

Report Number: 214-TRC-03-007

Safety Compliance Testing For FMVSS 214

Side Impact Protection

Indicant

Fuji Heavy Industries LTD

2003 Subaru Legacy Sedan

NHTSA Number: C35504

Transportation Research Center Inc.

10820 State Route 347

P. O. Box B-67

East Liberty, OH 43319



April 15, 2003

Final Report

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

Office of Vehicle Safety Compliance

400 Seventh Street, S. W.

Room No. 6111 (NVS-220)

Washington, DC 20590

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16. Abstract This 55/28 km/h 90° Impact (Moving Deformable Barrier) Compliance Test was conducted on the subject vehicle, a 2003 Subaru Legacy 4-door sedan 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 April 15, 2003. The impact velocity of the Moving Deformable Barrier (MDB) was 62.0 km/h, and the ambient temperature at the struck (driver) side of the target vehicle at the time of impact was 21° C. The target vehicle's post-test maximum crush was 279 mm at Level 2. The test or target vehicle's performance is given below (with FIR filter): <table border="0"> <thead> <tr> <th></th> <th><u>Front SID-HIII</u></th> <th></th> <th><u>Rear SID-HIII</u></th> <th></th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib Acceleration:</td> <td><u>77.4</u></td> <td>g's</td> <td><u>44.6</u></td> <td>g's</td> </tr> <tr> <td>Left Lower Rib Acceleration:</td> <td><u>63.8</u></td> <td>g's</td> <td><u>48.9</u></td> <td>g's</td> </tr> <tr> <td>Lower Spine Acceleration:</td> <td><u>72.5</u></td> <td>g's</td> <td><u>78.5</u></td> <td>g's</td> </tr> <tr> <td>Thoracic Trauma Index, (TTI):</td> <td><u>74.9</u></td> <td>g's</td> <td><u>63.7</u></td> <td>g's</td> </tr> <tr> <td>Pelvis Acceleration (PEV):</td> <td><u>68.4</u></td> <td>g's</td> <td><u>65.2</u></td> <td>g's</td> </tr> </tbody> </table> The two doors on the struck side of the vehicle did not separate from the body at the hinges or latches and the opposite doors did not open during side impact event.					<u>Front SID-HIII</u>		<u>Rear SID-HIII</u>		Left Upper Rib Acceleration:	<u>77.4</u>	g's	<u>44.6</u>	g's	Left Lower Rib Acceleration:	<u>63.8</u>	g's	<u>48.9</u>	g's	Lower Spine Acceleration:	<u>72.5</u>	g's	<u>78.5</u>	g's	Thoracic Trauma Index, (TTI):	<u>74.9</u>	g's	<u>63.7</u>	g's	Pelvis Acceleration (PEV):	<u>68.4</u>	g's	<u>65.2</u>	g's
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Section 1

Purpose and Test Procedure

This side impact test is part of the FMVSS 214 Side Impact Protection Compliance Test Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-02-D-11114. The purpose of this test was to evaluate side impact protection in a 2003 Subaru Legacy sedan. The test was conducted in accordance with the Office of Vehicle Safety Compliance's Laboratory Test Procedure (TP-214D-06, dated July 2001), with the exception of test speed, which was at the NCAP High-Speed Lateral Impact level (62.0 km/h).

Section 2

Summary of Side Impact Test

A 2003 Subaru Legacy 4-door sedan 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 April 15, 2003. 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 Hybrid III 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-HIIIs 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 73 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)	74.9	63.7
PEV (g)	68.4	65.2

Head Injury Criteria (HIC)

Injury Criteria	Front SID-HIII	Rear SID-HIII
HIC	181	561
t_1 (ms)	47.1	51.4
t_2 (ms)	83.1	66.9
Average Acceleration $t_1 - t_2$ (g)	30.2	66.4

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

Neck Injury Criteria

Maximum Values	Front SID-HIII	Rear SID-HIII
Neck X-axis Force (N)	-805	716
Neck Y-axis Force (N)	676	-1413
Neck Z-axis Force (N)	1470	-2126
Moment About X-axis (Nm) ¹	70.7	-126.2
Moment About Y-axis (Nm)	29.6	-25.3
Moment About Z-axis (Nm)	31.5	-20.5

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

Data Acquisition Explanations

The vehicle's left side sill at the rear seat Y-axis acceleration channel, LRSYG1, recorded questionable data and did not return to zero. This affected the vehicle's left side sill at the rear seat Y-axis velocity and displacement measurements.

The vehicle's left front door centerline Y-axis acceleration channel, LFCYG1, recorded no valid data throughout the event. This affected the vehicle's left side sill at the rear seat Y-axis velocity and displacement measurements.

The vehicle's left front door upper centerline Y-axis acceleration channel, LFUYG1, exceeded full-scale at approximately 27 ms and recorded no valid data after that. This affected the vehicle's left front door upper centerline Y-axis velocity and displacement measurements.

The vehicle's left lower A-post Y-axis acceleration channel, LLAYG1, recorded no valid data after approximately 24 milliseconds. This affected the vehicle's left lower A-post Y-axis velocity measurement.

The vehicle's left middle A-post Y-axis acceleration channel, LMAYG1, exceeded full-scale at approximately 27 ms and recorded no valid data after that. This affected the vehicle's left middle A-post Y-axis velocity measurement.

The vehicle's left rear seat track Y-axis acceleration channel, LRTYG1, exceeded full-scale at approximately 5 ms and recorded no valid data after that. This affected the vehicle's left rear seat track Y-axis velocity measurement.

Section 3

Summary of Test Results

Data Sheet 1

General Test Vehicle Parameter Data

Test Vehicle Information:

Vehicle Year/Make/Model: 2003 Subaru Legacy
Vehicle Body Style/Color: 4-door sedan/Silver VIN: 4S3BE635436212096
Vehicle NHTSA No.: C35504 Build Date: 01/03
Engine Data: 4 Cylinders; CID; 2.5 Liters; cc
Placement: X Longitudinal; or - Lateral; or - Horizontal
Transmission: 5 Speed; X Manual; - Automatic; - Overdrive
Final Drive: - RWD; - FWD; X Four-Wheel Drive
Odometer Reading: 73 mi
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; 210 kPa Rear
Recommended Tire Size: P205/55R16
Tires on Test Vehicle: P205/55R16 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 = 386 kg (A)
No. of Occupants x 68.04 kg. = 340 kg (B)
Vehicle Cargo Capacity (A-B) = 46 kg

Test Vehicle Delivered Weight With Maximum Fluids:

Left Front	=	<u>423.0</u> kg	Left Rear	=	<u>341.0</u> kg
Right Front	=	<u>401.5</u> kg	Right Rear	=	<u>334.5</u> kg
Total Front	=	<u>824.5</u> kg	Total Rear	=	<u>675.5</u> kg
Front % of Total Weight	=	<u>55.0</u> %	Rear % of Total Weight	=	<u>45.0</u> %
Total Weight	=	<u>1500</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 = 1500 kg (A)
Maximum Cargo Carrying Capacity of Test Vehicle = 46 kg (B)
Weight of Instrumented Side Impact Dummies (2 X 84.0 kg) = 168 kg (C)
Test Vehicle Target Weight: = 1714 kg (A+B+C)

Fully Loaded Test Vehicle (UDW + 2 SIDs + Cargo):

Left Front	=	<u>473.0</u> kg	Left Rear	=	<u>445.5</u> kg
Right Front	=	<u>403.0</u> kg	Right Rear	=	<u>396.0</u> kg
Total Front	=	<u>876.0</u> kg	Total Rear	=	<u>841.5</u> kg
Front % of Total Weight	=	<u>51.0</u> %	Rear % of Total Weight	=	<u>49.0</u> %
Total Weight	=	<u>1717.5</u> kg			

As Tested Weight of Test Vehicle (2 SIDs + Cargo + Equipment & Instrumentation):

Left Front	=	<u>464.8</u> kg	Left Rear	=	<u>414.0</u> kg
Right Front	=	<u>427.2</u> kg	Right Rear	=	<u>403.0</u> kg
Total Front	=	<u>892.0</u> kg	Total Rear	=	<u>817.0</u> kg
Front % of Total Weight	=	<u>52.2</u> %	Rear % of Total Weight	=	<u>47.8</u> %
Total Weight	=	<u>1709.0</u> kg			

Test Vehicle Attitude (all dimensions in millimeters):

As Delivered	Fully Loaded	Ready For Test
Right Front <u>677</u>	Right Front <u>663</u>	Right Front <u>667</u>
Left Front <u>675</u>	Left Front <u>658</u>	Left Front <u>666</u>
Right Rear <u>667</u>	Right Rear <u>640</u>	Right Rear <u>646</u>
Left Rear <u>667</u>	Left Rear <u>625</u>	Left Rear <u>643</u>

Test Vehicle Wheelbase: 2652 mm

C.G. = 1268 mm rearward of front wheel centerline

Total Vehicle Length:

Right Side = 4530 mm
Left Side = 4530 mm
Centerline = 4677 mm

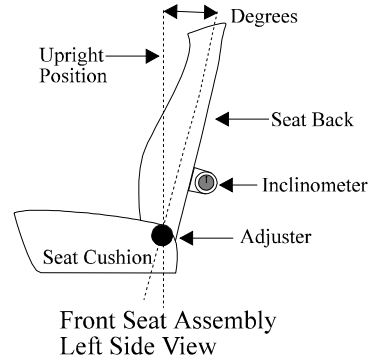
Data Sheet 1 (continued)

General Test Vehicle Parameter Data

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Nominal Design Riding Position for adjustable driver and passenger seat backs. Please describe how to position the inclinometer to measure the seat back angle. Include description of the location of the adjustment latch detent, if applicable.



Front Seat Cushion Placement: 10th (from front) of 18 positions; 1st notch rear of mid (no mid notch)

Total Length of Fore/Aft Adjustment Travel: 230 mm

Total Number of Adjustment Positions or Detents: 18

Front Seat Back Adjustment Position: The back was adjusted the 4th locking position (counting the upright position as #1). The seat measured 8.1° at the headrest post.

Seat Back Torso Angle: N/A degrees

Second Position Seat Placement: Fixed

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

Seat Back Adjustment Position: N/A, not adjustable

Adjustable Steering Column Position: 23.2°

Window Positions:

Right Front: Open

Right Rear: Open

Left Front: Closed

Left Rear: Closed

Note: Windows will be in closed position on struck side of test vehicle and in open position on opposite side.

Amount of Stoddard Solvent In Fuel Tank:

64.0 liters (fuel tank usable capacity)

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

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

Wheelbase = 2652 millimeters

Intended impact point is 386 millimeters rearward of front axle centerline
(which is 940 millimeters forward of the wheelbase midpoint)

Actual Impact Point is 394 millimeters rearward of front axle centerline

Data Sheet 2

Test Vehicle Summary of Results

Vehicle Year/Make/Model: 2003/Subaru/Legacy

Body Style: 4-door sedan

VIN: 4S3BE635436212096

NHTSA No.: C35504

Build Date: 01/03

Test Date: 04/15/03

Vehicle Overall Length = 4677 mm

Overall Width = 1735 mm

Vehicle Test Weight (Pre-Test):

Left Front = 464.8 kg Left Rear = 414.0 kg

Right Front = 427.2 kg Right Rear = 403.0 kg

Total Front = 892.0 kg Total Rear = 817.0 kg

Total Weight = 1709.0 kg

Wheelbase = 2652 mm

Longitudinal C.G. From Center Of Front Axle = 1268 mm

Impact Angle With Respect To Impactor = 90 degrees

Impact Point:

Actual Impact Point is 8 mm right of nominal impact ref. line (Lateral)

Actual Impact Point is 3 mm up from nominal impact point (Vertical)

Maximum Exterior Static Crush:

1. Level 1 (265 mm above ground) = 104 mm

2. Level 2 (540 mm above ground) = 279 mm

3. Level 3 (615 mm above ground) = 242 mm

4. Level 4 (782 mm above ground) = 256 mm

5. Level 5 (1345 mm above ground) = 51 mm

Maximum Post-Test Intrusion = 279 mm

Occupants:

Front Passenger

Rear Passenger

Dummy Identification 065

028

Restraints Used Seat belt

Seat belt

Instrumentation:

Number of Vehicle Data Channels: = 26

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

Data Sheet 3

Moving Deformable Barrier (MDB) Summary

MDB Face Manufacturer And Serial Number:

Plascore, 017A0303-3/013C0203

Position Of Impactor (MDB) On Monorail:

Crabbed 27°

MDB Specifications:

Overall Width of Framework Carriage = 1251 mm

Overall Length of MDB (Incl. honeycomb impact face) = 4014 mm

Wheelbase of Framework Carriage = 2591 mm

Track of Framework Carriage (Front & Rear) = 1881 mm

C.G. Location Rearward of Front Axle = 1118 mm

MDB Weight:

Left Front = 380.4 kg Left Rear = 301.0 kg

Right Front = 391.6 kg Right Rear = 285.0 kg

Total Front = 772.0 kg Total Rear = 586.0 kg

Total MDB Weight = 1358.0 kg

Impact Angle (MDB C/L to Target Vehicle C/L) = 270 degrees

Impact Speed = 62.0 km/h

Maximum Static Crush of Honeycomb Impact Face:

1. Row A at Center of Bumper Level = 207 millimeters

2. Row B at Top of Bumper Level = 122 millimeters

3. Row C at Mid Level = 134 millimeters

4. Row D at Top of Stack Level = 137 millimeters

Instrumentation:

Number of MDB Data Channels = 5

Data Sheet 4

Post-Test Observations

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Visible Dummy Contact Points:

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

Door Opening:

	<u>Left Side</u>	<u>Right Side</u>
Front:	<u>Latched and jammed shut</u>	<u>Easy</u>
Rear:	<u>Latched and jammed shut</u>	<u>Easy</u>

MDB Distance From Target Impact Point:

Vertical: 3 mm up from target

Horizontal: 8 mm right from target

Arm Rest Locations:

Front: 265 mm below the bottom of the window

Rear: 255 mm below the bottom of the window

Seat Movement:

Front: None

Rear: None

Glazing Damage:

Windshield: None

Window: Both side windows shattered.

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: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

TEST NUMBER: 030415

DRIVER DUMMY SERIAL NUMBER: 065

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	4.3 g	@ 255.8 ms	20.5 g	@ 71.1 ms
LATERAL	22.0 g	@ 69.6 ms	3.7 g	@ 208.6 ms
VERTICAL	38.2 g	@ 64.6 ms	0.9 g	@ 89.6 ms
RESULTANT	43.2 g	@ 64.6 ms		
HIC	181	from 47.1 to 83.1 ms		

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	4.4 g	@ 224.0 ms	19.6 g	@ 71.1 ms
LATERAL	22.8 g	@ 70.5 ms	4.7 g	@ 204.9 ms
VERTICAL	39.7 g	@ 64.7 ms	1.0 g	@ 89.9 ms
RESULTANT	44.3 g	@ 64.7 ms		
HIC	197	from 45.7 to 81.7 ms		

NECK FORCE

X-AXIS SHEAR	42.0 N	@ 217.8 ms	804.7 N	@ 71.1 ms
Y-AXIS SHEAR	676.3 N	@ 70.1 ms	165.9 N	@ 32.5 ms
Z-AXIS AXIAL	1469.6 N	@ 64.7 ms	125.2 N	@ 89.8 ms

NECK MOMENT

ABOUT X-AXIS	60.8 N-m	@ 73.5 ms	49.0 N-m	@ 39.4 ms
ABOUT Y-AXIS	29.6 N-m	@ 85.4 ms	20.6 N-m	@ 42.9 ms
ABOUT Z-AXIS	31.5 N-m	@ 77.3 ms	14.1 N-m	@ 280.6 ms
OCC COND ABOW X	70.7 N-m	@ 73.4 ms	44.9 N-m	@ 39.4 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	77.4 g	@ 30.0 ms	22.5 g	@ 73.8 ms
LATERAL (R)	78.1 g	@ 30.0 ms	22.1 g	@ 74.4 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	63.8 g	@ 30.6 ms	16.1 g	@ 73.8 ms
LATERAL (R)	64.6 g	@ 30.6 ms	15.7 g	@ 73.8 ms
TTI d (P)	74.9			
TTI d (R)	74.8			

LOWER SPINE ACCELERATION

LATERAL (P)	72.5 g	@ 33.7 ms	25.0 g	@ 65.0 ms
LATERAL (R)	71.5 g	@ 33.7 ms	24.9 g	@ 65.0 ms

PELVIS ACCELERATION

LATERAL (P)	68.4 g	@ 35.0 ms	7.0 g	@ 60.0 ms
LATERAL (R)	68.5 g	@ 35.0 ms	6.9 g	@ 60.0 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: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

TEST NUMBER: 030415

PASSENGER DUMMY SERIAL NUMBER: 028

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

HEAD ACCELERATION

LONGITUDINAL	3.1 g	@ 94.3 ms	24.1 g	@ 60.8 ms
LATERAL	77.4 g	@ 61.2 ms	8.3 g	@ 74.0 ms
VERTICAL	18.6 g	@ 52.5 ms	53.5 g	@ 63.0 ms
RESULTANT	87.8 g	@ 61.2 ms		
HIC	561 from 51.4 to 66.8 ms			

HEAD REDUNDANT ACCELERATION

LONGITUDINAL	3.1 g	@ 93.8 ms	23.8 g	@ 60.8 ms
LATERAL	78.1 g	@ 61.2 ms	8.1 g	@ 74.0 ms
VERTICAL	19.3 g	@ 56.9 ms	53.4 g	@ 62.9 ms
RESULTANT	87.9 g	@ 61.2 ms		
HIC	571 from 51.4 to 66.7 ms			

NECK FORCE

X-AXIS SHEAR	716.2 N	@ 65.3 ms	109.2 N	@ 102.7 ms
Y-AXIS SHEAR	111.7 N	@ 57.3 ms	1412.9 N	@ 64.8 ms
Z-AXIS AXIAL	188.9 N	@ 198.2 ms	2126.3 N	@ 64.0 ms

NECK MOMENT

ABOUT X-AXIS	18.0 N-m	@ 116.6 ms	125.2 N-m	@ 59.9 ms
ABOUT Y-AXIS	20.9 N-m	@ 115.4 ms	25.3 N-m	@ 59.9 ms
ABOUT Z-AXIS	6.8 N-m	@ 105.1 ms	20.5 N-m	@ 61.4 ms
OCC CO ABOW X	17.2 N-m	@ 116.6 ms	126.2 N-m	@ 60.2 ms

LEFT UPPER RIB ACCELERATION

LATERAL (P)	44.6 g	@ 45.6 ms	8.3 g	@ 117.5 ms
LATERAL (R)	43.4 g	@ 46.3 ms	8.5 g	@ 117.5 ms

LEFT LOWER RIB ACCELERATION

LATERAL (P)	48.9 g	@ 45.6 ms	14.9 g	@ 76.9 ms
LATERAL (R)	47.7 g	@ 45.6 ms	14.4 g	@ 76.9 ms
TTI d (P)	63.7			
TTI d (R)	63.5			

LOWER SPINE ACCELERATION

LATERAL (P)	78.5 g	@ 53.7 ms	14.8 g	@ 72.5 ms
LATERAL (R)	79.3 g	@ 53.7 ms	14.6 g	@ 72.5 ms

PELVIS ACCELERATION

LATERAL (P)	65.2 g	@ 49.4 ms	4.4 g	@ 150.6 ms
LATERAL (R)	65.5 g	@ 49.4 ms	4.3 g	@ 150.0 ms

POSITIVE DIRECTION

LONGITUDINAL: FORWARD
LATERAL: RIGHTWARD
VERTICAL: DOWNWARD

NEGATIVE DIRECTION

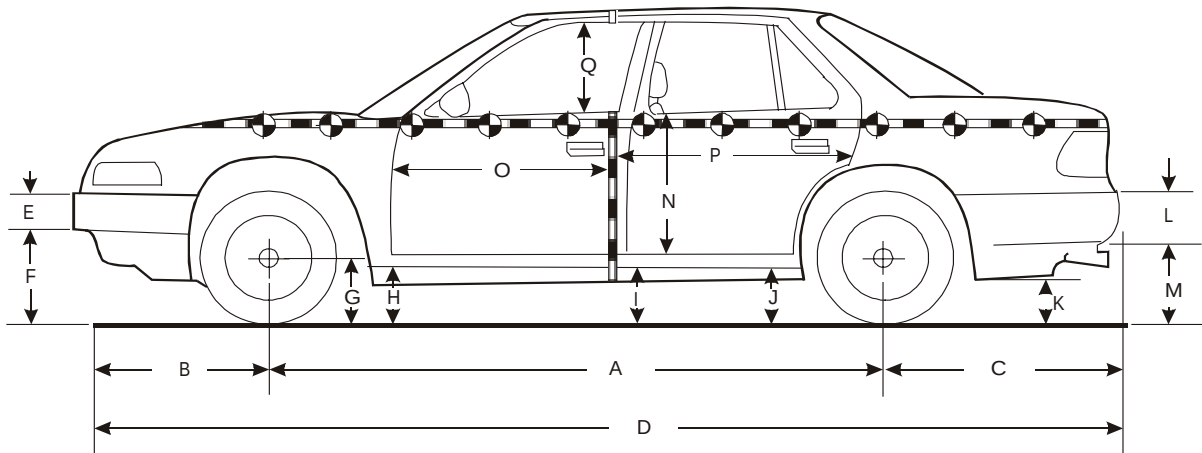
LONGITUDINAL: REARWARD
LATERAL: LEFTWARD
VERTICAL: UPWARD

Data Sheet 6

Vehicle Pre-Test And Post-Test Measurements

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



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	2652	2652	2630	22
B	980	980	975	5
C	1045	1045	1050	-5
D	4677	4677	4675	2
E	100	100	100	0
F	400	398	418	-20
G	296	300	300	0
H	244	231	257	-26
I	245	232	275	-43
J1	185	165	215	-50
J2	249	225	265	-40
K	284	254	257	-3
L	185	185	185	0
M	400	366	370	-4
N	703	703	636	67
O	735	735	725	10
P	1275	1275	1190	85
Q	420	420	417	3
R	4530	4530	4539	-9
S	4530	4530	4490	40
T	1324	1324	1166	158

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

E&L = Bumper Thickness
J1 = To Pinch Weld

R = Right Side Length
J2 = To Sill

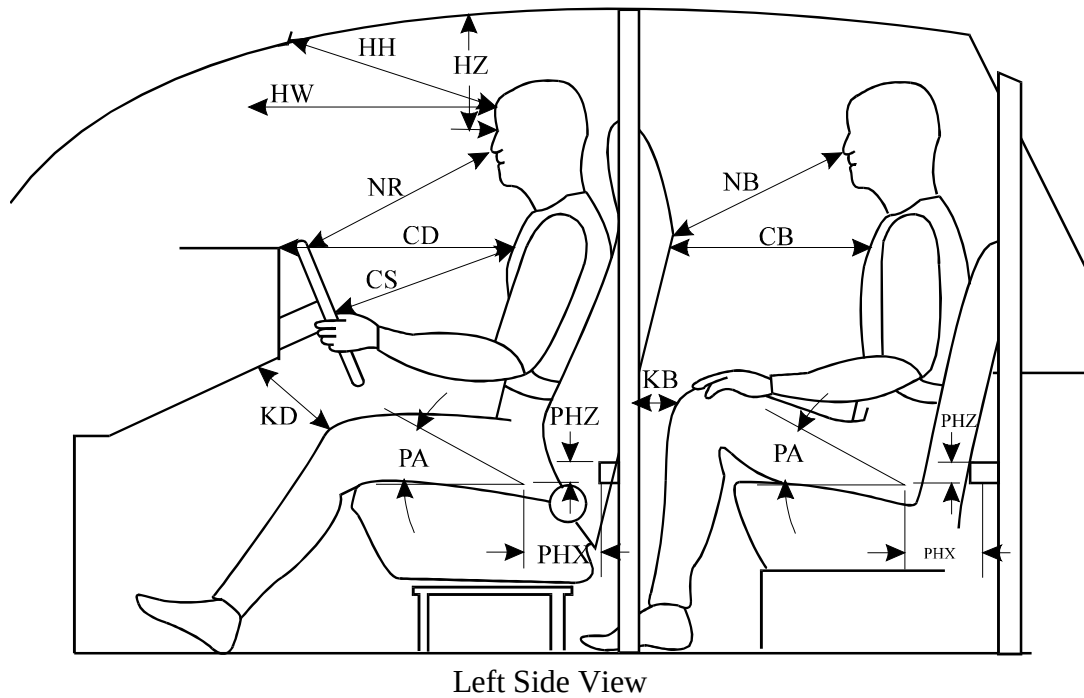
S = Left Side Length

Data Sheet 7

SID Longitudinal Clearance Dimensions

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



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

Measurement	Driver SID-HIII # 065	Left Rear Pass. SID-HIII # 028
HH	363	N/A
HW	534	N/A
HZ	130	130
NR/NB	460	723
CD/CB	513	553
CS	337	N/A
KDL(KDA°)/KBL(KBA°)	86/(61.4°)	160/(63.8°)
KDR(KDA°)/KBR(KBA°)	99/(69.7°)	143/(68.2°)
PA°	23.5°	24.6°
PHX	200	230
PHZ	115	295

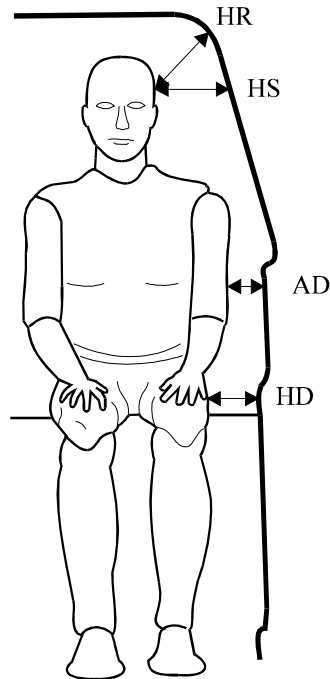
Note: 2-door vehicle shown. Rear dummy PHX and PHZ measurements for 4-door vehicle would use the C-post striker as a reference point.

Data Sheet 8

SID Lateral Clearance Dimensions

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



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

Measurement	Driver SID-HIII # 065	Left Rear Pass. SID-HIII # 028
HR	220	195
HS	305	340
AD*	Lower: 108 Upper: 100	Lower: 163 Upper: 143
HD	134	188

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

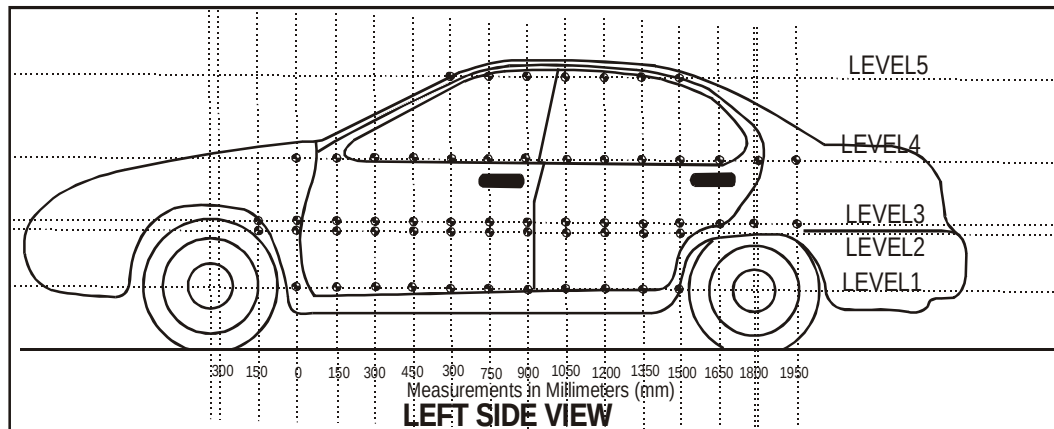
Upper measurement is taken laterally at center of the upper rib accelerometer height from the SID arm segment to the closest part of the vehicle side.

Data Sheet 9

Vehicle Side Measurements

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



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>1345</u>	mm
Level 4 @ Window Sill	=	<u>782</u>	mm
Level 3 @ Mid Door	=	<u>615</u>	mm
Level 2 @ Occupant H-Point	=	<u>540</u>	mm
Level 1 @ Axle Centerline Height (or Sill Top Height)	=	<u>265</u>	mm

Data Sheet 10

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Location	Height		(mm) From Impact Point													
			-1200	-1050	-900	-750	-600	-450	-300	-150	0	150	300	450	600	750
Level 1 Side Sill	265	Pre	---	733	692	---	---	---	---	---	---	688	695	699	701	702
		Post	---	724	690	---	---	---	---	---	---	705	750	756	767	777
		Crush	---	-9	-2	---	---	---	---	---	---	17	55	57	66	75
Level 2 H-Point	540	Pre	---	735	700	676	---	---	---	---	654	653	650	648	649	646
		Post	---	729	698	677	---	---	---	---	690	775	830	850	867	881
		Crush	---	-6	-2	1	---	---	---	---	36	122	180	202	218	235
Level 3 Mid-Door	615	Pre	---	---	715	686	---	---	---	---	655	652	650	649	649	646
		Post	---	---	710	687	---	---	---	---	694	767	808	827	847	865
		Crush	---	---	-5	1	---	---	---	---	39	115	158	178	198	219
Level 4 Window Sill	782	Pre	---	---	---	780	760	750	735	723	714	710	702	700	695	692
		Post	---	---	798	784	763	751	740	733	727	736	801	844	854	855
		Crush	---	---	---	4	3	1	5	10	13	26	99	144	159	163
Level 5 Window Top	1345	Pre	---	---	---	---	---	---	---	---	---	---	---	---	---	955
		Post	---	---	---	---	---	---	---	---	---	---	---	---	---	975
		Crush	---	---	---	---	---	---	---	---	---	---	---	---	---	20

Data Sheet 10 (Continued)

Vehicle Exterior Crush Profiles - All Levels

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Location	Height		(mm) From Impact Point												
			900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400	2550	2700
Level 1 Side Sill	265	Pre	700	701	702	702	704	700	693	---	---	---	---	---	688
		Post	794	801	806	782	760	735	707	---	---	---	---	---	687
		Crush	94	100	104	80	56	35	14	---	---	---	---	---	-1
Level 2 H-Point	540	Pre	646	646	646	646	652	654	655	655	---	---	---	---	674
		Post	893	898	925	900	894	880	830	---	---	---	---	---	676
		Crush	247	252	279	254	242	226	175	---	---	---	---	---	2
Level 3 Mid-Door	615	Pre	646	646	645	644	647	648	652	652	---	---	---	650	682
		Post	883	880	887	876	879	884	860	722	---	---	---	655	685
		Crush	237	234	242	232	232	236	208	70	---	---	---	5	3
Level 4 Window Sill	782	Pre	688	685	675	675	675	674	675	676	677	685	694	702	714
		Post	863	872	902	905	931	893	842	770	690	703	703	711	718
		Crush	175	187	227	230	256	219	167	94	13	18	9	9	4
Level 5 Window Top	1345	Pre	940	937	924	926	930	934	940	954	---	---	---	---	---
		Post	966	972	975	856	954	953	950	973	---	---	---	---	---
		Crush	26	35	51	-70	24	19	10	19	---	---	---	---	---

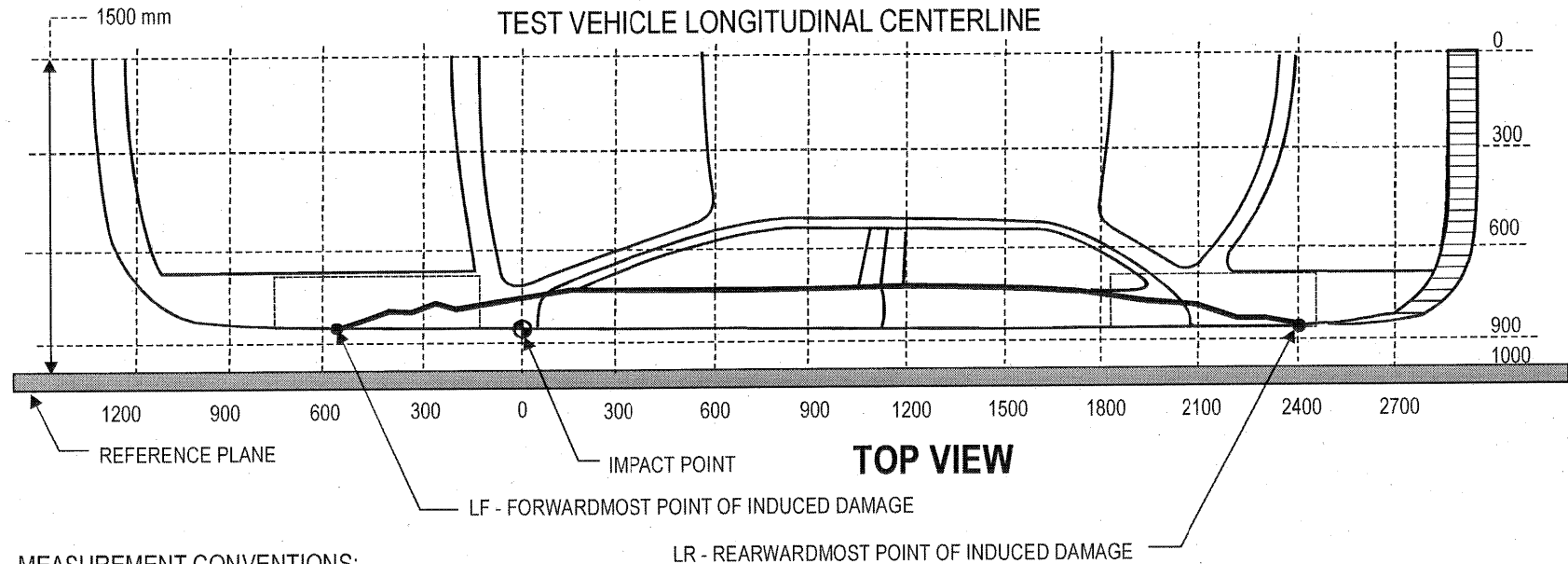
Data Sheet 11

Vehicle Damage Profile Distances

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

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



MEASUREMENT CONVENTIONS:

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

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

DPD Measurements	Post-Test (mm)	Pre-Test (mm)	Static Crush (mm)
6: LF = 0 mm (Level 3)	694	655	39
5: 450 mm (Level 2)	850	648	202
4: 750 mm (Level 2)	881	646	235
3: 1050 mm (Level 2)	898	646	252
2: 1500 mm (Level 4)	931	675	256
1: LR = 1950 mm (Level 4)	770	676	94

Full length of induced damage was 0 to 1950 mm.

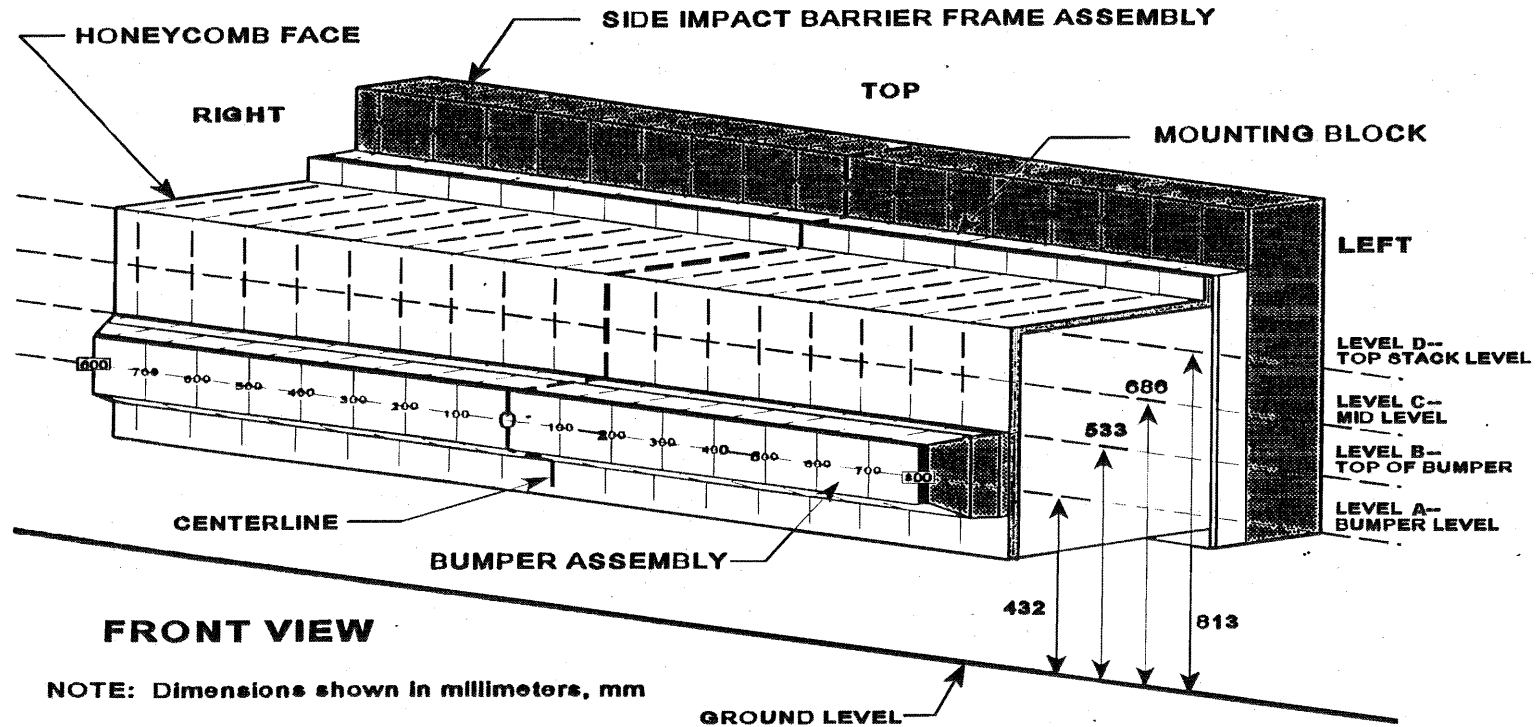
Data Sheet 12

Exterior Static Crush For Impactor Face

(Grid as looking at MDB from front)

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

		Distance Right of Center (mm)									Distance Left of Center (mm)							
Location	Height At CL	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
Top Stack Level - Level D	814	-100	-63	-14	2	-5	-13	-32	-34	-34	-27	-27	-27	-29	-37	-53	-90	-137
Mid Level Level C	685	-63	-45	-9	-9	-12	-23	-43	-38	-19	-13	-11	-14	-19	-28	-46	-73	-134
Top Bumper Level - Level B	560	-94	-85	-79	-71	-69	-63	-59	-53	-49	-47	-47	-51	-56	-63	-76	-95	-122
Mid Bumper Level - Level A	432	-207	-199	-178	-156	-144	-142	-137	-125	-115	-105	-99	-100	-101	-107	-122	-145	-167

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

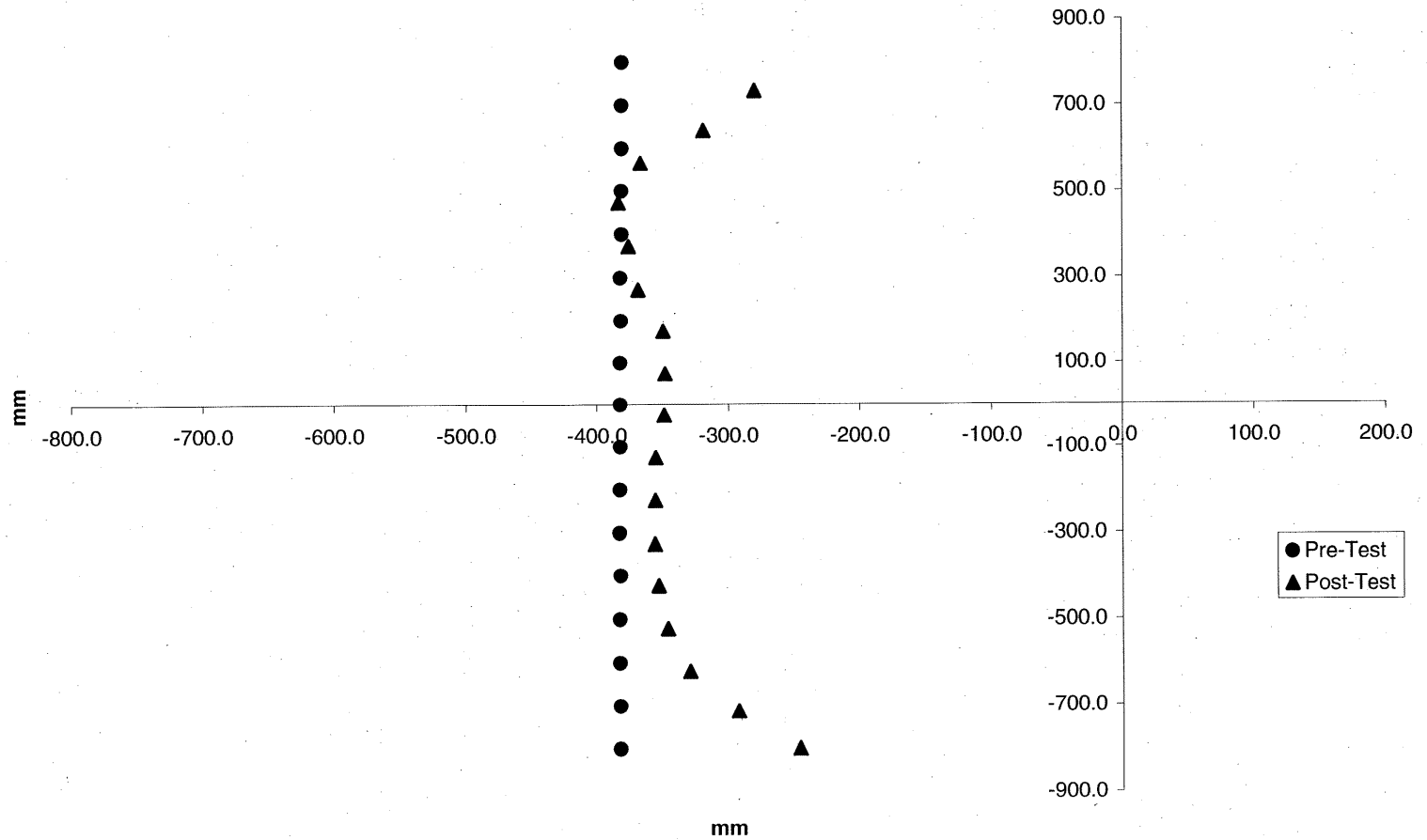
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Level D - Deformable Barrier Face Profile 1-17



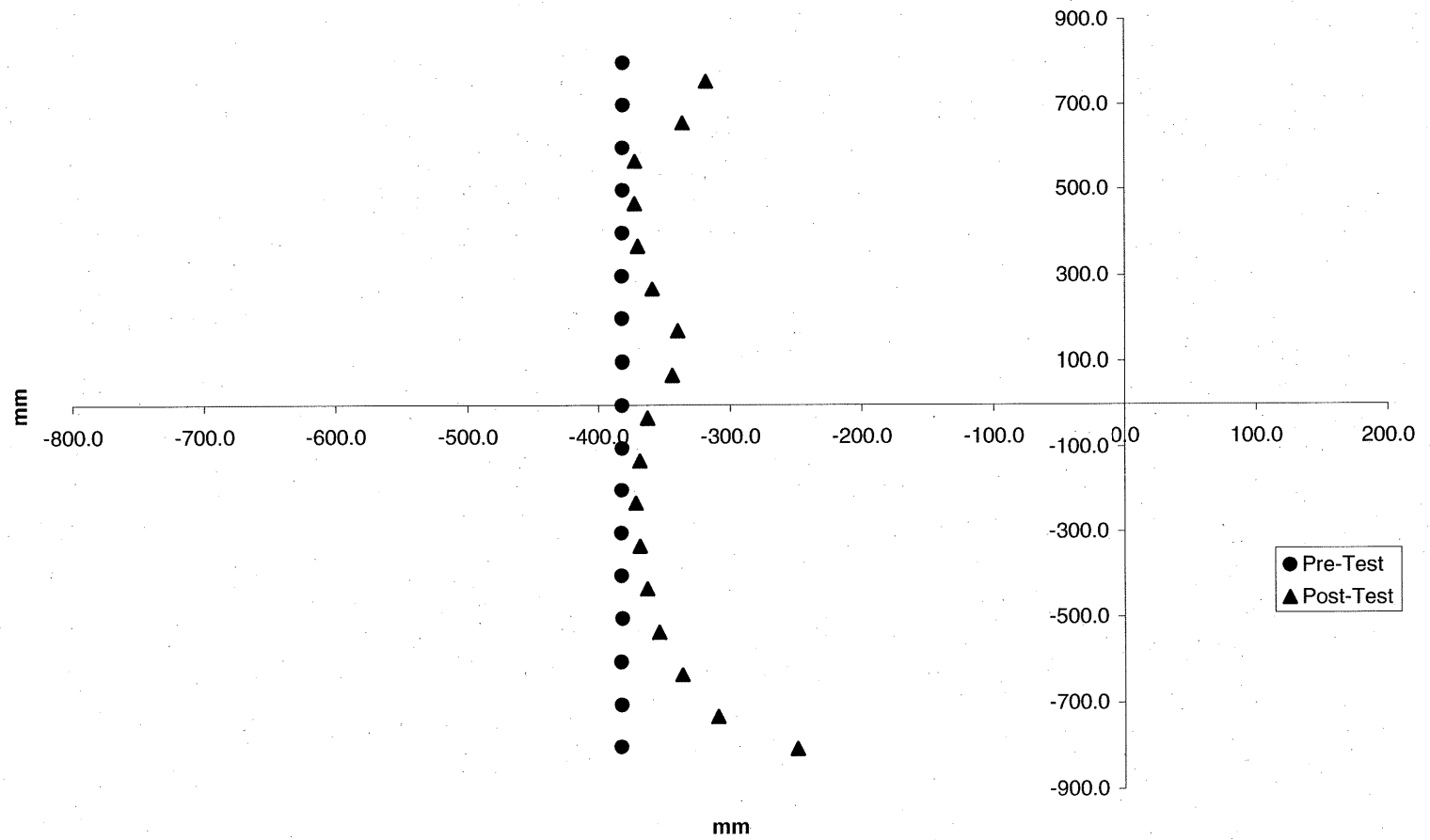
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Level C - Deformable Barrier Face Profile 18-34



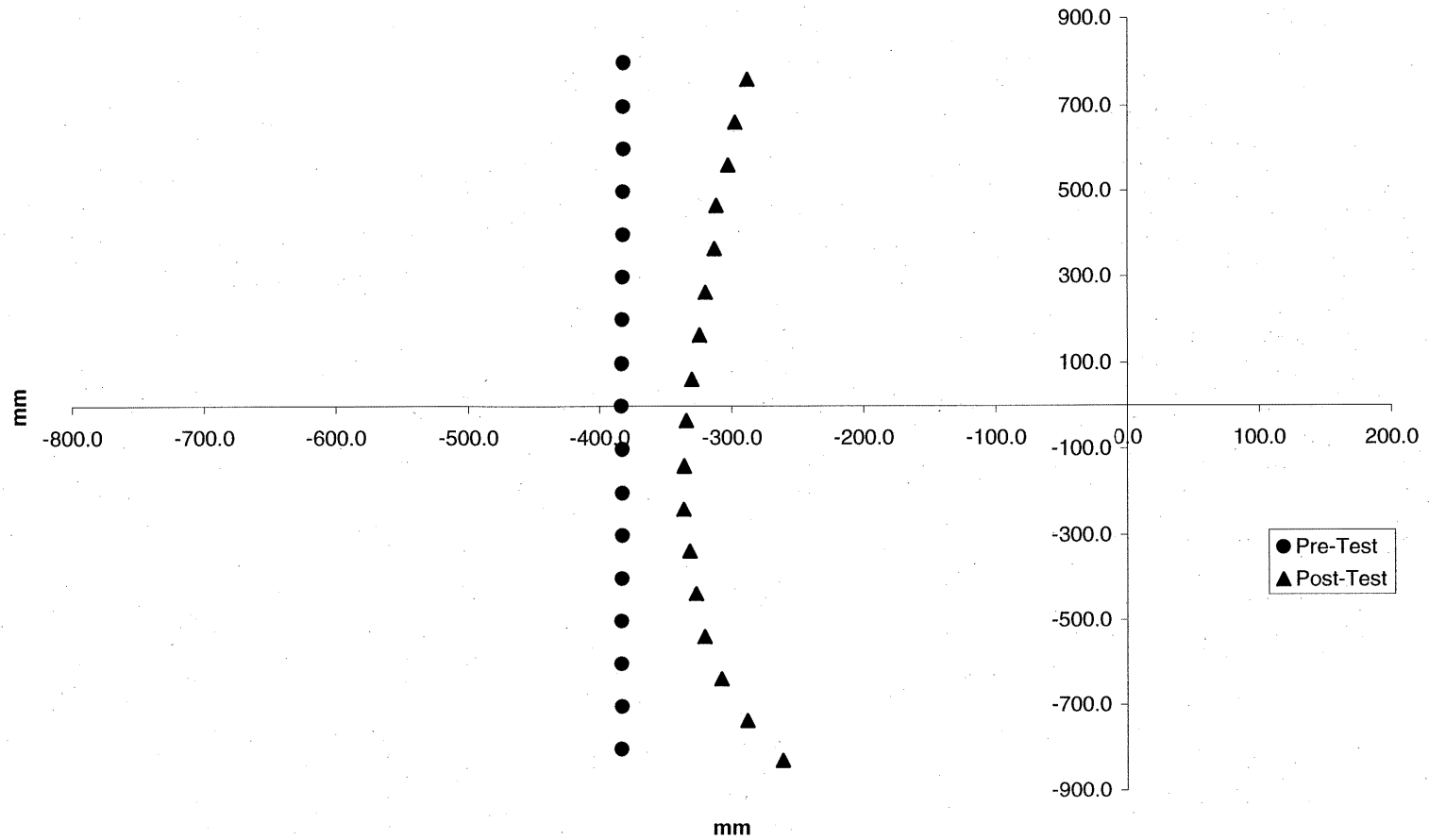
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Level B - Deformable Barrier Face Profile 35-51



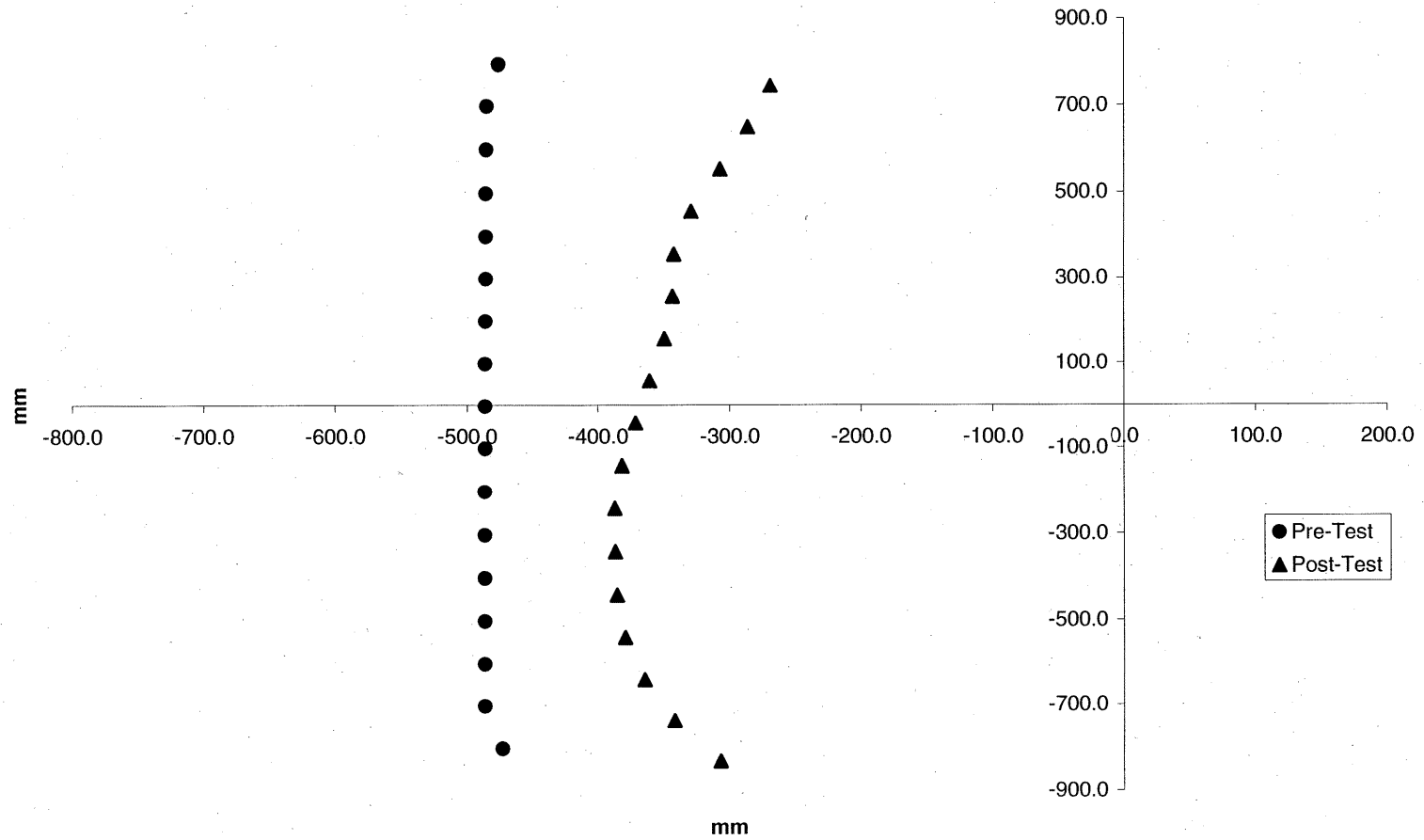
Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Level A - Deformable Barrier Face Profile 52-68



Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

Deformable Barrier Face Profile

NHTSA No.: C35504

Level D - Top Stack

Pre-Test

Index	Xmm	Ymm	Zmm
1	-380.0	798.4	-39.0
2	-380.3	698.8	-39.5
3	-380.4	599.1	-39.9
4	-380.8	498.9	-40.2
5	-380.5	398.2	-39.4
6	-381.6	298.0	-40.5
7	-381.3	198.1	-41.1
8	-382.0	98.3	-41.1
9	-382.1	-1.1	-41.9
10	-382.0	-101.0	-42.5
11	-382.3	-201.2	-43.6
12	-382.6	-301.2	-43.5
13	-382.2	-400.6	-43.8
14	-382.7	-501.1	-44.2
15	-382.6	-601.6	-44.4
16	-382.6	-701.5	-45.3
17	-382.5	-801.1	-44.9

Post-Test

Index	Xmm	Ymm	Zmm
1	-279.6	731.9	-104.7
2	-318.4	640.8	-108.1
3	-366.1	565.5	-97.2
4	-383.1	471.4	-94.9
5	-375.6	371.0	-92.1
6	-368.4	270.9	-88.9
7	-349.4	173.2	-84.7
8	-348.1	73.4	-81.1
9	-348.7	-25.9	-78.2
10	-355.1	-125.6	-74.6
11	-355.6	-225.5	-72.5
12	-355.9	-325.1	-67.9
13	-353.1	-423.1	-63.5
14	-346.2	-522.7	-54.5
15	-329.3	-620.6	-46.6
16	-292.8	-712.9	-40.8
17	-245.7	-800.2	-36.5

Difference

Index	Xmm	Ymm	Zmm
1	-100.4	66.6	65.7
2	-61.9	58.0	68.5
3	-14.3	33.6	57.2
4	2.3	27.5	54.7
5	-5.0	27.2	52.7
6	-13.1	27.1	48.4
7	-31.8	24.9	43.6
8	-33.9	24.9	40.1
9	-33.5	24.8	36.3
10	-26.9	24.5	32.1
11	-26.7	24.4	29.0
12	-26.7	23.9	24.4
13	-29.1	22.6	19.7
14	-36.5	21.6	10.3
15	-53.3	19.0	2.1
16	-89.8	11.4	-4.4
17	-136.8	-0.9	-8.4

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Deformable Barrier Face Profile Cont'd.

Level C - Mid Level

Pre-Test

Index	Xmm	Ymm	Zmm
18	-381.0	799.4	-168.5
19	-381.0	699.4	-169.1
20	-381.3	598.6	-169.3
21	-381.4	498.4	-169.5
22	-381.6	398.5	-169.3
23	-382.0	299.0	-169.6
24	-382.2	198.9	-170.2
25	-381.7	98.7	-170.1
26	-382.0	-1.2	-170.9
27	-382.0	-101.4	-171.6
28	-382.3	-201.1	-171.7
29	-382.7	-302.4	-173.1
30	-382.6	-401.8	-172.0
31	-382.0	-501.9	-173.1
32	-382.9	-601.6	-173.4
33	-382.6	-702.4	-173.8
34	-383.1	-801.4	-173.7

Post-Test

Index	Xmm	Ymm	Zmm
18	-318.2	755.3	-220.4
19	-335.8	657.1	-225.5
20	-372.0	566.7	-224.8
21	-372.3	466.9	-222.7
22	-370.0	367.3	-219.3
23	-358.8	268.5	-215.9
24	-339.7	169.8	-211.9
25	-343.9	68.1	-207.8
26	-362.9	-30.8	-205.5
27	-368.7	-131.1	-201.8
28	-371.6	-231.5	-196.8
29	-368.5	-333.0	-192.7
30	-363.2	-433.2	-186.8
31	-354.2	-533.8	-181.1
32	-336.8	-632.6	-174.0
33	-309.3	-729.7	-166.7
34	-249.4	-807.5	-162.2

Difference

Index	Xmm	Ymm	Zmm
18	-62.8	44.1	51.9
19	-45.2	42.3	56.4
20	-9.3	31.9	55.4
21	-9.1	31.5	53.1
22	-11.6	31.2	49.9
23	-23.2	30.6	46.3
24	-42.5	29.1	41.7
25	-37.8	30.7	37.6
26	-19.1	29.6	34.5
27	-13.3	29.7	30.1
28	-10.7	30.5	25.1
29	-14.2	30.6	19.6
30	-19.4	31.4	14.8
31	-27.7	31.9	7.9
32	-46.2	31.0	0.6
33	-73.3	27.3	-7.1
34	-133.8	6.1	-11.5

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Deformable Barrier Face Profile Cont'd.

