

Report Number: 214-TRC-04-003

Safety Compliance Testing For FMVSS 214

Side Impact Protection

Indicant

**Nissan Motor Company
2005 Nissan Altima 4-door**

NHTSA Number: C55200

Transportation Research Center Inc.

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P. O. Box B-67

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Test Date: October 5, 2004

Final Report: October 18, 2004

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

Enforcement

Office of Vehicle Safety Compliance

400 Seventh Street, S. W.

Room No. 6111 (NVS-220)

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16. Abstract This 55/28 km/h 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject vehicle, a 2005 Nissan Altima 4-door 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 October 5, 2004. The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 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 463 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>87.1</u></td> <td>g's</td> <td><u>61.9</u></td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td><u>88.3</u></td> <td>g's</td> <td><u>85.9</u></td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td><u>84.8</u></td> <td>g's</td> <td><u>71.0</u></td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td><u>86.5</u></td> <td>g's</td> <td><u>78.4</u></td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td><u>109.5</u></td> <td>g's</td> <td><u>103.3</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>87.1</u>	g's	<u>61.9</u>	g's	Left Lower Rib Acceleration:	<u>88.3</u>	g's	<u>85.9</u>	g's	Lower Spine Acceleration:	<u>84.8</u>	g's	<u>71.0</u>	g's	Thoracic Trauma Index, (TTI):	<u>86.5</u>	g's	<u>78.4</u>	g's	Pelvis Acceleration (PEV):	<u>109.5</u>	g's	<u>103.3</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 2005 Nissan Altima 4-door. 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 2005 Nissan Altima 4-door was impacted on the driver's side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 62.0 km/h (38.5 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 October 5, 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 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)	86.5	78.4
PEV (g)	109.5	103.3

Head Injury Criteria (HIC)

Injury Criteria	Front SID HIII	Rear SID HIII
HIC	608	943
t_1 (ms)	45.76	55.60
t_2 (ms)	81.76	65.20
Average Acceleration $t_1 - t_2$ (g)	49.1	99.0

HIC is as defined in FMVSS 208. The maximum time interval t_1 to t_2 is 36 ms.

Neck Injury Criteria

Maximum Values	Front SID HIII	Rear SID HIII
Neck X-axis Force (N)	-854	352
Neck Y-axis Force (N)	1035	1277
Neck Z-axis Force (N)	2864	1543
Moment About X-axis (Nm) ¹	111	-206
Moment About Y-axis (Nm)	27	-30
Moment About Z-axis (Nm)	30	-33

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

Data Acquisition Explanations

The vehicle's left lower A-pillar Y-axis acceleration channel, LLAYG1, recorded questionable data throughout the test. The velocity was also affected.

The vehicle's left lower B-pillar Y-axis acceleration channel, LLTYG1, recorded questionable data throughout the test. The velocity was also affected.

The vehicle's left rear seat track Y-axis acceleration channel, LRTYG1, exceeded full-scale at approximately 42 milliseconds and recorded no useful data after that. The velocity was also affected.

The moving deformable barrier onboard left side high-speed camera's film broke during the test. No images were recorded from this view.

Section 3

Summary of Test Results

Data Sheet 1

General Test Vehicle Parameter Data

Test Vehicle Information:

Vehicle Year/Make/Model: 2005 Nissan Altima
Vehicle Body Style/Color: 4-door/ Super Black VIN: 1N4AL11D95C232675
Vehicle NHTSA No.: C55200 Build Date: 08/04
Engine Data: 4 Cylinders; CID; 2.5 Liters; cc
Placement: - Longitudinal; or X Lateral; or - Horizontal
Transmission: 4 Speed; - Manual; X Automatic; - Overdrive
Final Drive: - RWD; X FWD; - Four-Wheel Drive
Odometer Reading: 61 miles
Options: X A/C; X Power steering; X Pwr. brakes; X Power windows

Data From Vehicle's Tire Placard:

Tire Pressure (at capacity)* 200 kPa Front; 200 kPa Rear
Recommended Tire Size: P215/60R16
Tires on Test Vehicle: P215/60R16 Manufacturer: Continental

Vehicle Capacity Data:

Number of Occupants: 2 Front; 3 Rear; 3rd seat; 5 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 = 390 kg (A)
No. of Occupants x 68.04 kg. = 340 kg (B)
Vehicle Cargo Capacity (A-B) = 50 kg

Test Vehicle Delivered Weight With Maximum Fluids:

Left Front	=	<u>440.5</u> kg	Left Rear	=	<u>277.0</u> kg
Right Front	=	<u>417.5</u> kg	Right Rear	=	<u>281.5</u> kg
Total Front	=	<u>858.0</u> kg	Total Rear	=	<u>558.5</u> kg
Front % of Total Weight	=	<u>60.6</u> %	Rear % of Total Weight	=	<u>39.4</u> %
Total Weight	=	<u>1416.5</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 = 1416.5 kg (A)

Maximum Cargo Carrying Capacity of Test Vehicle = 50.0 kg (B)

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

Test Vehicle Target Weight: = 1634.5 kg (A+B+C)

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

Left Front = 486.0 kg Left Rear = 374.5 kg

Right Front = 422.0 kg Right Rear = 344.0 kg

Total Front = 908.0 kg Total Rear = 718.5 kg

Front % of Total Weight = 55.8 % Rear % of Total Weight = 44.2 %

Total Weight = 1626.5 kg

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

Left Front = 486.0 kg Left Rear = 364.6 kg

Right Front = 431.8 kg Right Rear = 345.4 kg

Total Front = 917.8 kg Total Rear = 710.0 kg

Front % of Total Weight = 56.4 % Rear % of Total Weight = 43.6 %

Total Weight = 1627.8 kg

Test Vehicle Attitude (all dimensions in millimeters):

As Delivered	Fully Loaded	Ready For Test
Right Front <u>722</u>	Right Front <u>707</u>	Right Front <u>710</u>
Left Front <u>724</u>	Left Front <u>703</u>	Left Front <u>710</u>
Right Rear <u>682</u>	Right Rear <u>656</u>	Right Rear <u>659</u>
Left Rear <u>685</u>	Left Rear <u>654</u>	Left Rear <u>655</u>

Test Vehicle Wheelbase: 2800 mm

C.G. = 1221 mm rearward of front wheel centerline

Total Vehicle Length:

Right Side = 4610 mm

Left Side = 4605 mm

Centerline = 4885 mm

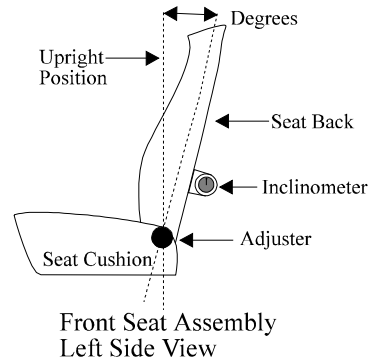
Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

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 (11th of 21 total)

Total Length of Fore/Aft Adjustment Travel: 240 mm

Total Number of Adjustment Positions or Detents: 21

Front Seat Back Adjustment Position: 10.7° measured at the head restraint support post

Seat Back Torso Angle: N/A¹ degrees

Second Position Seat Placement: Fixed

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

Seat Back Adjustment Position: N/A

Adjustable Steering Column Position: Tilt adjusted to 3rd notch below full up (4th of 7 total). Telescoping adjusted to the middle of the geometric range of travel.

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:

75.0 liters (fuel tank usable capacity)

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

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

Wheelbase = 2800 millimeters

Intended impact point is 455 millimeters rearward of front axle centerline (which is 945 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 477 millimeters rearward of front axle centerline

¹ The seat back torso angle was not measured independently of the head restraint support measurement specified by the manufacturer.

Data Sheet 2

Test Vehicle Summary of Results

Vehicle Year/Make/Model: 2005/Nissan/Altima

Body Style: 4-door

VIN: 1N4AL11D95C232675

NHTSA No.: C55200

Build Date: 08/04

Test Date: 10/05/04

Vehicle Overall Length = 4885 mm

Overall Width = 1775 mm

Vehicle Test Weight (Pre-Test):

Left Front = 486.0 kg Left Rear = 364.6 kg

Right Front = 431.8 kg Right Rear = 345.4 kg

Total Front = 917.8 kg Total Rear = 710.0 kg

Total Weight = 1627.8 kg

Wheelbase = 2800 mm

Longitudinal C.G. From Center Of Front Axle = 1221 mm

Impact Angle With Respect To Impactor = 90 degrees

Impact Point:

Actual Impact Point is 22 mm right of nominal impact ref. line (Lateral)

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

Maximum Exterior Static Crush:

1. Level 1 (260 mm above ground) = 232 mm

2. Level 2 (509 mm above ground) = 463 mm

3. Level 3 (635 mm above ground) = 405 mm

4. Level 4 (920 mm above ground) = 347 mm

5. Level 5 (1397 mm above ground) = 174 mm

Maximum Post-Test Intrusion = 463 mm

Occupants:

Front Passenger

Rear Passenger

Dummy Identification 055

059

Restraints Used 3-point seat belt

3-point seat belt

Instrumentation:

Number of Vehicle Data Channels: = 21

Number of Cameras: Onboard = 3 Offboard = 6 Total = 9

Data Sheet 3

Moving Deformable Barrier(MDB) Summary

MDB Face Manufacturer And Serial Number:

Plascore, 047A0504 014A0604

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 = 1109 mm

MDB Weight:

Left Front = 475.4 kg Left Rear = 196.6 kg

Right Front = 303.0 kg Right Rear = 386.2 kg

Total Front = 778.4 kg Total Rear = 582.8 kg

Total MDB Weight = 1361.2 kg

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

Impact Speed = 62.0 km/h

Maximum Static Crush of Honeycomb Impact Face:

1. Row A at Center of Bumper Level = 151 millimeters

2. Row B at Top of Bumper Level = 92 millimeters

3. Row C at Mid Level = 42 millimeters

4. Row D at Top of Stack Level = 56 millimeters

Instrumentation:

Number of MDB Data Channels = 5

Data Sheet 4

Post-Test Observations

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Visible Dummy Contact Points:

	<u>Left Front SID HIII</u>	<u>Left Rear SID HIII</u>
Head:	<u>Side window sill, head restraint</u>	<u>Side head liner, C-pillar</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: 0 mm from target

Horizontal: 22 mm right from target

Arm Rest Locations:

Front: 249 mm below the bottom of the window

Rear: 306 mm below the bottom of the window

Seat Movement:

Front: None

Rear: None

Glazing Damage:

Windshield: Yes

Window: Side window was broken on the front and rear left side.

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: 2005 Nissan Altima 4-door

NHTSA No.: C55200

TEST NUMBER: 041005

DRIVER DUMMY SERIAL NUMBER: 055

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	5.1 g	@ 246.4 ms	20.3 g	@ 77.9 ms
LATERAL	40.5 g	@ 79.4 ms	10.0 g	@ 35.4 ms
VERTICAL	68.0 g	@ 50.0 ms	4.4 g	@ 40.4 ms
RESULTANT	74.3 g	@ 50.0 ms		
HIC 36	608 from 45.8 to 81.8 ms			

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	5.2 g	@ 199.8 ms	19.9 g	@ 77.4 ms
LATERAL	40.1 g	@ 80.0 ms	10.1 g	@ 35.4 ms
VERTICAL	72.0 g	@ 50.0 ms	4.0 g	@ 40.5 ms
RESULTANT	79.5 g	@ 50.1 ms		
HIC 36	677 from 45.6 to 81.6 ms			

NECK FORCE

X-AXIS SHEAR	189.0 N	@ 209.2 ms	854.3 N	@ 73.6 ms
Y-AXIS SHEAR	1035.5 N	@ 78.7 ms	328.3 N	@ 34.5 ms
Z-AXIS AXIAL	2864.2 N	@ 52.7 ms	247.2 N	@ 295.8 ms

NECK MOMENT

ABOUT X-AXIS	95.3 N-m	@ 73.8 ms	112.6 N-m	@ 43.8 ms
ABOUT Y-AXIS	26.9 N-m	@ 85.3 ms	23.9 N-m	@ 216.5 ms
ABOUT Z-AXIS	29.5 N-m	@ 75.1 ms	12.9 N-m	@ 42.4 ms
OCCIPITAL COND	111.1 N-m	@ 73.9 ms	98.7 N-m	@ 43.5 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	87.1 g	@ 33.7 ms	26.7 g	@ 71.3 ms
LATERAL (R)	88.9 g	@ 33.7 ms	29.8 g	@ 179.4 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	88.3 g	@ 34.4 ms	25.2 g	@ 179.4 ms
LATERAL (R)	89.4 g	@ 34.4 ms	25.3 g	@ 180.0 ms
TTI d (P)	86.5			
TTI d (R)	85.2			

LOWER SPINE ACCELERATION

LATERAL (P)	84.8 g	@ 32.5 ms	16.5 g	@ 85.0 ms
LATERAL (R)	81.1 g	@ 31.9 ms	16.6 g	@ 85.0 ms

PELVIS ACCELERATION

LATERAL (P)	109.5 g	@ 28.1 ms	25.0 g	@ 49.4 ms
LATERAL (R)	109.4 g	@ 28.1 ms	25.1 g	@ 49.4 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: 2005 Nissan Altima 4-door

NHTSA No.: C55200

TEST NUMBER: 041005

PASSENGER DUMMY SERIAL NUMBER: 059

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	17.4 g	@ 57.8 ms	12.0 g	@ 78.7 ms
LATERAL	159.9 g	@ 57.8 ms	14.9 g	@ 45.5 ms
VERTICAL	37.8 g	@ 39.6 ms	53.7 g	@ 63.8 ms
RESULTANT	160.9 g	@ 57.8 ms		
HIC 36	943 from 55.6 to 65.2 ms			

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	17.0 g	@ 57.8 ms	12.1 g	@ 73.8 ms
LATERAL	160.3 g	@ 57.8 ms	14.6 g	@ 45.4 ms
VERTICAL	37.5 g	@ 39.6 ms	54.1 g	@ 63.3 ms
RESULTANT	161.2 g	@ 57.8 ms		
HIC 36	948 from 55.6 to 65.2 ms			

NECK FORCE

X-AXIS SHEAR	352.4 N	@ 66.6 ms	140.6 N	@ 84.8 ms
Y-AXIS SHEAR	1277.3 N	@ 57.8 ms	542.4 N	@ 45.1 ms
Z-AXIS AXIAL	1543.1 N	@ 39.8 ms	1767.0 N	@ 66.6 ms

NECK MOMENT

ABOUT X-AXIS	12.3 N-m	@ 42.1 ms	221.9 N-m	@ 60.6 ms
ABOUT Y-AXIS	24.8 N-m	@ 113.4 ms	29.8 N-m	@ 70.7 ms
ABOUT Z-AXIS	18.1 N-m	@ 89.0 ms	33.3 N-m	@ 62.0 ms
OCCIPITAL COND	13.8 N-m	@ 122.8 ms	206.2 N-m	@ 61.7 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	61.9 g	@ 45.0 ms	7.8 g	@ 70.6 ms
LATERAL (R)	60.2 g	@ 45.0 ms	8.1 g	@ 71.3 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	85.9 g	@ 45.0 ms	31.1 g	@ 72.5 ms
LATERAL (R)	84.1 g	@ 45.0 ms	32.9 g	@ 72.5 ms
TTI d (P)	78.4			
TTI d (R)	77.0			

LOWER SPINE ACCELERATION

LATERAL (P)	71.0 g	@ 40.0 ms	44.7 g	@ 68.1 ms
LATERAL (R)	69.8 g	@ 40.0 ms	44.8 g	@ 68.1 ms

PELVIS ACCELERATION

LATERAL (P)	103.3 g	@ 35.0 ms	25.4 g	@ 59.4 ms
LATERAL (R)	103.1 g	@ 35.0 ms	25.7 g	@ 59.4 ms

POSITIVE DIRECTION

LONGITUDINAL: FORWARD
LATERAL: RIGHTWARD
VERTICAL: DOWNWARD

NEGATIVE DIRECTION

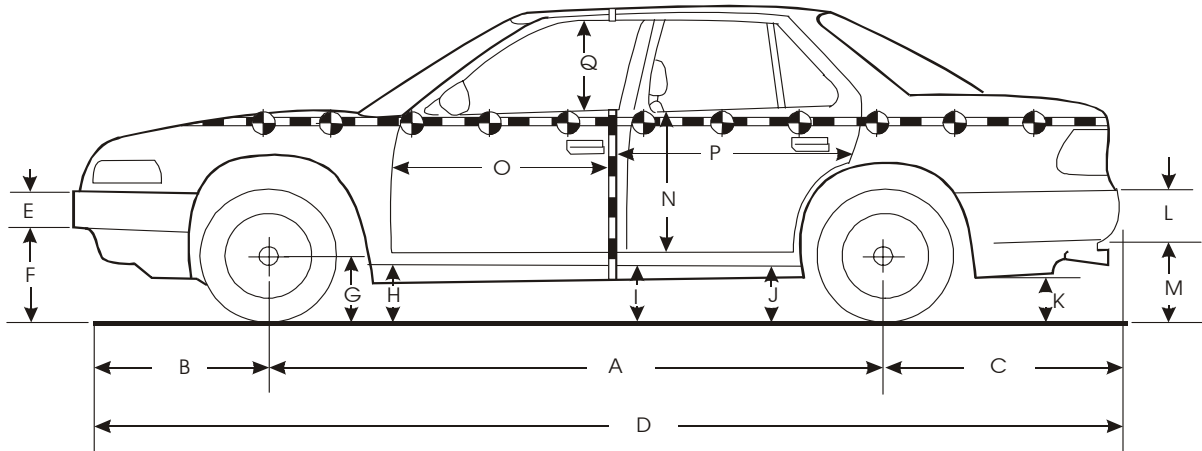
LONGITUDINAL: REARWARD
LATERAL: LEFTWARD
VERTICAL: UPWARD

Data Sheet 6

Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



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	2800	2800	2738	62
B	975	975	1003	-28
C	1110	1110	1096	14
D	4885	4885	4843	42
E	130	130	130	0
F	435	425	454	-29
G	310	308	310	-2
H	263	240	260	-20
I	230	202	262	-60
J1	200	167	165	2
J2	248	214	N/A ¹	N/A ¹
K	24	203	170	33
L	162	162	163	-1
M	470	428	380	48
N	730	730	584	146
O	805	805	725	80
P	1445	1445	1350	95
Q	430	430	412	18
R	4610	4610	4605	5
S	4605	4605	4535	70
T	1352	1352	1127	225

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

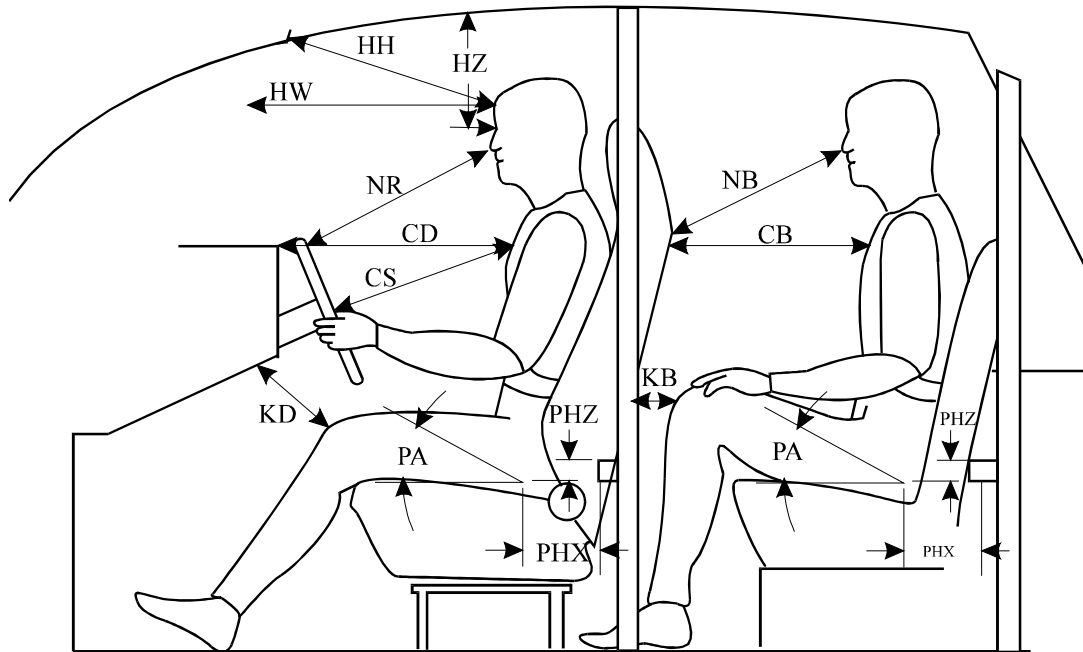
¹ Measurement point could not be located post-test.

Data Sheet 7

SID HIII Longitudinal Clearance Dimensions

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



Left Side View

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

Measurement	Driver SID HIII # 055	Left Rear Pass. SID HIII # 059
HH	320	N/A
HW	558	N/A
HZ	141	142
NR/NB	419	675
CD/CB	559	598
CS	315	N/A
KDL(KDA°)/KBL(KBA°)	138/(26.4°)	217/(0°)
KDR(KDA°)/KBR(KBA°)	123/(23.6°)	216/(0°)
PA°	24.6°	23.4°
PHX	223	292
PHZ	125	331

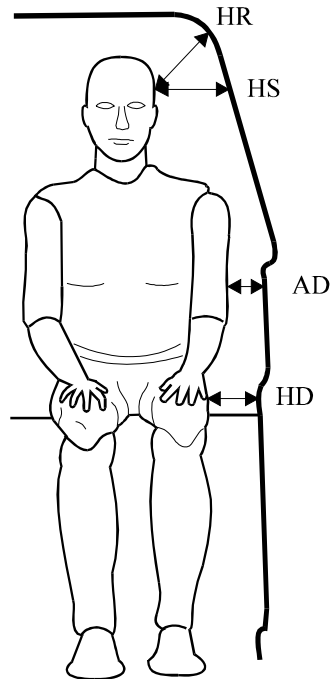
Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

Data Sheet 8

SID HIII Lateral Clearance Dimensions

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



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

Measurement	Driver SID HIII # 055	Left Rear Pass. SID HIII # 059
HR	193	235
HS	320	347
AD*	Lower: 108 Upper: 62	Lower: 147 Upper: 132
HD	142	182

* 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.

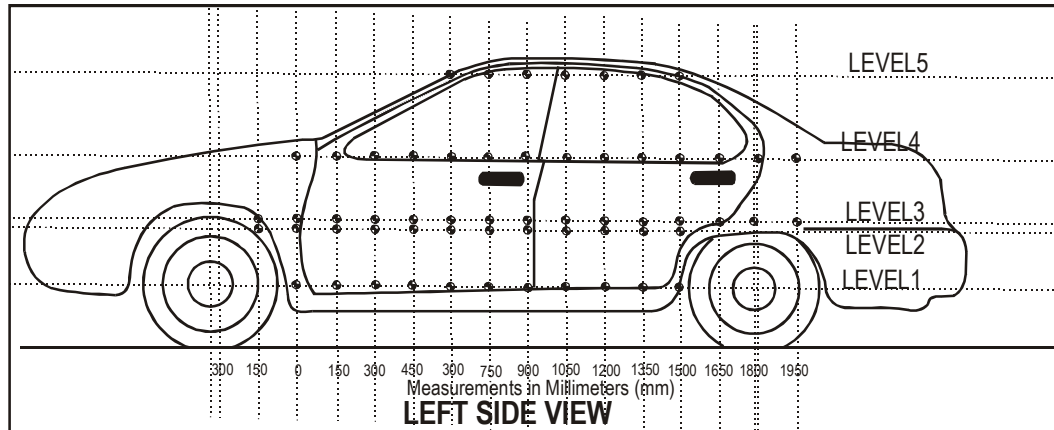
Upper measurement is taken laterally at center of the upper rib accelerometer height from the SID HIII arm segment to the closest part of the vehicle side.

Data Sheet 9

Vehicle Side Measurements

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



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>1397</u>	mm
Level 4 @ Window Sill	=	<u>920</u>	mm
Level 3 @ Mid Door	=	<u>635</u>	mm
Level 2 @ Occupant H-Point	=	<u>509</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>260</u>	mm

Data Sheet 10

Vehicle Exterior Crush Profiles - All LevelsVehicle: 2005 Nissan Altima 4-doorNHTSA No.: C55200

Location	Height		(mm) From Impact Point													
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750
Level 1 Side Sill	260	Pre	---	---	---	---	---	---	---	---	655	653	659	657	659	659
		Post	---	---	---	---	---	---	---	---	715	734	754	776	806	834
		Crush	---	---	---	---	---	---	---	---	60	81	95	119	147	175
Level 2 H-Point	509	Pre	---	---	645	---	---	---	---	---	615	613	614	613	612	611
		Post	---	---	654	---	---	---	---	---	656	921	964	977	971	969
		Crush	---	---	9	---	---	---	---	---	41	308	350	364	359	358
Level 3 Mid-Door	635	Pre	---	---	659	610	---	---	---	606	615	615	613	613	613	612
		Post	---	---	674	640	---	---	---	653	660	867	892	895	890	887
		Crush	---	---	15	30	---	---	---	47	45	252	279	282	277	275
Level 4 Window Sill	920	Pre	---	---	---	750	729	715	705	698	692	690	685	675	673	670
		Post	---	---	---	762	748	745	740	742	734	770	844	899	939	941
		Crush	---	---	---	12	19	30	35	44	42	80	159	224	266	271
Level 5 Window Top	1397	Pre	---	---	---	---	---	---	---	---	---	---	---	---	---	940
		Post	---	---	---	---	---	---	---	---	---	---	---	---	---	1005
		Crush	---	---	---	---	---	---	---	---	---	---	---	---	---	65

Data Sheet 10 (Continued)

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	260	Pre	661	660	665	657	662	660	661	656	---	---	---	---	---
		Post	863	892	--- ¹	--- ¹	--- ¹	--- ¹	--- ¹	--- ¹	---	---	---	---	---
		Crush	202	232	--- ¹	--- ¹	--- ¹	--- ¹	--- ¹	--- ¹	---	---	---	---	---
Level 2 H-Point	509	Pre	615	616	618	619	617	620	618	620	---	---	---	---	637
		Post	963	953	1059	1080	1080	1065	1013	885	---	---	---	---	657
		Crush	348	337	441	461	463	445	395	265	---	---	---	---	20
Level 3 Mid-Door	635	Pre	618	618	618	620	618	620	620	622	615	---	---	617	637
		Post	876	874	997	1025	1007	996	943	860	697	---	---	651	665
		Crush	258	256	379	405	389	376	323	238	82	---	---	34	28
Level 4 Window Sill	920	Pre	670	668	665	665	664	663	662	665	668	672	676	683	690
		Post	945	950	967	997	1005	1010	942	835	740	689	725	720	722
		Crush	275	282	302	332	341	347	280	170	72	17	49	37	32
Level 5 Window Top	1397	Pre	936	933	933	934	936	940	950	961	980	---	---	---	---
		Post	1010	1040	1075	1108	1071	1042	1018	1007	1028	---	---	---	---
		Crush	74	107	142	174	135	102	68	46	48	---	---	---	---

¹ Measurement point could not be located post-test.

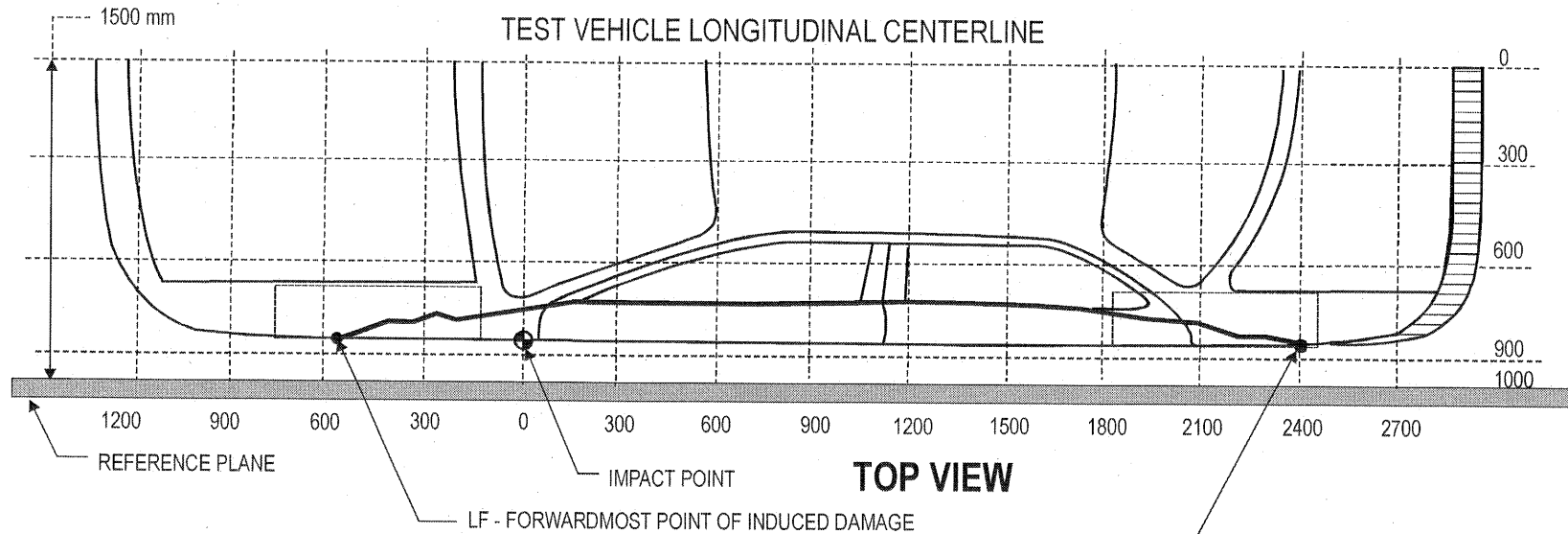
Data Sheet 11

Vehicle Damage Profile Distances

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

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 = -150 mm (Level 3)	653	606	47
5: 300 mm (Level 2)	964	614	350
4: 750 mm (Level 2)	969	611	358
3: 1200 mm (Level 2)	1059	618	441
2: 1650 mm (Level 2)	1065	620	445
1: LR = 2100 mm (Level 3)	697	615	82

Full length of induced damage was 2250 mm.

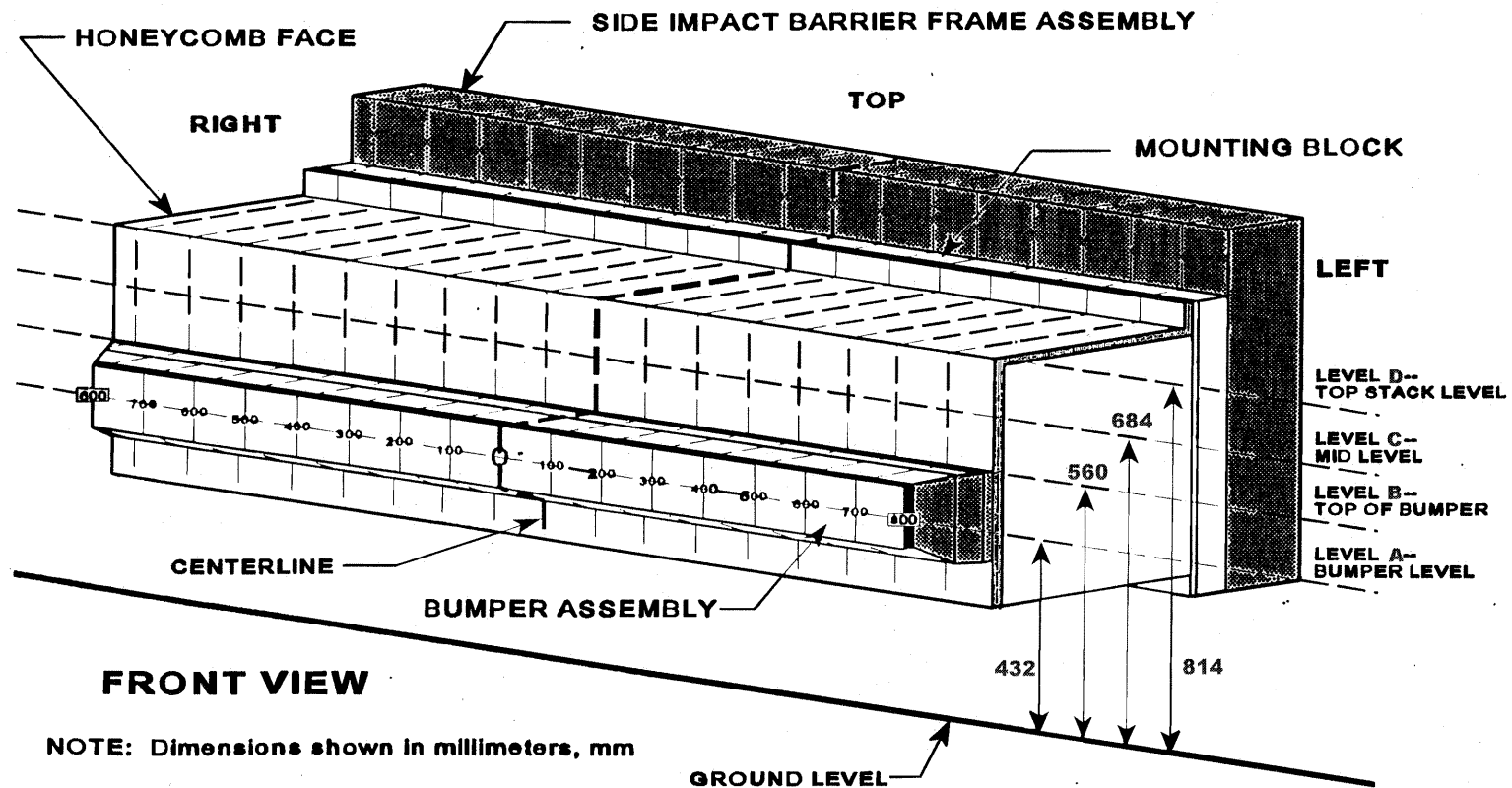
Data Sheet 12

Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

		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	-46	3	14	12	7	-3	-18	-11	-10	-12	-8	-11	-19	-34	-66	-109	-151	
Mid Level Level C	685	-21	16	15	14	11	8	-5	-6	3	4	2	-1	-4	-7	-18	-50	-92	
Top Bumper Level-Level B	560	-26	16	22	20	15	11	10	9	11	5	2	0	-2	-5	-11	-21	-42	
Mid Bumper Level - Level A	432	-26	-14	-5	-4	-7	-18	-12	-12	-11	-14	-17	-20	-23	-27	-31	-41	-56	

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

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

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Deformable Barrier Face Profile

Level D - Top Stack

Pre-Test

Index	Xmm	Ymm	Zmm
1	-378	801	-49
2	-379	701	-49
3	-379	600	-48
4	-380	501	-48
5	-380	401	-47
6	-380	302	-47
7	-381	202	-46
8	-381	101	-45
9	-382	2	-45
10	-382	-100	-46
11	-382	-199	-44
12	-382	-299	-43
13	-382	-399	-43
14	-383	-499	-42
15	-383	-599	-43
16	-383	-699	-41
17	-383	-799	-41

Post-Test

Index	Xmm	Ymm	Zmm
1	-332	769	-56
2	-382	683	-45
3	-394	584	-41
4	-392	484	-40
5	-387	384	-37
6	-377	285	-36
7	-363	186	-35
8	-370	86	-32
9	-372	-14	-30
10	-370	-114	-28
11	-374	-214	-25
12	-371	-315	-23
13	-363	-414	-22
14	-349	-513	-23
15	-317	-608	-30
16	-274	-696	-41
17	-232	-786	-51

Difference

Index	Xmm	Ymm	Zmm
1	-46	32	7
2	3	18	-3
3	14	17	-7
4	12	17	-9
5	7	17	-10
6	-3	17	-11
7	-18	16	-11
8	-11	15	-13
9	-10	16	-14
10	-12	14	-18
11	-8	15	-19
12	-11	16	-20
13	-19	16	-21
14	-34	15	-19
15	-66	9	-13
16	-109	-4	1
17	-151	-13	10

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Deformable Barrier Face Profile Cont'd.

Level C - Mid Level

Pre-Test

Index	Xmm	Ymm	Zmm
18	-380	800	-173
19	-380	700	-172
20	-380	600	-172
21	-381	501	-173
22	-381	400	-171
23	-381	301	-171
24	-381	201	-171
25	-382	100	-171
26	-382	1	-171
27	-382	-100	-170
28	-383	-200	-170
29	-383	-300	-170
30	-383	-399	-169
31	-383	-500	-168
32	-384	-600	-168
33	-384	-700	-168
34	-384	-801	-169

Post-Test

Index	Xmm	Ymm	Zmm
18	-359	770	-175
19	-396	680	-167
20	-395	581	-164
21	-395	481	-163
22	-392	381	-161
23	-389	282	-160
24	-376	183	-159
25	-376	82	-157
26	-385	-17	-154
27	-387	-118	-153
28	-385	-218	-151
29	-382	-318	-149
30	-379	-418	-147
31	-376	-518	-145
32	-365	-618	-148
33	-334	-713	-151
34	-292	-803	-162

Difference

Index	Xmm	Ymm	Zmm
18	-21	30	3
19	16	19	-5
20	15	19	-8
21	14	19	-9
22	11	19	-11
23	8	19	-12
24	-5	18	-12
25	-6	18	-13
26	3	18	-16
27	4	18	-18
28	2	18	-19
29	-1	18	-21
30	-4	18	-22
31	-7	18	-23
32	-18	18	-21
33	-50	13	-17
34	-92	3	-7

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Deformable Barrier Face Profile Cont'd.

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-380	800	-298
36	-381	700	-298
37	-381	601	-297
38	-381	500	-297
39	-381	400	-297
40	-382	301	-298
41	-382	200	-297
42	-383	100	-297
43	-383	0	-296
44	-383	-99	-297
45	-383	-200	-297
46	-383	-300	-296
47	-384	-400	-296
48	-384	-499	-296
49	-384	-600	-295
50	-384	-700	-295
51	-384	-799	-295

Post-Test

Index	Xmm	Ymm	Zmm
35	-354	765	-291
36	-397	680	-291
37	-403	580	-289
38	-401	479	-287
39	-396	380	-285
40	-393	280	-283
41	-392	180	-282
42	-392	79	-280
43	-394	-20	-281
44	-388	-120	-276
45	-385	-220	-274
46	-383	-319	-273
47	-381	-419	-272
48	-379	-519	-270
49	-373	-619	-266
50	-364	-718	-263
51	-342	-816	-259

Difference

Index	Xmm	Ymm	Zmm
35	-26	35	-7
36	16	20	-8
37	22	21	-8
38	20	21	-10
39	15	21	-12
40	11	21	-15
41	10	20	-15
42	9	20	-17
43	11	20	-16
44	5	20	-20
45	2	20	-22
46	0	20	-23
47	-2	19	-25
48	-5	20	-26
49	-11	19	-30
50	-21	18	-32
51	-42	16	-35

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Deformable Barrier Face Profile Cont'd.

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-474	798	-424
53	-484	701	-424
54	-485	601	-423
55	-485	501	-423
56	-485	401	-424
57	-486	301	-423
58	-486	201	-423
59	-486	101	-423
60	-487	1	-423
61	-487	-99	-423
62	-487	-199	-422
63	-487	-299	-422
64	-488	-399	-422
65	-488	-499	-422
66	-488	-598	-422
67	-488	-698	-421
68	-478	-797	-422

Post-Test

Index	Xmm	Ymm	Zmm
52	-448	770	-426
53	-471	675	-427
54	-479	575	-426
55	-481	475	-424
56	-478	375	-422
57	-468	276	-419
58	-474	176	-417
59	-475	76	-415
60	-475	-24	-413
61	-473	-124	-410
62	-470	-224	-408
63	-467	-325	-405
64	-464	-425	-402
65	-461	-524	-400
66	-457	-623	-397
67	-447	-722	-393
68	-423	-819	-389

Difference

Index	Xmm	Ymm	Zmm
52	-26	28	3
53	-14	26	3
54	-5	26	2
55	-4	26	1
56	-7	26	-2
57	-18	25	-4
58	-12	25	-6
59	-12	25	-8
60	-11	25	-10
61	-14	25	-12
62	-17	25	-14
63	-20	25	-17
64	-23	25	-20
65	-27	25	-22
66	-31	25	-25
67	-41	24	-28
68	-56	22	-32

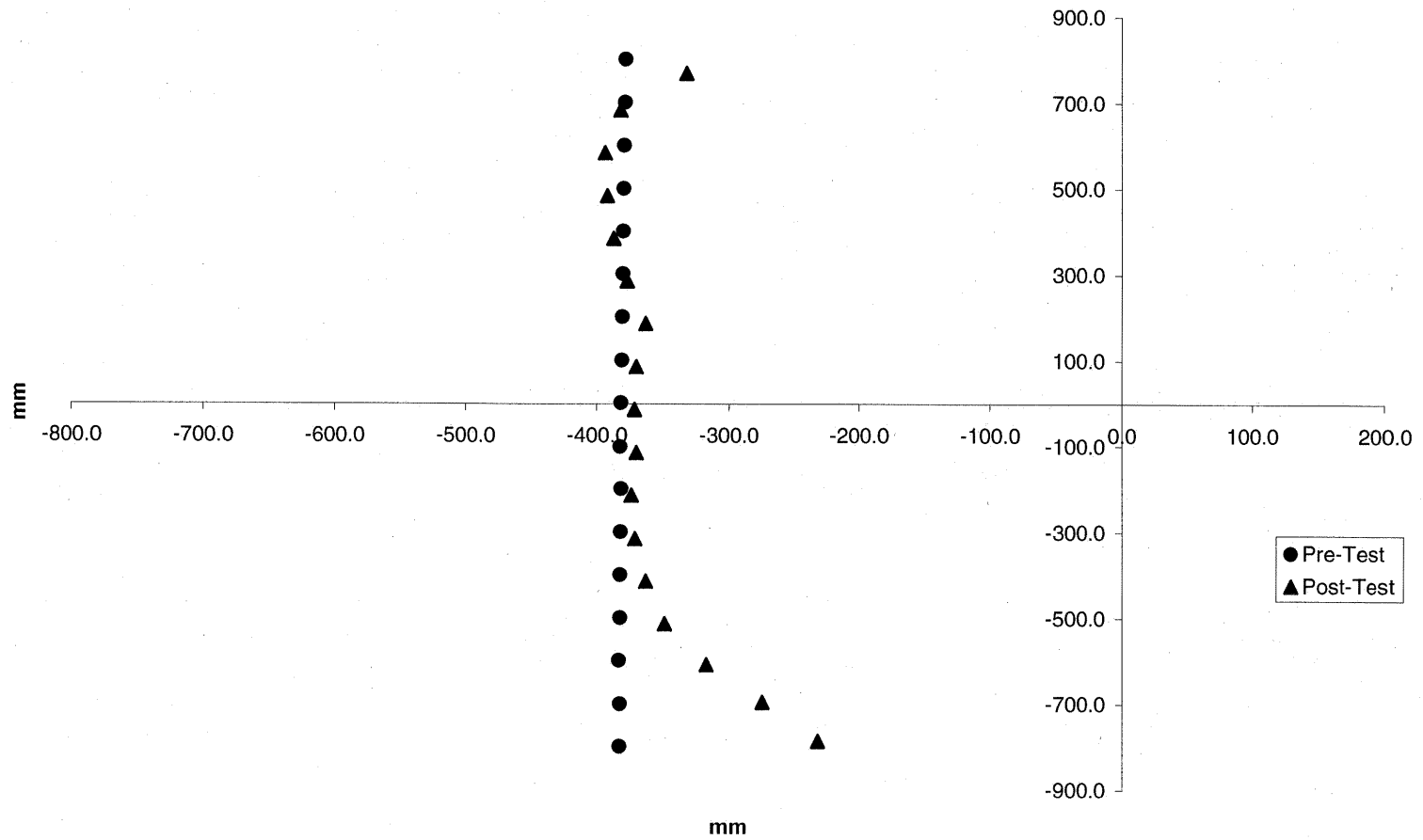
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Level D - Deformable Barrier Face Profile 1-17



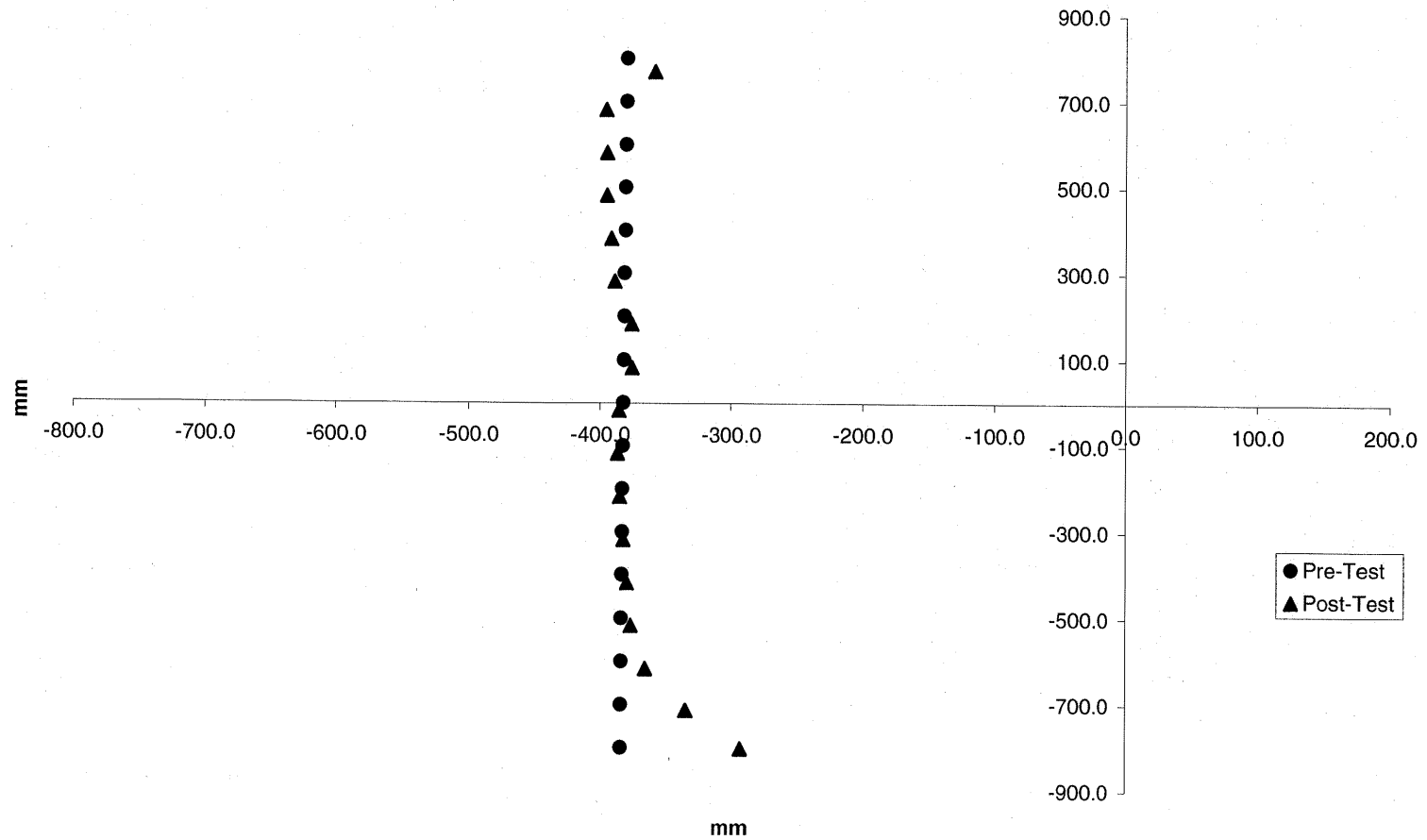
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Level C - Deformable Barrier Face Profile 18-34

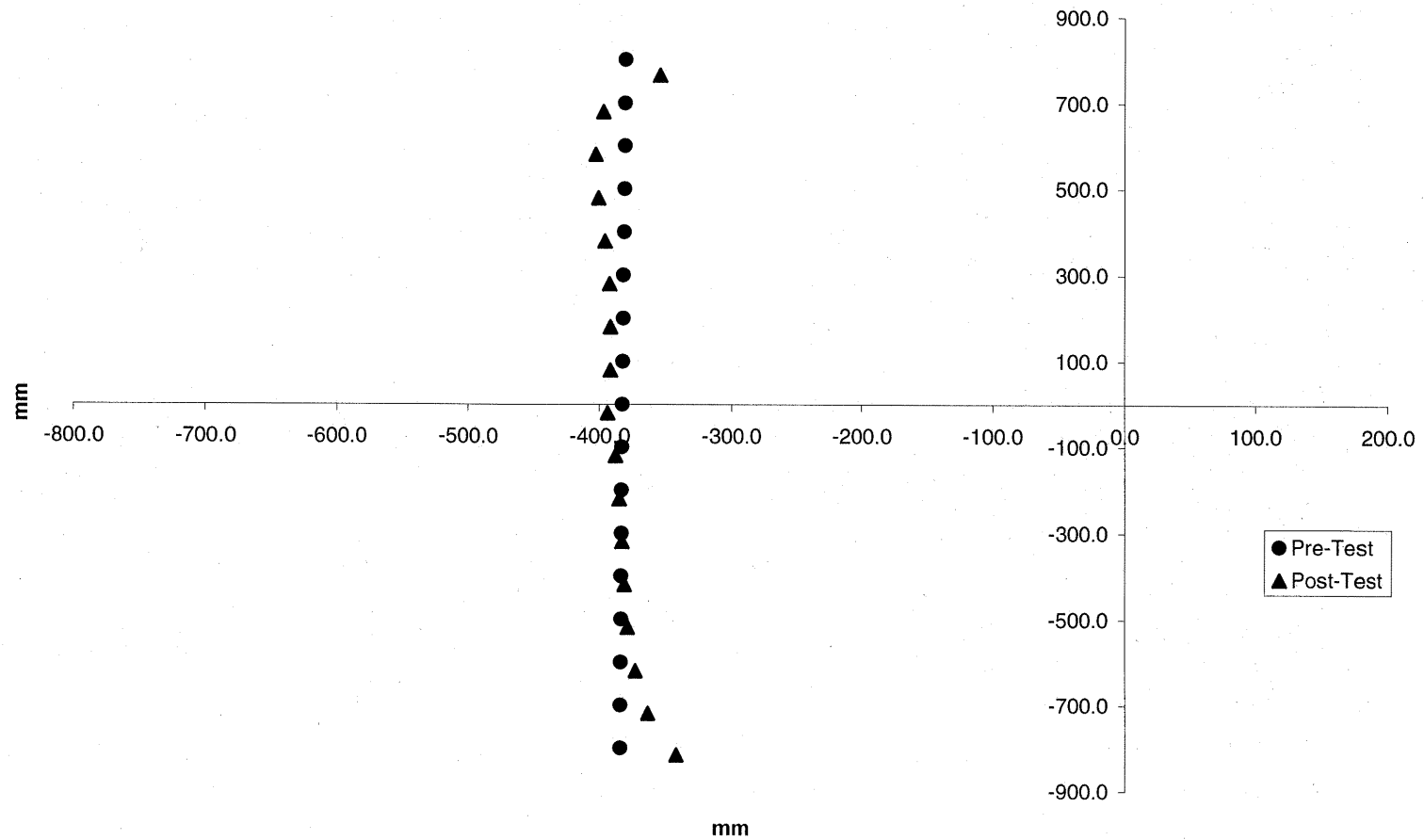


Data Sheet 12 (Continued)
Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Level B - Deformable Barrier Face Profile 35-51



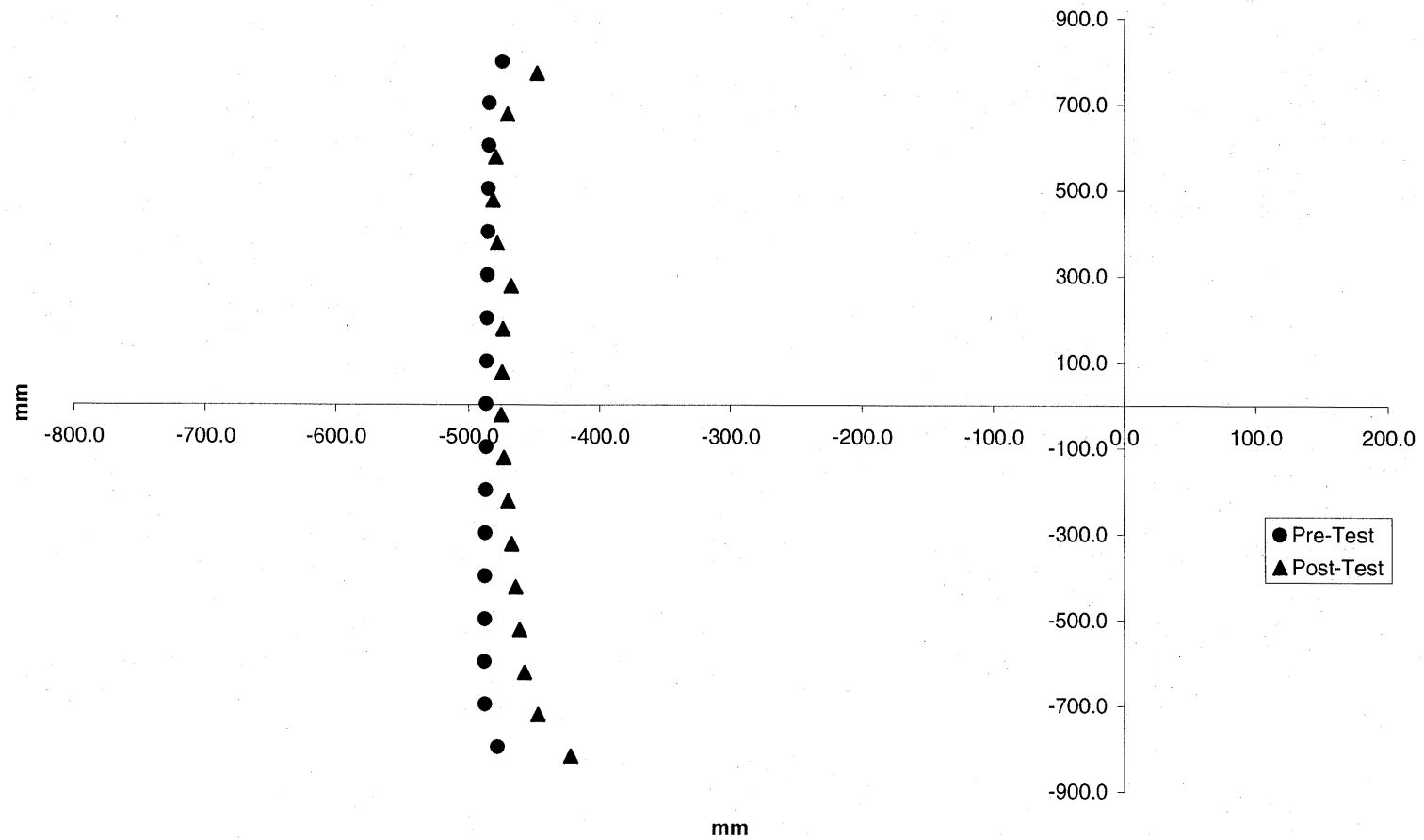
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

Level A - Deformable Barrier Face Profile 52-68

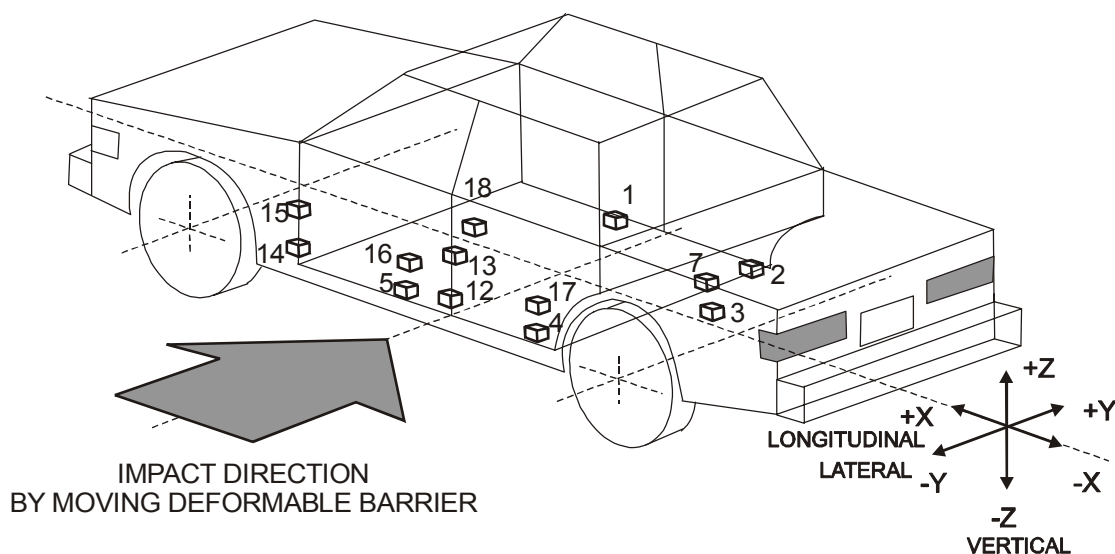


Data Sheet 13

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



- 1-Right Side Sill at Front Seat
- 2-Right Side Sill at Rear Seat
- 3-Rear Floorpan above Axle
- 4-Left Side Sill at Rear Seat
- 5-Left Side Sill at Front Seat
- 7-Right Rear Occupant Compartment
- 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 Summary

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

TEST NUMBER: 041005
No. LOCATION

X

Y

Z

POSITIVE
DIRECTIONNEGATIVE
DIRECTION

1 RIGHT SIDE SILL AT FRONT SEAT	2810 mm	685 mm	-302 mm				
LONGITUDINAL				2.5 g	@ 55.8 ms	6.5 g	@ 12.7 ms
LATERAL				21.7 g	@ 5.8 ms	2.9 g	@ 154.2 ms
VERTICAL				4.7 g	@ 34.3 ms	6.1 g	@ 9.7 ms
RESULTANT				21.9 g	@ 5.8 ms		
2 RIGHT SIDE SILL AT REAR SEAT	1806 mm	694 mm	-284 mm				
LONGITUDINAL				2.8 g	@ 53.7 ms	6.2 g	@ 12.0 ms
LATERAL				23.1 g	@ 7.2 ms	2.9 g	@ 162.2 ms
VERTICAL				10.5 g	@ 32.2 ms	6.3 g	@ 10.4 ms
RESULTANT				23.5 g	@ 7.1 ms		
3 REAR FLOORPAN ABOVE AXLE	1160 mm	0 mm	-456 mm				
LONGITUDINAL				8.5 g	@ 29.4 ms	6.7 g	@ 23.2 ms
LATERAL				20.6 g	@ 7.4 ms	2.6 g	@ 138.9 ms
VERTICAL				7.4 g	@ 29.4 ms	8.3 g	@ 56.4 ms
RESULTANT				20.8 g	@ 7.4 ms		
4 LEFT SIDE SILL AT REAR SEAT	1822 mm	-694 mm	-285 mm				
LATERAL				51.2 g	@ 11.4 ms	46.0 g	@ 26.0 ms

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data SummaryVehicle: 2005 Nissan Altima 4-doorNHTSA No.: C55200

TEST NUMBER: 041005 No. LOCATION	X	Y	Z	POSITIVE DIRECTION			NEGATIVE DIRECTION		
5 LEFT SIDE SILL AT FRONT SEAT LATERAL	2817 mm	-685 mm	-284 mm	69.0 g	@	9.1 ms	44.2 g	@	15.0 ms
7 RIGHT REAR OCCUPANT COMPARTMENT LATERAL	940 mm	629 mm	-345 mm	21.3 g	@	7.0 ms	3.7 g	@	62.2 ms
12 LEFT LOWER B-POST LATERAL ¹	2042 mm	-715 mm	-548 mm	169.5 g	@	6.2 ms	52.9 g	@	43.7 ms
13 LEFT MIDDLE B-POST LATERAL	1837 mm	-710 mm	-780 mm	116.1 g	@	7.1 ms	25.5 g	@	16.6 ms
14 LEFT LOWER A-POST LATERAL ¹	3157 mm	-800 mm	-425 mm	75.3 g	@	5.9 ms	30.0 g	@	22.2 ms
15 LEFT MIDDLE A-POST LATERAL	3162 mm	-800 mm	-731 mm	19.9 g	@	6.8 ms	4.0 g	@	31.1 ms
16 LEFT FRONT SEAT TRACK LATERAL	2334 mm	-594 mm	-315 mm	71.7 g	@	18.2 ms	45.3 g	@	28.2 ms
17 LEFT REAR SEAT TRACK LATERAL ¹	1360 mm	-609 mm	-315 mm	---	---		---	---	

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

TEST NUMBER: 041005 No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
18 VEHICLE CENTER OF GRAVITY	2543 mm	0 mm	-516 mm				
LONGITUDINAL				9.0 g	@ 51.9 ms	17.6 g	@ 23.2 ms
LATERAL				59.0 g	@ 22.8 ms	14.7 g	@ 41.1 ms
VERTICAL				43.3 g	@ 132.1 ms	27.3 g	@ 22.6 ms
RESULTANT				67.1 g	@ 22.8 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.

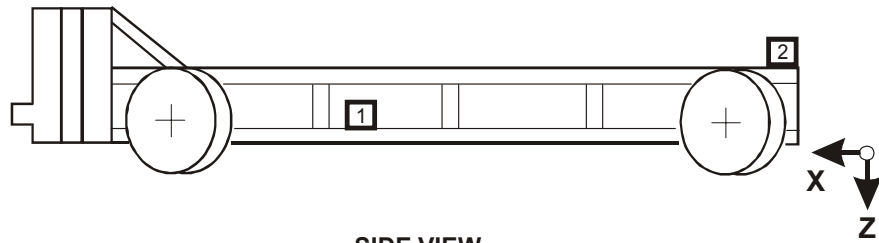
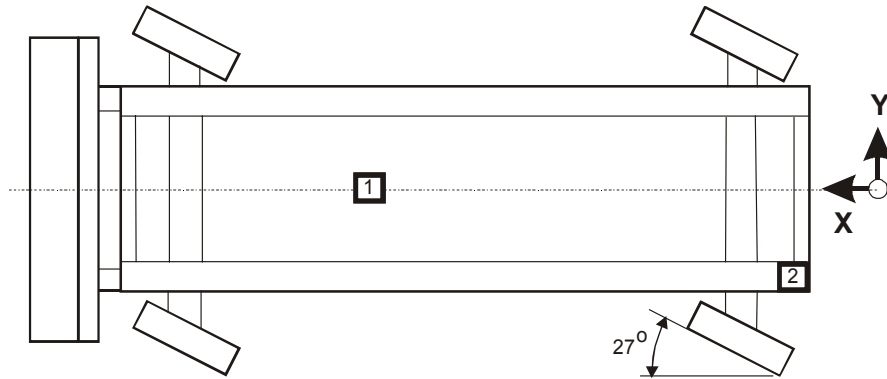
¹ See DATA ACQUISITION EXPLANATIONS on page 2-3

Data Sheet 14

MDB Accelerometer Locations and Data Summary

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



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				15.9	201.0	22.8	37.7
	Lateral Y				4.3	62.3	11.5	30.0
	Vertical Z				9.4	50.3	7.3	42.8
	Resultant R				23.5	37.7		
2	Rear Frame Member	412	-677	-625				
	Longitudinal X				2.9	132.2	22.8	29.4
	Lateral Y				4.9	30.1	1.6	124.6

*Reference: X = Rear Bumper (+ Forward)

Y = Vehicle Centerline (+ To Right)

Z = Ground Level (+ Down)

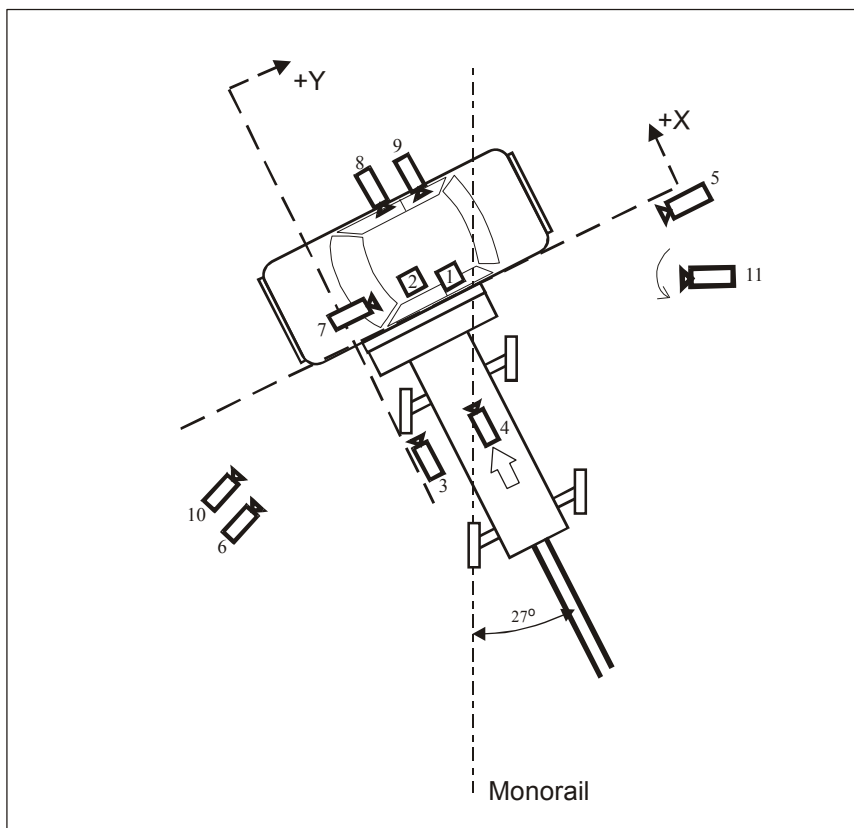
All measurements accurate to within ± 3 mm.

Data Sheet 15

High-Speed Camera Locations and Data Summary

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200



Impact
Area

Camera Number	Location	Location, mm			Angle (deg.)	Lens (mm)	Speed (fps)
		X	Y	Z			
1	Overhead wide	250	2150	-5750	-855.6	8.5	825
2	Overhead tight	370	1800	-5750	-87.5	50	1000
3	Onboard MDB left side	-1750	-40	-720	0.1	13	--- ¹
4	Onboard MDB center	-2480	830	-1353	-5.2	25	1000
5	Right side of MDB	0	9370	-980	-1.4	25	1000
6	Left side of MDB	-3000	-6690	-960	-1.5	25	1000
7	Onboard vehicle front	550	-1570	-1300	0.8	8	1000
8	Onboard side front door	1450	30	-1140	-13.3	8	1000
9	Onboard side rear door	1470	840	-1120	-12.1	8	--- ²
10	Digital overall event	-2900	-6730	-990	-2.0	13	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

¹ Film broke during test.

² No LEDs

Section 5

Vehicle Fuel System Integrity

Data Sheet 16

FMVSS 301 Fuel System Integrity Data

NHTSA No.: C55200

Test Date: 10/05/04

Vehicle Year/Make/Model/Body Style: 2005 Nissan Altima 4-door

Test Vehicle Impact Type :

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

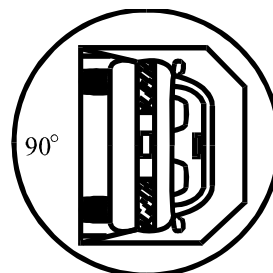
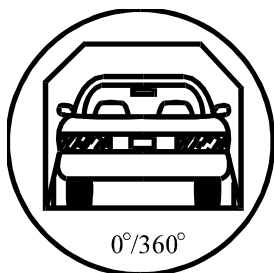
Data Sheet 17

FMVSS 301 Rollover Data

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

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

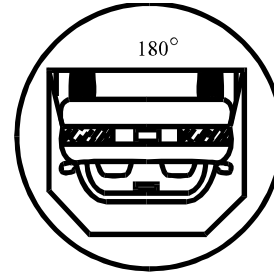
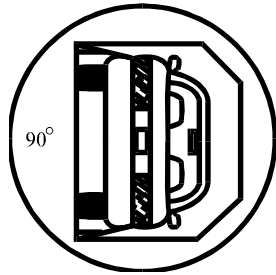
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

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

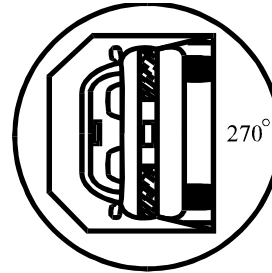
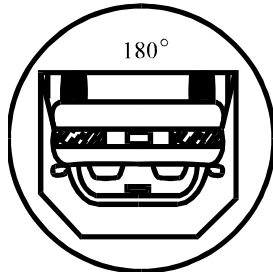
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

180 - 270 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

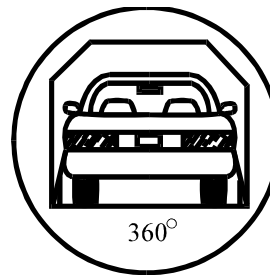
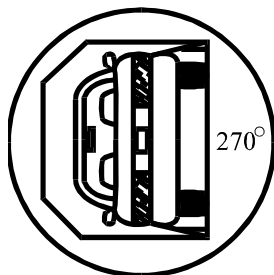
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2005 Nissan Altima 4-door

NHTSA No.: C55200

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

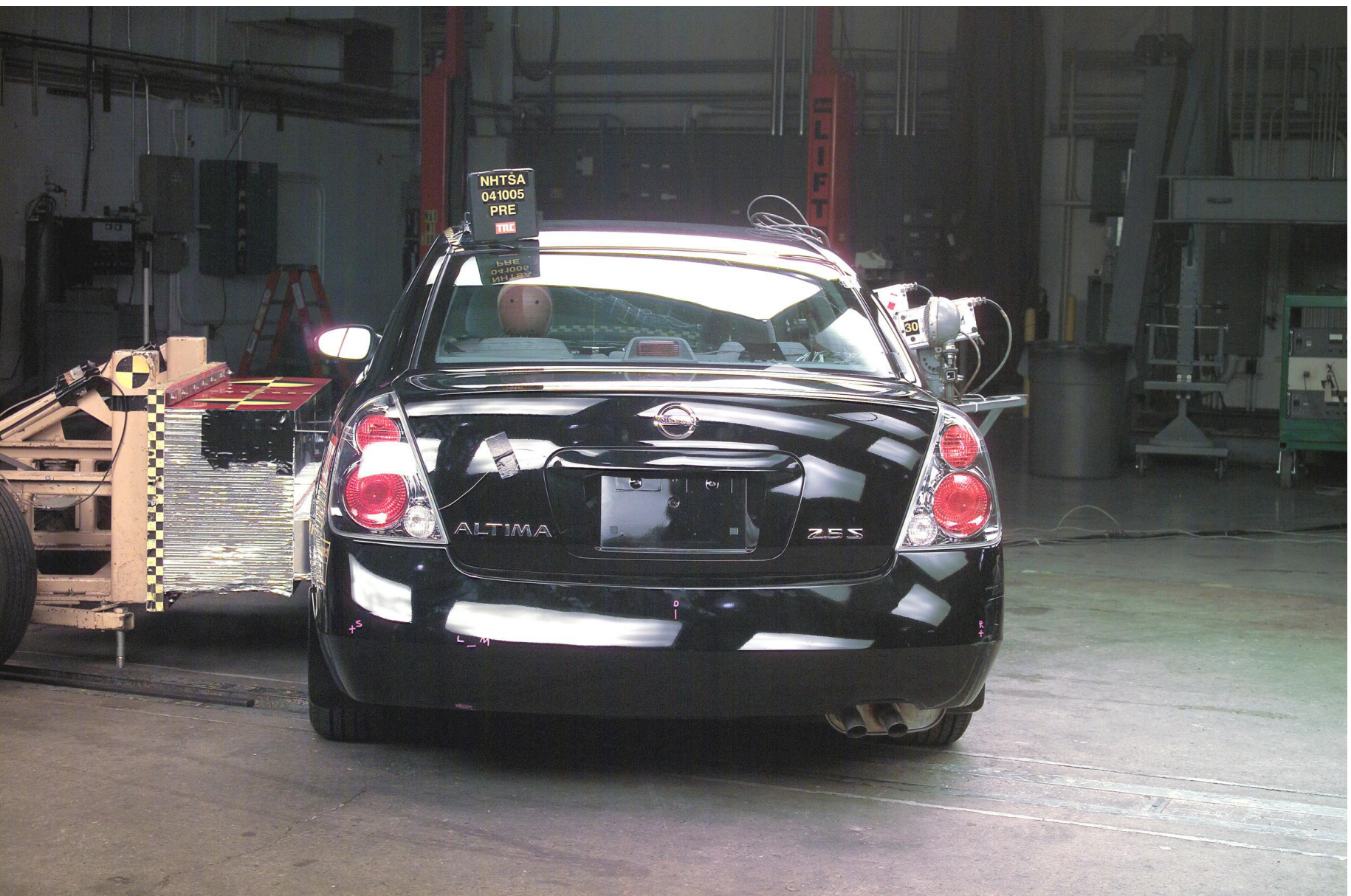


Figure A-5 Pre-Test Rear View of Test Vehicle



Figure A-6 Post-Test Rear View of Test Vehicle

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Figure A-7 Pre-Test Non-Struck Side View of Test Vehicle

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Figure A-8 Post-Test Non-Struck Side View of Test Vehicle

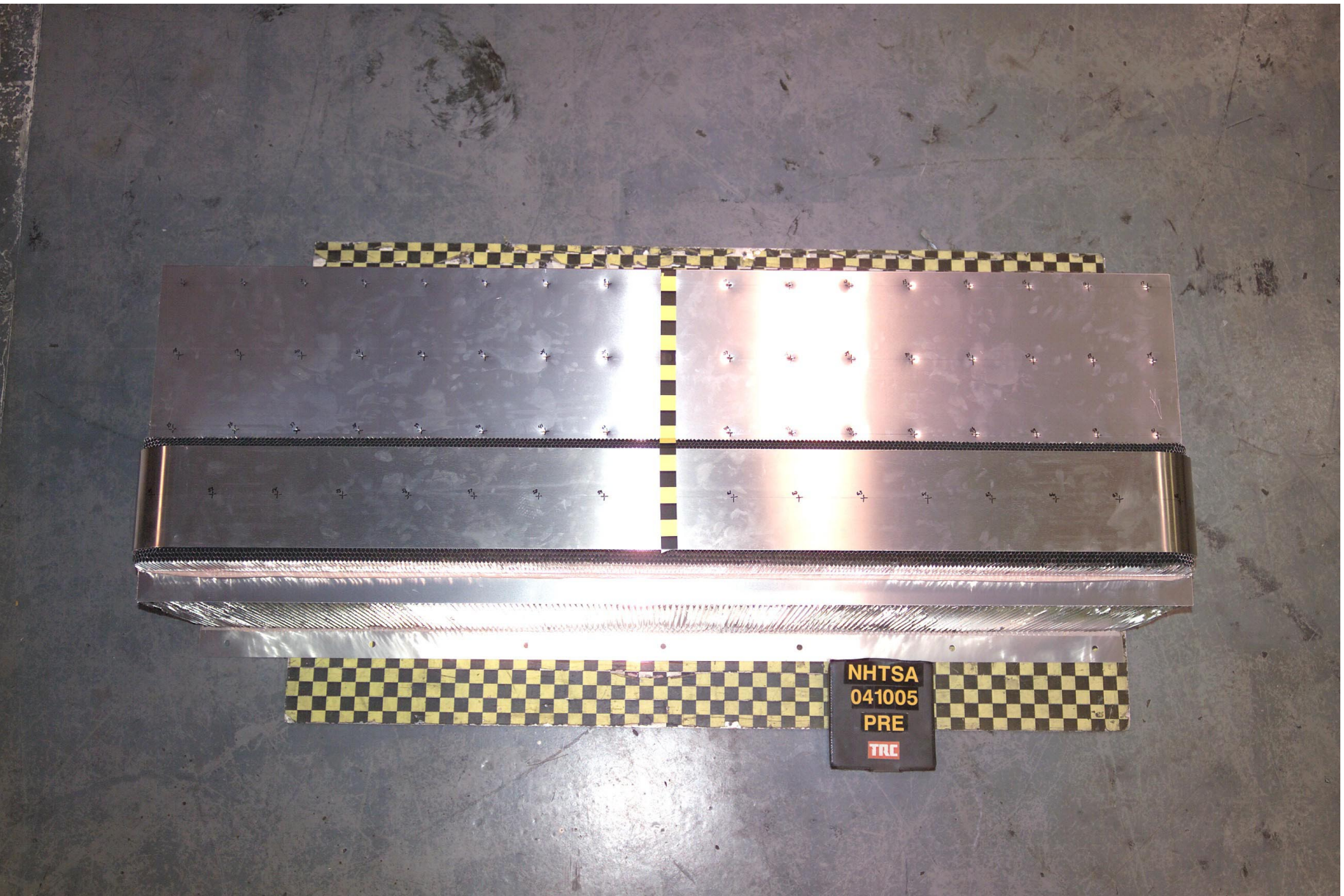


Figure A-9 Pre-Test Frontal View of Impactor Face

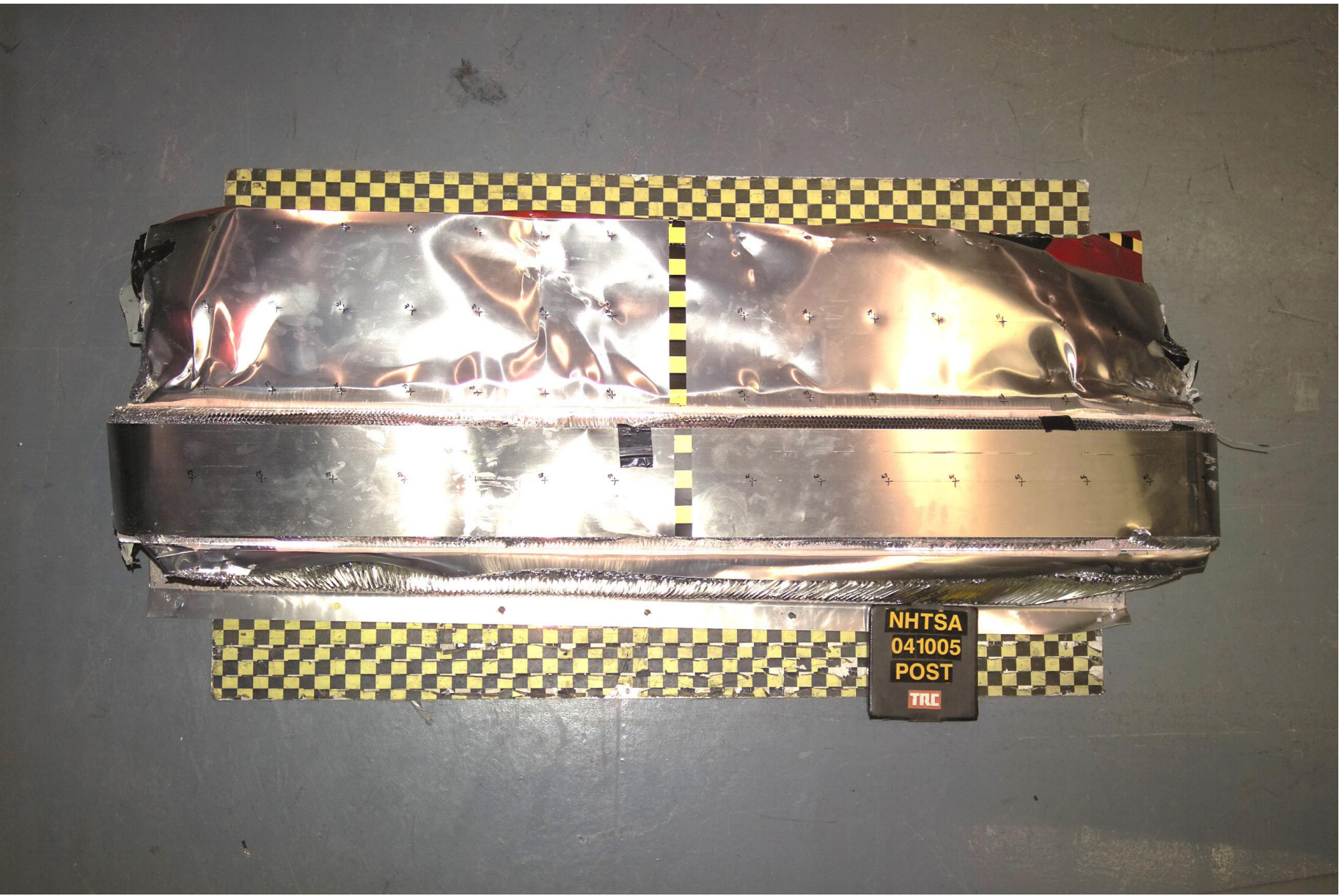


Figure A-10 Post-Test Frontal View of Impactor Face

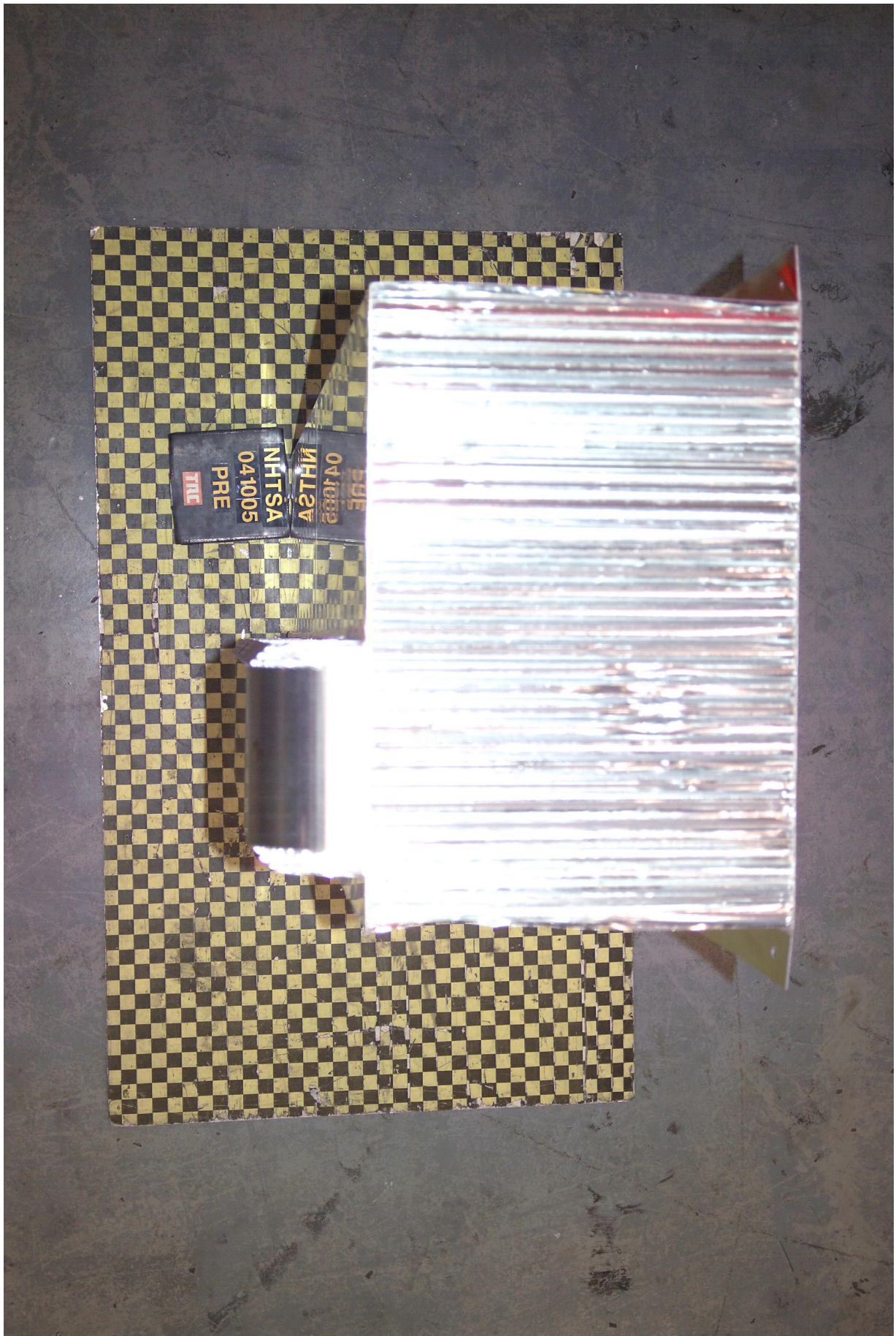


Figure A-11 Pre-Test Left Side View of Impactor Face



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

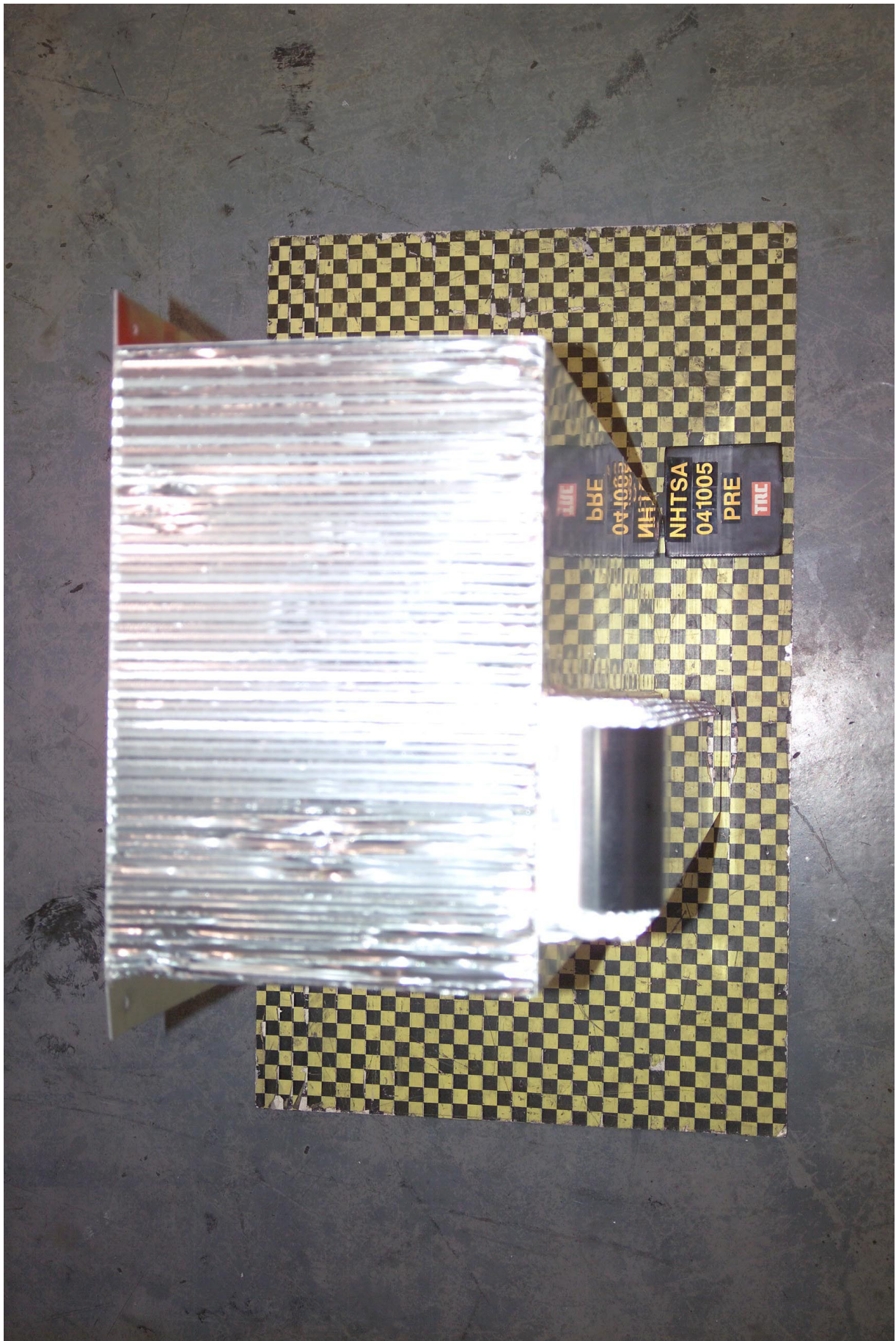


Figure A-13 Pre-Test Right Side View of Impactor Face

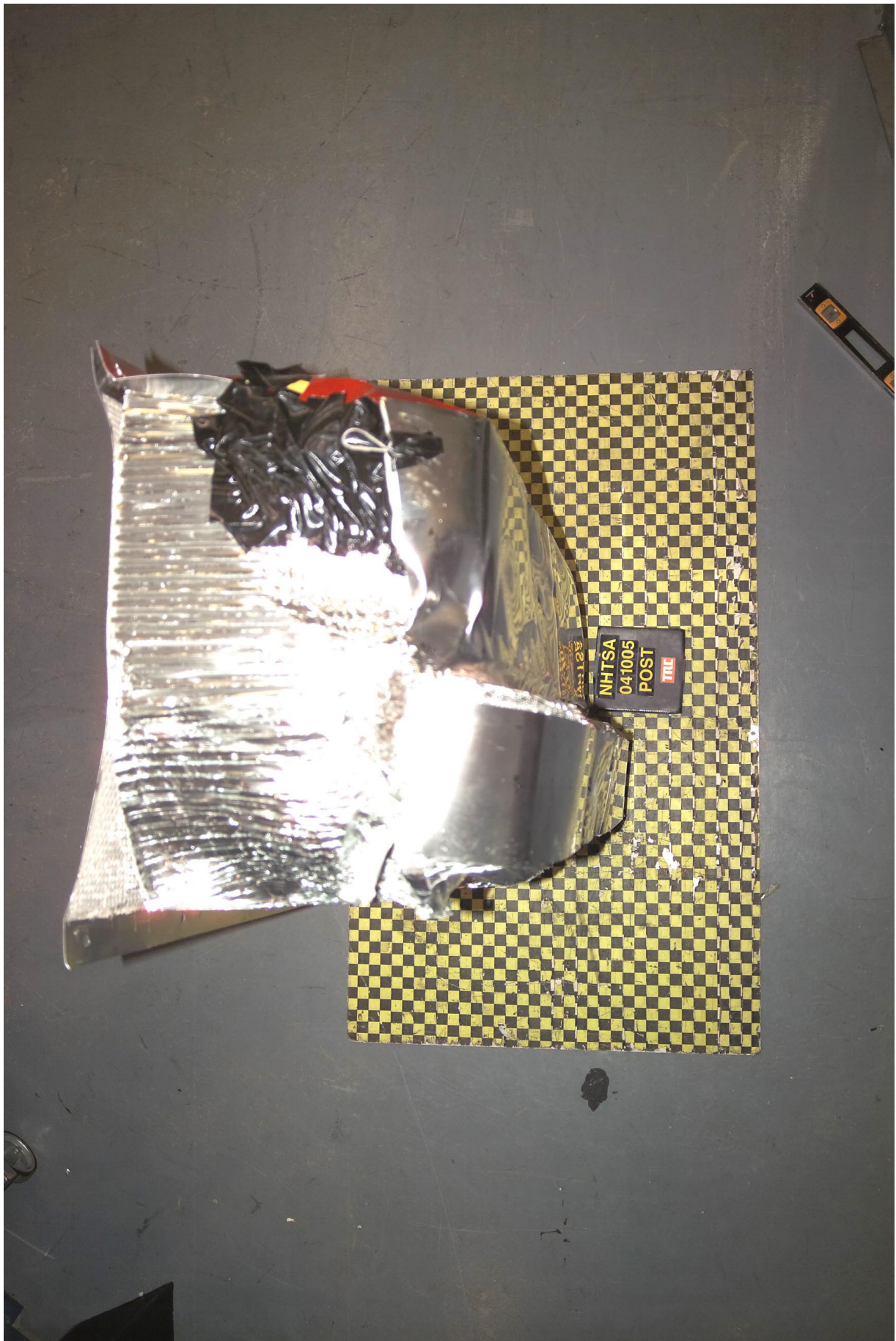


Figure A-14 Post-Test Right Side View of Impactor Face

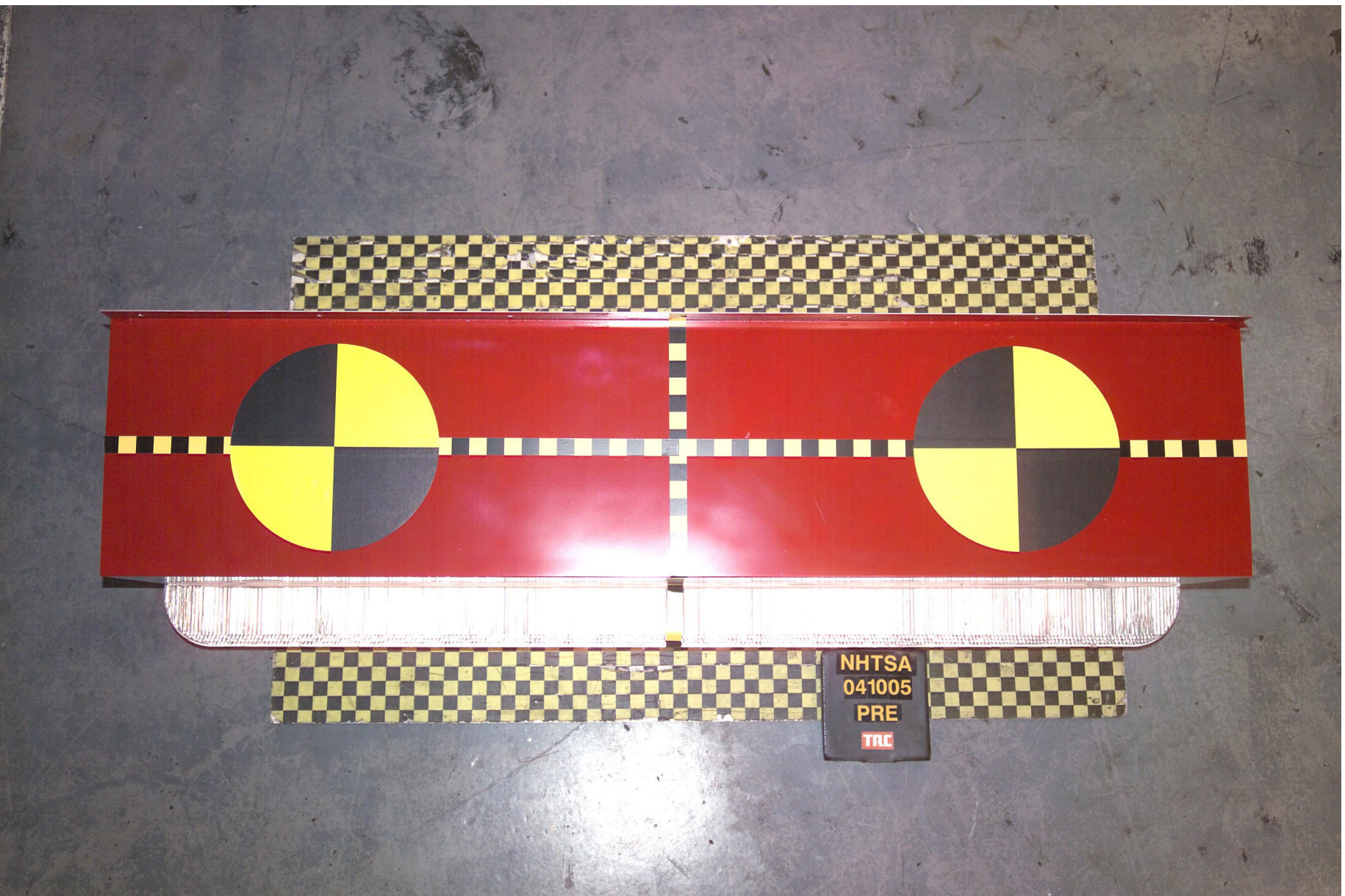


Figure A-15 Pre-Test Top View of Impactor Face

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Figure A-16 Post-Test Top View of Impactor Face

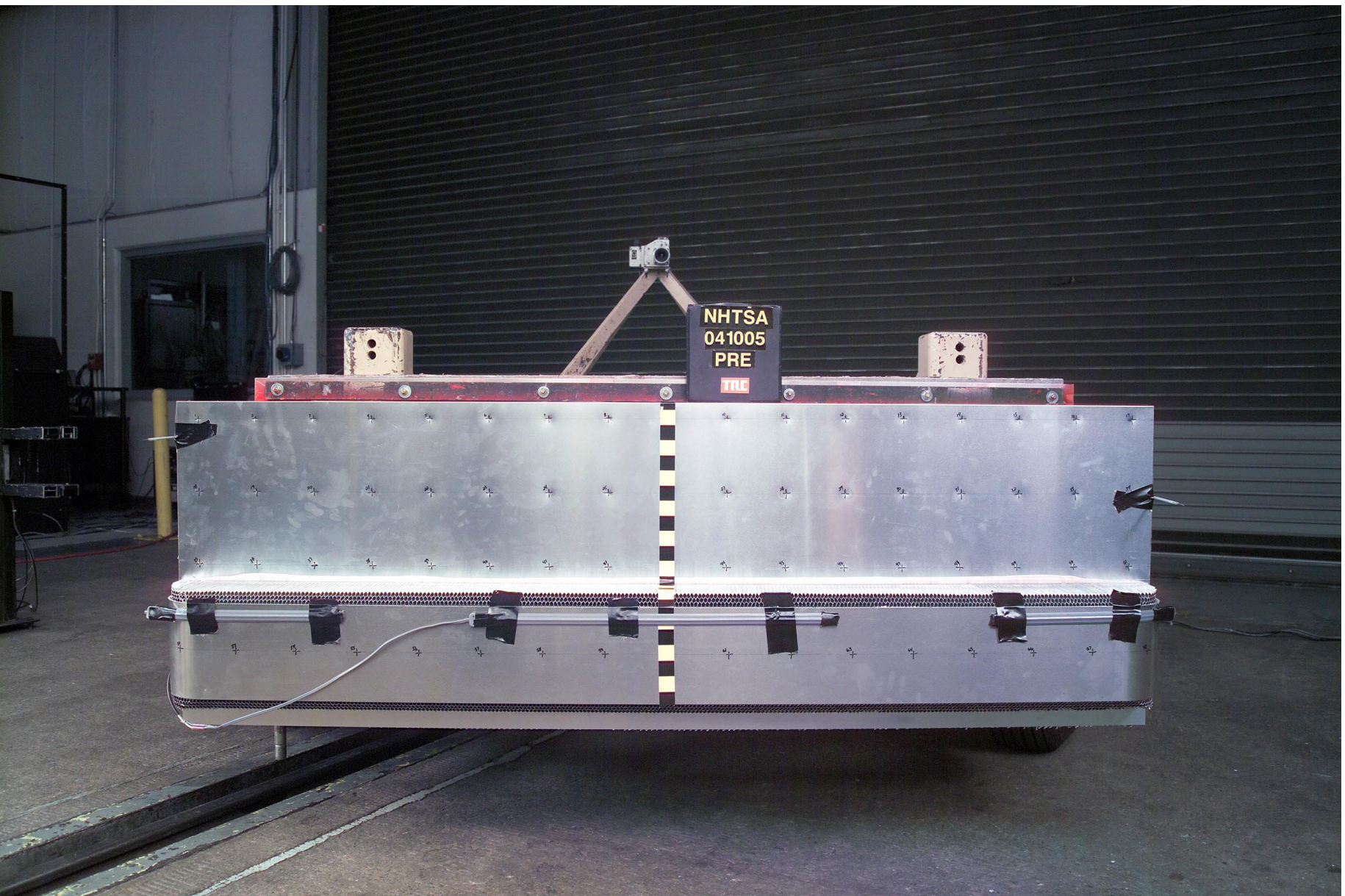


Figure A-17 Pre-Test View of MDB Showing Contact Switches in Place



Figure A-18 Pre-Test Overhead View of MDB Aligned with Vehicle



Figure A-19 Post-Test Overhead View of Vehicle



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



Figure A-21 Post-Test Right Occupant Compartment View of Front SID-HIII



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



Figure A-23 Post-Test Right Occupant Compartment View of Rear SID-HIII



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



Figure A-25 Post-Test Left View of Front SID-HMI



Figure A-26 Pre-Test Left View of Front SID-HIII and Belt Position



Figure A-27 Post-Test Left View of Front SID-HIII and Belt Position



Figure A-28 Pre-Test View of Front SID-HIII and Door Clearance



Figure A-29 Post-Test View of Front SID-HIII and Door Clearance



Figure A-30 Pre-Test Left View of Rear SID-HII

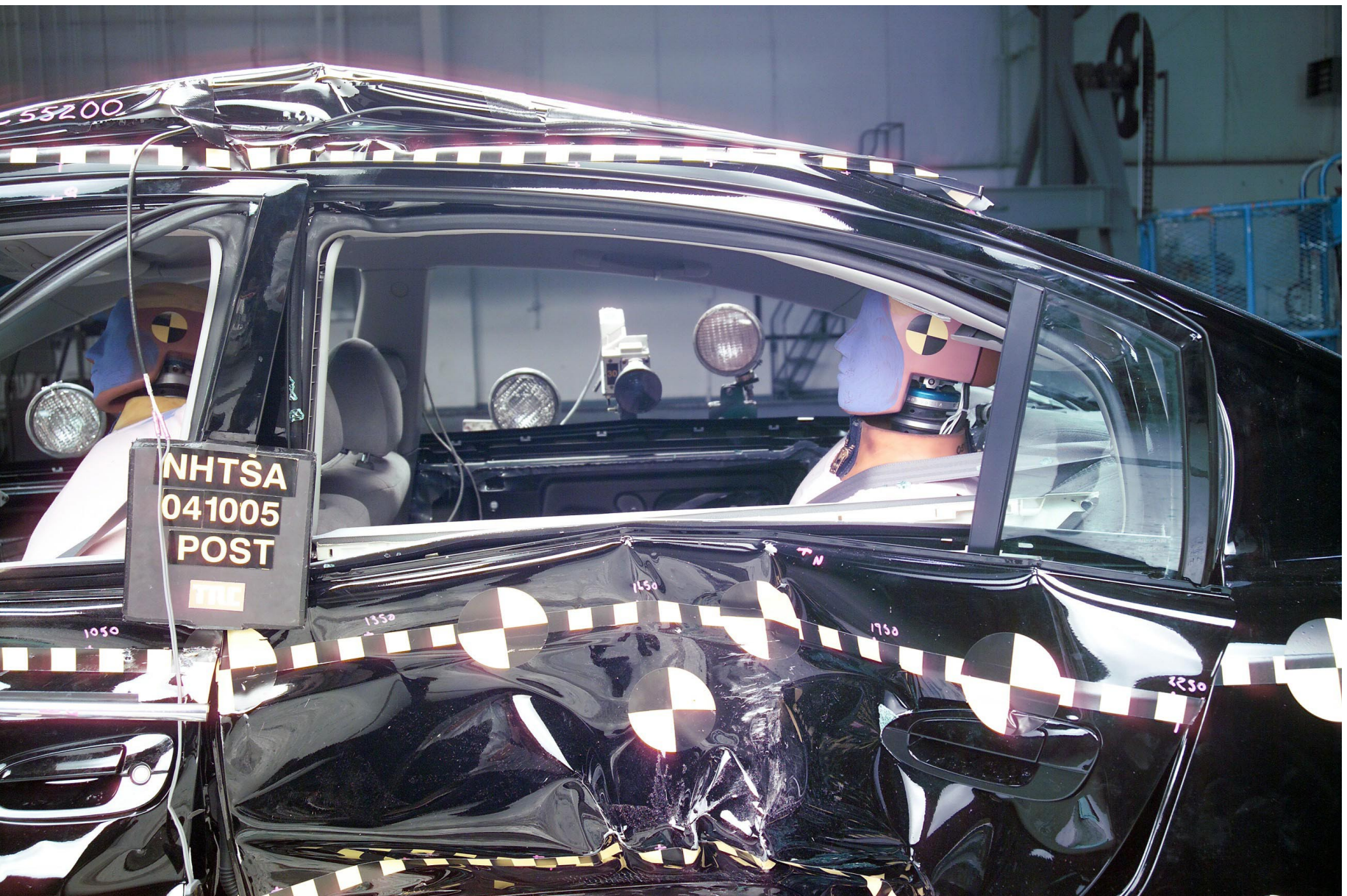


Figure A-31 Post-Test Left View of Rear SID-HIII



Figure A-32 Pre-Test Angled View of Rear SID-HIII



Figure A-33 Post-Test Angled View of Rear SID-HIII



Figure A-34 Pre-Test Interior of Front Door

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Figure A-35 Post-Test Interior of Front Door Showing SID-HIII Impact Locations



Figure A-36 Post-Test Front SID-HIII Contact - View 1



Figure A-37 Post-Test Front SID-HIII Contact - View 2



Figure A-38 Post-Test Front SID-HIII Contact - View 3



Figure A-39 Post-Test Front SID-HIII Contact - View 4



Figure A-40 Pre-Test Interior of Rear Panel



Figure A-41 Post-Test Interior of Rear Panel Showing SID-HIII Impact Locations



Figure A-42 Post-Test Rear SID-HIII Contact - View 1



Figure A-43 Post-Test Rear SID-HIII Contact - View 2



041005

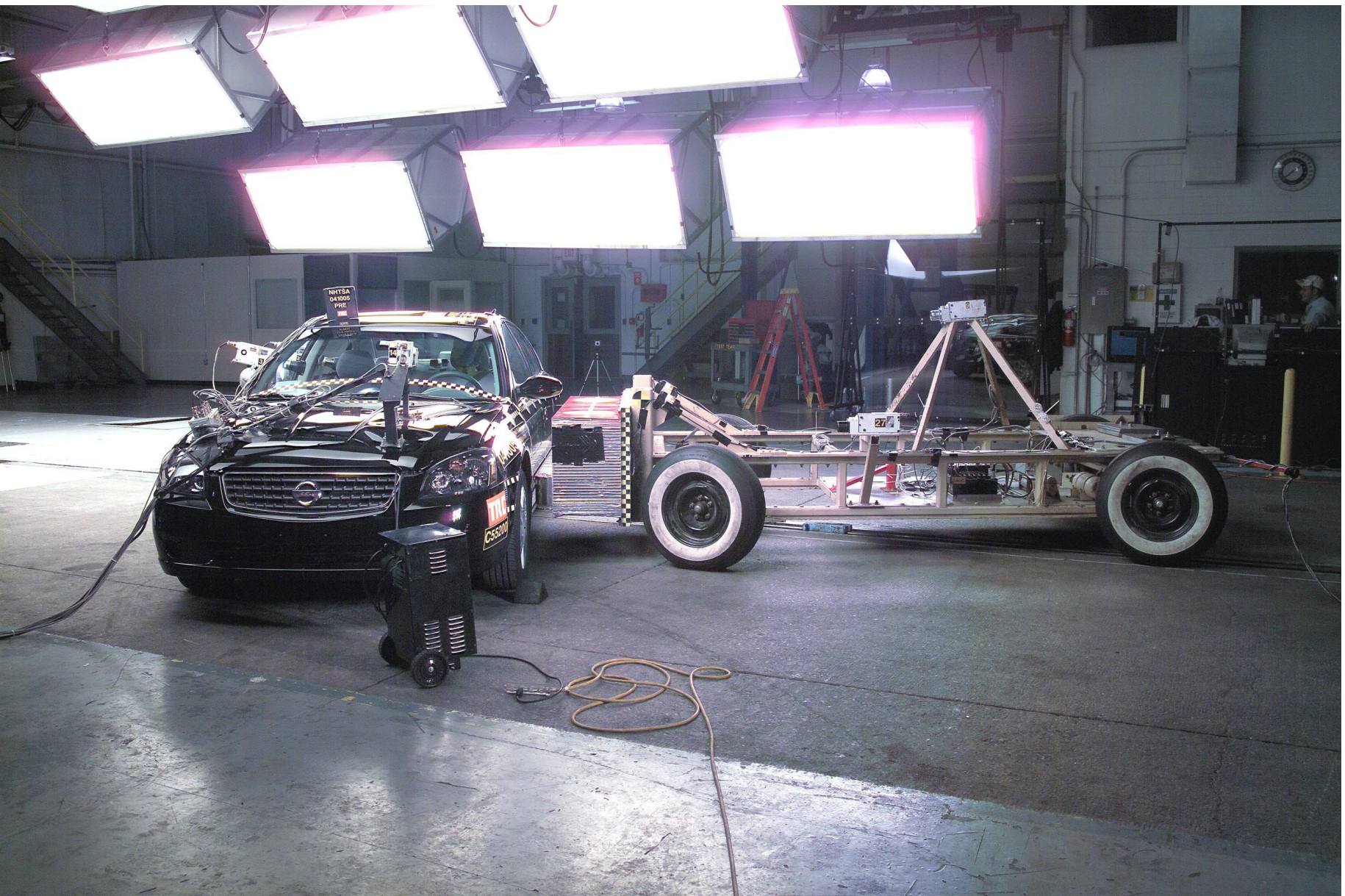


Figure A-45 Pre-Test Left Side View of MDB With Impactor Face in Position

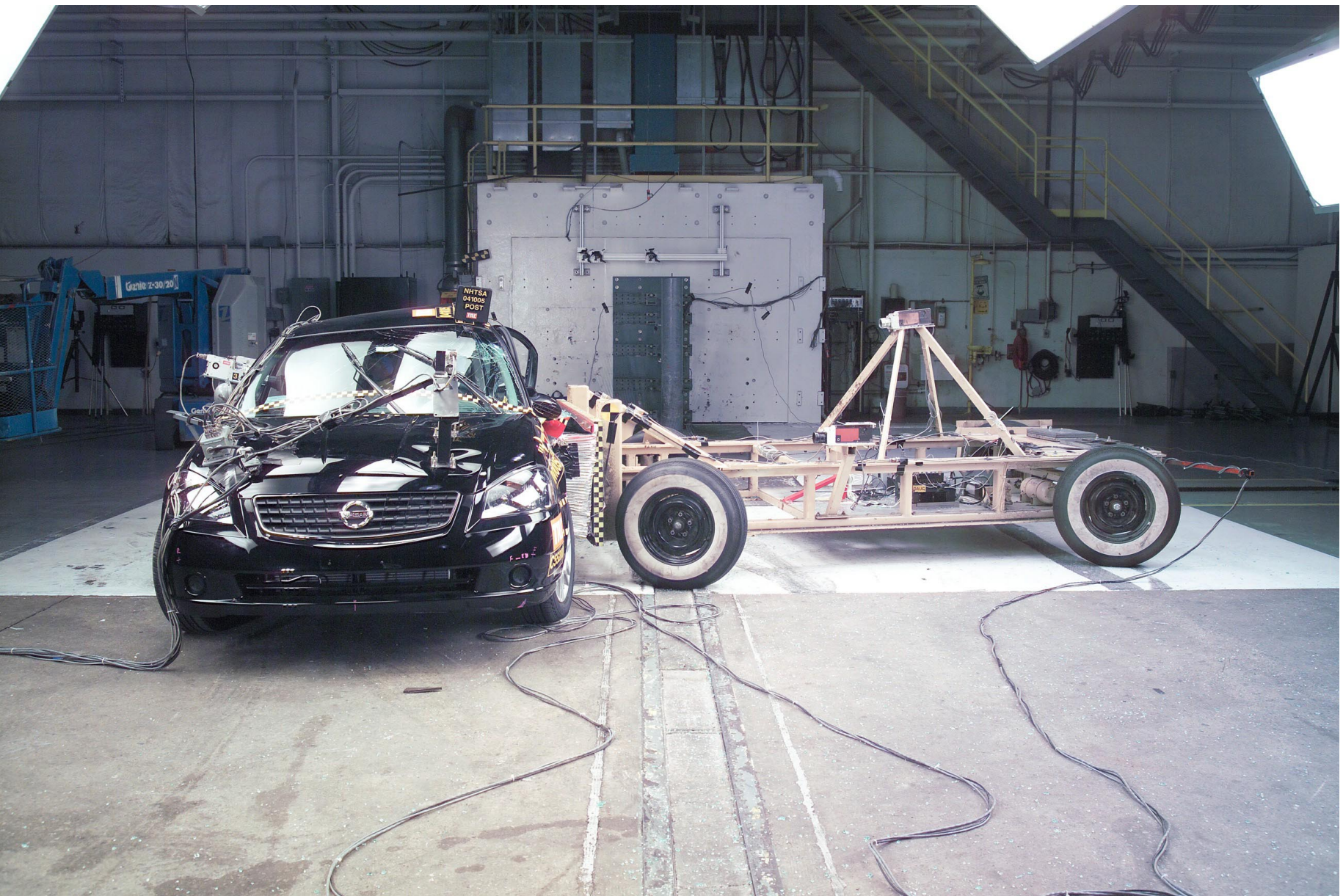


Figure A-46 Post-Test Left Side View of MDB With Impactor Face in Position



Figure A-47 Pre-Test Primary Impact Point View



Figure A-48 Post-Test Primary Impact Point View

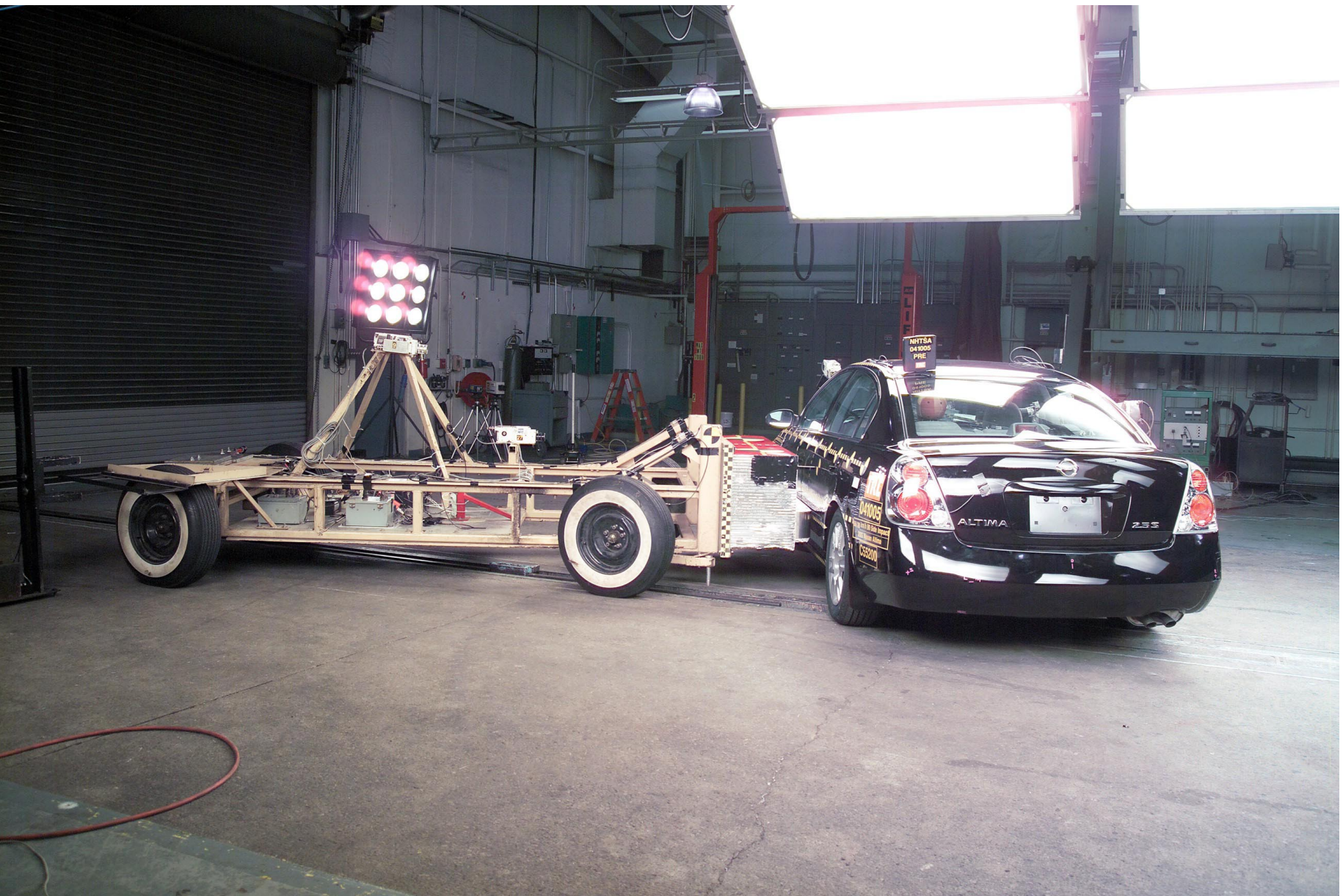


Figure A-49 Pre-Test Right Side View of MDB With Impactor Face in Position



Figure A-50 Post-Test Right Side View of MDB With Impactor Face in Position



Figure A-51 Pre-Test Secondary Impact Point View



Figure A-52 Post-Test Secondary Impact Point View

MANUFACTURED BY NISSAN MOTOR CO., LTD.

