

Report Number: 214-TRC-03-013

Safety Compliance Testing For FMVSS 214

Side Impact Protection

Indicant

Nissan Co., Ltd.

2004 Nissan Quest MPV

NHTSA Number: C45205

Transportation Research Center Inc.

10820 State Route 347

P. O. Box B-67

East Liberty, OH 43319



Test Date: January 21, 2004

Final Report Date: February 3, 2004

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

Office of Vehicle Safety Compliance

400 Seventh Street, S. W.

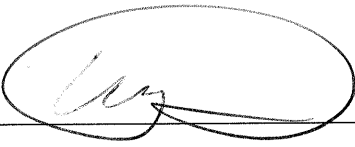
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16. Abstract This 56/28 km/h 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject vehicle, a 2004 Nissan Quest MPV in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-214D-06 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 January 21, 2004. The impact velocity of the Moving Deformable Barrier (MDB) was 62.1 km/h, and the ambient temperature at the struck (Driver side) side of the target vehicle at the time of impact was 21° C. The target vehicle's post-test maximum crush was 397 mm at Level 2. The test or target vehicle's performance is given below (with FIR filter): <table border="0"> <thead> <tr> <th></th> <th><u>Front SID HIII</u></th> <th></th> <th><u>Rear SID HIII</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td><u>50.1</u></td> <td>g's</td> <td><u>45.3</u></td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td><u>48.7</u></td> <td>g's</td> <td><u>60.1</u></td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td><u>55.0</u></td> <td>g's</td> <td><u>53.3</u></td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td><u>52.6</u></td> <td>g's</td> <td><u>56.7</u></td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td><u>63.6</u></td> <td>g's</td> <td><u>94.8</u></td> <td>g's</td> </tr> </tbody> </table> The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during side impact event.				<u>Front SID HIII</u>		<u>Rear SID HIII</u>		Left Upper Rib Acceleration:	<u>50.1</u>	g's	<u>45.3</u>	g's	Left Lower Rib Acceleration:	<u>48.7</u>	g's	<u>60.1</u>	g's	Lower Spine Acceleration:	<u>55.0</u>	g's	<u>53.3</u>	g's	Thoracic Trauma Index, (TTI):	<u>52.6</u>	g's	<u>56.7</u>	g's	Pelvis Acceleration (PEV):	<u>63.6</u>	g's	<u>94.8</u>	g's
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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 2004 Nissan Quest MPV. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 2001) except the test was conducted 8 km/h (5 mph) faster than the standard specifies.

Section 2

Summary of Side Impact Test

A 2004 Nissan Quest MPV was impacted on the driver side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 62.1 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 January 21, 2004. Pre-test and post-test photographs of the test vehicle, the moving deformable barrier (MDB), and the side impact dummies (SID HIIIs) are included in Appendix A.

Two restrained Side Impact Dummies (SID HIIIs) were placed in the driver (Pos. #1) and left rear (Pos. #4) designated seating positions according to the instructions specified in the OVSC Side Impact Laboratory Test Procedure (TP-214D-06, dated July 2001). Both SID HIII dummies were certified prior to this test. The side impact test was documented by one real-time camera and 9 high-speed cameras. Camera locations and other pertinent camera information are included in this report.

The SID HIIIs were instrumented with the following accelerometers:

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 HIII) configuration and verification test data can be found in Appendix C. A total of sixty-eight (68) 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 HIII	Rear SID HIII
TTI (g)	52.6	56.7
PEV (g)	63.7	94.8

Head Injury Criteria (HIC)

Injury Criteria	Front SID HIII	Rear SID HIII
HIC	65	313
t ₁ (ms)	55.60	64.88
t ₂ (ms)	79.36	100.88
Average Acceleration t ₁ - t ₂ (g)	23.74	37.66

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

Neck Injury Criteria

Maximum Values	Front SID HIII	Rear SID HIII
Neck X-axis Force (N)	-510	-553
Neck Y-axis Force (N)	350	707
Neck Z-axis Force (N)	920	2211
Moment About X-axis (Nm) ¹	-34.6	-72.6
Moment About Y-axis (Nm)	37.3	-34.7
Moment About Z-axis (Nm)	37.6	19.5

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

Data Acquisition Explanations

The following Y-axis vehicle acceleration channels recorded questionable data spikes throughout the test:

Left side sill at rear seat, LRSYG1
Left side sill at front seat, LFSYG1

The calculated velocity and displacement were also affected.

Left lower B-post, LLBYG1
Left middle B-post, LMBYG1
Left lower A-post, LLAYG1
Left middle A-post, LMAYG1
Left front seat track, LFTYG1

The calculated velocity was also affected.

Section 3

Summary of Test Results

Data Sheet 1

General Test Vehicle Parameter Data

Test Vehicle Information:

Vehicle Year/Make/Model: 2004 Nissan Quest
Vehicle Body Style/Color: MPV/Blue VIN: 5N1BV28U44N328541
Vehicle NHTSA No.: C45205 Build Date: 10/03
Engine Data: 6 Cylinders; CID; 3.5 Liters; cc
Placement: Longitudinal; or X Lateral; or Horizontal
Transmission: 4 Speed; Manual; Automatic; Overdrive
Final Drive: RWD; X FWD; Four-Wheel Drive
Odometer Reading: 155 miles
Options: X A/C; X Power steering; X Pwr. brakes; X Power windows

Data From Vehicle's Tire Placard:

Tire Pressure (at capacity)* 240 kPa Front; 240 kPa Rear
Recommended Tire Size: P225/65R16
Tires on Test Vehicle: P225/65R16 Manufacturer: Goodyear, Eagle LS2

Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear; 2 3rd seat; 7 Total
Type of Front Seats: X Bucket; Bench; Split bench
Type of Front Seat Back: Fixed; X Adjustable with X Lever or Knob
Vehicle Max. Capacity Loading = 546 kg (A)
No. of Occupants x 68.04 kg. = 476 kg (B)
Vehicle Cargo Capacity (A-B) = 70 kg

Test Vehicle Delivered Weight With Maximum Fluids:

Left Front	=	<u>570.0</u> kg	Left Rear	=	<u>389.5</u> kg
Right Front	=	<u>556.0</u> kg	Right Rear	=	<u>414.5</u> kg
Total Front	=	<u>1126.0</u> kg	Total Rear	=	<u>804.0</u> kg
Front % of Total Weight	=	<u>58.3</u> %	Rear % of Total Weight	=	<u>41.7</u> %
Total Weight	=	<u>1930.0</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 = 1930.0 kg (A)

Maximum Cargo Carrying Capacity of Test Vehicle = 70.0 kg (B)

Weight of Instrumented Side Impact Dummies (2 X 84.0 kg) = 168.0 kg (C)

Test Vehicle Target Weight: = 2168.0 kg (A+B+C)

Fully Loaded Test Vehicle (UDW + 2 SID HIII s + Cargo):

Left Front = 634.0 kg Left Rear = 489.0 kg

Right Front = 557.0 kg Right Rear = 481.0 kg

Total Front = 1191.0 kg Total Rear = 970.0 kg

Front % of Total Weight = 55.1 % Rear % of Total Weight = 44.9 %

Total Weight = 2161.0 kg

As Tested Weight of Test Vehicle (2 SID HIII s + Cargo + Equipment & Instrumentation):

Left Front = 620.6 kg Left Rear = 489.5 kg

Right Front = 579.6 kg Right Rear = 471.6 kg

Total Front = 1200.2 kg Total Rear = 961.1 kg

Front % of Total Weight = 55.5 % Rear % of Total Weight = 44.5 %

Total Weight = 2161.3 kg

Test Vehicle Attitude (all dimensions in millimeters):

As Delivered	Fully Loaded	Ready For Test
Right Front <u>734</u>	Right Front <u>720</u>	Right Front <u>722</u>
Left Front <u>727</u>	Left Front <u>715</u>	Left Front <u>716</u>
Right Rear <u>738</u>	Right Rear <u>710</u>	Right Rear <u>723</u>
Left Rear <u>737</u>	Left Rear <u>710</u>	Left Rear <u>712</u>

Test Vehicle Wheelbase: 3150 mm

C.G. = 1401 mm rearward of front wheel centerline

Total Vehicle Length:

Right Side = 4995 mm

Left Side = 4995 mm

Centerline = 5180 mm

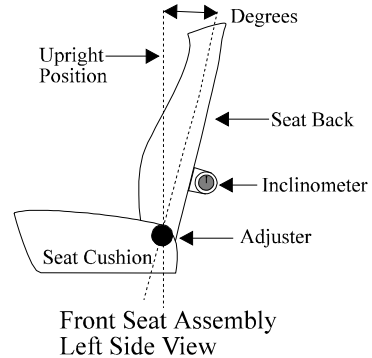
Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

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: 10th notch rearward of full forward

Total Length of Fore/Aft Adjustment Travel: 240 mm

Total Number of Adjustment Positions or Detents: 21

Front Seat Back Adjustment Position: The seat back was adjusted to 11° at the headrest posts without the dummy in the seat

Seat Back Torso Angle: 10.9 degrees

Second Position Seat Placement: N/A

Total Length Of Fore/Aft Adjustment Travel: N/A mm

Seat Back Adjustment Position: The seat back was adjusted to 10.5° at the headrest posts without the dummy in the seat.

Adjustable Steering Column Position: Two notches up from full down (27° steering column angle.

Window Positions:

Right Front: Open

Right Rear: Open

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:

76.1 liters (fuel tank usable capacity)

72.3 liters used in test (vehicle was fueled to 95% capacity indicated in manufacturer's information for testing to FMVSS 301 requirements)

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

Wheelbase = 3150 millimeters

Intended impact point is 508 millimeters rearward of front axle centerline

Actual Impact Point is 515 millimeters rearward of front axle centerline

Data Sheet 2

Test Vehicle Summary of Results

Vehicle Year/Make/Model: 2004/Nissan/Quest

Body Style: MPV

VIN: 5N1BV28U44N328541

NHTSA No.: C45205

Build Date: 10/03

Test Date: 01/21/04

Vehicle Overall Length = 5180 mm

Overall Width = 1980 mm

Vehicle Test Weight (Pre-Test):

Left Front = 620.6 kg Left Rear = 489.5 kg

Right Front = 579.6 kg Right Rear = 471.6 kg

Total Front = 1200.2 kg Total Rear = 961.1 kg

Total Weight = 2161.3 kg

Wheelbase = 3150 mm

Longitudinal C.G. From Center Of Front Axle = 1401 mm

Impact Angle With Respect To Impactor = 90 degrees

Impact Point:

Actual Impact Point is 7 mm right of nominal impact ref. line (Lateral)

Actual Impact Point is 8 mm up from nominal impact point (Vertical)

Maximum Exterior Static Crush:

1. Level 1 (265 mm above ground) = 146 mm

2. Level 2 (670 mm above ground) = 397 mm

3. Level 3 (717 mm above ground) = 396 mm

4. Level 4 (1002 mm above ground) = 338 mm

5. Level 5 (1660 mm above ground) = 53 mm

Maximum Post-Test Intrusion = 397 mm

Occupants:

Front Passenger

Rear Passenger

Dummy Identification 059 906

Restraints Used 3-pt seat belt; side head airbag 3-pt seat belt; side head airbag

Instrumentation:

Number of Vehicle Data Channels: = 21

Number of Cameras: Onboard = 3 Offboard = 8 Total = 11

Data Sheet 3

Moving Deformable Barrier(MDB) Summary

MDB Face Manufacturer And Serial Number:

Plascore, 013b1003 019a1103

Position Of Impactor (MDB) On Monorail:

Crabbed 27° to the left

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 = 1100 mm

MDB Weight:

Left Front = 370.4 kg Left Rear = 315.2 kg

Right Front = 414.2 kg Right Rear = 264.0 kg

Total Front = 784.6 kg Total Rear = 579.2 kg

Total MDB Weight = 1363.8 kg

Impact Angle (MDB C/L to Target Vehicle C/L) = 90 degrees

Impact Speed = 62.1 km/h

Maximum Static Crush of Honeycomb Impact Face:

1. Row A at Center of Bumper Level = N/A¹ millimeters

2. Row B at Top of Bumper Level = 68 millimeters

3. Row C at Mid Level = 39 millimeters

4. Row D at Top of Stack Level = 61 millimeters

Instrumentation:

Number of MDB Data Channels = 5

¹ Bumper element separated during impact.

Data Sheet 4

Post-Test Observations

Vehicle: 2004 Nissan Quest MPV

NHTSA No.: C45205

Visible Dummy Contact Points:

	<u>Left Front SID HIII</u>	<u>Left Rear SID HIII</u>
Head:	<u>Side head airbag, head restraint</u>	<u>Side head airbag, window sill</u>
Upper Torso:	<u>Door panel</u>	<u>Door panel</u>
Lower Torso:	<u>Door panel</u>	<u>Door panel</u>
Left Knee:	<u>Door panel</u>	<u>Door panel</u>
Right Knee:	<u>None</u>	<u>None</u>

Door Opening:

	<u>Left Side</u>	<u>Right Side</u>
Front:	<u>Jammed and latched</u>	<u>Easy</u>
Rear:	<u>Jammed and latched</u>	<u>Easy</u>

MDB Distance From Target Impact Point:

Vertical: 8 mm up from target

Horizontal: 7 mm right from target

Arm Rest Locations:

Front: 171 mm below the bottom of the window

Rear: N/A

Seat Movement:

Front: None

Rear: None

Glazing Damage:

Windshield: No

Window: Left rear passenger window broken.

Pillar Separation: No

Sill Separation: No

Other Notable Impact Effects:

None

Section 4

Occupant and Vehicle Information

Data Sheet 5

SID HIII Instrumentation Data

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

TEST NUMBER: 040121

DRIVER DUMMY SERIAL NUMBER: 059

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	2.7 g	@ 46.7 ms	13.7 g	@ 68.2 ms
LATERAL	22.7 g	@ 65.5 ms	4.0 g	@ 244.0 ms
VERTICAL	17.1 g	@ 67.0 ms	5.0 g	@ 53.0 ms
RESULTANT	30.2 g	@ 66.7 ms		
HIC 36	65 from 55.6 to 79.4 ms			

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	2.2 g	@ 236.6 ms	12.5 g	@ 68.0 ms
LATERAL	23.6 g	@ 65.3 ms	3.9 g	@ 246.5 ms
VERTICAL	17.7 g	@ 66.7 ms	4.9 g	@ 53.0 ms
RESULTANT	31.3 g	@ 67.0 ms		
HIC	68 from 55.8 to 78.2 ms			

NECK FORCE

X-AXIS SHEAR	47.9 N	@ 214.9 ms	509.8 N	@ 63.8 ms
Y-AXIS SHEAR	350.3 N	@ 64.2 ms	261.6 N	@ 38.1 ms
Z-AXIS AXIAL	920.0 N	@ 67.0 ms	144.5 N	@ 53.0 ms

NECK MOMENT

ABOUT X-AXIS	21.3 N-m	@ 72.2 ms	38.9 N-m	@ 59.4 ms
ABOUT Y-AXIS	37.3 N-m	@ 85.8 ms	29.8 N-m	@ 59.4 ms
ABOUT Z-AXIS	37.6 N-m	@ 79.9 ms	7.1 N-m	@ 279.4 ms
OCCIPITAL COND	25.3 N-m	@ 72.2 ms	34.6 N-m	@ 58.9 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	50.1 g	@ 49.4 ms	7.8 g	@ 93.1 ms
LATERAL (R)	50.5 g	@ 49.4 ms	7.6 g	@ 93.1 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	48.7 g	@ 49.4 ms	7.7 g	@ 92.5 ms
LATERAL (R)	48.9 g	@ 49.4 ms	7.6 g	@ 92.5 ms
TTI d (P)	52.6			
TTI d (R)	52.6			

LOWER SPINE ACCELERATION

LATERAL (P)	55.0 g	@ 45.0 ms	6.0 g	@ 119.4 ms
LATERAL (R)	54.6 g	@ 45.0 ms	6.1 g	@ 119.4 ms

PELVIS ACCELERATION

LATERAL (P)	63.6 g	@ 39.4 ms	15.3 g	@ 62.5 ms
LATERAL (R)	63.4 g	@ 39.4 ms	15.1 g	@ 62.5 ms

POSITIVE DIRECTION

LONGITUDINAL: FORWARD
LATERAL: RIGHTWARD
VERTICAL: DOWNWARD

NEGATIVE DIRECTION

LONGITUDINAL: REARWARD
LATERAL: LEFTWARD
VERTICAL: UPWARD

Data Sheet 5 (Continued)

SID HIII Instrumentation Data

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

TEST NUMBER: 040121

PASSENGER DUMMY SERIAL NUMBER: 906

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	6.0 g	@ 180.4 ms	13.4 g	@ 68.5 ms
LATERAL	59.1 g	@ 92.9 ms	8.4 g	@ 46.2 ms
VERTICAL	52.8 g	@ 72.2 ms	6.9 g	@ 168.0 ms
RESULTANT	59.6 g	@ 92.9 ms		
HIC 36	313 from 64.9 to 100.9 ms			

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	5.9 g	@ 177.2 ms	12.2 g	@ 68.9 ms
LATERAL	59.5 g	@ 92.9 ms	7.2 g	@ 47.8 ms
VERTICAL	55.7 g	@ 72.2 ms	6.5 g	@ 169.0 ms
RESULTANT	60.4 g	@ 69.6 ms		
HIC	350 from 64.5 to 100.6 ms			

NECK FORCE

X-AXIS SHEAR	65.3 N	@ 26.2 ms	552.9 N	@ 67.4 ms
Y-AXIS SHEAR	706.5 N	@ 66.6 ms	293.6 N	@ 47.4 ms
Z-AXIS AXIAL	2210.7 N	@ 72.5 ms	265.1 N	@ 169.7 ms

NECK MOMENT

ABOUT X-AXIS	56.0 N-m	@ 84.6 ms	79.8 N-m	@ 60.4 ms
ABOUT Y-AXIS	32.7 N-m	@ 162.2 ms	34.7 N-m	@ 64.1 ms
ABOUT Z-AXIS	19.5 N-m	@ 158.7 ms	5.1 N-m	@ 256.6 ms
OCCIPITAL COND	66.4 N-m	@ 84.5 ms	72.6 N-m	@ 60.2 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	45.3 g	@ 60.0 ms	7.0 g	@ 97.5 ms
LATERAL (R)	46.5 g	@ 60.0 ms	7.0 g	@ 97.5 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	60.1 g	@ 49.4 ms	11.3 g	@ 115.6 ms
LATERAL (R)	59.1 g	@ 49.4 ms	11.4 g	@ 115.6 ms
TTI d (P)	56.7			
TTI d (R)	55.9			

LOWER SPINE ACCELERATION

LATERAL (P)	53.3 g	@ 45.6 ms	13.9 g	@ 111.3 ms
LATERAL (R)	52.6 g	@ 45.6 ms	14.1 g	@ 111.3 ms

PELVIS ACCELERATION

LATERAL (P)	94.8 g	@ 43.1 ms	12.5 g	@ 111.3 ms
LATERAL (R)	95.1 g	@ 43.1 ms	12.6 g	@ 111.3 ms

POSITIVE DIRECTION

LONGITUDINAL: FORWARD
LATERAL: RIGHTWARD
VERTICAL: DOWNWARD

NEGATIVE DIRECTION

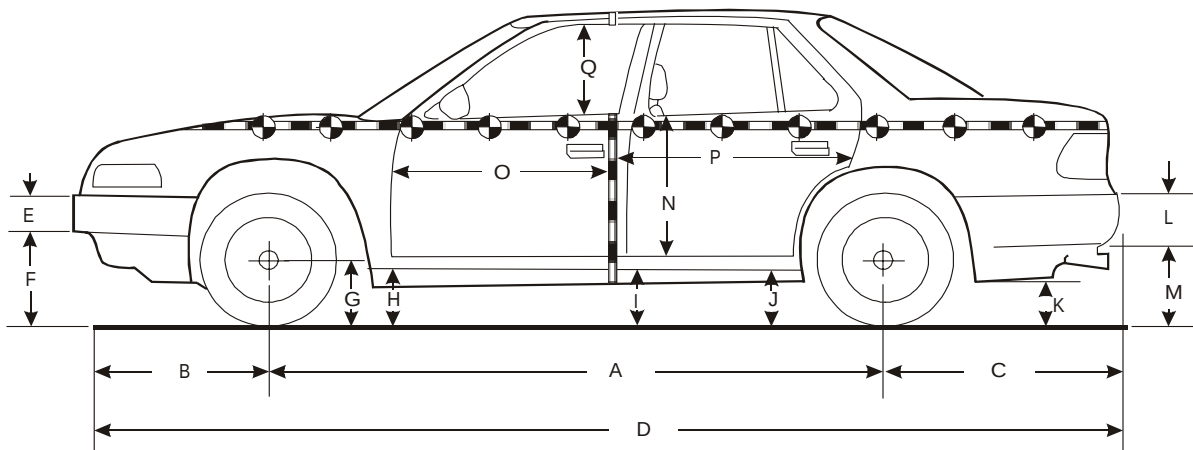
LONGITUDINAL: REARWARD
LATERAL: LEFTWARD
VERTICAL: UPWARD

Data Sheet 6

Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



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	3150	3150	3150	0
B	930	930	930	0
C	1100	1100	1100	0
D	5180	5180	5180	0
E	340	340	340	0
F	265	260	275	-15
G	325	322	322	0
H	260	227	223	4
I	267	253	312	-59
J1	215	195	195	0
J2	255	235	240	-5
K	320	298	285	13
L	180	180	180	0
M	407	385	368	17
N	915	915	765	150
O	72	72	76	-4
P	2218	2218	1990	228
Q	525	525	522	3
R	4995	4995	4995	0
S	4995	4995	4979	16
T	1475	1475	1278	197

D = Length at centerline

T = Width at B-pillar

E&L = Bumper Thickness

J1 = To Pinch Weld

R = Right Side Length

J2 = To Sill

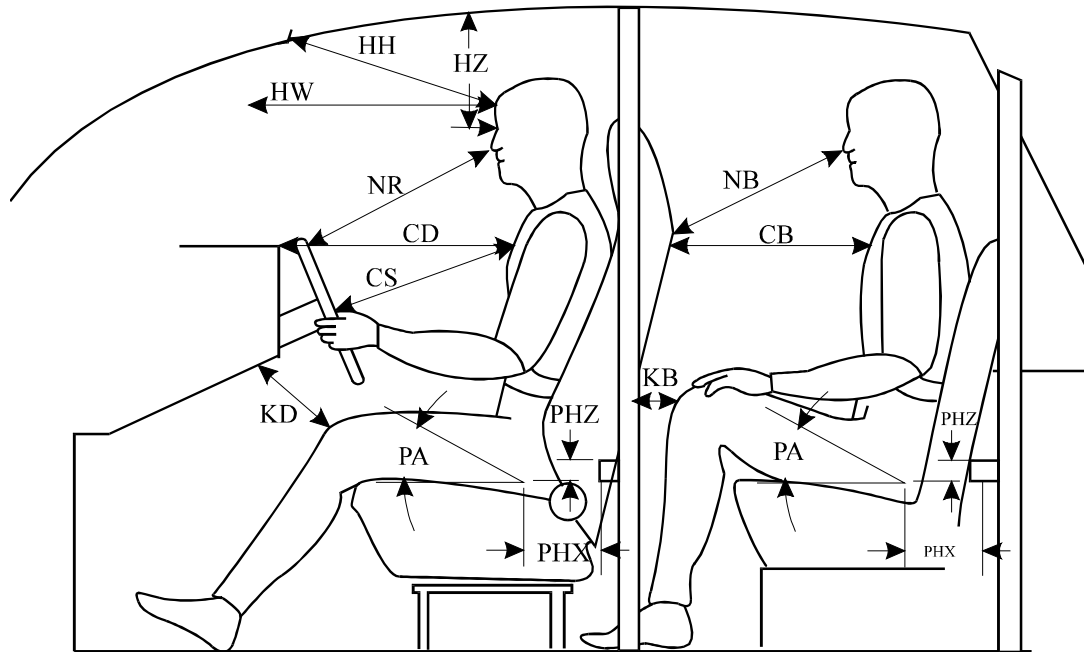
S = Left Side Length

Data Sheet 7

SID HIII Longitudinal Clearance Dimensions

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



Left Side View

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

Measurement	Driver SID HIII # 059	Left Rear Pass. SID HIII # 906
HH	445	N/A
HW	742	N/A
HZ	235	255
NR/NB	485	618
CD/CB	713	613
CS	357	N/A
KDL(KDA°)/KBL(KBA°)	63/(18.1°)	232/(13.9°)
KDR(KDA°)/KBR(KBA°)	80/(23.0°)	233/(10.7°)
PA°	24.0°	24.3°
PHX	304	421
PHZ	97	170

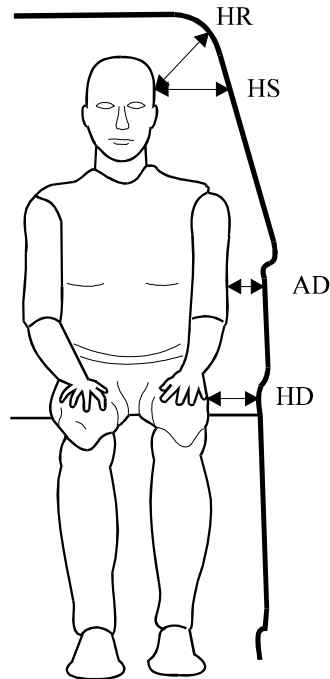
Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

Data Sheet 8

SID HIII Lateral Clearance Dimensions

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



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

Measurement	Driver SID HIII # 059	Left Rear Pass. SID HIII # 906
HR	241	244
HS	353	388
AD*	Lower: 158 Upper: 146	Lower: 191 Upper: 172
HD	241	243

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

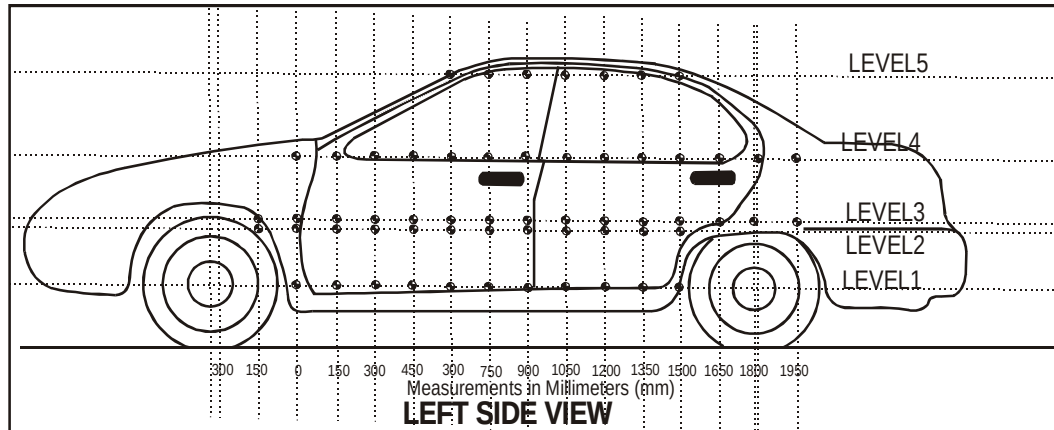
Upper measurement is taken laterally at center of the upper rib accelerometer height from the SID HIII arm segment to the closest part of the vehicle side.

Data Sheet 9

Vehicle Side Measurements

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



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>1660</u>	mm
Level 4 @ Window Sill	=	<u>1002</u>	mm
Level 3 @ Mid Door	=	<u>717</u>	mm
Level 2 @ Occupant H-Point	=	<u>670</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>265</u>	mm

Data Sheet 10

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

Location	Height		(mm) From Impact Point													
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750
Level 1 Side Sill	265	Pre	---	---	---	---	---	---	---	---	590	599	599	601	602	603
		Post	---	---	---	---	---	---	---	---	599	634	653	674	694	710
		Crush	---	---	---	---	---	---	---	---	9	35	54	73	92	107
Level 2 H-Point	670	Pre	---	---	586	535	---	---	523	535	541	536	535	531	528	526
		Post	---	---	589	548	---	---	539	560	655	784	826	841	847	856
		Crush	---	---	3	13	---	---	16	25	114	248	291	310	319	330
Level 3 Mid-Door	717	Pre	---	---	583	539	---	---	525	545	542	537	534	531	527	525
		Post	---	---	585	547	---	---	539	553	678	792	832	846	840	859
		Crush	---	---	2	8	---	---	14	8	136	255	298	315	313	334
Level 4 Window Sill	1002	Pre	---	---	---	683	665	647	633	622	610	595	581	567	562	555
		Post	---	---	---	681	667	654	646	635	565	622	679	713	755	768
		Crush	---	---	---	-2	2	7	13	13	-45	27	98	146	193	213
Level 5 Window Top	1660	Pre	---	---	---	---	---	---	---	---	---	---	---	879	853	850
		Post	---	---	---	---	---	---	---	---	---	---	---	890	866	869
		Crush	---	---	---	---	---	---	---	---	---	---	---	11	13	19

Data Sheet 10 (Continued)

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	265	Pre	602	602	602	603	605	605	605	605	606	---	---	---	---
		Post	729	748	741	724	715	691	701	678	676	---	---	---	---
		Crush	127	146	139	121	110	86	96	73	70	---	---	---	---
Level 2 H-Point	670	Pre	531	524	525	526	527	530	533	537	541	546	533	---	---
		Post	865	876	891	907	909	927	873	744	627	639	605	---	---
		Crush	334	352	366	381	382	397	340	207	86	93	72	---	---
Level 3 Mid-Door	717	Pre	524	523	524	525	526	530	532	537	542	549	535	---	---
		Post	883	875	889	895	906	926	869	744	620	637	599	---	---
		Crush	359	352	365	370	380	396	337	207	78	88	64	---	---
Level 4 Window Sill	1002	Pre	552	546	544	545	546	550	552	555	560	566	573	582	590
		Post	785	826	870	883	844	811	807	775	675	661	659	661	665
		Crush	233	280	326	338	298	261	255	220	115	95	86	79	75
Level 5 Window Top	1660	Pre	844	845	830	830	832	833	839	839	849	855	866	881	895
		Post	879	894	867	842	825	809	790	776	762	908	916	925	937
		Crush	35	49	37	12	-7	-24	-49	-63	-87	53	50	44	42

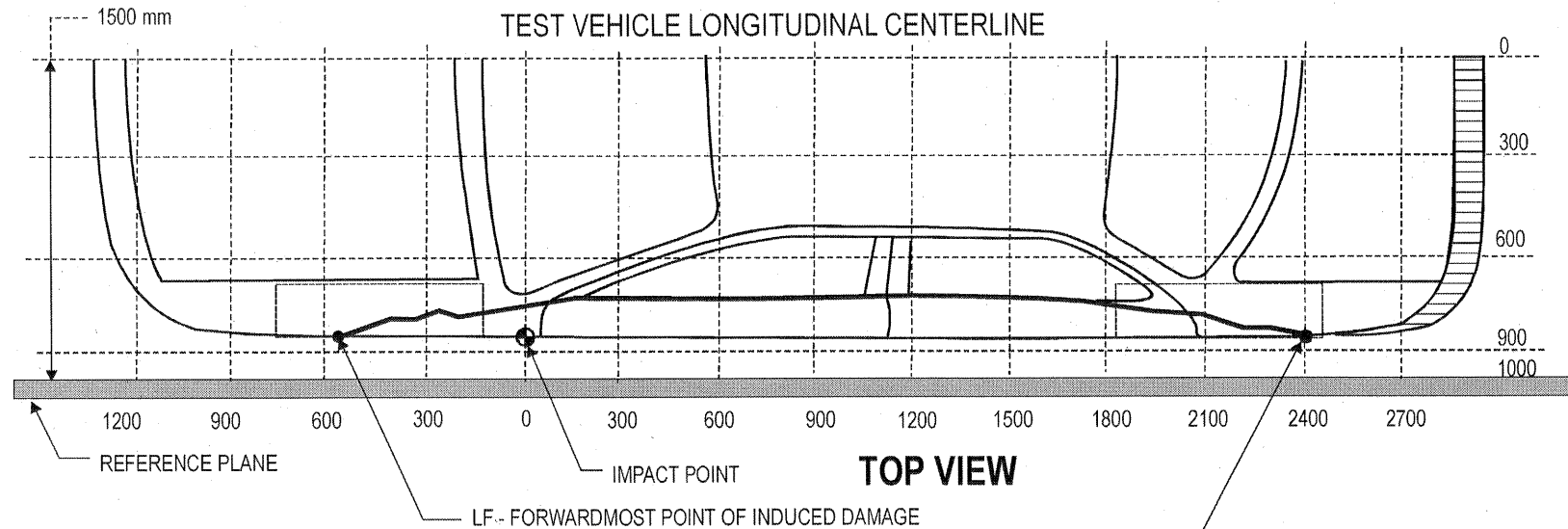
Data Sheet 11

Vehicle Damage Profile Distances

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

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)
6: LF = 300 mm (Level 2)	539	523	16
5: 300 mm (Level 3)	832	534	298
4: 900 mm (Level 3)	883	524	359
3: 1350 mm (Level 2)	907	526	381
2: 1950 mm (Level 4)	775	555	220
1: LR = 2550 mm (Level 4)	661	582	79

Full length of induced damage was 2850 mm.

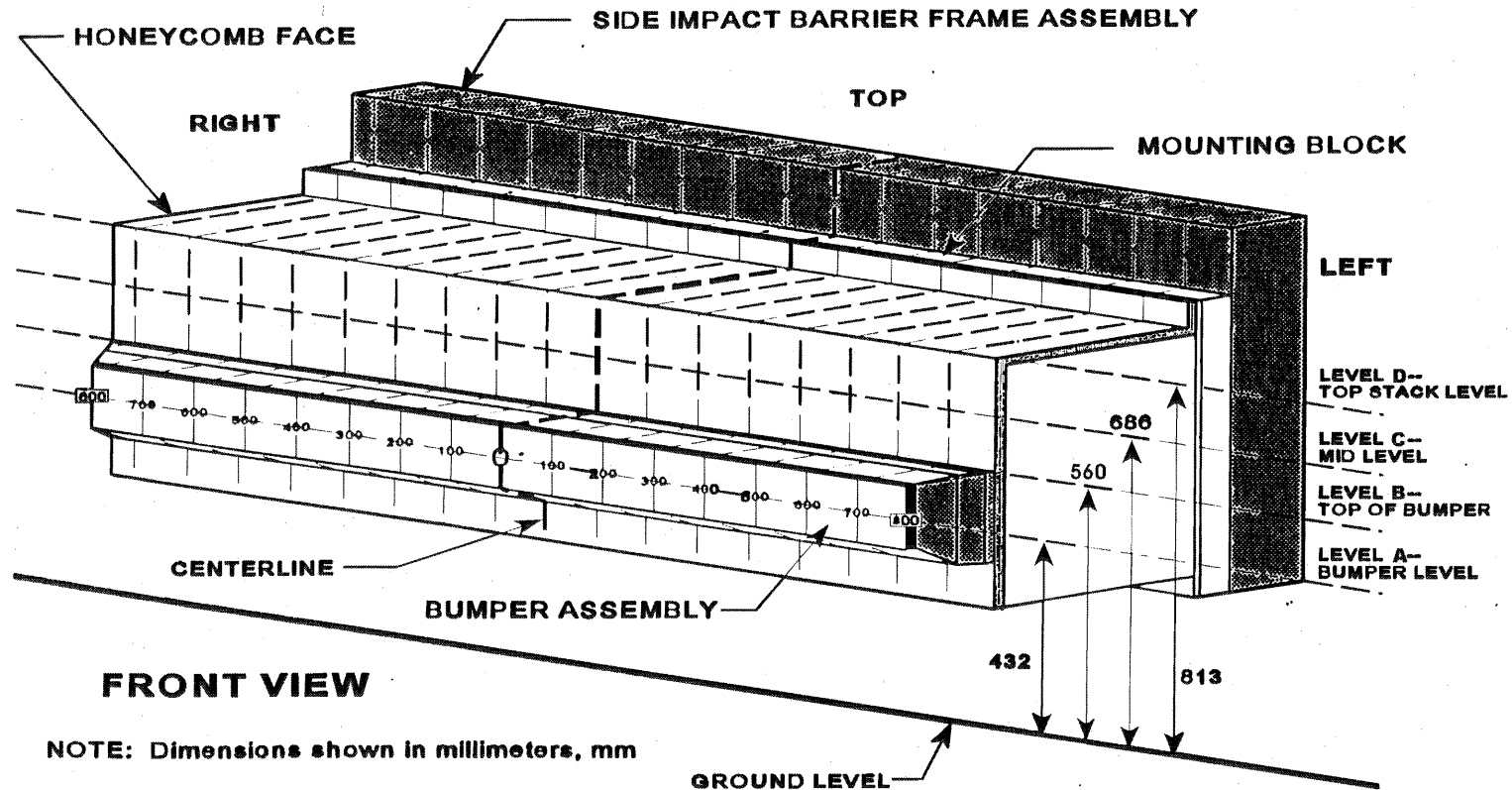
Data Sheet 12

Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



NOTE: Dimensions shown in millimeters, mm

Data Sheet 12 (Continued)
Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

		Distance Right of Center (mm)										Distance Left of Center (mm)							
Location	Height At CL	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800	
Top Stack Level - Level D	814	-55	-26	-9	1	3	-4	-17	-43	-27	-19	-14	-14	-14	-20	-27	-44	-61	
Mid Level Level C	684	-39	-8	-3	-2	-2	-4	-8	-16	-24	-16	-9	-8	-8	-10	-13	-18	-22	
Top Bumper Level-Level B ¹	558	-68	-58	-52	-47	-45	-46	-47	-46	-43	-43	-43	-44	-43	-42	-42	-40	-36	
Mid Bumper Level-Level A ²	432	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

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

¹ Pre- and post-test Top Bumper measurements are collected at 560 mm to reduce the number of inaccessible measurement points caused by bumper element deformation post-test.

² Bumper element separated during test.

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

Deformable Barrier Face Profile

NHTSA No.: C45205

Level D - Top Stack

Pre-Test

Index	Xmm	Ymm	Zmm
1	-378	800	-36
2	-378	700	-37
3	-378	600	-37
4	-378	500	-38
5	-378	400	-39
6	-379	300	-40
7	-380	200	-41
8	-380	100	-41
9	-380	0	-41
10	-381	-100	-42
11	-381	-200	-43
12	-382	-300	-43
13	-382	-400	-44
14	-382	-500	-44
15	-382	-600	-45
16	-383	-701	-46
17	-383	-800	-46

Post-Test

Index	Xmm	Ymm	Zmm
1	-323	767	-93
2	-352	673	-91
3	-370	576	-89
4	-380	476	-88
5	-381	377	-88
6	-375	278	-87
7	-363	178	-86
8	-338	81	-89
9	-354	-17	-82
10	-362	-115	-77
11	-368	-215	-72
12	-368	-315	-67
13	-368	-415	-62
14	-362	-514	-58
15	-355	-613	-53
16	-339	-713	-51
17	-321	-810	-49

Difference

Index	Xmm	Ymm	Zmm
1	-55	33	57
2	-26	27	54
3	-9	24	52
4	1	24	50
5	3	23	50
6	-4	22	47
7	-17	22	46
8	-43	19	48
9	-27	17	41
10	-19	15	36
11	-14	15	29
12	-14	15	24
13	-14	15	18
14	-20	14	14
15	-27	14	8
16	-44	12	5
17	-61	10	3

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

Deformable Barrier Face Profile Cont'd.

NHTSA No.: C45205

Level C - Mid Level

Pre-Test

Index	Xmm	Ymm	Zmm
18	-379	802	-165
19	-379	702	-166
20	-379	602	-166
21	-379	501	-167
22	-380	402	-167
23	-380	301	-169
24	-380	202	-169
25	-381	101	-170
26	-381	1	-171
27	-381	-99	-171
28	-382	-199	-172
29	-382	-299	-172
30	-382	-399	-173
31	-383	-499	-174
32	-383	-599	-174
33	-384	-699	-174
34	-384	-799	-175

Post-Test

Index	Xmm	Ymm	Zmm
18	-341	770	-220
19	-371	676	-218
20	-376	576	-217
21	-377	475	-216
22	-378	376	-215
23	-376	276	-214
24	-373	176	-212
25	-365	77	-212
26	-358	-22	-207
27	-365	-122	-203
28	-373	-221	-199
29	-374	-322	-193
30	-375	-421	-188
31	-373	-521	-183
32	-370	-621	-178
33	-366	-721	-174
34	-362	-820	-169

Difference

Index	Xmm	Ymm	Zmm
18	-39	32	55
19	-8	26	53
20	-3	26	51
21	-2	26	50
22	-2	26	48
23	-4	26	45
24	-8	26	43
25	-16	24	42
26	-24	23	37
27	-16	23	32
28	-9	22	27
29	-8	22	21
30	-8	22	16
31	-10	22	10
32	-13	22	5
33	-18	22	-1
34	-22	21	-6

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

Deformable Barrier Face Profile Cont'd.

NHTSA No.: C45205

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-379	803	-291
36	-380	703	-291
37	-380	603	-292
38	-380	503	-293
39	-380	403	-294
40	-381	303	-295
41	-381	203	-295
42	-381	103	-296
43	-382	3	-297
44	-382	-99	-297
45	-382	-197	-298
46	-383	-298	-298
47	-383	-397	-299
48	-383	-498	-300
49	-383	-598	-300
50	-383	-698	-301
51	-384	-797	-301

Post-Test

Index	Xmm	Ymm	Zmm
35	-311	773	-322
36	-321	675	-322
37	-328	575	-321
38	-333	475	-319
39	-336	375	-317
40	-335	274	-314
41	-334	175	-307
42	-335	74	-309
43	-338	-26	-308
44	-339	-128	-306
45	-339	-226	-301
46	-339	-326	-297
47	-340	-426	-294
48	-341	-526	-293
49	-342	-626	-287
50	-344	-726	-287
51	-348	-824	-288

Difference

Index	Xmm	Ymm	Zmm
35	-68	30	31
36	-58	29	31
37	-52	29	29
38	-47	29	26
39	-45	29	23
40	-46	29	19
41	-47	29	12
42	-46	29	13
43	-43	28	12
44	-43	29	9
45	-43	29	4
46	-44	29	-2
47	-43	29	-5
48	-42	28	-7
49	-42	28	-13
50	-40	28	-13
51	-36	27	-14

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

Deformable Barrier Face Profile Cont'd.

NHTSA No.: C45205

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-473	798	-419
53	-484	701	-418
54	-484	600	-419
55	-484	500	-420
56	-485	400	-420
57	-485	300	-421
58	-485	200	-422
59	-486	100	-423
60	-486	0	-423
61	-486	-100	-424
62	-487	-200	-424
63	-487	-300	-425
64	-487	-400	-426
65	-487	-500	-426
66	-487	-600	-427
67	-488	-700	-428
68	-478	-799	-428

Post-Test¹

Index	Xmm	Ymm	Zmm
52	N/A	N/A	N/A
53	N/A	N/A	N/A
54	N/A	N/A	N/A
55	N/A	N/A	N/A
56	N/A	N/A	N/A
57	N/A	N/A	N/A
58	N/A	N/A	N/A
59	N/A	N/A	N/A
60	N/A	N/A	N/A
61	N/A	N/A	N/A
62	N/A	N/A	N/A
63	N/A	N/A	N/A
64	N/A	N/A	N/A
65	N/A	N/A	N/A
66	N/A	N/A	N/A
67	N/A	N/A	N/A
68	N/A	N/A	N/A

Difference¹

Index	Xmm	Ymm	Zmm
52	N/A	N/A	N/A
53	N/A	N/A	N/A
54	N/A	N/A	N/A
55	N/A	N/A	N/A
56	N/A	N/A	N/A
57	N/A	N/A	N/A
58	N/A	N/A	N/A
59	N/A	N/A	N/A
60	N/A	N/A	N/A
61	N/A	N/A	N/A
62	N/A	N/A	N/A
63	N/A	N/A	N/A
64	N/A	N/A	N/A
65	N/A	N/A	N/A
66	N/A	N/A	N/A
67	N/A	N/A	N/A
68	N/A	N/A	N/A

¹ Bumper element separated from the impactor face during impact.

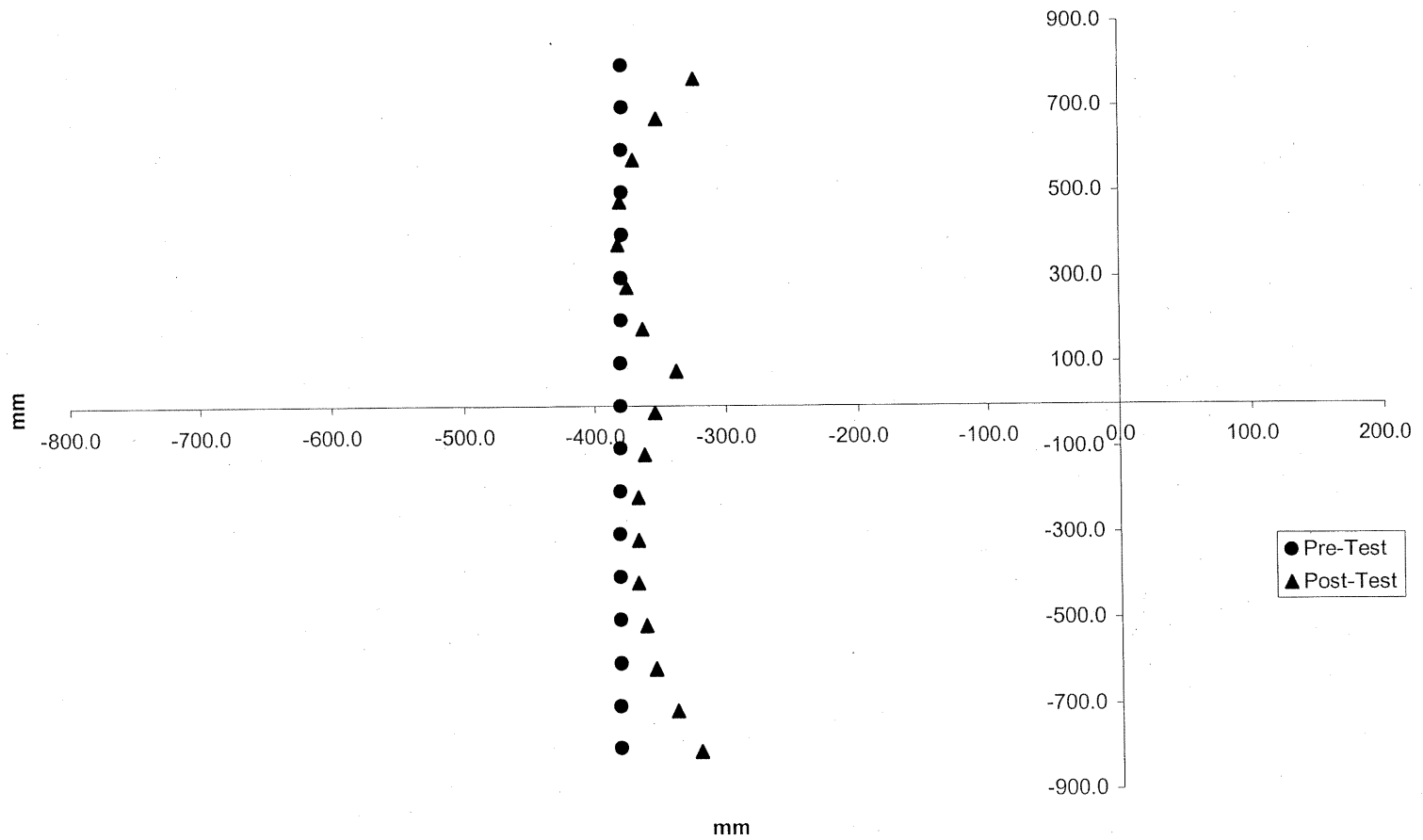
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

Level D - Deformable Barrier Face Profile 1-17



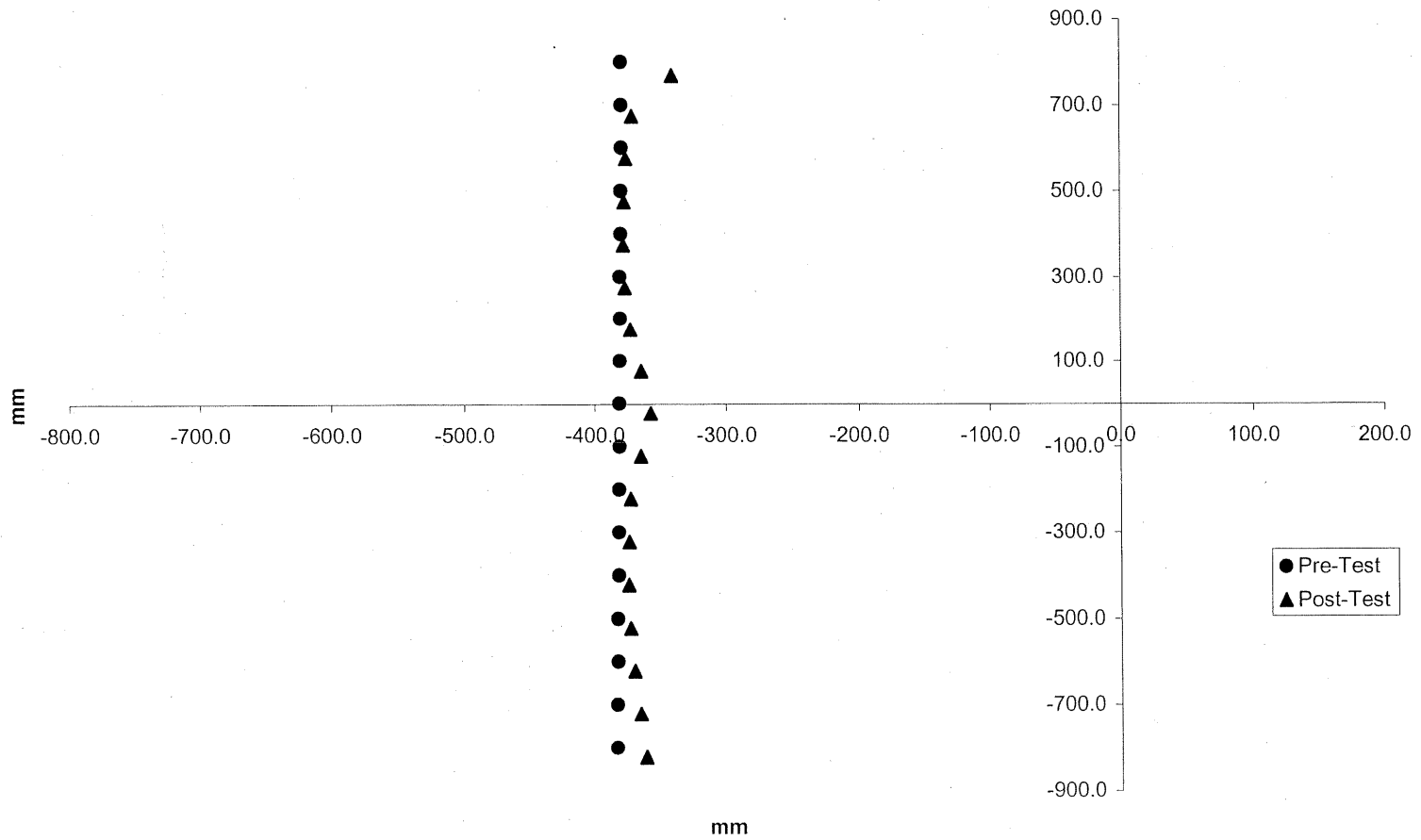
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

Level C - Deformable Barrier Face Profile 18-34



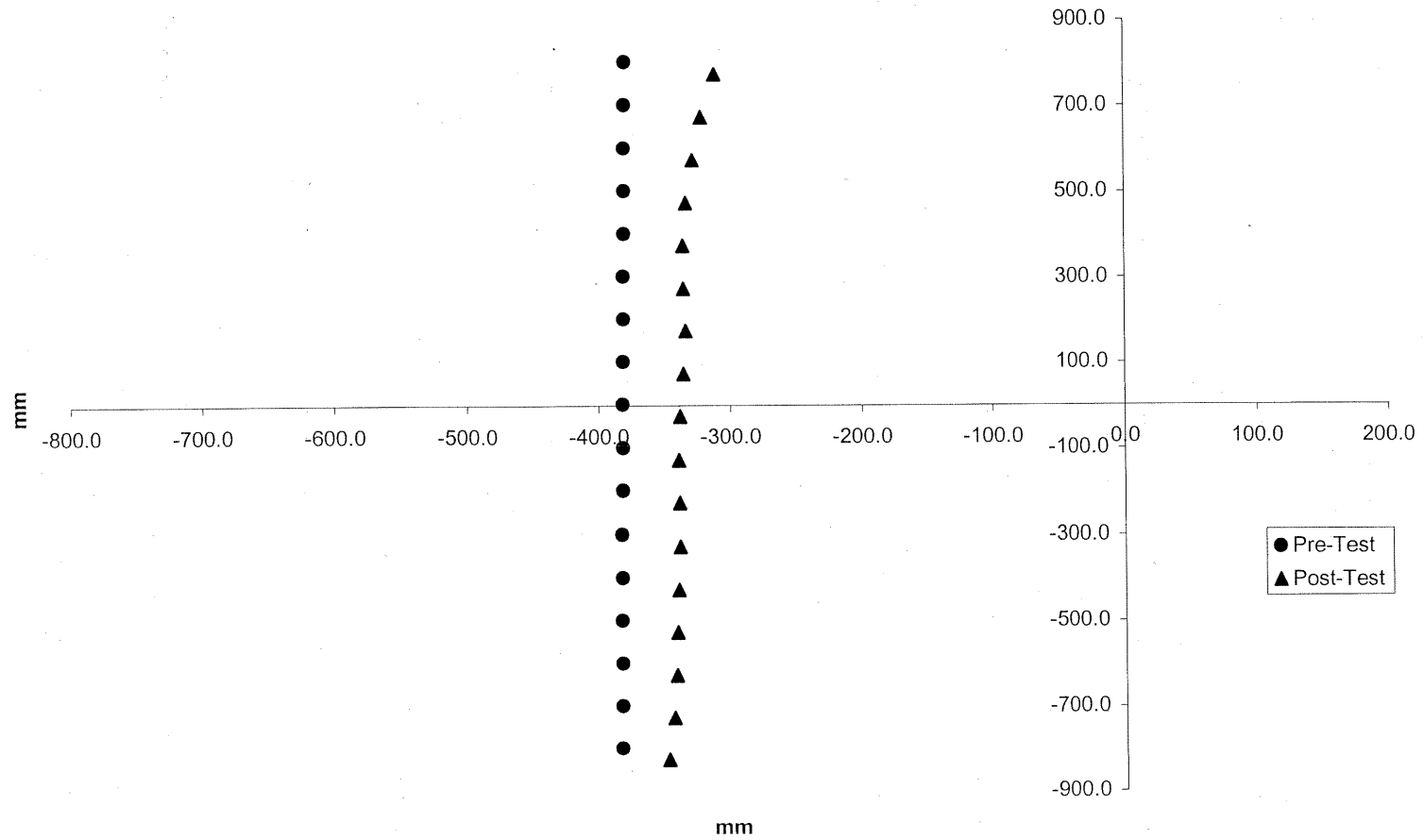
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

Level B - Deformable Barrier Face Profile 35-51



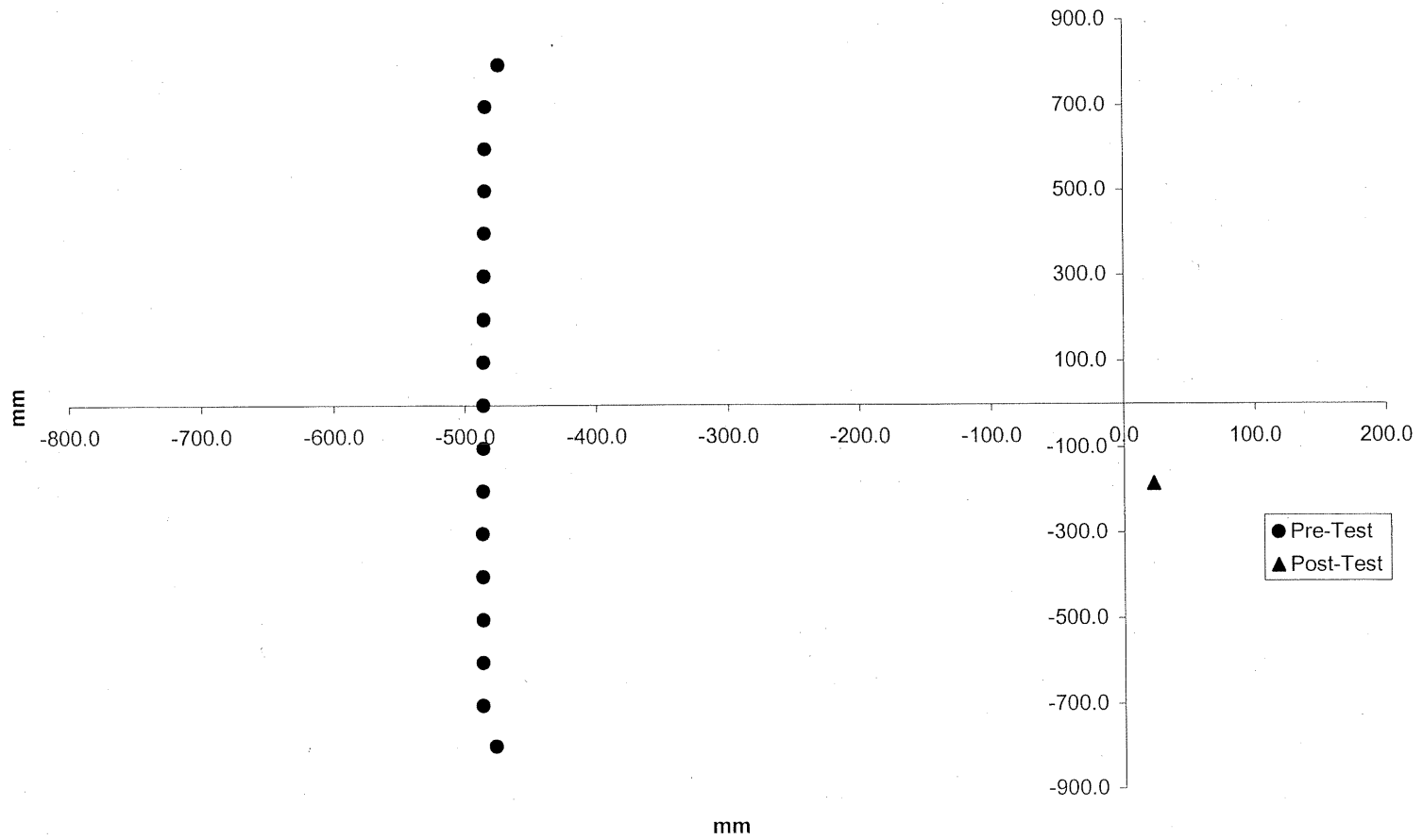
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

Level A - Deformable Barrier Face Profile 52-68

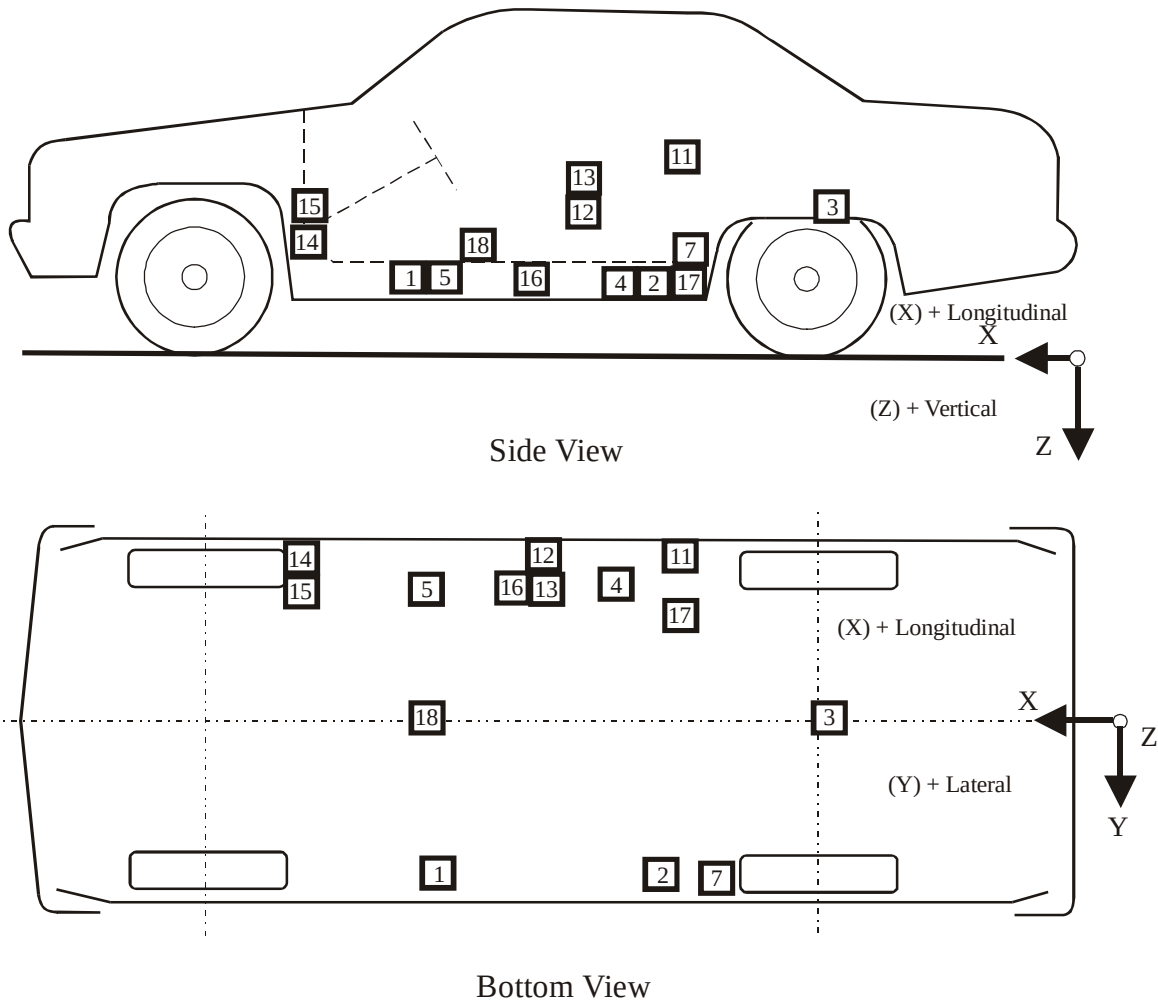


Data Sheet 13

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



- 1-Right Front Side Sill
- 2-Right Side Sill at Rear Seat
- 3-Rear Floorpan above Axle
- 4-Left Side Sill at Rear Seat
- 5-Left Front Side Sill
- 6-Left Front Door on Centerline
- 7-Right Rear Occupant Compartment
- 8-Left Front Door Mid Rear
- 9-Left Front Door Upper Centerline

- 10-Left Rear Door Mid Rear
- 11-Left Rear Door Upper Centerline
- 12-Left Side Lower B-pillar
- 13-Left Side Middle B-pillar
- 14-Left Side Lower A-pillar
- 15-Left Side Middle A-pillar
- 16-Left Side Front Seat Track at H-point
- 17-Left Rear Seat Track at H-point
- 18-Vehicle Center of Gravity

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data SummaryVehicle: 2004 Nissan Quest

NHTSA No.: C45205

TEST NUMBER: 040121

No. LOCATION

X

Y

Z

POSITIVE
DIRECTIONNEGATIVE
DIRECTION

1	RIGHT SIDE SILL AT FRONT SEAT	4055 mm	765 mm	-328 mm				
	LONGITUDINAL				2.1 g	@ 49.4 ms	4.6 g	@ 35.4 ms
	LATERAL				16.7 g	@ 6.8 ms	3.1 g	@ 148.2 ms
	VERTICAL				4.1 g	@ 97.4 ms	5.8 g	@ 11.9 ms
	RESULTANT				17.3 g	@ 7.0 ms		
2	RIGHT SIDE SILL AT REAR SEAT	2312 mm	745 mm	-353 mm				
	LONGITUDINAL				2.2 g	@ 49.4 ms	3.9 g	@ 35.8 ms
	LATERAL				19.4 g	@ 7.1 ms	2.6 g	@ 153.8 ms
	VERTICAL				5.1 g	@ 106.2 ms	12.6 g	@ 25.2 ms
	RESULTANT				20.0 g	@ 7.2 ms		
3	REAR FLOORPAN ABOVE AXLE	1505 mm	0 mm	-505 mm				
	LONGITUDINAL				2.1 g	@ 68.9 ms	3.8 g	@ 43.8 ms
	LATERAL				16.4 g	@ 8.0 ms	2.5 g	@ 129.0 ms
	VERTICAL				10.1 g	@ 45.0 ms	7.8 g	@ 21.8 ms
	RESULTANT				17.4 g	@ 45.0 ms		
4	LEFT SIDE SILL AT REAR SEAT	2365 mm	-730 mm	-365 mm				
	LATERAL ¹				63.0 g	@ 19.4 ms	46.5 g	@ 23.4 ms

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data SummaryVehicle: 2004 Nissan Quest

NHTSA No.: C45205

TEST NUMBER: 040121

No. LOCATION

X

Y

Z

POSITIVE
DIRECTIONNEGATIVE
DIRECTION

5 LEFT SIDE SILL AT FRONT SEAT LATERAL ¹	4050 mm	-765 mm	-340 mm	138.2 g	@ 14.5 ms	148.0 g	@ 19.9 ms
7 RIGHT REAR OCCUPANT COMPARTMENT LATERAL	2822 mm	430 mm	-305 mm	19.7 g	@ 6.9 ms	3.2 g	@ 153.2 ms
12 LEFT LOWER B-POST LATERAL ¹	3225 mm	-777 mm	-489 mm	53.8 g	@ 4.0 ms	151.0 g	@ 16.2 ms
13 LEFT MIDDLE B-POST LATERAL ¹	3225 mm	-777 mm	-800 mm	148.4 g	@ 4.9 ms	18.5 g	@ 50.5 ms
14 LEFT LOWER A-POST LATERAL ¹	4300 mm	-890 mm	-495 mm	54.5 g	@ 4.8 ms	31.0 g	@ 8.6 ms
15 LEFT MIDDLE A-POST LATERAL ¹	4330 mm	-888 mm	-748 mm	58.0 g	@ 5.4 ms	48.0 g	@ 38.0 ms
16 LEFT FRONT SEAT TRACK LATERAL ¹	3415 mm	-620 mm	-439 mm	39.3 g	@ 80.4 ms	104.7 g	@ 39.2 ms
17 LEFT REAR SEAT TRACK LATERAL	2560 mm	-650 mm	-587 mm	242.8 g	@ 22.5 ms	17.9 g	@ 31.8 ms

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

TEST NUMBER: 040121
No. LOCATION

X

Y

Z

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

18 VEHICLE CENTER OF GRAVITY	3510 mm	37 mm	-393 mm				
LONGITUDINAL				2.1 g	@ 57.5 ms	6.3 g	@ 22.7 ms
LATERAL				17.2 g	@ 17.1 ms	2.6 g	@ 153.0 ms
VERTICAL				42.4 g	@ 23.2 ms	10.5 g	@ 68.8 ms
RESULTANT				44.2 g	@ 23.2 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.

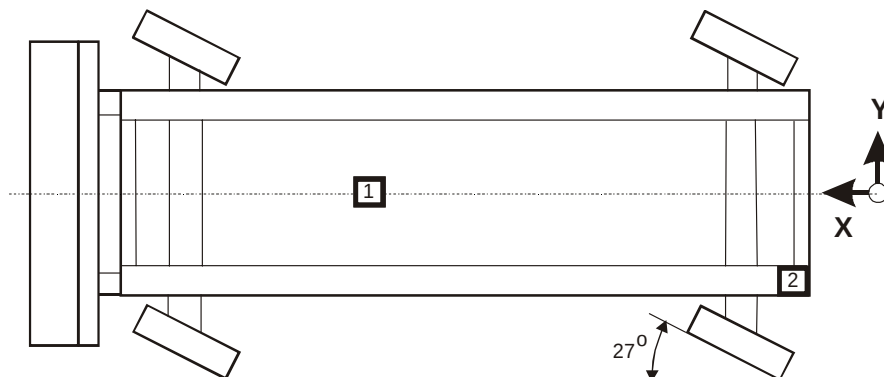
¹ See DATA ACQUISITION EXPLANATIONS on page 2-3

Data Sheet 14

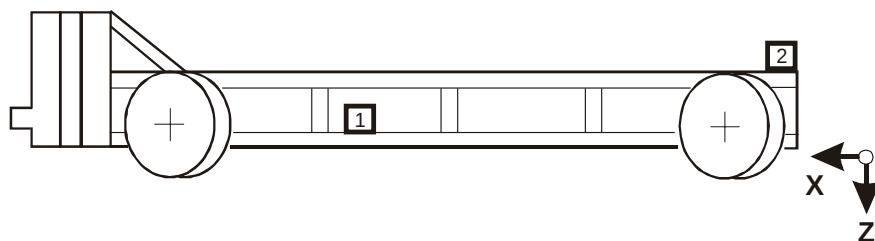
MDB Accelerometer Locations and Data Summary

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



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	1855	0	-520				
	Longitudinal X				24.7	32.2	2.6	14.2
	Lateral Y				8.5	35.4	1.5	0.3
	Vertical Z				6.3	61.4	6.8	24.1
	Resultant R				26.2	32.2		
2	Rear Frame Member	412	-677	-625				
	Longitudinal X				24.2	32.9	2.1	122.7
	Lateral Y				2.9	78.0	4.3	30.9

*Reference: X = Rear Bumper (+ Forward)

Y = Vehicle Centerline (+ To Right)

Z = Ground Level (+ Down)

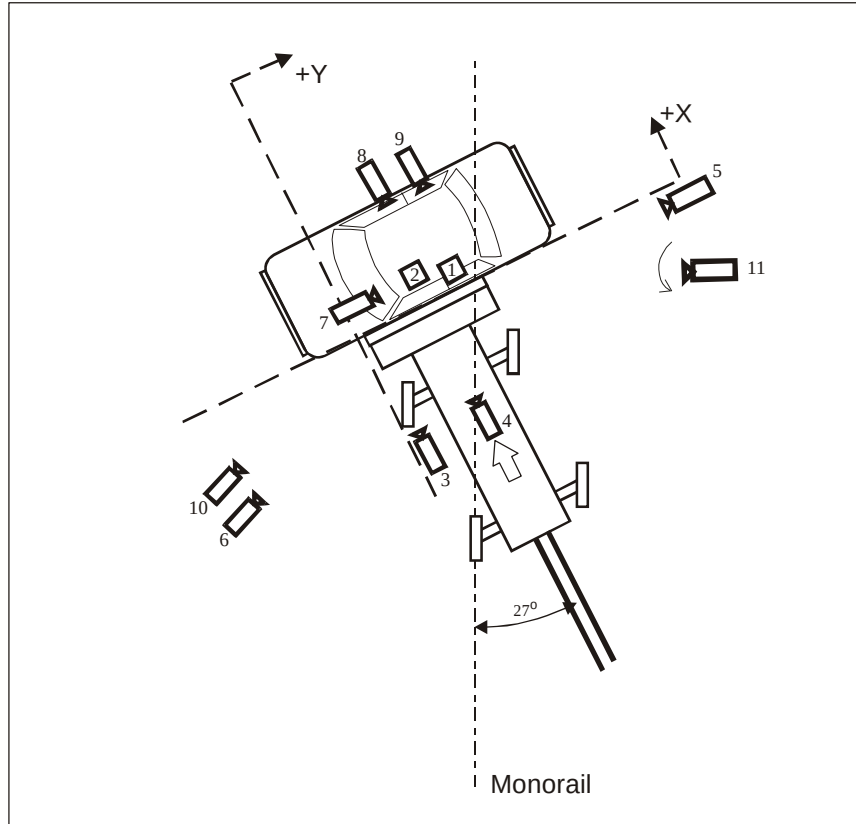
All measurements accurate to within ± 3 mm.

Data Sheet 15

High-Speed Camera Locations and Data Summary

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205



Camera Number	Location	Location, mm			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Overhead wide	250	2150	-5750	-77.5	8.5	1000
2	Overhead tight	370	1800	-5750	-85.5	17	1000
3	Onboard MDB left side	-1750	-40	-720	-0.1	13	1000
4	Onboard MDB center	-2480	830	-1353	-5.5	25	1000
5	Right side of MDB	250	12200	-1200	-3.0	13	1000
6	Left side of MDB	-2400	-7000	-1110	-1.2	13	1000
7	Onboard vehicle front	573	-665	-1350	-8.1	8	1000
8	Onboard side front door	1670	595	-1160	-6.1	8	1000
9	Onboard side rear door	1670	1670	-1280	-6.1	8	1000
10	Digital overall event	-2300	-6500	-990	-1.5	Zoom	1000
11	Real-time Panning -Video	N/A	N/A	N/A	N/A	Zoom	24

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

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

+Z: Downward from ground level

Section 5

Vehicle Fuel System Integrity

Data Sheet 16

FMVSS 301 Fuel System Integrity Data

NHTSA No.: C45205

Test Date: 01/21/04

Vehicle Year/Make/Model/Body Style: 2004/Nissan/Quest/MPV

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)
 X Side Impact Moving Deformable Barrier (38.5
mph) contacting the Driver 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

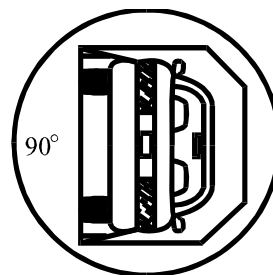
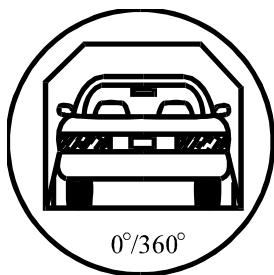
Data Sheet 17

FMVSS 301 Rollover Data

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

0 - 90 Degrees



1. Determination of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

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

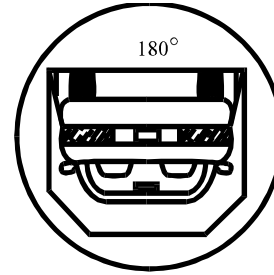
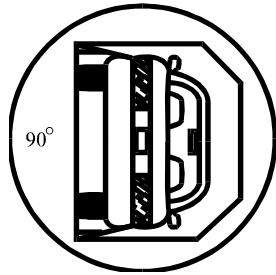
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

90 - 180 Degrees



1. Determination of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

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

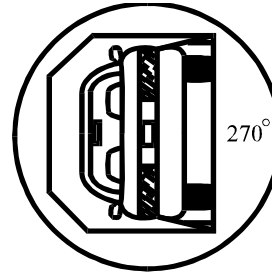
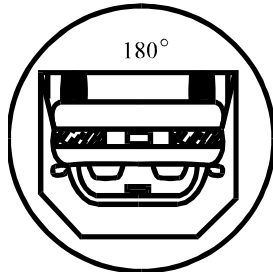
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

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.	7th 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

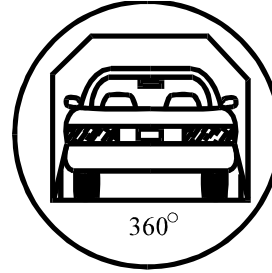
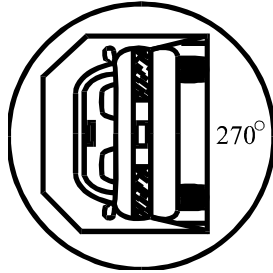
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2004 Nissan Quest

NHTSA No.: C45205

270 - 360 Degrees



1. Determination Of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

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

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 Right Side View of Test Vehicle



Figure A-8 Pre-Test Frontal View of Impactor Face



Figure A-9 Post-Test Frontal View of Impactor Face

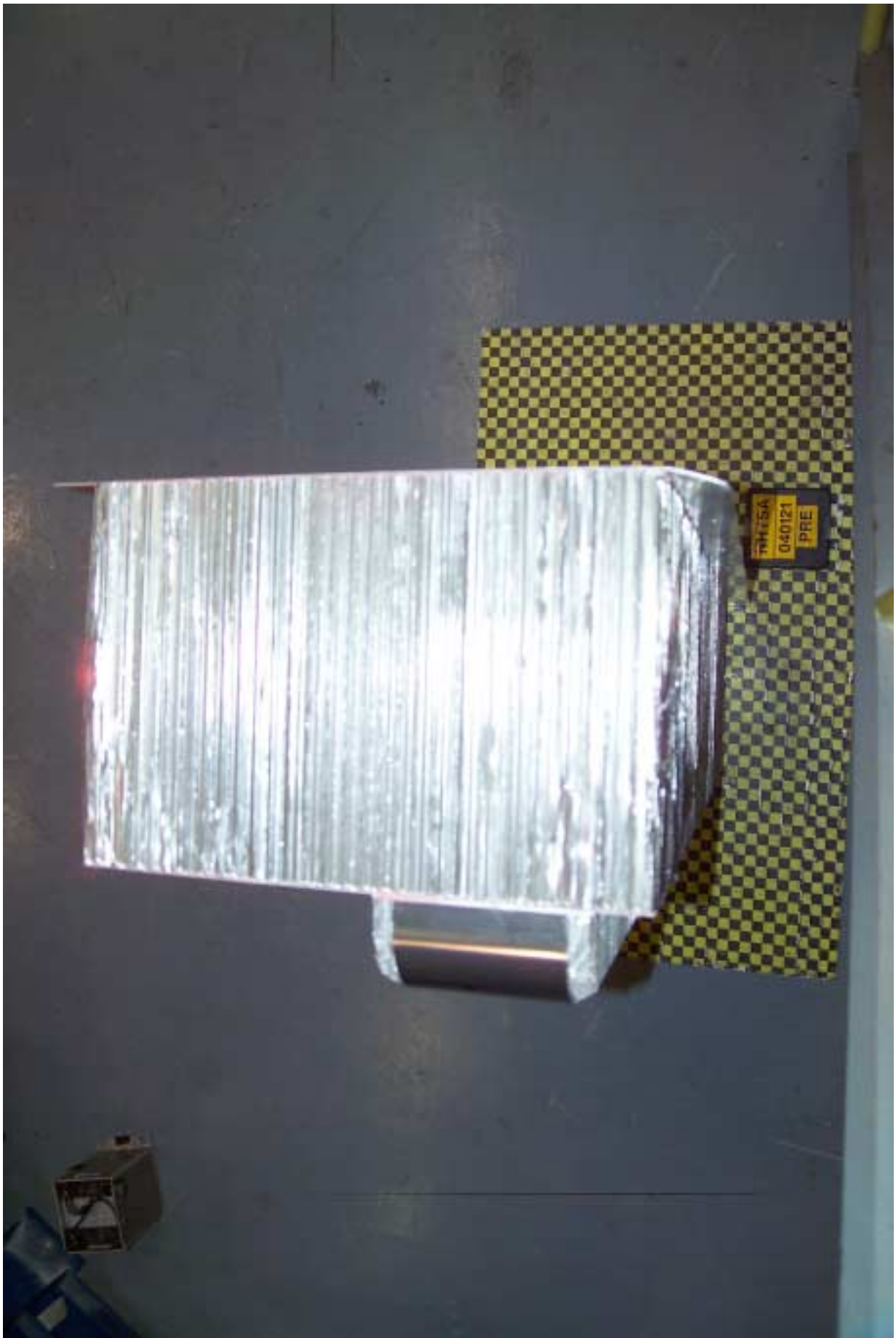


Figure A-10 Pre-Test Left Side View of Impactor Face



Figure A-11 Post-Test Left Side View of Impactor Face

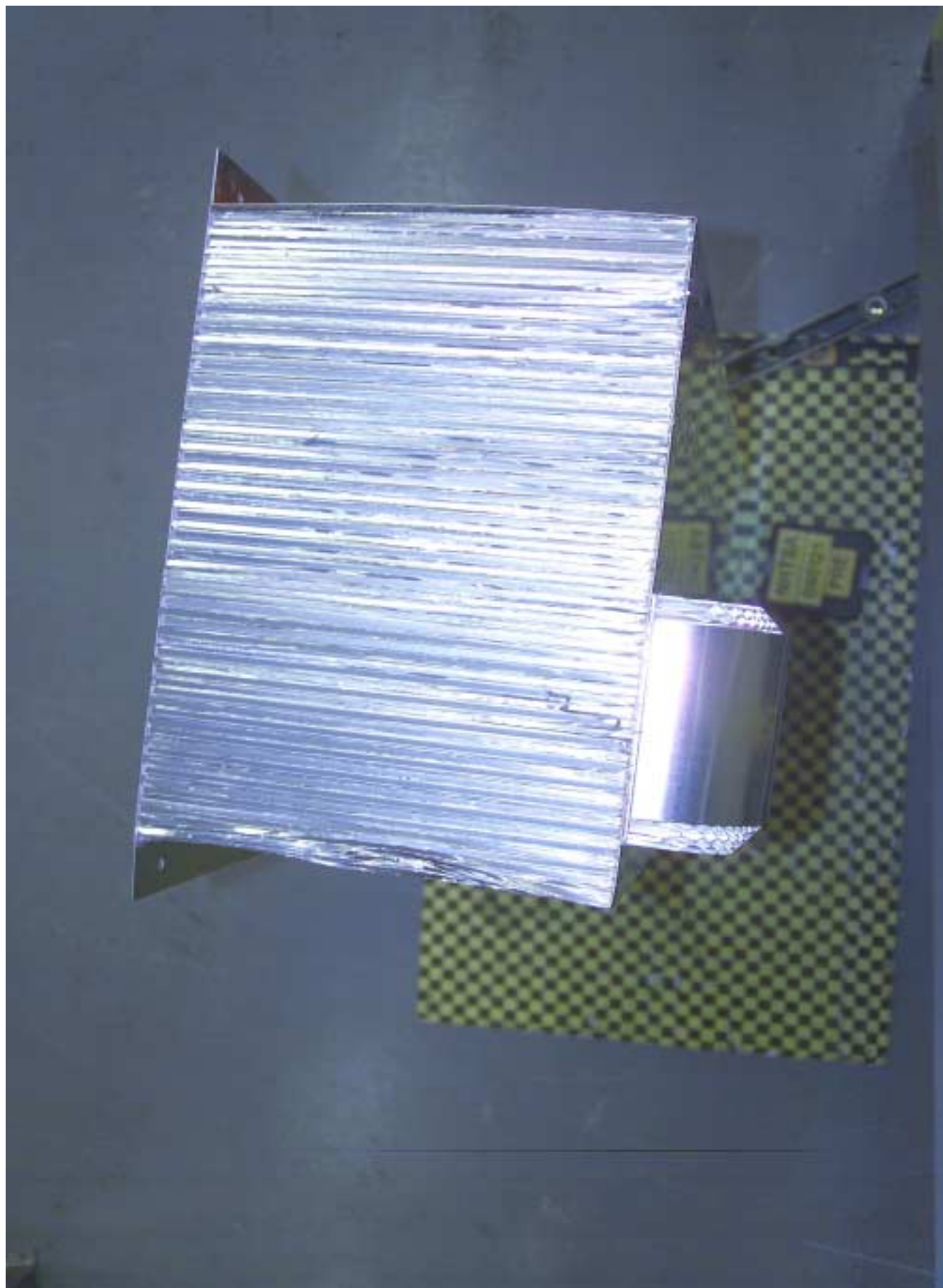


Figure A-12 Pre-Test Right Side View of Impactor Face



Figure A-13 Post-Test Right Side View of Impactor Face



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



Figure A-15 Post-Test Top View of Impactor Face

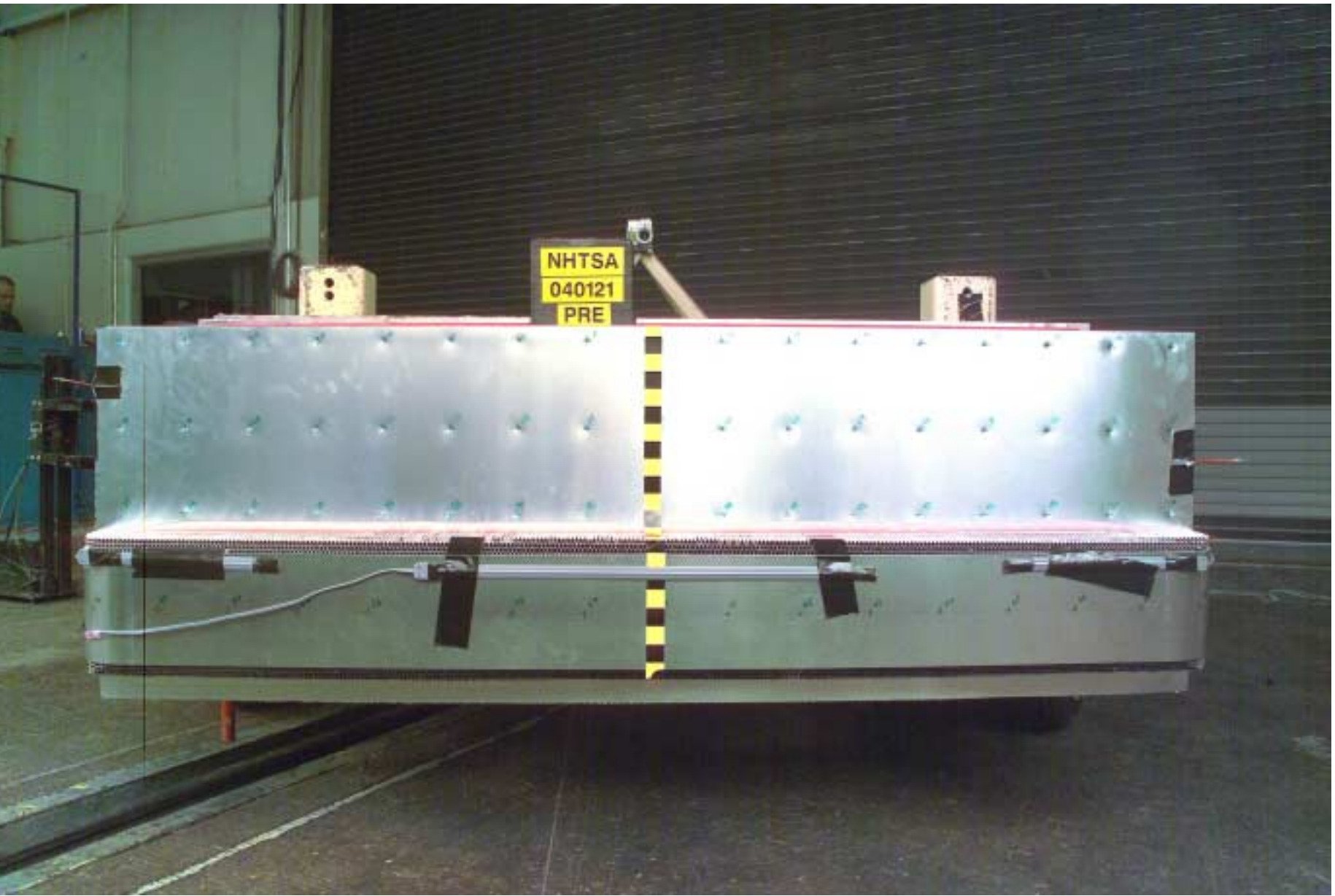


Figure A-16 Pre-Test View of MDB Showing Contact Switches in Place



Figure A-17 Pre-Test Overhead View of MDB Aligned with Vehicle



Figure A-18 Post-Test Overhead View of MDB and Vehicle



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



Figure A-20 Post-Test Right Occupant Compartment View of Front SID HIII



Figure A-21 Pre-Test Right Occupant Compartment View of Rear SID HIII

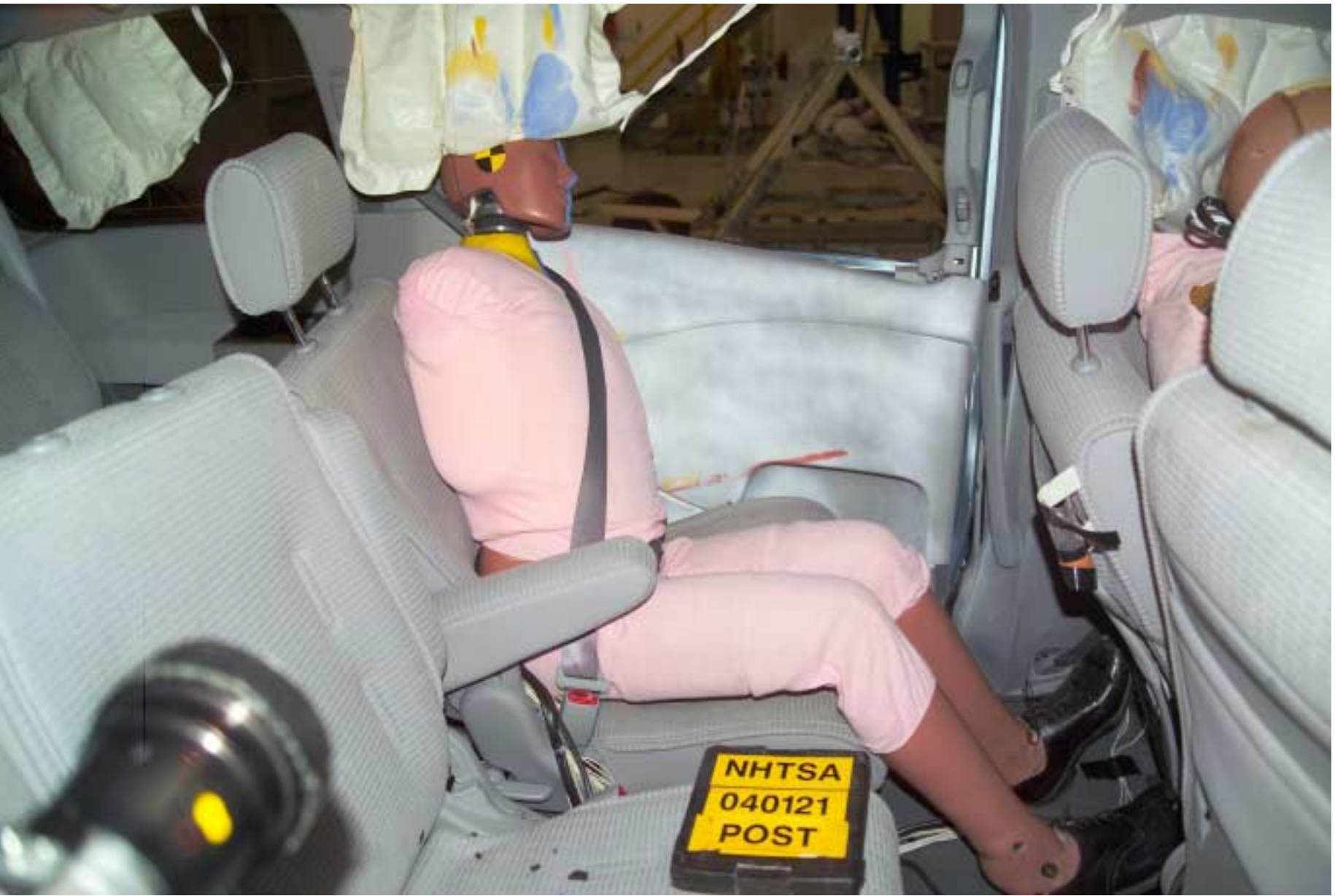


Figure A-22 Post-Test Right Occupant Compartment View of Rear SID HIII



Figure A-23 Pre-Test Left View of Front SID HIII



Figure A-24 Post-Test Left View of Front SID HIII



Figure A-25 Pre-Test Left View of Front SID HIII and Belt Position



Figure A-26 Pre-Test Front View of Front SID HIII and Door Clearance



Figure A-27 Pre-Test Left View of Rear SID HIII HIII and Belt Position



Figure A-28 Post-Test Left View of Rear SID HIII



Figure A-29 Pre-Test View of Rear SID HIII and Door Clearance



Figure A-30 Pre-Test Interior of Front Door

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040121



Figure A-31 Post-Test Interior of Front Door Showing SID HIII Impact Locations



Figure A-32 Post-Test Front SID HIII Contact - View 1



Figure A-33 Post-Test Front SID HIII Contact - View 2



Figure A-34 Post-Test Front SID HIII Contact - View 3



Figure A-35 Post-Test Front SID HIII Contact - View 4

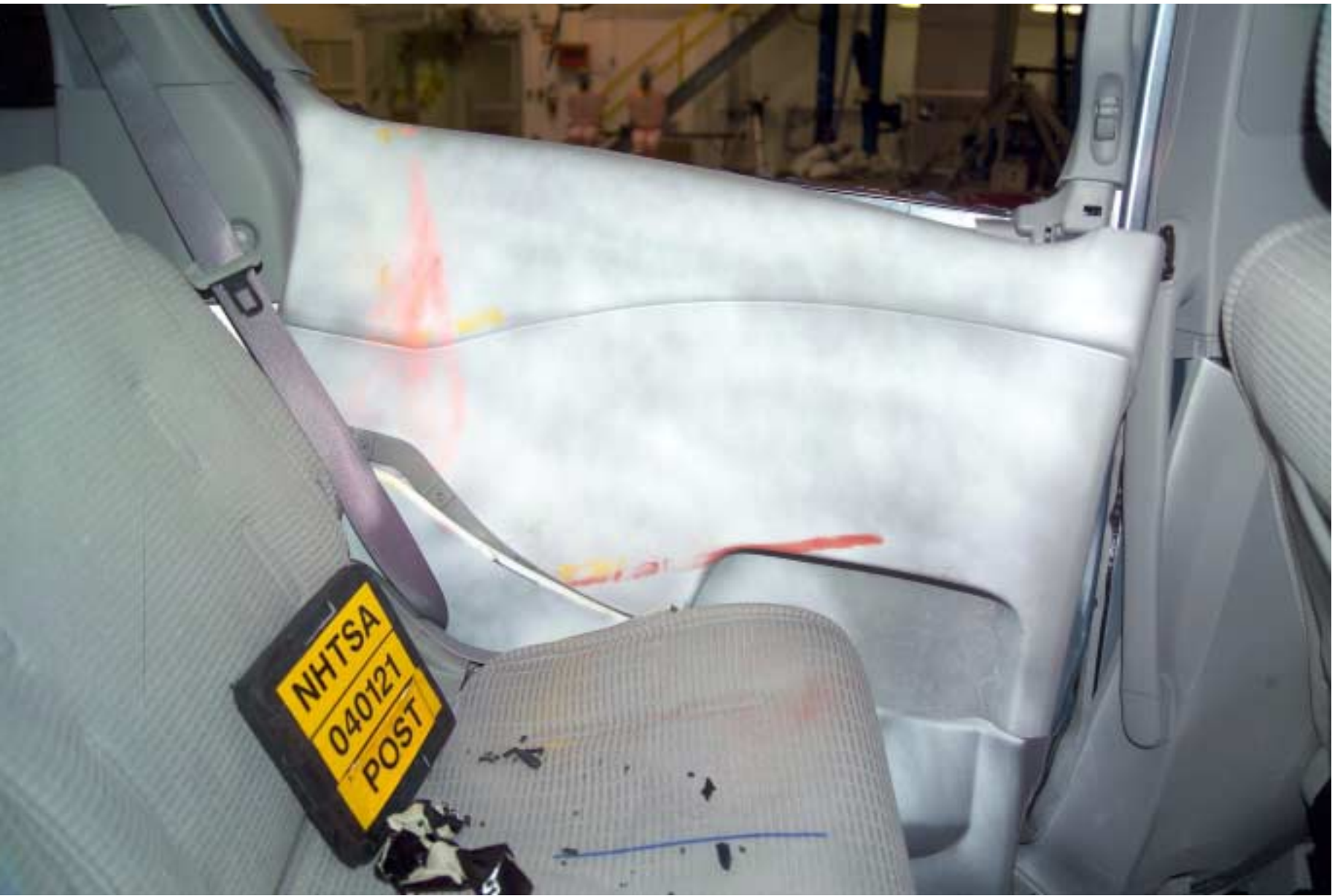


Figure A-36 Post-Test Interior of Rear Panel Showing SID HIII Impact Locations



Figure A-37 Post-Test Rear SID HIII Contact View 1



Figure A-38 Post-Test Rear SID HIII Contact View 2



Figure A-39 Pre-Test Left Side View of MDB With Impactor Face in Position



Figure A-40 Pre-Test Primary Impact Point View



Figure A-41 Post-Test Primary Impact Point View



Figure A-42 Pre-Test Right Side View of MDB With Impactor Face in Position



Figure A-43 Pre-Test Secondary Impact Point View



Figure A-44 Post-Test Secondary Impact Point View

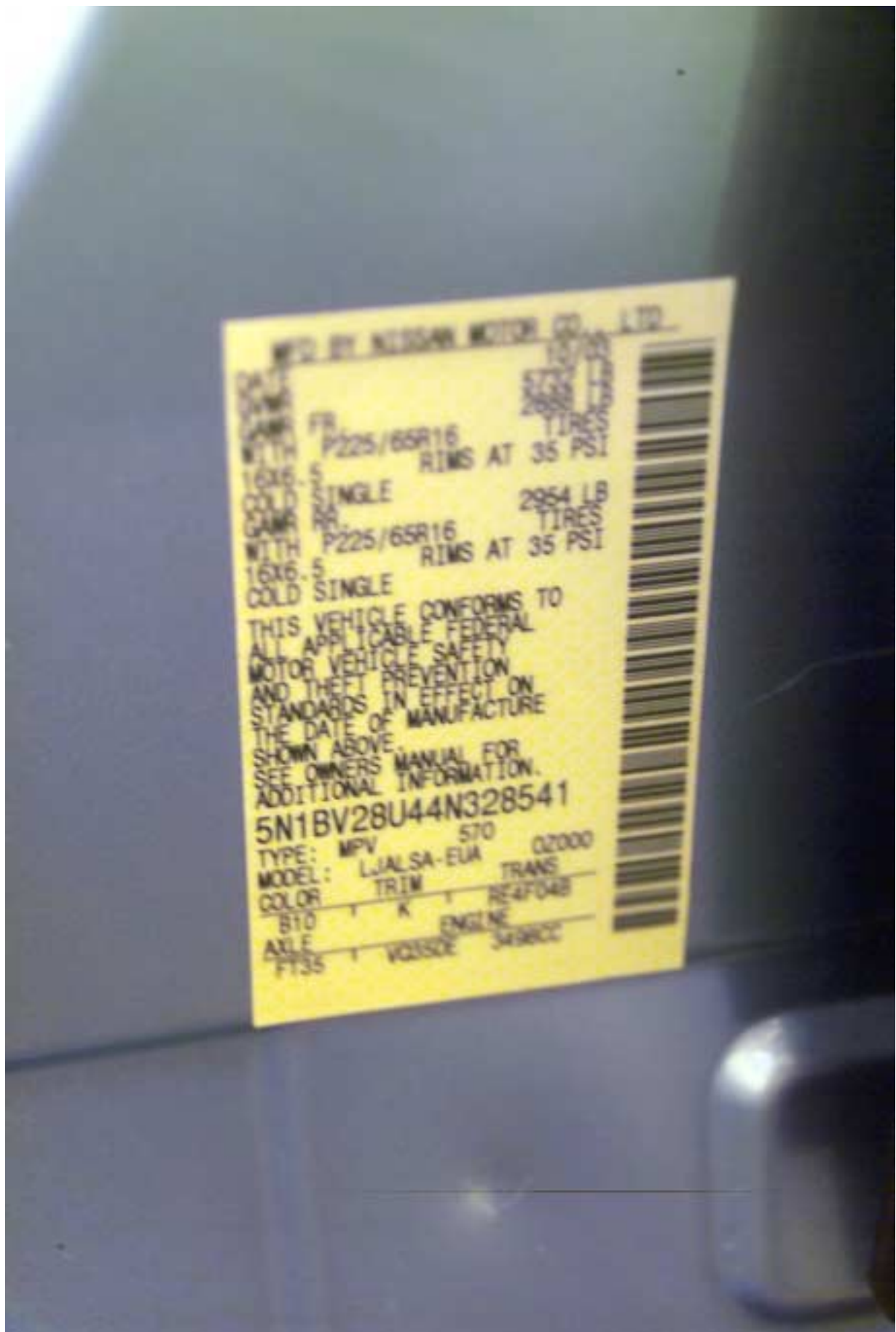


Figure A-45 Vehicle Certification Label View



TIRE AND LOADING INFORMATION

PNEU ET INFORMATION DE CHARGEMENT

SEATING CAPACITY NOMBRE DE PLACES	TOTAL TOTAL	7	FRONT AVANT	2	REAR ARRIÈRE	5
--------------------------------------	----------------	---	----------------	---	-----------------	---

THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED 546 kg OR 1204 lbs..
LE POIDS COMBINÉ D'OCCUPANTS ET DE CARGAISON NE DEVRAIT JAMAIS EXCÉDER 546 kg OU 1204 lb.

RECOMMENDED COLD TIRE INFLATION PRESSURE PRESSION DE GONFLAGE RECOMMANDÉE DES PNEUS FROIDS		
ORIGINAL TIRE SIZE TAILLE DU PNEU D'ORIGINE	FRONT AVANT	REAR ARRIÈRE
P225/65R16	240 kPa (35 psi)	
SPARE TIRE ROUE DE SECOURS		
T135/80D16	420 kPa (60 psi)	

SEE OWNER'S MANUAL
FOR ADDITIONAL
INFORMATION.
POUR D'AUTRES
DÉTAILS, SE REPORTER
AU MANUEL DU
CONDUCTEUR.

