

Report Number: 214-TRC-04-004

Safety Compliance Testing For FMVSS 214

Side Impact Protection

Indicant

Toyota Motor Corporation

2005 Scion TC 2-door

NHTSA Number: C55102

Transportation Research Center Inc.

10820 State Route 347

P. O. Box B-67

East Liberty, OH 43319



Test Date: October 20, 2004

Final Report: November 1, 2004

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

Office of Vehicle Safety Compliance

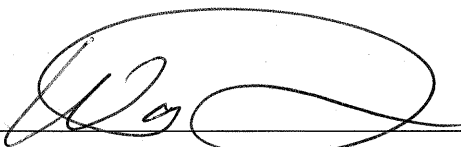
400 Seventh Street, S. W.

Room No. 6111 (NVS-220)

Washington, DC 20590

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

Test Performed By: John Shultz, Supervisor

Report Approved By: 
Walter Dudek, Project Manager
Transportation Research Center Inc.

Approval Date: 11/02/2004

FINAL REPORT ACCEPTANCE BY OVSC:

Accepted By: _____

Acceptance Date: _____

1. Report No. 214-TRC-04-004	2. Government Accession No.	3. Recipient's Catalog No.																									
4. Title and Subtitle Final Report of FMVSS 214 Indicant Compliance Side Impact Testing of a 2005 Scion TC 2-door, NHTSA No.: C55102		5. Report Date November 1, 2004	6. Performing Organization Code TRC Inc.																								
		8. Performing Organization Report No. 041020-1																									
7. Author(s) Walter Dudek, Project Manager Transportation Research Center Inc.		10. Work Unit No. (TRAIS)																									
9. Performing Organization Name and Address Transportation Research Center Inc. 10820 State Route 347 East Liberty, OH 43319		11. Contract or Grant No. DTNH22-02-D-11114																									
		13. Type of Report and Period Covered Final Report October - November 2004																									
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Enforcement Office of Vehicle Safety Compliance 400 Seventh Street, S.W. Room 6111 (NVS-220) Washington, DC 20590		14. Sponsoring Agency Code NVS-220																									
		15. Supplemental Notes																									
16. Abstract <p>This 56/28 km/h 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject vehicle, a 2005 Scion TC 2-door hatchback 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 20, 2004.</p> <p>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 248 mm at Level 2.</p> <p>The test or target vehicle's performance is given below (with FIR filter):</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;"></th> <th style="width: 20%; text-align: center;"><u>Front SID HIII</u></th> <th style="width: 20%;"></th> <th style="width: 20%; text-align: center;"><u>Rear SID HIII</u></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td style="text-align: center;"><u>55.7</u></td> <td style="text-align: center;">g's</td> <td style="text-align: center;"><u>52.0</u></td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td style="text-align: center;"><u>56.8</u></td> <td style="text-align: center;">g's</td> <td style="text-align: center;"><u>67.6</u></td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td style="text-align: center;"><u>67.4</u></td> <td style="text-align: center;">g's</td> <td style="text-align: center;"><u>56.4</u></td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td style="text-align: center;"><u>62.1</u></td> <td style="text-align: center;">g's</td> <td style="text-align: center;"><u>62.0</u></td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td style="text-align: center;"><u>54.1</u></td> <td style="text-align: center;">g's</td> <td style="text-align: center;"><u>42.8</u></td> </tr> </tbody> </table> <p>The door on the struck side of the vehicle did not separate from the body at the hinge or latch and the opposite door did not open during side impact event.</p>					<u>Front SID HIII</u>		<u>Rear SID HIII</u>	Left Upper Rib Acceleration:	<u>55.7</u>	g's	<u>52.0</u>	Left Lower Rib Acceleration:	<u>56.8</u>	g's	<u>67.6</u>	Lower Spine Acceleration:	<u>67.4</u>	g's	<u>56.4</u>	Thoracic Trauma Index, (TTI):	<u>62.1</u>	g's	<u>62.0</u>	Pelvis Acceleration (PEV):	<u>54.1</u>	g's	<u>42.8</u>
	<u>Front SID HIII</u>		<u>Rear SID HIII</u>																								
Left Upper Rib Acceleration:	<u>55.7</u>	g's	<u>52.0</u>																								
Left Lower Rib Acceleration:	<u>56.8</u>	g's	<u>67.6</u>																								
Lower Spine Acceleration:	<u>67.4</u>	g's	<u>56.4</u>																								
Thoracic Trauma Index, (TTI):	<u>62.1</u>	g's	<u>62.0</u>																								
Pelvis Acceleration (PEV):	<u>54.1</u>	g's	<u>42.8</u>																								
17. Key Words Compliance Testing Side Impact Protection FMVSS 214 Side Impact Dummy (SID HIII)		18. Distribution Statement <u>Copies of this report are available from:</u> NHTSA Technical Information Services (TIS) Room 5108 (NPO-230), 400 Seventh Street, S.W. Washington, DC 20590 Telephone No. (202) 366-4946 Attn: Robert Hornicle																									
19. Security Classification (of this report) Unclassified	20. Security Classification (of this page) Unclassified	21. Number of Pages 367	22. Price																								

Table of Contents

<u>Section</u>	<u>Description</u>	<u>Page No.</u>
1	Purpose and Test Procedure	1-1
2	Summary of Side Impact Test	2-1
3	Summary of Test Results	3-1
	Data Sheet 1 - General Vehicle Test Parameter Data	3-2
	Data Sheet 2 - Test Vehicle Summary of Results	3-5
	Data Sheet 3 - Moving Deformable Barrier (MDB) Summary	3-6
	Data Sheet 4 - Post-Test Observations	3-7
4	Occupant and Vehicle Information	4-1
	Data Sheet 5 - SID HIII Instrumentation Data	4-2
	Data Sheet 6 - Vehicle Pre-Test And Post-Test Measurements	4-4
	Data Sheet 7 - SID HIII Longitudinal Clearance Dimensions	4-5
	Data Sheet 8 - SID HIII Lateral Clearance Dimensions	4-6
	Data Sheet 9 - Vehicle Side Measurements	4-7
	Data Sheet 10 - Vehicle Exterior Crush Profiles - All Levels	4-8
	Data Sheet 11 - Vehicle Damage Profile Distances	4-10
	Data Sheet 12 - Exterior Static Crush For Impactor Face	4-11
	Data Sheet 13 - Test Vehicle Accelerometer Locations and Data Summary	4-21
	Data Sheet 14 - MDB Accelerometer Locations and Data Summary	4-25
	Data Sheet 15 - High-Speed Camera Locations and Data	4-26
5	Vehicle Fuel System Integrity	5-1
	Data Sheet 16 - FMVSS 301 Fuel System Integrity Data	5-2
	Data Sheet 17 - FMVSS 301 Rollover Data	5-3
Appendix A	Photographs	A-1
Appendix B	Data Plots	B-1
Appendix C	SID HIII Configuration and Performance Verification Data	C-1
Appendix D	Test Equipment List and Calibration Information	D-1

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 Scion TC 2-door. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 2001) (except the test was conducted 8 km/h (5 mph) faster than the standard specifies).

Section 2

Summary of Side Impact Test

A 2005 Scion TC 2-door was impacted on the driver side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the monorail at a velocity of 62.0 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 20, 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)	62.1	62.0
PEV (g)	54.1	42.8

Head Injury Criteria (HIC)

Injury Criteria	Front SID HIII	Rear SID HIII
HIC	771	698
t ₁ (ms)	68.88	40.80
t ₂ (ms)	72.56	48.08
Average Acceleration t ₁ - t ₂ (g)	133.3	97.9

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

Neck Injury Criteria

Maximum Values	Front SID HIII	Rear SID HIII
Neck X-axis Force (N)	-789	948
Neck Y-axis Force (N)	693	-1529
Neck Z-axis Force (N)	2128	-1136
Moment About X-axis (Nm) ¹	-72	-45
Moment About Y-axis (Nm)	-36	29
Moment About Z-axis (Nm)	-18	-17

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 B-pillar Y-axis acceleration channel, LLBYG1, exceeded full-scale at approximately 20 milliseconds. The velocity was also affected.

The vehicle's left lower A-pillar Y-axis acceleration channel, LLAYG1, recorded no valid data after approximately 23 milliseconds. The velocity was also affected.

The vehicle's left mid A-pillar Y-axis acceleration channel, LUAYG1, exceeded full-scale at approximately 58 milliseconds. The velocity was also affected.

The vehicle's center of gravity X-, Y-, and Z-axis acceleration channels, VCGXG1, VCGYG1, and VCGZG1, respectively, recorded questionable data throughout the test. The resultant and velocity were also affected.

The onboard moving deformable barrier center high-speed camera did not start correctly and missed recording the impact event.

The onboard vehicle side front door high-speed camera ran slower than the intended 1,000 fps.

Section 3

Summary of Test Results

Data Sheet 1

General Test Vehicle Parameter Data

Test Vehicle Information:

Vehicle Year/Make/Model: 2005 Scion TC
Vehicle Body Style/Color: 2-door/White VIN: JTKDE177650014545
Vehicle NHTSA No.: C55102 Build Date: 07/04
Engine Data: 4 Cylinders; CID; 2.4 Liters; cc
Placement: Longitudinal; or X Lateral; or Horizontal
Transmission: 5 Speed; X Manual; Automatic; Overdrive
Final Drive: RWD; X FWD; Four-Wheel Drive
Odometer Reading: 51
Options: X A/C; X Power steering; X Pwr. brakes; X Power windows

Data From Vehicle's Tire Placard:

Tire Pressure (at capacity)* 220 kPa Front; 200 kPa Rear
Recommended Tire Size: P215/45ZR17
Tires on Test Vehicle: P215/45ZR17 Manufacturer: Bridgestone, Potenza

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 = 392 kg (A)
No. of Occupants x 68.04 kg. = 340 kg (B)
Vehicle Cargo Capacity (A-B) = 52 kg

Test Vehicle Delivered Weight With Maximum Fluids:

Left Front	=	<u> 398.0 </u> kg	Left Rear	=	<u> 260.5 </u> kg
Right Front	=	<u> 387.0 </u> kg	Right Rear	=	<u> 256.0 </u> kg
Total Front	=	<u> 785.0 </u> kg	Total Rear	=	<u> 516.5 </u> kg
Front % of Total Weight	=	<u> 60.3 </u> %	Rear % of Total Weight	=	<u> 39.7 </u> %
Total Weight	=	<u> 1301.5 </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 = 1301.5 kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle = 52.0 kg (B)
Weight of Instrumented Side Impact Dummies (2 X 84.0 kg) = 168.0 kg (C)
Test Vehicle Target Weight: = 1521.5 kg (A+B+C)

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

Left Front	=	<u>448.5</u> kg	Left Rear	=	<u>354.0</u> kg
Right Front	=	<u>393.0</u> kg	Right Rear	=	<u>315.5</u> kg
Total Front	=	<u>841.5</u> kg	Total Rear	=	<u>669.5</u> kg
Front % of Total Weight	=	<u>55.7</u> %	Rear % of Total Weight	=	<u>44.3</u> %
Total Weight	=	<u>1511.0</u> kg			

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

Left Front	=	<u>449.6</u> kg	Left Rear	=	<u>336.6</u> kg
Right Front	=	<u>413.2</u> kg	Right Rear	=	<u>317.6</u> kg
Total Front	=	<u>862.8</u> kg	Total Rear	=	<u>654.2</u> kg
Front % of Total Weight	=	<u>56.9</u> %	Rear % of Total Weight	=	<u>43.1</u> %
Total Weight	=	<u>1517.0</u> kg			

Test Vehicle Attitude (all dimensions in millimeters):

As Delivered	Fully Loaded	Ready For Test
Right Front <u>682</u>	Right Front <u>663</u>	Right Front <u>665</u>
Left Front <u>681</u>	Left Front <u>650</u>	Left Front <u>661</u>
Right Rear <u>690</u>	Right Rear <u>653</u>	Right Rear <u>660</u>
Left Rear <u>690</u>	Left Rear <u>637</u>	Left Rear <u>655</u>

Test Vehicle Wheelbase: 2695 mm

C.G. = 1162 mm rearward of front wheel centerline

Total Vehicle Length:

Right Side = 4150 mm
Left Side = 4155 mm
Centerline = 4405 mm

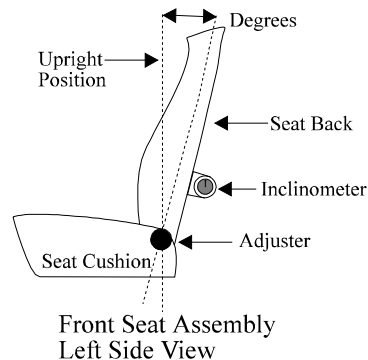
Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

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: Middle (8th notch rearward of full forward, 9th of 17 notches total)

Total Length of Fore/Aft Adjustment Travel: 240 mm

Total Number of Adjustment Positions or Detents: 17

Front Seat Back Adjustment Position: 4th notch rearward of full upright position

Seat Back Torso Angle: 3.9 degrees¹

Second Position Seat Placement: Fixed

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

Seat Back Adjustment Position: 3rd notch rearward of full upright position

Adjustable Steering Column Position: 19.7°-middle of geometric range of travel

Window Positions:

Right Front: Open

Right Rear: Open

Left Front: Closed

Left Rear: Fixed

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:

54.9 liters (fuel tank usable capacity)

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

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

Wheelbase = 2695 millimeters

Intended impact point is 410 millimeters rearward of front axle centerline (which is 940 ± 50 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 430 millimeters rearward of front axle centerline

¹ Measured at the headrest support post.

Data Sheet 2

Test Vehicle Summary of Results

Vehicle Year/Make/Model: 2005/Scion/TC

Body Style: 2-door

VIN: JTKDE177650014545

NHTSA No.: C55102

Build Date: 07/04

Test Date: 10/20/04

Vehicle Overall Length = 4405 mm

Overall Width = 1740 mm

Vehicle Test Weight (Pre-Test):

Left Front = 449.6 kg Left Rear = 336.6 kg

Right Front = 413.2 kg Right Rear = 317.6 kg

Total Front = 862.8 kg Total Rear = 654.2 kg

Total Weight = 1517.0 kg

Wheelbase = 2695 mm

Longitudinal C.G. From Center Of Front Axle = 1162 mm

Impact Angle With Respect To Impactor = 90 degrees

Impact Point:

Actual Impact Point is 20 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) = 28 mm

2. Level 2 (507 mm above ground) = 248 mm

3. Level 3 (650 mm above ground) = 232 mm

4. Level 4 (920 mm above ground) = 207 mm

5. Level 5 (1365 mm above ground) = 9 mm

Maximum Post-Test Intrusion = 248 mm

Occupants:

Front Passenger

Rear Passenger

Dummy Identification 906 055

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, 101AD804 028A1004

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 = 1110 mm

MDB Weight:

Left Front = 533.8 kg Left Rear = 138.6 kg

Right Front = 245.6 kg Right Rear = 446.0 kg

Total Front = 779.4 kg Total Rear = 584.6 kg

Total MDB Weight = 1364.0 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 = 177 millimeters

2. Row B at Top of Bumper Level = 70 millimeters

3. Row C at Mid Level = 104 millimeters

4. Row D at Top of Stack Level = 130 millimeters

Instrumentation:

Number of MDB Data Channels = 5

Data Sheet 4

Post-Test Observations

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Visible Dummy Contact Points:

	<u>Left Front SID HIII</u>	<u>Left Rear SID HIII</u>
Head:	<u>Door panel/head restraint</u>	<u>C-pillar/rear window</u>
trim/rear window		
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 & latched</u>	<u>Easy</u>
Rear:	<u>N/A</u>	<u>N/A</u>

MDB Distance From Target Impact Point:

Vertical: 0 mm from target
Horizontal: 20 mm right from target

Arm Rest Locations:

Front: 312 mm below the bottom of the window
Rear: 375 mm below the bottom of the window

Seat Movement:

Front: None
Rear: None

Glazing Damage:

Windshield: None
Window: Driver side window broken.

Pillar Separation: No

Sill Separation: No

Other Notable Impact Effects:

None

Section 4

Occupant and Vehicle Information

Data Sheet 5

SID HIII Instrumentation Data

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

TEST NUMBER: 041020

DRIVER DUMMY SERIAL NUMBER: 906

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	7.4 g	@ 205.1 ms	90.4 g	@ 71.0 ms
LATERAL	145.4 g	@ 70.4 ms	5.0 g	@ 35.8 ms
VERTICAL	54.2 g	@ 52.2 ms	9.9 g	@ 69.4 ms
RESULTANT	171.0 g	@ 70.7 ms		
HIC 36	771 from 68.9 to 72.6 ms			

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	7.3 g	@ 203.5 ms	90.7 g	@ 70.9 ms
LATERAL	145.0 g	@ 70.4 ms	4.6 g	@ 32.6 ms
VERTICAL	66.3 g	@ 51.0 ms	61.8 g	@ 50.7 ms
RESULTANT	170.9 g	@ 70.7 ms		
HIC 36	771 from 68.9 to 72.6 ms			

NECK FORCE

X-AXIS SHEAR	23.3 N	@ 116.1 ms	788.7 N	@ 68.7 ms
Y-AXIS SHEAR	693.4 N	@ 49.5 ms	301.8 N	@ 71.0 ms
Z-AXIS AXIAL	2127.8 N	@ 71.4 ms	119.2 N	@ 0.8 ms

NECK MOMENT

ABOUT X-AXIS	66.2 N-m	@ 70.5 ms	79.5 N-m	@ 44.3 ms
ABOUT Y-AXIS	9.9 N-m	@ 208.3 ms	36.4 N-m	@ 50.2 ms
ABOUT Z-AXIS	9.2 N-m	@ 67.2 ms	17.6 N-m	@ 248.3 ms
OCCIPITAL COND	64.2 N-m	@ 67.4 ms	71.6 N-m	@ 44.2 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	55.7 g	@ 30.6 ms	14.2 g	@ 72.5 ms
LATERAL (R)	56.6 g	@ 30.6 ms	13.7 g	@ 72.5 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	56.8 g	@ 33.1 ms	10.0 g	@ 88.1 ms
LATERAL (R)	56.0 g	@ 33.1 ms	10.0 g	@ 88.1 ms
TTI d (P)	62.1			
TTI d (R)	61.0			

LOWER SPINE ACCELERATION

LATERAL (P)	67.4 g	@ 35.6 ms	13.7 g	@ 60.6 ms
LATERAL (R)	65.4 g	@ 35.6 ms	14.2 g	@ 60.6 ms

PELVIS ACCELERATION

LATERAL (P)	54.1 g	@ 28.7 ms	10.2 g	@ 52.5 ms
LATERAL (R)	54.2 g	@ 28.7 ms	10.2 g	@ 52.5 ms

POSITIVE DIRECTION

LONGITUDINAL: FORWARD
 LATERAL: RIGHTWARD
 VERTICAL: DOWNWARD

NEGATIVE DIRECTION

LONGITUDINAL: REARWARD
 LATERAL: LEFTWARD
 VERTICAL: UPWARD

Data Sheet 5 (Continued)

SID HIII Instrumentation Data

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

TEST NUMBER: 041020

PASSENGER DUMMY SERIAL NUMBER: 055

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	12.9 g	@ 192.7 ms	19.4 g	@ 42.5 ms
LATERAL	135.3 g	@ 44.9 ms	17.6 g	@ 197.9 ms
VERTICAL	23.0 g	@ 49.5 ms	24.1 g	@ 59.8 ms
RESULTANT	136.1 g	@ 44.9 ms		
HIC 36	698 from 40.8 to 48.1 ms			

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	13.1 g	@ 193.3 ms	19.1 g	@ 42.5 ms
LATERAL	136.5 g	@ 44.9 ms	17.5 g	@ 197.8 ms
VERTICAL	24.2 g	@ 49.5 ms	23.5 g	@ 60.2 ms
RESULTANT	137.4 g	@ 44.9 ms		
HIC 36	722 from 40.8 to 48.1 ms			

NECK FORCE

X-AXIS SHEAR	948.0 N	@ 67.1 ms	144.7 N	@ 145.7 ms
Y-AXIS SHEAR	217.3 N	@ 164.7 ms	1528.8 N	@ 66.0 ms
Z-AXIS AXIAL	342.8 N	@ 101.7 ms	1136.1 N	@ 63.8 ms

NECK MOMENT

ABOUT X-AXIS	43.2 N-m	@ 201.0 ms	24.5 N-m	@ 58.5 ms
ABOUT Y-AXIS	29.3 N-m	@ 53.4 ms	21.2 N-m	@ 223.0 ms
ABOUT Z-AXIS	5.6 N-m	@ 305.0 ms	17.2 N-m	@ 224.7 ms
OCCIPITAL COND	41.9 N-m	@ 201.6 ms	45.3 N-m	@ 58.9 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	52.0 g	@ 45.6 ms	11.7 g	@ 105.0 ms
LATERAL (R)	51.5 g	@ 45.6 ms	17.2 g	@ 97.5 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	67.6 g	@ 45.0 ms	16.1 g	@ 105.6 ms
LATERAL (R)	67.2 g	@ 45.0 ms	64.7 g	@ 98.7 ms
TTI d (P)	62.0			
TTI d (R)	61.5			

LOWER SPINE ACCELERATION

LATERAL (P)	56.4 g	@ 56.9 ms	12.8 g	@ 74.4 ms
LATERAL (R)	55.8 g	@ 56.9 ms	12.8 g	@ 74.4 ms

PELVIS ACCELERATION

LATERAL (P)	42.8 g	@ 46.3 ms	5.8 g	@ 161.3 ms
LATERAL (R)	42.9 g	@ 46.3 ms	5.6 g	@ 161.3 ms

POSITIVE DIRECTION

LONGITUDINAL: FORWARD
LATERAL: RIGHTWARD
VERTICAL: DOWNWARD

NEGATIVE DIRECTION

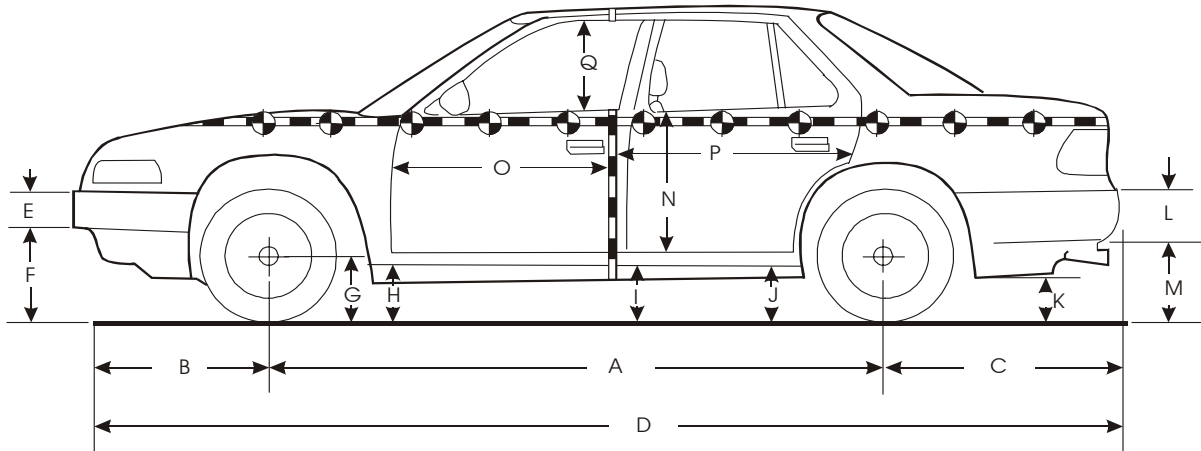
LONGITUDINAL: REARWARD
LATERAL: LEFTWARD
VERTICAL: UPWARD

Data Sheet 6

Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



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	2695	2695	2690	5
B	895	895	890	5
C	815	815	795	20
D	4405	4405	4398	7
E	168	168	170	-2
F	370	354	365	-11
G	296	296	270	26
H	241	234	240	-6
I	261	241	282	-41
J1	196	170	175	-5
J2	266	239	302	-63
K	315	280	258	22
L	208	208	204	4
M	428	395	380	15
N	N/A	N/A	N/A	N/A
O	800	800	750	50
P	N/A	N/A	N/A	N/A
Q	356	356	340	16
R	4150	4150	4135	15
S	4155	4155	4119	36
T	1299	1299	1205	94

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

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

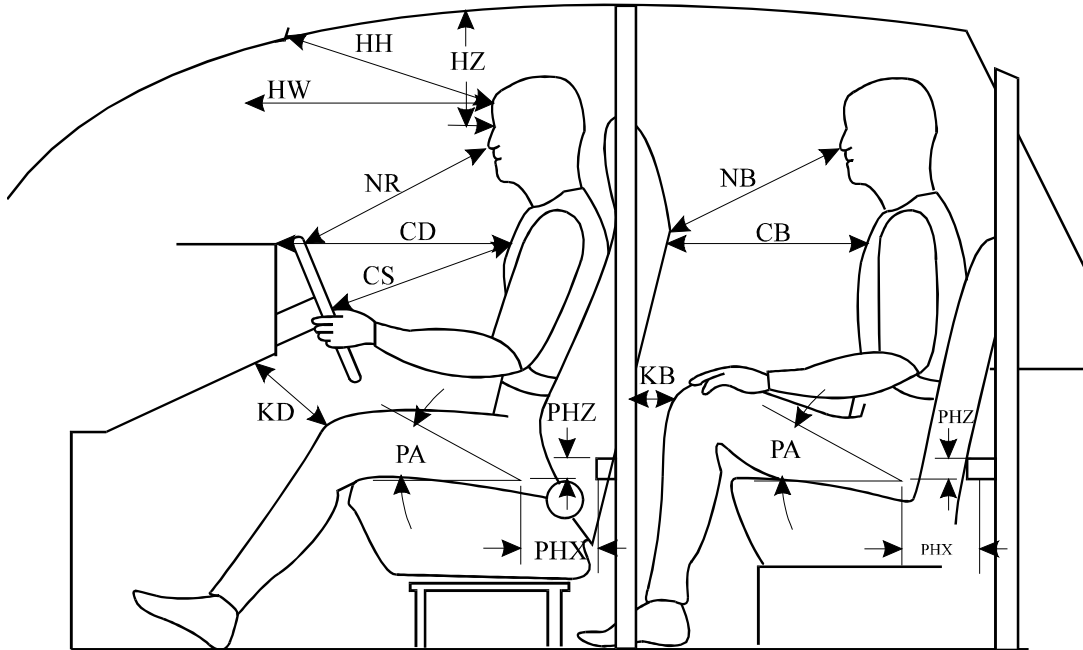
S = Left Side Length

Data Sheet 7

SID HIII Longitudinal Clearance Dimensions

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



Left Side View

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

Measurement	Driver SID HIII # 906	Left Rear Pass. SID HIII # 055
HH	408	N/A
HW	660	N/A
HZ	149	114
NR/NB	433	682
CD/CB	523	637
CS	343	N/A
KDL(KDA°)/KBL(KBA°)	113/(31.5°)	219/(0.0°)
KDR(KDA°)/KBR(KBA°)	110/(24.0°)	218/(0.0°)
PA°	24.3°	23.9°
PHX	460	458
PHZ	250	226

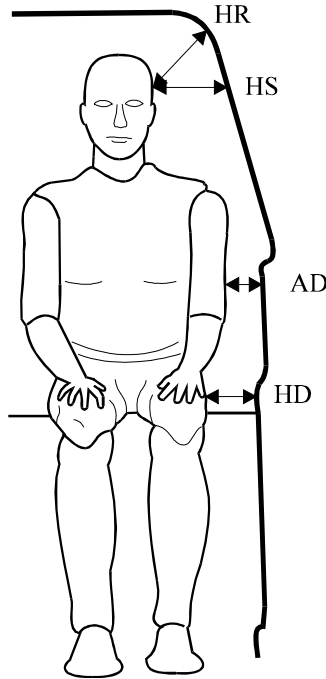
Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

Data Sheet 8

SID HIII Lateral Clearance Dimensions

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



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

Measurement	Driver SID HIII # 906	Left Rear Pass. SID HIII # 055
HR	206	147
HS	323	380
AD*	Lower: 140 Upper: 122	Lower: 112 Upper: 46
HD	148	125

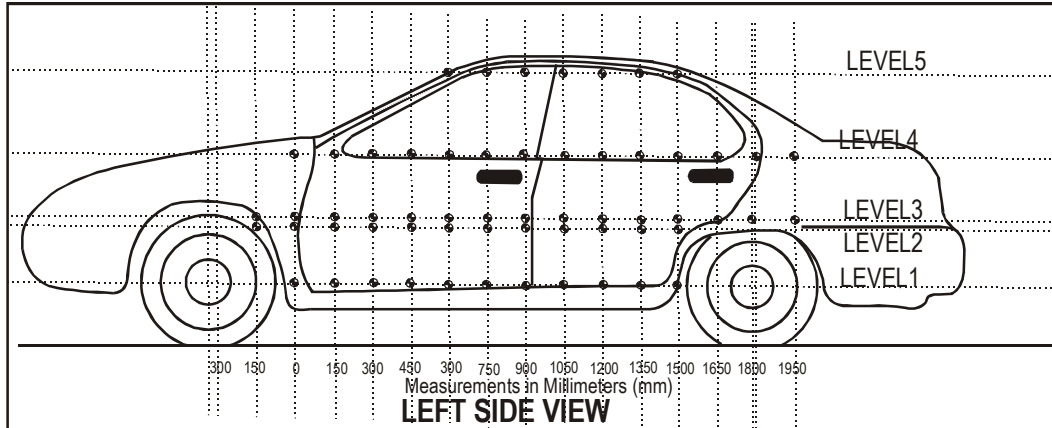
- * Lower measurement is taken laterally at center of the lower rib accelerometer height from the SID HIII arm segment to the closest part of the vehicle side.
Upper measurement is taken laterally at center of the upper rib accelerometer height from the SID HIII arm segment to the closest part of the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

Data Sheet 9

Vehicle Side Measurements

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



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>1365</u>	mm
Level 4 @ Window Sill	=	<u>920</u>	mm
Level 3 @ Mid Door	=	<u>650</u>	mm
Level 2 @ Occupant H-Point	=	<u>507</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>260</u>	mm

Data Sheet 10

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

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	---	---	---	---	---	---	---	---	662	660	660	655	655	650
		Post	---	---	---	---	---	---	---	---	690	676	677	687	677	674
		Crush	---	---	---	---	---	---	---	---	28	16	17	32	22	24
Level 2 H-Point	507	Pre	---	---	700	645	---	---	---	---	637	648	648	648	648	650
		Post	---	---	698	646	---	---	---	---	748	831	878	891	896	894
		Crush	---	---	-2	1	---	---	---	---	111	183	230	243	248	244
Level 3 Mid-Door	650	Pre	---	---	---	665	630	---	---	624	640	644	644	640	638	638
		Post	---	---	---	670	636	---	---	667	707	797	832	841	839	850
		Crush	---	---	---	5	6	---	---	43	67	153	188	201	201	212
Level 4 Window Sill	920	Pre	---	---	---	---	661	749	734	720	710	700	697	691	687	682
		Post	---	---	---	---	771	752	740	735	727	755	805	845	849	845
		Crush	---	---	---	---	110	3	6	15	17	55	108	154	162	163
Level 5 Window Top	1365	Pre	---	---	---	---	---	---	---	---	---	---	---	---	---	910
		Post	---	---	---	---	---	---	---	---	---	---	---	---	---	905
		Crush	---	---	---	---	---	---	---	---	---	---	---	---	---	-5

Data Sheet 10 (Continued)

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

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	652	650	650	656	655	655	657	---	---	---	---	---	---
		Post	674	676	676	675	681	682	677	676	---	---	---	---	---
		Crush	22	26	26	19	26	27	20	---	---	---	---	---	---
Level 2 H-Point	507	Pre	648	650	648	653	646	647	645	630	---	---	---	---	652
		Post	894	893	892	894	865	863	836	725	---	---	---	---	665
		Crush	246	243	244	241	219	216	191	95	---	---	---	---	13
Level 3 Mid-Door	650	Pre	636	636	638	642	638	638	642	633	623	---	---	633	670
		Post	850	850	856	842	870	863	865	780	725	---	---	651	681
		Crush	214	214	218	200	232	225	223	147	102	---	---	18	11
Level 4 Window Sill	920	Pre	675	672	668	667	665	665	665	670	674	678	685	698	---
		Post	844	846	827	806	872	865	842	790	740	702	700	700	---
		Crush	169	174	159	139	207	200	177	120	66	24	15	2	---
Level 5 Window Top	1365	Pre	908	910	910	919	910	920	937	---	---	---	---	---	---
		Post	905	905	906	915	919	925	941	---	---	---	---	---	---
		Crush	-3	-5	-4	-4	9	5	4	---	---	---	---	---	---

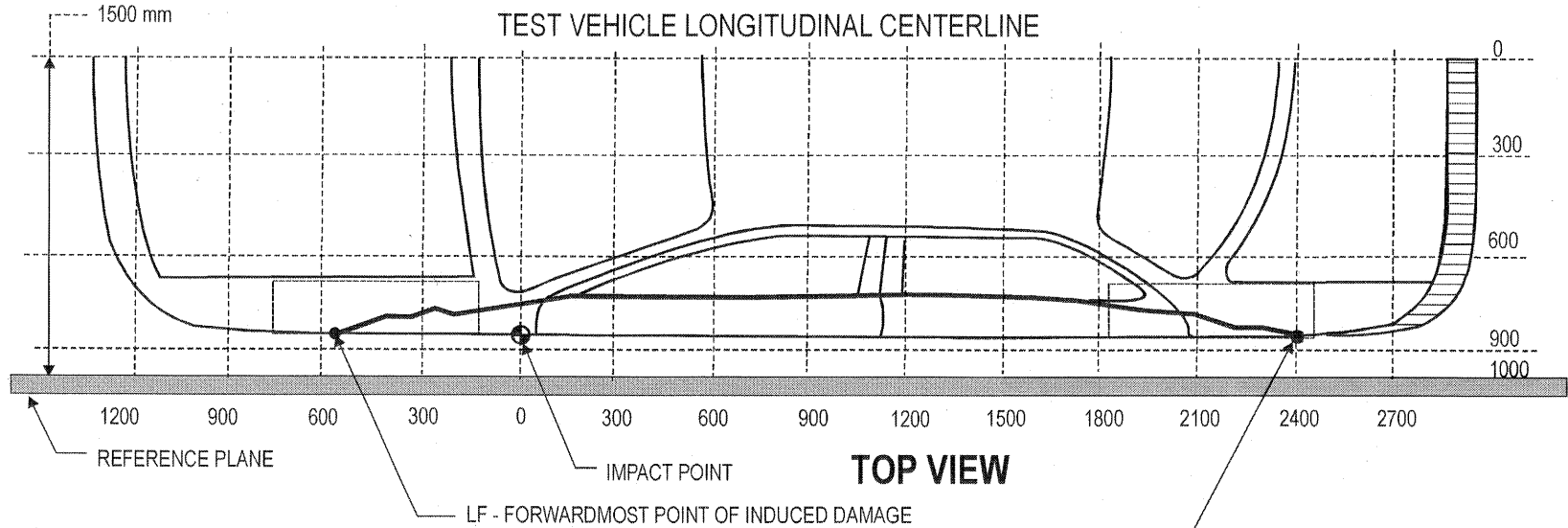
Data Sheet 11

Vehicle Damage Profile Distances

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

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 (+)

LR - REARWARDMOST POINT OF INDUCED DAMAGE

DPD Measurements	Post-Test (mm)	Pre-Test (mm)	Static Crush (mm)
6: LF = -150 mm (Level 3)	667	624	43
5: 300 mm (Level 2)	874	648	230
4: 750 mm (Level 2)	894	650	244
3: 1200 mm (Level 2)	892	648	244
2: 1500 mm (Level 3)	870	638	232
1: LR = 2100 mm (Level 3)	725	623	102

Full length of induced damage was 2250 mm.

4-10

041020-1

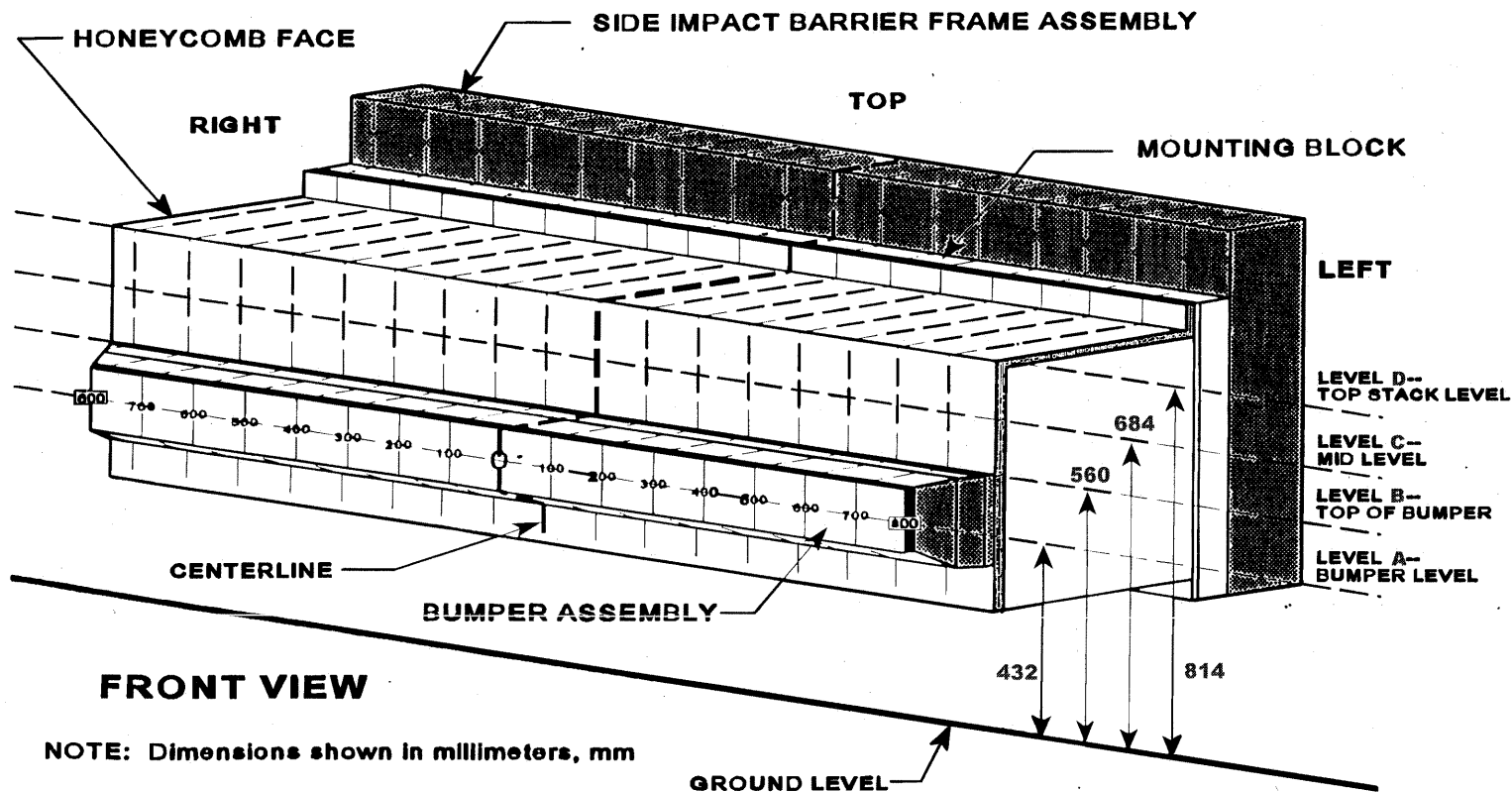
Data Sheet 12

Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



4-11

041020-1

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Location	Height At CL	Distance Right of Center (mm)									Distance Left of Center (mm)							
		800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
Top Stack Level - Level D	811	-76	-52	-43	-54	-93	-91	-49	-18	-19	-19	-19	-21	-23	-26	-52	-86	-130
Mid Level Level C	685	-59	-32	-32	-50	-83	-66	-34	-14	-8	-8	-11	-14	-18	-22	-29	-48	-104
Top Bumper Level-Level B ¹	559	-70	-66	-66	-67	N/A	N/A	-43	-36	-33	-30	-29	-29	-31	-34	-41	-53	-69
Mid Bumper Level - Level A	432	-177	-172	-169	-176	-160	-142	-131	-122	-114	-109	-105	-102	-100	-100	-105	-116	-128

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

¹ Top bumper measurement points are at 560 mm to avoid bumper element interference post-test.

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Deformable Barrier Face Profile

Level D - Top Stack

Pre-Test

Index	Xmm	Ymm	Zmm
1	-382	798	-41
2	-382	699	-41
3	-382	598	-42
4	-382	499	-42
5	-382	398	-43
6	-382	299	-44
7	-382	199	-45
8	-382	98	-45
9	-383	-1	-46
10	-383	-101	-45
11	-383	-201	-47
12	-383	-301	-47
13	-382	-401	-48
14	-382	-501	-48
15	-382	-601	-49
16	-382	-700	-49
17	-382	-800	-50

Post-Test

Index	Xmm	Ymm	Zmm
1	-306	746	-102
2	-330	650	-102
3	-338	549	-104
4	-328	451	-109
5	-289	359	-115
6	-292	264	-117
7	-333	173	-109
8	-364	78	-102
9	-364	-22	-98
10	-364	-122	-94
11	-364	-221	-89
12	-362	-321	-84
13	-359	-421	-77
14	-356	-520	-70
15	-330	-616	-67
16	-296	-709	-65
17	-252	-797	-66

Difference

Index	Xmm	Ymm	Zmm
1	-76	52	61
2	-52	49	61
3	-43	48	63
4	-54	48	66
5	-93	39	72
6	-91	35	73
7	-49	26	65
8	-18	21	57
9	-19	21	52
10	-19	20	48
11	-19	20	42
12	-21	20	37
13	-23	20	29
14	-26	20	22
15	-52	15	18
16	-86	9	16
17	-130	-3	16

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Deformable Barrier Face Profile Cont'd.

Level C - Mid Level

Pre-Test

Index	Xmm	Ymm	Zmm
18	-382	799	-167
19	-382	700	-168
20	-382	600	-168
21	-382	500	-170
22	-382	400	-171
23	-382	300	-172
24	-382	200	-171
25	-382	100	-172
26	-383	1	-172
27	-383	-99	-174
28	-383	-199	-174
29	-382	-300	-175
30	-382	-399	-176
31	-382	-499	-177
32	-382	-600	-177
33	-382	-700	-178
34	-382	-800	-179

Post-Test

Index	Xmm	Ymm	Zmm
18	-324	750	-226
19	-350	655	-226
20	-350	556	-229
21	-333	458	-235
22	-299	364	-241
23	-317	265	-238
24	-348	170	-232
25	-368	72	-228
26	-375	-27	-224
27	-374	-127	-220
28	-372	-228	-214
29	-369	-328	-209
30	-365	-427	-203
31	-360	-527	-198
32	-353	-627	-191
33	-334	-725	-187
34	-278	-806	-192

Difference

Index	Xmm	Ymm	Zmm
18	-59	49	59
19	-32	45	58
20	-32	44	61
21	-50	43	66
22	-83	36	70
23	-66	35	66
24	-34	31	61
25	-14	28	56
26	-8	28	52
27	-8	28	46
28	-11	29	40
29	-14	28	34
30	-18	28	27
31	-22	28	21
32	-29	27	14
33	-48	25	9
34	-104	6	13

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Deformable Barrier Face Profile Cont'd.

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-383	801	-293
36	-383	702	-293
37	-383	601	-294
38	-383	502	-294
39	-383	402	-295
40	-383	302	-296
41	-383	201	-296
42	-383	101	-297
43	-383	1	-298
44	-383	-99	-298
45	-383	-199	-299
46	-383	-299	-299
47	-383	-399	-300
48	-382	-499	-301
49	-382	-598	-302
50	-382	-698	-302
51	-382	-799	-303

Post-Test

Index	Xmm	Ymm	Zmm
35	-313	763	-333
36	-317	663	-336
37	-317	563	-338
38	-316	464	-344
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	-339	166	-352
42	-346	66	-350
43	-350	-34	-344
44	-352	-134	-340
45	-354	-234	-335
46	-354	-334	-330
47	-352	-435	-325
48	-348	-534	-321
49	-342	-633	-315
50	-330	-732	-308
51	-314	-831	-301

Difference

Index	Xmm	Ymm	Zmm
35	-70	39	40
36	-66	39	43
37	-66	38	44
38	-67	37	50
39	N/A	N/A	N/A
40	N/A	N/A	N/A
41	-43	35	56
42	-36	35	53
43	-33	35	46
44	-30	35	42
45	-29	35	37
46	-29	35	31
47	-31	36	25
48	-34	35	20
49	-41	35	13
50	-53	34	6
51	-69	32	-2

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Deformable Barrier Face Profile Cont'd.

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-476	798	-417
53	-485	700	-419
54	-485	599	-419
55	-485	500	-420
56	-485	400	-421
57	-485	300	-422
58	-485	199	-423
59	-485	100	-424
60	-485	0	-425
61	-485	-100	-425
62	-485	-200	-426
63	-485	-301	-427
64	-485	-401	-428
65	-485	-501	-429
66	-485	-600	-429
67	-485	-701	-430
68	-475	-798	-431

Post-Test

Index	Xmm	Ymm	Zmm
52	-299	753	-479
53	-313	656	-487
54	-316	556	-483
55	-310	457	-473
56	-325	360	-478
57	-343	261	-484
58	-354	162	-486
59	-364	62	-486
60	-371	-38	-485
61	-376	-138	-484
62	-380	-237	-482
63	-383	-337	-480
64	-385	-438	-478
65	-385	-537	-474
66	-380	-637	-470
67	-370	-737	-462
68	-347	-832	-452

Difference

Index	Xmm	Ymm	Zmm
52	-177	44	62
53	-172	44	69
54	-169	44	64
55	-176	42	53
56	-160	41	57
57	-142	39	62
58	-131	38	63
59	-122	38	62
60	-114	38	60
61	-109	37	59
62	-105	37	56
63	-102	37	53
64	-100	37	50
65	-100	37	46
66	-105	37	41
67	-116	36	32
68	-128	34	21

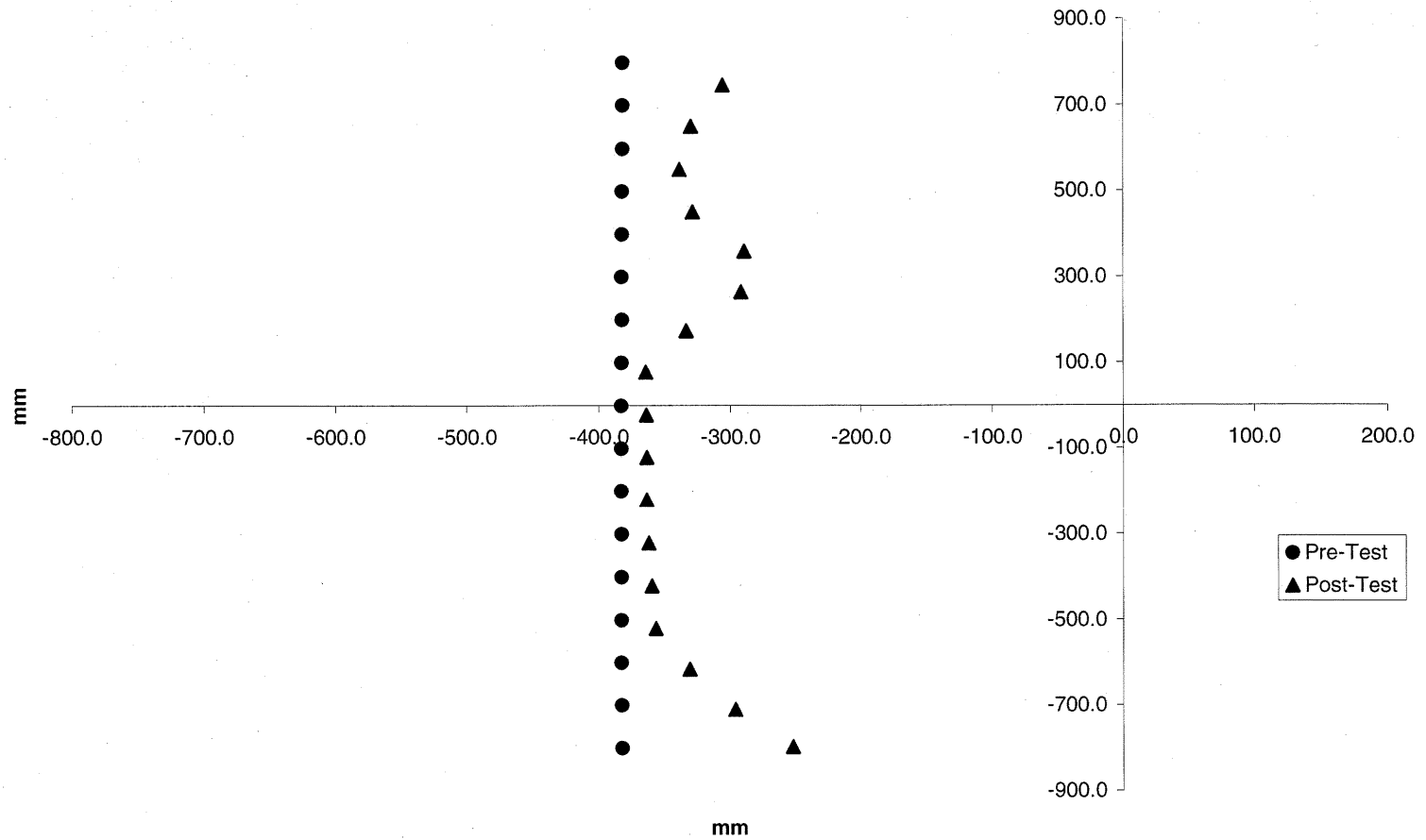
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Level D - Deformable Barrier Face Profile 1-17



4-17

041020-1

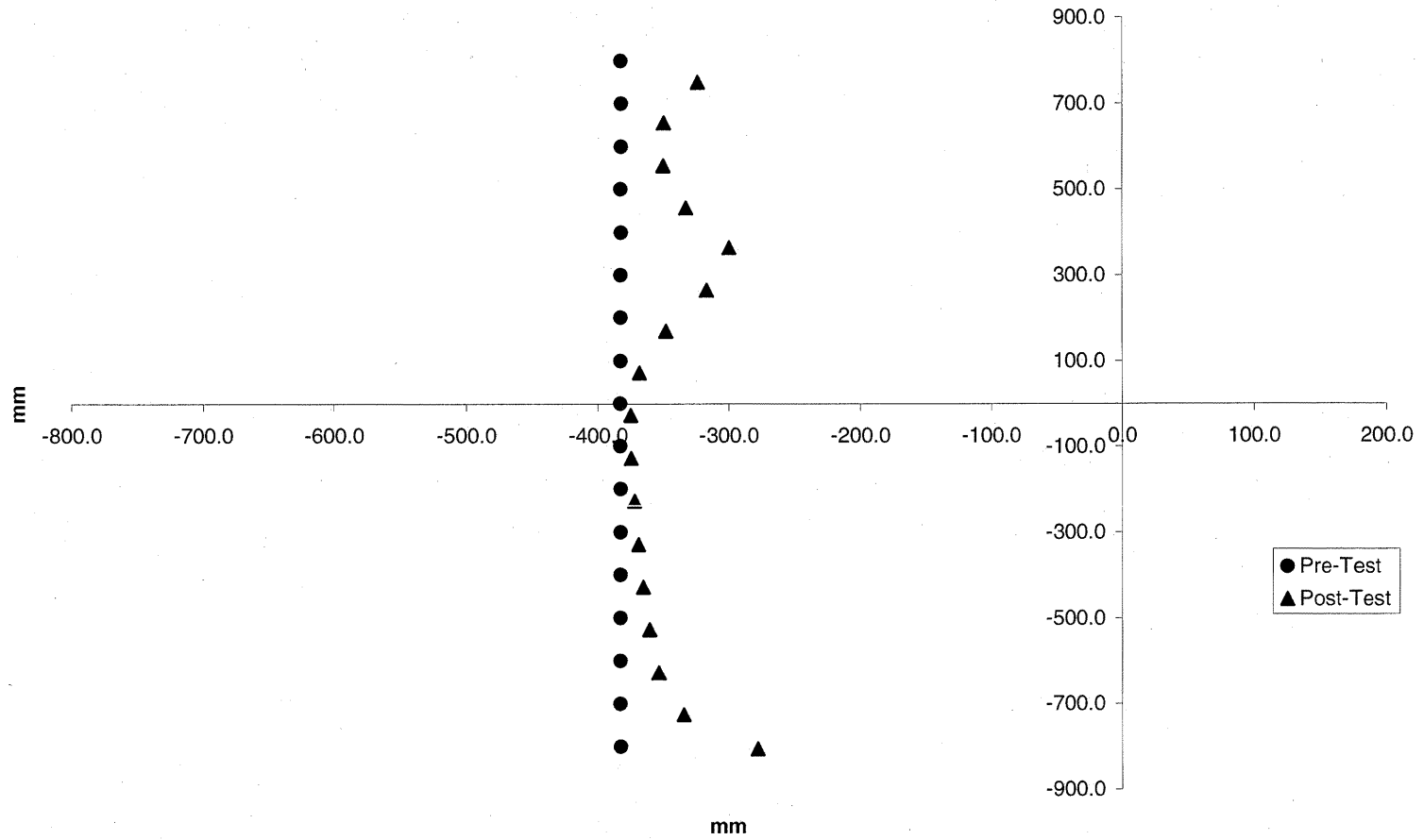
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Level C - Deformable Barrier Face Profile 18-34



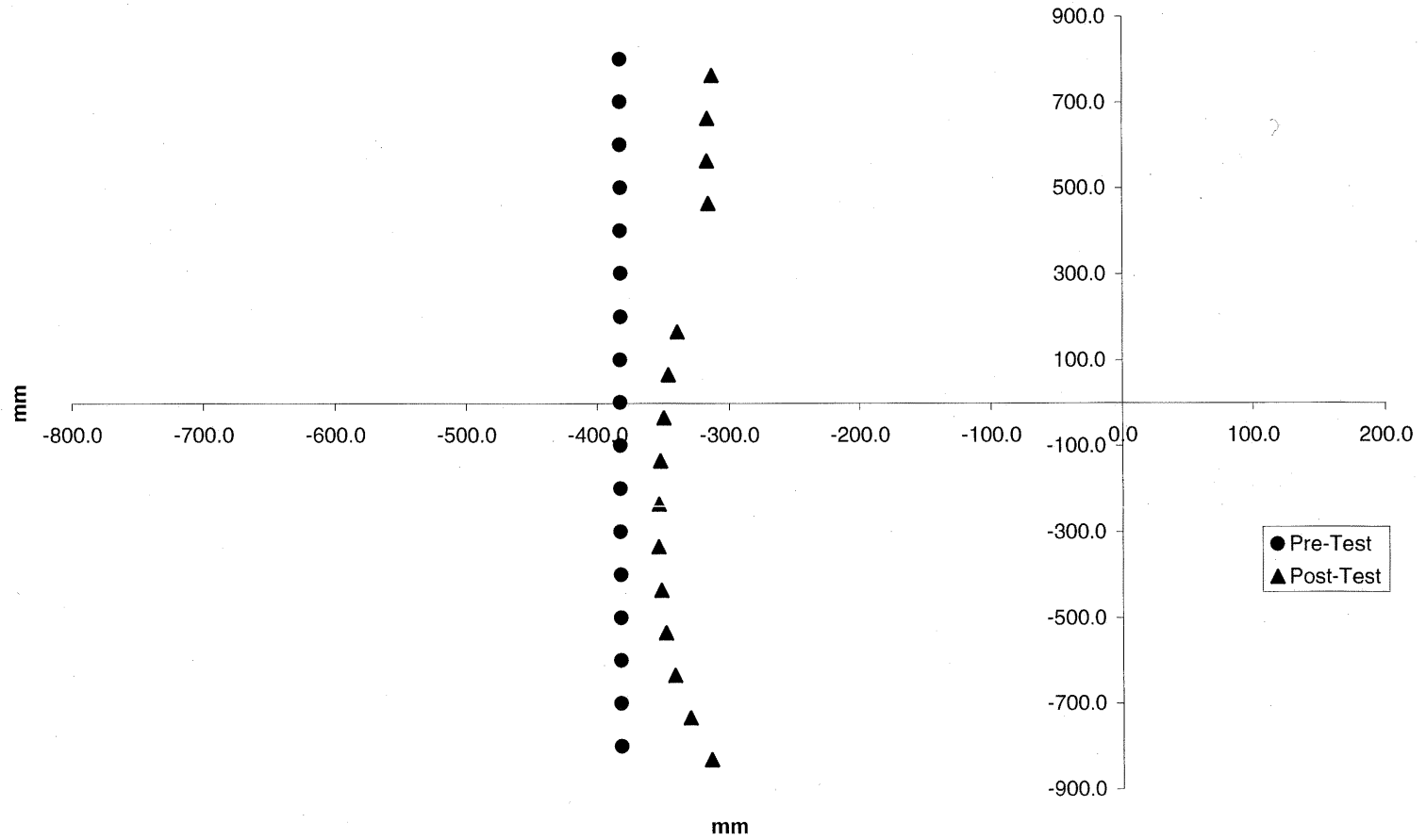
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Level B - Deformable Barrier Face Profile 35-51



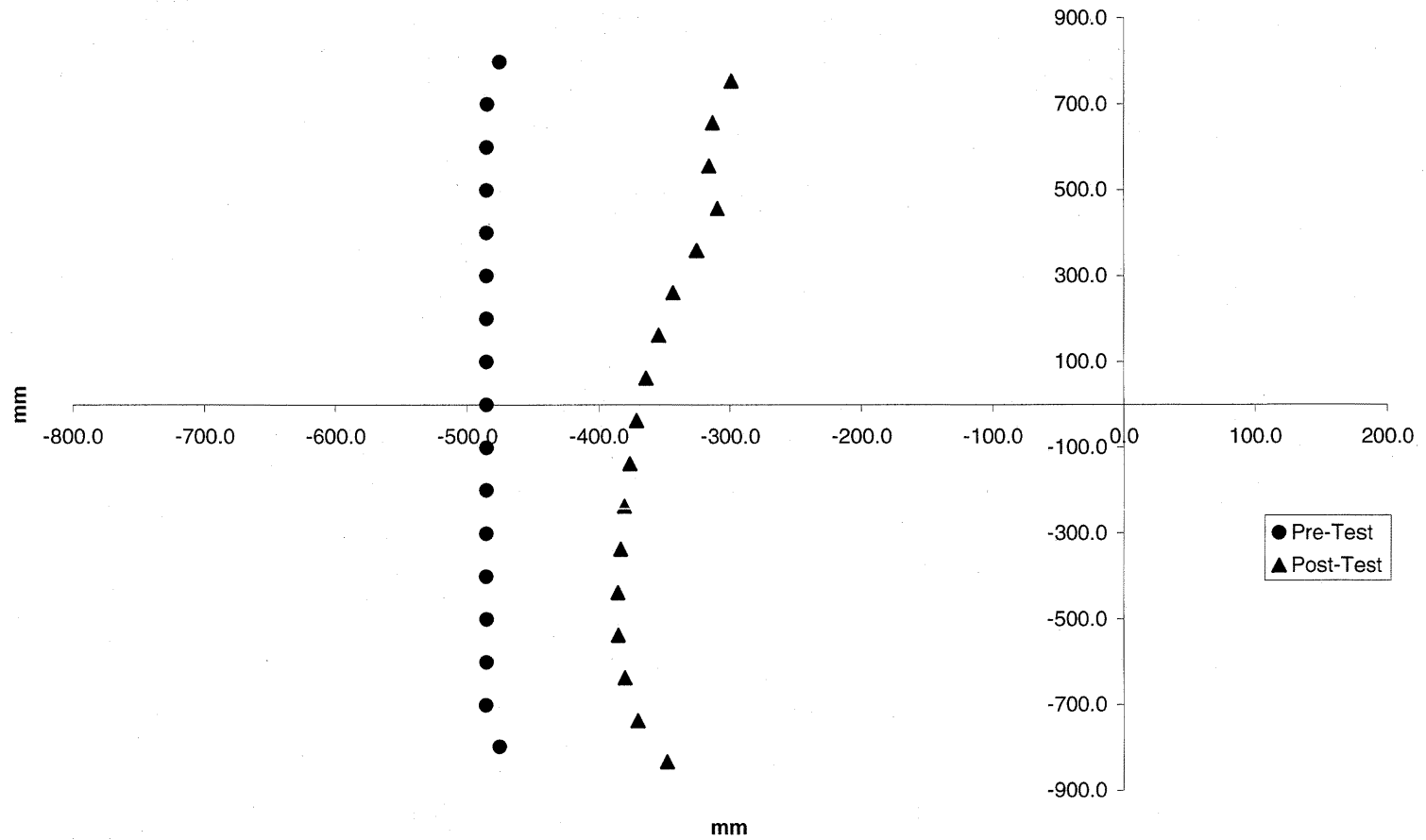
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

Level A - Deformable Barrier Face Profile 52-68



4-20

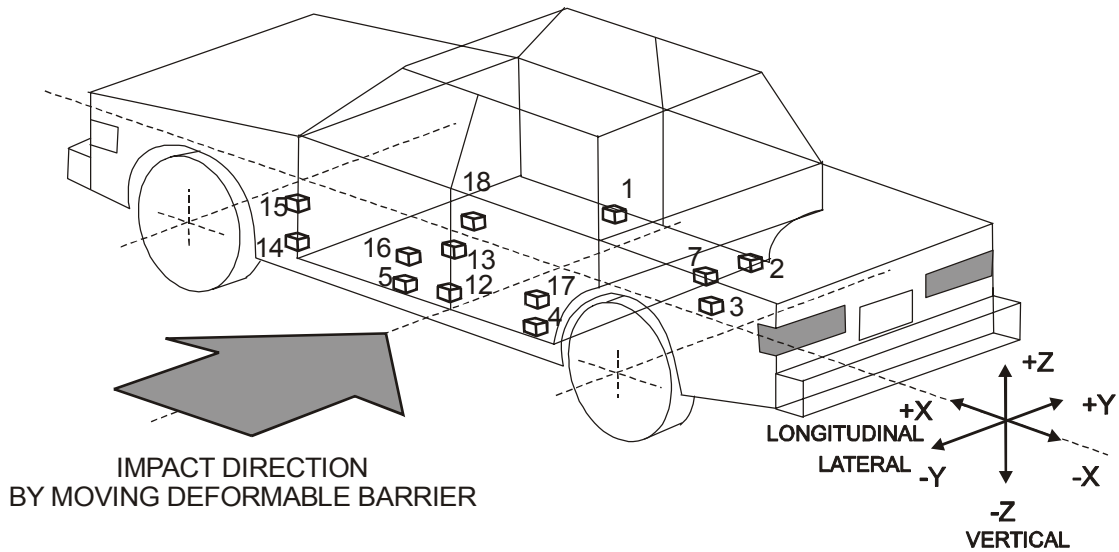
041020-1

Data Sheet 13

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



- 1-Right Front Side Sill
- 2-Right Side Sill at Rear Seat
- 3-Rear Floorpan above Axle
- 4-Left Side Sill at Rear Seat
- 5-Left Front Side Sill
- 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 Scion TC 2-door

NHTSA No.: C55102

TEST NUMBER: 041020

No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
1 RIGHT SIDE SILL AT FRONT SEAT	2908 mm	650 mm	-307 mm				
LONGITUDINAL				3.2 g	@ 56.5 ms	4.0 g	@ 14.3 ms
LATERAL				24.3 g	@ 14.0 ms	1.9 g	@ 229.1 ms
VERTICAL				5.3 g	@ 60.2 ms	10.9 g	@ 16.0 ms
RESULTANT				26.4 g	@ 14.3 ms		
2 RIGHT SIDE SILL AT REAR SEAT	1808 mm	650 mm	-288 mm				
LONGITUDINAL				3.7 g	@ 57.0 ms	3.8 g	@ 9.3 ms
LATERAL				31.4 g	@ 14.4 ms	2.3 g	@ 137.9 ms
VERTICAL				5.7 g	@ 48.8 ms	11.1 g	@ 17.5 ms
RESULTANT				32.6 g	@ 14.4 ms		
3 REAR FLOORPAN ABOVE AXLE	815 mm	0 mm	-481 mm				
LONGITUDINAL				2.6 g	@ 61.0 ms	6.4 g	@ 18.4 ms
LATERAL				29.1 g	@ 27.2 ms	2.8 g	@ 82.4 ms
VERTICAL				10.5 g	@ 13.9 ms	6.8 g	@ 25.9 ms
RESULTANT				30.2 g	@ 27.0 ms		
4 LEFT SIDE SILL AT REAR SEAT	1778 mm	-650 mm	-266 mm				
LATERAL				58.2 g	@ 9.8 ms	13.9 g	@ 15.9 ms

4-22

041020-1

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

TEST NUMBER: 041020 No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
5 LEFT SIDE SILL AT FRONT SEAT LATERAL	2893 mm	-650 mm	-290 mm	47.2 g	@ 10.5 ms	13.8 g	@ 18.2 ms
7 RIGHT REAR OCCUPANT COMPARTMENT LATERAL	1738 mm	590 mm	-287 mm	30.9 g	@ 13.9 ms	2.8 g	@ 81.4 ms
12 LEFT LOWER B-POST LATERAL ¹	1783 mm	-700 mm	-592 mm	---	---	---	---
13 LEFT MIDDLE B-POST LATERAL	1763 mm	-715 mm	-885 mm	159.5 g	@ 6.1 ms	57.8 g	@ 16.2 ms
14 LEFT LOWER A-POST LATERAL ¹	3018 mm	-760 mm	-482 mm	---	---	---	---
15 LEFT MIDDLE A-POST LATERAL ¹	3033 mm	-760 mm	-829 mm	---	---	---	---
16 LEFT FRONT SEAT TRACK LATERAL	2193 mm	-550 mm	-265 mm	31.2 g	@ 12.6 ms	2.0 g	@ 134.6 ms
17 LEFT REAR SEAT TRACK LATERAL	1298 mm	-555 mm	-240 mm	26.9 g	@ 28.0 ms	1.9 g	@ 100.6 ms

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

TEST NUMBER: 041020 No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION
18 VEHICLE CENTER OF GRAVITY	2578 mm	-40 mm	-503 mm		
LONGITUDINAL ¹				---	---
LATERAL ¹				---	---
VERTICAL ¹				---	---
RESULTANT ¹				---	---

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.

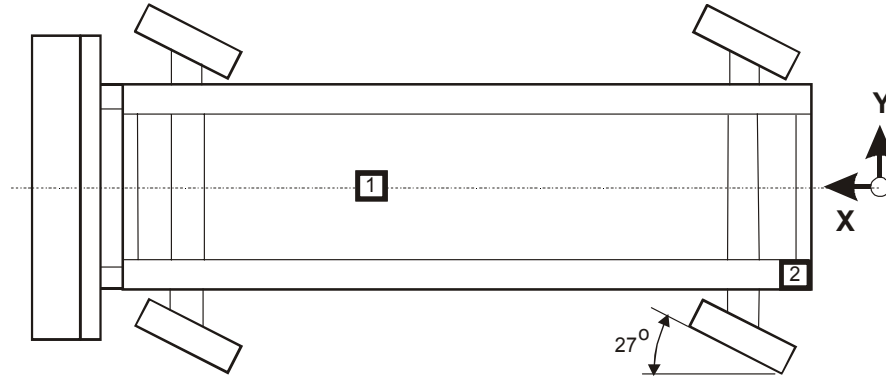
¹ See DATA ACQUISITION EXPLANATIONS on page 2-3

Data Sheet 14

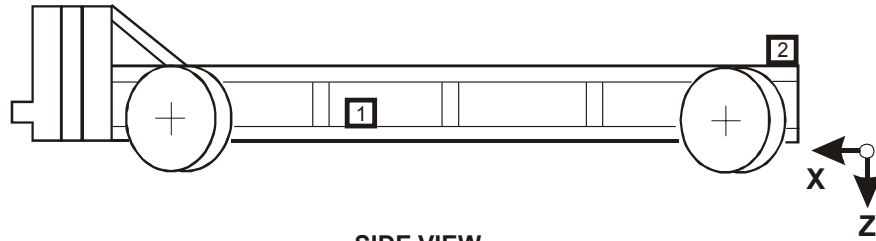
MDB Accelerometer Locations and Data Summary

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



TOP VIEW



SIDE VIEW

Accel. No.	Location	Coordinates (millimeters)			Positive Direction		Negative Direction	
		X*	Y*	Z*	Max. (g)	Time (ms)	Max. (g)	Time (ms)
1	MDB Center of Gravity	1855	0	-520				
	Longitudinal X				2.6	72.4	21.8	33.4
	Lateral Y				3.9	60.1	8.0	33.7
	Vertical Z				8.9	52.7	12.5	18.2
	Resultant R				23.3	33.6		
2	Rear Frame Member	412	-677	-625				
	Longitudinal X				2.3	121.7	25.0	34.6
	Lateral Y				3.6	18.6	2.5	57.8

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

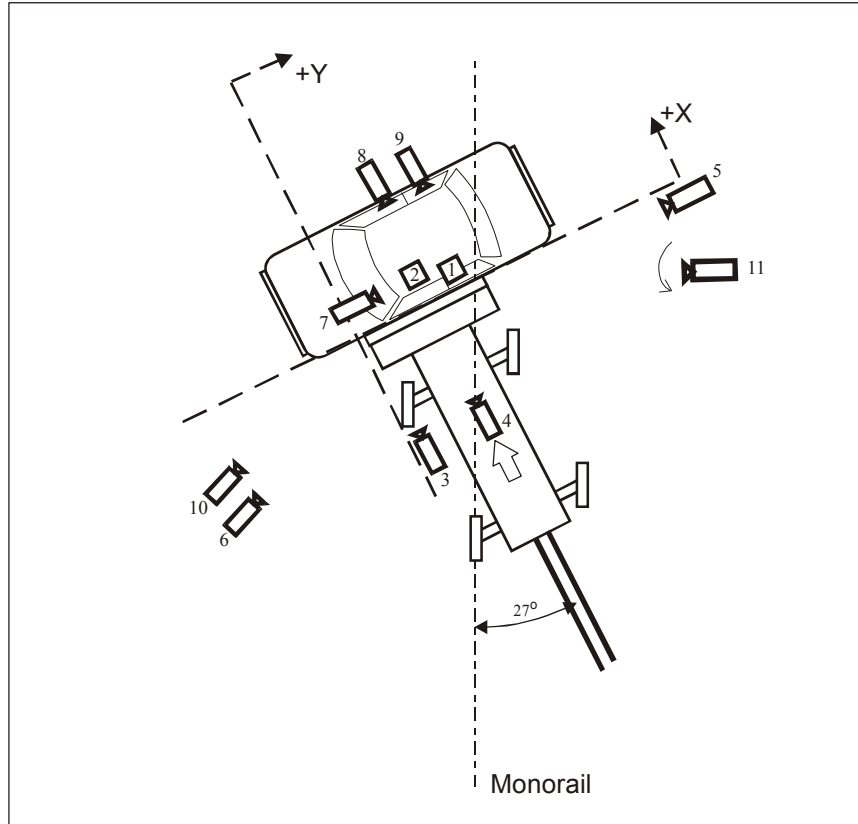
All measurements accurate to within ± 3 mm.

Data Sheet 15

High-Speed Camera Locations and Data Summary

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102



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	1000
2	Overhead tight	370	1800	-5750	-87.5	25	1000
3	Onboard MDB left side	-1750	-40	-720	0.1	13	1000
4	Onboard MDB center ¹	-2480	830	-1353	-5.2	25	1000
5	Right side of MDB	0	8830	-950	-9.7	25	1000
6	Left side of MDB	-2250	-5130	-940	-3.5	25	1000
7	Onboard vehicle front	550	560	-1200	1.2	8	1000
8	Onboard side front door ²	1700	700	-1070	-10.5	8	755
9	Onboard side rear door	1700	1780	-1100	-5.3	8	1000
10	Digital overall event	-2450	-5330	-950	-3.4	13	1000
11	Real-time Panning-Video	N/A	N/A	N/A	N/A	Zoom	30

+X: Forward (referenced to MDB) from impact point
 +Y: Rightward (referenced to MDB) from impact point
 +Z: Downward from ground level

¹ Camera started late and missed impact event.

² Camera ran slower than 1000 fps set point.

Section 5

Vehicle Fuel System Integrity

Data Sheet 16

FMVSS 301 Fuel System Integrity Data

NHTSA No.: C55102

Test Date: 10/20/04

Vehicle Year/Make/Model/Body Style: 2005 Scion TC 2-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

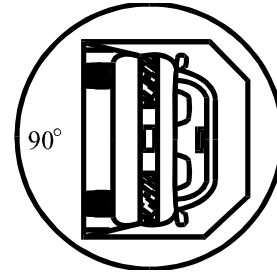
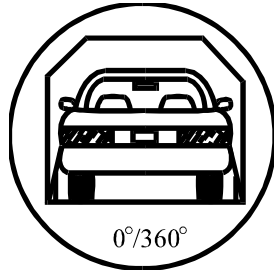
Data Sheet 17

FMVSS 301 Rollover Data

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

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

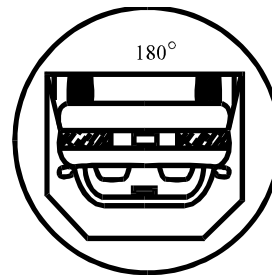
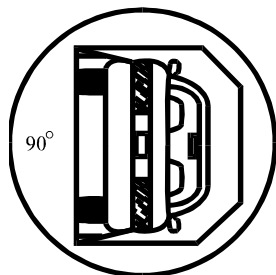
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

90 - 180 Degrees



1. Determination of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	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

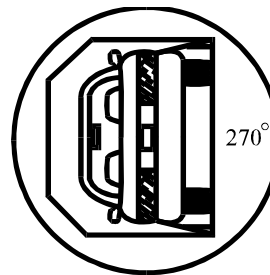
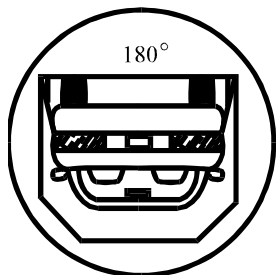
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

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

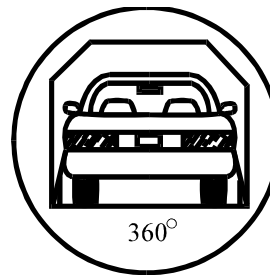
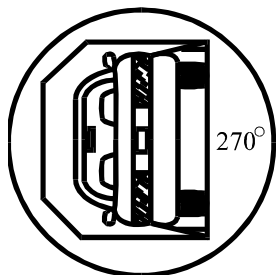
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2005 Scion TC 2-door

NHTSA No.: C55102

270 - 360 Degrees



1. Determination Of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

First 5 minutes from onset of rotation	6th min.	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

List of Photographs

<u>Figure</u>	<u>Description</u>	<u>Page</u>
Figure A-1	Pre-Test Front View of Test Vehicle	A-5
Figure A-2	Post-Test Front View of Test Vehicle	A-6
Figure A-3	Pre-Test Impacted Side View of Test Vehicle	A-7
Figure A-4	Post-Test Impacted Side View of Test Vehicle	A-8
Figure A-5	Pre-Test Rear View of Test Vehicle	A-9
Figure A-6	Post-Test Rear View of Test Vehicle	A-10
Figure A-7	Pre-Test Non-Struck Side View of Test Vehicle	A-11
Figure A-8	Post-Test Non-Struck Side View of Test Vehicle	A-12
Figure A-9	Pre-Test Frontal View of Impactor Face	A-13
Figure A-10	Post-Test Frontal View of Impactor Face	A-14
Figure A-11	Pre-Test Left Side View of Impactor Face	A-15
Figure A-12	Post-Test Left Side View of Impactor Face	A-16
Figure A-13	Pre-Test Right Side View of Impactor Face	A-17
Figure A-14	Post-Test Right Side View of Impactor Face	A-18
Figure A-15	Pre-Test Top View of Impactor Face	A-19
Figure A-16	Post-Test Top View of Impactor Face	A-20
Figure A-17	Pre-Test View of MDB Showing Contact Switches in Place	A-21
Figure A-18	Post-Test View of MDB Showing Contact Switches in Place	A-22
Figure A-19	Pre-Test Overhead View of MDB Aligned with Vehicle	A-23
Figure A-20	Post-Test Overhead View of Vehicle	A-24
Figure A-21	Pre-Test Right Occupant Compartment View of Front SID HIII	A-25
Figure A-22	Post-Test Right Occupant Compartment View of Front SID HIII	A-26
Figure A-23	Pre-Test Right Occupant Compartment View of Rear SID HIII	A-27
Figure A-24	Post-Test Right Occupant Compartment View of Rear SID HIII	A-28
Figure A-25	Pre-Test Left View of Front SID HIII	A-29
Figure A-26	Post-Test Left View of Front SID HIII	A-30
Figure A-27	Pre-Test Left View of Front SID HIII and Belt Position	A-31
Figure A-28	Post-Test Left View of Front SID HIII and Belt Position	A-32

List of Photographs, Cont'd.

<u>Figure</u>	<u>Description</u>	<u>Page</u>
Figure A-29	Pre-Test View of Front SID HIII and Door Clearance	A-33
Figure A-30	Post-Test View of Front SID HIII and Door Clearance	A-34
Figure A-31	Pre-Test Left View of Rear SID HIII	A-35
Figure A-32	Post-Test Left View of Rear SID HIII	A-36
Figure A-33	Pre-Test Angled View of Rear SID HIII	A-37
Figure A-34	Post-Test Angled View of Rear SID HIII	A-38
Figure A-35	Pre-Test Interior of Front Door	A-39
Figure A-36	Post-Test Interior of Front Door Showing SID HIII Impact Locations	A-40
Figure A-37	Post-Test Front SID HIII Contact - View 1	A-41
Figure A-38	Post-Test Front SID HIII Contact - View 2	A-42
Figure A-39	Post-Test Front SID HIII Contact - View 3	A-43
Figure A-40	Post-Test Interior of Rear Panel Showing SID HIII Impact Locations	A-44
Figure A-41	Post-Test Rear SID HIII Contact - View 1	A-45
Figure A-42	Post-Test Rear SID HIII Contact - View 2	A-46
Figure A-43	Post-Test Rear SID HIII Contact - View 3	A-47
Figure A-44	Post-Test Rear SID HIII Contact - View 4	A-48
Figure A-45	Pre-Test Left Side View of MDB With Impactor Face in Position	A-49
Figure A-46	Post-Test Left Side View of MDB With Impactor Face in Position	A-50
Figure A-47	Pre-Test Primary Impact Point View	A-51
Figure A-48	Post-Test Primary Impact Point View	A-52
Figure A-49	Pre-Test Right Side View of MDB With Impactor Face in Position	A-53
Figure A-50	Post-Test Right Side View of MDB With Impactor Face in Position	A-54
Figure A-51	Pre-Test Secondary Impact Point View	A-55
Figure A-52	Post-Test Secondary Impact Point View	A-56
Figure A-53	Pre-Test Overhead View of MDB with Impactor Face in Position	A-57
Figure A-54	Pre-Test Vehicle Certification Label View	A-58
Figure A-55	Pre-Test Vehicle Recommended Tire Pressure Label View	A-59
Figure A-56	Impact Event	A-60

List of Photographs, Cont'd.

<u>Figure</u>	<u>Description</u>	<u>Page</u>
Figure A-57	Pre-Test Fuel Cap	A-61
Figure A-58	Post-Test Fuel Cap	A-62
Figure A-59	FMVSS 301 Rollover View at 90°	A-63
Figure A-60	FMVSS 301 Rollover View at 180°	A-64
Figure A-61	FMVSS 301 Rollover View at 270°	A-65
Figure A-62	FMVSS 301 Rollover View at 360°	A-66



Figure A-1 Pre-Test Front View of Test Vehicle
A-5



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

A-6

041020-1

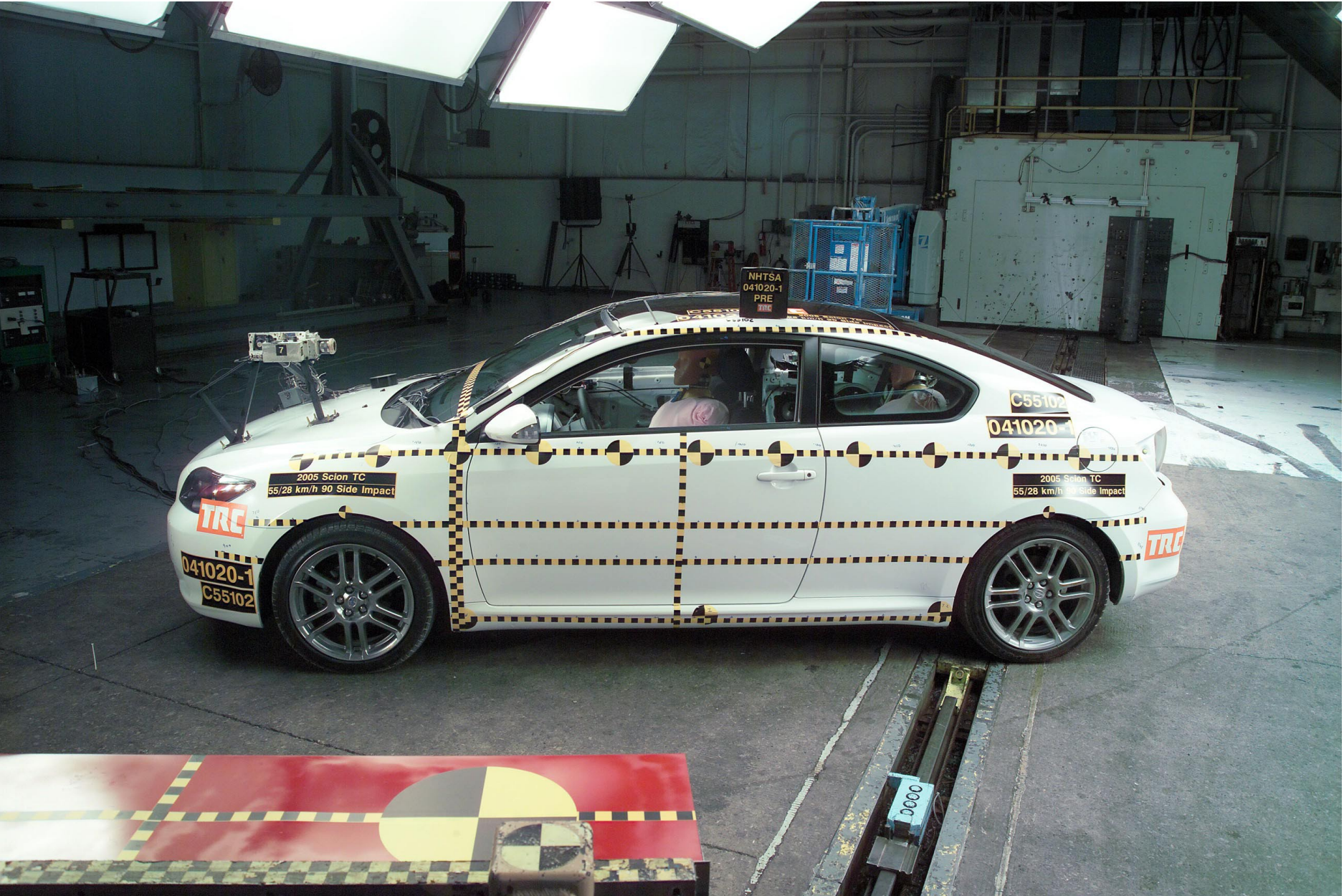


Figure A-3 Pre-Test Impacted Side View of Test Vehicle
A-7

041020-1



Figure A-4 Post-Test Impacted Side View of Test Vehicle
A-8

041020-1



Figure A-5 Pre-Test Rear View of Test Vehicle
A-9

041020-1



Figure A-6 Post-Test Rear View of Test Vehicle
A-10



Figure A-7 Pre-Test Non-Struck Side View of Test Vehicle
A-11

041020-1

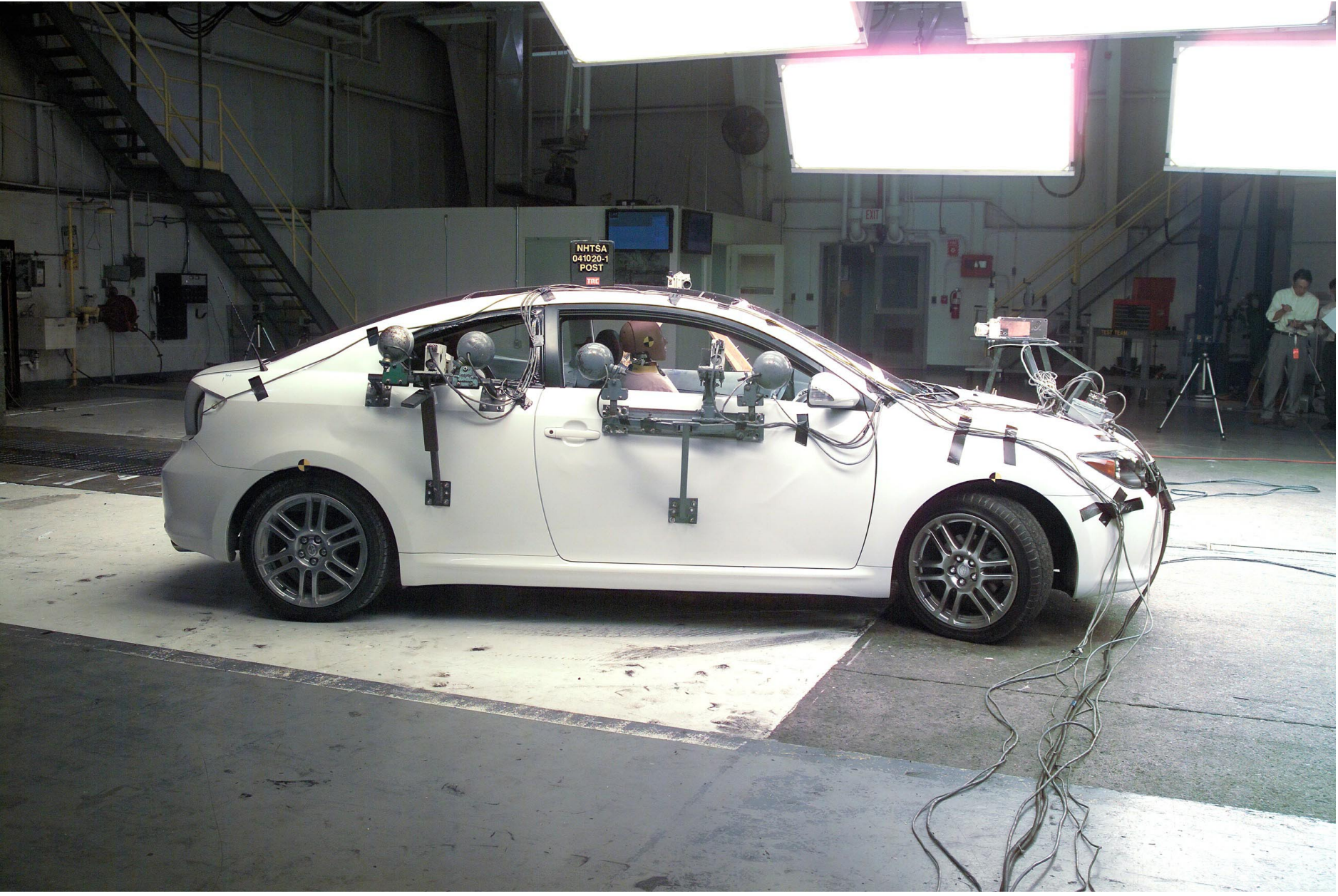


Figure A-8 Post-Test Non-Struck Side View of Test Vehicle
A-12

041020-1

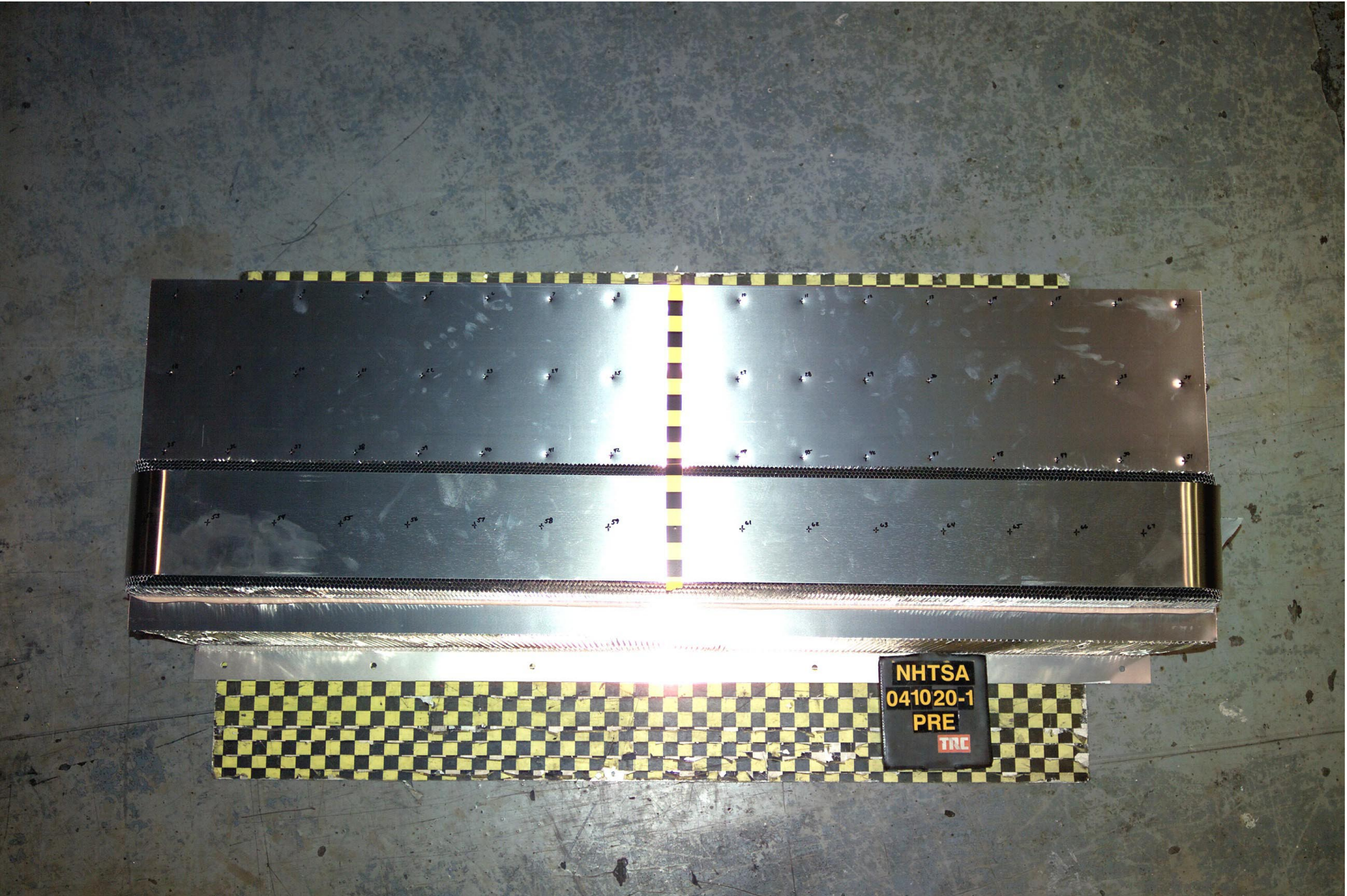


Figure A-9 Pre-Test Frontal View of Impactor Face

A-13

041020-1



Figure A-10 Post-Test Frontal View of Impactor Face
A-14

041020-1

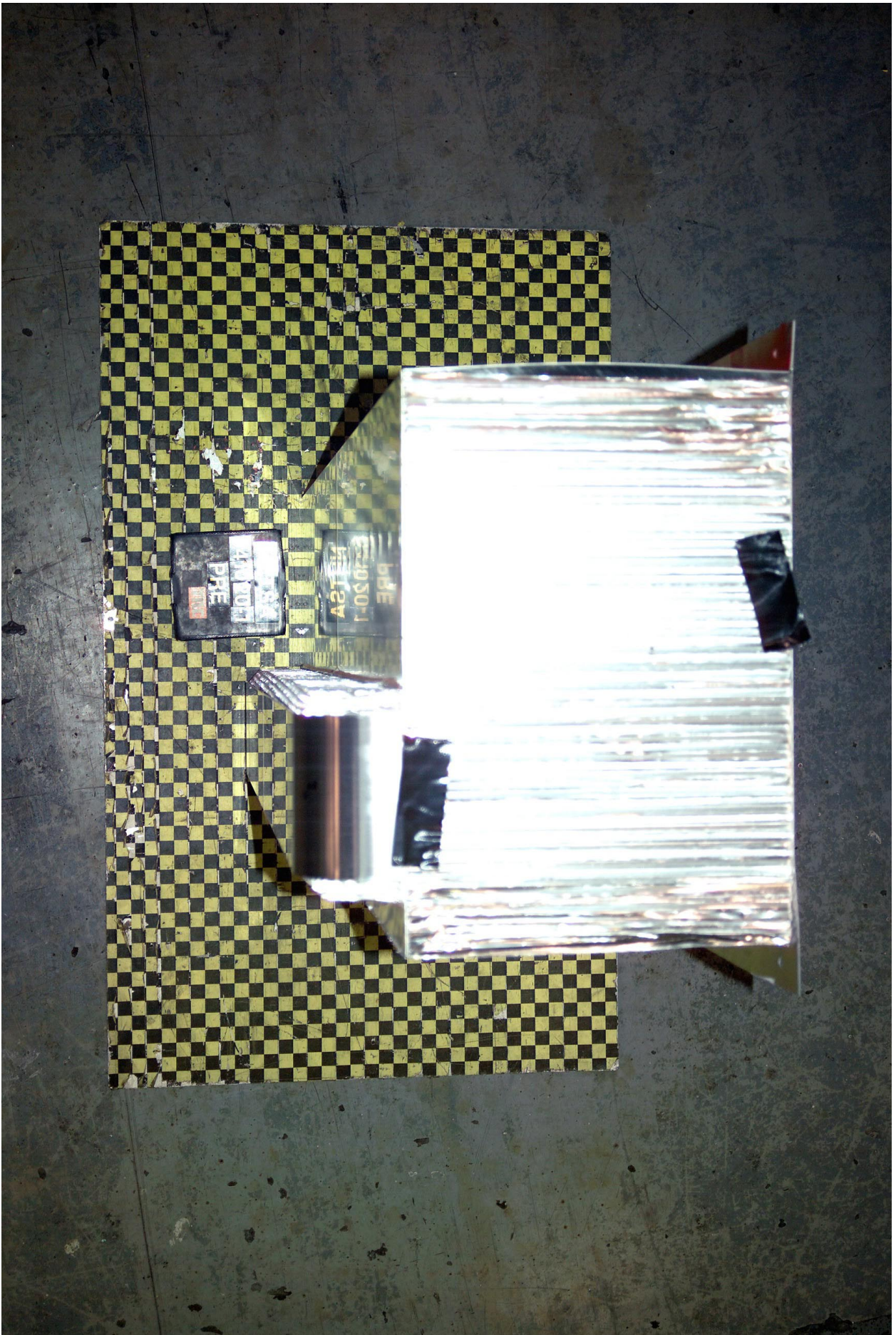


Figure A-11 Pre-Test Left Side View of Impactor Face



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

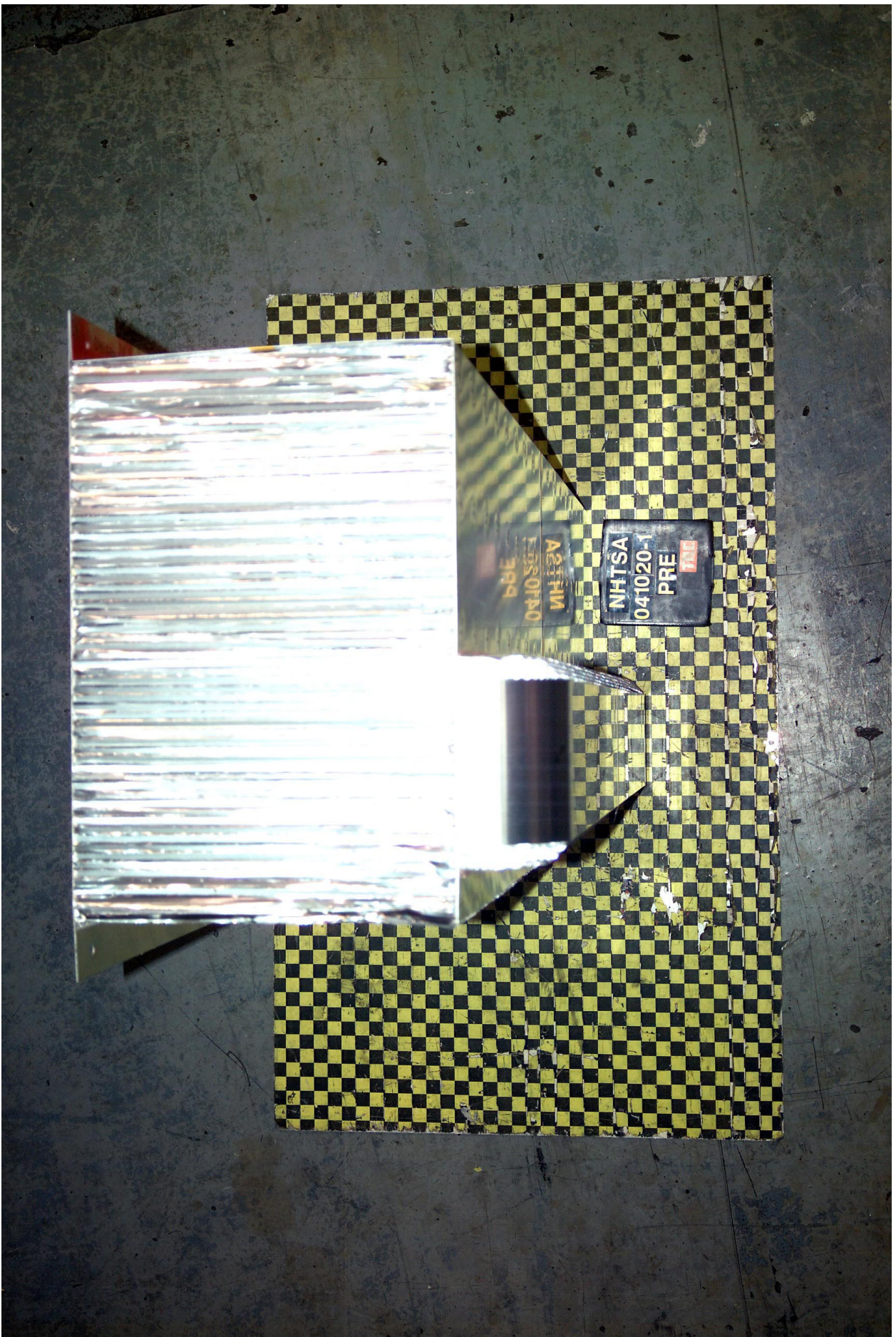


Figure A-13 Pre-Test Right Side View of Impactor Face



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

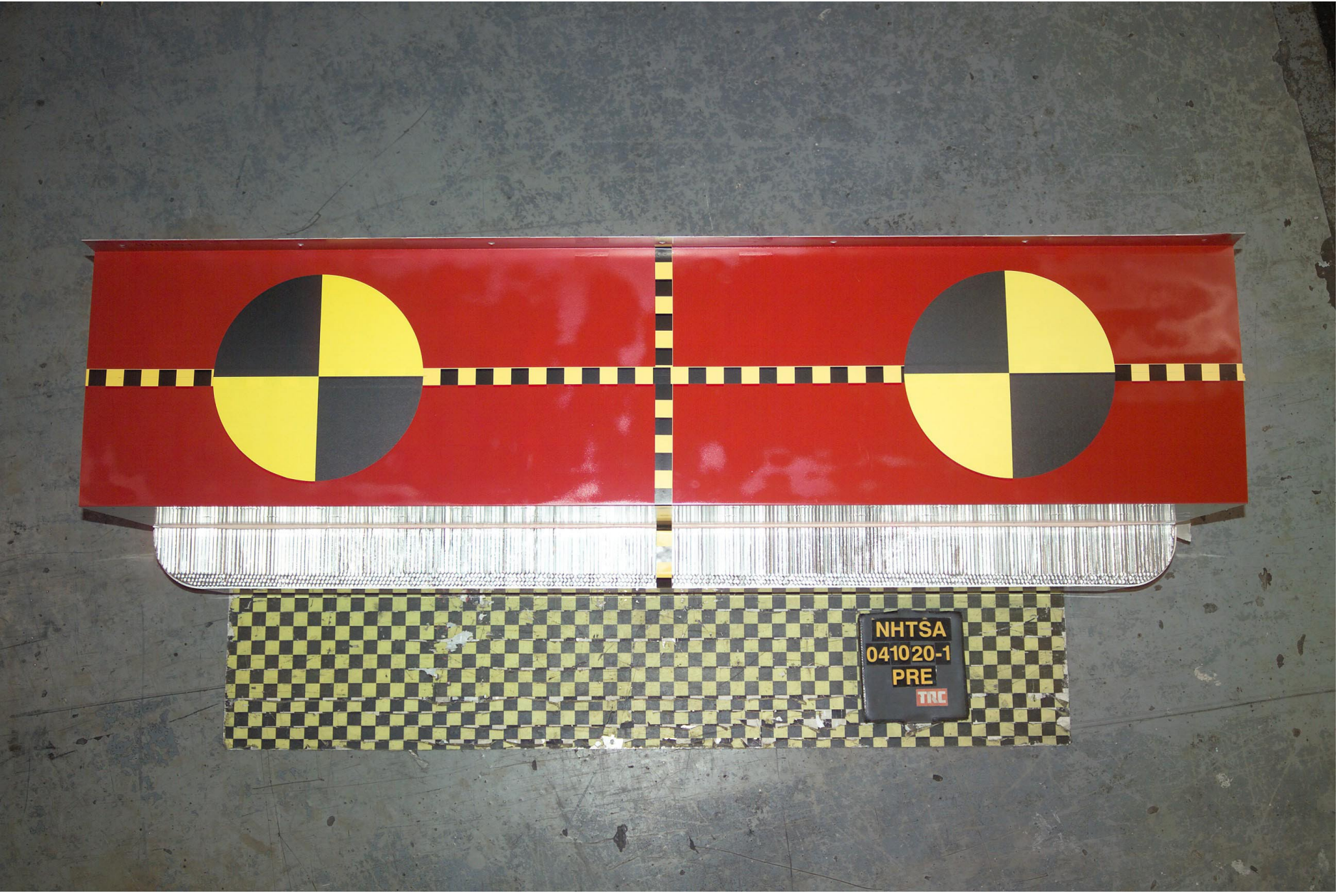


Figure A-15 Pre-Test Top View of Impactor Face
A-19



Figure A-16 Post-Test Top View of Impactor Face
A-20

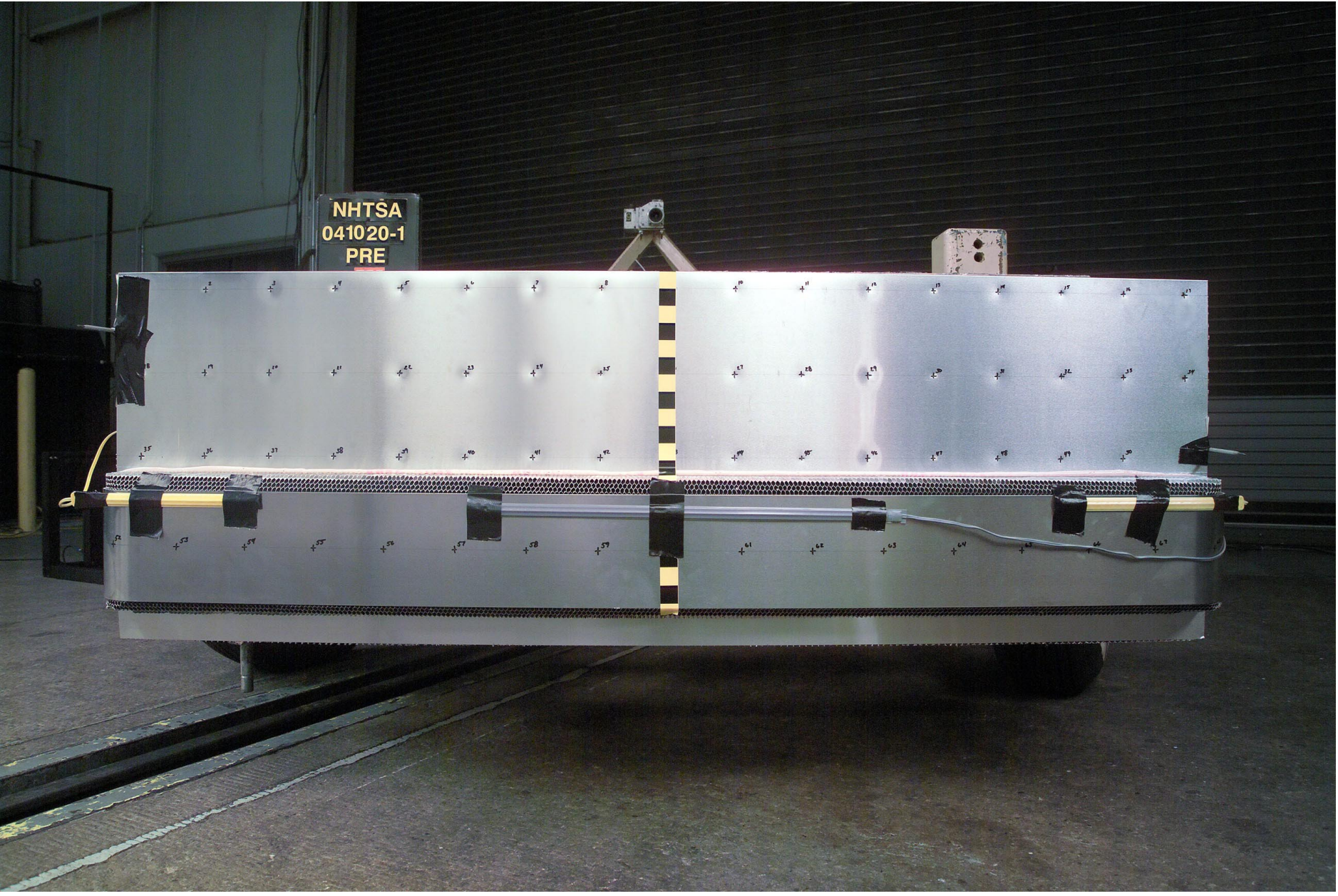


Figure A-17 Pre-Test View of MDB Showing Contact Switches in Place
A-21



Figure A-18 Post-Test View of MDB Showing Contact Switches in Place



Figure A-19 Pre-Test Overhead View of MDB Aligned with Vehicle

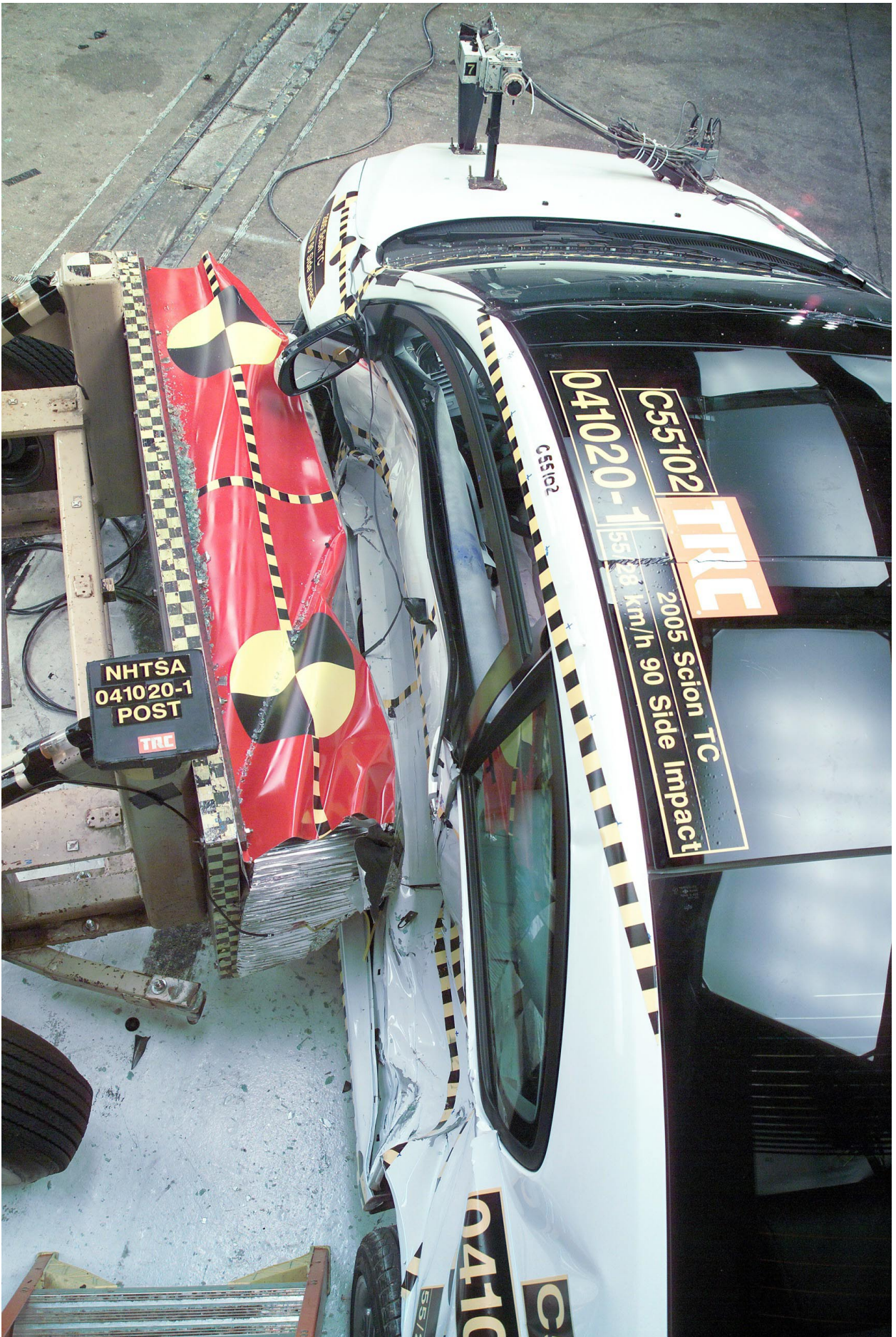


Figure A-20 Post-Test Overhead View of Vehicle



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

A-25

041020-1



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

A-26

041020-1



Figure A-23 Pre-Test Right Occupant Compartment View of Rear SID HIII
A-27

041020-1



Figure A-24 Post-Test Right Occupant Compartment View of Rear SID HIII

A-28

041020-1



Figure A-25 Pre-Test Left View of Front SID IIII
A-29



Figure A-26 Post-Test Left View of Front SID HMI
A-30



Figure A-27 Pre-Test Left View of Front SID HIII and Belt Position
A-31

041020-1



Figure A-28 Post-Test Left View of Front SID HIII and Belt Position

A-32

041020-1



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



Figure A-30 Post-Test View of Front SID HIII and Door Clearance



Figure A-31 Pre-Test Left View of Rear SID HIII
A-35

041020-1



Figure A-32 Post-Test Left View of Rear SID HIII
A-36

041020-1



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



Figure A-34 Post-Test Angled View of Rear SID HIII



Figure A-35 Pre-Test Interior of Front Door
A-39

041020-1



Figure A-36 Post-Test Interior of Front Door Showing SID HIII Impact Locations
A-40



Figure A-37 Post-Test Front SID HIII Contact - View 1
A-41



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

A-42

041020-1



Figure A-39 Post-Test Front SID HIII Contact - View 3

A-43

041020-1



Figure A-40 Post-Test Interior of Rear Panel Showing SID HIII Impact Locations

A-44

041020-1

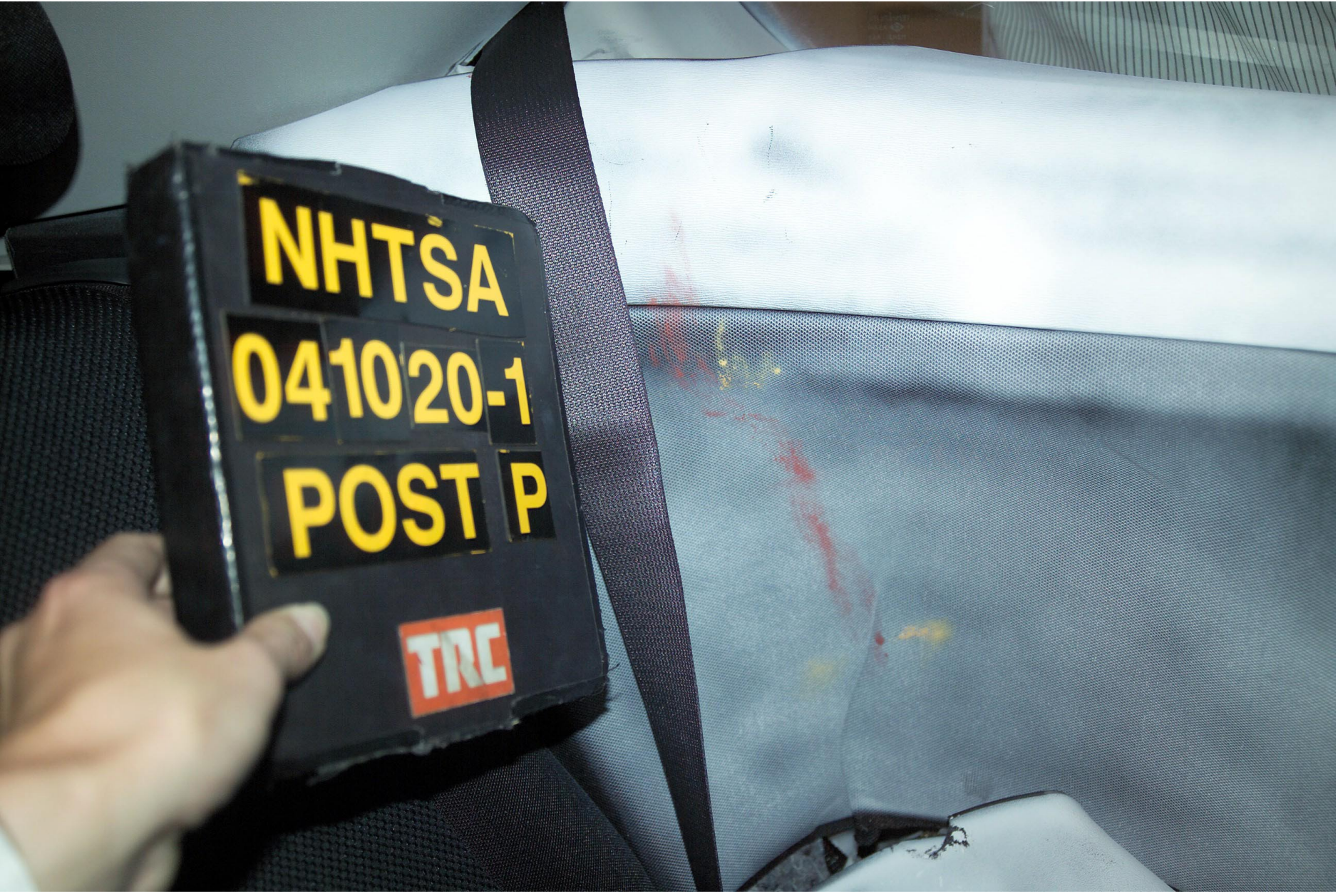


Figure A-41 Post-Test Rear SID HIII Contact - View 1
A-45

041020-1



Figure A-42 Post-Test Rear SID HIII Contact - View 2

A-46

041020-1



Figure A-43 Post-Test Rear SID HIII Contact - View 3
A-47



Figure A-44 Post-Test Rear SID HIII Contact - View 4
A-48



Figure A-45 Pre-Test Left Side View of MDB With Impactor Face in Position
A-49

041020-1

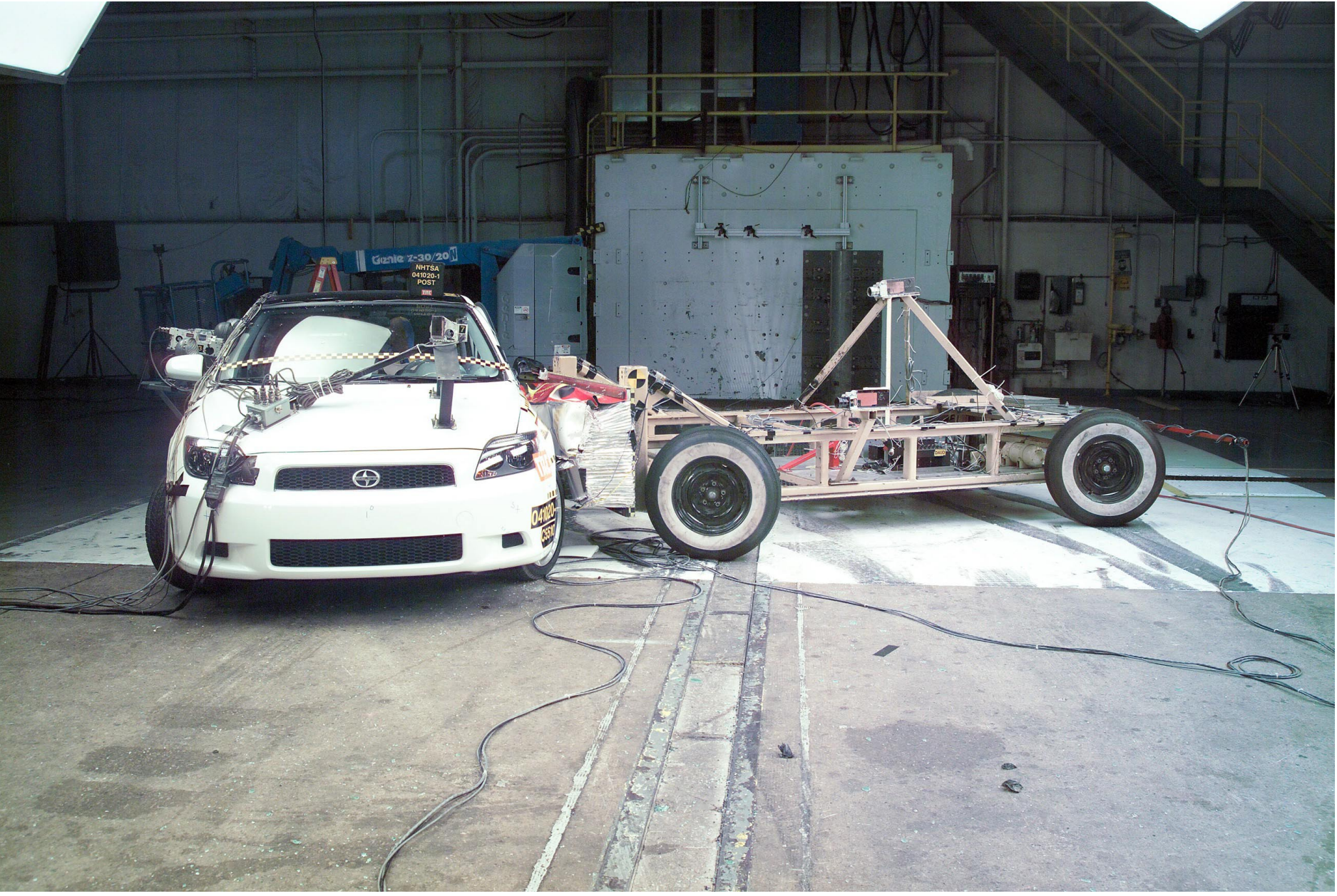


Figure A-46 Post-Test Left Side View of MDB With Impactor Face in Position

A-50

041020-1



Figure A-47 Pre-Test Primary Impact Point View
A-51

041020-1



Figure A-48 Post-Test Primary Impact Point View
A-52



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

A-53

041020-1

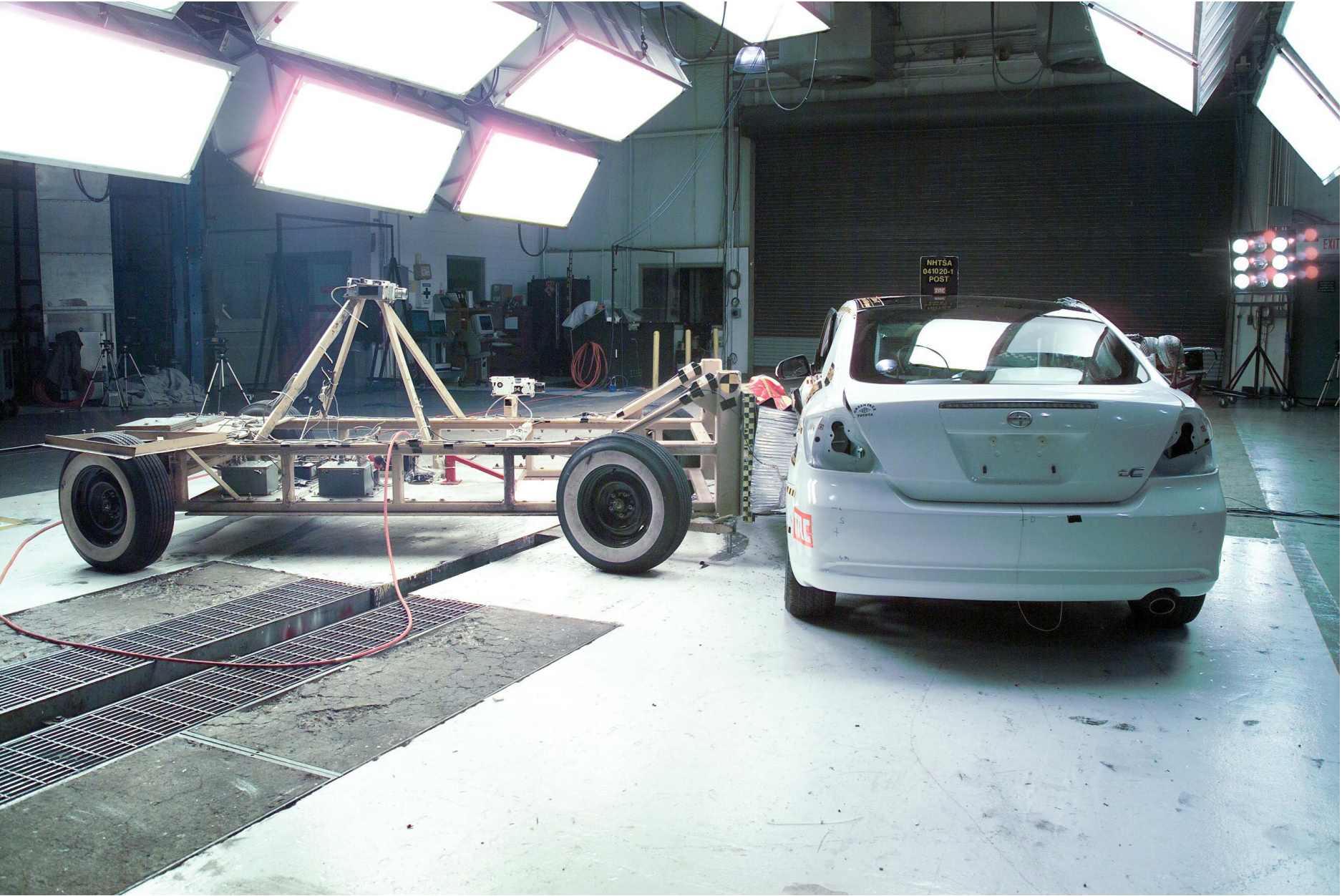


Figure A-50 Post-Test Right Side View of MDB With Impactor Face in Position
A-54

041020-1



Figure A-51 Pre-Test Secondary Impact Point View
A-55



Figure A-52 Post-Test Secondary Impact Point View
A-56

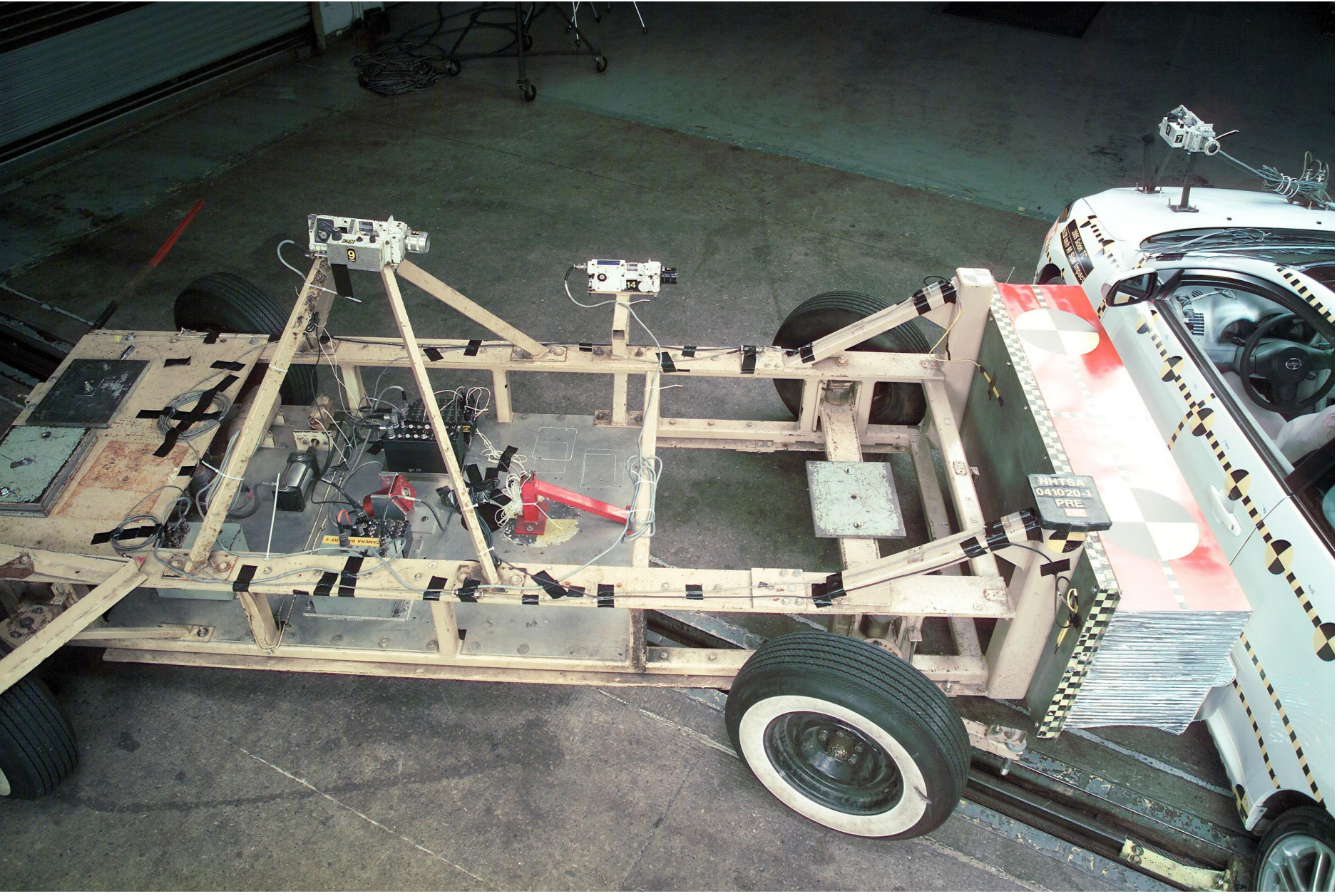



Figure A-53 Pre-Test Overhead View of MDB with Impactor Face in Position
A-57
041020-1

MFD. BY: TOYOTA MOTOR CORPORATION 07/04.
 GVWR 3945LB GAWR FR 2130LB RR 1835LB
 THIS VEHICLE CONFORMS TO ALL APPLICABLE
 FEDERAL MOTOR VEHICLE SAFETY, BUMPER, AND
 THEFT PREVENTION STANDARDS IN EFFECT ON
 THE DATE OF MANUFACTURE SHOWN ABOVE.
 JTKDE177650014545 PASS CAR



C/TR: 040/FA14 ANT10L-ALMGKA
 A/TM: -02A/E350* MADE IN JAPAN 631 A

NEUS ET LE CHARGEMENT

ES: TOTAL 5
 AVANT 2: ARRIÈRE 3
 ts et du chargement ne
 à 392 kg ou 865 lb.