Level B - Top of Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
35	-381.6	799.1	-292.2
36	-382.0	698.8	-292.7
37	-381.8	599.4	-293.2
38	-382.0	499.1	-293.4
39	-382.1	398.6	-294.0
40	-382.4	298.8	-294.4
41	-382.8	199.3	-295.2
42	-383.1	98.7	-295.6
43	-383.3	-0.9	-295.7
44	-382.8	-100.5	-296.3
45	-382.8	-201.3	-296.9
46	-382.7	-300.3	-297.1
47	-382.9	-401.5	-297.8
48	-383.3	-501.6	-298.1
49	-383.6	-601.4	-299.5
50	-383.2	-701.4	-299.4
51	-383.5	-801.2	-299.5

Post-Test

Index	Xmm	Ymm	Zmm
35	-288.0	761.0	-323.2
36	-297.4	662.2	-308.8
37	-302.8	561.2	-311.8
38	-311.6	466.3	-312.8
39	-312.9	365.0	-311.1
40	-319.6	263.0	-309.2
41	-324.3	164.0	-312.9
42	-330.2	63.1	-317.2
43	-334.3	-34.7	-317.1
44	-335.9	-138.9	-315.5
45	-336.1	-238.5	-309.3
46	-332.0	-336.7	-305.1
47	-327.1	-437.6	-300.9
48	-320.4	-537.9	-297.0
49	-307.6	-637.3	-293.4
50	-288.2	-735.4	-286.0
51	-261.4	-827.9	-284.4

Difference

Index	Xmm	Ymm	Zmm
35	-93.6	38.1	30.9
36	-84.6	36.6	16.1
37	-79.0	38.2	18.6
38	-70.5	32.9	19.4
39	-69.2	33.6	17.1
40	-62.7	35.8	14.9
41	-58.5	35.4	17.7
42	-53.0	35.6	21.6
43	-49.0	33.8	21.5
44	-46.9	38.4	19.1
45	-46.7	37.1	12.3
46	-50.7	36.3	7.9
47	-55.9	36.1	3.1
48	-62.9	36.4	-1.1
49	-75.9	35.8	-6.0
50	-95.0	34.0	-13.3
51	-122.1	26.7	-15.1

Data Sheet 12 (Continued)

Exterior Static Crush For Impactor Face

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

Deformable Barrier Face Profile Cont'd.

Level A - Mid Bumper

Pre-Test

Index	Xmm	Ymm	Zmm
52	-476.0	794.0	-420.3
53	-485.0	696.2	-421.7
54	-485.2	596.3	-421.7
55	-485.4	496.7	-421.7
56	-485.6	396.4	-422.0
57	-485.7	297.0	-422.3
58	-485.9	196.2	-422.9
59	-486.1	96.0	-423.1
60	-486.4	-3.6	-424.0
61	-486.4	-103.3	-424.0
62	-486.5	-202.9	-424.2
63	-486.5	-304.2	-424.7
64	-486.6	-403.6	-424.5
65	-486.6	-503.7	-425.2
66	-486.6	-603.7	-425.3
67	-486.7	-703.3	-425.4
68	-473.3	-801.3	-425.7

Post-Test

Index	Xmm	Ymm	Zmm
52	-268.7	746.4	-441.7
53	-286.0	649.3	-444.4
54	-307.0	552.0	-447.7
55	-329.1	455.2	-452.5
56	-342.2	355.2	-453.3
57	-343.3	256.1	-448.4
58	-349.2	155.9	-445.9
59	-360.7	56.3	-445.8
60	-371.2	-42.9	-446.2
61	-381.6	-142.2	-445.9
62	-387.1	-241.5	-443.8
63	-386.9	-342.6	-440.8
64	-385.6	-442.1	-436.7
65	-379.3	-541.7	-432.3
66	-364.5	-640.8	-426.2
67	-341.9	-737.5	-420.0
68	-306.6	-830.5	-414.0

Difference

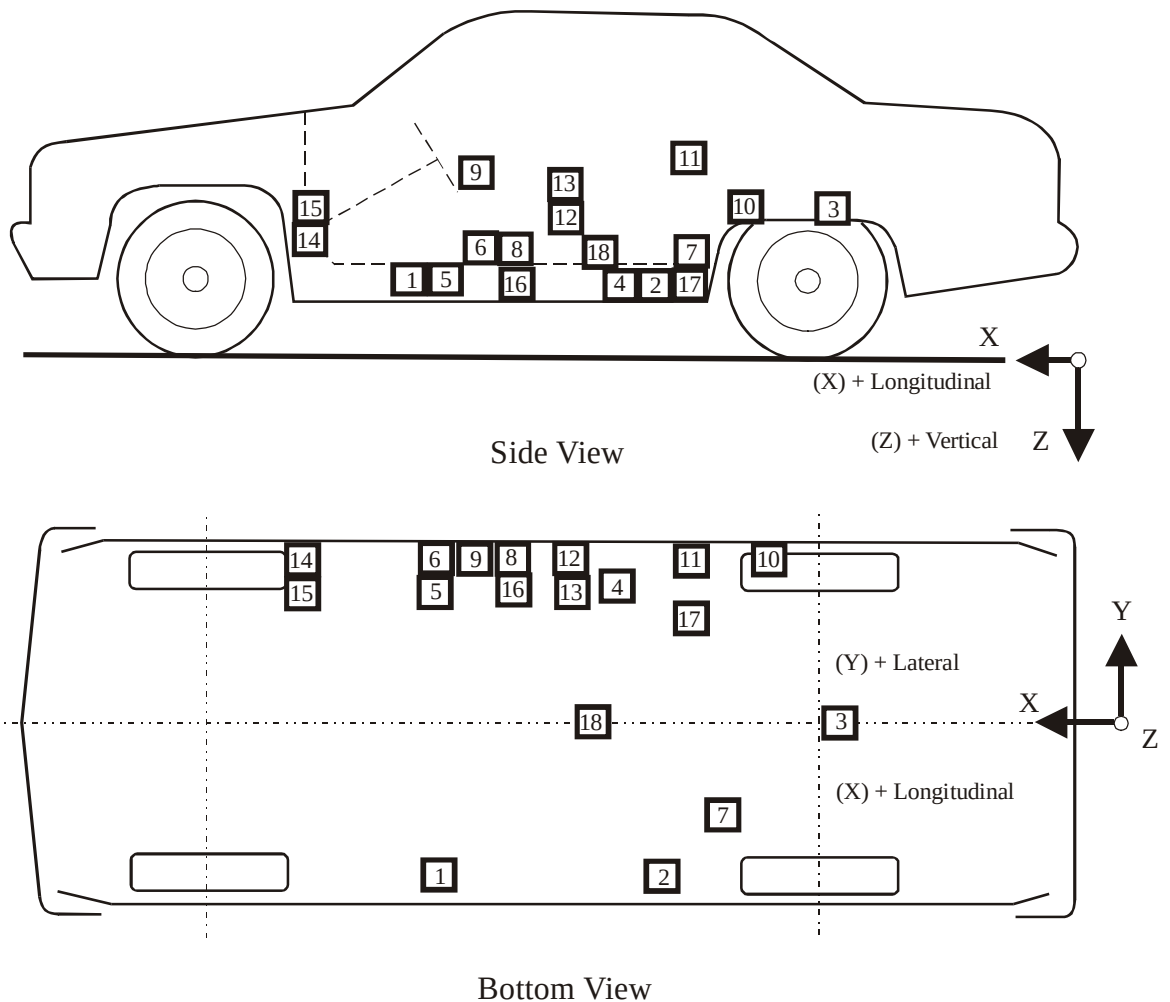
Index	Xmm	Ymm	Zmm
52	-207.2	47.7	21.4
53	-199.0	46.8	22.7
54	-178.3	44.3	26.0
55	-156.4	41.5	30.8
56	-143.5	41.2	31.2
57	-142.4	40.9	26.2
58	-136.7	40.3	23.0
59	-125.4	39.7	22.7
60	-115.1	39.3	22.1
61	-104.8	38.9	21.9
62	-99.4	38.6	19.6
63	-99.6	38.4	16.1
64	-101.0	38.6	12.2
65	-107.4	38.0	7.1
66	-122.1	37.1	0.9
67	-144.7	34.2	-5.4
68	-166.8	29.2	-11.7

Data Sheet 13

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



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

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data SummaryVehicle: 2003 Subaru Legacy 4-door sedanNHTSA No.: C35504

TEST NUMBER: 030415

No. LOCATION

X

Y

Z

POSITIVE
DIRECTIONNEGATIVE
DIRECTION

1	RIGHT SIDE SILL AT FRONT SEAT	2845 mm	660 mm	-250 mm				
	LONGITUDINAL				2.3 g	@ 54.9 ms	6.9 g	@ 12.2 ms
	LATERAL				25.5 g	@ 7.4 ms	2.5 g	@ 139.7 ms
	VERTICAL				3.7 g	@ 65.8 ms	7.6 g	@ 9.9 ms
	RESULTANT				26.4 g	@ 7.5 ms		
2	RIGHT SIDE SILL AT REAR SEAT	1955 mm	655 mm	-285 mm				
	LONGITUDINAL				2.2 g	@ 61.0 ms	6.7 g	@ 11.8 ms
	LATERAL				27.9 g	@ 7.5 ms	2.9 g	@ 139.6 ms
	VERTICAL				6.2 g	@ 28.4 ms	9.5 g	@ 9.8 ms
	RESULTANT				28.8 g	@ 7.6 ms		
3	REAR FLOORPAN ABOVE AXLE	1103 mm	0 mm	-574 mm				
	LONGITUDINAL				3.1 g	@ 15.5 ms	6.5 g	@ 10.9 ms
	LATERAL				27.8 g	@ 7.8 ms	3.3 g	@ 99.8 ms
	VERTICAL				9.1 g	@ 9.8 ms	4.7 g	@ 6.5 ms
	RESULTANT				28.2 g	@ 7.9 ms		
4	LEFT SIDE SILL AT REAR SEAT	2000 mm	-670 mm	-284 mm				
	LATERAL ¹				---	---	---	---
5	LEFT SIDE SILL AT FRONT SEAT	2920 mm	-660 mm	-270 mm				
	LATERAL				49.6 g	@ 3.9 ms	12.4 g	@ 32.6 ms

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data SummaryVehicle: 2003 Subaru Legacy 4-door sedanNHTSA No.: C35504

TEST NUMBER: 030415 No. LOCATION	X	Y	Z	POSITIVE DIRECTION		NEGATIVE DIRECTION	
6 LEFT FRONT DOOR ON CENTERLINE LATERAL ¹	2705 mm	-696 mm	-570 mm	---	---	---	---
7 RIGHT REAR OCCUPANT COMPARTMENT LATERAL	1870 mm	485 mm	-304 mm	27.9 g	@ 7.3 ms	2.1 g	@ 139.0 ms
8 LEFT FRONT DOOR MIDREAR LATERAL	2420 mm	-705 mm	-565 mm	135.3 g	@ 6.5 ms	37.5 g	@ 31.0 ms
9 LEFT FRONT DOOR UPPER CENTERLINE LATERAL ¹	2705 mm	-695 mm	-780 mm	---	---	---	---
10 LEFT REAR DOOR MIDREAR LATERAL	1510 mm	-695 mm	-630 mm	206.9 g	@ 6.2 ms	134.3 g	@ 10.4 ms
11 LEFT REAR DOOR UPPER CENTERLINE LATERAL	1865 mm	-685 mm	-835 mm	181.0 g	@ 14.6 ms	85.8 g	@ 32.6 ms
12 LEFT LOWER B-POST LATERAL	2205 mm	-692 mm	-540 mm	96.0 g	@ 4.5 ms	32.8 g	@ 31.8 ms

Data Sheet 13 (Continued)

Test Vehicle Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

TEST NUMBER: 030415

No. LOCATION

X

Y

Z

POSITIVE
DIRECTION

NEGATIVE
DIRECTION

13 LEFT MIDDLE B-POST LATERAL	2205 mm	-692 mm	-680 mm	125.5 g	@	4.5 ms	32.3 g	@	29.8 ms
14 LEFT LOWER A-POST LATERAL ¹	3195 mm	-680 mm	-555 mm	---	---		---	---	
15 LEFT MIDDLE A-POST LATERAL ¹	3195 mm	-690 mm	-703 mm	---	---		---	---	
16 LEFT FRONT SEAT TRACK LATERAL	2490 mm	-555 mm	-307 mm	34.7 g	@	4.8 ms	11.0 g	@	51.7 ms
17 LEFT REAR SEAT TRACK LATERAL ¹	1640 mm	-650 mm	-398 mm	---	---		---	---	
18 VEHICLE CENTER OF GRAVITY	2089 mm	0 mm	-465 mm						
LONGITUDINAL				8.8 g	@	21.4 ms	21.9 g	@	30.6 ms
LATERAL				90.2 g	@	21.4 ms	43.3 g	@	33.2 ms
VERTICAL				47.3 g	@	24.6 ms	32.2 g	@	19.4 ms
RESULTANT				91.8 g	@	21.3 ms			

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

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

¹ See DATA ACQUISITION EXPLANATIONS

4-24

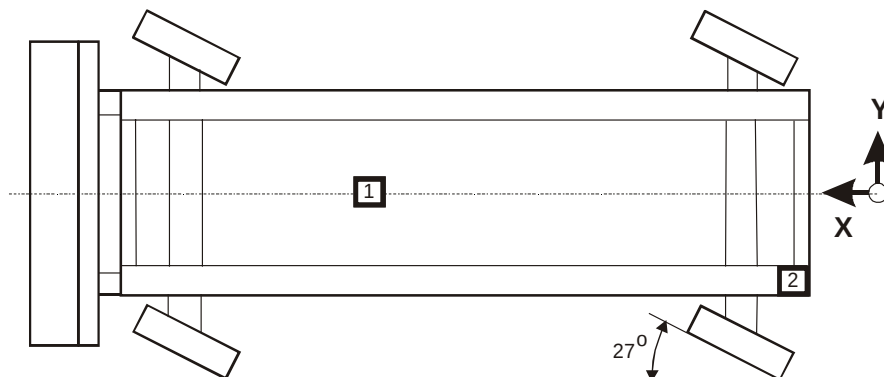
030415

Data Sheet 14

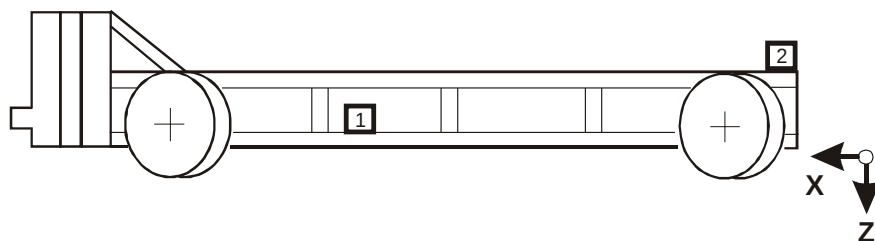
MDB Accelerometer Locations and Data Summary

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



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				3.5	-11.2	-22.2	39.9
	Lateral Y				2.6	-11.3	-8.5	34.4
	Vertical Z				6.0	113.3	-5.8	103.5
	Resultant R				22.9	45.8		
2	Rear Frame Member	412	-677	-625				
	Longitudinal X				3.0	120.2	-25.1	36.0
	Lateral Y				3.5	29.8	-3.1	59.0

*Reference: X = Rear Bumper (+ Forward)

Y = Vehicle Centerline (+ To Right)

Z = Ground Level (+ Down)

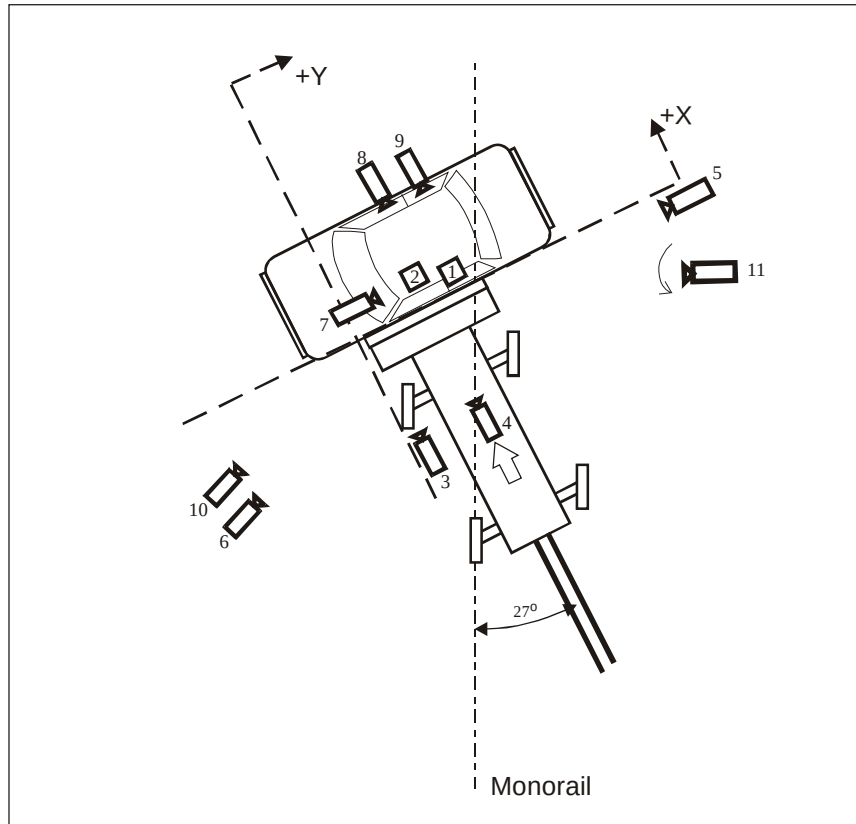
All measurements accurate to within ± 3 mm.

Data Sheet 15

High-Speed Camera Locations and Data Summary

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504



Camera Number	Location	Location, mm			Lens		Speed (fps)
		X	Y	Z	(deg)	(mm)	
1	Overhead wide	250	2150	-5750	-76.2	8.5	340
2	Overhead tight	370	1800	-5750	-85.0	17	1010
3	Onboard MDB left side	-1750	-40	-720	-0.3	13	1025
4	Onboard MDB center	-2480	830	-1353	-4.6	13	1000
5	Right side of MDB	330	11,760	-1000	-1.1	13	1000
6	Left side of MDB	-2690	-5760	-940	-2.4	13	1000
7	Onboard vehicle front	530	-550	-1163	-1.7	8	1010
8	Onboard side front door	1670	760	-1012	-2.8	8	300
9	Onboard side rear door	1610	1620	-1032	-4.2	8	N/A ¹
10	Digital overall event	-1624	-6090	-1120	-2.0	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 Unable to determine actual speed, no LEDs in view.

Section 5

Vehicle Fuel System Integrity

Data Sheet 16

FMVSS 301 Fuel System Integrity Data

NHTSA No.: C35504

Test Date: 04/15/03

Vehicle Year/Make/Model/Body Style: 2003 Subaru Legacy 4-door sedan

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
(38.5) 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 :

N/A

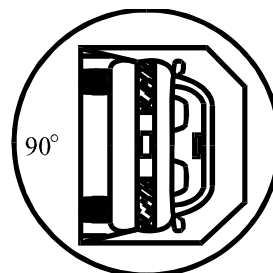
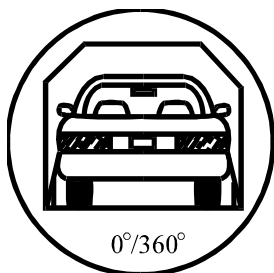
Data Sheet 17

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

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

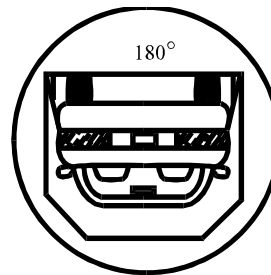
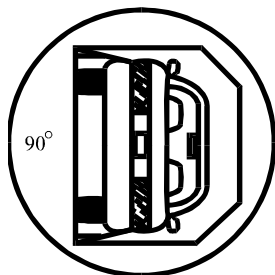
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

90 - 180 Degrees



1. Determination of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

3. Actual Test Vehicle Solvent Spillage:

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

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

4. Solvent Spillage Location(s):

None

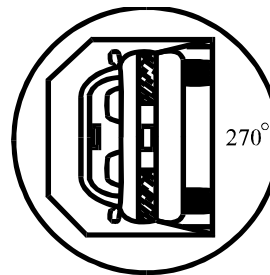
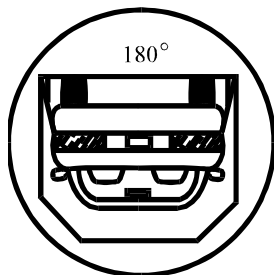
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

180 - 270 Degrees



1. Determination of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

3. Actual Test Vehicle Solvent Spillage:

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

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

4. Solvent Spillage Location(s):

None

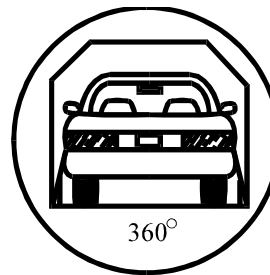
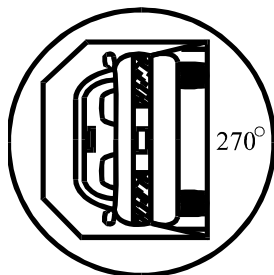
Data Sheet 17 (Continued)

FMVSS 301 Rollover Data

Vehicle: 2003 Subaru Legacy 4-door sedan

NHTSA No.: C35504

270 - 360 Degrees



1. Determination Of Solvent Collection Time Period:

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

2. FMVSS 301 Requirements:

(1) Time Period

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

(2) Maximum Allowable Solvent Spillage

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

3. Actual Test Vehicle Solvent Spillage:

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

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

4. Solvent Spillage Location(s):

None

Appendix A

Photographs

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



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



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



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



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



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

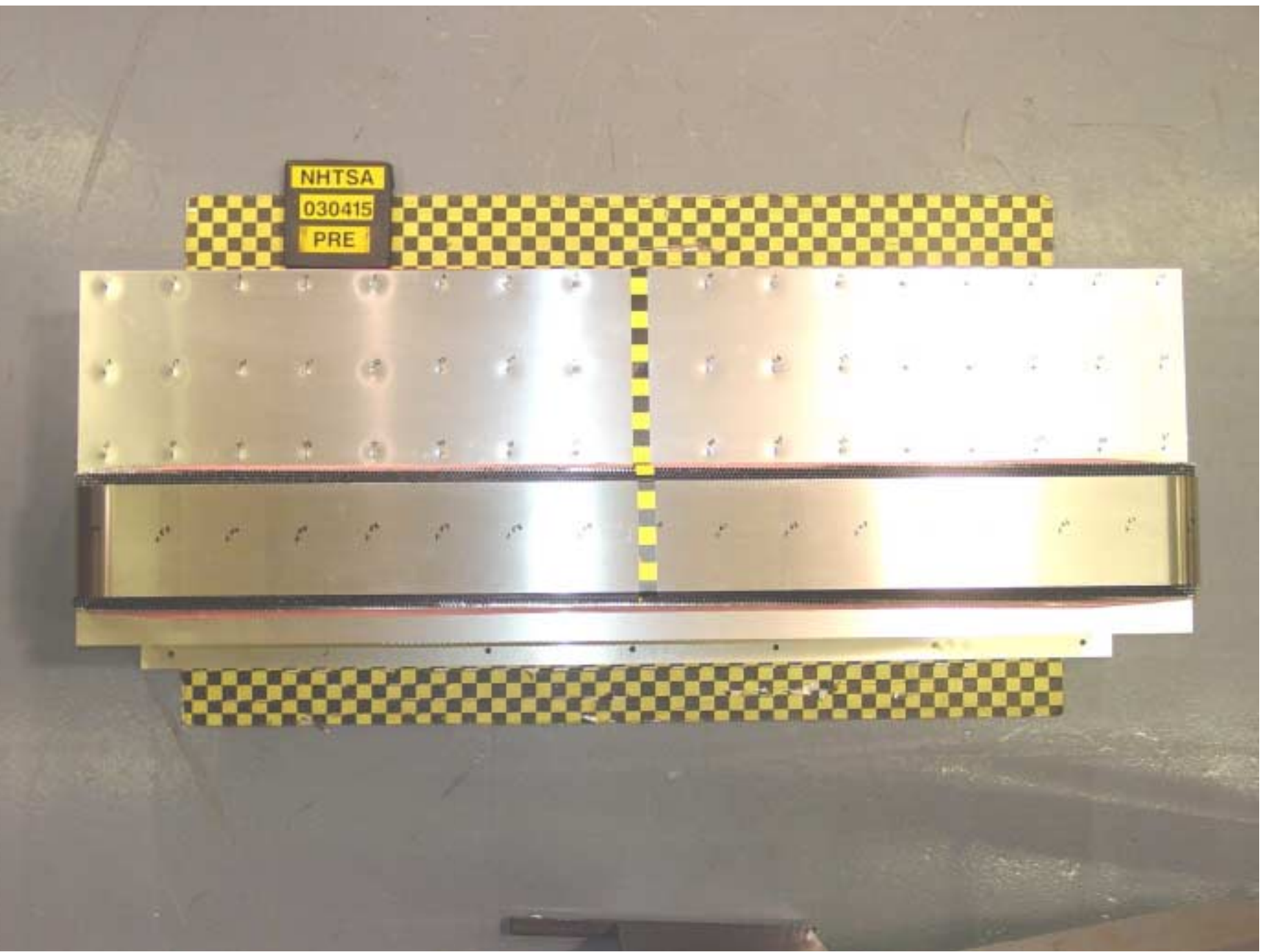


Figure A-7 Pre-Test Frontal View of Impactor Face



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

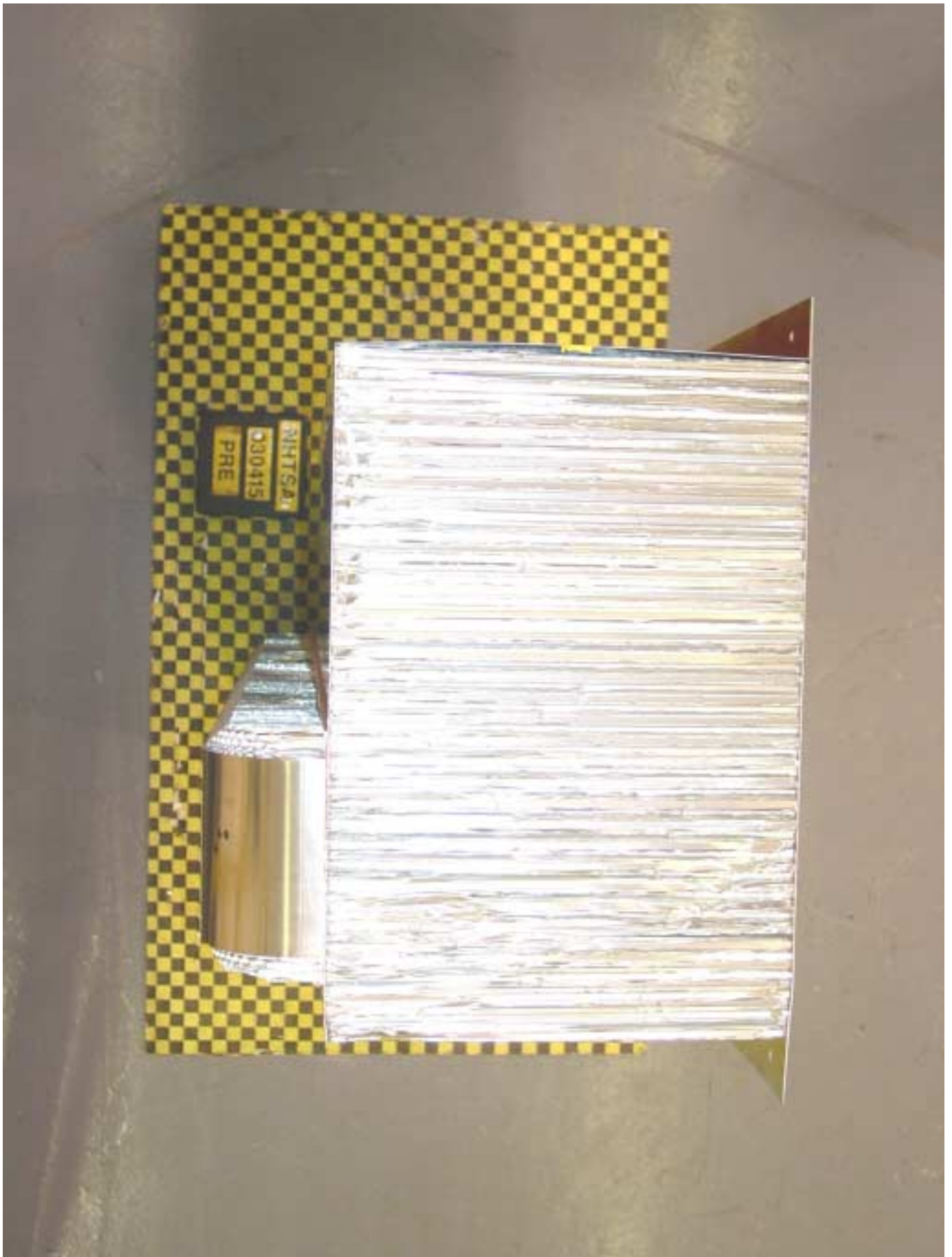


Figure A-9 Pre-Test Left Side View of Impactor Face

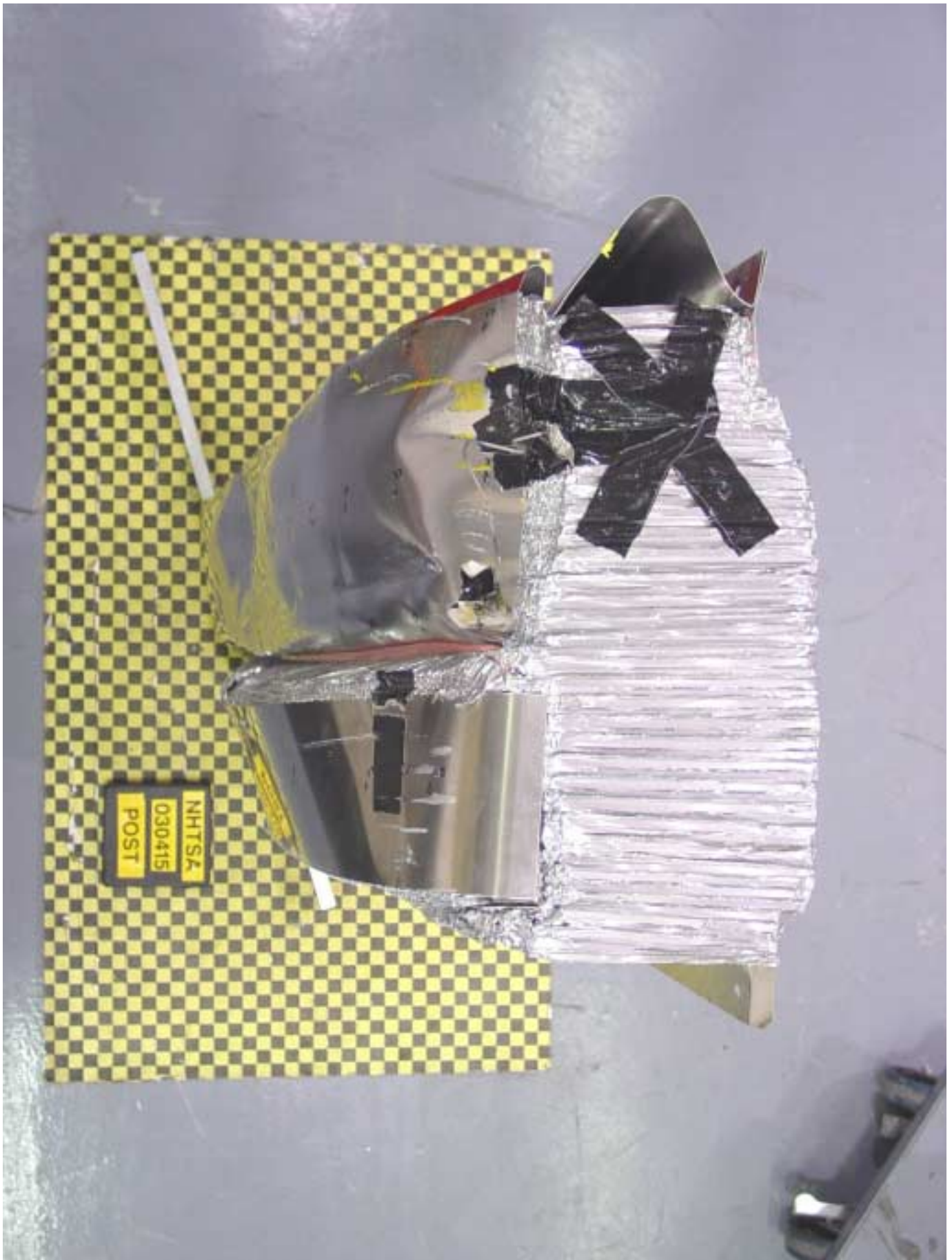


Figure A-10 Post-Test Left Side View of Impactor Face



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

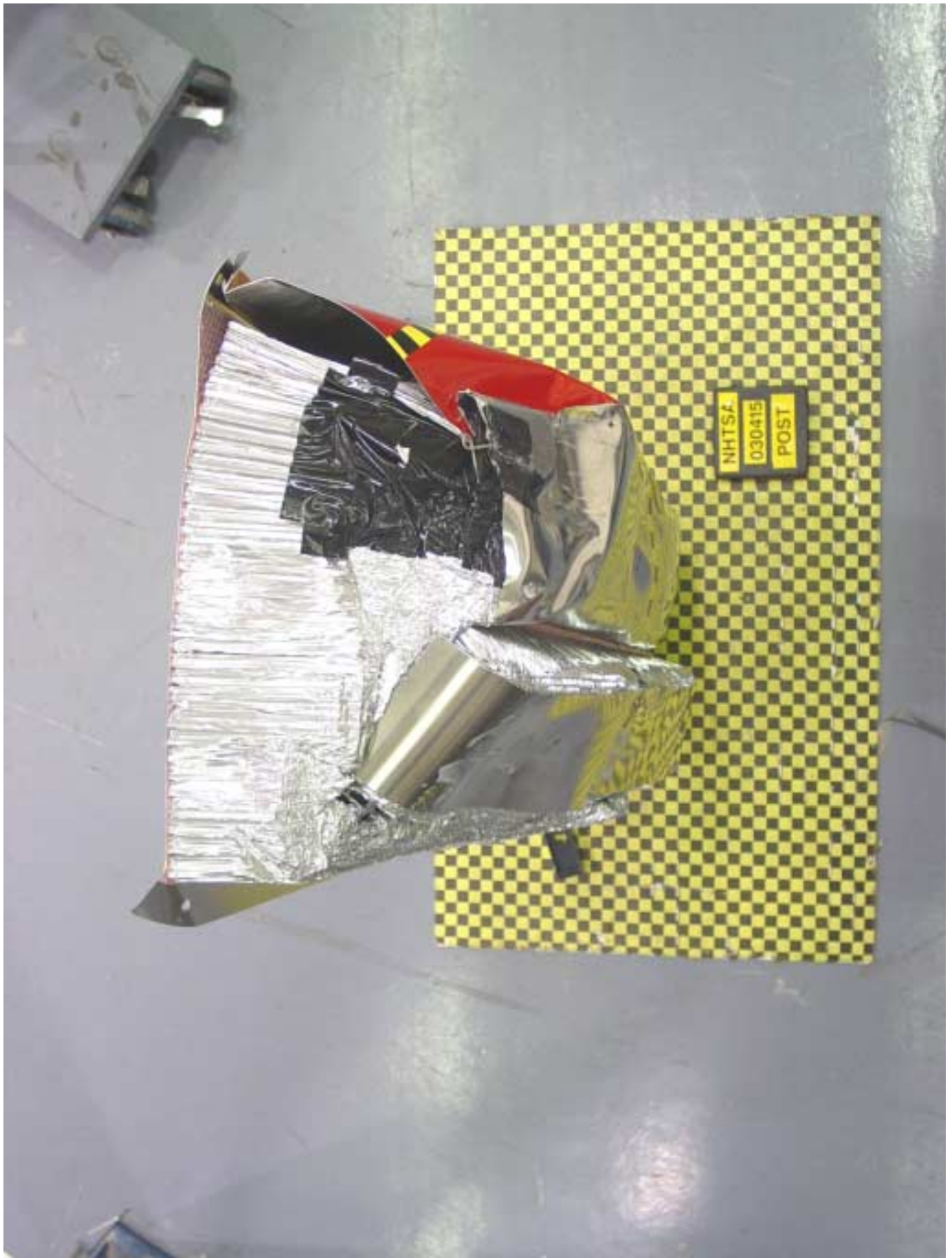


Figure A-12 Post-Test Right Side View of Impactor Face

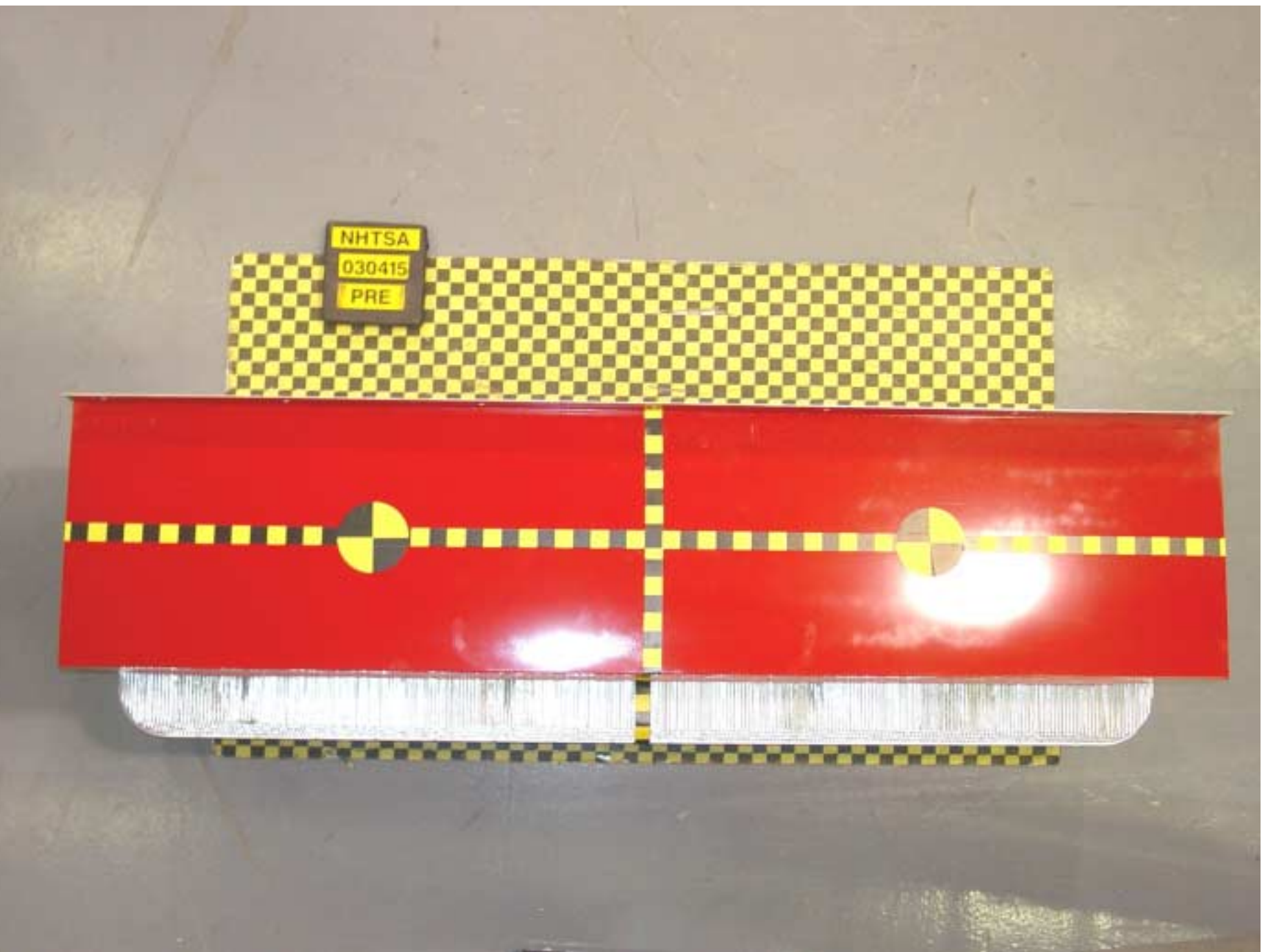


Figure A-13 Pre-Test Top View of Impactor Face

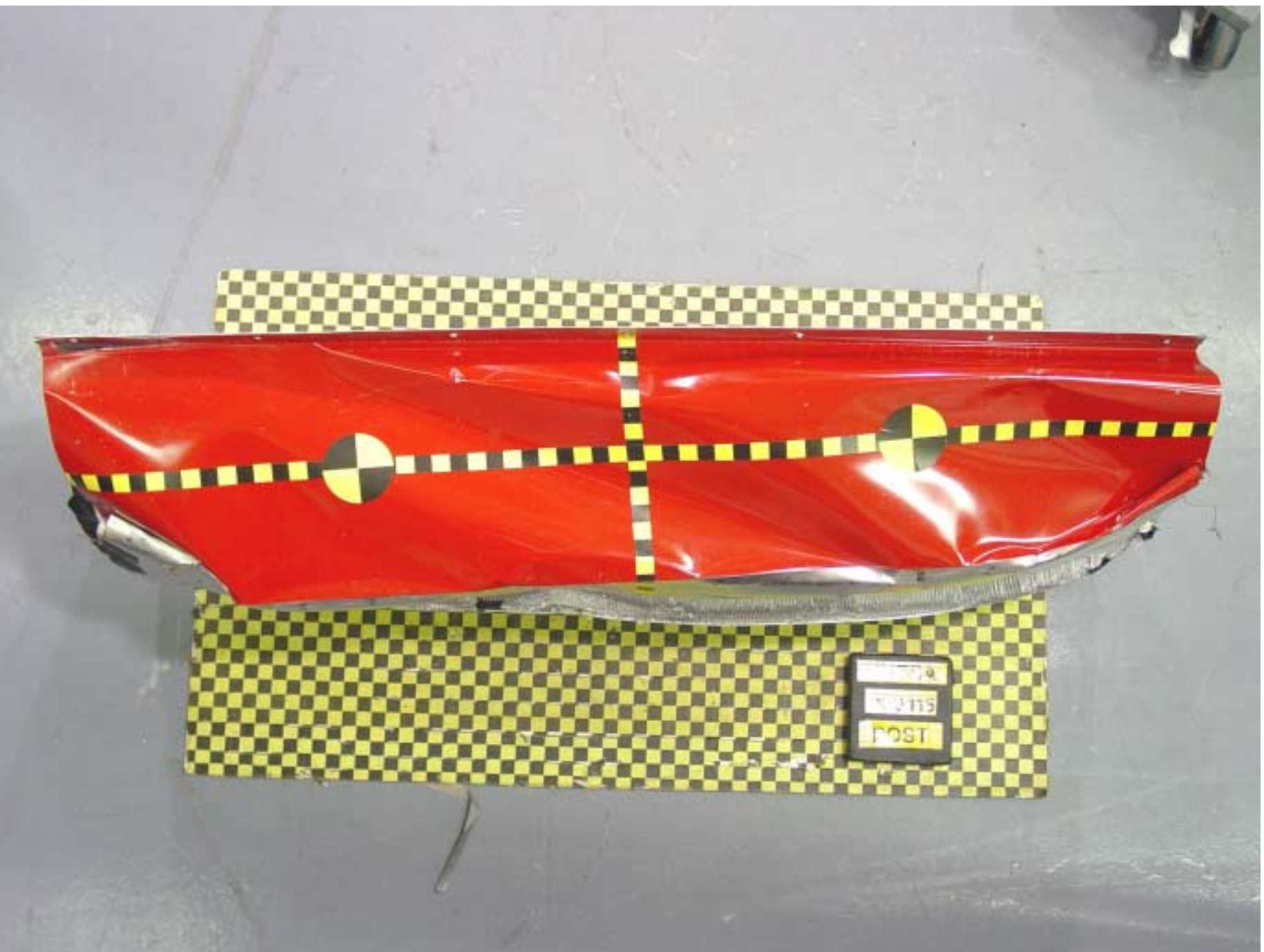


Figure A-14 Post-Test Top View of Impactor Face



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



Figure A-16 Pre-Test Overhead View of MDB and Vehicle View

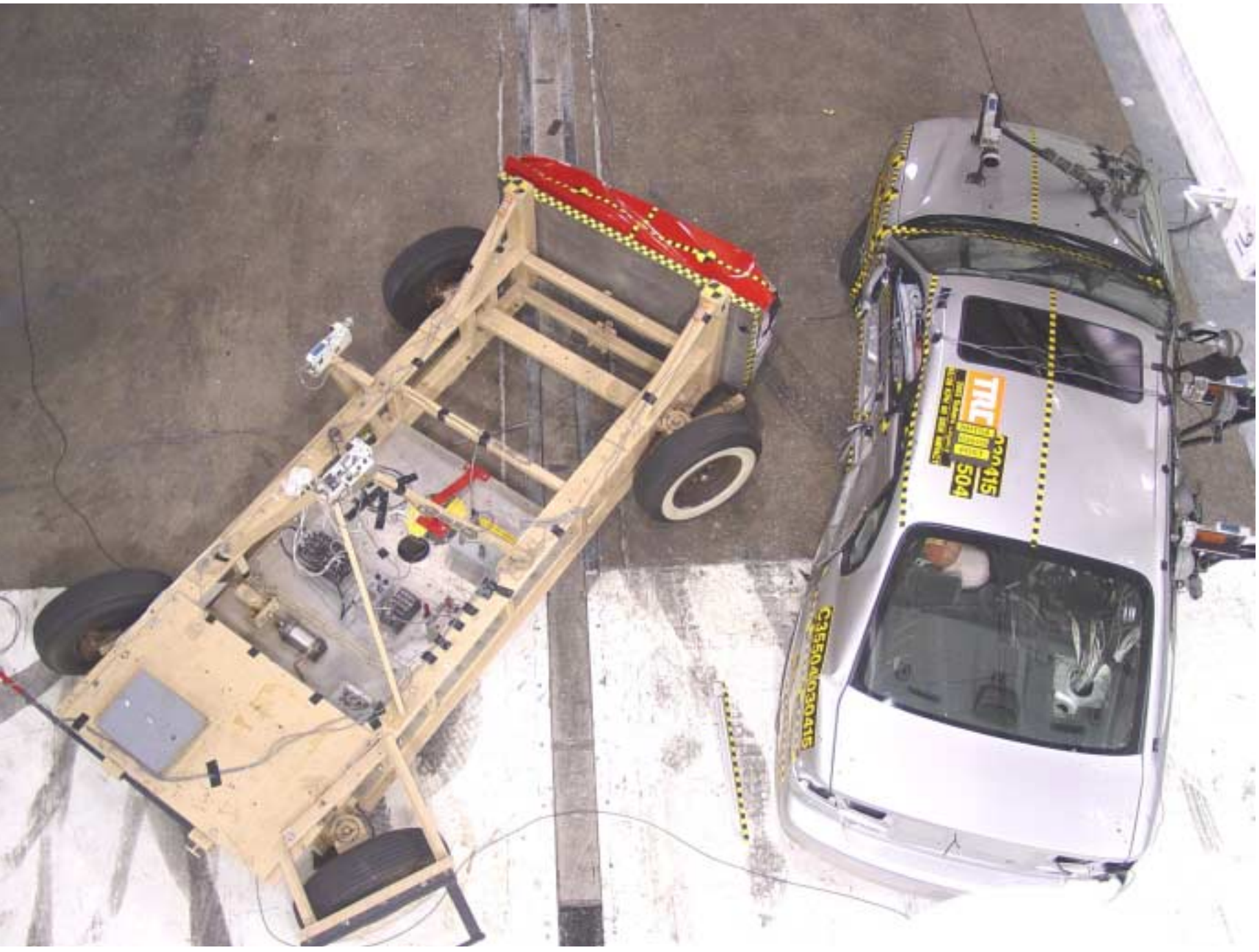


Figure A-17 Post-Test Overhead View of MDB and Vehicle View



Figure A-18 Pre-Test Right Occupant Compartment View of Front SID H3



Figure A-19 Post-Test Right Occupant Compartment View of Front SID H3



Figure A-20 Pre-Test Right Occupant Compartment View of Rear SID H3



Figure A-21 Post-Test Right Occupant Compartment View of Rear SID H3



Figure A-22 Pre-Test Left View of Front SID H3



Figure A-23 Post-Test Left View of Front SID H3



Figure A-24 Pre-Test Left View of Front SID H3 and Belt Position



Figure A-25 Pre-Test Left View of Front SID H3 and Door Clearance



Figure A-26 Post-Test Left View of Front SID H3 and Door Clearance



Figure A-27 Pre-Test Left View of Rear SID H3



Figure A-28 Post-Test Left View of Rear SID H3



Figure A-29 Pre-Test Left of Rear SID H3 and Belt Position



Figure A-30 Pre-Test Left View of Rear SID H3 and Door Clearance



Figure A-31 Post-Test Left View of Rear SID H3 and Door Clearance



Figure A-32 Pre-Test Interior of Front Door



Figure A-33 Post-Test Interior of Front Door Showing SID H3 Impact Locations



Figure A-34 Post-Test Front SID H3 Contact - View 1



Figure A-35 Post-Test Front SID H3 Contact - View 2



Figure A-36 Post-Test Front SID H3 Contact - View 3



Figure A-37 Post-Test Front SID H3 Contact - View 4



Figure A-38 Pre-Test Interior of Rear Door



Figure A-39 Post-Test Interior of Rear Door Showing SID H3 Impact Locations



Figure A-40 Post-Test Rear SID H3 Contact - View 1



Figure A-41 Post-Test Rear SID H3 Contact - View 2



Figure A-42 Post-Test Rear SID H3 Contact - View 3



Figure A-43 Post-Test Rear SID H3 Contact - View 4



Figure A-44 Pre-Test Left Side View of MDB With Impactor Face in Position



Figure A-45 Pre-Test Primary Impact Point View



Figure A-46 Post-Test Primary Impact Point View



Figure A-47 Pre-Test Right Side View of MDB With Impactor Face in Position



Figure A-48 Pre-Test Secondary Impact Point View



Figure A-49 Post-Test Secondary Impact Point View

C35504

MFD BY FUJI HEAVY INDUSTRIES LTD.

DATE: 1/03

GVWR: 4400LB(1996KG) GAWR:F 2220LB(1007KG) R 2180LB(989KG)

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

VIN: 4S3BE635436212096

TYPE: PASSENGER CAR



ASSEMBLED BY SUBARU OF INDIANA AUTOMOTIVE INC. MADE IN U.S.A.