32001

Figure A-46 Vehicle Recommended Tire Pressure Label View



Figure A-47 Impact Event



Figure A-48 Pre-Test Fuel Cap



Figure A-49 Post-Test Fuel Cap



Figure A-50 FMVSS 301 Rollover View at 90°



Figure A-51 FMVSS 301 Rollover View at 180°

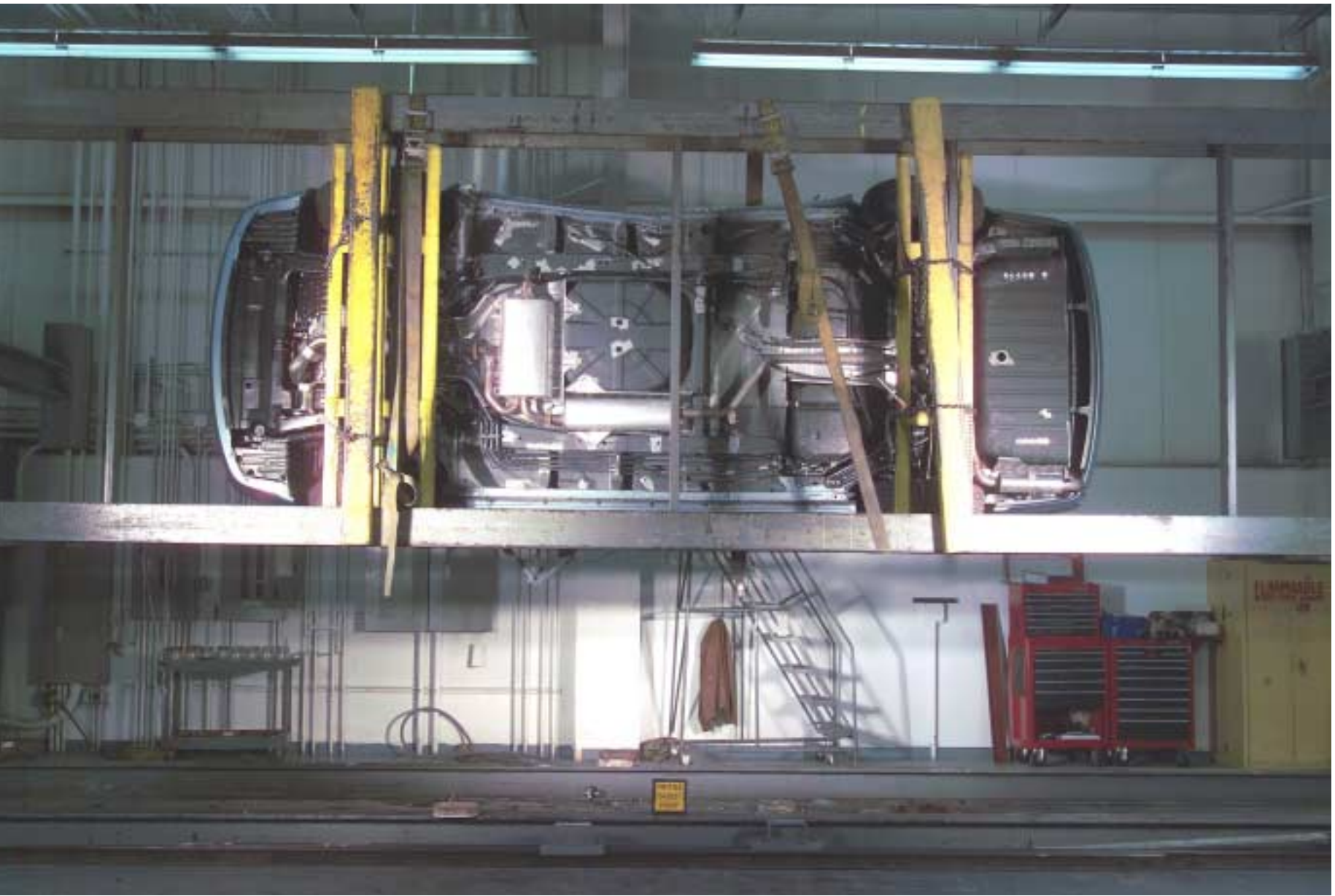


Figure A-52 FMVSS 301 Rollover View at 270°

A-55

040121



Figure A-53 FMVSS 301 Rollover View at 360°

Appendix B

Data Plots

Table of Data Plots

Driver and Passenger 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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3	Driver Head Y-Axis Acceleration	B-13
4	Driver Head Y-Axis Velocity	B-14
5	Driver Head Z-Axis Acceleration	B-15
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12	Driver Neck Moment about Y Axis	B-22
13	Driver Neck Moment about Z Axis	B-23
14	Driver Neck Occipital Condyle Moment about X Axis	B-24
15	Driver Upper Rib Y-Axis Acceleration	B-25
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17	Driver Lower Rib Y-Axis Acceleration	B-27
18	Driver Lower Rib Y-Axis Velocity	B-28
19	Driver Lower Spine Y-Axis Acceleration	B-29
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21	Driver Pelvis Y-Axis Acceleration	B-31
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23	Left Rear Passenger Head X-Axis Acceleration	B-33
24	Left Rear Passenger Head X-Axis Velocity	B-34

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Driver and Passenger Dummy Instrumentation Plots (Continued)

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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44	Left Rear Passenger Pelvis Y-Axis Velocity	B-54

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Driver and Passenger Dummy Redundant Instrumentation Plots

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

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64	Left Rear Passenger Head Z-Axis Redundant Acceleration	B-75
65	Left Rear Passenger Head Z-Axis Redundant Velocity	B-76
66	Left Rear Passenger Head Resultant Redundant Acceleration	B-77
67	Left Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-78
68	Left Rear Passenger Upper Rib Y-Axis Redundant Velocity	B-79

Table of Data Plots (Continued)

Driver and Passenger Dummy Redundant Instrumentation Plots (Continued)

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
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71	Left Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-82
72	Left Rear Passenger Lower Spine Y-Axis Redundant Velocity	B-83
73	Left Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-84
74	Left Rear Passenger Pelvis Y-Axis Redundant Velocity	B-85

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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>
75	Right Side Sill at Front Seat X-Axis Acceleration	B-87
76	Right Side Sill at Front Seat X-Axis Velocity	B-88
77	Right Side Sill at Front Seat Y-Axis Acceleration	B-89
78	Right Side Sill at Front Seat Y-Axis Velocity	B-90
79	Right Side Sill at Front Seat Z-Axis Acceleration	B-91
80	Right Side Sill at Front Seat Z-Axis Velocity	B-92
81	Right Side Sill at Front Seat Resultant Acceleration	B-93
82	Right Side Sill at Rear Seat X-Axis Acceleration	B-94
83	Right Side Sill at Rear Seat X-Axis Velocity	B-95
84	Right Side Sill at Rear Seat Y-Axis Acceleration	B-96
85	Right Side Sill at Rear Seat Y-Axis Velocity	B-97
86	Right Side Sill at Rear Seat Z-Axis Acceleration	B-98
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Table of Data Plots (Continued)
Test Vehicle Instrumentation Plots (Continued)
Acceleration Data - Filter Class 60
Integration Data - Filter Class 180

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102	Right Rear Occupant Compartment Y-Axis Acceleration	B-114
103	Right Rear Occupant Compartment Y-Axis Velocity	B-115
104	Right Rear Occupant Compartment Y-Axis Displacement	B-116
105	Left Lower A-Post Y-Axis Acceleration	B-117
106	Left Lower A-Post Y-Axis Velocity	B-118
107	Left Middle A-Post Y-Axis Acceleration	B-119
108	Left Middle A-Post Y-Axis Velocity	B-120
109	Left Lower B-Post Y-Axis Acceleration	B-121
110	Left Lower B-Post Y-Axis Velocity	B-122
111	Left Middle B-Post Y-Axis Acceleration	B-123
112	Left Middle B-Post Y-Axis Velocity	B-124
113	Left Front Seat Track Y-Axis Acceleration	B-125
114	Left Front Seat Track Y-Axis Velocity	B-126
115	Left Rear Seat Track Y-Axis Acceleration	B-127
116	Left Rear Seat Track Y-Axis Velocity	B-128
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118	Vehicle Center of Gravity X-Axis Velocity	B-130
119	Vehicle Center of Gravity Y-Axis Acceleration	B-131
120	Vehicle Center of Gravity Y-Axis Velocity	B-132
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122	Vehicle Center of Gravity Z-Axis Velocity	B-134
123	Vehicle Center of Gravity Resultant Acceleration	B-135

Table of Data Plots (Continued)
 MDB Instrumentation Plots
 Acceleration Data - Filter Class 60
 Integration Data - Filter Class 180

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
124	MDB Center of Gravity X-Axis Acceleration	B-137
125	MDB Center of Gravity X-Axis Velocity	B-138
126	MDB Center of Gravity Y-Axis Acceleration	B-139
127	MDB Center of Gravity Y-Axis Velocity	B-140
128	MDB Center of Gravity Z-Axis Acceleration	B-141
129	MDB Center of Gravity Z-Axis Velocity	B-142
130	MDB Center of Gravity Resultant Acceleration	B-143
131	MDB Left Rear X-Axis Acceleration	B-144
132	MDB Left Rear X-Axis Velocity	B-145
133	MDB Left Rear Y-Axis Acceleration	B-146
134	MDB Left Rear Y-Axis Velocity	B-147
135	MDB Right Side Contact Switch	B-148
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Driver and Passenger Dummy Instrumentation Plots
Acceleration Data - FIR Filtered

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
137	Driver Upper Rib Y-Axis Acceleration	B-151
138	Driver Lower Rib Y-Axis Acceleration	B-152
139	Driver Lower Spine Y-Axis Acceleration	B-153
140	Driver Pelvis Y-Axis Acceleration	B-154
141	Left Rear Passenger Upper Rib Y-Axis Acceleration	B-155
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143	Left Rear Passenger Lower Spine Y-Axis Acceleration	B-157
144	Left Rear Passenger Pelvis Y-Axis Acceleration	B-158
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146	Driver Lower Rib Y-Axis Redundant Acceleration	B-160
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150	Left Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-164
151	Left Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-165
152	Left Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-166

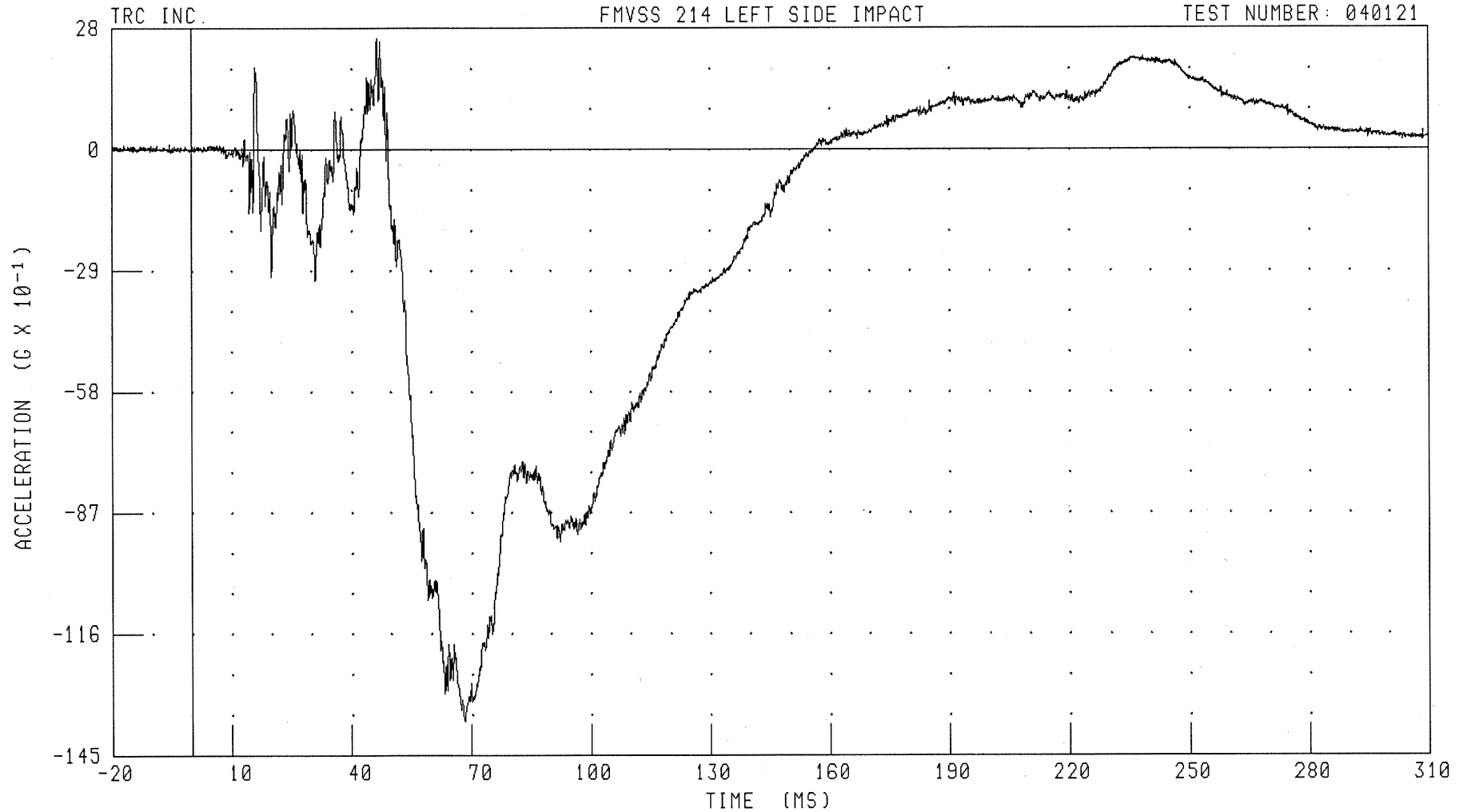
Driver and Passenger Dummy Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXC1 FILTER: CH. CLASS 1000

PEAK DATA: 2.66 G @ 46.72 MS; -13.70 G @ 68.24 MS

B-11

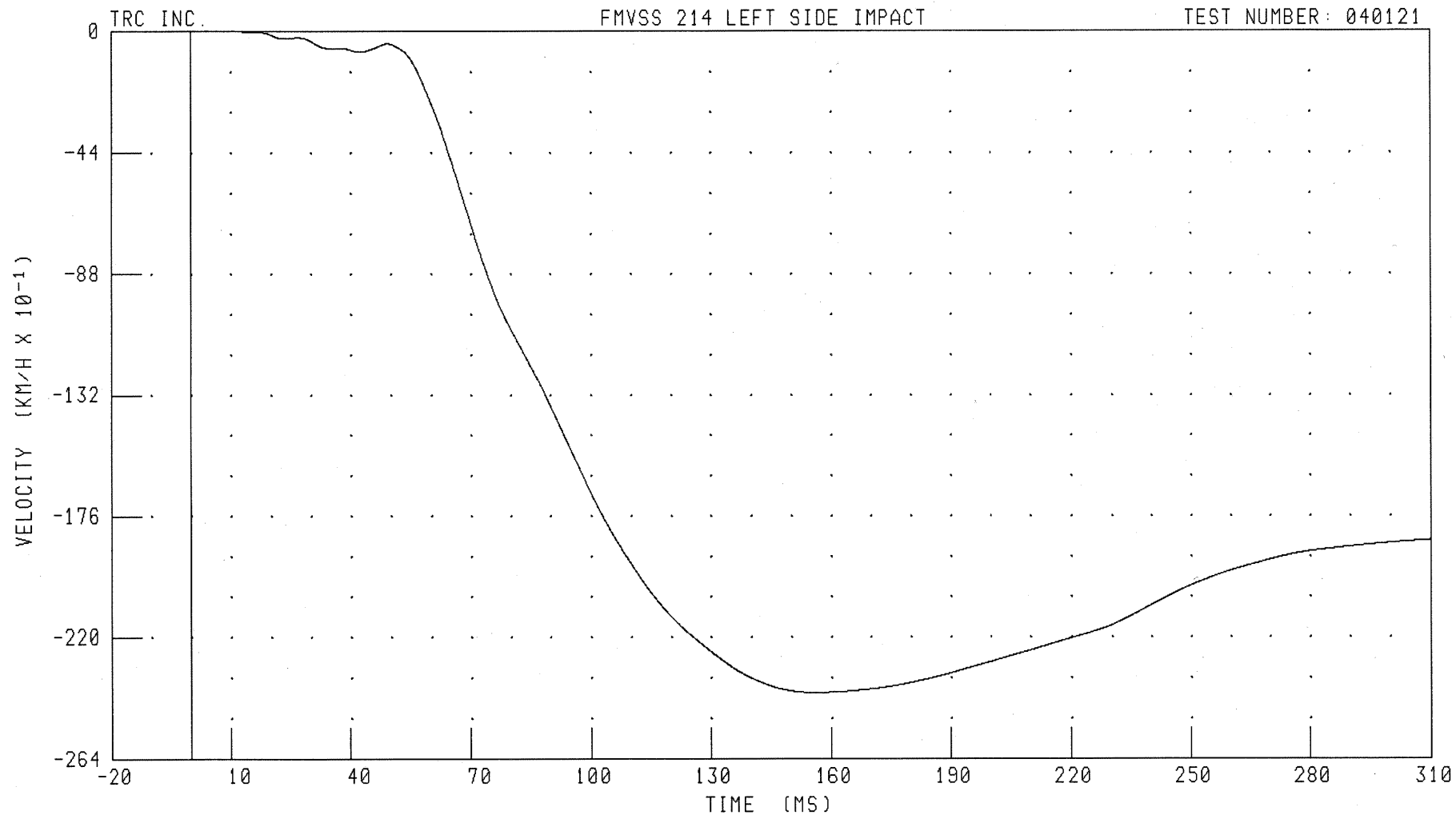
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.01 KM/H @ 7.76 MS; -24.02 KM/H @ 156.24 MS

B-12

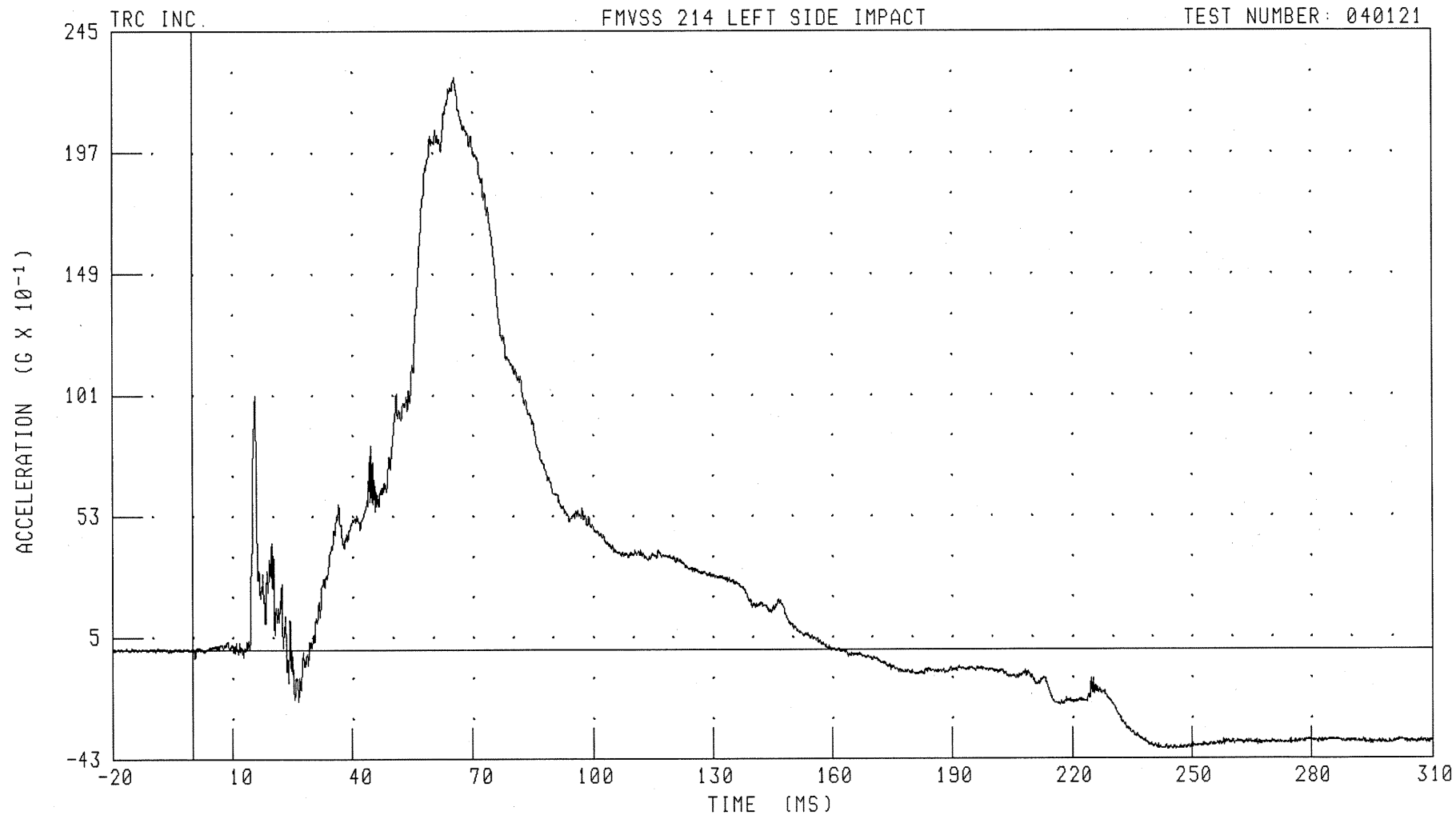
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYG1 FILTER: CH. CLASS 1000

PEAK DATA: 22.69 G @ 65.52 MS; -3.95 G @ 244.00 MS

B-13

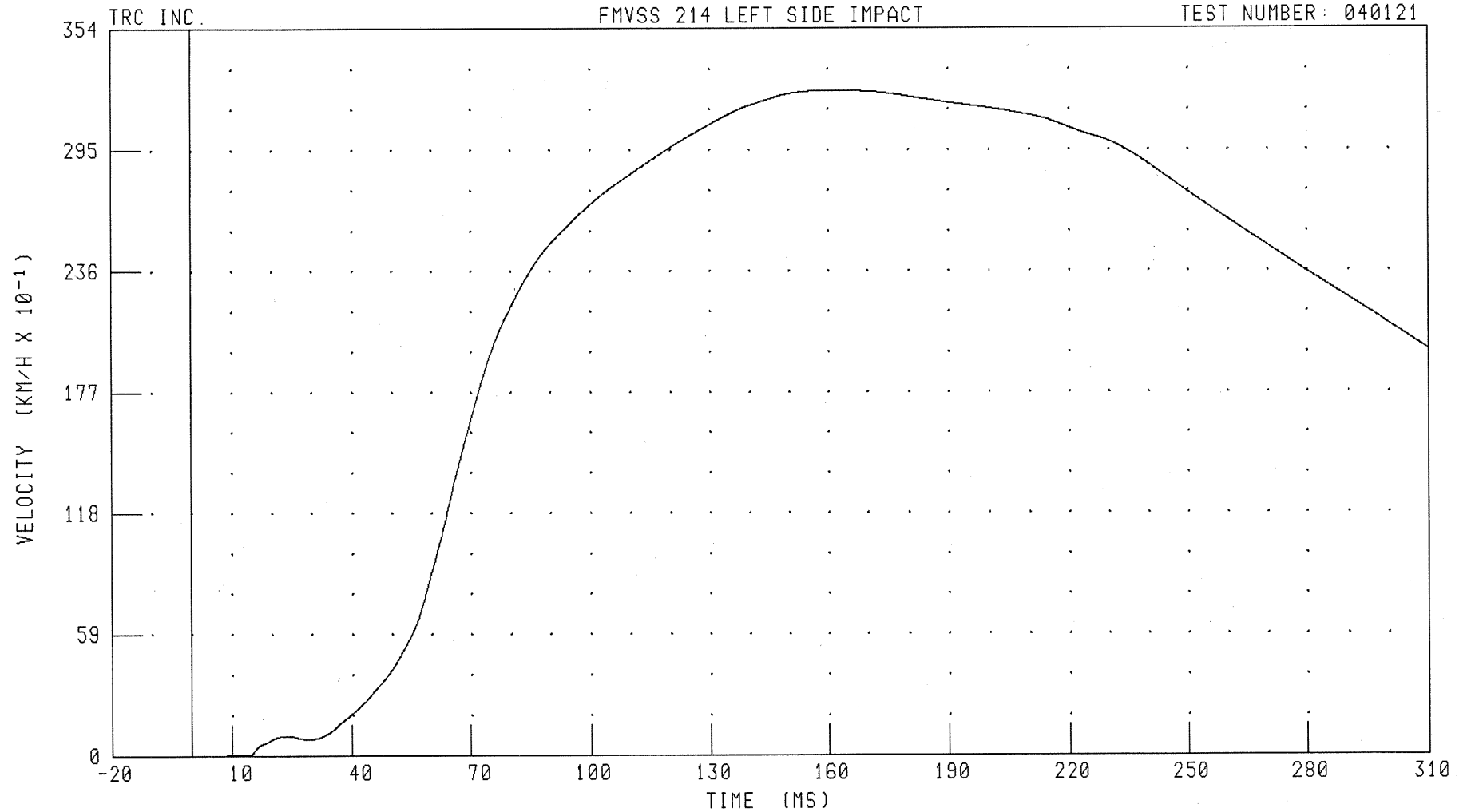
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYV1

FILTER: CH. CLASS 180

PEAK DATA: 32.38 KM/H @ 160.56 MS; 0.00 KM/H @ 1.28 MS

B-14

040121

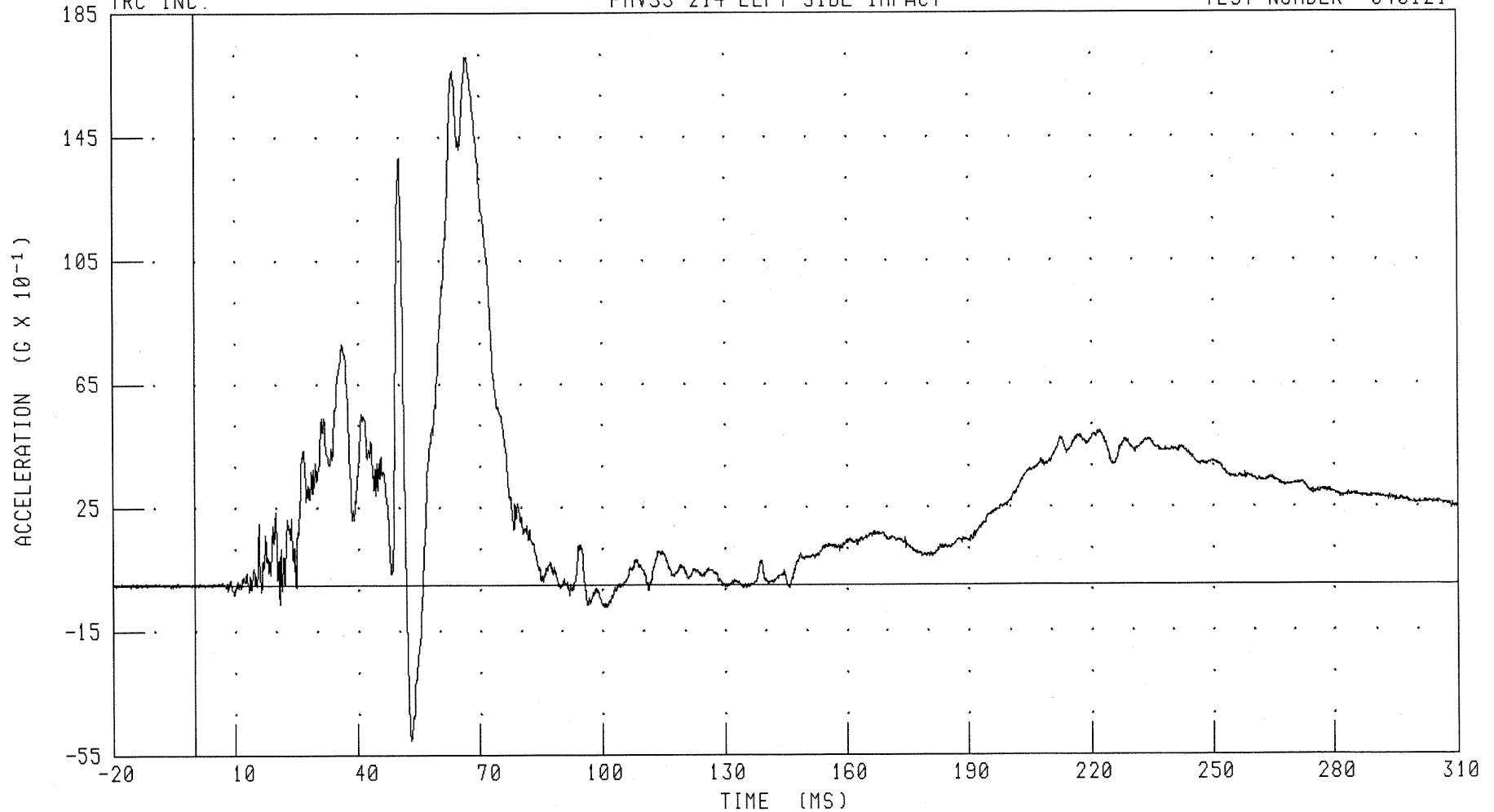
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121

TRC INC.



CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

PEAK DATA: 17.10 G @ 67.04 MS; -5.02 G @ 52.96 MS

B-15

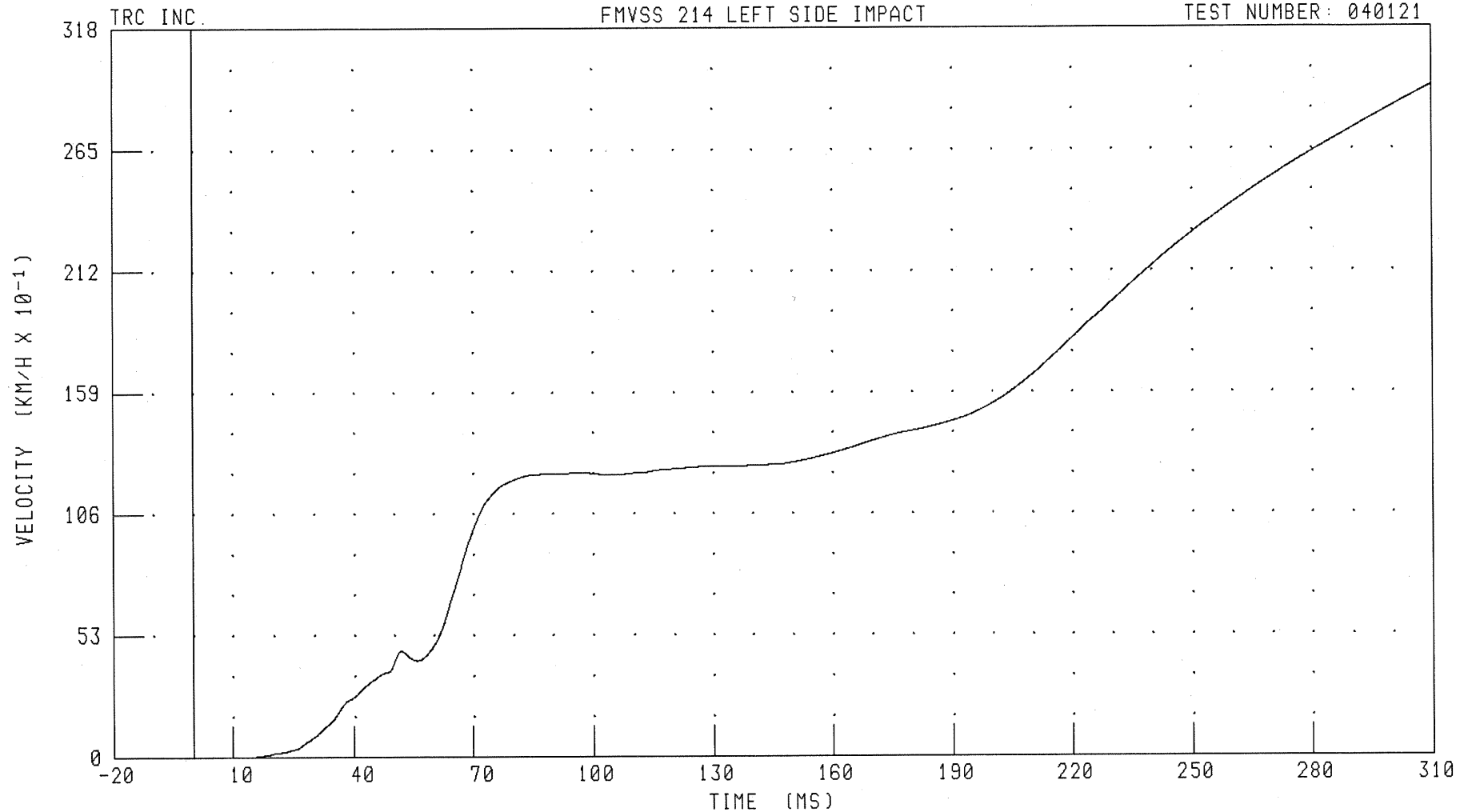
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDZV1

FILTER: CH. CLASS 180

PEAK DATA: 29.26 KM/H @ 310.00 MS; -0.01 KM/H @ 11.20 MS

B-16

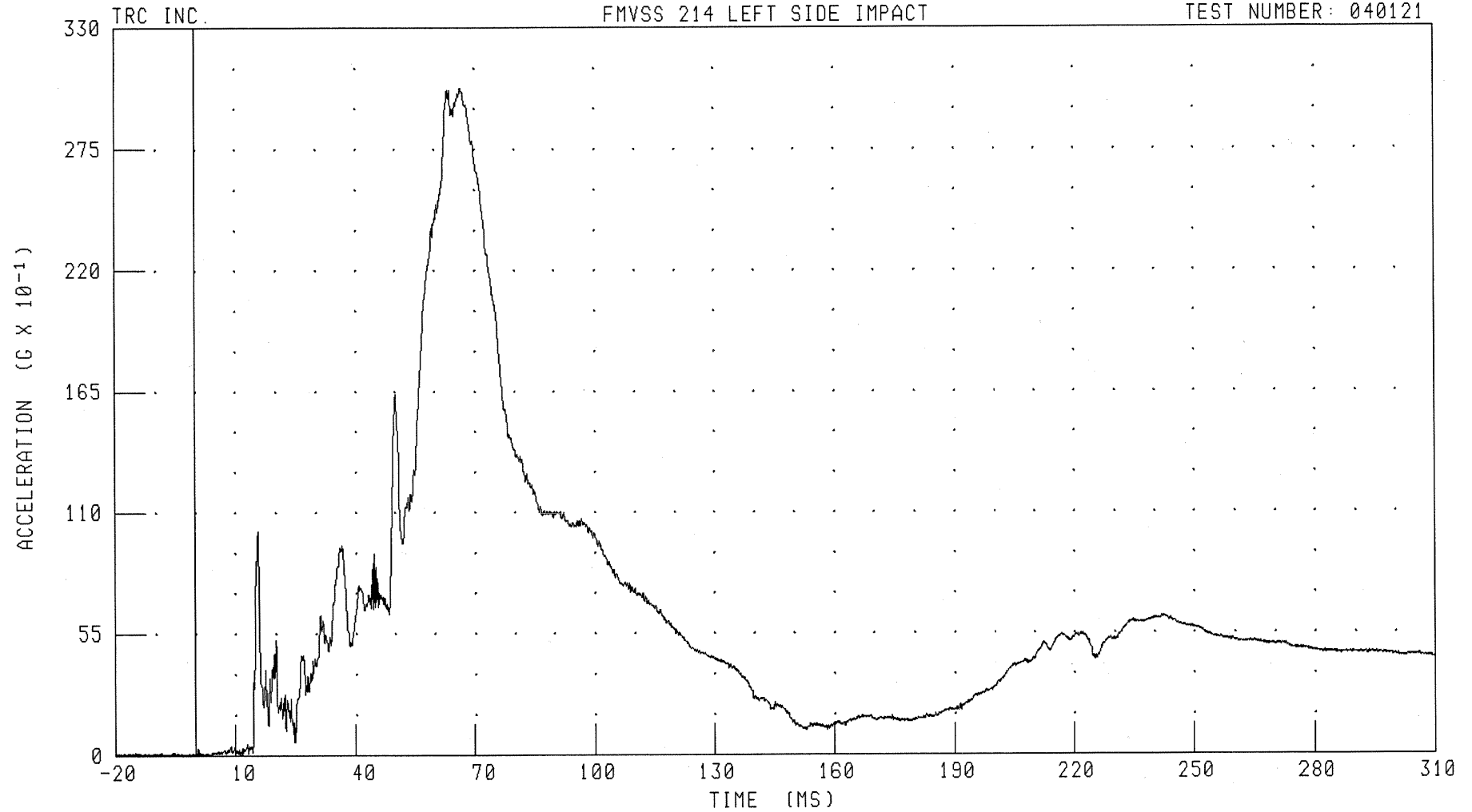
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

PEAK DATA: 30.25 G @ 66.72 MS; 0.00 G @ -19.92 MS

B-17

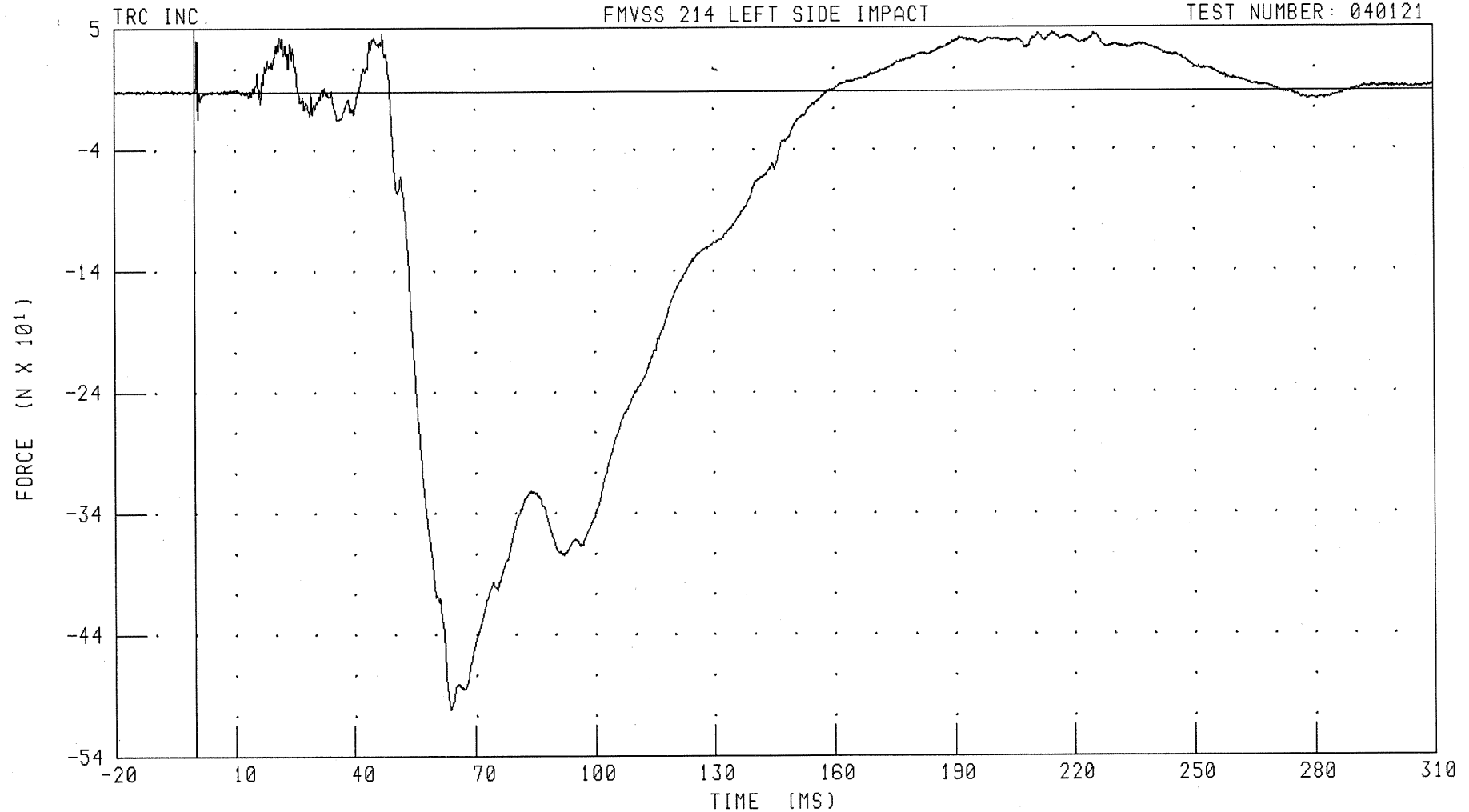
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER NECK X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKXF1 FILTER: CH. CLASS 1000

PEAK DATA: 47.93 N @ 214.88 MS; -509.79 N @ 63.84 MS

B-18

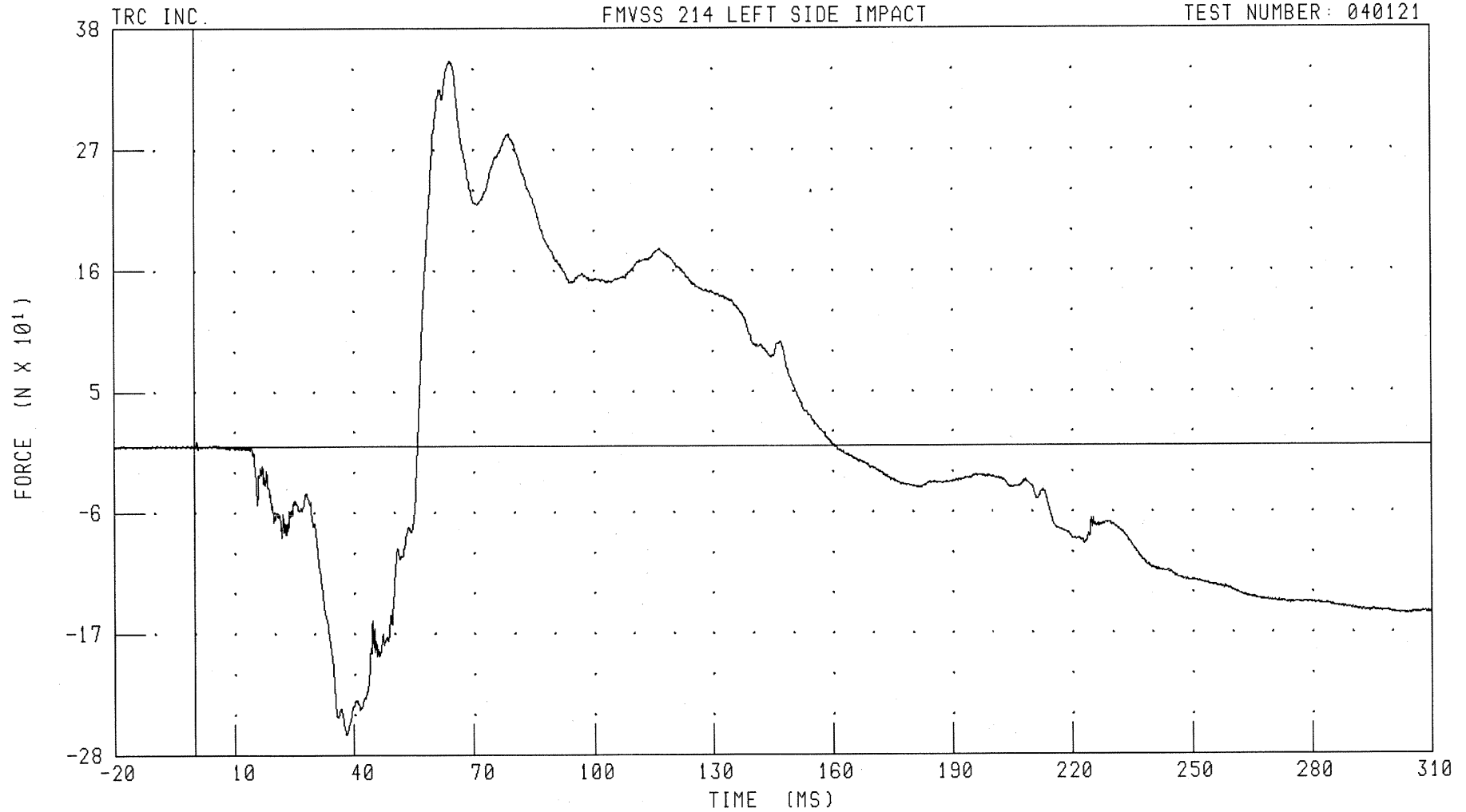
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER NECK Y-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

PEAK DATA: 350.26 N @ 64.16 MS; -261.65 N @ 38.08 MS

B-19

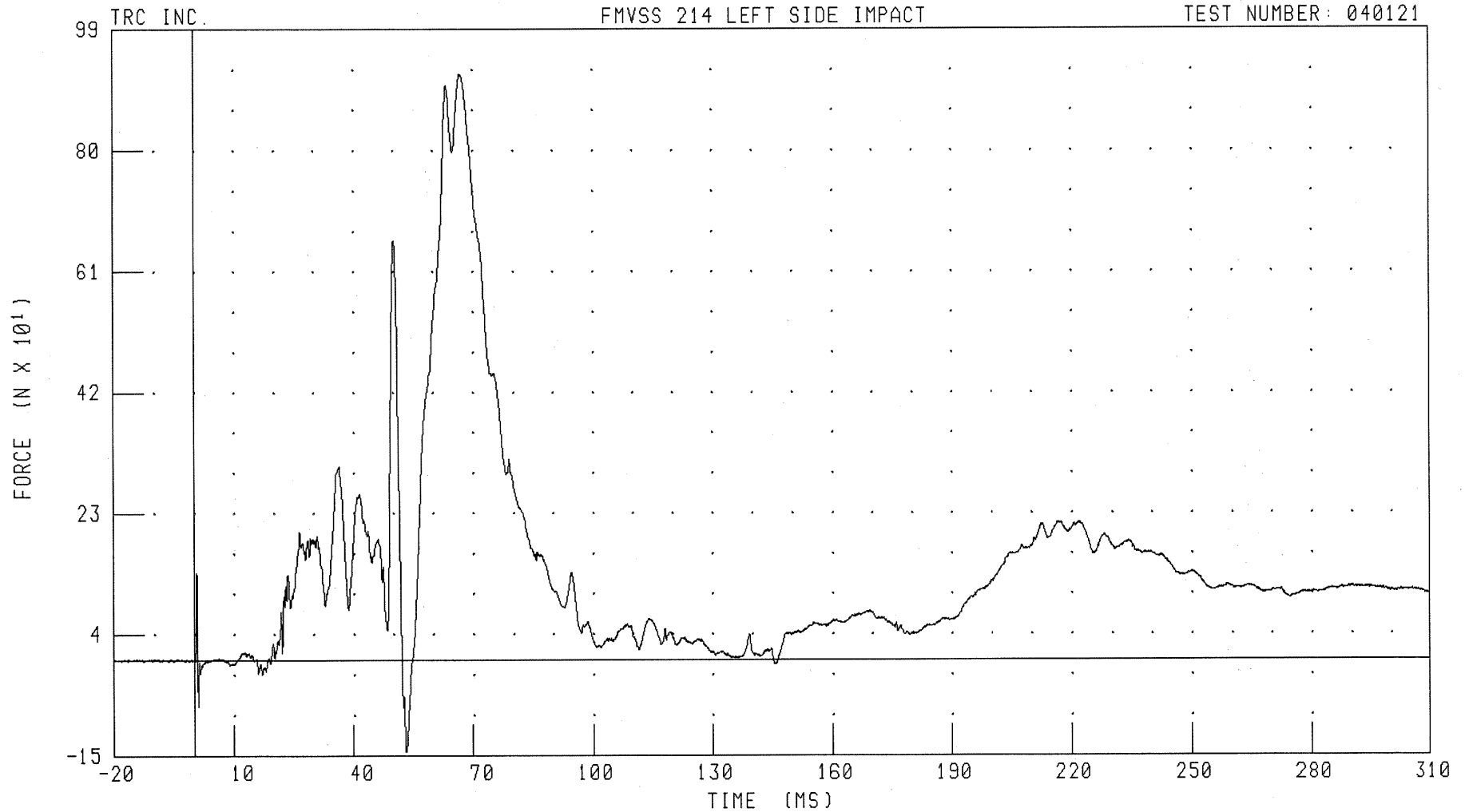
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKZF1 FILTER: CH. CLASS 1000

PEAK DATA: 919.96 N @ 66.96 MS; -144.49 N @ 53.04 MS

B-20

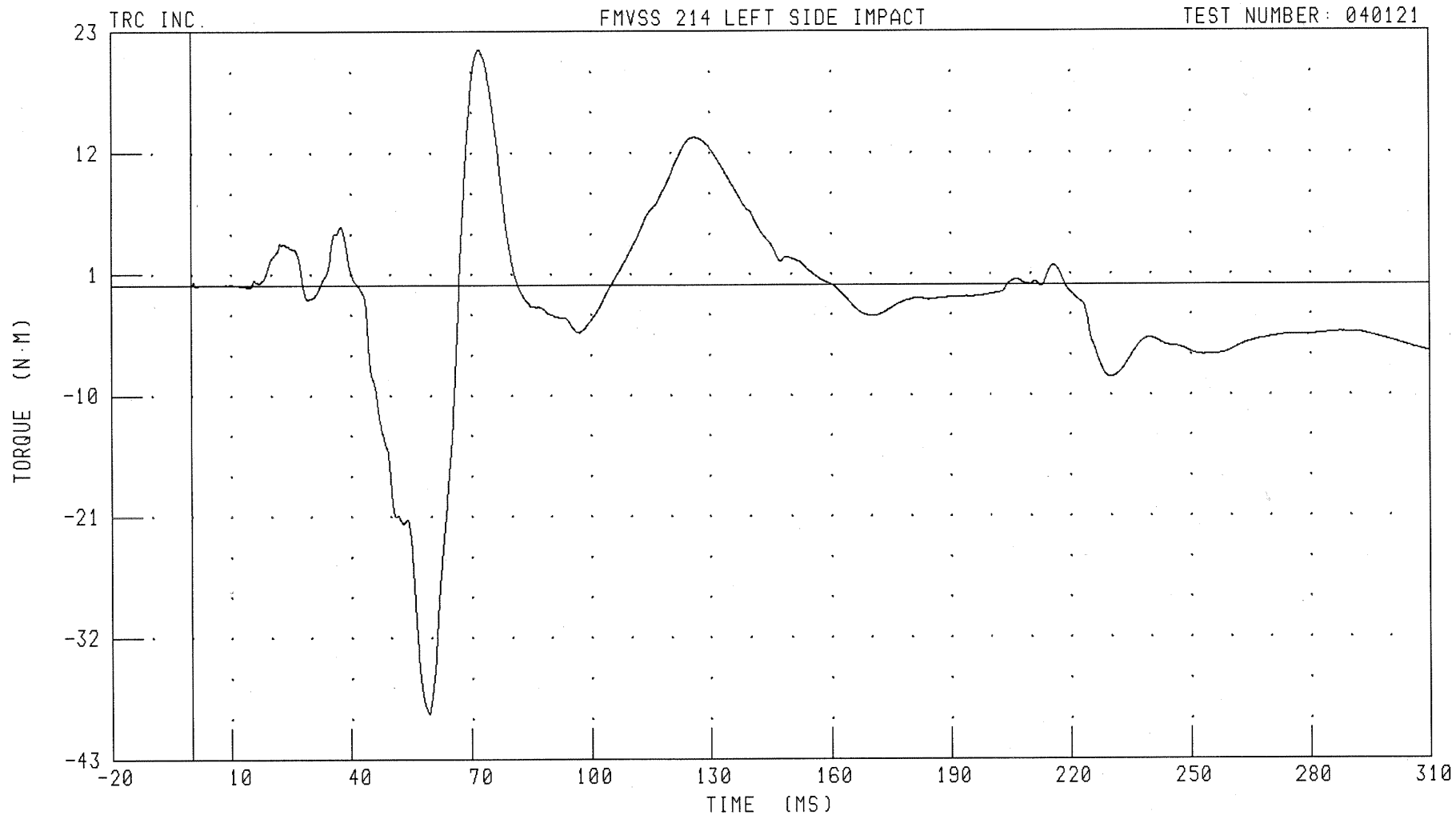
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER NECK MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKXM1 FILTER: CH. CLASS 600

PEAK DATA: 21.34 N·M @ 72.16 MS; -38.89 N·M @ 59.36 MS

B-21

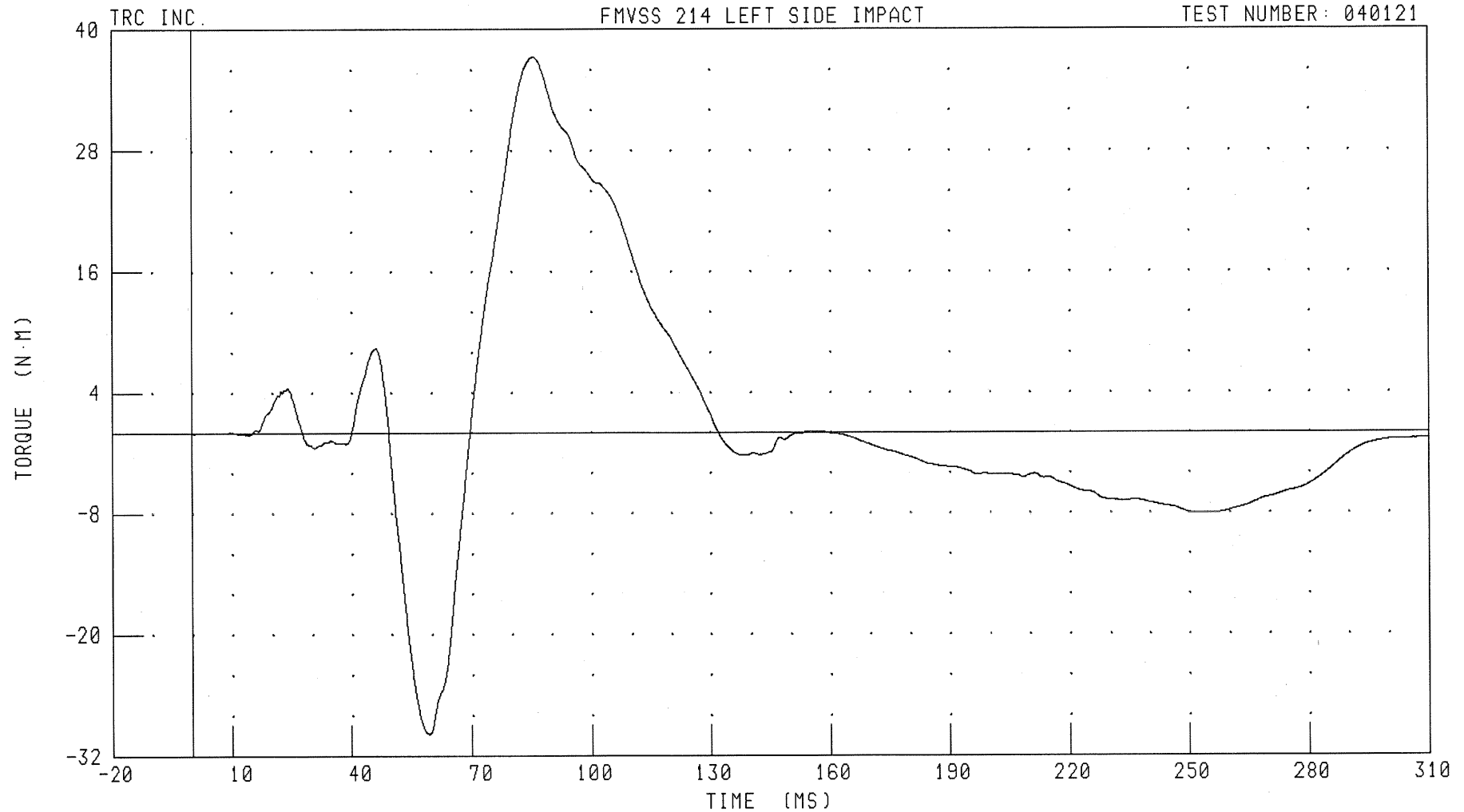
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER NECK MOMENT ABOUT Y AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKYM1 FILTER: CH. CLASS 600

PEAK DATA: 37.28 N·M @ 85.76 MS; -29.83 N·M @ 59.36 MS

B-22

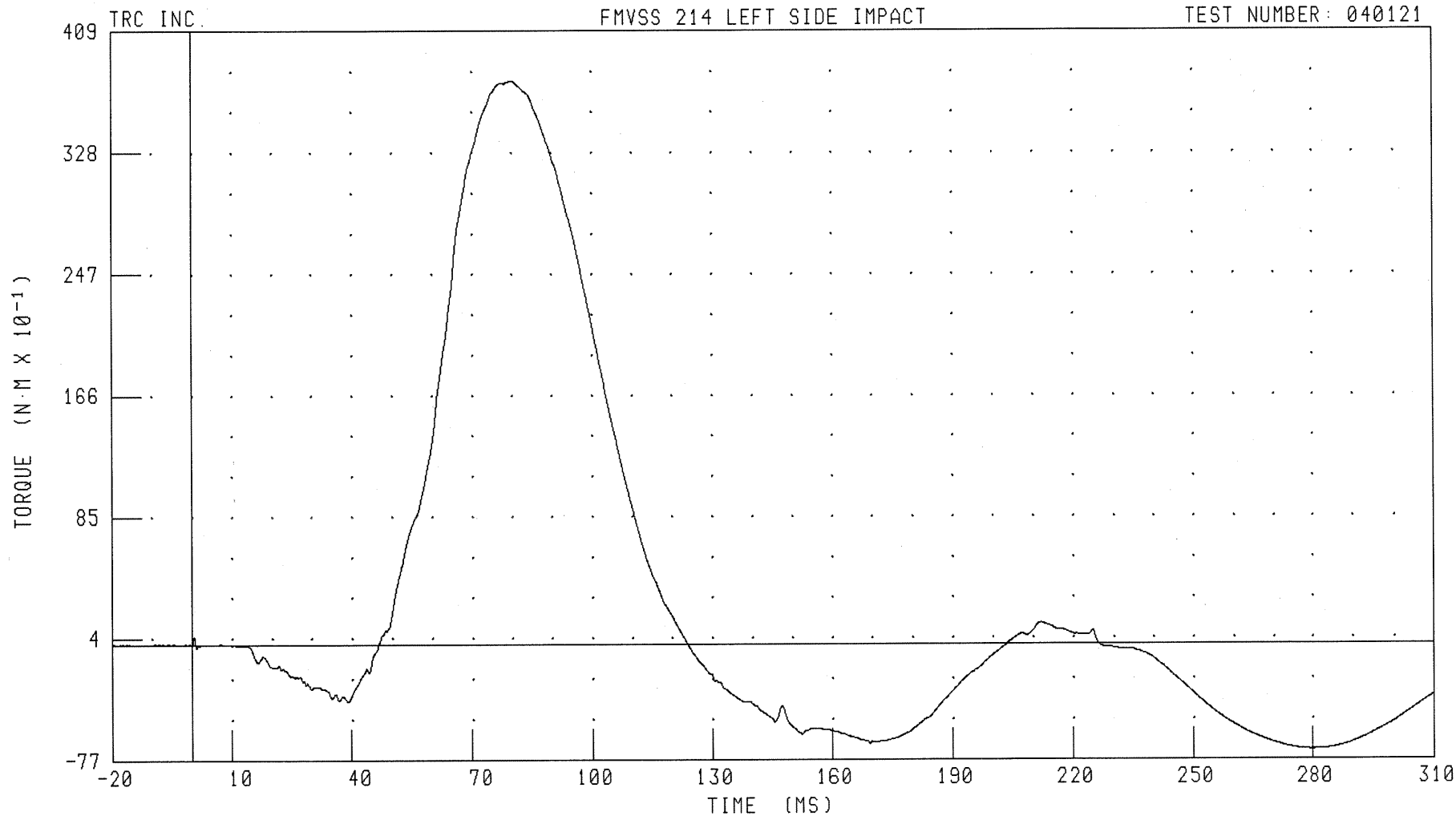
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER NECK MOMENT ABOUT Z AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKZM1 FILTER: CH. CLASS 600

PEAK DATA: 37.57 N·M @ 79.92 MS; -7.06 N·M @ 279.44 MS

B-23

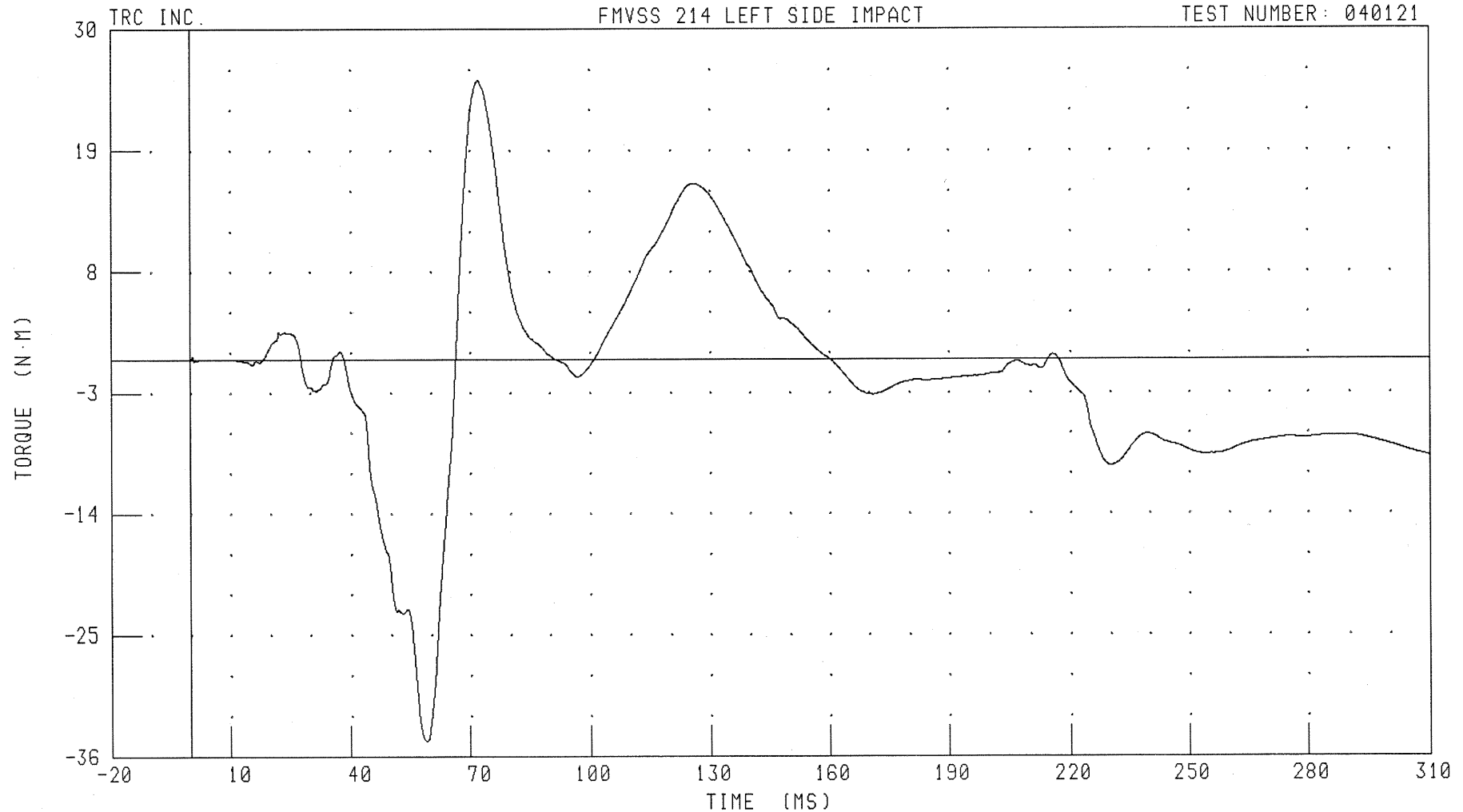
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER NECK OCCIPITAL CONDOYLE MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NK0XM1 FILTER: CH. CLASS 600

PEAK DATA: 25.34 N·M @ 72.16 MS; -34.58 N·M @ 58.88 MS

B-24

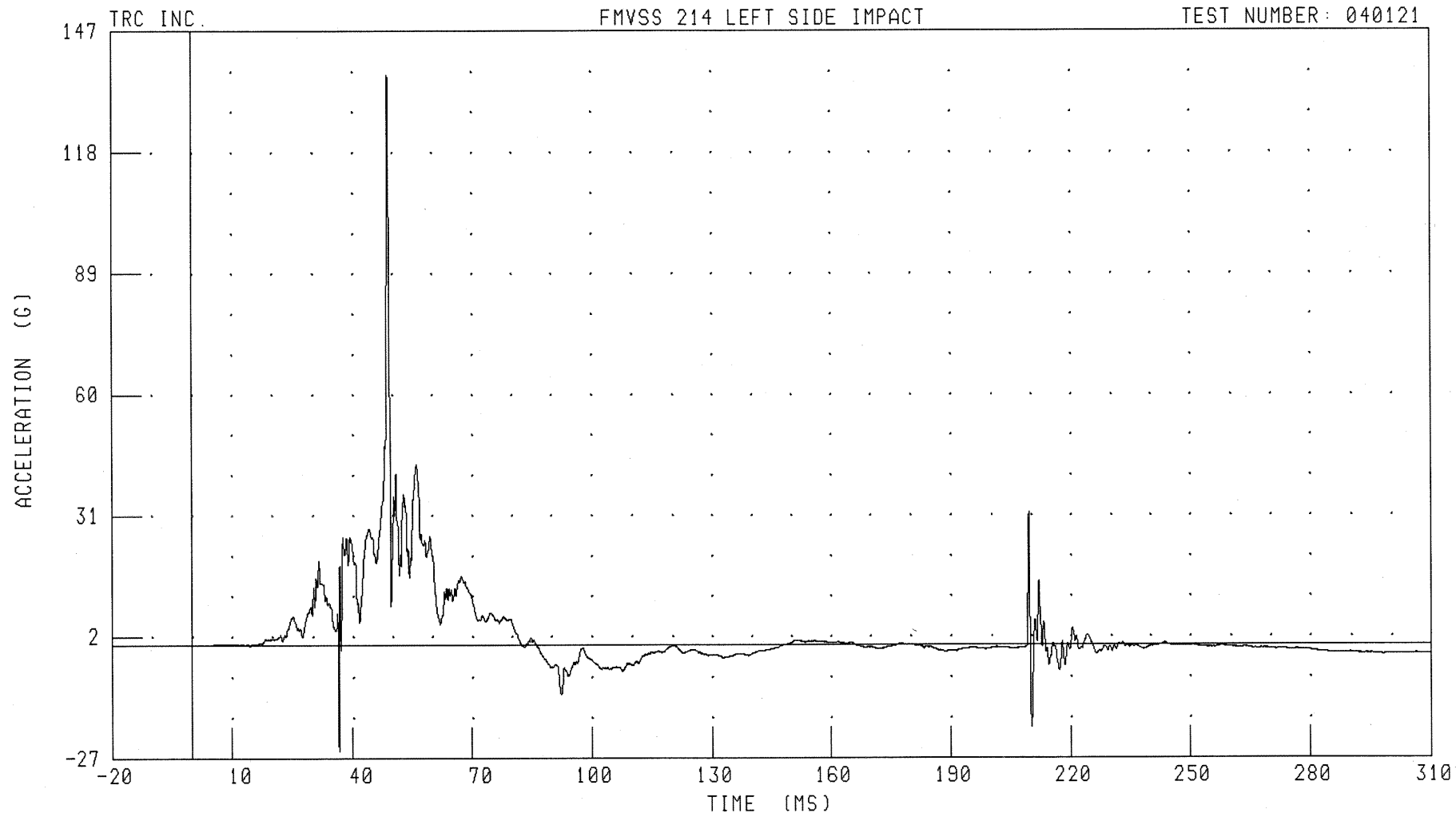
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYG1 FILTER: CH. CLASS 1000

PEAK DATA: 136.56 G @ 48.88 MS; -25.42 G @ 36.48 MS

B-25

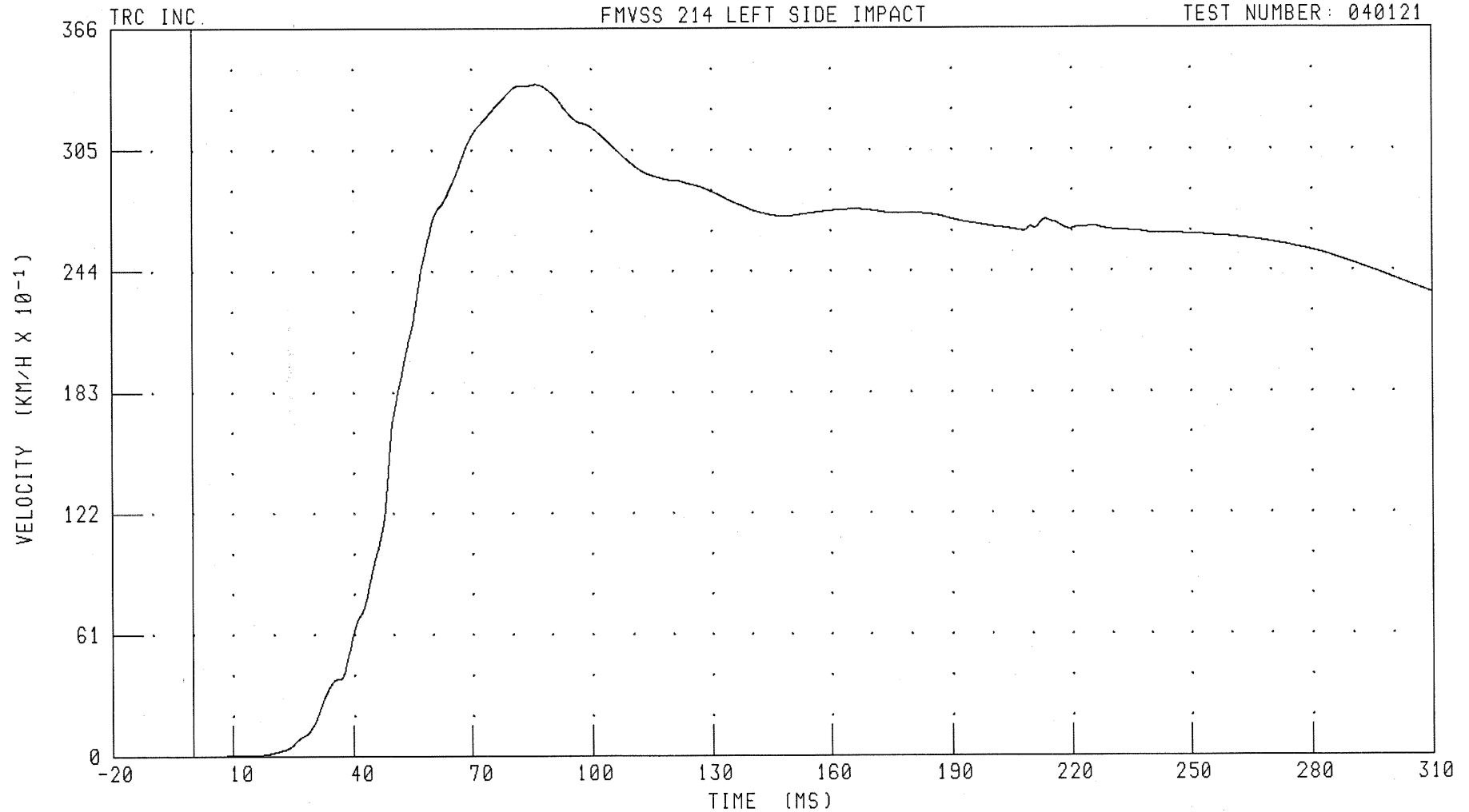
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER UPPER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYV1

FILTER: CH. CLASS 180

PEAK DATA: 33.80 KM/H @ 86.24 MS; 0.00 KM/H @ 0.00 MS

B-26

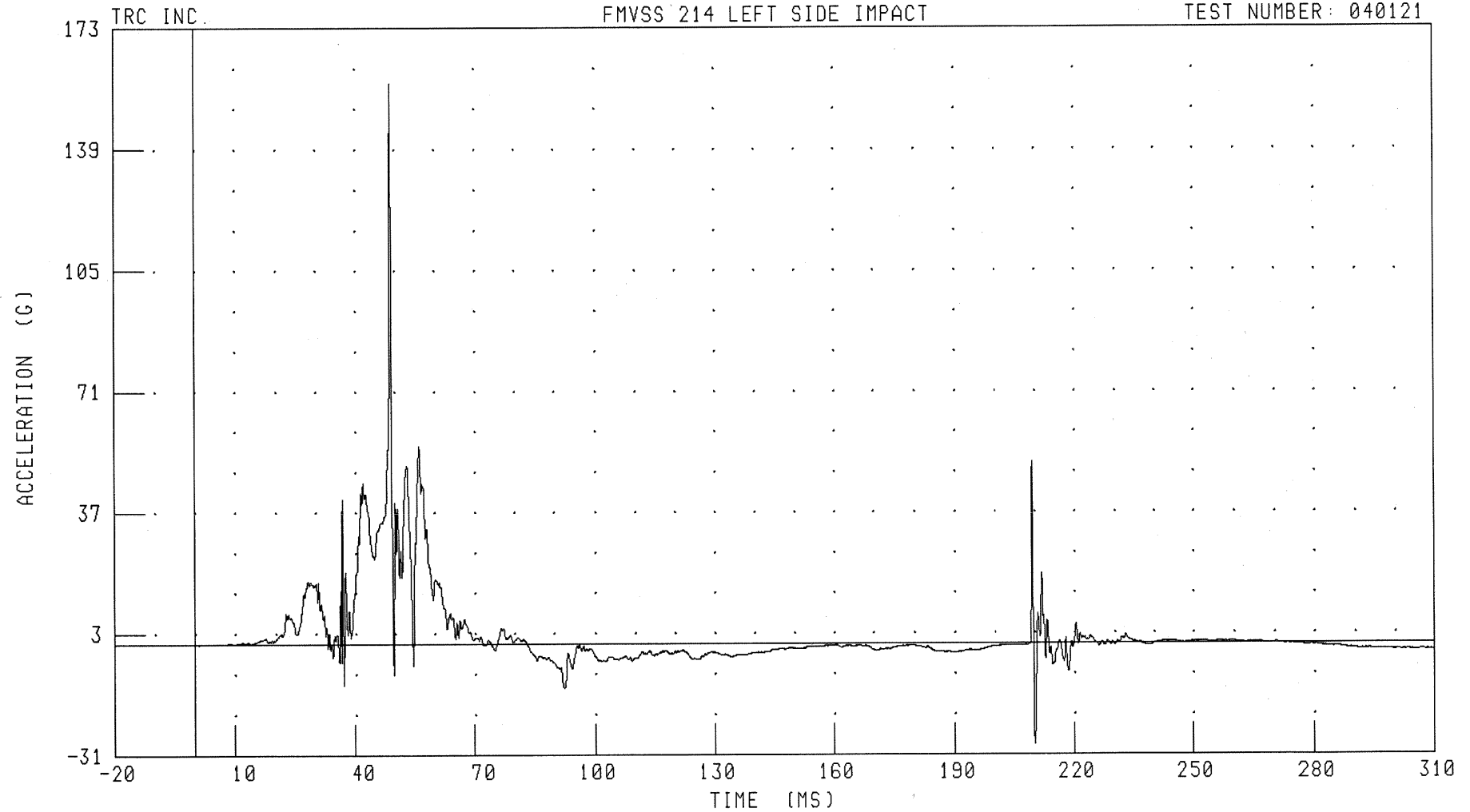
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYG1 FILTER: CH. CLASS 1000

PEAK DATA: 157.42 G @ 49.04 MS; -28.28 G @ 210.08 MS

B-27

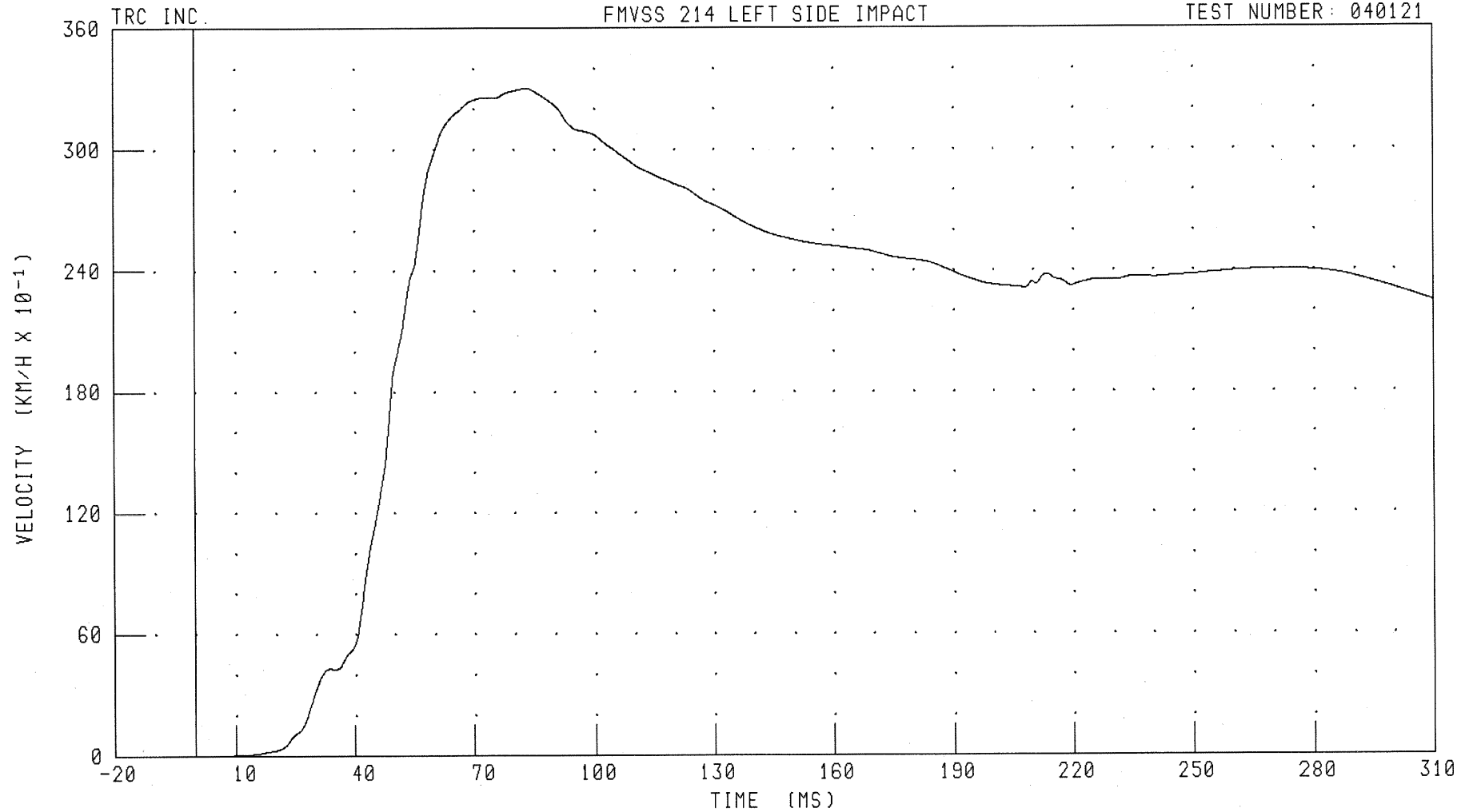
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER LOWER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYV1

FILTER: CH. CLASS 180

PEAK DATA: 33.02 KM/H @ 83.20 MS; 0.00 KM/H @ 0.00 MS

B-28

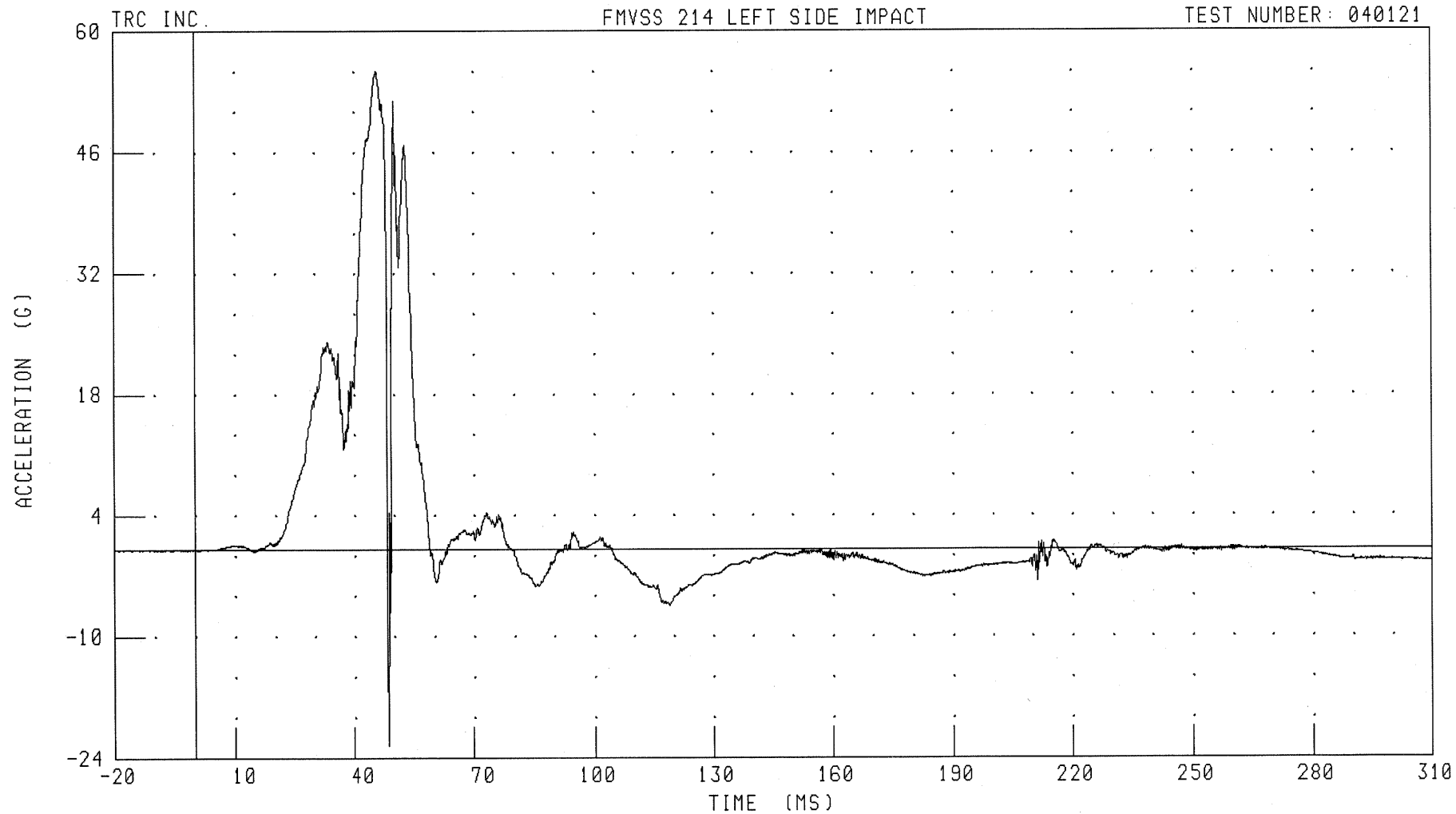
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YG1 FILTER: CH. CLASS 1000

PEAK DATA: 55.38 G @ 45.84 MS; -22.59 G @ 48.48 MS

B-29

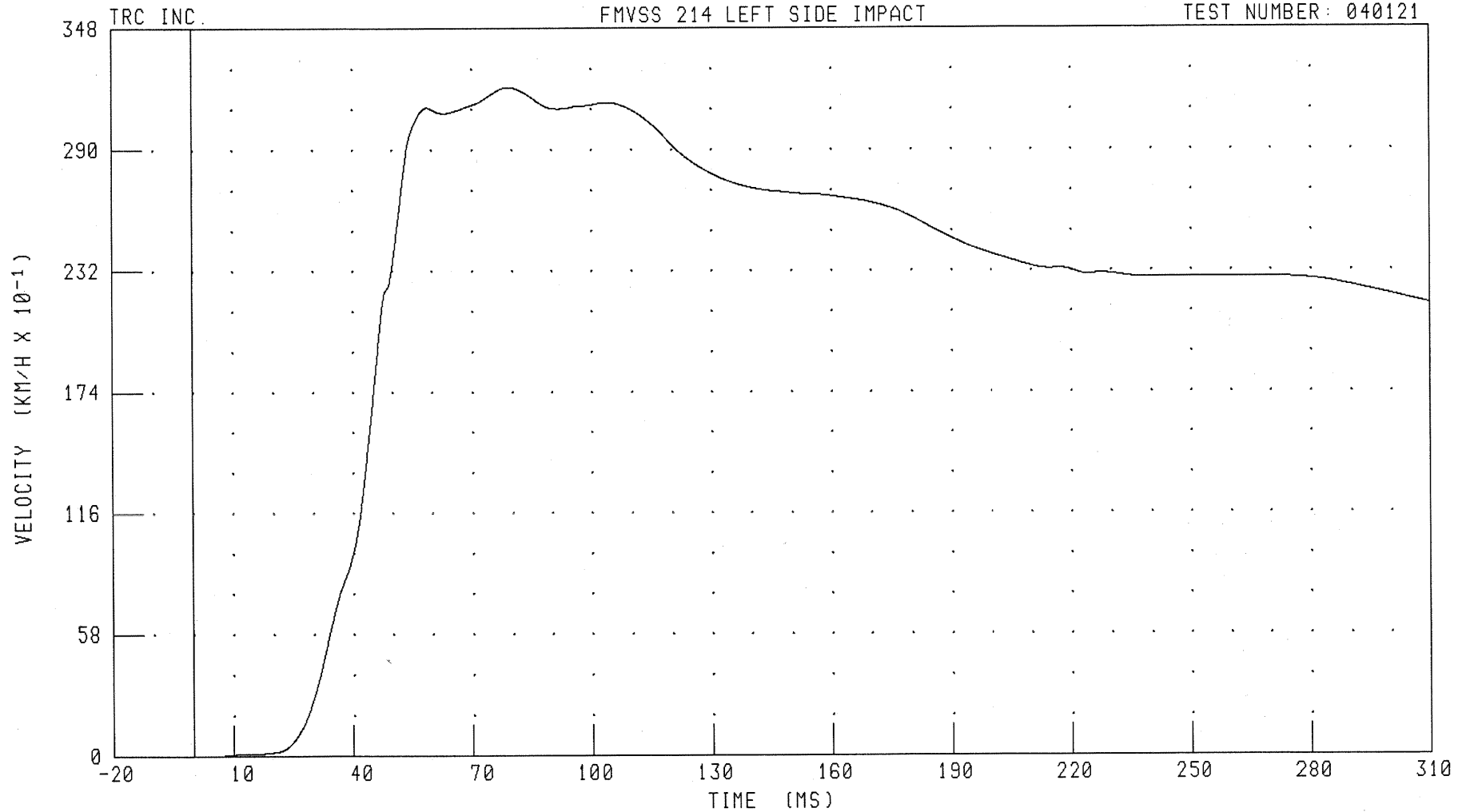
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER LOWER SPINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YV1

FILTER: CH. CLASS 180

PEAK DATA: 31.97 KM/H @ 79.44 MS; 0.00 KM/H @ 1.20 MS

B-30

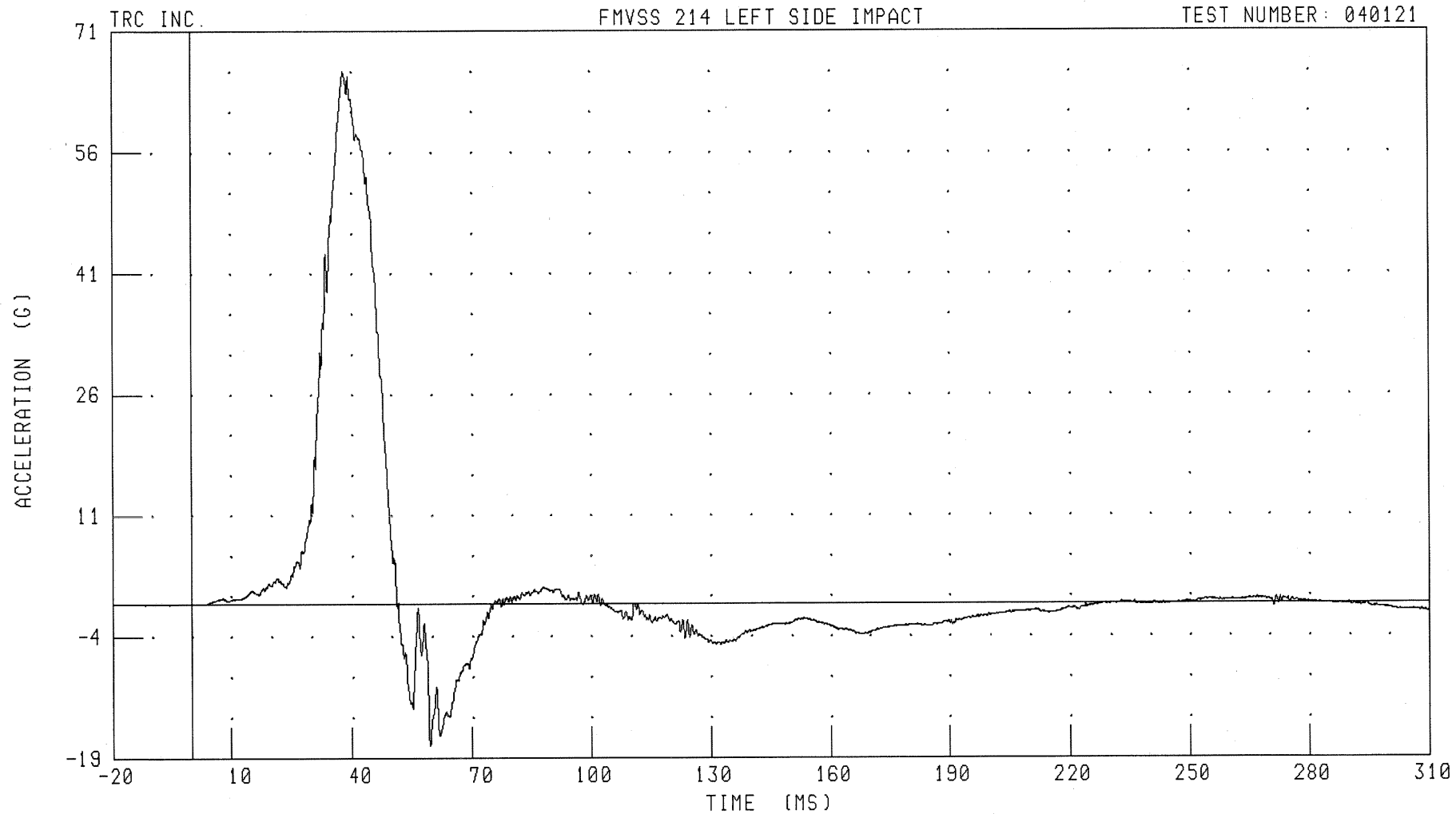
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYG1

FILTER: CH. CLASS 1000

PEAK DATA: 66.08 G @ 38.24 MS; -17.49 G @ 59.44 MS

B-31

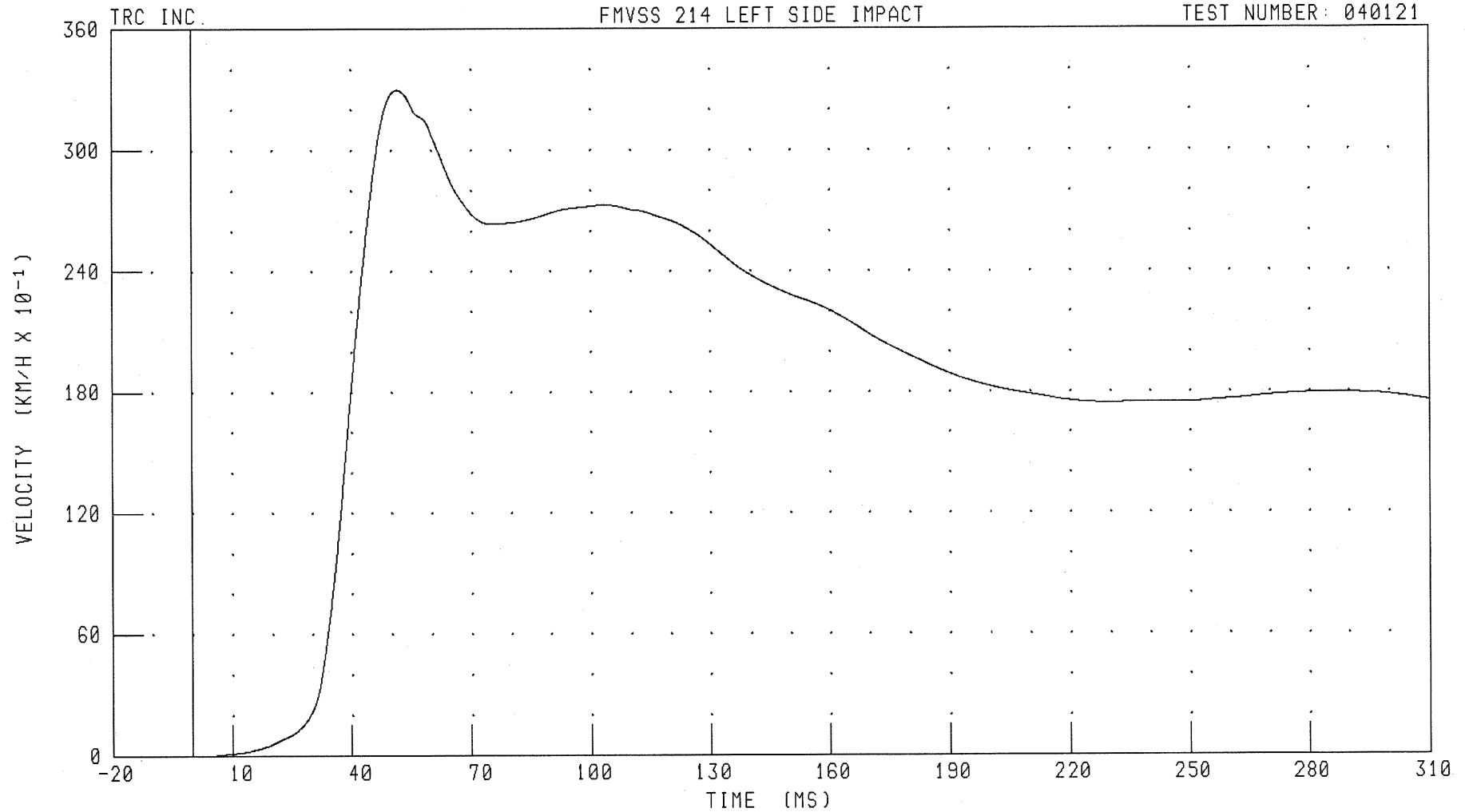
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYV1

FILTER: CH. CLASS 180

PEAK DATA: 32.99 KM/H @ 51.60 MS; 0.00 KM/H @ 0.00 MS

B-32

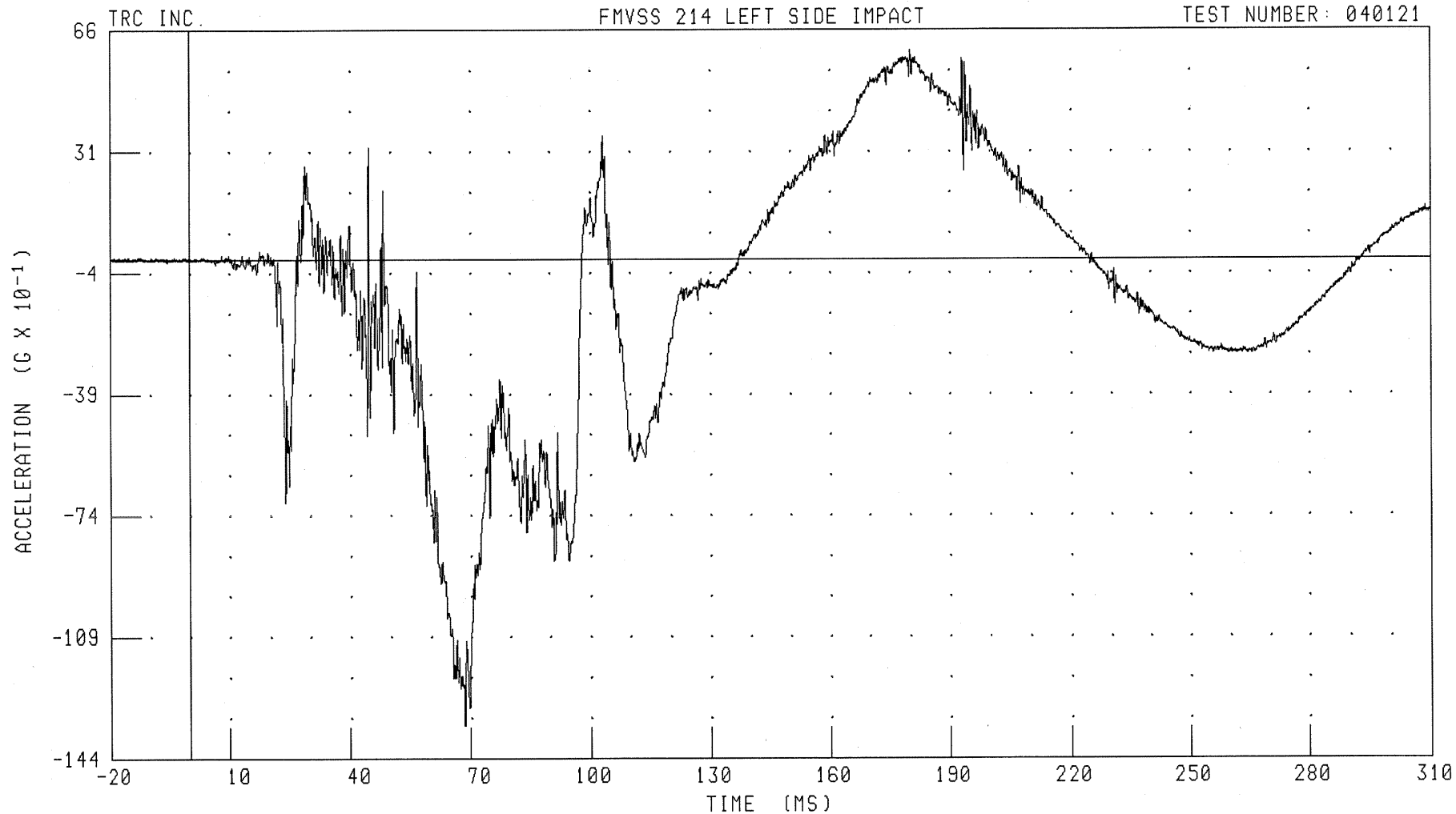
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXG4

FILTER: CH. CLASS 1000

PEAK DATA: 6.01 G @ 180.40 MS; -13.45 G @ 68.48 MS

B-33

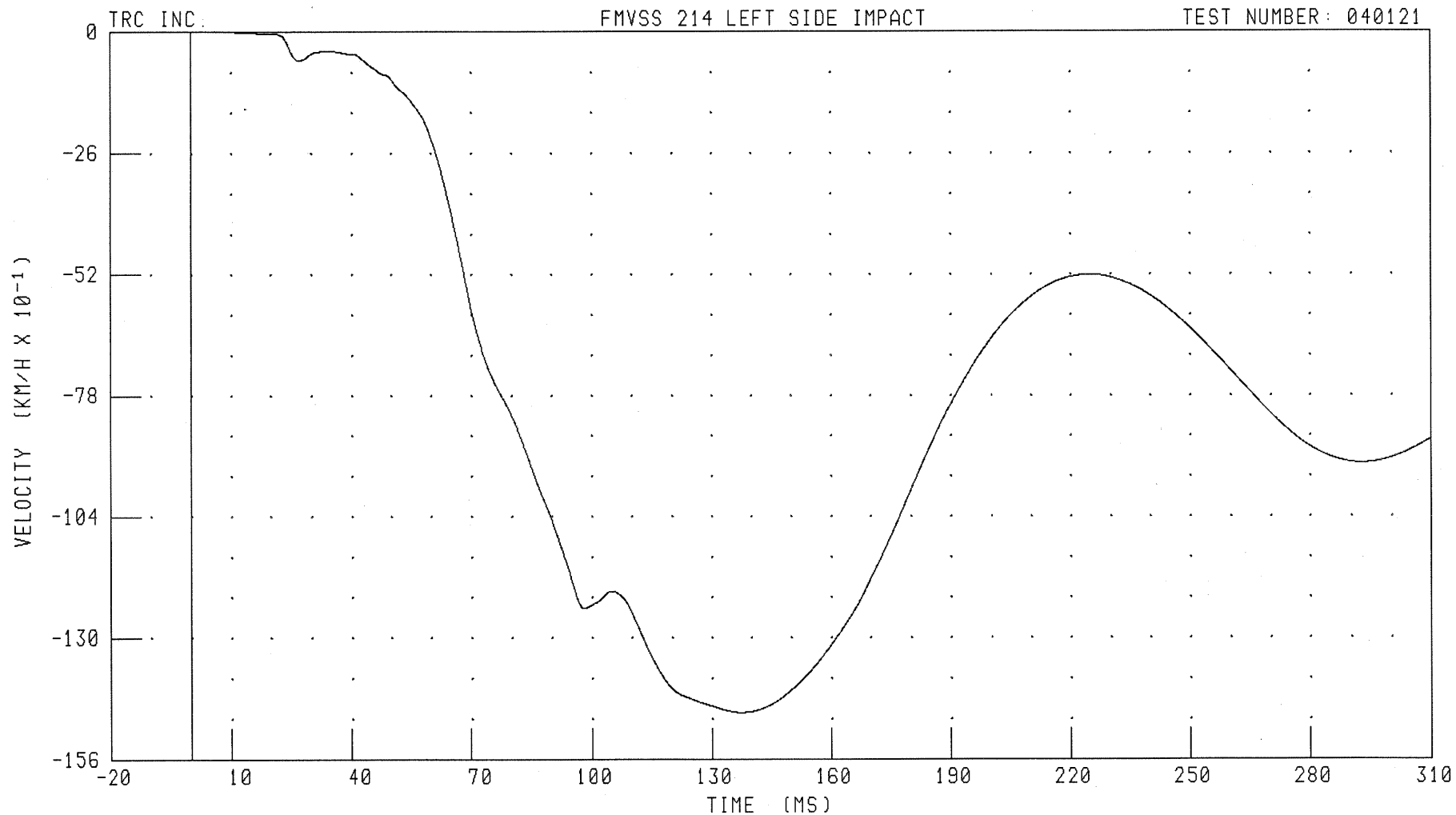
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXV4

FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 4.24 MS; -14.60 KM/H @ 137.36 MS

B-34

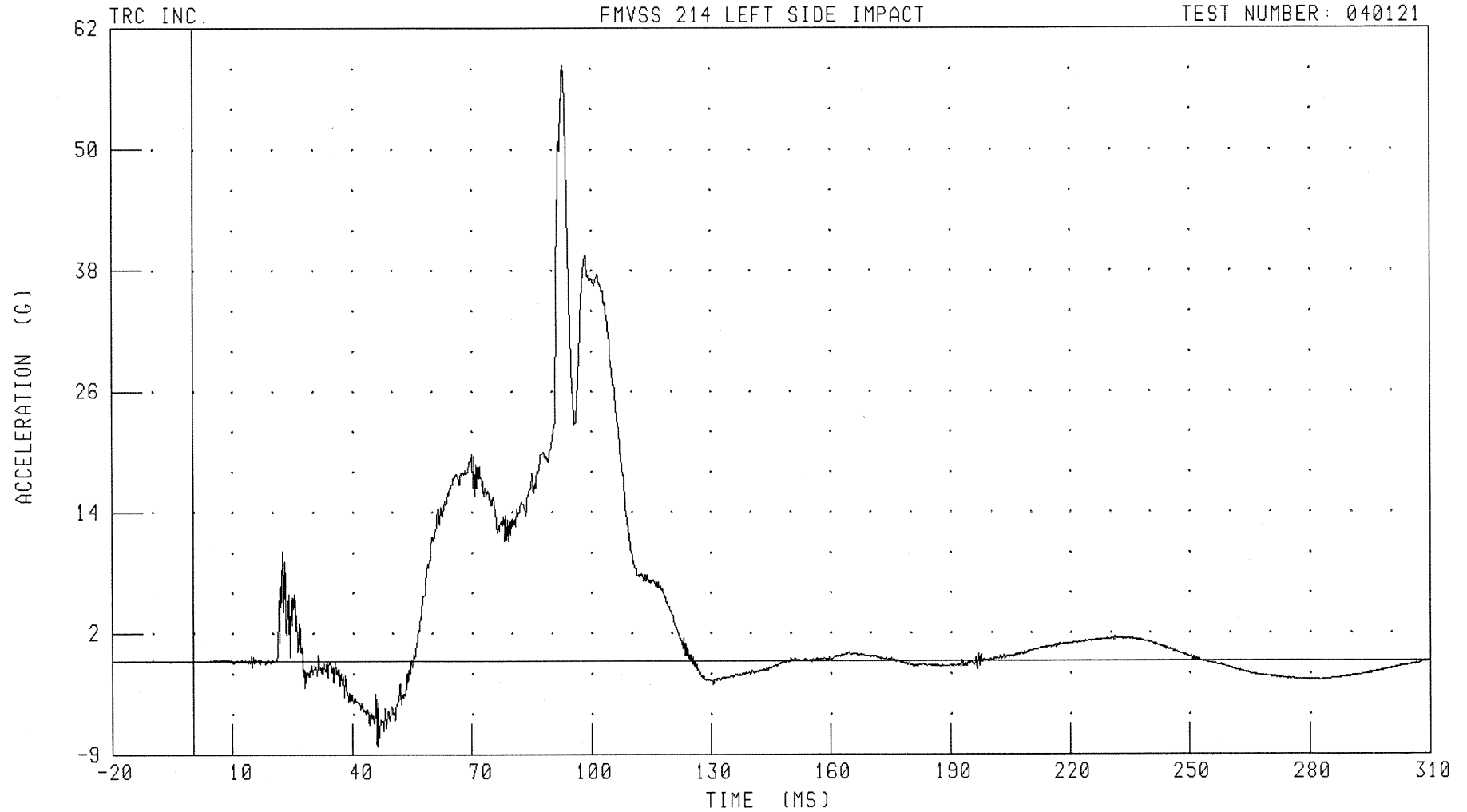
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYG4 FILTER: CH. CLASS 1000

PEAK DATA: 59.12 G @ 92.88 MS; -8.38 G @ 46.16 MS

B-35

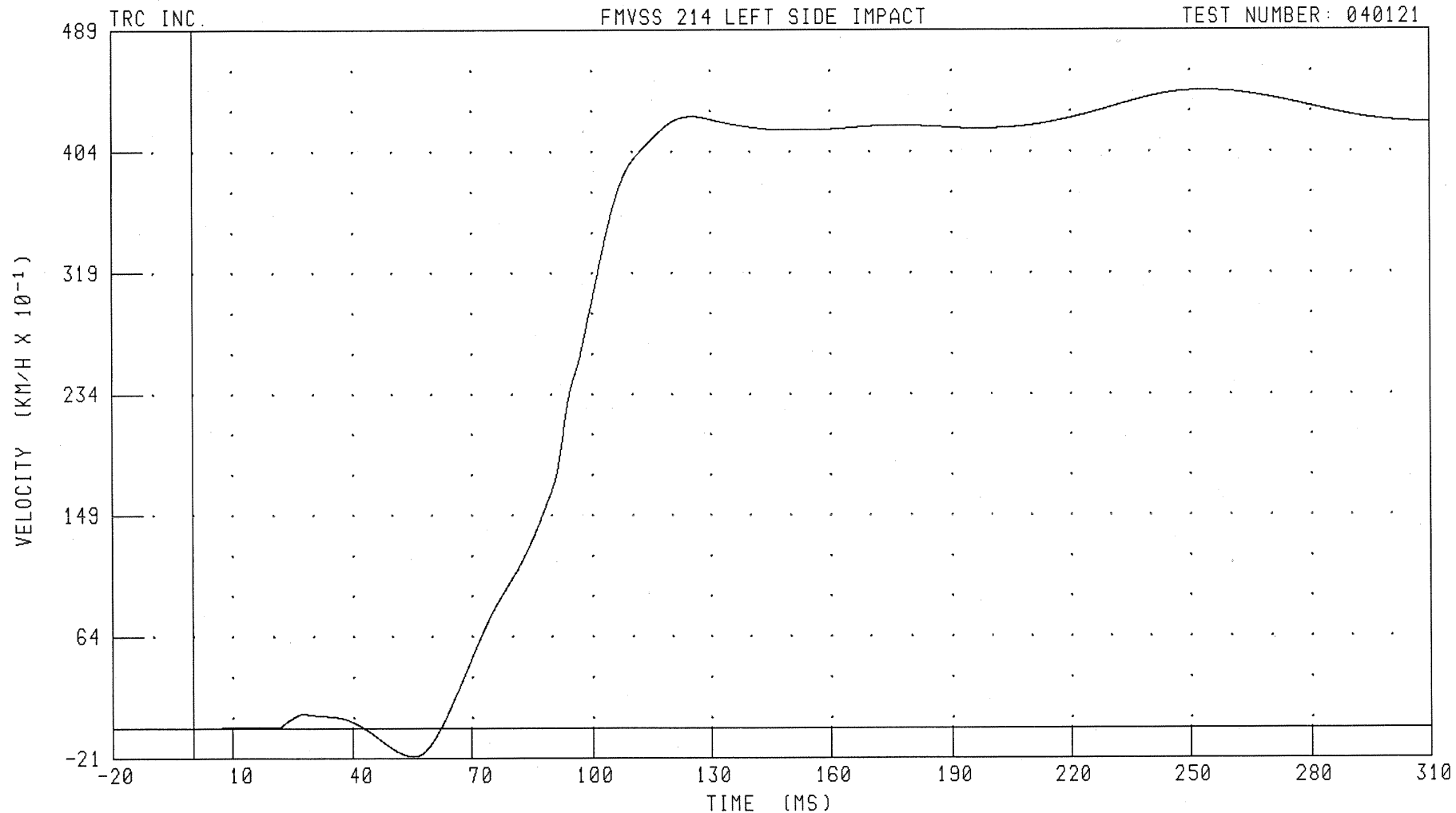
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYV4

FILTER: CH. CLASS 180

PEAK DATA: 44.66 KM/H @ 253.60 MS; -1.99 KM/H @ 55.20 MS

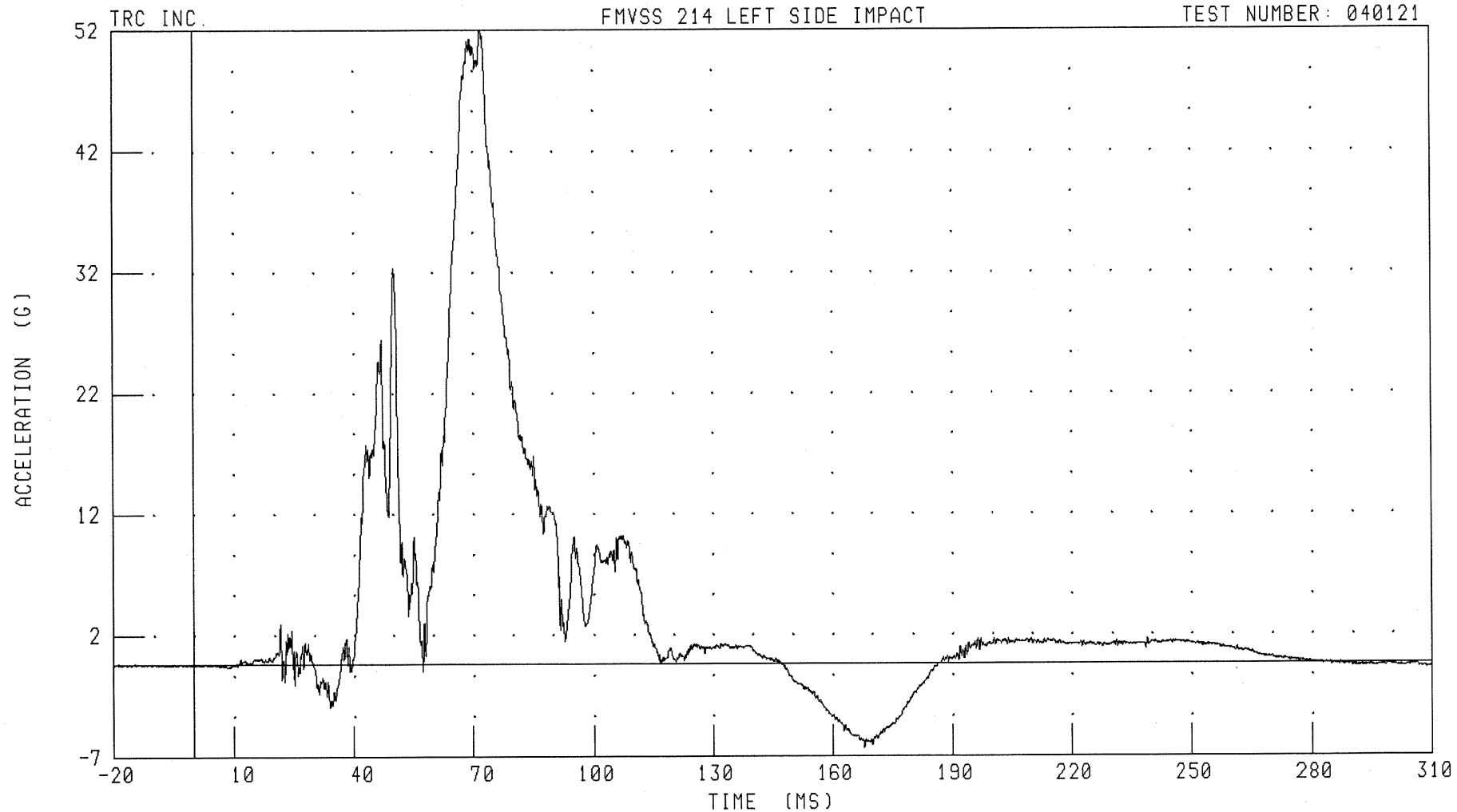
B-36

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER HEAD Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDZG4

FILTER: CH. CLASS 1000

PEAK DATA: 52.85 G @ 72.16 MS; -6.92 G @ 168.00 MS

B-37

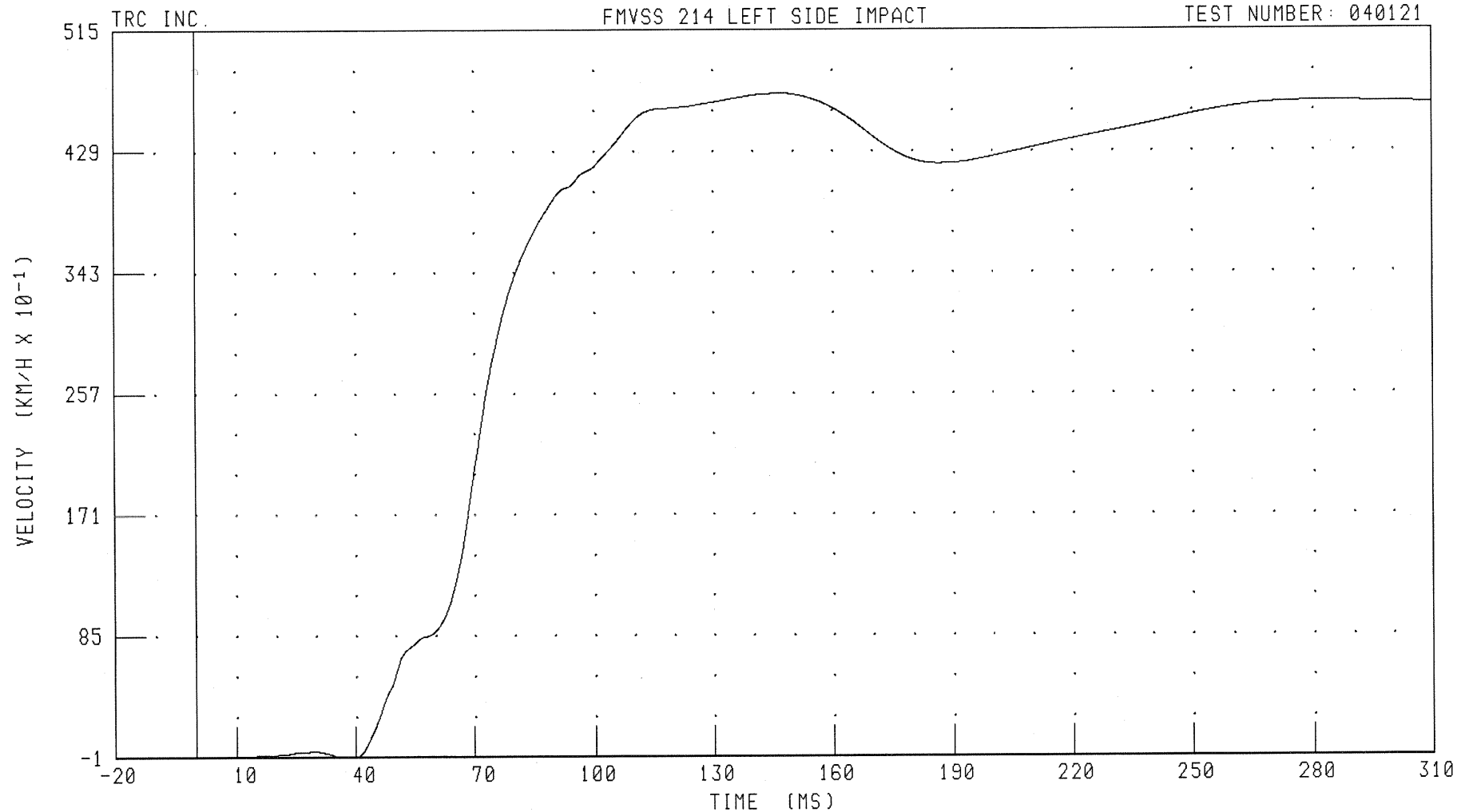
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDZV4

FILTER: CH. CLASS 180

PEAK DATA: 46.99 KM/H @ 147.36 MS; -0.13 KM/H @ 36.64 MS

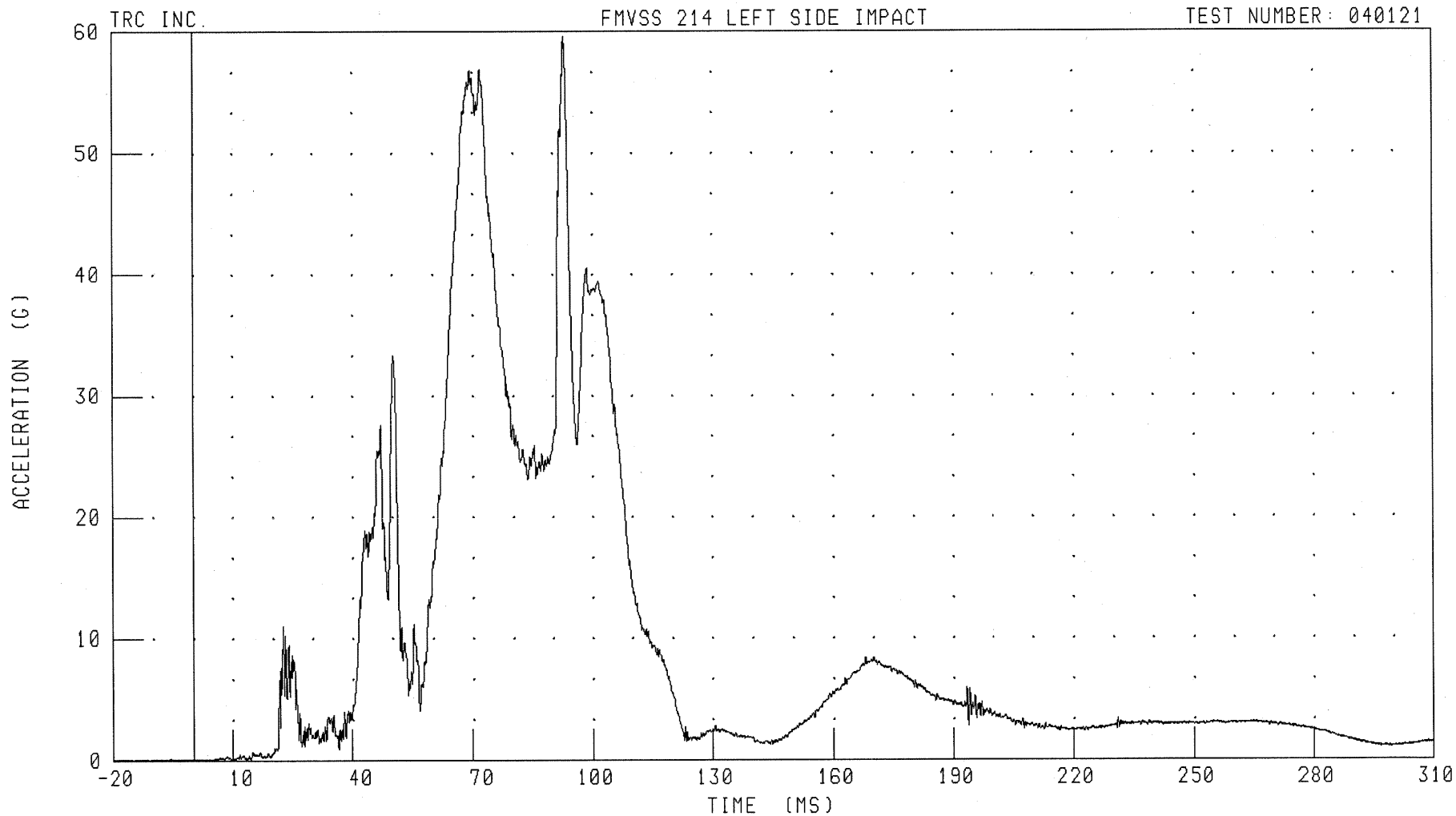
B-38

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER HEAD RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



