 8/29/2002	OK 028nlr	Denton	1716A
0011	1716A-1532-MY	NEKYM1	Neck Moment Y	Chn	282.61056	N·m	+ 8/29/2002	OK 028nlr	Denton	1716A
0012	1716A-1532-MZ	NEKZM1	Neck Moment Z	Chn	281.87299	N·m	+ 8/29/2002	OK 028nlr	Denton	1716A
0013	P25231	LURYG1	Left Upper Rib Y	Rgt	806.24842	g	+ 12/13/2002	OK 028nlr	Endevco	7264C-2K-2-180
0014	P25371	LURYR1	Left Upper Rib Red Y	Rgt	791.95668	g	+ 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
0015	P25075	LLRYG1	Left Lower Rib Y	Rgt	801.25195	g	+ 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
0016	P25076	LLRYR1	Left Lower Rib Red Y	Rgt	797.43326	g	+ 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
0017	P25261	T12YG1	Lower Spine Y	Lft	401.56862	g	- 11/21/2002	OK 028nlr	Endevco	7264C-2K-2-180
0018	P25374	T12YR1	Lower Spine Red Y	Lft	396.97923	g	- 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
0019	P25063	PEVYG1	Pelvis Accel Y	Lft	400.40353	g	- 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
0020	P25074	PEVYR1	Pelvis Accel Red Y	Lft	397.60196	g	- 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
0021	P25258	RFSXG1	RGT SIDE SILL FRNT ST X	FWD	401.96586	g	+ 11/21/2002	OK -1	Endevco	7264C-2K-2-180
0022	P24493	RFSYG1	RGT SIDE SILL FRNT ST Y	LT	984.61538	g	- 11/22/2002	OK -1	Endevco	7264C-2K-2-180
0023	P25320	RFSZG1	RGT SIDE SILL FRNT ST Z	UP	400.51315	g	- 1/22/2003	OK -1	Endevco	7264C-2K-2-180
0024	P25317	RRSXG1	RGT SIDE SILL RR ST X	FWD	401.11560	g	+ 1/22/2003	OK -1	Endevco	7264C-2K-2-180
0025	P24506	RRSYG1	RGT SIDE SILL RR ST Y	LT	993.78881	g	- 11/21/2002	OK -1	Endevco	7264C-2K-2-180
0026	P22031	RRSZG1	RGT SIDE SILL RR ST Z	UP	397.59270	g	- 9/9/2002	OK -1	Endevco	7264C-2K-2-180
0027	P25295	RDKXG1	RR FLRPAN ABV AXLE X	FWD	1016.3569	g	+ 1/22/2003	OK -1	Endevco	7264C-2K-2-180
0028	P25265	RDKYG1	RR FLRPAN ABV AXLE Y	LT	988.95155	g	- 11/21/2002	OK -1	Endevco	7264C-2K-2-180
0029	P24566	RDKZG1	RR FLRPAN ABV AXLE Z	UP	1003.3313	g	- 11/21/2002	OK -1	Endevco	7264C-2K-2-180
0030	P23837	LRSYG1	LFT SIDE SILL RR ST Y	RT	990.23305	g	+ 2/7/2003	OK -1	Endevco	7264C-2K-2-180
0031	J35574	LFSYG1	LFT SIDE SILL FRNT ST Y	RT	1020.5505	g	+ 9/10/2002	OK -1	Endevco	7264-2000TZ
0032	J36698	LFCYG1	LFT FRNT DOOR CTRLN Y	RT	1559.5491	g	+ 7/11/2002	--- -1	Endevco	7264-2000TZ

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030225

Channel Report

2/25/2003 8:30:44 AM

Name of Test 030225

System MINIDAU

Name of DAU DAUD

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	J35900	LFMYG1	LFT FRNT DOOR MIDRR Y	RT	1483.5419 g	+	7/11/2002	---	-1	Endevco 7264-2000TZ
0002	J35750	LFUYG1	LFT FRNT DOOR UPPER C/L	RT	1499.7070 g	+	7/11/2002	---	-1	Endevco 7264-2000TZ
0003	P25316	LLBYG1	LFT LOWER B-POST Y	LT	1508.1445 g	-	1/22/2003	OK	-1	Endevco 7264C-2K-2-180
0004	P25319	LUBYG1	LFT MID B-POST Y	LT	1464.6984 g	-	1/22/2003	OK	-1	Endevco 7264C-2K-2-180
0005	J40759	LLAYG1	LFT LOWER A-POST Y	LT	1536.6146 g	-	12/3/2002	OK	-1	Endevco 7264-2000TZ
0006	P25310	LUAYG1	LFT MID A-POST Y	LT	1529.5910 g	-	1/22/2003	OK	-1	Endevco 7264C-2K-2-180
0007	J35808	LFTYG1	LFT FRNT ST TRK Y	RT	1466.3764 g	+	7/11/2002	---	-1	Endevco 7264-2000TZ
0008	P24561	VCGXG1	VEH C/G X	FWD	1000.9775 g	+	11/22/2002	OK	-1	Endevco 7264C-2K-2-180
0009	P24596	VCGYG1	VEH C/G Y	LT	987.65432 g	-	11/20/2002	OK	-1	Endevco 7264C-2K-2-180
0010	P23805	VCGZG1	VEH C/G Z	UP	999.37539 g	-	2/19/2003	OK	-1	Endevco 7264C-2K-2-180