PRESSION DE GONFLAGE À FROID	
AVANT	220kPa, 32PSI
ARRIÈRE	200kPa, 29PSI
PRESSION DE GONFLAGE À FROID	
20kPa, 60PSI	

**POUR DE PLUS
 AMPOLES INFOR-
 MATIONS, VOIR
 LE MANUEL DU
 PROPRIÉTAIRE.**

M 4

Handwritten: 07/04
 03 01

Figure A-54 Pre-Test Vehicle Certification Label View

A-58

041020-1



TIRE AND LOADING INFORMATION

SEATING CAPACITY: TOTAL 5
FRONT 2 : REAR 3

The combined weight of occupants and cargo should never exceed 392 kg or 865 lbs.

INFORMATION SUR LES PNEUS ET LE CHARGEMENT

NOMBRE DE PLACES ASSISES: TOTAL 5
AVANT 2 : ARRIERE 3

Le poids total des occupants et du chargement ne doit jamais être supérieur à 392 kg ou 865 lb.

SEE OWNER'S
MANUAL FOR
ADDITIONAL
INFORMATION.

ORIGINAL TIRE SIZE	COLD TIRE INFLATION PRESSURE	
215/45ZR17	FRONT	220kPa, 32PSI
	REAR	200kPa, 29PSI
COMPACT SPARE TIRE	COLD TIRE INFLATION PRESSURE	
T125/70D17	420kPa, 60PSI	

DIMENSION DES PNEUS D'ORIGINE	PRESSION DE GONFLAGE À FROID	
215/45ZR17	AVANT	220kPa, 32PSI
	ARRIÈRE	200kPa, 29PSI
ROUE DE SECOURS COMPACTE	PRESSION DE GONFLAGE À FROID	
T125/70D17	420kPa, 60PSI	

POUR DE PLUS
AMPOLES INFOR-
MATIONS, VOIR
LE MANUEL DU
PROPRIETAIRE.

M 4

21210



Figure A-55 Pre-Test Vehicle Recommended Tire Pressure Label View A-59



Figure A-56 Impact Event
A-60

041020-1



Figure A-57 Pre-Test Fuel Cap
A-61

041020-1



Figure A-58 Post-Test Fuel Cap

A-62

041020-1

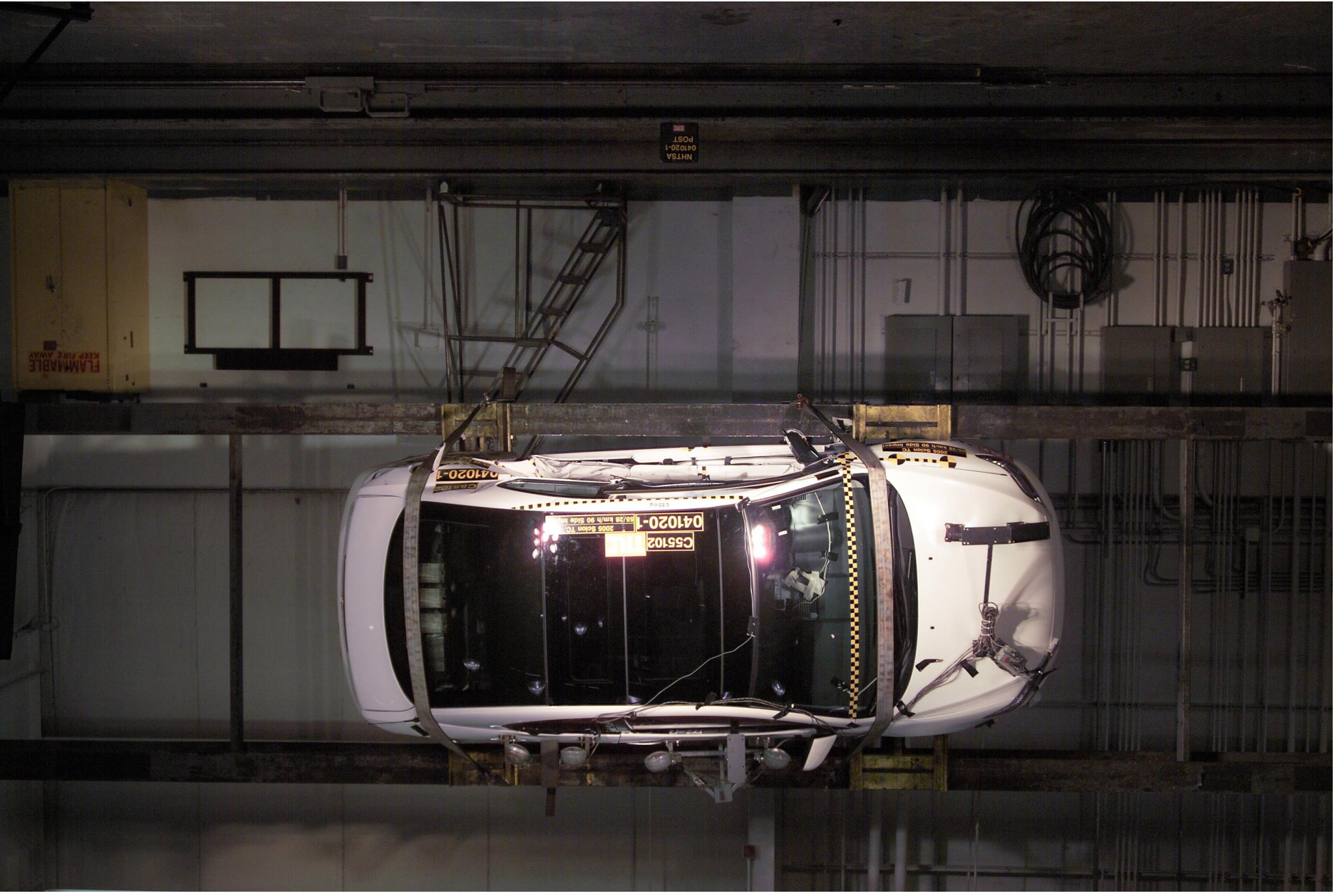


Figure A-59 FMVSS 301 Rollover View at 90°
A-63

041020-1

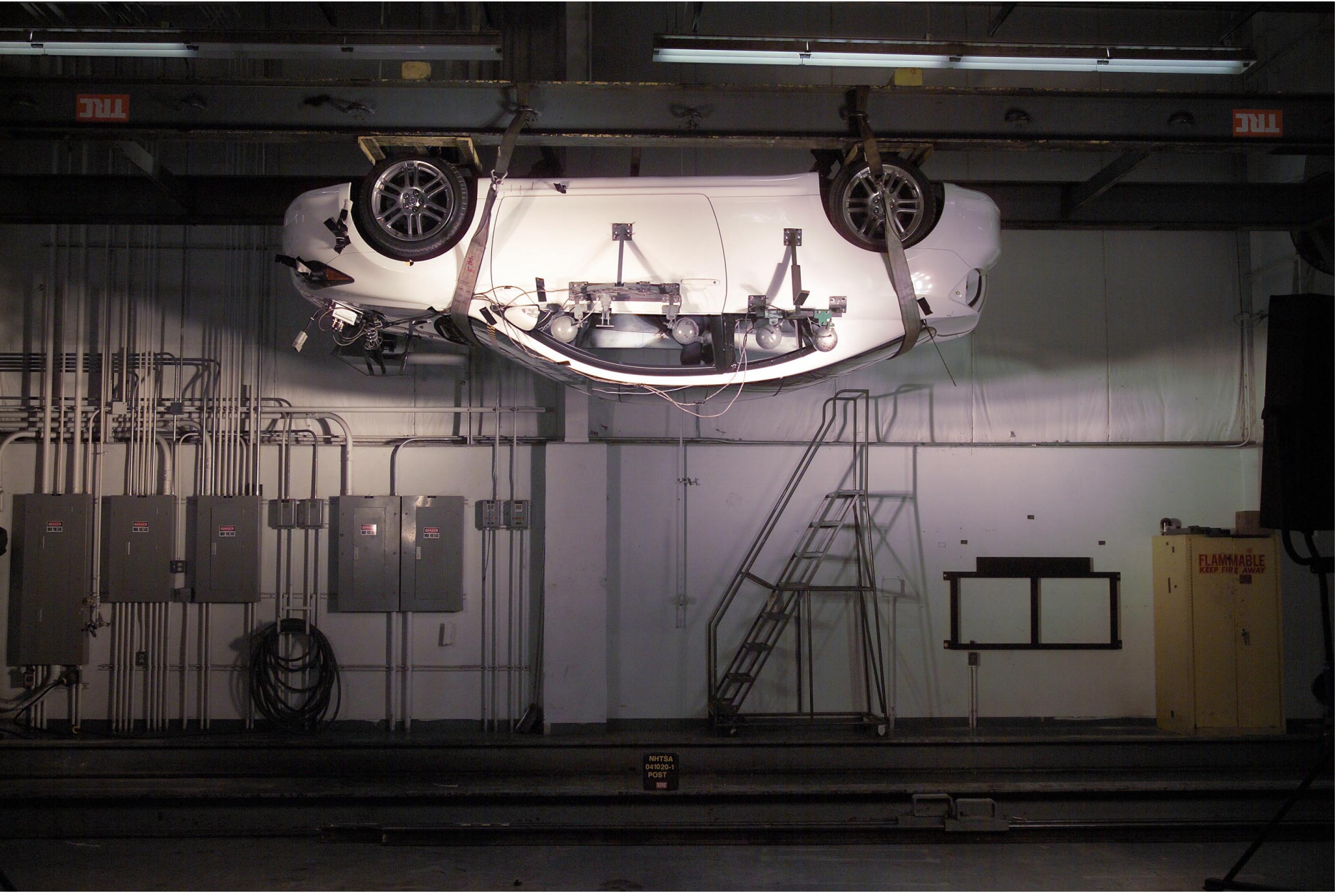


Figure A-60 FMVSS 301 Rollover View at 180°

A-64

041020-1

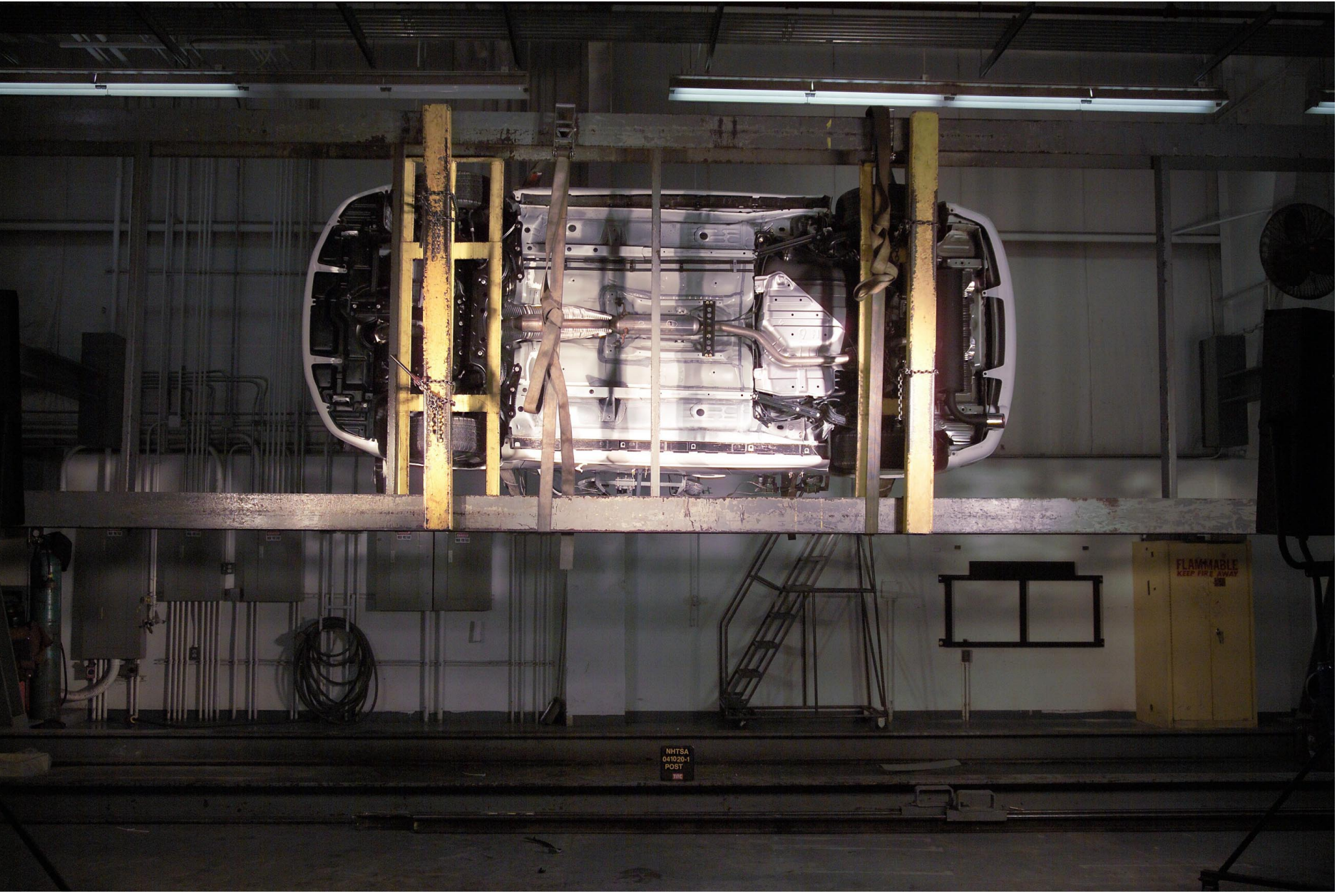


Figure A-61 FMVSS 301 Rollover View at 270°

A-65

041020-1



Figure A-62 FMVSS 301 Rollover View at 360°

A-66

041020-1

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>
1	Driver Head X-Axis Acceleration	B-10
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

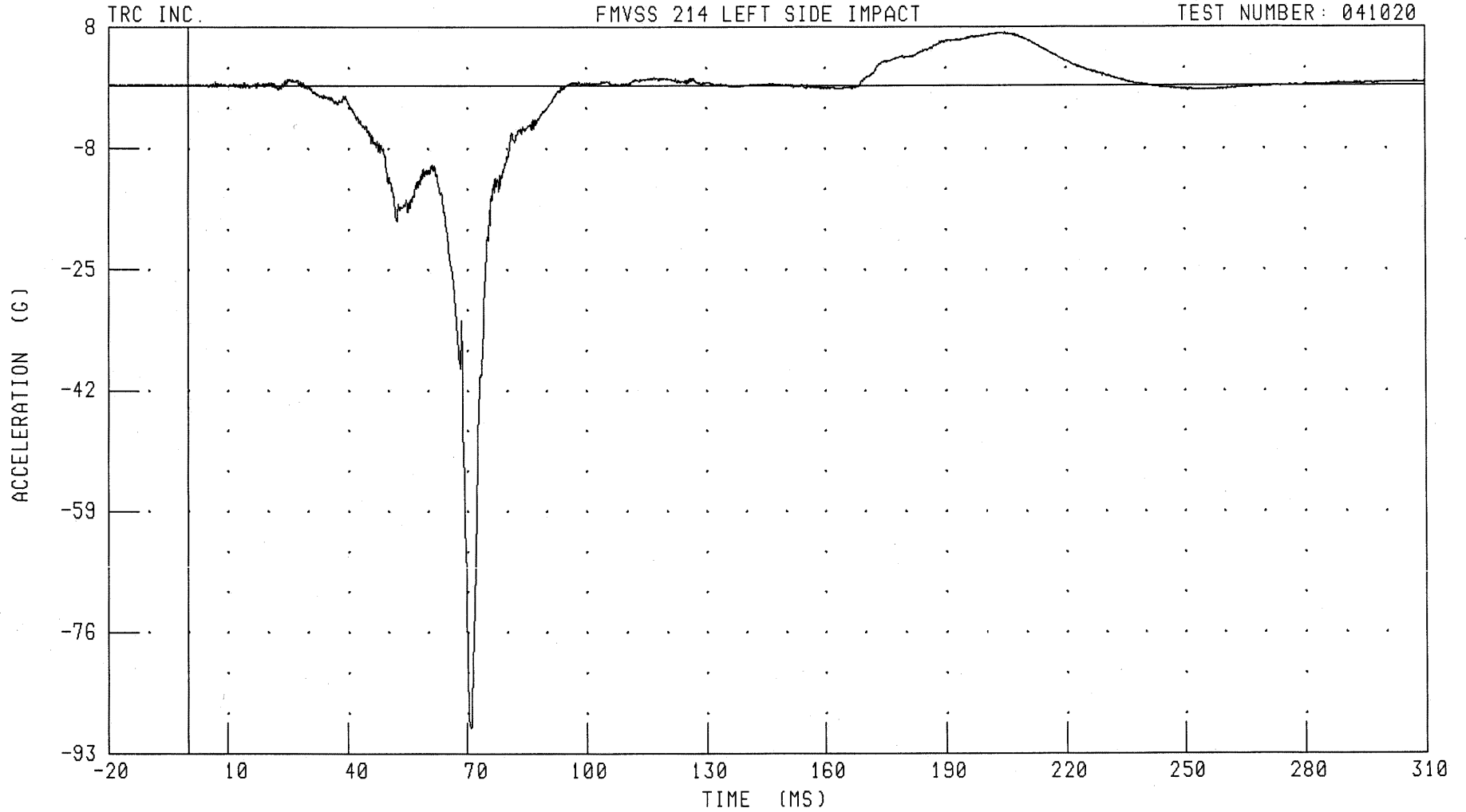
Driver and Passenger Dummy Instrumentation Plots

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

DRIVER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDXC1 FILTER: CH. CLASS 1000

PEAK DATA: 7.37 G @ 205.12 MS; -90.35 G @ 70.96 MS

B-10

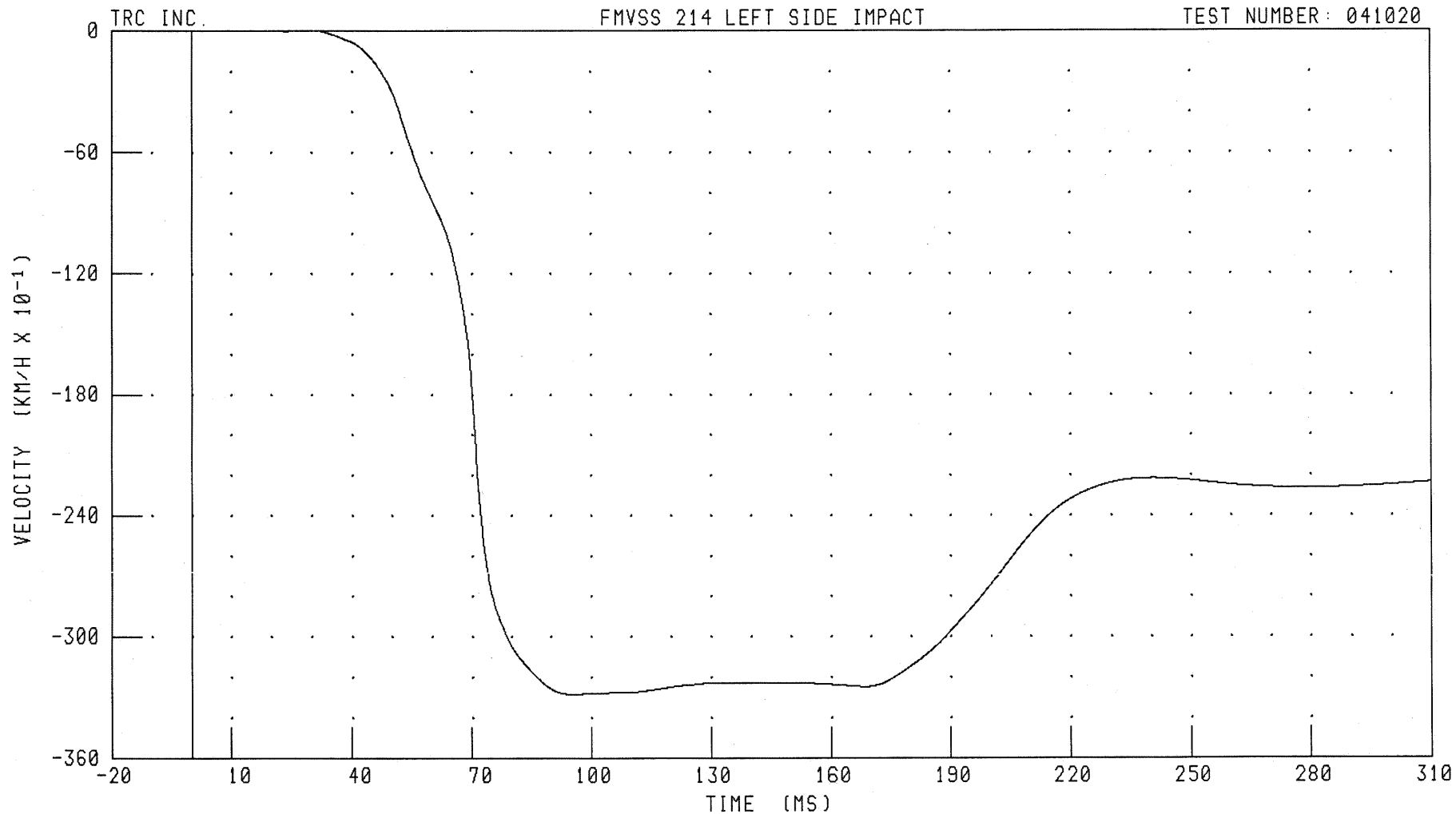
041020-1

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

DRIVER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.06 KM/H @ 29.04 MS; -32.85 KM/H @ 95.52 MS

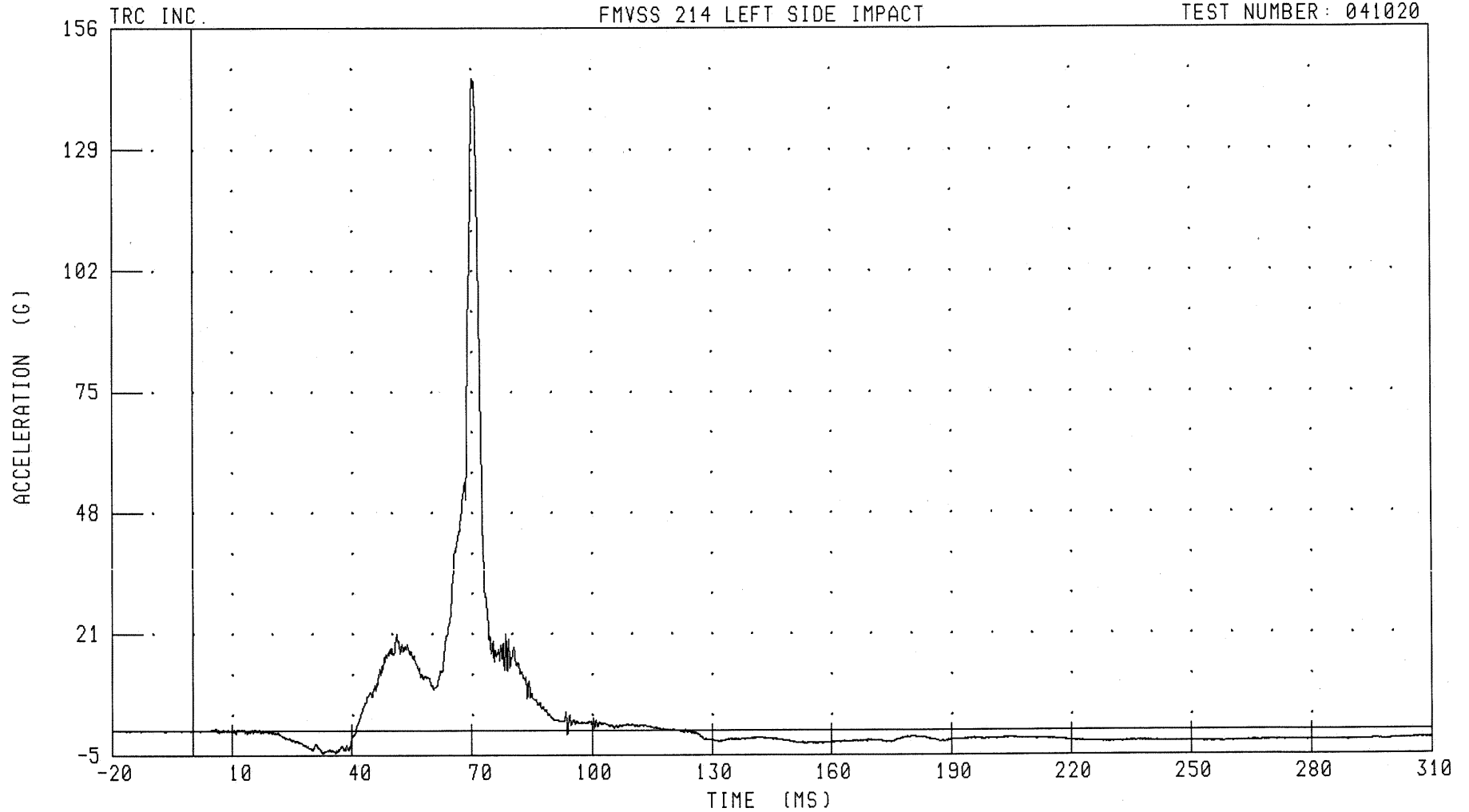
B-11

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYG1 FILTER: CH. CLASS 1000

PEAK DATA: 145.36 G @ 70.40 MS; -4.97 G @ 35.84 MS

B-12

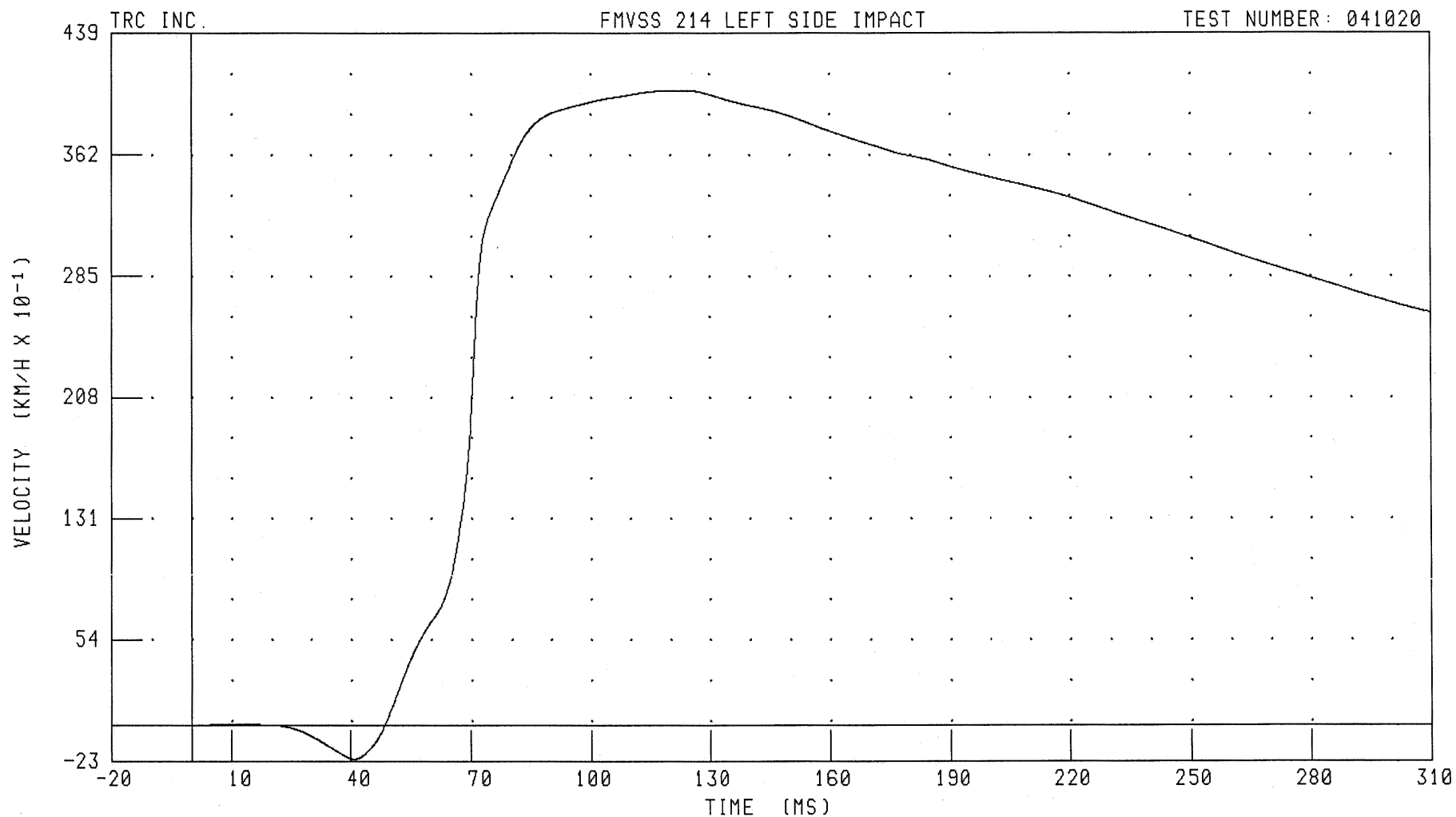
041020-1

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

DRIVER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYV1 FILTER: CH. CLASS 180

PEAK DATA: 40.28 KM/H @ 122.00 MS; -2.16 KM/H @ 40.80 MS

B-13

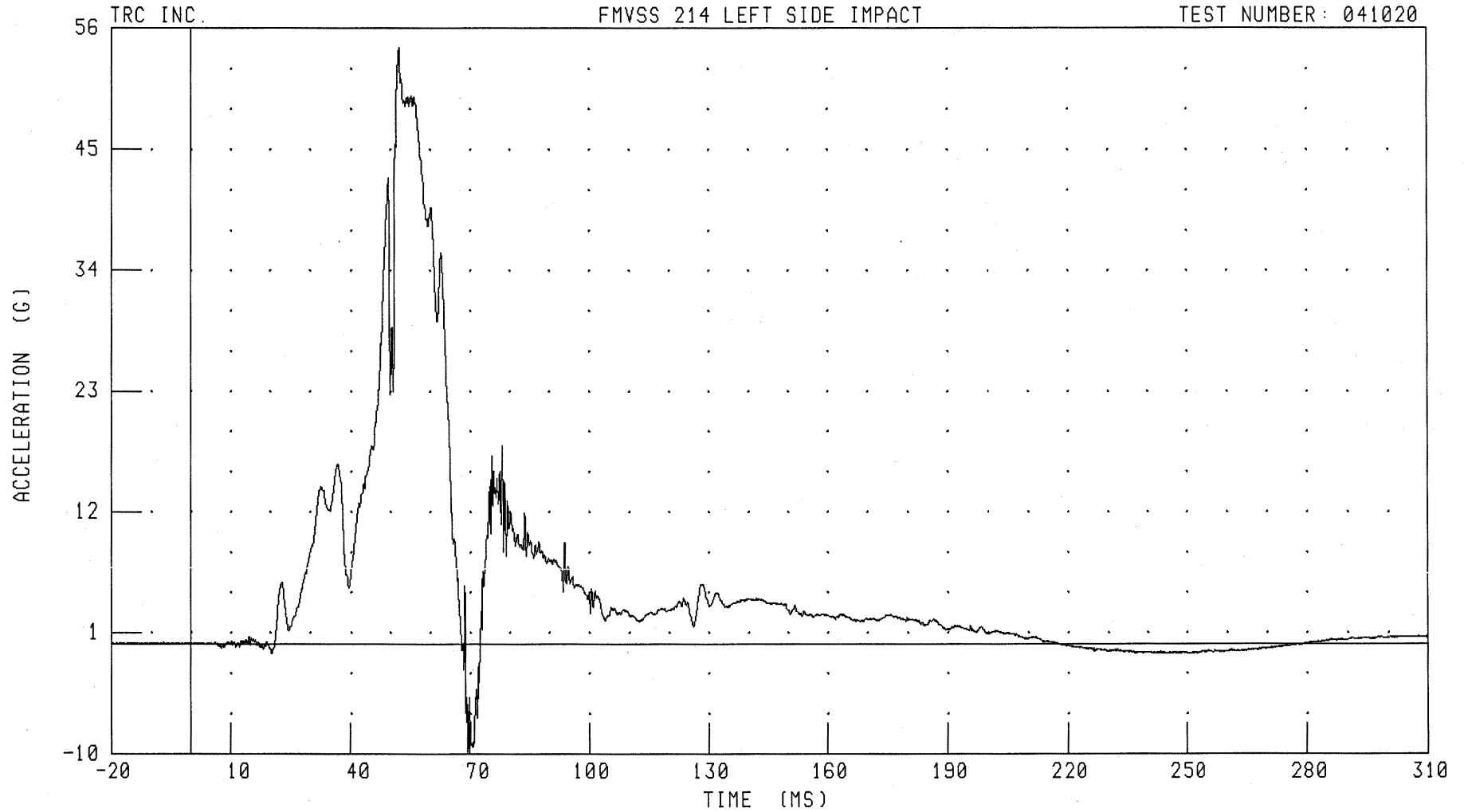
041020-1

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

DRIVER HEAD Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

PEAK DATA: 54.22 G @ 52.24 MS; -9.87 G @ 69.44 MS

B-14

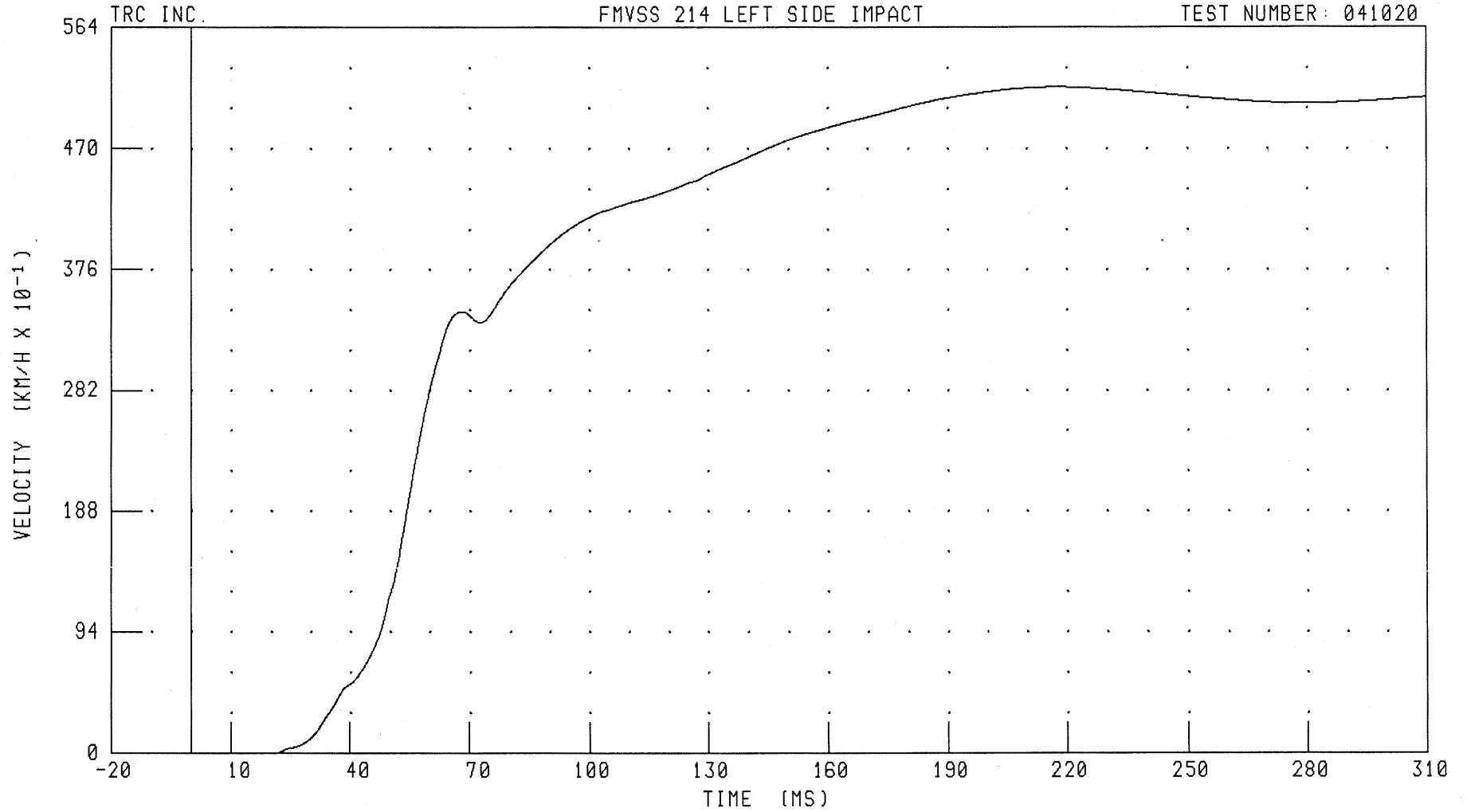
041020-1

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

DRIVER HEAD Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZV1 FILTER: CH. CLASS 180

PEAK DATA: 51.77 KM/H @ 217.44 MS; -0.03 KM/H @ 20.96 MS

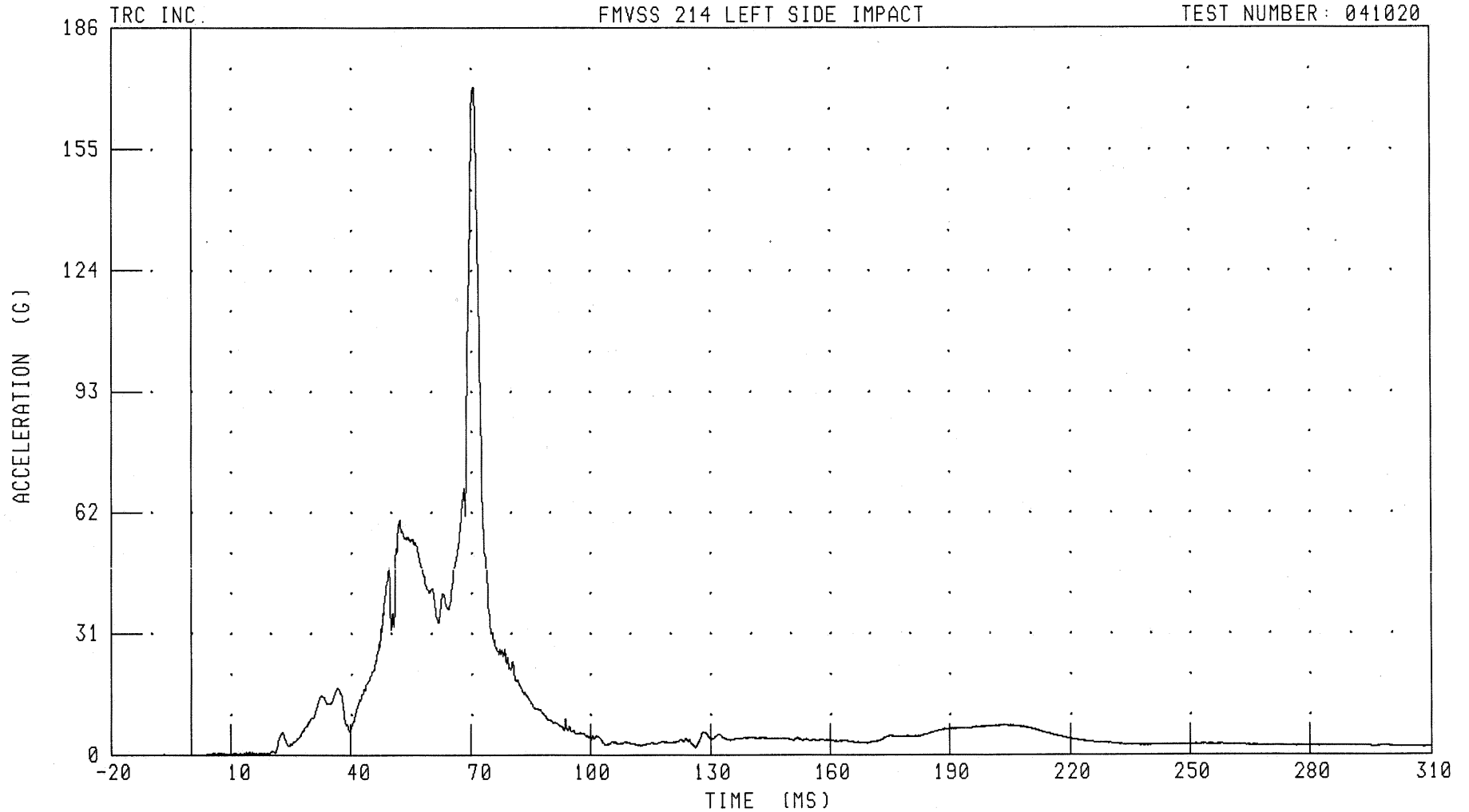
B-15

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

PEAK DATA: 170.96 G @ 70.72 MS; 0.01 G @ -16.80 MS

B-16

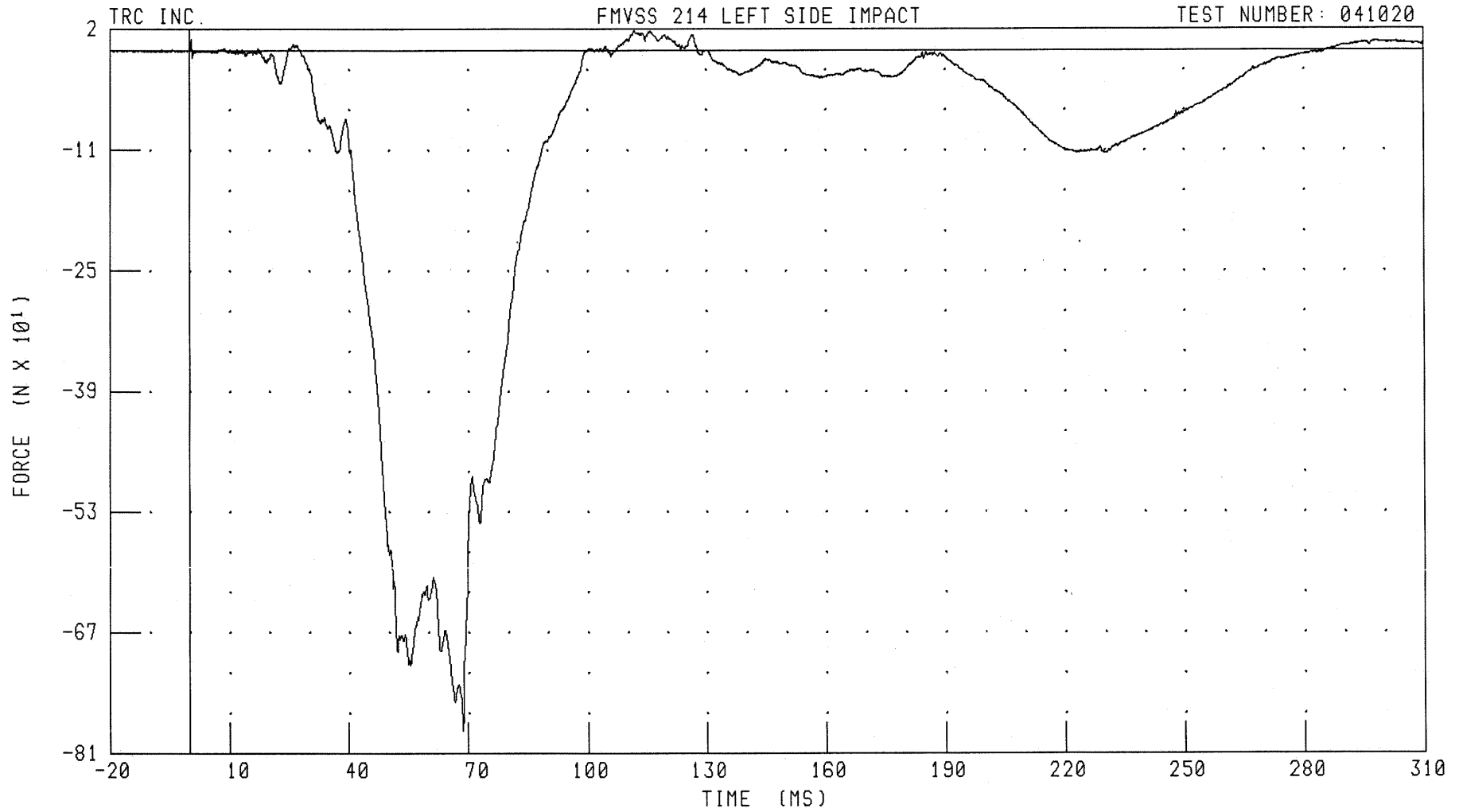
041020-1

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

DRIVER NECK X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKXF1 FILTER: CH. CLASS 1000

PEAK DATA: 23.31 N @ 116.08 MS; -788.68 N @ 68.72 MS

B-17

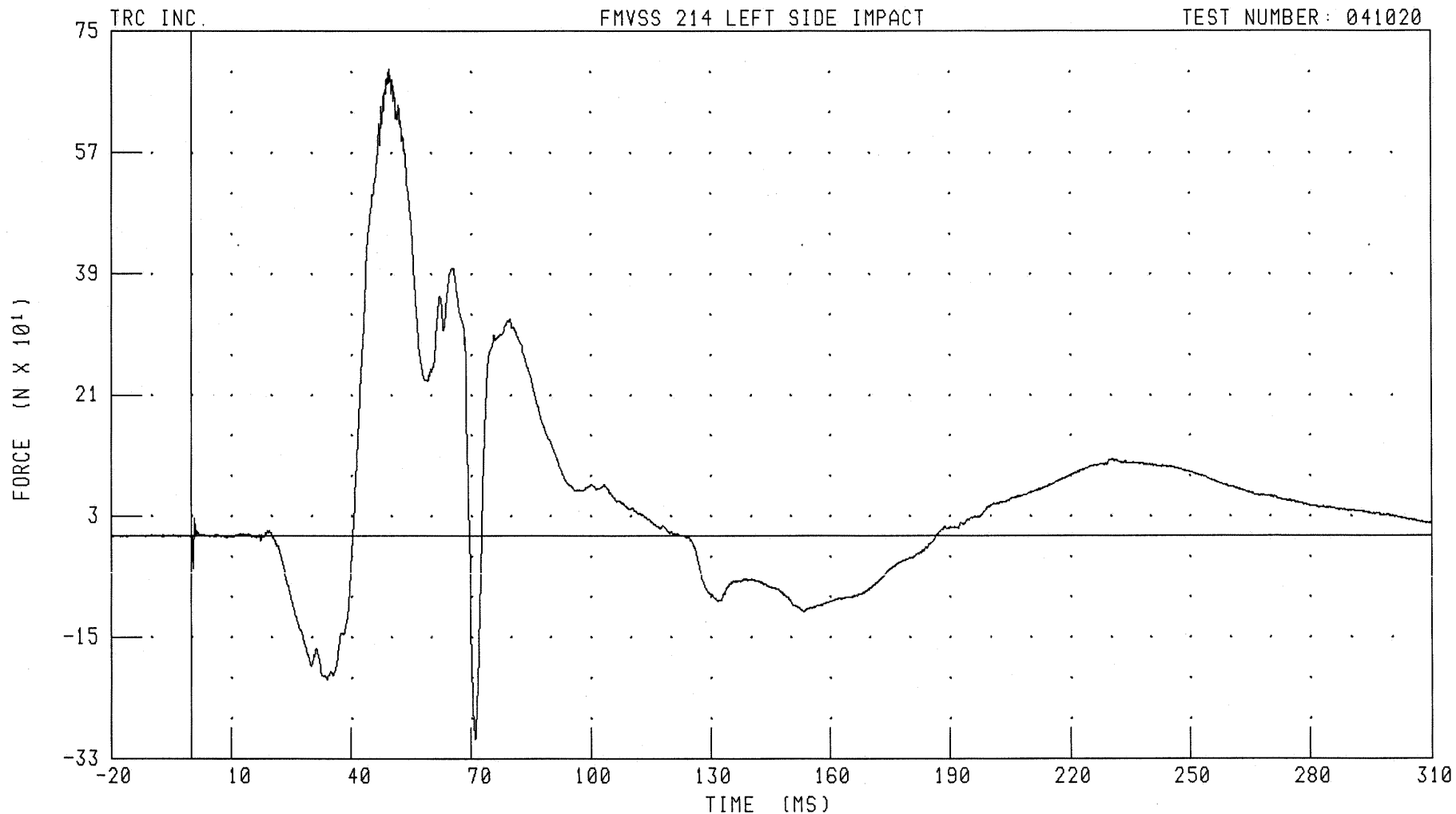
041020-1

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

DRIVER NECK Y-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKYF1

FILTER: CH. CLASS 1000

PEAK DATA: 693.38 N @ 49.52 MS; -301.76 N @ 70.96 MS

B-18

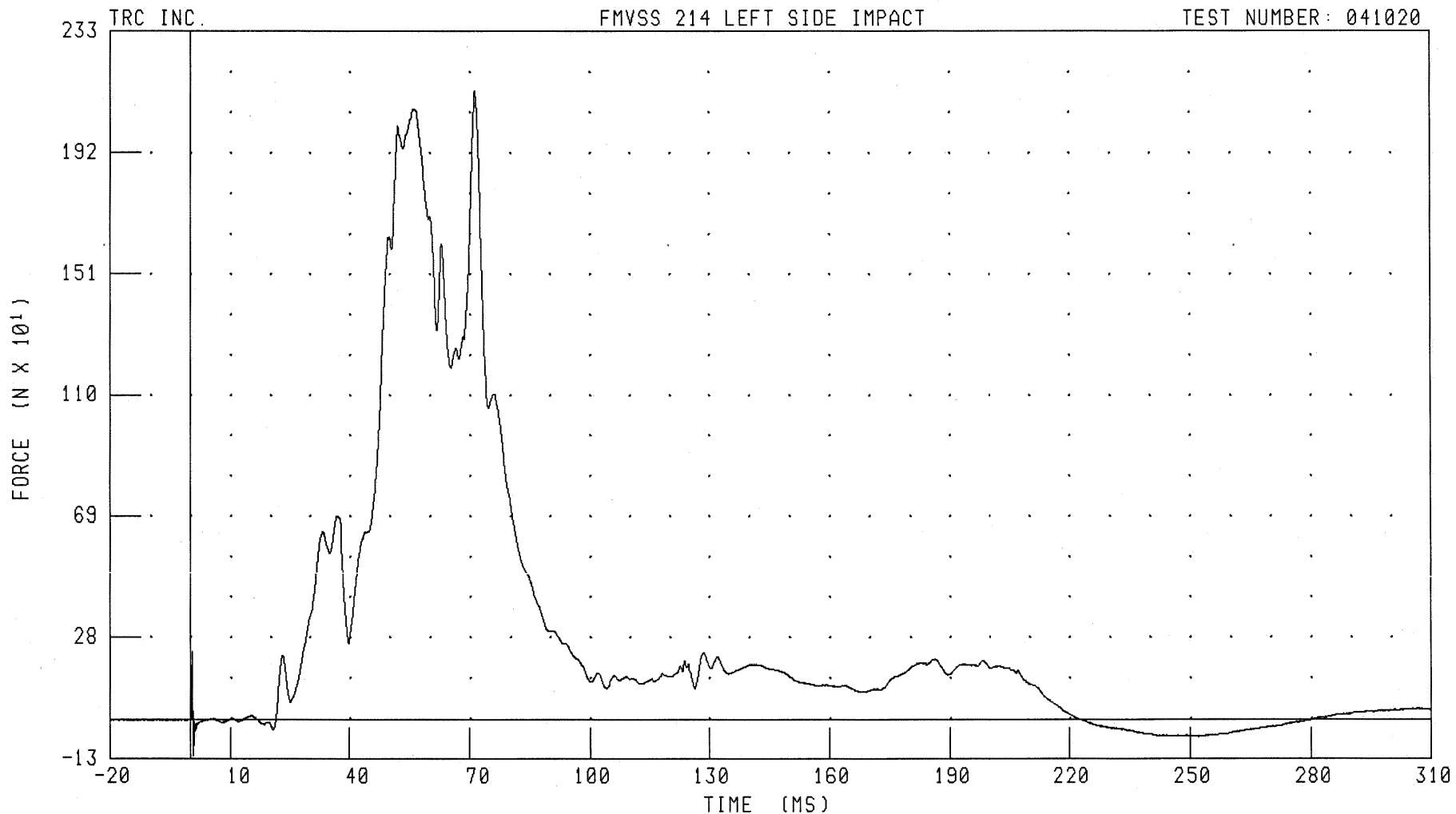
041020-1

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

DRIVER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKZF1

FILTER: CH. CLASS 1000

PEAK DATA: 2127.76 N @ 71.36 MS; -119.17 N @ 0.80 MS

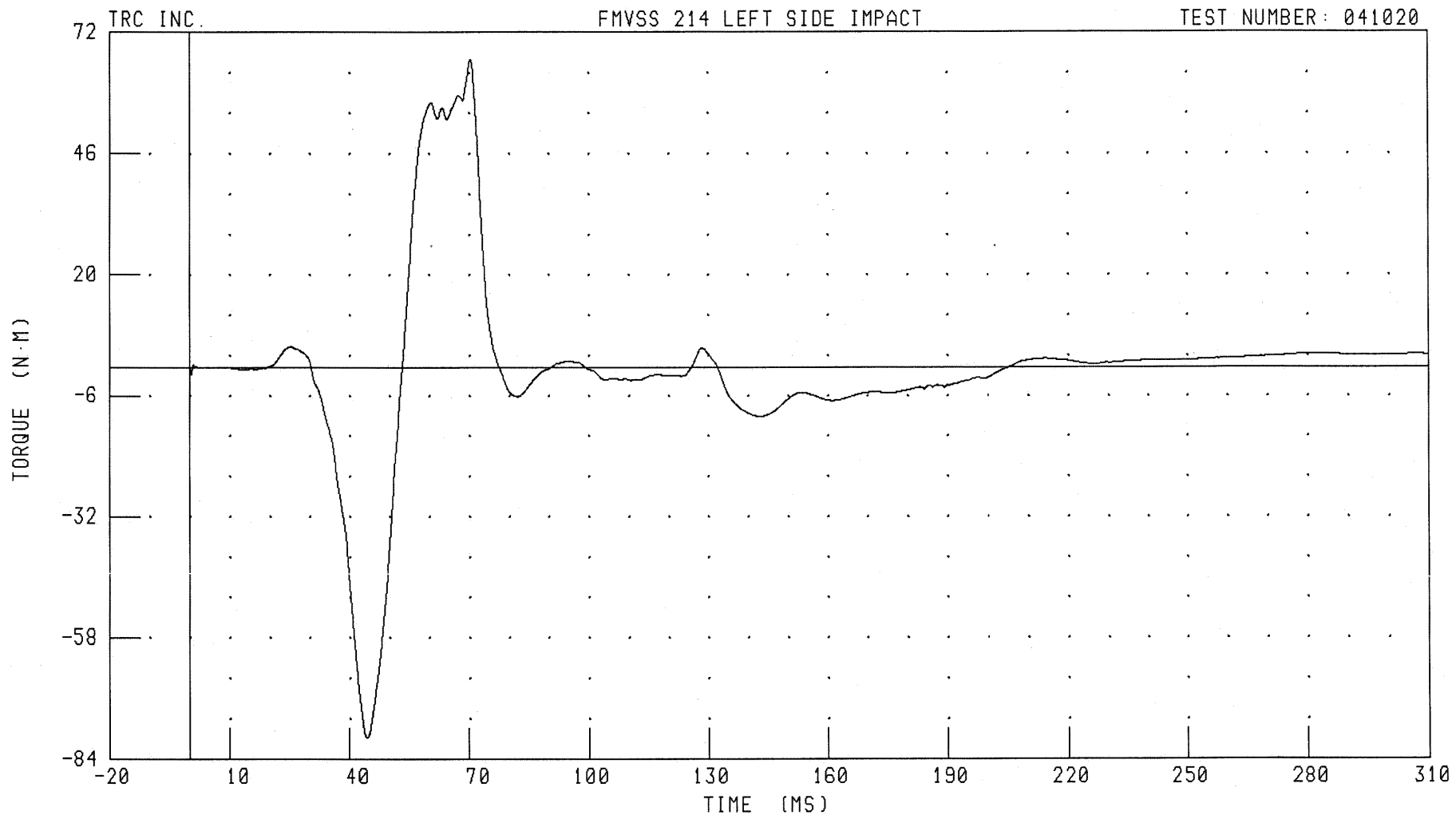
B-19

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
DRIVER NECK MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKXM1 FILTER: CH. CLASS 600

PEAK DATA: 66.13 N·M @ 70.56 MS; -79.49 N·M @ 44.32 MS

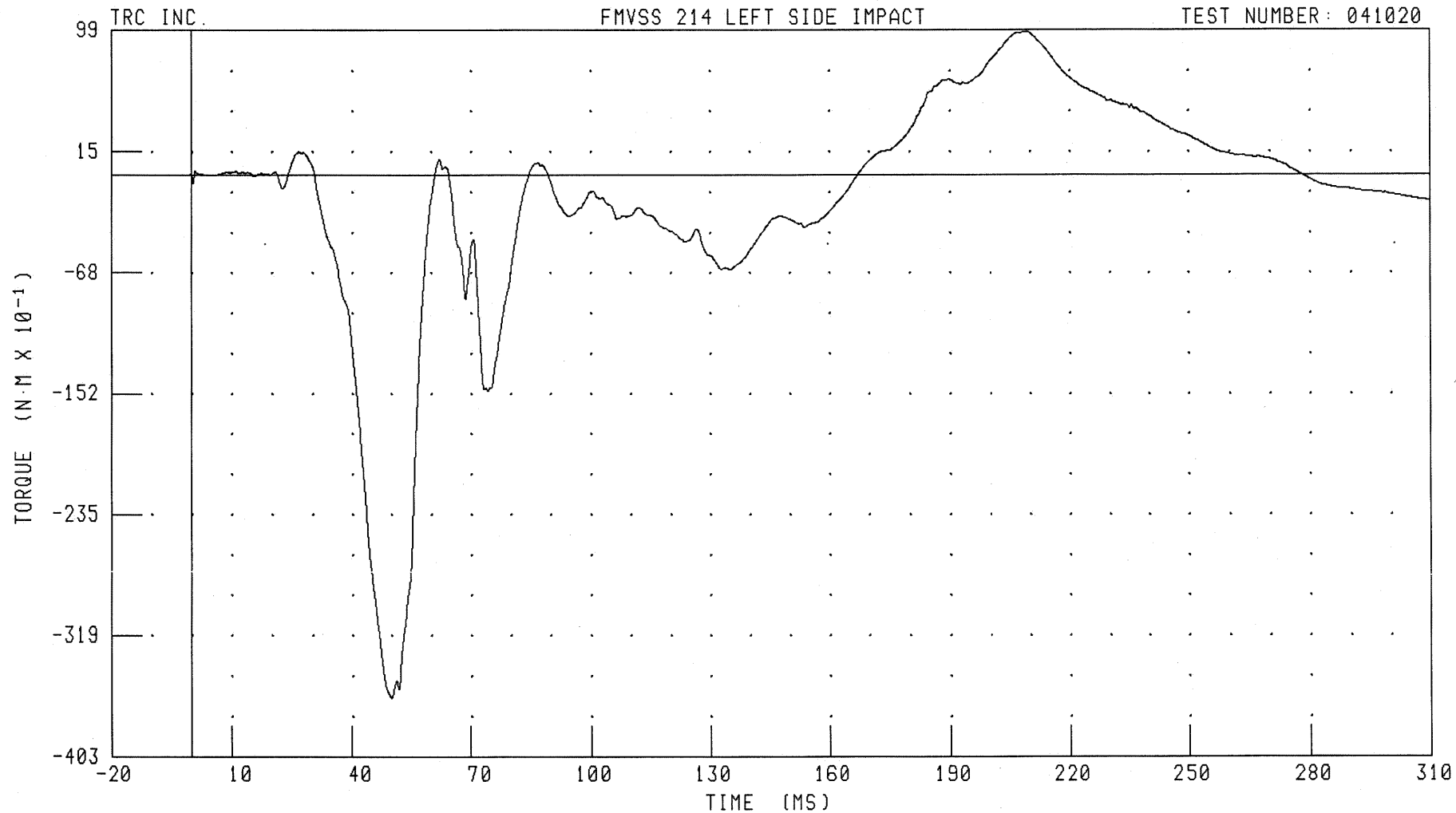
B-20

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKYM1

FILTER: CH. CLASS 600

PEAK DATA: 9.88 N·M @ 208.48 MS; -36.34 N·M @ 50.16 MS

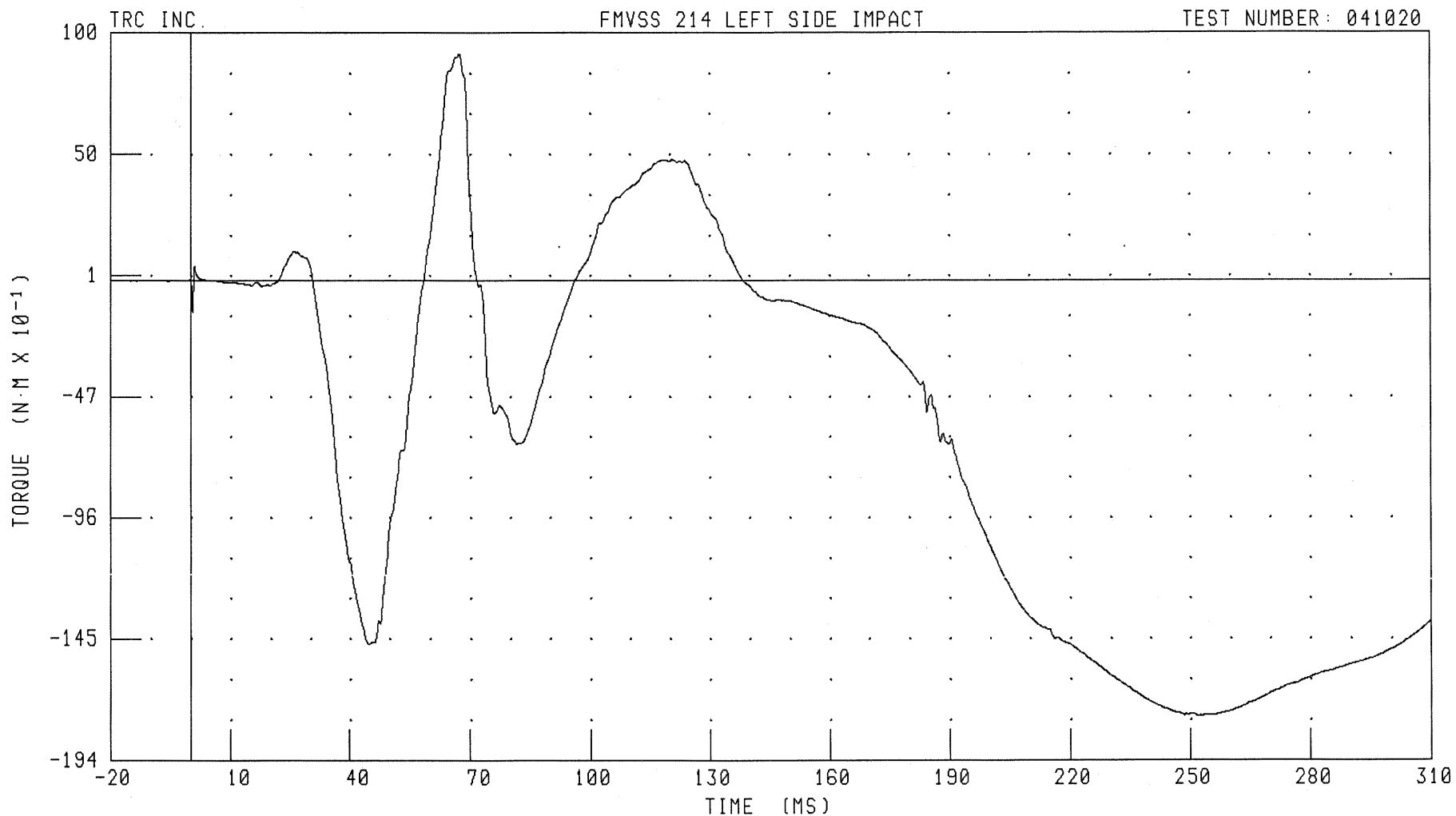
B-21

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
DRIVER NECK MOMENT ABOUT Z AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKZM1 FILTER: CH. CLASS 600

PEAK DATA: 9.16 N·M @ 67.36 MS; -17.61 N·M @ 251.84 MS

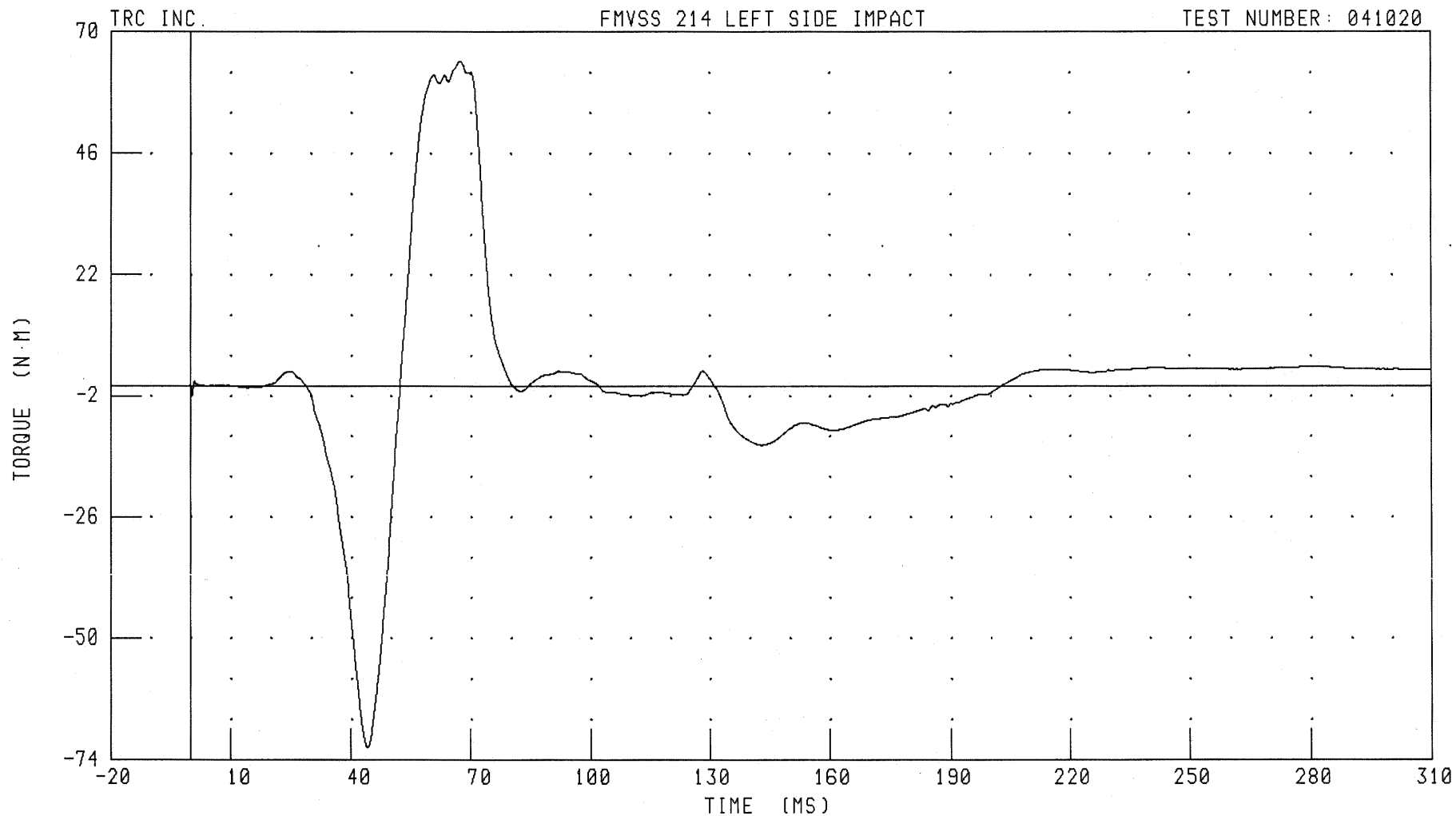
B-22

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
DRIVER NECK OCCIPITAL CONDYLE MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NKOXM1 FILTER: CH. CLASS 600

PEAK DATA: 64.22 N·M @ 67.44 MS; -71.60 N·M @ 44.16 MS

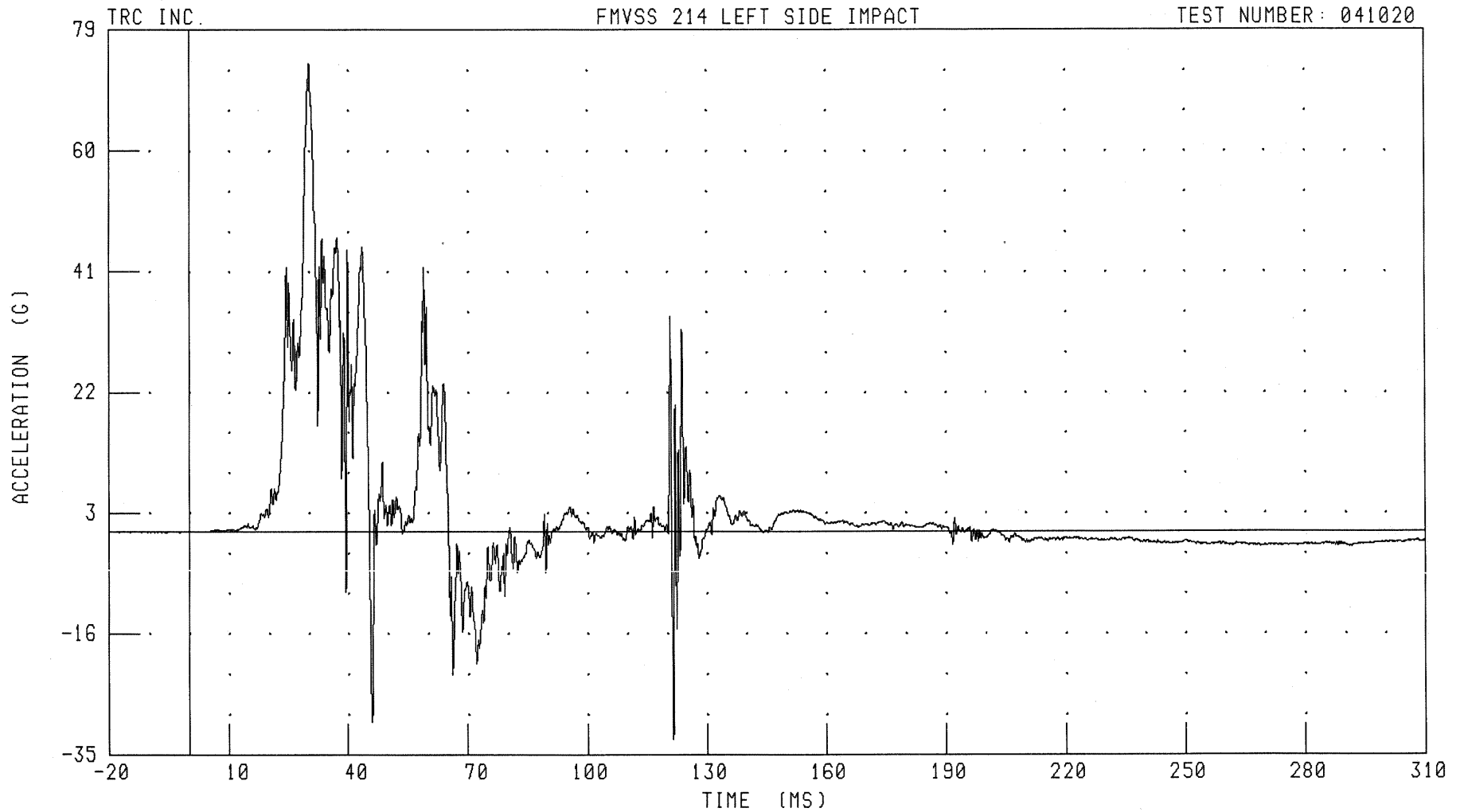
B-23

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYG1 FILTER: CH. CLASS 1000

PEAK DATA: 73.69 G @ 30.08 MS; -32.59 G @ 121.52 MS

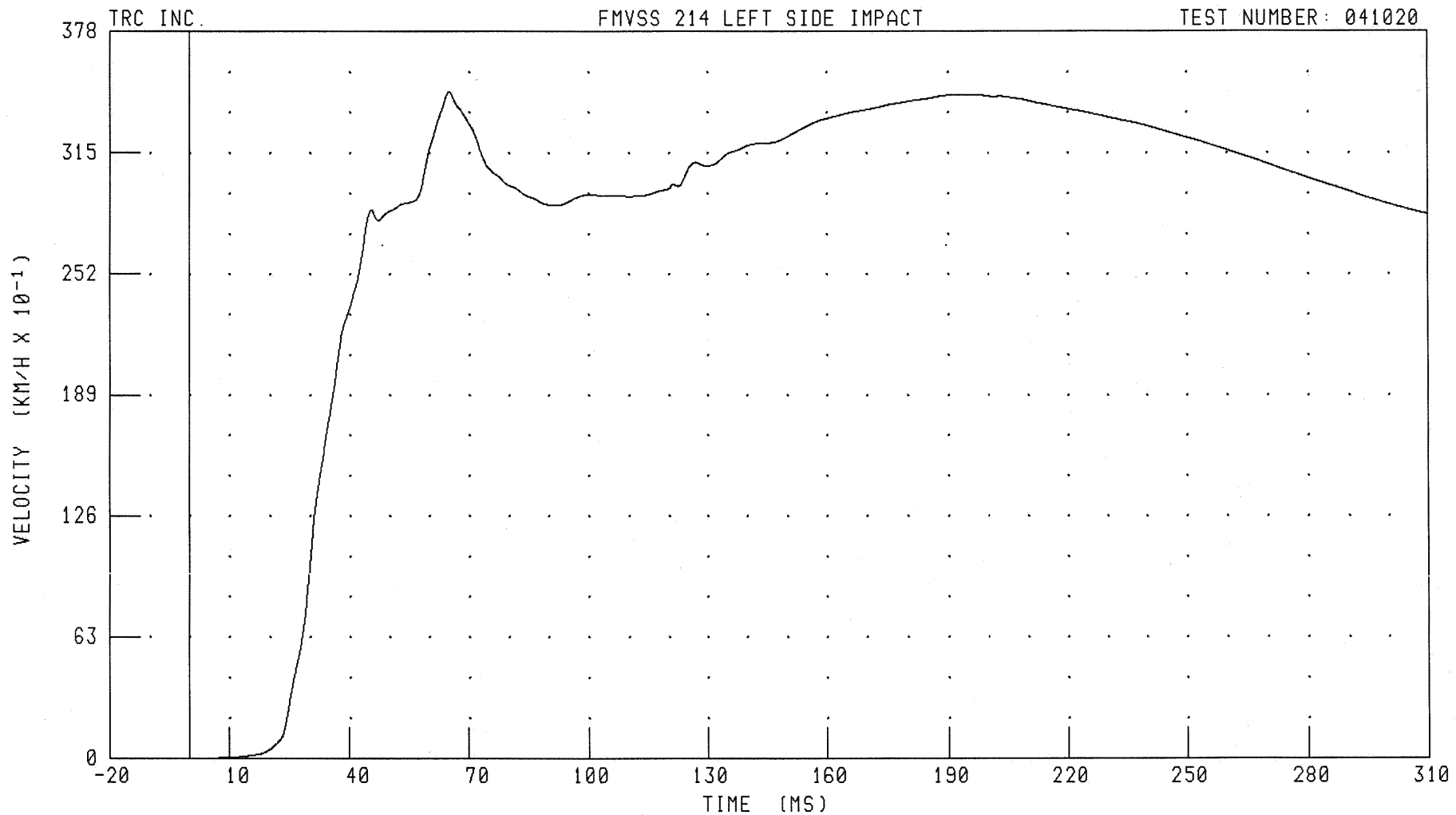
B-24

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYV1

FILTER: CH. CLASS 180

PEAK DATA: 34.67 KM/H @ 65.12 MS; 0.00 KM/H @ 0.00 MS

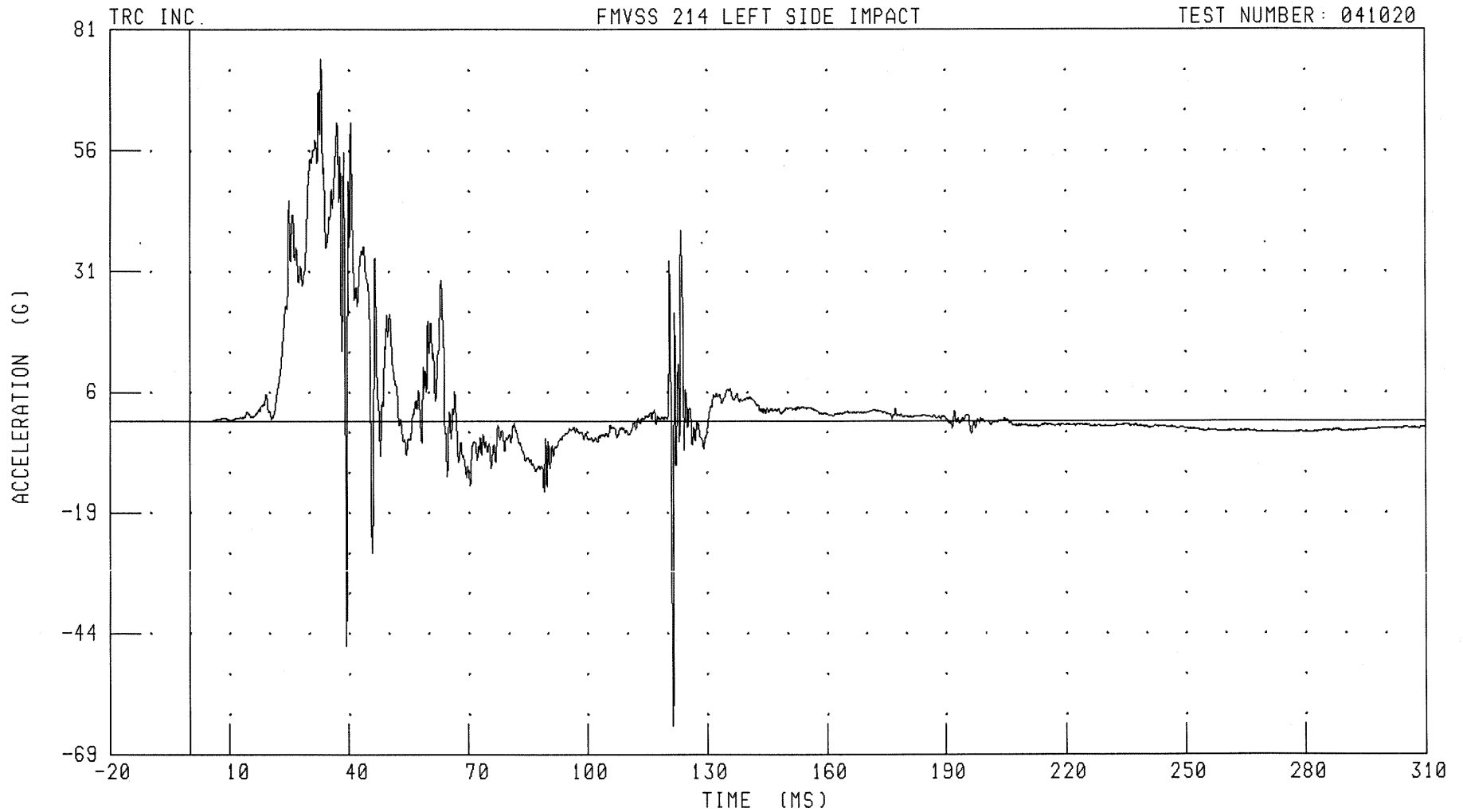
B-25

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYG1 FILTER: CH. CLASS 1000

PEAK DATA: 74.92 G @ 33.04 MS; -63.07 G @ 121.52 MS

B-26

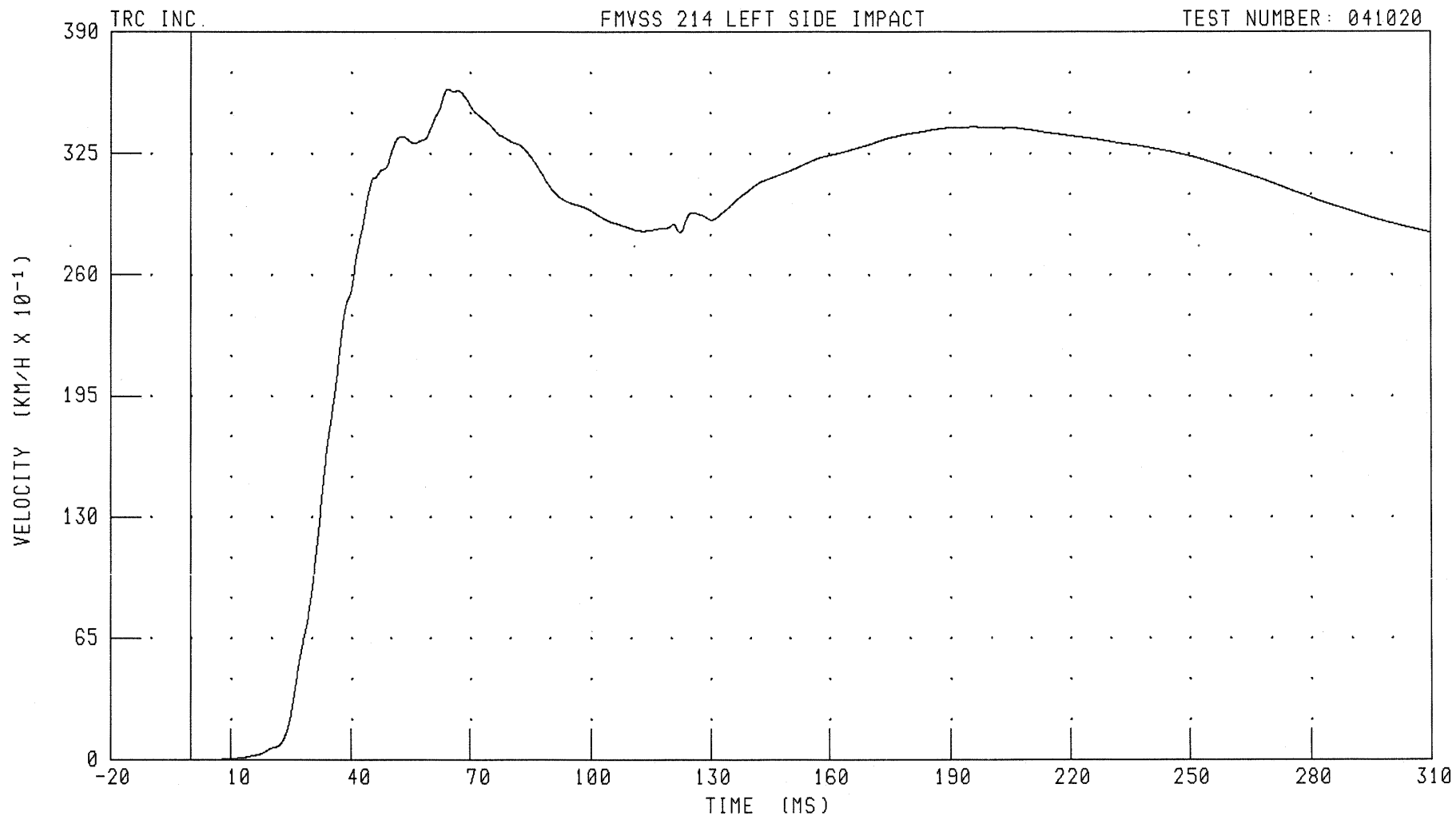
041020-1

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

DRIVER LOWER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYV1

FILTER: CH. CLASS 180

PEAK DATA: 35.96 KM/H @ 64.48 MS; 0.00 KM/H @ 5.04 MS

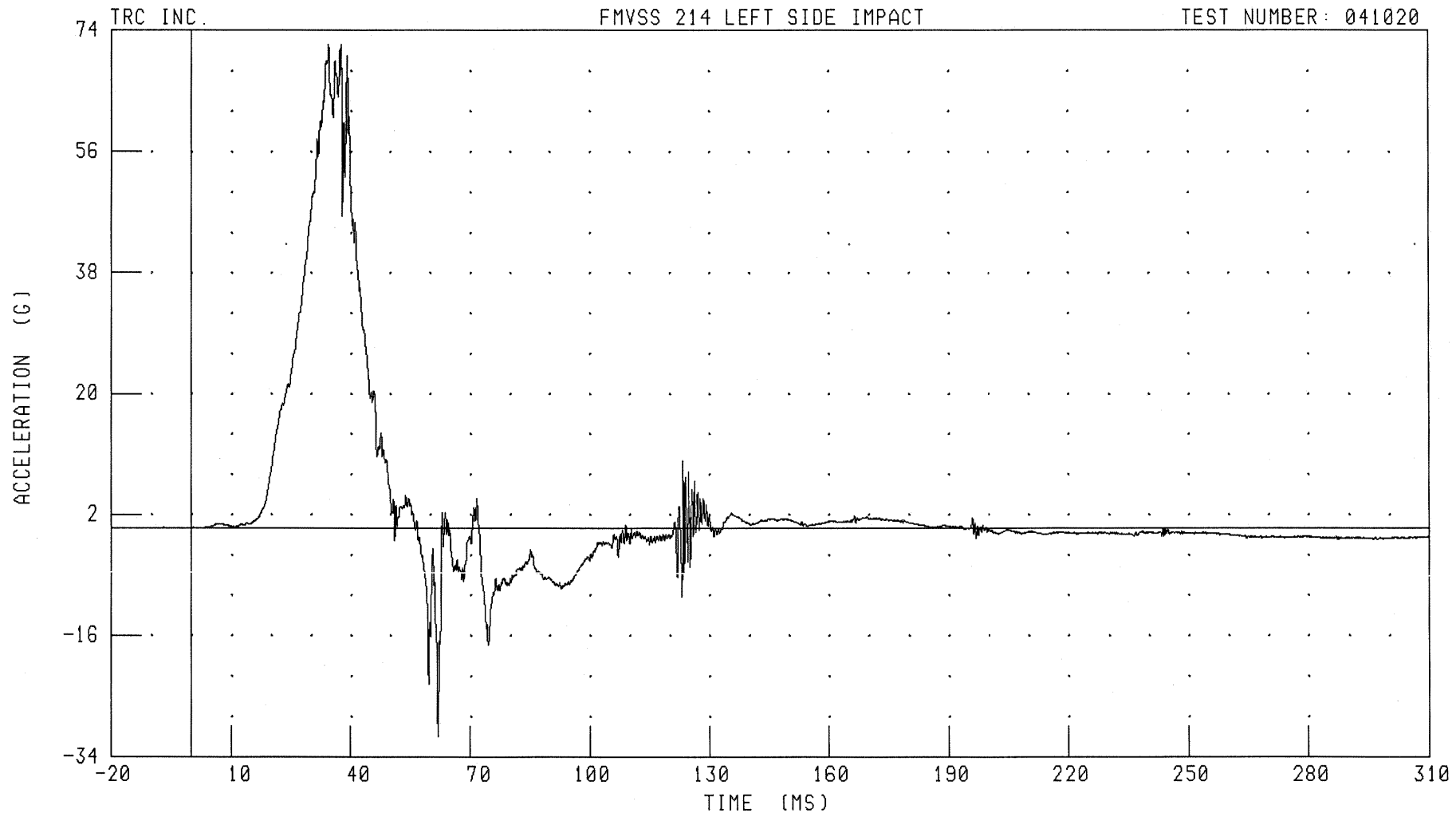
B-27

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YG1

FILTER: CH. CLASS 1000

PEAK DATA: 71.91 G @ 34.40 MS; -31.02 G @ 61.92 MS

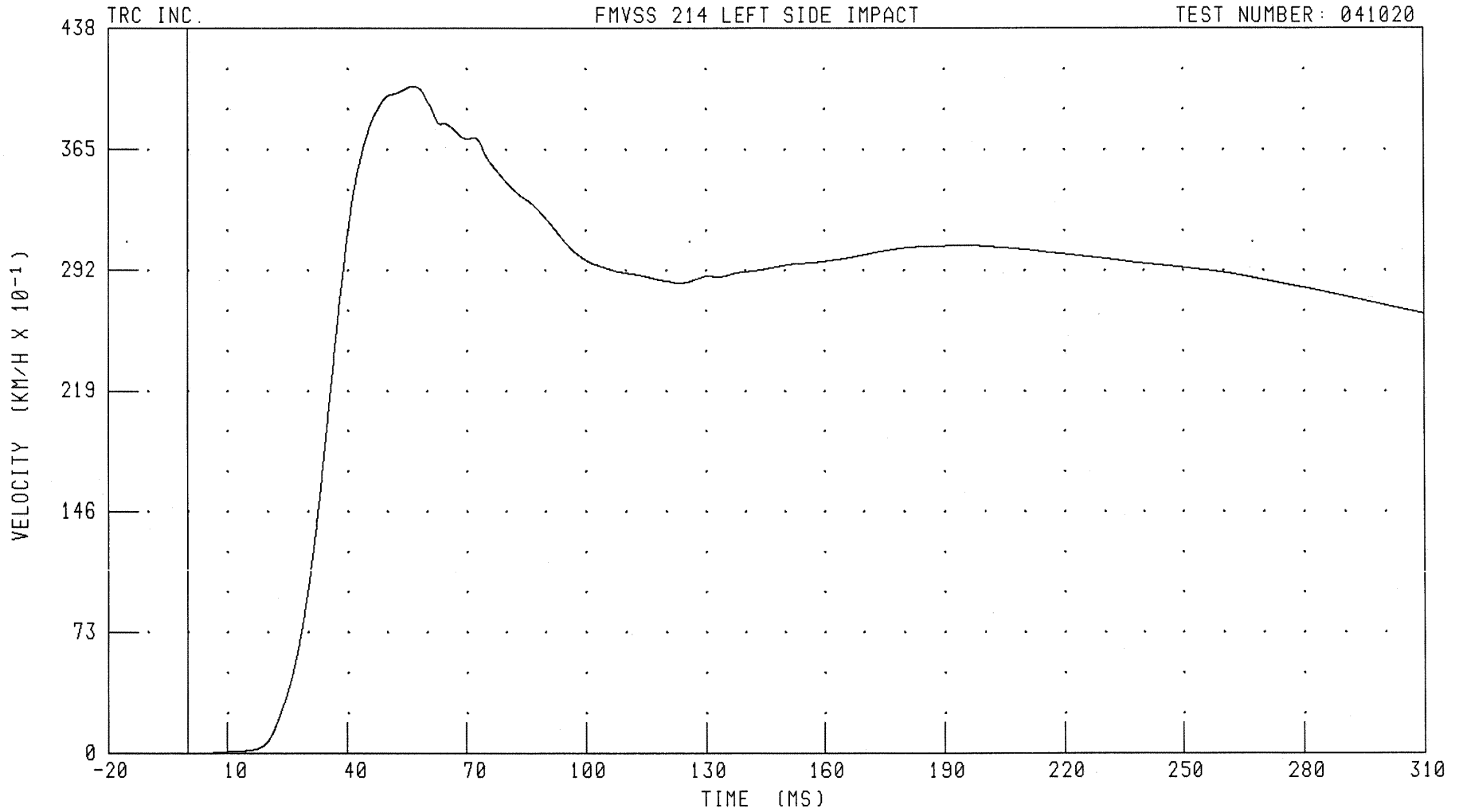
B-28

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YV1

FILTER: CH. CLASS 180

PEAK DATA: 40.29 KM/H @ 56.64 MS; 0.00 KM/H @ 0.00 MS

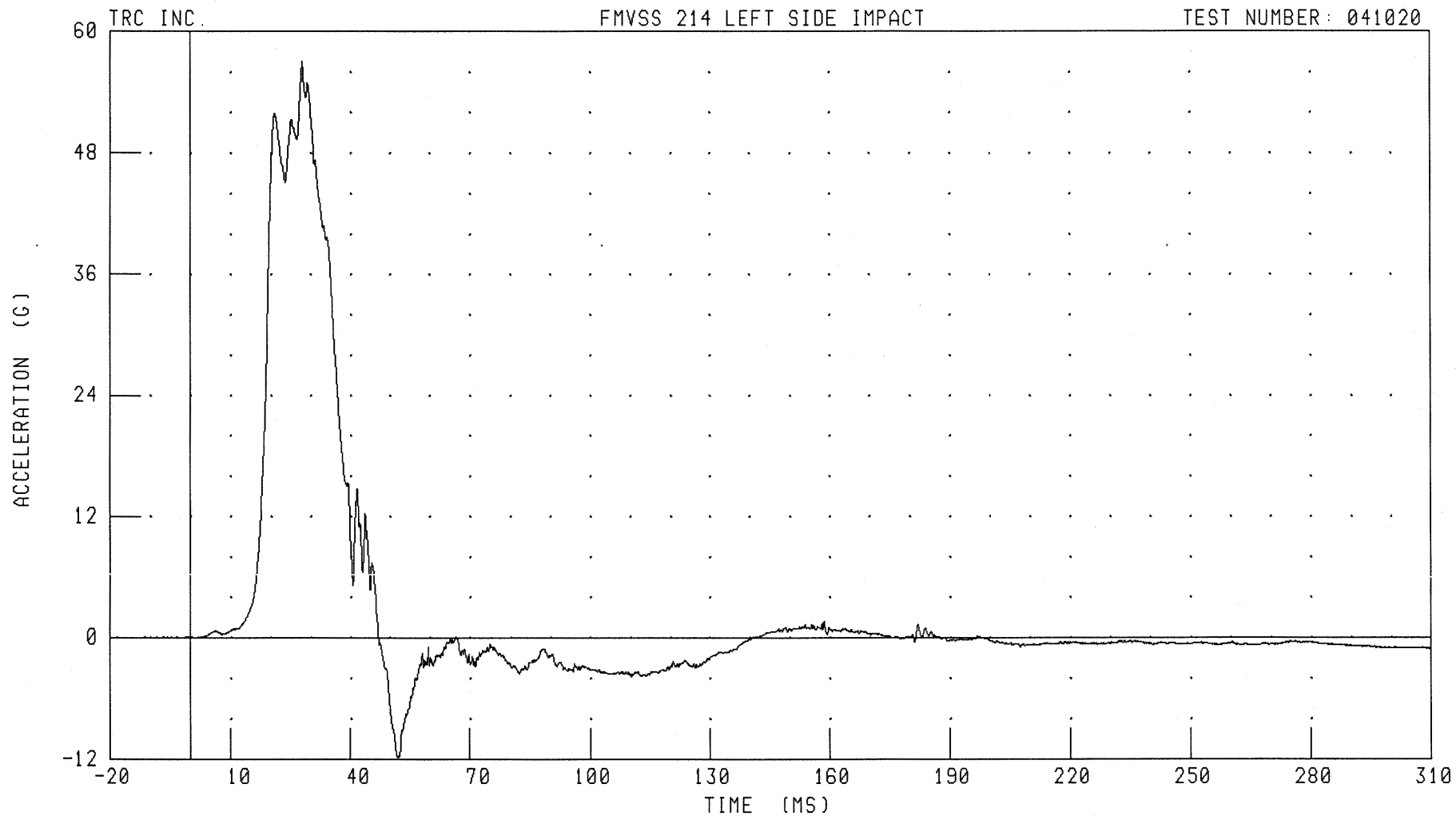
B-29

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYG1

FILTER: CH. CLASS 1000

PEAK DATA: 57.04 G @ 28.00 MS; -11.79 G @ 51.84 MS

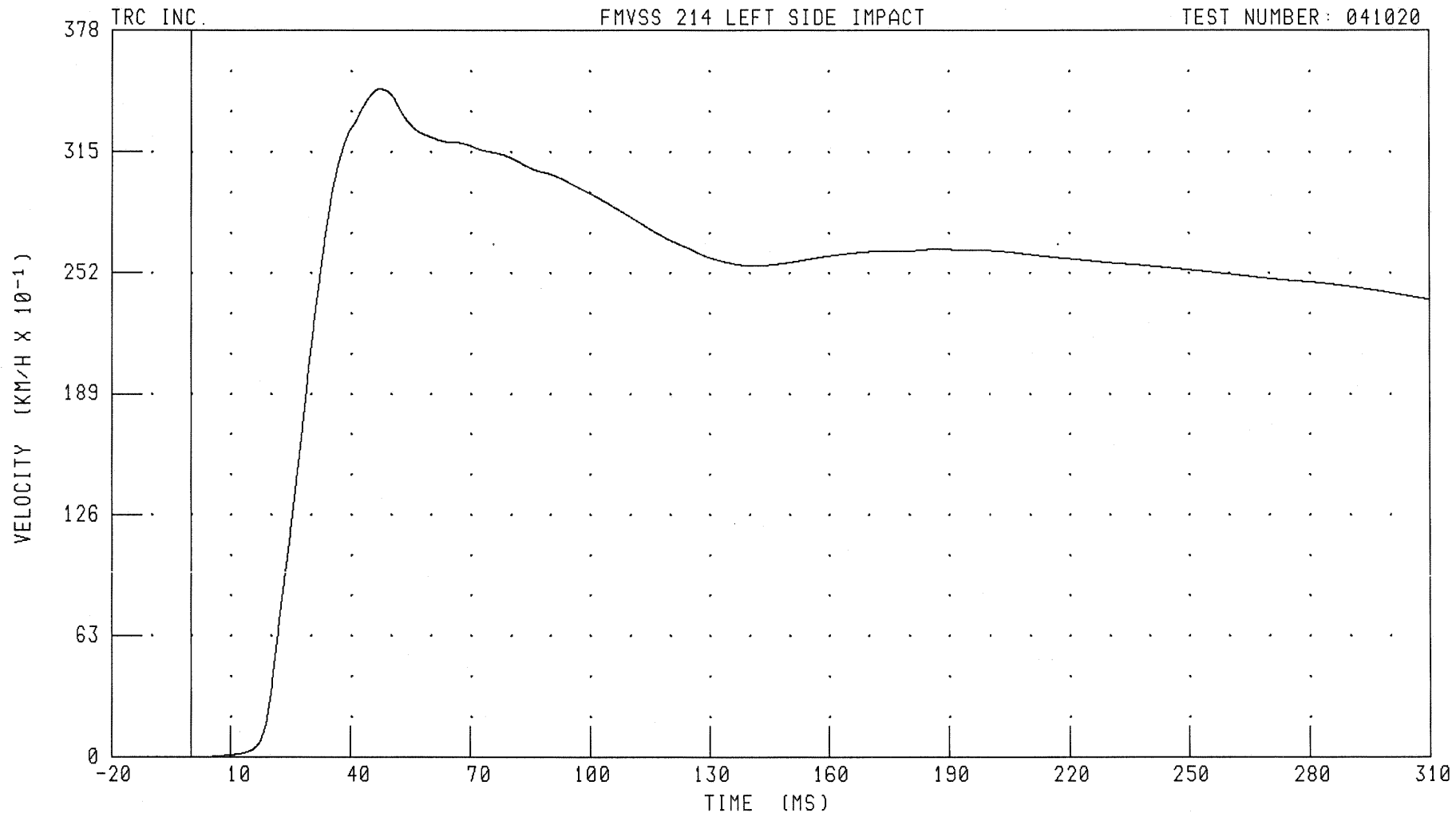
B-30

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
DRIVER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYV1