DATE	08/04	GVWR	4202 LB
GAWR FR.	2249 LB	GAWR RR.	1969 LB

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

VIN: 1N4AL11D95C232675 PASSENGER CAR

COLOR	TRIM	TRANS	AXLE	ENGINE
KH3	K	RE4F04B	FT44	QR25DE 2488CC

MODEL: BDBALBA-EUA 908 02000



1N4AL11D95C232675

Figure A-53 Pre-Test Vehicle Certification Label View



VEHICLE CAPACITY WEIGHT POIDS UTILE DU VEHICULE	860 lbs 390 kg	SEATING CAPACITY NOMBRE DE PLACES	FRONT AVANT	2	TOTAL TOTAL	5	SPARE TIRE ROUE DE SECOURS	psi (kPa)
			REAR ARRIERE	3			T135/90R16	60 (420)
RECOMMENDED COLD TIRE INFLATION PRESSURE PRESSION DE GONFLAGE RECOMMANDEE DES PNEUS FROIDS.						DO NOT USE IN EXCESS OF 50 MPH. 80 km/h SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION. UTILISATION A UNE VITESSE MAX 50 MPH. 80 km/h POUR LES DETAILS SE REFERER AU MANUEL DU CONDUCTEUR.		
TIRE SIZE DIMENSIONS		FRONT psi AVANT (kPa)		REAR psi ARRIERE (kPa)				
P215/60R16 94T		29 (200)		29 (200)				

ZB100

Figure A-54 Pre-Test Vehicle Recommended Tire Pressure Label View



Figure A-55 Impact Event



Figure A-56 Pre-Test Fuel Cap



Figure A-57 Post-Test Fuel Cap



Figure A-58 FMVSS 301 Rollover View at 90°

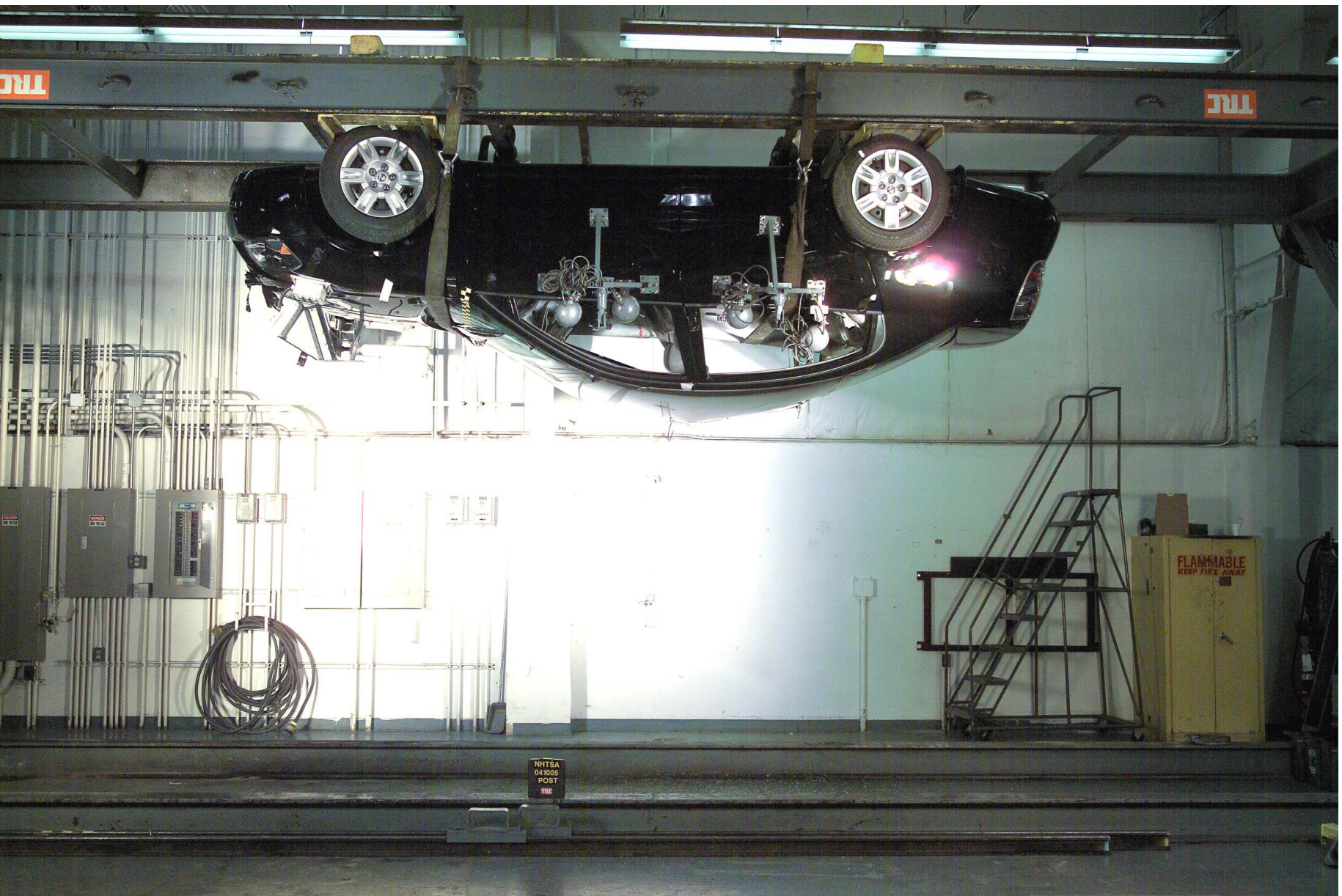


Figure A-59 FMVSS 301 Rollover View at 180°

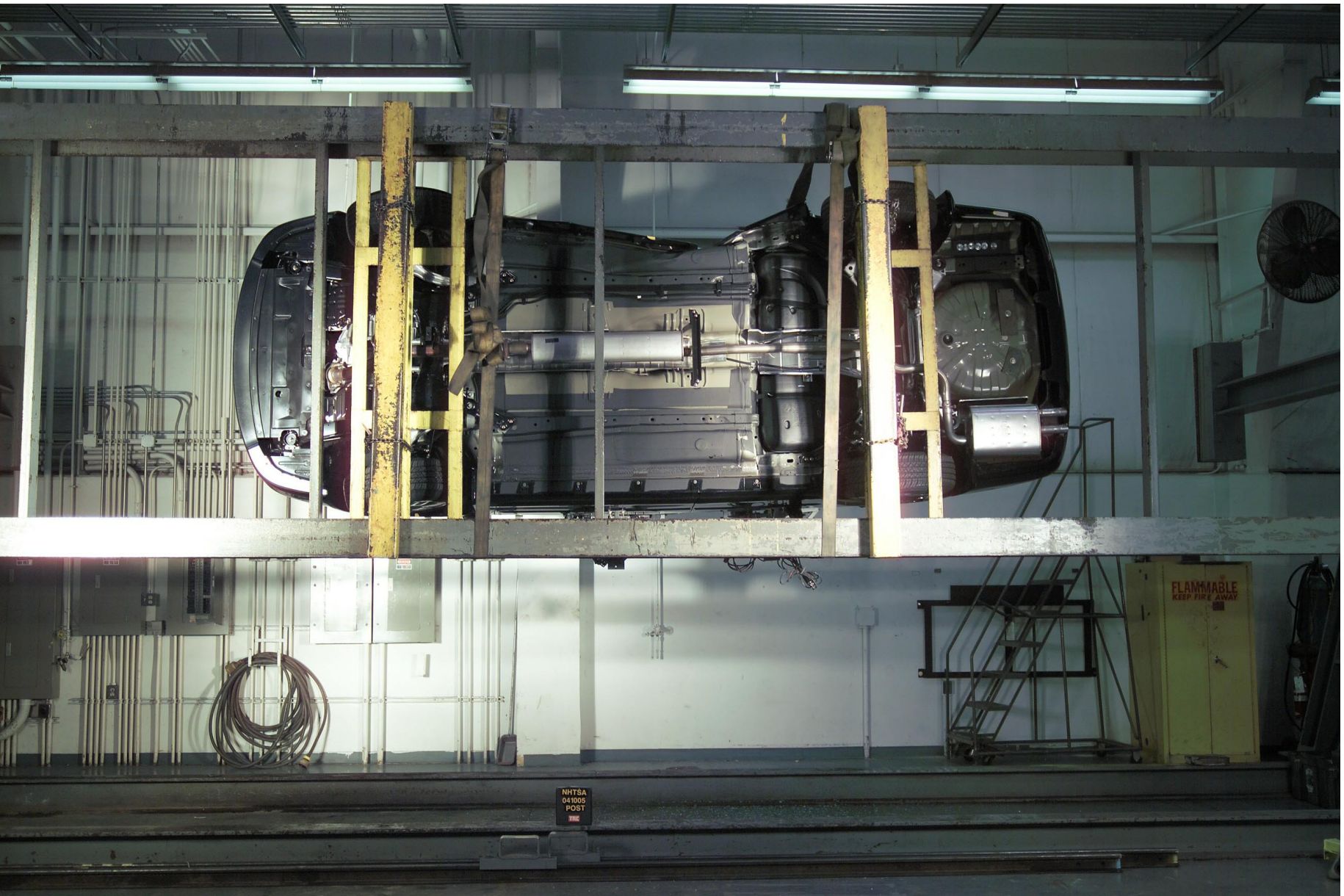


Figure A-60 FMVSS 301 Rollover View at 270°

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Figure A-61 FMVSS 301 Rollover View at 360°

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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

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
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2	Driver Head X-Axis Velocity	B-11
3	Driver Head Y-Axis Acceleration	B-12
4	Driver Head Y-Axis Velocity	B-13
5	Driver Head Z-Axis Acceleration	B-14
6	Driver Head Z-Axis Velocity	B-15
7	Driver Head Resultant Acceleration	B-16
8	Driver Neck X-Axis Shear Force	B-17
9	Driver Neck Y-Axis Shear Force	B-18
10	Driver Neck Z-Axis Axial Force	B-19
11	Driver Neck Moment about X Axis	B-20
12	Driver Neck Moment about Y Axis	B-21
13	Driver Neck Moment about Z Axis	B-22
14	Driver Neck Occipital Condyle Moment about X Axis	B-23
15	Driver Upper Rib Y-Axis Acceleration	B-24
16	Driver Upper Rib Y-Axis Velocity	B-25
17	Driver Lower Rib Y-Axis Acceleration	B-26
18	Driver Lower Rib Y-Axis Velocity	B-27
19	Driver Lower Spine Y-Axis Acceleration	B-28
20	Driver Lower Spine Y-Axis Velocity	B-29
21	Driver Pelvis Y-Axis Acceleration	B-30
22	Driver Pelvis Y-Axis Velocity	B-31

Table of Data Plots (Continued)

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

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
23	Left Rear Passenger Head X-Axis Acceleration	B-32
24	Left Rear Passenger Head X-Axis Velocity	B-33
25	Left Rear Passenger Head Y-Axis Acceleration	B-34
26	Left Rear Passenger Head Y-Axis Velocity	B-35
27	Left Rear Passenger Head Z-Axis Acceleration	B-36
28	Left Rear Passenger Head Z-Axis Velocity	B-37
29	Left Rear Passenger Head Resultant Acceleration	B-38
30	Left Rear Passenger Neck X-Axis Shear Force	B-39
31	Left Rear Passenger Neck Y-Axis Shear Force	B-40
32	Left Rear Passenger Neck Z-Axis Axial Force	B-41
33	Left Rear Passenger Neck Moment about X Axis	B-42
34	Left Rear Passenger Neck Moment about Y Axis	B-43
35	Left Rear Passenger Neck Moment about Z Axis	B-44
36	Left Rear Passenger Neck Occipital Condyle Moment about X Axis	B-45
37	Left Rear Passenger Upper Rib Y-Axis Acceleration	B-46
38	Left Rear Passenger Upper Rib Y-Axis Velocity	B-47
39	Left Rear Passenger Lower Rib Y-Axis Acceleration	B-48
40	Left Rear Passenger Lower Rib Y-Axis Velocity	B-49
41	Left Rear Passenger Lower Spine Y-Axis Acceleration	B-50
42	Left Rear Passenger Lower Spine Y-Axis Velocity	B-51
43	Left Rear Passenger Pelvis Y-Axis Acceleration	B-52
44	Left Rear Passenger Pelvis Y-Axis Velocity	B-53

Table of Data Plots (Continued)

Driver and Passenger Dummy Redundant Instrumentation Plots

Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
45	Driver Head X-Axis Redundant Acceleration	B-55
46	Driver Head X-Axis Redundant Velocity	B-56
47	Driver Head Y-Axis Redundant Acceleration	B-57
48	Driver Head Y-Axis Redundant Velocity	B-58
49	Driver Head Z-Axis Redundant Acceleration	B-59
50	Driver Head Z-Axis Redundant Velocity	B-60
51	Driver Head Resultant Redundant Acceleration	B-61
52	Driver Upper Rib Y-Axis Redundant Acceleration	B-62
53	Driver Upper Rib Y-Axis Redundant Velocity	B-63
54	Driver Lower Rib Y-Axis Redundant Acceleration	B-64
55	Driver Lower Rib Y-Axis Redundant Velocity	B-65
56	Driver Lower Spine Y-Axis Redundant Acceleration	B-66
57	Driver Lower Spine Y-Axis Redundant Velocity	B-67
58	Driver Pelvis Y-Axis Redundant Acceleration	B-68
59	Driver Pelvis Y-Axis Redundant Velocity	B-69
60	Left Rear Passenger Head X-Axis Redundant Acceleration	B-70
61	Left Rear Passenger Head X-Axis Redundant Velocity	B-71
62	Left Rear Passenger Head Y-Axis Redundant Acceleration	B-72
63	Left Rear Passenger Head Y-Axis Redundant Velocity	B-73
64	Left Rear Passenger Head Z-Axis Redundant Acceleration	B-74
65	Left Rear Passenger Head Z-Axis Redundant Velocity	B-75
66	Left Rear Passenger Head Resultant Redundant Acceleration	B-76
67	Left Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-77
68	Left Rear Passenger Upper Rib Y-Axis Redundant Velocity	B-78

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>
69	Left Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-79
70	Left Rear Passenger Lower Rib Y-Axis Redundant Velocity	B-80
71	Left Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-81
72	Left Rear Passenger Lower Spine Y-Axis Redundant Velocity	B-82
73	Left Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-83
74	Left Rear Passenger Pelvis Y-Axis Redundant Velocity	B-84

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-86
76	Right Side Sill at Front Seat X-Axis Velocity	B-87
77	Right Side Sill at Front Seat Y-Axis Acceleration	B-88
78	Right Side Sill at Front Seat Y-Axis Velocity	B-89
79	Right Side Sill at Front Seat Z-Axis Acceleration	B-90
80	Right Side Sill at Front Seat Z-Axis Velocity	B-91
81	Right Side Sill at Front Seat Resultant Acceleration	B-92
82	Right Side Sill at Rear Seat X-Axis Acceleration	B-93
83	Right Side Sill at Rear Seat X-Axis Velocity	B-94
84	Right Side Sill at Rear Seat Y-Axis Acceleration	B-95
85	Right Side Sill at Rear Seat Y-Axis Velocity	B-96
86	Right Side Sill at Rear Seat Z-Axis Acceleration	B-97
87	Right Side Sill at Rear Seat Z-Axis Velocity	B-98
88	Right Side Sill at Rear Seat Resultant Acceleration	B-99
89	Rear Floorpan Above Axle X-Axis Acceleration	B-100

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

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
90	Rear Floorpan Above Axle X-Axis Velocity	B-101
91	Rear Floorpan Above Axle Y-Axis Acceleration	B-102
92	Rear Floorpan Above Axle Y-Axis Velocity	B-103
93	Rear Floorpan Above Axle Z-Axis Acceleration	B-104
94	Rear Floorpan Above Axle Z-Axis Velocity	B-105
95	Rear Floorpan Above Axle Resultant Acceleration	B-106
96	Left Side Sill at Front Seat Y-Axis Acceleration	B-107
97	Left Side Sill at Front Seat Y-Axis Velocity	B-108
98	Left Side Sill at Front Seat Y-Axis Displacement	B-109
99	Left Side Sill at Rear Seat Y-Axis Acceleration	B-110
100	Left Side Sill at Rear Seat Y-Axis Velocity	B-111
101	Left Side Sill at Rear Seat Y-Axis Displacement	B-112
102	Right Rear Occupant Compartment Y-Axis Acceleration	B-113
103	Right Rear Occupant Compartment Y-Axis Velocity	B-114
104	Right Rear Occupant Compartment Y-Axis Displacement	B-115
105	Left Lower A-Post Y-Axis Acceleration	B-116
106	Left Lower A-Post Y-Axis Velocity	B-117
107	Left Middle A-Post Y-Axis Acceleration	B-118
108	Left Middle A-Post Y-Axis Velocity	B-119
109	Left Lower B-Post Y-Axis Acceleration	B-120
110	Left Lower B-Post Y-Axis Velocity	B-121
111	Left Middle B-Post Y-Axis Acceleration	B-122
112	Left Middle B-Post Y-Axis Velocity	B-123
113	Left Front Seat Track Y-Axis Acceleration	B-124
114	Left Front Seat Track Y-Axis Velocity	B-125
115	Left Rear Seat Track Y-Axis Acceleration	B-126

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

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
116	Left Rear Seat Track Y-Axis Velocity	B-127
117	Vehicle Center of Gravity X-Axis Acceleration	B-128
118	Vehicle Center of Gravity X-Axis Velocity	B-129
119	Vehicle Center of Gravity Y-Axis Acceleration	B-130
120	Vehicle Center of Gravity Y-Axis Velocity	B-131
121	Vehicle Center of Gravity Z-Axis Acceleration	B-132
122	Vehicle Center of Gravity Z-Axis Velocity	B-133
123	Vehicle Center of Gravity Resultant Acceleration	B-134

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-136
125	MDB Center of Gravity X-Axis Velocity	B-137
126	MDB Center of Gravity Y-Axis Acceleration	B-138
127	MDB Center of Gravity Y-Axis Velocity	B-139
128	MDB Center of Gravity Z-Axis Acceleration	B-140
129	MDB Center of Gravity Z-Axis Velocity	B-141
130	MDB Center of Gravity Resultant Acceleration	B-142
131	MDB Left Rear X-Axis Acceleration	B-143
132	MDB Left Rear X-Axis Velocity	B-144
133	MDB Left Rear Y-Axis Acceleration	B-145
134	MDB Left Rear Y-Axis Velocity	B-146
135	MDB Right Side Contact Switch	B-147
136	MDB Left Side Contact Switch	B-148

Table of Data Plots (Continued)
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-150
138	Driver Lower Rib Y-Axis Acceleration	B-151
139	Driver Lower Spine Y-Axis Acceleration	B-152
140	Driver Pelvis Y-Axis Acceleration	B-153
141	Left Rear Passenger Upper Rib Y-Axis Acceleration	B-154
142	Left Rear Passenger Lower Rib Y-Axis Acceleration	B-155
143	Left Rear Passenger Lower Spine Y-Axis Acceleration	B-156
144	Left Rear Passenger Pelvis Y-Axis Acceleration	B-157
145	Driver Upper Rib Y-Axis Redundant Acceleration	B-158
146	Driver Lower Rib Y-Axis Redundant Acceleration	B-159
147	Driver Lower Spine Y-Axis Redundant Acceleration	B-160
148	Driver Pelvis Y-Axis Redundant Acceleration	B-161
149	Left Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-162
150	Left Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-163
151	Left Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-164
152	Left Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-165

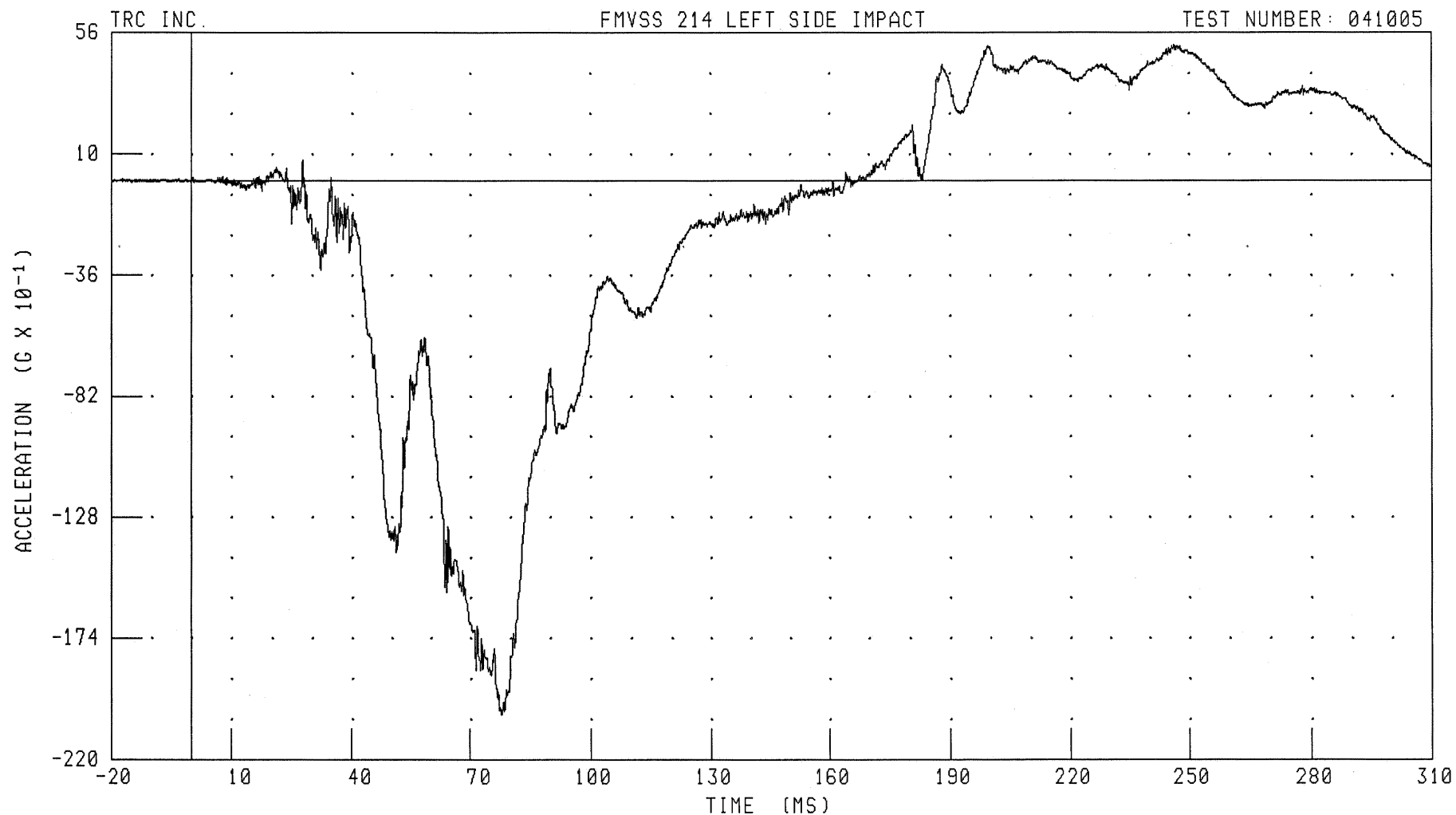
Driver and Passenger Dummy Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXC1

FILTER: CH. CLASS 1000

PEAK DATA: 5.13 G @ 246.40 MS; -20.29 G @ 77.92 MS

B-10

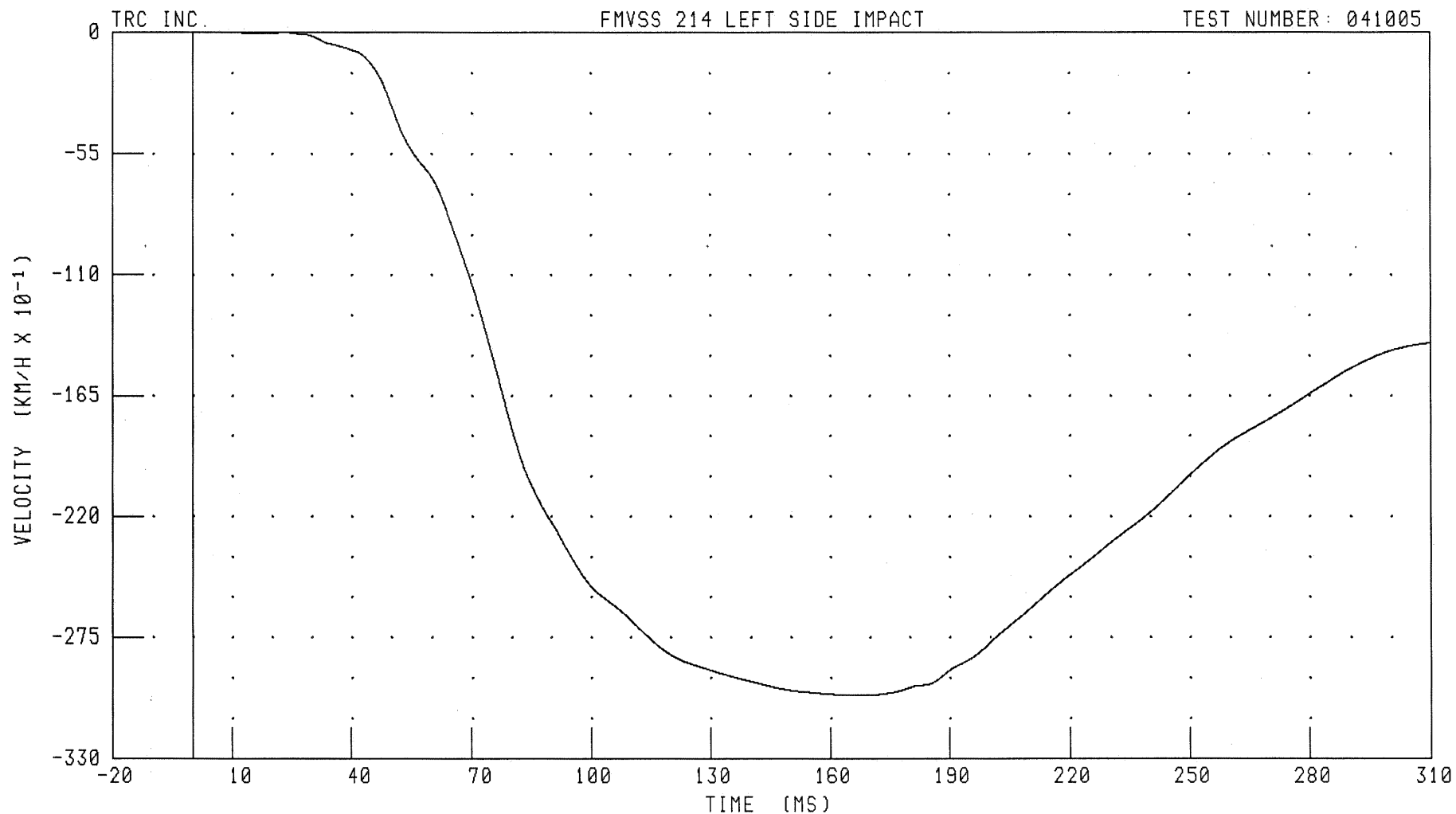
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 0.88 MS; -30.13 KM/H @ 167.20 MS

B-11

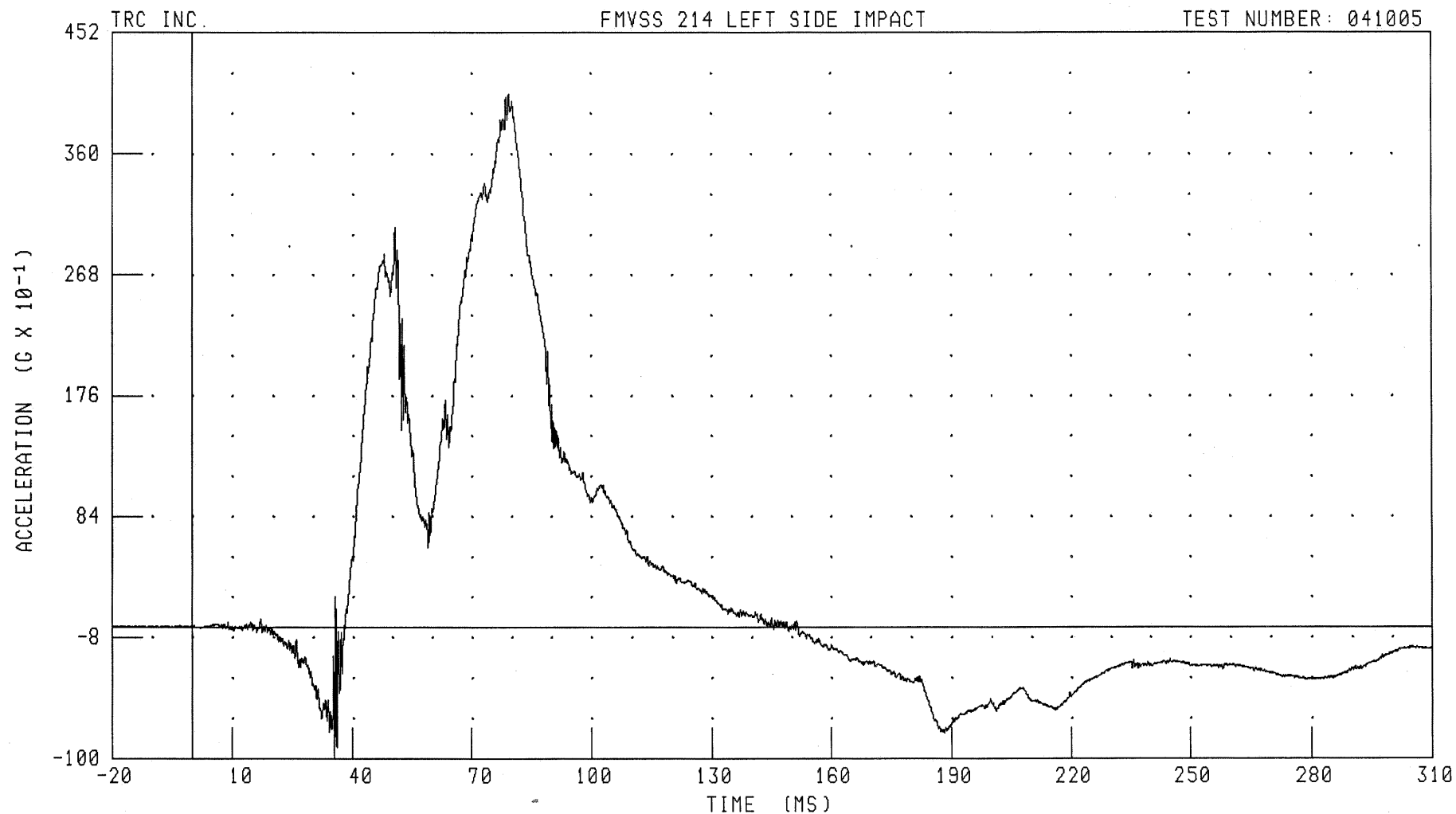
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYG1 FILTER: CH. CLASS 1000

PEAK DATA: 40.53 G @ 79.44 MS; -9.98 G @ 35.44 MS

B-12

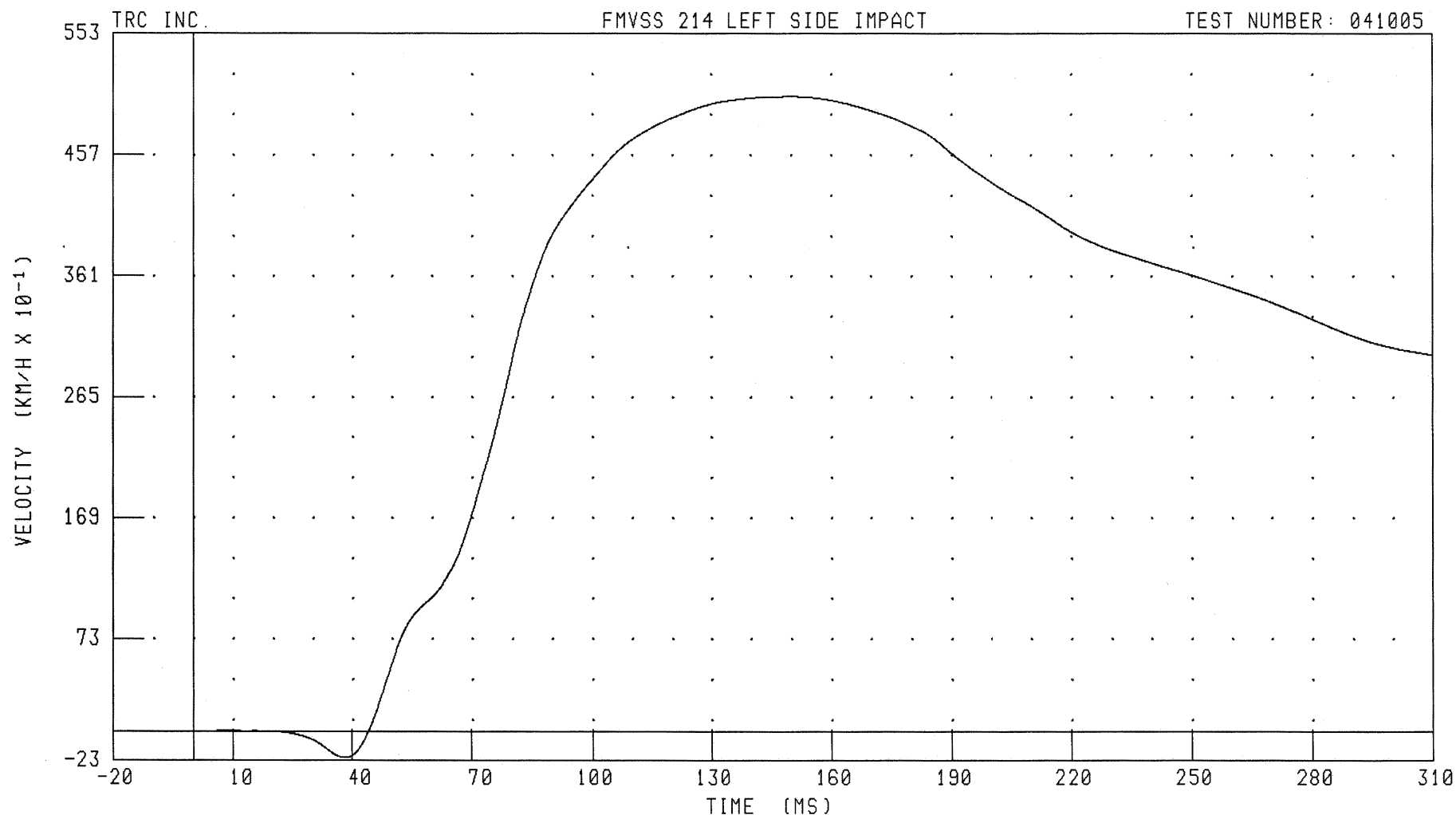
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYV1

FILTER: CH. CLASS 180

PEAK DATA: 50.32 KM/H @ 148.96 MS; -2.10 KM/H @ 38.08 MS

B-13

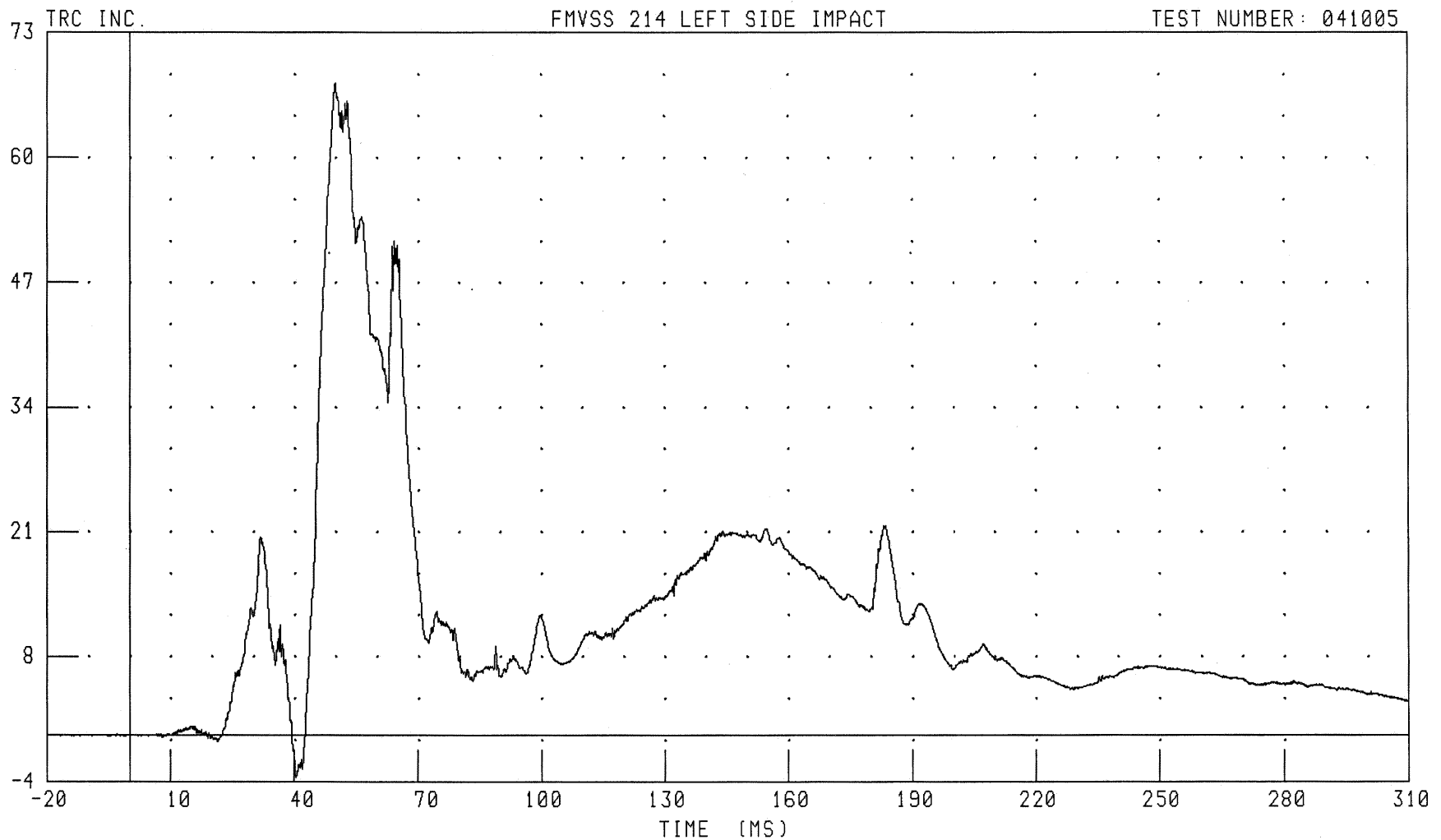
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

PEAK DATA: 67.98 G @ 50.00 MS; -4.41 G @ 40.40 MS

B-14

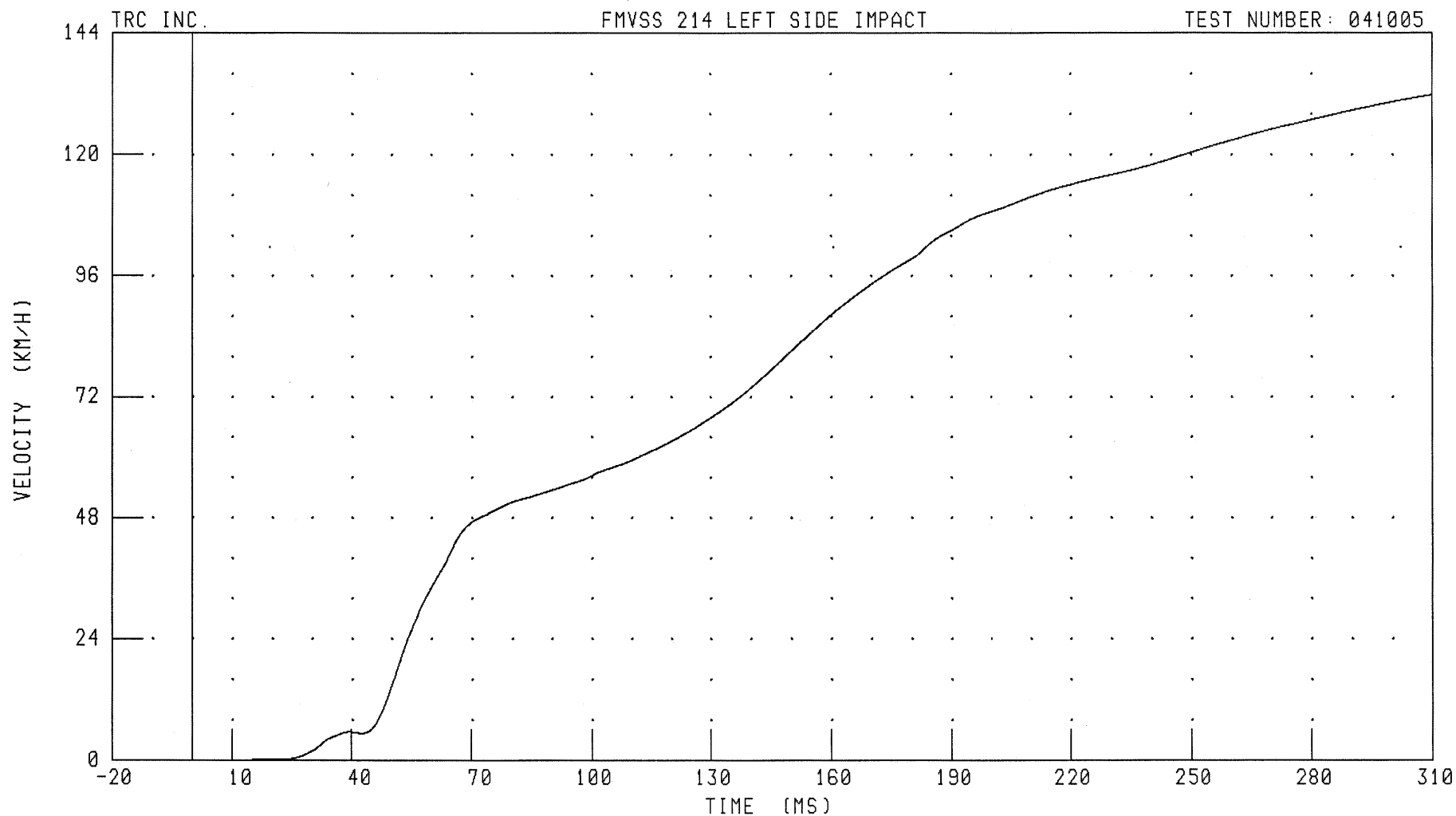
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZV1

FILTER: CH. CLASS 180

PEAK DATA: 131.82 KM/H @ 310.00 MS; 0.00 KM/H @ 2.48 MS

B-15

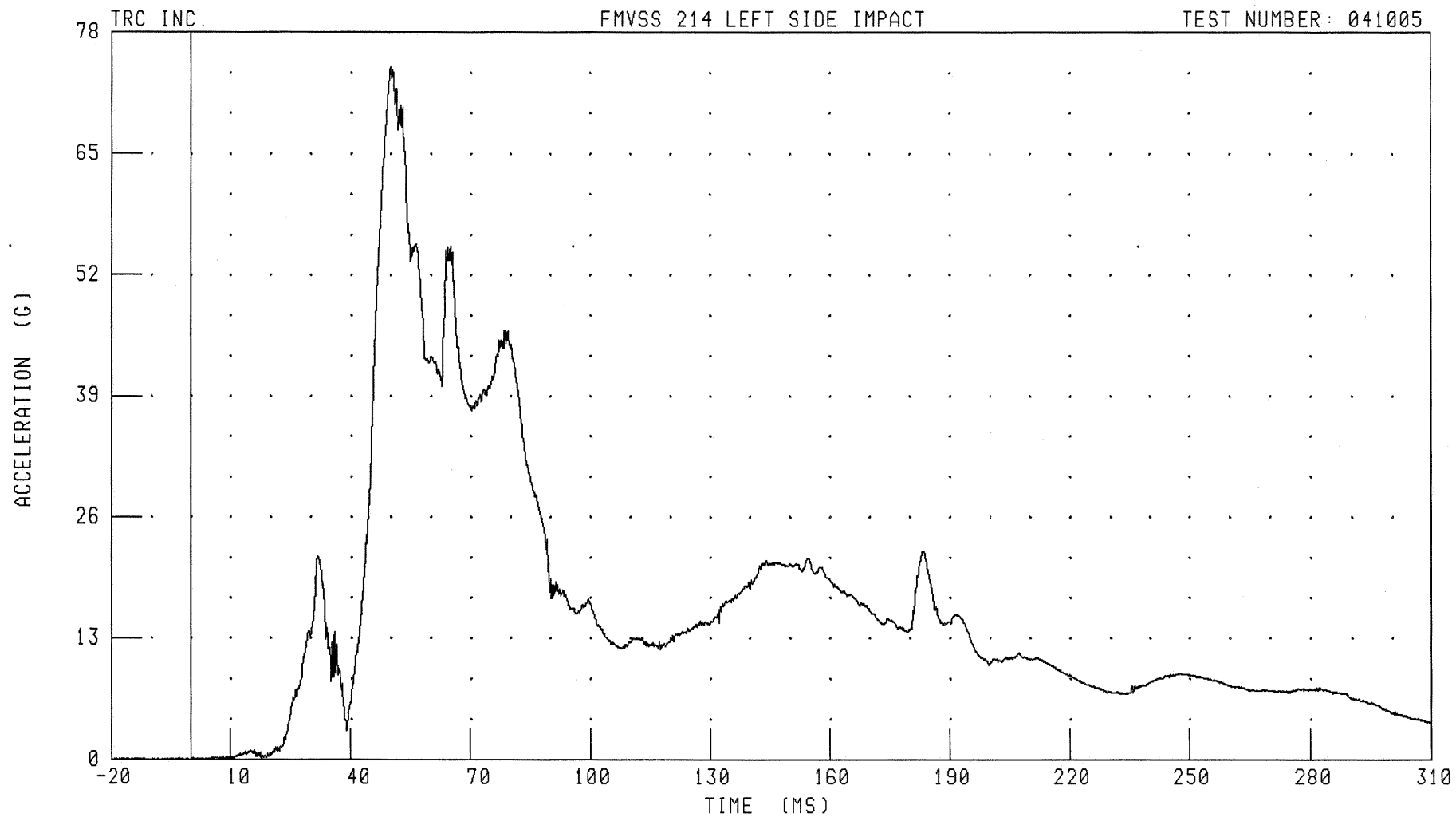
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

PEAK DATA: 74.28 G @ 50.00 MS; 0.01 G @ -18.00 MS

B-16

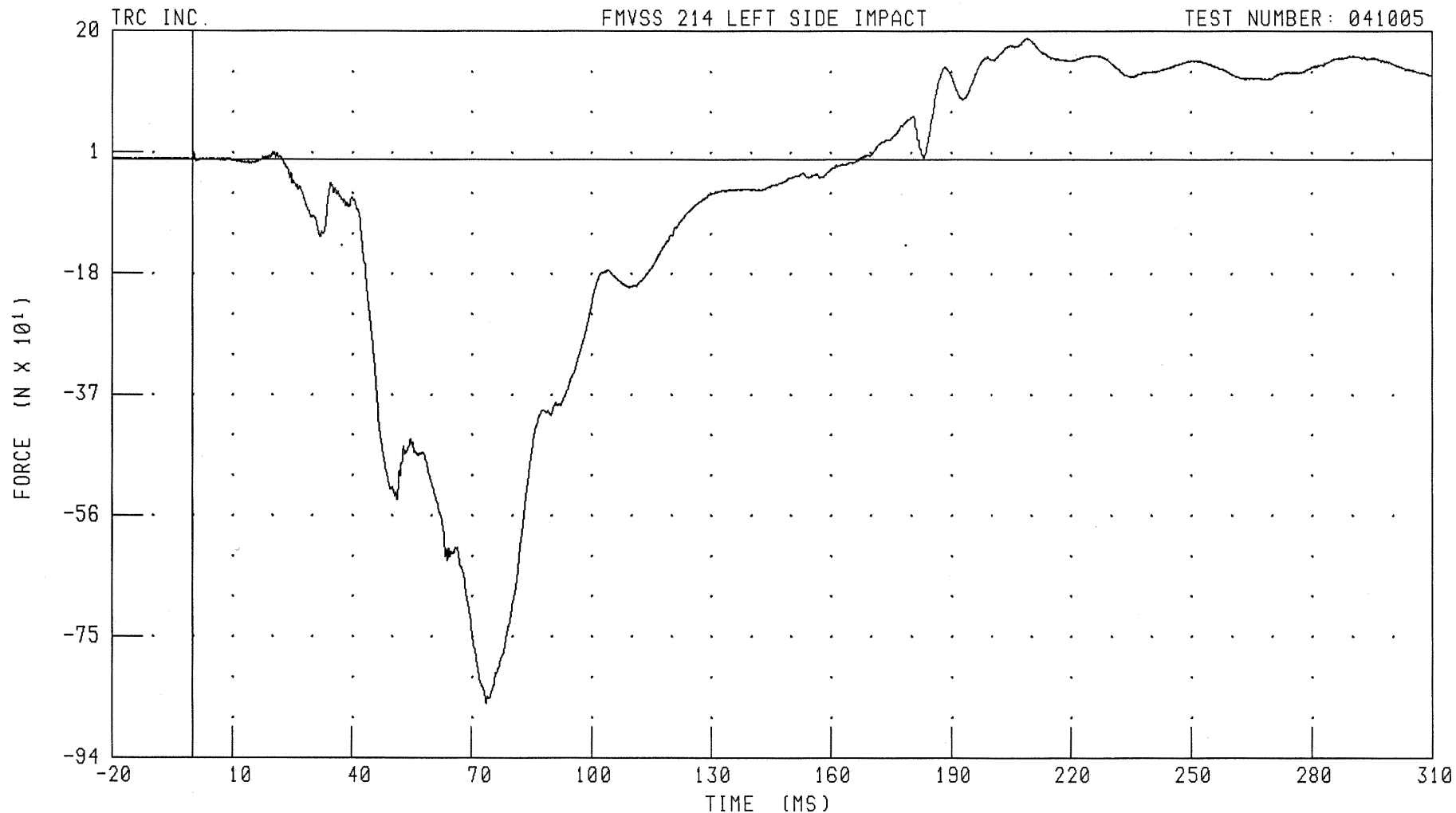
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER NECK X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKXF1

FILTER: CH. CLASS 1000

PEAK DATA: 188.98 N @ 209.20 MS; -854.26 N @ 73.60 MS

B-17

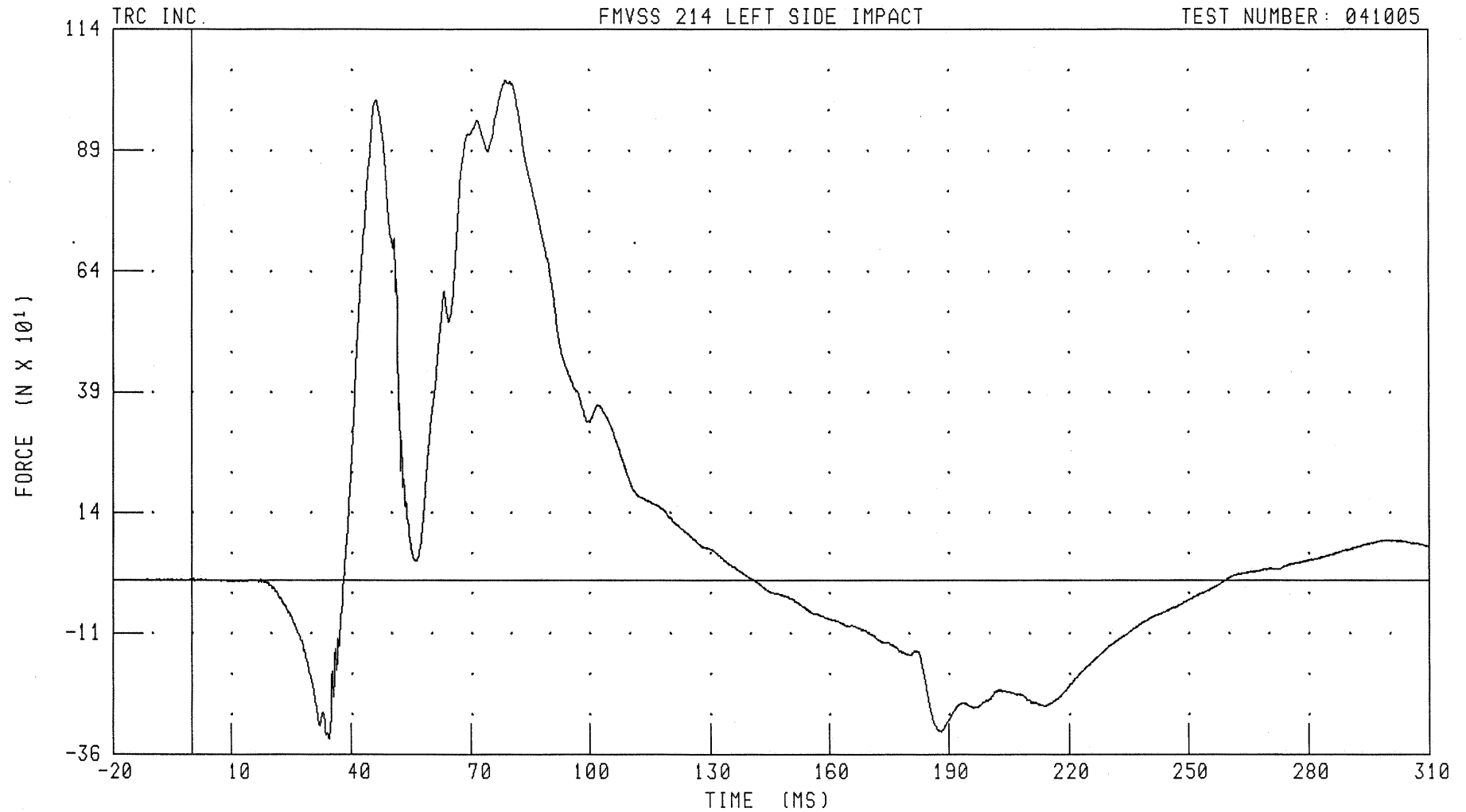
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER NECK Y-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

PEAK DATA: 1035.49 N @ 78.72 MS; -328.26 N @ 34.48 MS

B-18

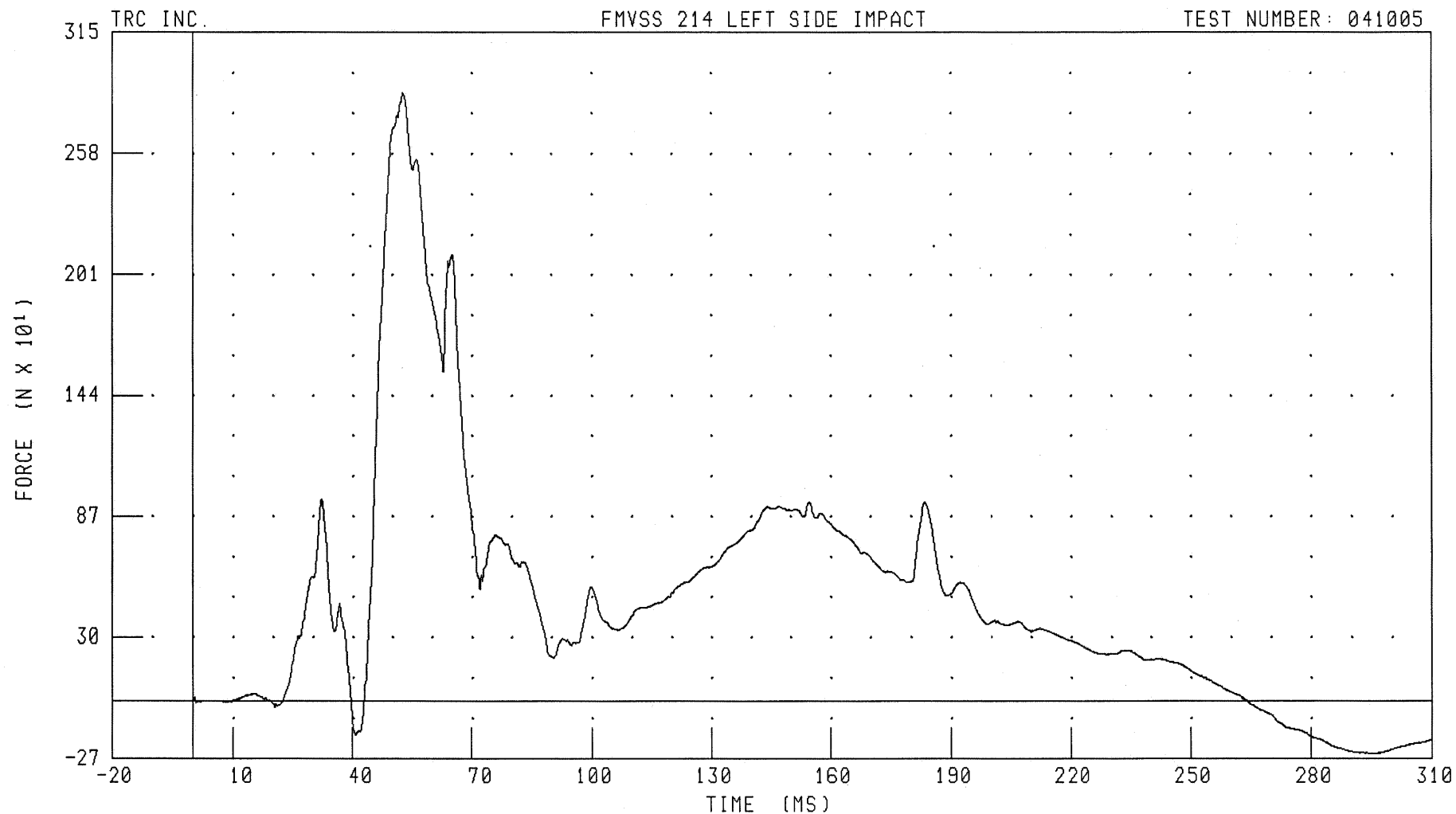
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKZF1 FILTER: CH. CLASS 1000

PEAK DATA: 2864.25 N @ 52.72 MS; -247.18 N @ 295.84 MS

B-19

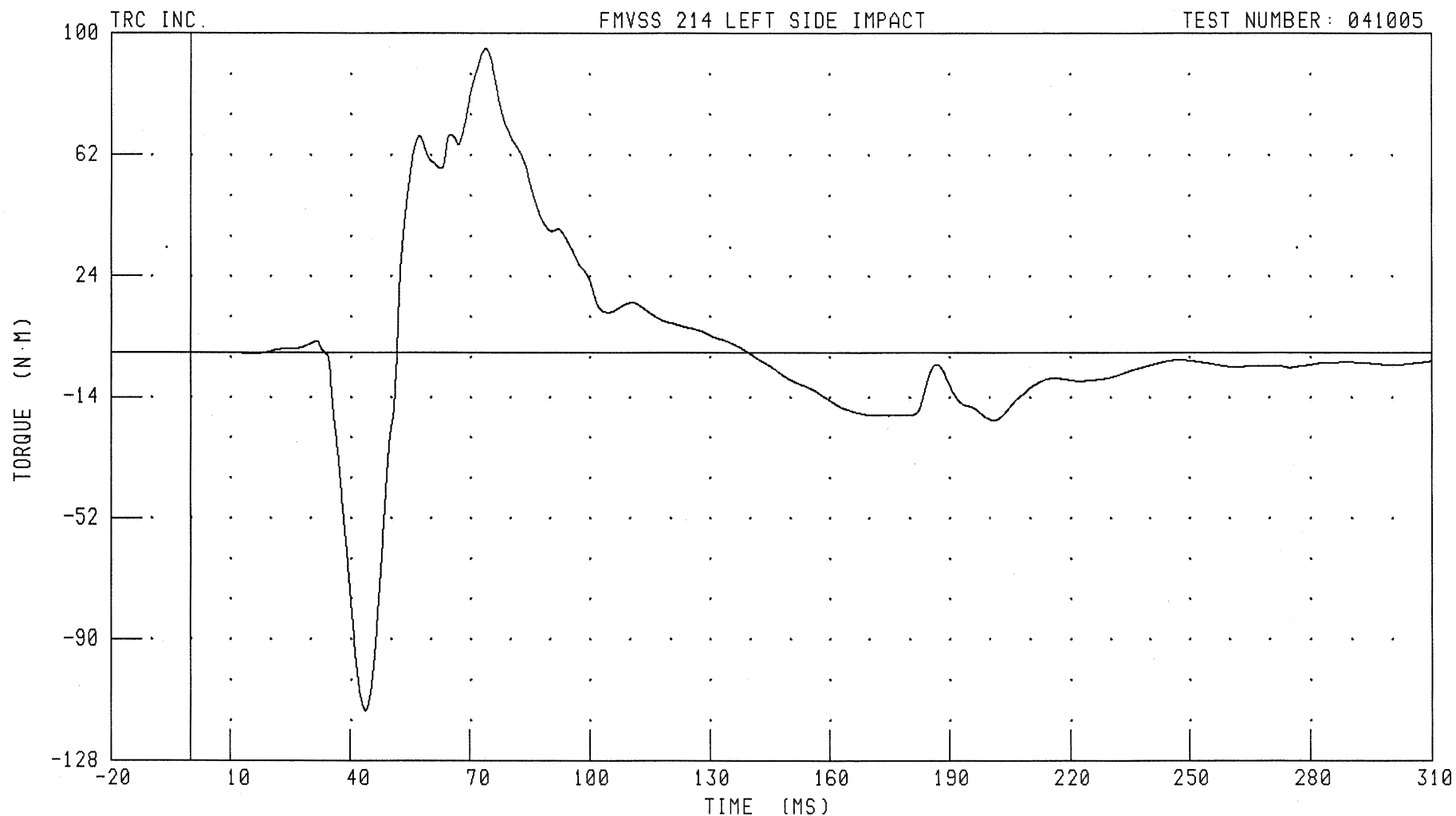
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER NECK MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKXM1 FILTER: CH. CLASS 600

PEAK DATA: 95.29 N·M @ 74.00 MS; -112.53 N·M @ 43.76 MS

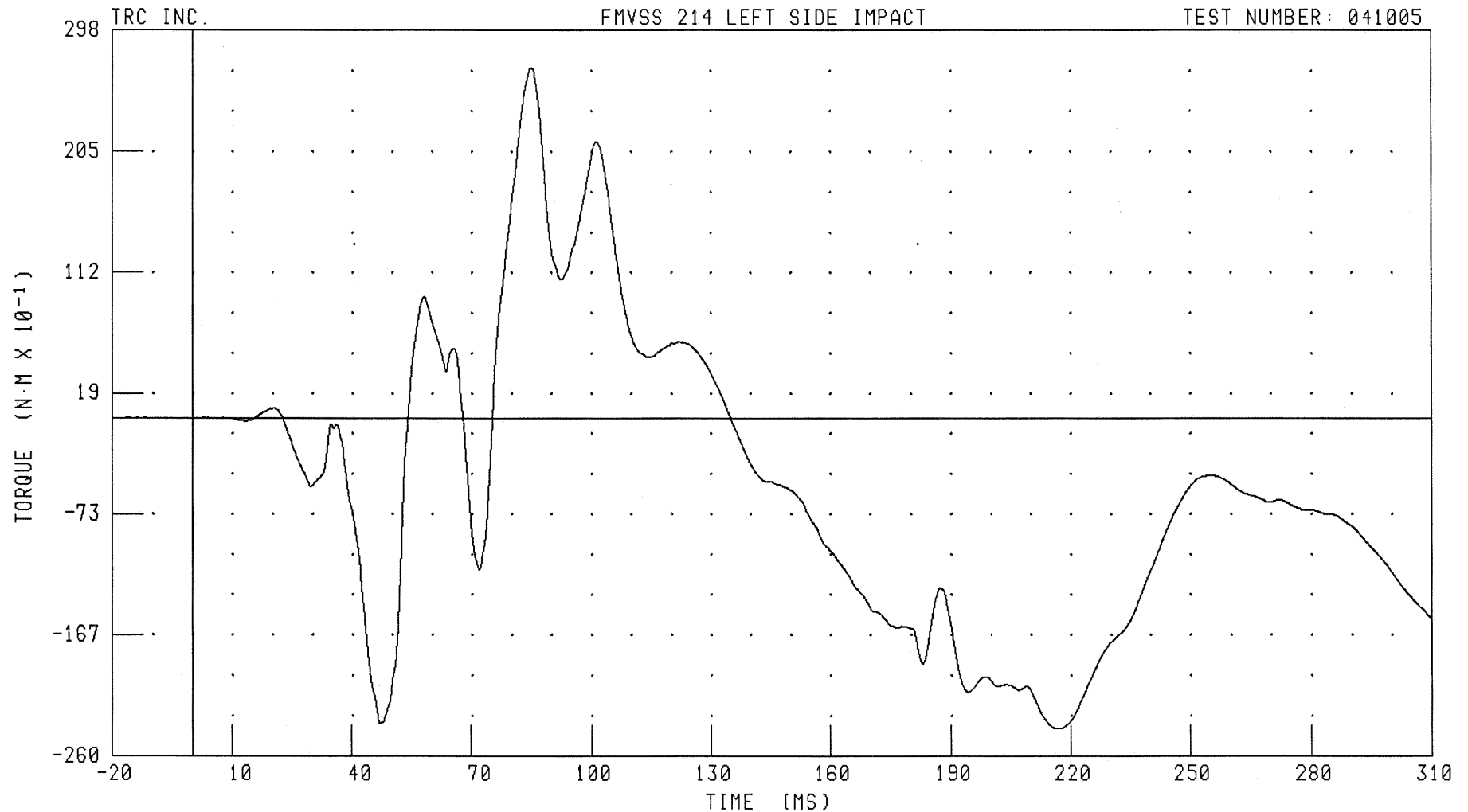
B-20

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER NECK MOMENT ABOUT Y AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKYM1

FILTER: CH. CLASS 600

PEAK DATA: 26.91 N·M @ 85.12 MS; -23.92 N·M @ 217.36 MS

B-21

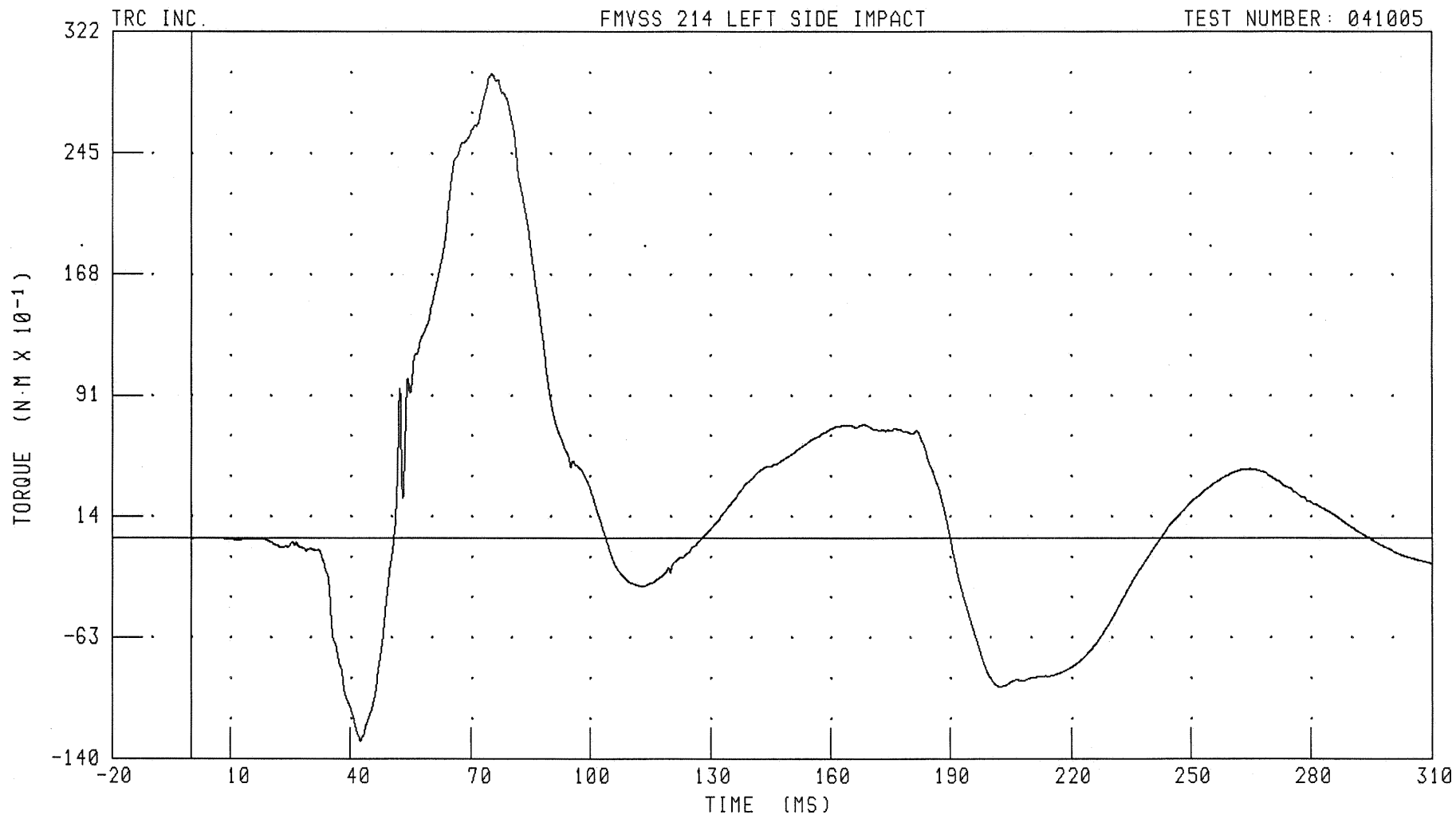
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER NECK MOMENT ABOUT Z AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKZM1

FILTER: CH. CLASS 600

PEAK DATA: 29.52 N·M @ 75.12 MS; -12.89 N·M @ 42.40 MS

B-22

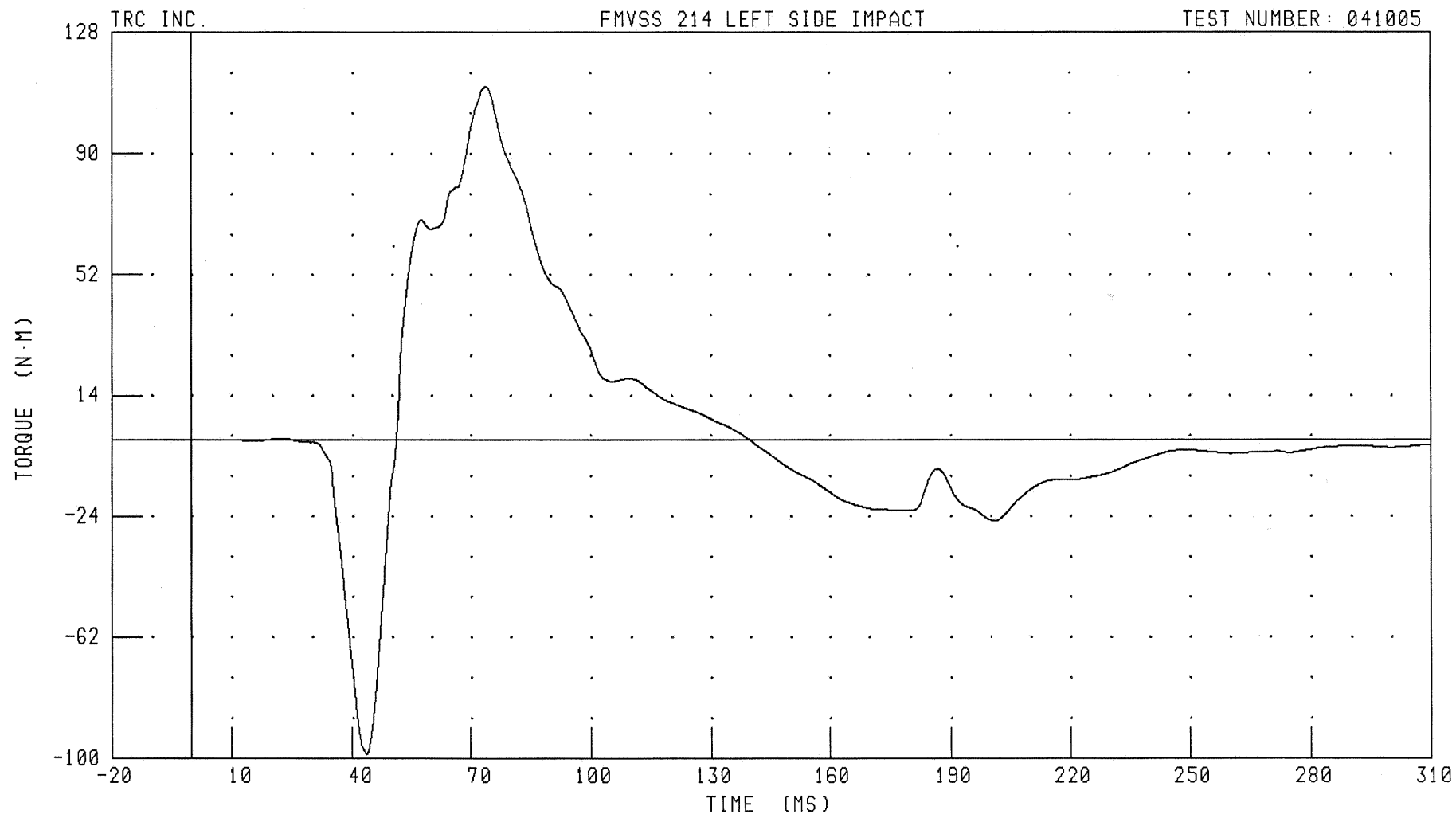
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER NECK OCCIPITAL CONDYLE MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NK0XM1

FILTER: CH. CLASS 600

PEAK DATA: 111.14 N·m @ 73.92 ms; -98.70 N·m @ 43.52 ms

B-23

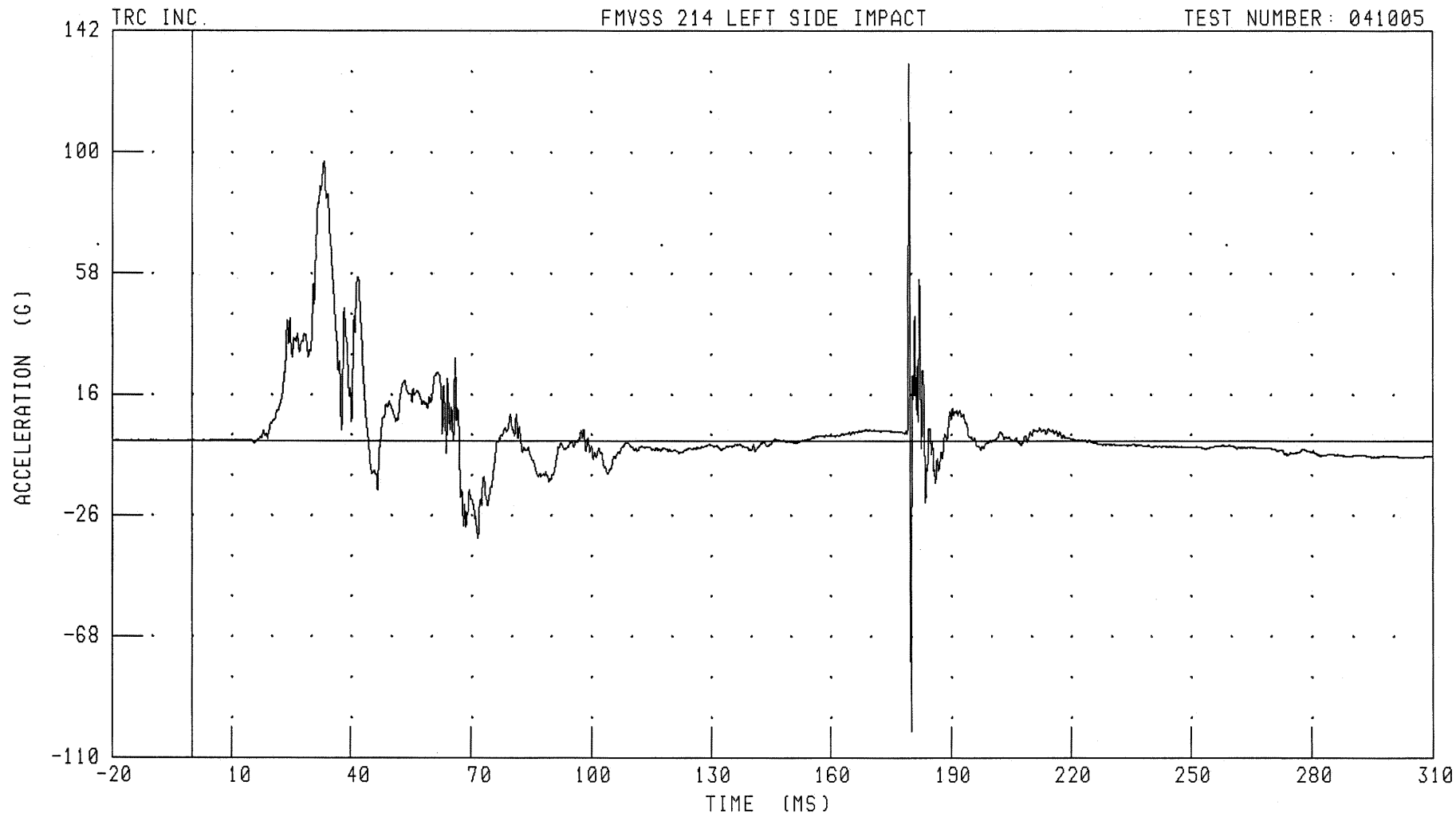
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYG1

FILTER: CH. CLASS 1000

PEAK DATA: 130.86 G @ 179.68 MS; -100.93 G @ 180.08 MS

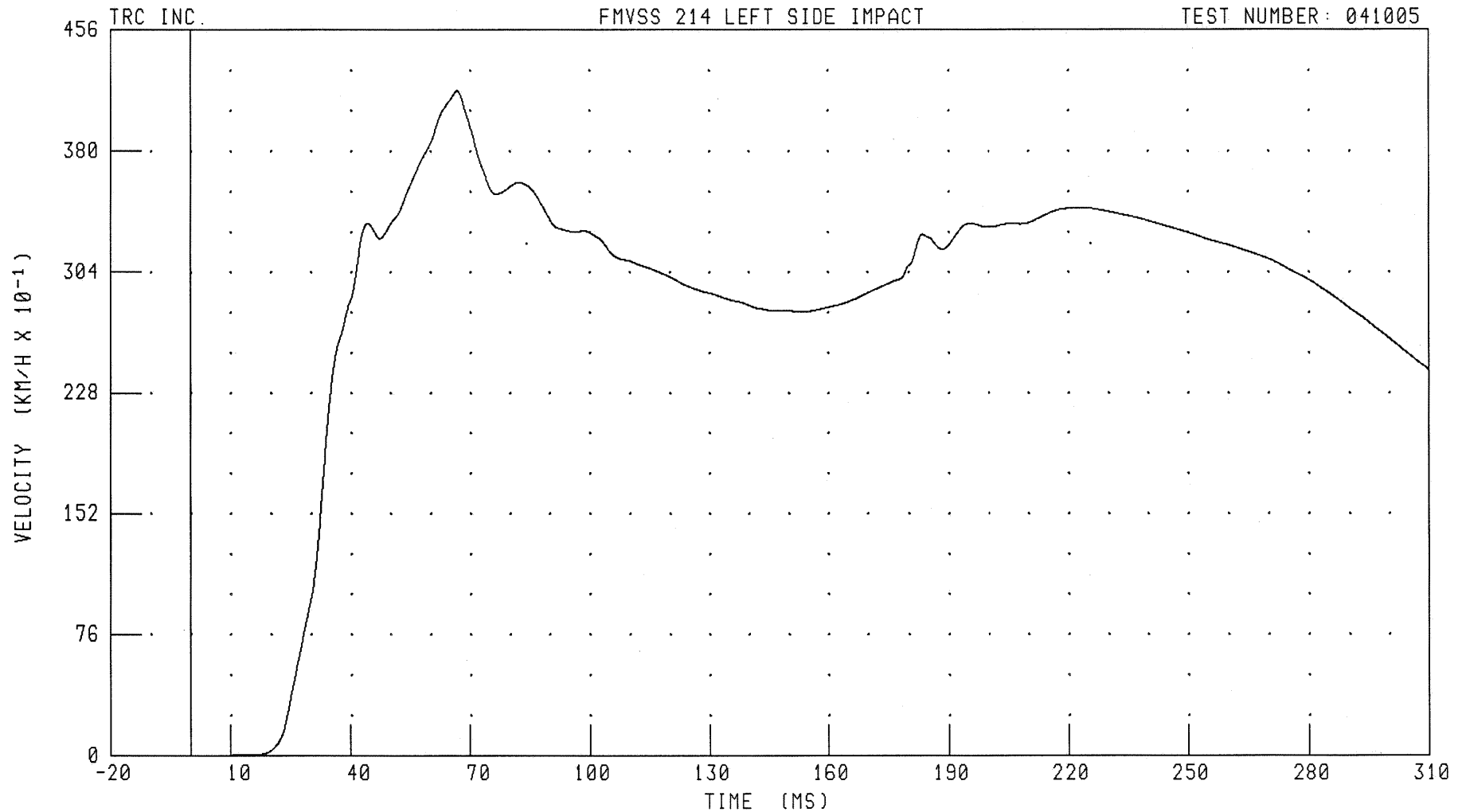
B-24

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER UPPER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYV1

FILTER: CH. CLASS 180

PEAK DATA: 41.80 KM/H @ 66.96 MS; 0.00 KM/H @ 2.32 MS

B-25

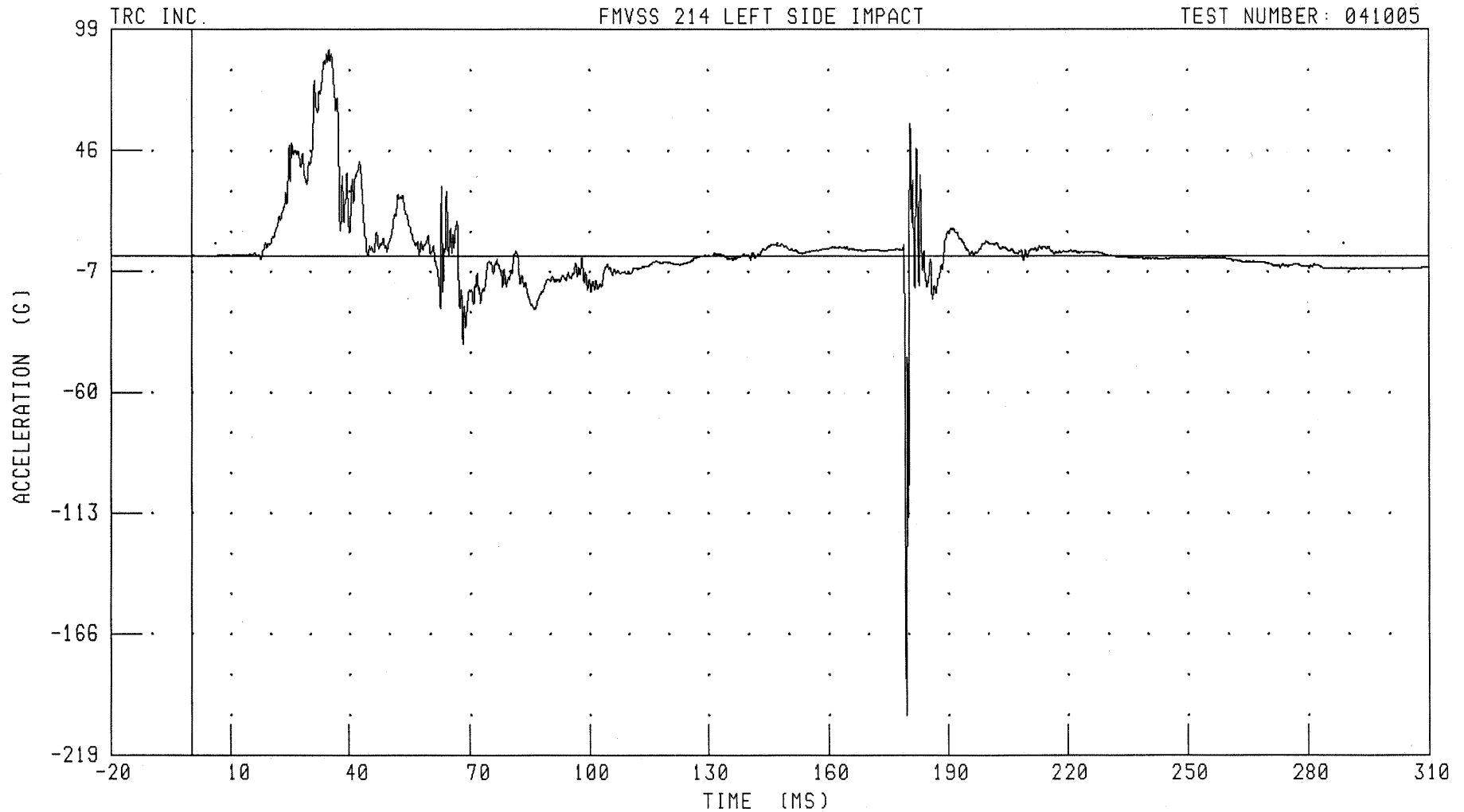
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYG1 FILTER: CH. CLASS 1000

PEAK DATA: 90.17 G @ 34.96 MS; -201.51 G @ 179.52 MS

B-26

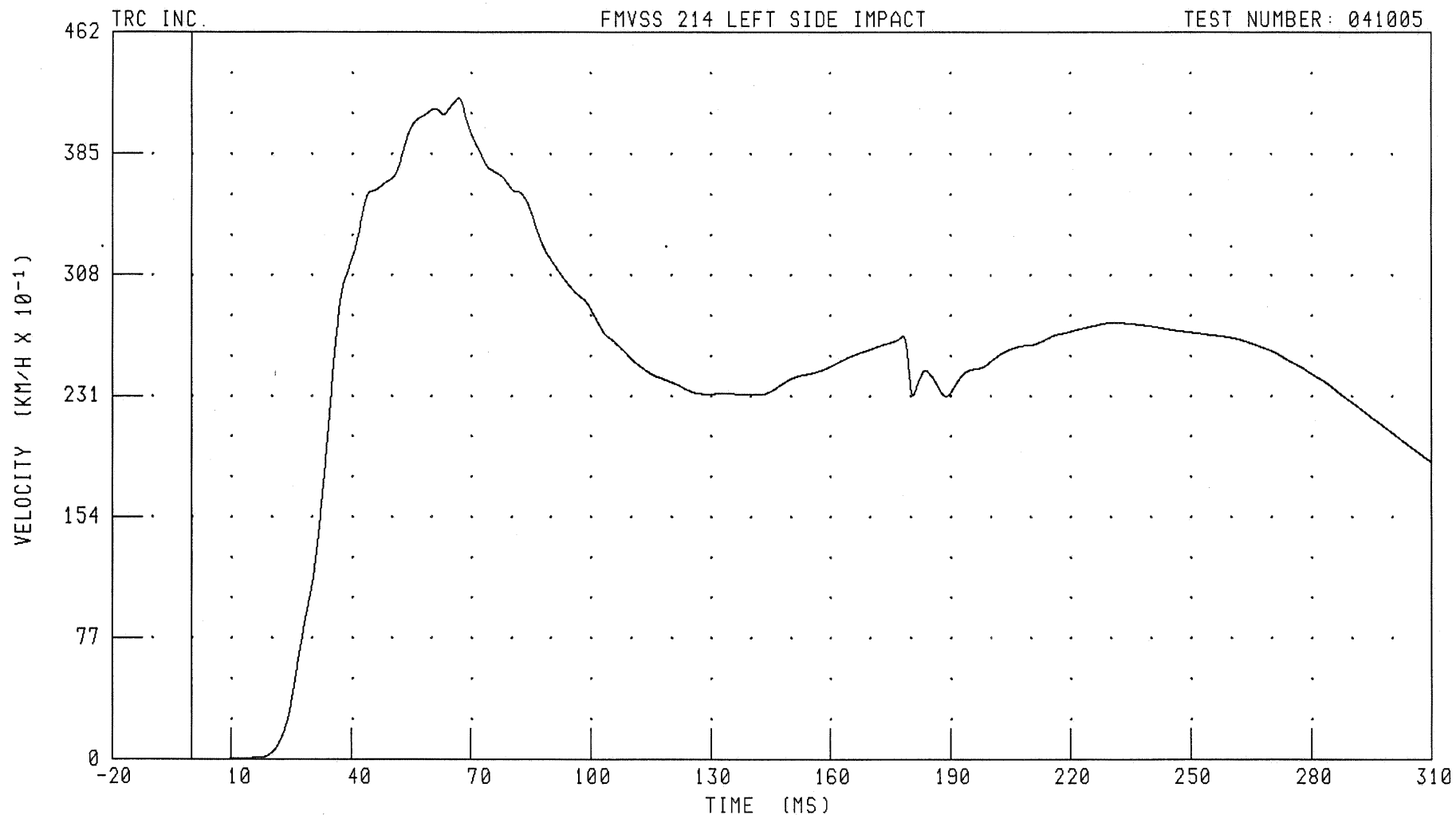
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER LOWER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYV1

FILTER: CH. CLASS 180

PEAK DATA: 42.03 KM/H @ 67.04 MS; 0.00 KM/H @ 0.00 MS

B-27

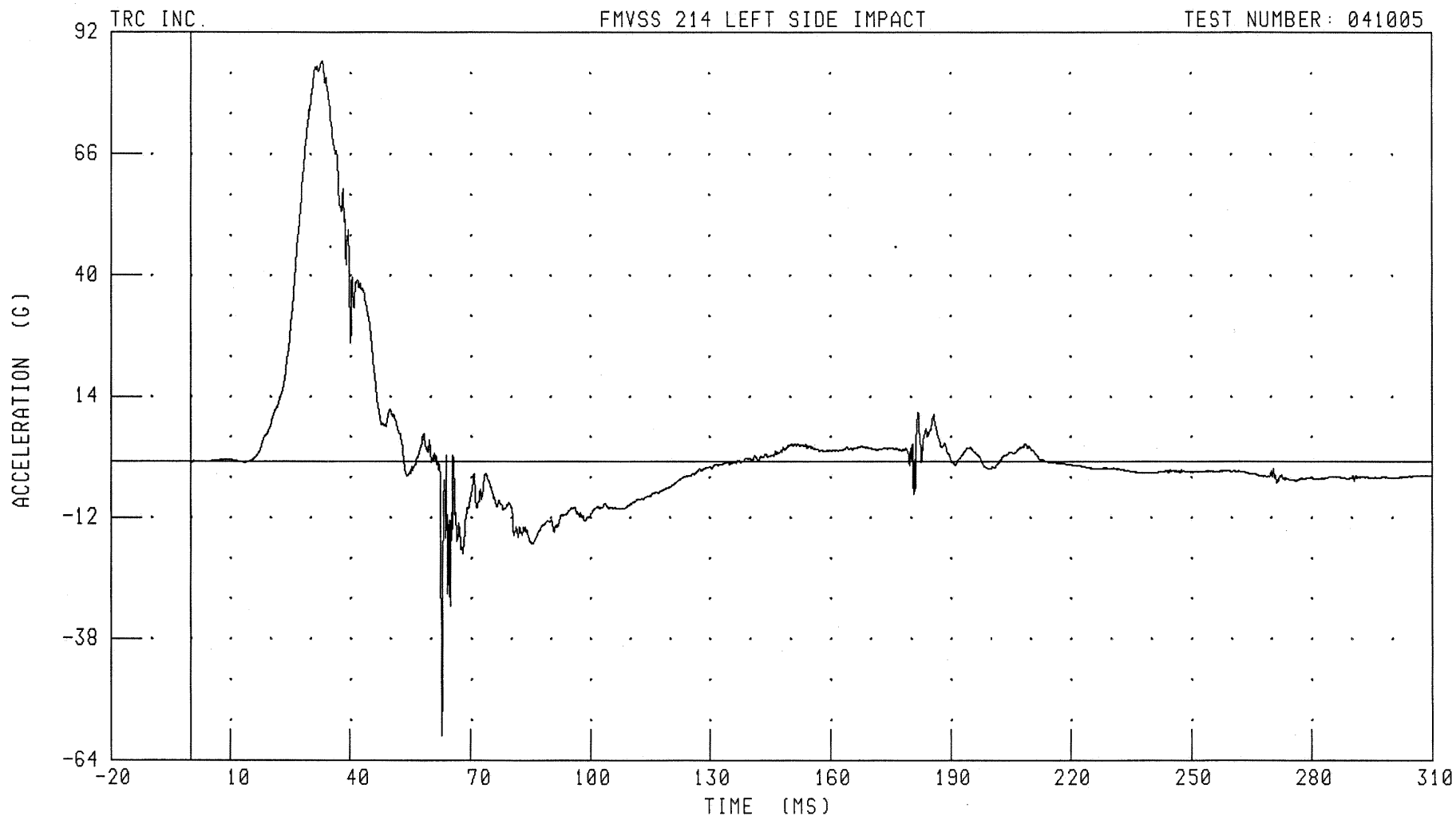
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YG1 FILTER: CH. CLASS 1000

PEAK DATA: 85.82 G @ 33.04 MS; -58.85 G @ 62.80 MS

B-28

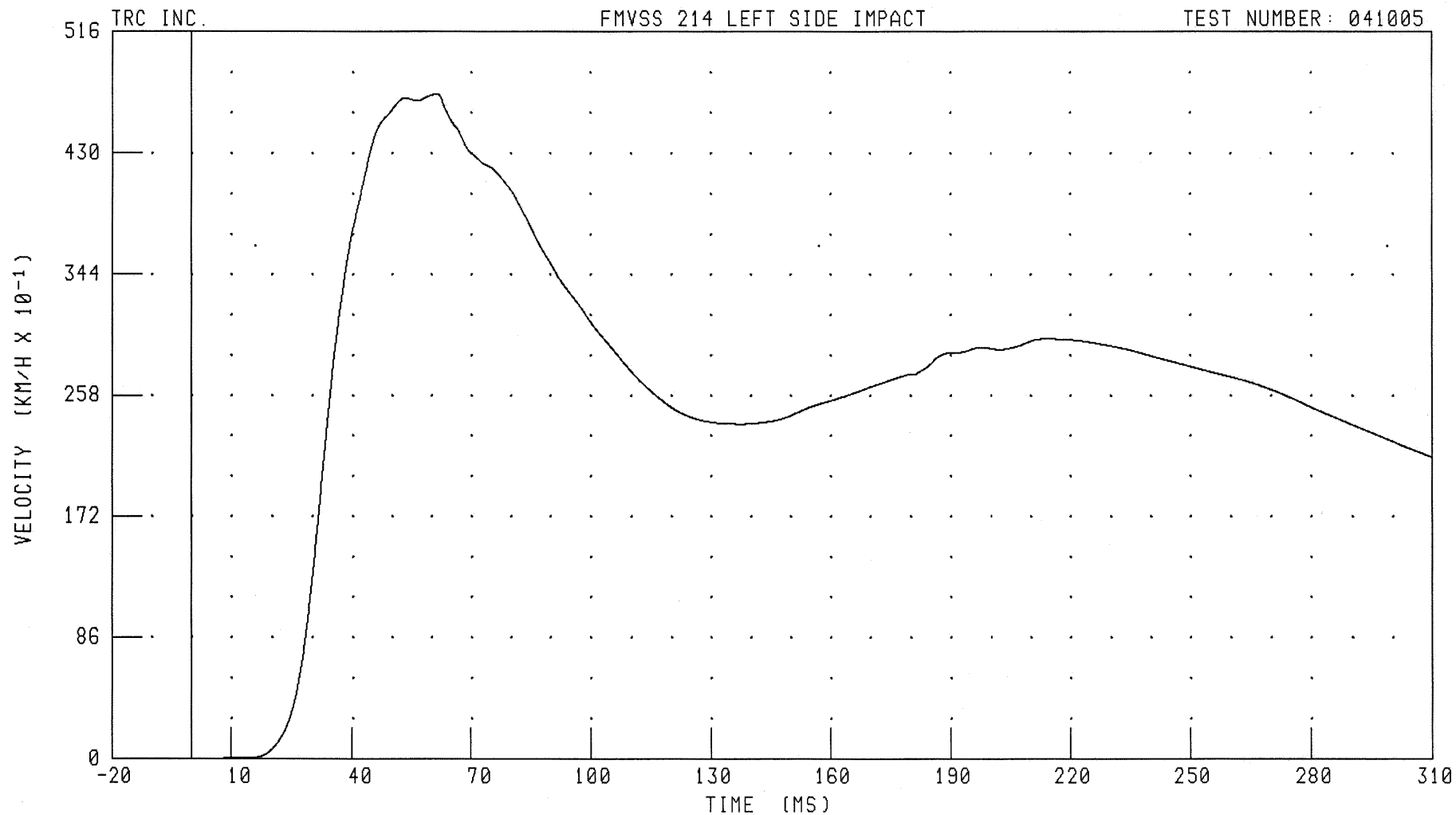
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER LOWER SPINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YV1

FILTER: CH. CLASS 180

PEAK DATA: 47.19 KM/H @ 61.44 MS; 0.00 KM/H @ 0.88 MS

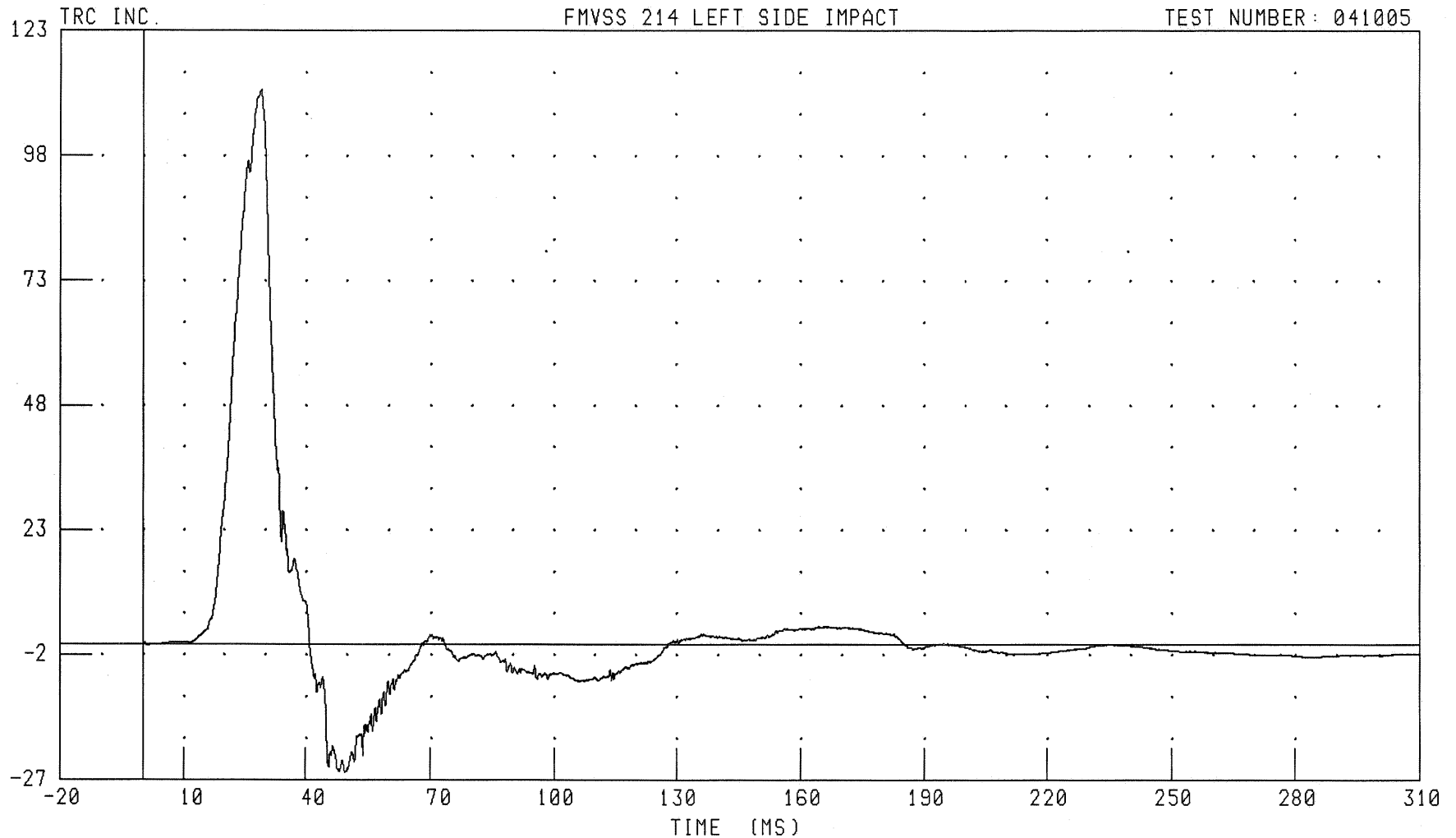
B-29

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYG1 FILTER: CH. CLASS 1000

PEAK DATA: 111.27 G @ 29.20 MS; -25.45 G @ 49.52 MS

B-30

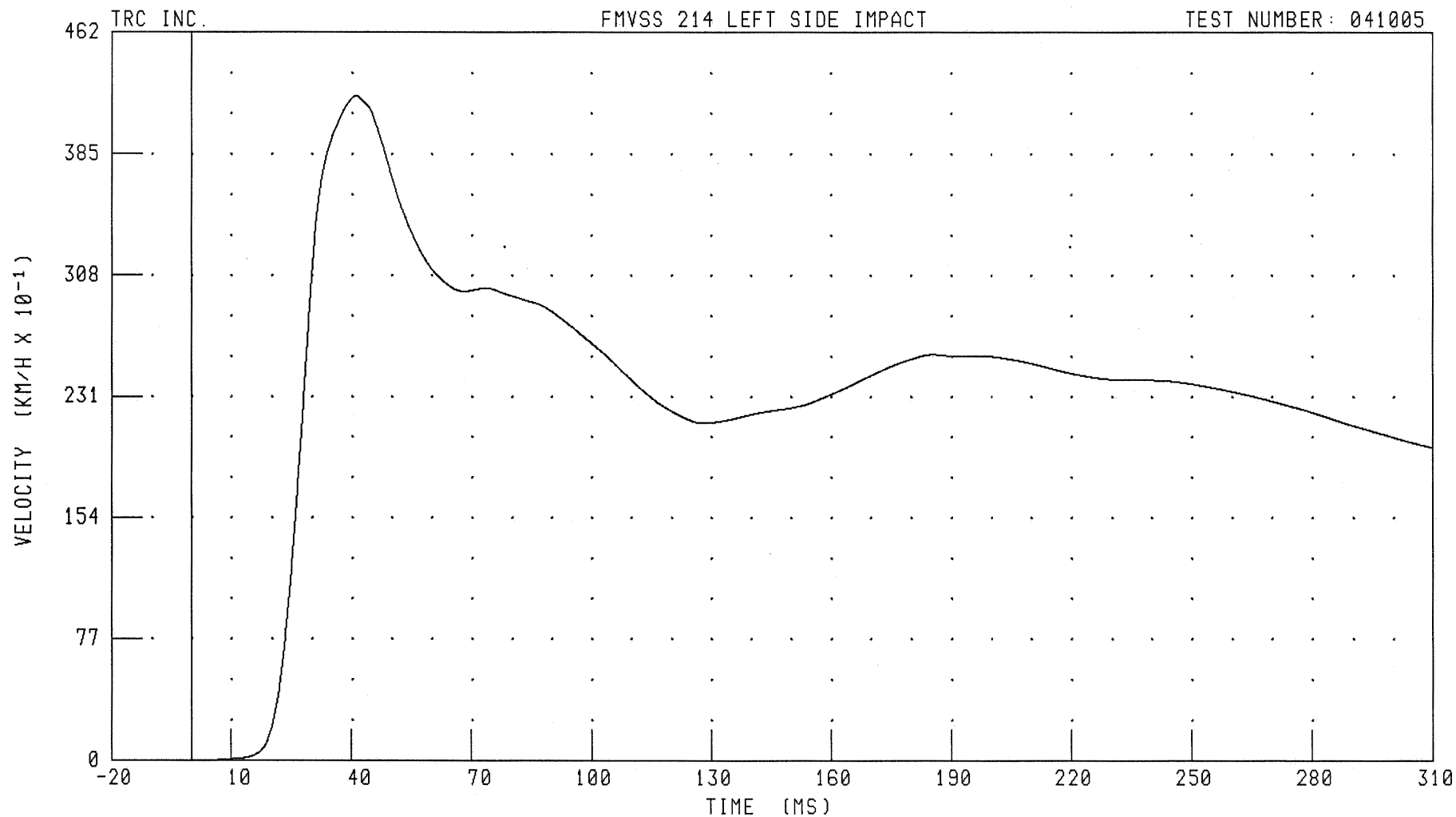
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYV1

FILTER: CH. CLASS 180

PEAK DATA: 42.17 KM/H @ 41.12 MS; 0.00 KM/H @ 0.00 MS

B-31

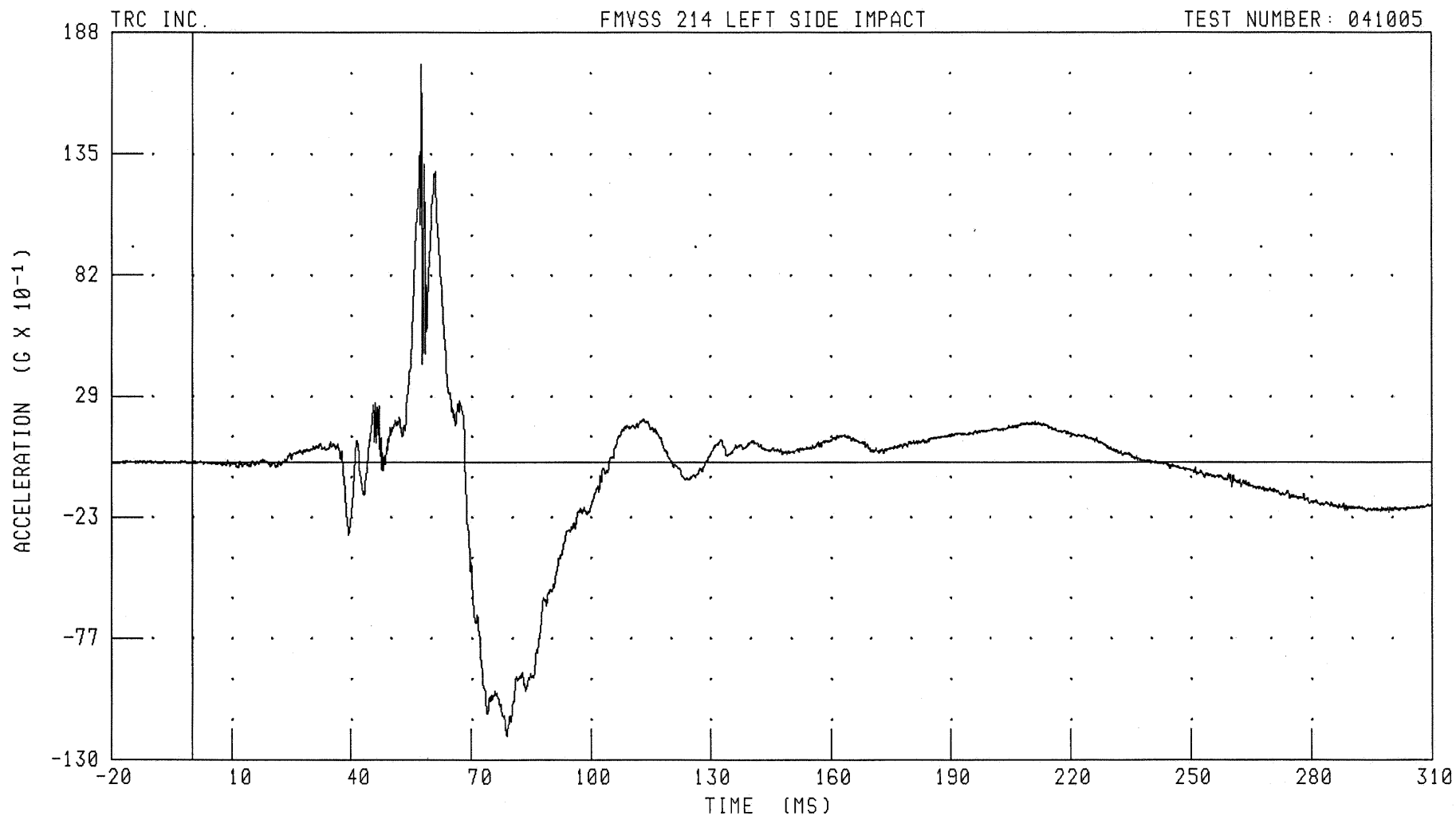
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXC4