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030225

Digital and System Channel Report

2003-02-25 08:30:25

Name of Test 030225

System MINIDAU

Name of DAU DAUB descriptio

enable Channel
Yes 0501

Short Name
DIGB

Type
dig0

Data File Module Type
DATB0501 KM3710 Controller

bit position	bit	short	long	descriptio
MSB = bit 15	1	MDBR1	MDB RT SIDE SWITCH	
bit 14	1	MDBL1	MDB LT SIDE SWITCH	
bit 13	0			
bit 12	0			
bit 11	0			
bit 10	0			
bit 09	0			
bit 08	0			
bit 07	0			
bit 06	0			
bit 05	0			
bit 04	0			
bit 03	0			
bit 02	0			
bit 01	0			
LSB = bit 00	0			

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030225

Digital and System Channel Report

2003-02-25 08:30:23

Name of Test 030225

System MINIDAU

Name of DAU DAUC descriptio

enable Channel

Short Name

Type

Data File

Module Type

Yes 0501

DIGC

dig0

DATC0501

KM3710 Controller

bit position	bit	short	long	descriptio
MSB = bit 15	1	SHLET1	DRIV. SHOULDER CONTACT	
bit 14	1	PEVET1	DRIV. PELVIS CONTACT	
bit 13	0			
bit 12	0			
bit 11	0			
bit 10	0			
bit 09	0			
bit 08	0			
bit 07	0			
bit 06	0			
bit 05	0			
bit 04	0			
bit 03	0			
bit 02	0			
bit 01	0			
LSB = bit 00	0			

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030225

Dummy 028nlr Type SID/H3 Description NHTSA - 028n SID-LEFT IMP. CONFIG. w/RED ACCELS CAL DUE 6-19-03(DKS 2-21-03)J21

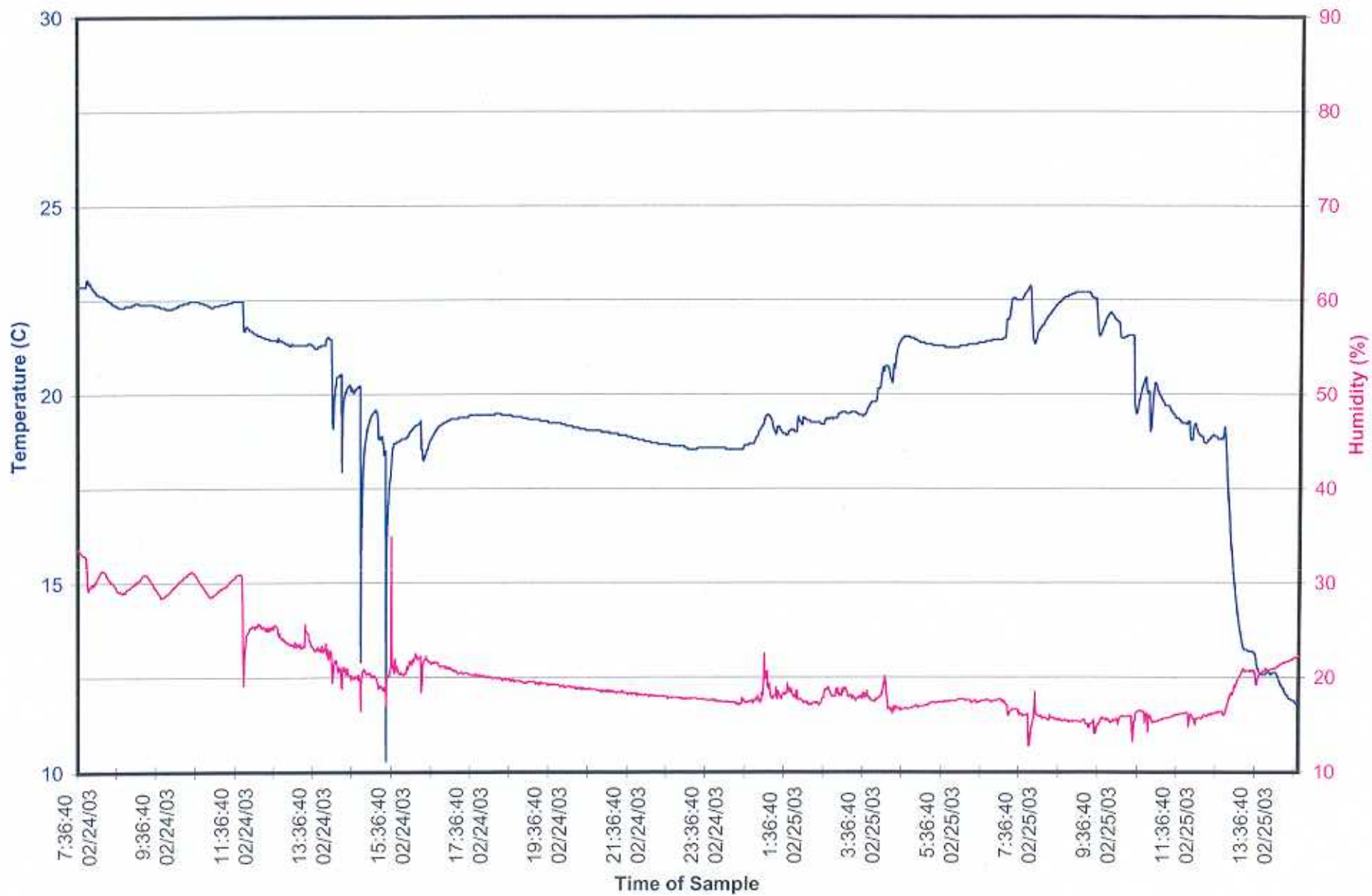
Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
HEDXG	Head Accel X	7264C-2K-2-18	P25307	Endevco	0.01808 g	2000	1/22/03	Rwd	1
HEDYG	Head Accel Y	7264C-2K-2-18	P25326	Endevco	0.0211 g	2000	1/22/03	Lft	1
HEDZG	Head Accel Z	7264C-2K-2-18	P25298	Endevco	0.02186 g	2000	1/22/03	Up	1
HEDXR	Head Accel X Red	7264C-2K-2-18	P25318	Endevco	0.01914 g	2000	1/22/03	Rwd	1
HEDYR	Head Accel Y Red	7264C-2K-2-18	P25301	Endevco	0.01993 g	2000	1/22/03	Lt	1
HEDZR	Head Accel Z Red	7264C-2K-2-18	P25305	Endevco	0.02046 g	2000	1/21/03	Up	1
NEKXF	Neck Force X	1716A	1716A-1532-FX	Denton	0.000197066 N	8896.4	8/29/02	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-1532-FY	Denton	0.000187489 N	8896.4	8/29/02	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1532-FZ	Denton	9.73546E-05 N	13344.6	8/29/02	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-1532-MX	Denton	0.005922124 N·m	282.5	8/29/02	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1532-MY	Denton	0.005901239 N·m	282.5	8/29/02	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-1532-MZ	Denton	0.008294159 N·m	282.5	8/29/02	Chn to Lt Shld	0
LUPYG	Left Upper Rib Y	7264C-2K-2-18	P25231	Endevco	0.01764 g	2000	12/13/02	Rgt	0
LUPYR	Left Upper Rib Red Y	7264C-2K-2-18	P25371	Endevco	0.02155 g	2000	12/19/02	Rgt	0
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P25075	Endevco	0.01775 g	2000	12/19/02	Rgt	0
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P25076	Endevco	0.01566 g	2000	12/19/02	Rgt	0
T12YG	Lower Spine Y	7264C-2K-2-18	P25261	Endevco	0.017 g	2000	11/21/02	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P25374	Endevco	0.02186 g	2000	12/19/02	Lft	1
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P25063	Endevco	0.01801 g	2000	12/19/02	Lft	1
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P25074	Endevco	0.01764 g	2000	12/19/02	Lft	1