FILTER: CH. CLASS 180

PEAK DATA: 34.77 KM/H @ 47.36 MS; 0.00 KM/H @ 0.00 MS

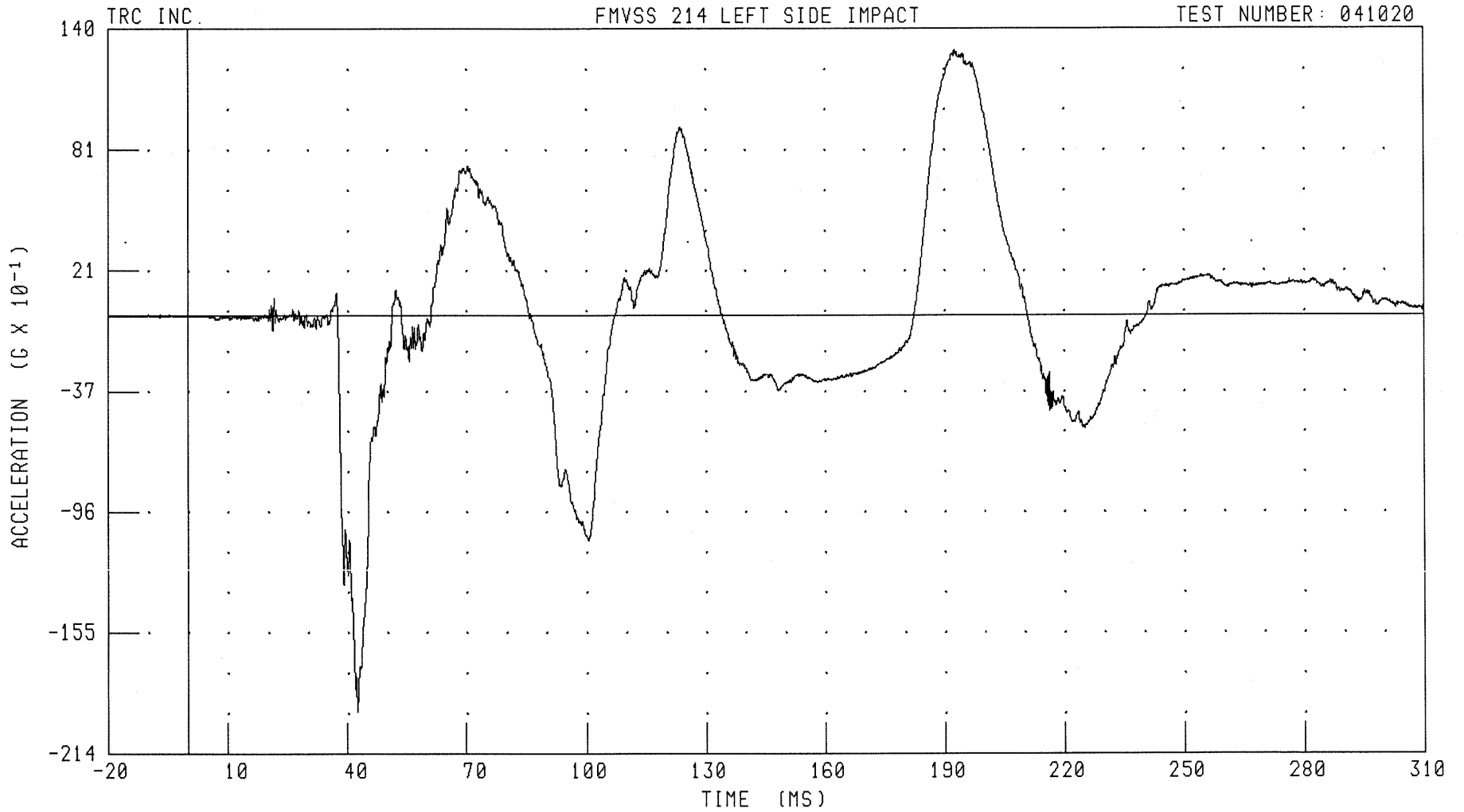
B-31

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT REAR PASSENGER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDXC4

FILTER: CH. CLASS 1000

PEAK DATA: 12.94 G @ 192.72 MS; -19.36 G @ 42.48 MS

B-32

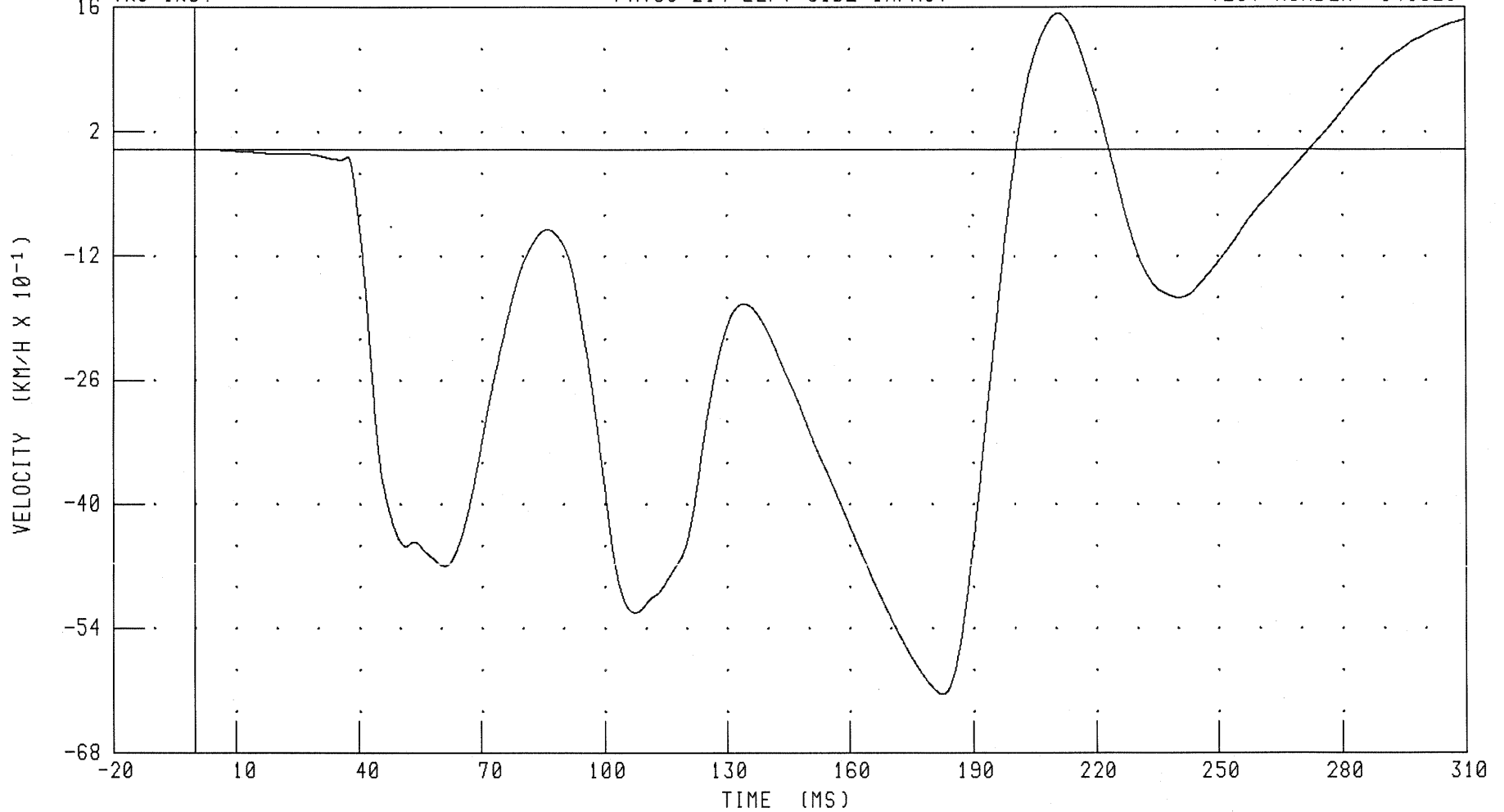
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDXV4

FILTER: CH. CLASS 180

PEAK DATA: 1.53 KM/H @ 210.96 MS; -6.14 KM/H @ 182.48 MS

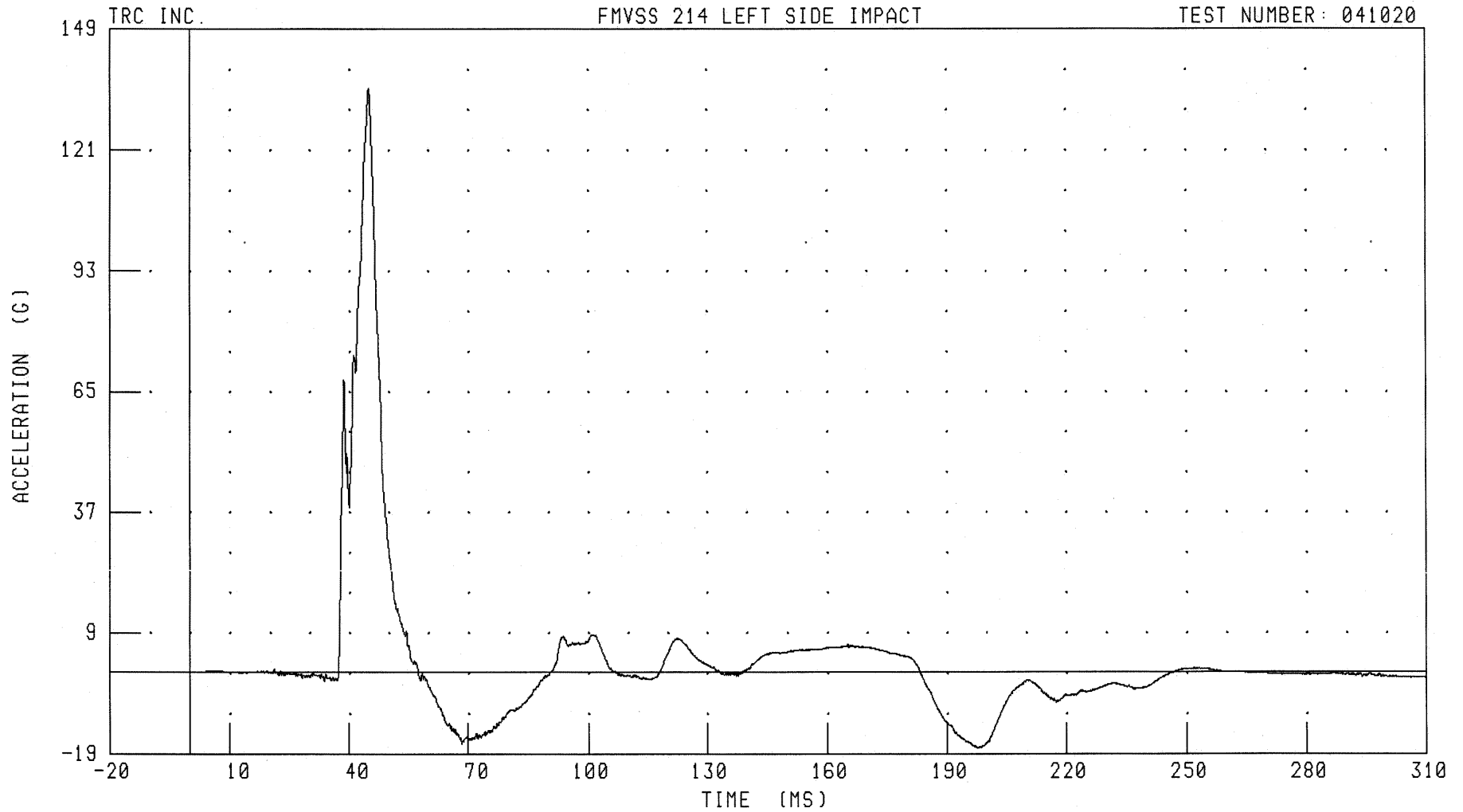
B-33

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYG4 FILTER: CH. CLASS 1000

PEAK DATA: 135.29 G @ 44.88 MS; -17.64 G @ 197.92 MS

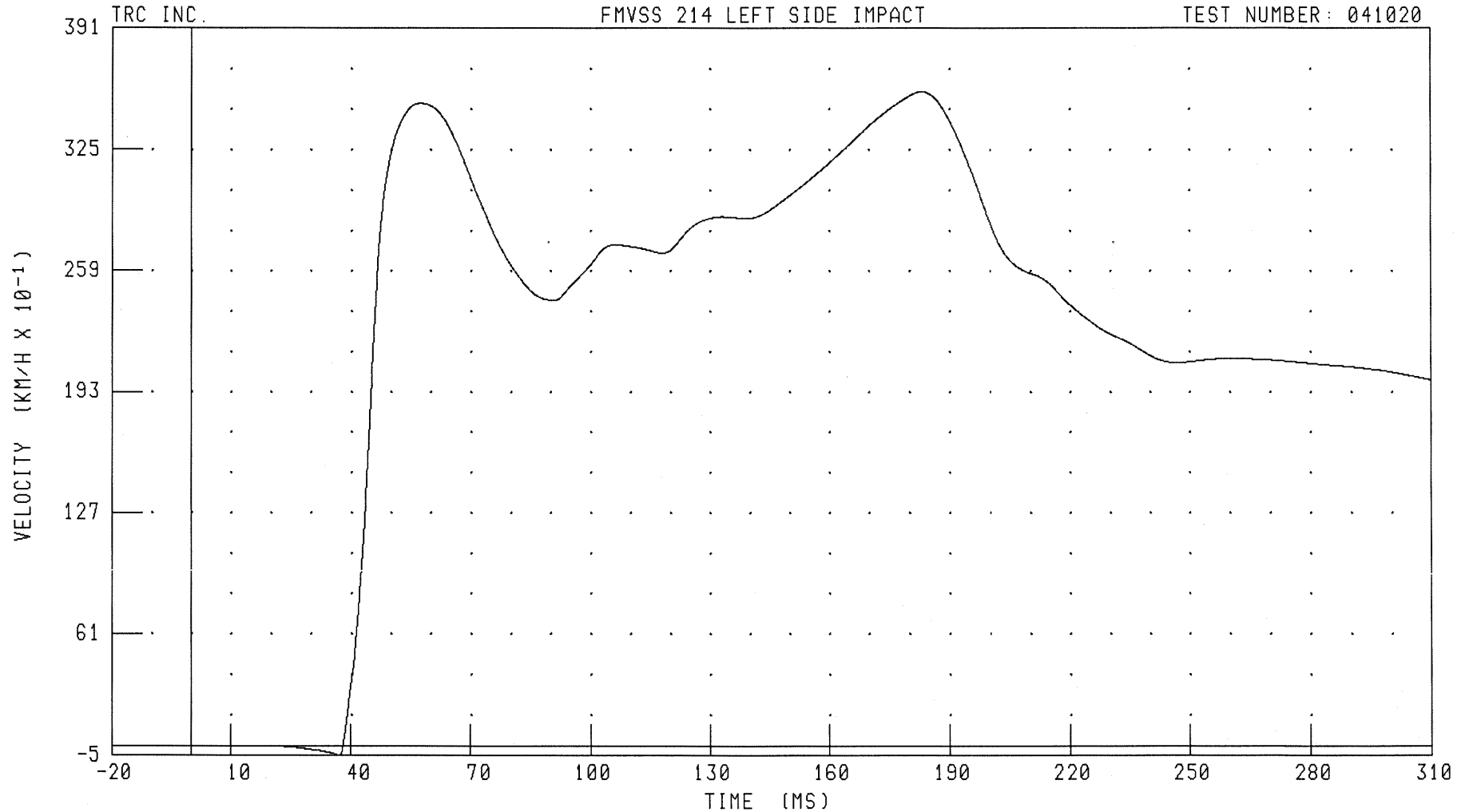
B-34

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYV4 FILTER: CH. CLASS 180

PEAK DATA: 35.65 KM/H @ 183.20 MS; -0.54 KM/H @ 36.96 MS

B-35

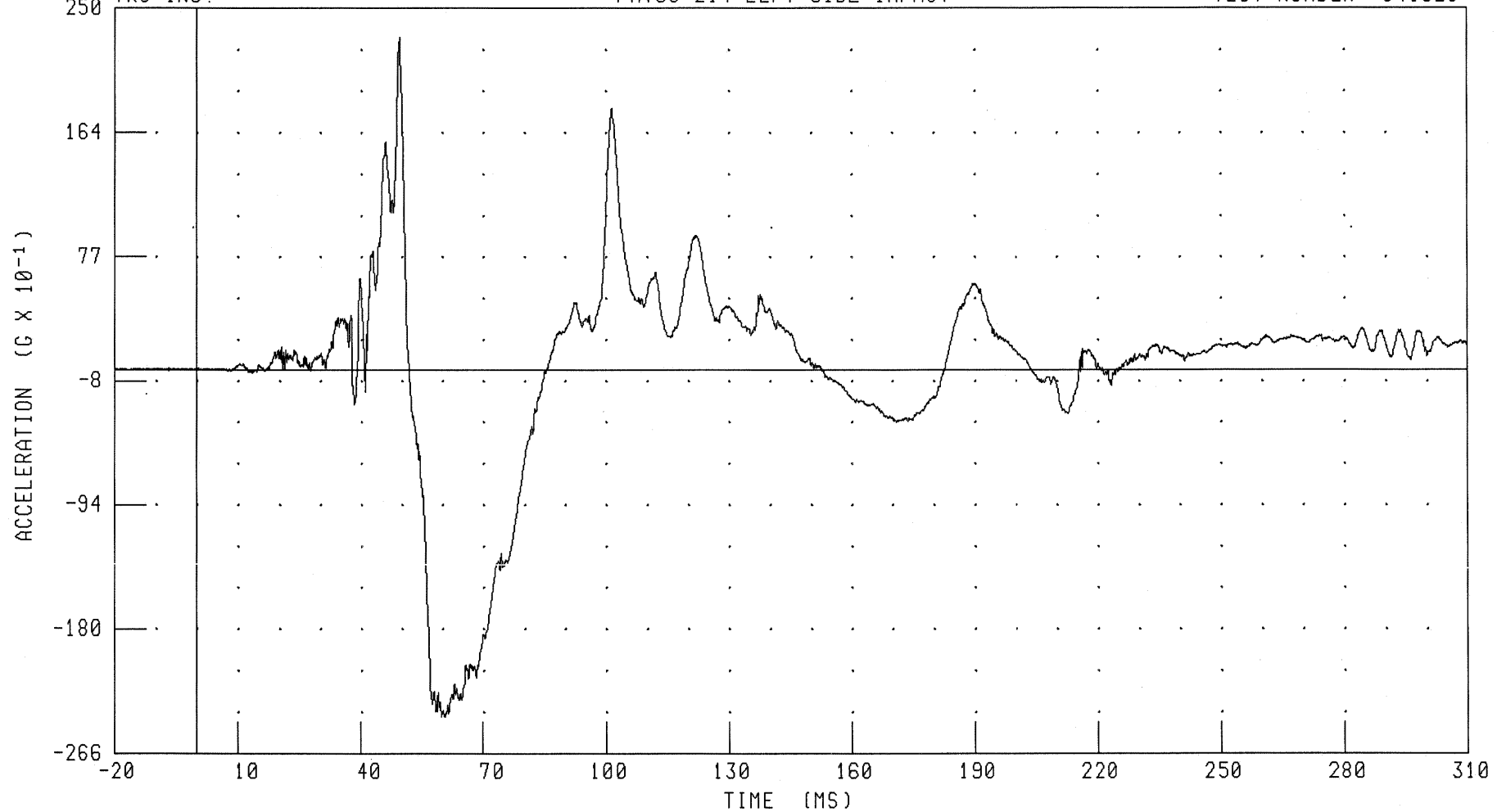
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZG4

FILTER: CH. CLASS 1000

PEAK DATA: 22.98 G @ 49.52 MS; -24.09 G @ 59.76 MS

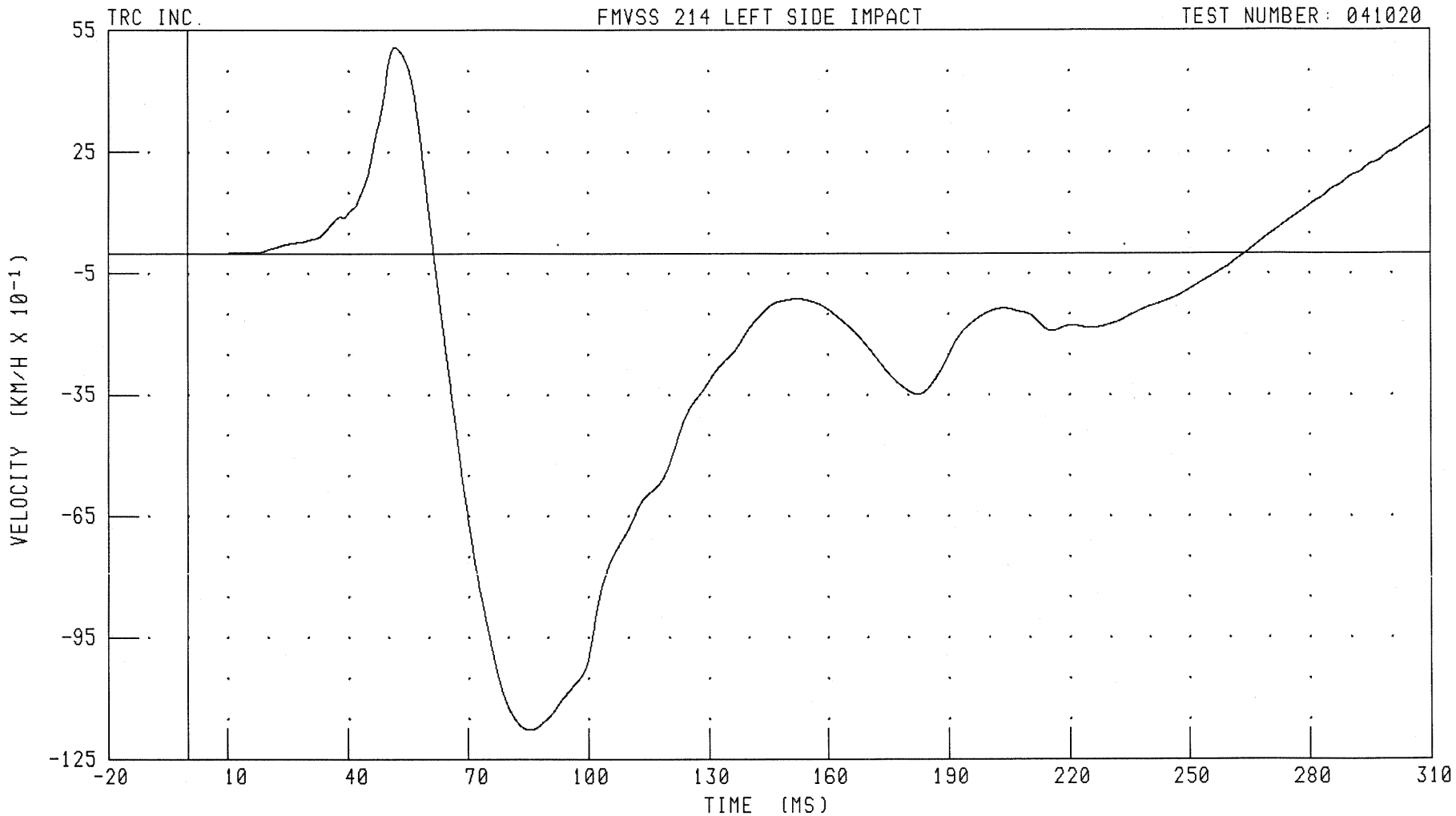
B-36

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZV4 FILTER: CH. CLASS 180

PEAK DATA: 5.07 KM/H @ 51.76 MS; -11.77 KM/H @ 85.52 MS

B-37

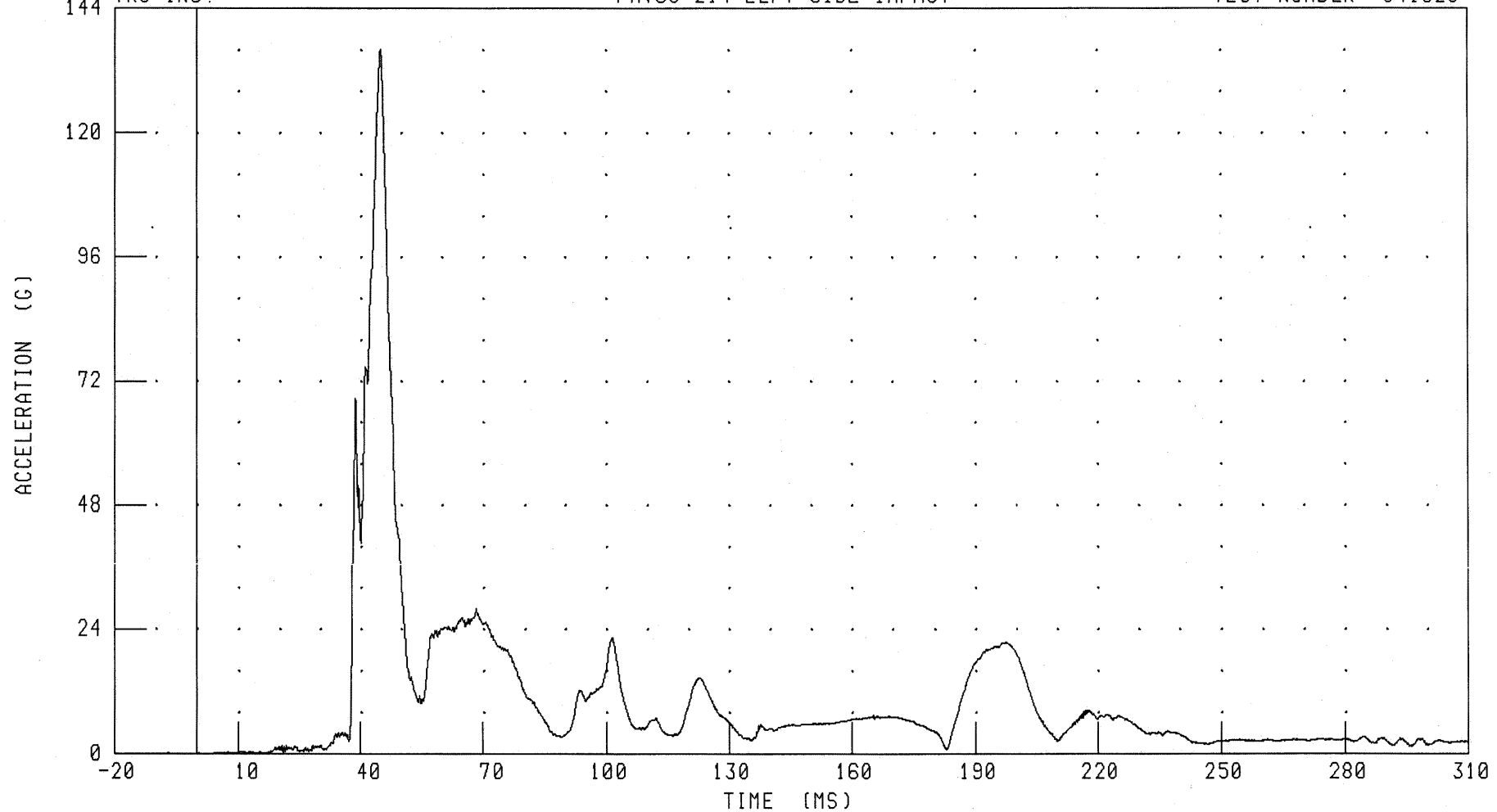
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDRG4

FILTER: CH. CLASS 1000

PEAK DATA: 136.15 G @ 44.88 MS; 0.01 G @ -20.00 MS

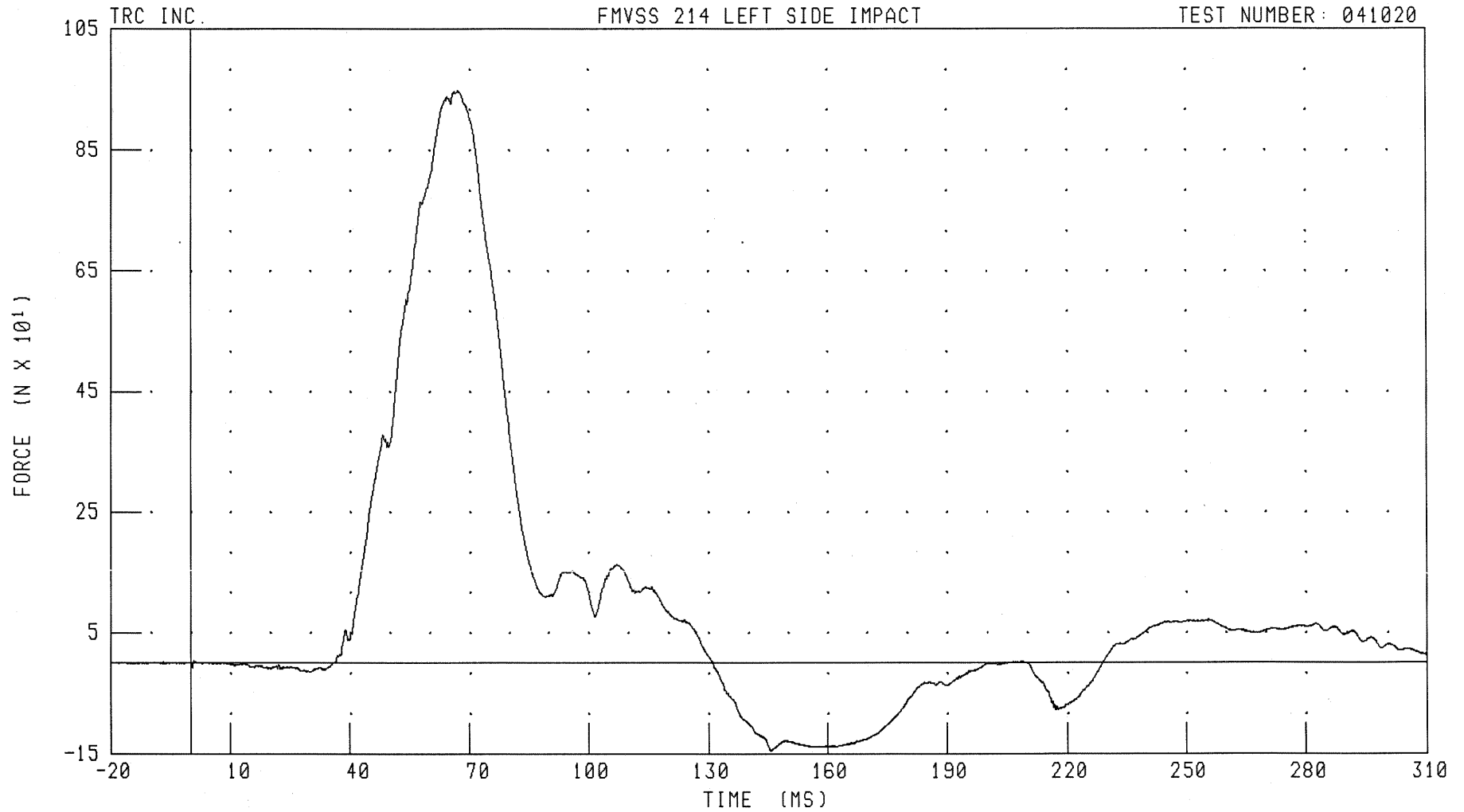
B-38

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKXF4 FILTER: CH. CLASS 1000

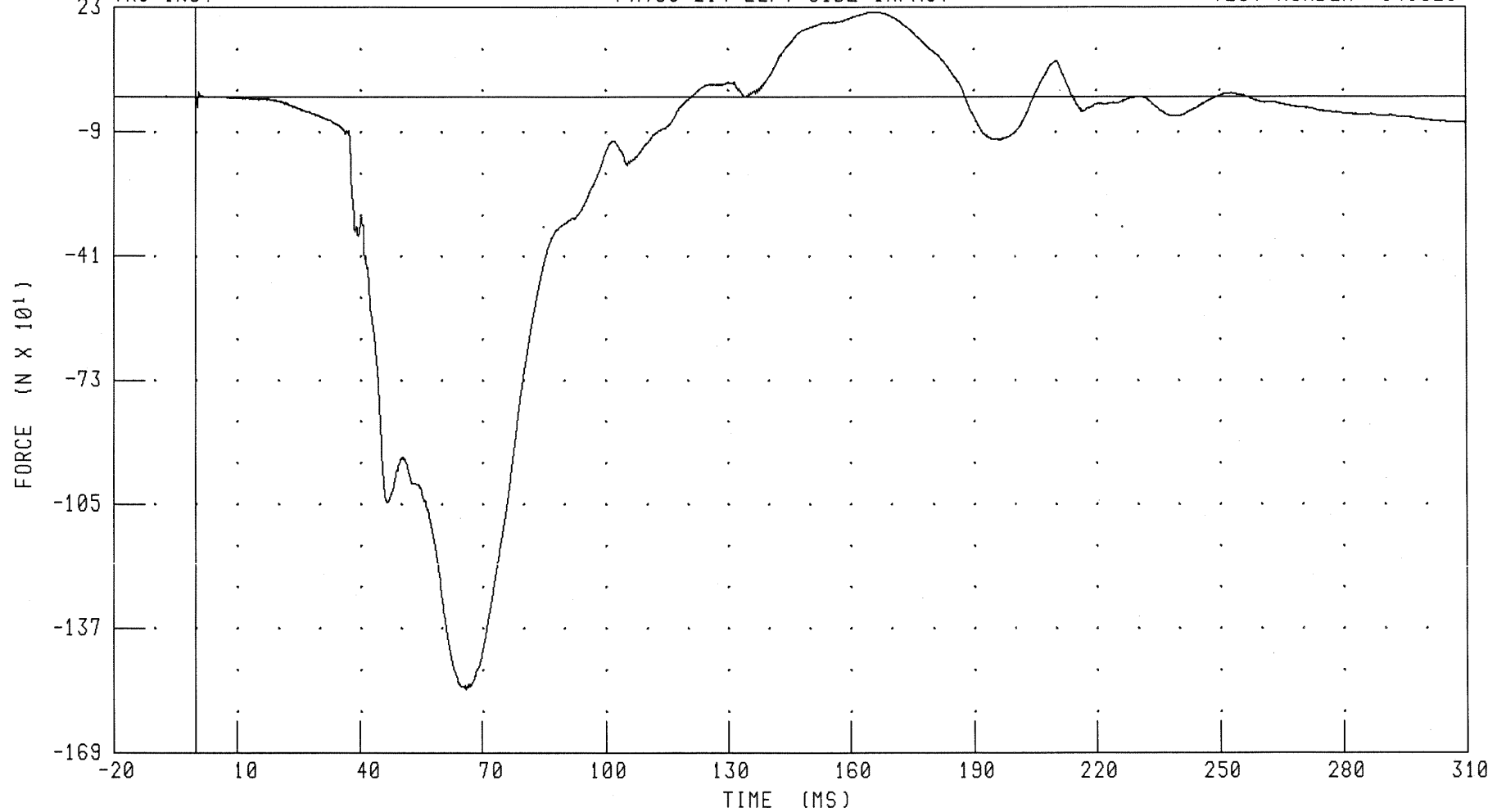
PEAK DATA: 948.03 N @ 67.12 MS; -144.68 N @ 145.68 MS

B-39

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: NEKYF4 FILTER: CH. CLASS 1000 PEAK DATA: 217.28 N @ 164.72 MS; -152.75 N @ 66.00 MS

B-40

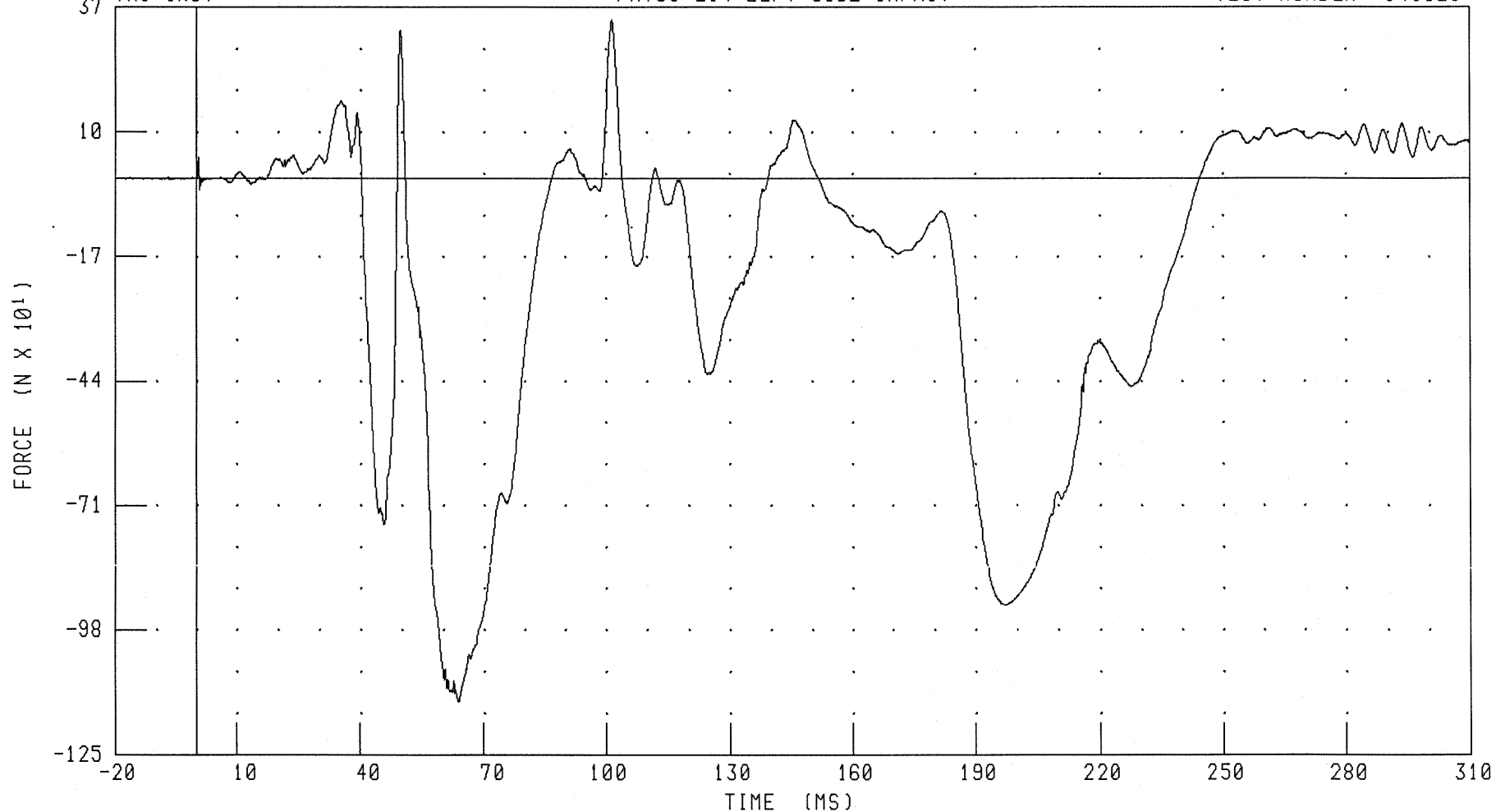
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKZF4 FILTER: CH. CLASS 1000

PEAK DATA: 342.80 N @ 101.68 MS; -1136.13 N @ 63.76 MS

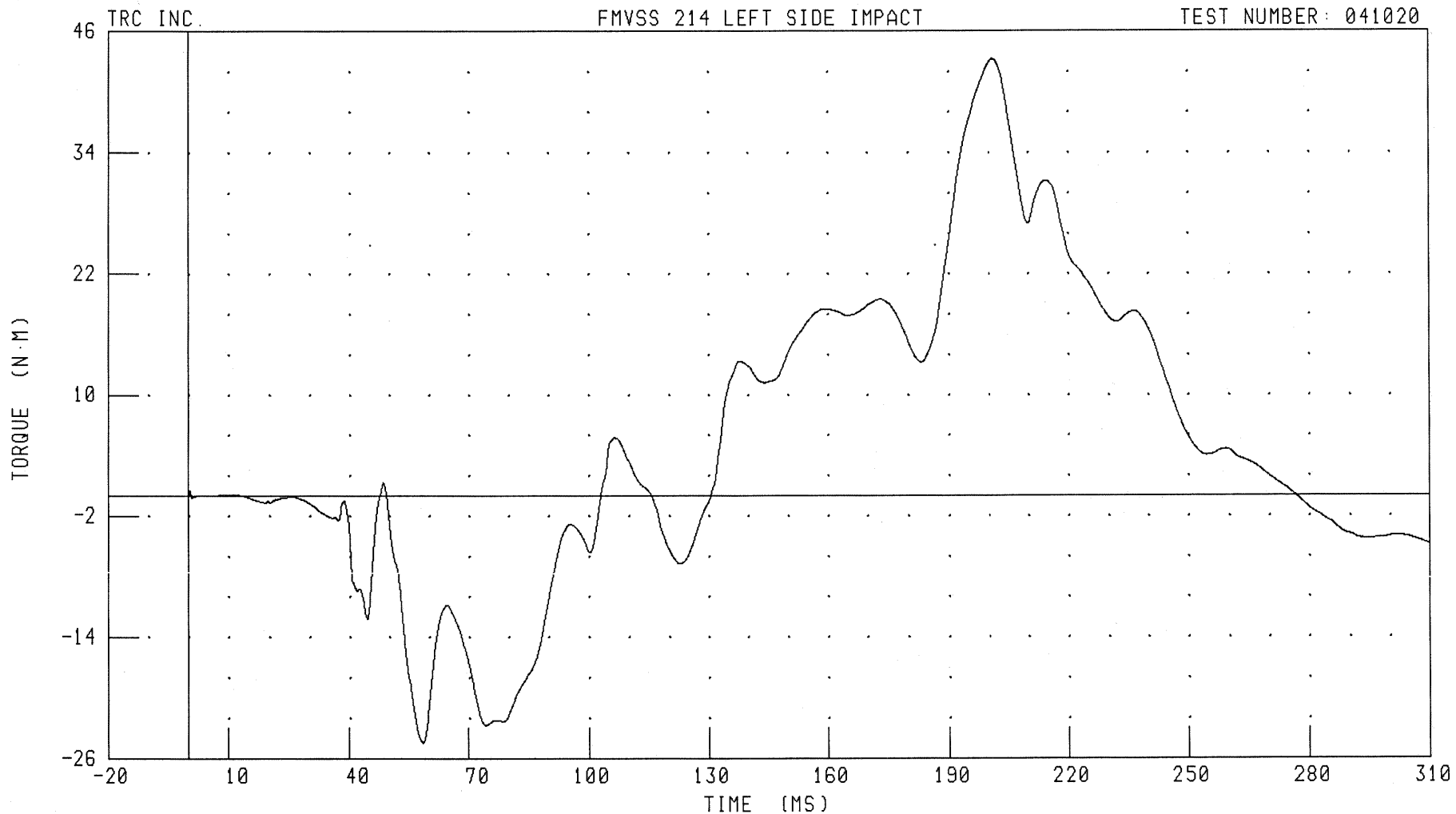
B-41

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKXM4

FILTER: CH. CLASS 600

PEAK DATA: 43.23 N·M @ 201.12 MS; -24.46 N·M @ 58.48 MS

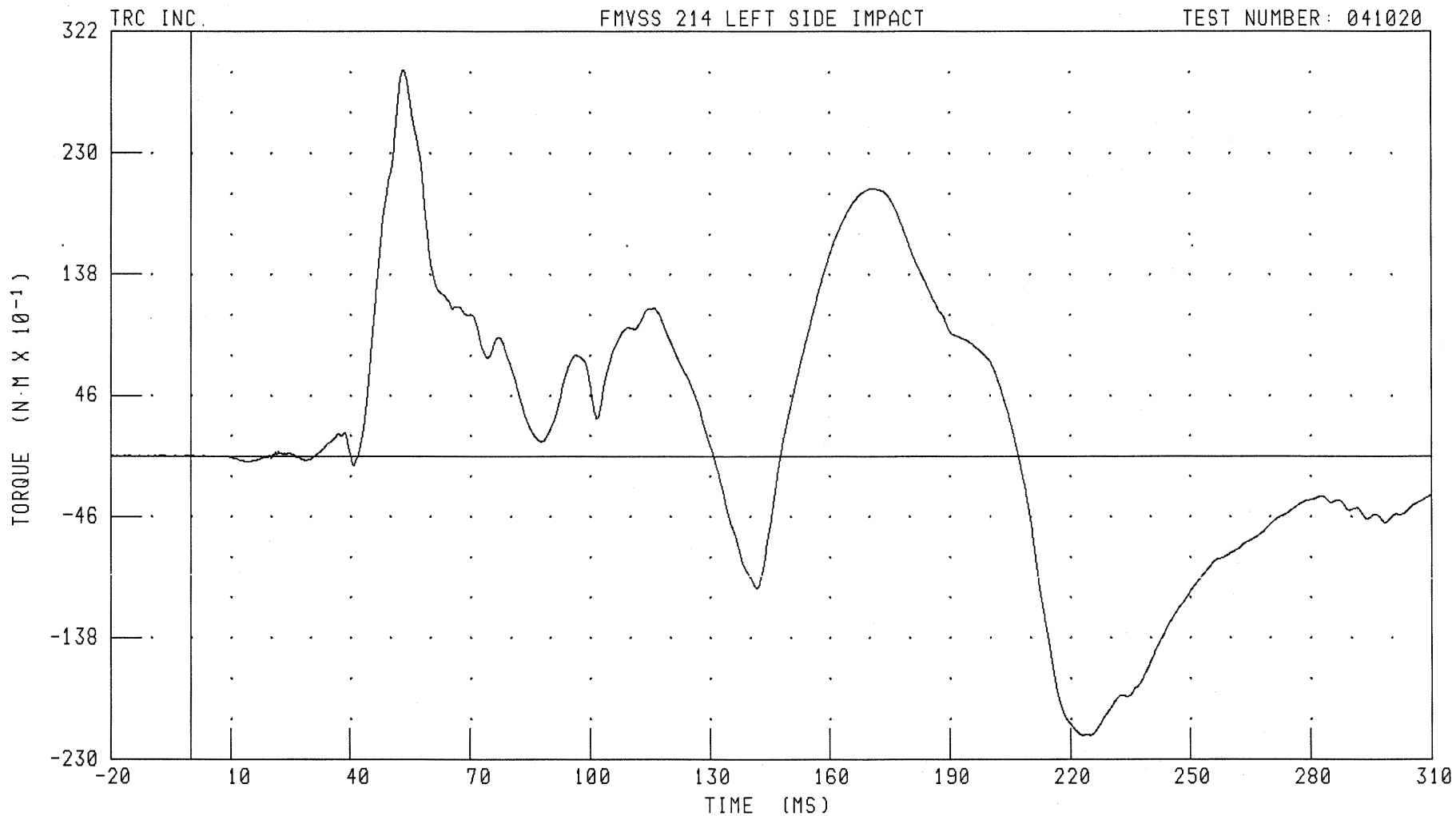
B-42

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT REAR PASSENGER NECK MOMENT ABOUT Y AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKYM4

FILTER: CH. CLASS 600

PEAK DATA: 29.26 N·M @ 53.44 MS; -21.19 N·M @ 223.12 MS

B-43

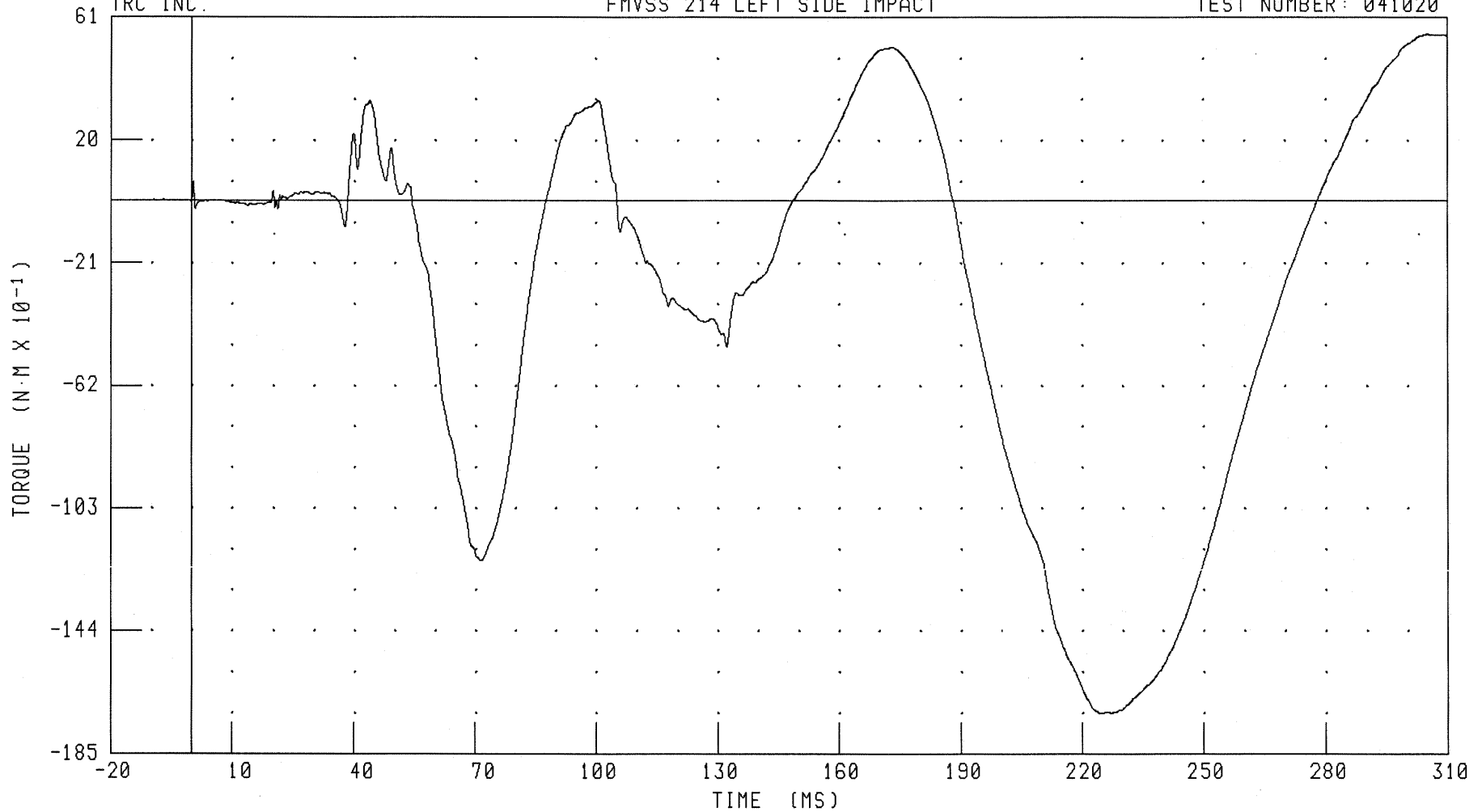
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NEKZM4

FILTER: CH. CLASS 600

PEAK DATA: 5.55 N·M @ 305.04 MS; -17.17 N·M @ 224.72 MS

B-44

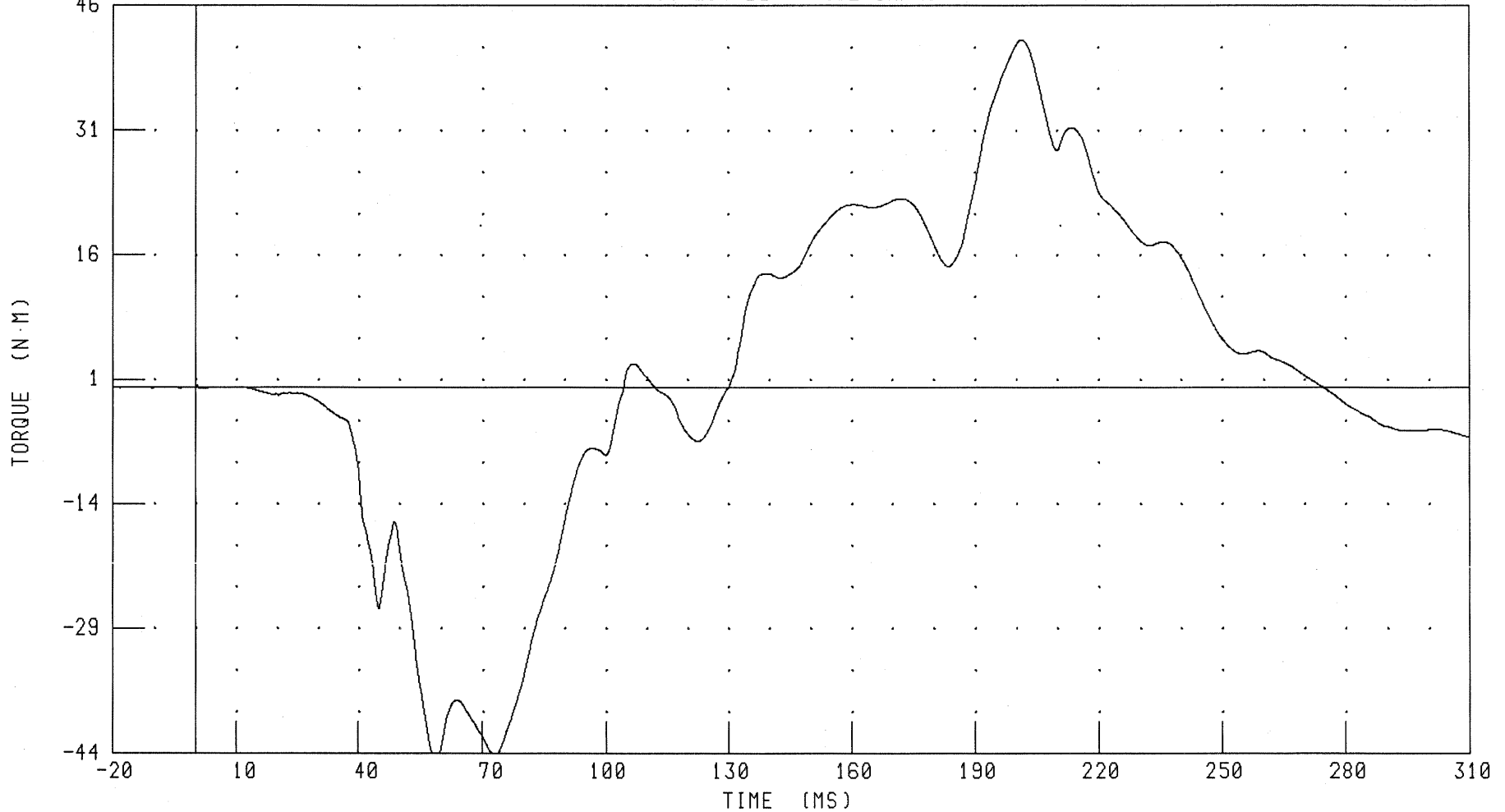
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: NK0XM4 FILTER: CH. CLASS 600

PEAK DATA: 41.89 N·M @ 201.60 MS; -45.30 N·M @ 58.88 MS

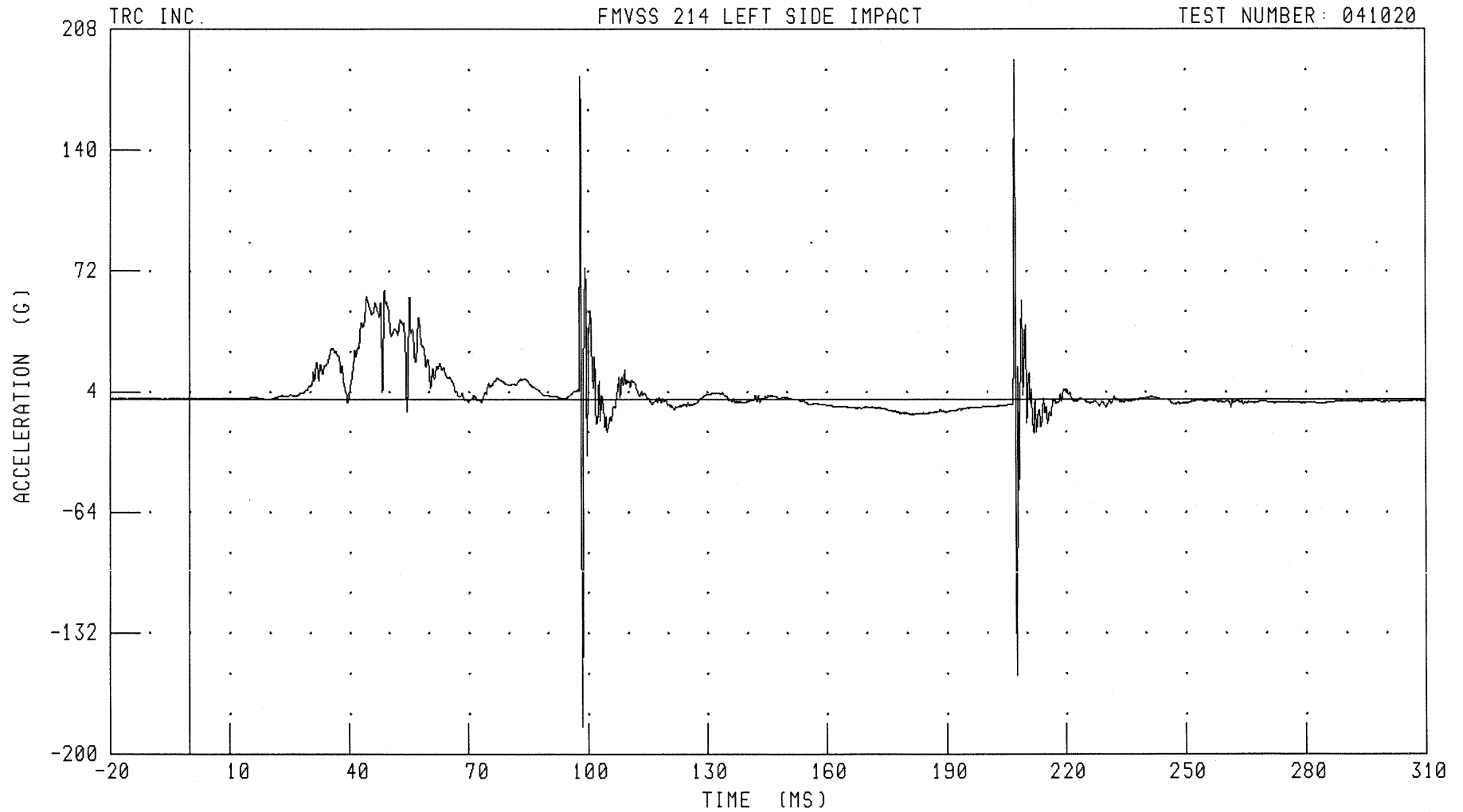
B-45

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYG4 FILTER: CH. CLASS 1000

PEAK DATA: 190.89 G @ 207.04 MS; -184.69 G @ 98.56 MS

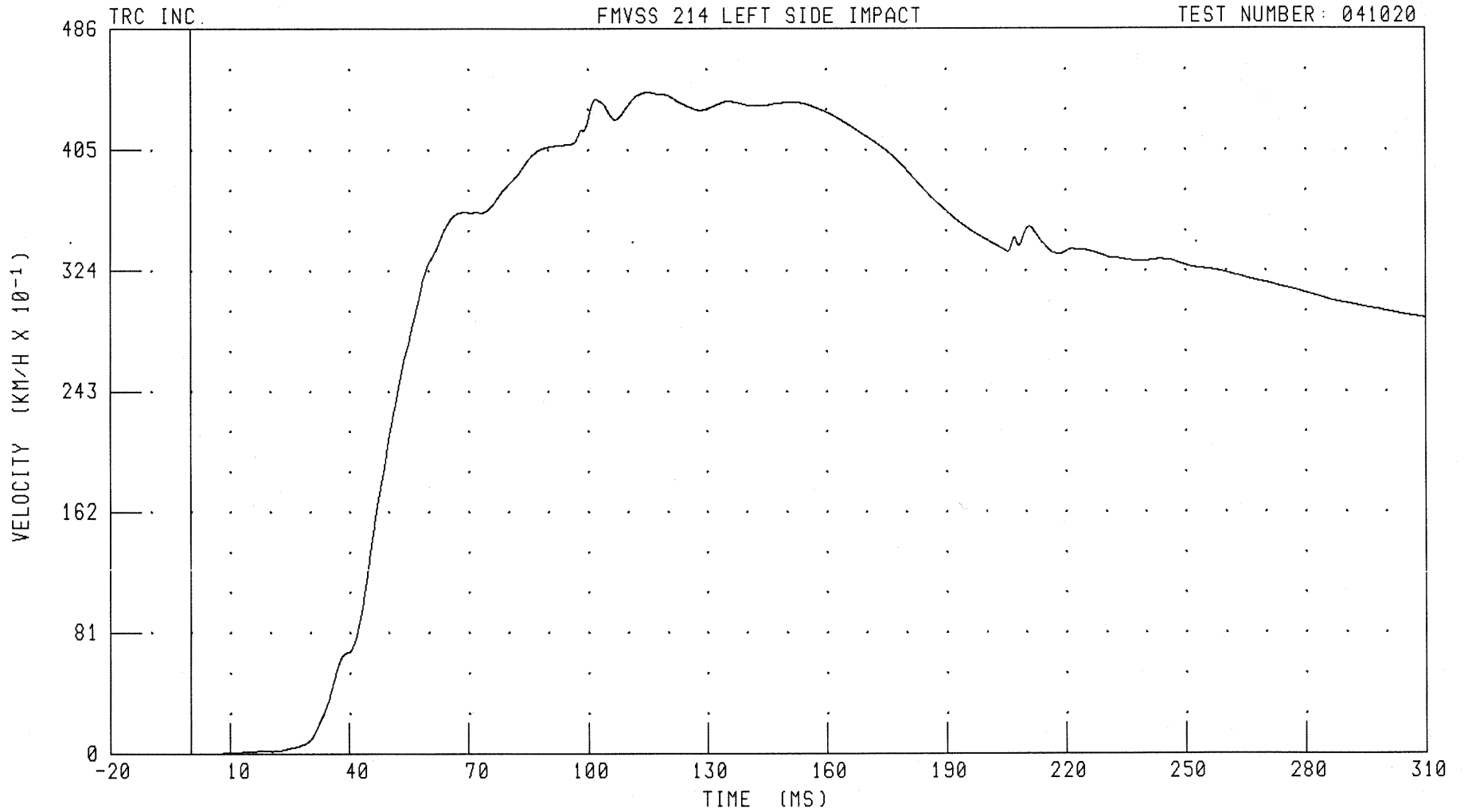
B-46

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYV4

FILTER: CH. CLASS 180

PEAK DATA: 44.36 KM/H @ 115.28 MS; 0.00 KM/H @ 0.00 MS

B-47

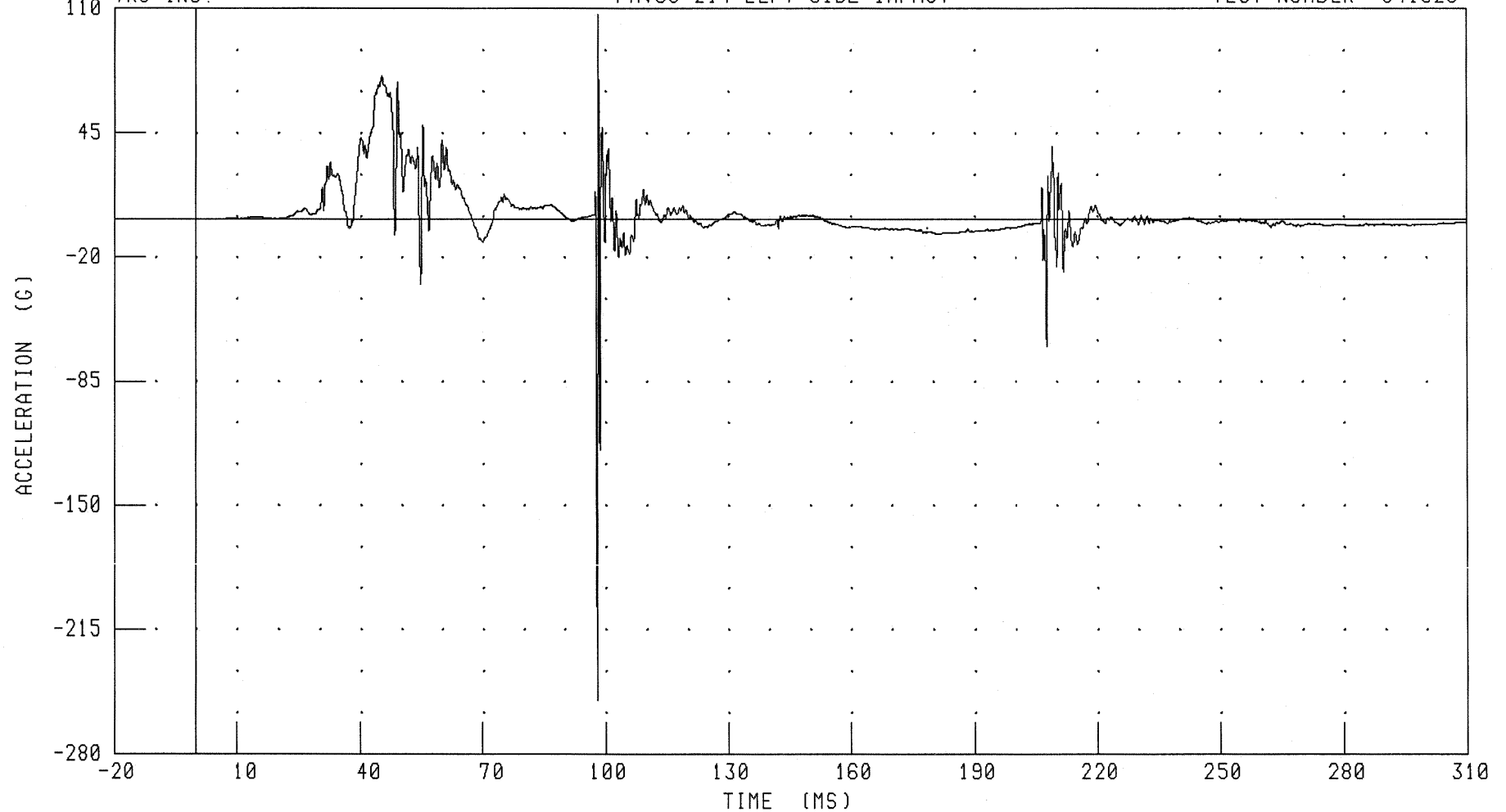
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYG4 FILTER: CH. CLASS 1000

PEAK DATA: 106.79 G @ 98.40 MS; -252.19 G @ 98.08 MS

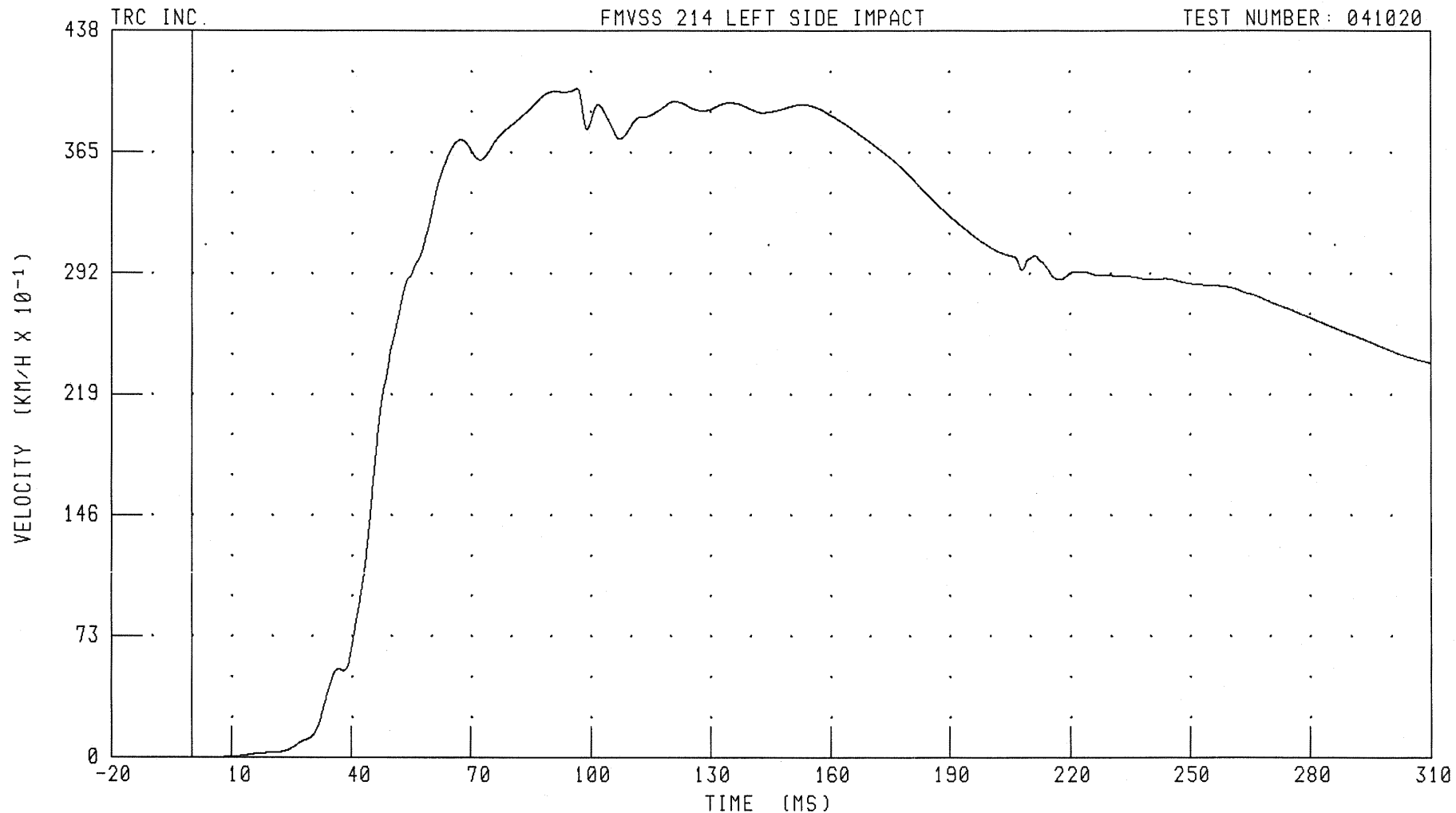
B-48

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYV4

FILTER: CH. CLASS 180

PEAK DATA: 40.33 KM/H @ 96.72 MS; 0.00 KM/H @ 0.00 MS

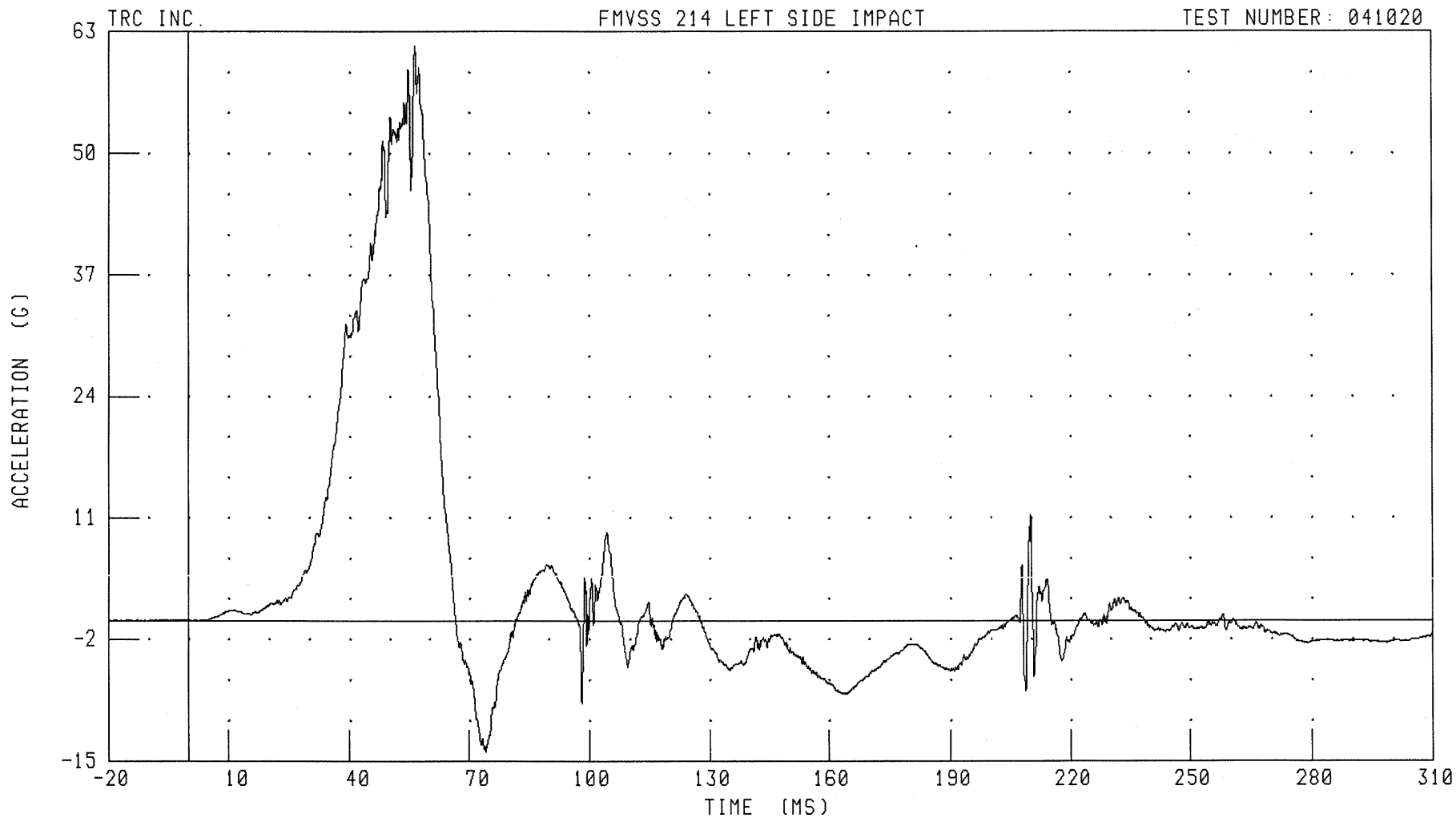
B-49

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YG4 FILTER: CH. CLASS 1000

PEAK DATA: 61.47 G @ 56.40 MS; -14.06 G @ 74.16 MS

B-50

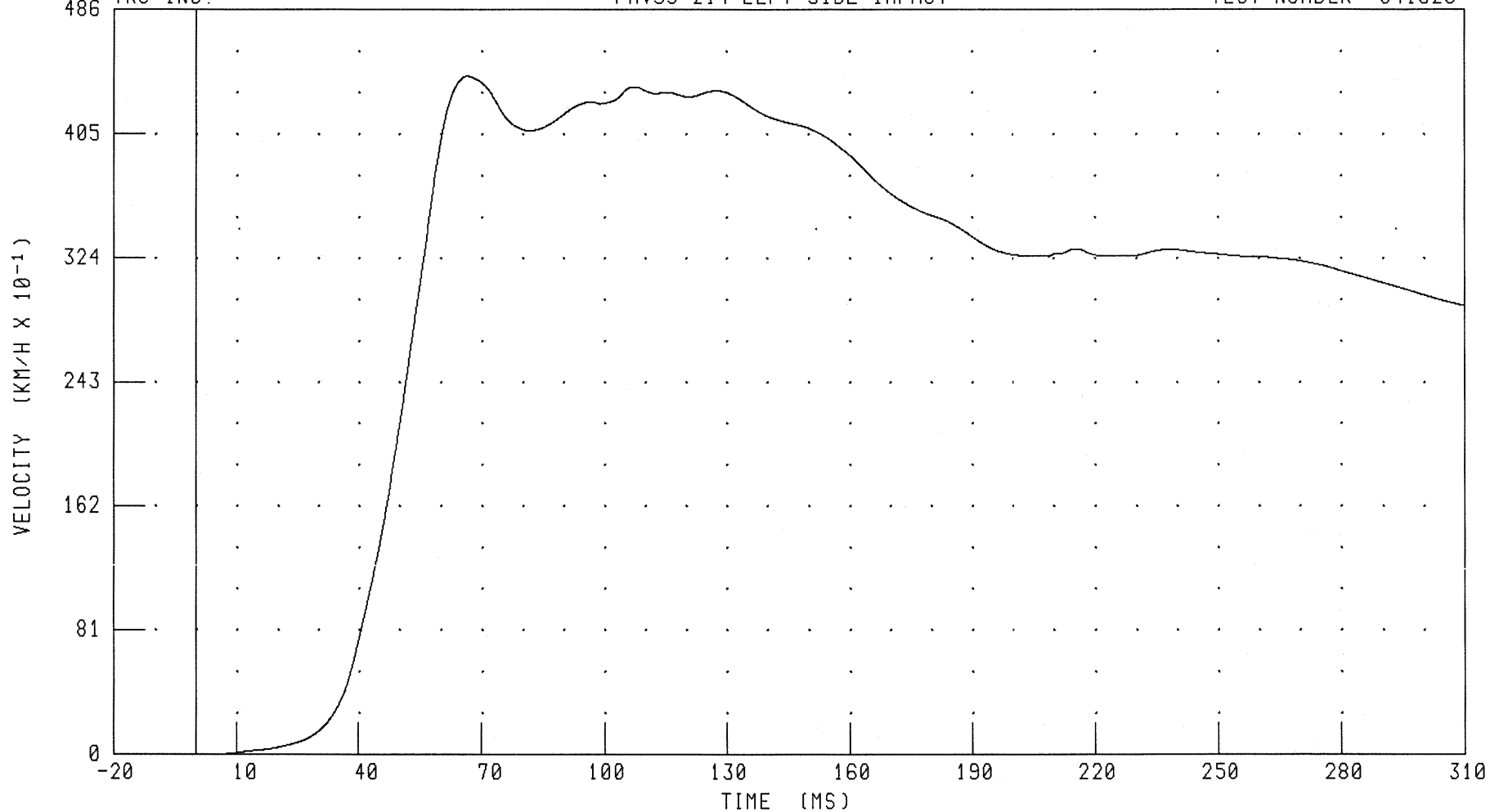
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YV4

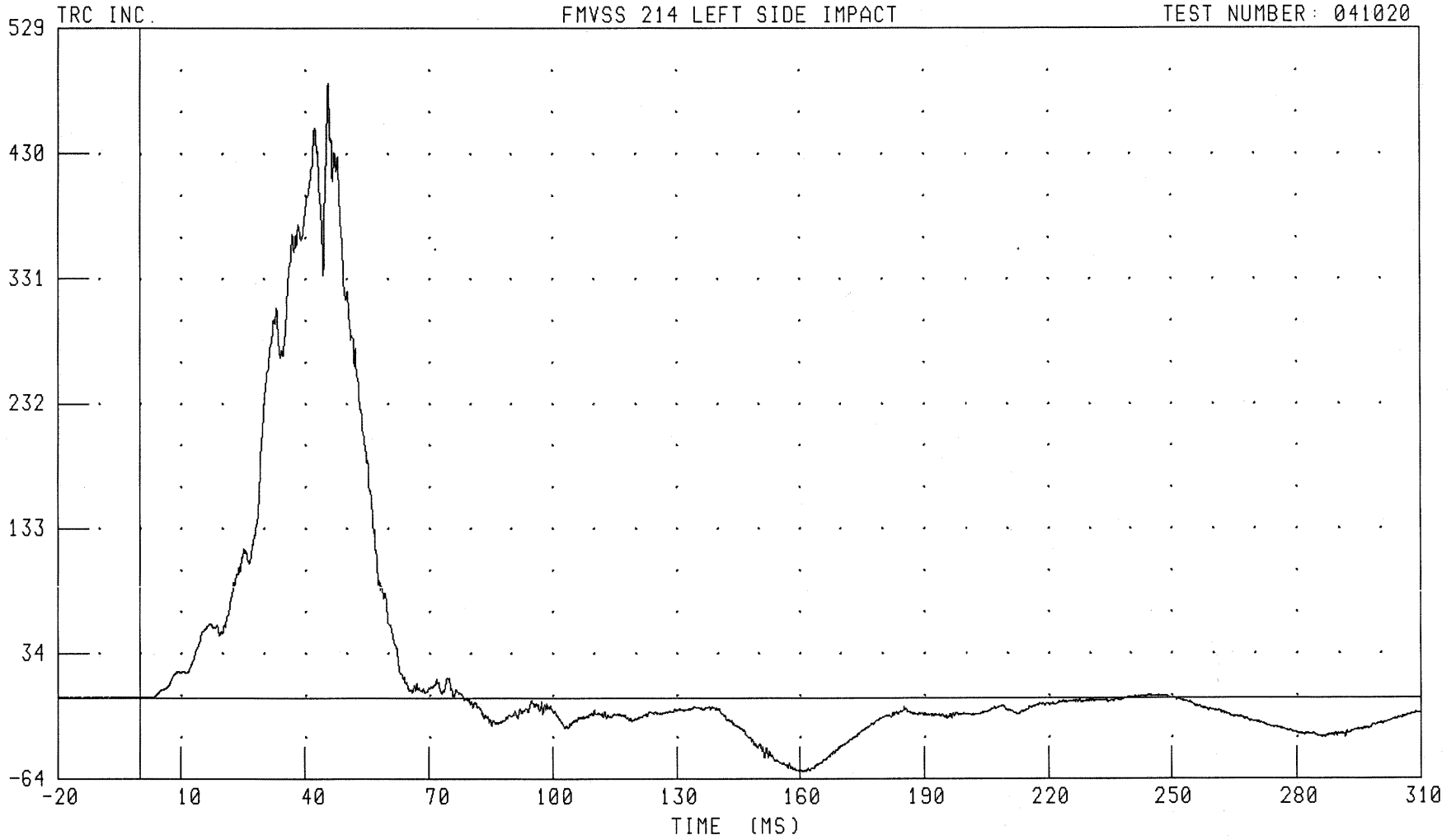
FILTER: CH. CLASS 180

PEAK DATA: 44.27 KM/H @ 66.64 MS; 0.00 KM/H @ 0.00 MS

B-51

041020-1

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



CHANNEL: PEVYG4 FILTER: CH. CLASS 1000

PEAK DATA: 48.65 G @ 45.68 MS; -5.82 G @ 159.92 MS

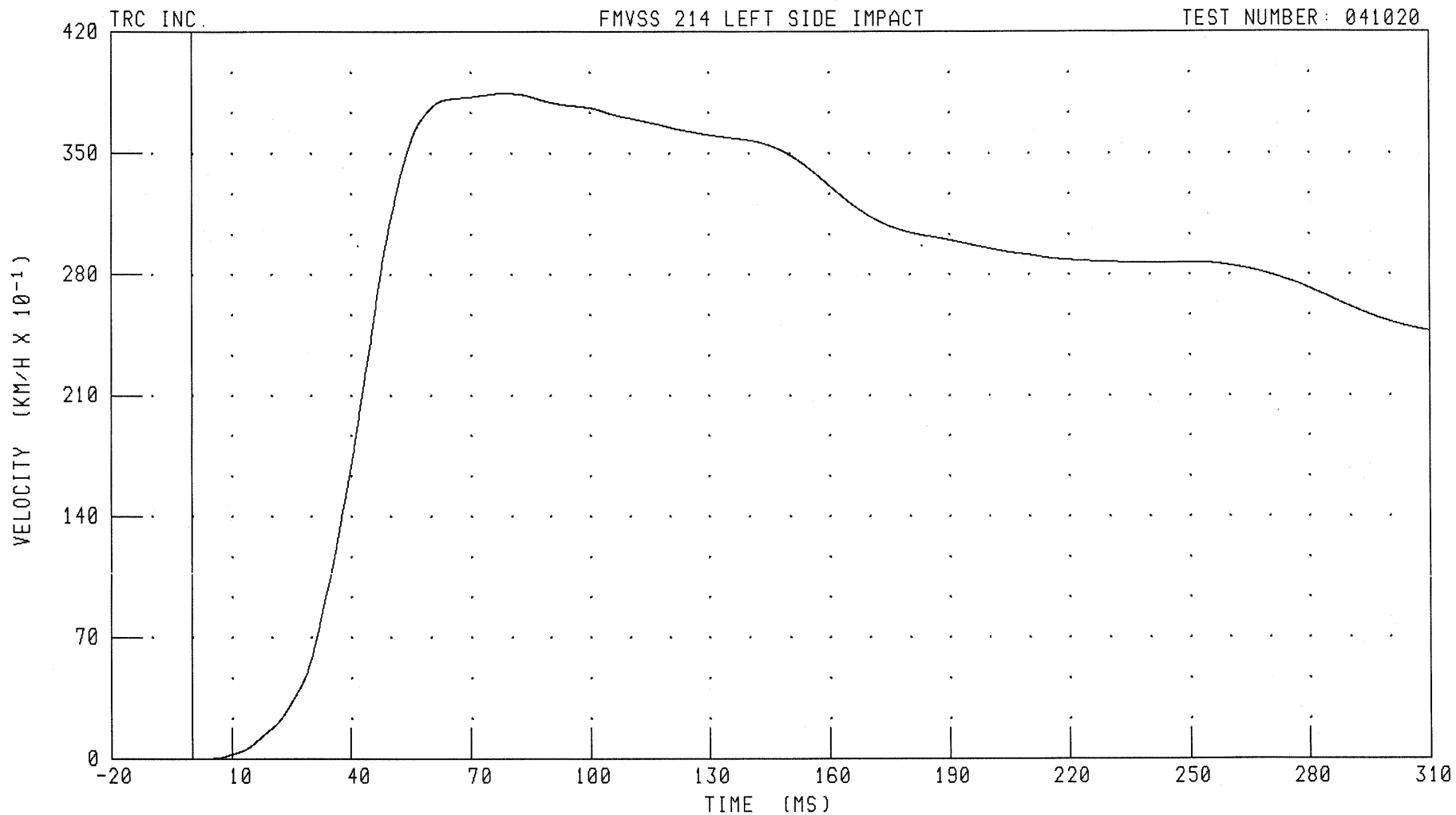
B-52

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYV4 FILTER: CH. CLASS 180

PEAK DATA: 38.45 KM/H @ 78.48 MS; 0.00 KM/H @ 0.00 MS

B-53

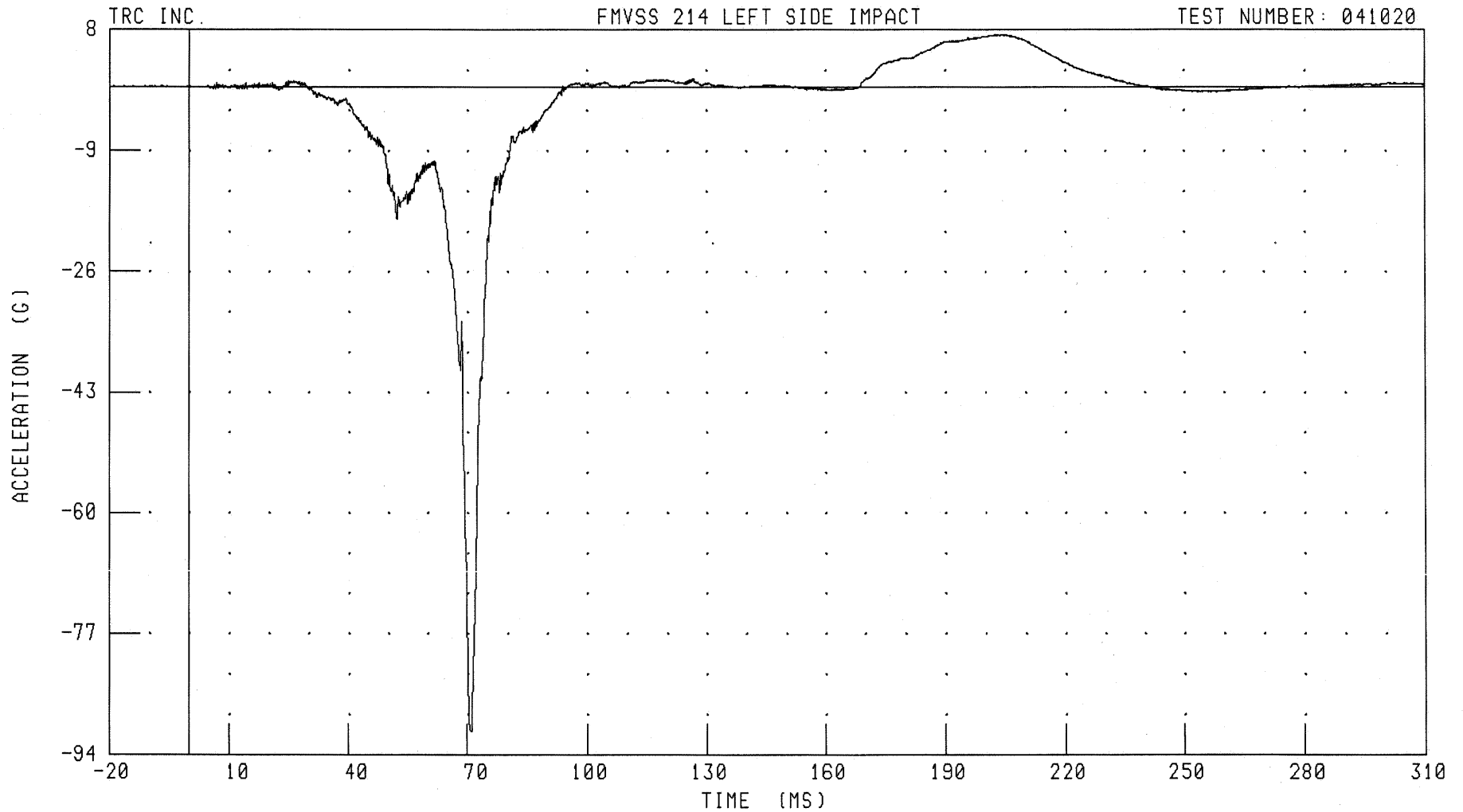
041020-1

Driver and Passenger Dummy Redundant Instrumentation Plots

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDXR1

FILTER: CH. CLASS 1000

PEAK DATA: 7.33 G @ 203.52 MS; -90.71 G @ 70.88 MS

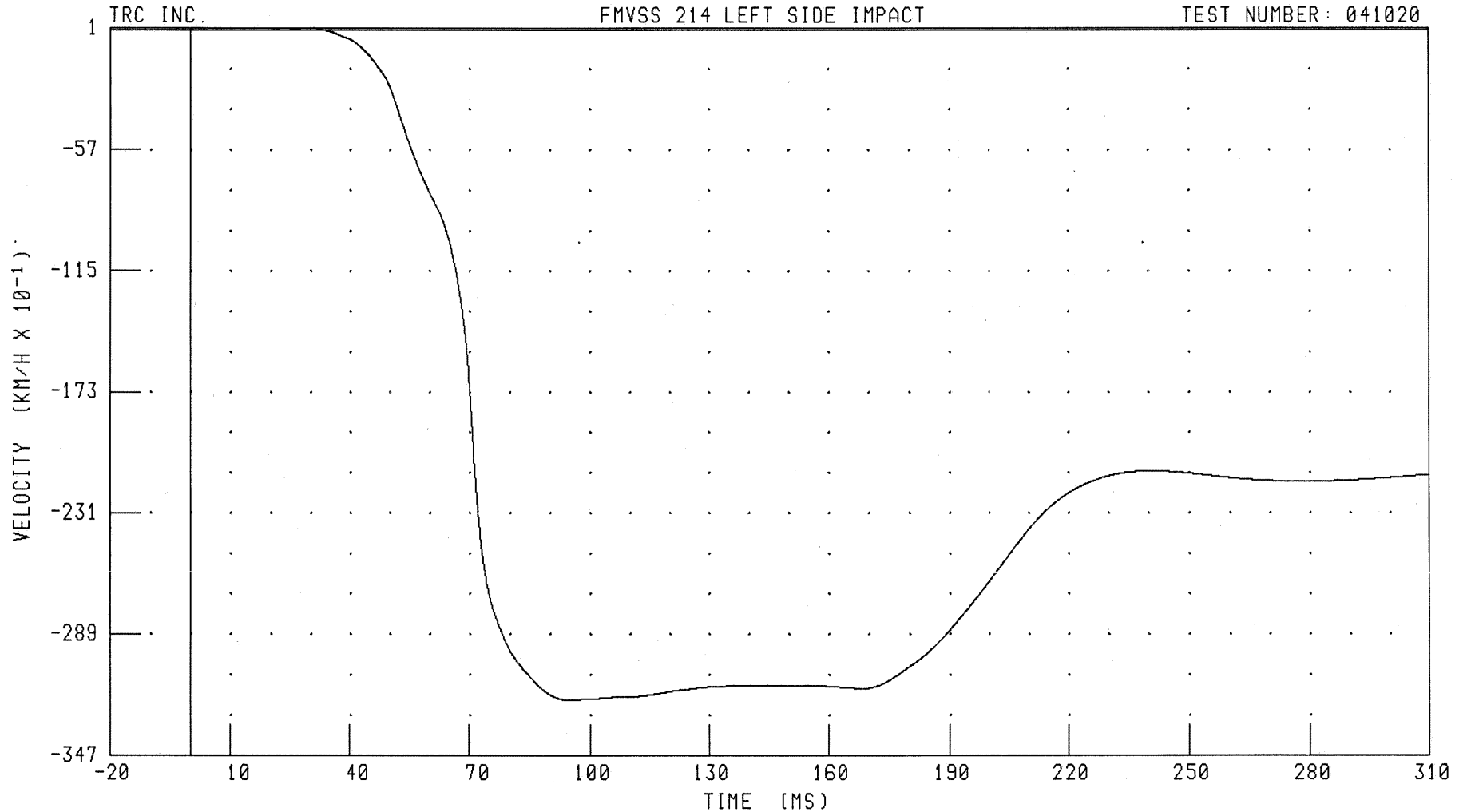
B-55

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDXVI FILTER: CH. CLASS 180

PEAK DATA: 0.12 KM/H @ 29.68 MS; -32.06 KM/H @ 95.12 MS

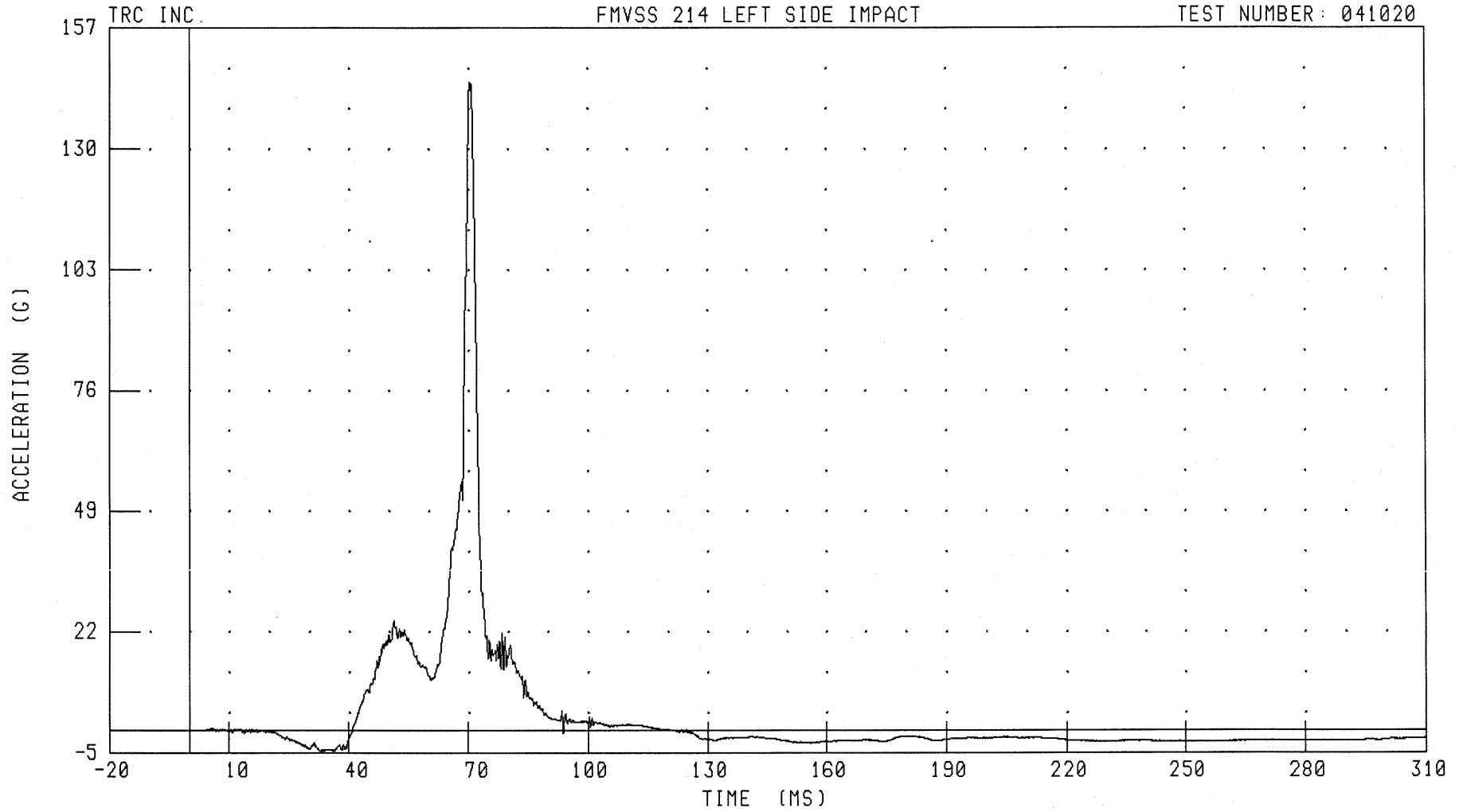
B-56

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYR1 FILTER: CH. CLASS 1000

PEAK DATA: 145.03 G @ 70.40 MS; -4.62 G @ 32.64 MS

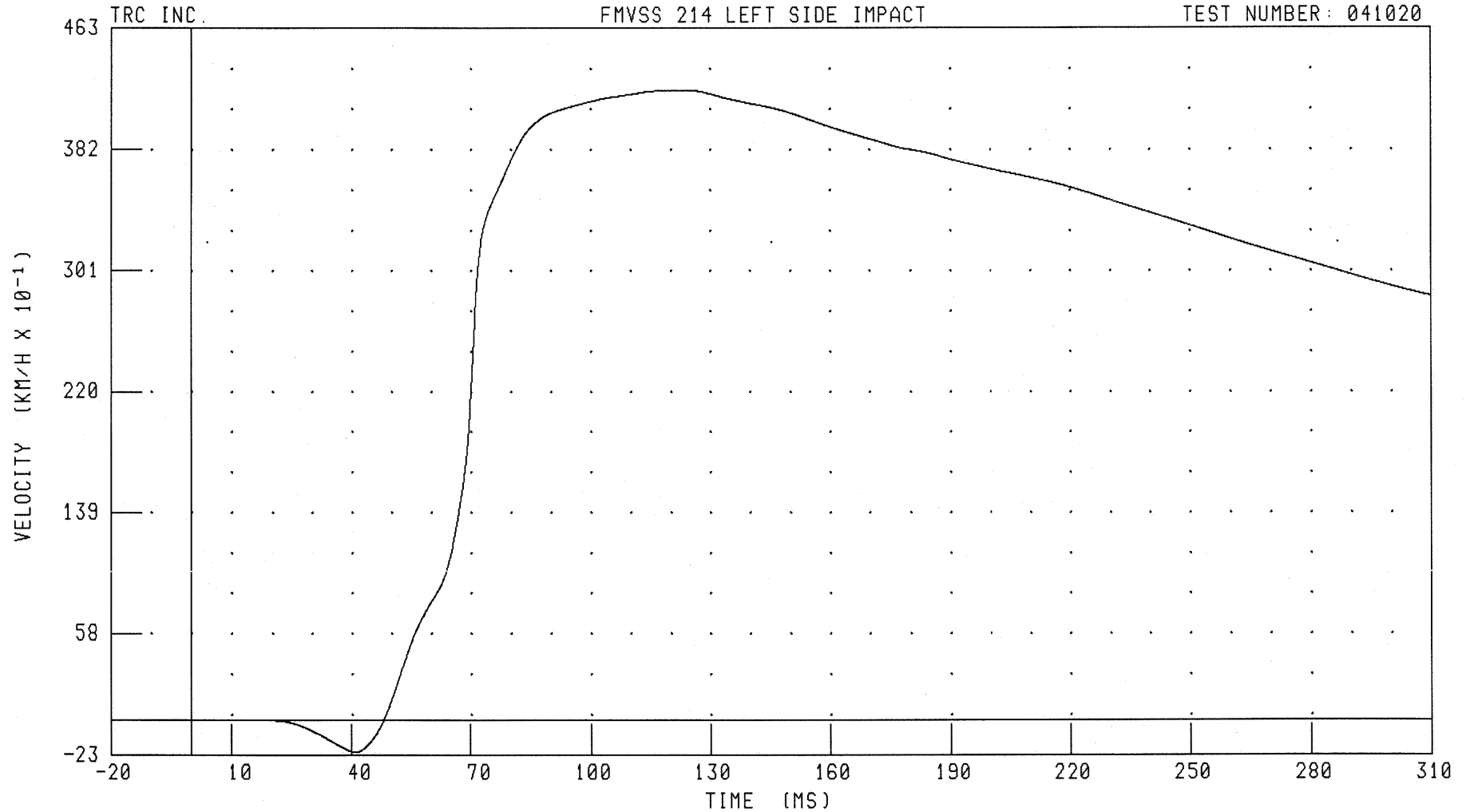
B-57

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
DRIVER HEAD Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYVI FILTER: CH. CLASS 180

PEAK DATA: 42.15 KM/H @ 121.44 MS; -2.11 KM/H @ 40.80 MS

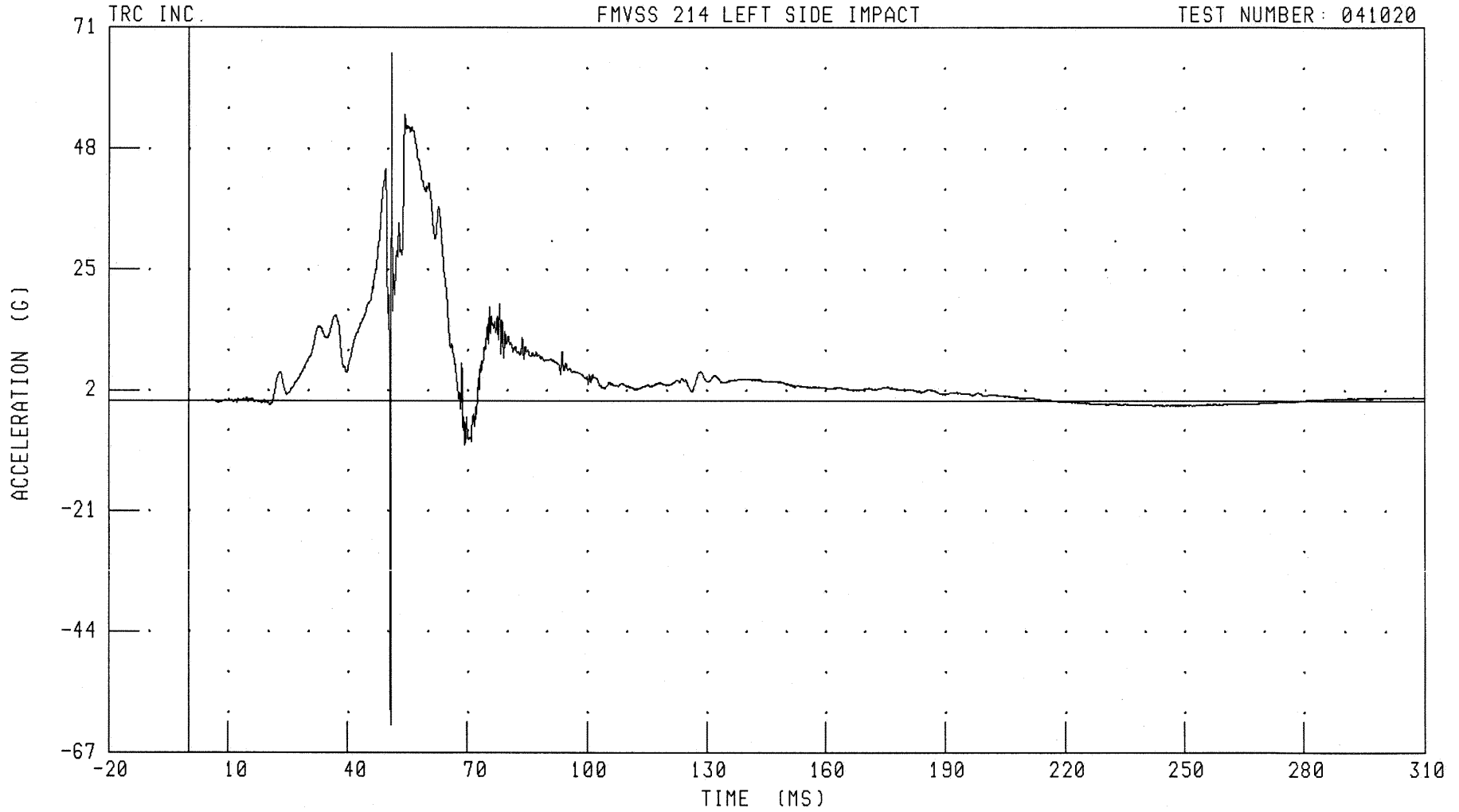
B-58

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZR1 FILTER: CH. CLASS 1000

PEAK DATA: 66.26 G @ 51.04 MS; -61.76 G @ 50.72 MS

B-59

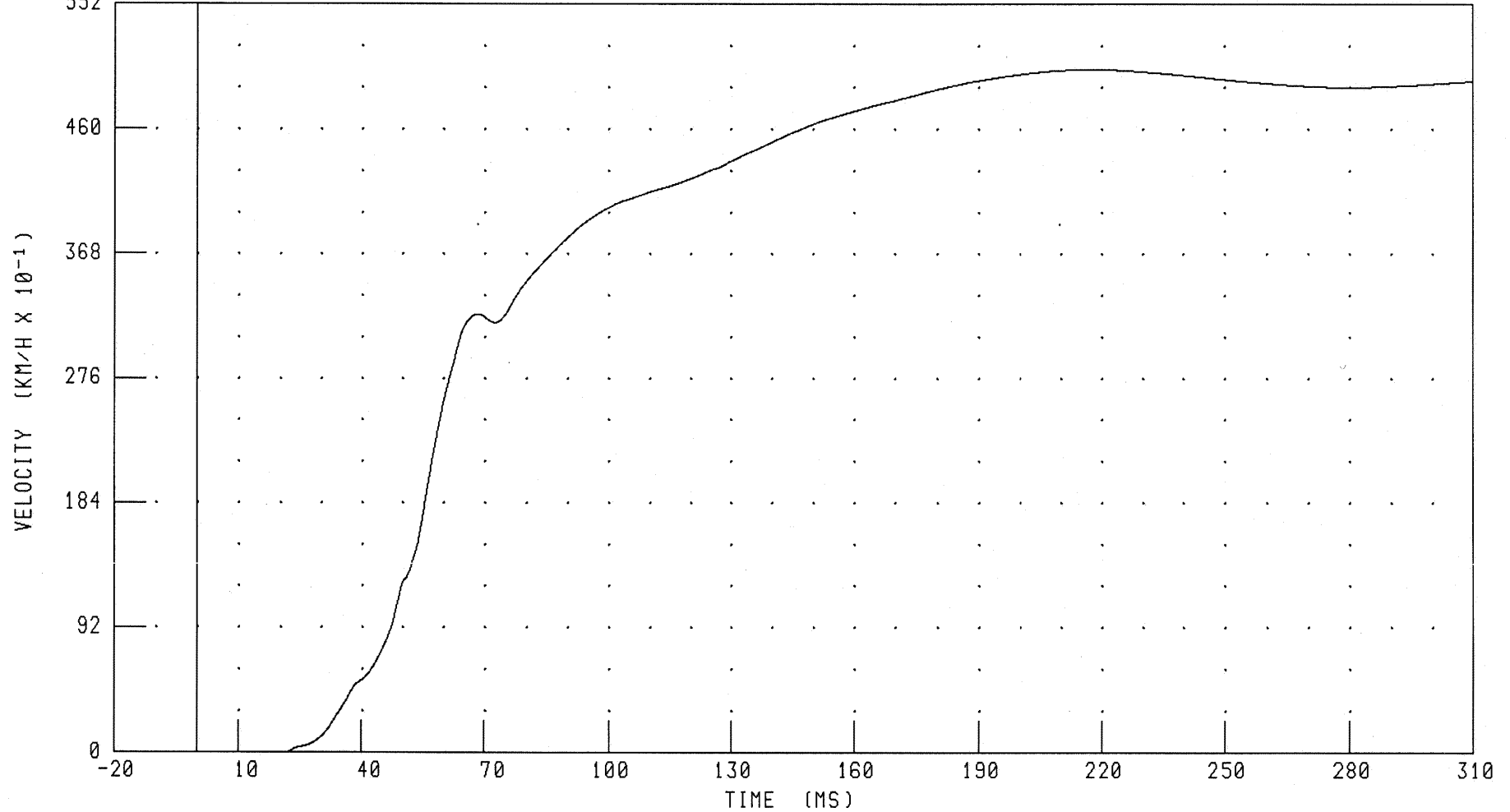
041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
DRIVER HEAD Z-AXIS REDUNDANT VELOCITY