FILTER: CH. CLASS 1000

PEAK DATA: 17.42 G @ 57.76 MS; -11.99 G @ 78.72 MS

B-32

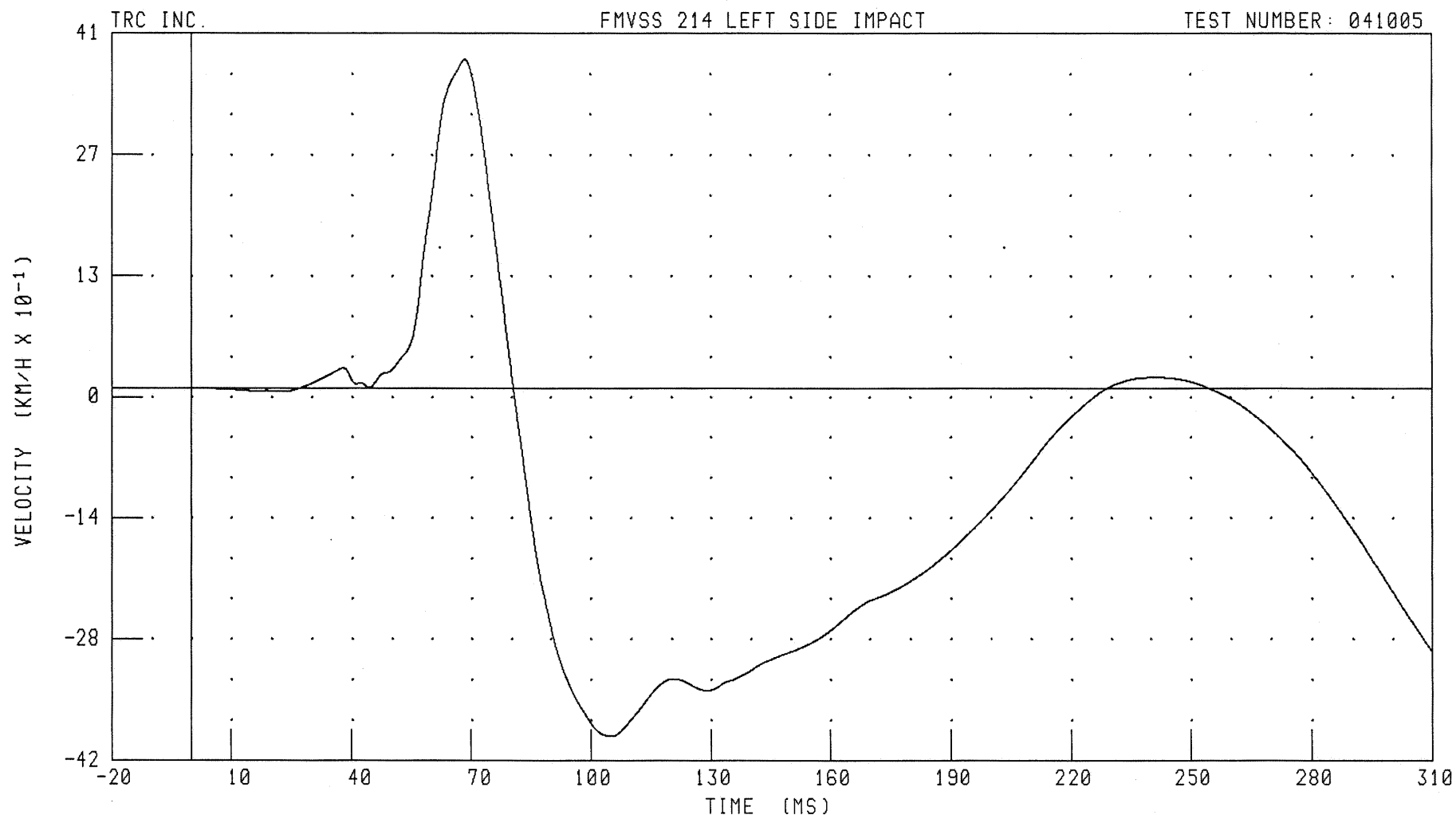
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXV4

FILTER: CH. CLASS 180

PEAK DATA: 3.80 KM/H @ 68.48 MS; -4.02 KM/H @ 104.96 MS

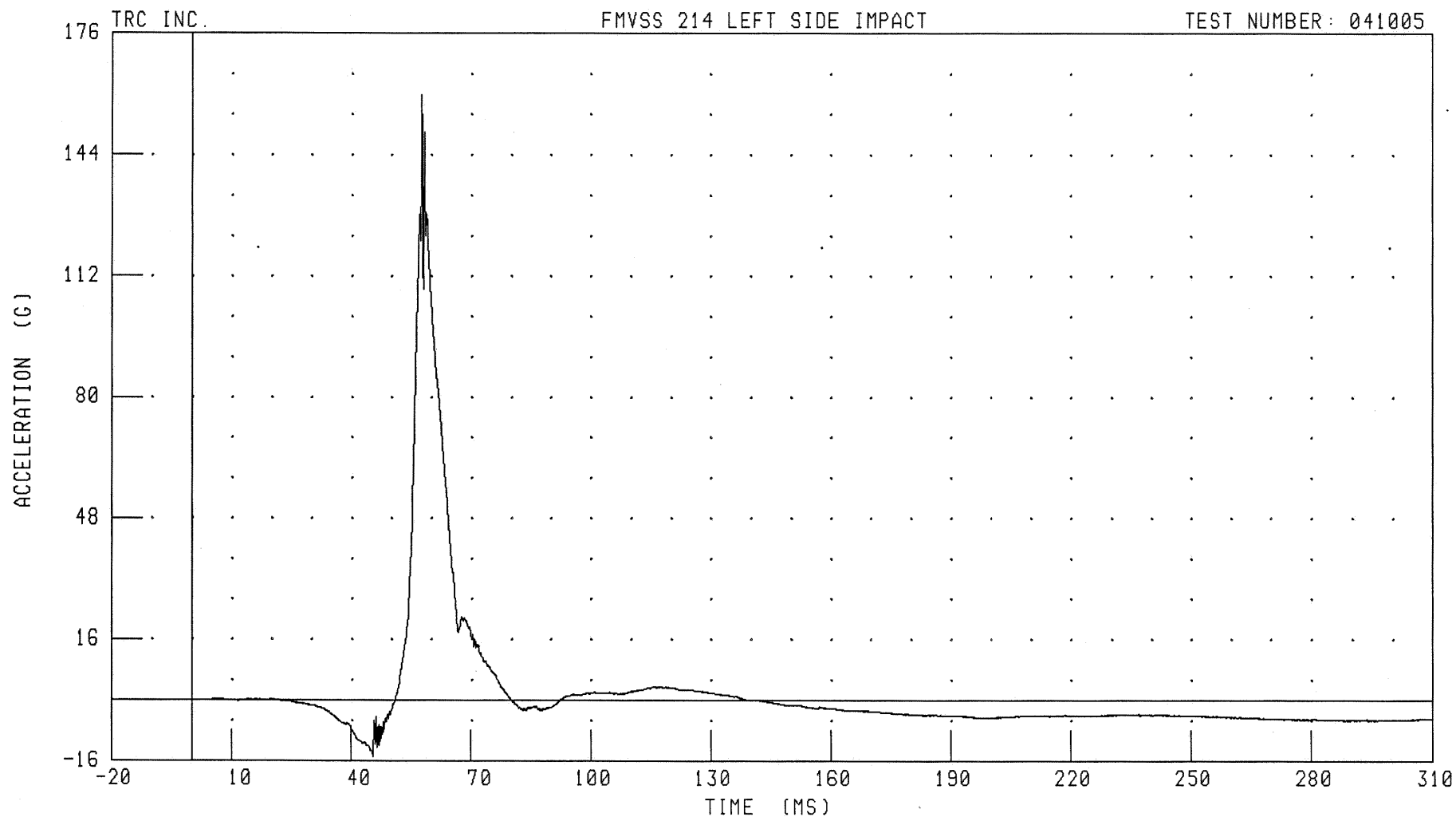
B-33

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYG4 FILTER: CH. CLASS 1000

PEAK DATA: 159.90 G @ 57.76 MS; -14.89 G @ 45.52 MS

B-34

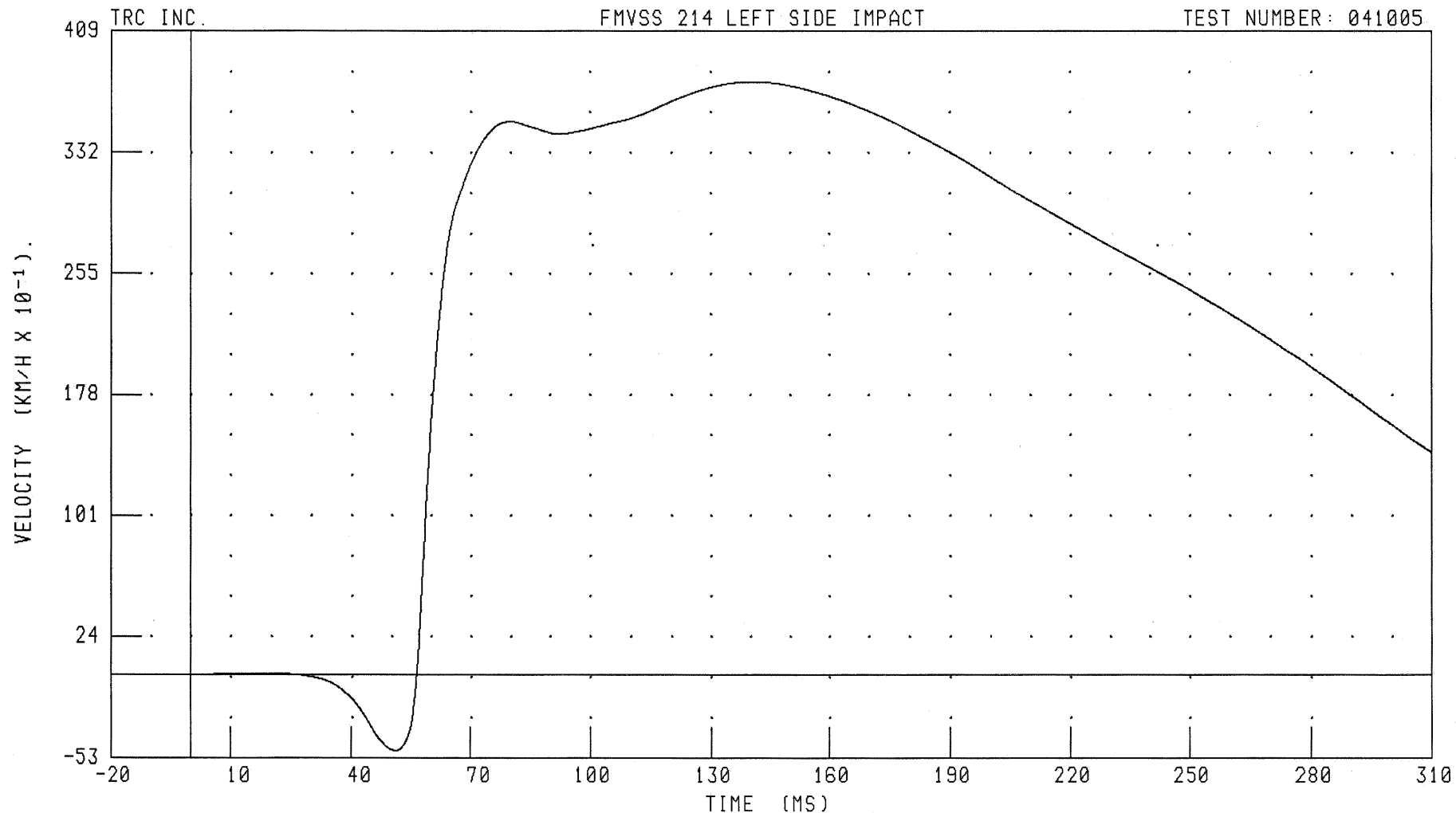
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYV4

FILTER: CH. CLASS 180

PEAK DATA: 37.68 KM/H @ 139.60 MS; -4.84 KM/H @ 50.96 MS

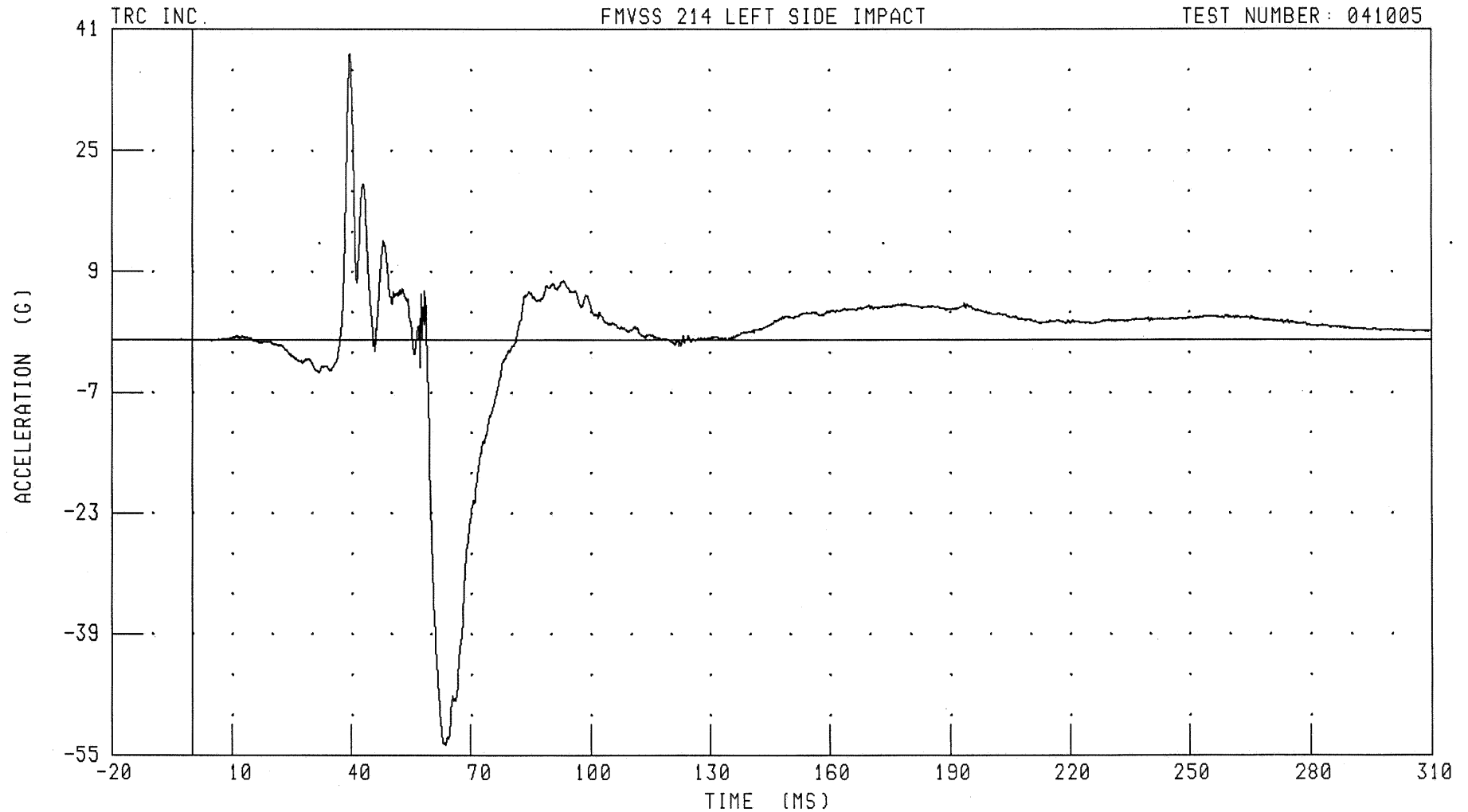
B-35

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZG4 FILTER: CH. CLASS 1000

PEAK DATA: 37.83 G @ 39.60 MS; -53.66 G @ 63.76 MS

B-36

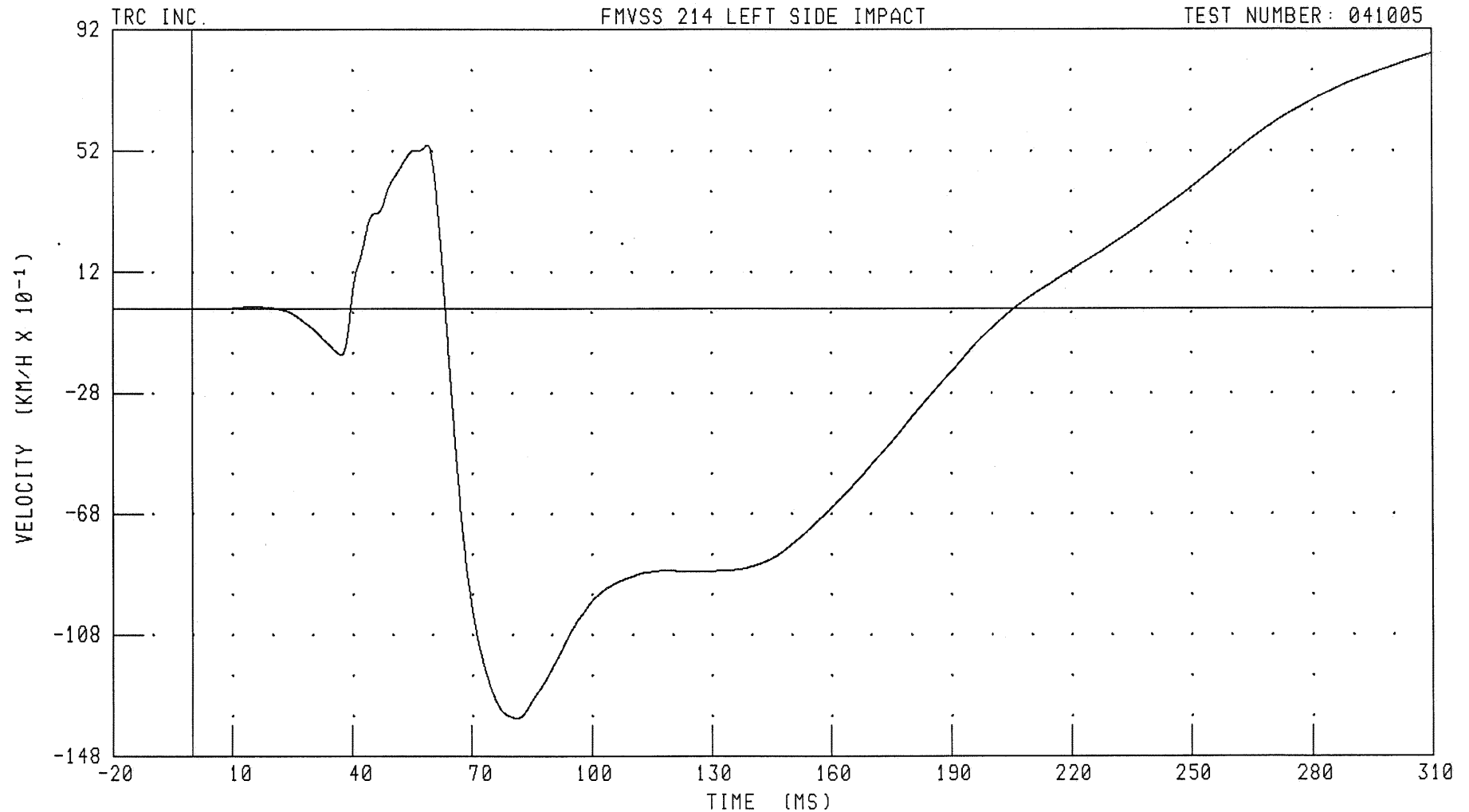
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER HEAD Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZV4

FILTER: CH. CLASS 180

PEAK DATA: 8.41 KM/H @ 310.00 MS; -13.55 KM/H @ 81.20 MS

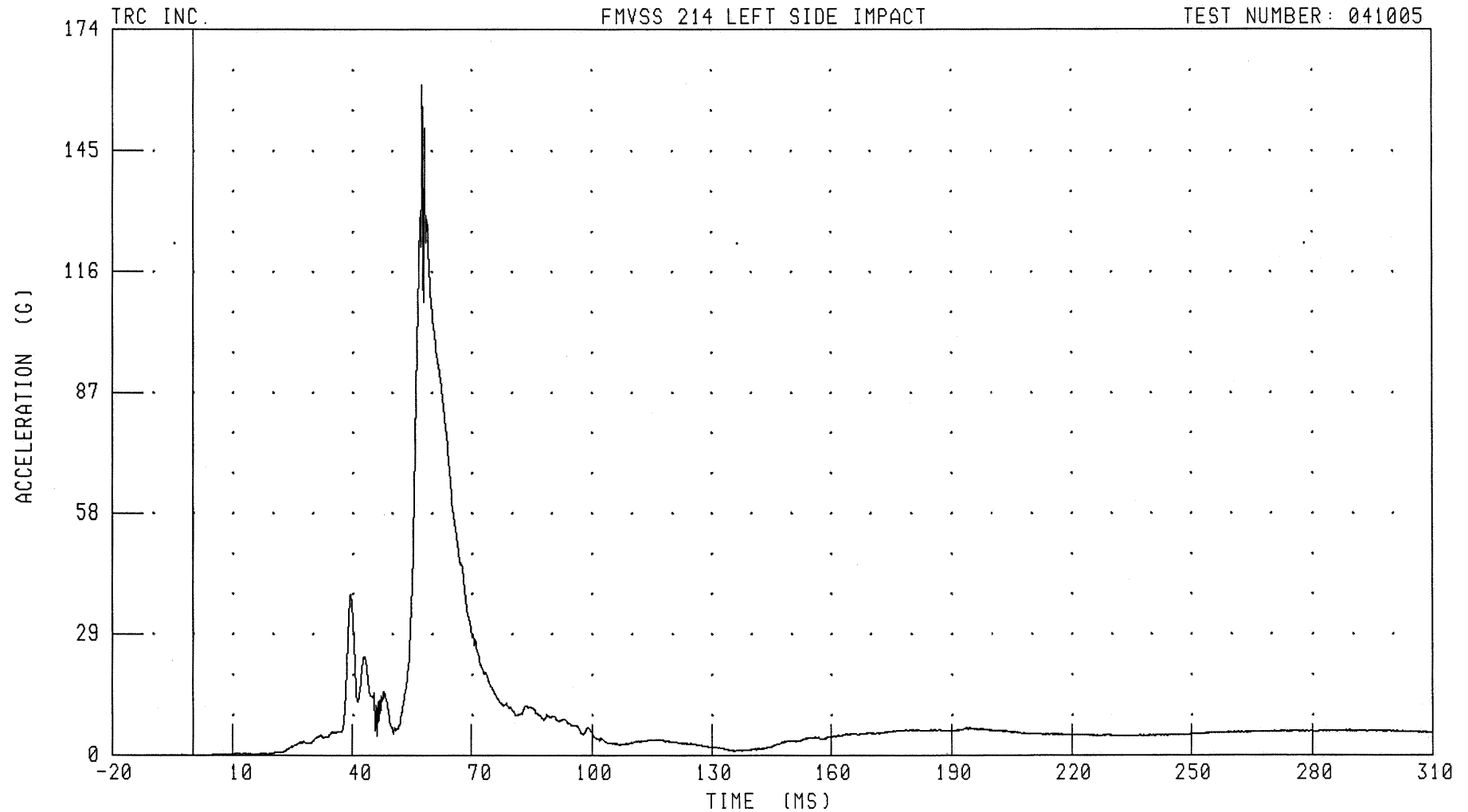
B-37

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDRG4 FILTER: CH. CLASS 1000

PEAK DATA: 160.86 G @ 57.76 MS; 0.01 G @ -18.32 MS

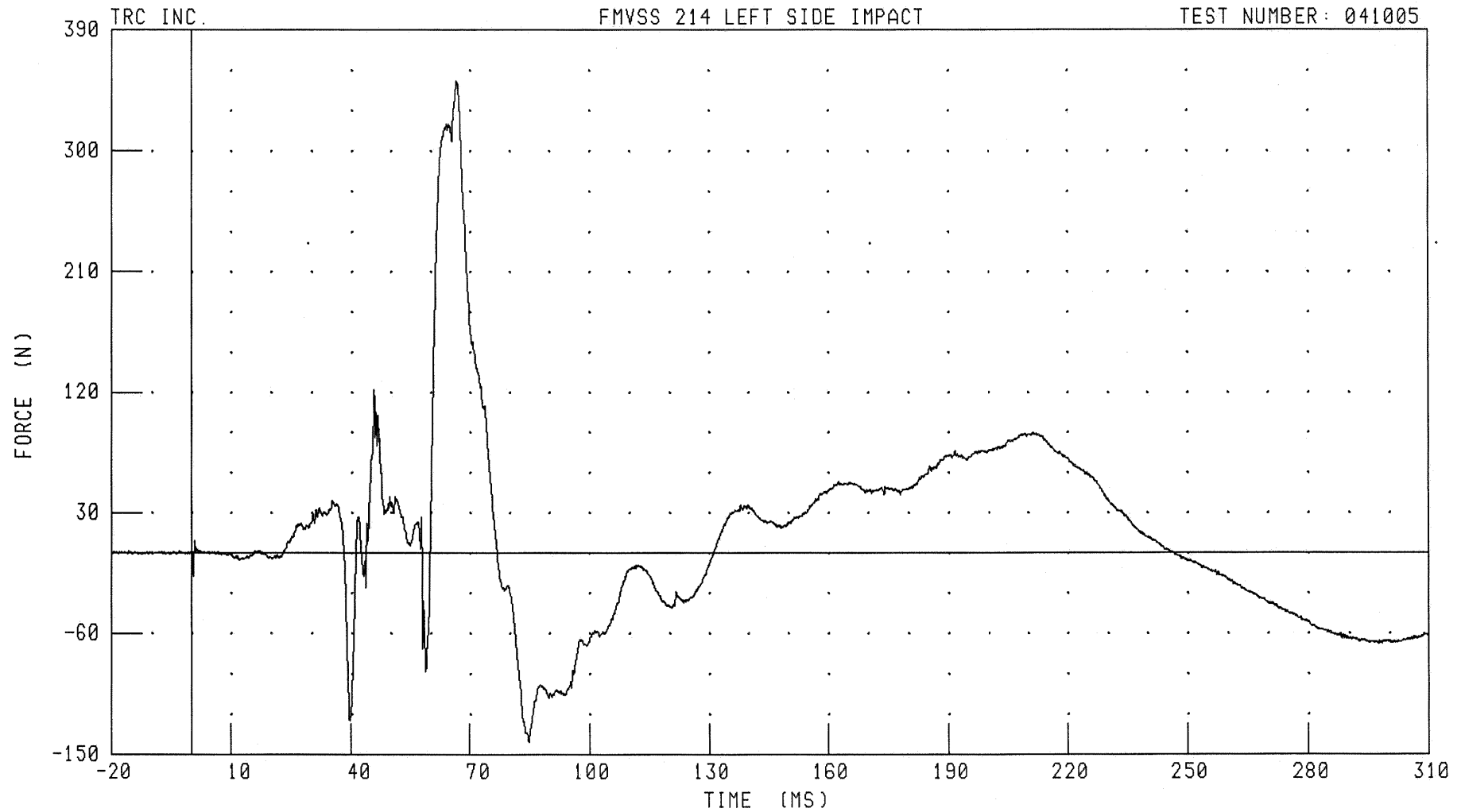
B-38

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER NECK X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKXF4 FILTER: CH. CLASS 1000

PEAK DATA: 352.41 N @ 66.64 MS; -140.64 N @ 84.80 MS

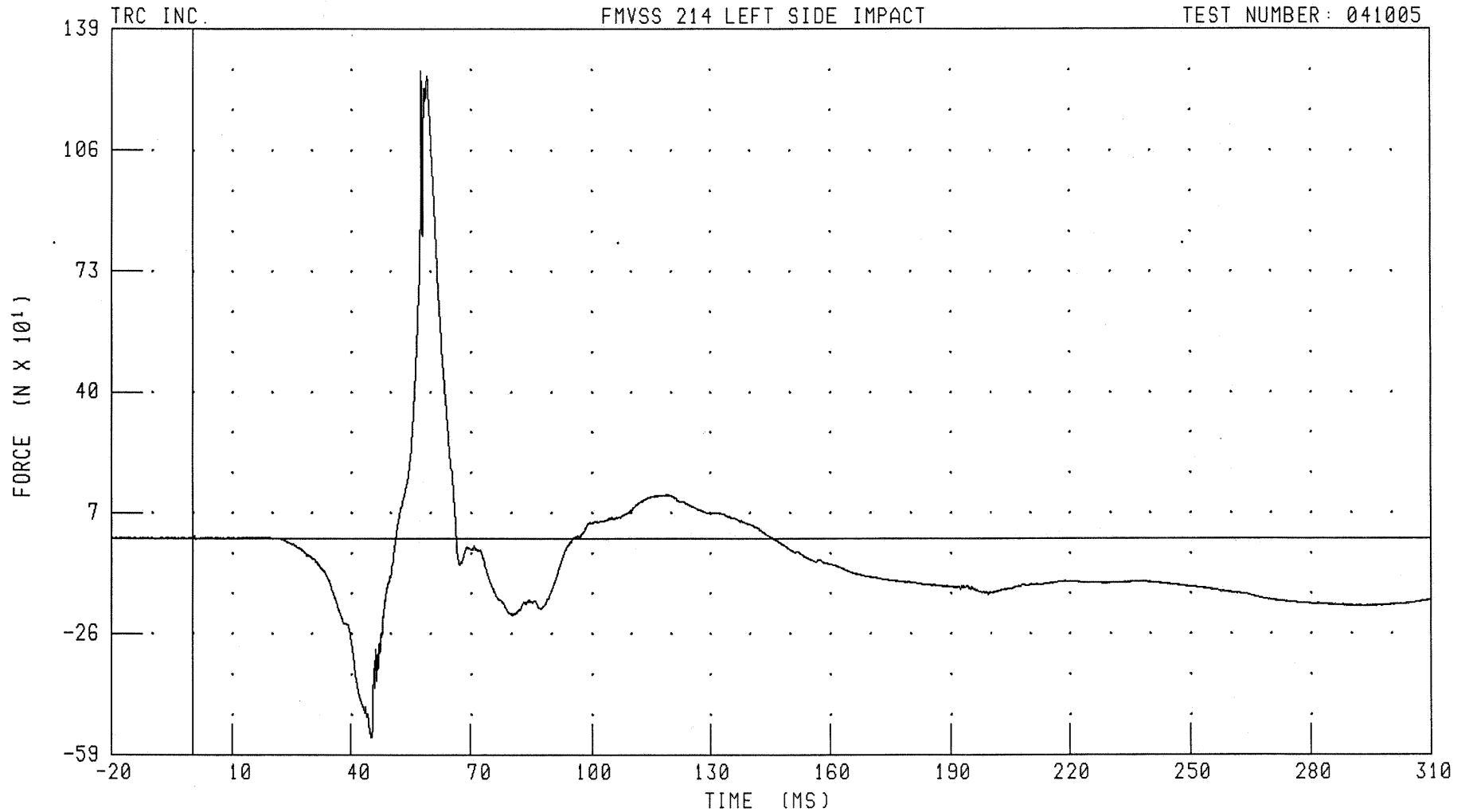
B-39

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER NECK Y-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKYF4 FILTER: CH. CLASS 1000

PEAK DATA: 1277.31 N @ 57.76 MS; -542.36 N @ 45.12 MS

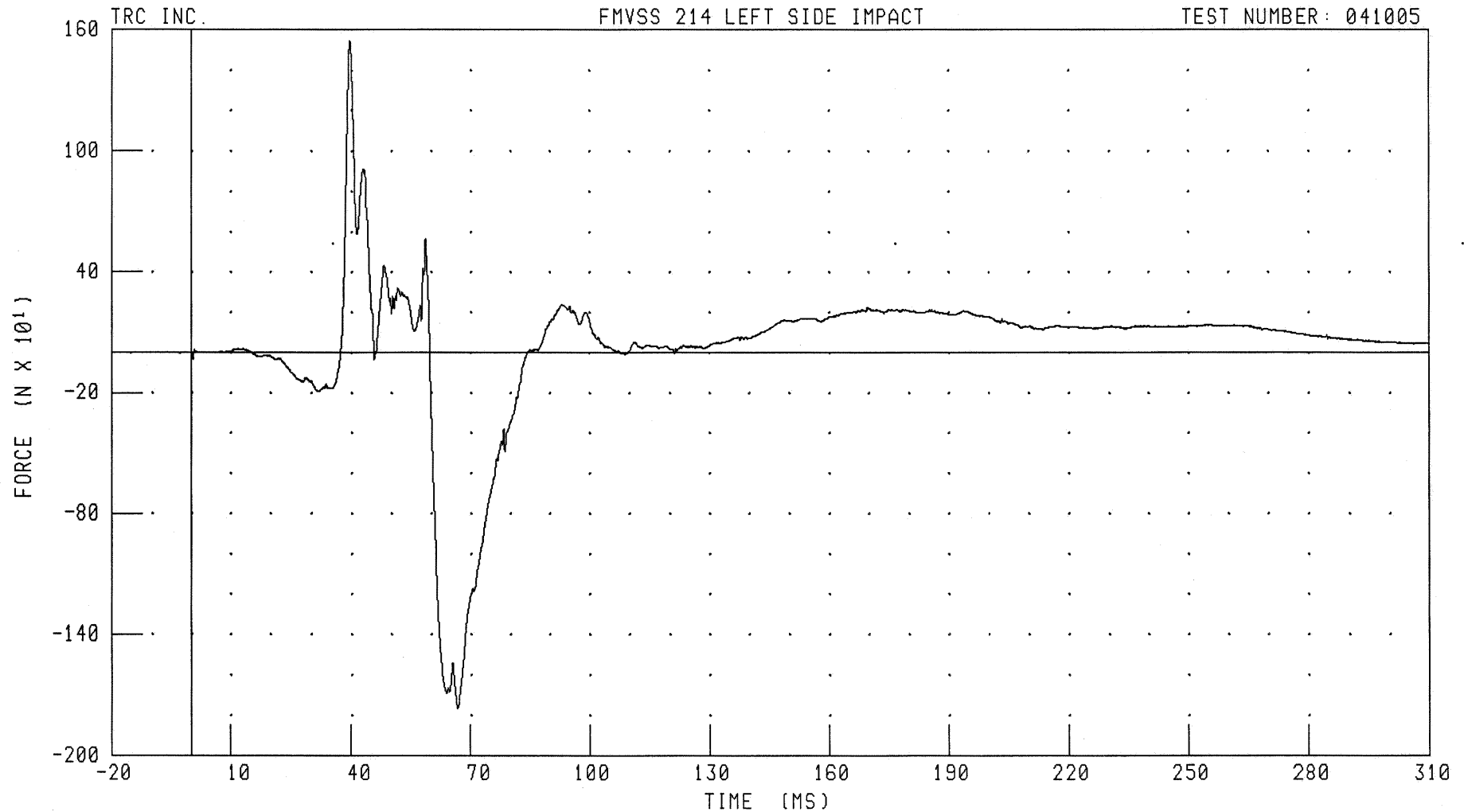
B-40

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKZF4 FILTER: CH. CLASS 1000

PEAK DATA: 1543.13 N @ 39.76 MS; -1766.99 N @ 66.64 MS

B-41

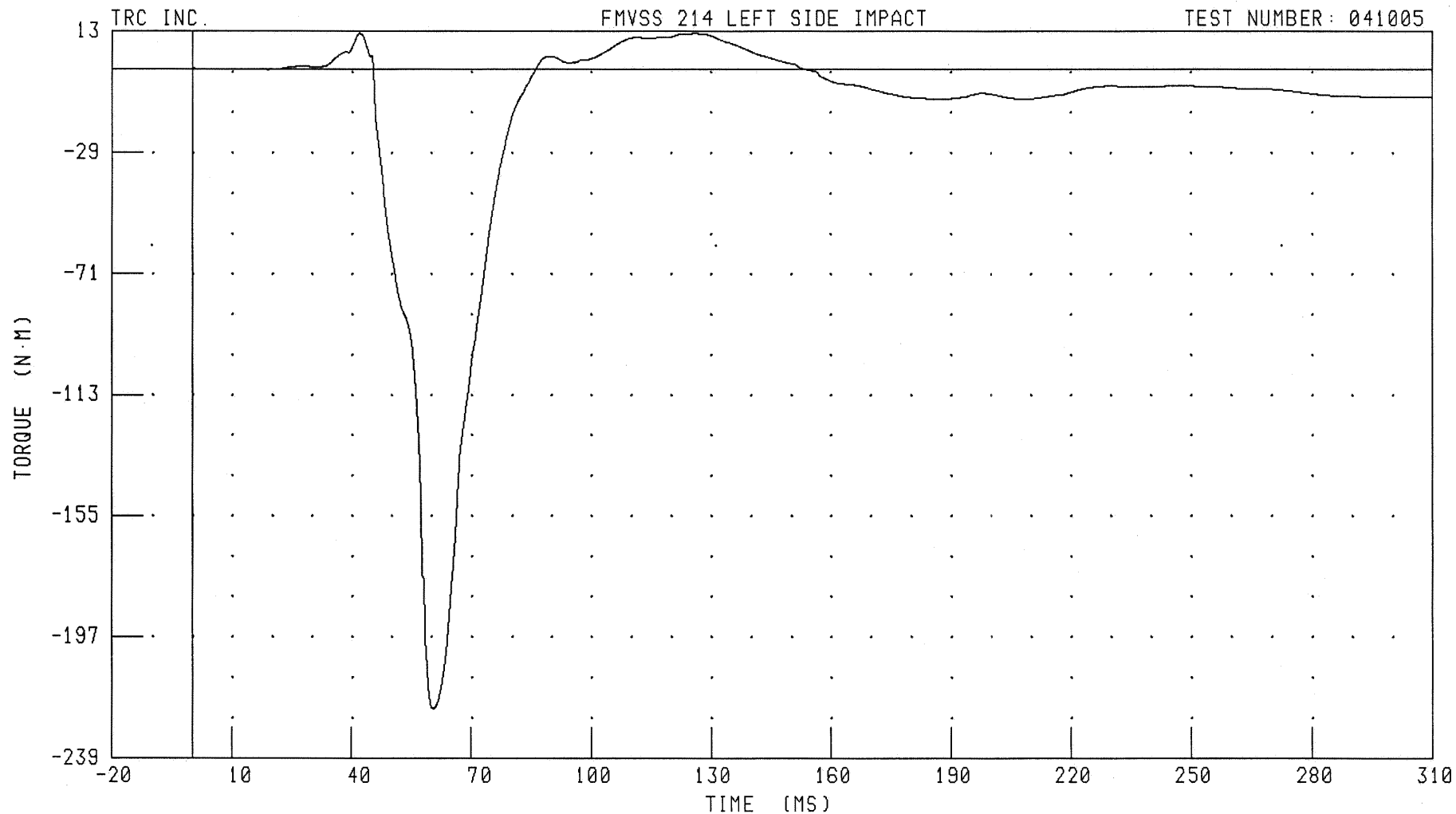
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER NECK MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKXM4

FILTER: CH. CLASS 600

PEAK DATA: 12.31 N·m @ 42.00 MS; -221.83 N·m @ 60.64 MS

B-42

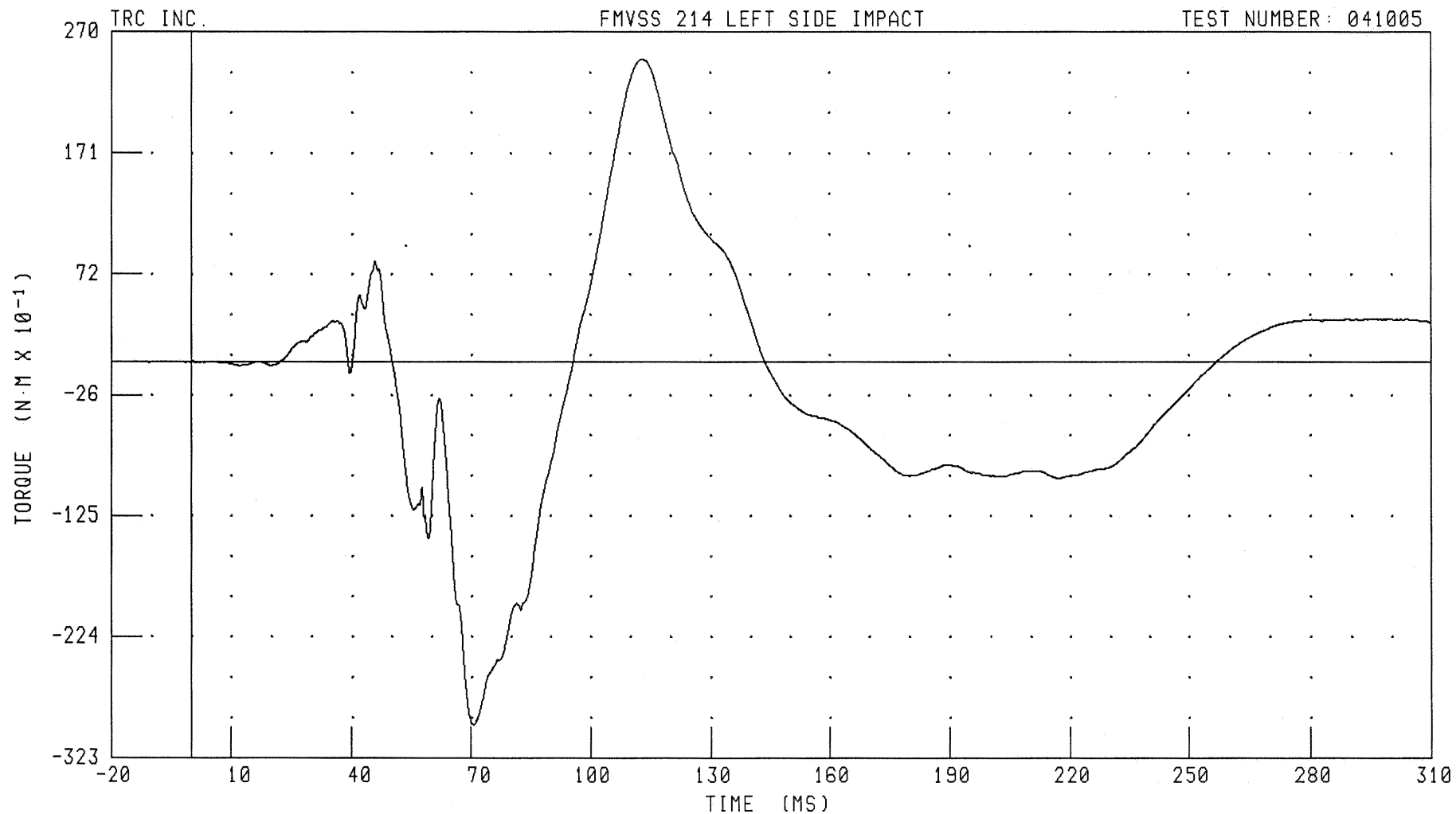
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER NECK MOMENT ABOUT Y AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKYM4

FILTER: CH. CLASS 600

PEAK DATA: 24.77 N·M @ 113.28 MS; -29.70 N·M @ 70.72 MS

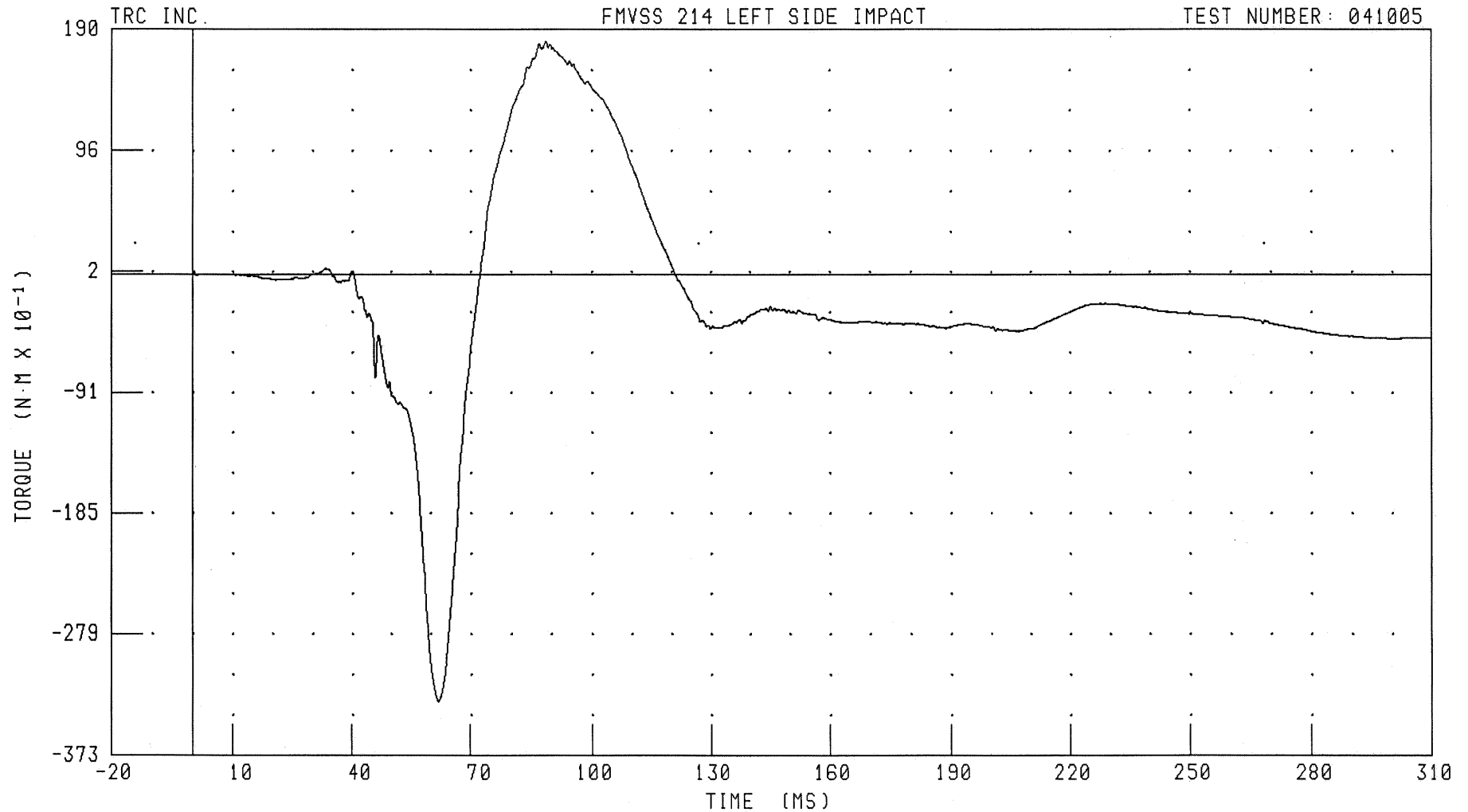
B-43

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER NECK MOMENT ABOUT Z AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NEKZM4 FILTER: CH. CLASS 600

PEAK DATA: 18.07 N·M @ 88.88 MS; -33.24 N·M @ 62.08 MS

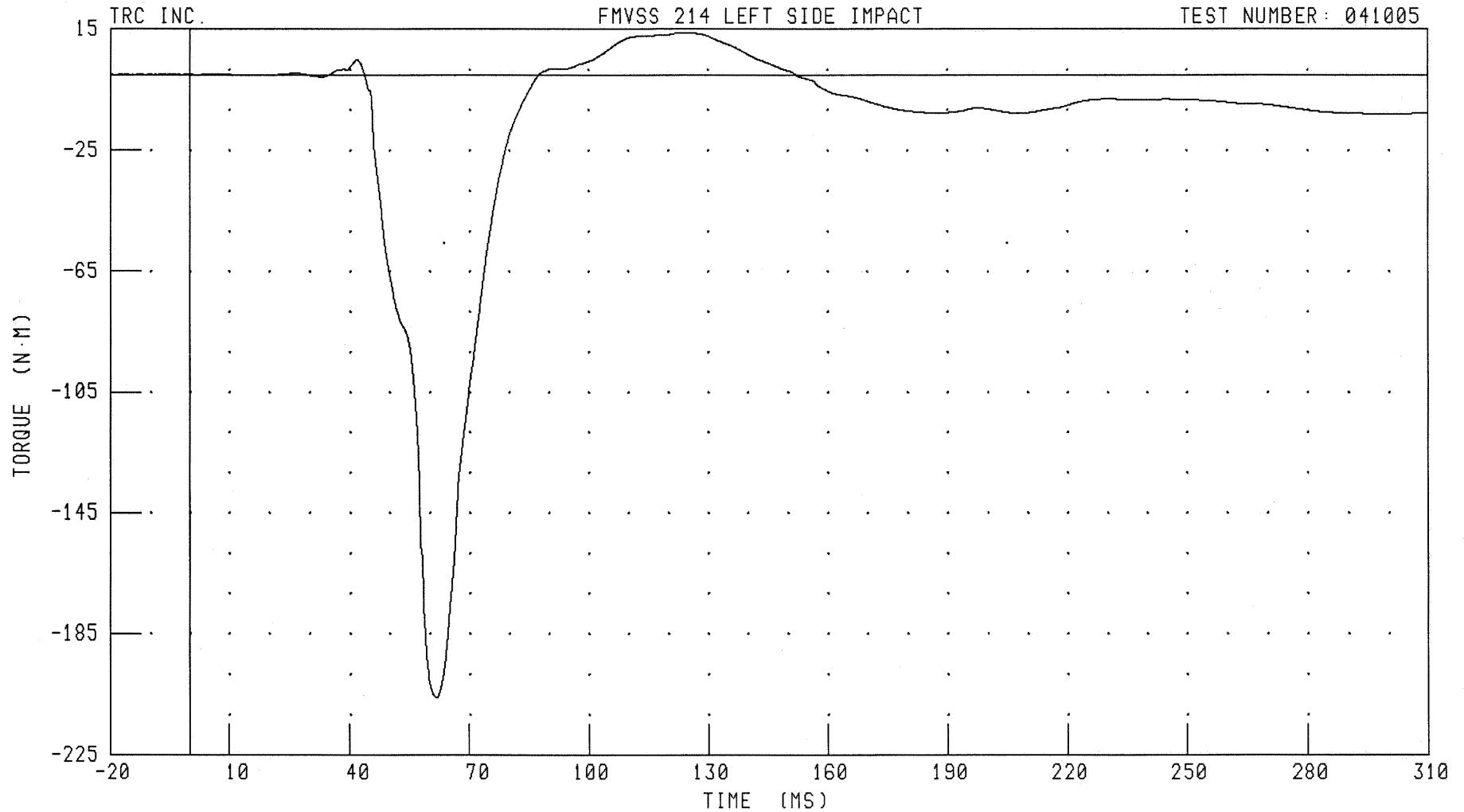
B-44

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER NECK OCCIPITAL CONDYLE MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: NK0XM4 FILTER: CH. CLASS 600

PEAK DATA: 13.80 N·M @ 122.80 MS; -206.18 N·M @ 61.68 MS

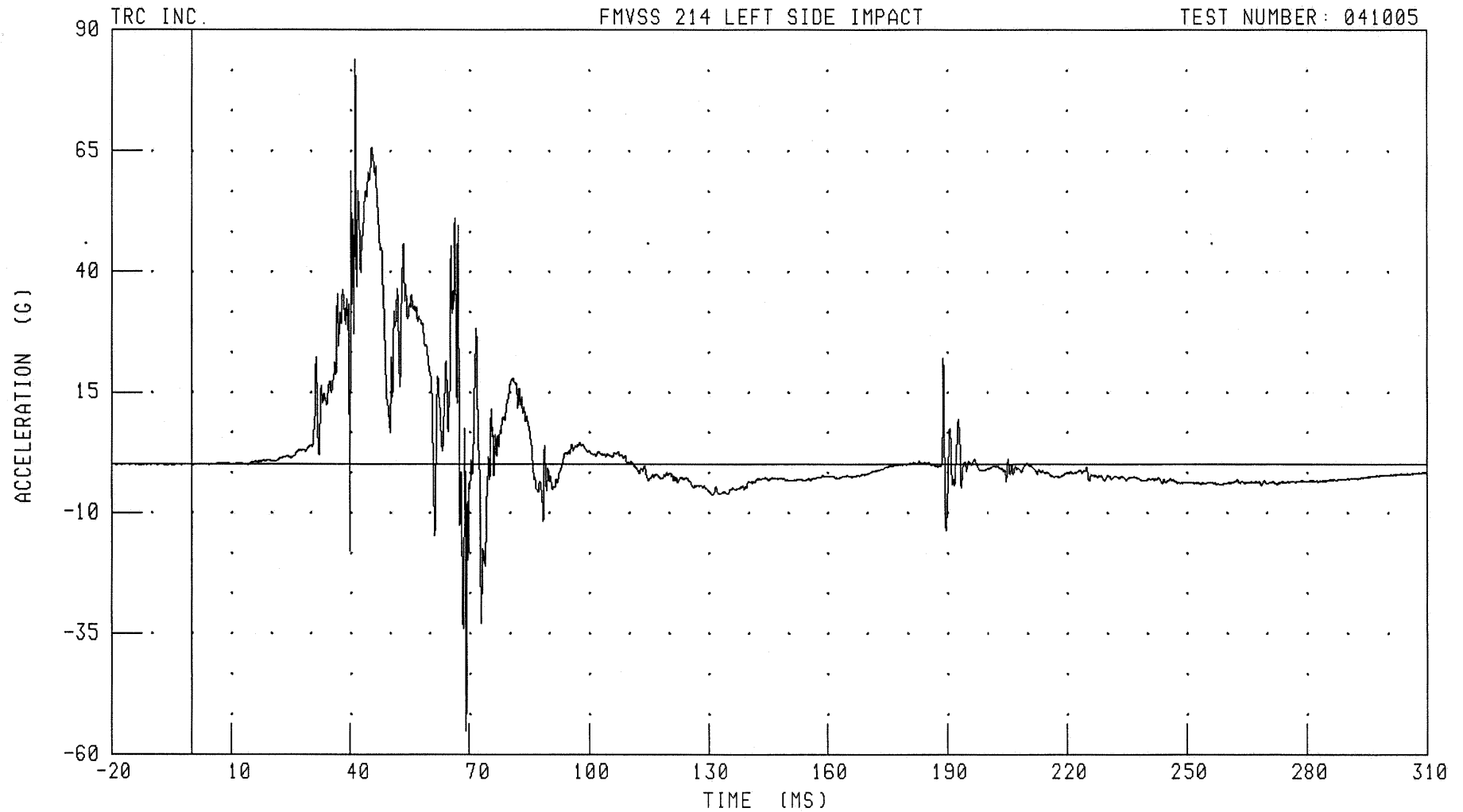
B-45

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYG4 FILTER: CH. CLASS 1000

PEAK DATA: 83.90 G @ 41.28 MS; -55.23 G @ 69.20 MS

B-46

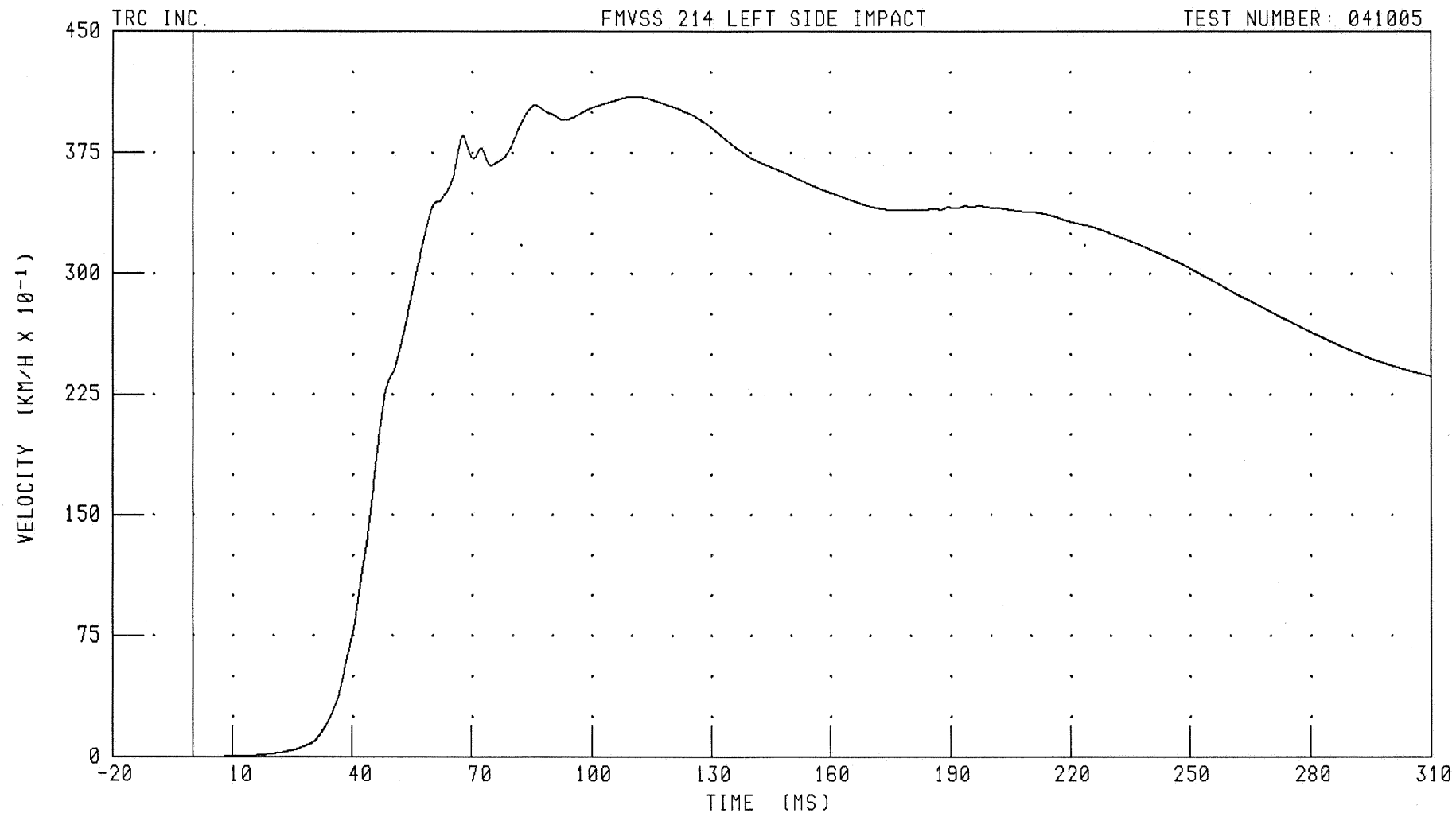
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER UPPER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYV4

FILTER: CH. CLASS 180

PEAK DATA: 40.97 KM/H @ 111.04 MS; 0.00 KM/H @ 0.64 MS

B-47

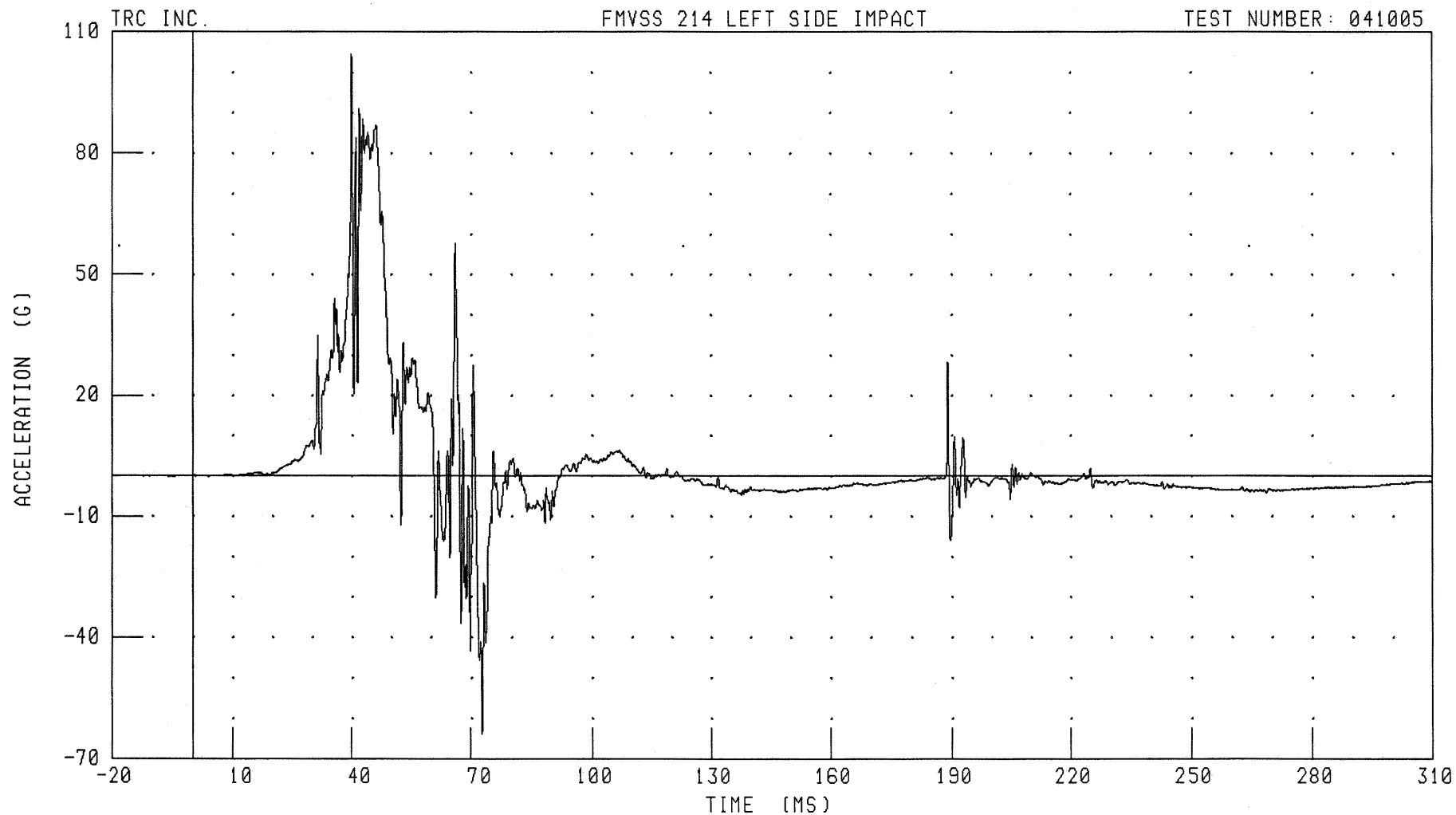
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYG4

FILTER: CH. CLASS 1000

PEAK DATA: 104.49 G @ 40.00 MS; -63.92 G @ 72.80 MS

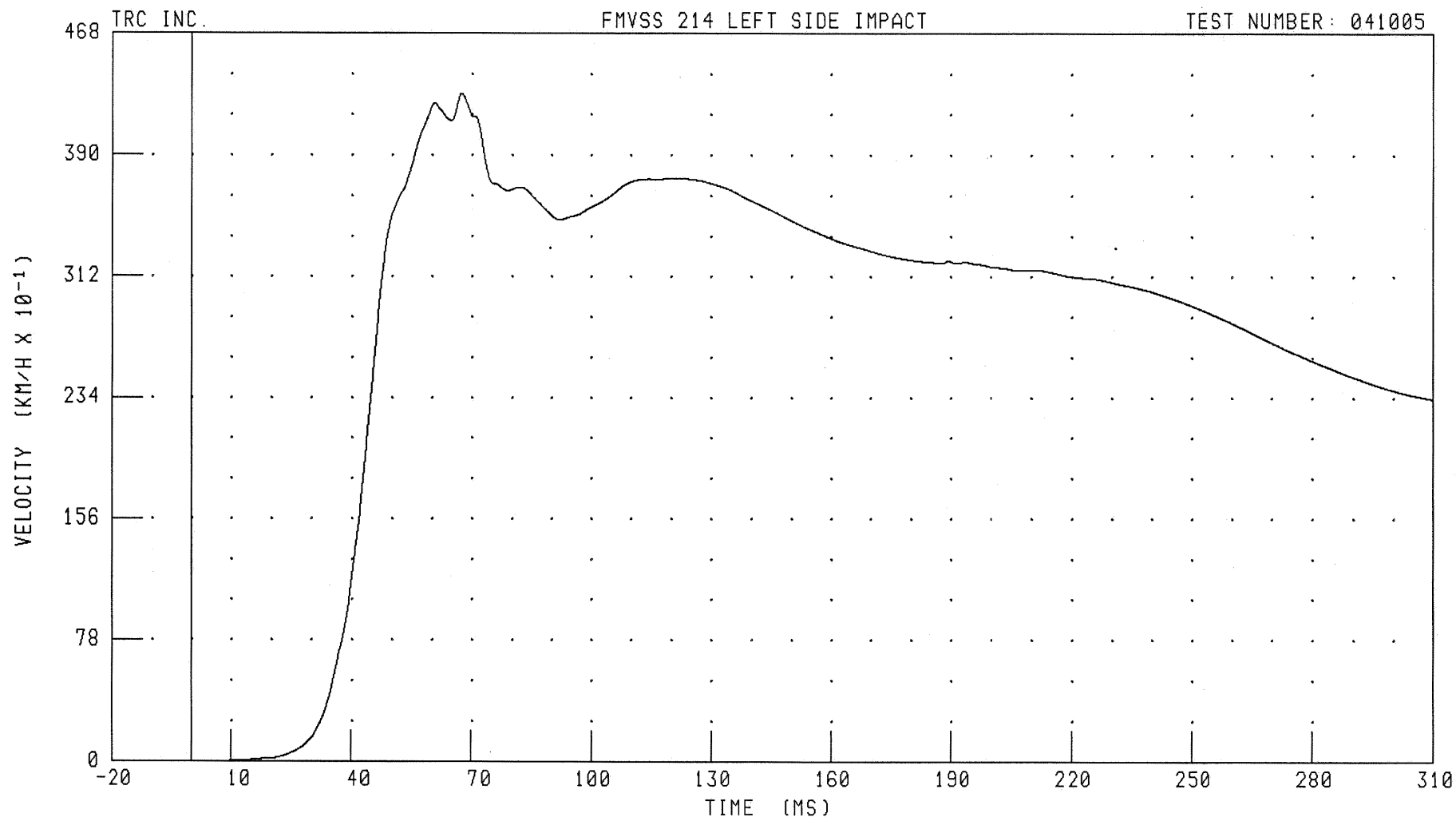
B-48

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYV4

FILTER: CH. CLASS 180

PEAK DATA: 42.94 KM/H @ 67.44 MS; 0.00 KM/H @ 0.00 MS

B-49

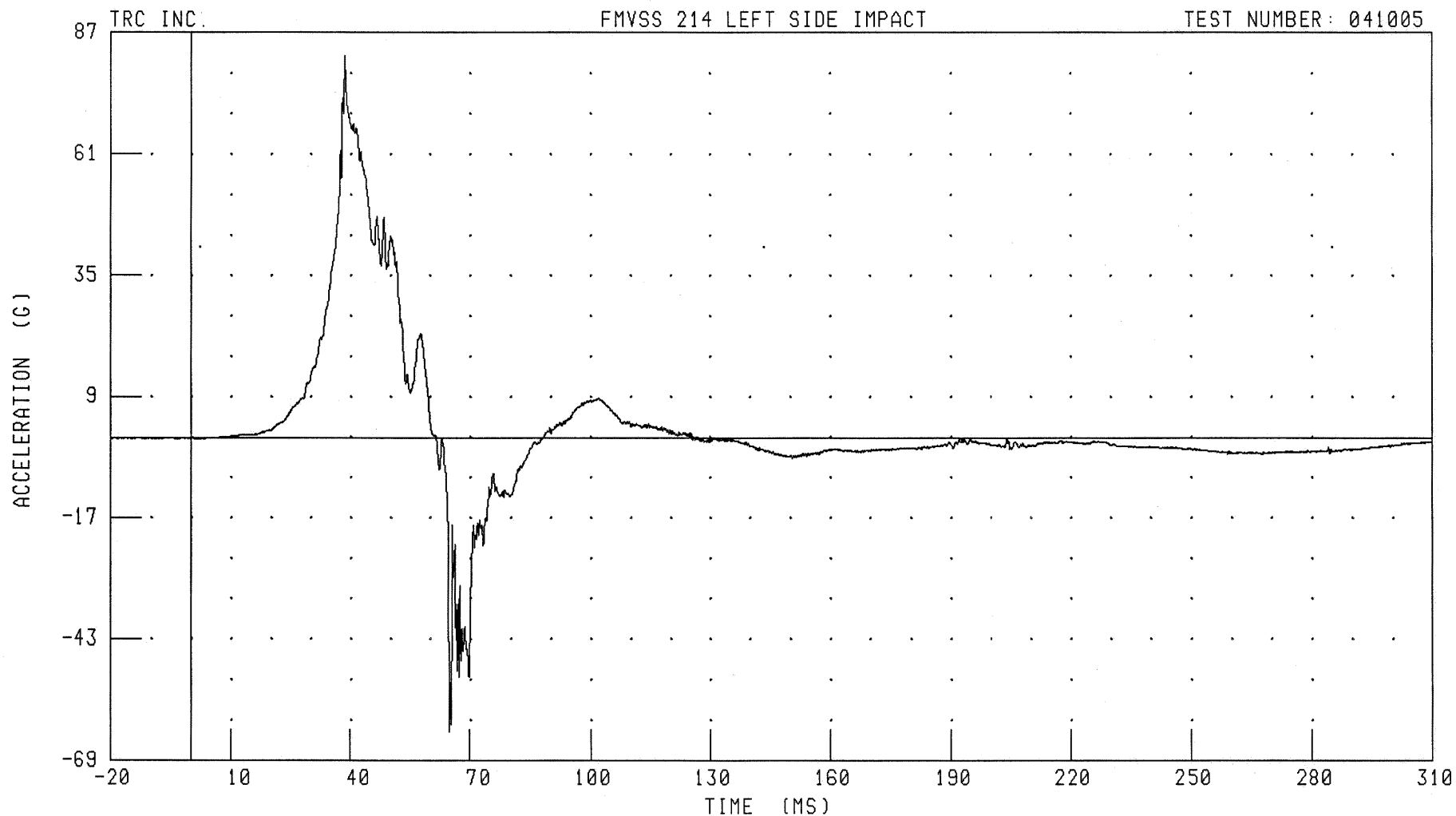
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YG4 FILTER: CH. CLASS 1000

PEAK DATA: 81.91 G @ 38.64 MS; -62.80 G @ 64.88 MS

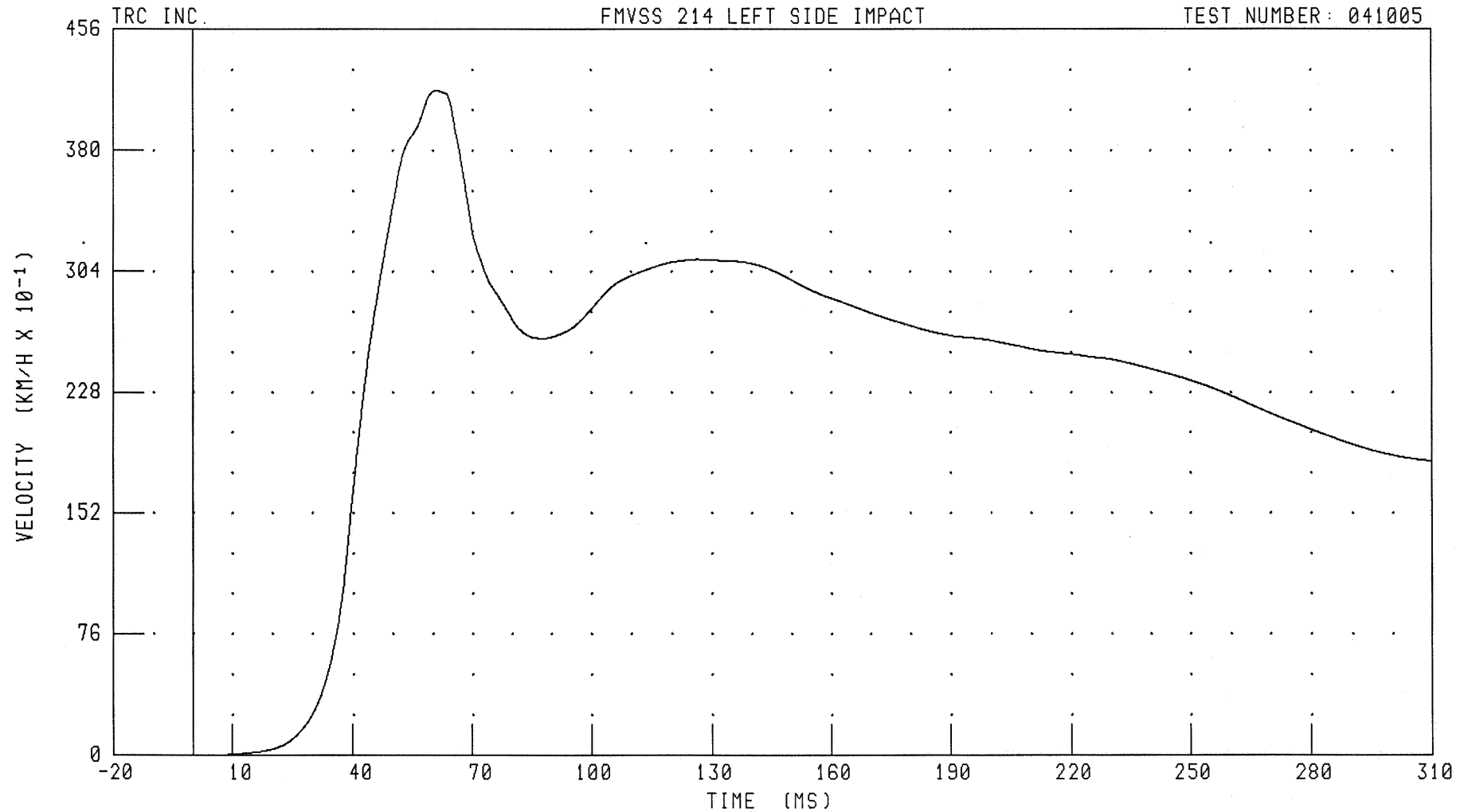
B-50

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER SPINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YV4

FILTER: CH. CLASS 180

PEAK DATA: 41.75 KM/H @ 61.04 MS; 0.00 KM/H @ 2.80 MS

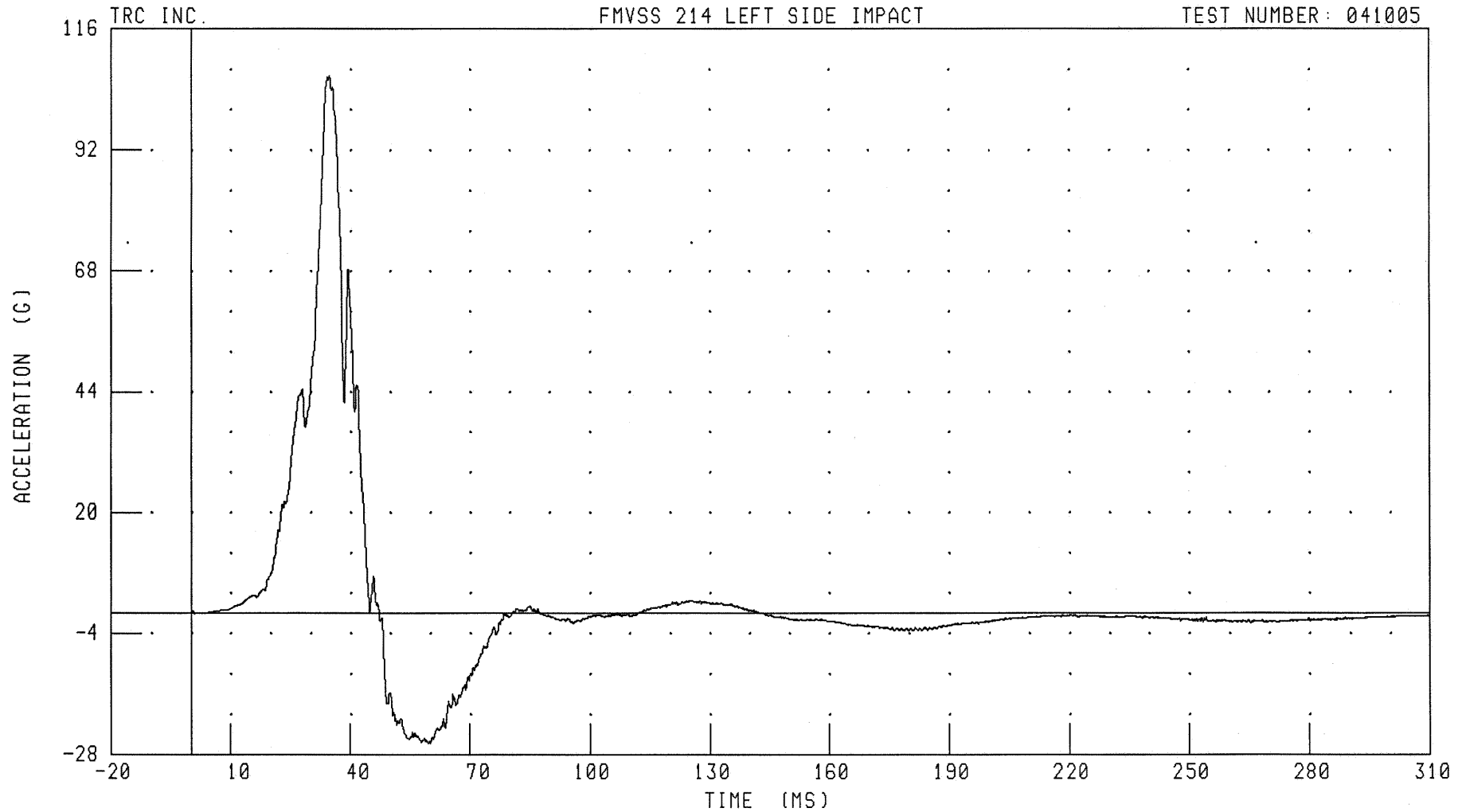
B-51

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYG4 FILTER: CH. CLASS 1000

PEAK DATA: 106.79 G @ 34.80 MS; -25.77 G @ 59.44 MS

B-52

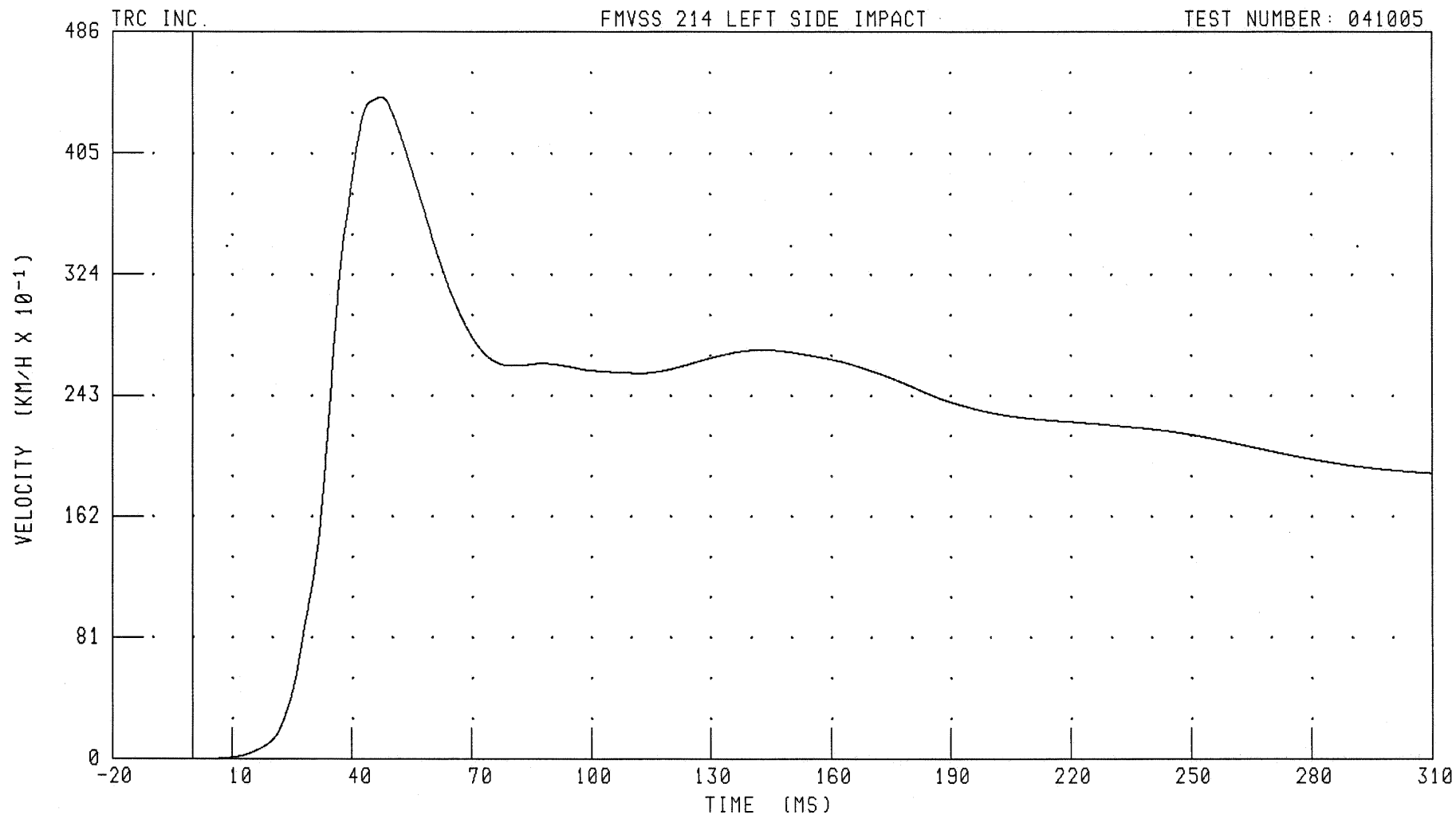
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYV4

FILTER: CH. CLASS 180

PEAK DATA: 44.24 KM/H @ 47.36 MS; 0.00 KM/H @ 0.00 MS

B-53

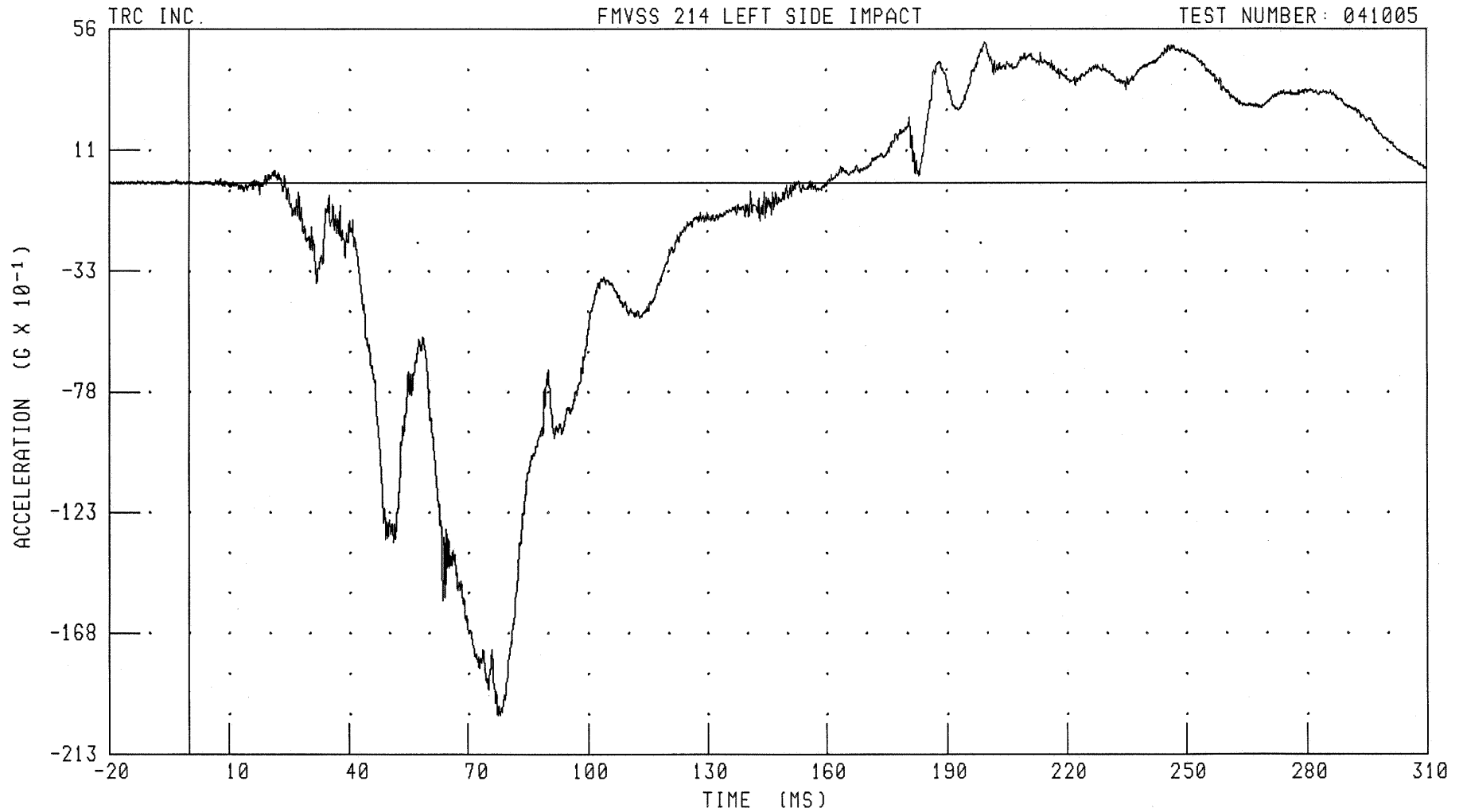
041005

Driver and Passenger Dummy Redundant Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER HEAD X-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXR1 FILTER: CH. CLASS 1000

PEAK DATA: 5.22 G @ 199.76 MS; -19.87 G @ 77.44 MS

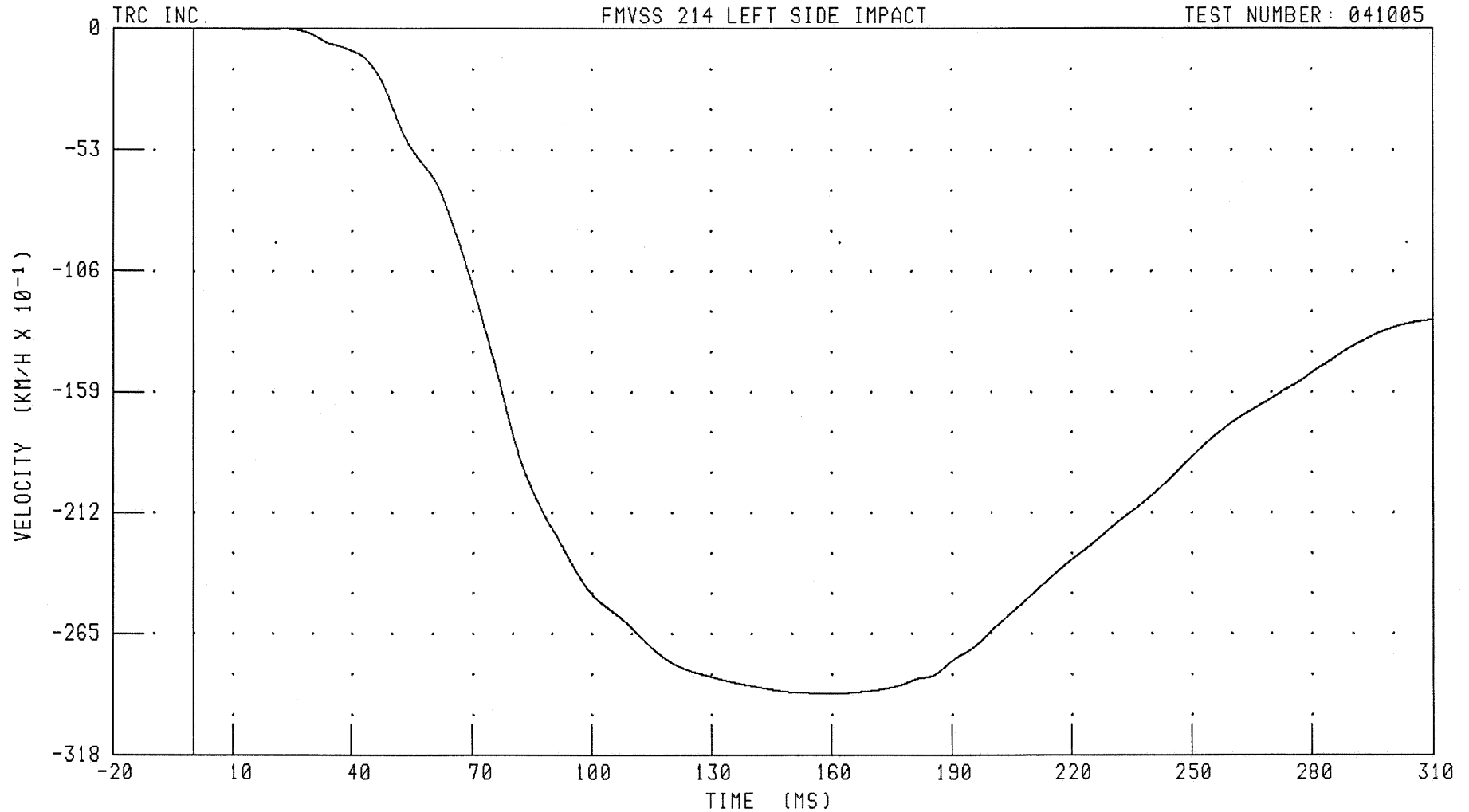
B-55

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER HEAD X-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXVI FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 0.00 MS; -29.12 KM/H @ 160.48 MS

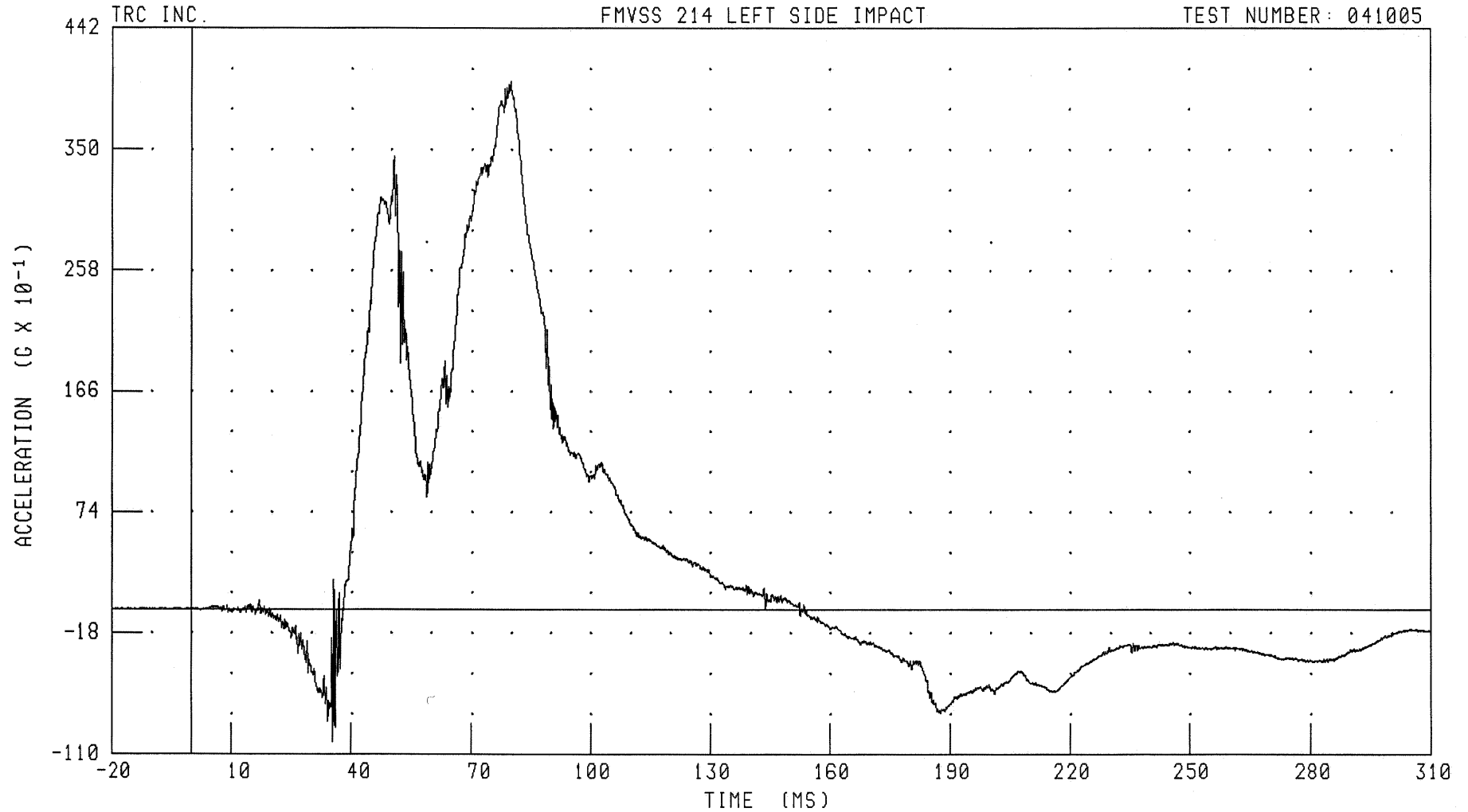
B-56

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER HEAD Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYR1 FILTER: CH. CLASS 1000

PEAK DATA: 40.14 G @ 80.00 MS; -10.07 G @ 35.44 MS

B-57

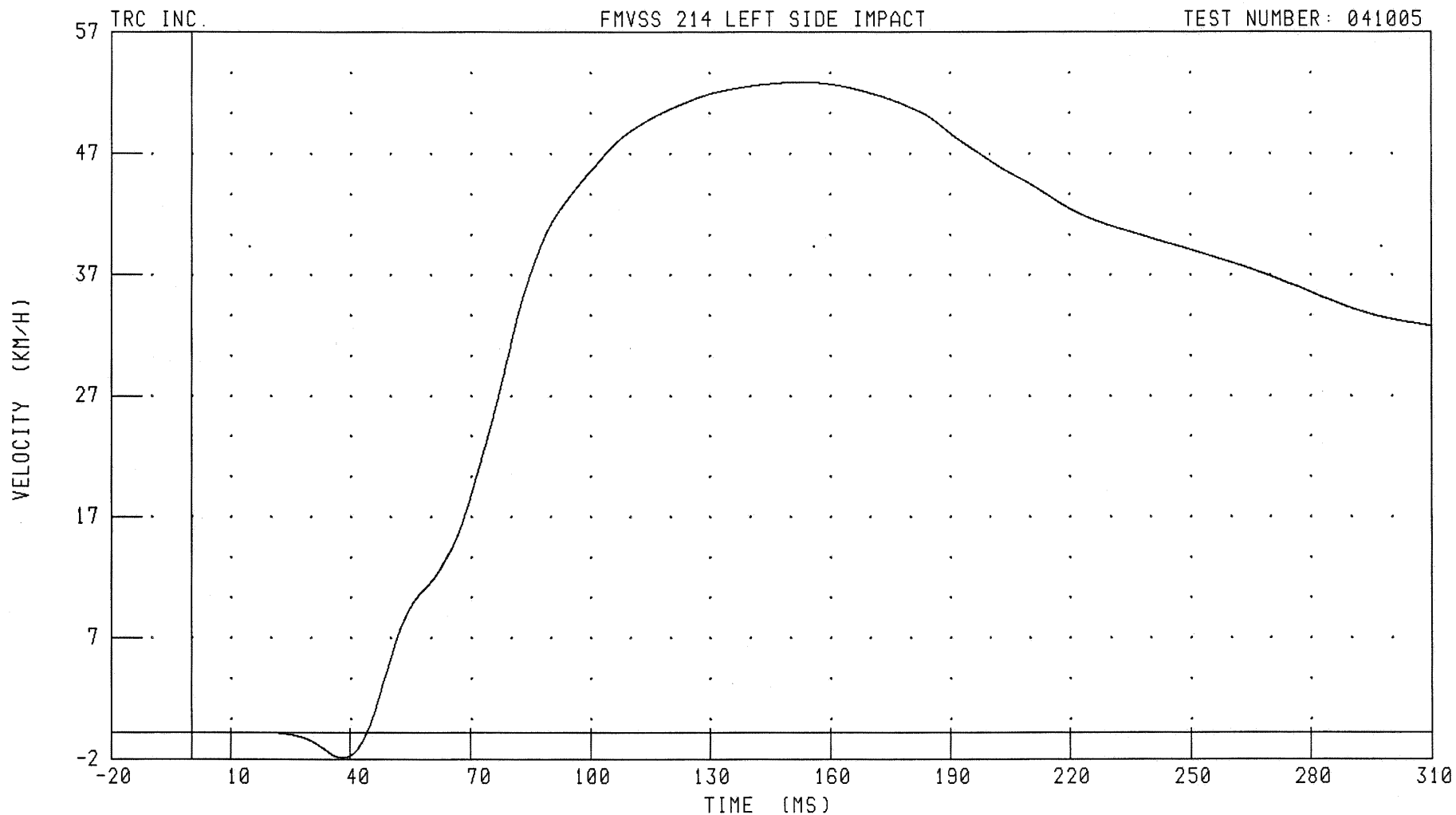
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYVI

FILTER: CH. CLASS 180

PEAK DATA: 53.70 KM/H @ 152.88 MS; -2.08 KM/H @ 38.08 MS

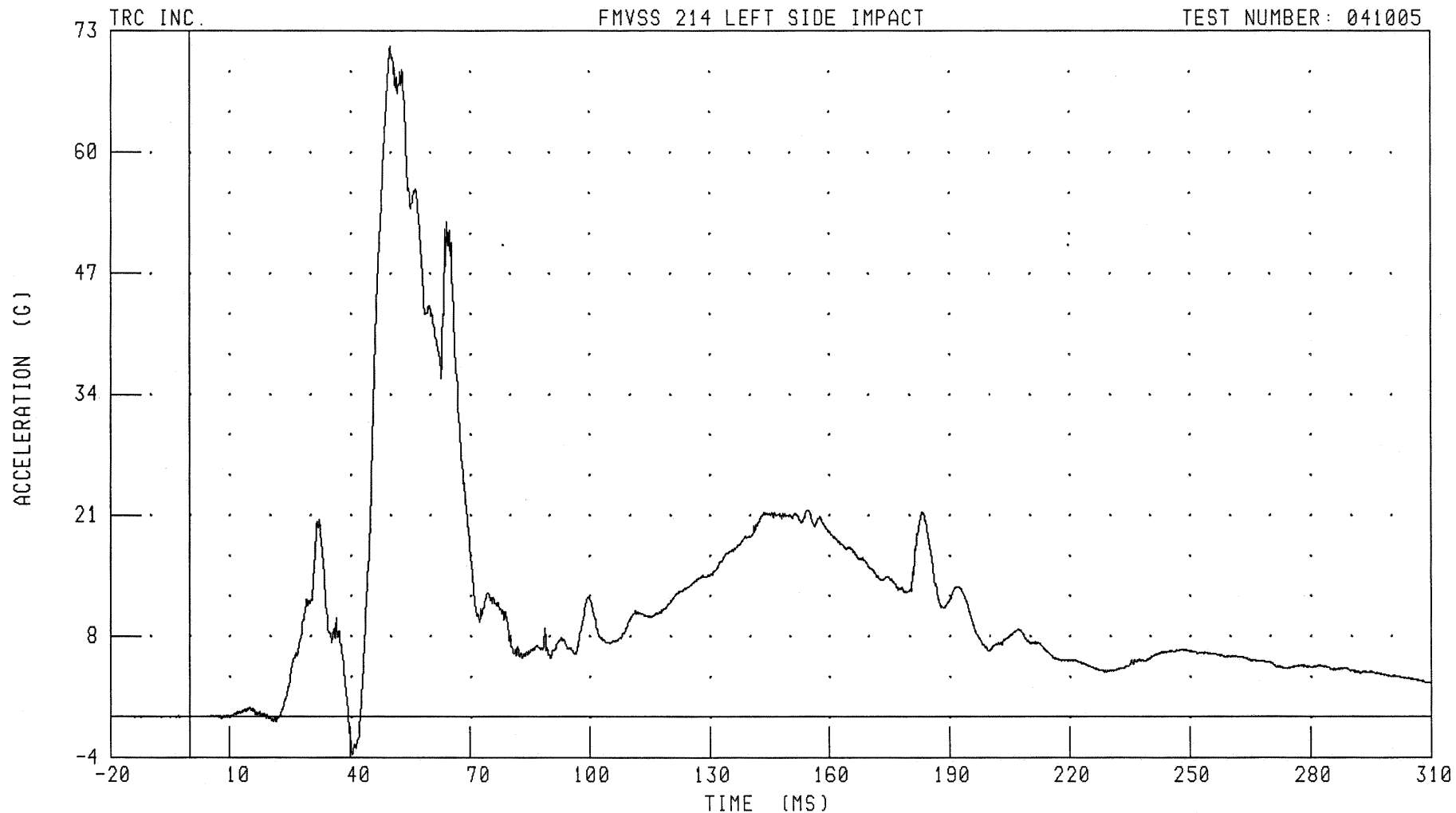
B-58

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER HEAD Z-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZR1 FILTER: CH. CLASS 1000

PEAK DATA: 71.96 G @ 50.00 MS; -4.05 G @ 40.48 MS

B-59

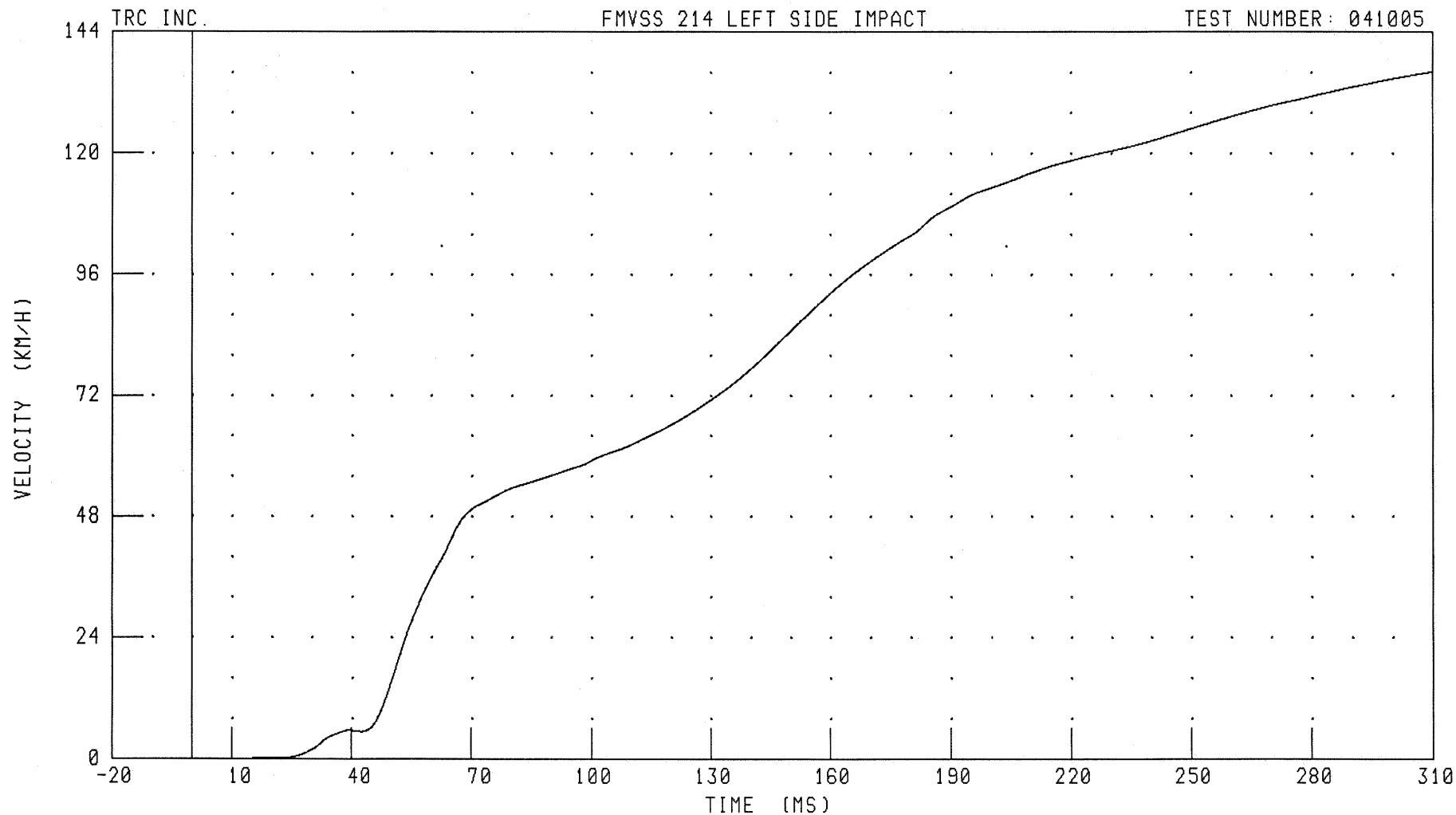
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER HEAD Z-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZVI

FILTER: CH. CLASS 180

PEAK DATA: 136.16 KM/H @ 310.00 MS; 0.00 KM/H @ 4.80 MS

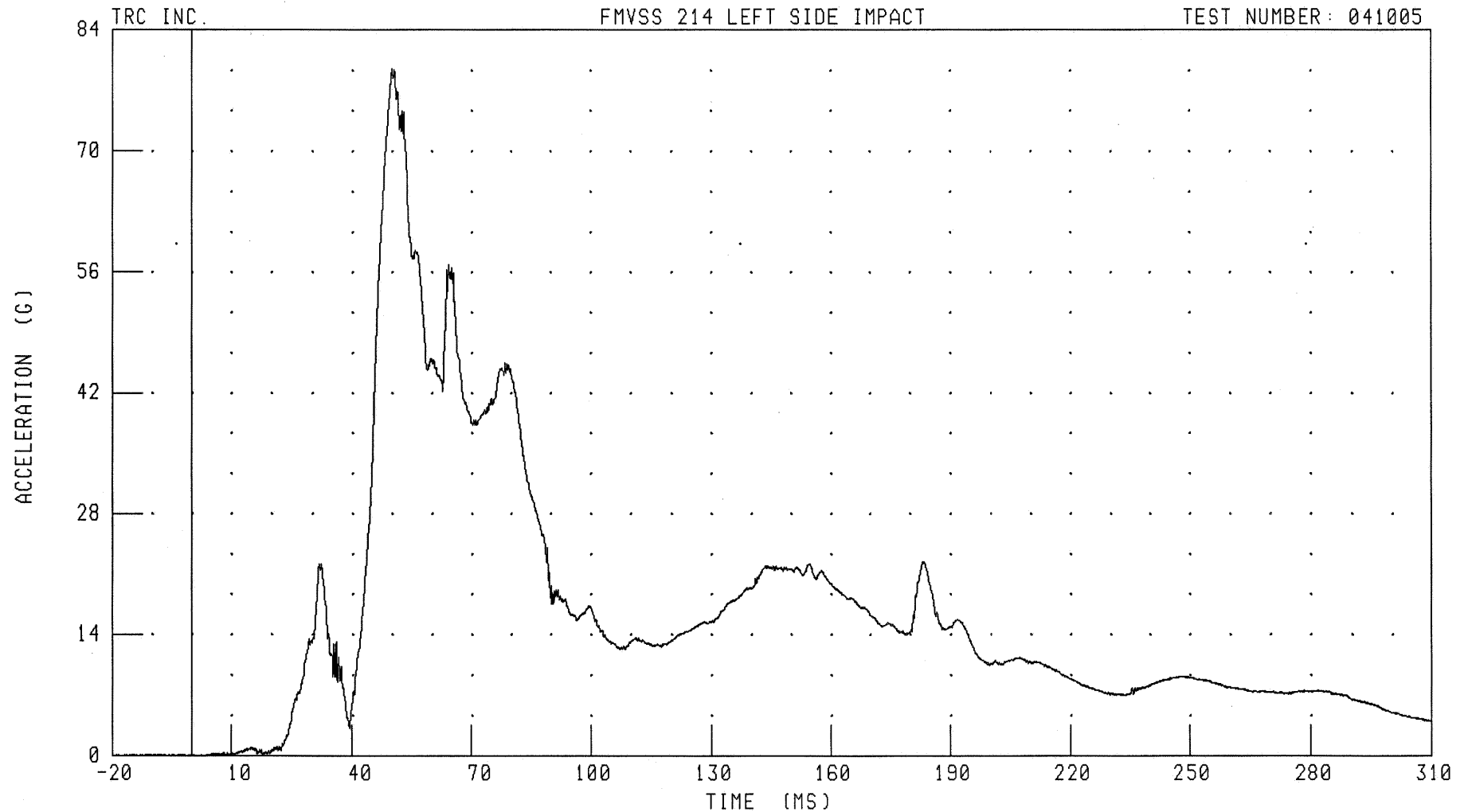
B-60

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER HEAD RESULTANT REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDRR1 FILTER: CH. CLASS 1000