030255

55/28 KPH 90 DEGREE NCAP SIDE IMPACT 030225

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030225



SIDE IMPACTOR BARRIER CERTIFICATION

Date: July 11, 2002

To: Transportation Research
Ship & Rec Bldg 50
10820 St. Route 347
East Liberty, OH 43319-0367

PURCHASE ORDER INFORMATION

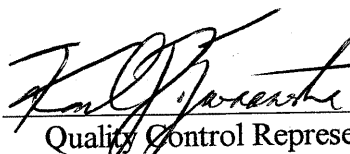
Customer P.O. Number: 018767
Work Order Number: 13552
Quantity: 05 pieces


CORE INFORMATION

Core Type: PAMG-3/8-1.6-001-P-5052-T
Measured Cell Size: 0.375 inches
Measured Density: 1.6 pcf

Unit Numbers: 050C0602 - 01 pc.
050A0602 - 01 pc.
049A0602 - 01 pc.
048C0602 - 01 pc.
035C0602 - 01 pc.

This is to certify that the aluminum honeycomb core supplied, under the unit numbers provided, meets the crush requirements of 45 psi +/- 2.5 psi as per DWG# DSL-1285.


Quality Control Representative
Karl D. Zwaanstra



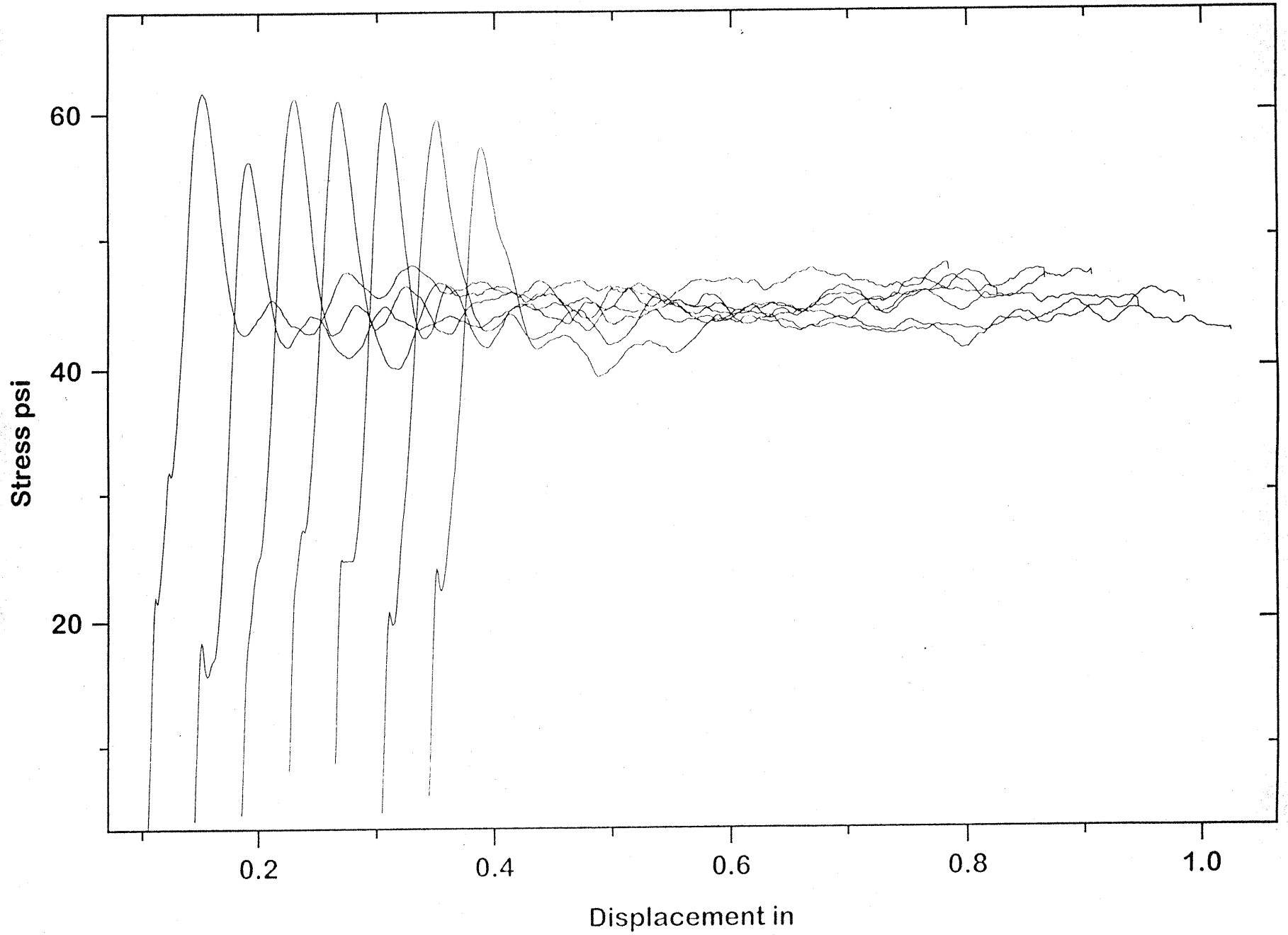


Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 049A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	46.16	46.20	46.90
2	45.19	44.51	45.39
3	45.18	44.59	45.82
4	44.12	45.03	46.00
5	44.61	44.57	45.10
6	43.71	42.95	43.74
7	43.36	43.10	44.13

BLOCK # 049A0602 Sample ID: IN224645



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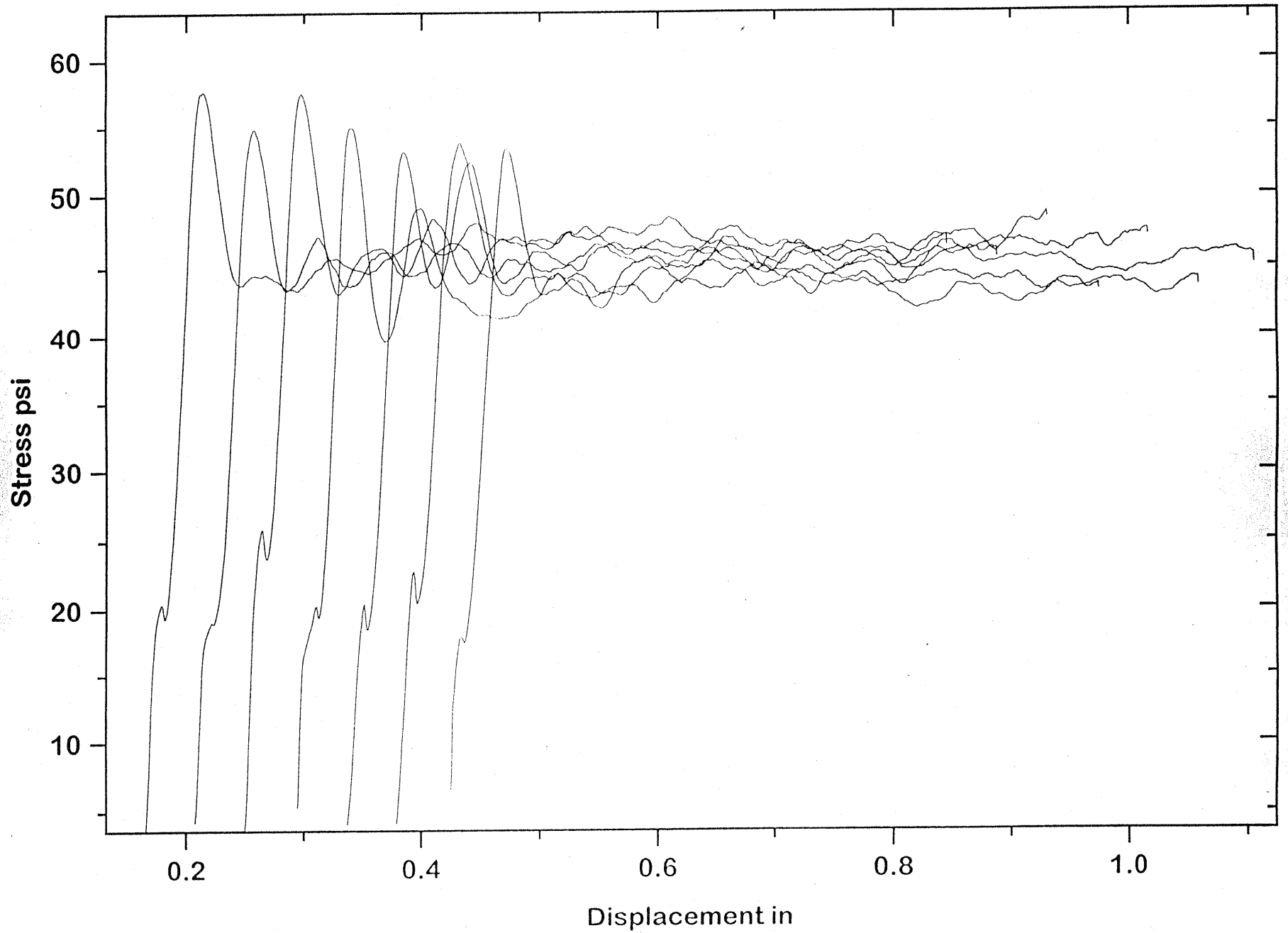
030225

Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: **048C0602**

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	47.11	47.40	46.45
2	45.53	45.74	45.30
3	46.53	46.08	46.11
4	43.56	44.04	42.94
5	45.83	45.92	46.60
6	45.02	44.18	43.70
7	44.58	45.48	44.82

BLOCK # 048C0602 Sample ID: IN224702



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030225

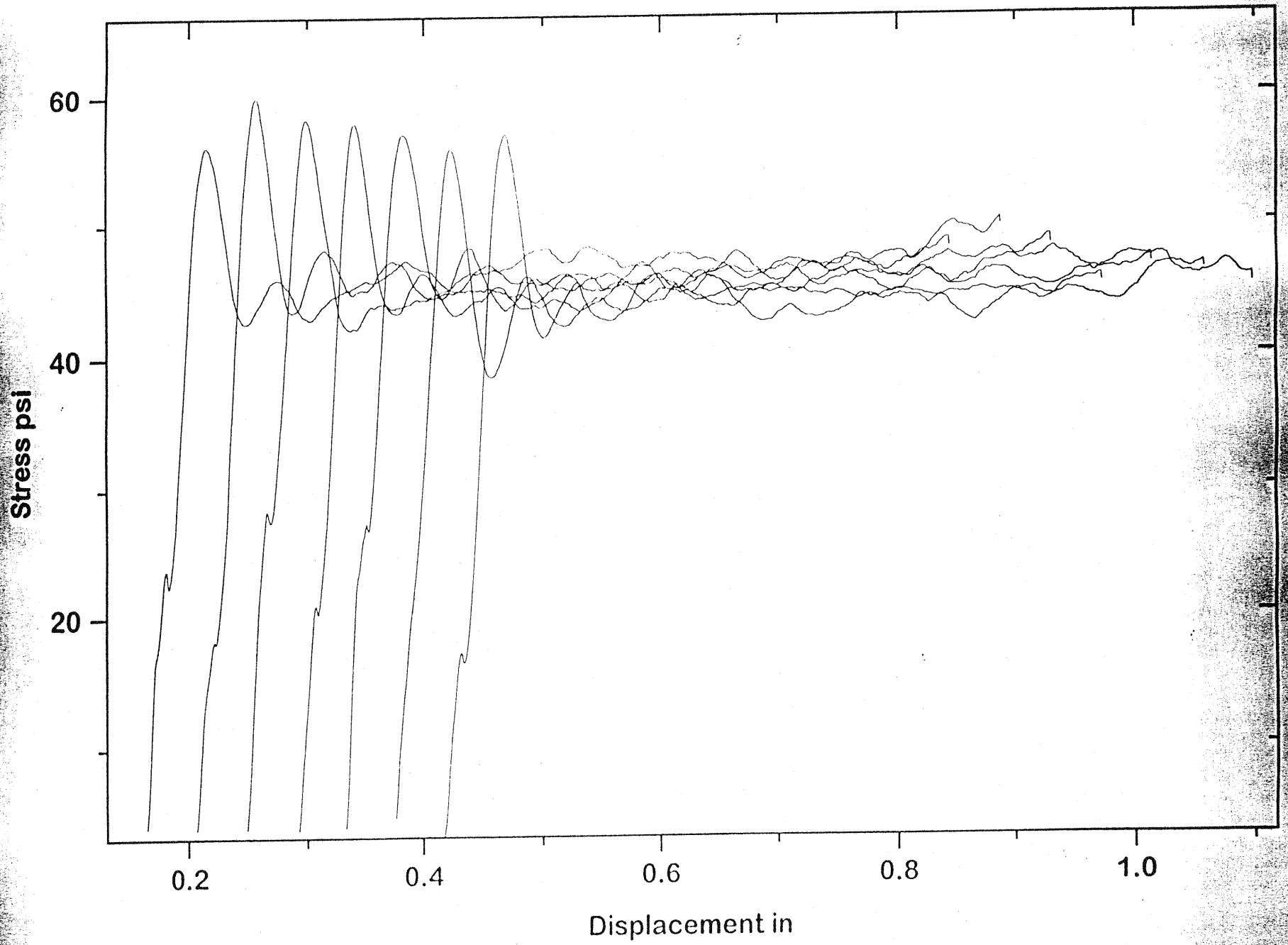
Crush Data

45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 050C0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	45.68	45.06	46.48