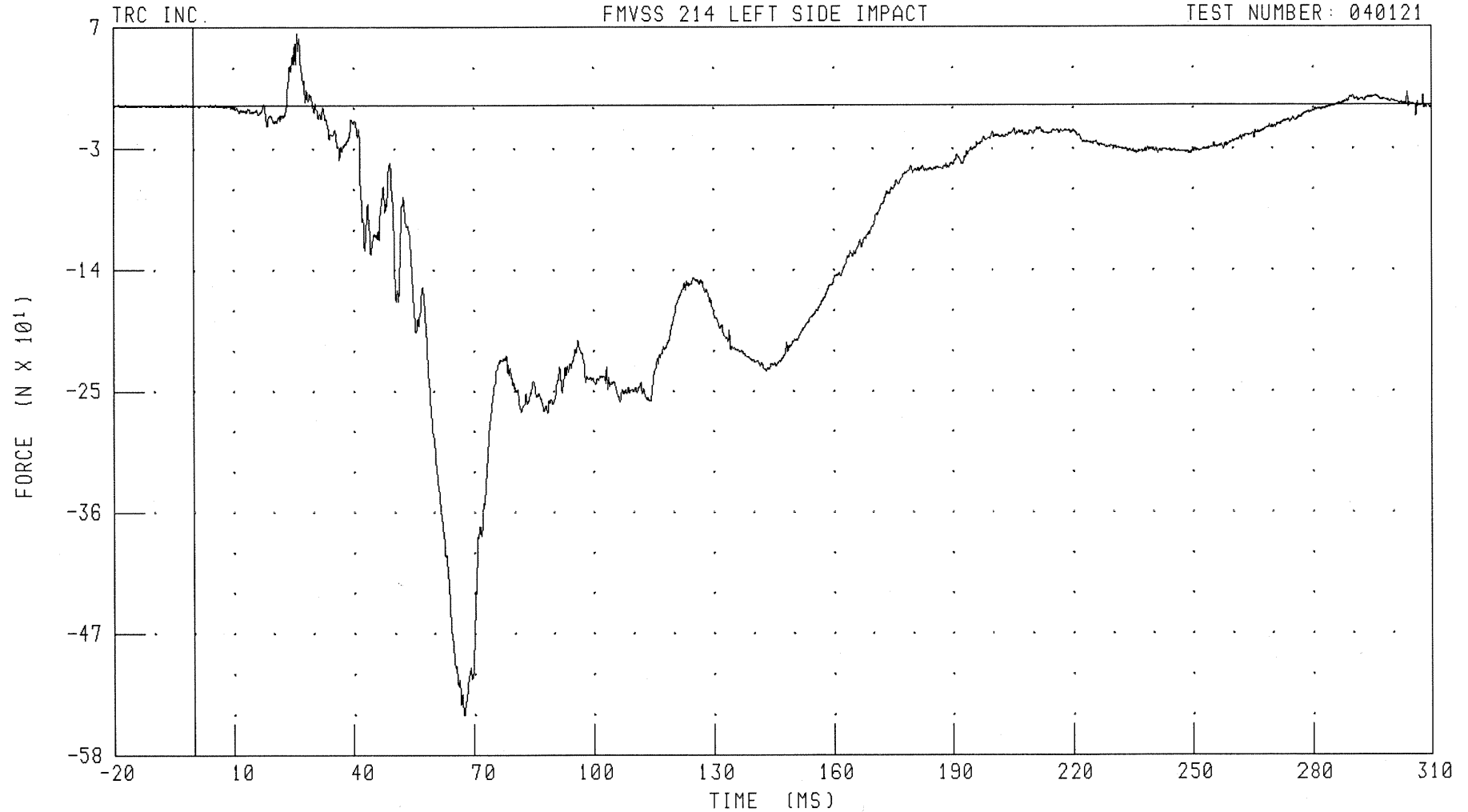
CHANNEL: HEDRG4 FILTER: CH. CLASS 1000

PEAK DATA: 59.60 G @ 92.88 MS; 0.02 G @ -10.88 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER NECK X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKXF4 FILTER: CH. CLASS 1000

PEAK DATA: 65.27 N @ 26.16 MS; -552.88 N @ 67.44 MS

B-40

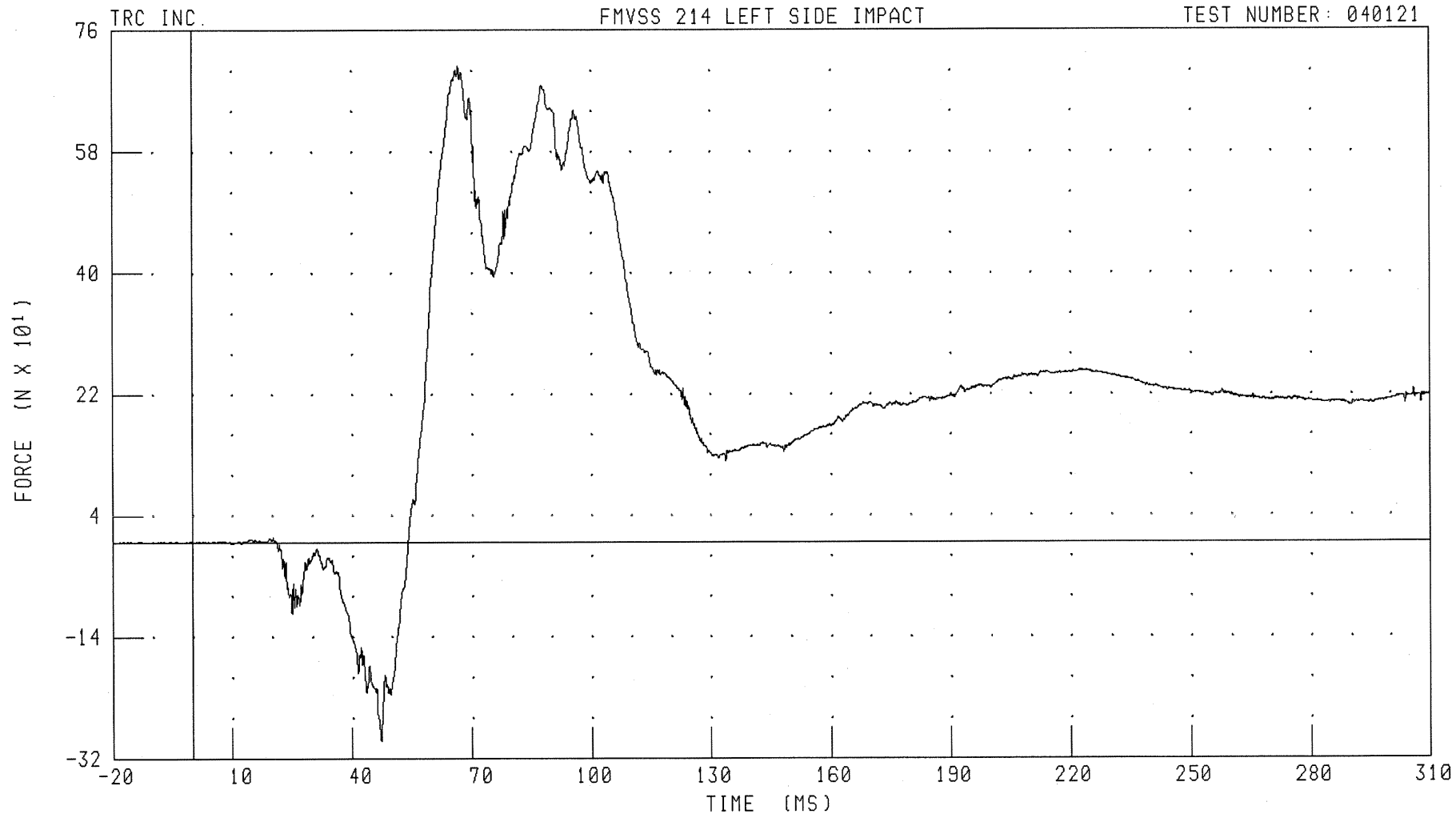
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER NECK Y-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKYF4 FILTER: CH. CLASS 1000

PEAK DATA: 706.51 N @ 66.64 MS; -293.64 N @ 47.44 MS

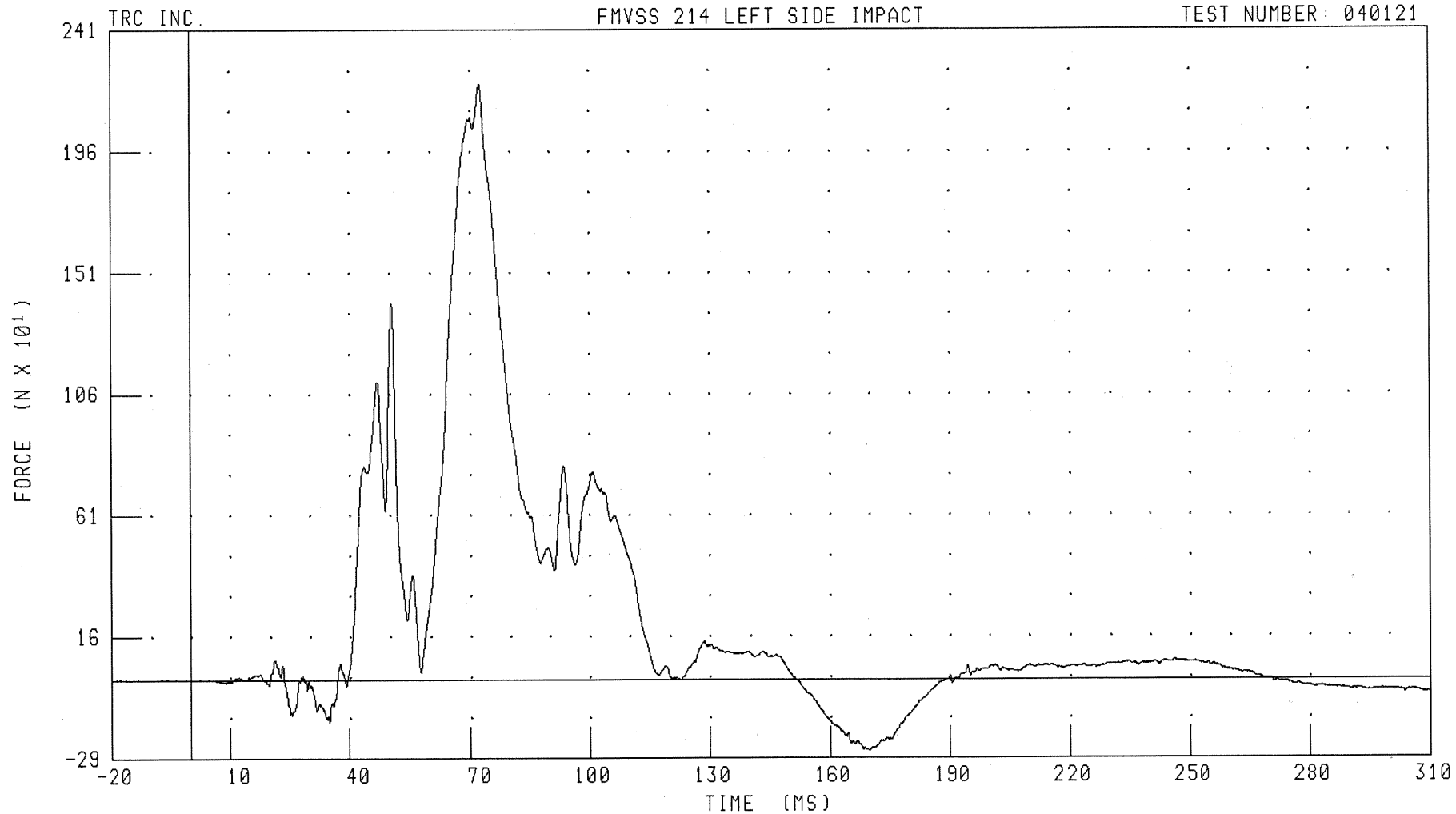
B-41

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKZF4 FILTER: CH. CLASS 1000

PEAK DATA: 2210.75 N @ 72.48 MS; -265.08 N @ 169.68 MS

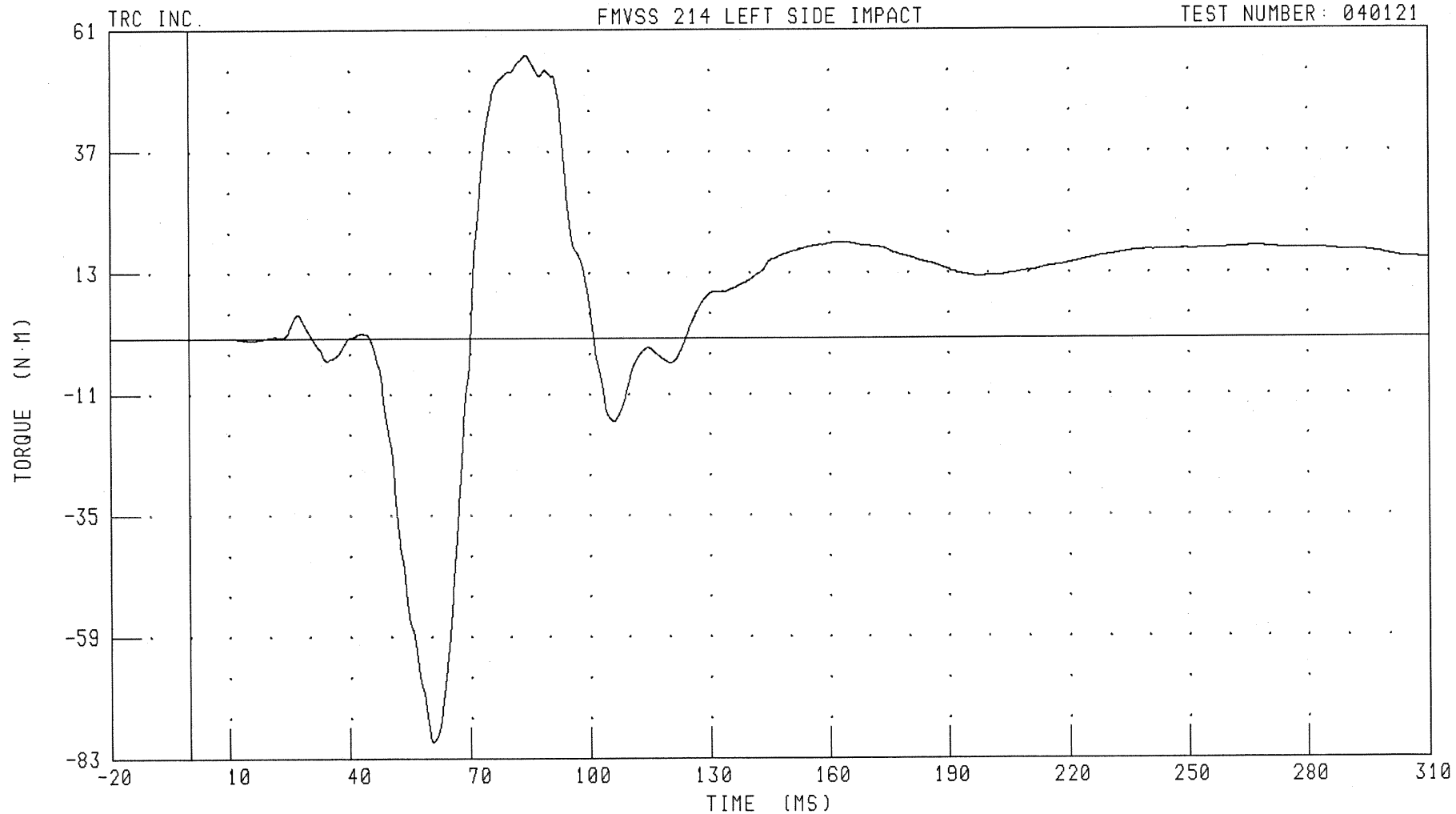
B-42

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER NECK MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKXM4 FILTER: CH. CLASS 600

PEAK DATA: 56.02 N·m @ 84.56 ms; -79.80 N·m @ 60.40 ms

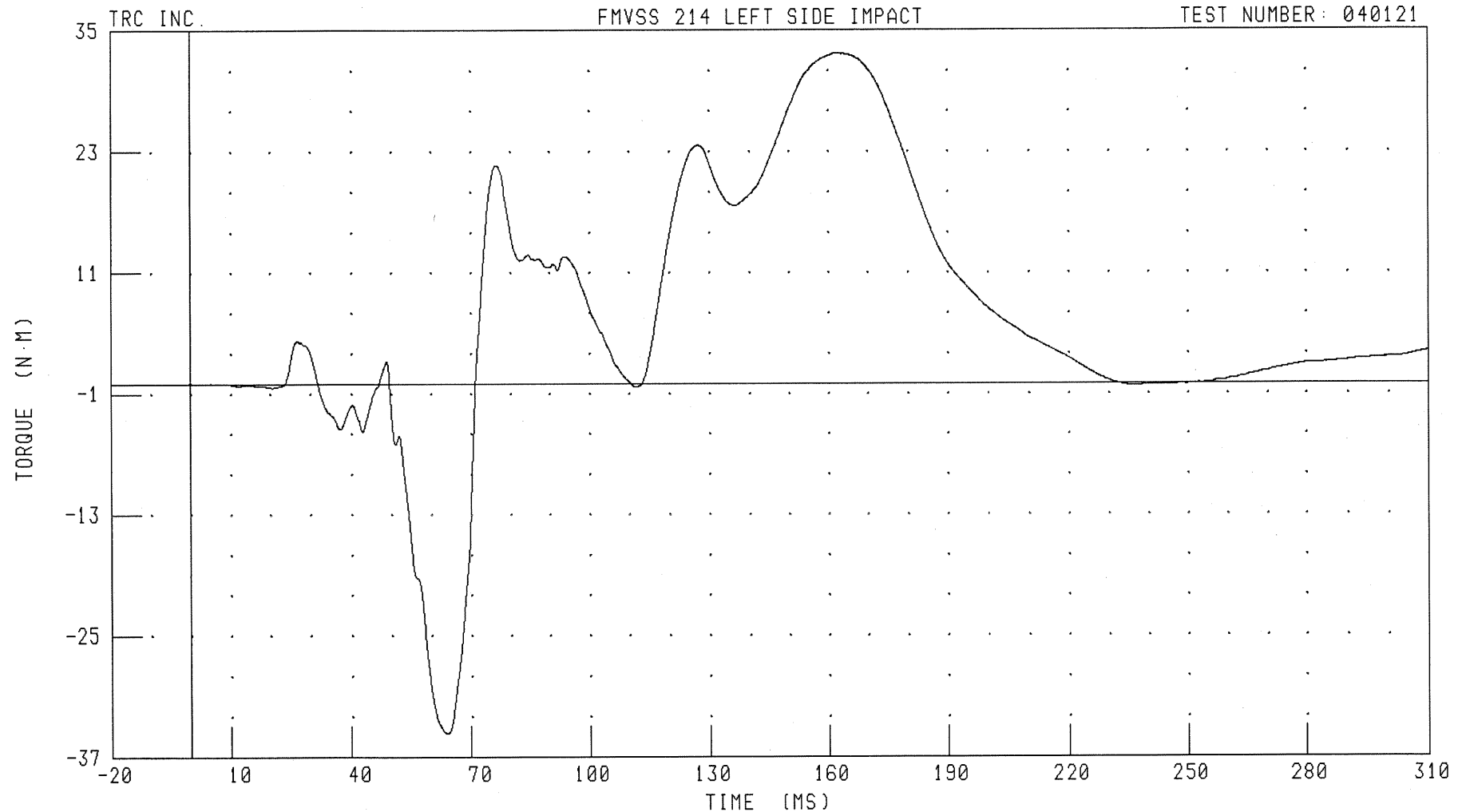
B-43

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER NECK MOMENT ABOUT Y AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKYM4 FILTER: CH. CLASS 600

PEAK DATA: 32.70 N·m @ 162.16 MS; -34.69 N·m @ 64.08 MS

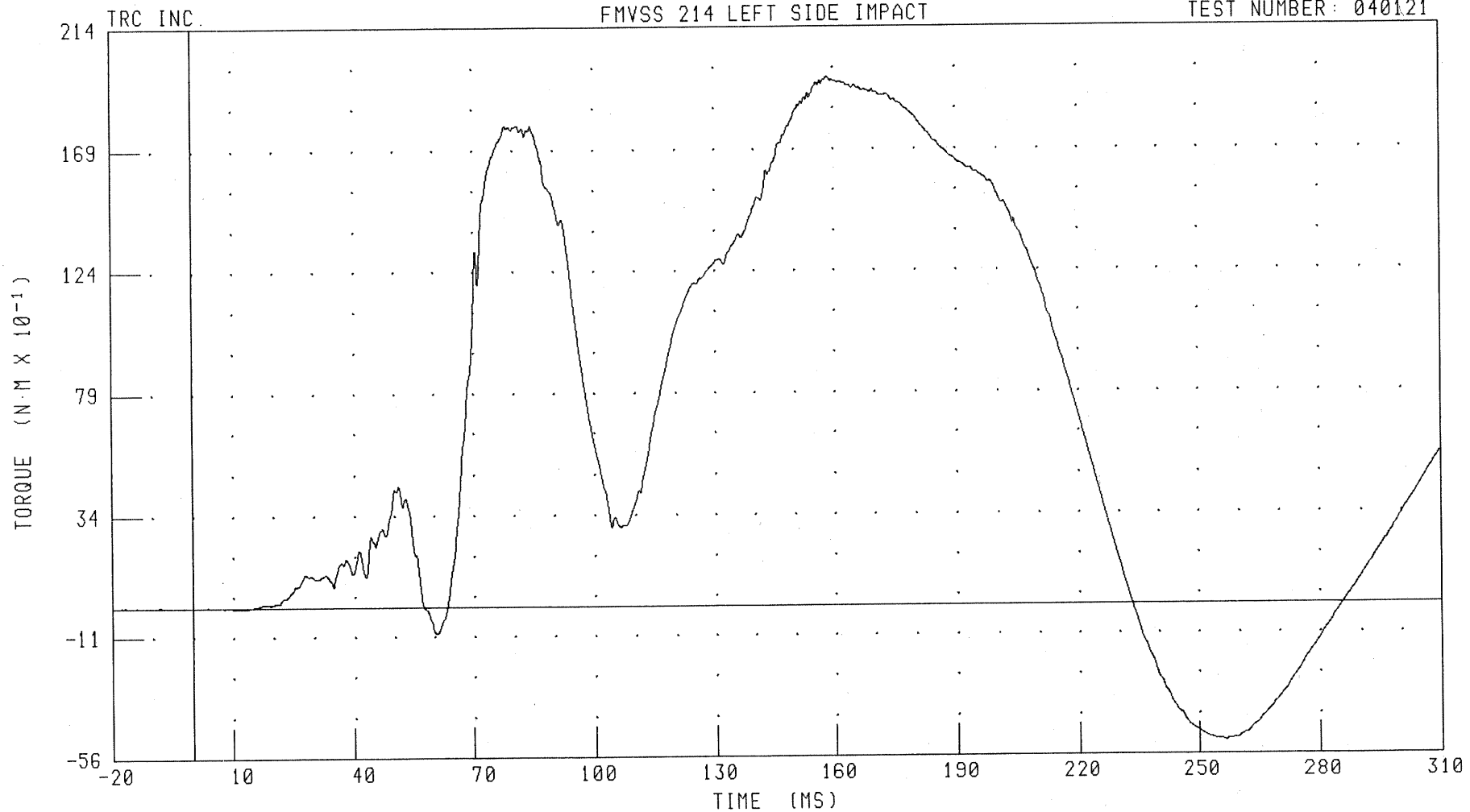
B-44

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER NECK MOMENT ABOUT Z AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NEKZM4

FILTER: CH. CLASS 600

PEAK DATA: 19.52 N·M @ 158.72 MS; -5.09 N·M @ 256.64 MS

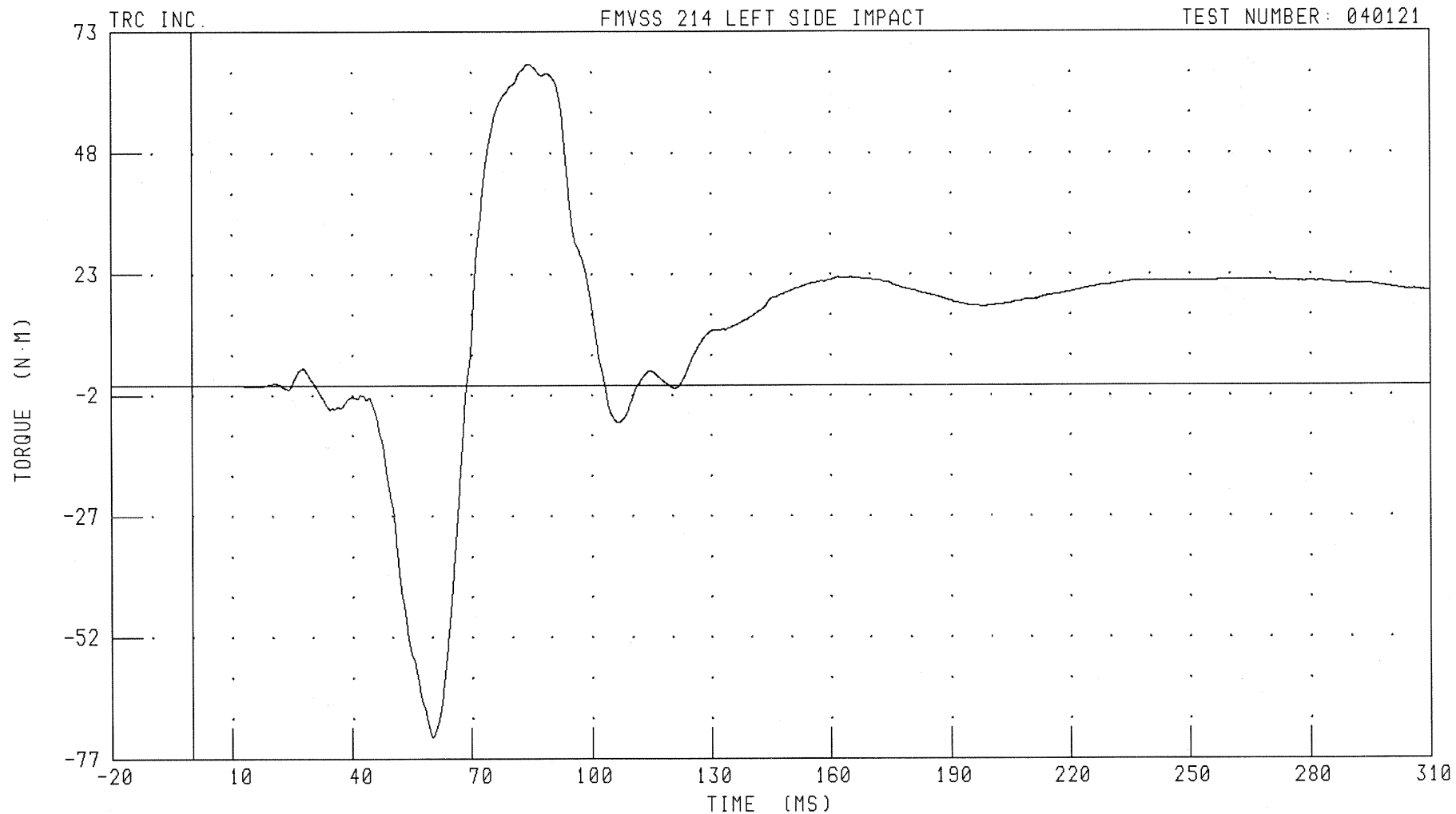
B-45

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER NECK OCCIPITAL CONDYLE MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: NK0XM4

FILTER: CH. CLASS 600

PEAK DATA: 66.36 N·m @ 84.48 MS; -72.57 N·m @ 60.16 MS

B-46

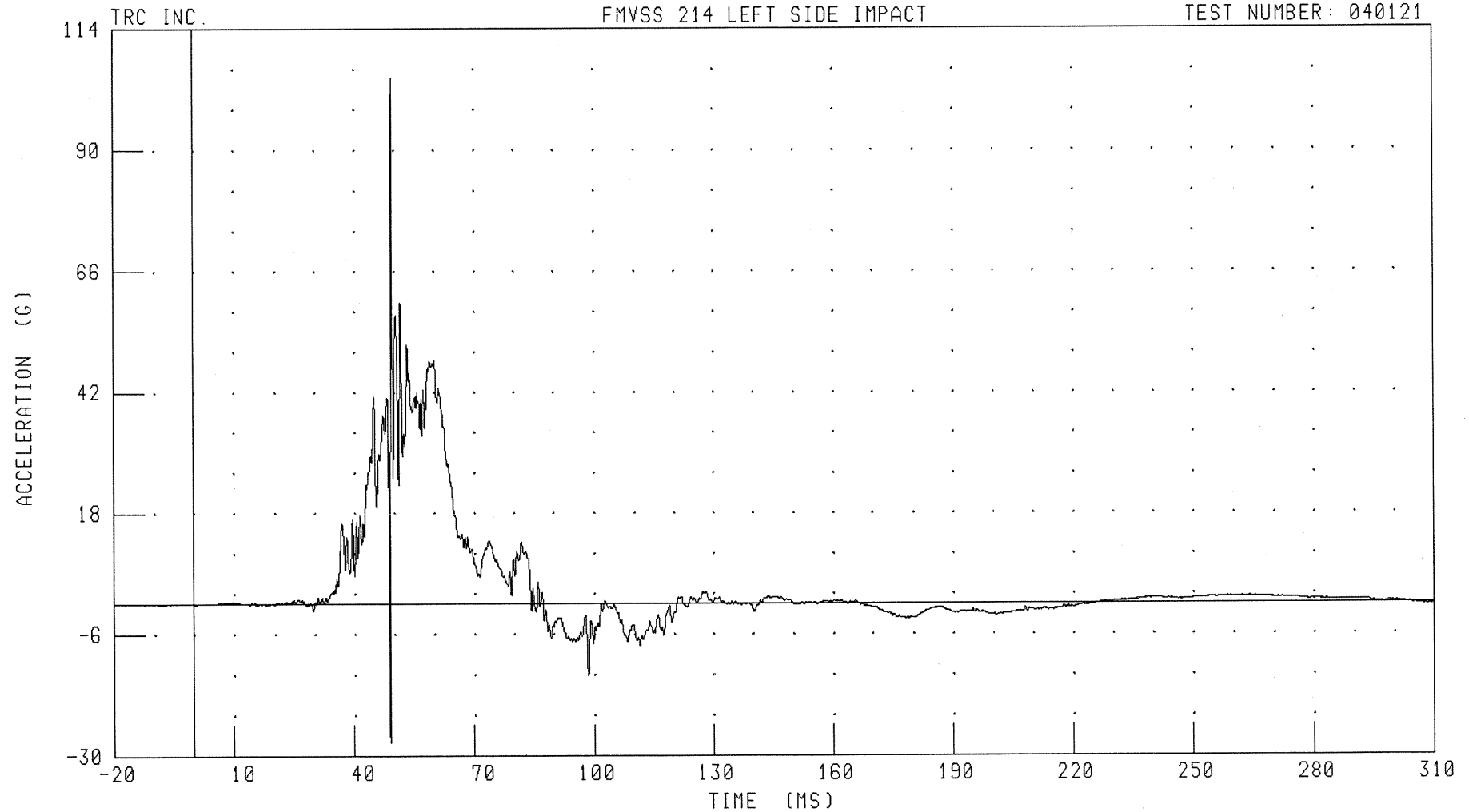
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYC4

FILTER: CH. CLASS 1000

PEAK DATA: 104.35 G @ 49.44 MS; -27.43 G @ 48.96 MS

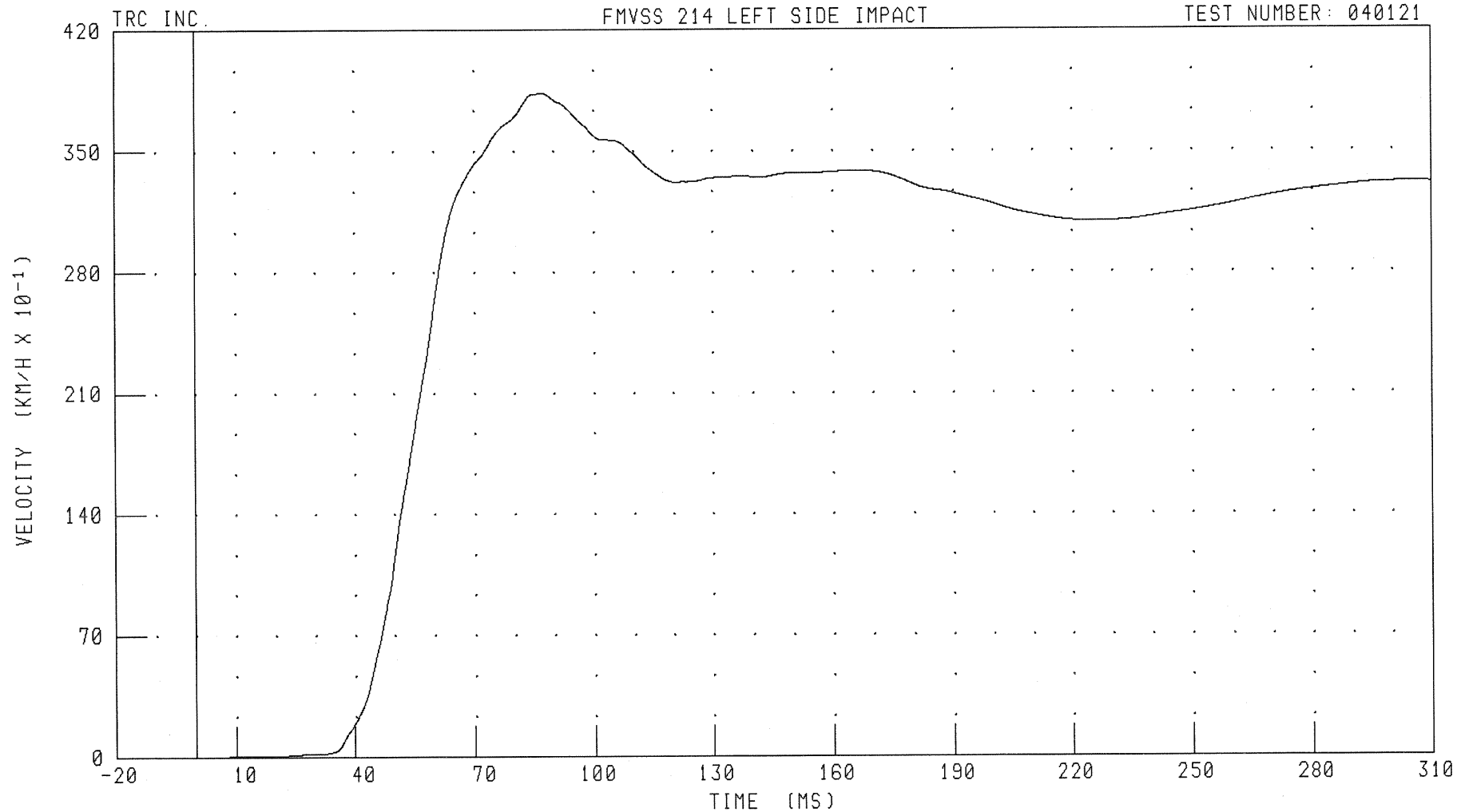
B-47

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER UPPER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYV4

FILTER: CH. CLASS 180

PEAK DATA: 38.34 KM/H @ 87.20 MS; 0.00 KM/H @ 0.80 MS

B-48

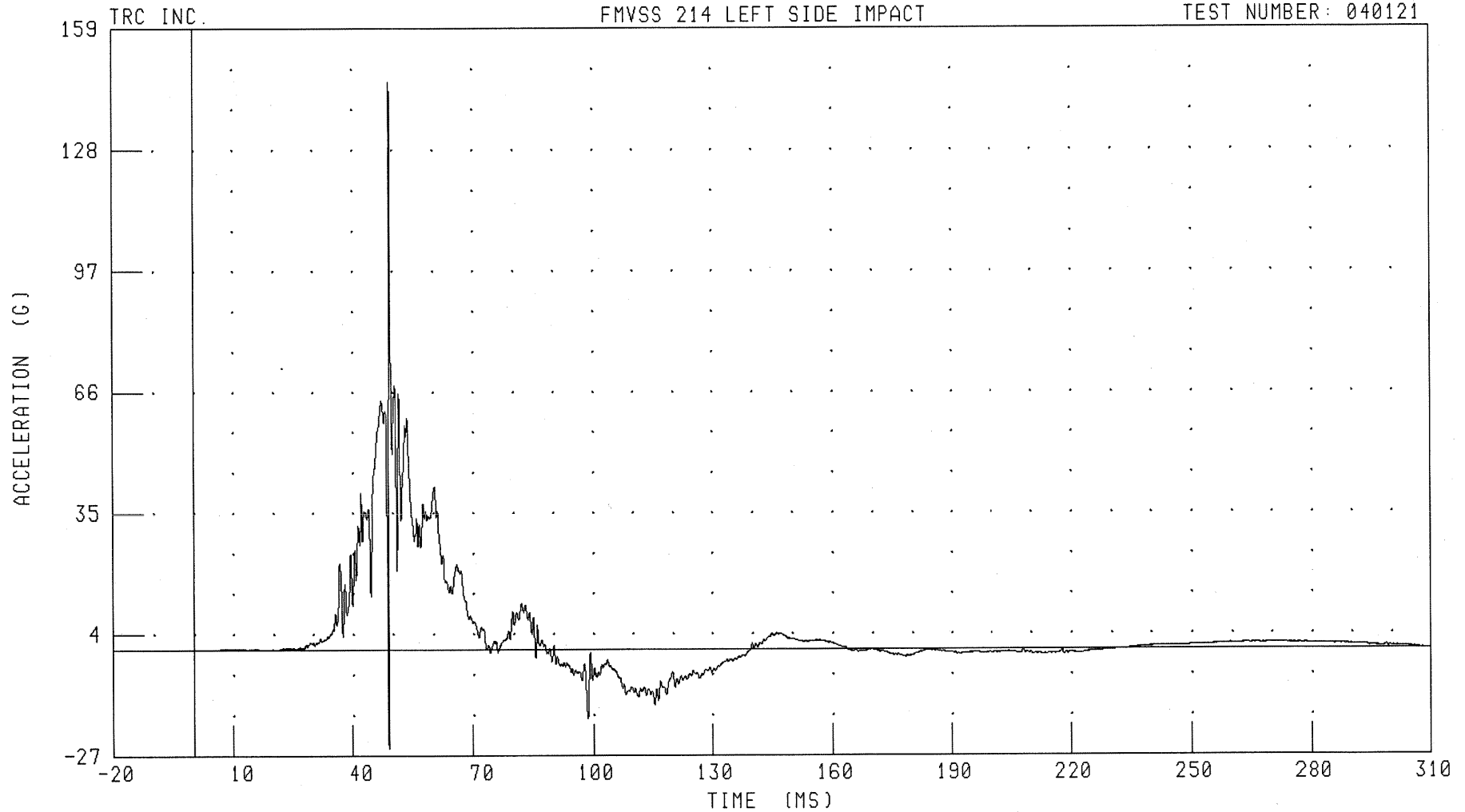
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYG4 FILTER: CH. CLASS 1000

PEAK DATA: 145.29 G @ 49.36 MS; -25.26 G @ 48.96 MS

B-49

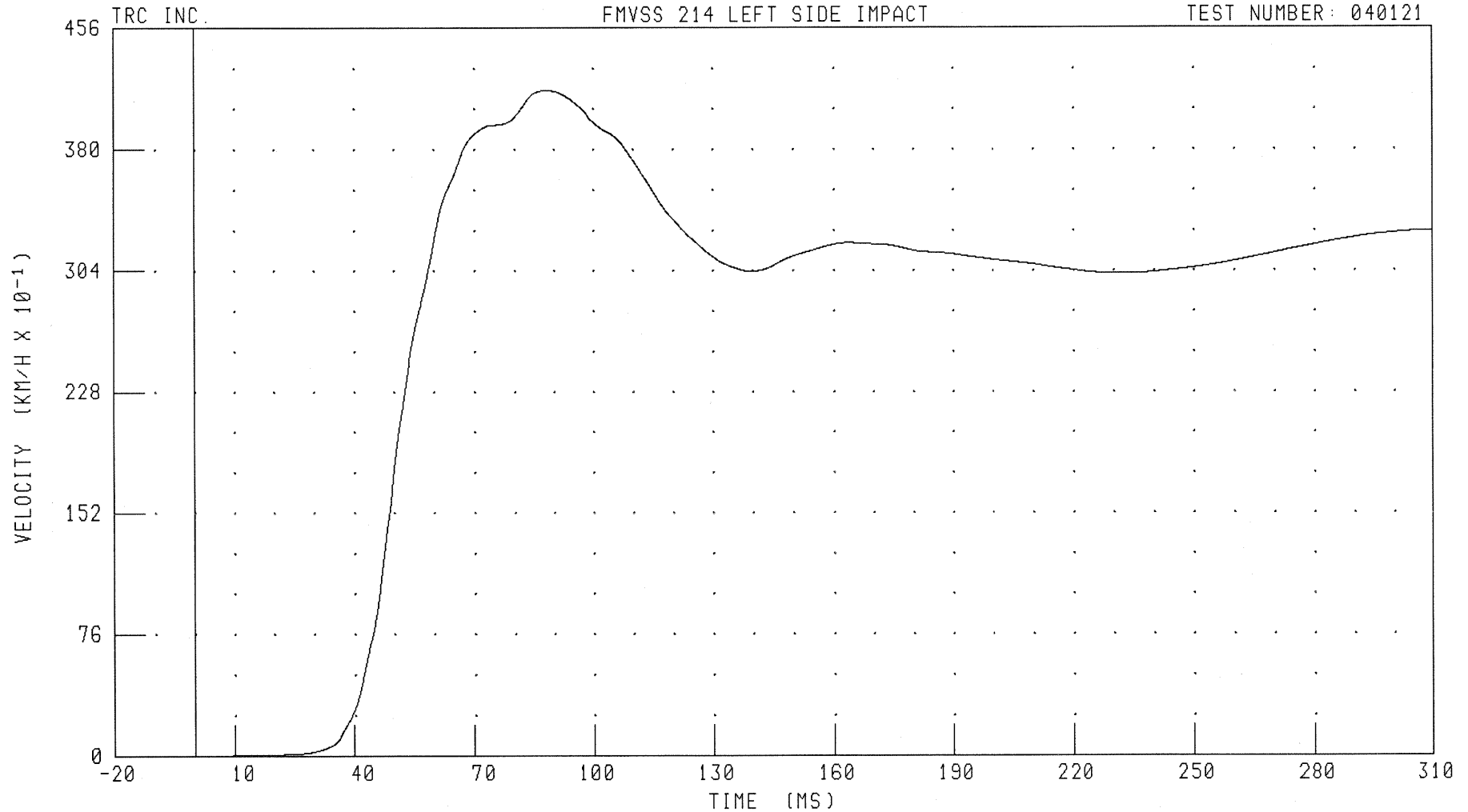
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER LOWER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYV4

FILTER: CH. CLASS 180

PEAK DATA: 41.71 KM/H @ 88.08 MS; 0.00 KM/H @ 0.00 MS

B-50

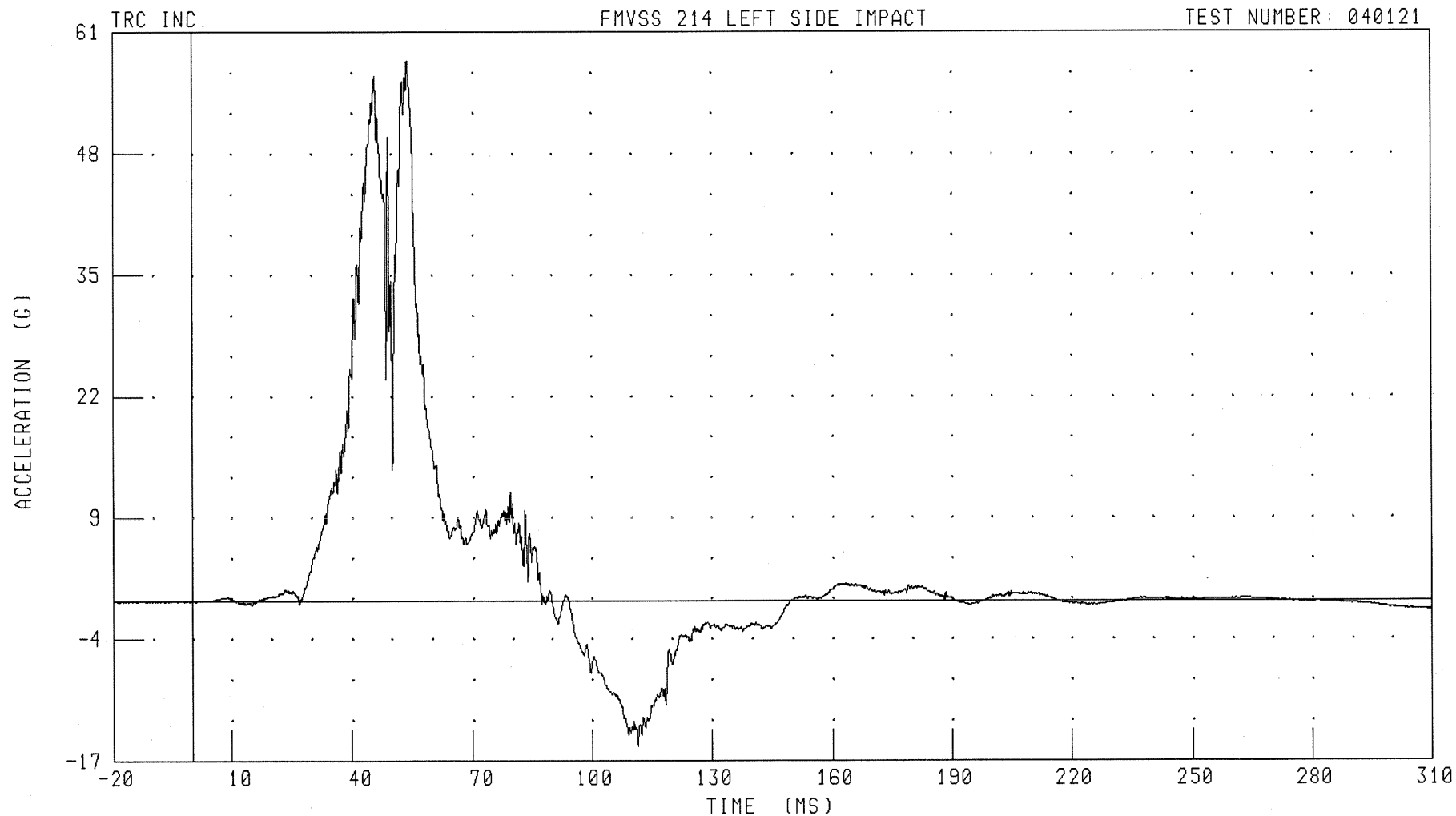
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YG4 FILTER: CH. CLASS 1000

PEAK DATA: 57.96 G @ 54.08 MS; -15.46 G @ 111.44 MS

B-51

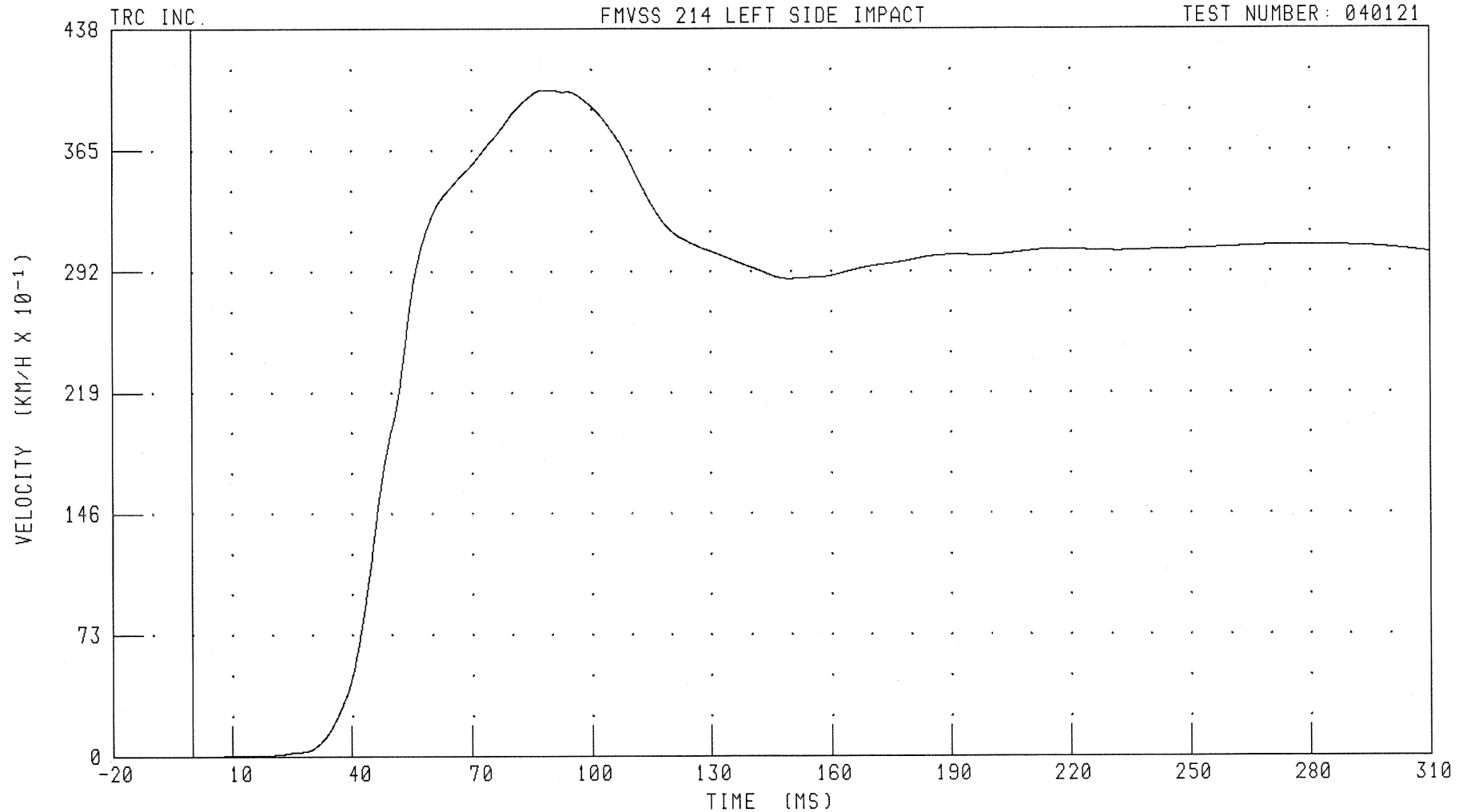
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER LOWER SPINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YV4

FILTER: CH. CLASS 180

PEAK DATA: 40.13 KM/H @ 90.00 MS; 0.00 KM/H @ 0.00 MS

B-52

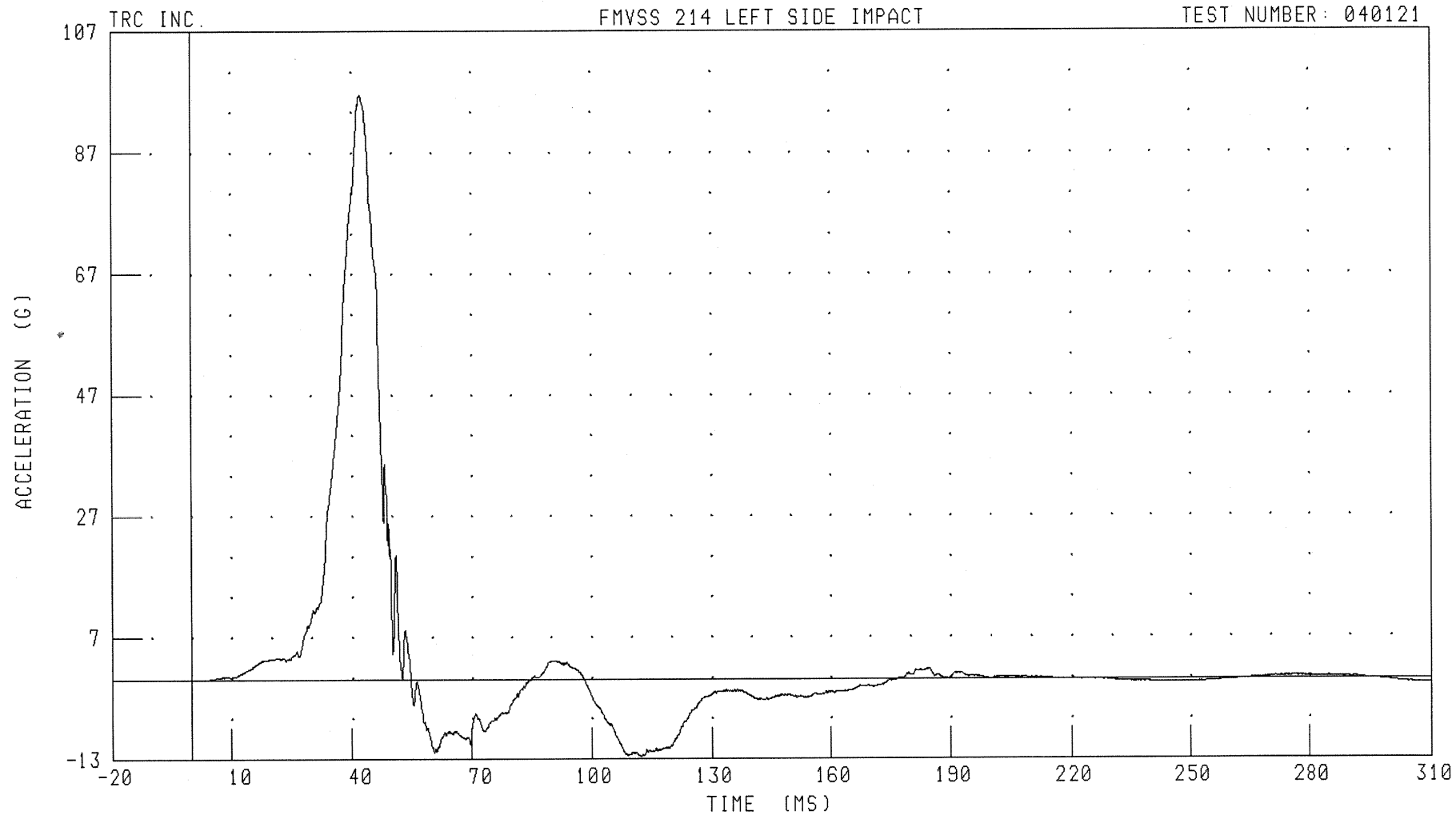
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYG4 FILTER: CH. CLASS 1000

PEAK DATA: 96.59 G @ 42.48 MS; -12.69 G @ 112.56 MS

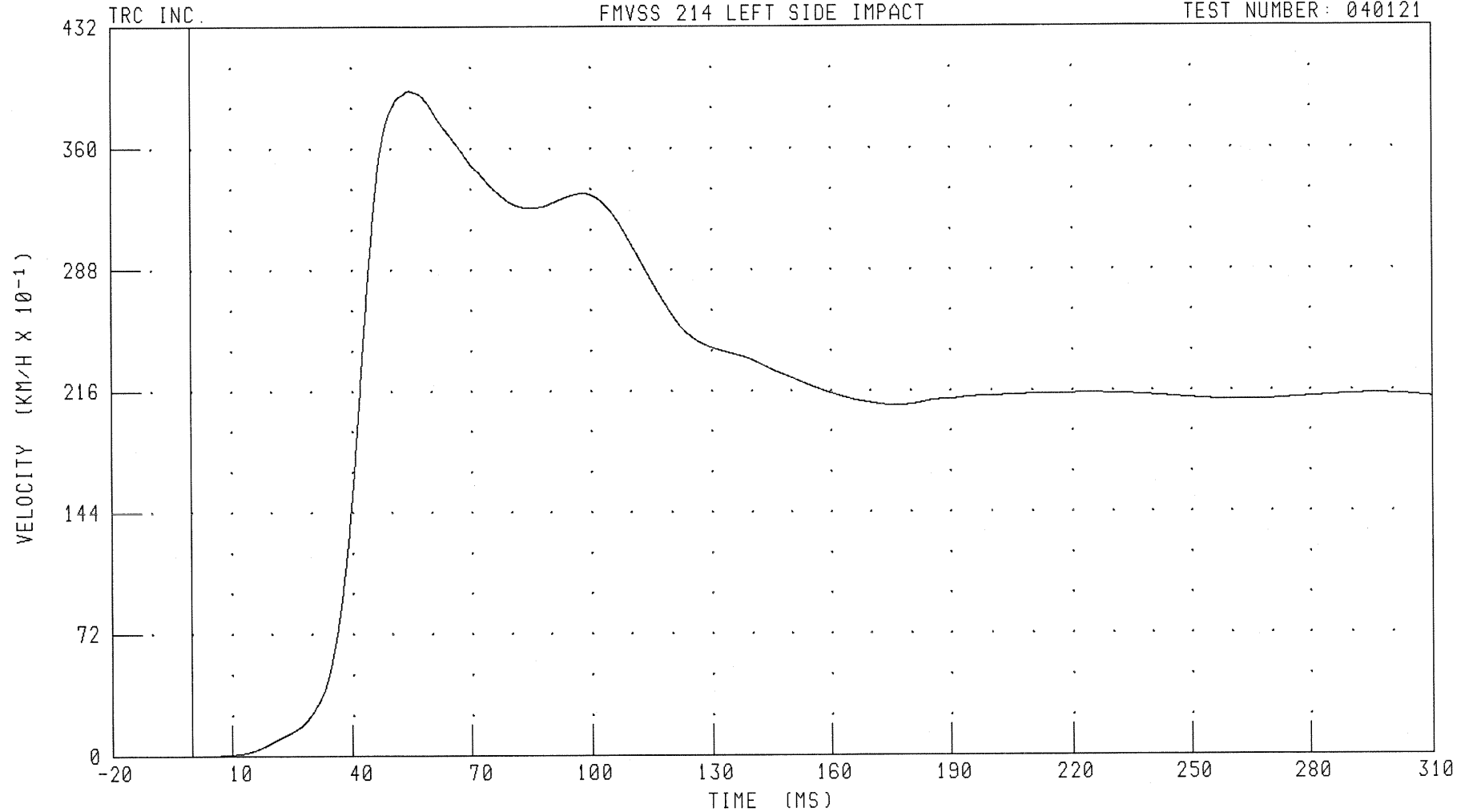
B-53

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYV4

FILTER: CH. CLASS 180

PEAK DATA: 39.41 KM/H @ 54.72 MS; 0.00 KM/H @ 1.36 MS

B-54

040121

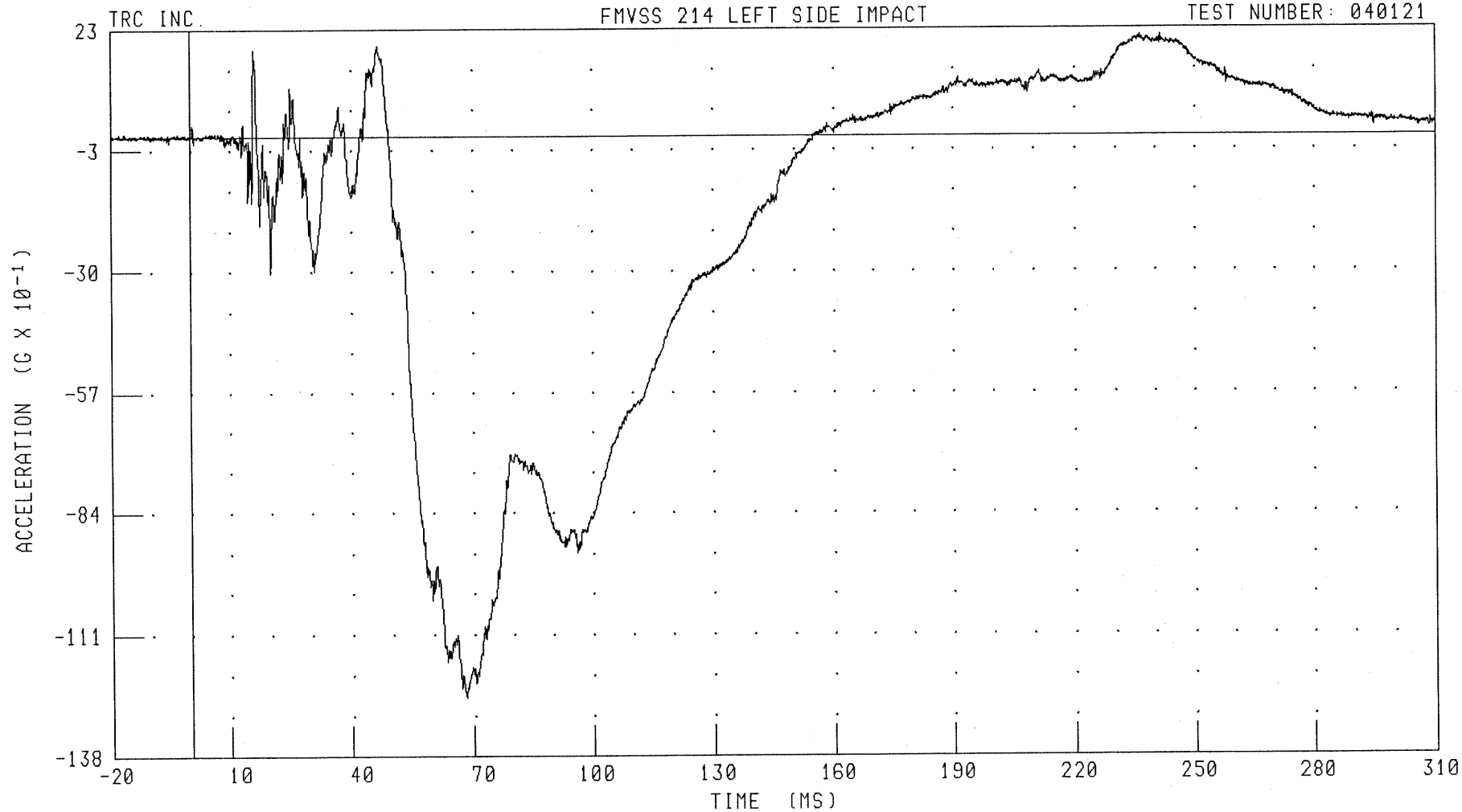
Driver and Passenger Dummy Redundant Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD X-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXR1

FILTER: CH. CLASS 1000

PEAK DATA: 2.23 G @ 236.56 MS; -12.51 G @ 68.00 MS

B-56

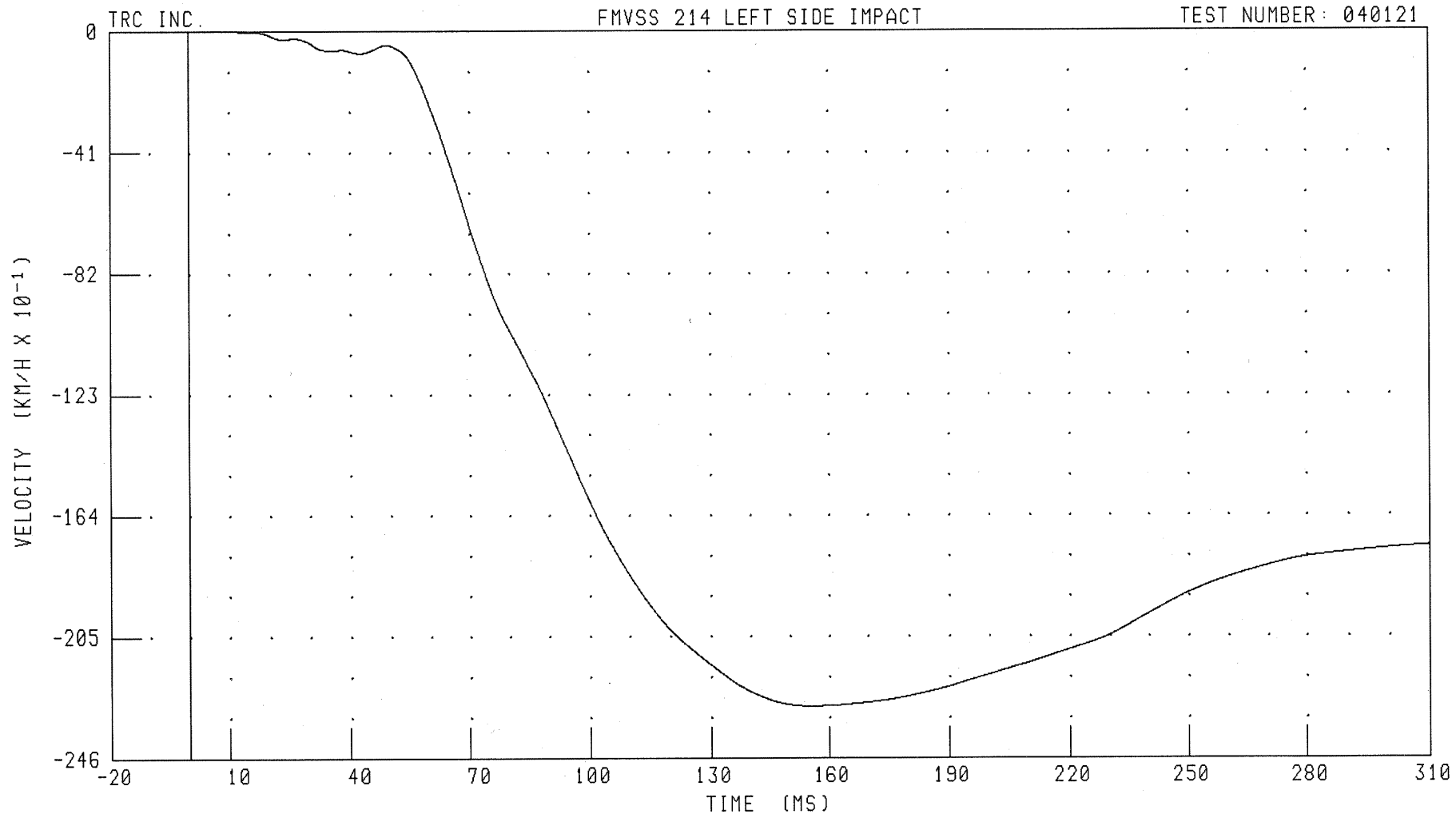
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD X-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXVI

FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 7.84 MS; -22.86 KM/H @ 155.28 MS

B-57

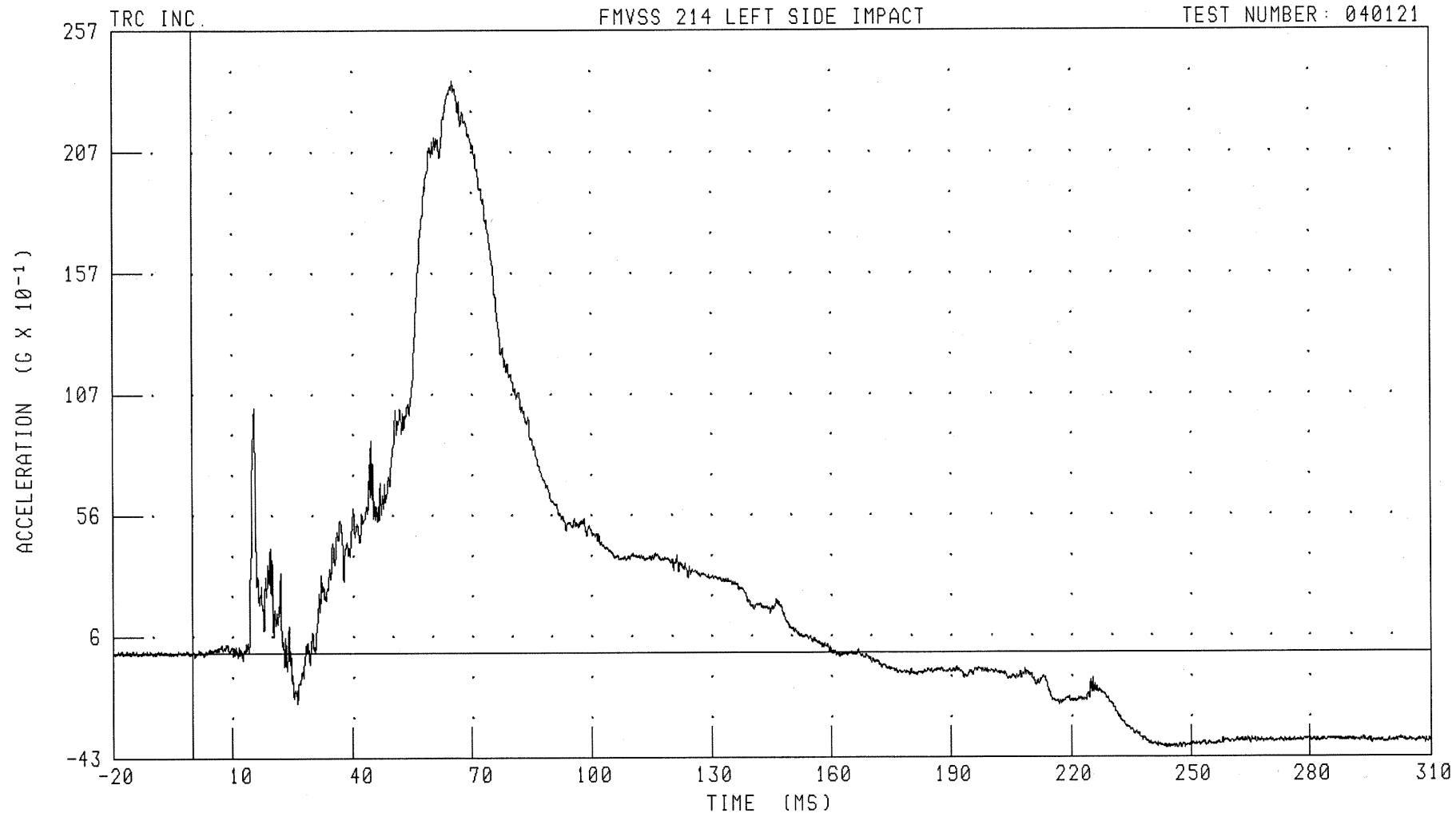
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYR1

FILTER: CH. CLASS 1000

PEAK DATA: 23.64 G @ 65.28 MS; -3.93 G @ 246.48 MS

B-58

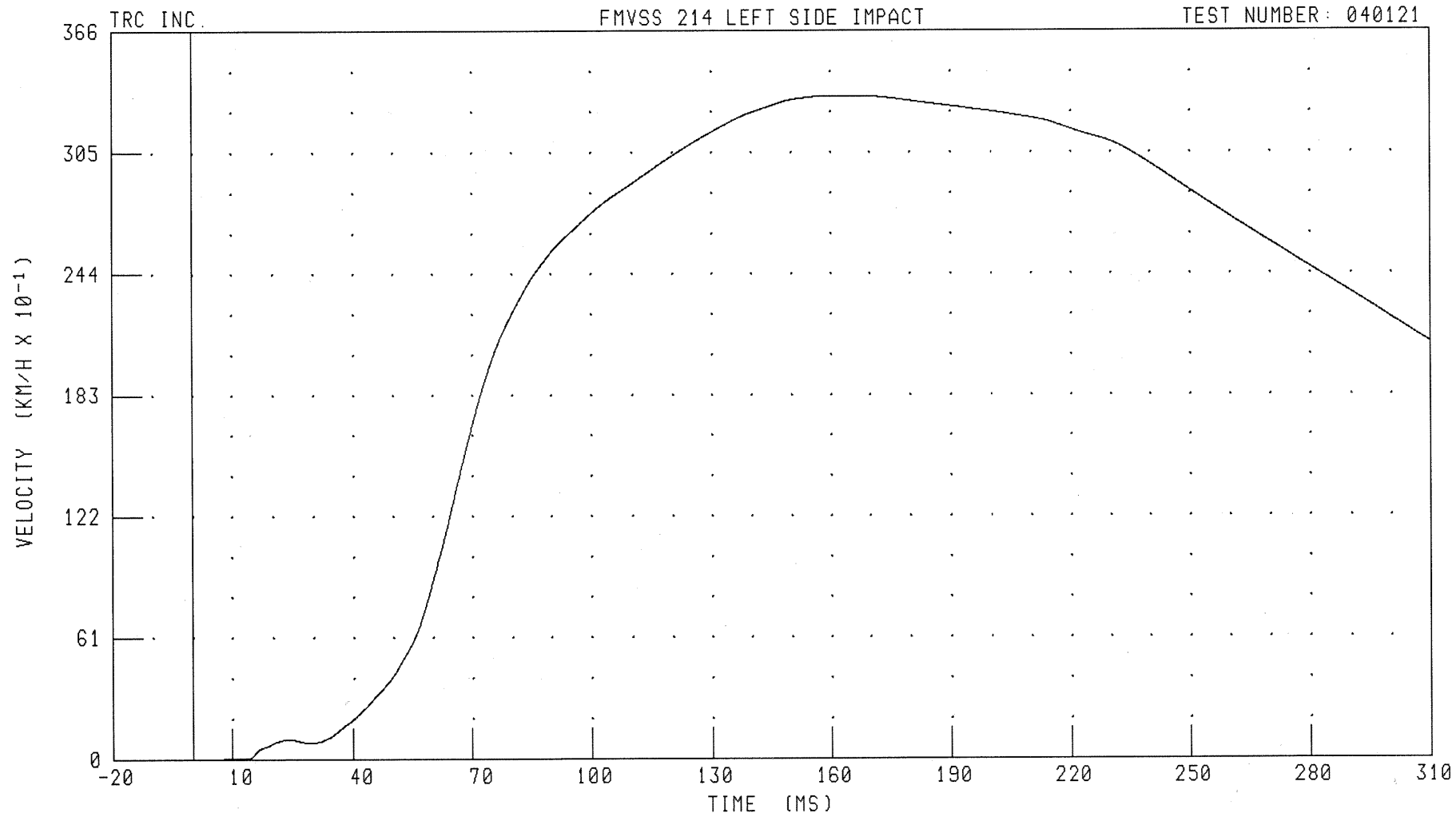
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYVI

FILTER: CH. CLASS 180

PEAK DATA: 33.33 KM/H @ 161.04 MS; 0.00 KM/H @ 1.12 MS

B-59

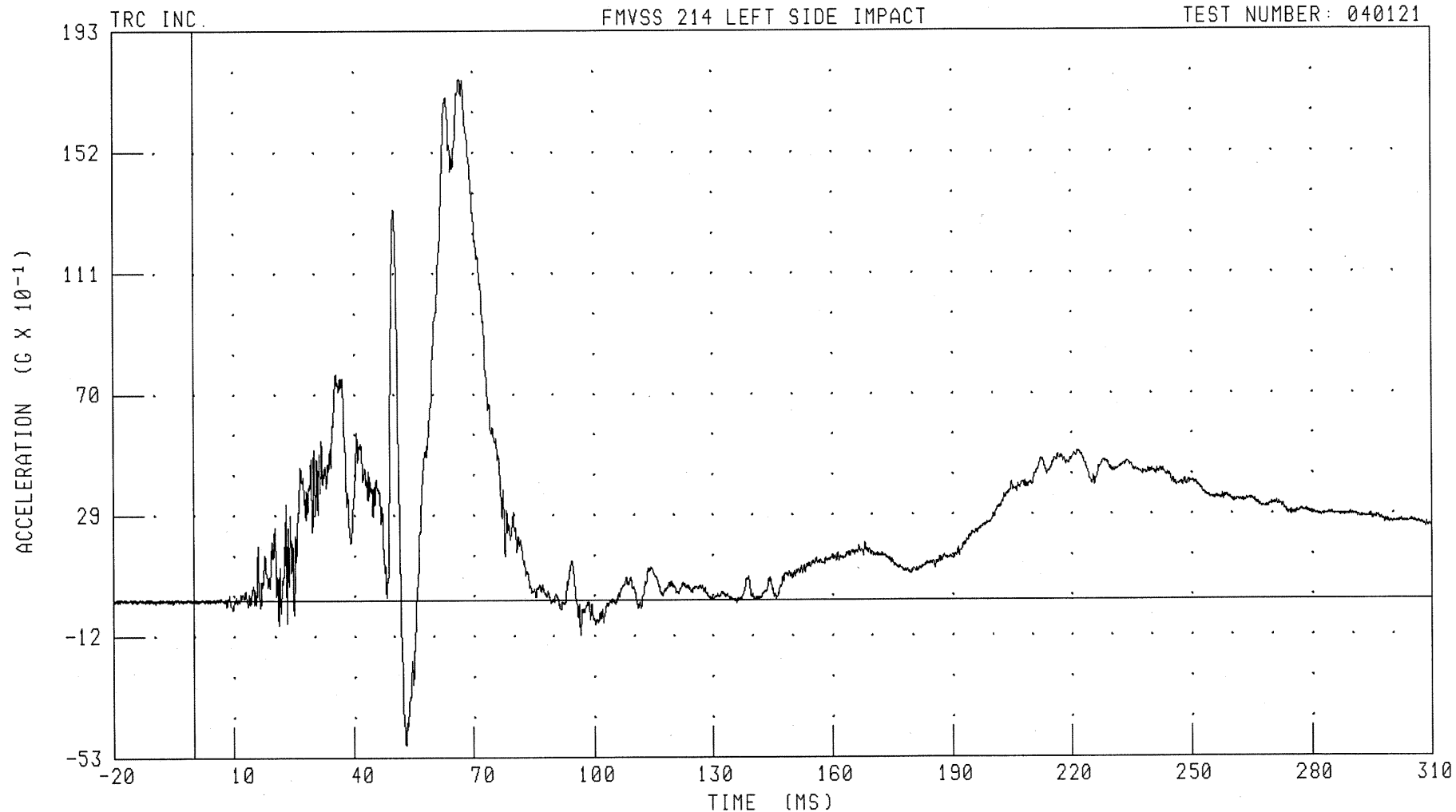
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER HEAD Z-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDZR1 FILTER: CH. CLASS 1000

PEAK DATA: 17.66 G @ 66.72 MS; -4.88 G @ 53.04 MS

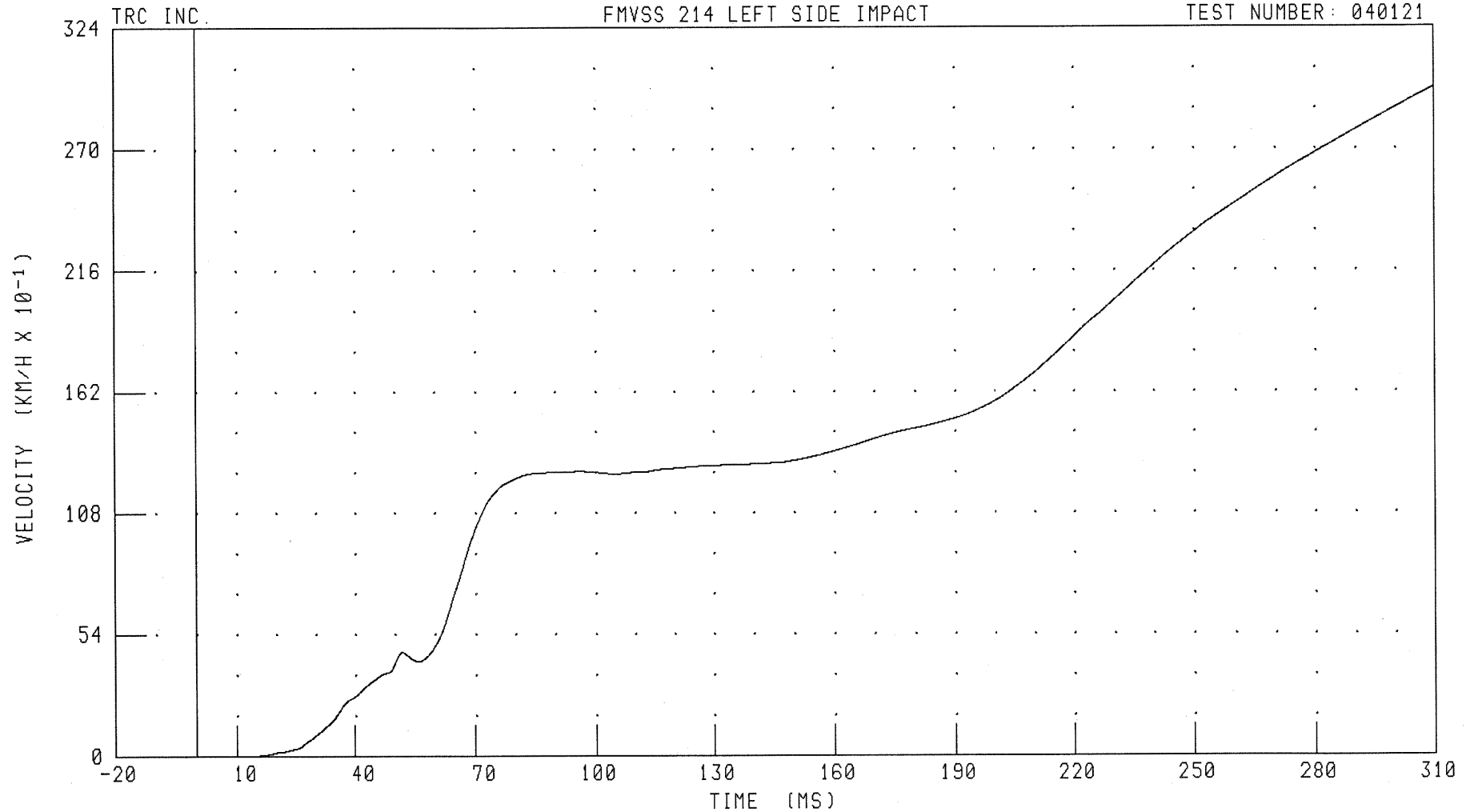
B-60

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER HEAD Z-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDZVI FILTER: CH. CLASS 180

PEAK DATA: 29.72 KM/H @ 310.00 MS; -0.01 KM/H @ 11.04 MS

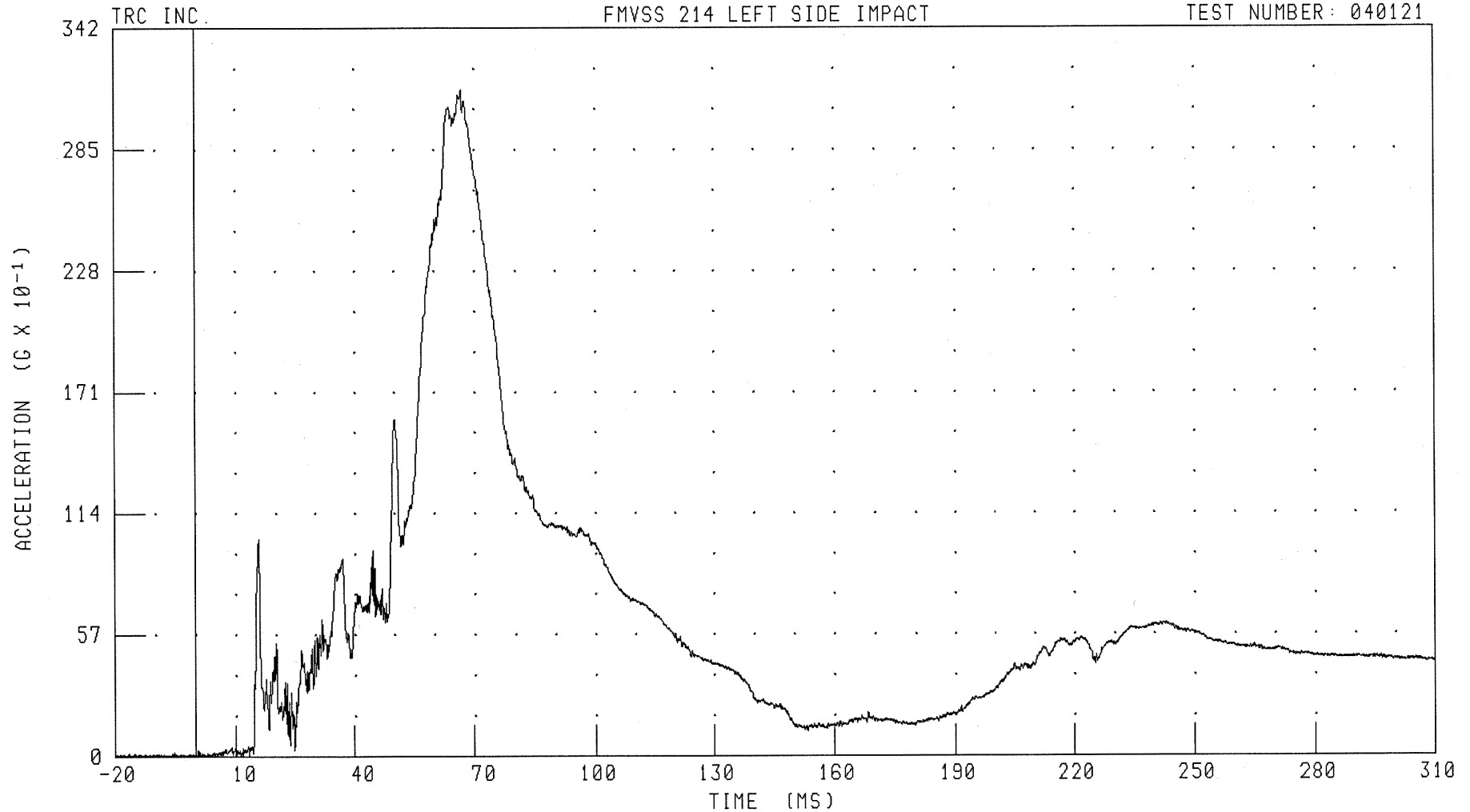
B-61

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER HEAD RESULTANT REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDRR1 FILTER: CH. CLASS 1000

PEAK DATA: 31.32 G @ 66.96 MS; 0.01 G @ -19.44 MS

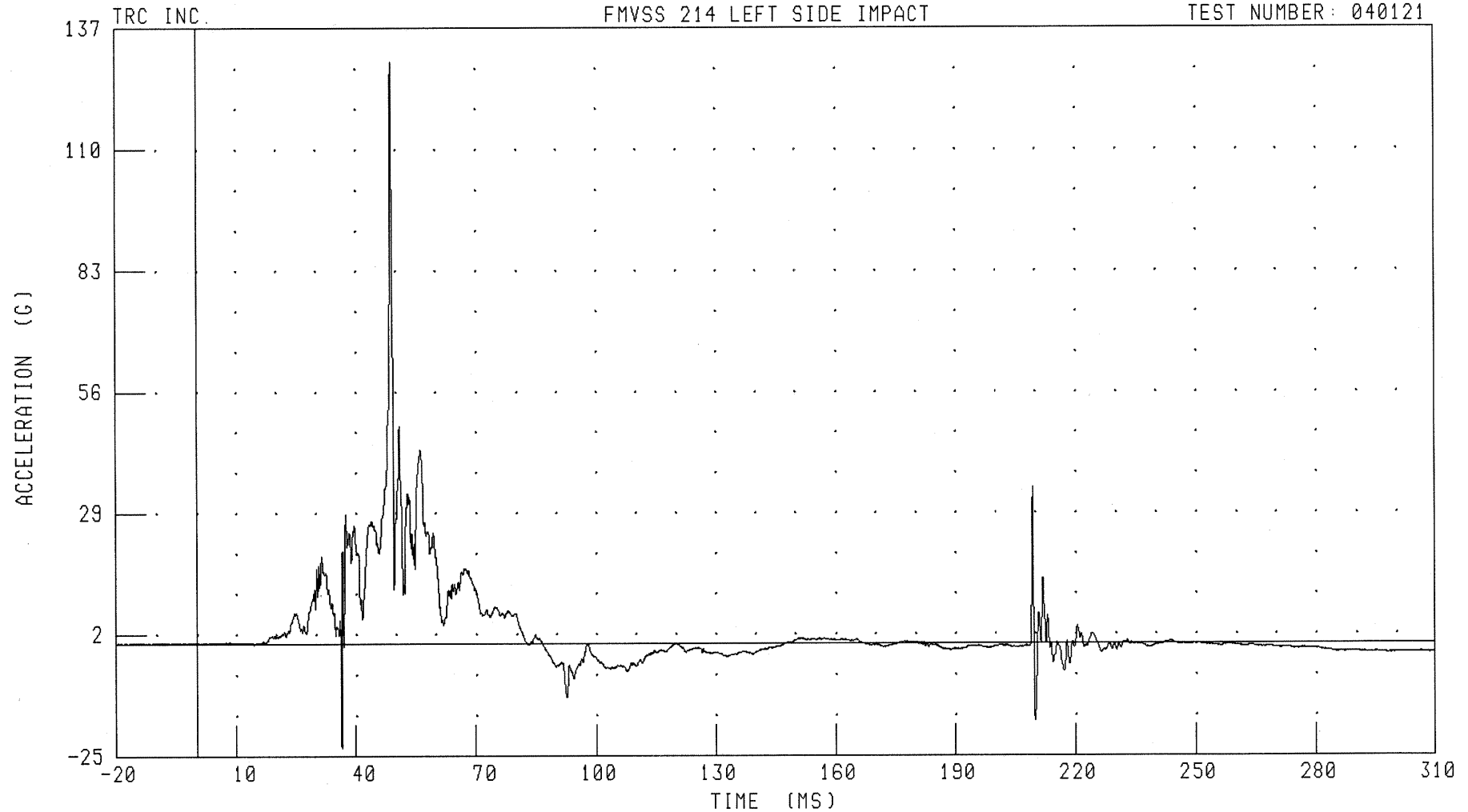
B-62

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYR1 FILTER: CH. CLASS 1000

PEAK DATA: 129.56 G @ 48.96 MS; -23.16 G @ 36.48 MS

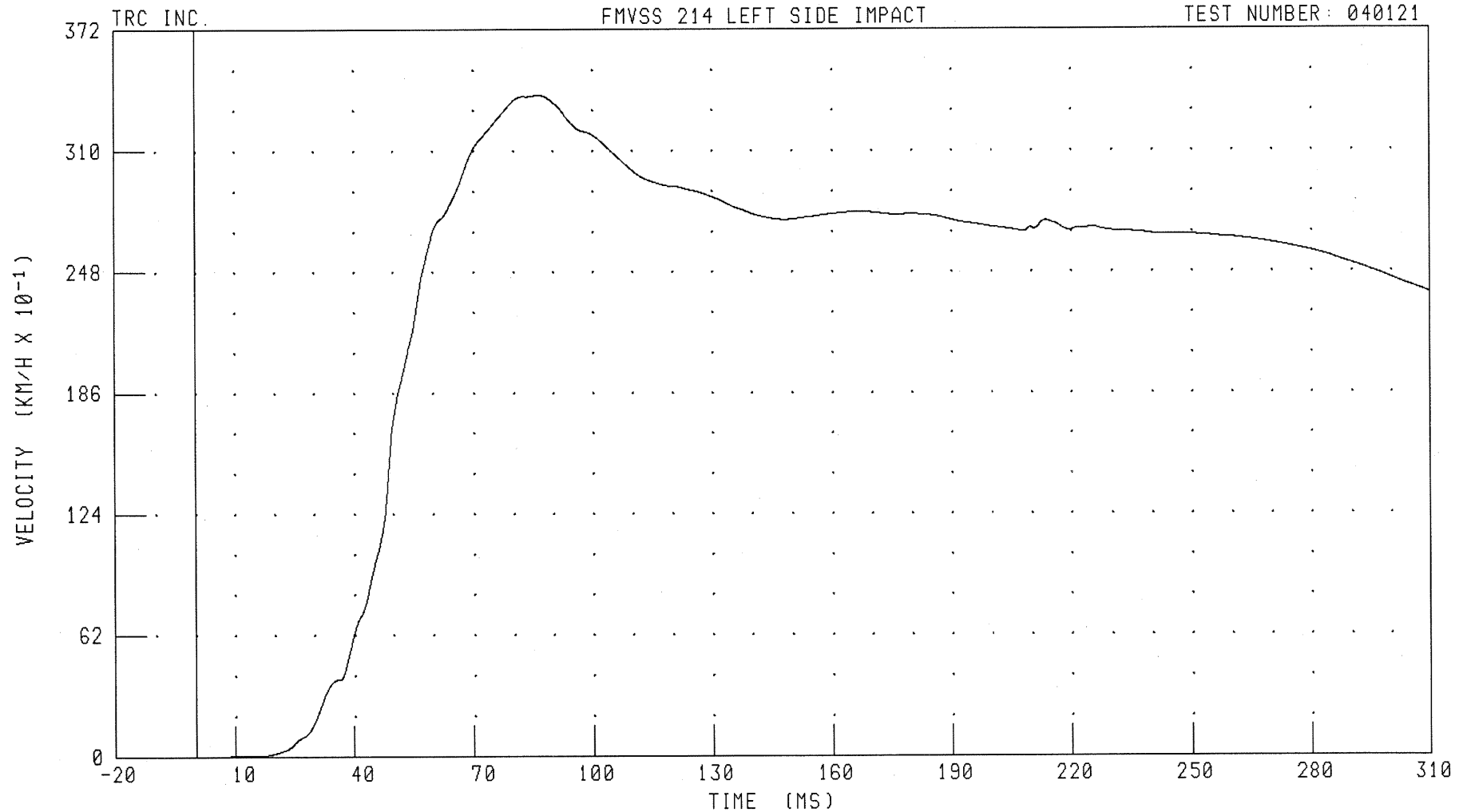
B-63

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER UPPER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYVI FILTER: CH. CLASS 180

PEAK DATA: 33.86 KM/H @ 86.40 MS; 0.00 KM/H @ 1.36 MS

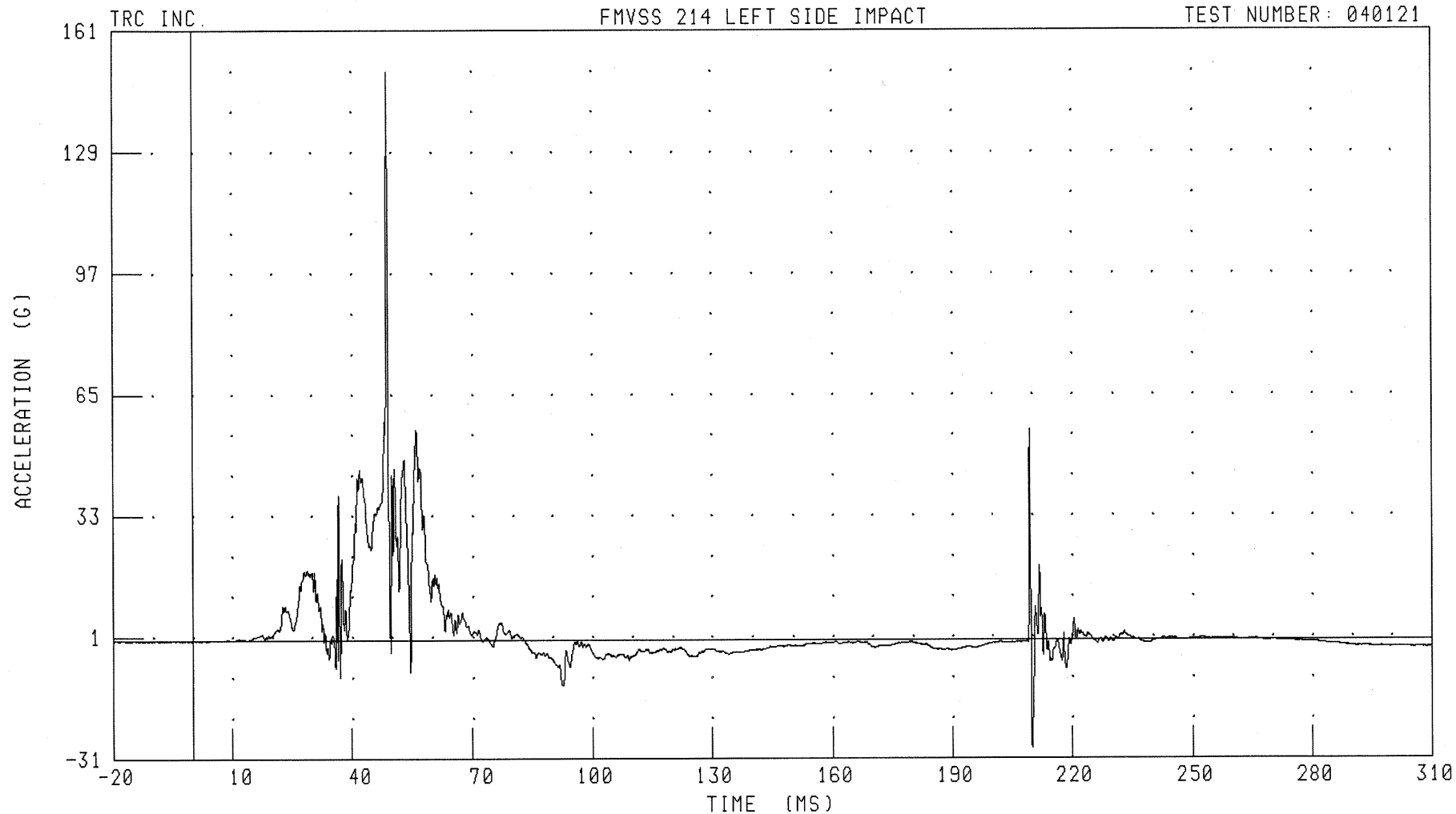
B-64

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYR1

FILTER: CH. CLASS 1000

PEAK DATA: 150.12 G @ 49.04 MS; -28.36 G @ 210.00 MS

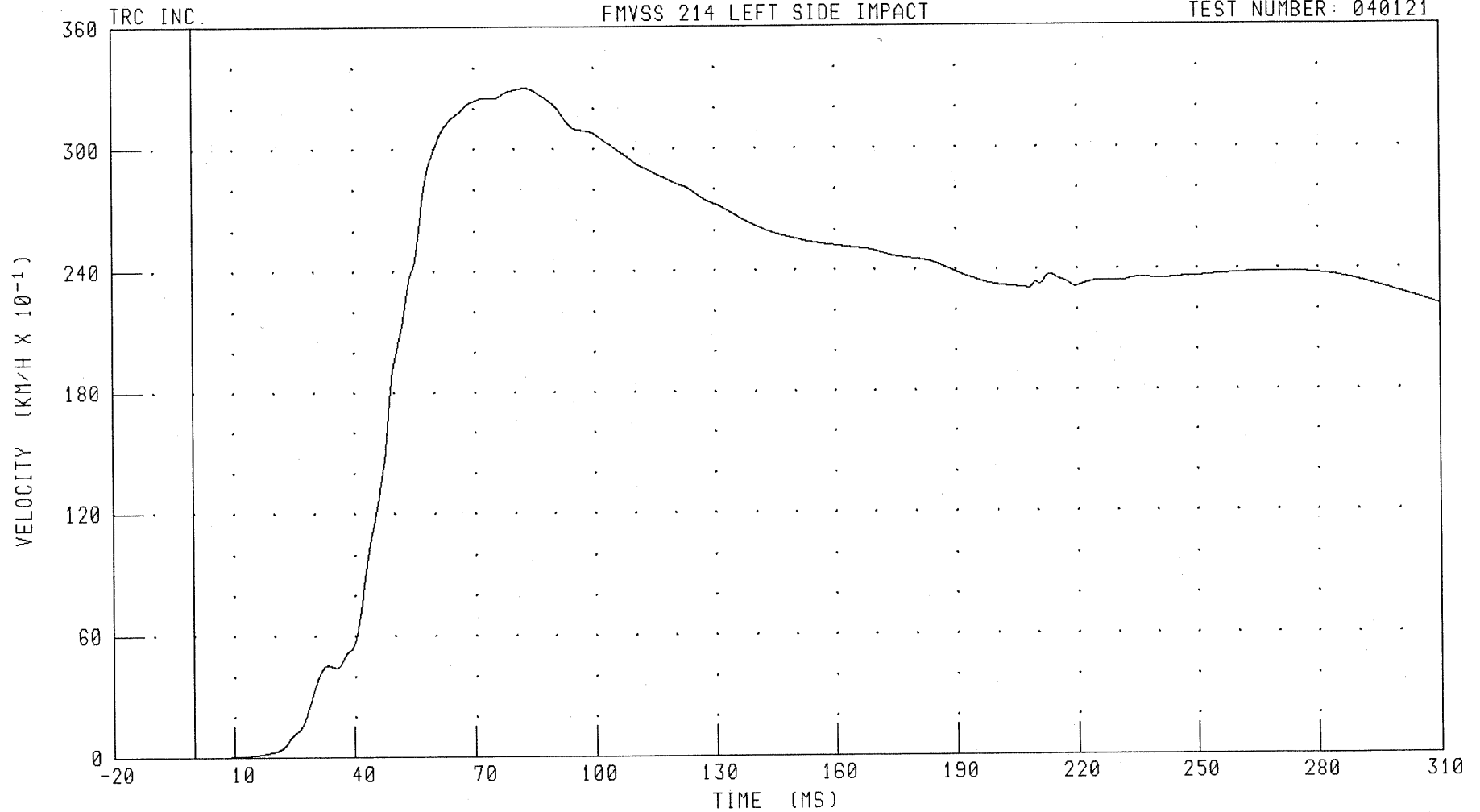
B-65

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER LOWER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYVI FILTER: CH. CLASS 180

PEAK DATA: 33.01 KM/H @ 82.88 MS; 0.00 KM/H @ 0.00 MS

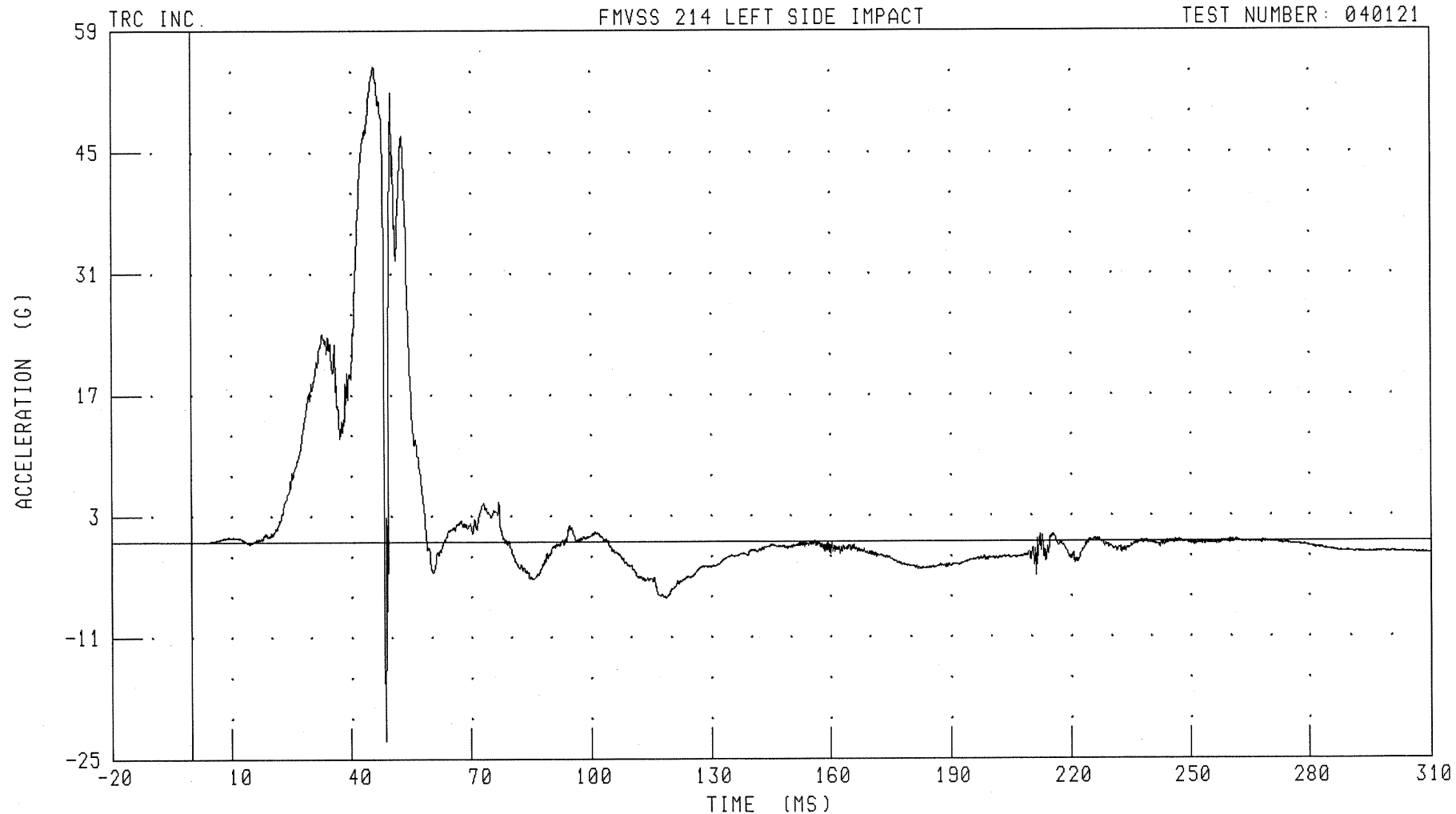
B-66

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YR1 FILTER: CH. CLASS 1000

PEAK DATA: 54.85 G @ 45.84 MS; -22.92 G @ 48.56 MS

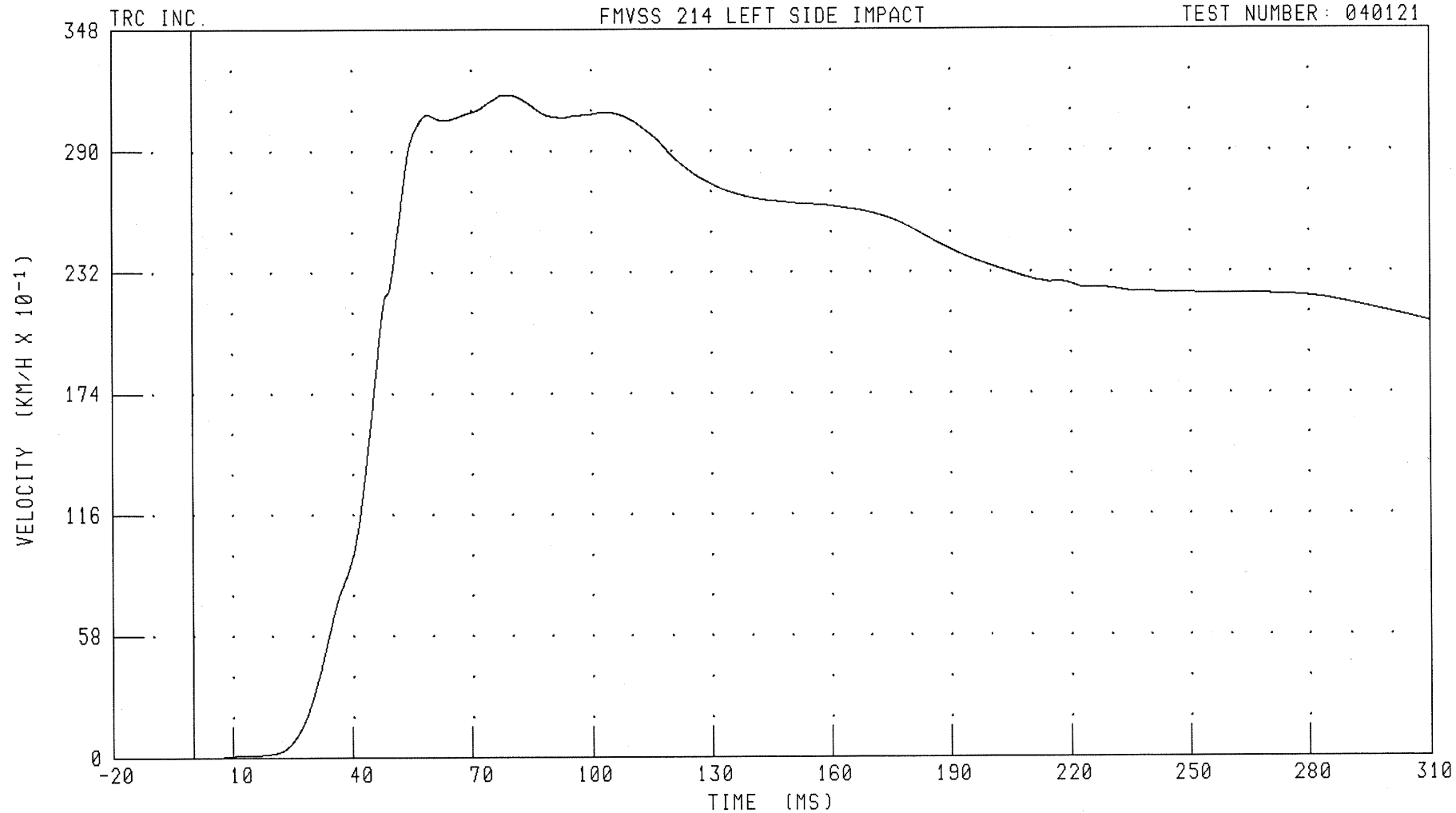
B-67

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YVI FILTER: CH. CLASS 180

PEAK DATA: 31.69 KM/H @ 78.88 MS; 0.00 KM/H @ 0.00 MS

B-68

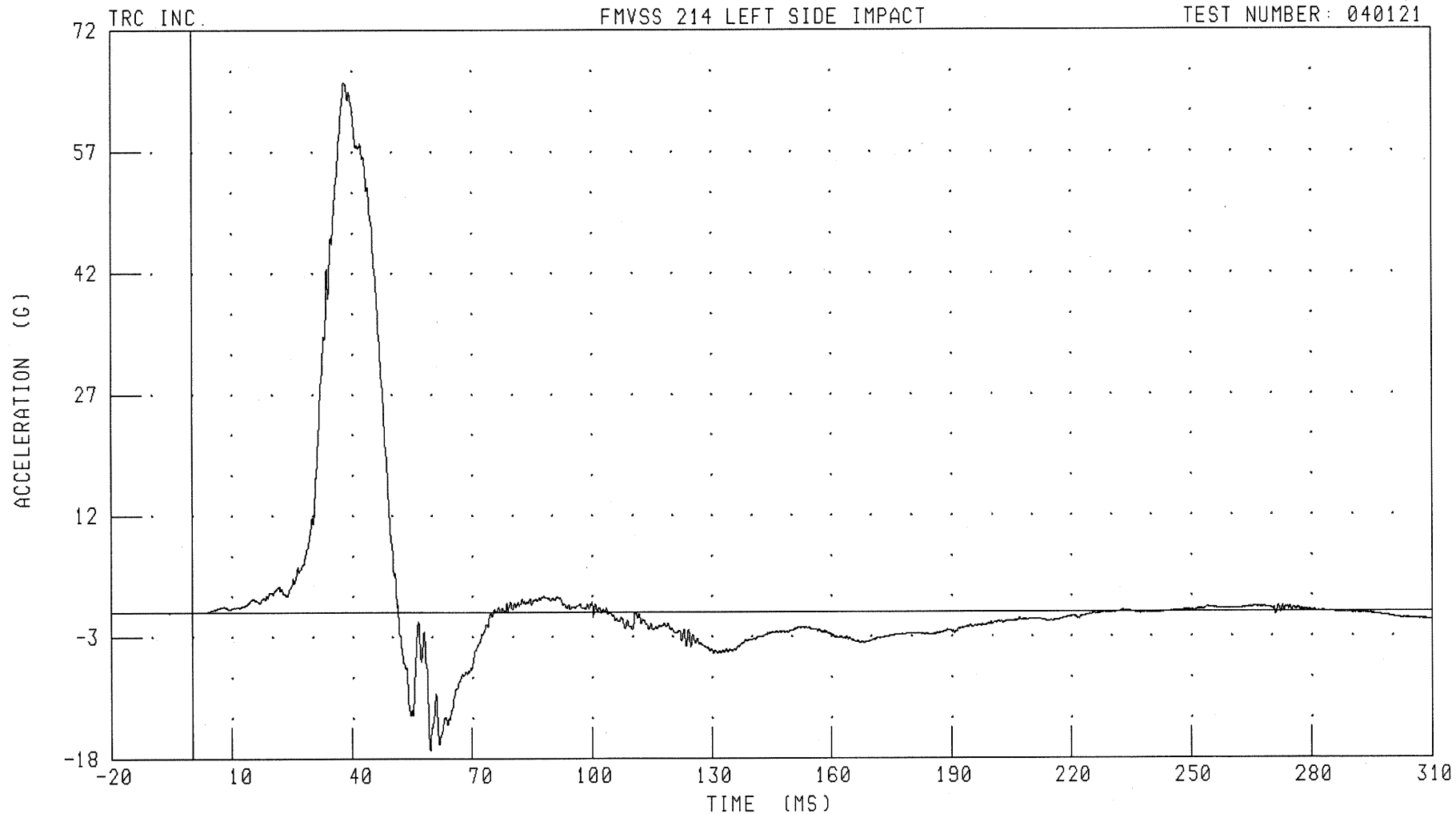
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYR1 FILTER: CH. CLASS 1000