Figure A-50 Pre-Test Vehicle Certification Label View



Figure A-51 Pre-Test Vehicle Recommended Tire Pressure Label View



Figure A-52 Impact Event



Figure A-53 Pre-Test Fuel Cap



Figure A-54 Post-Test Fuel Cap



Figure A-55 FMVSS 301 Rollover View at 90°

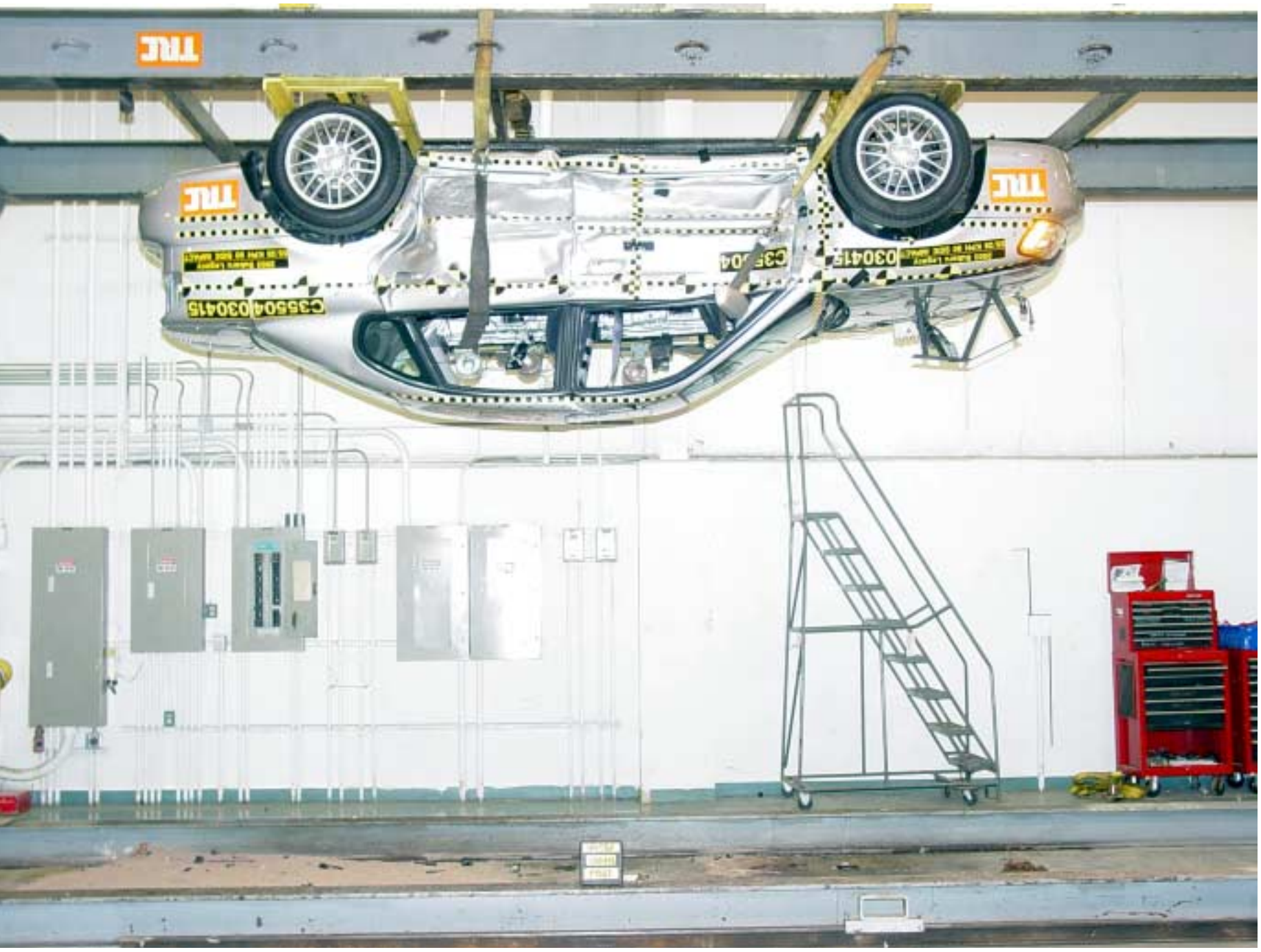


Figure A-56 FMVSS 301 Rollover View at 180°

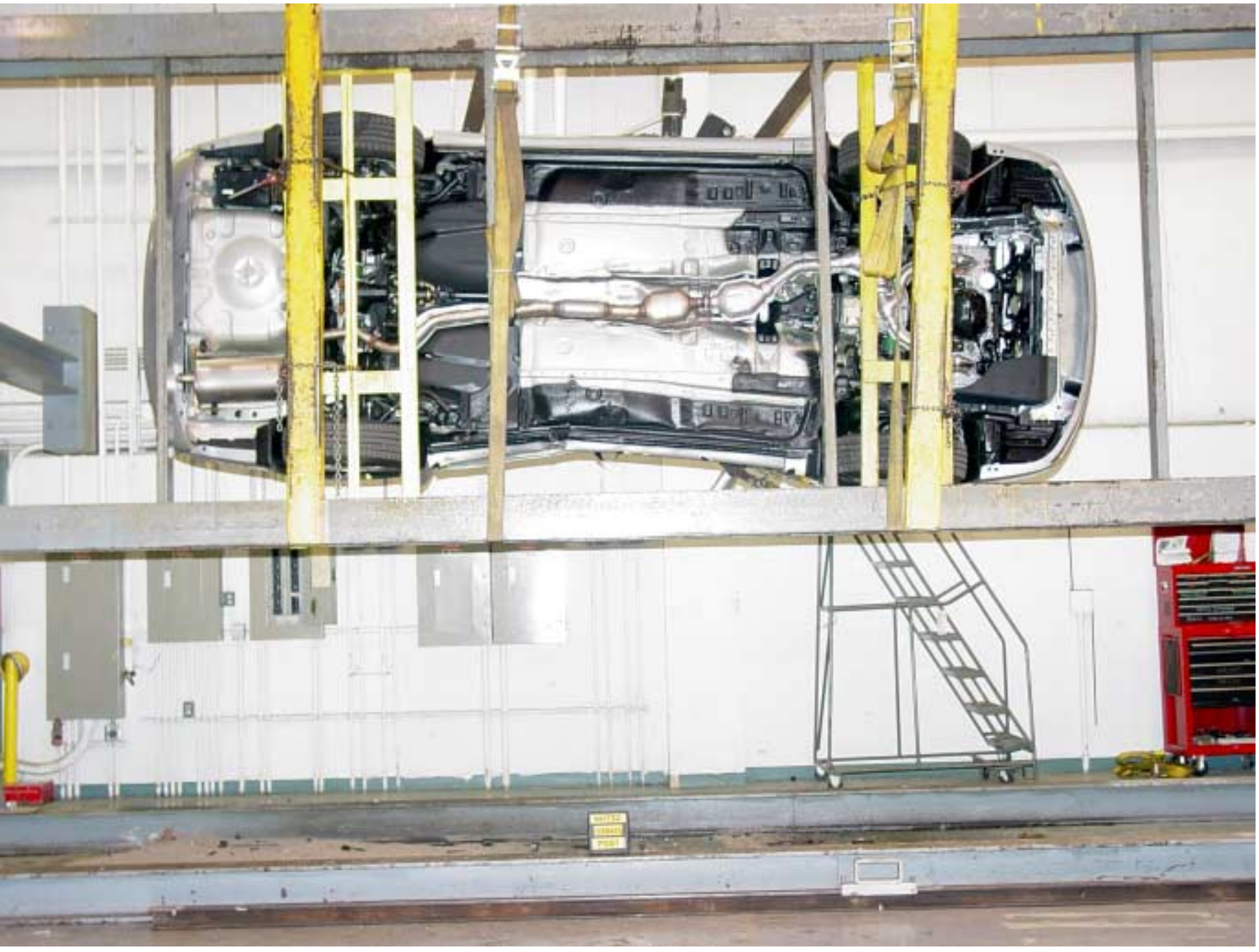


Figure A-57 FMVSS 301 Rollover View at 270°



Figure A-58 FMVSS 301 Rollover View at 360°

Appendix B

Data Plots

Table of Data Plots
Driver and Passenger Dummy Instrumentation Plots
Acceleration Data - Filter Class 1000
Integration Data - Filter Class 180
Force Data - Filter Class 1000
Moment Data - Filter Class 600

<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
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

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

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
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

Driver and Passenger Dummy 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

Table of Data Plots (Continued)

Driver and Passenger Dummy 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>
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
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

Table of Data Plots (Continued)
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
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	Left Front Door on Centerline Y-Axis Acceleration	B-113
103	Left Front Door on Centerline Y-Axis Velocity	B-114

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>
104	Left Front Door on Centerline Y-Axis Displacement	B-115
105	Right Rear Occupant Compartment Y-Axis Acceleration	B-116
106	Right Rear Occupant Compartment Y-Axis Velocity	B-117
107	Right Rear Occupant Compartment Y-Axis Displacement	B-118
108	Left Front Door Mid-Rear Y-Axis Acceleration	B-119
109	Left Front Door Mid-Rear Y-Axis Velocity	B-120
110	Left Front Door Mid-Rear Y-Axis Displacement	B-121
111	Left Front Door Upper Centerline Y-Axis Acceleration	B-122
112	Left Front Door Upper Centerline Y-Axis Velocity	B-123
113	Left Front Door Upper Centerline Y-Axis Displacement	B-124
114	Left Rear Door Mid-Rear Y-Axis Acceleration	B-125
115	Left Rear Door Mid-Rear Y-Axis Velocity	B-126
116	Left Rear Door Mid-Rear Y-Axis Displacement	B-127
117	Left Rear Door Upper Centerline Y-Axis Acceleration	B-128
118	Left Rear Door Upper Centerline Y-Axis Velocity	B-129
119	Left Rear Door Upper Centerline Y-Axis Displacement	B-130
120	Left Lower A-Post Y-Axis Acceleration	B-131
121	Left Lower A-Post Y-Axis Velocity	B-132
122	Left Middle A-Post Y-Axis Acceleration	B-133
123	Left Middle A-Post Y-Axis Velocity	B-134
124	Left Lower B-Post Y-Axis Acceleration	B-135
125	Left Lower B-Post Y-Axis Velocity	B-136
126	Left Middle B-Post Y-Axis Acceleration	B-137
127	Left Middle B-Post Y-Axis Velocity	B-138
128	Left Front Seat Track Y-Axis Acceleration	B-139
129	Left Front Seat Track Y-Axis Velocity	B-140
130	Left Rear Seat Track Y-Axis Acceleration	B-141
131	Left Rear Seat Track Y-Axis Velocity	B-142
132	Vehicle Center of Gravity X-Axis Acceleration	B-143

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>
133	Vehicle Center of Gravity X-Axis Velocity	B-144
134	Vehicle Center of Gravity Y-Axis Acceleration	B-145
135	Vehicle Center of Gravity Y-Axis Velocity	B-146
136	Vehicle Center of Gravity Z-Axis Acceleration	B-147
137	Vehicle Center of Gravity Z-Axis Velocity	B-148
138	Vehicle Center of Gravity Resultant Acceleration	B-149

MDB Instrumentation Plots
Acceleration Data - Filter Class 60
Integration Data - Filter Class 180
Contact Data - Filter Class 1000

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
139	MDB Center of Gravity X-Axis Acceleration	B-151
140	MDB Center of Gravity X-Axis Velocity	B-152
141	MDB Center of Gravity Y-Axis Acceleration	B-153
142	MDB Center of Gravity Y-Axis Velocity	B-154
143	MDB Center of Gravity Z-Axis Acceleration	B-155
144	MDB Center of Gravity Z-Axis Velocity	B-156
145	MDB Center of Gravity Resultant Acceleration	B-157
146	MDB Left Rear X-Axis Acceleration	B-158
147	MDB Left Rear X-Axis Velocity	B-159
148	MDB Left Rear Y-Axis Acceleration	B-160
149	MDB Left Rear Y-Axis Velocity	B-161
150	MDB Right Side Contact Switch	B-162
151	MDB Left Side Contact Switch	B-163

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>
152	Driver Upper Rib Y-Axis Acceleration	B-165
153	Driver Lower Rib Y-Axis Acceleration	B-166
154	Driver Lower Spine Y-Axis Acceleration	B-167
155	Driver Pelvis Y-Axis Acceleration	B-168
156	Left Rear Passenger Upper Rib Y-Axis Acceleration	B-169
157	Left Rear Passenger Lower Rib Y-Axis Acceleration	B-170
158	Left Rear Passenger Lower Spine Y-Axis Acceleration	B-171
159	Left Rear Passenger Pelvis Y-Axis Acceleration	B-172

Driver and Passenger Dummy Instrumentation Plots
Acceleration Data - FIR Filtered - Redundant

<u>Plot No.</u>	<u>Data Plot Title</u>	<u>Page</u>
160	Driver Upper Rib Y-Axis Redundant Acceleration	B-174
161	Driver Lower Rib Y-Axis Redundant Acceleration	B-175
162	Driver Lower Spine Y-Axis Redundant Acceleration	B-176
163	Driver Pelvis Y-Axis Redundant Acceleration	B-177
164	Left Rear Passenger Upper Rib Y-Axis Redundant Acceleration	B-178
165	Left Rear Passenger Lower Rib Y-Axis Redundant Acceleration	B-179
166	Left Rear Passenger Lower Spine Y-Axis Redundant Acceleration	B-180
167	Left Rear Passenger Pelvis Y-Axis Redundant Acceleration	B-181

Driver and Passenger Dummy Instrumentation Plots

Acceleration Data - Filter Class 1000

Integration Data - Filter Class 180

Force Data - Filter Class 1000

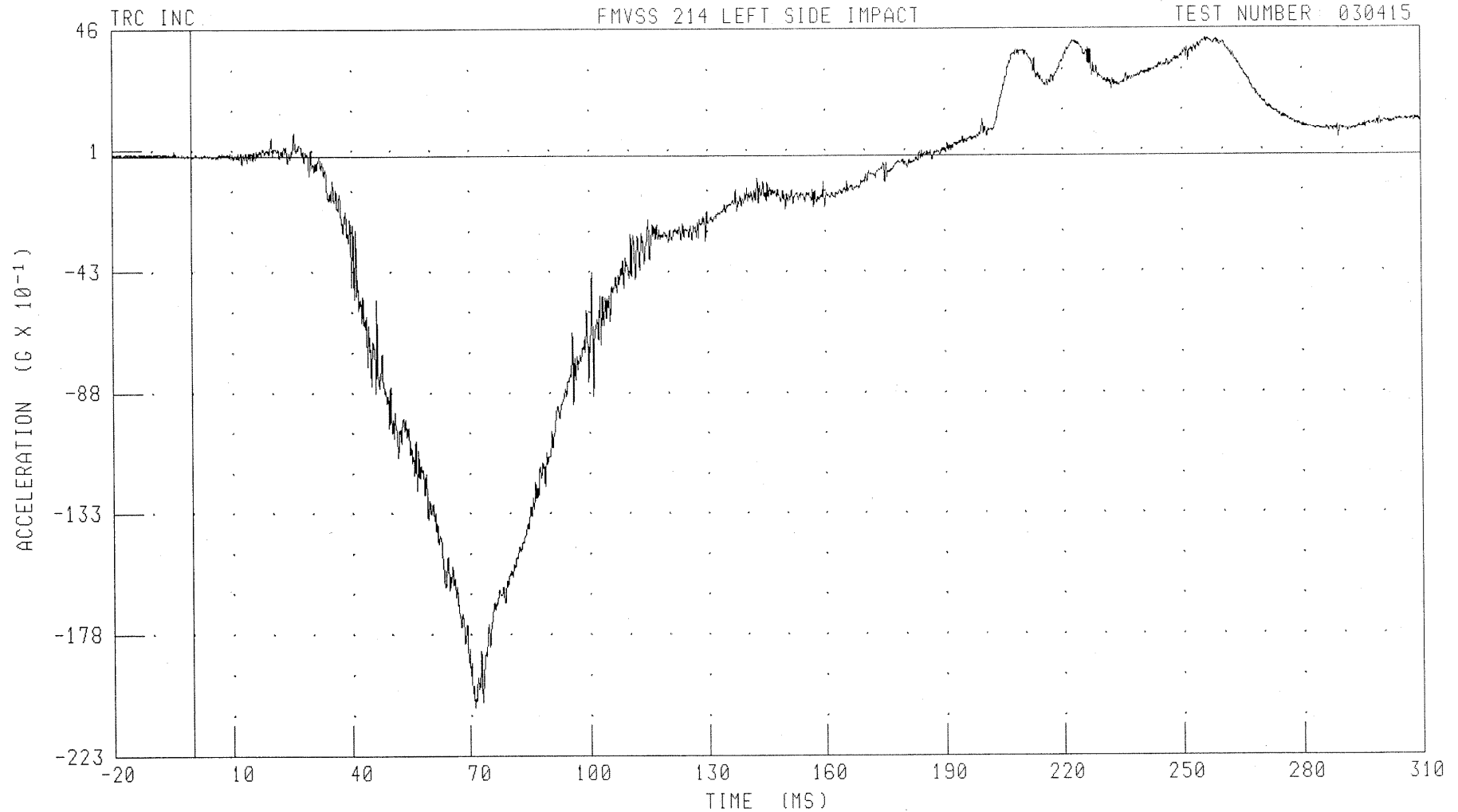
Moment Data - Filter Class 600

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDXG1 FILTER: CH. CLASS 1000

PEAK DATA: 4.32 G @ 255.84 MS, -20.53 G @ 71.12 MS

B-10

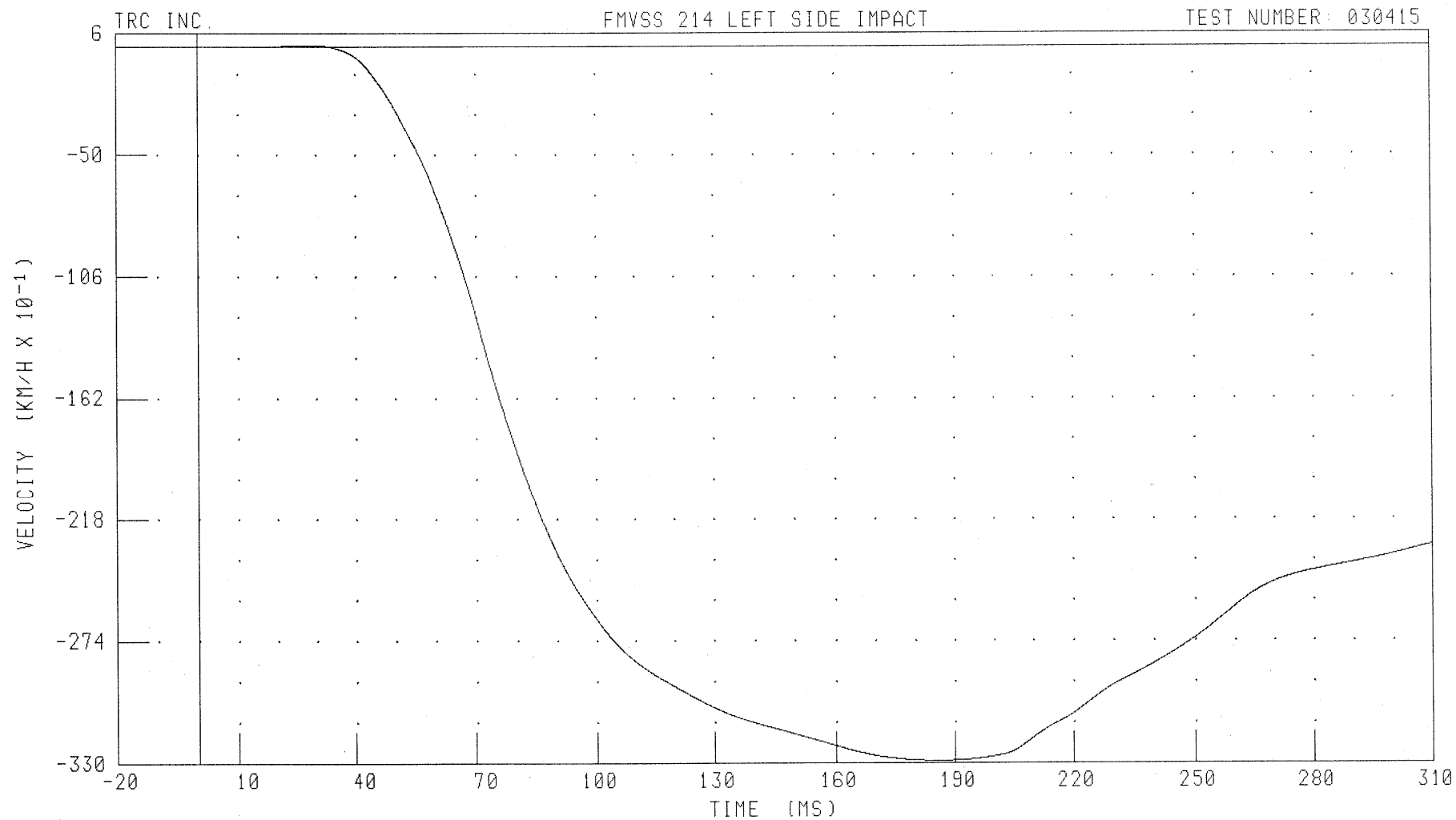
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.06 KM/H @ 28.24 MS; -32.90 KM/H @ 184.16 MS

B-11

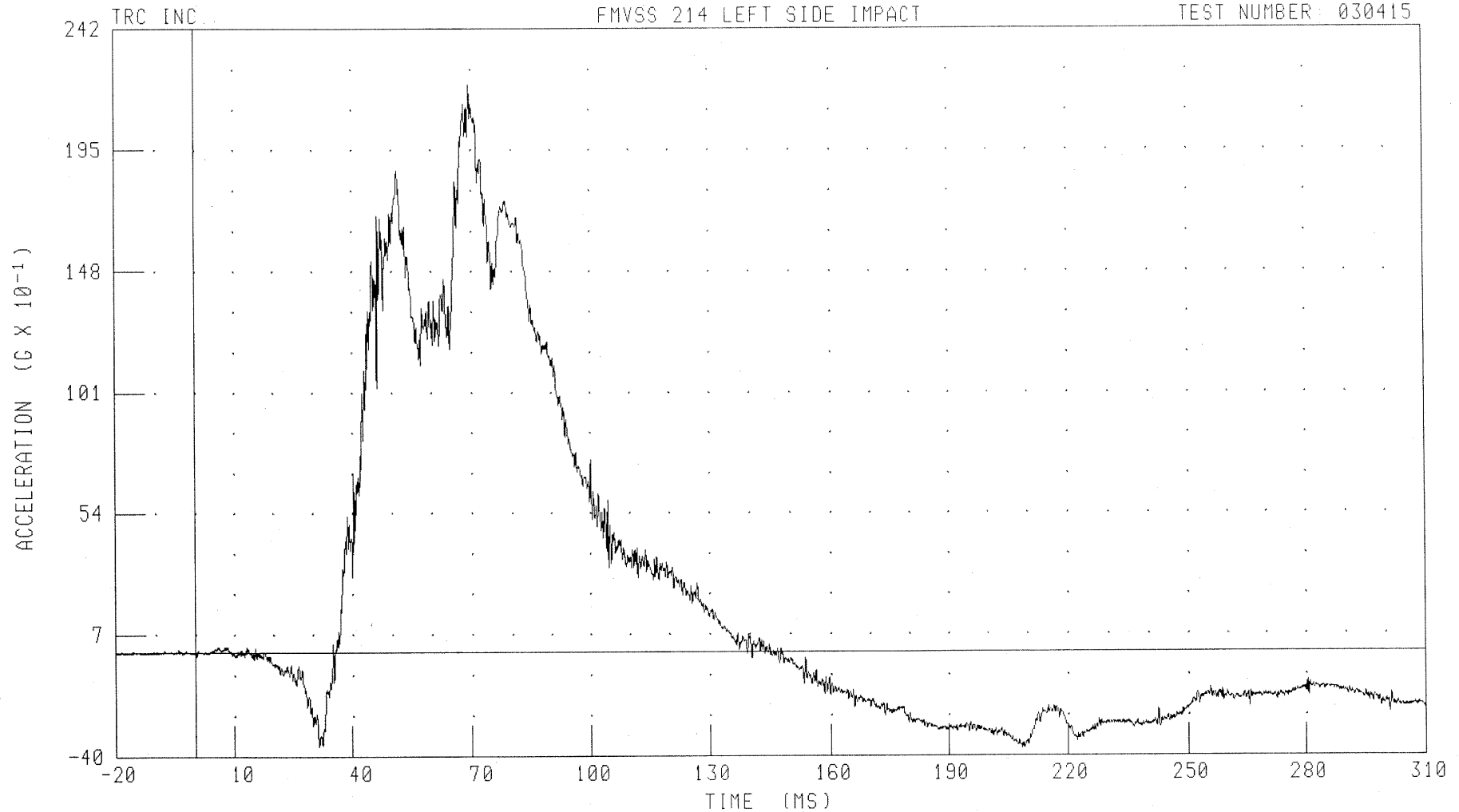
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDYG1 FILTER: CH CLASS 1000

PEAK DATA: 22.04 G @ 69.60 MS; -3.72 G @ 208.64 MS

B-12

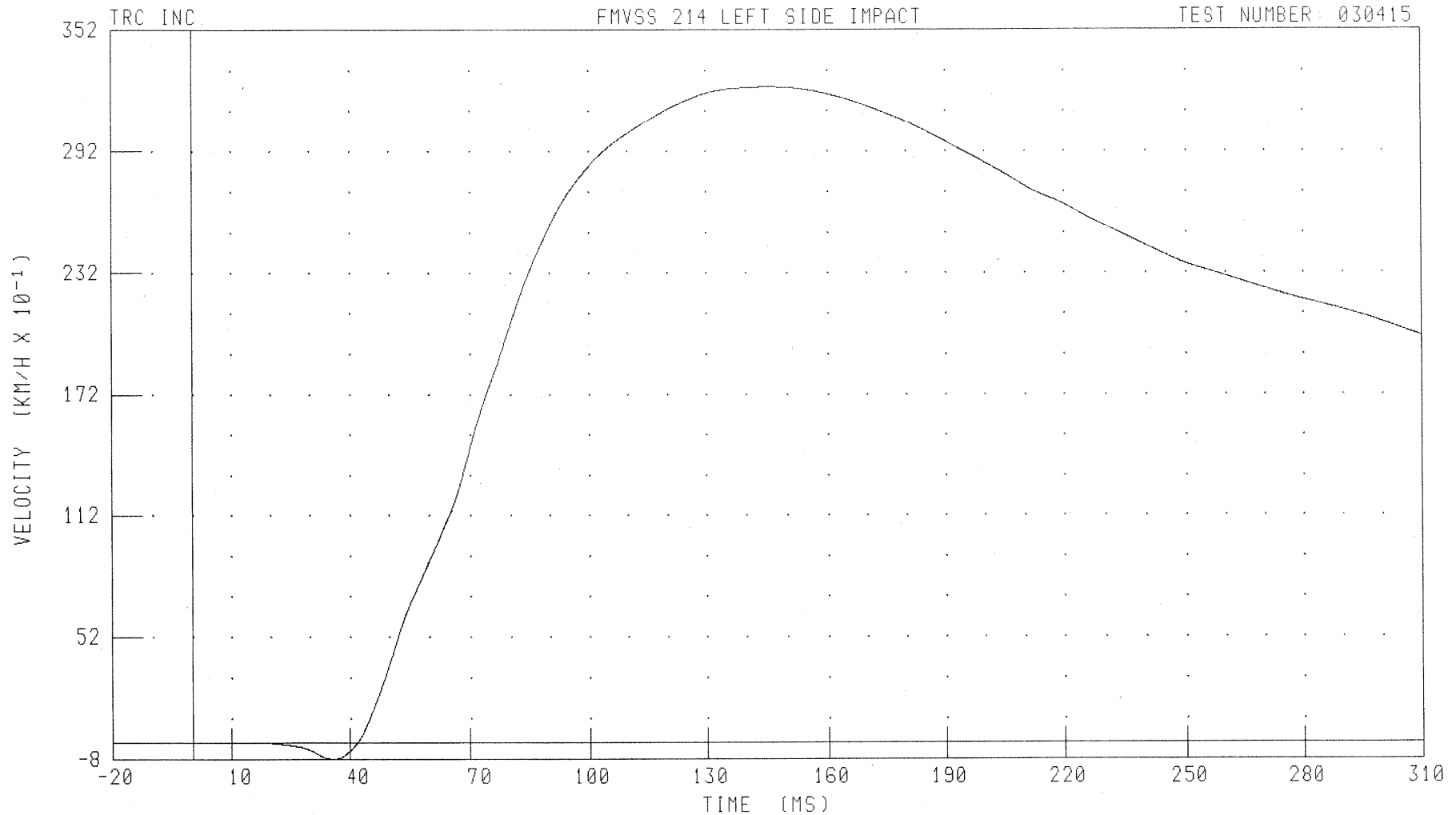
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDYV1 FILTER: CH. CLASS 180

PEAK DATA: 32.40 KM/H @ 145.20 MS; -0.79 KM/H @ 35.92 MS

B-13

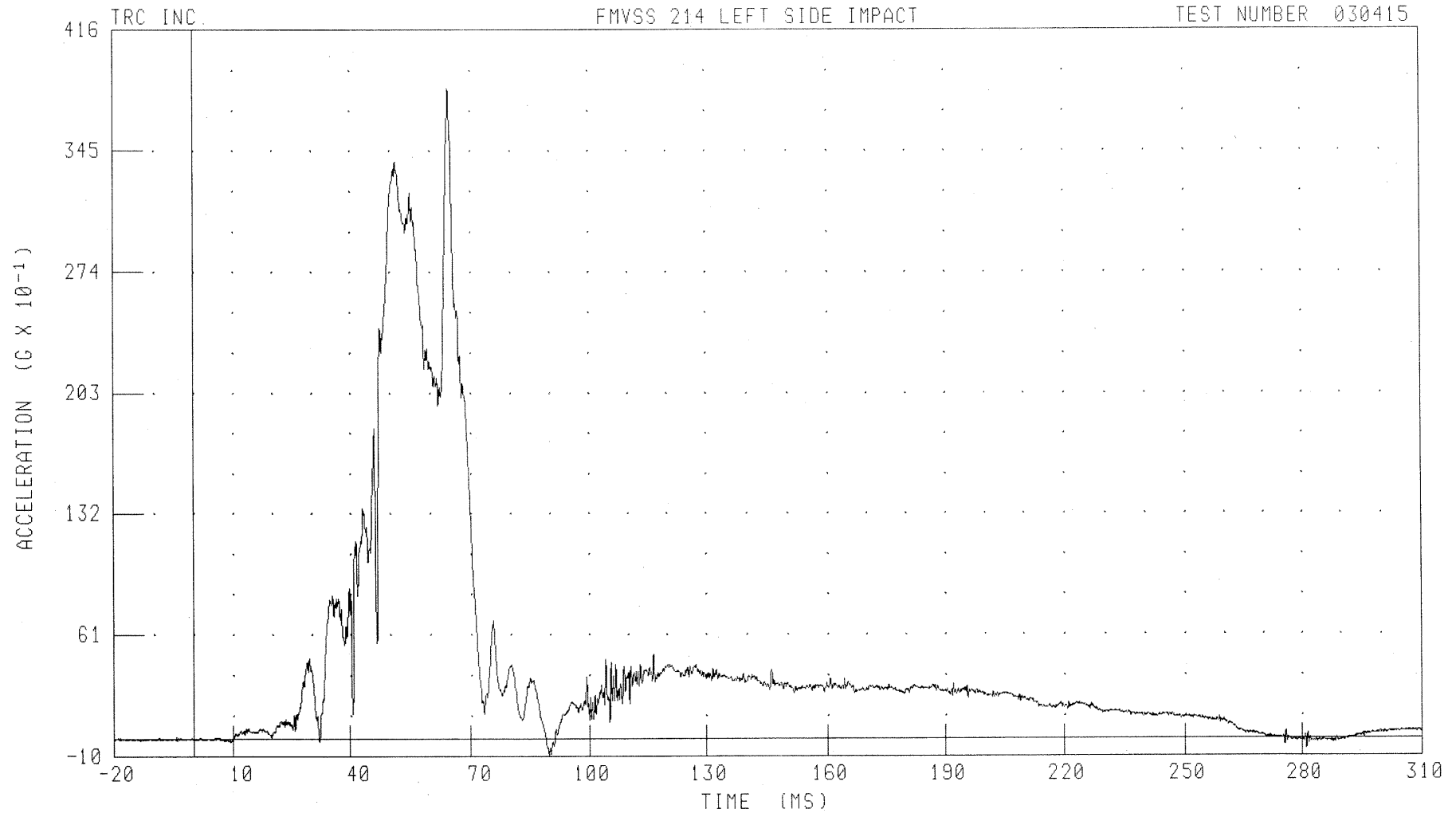
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

PEAK DATA: 38.16 G @ 64.64 MS; -0.92 G @ 89.60 MS

B-14

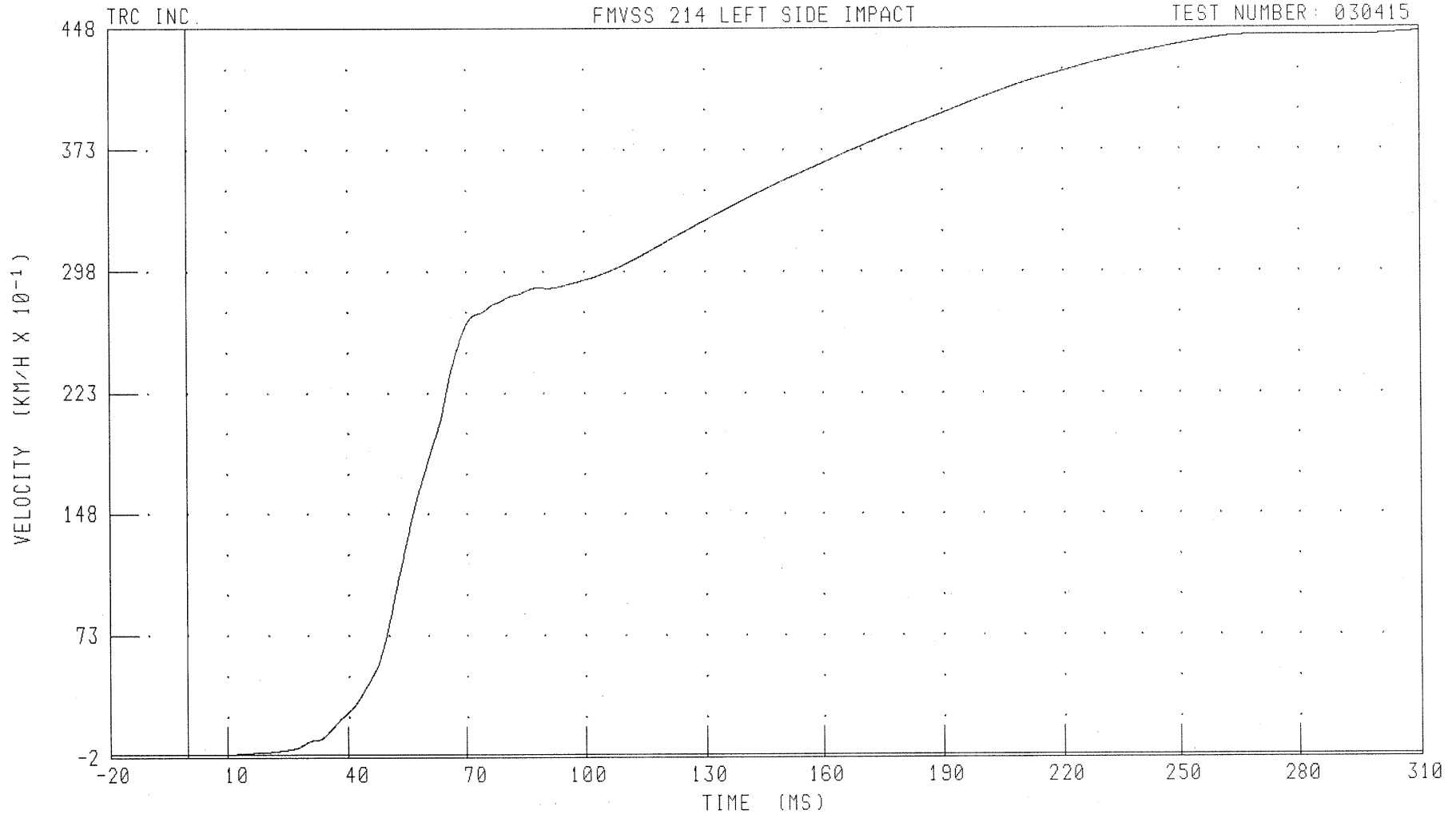
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDZV1

FILTER: CH. CLASS 180

PEAK DATA: 44.56 KM/H @ 310.00 MS; -0.01 KM/H @ 9.76 MS

B-15

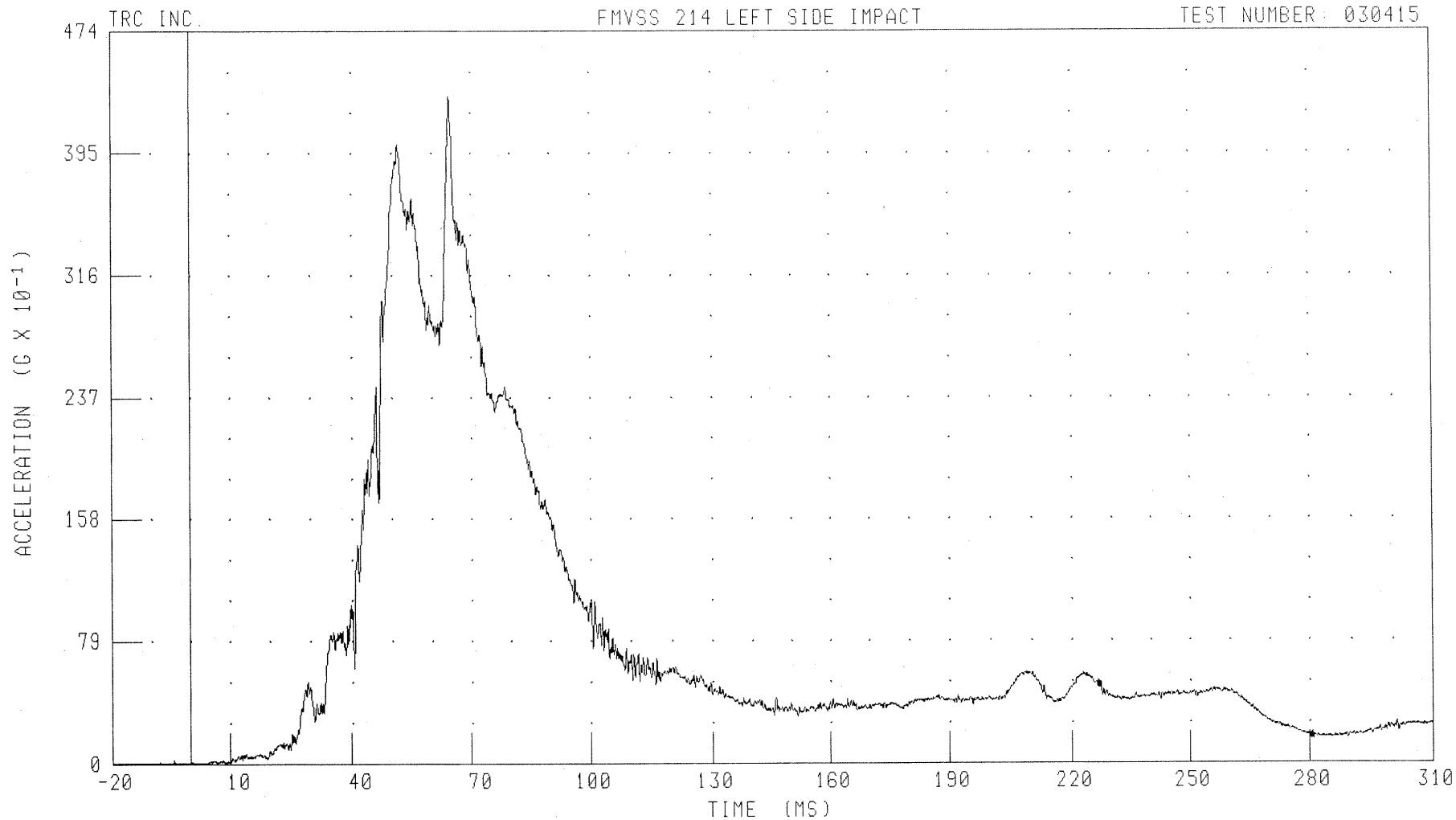
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

B-16

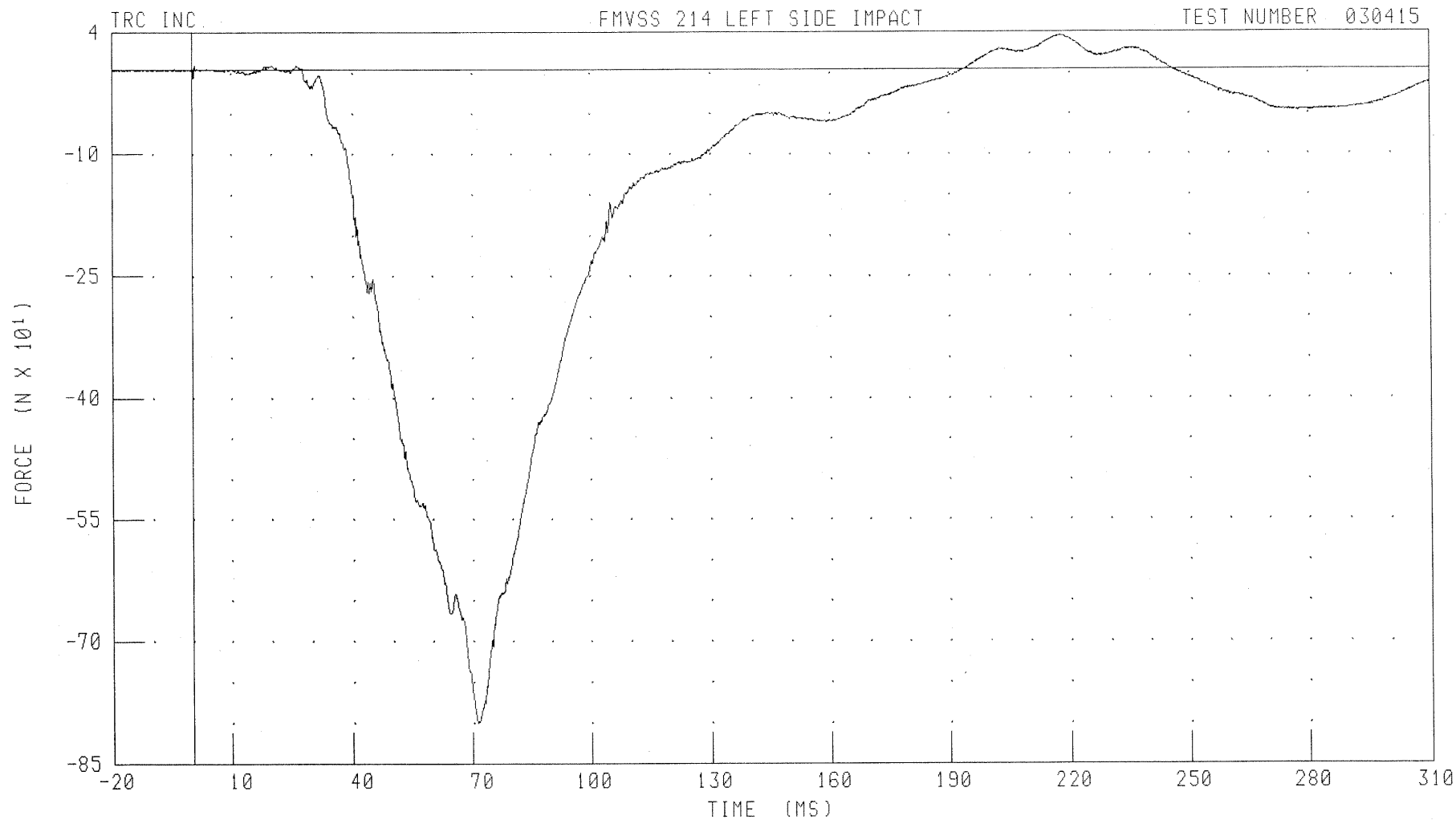
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER NECK X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: NEKXF1 FILTER: CH. CLASS 1000

PEAK DATA: 41.96 N @ 217.84 MS; -804.69 N @ 71.12 MS

B-17

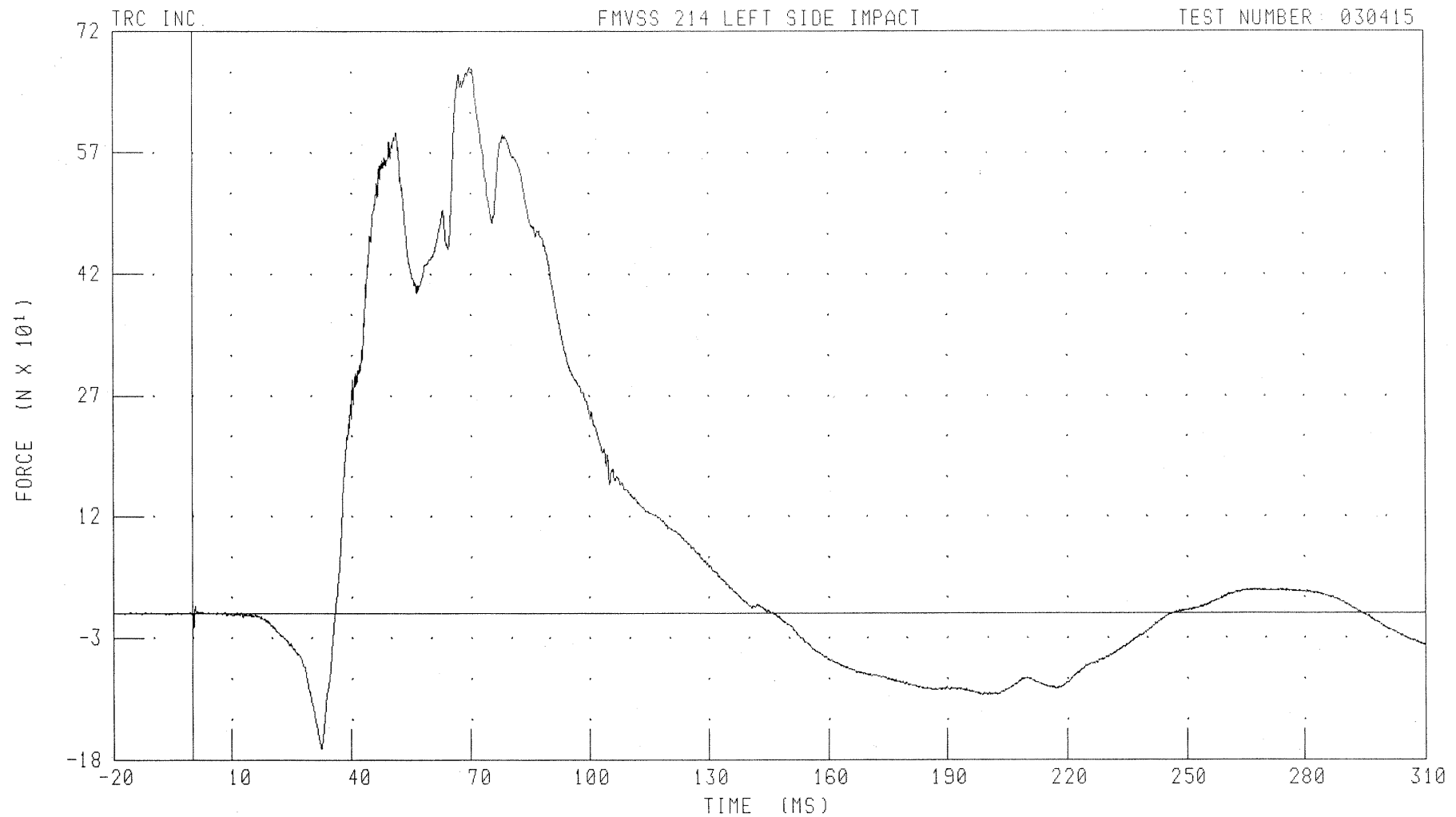
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER NECK Y-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

PEAK DATA: 676.27 N @ 70.08 MS; -165.89 N @ 32.48 MS

B-18

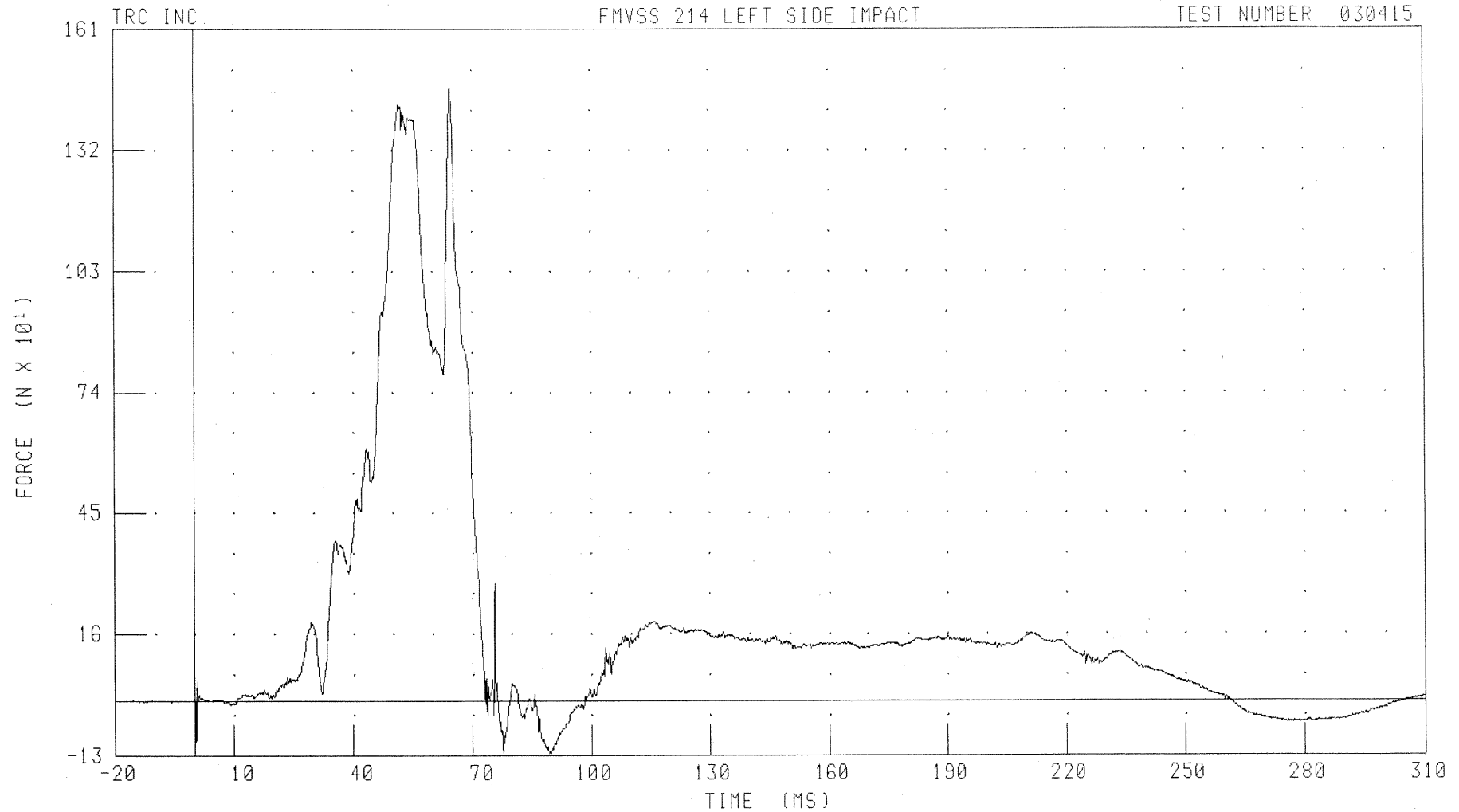
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: NEKZF1 FILTER: CH. CLASS 1000

B-19

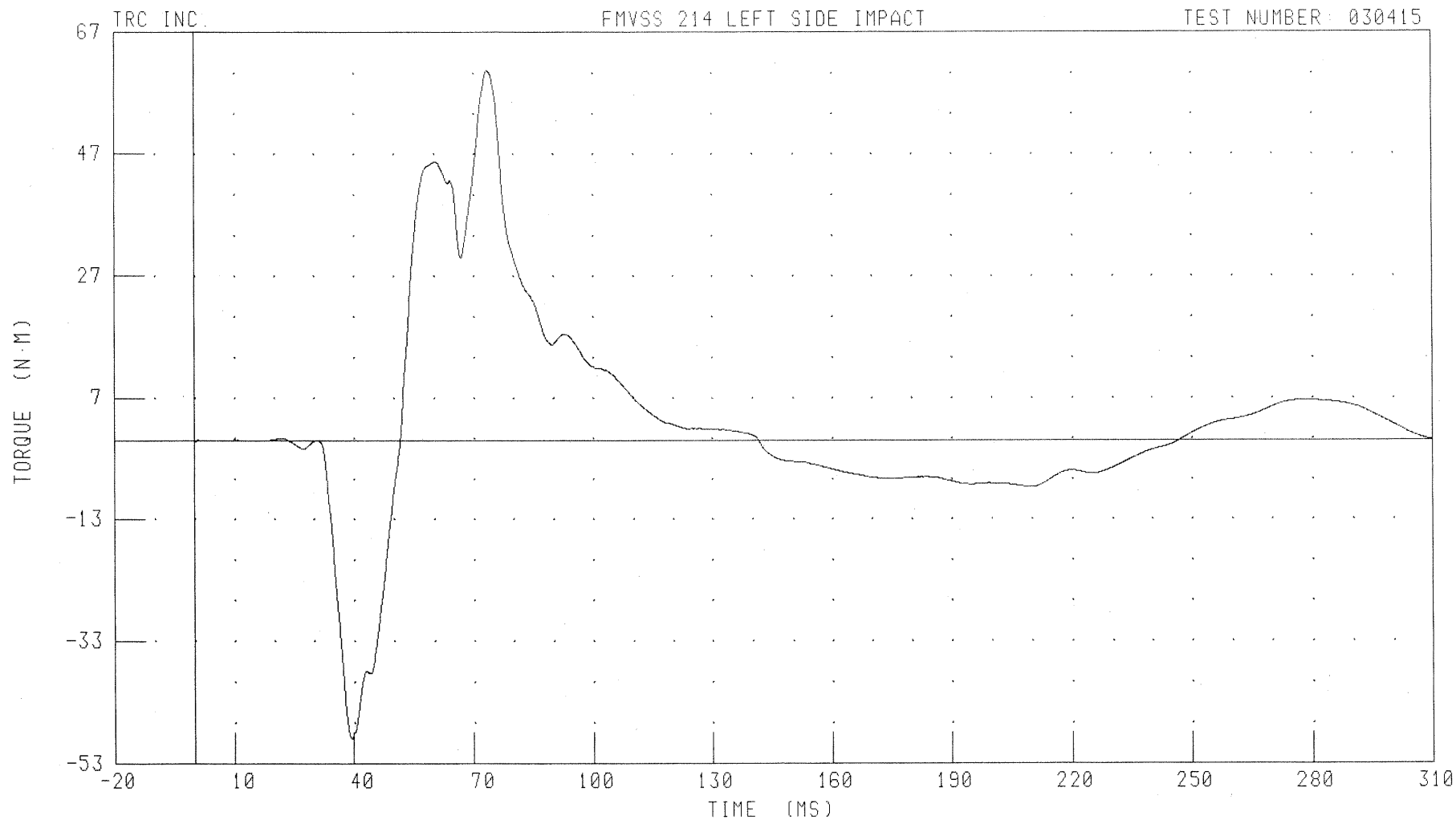
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER NECK MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NEKXM1 FILTER: CH. CLASS 600

PEAK DATA: 60.83 N·M @ 73.52 MS; -48.98 N·M @ 39.44 MS

B-20

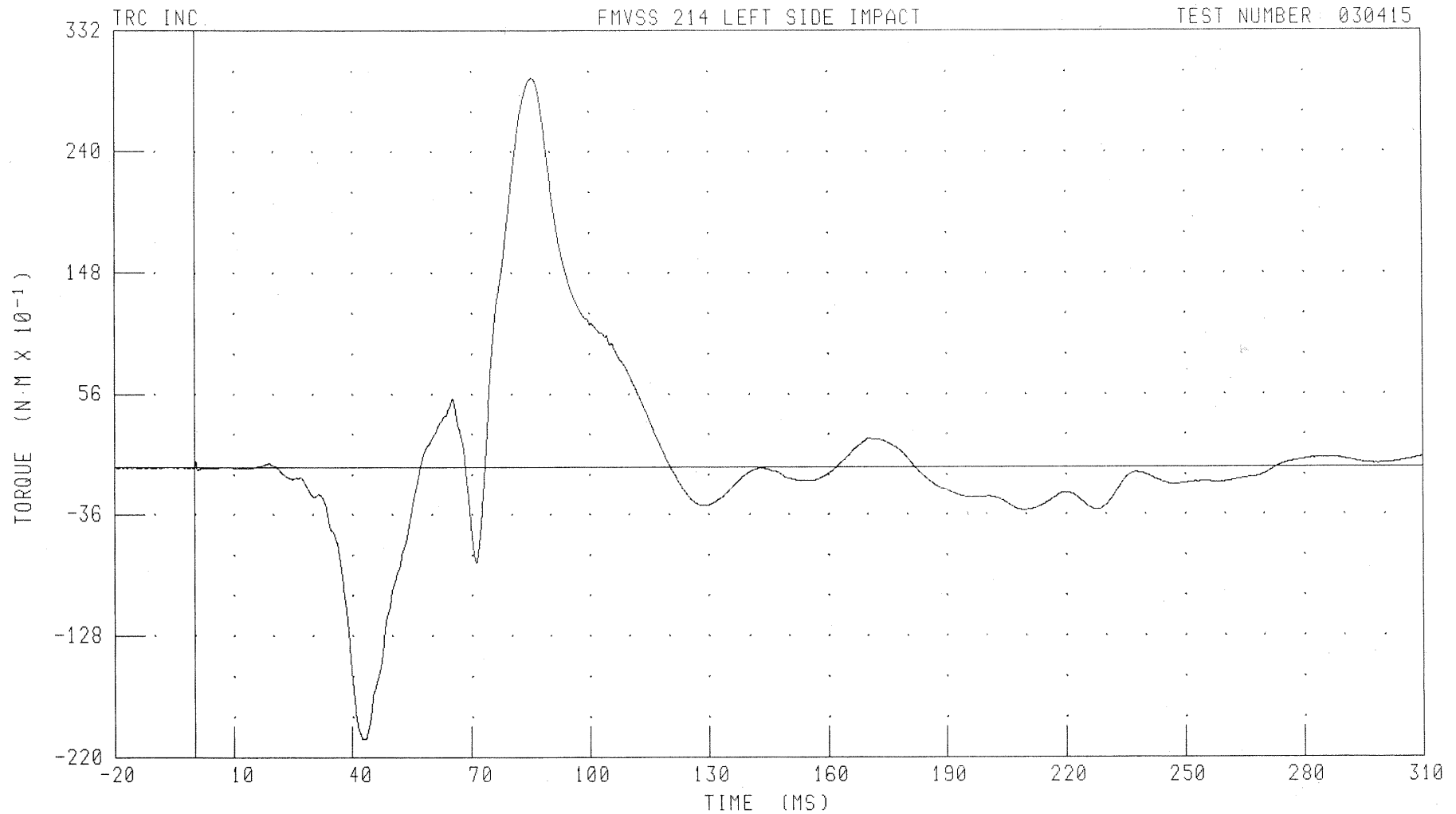
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER NECK MOMENT ABOUT Y AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NEKYM1 FILTER: CH. CLASS 600