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZVI

FILTER: CH. CLASS 180

PEAK DATA: 50.40 KM/H @ 216.88 MS; -0.03 KM/H @ 21.04 MS

B-60

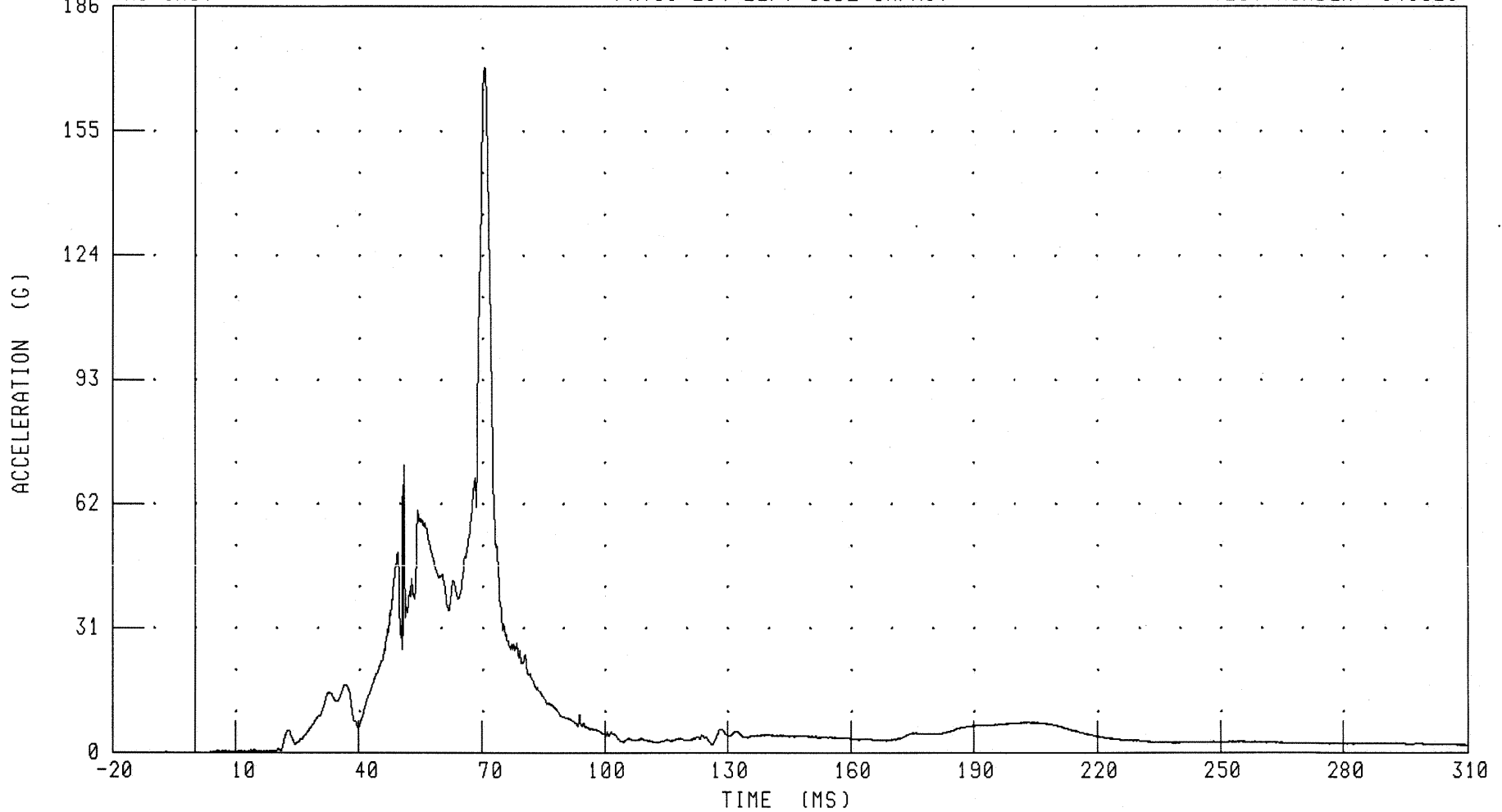
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDRR1 FILTER: CH. CLASS 1000

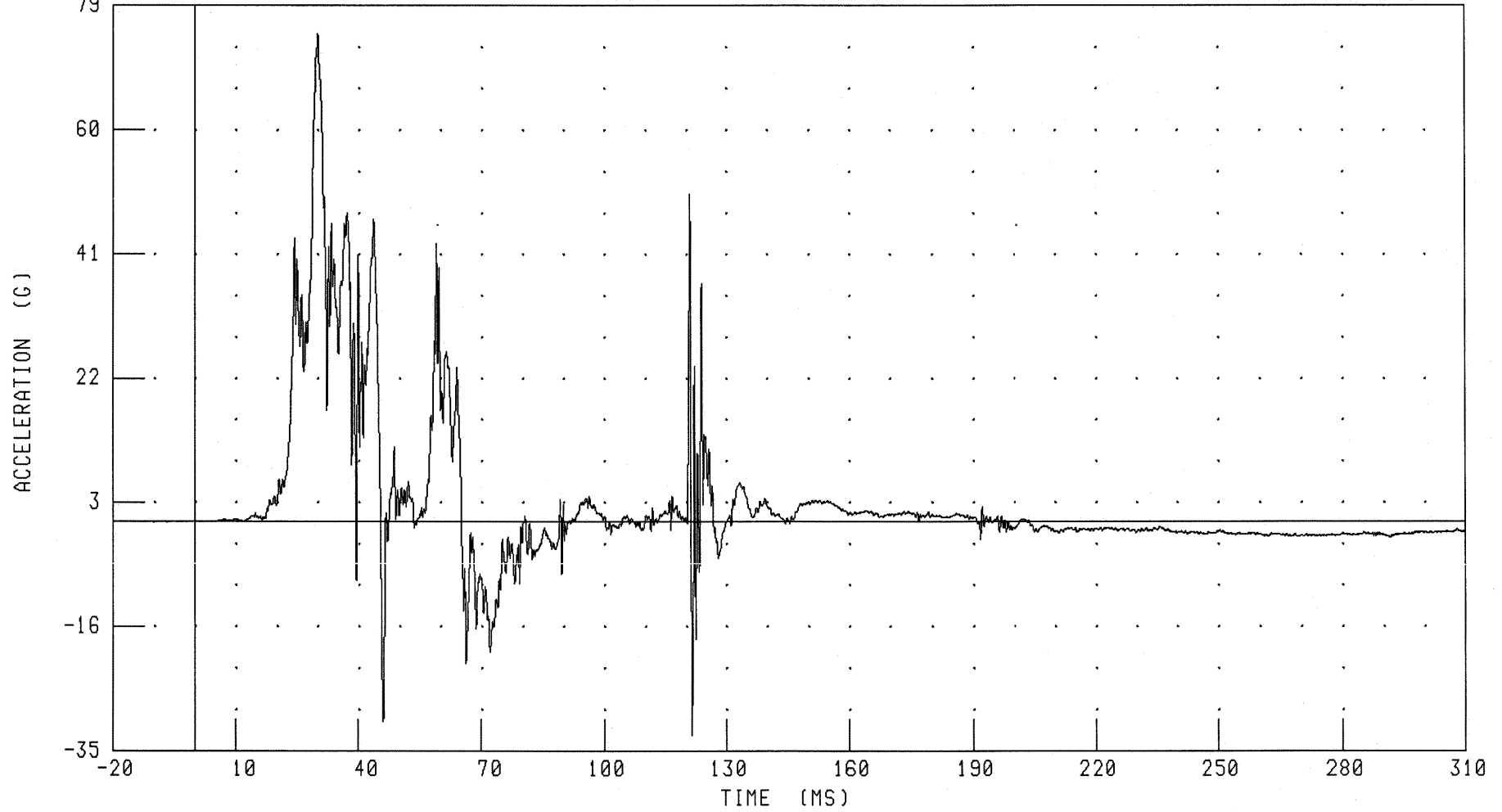
PEAK DATA: 170.87 G @ 70.72 MS; 0.01 G @ -19.84 MS

B-61

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: LURYR1 FILTER: CH. CLASS 1000

PEAK DATA: 74.62 G @ 30.08 MS; -32.59 G @ 121.44 MS

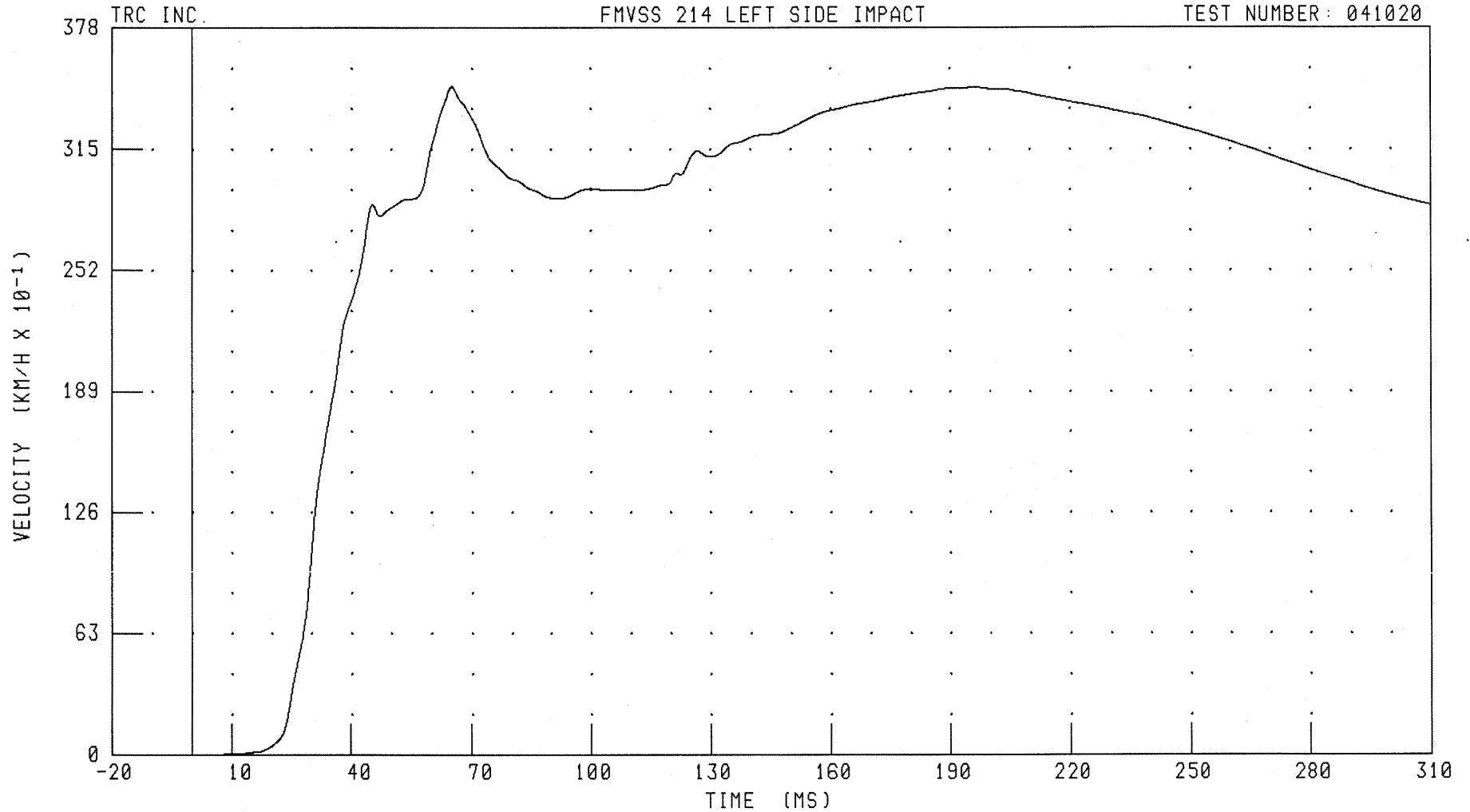
B-62

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYVI FILTER: CH. CLASS 180

PEAK DATA: 34.75 KM/H @ 65.12 MS; 0.00 KM/H @ 0.00 MS

B-63

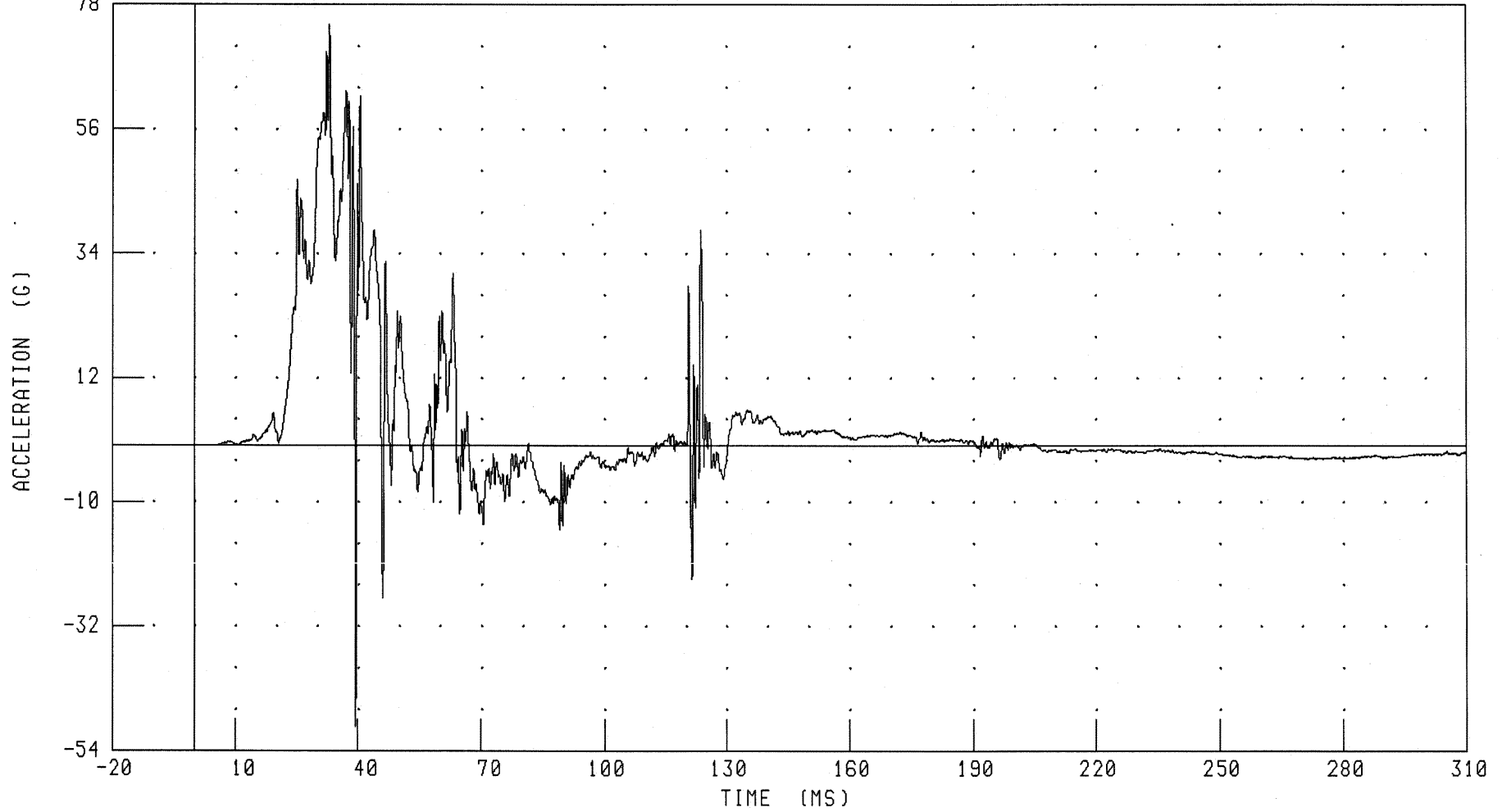
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYR1 FILTER: CH. CLASS 1000

PEAK DATA: 74.48 G @ 33.04 MS; -49.65 G @ 39.52 MS

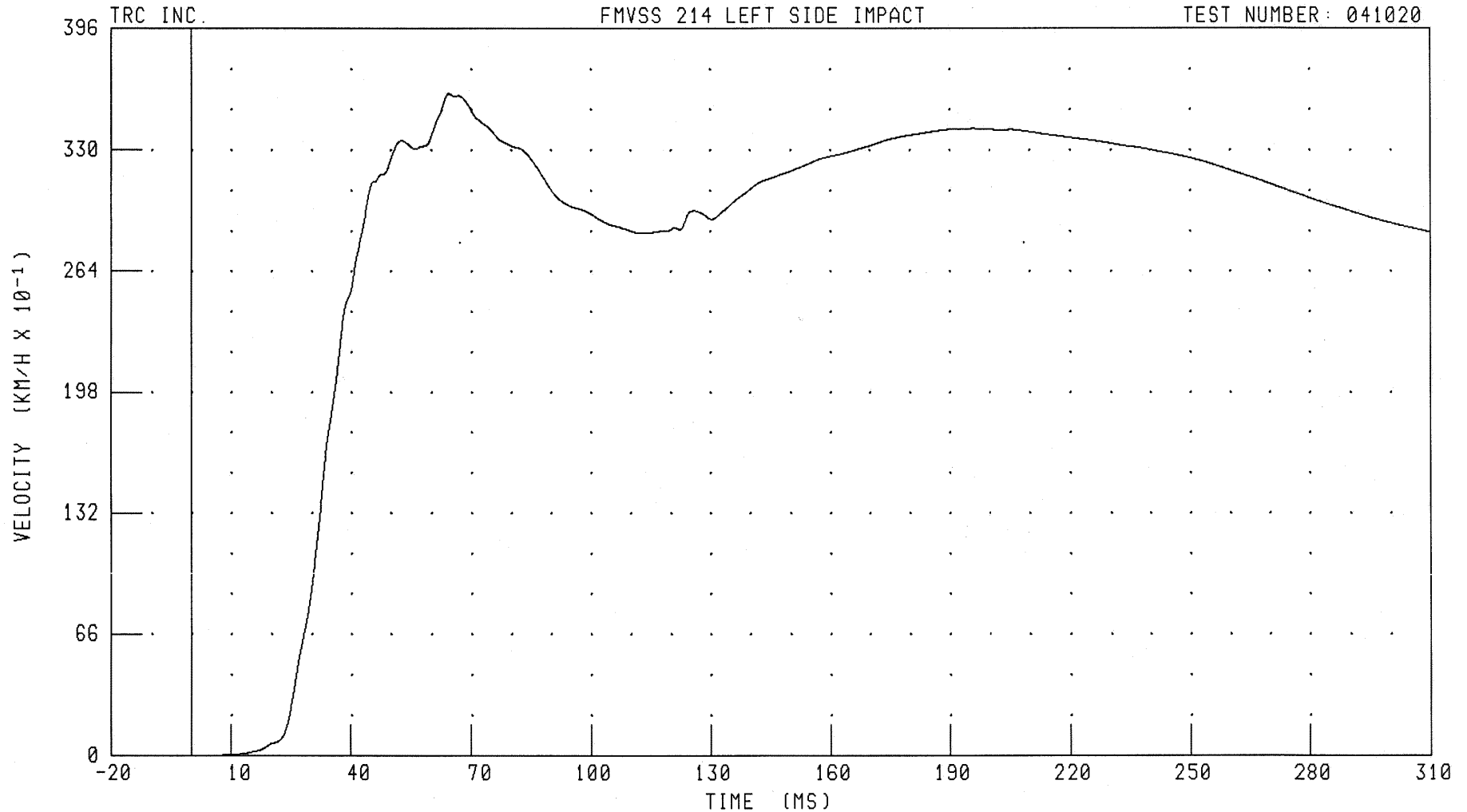
B-64

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYVI FILTER: CH. CLASS 180

PEAK DATA: 36.07 KM/H @ 64.40 MS; 0.00 KM/H @ 5.04 MS

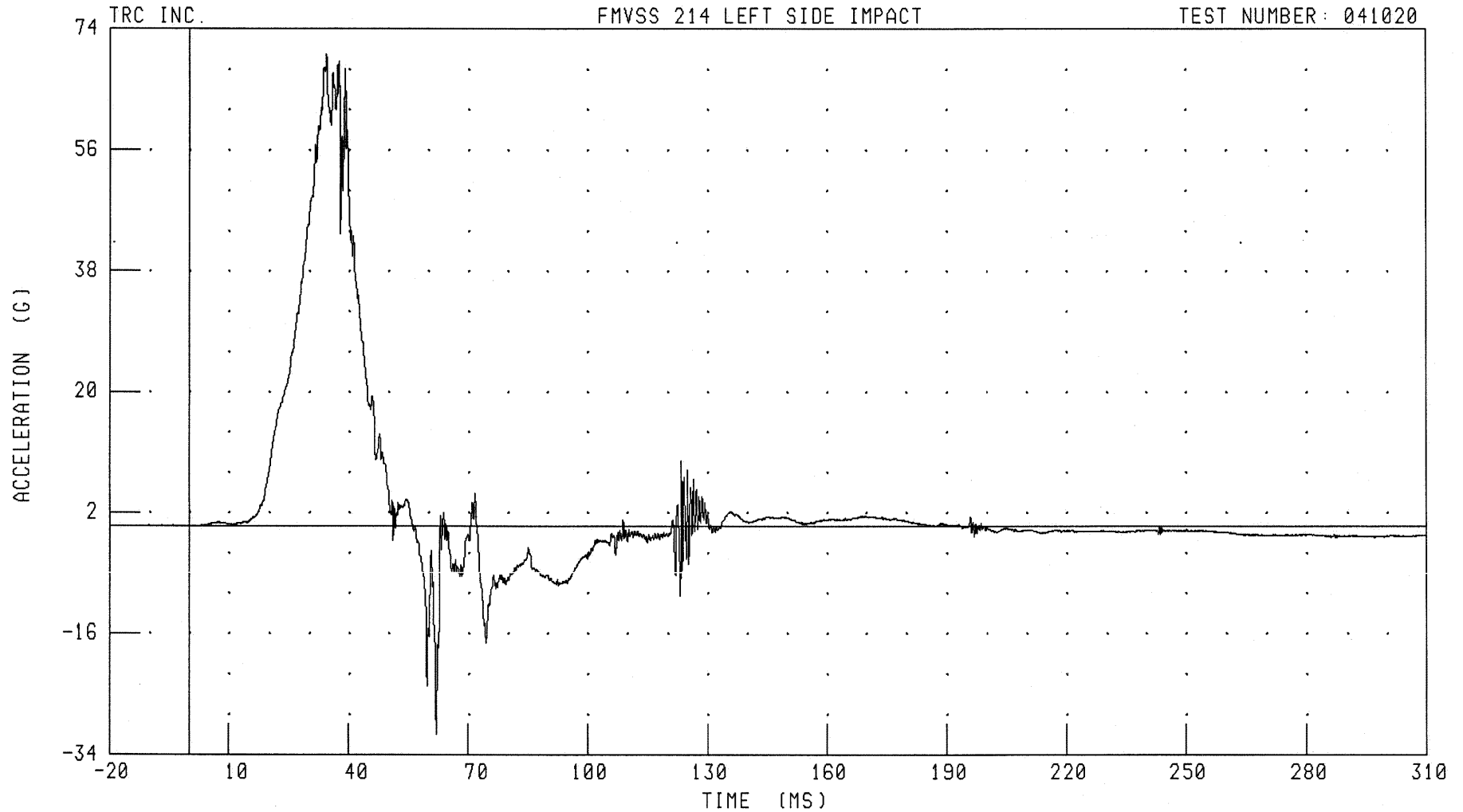
B-65

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YR1 FILTER: CH. CLASS 1000

PEAK DATA: 70.17 G @ 34.40 MS; -30.92 G @ 61.92 MS

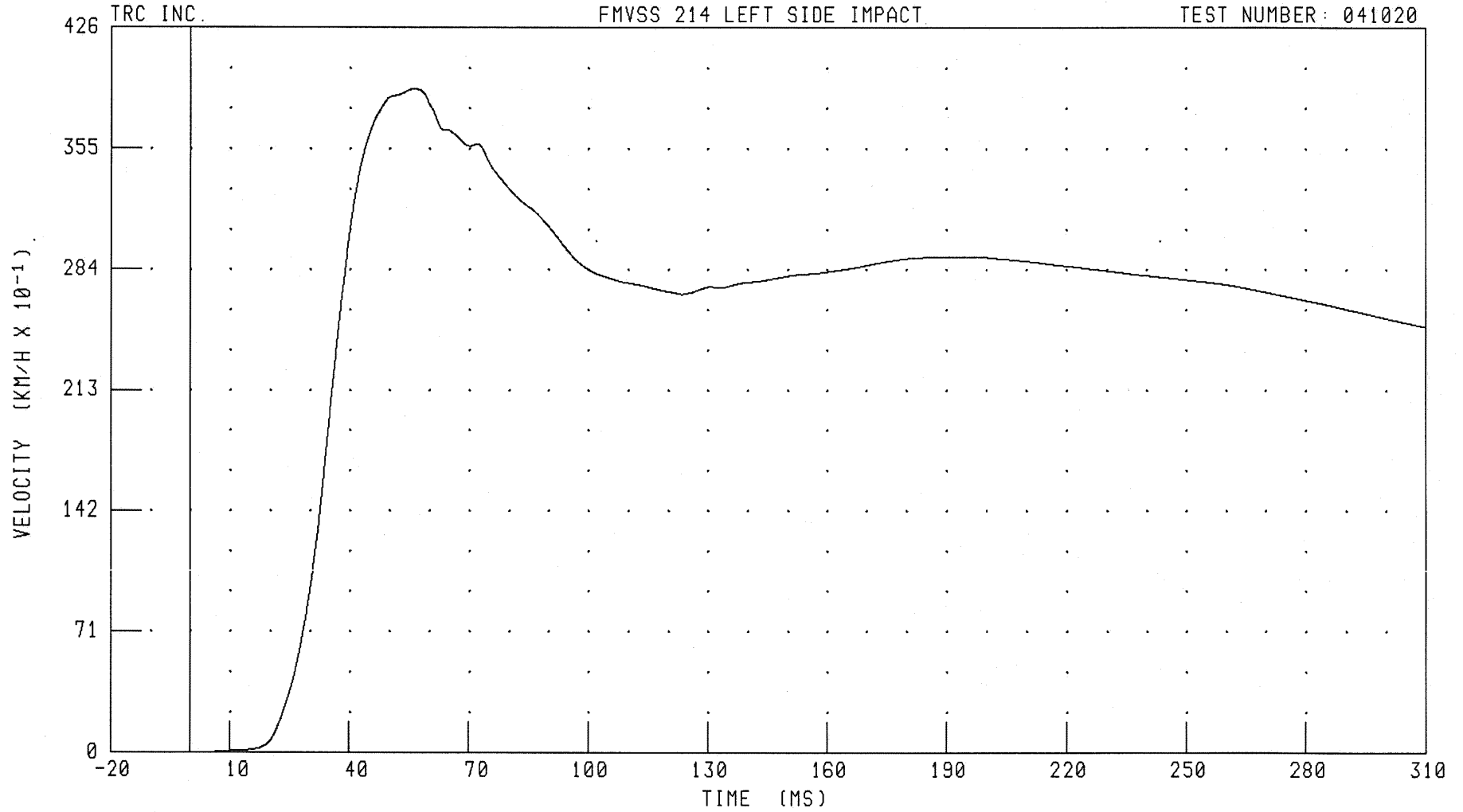
B-66

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YVI

FILTER: CH. CLASS 180

PEAK DATA: 39.01 KM/H @ 56.24 MS; 0.00 KM/H @ 0.00 MS

B-67

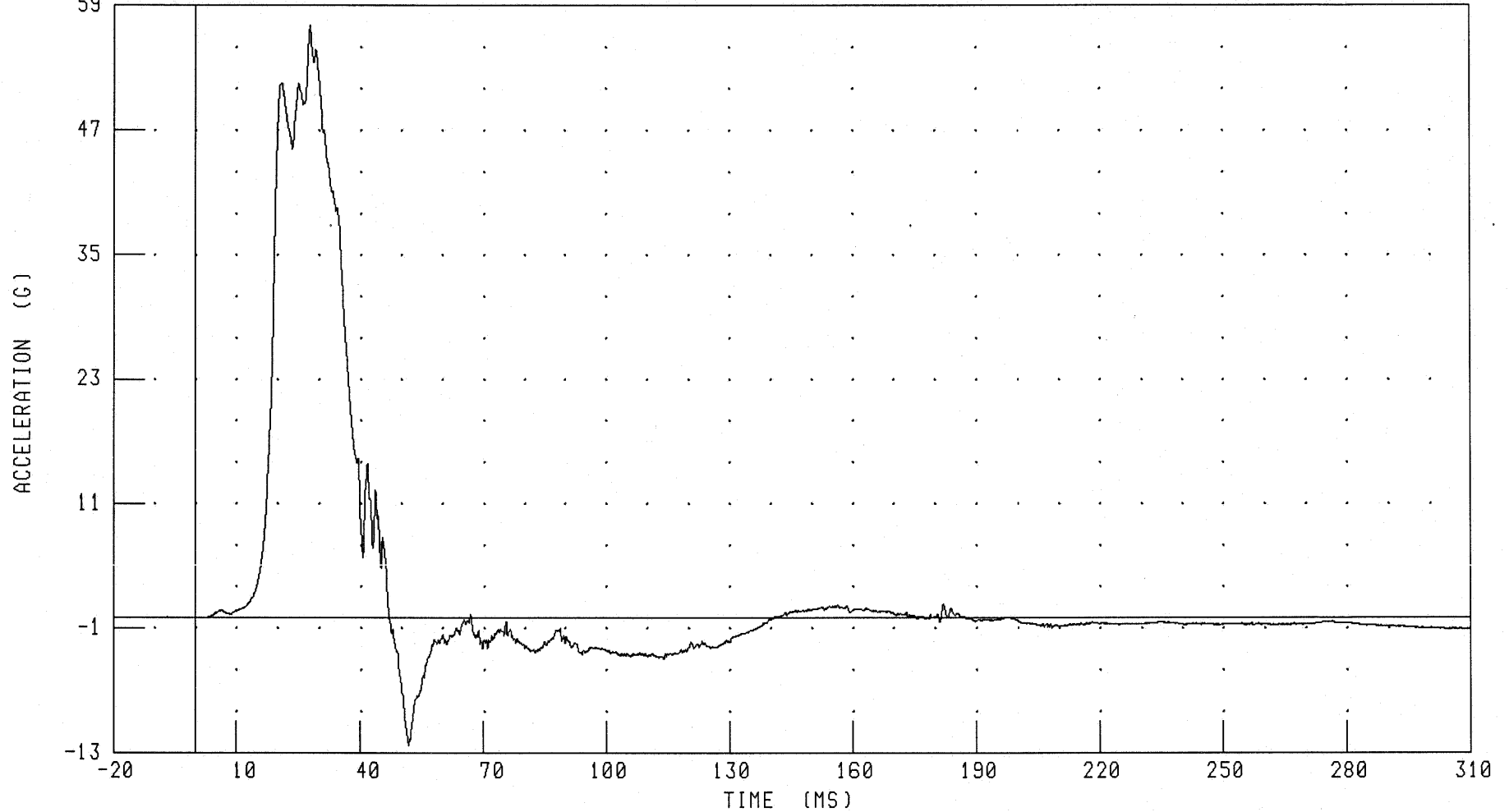
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYR1 FILTER: CH. CLASS 1000

PEAK DATA: 57.09 G @ 27.92 MS; -12.27 G @ 51.84 MS

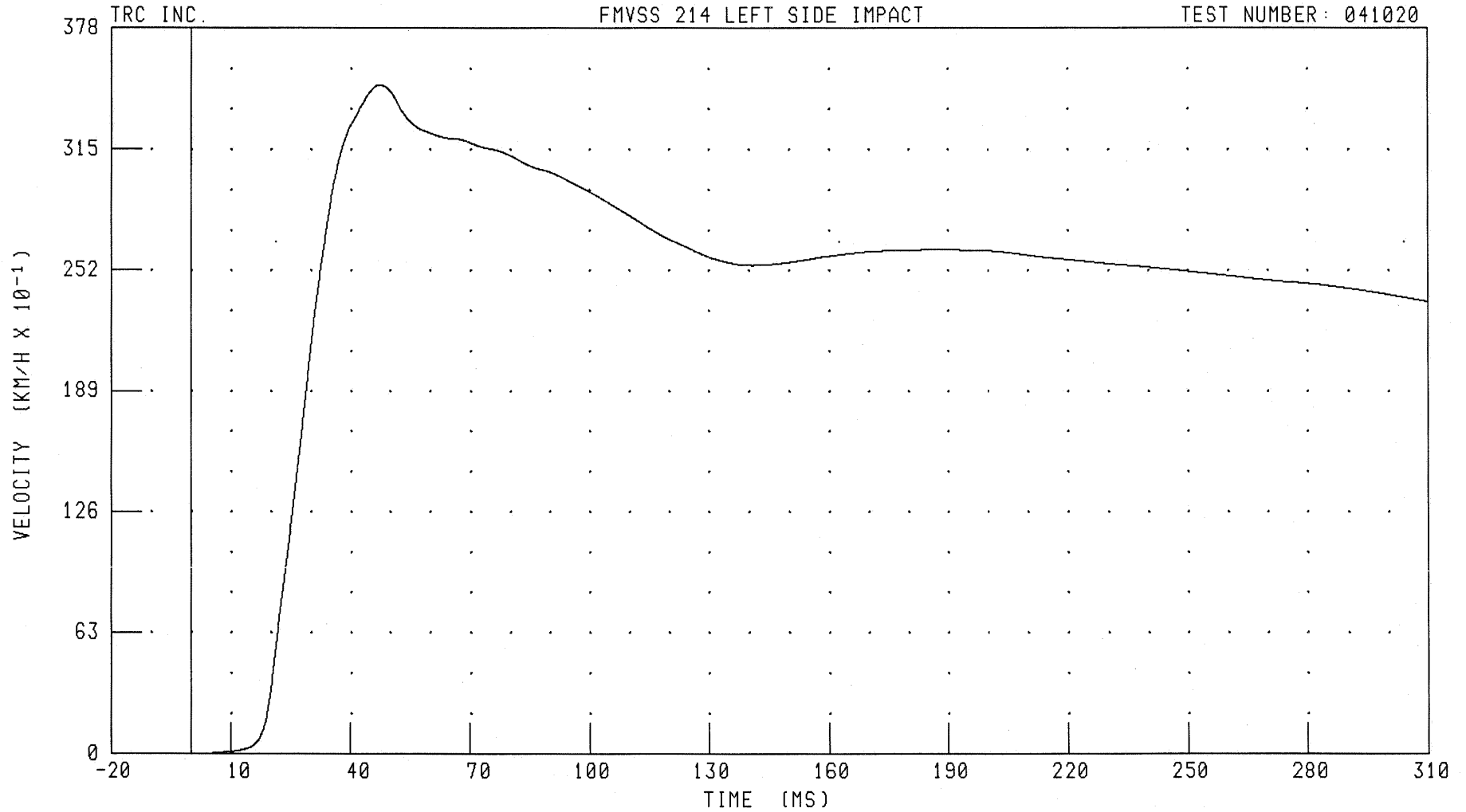
B-68

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
DRIVER PELVIS Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYVI FILTER: CH. CLASS 180

PEAK DATA: 34.85 KM/H @ 47.28 MS; 0.00 KM/H @ 0.00 MS

B-69

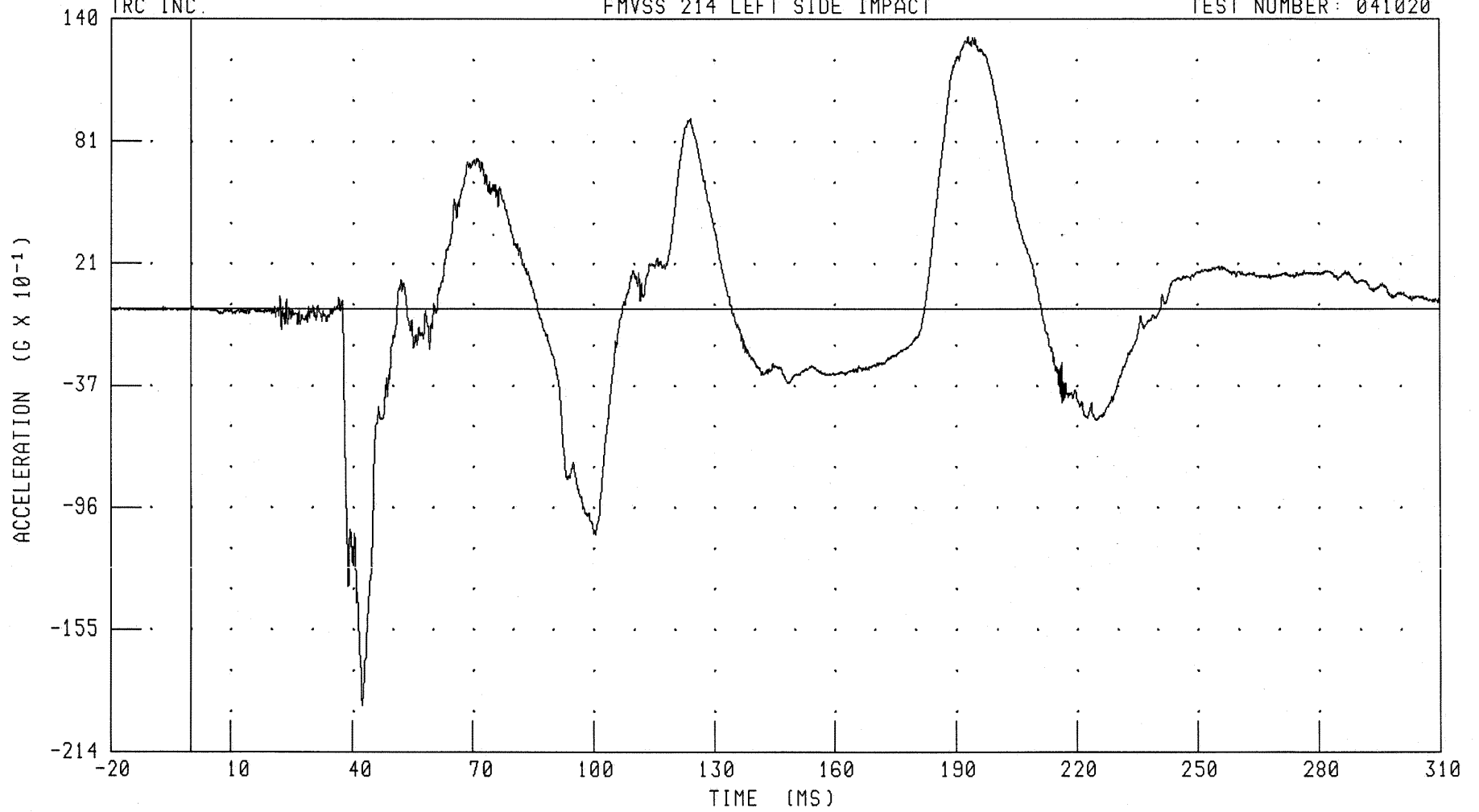
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDXR4 FILTER: CH. CLASS 1000

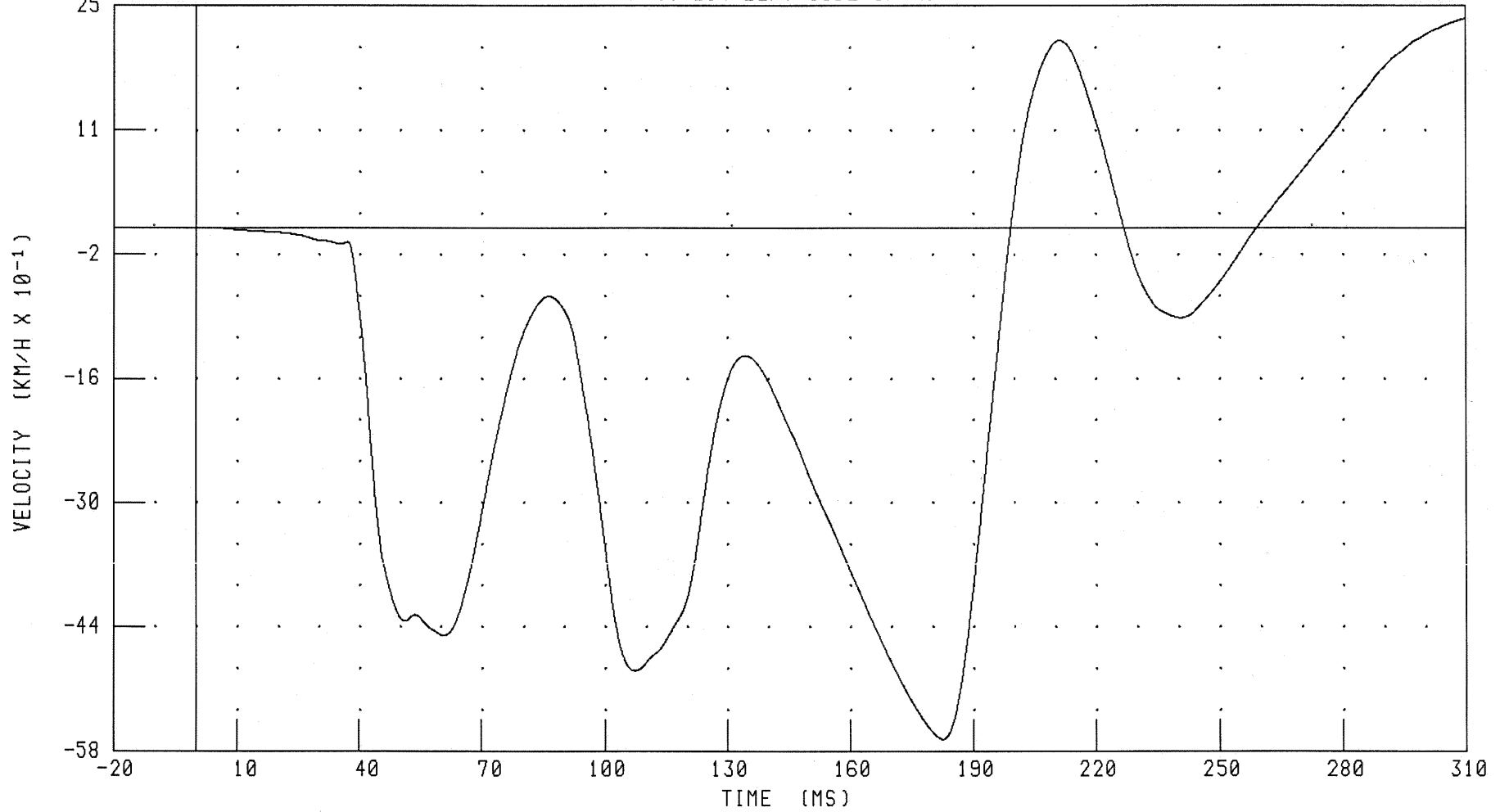
PEAK DATA: 13.14 G @ 193.28 MS; -19.15 G @ 42.48 MS

B-70

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: HEDXVJ FILTER: CH. CLASS 180

PEAK DATA: 2.36 KM/H @ 310.00 MS; -5.77 KM/H @ 182.40 MS

B-71

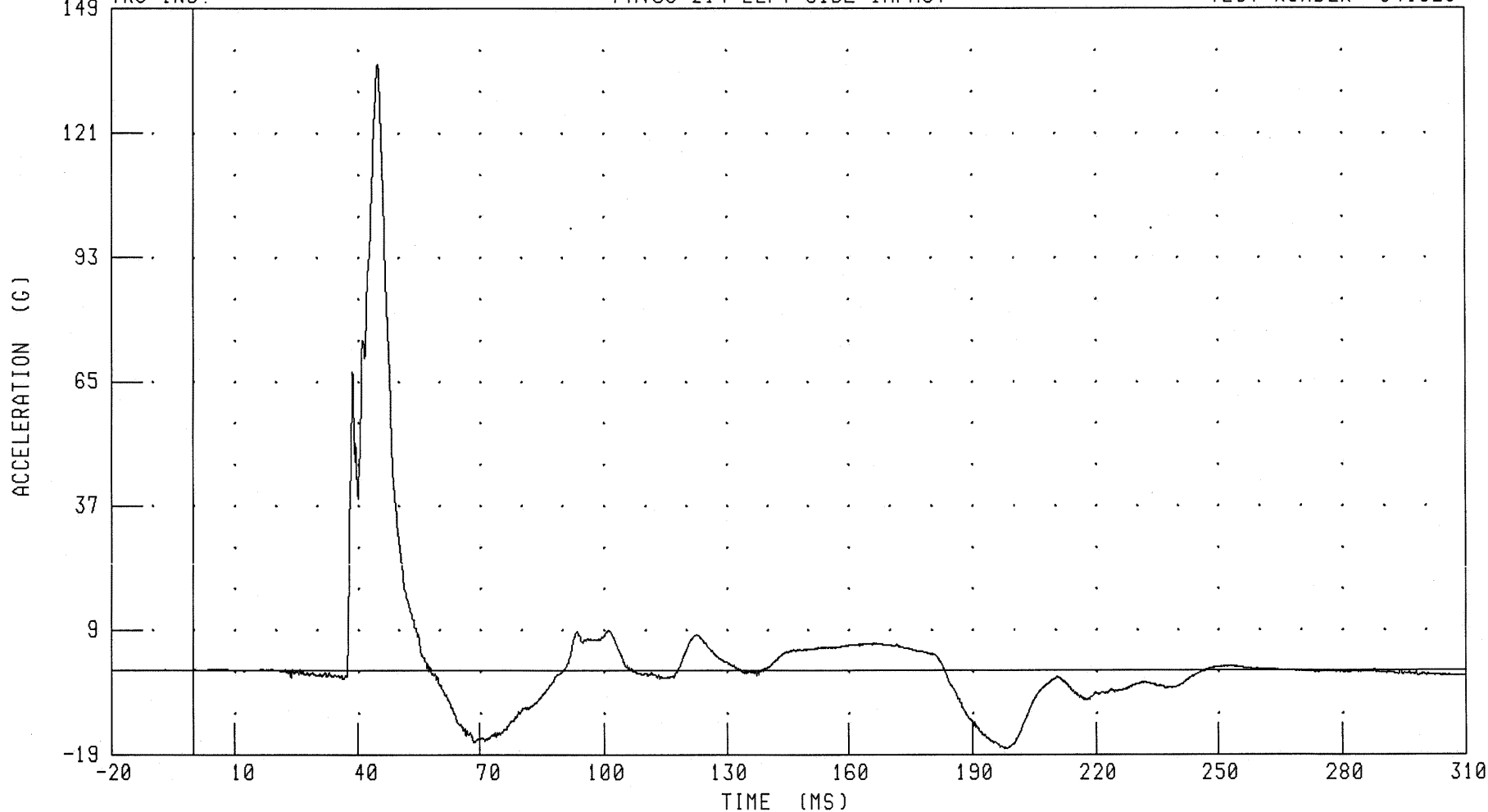
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYR4

FILTER: CH. CLASS 1000

PEAK DATA: 136.53 G @ 44.88 MS; -17.53 G @ 197.76 MS

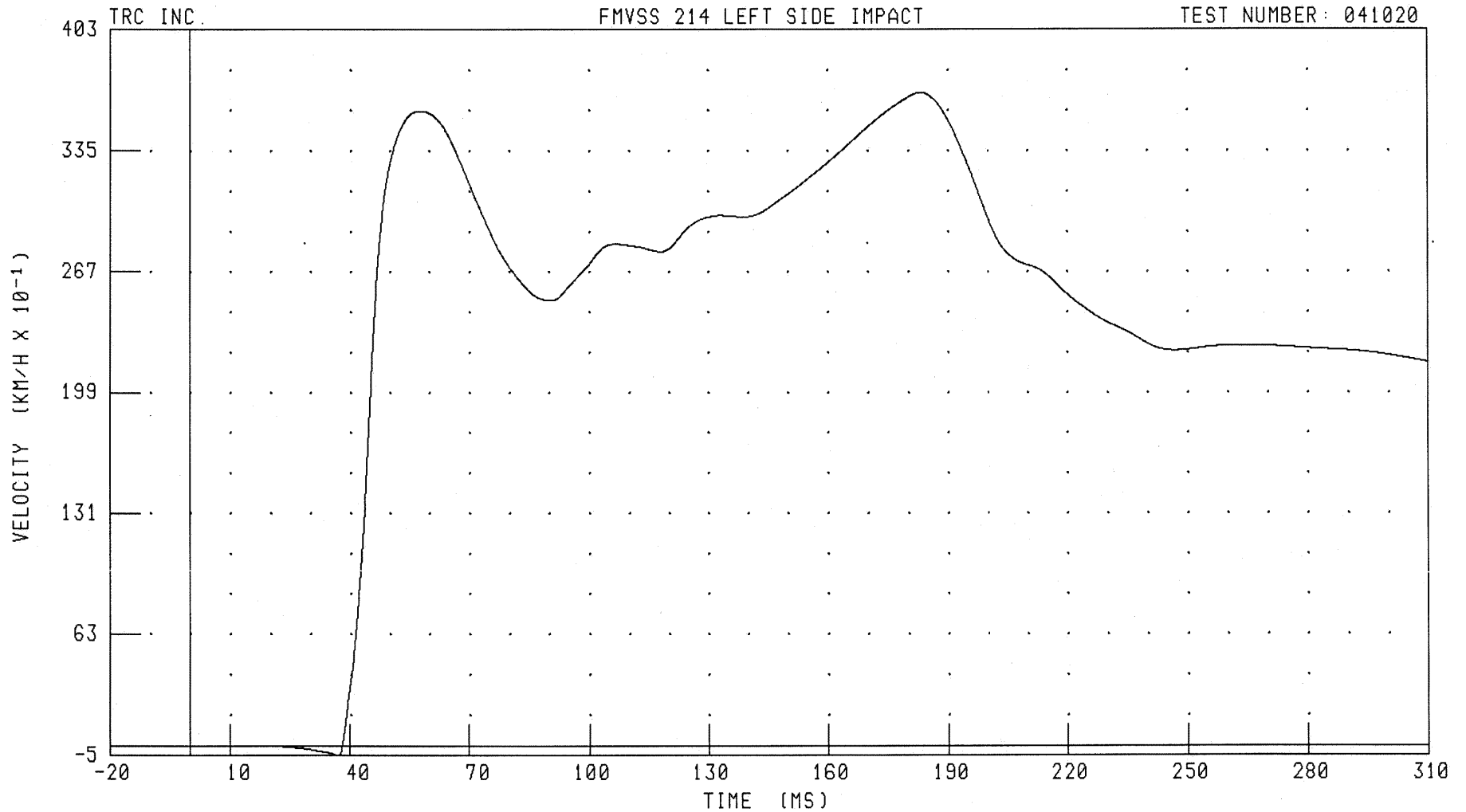
B-72

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDYVJ FILTER: CH. CLASS 180

PEAK DATA: 36.76 KM/H @ 183.28 MS; -0.54 KM/H @ 36.96 MS

B-73

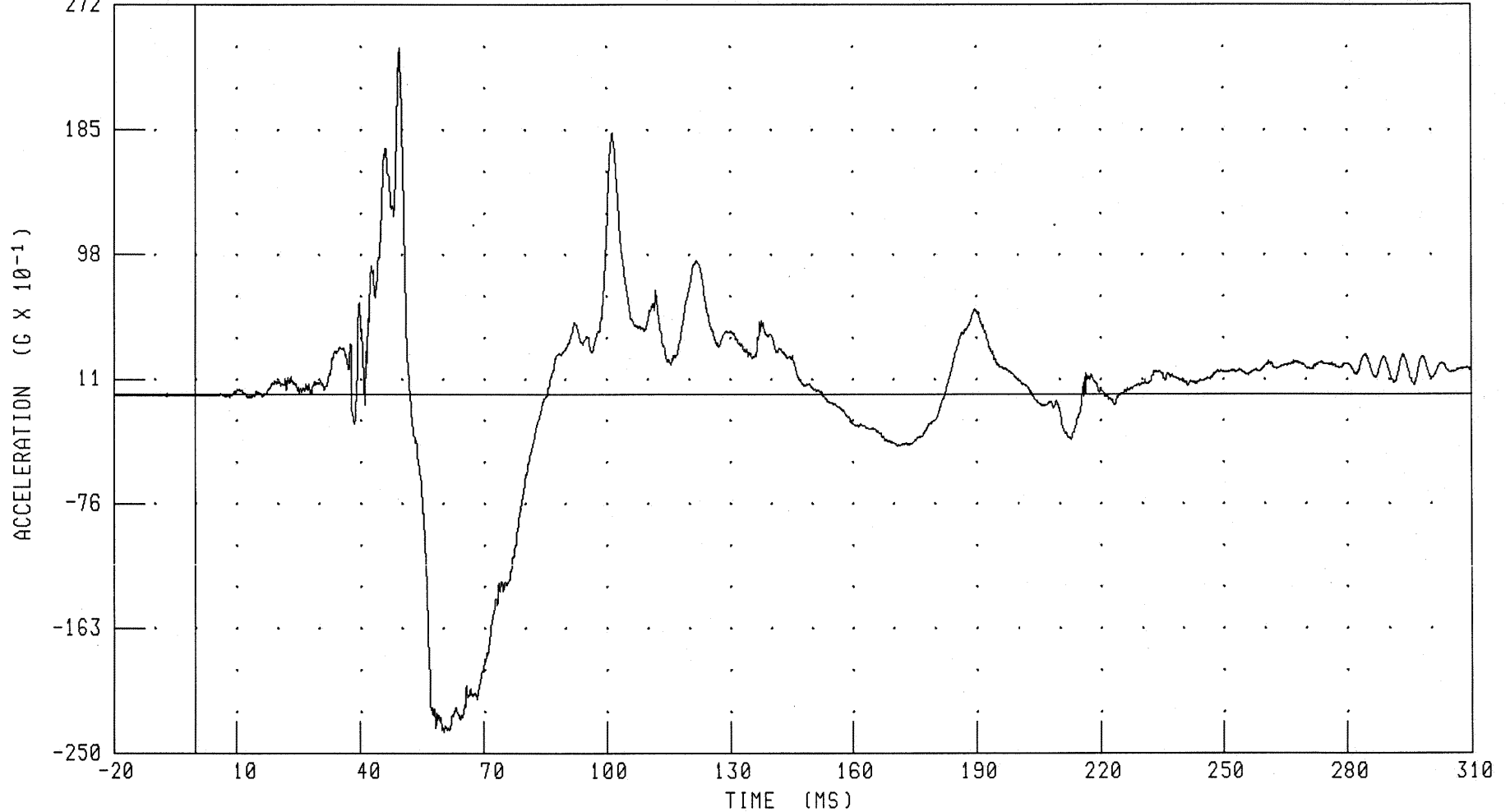
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZR4

FILTER: CH. CLASS 1000

PEAK DATA: 24.23 G @ 49.52 MS; -23.52 G @ 60.24 MS

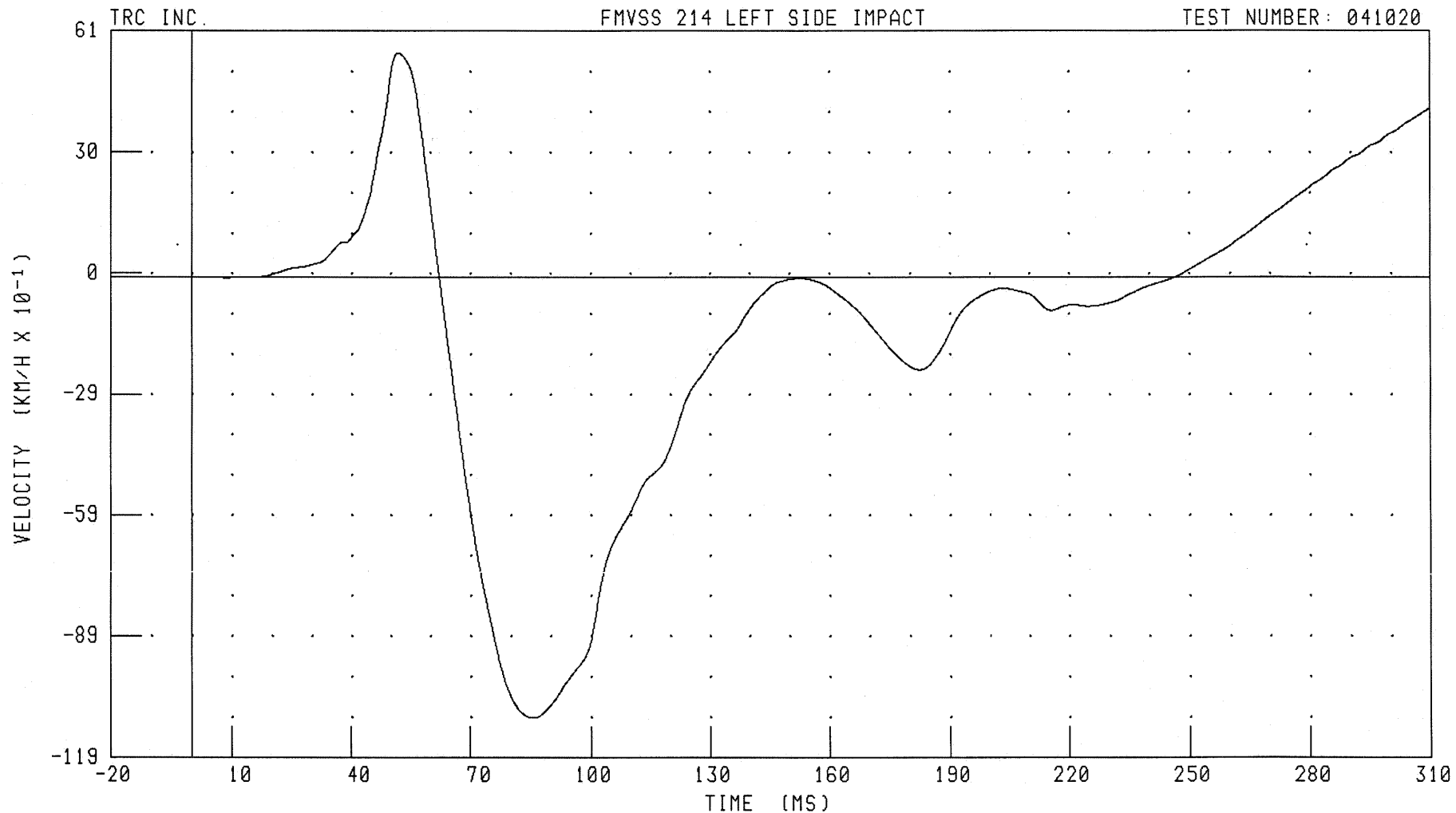
B-74

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDZVJ FILTER: CH. CLASS 180

PEAK DATA: 5.56 KM/H @ 52.00 MS; -10.92 KM/H @ 85.52 MS

B-75

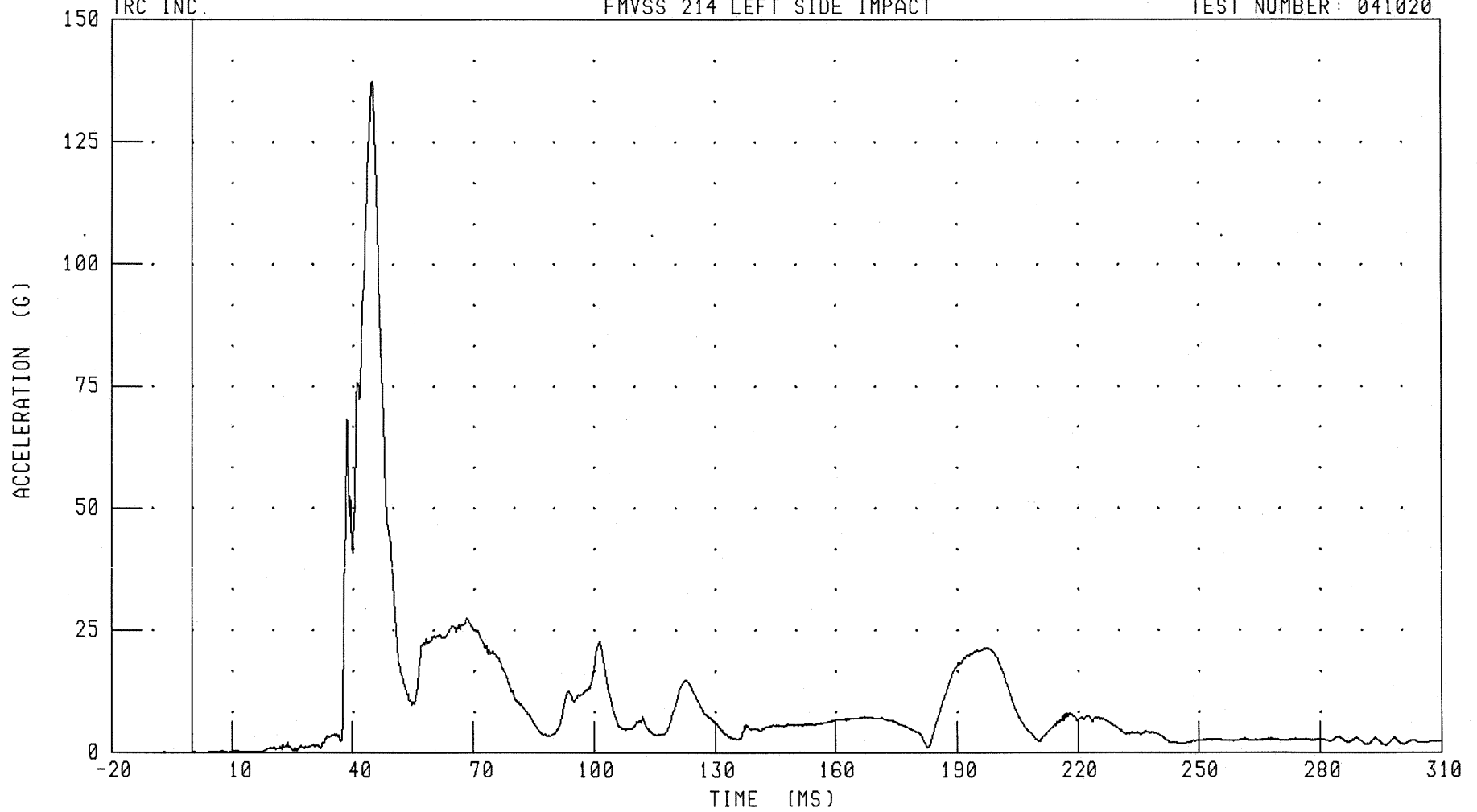
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: HEDRR4 FILTER: CH. CLASS 1000

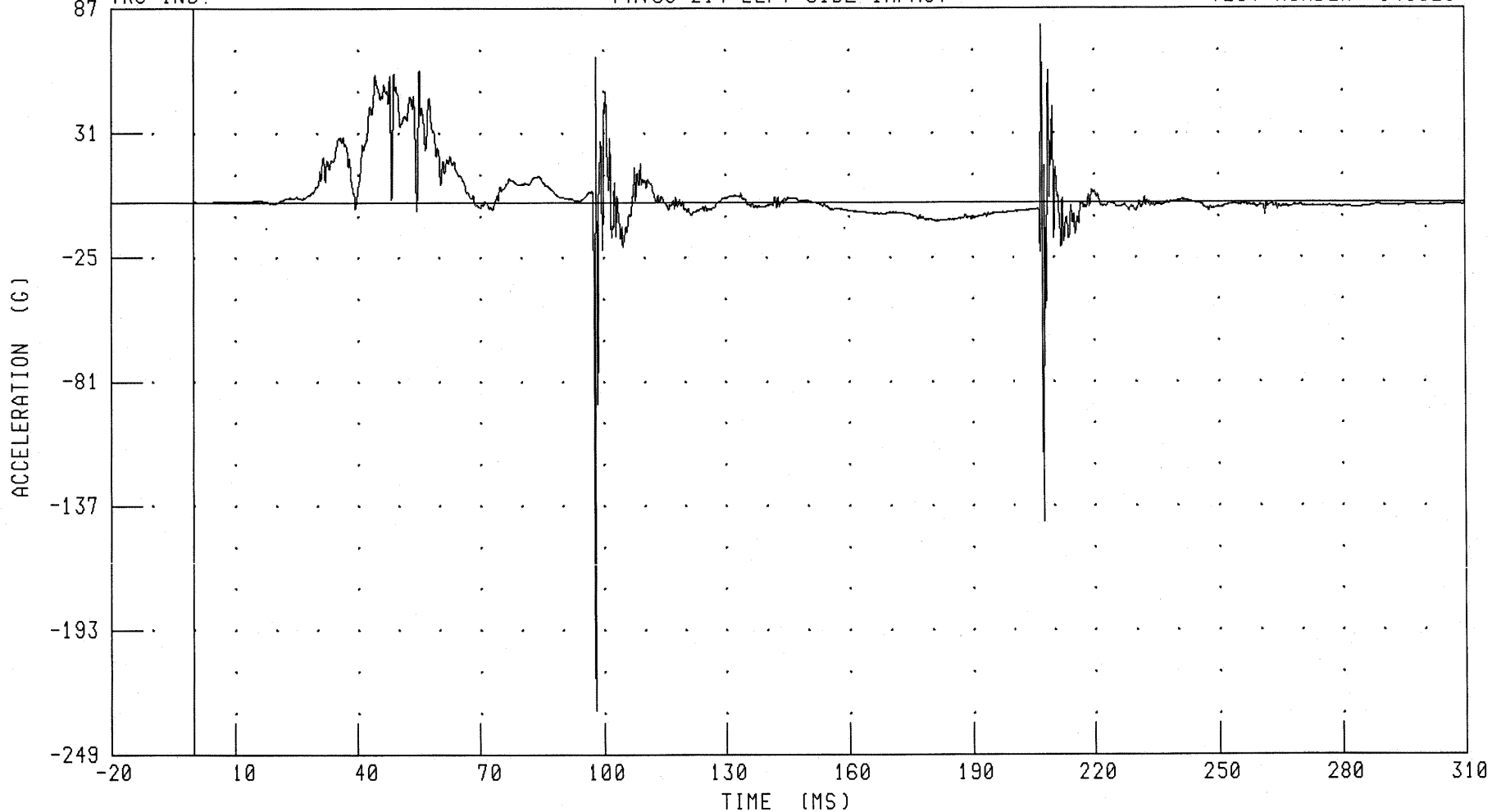
PEAK DATA: 137.43 G @ 44.88 MS; 0.01 G @ -18.08 MS

B-76

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: LURYR4 FILTER: CH. CLASS 1000

PEAK DATA: 79.67 G @ 207.12 MS; -229.00 G @ 98.00 MS

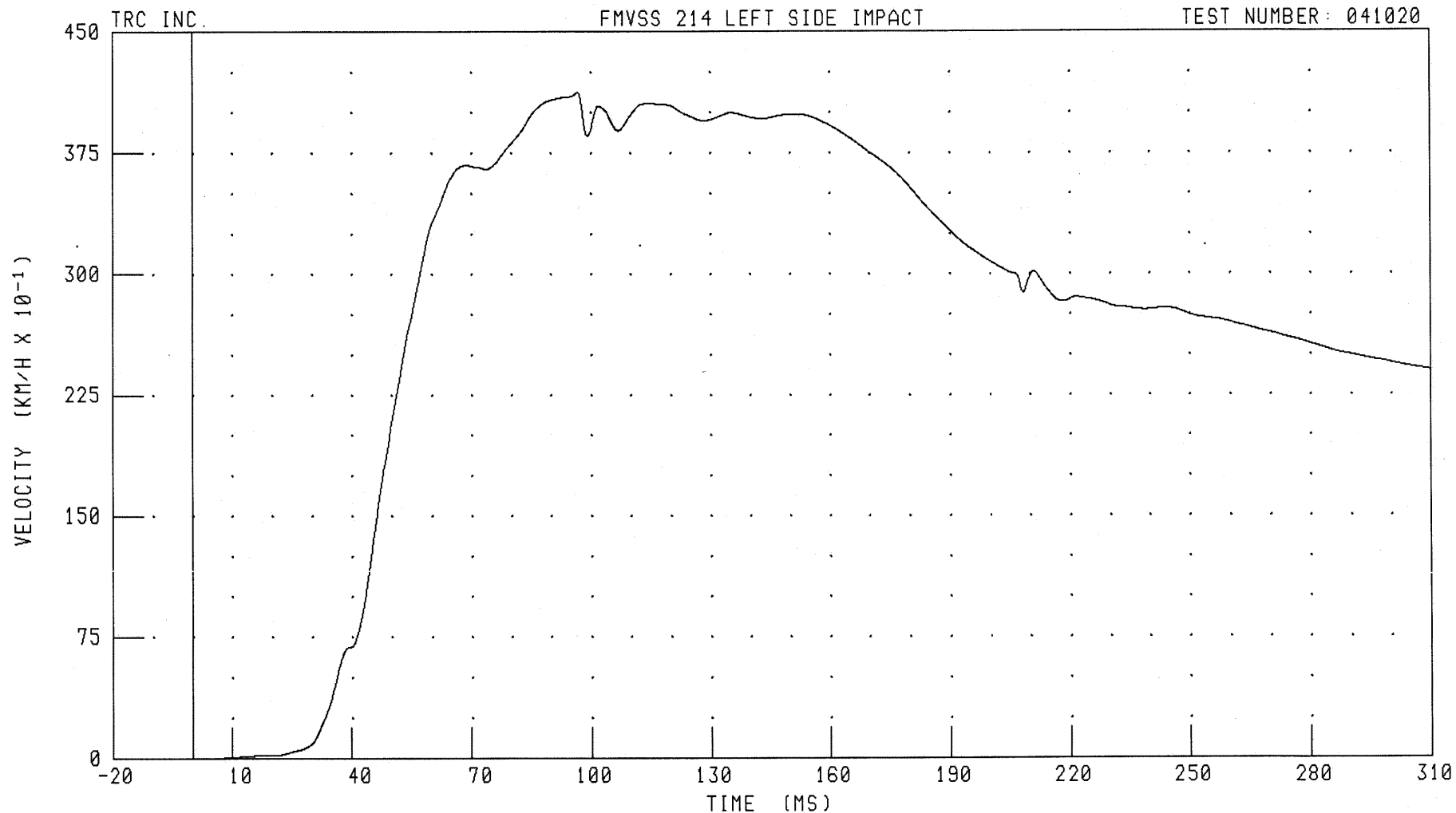
B-77

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYVJ FILTER: CH. CLASS 180

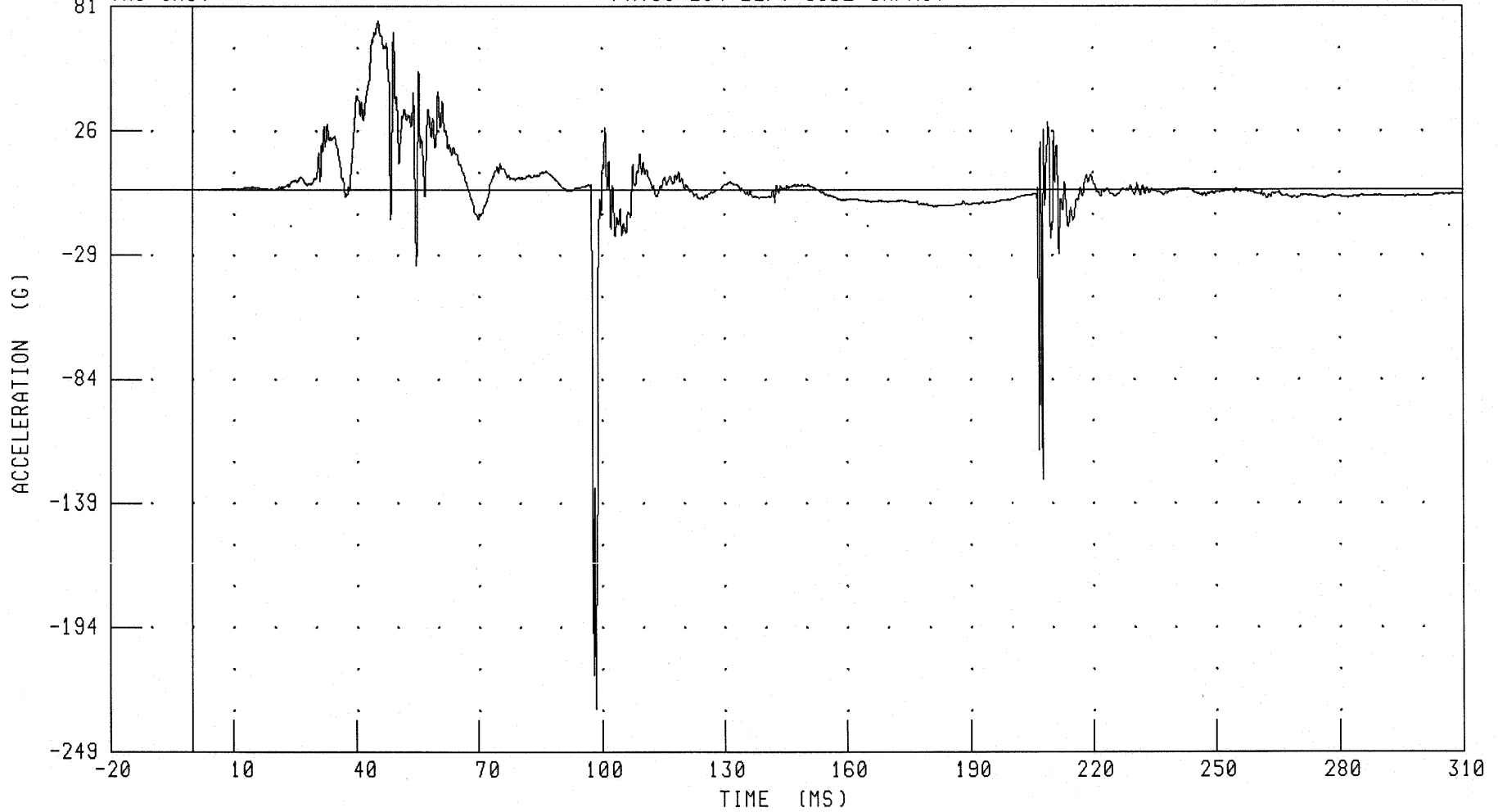
PEAK DATA: 41.25 KM/H @ 96.80 MS; 0.00 KM/H @ 0.00 MS

B-78

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: LLRYR4 FILTER: CH. CLASS 1000

PEAK DATA: 74.43 G @ 45.28 MS; -230.19 G @ 98.56 MS

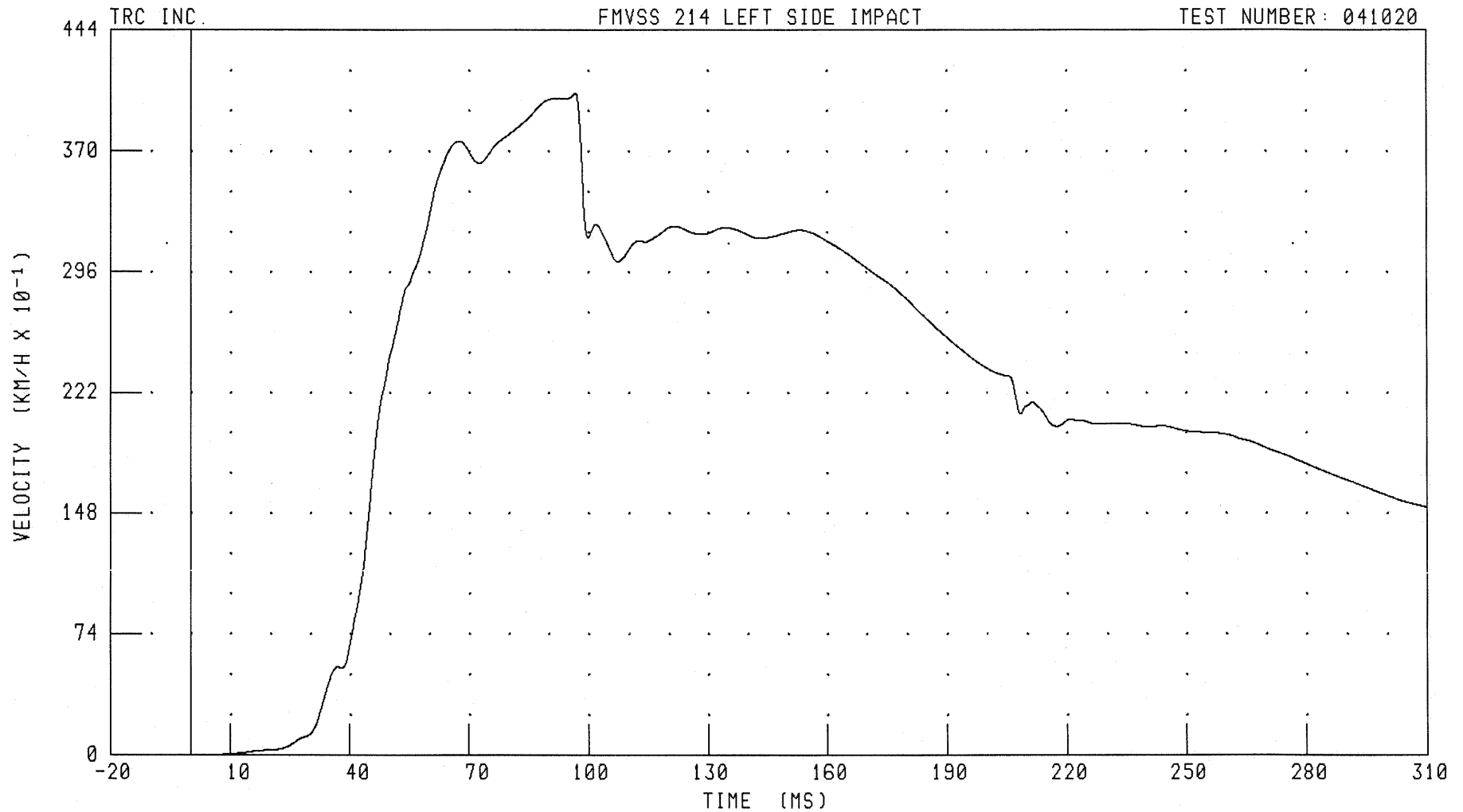
B-79

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



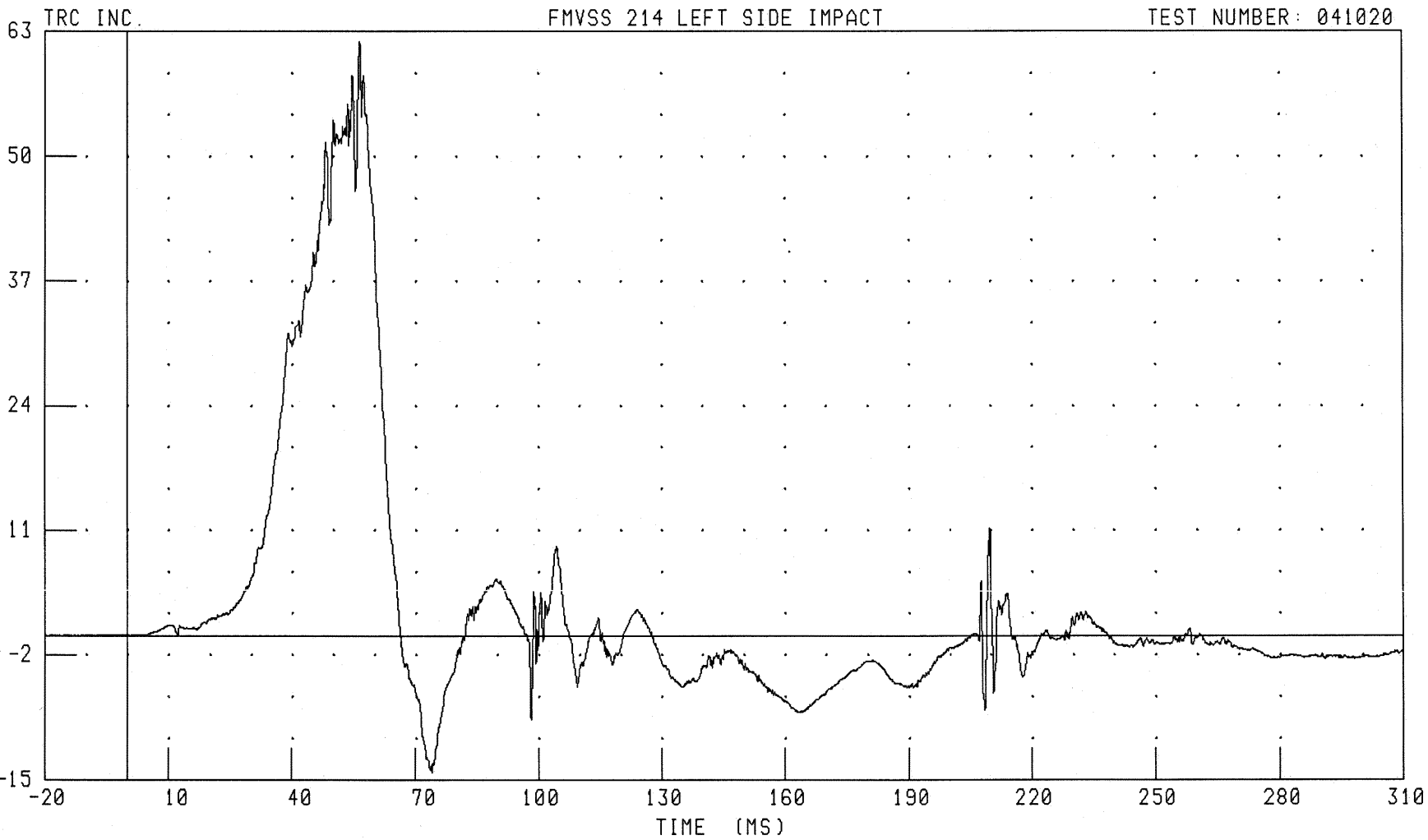
CHANNEL: LLRYVJ FILTER: CH. CLASS 180

PEAK DATA: 40.54 KM/H @ 96.88 MS; 0.00 KM/H @ 0.00 MS

B-80

041020-1

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



CHANNEL: T12YR4 FILTER: CH. CLASS 1000

PEAK DATA: 61.95 G @ 56.48 MS; -14.23 G @ 74.16 MS

B-81

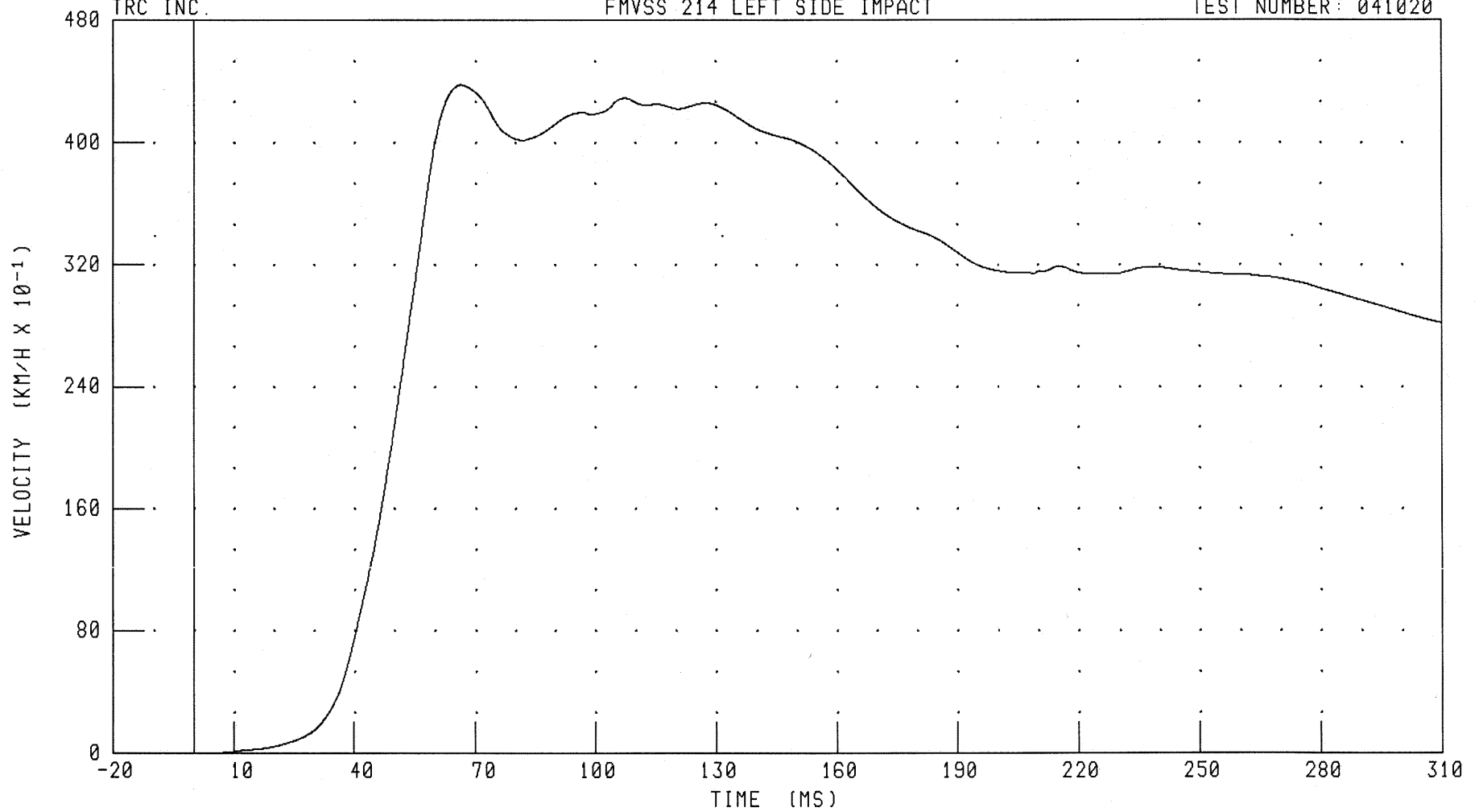
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



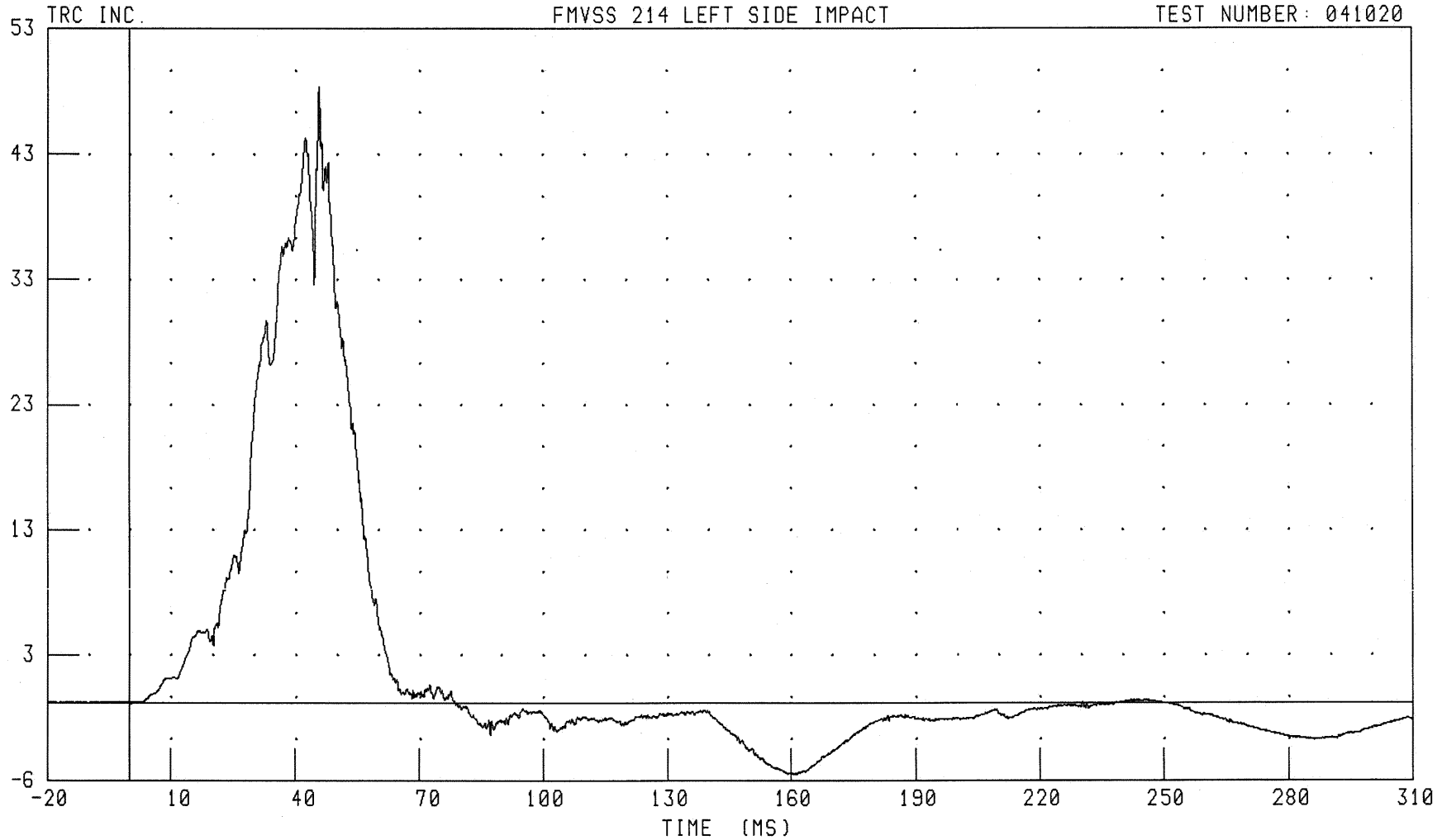
CHANNEL: T12YVJ FILTER: CH. CLASS 180

PEAK DATA: 43.78 KM/H @ 66.48 MS; 0.00 KM/H @ 0.00 MS

B-82

041020-1

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



CHANNEL: PEVYR4 FILTER: CH. CLASS 1000 PEAK DATA: 49.16 G @ 45.68 MS; -5.70 G @ 160.56 MS

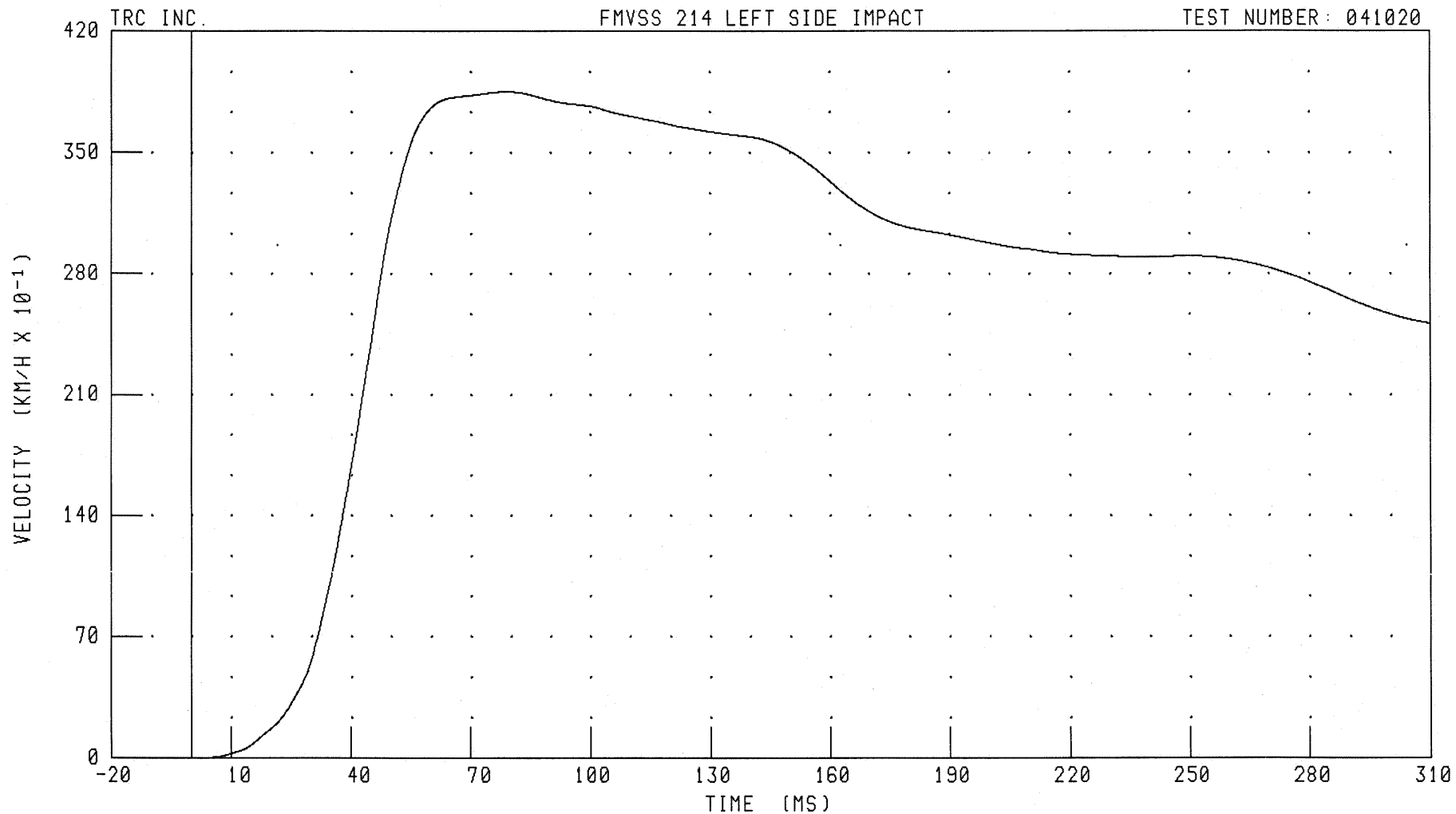
B-83

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYVJ FILTER: CH. CLASS 180

PEAK DATA: 38.51 KM/H @ 78.72 MS; 0.00 KM/H @ 0.00 MS

B-84

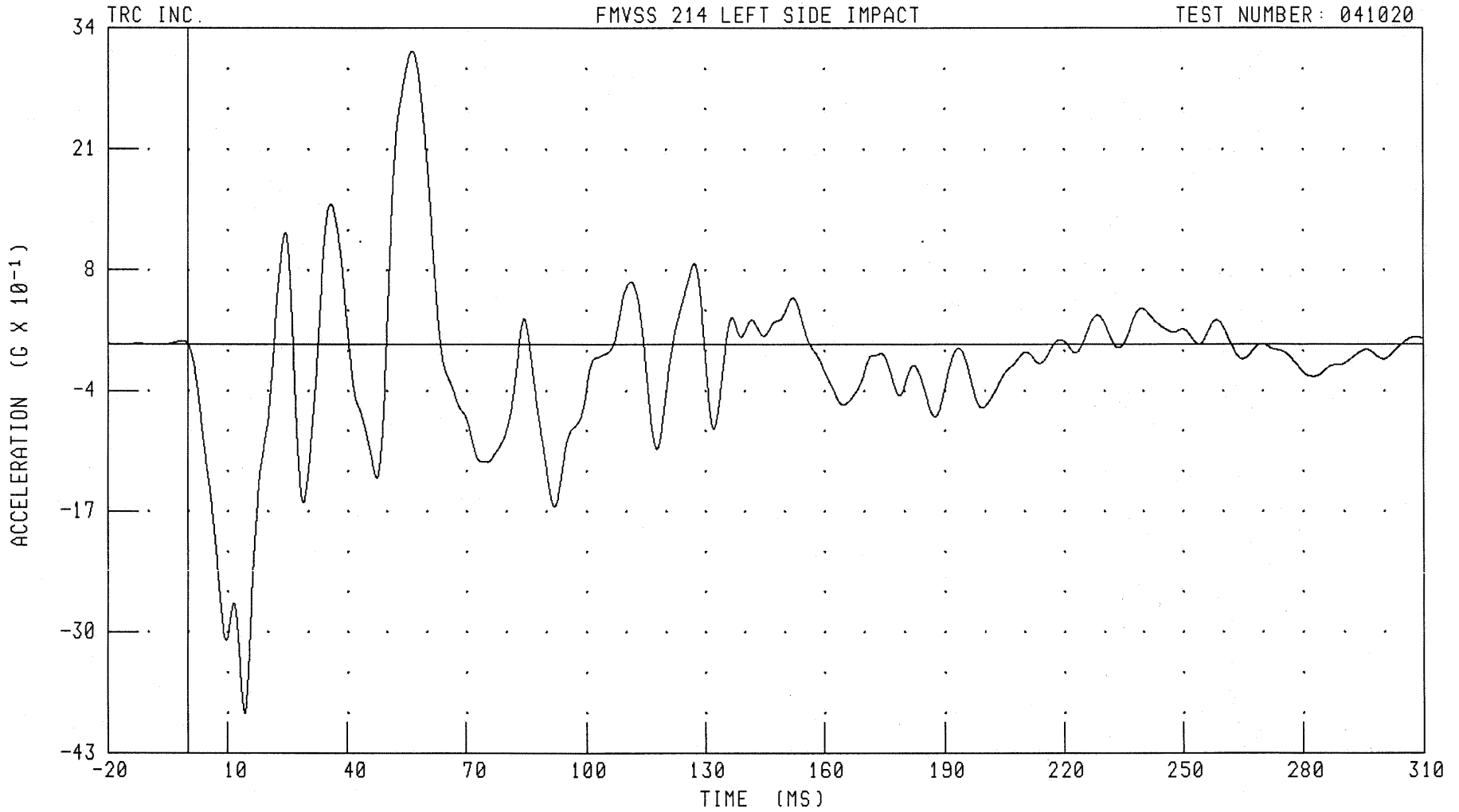
041020-1

Test Vehicle Instrumentation Plots

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RFSXG1 FILTER: CH. CLASS 60

PEAK DATA: 3.15 G @ 56.48 MS; -3.97 G @ 14.32 MS

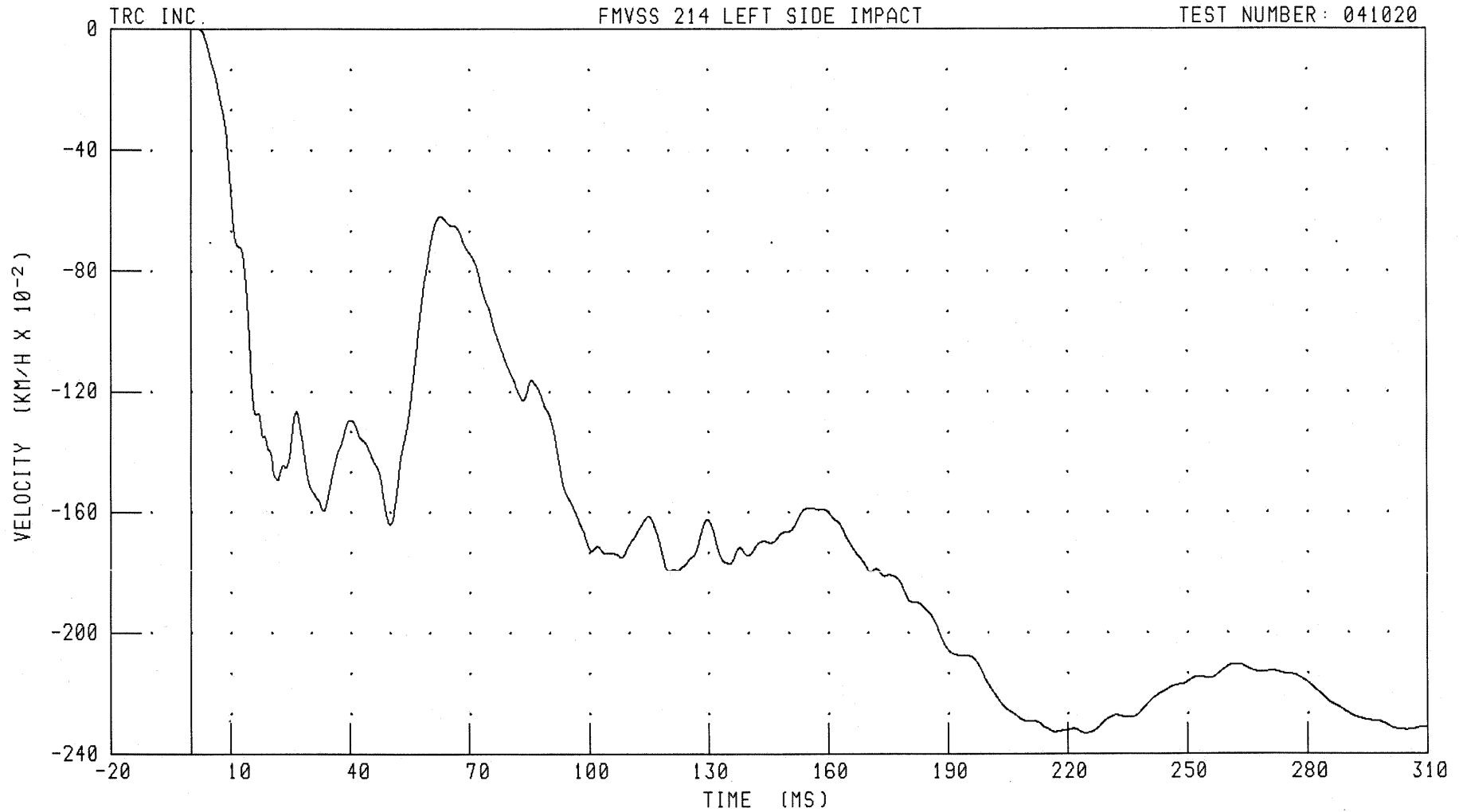
B-86

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RFSXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 1.52 MS; -2.33 KM/H @ 224.48 MS

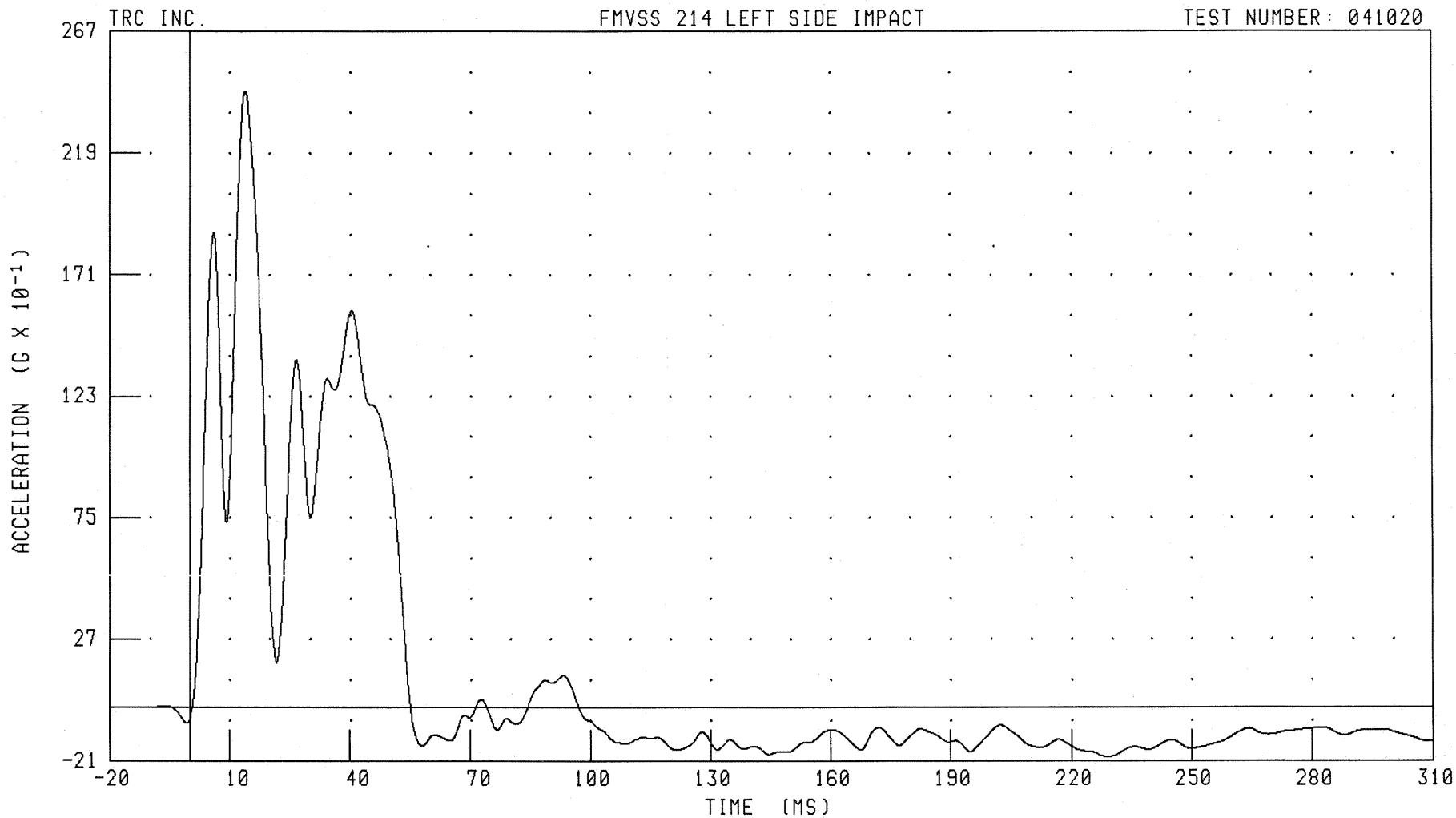
B-87

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RFSYG1 FILTER: CH. CLASS 60

PEAK DATA: 24.34 G @ 14.00 MS; -1.94 G @ 229.12 MS

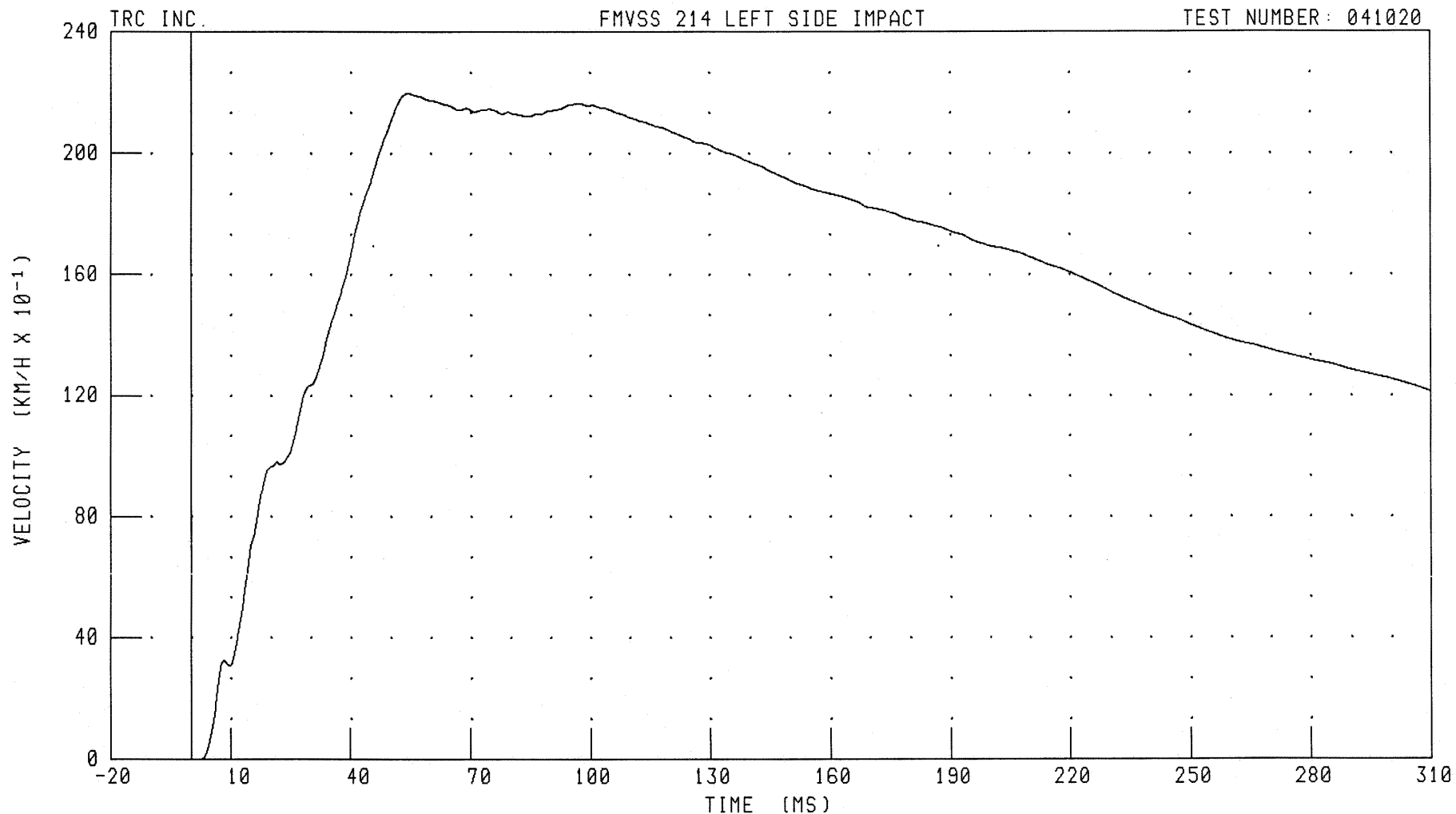
B-88

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RFSYV1 FILTER: CH. CLASS 180