PEAK DATA: 65.55 G @ 38.16 MS; -17.01 G @ 59.60 MS

B-69

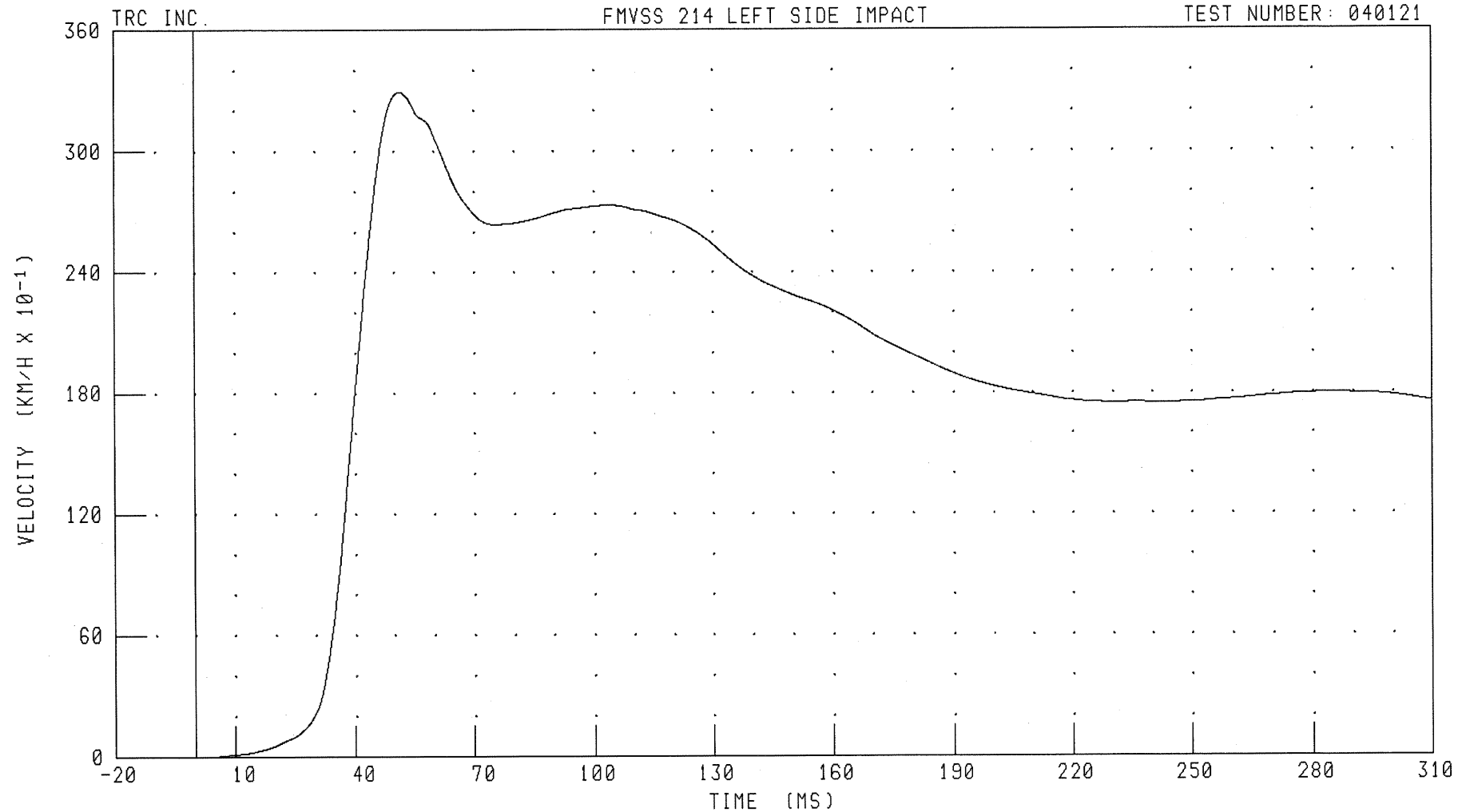
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER PELVIS Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYVI FILTER: CH. CLASS 180

PEAK DATA: 32.93 KM/H @ 51.60 MS; 0.00 KM/H @ 0.00 MS

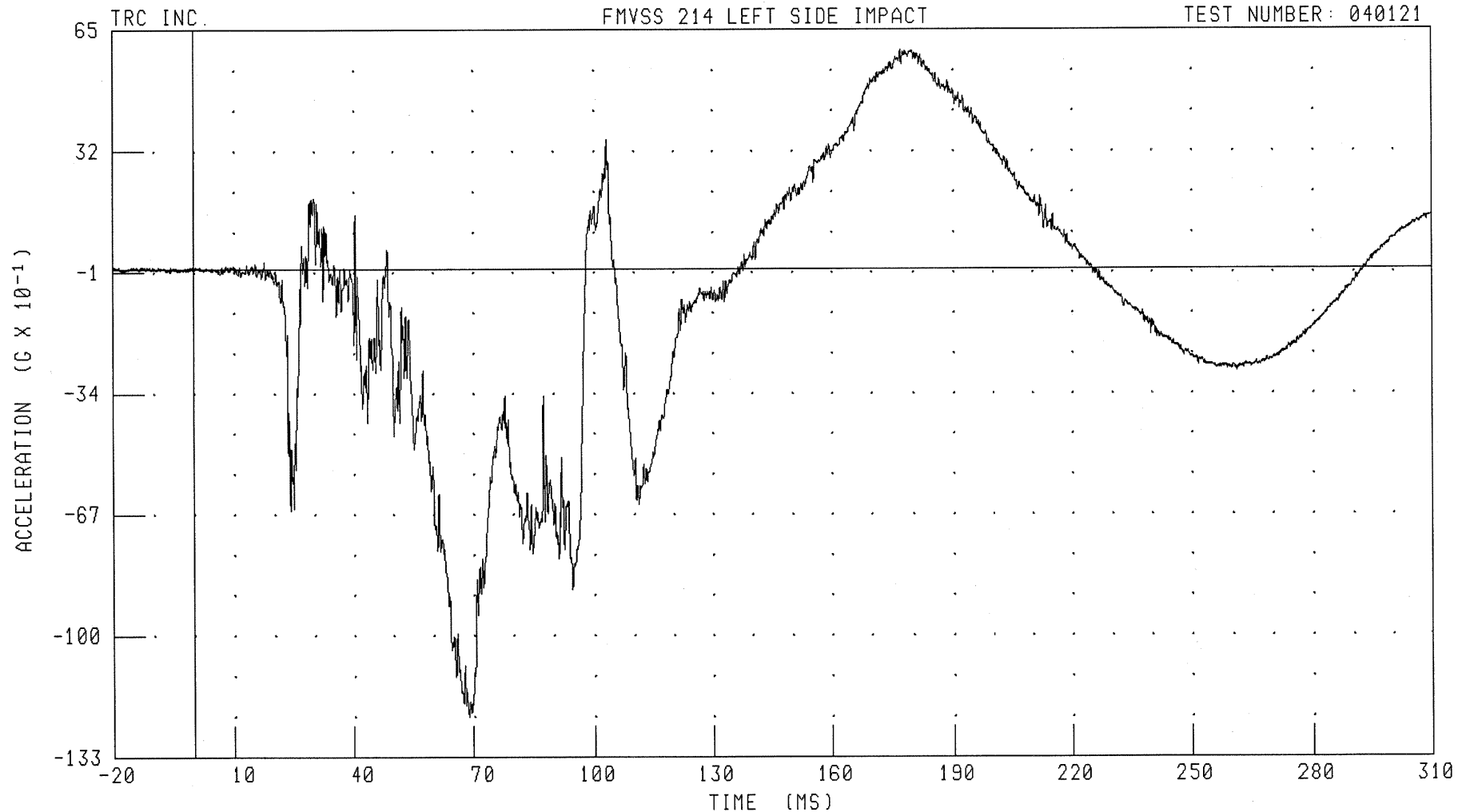
B-70

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER HEAD X-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXR4 FILTER: CH. CLASS 1000

PEAK DATA: 5.95 G @ 177.20 MS; -12.21 G @ 68.88 MS

B-71

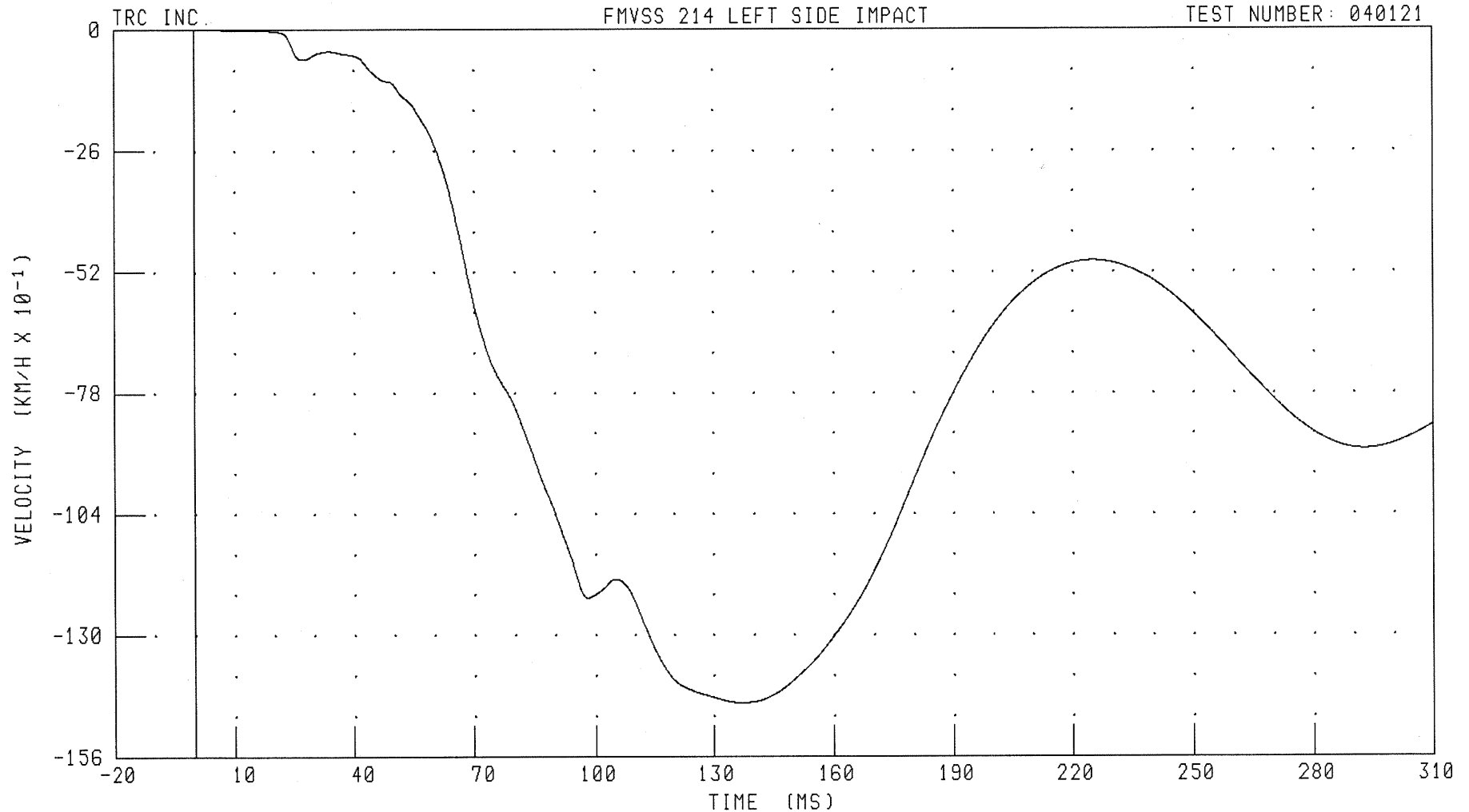
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD X-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDXVJ FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 1.28 MS; -14.46 KM/H @ 137.12 MS

B-72

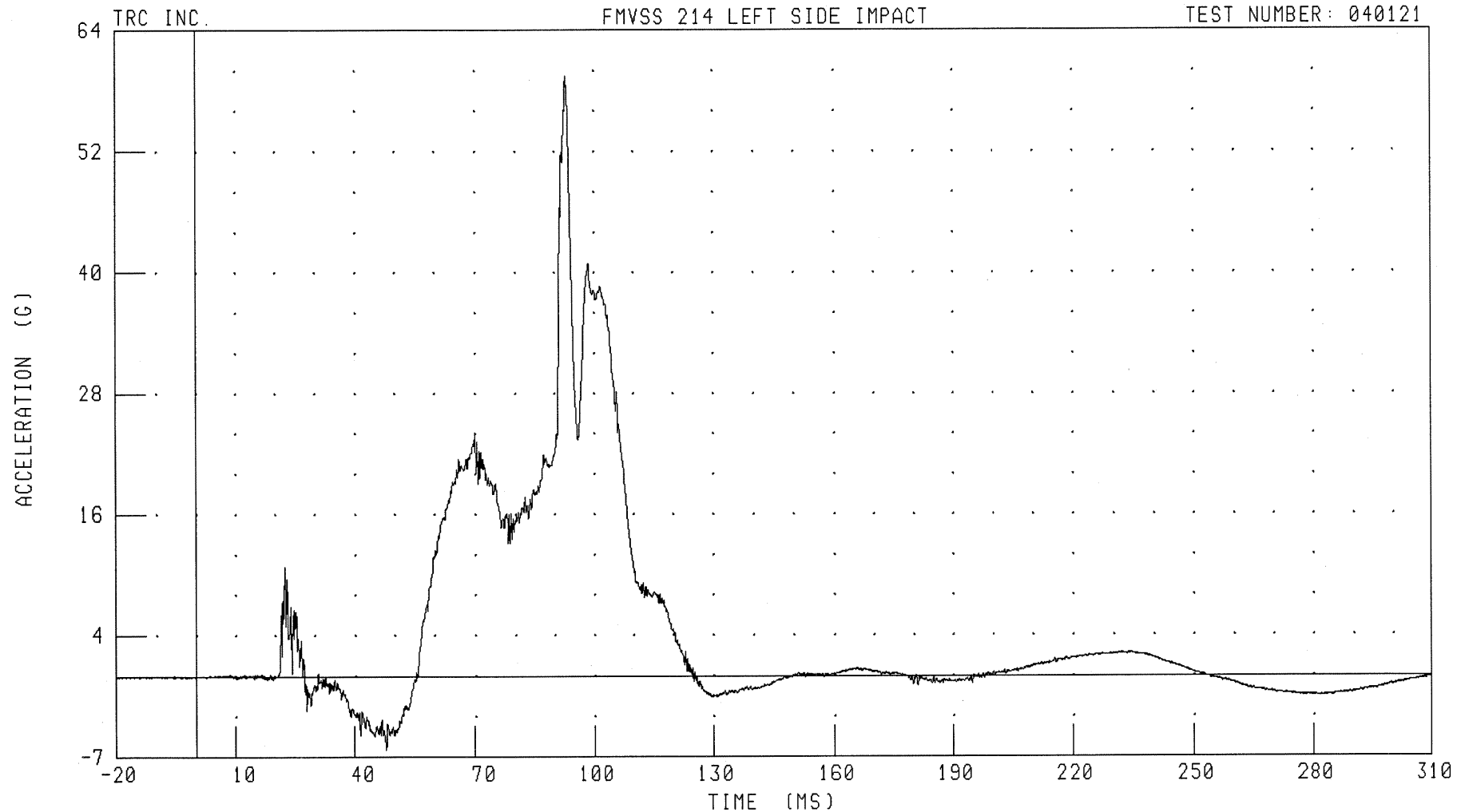
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYR4 FILTER: CH. CLASS 1000

PEAK DATA: 59.52 G @ 92.88 MS; -7.21 G @ 47.84 MS

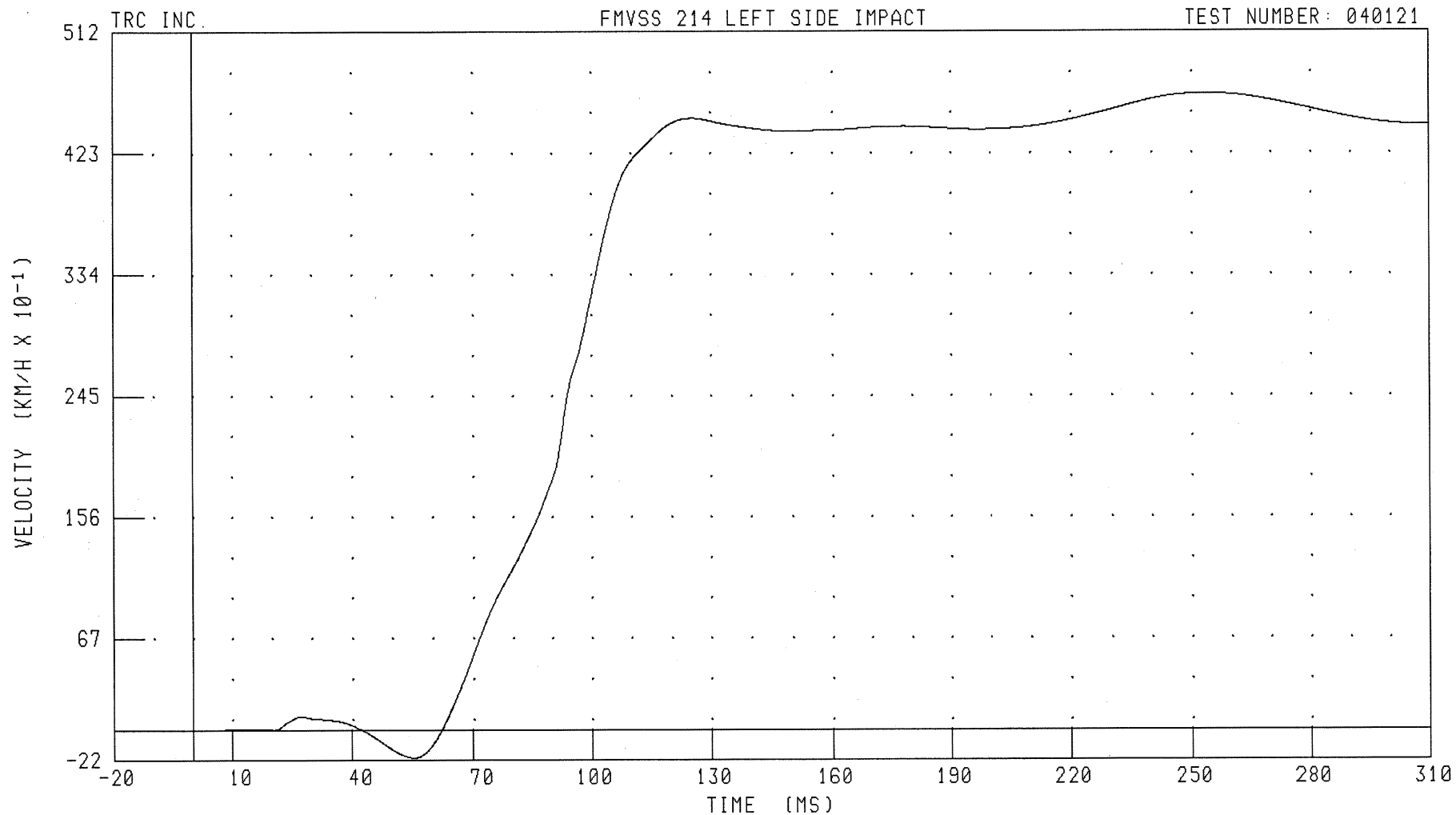
B-73

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER HEAD Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDYVJ

FILTER: CH. CLASS 180

PEAK DATA: 46.64 KM/H @ 253.44 MS; -2.04 KM/H @ 55.36 MS

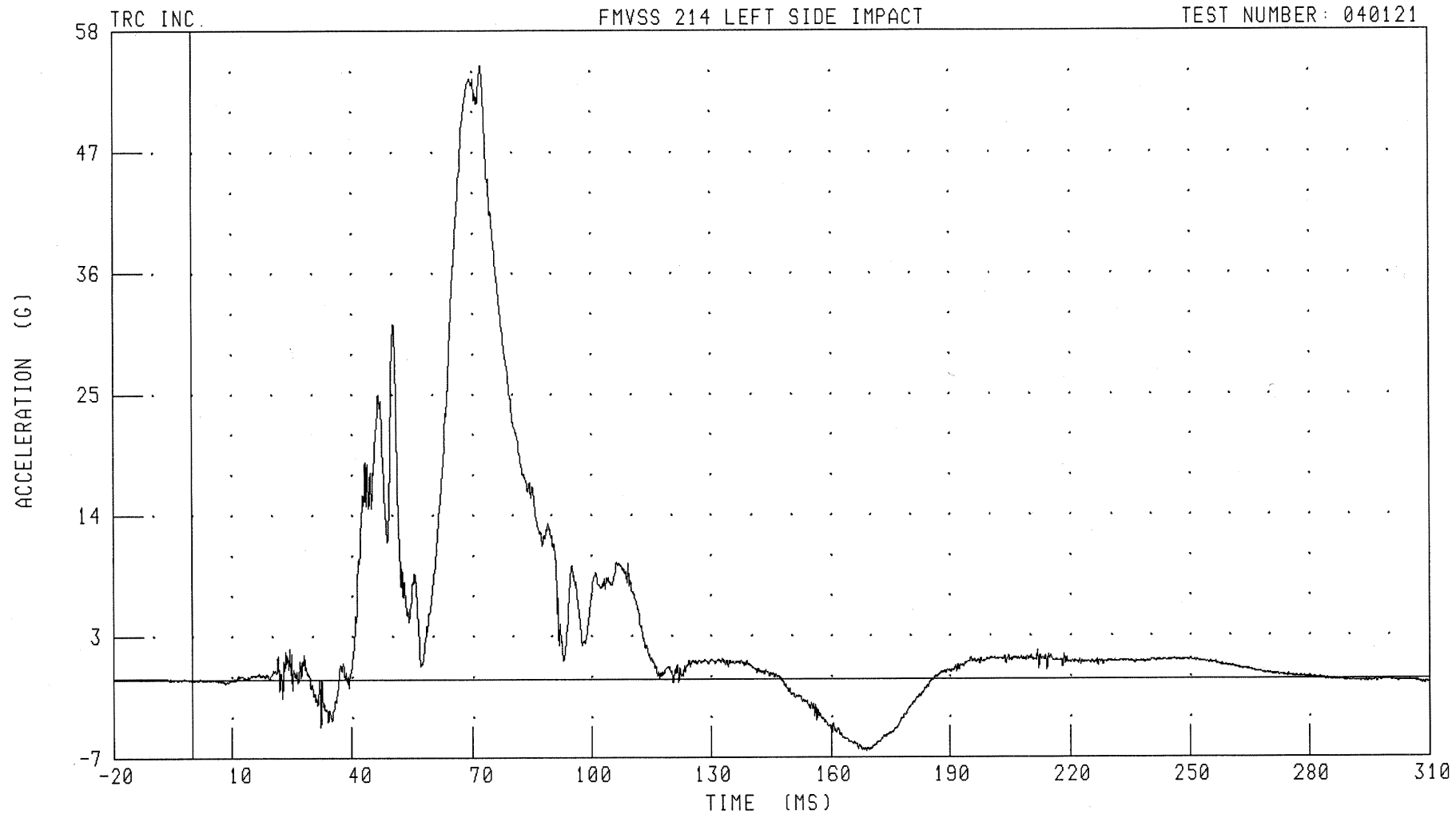
B-74

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER HEAD Z-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDZR4

FILTER: CH. CLASS 1000

PEAK DATA: 55.75 G @ 72.24 MS; -6.52 G @ 168.96 MS

B-75

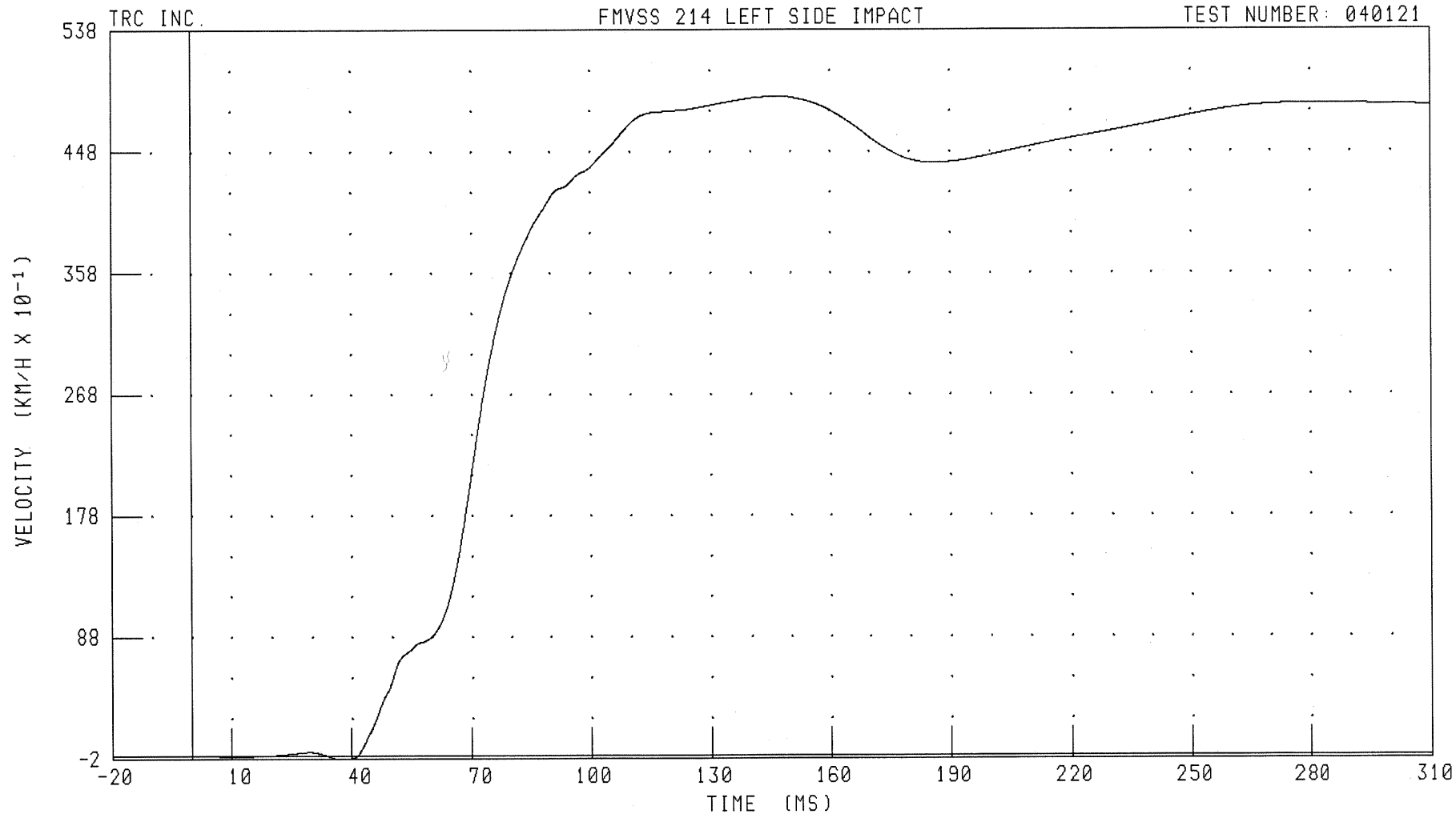
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER HEAD Z-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDZVJ FILTER: CH. CLASS 180

PEAK DATA: 48.88 KM/H @ 147.28 MS; -0.22 KM/H @ 36.72 MS

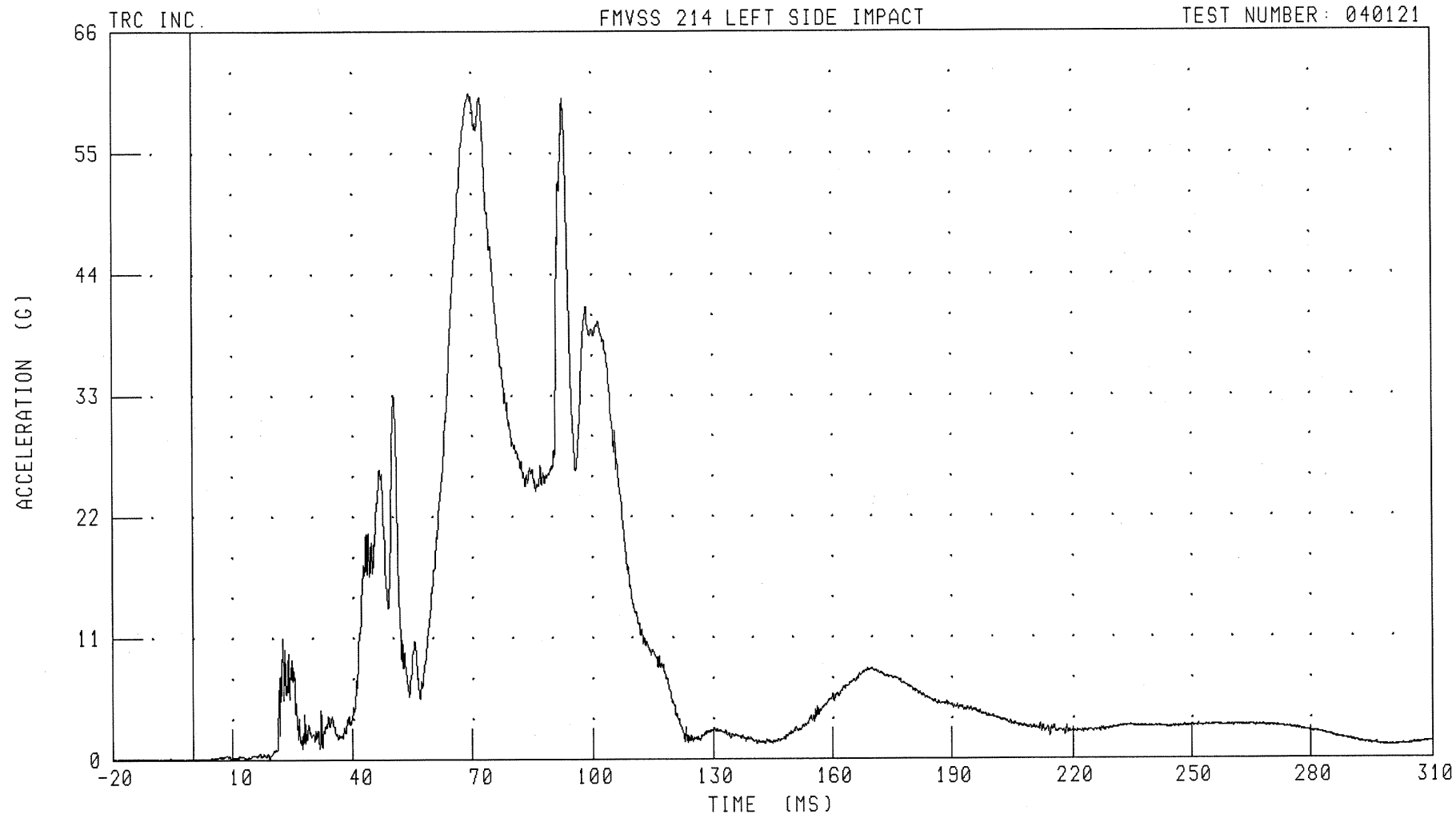
B-76

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER HEAD RESULTANT REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: HEDRR4

FILTER: CH. CLASS 1000

PEAK DATA: 60.42 G @ 69.60 MS; 0.01 G @ -18.96 MS

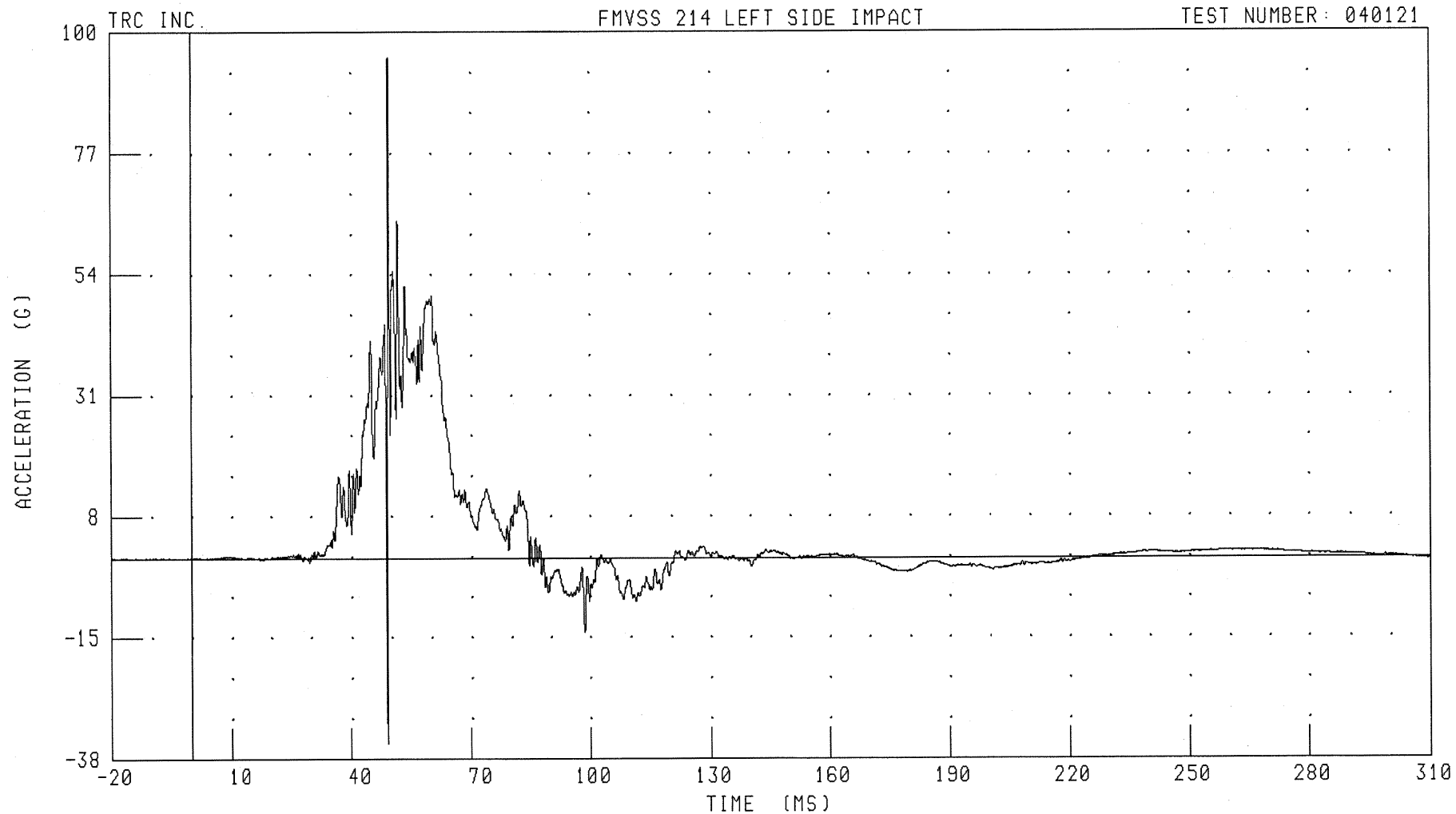
B-77

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYR4 FILTER: CH. CLASS 1000

PEAK DATA: 95.18 G @ 49.44 MS; -35.12 G @ 48.96 MS

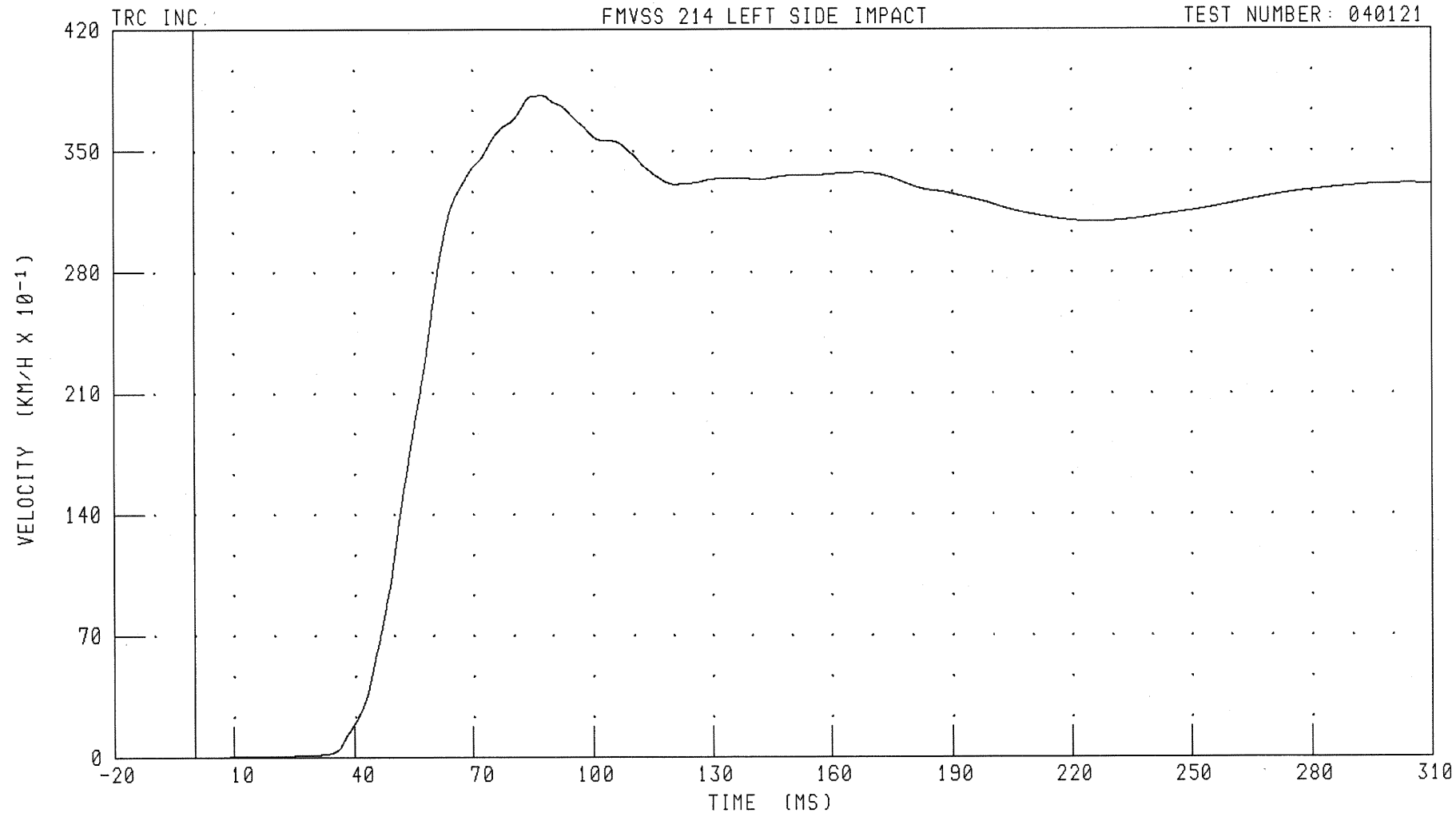
B-78

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYVJ

FILTER: CH. CLASS 180

PEAK DATA: 38.22 KM/H @ 87.28 MS; 0.00 KM/H @ 0.00 MS

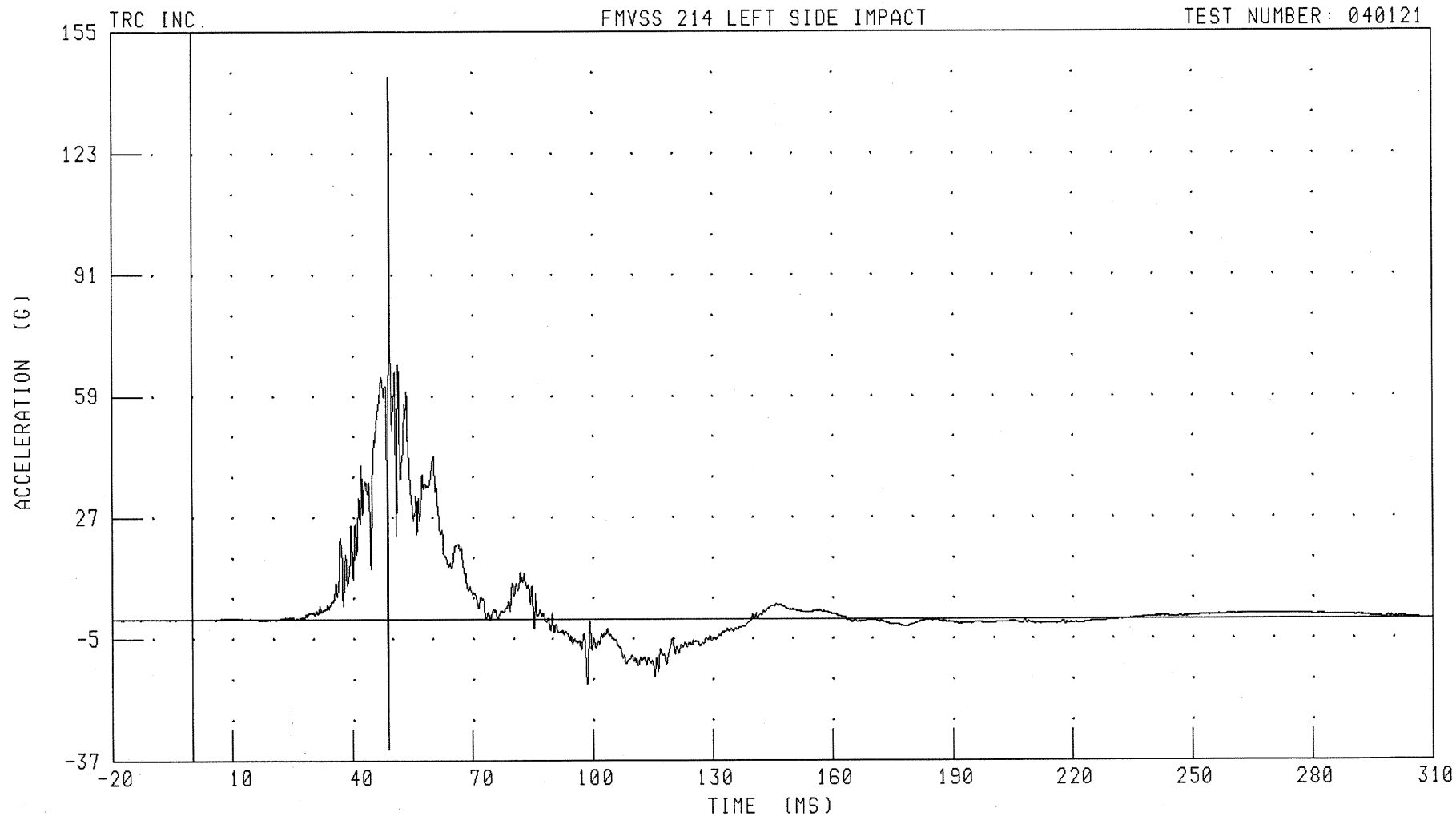
B-79

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYR4 FILTER: CH. CLASS 1000

PEAK DATA: 143.12 G @ 49.36 MS; -34.14 G @ 48.96 MS

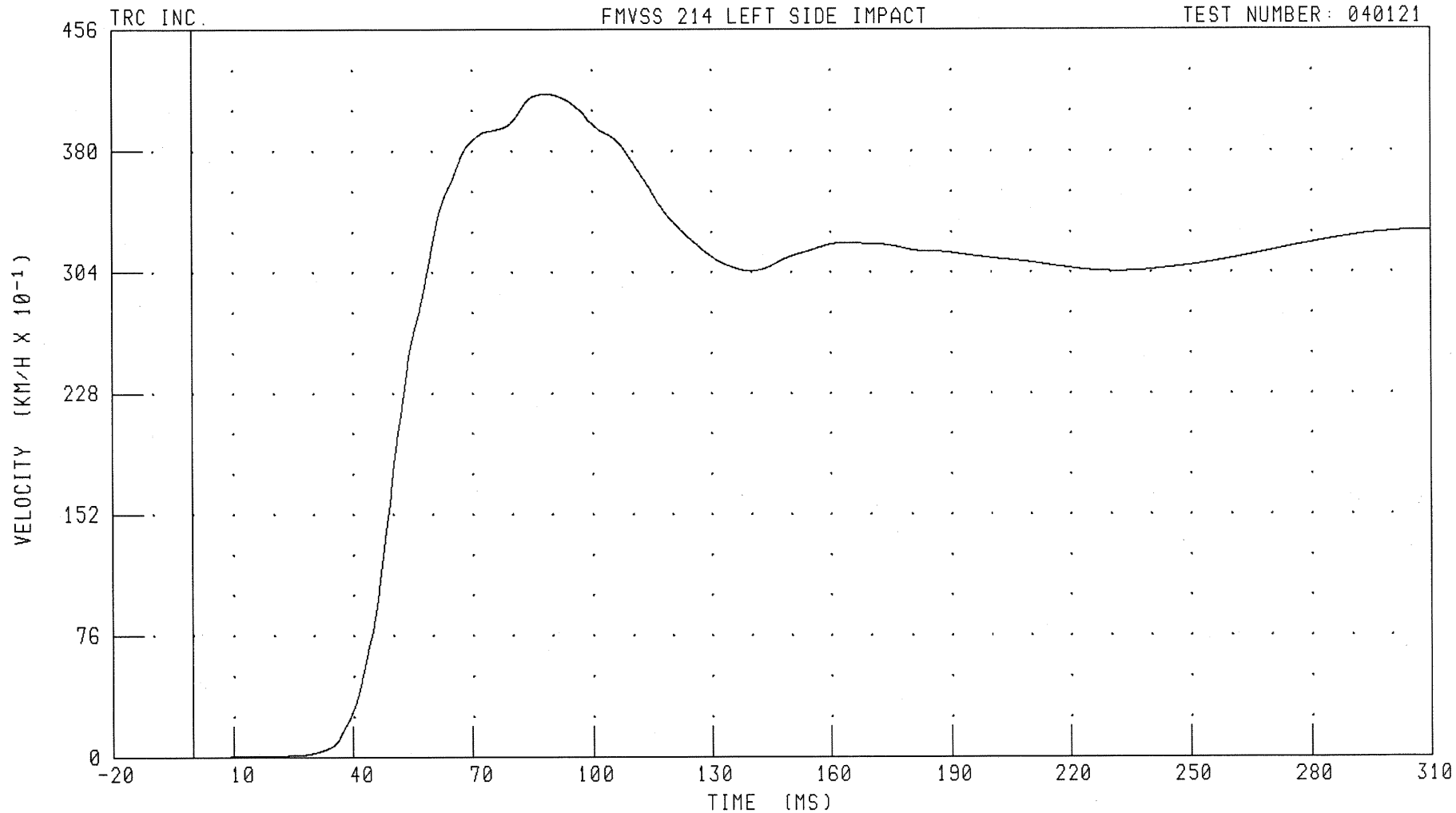
B-80

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYVJ

FILTER: CH. CLASS 180

PEAK DATA: 41.58 KM/H @ 88.48 MS; 0.00 KM/H @ 0.00 MS

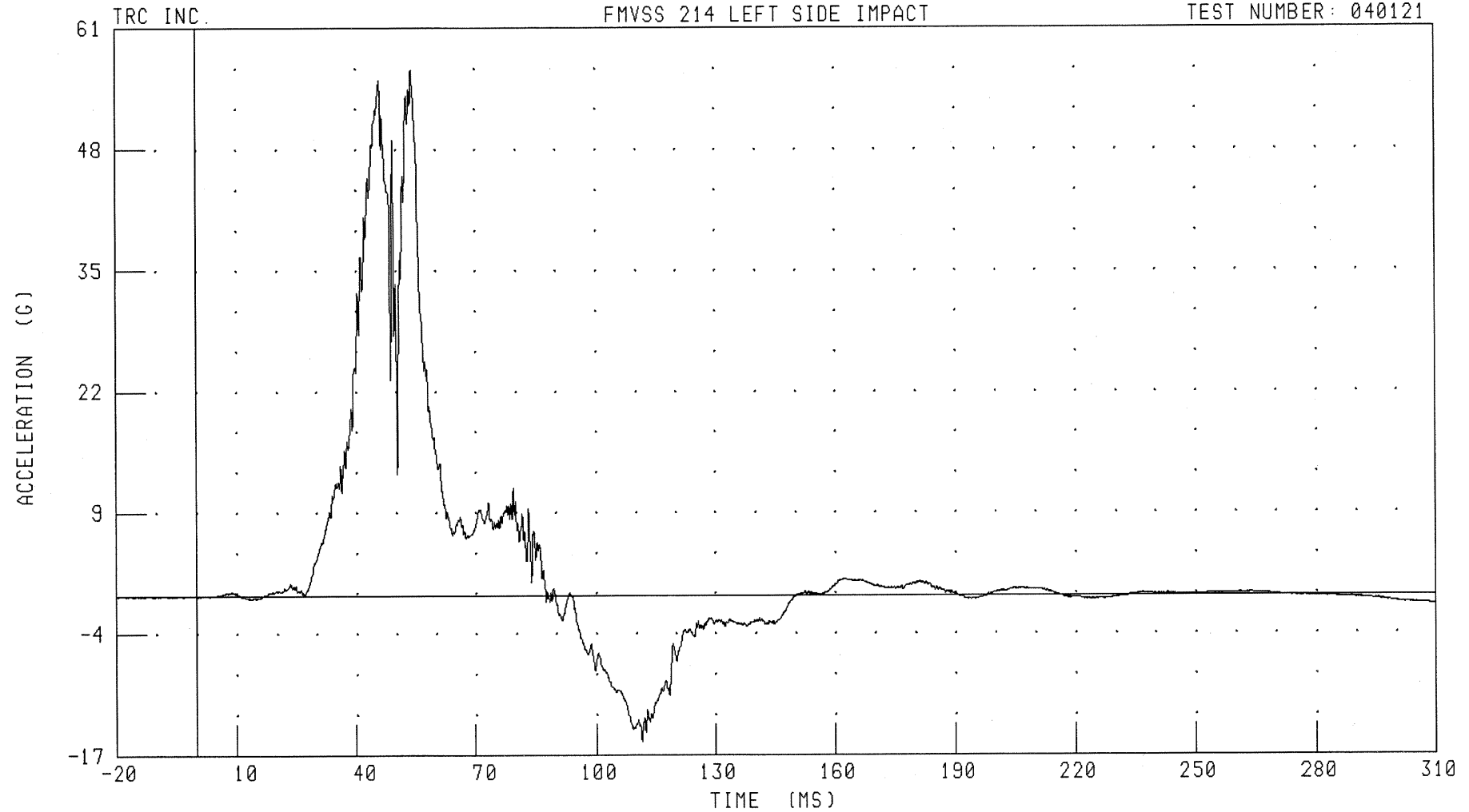
B-81

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YR4 FILTER: CH. CLASS 1000

PEAK DATA: 56.49 G @ 54.08 MS; -15.57 G @ 111.44 MS

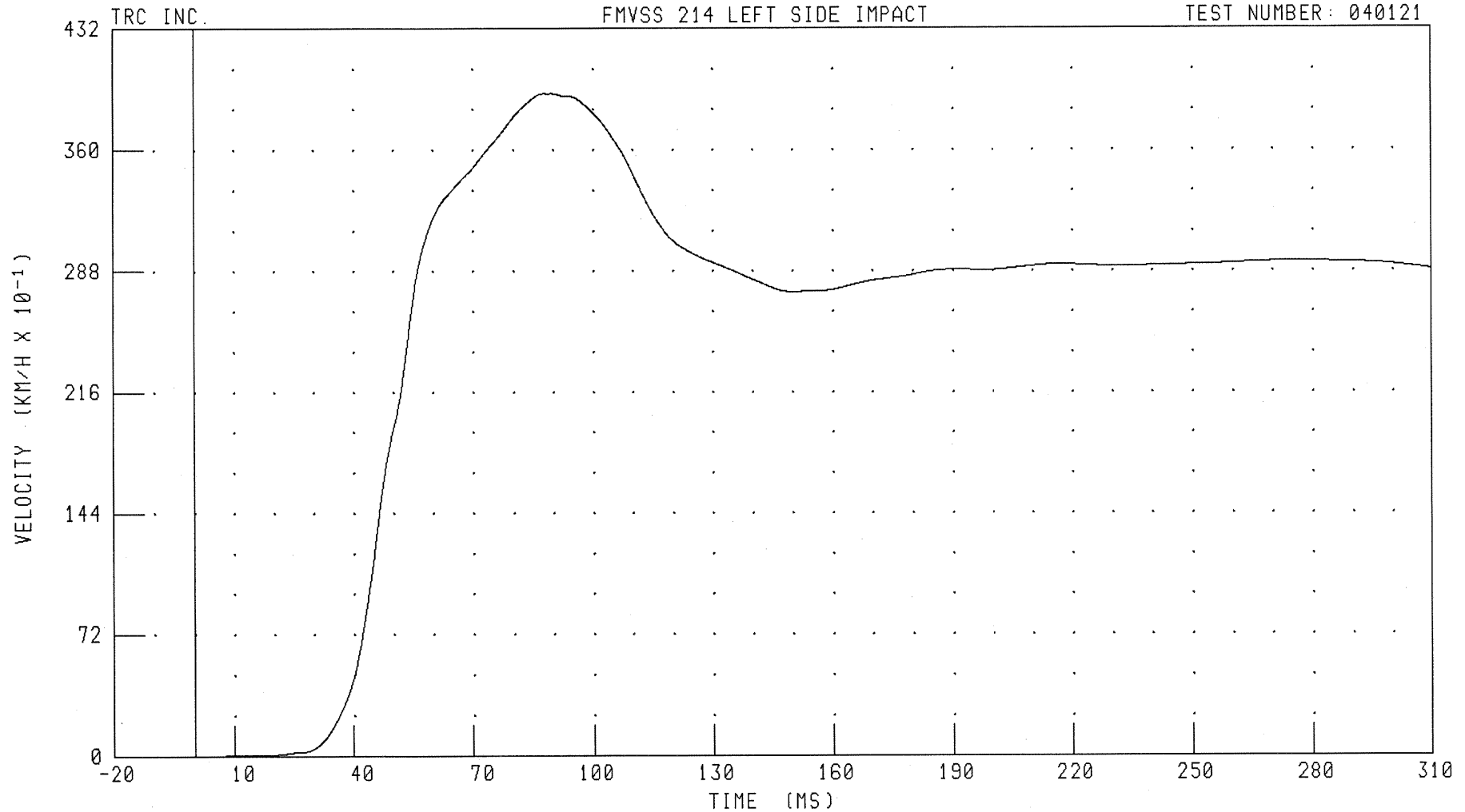
B-82

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YVJ

FILTER: CH. CLASS 180

PEAK DATA: 39.34 KM/H @ 87.84 MS; 0.00 KM/H @ 0.00 MS

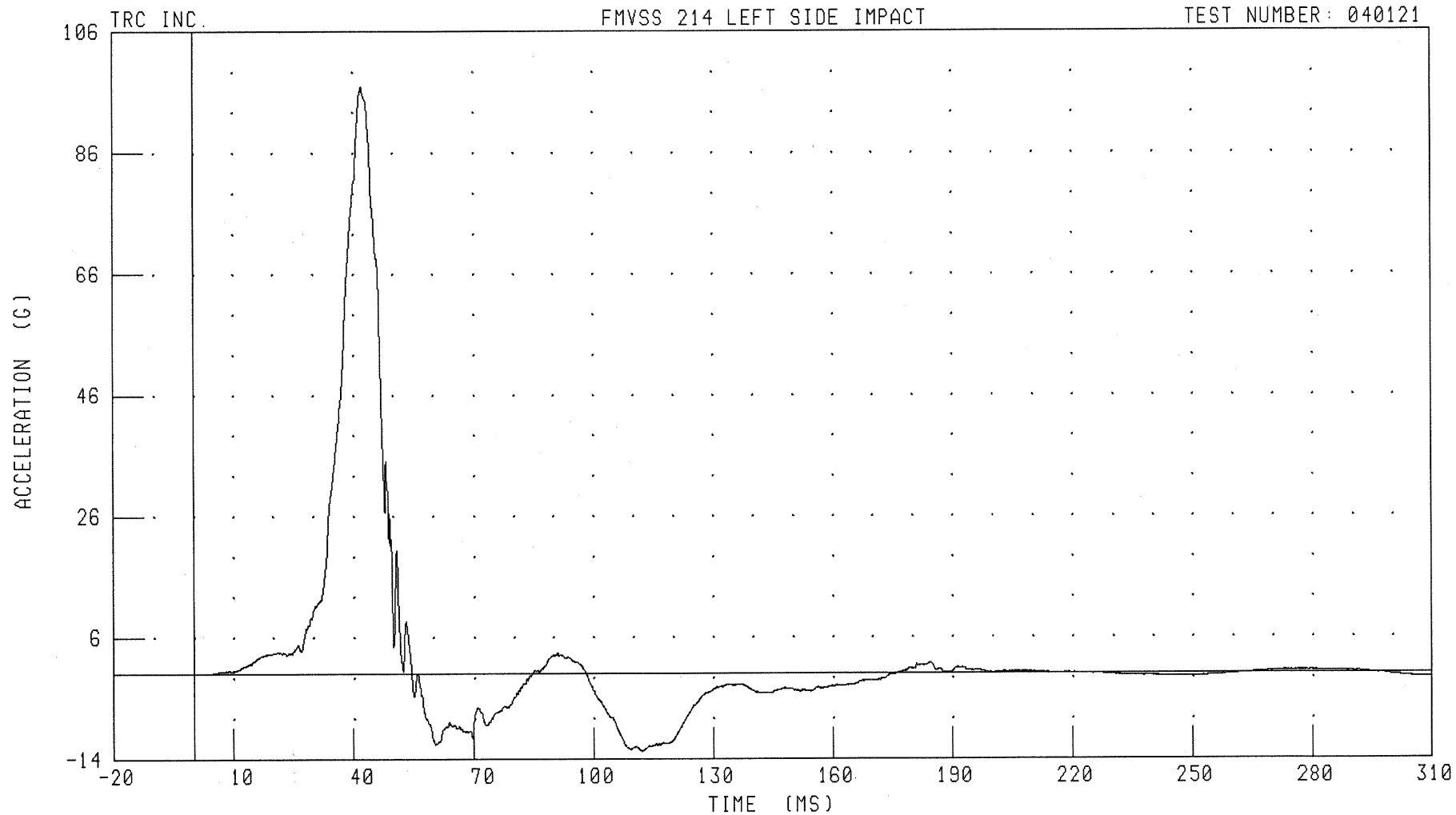
B-83

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYR4 FILTER: CH. CLASS 1000

PEAK DATA: 96.86 G @ 42.32 MS; -12.76 G @ 112.24 MS

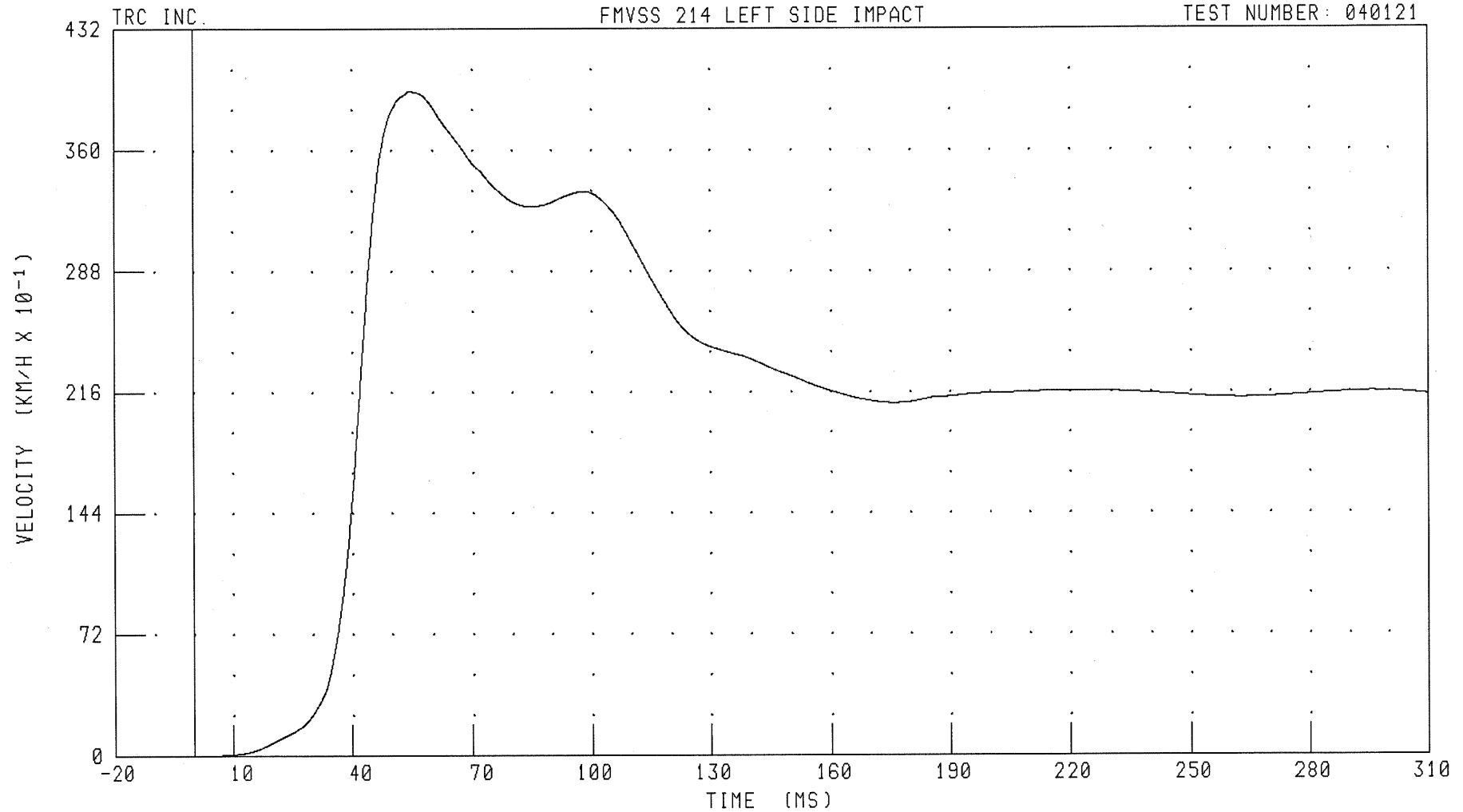
B-84

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYVJ FILTER: CH. CLASS 180

PEAK DATA: 39.50 KM/H @ 54.72 MS; 0.00 KM/H @ 1.84 MS

B-85

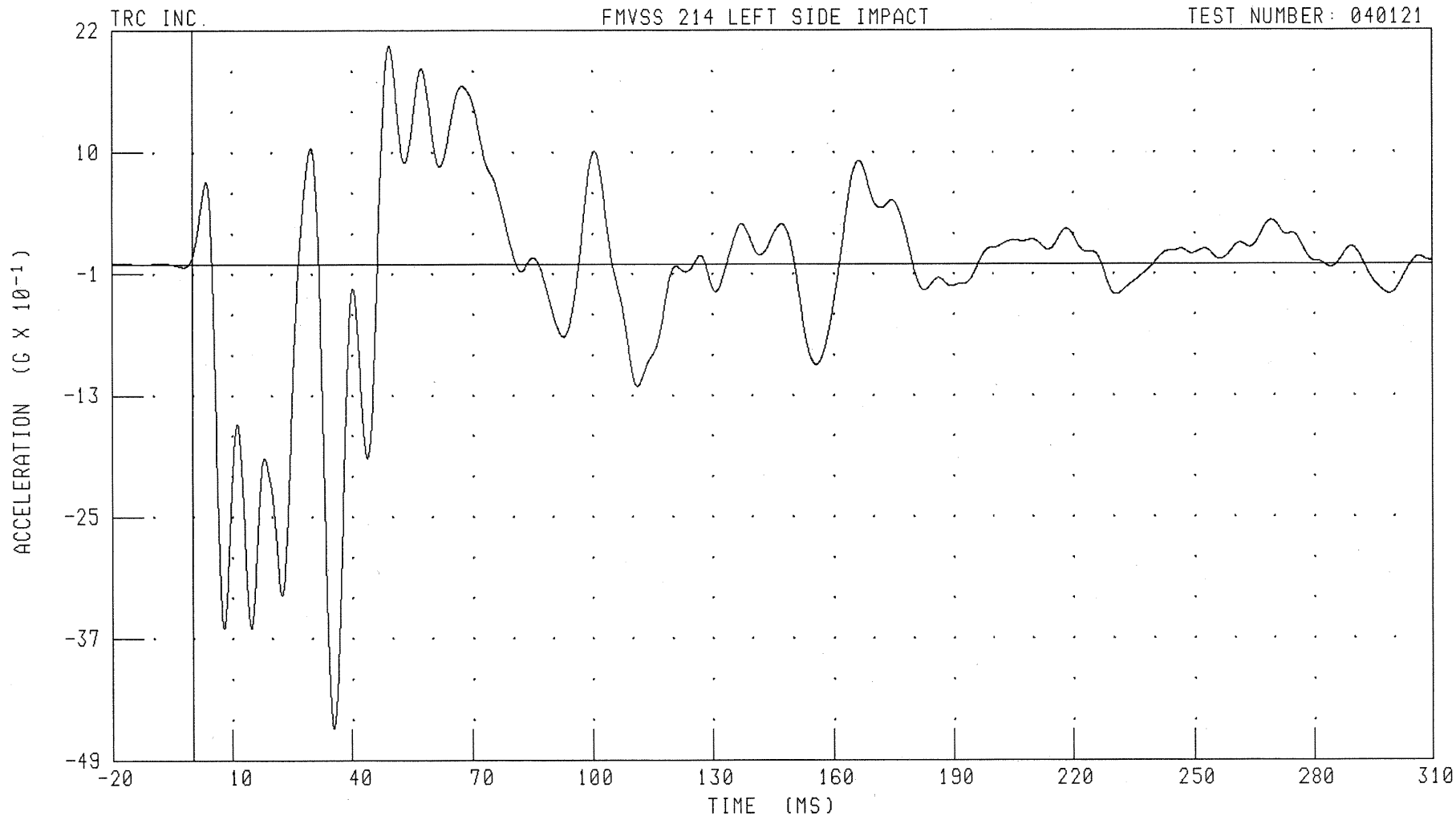
040121

Test Vehicle Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT FRONT SEAT X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RFSXG1 FILTER: CH. CLASS 60

PEAK DATA: 2.15 G @ 49.44 MS; -4.58 G @ 35.44 MS

B-87

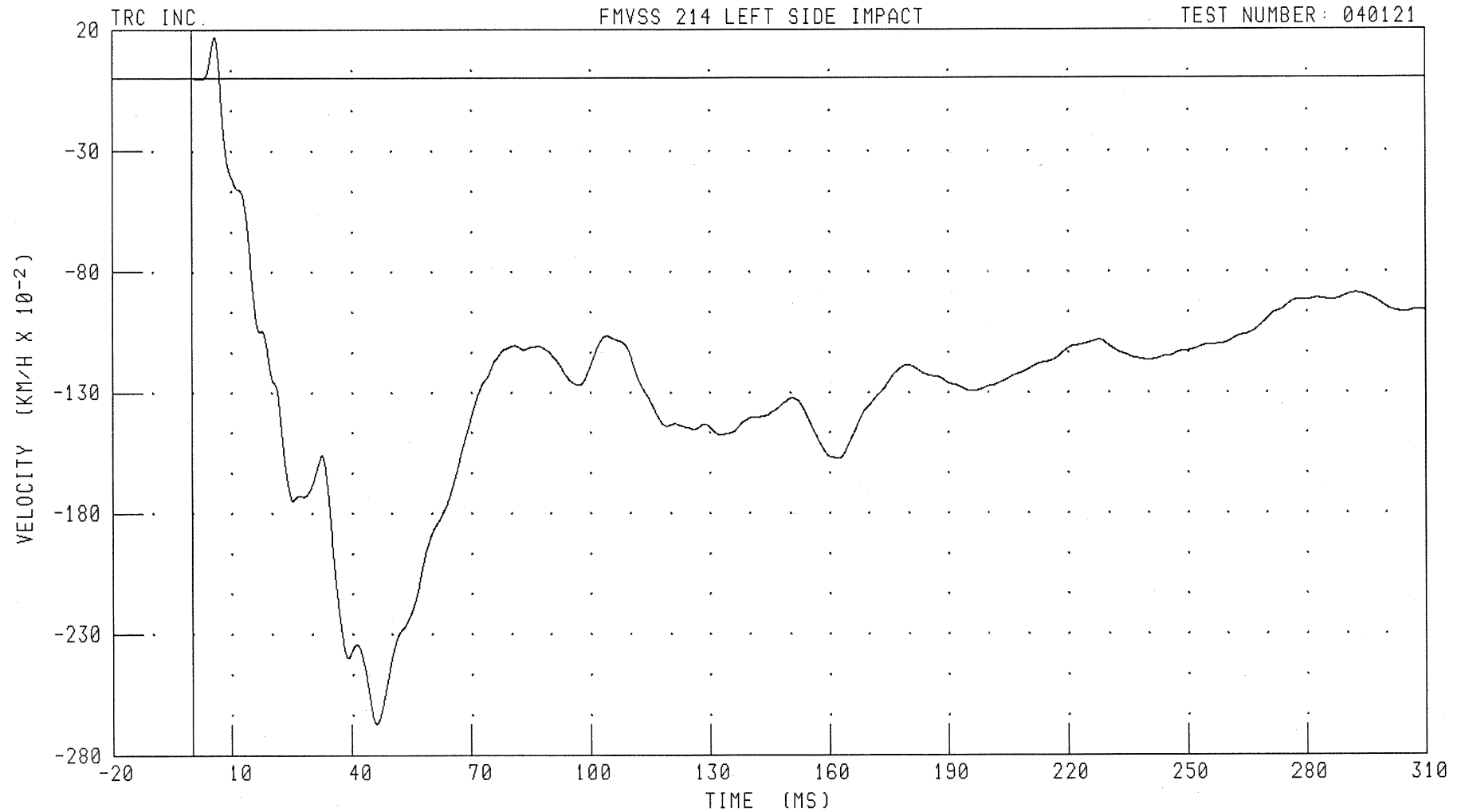
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

RIGHT SIDE SILL AT FRONT SEAT X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RFSXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.17 KM/H @ 5.92 MS; -2.67 KM/H @ 46.24 MS

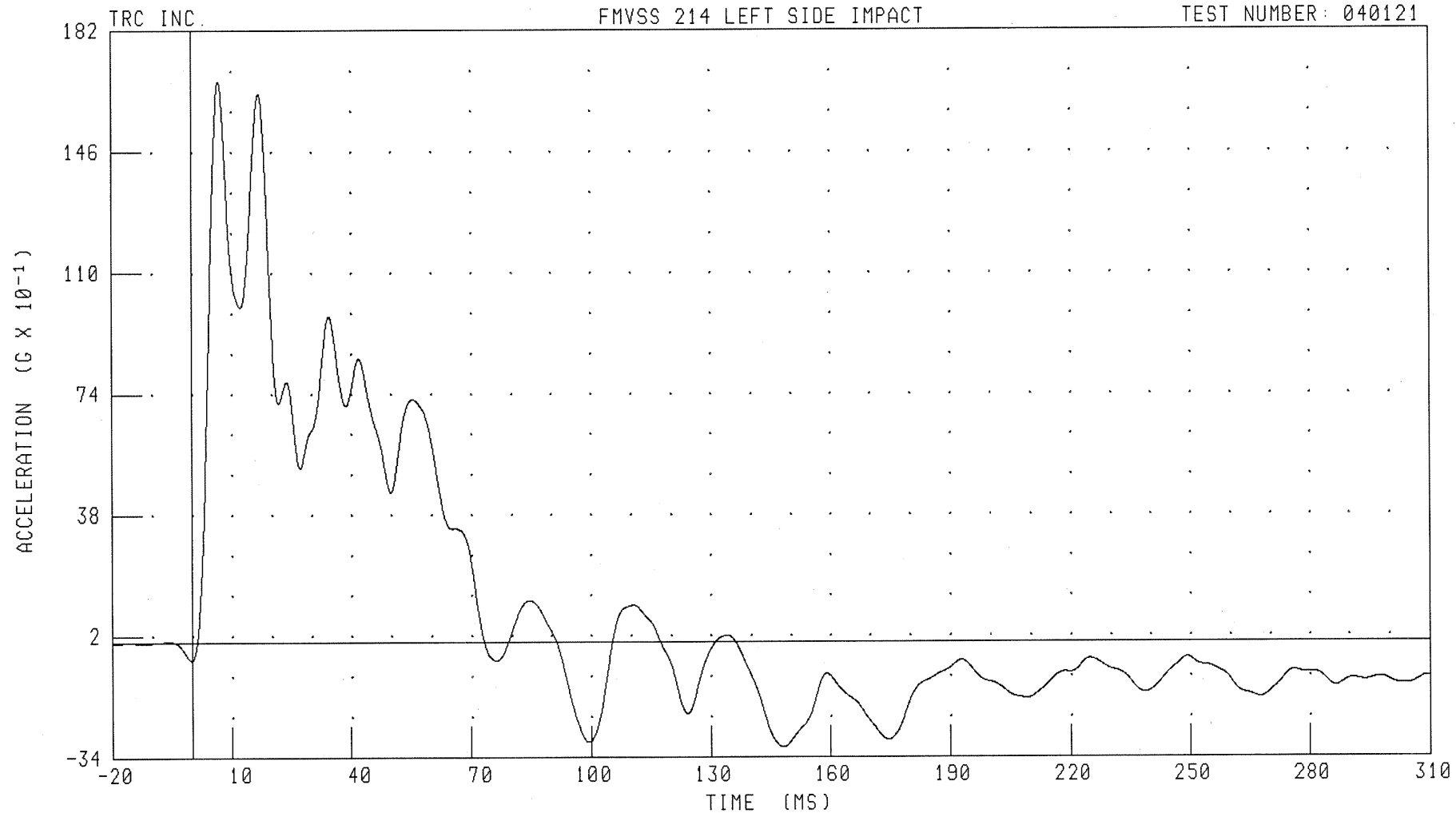
B-88

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT FRONT SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



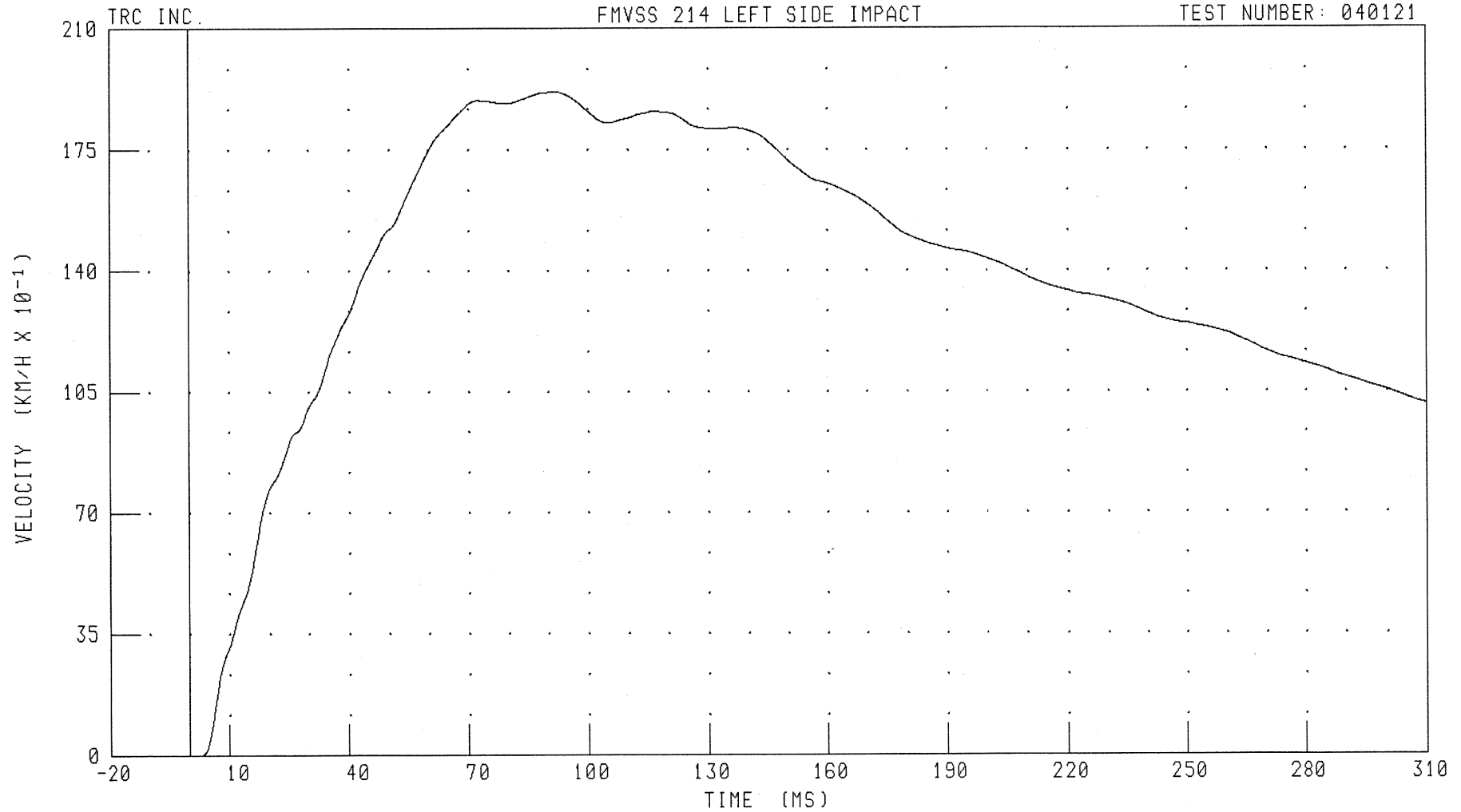
B-89

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RFSYV1

FILTER: CH. CLASS 180

PEAK DATA: 19.17 KM/H @ 92.00 MS; 0.00 KM/H @ 2.24 MS

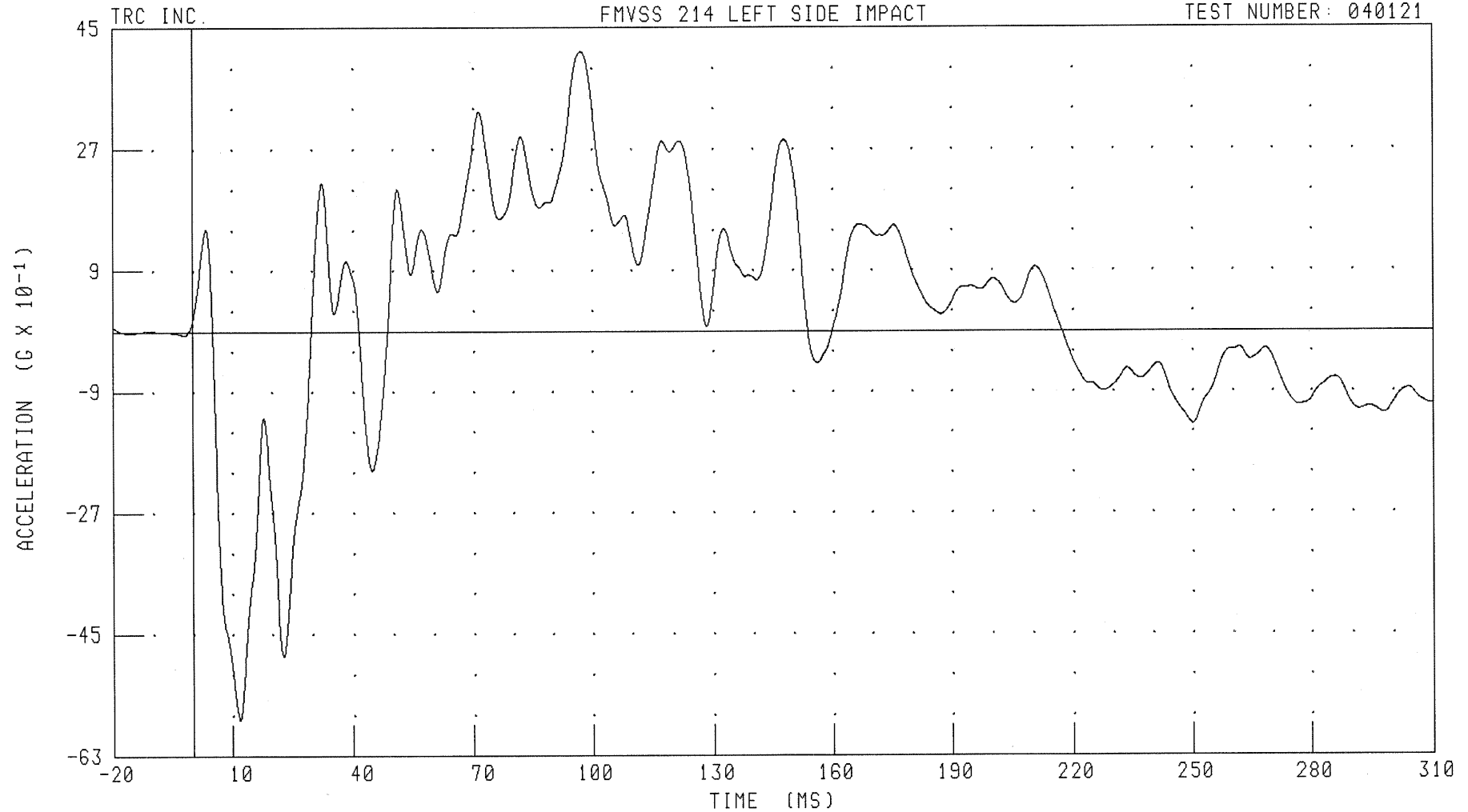
B-90

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT FRONT SEAT Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RFSZG1

FILTER: CH. CLASS 60

PEAK DATA: 4.15 G @ 97.36 MS; -5.77 G @ 11.92 MS

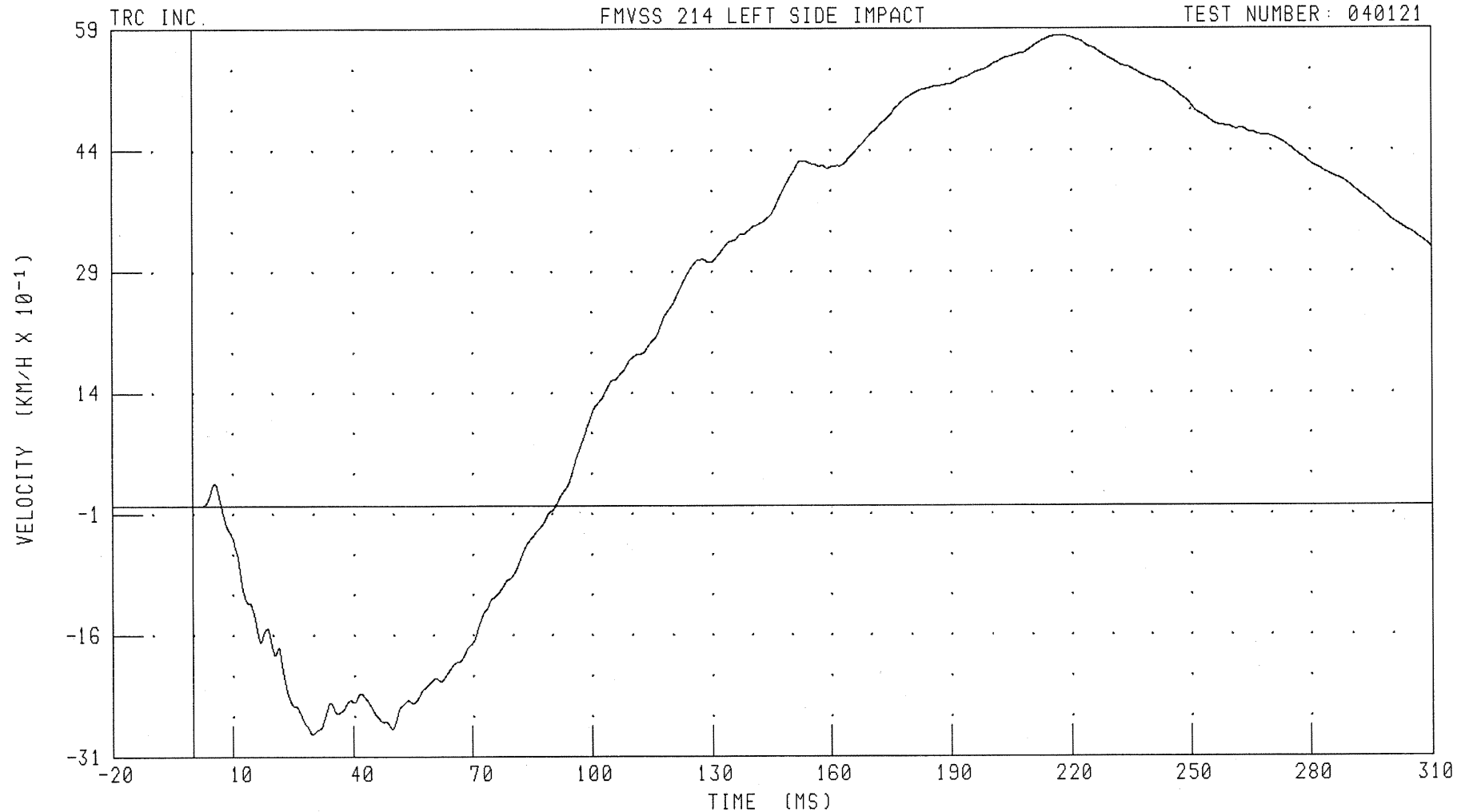
B-91

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT FRONT SEAT Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RFSZV1 FILTER: CH. CLASS 180

PEAK DATA: 5.82 KM/H @ 217.84 MS; -2.82 KM/H @ 29.76 MS

B-92

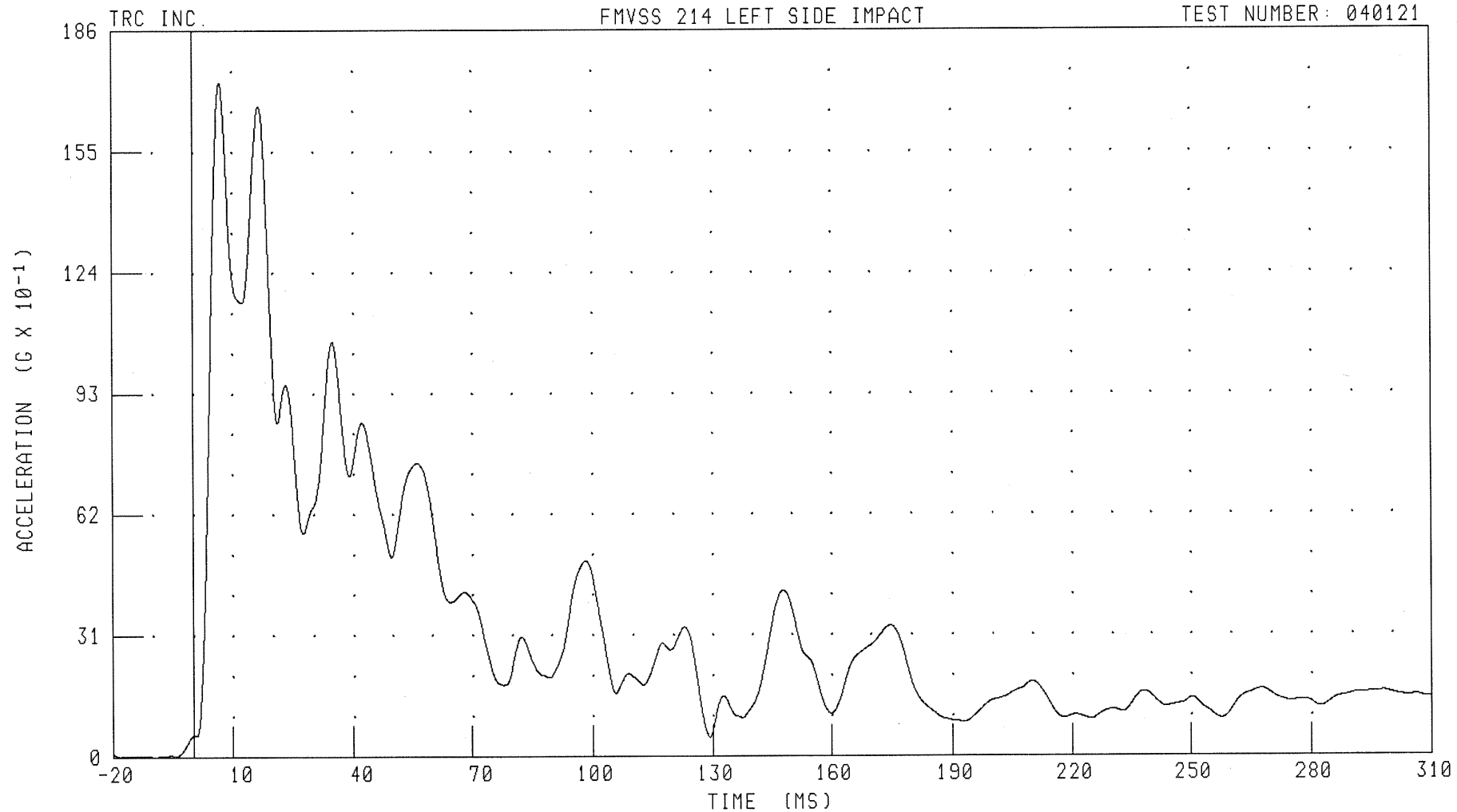
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RFSRG1

FILTER: CH. CLASS 60

PEAK DATA: 17.28 G @ 6.96 MS; 0.00 G @ -9.60 MS

B-93

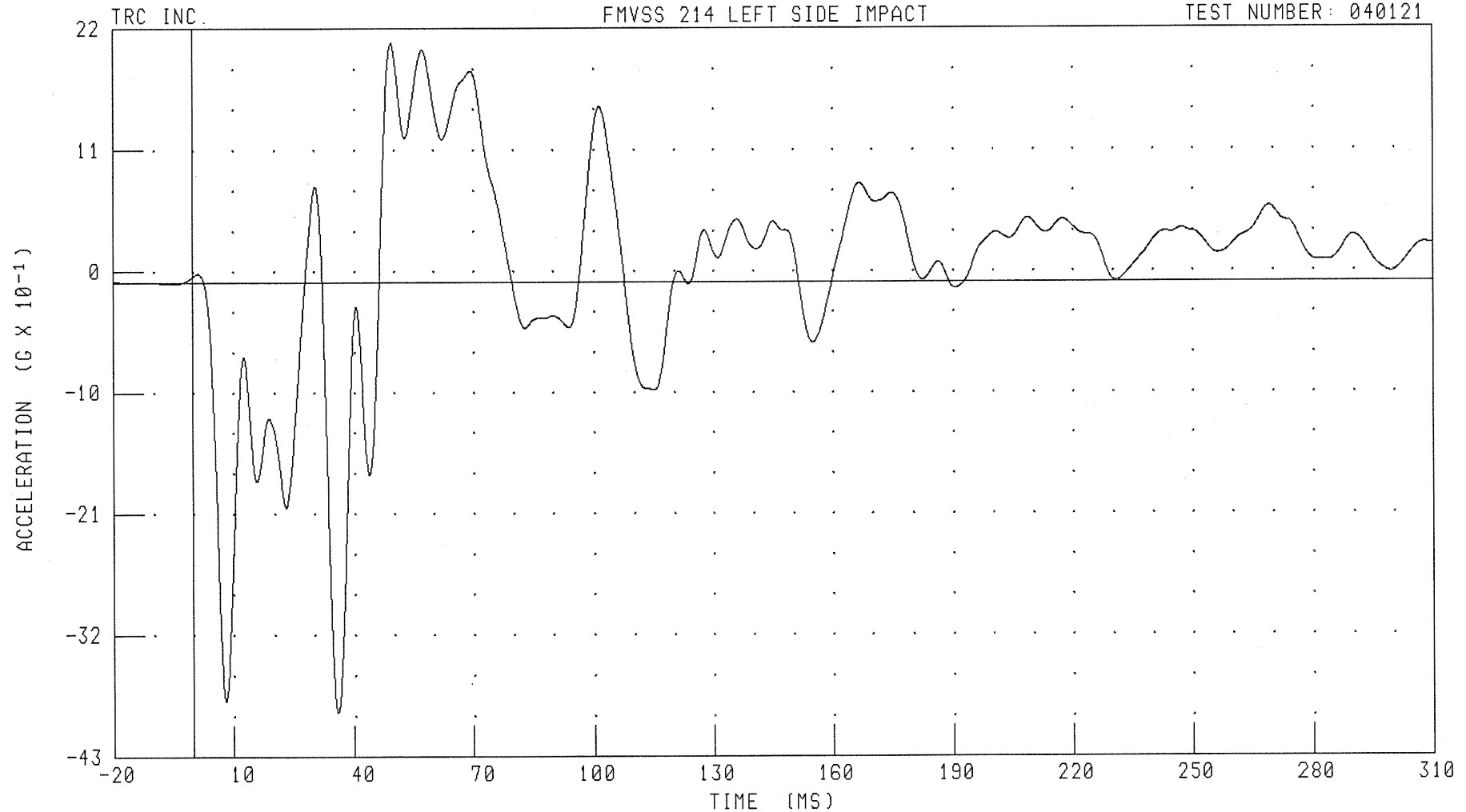
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

RIGHT SIDE SILL AT REAR SEAT X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRSXG1

FILTER: CH. CLASS 60

PEAK DATA: 2.17 G @ 49.44 MS; -3.91 G @ 35.84 MS

B-94

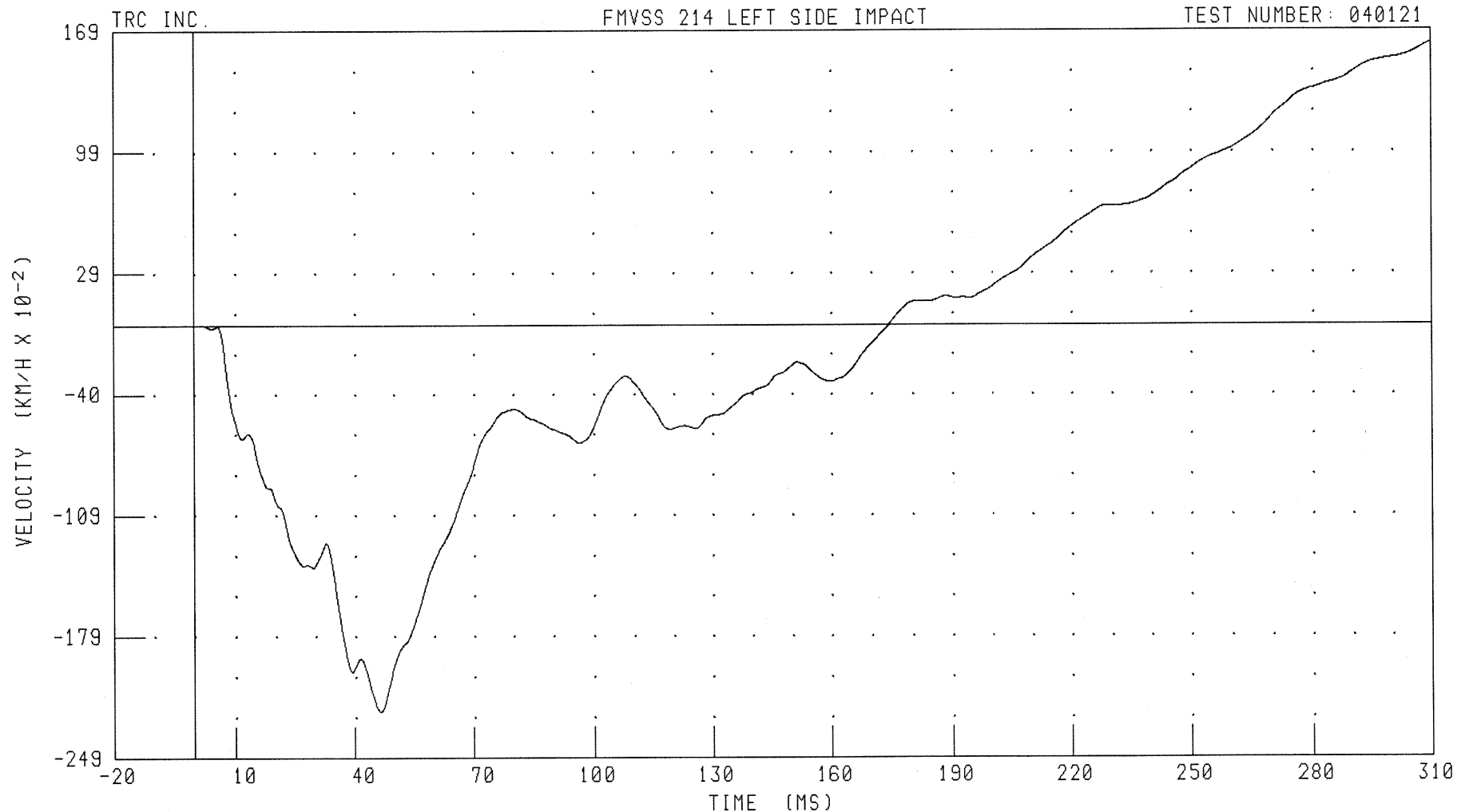
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

RIGHT SIDE SILL AT REAR SEAT X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRSXV1

FILTER: CH. CLASS 180

PEAK DATA: 1.63 KM/H @ 310.00 MS; -2.24 KM/H @ 46.56 MS

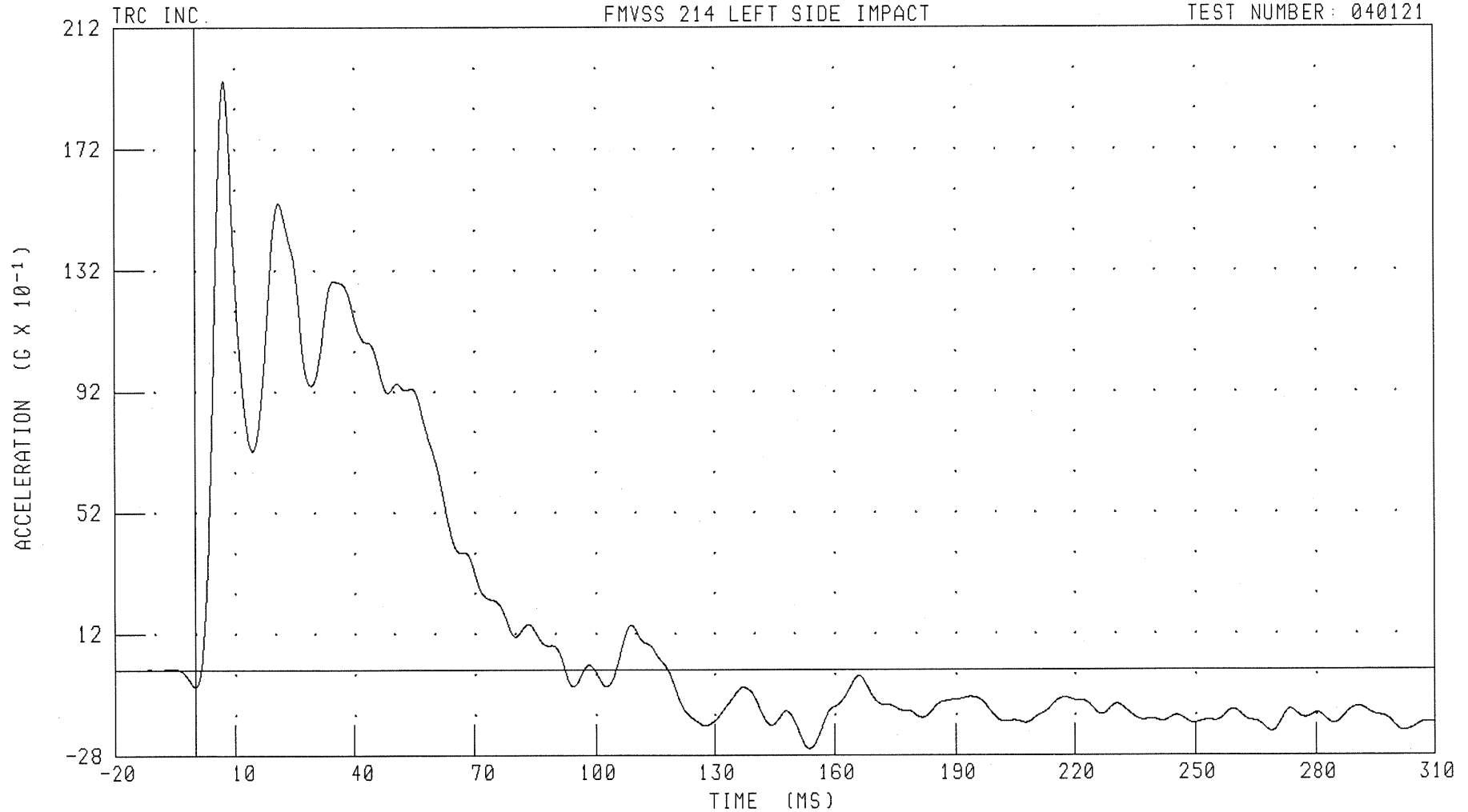
B-95

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRSYG1

FILTER: CH. CLASS 60

PEAK DATA: 19.44 G @ 7.12 MS; -2.59 G @ 153.76 MS

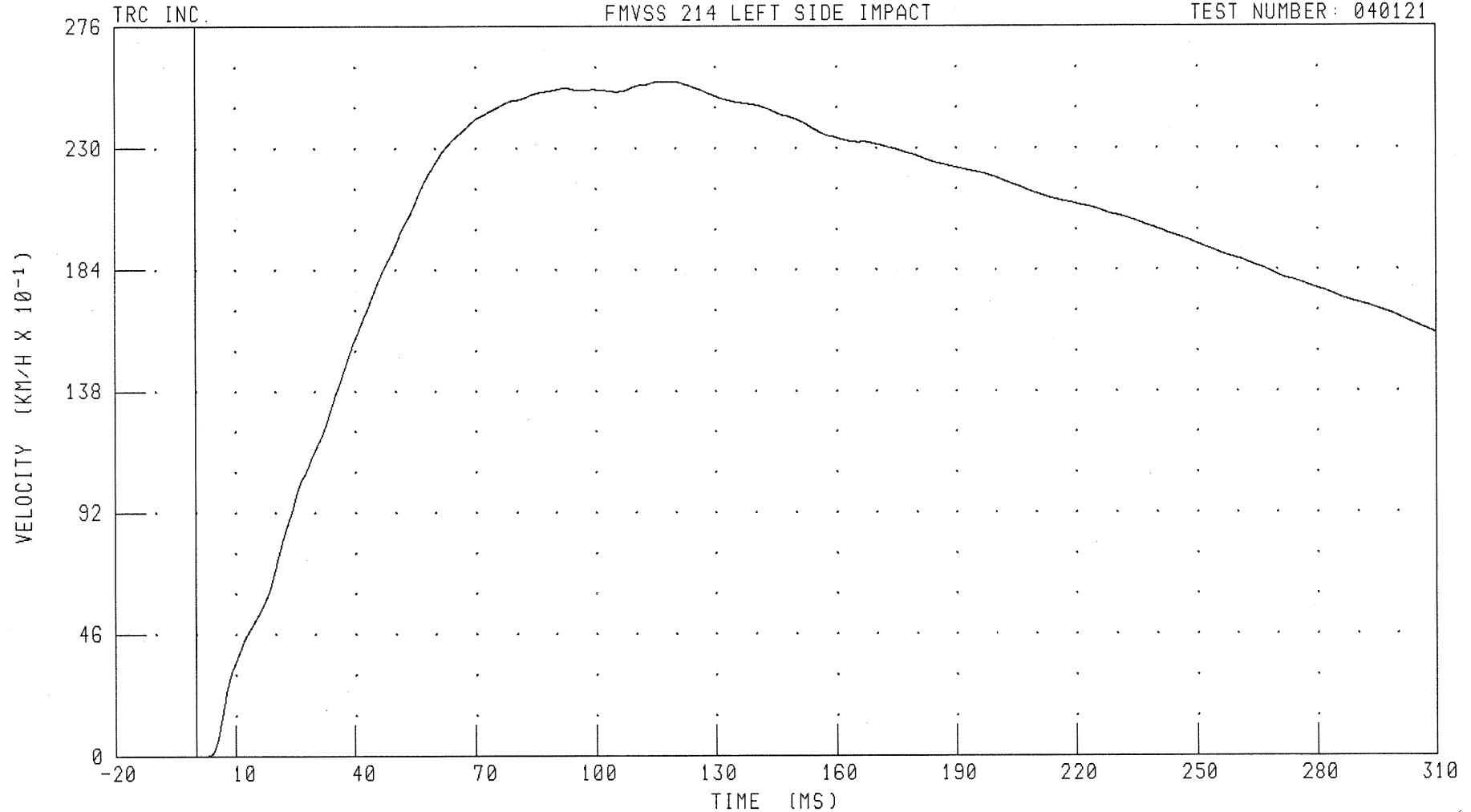
B-96

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT REAR SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRSYV1

FILTER: CH. CLASS 180

PEAK DATA: 25.52 KM/H @ 119.28 MS; 0.00 KM/H @ 0.00 MS

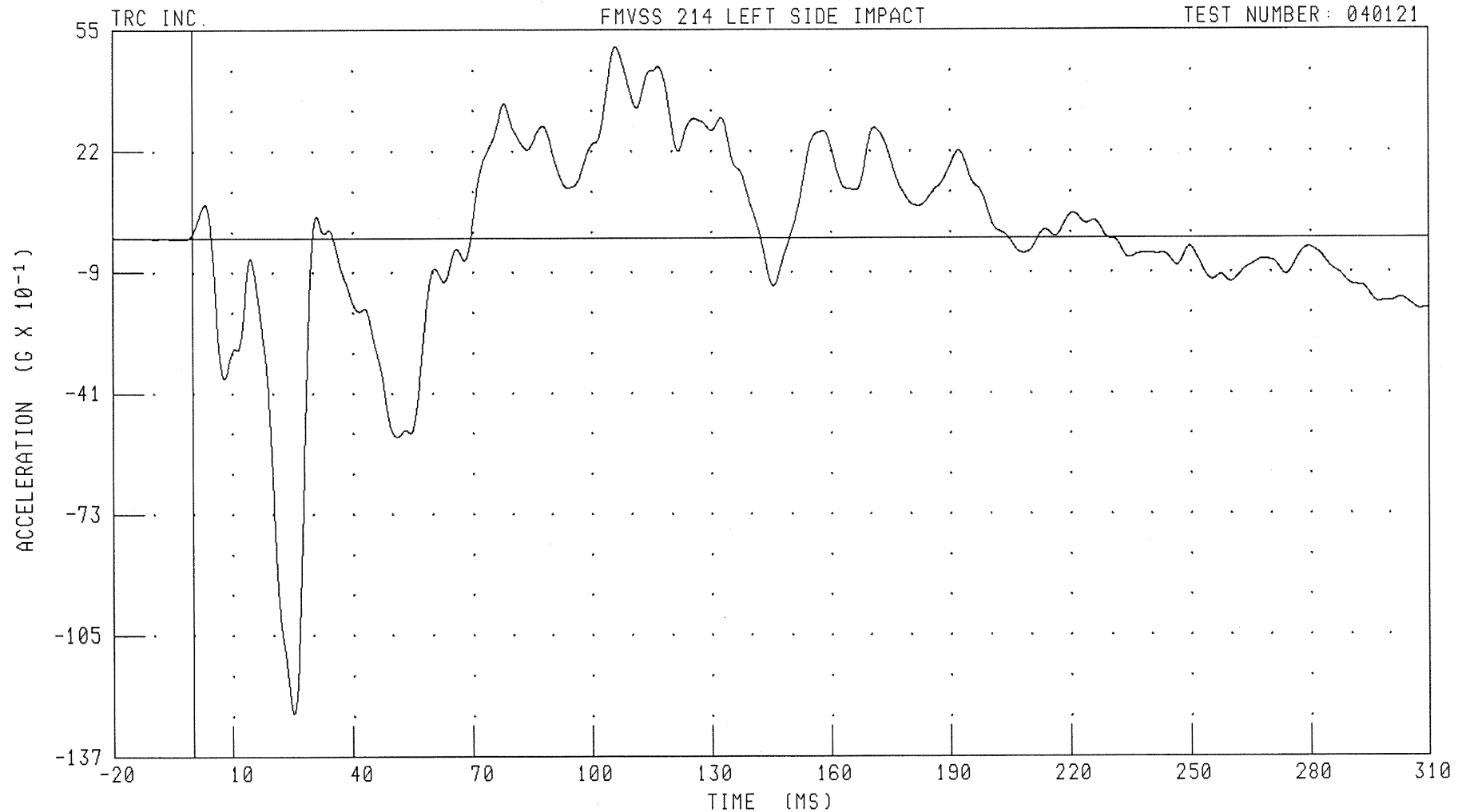
B-97

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT REAR SEAT Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRSZG1 FILTER: CH. CLASS 60

PEAK DATA: 5.06 G @ 106.24 MS; -12.57 G @ 25.20 MS

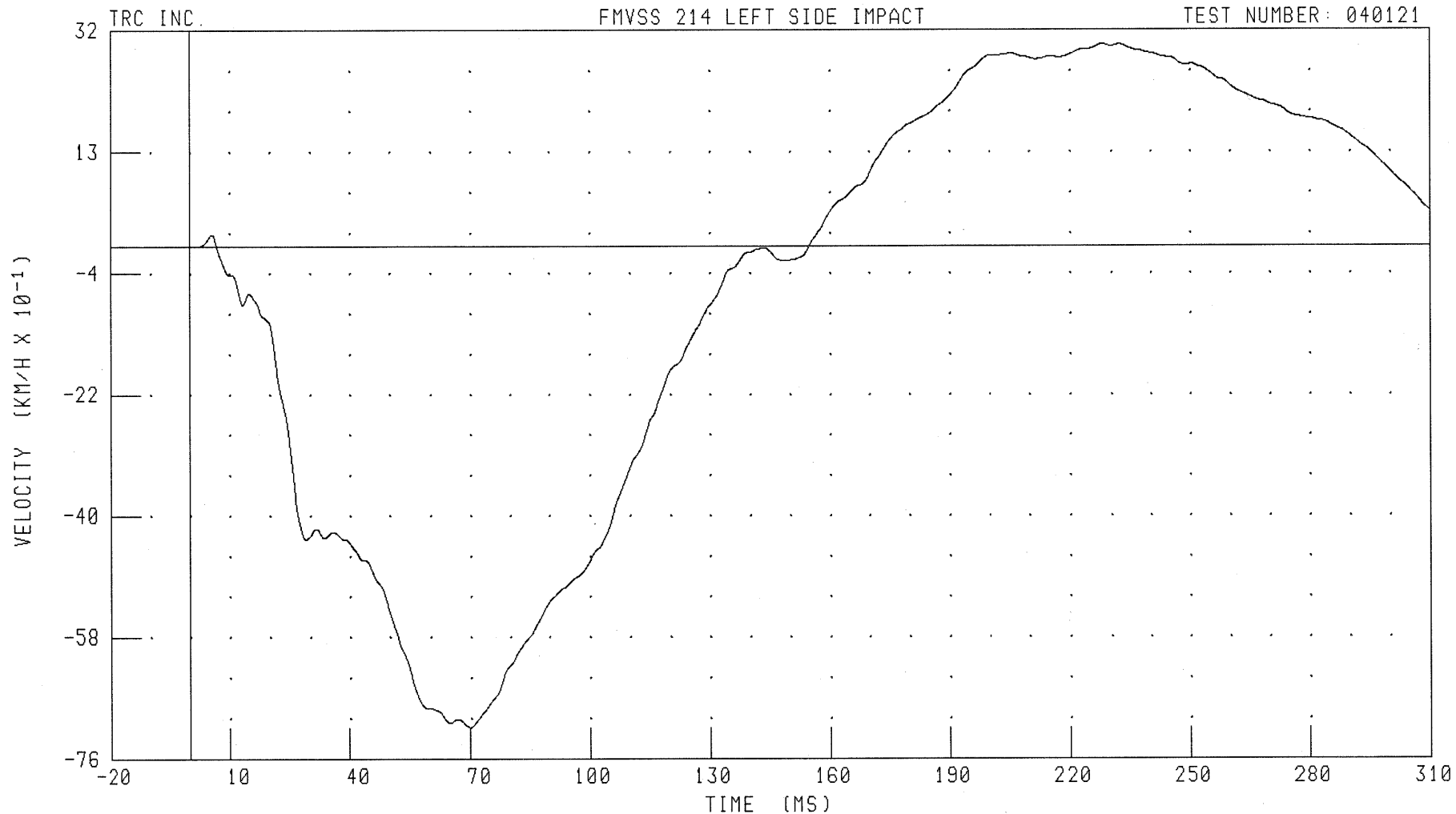
B-98

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT REAR SEAT Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRSZV1