PEAK DATA: 29.63 N·M @ 85.44 MS; -20.62 N·M @ 42.88 MS

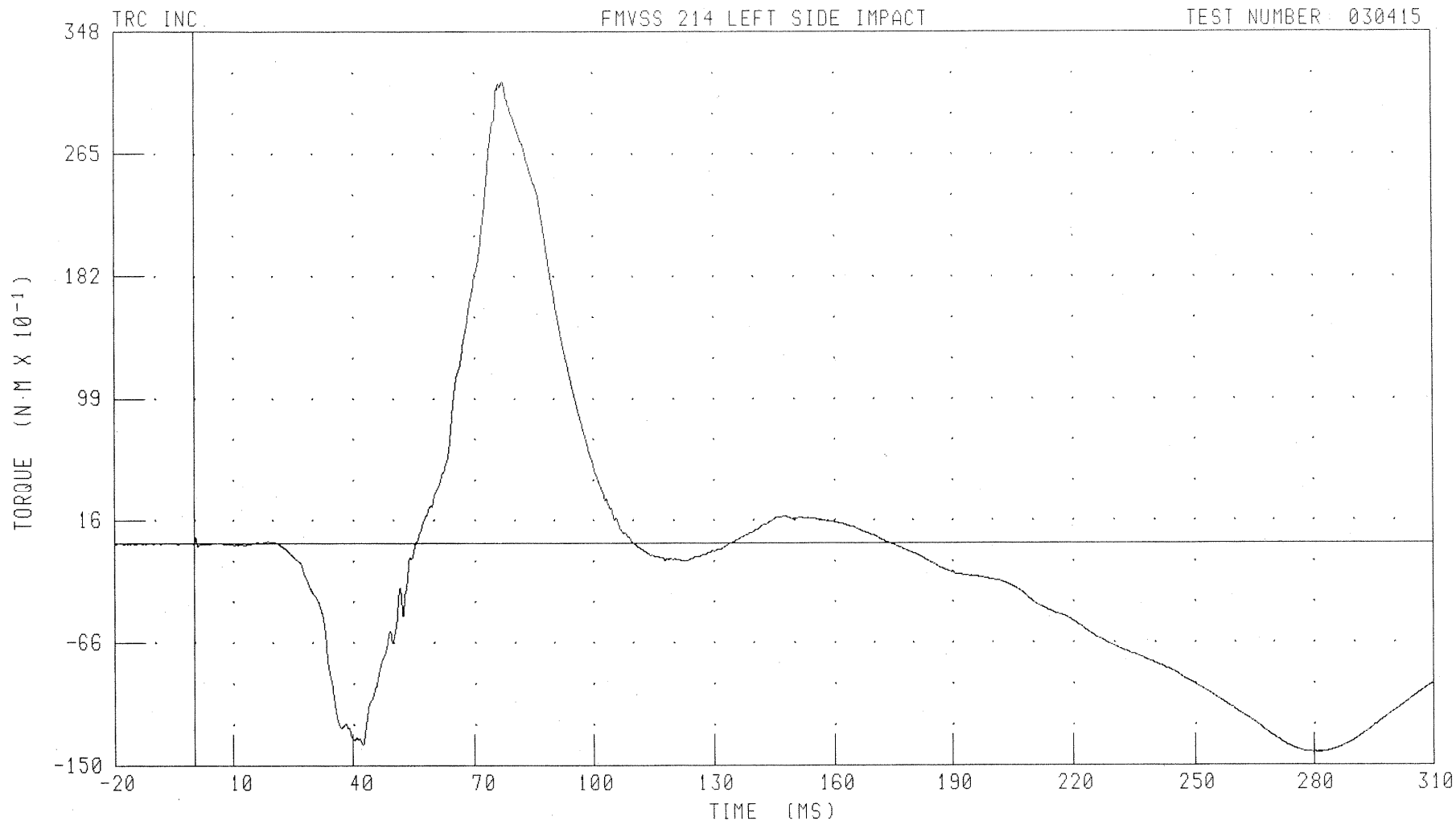
B-21

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



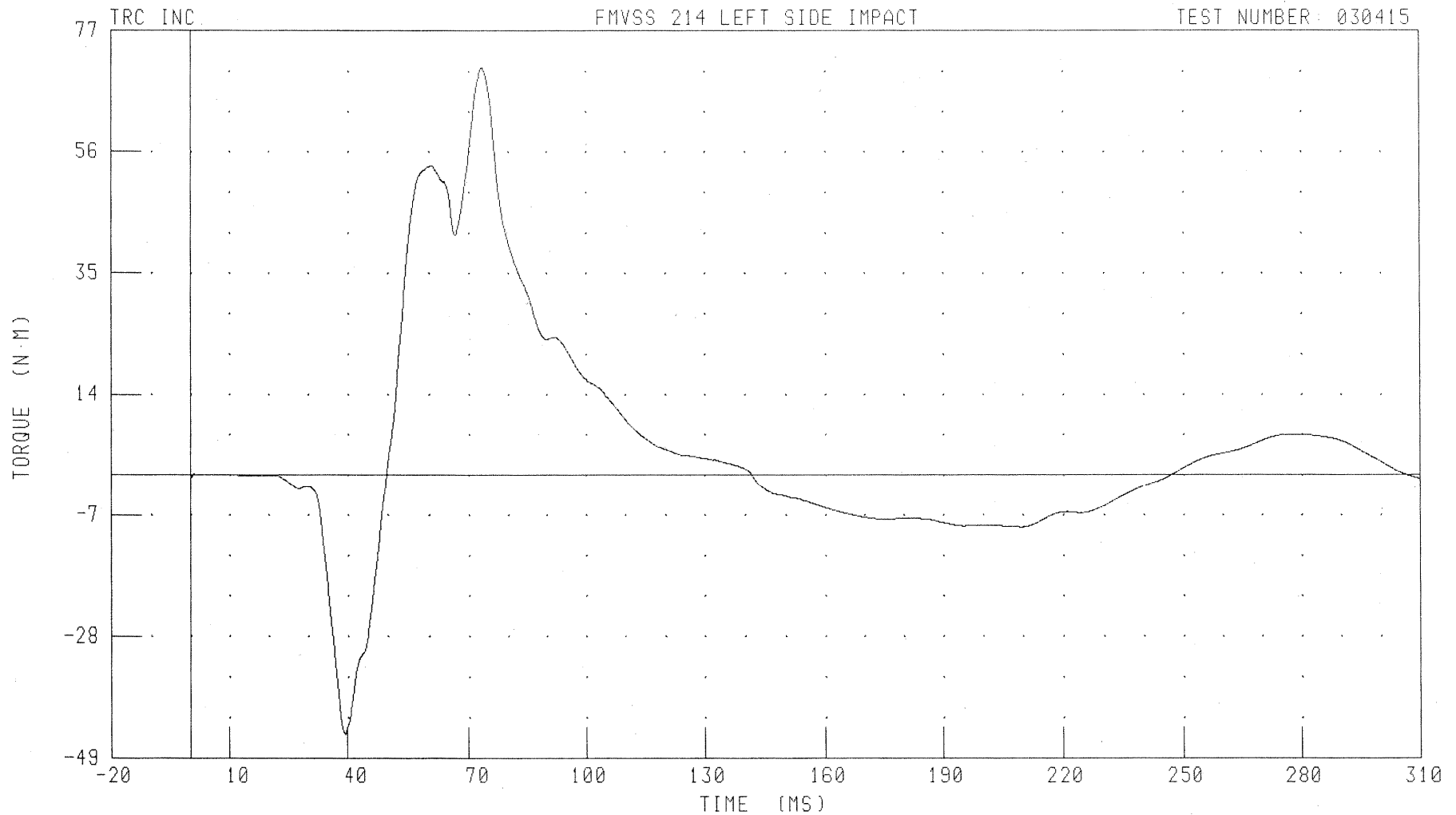
CHANNEL: NEKZM1 FILTER: CH. CLASS 600

PEAK DATA: 31.47 N·M @ 77.28 MS; -14.14 N·M @ 280.64 MS

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



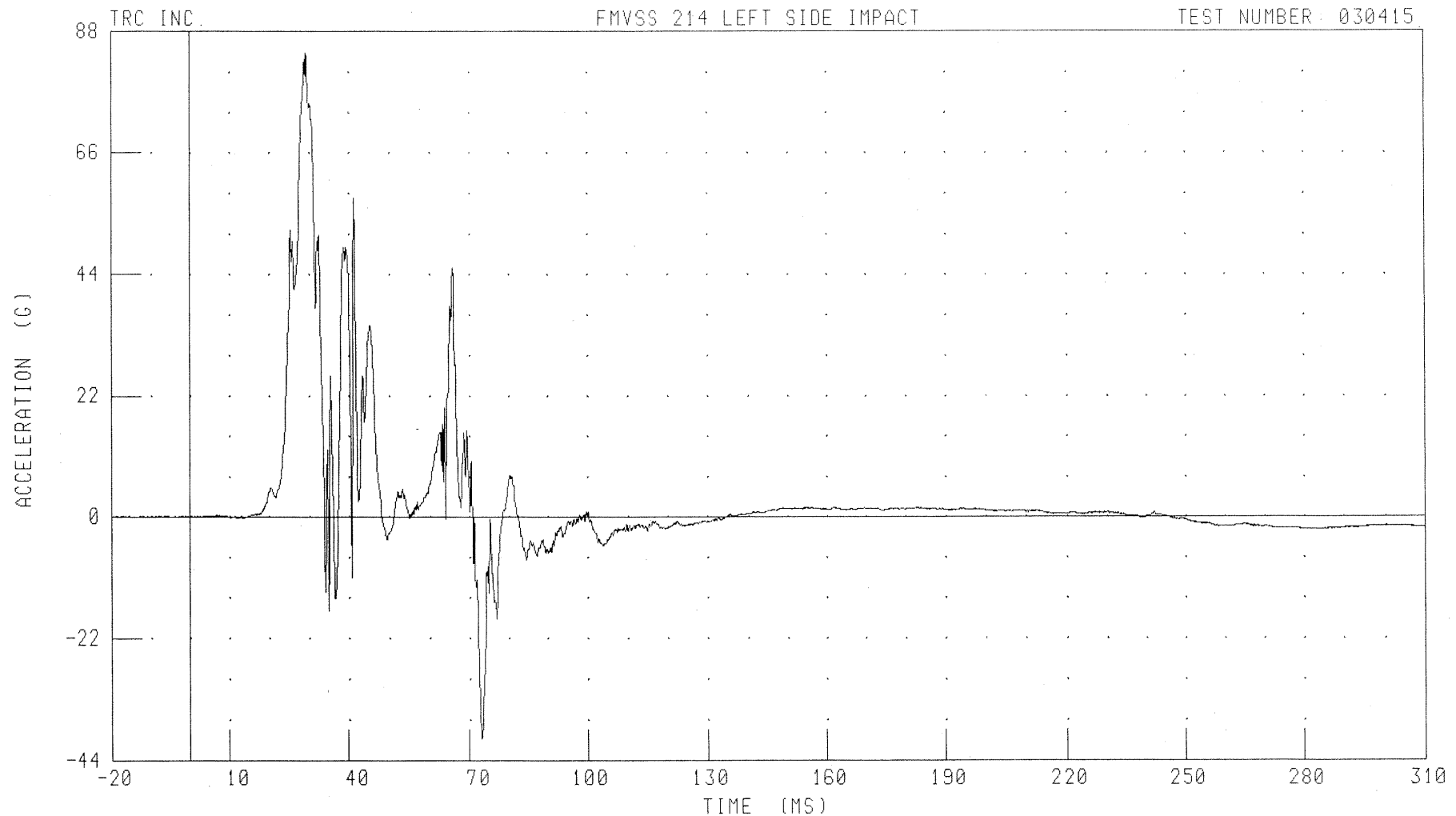
CHANNEL: NK0XM1 FILTER: CH. CLASS 600

PEAK DATA: 70.73 N·M @ 73.44 MS; -44.90 N·M @ 39.36 MS

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYG1 FILTER: CH. CLASS 1000

PEAK DATA: 84.15 G @ 29.36 MS; -40.03 G @ 73.04 MS

B-24

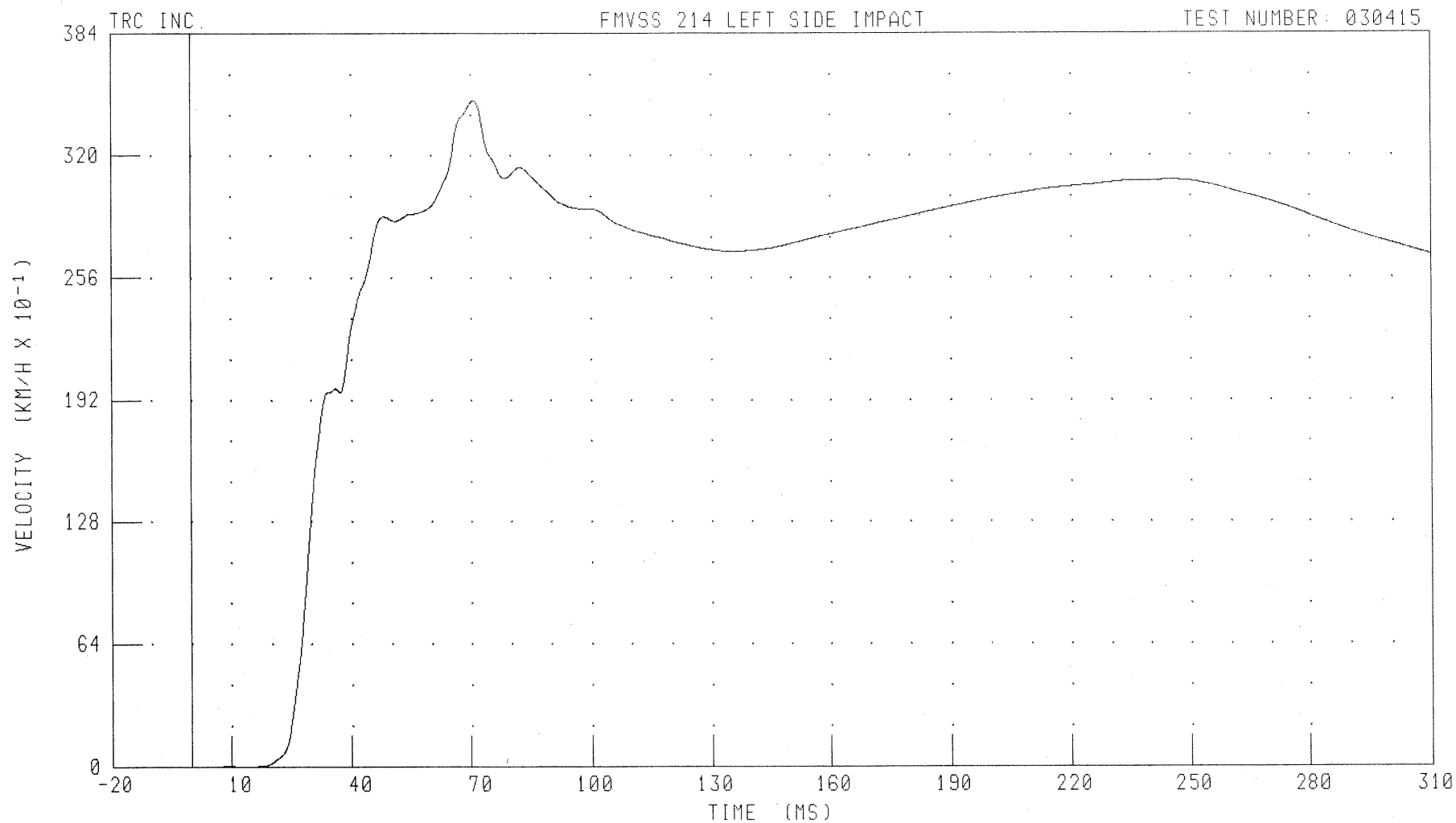
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER UPPER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYV1 FILTER: CH. CLASS 180

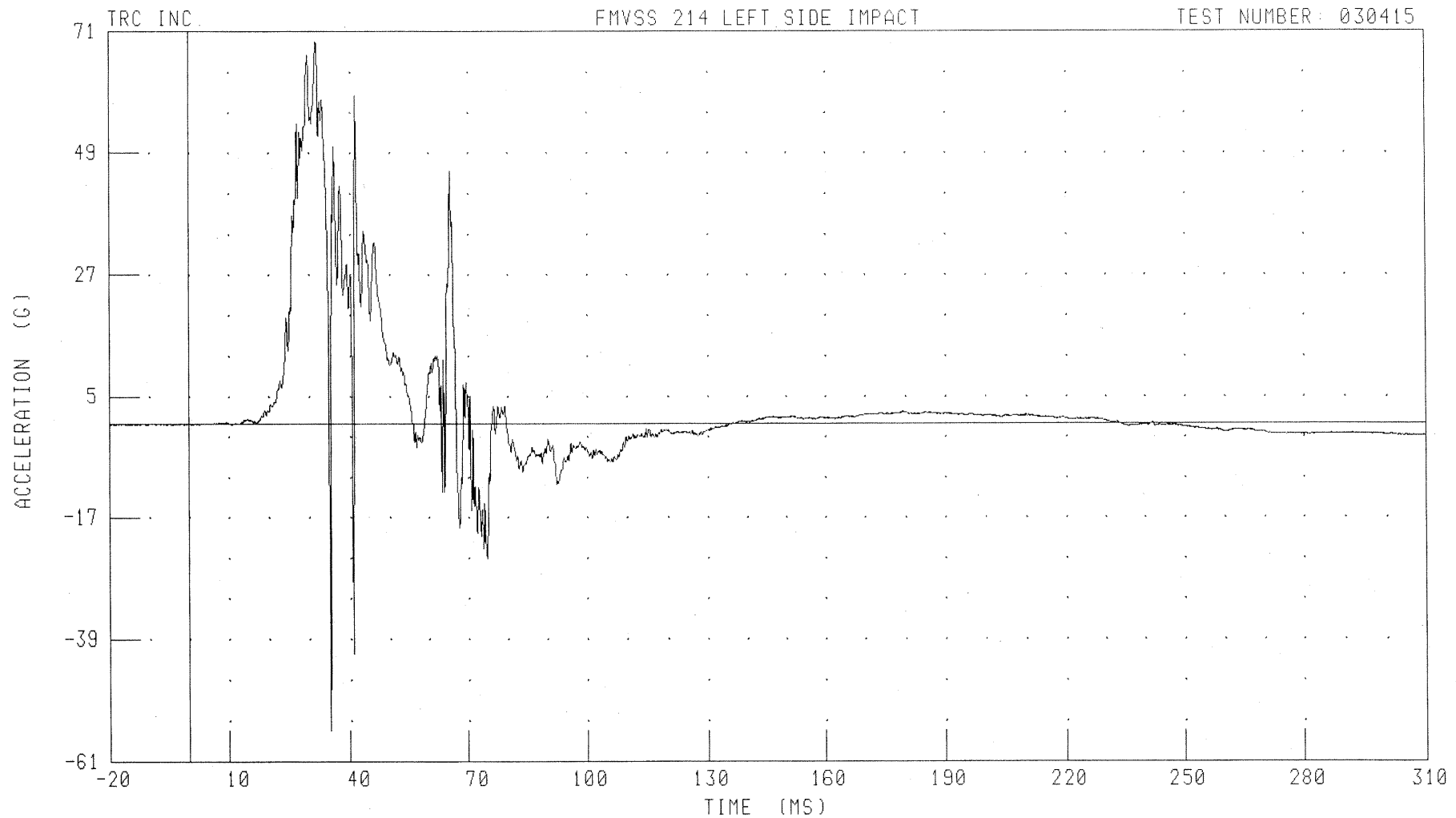
PEAK DATA: 34.92 KM/H @ 70.88 MS; 0.00 KM/H @ 0.00 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYG1 FILTER: CH. CLASS 1000

PEAK DATA: 69.18 G @ 31.84 MS; -55.50 G @ 35.20 MS

B-26

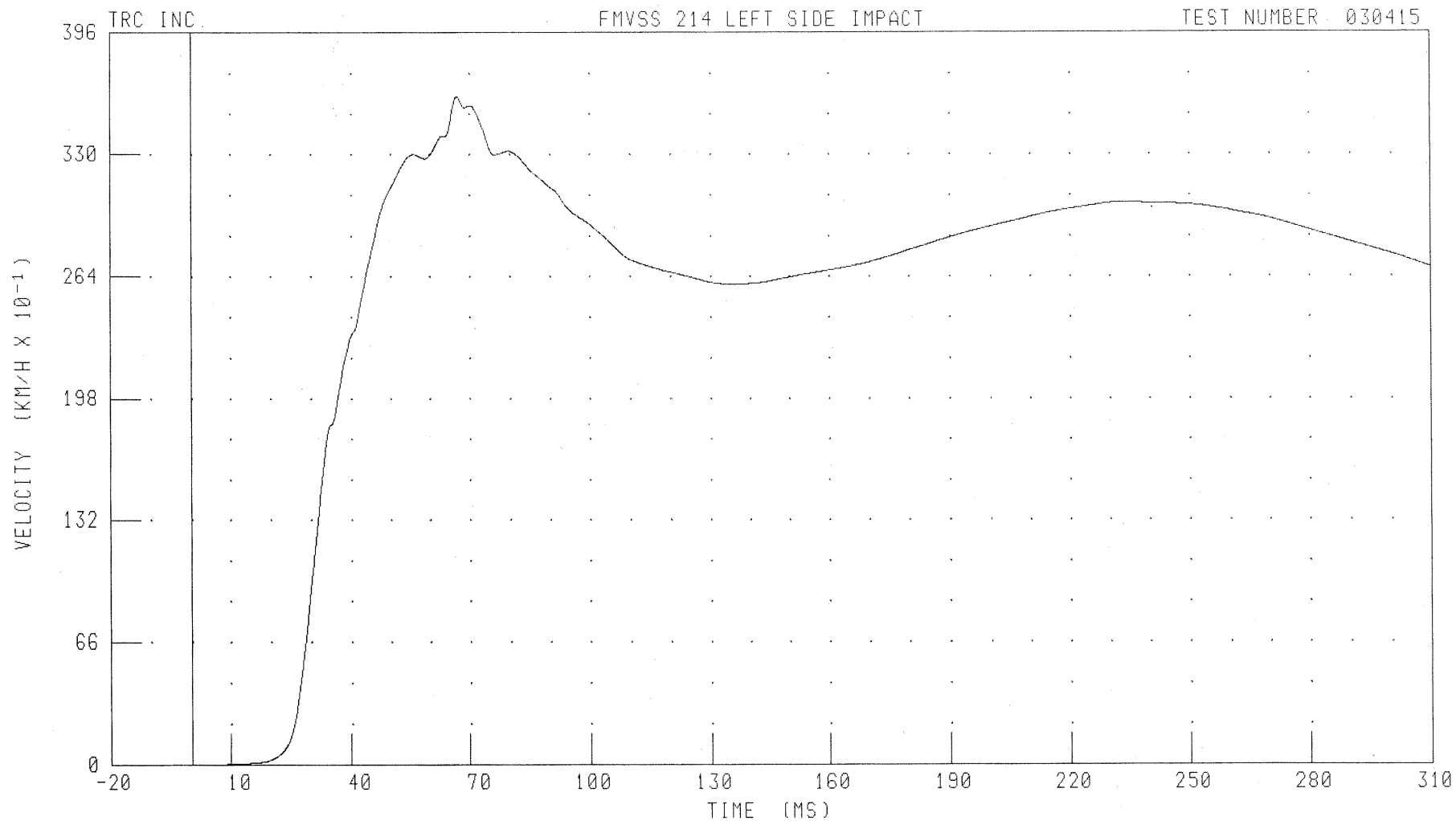
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: LLRYV1 FILTER: CH. CLASS 180

PEAK DATA: 36.16 KM/H @ 67.04 MS; 0.00 KM/H @ 0.00 MS

B-27

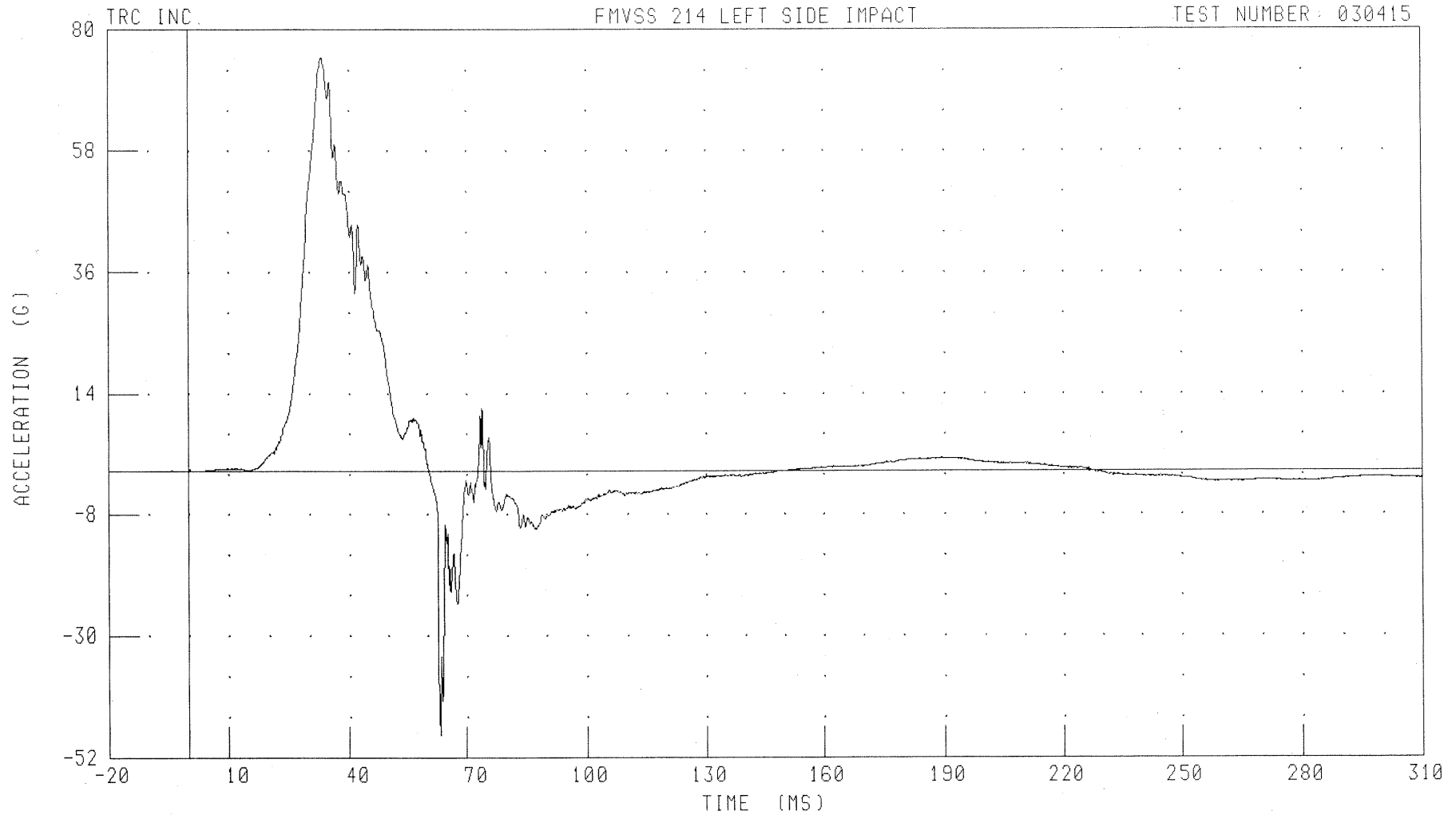
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YG1 FILTER: CH. CLASS 1000

PEAK DATA: 74.95 G @ 33.28 MS; -47.91 G @ 63.28 MS

B-28

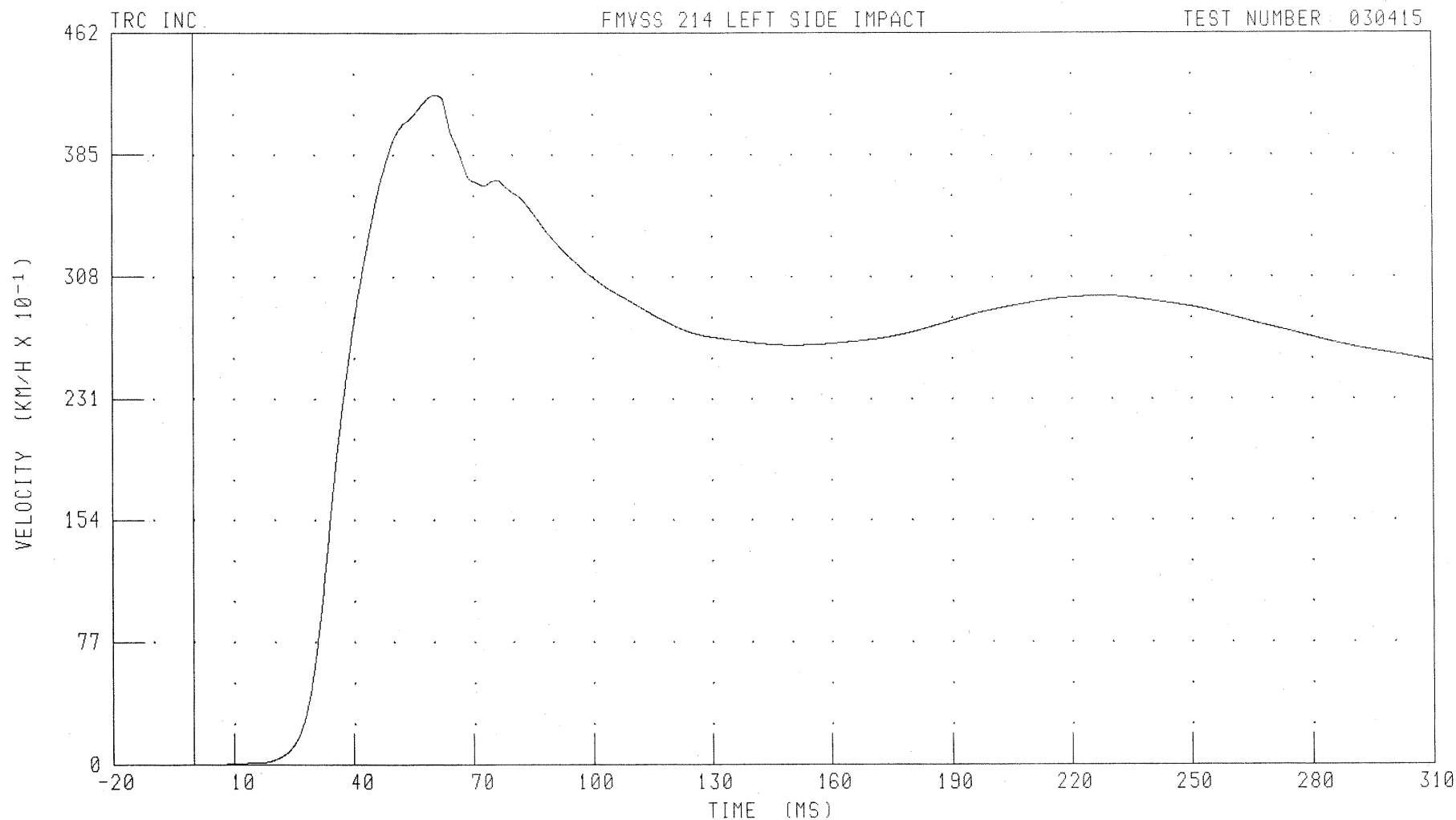
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER SPINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YV1

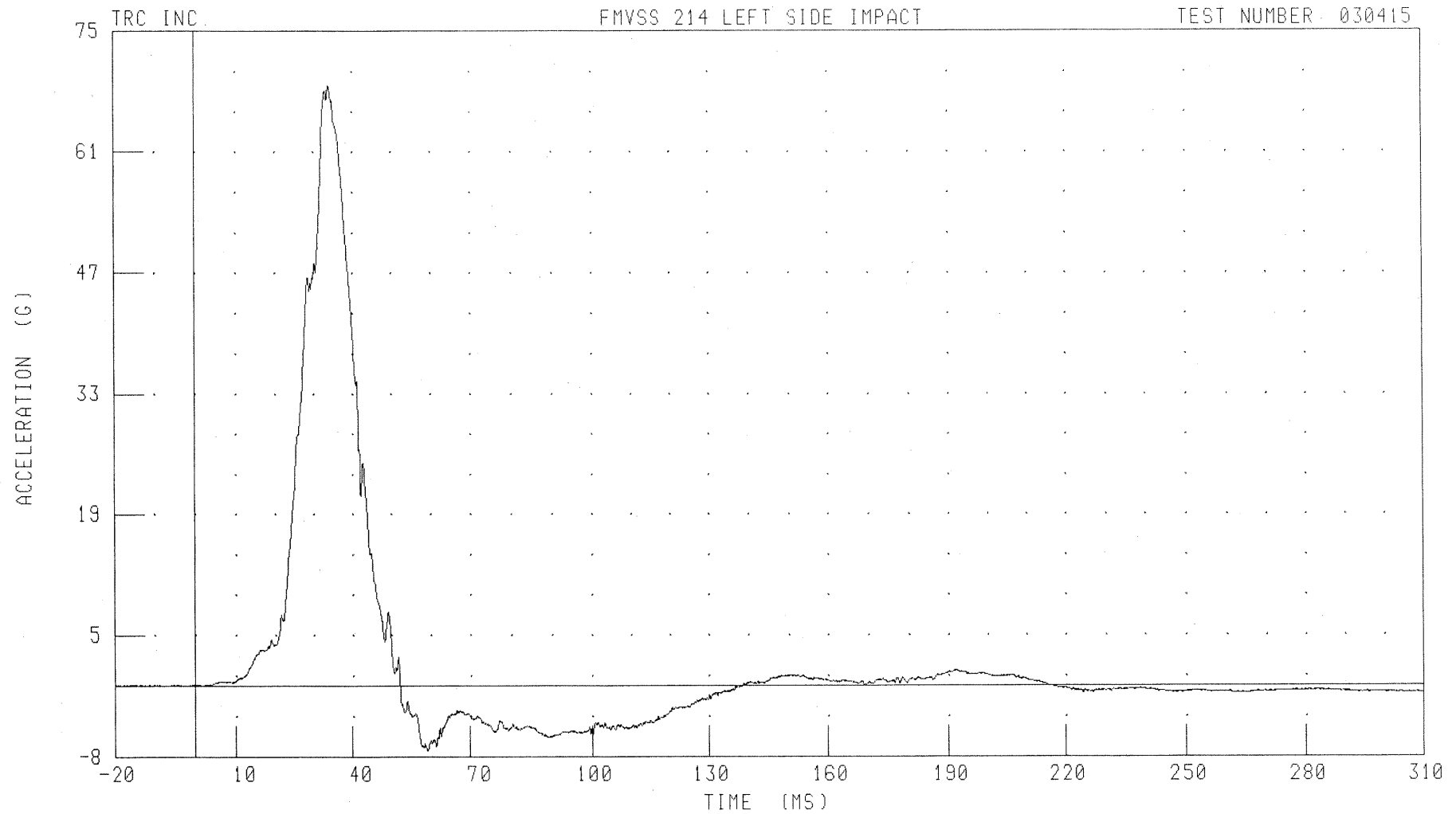
FILTER: CH. CLASS 180

PEAK DATA: 42.30 KM/H @ 60.72 MS; 0.00 KM/H @ 0.00 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
DRIVER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: PEVYG1 FILTER: CH. CLASS 1000

PEAK DATA: 69.51 G @ 34.16 MS; -7.53 G @ 59.12 MS

B-30

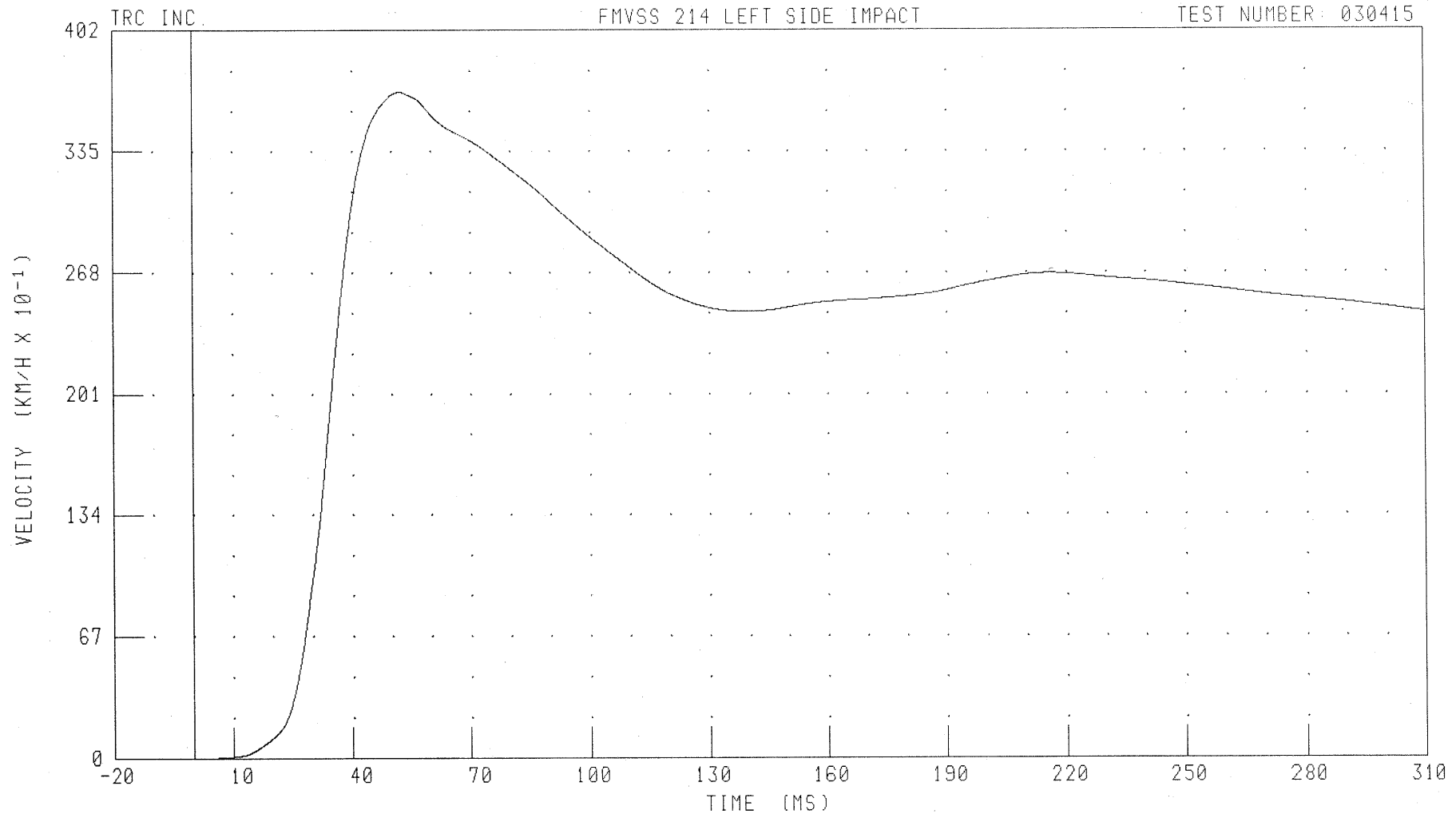
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: PEVYV1

FILTER: CH. CLASS 180

PEAK DATA: 36.80 KM/H @ 52.24 MS; 0.00 KM/H @ 0.00 MS

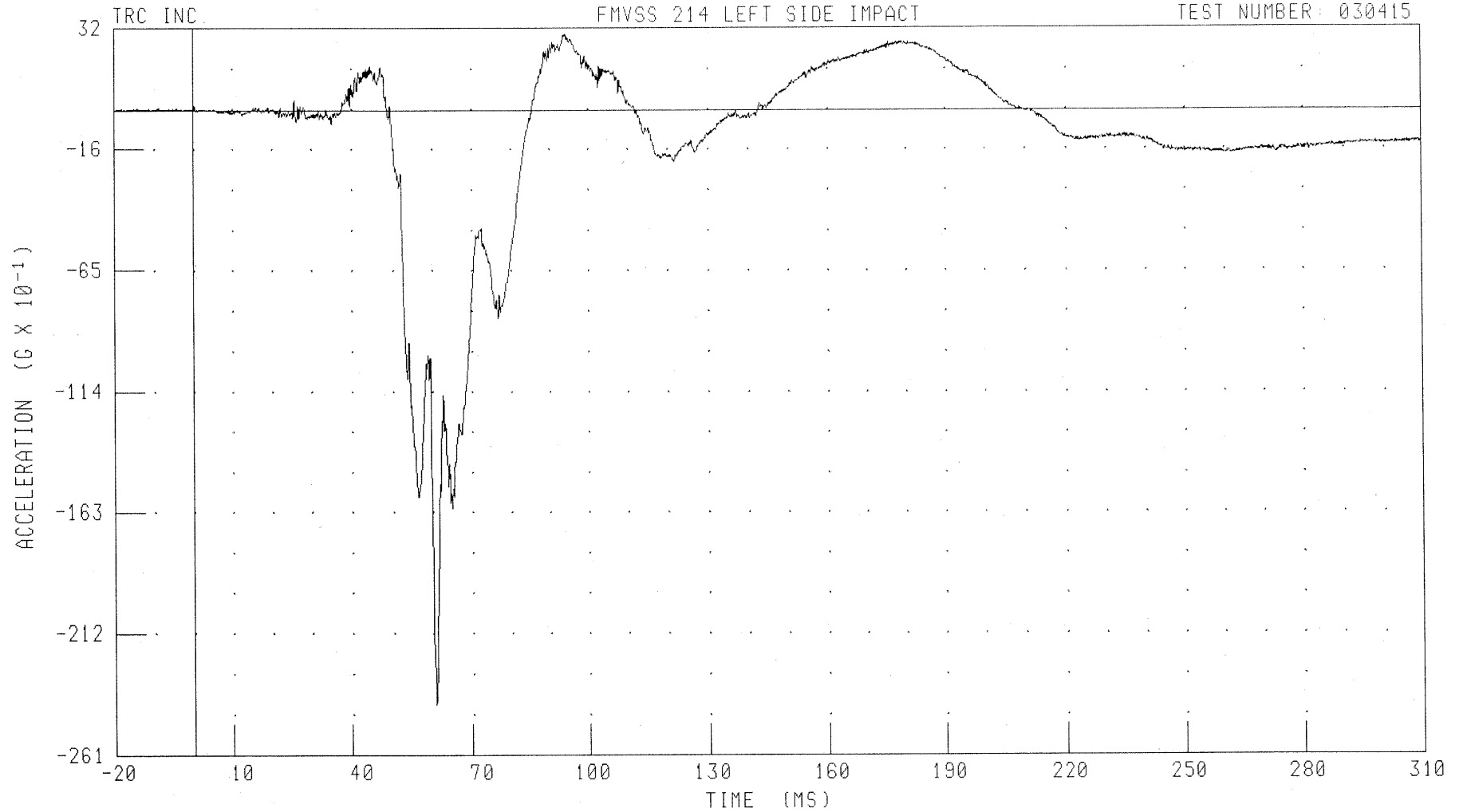
B-31

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR-PASSENGER HEAD X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDXG4 FILTER: CH. CLASS 1000

PEAK DATA: 3.06 G @ 94.32 MS; -24.05 G @ 60.80 MS

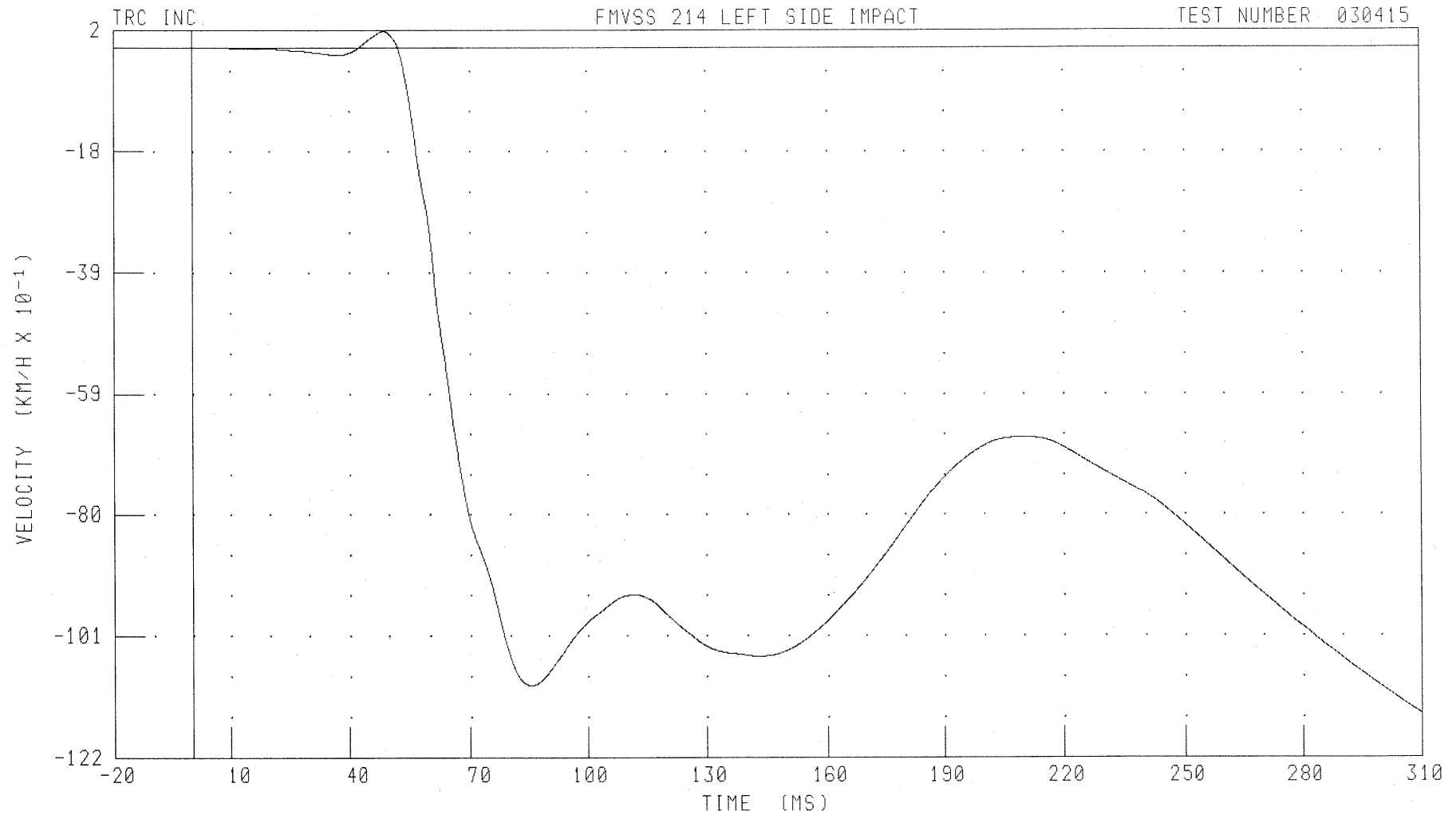
B-32

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: HEDXV4 FILTER: CH. CLASS 180

PEAK DATA: 0.28 KM/H @ 48.96 MS; -11.55 KM/H @ 310.00 MS

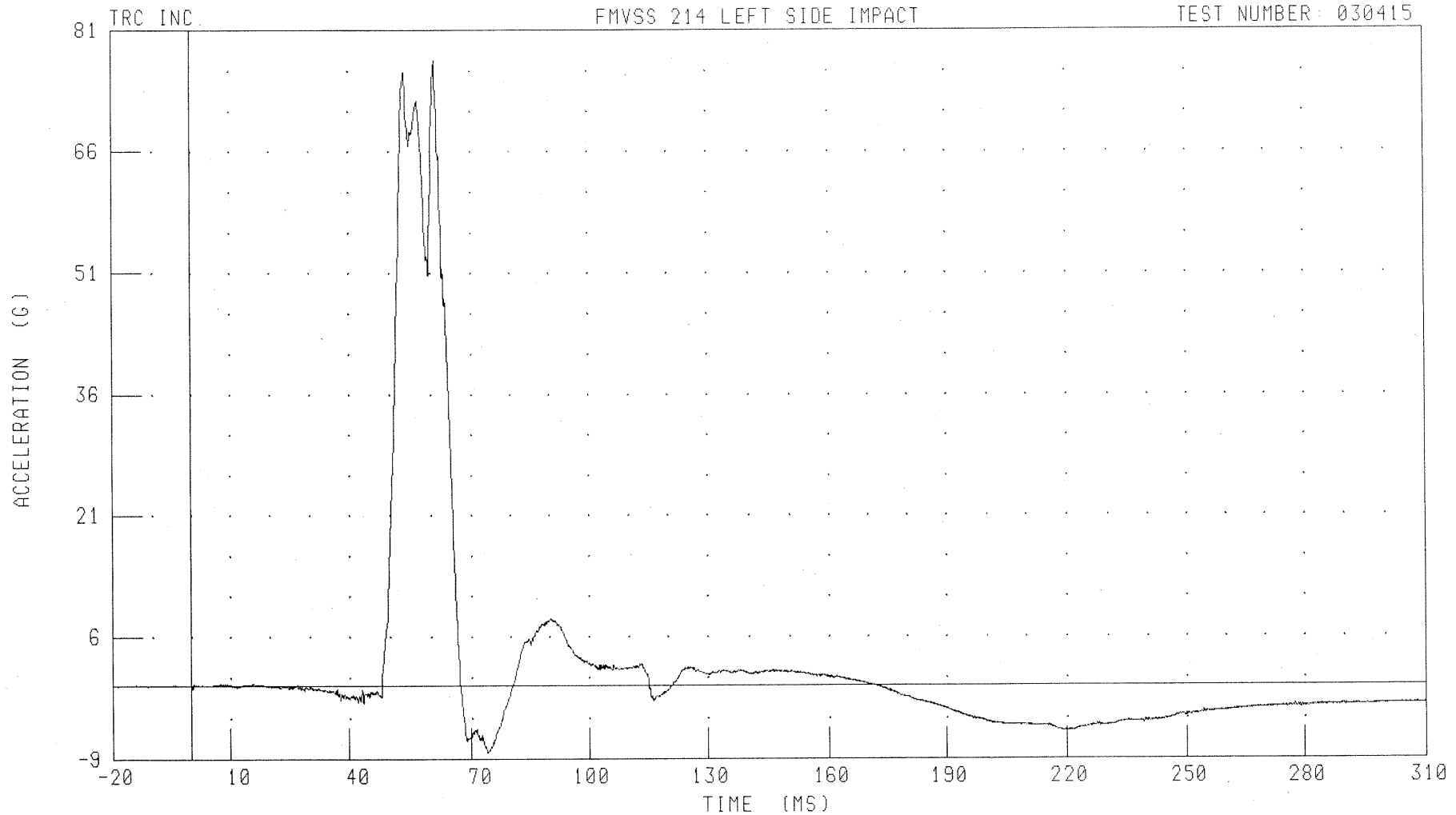
B-33

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDYG4 FILTER: CH. CLASS 1000

PEAK DATA: 77.39 G @ 61.20 MS; -8.27 G @ 74.00 MS

B-34

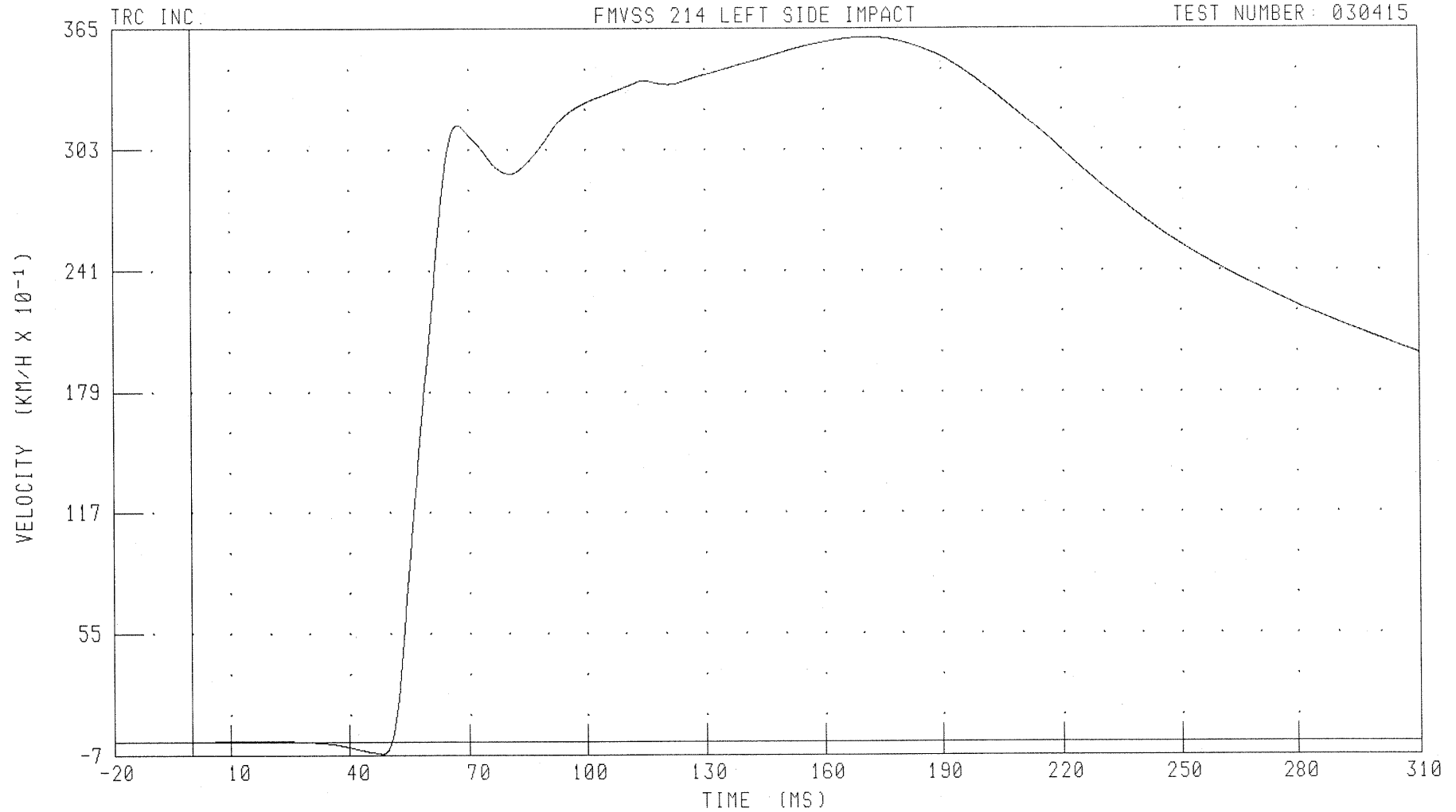
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER HEAD Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDYV4 FILTER: CH. CLASS 180

PEAK DATA: 36.05 KM/H @ 171.76 MS; -0.64 KM/H @ 47.92 MS

B-35

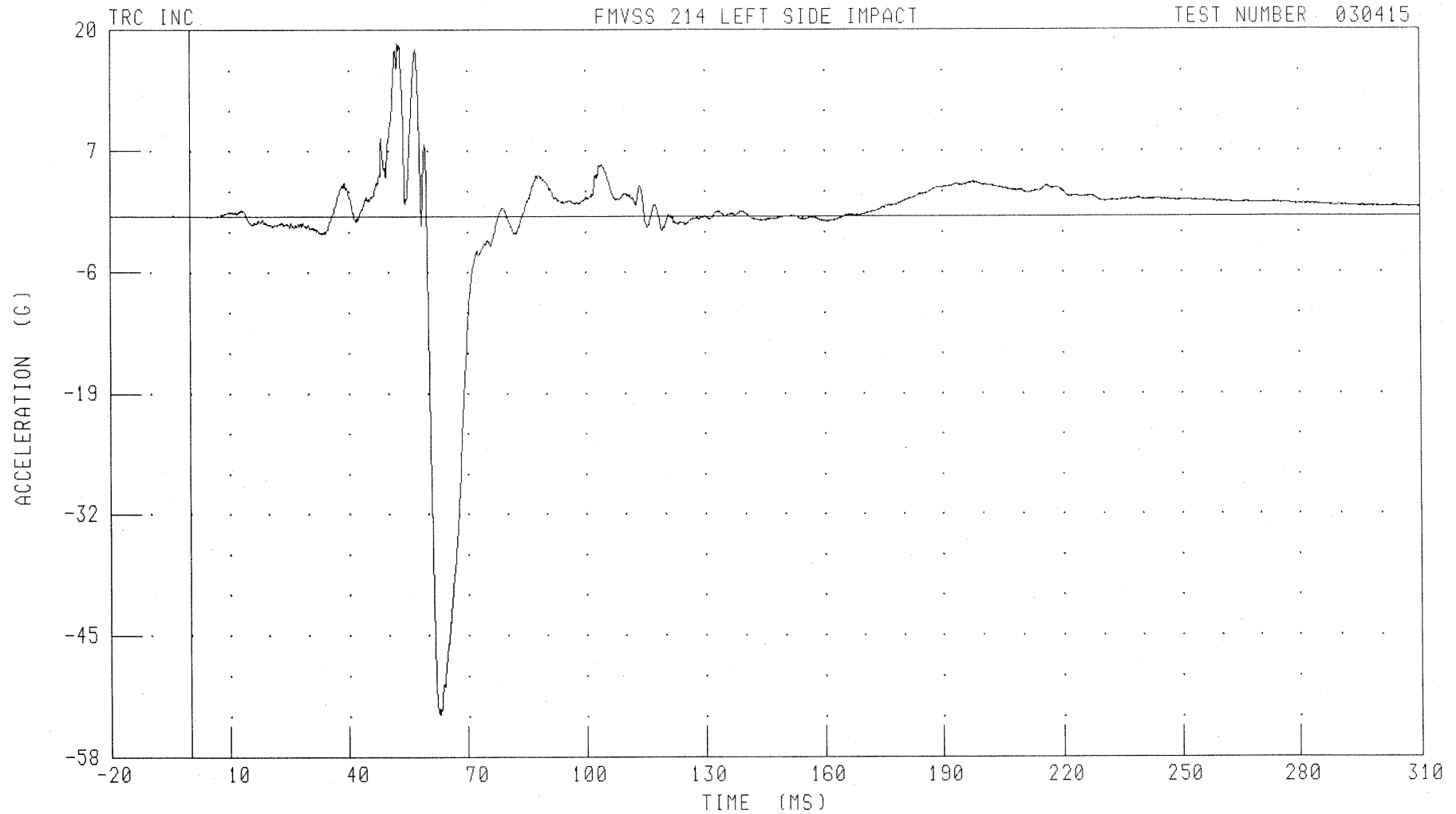
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER HEAD Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDZG4 FILTER: CH. CLASS 1000