PEAK DATA: 21.97 KM/H @ 54.56 MS; -0.01 KM/H @ 2.16 MS

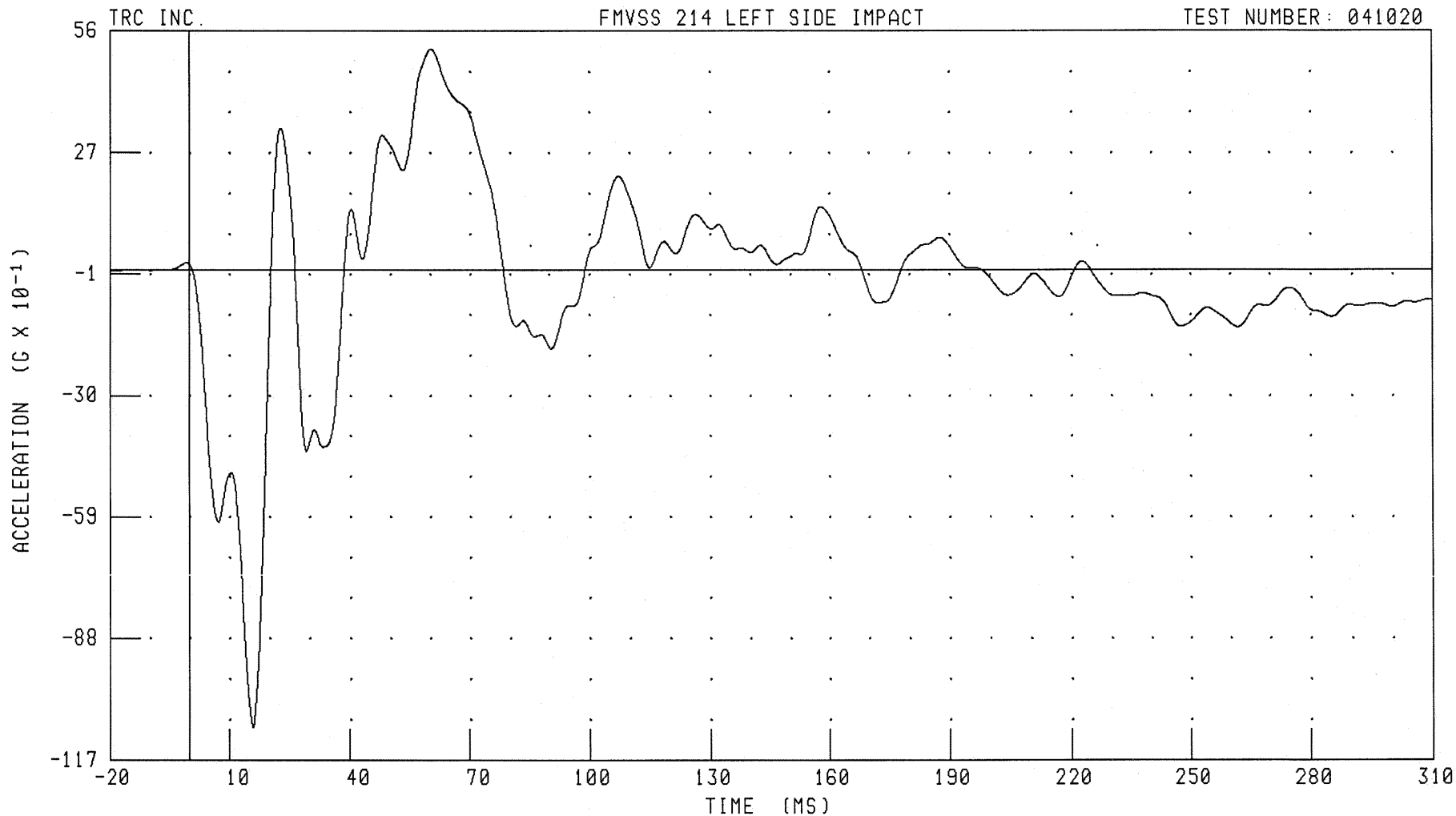
B-89

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RFSZG1 FILTER: CH. CLASS 60

PEAK DATA: 5.27 G @ 60.24 MS; -10.93 G @ 16.00 MS

B-90

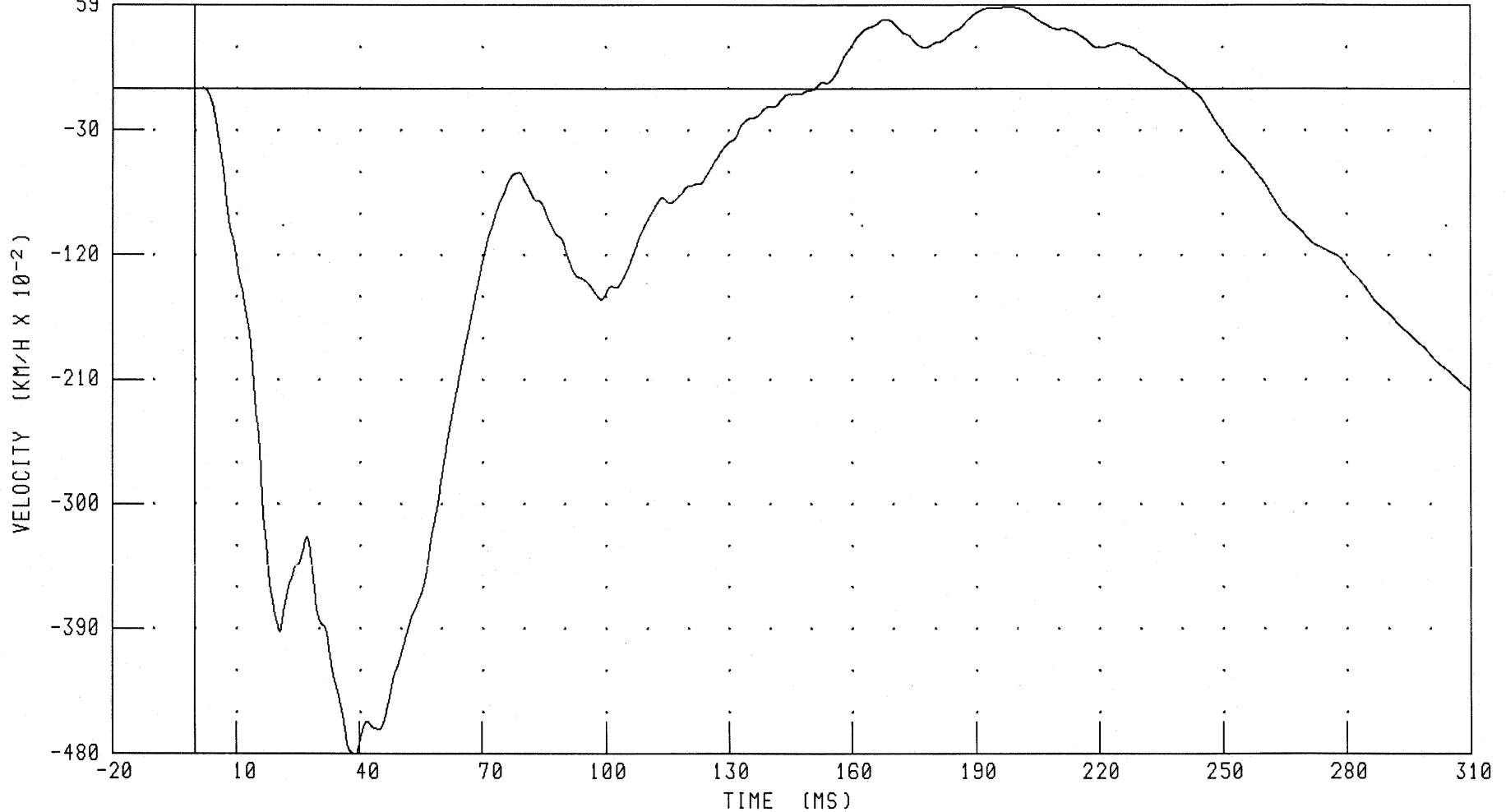
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RFSZV1 FILTER: CH. CLASS 100

PEAK DATA: 0.59 KM/H @ 198.64 MS; -4.81 KM/H @ 38.80 MS

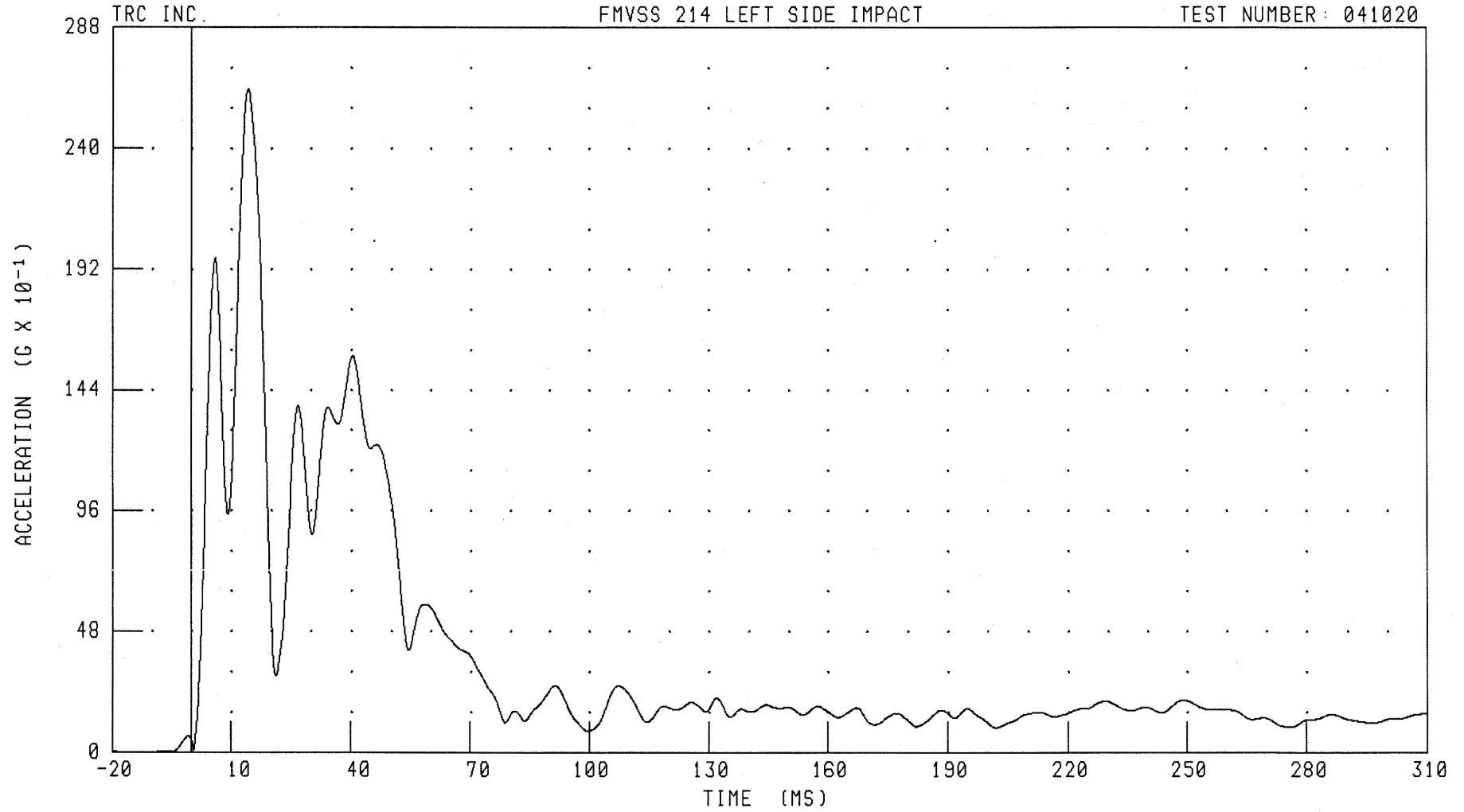
B-91

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RFSRG1

FILTER: CH. CLASS 60

PEAK DATA: 26.36 G @ 14.32 MS; 0.00 G @ -9.84 MS

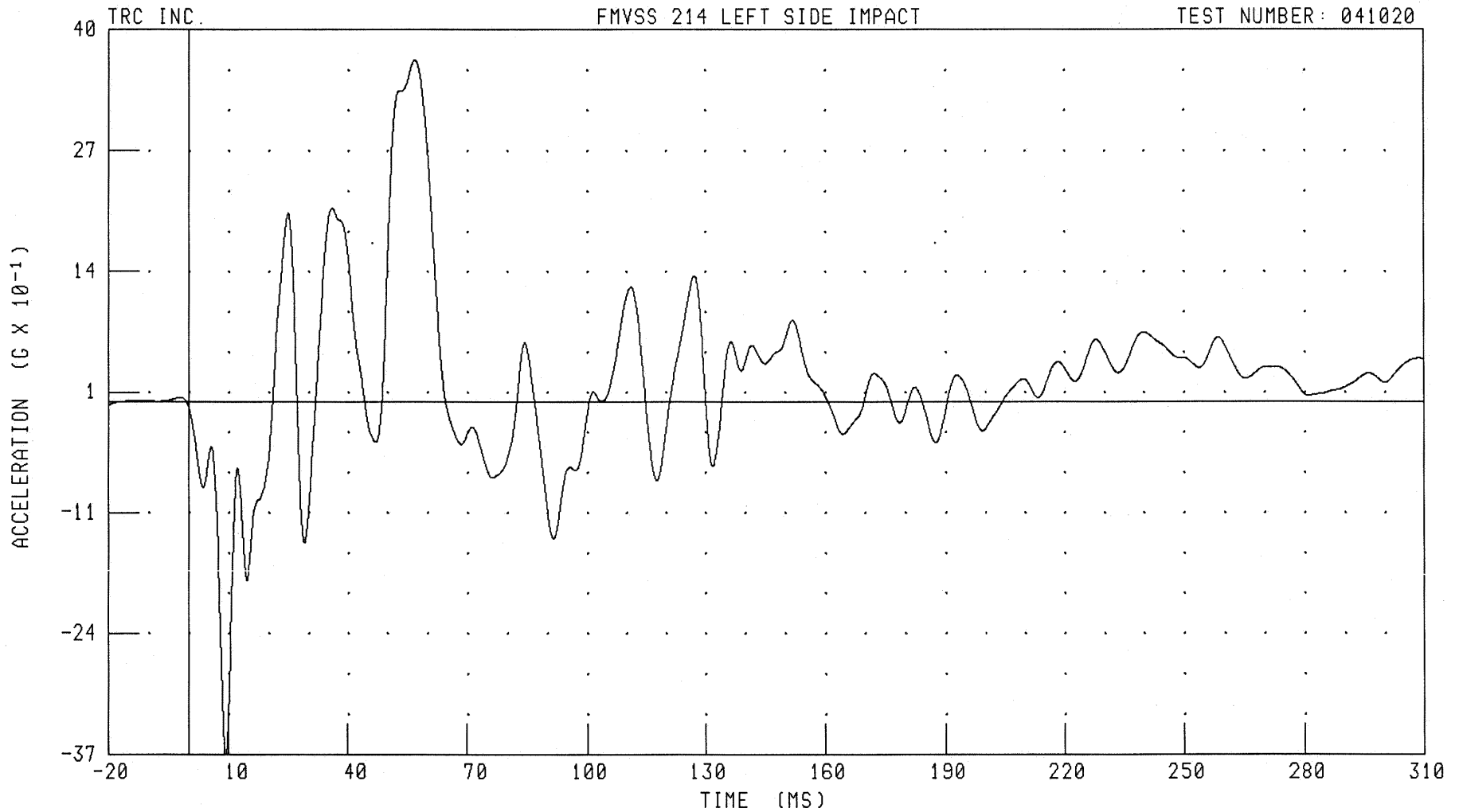
B-92

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRSXG1 FILTER: CH. CLASS 60

PEAK DATA: 3.67 G @ 56.96 MS; -3.83 G @ 9.28 MS

B-93

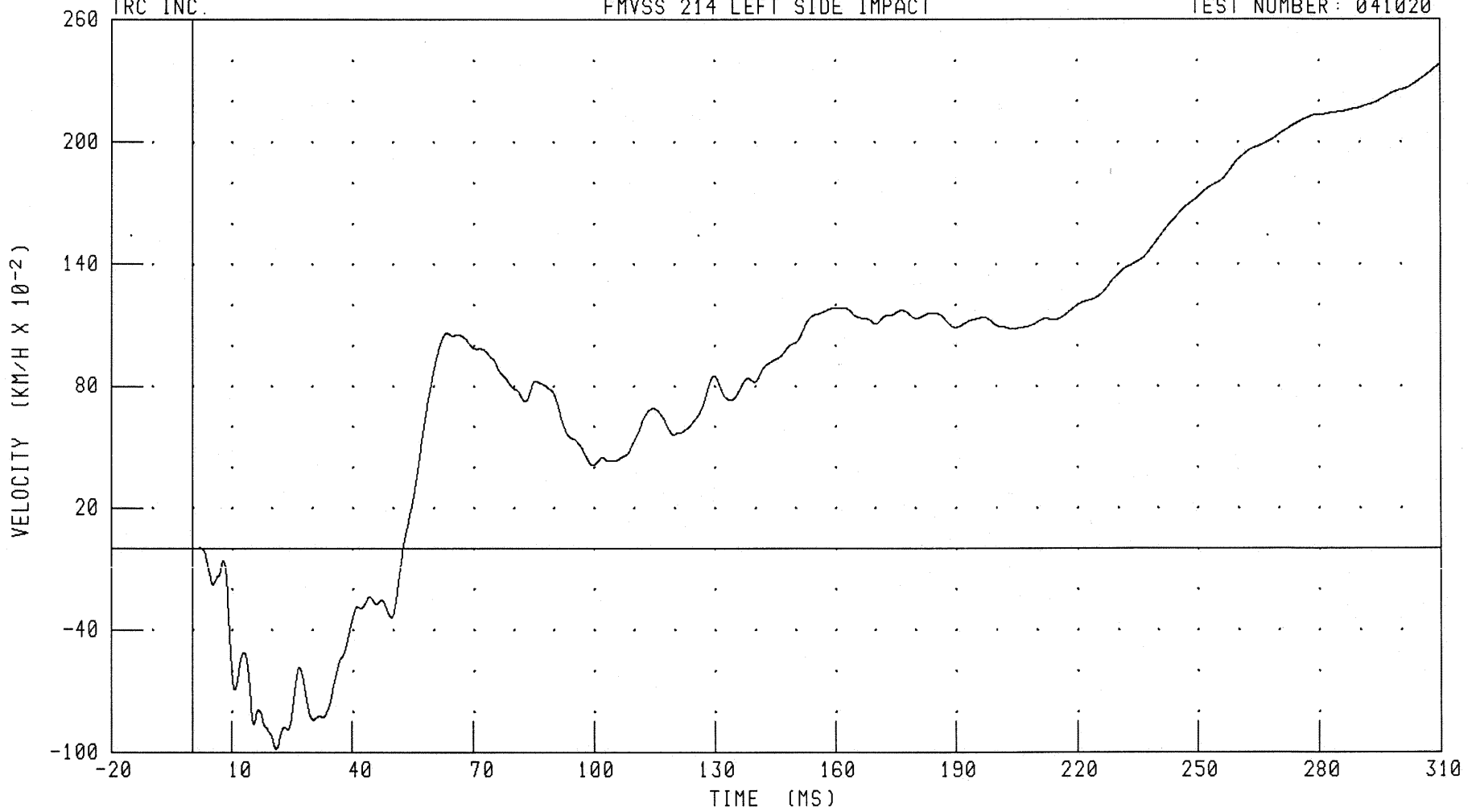
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRSXV1 FILTER: CH. CLASS 180

PEAK DATA: 2.38 KM/H @ 310.00 MS; -0.98 KM/H @ 21.20 MS

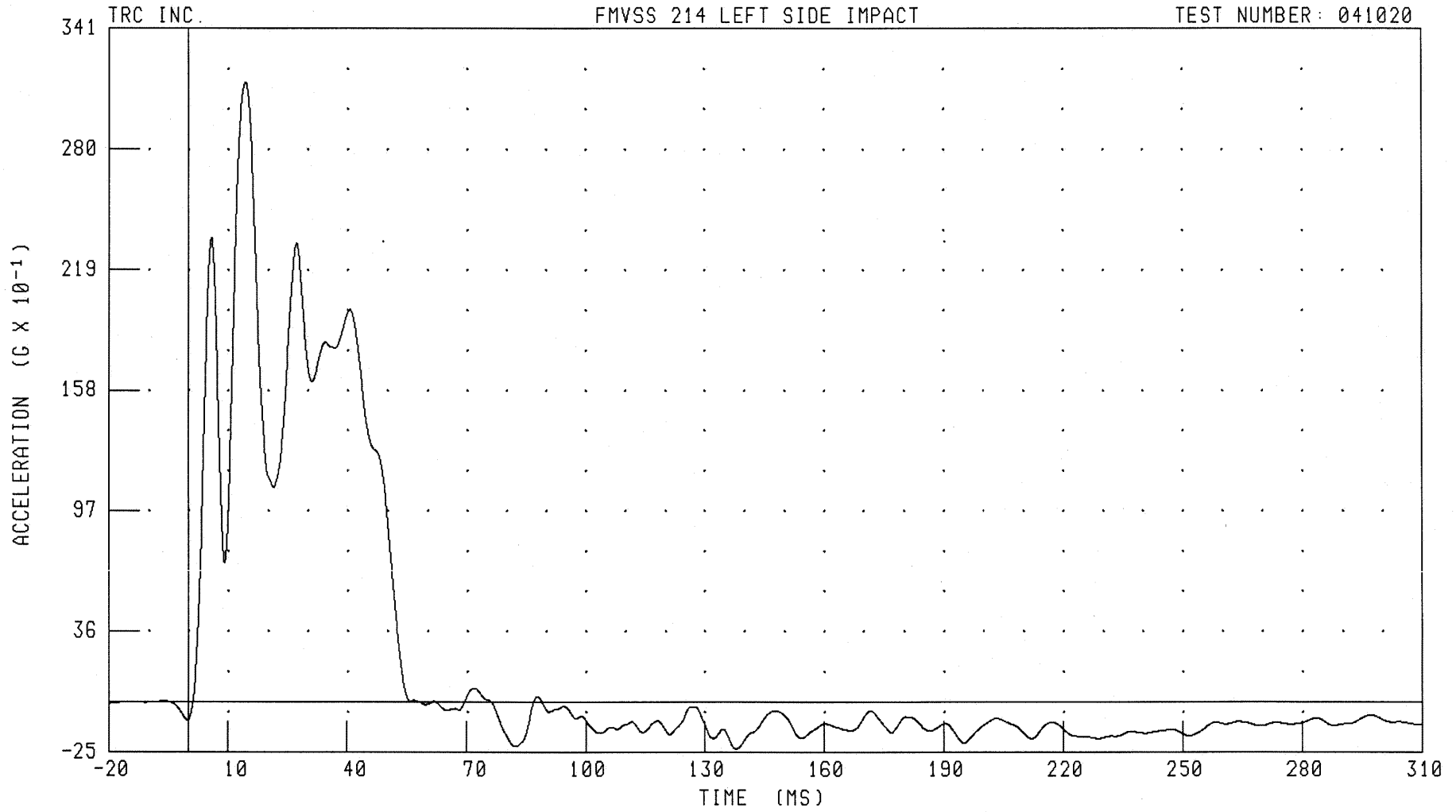
B-94

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRSYG1

FILTER: CH. CLASS 60

PEAK DATA: 31.38 G @ 14.40 MS; -2.33 G @ 137.92 MS

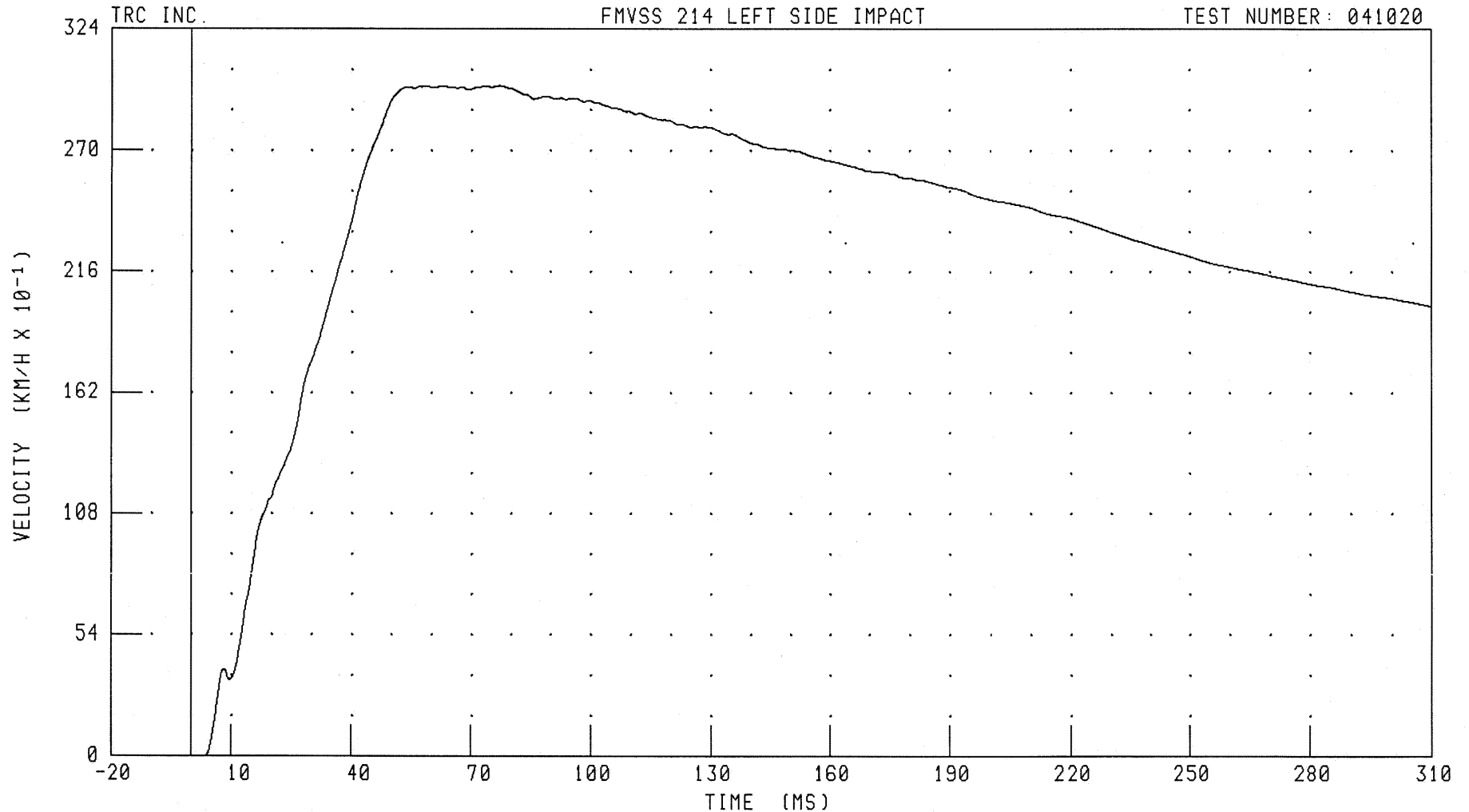
B-95

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRSYV1 FILTER: CH. CLASS 100

PEAK DATA: 29.87 KM/H @ 77.28 MS; -0.01 KM/H @ 3.12 MS

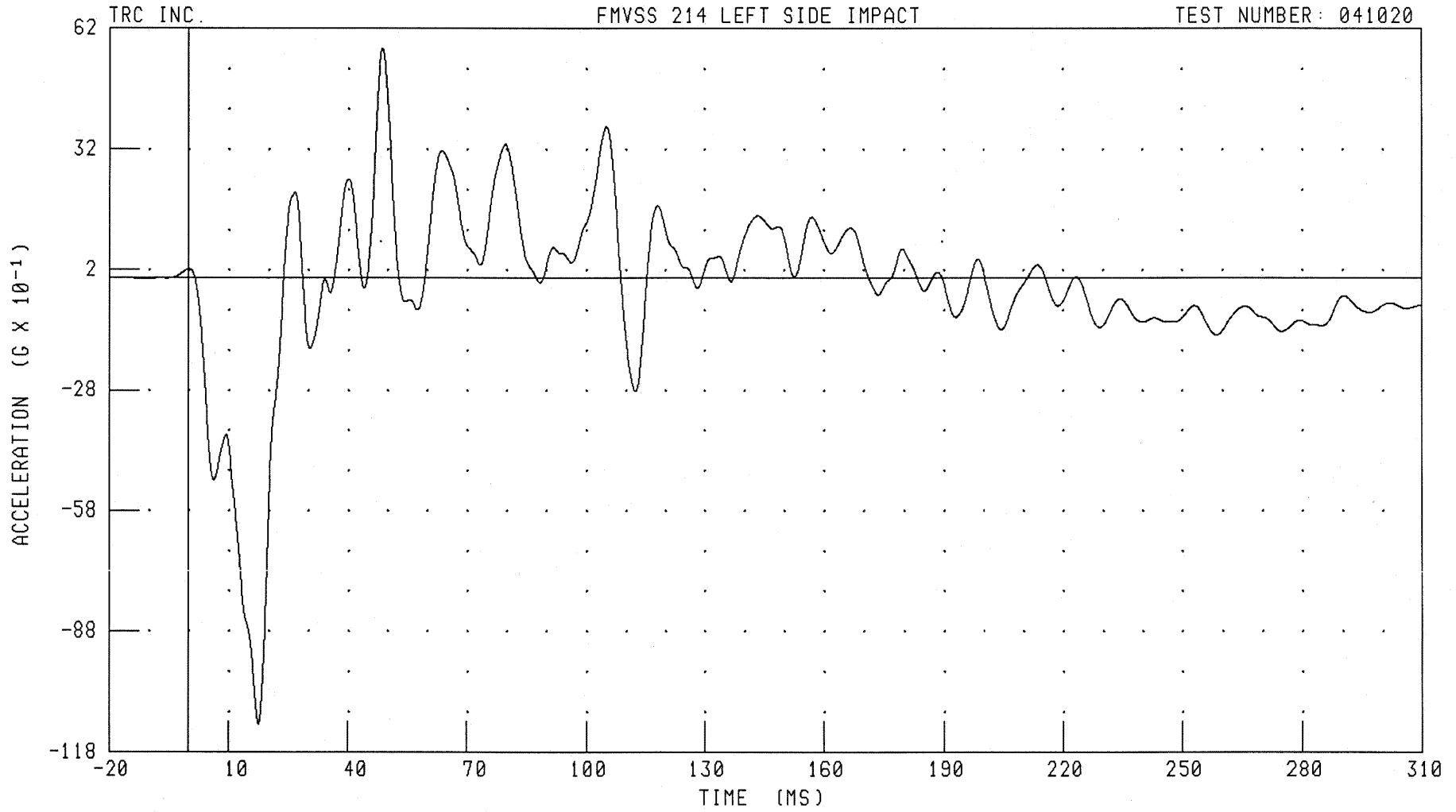
B-96

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRSZG1 FILTER: CH. CLASS 60

PEAK DATA: 5.71 G @ 48.80 MS; -11.12 G @ 17.52 MS

B-97

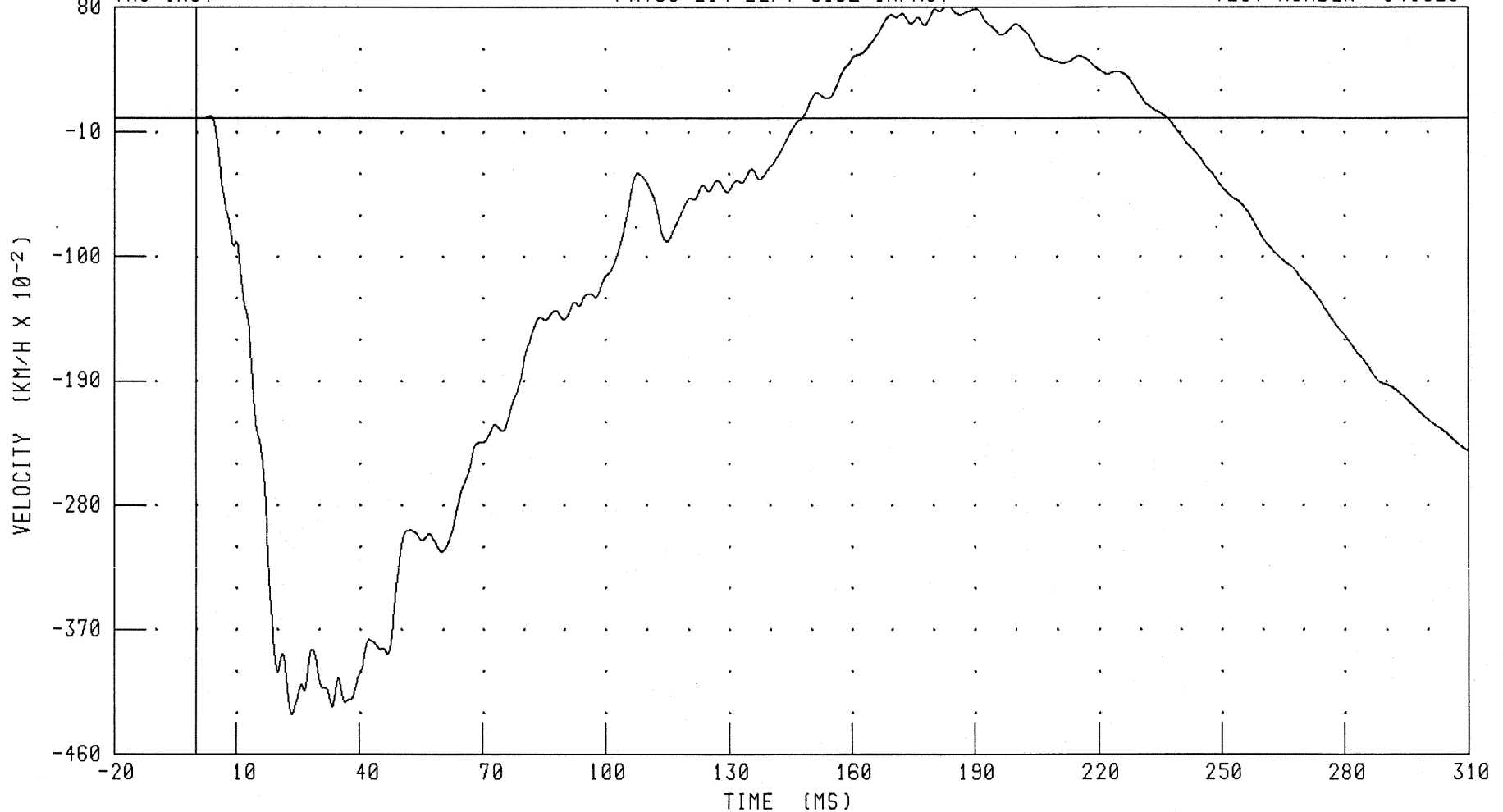
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRSZV1

FILTER: CH. CLASS 180

PEAK DATA: 0.81 KM/H @ 183.92 MS; -4.31 KM/H @ 23.52 MS

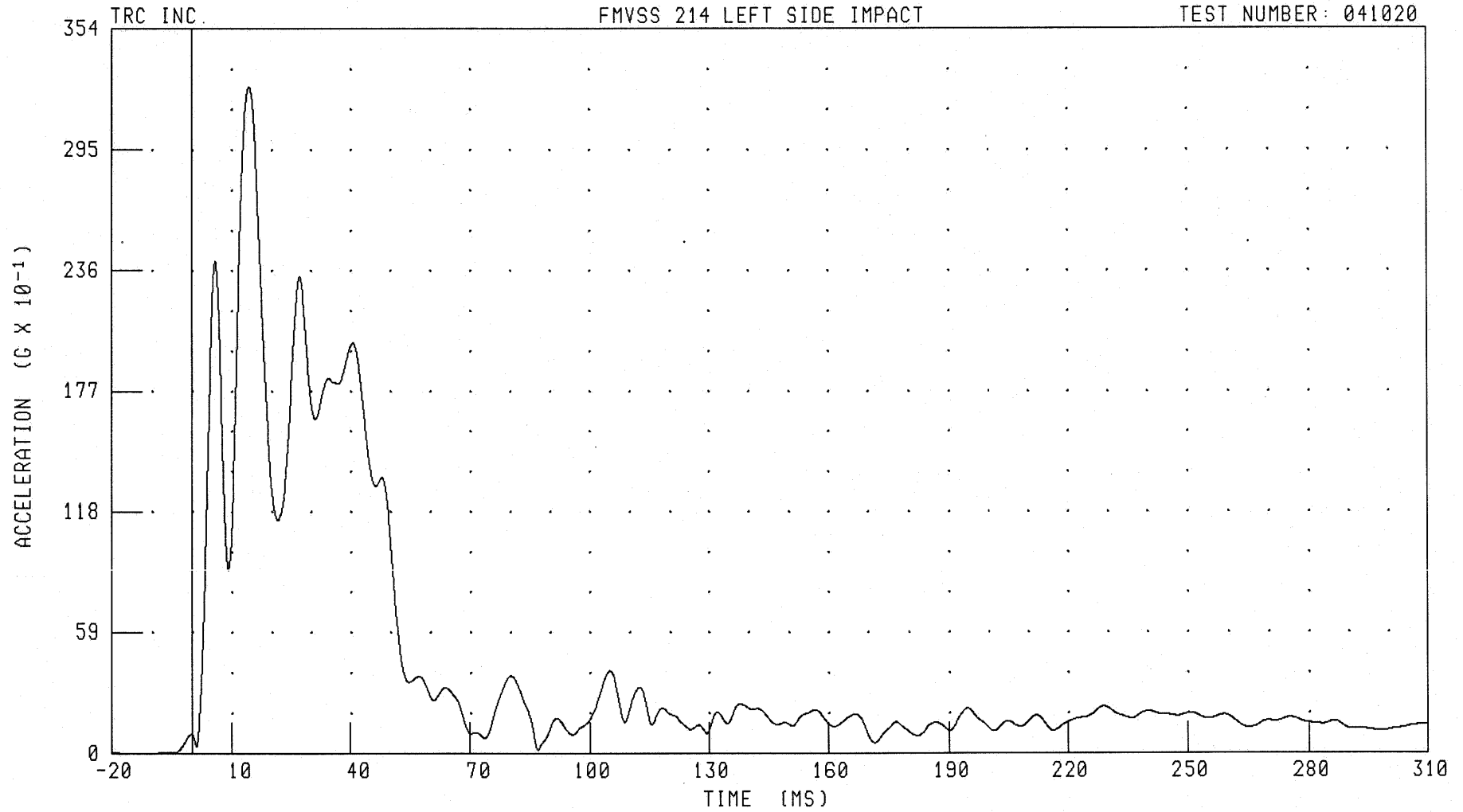
B-98

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRSRG1

FILTER: CH. CLASS 60

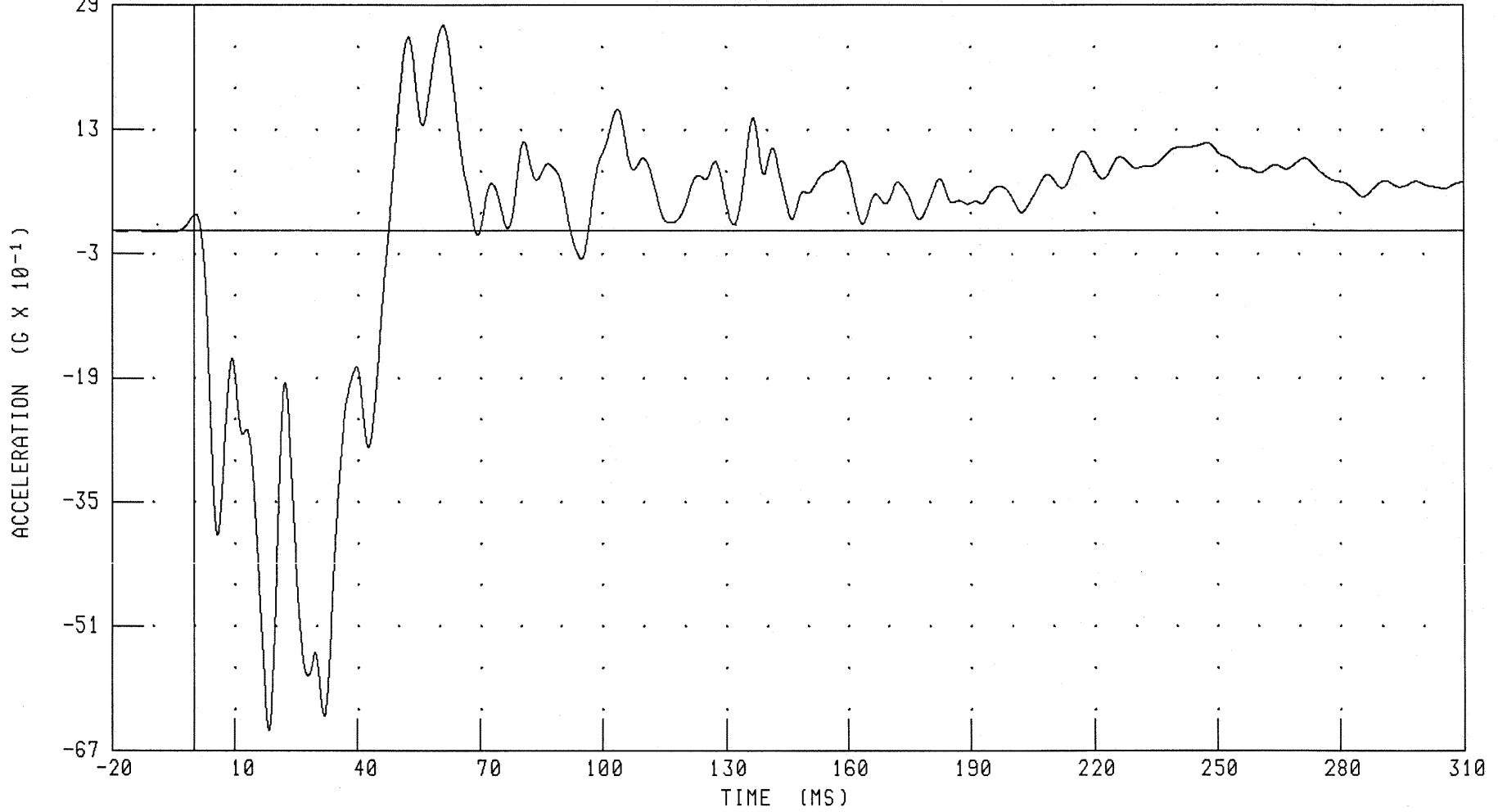
PEAK DATA: 32.59 G @ 14.40 MS; 0.00 G @ -17.36 MS

B-99

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: RDKXG1 FILTER: CH. CLASS 60

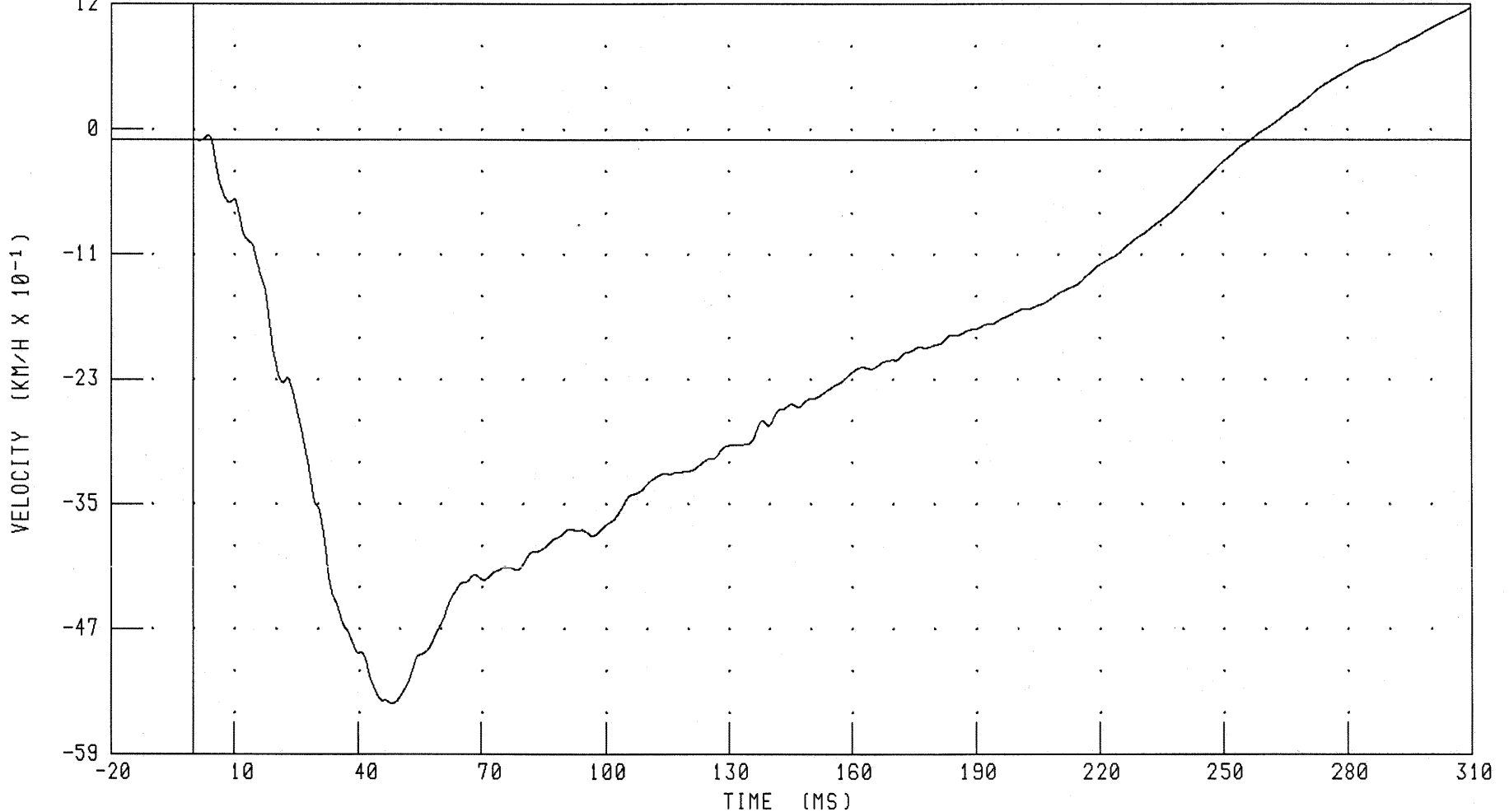
PEAK DATA: 2.64 G @ 61.04 MS; -6.44 G @ 18.40 MS

B-100

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: RDKXV1 FILTER: CH. CLASS 180

PEAK DATA: 1.27 KM/H @ 310.00 MS; -5.41 KM/H @ 48.24 MS

B-101

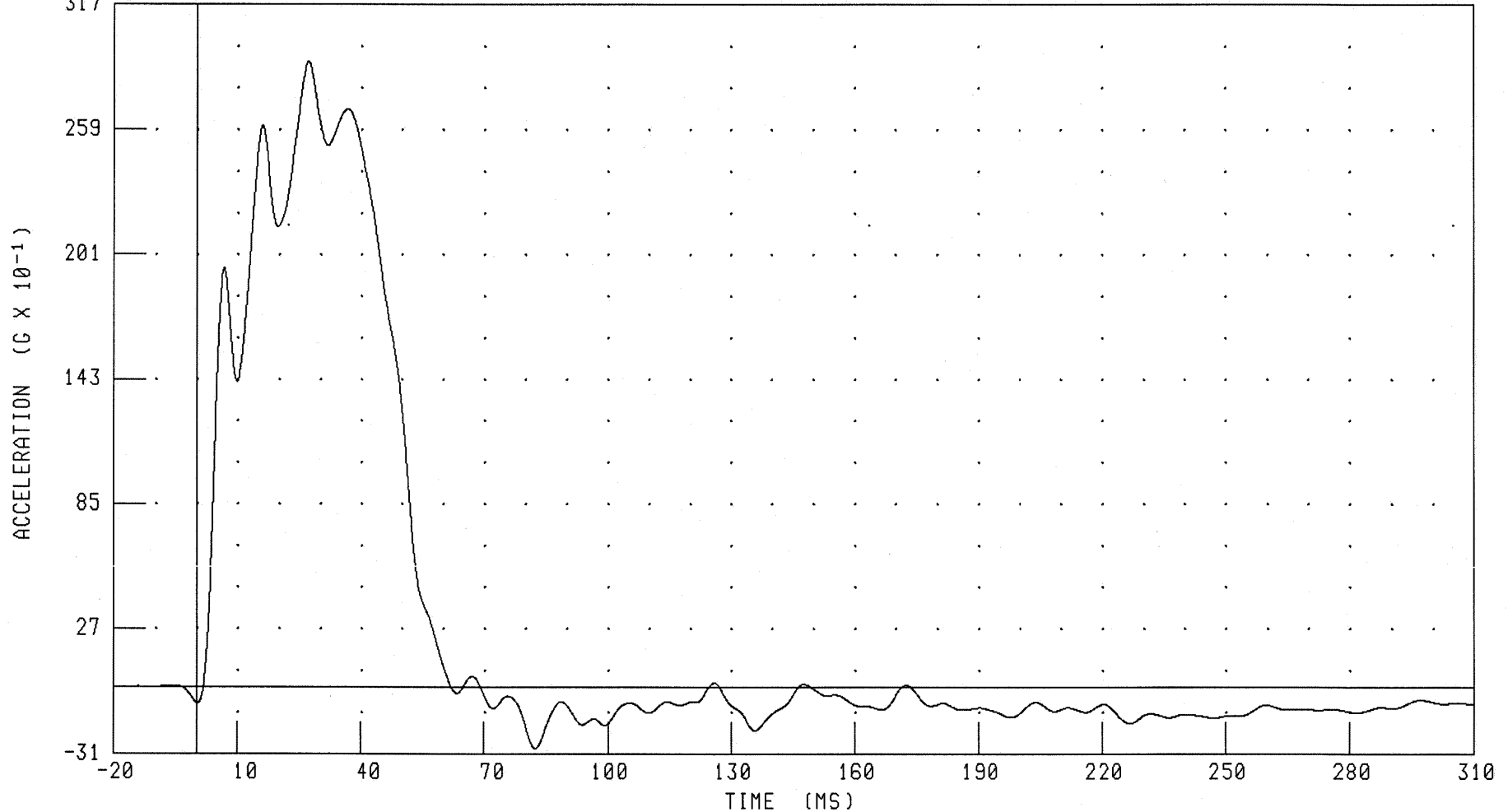
041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020

TRC INC.



CHANNEL: RDKYG1 FILTER: CH. CLASS 60

PEAK DATA: 29.05 G @ 27.20 MS; -2.85 G @ 82.40 MS

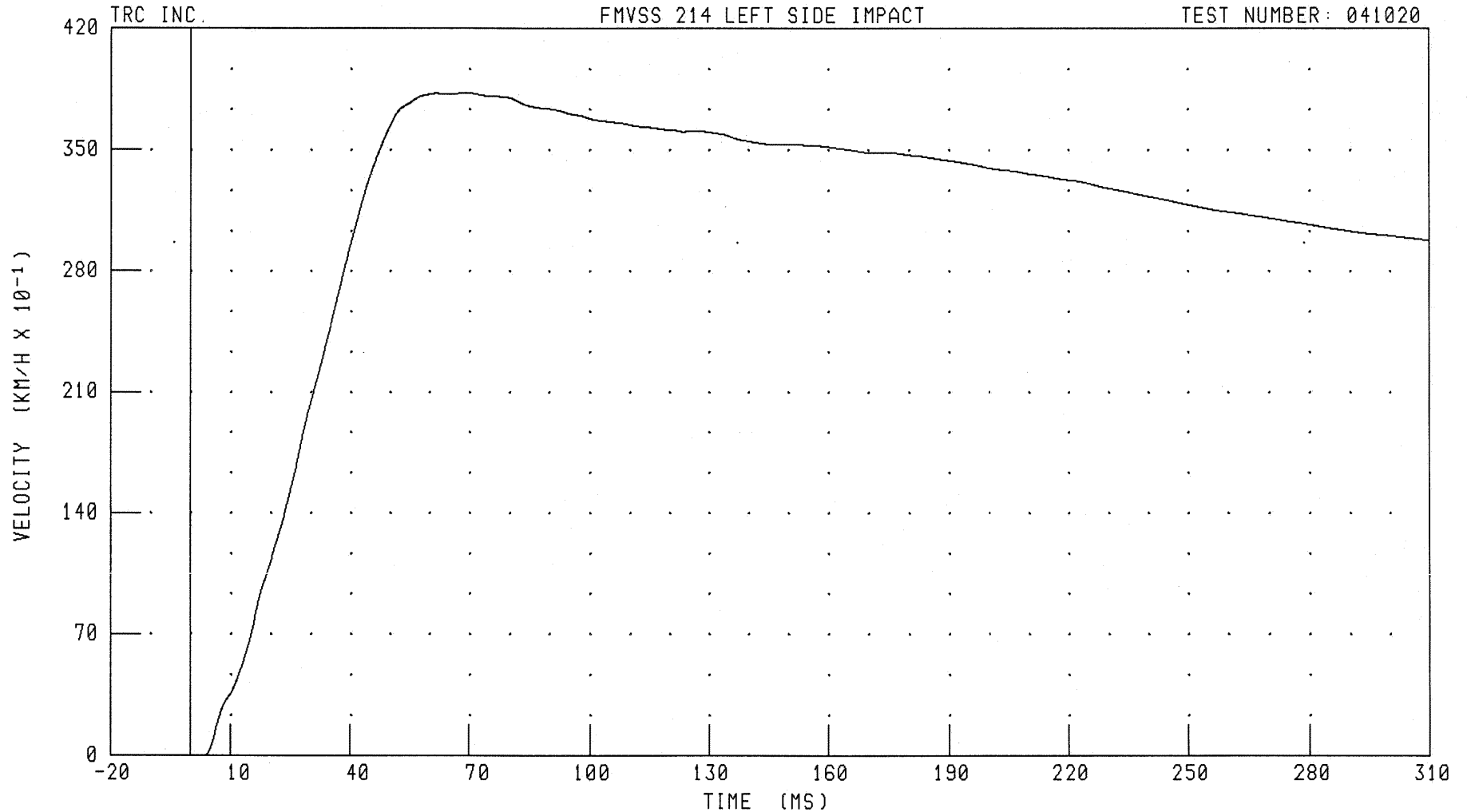
B-102

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RDKYV1

FILTER: CH. CLASS 180

PEAK DATA: 38.28 KM/H @ 69.04 MS; -0.05 KM/H @ 3.28 MS

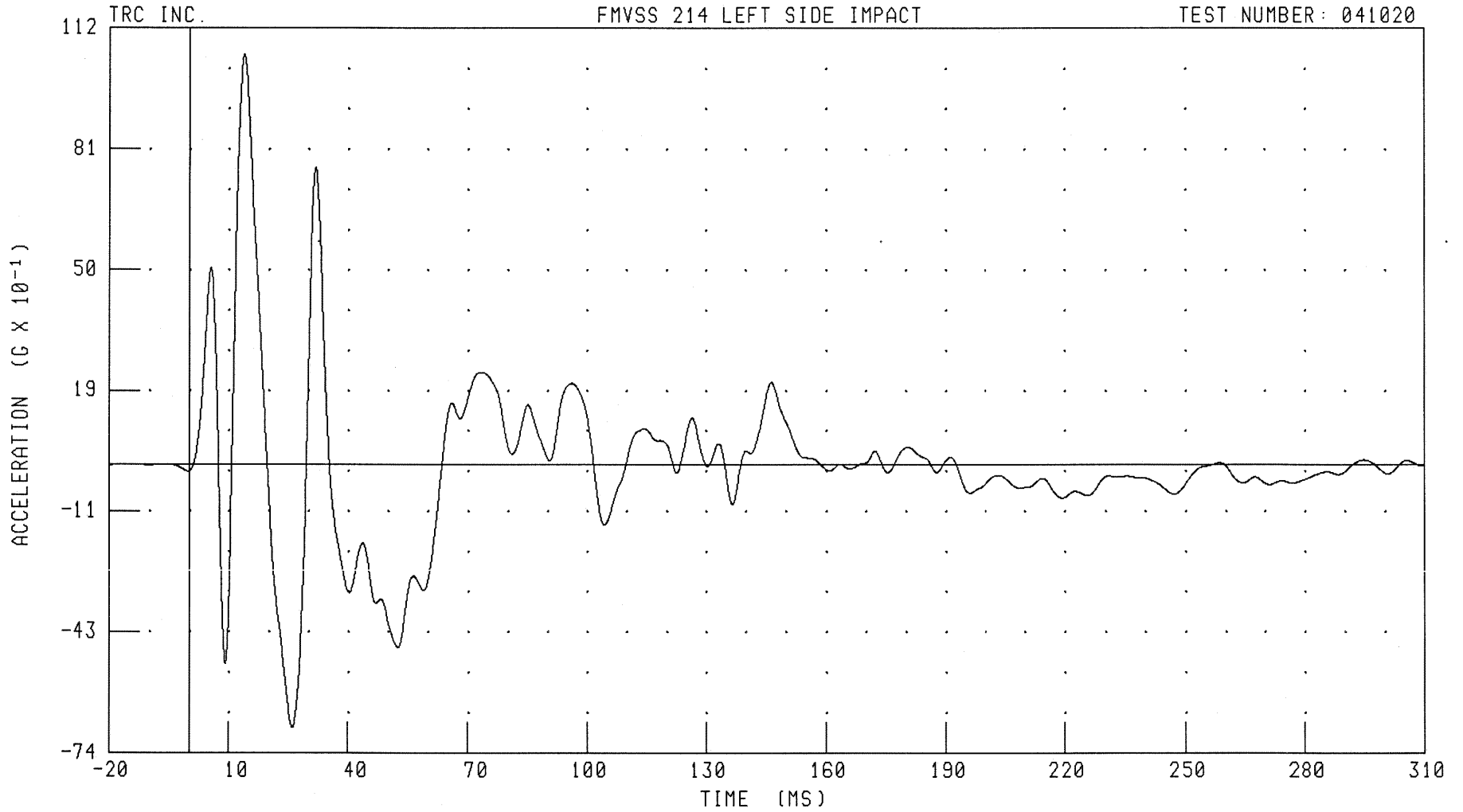
B-103

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RDKZG1 FILTER: CH. CLASS 60

PEAK DATA: 10.53 G @ 13.92 MS; -6.75 G @ 25.92 MS

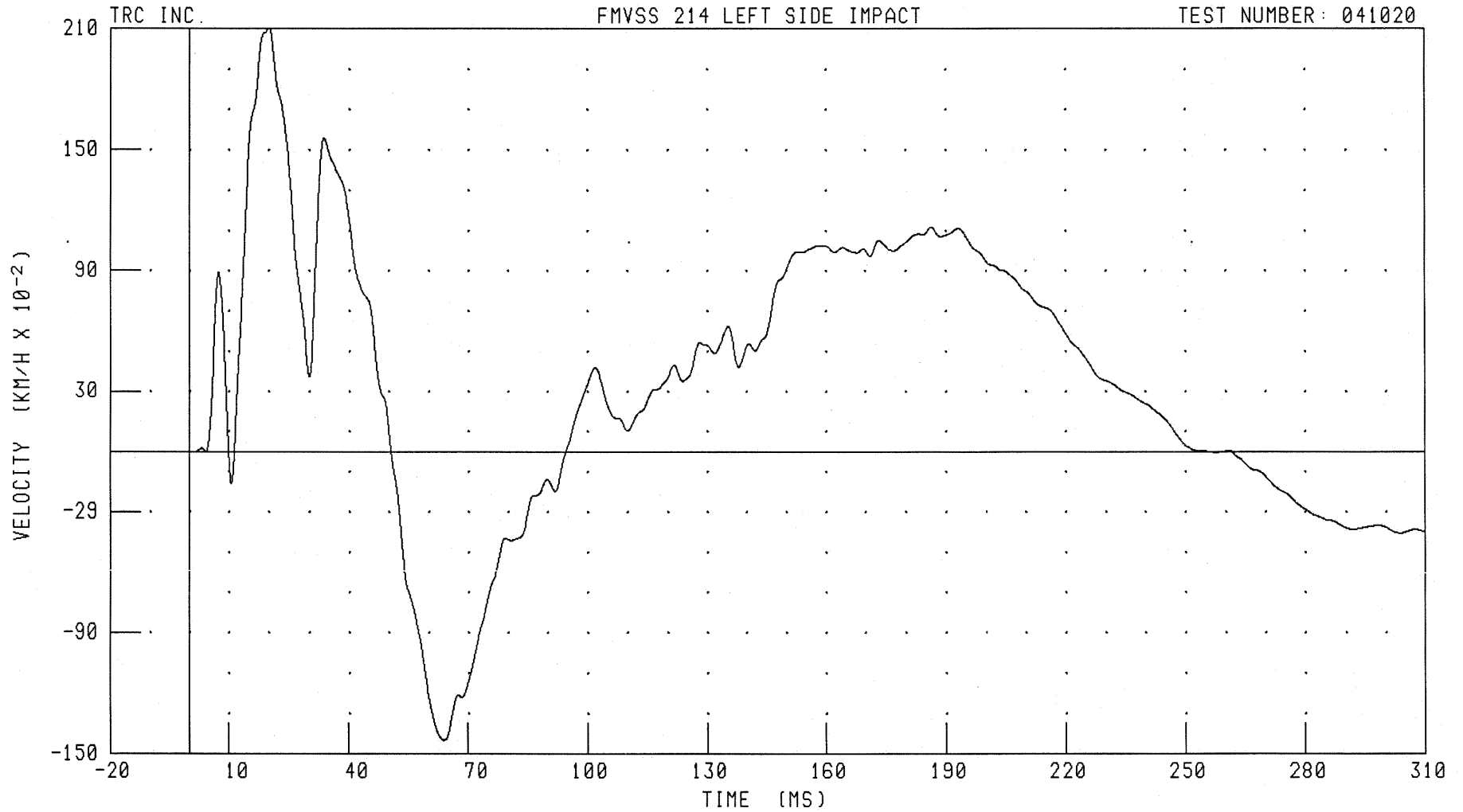
B-104

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RDKZV1 FILTER: CH. CLASS 180

PEAK DATA: 2.12 KM/H @ 20.24 MS; -1.43 KM/H @ 63.68 MS

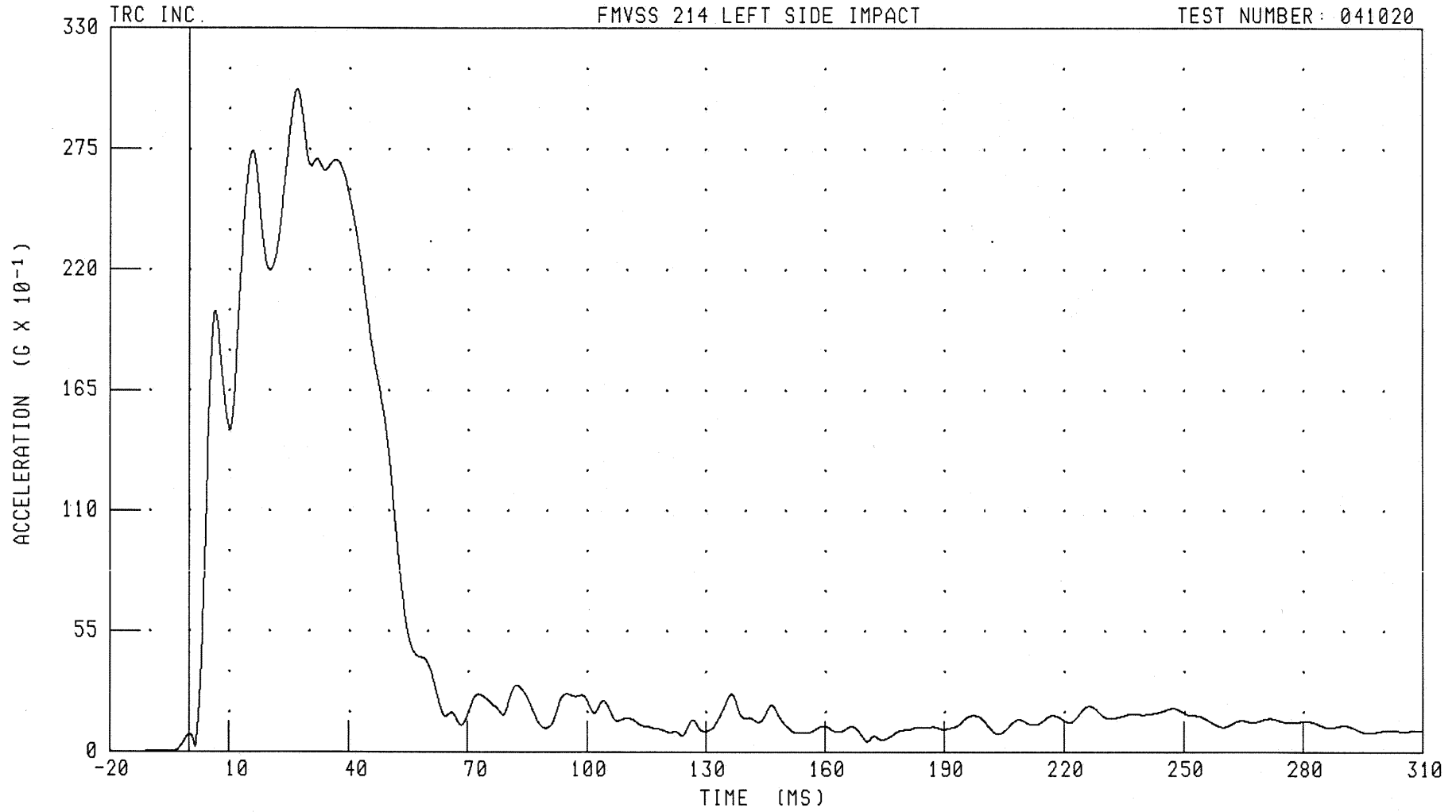
B-105

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RDKRG1 FILTER: CH. CLASS 60

PEAK DATA: 30.21 G @ 27.04 MS; 0.01 G @ -18.48 MS

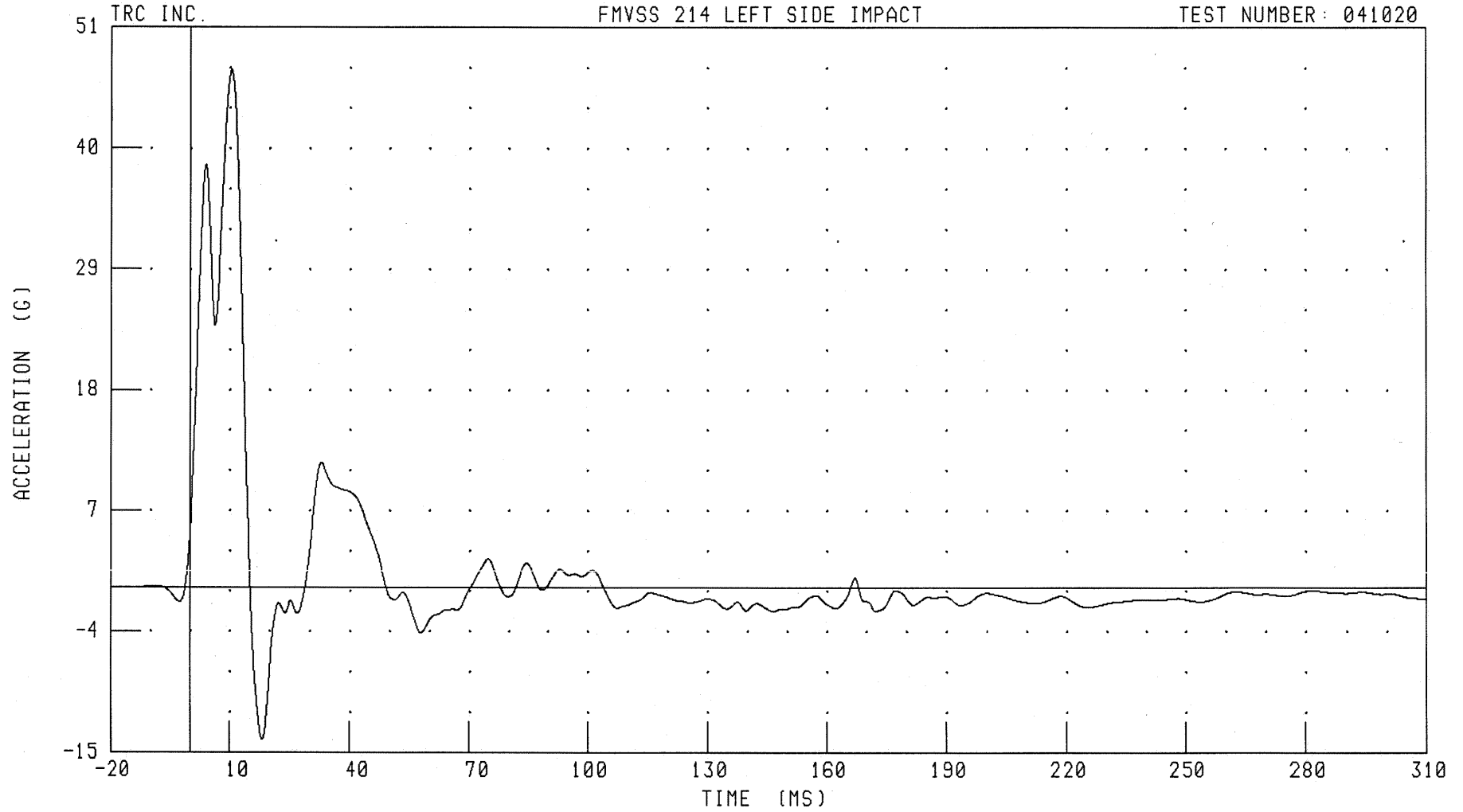
B-106

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



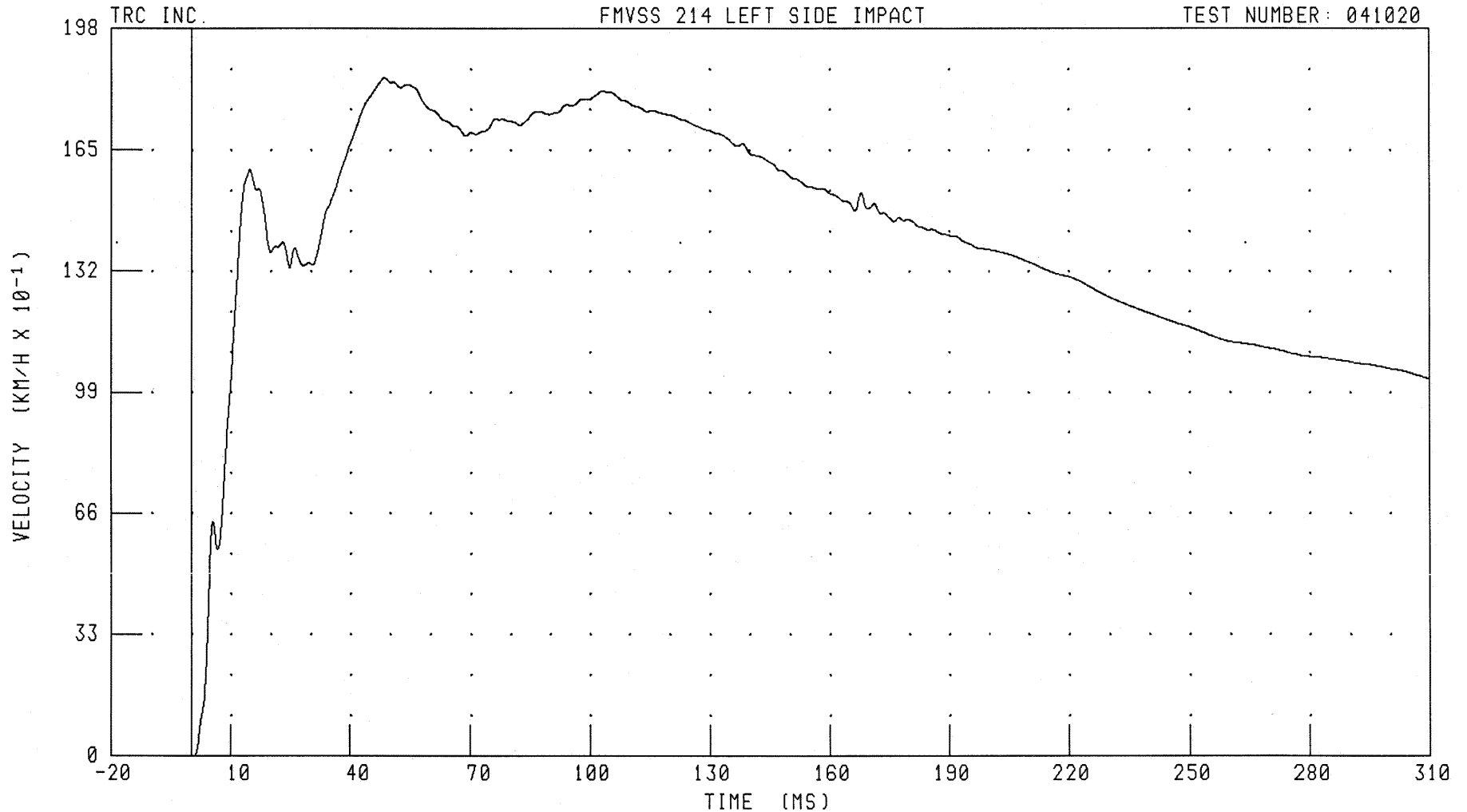
B-107

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LFSYV1 FILTER: CH. CLASS 180

PEAK DATA: 18.46 KM/H @ 48.64 MS; -0.01 KM/H @ 0.48 MS

B-108

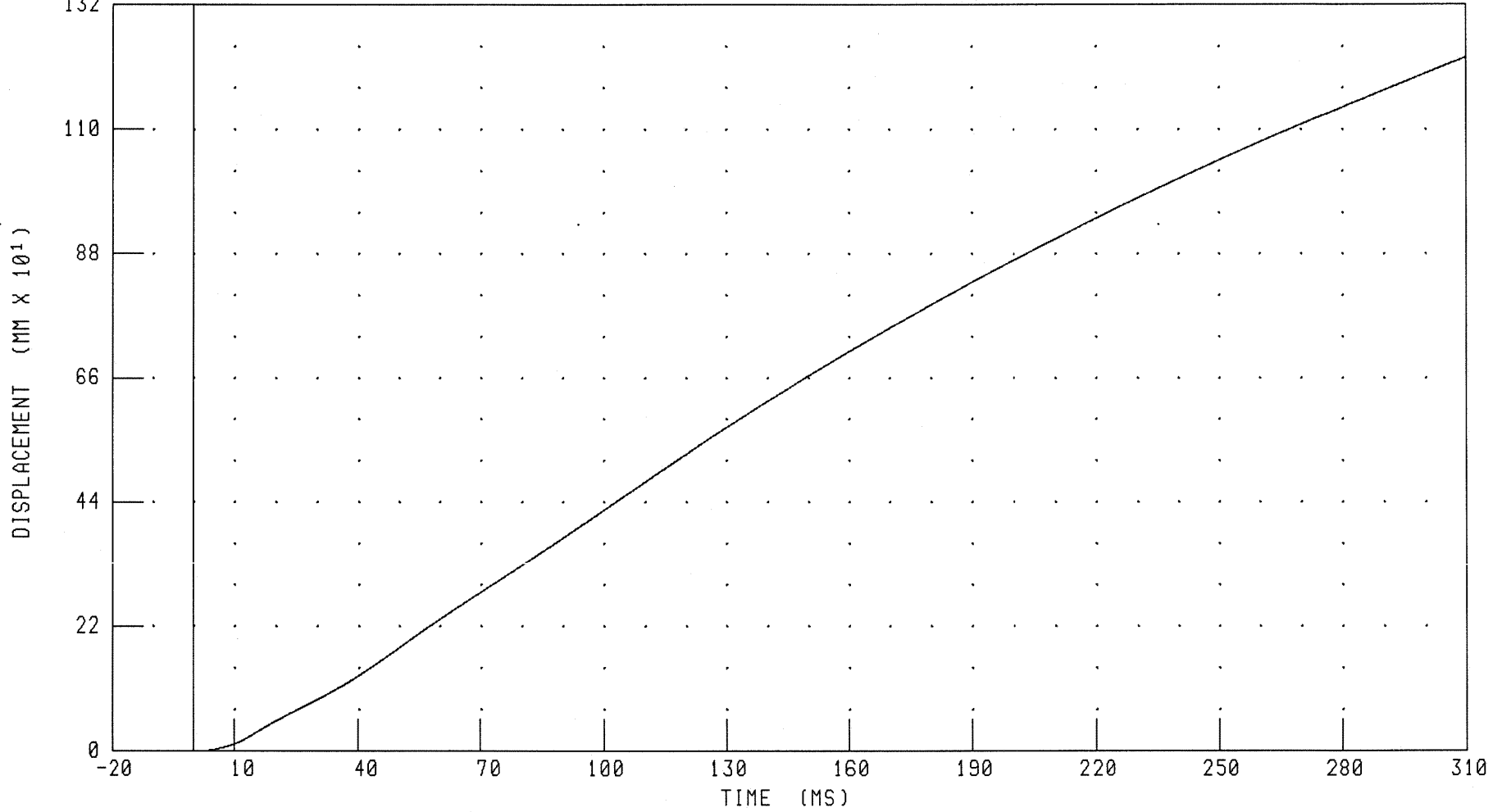
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LFSYD1

FILTER: CH. CLASS 180

PEAK DATA: 1227.28 MM @ 310.00 MS; 0.00 MM @ 0.80 MS

B-109

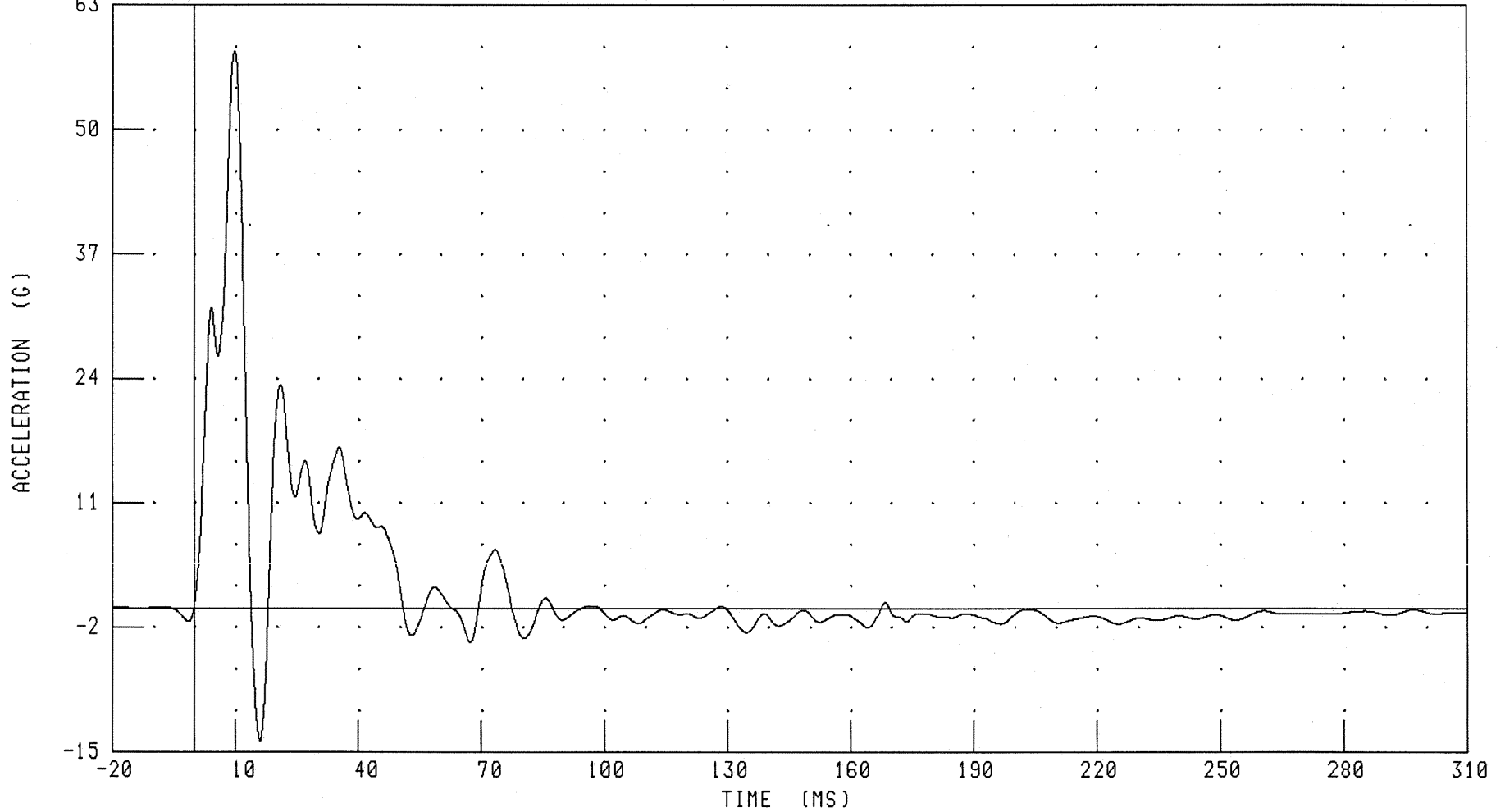
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRSYG1

FILTER: CH. CLASS 60

PEAK DATA: 58.21 G @ 9.84 MS; -13.91 G @ 15.92 MS

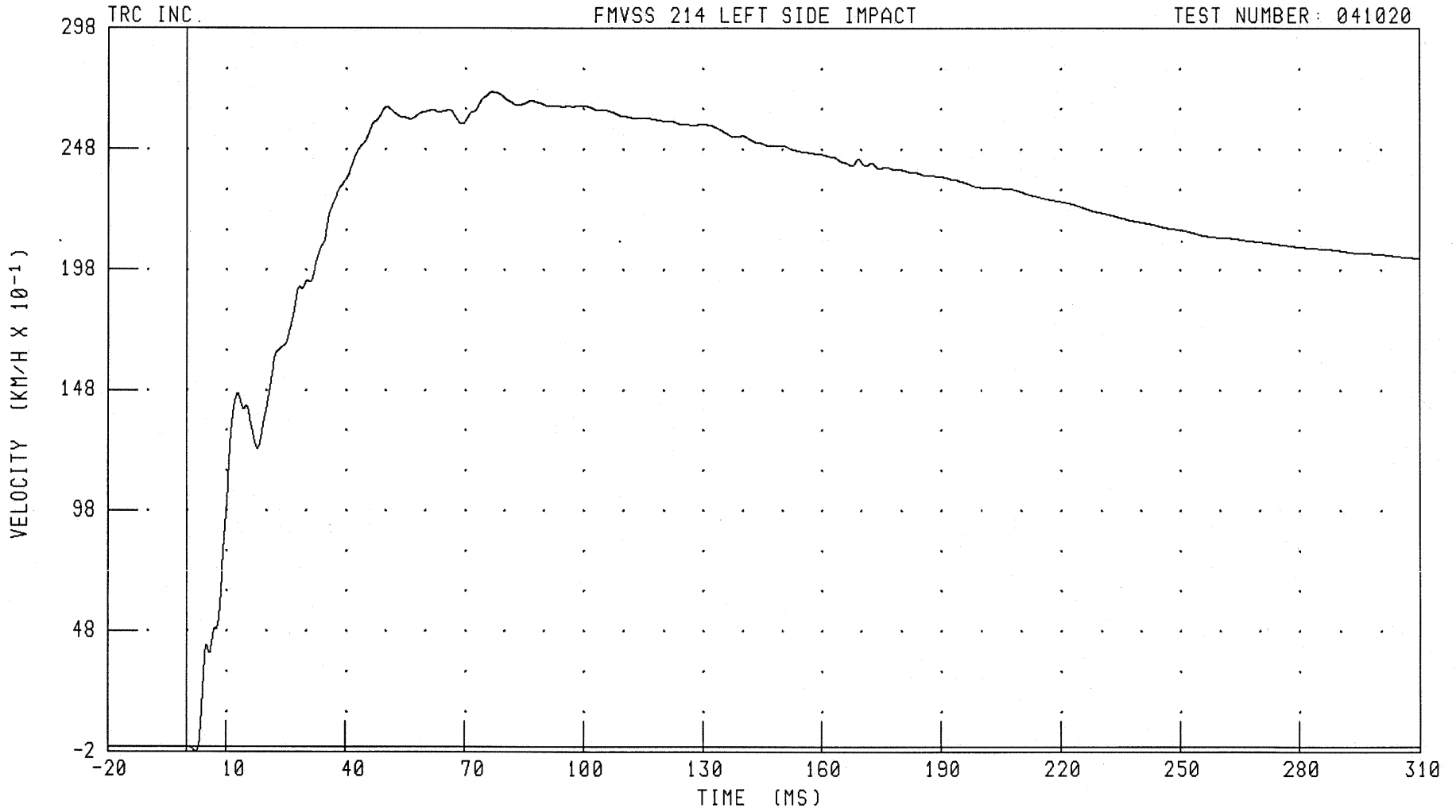
B-110

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 27.17 KM/H @ 77.04 MS; -0.19 KM/H @ 2.32 MS

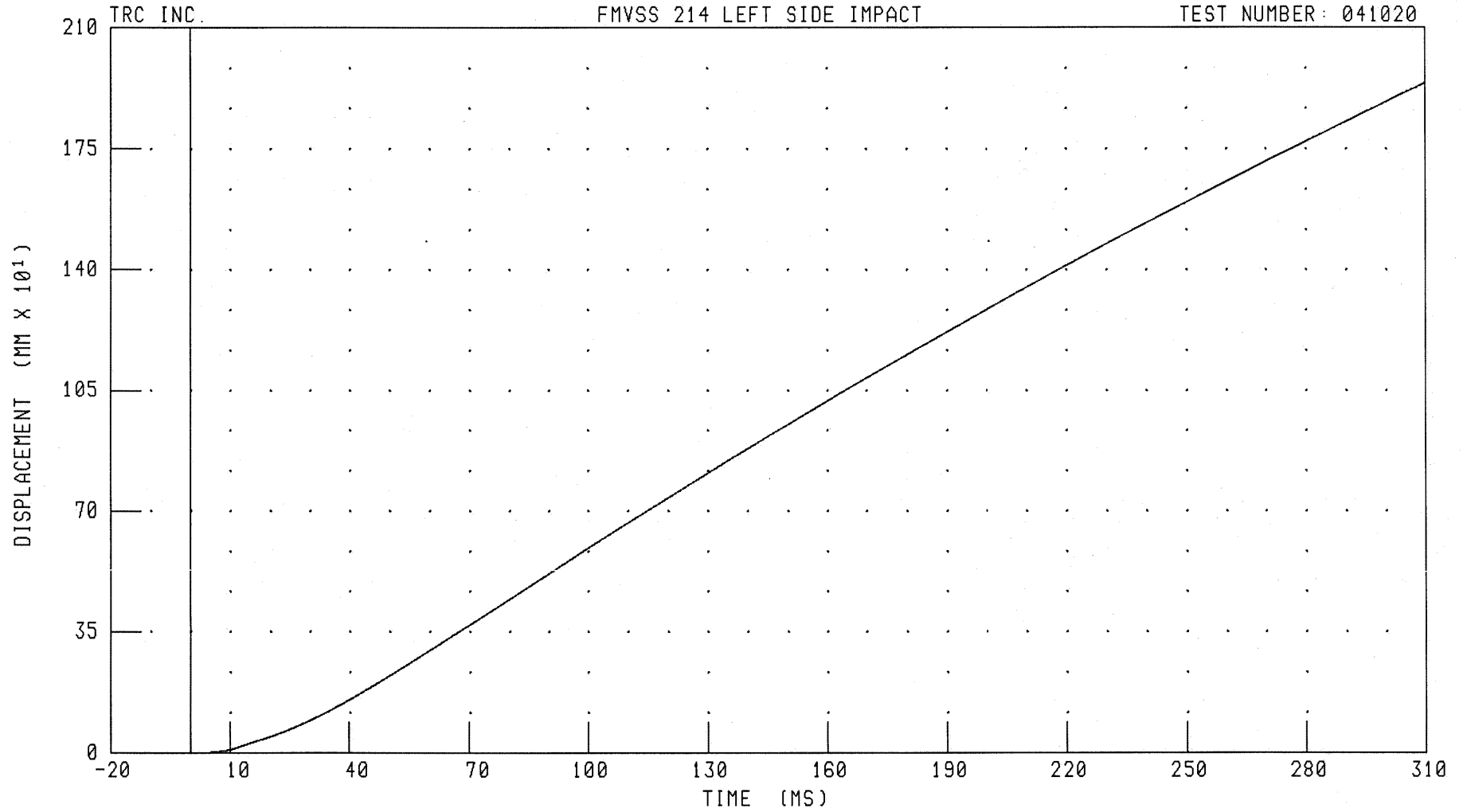
B-111

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRSYD1 FILTER: CH. CLASS 180

PEAK DATA: 1941.31 MM @ 310.00 MS; -0.06 MM @ 2.96 MS

B-112

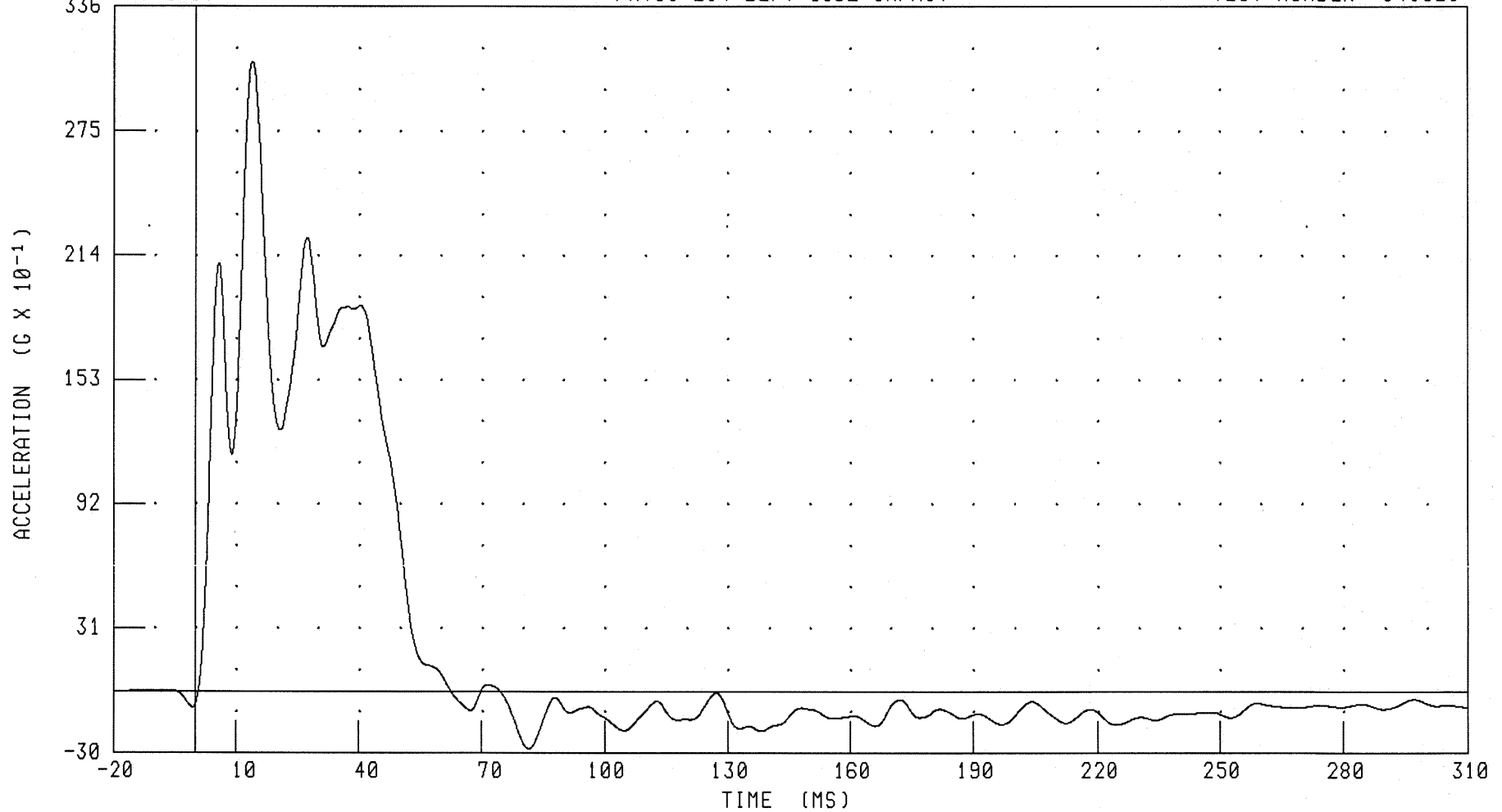
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRTYG1

FILTER: CH. CLASS 60

PEAK DATA: 30.90 G @ 13.92 MS; -2.80 G @ 81.44 MS

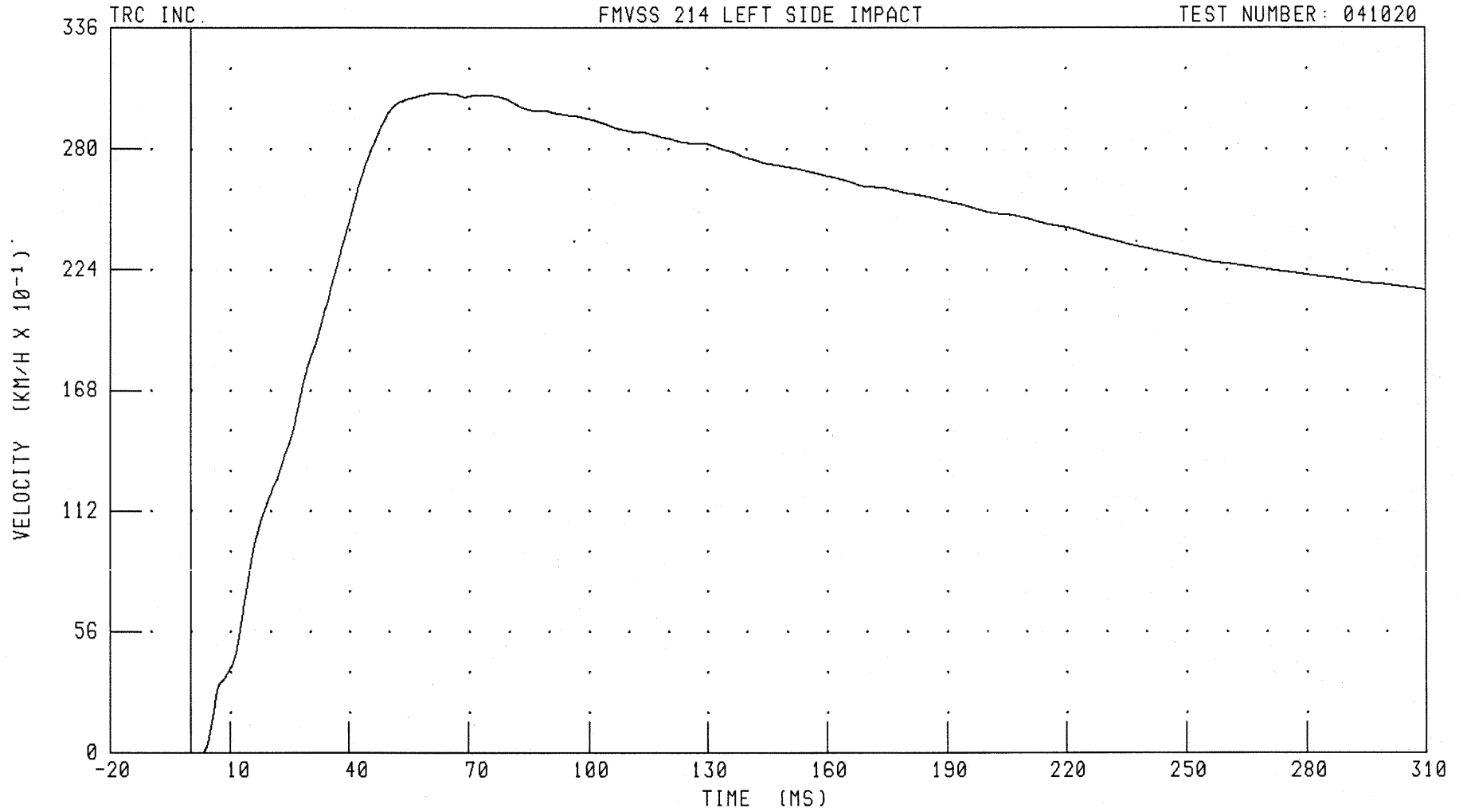
B-113

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: RRTYV1

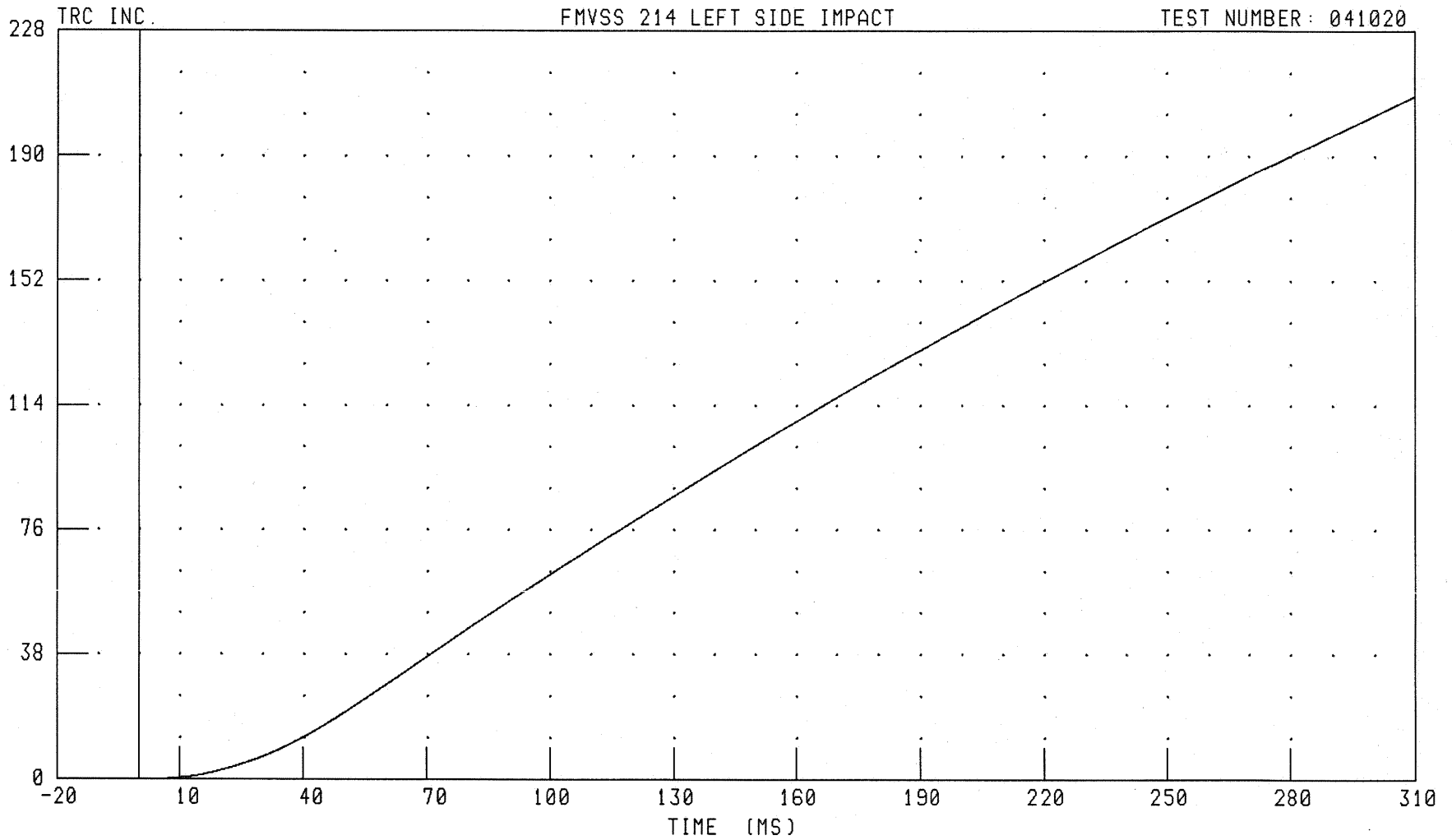
FILTER: CH. CLASS 180

PEAK DATA: 30.59 KM/H @ 62.16 MS; -0.01 KM/H @ 2.48 MS

B-114

041020-1

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



CHANNEL: RRTYD1

FILTER: CH. CLASS 180

PEAK DATA: 2083.09 MM @ 310.00 MS; 0.00 MM @ 2.88 MS

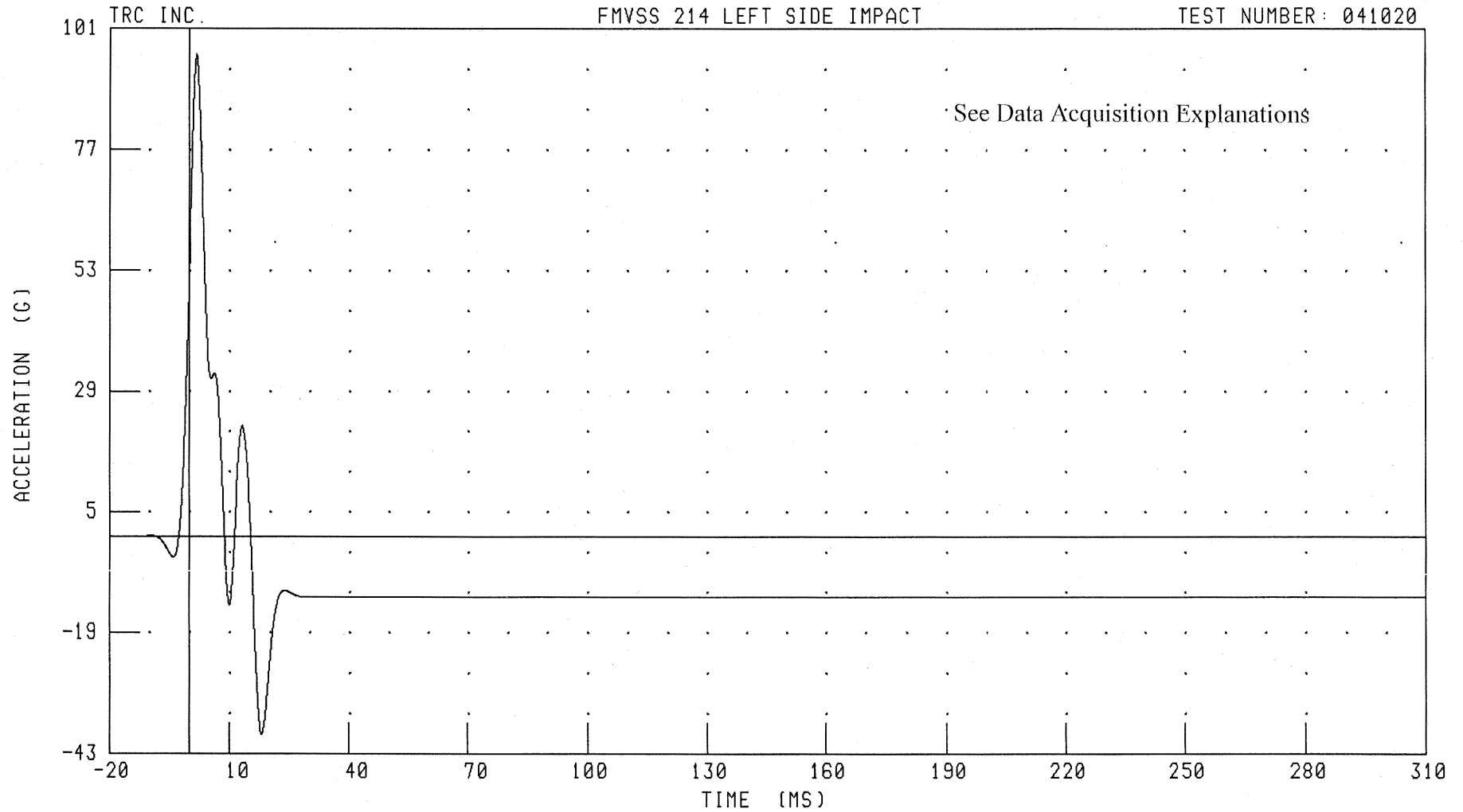
B-115

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT LOWER A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLAG1

FILTER: CH. CLASS 60

PEAK DATA: 95.90 G @ 1.84 MS; -39.14 G @ 18.00 MS

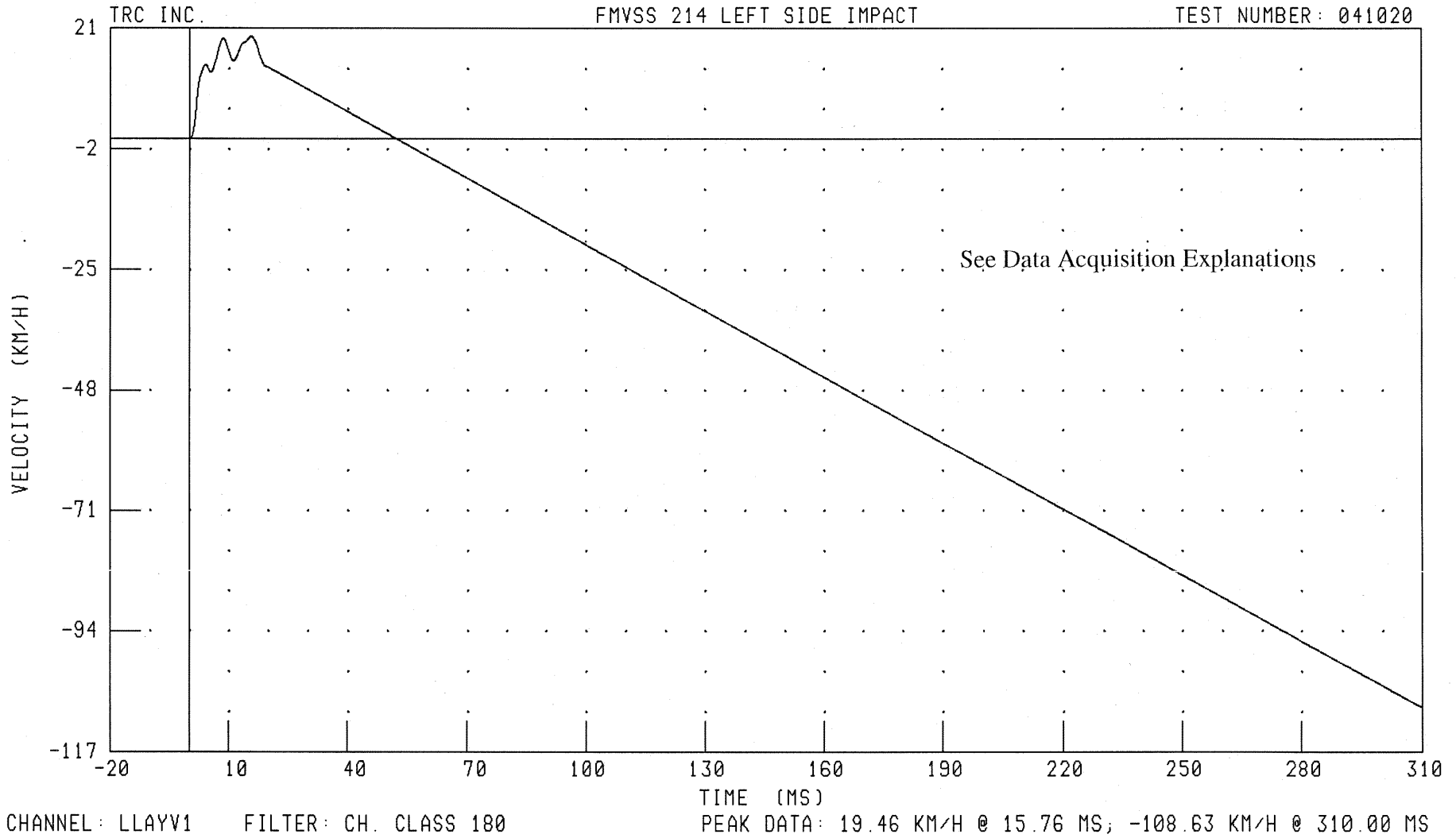
B-116

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



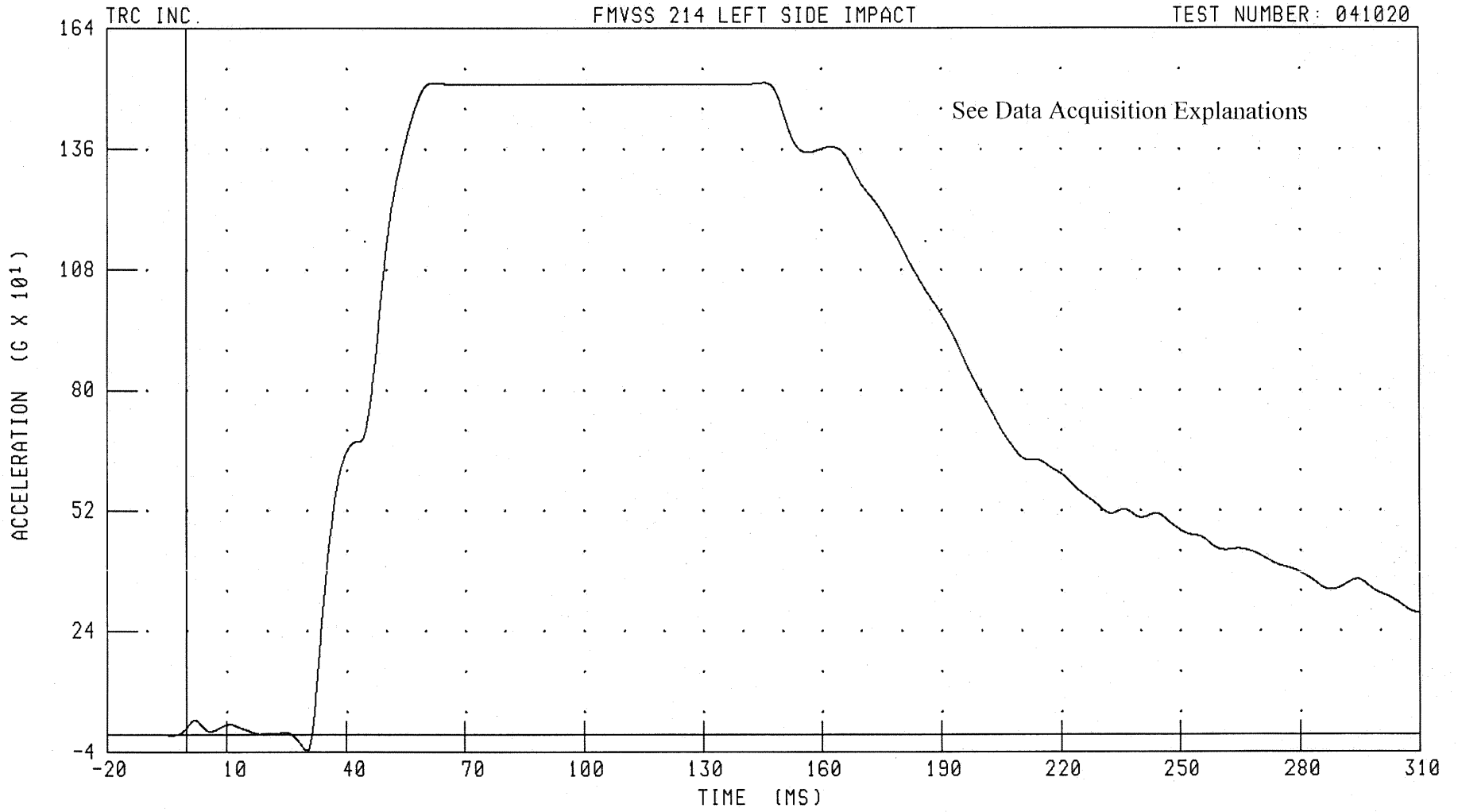
B-117

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT MIDDLE A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LMAYG1 FILTER: CH. CLASS 60

PEAK DATA: 1513.92 G @ 145.60 MS; -36.65 G @ 30.00 MS

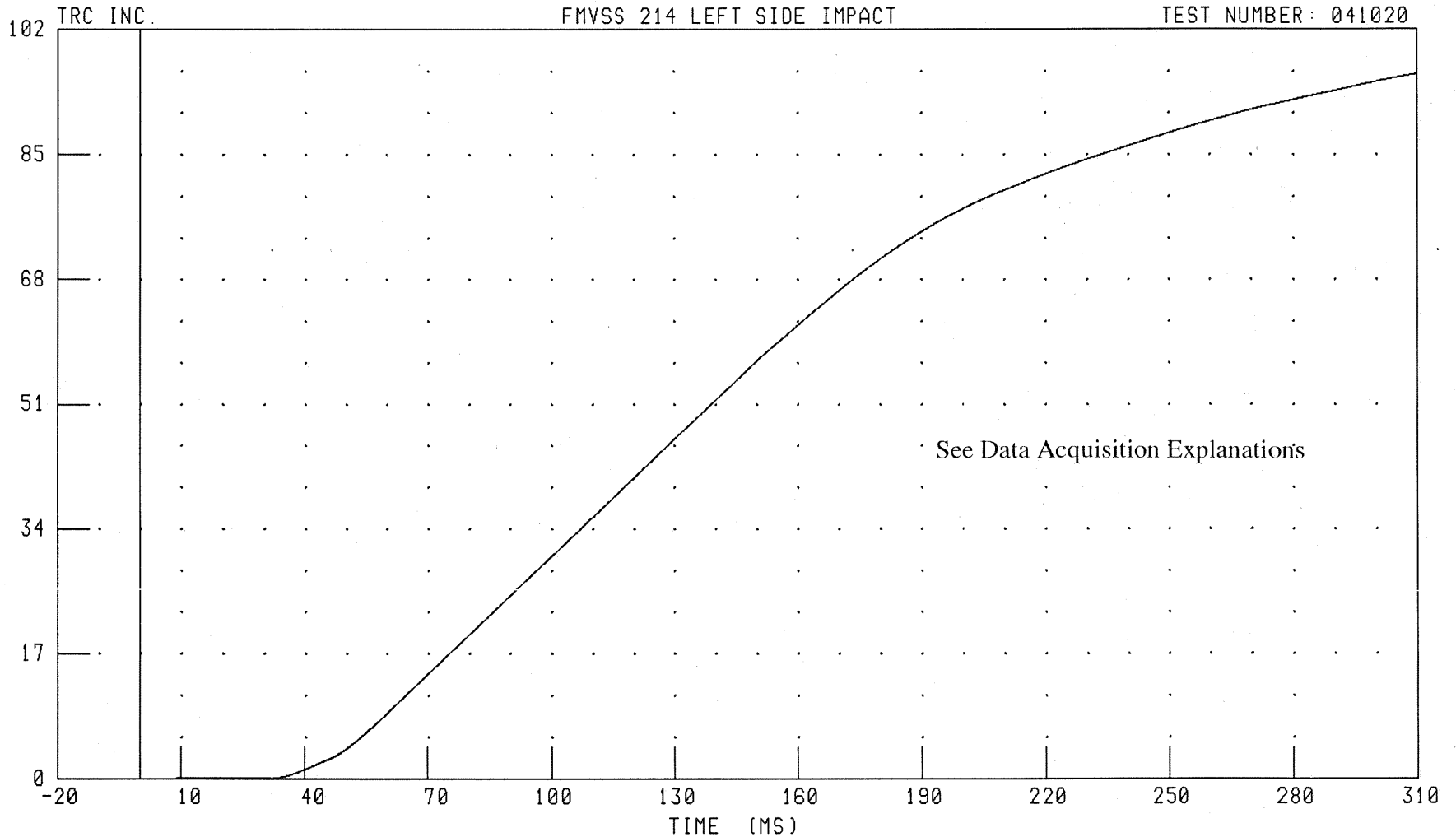
B-118

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT MIDDLE A-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LMAYV1 FILTER: CH. CLASS 100