FILTER: CH. CLASS 180

PEAK DATA: 2.99 KM/H @ 228.08 MS; -7.14 KM/H @ 69.92 MS

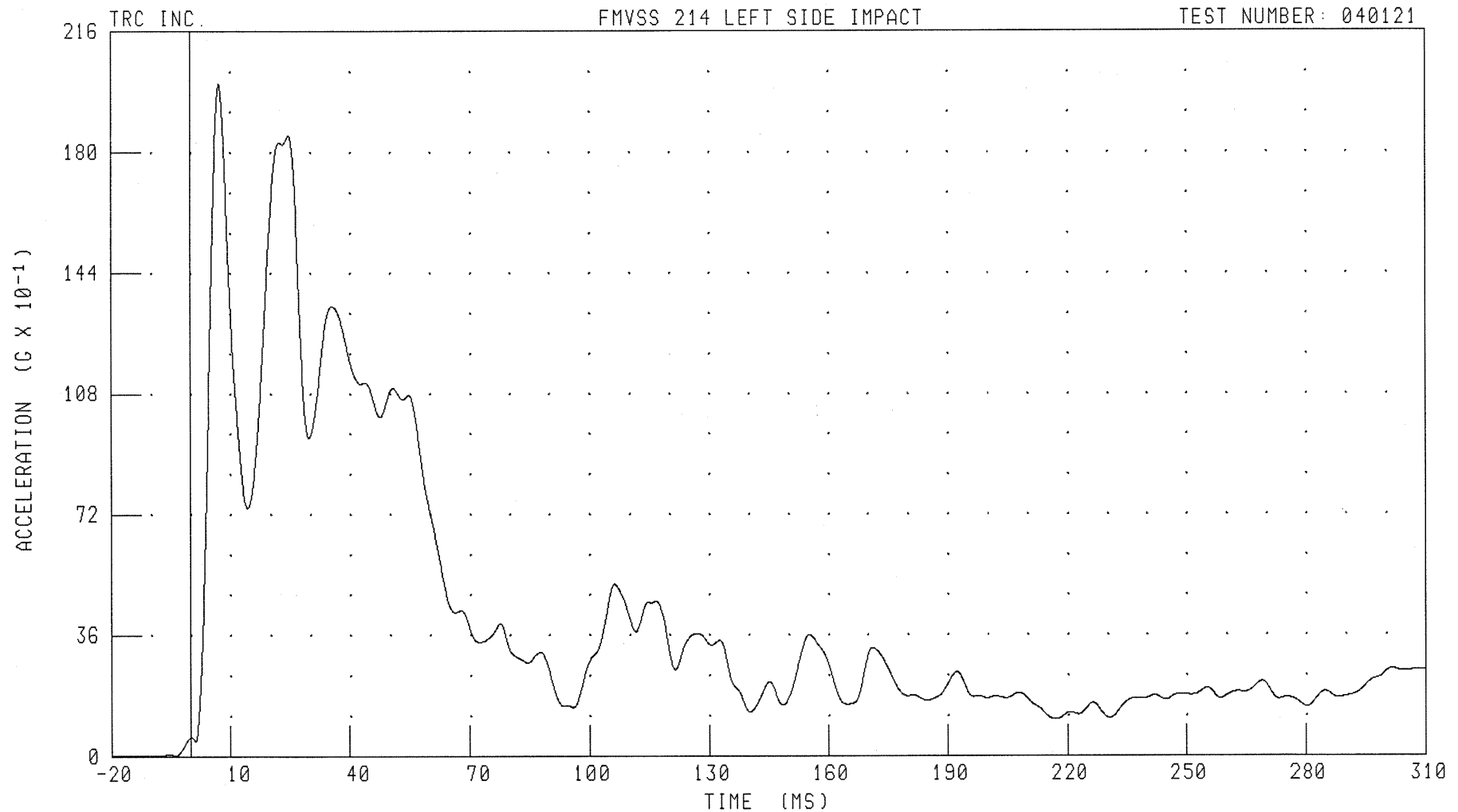
B-99

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRSRG1

FILTER: CH. CLASS 60

PEAK DATA: 20.04 G @ 7.20 MS; 0.02 G @ -14.72 MS

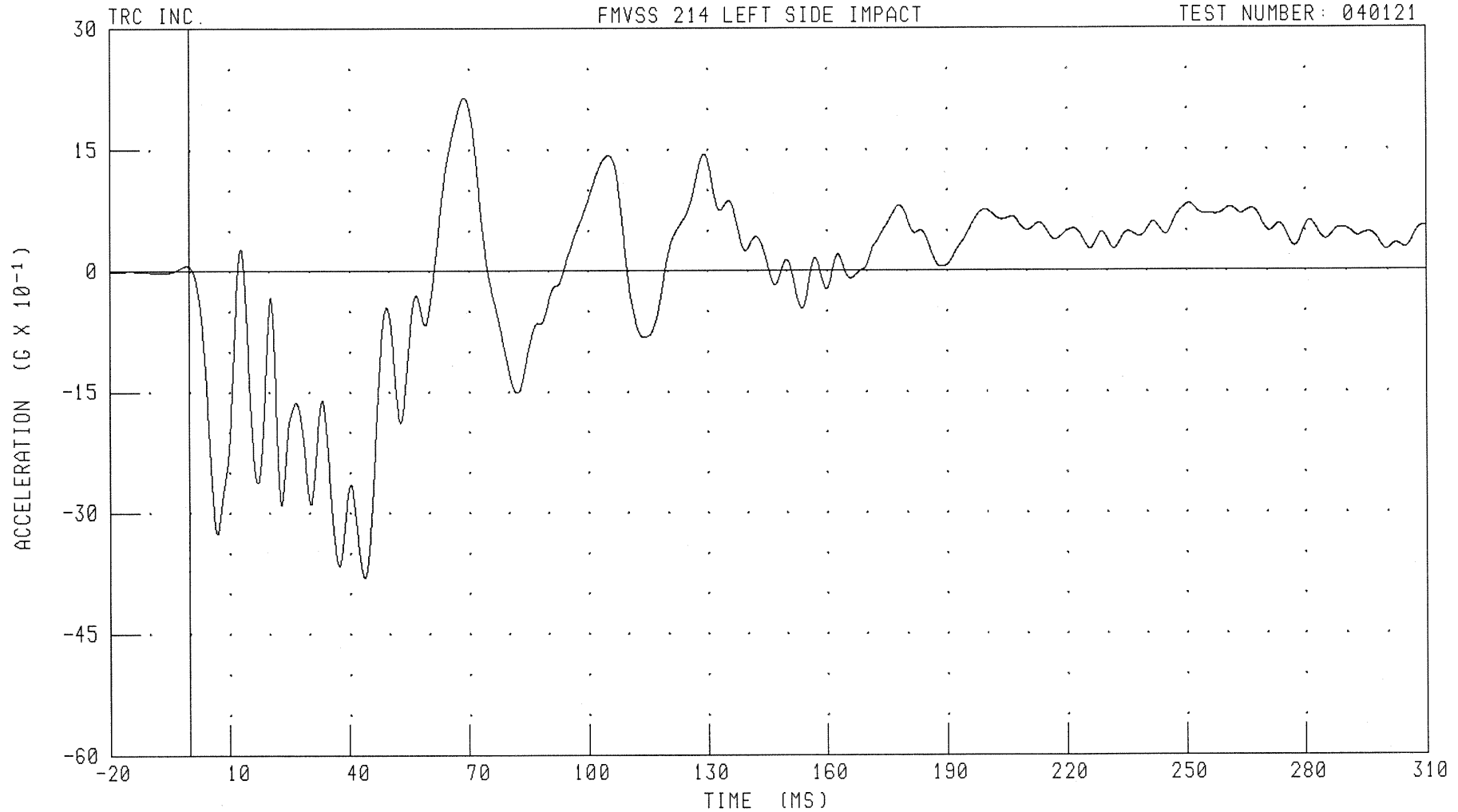
B-100

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
REAR FLOORPAN ABOVE AXLE X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RDKXG1 FILTER: CH. CLASS 60

PEAK DATA: 2.14 G @ 68.88 MS; -3.81 G @ 43.84 MS

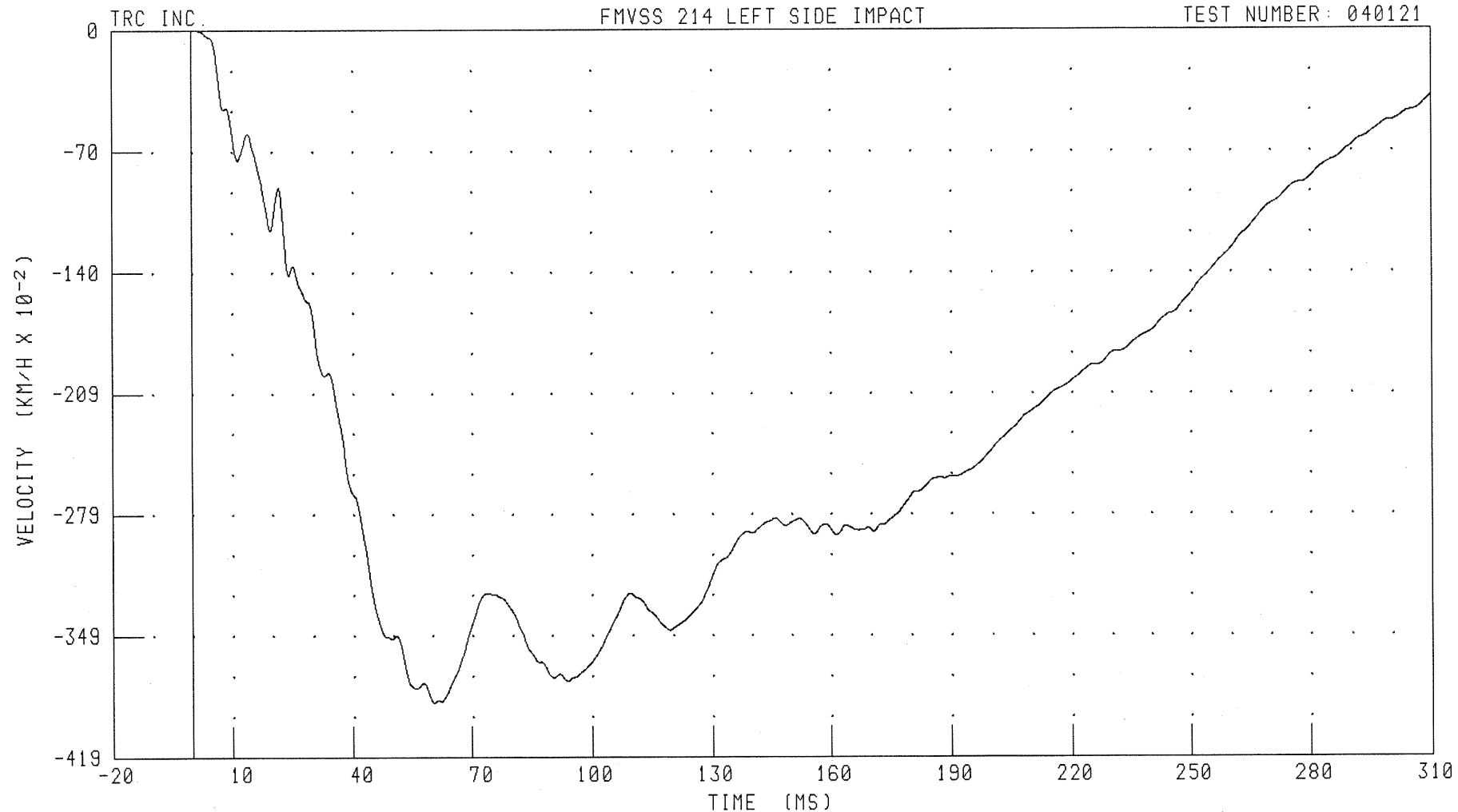
B-101

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
REAR FLOORPAN ABOVE AXLE X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RDKXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 0.00 MS; -3.89 KM/H @ 60.40 MS

B-102

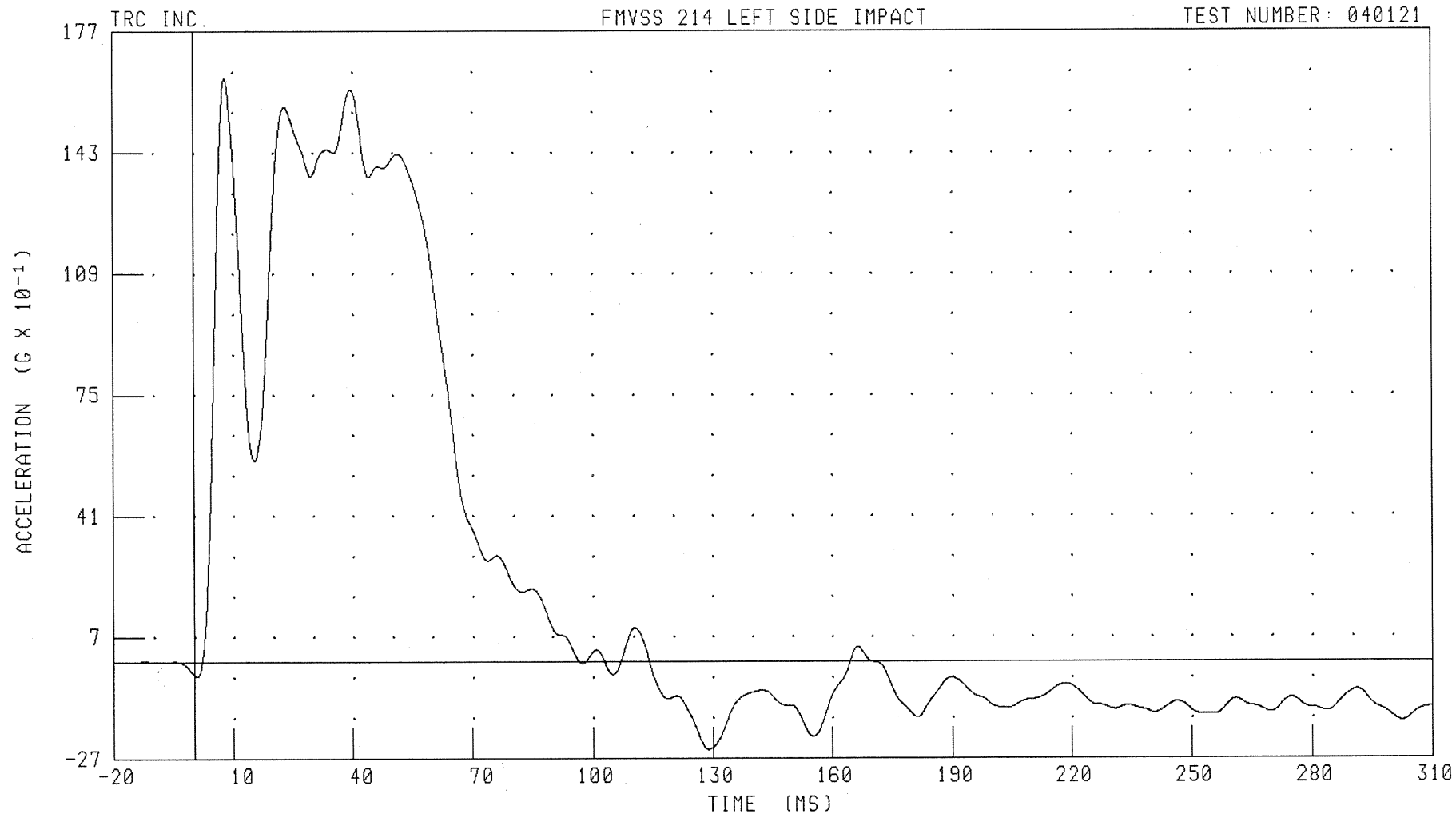
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

REAR FLOORPAN ABOVE AXLE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RDKYG1

FILTER: CH. CLASS 60

PEAK DATA: 16.38 G @ 8.00 MS; -2.46 G @ 128.96 MS

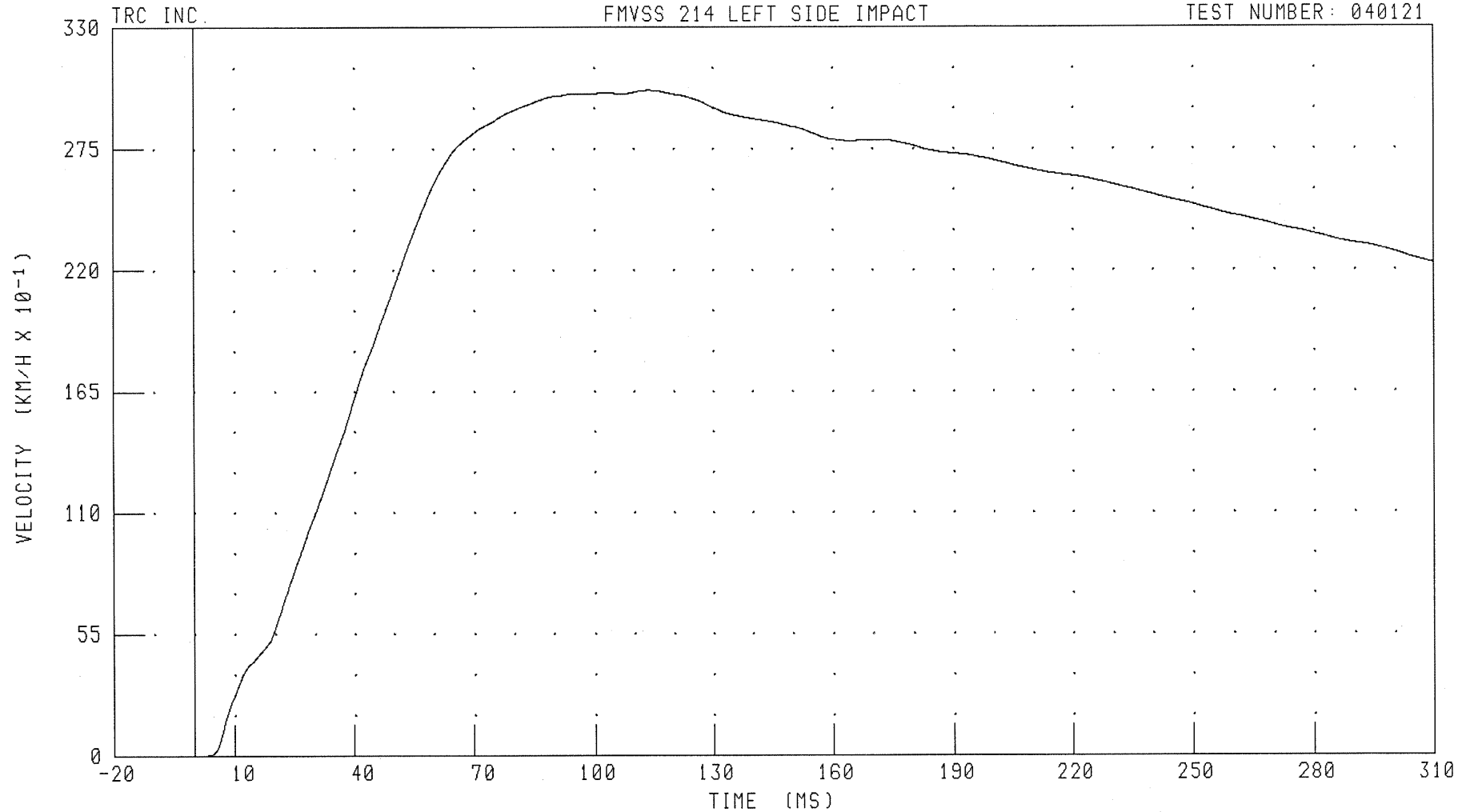
B-103

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
REAR FLOORPAN ABOVE AXLE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RDKYV1

FILTER: CH. CLASS 180

PEAK DATA: 30.15 KM/H @ 113.76 MS; 0.00 KM/H @ 0.00 MS

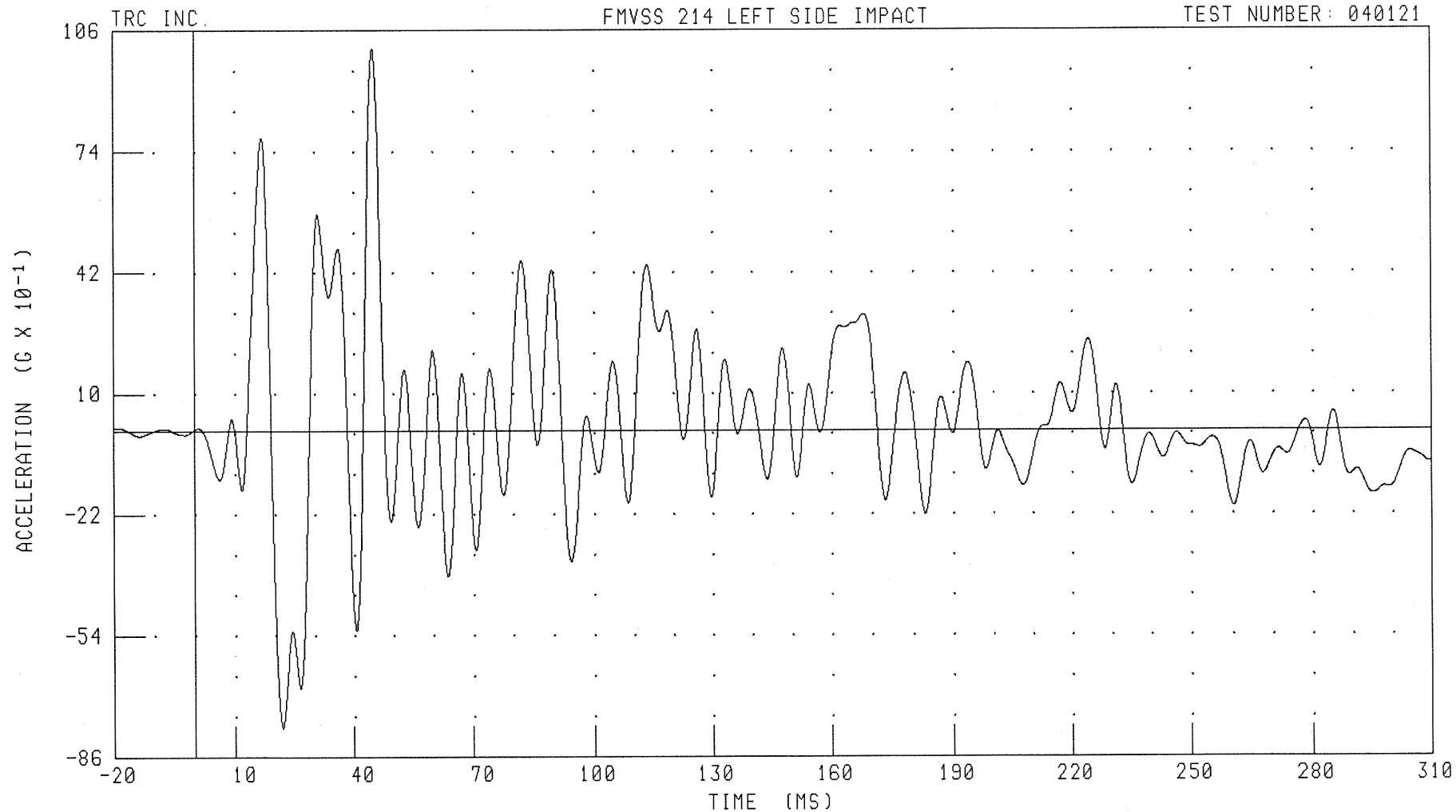
B-104

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
REAR FLOORPAN ABOVE AXLE Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RDKZG1

FILTER: CH. CLASS 60

PEAK DATA: 10.12 G @ 44.96 MS; -7.84 G @ 21.84 MS

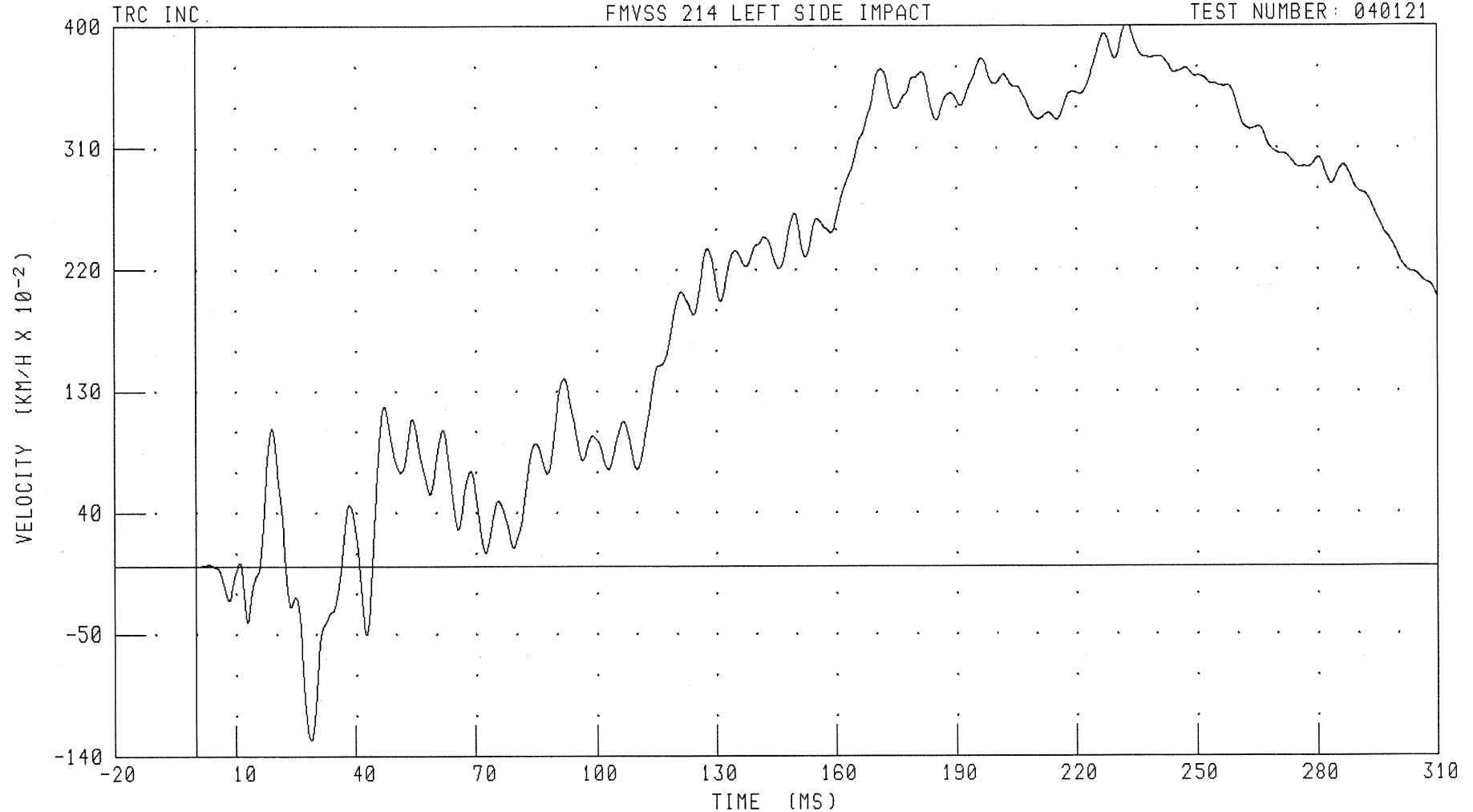
B-105

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
REAR FLOORPAN ABOVE AXLE Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RDKZV1 FILTER: CH. CLASS 180

PEAK DATA: 4.02 KM/H @ 232.88 MS; -1.28 KM/H @ 28.80 MS

B-106

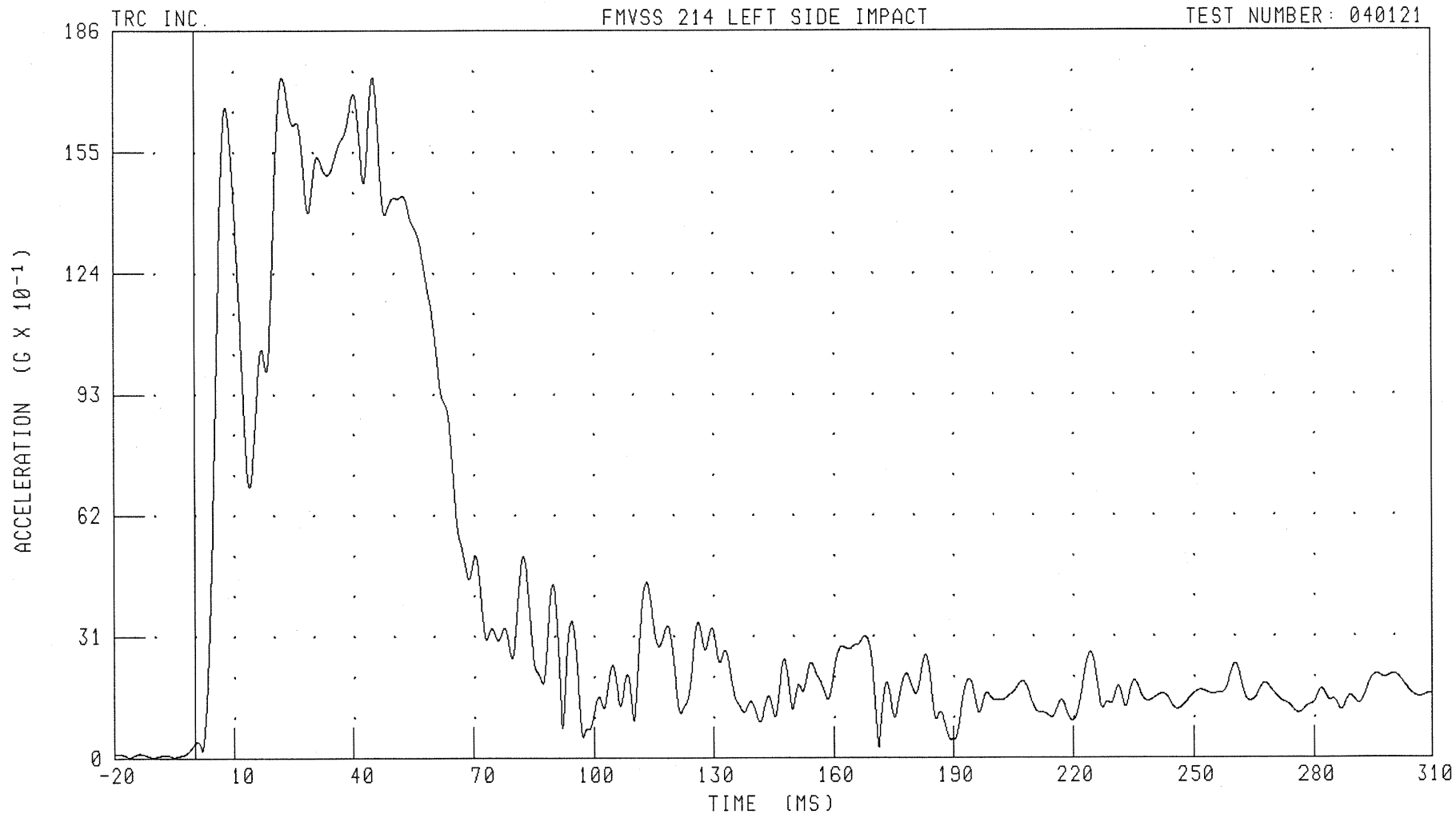
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RDKRG1

FILTER: CH. CLASS 60

PEAK DATA: 17.41 G @ 45.04 MS; 0.01 G @ -16.32 MS

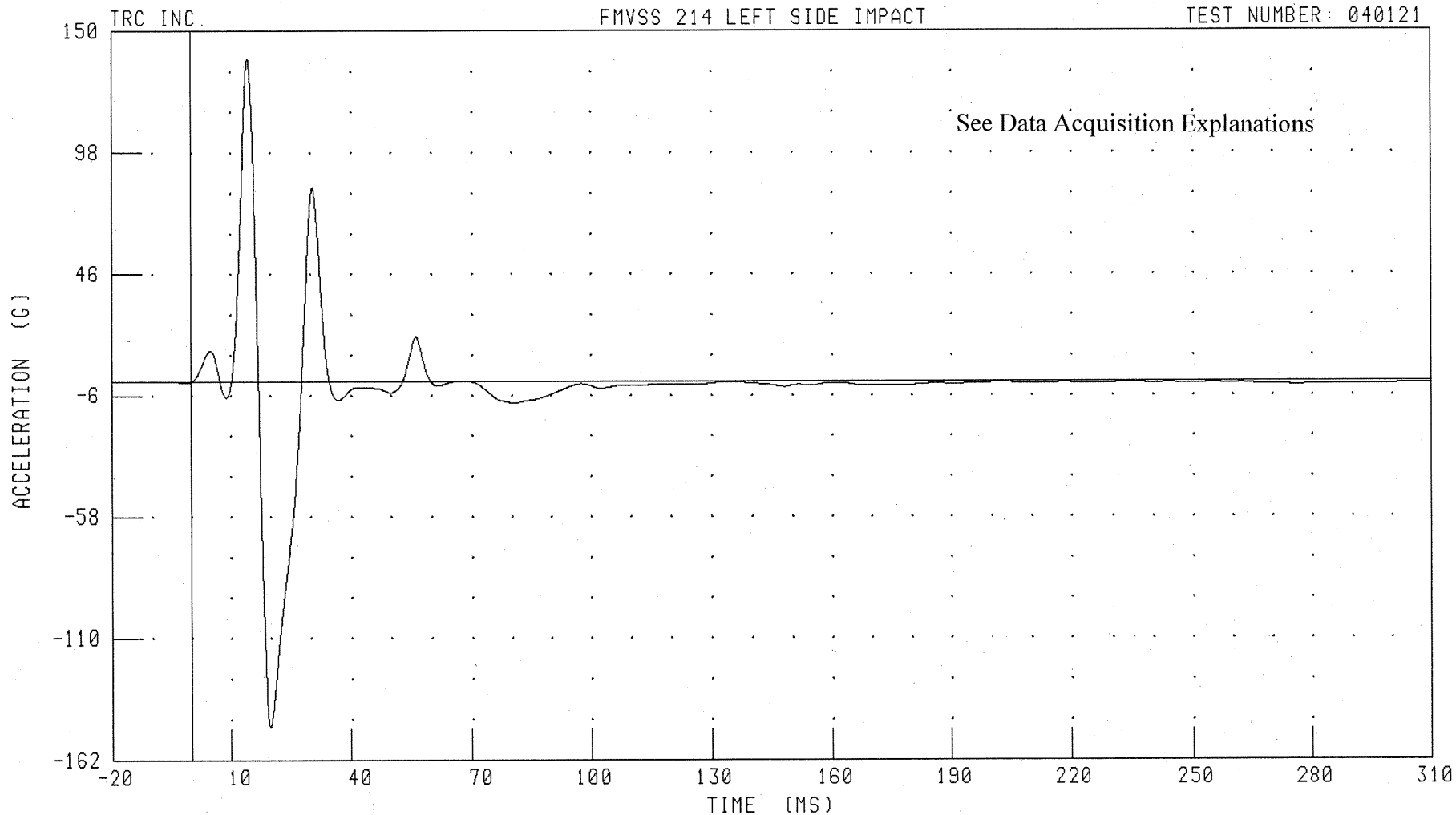
B-107

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT SIDE SILL AT FRONT SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LFSYG1 FILTER: CH. CLASS 60

PEAK DATA: 138.20 G @ 14.48 MS; -147.99 G @ 19.92 MS

B-108

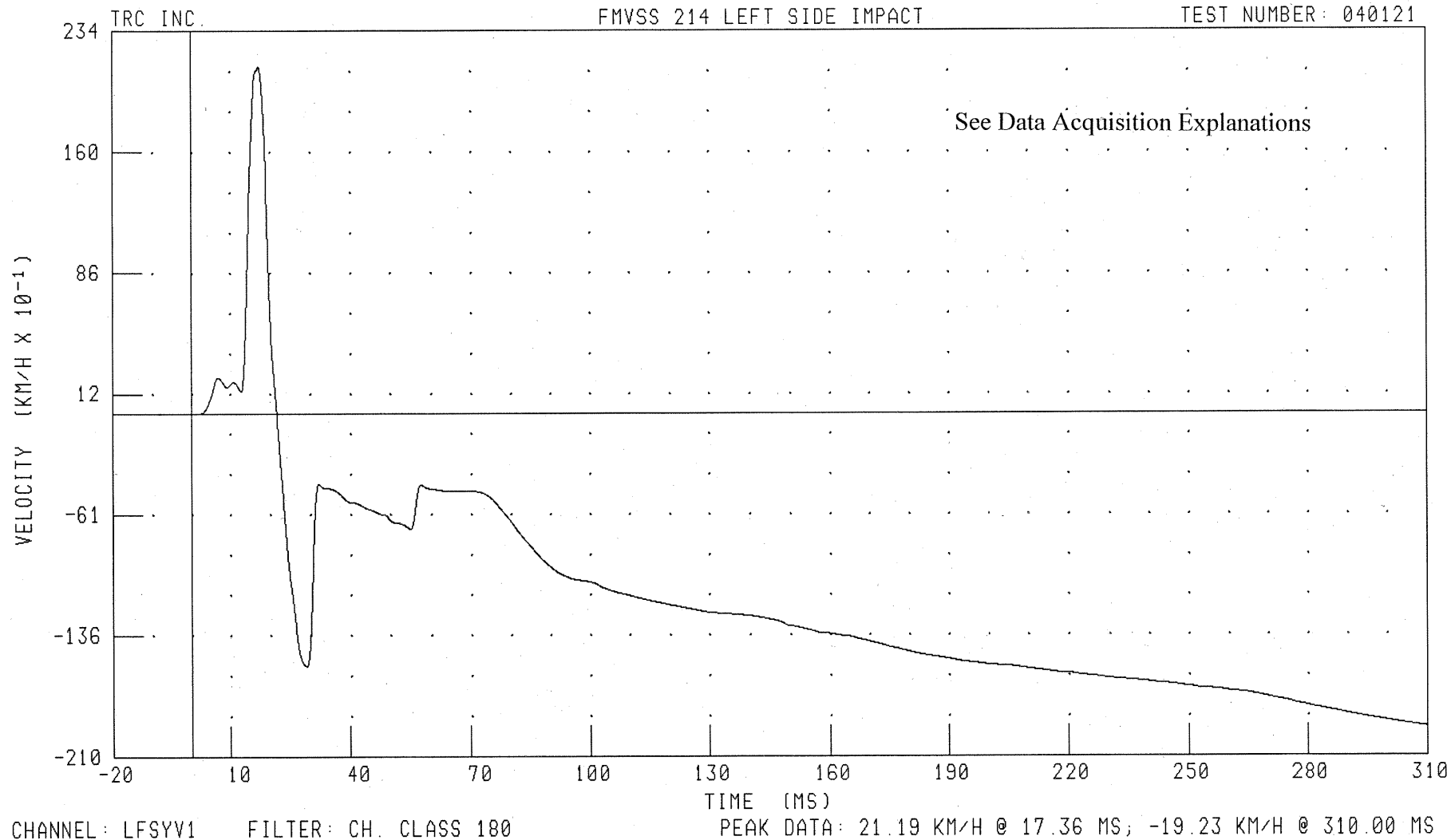
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



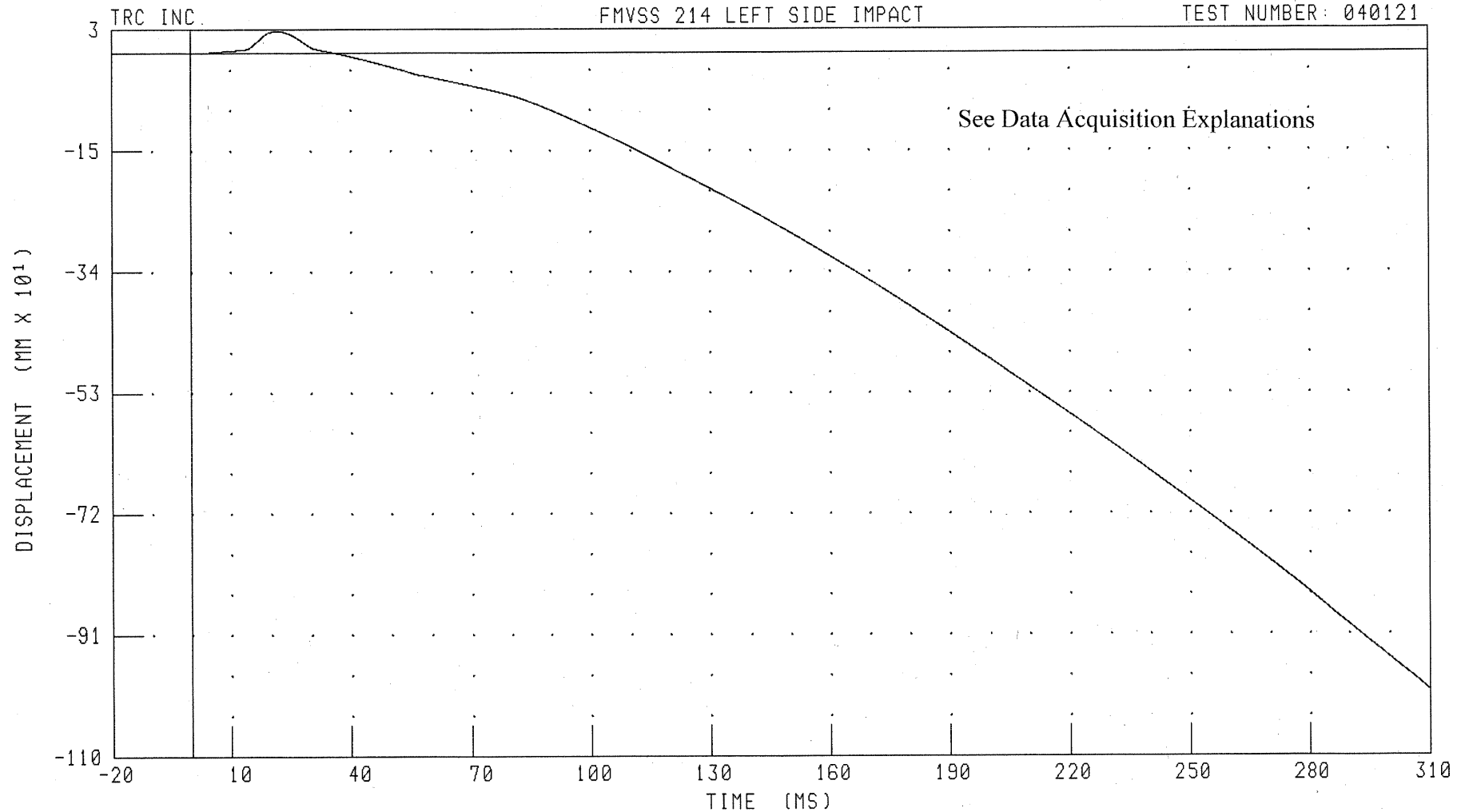
B-109

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT SIDE SILL AT FRONT SEAT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LFSYD1 FILTER: CH. CLASS 180

PEAK DATA: 33.43 MM @ 21.76 MS; -1003.28 MM @ 310.00 MS

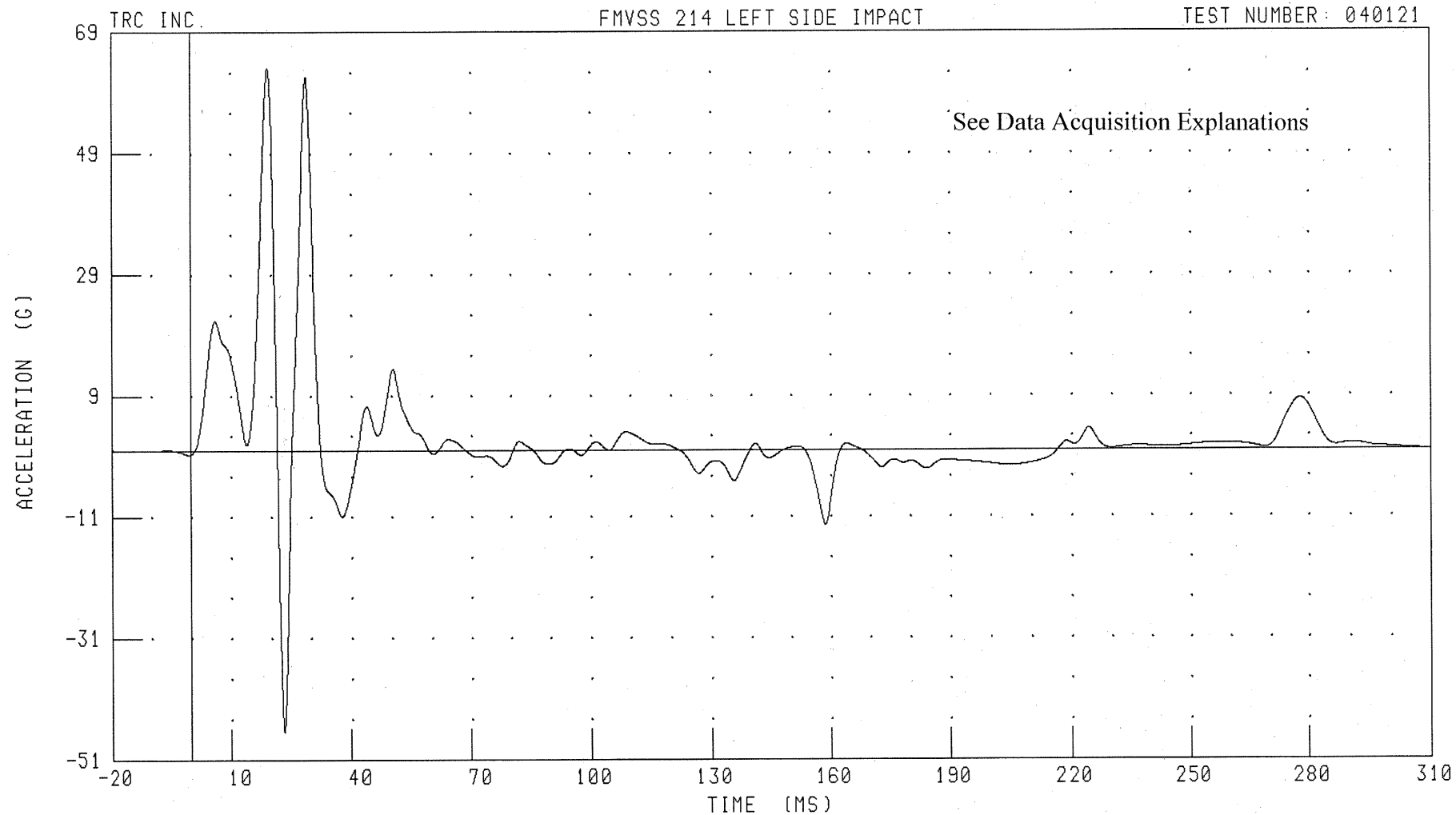
B-110

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRSYG1 FILTER: CH. CLASS 60

PEAK DATA: 63.05 G @ 19.36 MS; -46.47 G @ 23.36 MS

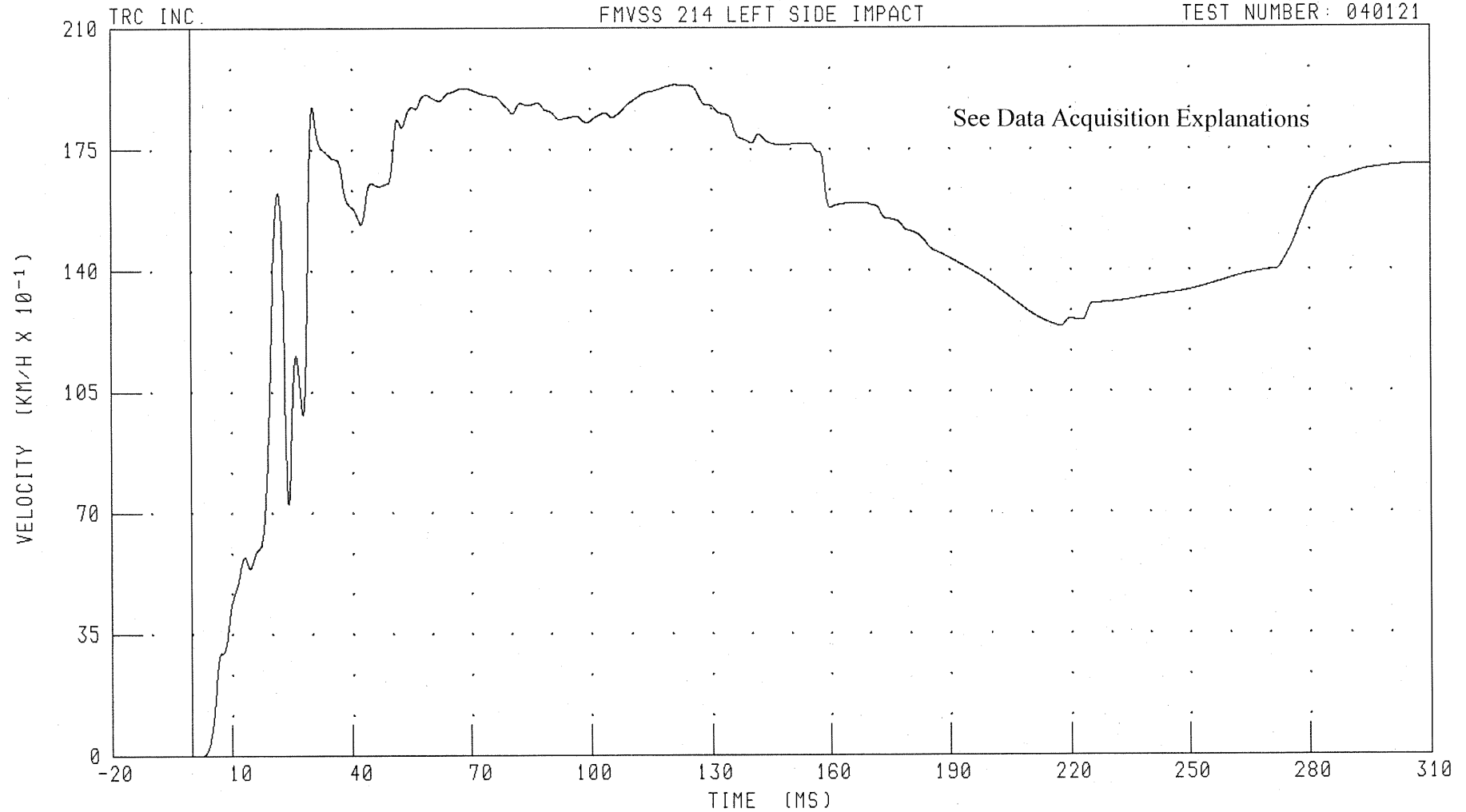
B-111

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT SIDE SILL AT REAR SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 19.37 KM/H @ 120.96 MS; 0.00 KM/H @ 0.00 MS

B-112

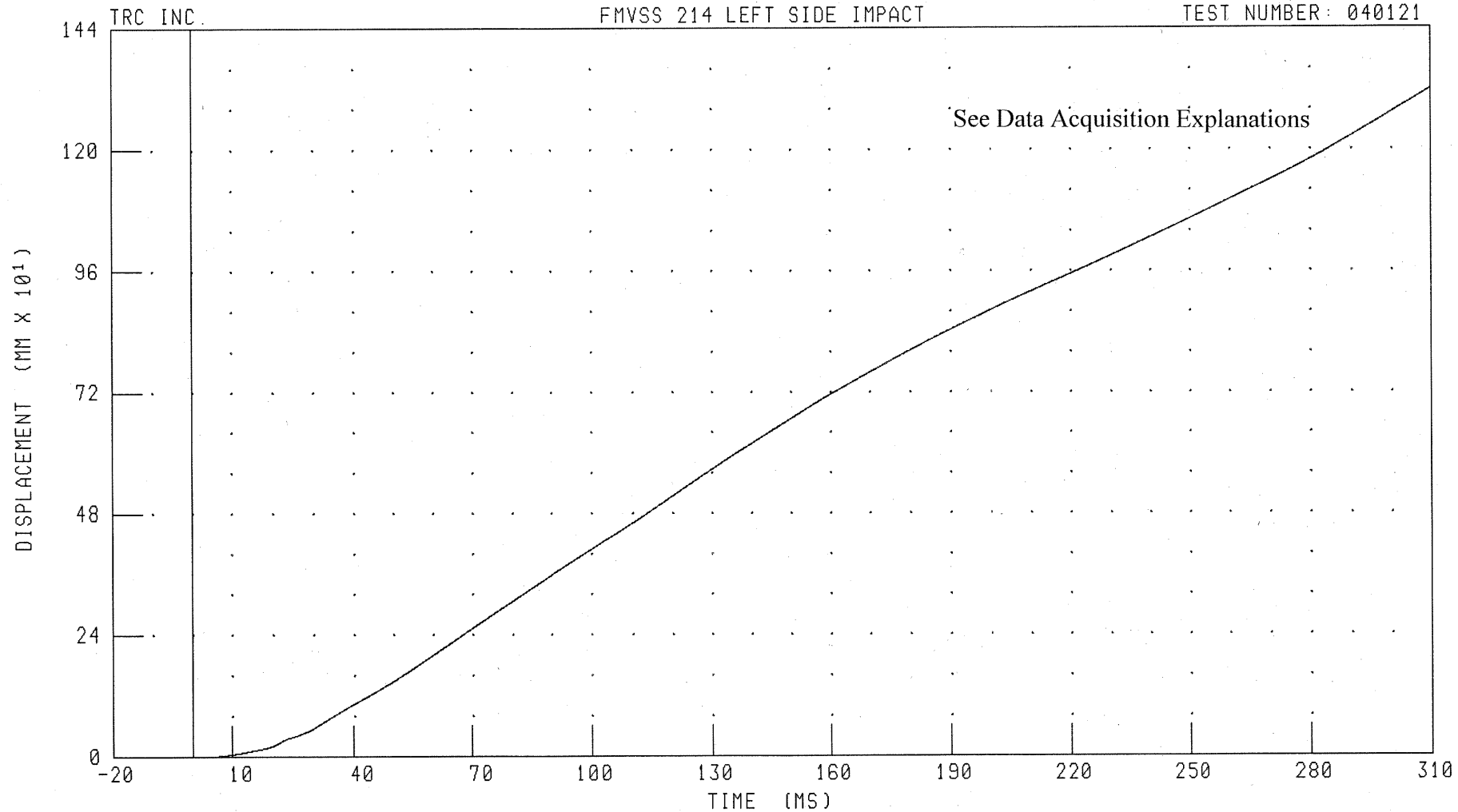
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT SIDE SILL AT REAR SEAT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRSYD1 FILTER: CH. CLASS 180

PEAK DATA: 1319.62 MM @ 310.00 MS; 0.00 MM @ 0.00 MS

B-113

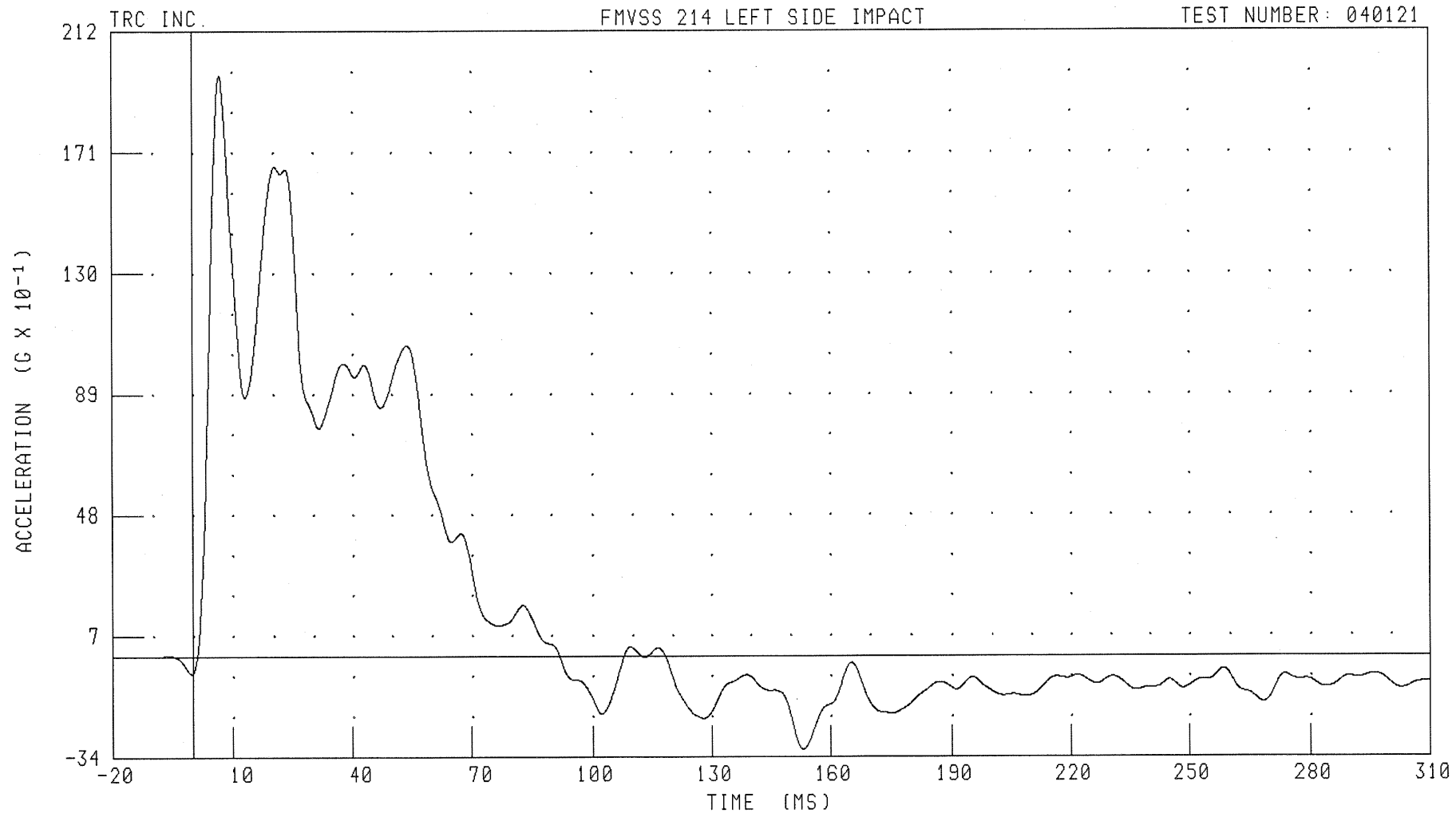
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



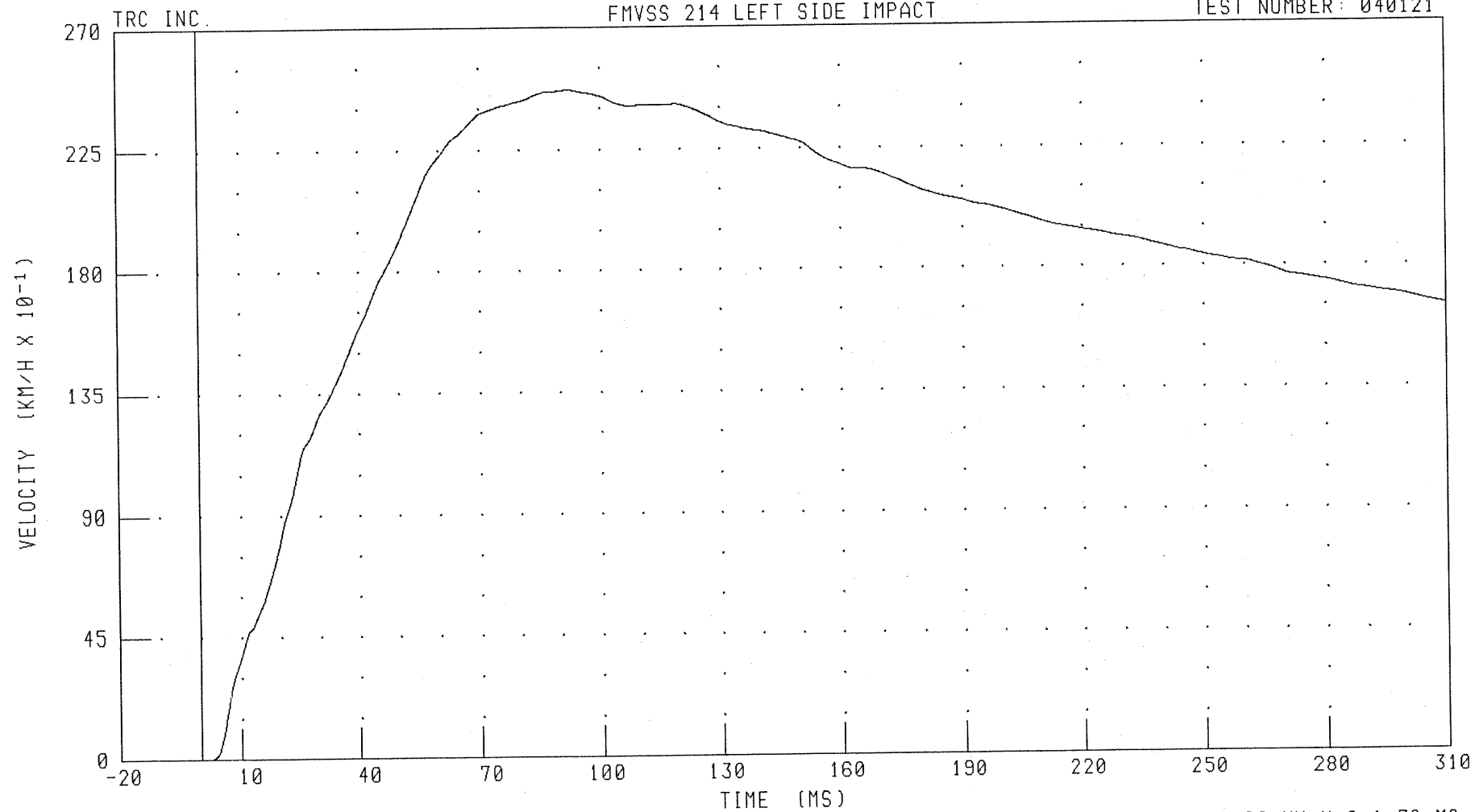
B-114

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRTYV1

FILTER: CH. CLASS 180

PEAK DATA: 24.69 KM/H @ 92.32 MS; 0.00 KM/H @ 1.76 MS

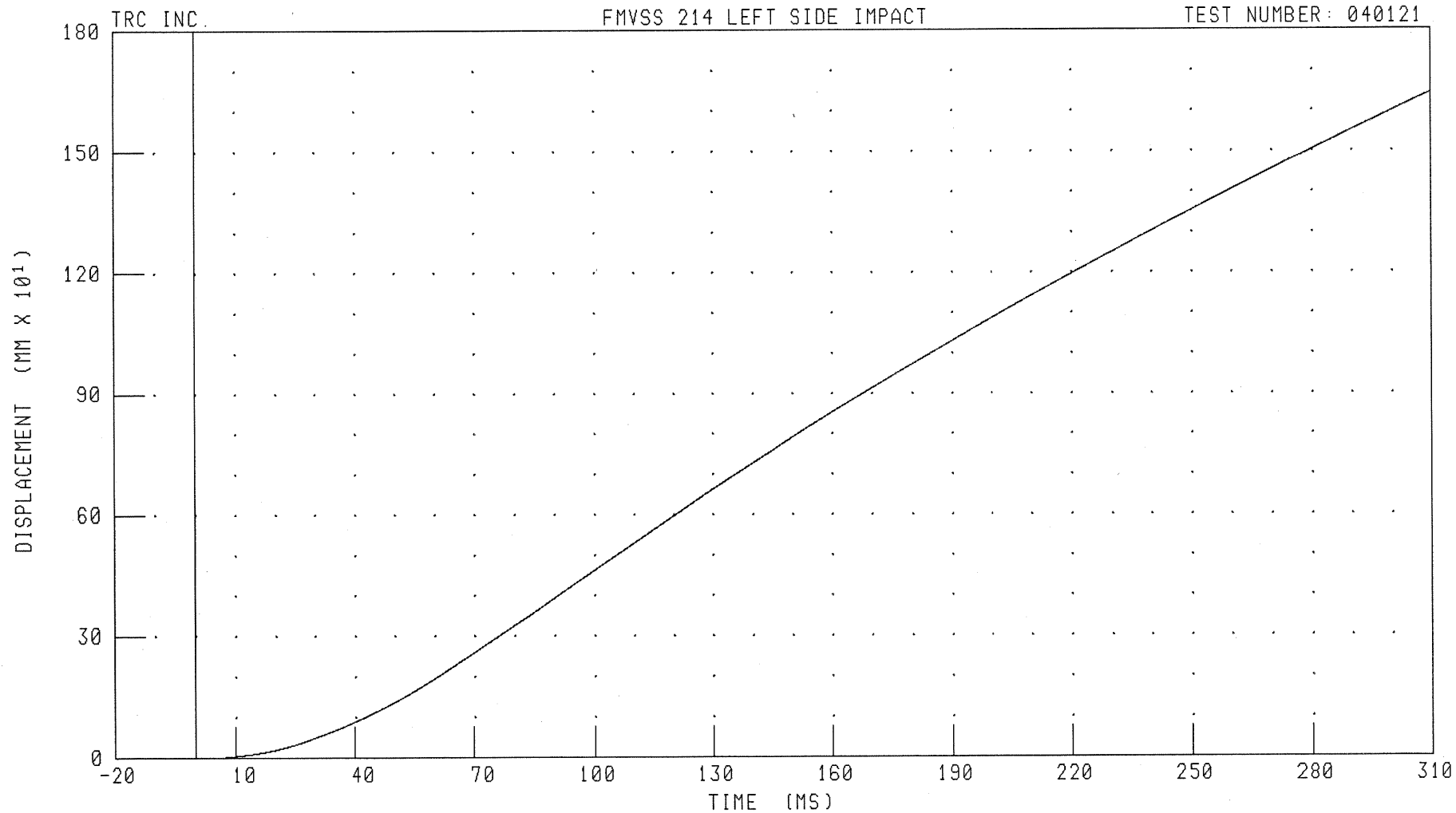
B-115

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: RRTYD1

FILTER: CH. CLASS 180

PEAK DATA: 1643.96 MM @ 310.00 MS; 0.00 MM @ 2.08 MS

B-116

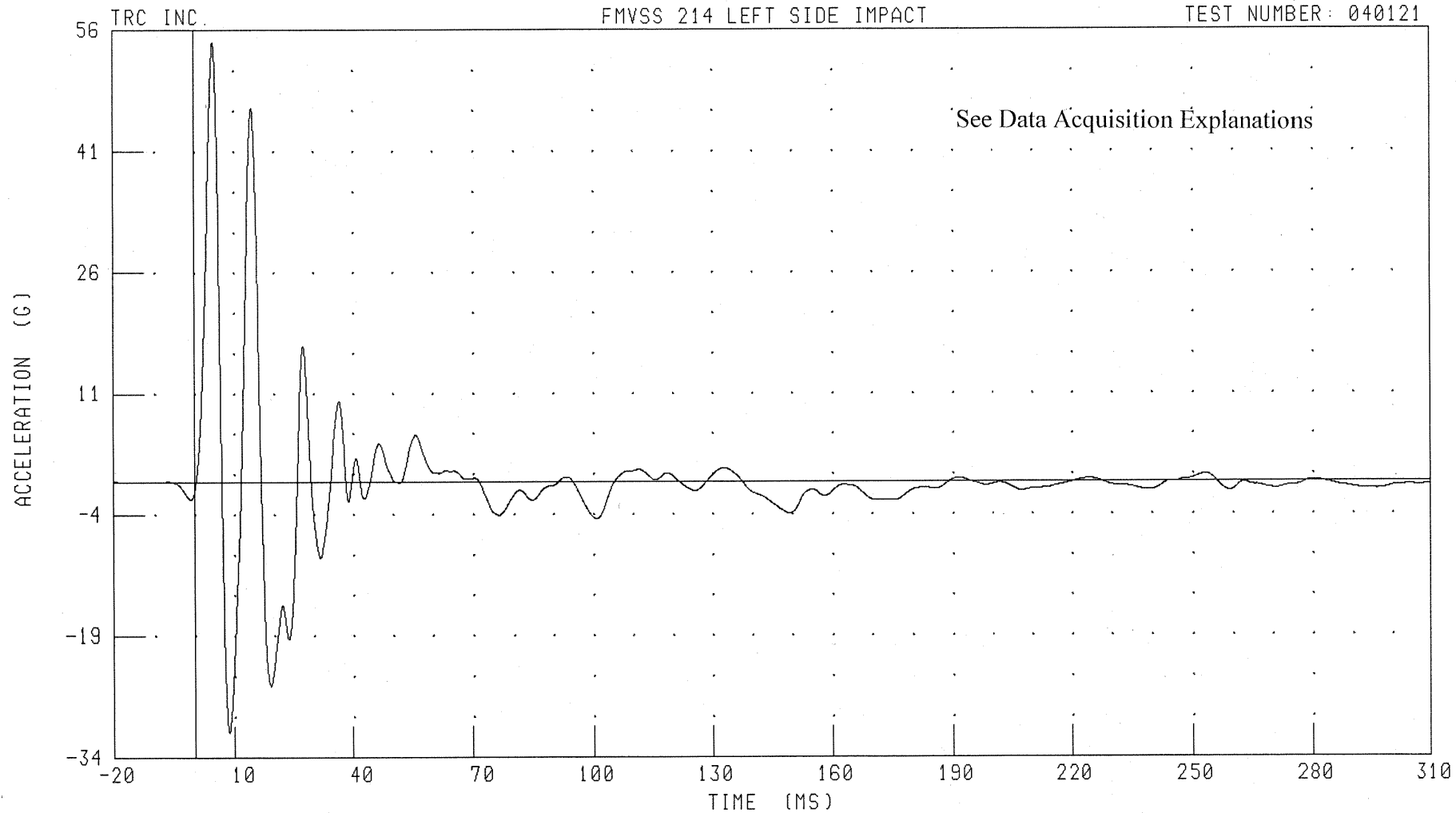
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT LOWER A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLAG1

FILTER: CH. CLASS 60

PEAK DATA: 54.45 G @ 4.80 MS; -30.97 G @ 8.64 MS

B-117

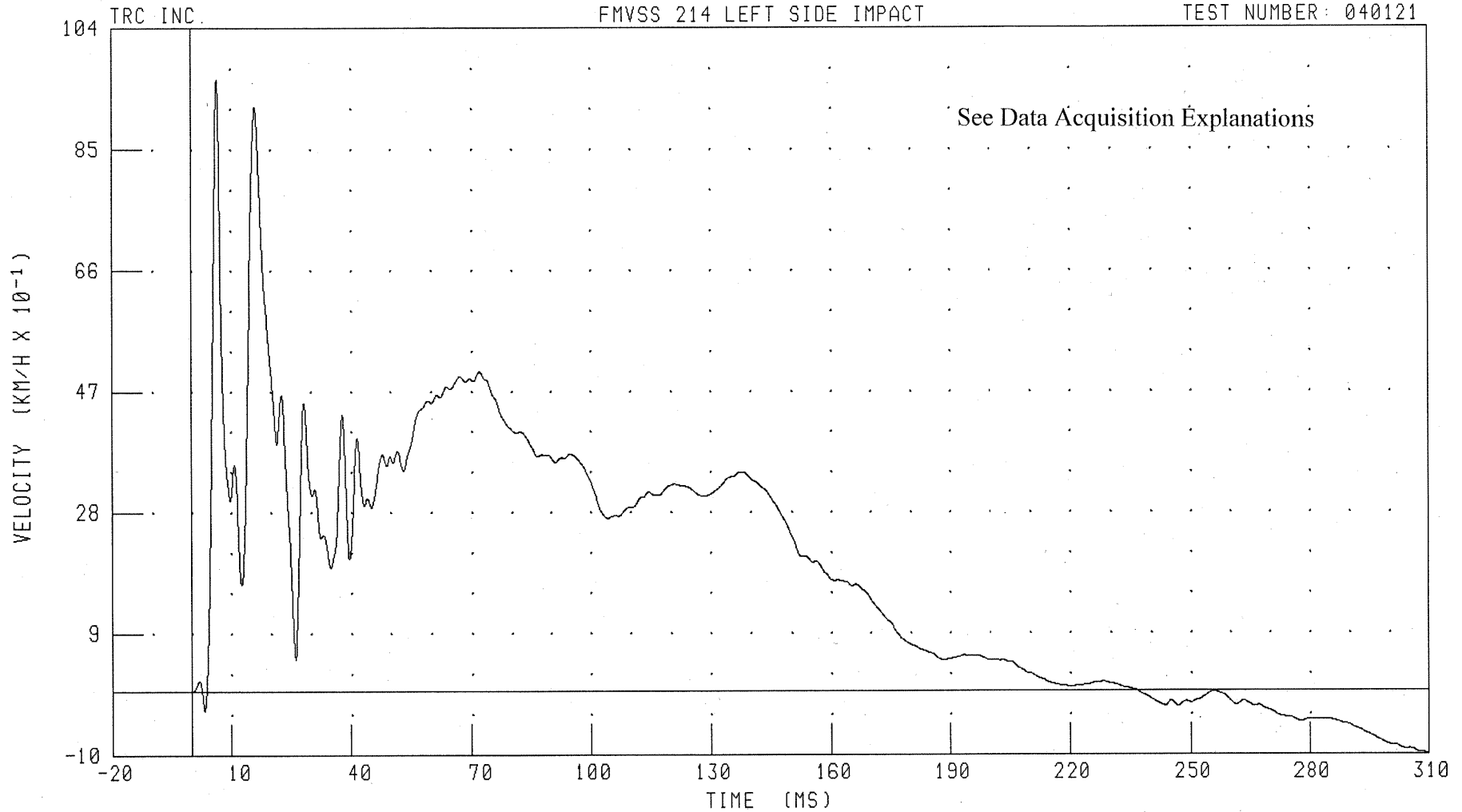
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT LOWER A-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLAYV1 FILTER: CH. CLASS 180

PEAK DATA: 9.60 KM/H @ 6.56 MS, -0.99 KM/H @ 310.00 MS

B-118

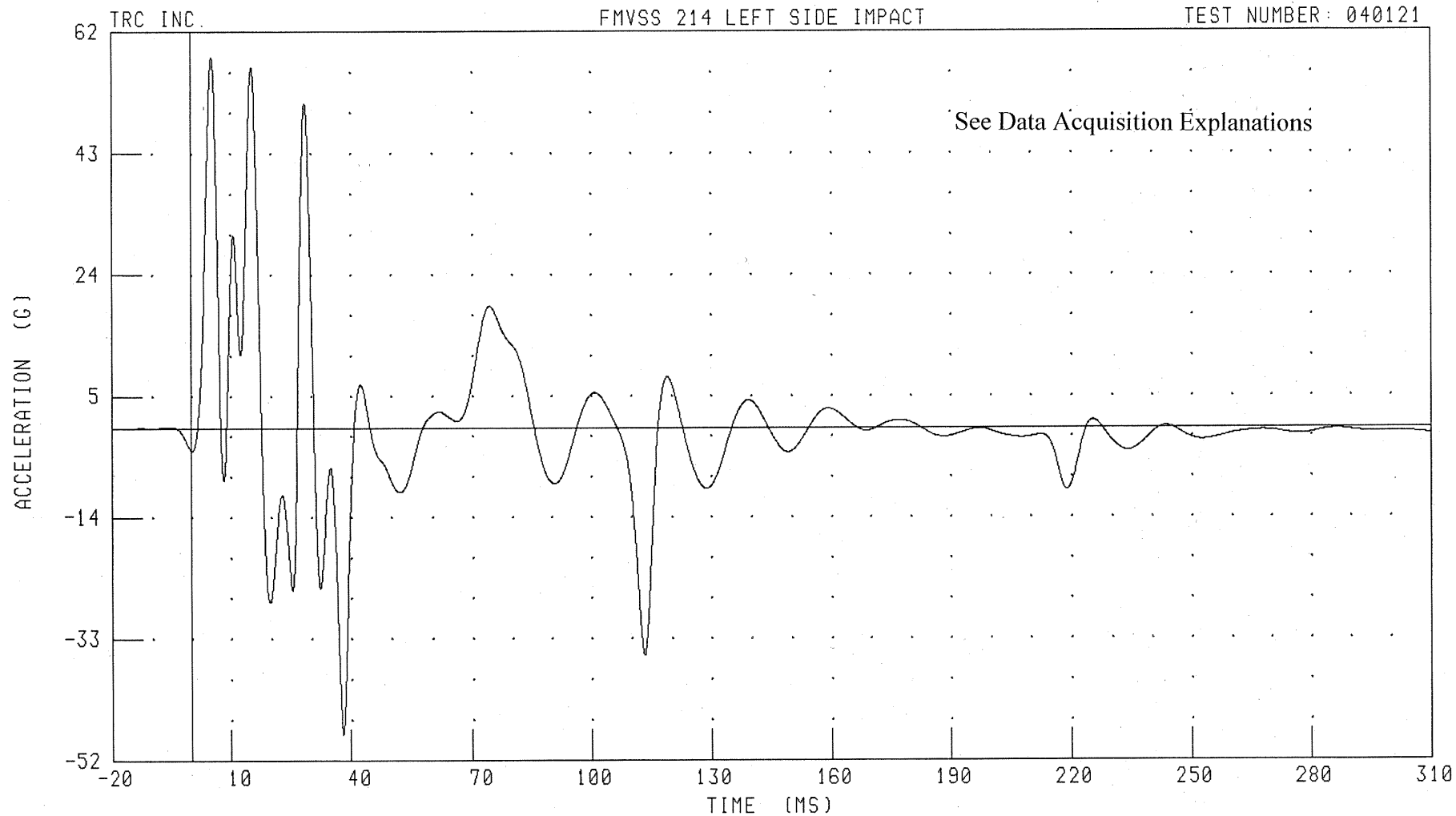
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT MIDDLE A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LMAYG1 FILTER: CH. CLASS 60

PEAK DATA: 57.98 G @ 5.36 MS, -47.95 G @ 38.00 MS

B-119

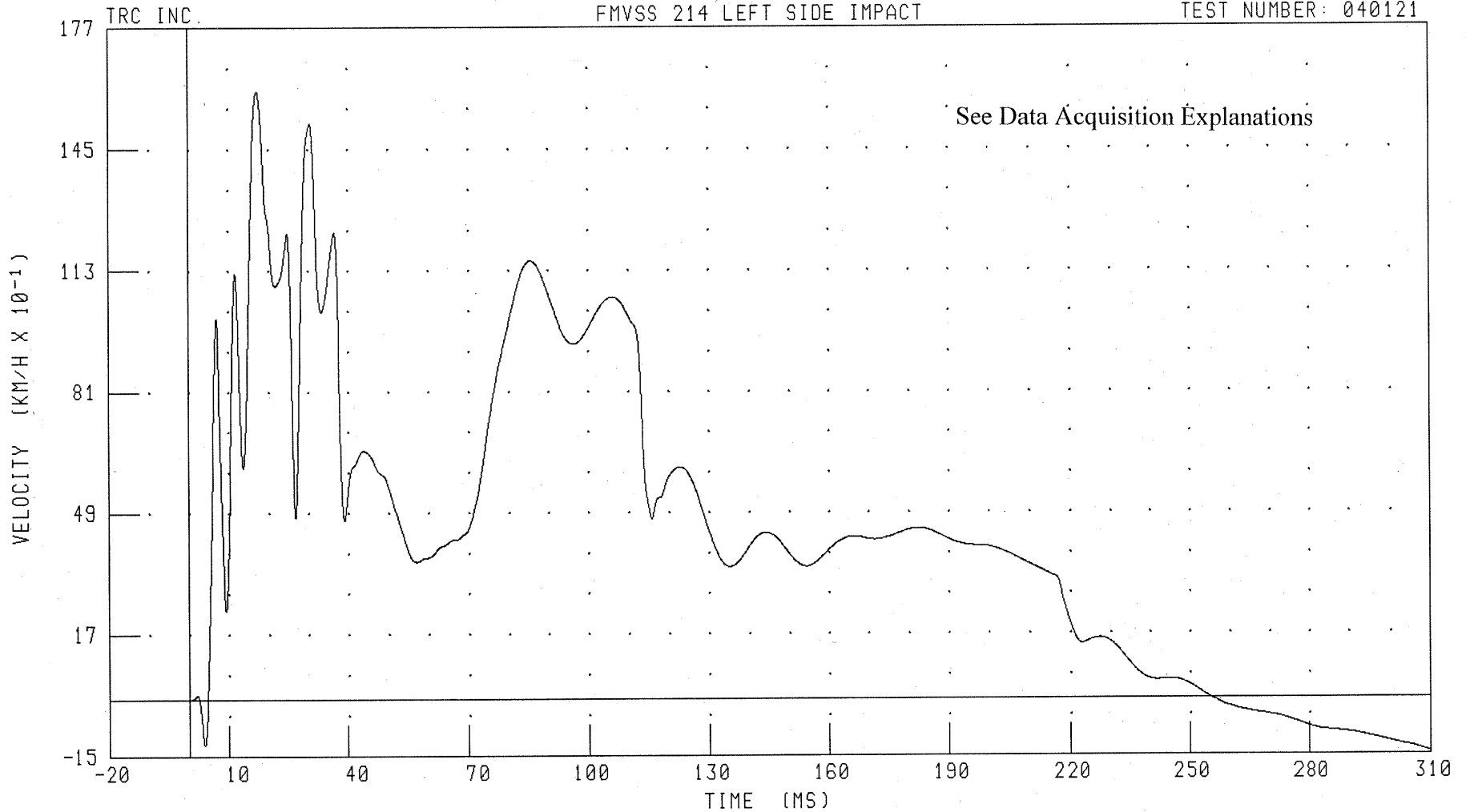
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT MIDDLE A-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LMAYV1

FILTER: CH. CLASS 180

PEAK DATA: 16.03 KM/H @ 17.28 MS; -1.44 KM/H @ 310.00 MS

B-120

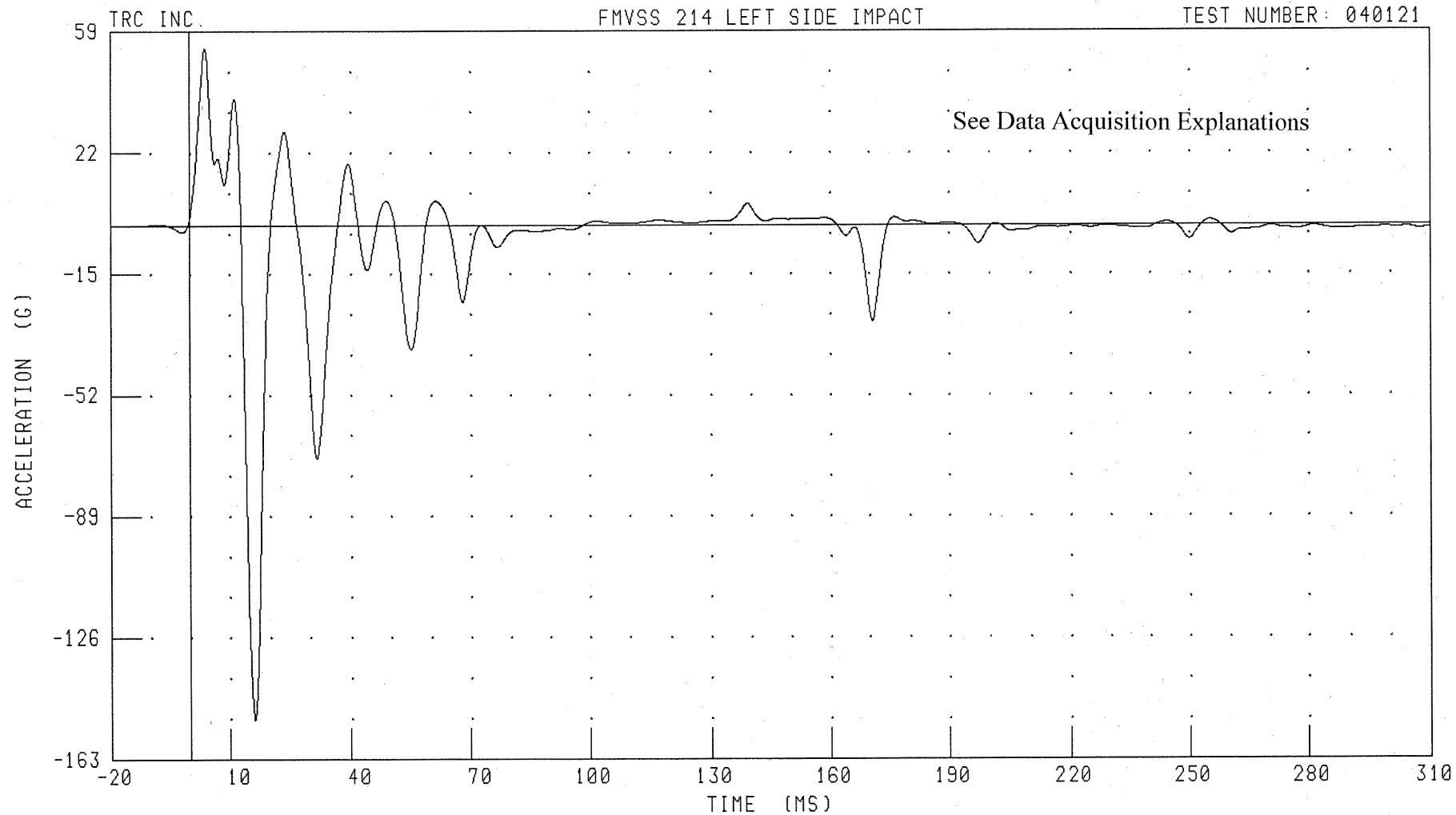
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT LOWER B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLBYG1

FILTER: CH. CLASS 60

PEAK DATA: 53.82 G @ 4.00 MS, -150.99 G @ 16.16 MS

B-121

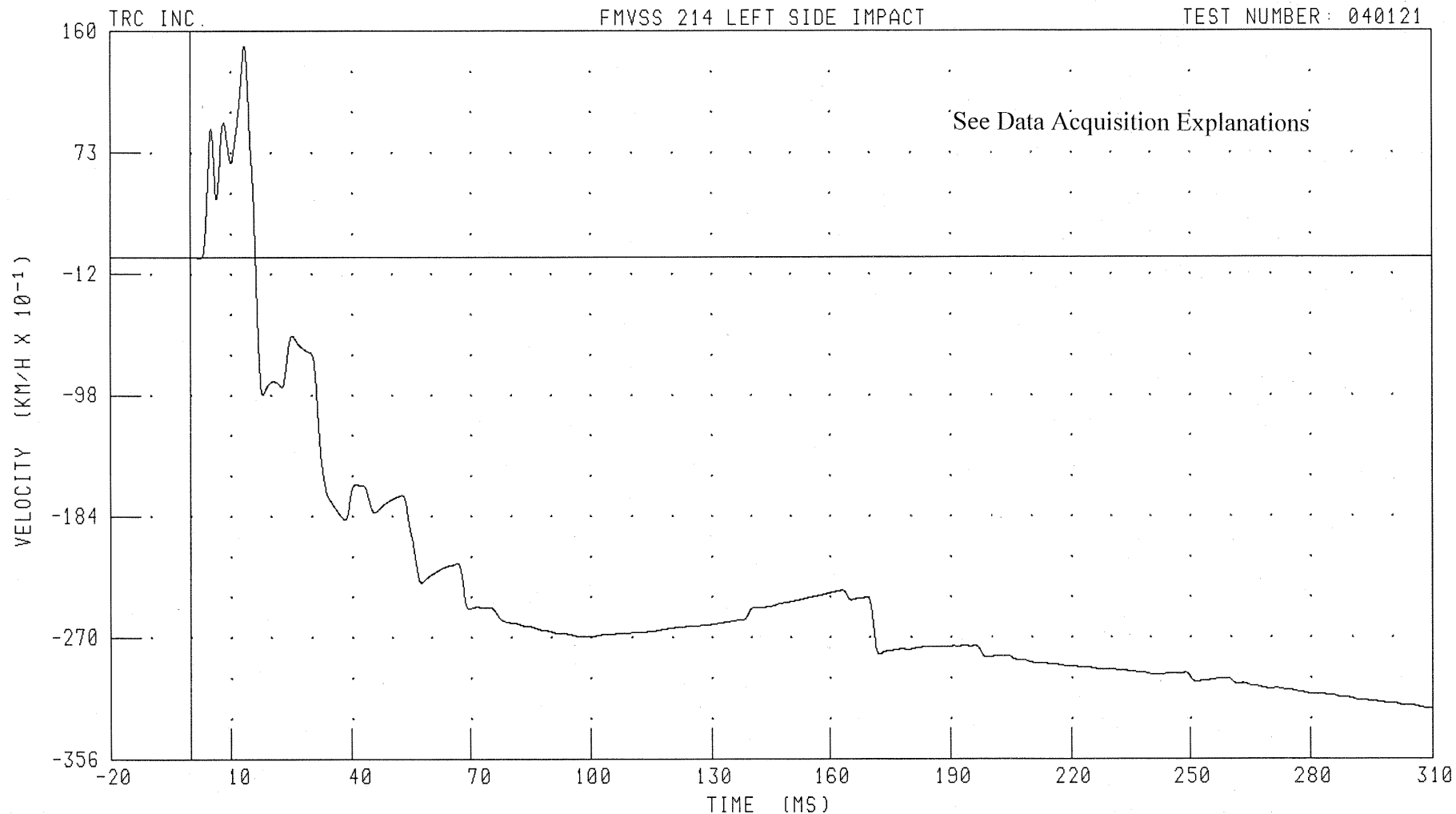
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT LOWER B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLBYV1 FILTER: CH. CLASS 180

PEAK DATA: 14.96 KM/H @ 13.68 MS; -32.05 KM/H @ 310.00 MS

B-122

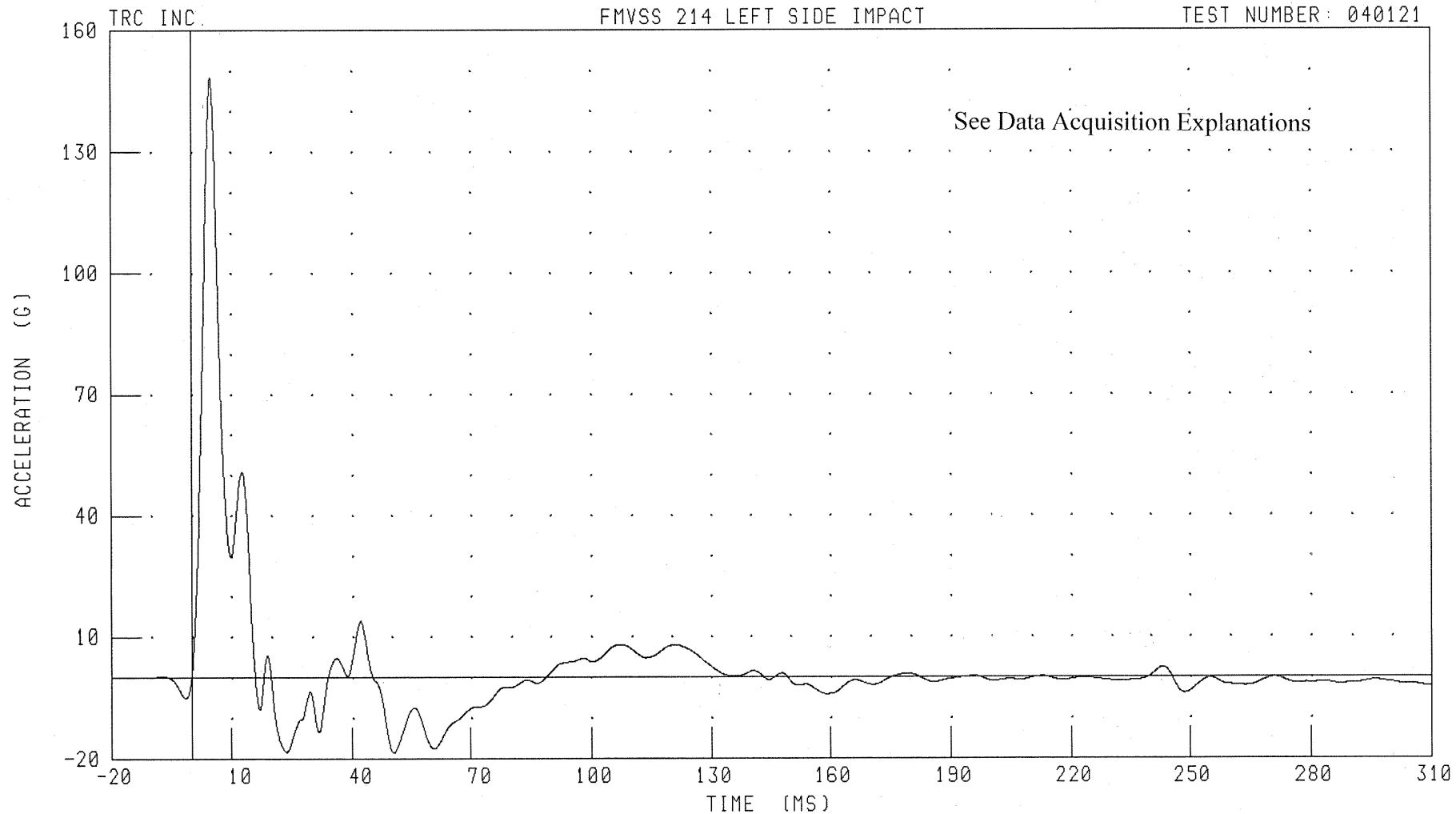
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT MIDDLE B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LM BYG1

FILTER: CH. CLASS 60

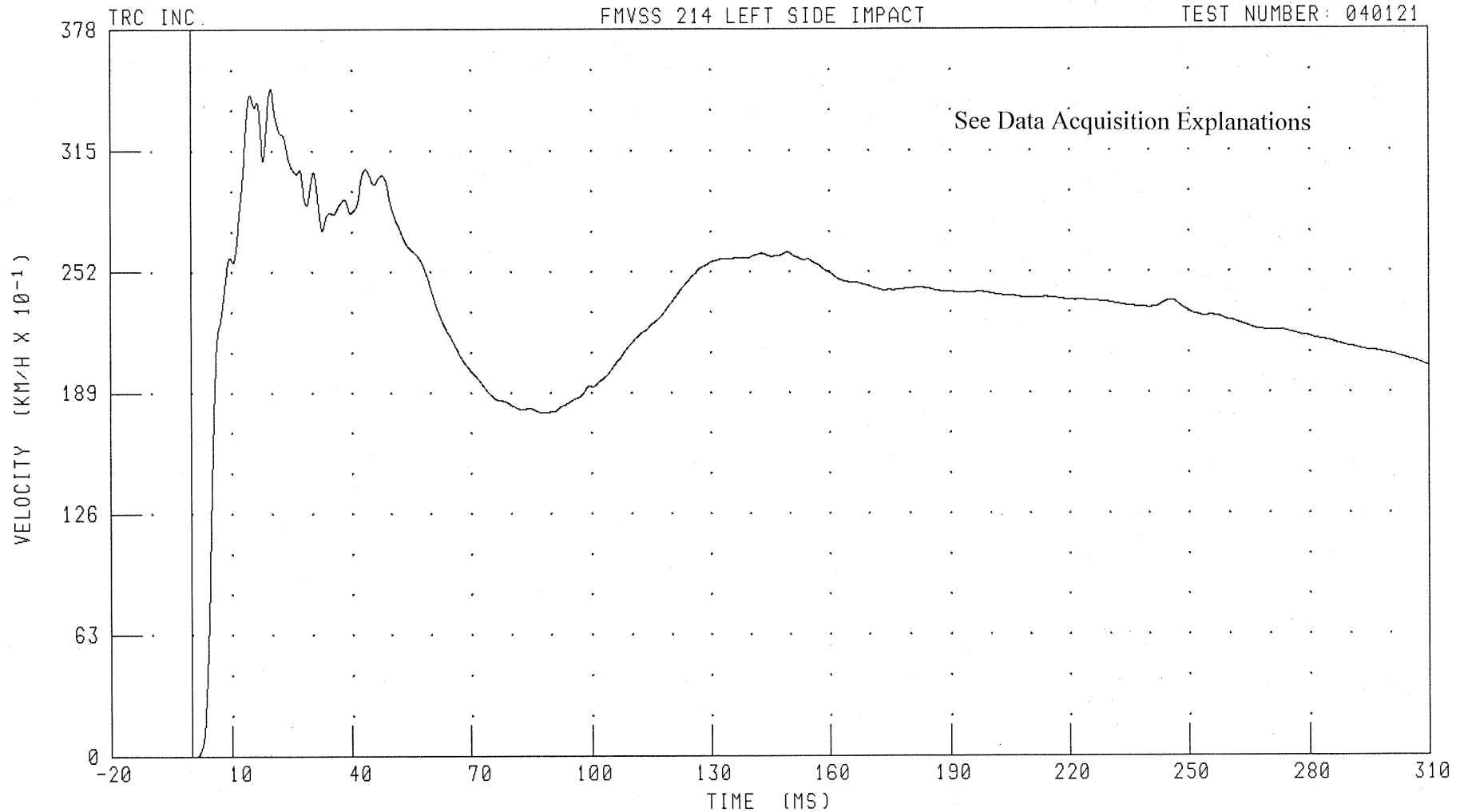
PEAK DATA: 148.44 G @ 4.88 MS; -18.49 G @ 50.48 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT MIDDLE B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LM BYV1 FILTER: CH. CLASS 180

PEAK DATA: 34.72 KM/H @ 19.92 MS; 0.00 KM/H @ 0.80 MS

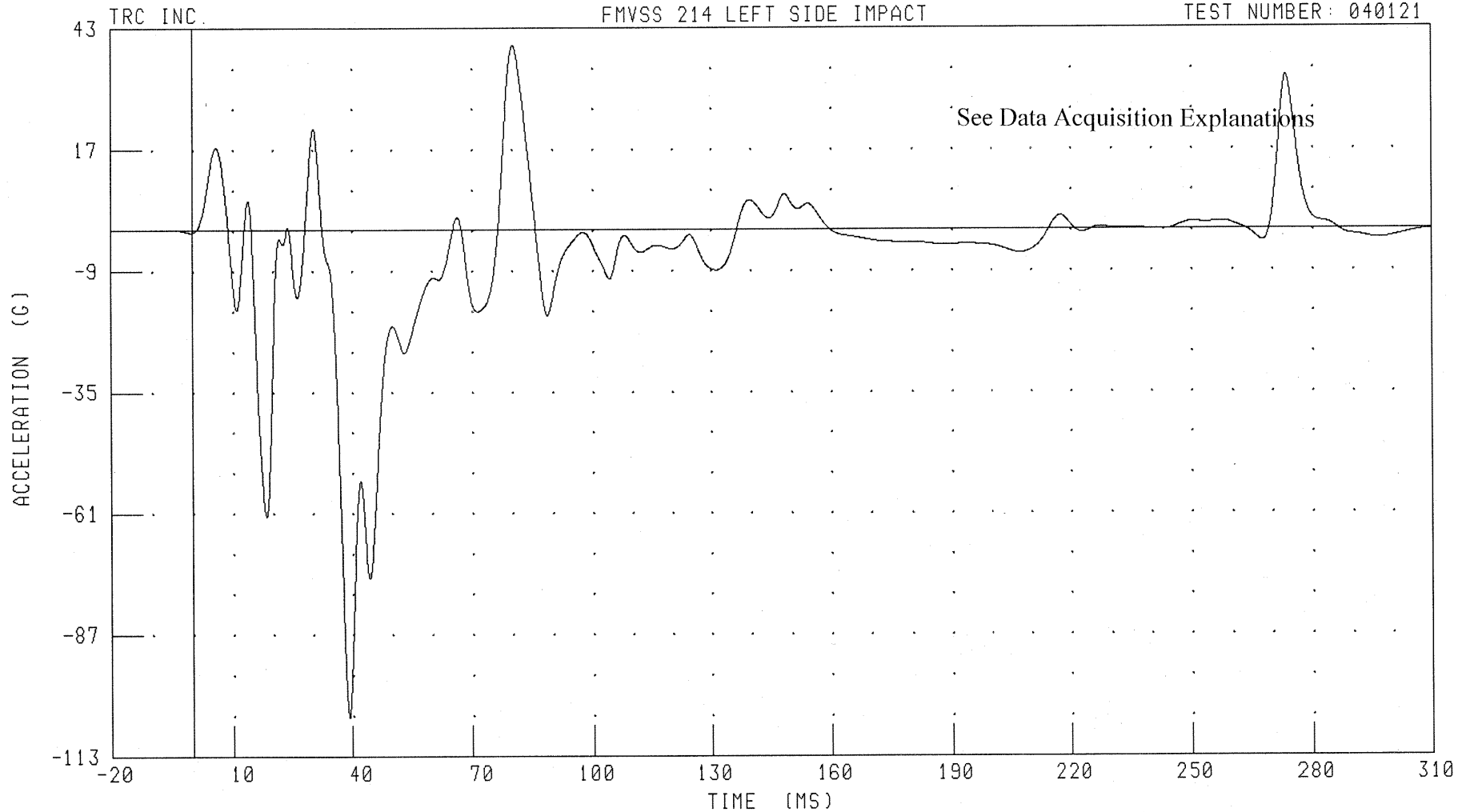
B-124

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT FRONT SEAT TRACK Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LFTYG1 FILTER: CH. CLASS 60

PEAK DATA: 39.35 G @ 80.40 MS; -104.70 G @ 39.20 MS

B-125

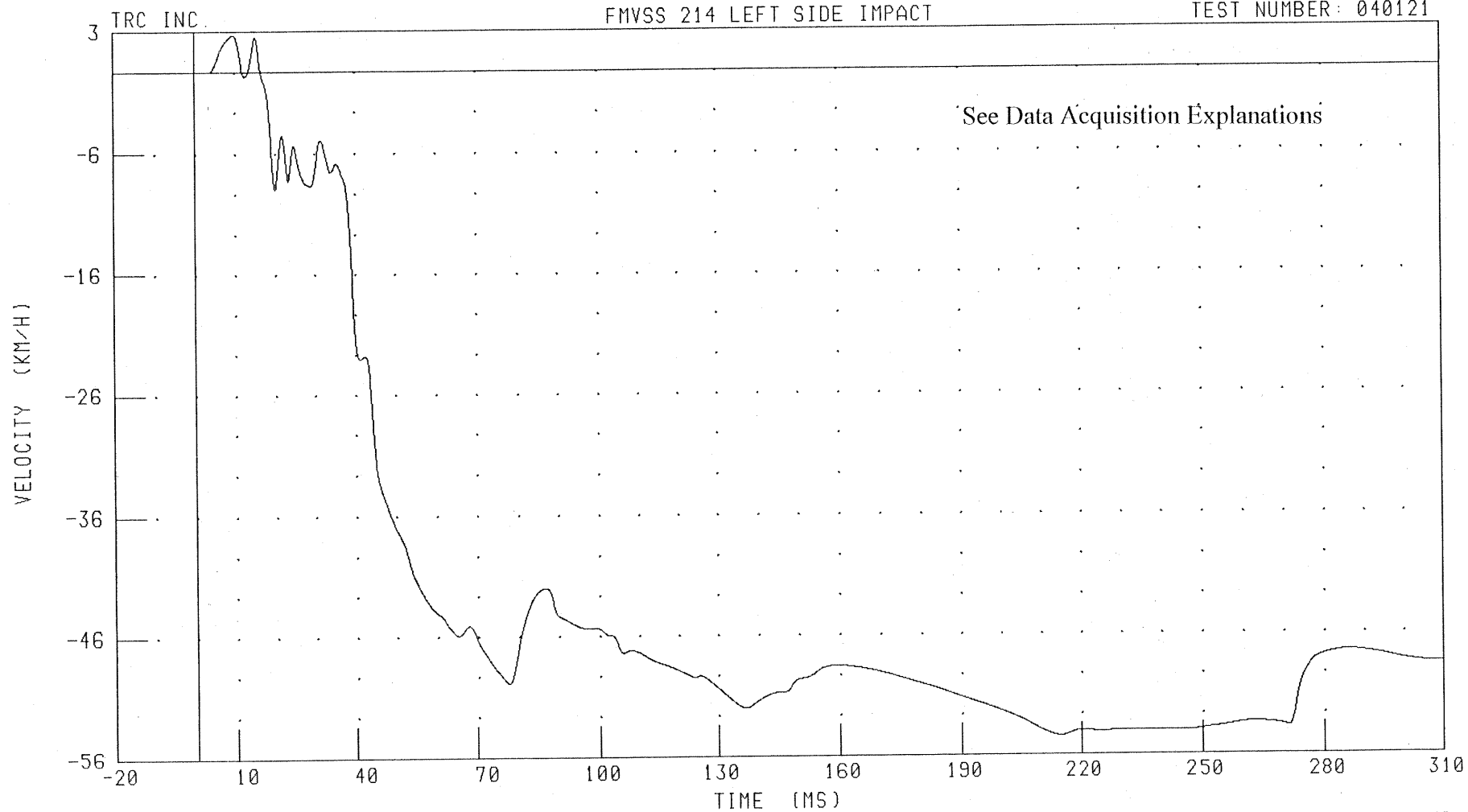
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT FRONT SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LFTYV1 FILTER: CH. CLASS 180

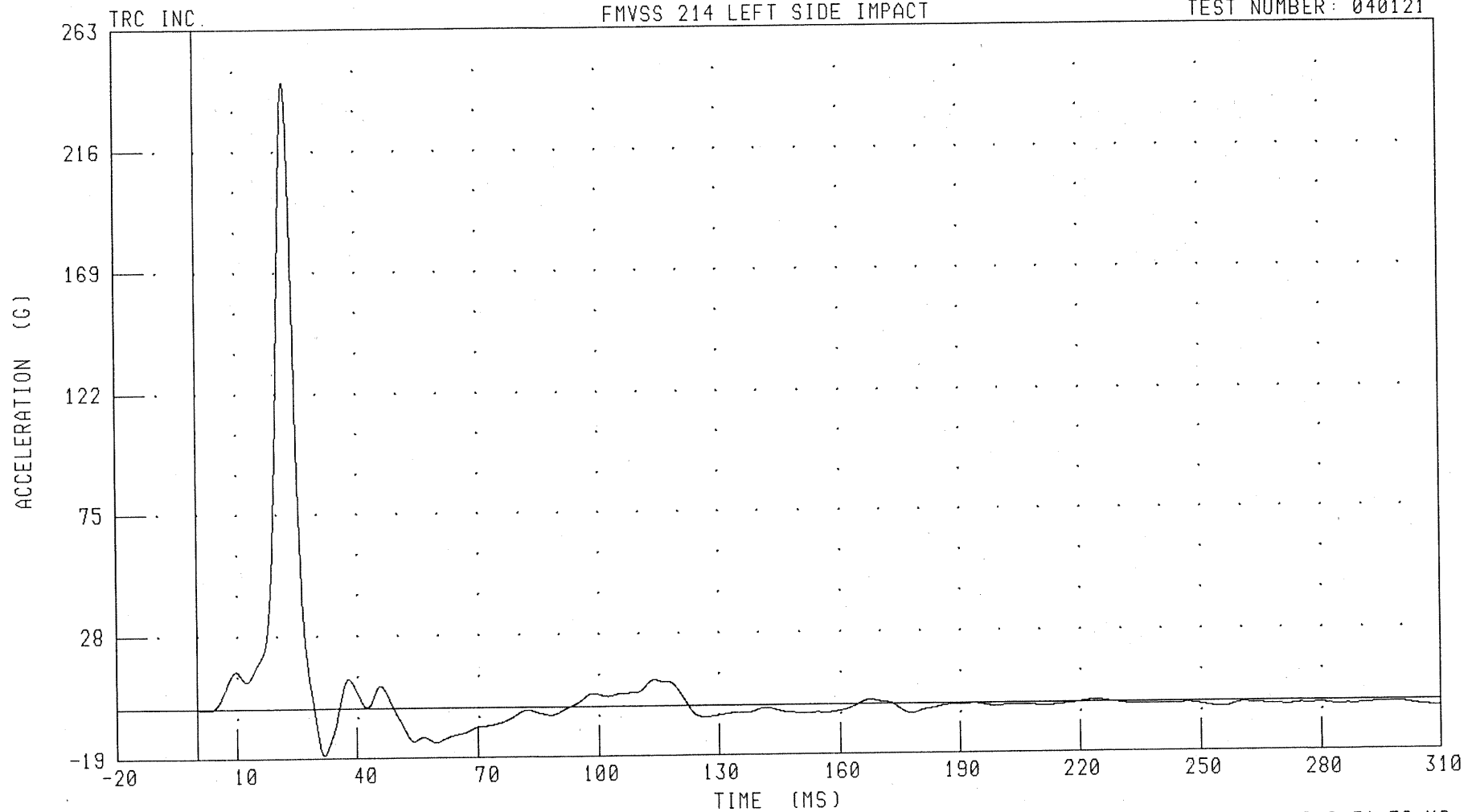
PEAK DATA: 3.01 KM/H @ 9.68 MS; -55.17 KM/H @ 214.80 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR SEAT TRACK Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRTYG1 FILTER: CH. CLASS 60

B-127

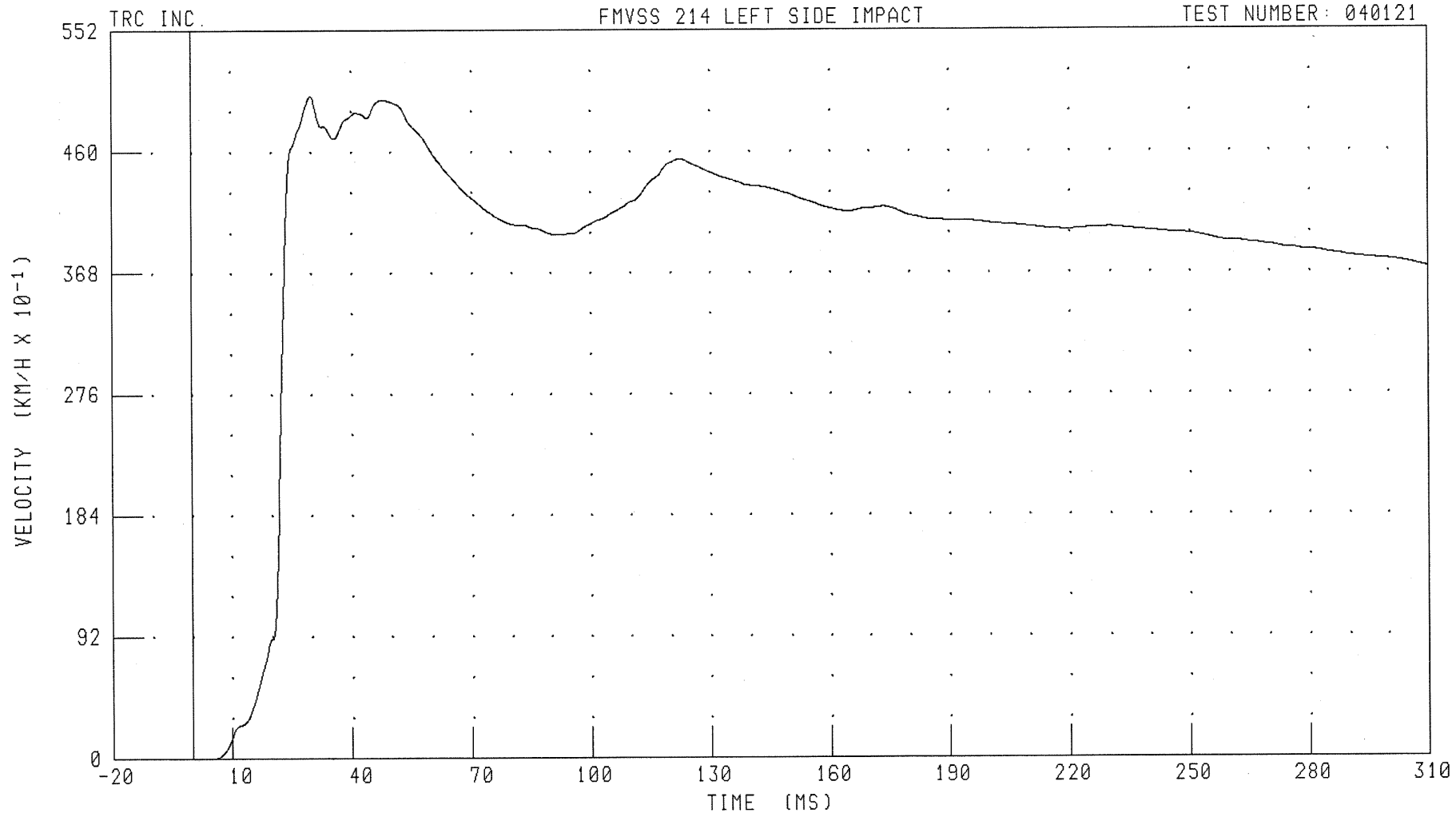
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRTYV1