2	47.32	46.96	47.22
3	45.64	46.03	45.94
4	44.46	44.58	44.57
5	46.31	46.61	47.40
6	43.73	44.01	44.57
7	45.34	45.64	46.59

BLOCK # 050C0602 Sample ID: IN224700



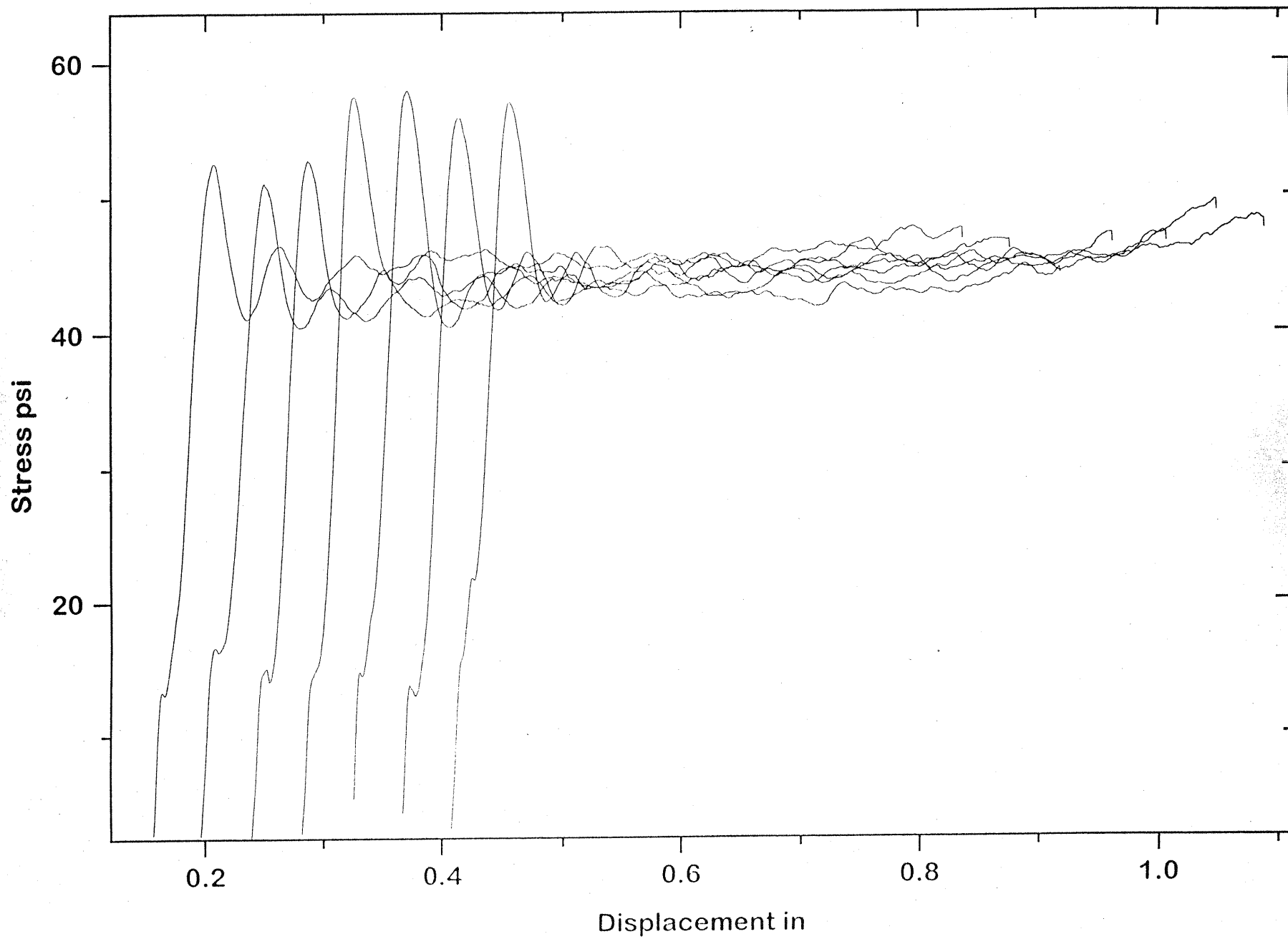


Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 050A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	45.45	45.57	46.30
2	43.96	44.38	44.78
3	43.82	42.82	43.14
4	44.82	45.12	45.41
5	43.48	44.31	45.21
6	44.66	45.38	45.21
7	45.66	45.02	45.87