PEAK DATA: 79.48 G @ 50.08 MS; 0.01 G @ -18.08 MS

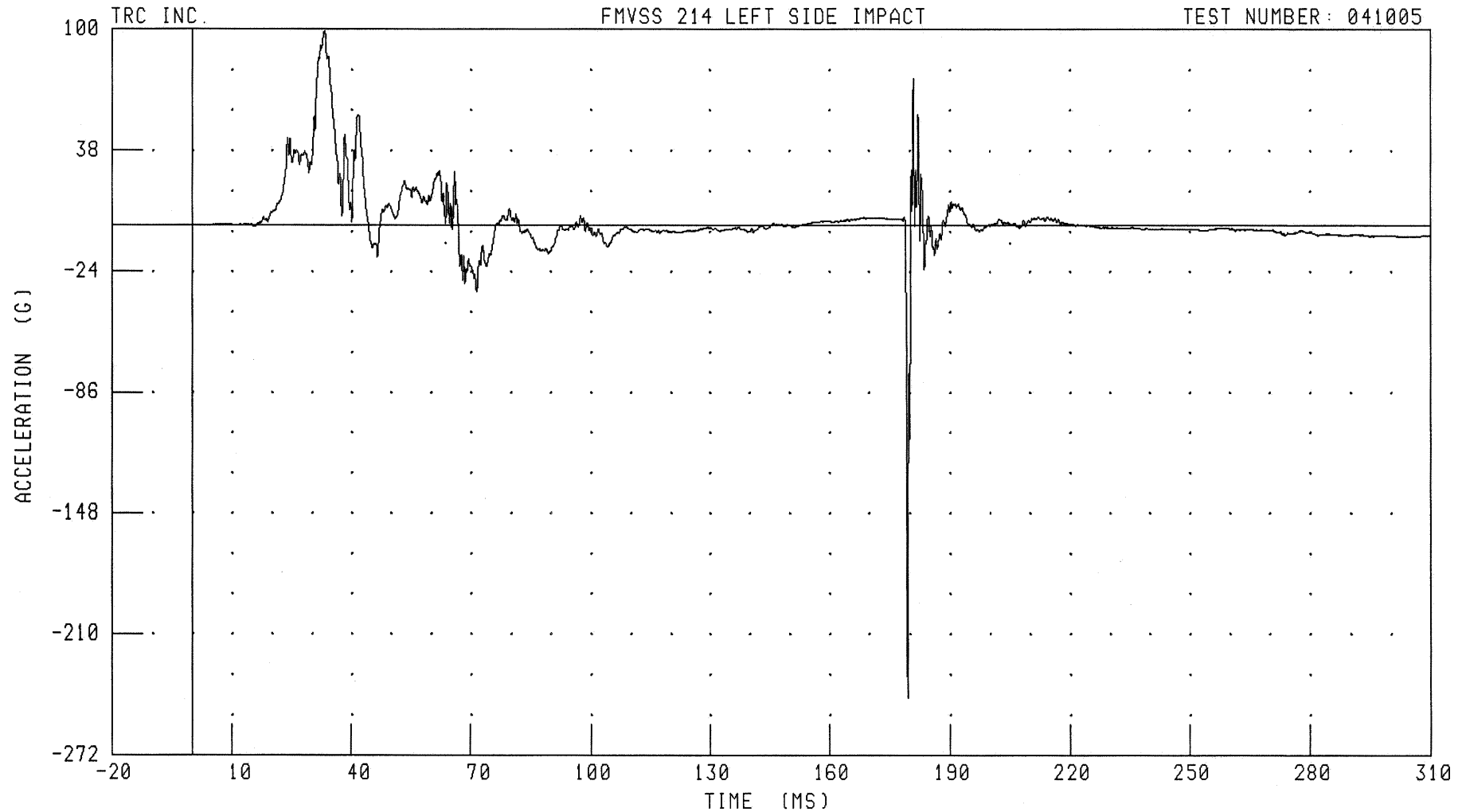
B-61

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYR1 FILTER: CH. CLASS 1000

PEAK DATA: 99.29 G @ 33.28 MS; -242.74 G @ 179.52 MS

B-62

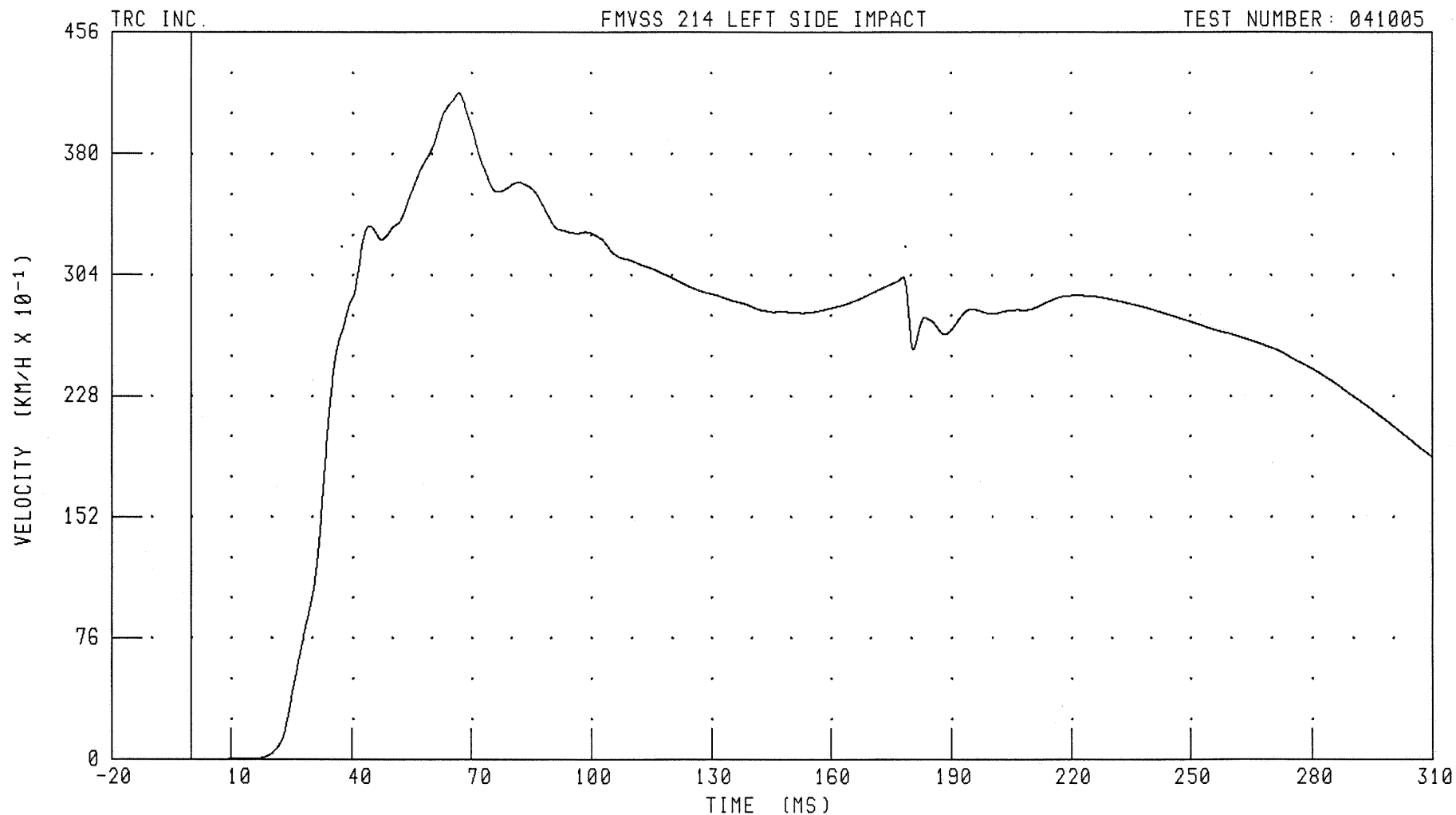
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER UPPER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYVI

FILTER: CH. CLASS 180

PEAK DATA: 41.81 KM/H @ 66.88 MS; 0.00 KM/H @ 0.00 MS

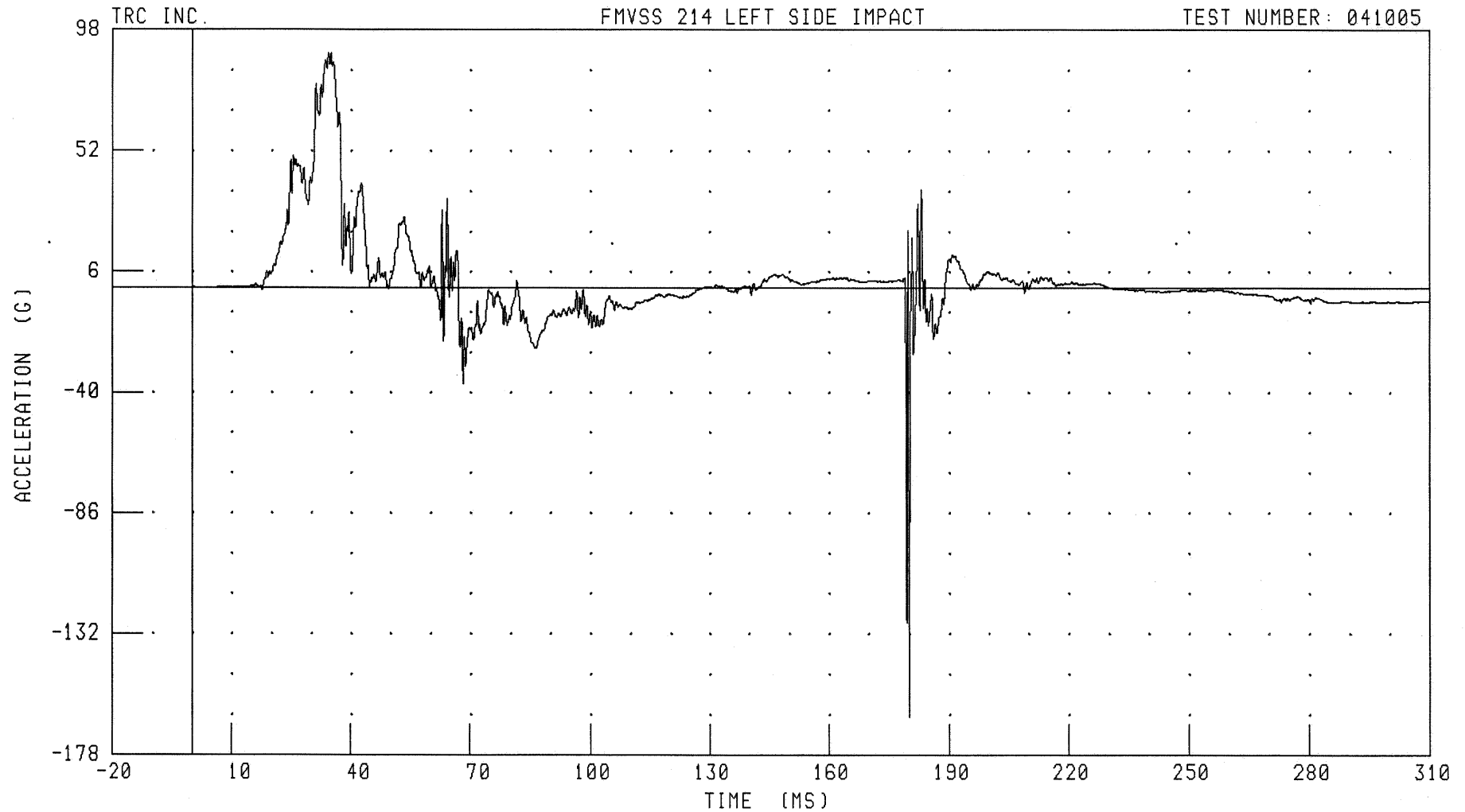
B-63

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYR1 FILTER: CH. CLASS 1000

PEAK DATA: 89.26 G @ 34.32 MS; -163.74 G @ 180.08 MS

B-64

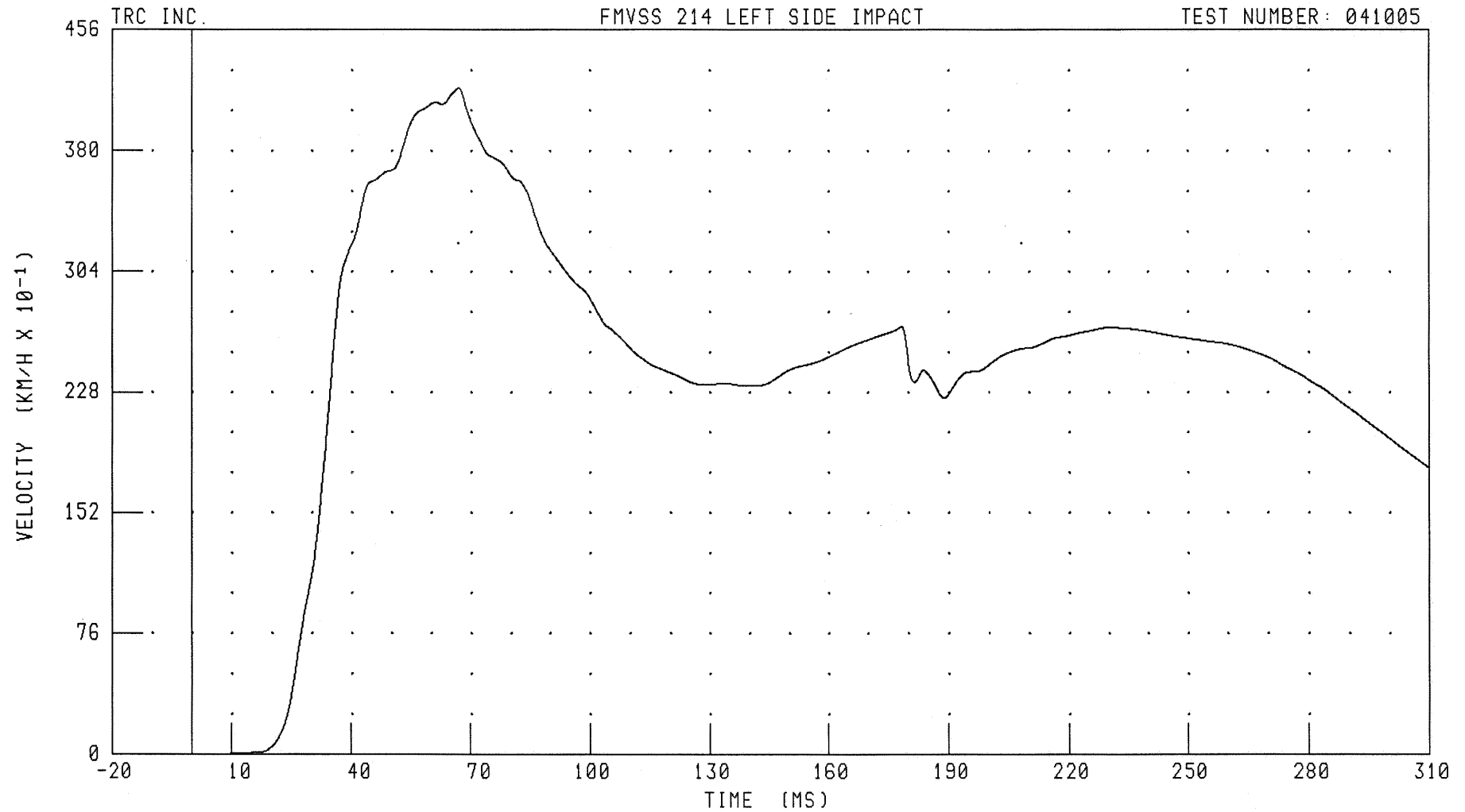
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER LOWER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYVI

FILTER: CH. CLASS 180

PEAK DATA: 41.95 KM/H @ 66.96 MS; 0.00 KM/H @ 2.64 MS

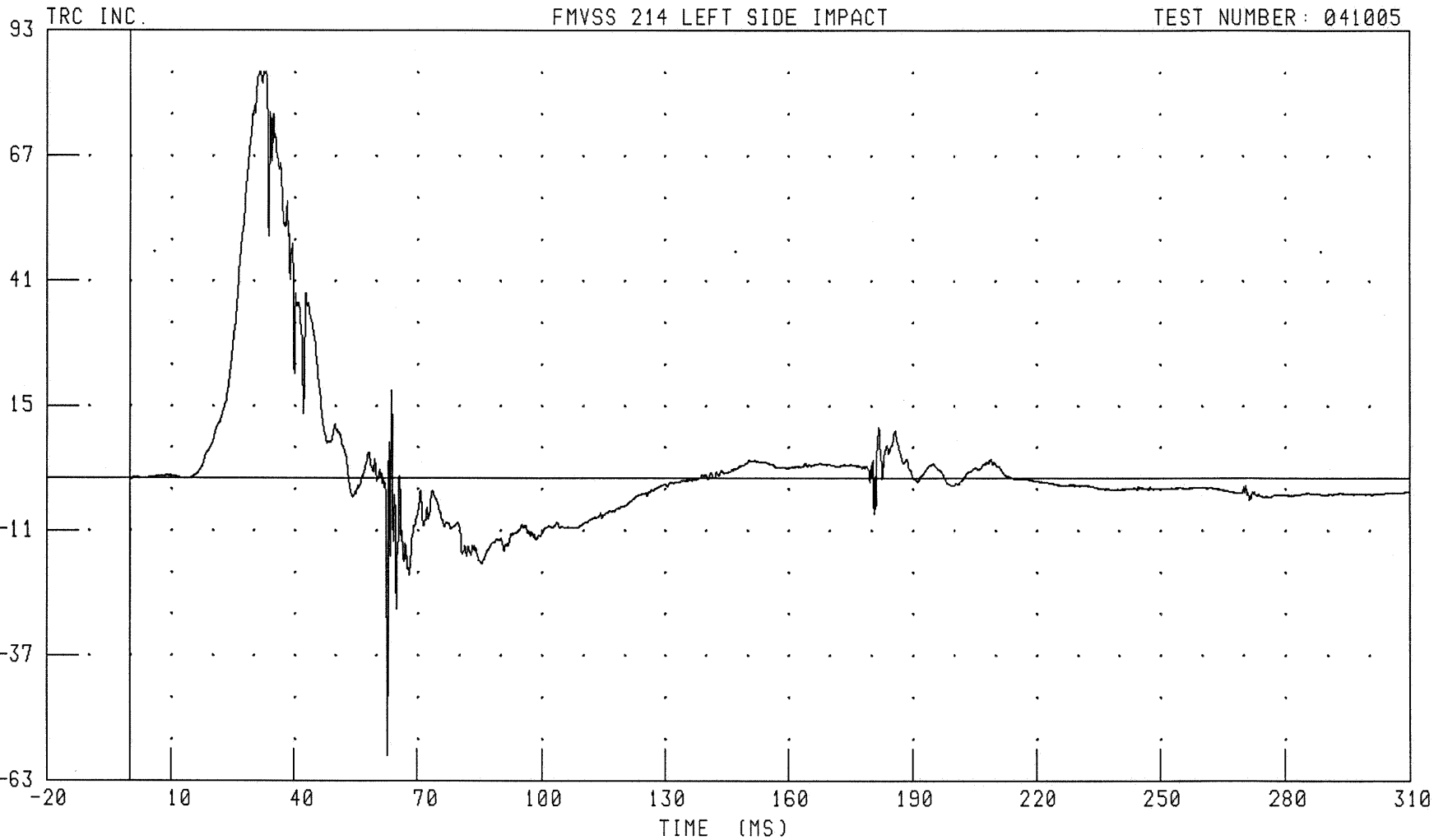
B-65

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YR1 FILTER: CH. CLASS 1000

PEAK DATA: 84.56 G @ 31.60 MS; -57.76 G @ 62.80 MS

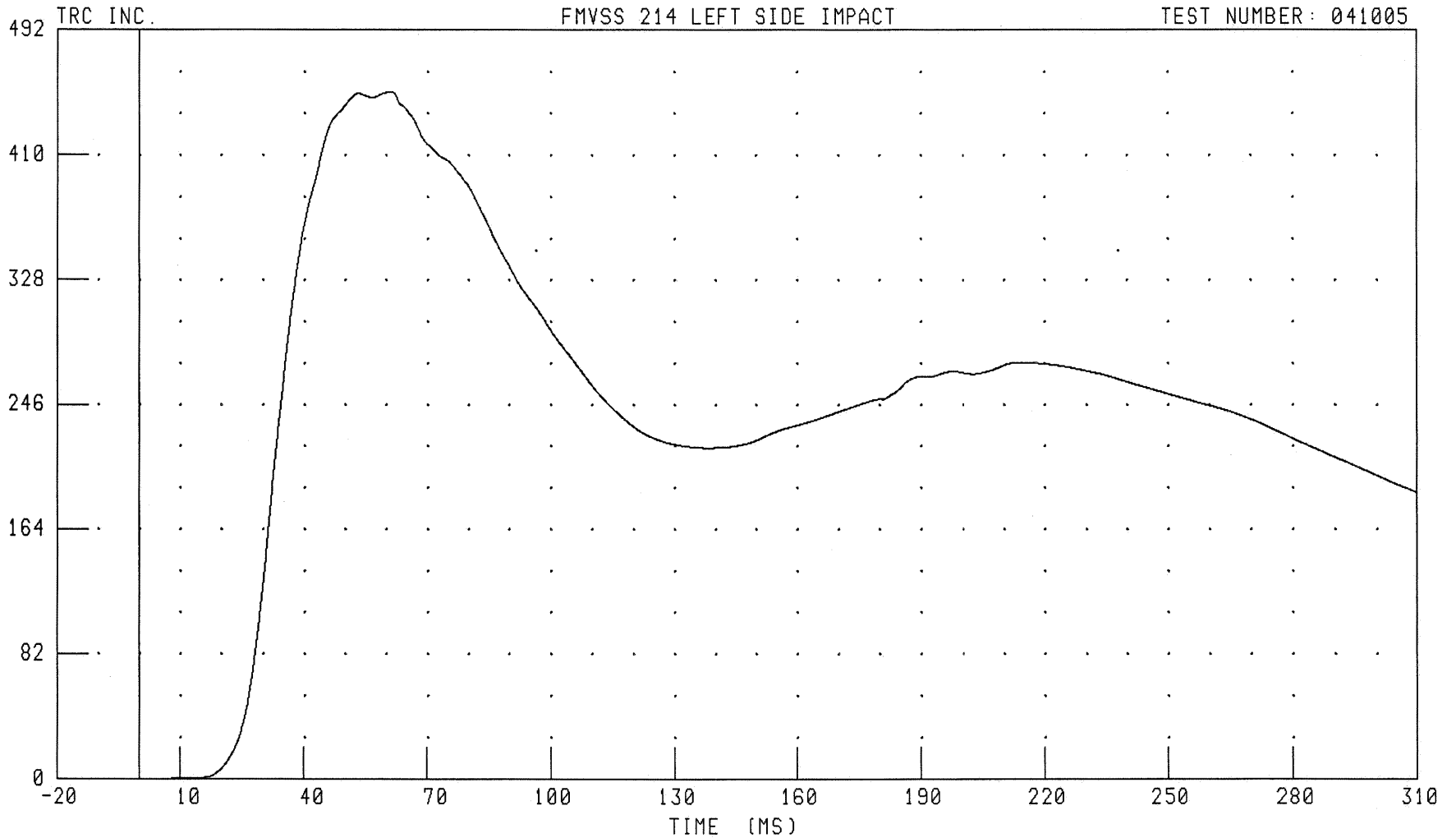
B-66

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YVI FILTER: CH. CLASS 180

PEAK DATA: 45.14 KM/H @ 61.36 MS; 0.00 KM/H @ 0.88 MS

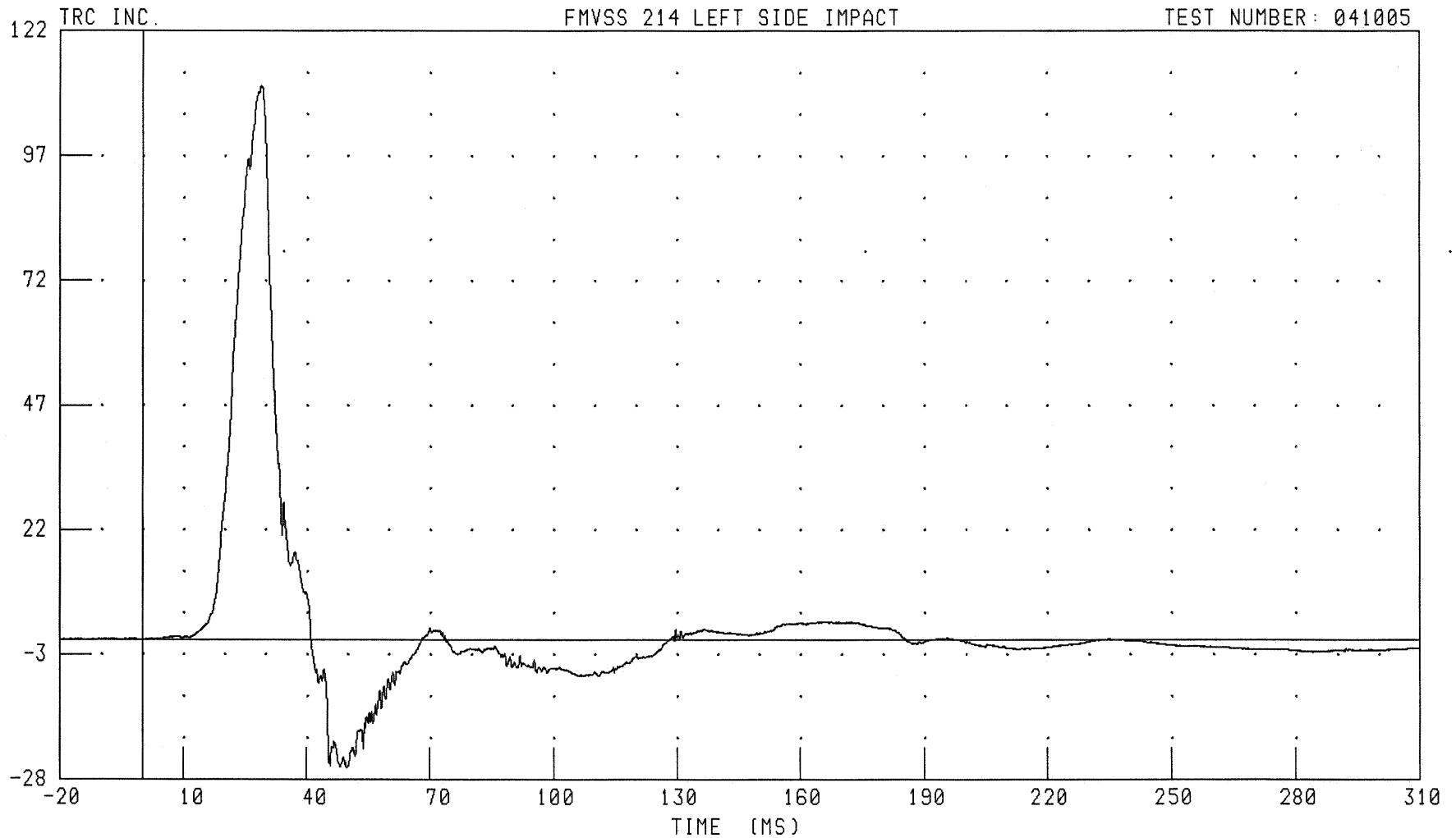
B-67

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYR1

FILTER: CH. CLASS 1000

PEAK DATA: 110.96 G @ 28.96 MS; -25.73 G @ 49.84 MS

B-68

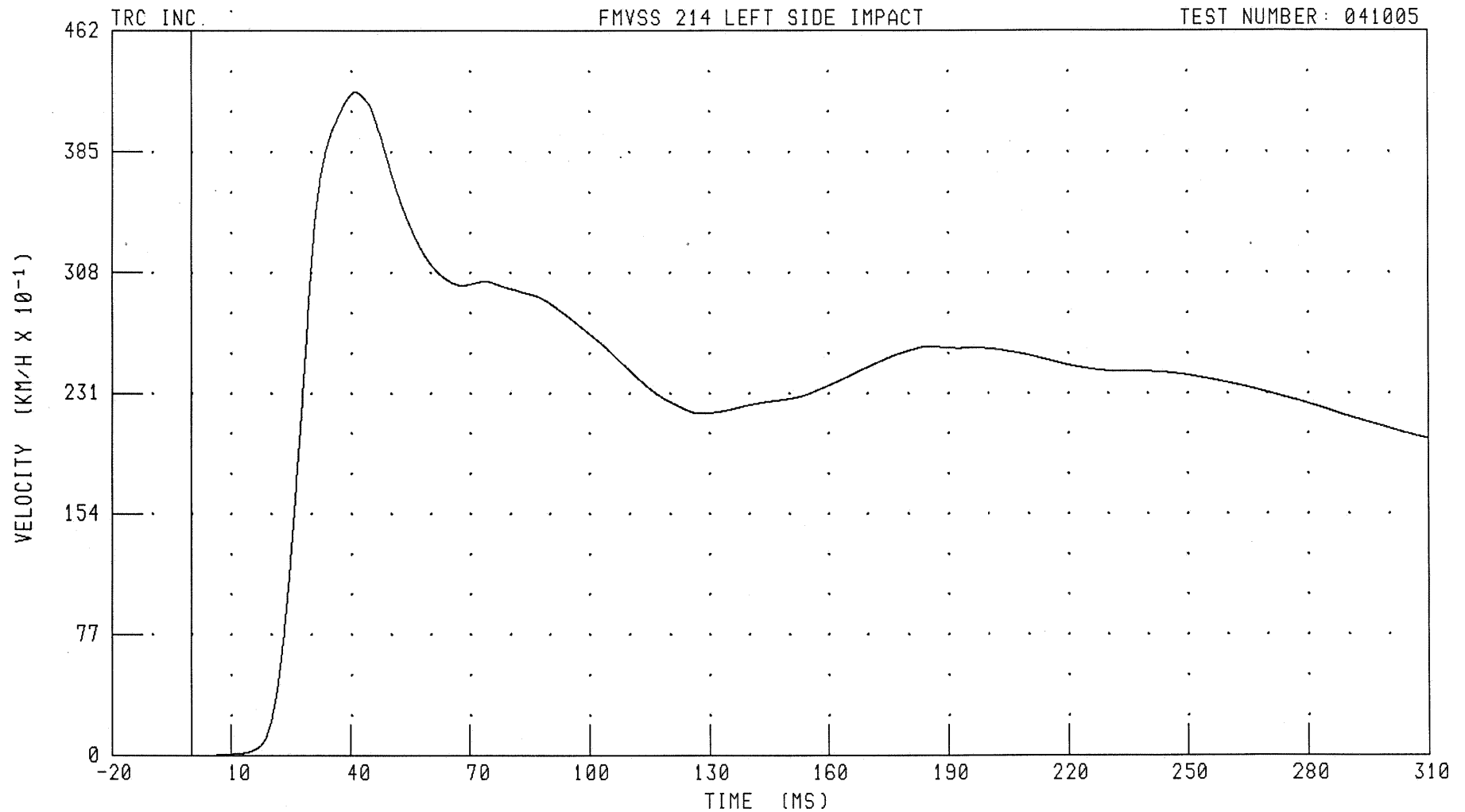
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER PELVIS Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYVI FILTER: CH. CLASS 180

PEAK DATA: 42.32 KM/H @ 41.20 MS; 0.00 KM/H @ 0.00 MS

B-69

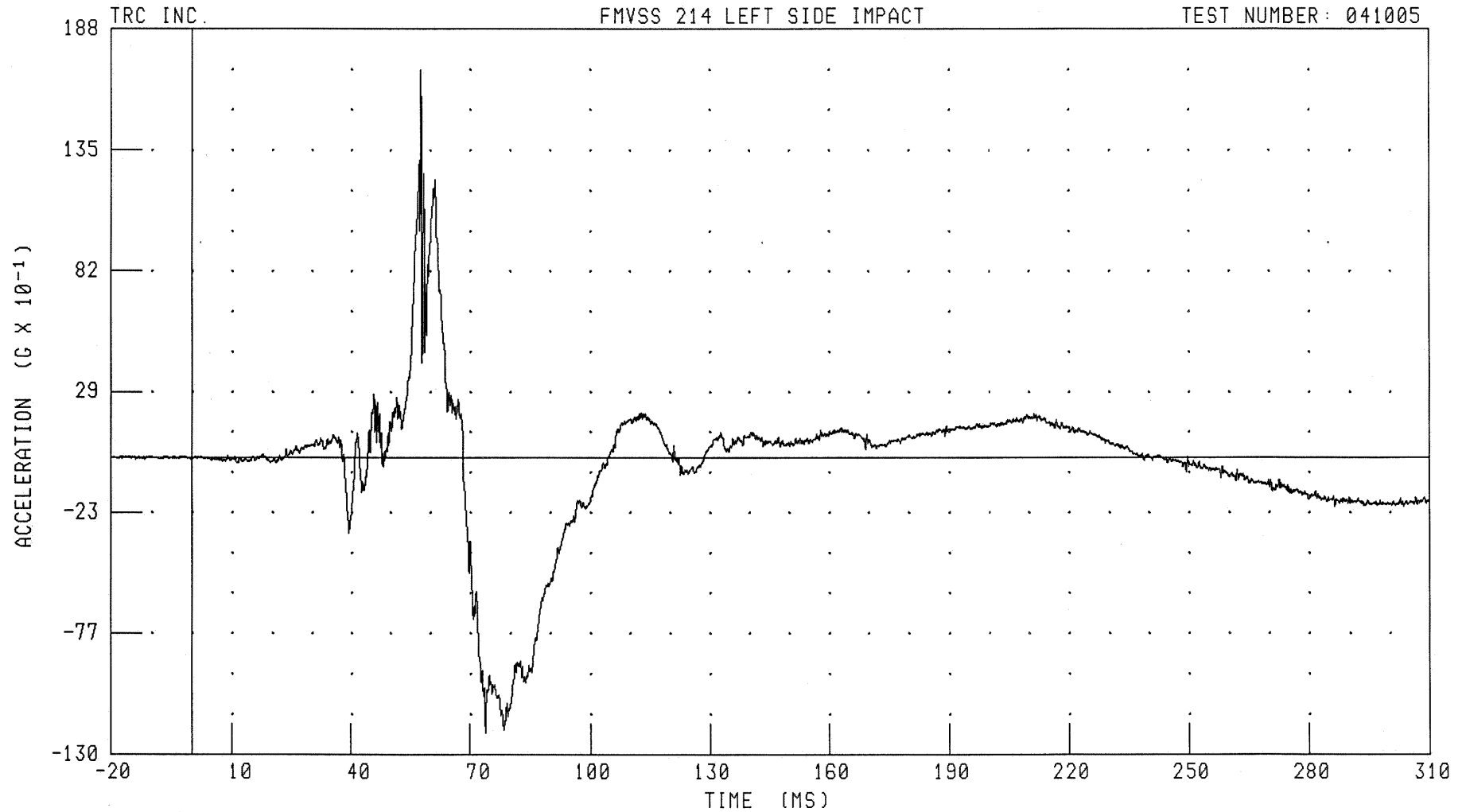
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER HEAD X-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXR4 FILTER: CH. CLASS 1000

PEAK DATA: 17.03 G @ 57.76 MS; -12.08 G @ 73.84 MS

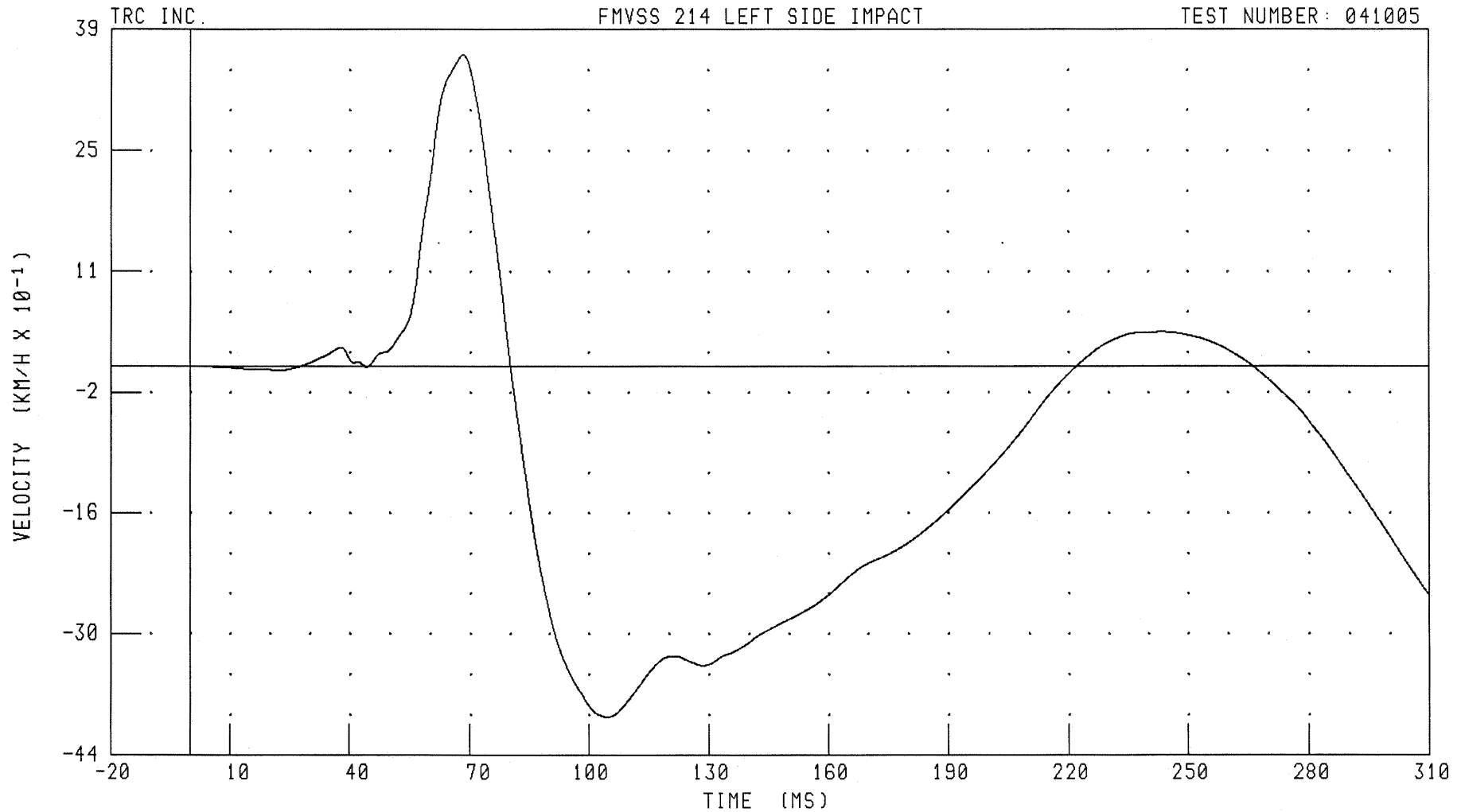
B-70

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD X-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDXVJ FILTER: CH. CLASS 180

PEAK DATA: 3.61 KM/H @ 68.40 MS; -4.06 KM/H @ 104.80 MS

B-71

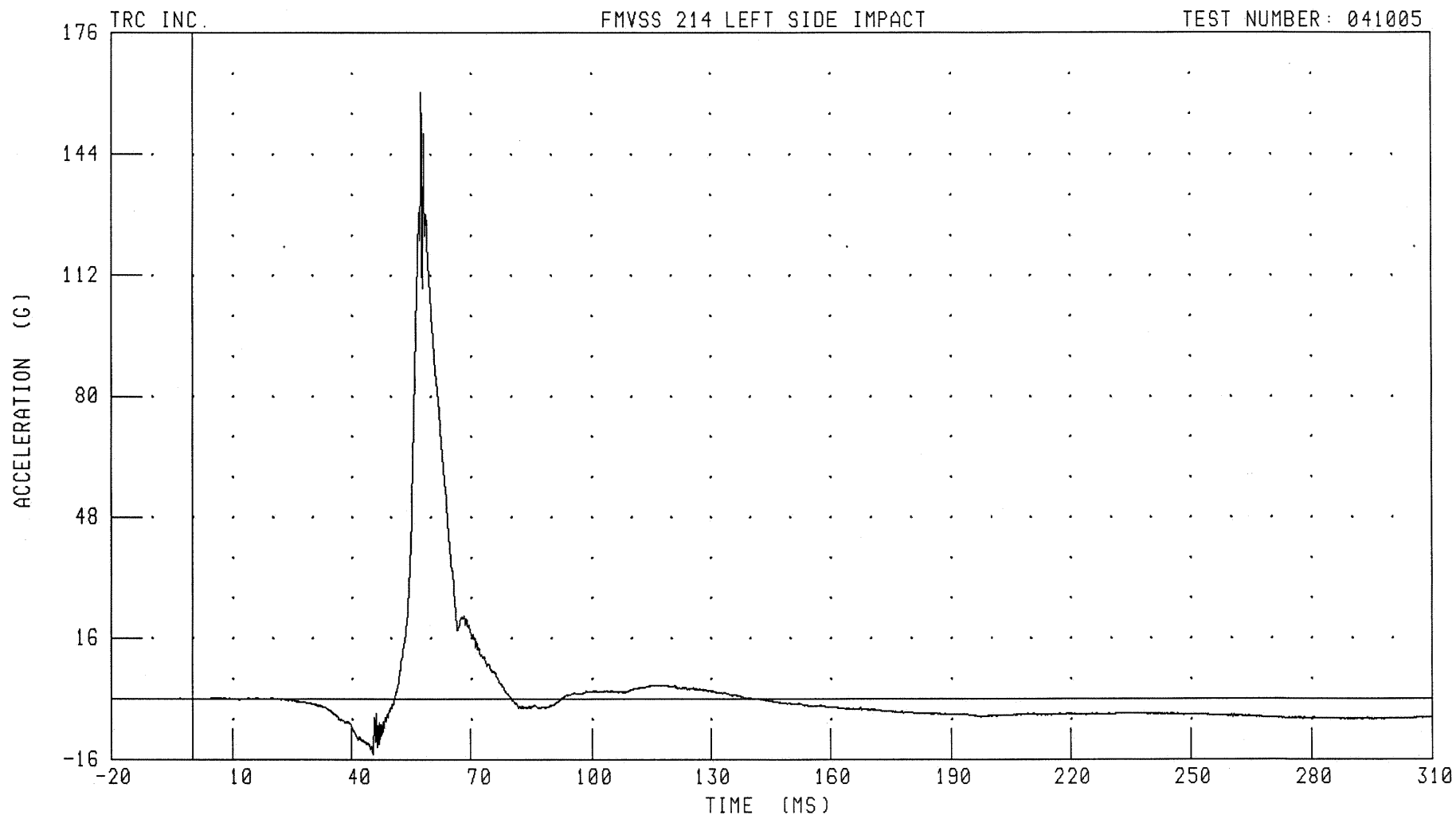
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER HEAD Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYR4

FILTER: CH. CLASS 1000

PEAK DATA: 160.28 G @ 57.76 MS; -14.56 G @ 45.44 MS

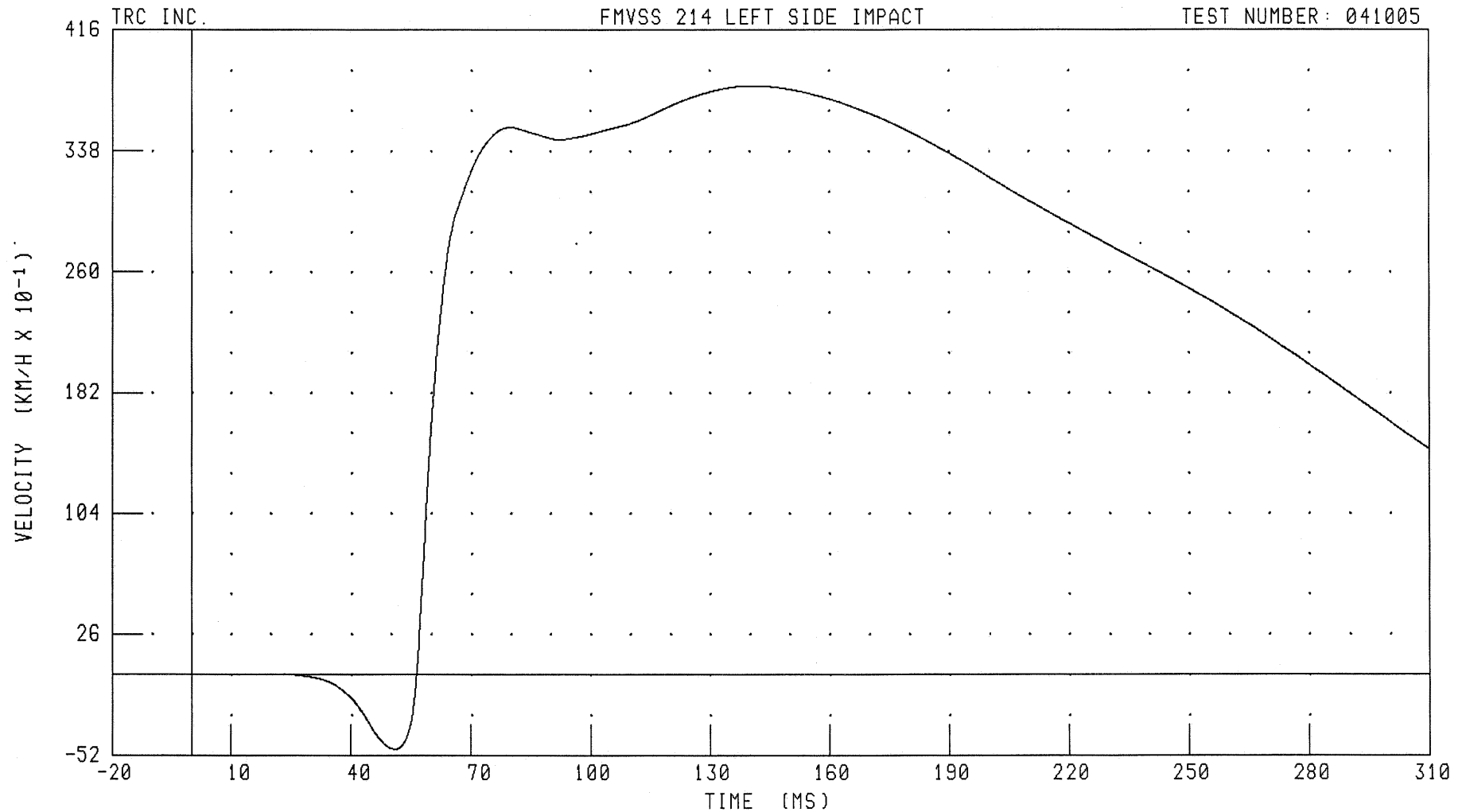
B-72

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDYVJ FILTER: CH. CLASS 180

PEAK DATA: 38.00 KM/H @ 140.56 MS; -4.80 KM/H @ 51.04 MS

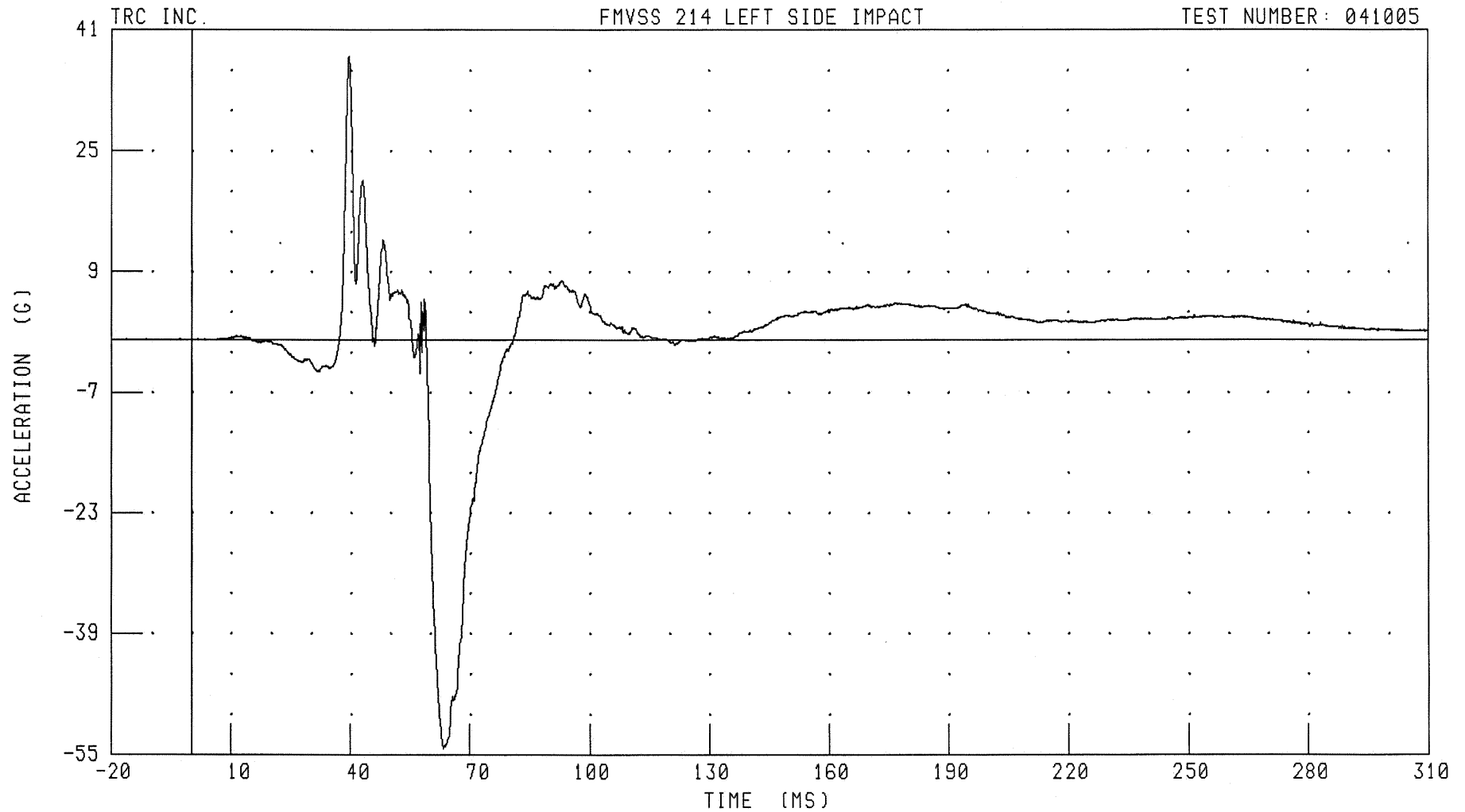
B-73

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD Z-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZR4 FILTER: CH. CLASS 1000

PEAK DATA: 37.54 G @ 39.60 MS; -54.15 G @ 63.28 MS

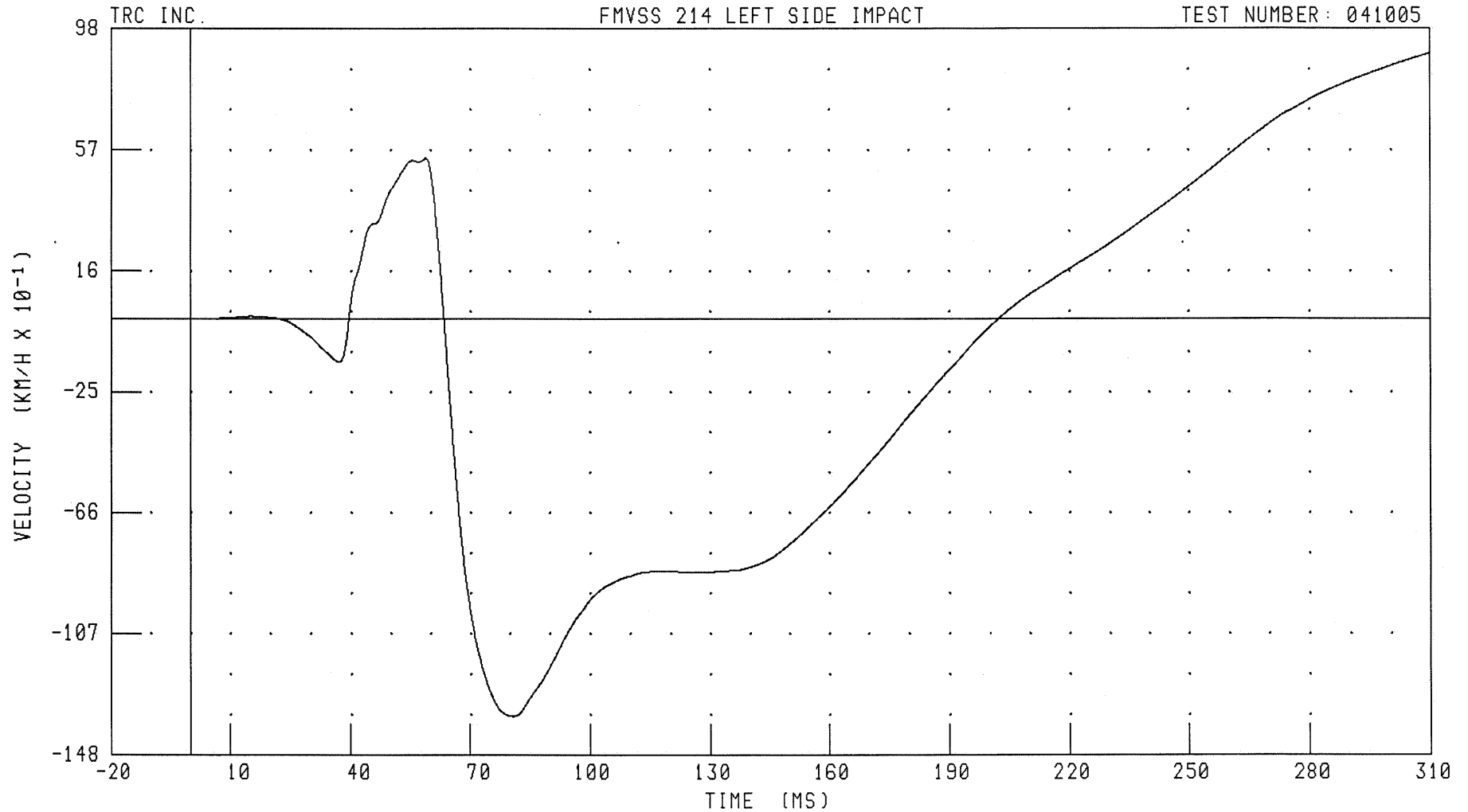
B-74

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD Z-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDZVJ FILTER: CH. CLASS 180

PEAK DATA: 8.97 KM/H @ 310.00 MS; -13.50 KM/H @ 80.88 MS

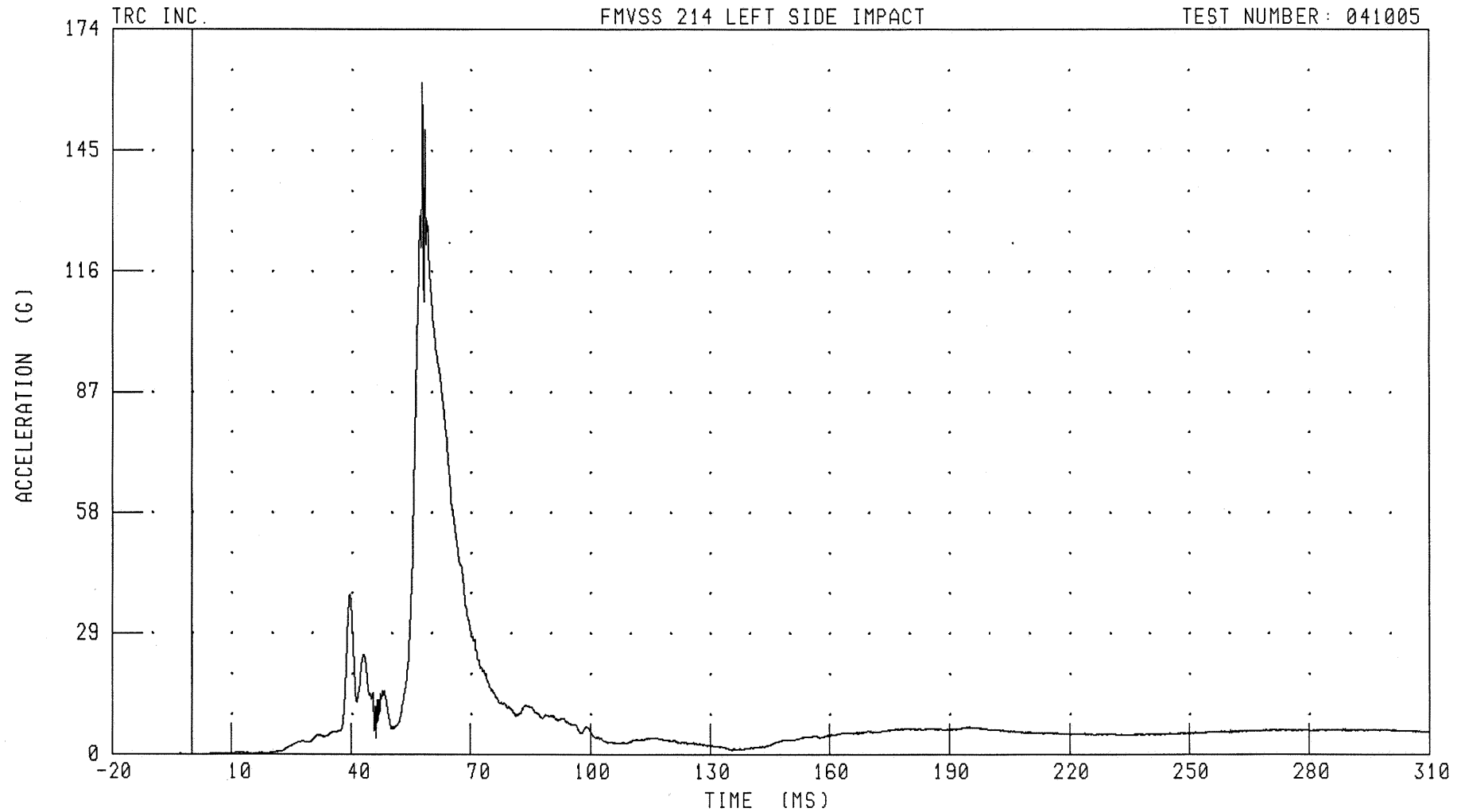
B-75

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER HEAD RESULTANT REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: HEDRR4 FILTER: CH. CLASS 1000

PEAK DATA: 161.19 G @ 57.76 MS; 0.02 G @ -18.64 MS

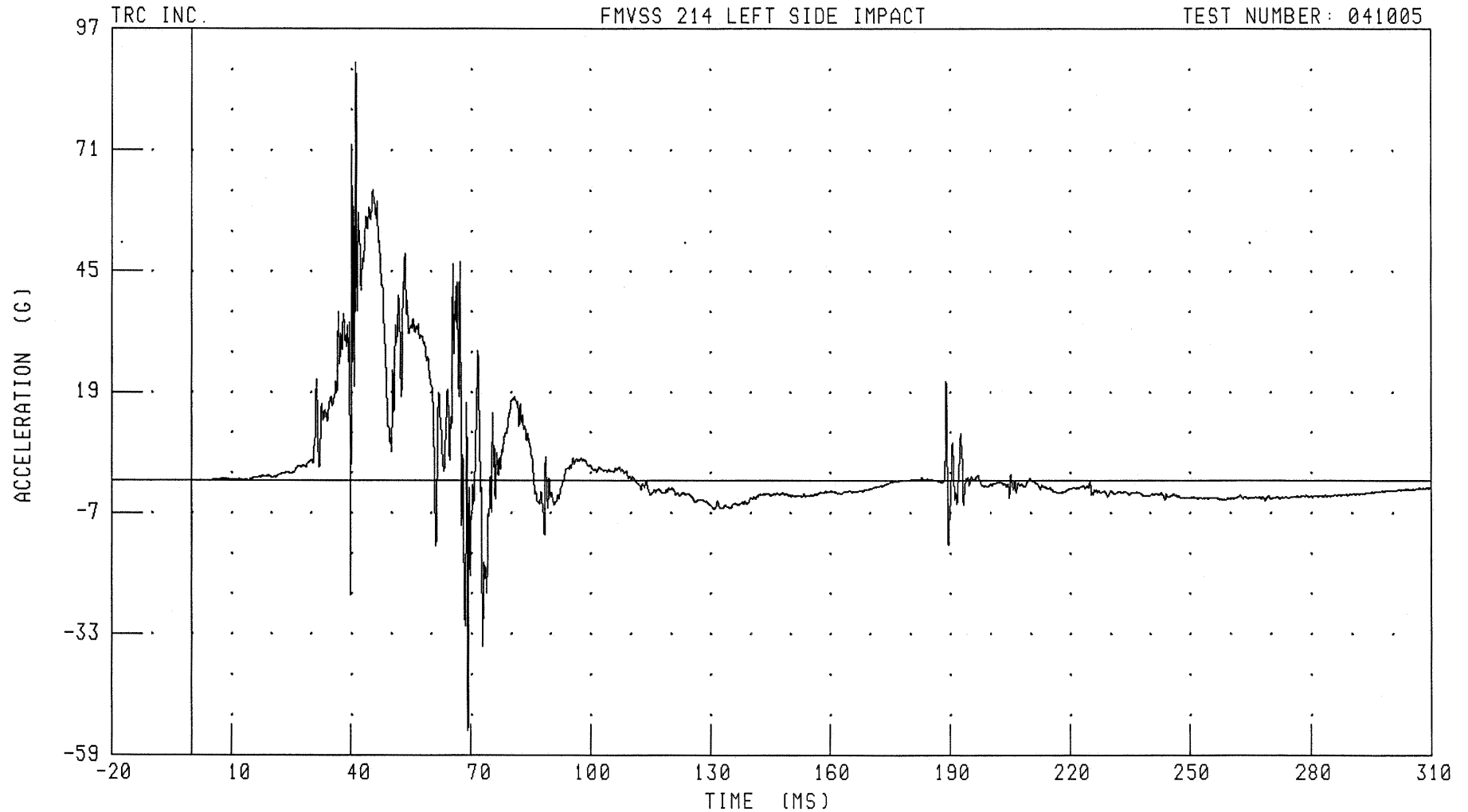
B-76

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYR4 FILTER: CH. CLASS 1000

PEAK DATA: 89.74 G @ 41.28 MS; -53.83 G @ 69.20 MS

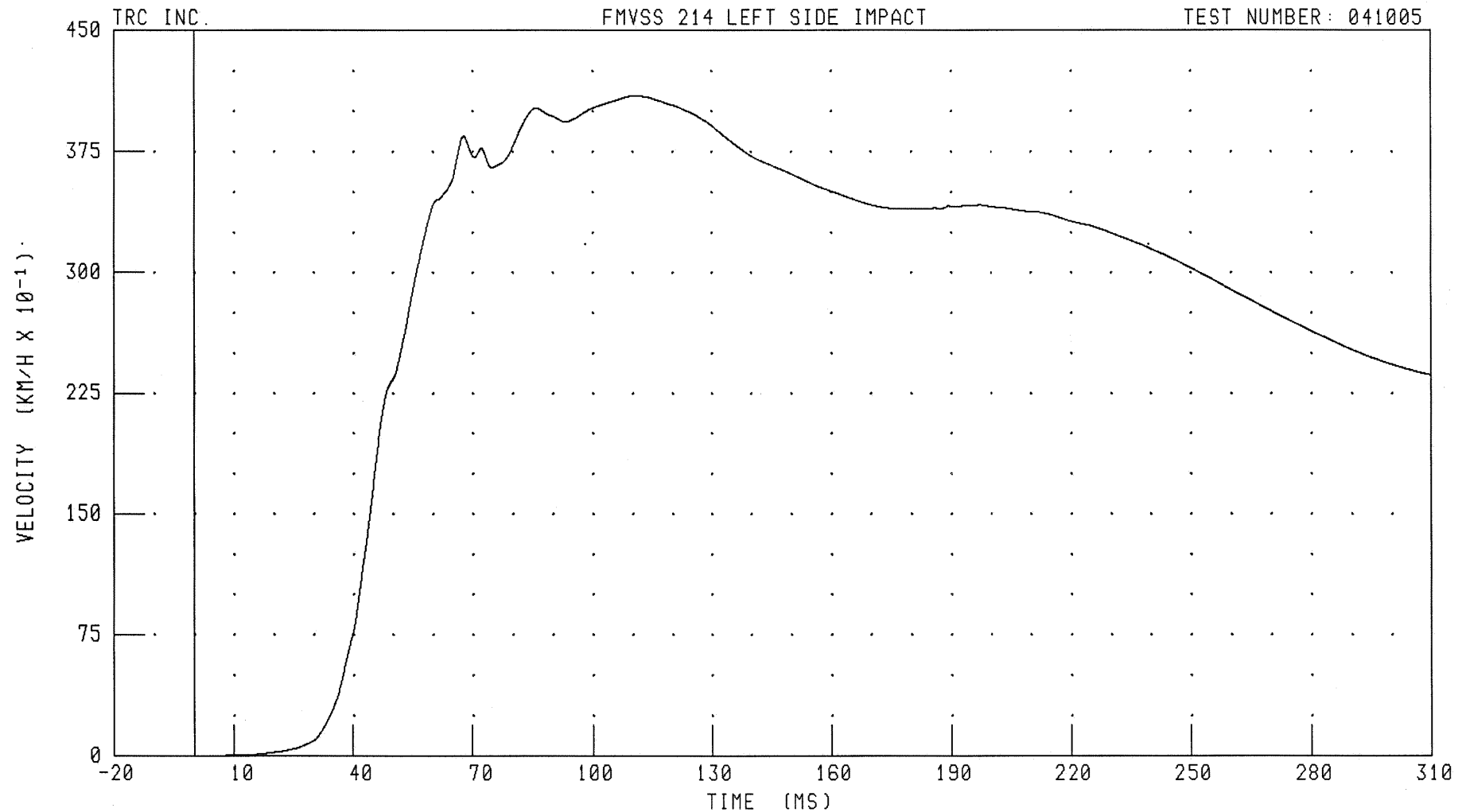
B-77

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYVJ FILTER: CH. CLASS 180

PEAK DATA: 40.96 KM/H @ 111.20 MS; 0.00 KM/H @ 0.00 MS

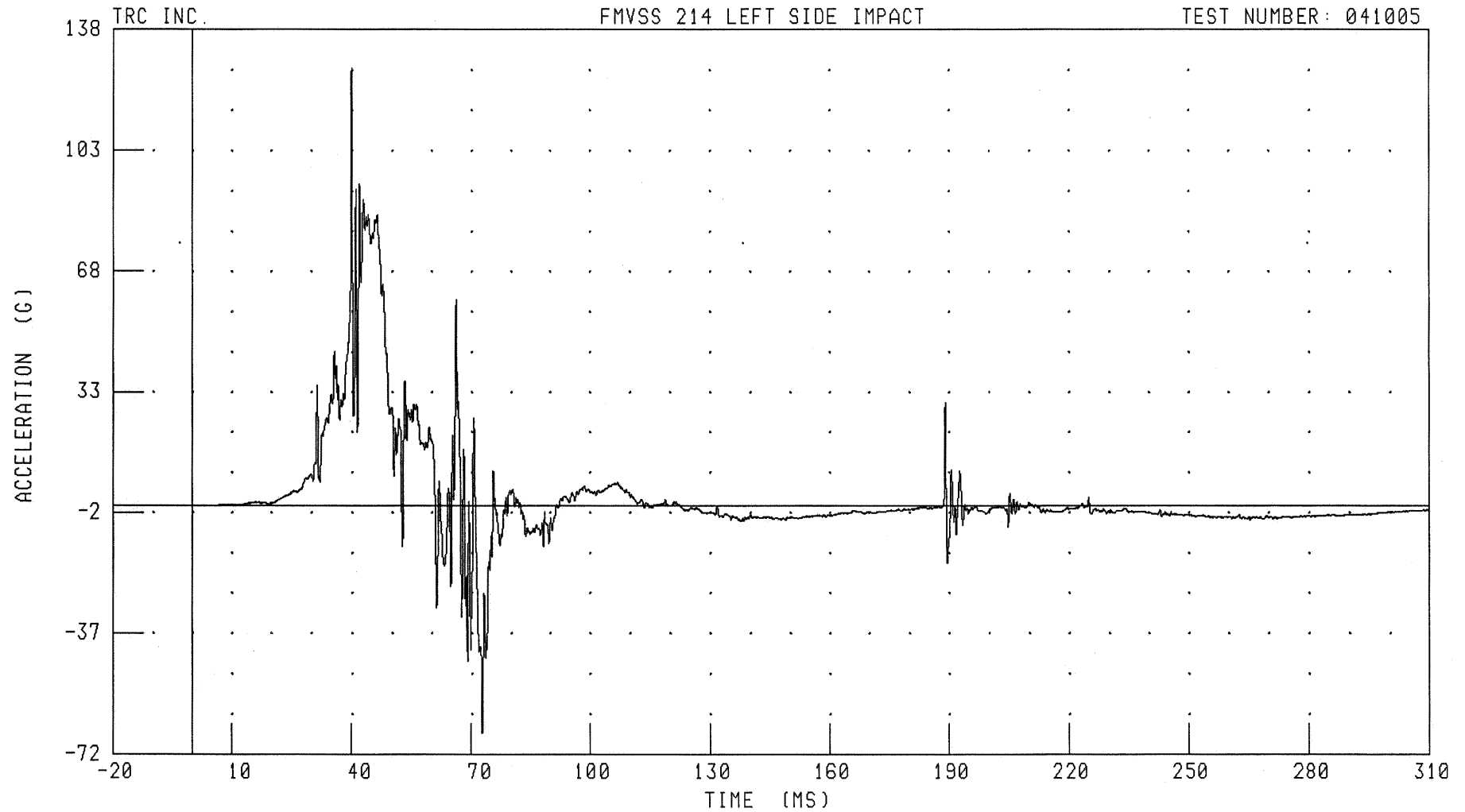
B-78

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYR4

FILTER: CH. CLASS 1000

PEAK DATA: 126.70 G @ 40.08 MS; -65.86 G @ 72.88 MS

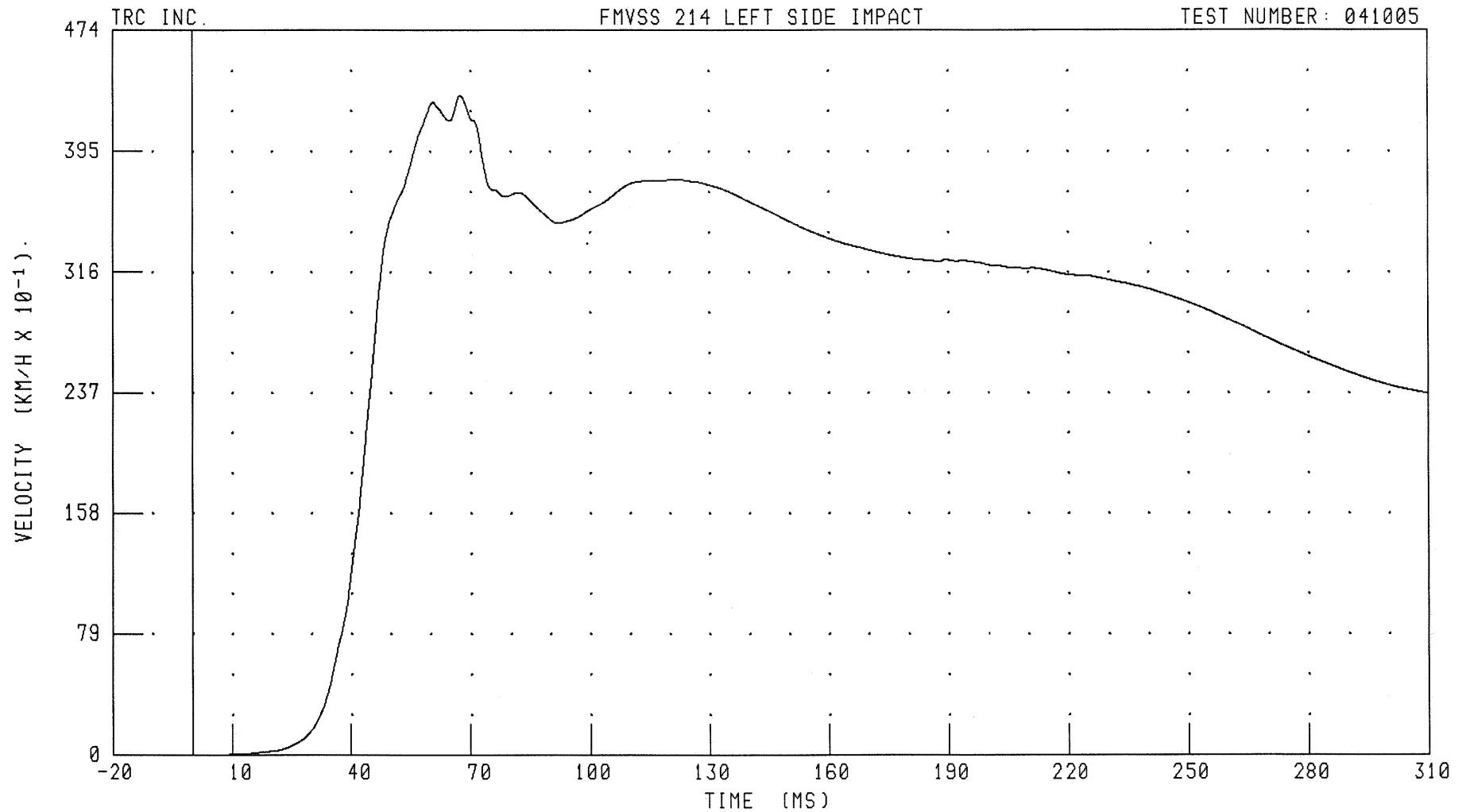
B-79

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYVJ

FILTER: CH. CLASS 180

PEAK DATA: 43.15 KM/H @ 67.52 MS; 0.00 KM/H @ 0.00 MS

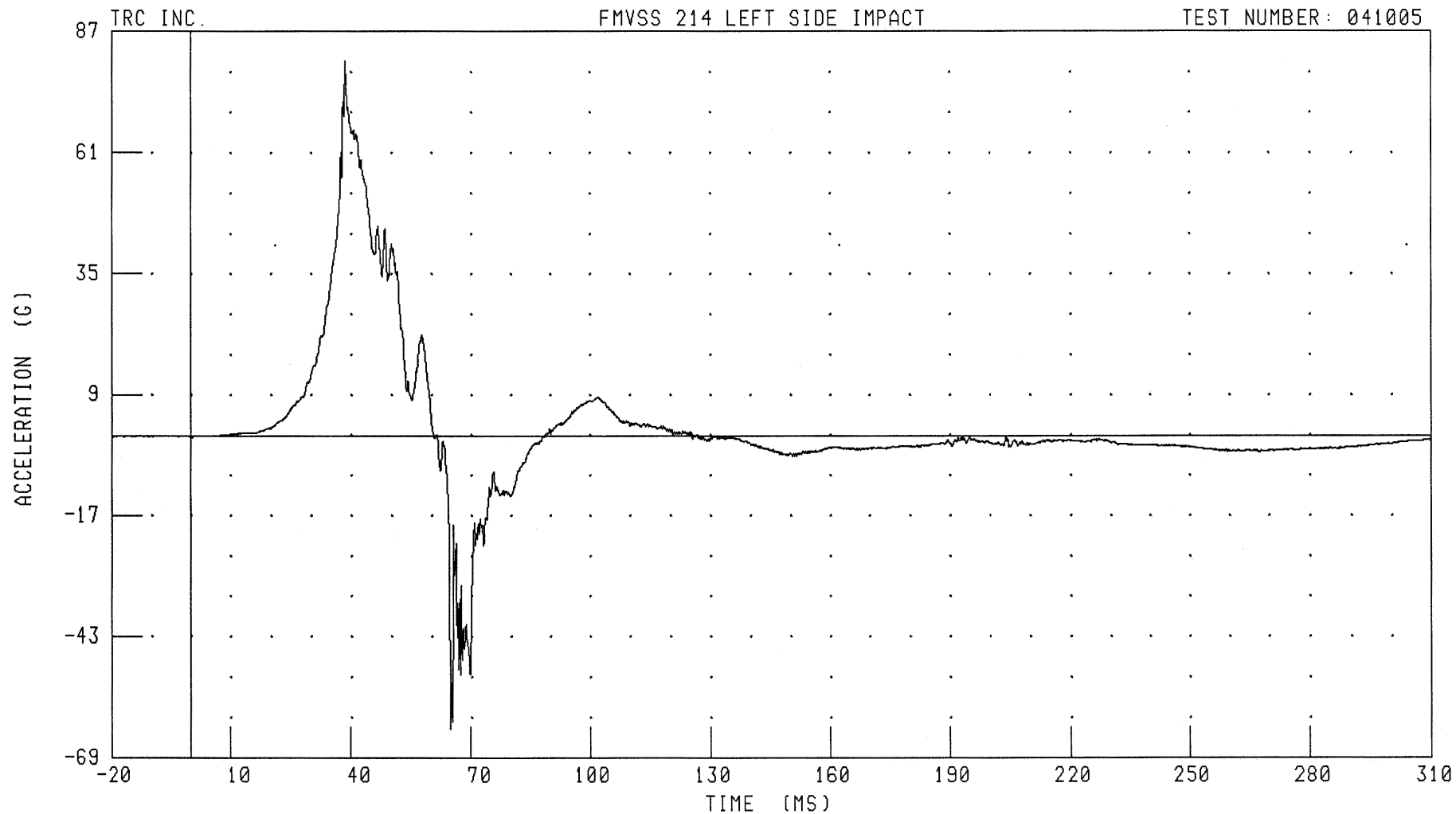
B-80

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YR4 FILTER: CH. CLASS 1000

PEAK DATA: 80.65 G @ 38.64 MS; -62.93 G @ 64.88 MS

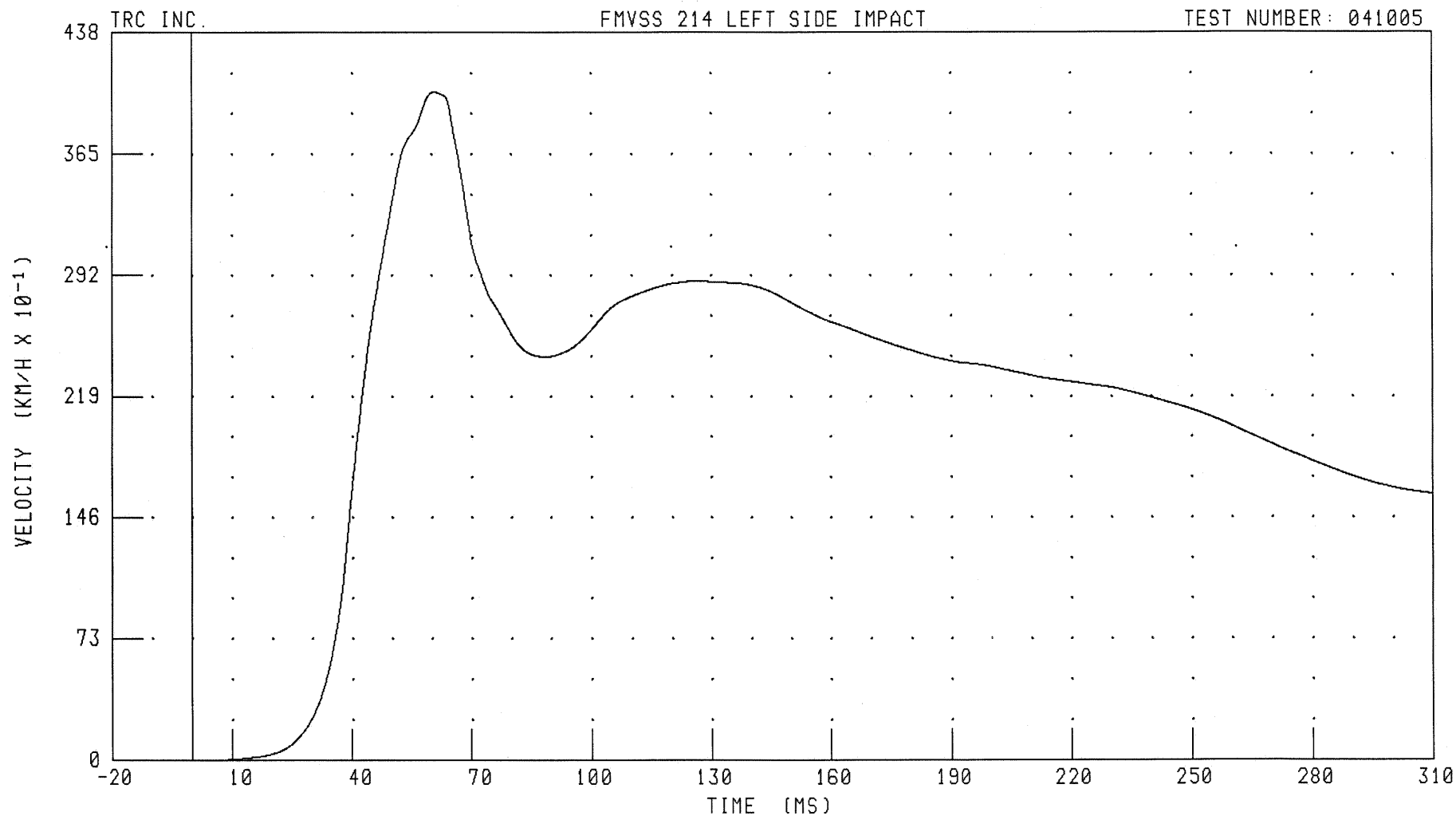
B-81

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YVJ

FILTER: CH. CLASS 180

PEAK DATA: 40.23 KM/H @ 60.88 MS; 0.00 KM/H @ 0.80 MS

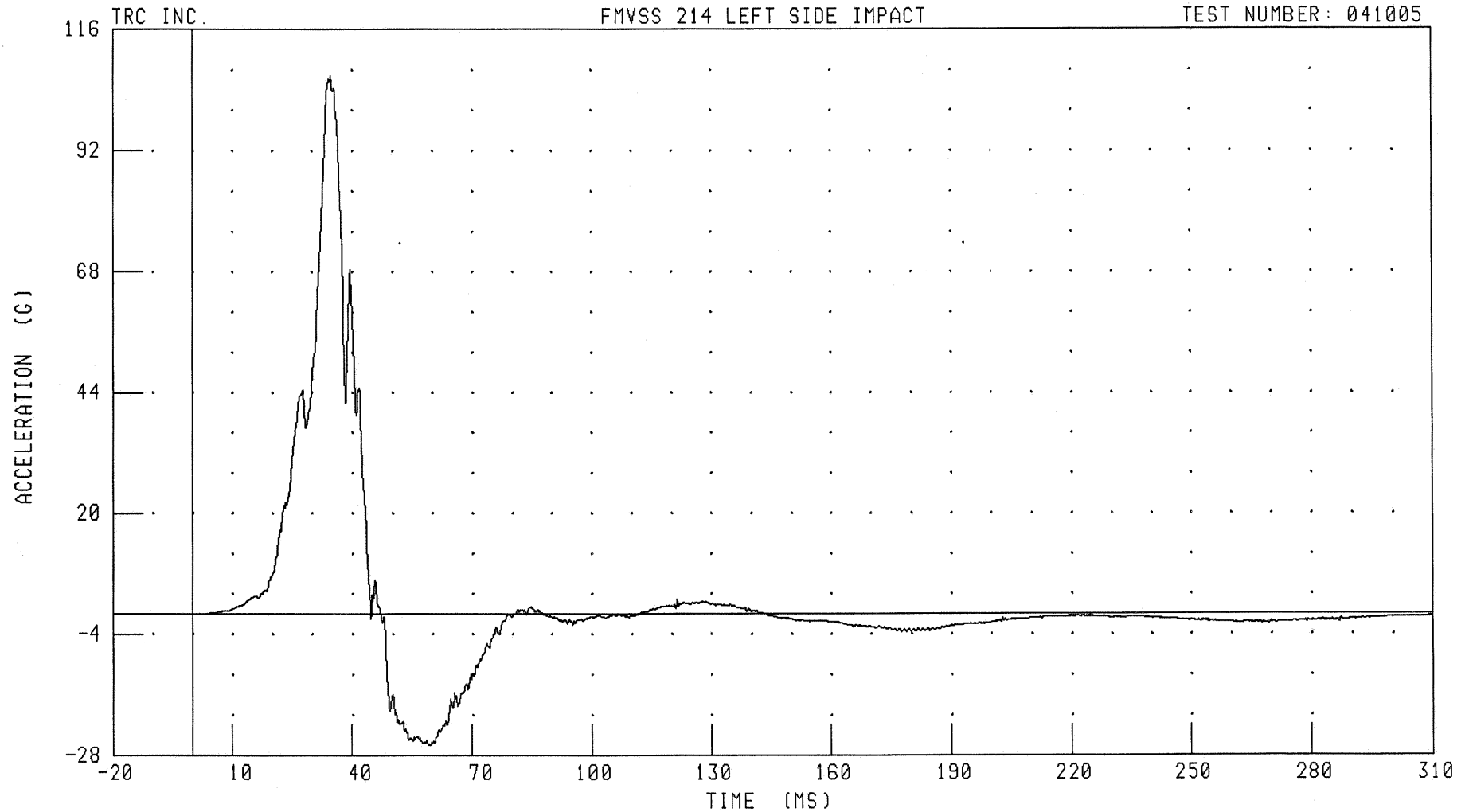
B-82

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYR4 FILTER: CH. CLASS 1000

PEAK DATA: 106.85 G @ 34.80 MS; -25.99 G @ 59.44 MS

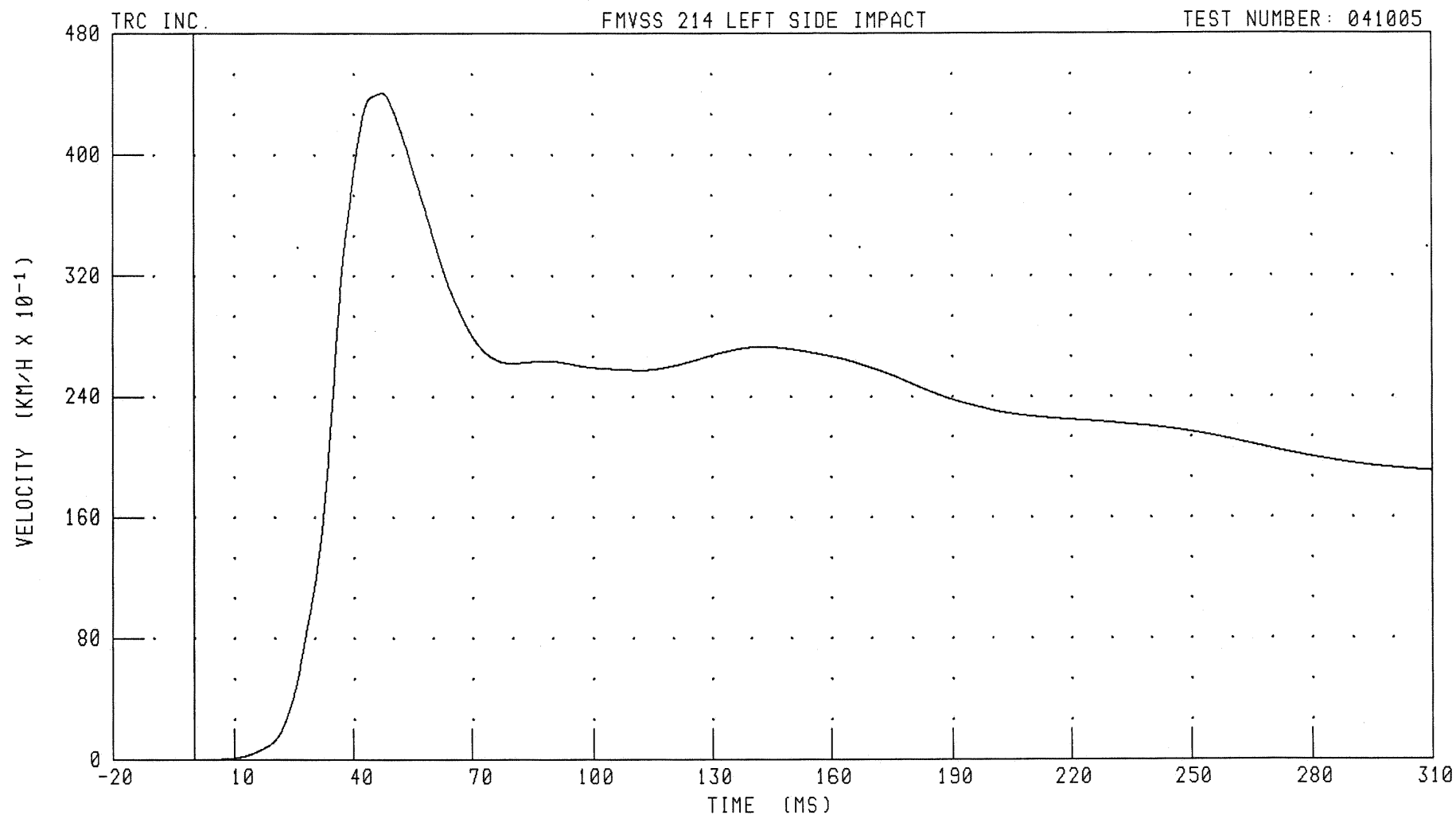
B-83

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYVJ FILTER: CH. CLASS 180

PEAK DATA: 44.07 KM/H @ 47.36 MS; 0.00 KM/H @ 0.00 MS

B-84

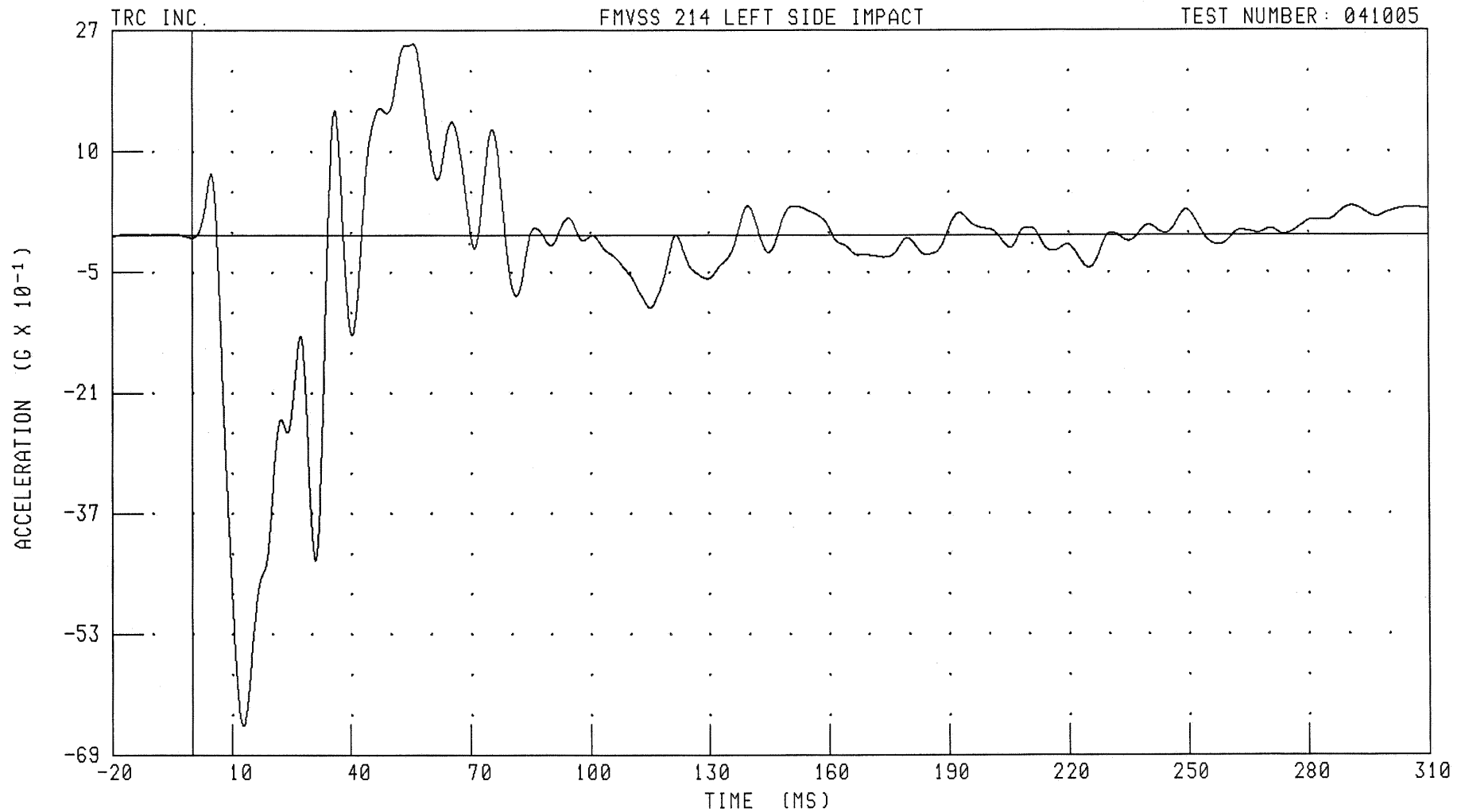
041005

Test Vehicle Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT FRONT SEAT X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RFSXG1 FILTER: CH. CLASS 60

PEAK DATA: 2.52 G @ 55.76 MS; -6.51 G @ 12.72 MS

B-86

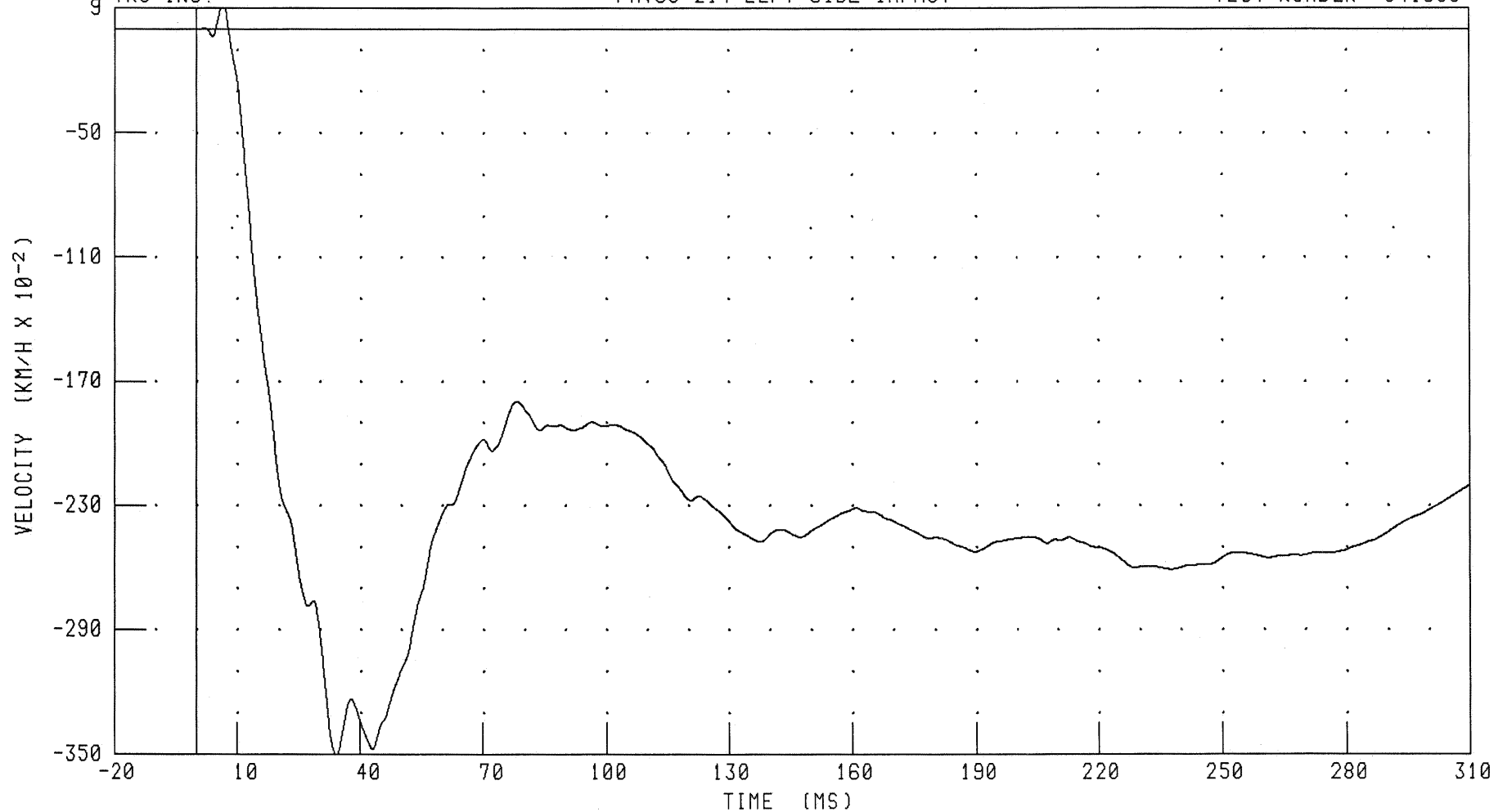
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT FRONT SEAT X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005

9 TRC INC.



CHANNEL: RFSXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.12 KM/H @ 6.56 MS; -3.50 KM/H @ 34.08 MS

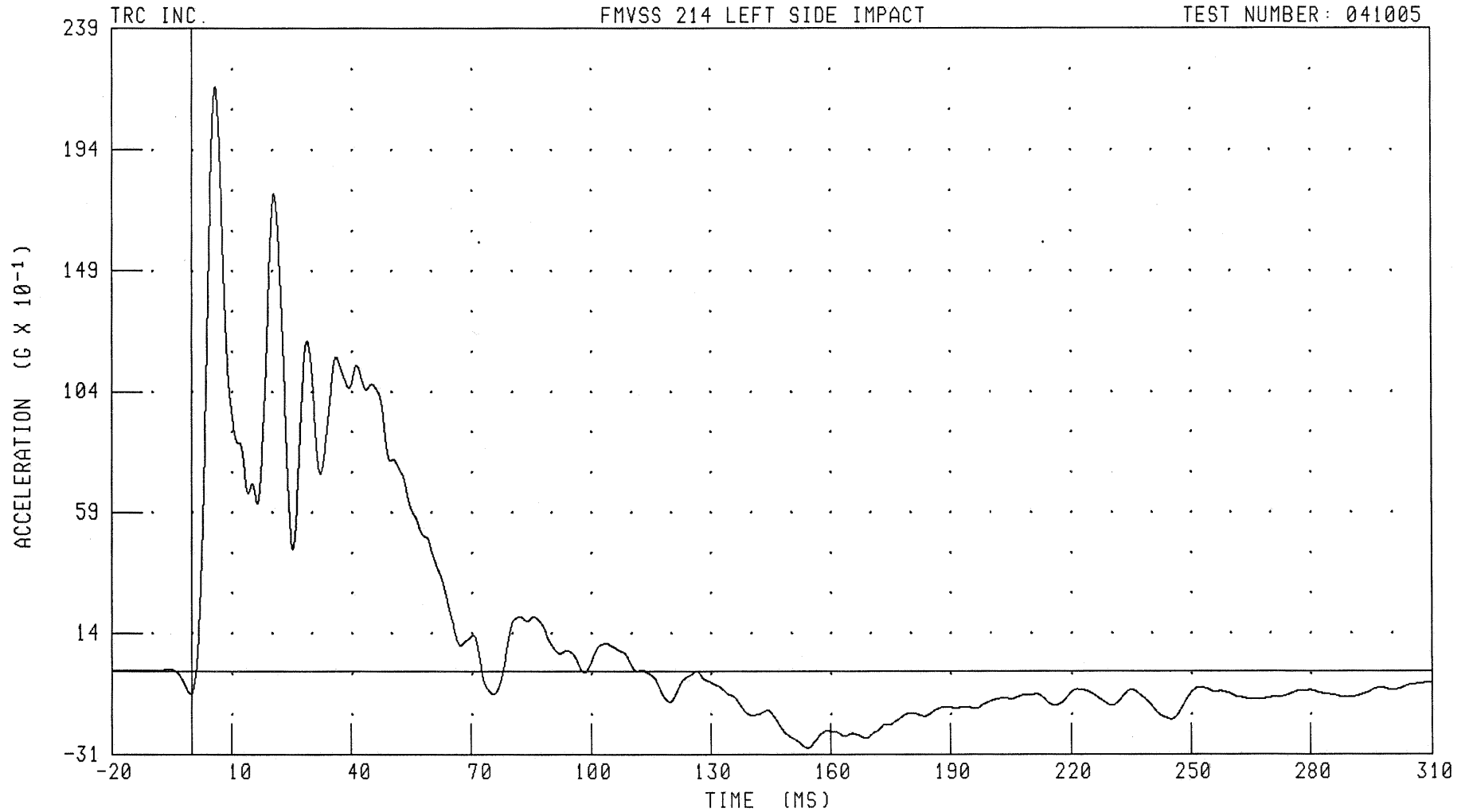
B-87

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT FRONT SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RFSYG1

FILTER: CH. CLASS 60

PEAK DATA: 21.75 G @ 5.84 MS; -2.86 G @ 154.16 MS

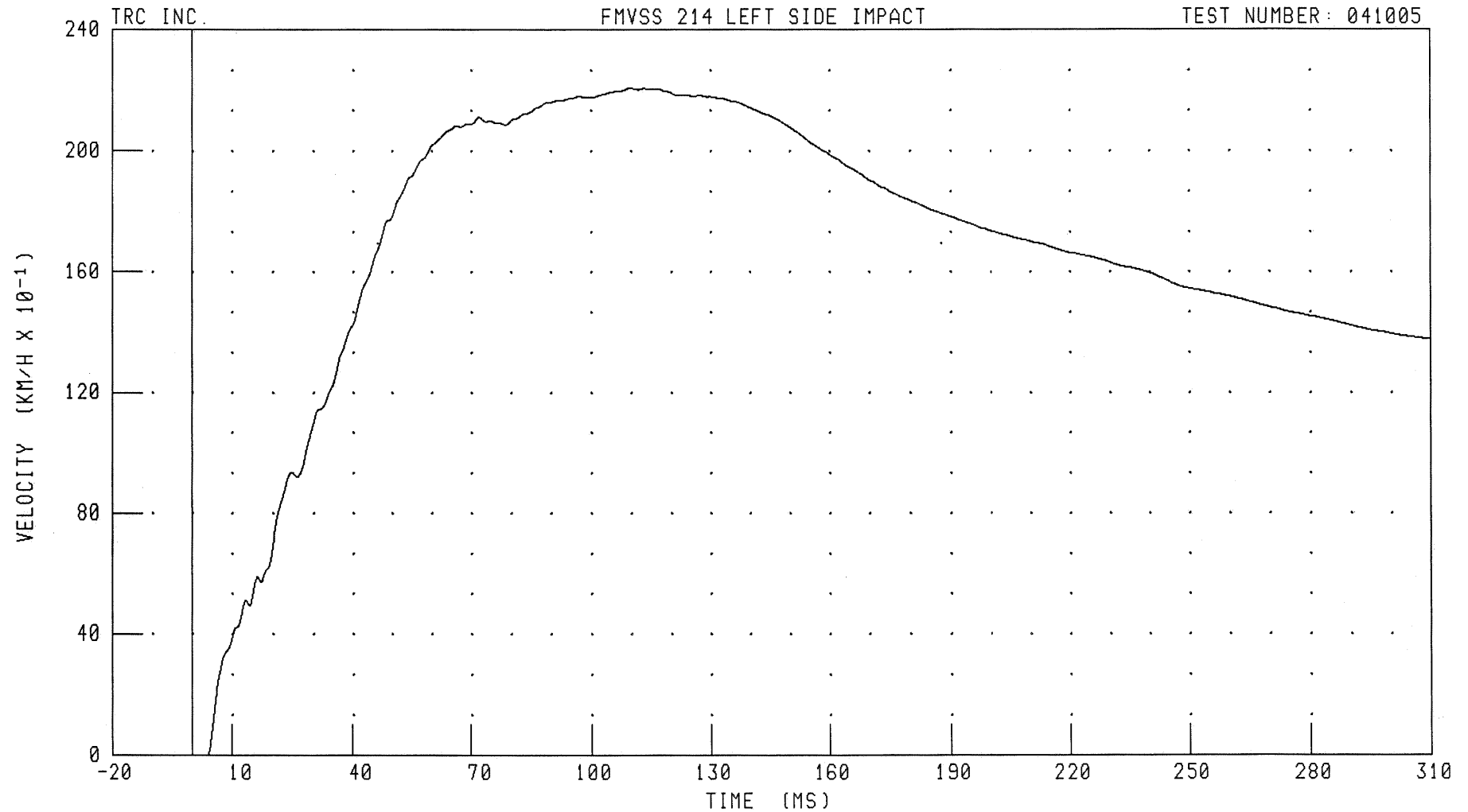
B-88

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RFSYV1 FILTER: CH. CLASS 180

PEAK DATA: 22.07 KM/H @ 110.00 MS; -0.04 KM/H @ 3.44 MS

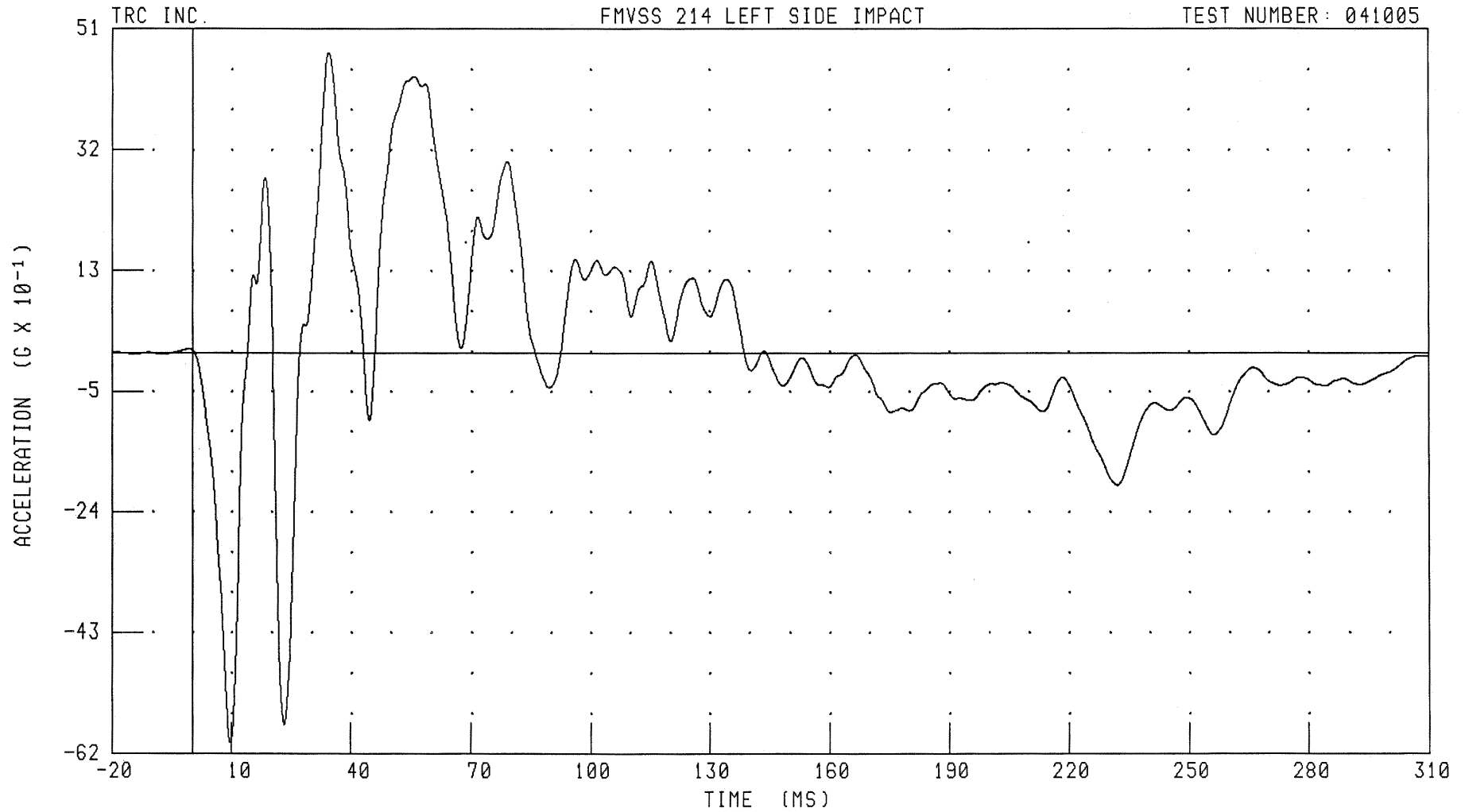
B-89

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT FRONT SEAT Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RFSZG1 FILTER: CH. CLASS 60

PEAK DATA: 4.72 G @ 34.32 MS; -6.13 G @ 9.68 MS

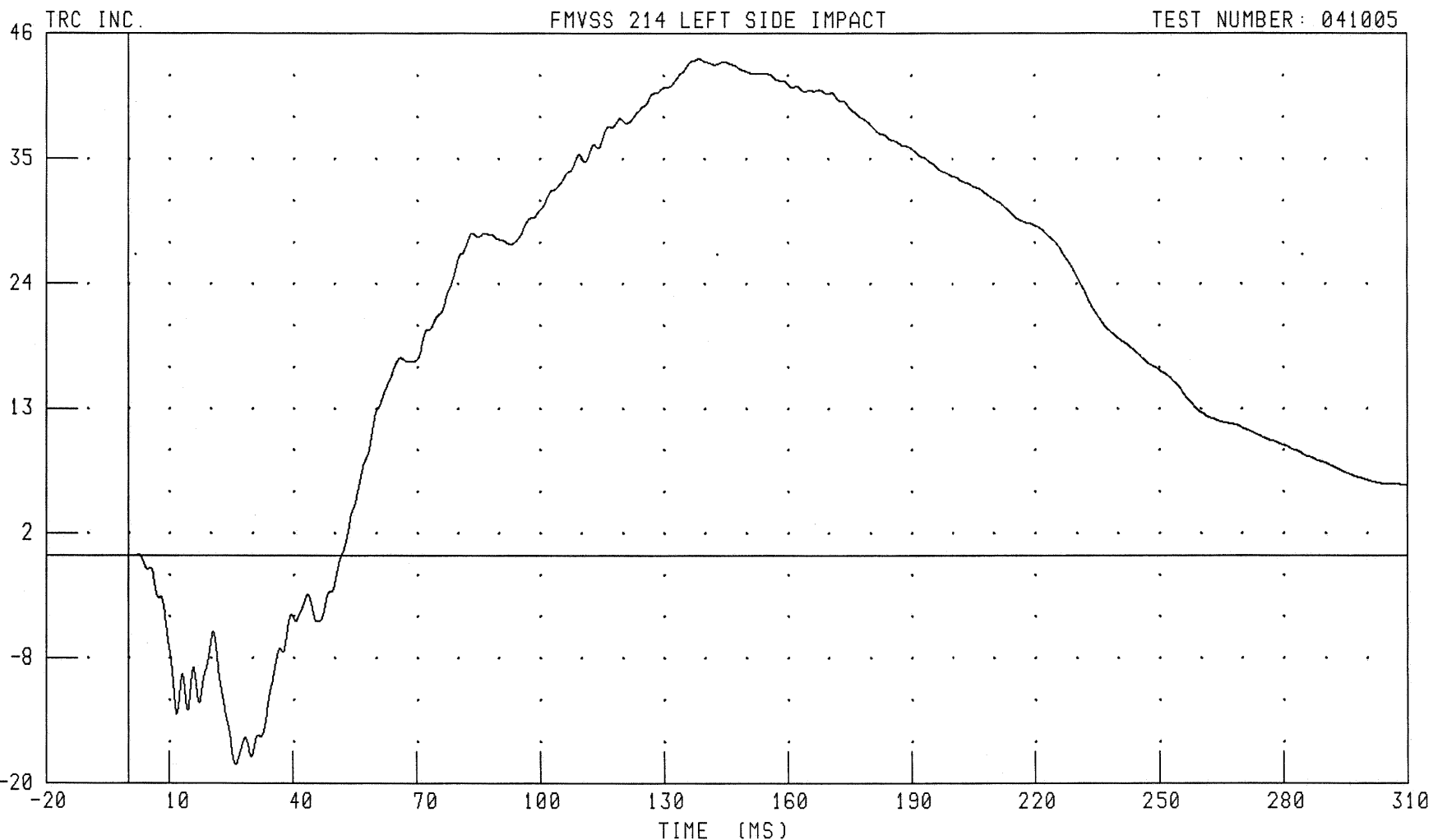
B-90

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT FRONT SEAT Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RFSZV1 FILTER: CH. CLASS 100