FILTER: CH. CLASS 180

PEAK DATA: 50.23 KM/H @ 30.16 MS; -0.01 KM/H @ 4.96 MS

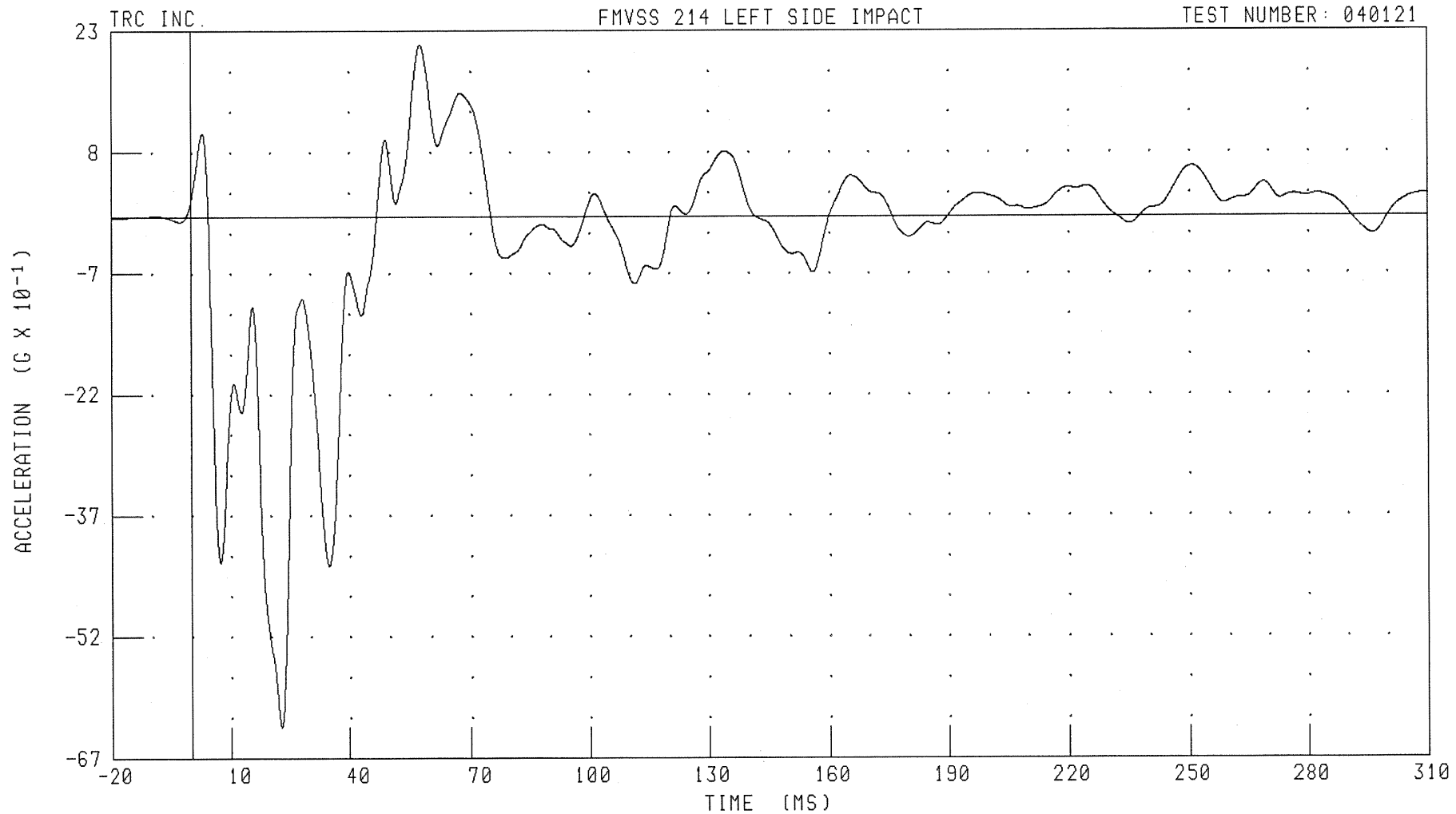
B-128

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: VCGXG1

FILTER: CH. CLASS 60

PEAK DATA: 2.13 G @ 57.52 MS; -6.32 G @ 22.72 MS

B-129

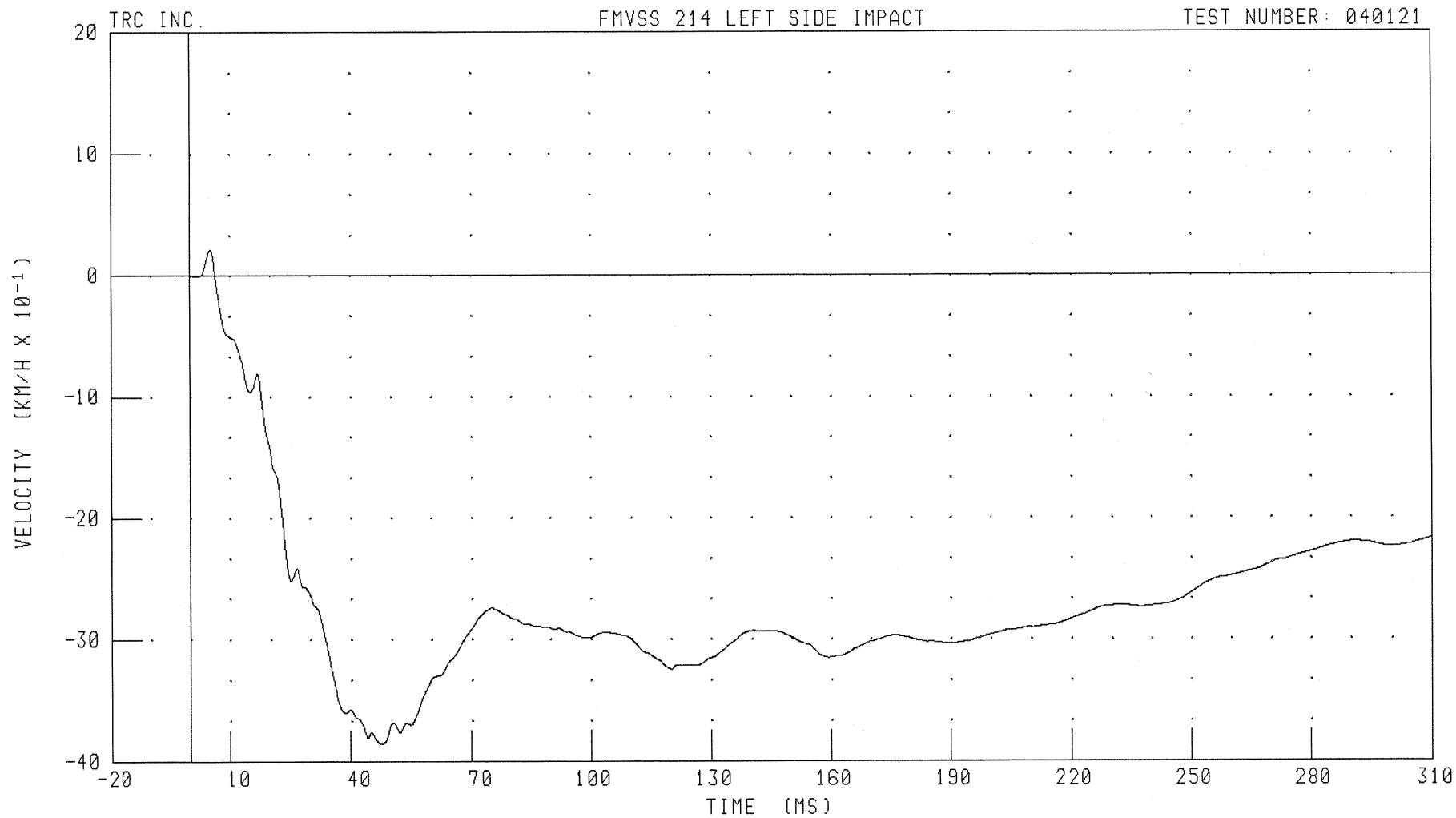
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: VCGXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.21 KM/H @ 5.20 MS; -3.86 KM/H @ 47.52 MS

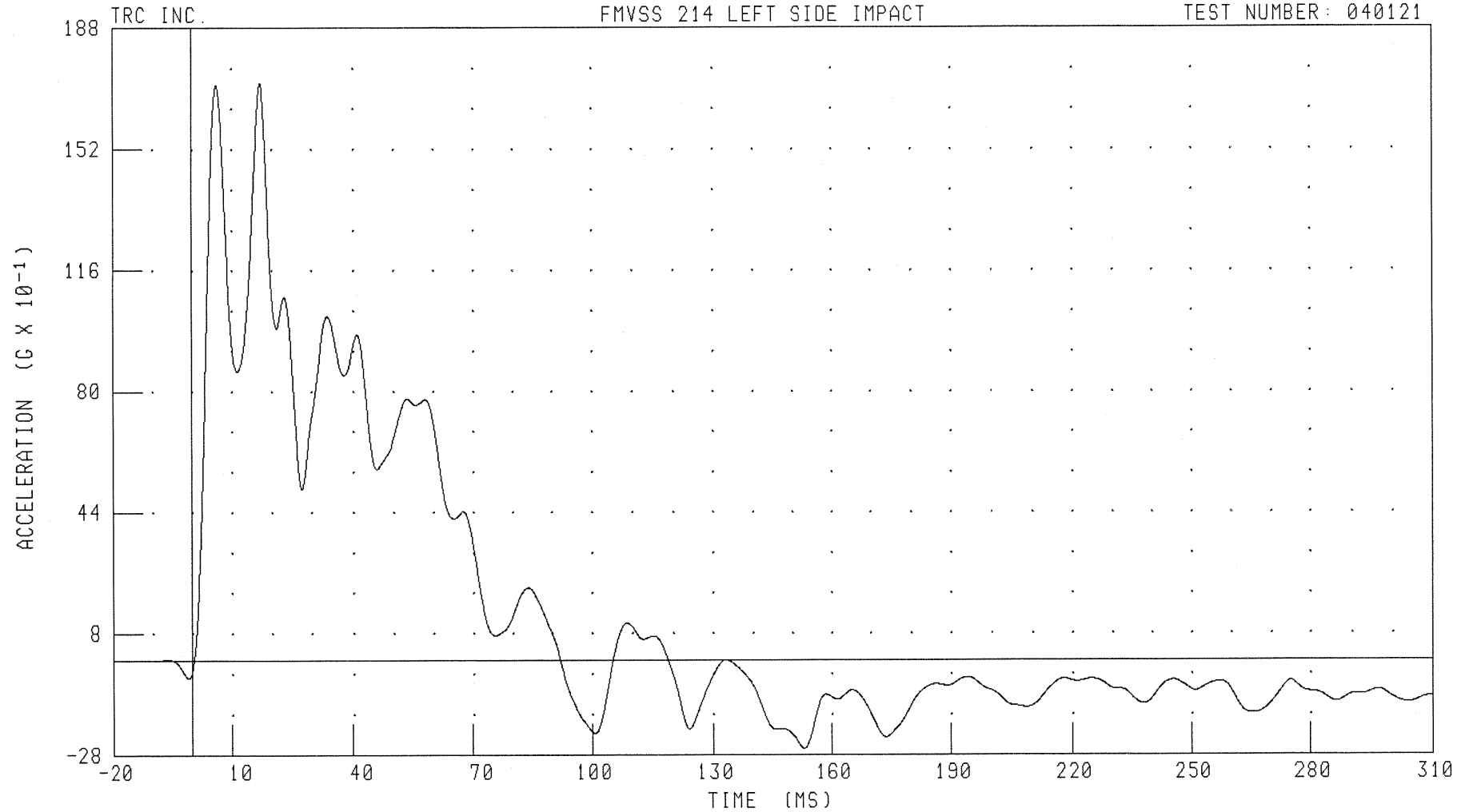
B-130

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: VCCYG1

FILTER: CH. CLASS 60

PEAK DATA: 17.16 G @ 17.12 MS; -2.61 G @ 153.04 MS

B-131

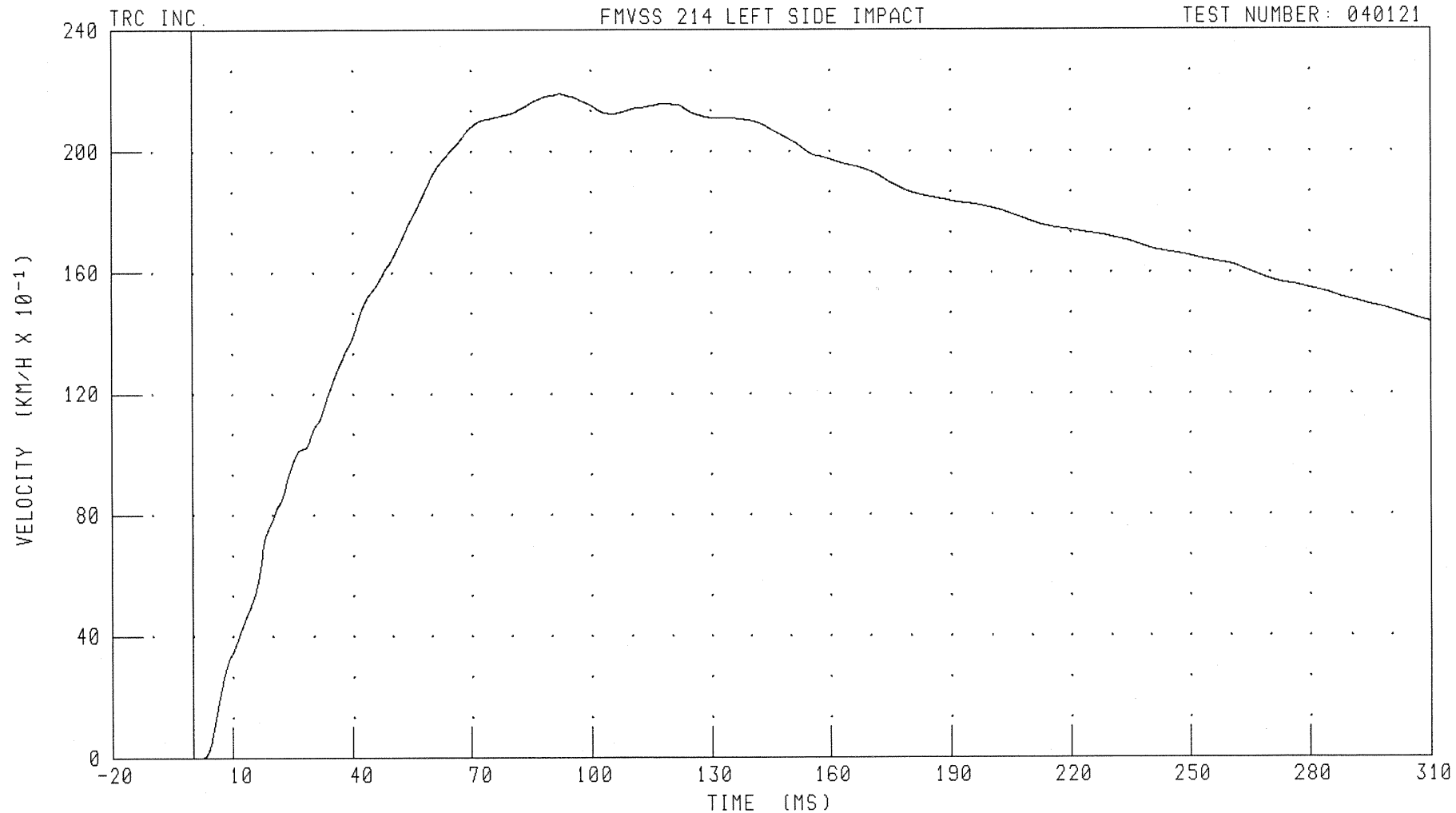
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: VCCYV1

FILTER: CH. CLASS 180

PEAK DATA: 21.89 KM/H @ 92.32 MS; 0.00 KM/H @ 1.44 MS

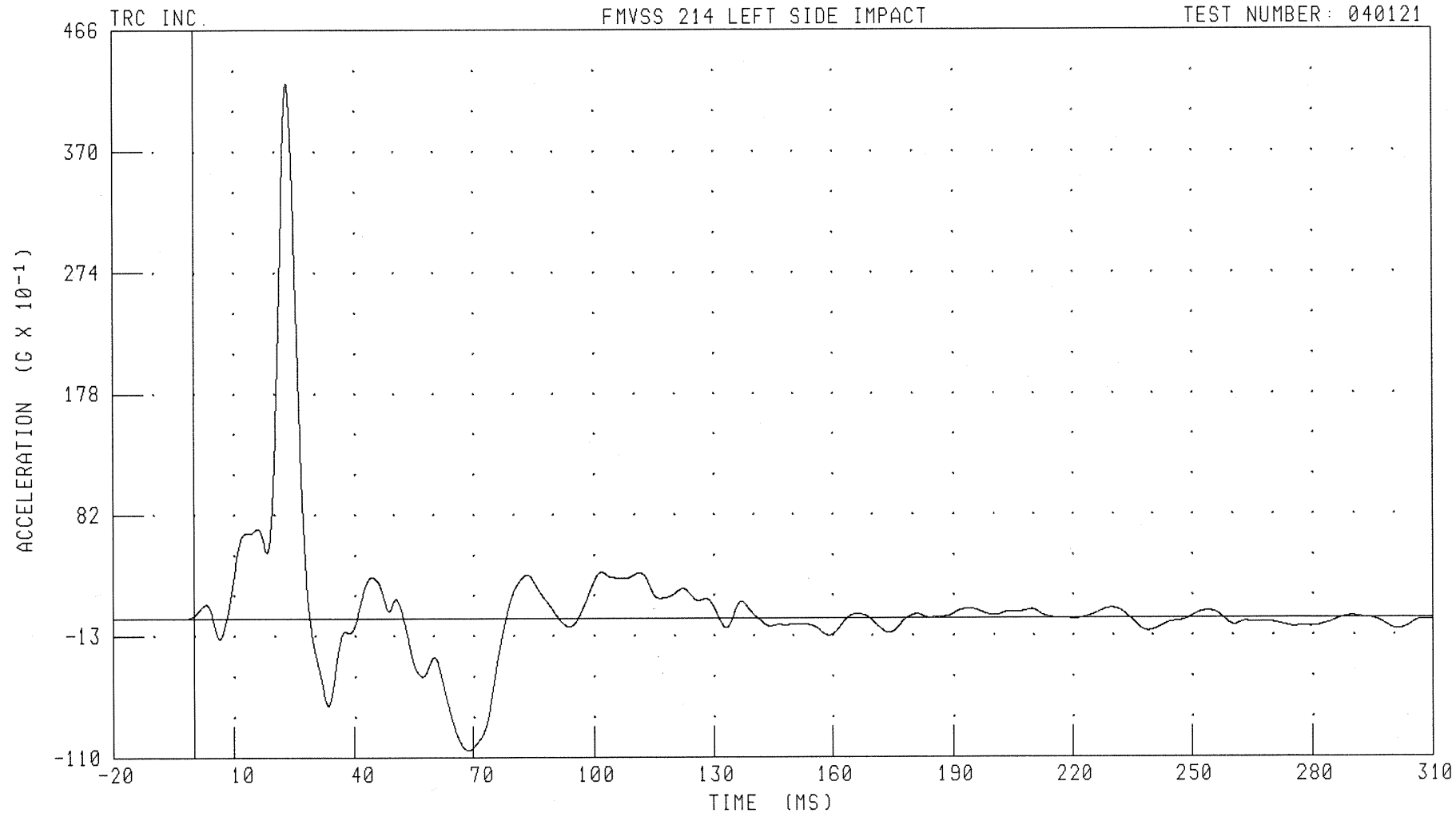
B-132

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
VEHICLE CENTER OF GRAVITY Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: VCGZG1

FILTER: CH. CLASS 60

PEAK DATA: 42.38 G @ 23.20 MS; -10.47 G @ 68.80 MS

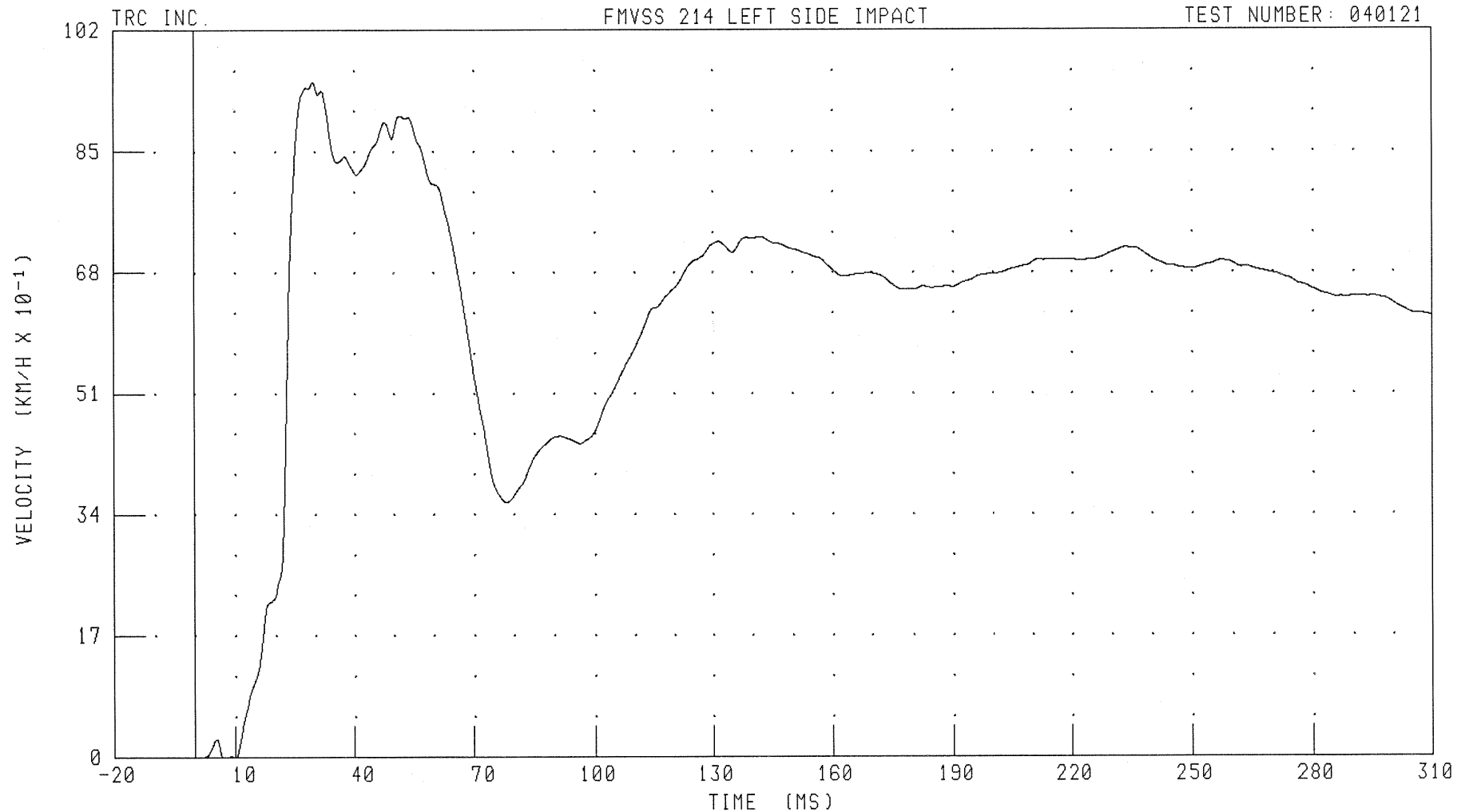
B-133

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
VEHICLE CENTER OF GRAVITY Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: VCGZV1 FILTER: CH. CLASS 180

PEAK DATA: 9.47 KM/H @ 29.60 MS; -0.06 KM/H @ 7.36 MS

B-134

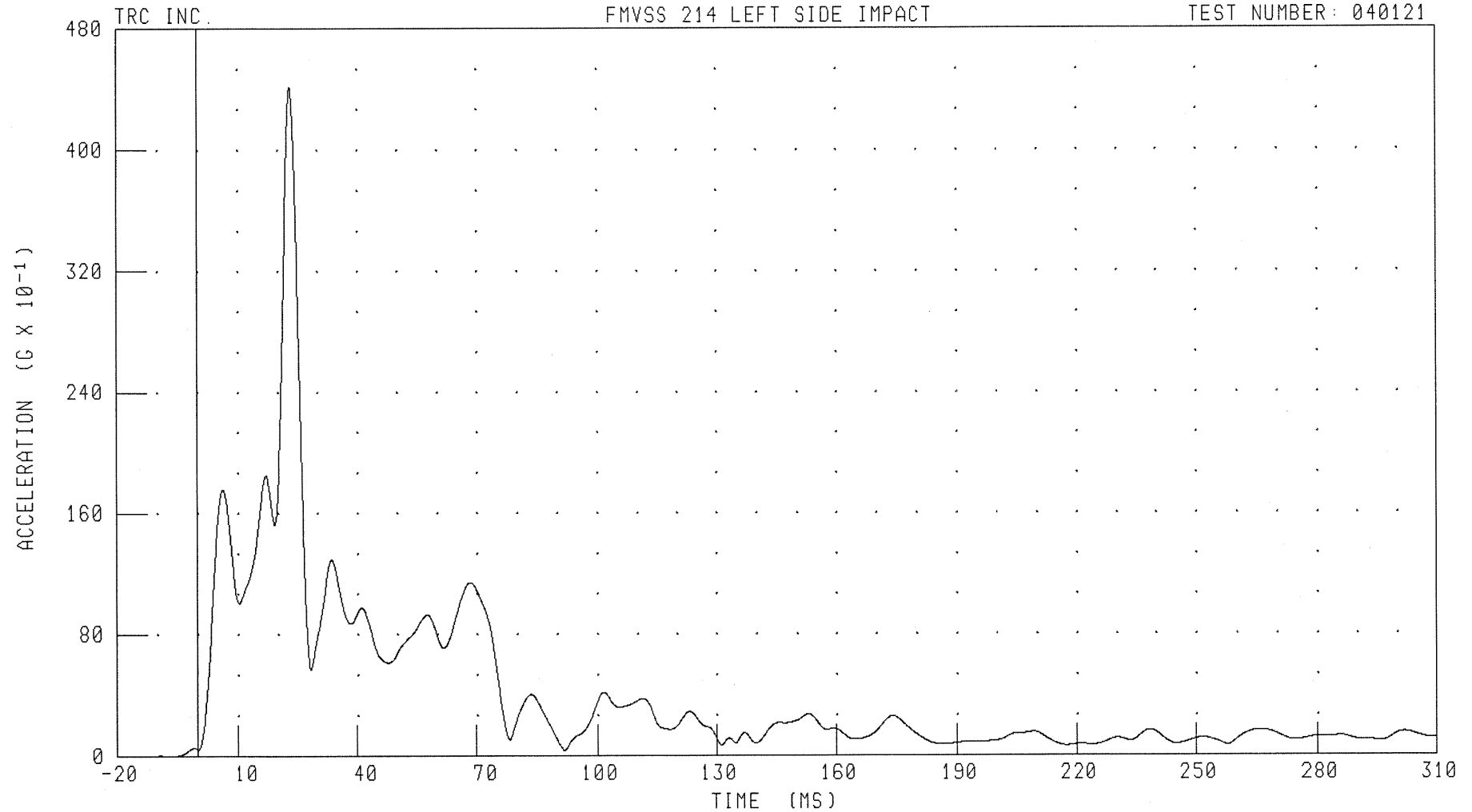
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: VCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 44.16 G @ 23.20 MS; 0.01 G @ -12.48 MS

B-135

040121

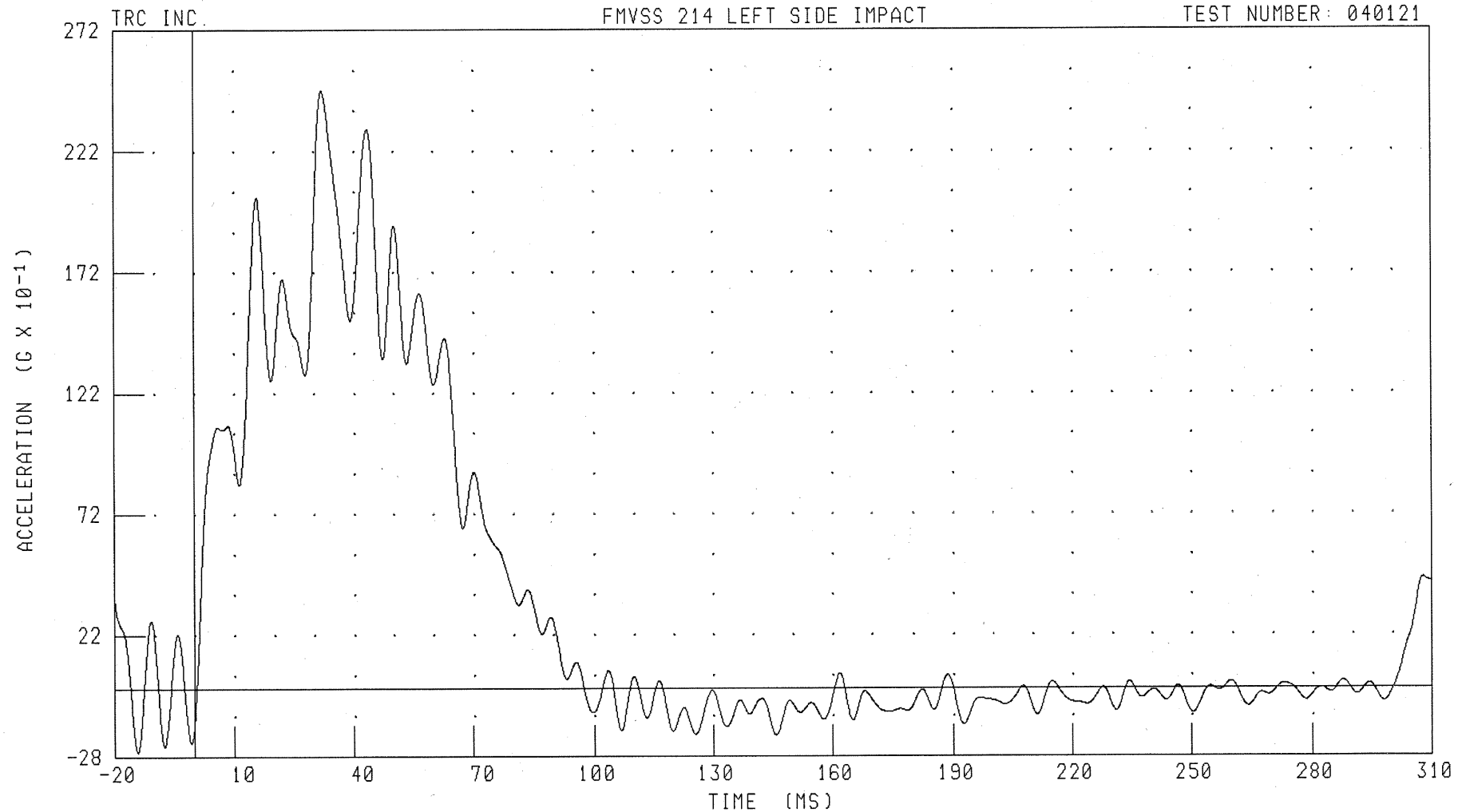
MDB Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB CENTER OF GRAVITY X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: BCGXG1

FILTER: CH. CLASS 60

PEAK DATA: 24.72 G @ 32.16 MS; -2.62 G @ -14.24 MS

B-137

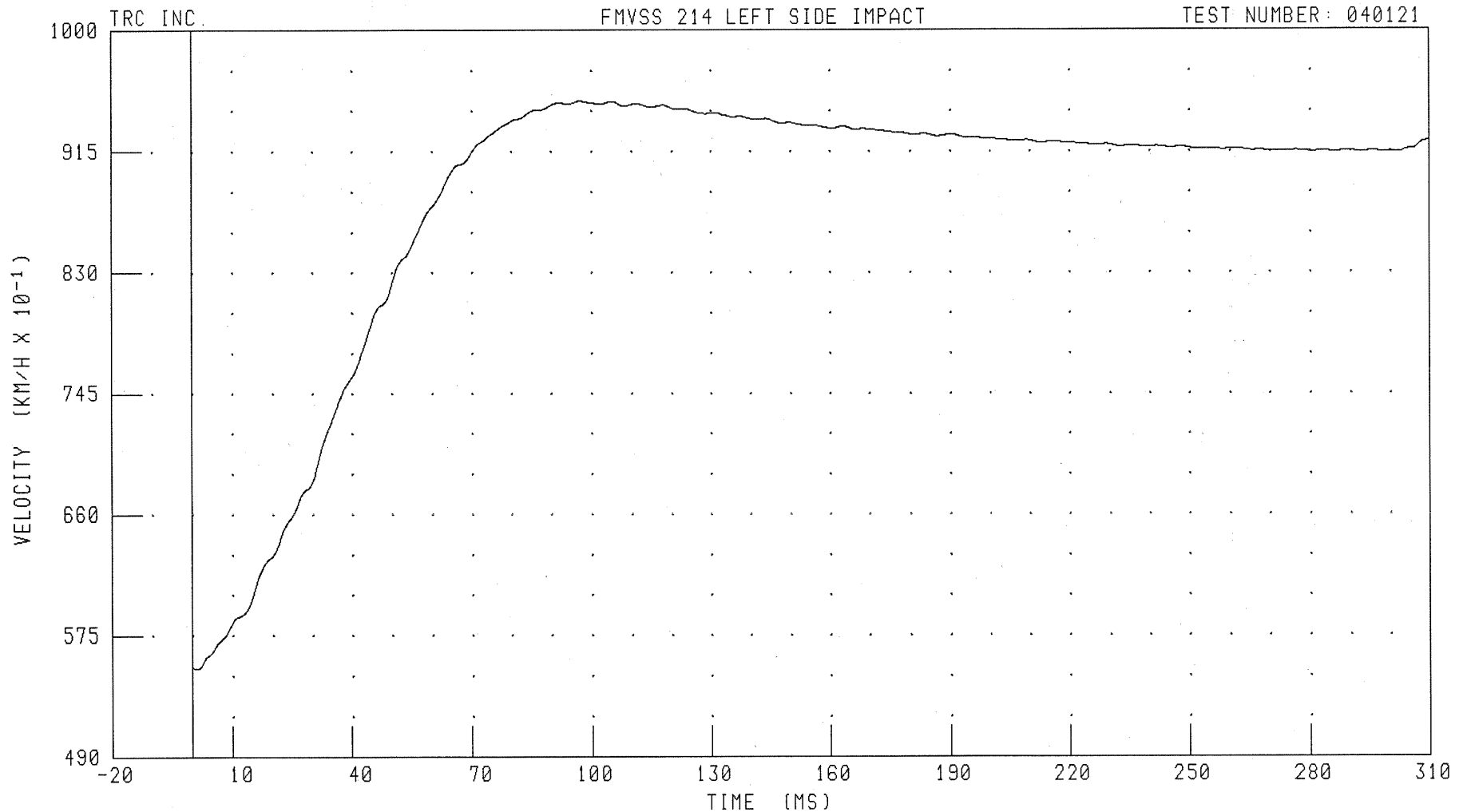
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB CENTER OF GRAVITY X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: BCGXV1

FILTER: CH. CLASS 180

PEAK DATA: 95.03 KM/H @ 97.20 MS; 55.15 KM/H @ 1.20 MS

B-138

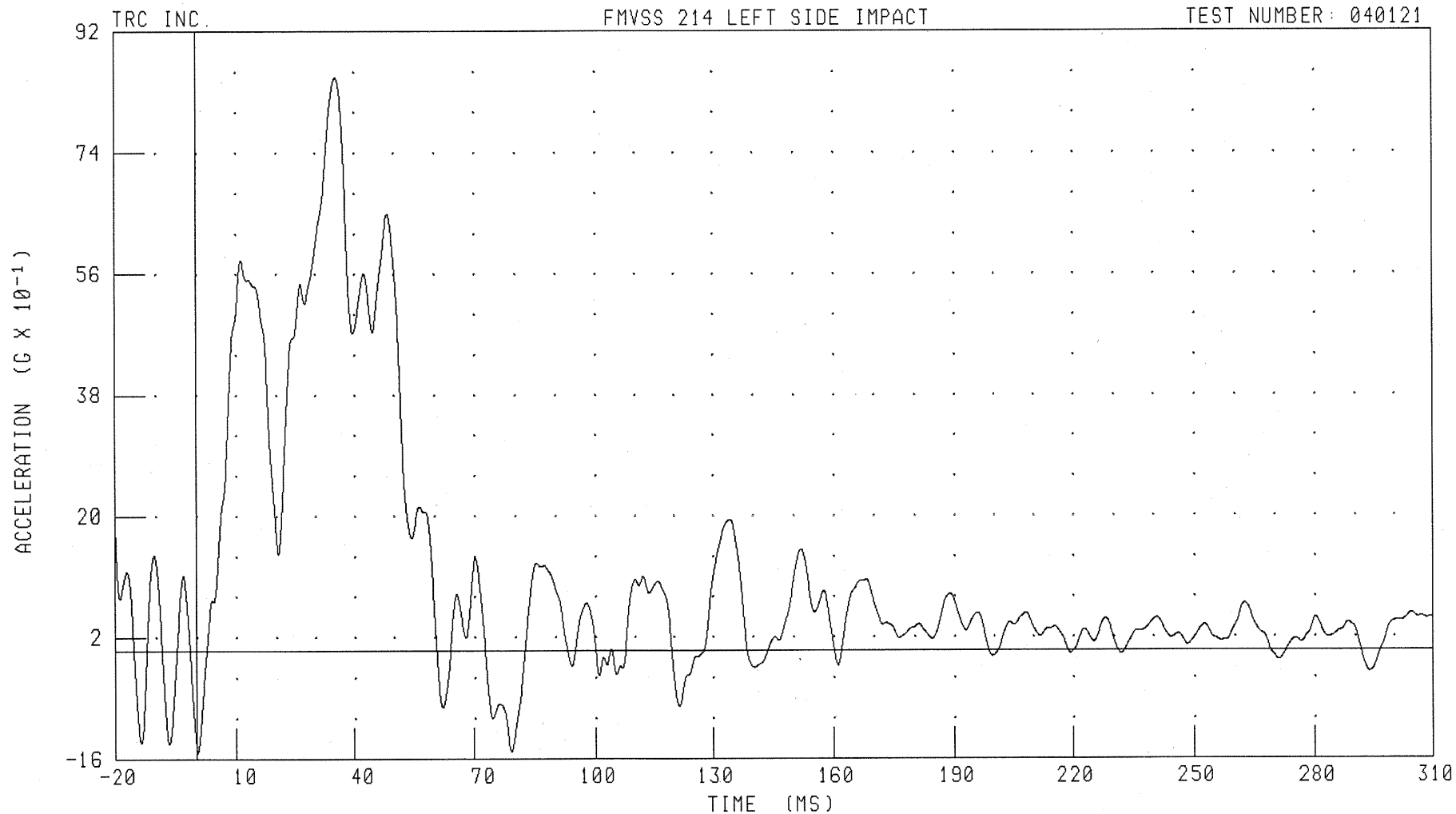
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB CENTER OF GRAVITY Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: BCGYG1

FILTER: CH. CLASS 60

PEAK DATA: 8.51 G @ 35.44 MS; -1.50 G @ 0.32 MS

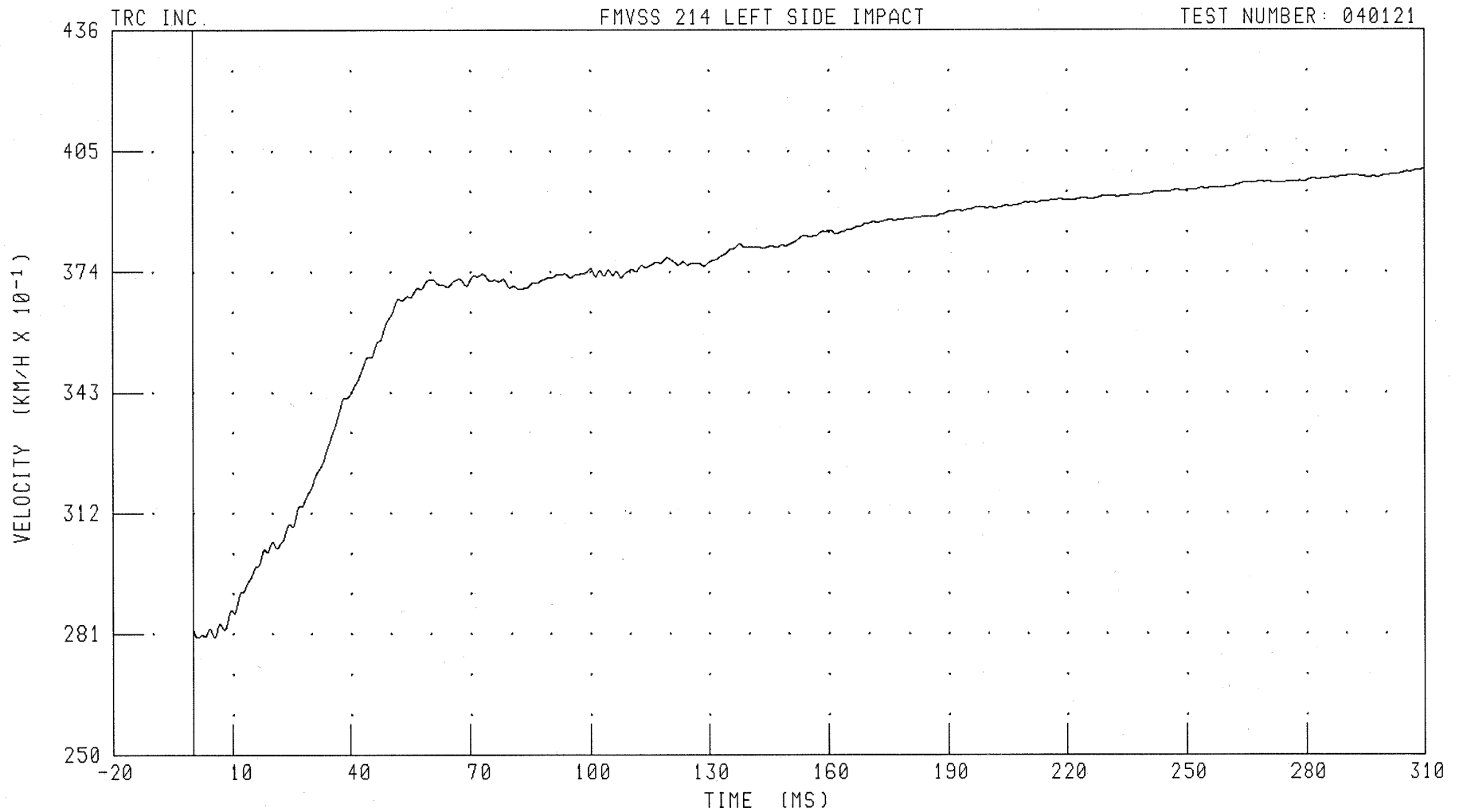
B-139

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
MDB CENTER OF GRAVITY Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: BCGYV1

FILTER: CH. CLASS 180

PEAK DATA: 40.05 KM/H @ 310.00 MS; 28.00 KM/H @ 1.12 MS

B-140

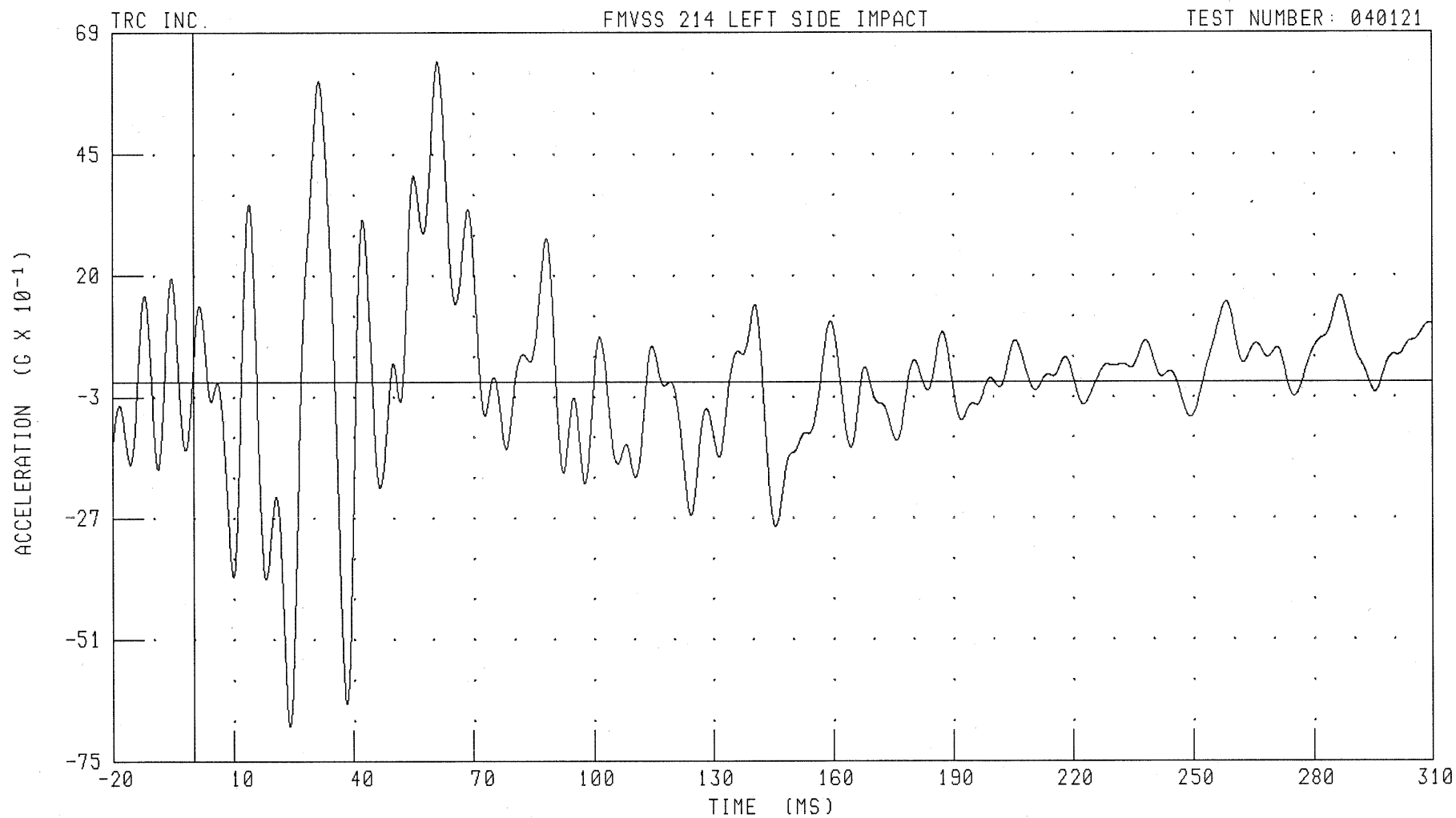
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB CENTER OF GRAVITY Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: BCGZG1 FILTER: CH. CLASS 60

PEAK DATA: 6.33 G @ 61.36 MS; -6.82 G @ 24.08 MS

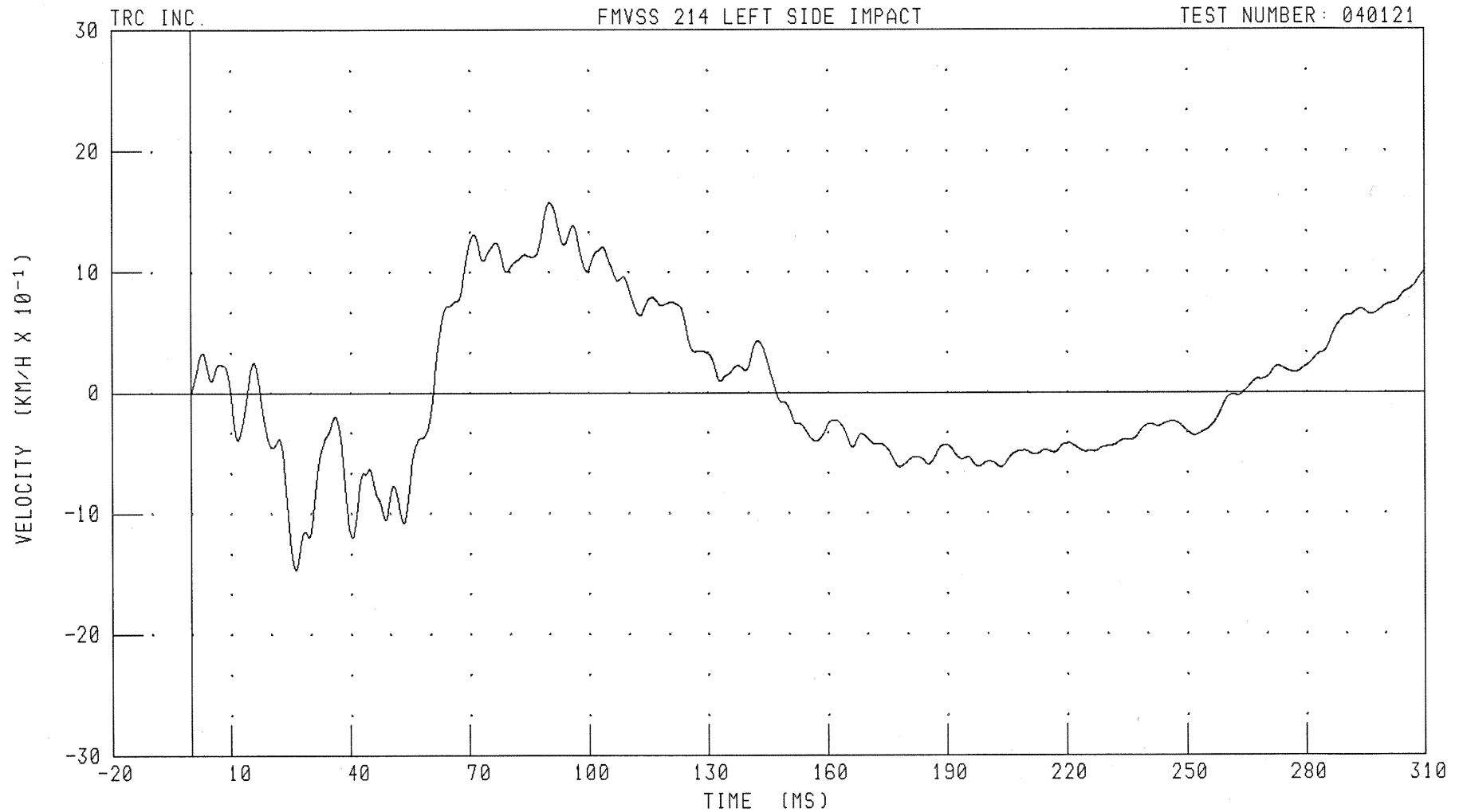
B-141

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
MDB CENTER OF GRAVITY Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: BCGZV1

FILTER: CH. CLASS 180

PEAK DATA: 1.58 KM/H @ 90.24 MS; -1.47 KM/H @ 26.32 MS

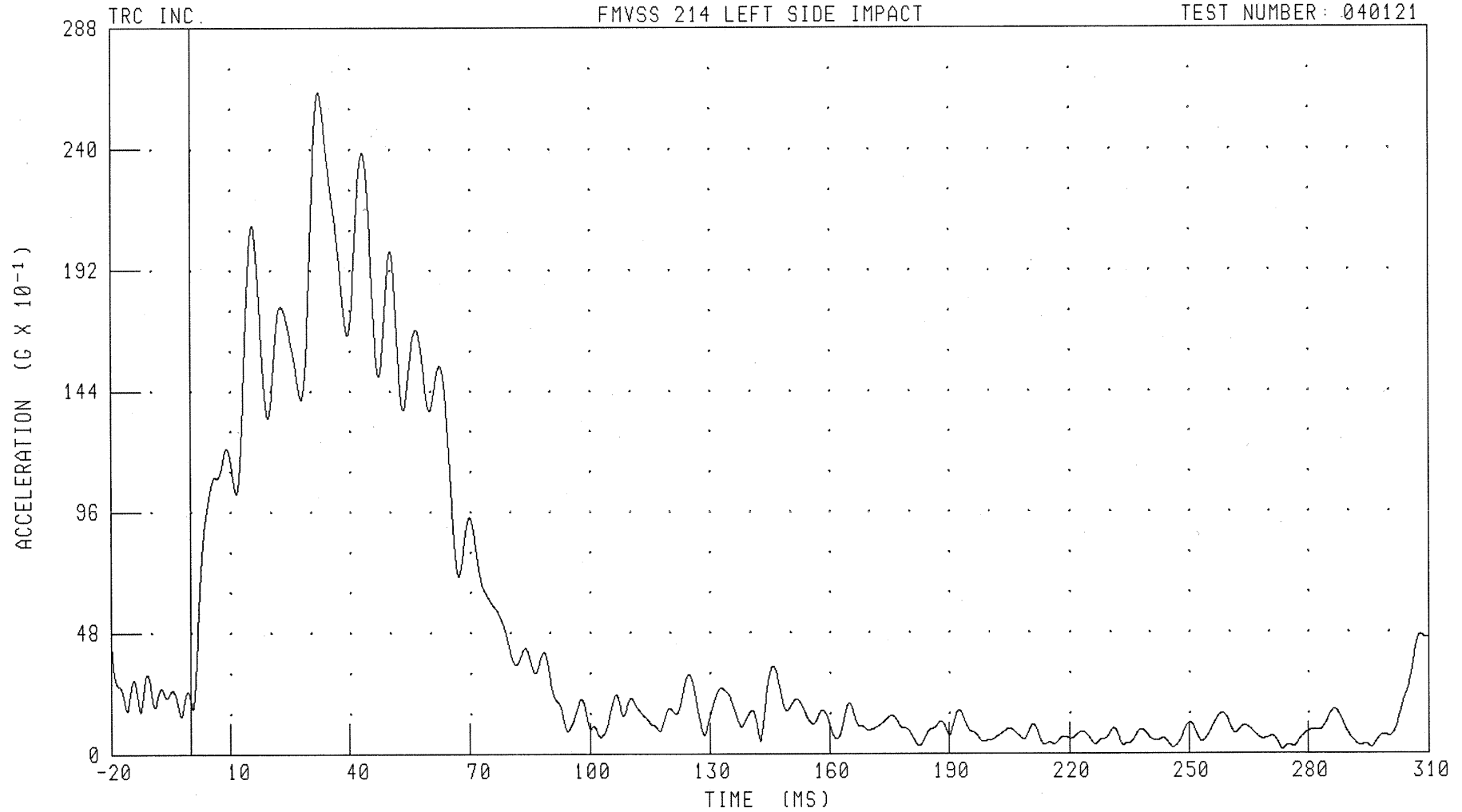
B-142

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
MDB CENTER OF GRAVITY RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: BCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 26.25 G @ 32.16 MS; 0.16 G @ 273.60 MS

B-143

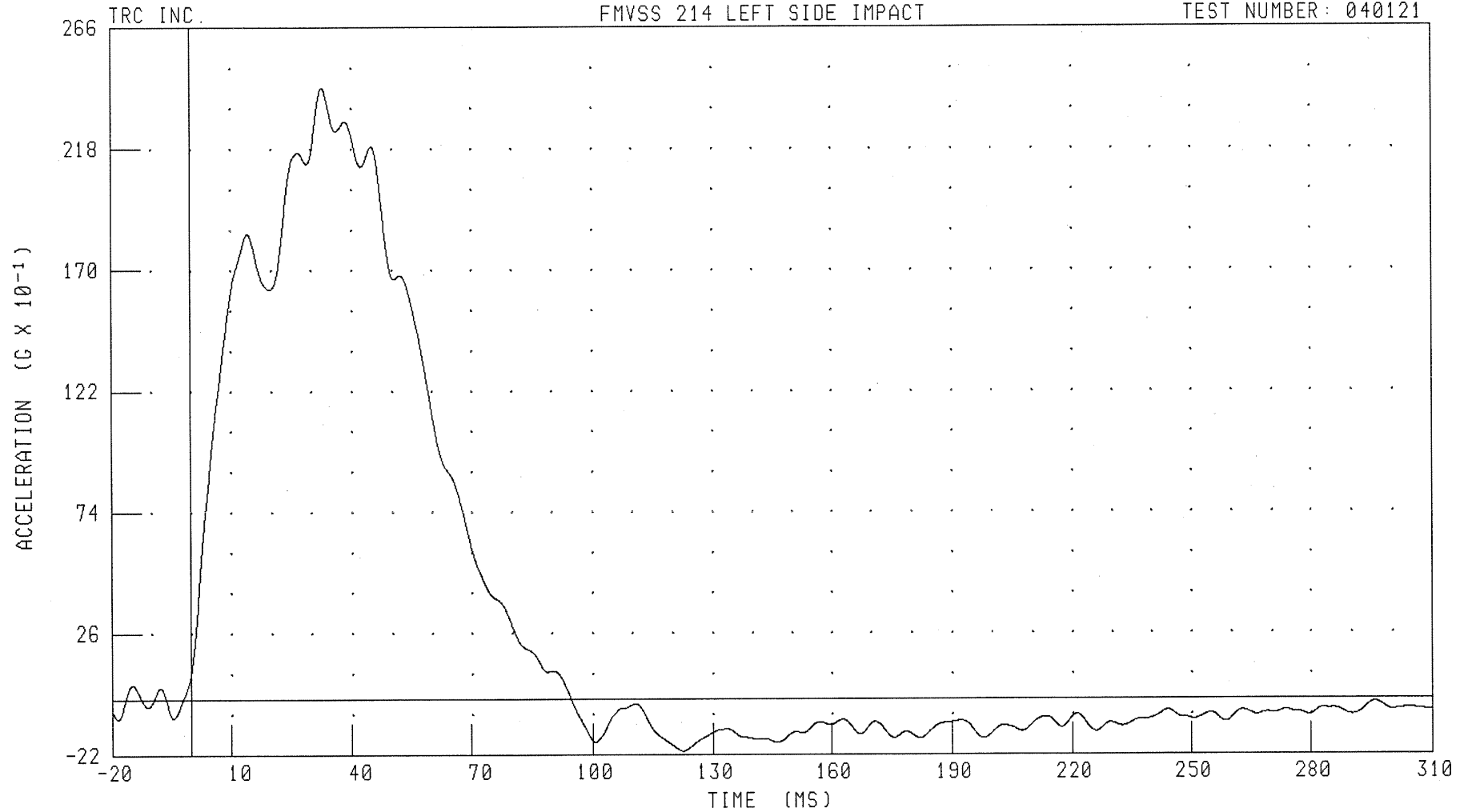
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MOB LEFT REAR X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRRXG1 FILTER: CH. CLASS 60

PEAK DATA: 24.21 G @ 32.88 MS; -2.07 G @ 122.72 MS

B-144

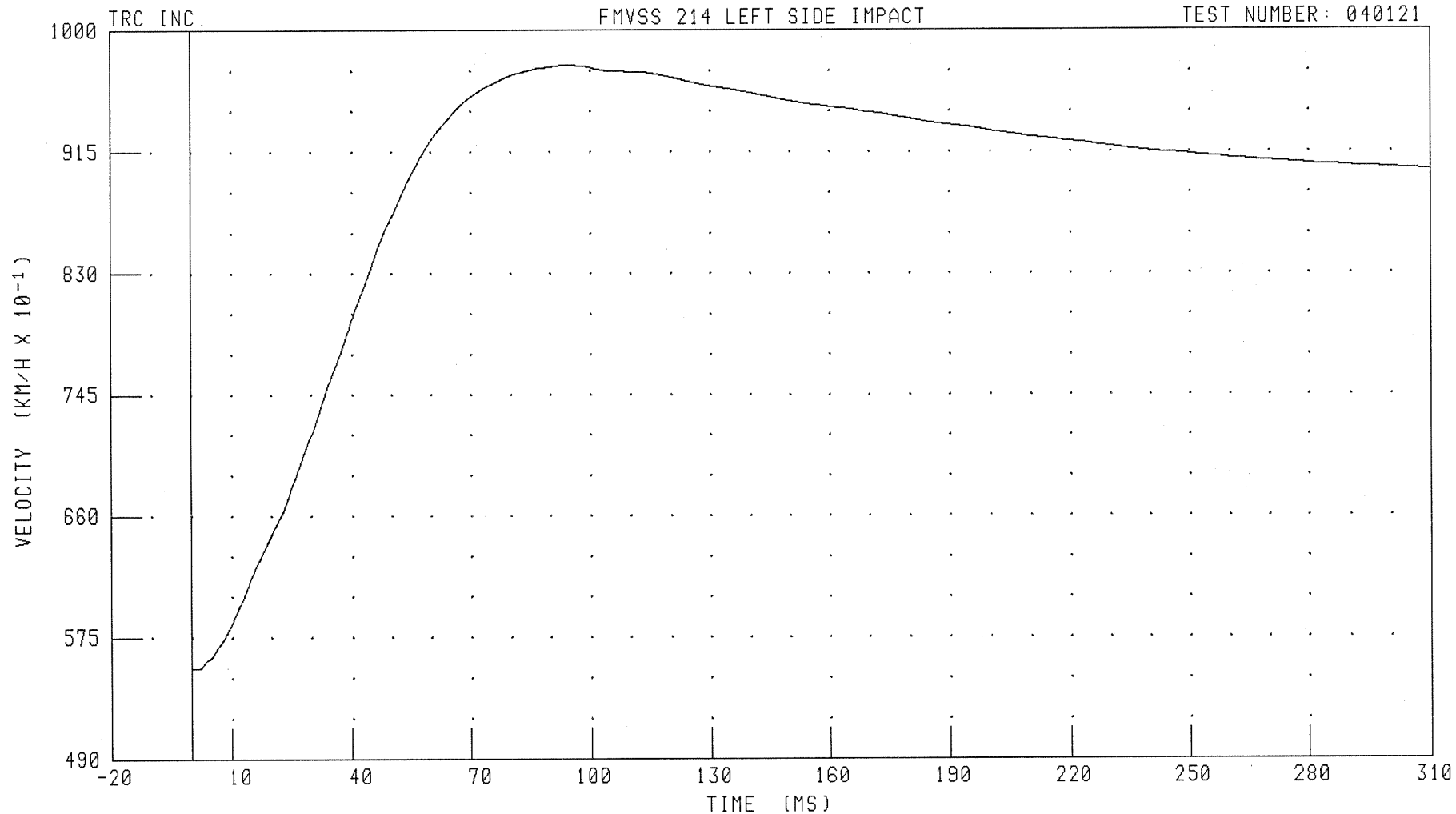
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB LEFT REAR X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRRXV1

FILTER: CH. CLASS 180

PEAK DATA: 97.57 KM/H @ 94.88 MS; 55.29 KM/H @ 1.44 MS

B-145

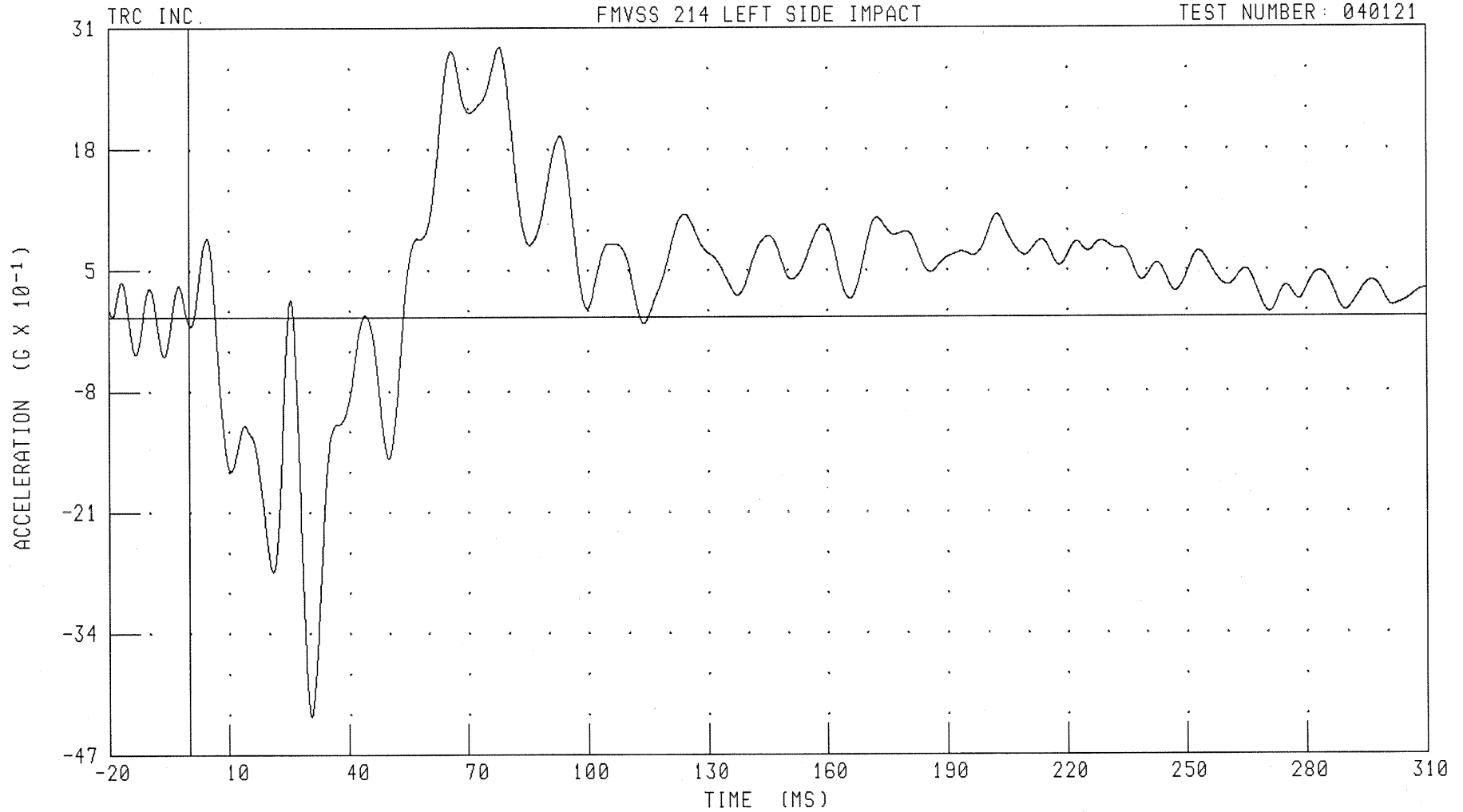
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MOB LEFT REAR Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRRYG1 FILTER: CH. CLASS 60

PEAK DATA: 2.89 G @ 78.00 MS; -4.29 G @ 30.48 MS

B-146

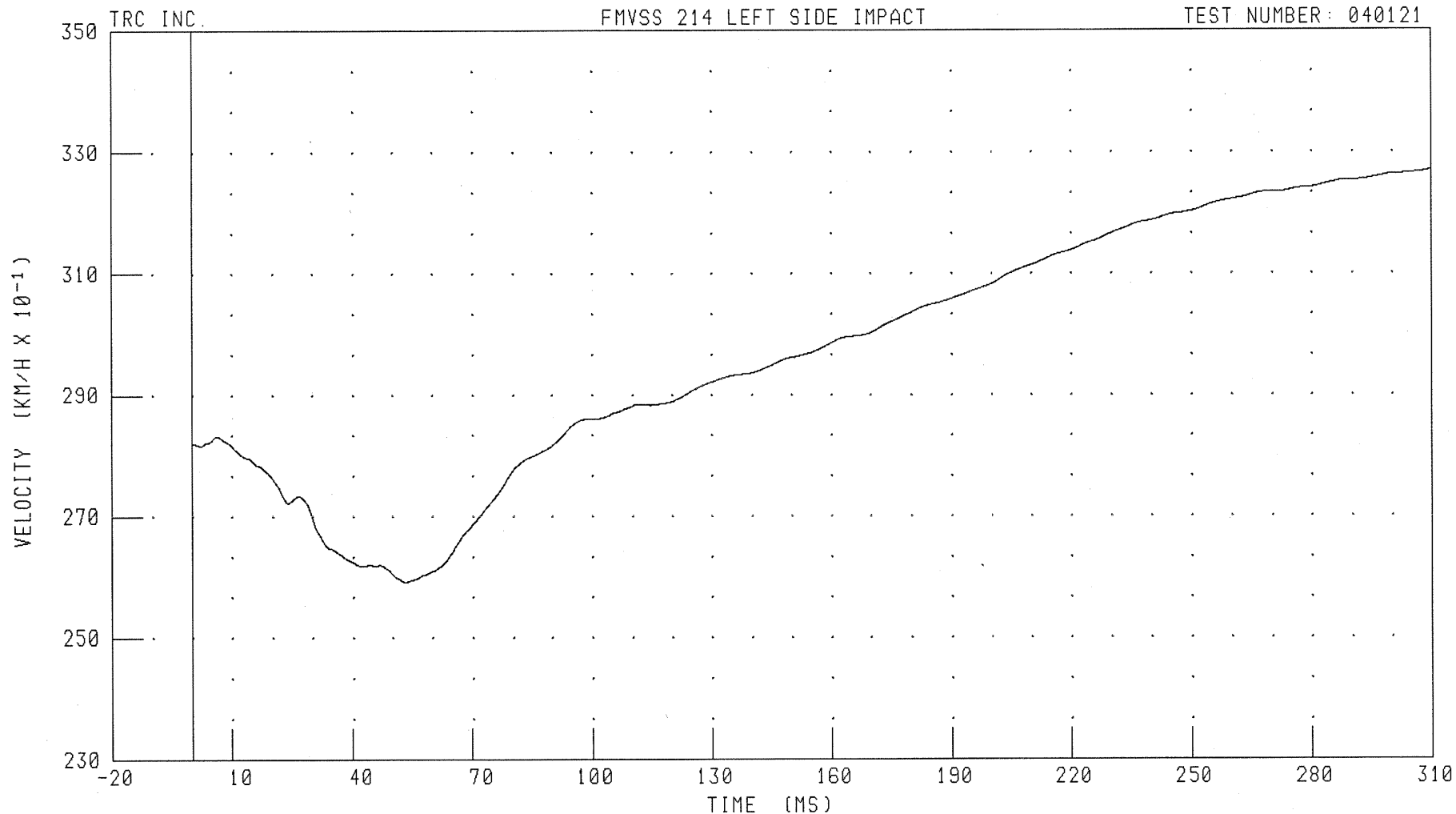
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB LEFT REAR Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LRRYV1

FILTER: CH. CLASS 180

PEAK DATA: 32.70 KM/H @ 310.00 MS; 25.91 KM/H @ 53.36 MS

B-147

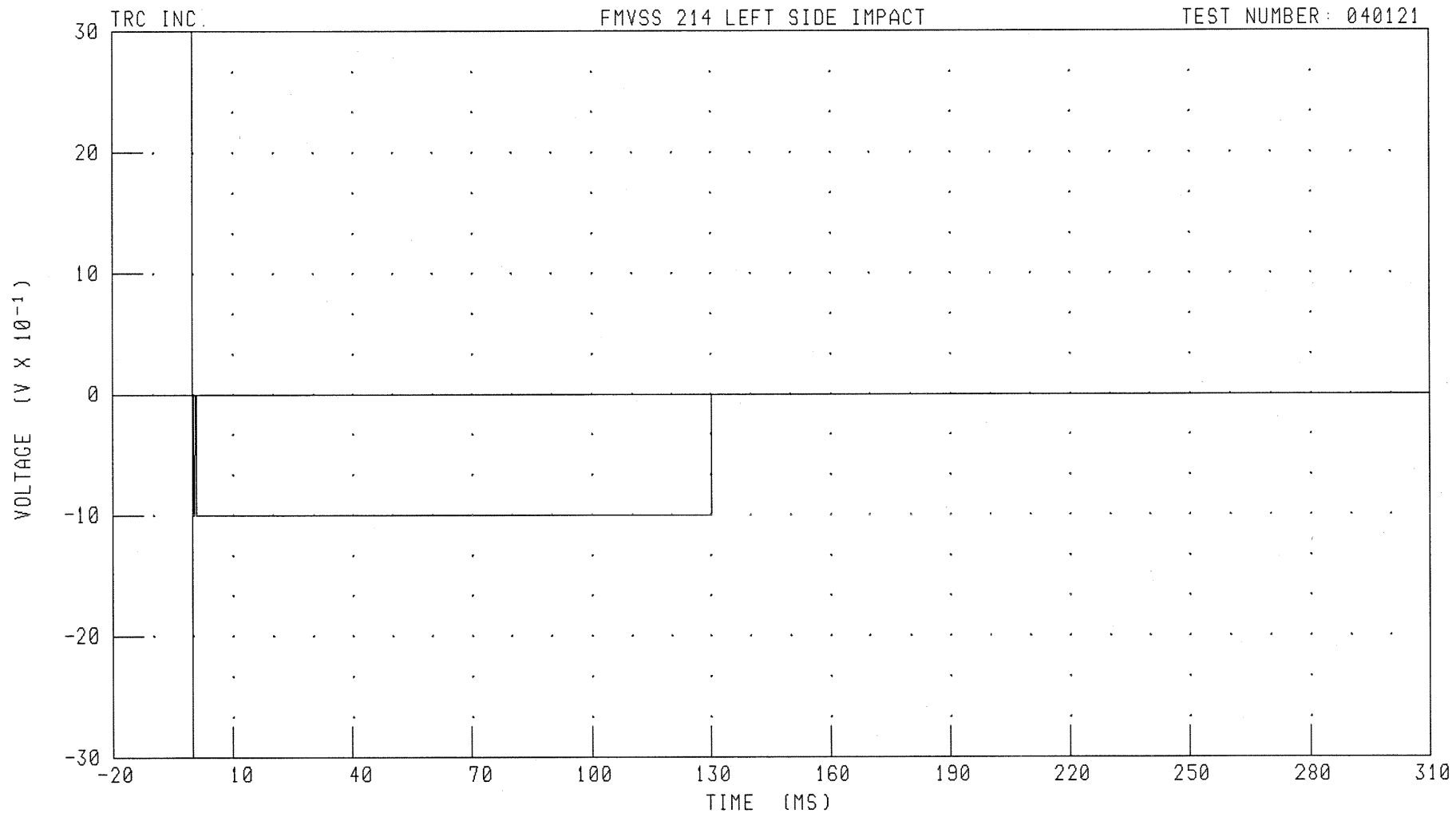
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB RIGHT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: MDBR1

FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 0.24 MS

B-148

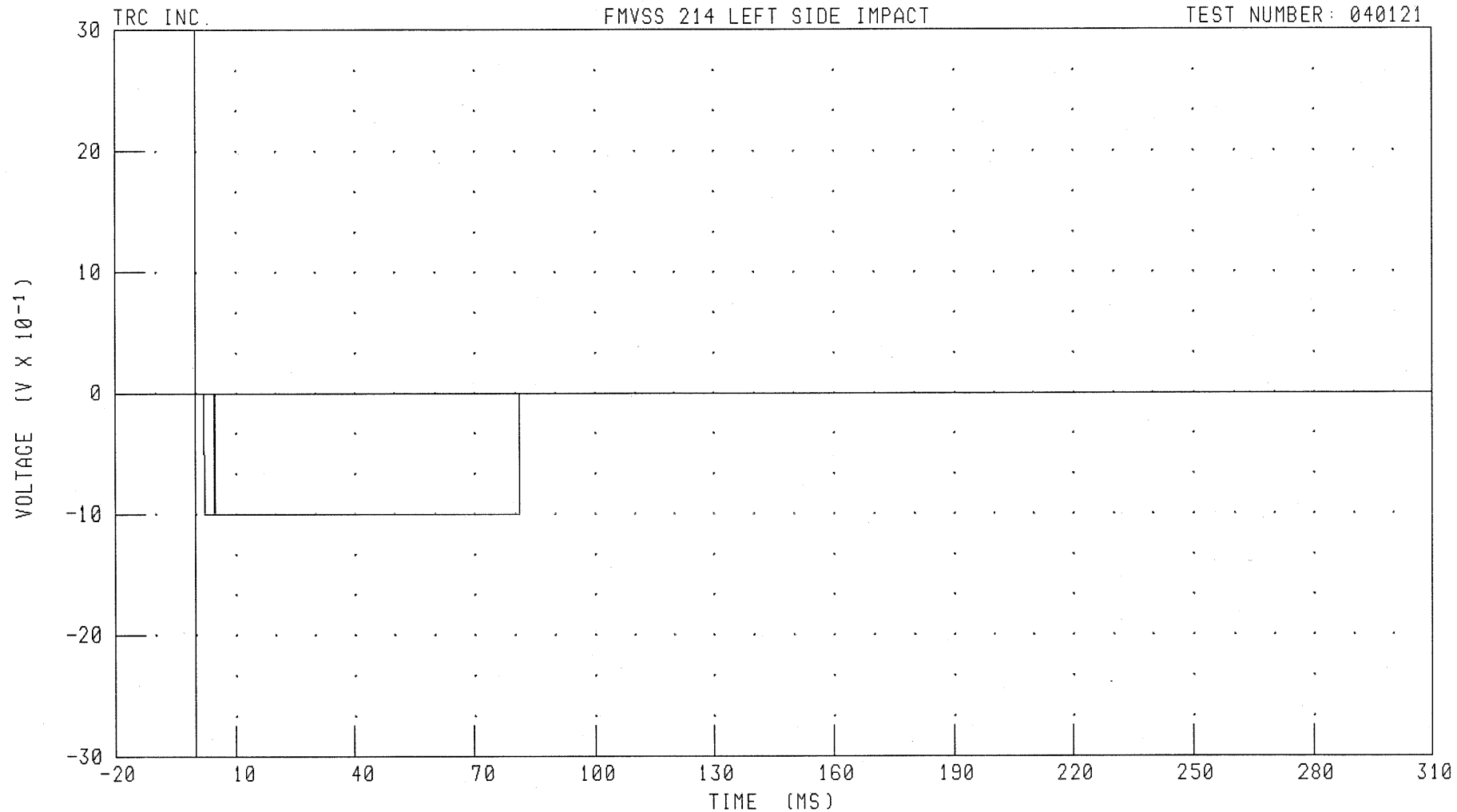
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

MDB LEFT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: MDBL1

FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 2.24 MS

B-149

040121

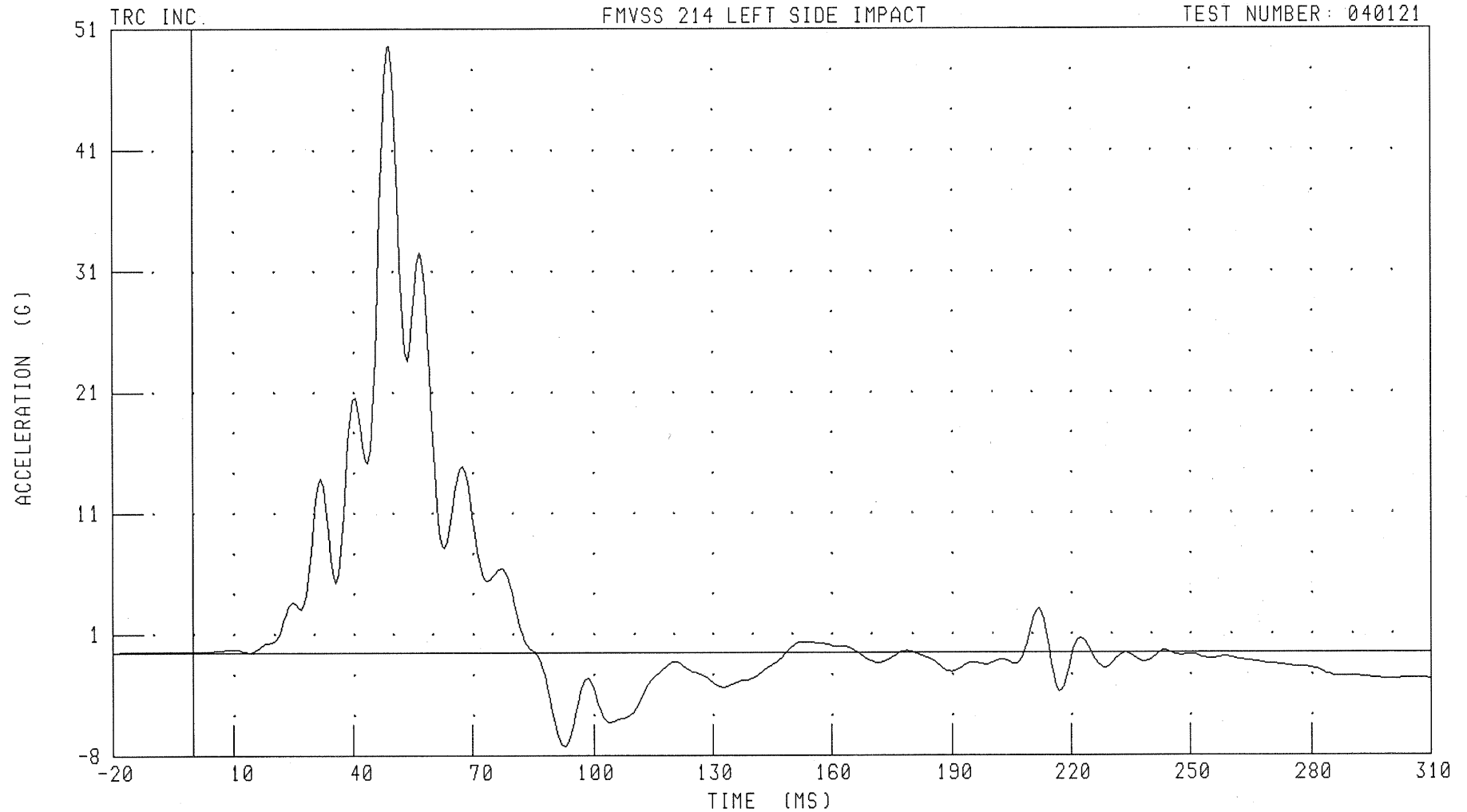
Driver and Passenger Dummy Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYG1

FILTER: FIR 100

PEAK DATA: 50.08 G @ 49.37 MS; -7.77 G @ 93.13 MS

B-151

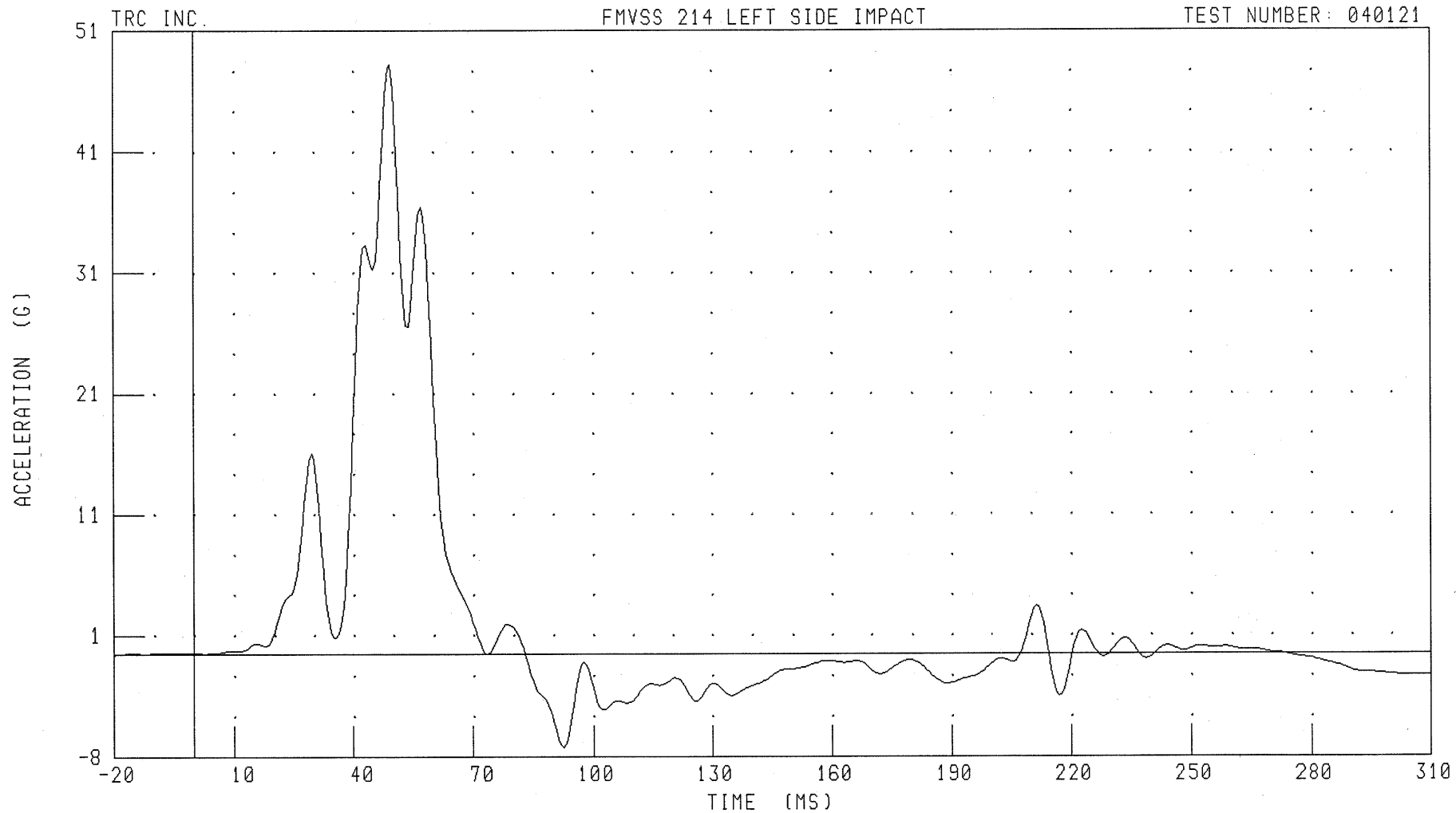
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYG1

FILTER: FIR 100

PEAK DATA: 48.69 G @ 49.37 MS; -7.74 G @ 92.50 MS

B-152

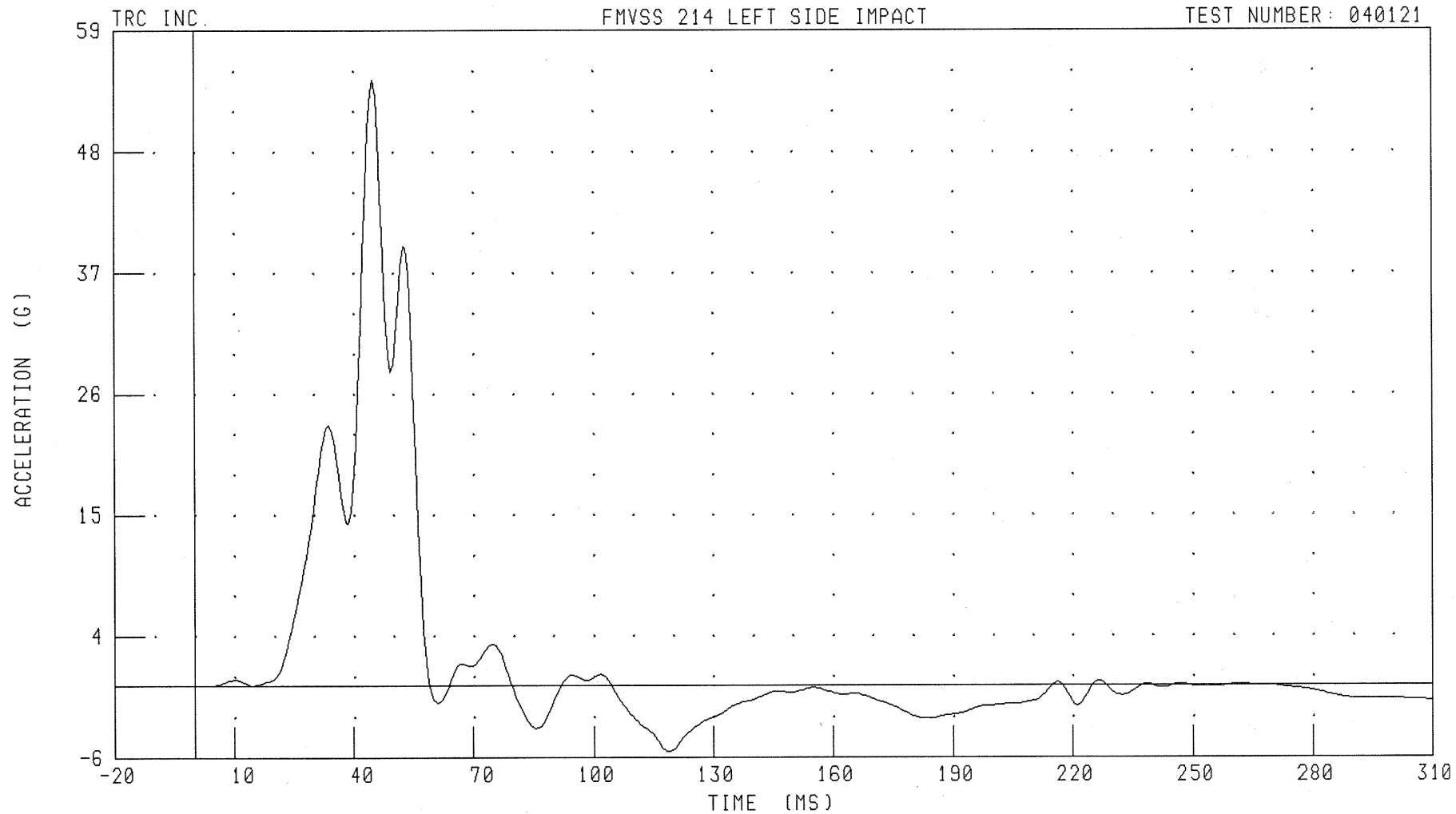
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



B-153

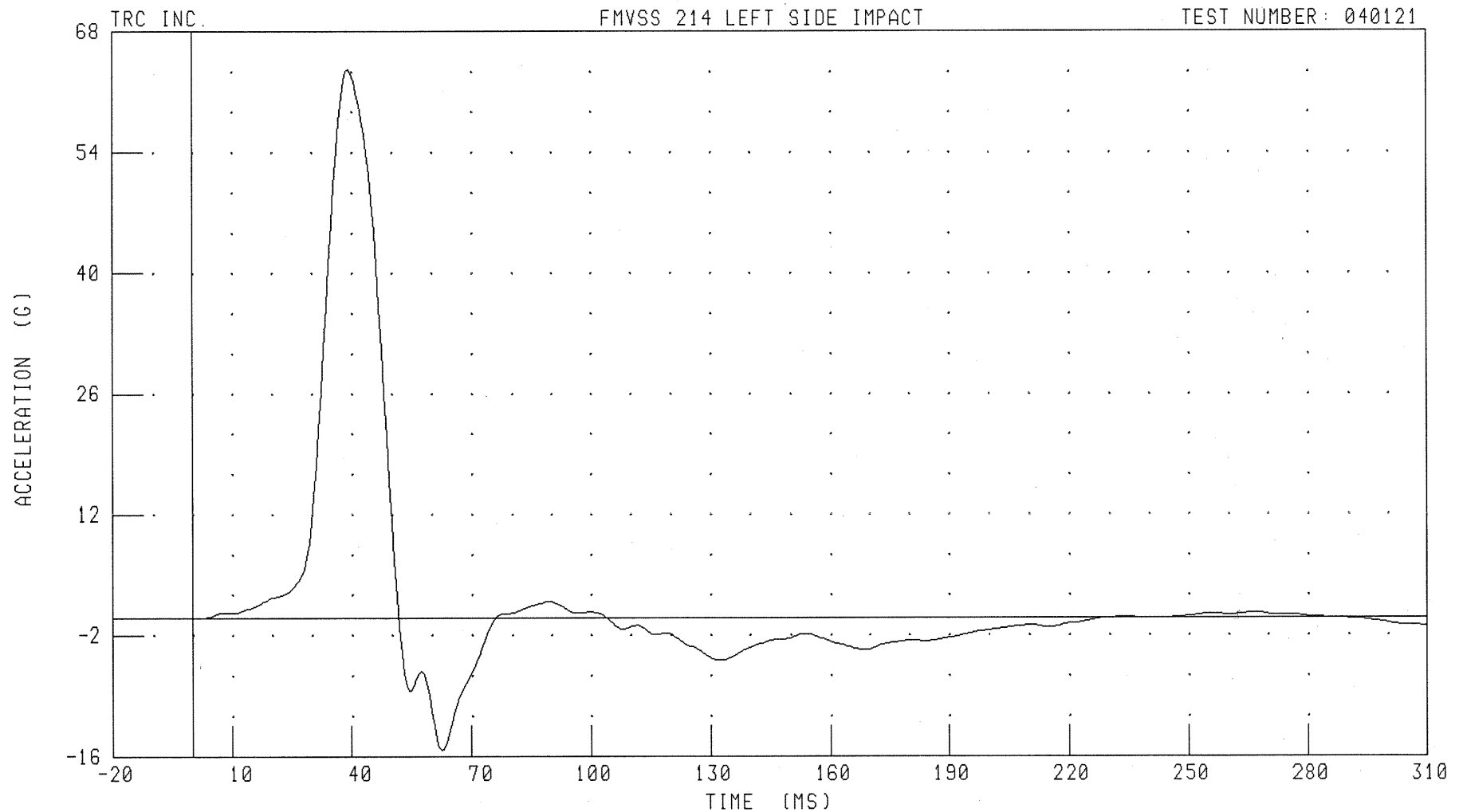
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

DRIVER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYG1

FILTER: FIR 100

PEAK DATA: 63.65 G @ 39.38 MS; -15.35 G @ 62.50 MS

B-154

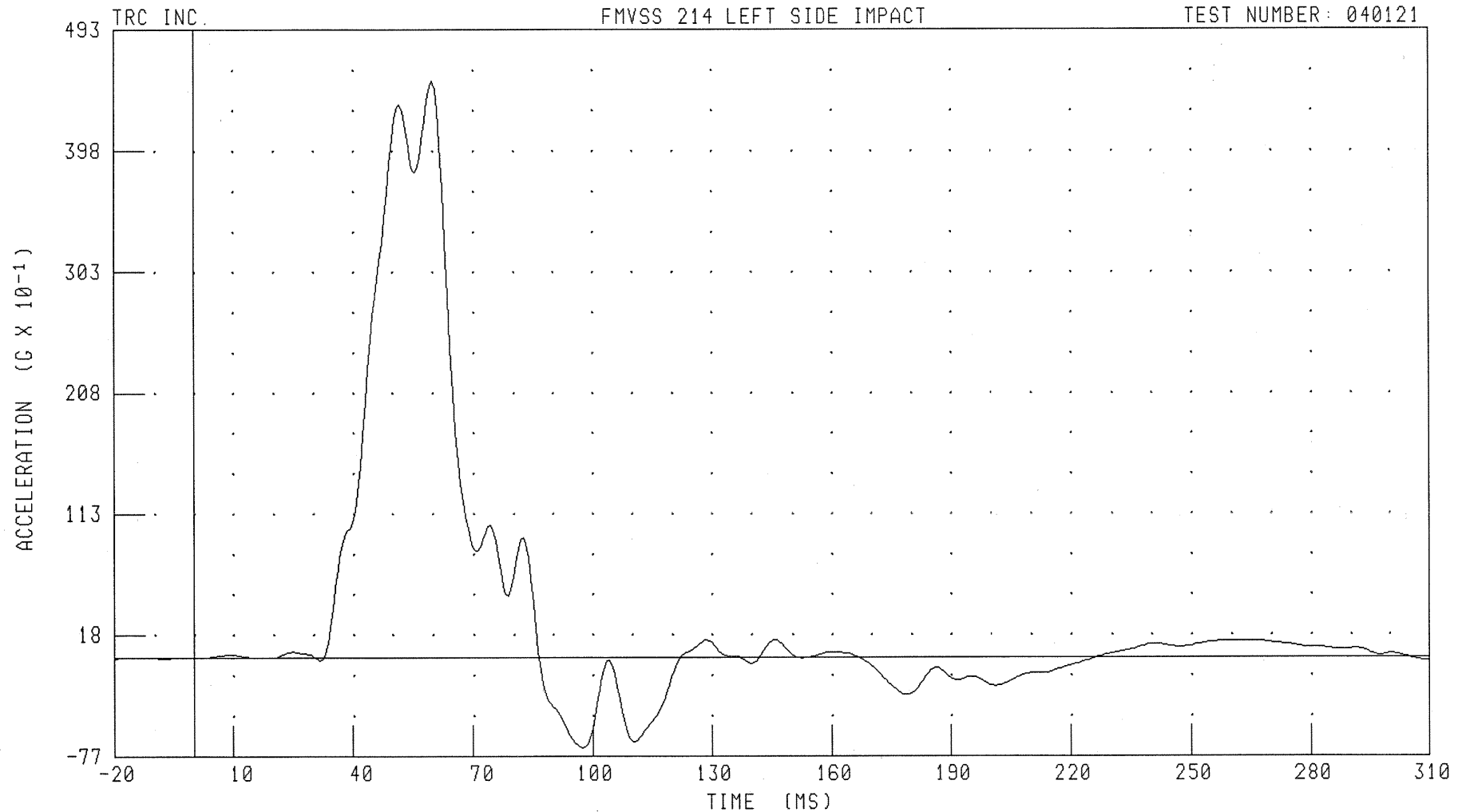
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYG4 FILTER: FIR 100

PEAK DATA: 45.28 G @ 60.00 MS; -7.04 G @ 97.50 MS

B-155

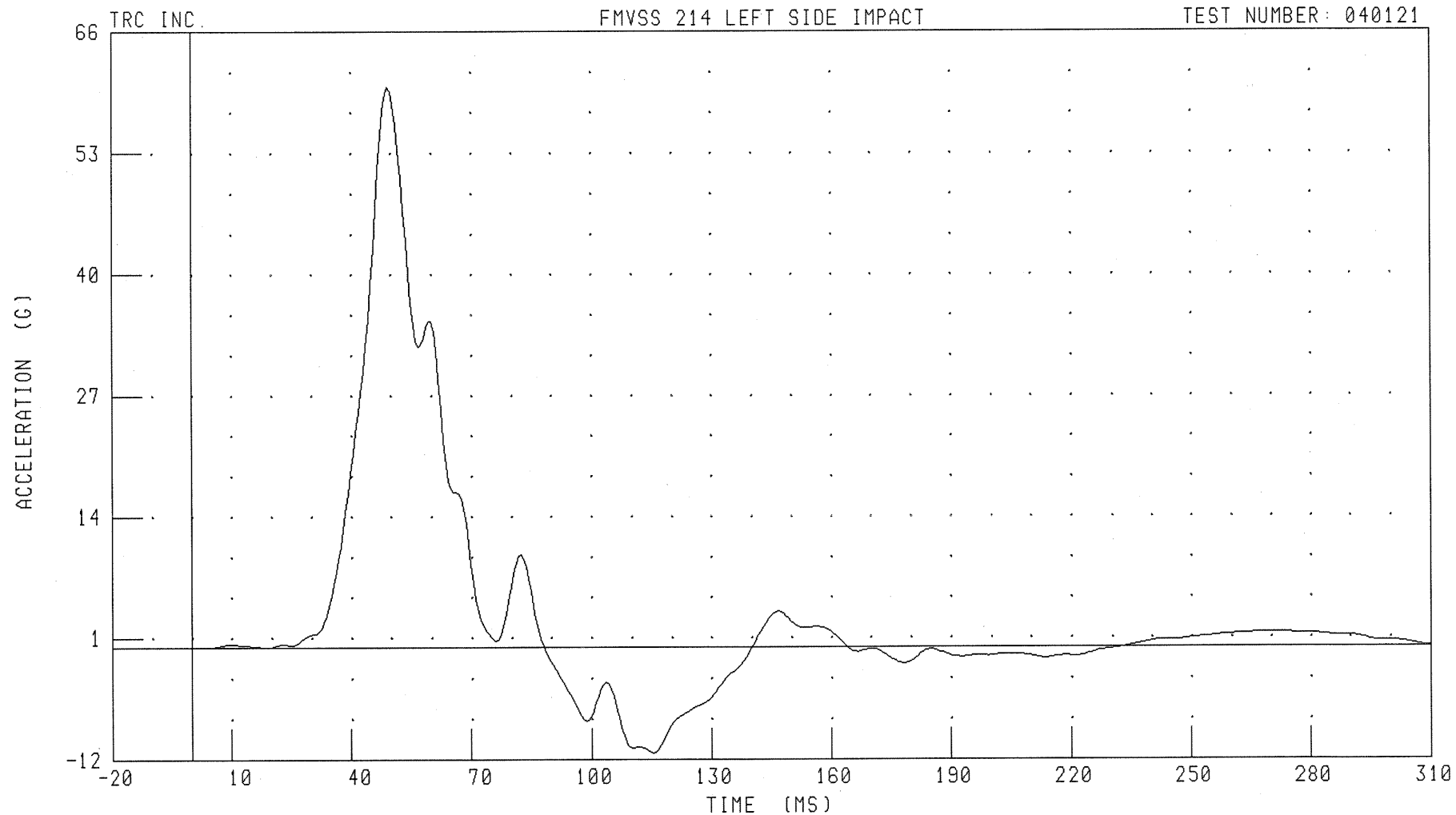
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYG4

FILTER: FIR 100

PEAK DATA: 60.07 G @ 49.37 MS; -11.30 G @ 115.62 MS

B-156

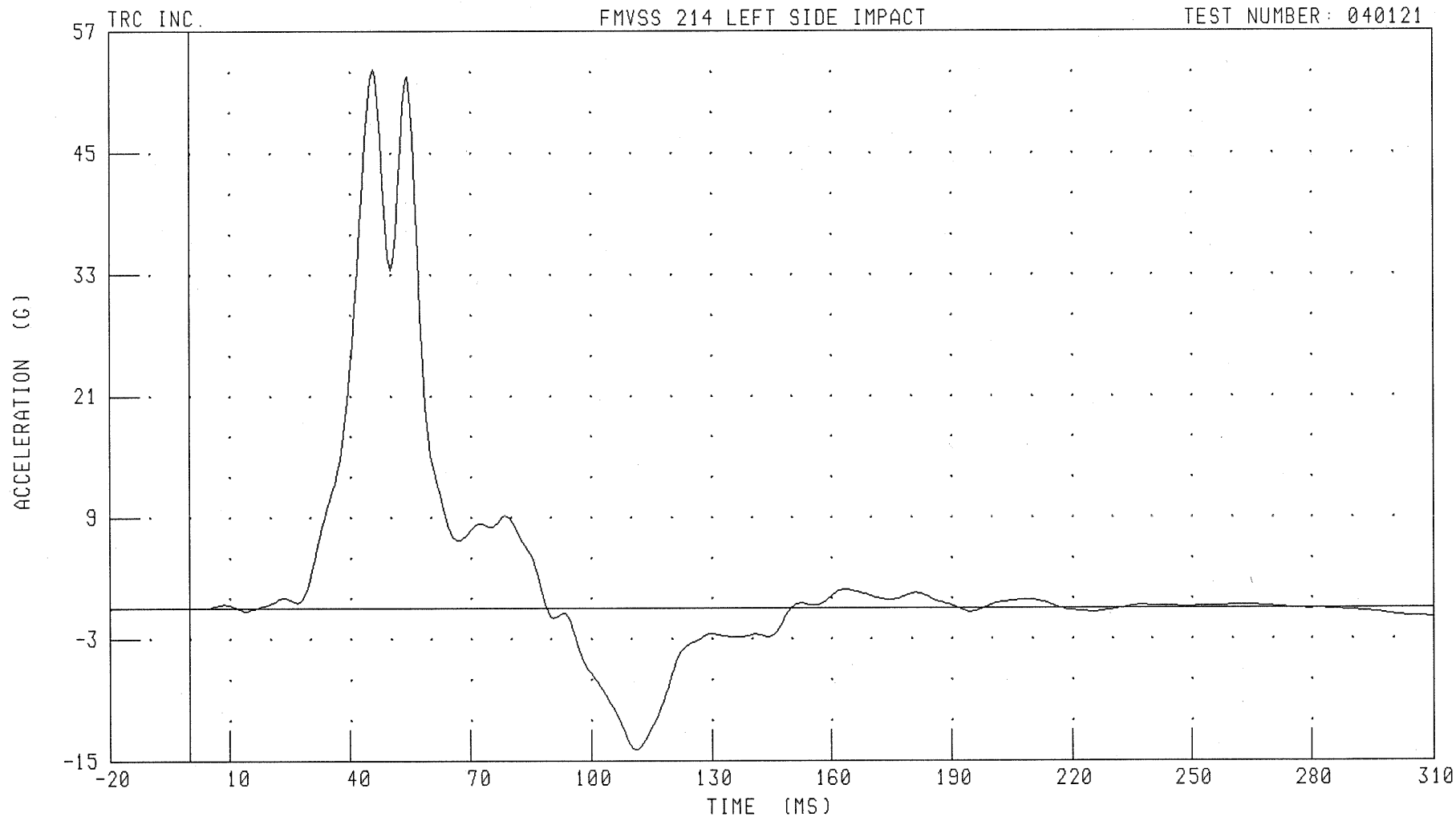
040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST

LEFT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YG4 FILTER: FIR 100

PEAK DATA: 53.27 G @ 45.62 MS; -13.93 G @ 111.25 MS

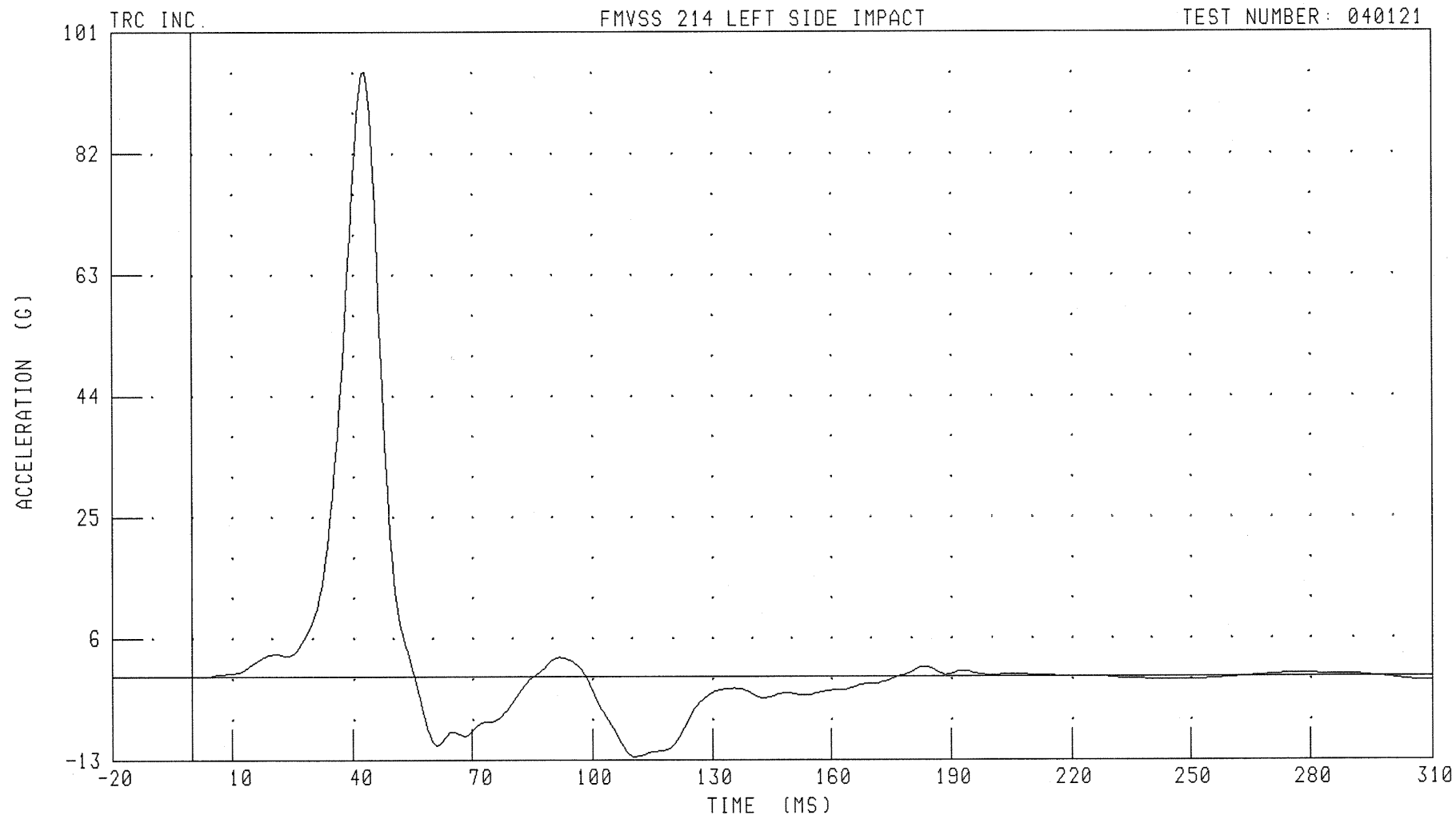
B-157

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYG4 FILTER: FIR 100

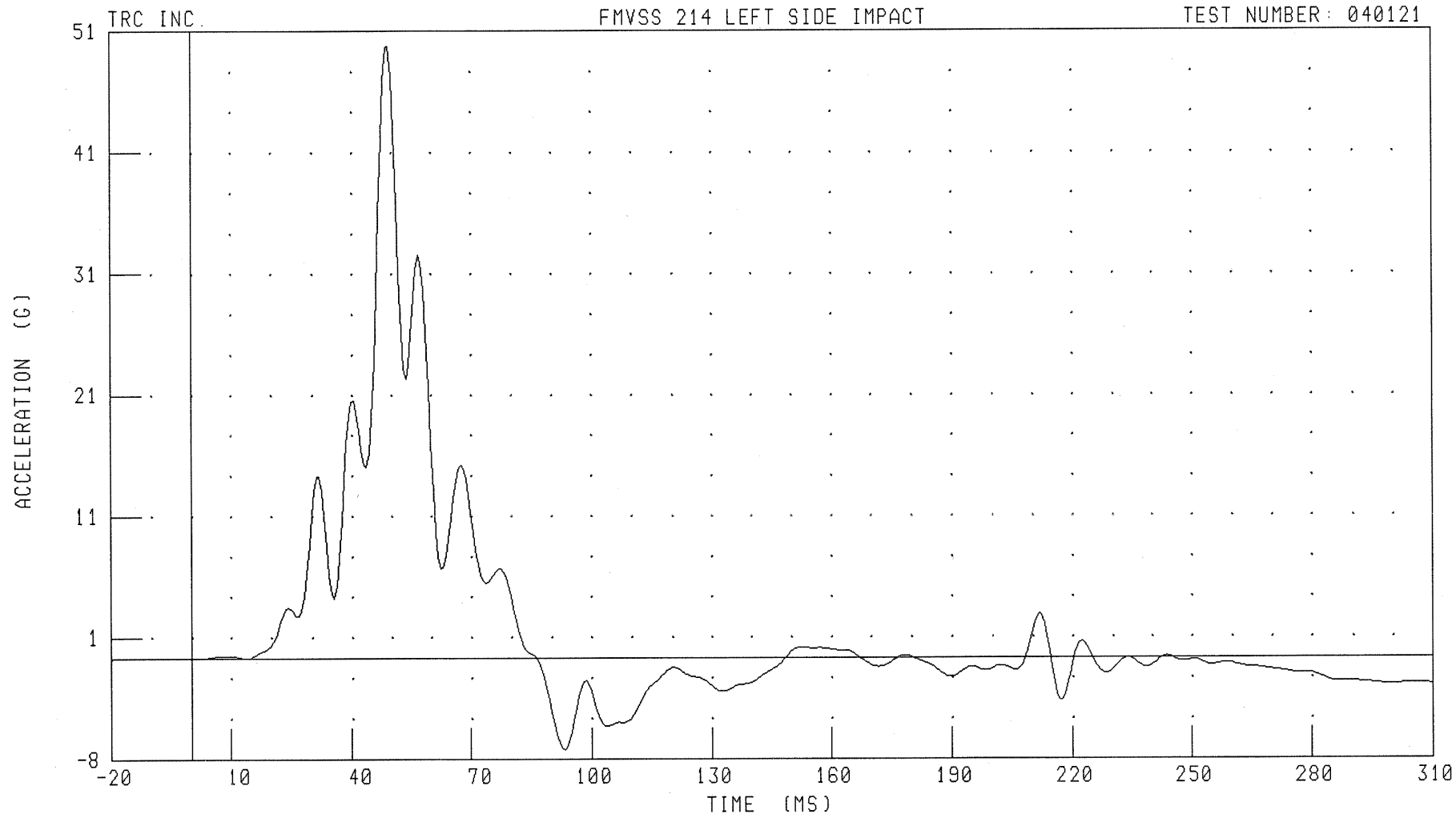
B-158

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYR1 FILTER: FIR 100

PEAK DATA: 50.47 G @ 49.37 MS; -7.56 G @ 93.13 MS

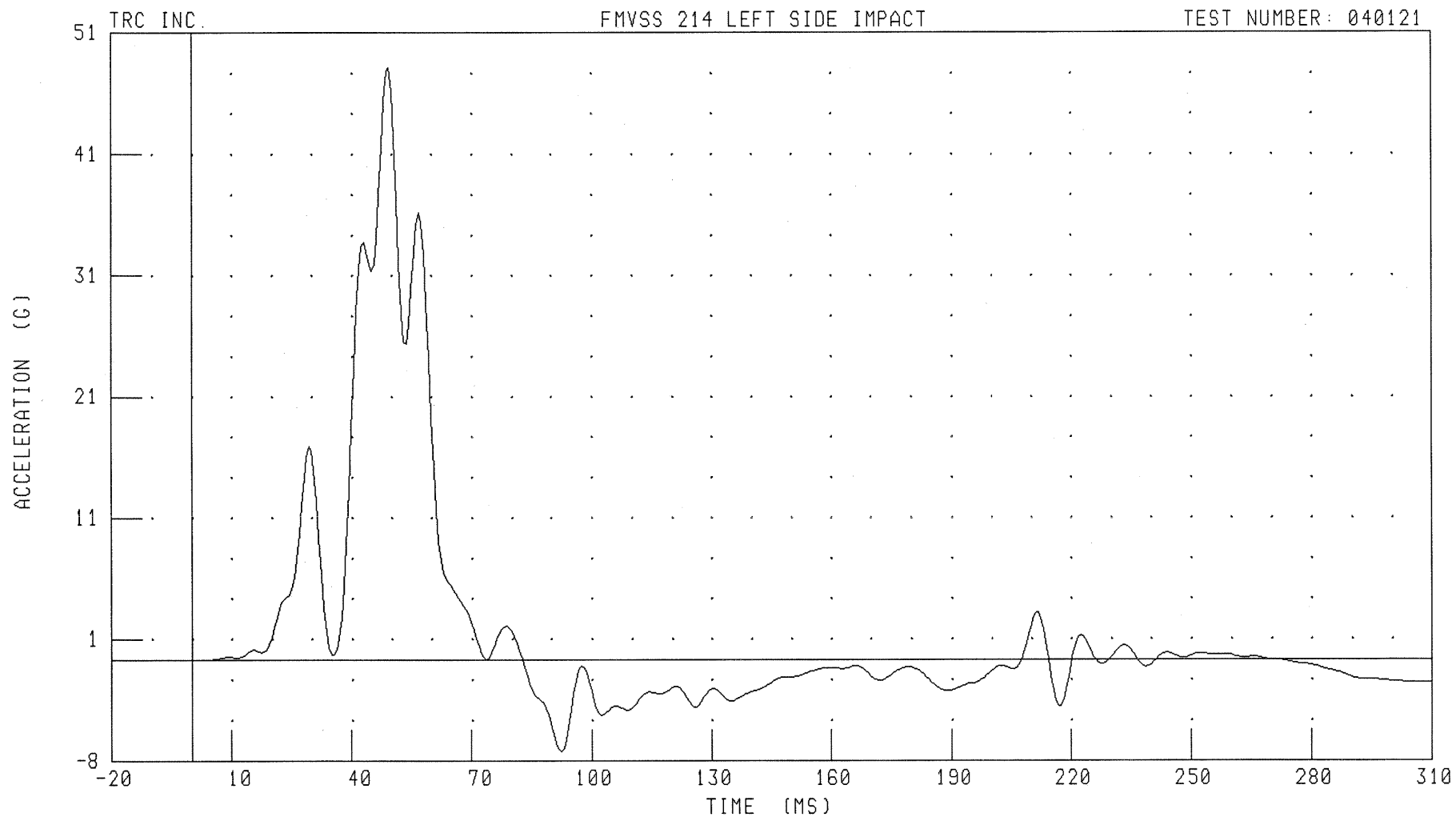
B-159

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYR1 FILTER: FIR 100

PEAK DATA: 48.88 G @ 49.37 MS; -7.58 G @ 92.50 MS

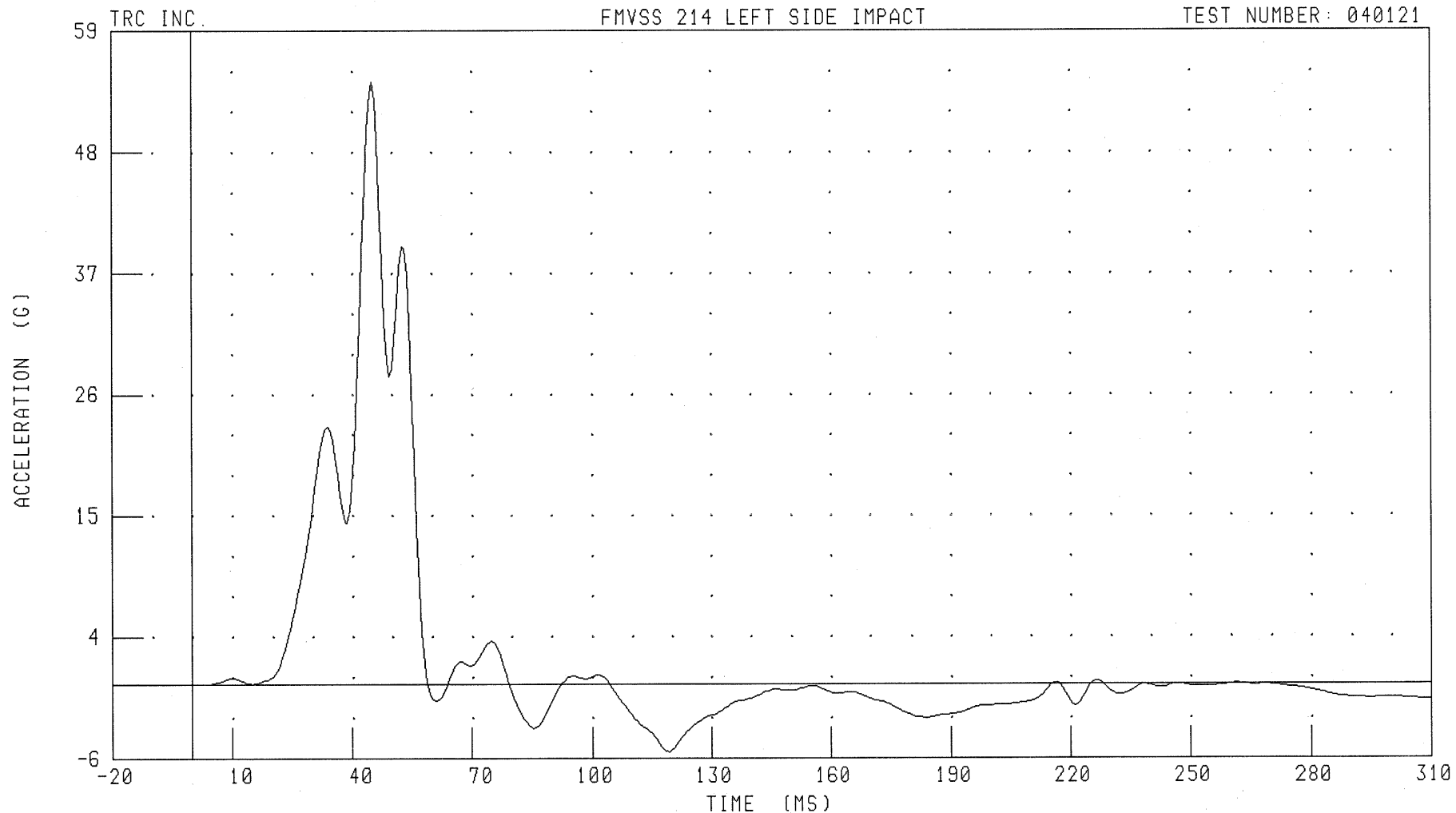
B-160

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YR1 FILTER: FIR 100

PEAK DATA: 54.64 G @ 45.00 MS; -6.10 G @ 119.38 MS

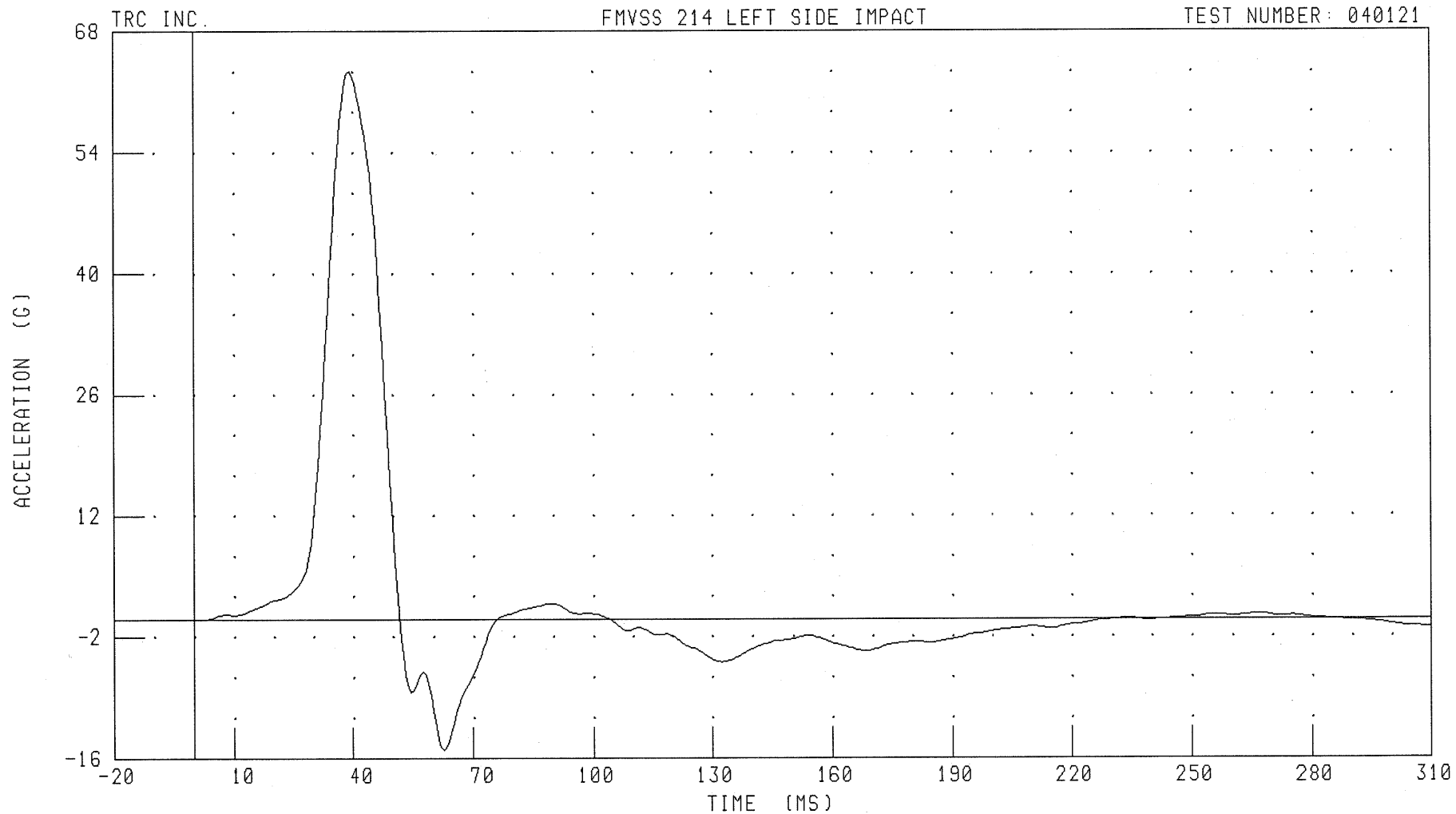
B-161

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYR1

FILTER: FIR 100

PEAK DATA: 63.44 G @ 39.38 MS; -15.06 G @ 62.50 MS

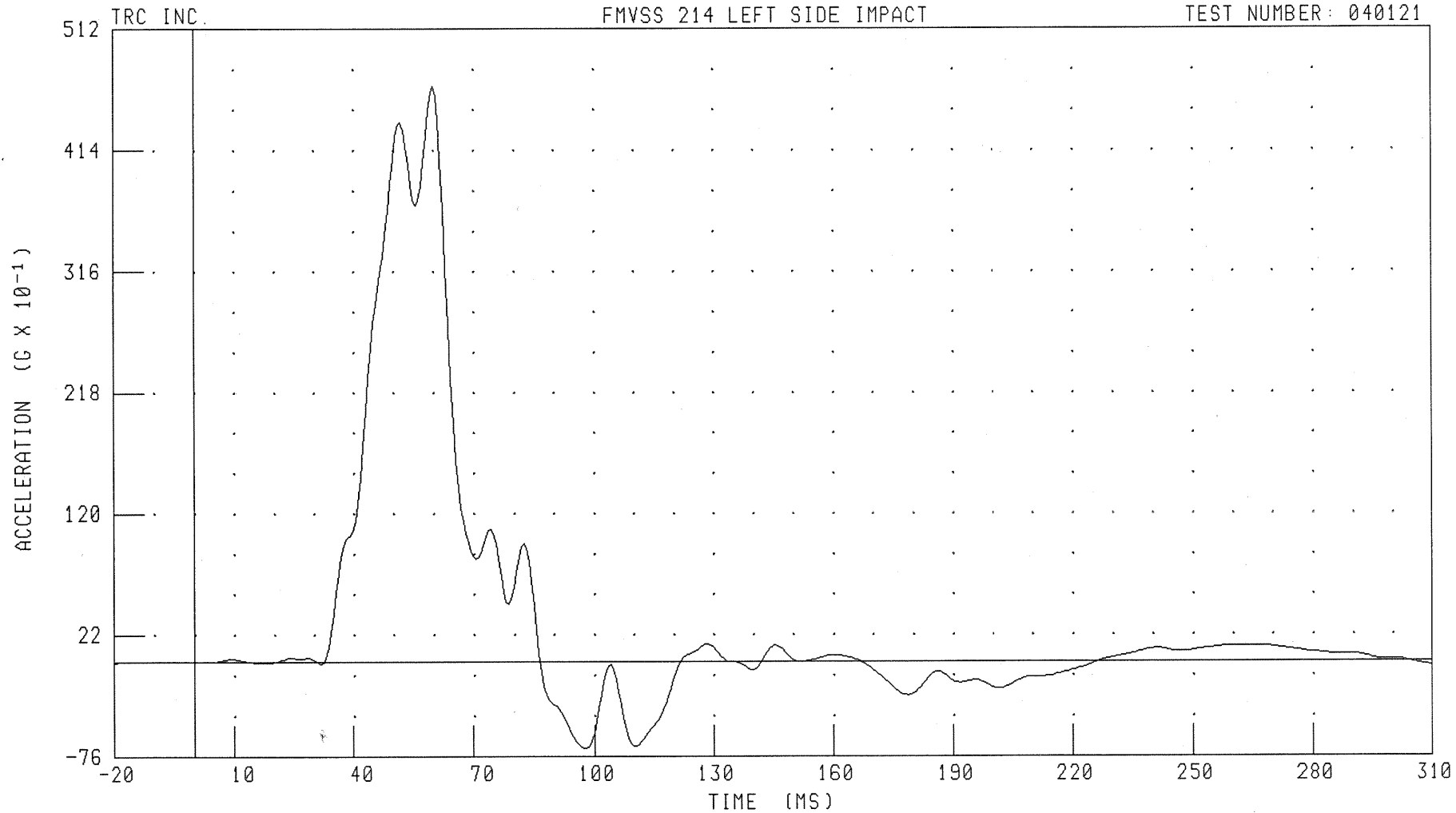
B-162

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LURYR4 FILTER: FIR 100

PEAK DATA: 46.55 G @ 60.00 MS; -6.96 G @ 97.50 MS

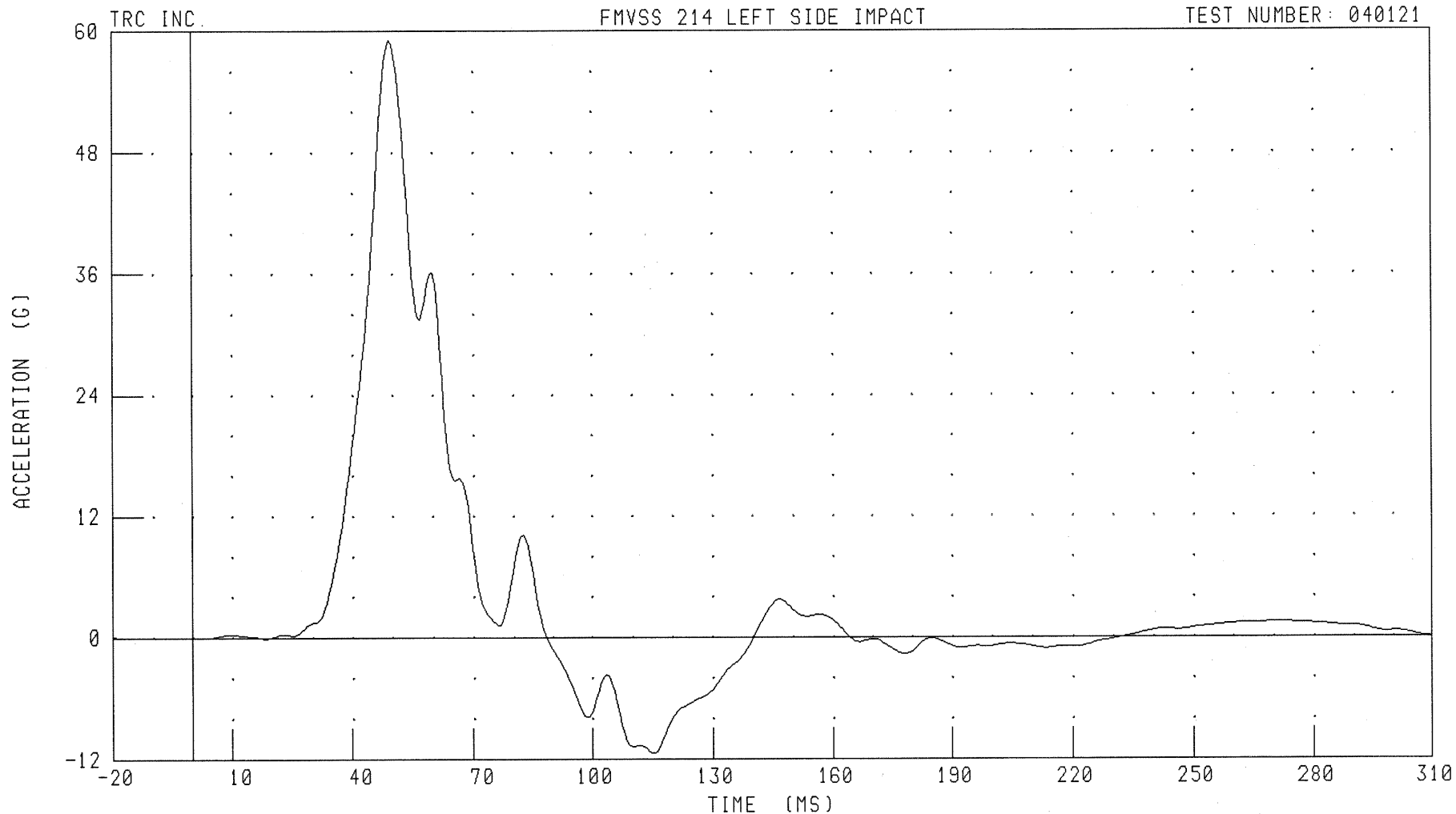
B-163

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: LLRYR4

FILTER: FIR 100

PEAK DATA: 59.11 G @ 49.37 MS; -11.43 G @ 115.62 MS

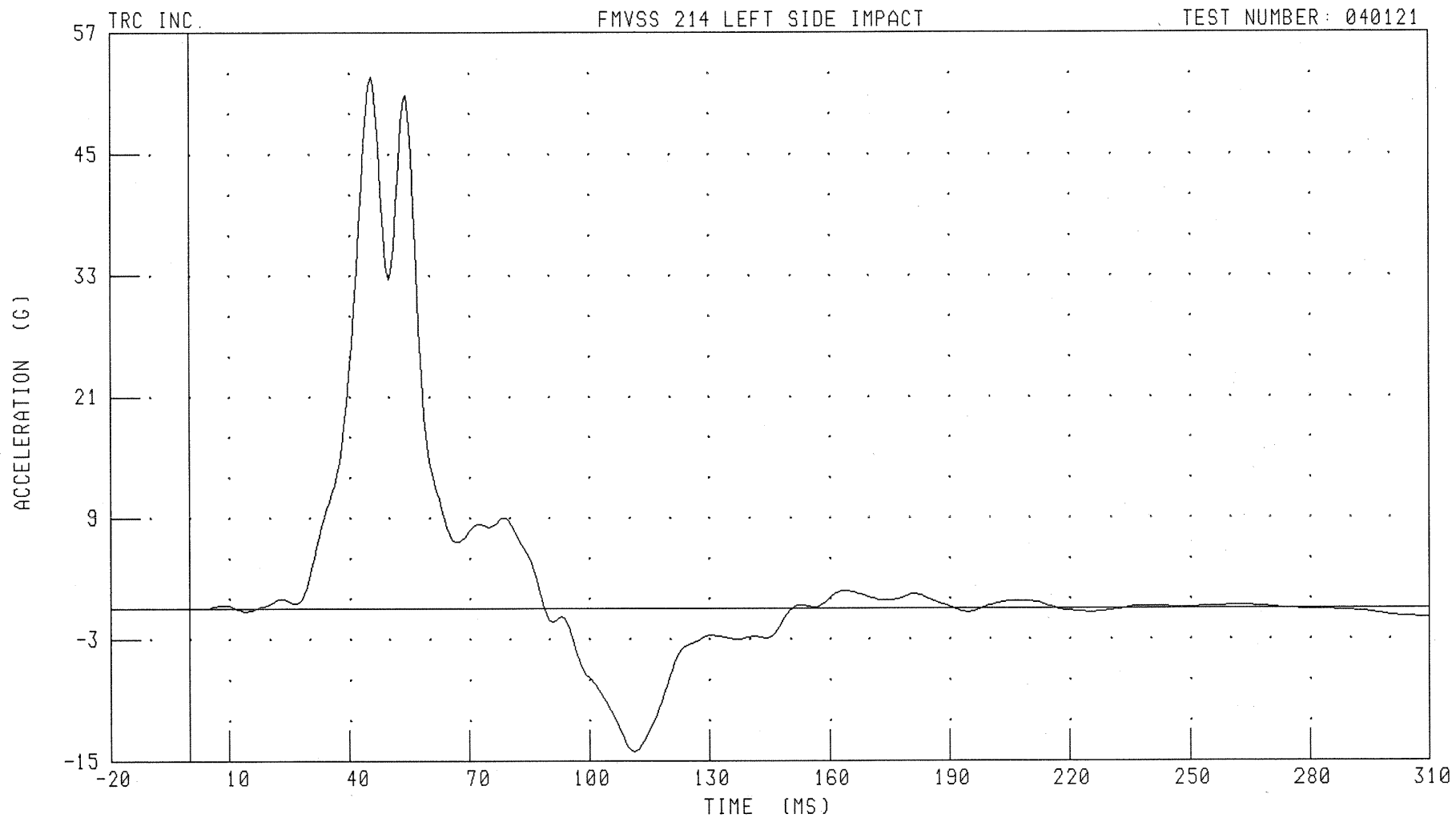
B-164

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: T12YR4 FILTER: FIR 100

PEAK DATA: 52.61 G @ 45.62 MS; -14.11 G @ 111.25 MS

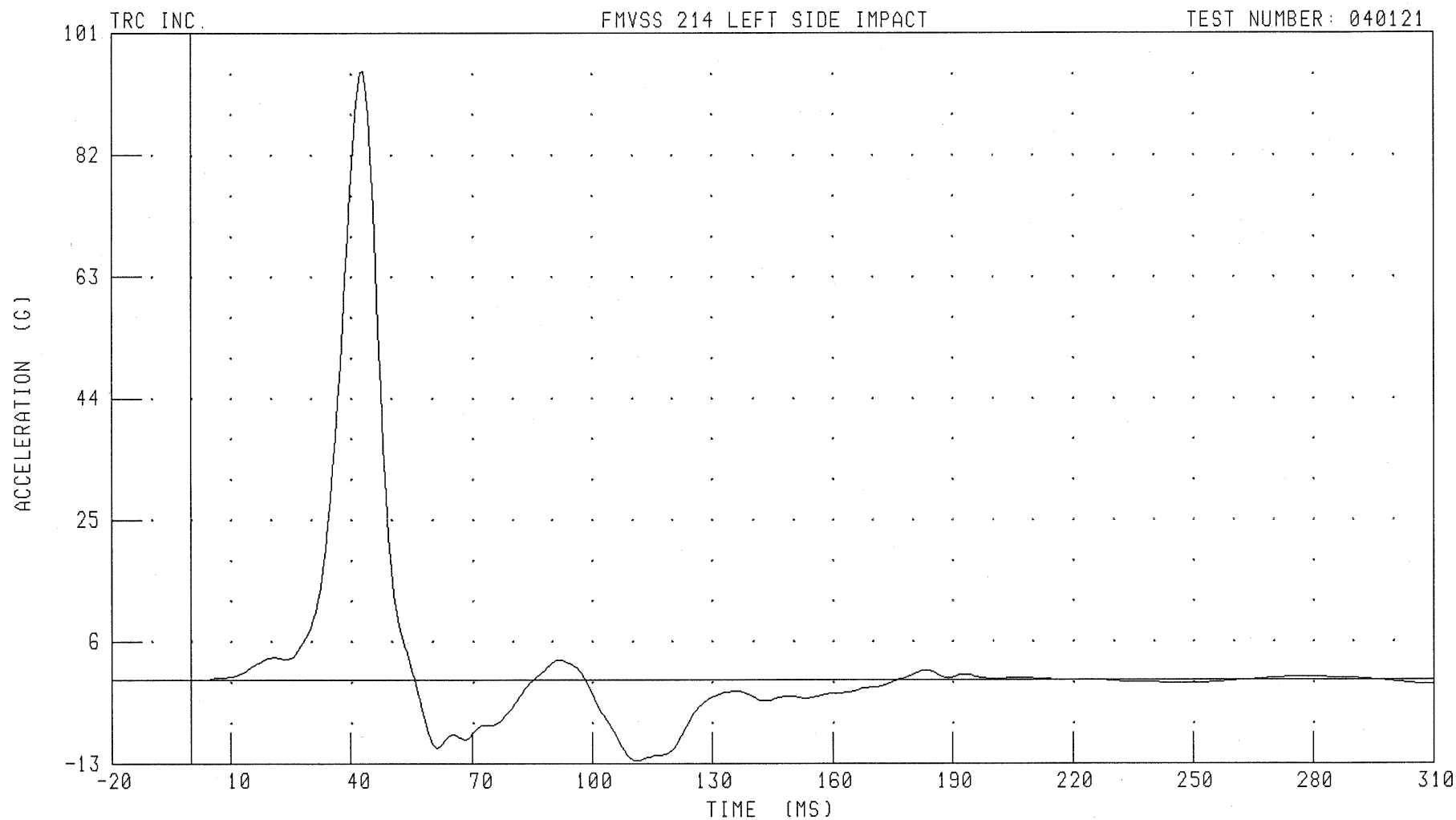
B-165

040121

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2004 NISSAN QUEST
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 040121



CHANNEL: PEVYR4 FILTER: FIR 100

PEAK DATA: 95.08 G @ 43.13 MS; -12.58 G @ 111.25 MS

B-166

040121

Appendix C

SID HIII Configuration and Performance Verification Data

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

Date: 01/21/04 TRC Inc. Test Number: S/N059 & S/N906
 Laboratory Technician: J. Clarridge/Steve Sterling

Test Parameter	Specification	SID HIII 059		SID HIII 906	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH - Seated Height (mm)	889-909	906	907	904	894
RH - Rib Height (mm)	502-520	505	502	506	502
HP - Hip Pivot Height (mm)	99 ref	99.1	99.1	99.1	99.1
KH - Knee Pivot from Back Line (mm)	511-526	517	524	525	524
KV - Knee Pivot to Floor (mm)	490-505	495	492	491	491
HW - Hip Width (mm)	356-391	362	369	384	375
Thorax Impacts					
Temperature (°C)	18.9-25.5	21.7	21.1	21.1	21.1
Relative Humidity (%)	10-70	36	22	31.0	27
Probe Speed (m/s)	4.27-4.33	4.29	4.29	4.32	4.27
Upper Rib (g's)	37-46	42.3	41.2	42.6	41.8
Lower Rib (g's)	37-46	40.9	38.6	43.3	42.1
Lower Spine (g's)	15-22	20.2	22.0	19.7	19.4
Pelvis Impacts					
Temperature (°C)	18.9-25.5	21.7	21.0	21.1	21.1
Relative Humidity (%)	10-70	36	24	31.0	26
Probe Speed (m/s)	4.27-4.33	4.28	4.28	4.31	4.29
Pelvis (g's)	40-60	42.9	44.4	45.8	45.5

Calibration Test Results

Pre-Test

SID HIII: 059

Configured for Left Side Impact

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

Transportation Research Center Inc.

SID/HIII Dummy

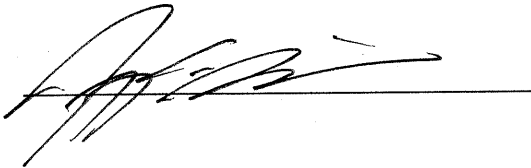
External Dimensions

Serial No. 059 Calibration No. 03

Date: 12/16/03

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	906 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	505 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	229 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	517 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	495 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	362 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	176 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	177 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	1.0 mm	Yes

Technician



Approved



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/10/2003

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Peak Resultant Acceleration	120 - 150 g	136.0 g	Yes
Peak Longitudinal Acceleration	15 g Max	6.1 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician



Approved



12.11.2003 08:32:14 611

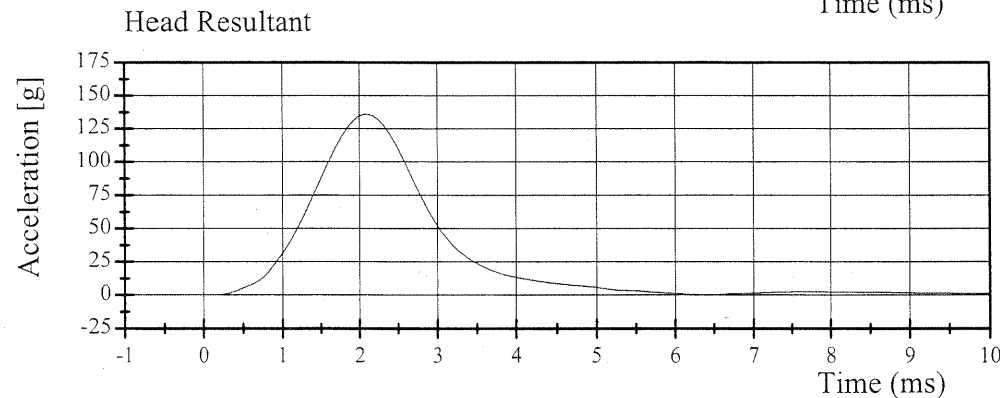
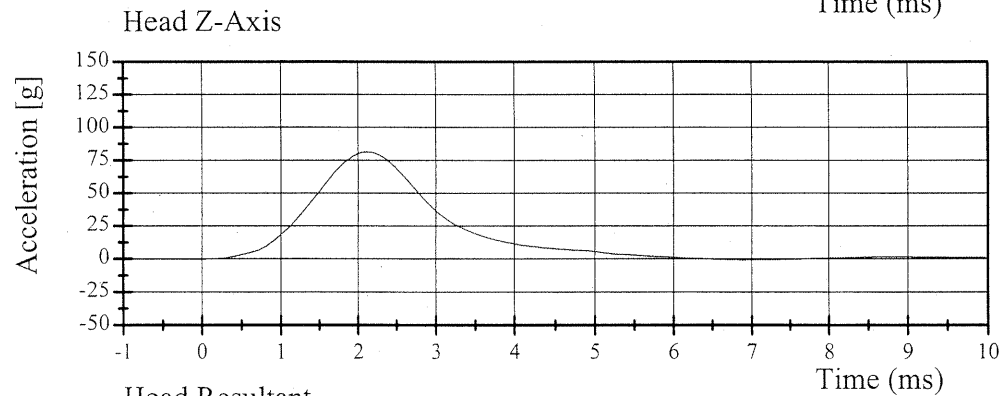
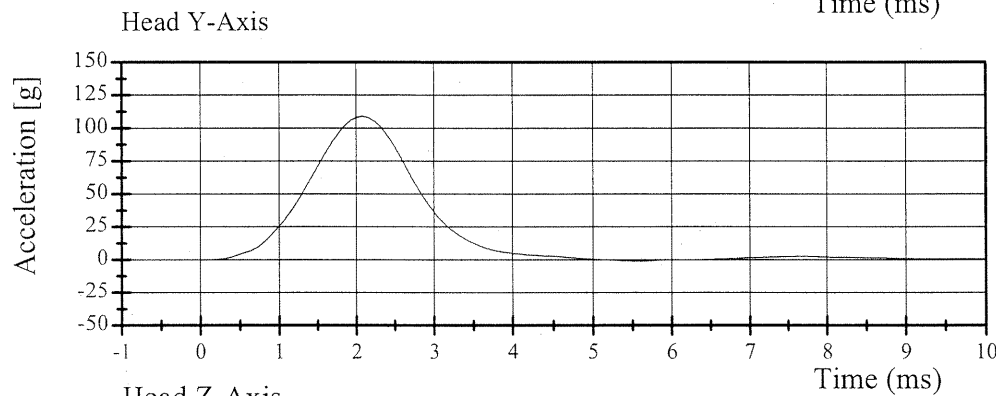
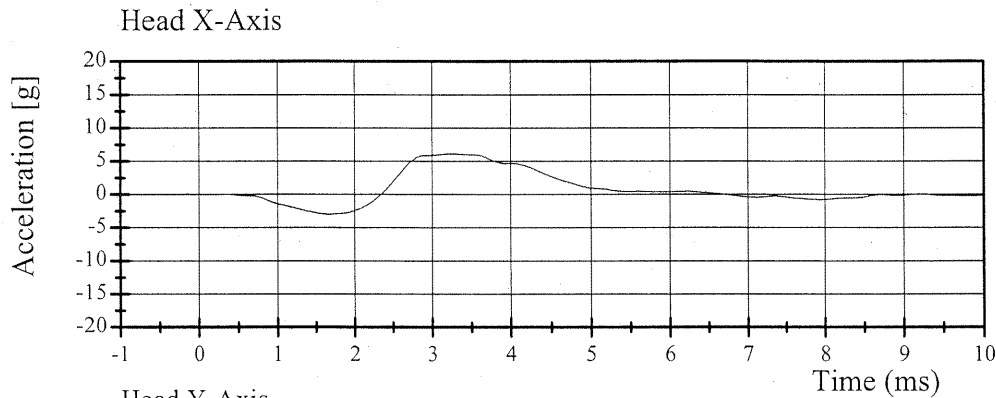


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/10/2003



12.11.2003 08:32:15 611



Transportation Research Center Inc.

572M Left Lateral Neck Test

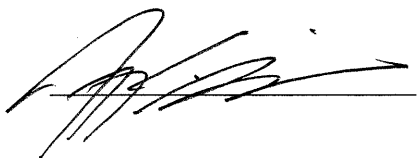
SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/16/2003

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.01 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.34 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.77 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.79 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.14 - 7.24 m/s	Yes
Peak D Plane Rotation	66 - 82 °	73.1 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	59.3 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	79.0 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	59.0 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	13.0 ms	Yes

Comments:

Technician



Approved



12.16.2003 14:45:21 519



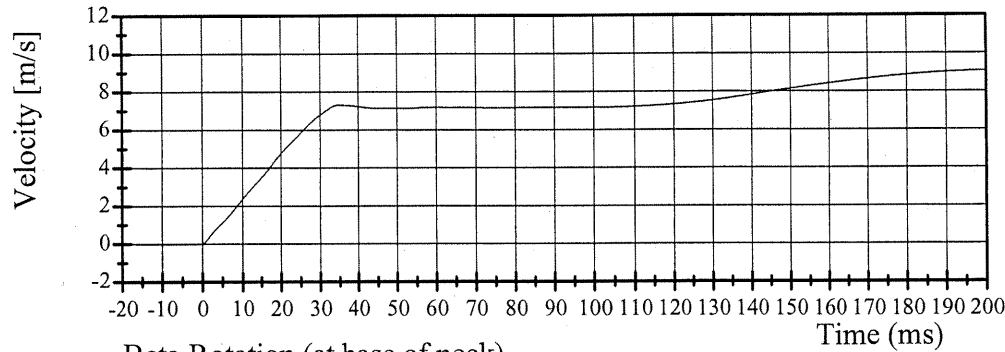
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/16/2003

Integrated Pendulum Velocity

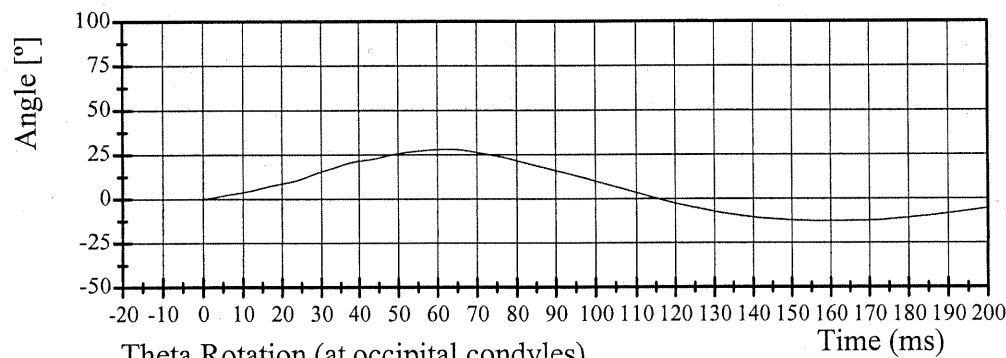


Filter Class: 180

Max: 9.1 m/s at 206.7 ms

Min: -0.0 m/s at -0.6 ms

Beta Rotation (at base of neck)

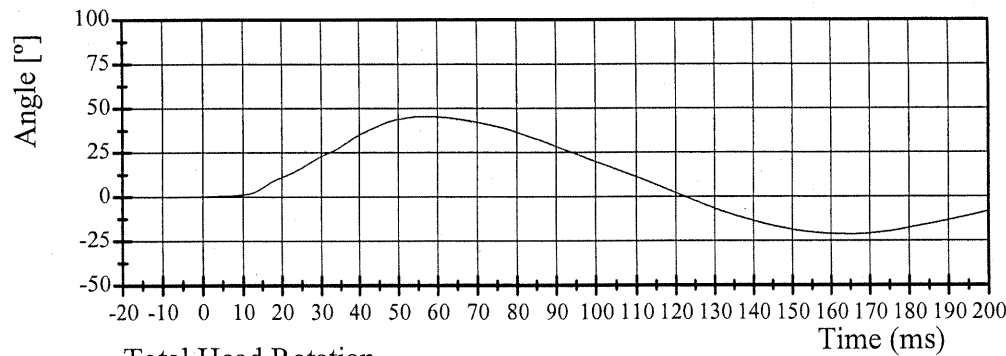


Filter Class: 60

Max: 28.1 ° at 62.8 ms

Min: -12.5 ° at 157.2 ms

Theta Rotation (at occipital condyles)

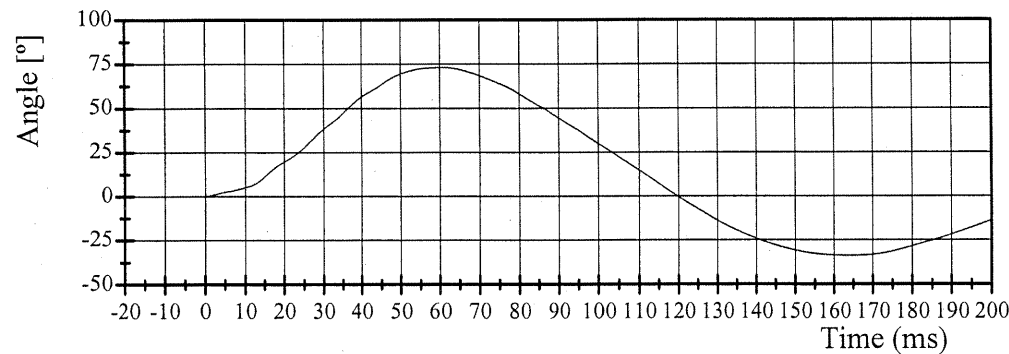


Filter Class: 60

Max: 45.4 ° at 55.8 ms

Min: -21.3 ° at 165.3 ms

Total Head Rotation



Filter Class: 60

Max: 73.1 ° at 60.6 ms

Min: -33.8 ° at 164.4 ms

12.16.2003 14:45:22 519



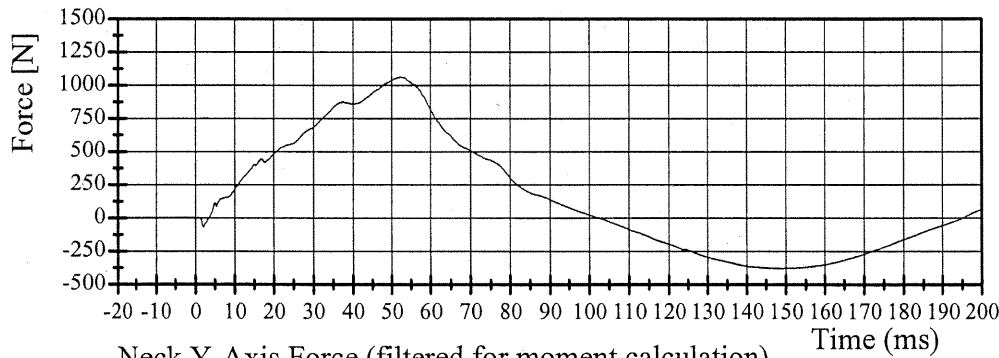
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/16/2003

Neck Y-Axis Force

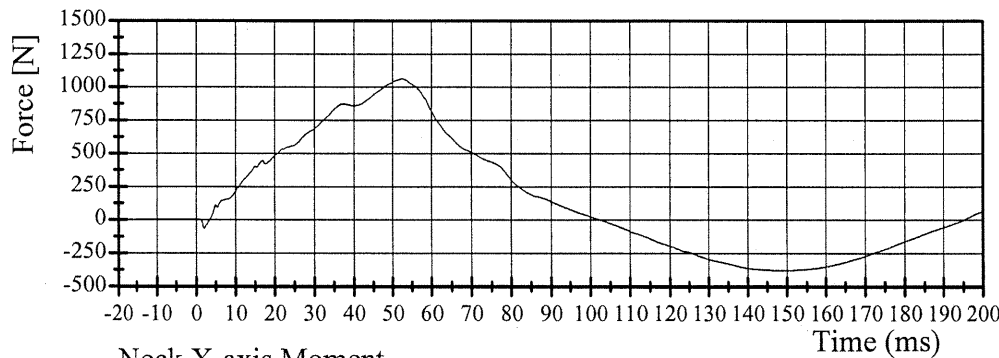


Filter Class: CFC 1000

Max: 1063 N at 52.3 ms

Min: -380 N at 148.7 ms

Neck Y-Axis Force (filtered for moment calculation)

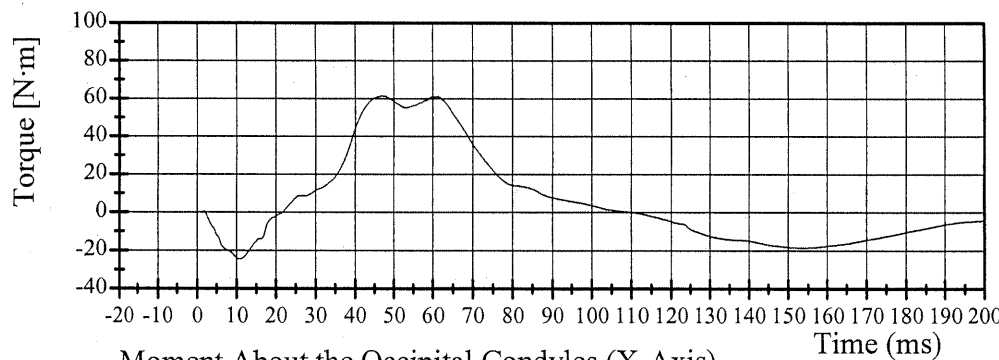


Filter Class: CFC 600

Max: 1062 N at 52.4 ms

Min: -379 N at 149.1 ms

Neck X-axis Moment

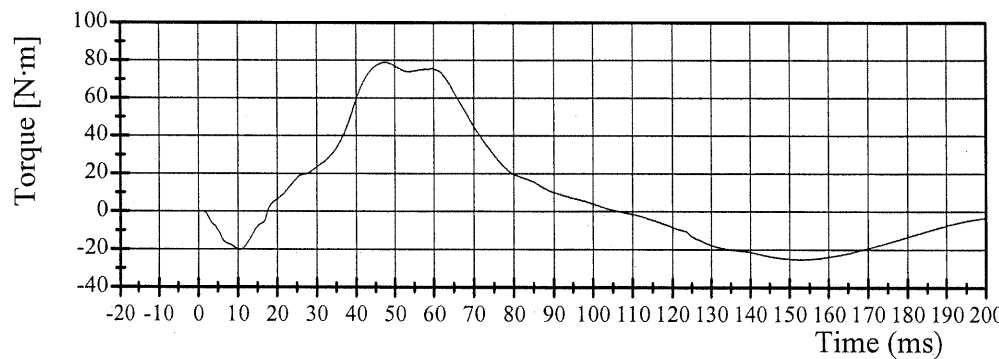


Filter Class: CFC 600

Max: 61.4 N·m at 46.9 ms

Min: -24.5 N·m at 10.7 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 79.0 ° at 47.6 ms

Min: -25.1 ° at 152.3 ms

TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

11-SEP-03

TRC INC.

572F SN059 DAMPER TEST CAL01

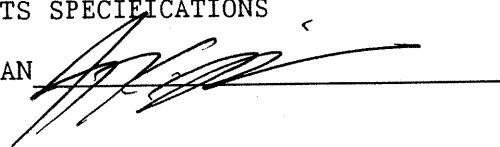
TEST NUMBERS: DP05901A,DP05901B,DP05901C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.1 DEG. C
RELATIVE HUMIDITY		10 - 70 %	65.0 %
VELOCITY	FORCE	667 - 925 N	749 N
2.75 M/S	DISPLACEMENT	29.7 - 34.5 MM	29.9 MM
VELOCITY	FORCE	1733 - 2100 N	1802 N
4.26 M/S	DISPLACEMENT	31.6 - 37.2 MM	32.7 MM
VELOCITY	FORCE	3703 - 4402 N	3922 N
6.07 M/S	DISPLACEMENT	33.3 - 39.5 MM	35.9 MM

DAMPER SETTING = 5.5

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 091503.1343;2

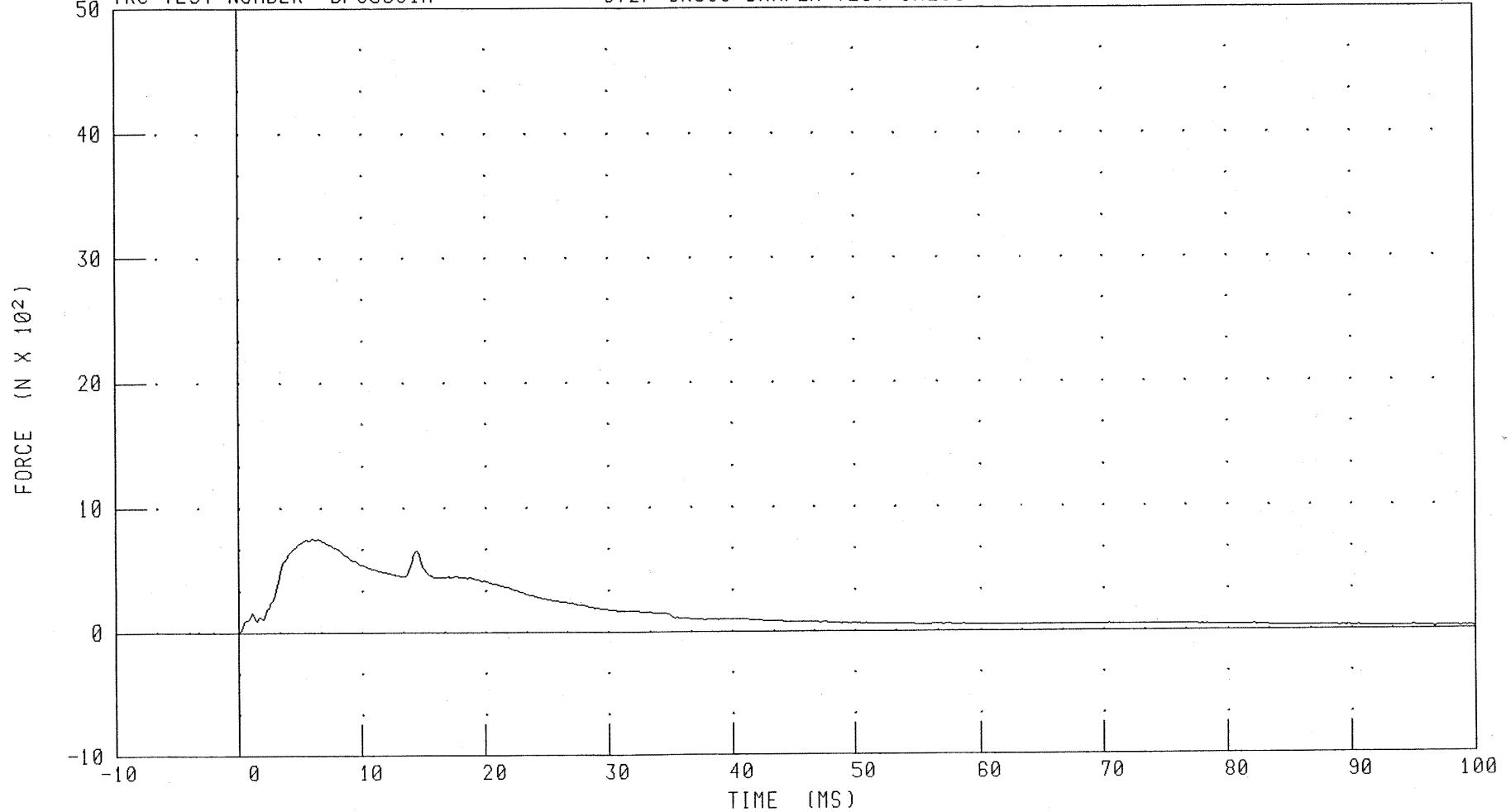
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP05901A

572F SN059 DAMPER TEST CAL01

RUN NUMBER: 091503.1343;2



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 748.99 N @ 6.00 MS; -2.13 N @ -9.04 MS

040121

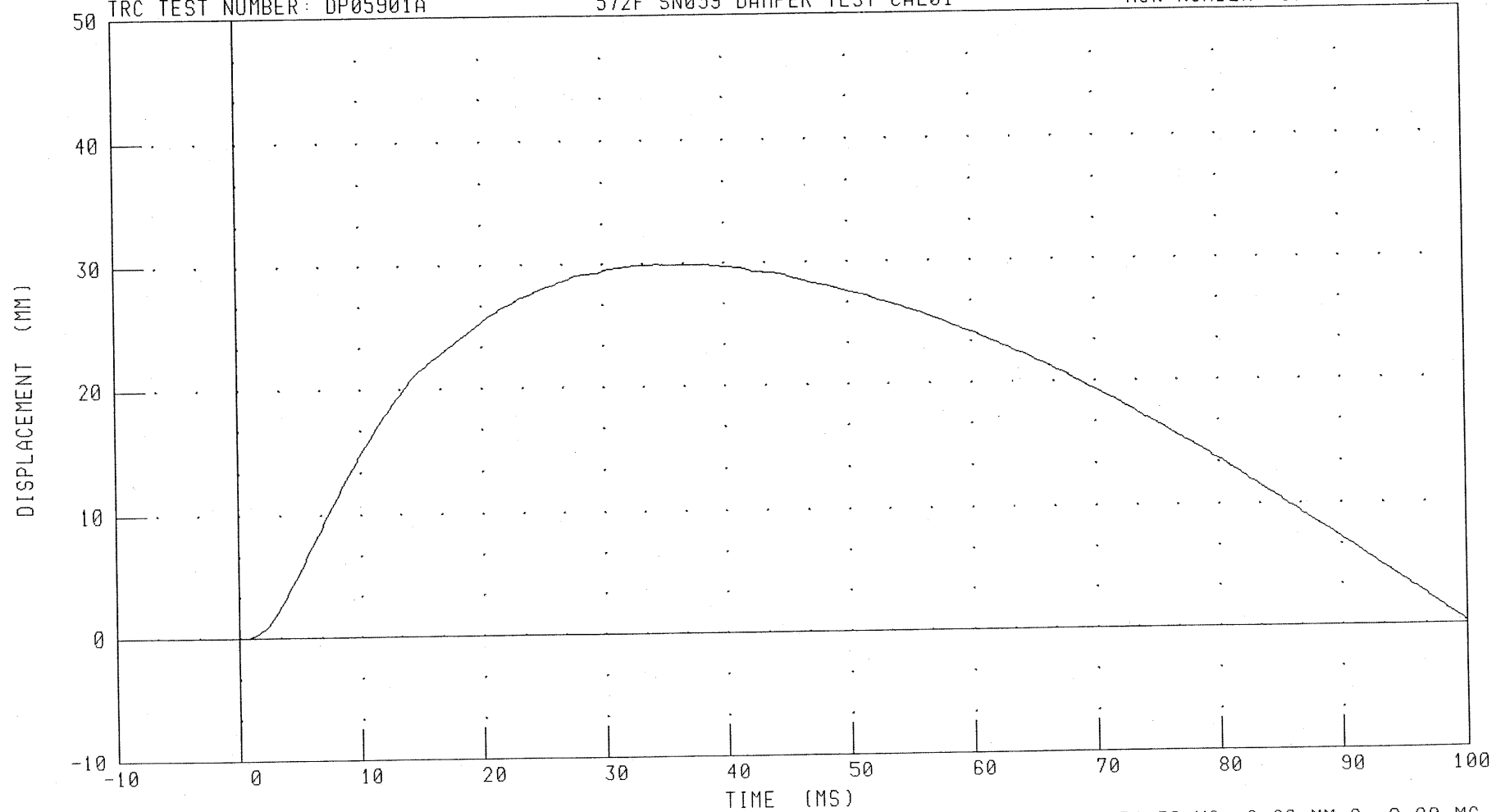
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN059 DAMPER TEST CAL01

RUN NUMBER: 091503.1343;2

TRC TEST NUMBER: DP05901A



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 29.92 MM @ 34.32 MS; 0.00 MM @ -8.80 MS

C-12

040121

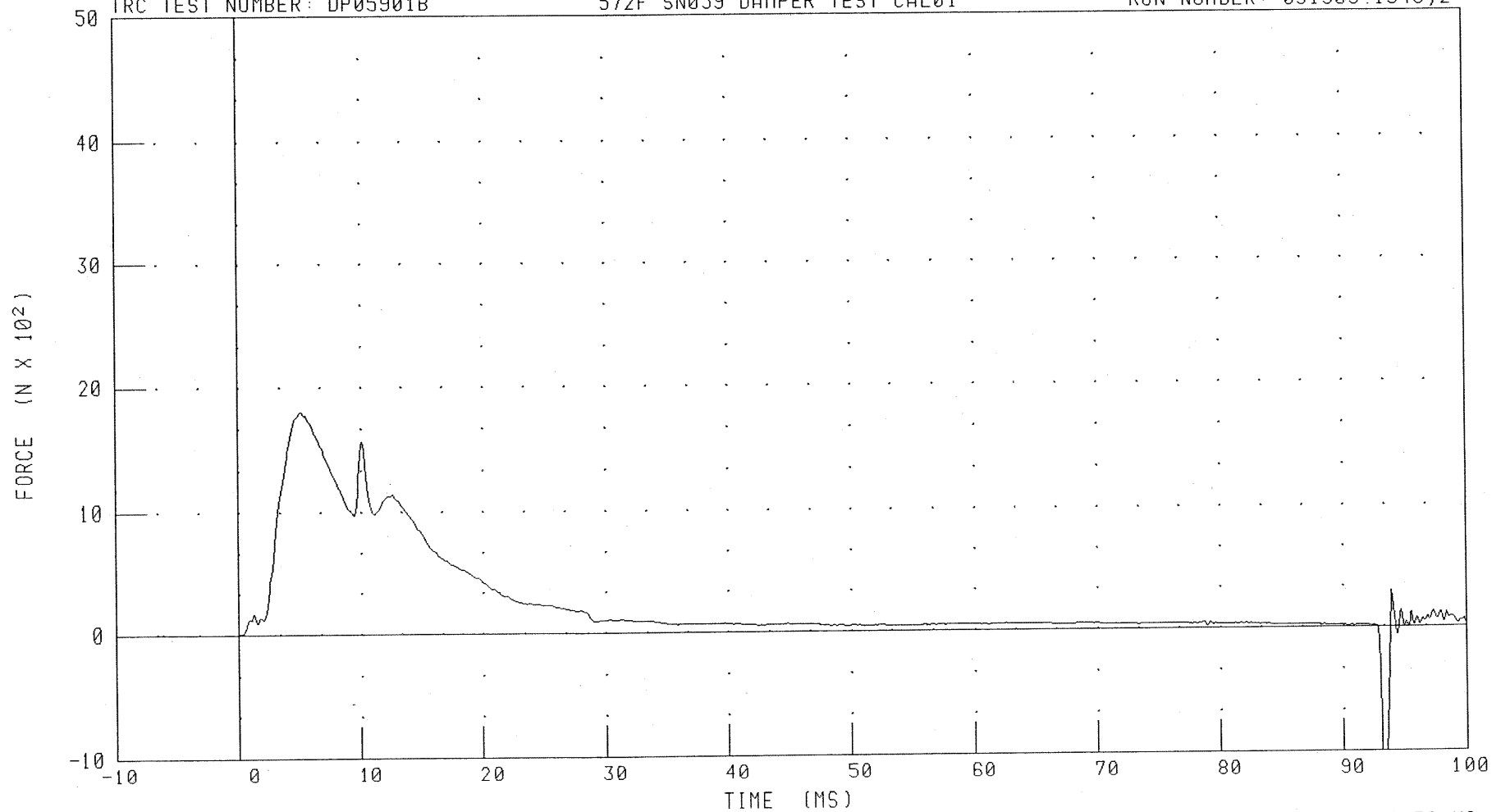
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP05901B

572F SN059 DAMPER TEST CAL01

RUN NUMBER: 091503.1343;2



CHANNEL: DAMPF FILTER: CH. CLASS 1000

PEAK DATA: 1801.64 N @ 5.12 MS; -1917.29 N @ 93.36 MS

C-13

040121

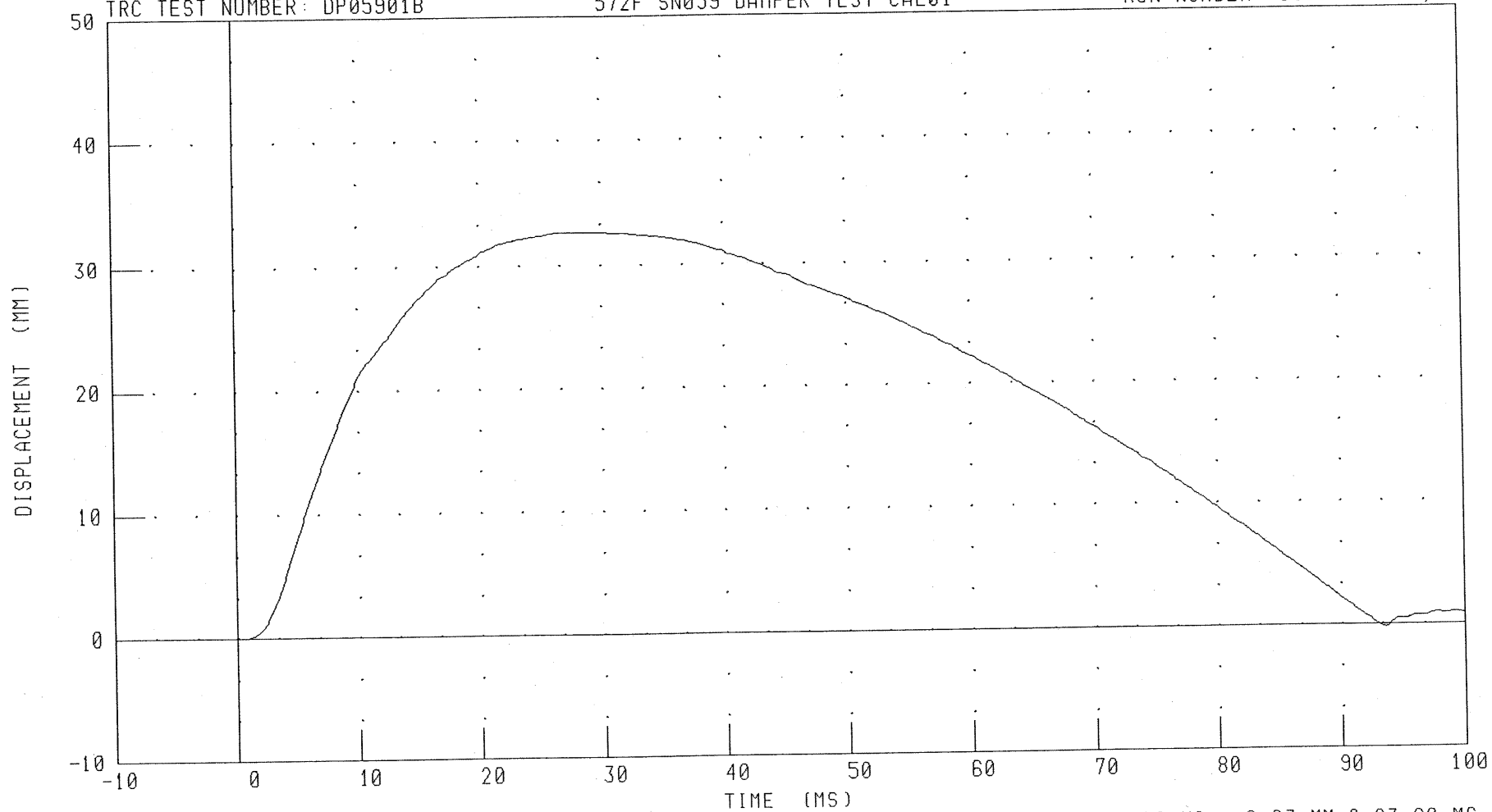
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN059 DAMPER TEST CAL01

RUN NUMBER: 091503.1343;2

TRC TEST NUMBER: DP05901B



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 32.68 MM @ 27.68 MS; -0.23 MM @ 93.60 MS

C-14

040121

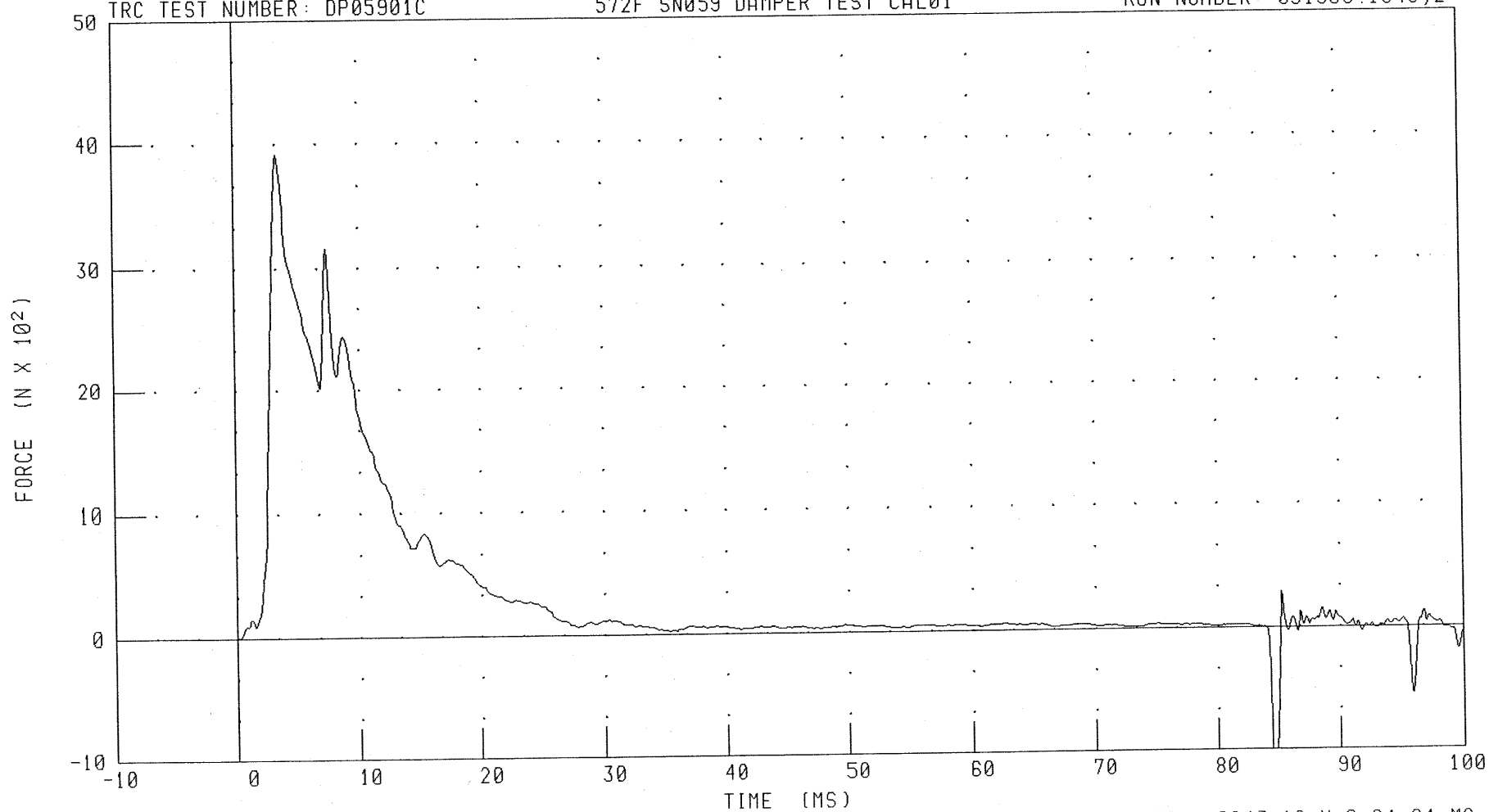
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP05901C

572F SN059 DAMPER TEST CAL01

RUN NUMBER: 091503.1343;2



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 3922.19 N @ 3.44 MS; -2043.18 N @ 84.64 MS

C-15

040121

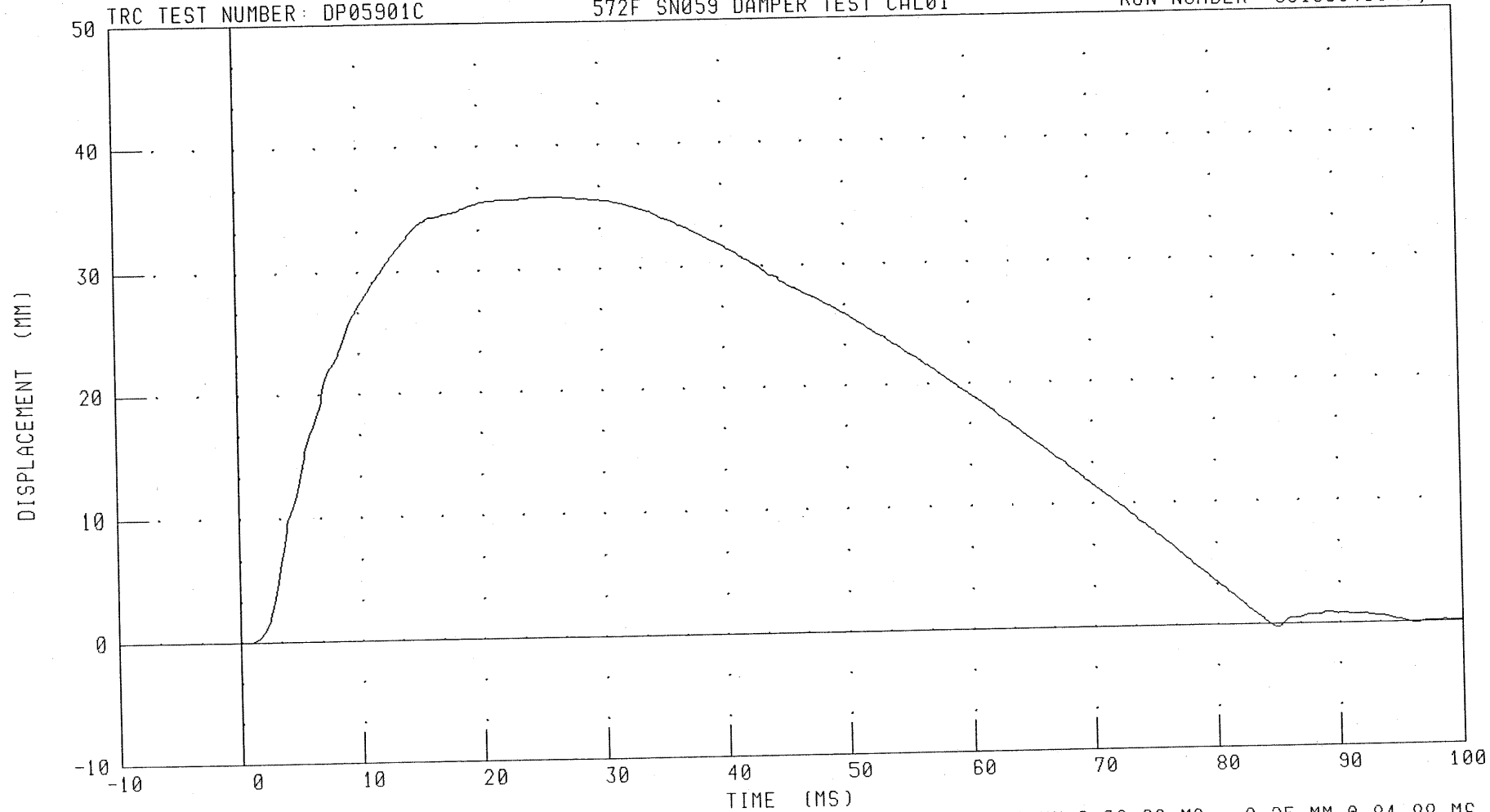
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN059 DAMPER TEST CAL01

RUN NUMBER: 091503.1343;2

TRC TEST NUMBER: DP05901C



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 35.88 MM @ 26.08 MS; -0.25 MM @ 84.88 MS

C-16

040121

Transportation Research Center Inc.

572F Left Thorax Test

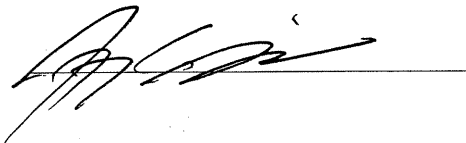
SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/10/2003

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.7 C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.29 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	42.3 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	40.9 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	20.2 g	Yes

Comments:

Technician



Approved



12.11.2003 08:34:00 -1149

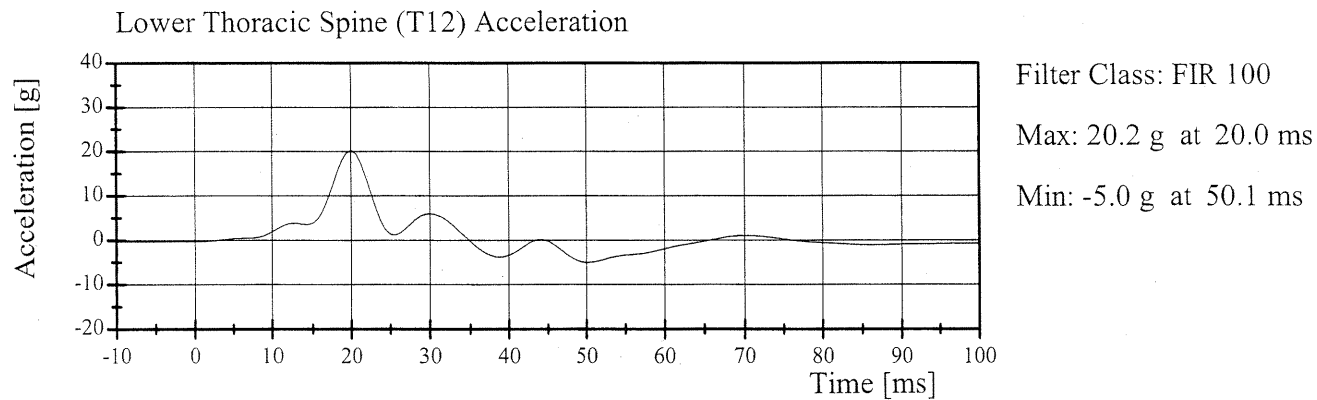
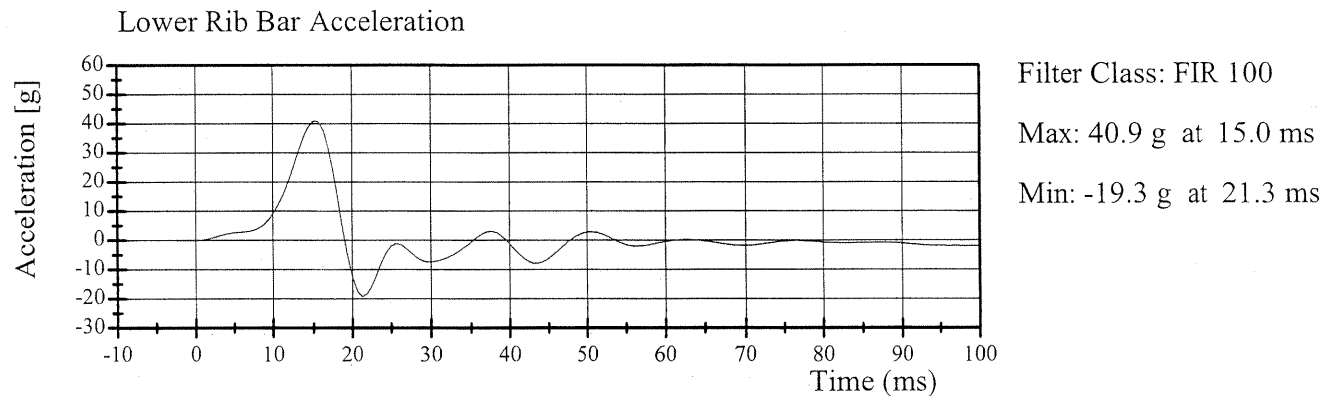
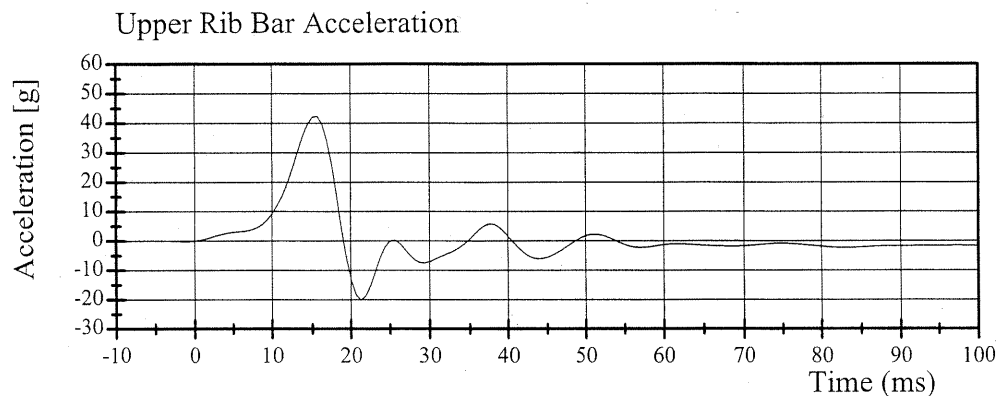


Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/10/2003



12.11.2003 08:34:00 1149



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/16/2003

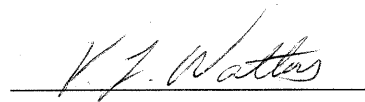
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.9 - 8.0 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



12.16.2003 15:25:35 1103

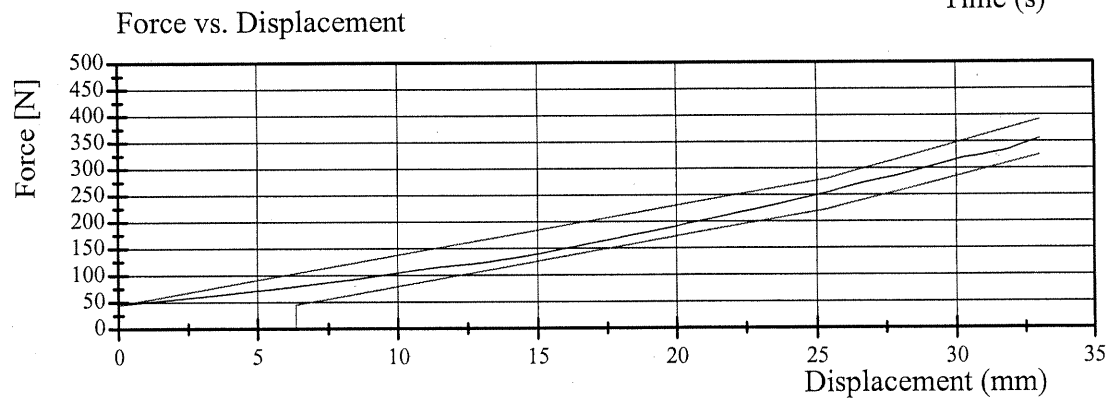
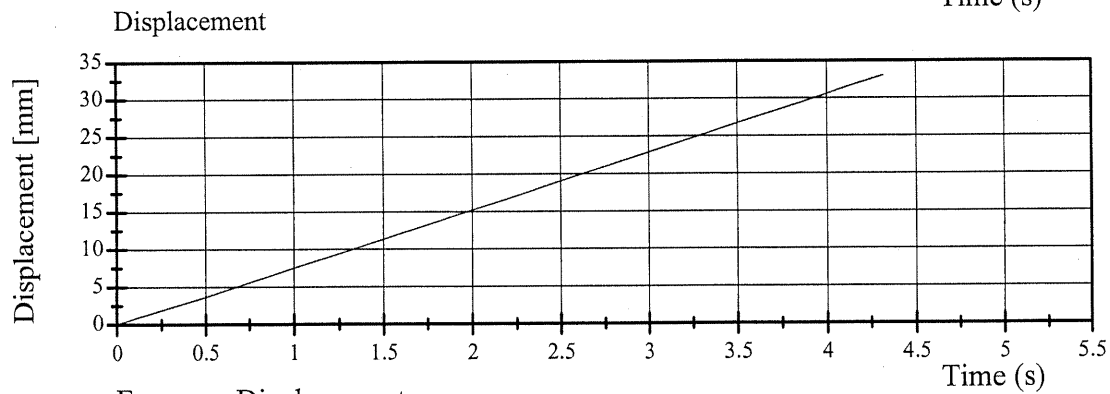
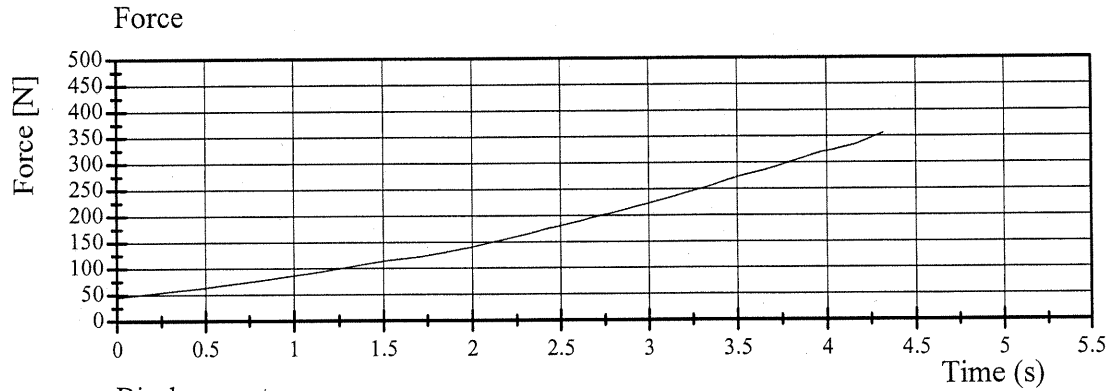


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/16/2003



12.16.2003 15:25:36 1103



TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

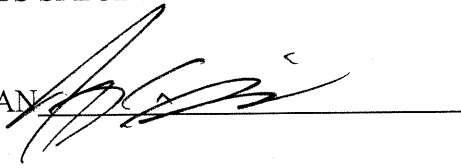
SID HIII

CAL DATE: 10-Dec-03

TRC, INC. TEST NO: LF05903 SID/HIII SN 059 TORSO FLEX CAL 03

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.7 °C
RELATIVE HUMIDITY	10 – 70 %	35 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	129.0 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	191.3 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	240.2 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	4 °

TEST MEETS SPECIFICATIONS

TECHNICIAN 

Transportation Research Center Inc.

572F Left Pelvis Test

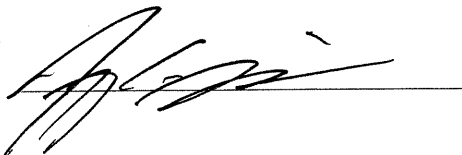
SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/10/2003

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.7 C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.28 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	42.9 g	Yes
Time Above 20 g	3 - 7 ms	6.00 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



12.11.2003 08:33:09 1158

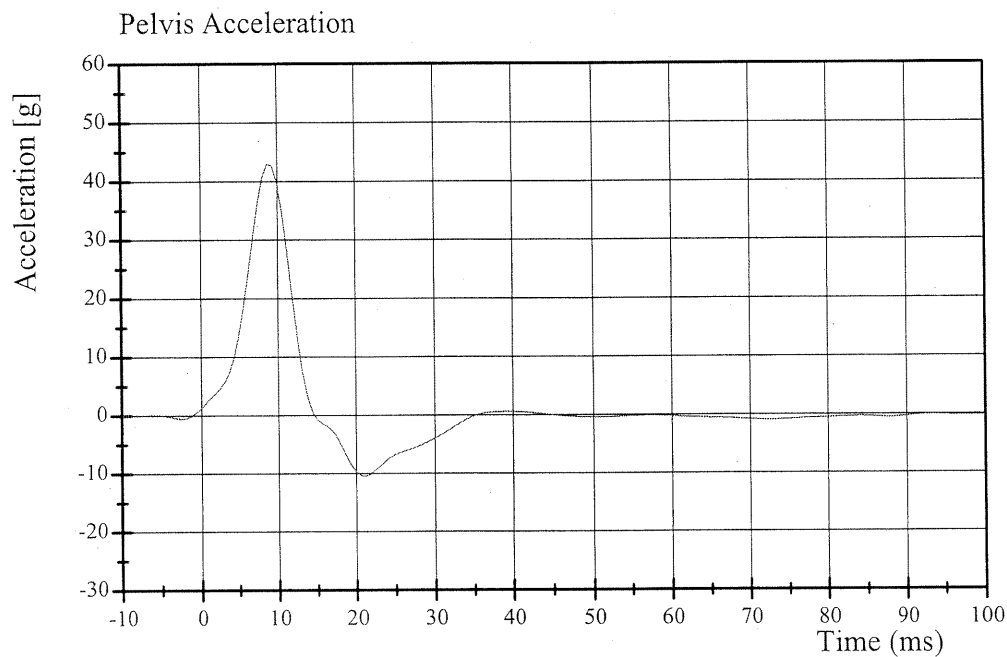


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 059 Calibration No. 03 - 1

Test Date 12/10/2003



Filter Class: FIR 100

Max: 42.9 g at 8.7 ms

Min: -10.4 g at 21.2 ms

12.11.2003 08:33:10 1158



Calibration Test Results

Pre-Test

SID HIII: 906

Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all lateral drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The thorax passed all impact test requirements.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber was tested on September 12, 2003 for a previous calibration series.

Transportation Research Center Inc.

SID/HIII Dummy

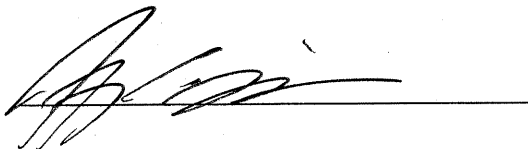
External Dimensions

Serial No. 906 Calibration No. 04

Date: 12/16/03

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	892 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	504 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	230 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	521 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	493 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	385 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	168 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	169 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	337.0 mm	No

Technician



Approved



Transportation Research Center Inc.

572M Left Lateral Head Test

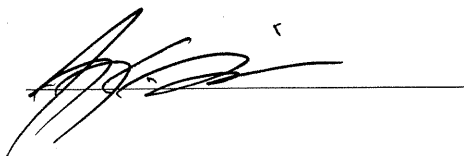
SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/10/2003

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Peak Resultant Acceleration	120 - 150 g	127.7 g	Yes
Peak Longitudinal Acceleration	15 g Max	-6.5 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician



Approved



12.11.2003 08:35:16 613



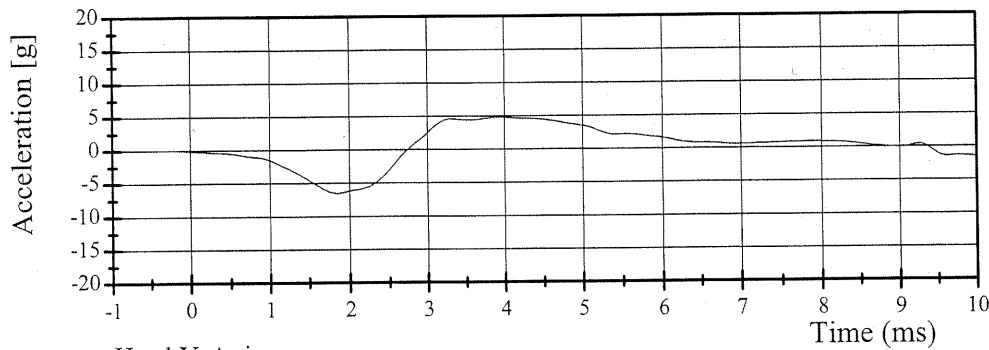
Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/10/2003

Head X-Axis

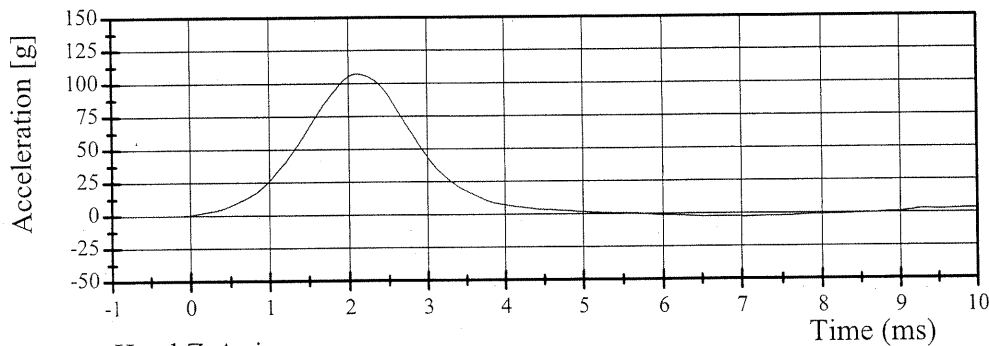


Filter Class: 1000

Max: 4.8 g at 3.9 ms

Min: -6.5 g at 1.8 ms

Head Y-Axis

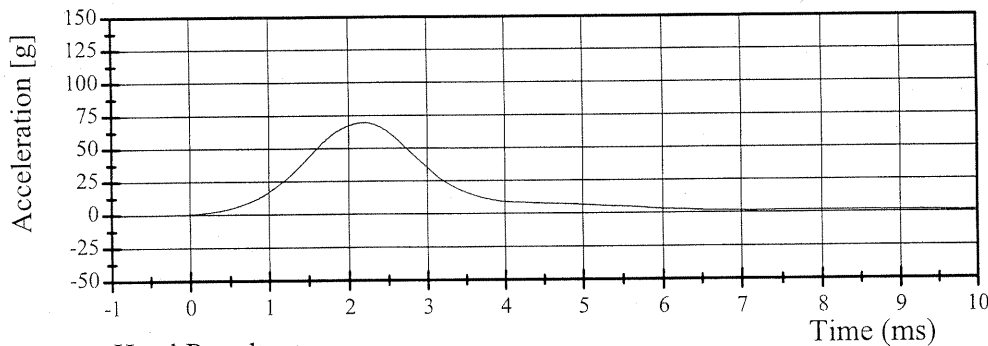


Filter Class: 1000

Max: 107.3 g at 2.1 ms

Min: -2.6 g at 7.0 ms

Head Z-Axis

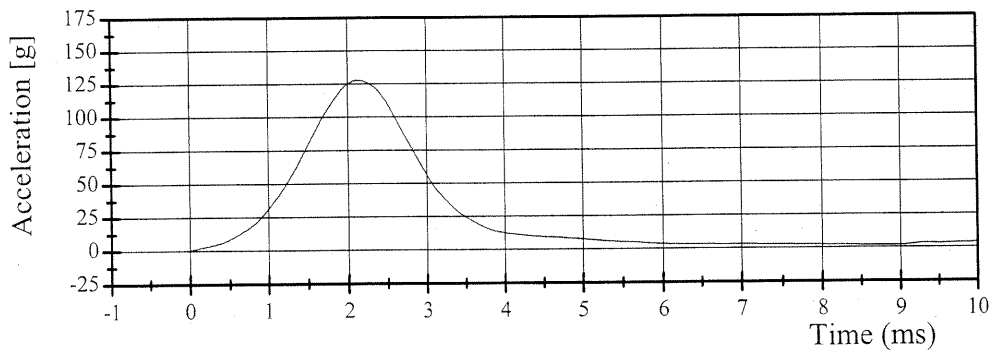


Filter Class: 1000

Max: 69.6 g at 2.2 ms

Min: 0.4 g at 0.0 ms

Head Resultant



Filter Class: 1000

Max: 127.7 g at 2.2 ms

Min: 0.0 g at 3.9 ms

12.11.2003 08:35:16 613



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 04 - 2

Test Date 12/10/2003

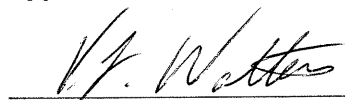
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.01 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.36 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.76 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.78 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.24 - 7.36 m/s	Yes
Peak D Plane Rotation	66 - 82 °	73.7 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	60.9 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	77.3 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	56.2 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	8.6 ms	Yes

Comments:

Technician



Approved



12.11.2003 08:37:14 518



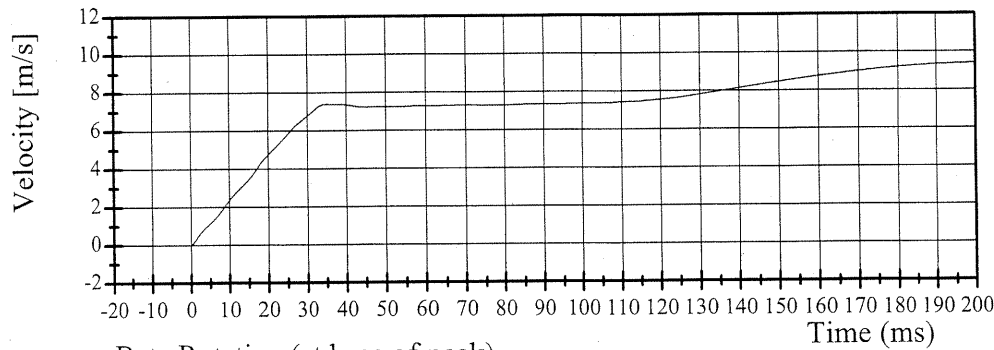
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 04 - 2

Test Date 12/10/2003

Integrated Pendulum Velocity

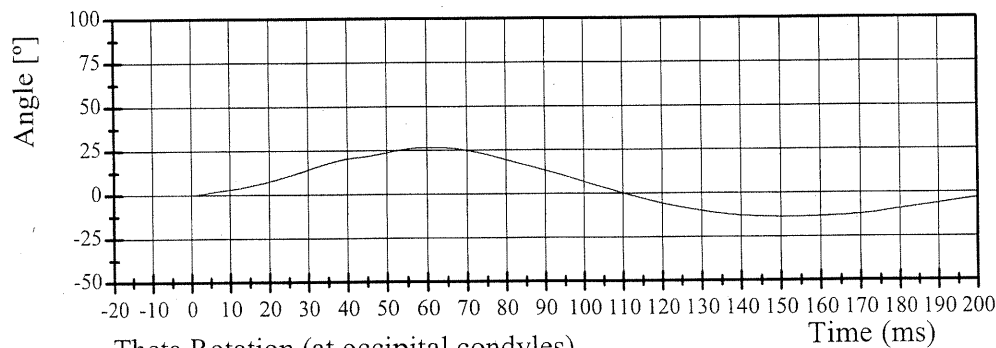


Filter Class: 180

Max: 9.7 m/s at 958.6 ms

Min: -0.0 m/s at -0.6 ms

Beta Rotation (at base of neck)

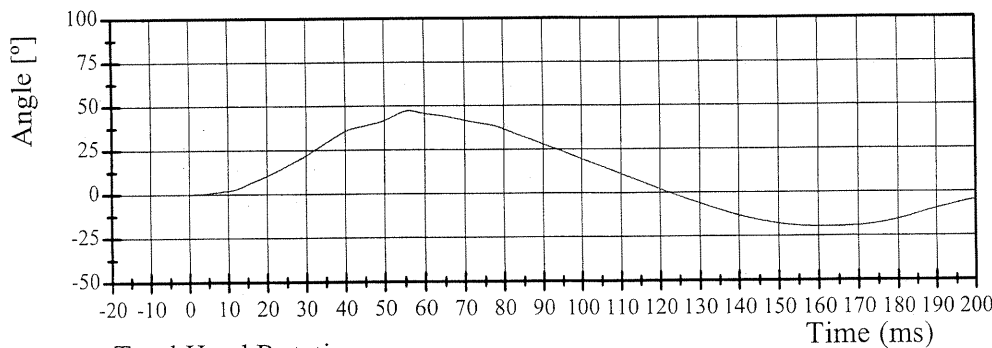


Filter Class: 60

Max: 26.6 ° at 63.0 ms

Min: -13.7 ° at 152.4 ms

Theta Rotation (at occipital condyles)

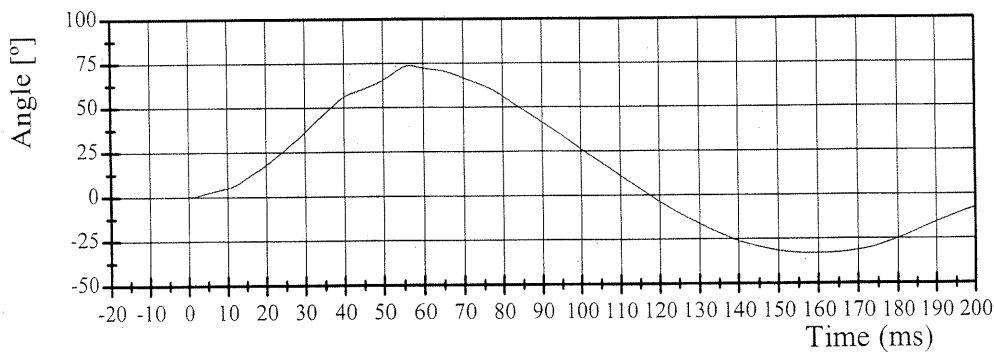


Filter Class: 60

Max: 47.3 ° at 56.1 ms

Min: -19.7 ° at 161.5 ms

Total Head Rotation



Filter Class: 60

Max: 73.7 ° at 56.6 ms

Min: -33.2 ° at 158.5 ms

12.11.2003 08:37:15 518



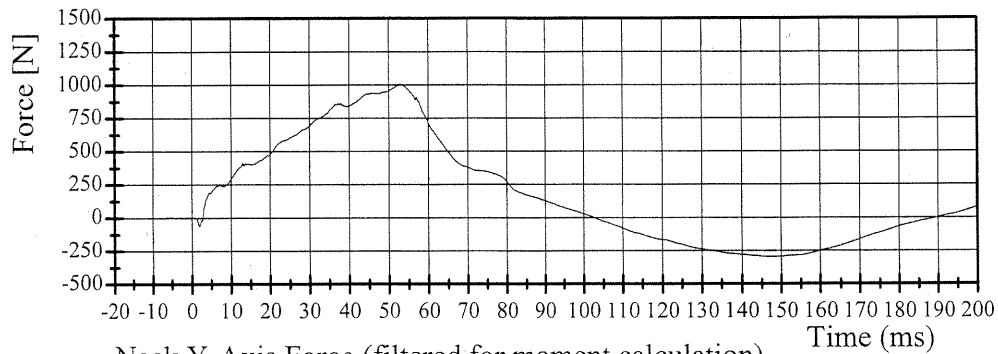
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 04 - 2

Test Date 12/10/2003

Neck Y-Axis Force

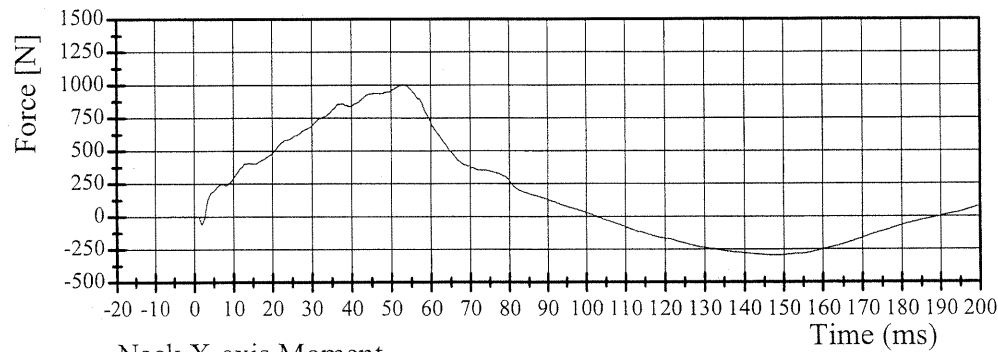


Filter Class: CFC 1000

Max: 1005 N at 53.0 ms

Min: -297 N at 147.8 ms

Neck Y-Axis Force (filtered for moment calculation)

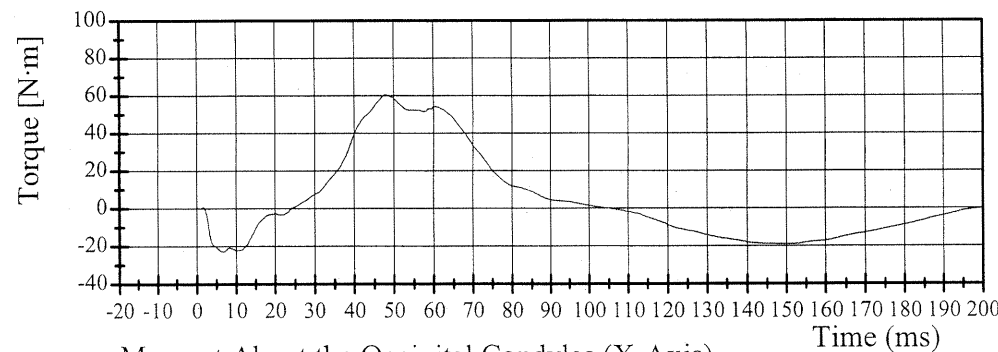


Filter Class: CFC 600

Max: 1005 N·m at 53.0 ms

Min: -297 N·m at 147.9 ms

Neck X-axis Moment

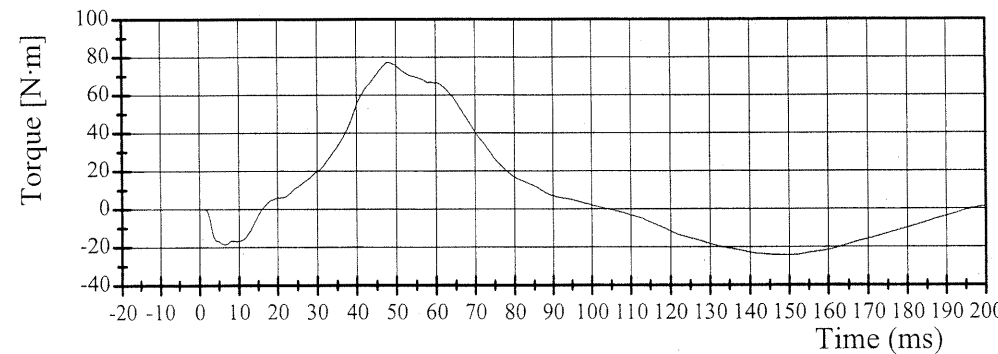


Filter Class: CFC 600

Max: 60.6 N·m at 47.8 ms

Min: -22.8 N·m at 6.7 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 77.3 ° at 47.9 ms

Min: -24.3 ° at 149.8 ms

12.11.2003 08:37:15 518



TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

12-SEP-03

TRC INC.