PEAK DATA: 18.60 G @ 52.48 MS; -53.46 G @ 62.96 MS

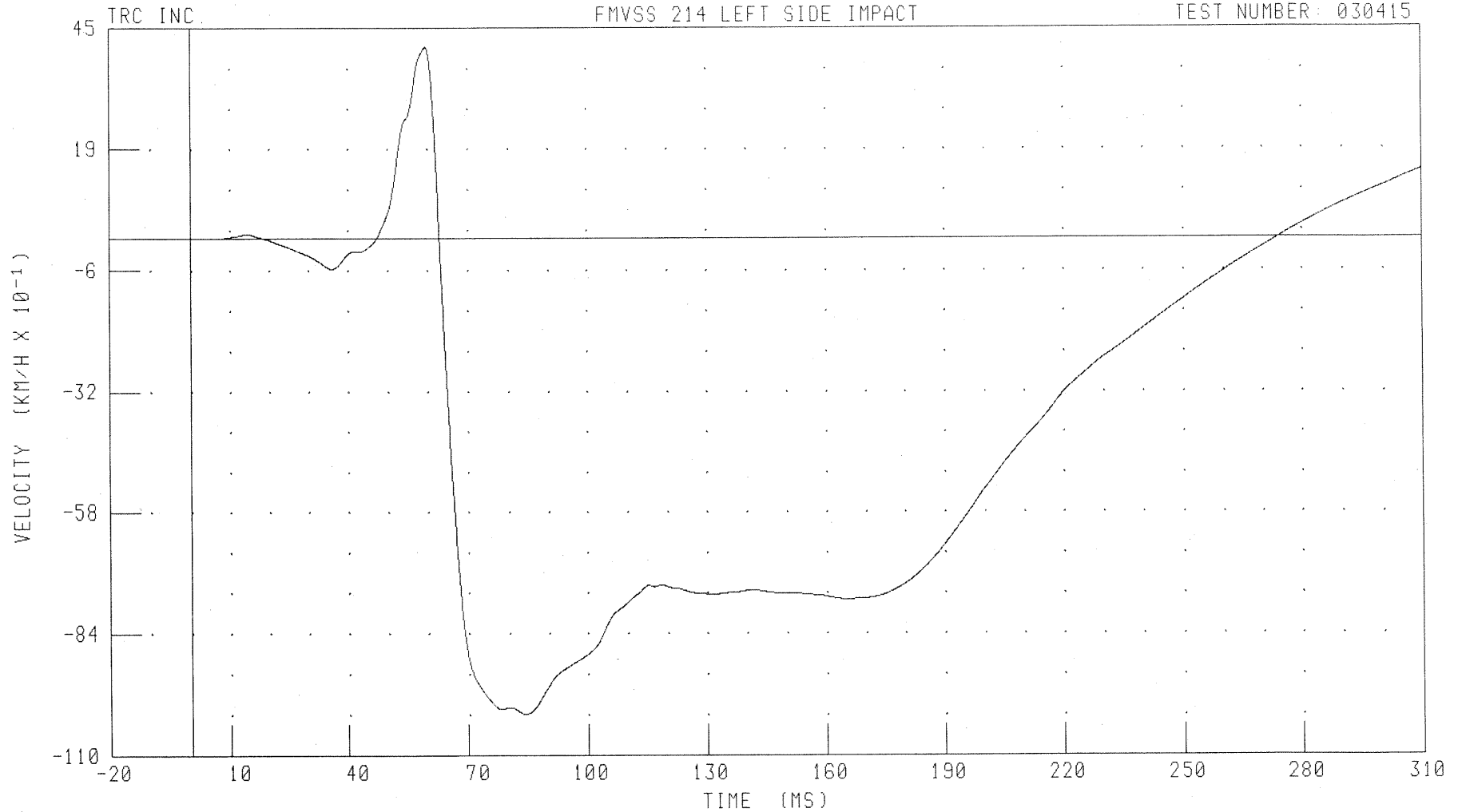
B-36

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDZV4 FILTER: CH. CLASS 180

PEAK DATA: 4.10 KM/H @ 59.68 MS; -10.22 KM/H @ 84.00 MS

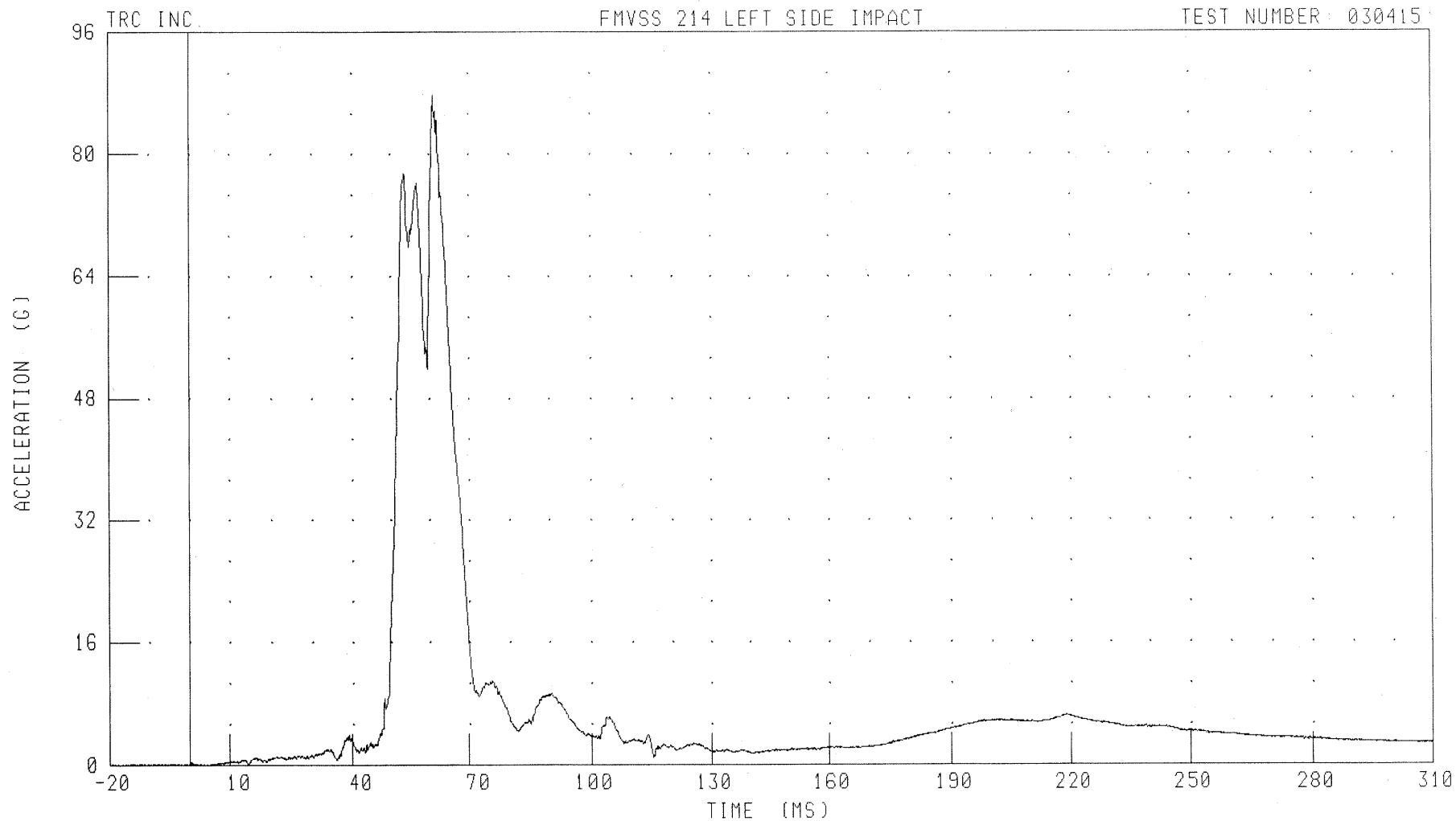
B-37

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDRG4 FILTER: CH. CLASS 1000

PEAK DATA: 87.80 G @ 61.20 MS; 0.01 G @ -19.12 MS

B-38

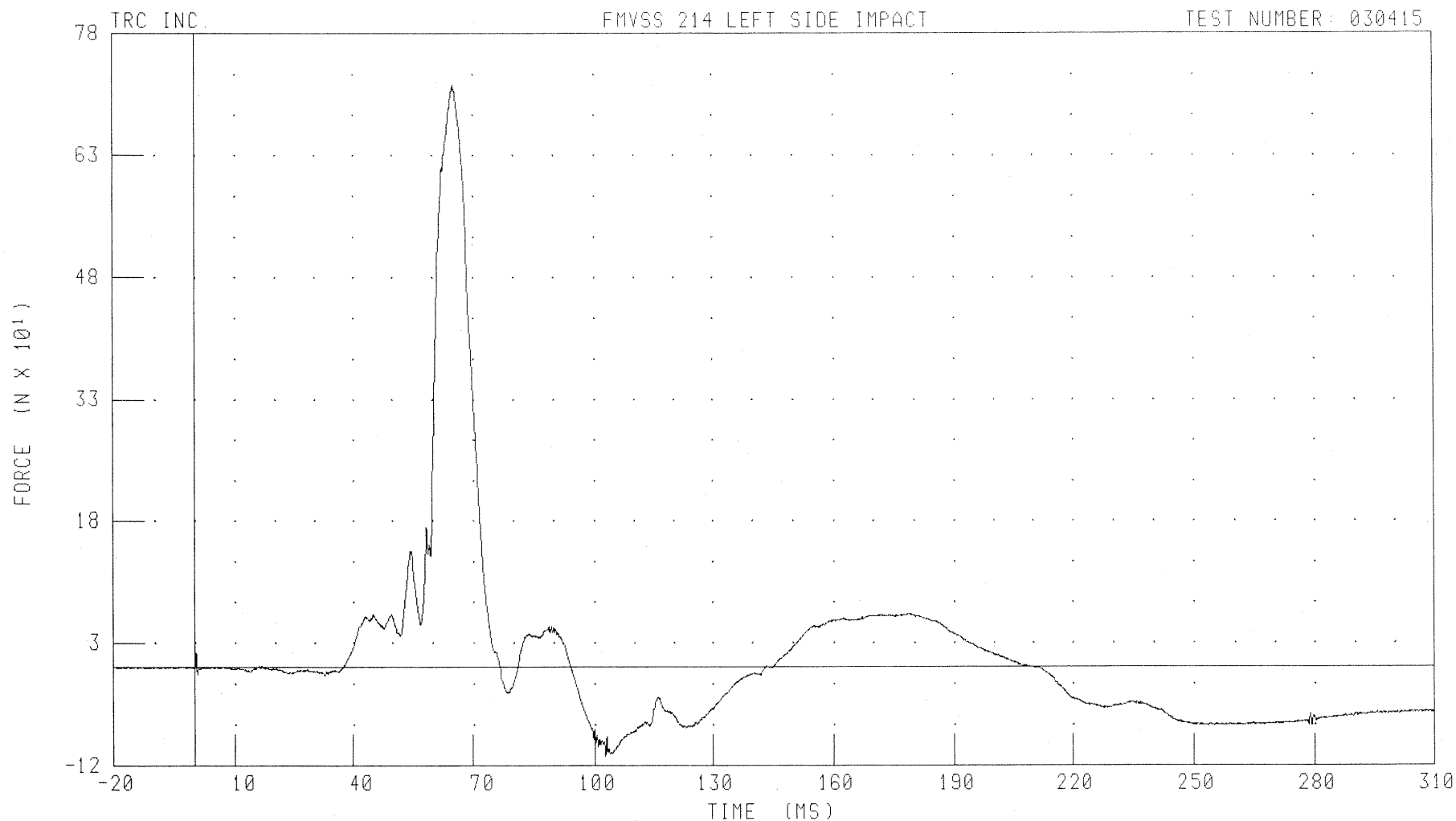
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER NECK X-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NEKXF4 FILTER: CH. CLASS 1000

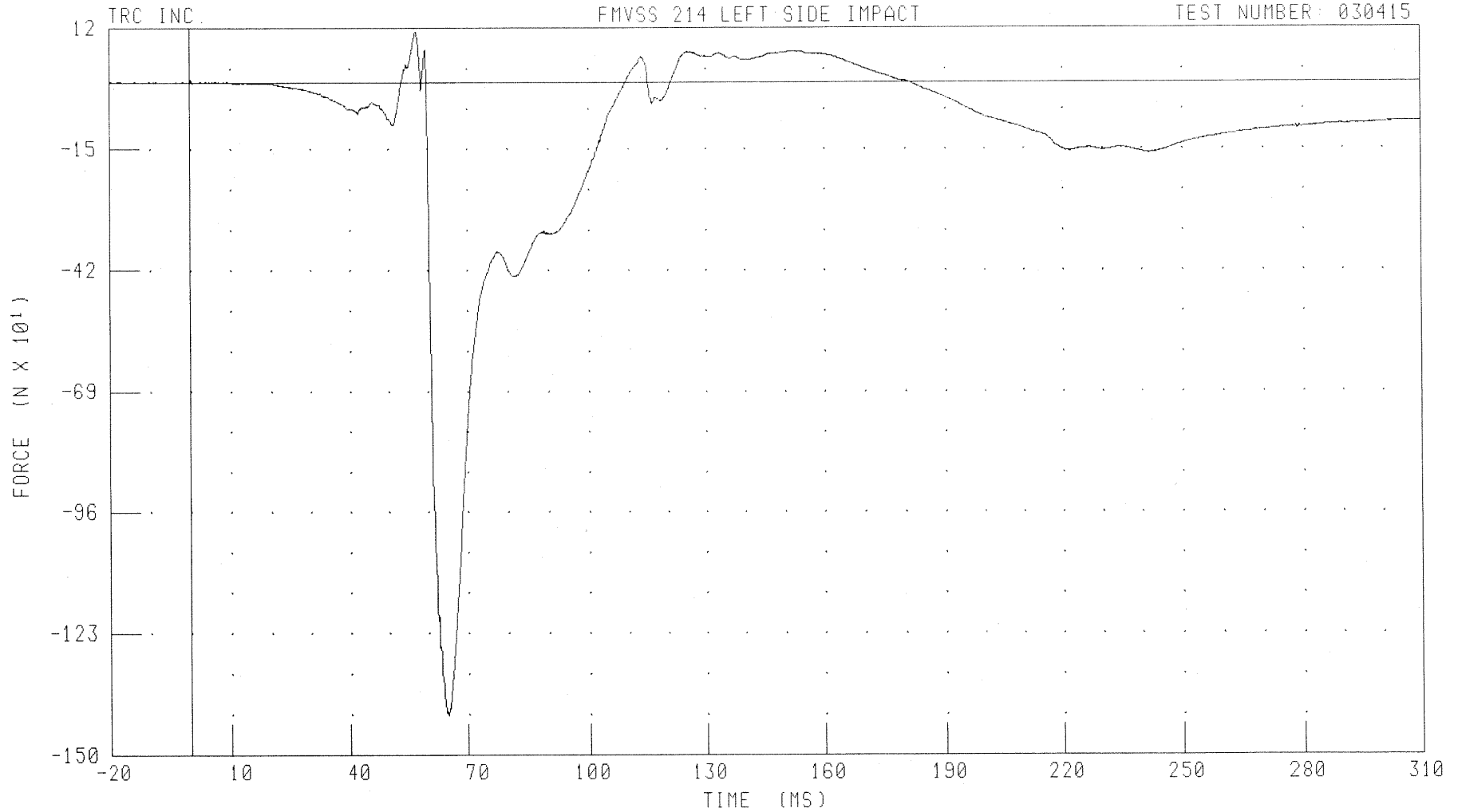
B-39

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER NECK Y-AXIS SHEAR FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NEKYF4 FILTER: CH. CLASS 1000

PEAK DATA: 111.66 N @ 57.28 MS, -1412.91 N @ 64.80 MS

B-40

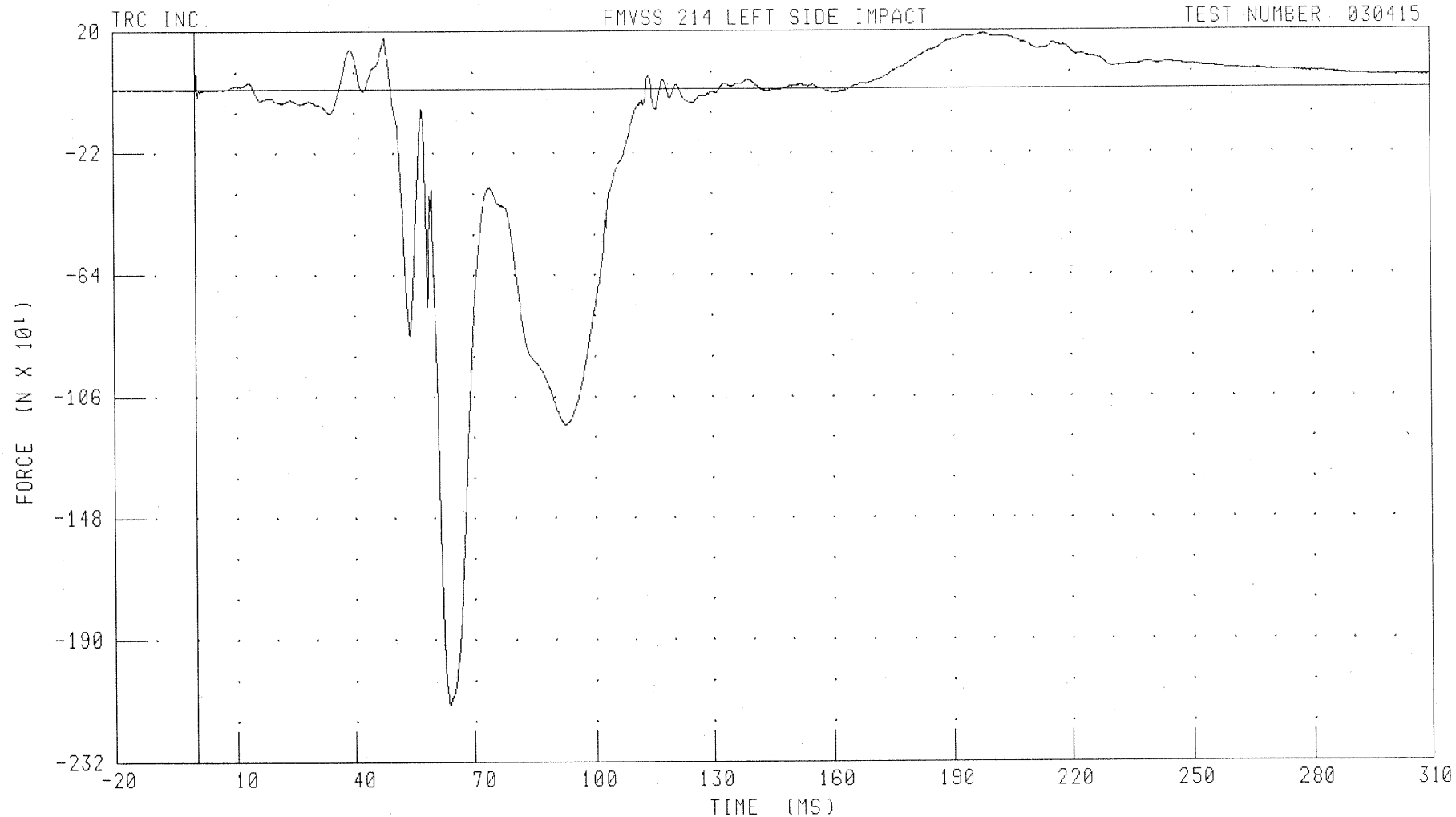
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER NECK Z-AXIS AXIAL FORCE

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



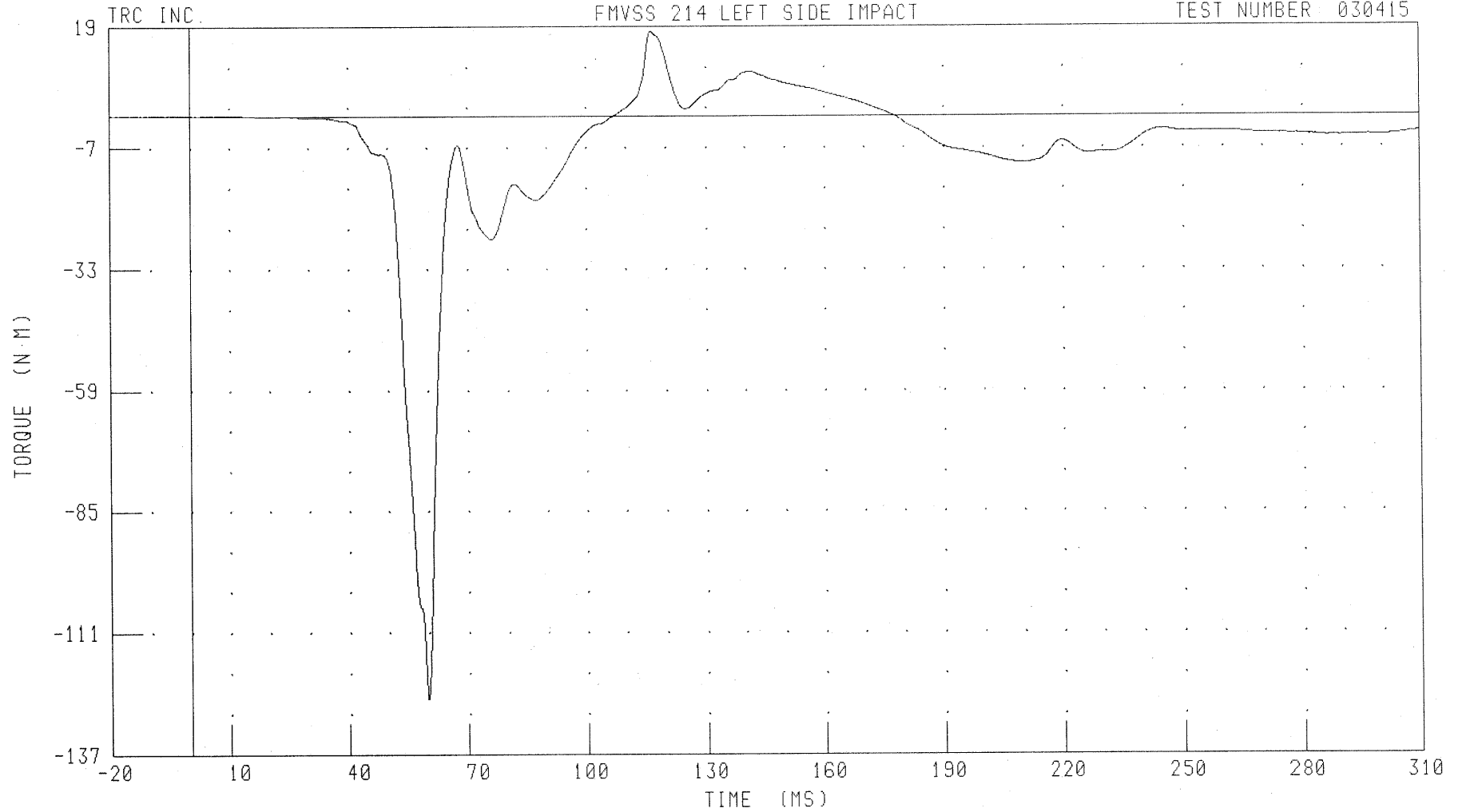
CHANNEL: NEKZF4 FILTER: CH. CLASS 1000

PEAK DATA: 188.92 N @ 198.24 MS; -2126.29 N @ 64.00 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER NECK MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: NEKXM4 FILTER: CH. CLASS 600

PEAK DATA: 17.98 N·M @ 116.56 MS; -125.23 N·M @ 59.92 MS

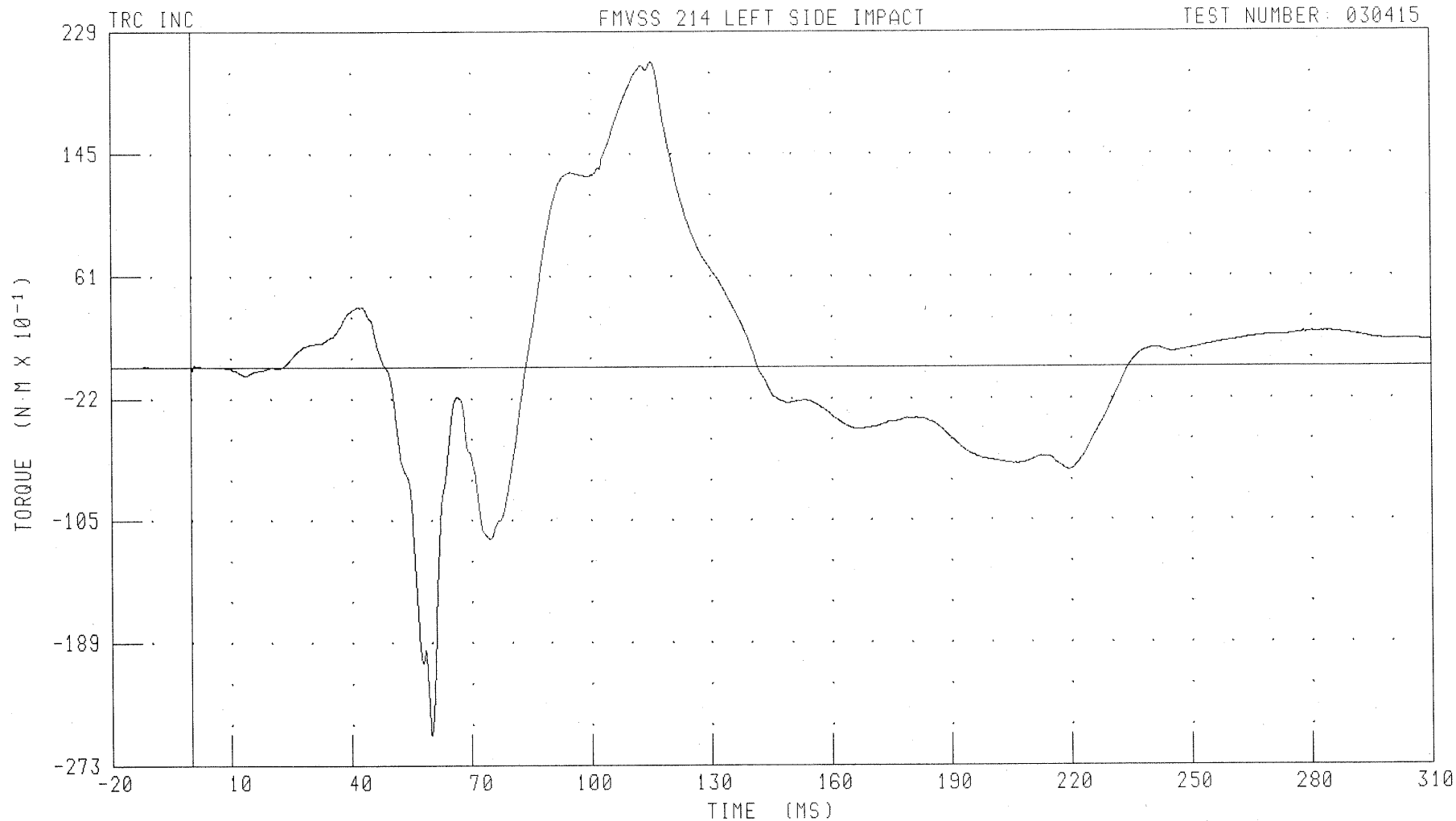
B-42

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER NECK MOMENT ABOUT Y AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NEKYM4

FILTER: CH. CLASS 600

PEAK DATA: 20.93 N·M @ 115.36 MS; -25.33 N·M @ 59.92 MS

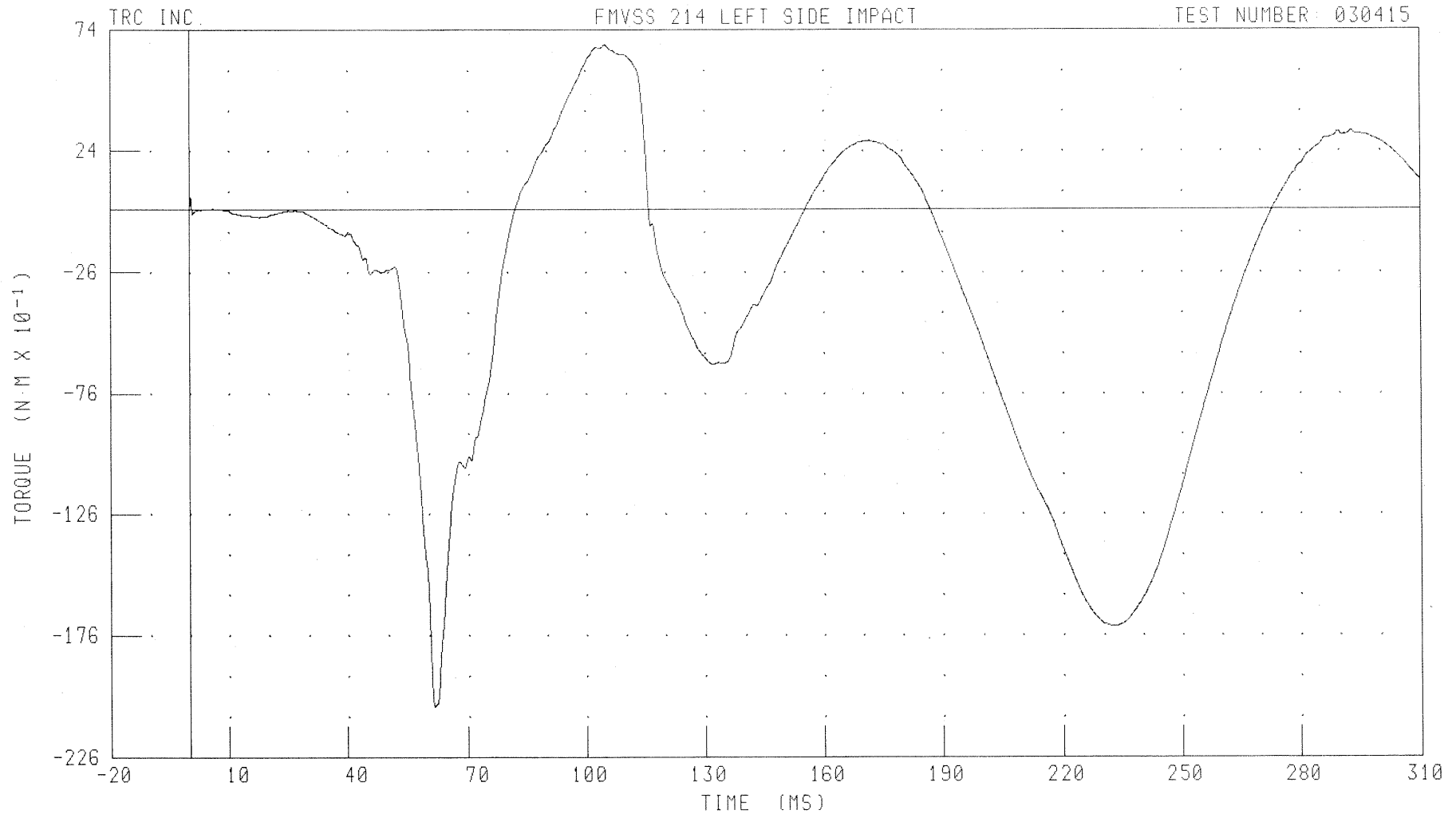
B-43

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER NECK MOMENT ABOUT Z AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NEKZM4 FILTER: CH. CLASS 600

PEAK DATA: 6.80 N·M @ 105.12 MS; -20.52 N·M @ 61.44 MS

B-44

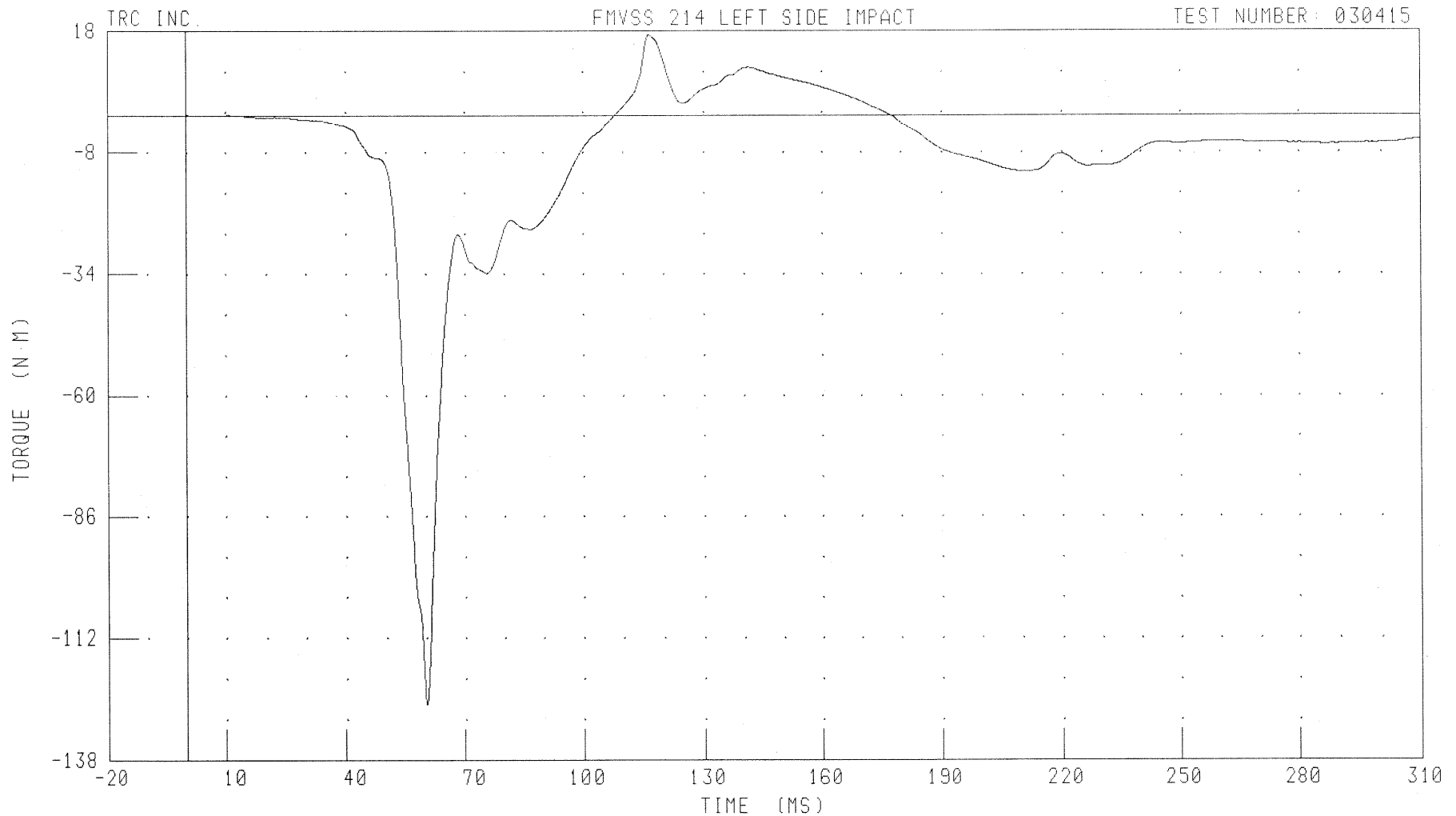
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER NECK OCCIPITAL CONDYLE MOMENT ABOUT X AXIS

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: NK0XM4 FILTER: CH. CLASS 600

PEAK DATA: 17.20 N·m @ 116.64 ms; -126.22 N·m @ 60.16 ms

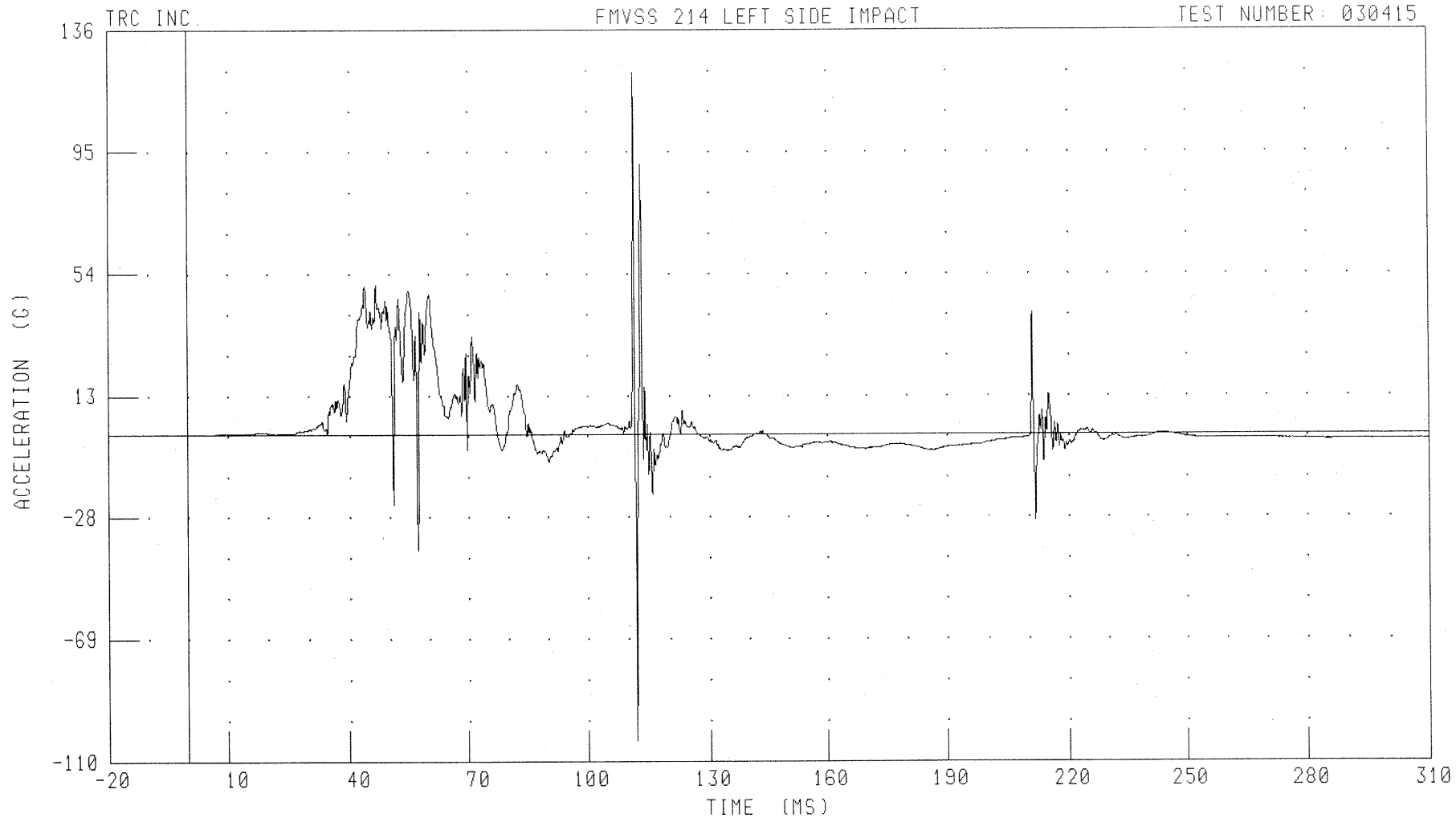
B-45

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYG4 FILTER: CH. CLASS 1000

B-46

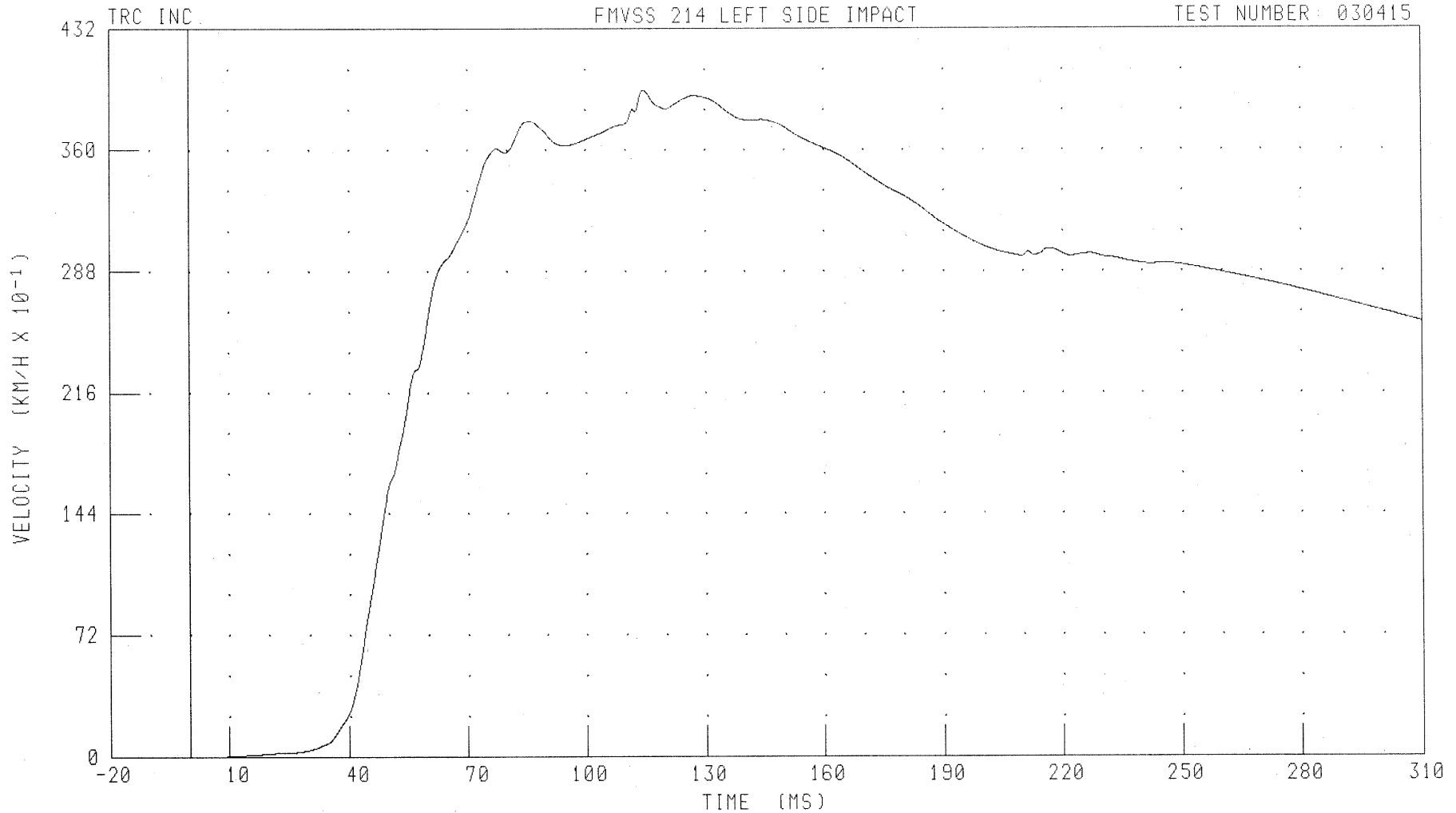
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER UPPER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYV4 FILTER: CH. CLASS 180

PEAK DATA: 39.58 KM/H @ 114.72 MS; 0.00 KM/H @ 0.00 MS

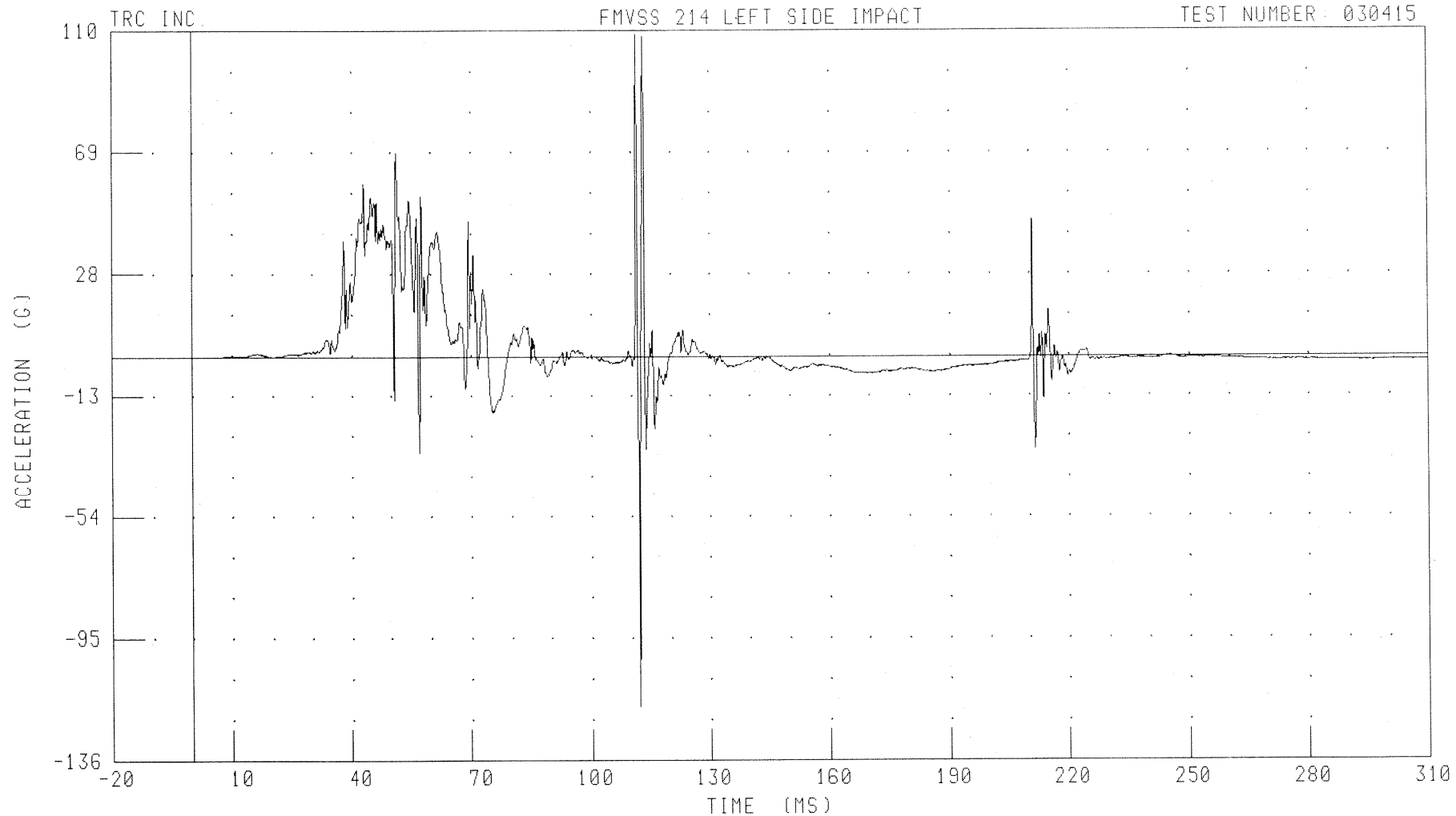
B-47

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYG4 FILTER: CH. CLASS 1000

B-48

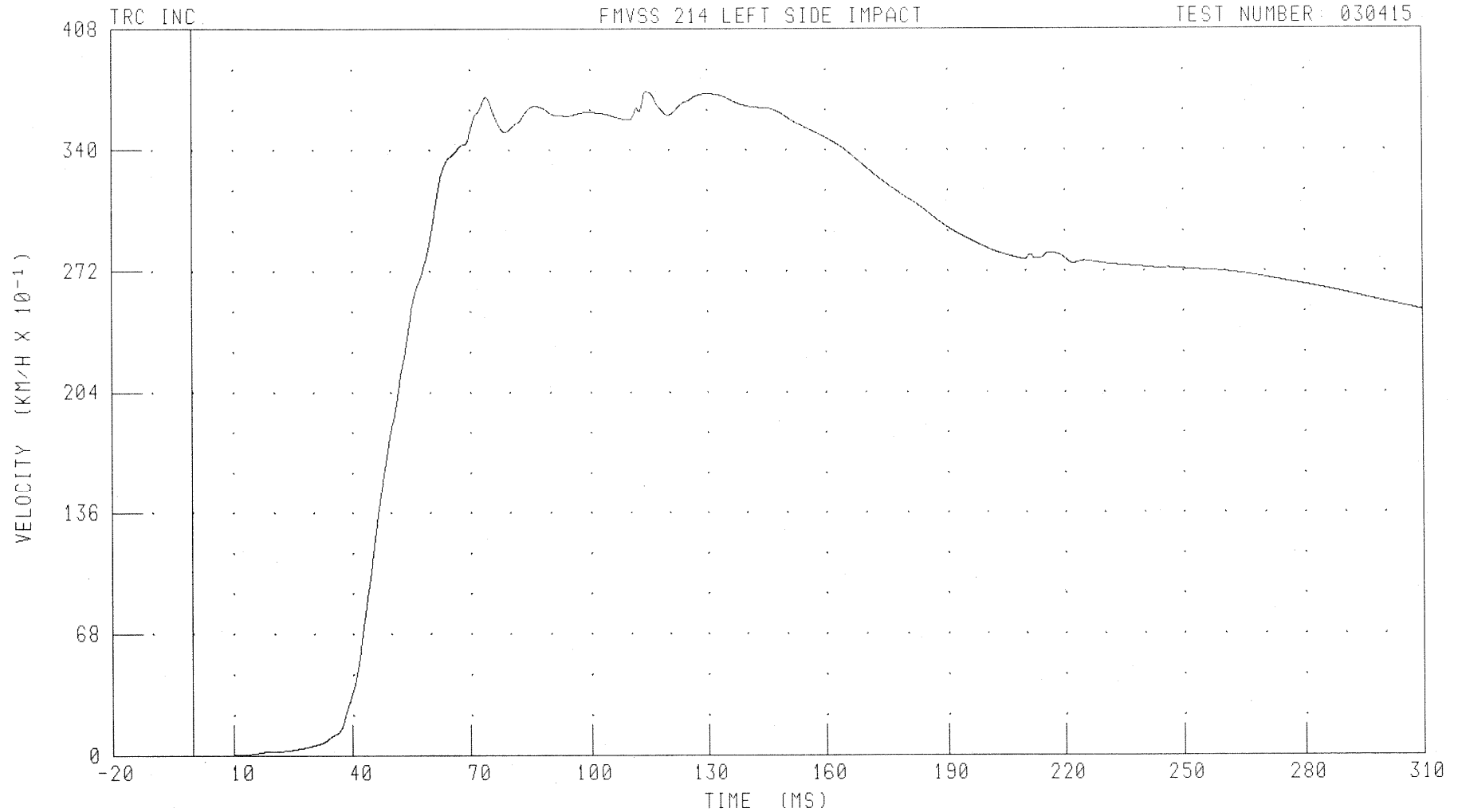
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER LOWER RIB Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYV4 FILTER: CH. CLASS 180

PEAK DATA: 37.31 KM/H @ 114.24 MS; 0.00 KM/H @ 6.56 MS

B-49

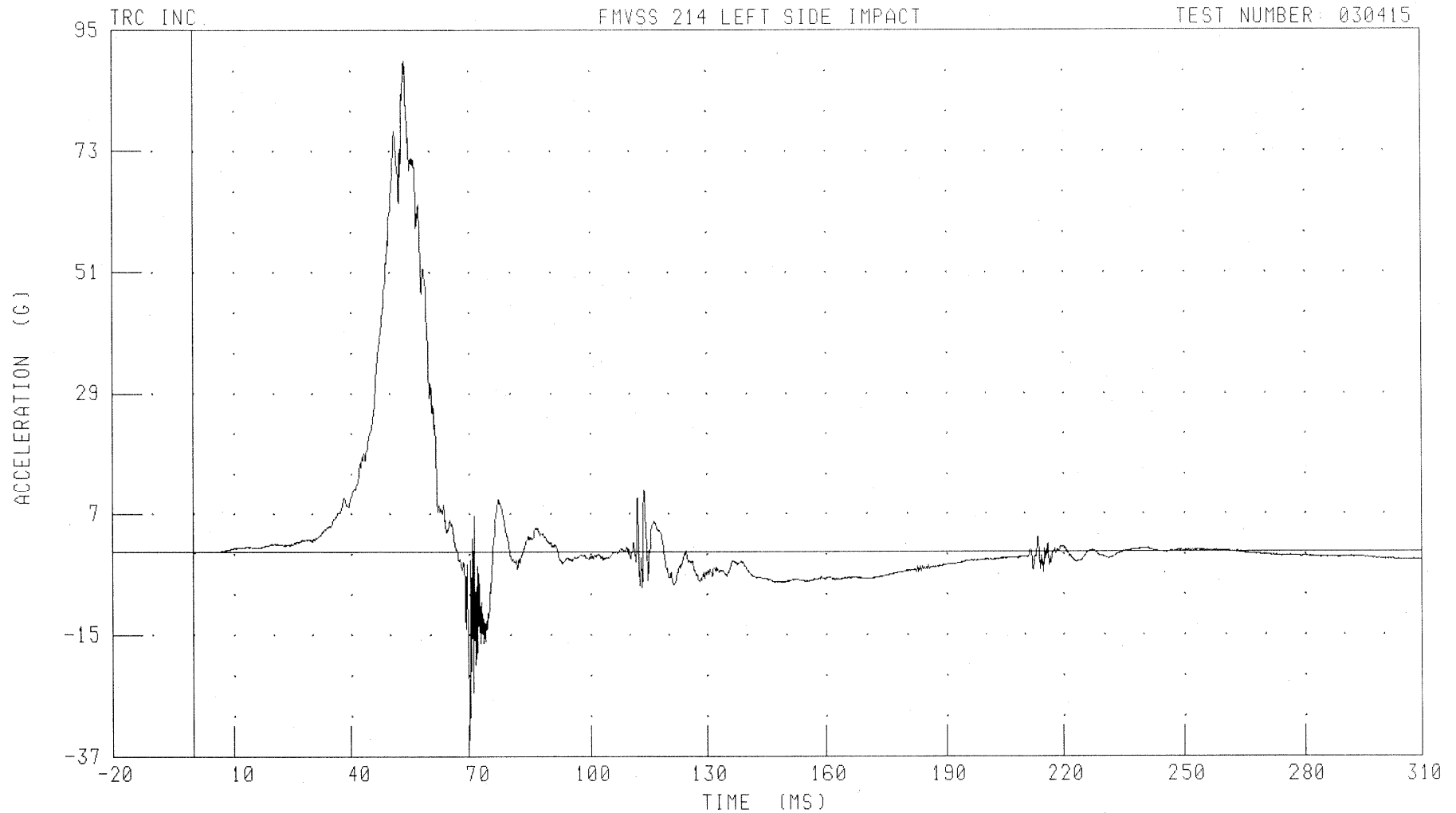
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YG4 FILTER: CH. CLASS 1000

PEAK DATA: 89.55 G @ 54.00 MS, -34.00 G @ 70.24 MS

B-50

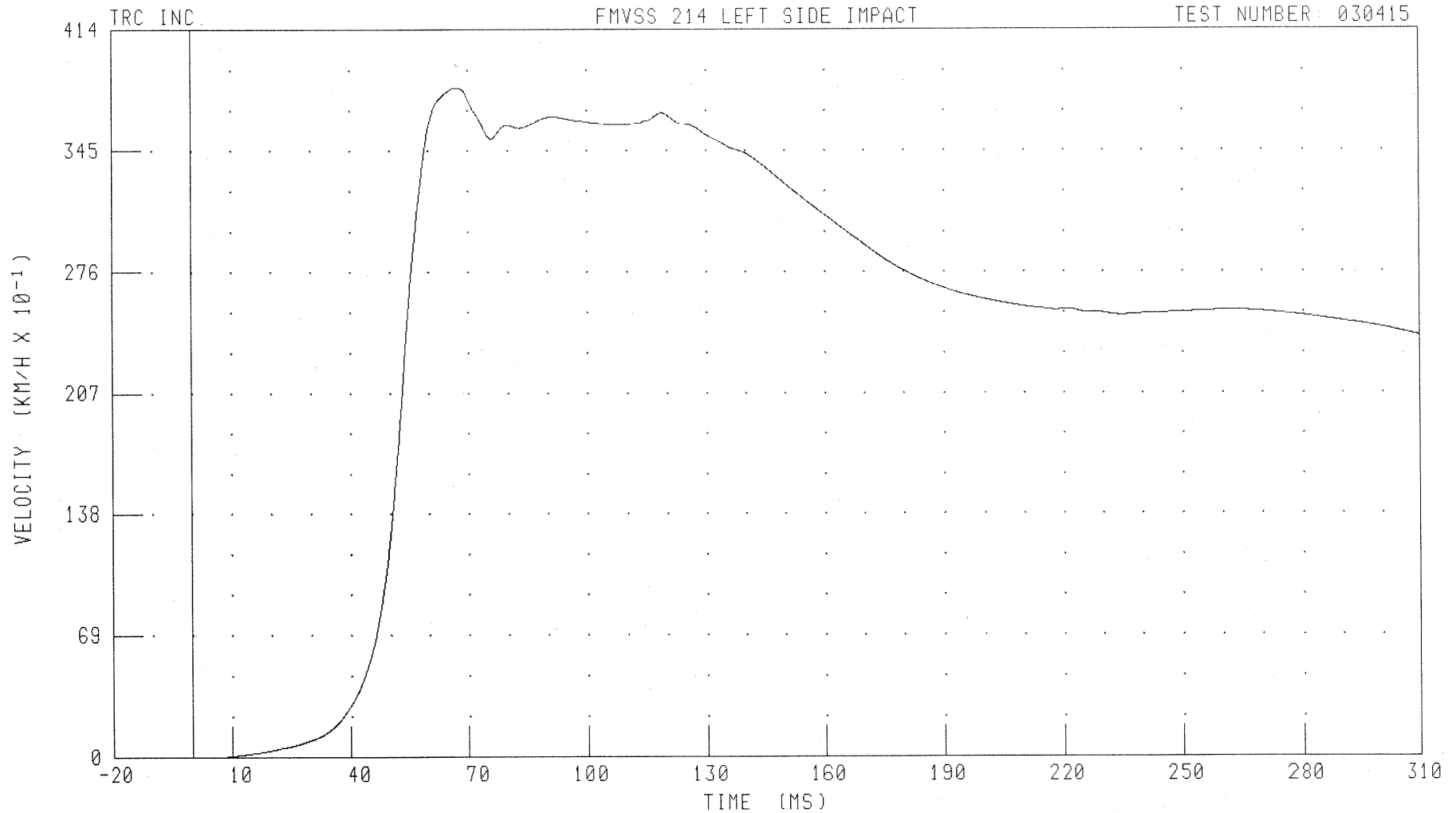
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER LOWER SPINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YV4

FILTER: CH. CLASS 180

PEAK DATA: 38.11 KM/H @ 67.20 MS; 0.00 KM/H @ 0.88 MS

B-51

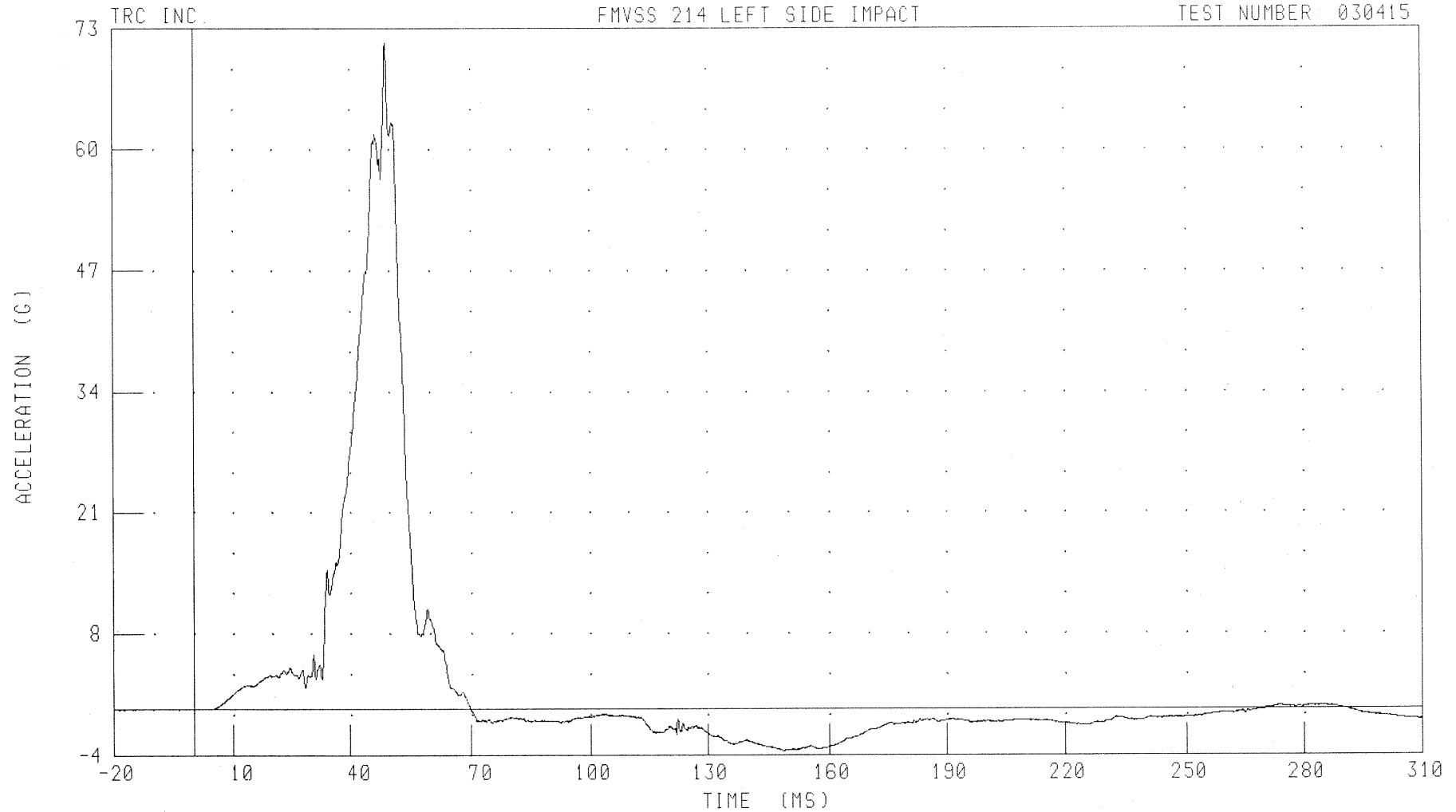
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: PEVYG4 FILTER: CH. CLASS 1000