PEAK DATA: 4.38 KM/H @ 138.80 MS; -1.84 KM/H @ 26.00 MS

B-91

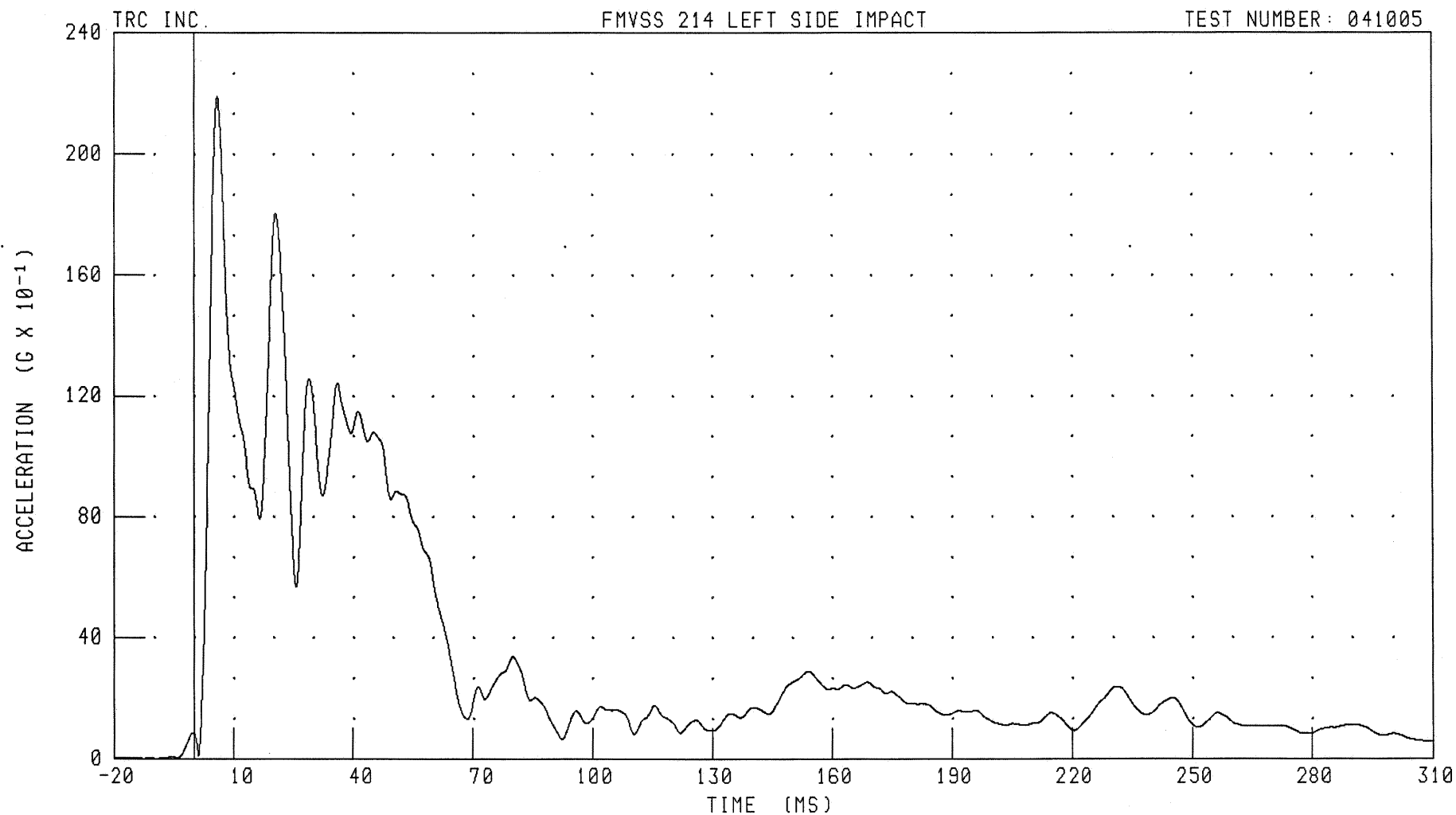
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RFSRG1

FILTER: CH. CLASS 60

PEAK DATA: 21.90 G @ 5.84 MS; 0.01 G @ -9.52 MS

B-92

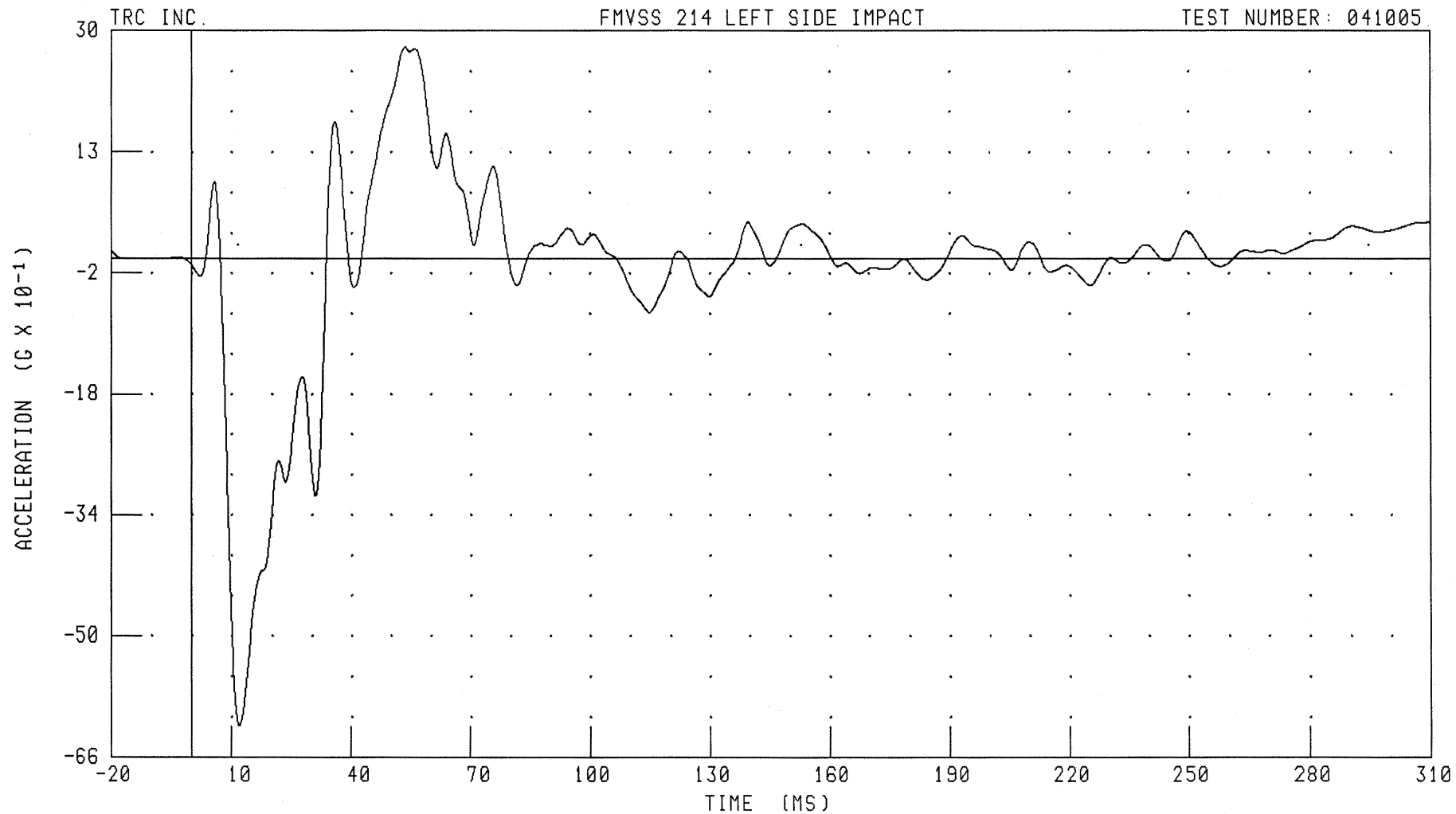
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

RIGHT SIDE SILL AT REAR SEAT X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRSXG1

FILTER: CH. CLASS 60

PEAK DATA: 2.78 G @ 53.68 MS; -6.18 G @ 12.00 MS

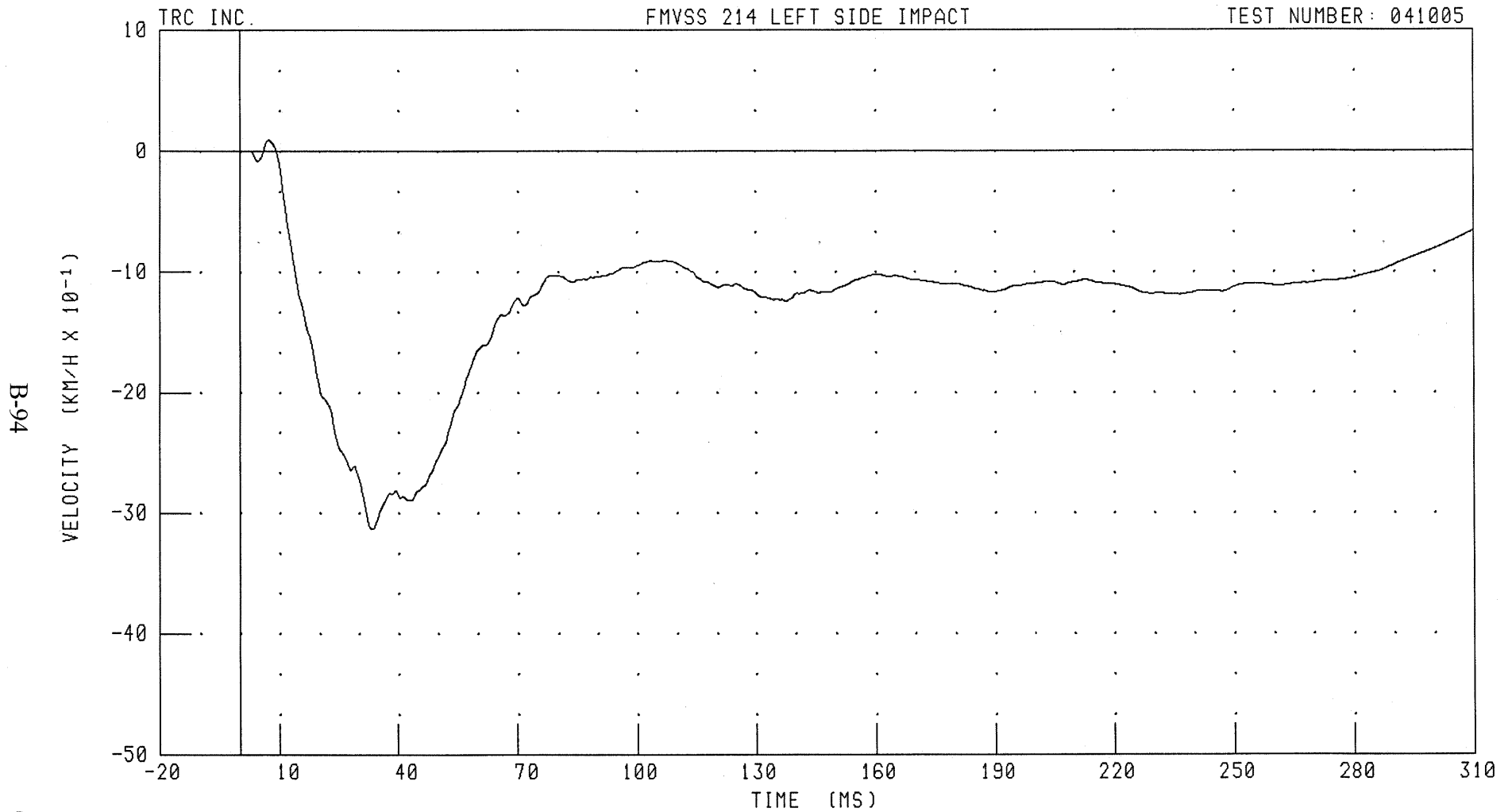
B-93

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT REAR SEAT X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRSXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.09 KM/H @ 7.12 MS; -3.13 KM/H @ 33.68 MS

B-94

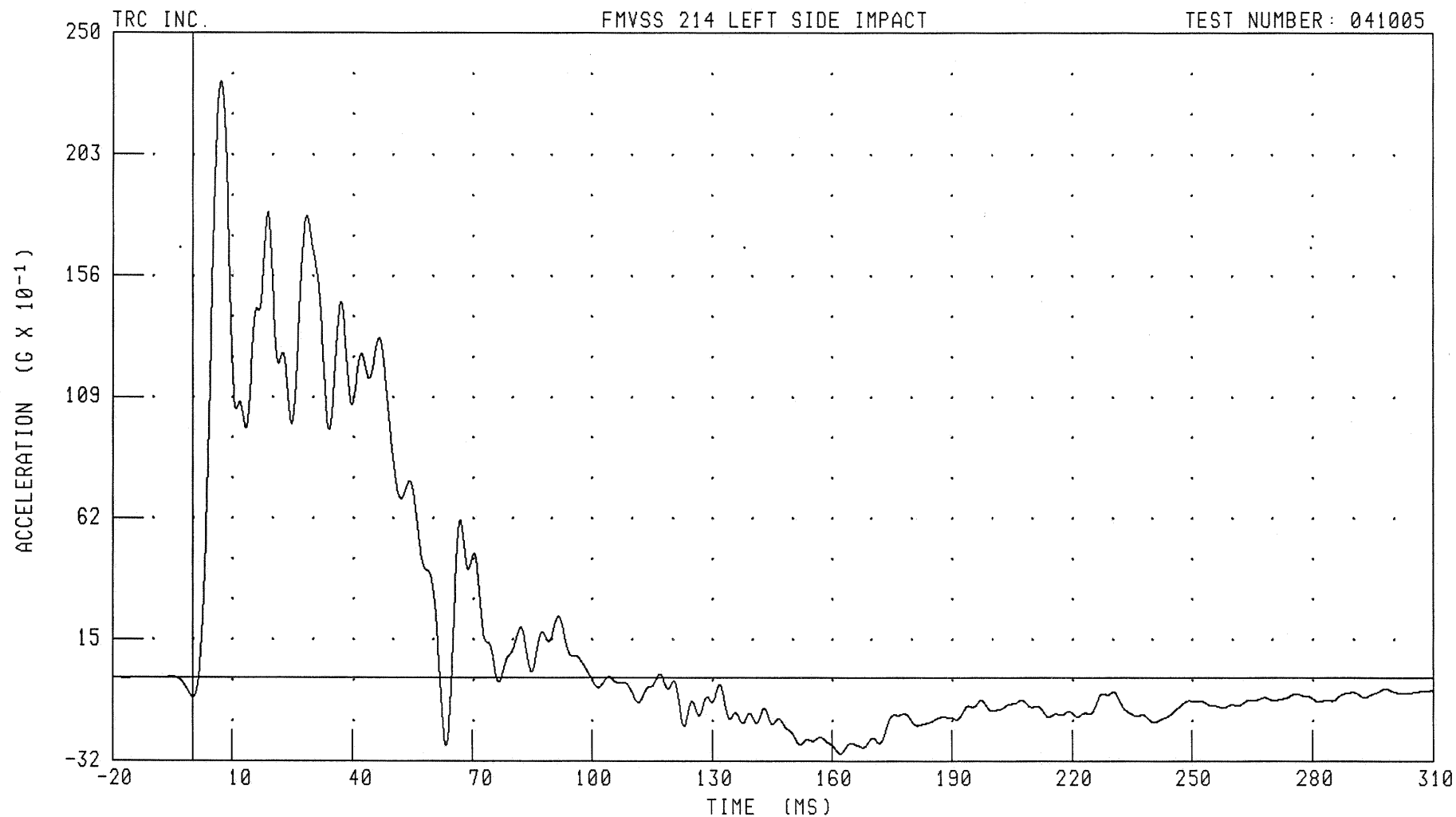
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

RIGHT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRSYG1

FILTER: CH. CLASS 60

PEAK DATA: 23.12 G @ 7.20 MS; -2.92 G @ 162.16 MS

B-95

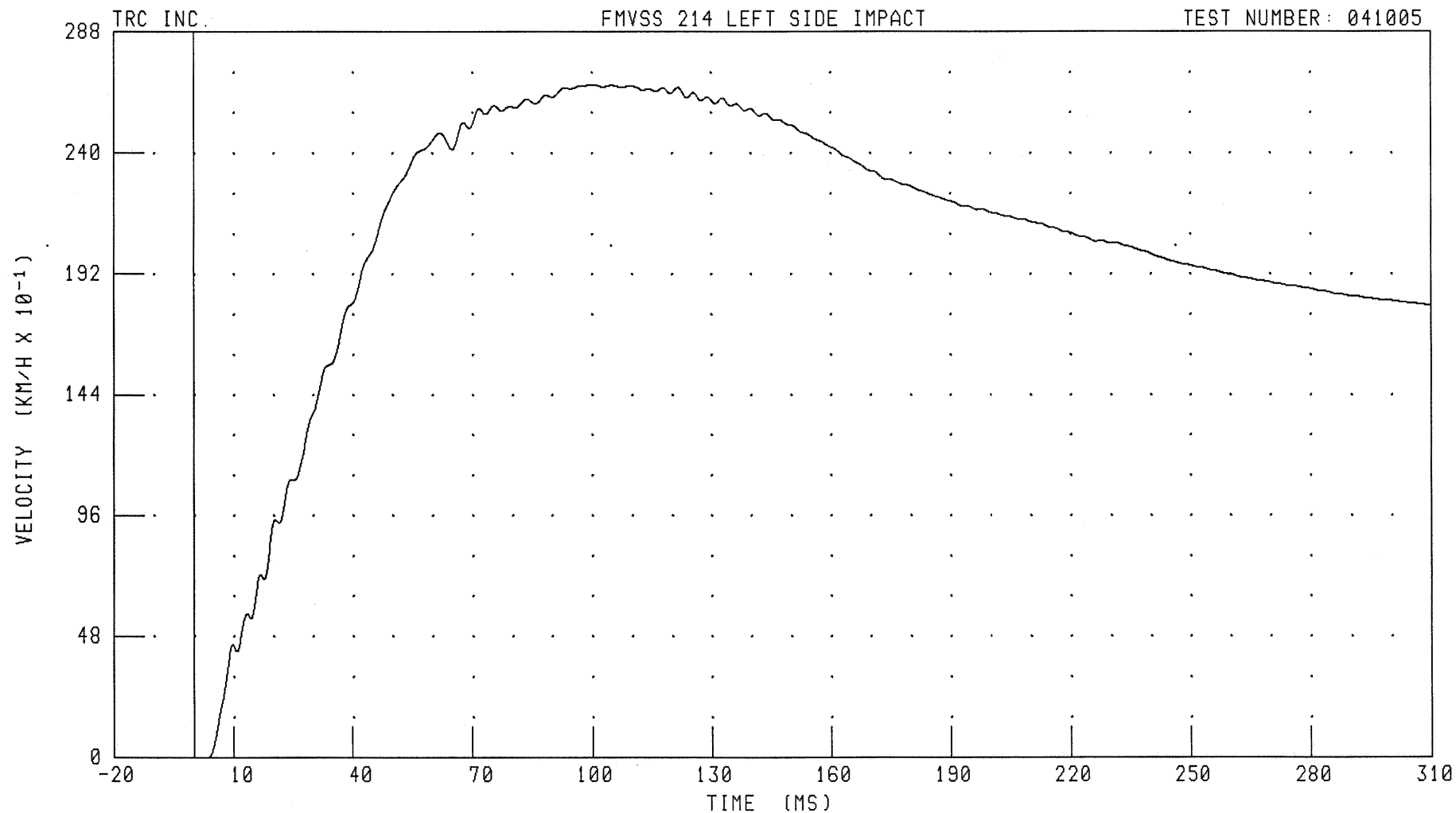
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

RIGHT SIDE SILL AT REAR SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRSYV1

FILTER: CH. CLASS 180

PEAK DATA: 26.70 KM/H @ 100.48 MS; -0.01 KM/H @ 3.12 MS

B-96

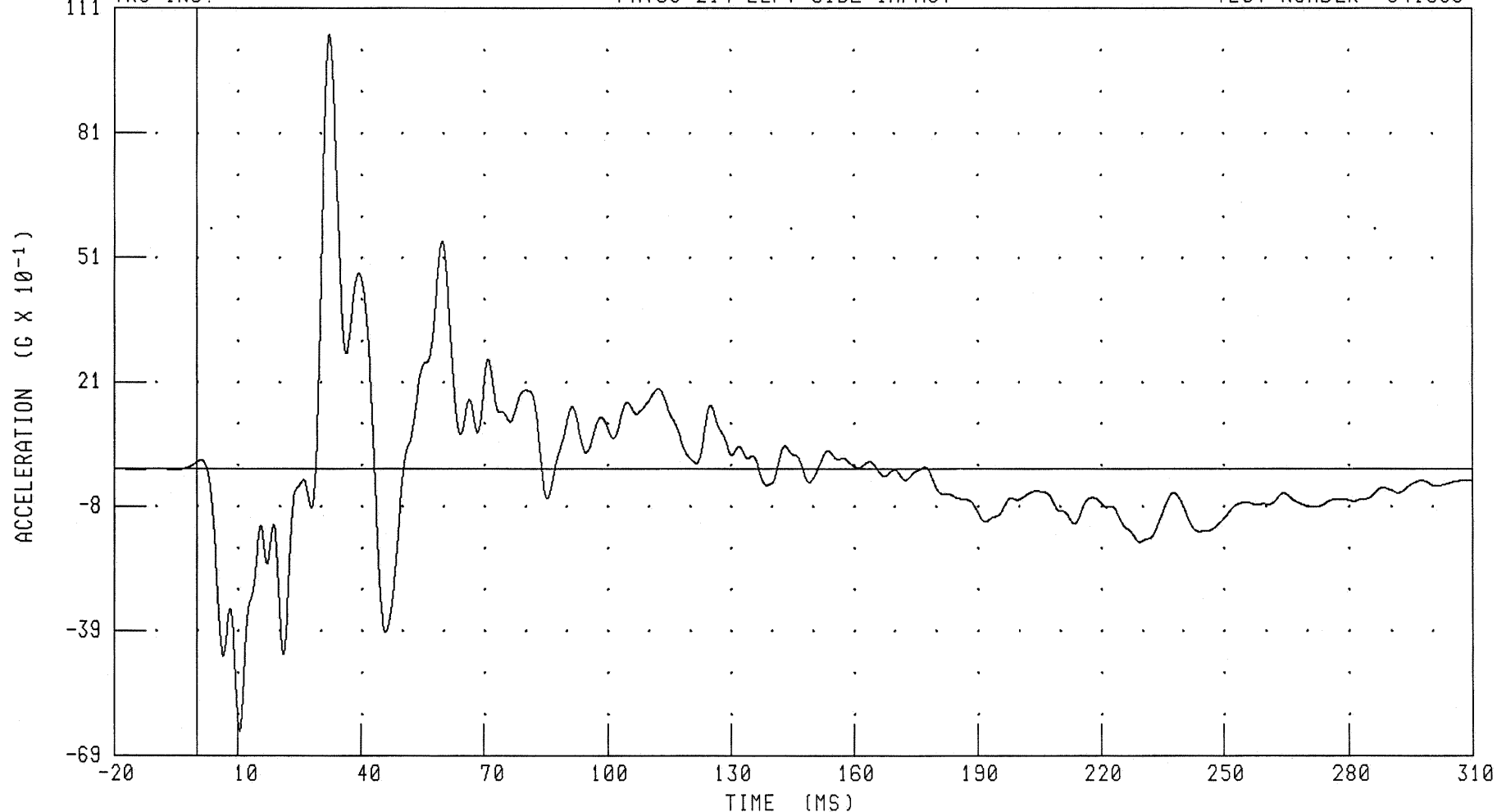
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT REAR SEAT Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005

TRC INC.



CHANNEL: RRSZG1 FILTER: CH. CLASS 60

PEAK DATA: 10.47 G @ 32.24 MS; -6.31 G @ 10.40 MS

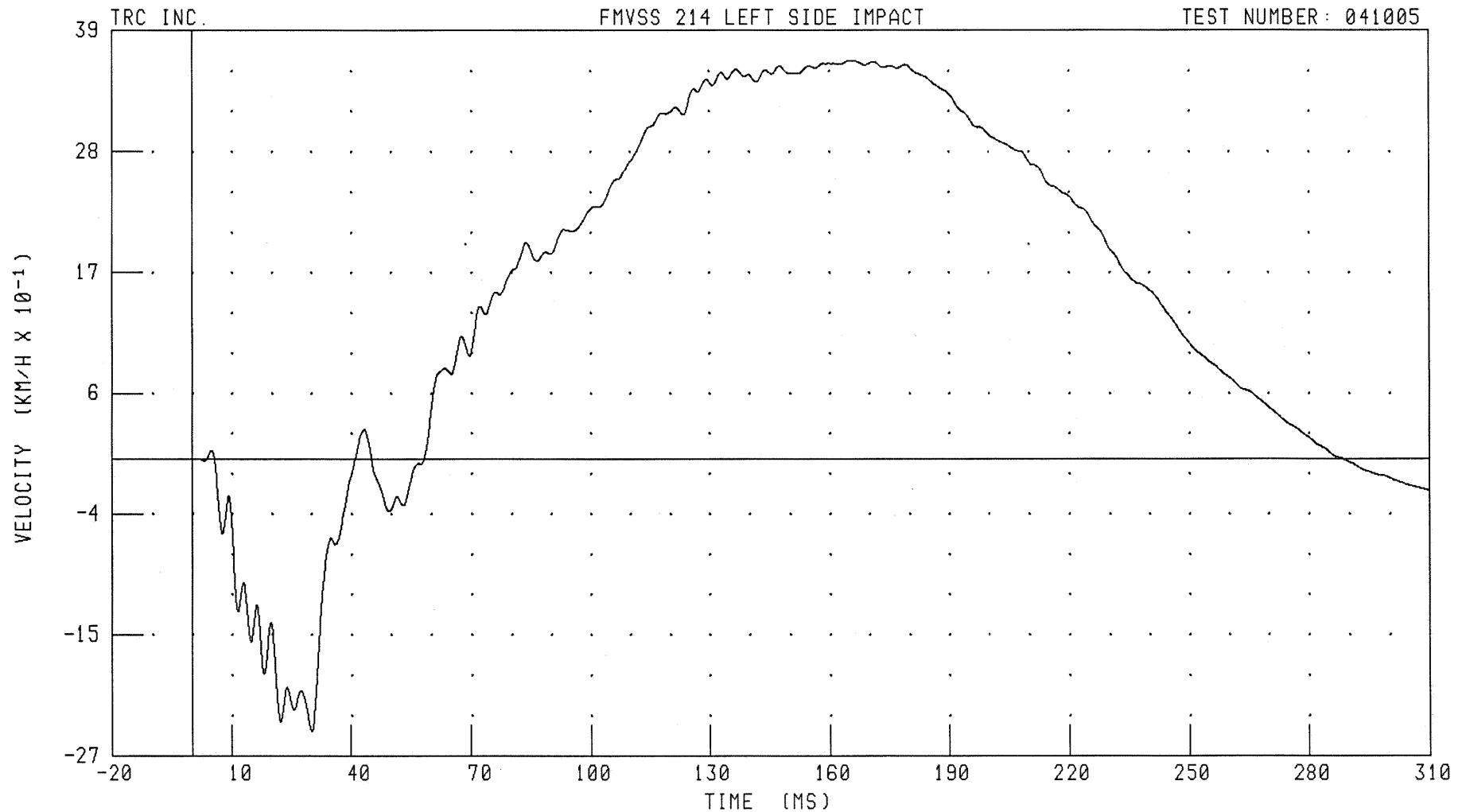
B-97

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT REAR SEAT Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRSZV1

FILTER: CH. CLASS 180

PEAK DATA: 3.62 KM/H @ 165.76 MS; -2.48 KM/H @ 30.16 MS

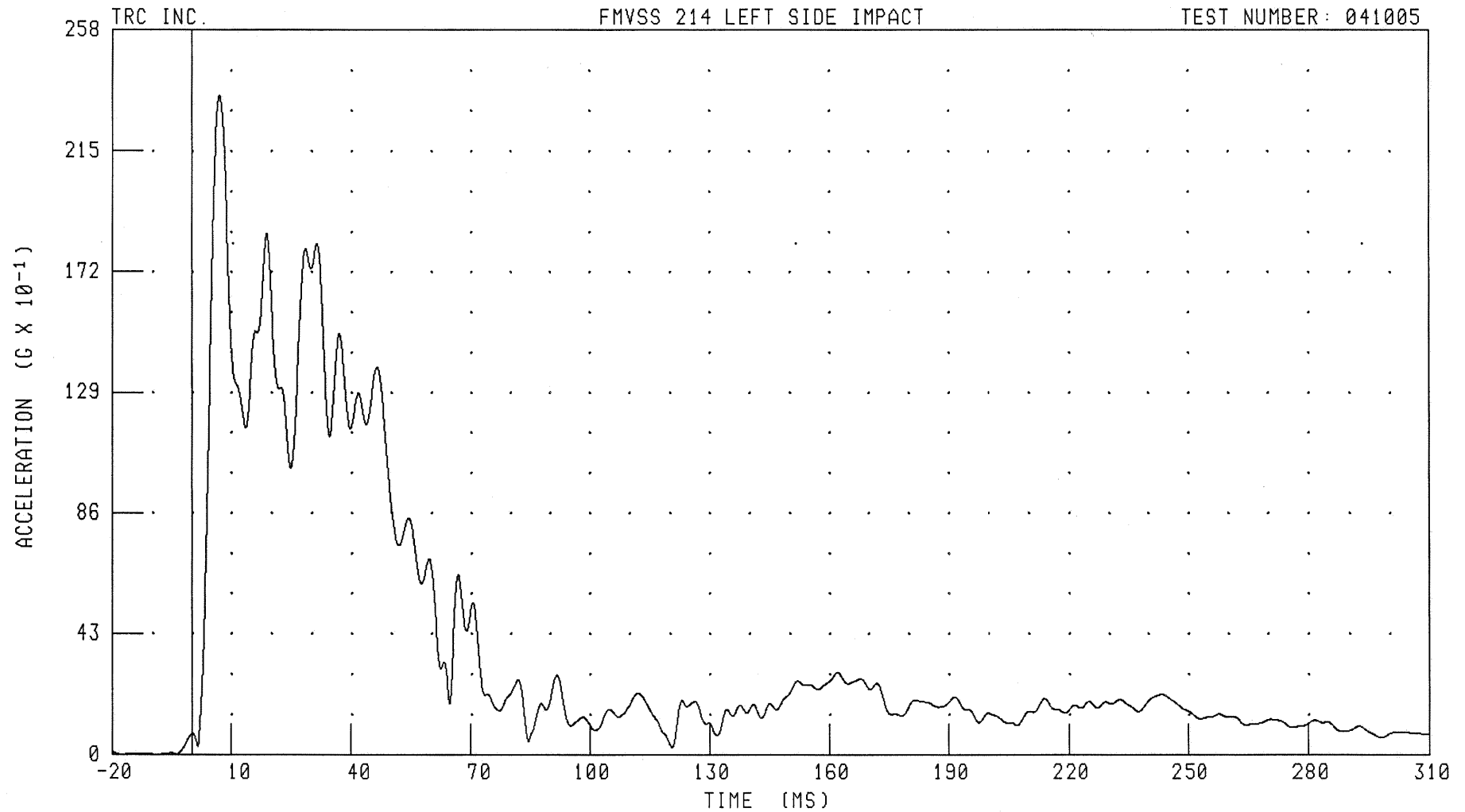
B-98

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRSRG1

FILTER: CH. CLASS 60

PEAK DATA: 23.48 G @ 7.12 MS; 0.00 G @ -17.84 MS

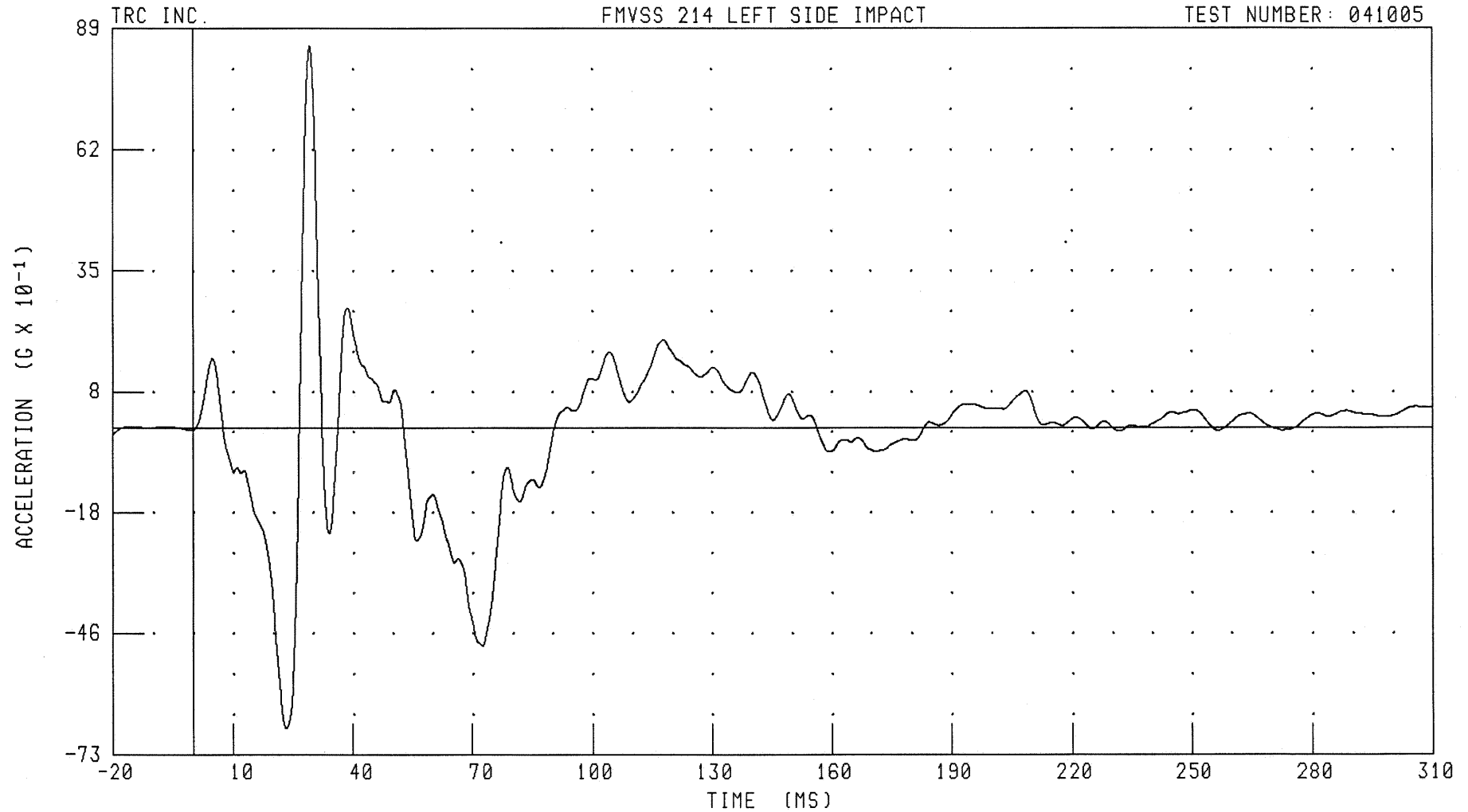
B-99

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
REAR FLOORPAN ABOVE AXLE X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RDKXG1

FILTER: CH. CLASS 60

PEAK DATA: 8.52 G @ 29.36 MS; -6.72 G @ 23.20 MS

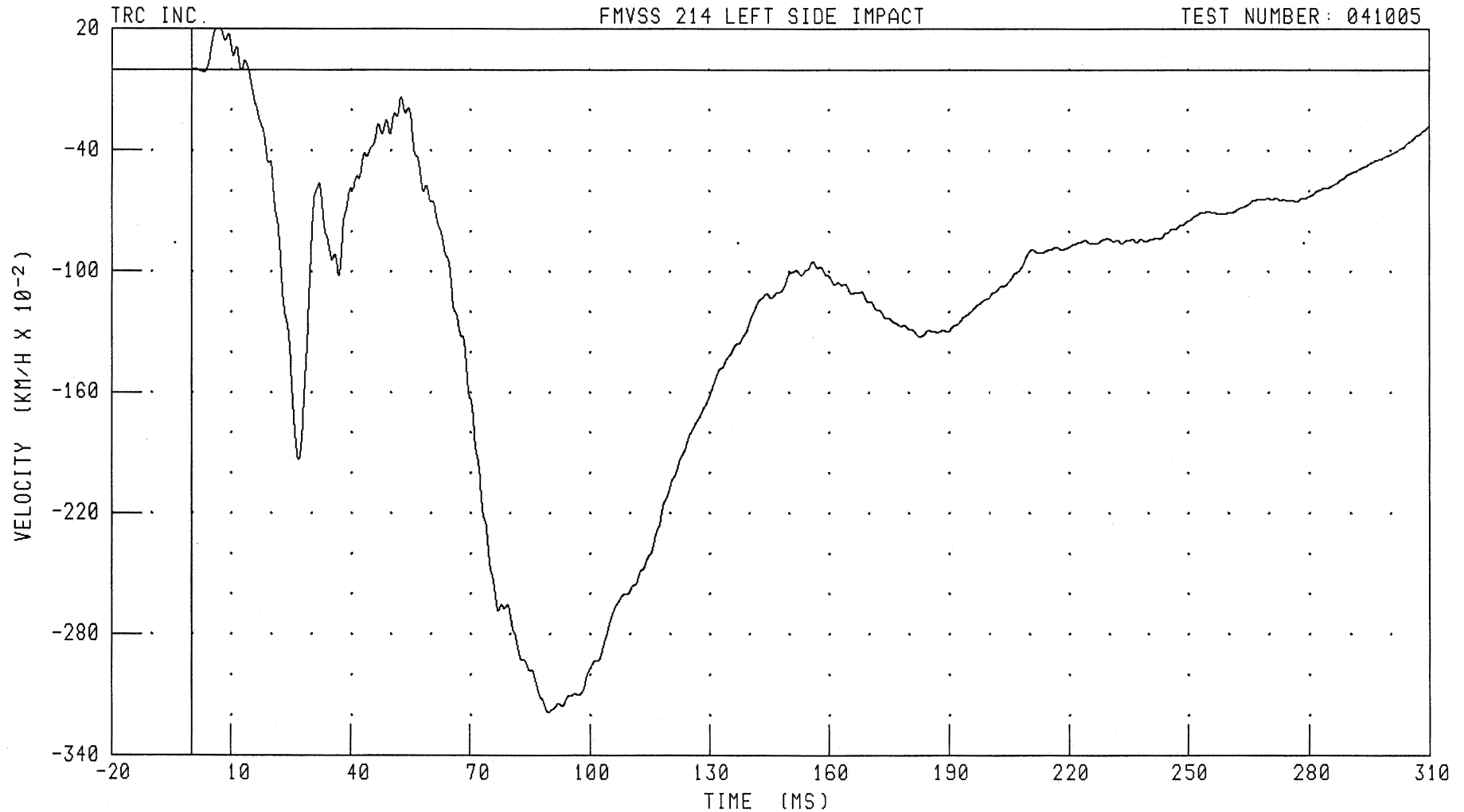
B-100

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
REAR FLOORPAN ABOVE AXLE X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RDKXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.22 KM/H @ 7.04 MS; -3.19 KM/H @ 89.68 MS

B-101

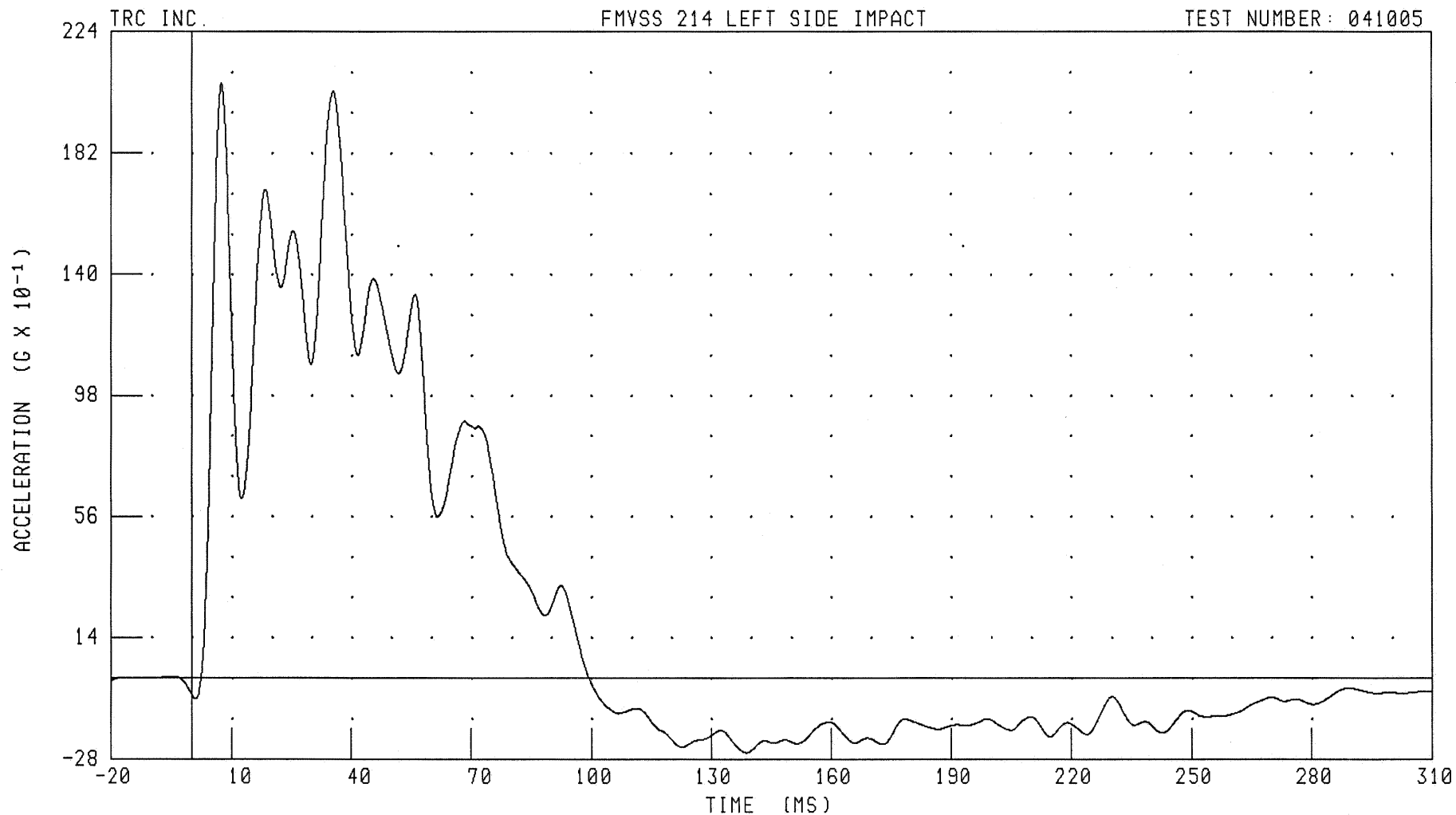
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

REAR FLOORPAN ABOVE AXLE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RDKYG1

FILTER: CH. CLASS 60

PEAK DATA: 20.61 G @ 7.44 MS; -2.57 G @ 138.88 MS

B-102

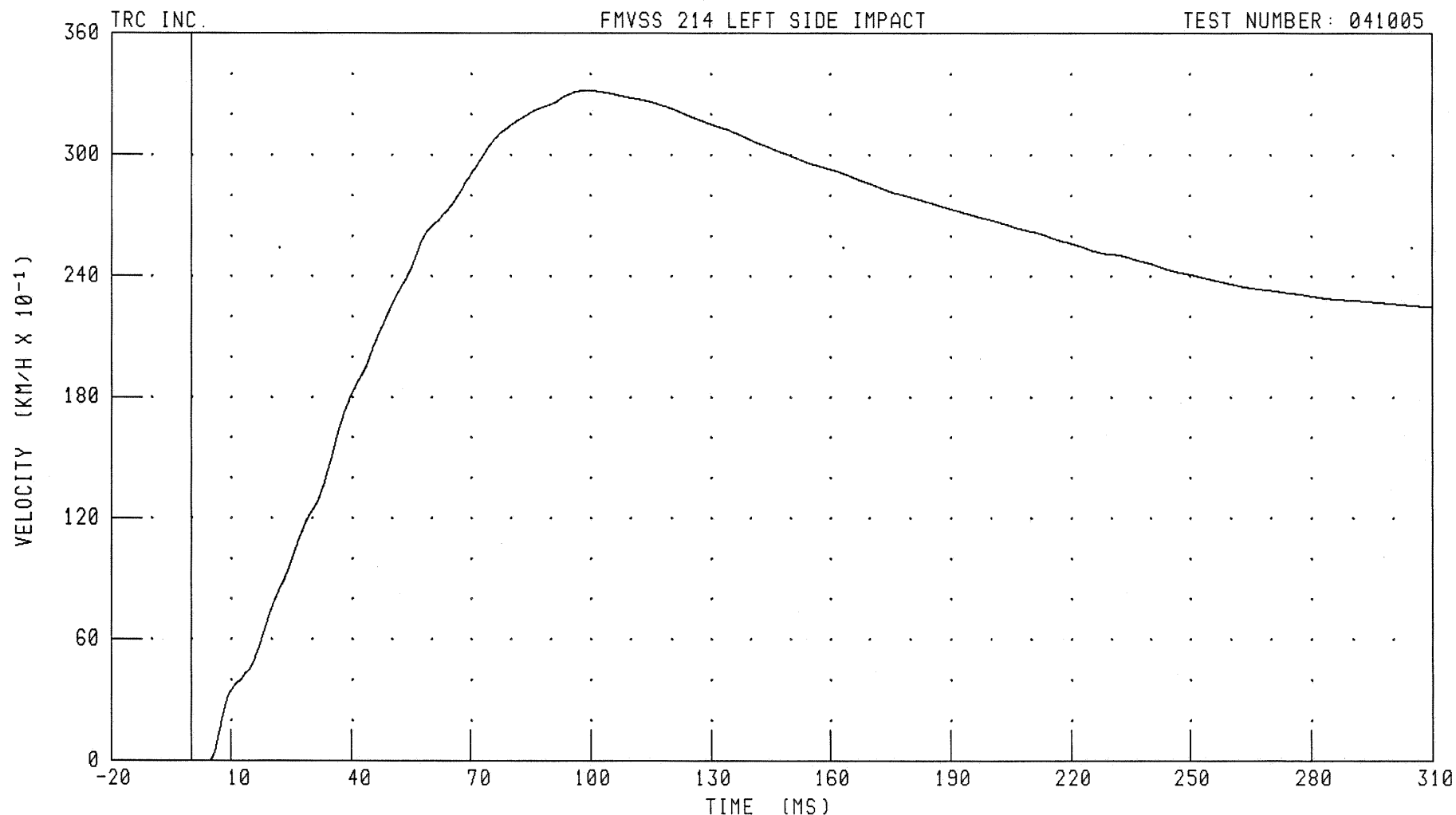
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

REAR FLOORPAN ABOVE AXLE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RDKYV1

FILTER: CH. CLASS 180

PEAK DATA: 33.16 KM/H @ 98.80 MS; -0.03 KM/H @ 4.24 MS

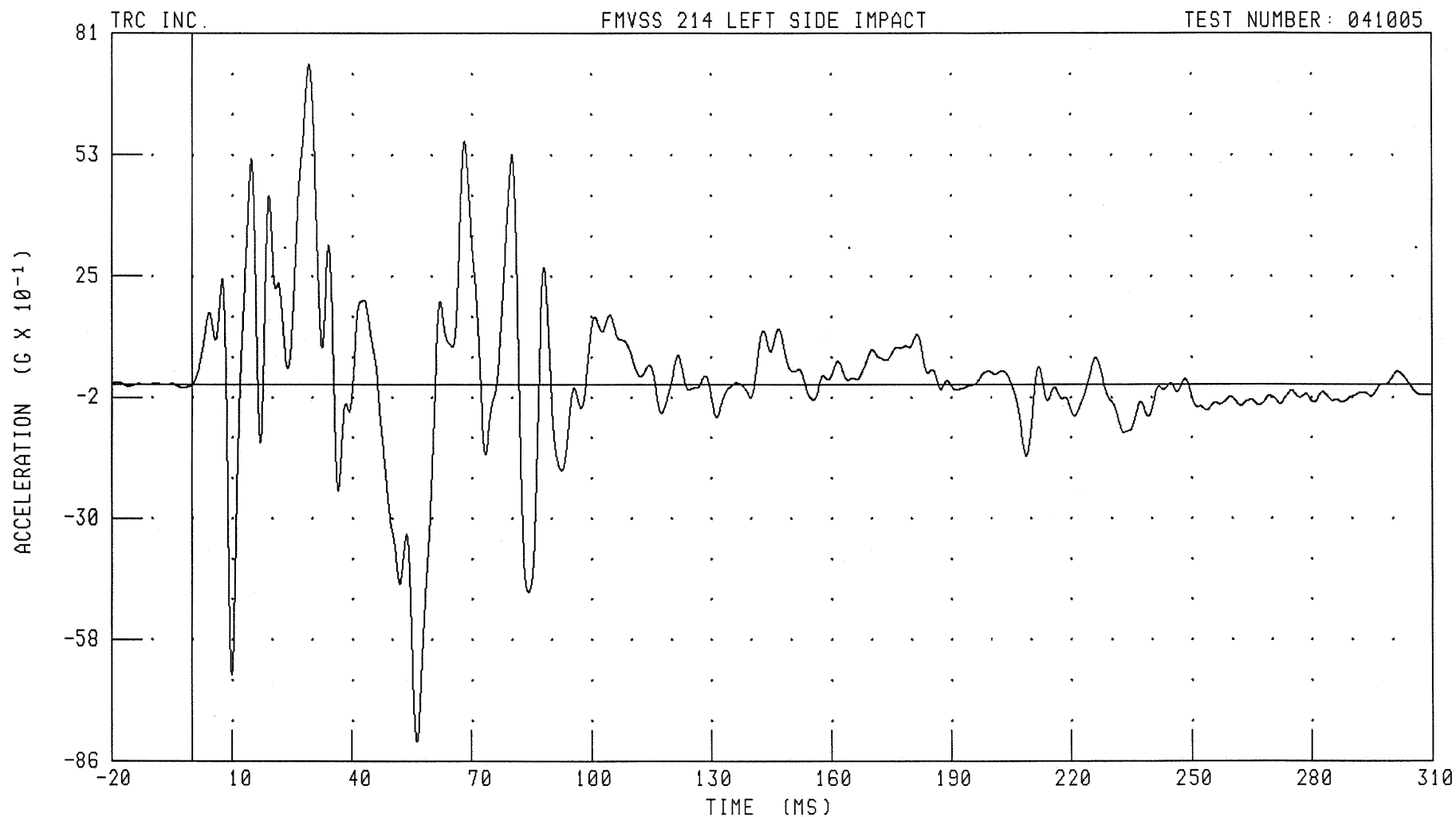
B-103

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
REAR FLOORPAN ABOVE AXLE Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RDKZG1

FILTER: CH. CLASS 60

PEAK DATA: 7.39 G @ 29.36 MS; -8.26 G @ 56.40 MS

B-104

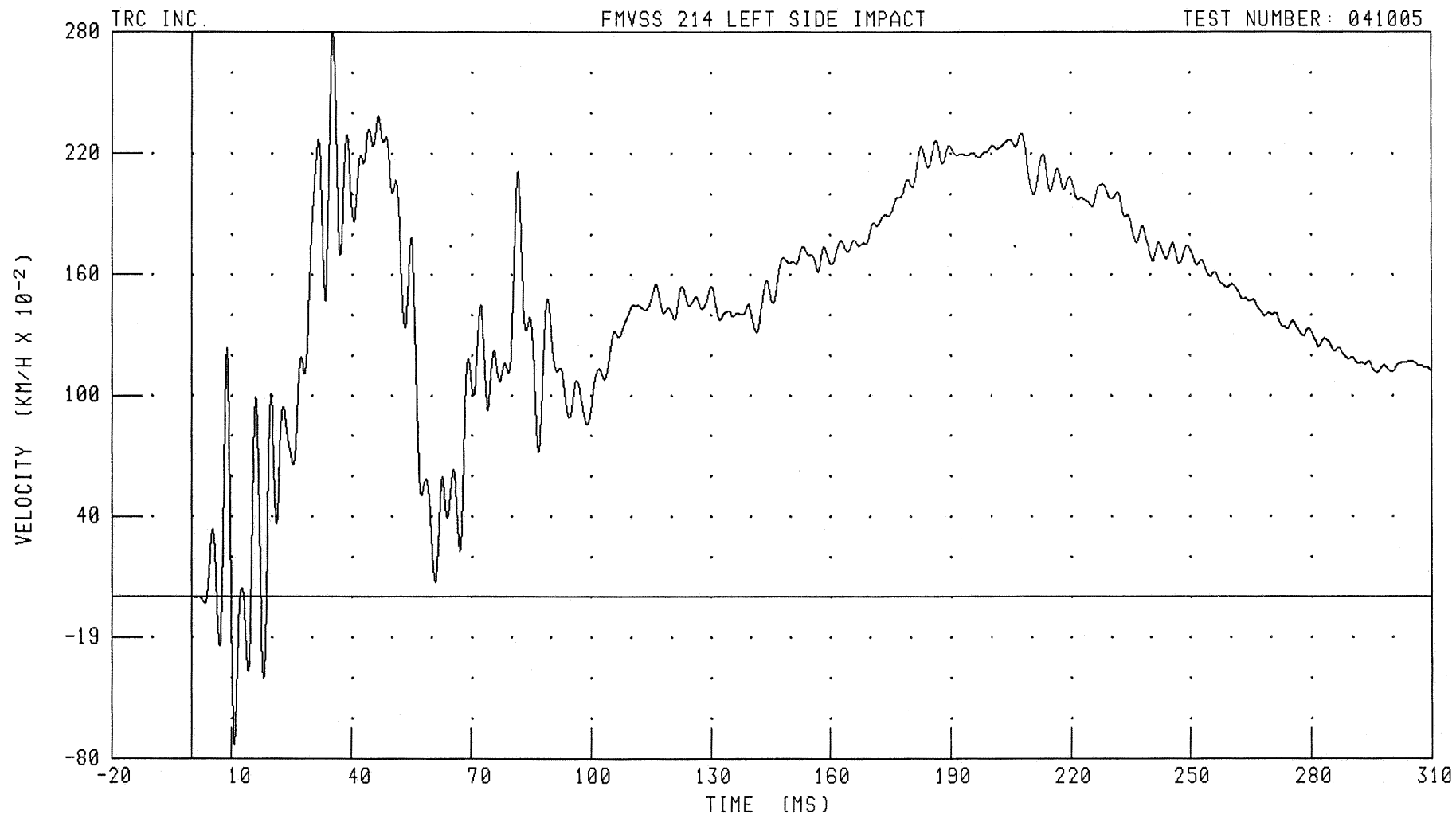
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

REAR FLOORPAN ABOVE AXLE Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RDKZV1 FILTER: CH. CLASS 180

PEAK DATA: 2.81 KM/H @ 35.28 MS; -0.73 KM/H @ 10.64 MS

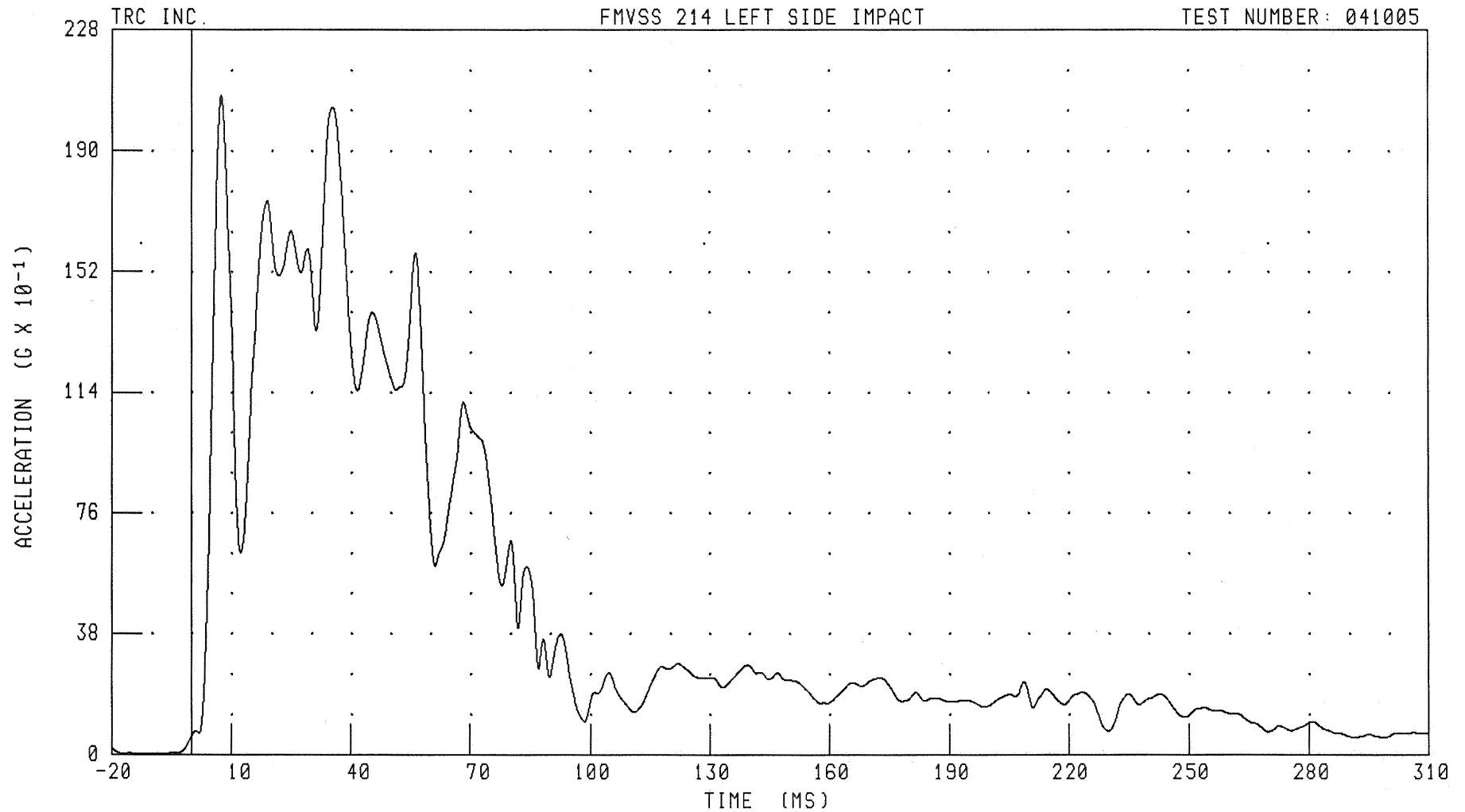
B-105

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RDKRG1

FILTER: CH. CLASS 60

PEAK DATA: 20.76 G @ 7.44 MS; 0.02 G @ -12.40 MS

B-106

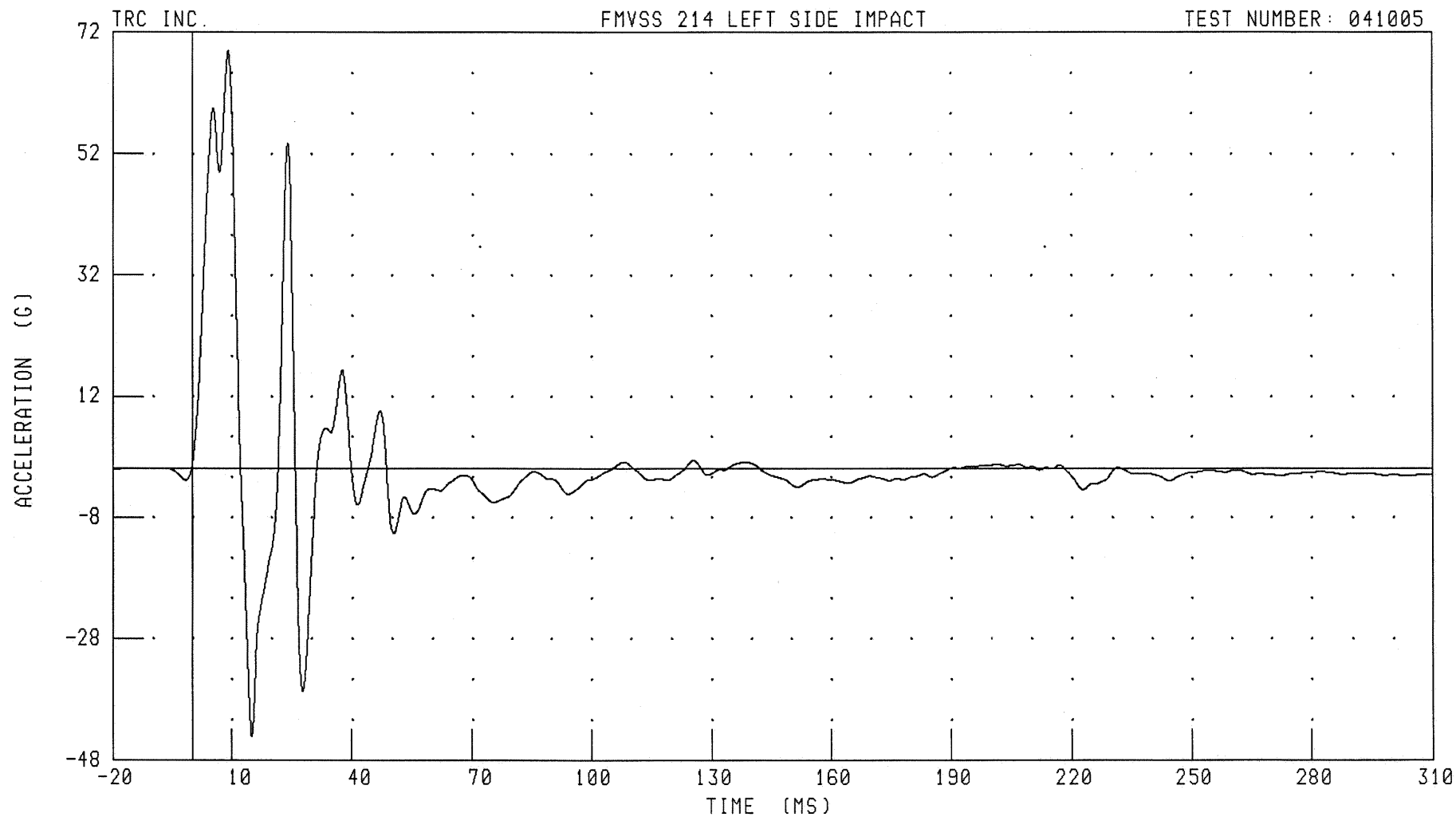
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT SIDE SILL AT FRONT SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LFSYG1

FILTER: CH. CLASS 60

PEAK DATA: 68.96 G @ 9.12 MS; -44.18 G @ 15.04 MS

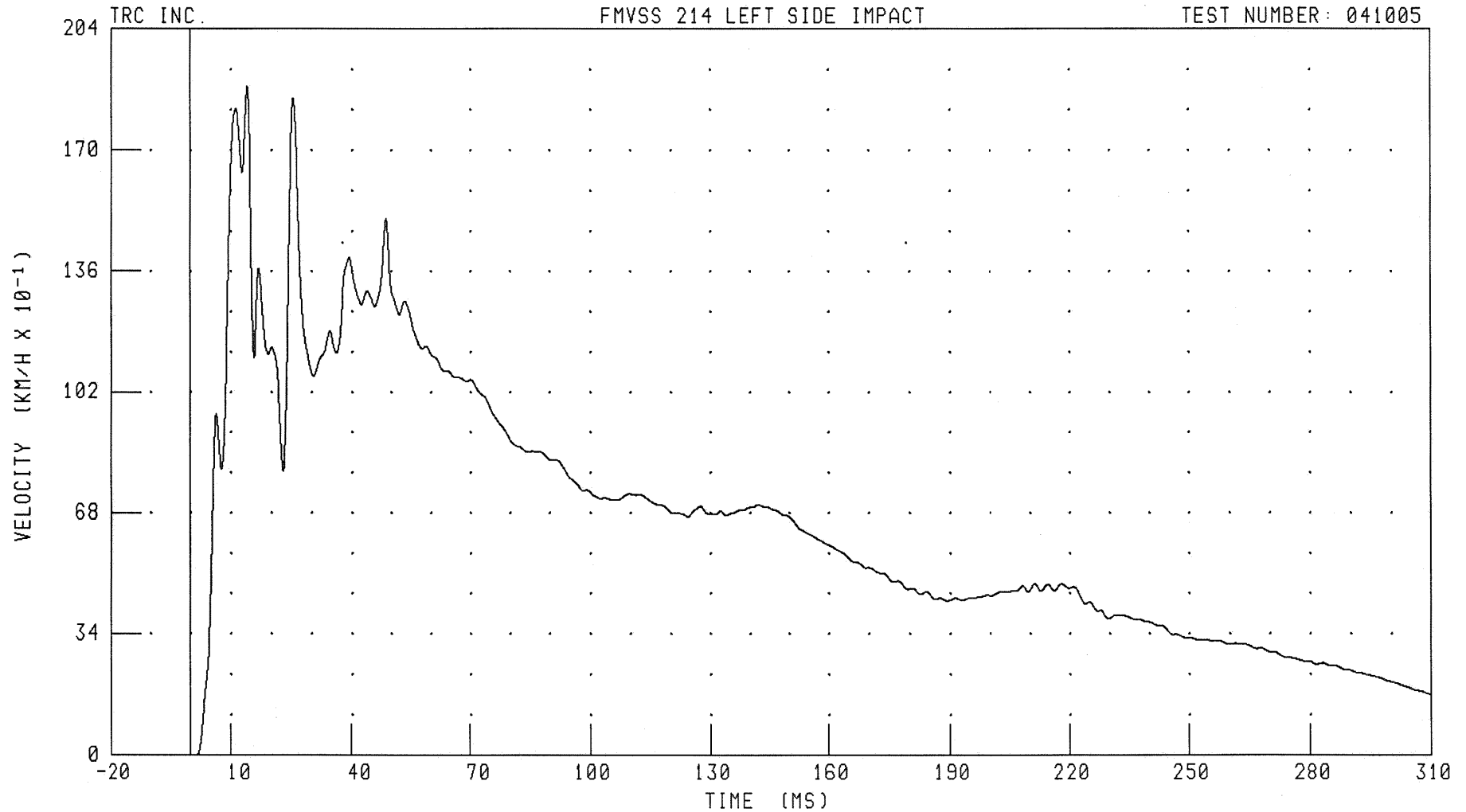
B-107

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LFSYV1

FILTER: CH. CLASS 180

PEAK DATA: 18.78 KM/H @ 14.08 MS; -0.04 KM/H @ 1.36 MS

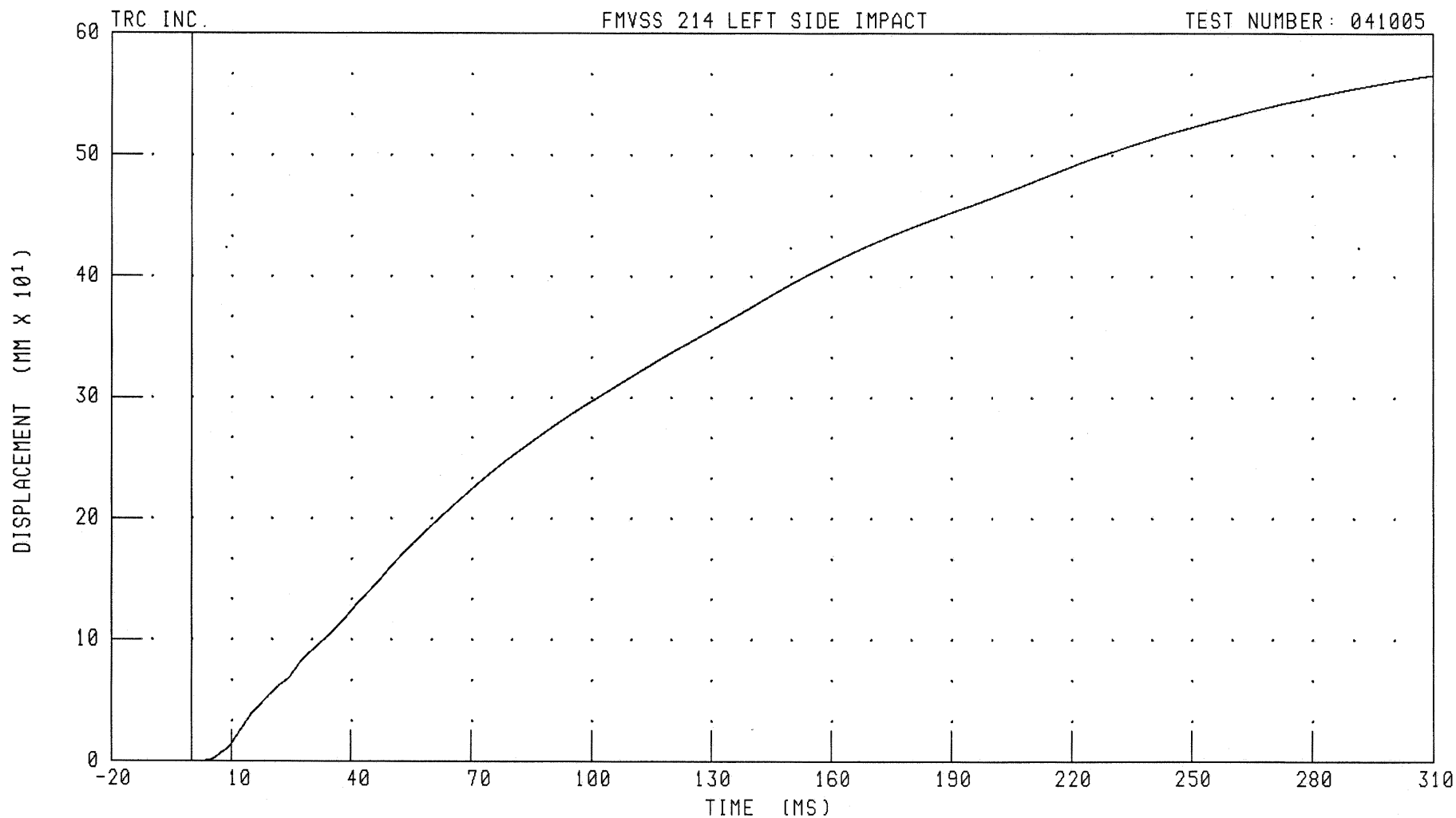
B-108

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT SIDE SILL AT FRONT SEAT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LFSYD1

FILTER: CH. CLASS 180

PEAK DATA: 565.97 MM @ 310.00 MS; -0.01 MM @ 1.84 MS

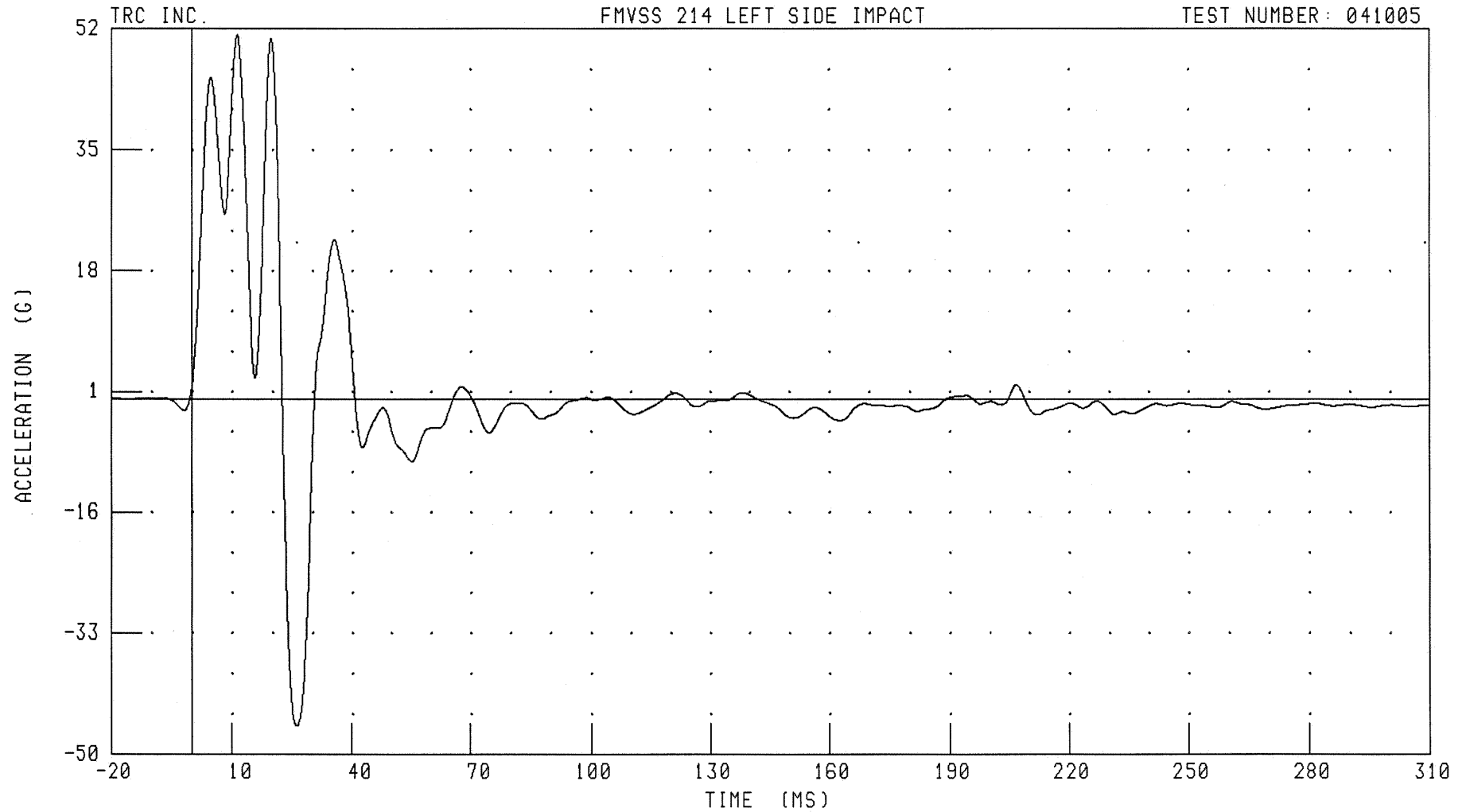
B-109

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRSYG1

FILTER: CH. CLASS 60

PEAK DATA: 51.16 G @ 11.36 MS; -46.05 G @ 26.00 MS

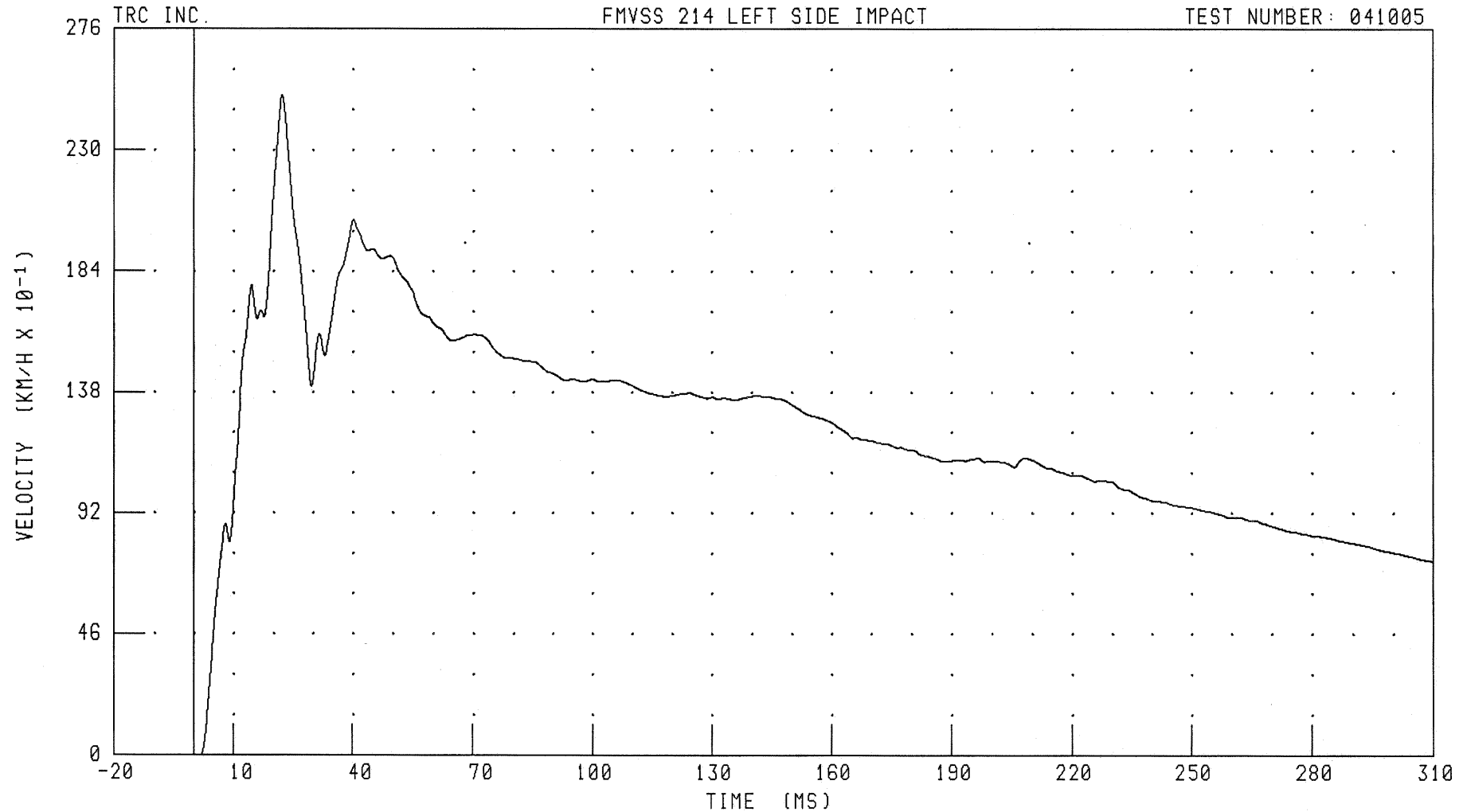
B-110

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT SIDE SILL AT REAR SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 25.09 KM/H @ 22.32 MS; -0.04 KM/H @ 1.44 MS

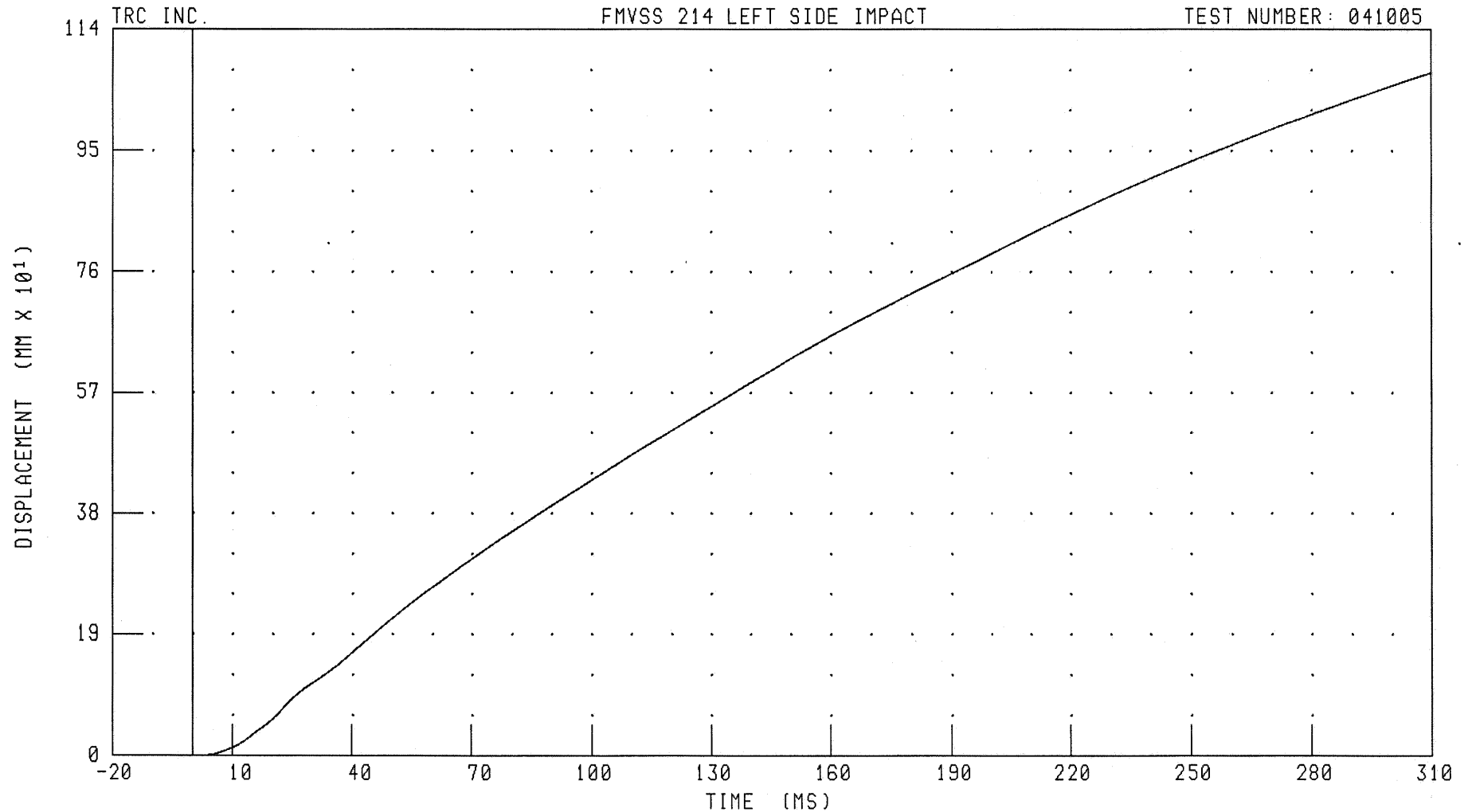
B-1111

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT SIDE SILL AT REAR SEAT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRSYD1

FILTER: CH. CLASS 180

PEAK DATA: 1072.49 MM @ 310.00 MS; -0.01 MM @ 1.92 MS

B-112

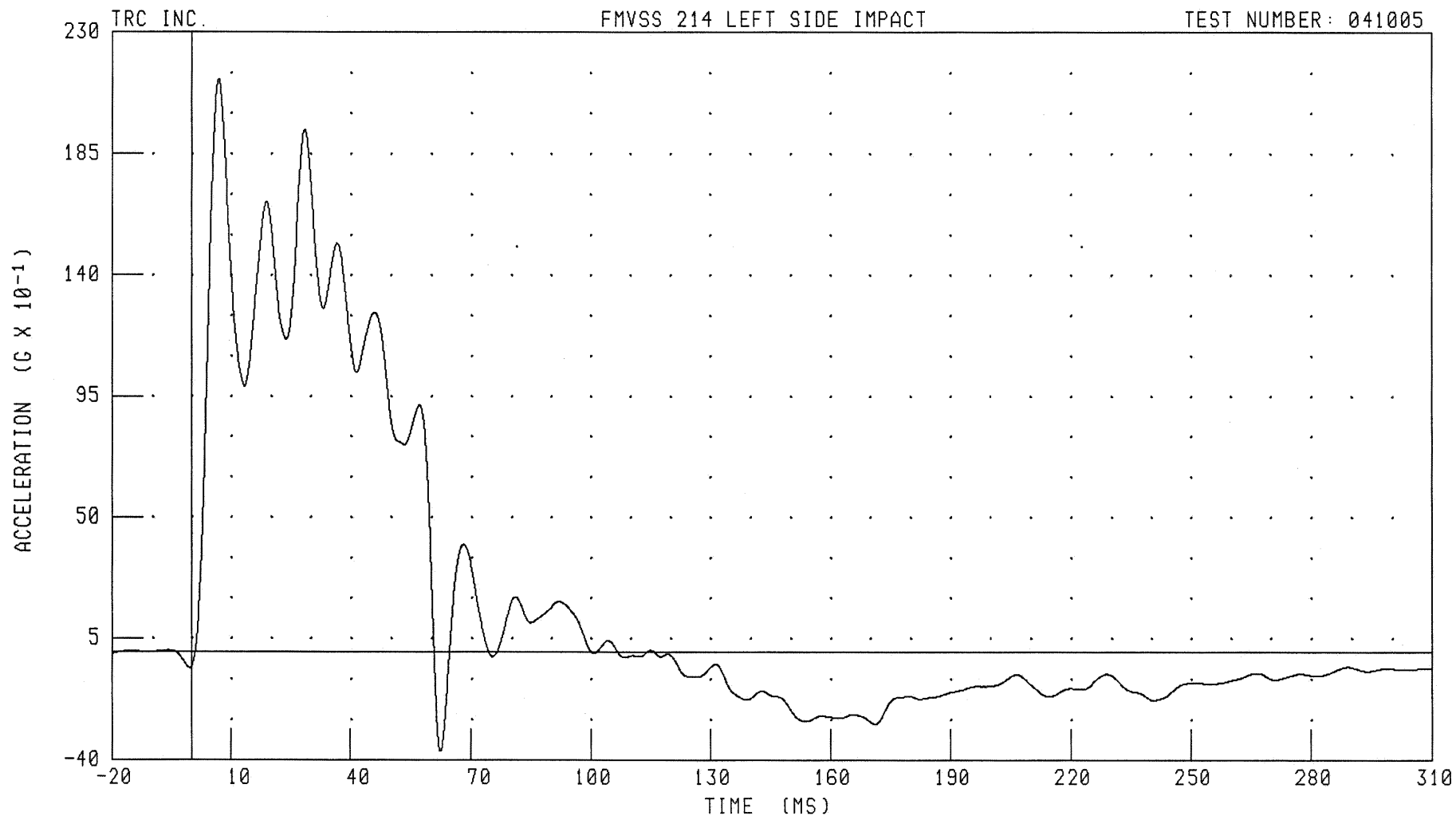
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRTYG1

FILTER: CH. CLASS 60

PEAK DATA: 21.26 G @ 6.96 MS; -3.68 G @ 62.24 MS

B-113

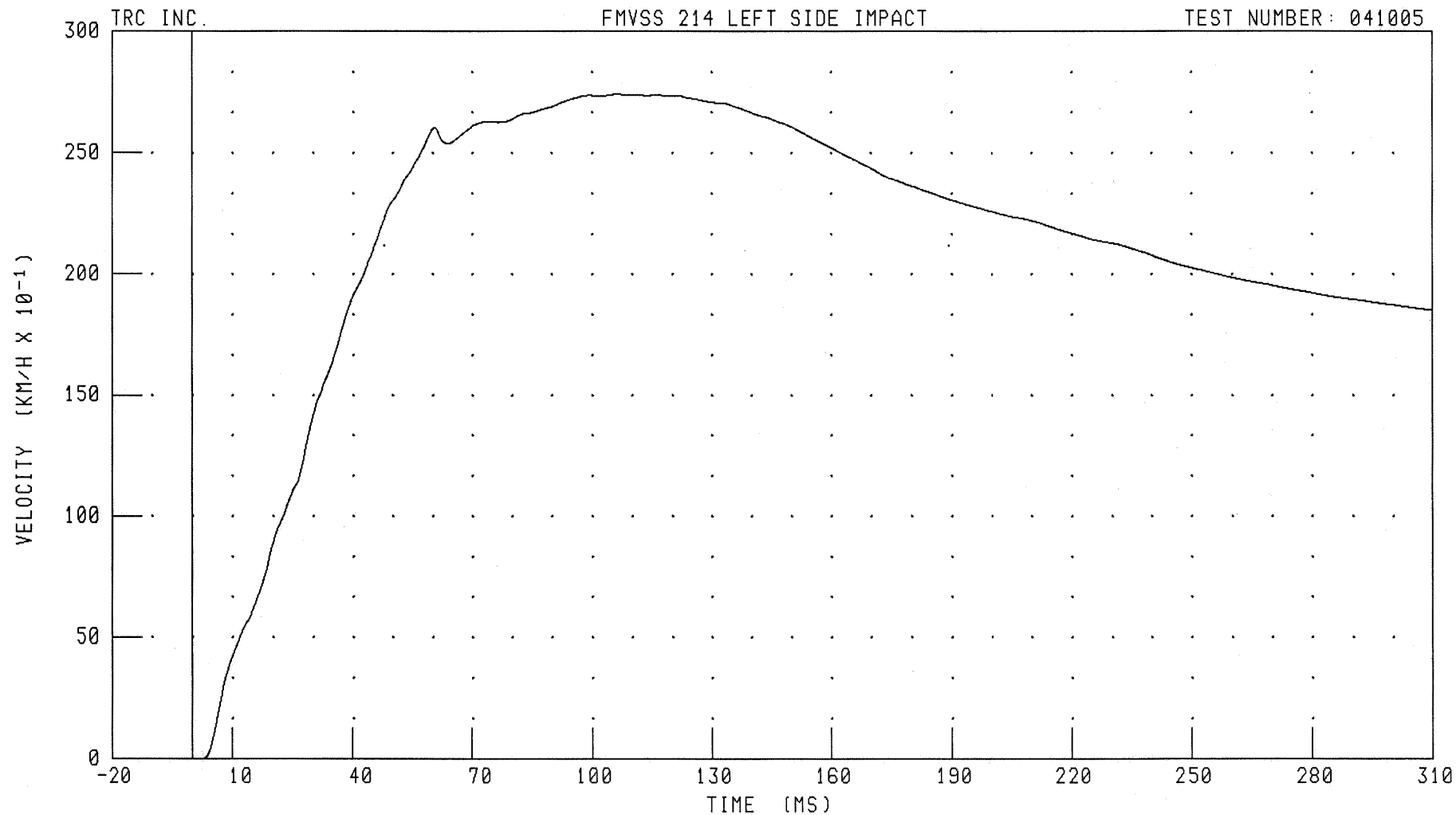
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRTYV1

FILTER: CH. CLASS 180

PEAK DATA: 27.42 KM/H @ 106.24 MS; 0.00 KM/H @ 2.32 MS

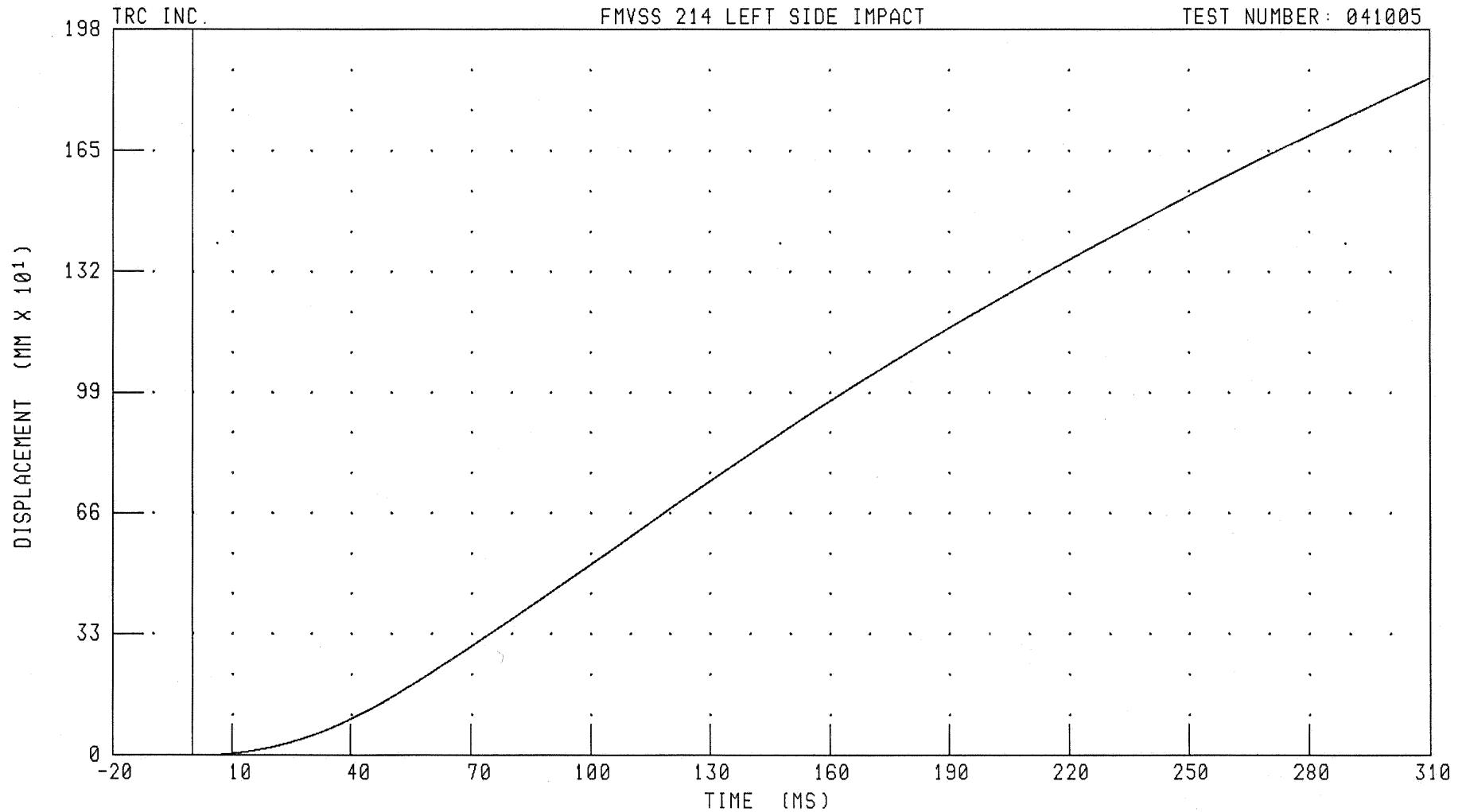
B-114

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: RRTYD1

FILTER: CH. CLASS 180

PEAK DATA: 1848.88 MM @ 310.00 MS; 0.00 MM @ 0.00 MS

B-115

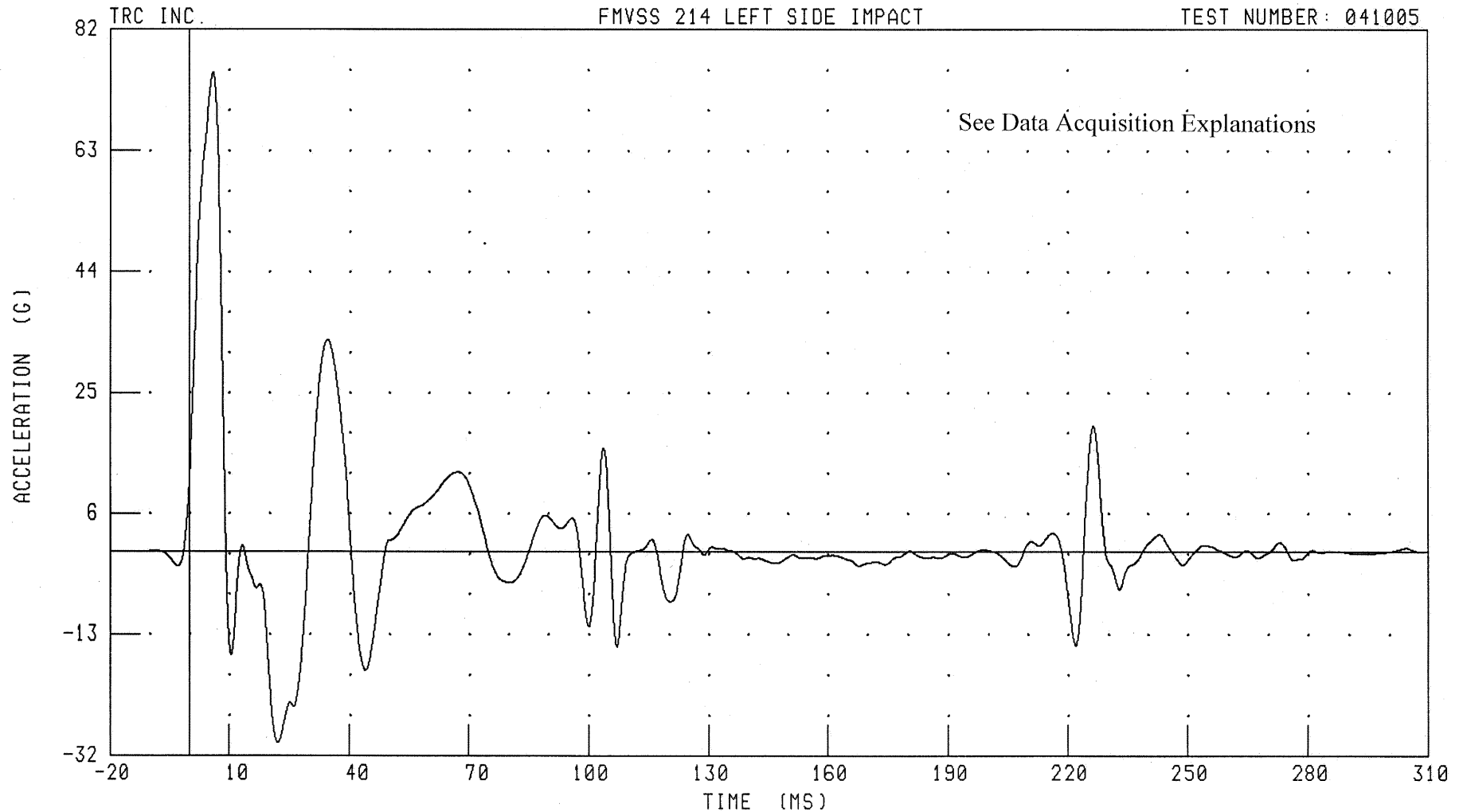
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT LOWER A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLAYG1 FILTER: CH. CLASS 60

PEAK DATA: 75.35 G @ 5.92 MS; -29.98 G @ 22.16 MS

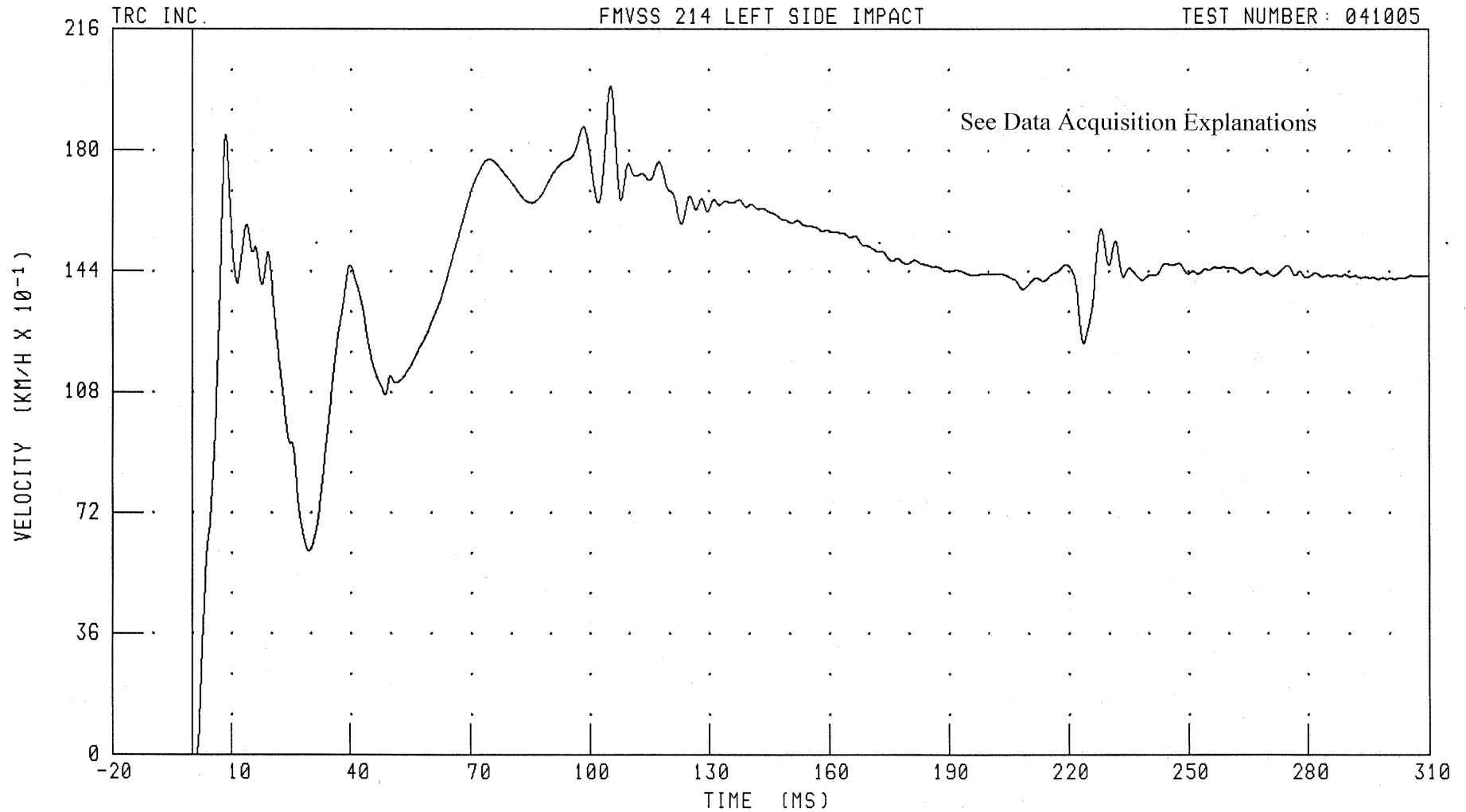
B-116

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT LOWER A-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLAYV1

FILTER: CH. CLASS 180

PEAK DATA: 19.91 KM/H @ 105.52 MS; -0.08 KM/H @ 0.72 MS

B-117

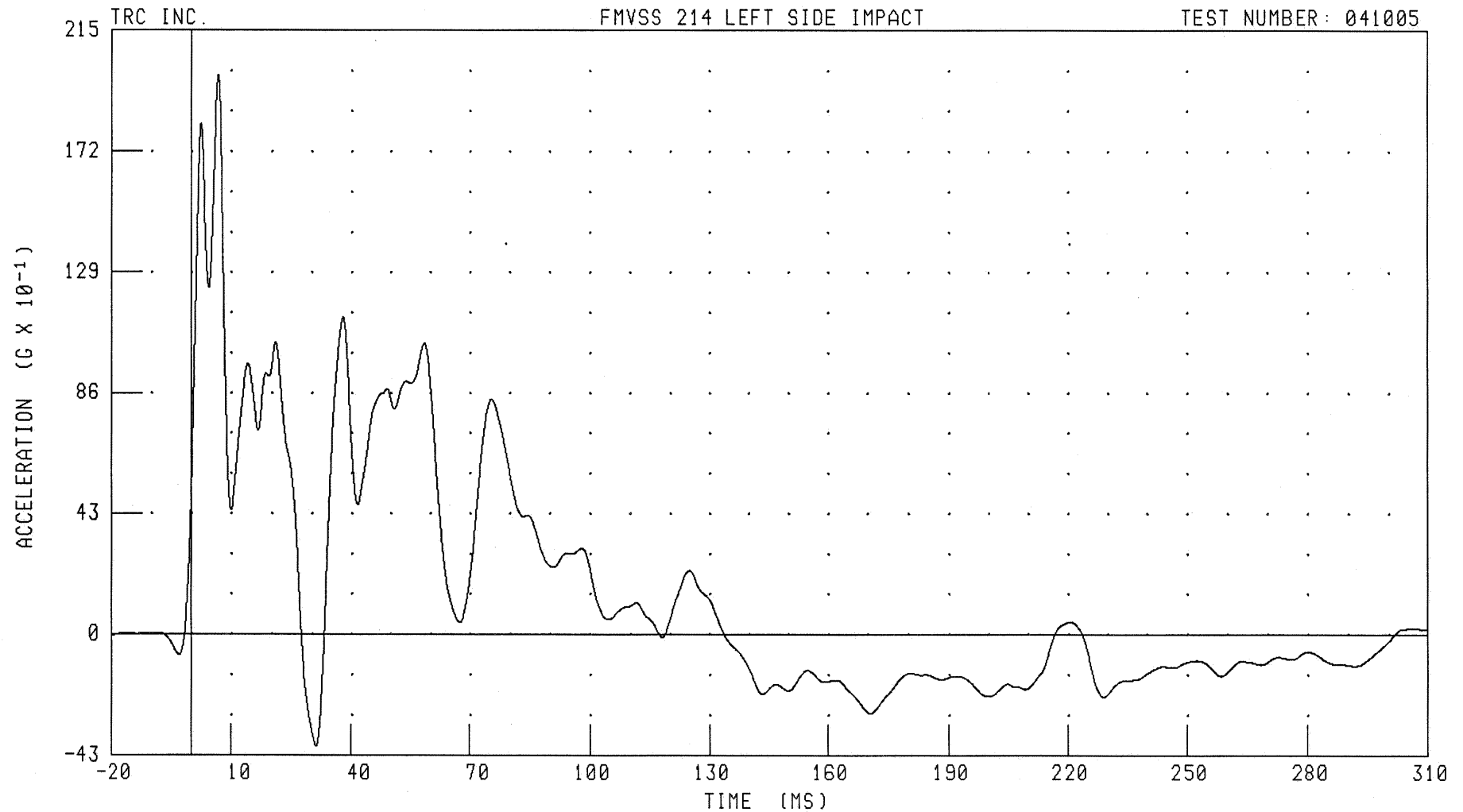
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT MIDDLE A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LMAYG1 FILTER: CH. CLASS 60

PEAK DATA: 19.92 G @ 6.80 MS; -3.98 G @ 31.12 MS

B-118

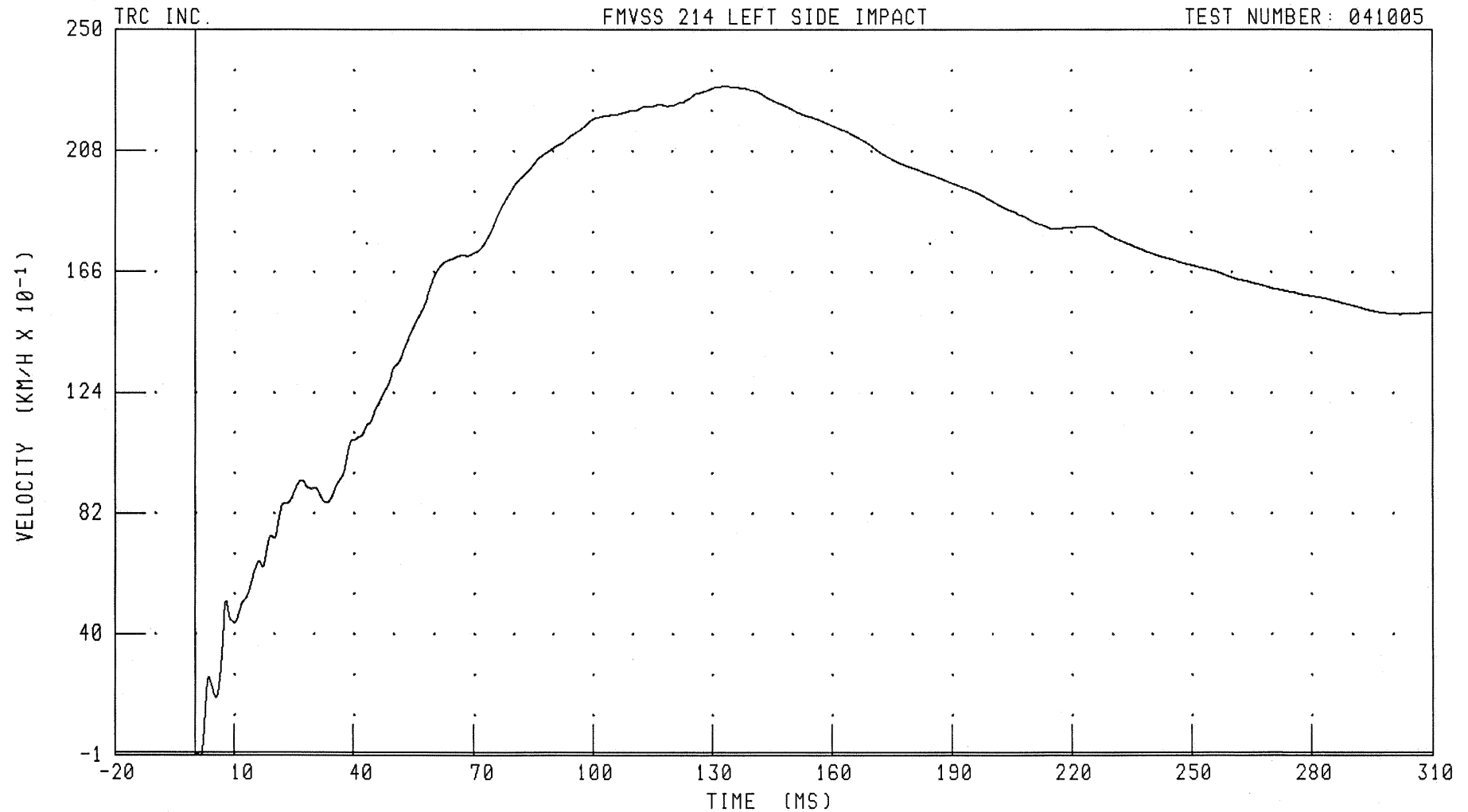
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT MIDDLE A-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LMAYV1

FILTER: CH. CLASS 180

PEAK DATA: 23.14 KM/H @ 133.28 MS; -0.14 KM/H @ 1.28 MS

B-119

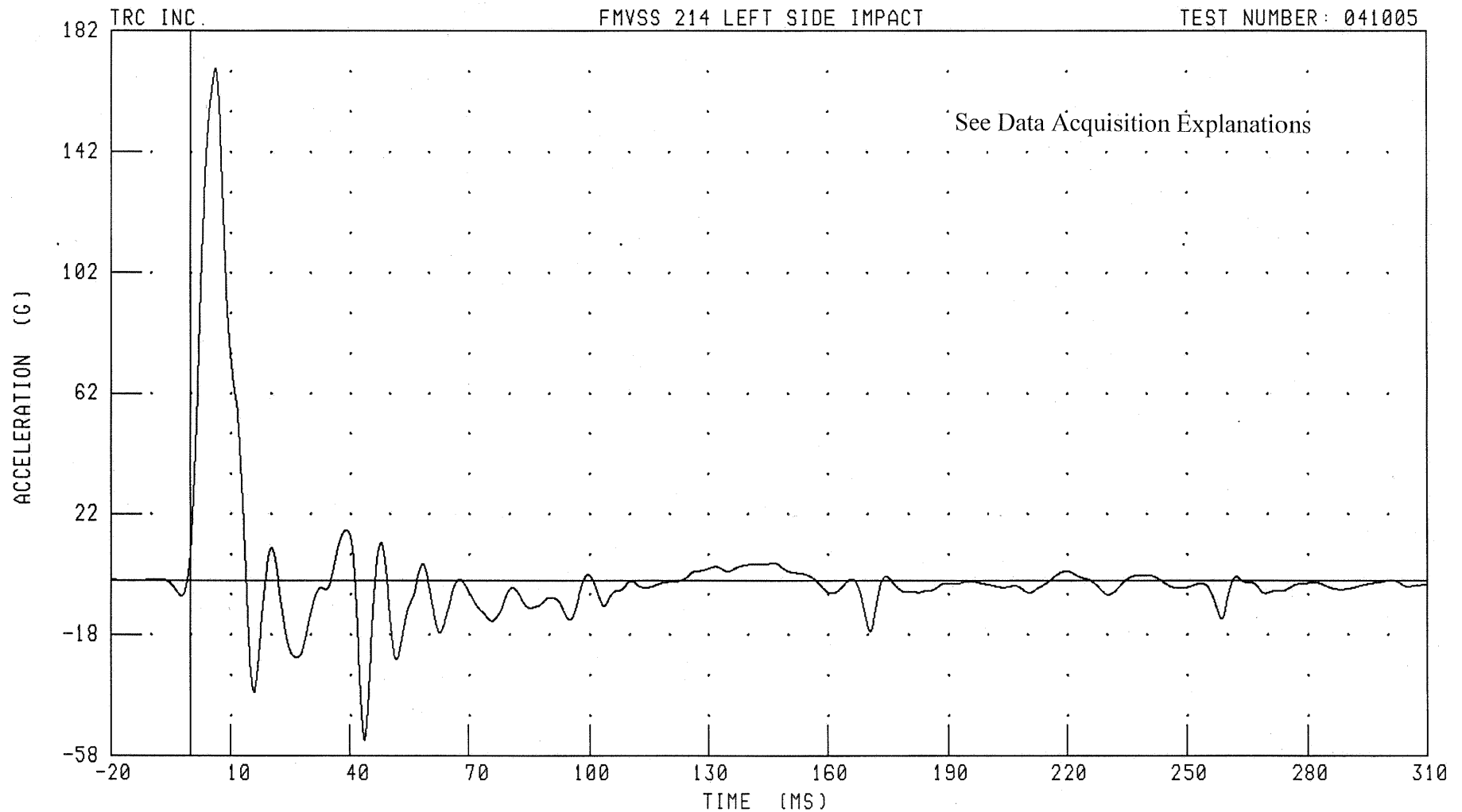
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT LOWER B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLBYG1