BLOCK # 050A0602 Sample ID: IN224649



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030225

SIDE IMPACTOR BARRIER CERTIFICATION

Date: July 11, 2002

To: Transportation Research
Ship & Rec Bldg 50
10820 St. Route 347
East Liberty, OH 43319-0367

PURCHASE ORDER INFORMATION

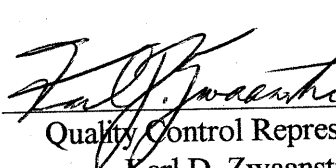

Customer P.O. Number: 018767
Work Order Number: 13552
Quantity: 05 pieces

CORE INFORMATION

Core Type: PCGA-1/4-5.2-P-3003-T
Measured Cell Size: 0.250 inches
Measured Density: 5.2 pcf

Unit Numbers: 035A0602 - 03 pcs.
058B0502 - 02 pcs.

This is to certify that the aluminum honeycomb core supplied, under the unit numbers provided, meets the crush requirements of 232 – 250 psi as per DWG# DSL-1285.

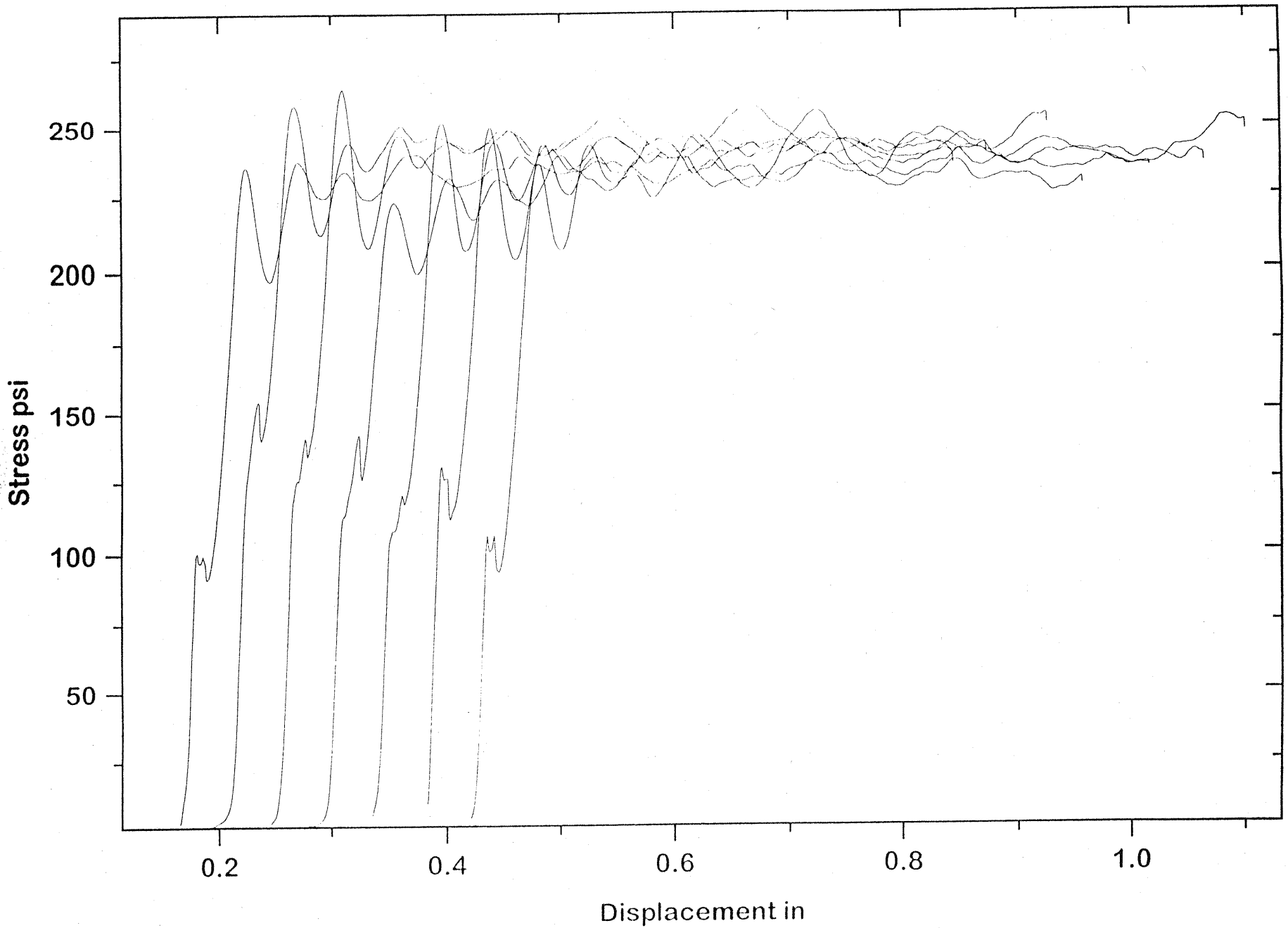


Quality Control Representative
Karl D. Zwaanstra

Crush Data
232 - 250 psi per DWG # DSL-1285

Block Number: 058B0502

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	234.88	233.03	238.26
2	245.89	246.74	234.83
3	244.45	242.80	244.84
4	233.66	232.58	232.66
5	241.14	241.30	238.97
6	241.47	241.27	241.95
7	241.53	238.17	235.74