PEAK DATA: 71.55 G @ 49.20 MS; -4.47 G @ 148.72 MS

B-52

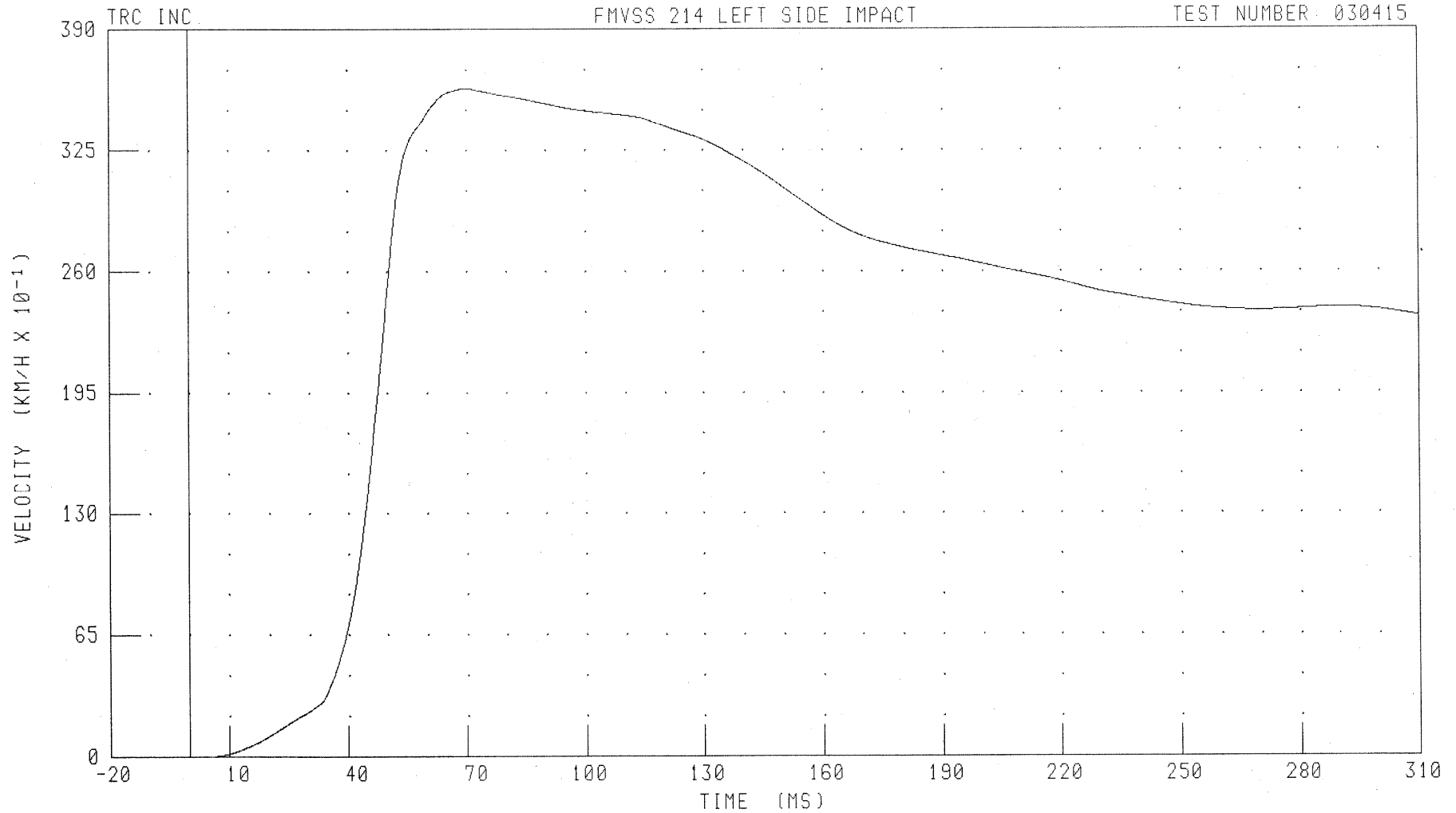
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER PELVIS Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: PEVYV4 FILTER: CH. CLASS 180

PEAK DATA: 35.84 KM/H @ 69.84 MS; 0.00 KM/H @ 0.00 MS

B-53

030415

Driver and Passenger Dummy Instrumentation Plots

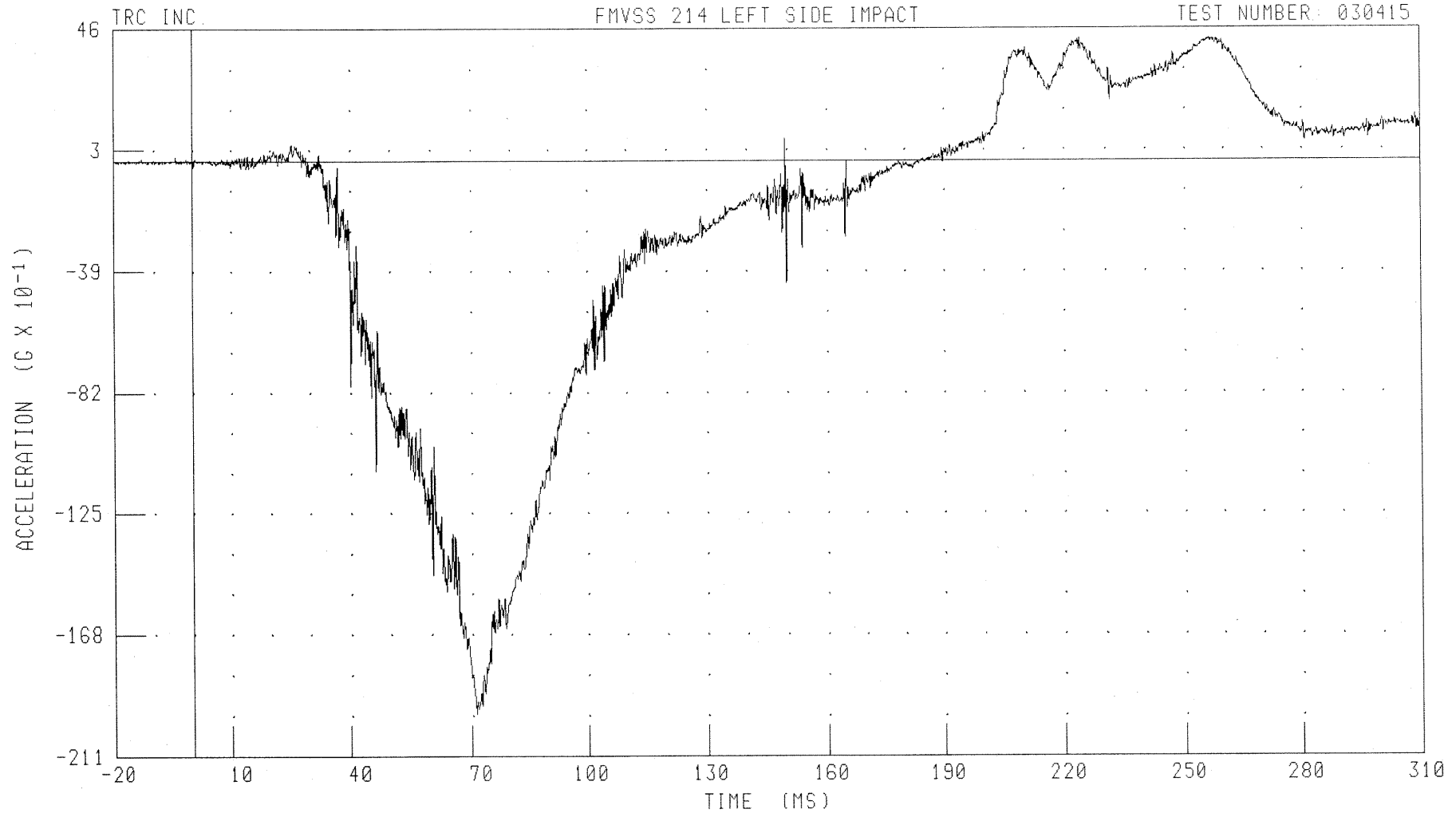
Acceleration Data - Filter Class 1000 - Redundant

Integration Data - Filter Class 180 - Redundant

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDXR1 FILTER: CH. CLASS 1000

PEAK DATA: 4.36 G @ 224.00 MS; -19.60 G @ 71.12 MS

B-55

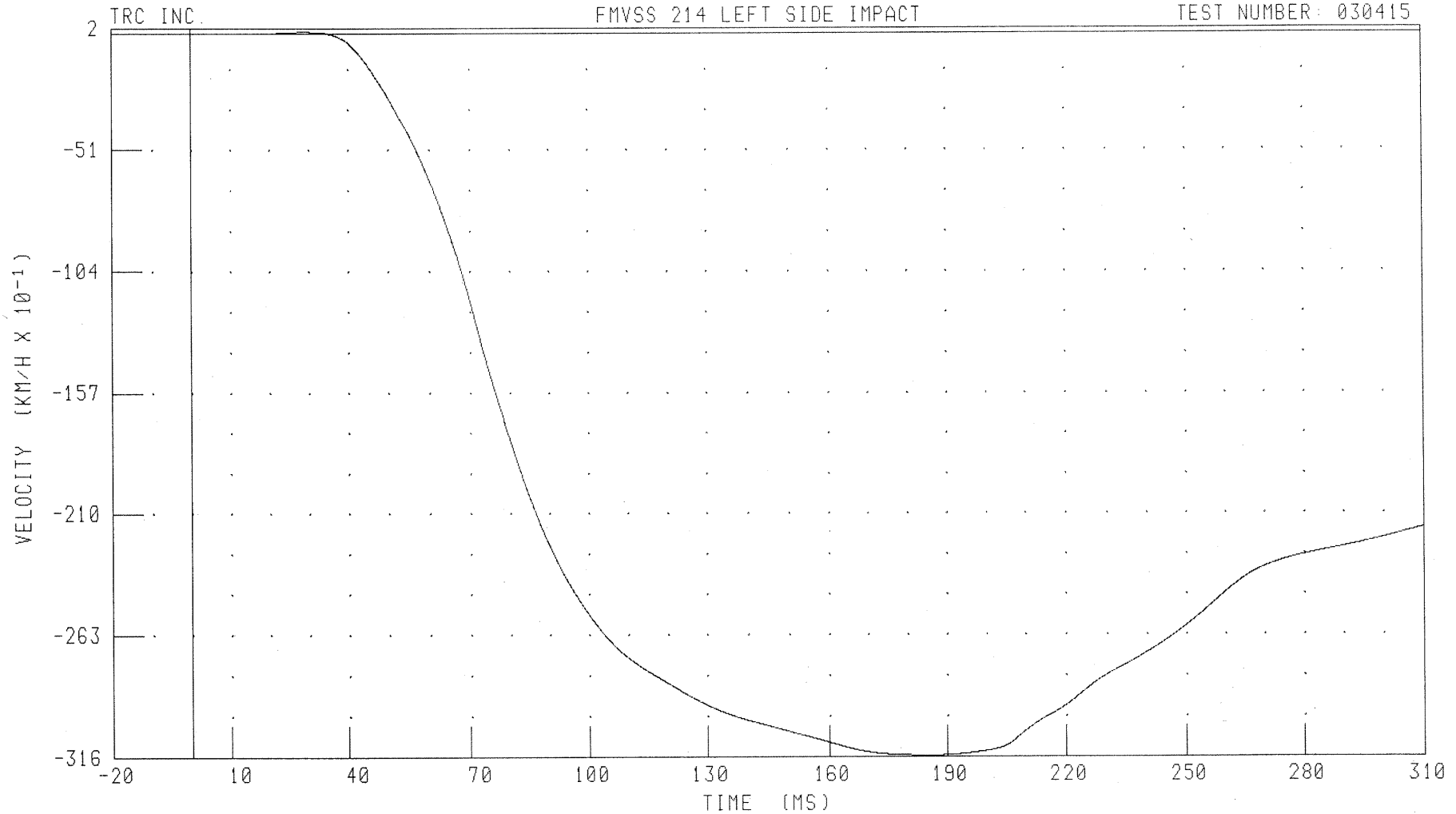
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD X-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDXVI FILTER: CH. CLASS 180

PEAK DATA: 0.06 KM/H @ 28.96 MS; -31.55 KM/H @ 184.16 MS

B-56

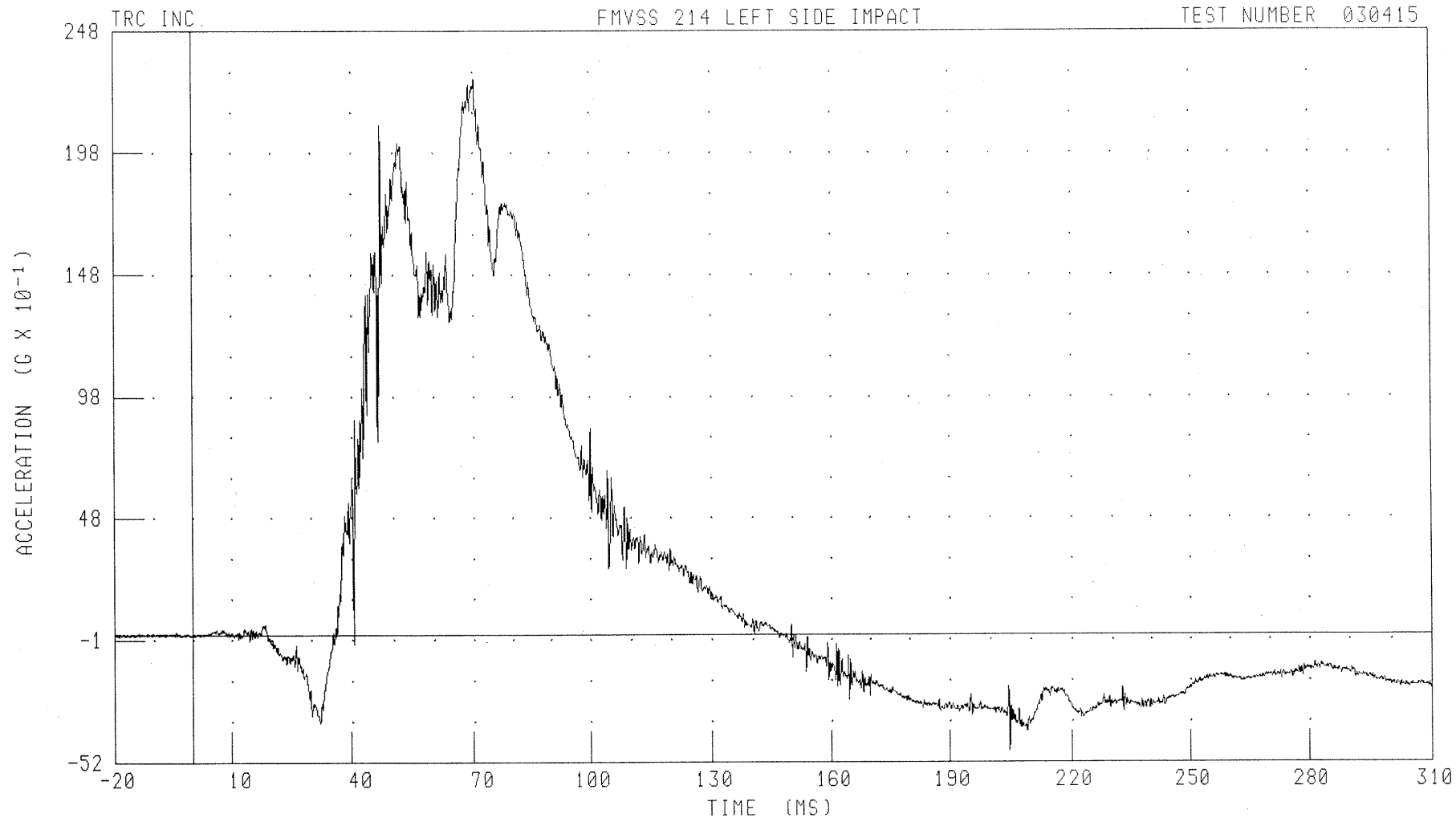
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



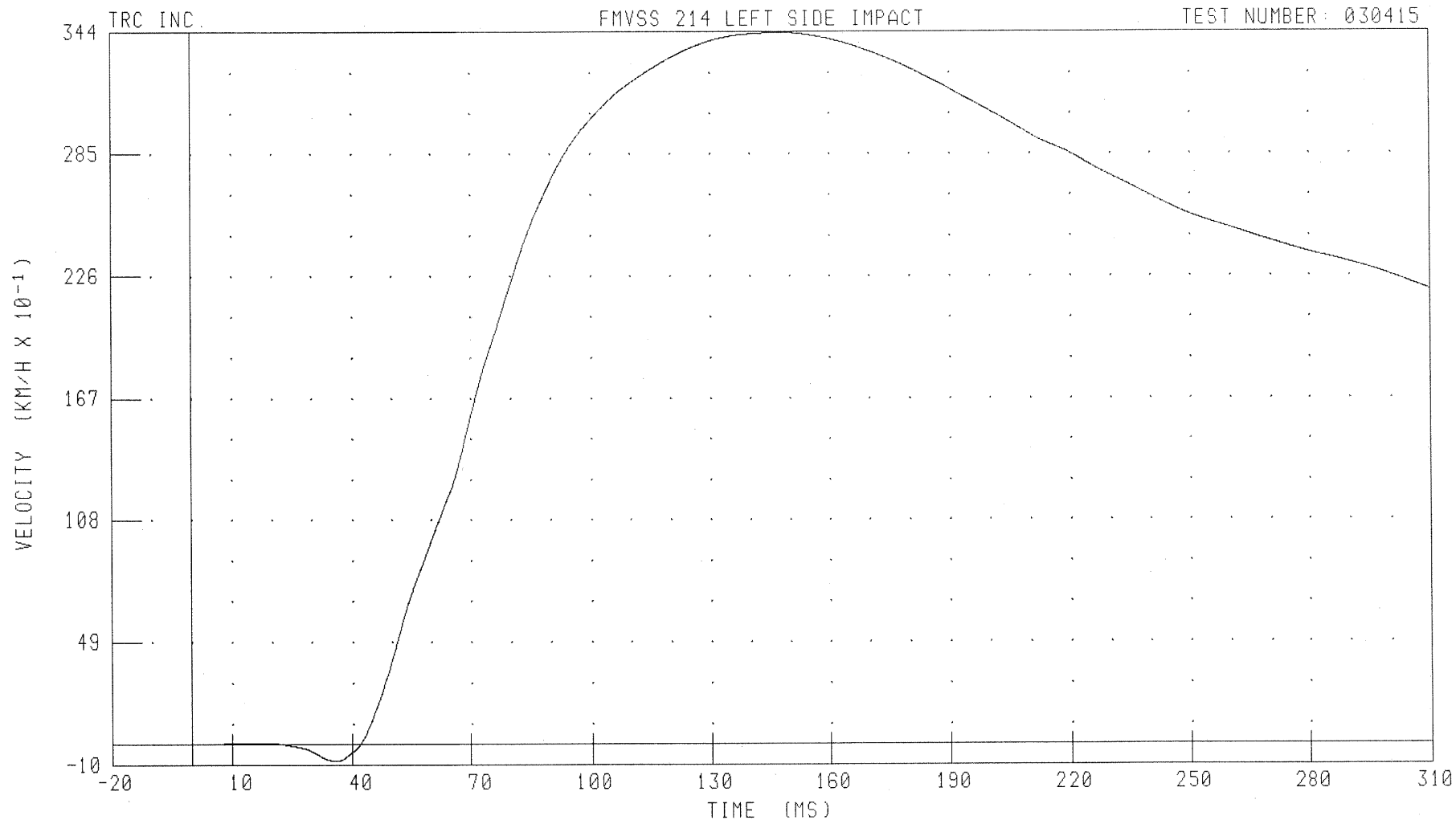
CHANNEL: HEDYR1 FILTER: CH. CLASS 1000

PEAK DATA: 22.85 G @ 70.48 MS; -4.75 G @ 204.88 MS

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDYVI FILTER: CH. CLASS 180

PEAK DATA: 34.36 KM/H @ 146.88 MS; -0.81 KM/H @ 36.00 MS

B-58

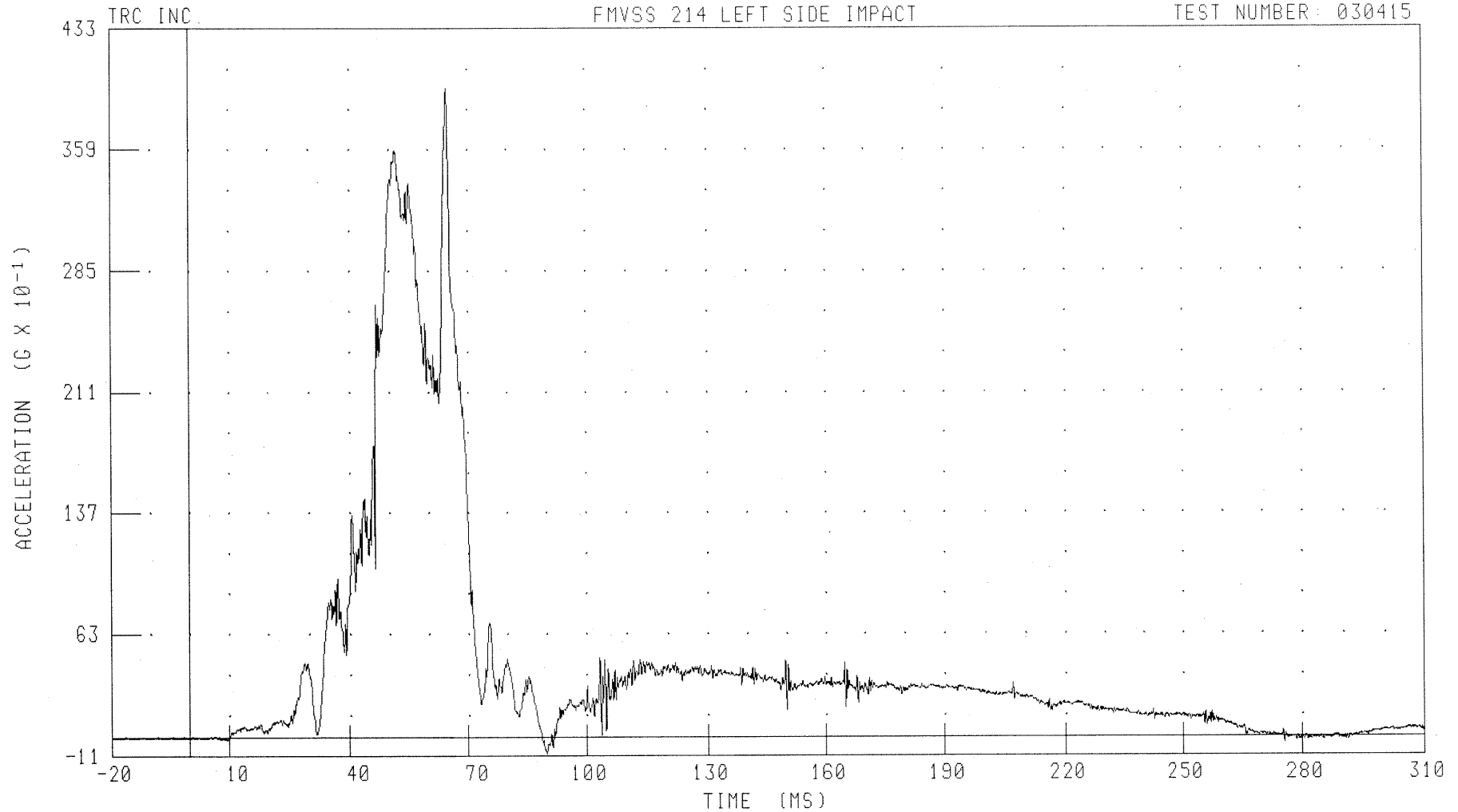
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD Z-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDZR1 FILTER: CH. CLASS 1000

PEAK DATA: 39.66 G @ 64.72 MS; -1.01 G @ 89.92 MS

B-59

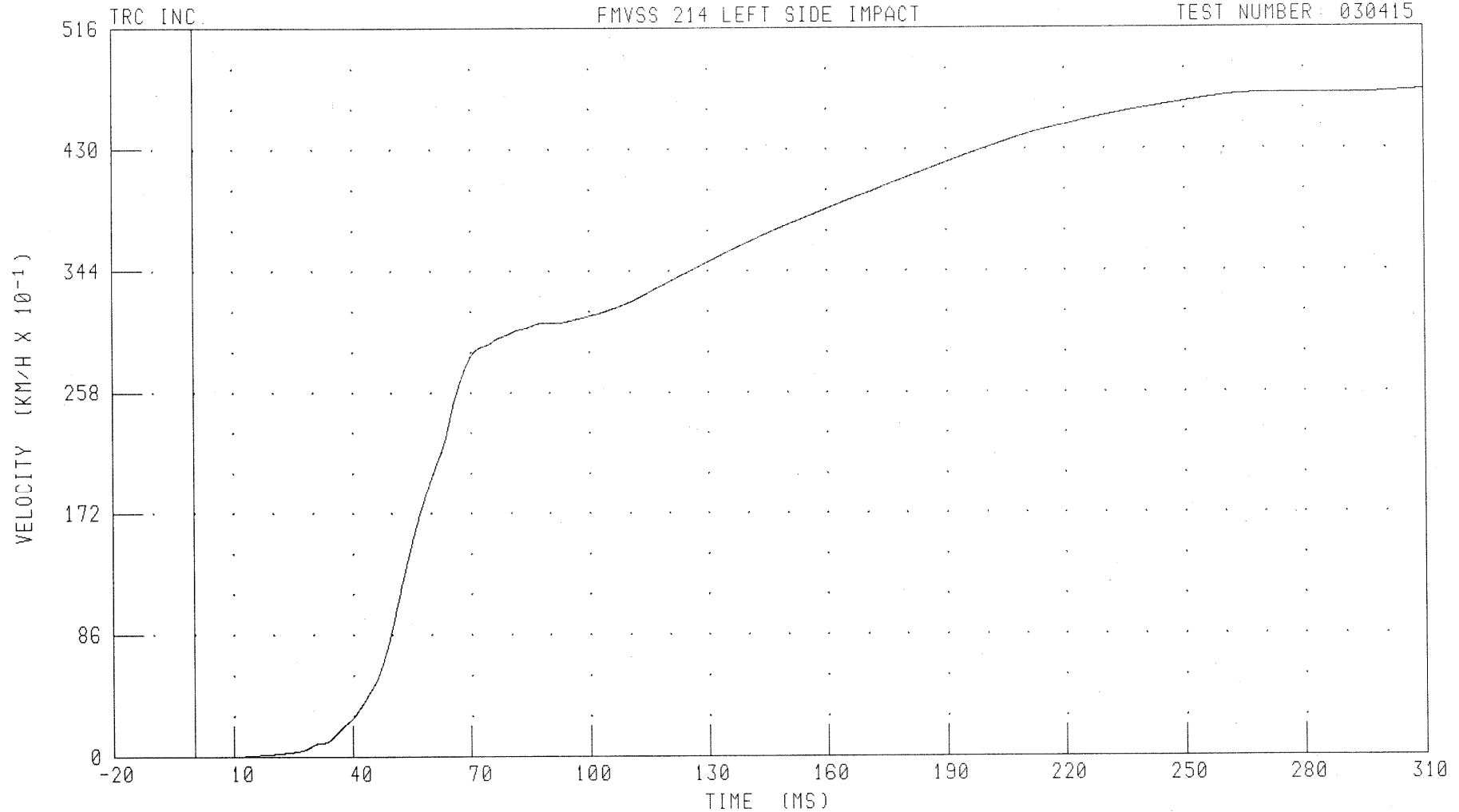
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER HEAD Z-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDZVI FILTER: CH. CLASS 180

PEAK DATA: 47.18 KM/H @ 310.00 MS; 0.00 KM/H @ 9.76 MS

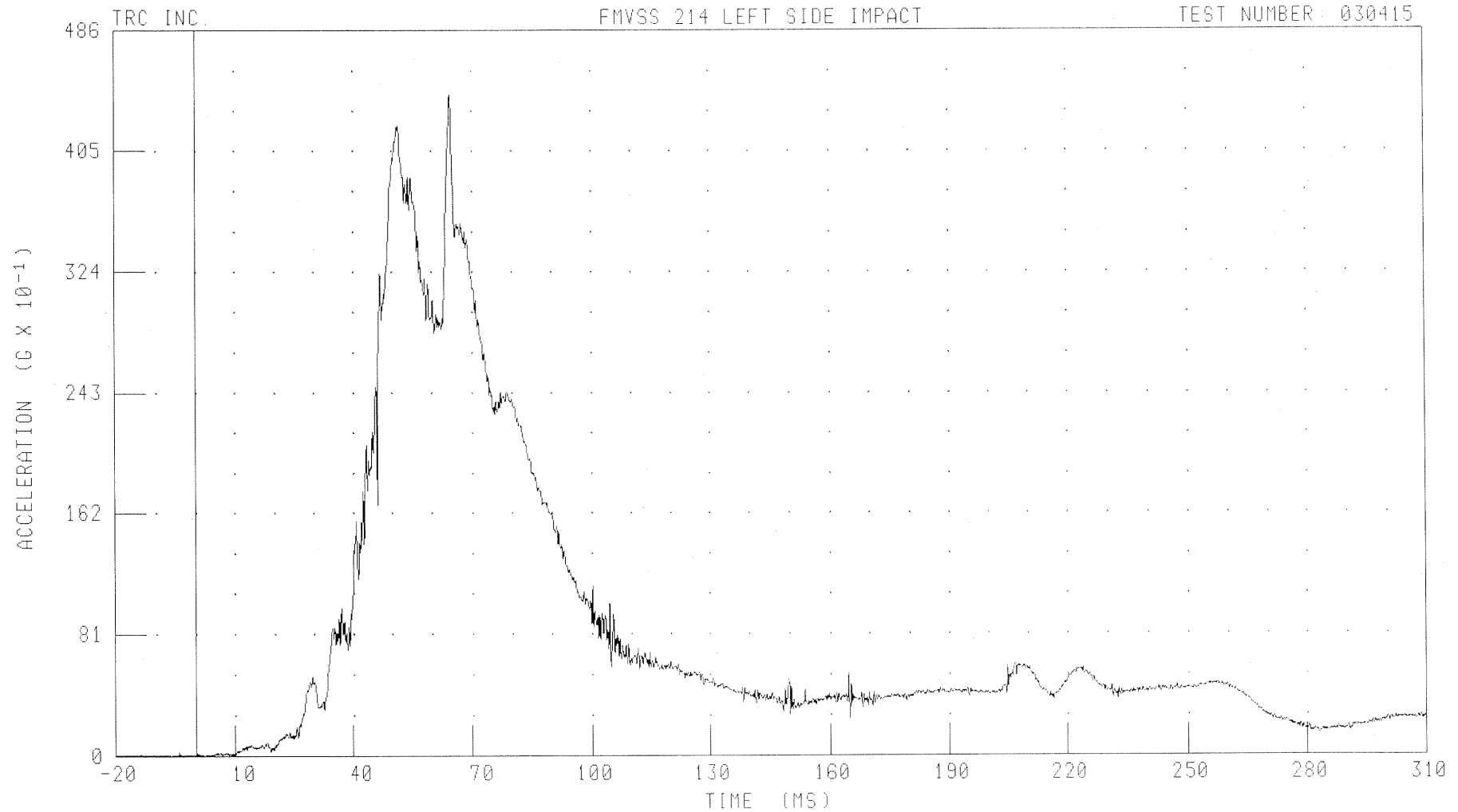
B-60

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
DRIVER HEAD REDUNDANT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDRR1 FILTER: CH. CLASS 1000

PEAK DATA: 44.32 G @ 64.72 MS; 0.01 G @ -19.84 MS

B-61

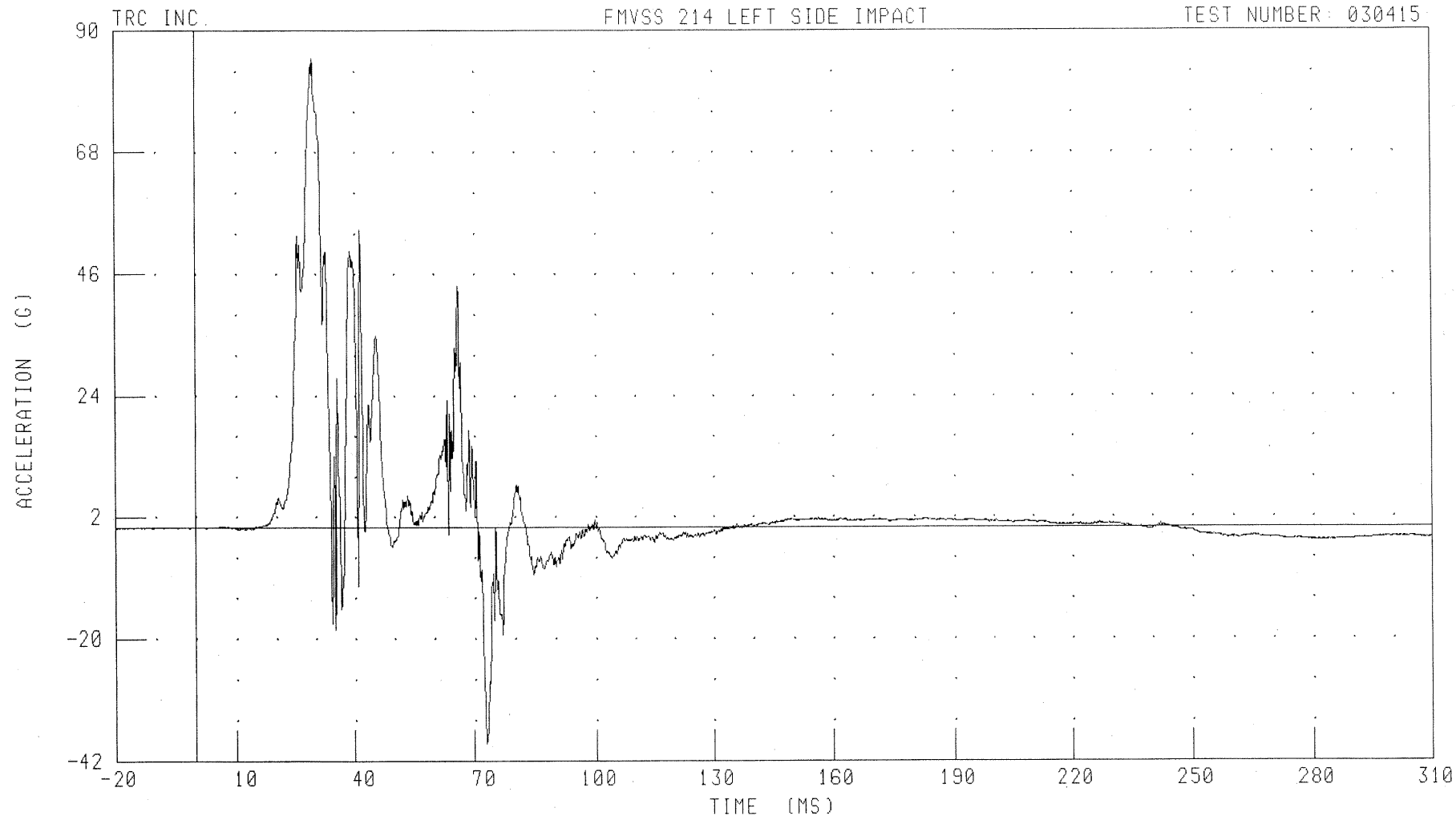
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYR1 FILTER: CH. CLASS 1000

PEAK DATA: 85.00 G @ 29.36 MS; -38.84 G @ 73.04 MS

B-62

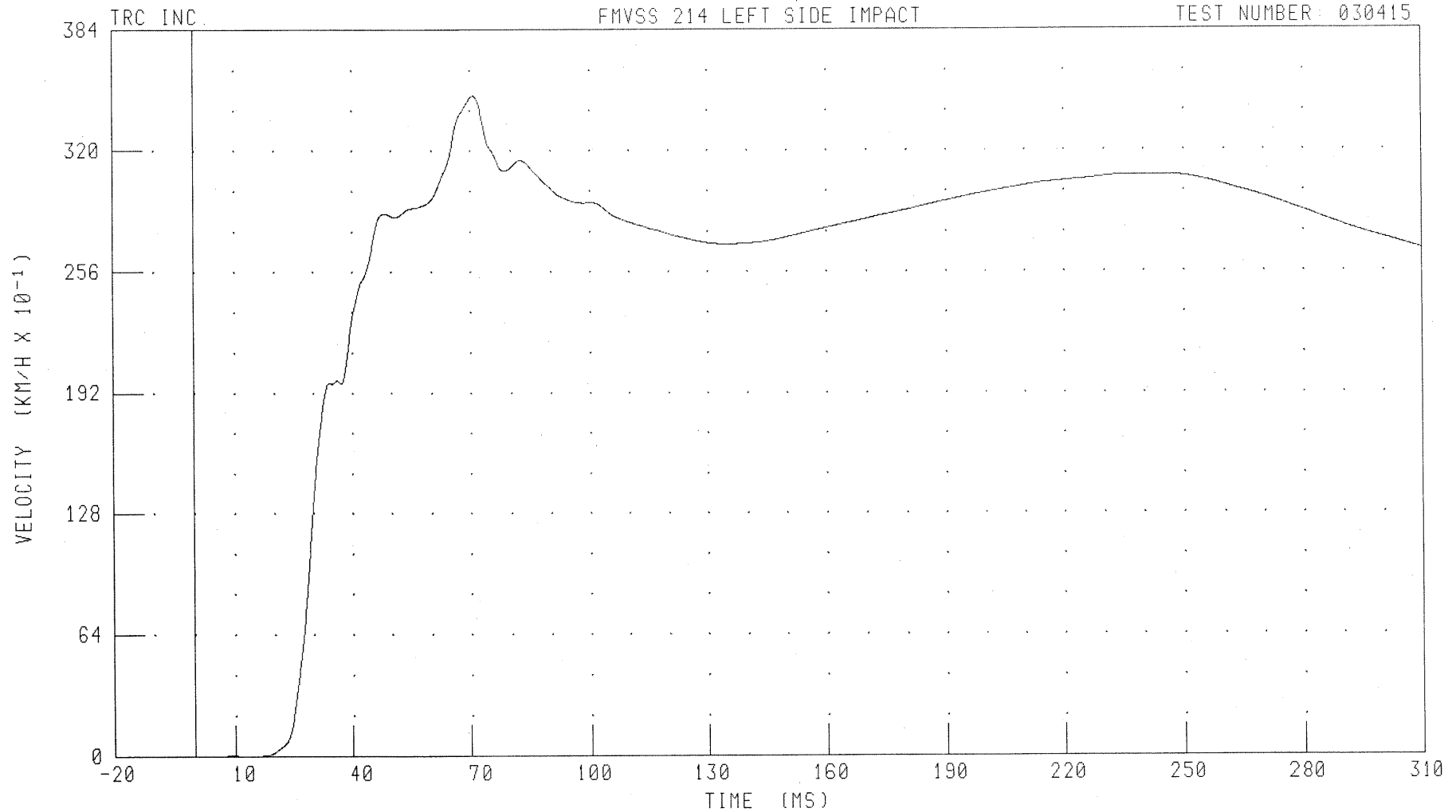
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER UPPER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYVI FILTER: CH. CLASS 180

PEAK DATA: 34.93 KM/H @ 70.96 MS; 0.00 KM/H @ 0.00 MS

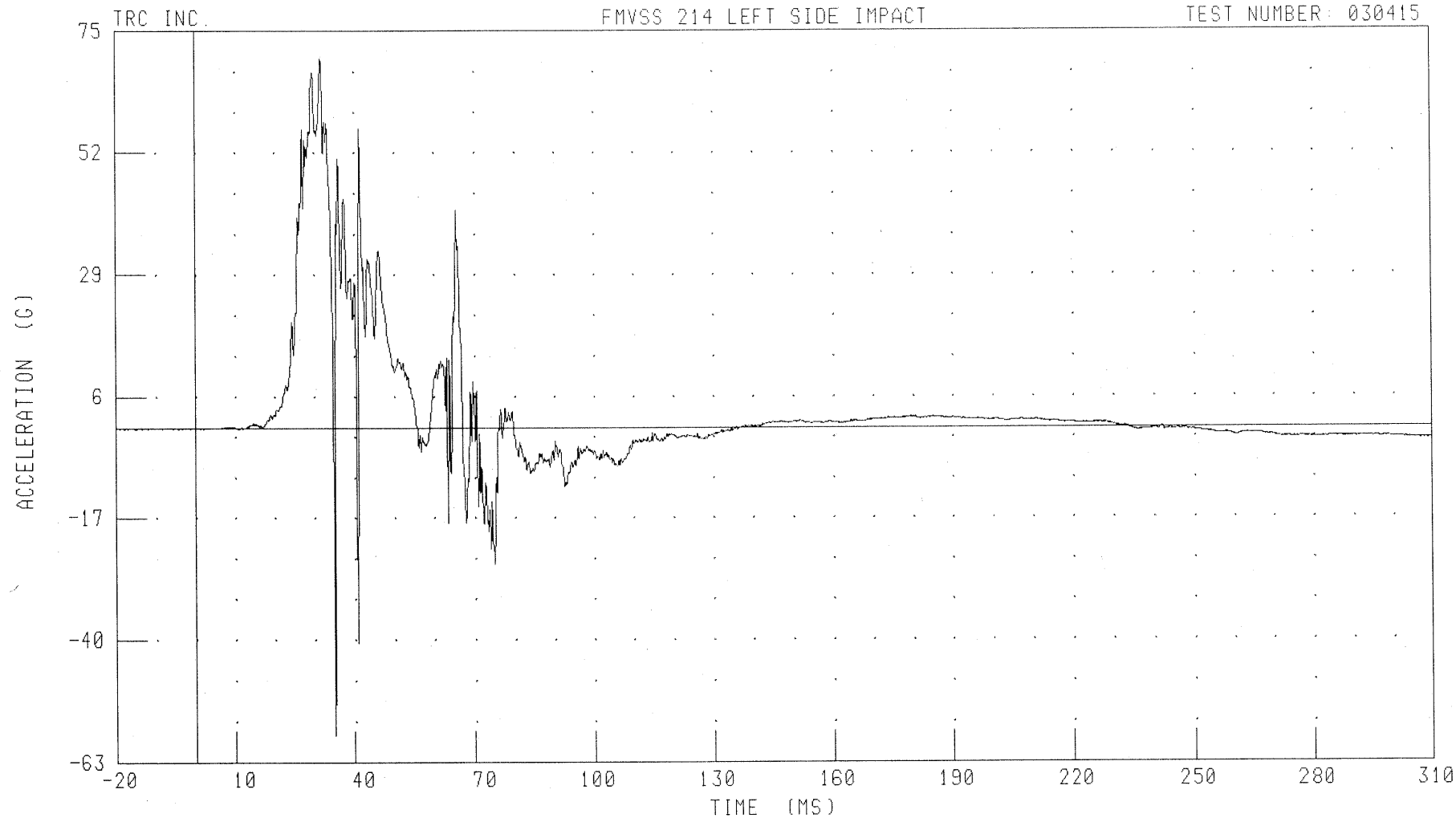
B-63

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYR1 FILTER: CH. CLASS 1000

PEAK DATA: 69.88 G @ 31.84 MS; -57.94 G @ 35.20 MS

B-64

030415

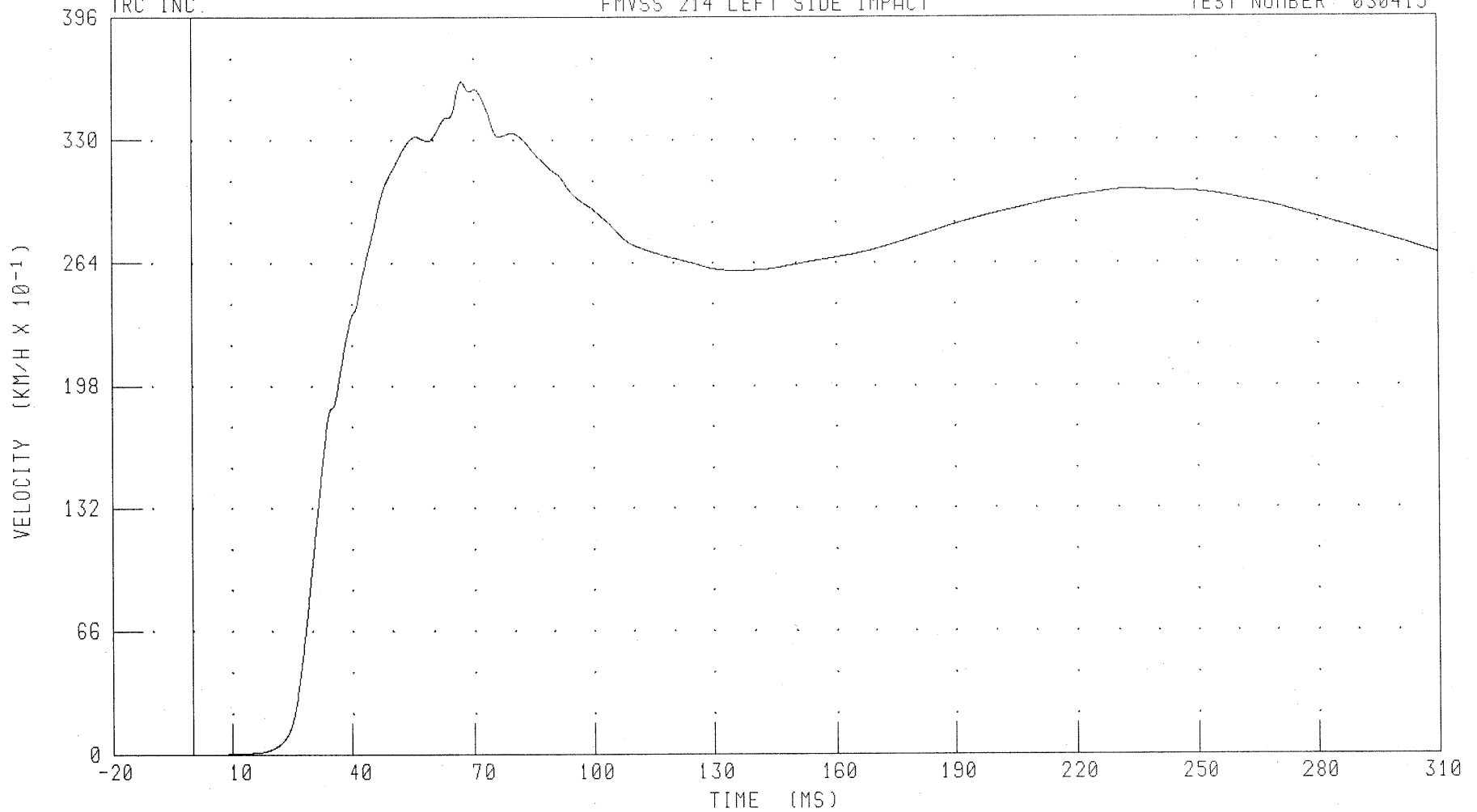
55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415

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CHANNEL: LLRYVI FILTER: CH. CLASS 180

PEAK DATA: 36.18 KM/H @ 67.12 MS; 0.00 KM/H @ 0.00 MS

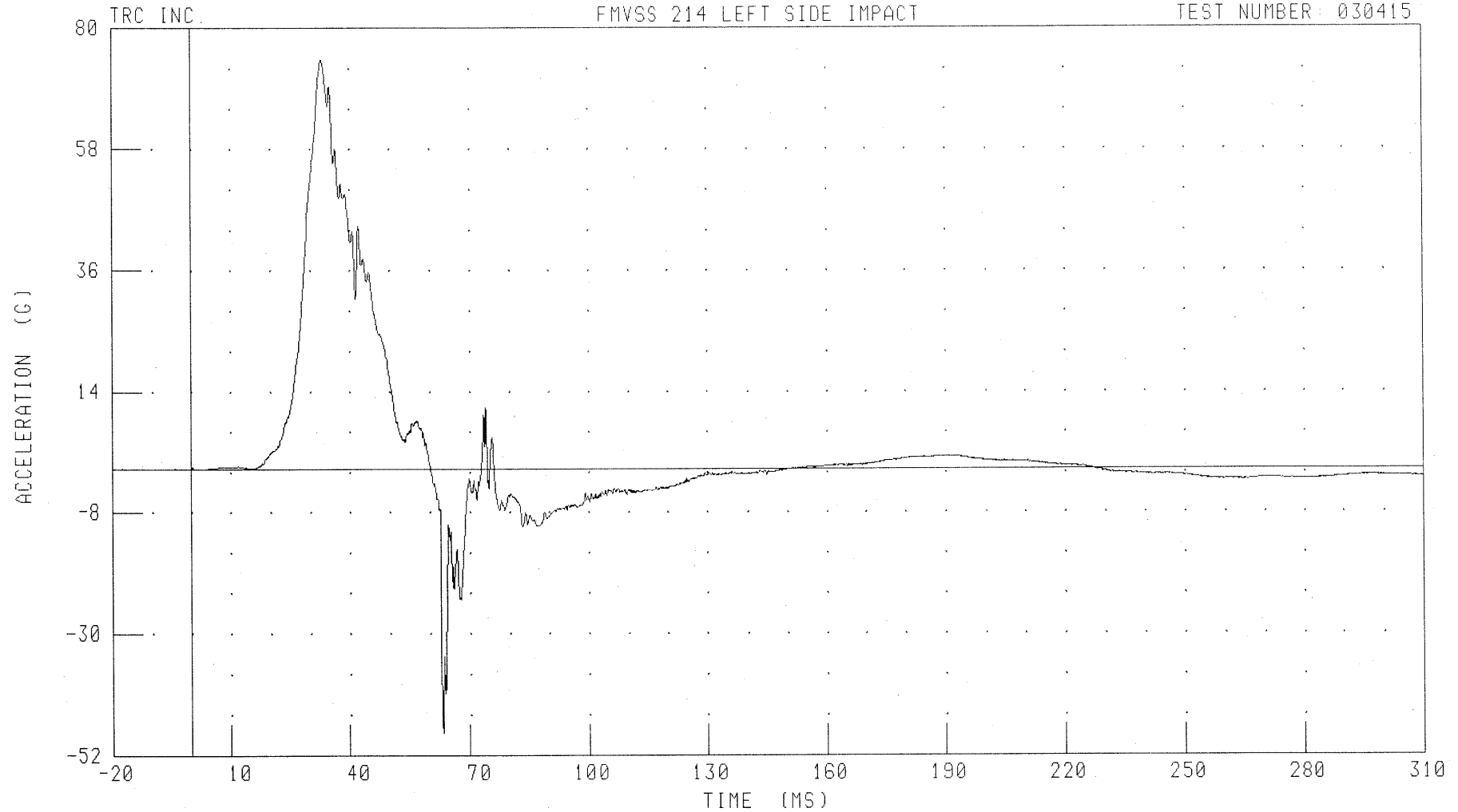
B-65

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YR1 FILTER: CH. CLASS 1000

PEAK DATA: 74.30 G @ 33.20 MS; -47.99 G @ 63.28 MS

B-66

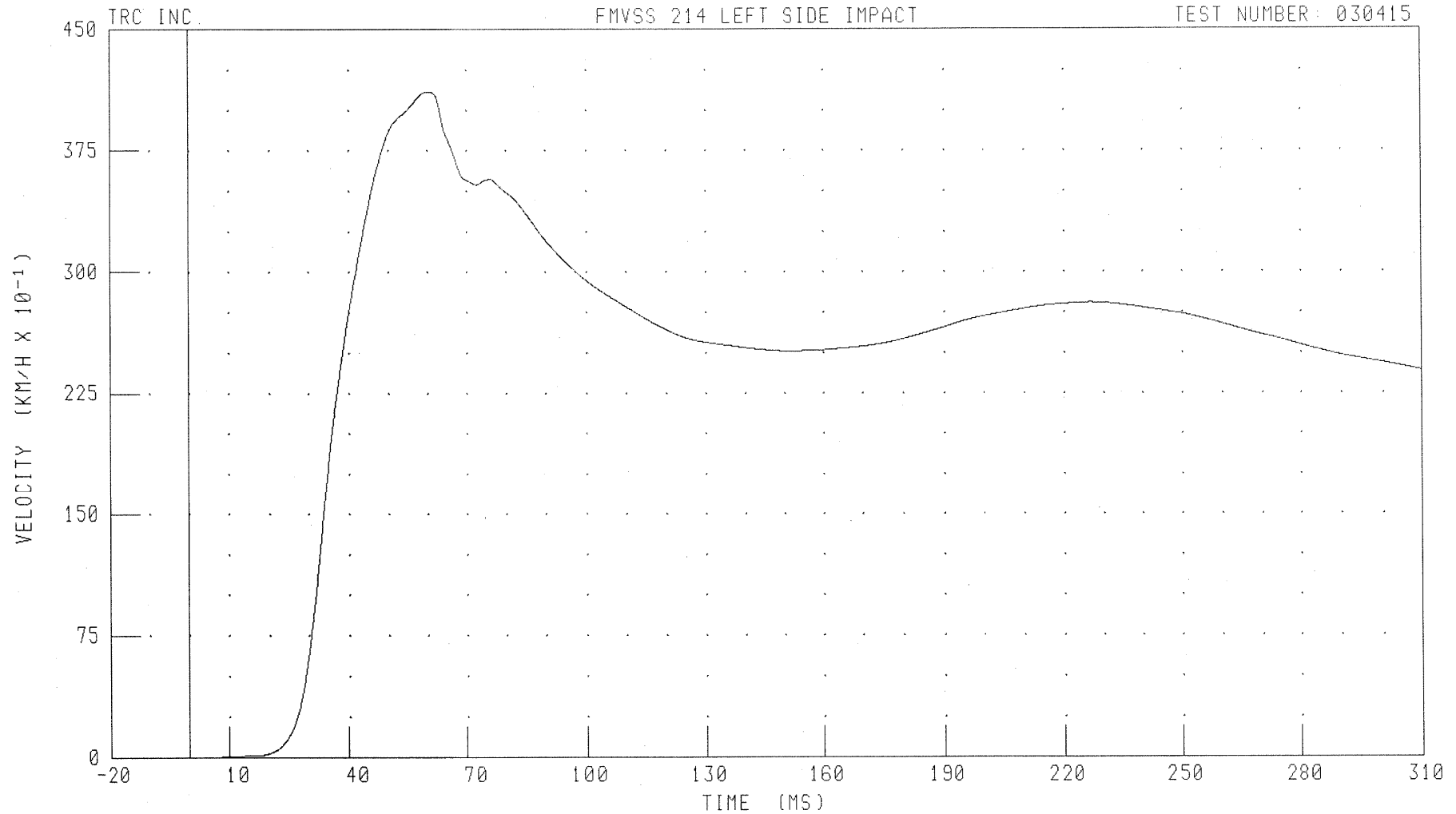
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YVI FILTER: CH. CLASS 180