FILTER: CH. CLASS 60

PEAK DATA: 169.49 G @ 6.24 MS; -52.94 G @ 43.68 MS

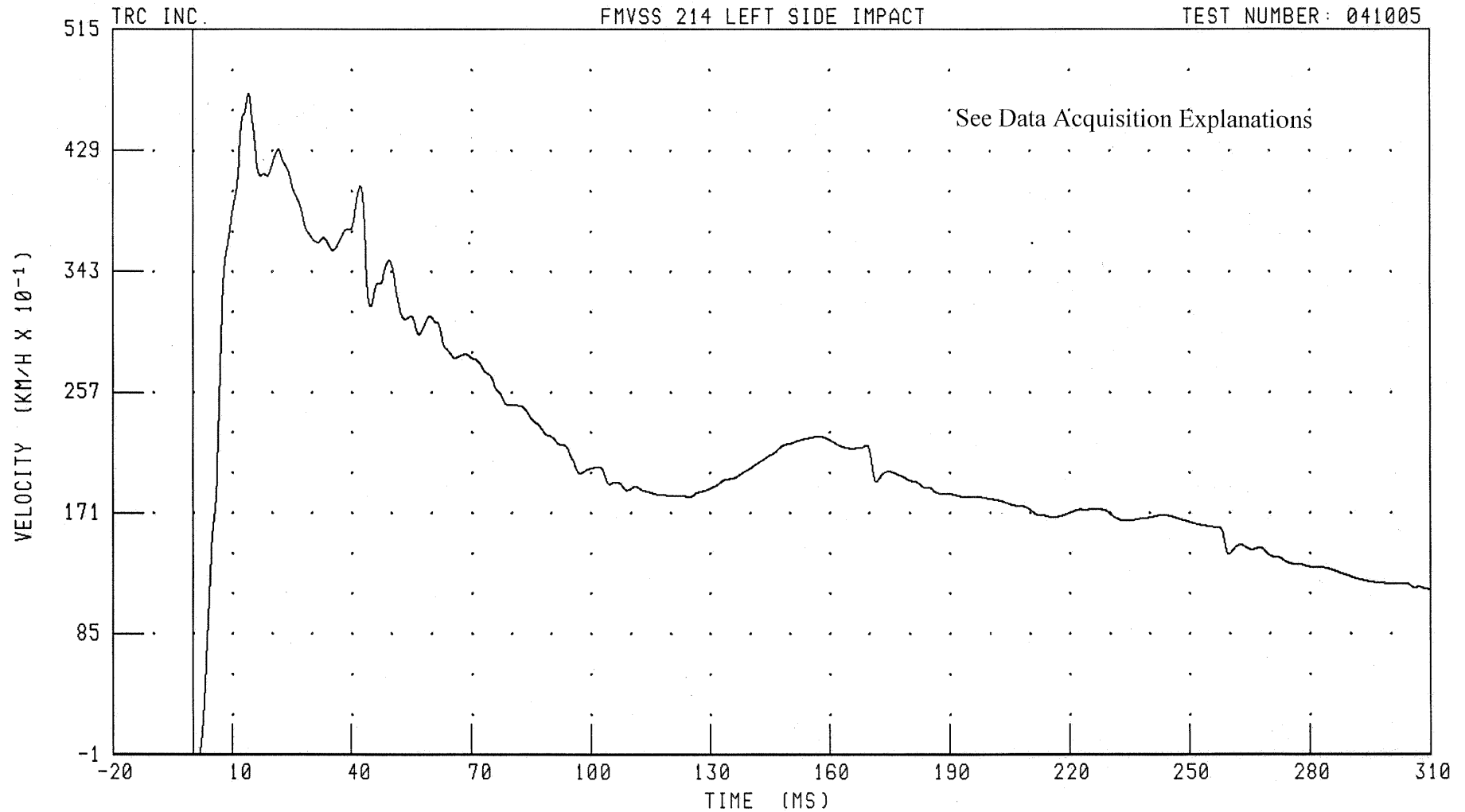
B-120

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT LOWER B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLBYV1

FILTER: CH. CLASS 180

PEAK DATA: 46.96 KM/H @ 14.16 MS; -0.16 KM/H @ 1.20 MS

B-121

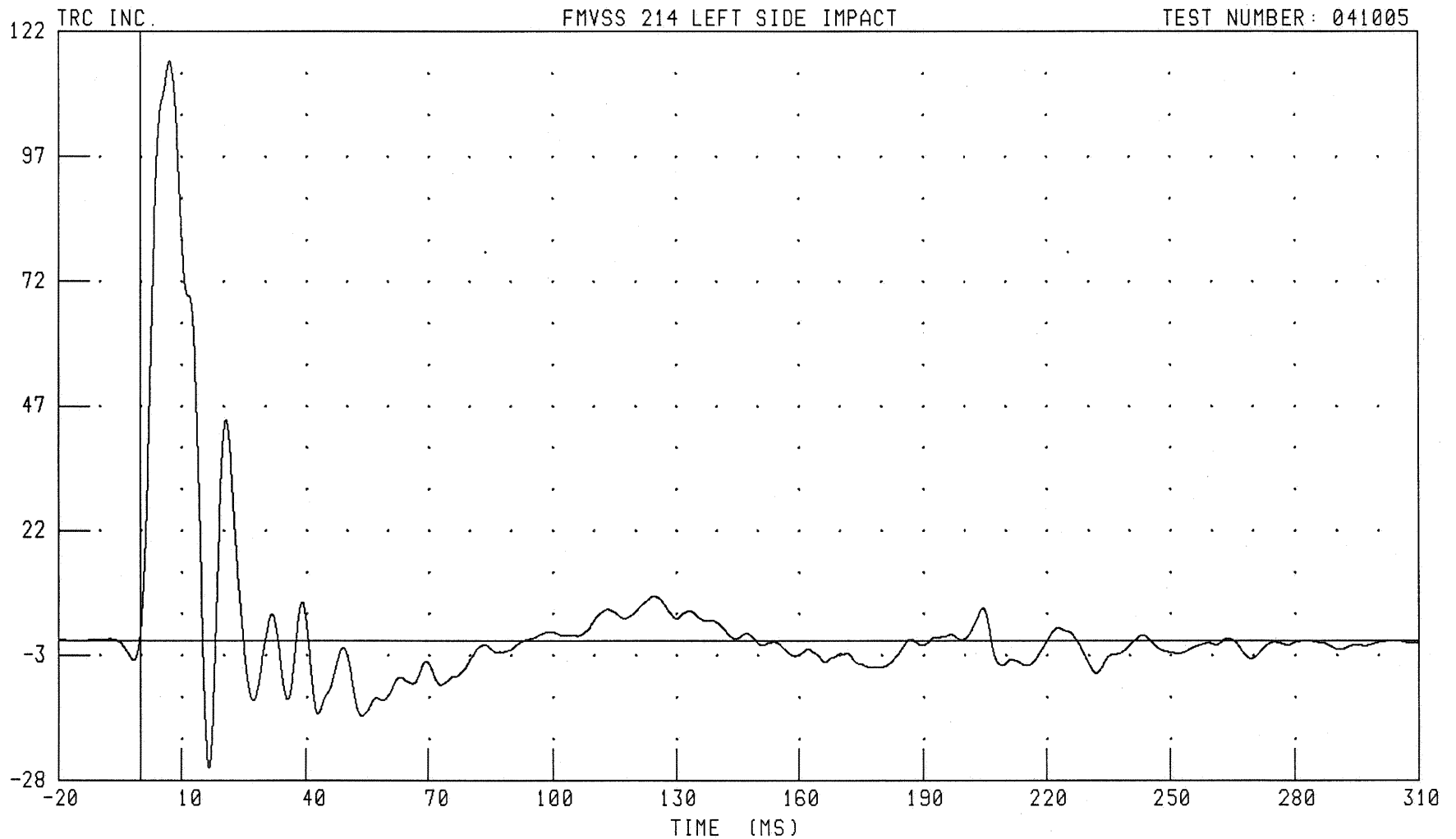
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT MIDDLE B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LMBYG1 FILTER: CH. CLASS 60

PEAK DATA: 116.09 G @ 7.12 MS; -25.50 G @ 16.56 MS

B-122

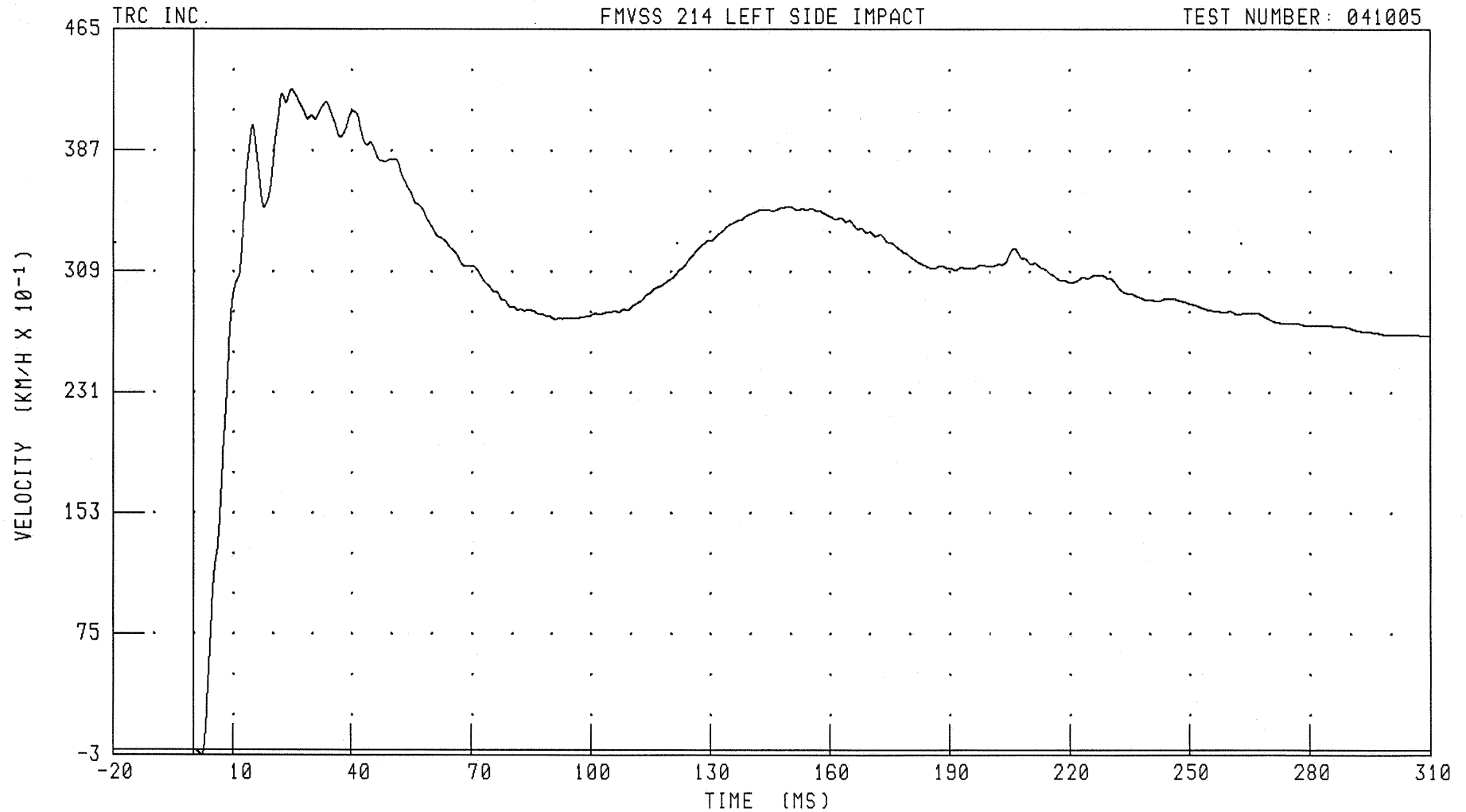
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT MIDDLE B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LM BYV1

FILTER: CH. CLASS 180

PEAK DATA: 42.65 KM/H @ 24.88 MS; -0.34 KM/H @ 2.00 MS

B-123

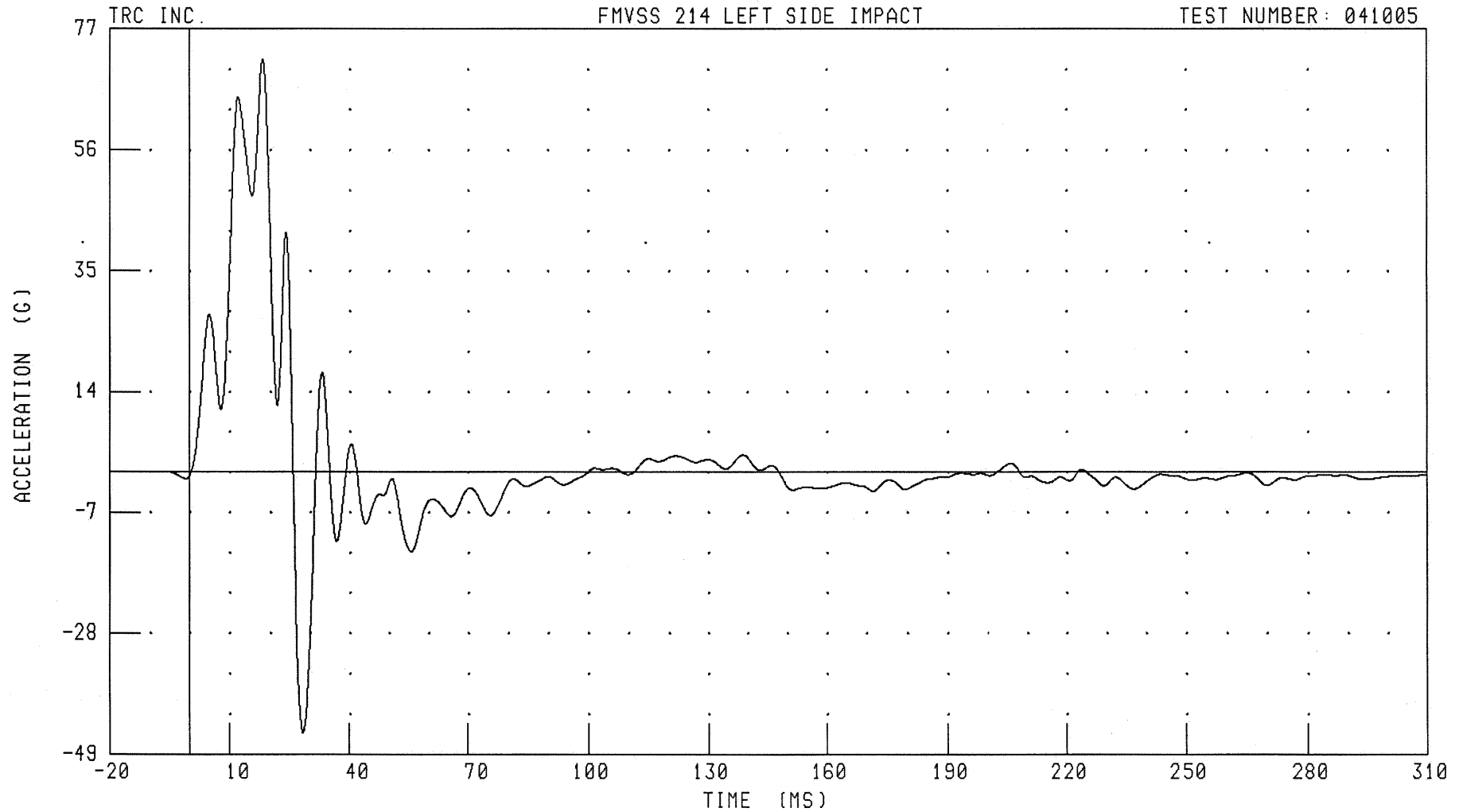
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT FRONT SEAT TRACK Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LFTYG1

FILTER: CH. CLASS 60

PEAK DATA: 71.73 G @ 18.24 MS; -45.26 G @ 28.16 MS

B-124

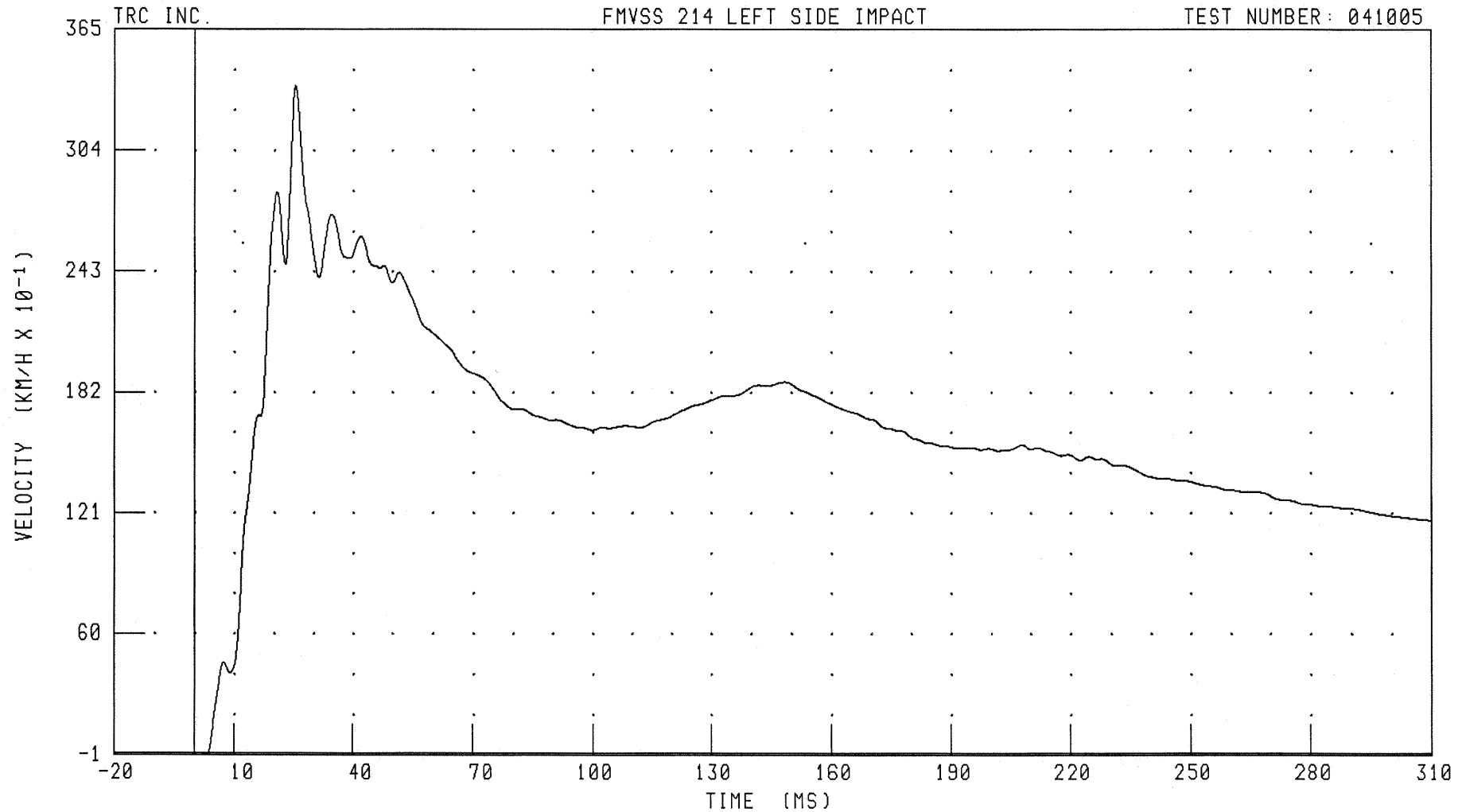
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT FRONT SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LFTYV1 FILTER: CH. CLASS 180

PEAK DATA: 33.65 KM/H @ 25.52 MS; -0.10 KM/H @ 2.96 MS

B-125

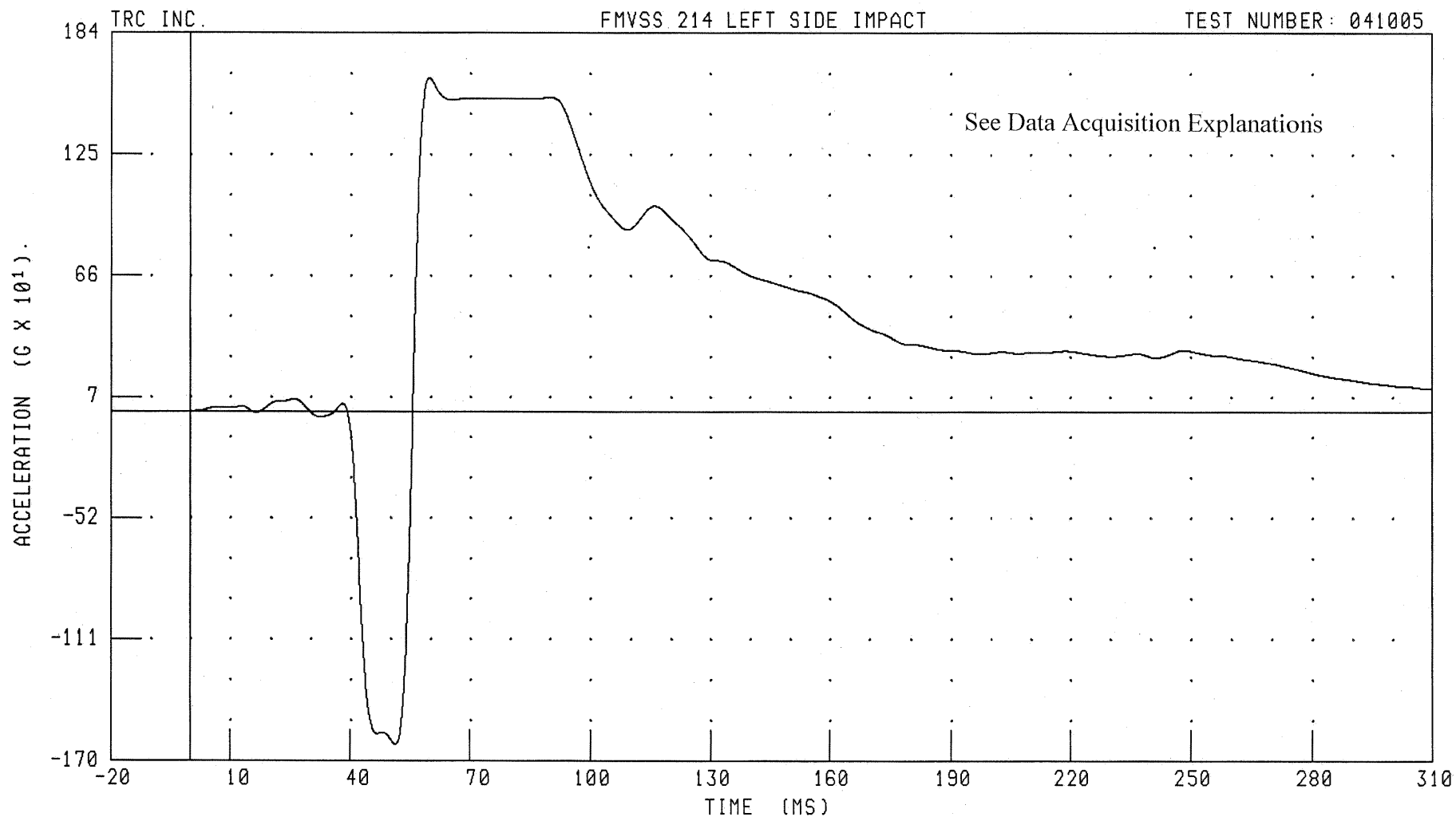
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR SEAT TRACK Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRTYG1 FILTER: CH. CLASS 60

PEAK DATA: 1622.70 G @ 59.68 MS; -1621.62 G @ 51.20 MS

B-126

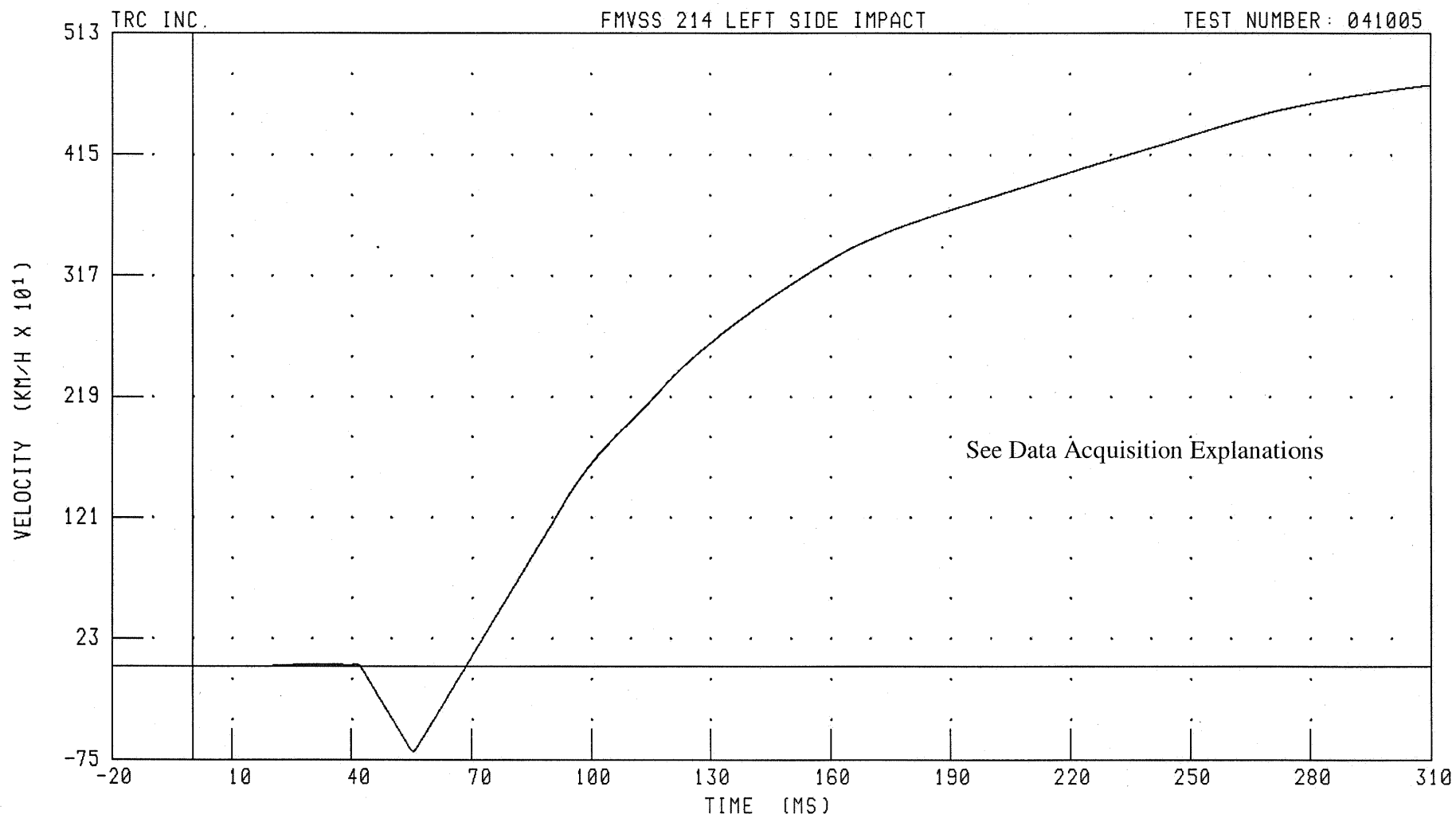
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRTYV1

FILTER: CH. CLASS 180

PEAK DATA: 4713.30 KM/H @ 310.00 MS; -682.01 KM/H @ 55.44 MS

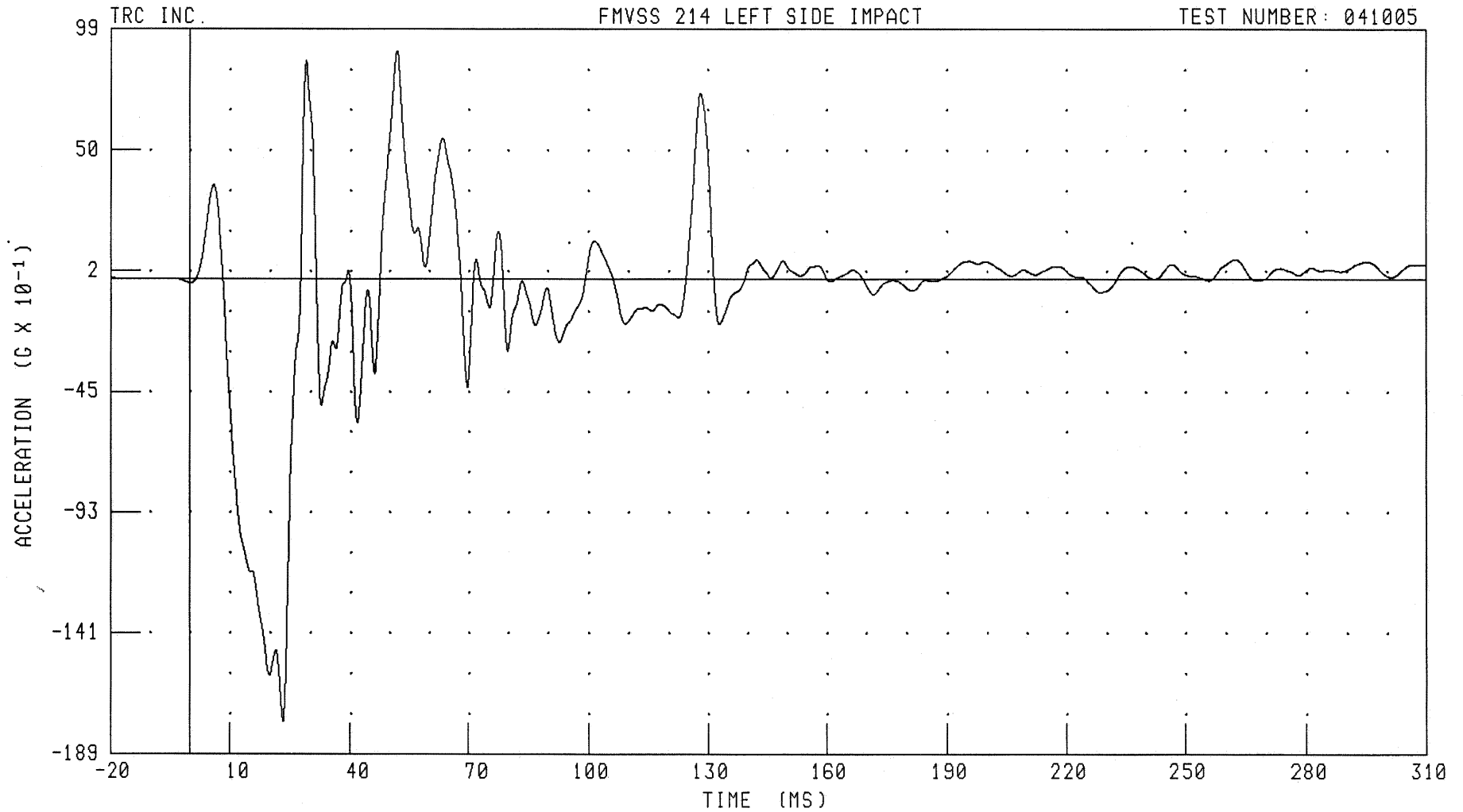
B-127

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: VCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 9.02 G @ 51.92 MS; -17.61 G @ 23.20 MS

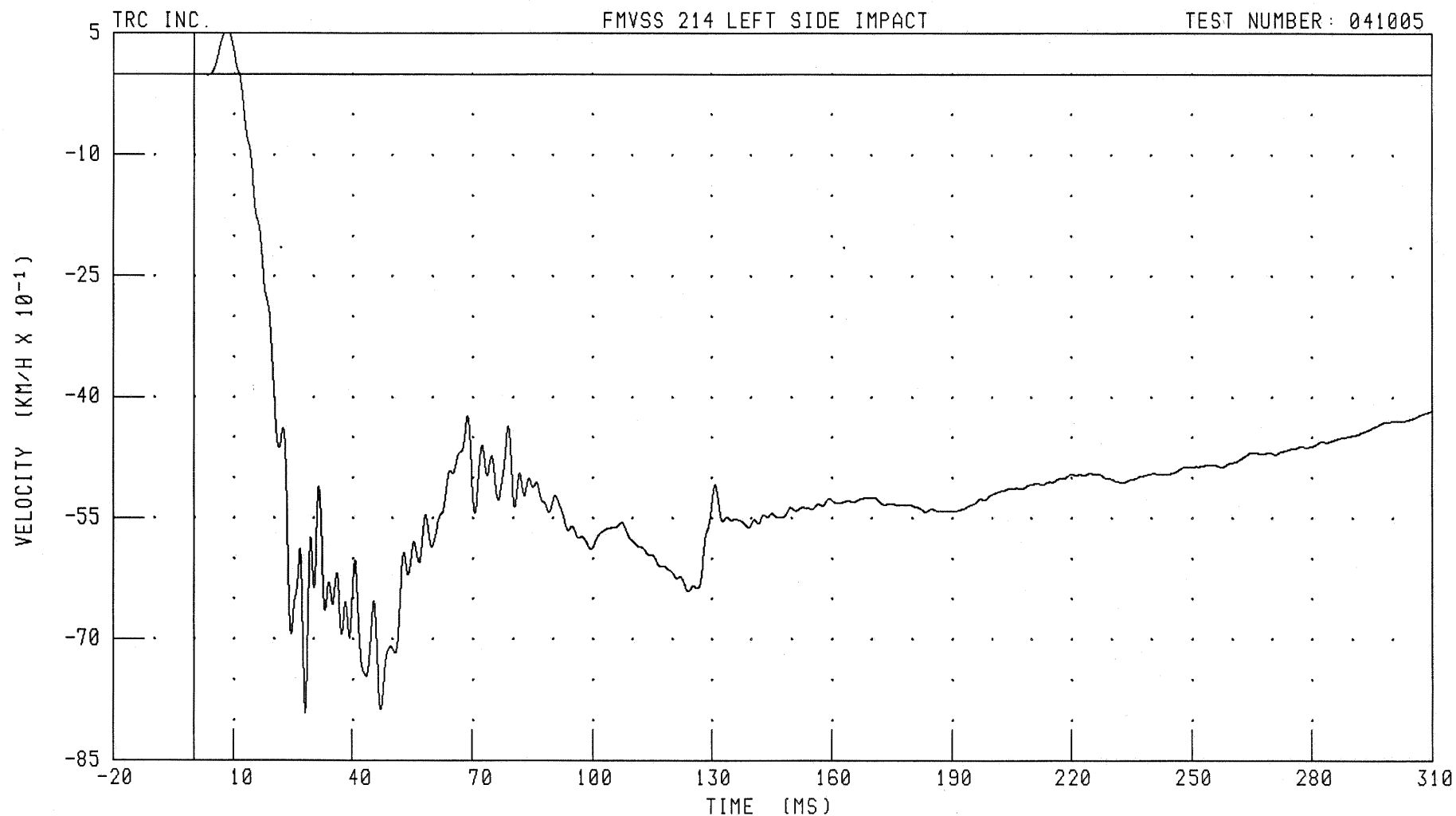
B-128

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: VCGXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.53 KM/H @ 8.56 MS; -7.91 KM/H @ 28.00 MS

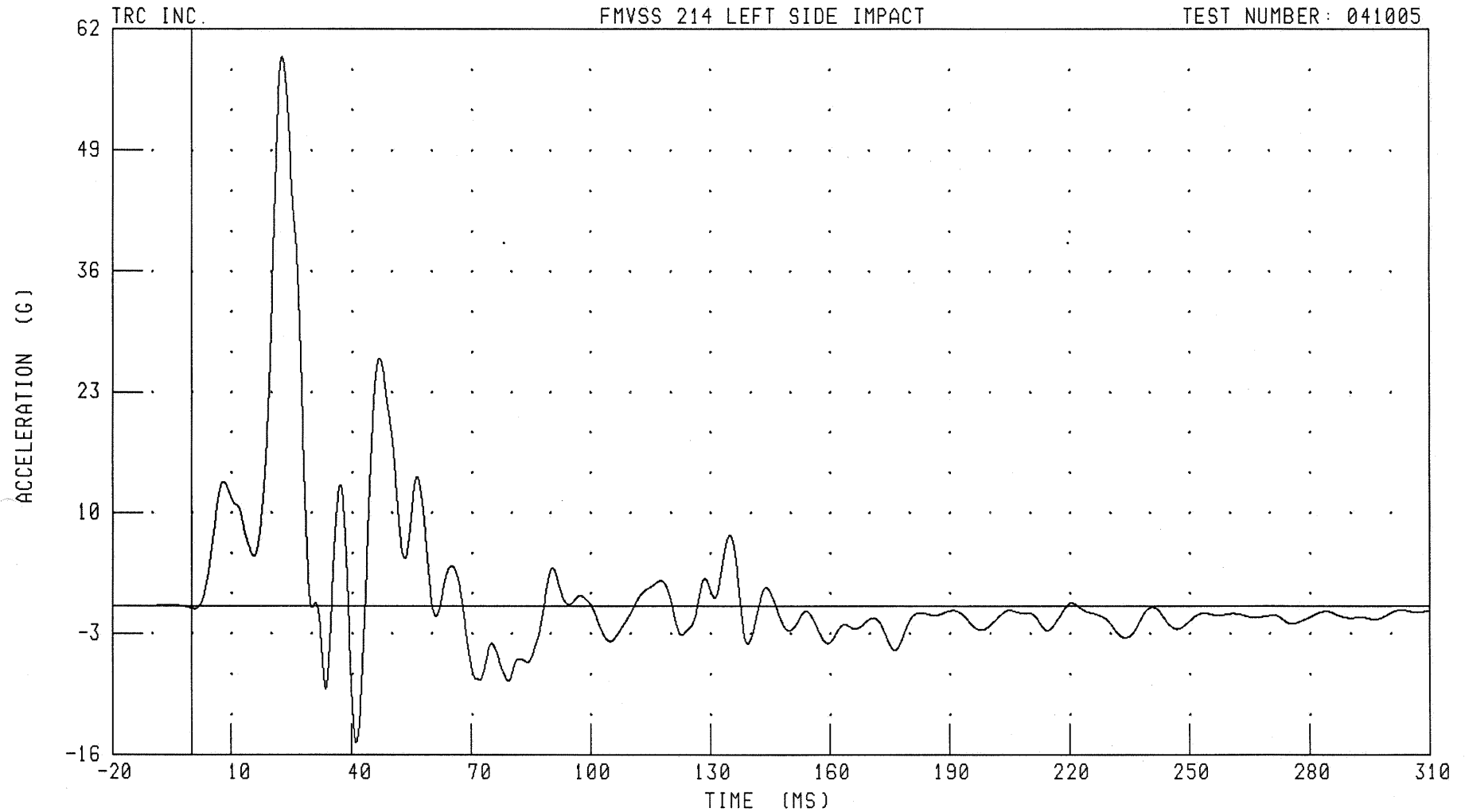
B-129

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: VCGYG1

FILTER: CH. CLASS 60

PEAK DATA: 59.00 G @ 22.80 MS; -14.71 G @ 41.12 MS

B-130

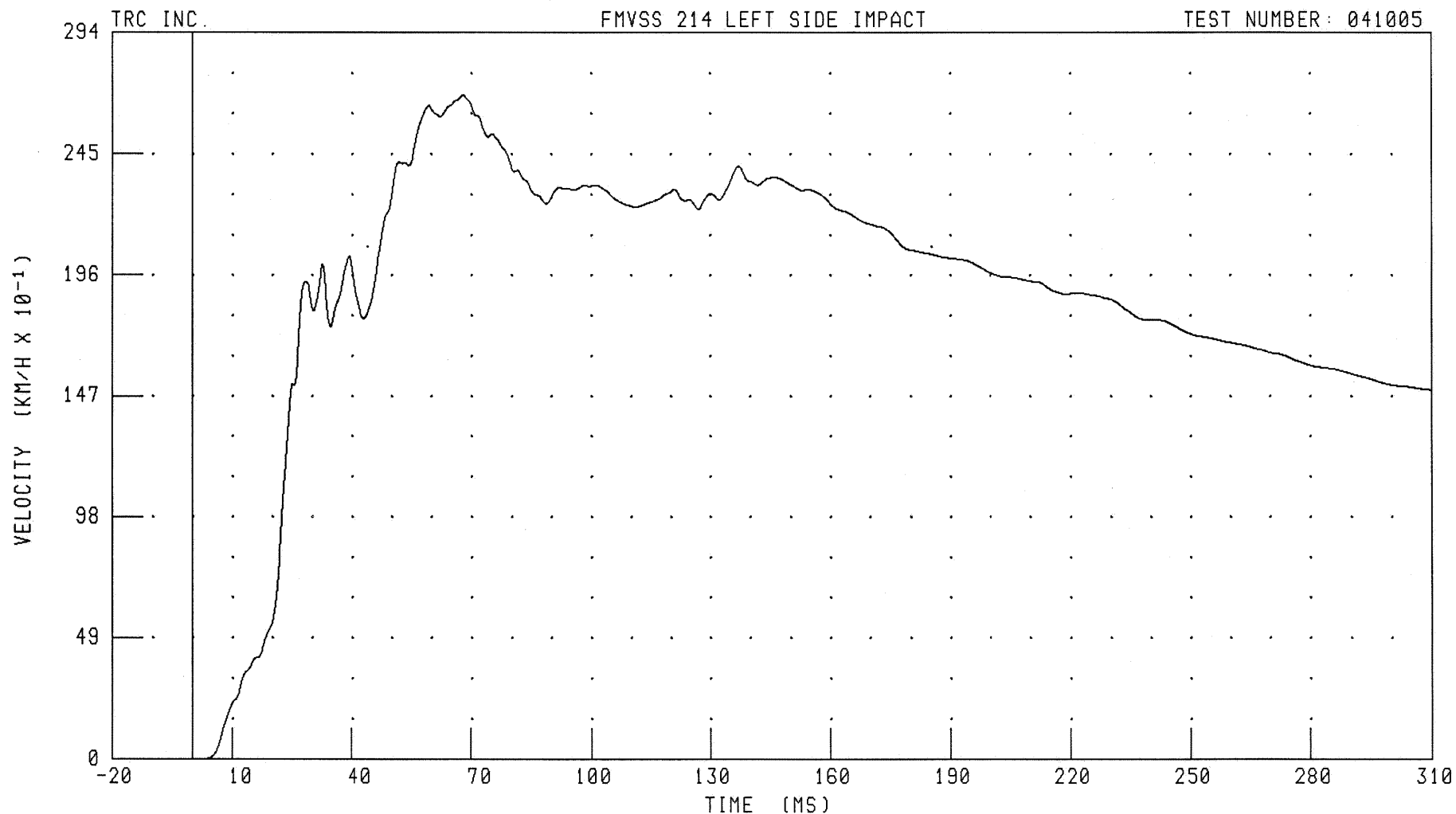
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: VCCYV1

FILTER: CH. CLASS 180

PEAK DATA: 26.87 KM/H @ 68.08 MS; 0.00 KM/H @ 0.00 MS

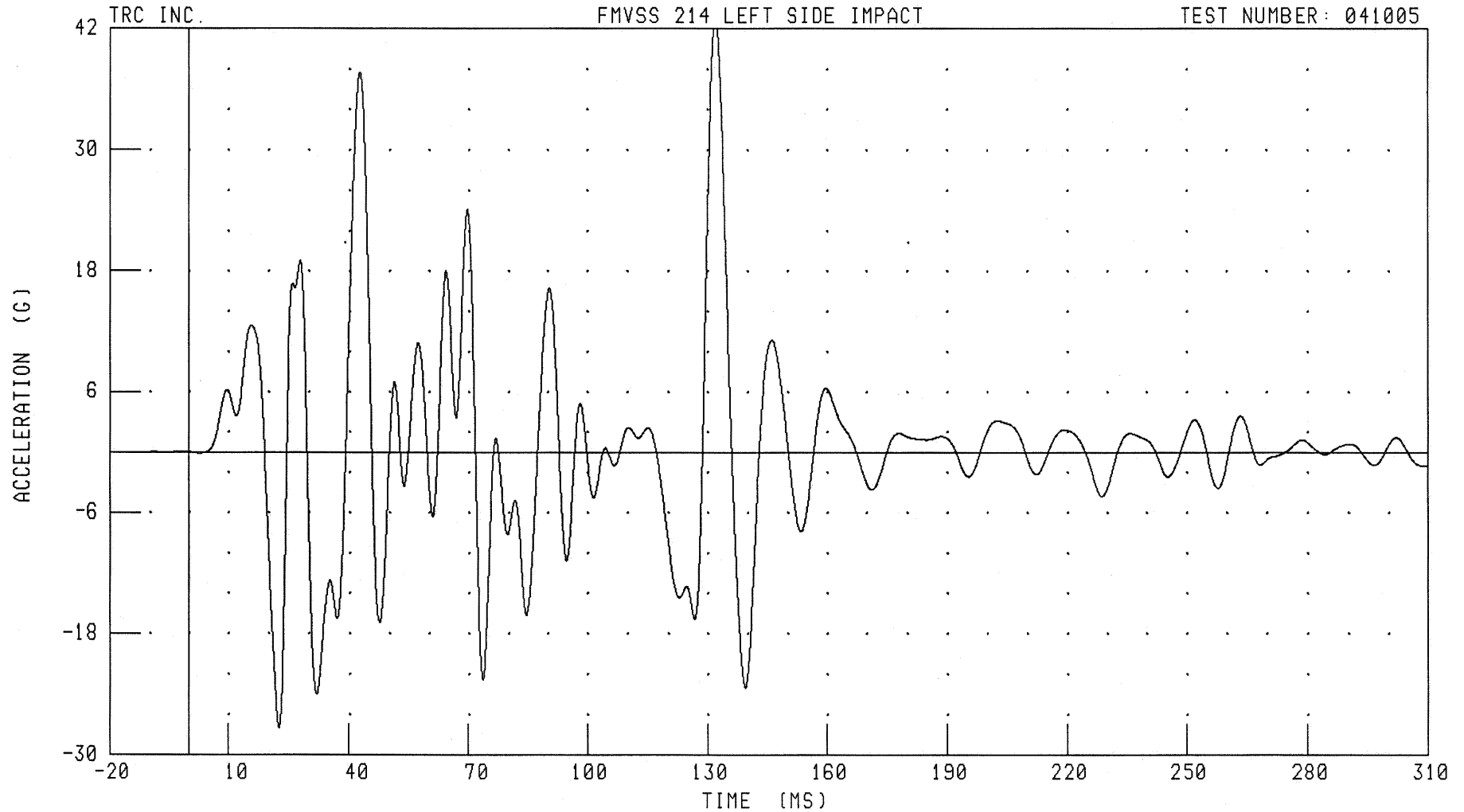
B-131

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
VEHICLE CENTER OF GRAVITY Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: VCGZG1

FILTER: CH. CLASS 60

PEAK DATA: 43.29 G @ 132.08 MS; -27.34 G @ 22.56 MS

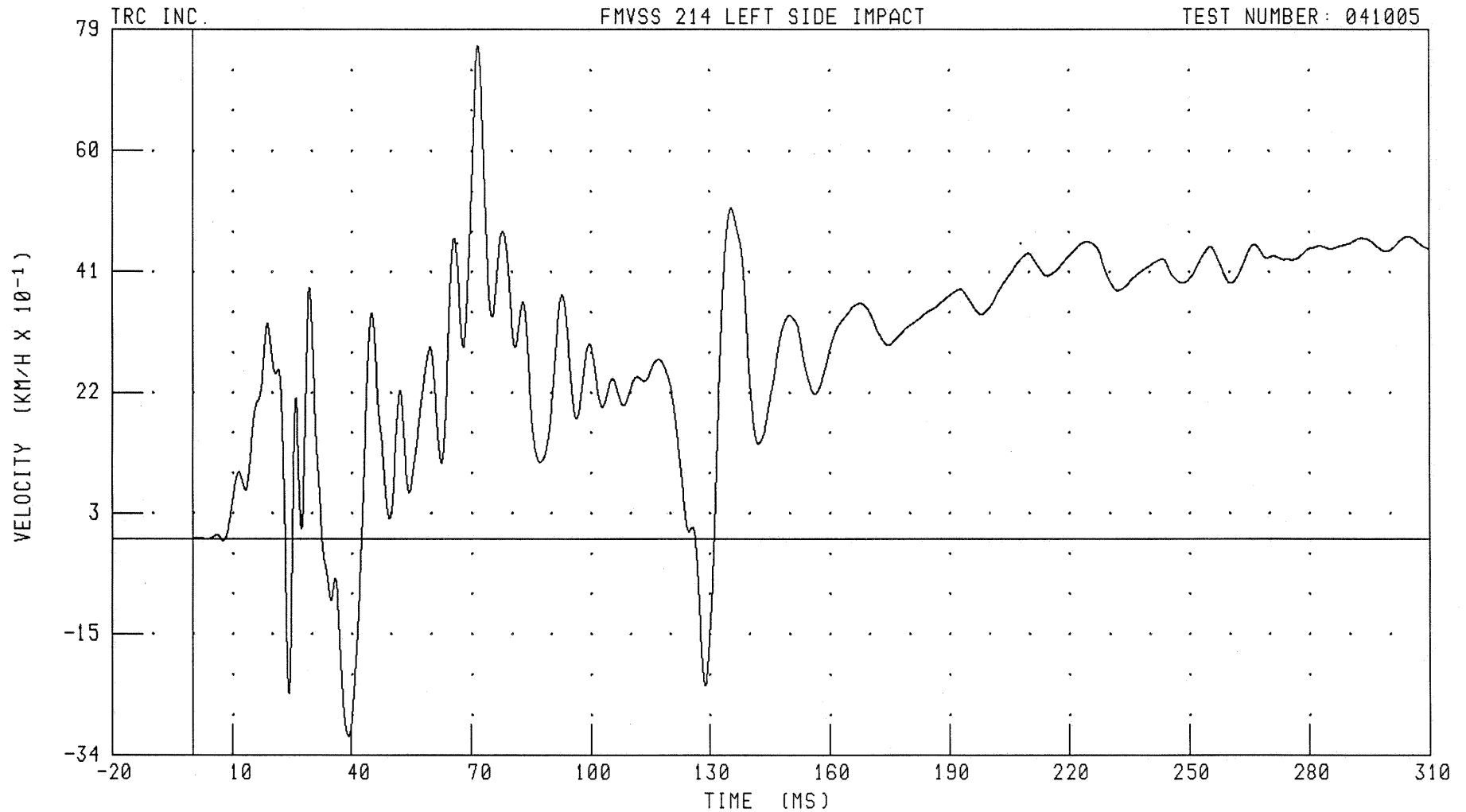
B-132

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
VEHICLE CENTER OF GRAVITY Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: VCGZV1

FILTER: CH. CLASS 180

PEAK DATA: 7.75 KM/H @ 71.76 MS; -3.11 KM/H @ 39.36 MS

B-133

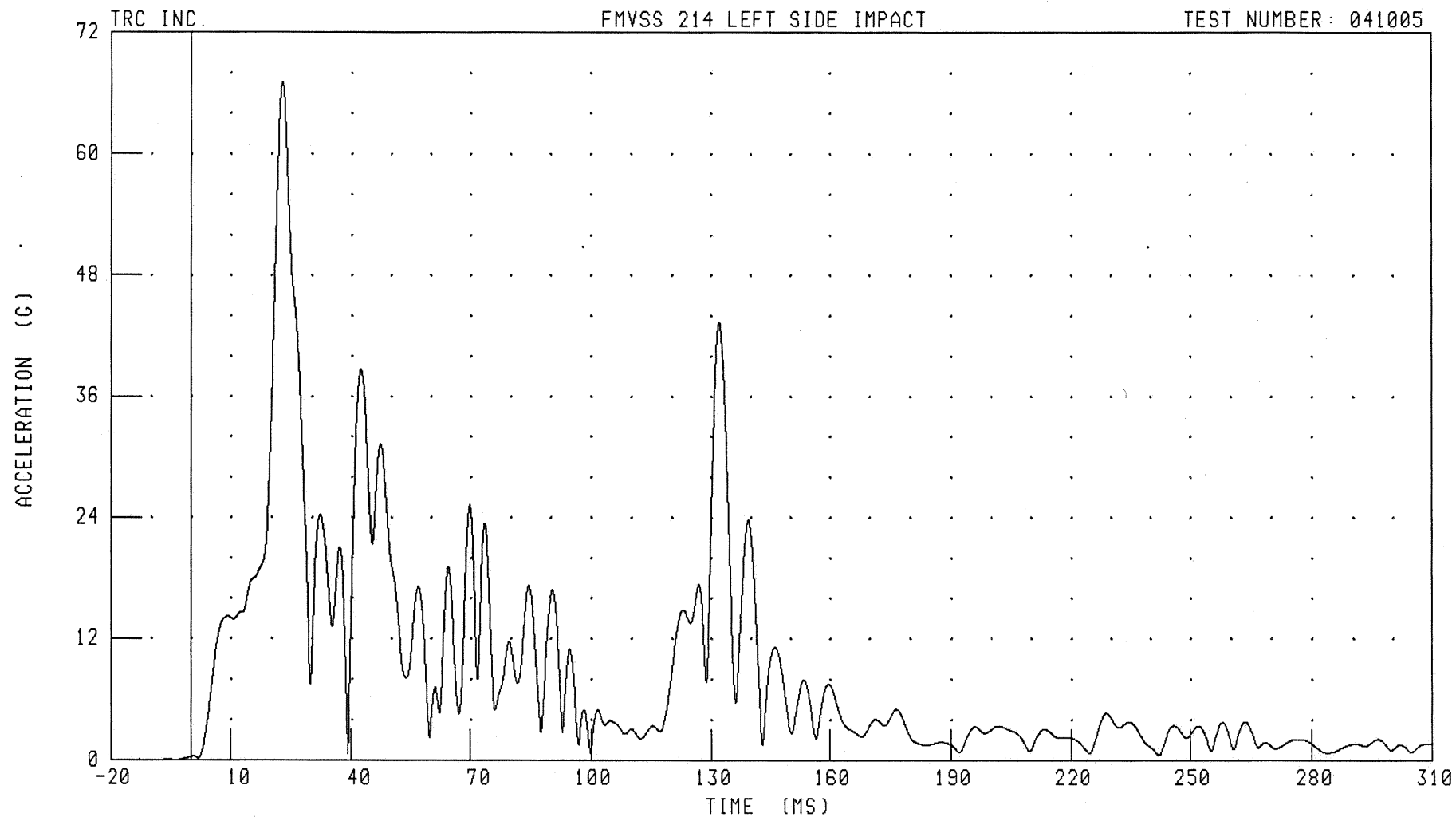
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: VCGRG1

FILTER: CH. CLASS 60

PEAK DATA: 67.09 G @ 22.80 MS; 0.01 G @ -15.20 MS

B-134

041005

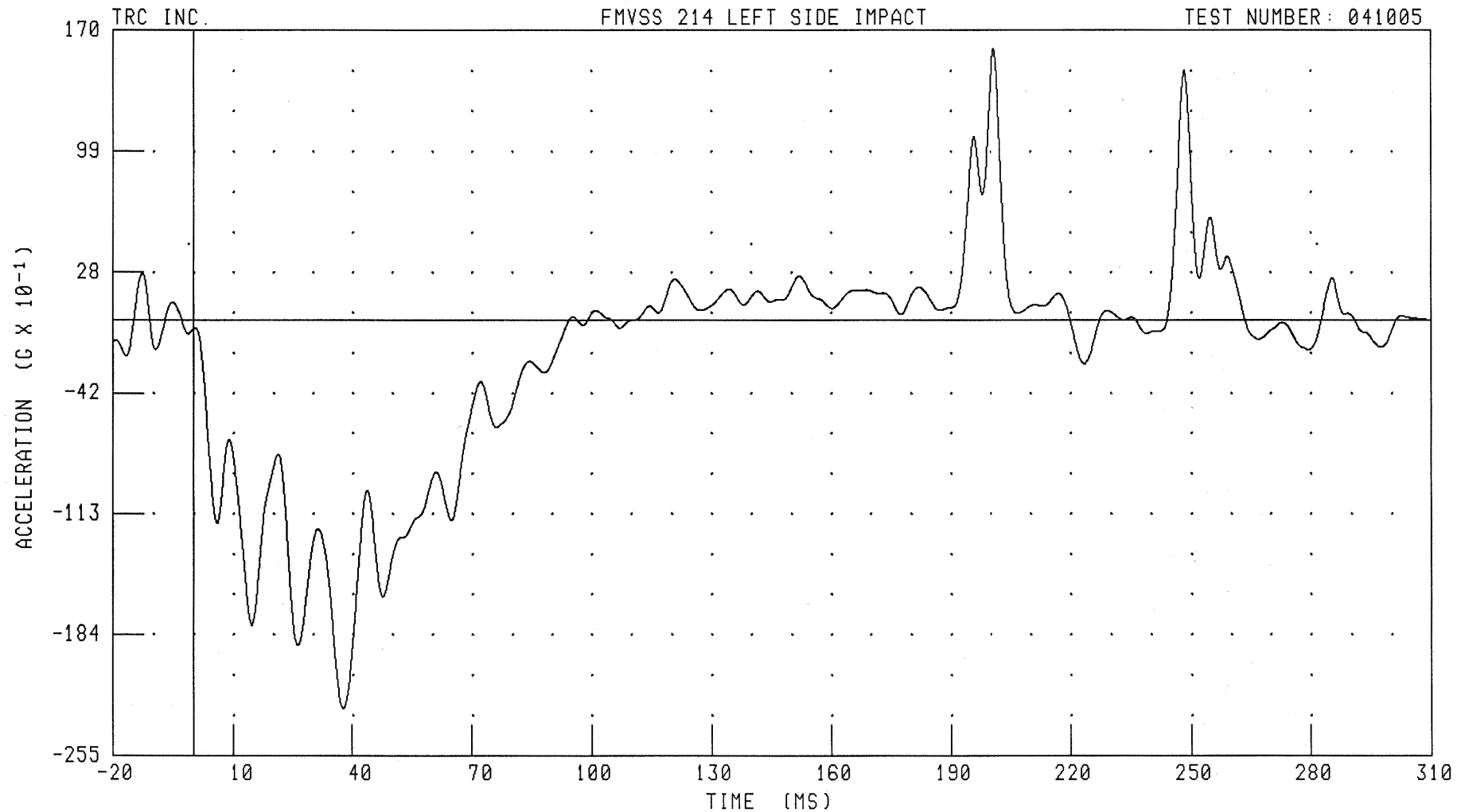
MDB Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB CENTER OF GRAVITY X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: BCGXG1

FILTER: CH. CLASS 60

PEAK DATA: 15.93 G @ 200.96 MS; -22.85 G @ 37.68 MS

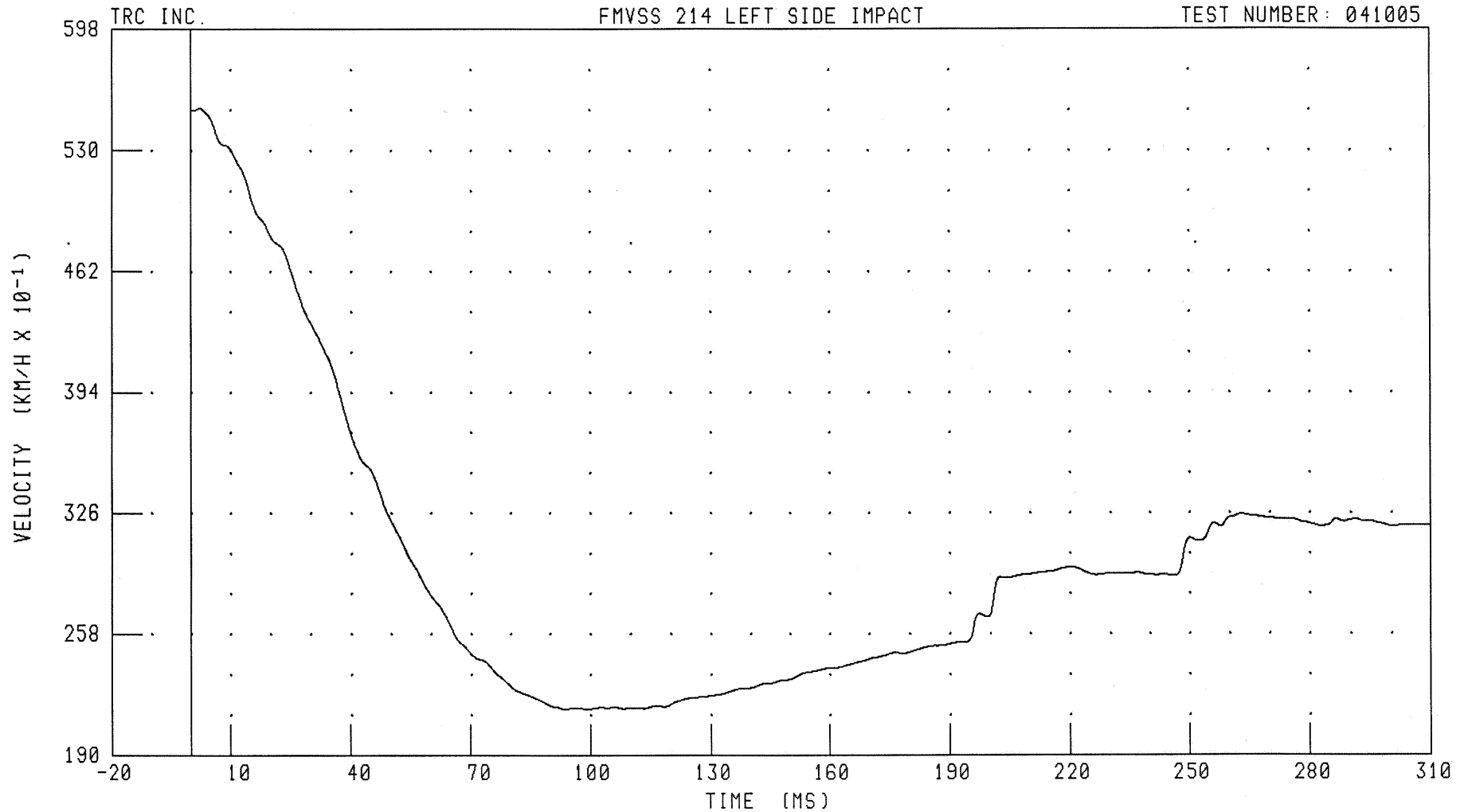
B-136

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
MDB CENTER OF GRAVITY X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: BCGXV1

FILTER: CH. CLASS 180

PEAK DATA: 55.37 KM/H @ 2.40 MS; 21.57 KM/H @ 99.28 MS

B-137

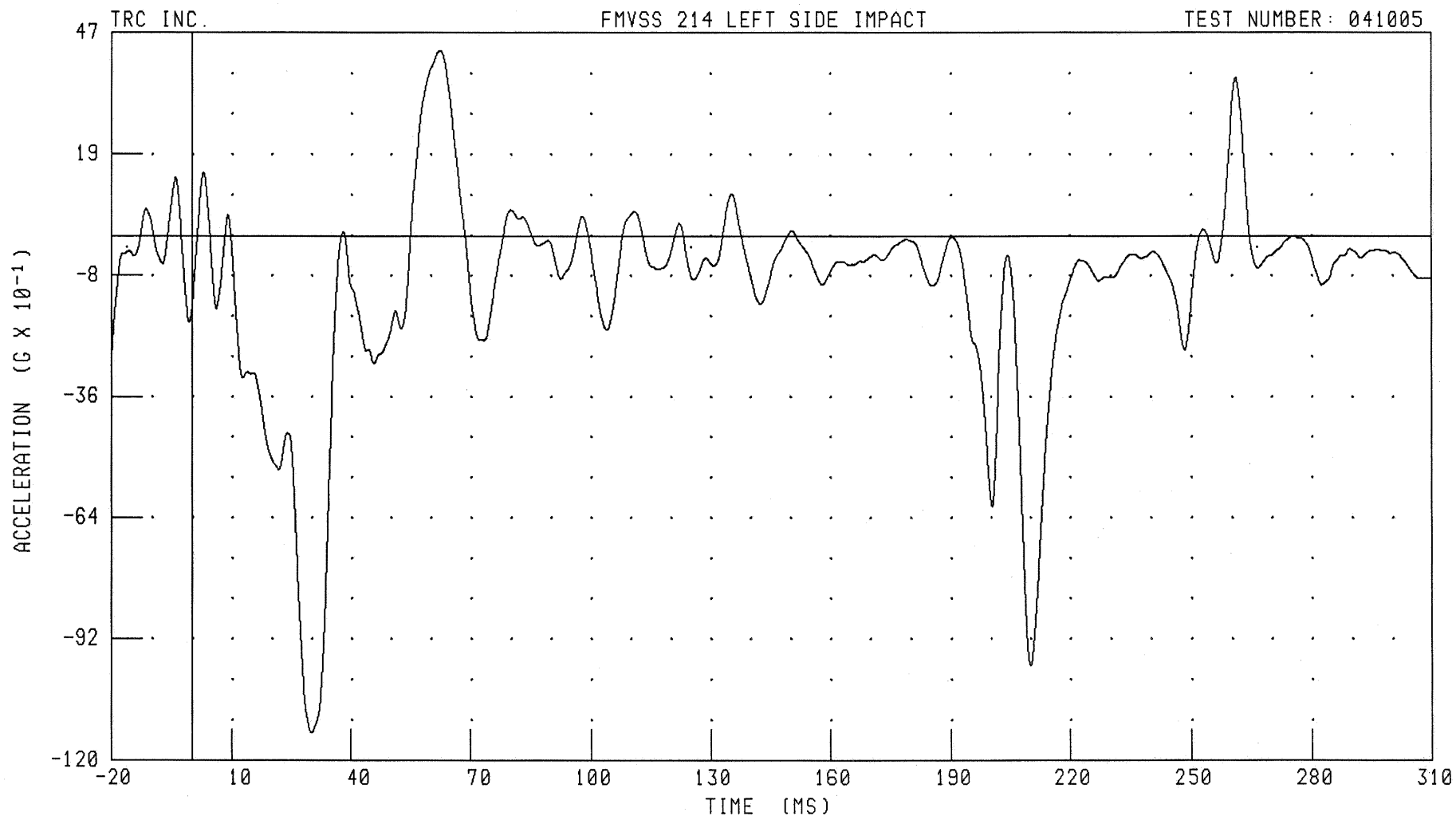
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB CENTER OF GRAVITY Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: BCGYG1

FILTER: CH. CLASS 60

PEAK DATA: 4.28 G @ 62.32 MS; -11.47 G @ 30.00 MS

B-138

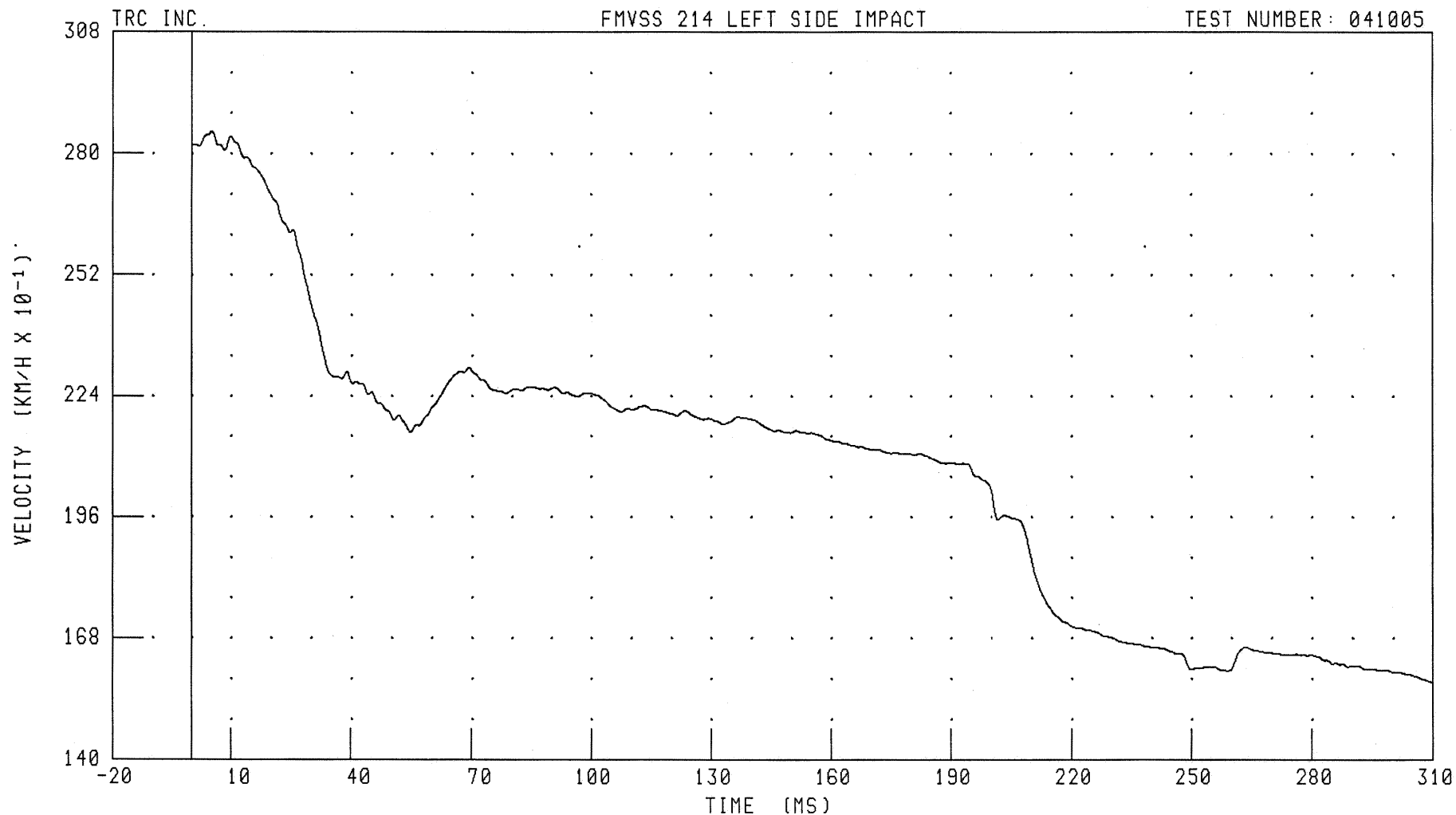
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB CENTER OF GRAVITY Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: BCGYV1

FILTER: CH. CLASS 180

PEAK DATA: 28.51 KM/H @ 4.96 MS; 15.78 KM/H @ 310.00 MS

B-139

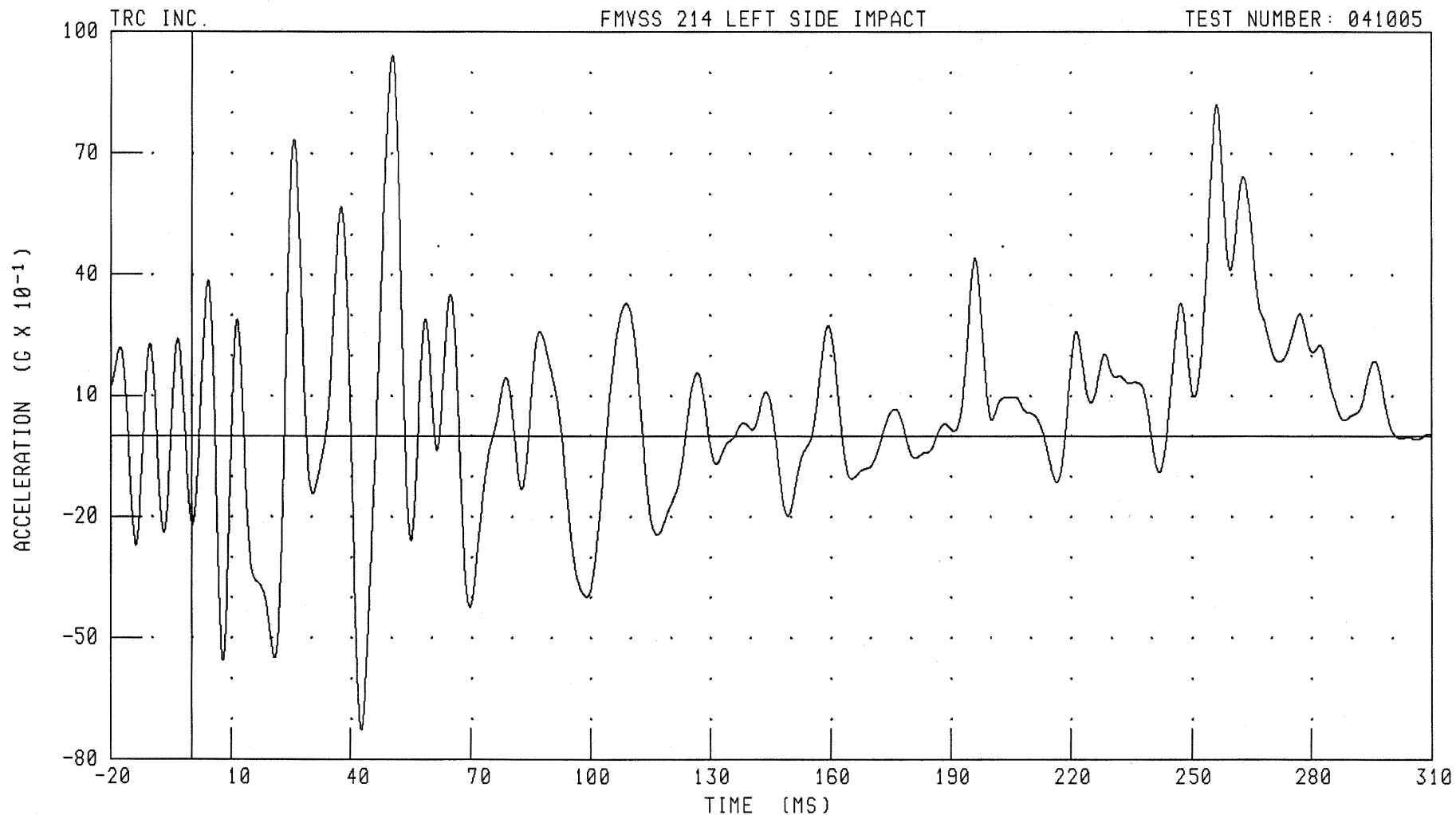
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB CENTER OF GRAVITY Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: BCGZG1

FILTER: CH. CLASS 60

PEAK DATA: 9.42 G @ 50.32 MS; -7.27 G @ 42.80 MS

B-140

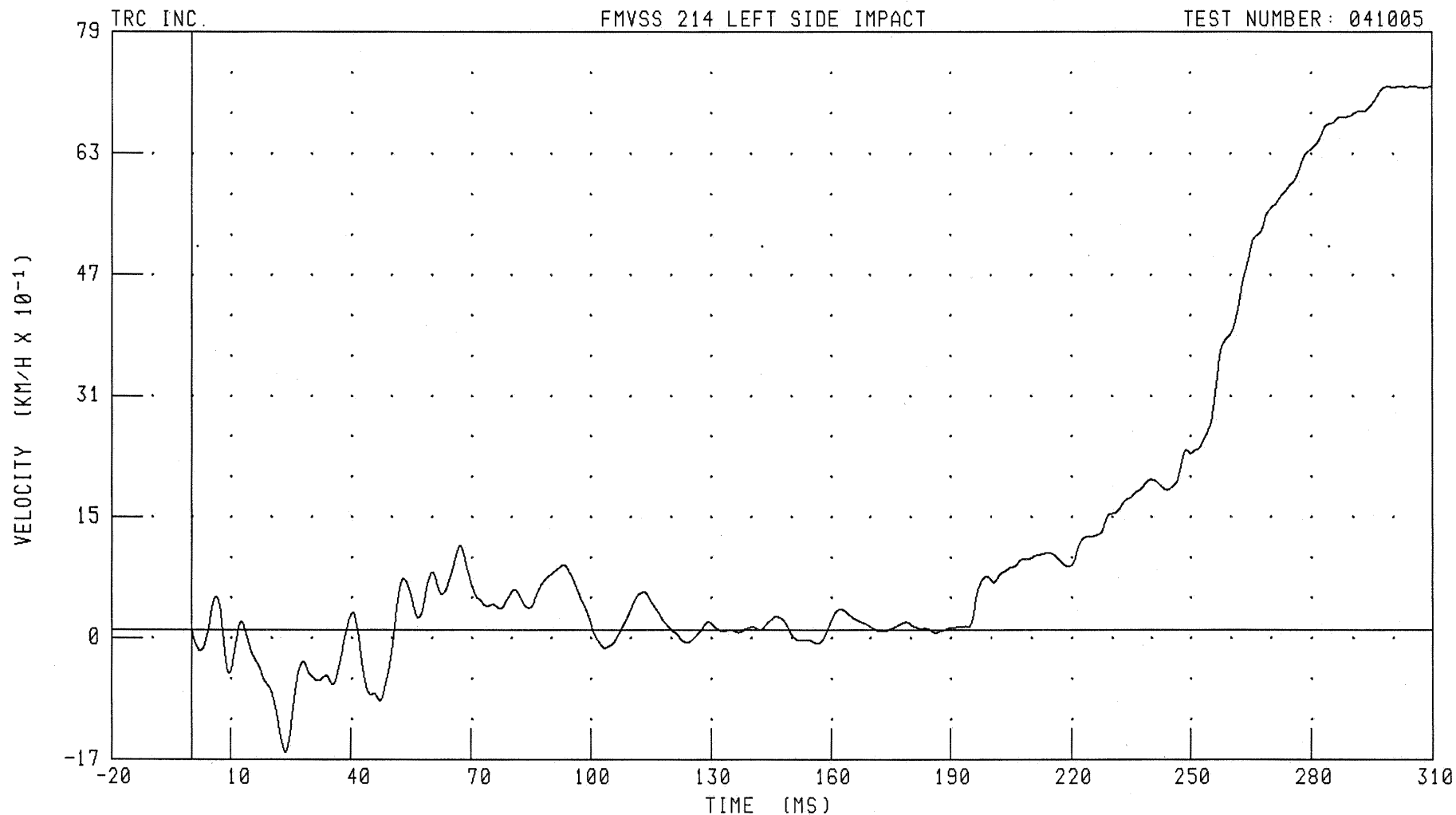
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB CENTER OF GRAVITY Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: BCGZV1

FILTER: CH. CLASS 180

PEAK DATA: 7.19 KM/H @ 310.00 MS; -1.60 KM/H @ 23.52 MS

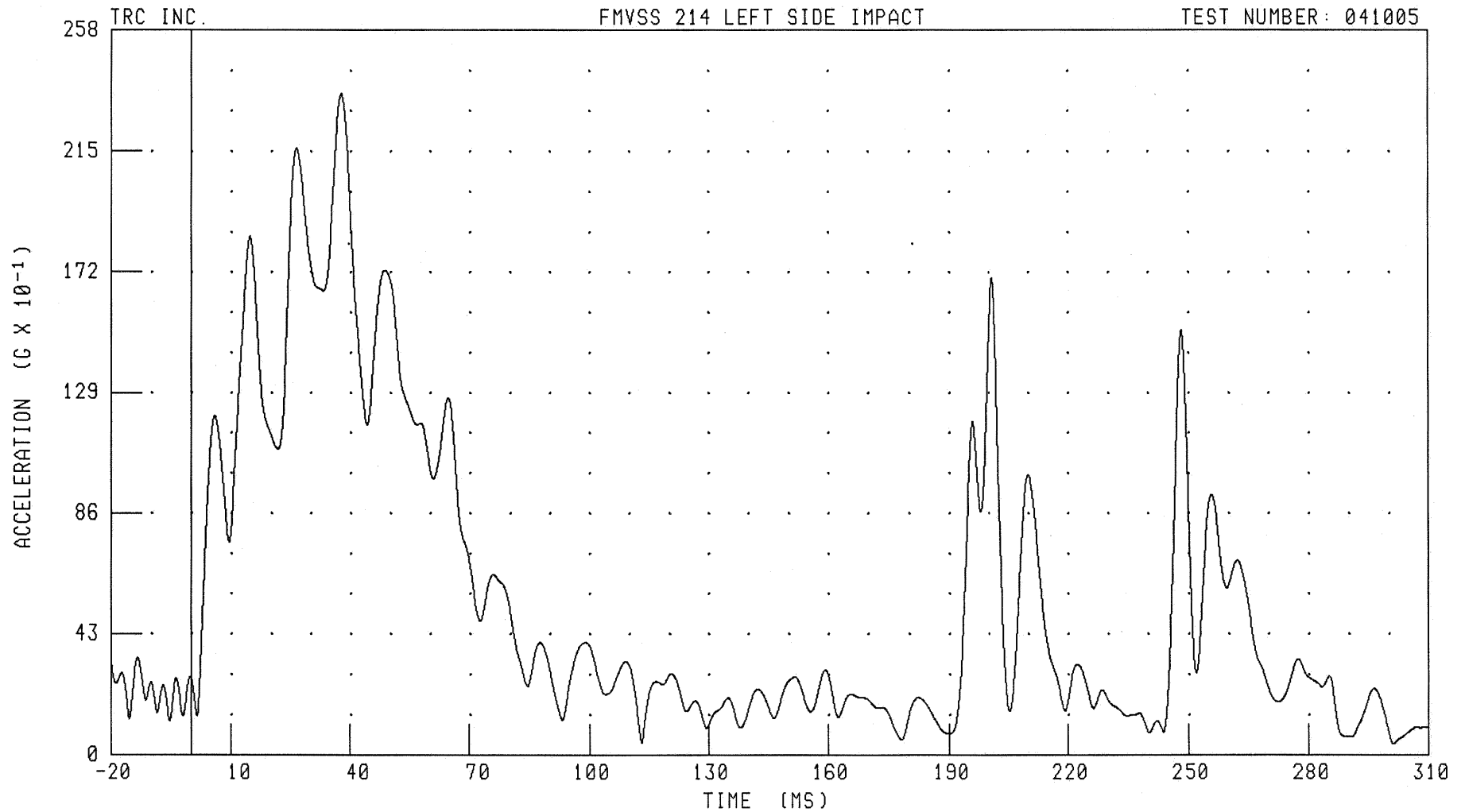
B-141

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
MDB CENTER OF GRAVITY RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: BCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 23.55 G @ 37.68 MS; 0.38 G @ 301.20 MS

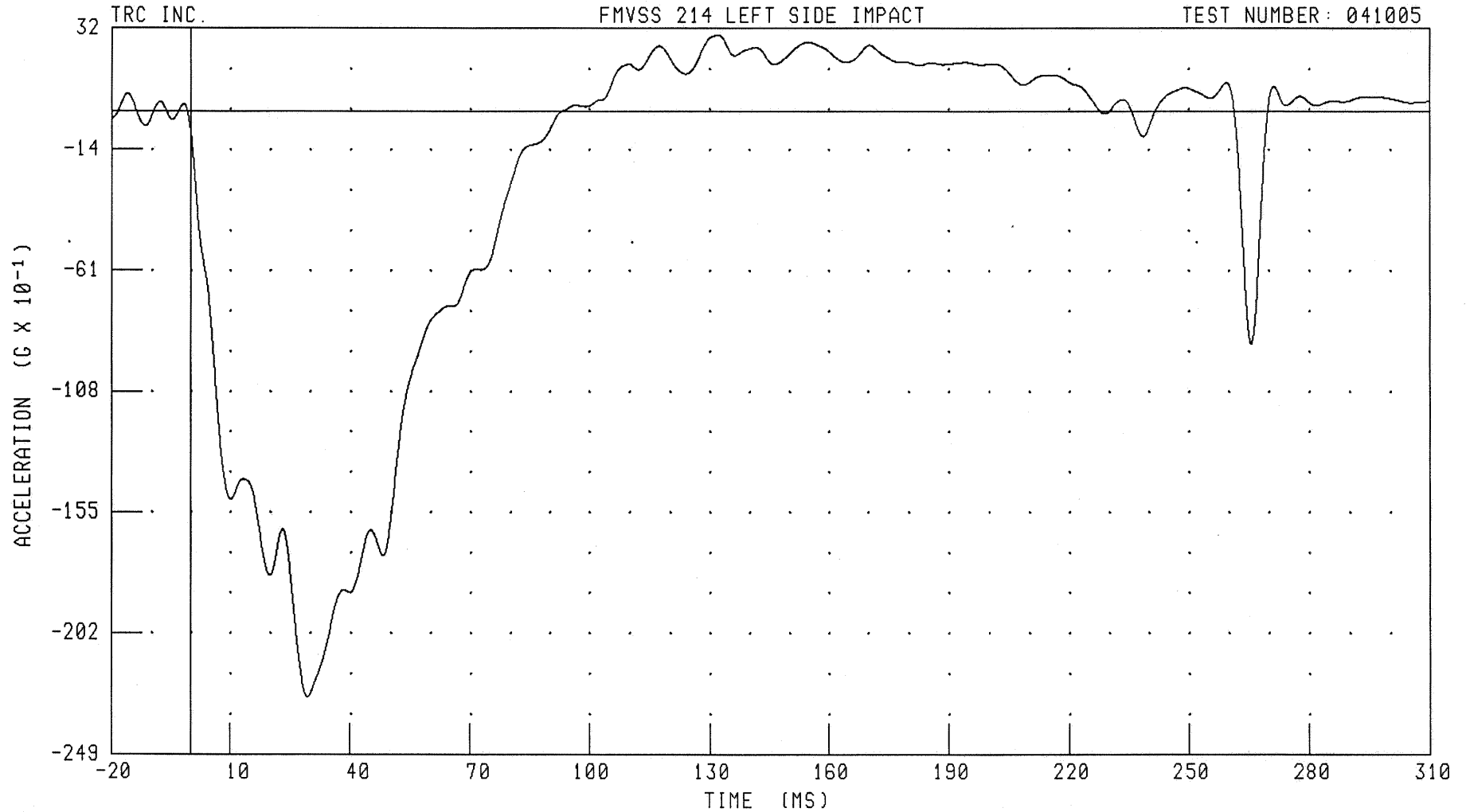
B-142

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
MDB LEFT REAR X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRRXC1 FILTER: CH. CLASS 60

PEAK DATA: 2.93 G @ 132.24 MS; -22.78 G @ 29.36 MS

B-143

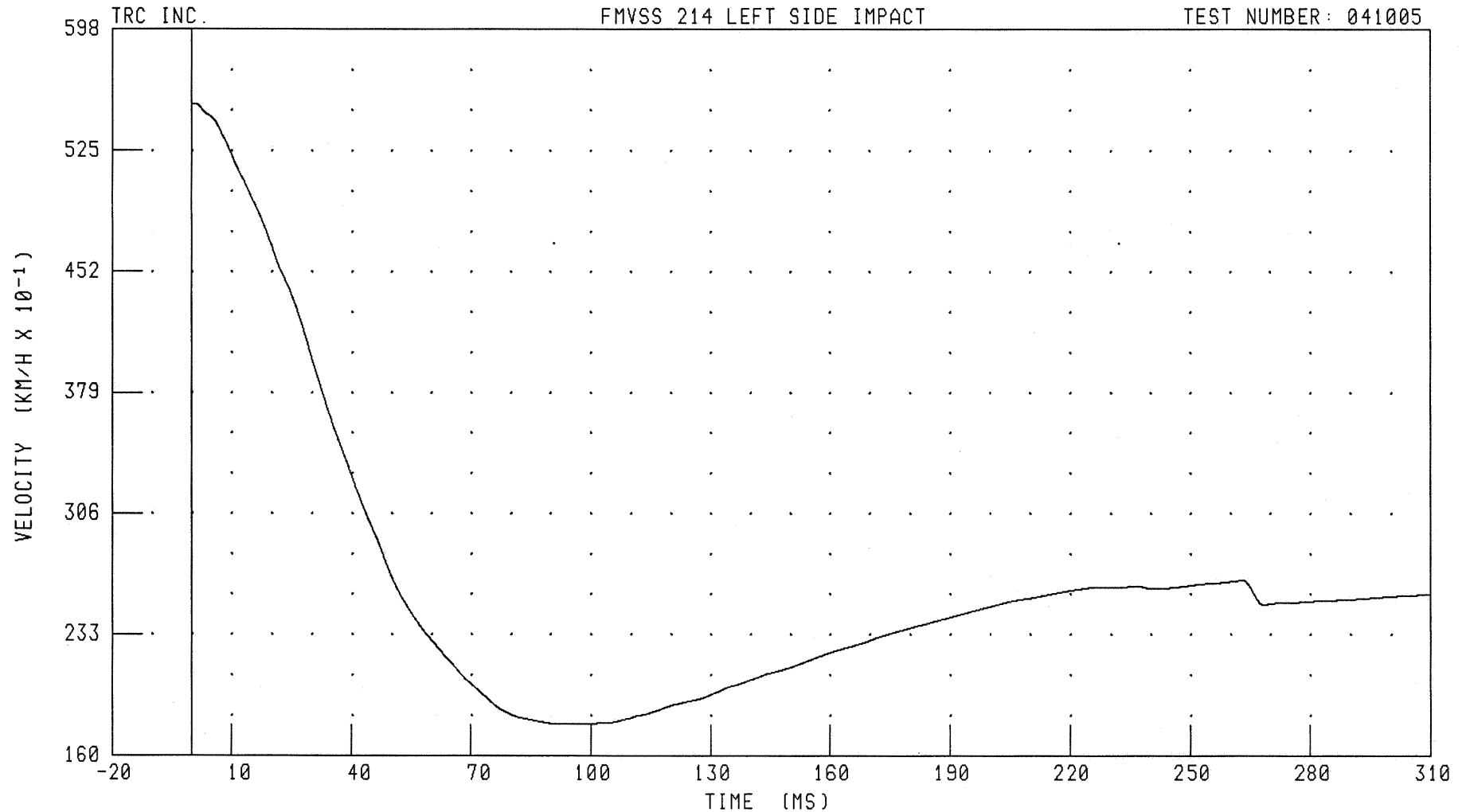
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB LEFT REAR X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRRXV1 FILTER: CH. CLASS 180

PEAK DATA: 55.31 KM/H @ 0.80 MS; 17.90 KM/H @ 95.12 MS

B-144

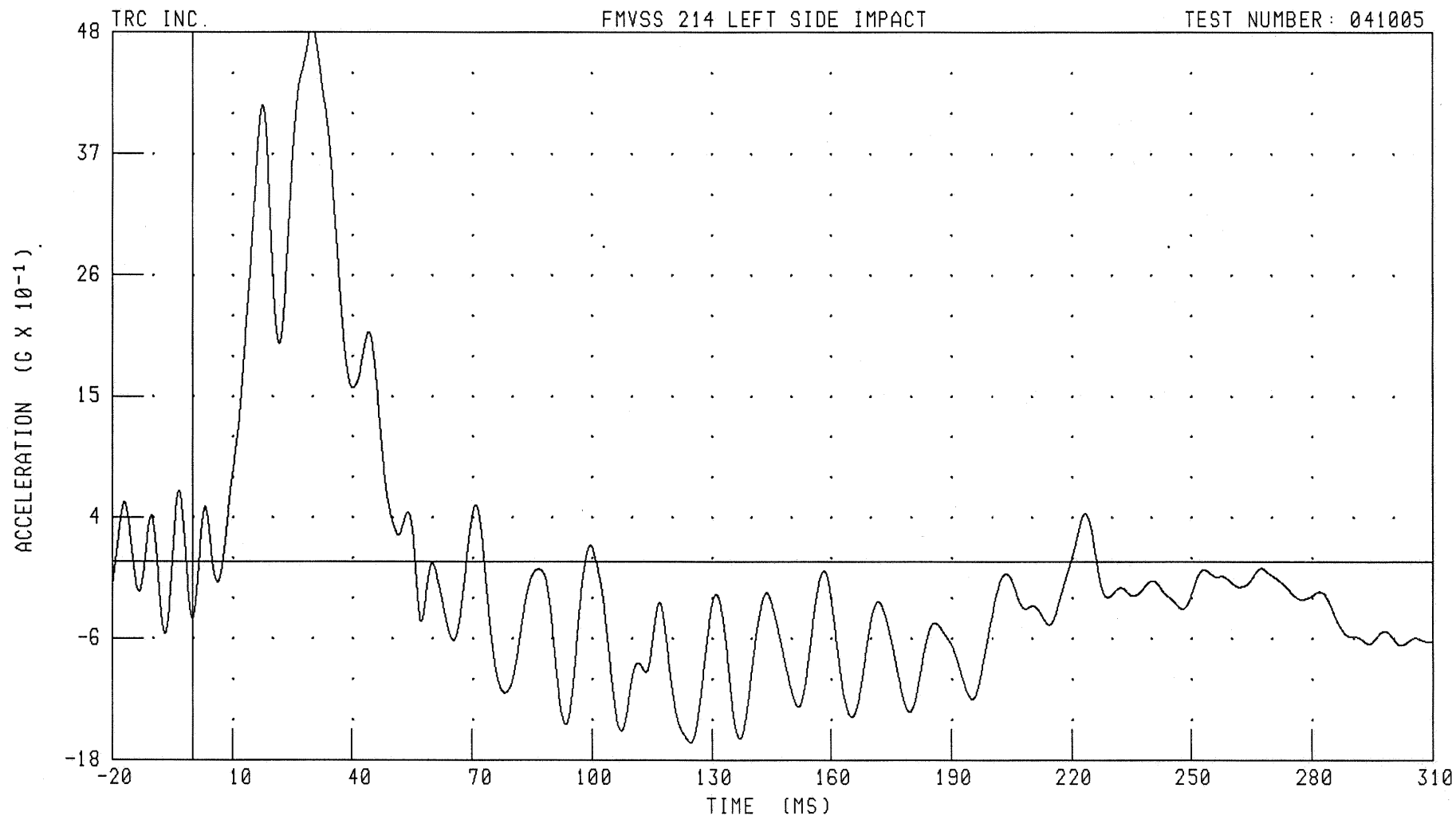
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB LEFT REAR Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRRYG1

FILTER: CH. CLASS 60

PEAK DATA: 4.88 G @ 30.08 MS; -1.64 G @ 124.64 MS

B-145

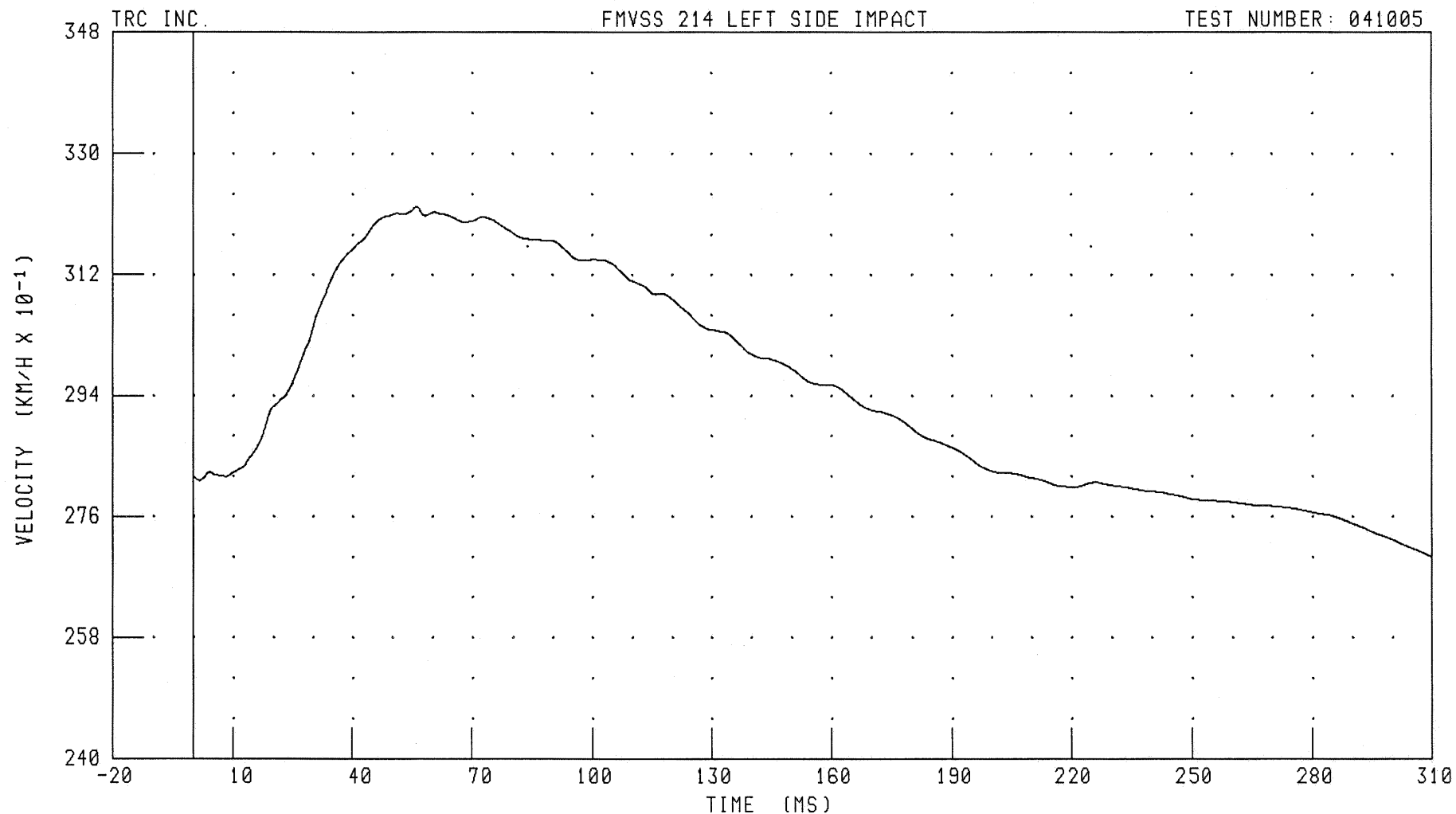
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB LEFT REAR Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LRRYV1 FILTER: CH. CLASS 180

PEAK DATA: 32.22 KM/H @ 56.16 MS; 27.00 KM/H @ 310.00 MS

B-146

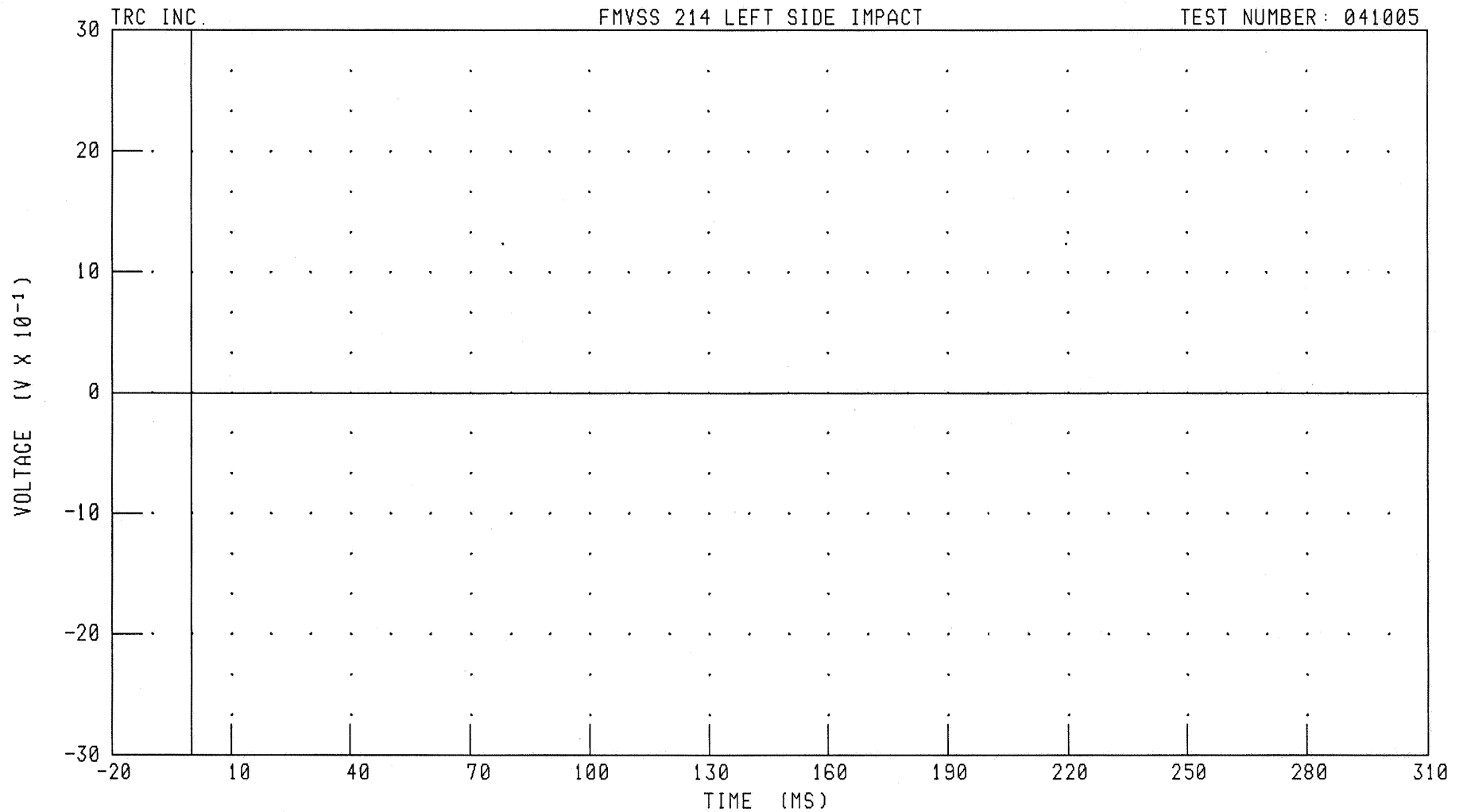
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB RIGHT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: MDBR1

FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; 0.00 V @ -20.00 MS

B-147

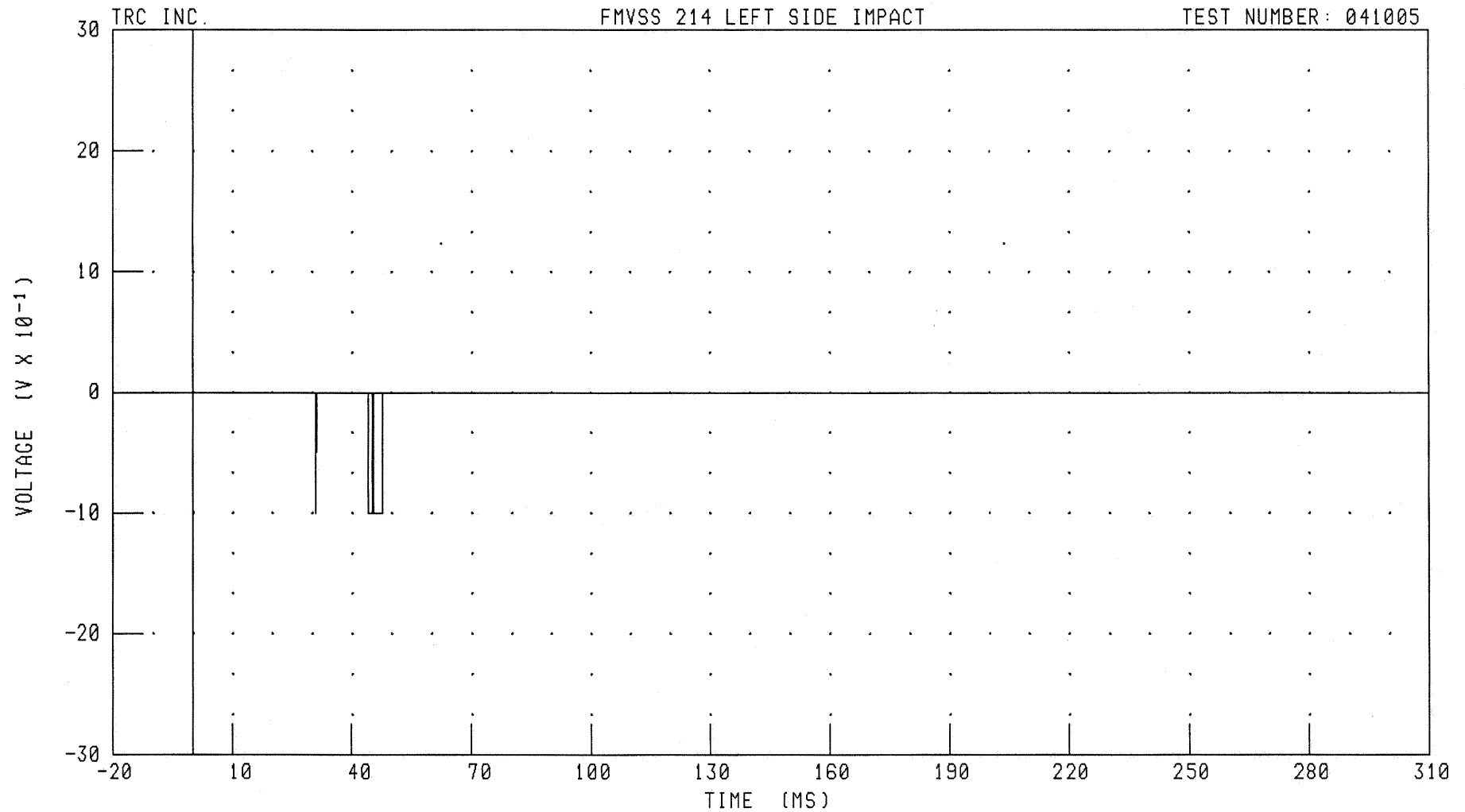
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

MDB LEFT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: MDBL1

FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 31.12 MS

B-148

041005

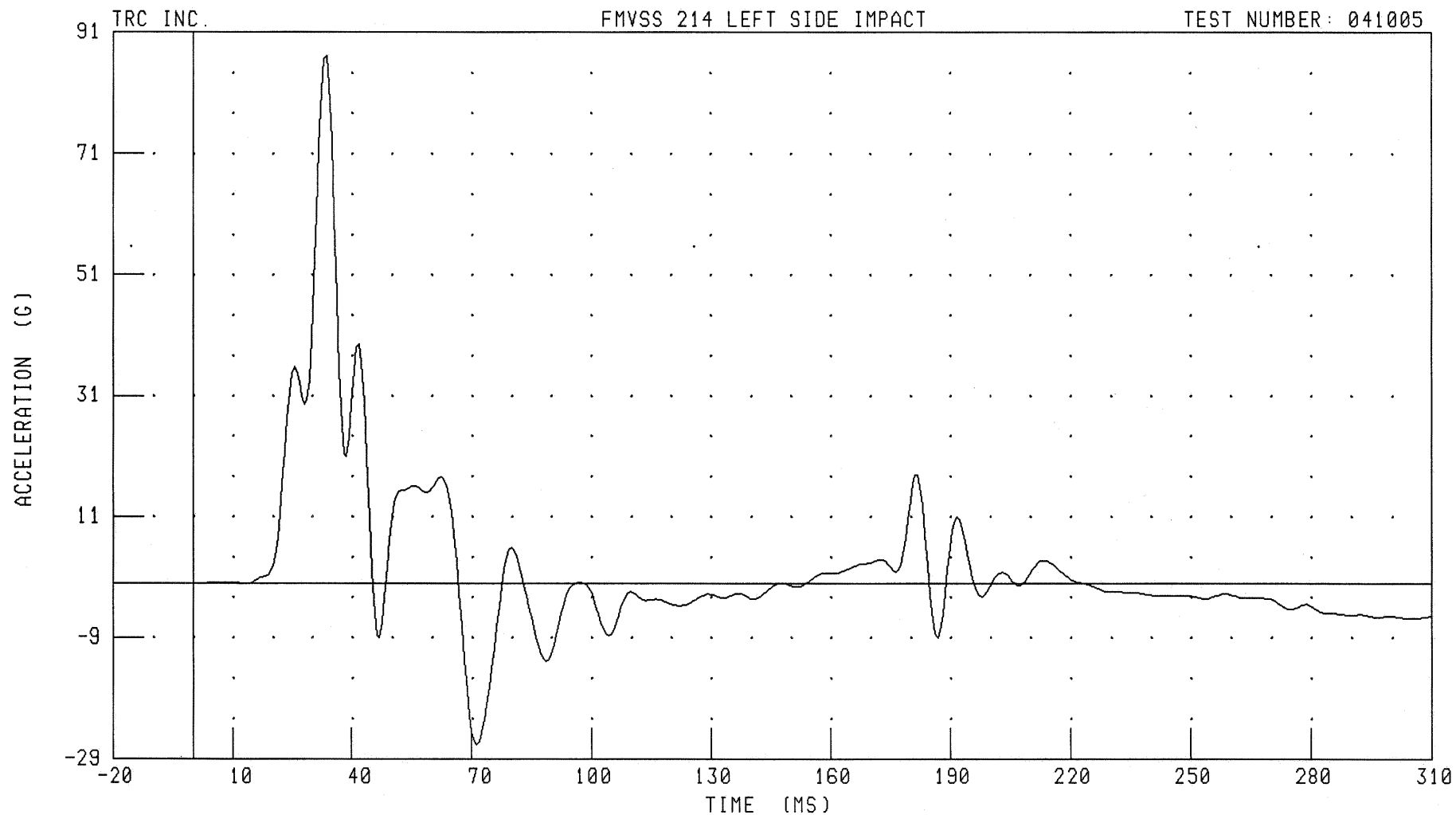
Driver and Passenger Dummy Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYG1