572F SN906 DAMPER TEST CAL02

TEST NUMBER: DP90602A, DP90602B, DP90602C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.1 DEG. C
RELATIVE HUMIDITY		10 - 70 %	63.0 %
VELOCITY	FORCE	667 - 925 N	806 N
2.75 M/S	DISPLACEMENT	29.7 - 34.5 MM	29.9 MM
VELOCITY	FORCE	1706 - 2072 N	1929 N
4.24 M/S	DISPLACEMENT	31.6 - 37.2 MM	34.1 MM
VELOCITY	FORCE	3824 - 4542 N	4480 N
6.17 M/S	DISPLACEMENT	33.3 - 39.6 MM	36.3 MM

DAMPER SETTING = 6.0

TEST MEETS SPECIFICATIONS

TECHNICIAN

V. F. Walter

RUN NUMBER: 100203.0724;1

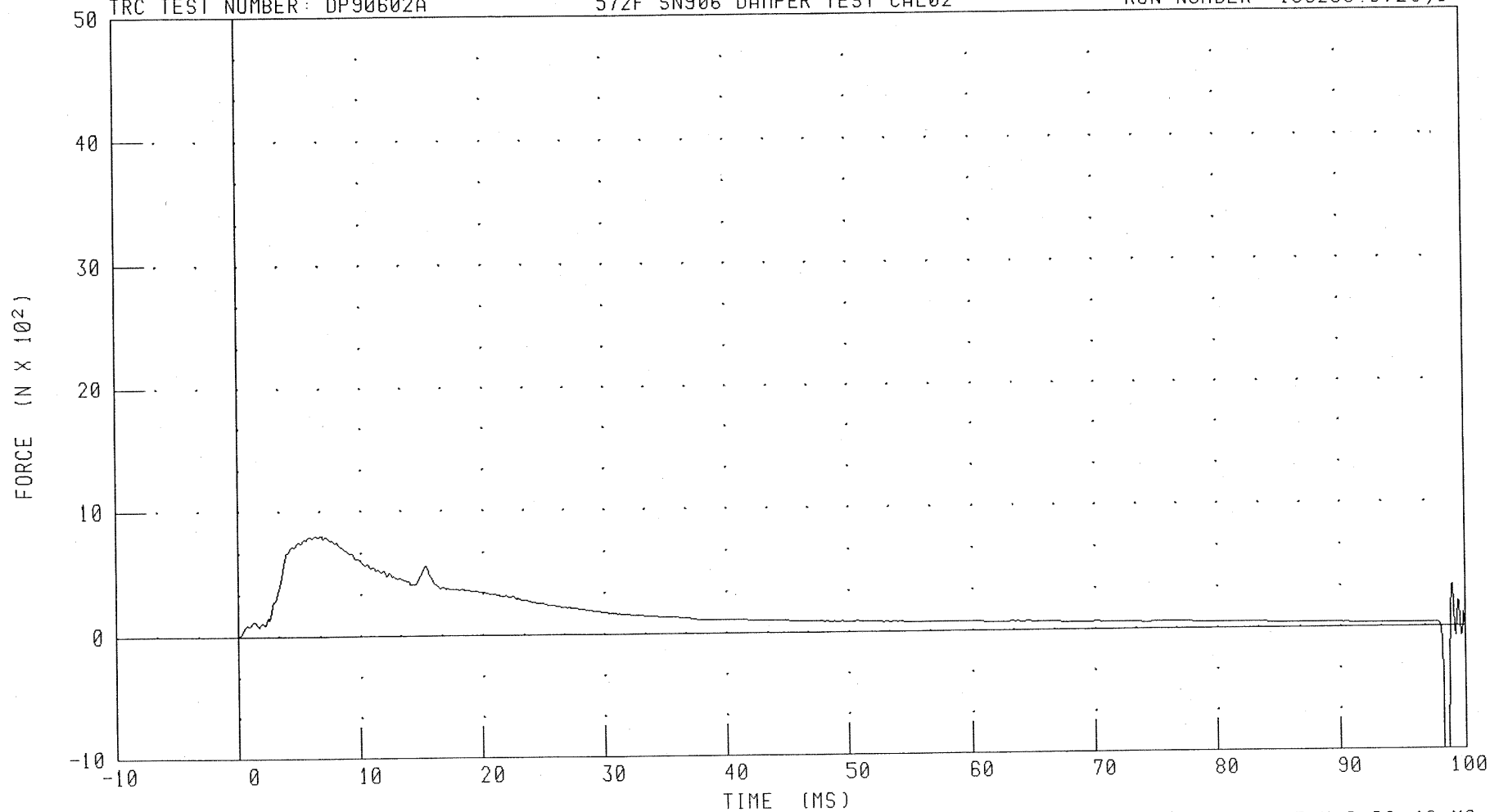
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP90602A

572F SN906 DAMPER TEST CAL02

RUN NUMBER: 100203.0725;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 805.75 N @ 6.80 MS; -2274.95 N @ 98.40 MS

C-32

040121

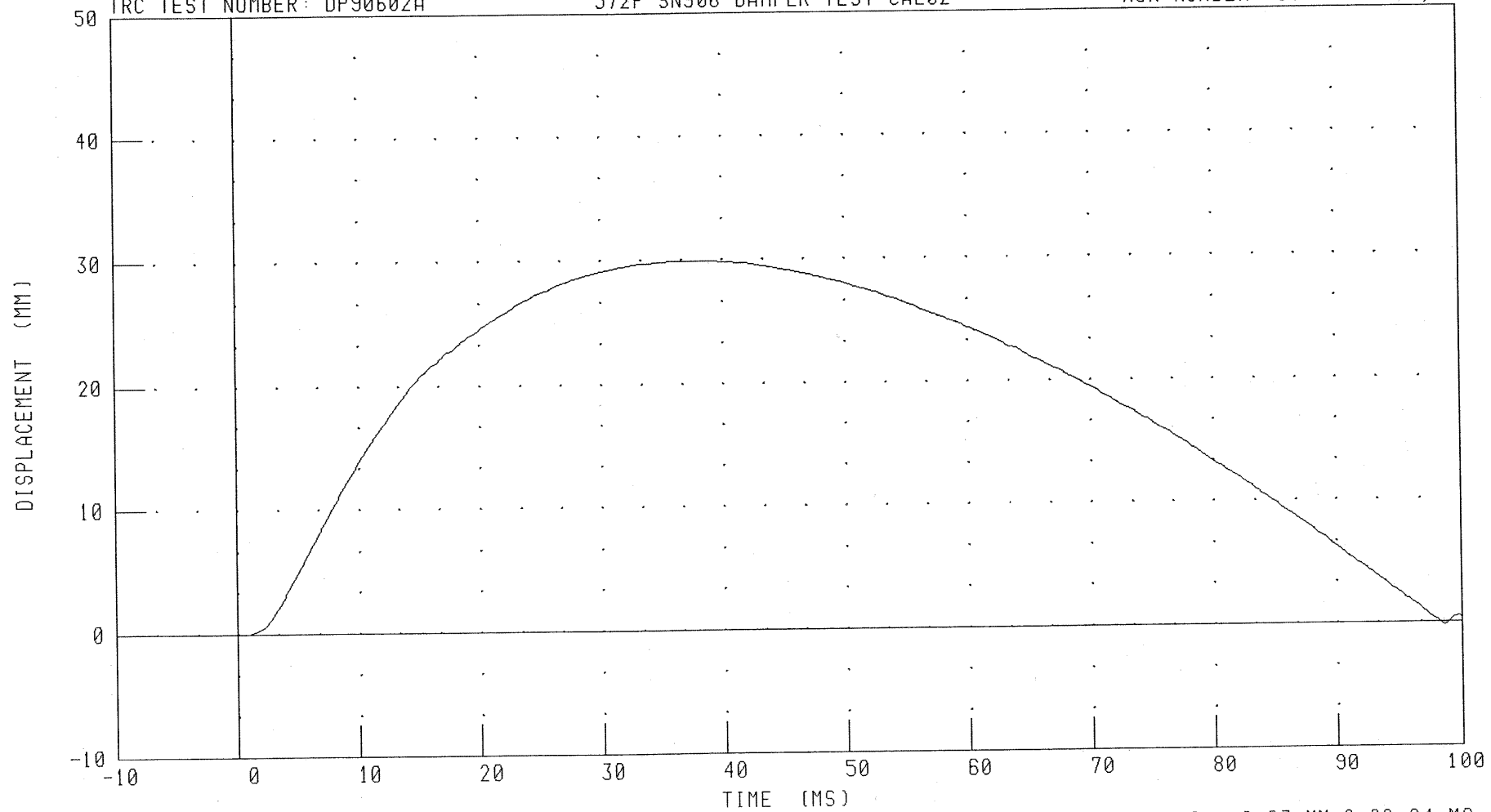
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN906 DAMPER TEST CAL02

RUN NUMBER: 100203.0725;1

TRC TEST NUMBER: DP90602A



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 29.85 MM @ 36.48 MS; -0.23 MM @ 98.64 MS

C-33

040121

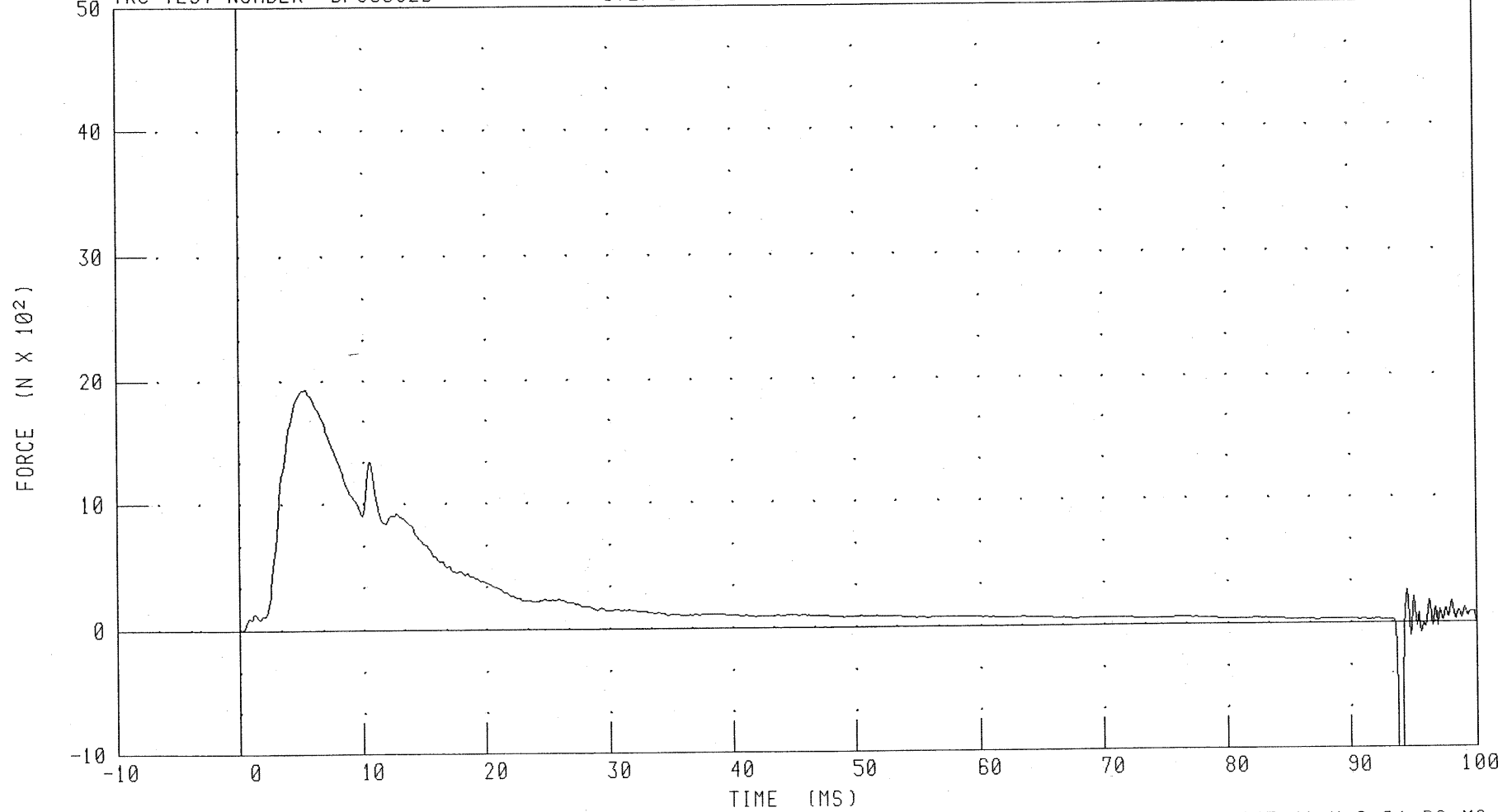
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP90602B

572F SN906 DAMPER TEST CAL02

RUN NUMBER: 100203.0725;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 1928.88 N @ 5.28 MS; -2597.41 N @ 94.00 MS

C-34

040121

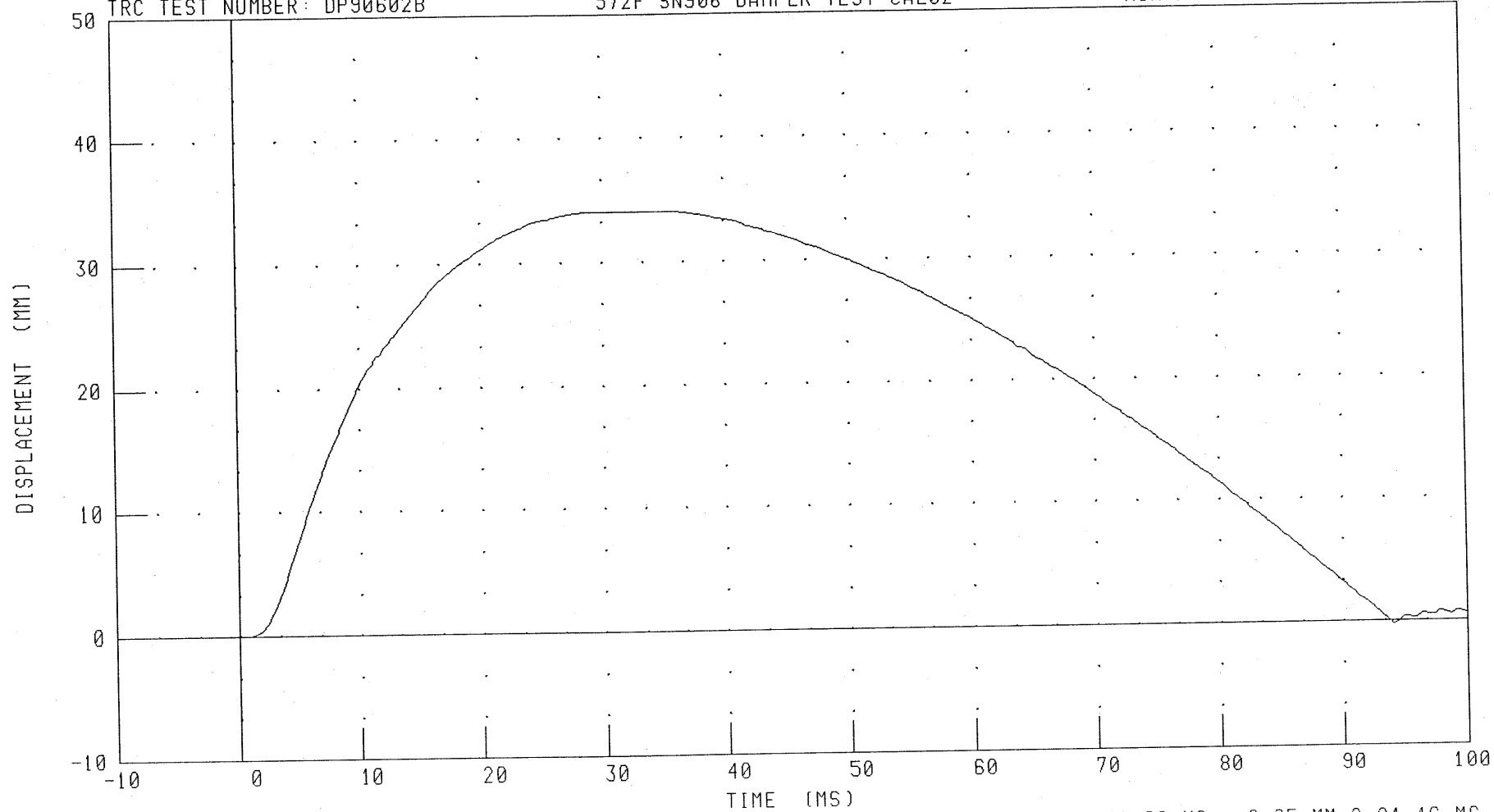
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

RUN NUMBER: 100203.0725;1

TRC TEST NUMBER: DP90602B

572F SN906 DAMPER TEST CAL02



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 34.14 MM @ 31.60 MS; -0.25 MM @ 94.16 MS

C-35

040121

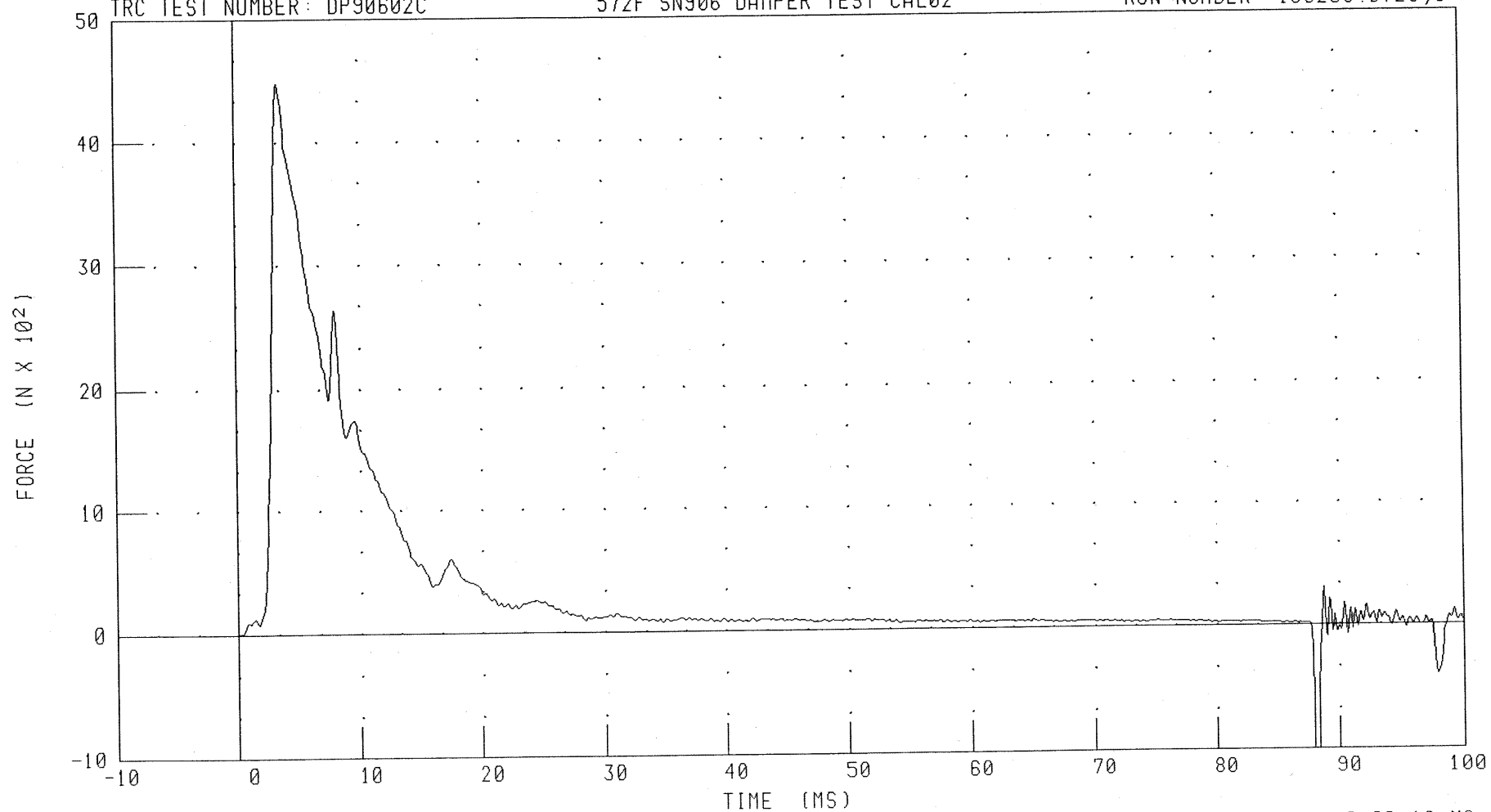
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP90602C

572F SN906 DAMPER TEST CAL02

RUN NUMBER: 100203.0725;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 4479.55 N @ 3.44 MS; -2512.86 N @ 88.16 MS

C-36

040121

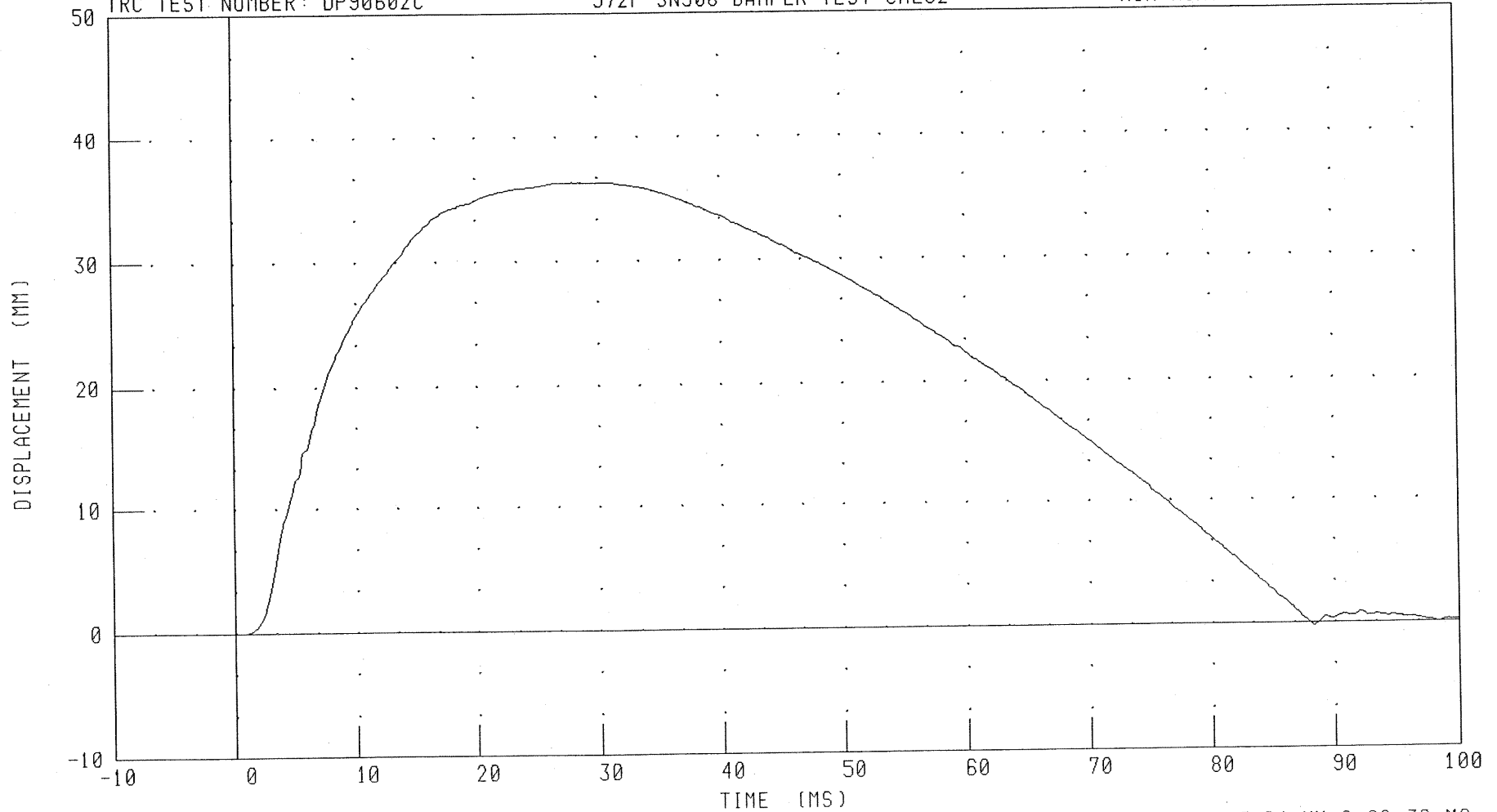
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT

572F SN906 DAMPER TEST CAL02

RUN NUMBER: 100203.0725;1

TRC TEST NUMBER: DP90602C



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 36.26 MM @ 28.00 MS; -0.24 MM @ 88.32 MS

C-37

040121

Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/10/2003

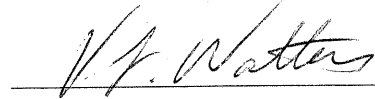
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.7 C	Yes
Relative Humidity	10 - 70 %	34 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.33 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	38.0 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	37.8 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	17.1 g	Yes

Comments:

Technician



Approved



12.11.2003 08:39:27 1161



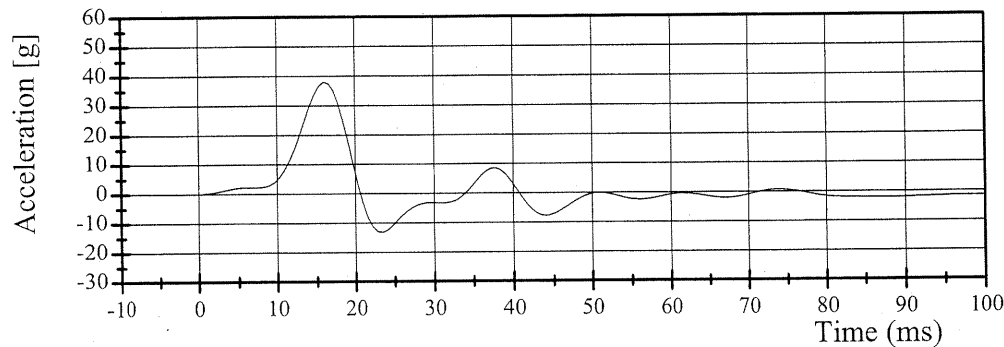
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/10/2003

Upper Rib Bar Acceleration

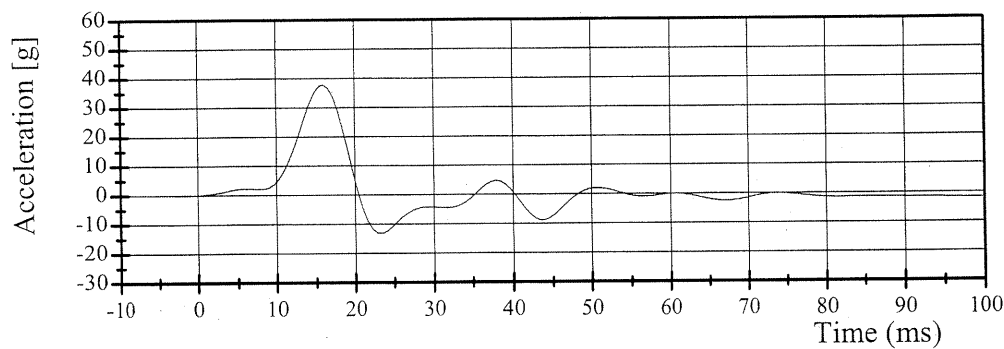


Filter Class: FIR 100

Max: 38.0 g at 16.0 ms

Min: -13.2 g at 23.4 ms

Lower Rib Bar Acceleration

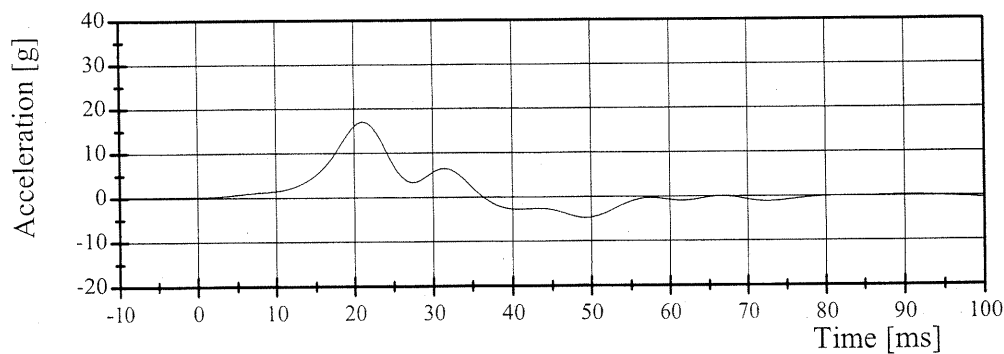


Filter Class: FIR 100

Max: 37.8 g at 15.9 ms

Min: -13.2 g at 23.4 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 17.1 g at 21.0 ms

Min: -4.7 g at 49.1 ms



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/11/2003

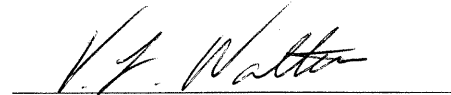
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	28 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.9 - 8.0 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



12.11.2003 10:05:38 1405

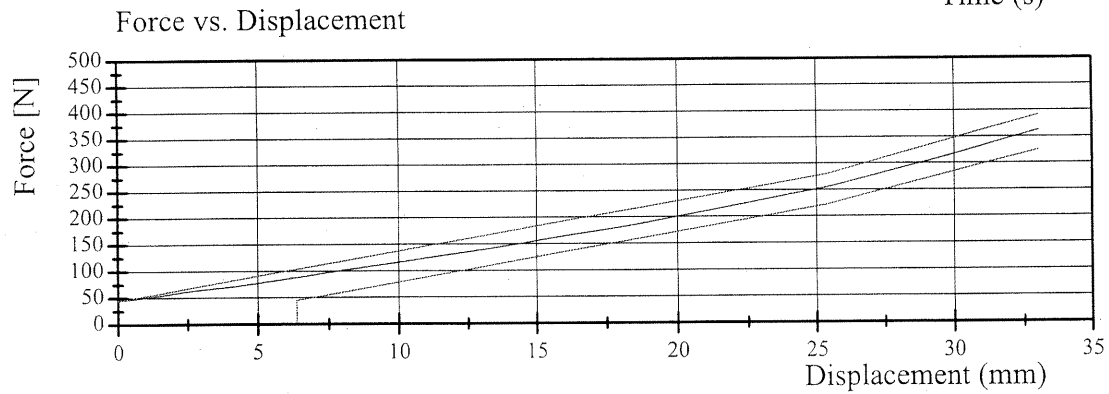
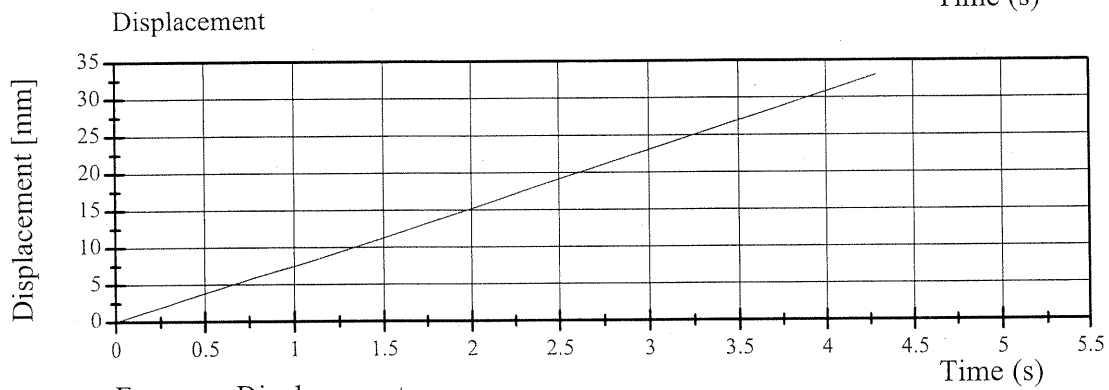
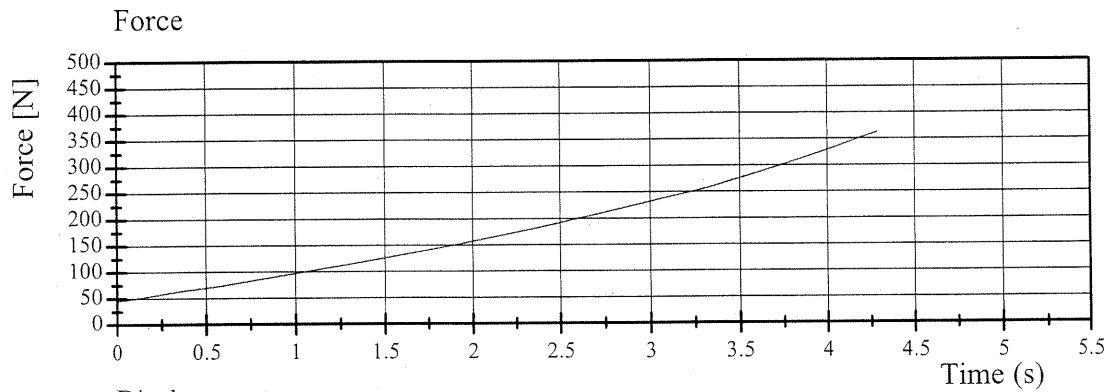


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/11/2003



12.11.2003 10:05:38 1405



TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID HIII

CAL DATE: 10-Dec-03

TRC, INC. TEST NO: 906C04TF1 SID/HIII SN 906 TORSO FLEX CAL 04

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.7 °C
RELATIVE HUMIDITY	10 – 70 %	33 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	146.8 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	191.3 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	244.7 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	8 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/10/2003

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.7 C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.29 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	55.6 g	Yes
Time Above 20 g	3 - 7 ms	5.68 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



12.11.2003 08:38:24 1168

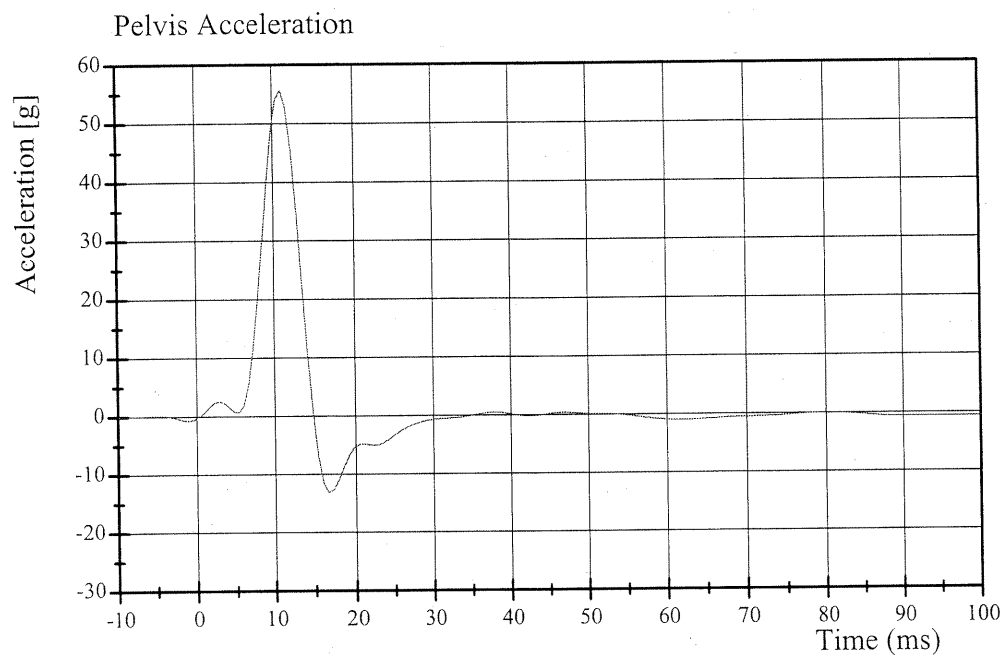


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 906 Calibration No. 04 - 1

Test Date 12/10/2003



Filter Class: FIR 100

Max: 55.6 g at 11.0 ms

Min: -13.1 g at 16.6 ms

12.11.2003 08:38:25 1168



Calibration Test Results

Post-Test

SID HIII: 059

Configured for Left Side Impact

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

Transportation Research Center Inc.

572M SID/HIII Dummy

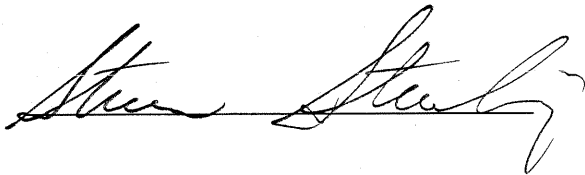
External Dimensions

Serial No. 059 Calibration No. 04

Date: 01-28-04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	907 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	502 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	524 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	492 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	369 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	177 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	178 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	1.0 mm	Yes

Technician



Approved



Transportation Research Center Inc.

572M Left Lateral Head Test

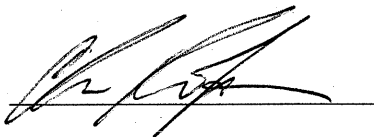
SID HIII Serial No. 059 Calibration No. 04 - 1

Test Date 01/27/2004

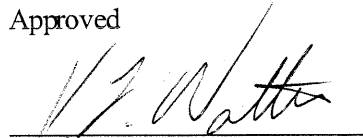
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	29 %	Yes
Peak Resultant Acceleration	120 - 150 g	147.4 g	Yes
Peak Longitudinal Acceleration	15 g Max	6.7 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician



Approved



01.27.2004 16:54:52 614

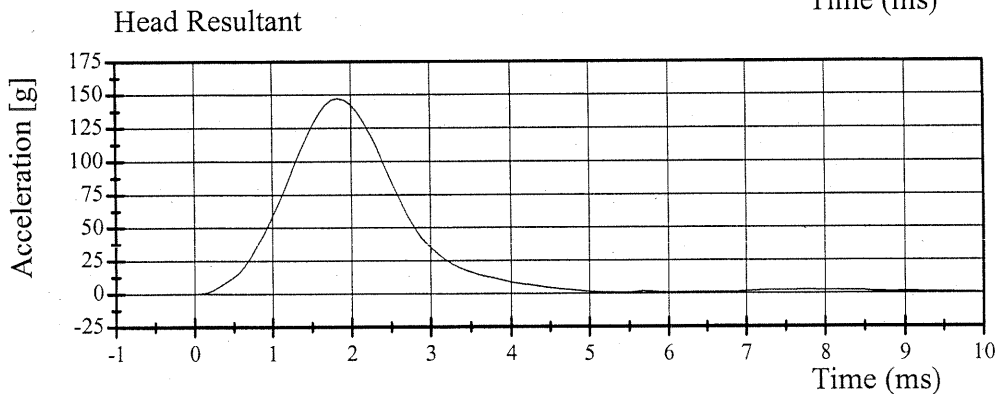
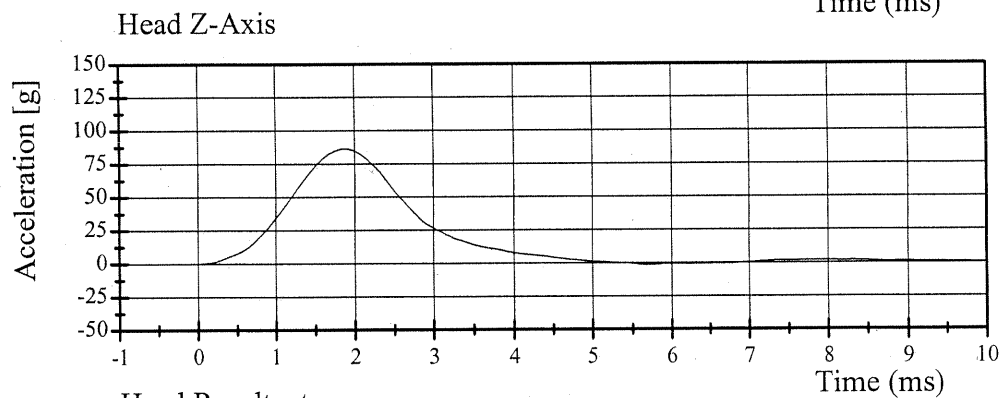
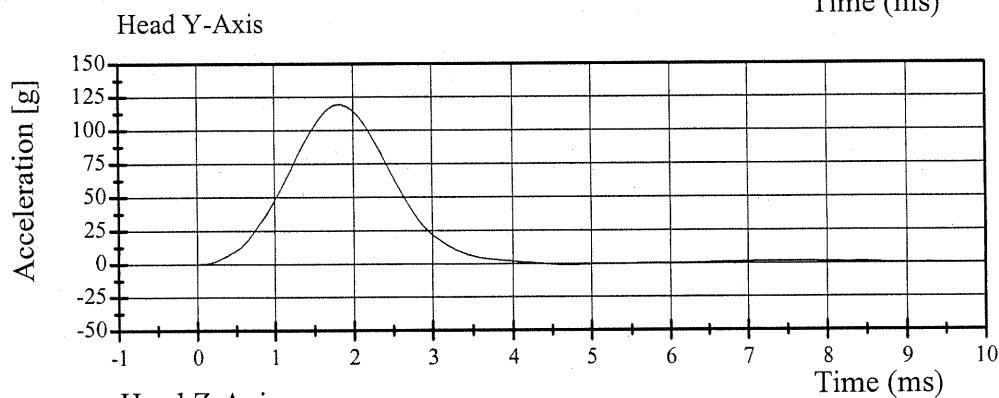
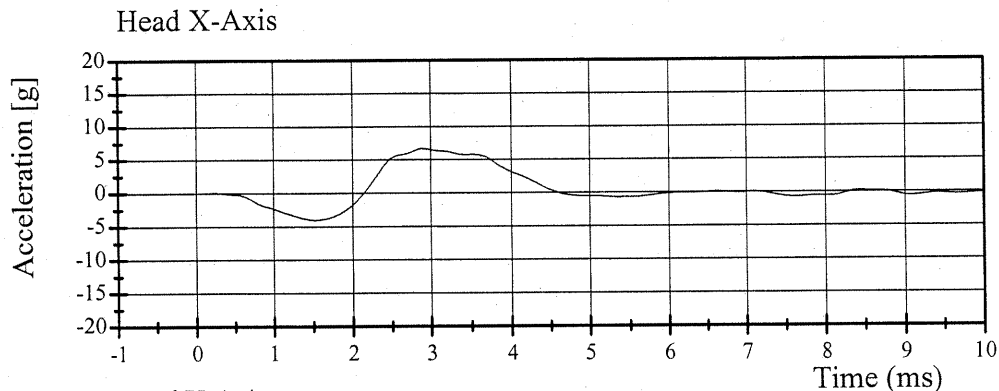


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 059 Calibration No. 04 - 1

Test Date 01/27/2004



01.27.2004 16:54:53 614



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 04 - 1

Test Date 01/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	28 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.01 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.26 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.60 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.58 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.17 - 7.32 m/s	Yes
Peak D Plane Rotation	66 - 82 °	71.6 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	60.7 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	78.6 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	58.4 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	10.6 ms	Yes

Comments:

Technician

V. J. Watter

Approved

Paul H. Hines

01.27.2004 19:10:25 519



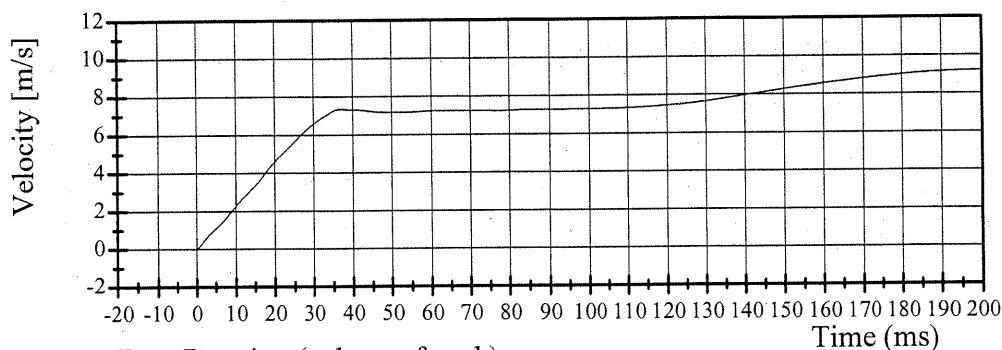
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 04 - 1

Test Date 01/27/2004

Integrated Pendulum Velocity

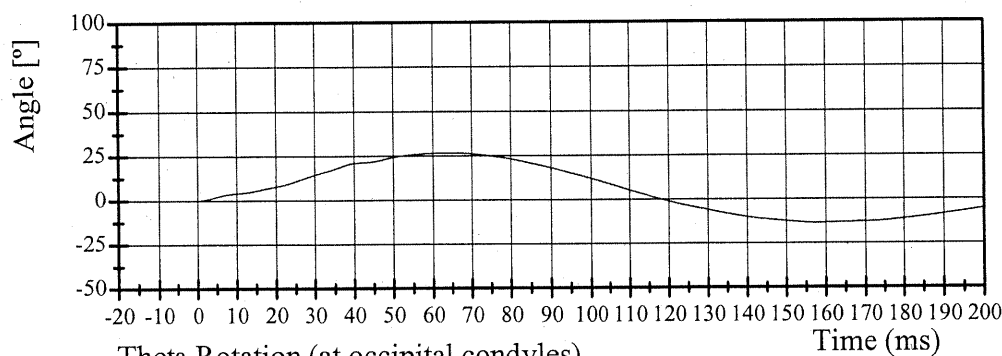


Filter Class: 180

Max: 9.7 m/s at 958.5 ms

Min: -0.0 m/s at -0.7 ms

Beta Rotation (at base of neck)

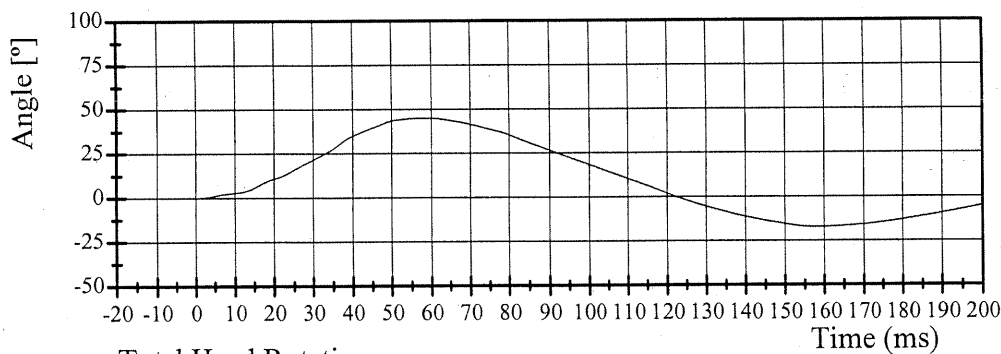


Filter Class: 60

Max: 26.7° at 63.9 ms

Min: -13.6° at 158.1 ms

Theta Rotation (at occipital condyles)

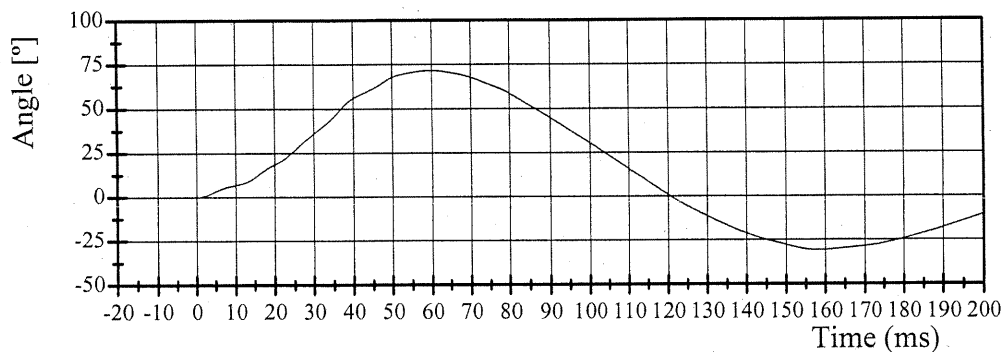


Filter Class: 60

Max: 45.1° at 58.5 ms

Min: -17.2° at 159.0 ms

Total Head Rotation



Filter Class: 60

Max: 71.6° at 60.0 ms

Min: -30.8° at 158.5 ms

01.27.2004 19:10:26 519



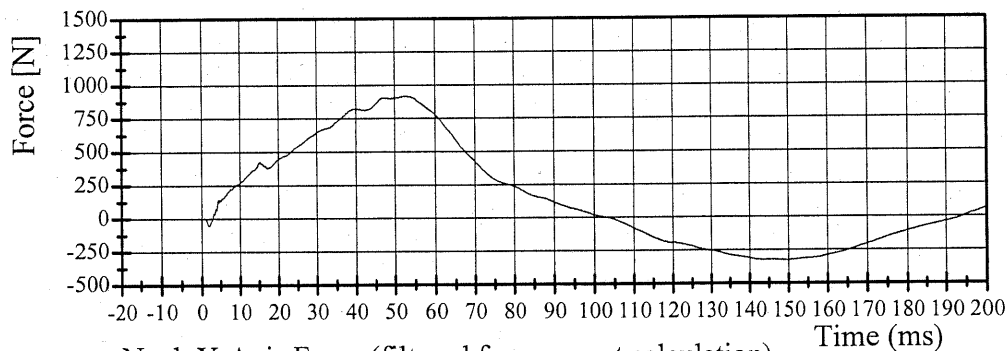
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 04 - 1

Test Date 01/27/2004

Neck Y-Axis Force

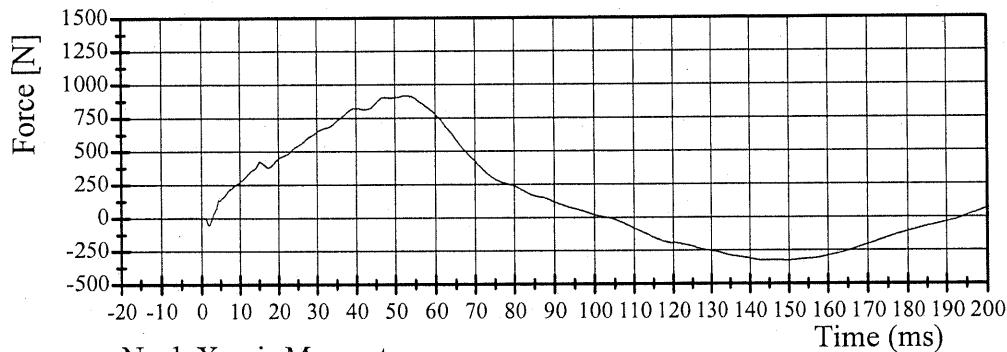


Filter Class: CFC 1000

Max: 917 N at 52.4 ms

Min: -326 N at 149.7 ms

Neck Y-Axis Force (filtered for moment calculation)

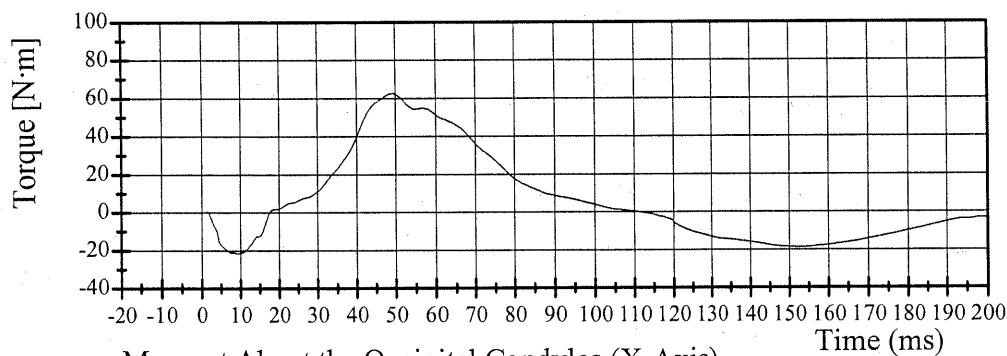


Filter Class: CFC 600

Max: 917 N·m at 52.5 ms

Min: -326 N·m at 149.8 ms

Neck X-axis Moment

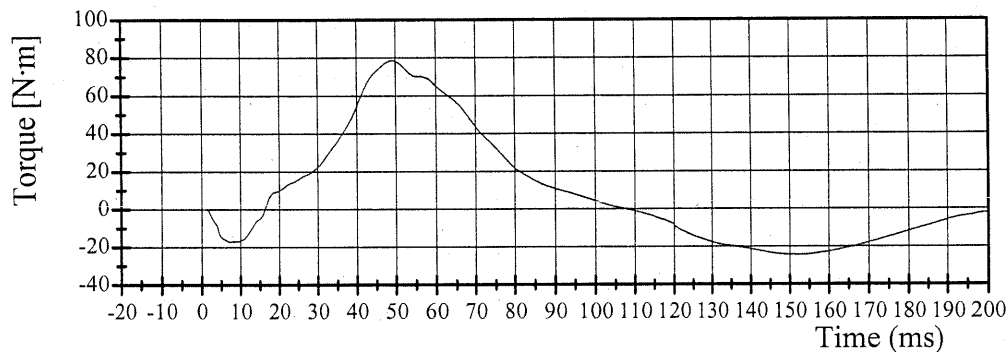


Filter Class: CFC 600

Max: 62.6 N·m at 49.3 ms

Min: -21.5 N·m at 9.5 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 78.6 ° at 49.4 ms

Min: -24.3 ° at 152.6 ms

01.27.2004 19:10:28 519



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 04 - 3

Test Date 01/27/2004

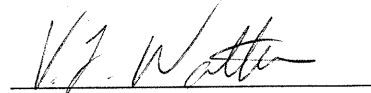
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	29 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.8 - 8.0 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



01.27.2004 14:49:20 1501

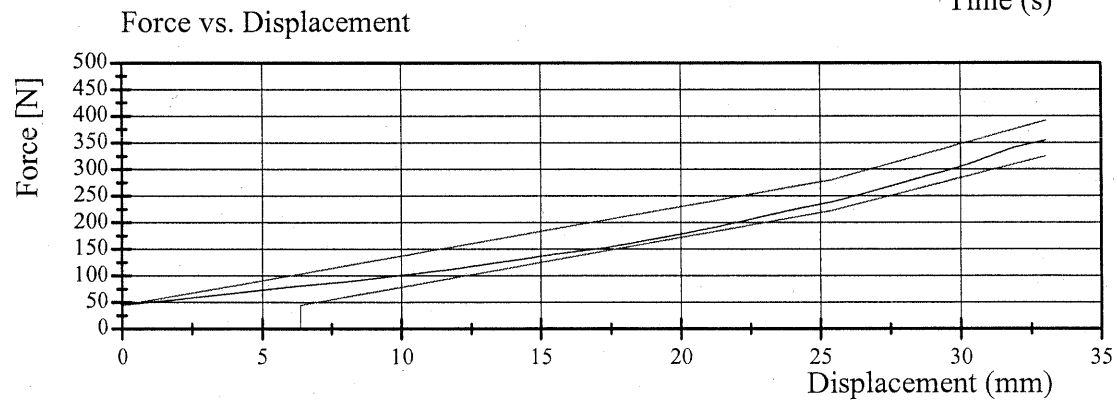
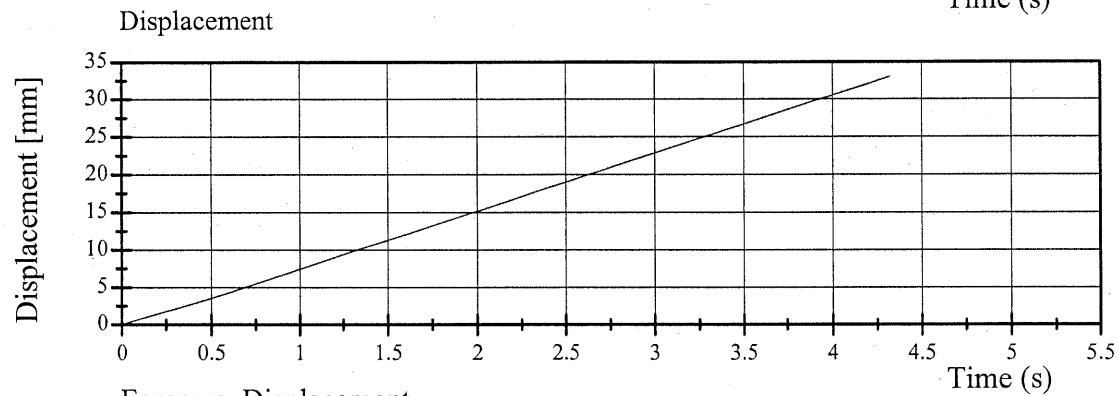
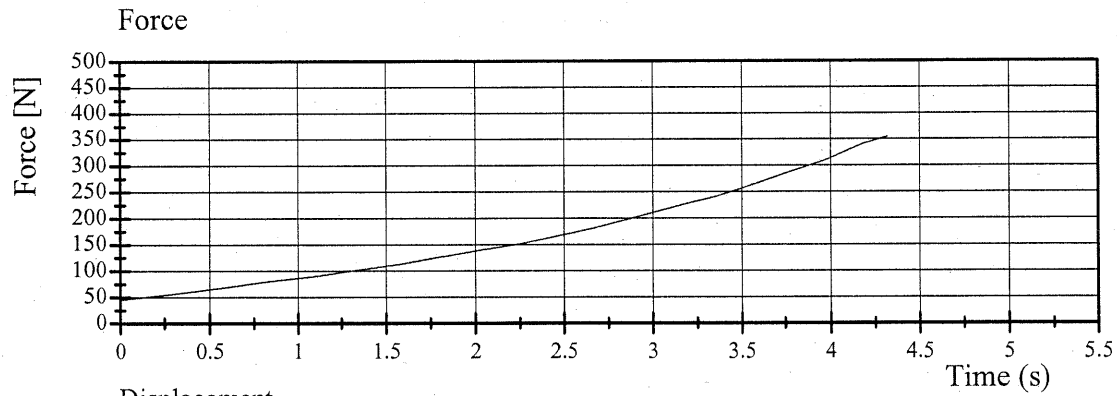


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 04 - 3

Test Date 01/27/2004



01.27.2004 14:49:21 1501



TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID HIII

CAL DATE: 27-Jan-04

TRC, INC. TEST NO: LF05904B SID/HIII SN 059 TORSO FLEX CAL 04

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.7 °C
RELATIVE HUMIDITY	10 – 70 %	29 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	128 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	160 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	231 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	4.3 °

TEST MEETS SPECIFICATIONS

TECHNICIAN V. J. Walter

Transportation Research Center Inc.

572F Left Thorax Test

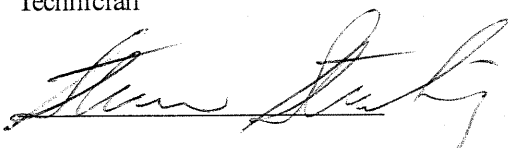
SID HIII Serial No. 059 Calibration No. 04 - 3

Test Date 01/28/2004

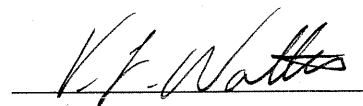
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.1 C	Yes
Relative Humidity	10 - 70 %	22 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.29 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	41.2 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	38.6 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	22.0 g	Yes

Comments:

Technician



Approved



01.28.2004 18:23:19 1126



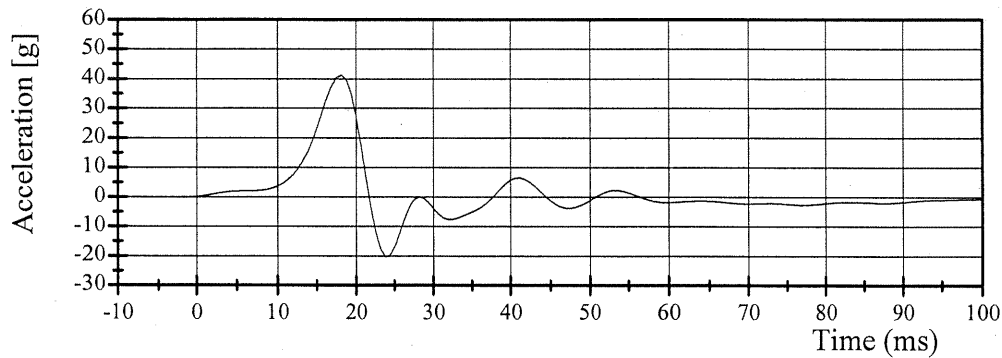
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 059 Calibration No. 04 - 3

Test Date 01/28/2004

Upper Rib Bar Acceleration

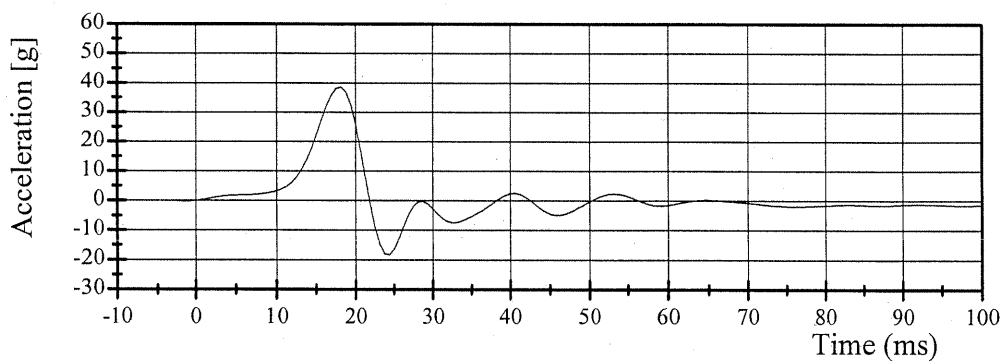


Filter Class: FIR 100

Max: 41.2 g at 18.1 ms

Min: -20.3 g at 23.8 ms

Lower Rib Bar Acceleration

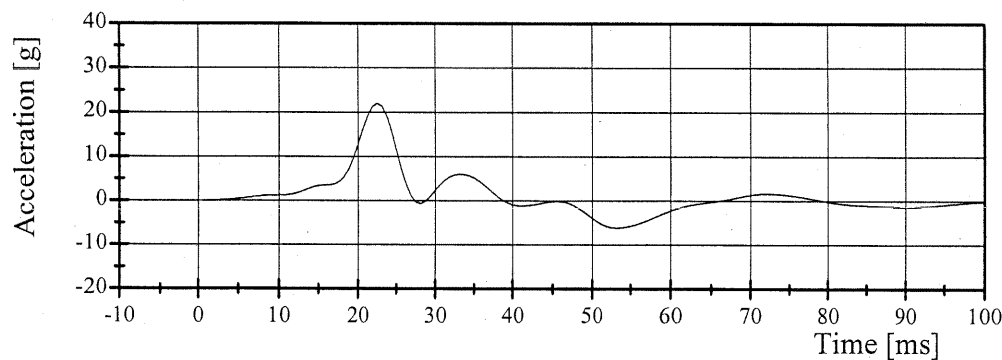


Filter Class: FIR 100

Max: 38.6 g at 18.1 ms

Min: -18.3 g at 24.3 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 22.0 g at 22.5 ms

Min: -6.1 g at 53.1 ms

01.28.2004 18:23:20 1126



Transportation Research Center Inc.

572F Left Pelvis Test

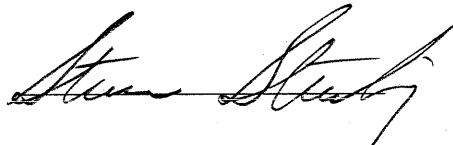
SID HIII Serial No. 059 Calibration No. 04 - 1

Test Date 01/28/2004

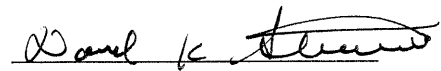
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.0 C	Yes
Relative Humidity	10 - 70 %	24 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.28 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	44.4 g	Yes
Time Above 20 g	3 - 7 ms	6.16 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



01.28.2004 15:52:26 1184

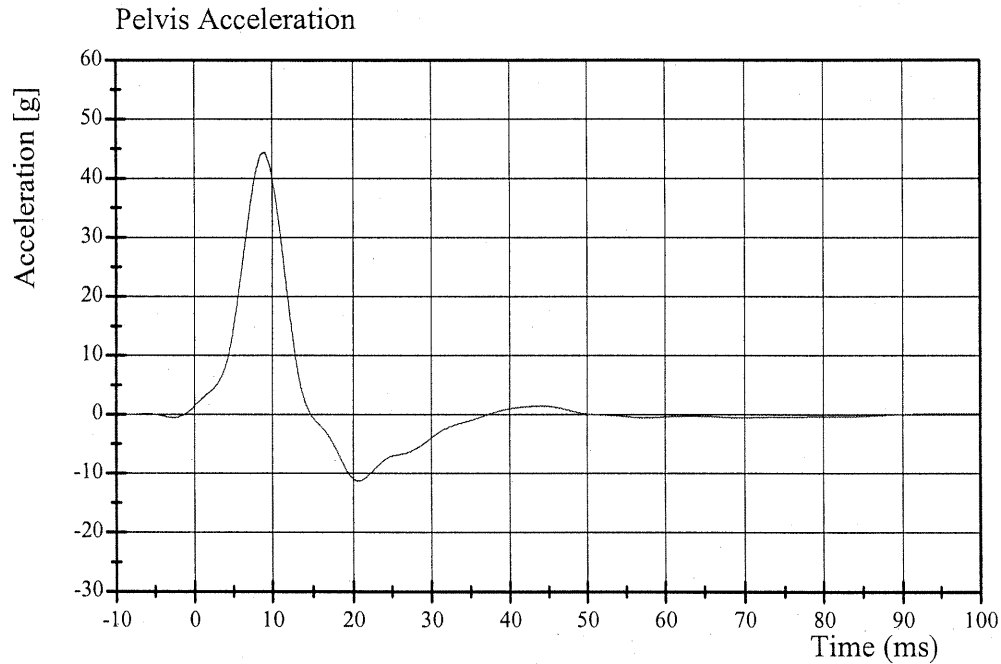


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 059 Calibration No. 04 - 1

Test Date 01/28/2004



Filter Class: FIR 100

Max: 44.4 g at 9.1 ms

Min: -11.3 g at 20.4 ms

01.28.2004 15:52:27 1184



Calibration Test Results

Post-Test

SID HIII: 906

Configured for Left Side Impact

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

Transportation Research Center Inc.

SID/HIII Dummy

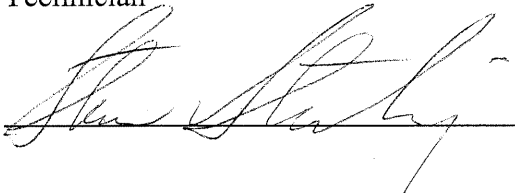
External Dimensions

Serial No. 906 Calibration No. 05

Date: 2/2/04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	894 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	502 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	524 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	491 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	375 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	178 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	178 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	0.0 mm	Yes

Technician



Approved



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 01/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	28 %	Yes
Peak Resultant Acceleration	120 - 150 g	127.9 g	Yes
Peak Longitudinal Acceleration	15 g Max	5.2 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician

V. J. Watson

Approved

David R. Stewart

02.02.2004 17:04:40 608

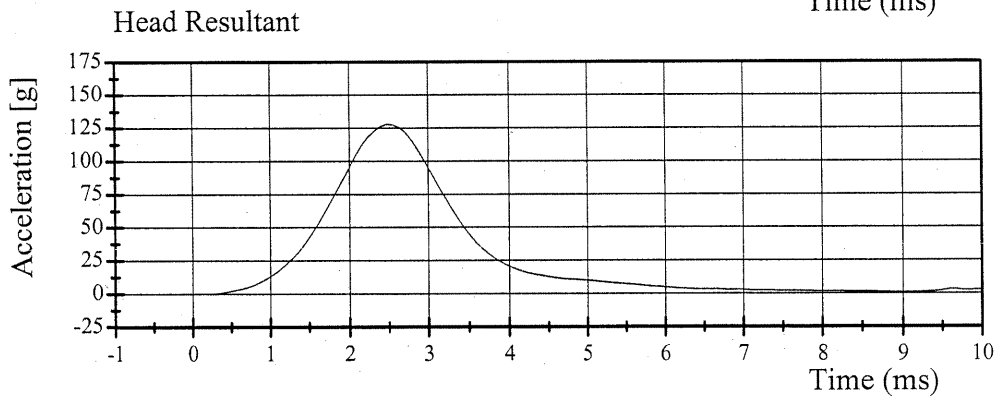
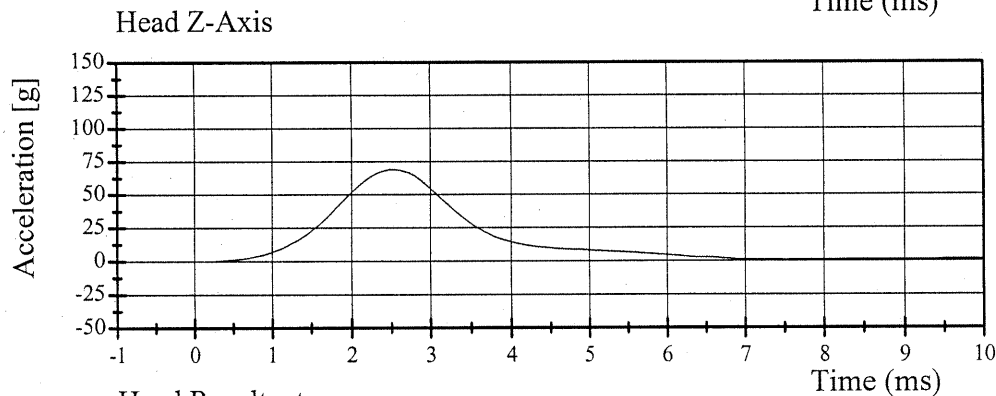
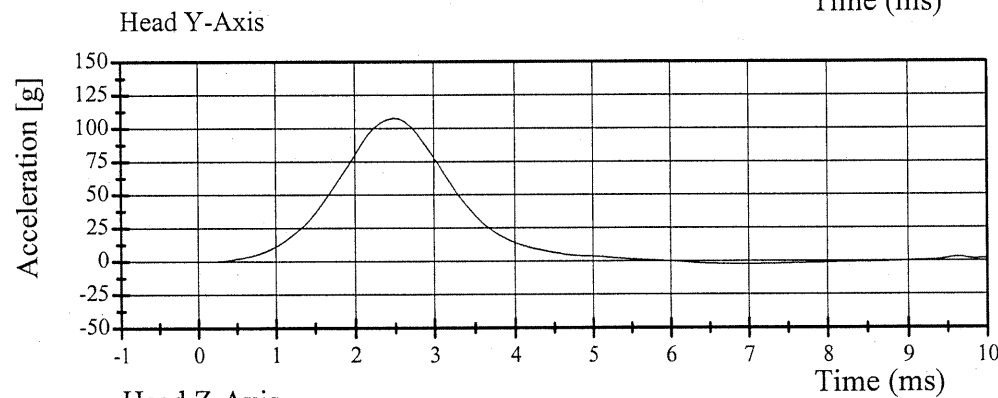
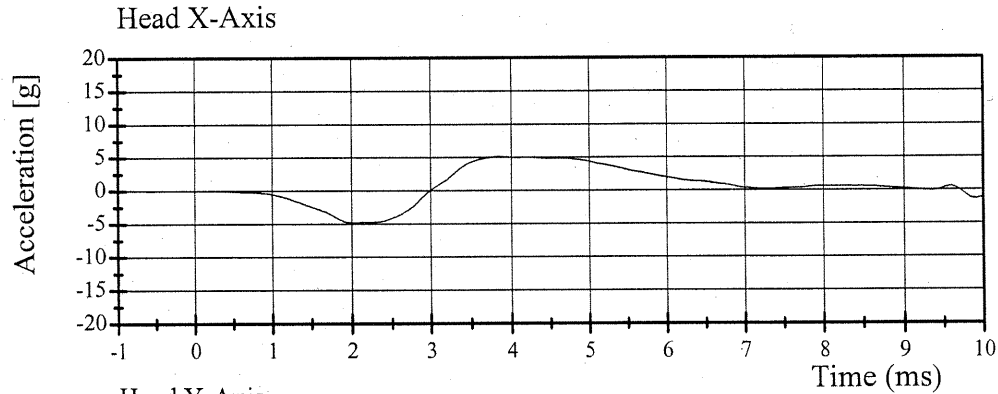


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 01/27/2004



02.02.2004 17:04:41 608



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 01/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.5 °C	Yes
Relative Humidity	10 - 70 %	28 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.06 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.16 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.38 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.09 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.07 - 7.33 m/s	Yes
Peak D Plane Rotation	66 - 82 °	72.0 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	61.9 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	73.4 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	50.5 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	4.4 ms	Yes

Comments:

Technician

V. J. Walton

Approved

David A. Hunter

01.27.2004 21:08:44 514



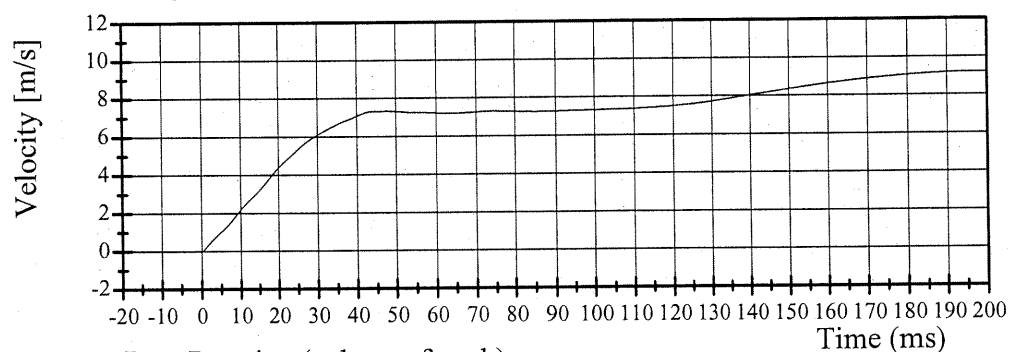
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 01/27/2004

Integrated Pendulum Velocity

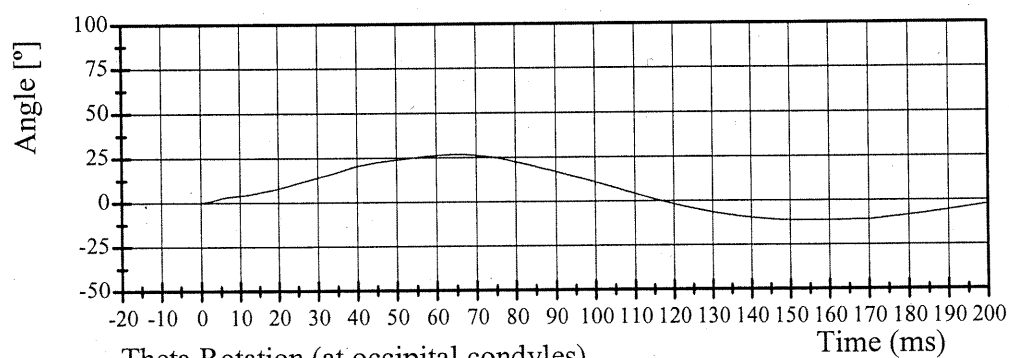


Filter Class: 180

Max: 9.6 m/s at 958.9 ms

Min: -0.0 m/s at -0.6 ms

Beta Rotation (at base of neck)

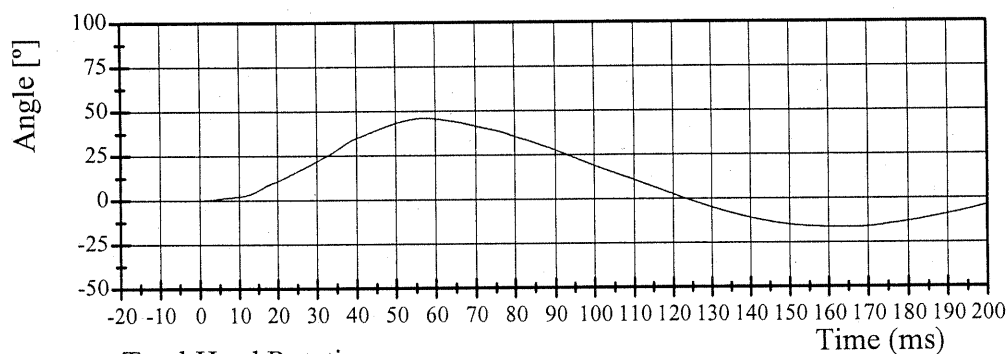


Filter Class: 60

Max: 26.9 ° at 65.4 ms

Min: -11.2 ° at 159.0 ms

Theta Rotation (at occipital condyles)

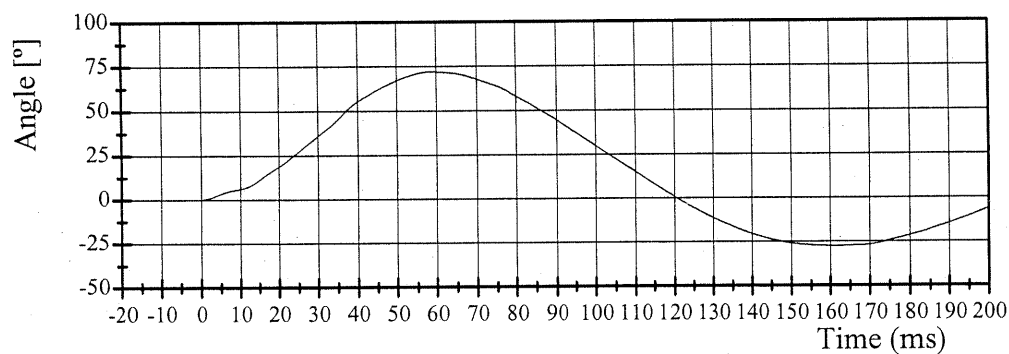


Filter Class: 60

Max: 46.1 ° at 57.2 ms

Min: -16.3 ° at 163.6 ms

Total Head Rotation



Filter Class: 60

Max: 72.0 ° at 58.8 ms

Min: -27.5 ° at 161.2 ms

01.27.2004 21:08:45 514



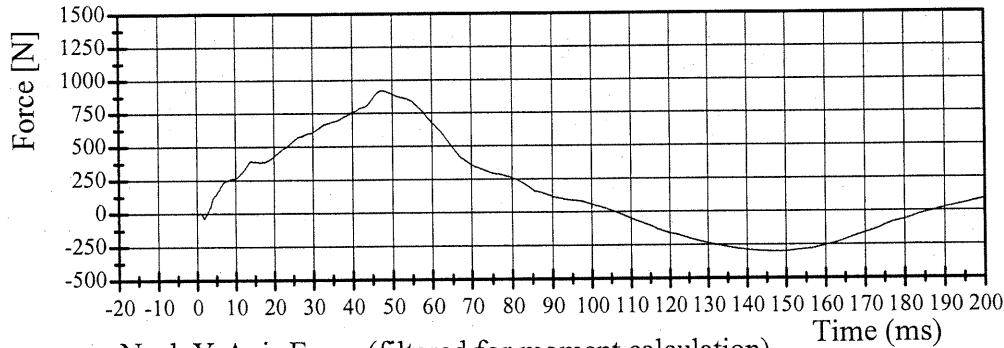
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 01/27/2004

Neck Y-Axis Force

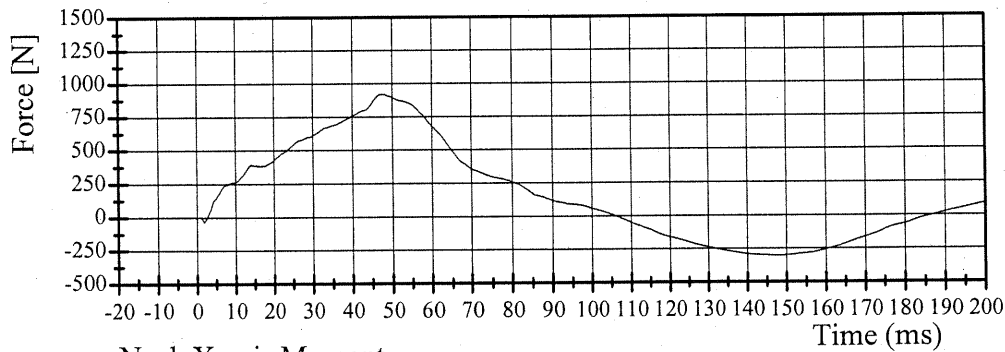


Filter Class: CFC 1000

Max: 920 N at 47.8 ms

Min: -302 N at 148.6 ms

Neck Y-Axis Force (filtered for moment calculation)

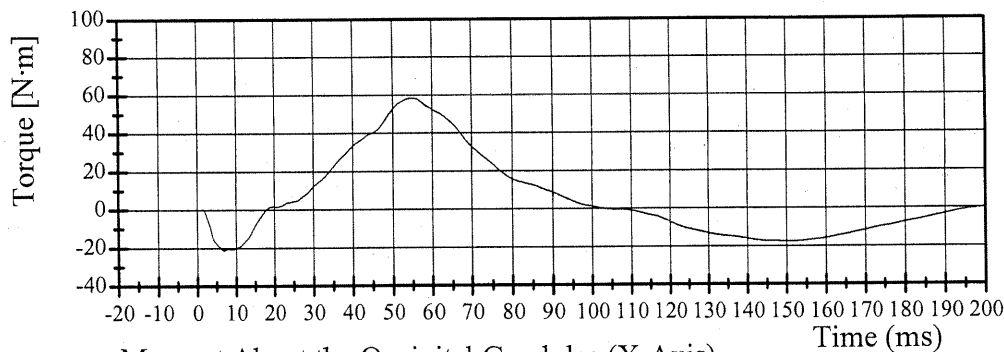


Filter Class: CFC 600

Max: 920 N·m at 47.7 ms

Min: -301 N·m at 148.6 ms

Neck X-axis Moment

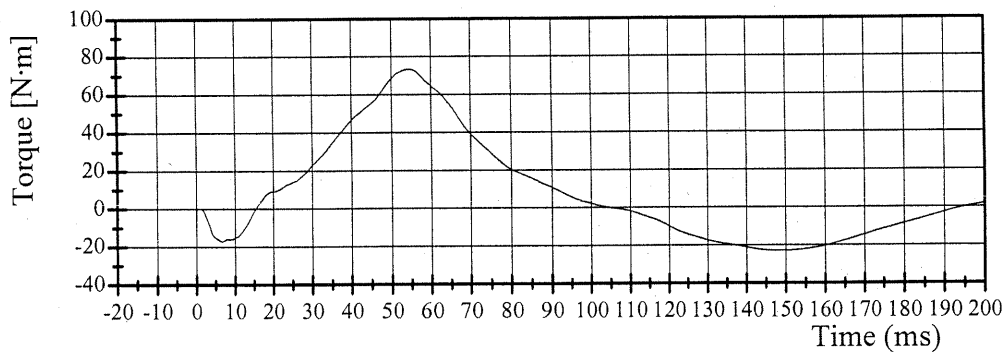


Filter Class: CFC 600

Max: 58.4 N·m at 54.9 ms

Min: -21.1 N·m at 6.9 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 73.4° at 54.4 ms

Min: -22.8° at 148.6 ms

Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 05 - 8

Test Date 01/30/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	20.8 °C	Yes
Relative Humidity	10 - 70 %	21 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.6 - 8.1 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician

John K. Clavidge

Approved

V. J. Watters

01.30.2004 13:25:36 1599

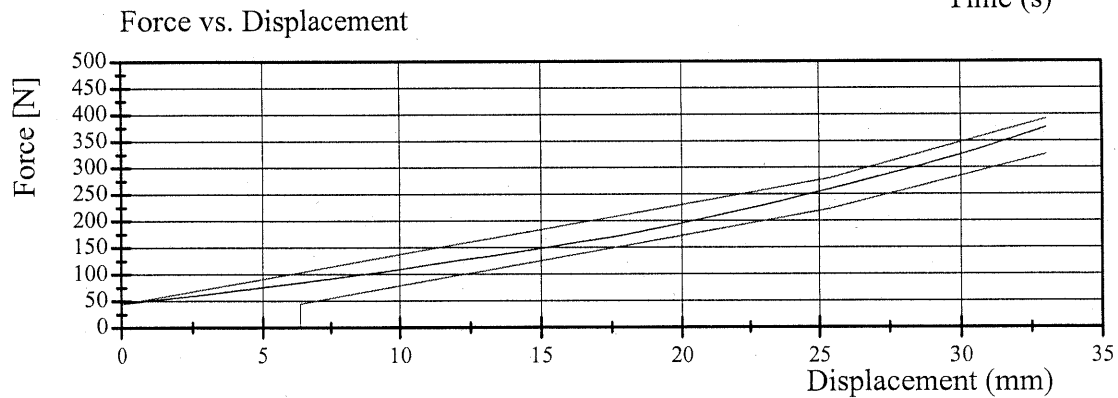
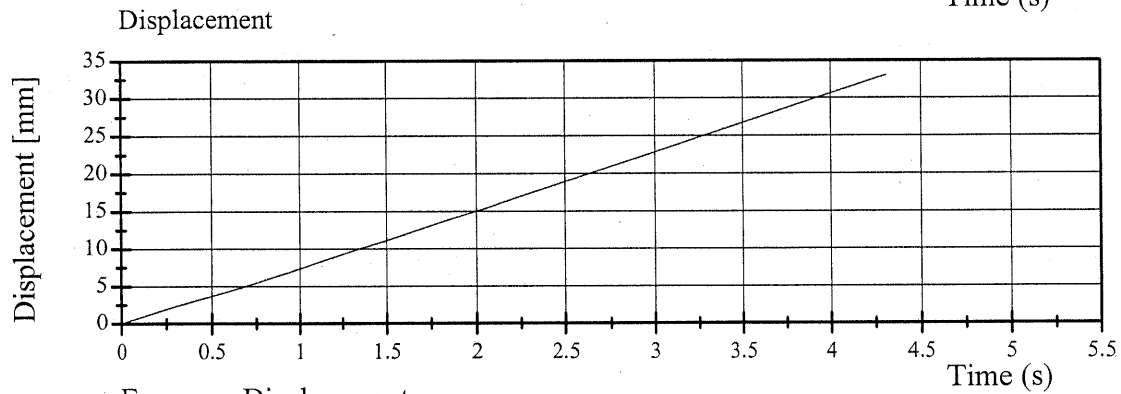
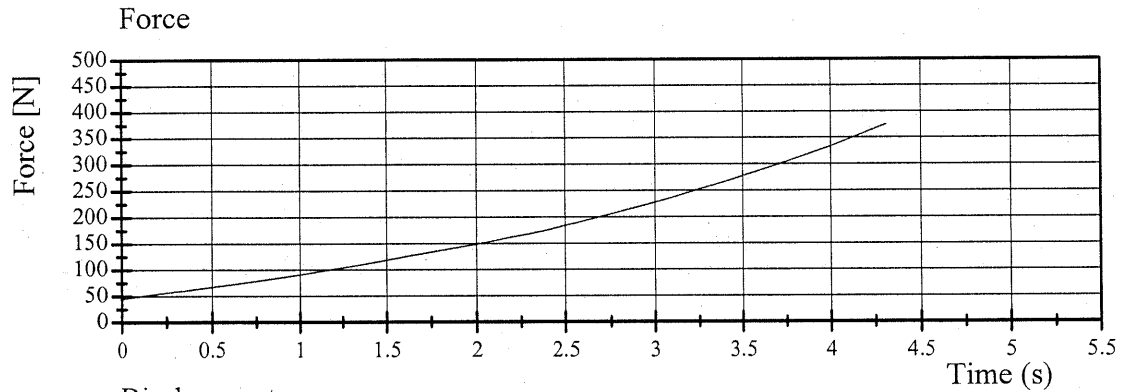


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 05 - 8

Test Date 01/30/2004



01.30.2004 13:25:37 1599



TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

CAL DATE: 02-Feb-04

TRC, INC.

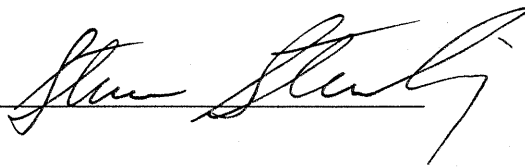
TEST NO: LF90605E

572M SN 906 TORSO FLEX CAL 05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.0 °C
RELATIVE HUMIDITY	10 – 70 %	26 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	115.7 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	177.9 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	258.0 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	9.9 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 05 - 1

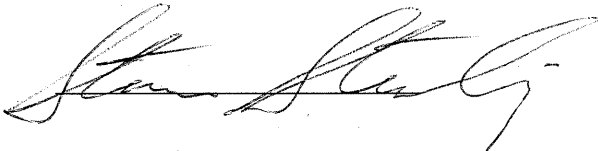
Test Date 02/02/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.1 C	Yes
Relative Humidity	10 - 70 %	27 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.27 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	41.8 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	42.1 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	19.4 g	Yes

Comments:

Post-test calibration

Technician



Approved



02.02.2004 14:25:44 1217



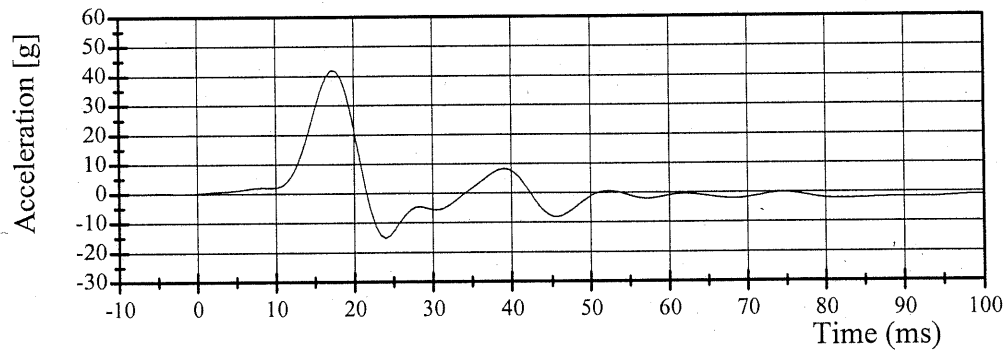
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 02/02/2004

Upper Rib Bar Acceleration

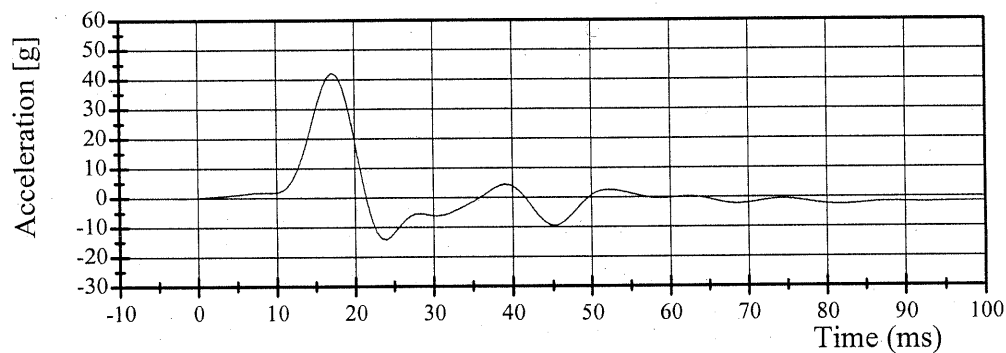


Filter Class: FIR 100

Max: 41.8 g at 17.1 ms

Min: -15.1 g at 24.0 ms

Lower Rib Bar Acceleration

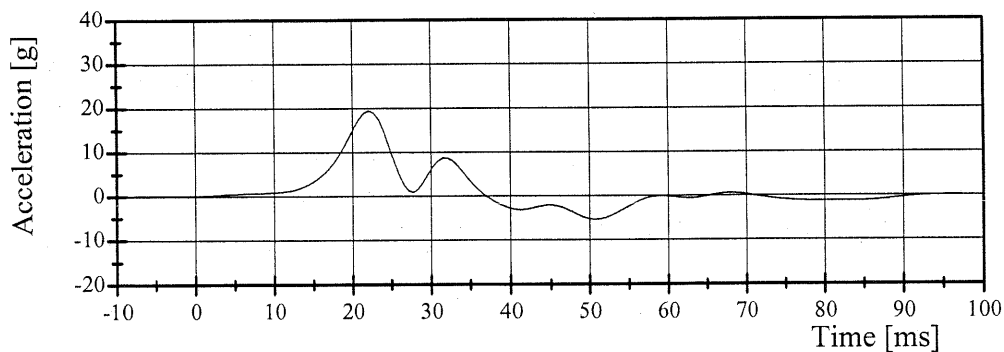


Filter Class: FIR 100

Max: 42.1 g at 17.1 ms

Min: -14.1 g at 23.9 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 19.4 g at 22.1 ms

Min: -5.3 g at 50.8 ms

02.02.2004 14:25:45 1217



Transportation Research Center Inc.

572F Left Pelvis Test

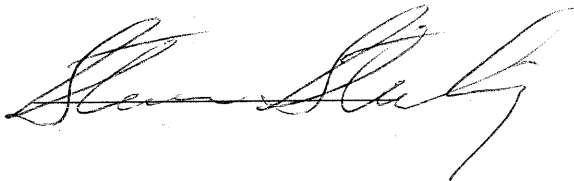
SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 02/02/2004

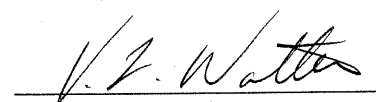
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.1 C	Yes
Relative Humidity	10 - 70 %	26 %	Yes
Pendulum Velocity	4.21 - 4.33 m/sec	4.29 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	45.5 g	Yes
Time Above 20 g	3 - 7 ms	5.92 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



02.02.2004 14:23:04 1165

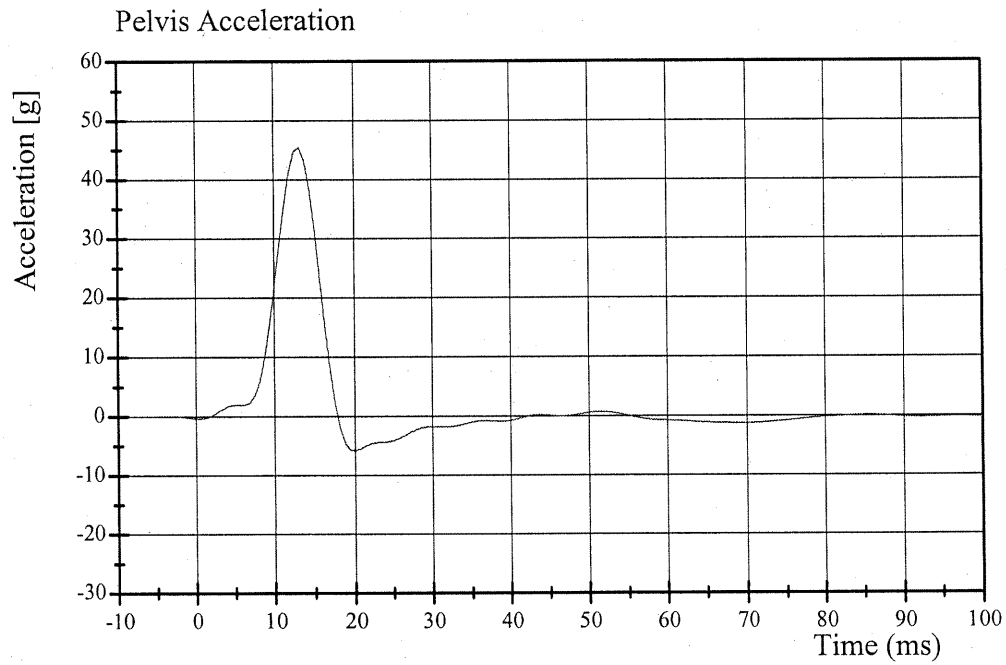


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 906 Calibration No. 05 - 1

Test Date 02/02/2004



Filter Class: FIR 100

Max: 45.5 g at 13.1 ms

Min: -5.9 g at 20.0 ms

02.02.2004 14:23:05 1165



Type: SID HIII S/N: 059 Mfr: ASTC Test Date: 01/21/04Proj./Seg. No.: 20020455-2020 Test Eng.: Walter Dudek

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) N/A	(Right)
NECK:		
Rubber Condition and Separation From End Caps	X	
THORAX: Left side configuration		
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 (30 ft/lbs)	X	
Breakaway Femur Bolts	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: J. Clarridge Date: 01/20/04

Type: SID HIII S/N: 906 Mfr: Unknown Test Date: 01/21/04Proj./Seg. No.: 20020455-2020 Test Eng.: Walter Dudek

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) N/A	(Right)
NECK:		
Rubber Condition and Separation From End Caps	X	
THORAX: Left side configuration		
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 (30 ft/lbs)	X	
Breakaway Femur Bolts	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: J. Clarridge Date: 01/20/04

Transportation Research Center Inc.

SID HIII Post-Use Inspection

Type: SID HIII S/N: 059 Mfr: ASTC Test Date: 01/21/04

Proj./Seg. No.: 20020455-2020 Test Eng.: Walter Dudek

ITEM	POST-USE
HEAD:	
Head Skin Condition	X
Head Ballast Condition	X
NECK:	
Rubber Condition and Separation From End Caps	X
THORAX: Left side configuration	
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:	
Iliac 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: No damage to report.

Inspection Completed By: J. Clarridge

Date: 01/23/04

Type: SID HIII S/N: 906 Mfr: Unknown Test Date: 01/21/04Proj./Seg. No.: 20020455-2020 Test Eng.: Walter Dudek

ITEM	POST-USE
HEAD:	
Head Skin Condition	X
Head Ballast Condition	X
NECK:	
Rubber Condition and Separation From End Caps	X
THORAX: Left side configuration	
Jacket Condition	X
Arm Foam Condition	*
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:	
Iliac 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: *Left side arm foam - cut badly will need replaced.

No other damage found.

Inspection Completed By: J. ClarridgeDate: 01/23/04

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

1/21/2004 7:55:11 AM

Name of Test 040121

System MINIDAU

Name of DAU DAU8

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal.		Group	Mfg.	Model
8001	P21712	HEDXG1	Head Accel X	Rwd	808.59128	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8002	P22733	HEDYG1	Head Accel Y	Lft	799.37548	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8003	P21625	HEDZG1	Head Accel Z	Up	806.14686	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8004	P25076	HEDXR1	Head Accel X Red	Rwd	794.38962	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8005	P16213	HEDYR1	Head Accel Y Red	Lt	807.39268	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8006	P18941	HEDZR1	Head Accel Z Red	Up	811.60339	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8007	1716A-1532-FX	NEKXF1	Neck Force X	Hd	8910.4831	N	-	9/9/2003	OK	059n	Denton	1716A
8008	1716A-1532-FY	NEKYF1	Neck Force Y	Hd	8903.5686	N	+	9/9/2003	OK	059n	Denton	1716A
8009	1716A-1532-FZ	NEKZF1	Neck Force Z	Hd	13353.823	N	+	9/9/2003	OK	059n	Denton	1716A
8010	1716A-1532-MX	NEKXM1	Neck Moment X	Rt Ear	282.57842	N·m	-	9/9/2003	OK	059n	Denton	1716A
8011	1716A-1532-MY	NEKYM1	Neck Moment Y	Chn	282.17998	N·m	+	9/9/2003	OK	059n	Denton	1716A
8012	1716A-1532-MZ	NEKZM1	Neck Moment Z	Chn	282.95095	N·m	+	9/9/2003	OK	059n	Denton	1716A
8013	P27355	LURYG1	Left Upper Rib Y	Rgt	792.44698	g	+	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8014	P27178	LURYR1	Left Upper Rib Red Y	Rgt	798.55262	g	+	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8015	P29214	LLRYG1	Left Lower Rib Y	Rgt	803.51537	g	+	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8016	P25389	LLRYR1	Left Lower Rib Red Y	Rgt	796.13129	g	+	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8017	P27211	T12YG1	Lower Spine Y	Lft	399.22027	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8018	P29206	T12YR1	Lower Spine Red Y	Lft	397.99138	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8019	P27228	PEVYG1	Pelvis Accel Y	Lft	402.61384	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8020	P27230	PEVYR1	Pelvis Accel Red Y	Lft	398.85329	g	-	9/9/2003	OK	059n	Endevco	7264C-2K-2-180
8021	J26885	HEDXG4	Head Accel X	Rwd	803.17505	g	-	9/9/2003	OK	906n	Endevco	7264-2000TZ
8022	J26864	HEDYG4	Head Accel Y	Lft	790.78244	g	-	9/9/2003	OK	906n	Endevco	7264-2000TZ
8023	J27950	HEDZG4	Head Accel Z	Up	791.95668	g	-	9/9/2003	OK	906n	Endevco	7264-2000TZ
8024	J27271	HEDXR4	Head Accel X Red	Rwd	799.75007	g	-	9/9/2003	OK	906n	Endevco	7264-2000TZ
8025	J27283	HEDYR4	Head Accel Y Red	Lt	809.00012	g	-	9/9/2003	OK	906n	Endevco	7264-2000TZ
8026	J26980	HEDZR4	Head Accel Z Red	Up	789.53861	g	-	9/9/2003	OK	906n	Endevco	7264-2000TZ
8027	1716A-1535-FX	NEKXF4	Neck Force X	Hd	8891.7885	N	-	9/9/2003	OK	906n	Denton	1716A
8028	1716A-1535-FY	NEKYF4	Neck Force Y	Hd	8908.0907	N	+	9/9/2003	OK	906n	Denton	1716A
8029	1716A-1535-FZ	NEKZF4	Neck Force Z	Hd	13363.156	N	+	9/9/2003	OK	906n	Denton	1716A
8030	1716A-1535-MX	NEKXM4	Neck Moment X	Rt Ear	282.72169	N·m	-	9/9/2003	OK	906n	Denton	1716A
8031	1716A-1535-MY	NEKYM4	Neck Moment Y	Chn	282.57318	N·m	+	9/9/2003	OK	906n	Denton	1716A
8032	1716A-1535-MZ	NEKZM4	Neck Moment Z	Chn	283.00597	N·m	+	9/9/2003	OK	906n	Denton	1716A

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040121

Channel Report

1/21/2004 7:55:11 AM

Name of Test 040121

System MINIDAU

Name of DAU DAUA

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	EVENT	EVENT	EVENT		5.12	V	+ 11/8/2003	OK -1	TRC	Event
0002	P28081	BCGXG1	MDB CENTER OF GRAVITY	FWD	802.30663	g	- 1/16/2004	OK -1	Endevco	7264C-2K-2-180
0003	P28338	BCGYG1	MDB CENTER OF GRAVITY	LT	798.44054	g	+ 1/15/2004	OK -1	Endevco	7264C-2K-2-180
0004	P27095	BCGZG1	MDB CENTER OF GRAVITY	UP	786.19249	g	- 1/20/2004	OK -1	Endevco	7264C-2K-2-180
0005	P27518	LRRXG1	MDB LT RR X-AXIS ACC	FWD	794.68554	g	- 11/19/2003	OK -1	Endevco	7264C-2K-2-180
0006	P27524	LRRYG1	MDB LT RR Y-AXIS ACC	LT	792.15273	g	+ 12/15/2003	OK -1	Endevco	7264C-2K-2-180

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040121

Channel Report

1/21/2004 7:55:11 AM

Name of Test 040121

System MINIDAU

Name of DAU DAUG

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	P27850	LURYG4	Left Upper Rib Y	Rgt	792.32435 g	+	9/9/2003	OK 906n	Endevco	7264C-2K-2-180
0002	P25374	LURYR4	Left Upper Rib Red Y	Rgt	799.23822 g	+	9/9/2003	OK 906n	Endevco	7264C-2K-2-180
0003	P29211	LLRYG4	Left Lower Rib Y	Rgt	787.98325 g	+	9/9/2003	OK 906n	Endevco	7264C-2K-2-180
0004	P25075	LLRYR4	Left Lower Rib Red Y	Rgt	797.20976 g	+	9/9/2003	OK 906n	Endevco	7264C-2K-2-180
0005	P21635	T12YG4	Lower Spine Y	Lft	397.33043 g	-	9/9/2003	OK 906n	Endevco	7264C-2K-2-180
0006	P24564	T12YR4	Lower Spine Red Y	Lft	397.12087 g	-	9/9/2003	OK 906n	Endevco	7264C-2K-2-180
0007	P21652	PEVYG4	Pelvis Accel Y	Lft	397.45998 g	-	9/9/2003	OK 906n	Endevco	7264C-2K-2-180
0008	P25318	PEVYR4	Pelvis Accel Red Y	Lft	402.78171 g	-	9/15/2003	OK 906n	Endevco	7264C-2K-2-180
0009	P28902	RFSXG1	RT SIDE SILL AT FRONT	FWD	402.80072 g	+	12/24/2003	OK -1	Endevco	7264C-2K-2-180
0010	P29896	RFSYG1	RT SIDE SILL AT FRONT	RT	1001.5845 g	+	1/12/2004	OK -1	Endevco	7264C-2K-2-180
0011	P28954	RFSZG1	RT SIDE SILL AT FRONT	UP	402.05108 g	-	1/12/2004	OK -1	Endevco	7264C-2K-2-180
0012	P29849	RRSXG1	RT SIDE SILL AT RR SEAT	RR	398.38157 g	-	12/22/2003	OK -1	Endevco	7264C-2K-2-180
0013	P30027	RRSYG1	RT SIDE SILL AT RR SEAT	LT	994.65760 g	-	12/22/2003	OK -1	Endevco	7264C-2K-2-180
0014	P28856	RRSZG1	RT SIDE SILL AT RR SEAT	UP	398.53662 g	-	1/12/2004	OK -1	Endevco	7264C-2K-2-180
0015	P28938	RDKXG1	VEHICLE RR DECK X-AXIS	FWD	1006.6058 g	+	12/15/2003	OK -1	Endevco	7264C-2K-2-180
0016	P27976	RDKYG1	VEHICLE RR DECK Y-AXIS	LT	1014.6650 g	-	12/11/2003	OK -1	Endevco	7264C-2K-2-180
0017	P29876	RDKZG1	VEHICLE RR DECK Z-AXIS	UP	992.63280 g	-	12/24/2003	OK -1	Endevco	7264C-2K-2-180
0018	P29799	LRSYG1	LT SIDE SILL AT RR SEAT	RT	1025.0045 g	+	1/15/2004	OK -1	Endevco	7264C-2K-2-180
0019	P27185	LFSYG1	LT SIDE SILL AT FR SEAT	RT	1005.8148 g	+	1/16/2004	OK -1	Endevco	7264C-2K-2-180
0020	P28587	RRTYG1	RT RR OCCUPANT CMP	LT	1470.7572 g	-	1/16/2004	OK -1	Endevco	7264C-2K-2-180
0021	P30401	LLBYG1	LT LWR B-POST Y-AXIS	RT	1510.4135 g	+	1/14/2004	OK -1	Endevco	7264C-2K-2-180
0022	P28926	LUBYG1	LT MID B-POST Y-AXIS	RT	1531.4668 g	+	1/6/2004	OK -1	Endevco	7264C-2K-2-180
0023	P28870	LLAYG1	LT LWR A-POST Y-AXIS	LT	1516.3630 g	-	12/24/2003	OK -1	Endevco	7264C-2K-2-180
0024	J34632	LUAYG1	LT MID A-POST Y-AXIS	LT	1470.7572 g	-	1/14/2004	OK -1	Endevco	7264-2000TZ
0025	P27167	LFTYG1	LT FR SEAT TRACK Y-AXIS	RT	1464.6146 g	+	1/15/2004	OK -1	Endevco	7264C-2K-2-180
0026	P29825	LRTYG1	LT RR SEAT TRACK Y-AXIS	RT	1460.6036 g	+	1/6/2004	OK -1	Endevco	7264C-2K-2-180
0027	P28267	VCGXG1	VEHICLE CG X-AXIS	FWD	1017.0838 g	+	1/12/2004	OK -1	Endevco	7264C-2K-2-180
0028	P22840	VCGYG1	VEHICLE CG Y-AXIS	LT	983.10291 g	-	11/28/2003	OK -1	Endevco	7264C-2K-2-180
0029	P28249	VCGZG1	VEHICLE CG Z-AXIS	UP	1010.4797 g	-	11/28/2003	OK -1	Endevco	7264C-2K-2-180

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040121

Digital and System Channel Report

2004-01-21 12:46:36

Name of Test	040121	System	MINIDAU	Name of DAU	DAUA	descriptio
enable	Channel	Short Name	Type	Data File	Module Type	
d						
Yes	0501	DIGA	dig0	DATA0501	KM3710 Controller	

bit position	bit	short	long	descriptio
MSB = bit 15	1	MDBR1	MDB RT SIDE CONTACT SWITCH	J
bit 14	1	MDBL1	MDB LT SIDE CONTACT SWITCH	K
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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040121

Dummy 059n Type SID/HIII Descriptio NHTSA - 059n SID-LEFT IMP. CONFIG. w/RED ACCELS ICAL'd 9-9-03(DKS

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/	Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7264C-2K-2-18	P21712	Endevco	0.01583 g	2000	9/9/2003	Rwd	1
HEDYG	Head Accel Y	7264C-2K-2-18	P22733	Endevco	0.0183 g	2000	9/9/2003	Lft	1
HEDZG	Head Accel Z	7264C-2K-2-18	P21625	Endevco	0.01868 g	2000	9/9/2003	Up	1
HEDXR	Head Accel X Red	7264C-2K-2-18	P25076	Endevco	0.01572 g	2000	9/9/2003	Rwd	1
HEDYR	Head Accel Y Red	7264C-2K-2-18	P16213	Endevco	0.01626 g	2000	9/9/2003	Lt	1
HEDZR	Head Accel Z Red	7264C-2K-2-18	P18941	Endevco	0.02035 g	2000	9/9/2003	Up	1
NEKXF	Neck Force X	1716A	1716A-1532-FX	Denton	0.000194123 N	8896.4	9/9/2003	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-1532-FY	Denton	0.000184311 N	8896.4	9/9/2003	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1532-FZ	Denton	0.00009756 N	13344.6	9/9/2003	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-1532-MX	Denton	0.005979823 N	282.5	9/9/2003	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1532-MY	Denton	0.005929558 N	282.5	9/9/2003	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-1532-MZ	Denton	0.008416283 N	282.5	9/9/2003	Chn to Lt Shld	0
LURYG	Left Upper Rib Y	7264C-2K-2-18	P27355	Endevco	0.02485 g	2000	9/9/2003	Rgt	0
LURYR	Left Upper Rib Red Y	7264C-2K-2-18	P27178	Endevco	0.01781 g	2000	9/9/2003	Rgt	0
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P29214	Endevco	0.02655 g	2000	9/9/2003	Rgt	0
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P25389	Endevco	0.01649 g	2000	9/9/2003	Rgt	0
T12YG	Lower Spine Y	7264C-2K-2-18	P27211	Endevco	0.0171 g	2000	9/9/2003	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P29206	Endevco	0.02042 g	2000	9/9/2003	Lft	1
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P27228	Endevco	0.03437 g	2000	9/9/2003	Lft	1
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P27230	Endevco	0.01808 g	2000	9/9/2003	Lft	1

Wednesday, January 21, 059n
2004

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040121

Dummy 906n Type SID/HIII Descriptio NHTSA - 906n SID-LEFT IMP. CONFIG. w/RED ACCELS ICAL'd 9-9-03(DKS

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/	Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7264-2000TZ	J26885	Endevco	0.02361 g	2000	9/9/2003	Rwd	1
HEDYG	Head Accel Y	7264-2000TZ	J26864	Endevco	0.02398 g	2000	9/9/2003	Lft	1
HEDZG	Head Accel Z	7264-2000TZ	J27950	Endevco	0.02586 g	2000	9/9/2003	Up	1
HEDXR	Head Accel X Red	7264-2000TZ	J27271	Endevco	0.03201 g	2000	9/9/2003	Rwd	1
HEDYR	Head Accel Y Red	7264-2000TZ	J27283	Endevco	0.02344 g	2000	9/9/2003	Lt	1
HEDZR	Head Accel Z Red	7264-2000TZ	J26980	Endevco	0.03088 g	2000	9/9/2003	Up	1
NEKXF	Neck Force X	1716A	1716A-1535-FX	Denton	0.000186952 N	8896.4	9/9/2003	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-1535-FY	Denton	0.000179612 N	8896.4	9/9/2003	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1535-FZ	Denton	0.000093678 N	13344.6	9/9/2003	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-1535-MX	Denton	0.005785841 N	282.5	9/9/2003	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1535-MY	Denton	0.00568 N	282.5	9/9/2003	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-1535-MZ	Denton	0.008186195 N	282.5	9/9/2003	Chn to Lt Shld	0
LURYG	Left Upper Rib Y	7264C-2K-2-18	P27850	Endevco	0.01795 g	2000	9/9/2003	Rgt	0
LURYR	Left Upper Rib Red Y	7264C-2K-2-18	P25374	Endevco	0.02209 g	2000	9/9/2003	Rgt	0
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P29211	Endevco	0.02096 g	2000	9/9/2003	Rgt	0
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P25075	Endevco	0.01784 g	2000	9/9/2003	Rgt	0
T12YG	Lower Spine Y	7264C-2K-2-18	P21635	Endevco	0.01895 g	2000	9/9/2003	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P24564	Endevco	0.01896 g	2000	9/9/2003	Lft	1
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P21652	Endevco	0.02221 g	2000	9/9/2003	Lft	1
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P25318	Endevco	0.01926 g	2000	9/15/2003	Lft	1

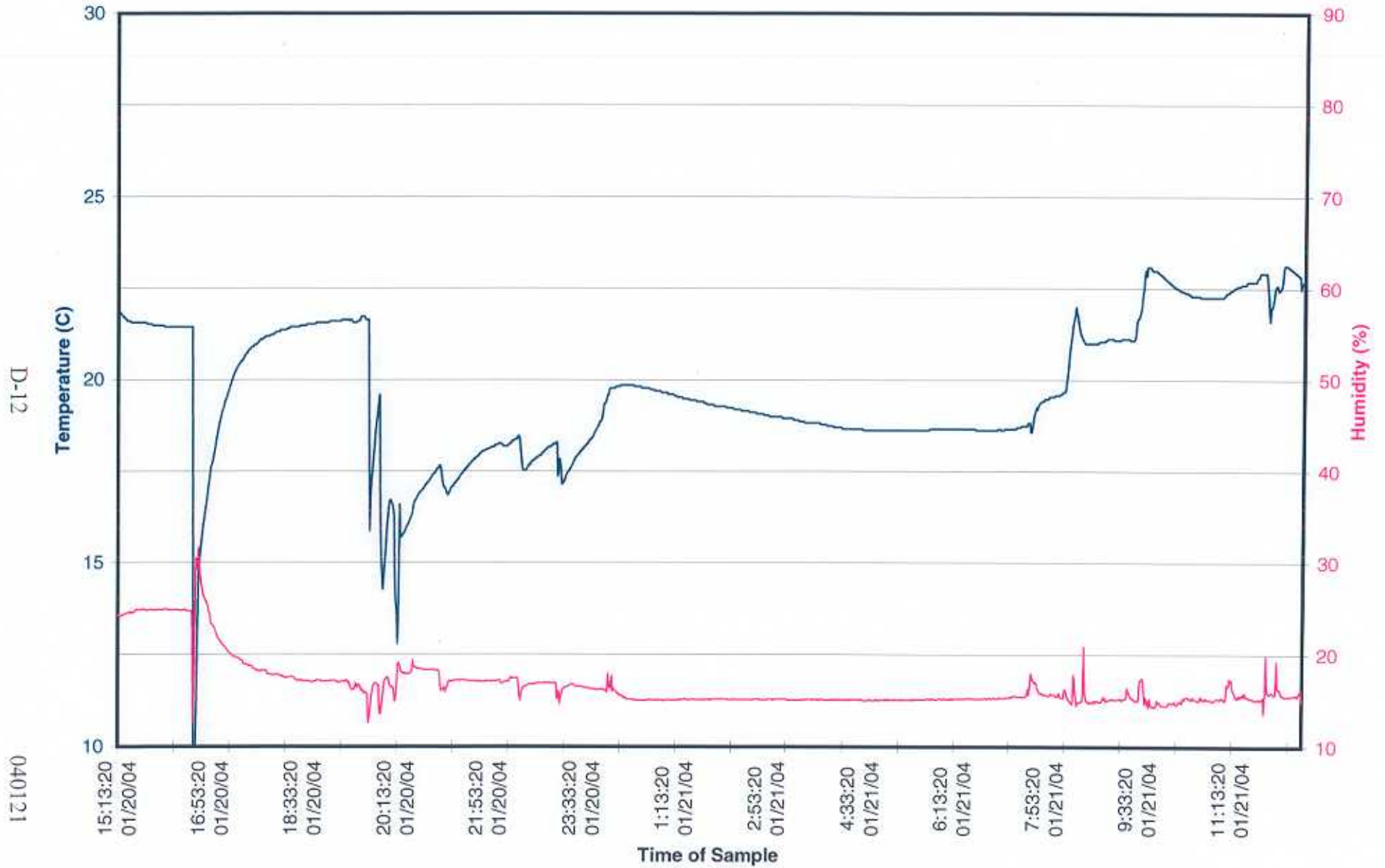
Wednesday, January 21, 906n
2004

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040121

NCAP SIDE IMPACT TESTING/040121





SIDE IMPACTOR BARRIER CERTIFICATION

Date: December 2, 2003

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

PURCHASE ORDER INFORMATION

Customer P.O. Number: 027358
Work Order Number: 19171
Quantity: 01 piece

CORE INFORMATION

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

Unit Number: 013B1003

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


Quality Control Representative
Karl D. Zwaanstra



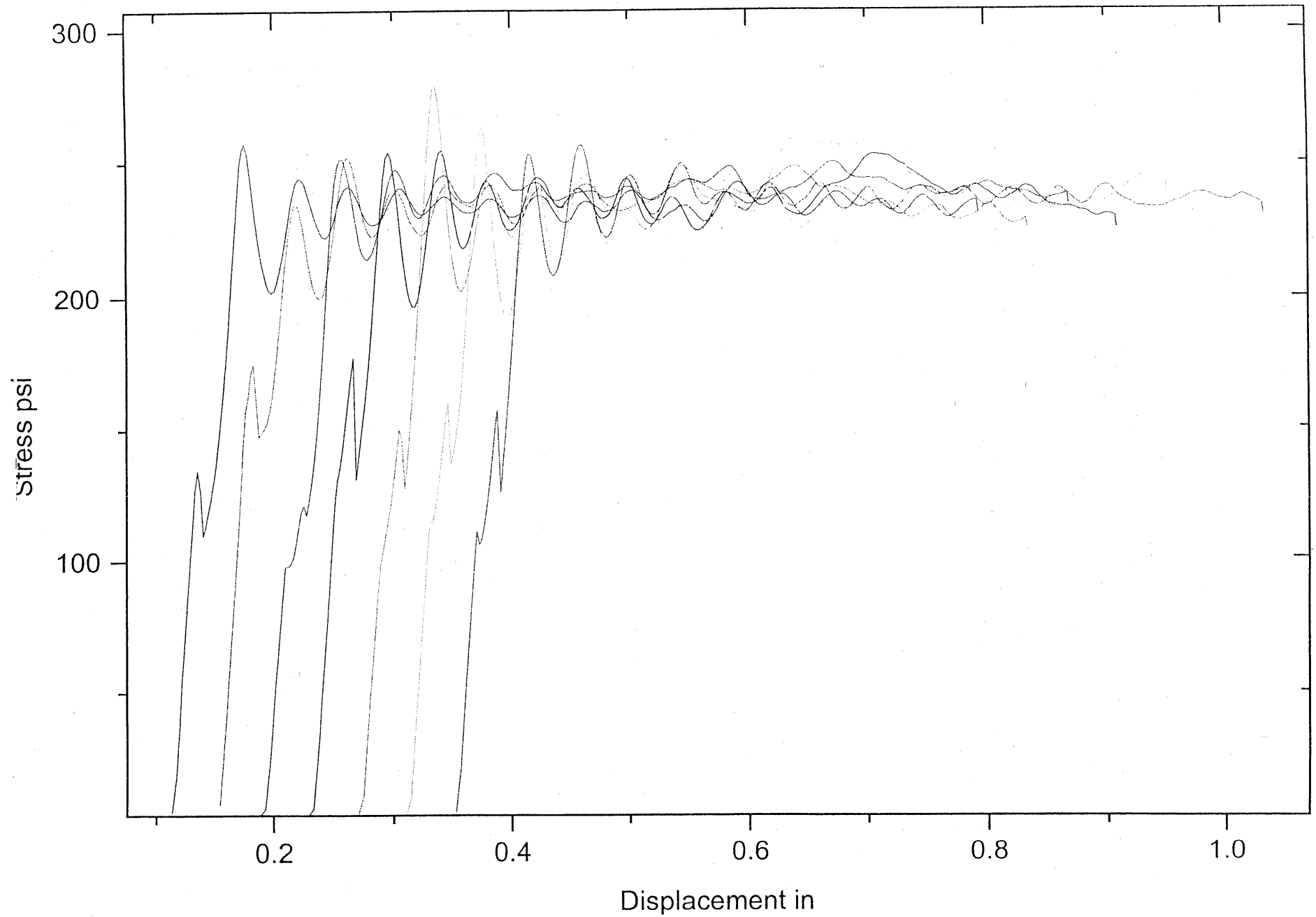


Crush Data
232 - 250 psi per DWG # DSL-1285

Block Number: 013B1003

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	233.04	234.49	234.30
2	235.81	241.82	234.10
3	240.84	242.06	240.00
4	233.60	242.54	238.72
5	245.32	246.99	234.73
6	234.66	233.68	234.62
7	236.35	237.59	235.63

BLOCK # 013B1003 Sample ID: IN228287



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040121



SIDE IMPACTOR BARRIER CERTIFICATION

Date: December 2, 2003

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

PURCHASE ORDER INFORMATION

Customer P.O. Number: 027358
Work Order Number: 19171
Quantity: 01 piece

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 Number: 019A1103

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


Quality Control Representative
Karl D. Zwaanstra



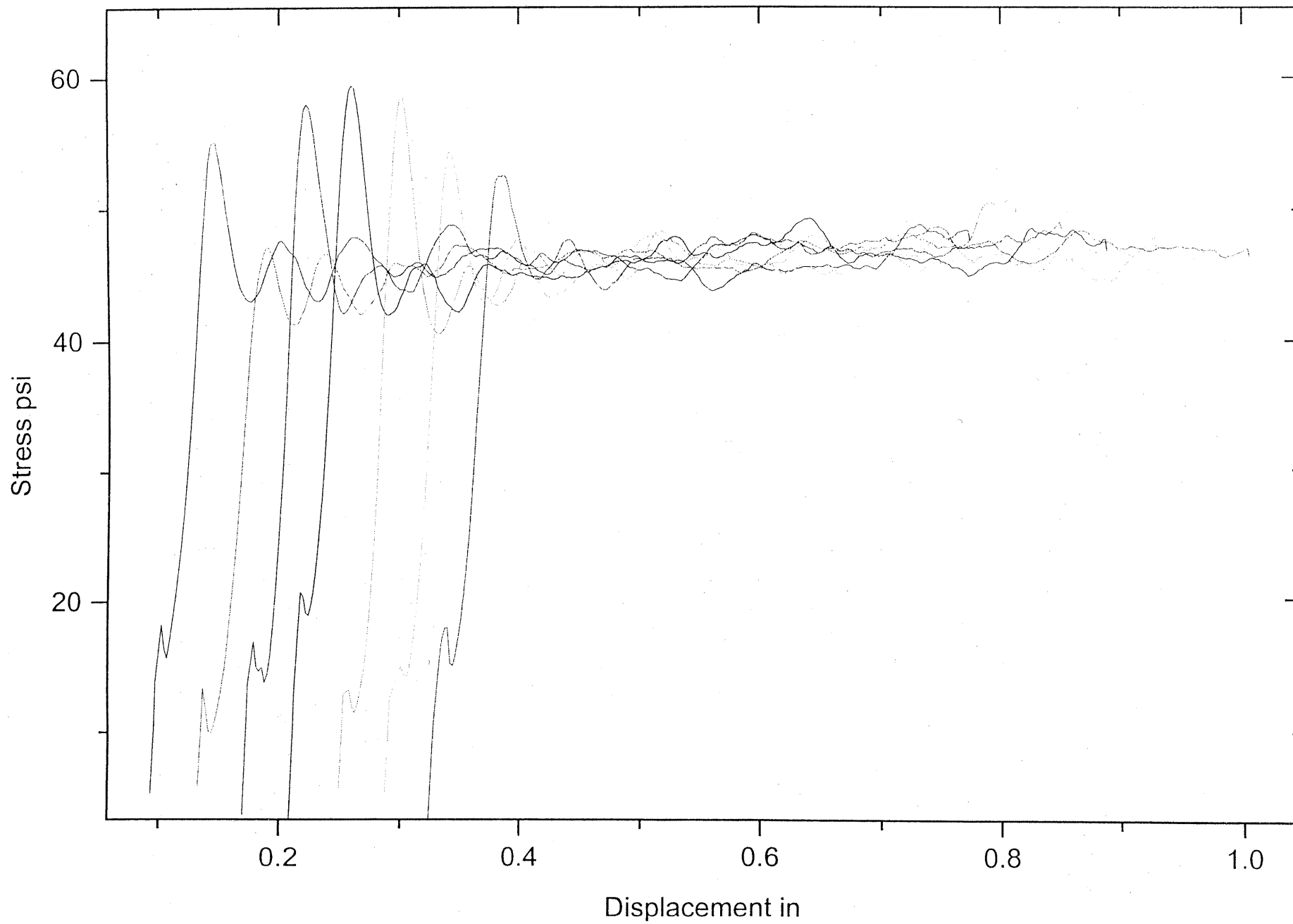


Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 019A1103

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	46.17	45.41	45.56
2	46.30	46.10	47.34
3	45.91	47.10	46.87
4	46.66	47.11	45.85
5	46.42	46.89	46.02
6	45.68	46.27	46.80
7	47.34	47.26	47.46

BLOCK # 019A1103 Sample ID: IN228598



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040121