PEAK DATA: 41.17 KM/H @ 60.32 MS; 0.00 KM/H @ 0.00 MS

B-67

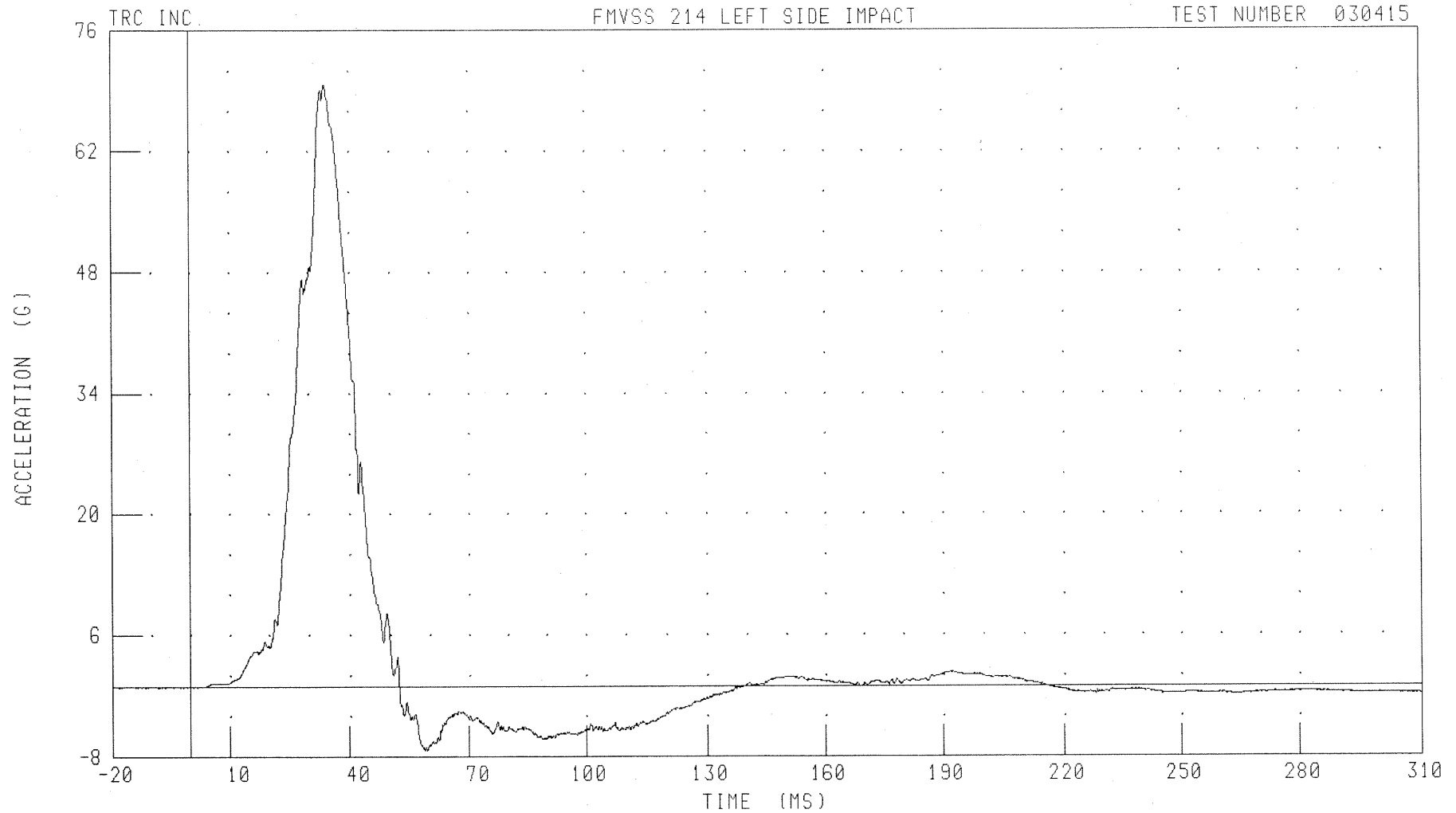
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: PEVYR1 FILTER: CH. CLASS 1000

B-68

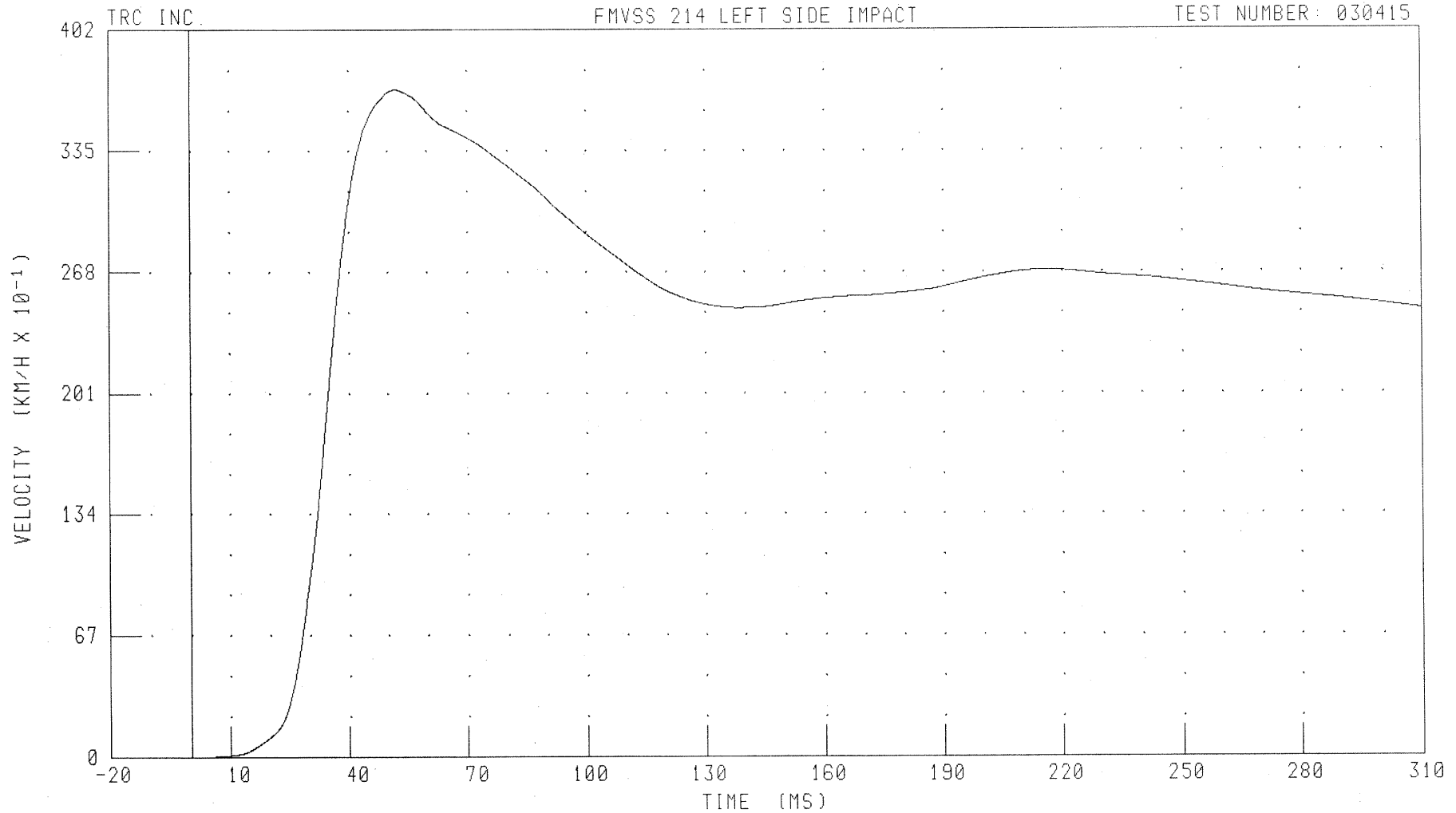
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER PELVIS Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: PEVYVI FILTER: CH. CLASS 180

PEAK DATA: 36.92 KM/H @ 52.24 MS; 0.00 KM/H @ 0.00 MS

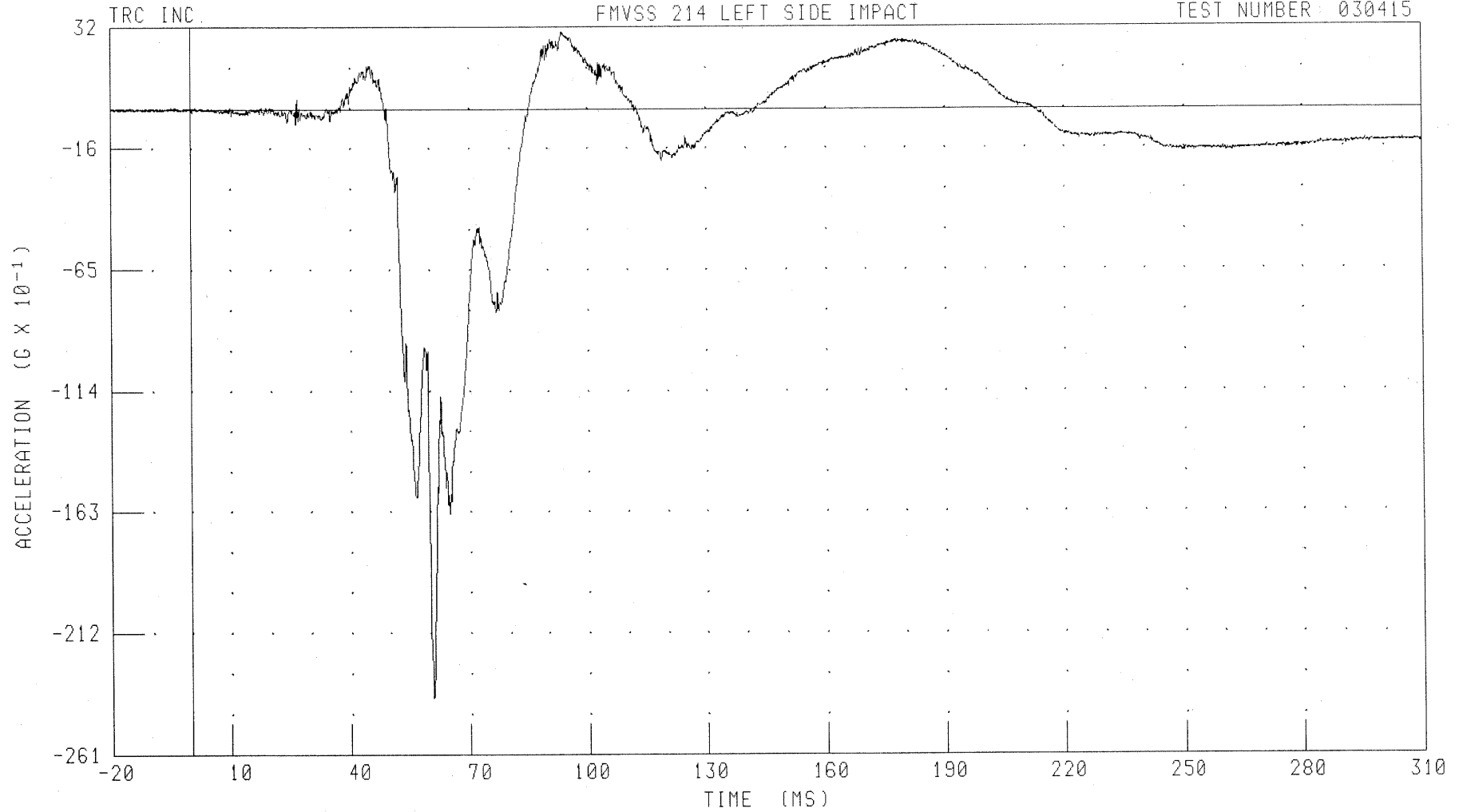
B-69

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD X-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDXR4 FILTER: CH. CLASS 1000

PEAK DATA: 3.09 G @ 93.84 MS; -23.83 G @ 60.80 MS

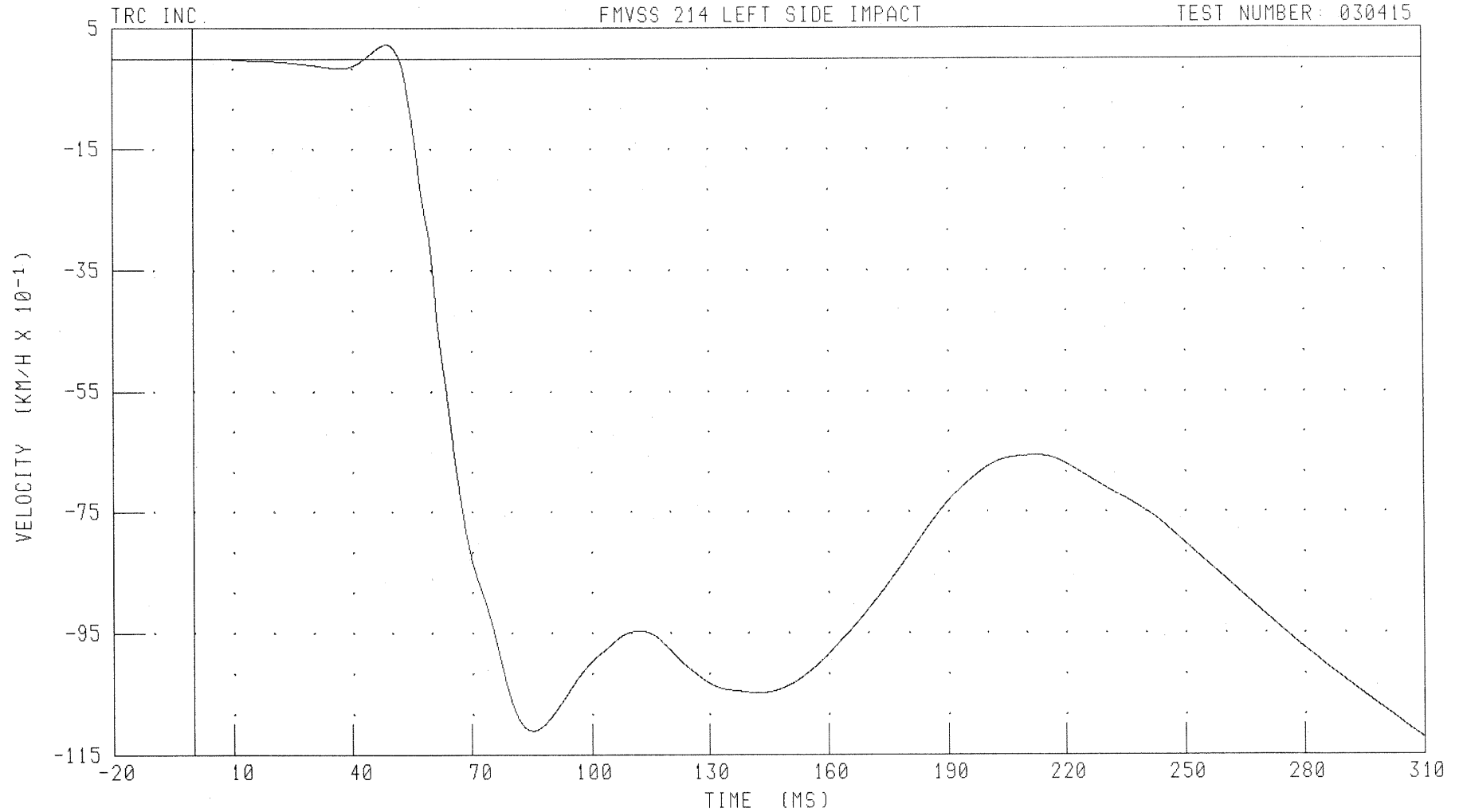
B-70

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD X-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDXVJ FILTER: CH. CLASS 180

PEAK DATA: 0.23 KM/H @ 49.04 MS; -11.23 KM/H @ 310.00 MS

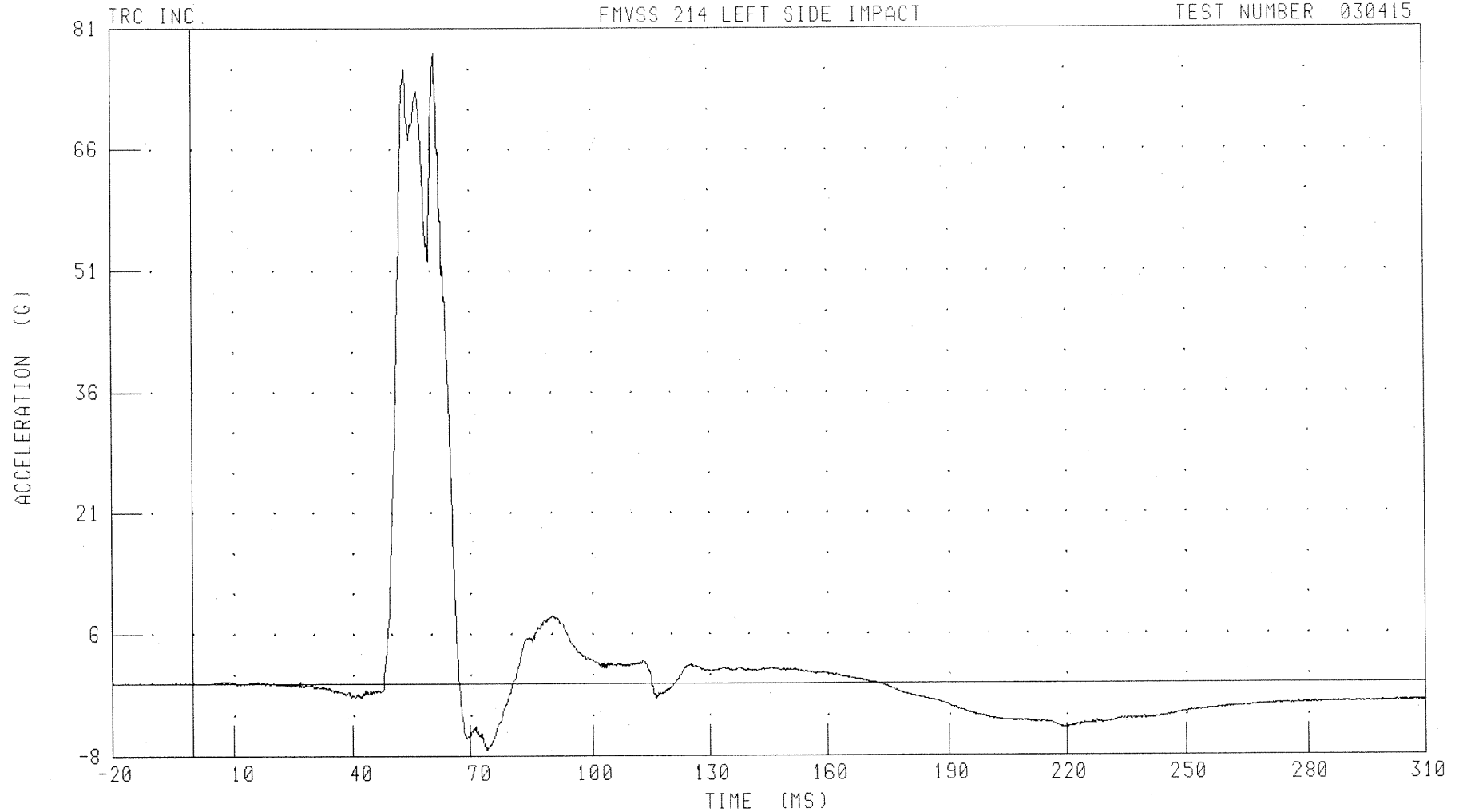
B-71

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDYR4 FILTER: CH. CLASS 1000

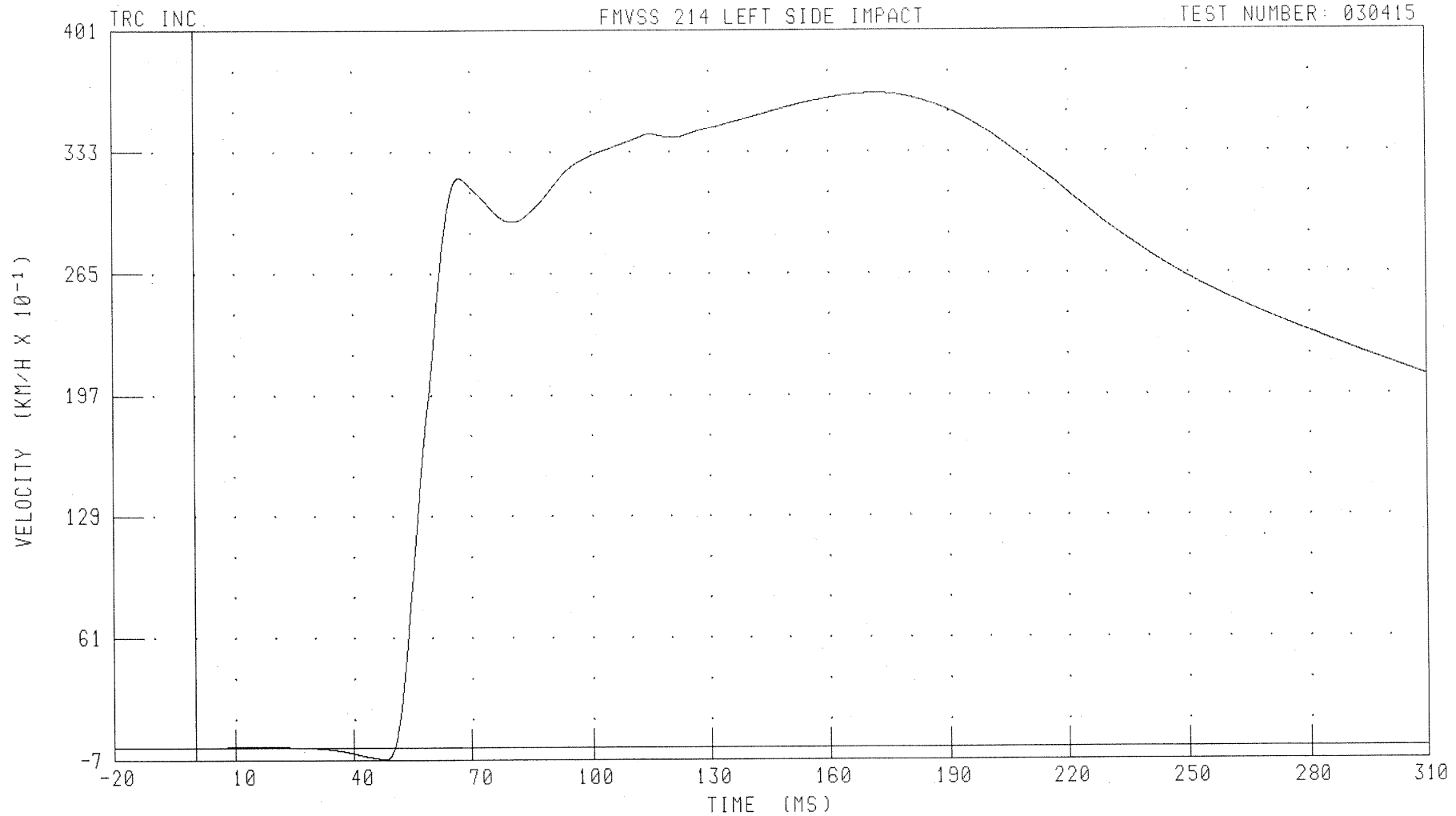
B-72

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDYVJ FILTER: CH. CLASS 180

PEAK DATA: 36.59 KM/H @ 172.00 MS; -0.67 KM/H @ 47.92 MS

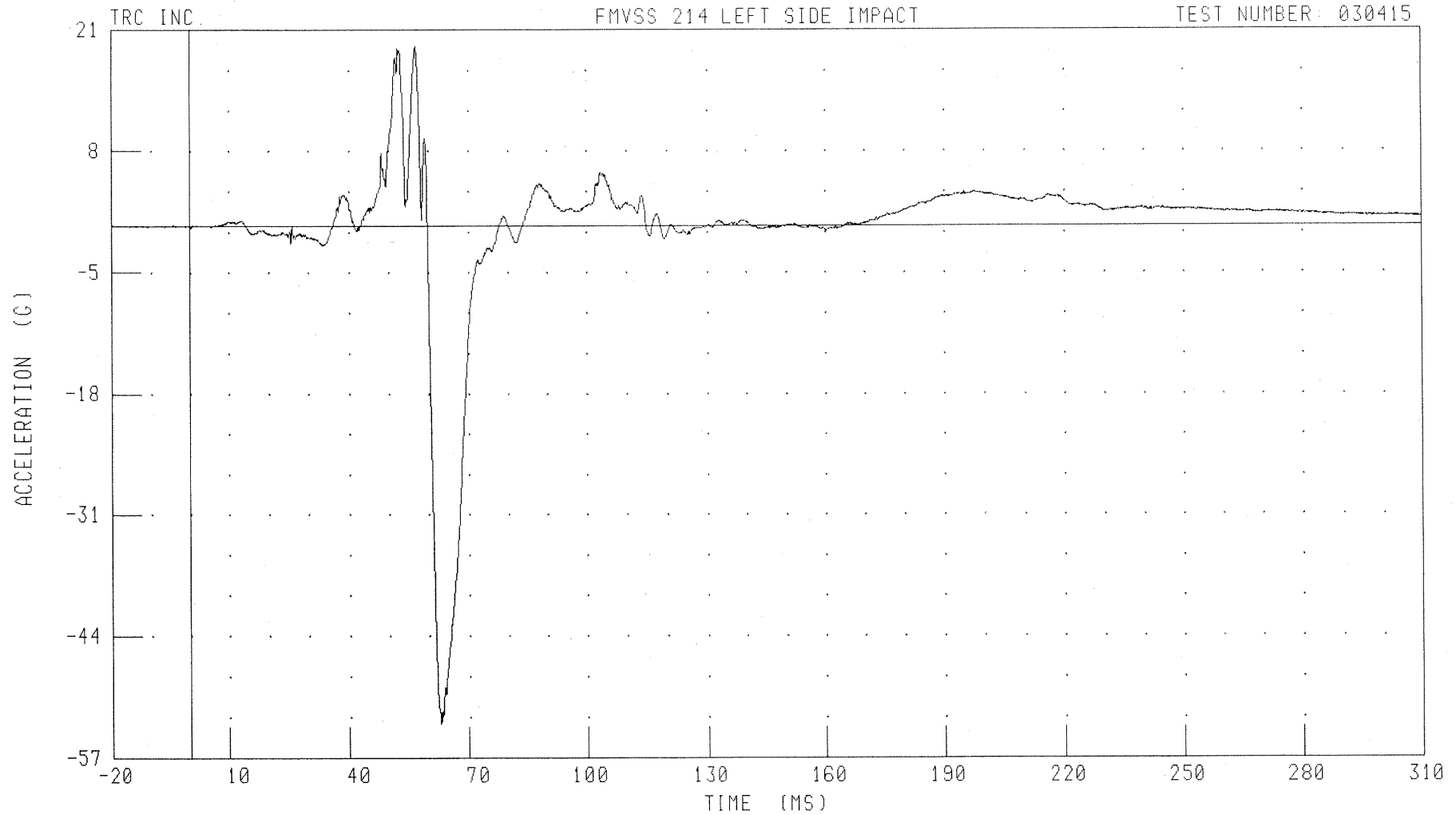
B-73

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD Z-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDZR4 FILTER: CH. CLASS 1000

PEAK DATA: 19.26 G @ 56.88 MS; -53.37 G @ 62.88 MS

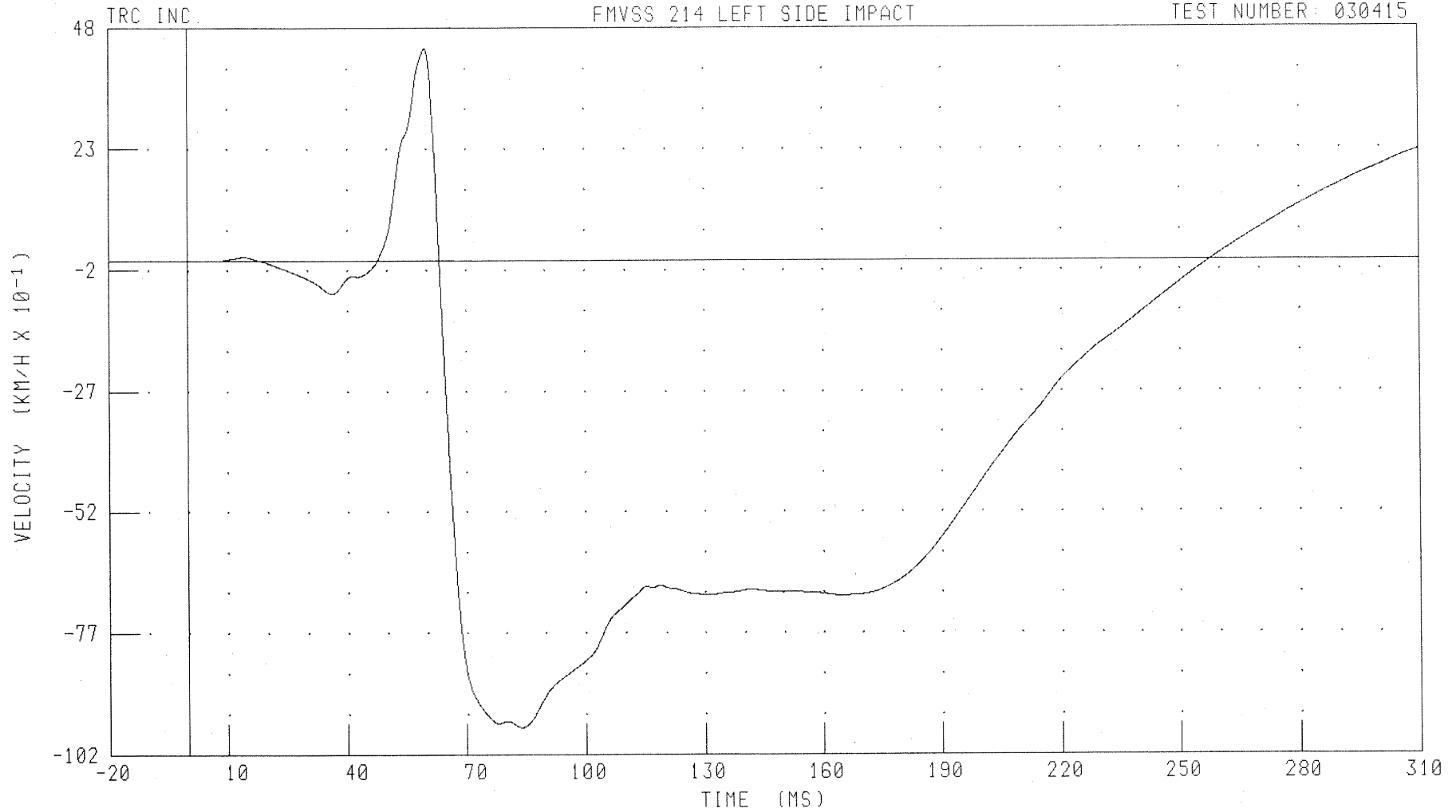
B-74

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD Z-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDZVJ FILTER: CH. CLASS 180

PEAK DATA: 4.38 KM/H @ 59.84 MS; -9.65 KM/H @ 83.92 MS

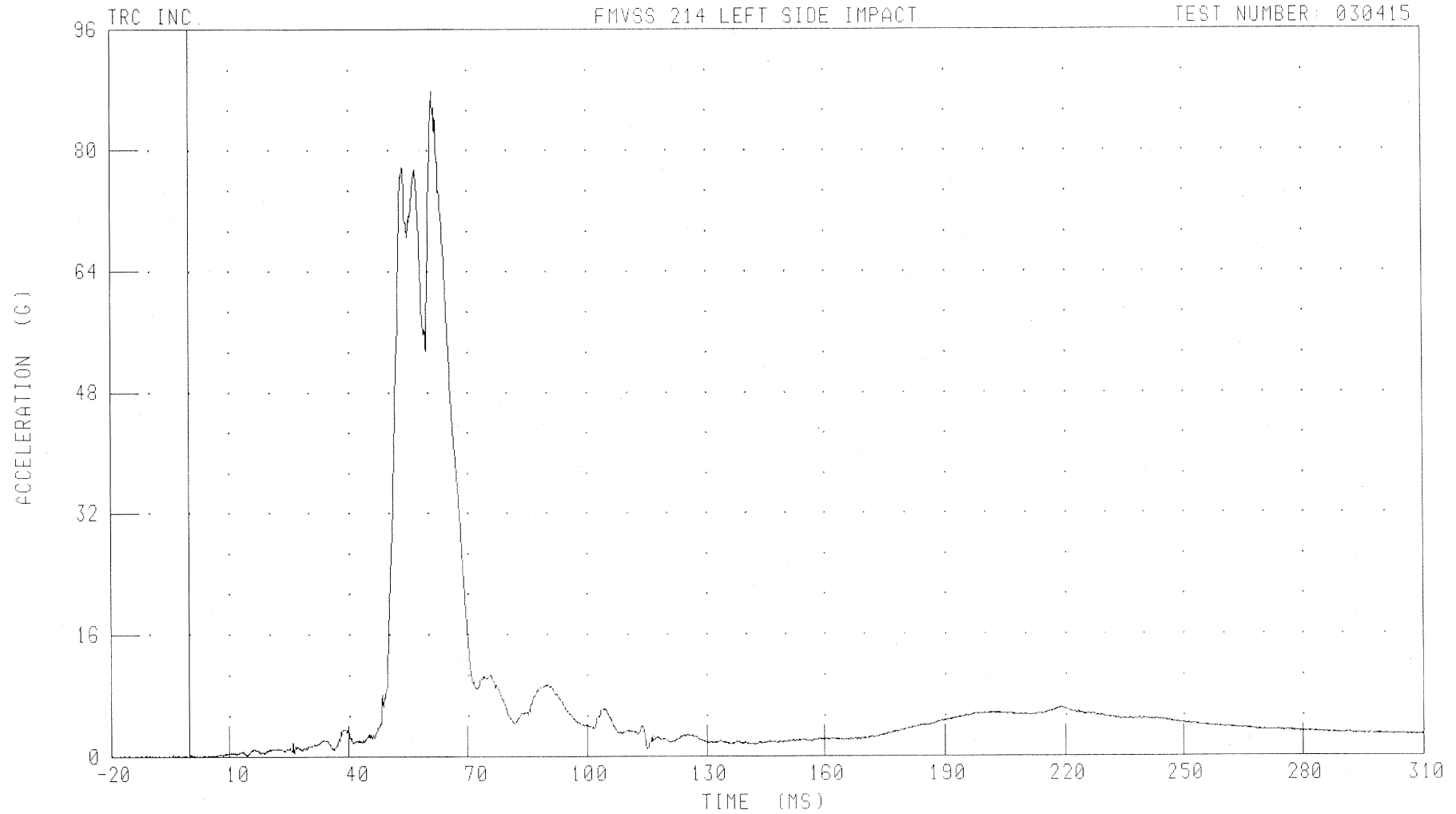
B-75

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER HEAD REDUNDANT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: HEDRR4 FILTER: CH. CLASS 1000

PEAK DATA: 87.88 G @ 61.20 MS; 0.01 G @ -19.04 MS

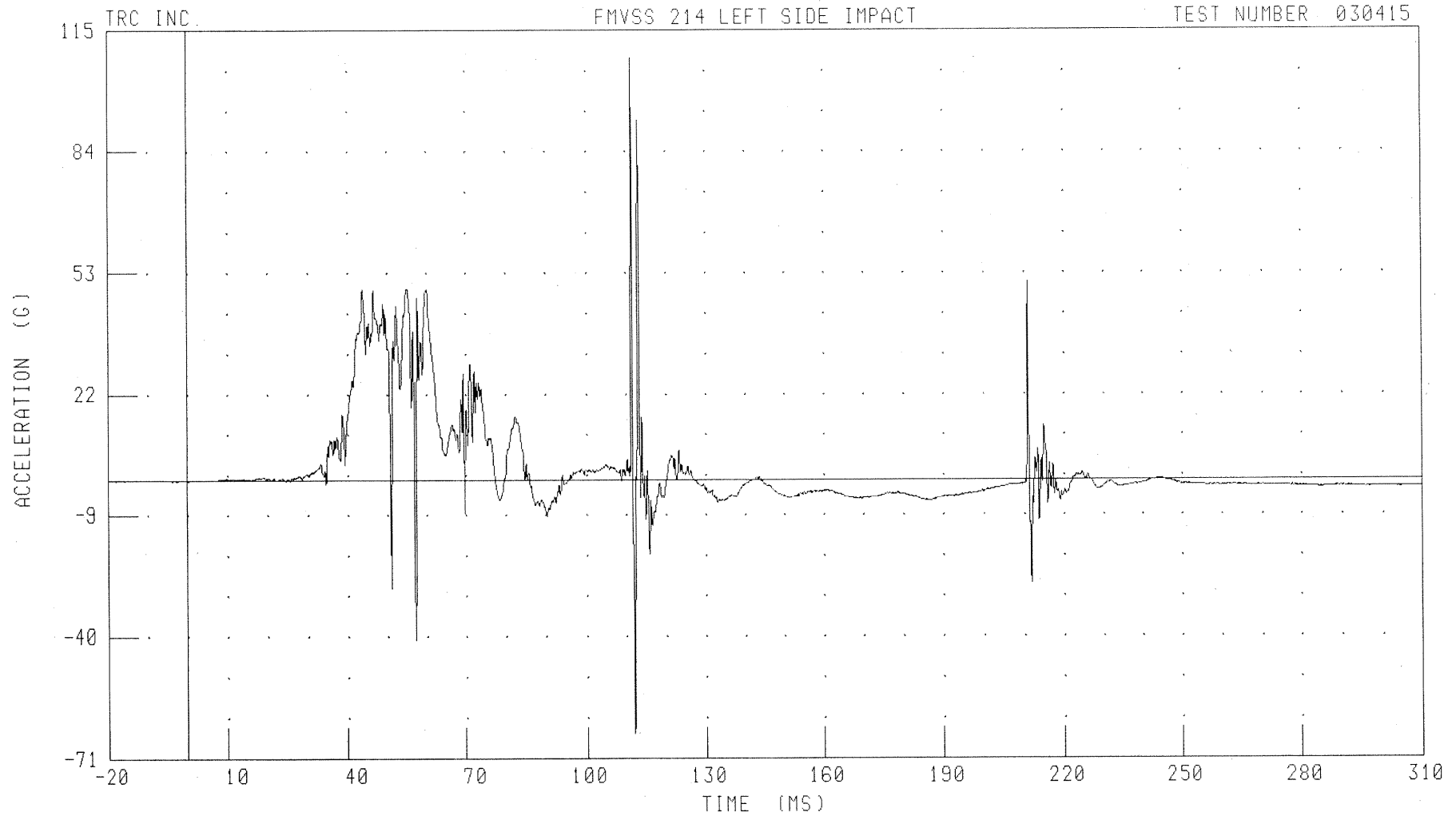
B-76

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: LURYR4 FILTER: CH. CLASS 1000

PEAK DATA: 108.00 G @ 111.60 MS, -64.69 G @ 112.16 MS

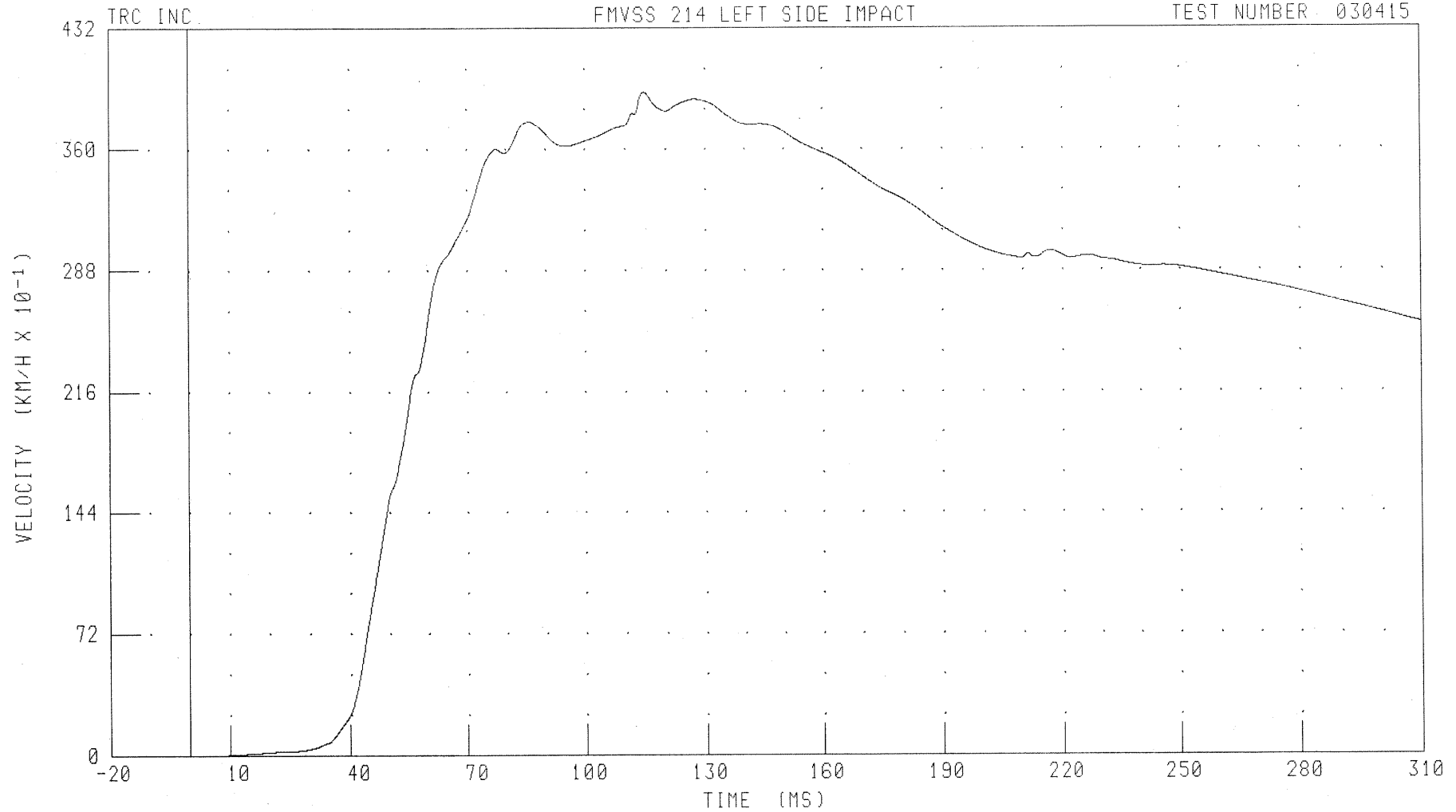
B-77

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT VELOCITY.

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYVJ FILTER: CH. CLASS 180

PEAK DATA: 39.40 KM/H @ 114.80 MS; 0.00 KM/H @ 0.00 MS

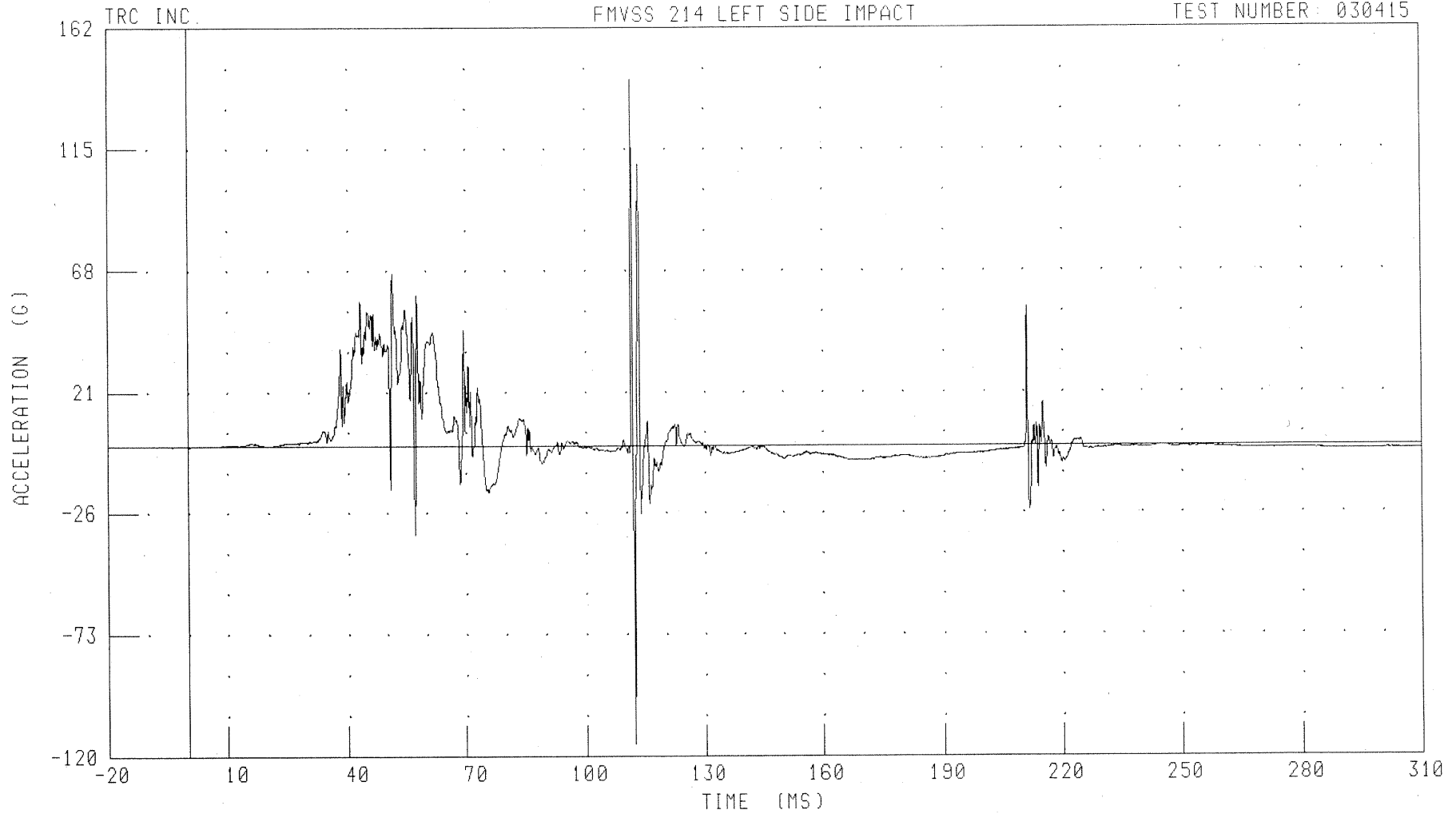
B-78

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYR4 FILTER: CH. CLASS 1000

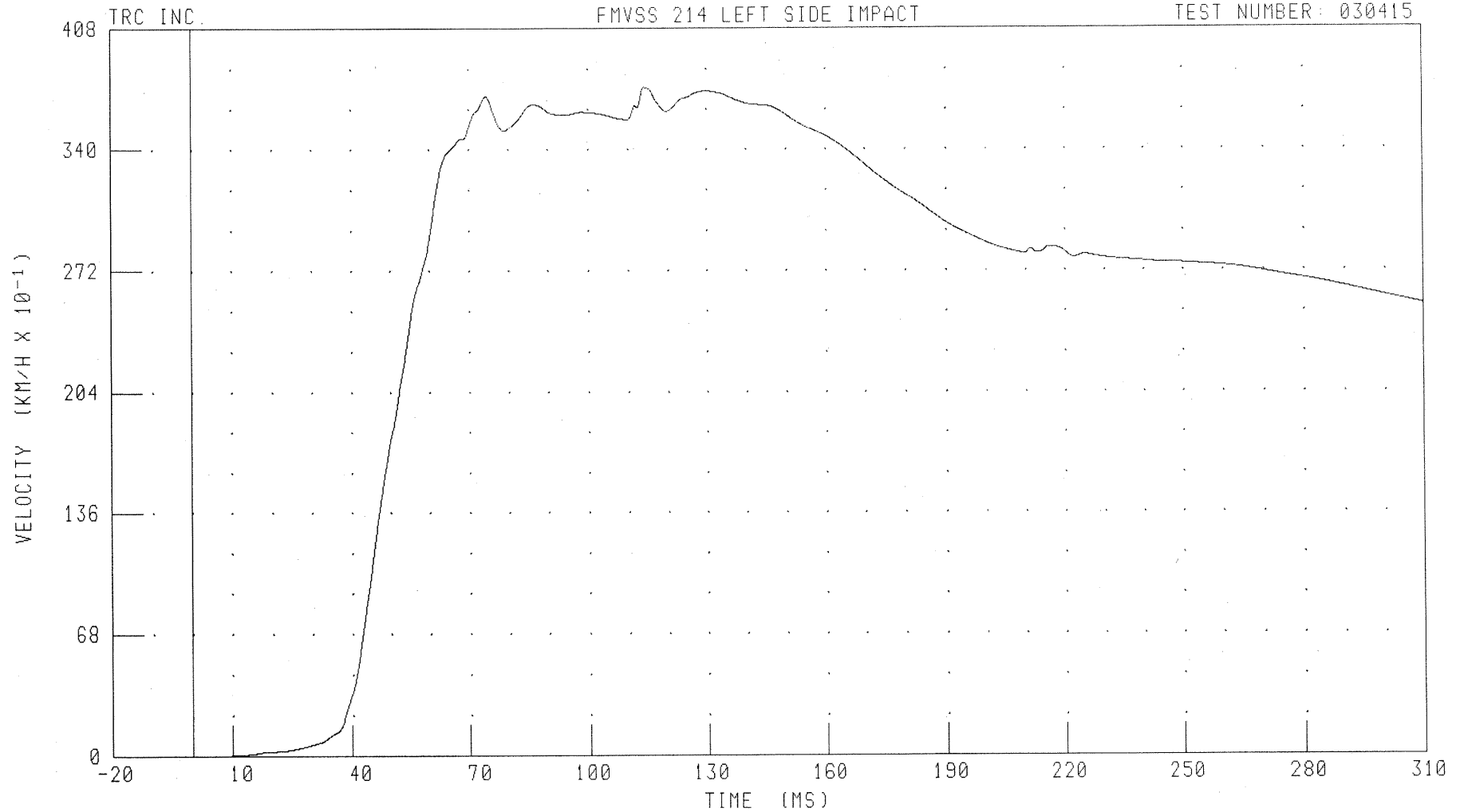
B-79

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYVJ FILTER: CH. CLASS 180

PEAK DATA: 37.50 KM/H @ 114.32 MS, 0.00 KM/H @ 0.80 MS

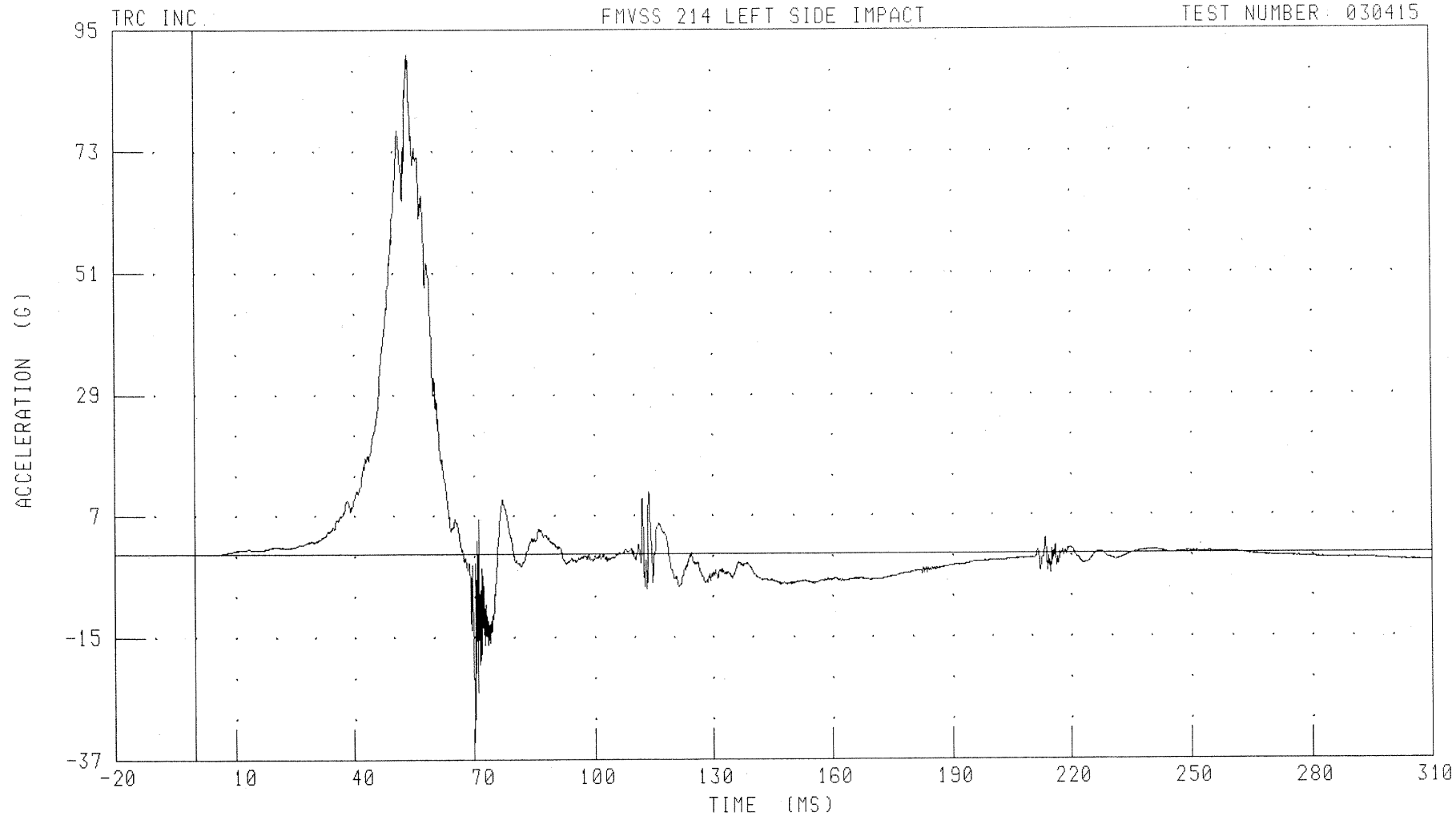
B-80

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YR4 FILTER: CH. CLASS 1000

B-81

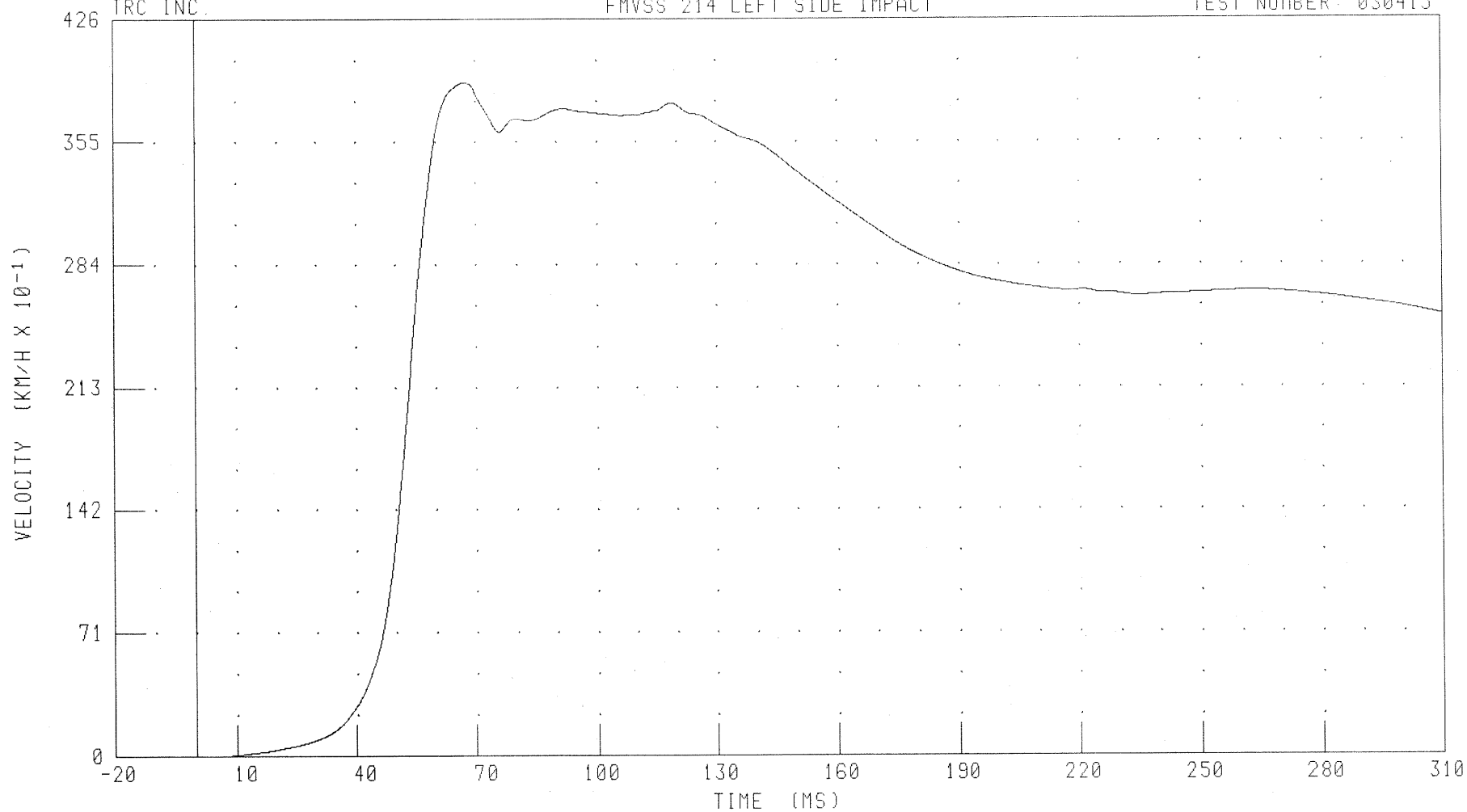
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415

TRC INC.