FILTER: FIR 100

PEAK DATA: 87.14 G @ 33.75 MS; -26.66 G @ 71.25 MS

B-150

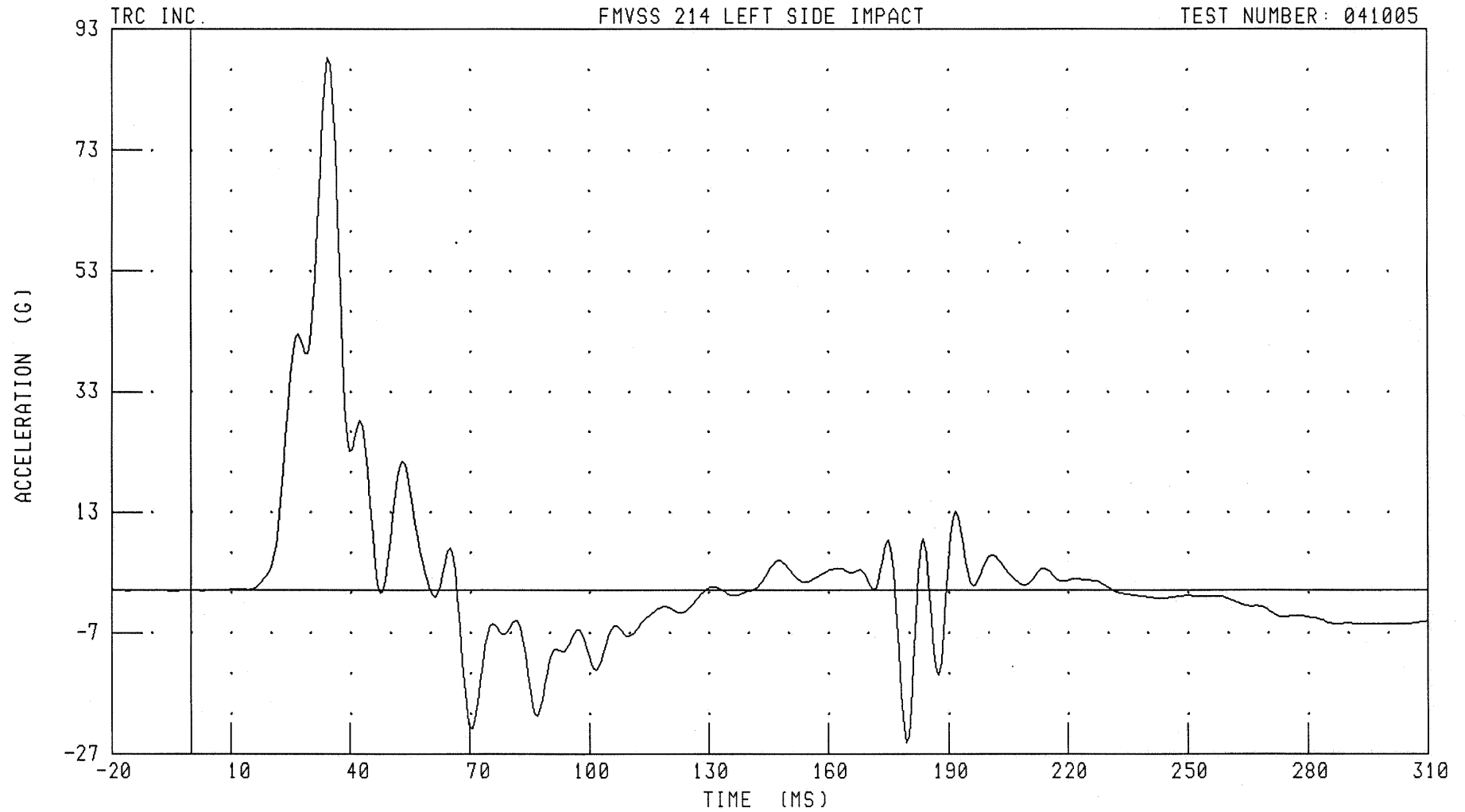
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYG1

FILTER: FIR 100

PEAK DATA: 88.33 G @ 34.38 MS; -25.21 G @ 179.38 MS

B-151

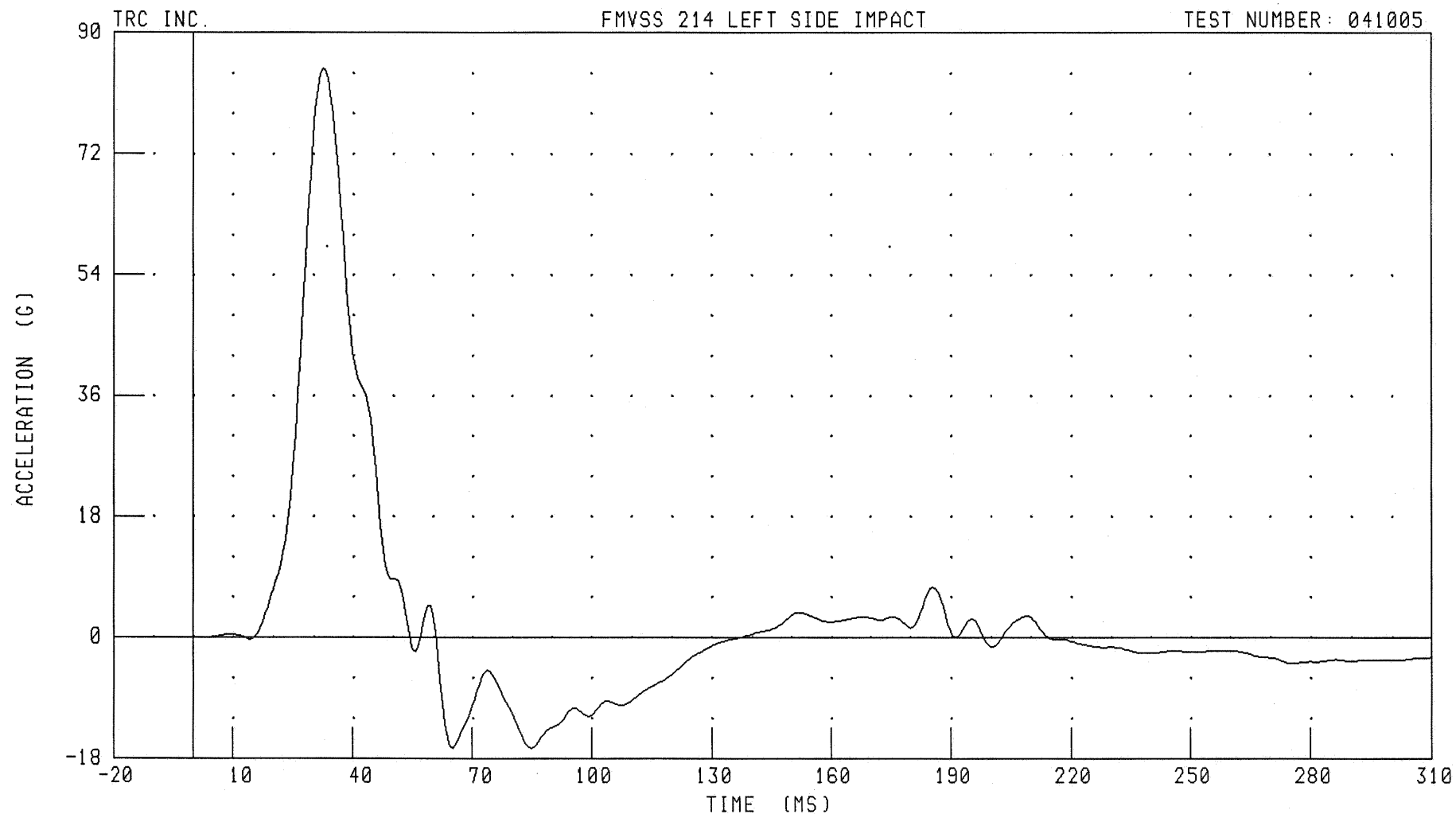
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YG1 FILTER: FIR 100

PEAK DATA: 84.76 G @ 32.50 MS, -16.51 G @ 85.00 MS

B-152

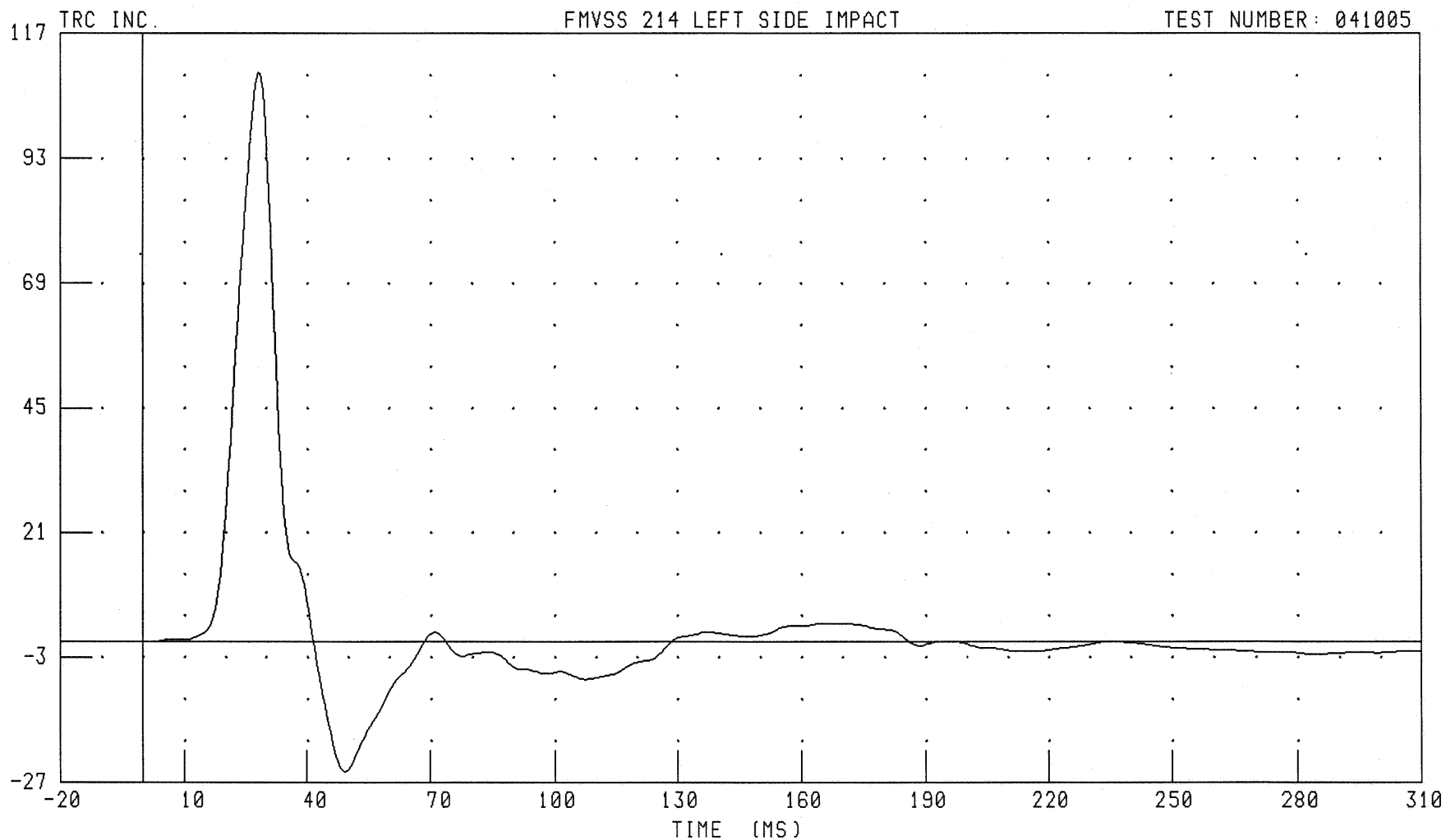
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

DRIVER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYG1

FILTER: FIR 100

PEAK DATA: 109.48 G @ 28.13 MS; -24.97 G @ 49.37 MS

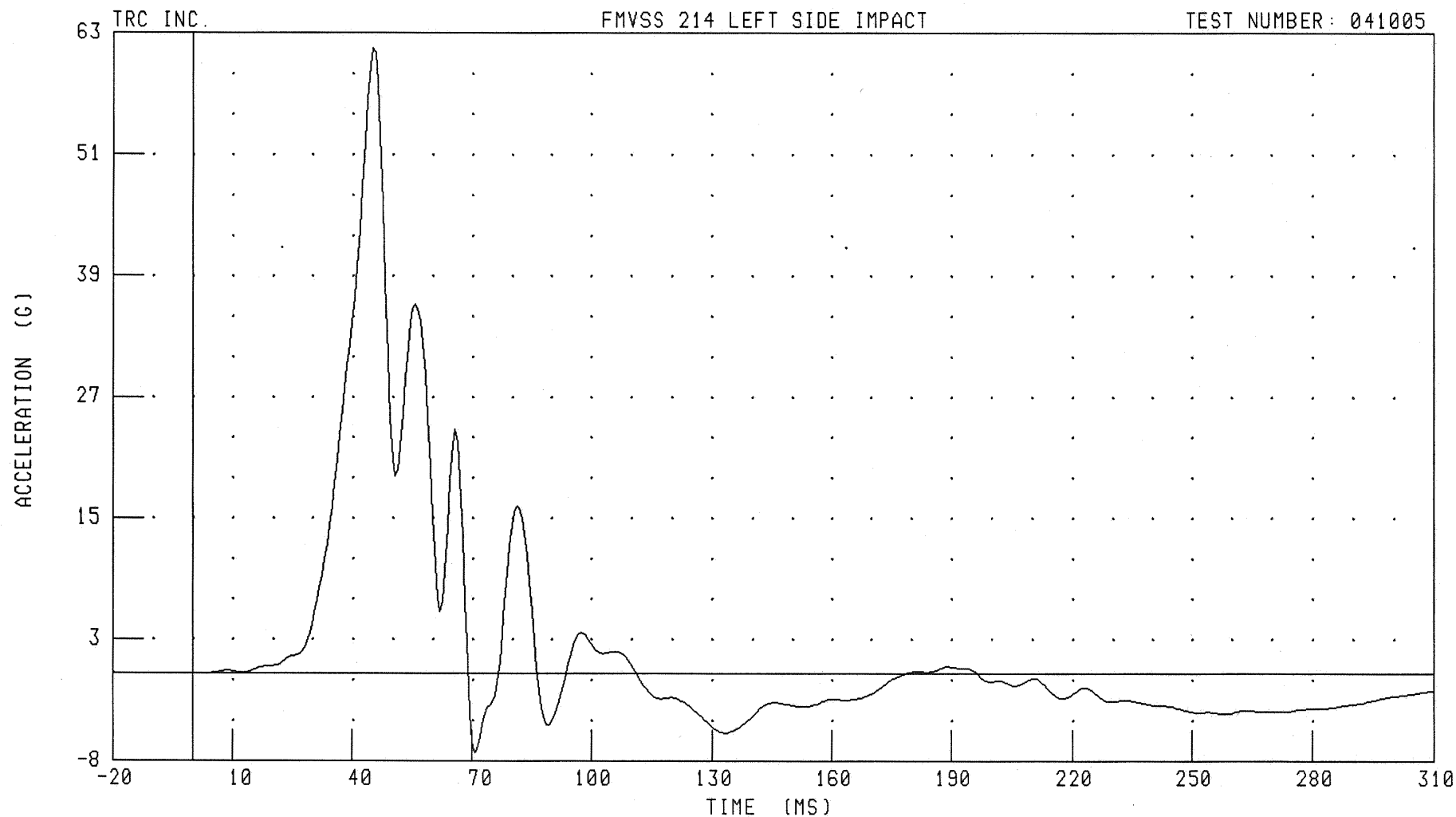
B-153

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYG4

FILTER: FIR 100

PEAK DATA: 61.91 G @ 45.00 MS; -7.82 G @ 70.63 MS

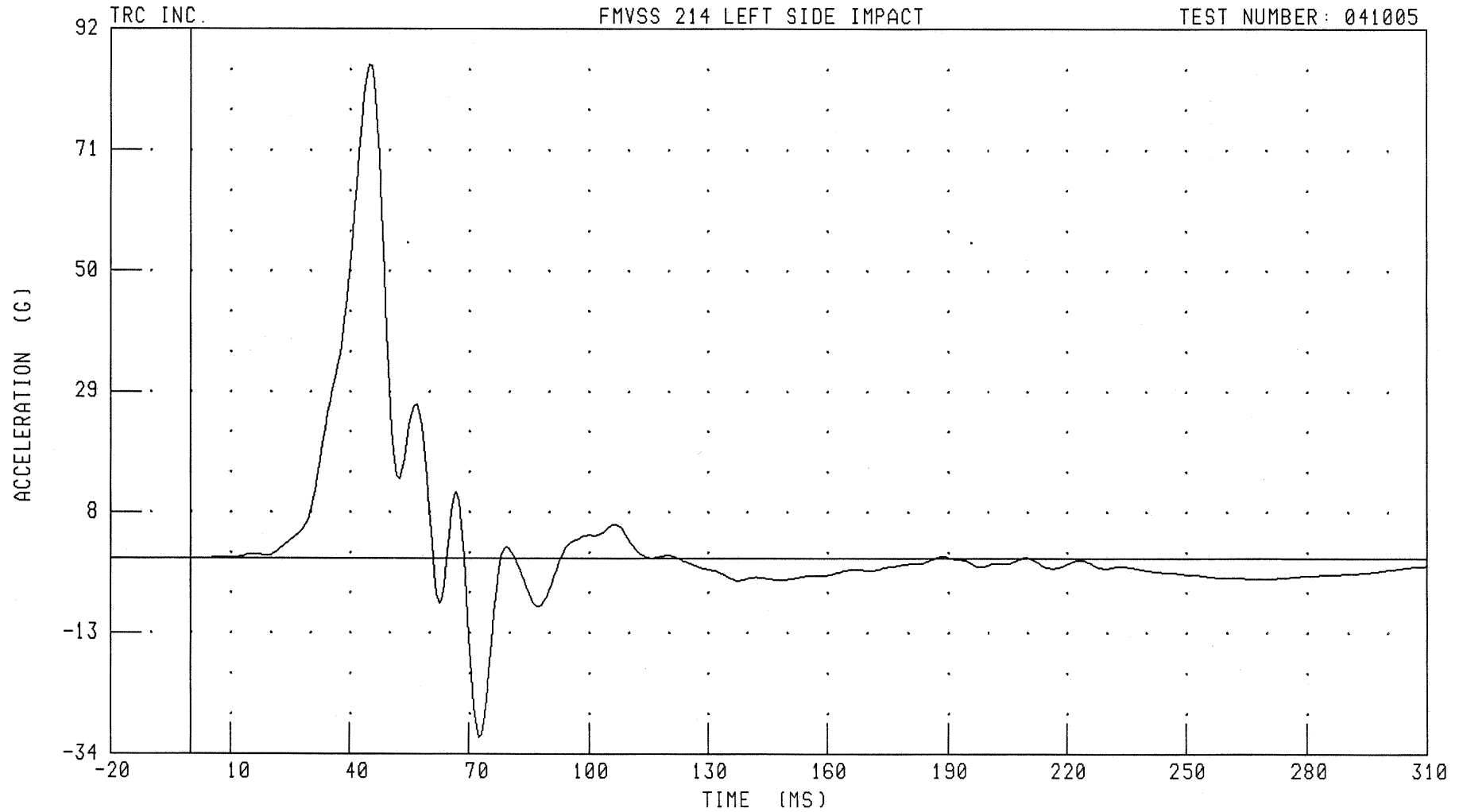
B-154

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYG4 FILTER: FIR 100

PEAK DATA: 85.89 G @ 45.00 MS; -31.10 G @ 72.50 MS

B-155

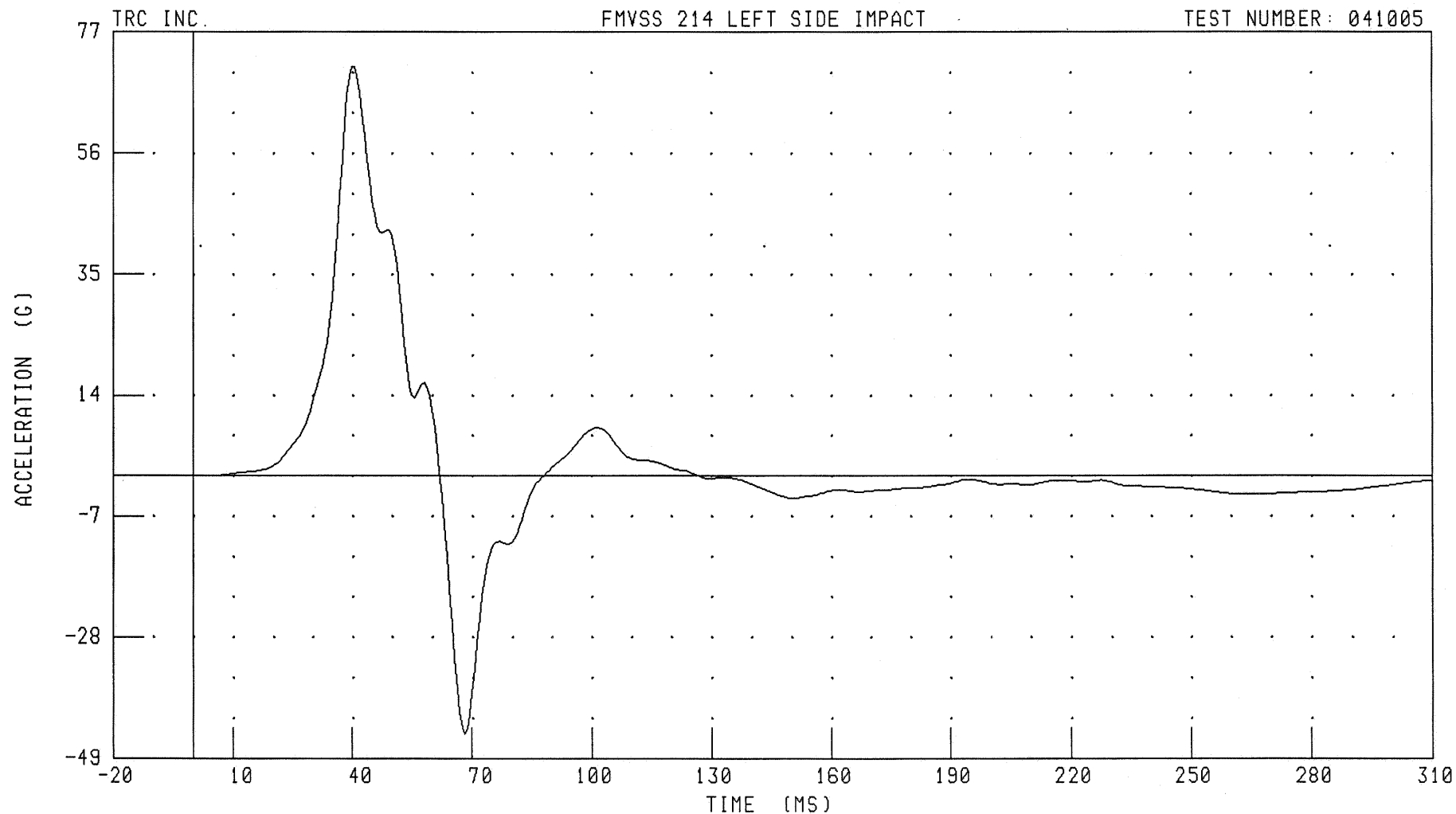
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YG4 FILTER: FIR 100

PEAK DATA: 71.01 G @ 40.00 MS; -44.67 G @ 68.13 MS

B-156

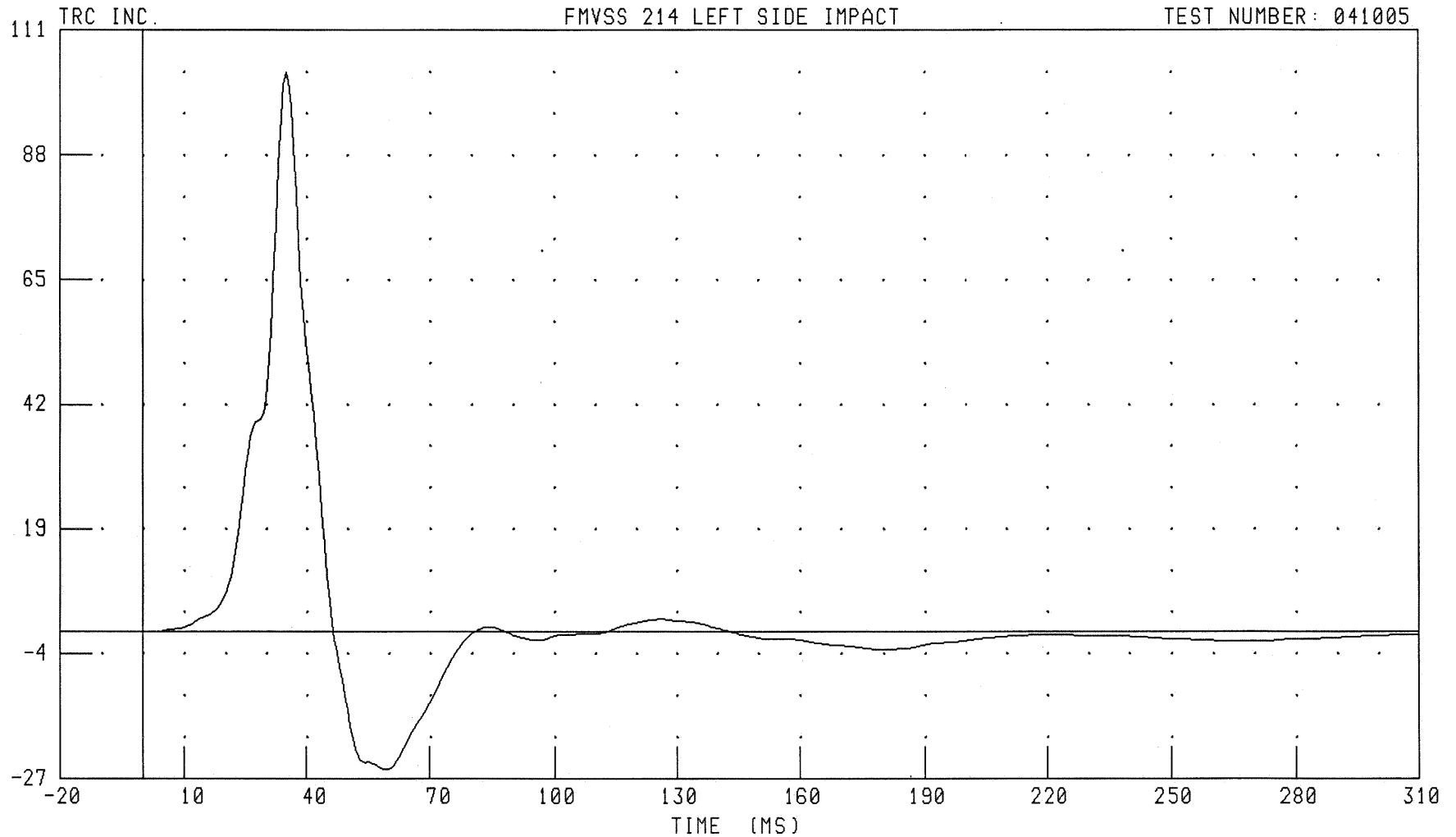
041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA

LEFT REAR PASSENGER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYG4

FILTER: FIR 100

PEAK DATA: 103.31 G @ 35.00 MS; -25.36 G @ 59.38 MS

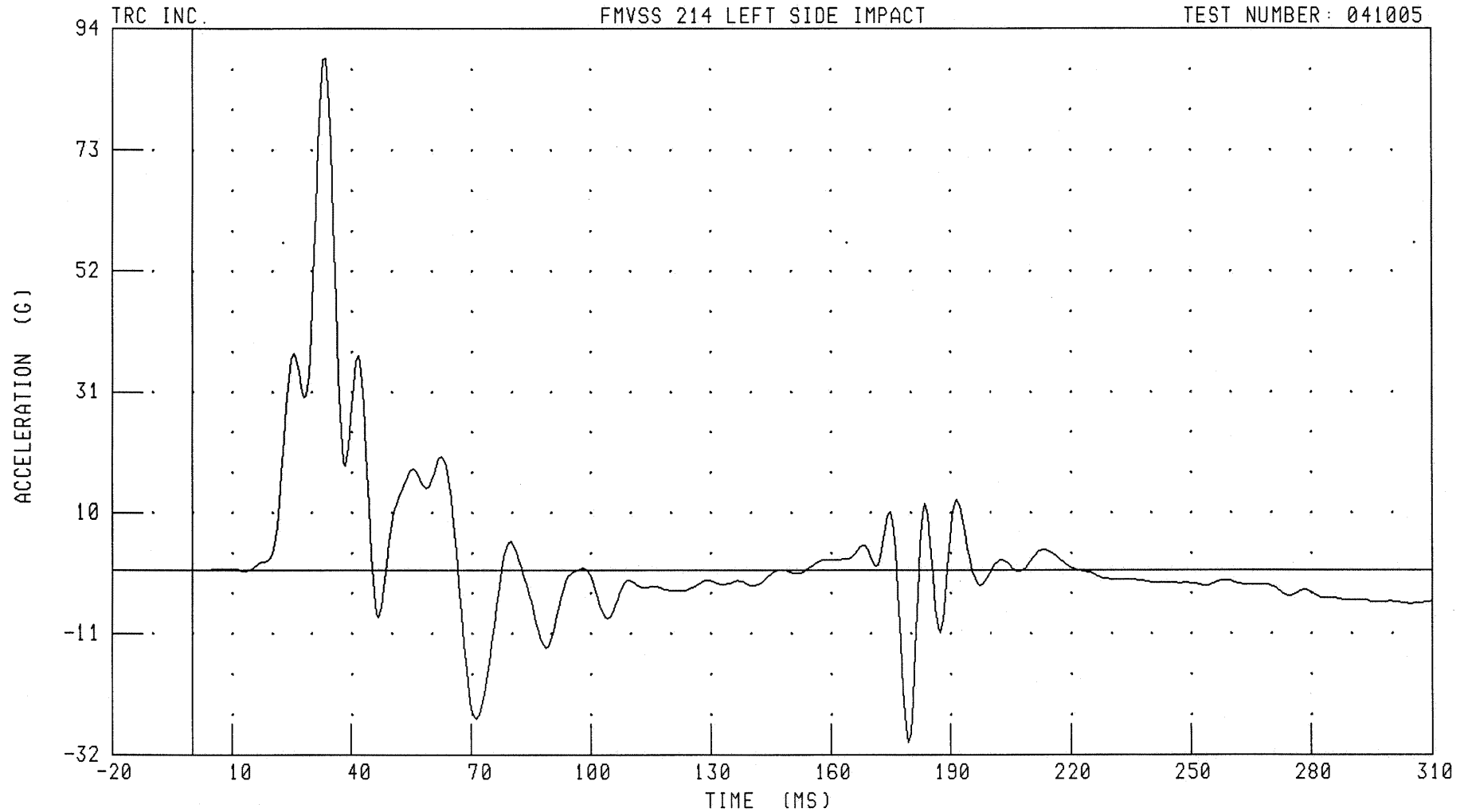
B-157

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYR1

FILTER: FIR 100

PEAK DATA: 88.94 G @ 33.75 MS; -29.84 G @ 179.38 MS

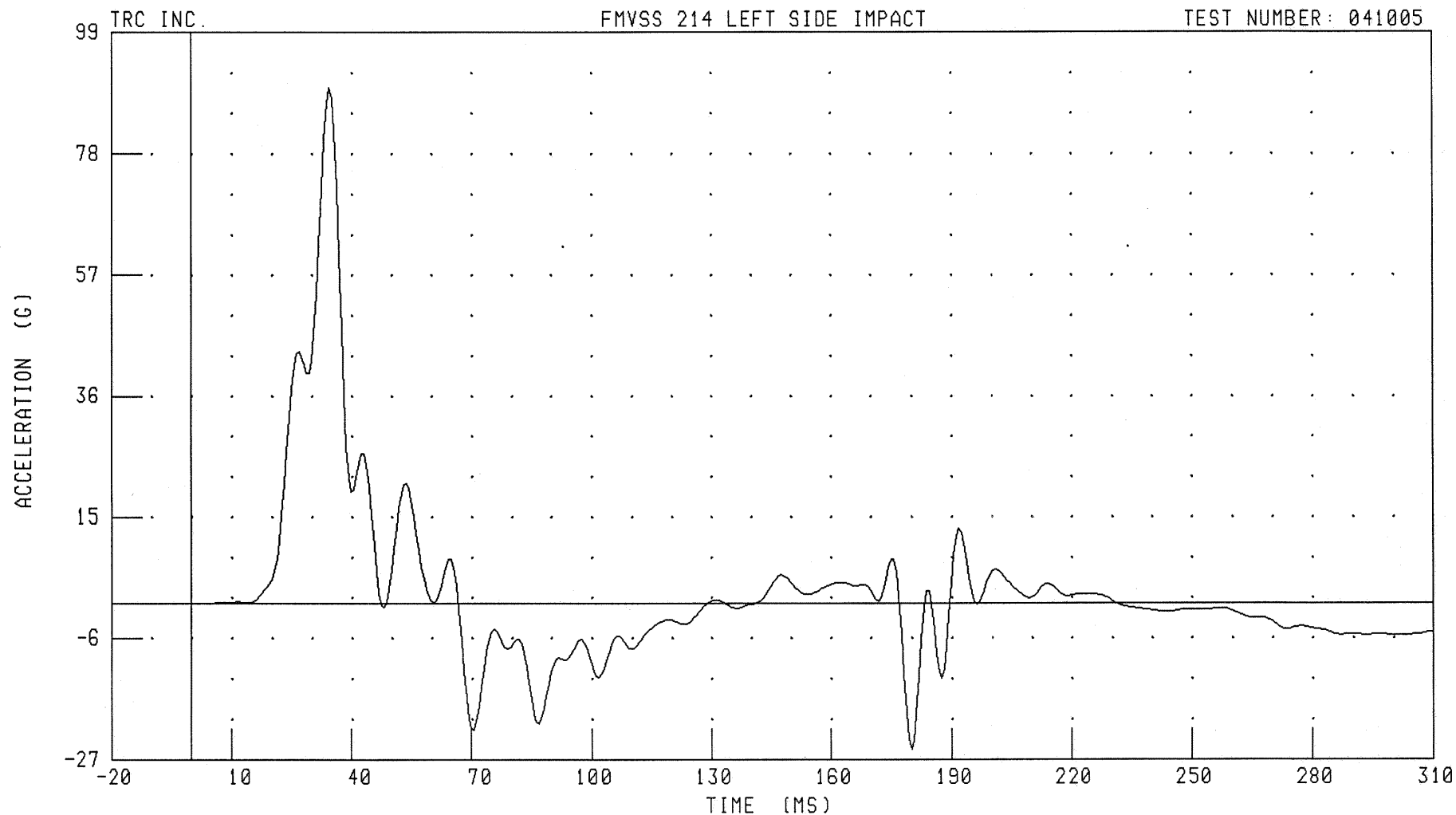
B-158

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYR1

FILTER: FIR 100

PEAK DATA: 89.39 G @ 34.38 MS; -25.28 G @ 180.00 MS

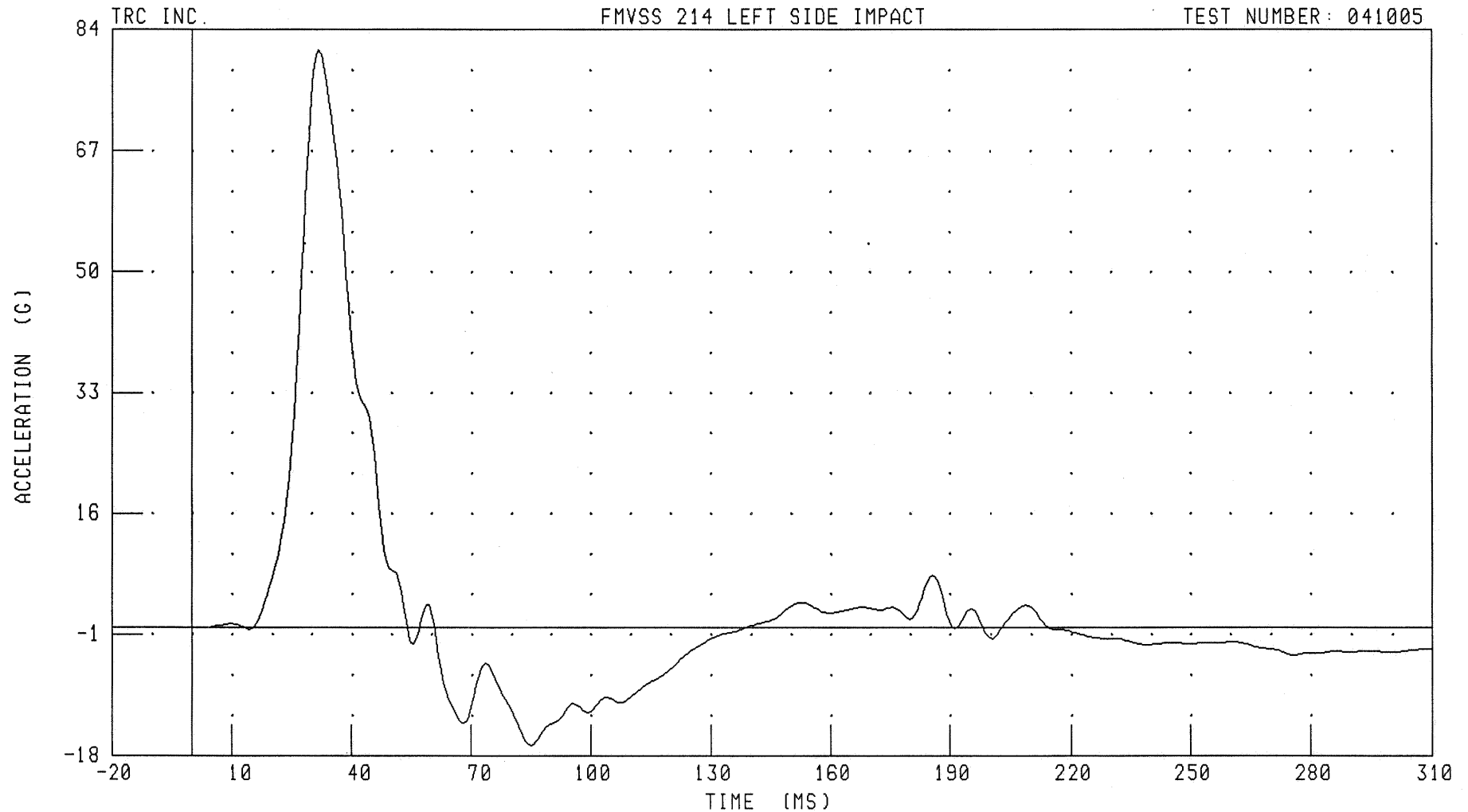
B-159

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YR1 FILTER: FIR 100

PEAK DATA: 81.11 G @ 31.88 MS; -16.59 G @ 85.00 MS

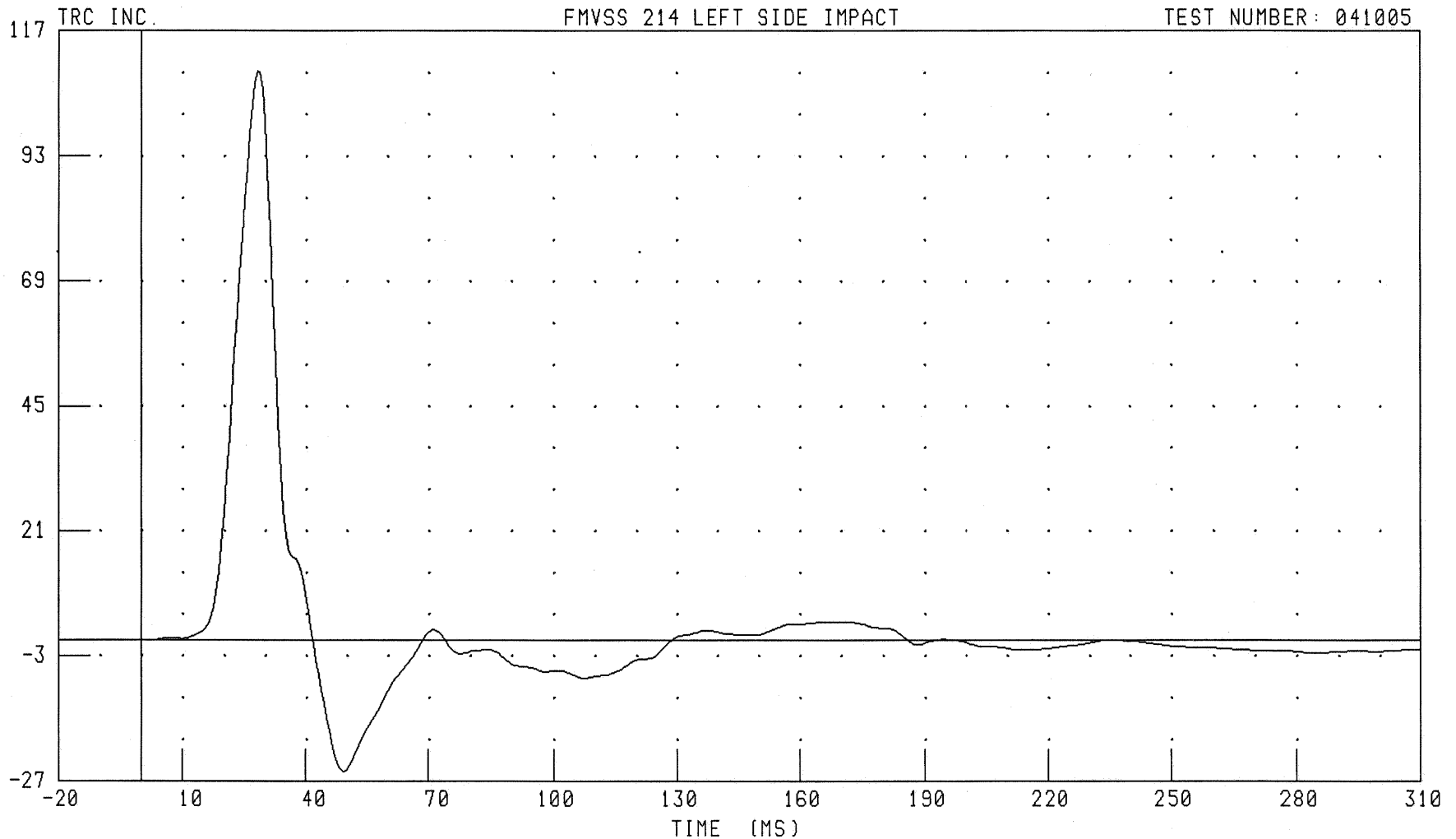
B-160

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYR1

FILTER: FIR 100

PEAK DATA: 109.40 G @ 28.13 MS; -25.11 G @ 49.37 MS

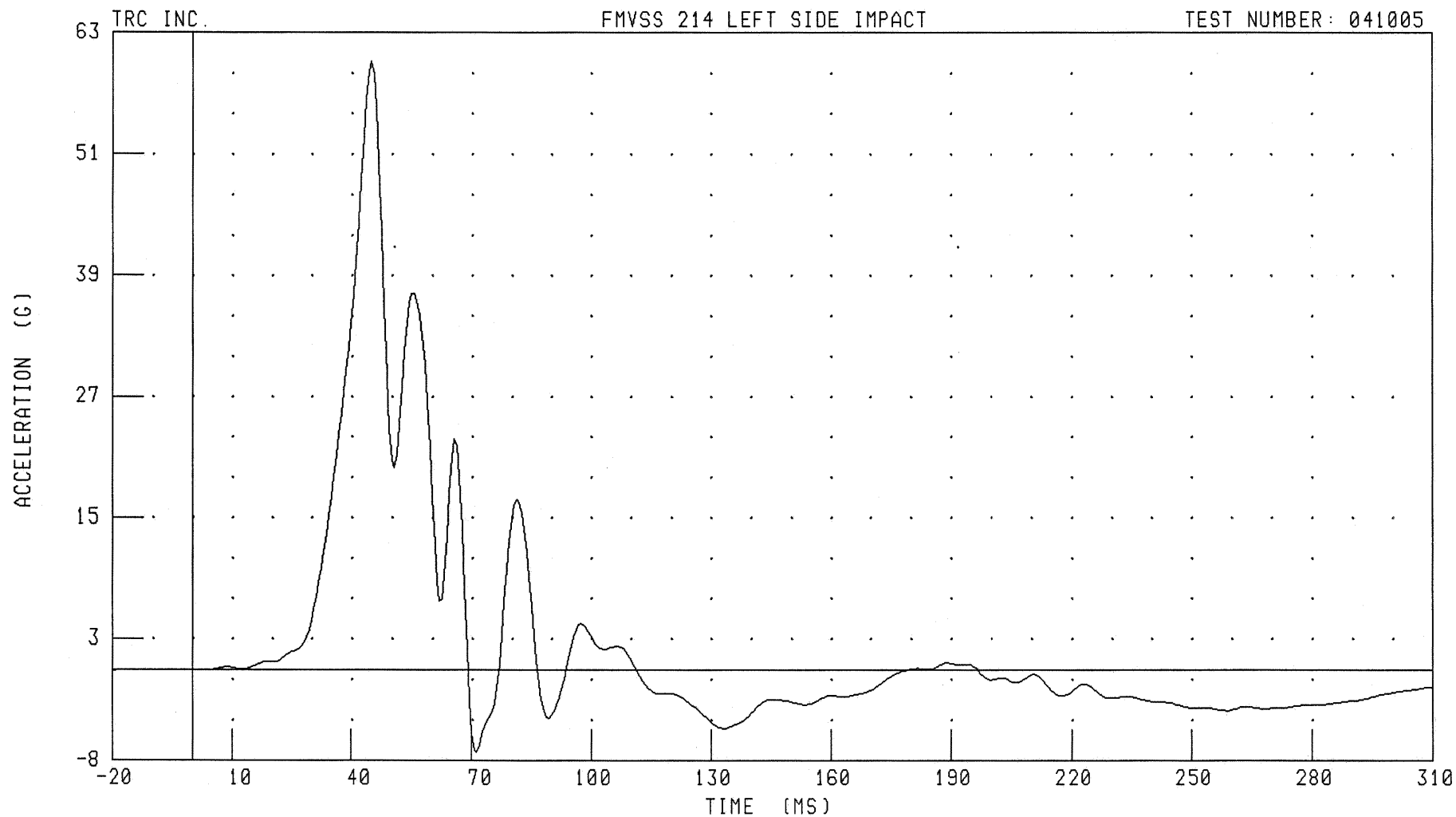
B-161

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LURYR4

FILTER: FIR 100

PEAK DATA: 60.24 G @ 45.00 MS; -8.10 G @ 71.25 MS

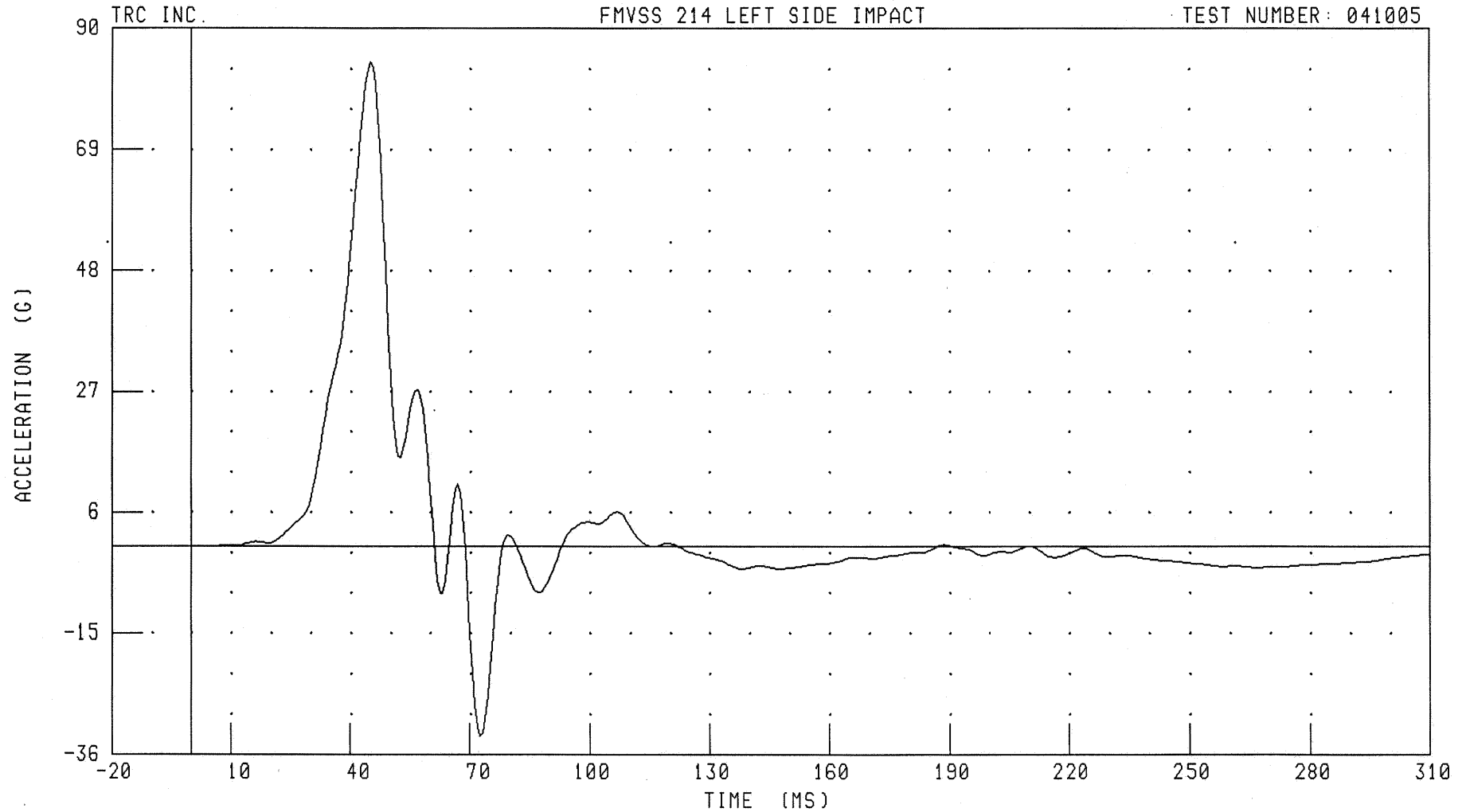
B-162

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: LLRYR4 FILTER: FIR 100

PEAK DATA: 84.08 G @ 45.00 MS; -32.88 G @ 72.50 MS

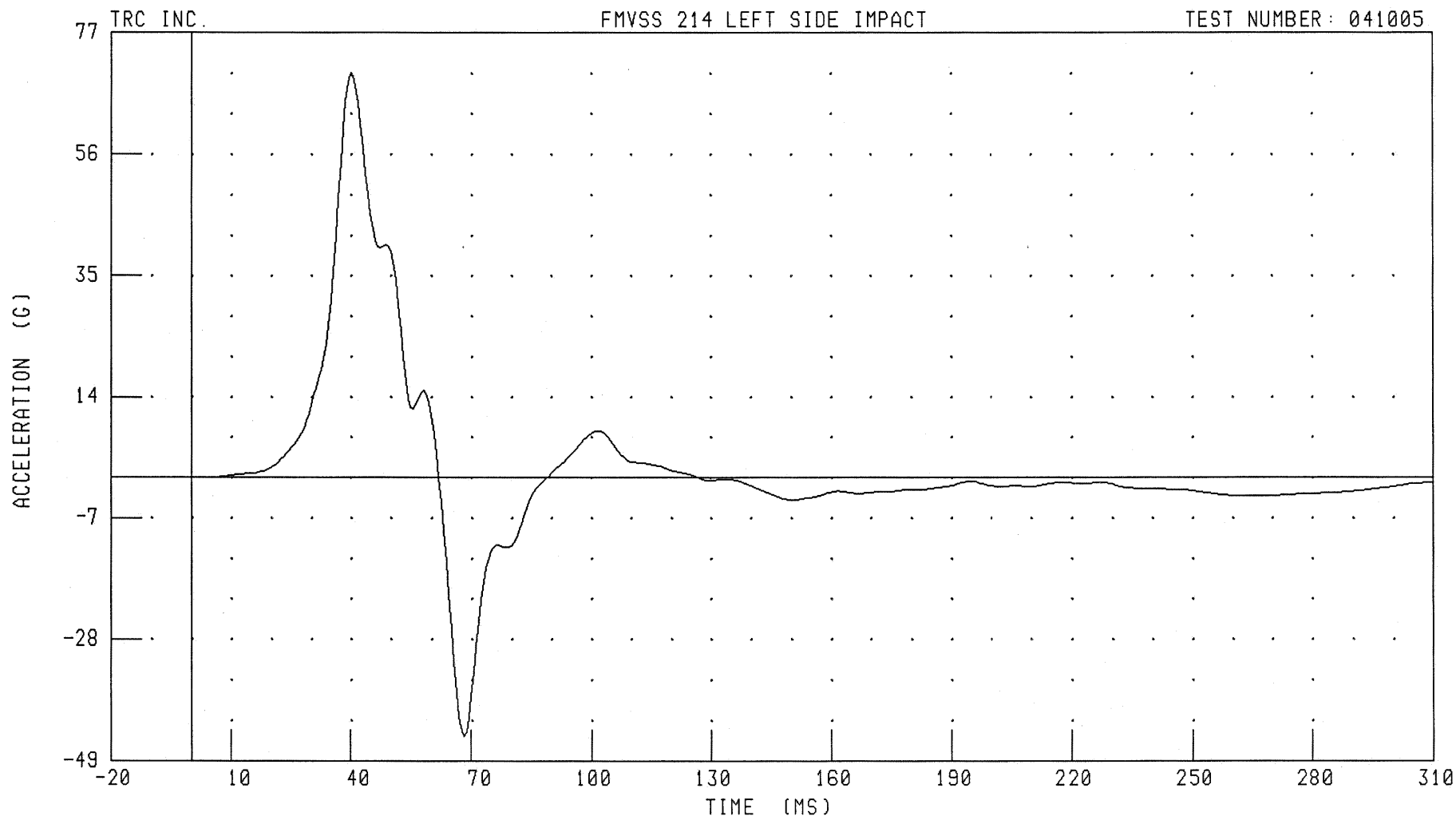
B-163

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: T12YR4 FILTER: FIR 100

PEAK DATA: 69.82 G @ 40.00 MS; -44.82 G @ 68.13 MS

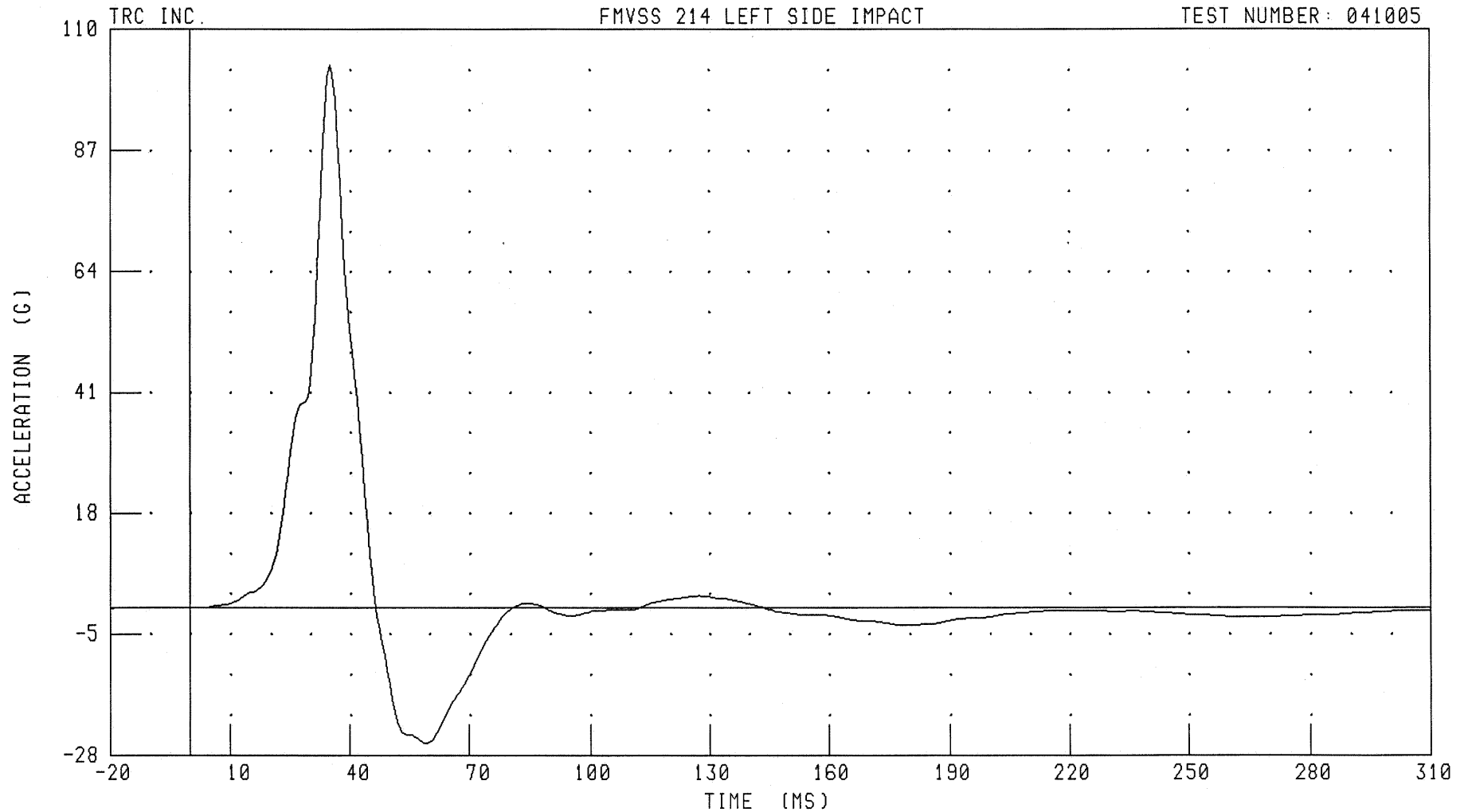
B-164

041005

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 NISSAN ALTIMA
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041005



CHANNEL: PEVYR4

FILTER: FIR 100

PEAK DATA: 103.14 G @ 35.00 MS; -25.67 G @ 59.38 MS

B-165

041005

Appendix C

SID HIII Configuration and Performance Verification Data

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

Date: 10/04/04 TRC Inc. Test Number: S/N055 & S/N059
Laboratory Technician: V. Olivieri

Test Parameter	Specification	SID HIII 055		SID HIII 059	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH - Seated Height (mm)	889-909	908	907	906	903
RH - Rib Height (mm)	502-520	513	515	509	510
HP - Hip Pivot Height (mm)	99 ref	99.1	99.1	99.1	99.1
KH - Knee Pivot from Back Line (mm)	511-526	523	522	522	520
KV - Knee Pivot to Floor (mm)	490-505	495	495	494	493
HW - Hip Width (mm)	356-391	366	368	366	364
Thorax Impacts					
Temperature (°C)	18.9-25.5	21.4	21.2	21.3	21.2
Relative Humidity (%)	10-70	48	32	53	33
Probe Speed (m/s)	4.27-4.33	4.32	4.31	4.33	4.29
Upper Rib (g's)	37-46	42.7	42.8	41.2	40.5
Lower Rib (g's)	37-46	41.0	41.7	38.1	37.5
Lower Spine (g's)	15-22	18.6	19.3	20.2	21.2
Pelvis Impacts					
Temperature (°C)	18.9-25.5	21.3	21.4	21.4	21.4
Relative Humidity (%)	10-70	50	31	52	35
Probe Speed (m/s)	4.27-4.33	4.31	4.32	4.32	4.31
Pelvis (g's)	40-60	45.3	45.8	42.6	42.8

Calibration Test Results

Pre-Test

SID HIII: 055

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. 055 Calibration No. 15

Date: 09/29/04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	908 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	513 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	523 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	495 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	366 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	177 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	176 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	1.0 mm	Yes

Technician

Kurt Davis

Approved

David C. Stevens



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 055 Calibration No. 15 - 2

Test Date 10/04/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	36 %	Yes
Peak Resultant Acceleration	120 - 150 g	137.2 g	Yes
Peak Longitudinal Acceleration	15 g Max	-4.7 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Vincent Sherr

Approved

Paul K. Hanner

10.04.2004 14:53:00 612

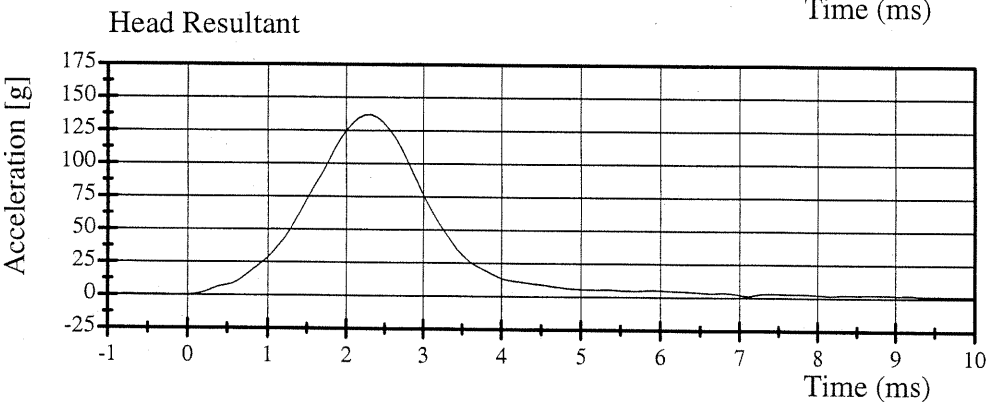
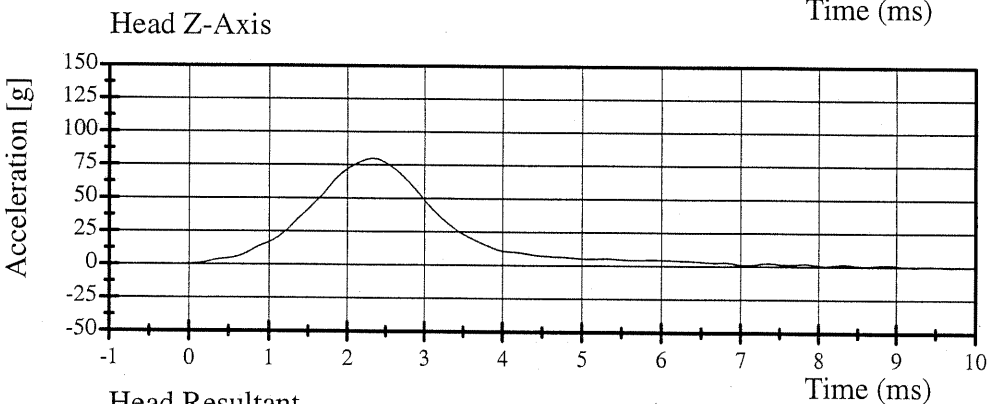
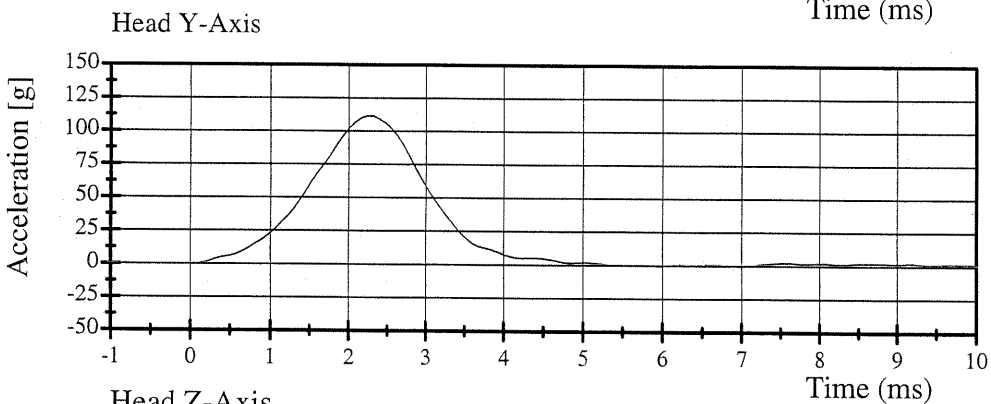
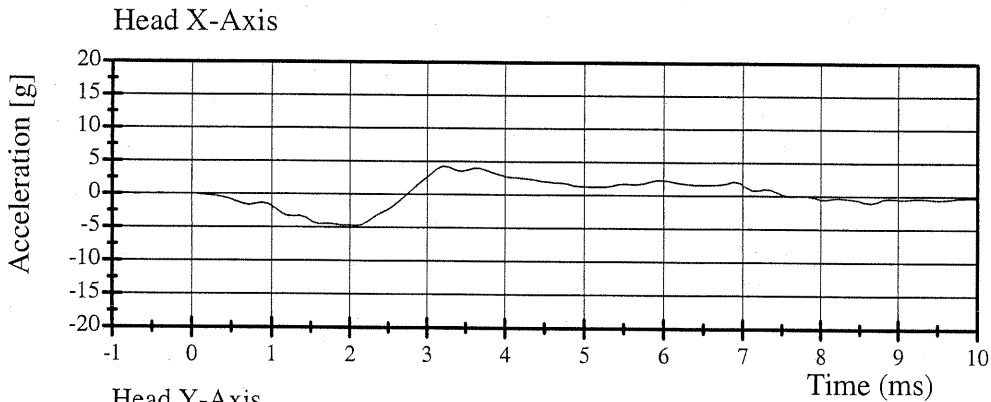


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 055 Calibration No. 15 - 2

Test Date 10/04/2004



10.04.2004 14:53:01 612



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 15 - 4

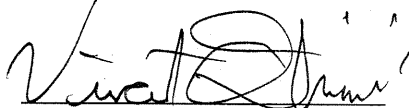
Test Date 09/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	49 %	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	2.39 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.69 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.53 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.14 - 7.30 m/s	Yes
Peak D Plane Rotation	66 - 82 °	71.0 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	62.2 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	82.4 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	55.4 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	9.5 ms	Yes

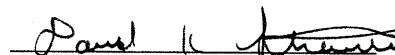
Test meets specifications.

Comments:

Technician



Approved



09.27.2004 08:58:37 517



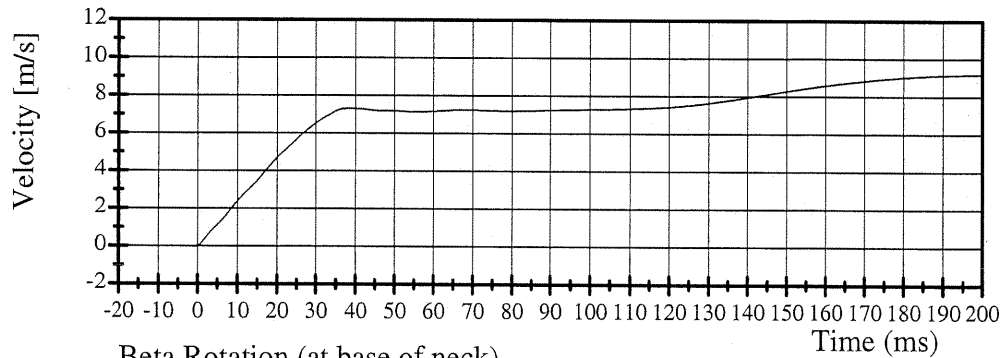
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 15 - 4

Test Date 09/27/2004

Integrated Pendulum Velocity

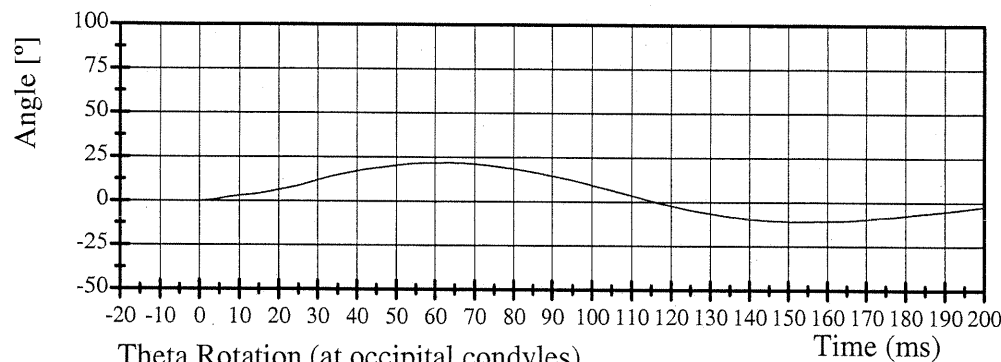


Filter Class: 180

Max: 9.6 m/s at 958.6 ms

Min: -0.0 m/s at -0.6 ms

Beta Rotation (at base of neck)

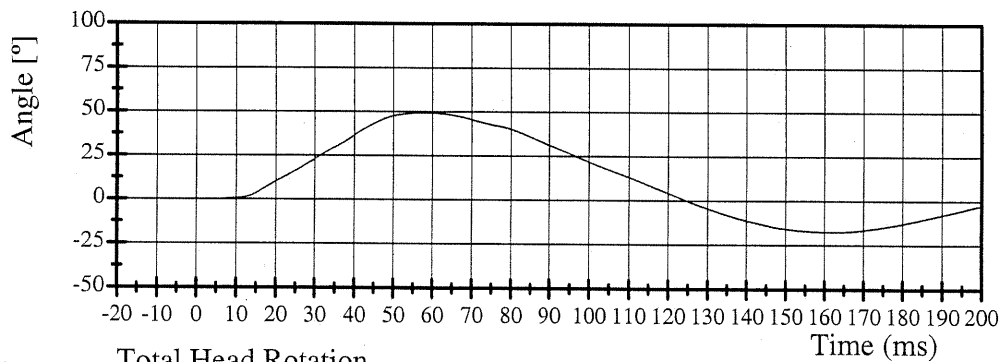


Filter Class: 60

Max: 21.8 ° at 63.5 ms

Min: -11.0 ° at 153.1 ms

Theta Rotation (at occipital condyles)

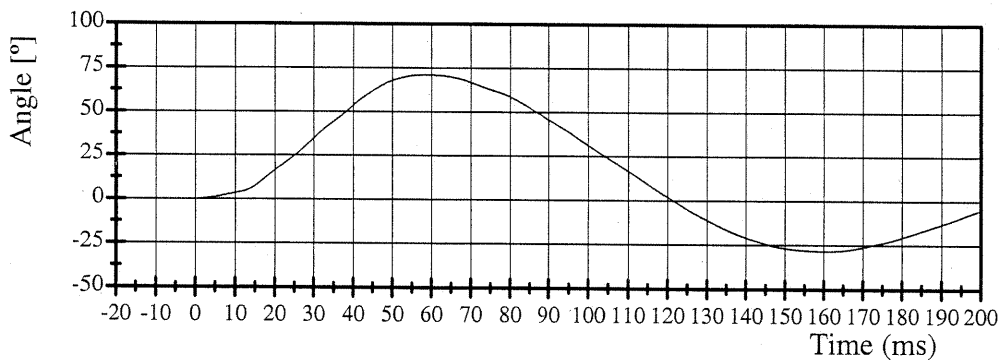


Filter Class: 60

Max: 49.4 ° at 57.6 ms

Min: -17.6 ° at 162.0 ms

Total Head Rotation



Filter Class: 60

Max: 71.0 ° at 59.3 ms

Min: -28.3 ° at 160.5 ms

09.27.2004 08:58:38 517



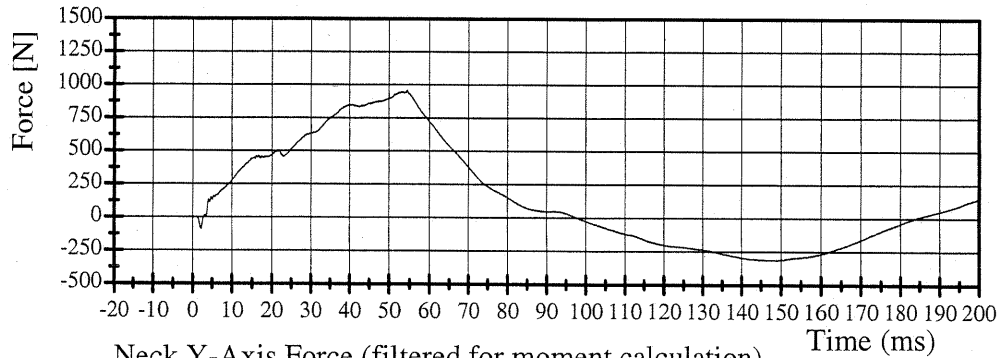
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 15 - 4

Test Date 09/27/2004

Neck Y-Axis Force

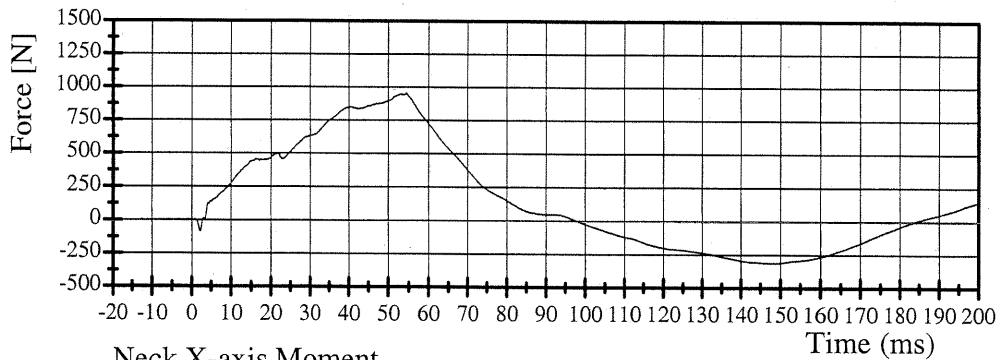


Filter Class: CFC 1000

Max: 959 N at 54.5 ms

Min: -314 N at 148.6 ms

Neck Y-Axis Force (filtered for moment calculation)

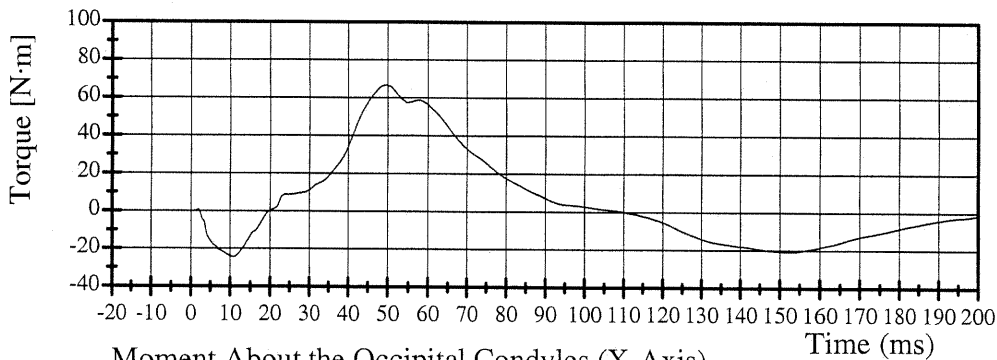


Filter Class: CFC 600

Max: 953 N at 54.4 ms

Min: -313 N at 148.7 ms

Neck X-axis Moment

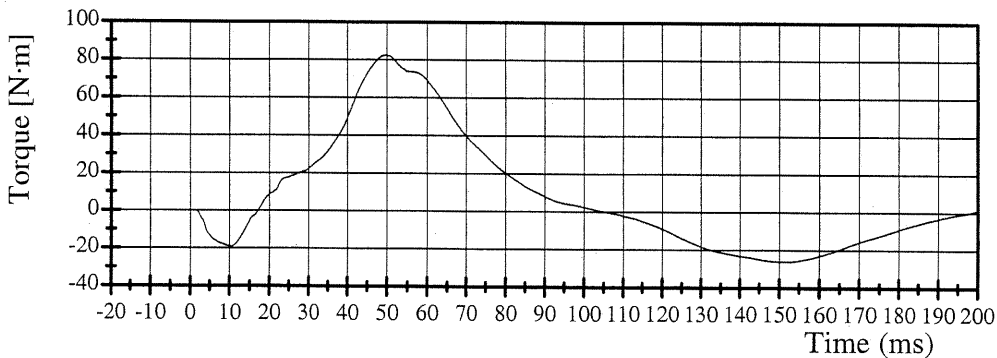


Filter Class: CFC 600

Max: 66.6 N·m at 49.5 ms

Min: -24.3 N·m at 10.9 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 82.4 ° at 49.8 ms

Min: -26.1 ° at 151.6 ms

09.27.2004 08:58:40 517



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 055 Calibration No. 15 - 1

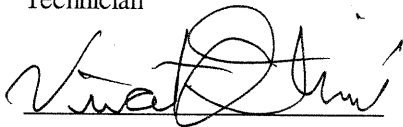
Test Date 09/29/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	48 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.32 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	42.7 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	41.0 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	18.6 g	Yes

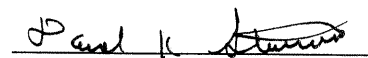
Test meets specifications.

Comments:

Technician



Approved



09.29.2004 10:22:42 1084



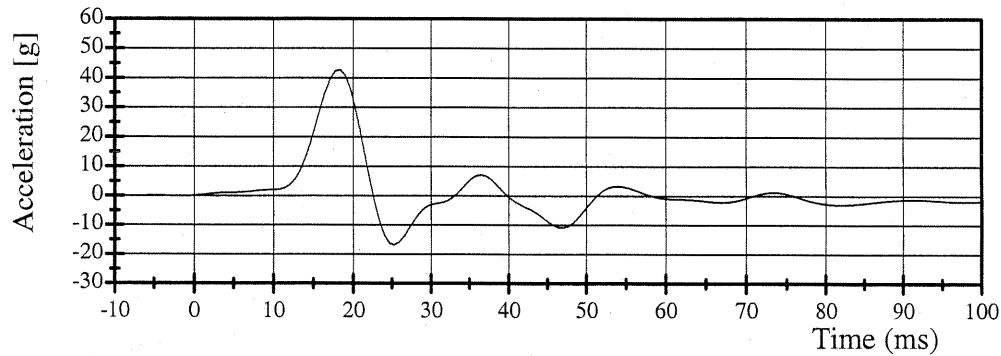
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 055 Calibration No. 15 - 1

Test Date 09/29/2004

Upper Rib Bar Acceleration

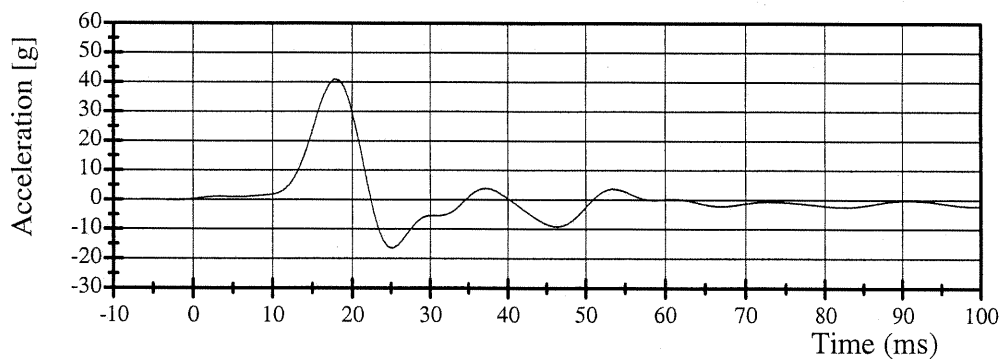


Filter Class: FIR 100

Max: 42.7 g at 18.3 ms

Min: -16.8 g at 25.2 ms

Lower Rib Bar Acceleration

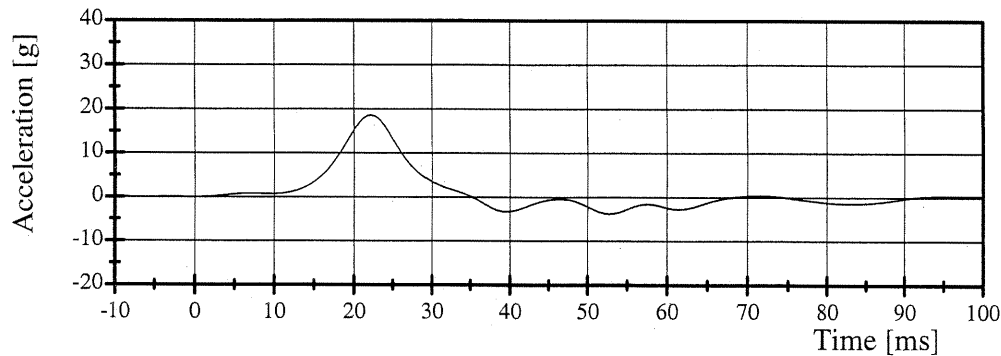


Filter Class: FIR 100

Max: 41.0 g at 17.8 ms

Min: -16.4 g at 25.2 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 18.6 g at 22.1 ms

Min: -3.8 g at 52.7 ms

09.29.2004 10:22:44 1084



Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 055 Calibration No. 15 - A1

Test Date 09/16/2004

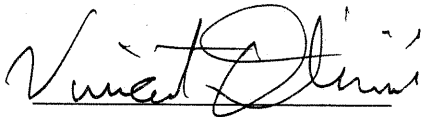
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	60 %	Yes
Pendulum Velocity		2.69 m/sec	
Maximum Force at Test Velocity	640 - 893 N	745 N	Yes
Maximum Displacement at Test Velocity	29.6 - 34.4 mm	32.4 mm	Yes

Test meets specifications.

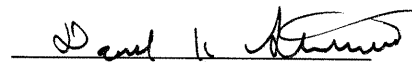
Comments:

Damper Setting : 9.0

Technician



Approved



09.16.2004 10:21:03 1753



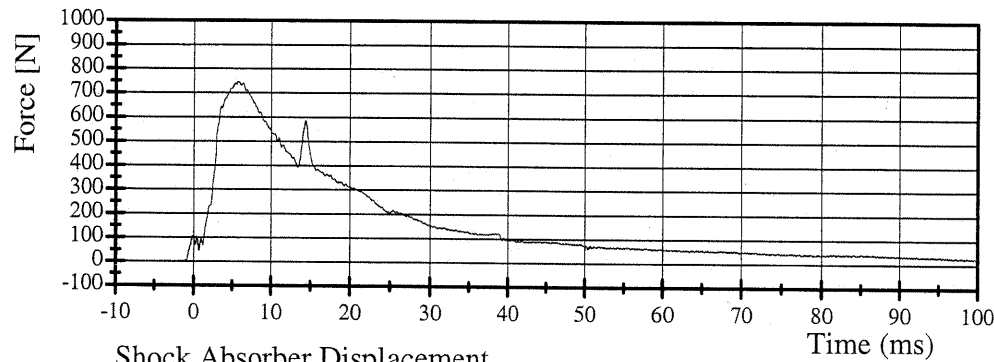
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 055 Calibration No. 15 - A1

Test Date 09/16/2004

Shock Absorber Resistive Force

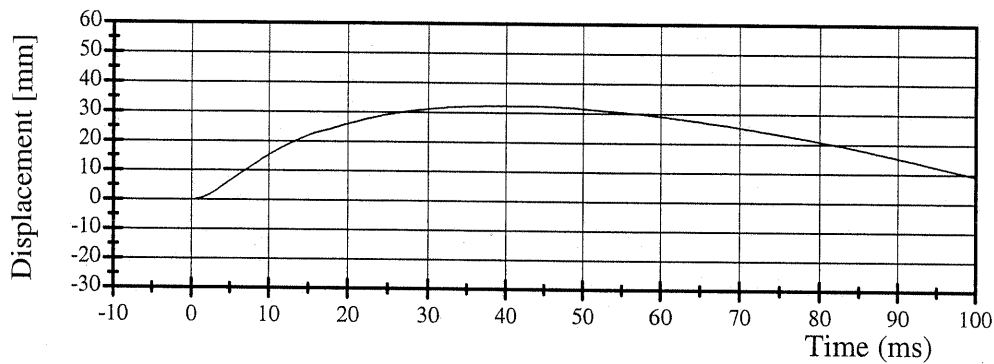


Filter Class: 1000

Max: 745 N at 5.7 ms

Min: -1872 N at 114.3 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 32.4 mm at 39.0 ms

Min: -0.2 mm at 114.7 ms

Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 055 Calibration No. 15 - B1

Test Date 09/16/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.2 C	Yes
Relative Humidity	10 - 70 %	63 %	Yes
Pendulum Velocity		4.27 m/sec	
Maximum Force at Test Velocity	1736 - 2099 N	1932 N	Yes
Maximum Displacement at Test Velocity	31.7 - 37.2 mm	36.3 mm	Yes

Test meets specifications.

Comments:

Damper Setting : 9.0

Technician

Vincent D. Smith

Approved

David H. Smith

09.16.2004 10:55:23 1342



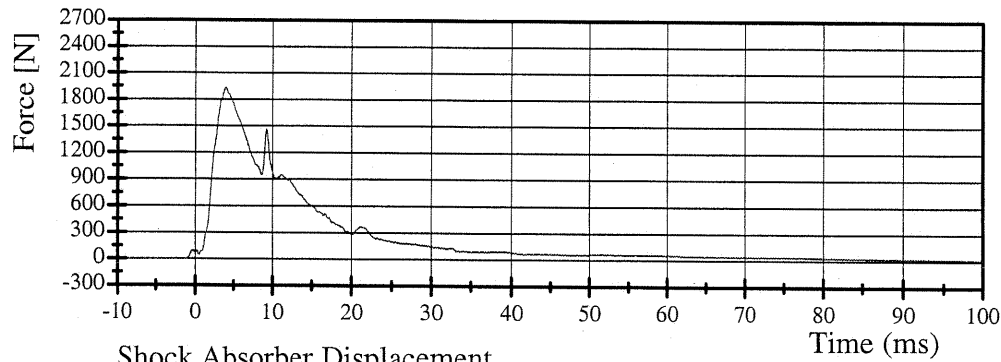
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 055 Calibration No. 15 - B1

Test Date 09/16/2004

Shock Absorber Resistive Force

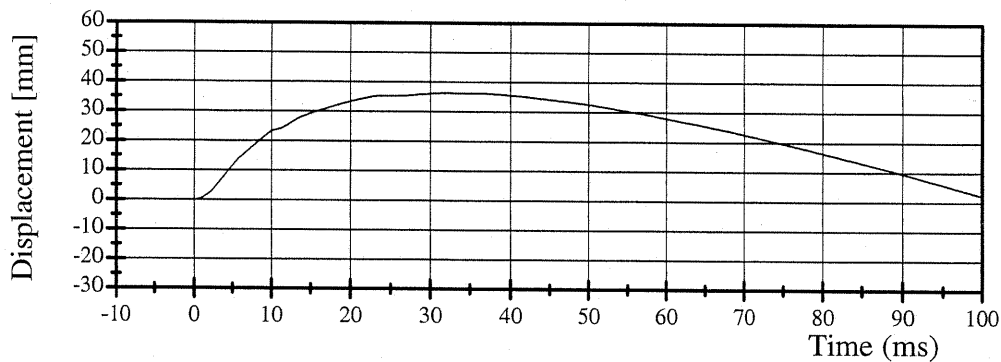


Filter Class: 1000

Max: 1932 N at 3.9 ms

Min: -2050 N at 102.9 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 36.3 mm at 32.1 ms

Min: -0.3 mm at 103.5 ms

Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 055 Calibration No. 15 - C2

Test Date 09/16/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.3 C	Yes
Relative Humidity	10 - 70 %	60 %	Yes
Pendulum Velocity		6.05 m/sec	
Maximum Force at Test Velocity	3681 - 4365 N	4273 N	Yes
Maximum Displacement at Test Velocity	33.3 - 39.5 mm	37.5 mm	Yes

Test meets specifications.

Comments:

Damper Setting : 9.0

Technician

Vincent D. Smith

Approved

Daniel K. Smith

09.16.2004 12:42:11 1136



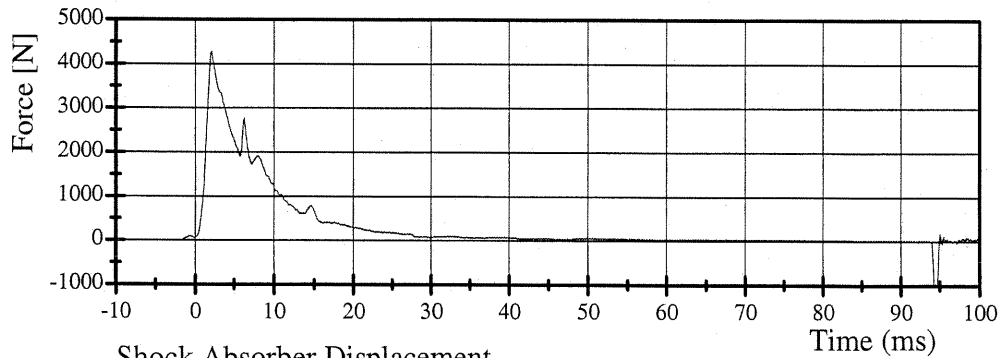
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 055 Calibration No. 15 - C2

Test Date 09/16/2004

Shock Absorber Resistive Force

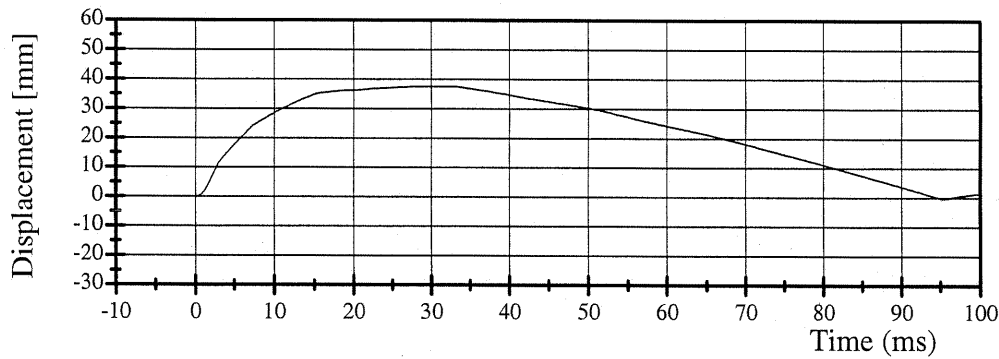


Filter Class: 1000

Max: 4273 N at 2.1 ms

Min: -1423 N at 94.4 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 37.5 mm at 31.1 ms

Min: -0.3 mm at 95.4 ms

TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

CAL DATE: 14-Sep-04

TRC, INC.

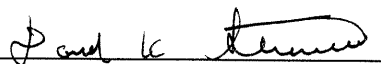
TEST NO: 055C15TF1

572M SN 055 TORSO FLEX CAL 15

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.4°C
RELATIVE HUMIDITY	10 – 70 %	60 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	133.5 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	155.7 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	213.5 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	3.7 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 055 Calibration No. 15 - 11

Test Date 09/16/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	62 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.7 - 8.0 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Vincent D. Smith

Approved

David H. Smith

09.16.2004 08:21:38 1983

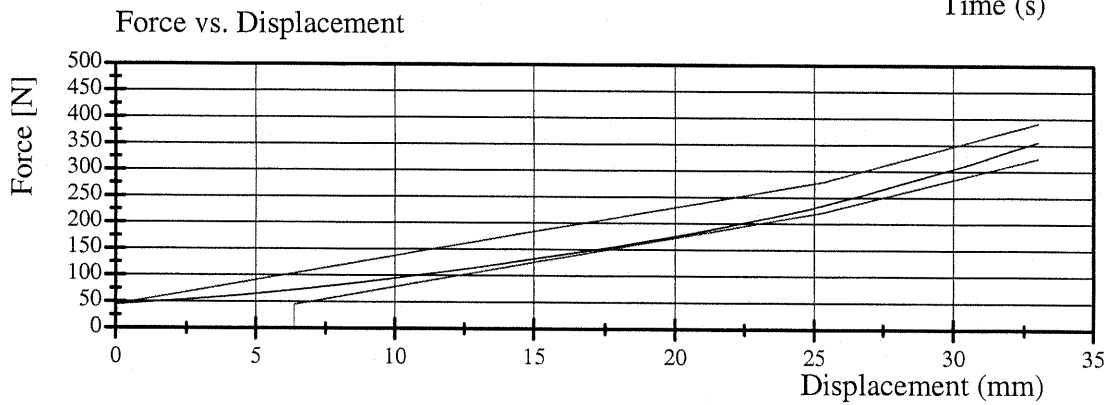
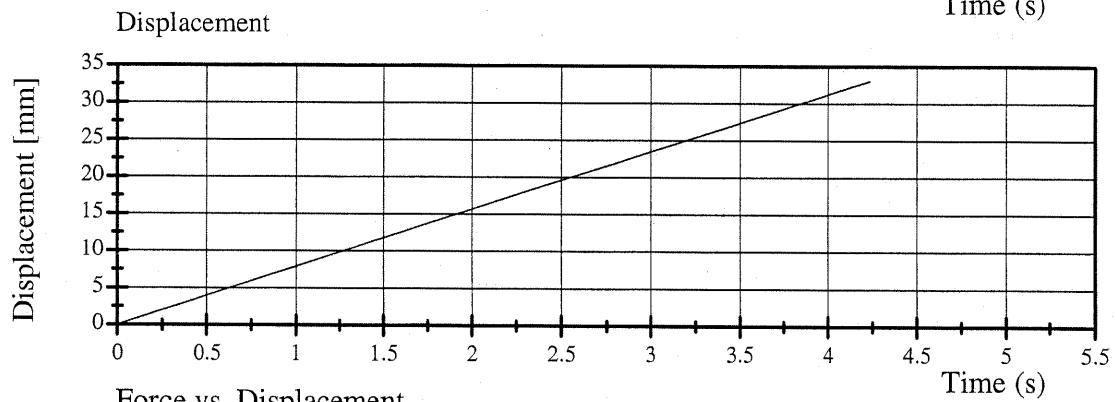
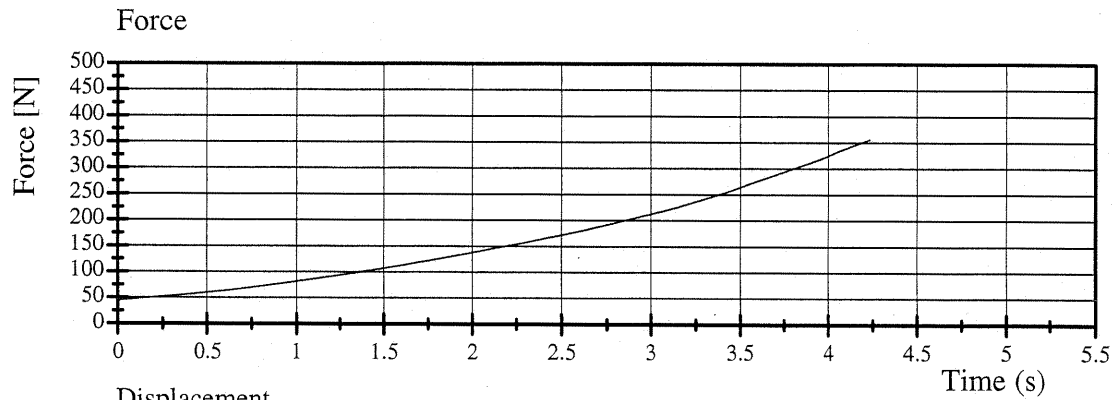


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 055 Calibration No. 15 - 11

Test Date 09/16/2004



09.16.2004 08:21:39 1983



Transportation Research Center Inc.

572F Left Side Pelvis Test

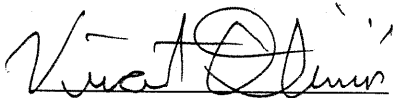
SID HIII Serial No. 055 Calibration No. 15 - 1

Test Date 09/29/2004

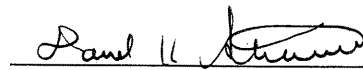
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.3 C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.31 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	45.3 g	Yes
Time Above 20 g	3 - 7 ms	6.08 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



09.29.2004 10:06:13 1142

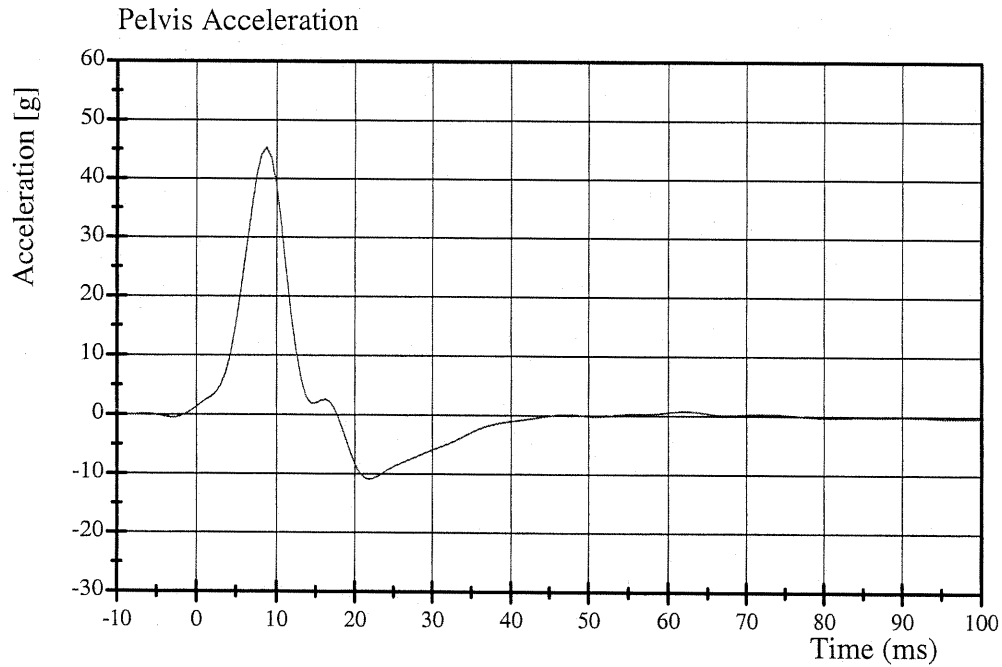


Transportation Research Center Inc.

572F Left Side Pelvis Test

SID HIII Serial No. 055 Calibration No. 15 - 1

Test Date 09/29/2004



Filter Class: FIR 100

Max: 45.3 g at 8.7 ms

Min: -10.9 g at 21.8 ms

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 Pre-Test
External Dimensions
Serial No. 059 Calibration No. 10
Date:09/29/04

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	509 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	522 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	494 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	366 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

Vincent Oliver

Approved

V.P. Walter



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 059 Calibration No. 10 - 3

Test Date 10/04/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Peak Resultant Acceleration	120 - 150 g	142.5 g	Yes
Peak Longitudinal Acceleration	15 g Max	-8.7 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

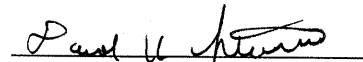
Test meets specifications.

Comments:

Technician



Approved



10.04.2004 15:10:32 607

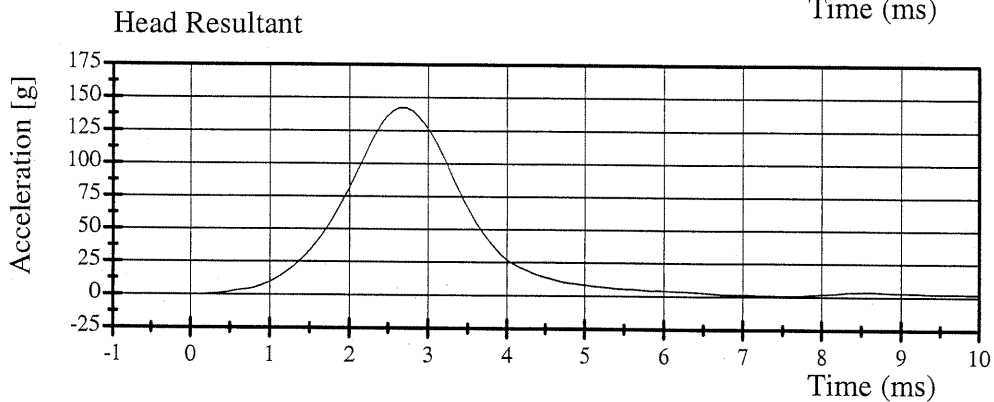
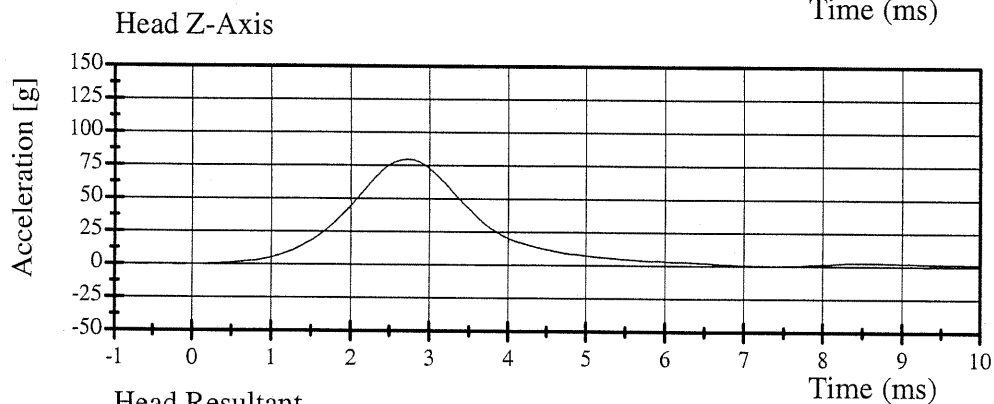
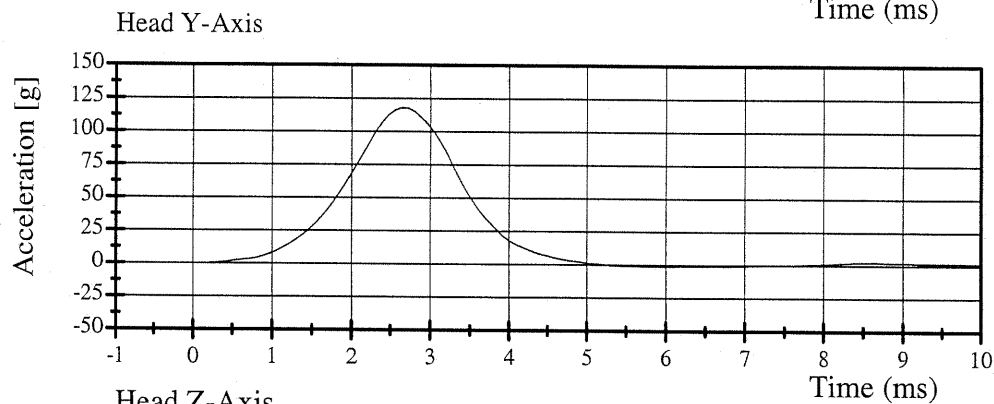
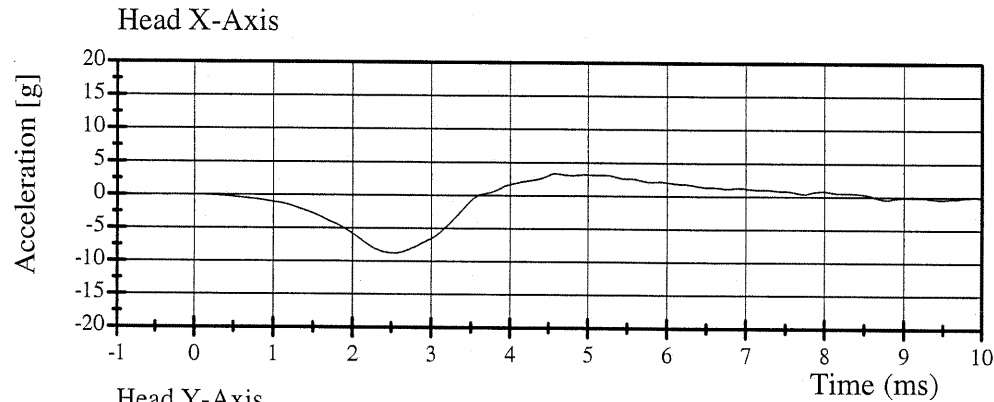


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 059 Calibration No. 10 - 3

Test Date 10/04/2004



10.04.2004 15:10:33 607



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 10 - 3

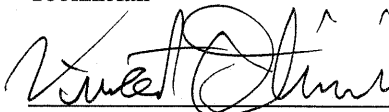
Test Date 09/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Impact Velocity	6.89 - 7.13 m/s	6.97 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.37 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.76 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.69 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.18 - 7.30 m/s	Yes
Peak D Plane Rotation	66 - 82 °	75.7 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	58.5 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	81.7 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	12.7 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



09.27.2004 15:19:22 514



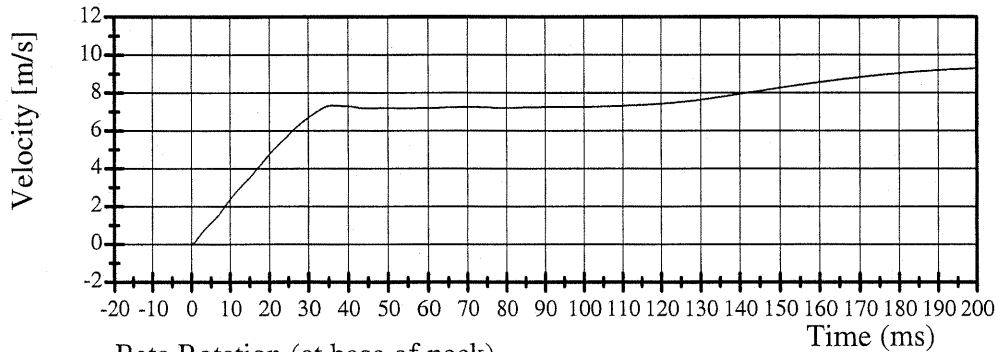
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 10 - 3

Test Date 09/27/2004

Integrated Pendulum Velocity

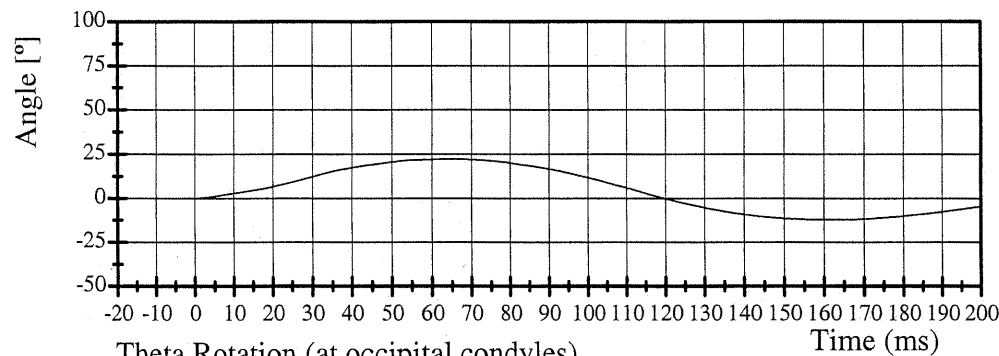


Filter Class: 180

Max: 9.3 m/s at 958.9 ms

Min: -0.0 m/s at -0.4 ms

Beta Rotation (at base of neck)

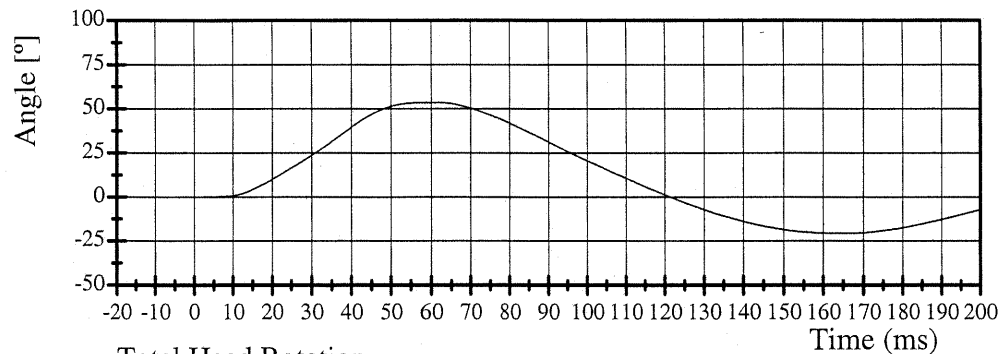


Filter Class: 60

Max: 22.2 ° at 64.1 ms

Min: -12.2 ° at 160.4 ms

Theta Rotation (at occipital condyles)

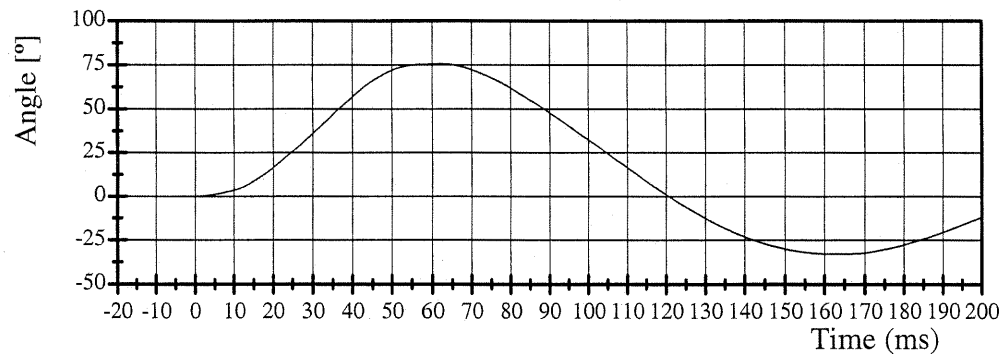


Filter Class: 60

Max: 53.6 ° at 60.7 ms

Min: -20.6 ° at 165.1 ms

Total Head Rotation



Filter Class: 60

Max: 75.7 ° at 62.2 ms

Min: -32.8 ° at 162.2 ms

09.27.2004 15:19:24 514



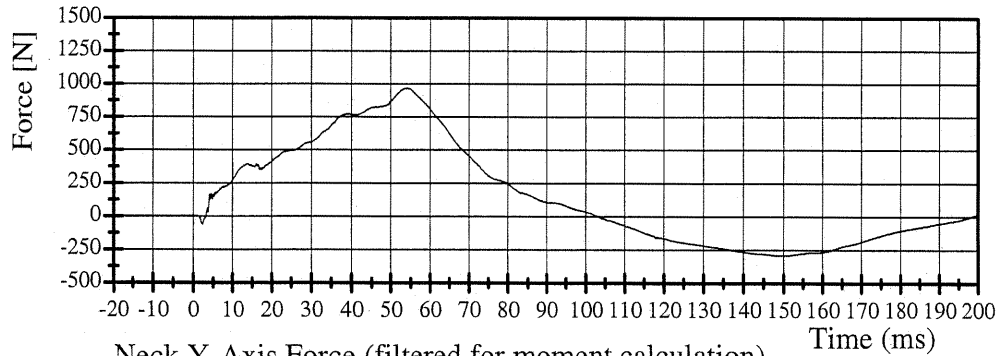
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 10 - 3

Test Date 09/27/2004

Neck Y-Axis Force

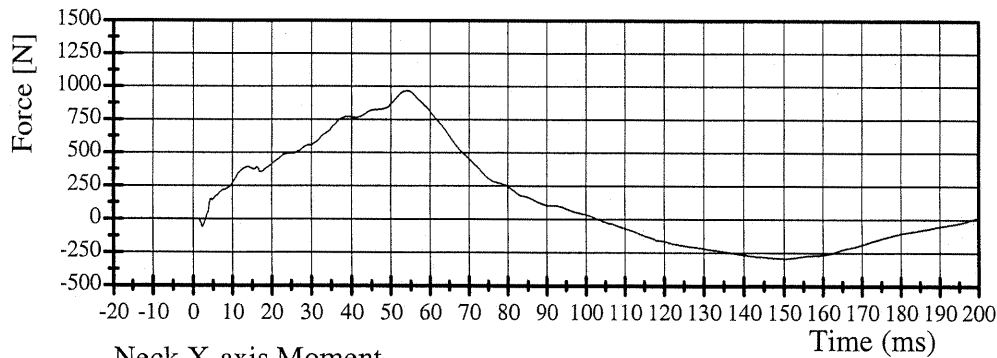


Filter Class: CFC 1000

Max: 967 N at 54.1 ms

Min: -292 N at 150.2 ms

Neck Y-Axis Force (filtered for moment calculation)

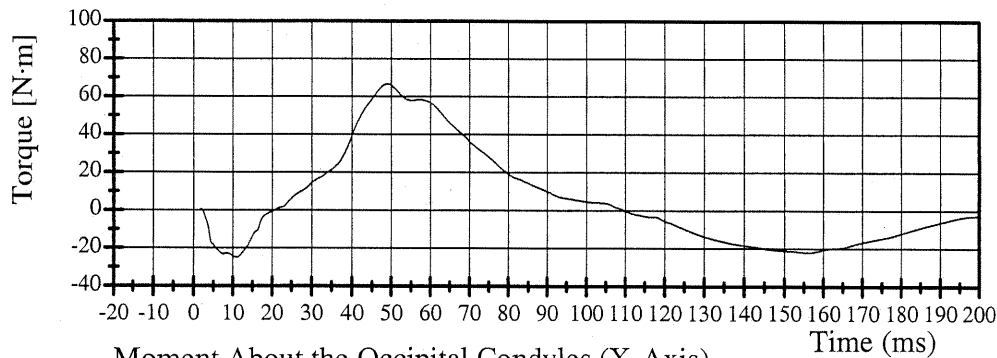


Filter Class: CFC 600

Max: 967 N·m at 54.0 ms

Min: -292 N·m at 150.2 ms

Neck X-axis Moment

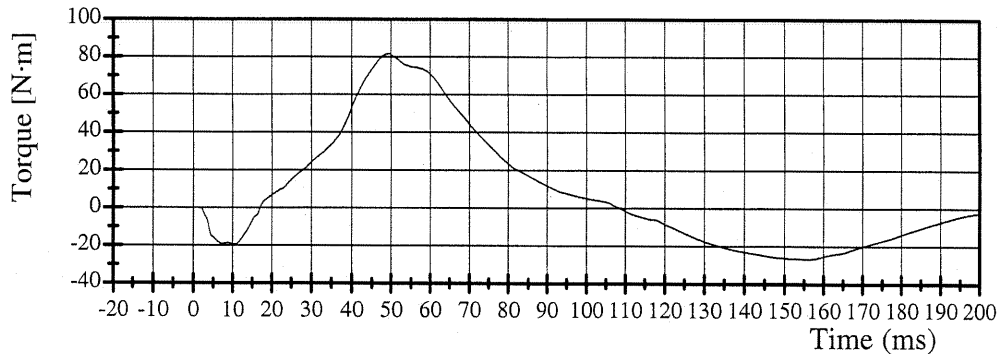


Filter Class: CFC 600

Max: 66.7 N·m at 49.4 ms

Min: -24.9 N·m at 11.0 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 81.7 ° at 49.5 ms

Min: -26.8 ° at 155.5 ms

09.27.2004 15:19:25 514



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 059 Calibration No. 10 - 2

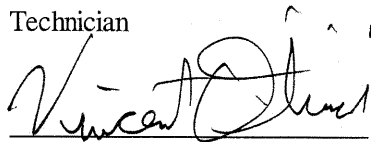
Test Date 09/28/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.3 C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.33 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	41.2 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	38.1 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	20.2 g	Yes

Test meets specifications.