BLOCK # 058B0502 Sample ID: IN224430



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030225

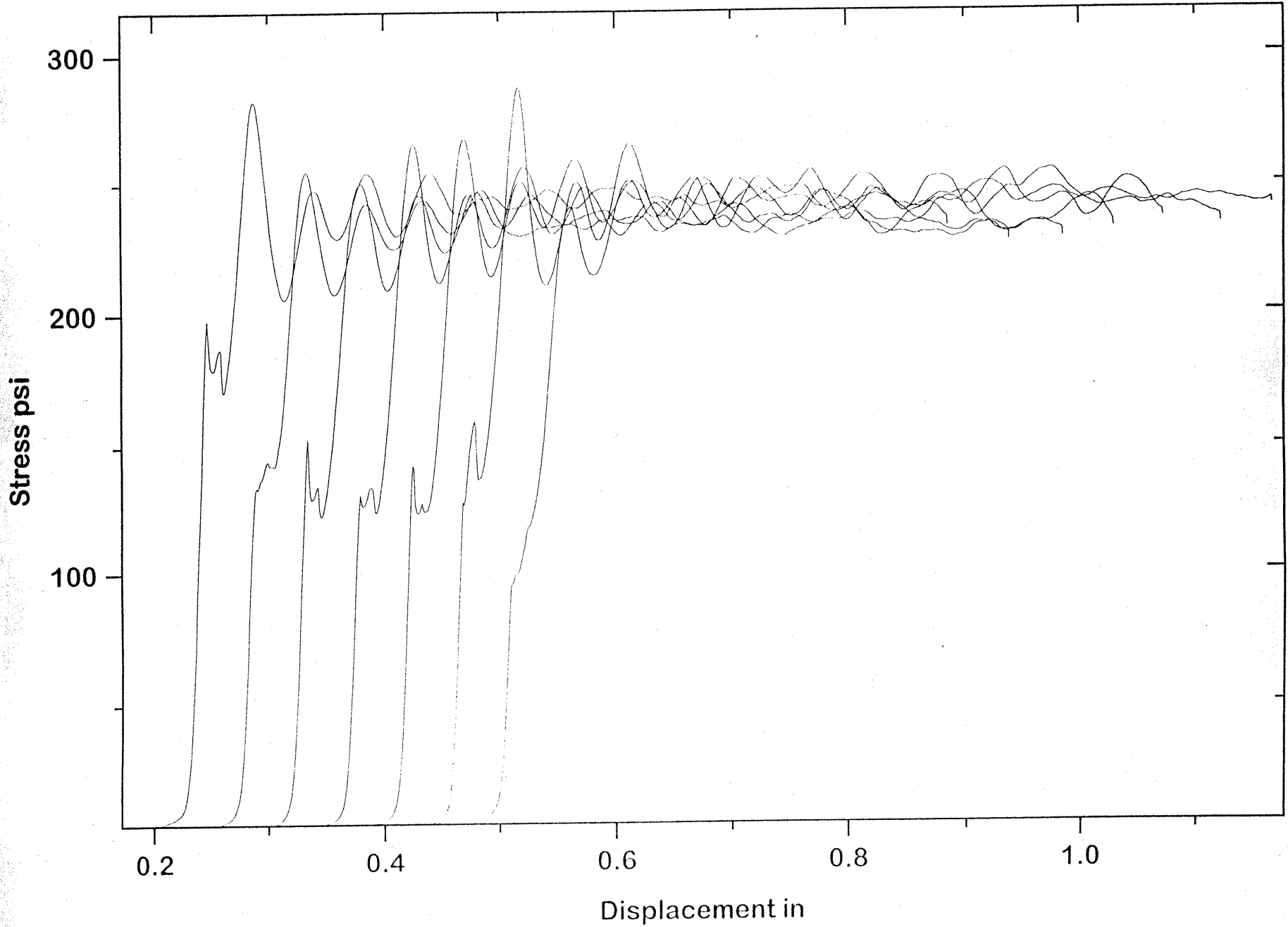


Crush Data
232 - 250 psi per DWG # DSL-1285

Block Number: 035A0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	244.40	243.67	243.31
2	233.87	235.01	232.86
3	236.81	234.93	233.33
4	239.66	238.82	236.92
5	244.52	242.91	243.54
6	246.13	246.27	243.76
7	244.63	245.45	243.59

BLOCK # 035A0602 Samples: IN224610



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030225

Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 035C0602

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	46.57	46.17	46.74
2	45.67	45.64	47.19
3	45.73	45.27	45.40
4	44.47	44.96	45.89
5	46.95	47.06	46.69
6	45.56	47.05	47.20
7	45.38	45.66	45.78

BLOCK # 035C0602 Sample ID: IN224647

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030225