PEAK DATA: 9596.02 KM/H @ 310.00 MS; -0.03 KM/H @ 0.40 MS

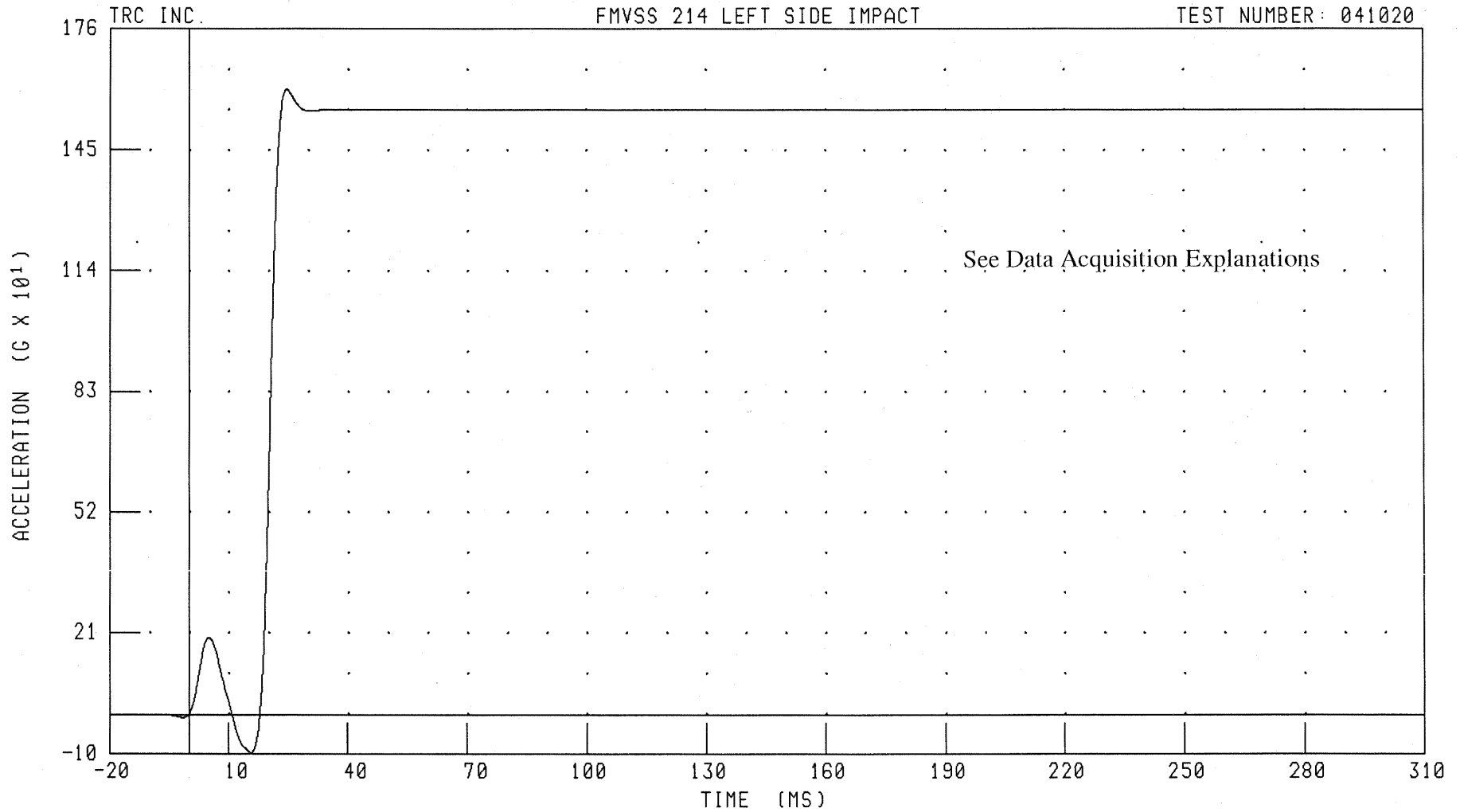
B-119

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT LOWER B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLBYG1

FILTER: CH. CLASS 60

PEAK DATA: 1605.15 G @ 24.64 MS; -96.96 G @ 15.68 MS

B-120

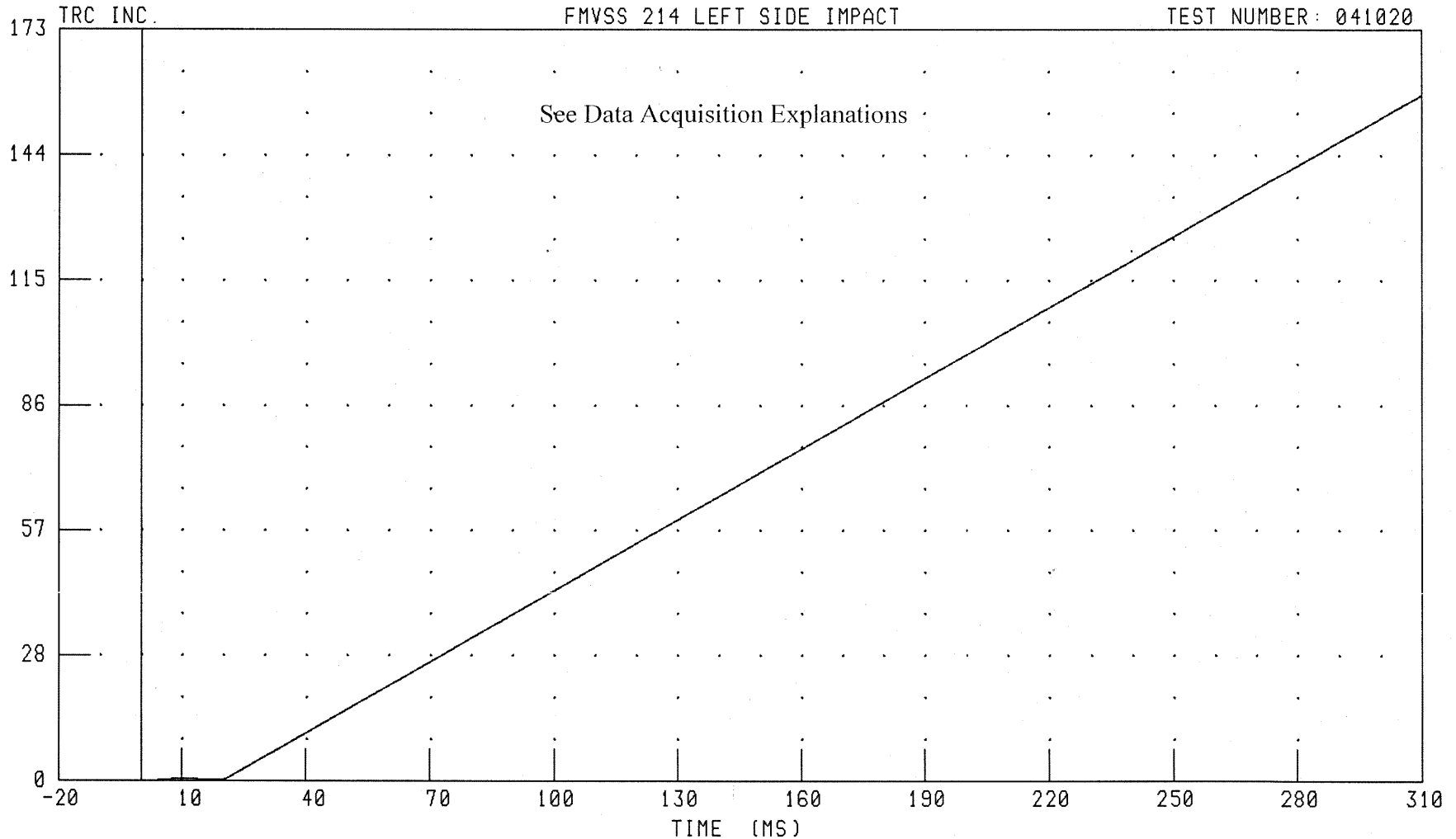
041020-1

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

LEFT LOWER B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLBYV1 FILTER: CH. CLASS 180

PEAK DATA: 15900.57 KM/H @ 310.00 MS; -0.25 KM/H @ 1.76 MS

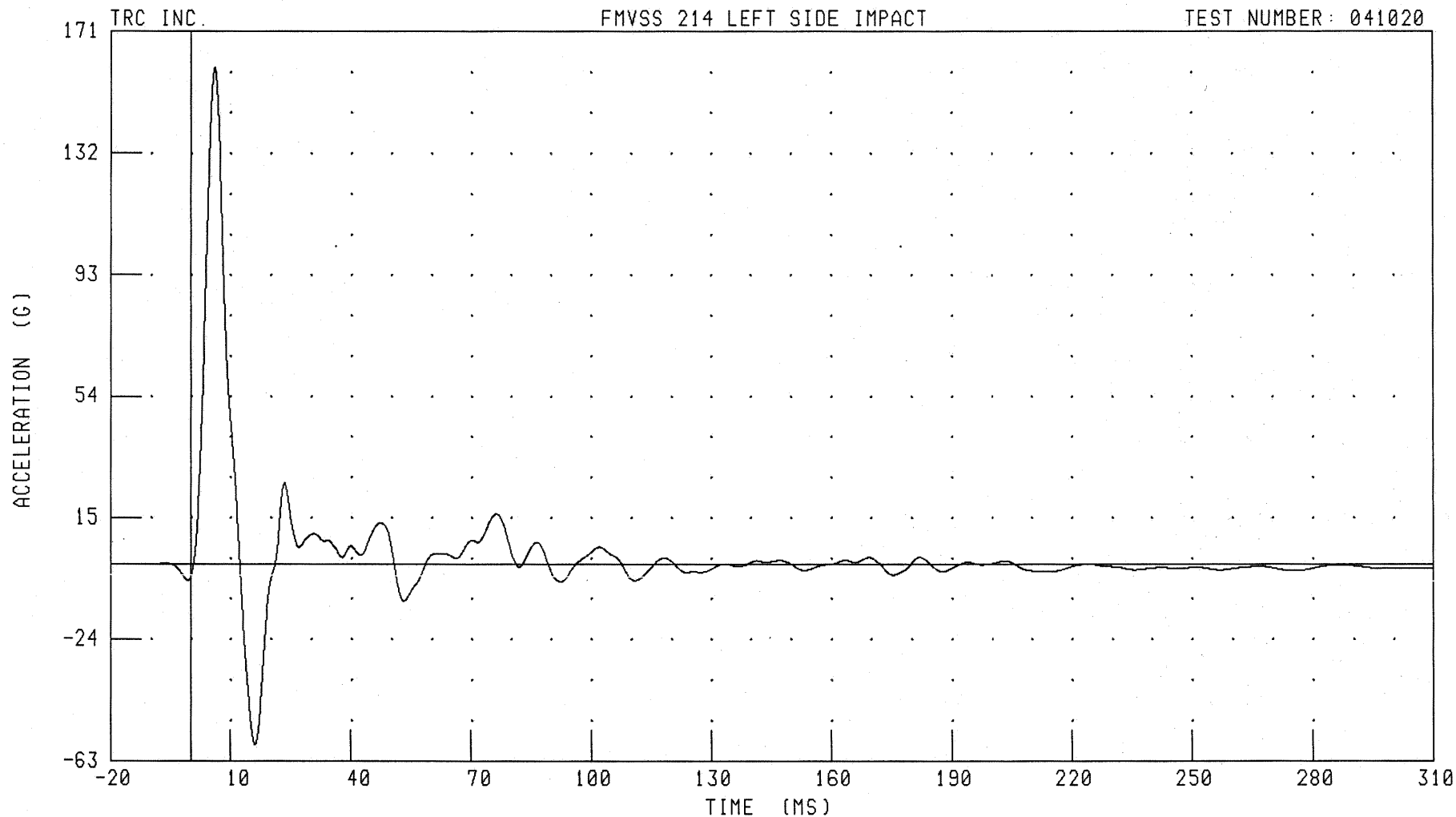
B-121

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT MIDDLE B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LMBYG1 FILTER: CH. CLASS 60

PEAK DATA: 159.53 G @ 6.08 MS; -57.83 G @ 16.24 MS

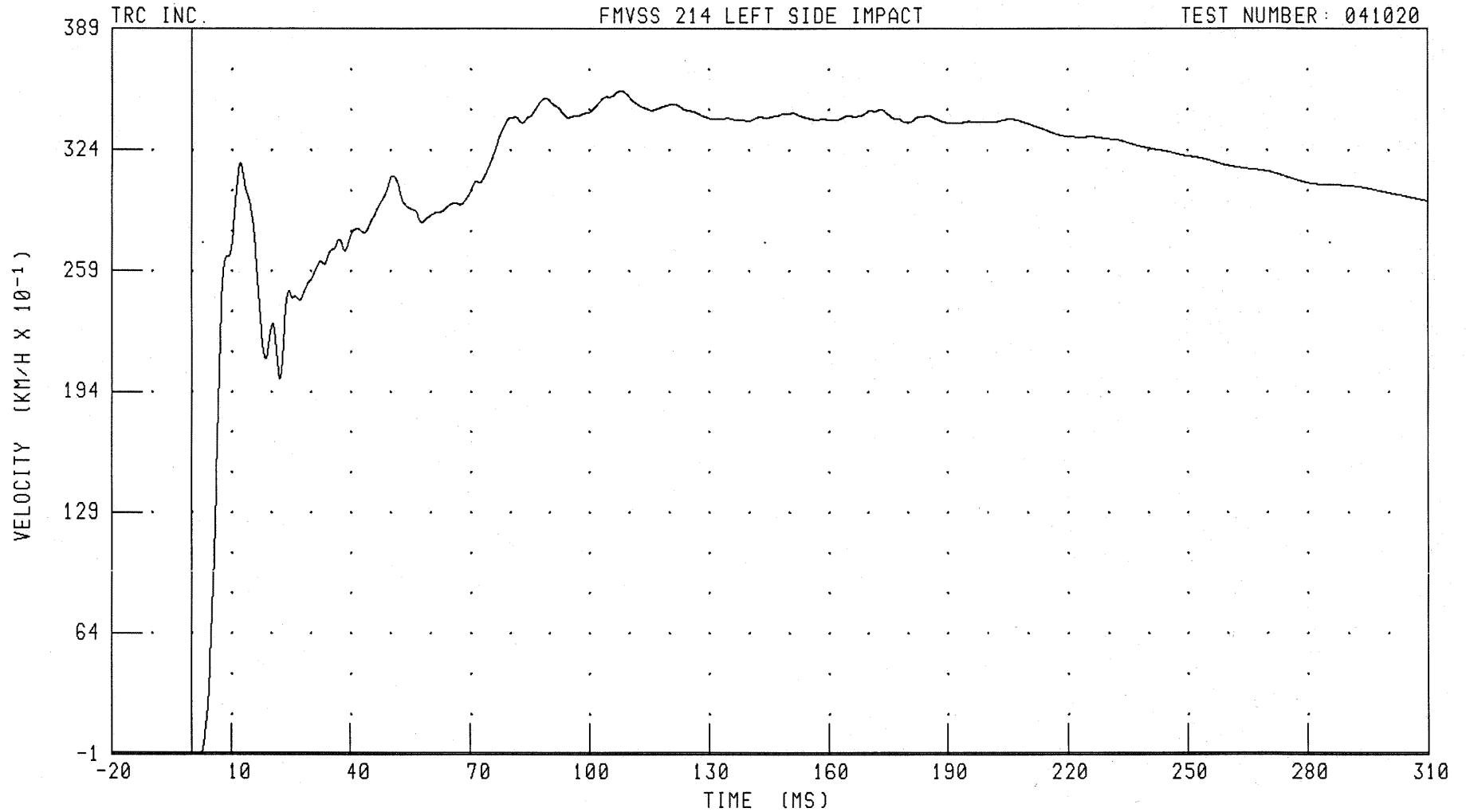
B-122

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT MIDDLE B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LMBYV1 FILTER: CH. CLASS 100

PEAK DATA: 35.57 KM/H @ 108.08 MS; -0.11 KM/H @ 2.16 MS

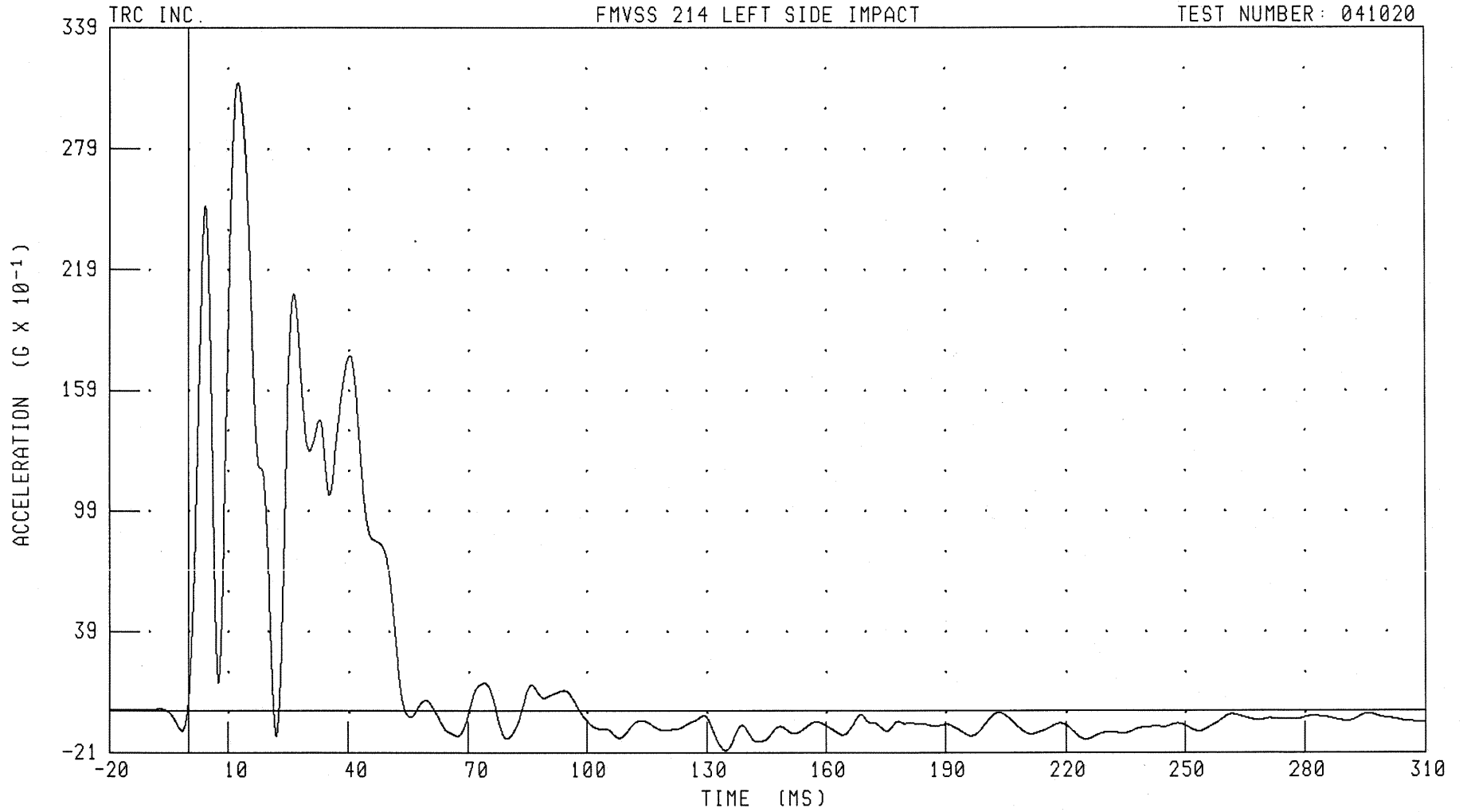
B-123

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT FRONT SEAT TRACK Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LFTYG1

FILTER: CH. CLASS 60

PEAK DATA: 31.18 G @ 12.56 MS; -1.98 G @ 134.64 MS

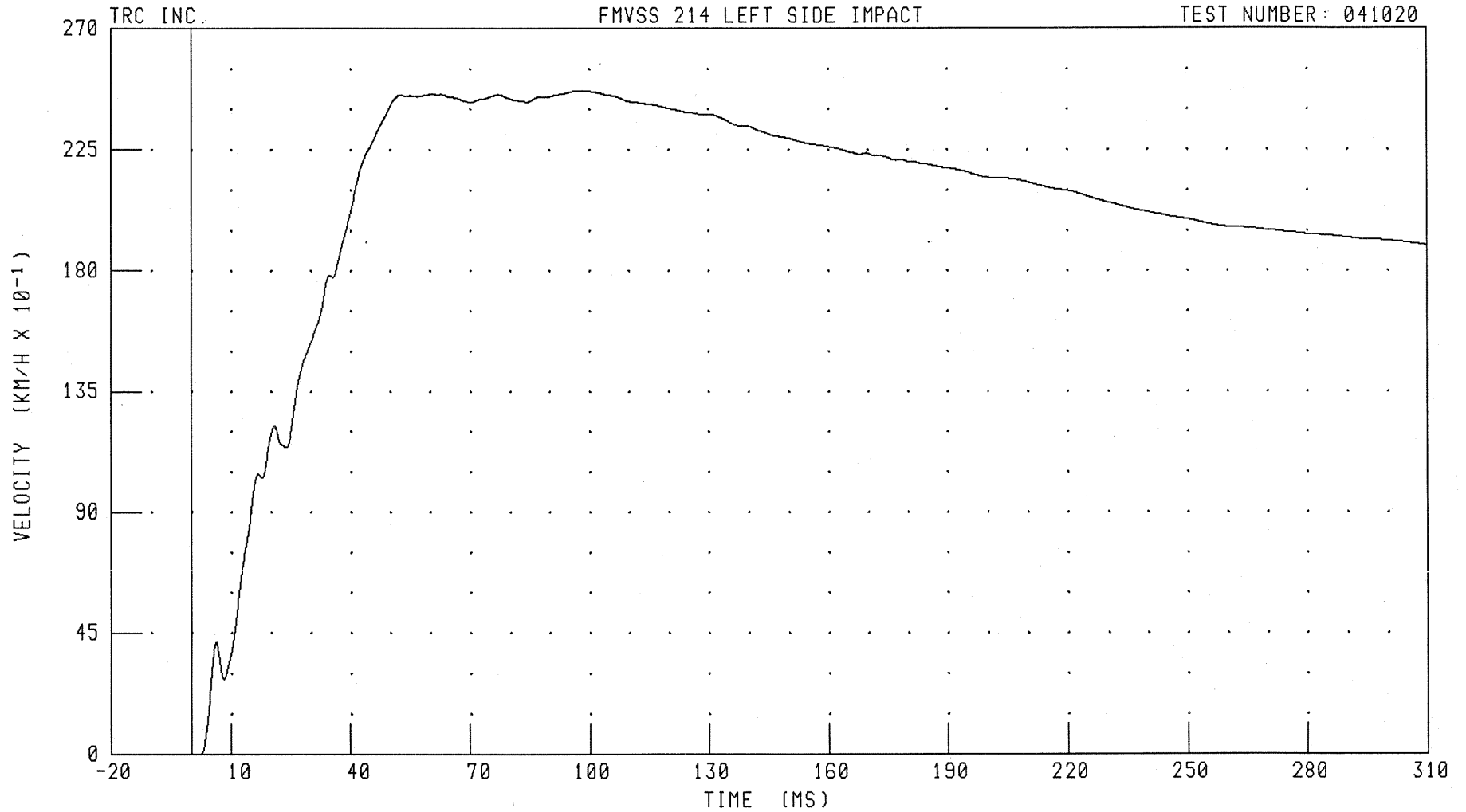
B-124

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT FRONT SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LFTYV1

FILTER: CH. CLASS 180

PEAK DATA: 24.70 KM/H @ 97.52 MS; -0.03 KM/H @ 2.00 MS

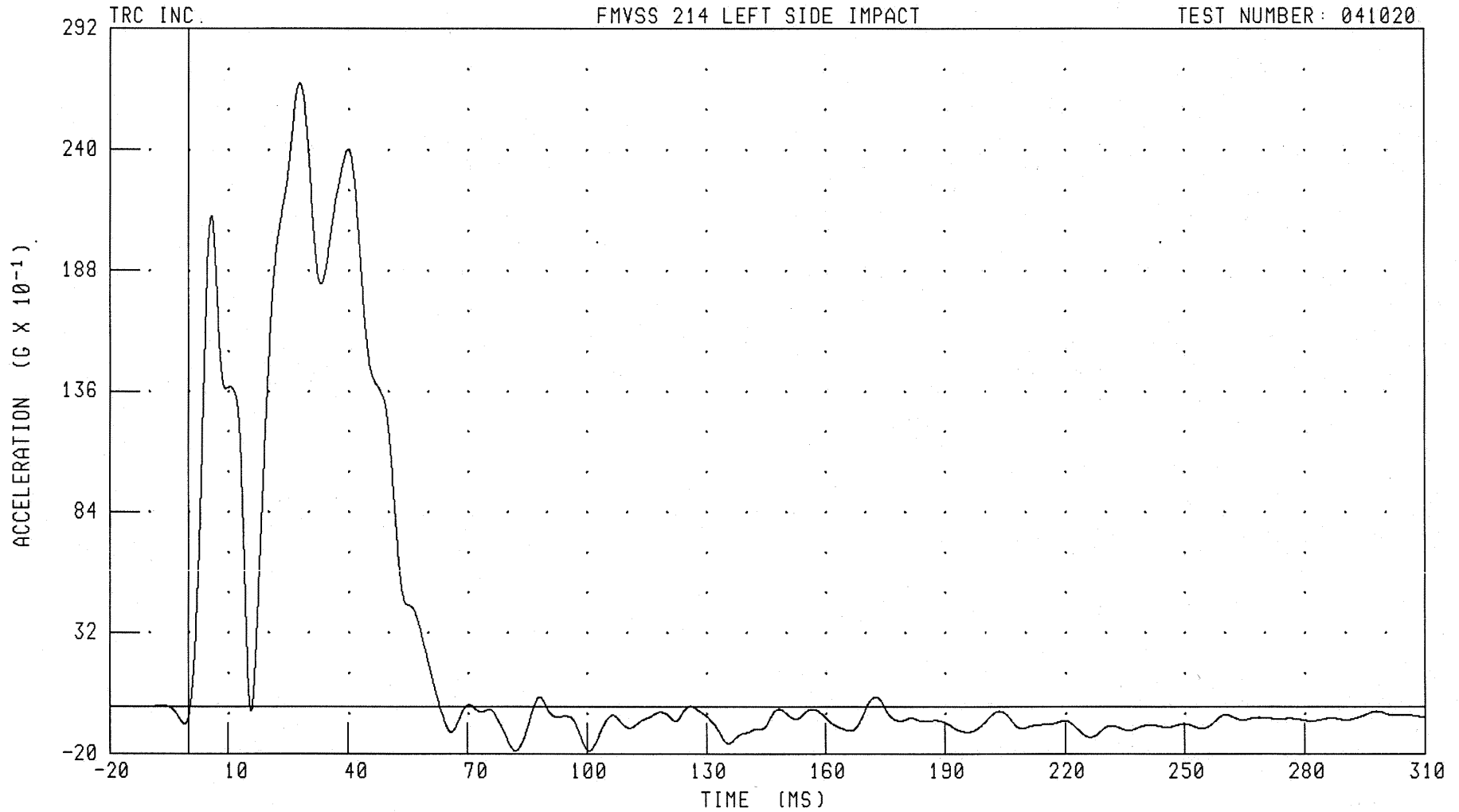
B-125

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT REAR SEAT TRACK Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRTYG1

FILTER: CH. CLASS 60

PEAK DATA: 26.86 G @ 28.00 MS; -1.87 G @ 100.56 MS

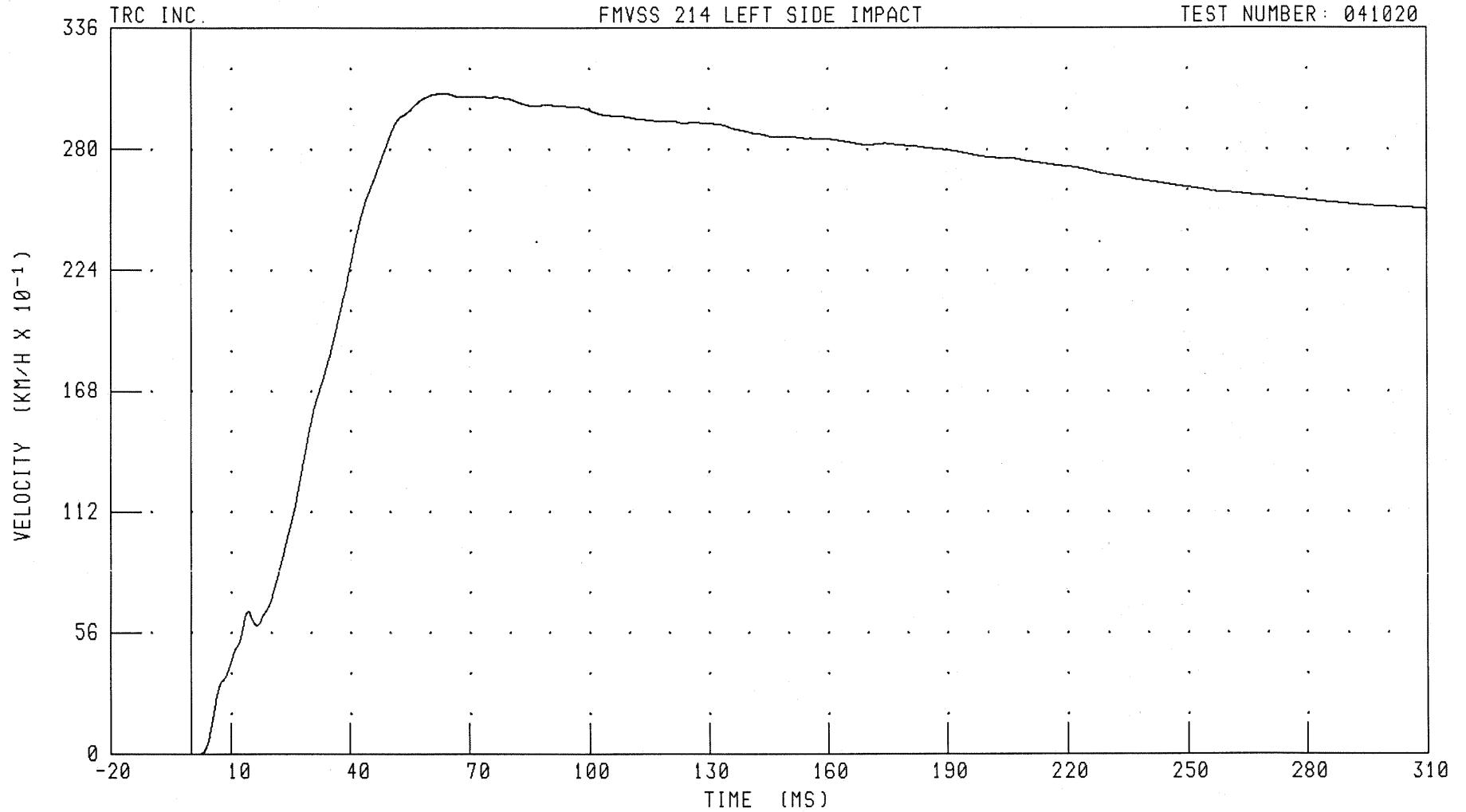
B-126

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
LEFT REAR SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LR TYV1 FILTER: CH. CLASS 180

PEAK DATA: 30.57 KM/H @ 64.16 MS; -0.01 KM/H @ 1.76 MS

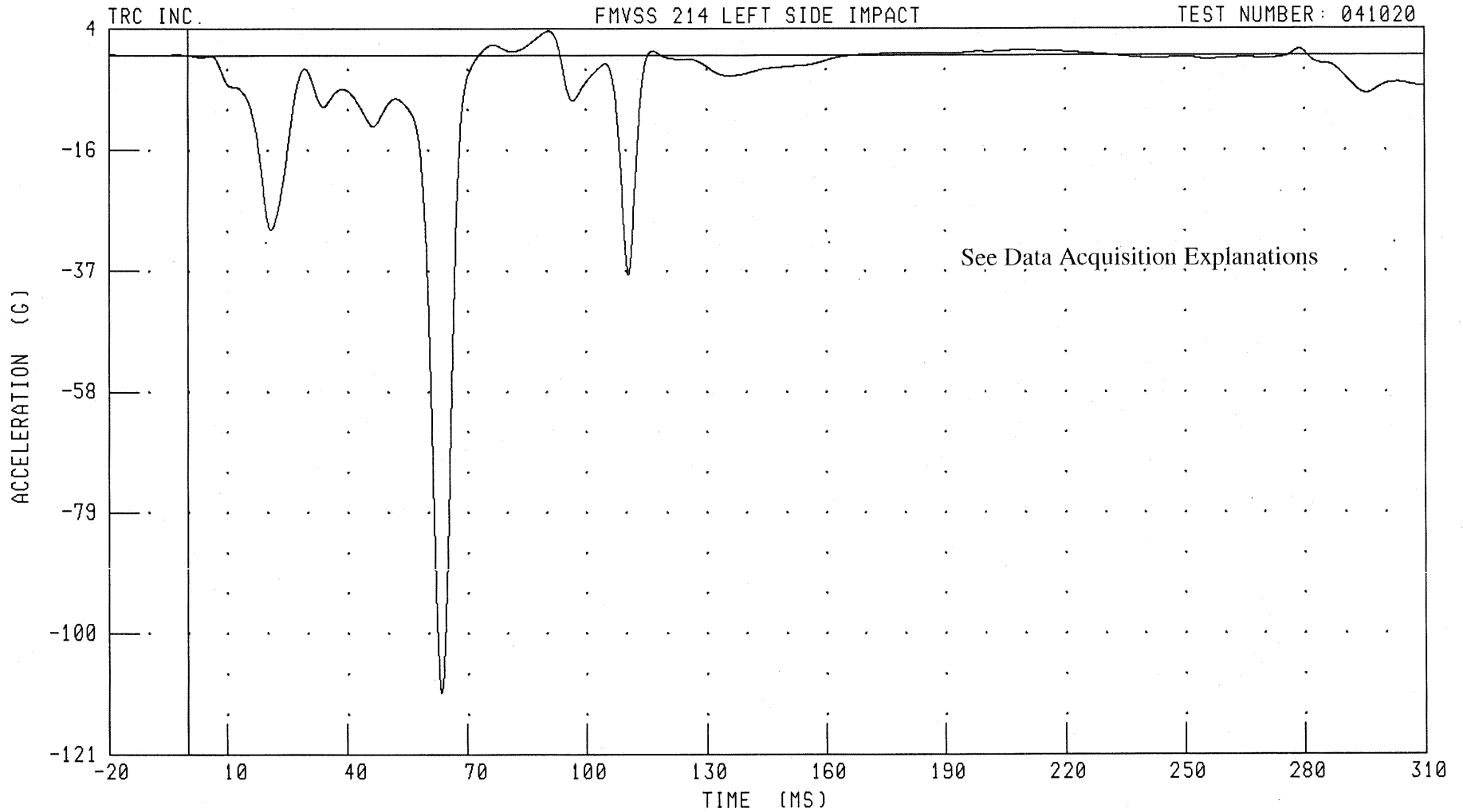
B-127

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: VCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 4.11 G @ 90.72 MS; -110.76 G @ 63.36 MS

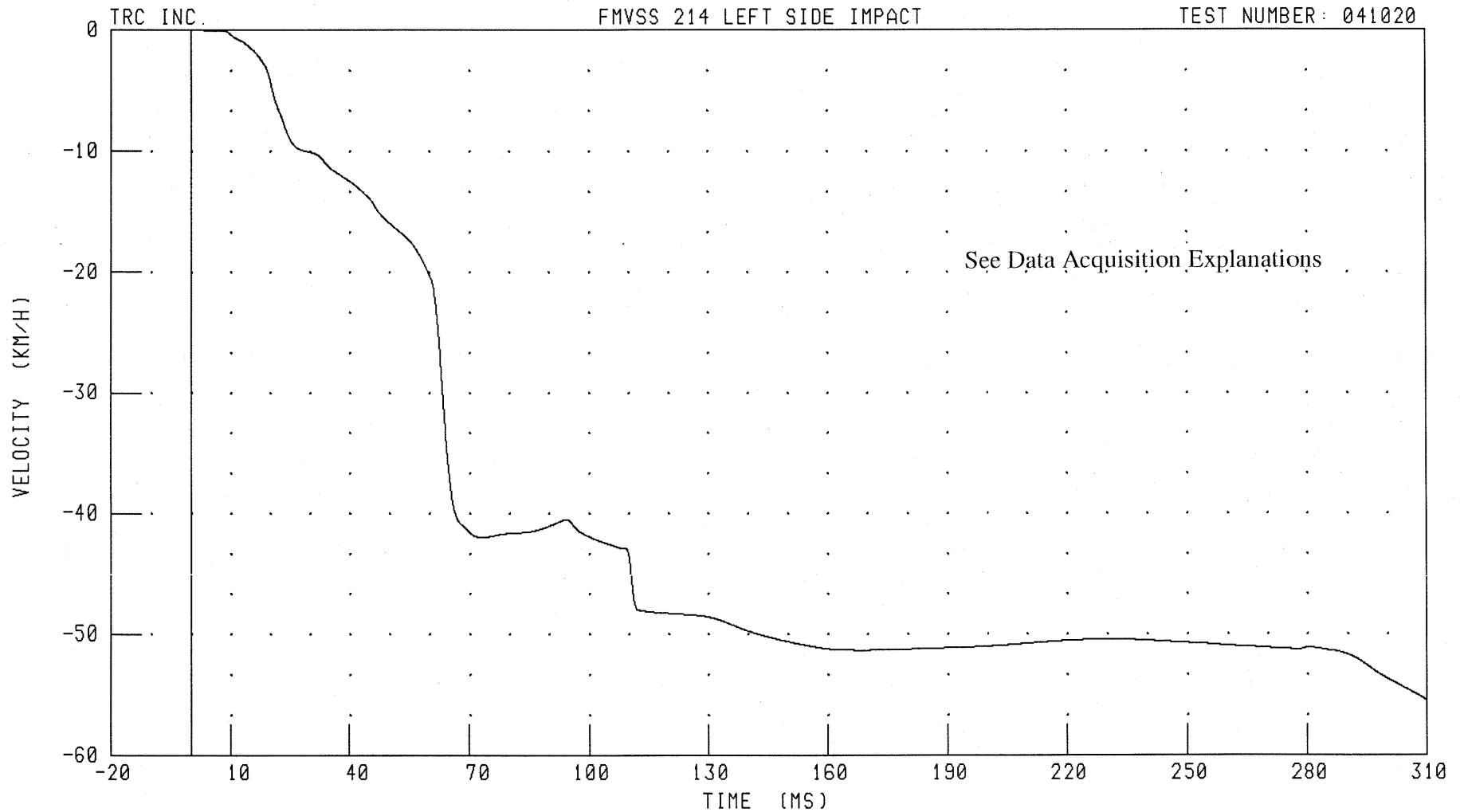
B-128

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: VCGXV1 FILTER: CH. CLASS 100

PEAK DATA: 0.00 KM/H @ 0.08 MS; -55.50 KM/H @ 310.00 MS

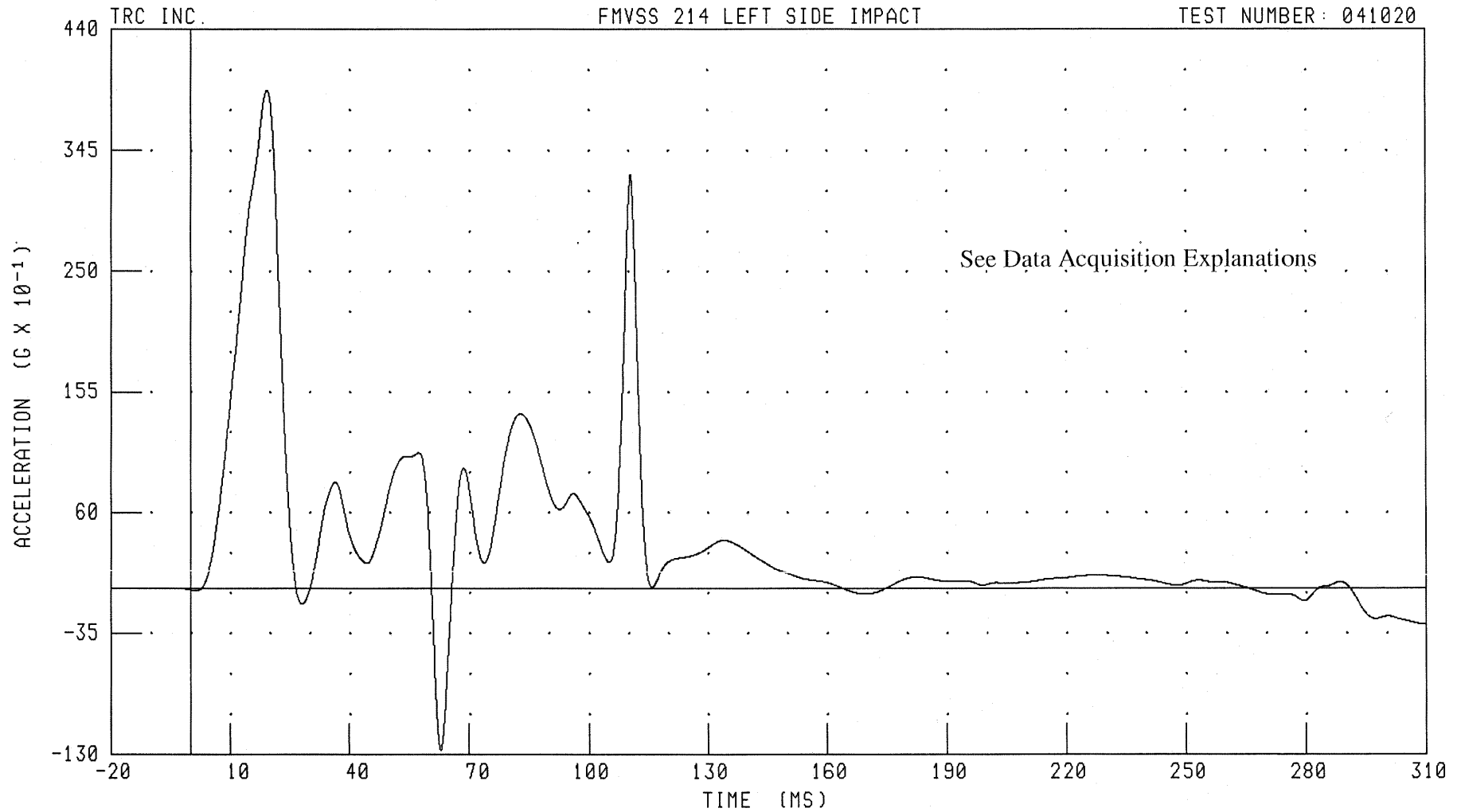
B-129

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: VCCYG1

FILTER: CH. CLASS 60

PEAK DATA: 39.19 G @ 19.36 MS; -12.70 G @ 62.72 MS

B-130

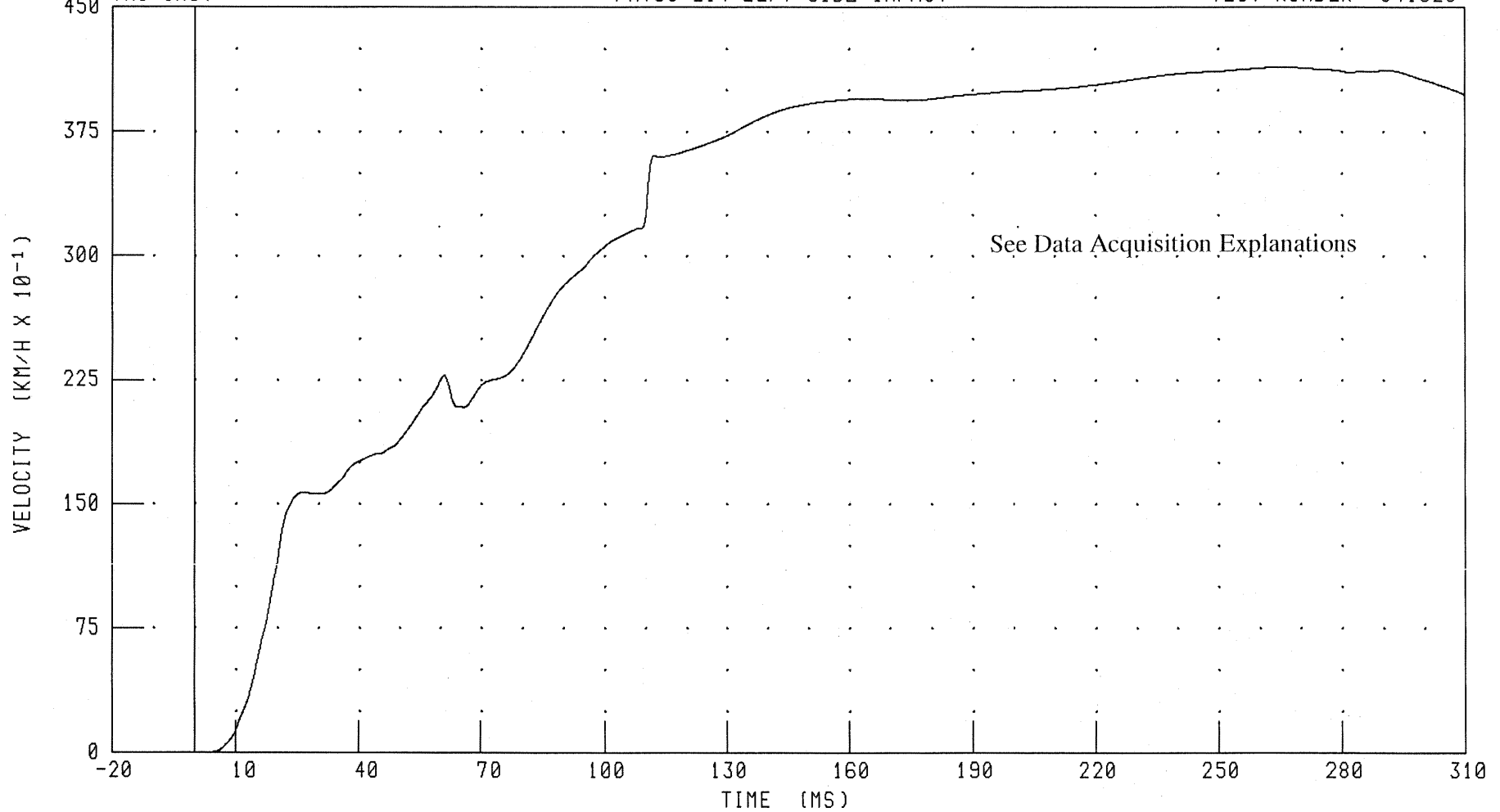
041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: VCGYV1 FILTER: CH. CLASS 180

PEAK DATA: 41.39 KM/H @ 266.08 MS; 0.00 KM/H @ 0.00 MS

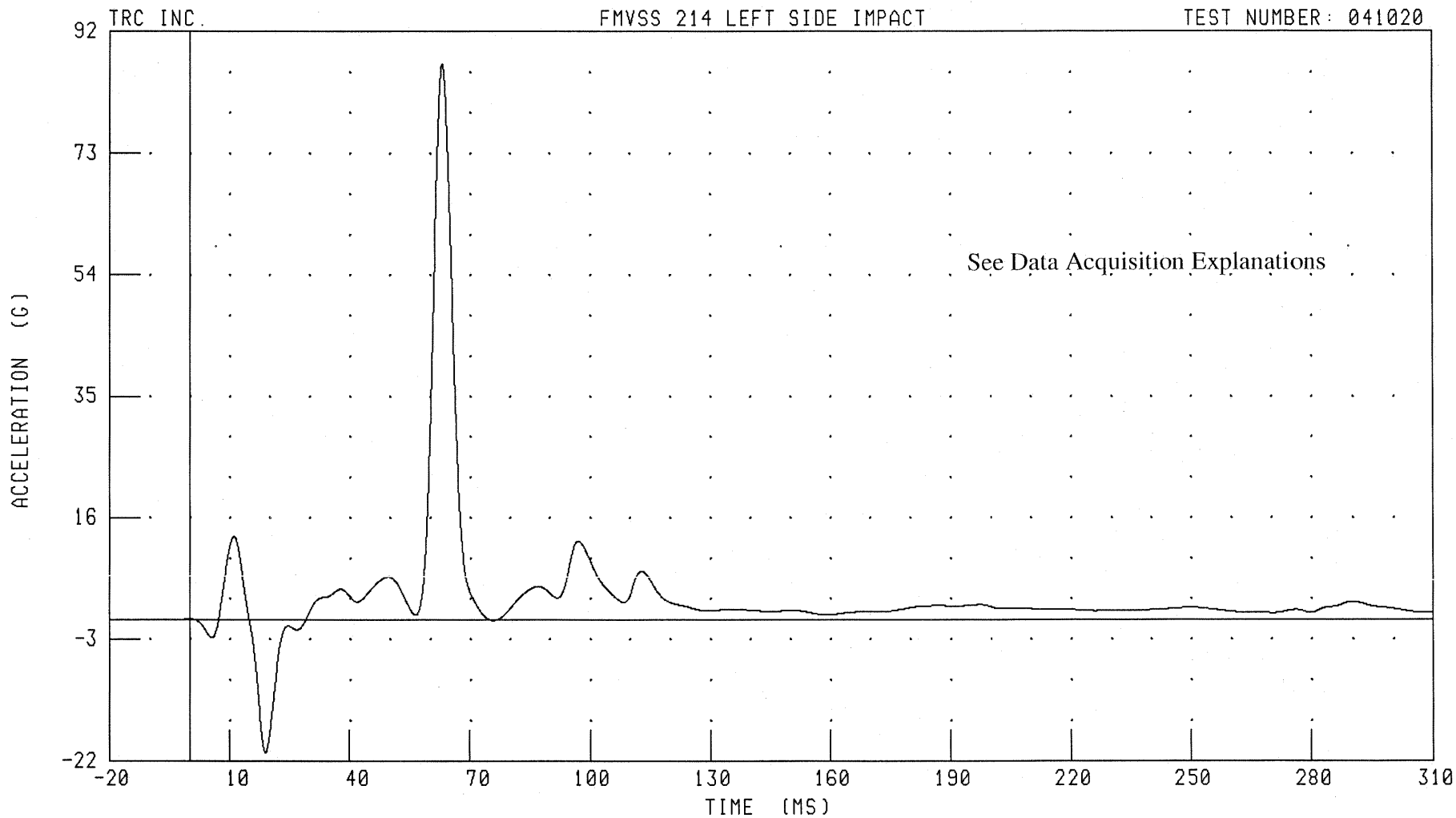
B-131

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: VCGZG1 FILTER: CH. CLASS 60

PEAK DATA: 86.92 G @ 63.12 MS; -20.79 G @ 18.96 MS

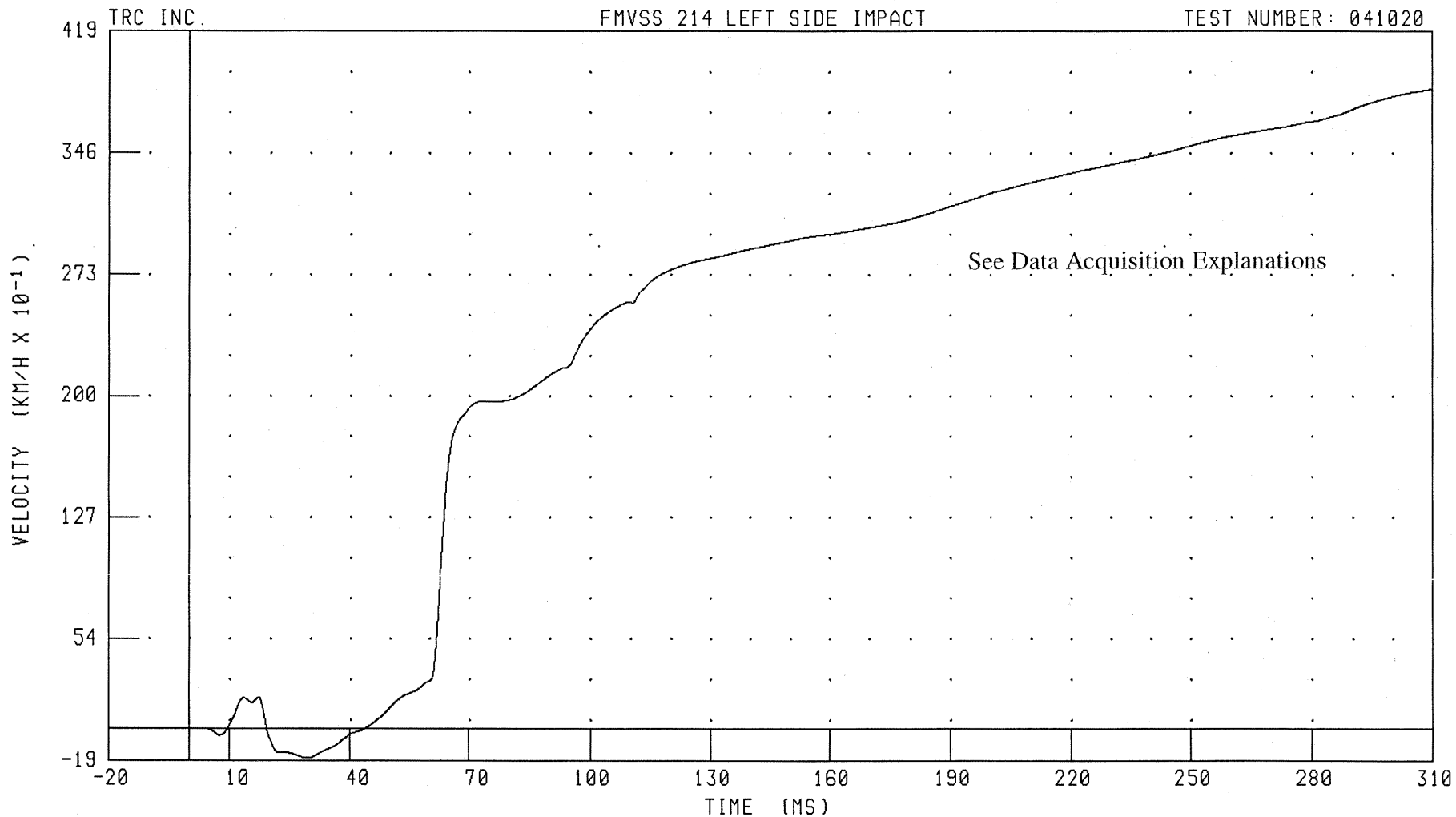
B-132

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: VCGZV1 FILTER: CH. CLASS 180

PEAK DATA: 38.46 KM/H @ 310.00 MS; -1.75 KM/H @ 29.28 MS

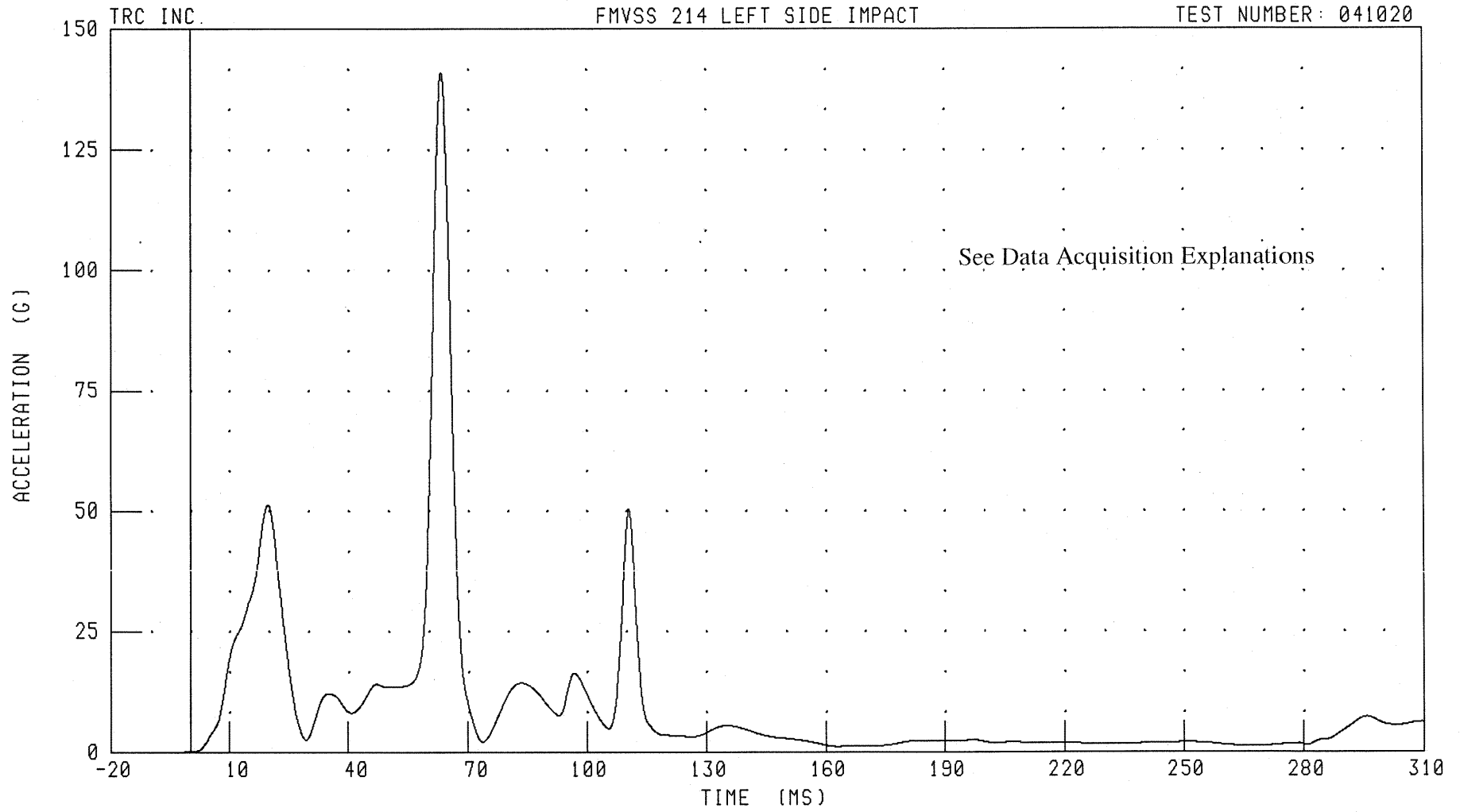
B-133

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: VCGRG1

FILTER: CH. CLASS 60

PEAK DATA: 141.03 G @ 63.28 MS; 0.01 G @ -16.80 MS

B-134

041020-1

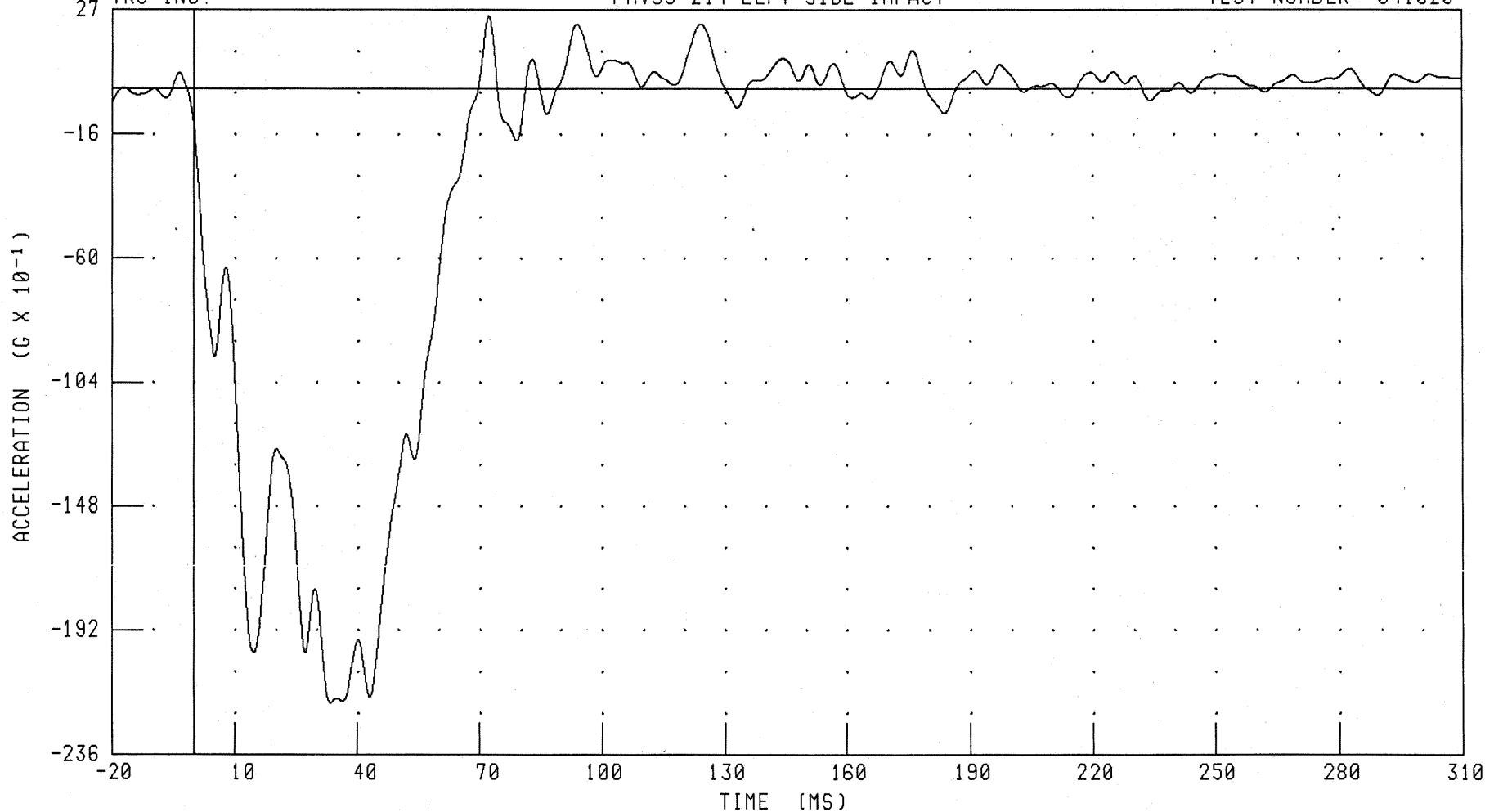
MDB Instrumentation Plots

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
MDB CENTER OF GRAVITY X-AXIS ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: BCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 2.59 G @ 72.40 MS; -21.78 G @ 33.44 MS

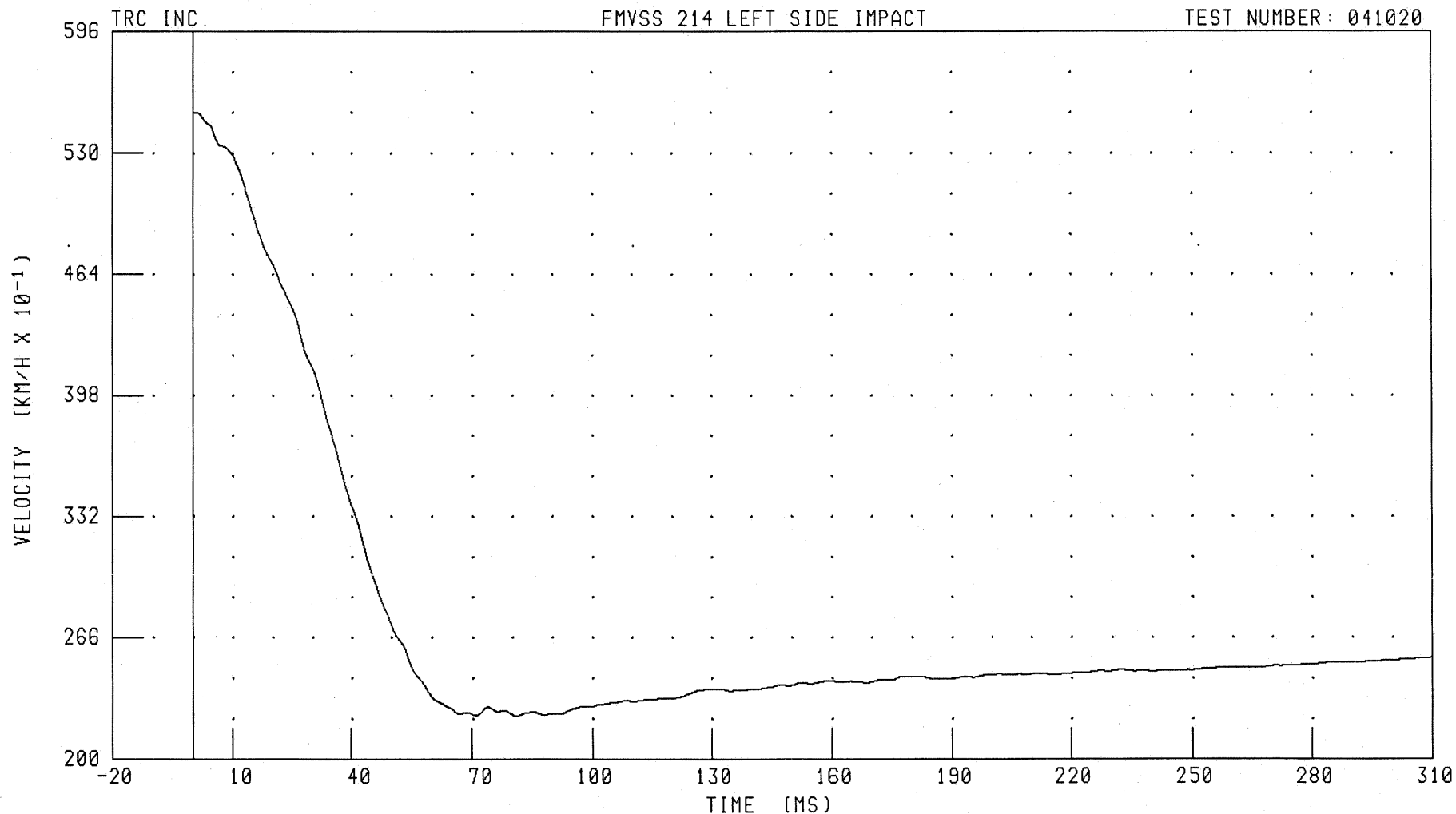
B-136

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: BCGXV1 FILTER: CH. CLASS 180

PEAK DATA: 55.20 KM/H @ 0.24 MS; 22.34 KM/H @ 80.96 MS

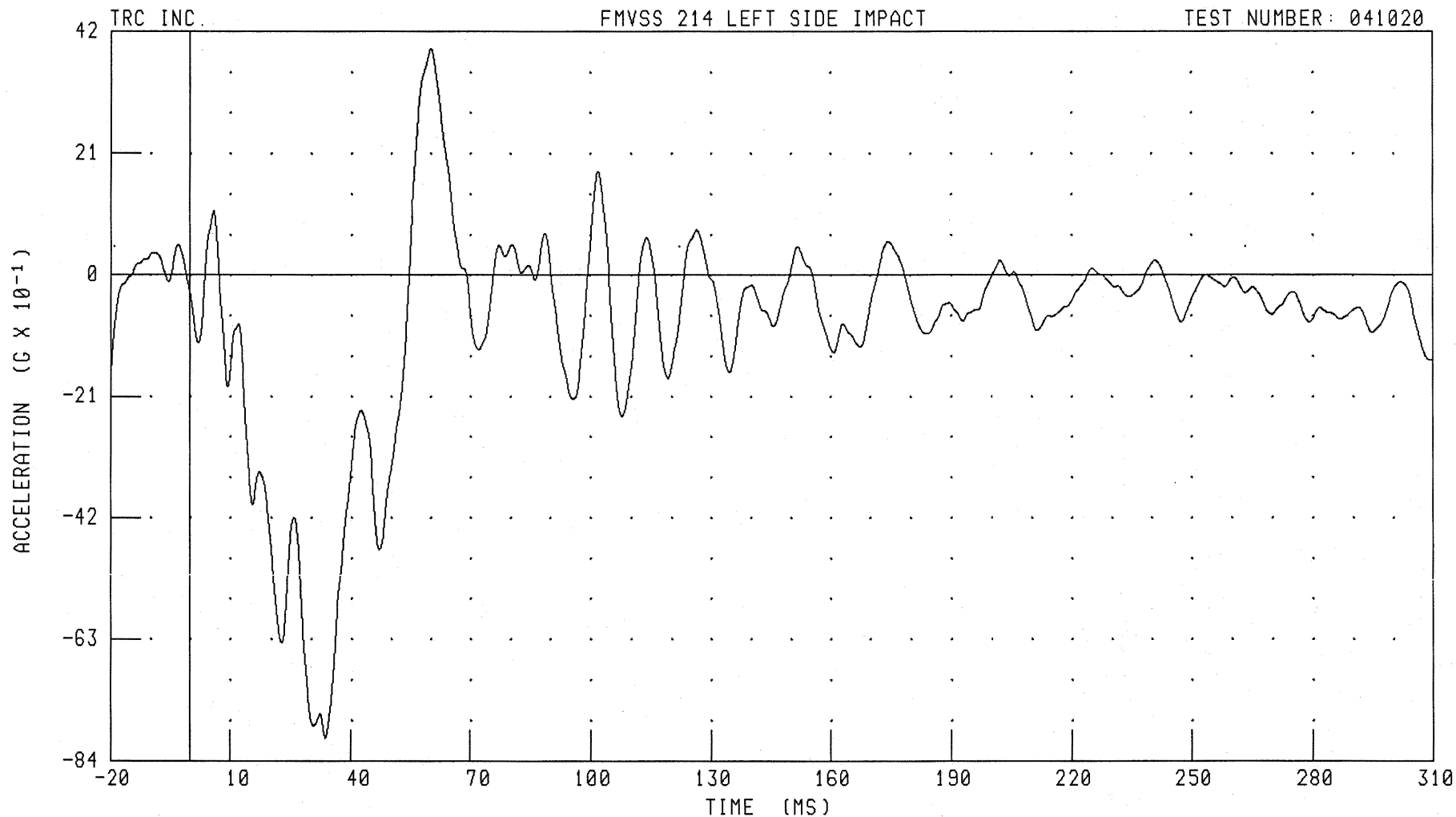
B-137

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
MDB CENTER OF GRAVITY Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: BCGYG1

FILTER: CH. CLASS 60

PEAK DATA: 3.91 G @ 60.08 MS; -8.01 G @ 33.68 MS

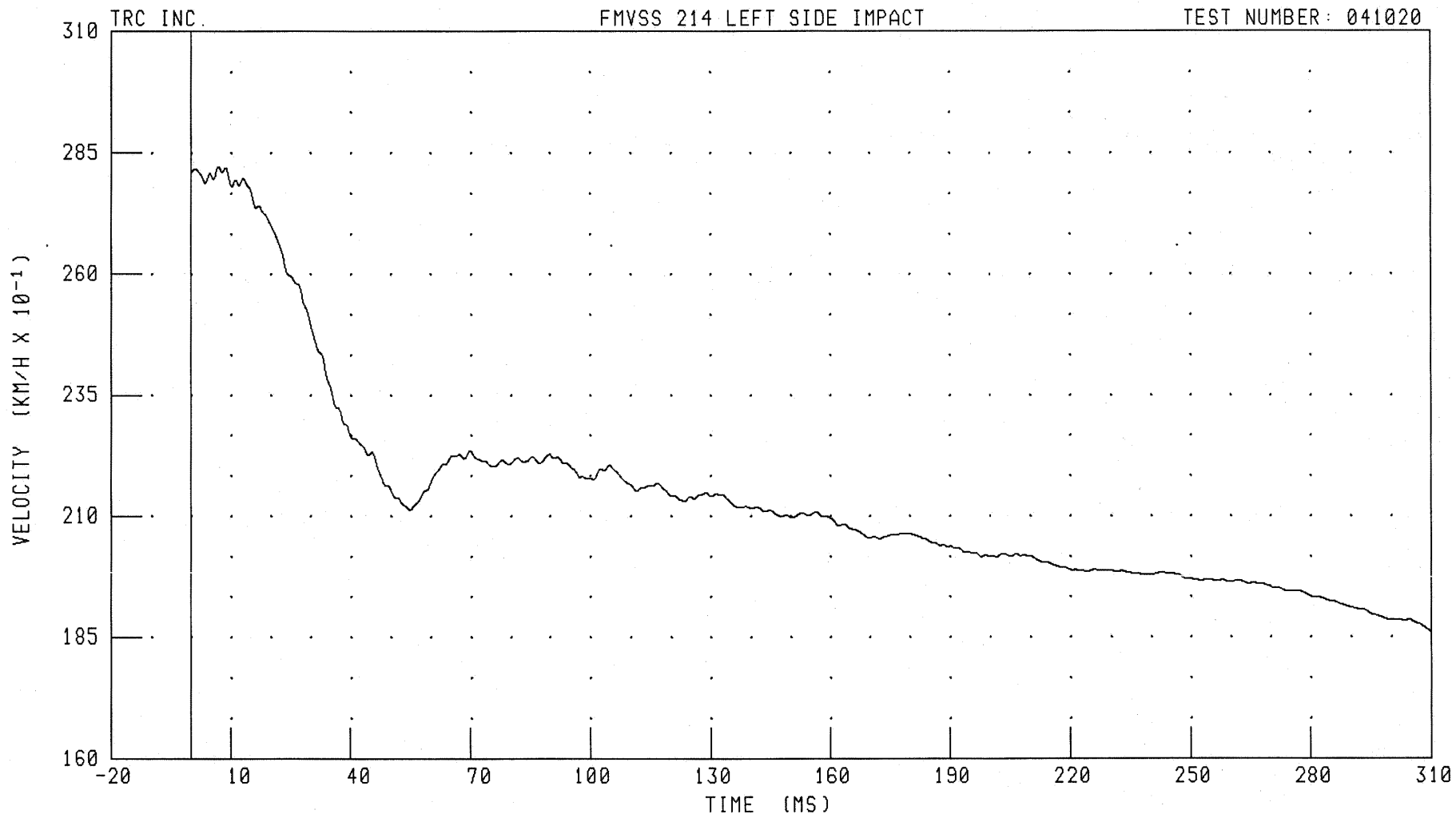
B-138

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
MDB CENTER OF GRAVITY Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: BCGYV1

FILTER: CH. CLASS 180

PEAK DATA: 28.22 KM/H @ 6.80 MS; 18.59 KM/H @ 310.00 MS

B-139

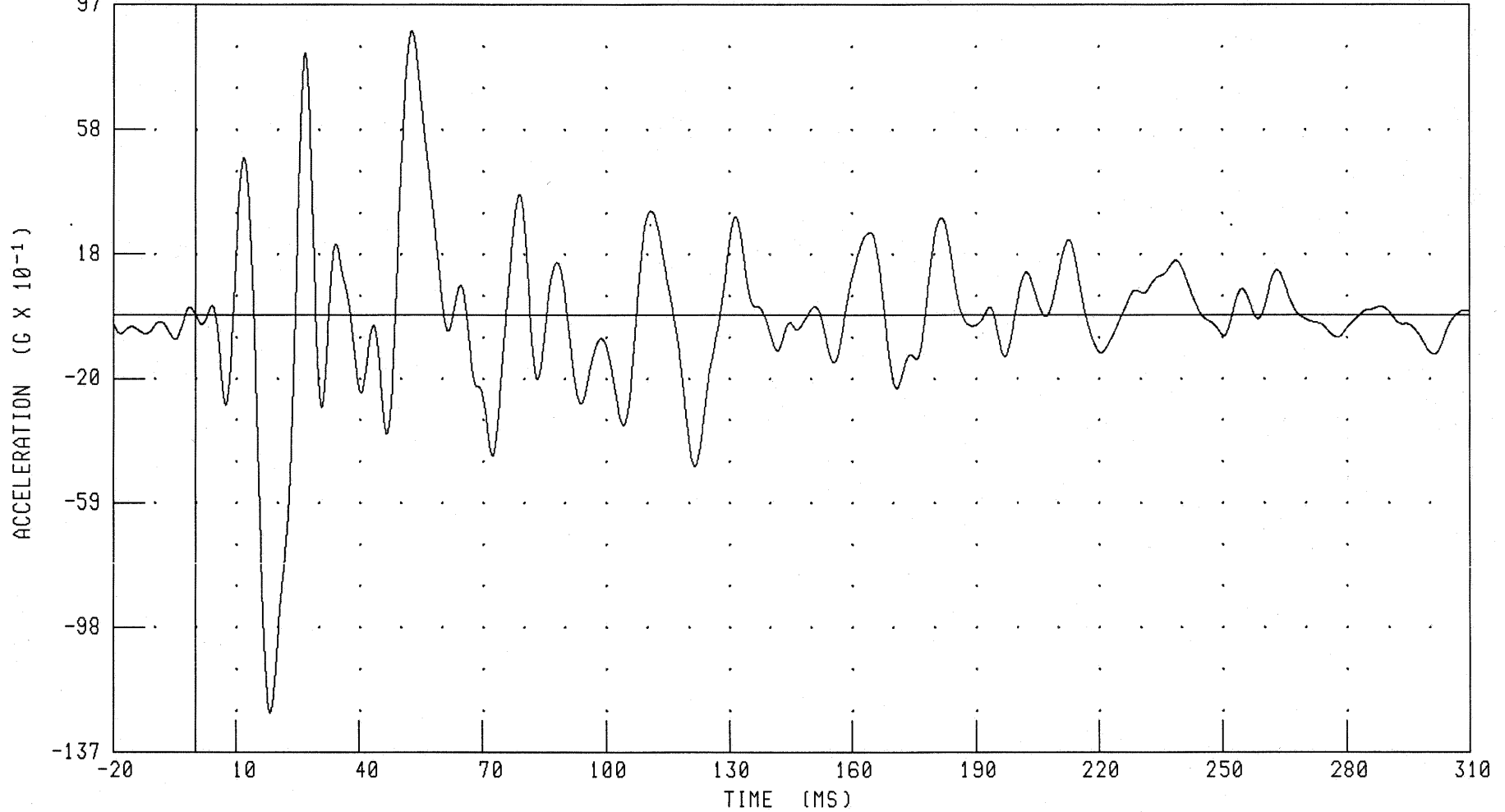
041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
MDB CENTER OF GRAVITY Z-AXIS ACCELERATION

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: BCGZG1 FILTER: CH. CLASS 60

PEAK DATA: 8.88 G @ 52.72 MS; -12.47 G @ 18.24 MS

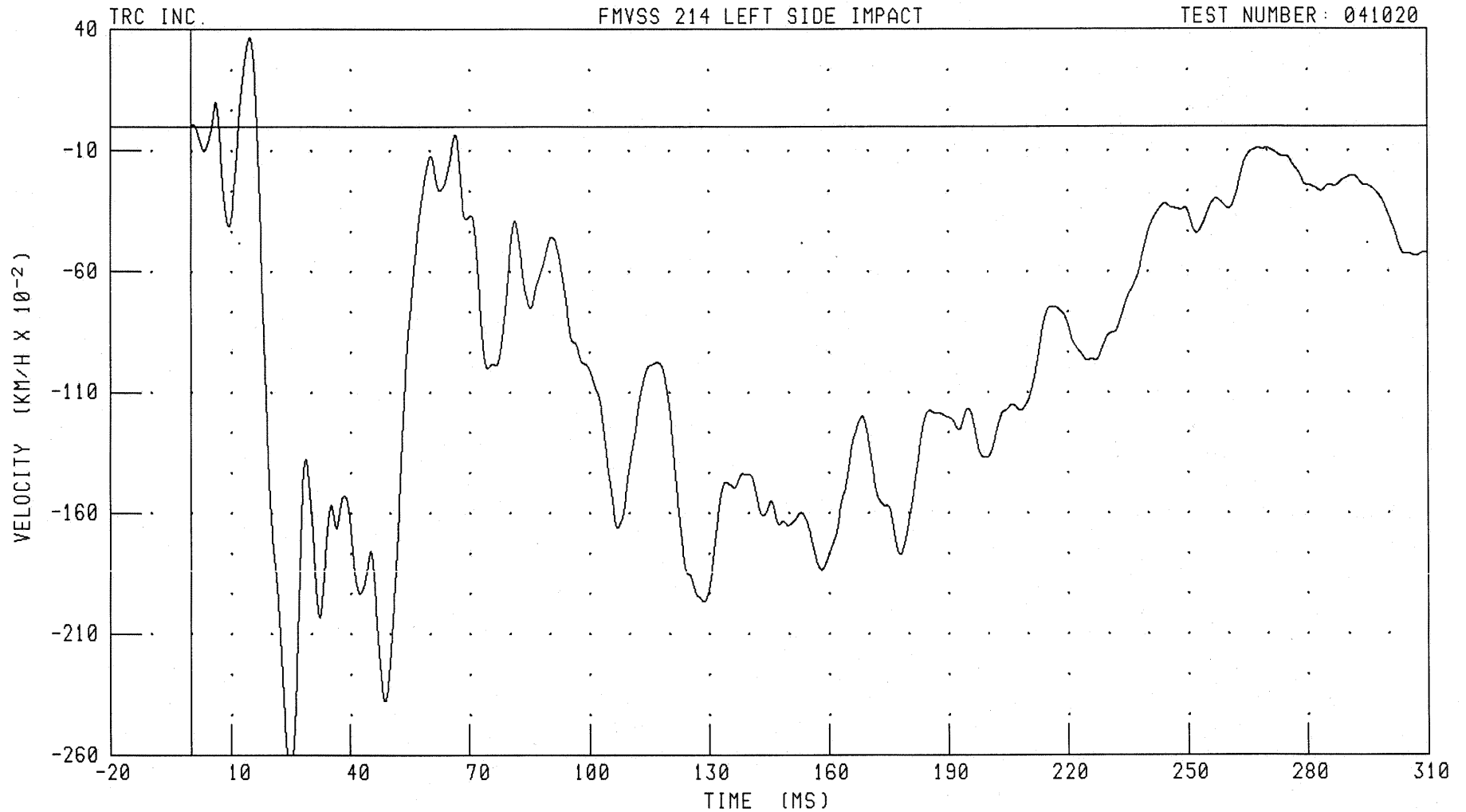
B-140

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
MDB CENTER OF GRAVITY Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: BCGZV1 FILTER: CH. CLASS 180

PEAK DATA: 0.37 KM/H @ 14.72 MS; -2.67 KM/H @ 24.72 MS

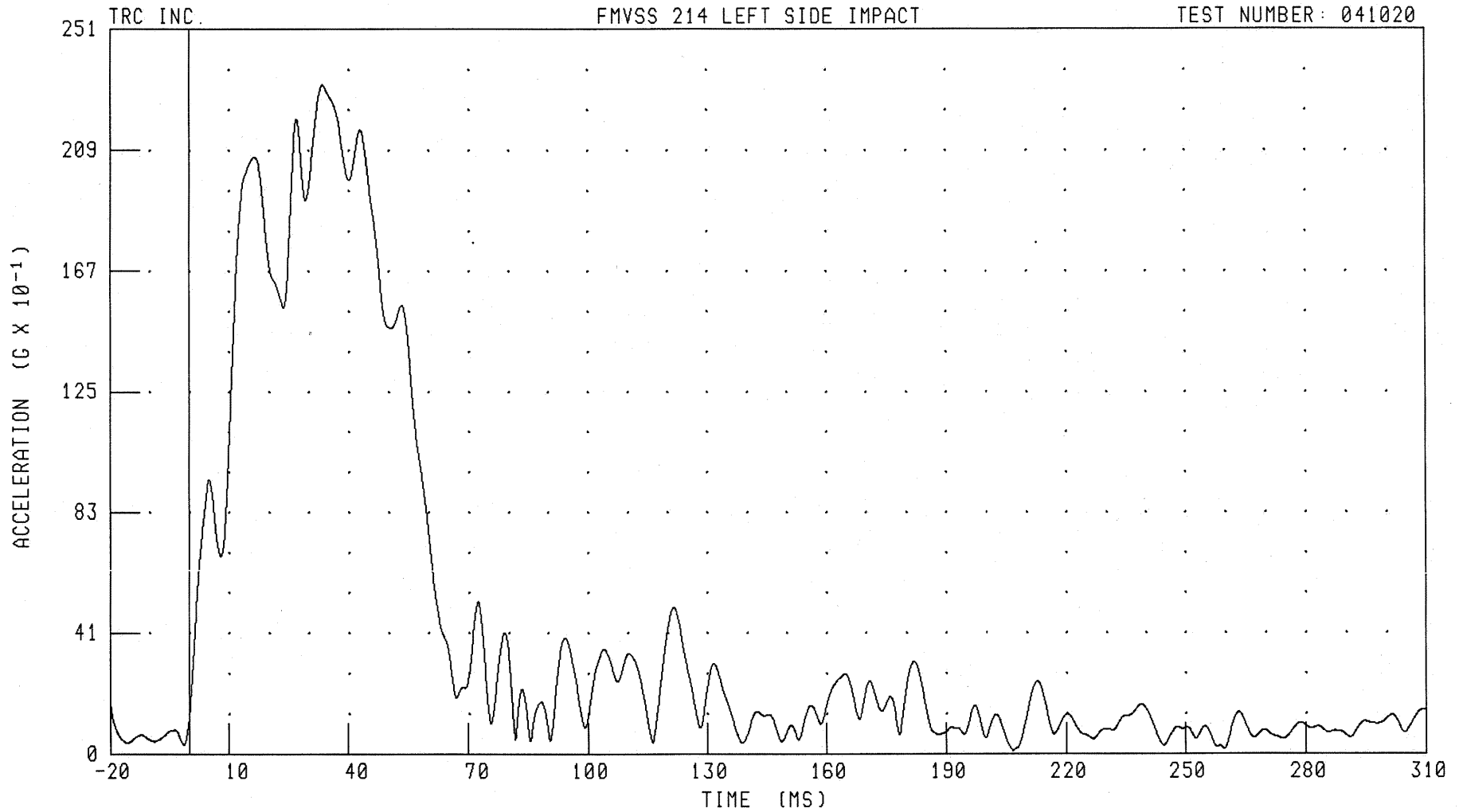
B-141

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: BCGRG1

FILTER: CH. CLASS 60

PEAK DATA: 23.28 G @ 33.60 MS; 0.11 G @ 206.48 MS

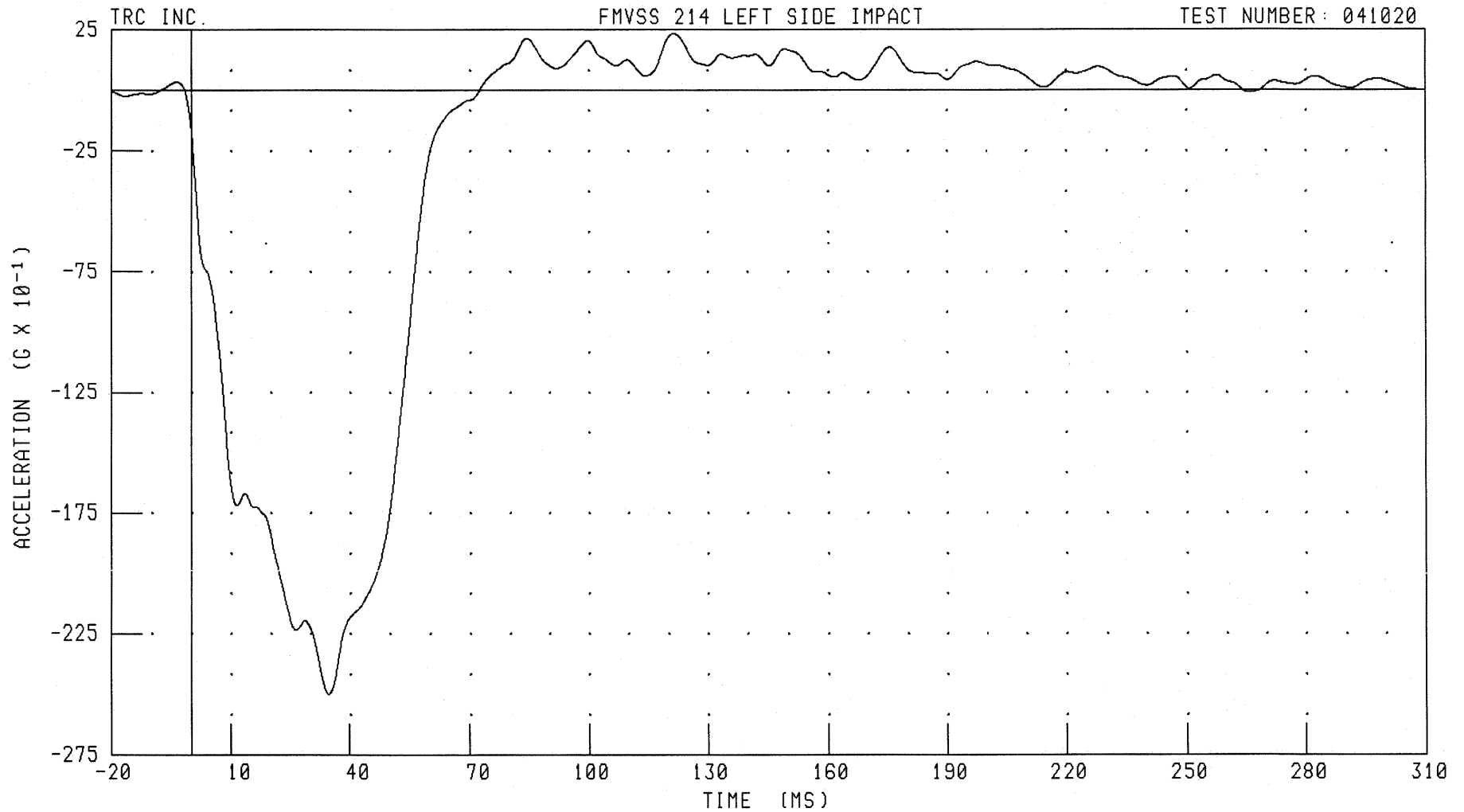
B-142

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRRXG1

FILTER: CH. CLASS 60

PEAK DATA: 2.34 G @ 121.68 MS; -25.00 G @ 34.64 MS

B-143

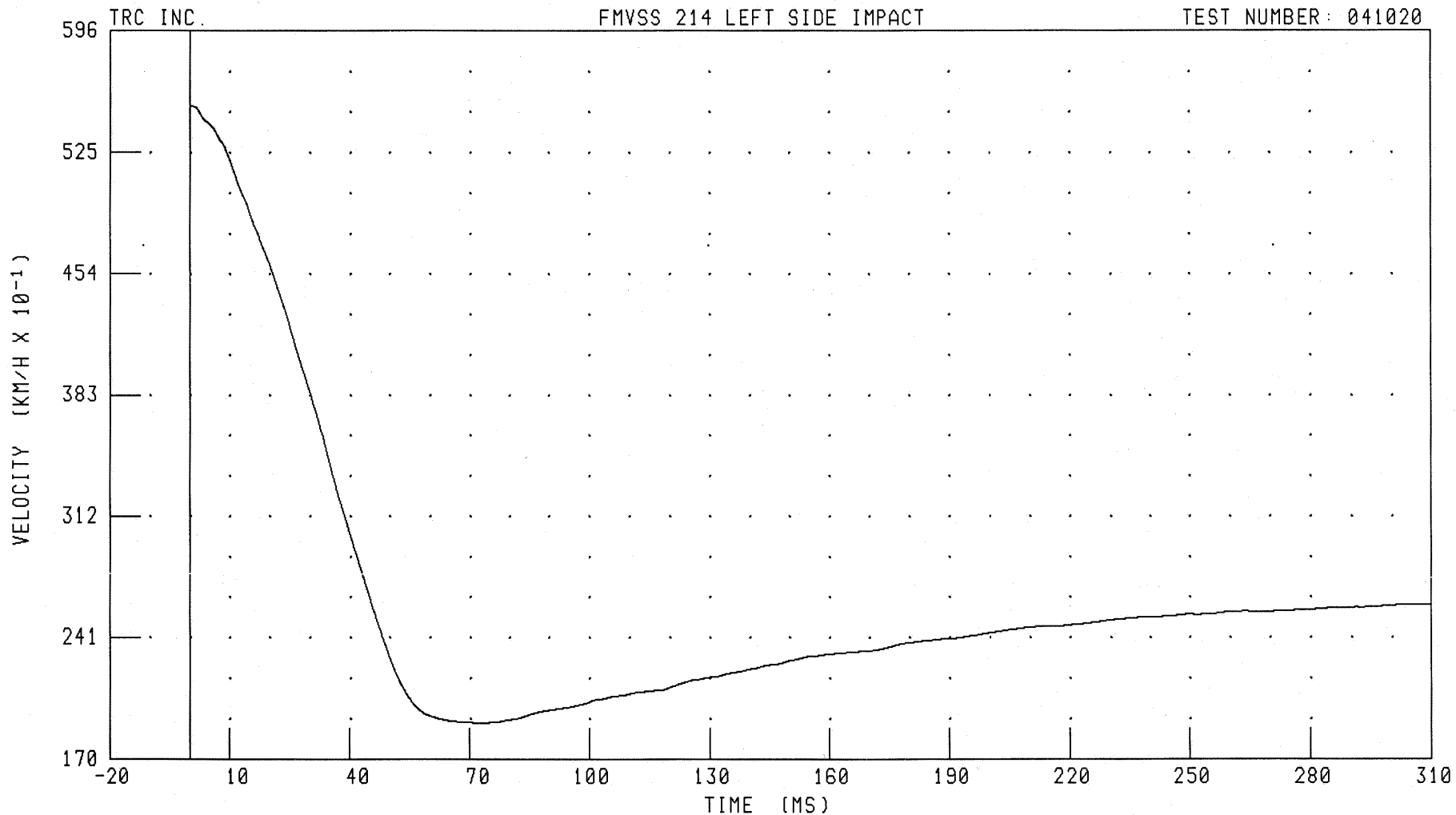
041020-1

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

MDB LEFT REAR X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRRXV1 FILTER: CH. CLASS 100

PEAK DATA: 55.20 KM/H @ 0.48 MS; 19.09 KM/H @ 72.24 MS

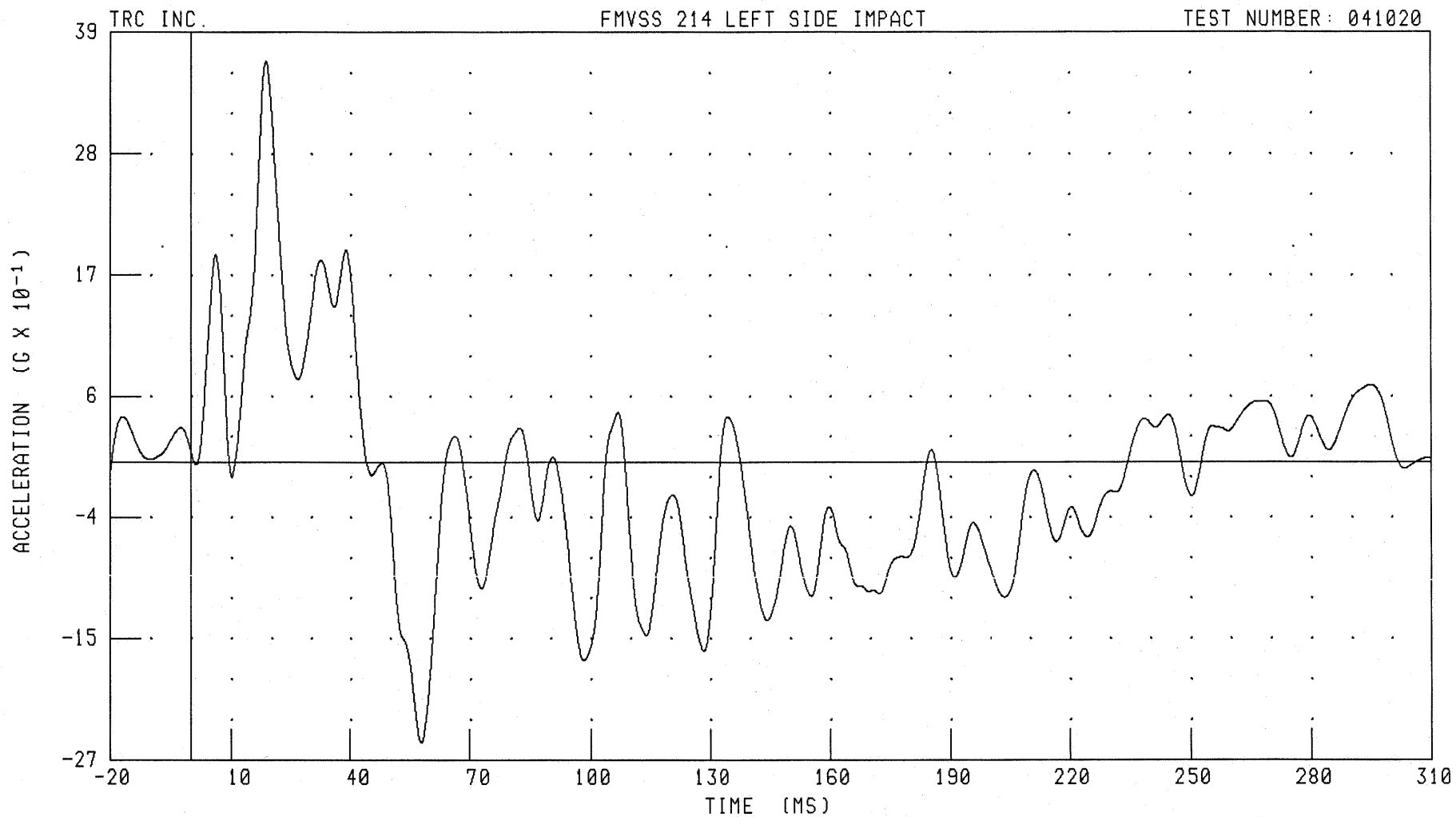
B-144

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
MDB LEFT REAR Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRRYG1

FILTER: CH. CLASS 60

PEAK DATA: 3.64 G @ 18.56 MS; -2.54 G @ 57.76 MS

B-145

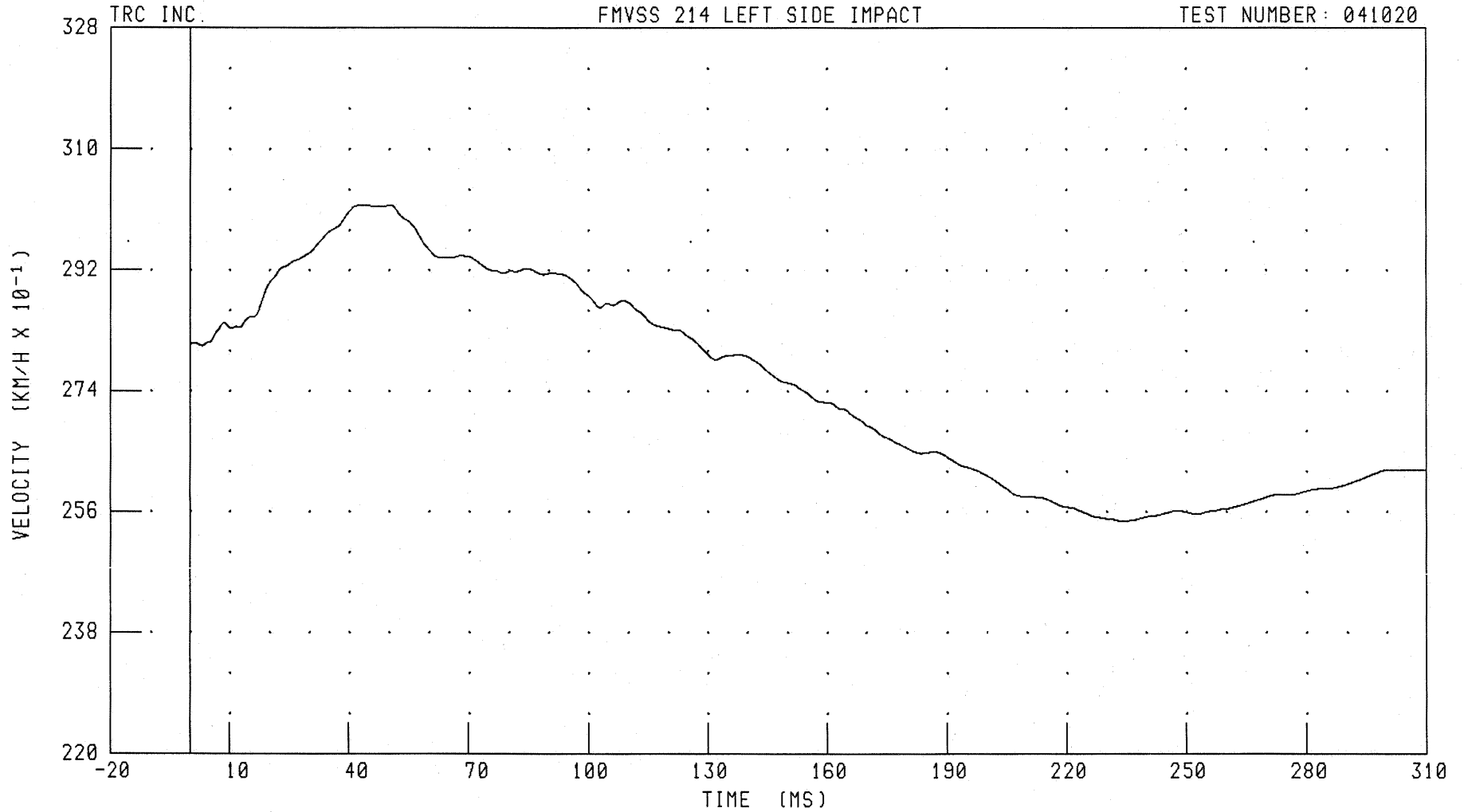
041020-1

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

MDB LEFT REAR Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LRRYV1

FILTER: CH. CLASS 180

PEAK DATA: 30.17 KM/H @ 50.32 MS; 25.46 KM/H @ 234.24 MS

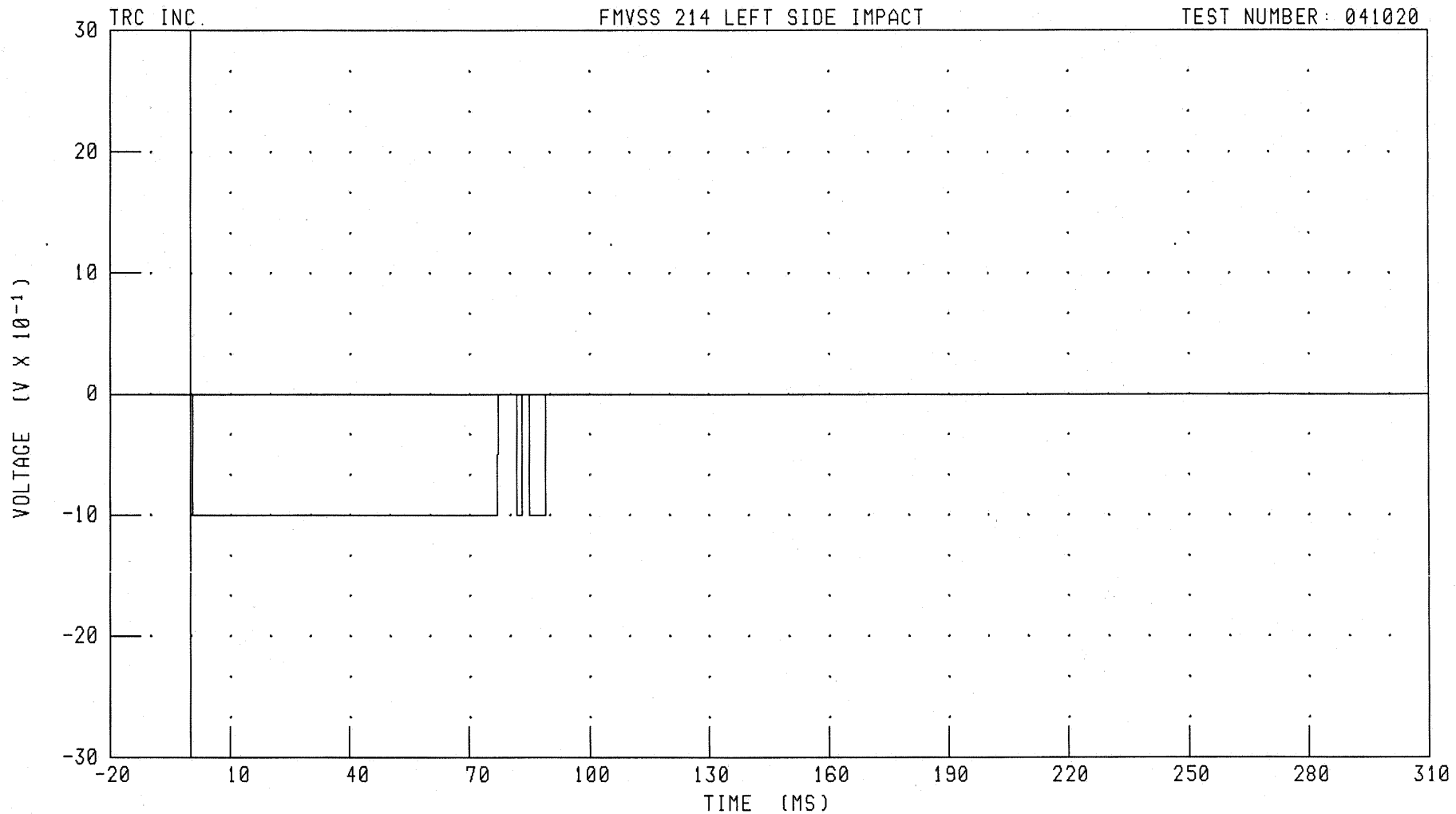
B-146

041020-1

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2005 SCION TC
MDB RIGHT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: MDBR1 FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 0.64 MS