Comments:

Technician



Approved



09.28.2004 14:24:50 1132



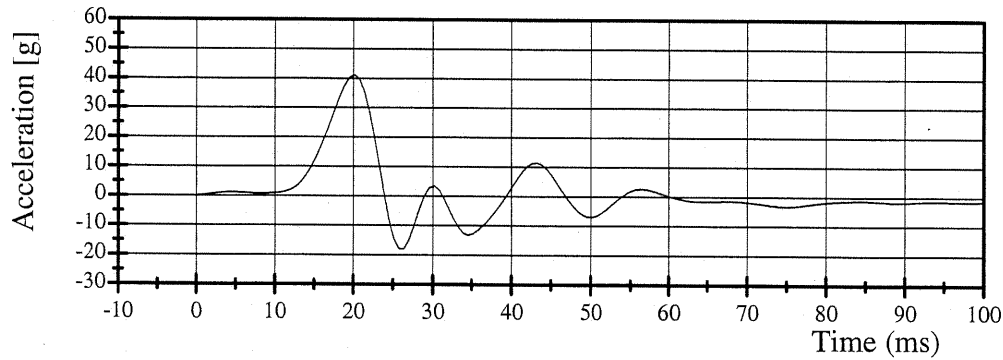
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 059 Calibration No. 10 - 2

Test Date 09/28/2004

Upper Rib Bar Acceleration

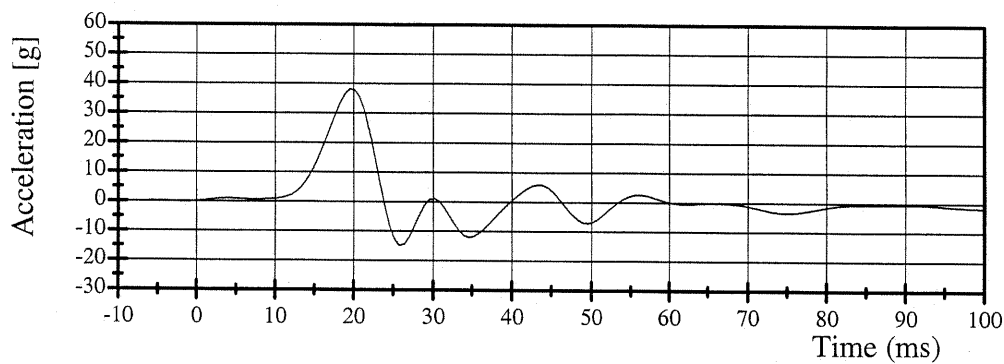


Filter Class: FIR 100

Max: 41.2 g at 20.2 ms

Min: -17.9 g at 25.8 ms

Lower Rib Bar Acceleration

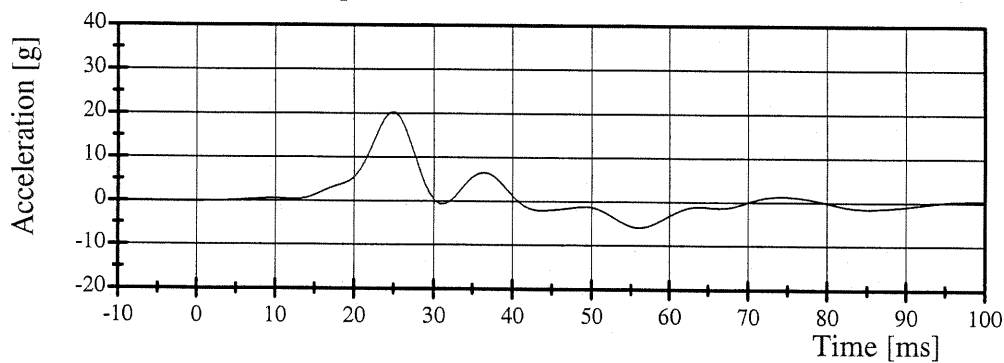


Filter Class: FIR 100

Max: 38.1 g at 19.5 ms

Min: -14.8 g at 25.8 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 20.2 g at 25.1 ms

Min: -5.9 g at 55.8 ms

Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 059 Calibration No. 10 - A2

Test Date 09/21/2004

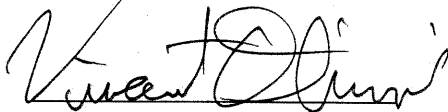
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.2 C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity		2.70 m/sec	
Maximum Force at Test Velocity	647 - 902 N	737 N	Yes
Maximum Displacement at Test Velocity	29.6 - 34.4 mm	32.1 mm	Yes

Test meets specifications.

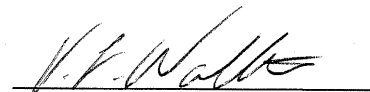
Comments:

Damper Setting : 6.5

Technician



Approved



09.21.2004 14:22:46 1542



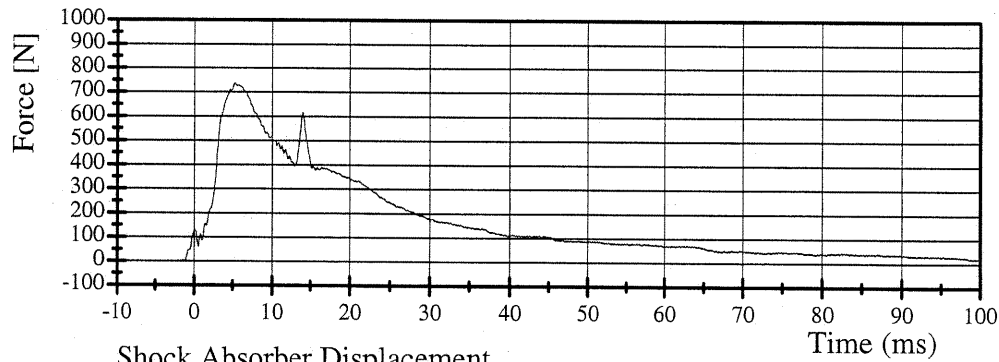
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 059 Calibration No. 10 - A2

Test Date 09/21/2004

Shock Absorber Resistive Force

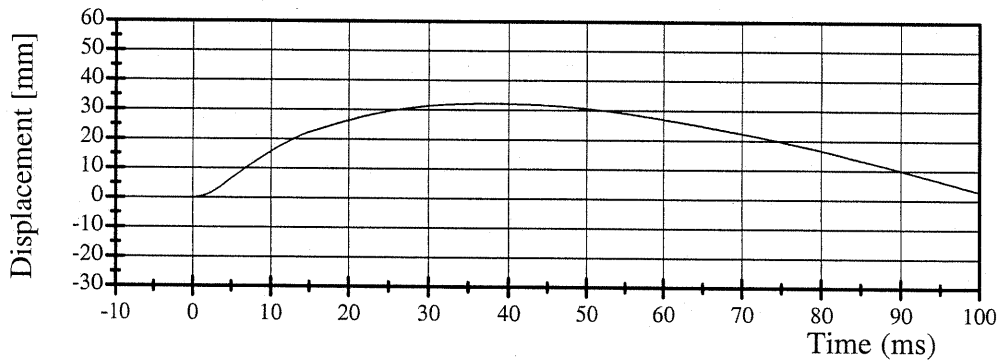


Filter Class: 1000

Max: 737 N at 5.3 ms

Min: -1918 N at 104.4 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 32.1 mm at 37.4 ms

Min: -0.2 mm at 104.5 ms

Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 059 Calibration No. 10 - B3

Test Date 09/21/2004

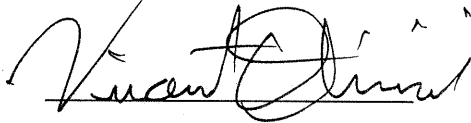
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity		4.26 m/sec	
Maximum Force at Test Velocity	1726 - 2088 N	1873 N	Yes
Maximum Displacement at Test Velocity	31.7 - 37.2 mm	36.4 mm	Yes

Test meets specifications.

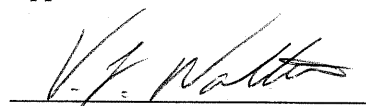
Comments:

Damper Setting : 6.5

Technician



Approved



09.21.2004 13:57:54 1201



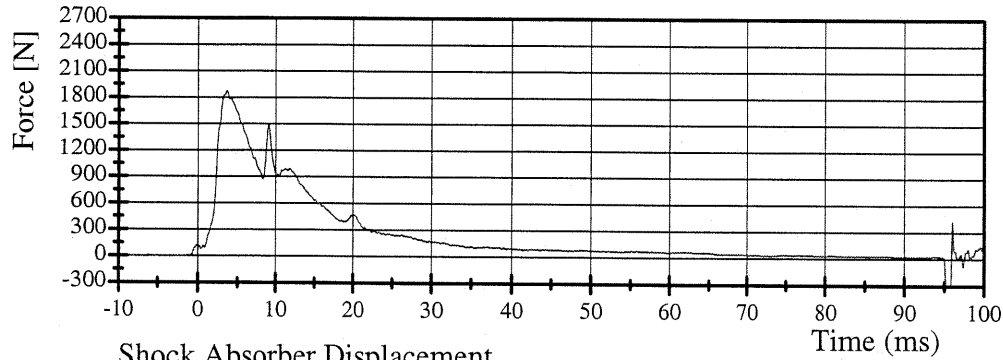
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 059 Calibration No. 10 - B3

Test Date 09/21/2004

Shock Absorber Resistive Force

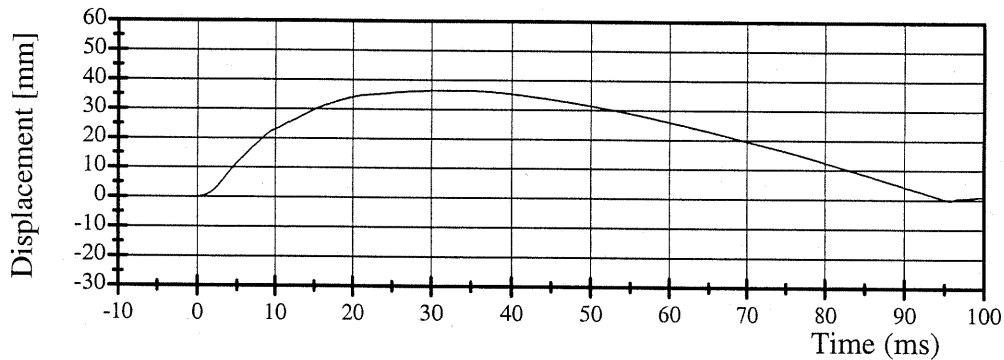


Filter Class: 1000

Max: 1873 N at 3.7 ms

Min: -2091 N at 95.6 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 36.4 mm at 31.6 ms

Min: -0.2 mm at 95.7 ms

09.21.2004 13:57:55 1201



Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 059 Calibration No. 10 - C13

Test Date 09/21/2004

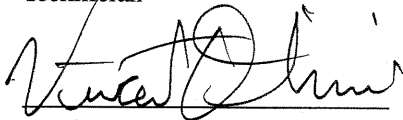
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.2 C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Pendulum Velocity		6.12 m/sec	
Maximum Force at Test Velocity	3777 - 4476 N	4072 N	Yes
Maximum Displacement at Test Velocity	33.4 - 39.6 mm	38.4 mm	Yes

Test meets specifications.

Comments:

Damper Setting : 6.5

Technician



Approved



09.21.2004 13:45:48 1019



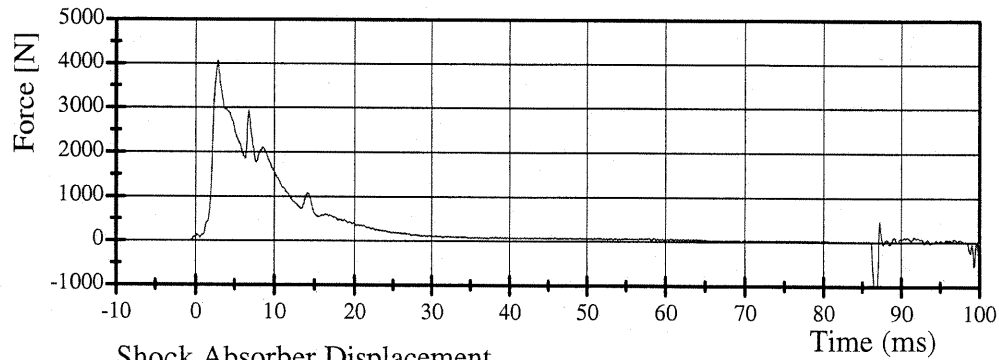
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 059 Calibration No. 10 - C13

Test Date 09/21/2004

Shock Absorber Resistive Force

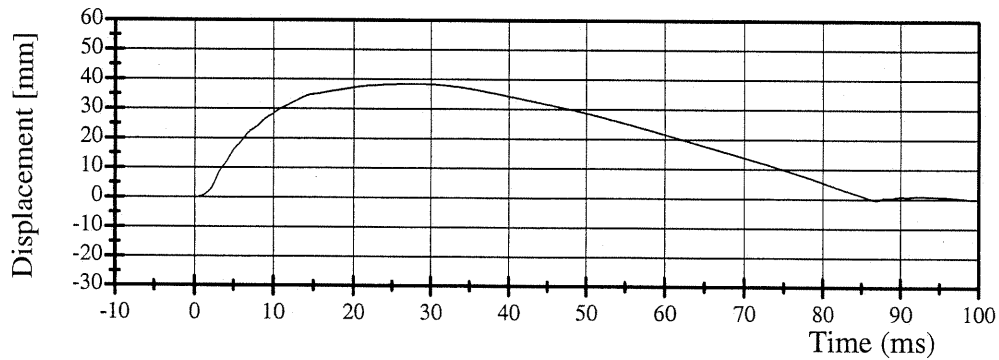


Filter Class: 1000

Max: 4072 N at 2.8 ms

Min: -1909 N at 86.7 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 38.4 mm at 27.5 ms

Min: -0.3 mm at 86.9 ms

TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID HIII

CAL DATE: 14-Sep-04

TRC, INC. TEST NO: LF059C10TF1 572M SN 059 TORSO FLEX CAL 10

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.5 °C
RELATIVE HUMIDITY	10 – 70 %	62 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	142.3 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	195.7 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	231.3 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	2.1 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 10 - 3

Test Date 09/14/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	61 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.6 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician



Approved



09.14.2004 11:28:20 2098

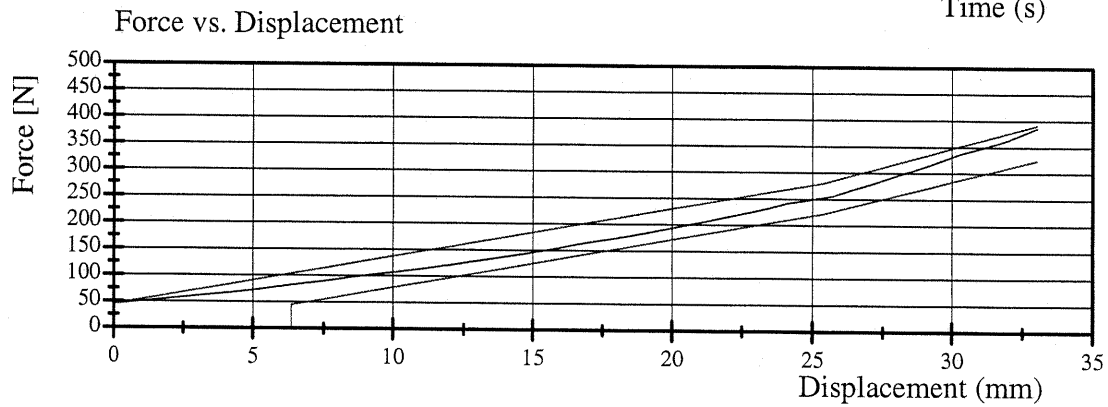
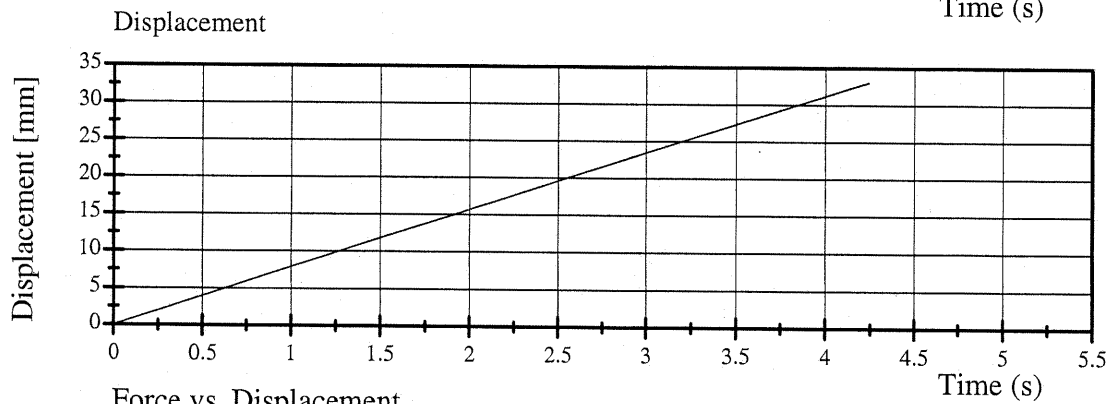
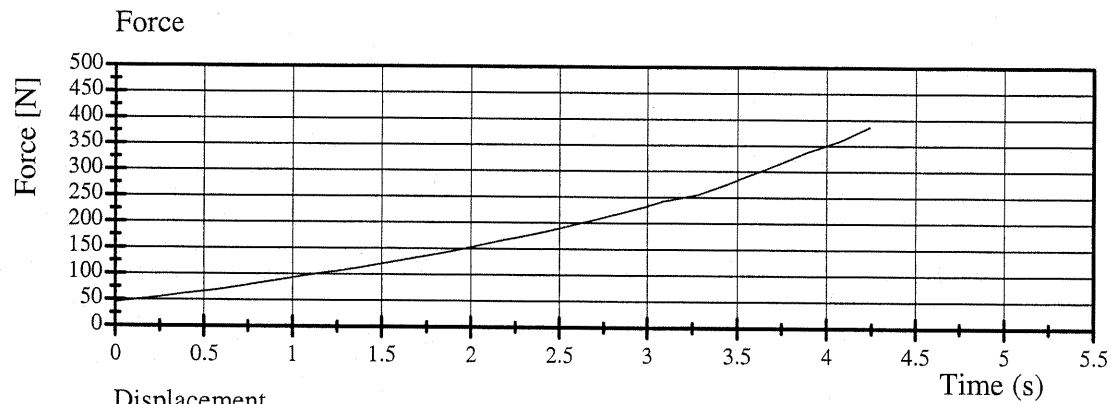


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 10 - 3

Test Date 09/14/2004



09.14.2004 11:28:21 2098



Transportation Research Center Inc.

572F Left Pelvis Test

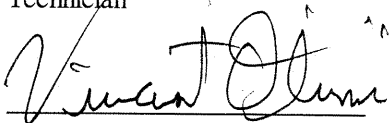
SID HIII Serial No. 059 Calibration No. 10 - 1

Test Date 09/28/2004

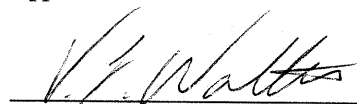
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.32 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	42.6 g	Yes
Time Above 20 g	3 - 7 ms	6.24 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



09.28.2004 13:36:36 1214

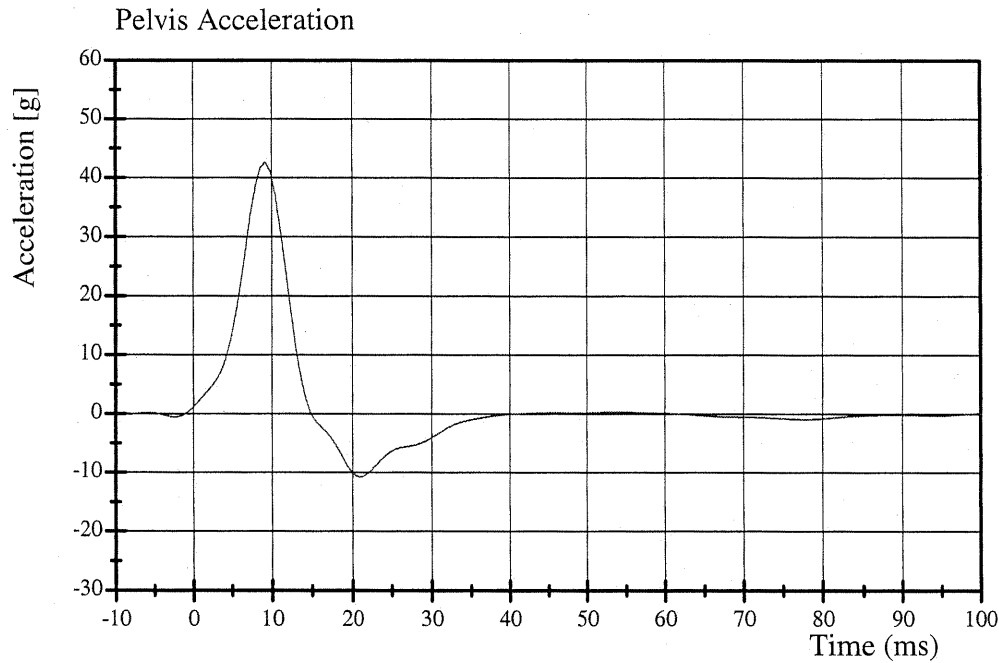


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 059 Calibration No. 10 - 1

Test Date 09/28/2004



Filter Class: FIR 100

Max: 42.6 g at 9.2 ms

Min: -10.8 g at 21.1 ms

09.28.2004 13:36:38 1214



Calibration Test Results

Post-Test

SID HIII: 055

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 not tested at this time.

Transportation Research Center Inc.

SID/HIII Dummy

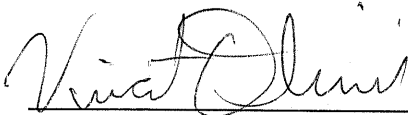
External Dimensions

Serial No. 055 Calibration No. 16

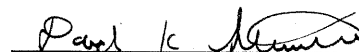
Date: 10/07/04

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	515 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	522 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	495 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	368 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	177 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	177 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	0.0 mm	Yes

Technician



Approved





Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/06/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Peak Resultant Acceleration	120 - 150 g	140.3 g	Yes
Peak Longitudinal Acceleration	15 g Max	5.2 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

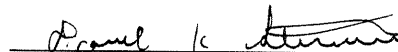
Test meets specifications.

Comments:

Technician



Approved



10.06.2004 12:57:47 611

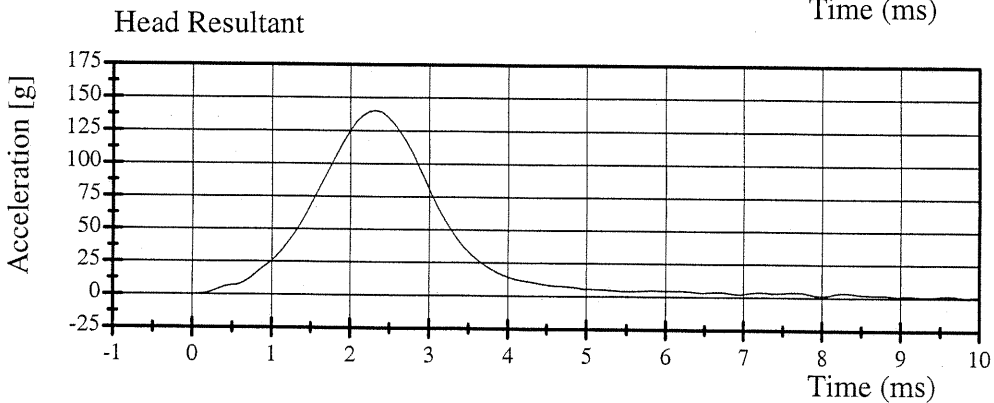
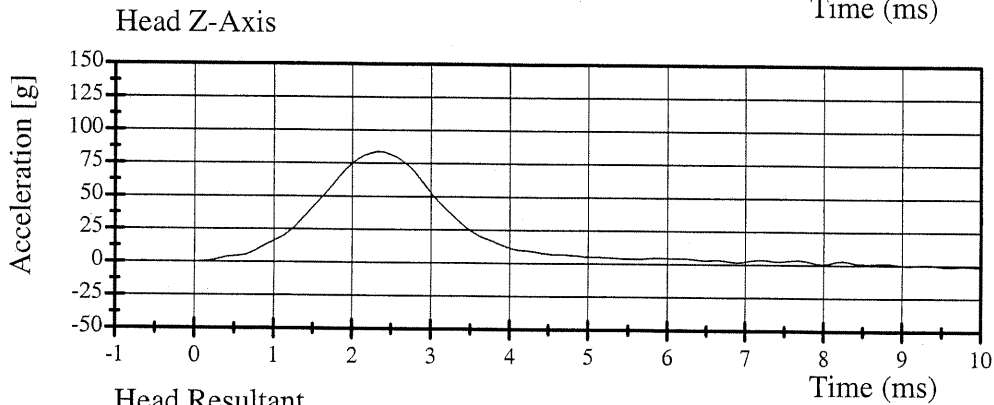
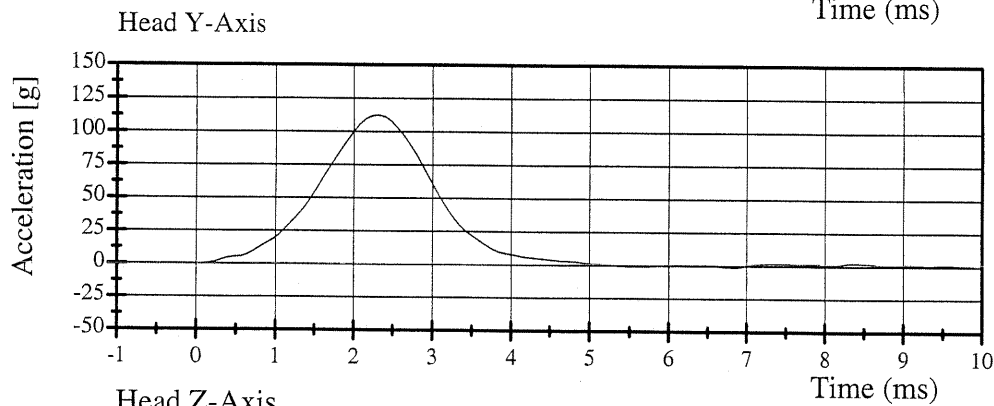
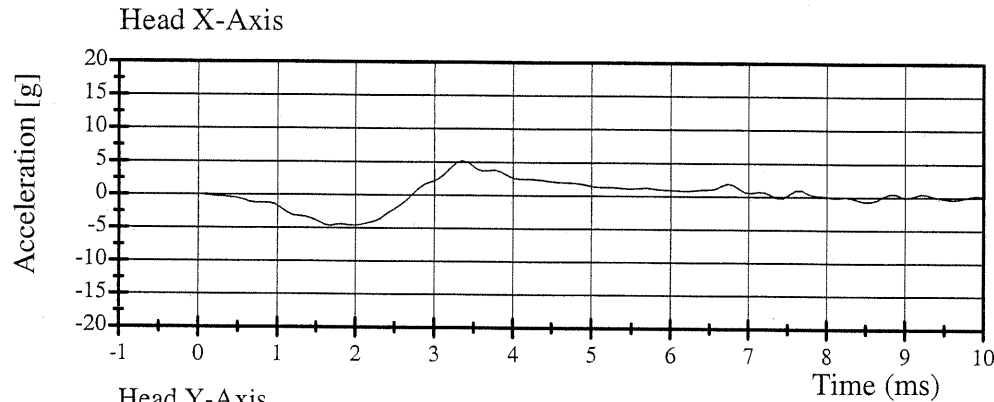


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/06/2004



10.06.2004 12:57:48 611



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 16 - 1

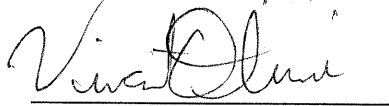
Test Date 10/07/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Impact Velocity	6.89 - 7.13 m/s	6.97 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.25 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.44 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.38 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.15 - 7.33 m/s	Yes
Peak D Plane Rotation	66 - 82 °	71.7 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	59.0 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	80.3 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	12.1 ms	Yes

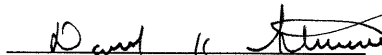
Test meets specifications.

Comments:

Technician



Approved



10.07.2004 08:33:58 519

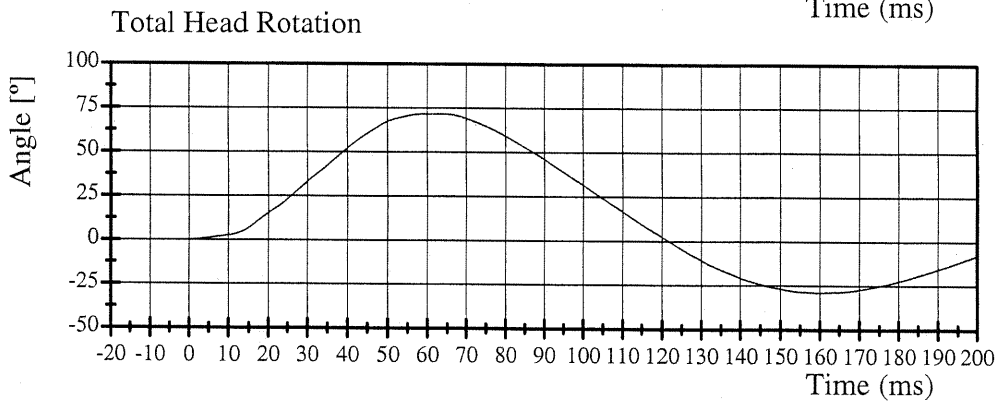
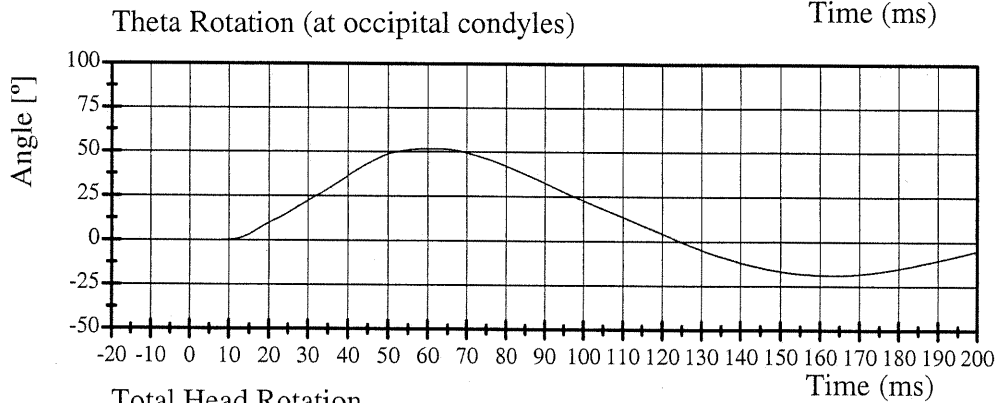
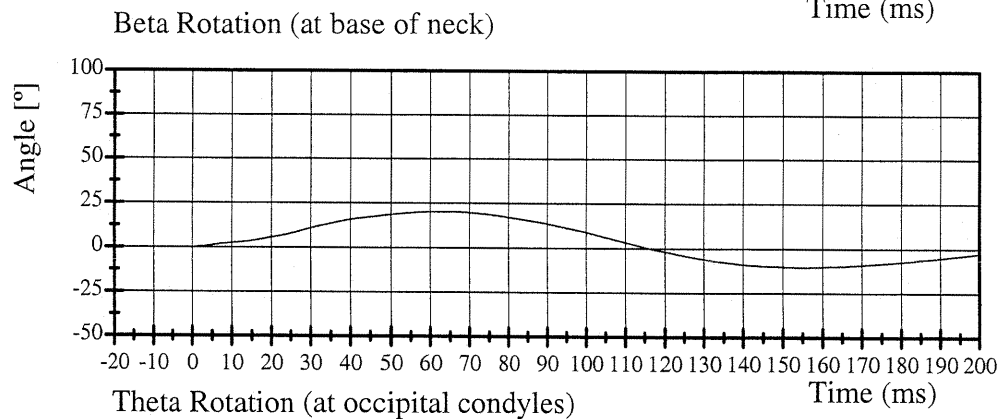
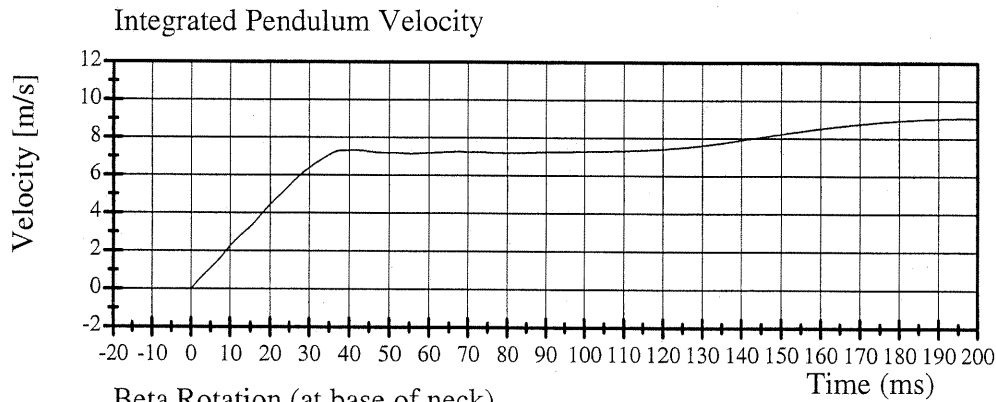


Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/07/2004



10.07.2004 08:33:59 519



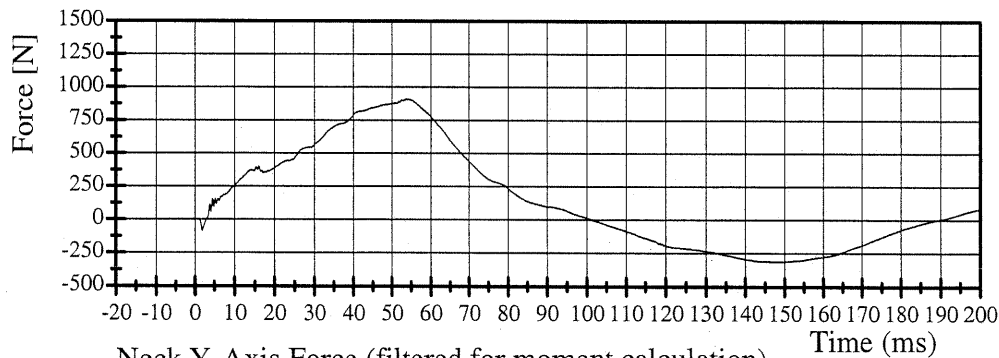
Transportation Research Center Inc.

572M Left Lateral Neck Test

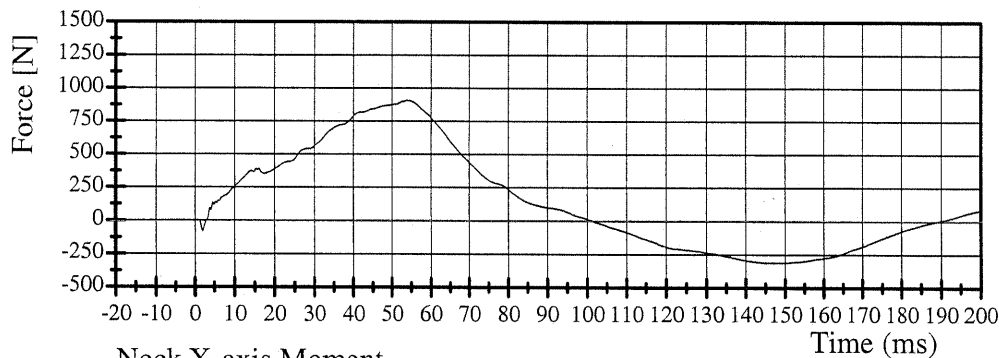
SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/07/2004

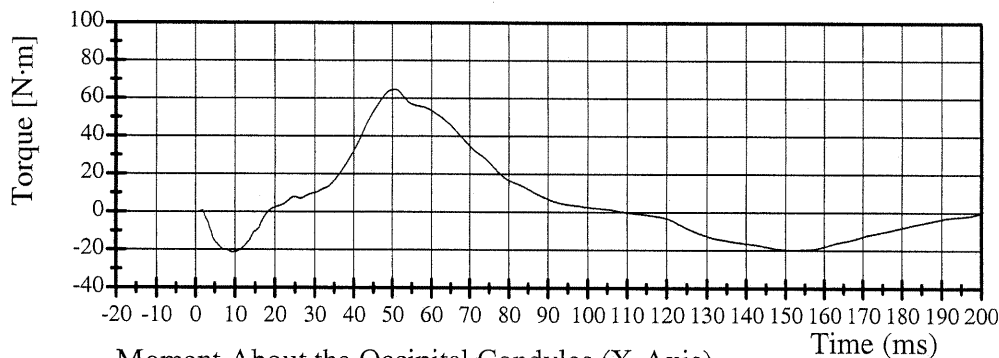
Neck Y-Axis Force



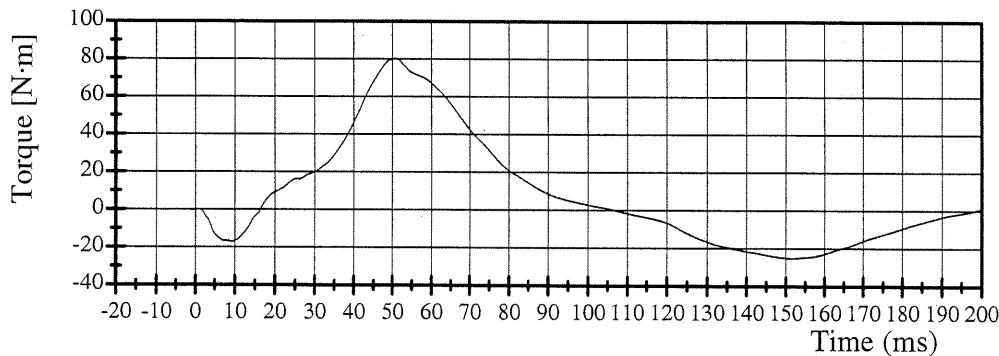
Neck Y-Axis Force (filtered for moment calculation)



Neck X-axis Moment



Moment About the Occipital Condyles (X-Axis)



10.07.2004 08:34:01 519



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/07/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.2 C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.31 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	42.8 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	41.7 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	19.3 g	Yes

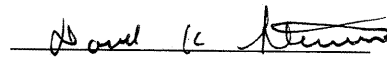
Test meets specifications.

Comments:

Technician



Approved



10.07.2004 13:43:31 1146



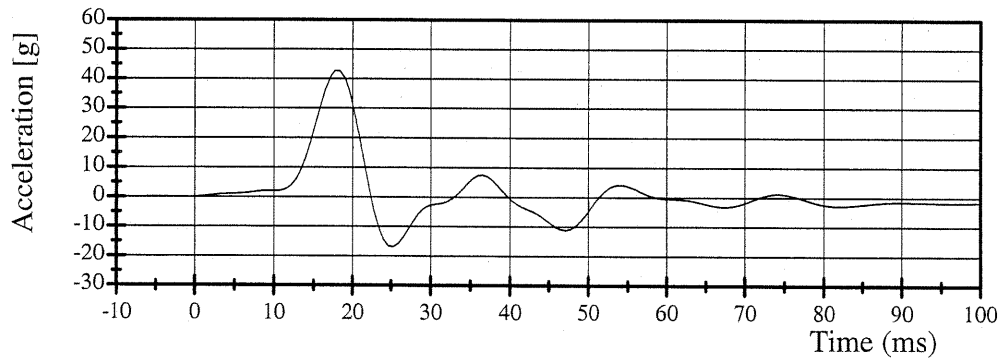
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/07/2004

Upper Rib Bar Acceleration

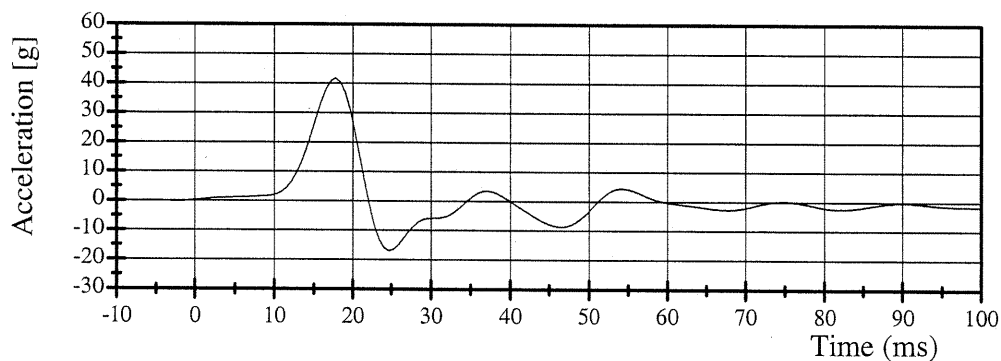


Filter Class: FIR 100

Max: 42.8 g at 17.8 ms

Min: -16.9 g at 25.3 ms

Lower Rib Bar Acceleration

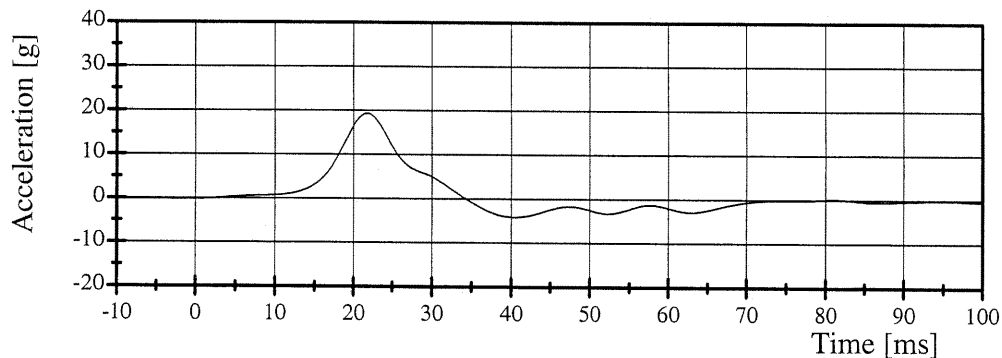


Filter Class: FIR 100

Max: 41.7 g at 17.8 ms

Min: -16.9 g at 24.6 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 19.3 g at 21.5 ms

Min: -4.1 g at 40.3 ms

10.07.2004 13:43:33 1146



TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

CAL DATE: 06-Oct-04

TRC, INC.

TEST NO: 055C16TF2

572M SN 055 TORSO FLEX CAL 16

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	69.9°C
RELATIVE HUMIDITY	10 – 70 %	31 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	146.8 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	200.2 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	231.3 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	1.5 °

TEST MEETS SPECIFICATIONS

TECHNICIAN

Vincent Oliver

Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 055 Calibration No. 16 - 6

Test Date 10/07/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	32 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.7 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Vincent Almi

Approved

David C. Kerner

10.07.2004 08:52:05 1901

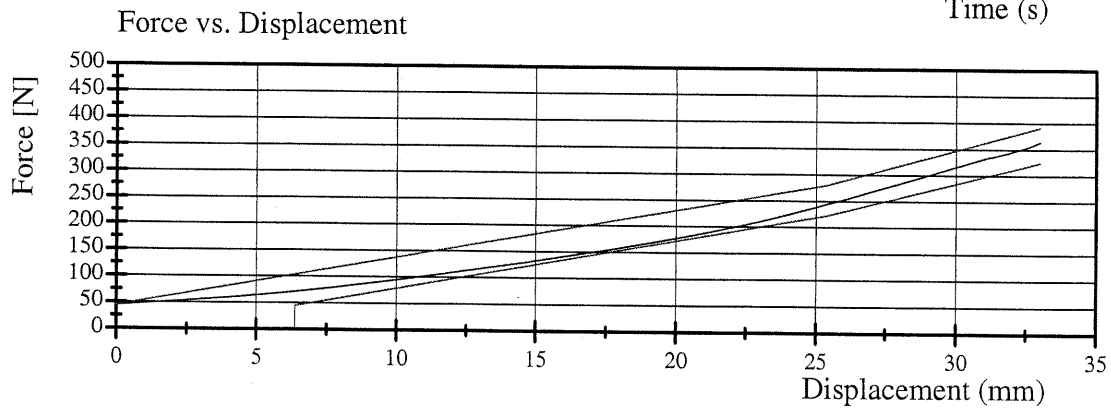
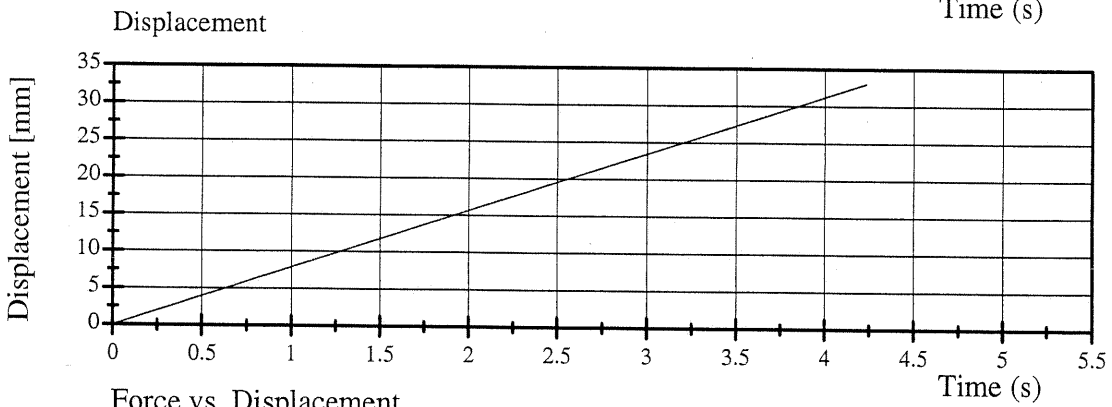
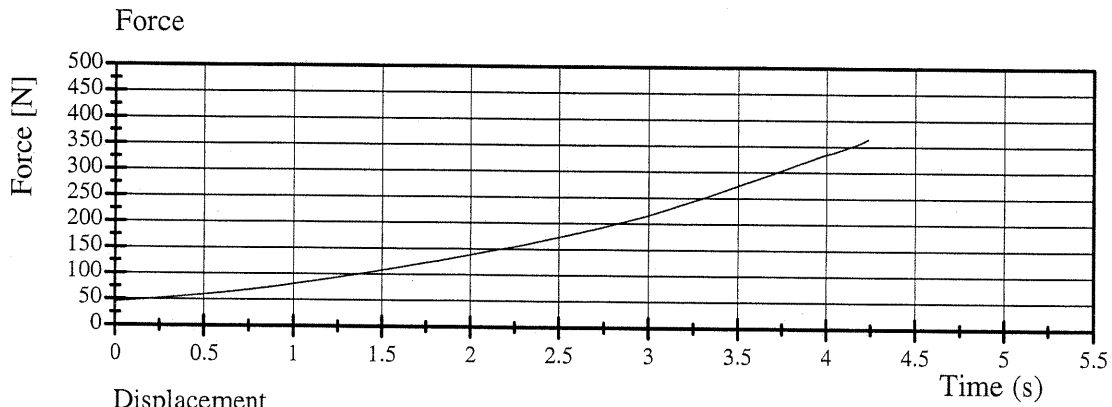


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 055 Calibration No. 16 - 6

Test Date 10/07/2004



10.07.2004 08:52:07 1901



Transportation Research Center Inc.

572F Left Pelvis Test

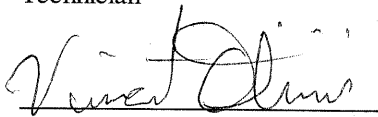
SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/07/2004

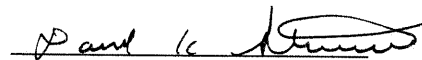
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.32 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	45.8 g	Yes
Time Above 20 g	3 - 7 ms	6.00 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



10.07.2004 13:52:50 1159

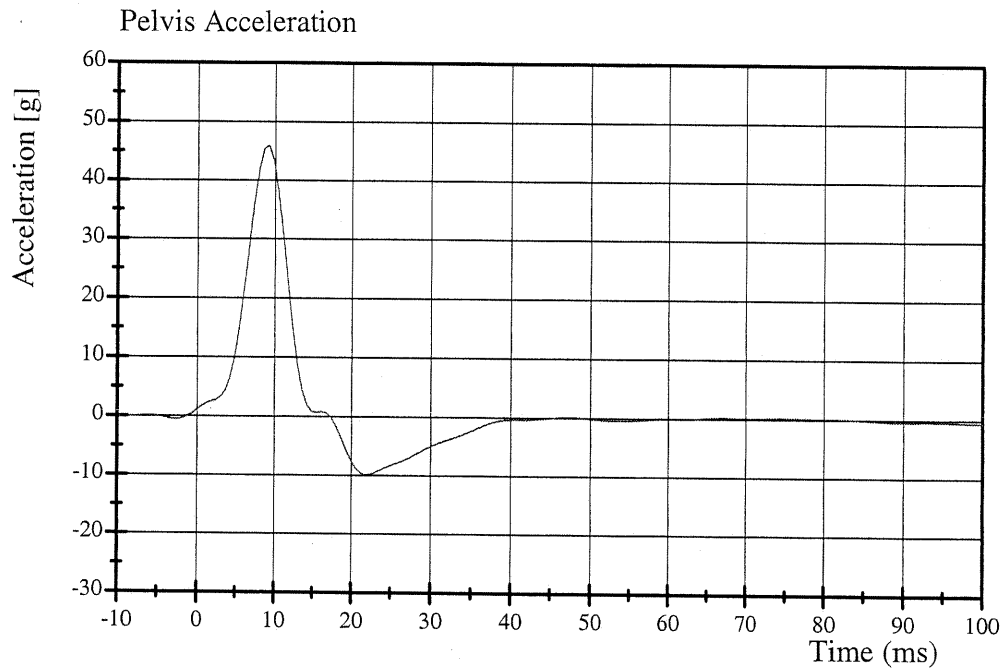


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/07/2004



Filter Class: FIR 100

Max: 45.8 g at 9.2 ms

Min: -9.9 g at 21.8 ms

10.07.2004 13:52:51 1159



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.
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 not tested at this time.

Transportation Research Center Inc.

SID/HIII Dummy Pre-Test

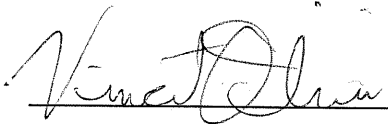
External Dimensions

Serial No. 059 Calibration No. 11

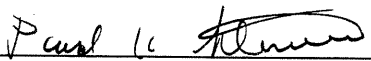
Date:10/07/04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	903 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	510 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	520 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	493 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	364 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. 11 - 1

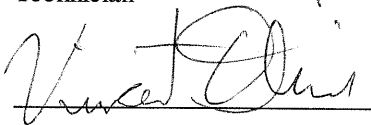
Test Date 10/06/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Peak Resultant Acceleration	120 - 150 g	145.9 g	Yes
Peak Longitudinal Acceleration	15 g Max	-7.9 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

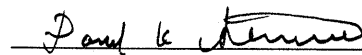
Test meets specifications.

Comments:

Technician



Approved



10.06.2004 10:38:57 605

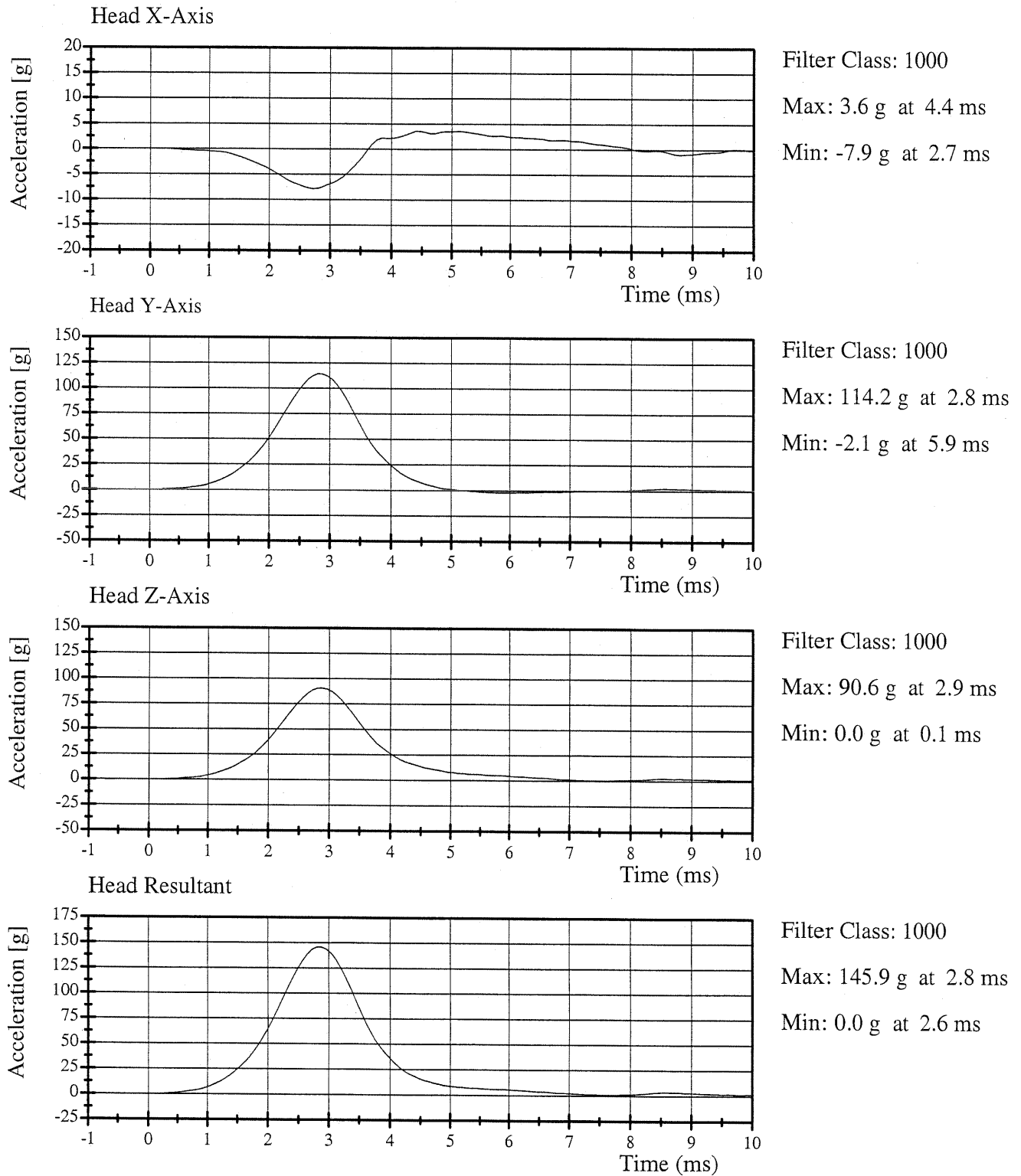


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/06/2004



10.06.2004 10:38:58 605



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/06/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °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	2.37 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.77 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.78 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.18 - 7.29 m/s	Yes
Peak D Plane Rotation	66 - 82 °	74.4 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	61.3 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	80.0 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	61.5 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	12.9 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



10.06.2004 15:24:37 515



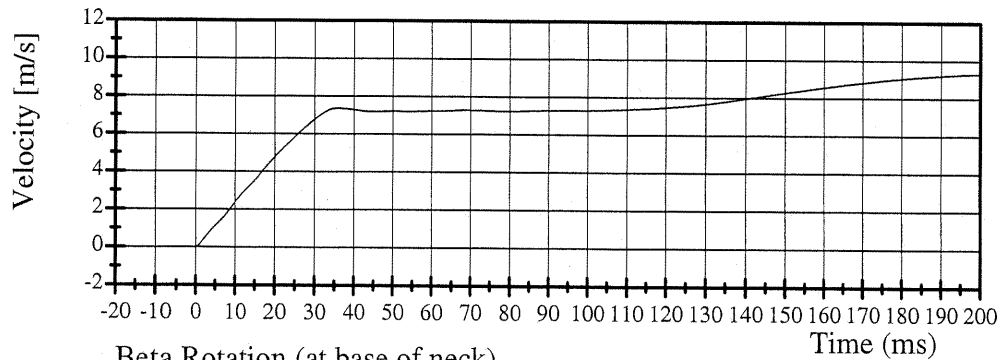
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/06/2004

Integrated Pendulum Velocity

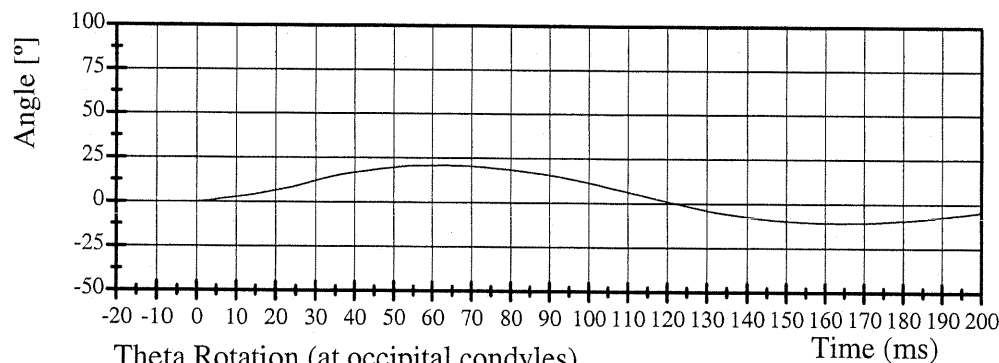


Filter Class: 180

Max: 9.6 m/s at 958.8 ms

Min: -0.0 m/s at -0.4 ms

Beta Rotation (at base of neck)

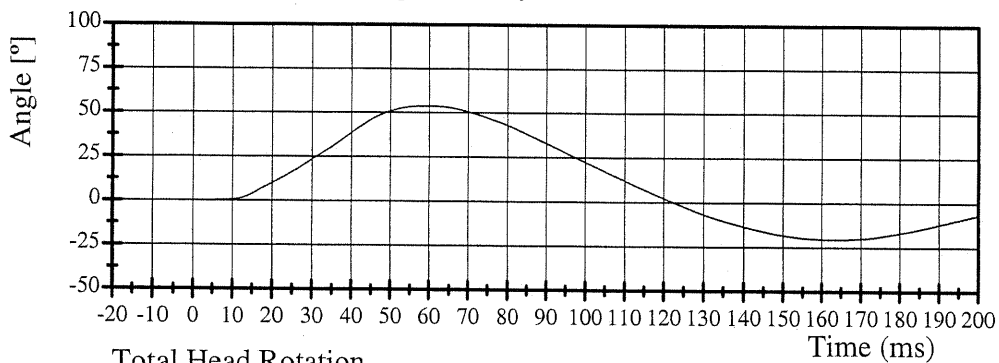


Filter Class: 60

Max: 20.7 ° at 63.1 ms

Min: -10.8 ° at 163.9 ms

Theta Rotation (at occipital condyles)

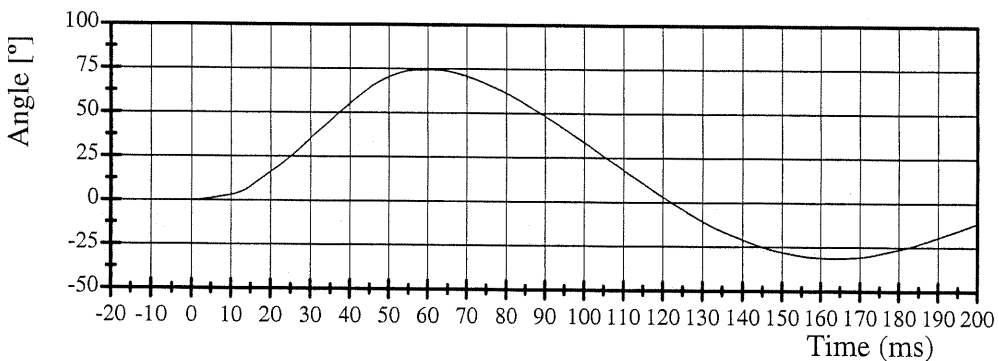


Filter Class: 60

Max: 53.7 ° at 60.0 ms

Min: -20.4 ° at 164.0 ms

Total Head Rotation



Filter Class: 60

Max: 74.4 ° at 61.0 ms

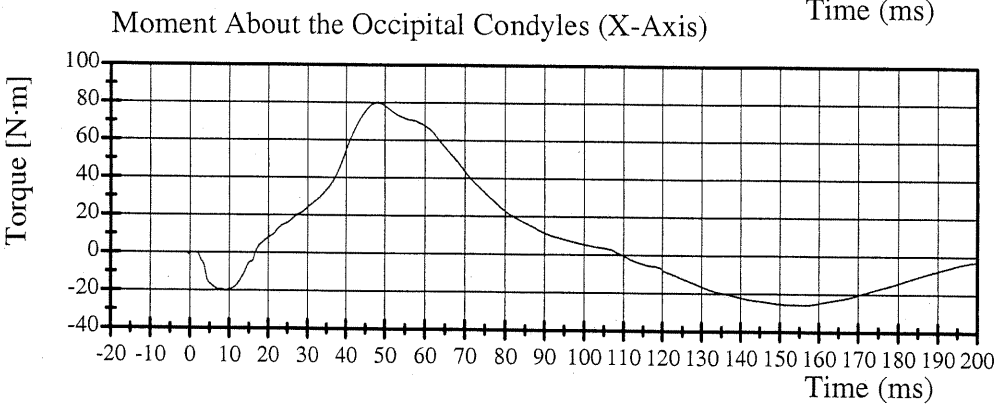
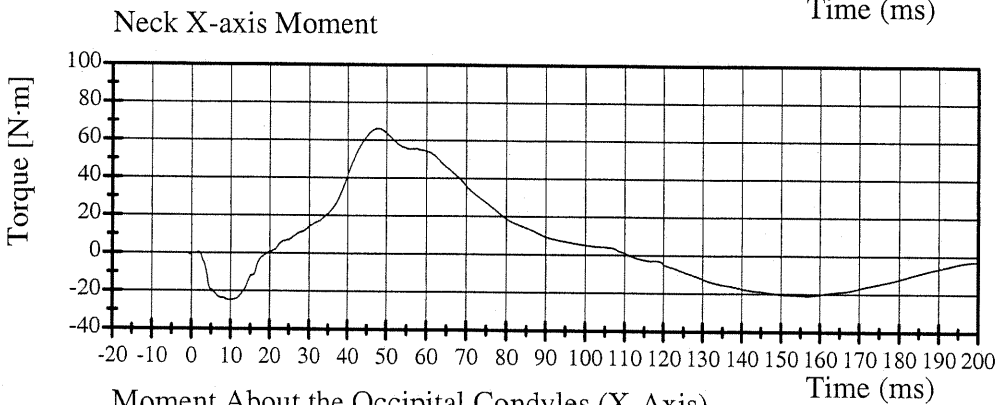
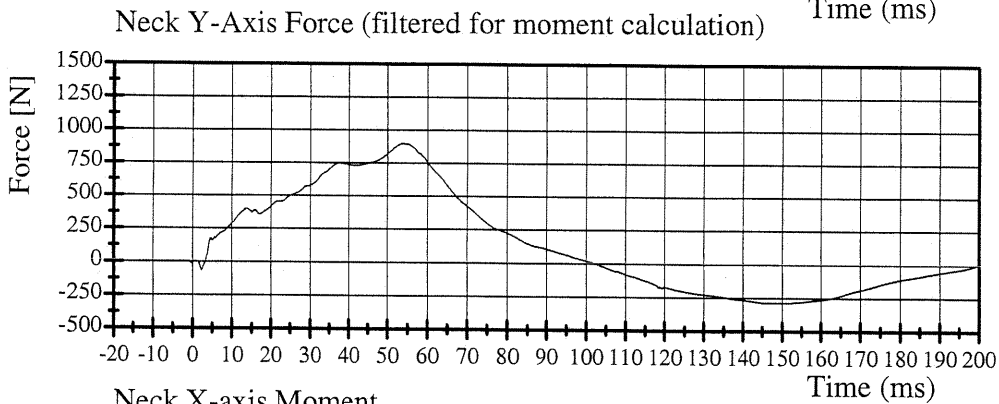
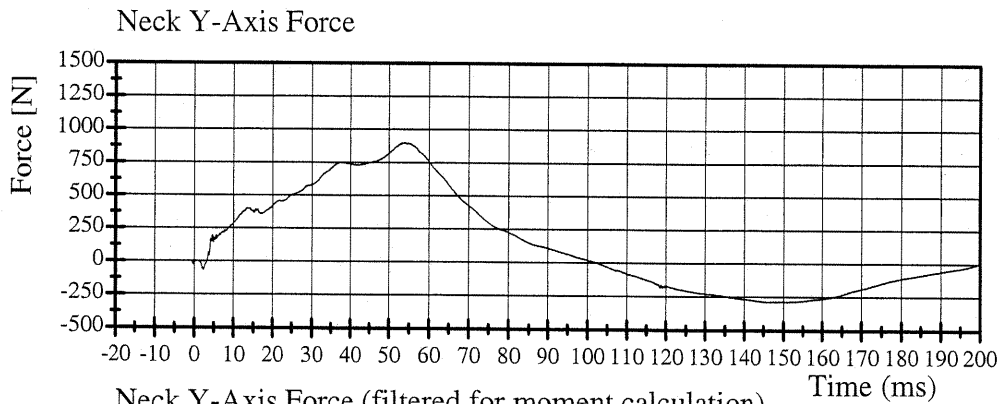
Min: -31.2 ° at 163.9 ms

Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/06/2004



10.06.2004 15:24:40 515



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 059 Calibration No. 11 - 3

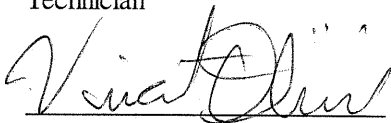
Test Date 10/07/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.2 C	Yes
Relative Humidity	10 - 70 %	33 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.29 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	40.5 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	37.5 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	21.2 g	Yes

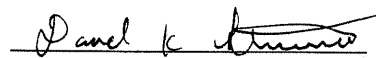
Test meets specifications.

Comments:

Technician



Approved



10.07.2004 13:01:32 1153



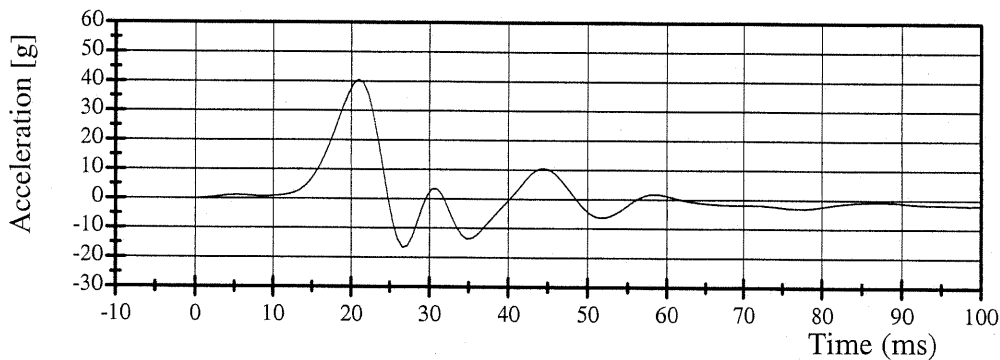
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 059 Calibration No. 11 - 3

Test Date 10/07/2004

Upper Rib Bar Acceleration

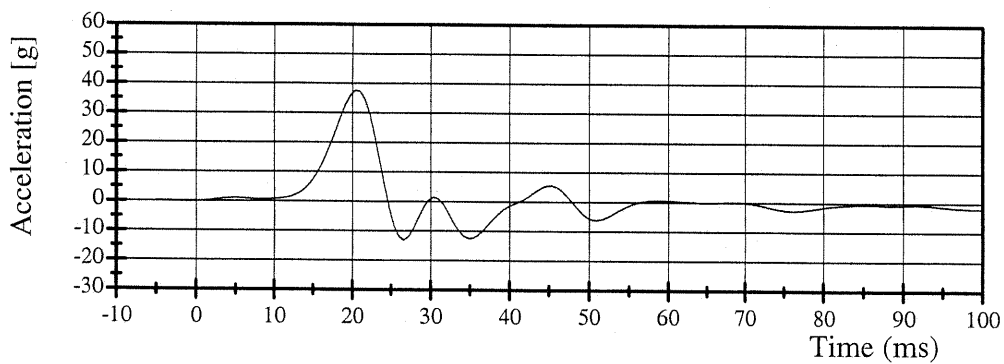


Filter Class: FIR 100

Max: 40.5 g at 21.0 ms

Min: -16.6 g at 26.6 ms

Lower Rib Bar Acceleration

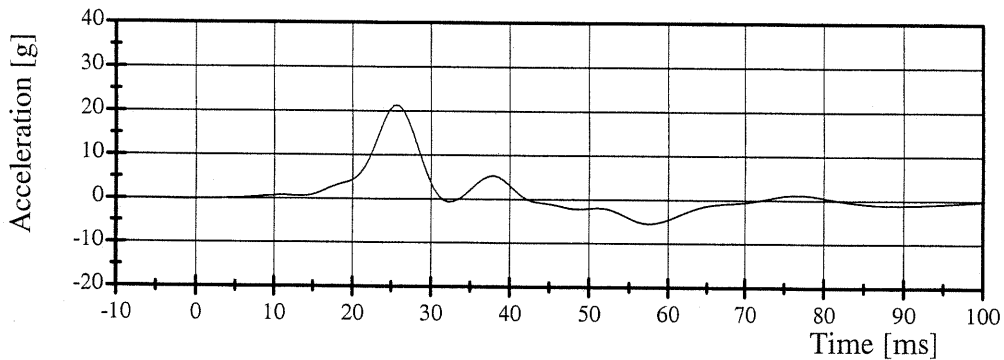


Filter Class: FIR 100

Max: 37.5 g at 20.4 ms

Min: -13.1 g at 26.6 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 21.2 g at 25.9 ms

Min: -5.5 g at 57.8 ms

10.07.2004 13:01:33 1153



TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID HIII

CAL DATE: 06-Oct-04

TRC, INC. TEST NO: LF059C11TF1 572M SN 059 TORSO FLEX CAL 11

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.5 °C
RELATIVE HUMIDITY	10 – 70 %	30 %
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	164.8 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	218 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	7.2 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/06/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.4 °C	Yes
Relative Humidity	10 - 70 %	30 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.7 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Test meets specifications.

Comments:

Technician

Vincent Olm

Approved

Paul K. Steiner

10.06.2004 11:05:04 1590

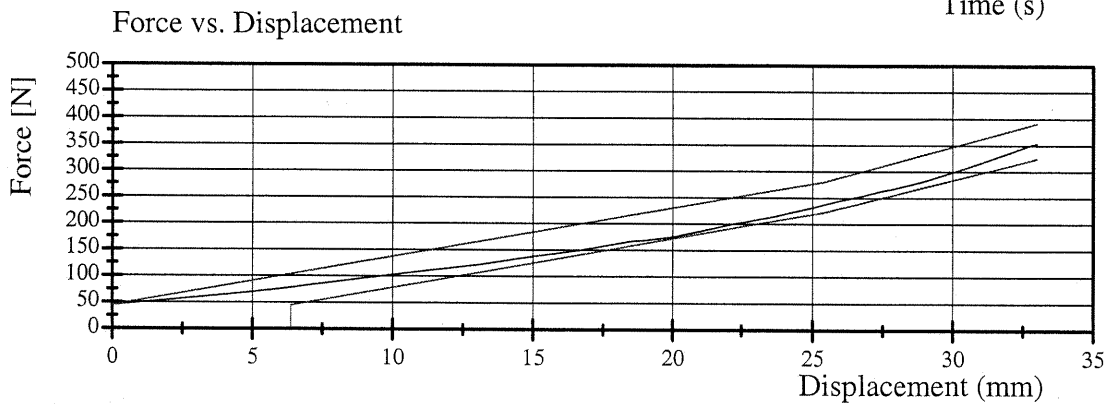
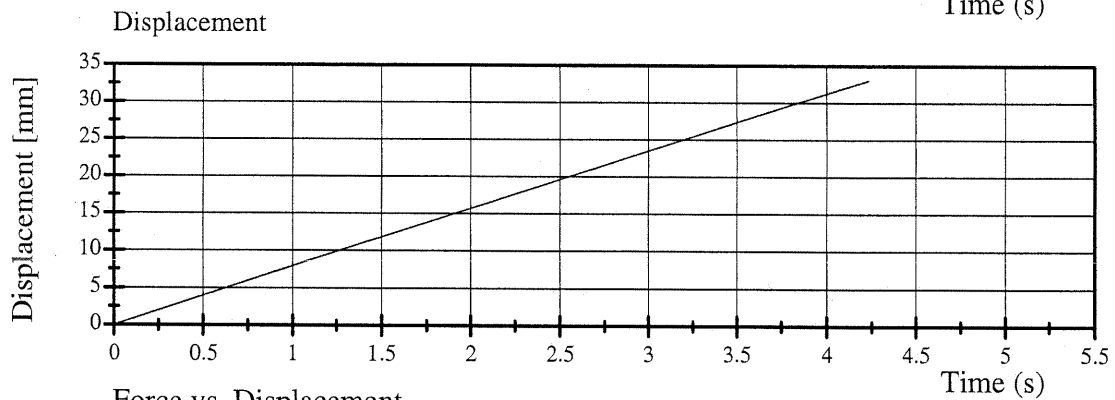
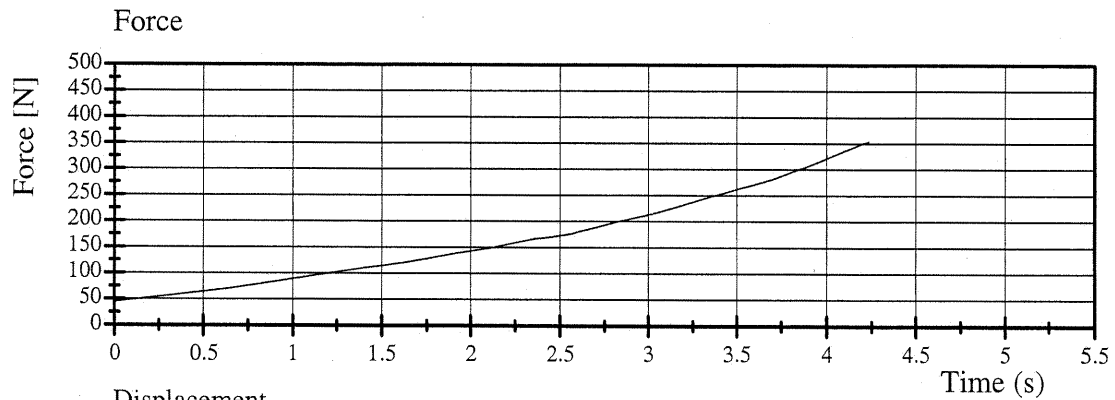


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/06/2004



10.06.2004 11:05:05 1590



Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/07/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	35 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.31 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	42.8 g	Yes
Time Above 20 g	3 - 7 ms	6.16 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician

Vincent D. Linn

Approved

David L. Linn

10.07.2004 11:04:13 1192

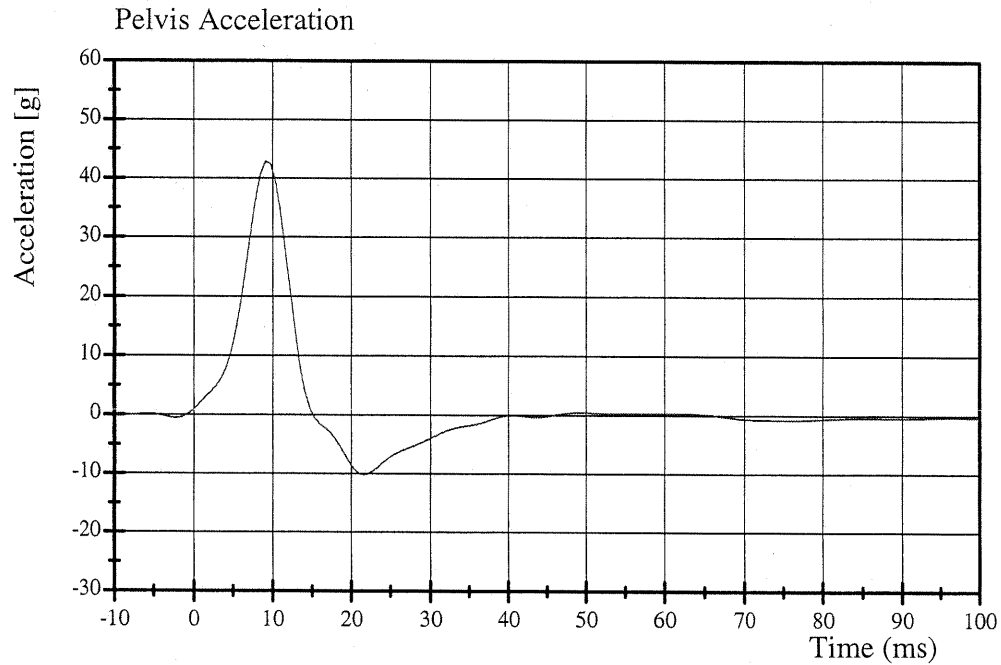


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 059 Calibration No. 11 - 1

Test Date 10/07/2004



Filter Class: FIR 100

Max: 42.8 g at 9.1 ms

Min: -10.2 g at 21.6 ms

10.07.2004 11:04:14 1192



Type: SID HIII S/N: 055 Mfr: ASTC Test Date: 10/05/04Proj./Seg. No.: 20020455-2120 Test Eng.: Walter D. 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: 10/04/04

Type: SID HIII S/N: 059 Mfr: ASTC Test Date: 10/05/04Proj./Seg. No.: 20020455-2120 Test Eng.: Walter D. 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: 10/04/04

Type: SID HIII S/N: 055 Mfr: ASTC Test Date: 10/05/04Proj./Seg. No.: 20020455-2120 Test Eng.: Walter D. 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

Inspection Completed By: J. ClarridgeDate: 10/05/04

Type: SID HIII S/N: 059 Mfr: ASTC Test Date: 10/05/04Proj./Seg. No.: 20020455-2120 Test Eng.: Walter D. 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

Inspection Completed By: J. ClarridgeDate: 10/06/04

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

10/5/2004 7:43:52 AM

Name of Test 041005

System MINIDAU

Name of DAU DAU8

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
8001	P34237	HEDXG1	Head Accel X	Rwd	792.80430 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
8002	P33552	HEDYG1	Head Accel Y	Lft	808.91423 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
8003	P33591	HEDZG1	Head Accel Z	Up	799.14890 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
8004	P34007	HEDXR1	Head Accel X Red	Rwd	802.80819 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
8005	P33556	HEDYR1	Head Accel Y Red	Lt	798.30609 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
8006	P34297	HEDZR1	Head Accel Z Red	Up	800.32350 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
8007	1716A-1222-FX	NEKXF1	Neck Force X	Hd	8906.9502 N	-	9/16/2004	OK 055n	Denton	1716A
8008	1716A-1222-FY	NEKYF1	Neck Force Y	Hd	8884.1691 N	+	9/16/2004	OK 055n	Denton	1716A
8009	1716A-1222-FZ	NEKZF1	Neck Force Z	Hd	13346.680 N	+	9/16/2004	OK 055n	Denton	1716A
8010	1716A-1222-MX	NEKXM1	Neck Moment X	Rt Ear	283.07099 N·m	-	9/16/2004	OK 055n	Denton	1716A
8011	1716A-1222-MY	NEKYM1	Neck Moment Y	Chn	282.82939 N·m	+	9/16/2004	OK 055n	Denton	1716A
8012	1716A-1222-MZ	NEKZM1	Neck Moment Z	Chn	283.18912 N·m	+	9/16/2004	OK 055n	Denton	1716A
8013	P34348	LURYG1	Left Upper Rib Y	Rgt	800.61296 g	+	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8014	P31875	LURYR1	Left Upper Rib Red Y	Rgt	808.33762 g	+	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8015	P34029	LLRYG1	Left Lower Rib Y	Rgt	797.60320 g	+	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8016	P33541	LLRYR1	Left Lower Rib Red Y	Rgt	808.04152 g	+	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8017	P34275	T12YG1	Lower Spine Y	Lft	401.65292 g	-	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8018	P33847	T12YR1	Lower Spine Red Y	Lft	398.78035 g	-	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8019	P34025	PEVYG1	Pelvis Accel Y	Lft	399.66303 g	-	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8020	P33878	PEVYR1	Pelvis Accel Red Y	Lft	399.43638 g	-	9/14/2004	OK 055n	Endevco	7264C-2K-2-180
8021	P33618	HEDXG4	Head Accel X	Rwd	799.73783 g	-	9/16/2004	OK 059n	Endevco	7264C-2K-2-180
8022	P34287	HEDYG4	Head Accel Y	Lft	795.71433 g	-	9/16/2004	OK 059n	Endevco	7264C-2K-2-180
8023	P33714	HEDZG4	Head Accel Z	Up	806.18710 g	-	9/16/2004	OK 059n	Endevco	7264C-2K-2-180
8024	P33531	HEDXR4	Head Accel X Red	Rwd	810.62668 g	-	9/16/2004	OK 059n	Endevco	7264C-2K-2-180
8025	P34005	HEDYR4	Head Accel Y Red	Lt	788.30597 g	-	9/16/2004	OK 059n	Endevco	7264C-2K-2-180
8026	P34369	HEDZR4	Head Accel Z Red	Up	798.58513 g	-	9/16/2004	OK 059n	Endevco	7264C-2K-2-180
8027	1716A-1221-FX	NEKXF4	Neck Force X	Hd	8886.8060 N	-	9/16/2004	OK 059n	Denton	1716A
8028	1716A-1221-FY	NEKYF4	Neck Force Y	Hd	8898.2041 N	+	9/16/2004	OK 059n	Denton	1716A
8029	1716A-1221-FZ	NEKZF4	Neck Force Z	Hd	13341.463 N	+	9/16/2004	OK 059n	Denton	1716A
8030	1716A-1221-MX	NEKXM4	Neck Moment X	Rt Ear	283.35908 N·m	-	9/16/2004	OK 059n	Denton	1716A
8031	1716A-1221-MY	NEKYM4	Neck Moment Y	Chn	282.90962 N·m	+	9/16/2004	OK 059n	Denton	1716A
8032	1716A-1221-MZ	NEKZM4	Neck Moment Z	Chn	283.30141 N·m	+	9/16/2004	OK 059n	Denton	1716A

Channel Report

10/5/2004 7:43:53 AM

Name of Test 041005

System MINIDAU

Name of DAU DAU9

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
9001	P34250	LURYG4	Left Upper Rib Y	Rgt	790.29798	g	+ 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9002	P34017	LURYR4	Left Upper Rib Red Y	Rgt	801.81598	g	+ 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9003	P34139	LLRYG4	Left Lower Rib Y	Rgt	790.24833	g	+ 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9004	P33860	LLRYR4	Left Lower Rib Red Y	Rgt	790.08017	g	+ 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9005	P32979	T12YG4	Lower Spine Y	Lft	398.59324	g	- 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9006	P34070	T12YR4	Lower Spine Red Y	Lft	397.38014	g	- 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9007	P33508	PEVYG4	Pelvis Accel Y	Lft	397.99039	g	- 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9008	P33577	PEVYR4	Pelvis Accel Red Y	Lft	398.74861	g	- 9/15/2004	OK 059n	Endevco	7264C-2K-2-180
9009	P23483	RFSXG1	RGT SIDE SILL FRNT ST X	FWD	401.75579	g	+ 9/21/2004	OK -1	Endevco	7264C-2K-2-180
9010	P33564	RFSYG1	RGT SIDE SILL FRNT ST Y	LT	990.82787	g	- 9/21/2004	OK -1	Endevco	7264C-2K-2-180
9011	P28888	RFSZG1	RGT SIDE SILL FRNT ST Z	UP	397.84449	g	- 8/19/2004	OK -1	Endevco	7264C-2K-2-180
9012	P33713	RRSXG1	RGT SIDE SILL RR ST X	FWD	398.54903	g	+ 8/12/2004	OK -1	Endevco	7264C-2K-2-180
9013	P33539	RRSYG1	RGT SIDE SILL RR ST Y	LT	984.78772	g	- 8/27/2004	OK -1	Endevco	7264C-2K-2-180
9014	P29633	RRSZG1	RGT SIDE SILL RR ST Z	UP	401.27970	g	- 8/19/2004	OK -1	Endevco	7264C-2K-2-180
9015	P35041	RDKXG1	RR FLRPAN ABV AXLE X	FWD	1000.0105	g	+ 9/20/2004	OK -1	Endevco	7264C-2K-2-180
9016	P35079	RDKYG1	RR FLRPAN ABV AXLE Y	LT	991.52248	g	- 9/20/2004	OK -1	Endevco	7264C-2K-2-180
9017	P35032	RDKZG1	RR FLRPAN ABV AXLE Z	UP	1017.2171	g	- 9/20/2004	OK -1	Endevco	7264C-2K-2-180
9018	P33792	LRSYG1	LFT SIDE SILL RR ST Y	RT	1000.3712	g	+ 3/31/2004	--- -1	Endevco	7264C-2K-2-180
9019	P27408	LFSYG1	LFT SIDE SILL FRNT ST Y	RT	997.65900	g	+ 10/4/2004	OK -1	Endevco	7264C-2K-2-180
9020	P33107	RRTYG1	RGT RR OCP COMP Y	LT	1552.6386	g	- 9/14/2004	OK -1	Endevco	7264C-2K-2-180
9021	03D03C28-N09	LLBYG1	LFT LOWER B-POST Y	RT	1461.3123	g	+ 2/5/2004	--- -1	Entran	EGE-73B6Q-200
9022	P33818	LUBYG1	LFT MID B-POST Y	RT	1482.2534	g	+ 3/31/2004	--- -1	Endevco	7264C-2K-2-180
9023	P38007	LLAYG1	LFT LOWER A-POST Y	LT	1479.2087	g	- 9/22/2004	OK -1	Endevco	7264C-2K-2-180
9024	P28094	LUAYG1	LFT MID A-POST Y	LT	1519.3396	g	- 8/2/2004	OK -1	Endevco	7264C-2K-2-180
9025	P30433	LFTYG1	LFT FRNT SEAT TRACK Y	RT	1488.5581	g	+ 9/15/2004	OK -1	Endevco	7264C-2K-2-180
9026	P34063	LRTYG1	LFT RR SEAT TRACK Y	RT	1521.0932	g	+ 4/19/2004	OK -1	Endevco	7264C-2K-2-180
9027	P34213	VCGXG1	VEH C/G X	FWD	987.08309	g	+ 6/7/2004	OK -1	Endevco	7264C-2K-2-180
9028	P37753	VCGYG1	VEH C/G Y	LT	1012.4980	g	- 6/7/2004	OK -1	Endevco	7264C-2K-2-180
9030	P34211	VCGZG1	VEH C/G Z	UP	983.19731	g	- 6/7/2004	OK -1	Endevco	7264C-2K-2-180

D-7

041005

Channel Report

10/5/2004 7:43:53 AM

Name of Test 041005

System MINIDAU

Name of DAU DAUC

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	EVENT	EVENT	EVENT		5.12	V	+ 4/19/2004	OK -1	TRC	Event
0002	P37856	BCGXG1	MDB Center of Gravity X-axis	FWD	605.77148	g	+ 9/20/2004	OK -1	Endevco	7264C-2K-2-180
0003	P37858	BCGYG1	MDB Center of Gravity Y-axis	LT	603.77451	g	- 9/20/2004	OK -1	Endevco	7264C-2K-2-180
0004	P37890	BCGZG1	MDB Center of Gravity Z-axis	UP	595.53386	g	- 9/20/2004	OK -1	Endevco	7264C-2K-2-180
0005	P29702	LRRXG1	MDB Left Rear X-axis	FWD	605.14071	g	+ 8/19/2004	OK -1	Endevco	7264C-2K-2-180
0006	P33974	LRRYG1	MDB Left Rear Y-axis	LT	602.20061	g	- 8/24/2004	OK -1	Endevco	7264C-2K-2-180

Digital and System Channel Report

2004-10-05 07:42:16

Name of Test	041005	System	MINIDAU	Name of DAU	DAUC	descriptio
enable	Channel	Short Name	Type	Data File	Module Type	
Yes	0501	DIGC	dig0	DATC0501	KM3710 Controller	

bit position	bit	short	long	descriptio
MSB = bit 15	1	MDBR1	MDB Right Side Contact Switch	M
bit 14	1	MDBL1	MDB Left Side Contact Switch	N
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			

D-9

041005

D-10

Dummy 055n Type SID/H3 Descriptio NHTSA - 055n SID-LEFT IMP. CONFIG. w/RED ACCELS ICAL'd 9-14-04(DKS -04)J211

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7264C-2K-2-18	P34237	Endevco	0.0248388 g	2000	9/16/2004	Rwd	1
HEDYG	Head Accel Y	7264C-2K-2-18	P33552	Endevco	0.0197796 g	2000	9/16/2004	Lft	1
HEDZG	Head Accel Z	7264C-2K-2-18	P33591	Endevco	0.0200213 g	2000	9/16/2004	Up	1
HEDXR	Head Accel X Red	7264C-2K-2-18	P34007	Endevco	0.0193261 g	2000	9/16/2004	Rwd	1
HEDYR	Head Accel Y Red	7264C-2K-2-18	P33556	Endevco	0.0213786 g	2000	9/16/2004	Lt	1
HEDZR	Head Accel Z Red	7264C-2K-2-18	P34297	Endevco	0.0193861 g	2000	9/16/2004	Up	1
NEKXF	Neck Force X	1716A	1716A-1222-FX	Denton	0.0001942 N	8896.4	9/16/2004	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-1222-FY	Denton	0.0001902 N	8896.4	9/16/2004	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1222-FZ	Denton	0.0000999 N	13344.6	9/16/2004	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-1222-MX	Denton	0.0061313 N·m	282.5	9/16/2004	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1222-MY	Denton	0.0059943 N·m	282.5	9/16/2004	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-1222-MZ	Denton	0.0084485 N·m	282.5	9/16/2004	Chn to Lt Shld	0
LURYG	Left Upper Rib Y	7264C-2K-2-18	P34348	Endevco	0.0319755 g	2000	9/14/2004	Rgt	0
LURYR	Left Upper Rib Red Y	7264C-2K-2-18	P31875	Endevco	0.0191939 g	2000	9/14/2004	Rgt	0
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P34029	Endevco	0.0207072 g	2000	9/14/2004	Rgt	0
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P33541	Endevco	0.0186362 g	2000	9/14/2004	Rgt	0
T12YG	Lower Spine Y	7264C-2K-2-18	P34275	Endevco	0.0205602 g	2000	9/14/2004	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P33847	Endevco	0.0251748 g	2000	9/14/2004	Lft	1
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P34025	Endevco	0.0188394 g	2000	9/14/2004	Lft	1
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P33878	Endevco	0.0185769 g	2000	9/14/2004	Lft	1

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Dummy 059n Type SID/H3 Descriptio NHTSA - 059n SID-LEFT IMP. CONFIG. w/RED ACCELS ICAL'd 9-15-04(DKS)

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7264C-2K-2-18	P33618	Endevco	0.0188297 g	2000	9/16/2004	Rwd	1
HEDYG	Head Accel Y	7264C-2K-2-18	P34287	Endevco	0.0183842 g	2000	9/16/2004	Lft	1
HEDZG	Head Accel Z	7264C-2K-2-18	P33714	Endevco	0.0192451 g	2000	9/16/2004	Up	1
HEDXR	Head Accel X Red	7264C-2K-2-18	P33531	Endevco	0.0191397 g	2000	9/16/2004	Rwd	1
HEDYR	Head Accel Y Red	7264C-2K-2-18	P34005	Endevco	0.0216498 g	2000	9/16/2004	Lt	1
HEDZR	Head Accel Z Red	7264C-2K-2-18	P34369	Endevco	0.0194283 g	2000	9/16/2004	Up	1
NEKXF	Neck Force X	1716A	1716A-1221-FX	Denton	0.0001953 N	8896.4	9/16/2004	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-1221-FY	Denton	0.0001899 N	8896.4	9/16/2004	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1221-FZ	Denton	0.0001002 N	13344.6	9/16/2004	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-1221-MX	Denton	0.0061459 N-m	282.5	9/16/2004	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1221-MY	Denton	0.0059926 N-m	282.5	9/16/2004	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-1221-MZ	Denton	0.0084848 N-m	282.5	9/16/2004	Chn to Lt Shld	0
LURYG	Left Upper Rib Y	7264C-2K-2-18	P34250	Endevco	0.0239947 g	2000	9/15/2004	Rgt	0
LURYR	Left Upper Rib Red Y	7264C-2K-2-18	P34017	Endevco	0.0182443 g	2000	9/15/2004	Rgt	0
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P34139	Endevco	0.0202468 g	2000	9/15/2004	Rgt	0
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P33860	Endevco	0.0185153 g	2000	9/15/2004	Rgt	0
T12YG	Lower Spine Y	7264C-2K-2-18	P32979	Endevco	0.0171269 g	2000	9/15/2004	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P34070	Endevco	0.0195218 g	2000	9/15/2004	Lft	1
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P33508	Endevco	0.0181192 g	2000	9/15/2004	Lft	1
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P33577	Endevco	0.0183431 g	2000	9/15/2004	Lft	1

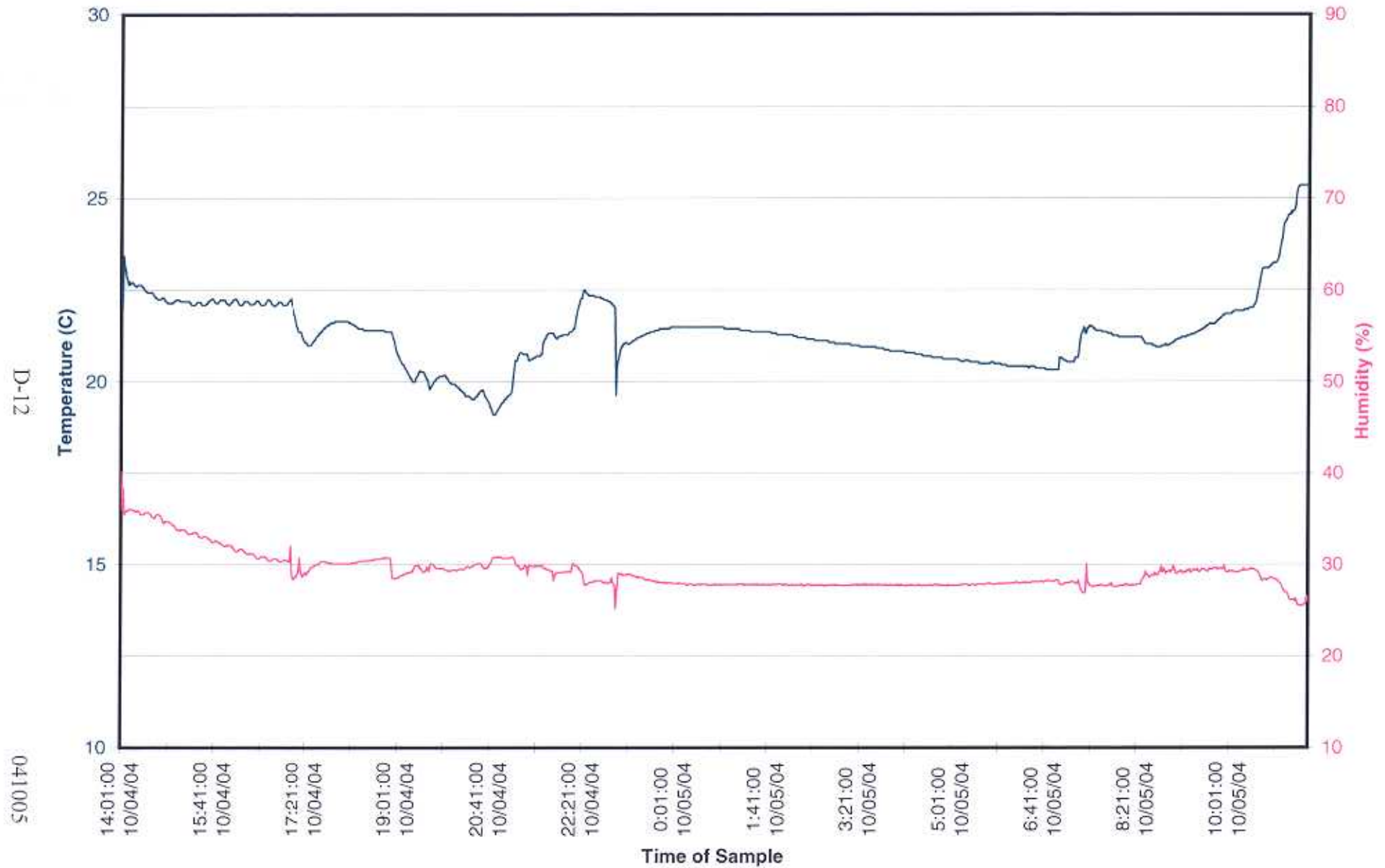
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FMVSS 214 2005 NISSAN ALTIMA / 041005





SIDE IMPACTOR BARRIER CERTIFICATION

Date: July 27, 2004

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

PURCHASE ORDER INFORMATION

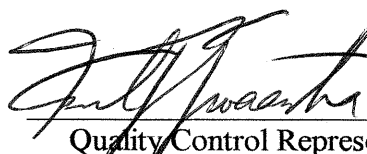
Customer P.O. Number: 031364
Work Order Number: 105710
Plascore Part Number: 18723
Quantity: 01 piece

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: 047A0504

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

A circular stamp with "QA" at the top, "Plascore" in the middle, "Accept" below it, and ".001" at the bottom.

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

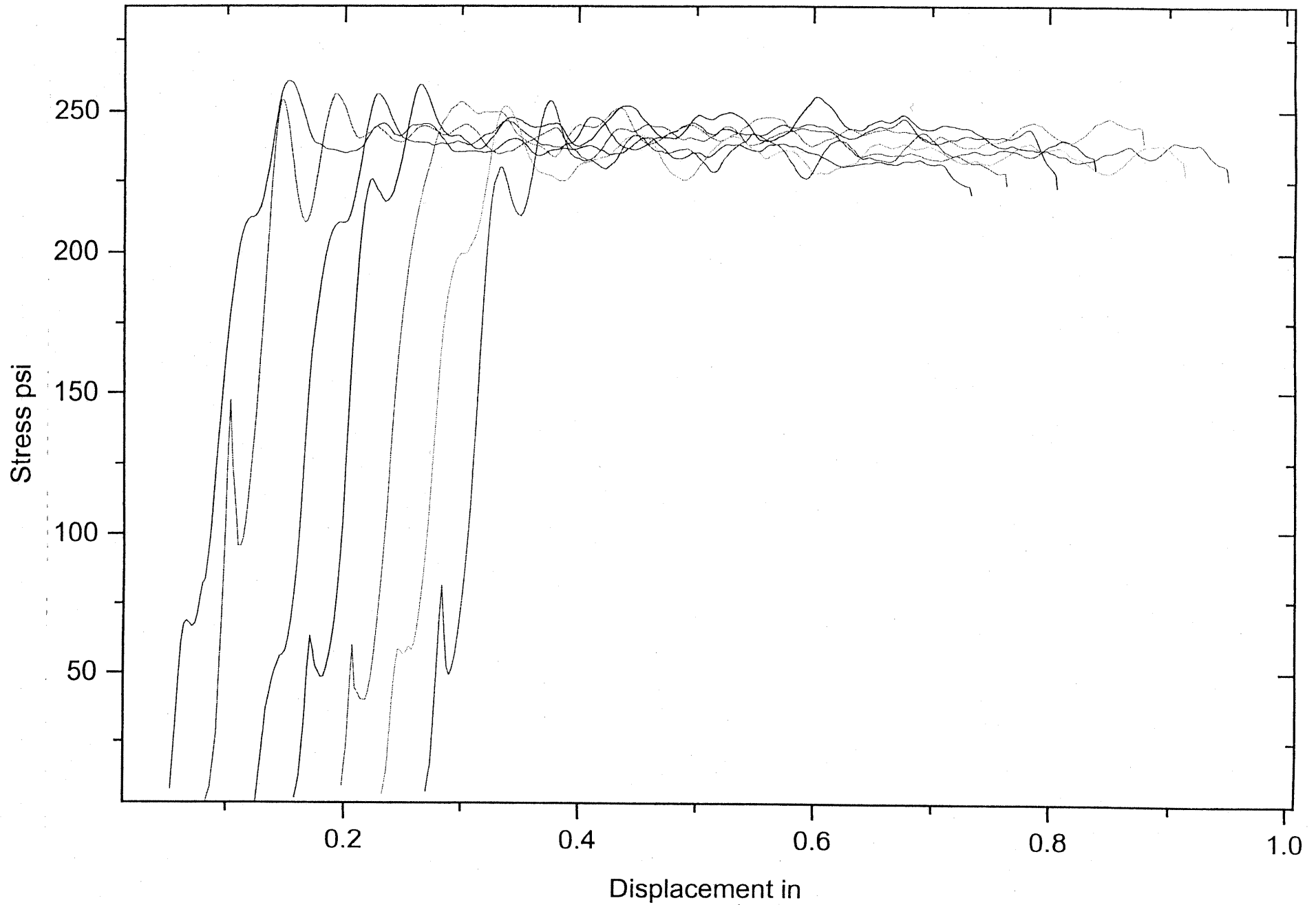
Block Number: 047A0504

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	236.29	236.55	232.30
2	239.86	241.43	235.98
3	241.89	243.01	241.52
4	243.94	246.62	245.40
5	243.16	240.83	241.49
6	233.96	234.91	233.89
7	234.33	236.19	234.62

BLOCK # 047A0504 Sample ID: IN230138

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041005





SIDE IMPACTOR BARRIER CERTIFICATION

Date: July 27, 2004

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

PURCHASE ORDER INFORMATION

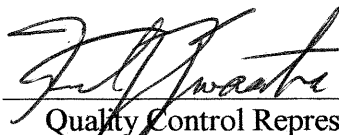
Customer P.O. Number: 031364
Work Order Number: 105710
Plascore Part Number: 18723
Quantity: 01 piece

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: 014A0604

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

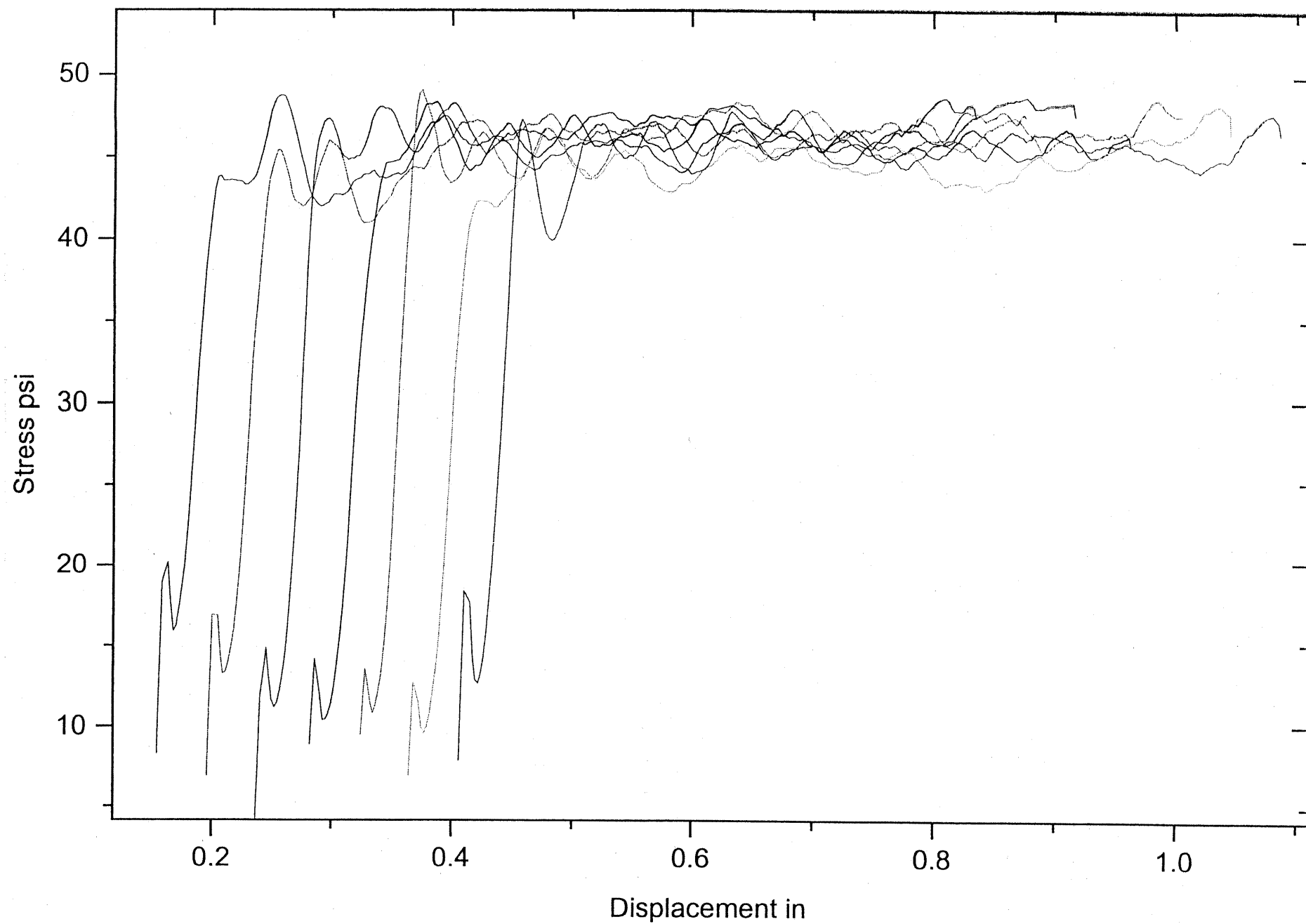
Block Number: 014A0604

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	45.55	45.72	46.00
2	46.57	45.96	45.96
3	46.64	46.94	47.01
4	46.10	45.68	45.86
5	47.38	46.47	46.40
6	44.94	44.14	45.38
7	45.31	45.89	45.10

BLOCK # 014A0604 Sample ID: IN331923

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041005





2005 ALTIMA 2.5 S

AUTOMATIC TRANSMISSION
Color: SUPER BLACK

Standard Equipment Included at No Extra Charge

MECHANICAL & PERFORMANCE

2.5L DOHC 175HP 4-Cylinder Engine
4 Speed A/T w/ Gated Shifter
Liquid-Filled Engine Mounts
Front and Rear Stabilizer Bars
Speed Sensitive Power Steering
Rear Disc Brakes & Pwr Vented Front Disc Brakes
Multi-Link Independent Rear Suspension
Continuously Variable Timing Control (CVTC)
Engine Cover
20 Gallon Fuel Tank
105,000 Mile Tune Up Interval

EXTERIOR STYLING

215/60R16 All Season Tires w/ Full Wheel Covers
Flush Mounted Halogen Headlights
UV Reducing Tinted Glass
Body-Color Bumpers
Body-Color Side Moldings
In-Glass Antenna

COMFORT & CONVENIENCE

Remote Keyless Entry w/ Remote Trunk Opener
Valet Key and Trunk Cancel Switch
AM/FM/CD with 6 Speakers
Dual Front Cup Holders
Variable Intermittent Wipers
Pwr Windows w/ Driver Auto Up/Down & Anti Pinch
Driver & Passenger Sunvisors w/ Vanity Mirror
Dual 12-Volt DC Power Sources
Tilt & Telescopic Steering Column
60/40 Split Fold-Down Rear Seat w/ Lock
Illuminated Ignition Cylinder
Remote Trunk & Hood Release/ Cable Fuel Door Release
Rear Window Defroster/ Side Window Defoggers
Driver & Passenger Seatback Pockets
Map Pockets on Front and Rear Doors
Center Console w/ Armrest-Style Lid
Rear Center Armrest w/ Dual Cup Holders
8 Way Manual Driver's Seat
Two Rear Coat Hooks
Front Map Lights and Sunglass Storage

Air Conditioning and Cruise Control
Retained Accessory Power for Windows
Room Light Auto-Off Battery Saver
Microfilter Ventilation
Power Door Locks
Dual Power Outside Mirrors

SAFETY & SECURITY

Dual Front Airbags
Immobilizer Key System
Side-Door Guard Beams
Energy-Absorbing Steering Column
Child Safety Rear Door Locks
Front and Rear Crumple Zones
Adjustable Front Shoulder Belt Anchors
3-point Front, Rear, & Center Seat Belts
ELR Driver, ALR/ELR Passenger Seat Belt System
Child seat upper tether anchors
LATCH System
Power Window Lockout Button
Emergency Inside Trunk Release

Compare this vehicle to others in the **FREE FUEL ECONOMY GUIDE** available at the dealer.

CITY MPG

23



HIGHWAY MPG

29

Actual Mileage will vary with options, driving conditions, driving habits and vehicle's conditions. Results reported to EPA indicate that the majority of vehicles with these estimates will achieve between

19 and 27 mpg in the city and between

24 and 34 mpg on the highway.

2005 NISSAN ALTIMA 2.5 S
152 CUBIC INCH ENGINE,
4 CYLINDERS,
FUEL INJECTION,
FEEDBACK FUEL SYSTEM,
4-SPEED AUTOMATIC TRANSMISSION,
CATALYTIC CONVERTER,
50 STATE EMISSIONS CONTROL SYSTEM.

Estimated Annual Fuel Cost:
\$808

For Comparison Shopping,
all vehicles classified as
MIDSIZE

have been issued mileage ratings
ranging from 10 to 59 mpg city
and 14 to 51 mpg hwy

Dealer: JEFF WYLER NISSAN FAIRFLD
5829 DIXIE HWY
FAIRFIELD OH 45014

Transport Method: TRUCK
Final Assembly Point: SMYRNA

This vehicle qualifies for Nissan's
Security+Plus Vehicle Protection Plan
The only service agreement backed by Nissan!
Ask your dealer for details, or call
1-800-NISSAN-6 for information.