B-147

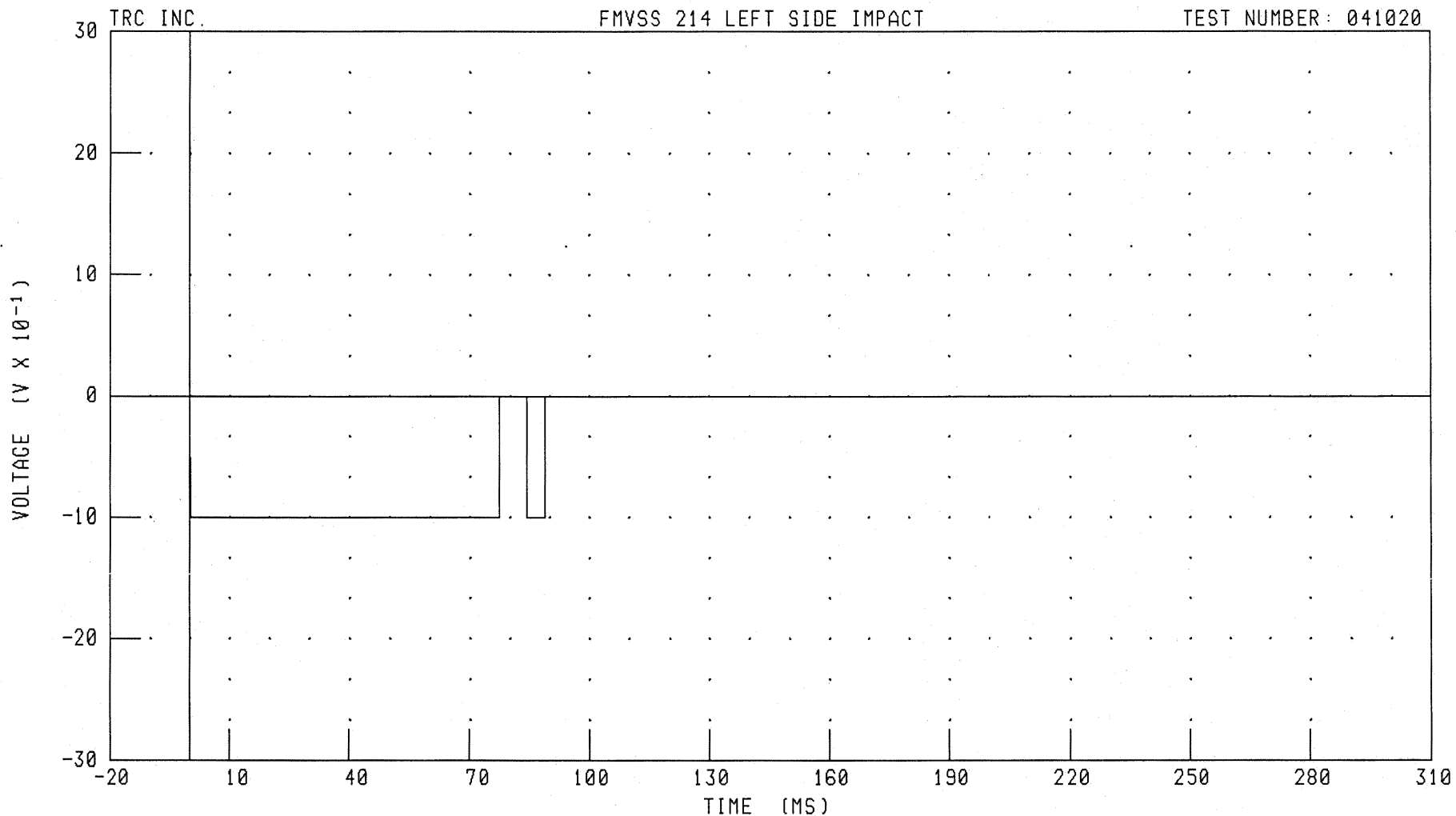
041020-1

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

MDB LEFT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: MDBL1

FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 0.16 MS

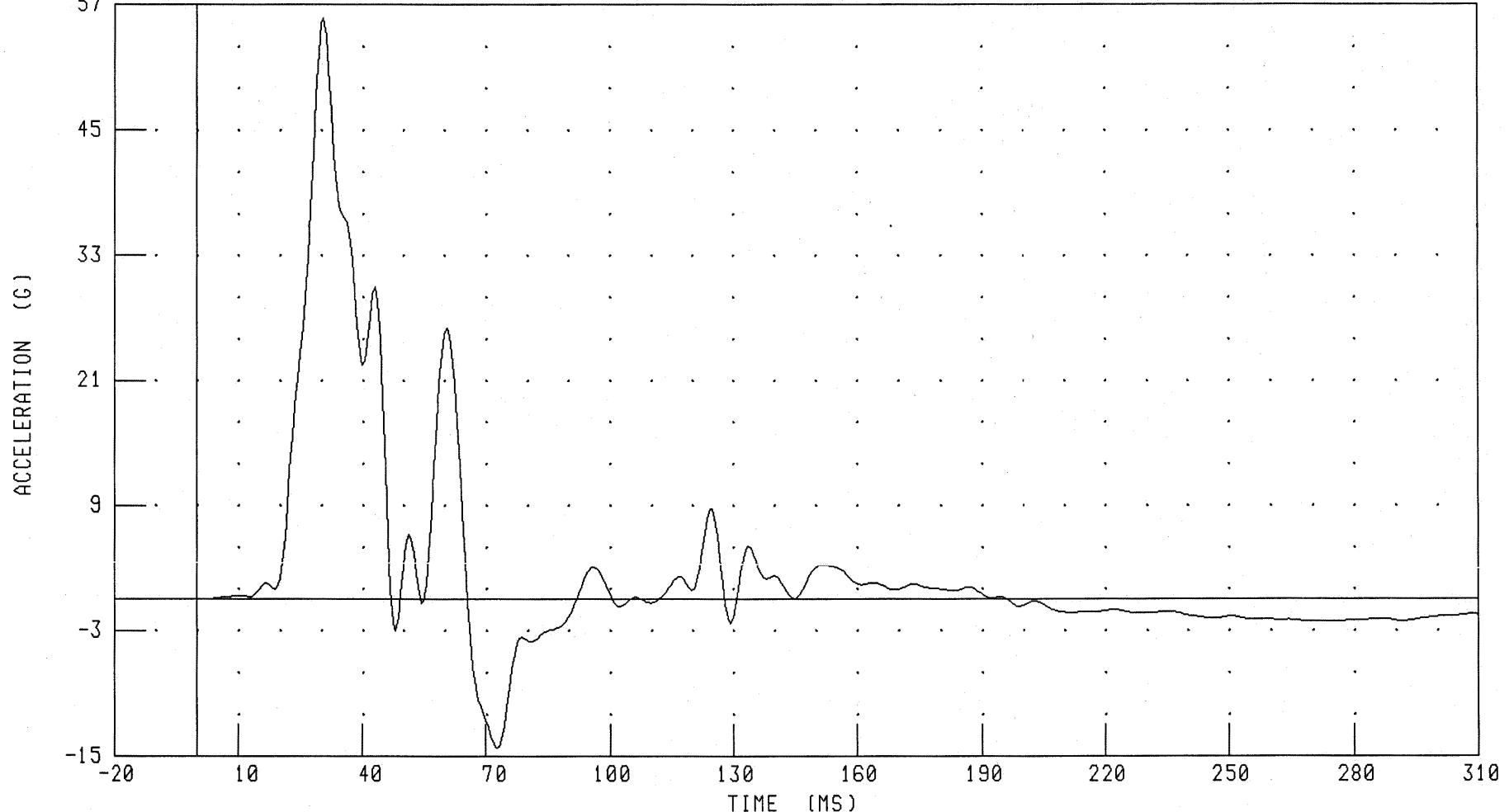
B-148

041020-1

Driver and Passenger Dummy Instrumentation Plots

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: LURYG1 FILTER: FIR 100

PEAK DATA: 55.70 G @ 30.62 MS; -14.15 G @ 72.50 MS

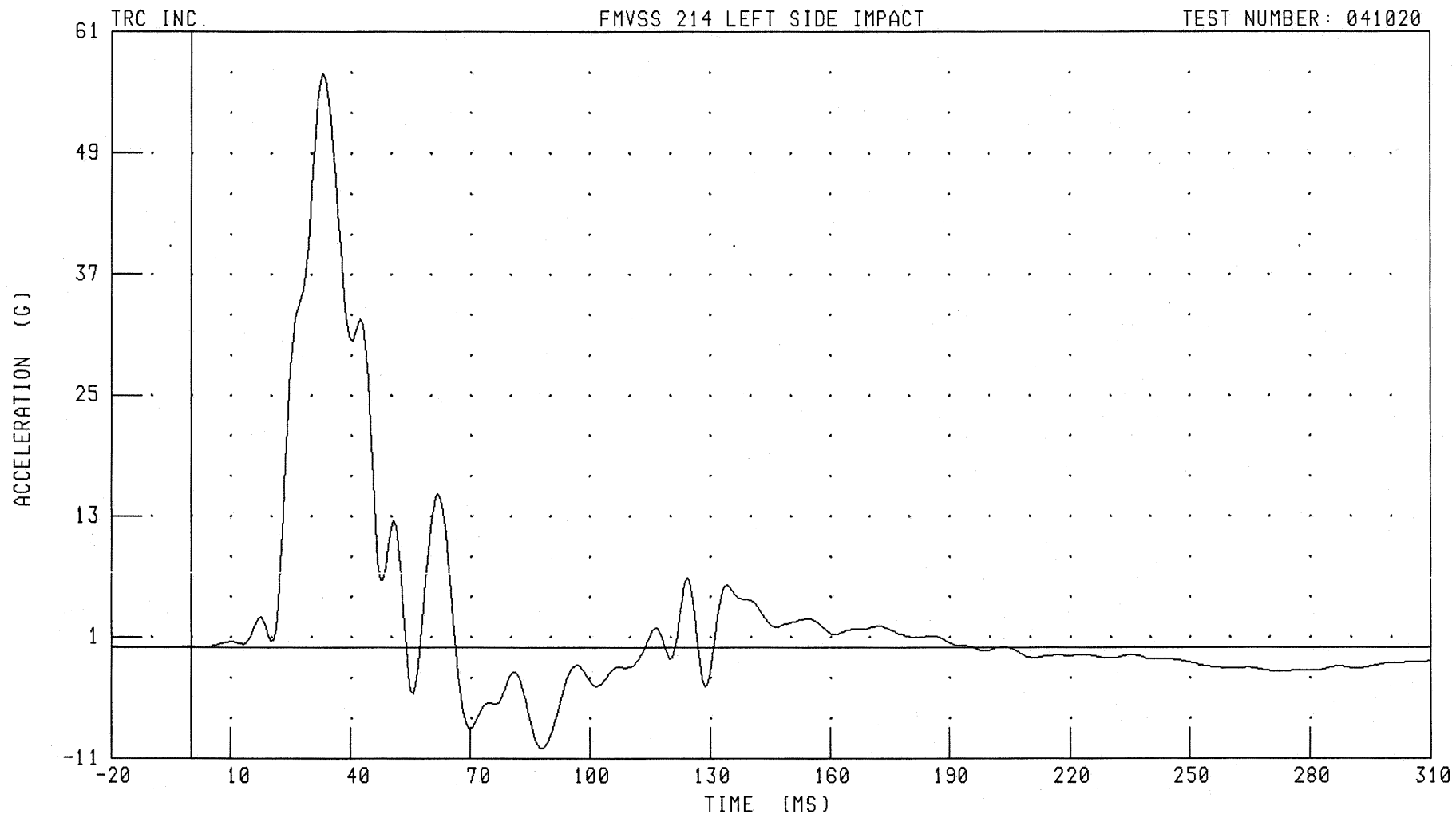
B-150

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYG1 FILTER: FIR 100

PEAK DATA: 56.83 G @ 33.13 MS; -10.01 G @ 88.13 MS

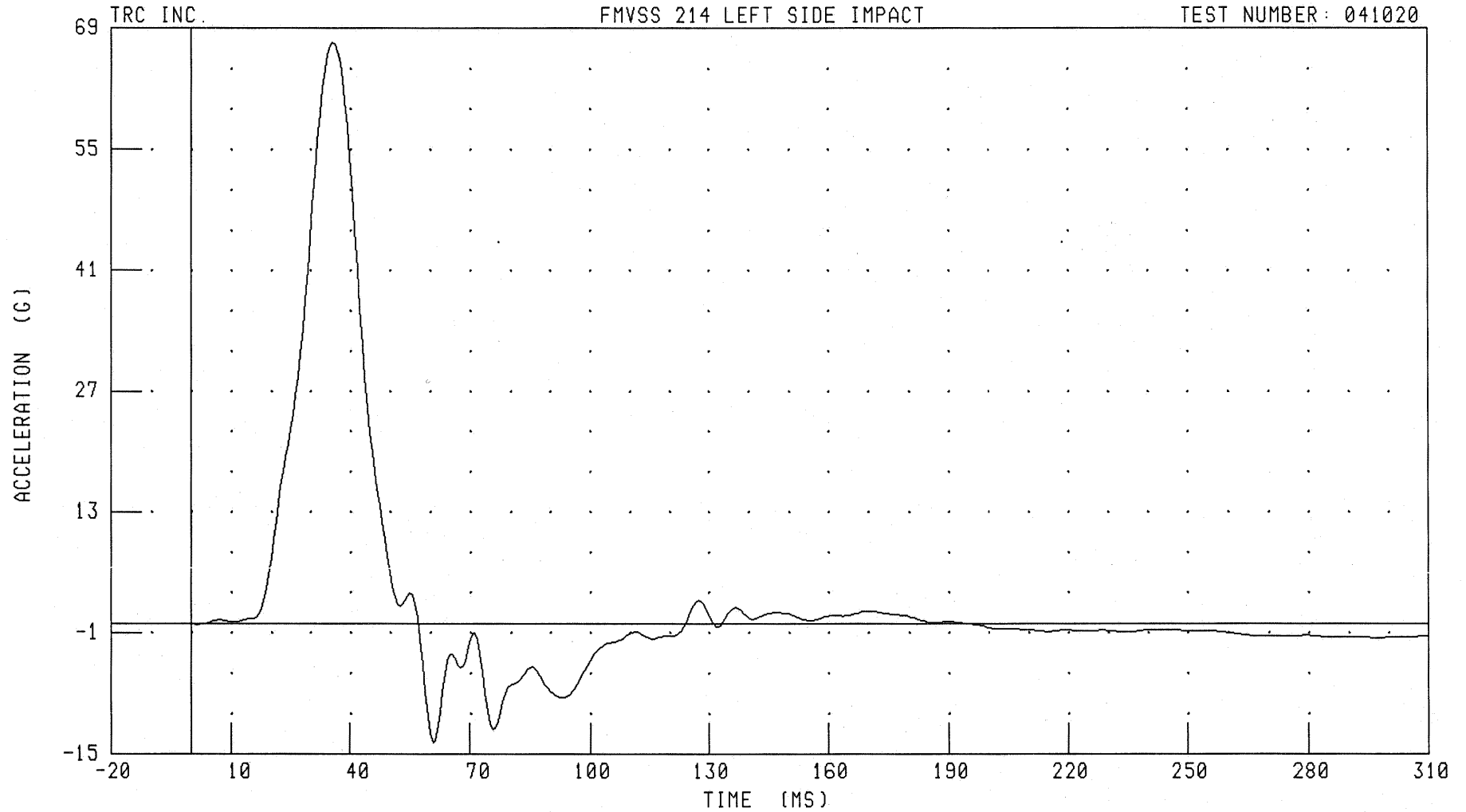
B-151

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YG1 FILTER: FIR 100

PEAK DATA: 67.35 G @ 35.63 MS; -13.67 G @ 60.62 MS

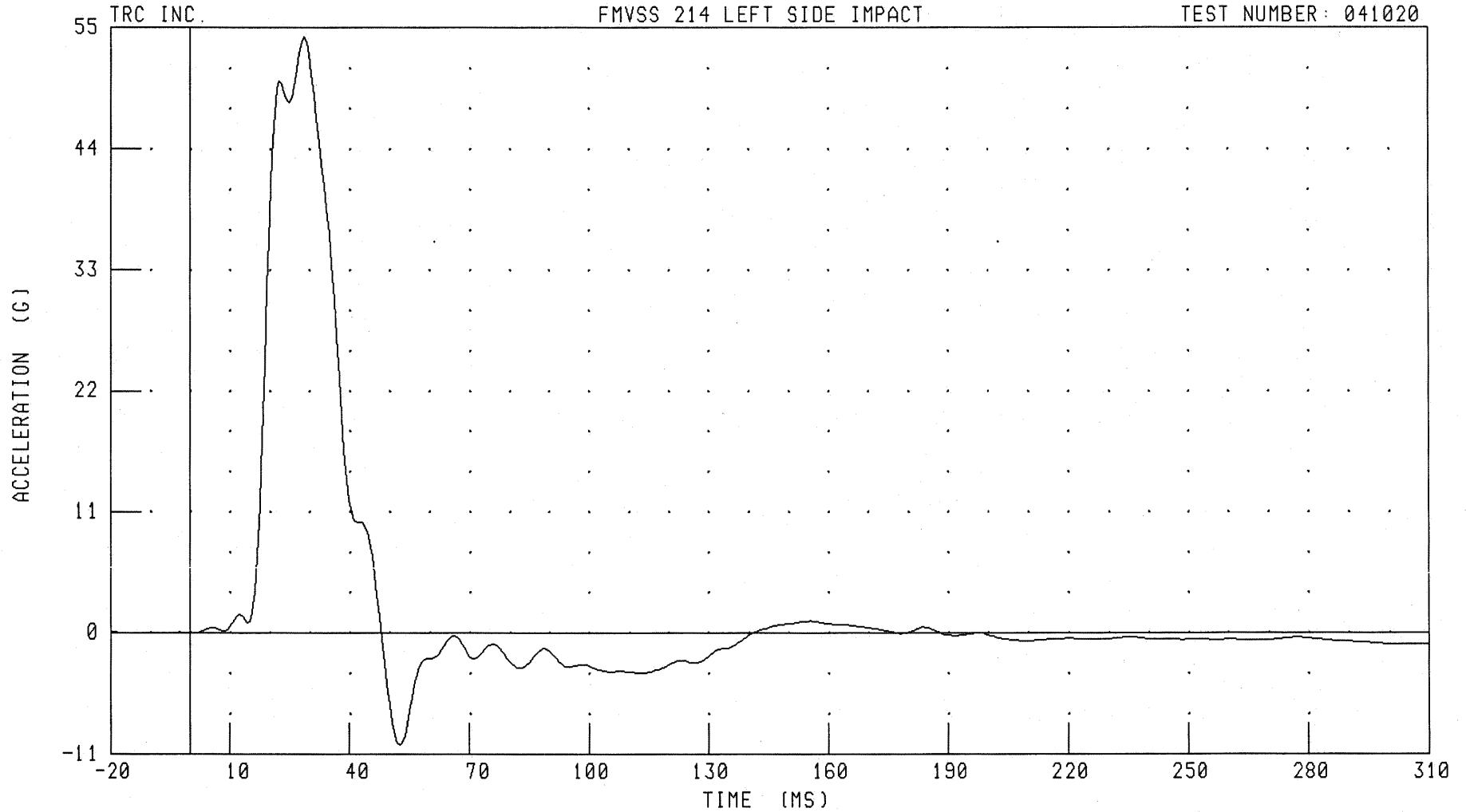
B-152

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYG1 FILTER: FIR 100

PEAK DATA: 54.14 G @ 28.75 MS; -10.21 G @ 52.50 MS

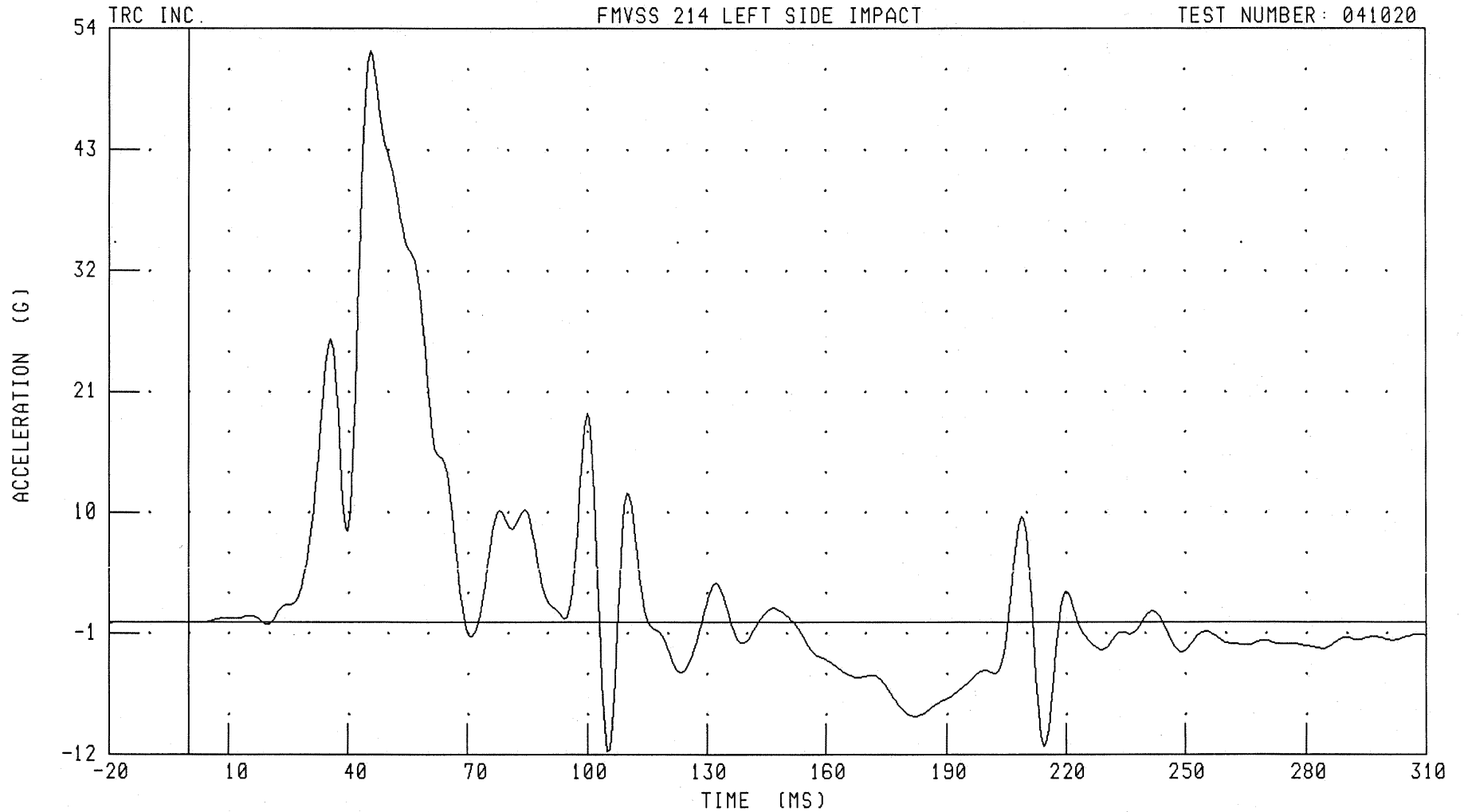
B-153

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYG4 FILTER: FIR 100

PEAK DATA: 52.00 G @ 45.62 MS; -11.73 G @ 105.00 MS

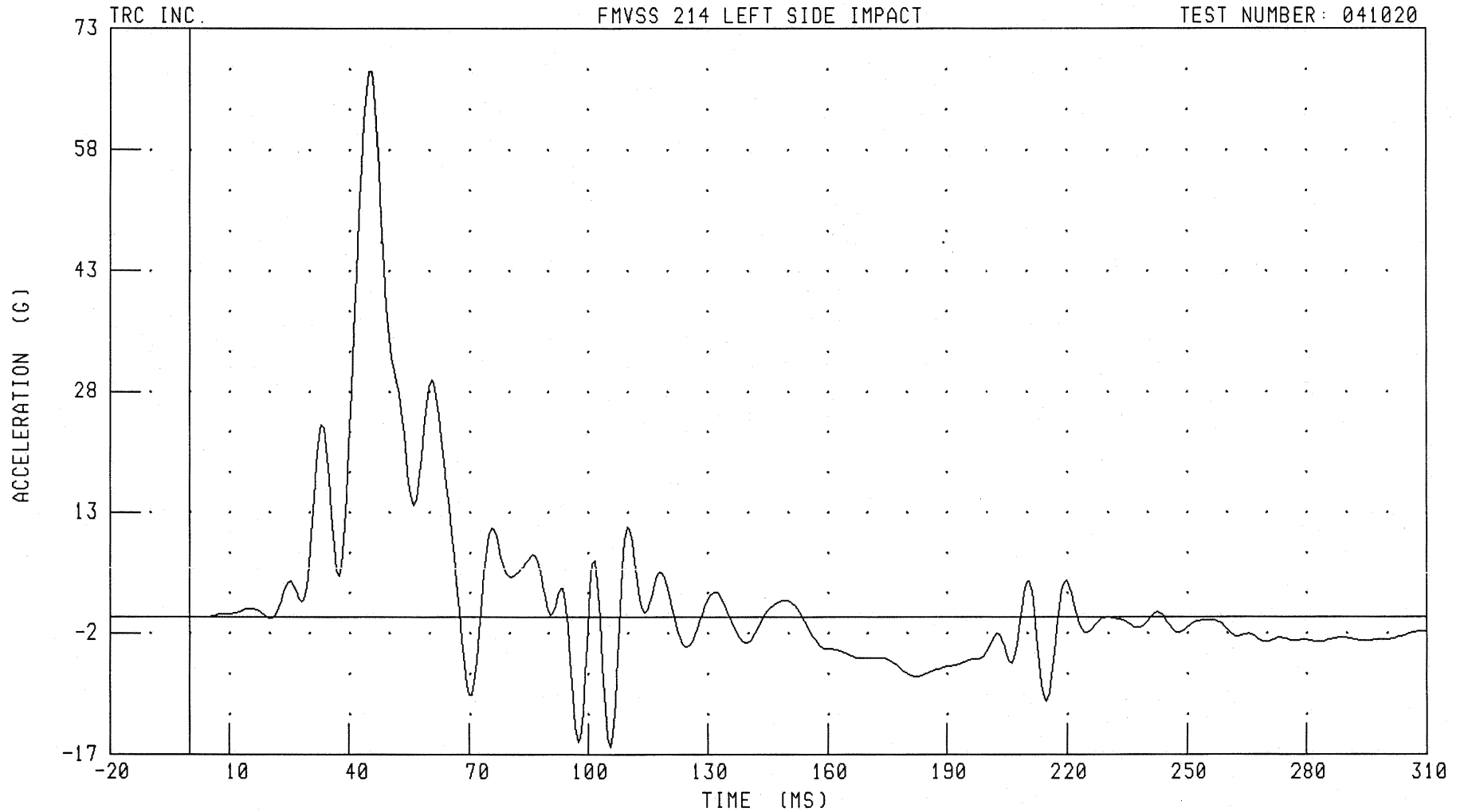
B-154

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYG4 FILTER: FIR 100

PEAK DATA: 67.64 G @ 45.00 MS; -16.14 G @ 105.62 MS

B-155

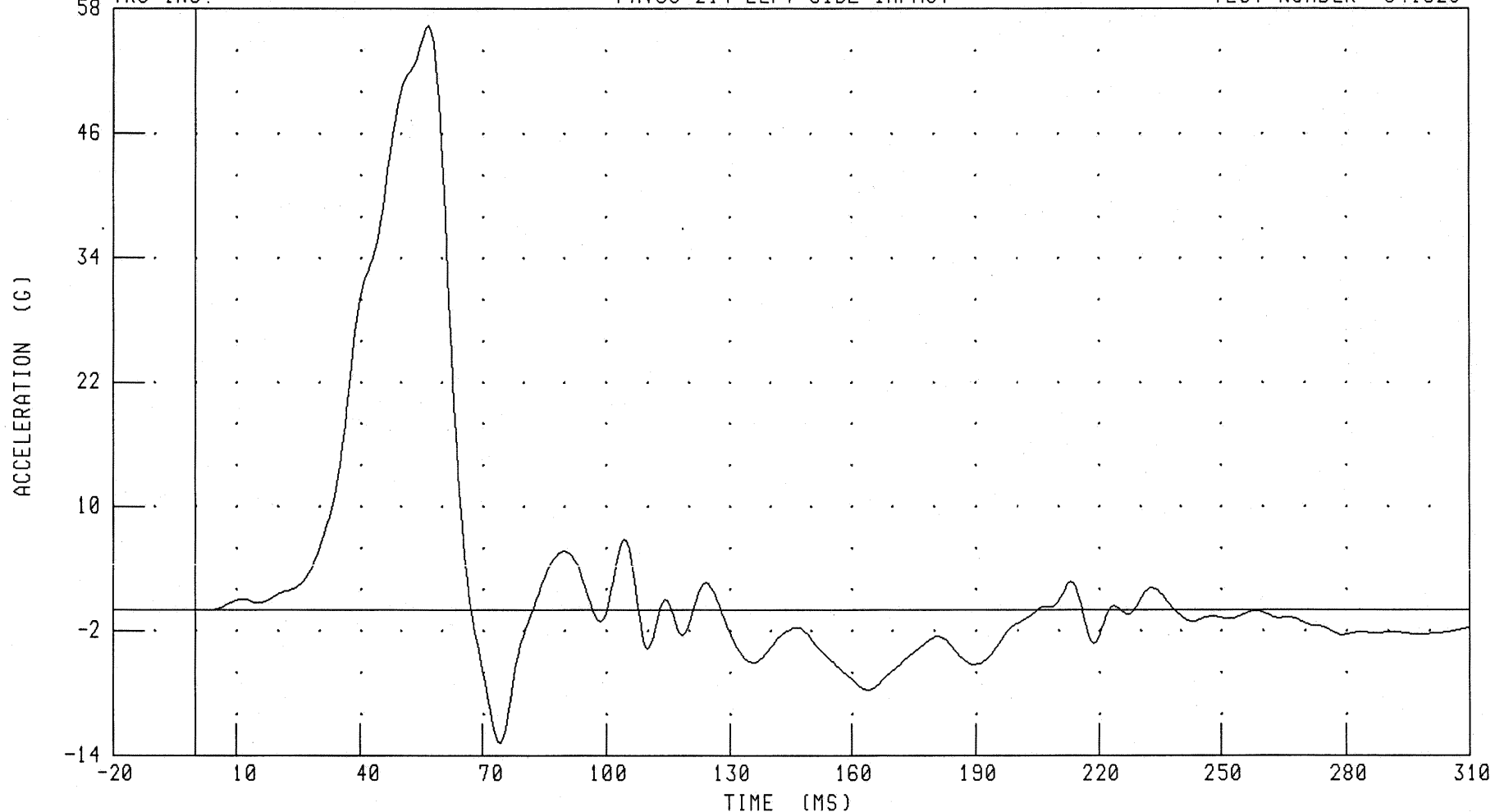
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: T12YG4 FILTER: FIR 100

PEAK DATA: 56.36 G @ 56.87 MS; -12.84 G @ 74.37 MS

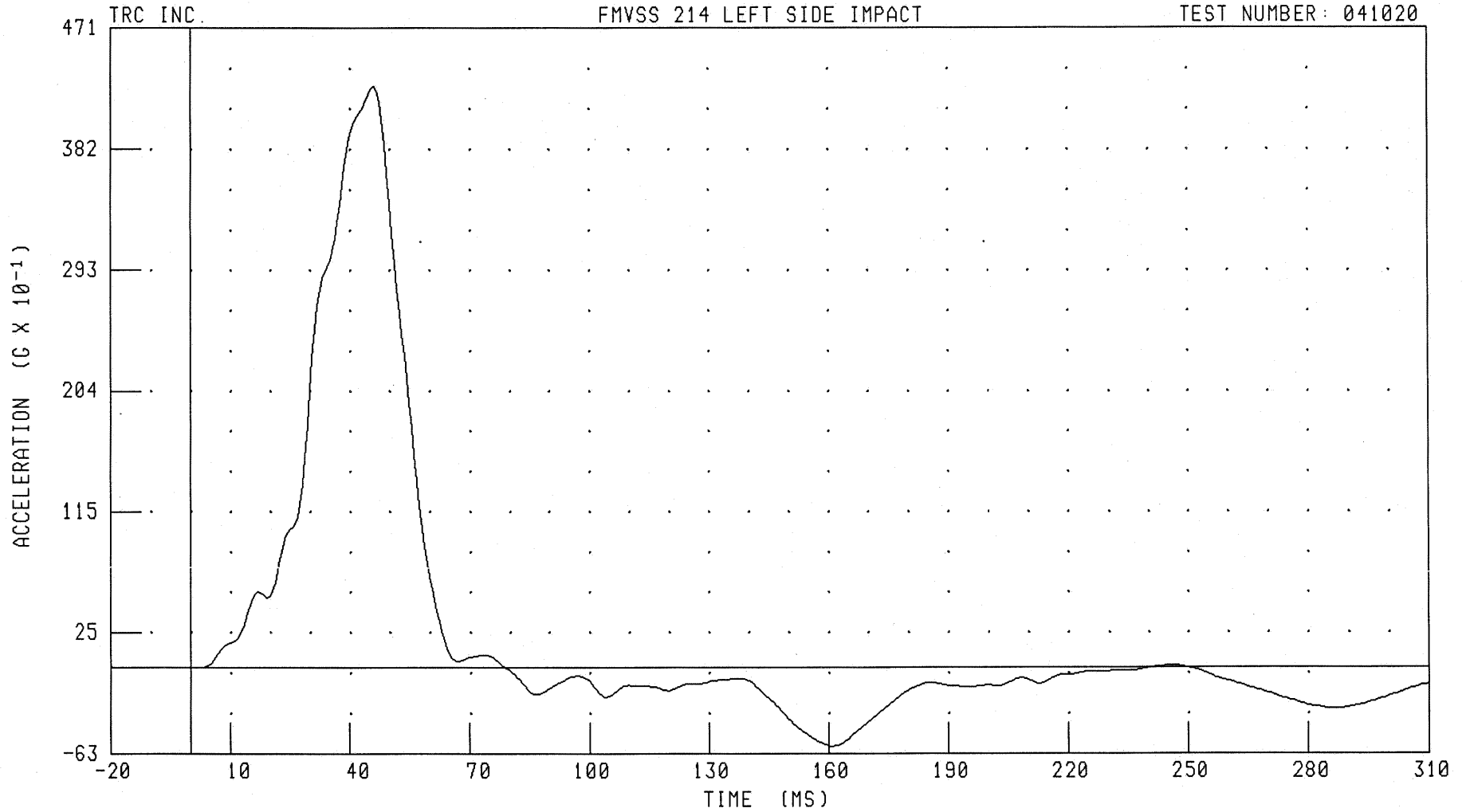
B-156

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYG4 FILTER: FIR 100

PEAK DATA: 42.83 G @ 46.25 MS; -5.76 G @ 161.25 MS

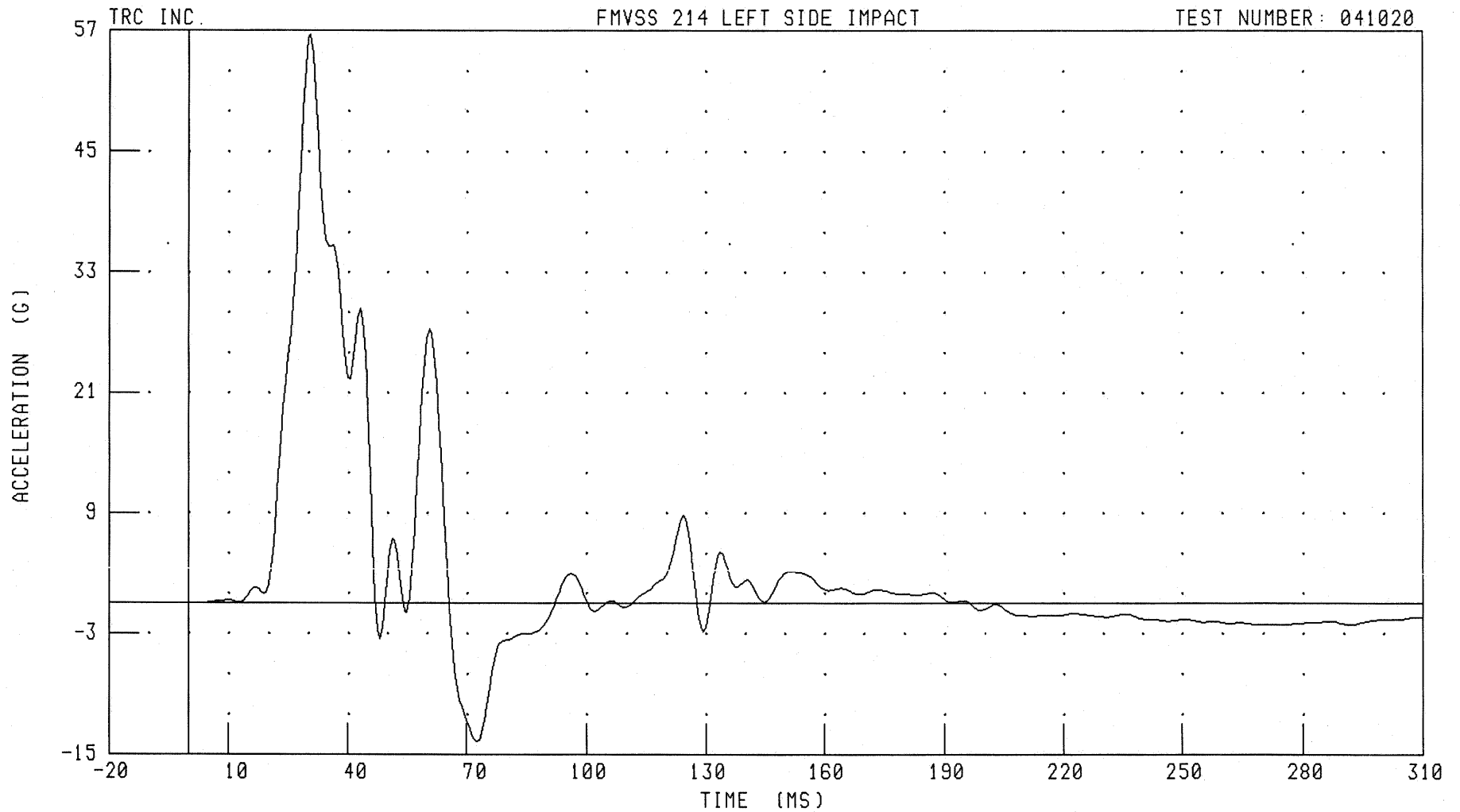
B-157

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYR1 FILTER: FIR 100

PEAK DATA: 56.61 G @ 30.62 MS; -13.73 G @ 72.50 MS

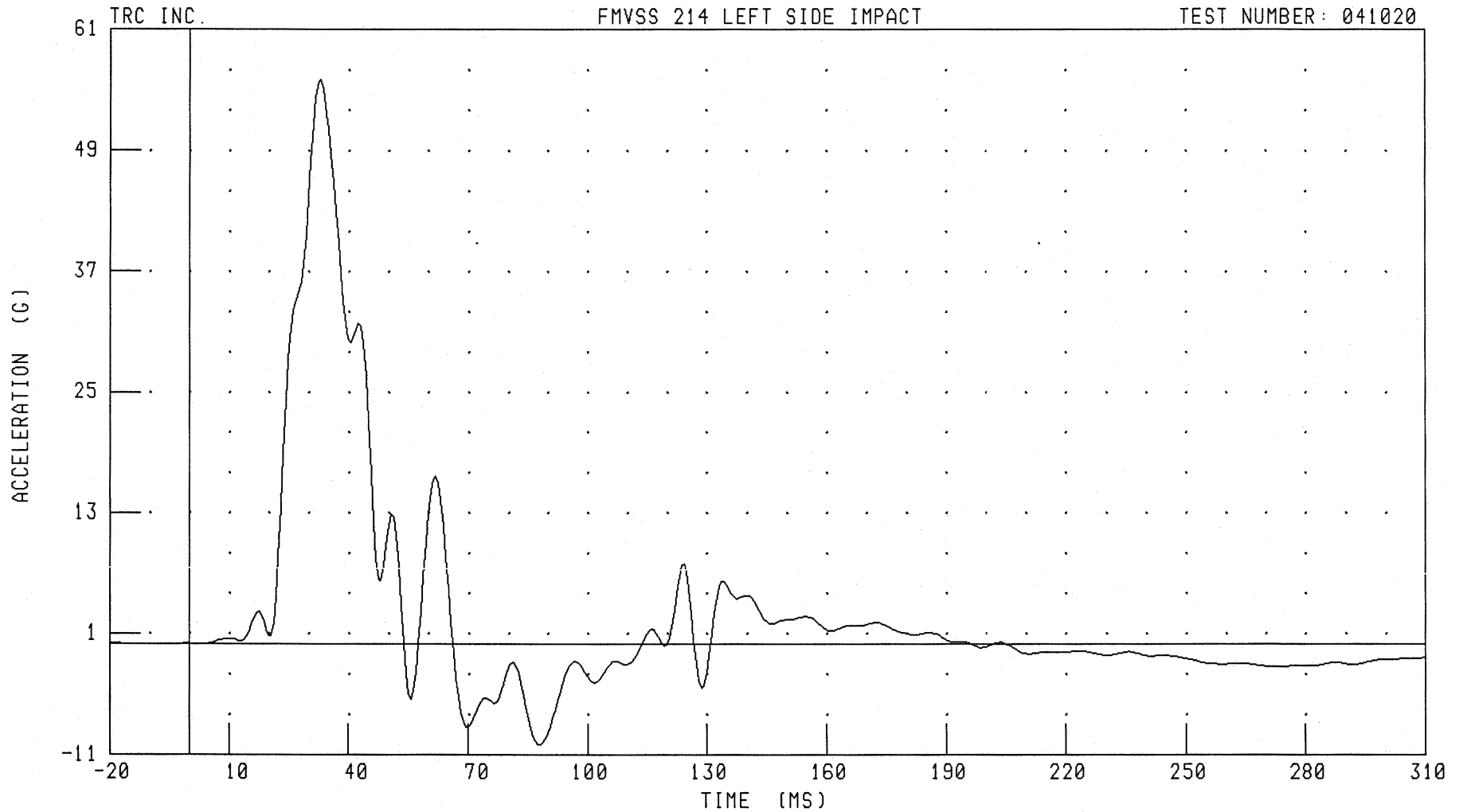
B-158

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



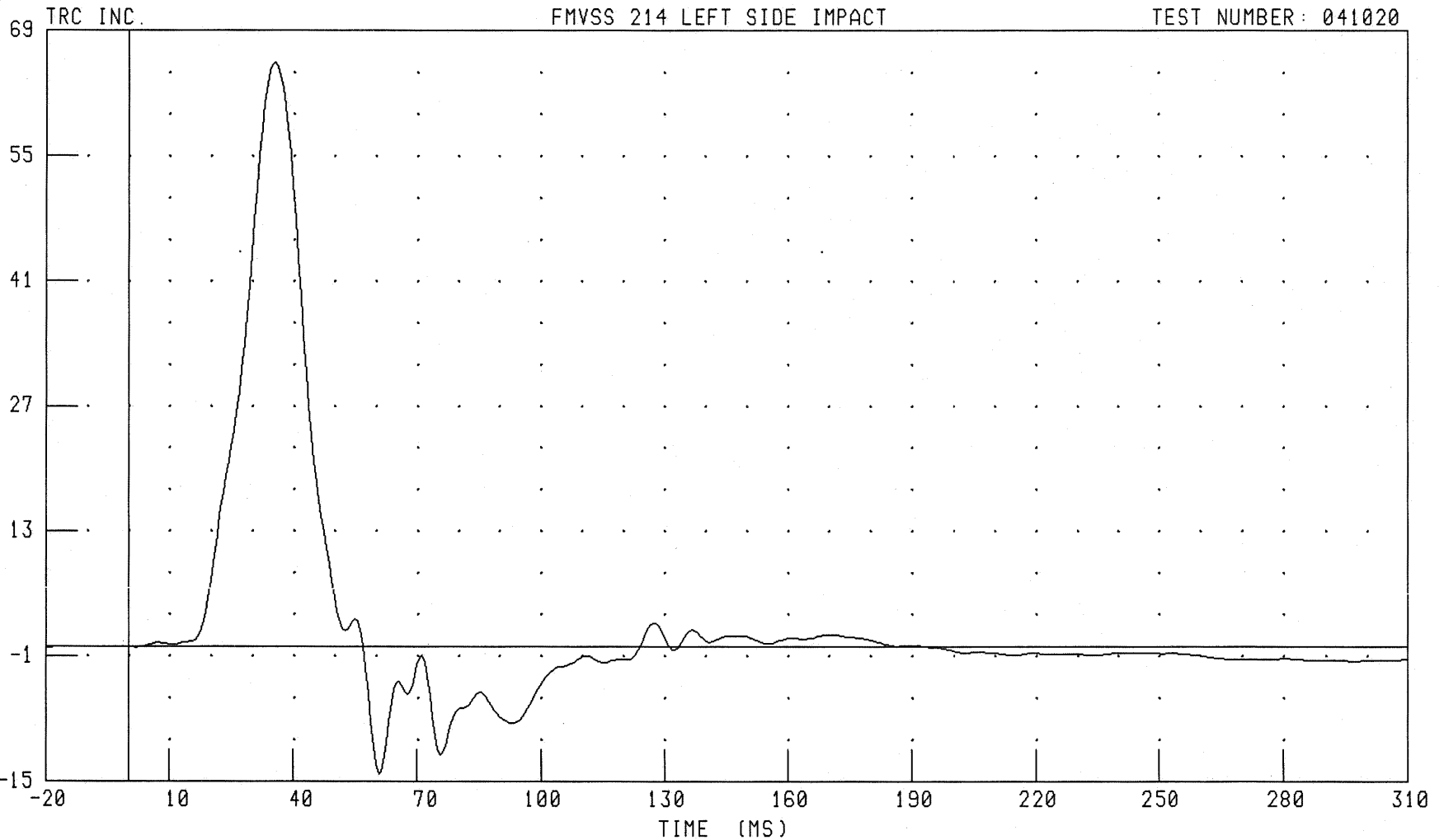
CHANNEL: LLRYR1 FILTER: FIR 100

PEAK DATA: 56.02 G @ 33.13 MS; -10.02 G @ 88.13 MS

B-159

041020-1

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



CHANNEL: T12YR1 FILTER: FIR 100

PEAK DATA: 65.45 G @ 35.63 MS; -14.16 G @ 60.62 MS

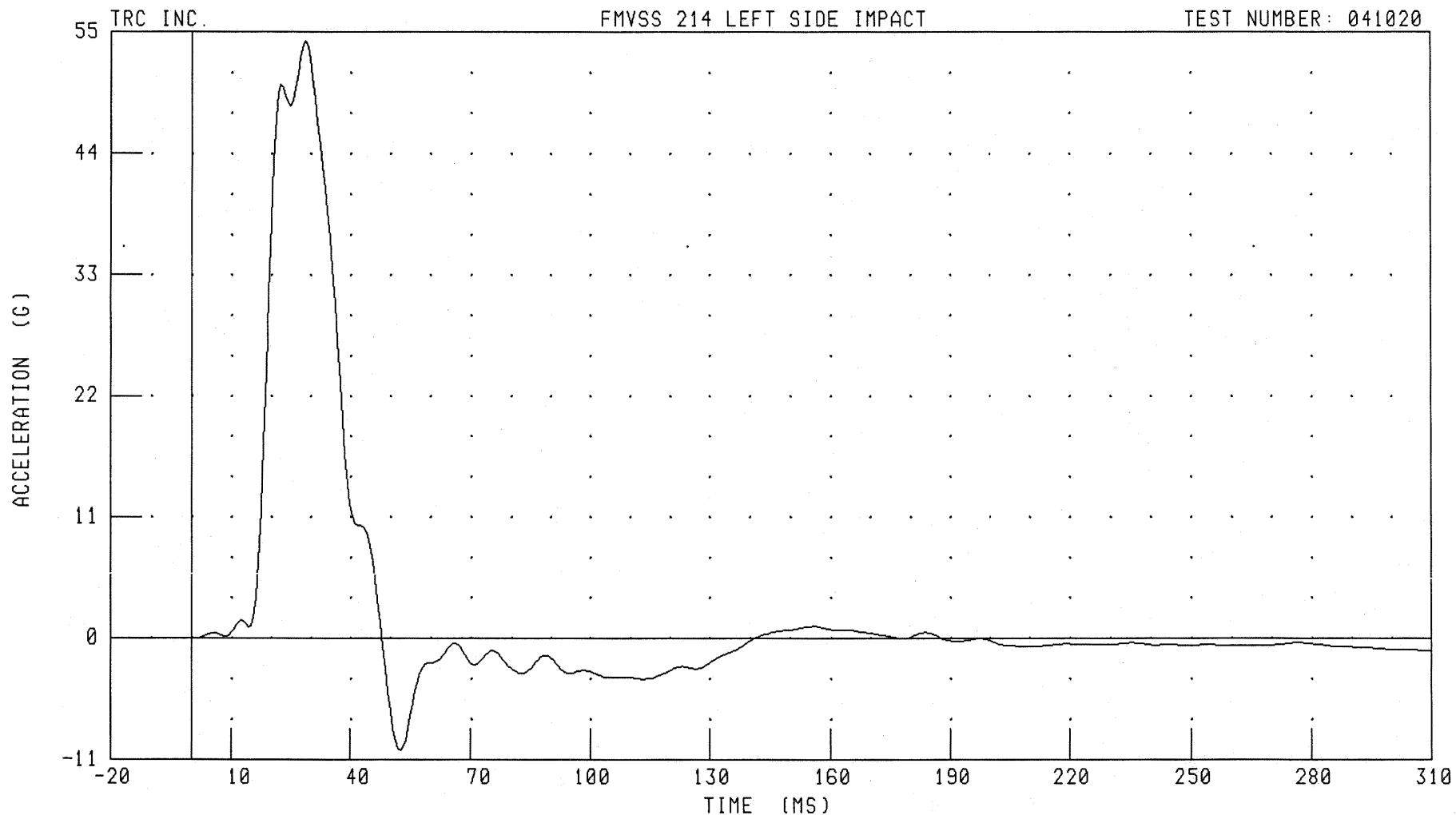
B-160

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYR1 FILTER: FIR 100

PEAK DATA: 54.16 G @ 28.75 MS; -10.19 G @ 52.50 MS

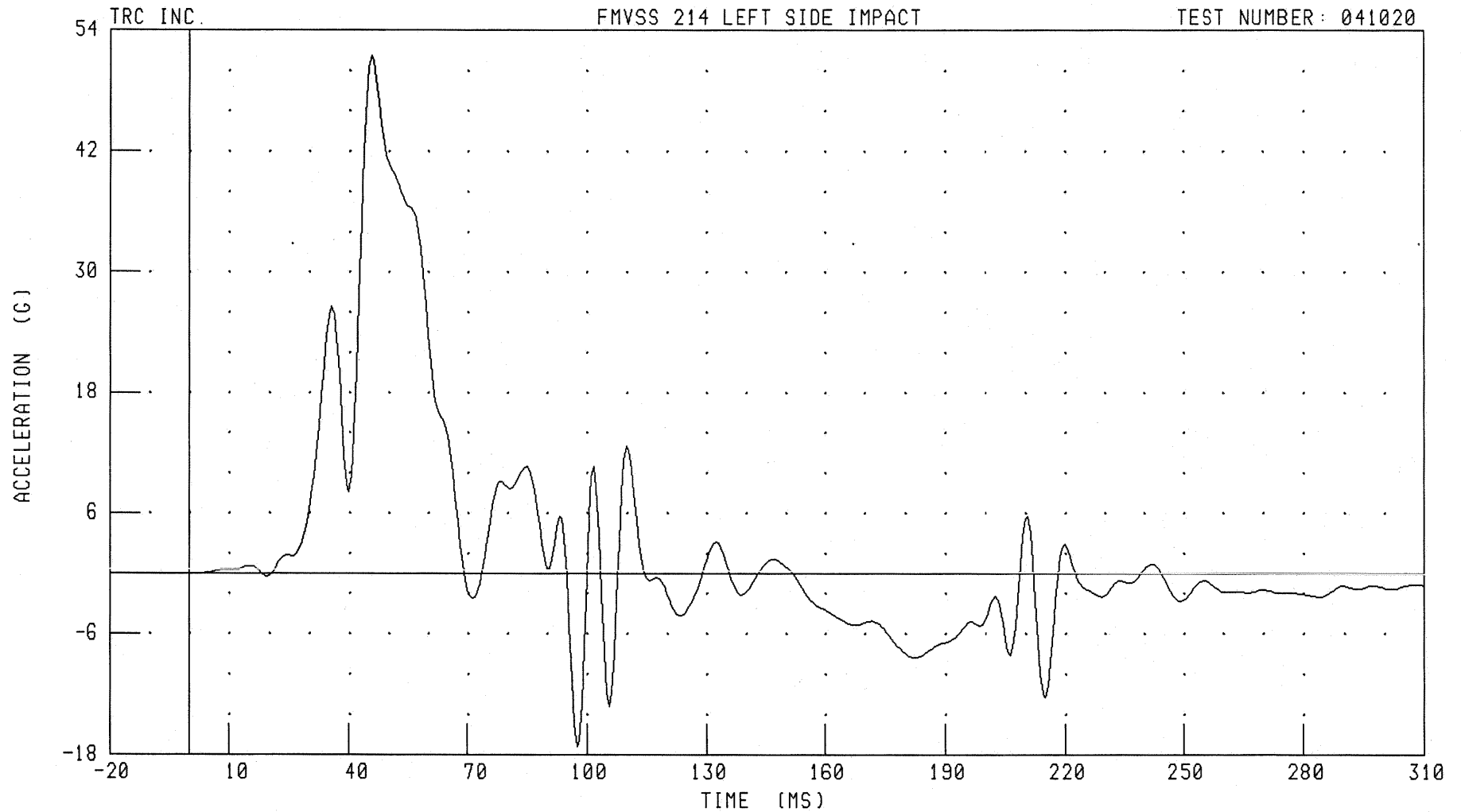
B-161

041020-1

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LURYR4 FILTER: FIR 100

PEAK DATA: 51.53 G @ 45.62 MS; -17.17 G @ 97.50 MS

B-162

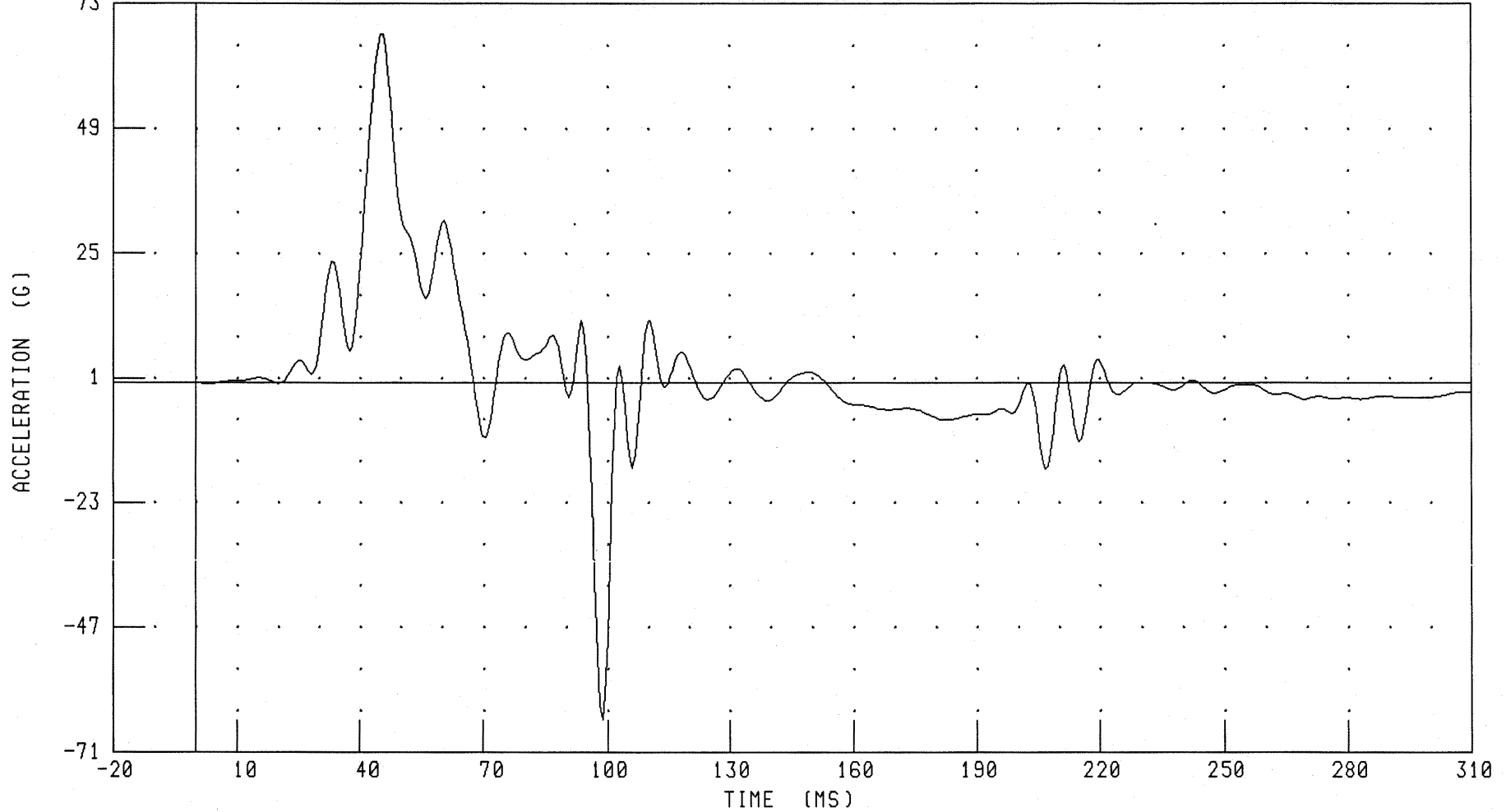
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: LLRYR4 FILTER: FIR 100

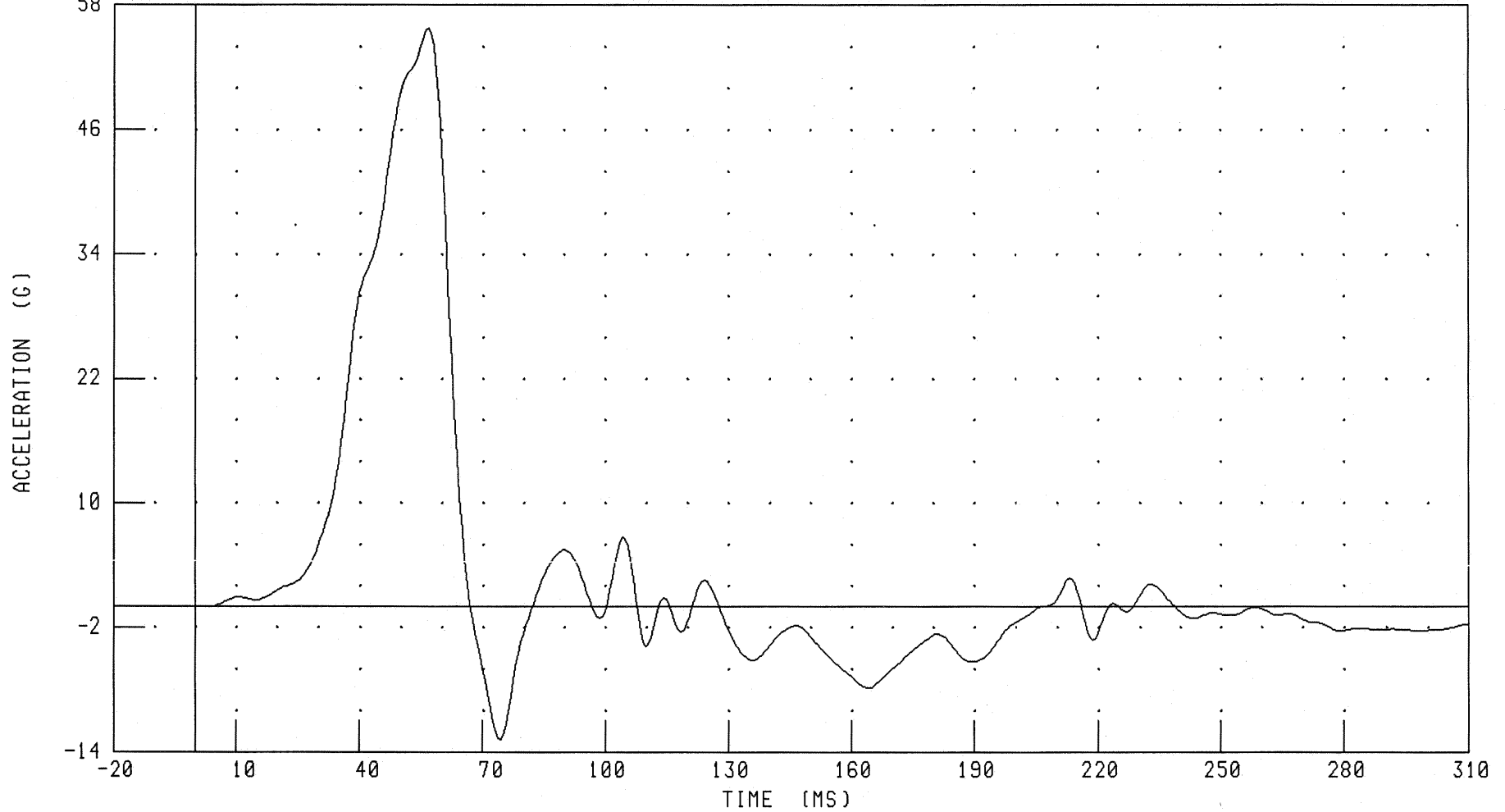
PEAK DATA: 67.15 G @ 45.00 MS; -64.71 G @ 98.75 MS

B-163

041020-1

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

TRC INC. FMVSS 214 LEFT SIDE IMPACT TEST NUMBER: 041020



CHANNEL: T12YR4 FILTER: FIR 100

PEAK DATA: 55.82 G @ 56.87 MS; -12.79 G @ 74.37 MS

B-164

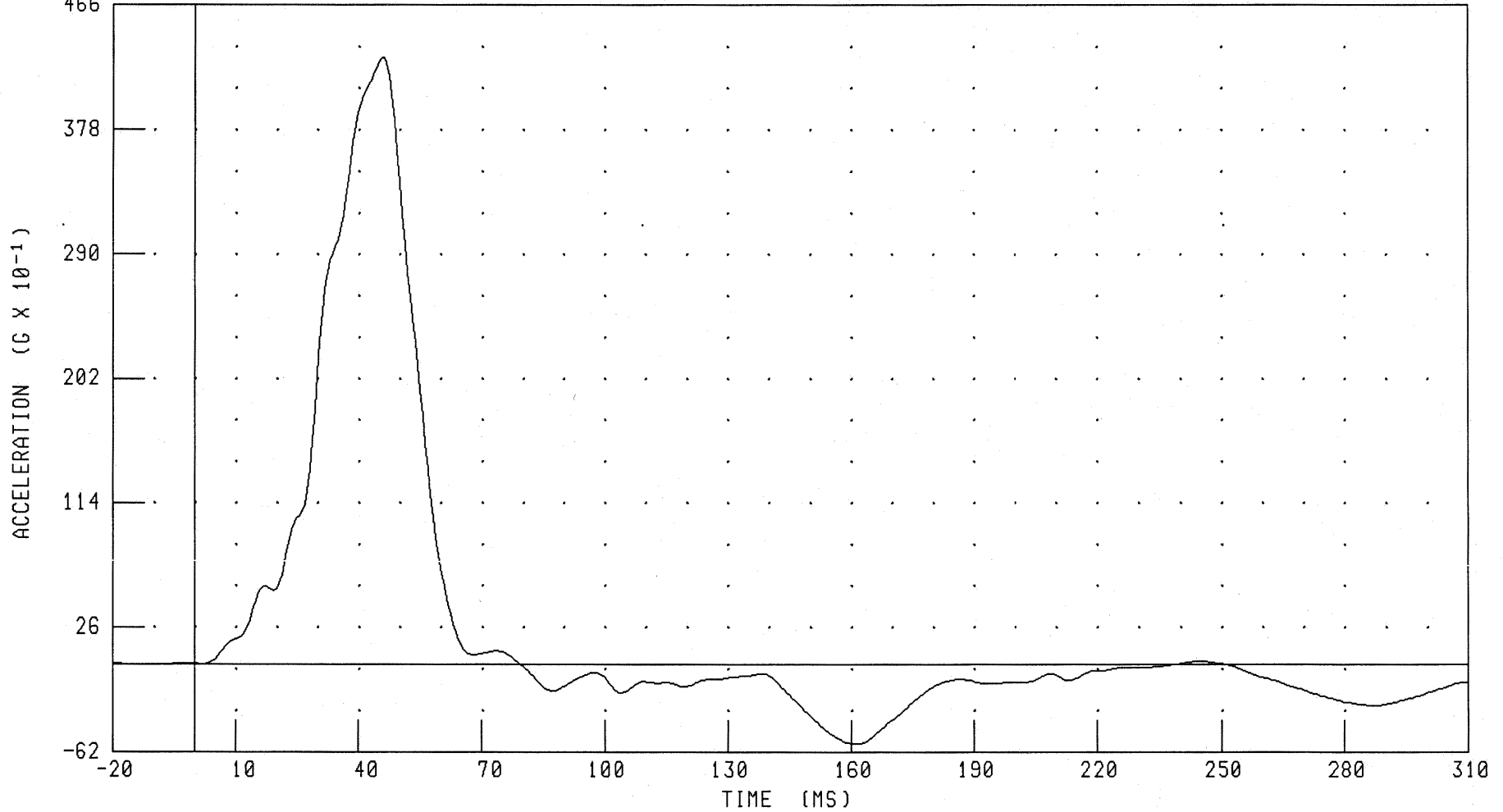
041020-1

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

TRC INC.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 041020



CHANNEL: PEVYR4 FILTER: FIR 100

PEAK DATA: 42.89 G @ 46.25 MS; -5.65 G @ 161.25 MS

B-165

041020-1

Appendix C

SID HIII Configuration and Performance Verification Data

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

Date: 09/14/04-10/28/04 TRC Inc. Test Number: S/N906 & S/N055

Laboratory Technician: V. Olivieri

Test Parameter	Specification	SID HIII 906		SID HIII 055	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH - Seated Height (mm)	889-909	895	894	907	905
RH - Rib Height (mm)	502-520	507	508	515	513
HP - Hip Pivot Height (mm)	99 ref	99.1	99.1	99.1	99.1
KH - Knee Pivot from Back Line (mm)	511-526	524	524	522	523
KV - Knee Pivot to Floor (mm)	490-505	494	494	495	495
HW - Hip Width (mm)	356-391	385	382	368	370
Thorax Impacts					
Temperature (°C)	18.9-25.5	21.3	21.1	21.2	21.3
Relative Humidity (%)	10-70	50	53	32	53
Probe Speed (m/s)	4.27-4.33	4.32	4.31	4.31	4.31
Upper Rib (g's)	37-46	42.8	42.9	42.8	41.6
Lower Rib (g's)	37-46	43.3	43.5	41.7	39.6
Lower Spine (g's)	15-22	18.5	17.6	19.3	20.2
Pelvis Impacts					
Temperature (°C)	18.9-25.5	21.2	21.2	21.4	21.3
Relative Humidity (%)	10-70	49	51	31	52
Probe Speed (m/s)	4.27-4.33	4.31	4.31	4.32	4.31
Pelvis (g's)	40-60	52.4	50.9	45.8	44.4

Calibration Test Results

Pre-Test

SID HIII: 906

Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all lateral drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The thorax passed all impact test requirements.
Lumbar Flexion Test:	The dummy met the lumbar flexion test requirements.
Abdominal Compression Test:	The abdomen met the compression test requirements.
Pelvis Impact Test:	The lateral pelvis passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber passed all test requirements (was tested on September 21, 2004 for a previous calibration series).

Transportation Research Center Inc.

SID/HIII Dummy

External Dimensions

Serial No. 906 Calibration No. 08

Date: 09/29/04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	895 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	507 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	524 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	494 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	385 mm	Yes
Top Rib Width From CL	RW-1	165.1 - 180.3 mm	178 mm	Yes
Bottom Rib Width From CL	RW-2	165.1 - 180.3 mm	178 mm	Yes
Difference Between Top & Bottom Rib Width from CL		<= 2.5 mm	0.0 mm	Yes

Technician

Kurat Alini

Approved

Paul W. [Signature]



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 08 - 8

Test Date 10/05/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	28 %	Yes
Peak Resultant Acceleration	120 - 150 g	122.7 g	Yes
Peak Longitudinal Acceleration	15 g Max	6.5 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

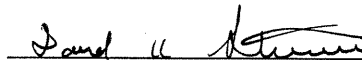
Test meets specifications.

Comments:

Technician



Approved



10.05.2004 14:42:41 610

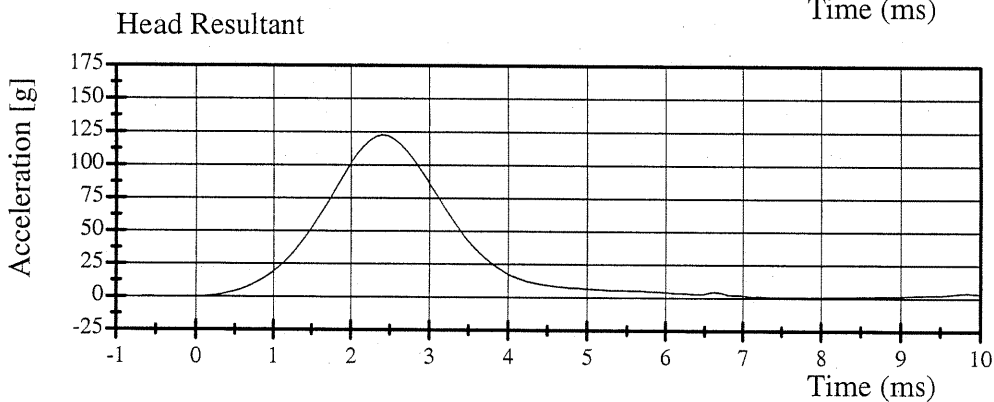
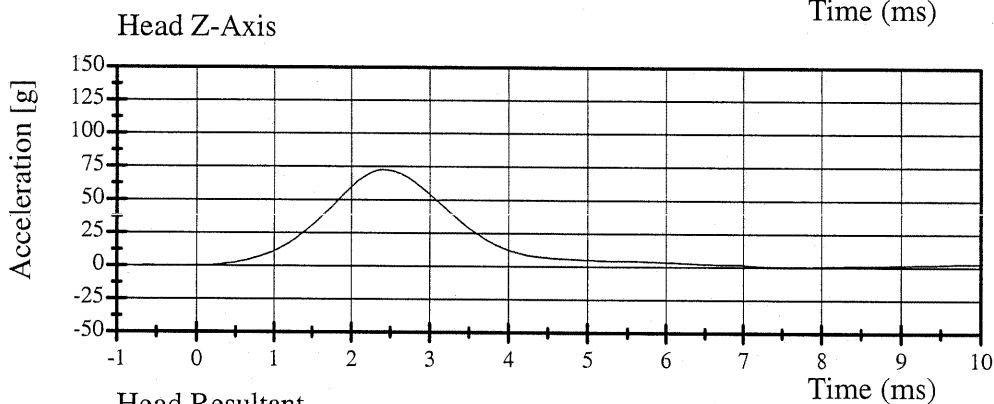
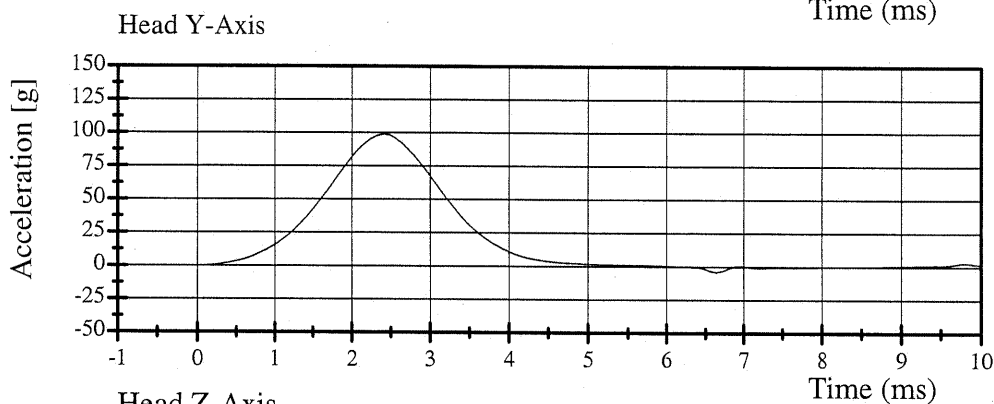
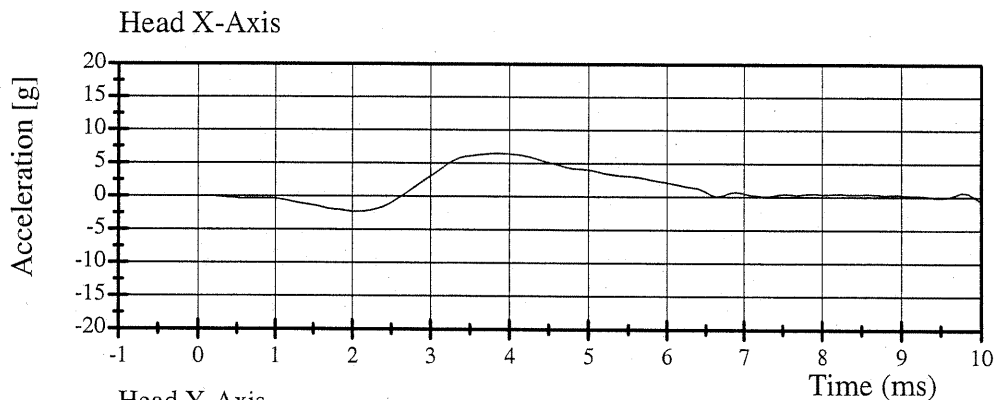


Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 08 - 8

Test Date 10/05/2004



10.05.2004 14:42:42 610



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 08 - 1

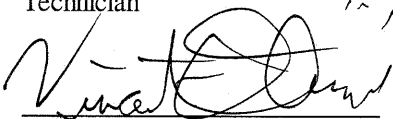
Test Date 09/28/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.2 °C	Yes
Relative Humidity	10 - 70 %	51 %	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	2.32 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.74 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.66 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.15 - 7.32 m/s	Yes
Peak D Plane Rotation	66 - 82 °	70.1 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	58.0 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	76.4 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	56.6 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	12.2 ms	Yes

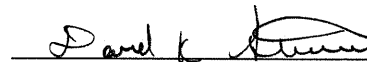
Test meets specifications.

Comments:

Technician



Approved



09.28.2004 07:27:09 514



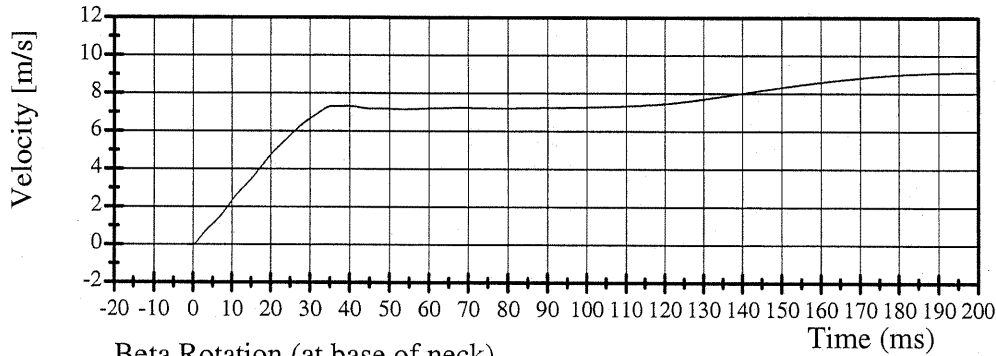
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 08 - 1

Test Date 09/28/2004

Integrated Pendulum Velocity

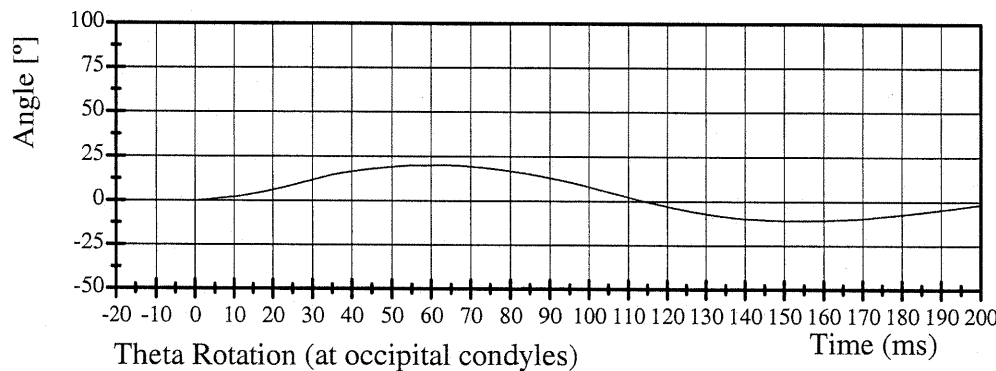


Filter Class: 180

Max: 9.4 m/s at 958.9 ms

Min: -0.0 m/s at -0.5 ms

Beta Rotation (at base of neck)

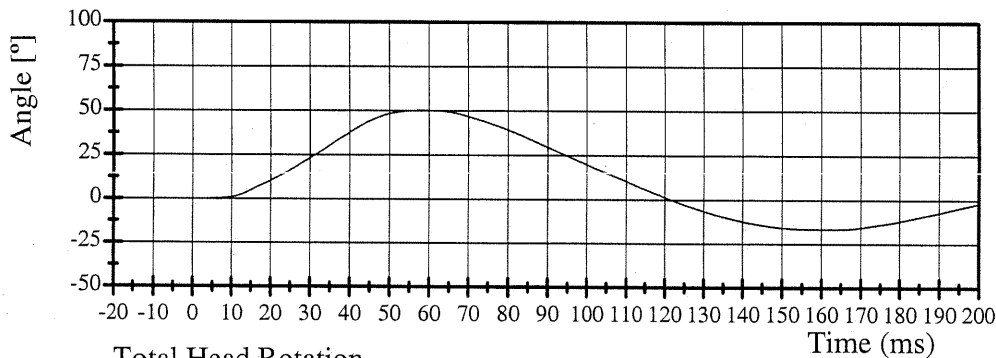


Filter Class: 60

Max: 20.0 ° at 63.0 ms

Min: -10.9 ° at 152.5 ms

Theta Rotation (at occipital condyles)

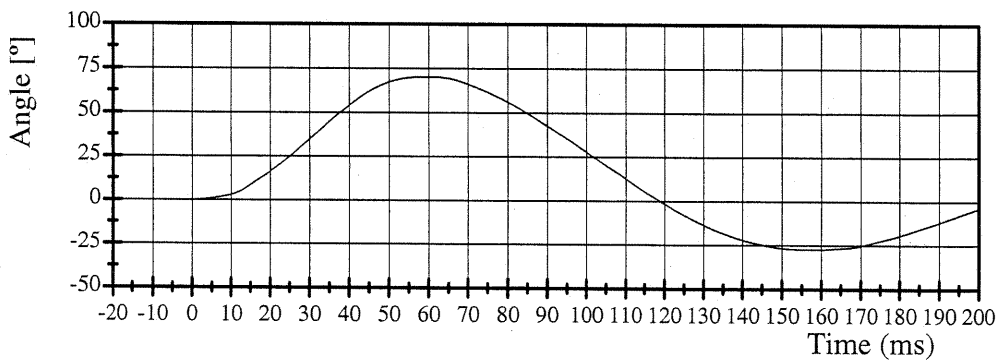


Filter Class: 60

Max: 50.2 ° at 58.2 ms

Min: -16.6 ° at 159.9 ms

Total Head Rotation



Filter Class: 60

Max: 70.1 ° at 61.0 ms

Min: -27.4 ° at 157.1 ms

09.28.2004 07:27:10 514



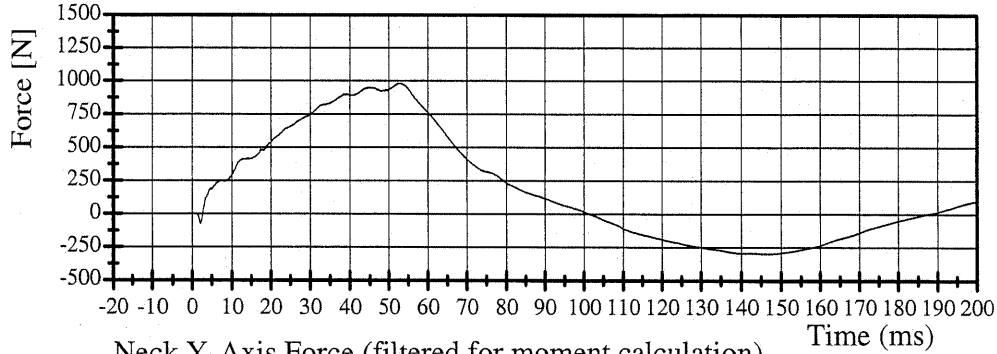
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 08 - 1

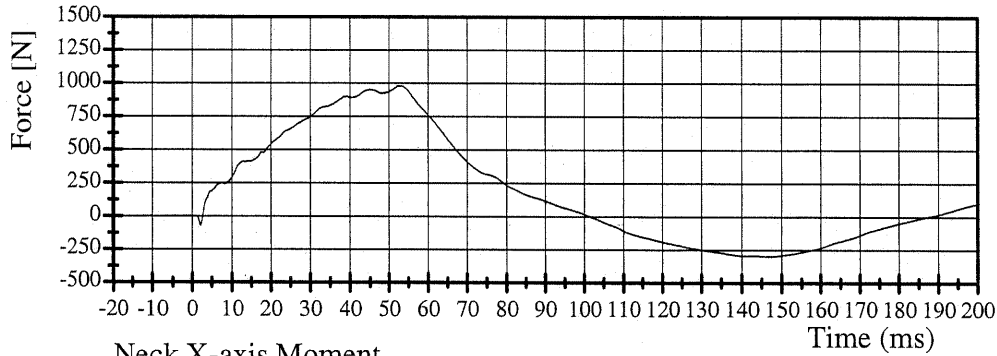
Test Date 09/28/2004

Neck Y-Axis Force



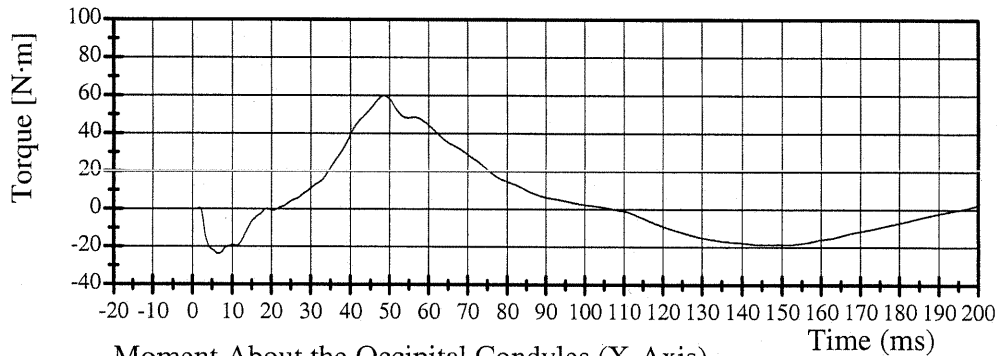
Filter Class: CFC 1000
Max: 980 N at 53.1 ms
Min: -299 N at 147.0 ms

Neck Y-Axis Force (filtered for moment calculation)



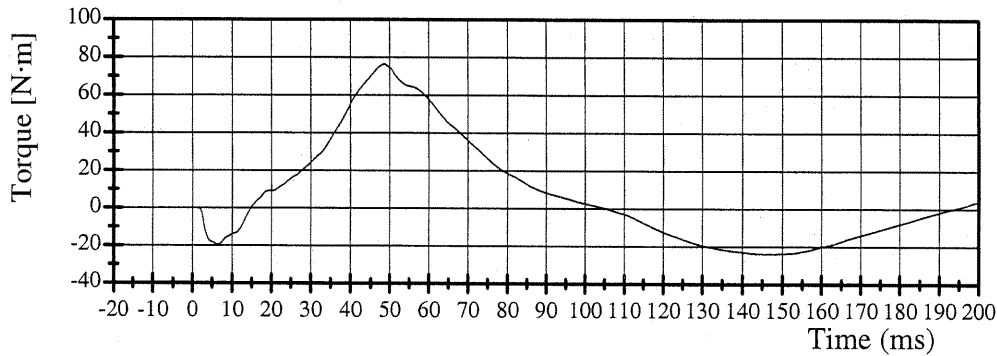
Filter Class: CFC 600
Max: 980 N·m at 53.0 ms
Min: -298 N·m at 147.0 ms

Neck X-axis Moment



Filter Class: CFC 600
Max: 60.0 N·m at 48.7 ms
Min: -23.7 N·m at 6.4 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600
Max: 76.4 ° at 48.7 ms
Min: -23.9 ° at 147.1 ms



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 08 - 1

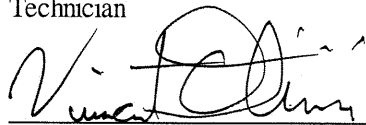
Test Date 09/29/2004

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	4.32 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	42.8 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	43.3 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	18.5 g	Yes

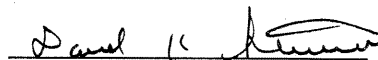
Test meets specifications.

Comments:

Technician



Approved



09.29.2004 11:28:41 1136



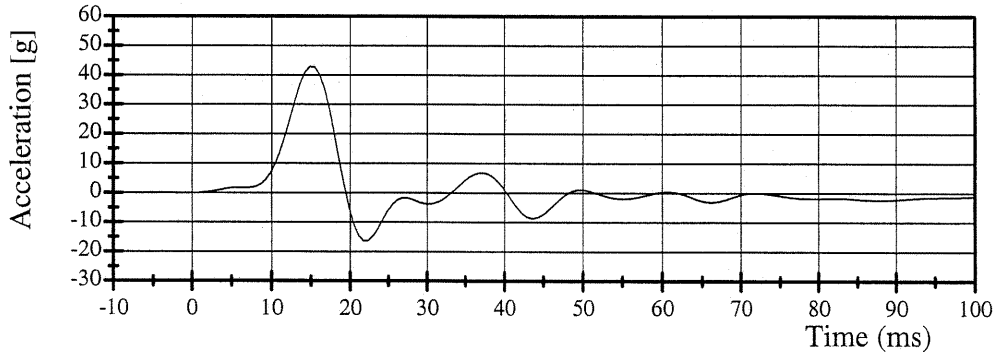
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 08 - 1

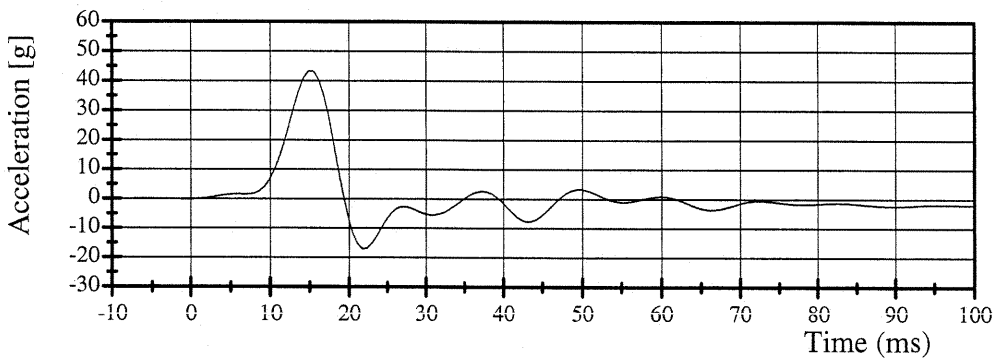
Test Date 09/29/2004

Upper Rib Bar Acceleration



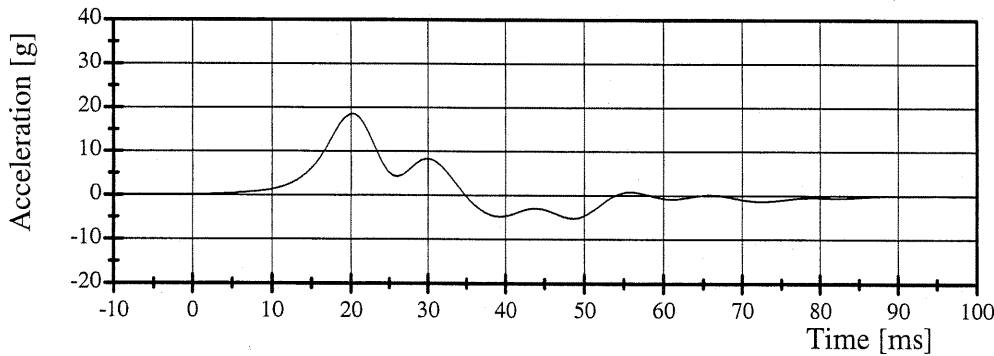
Filter Class: FIR 100
Max: 42.8 g at 14.9 ms
Min: -16.3 g at 21.8 ms

Lower Rib Bar Acceleration



Filter Class: FIR 100
Max: 43.3 g at 15.4 ms
Min: -17.0 g at 21.8 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100
Max: 18.5 g at 20.4 ms
Min: -5.2 g at 48.6 ms

Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 906 Calibration No. 08 - A1

Test Date 09/21/2004

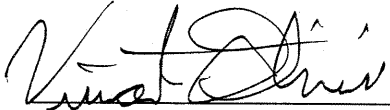
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	45 %	Yes
Pendulum Velocity		2.70 m/sec	
Maximum Force at Test Velocity	647 - 902 N	741 N	Yes
Maximum Displacement at Test Velocity	29.6 - 34.4 mm	32.2 mm	Yes

Test meets specifications.

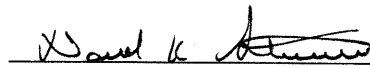
Comments:

Damper Setting : 7.0

Technician



Approved



09.21.2004 09:22:52 1572



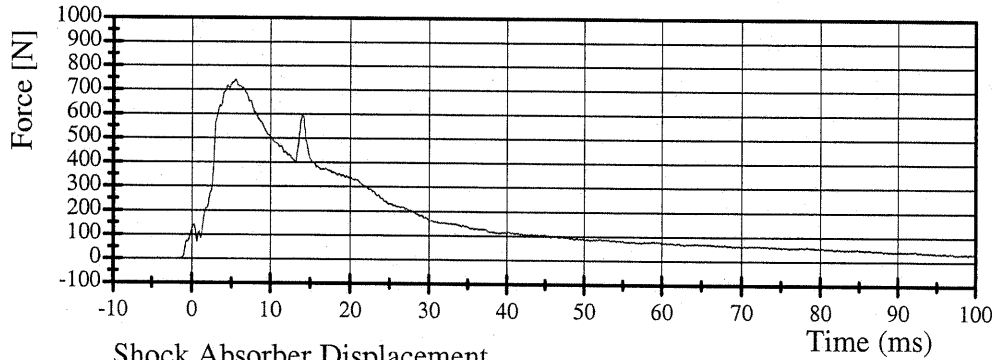
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 906 Calibration No. 08 - A1

Test Date 09/21/2004

Shock Absorber Resistive Force

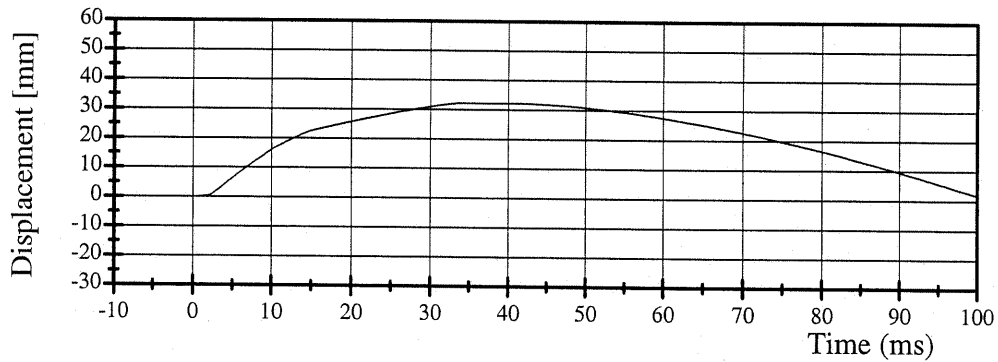


Filter Class: 1000

Max: 741 N at 5.6 ms

Min: -2205 N at 102.2 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 32.2 mm at 38.3 ms

Min: -1.0 mm at 103.5 ms

Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 906 Calibration No. 08 - B1

Test Date 09/21/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.3 C	Yes
Relative Humidity	10 - 70 %	47 %	Yes
Pendulum Velocity		4.27 m/sec	
Maximum Force at Test Velocity	1736 - 2099 N	1840 N	Yes
Maximum Displacement at Test Velocity	31.7 - 37.2 mm	36.7 mm	Yes

Test meets specifications.

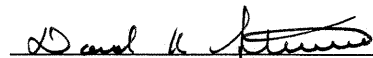
Comments:

Damper Setting : 7.0

Technician



Approved



09.21.2004 09:14:14 1208



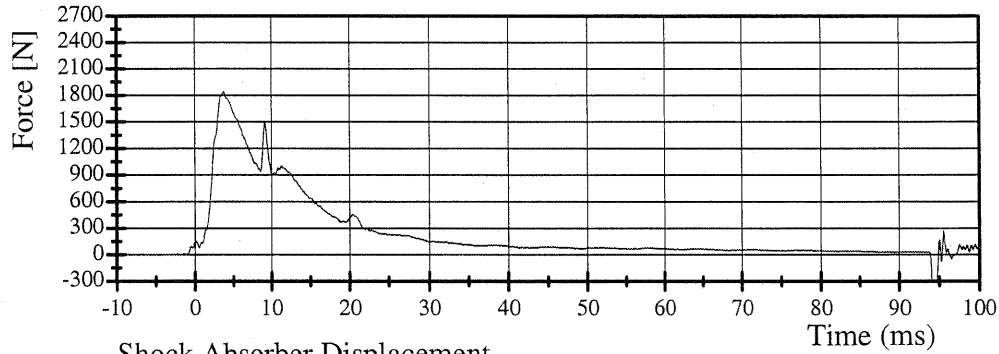
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 906 Calibration No. 08 - B1

Test Date 09/21/2004

Shock Absorber Resistive Force

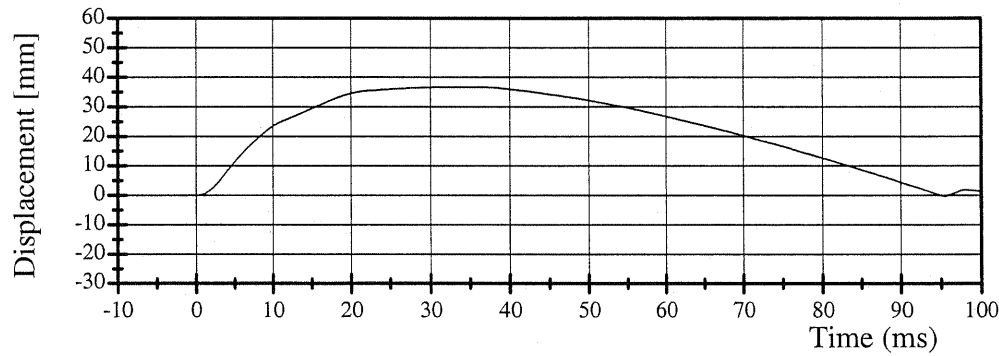


Filter Class: 1000

Max: 1840 N at 3.7 ms

Min: -2254 N at 94.4 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 36.7 mm at 32.6 ms

Min: -0.3 mm at 95.4 ms



Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 906 Calibration No. 08 - C6

Test Date 09/21/2004

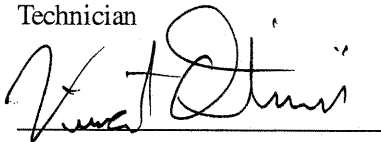
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Pendulum Velocity		6.07 m/sec	
Maximum Force at Test Velocity	3712 - 4402 N	3994 N	Yes
Maximum Displacement at Test Velocity	33.3 - 39.5 mm	38.3 mm	Yes

Test meets specifications.

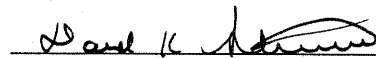
Comments:

Damper Setting : 7.0

Technician



Approved



09.21.2004 09:02:55 1037



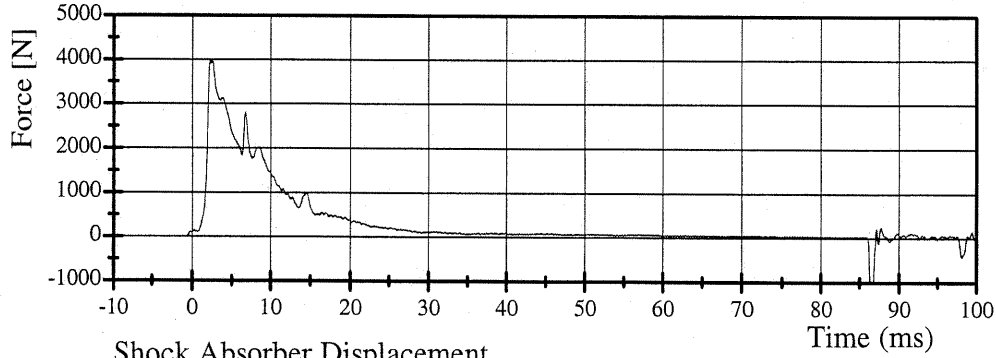
Transportation Research Center Inc.

572F Damper Test

SID HIII Serial No. 906 Calibration No. 08 - C6

Test Date 09/21/2004

Shock Absorber Resistive Force

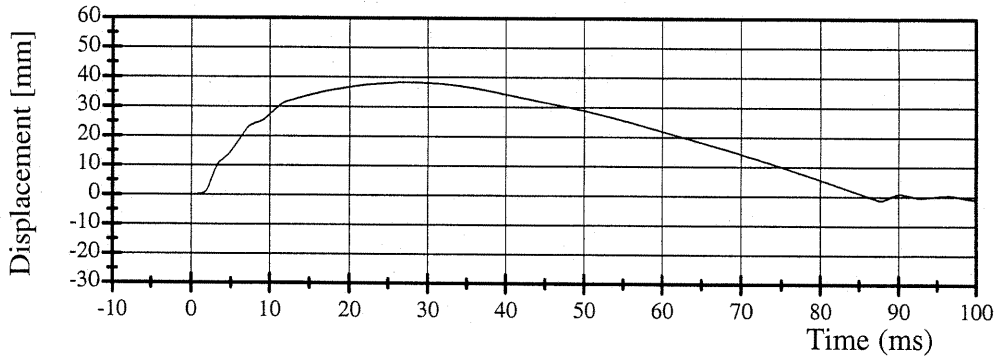


Filter Class: 1000

Max: 3994 N at 2.6 ms

Min: -2033 N at 86.6 ms

Shock Absorber Displacement



Filter Class: 1000

Max: 38.3 mm at 27.0 ms

Min: -1.3 mm at 87.8 ms

TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

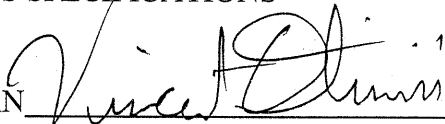
CAL DATE: 13-Sep-04

TRC, INC. TEST NO: LF90608TF2 572M SN 906 TORSO FLEX CAL 08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.2°C
RELATIVE HUMIDITY	10 – 70 %	61 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	120.1 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	173.5 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	222.4 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	3.2 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 08 - 2

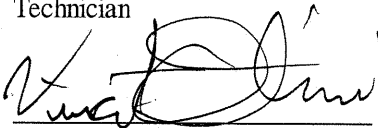
Test Date 09/14/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.6 °C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.6 - 7.9 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

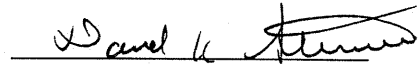
Test meets specifications.

Comments:

Technician



Approved



09.14.2004 07:24:33 2584

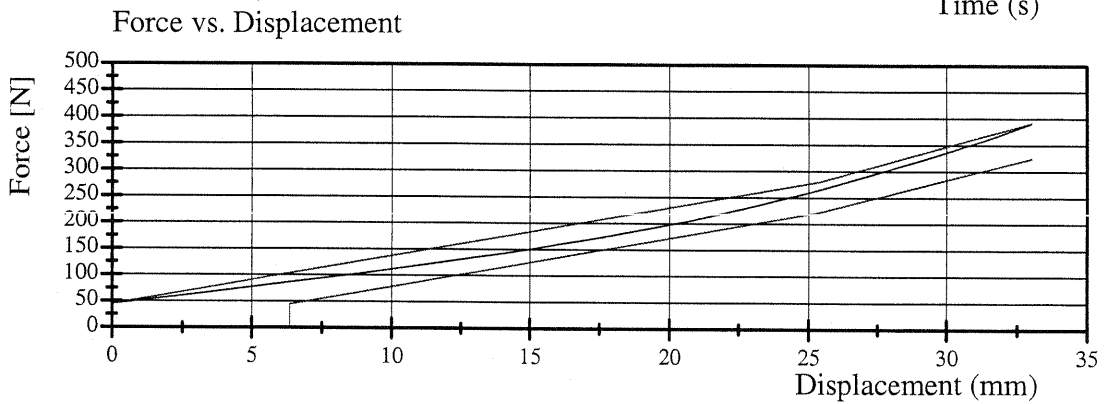
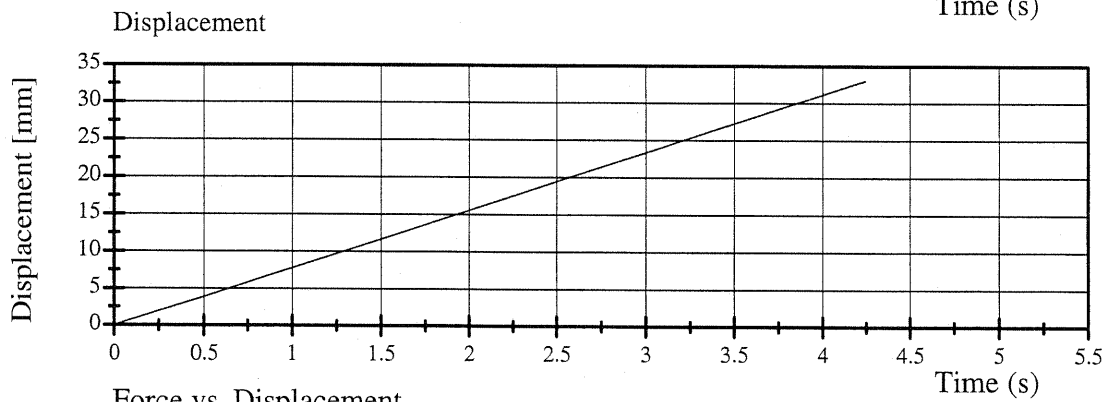
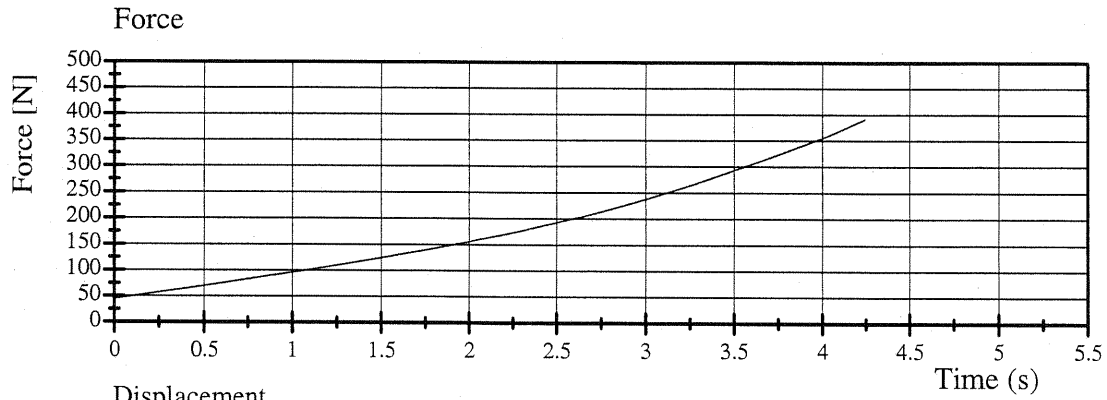


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 08 - 2

Test Date 09/14/2004



09.14.2004 07:24:34 2584



Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 906 Calibration No. 08 - 1

Test Date 09/29/2004

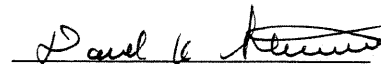
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.2 C	Yes
Relative Humidity	10 - 70 %	49 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.31 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	52.4 g	Yes
Time Above 20 g	3 - 7 ms	5.92 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician



Approved



09.29.2004 11:11:59 1125

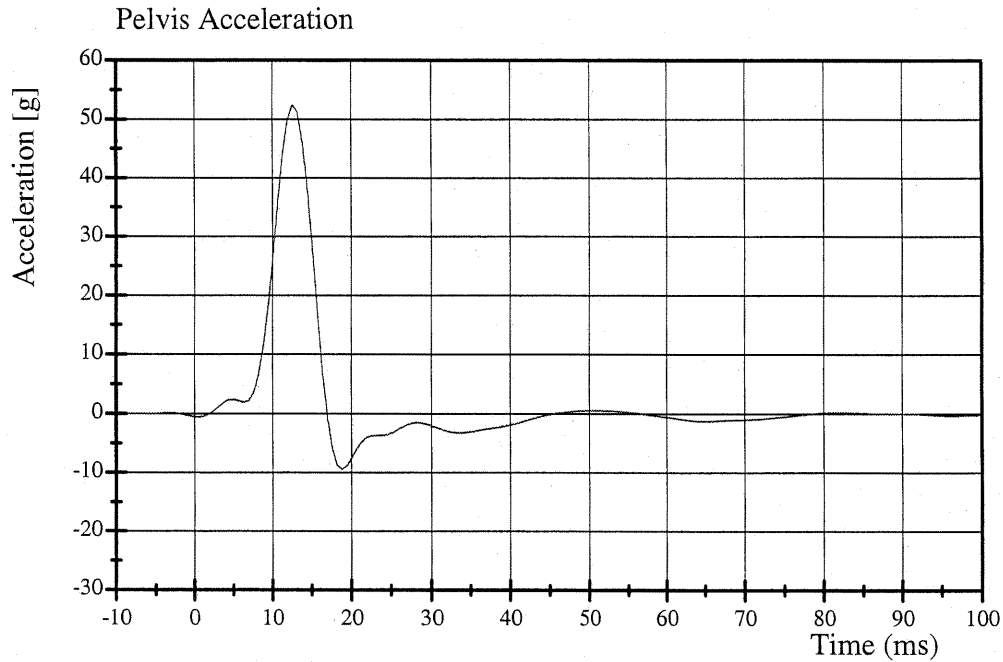


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 906 Calibration No. 08 - 1

Test Date 09/29/2004



Filter Class: FIR 100
Max: 52.4 g at 12.6 ms
Min: -9.5 g at 18.8 ms

09.29.2004 11:12:00 1125



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 (was tested on September 16, 2004 for a previous calibration series).

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

Vincent Oliveri

Approved

Paul K. Hunter



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

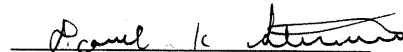
Test meets specifications.

Comments:

Technician



Approved



10.06.2004 12:57:47 611

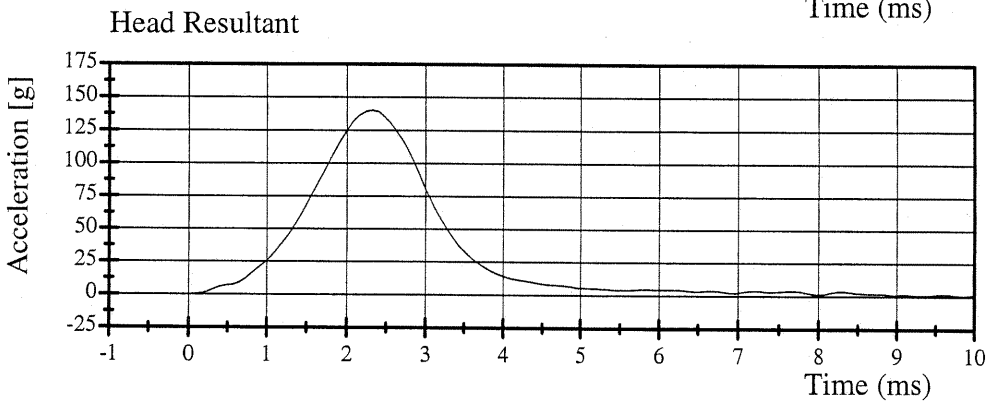
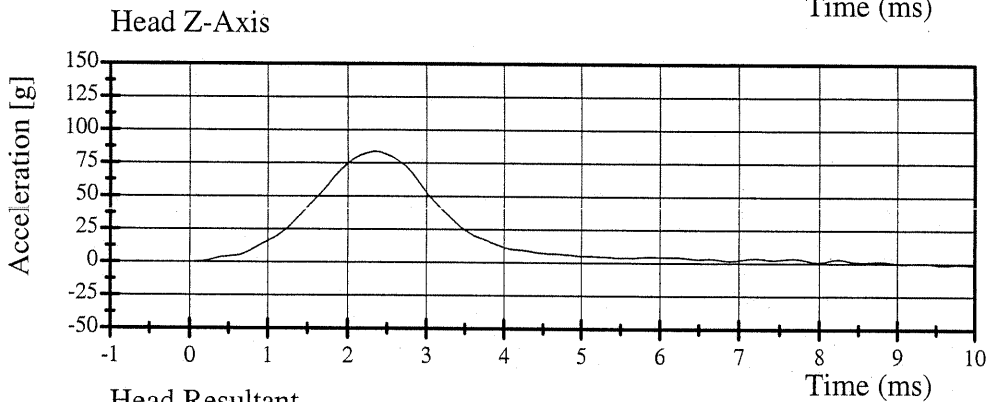
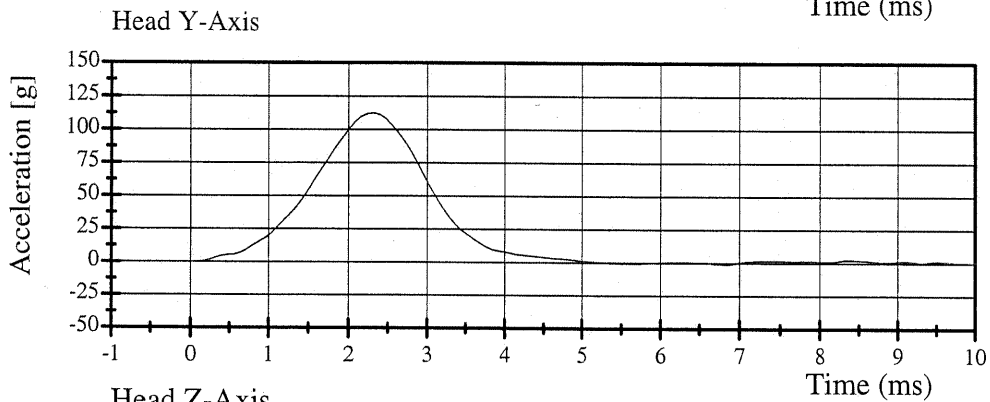
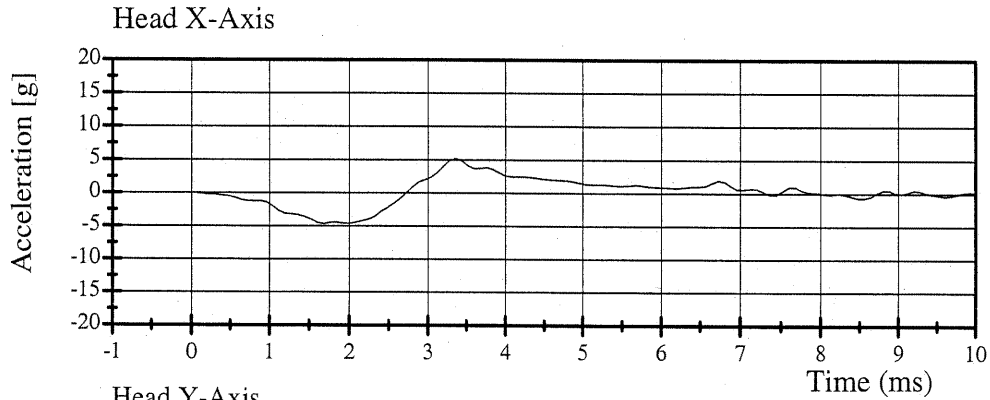


Transportation Research Center Inc.

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

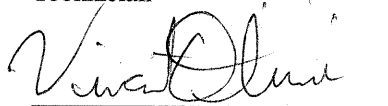
Test Date 10/07/2004

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

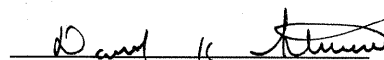
Test meets specifications.

Comments:

Technician



Approved



10.07.2004 08:33:58 519



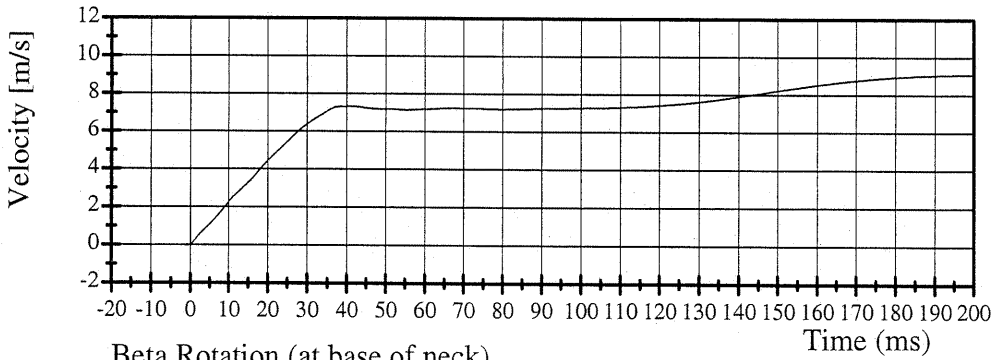
Transportation Research Center Inc.

572M Left Lateral Neck Test

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

Test Date 10/07/2004

Integrated Pendulum Velocity

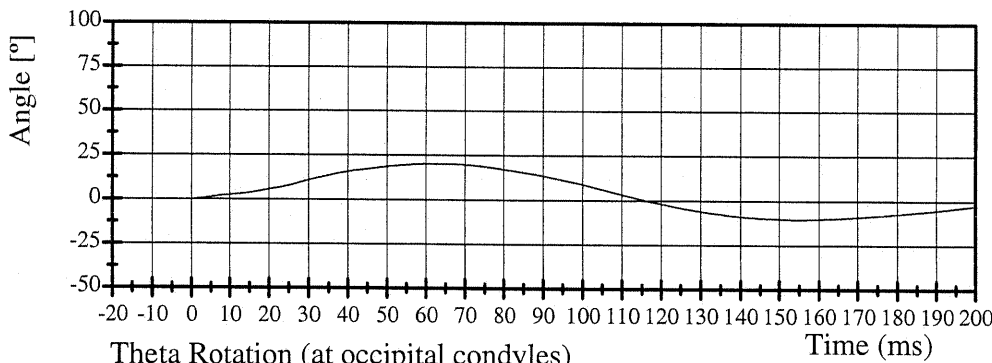


Filter Class: 180

Max: 9.3 m/s at 958.5 ms

Min: -0.0 m/s at -0.8 ms

Beta Rotation (at base of neck)

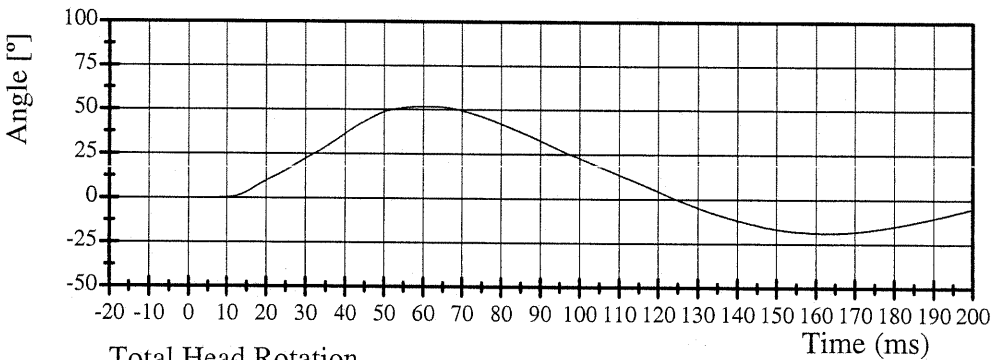


Filter Class: 60

Max: 20.1 ° at 65.0 ms

Min: -10.4 ° at 154.8 ms

Theta Rotation (at occipital condyles)

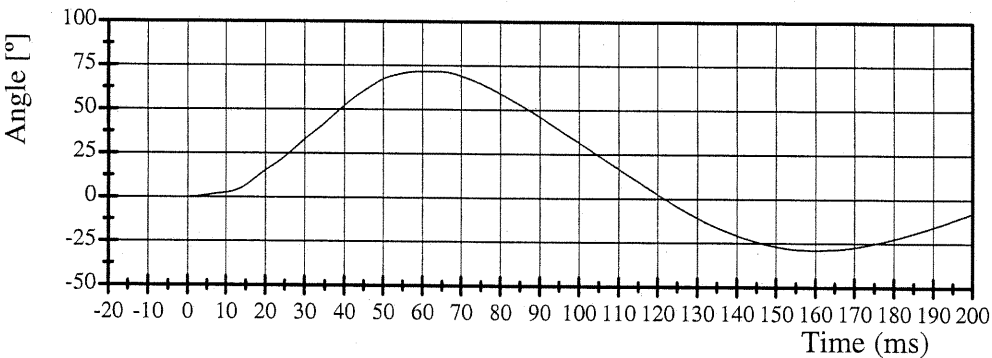


Filter Class: 60

Max: 51.6 ° at 61.0 ms

Min: -18.8 ° at 163.5 ms

Total Head Rotation



Filter Class: 60

Max: 71.7 ° at 62.7 ms

Min: -28.8 ° at 159.8 ms



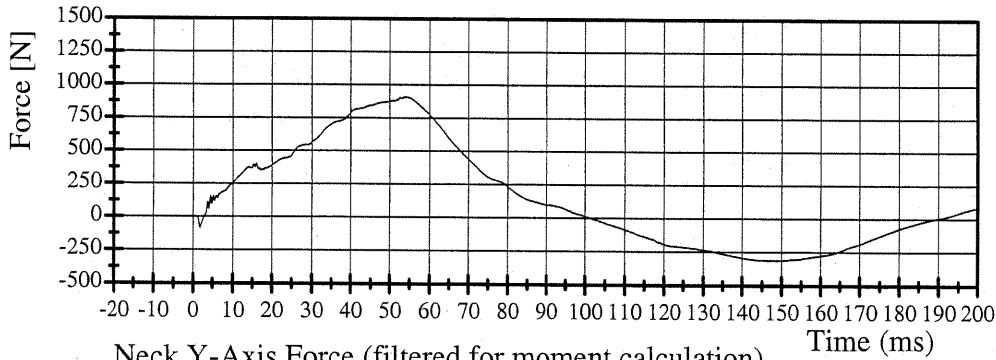
Transportation Research Center Inc.

572M Left Lateral Neck Test

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

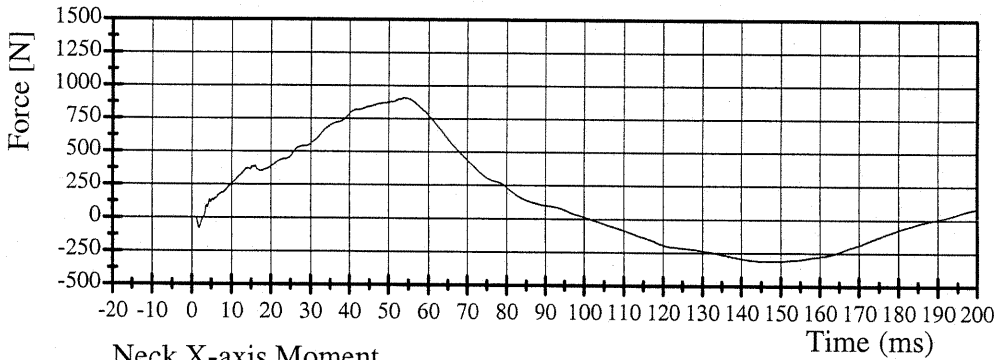
Test Date 10/07/2004

Neck Y-Axis Force



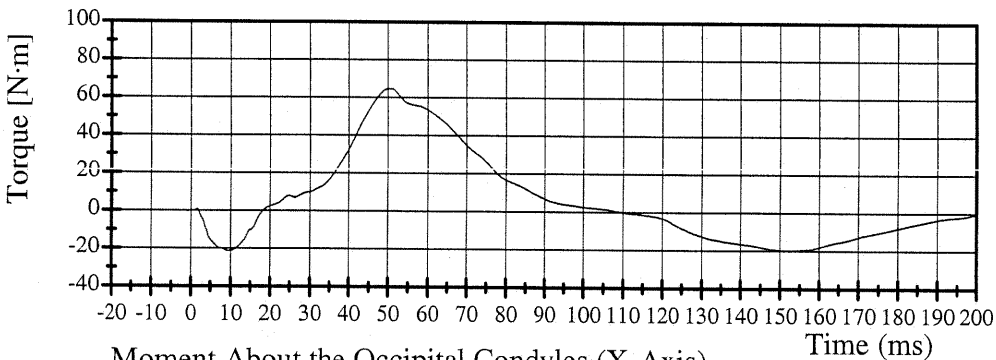
Filter Class: CFC 1000
Max: 910 N at 53.7 ms
Min: -312 N at 148.4 ms

Neck Y-Axis Force (filtered for moment calculation)



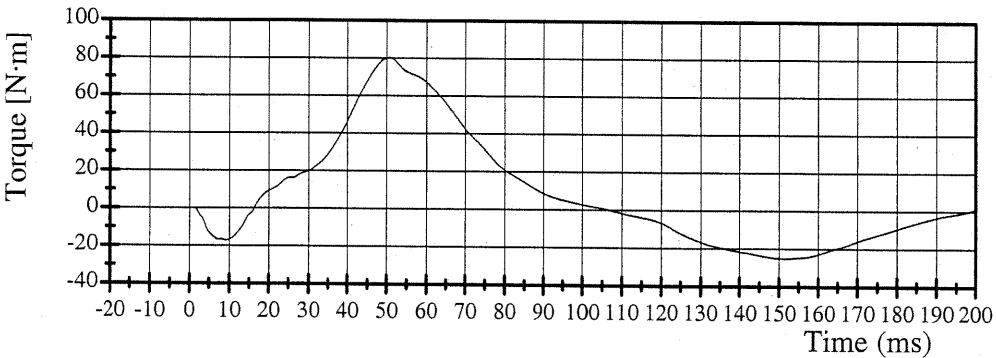
Filter Class: CFC 600
Max: 909 N·m at 53.8 ms
Min: -311 N·m at 149.3 ms

Neck X-axis Moment



Filter Class: CFC 600
Max: 64.7 N·m at 50.6 ms
Min: -21.3 N·m at 9.5 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600
Max: 80.3 ° at 50.6 ms
Min: -25.2 ° at 152.2 ms



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

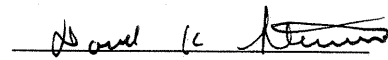
Test meets specifications.

Comments:

Technician



Approved



10.07.2004 13:43:31 1146



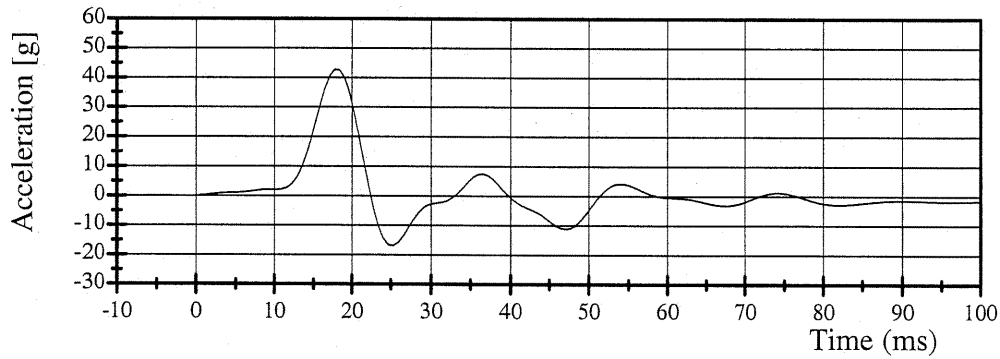
Transportation Research Center Inc.

572F Left Thorax Test

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

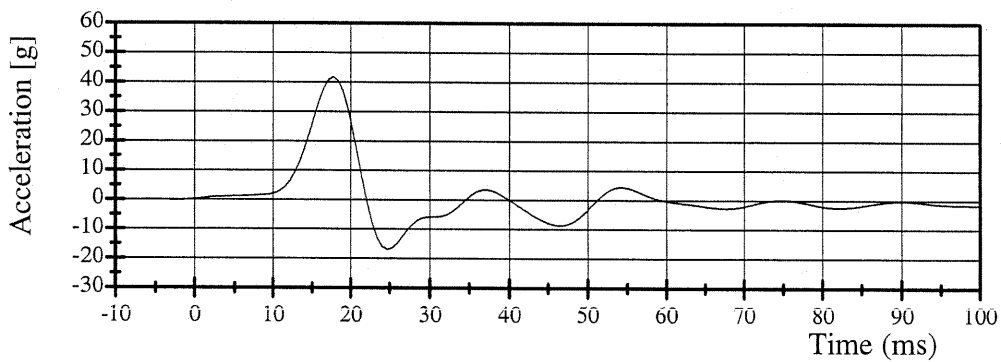
Test Date 10/07/2004

Upper Rib Bar Acceleration



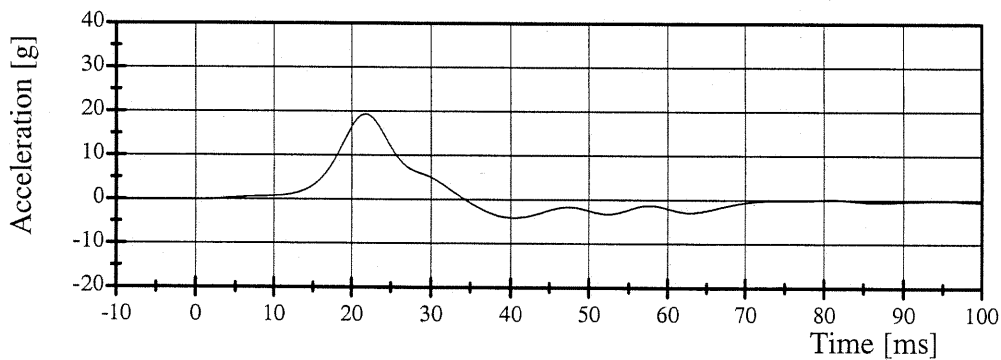
Filter Class: FIR 100
Max: 42.8 g at 17.8 ms
Min: -16.9 g at 25.3 ms

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



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 Vince Allen

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

Approved

David C. Stevens

10.07.2004 08:52:05 1901

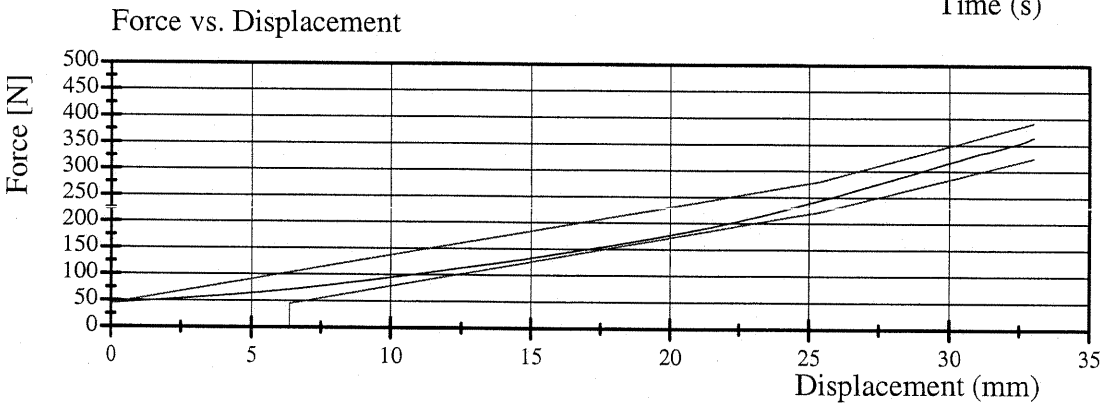
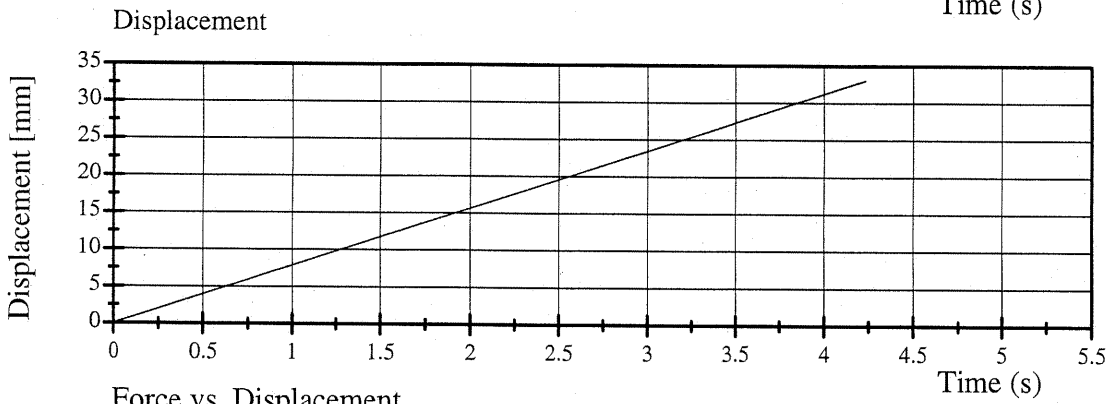
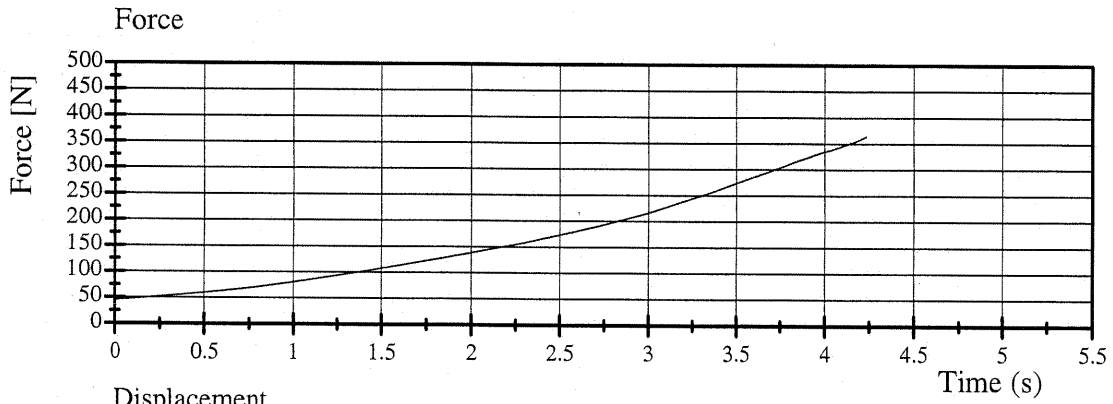


Transportation Research Center Inc.

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

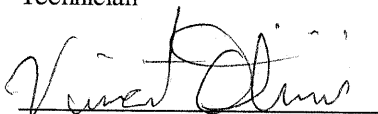
SID HIII Serial No. 055 Calibration No. 16 - 1

Test Date 10/07/2004

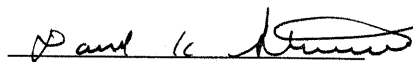
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.4 C	Yes
Relative Humidity	10 - 70 %	31 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.32 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	45.8 g	Yes
Time Above 20 g	3 - 7 ms	6.00 ms	Yes
Unimodal requirement for pelvis acceleration	Yes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

Comments:

Technician



Approved



10.07.2004 13:52:50 1159

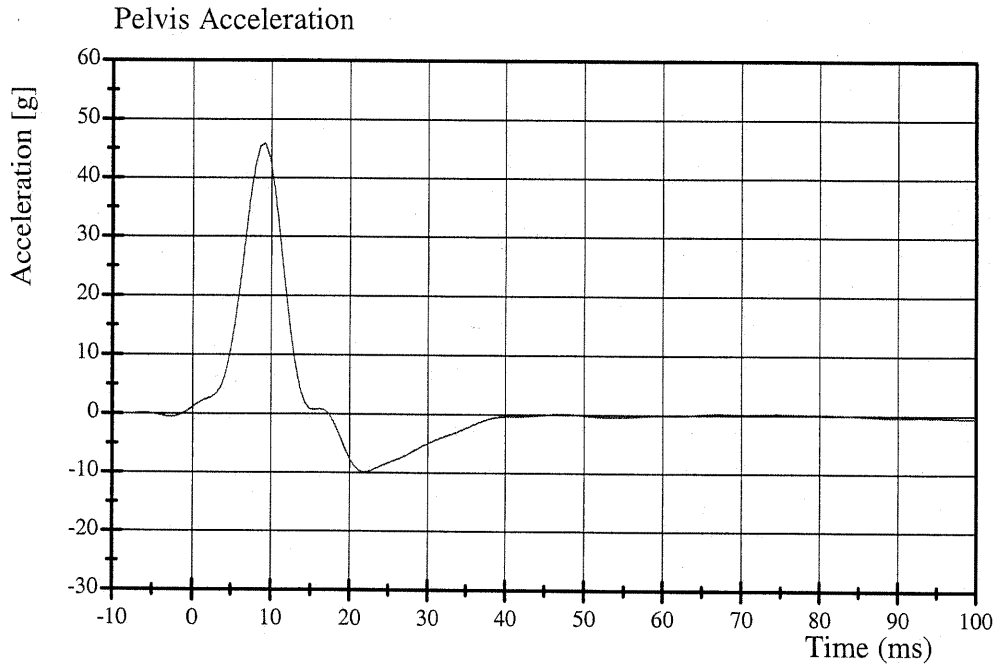


Transportation Research Center Inc.

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

Calibration Test Results

Post-Test

SID HIII: 906

Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test: ¹	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.

¹ The initial post-test lateral head drop produced a passing result however, the acceleration curve was not typical. Upon investigation a damaged screw thread was discovered in the head CG mounting block. This screw was replaced and a confirmatory lateral head drop was performed and included.

Transportation Research Center Inc.
SID/HIII Dummy
External Dimensions
Serial No. 906 Calibration No. 09
Date: 10/28/04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	894 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	508 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Knee Pivot From Backline	KH	510.5 - 525.8 mm	524 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	494 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	382 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

Vincent Oliver

Approved

V. J. Walter



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/21/2004

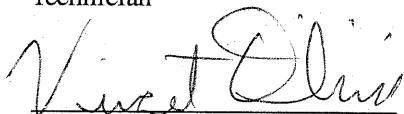
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Peak Resultant Acceleration	120 - 150 g	134.7 g	Yes
Peak Longitudinal Acceleration	15 g Max	-14.5 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Test meets specifications.

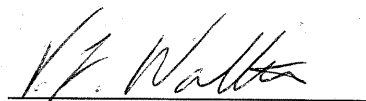
Comments:

Post-Test Calibration, Test Anomaly

Technician



Approved



10.28.2004 09:06:25 610



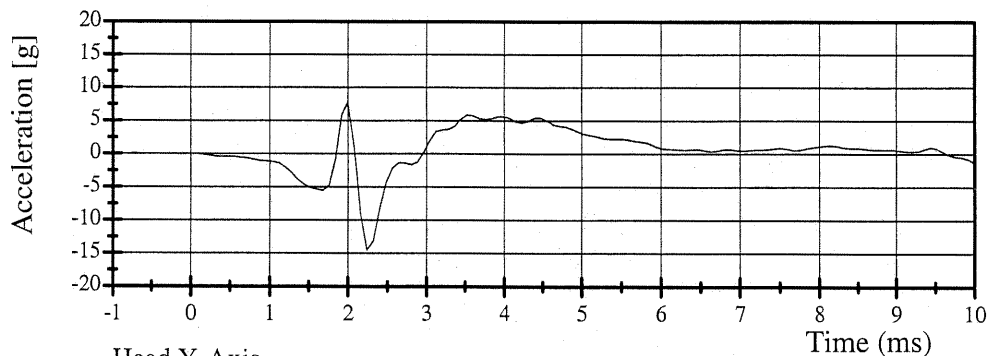
Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/21/2004

Head X-Axis

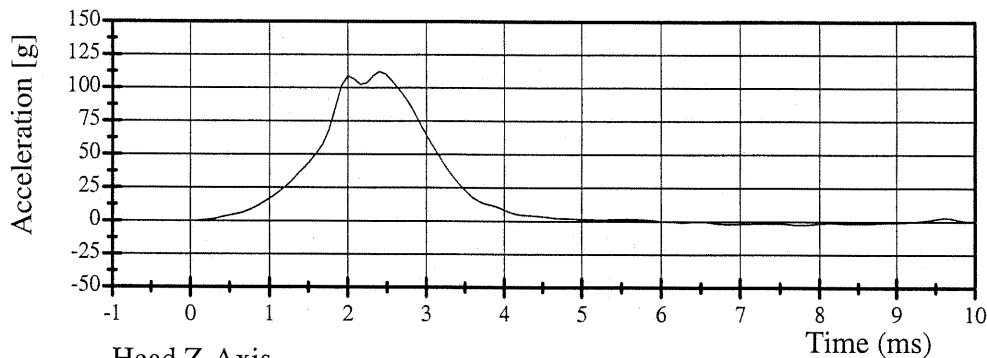


Filter Class: 1000

Max: 7.8 g at 2.0 ms

Min: -14.5 g at 2.2 ms

Head Y-Axis

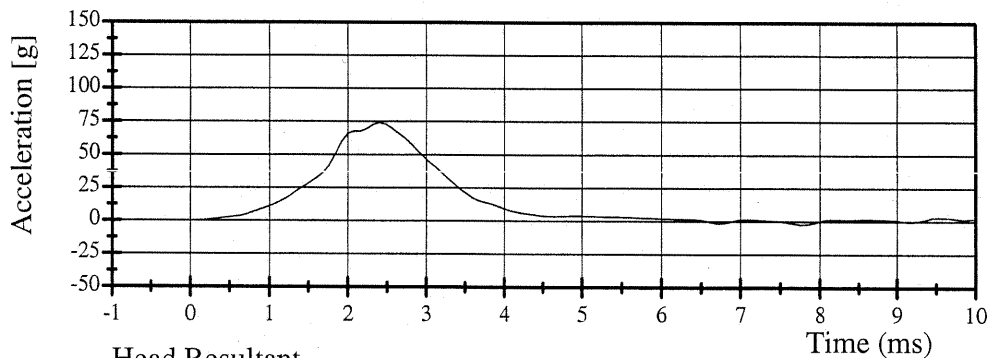


Filter Class: 1000

Max: 112.1 g at 2.4 ms

Min: -2.5 g at 7.8 ms

Head Z-Axis

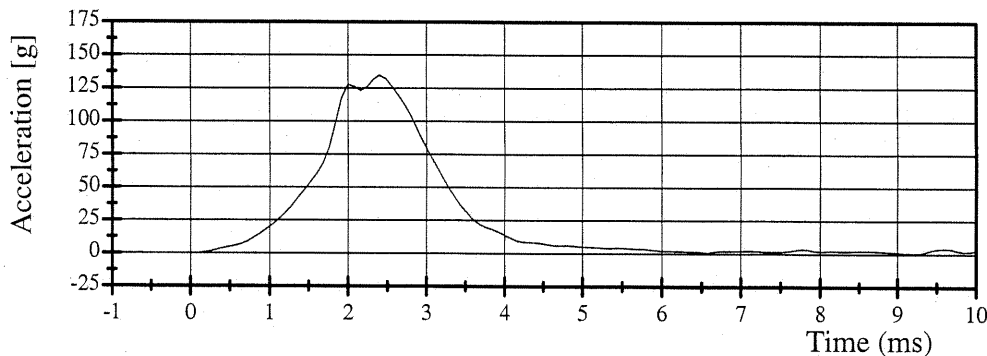


Filter Class: 1000

Max: 74.3 g at 2.4 ms

Min: -2.4 g at 7.8 ms

Head Resultant



Filter Class: 1000

Max: 134.7 g at 2.4 ms

Min: 0.0 g at 0.5 ms

10.28.2004 09:06:26 610



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 09 - 4

Test Date 10/22/2004

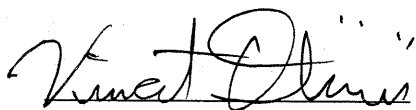
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	44 %	Yes
Peak Resultant Acceleration	120 - 150 g	140.9 g	Yes
Peak Longitudinal Acceleration	15 g Max	-6.7 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Test meets specifications.

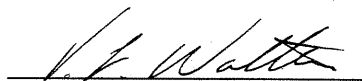
Comments:

Pre-test calibration. Head CG mounting screw replaced.

Technician



Approved



11.01.2004 13:30:53 611



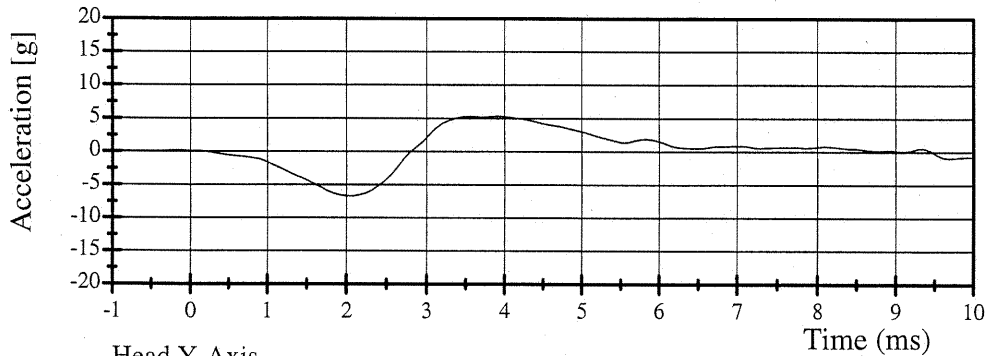
Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 906 Calibration No. 09 - 4

Test Date 10/22/2004

Head X-Axis

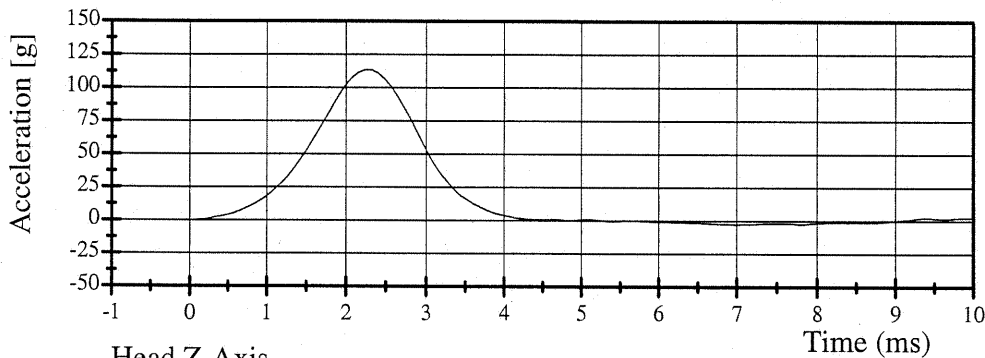


Filter Class: 1000

Max: 5.3 g at 3.9 ms

Min: -6.7 g at 2.1 ms

Head Y-Axis

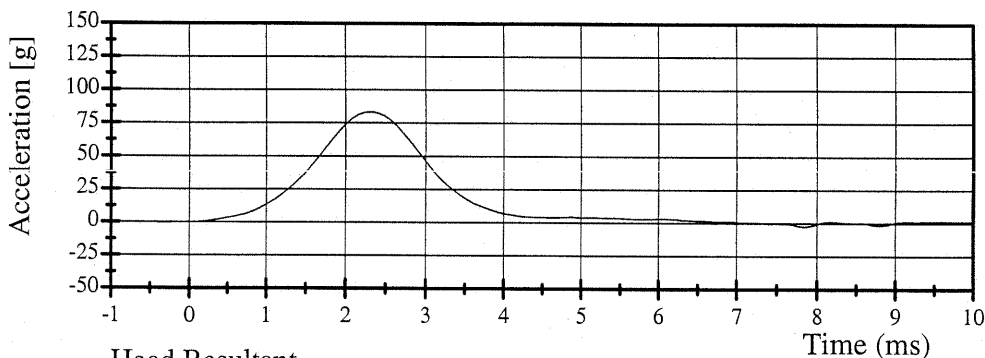


Filter Class: 1000

Max: 113.4 g at 2.2 ms

Min: -2.7 g at 7.0 ms

Head Z-Axis

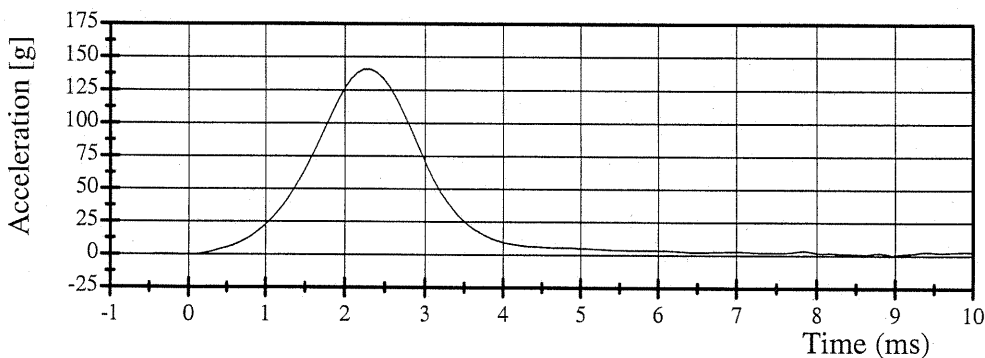


Filter Class: 1000

Max: 83.5 g at 2.3 ms

Min: -2.5 g at 7.8 ms

Head Resultant



Filter Class: 1000

Max: 140.9 g at 2.3 ms

Min: 0.0 g at 4.2 ms

10.28.2004 09:08:40 611



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 09 - 1

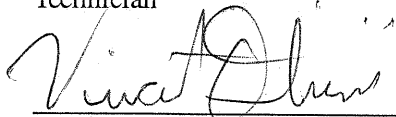
Test Date 10/22/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	43 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.01 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.36 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.78 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.82 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.20 - 7.31 m/s	Yes
Peak D Plane Rotation	66 - 82 °	71.3 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	61.1 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	78.8 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	57.4 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	8.2 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



10.22.2004 14:51:37 514



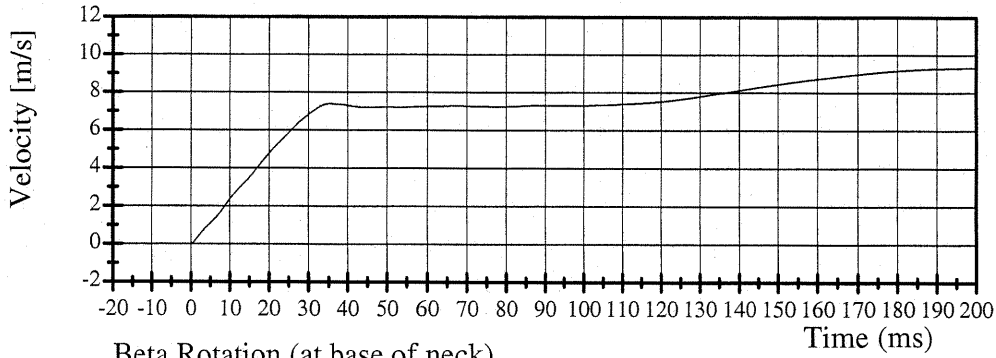
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/22/2004

Integrated Pendulum Velocity

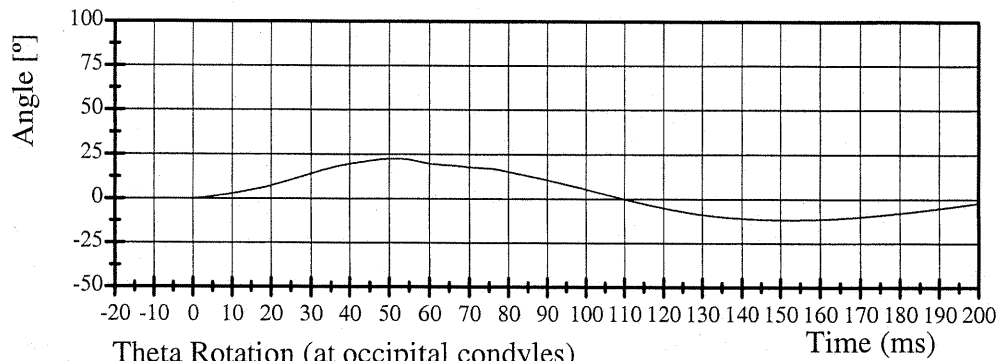


Filter Class: 180

Max: 9.9 m/s at 958.9 ms

Min: -0.0 m/s at -0.5 ms

Beta Rotation (at base of neck)

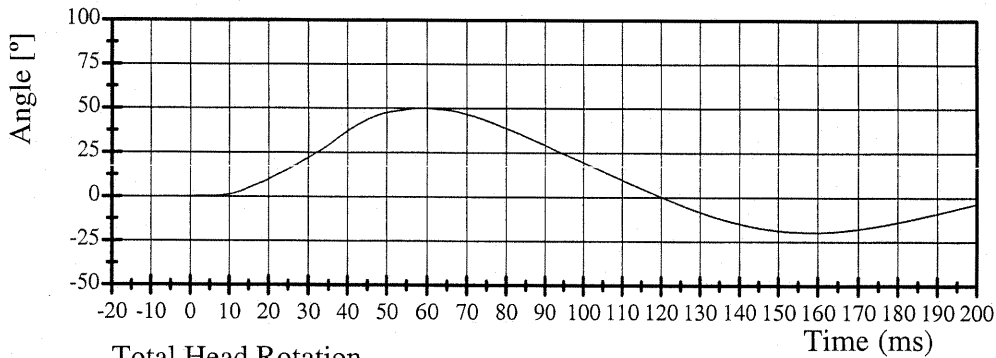


Filter Class: 60

Max: 22.4 ° at 51.4 ms

Min: -11.7 ° at 151.8 ms

Theta Rotation (at occipital condyles)

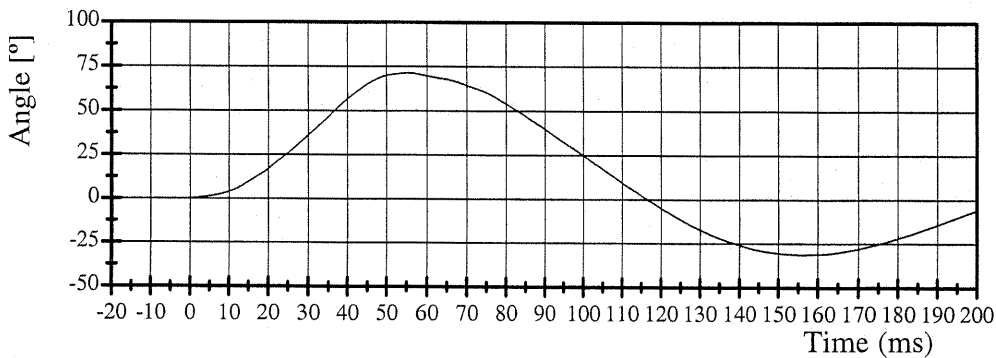


Filter Class: 60

Max: 50.1 ° at 58.6 ms

Min: -19.6 ° at 158.6 ms

Total Head Rotation



Filter Class: 60

Max: 71.3 ° at 55.4 ms

Min: -31.2 ° at 155.9 ms



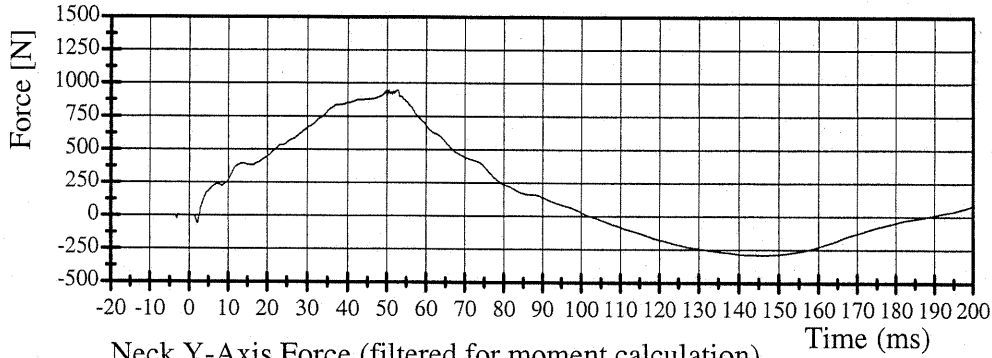
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/22/2004

Neck Y-Axis Force

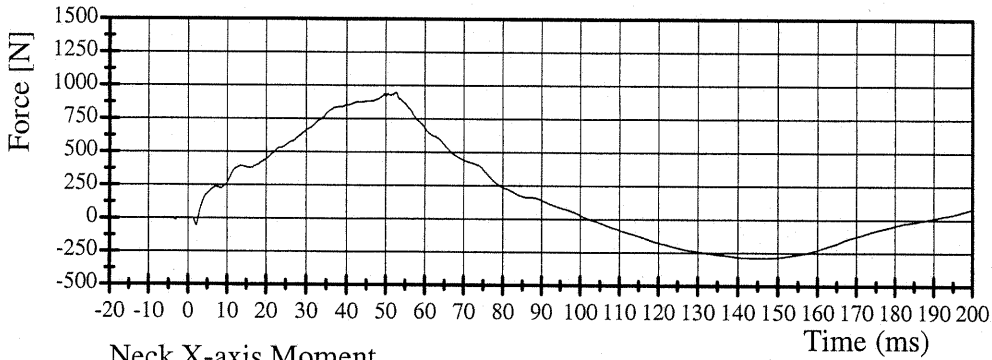


Filter Class: CFC 1000

Max: 948 N at 50.4 ms

Min: -290 N at 145.9 ms

Neck Y-Axis Force (filtered for moment calculation)

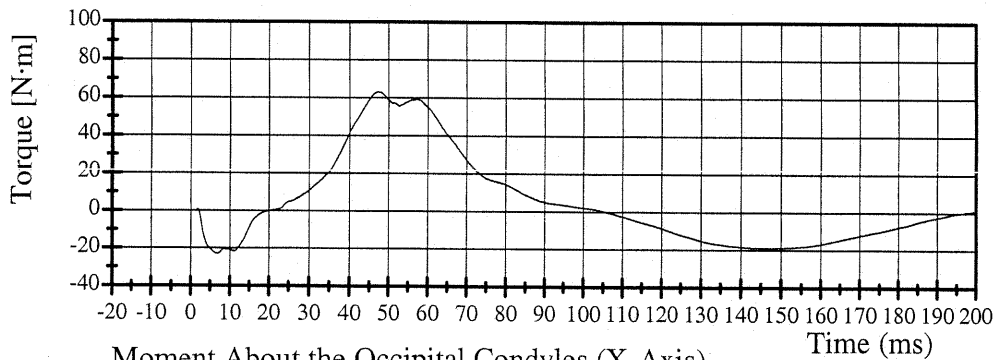


Filter Class: CFC 600

Max: 947 N·m at 52.6 ms

Min: -290 N·m at 145.9 ms

Neck X-axis Moment

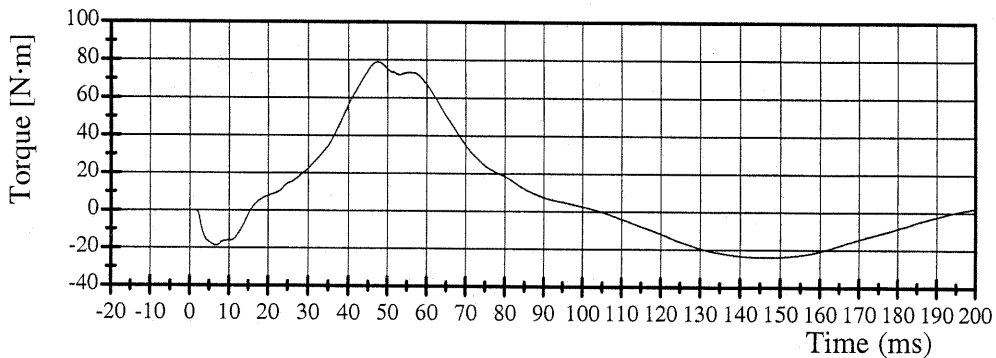


Filter Class: CFC 600

Max: 63.0 N·m at 47.1 ms

Min: -22.8 N·m at 6.8 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600

Max: 78.8 ° at 47.3 ms

Min: -24.0 ° at 146.6 ms

10.22.2004 14:51:39 514



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.1 C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.31 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	42.9 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	43.5 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	17.6 g	Yes

Test meets specifications.

Comments:

Technician

Vincent Oliver

Approved

V. J. Walter

10.27.2004 13:02:20 1167



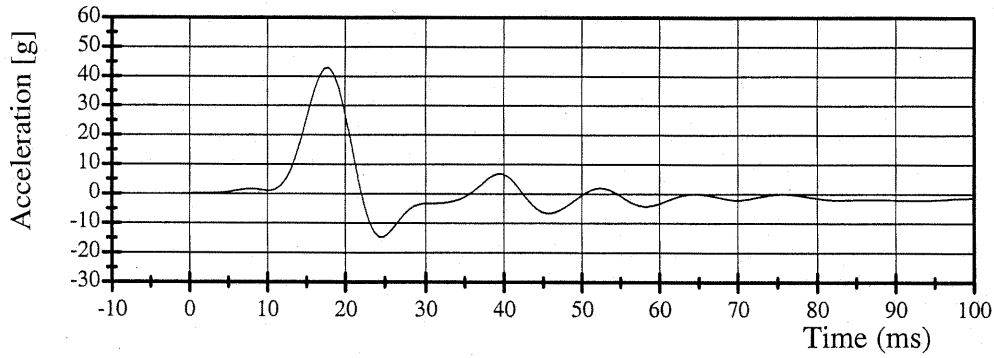
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/27/2004

Upper Rib Bar Acceleration

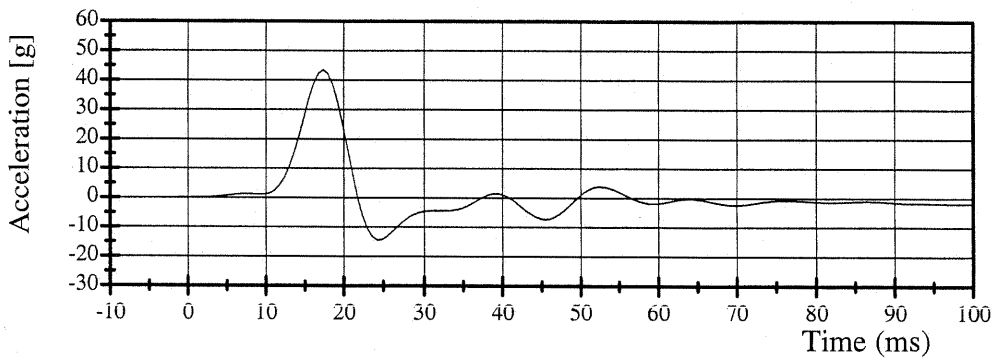


Filter Class: FIR 100

Max: 42.9 g at 17.9 ms

Min: -14.7 g at 24.8 ms

Lower Rib Bar Acceleration

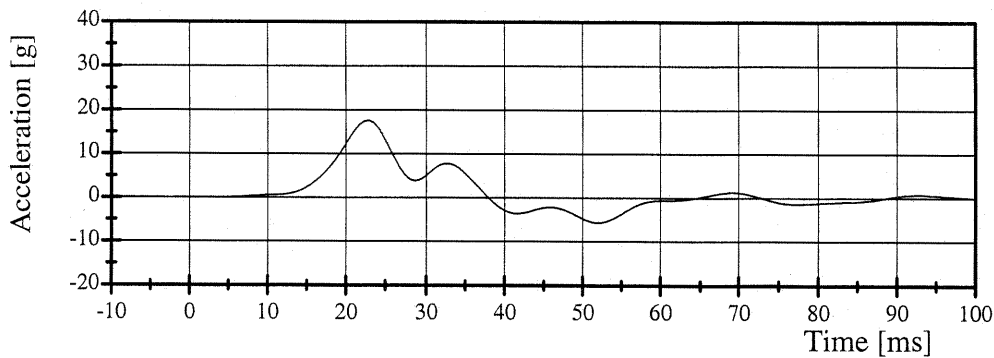


Filter Class: FIR 100

Max: 43.5 g at 17.4 ms

Min: -14.4 g at 24.2 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 17.6 g at 23.0 ms

Min: -5.7 g at 51.8 ms

TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

CAL DATE: 26-Oct-04

TRC, INC. TEST NO: LF90609TF2 572M SN 906 TORSO FLEX CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.4°C
RELATIVE HUMIDITY	10 – 70 %	40 %
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	204.6 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	253.5 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	4.4 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/26/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	40 %	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 Oliver

Approved

V. K. Walter

10.26.2004 10:30:23 1971

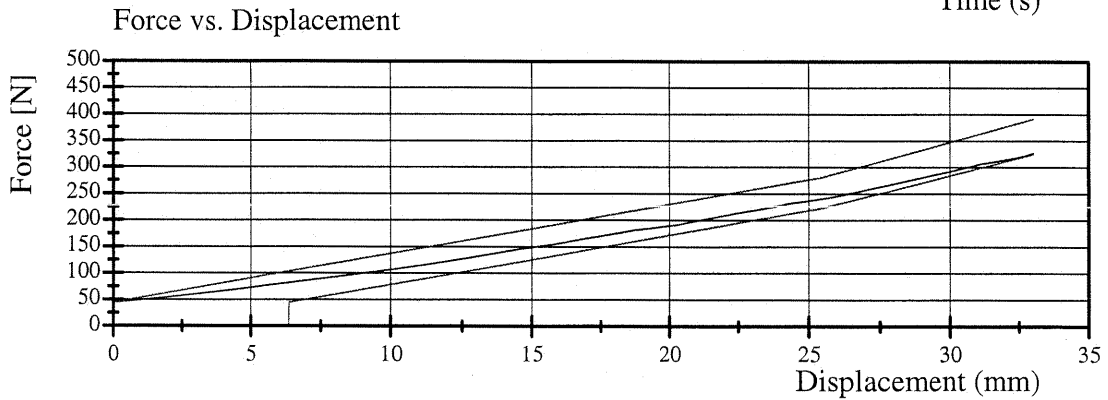
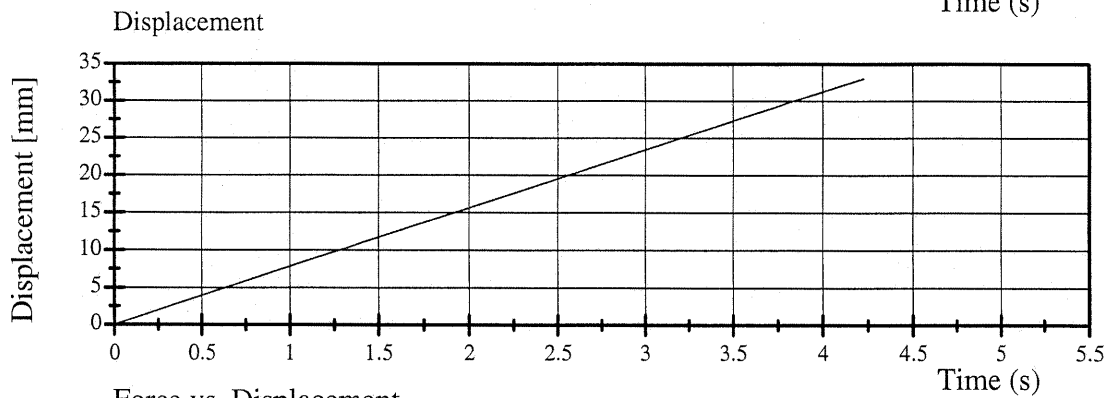
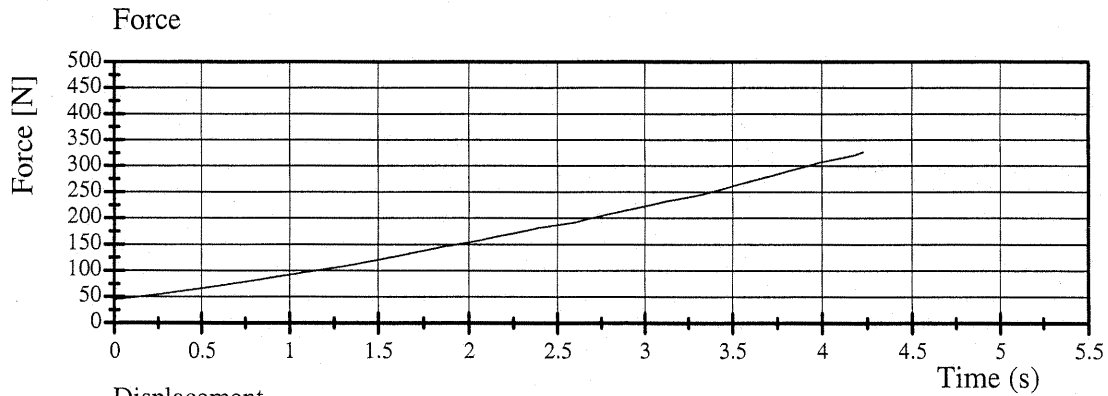


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/26/2004



10.26.2004 10:30:24 1971



Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.2 C	Yes
Relative Humidity	10 - 70 %	51 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.31 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	50.9 g	Yes
Time Above 20 g	3 - 7 ms	6.00 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician

Vincent Oliverio

Approved

V. J. Walter

10.27.2004 12:50:34 1166

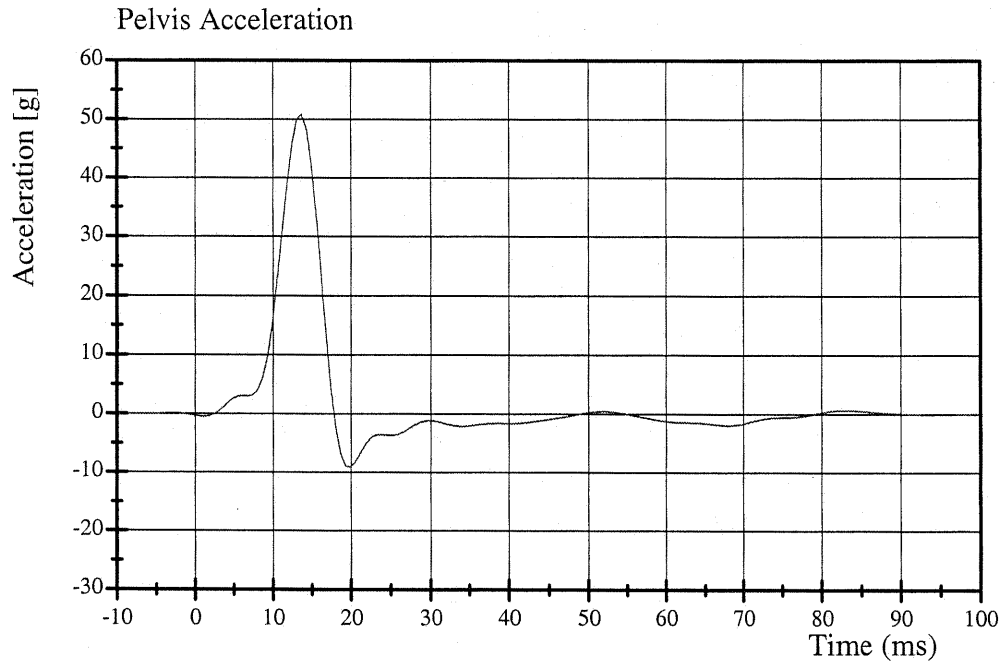


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 906 Calibration No. 09 - 1

Test Date 10/27/2004



Filter Class: FIR 100
Max: 50.9 g at 13.7 ms
Min: -9.1 g at 19.9 ms



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. 17

Date: 10/28/04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	905 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	370 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	172 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	171 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	1.0 mm	Yes

Technician

Vincent Oliver

Approved

K. J. Wetton



Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 055 Calibration No. 17 - 1

Test Date 10/21/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.3 °C	Yes
Relative Humidity	10 - 70 %	46 %	Yes
Peak Resultant Acceleration	120 - 150 g	133.2 g	Yes
Peak Longitudinal Acceleration	15 g Max	6.3 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

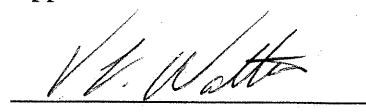
Test meets specifications.

Comments:

Technician



Approved



10.21.2004 10:44:18 611



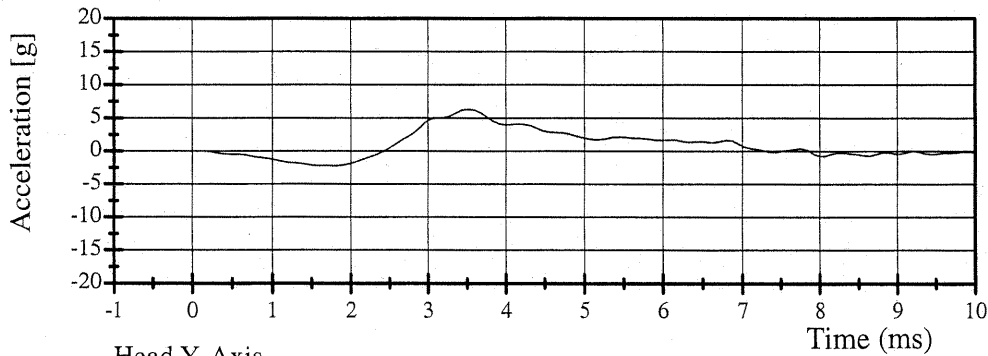
Transportation Research Center Inc.

572M Left Lateral Head Test

SID HIII Serial No. 055 Calibration No. 17 - 1

Test Date 10/21/2004

Head X-Axis

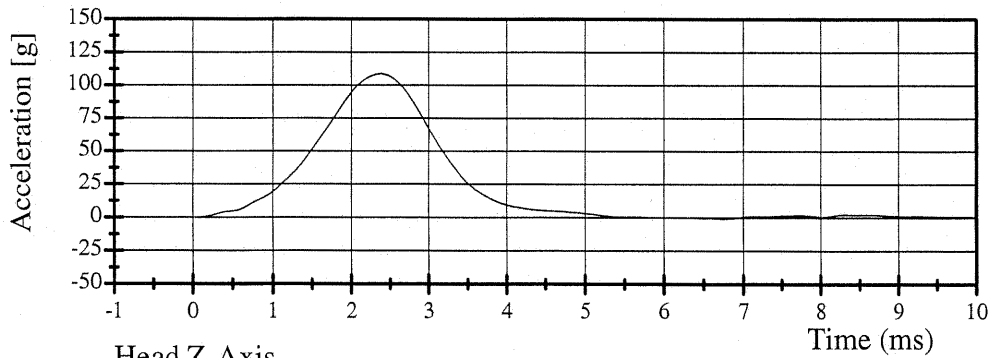


Filter Class: 1000

Max: 6.3 g at 3.5 ms

Min: -2.3 g at 1.8 ms

Head Y-Axis

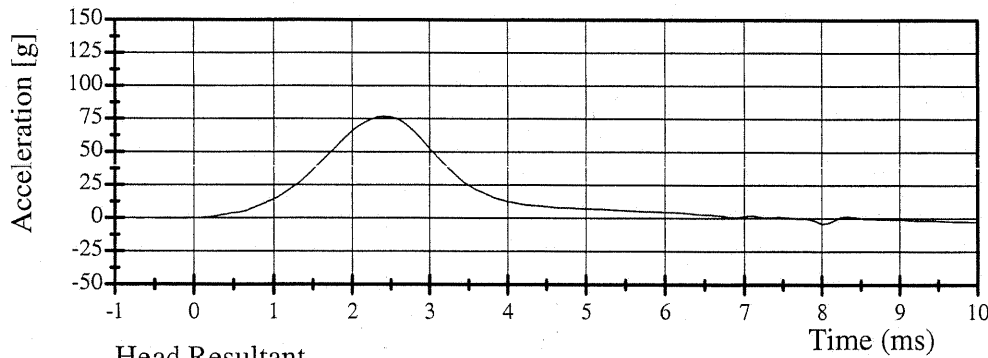


Filter Class: 1000

Max: 108.7 g at 2.4 ms

Min: -0.9 g at 6.8 ms

Head Z-Axis

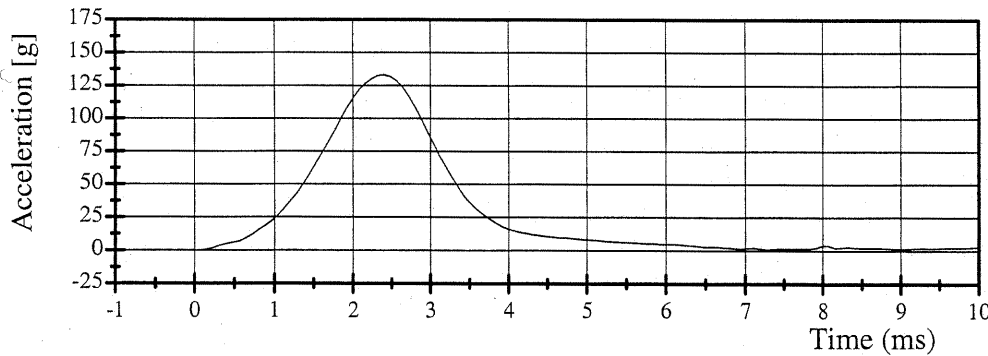


Filter Class: 1000

Max: 77.0 g at 2.4 ms

Min: -4.0 g at 8.0 ms

Head Resultant



Filter Class: 1000

Max: 133.2 g at 2.4 ms

Min: 0.0 g at 0.0 ms

10.21.2004 10:44:19 611



Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 17 - 2


Test Date 10/22/2004

Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Impact Velocity	6.89 - 7.13 m/s	6.97 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.96 - 2.55 m/s	2.14 m/s	Yes
20 ms	4.12 - 5.10 m/s	4.38 m/s	Yes
30 ms	5.73 - 7.01 m/s	6.34 m/s	Yes
40 - 70 ms	6.27 - 7.64 m/s	7.14 - 7.31 m/s	Yes
Peak D Plane Rotation	66 - 82 °	70.5 °	Yes
Rotation Decay Time To 0° From Peak Angle	58 - 67 °	63.7 °	Yes
Peak Moment About Occipital Condyles	73.0 - 88.0 N·m	81.8 N·m	Yes
Moment Decay Time To 0 N·m From Peak Moment	49 - 64 ms	55.5 ms	Yes
Time Between Peak Rotation and Peak Moment	2 - 16 ms	5.3 ms	Yes

Test meets specifications.

Comments:

Technician



Approved



10.22.2004 09:28:28 515



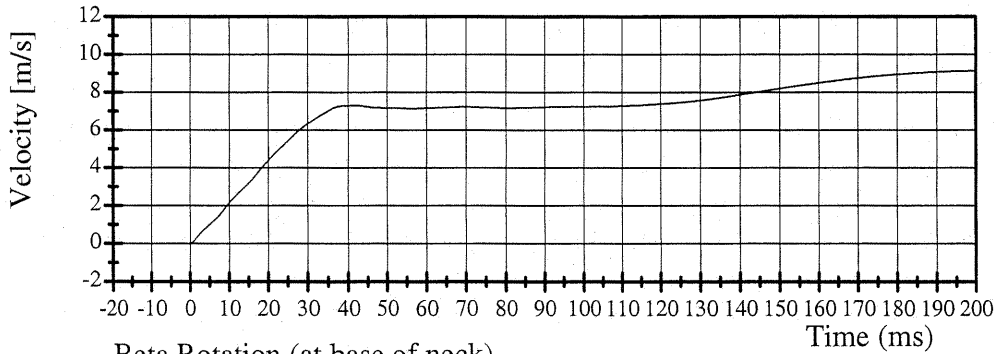
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 17 - 2

Test Date 10/22/2004

Integrated Pendulum Velocity

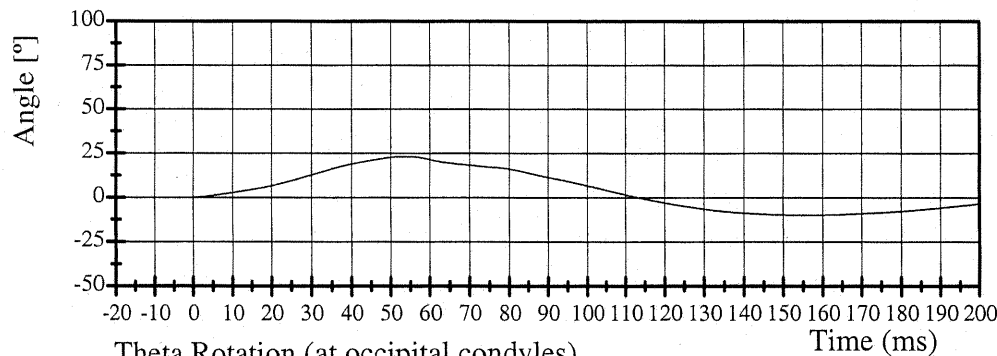


Filter Class: 180

Max: 9.2 m/s at 958.8 ms

Min: -0.0 m/s at -0.5 ms

Beta Rotation (at base of neck)

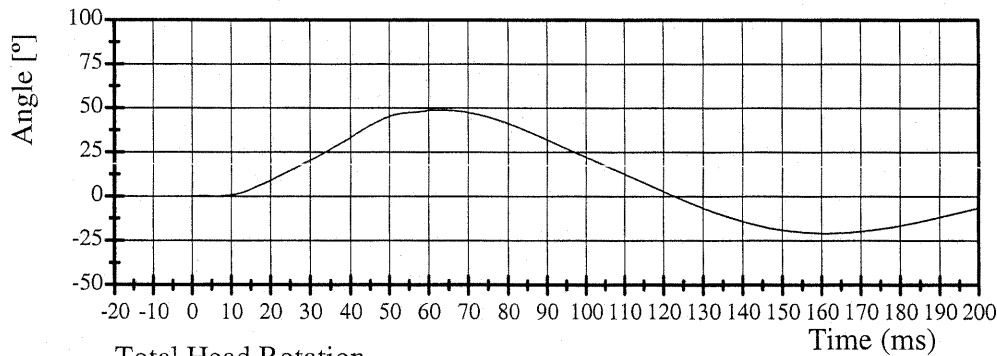


Filter Class: 60

Max: 23.0 ° at 54.1 ms

Min: -9.9 ° at 155.8 ms

Theta Rotation (at occipital condyles)

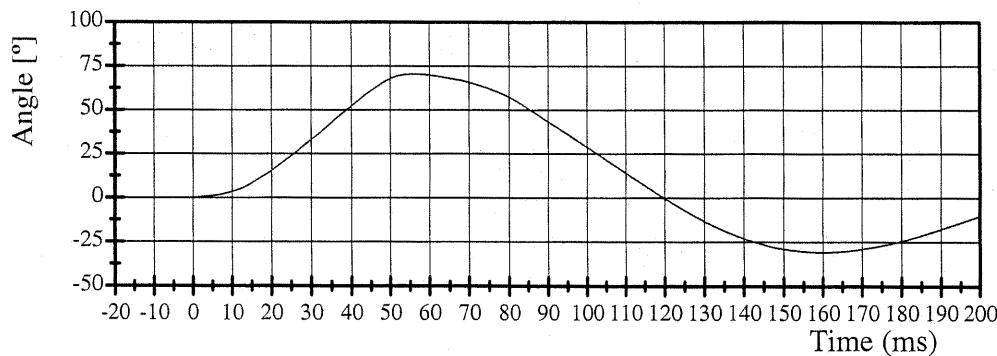


Filter Class: 60

Max: 48.9 ° at 62.3 ms

Min: -20.9 ° at 161.0 ms

Total Head Rotation



Filter Class: 60

Max: 70.5 ° at 56.2 ms

Min: -30.7 ° at 160.1 ms



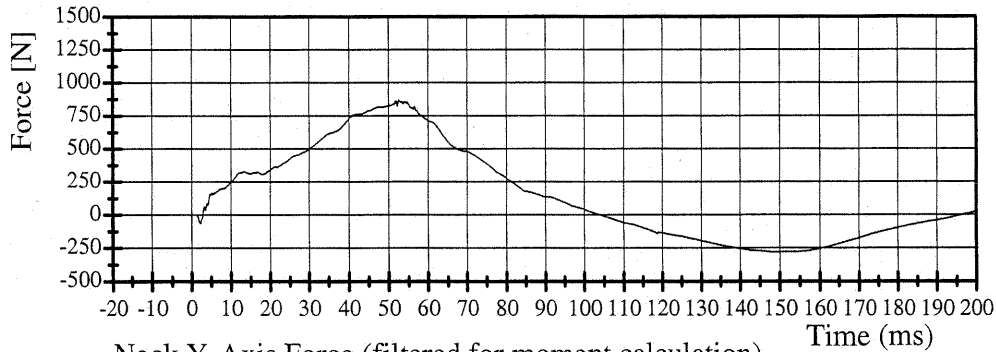
Transportation Research Center Inc.

572M Left Lateral Neck Test

SID HIII Serial No. 055 Calibration No. 17 - 2

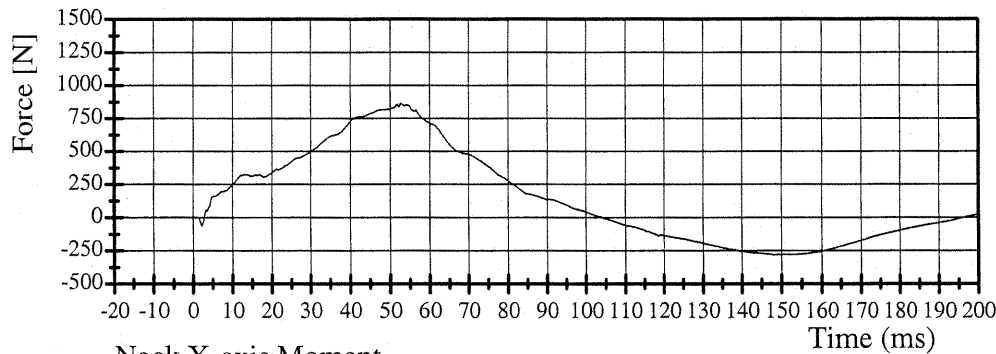
Test Date 10/22/2004

Neck Y-Axis Force



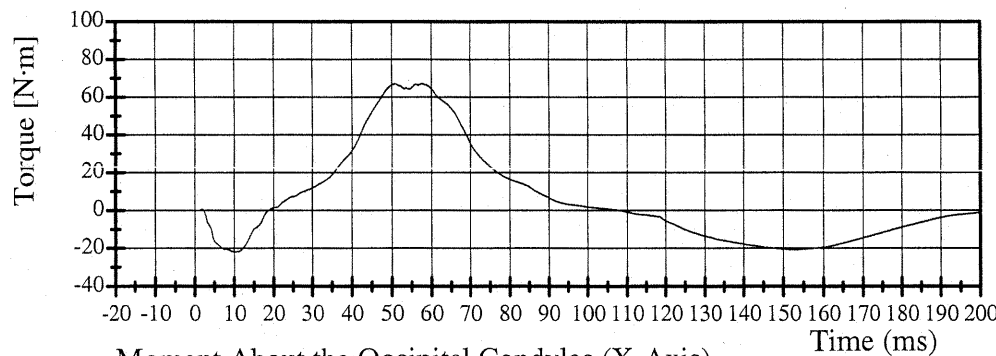
Filter Class: CFC 1000
Max: 868 N at 52.5 ms
Min: -281 N at 148.6 ms

Neck Y-Axis Force (filtered for moment calculation)



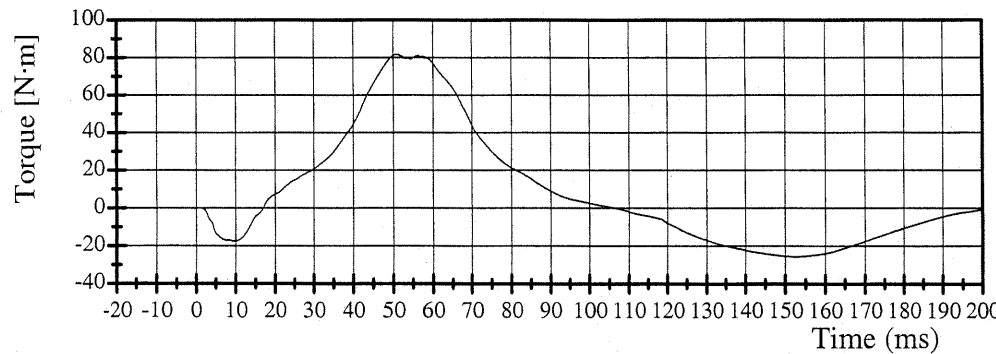
Filter Class: CFC 600
Max: 863 N at 52.6 ms
Min: -280 N at 148.6 ms

Neck X-axis Moment



Filter Class: CFC 600
Max: 67.1 N·m at 57.7 ms
Min: -21.8 N·m at 10.4 ms

Moment About the Occipital Condyles (X-Axis)



Filter Class: 600
Max: 81.8 ° at 50.9 ms
Min: -25.6 ° at 152.6 ms



Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 055 Calibration No. 17 - 1

Test Date 10/27/2004

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	4.31 m/sec	Yes
Upper Rib Bar Peak Acceleration	37 - 46 g	41.6 g	Yes
Lower Rib Bar Peak Acceleration	37 - 46 g	39.6 g	Yes
Lower Thoracic Spine (T12) Peak Acceleration	15 - 22 g	20.2 g	Yes

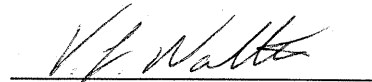
Test meets specifications.

Comments:

Technician



Approved



10.27.2004 11:30:53 1167



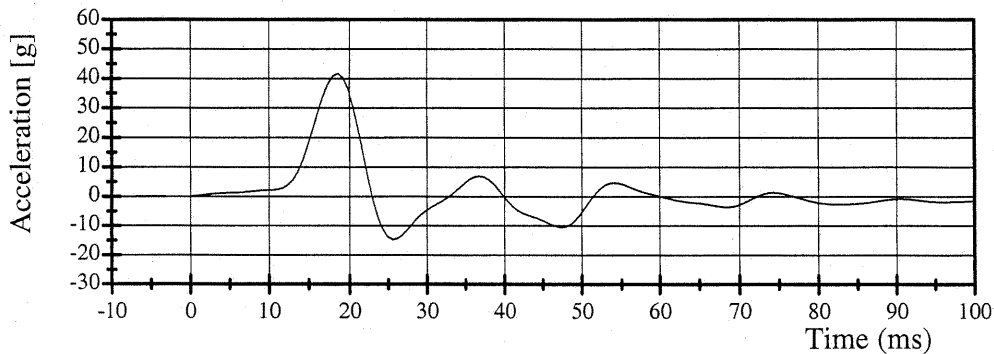
Transportation Research Center Inc.

572F Left Thorax Test

SID HIII Serial No. 055 Calibration No. 17 - 1

Test Date 10/27/2004

Upper Rib Bar Acceleration

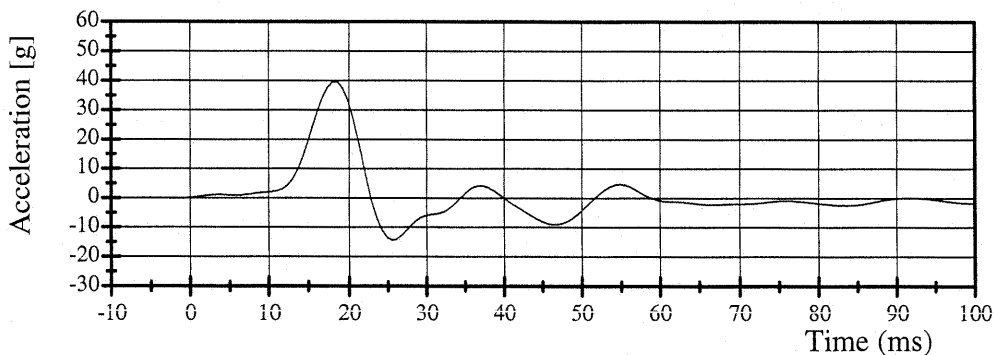


Filter Class: FIR 100

Max: 41.6 g at 18.6 ms

Min: -14.7 g at 25.5 ms

Lower Rib Bar Acceleration

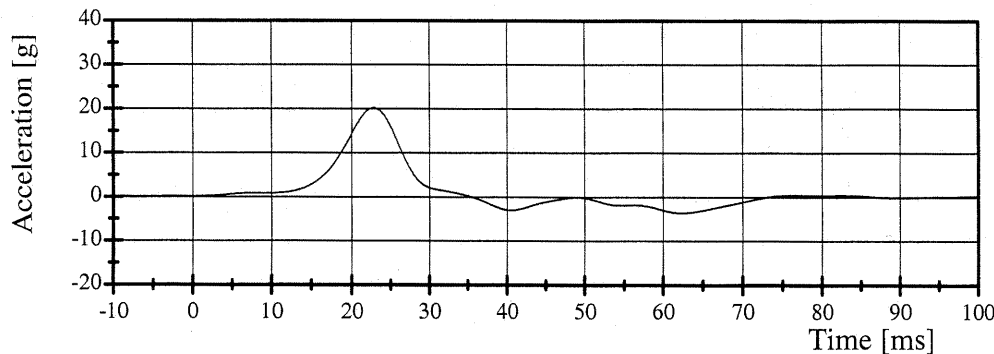


Filter Class: FIR 100

Max: 39.6 g at 18.0 ms

Min: -14.4 g at 25.5 ms

Lower Thoracic Spine (T12) Acceleration



Filter Class: FIR 100

Max: 20.2 g at 23.0 ms

Min: -3.6 g at 62.3 ms

10.27.2004 11:30:54 1167



TRANSPORTATION RESEARCH CENTER INC.

PART 572B LUMBAR FLEXION TEST

SID/HIII

CAL DATE: 21-Oct-04

TRC, INC. TEST NO: 055C17TF1 572M SN 055 TORSO FLEX CAL 17

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.2°C
RELATIVE HUMIDITY	10 – 70 %	46 %
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	160.1 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	209.1 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	1.4 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 055 Calibration No. 17 - 22

Test Date 10/25/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	41 %	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 A. D'Amico

Approved

V. F. Walter

10.25.2004 13:37:13 1602

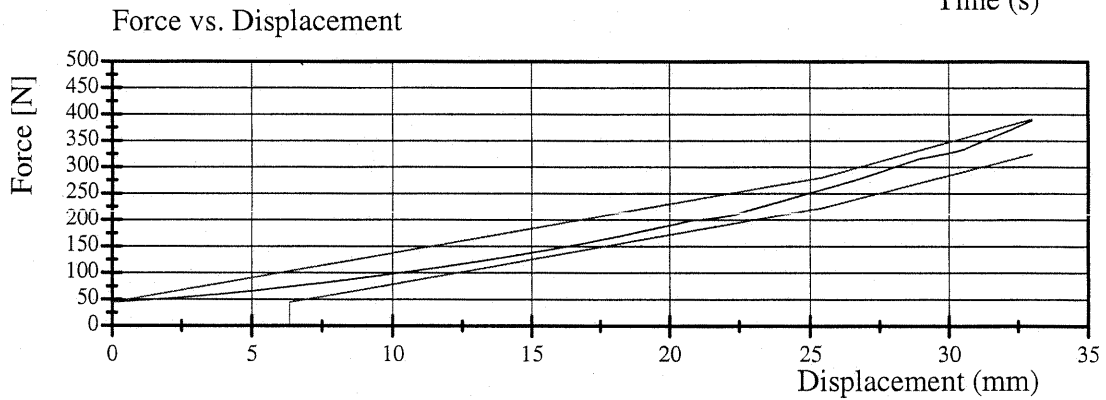
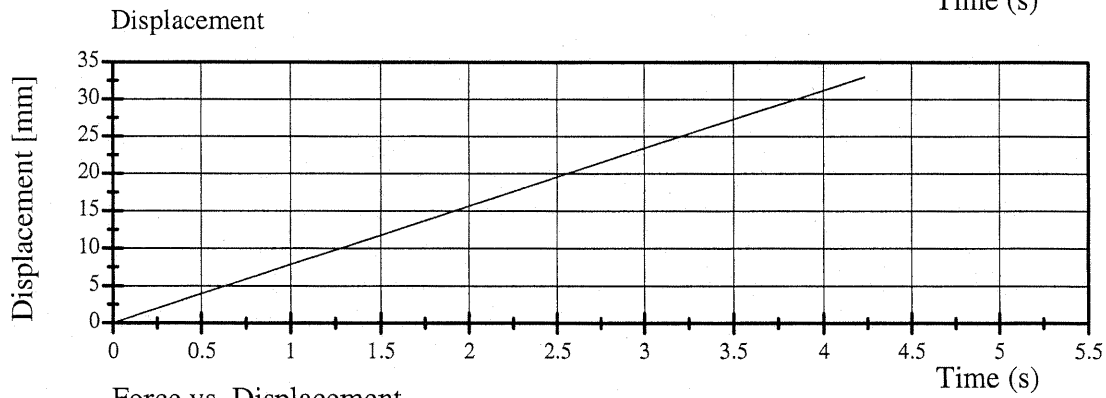
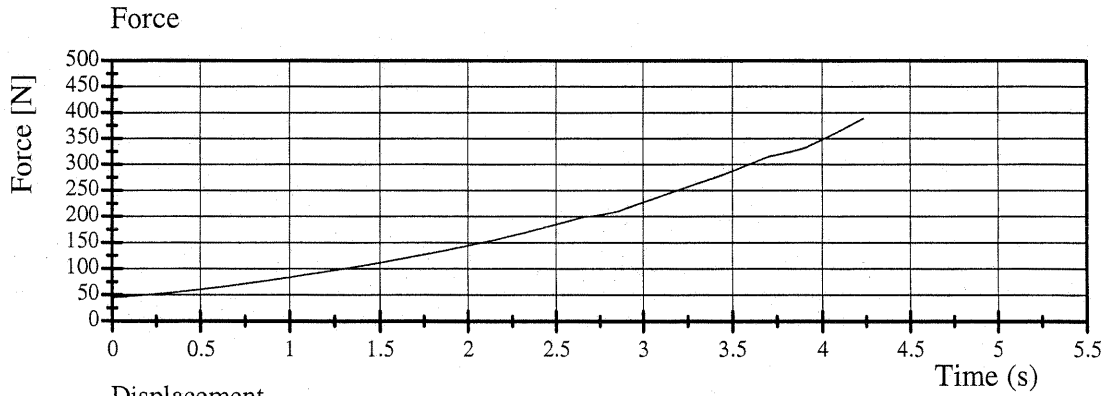


Transportation Research Center Inc.

572B Abdomen Compression Test

SID HIII Serial No. 055 Calibration No. 17 - 22

Test Date 10/25/2004



10.25.2004 13:37:14 1602



Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 055 Calibration No. 17 - 3

Test Date 10/27/2004

Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 C	21.3 C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	4.27 - 4.33 m/sec	4.31 m/sec	Yes
Pelvis Peak Acceleration	40 - 60 g	44.4 g	Yes
Time Above 20 g	3 - 7 ms	6.00 ms	Yes
Unimodal requirement for pelvis acceleration	Yes	Yes	Yes

Comments:

Technician

Vincent Quinn

Approved

V. K. Watter

10.27.2004 11:17:16 1131

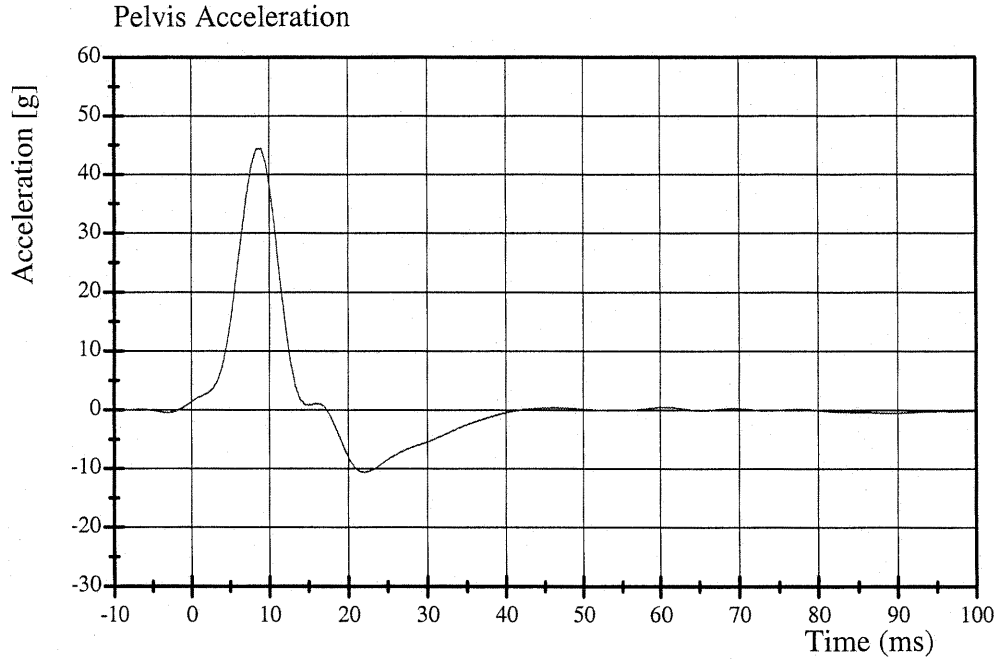


Transportation Research Center Inc.

572F Left Pelvis Test

SID HIII Serial No. 055 Calibration No. 17 - 3

Test Date 10/27/2004



Filter Class: FIR 100

Max: 44.4 g at 9.0 ms

Min: -10.6 g at 22.1 ms

Type: SID HIII S/N: 906 Mfr: _____ Test Date: 10/20/04

Proj./Seg. No.: 20020455-2130 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: 10/19/04

Type: SID HIII S/N: 055 Mfr: ASTC Test Date: 10/20/04

Proj./Seg. No.: 20020455-2130 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: 10/19/04

Type: SID HIII S/N: 906 Mfr: _____ Test Date: 10/20/04

Proj./Seg. No.: 20020455-2130 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	*
Damper and Chest Pot Movement and Condition	X
Rib Cage Spring and Support Assembly Condition	X
Rib Wrap Condition	X
Abdomen condition	X
Thorax/Lumbar Spine Bolts	X
Lumbar Spine Condition and Separation From End Caps	X
PELVIS:	
Iliac Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
LEGS AND FEET:	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: *Left arm foam has moderate cut at bottom.

No other damage found.

Inspection Completed By: J. Clarridge

Date: 10/21/04

Type: SID HIII S/N: 055 Mfr: ASTC Test Date: 10/20/04

Proj./Seg. No.: 20020455-2130 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 to report.

Inspection Completed By: J. Clarridge

Date: 10/21/04

Appendix D

Test Equipment List and Calibration Information

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

10/20/2004 7:45:51 AM

Name of Test 041020-1

System MINIDAU

Name of DAU DAUA

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	P30407	HEDXG1	Head Accel X	Rwd	789.64089 g	-	9/16/2004	OK 906n	Endevco	7264C-2K-2-180
0002	P30409	HEDYG1	Head Accel Y	Lft	807.29033 g	-	9/16/2004	OK 906n	Endevco	7264C-2K-2-180
0003	P29643	HEDZG1	Head Accel Z	Up	801.21684 g	-	9/15/2004	OK 906n	Endevco	7264C-2K-2-180
0004	P29194	HEDXR1	Head Accel X Red	Rwd	795.60057 g	-	9/15/2004	OK 906n	Endevco	7264C-2K-2-180
0005	P30446	HEDYR1	Head Accel Y Red	Lt	796.06297 g	-	9/16/2004	OK 906n	Endevco	7264C-2K-2-180
0006	P30312	HEDZR1	Head Accel Z Red	Up	795.52863 g	-	9/16/2004	OK 906n	Endevco	7264C-2K-2-180
0007	1716A-1534-FX	NEKXF1	Neck Force X	Hd	8901.7469 N	-	9/10/2004	OK 906n	Denton	1716A
0008	1716A-1534-FY	NEKYF1	Neck Force Y	Hd	8887.6699 N	+	9/10/2004	OK 906n	Denton	1716A
0009	1716A-1534-FZ	NEKZF1	Neck Force Z	Hd	13352.840 N	+	9/10/2004	OK 906n	Denton	1716A
0010	1716A-1534-MX	NEKXM1	Neck Moment X	Rt Ear	282.70393 N·m	-	9/10/2004	OK 906n	Denton	1716A
0011	1716A-1534-MY	NEKYM1	Neck Moment Y	Chn	282.91216 N·m	+	9/10/2004	OK 906n	Denton	1716A
0012	1716A-1534-MZ	NEKZM1	Neck Moment Z	Chn	282.76032 N·m	+	9/10/2004	OK 906n	Denton	1716A
0013	P33829	LURYG1	Left Upper Rib Y	Rgt	808.55476 g	+	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0014	P33607	LURYR1	Left Upper Rib Red Y	Rgt	784.55168 g	+	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0015	P33894	LLRYG1	Left Lower Rib Y	Rgt	794.29670 g	+	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0016	P33588	LLRYR1	Left Lower Rib Red Y	Rgt	798.29501 g	+	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0017	P33800	T12YG1	Lower Spine Y	Lft	400.93568 g	-	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0018	P33576	T12YR1	Lower Spine Red Y	Lft	402.46475 g	-	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0019	P33547	PEVYG1	Pelvis Accel Y	Lft	402.65171 g	-	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0020	P33805	PEVYR1	Pelvis Accel Red Y	Lft	398.30933 g	-	9/14/2004	OK 906n	Endevco	7264C-2K-2-180
0021	P34237	HEDXG4	Head Accel X	Rwd	792.80430 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
0022	P33552	HEDYG4	Head Accel Y	Lft	808.91423 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
0023	P33591	HEDZG4	Head Accel Z	Up	799.14890 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
0024	P34007	HEDXR4	Head Accel X Red	Rwd	802.80819 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
0025	P33556	HEDYR4	Head Accel Y Red	Lt	798.30609 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
0026	P34297	HEDZR4	Head Accel Z Red	Up	800.32350 g	-	9/16/2004	OK 055n	Endevco	7264C-2K-2-180
0027	1716A-1222-FX	NEKXF4	Neck Force X	Hd	8906.9502 N	-	9/16/2004	OK 055n	Denton	1716A
0028	1716A-1222-FY	NEKYF4	Neck Force Y	Hd	8884.1691 N	+	9/16/2004	OK 055n	Denton	1716A
0029	1716A-1222-FZ	NEKZF4	Neck Force Z	Hd	13346.680 N	+	9/16/2004	OK 055n	Denton	1716A
0030	1716A-1222-MX	NEKXM4	Neck Moment X	Rt Ear	283.07099 N·m	-	9/16/2004	OK 055n	Denton	1716A
0031	1716A-1222-MY	NEKYM4	Neck Moment Y	Chn	282.82939 N·m	+	9/16/2004	OK 055n	Denton	1716A
0032	1716A-1222-MZ	NEKZM4	Neck Moment Z	Chn	283.18912 N·m	+	9/16/2004	OK 055n	Denton	1716A

D-6

041020-1

Channel Report

10/20/2004 7:45:51 AM

Name of Test 041020-1

System MINIDAU

Name of DAU DAUC

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	P34348	LURYG4	Left Upper Rib Y	Rgt	800.61296	g	+ 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0002	P31875	LURYR4	Left Upper Rib Red Y	Rgt	808.33762	g	+ 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0003	P34029	LLRYG4	Left Lower Rib Y	Rgt	797.60320	g	+ 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0004	P33541	LLRYR4	Left Lower Rib Red Y	Rgt	808.04152	g	+ 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0005	P34275	T12YG4	Lower Spine Y	Lft	401.65292	g	- 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0006	P33847	T12YR4	Lower Spine Red Y	Lft	398.78035	g	- 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0007	P34025	PEVYG4	Pelvis Accel Y	Lft	399.66303	g	- 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0008	P33878	PEVYR4	Pelvis Accel Red Y	Lft	399.43638	g	- 9/14/2004	OK 055n	Endevco	7264C-2K-2-180
0009	P33615	RFSXG1	RGT SIDE SILL FRNT ST X	FWD	399.15706	g	+ 9/17/2004	OK -1	Endevco	7264C-2K-2-180
0010	P37759	RFSYG1	RGT SIDE SILL FRNT ST Y	LT	993.17194	g	- 6/7/2004	OK -1	Endevco	7264C-2K-2-180
0011	P33819	RFSZG1	RGT SIDE SILL FRNT ST Z	UP	399.66478	g	- 8/27/2004	OK -1	Endevco	7264C-2K-2-180
0012	P33598	RRSXG1	RGT SIDE SILL RR ST X	FWD	399.65514	g	+ 9/14/2004	OK -1	Endevco	7264C-2K-2-180
0013	P34971	RRSYG1	RGT SIDE SILL RR ST Y	LT	987.14018	g	- 6/7/2004	OK -1	Endevco	7264C-2K-2-180
D-7 0014	P29507	RRSZG1	RGT SIDE SILL RR ST Z	UP	399.98656	g	- 7/28/2004	OK -1	Endevco	7264C-2K-2-180
0015	P33603	RDKXG1	RR FLRPAN ABV AXLE X	FWD	1009.8017	g	+ 9/22/2004	OK -1	Endevco	7264C-2K-2-180
0016	P33612	RDKYG1	RR FLRPAN ABV AXLE Y	LT	984.27088	g	- 8/24/2004	OK -1	Endevco	7264C-2K-2-180
0017	P33534	RDKZG1	RR FLRPAN ABV AXLE Z	UP	1015.4837	g	- 9/14/2004	OK -1	Endevco	7264C-2K-2-180
0018	P40049	LRSYG1	LFT SIDE SILL RR ST Y	RT	997.11926	g	+ 10/15/2004	OK -1	Endevco	7264C-2K-2-180
0019	P40052	LFSYG1	LFT SIDE SILL FRNT ST Y	RT	1017.8268	g	+ 10/15/2004	OK -1	Endevco	7264C-2K-2-180
0020	P40048	RRTYG1	RGT RR OCP COMP Y	RT	1464.4990	g	+ 10/15/2004	OK -1	Endevco	7264C-2K-2-180
0021	P33751	LLBYG1	LFT LOWER B-POST Y	RT	1552.2875	g	+ 10/15/2004	OK -1	Endevco	7264C-2K-2-180
0022	P34255	LUBYG1	LFT MID B-POST Y	RT	1456.6393	g	+ 10/15/2004	OK -1	Endevco	7264C-2K-2-180
0023	P34717	LLAYG1	LFT LOWER A-POST Y	LT	1542.1686	g	- 6/7/2004	OK -1	Endevco	7264C-2K-2-180
0024	P33852	LUAYG1	LFT MID A-POST Y	LT	1510.6257	g	- 9/9/2004	OK -1	Endevco	7264C-2K-2-180
0025	P40051	LFTYG1	LFT FRNT SEAT TRACK Y	LT	1502.1279	g	- 10/15/2004	OK -1	Endevco	7264C-2K-2-180
0026	P33932	LRTYG1	LFT RR SEAT TRACK Y	RT	1478.5150	g	+ 9/14/2004	OK -1	Endevco	7264C-2K-2-180
0027	P27933	VCGXG1	VEH C/G X	FWD	1016.5519	g	+ 10/12/2004	OK -1	Endevco	7264C-2K-2-180
0028	P34086	VCGYG1	VEH C/G Y	LT	1019.1070	g	- 9/14/2004	OK -1	Endevco	7264C-2K-2-180
0029	P33563	VCGZG1	VEH C/G Z	UP	983.53633	g	- 9/30/2004	OK -1	Endevco	7264C-2K-2-180

041020-1

Channel Report

10/20/2004 7:45:52 AM

Name of Test 041020-1

System MINIDAU

Name of DAU DAUD

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	P30027	BCGXG1	MDB Center of Gravity X-axis	FWD	593.69587	g	+ 7/9/2004	OK -1	Endevco	7264C-2K-2-180
0003	P34234	BCGYG1	MDB Center of Gravity Y-axis	LT	604.09001	g	- 9/30/2004	OK -1	Endevco	7264C-2K-2-180
0004	P35218	BCGZG1	MDB Center of Gravity Z-axis	UP	593.89207	g	- 10/15/2004	OK -1	Endevco	7264C-2K-2-180
0005	P28084	LRRXG1	MDB Left Rear X-axis	FWD	606.80963	g	+ 7/9/2004	OK -1	Endevco	7264C-2K-2-180
0006	P35222	LRRYG1	MDB Left Rear Y-axis	LT	594.17375	g	- 10/15/2004	OK -1	Endevco	7264C-2K-2-180

D-8

041020-1

Digital and System Channel Report

2004-10-20 07:45:10

Name of Test 041020-1

System MINIDAU

Name of DAU DAUD descriptio

enable Channel Short Name
 Yes 0501 DIGD

Type
 dig0

Data File Module Type
 DATD0501 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	O
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

041020-1

Dummy 906n Type SID/H3 Descriptio NHTSA - 906n SID-LEFT IMP. CONFIG. w/RED ACCELS ICAL'd 9-10-04(DKS)

Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7264C-2K-2-18	P30407	Endevco	0.018011 g	2000	9/16/2004	Rwd	1
HEDYG	Head Accel Y	7264C-2K-2-18	P30409	Endevco	0.0275748 g	2000	9/16/2004	Lft	1
HEDZG	Head Accel Z	7264C-2K-2-18	P29643	Endevco	0.0319514 g	2000	9/15/2004	Up	1
HEDXR	Head Accel X Red	7264C-2K-2-18	P29194	Endevco	0.022191 g	2000	9/15/2004	Rwd	1
HEDYR	Head Accel Y Red	7264C-2K-2-18	P30446	Endevco	0.0178657 g	2000	9/16/2004	Lt	1
HEDZR	Head Accel Z Red	7264C-2K-2-18	P30312	Endevco	0.0178777 g	2000	9/16/2004	Up	1
NEKXF	Neck Force X	1716A	1716A-1534-FX	Denton	0.0001892 N	8896.4	9/10/2004	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716A	1716A-1534-FY	Denton	0.0001751 N	8896.4	9/10/2004	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716A	1716A-1534-FZ	Denton	0.0000961 N	13344.6	9/10/2004	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716A	1716A-1534-MX	Denton	0.0058422 N-m	282.5	9/10/2004	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716A	1716A-1534-MY	Denton	0.0058379 N-m	282.5	9/10/2004	Chn to Strnm	0
NEKZM	Neck Moment Z	1716A	1716A-1534-MZ	Denton	0.0081564 N-m	282.5	9/10/2004	Chn to Lt Shld	0
LURYG	Left Upper Rib Y	7264C-2K-2-18	P33829	Endevco	0.0154446 g	2000	9/14/2004	Rgt	0
LURYR	Left Upper Rib Red Y	7264C-2K-2-18	P33607	Endevco	0.028374 g	2000	9/14/2004	Rgt	0
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P33894	Endevco	0.0207934 g	2000	9/14/2004	Rgt	0
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P33588	Endevco	0.0221161 g	2000	9/14/2004	Rgt	0
T12YG	Lower Spine Y	7264C-2K-2-18	P33800	Endevco	0.0228038 g	2000	9/14/2004	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P33576	Endevco	0.0208551 g	2000	9/14/2004	Lft	1
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P33547	Endevco	0.0235476 g	2000	9/14/2004	Lft	1
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P33805	Endevco	0.0204037 g	2000	9/14/2004	Lft	1

D-10

041020-1

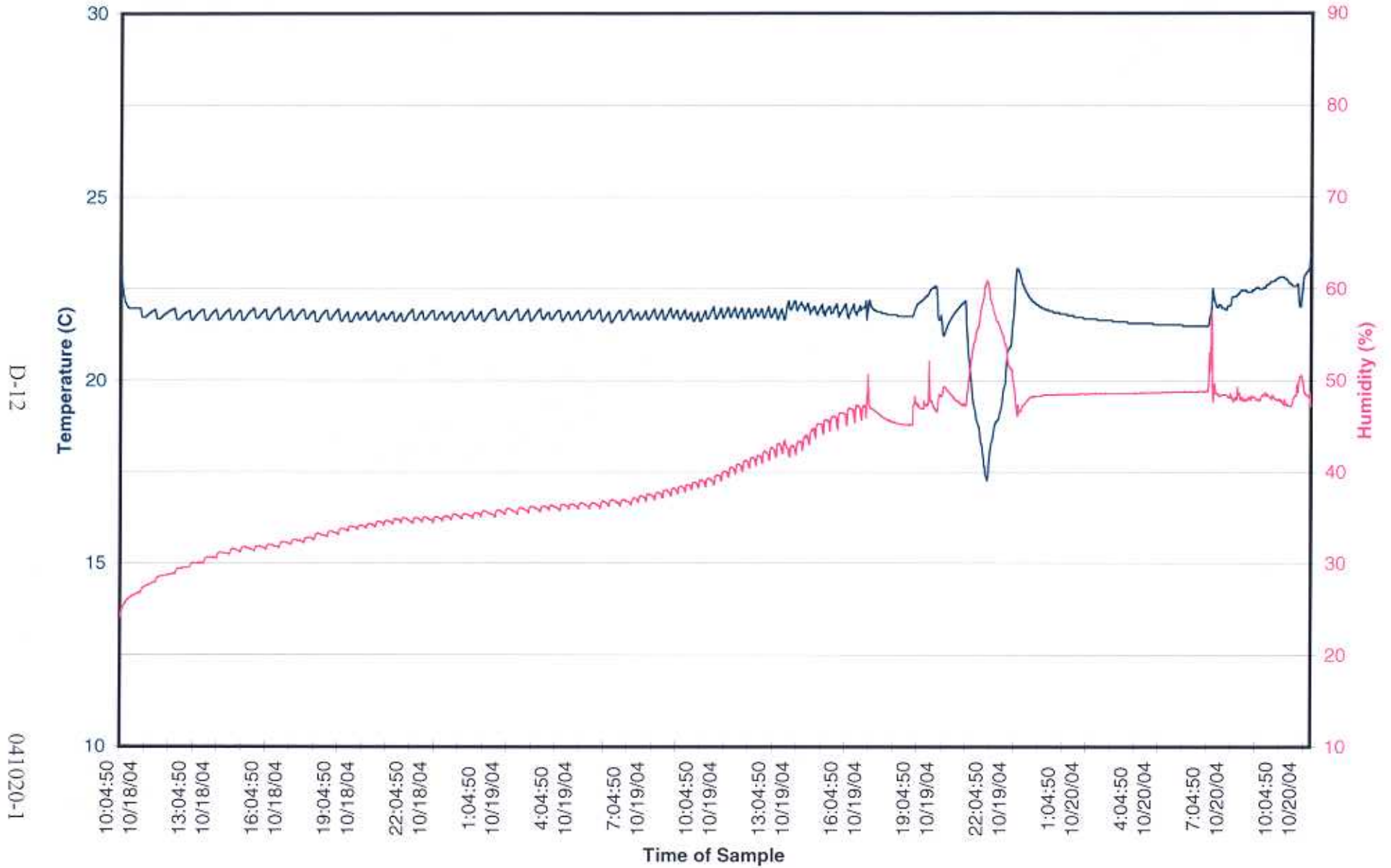
Dummy 055n Type SID/H3 Descriptio NHTSA - 055n SID-LEFT IMP. CONFIG. w/RED ACCELS ICAL'd 9-14-04(DKS -04)J211

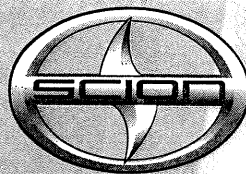
Chsnam	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscal	Caldat	Pos Output	Flip
HEDXG	Head Accel X	7264C-2K-2-18	P34237	Endevco	0.0248388 g	2000	9/16/2004	Rwd	1
HEDYG	Head Accel Y	7264C-2K-2-18	P33552	Endevco	0.0197796 g	2000	9/16/2004	Lft	1
HEDZG	Head Accel Z	7264C-2K-2-18	P33591	Endevco	0.0200213 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

D-11

041020-1

FMVSS 214 Left Side Impact of 2005 Scion TC / 041020-1





DESCRIPTION: **SCION TC
2 DOOR LIFT BACK**

YEAR/MODEL: 2005/6221A

COLOR: SUPER WHITE/DARK GRAY

VIN: **JTKDE177650014545** (0040/14)

PORT/PLANT: PORTLAND

The New Vehicle Limited Warranty provides 36-month/36,000-mile comprehensive coverage, 5-year/60,000-mile powertrain coverage, plus 5-year body panel corrosion perforation warranty. See Owner's Warranty Information booklet for details. An extended service contract may be available for the vehicle. Ask dealer for details.

Manufacturer's suggested retail price includes manufacturer's recommended pre-delivery service. Gasoline, license and title fees, applicable federal, state and local taxes and dealer and distributor installed options and accessories are not included in the manufacturer's suggested retail price.

STANDARD EQUIPMENT

MECHANICAL AND PERFORMANCE

- 2.4L 4-Cyl DOHC 16 Valve VVT-i EFI Eng
- 5-Speed Manual Transmission
- Power-Assisted Rack and Pinion Steering
- 4-Wheel Disc Brakes
- Sport Tuned Independent MacPherson Strut Front and Double Wishbone Rr suspension
- P215/45ZR17 All-Season Tires

SAFETY

- 4-Wheel ABS w/Electronic Brake Dist
- Dr & Fr Pass Dual Stage Air Bags (SRS)
- Driver Knee Airbag
- Dr & Fr Pass Seat Belt Pretensioners w/Force Limiters
- Three Across 3-Point ALR-ELR Rear Pass Seat Belts and Head Restraints
- Side Impact Door Beams/First Aid Kit

EXTERIOR

- 17"x7.0" Split Six Spoke Alloy Wheels w/Graphite Finish/Chrome Exhaust Tip
- Multi-Reflector Halogen Headlamps
- Pwr Outside Mirrors w/Turn Signals

- Variable Inter Fr Windshield Wipers
- Rr Fender Mounted Antenna

COMFORT AND CONVENIENCE

- Panorama Glas Moonroof w/Pwr Tilt/Slide
- Sport Fr Bucket Seats w/ Adj Headrests
- Dr Seat w/Height & Seat Bottm Angle Adj
- Dr Seat One-Touch Walk In w/Slide & Seat Angle Memory/Fully Reclin Fr Seats
- 60:40 Split Fold-Down & Reclin Rr Seats
- Pioneer 160 Watt AM/FM/CD with 6 Spkrs & Scion Sound Processing (SSP)*
- Air Conditioner w/Soft Touch Controls
- Two-tiered Fabric Covered Center Cnsls
- Pwr Door Locks w/In-Key Remote Entry
- Pwr Windows w/One-Touch Auto Up/Down
- Cruise Control/Rr Window Defogger
- Tilt Steering Wheel/Auto Off Headlamps
- Cargo Area Cover & Under-Floor Storage
- Vanity Mirrors w/Covers/4 Cupholders
- Outside Temp Gauge/Digital Clock
- 12V Power Point & Cigarette Lighter

Full Tank of Gas

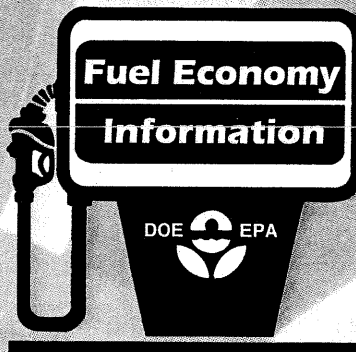
* Customers choosing to upgrade from the base audio and/or wheelcovers are paying for the upgrade only and will not receive the standard equipment upon delivery.

Scion is a marque of Toyota Motor Sales, U.S.A., Inc.

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

CITY MPG

22



HIGHWAY MPG

29

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

18 and 26 mpg in the city and between 24 and 34 mpg on the highway.

2005 SCION TC
4-CYL., 2.4 LITER DISP.,
16V VVT-i, DOHC, SFI
ENGINE. 5-SPEED MANUAL
TRANSMISSION.

Estimated Annual Fuel Cost:

\$1,080

For Comparison Shopping, all vehicles classified as

SUB-COMPACT

have been issued mileage ratings ranging from

** to ** mpg city and ** to ** mpg highway.

*INFORMATION NOT AVAILABLE AT TIME OF VEHICLE PRODUCTION.

see www.fueleconomy.gov

SIDE IMPACTOR BARRIER CERTIFICATION

Date: October 12, 2004

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

PURCHASE ORDER INFORMATION

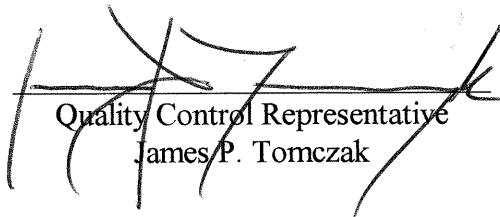
Customer P.O. Number: 032679
Work Order Number: 23228
Plascore Part Number: 18723
Quantity: 01 piece


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: 101A0804

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
James P. Tomczak

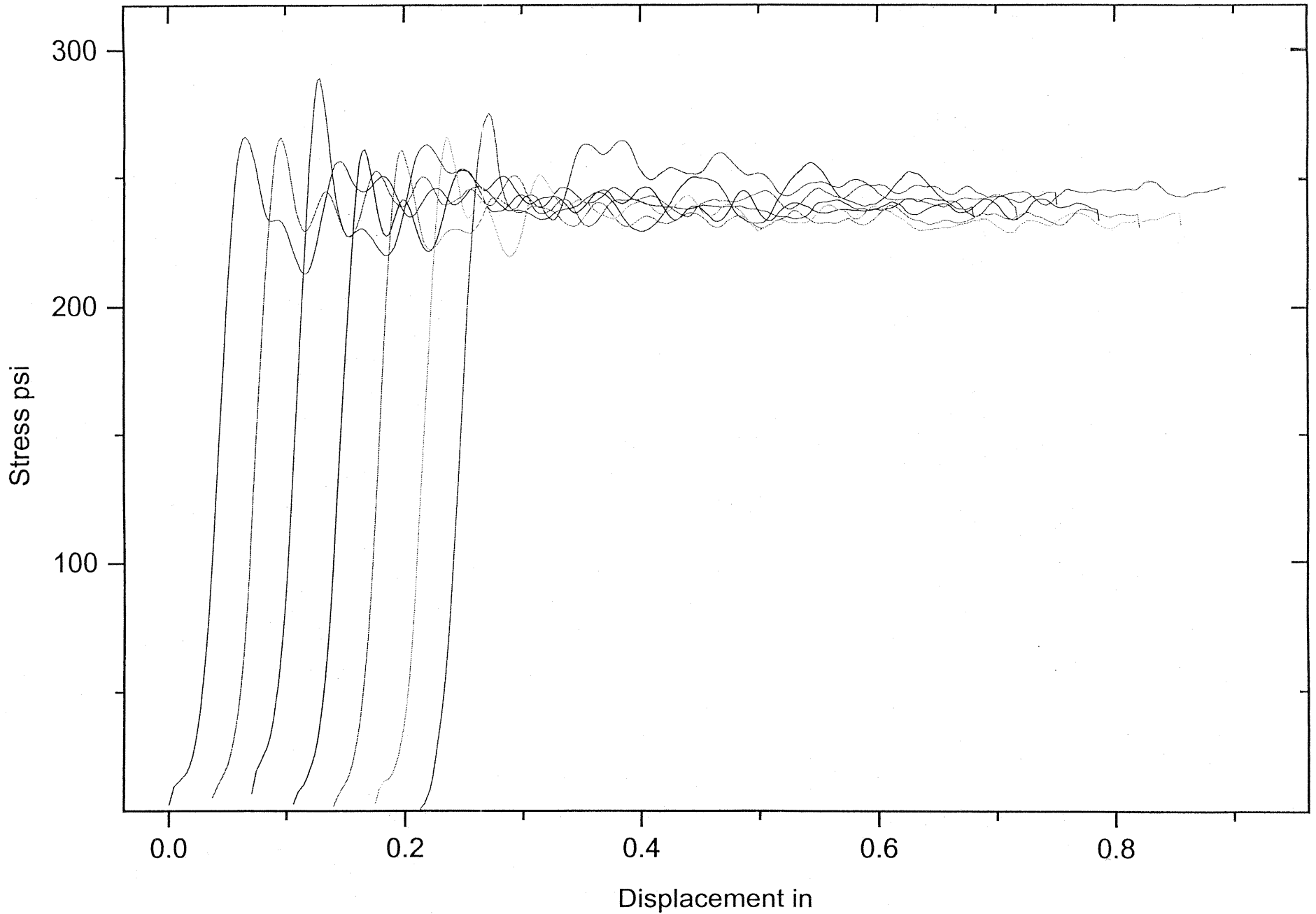


Crush Data
232 - 250 psi per DWG # DSL-1285

Block Number: 101A0804

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	237.46	242.50	245.06
2	238.64	241.75	242.77
3	240.79	238.03	240.10
4	239.34	238.06	238.37
5	233.82	234.10	235.04
6	235.35	233.12	233.66
7	248.01	244.50	245.70

BLOCK#101A0804 Sample ID: IN231148



D-16

041020-1

SIDE IMPACTOR BARRIER CERTIFICATION

Date: October 12, 2004

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

PURCHASE ORDER INFORMATION

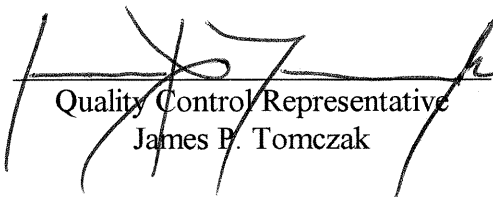
Customer P.O. Number: 032679
Work Order Number: 23228
Plascore Part Number: 18723
Quantity: 01 piece


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: 028A1004

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
James P. Tomczak

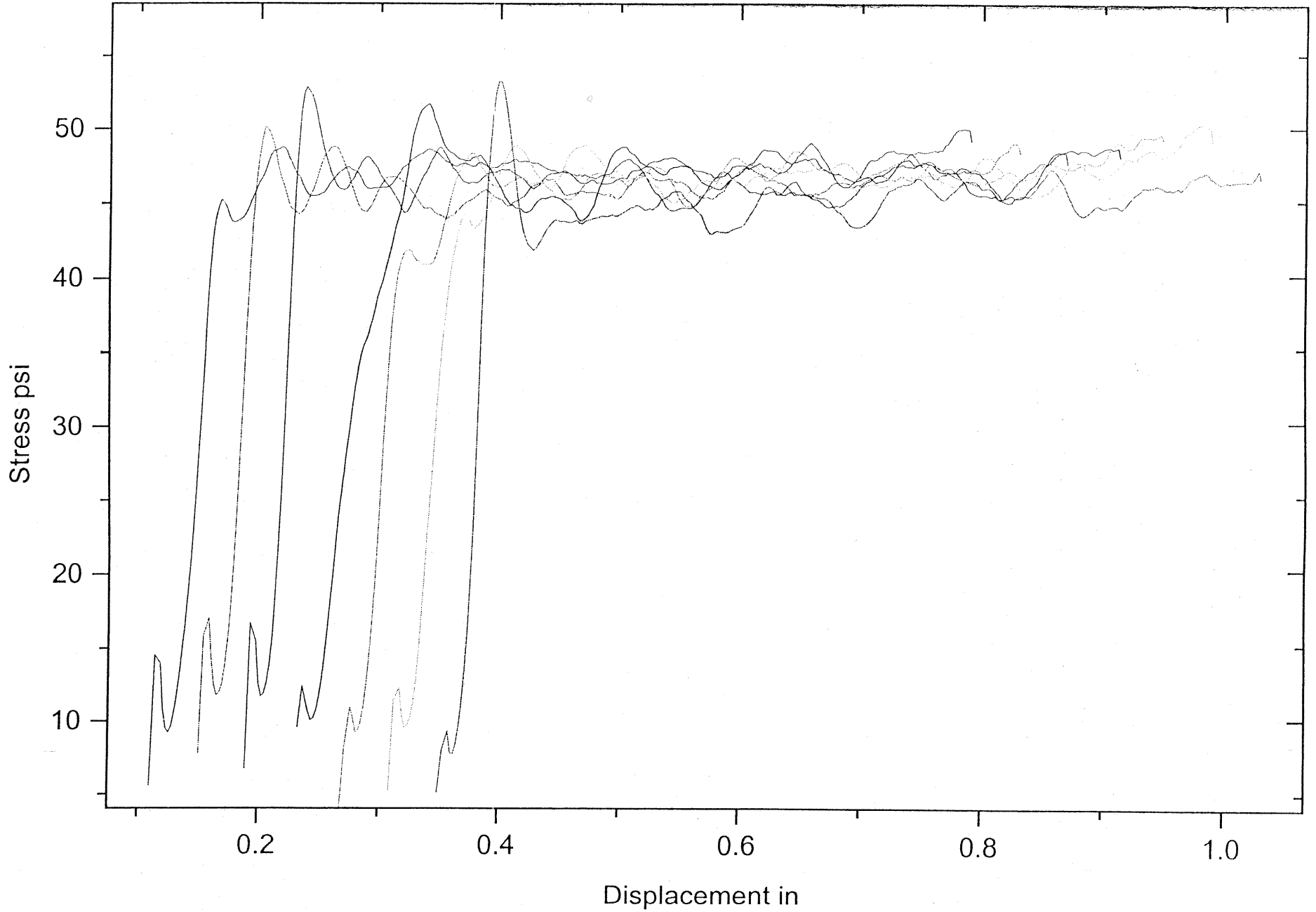


Crush Data
45 psi +/- 2.5 psi per DWG # DSL-1285

Block Number: 028A1004

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	47.13	47.06	47.38
2	45.23	46.05	46.11
3	46.24	45.81	46.58
4	47.25	47.35	46.50
5	46.84	46.86	47.18
6	46.74	46.58	47.05
7	45.13	45.68	45.64

BLOCK # 028A1004 Sample ID: IN333071



D-19

041020-1