CHANNEL: T12YVJ

FILTER: CH. CLASS 180

PEAK DATA: 38.95 KM/H @ 67.28 MS; 0.00 KM/H @ 0.00 MS

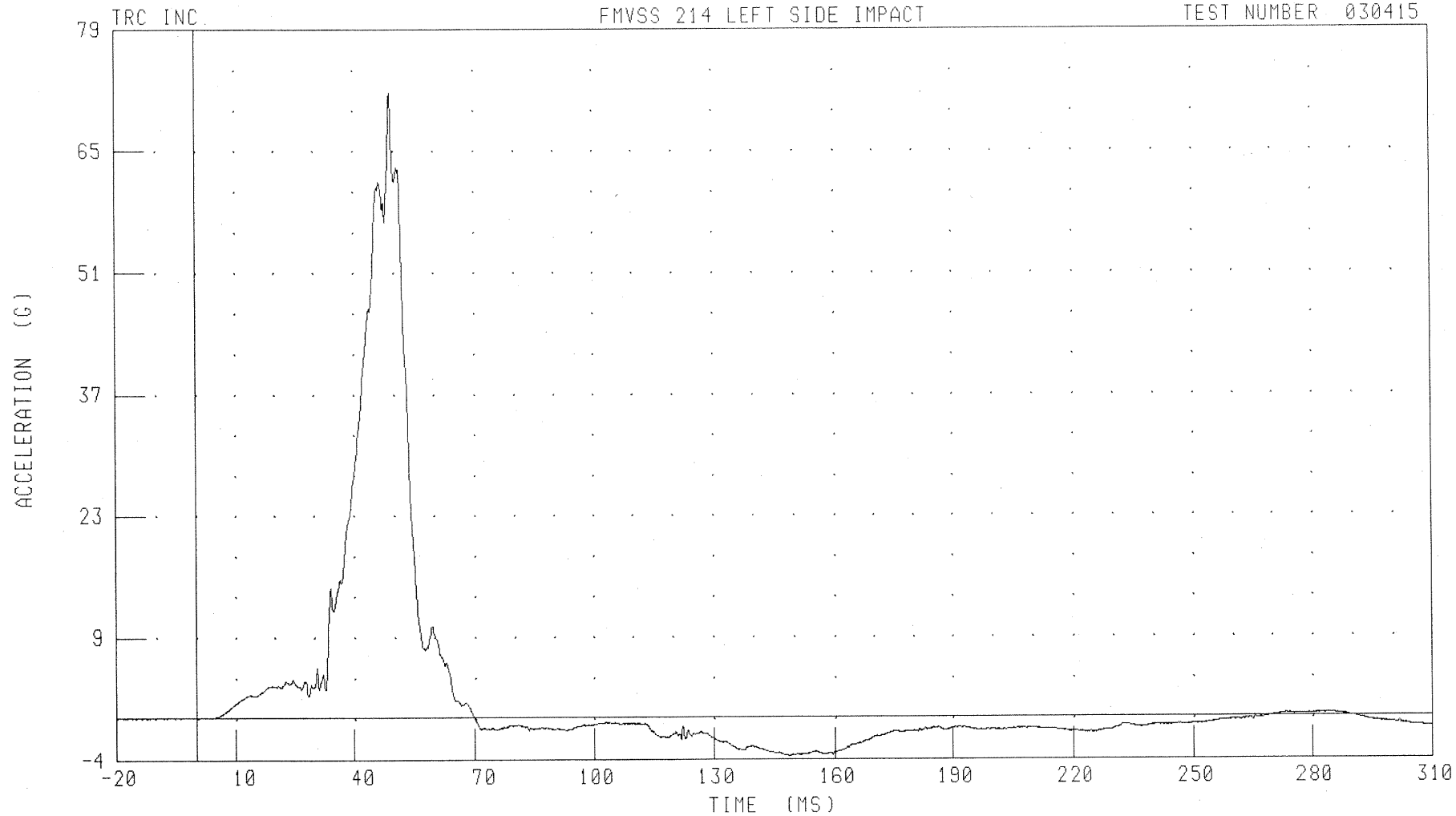
B-82

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: PEVYR4 FILTER: CH. CLASS 1000

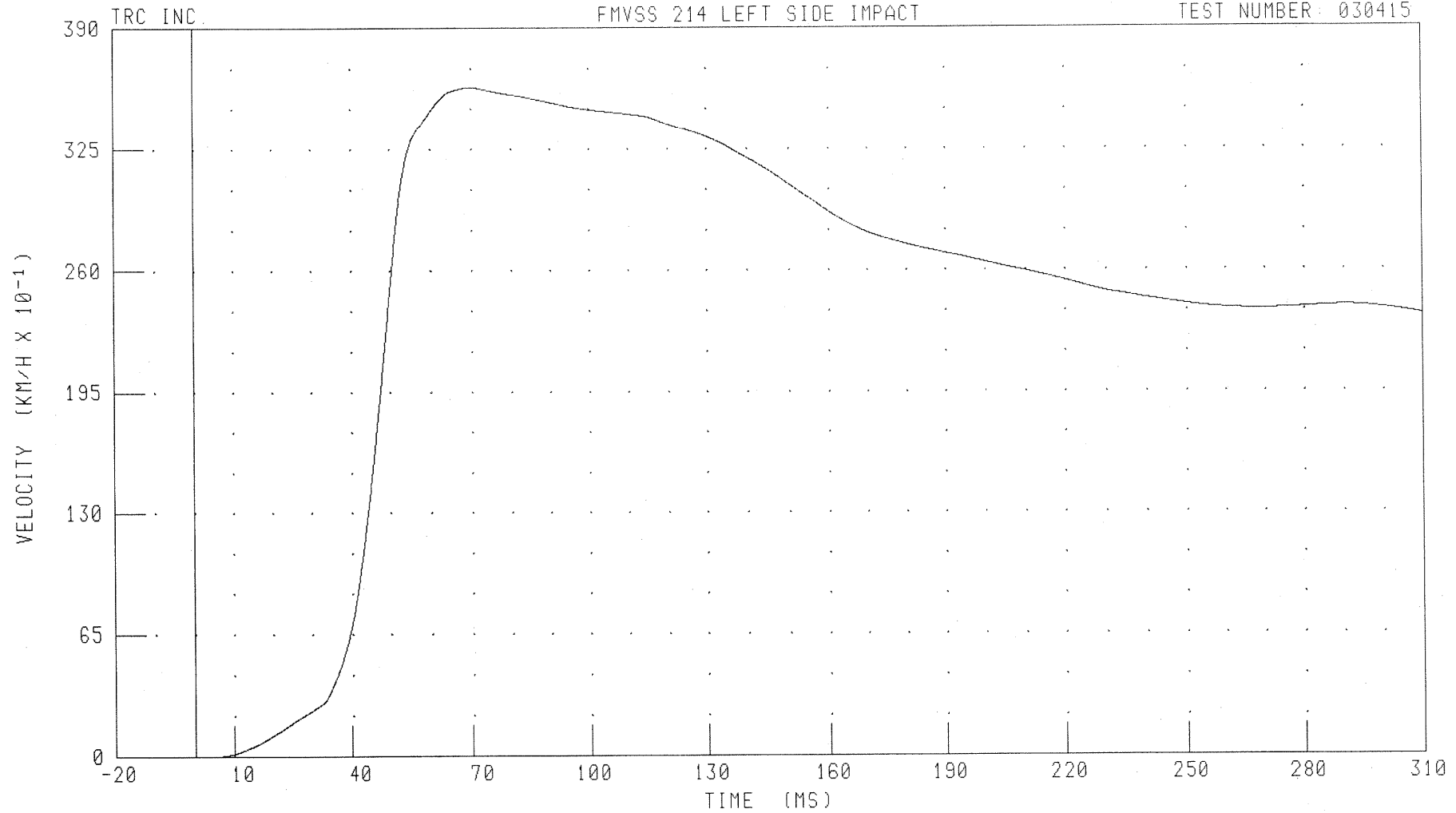
B-83

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: PEVYVJ

FILTER: CH. CLASS 100

PEAK DATA: 35.84 KM/H @ 69.76 MS; 0.00 KM/H @ 0.00 MS

B-84

030415

Test Vehicle Instrumentation Plots

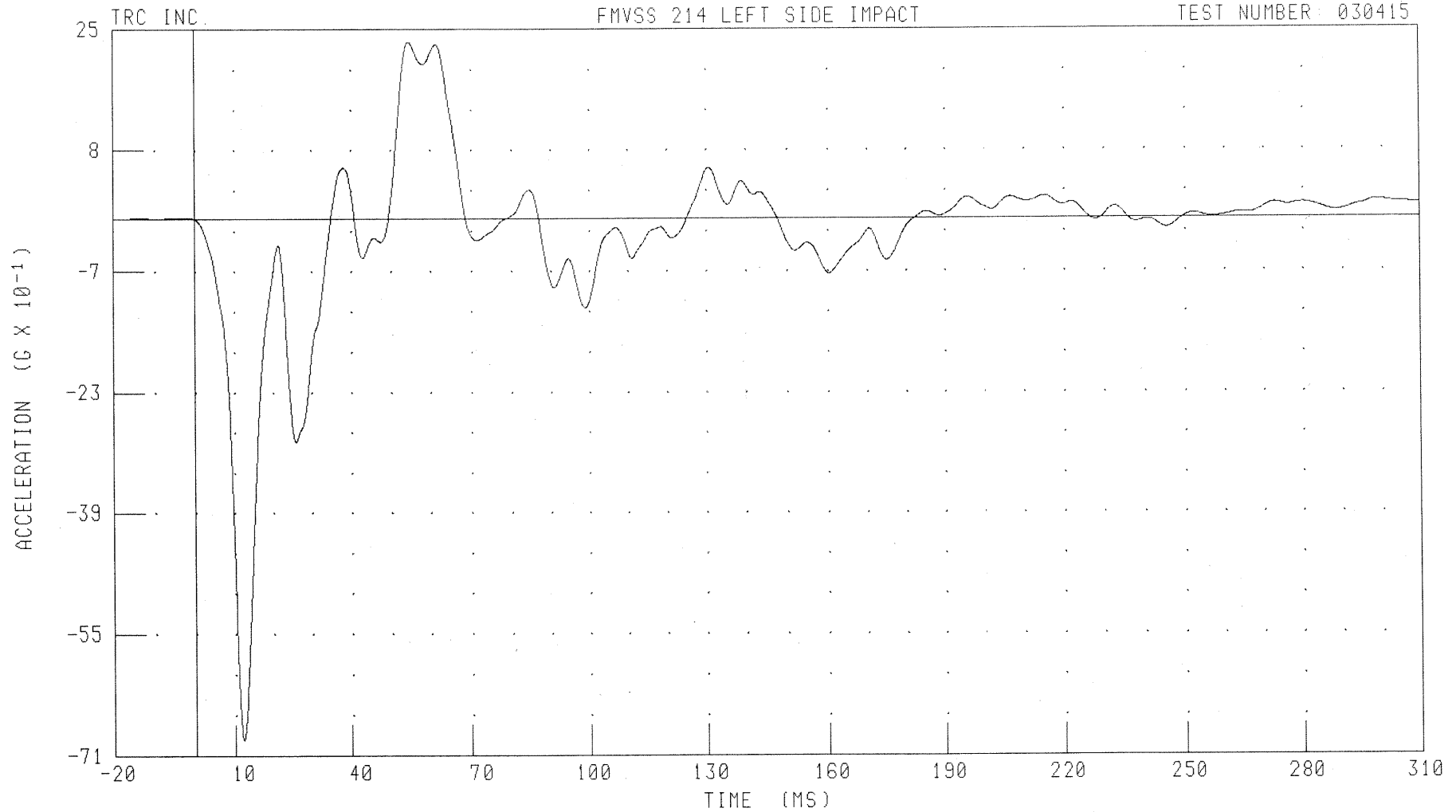
Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT FRONT SEAT X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



B-86

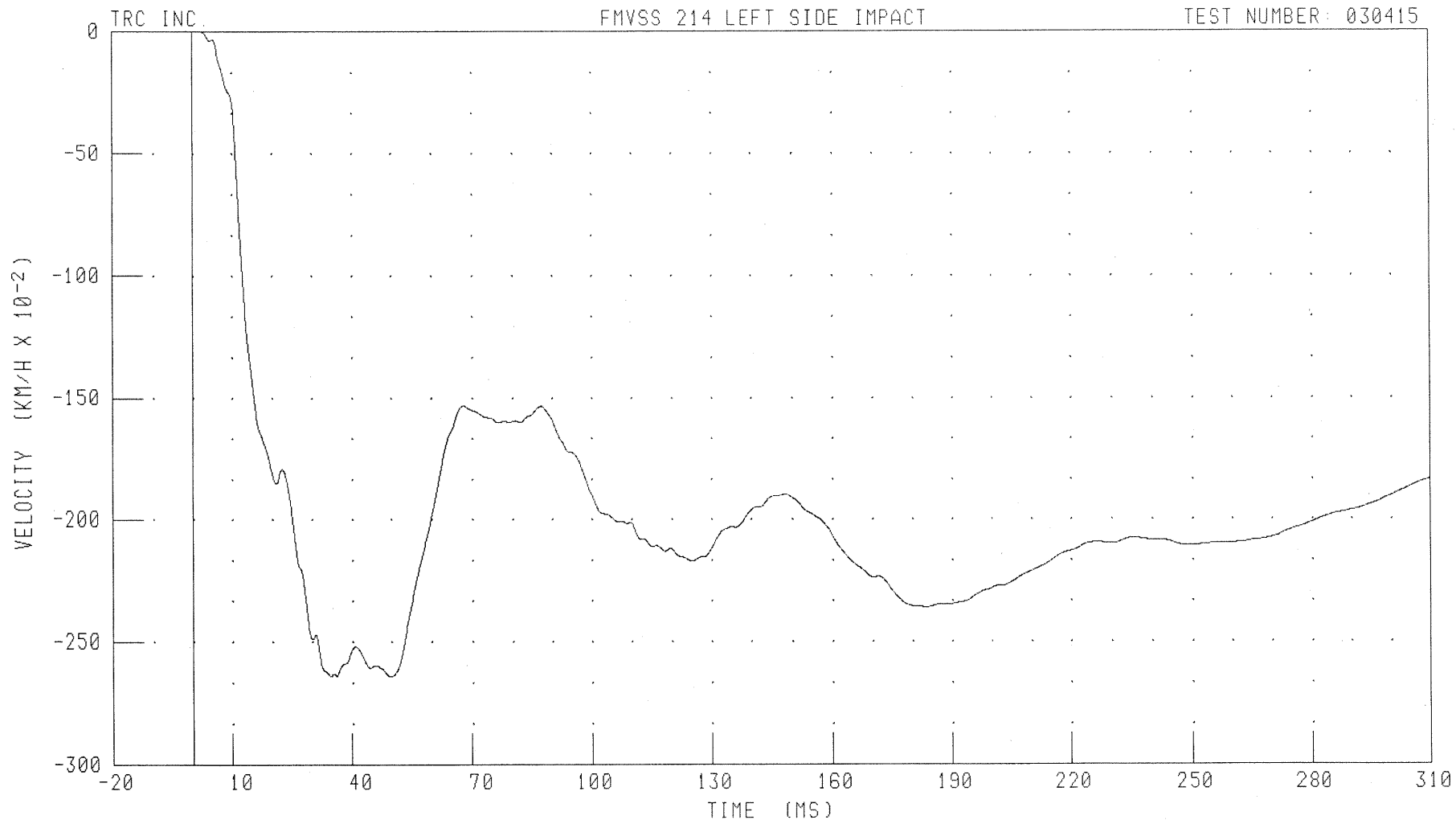
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

RIGHT SIDE SILL AT FRONT SEAT X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RFSXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 0.00 MS, -2.64 KM/H @ 34.72 MS

B-87

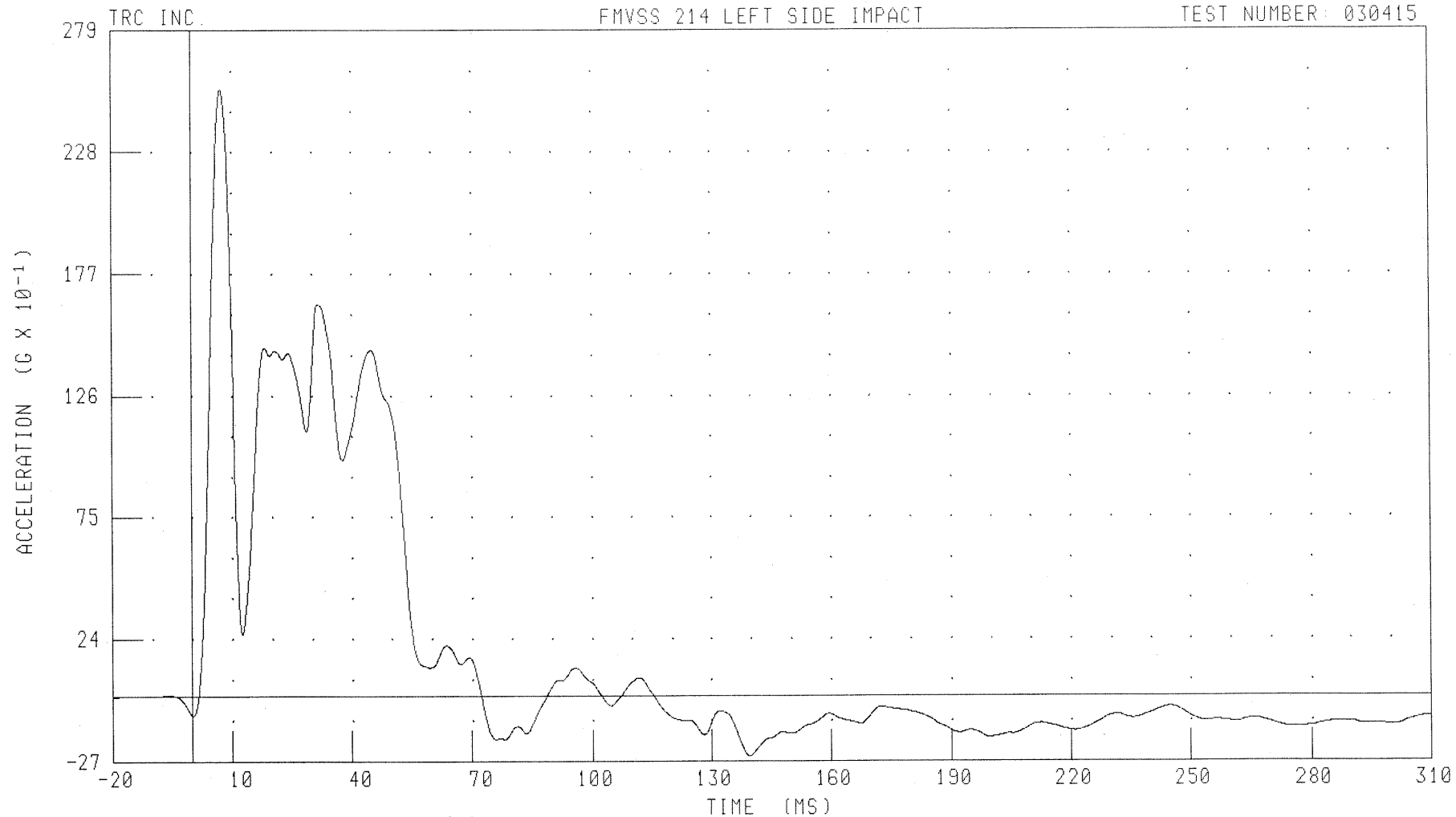
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

RIGHT SIDE SILL AT FRONT SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



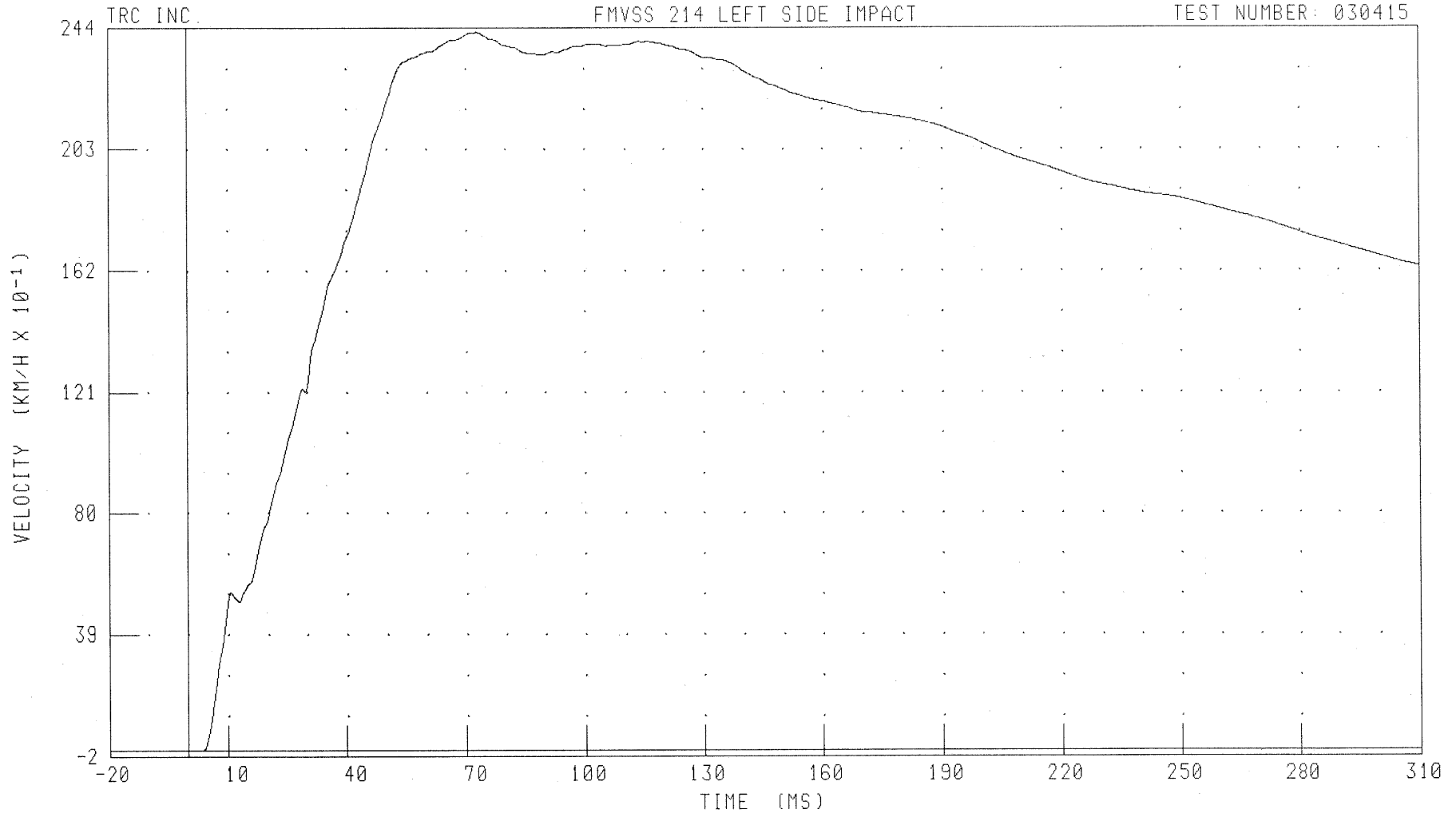
B-88

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RFSYV1 FILTER: CH. CLASS 180

PEAK DATA: 24.25 KM/H @ 72.96 MS; -0.01 KM/H @ 3.20 MS

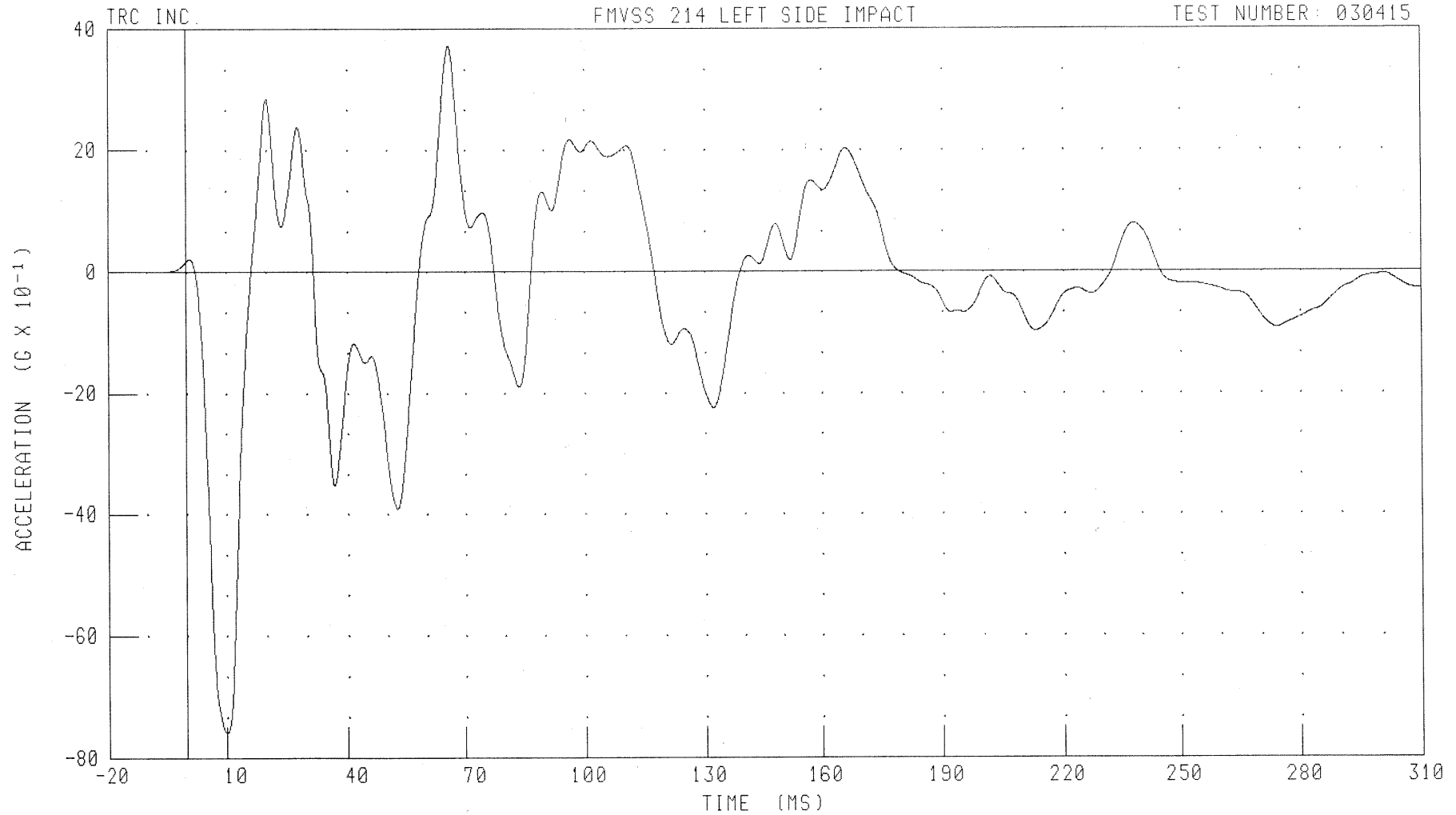
B-89

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RFSZG1 FILTER: CH. CLASS 60

PEAK DATA: 3.72 G @ 65.84 MS; -7.59 G @ 9.92 MS

B-90

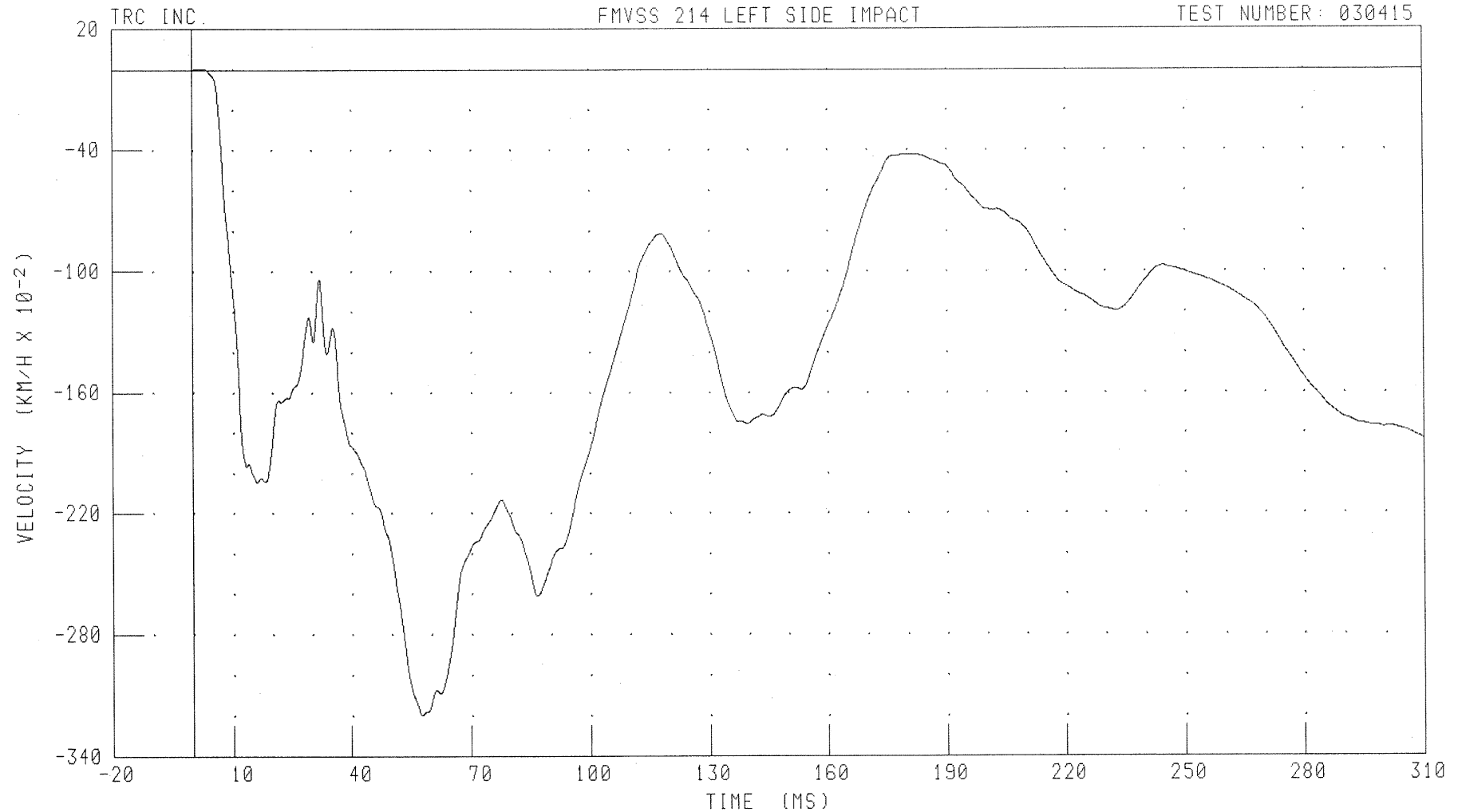
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

RIGHT SIDE SILL AT FRONT SEAT Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RFSZV1 FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 2.80 MS; -3.20 KM/H @ 57.60 MS

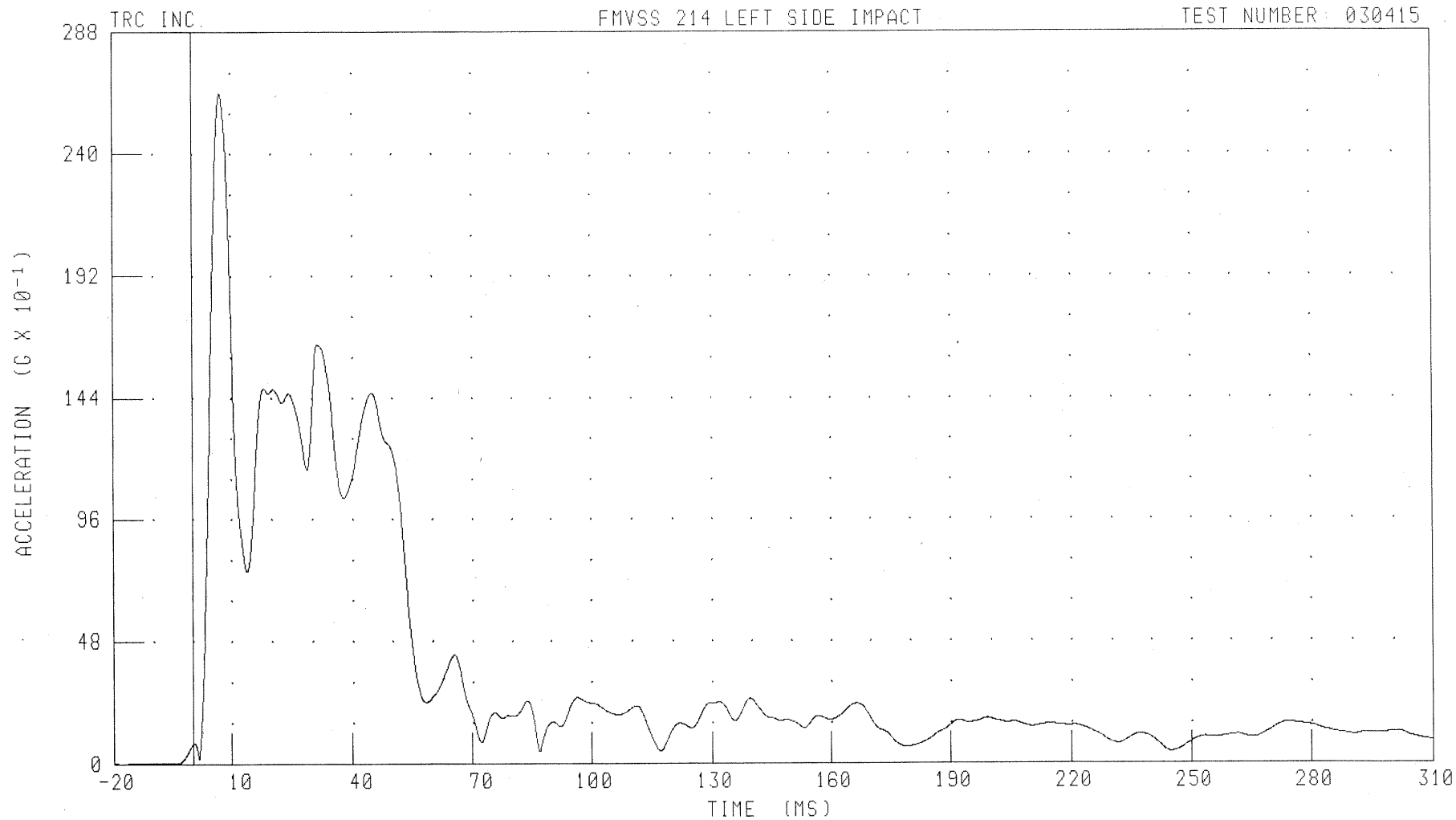
B-91

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT FRONT SEAT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RFSRG1 FILTER: CH. CLASS 60

PEAK DATA: 26.40 G @ 7.52 MS; 0.01 G @ -18.08 MS

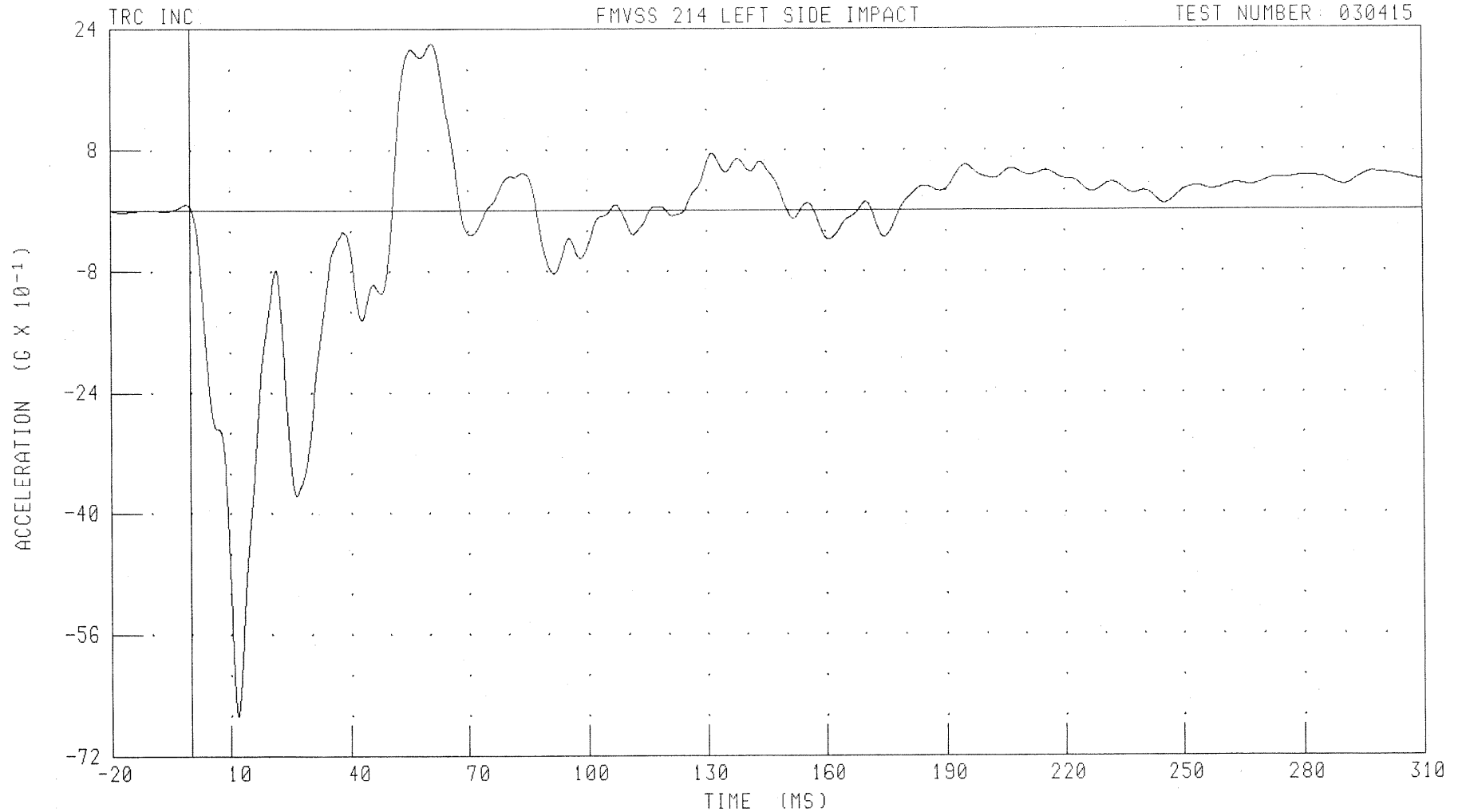
B-92

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT REAR SEAT X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRSXG1 FILTER: CH. CLASS 60

PEAK DATA: 2.21 G @ 60.96 MS; -6.68 G @ 11.84 MS

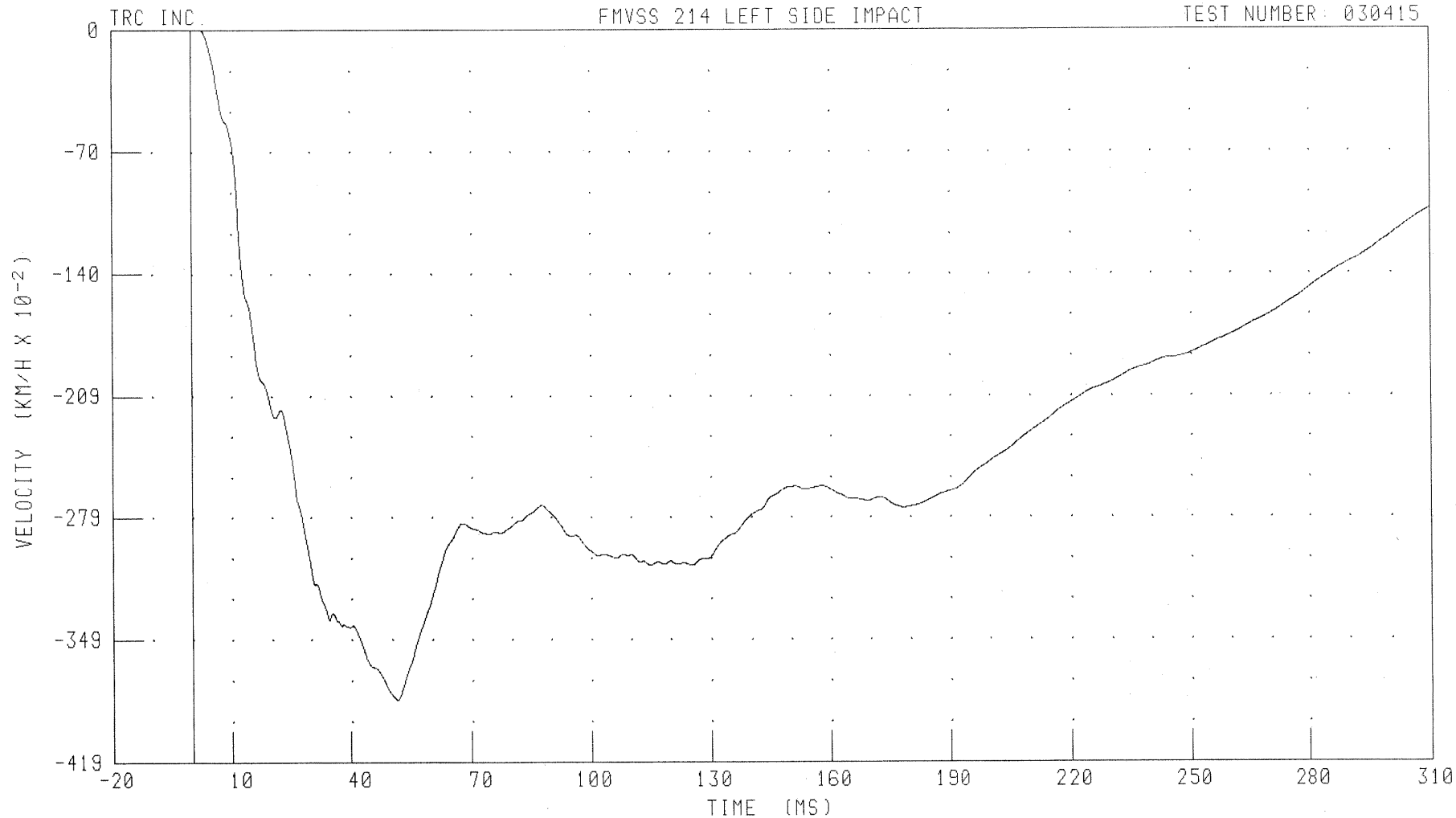
B-93

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT REAR SEAT X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRSXV1

FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 2.08 MS; -3.85 KM/H @ 51.28 MS

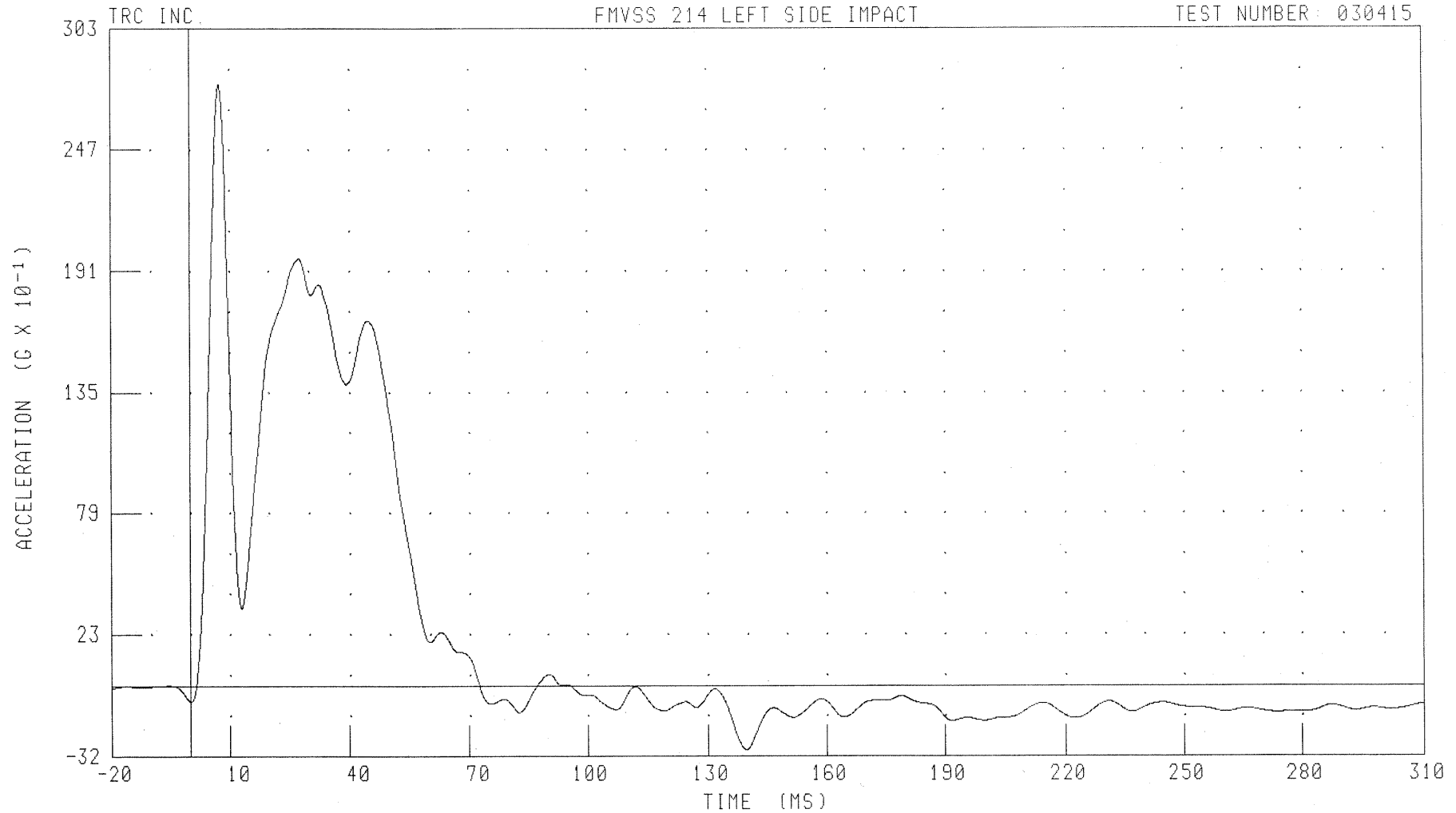
B-94

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRSYG1 FILTER: CH. CLASS 60

PEAK DATA: 27.86 G @ 7.52 MS; -2.91 G @ 139.60 MS

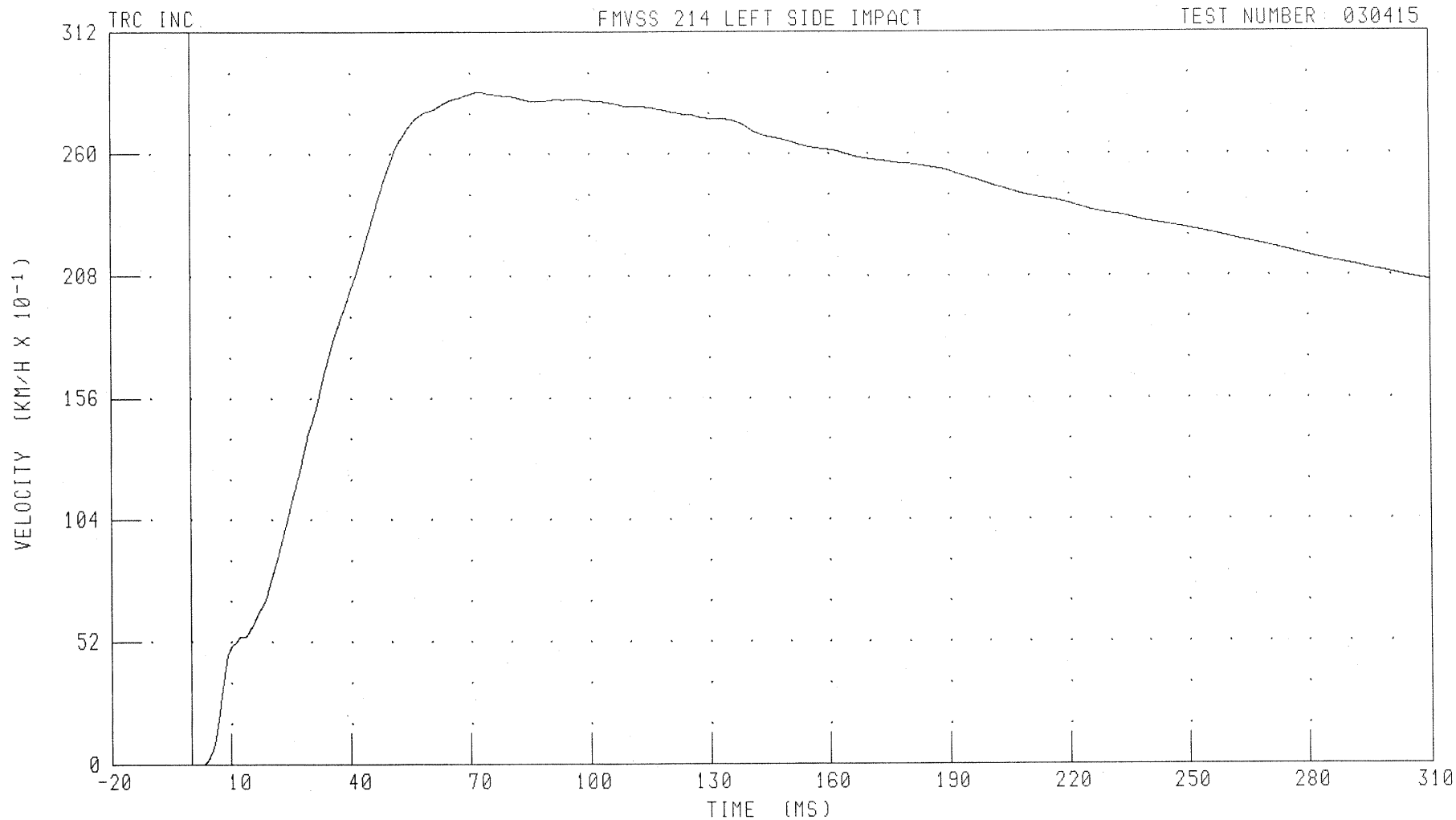
B-95

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT REAR SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 28.66 KM/H @ 72.56 MS; 0.00 KM/H @ 0.00 MS

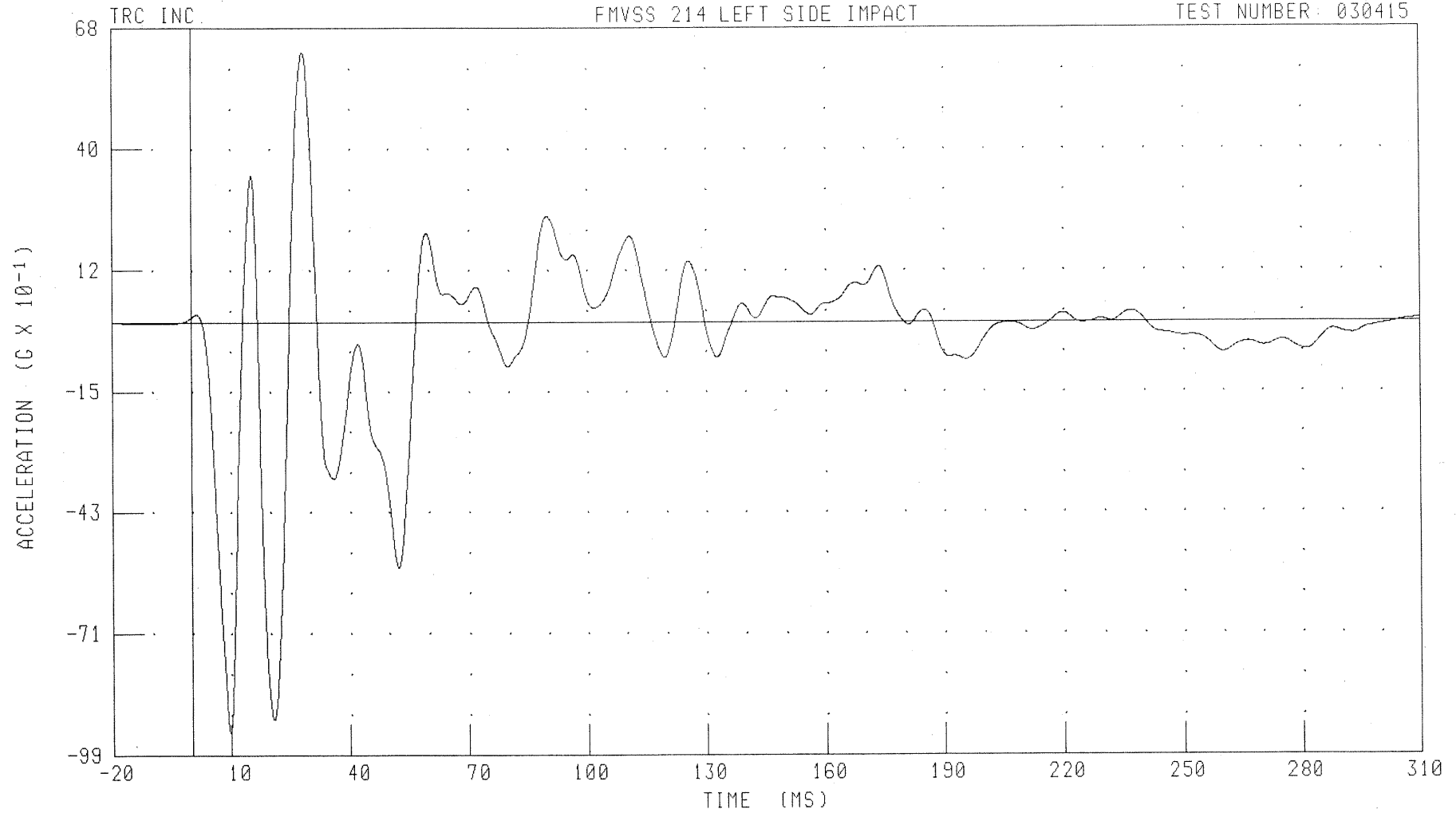
B-96

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRSZG1 FILTER: CH. CLASS 60

PEAK DATA: 6.25 G @ 28.40 MS; -9.49 G @ 9.76 MS

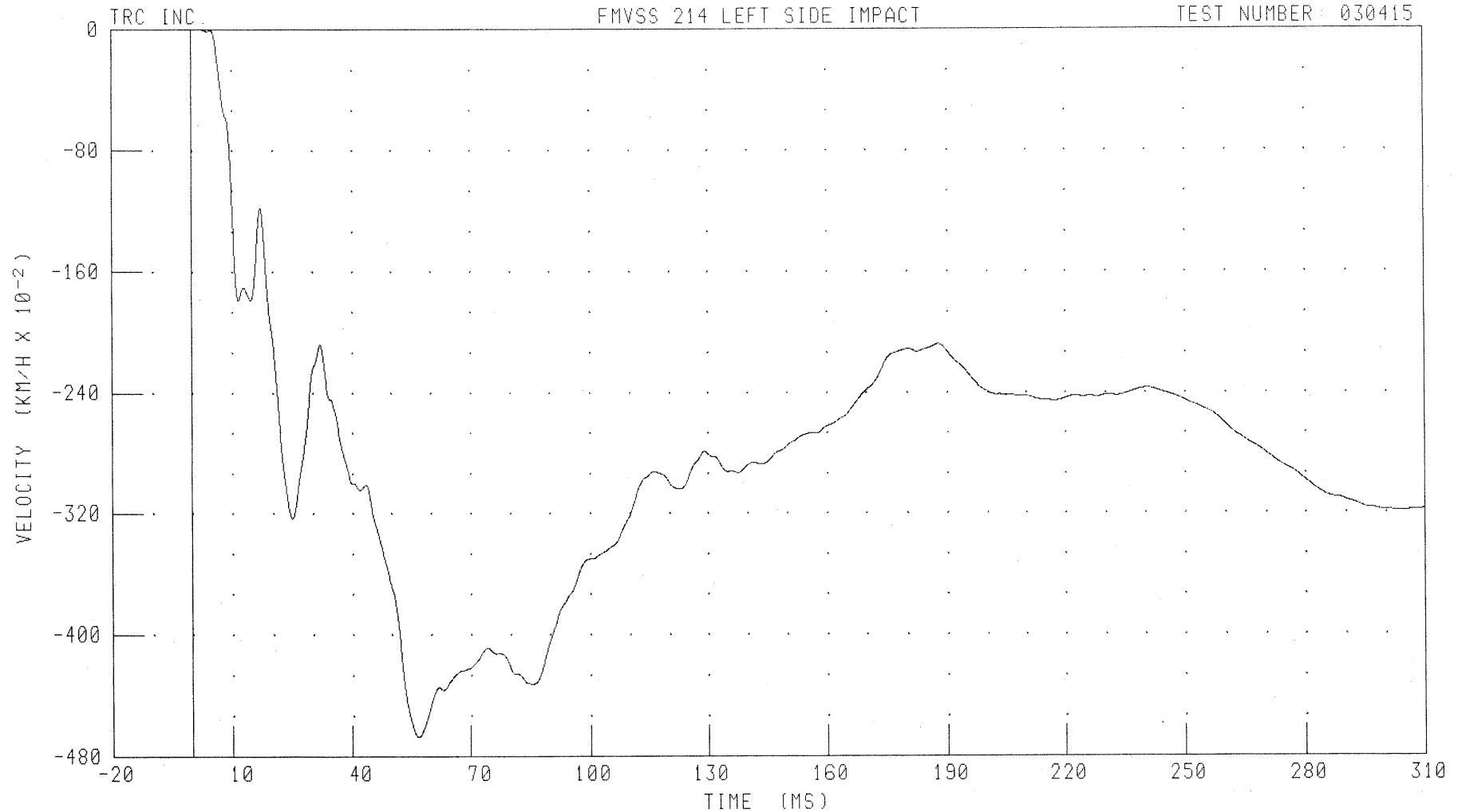
B-97

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRSZV1 FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 2.00 MS; -4.67 KM/H @ 56.80 MS

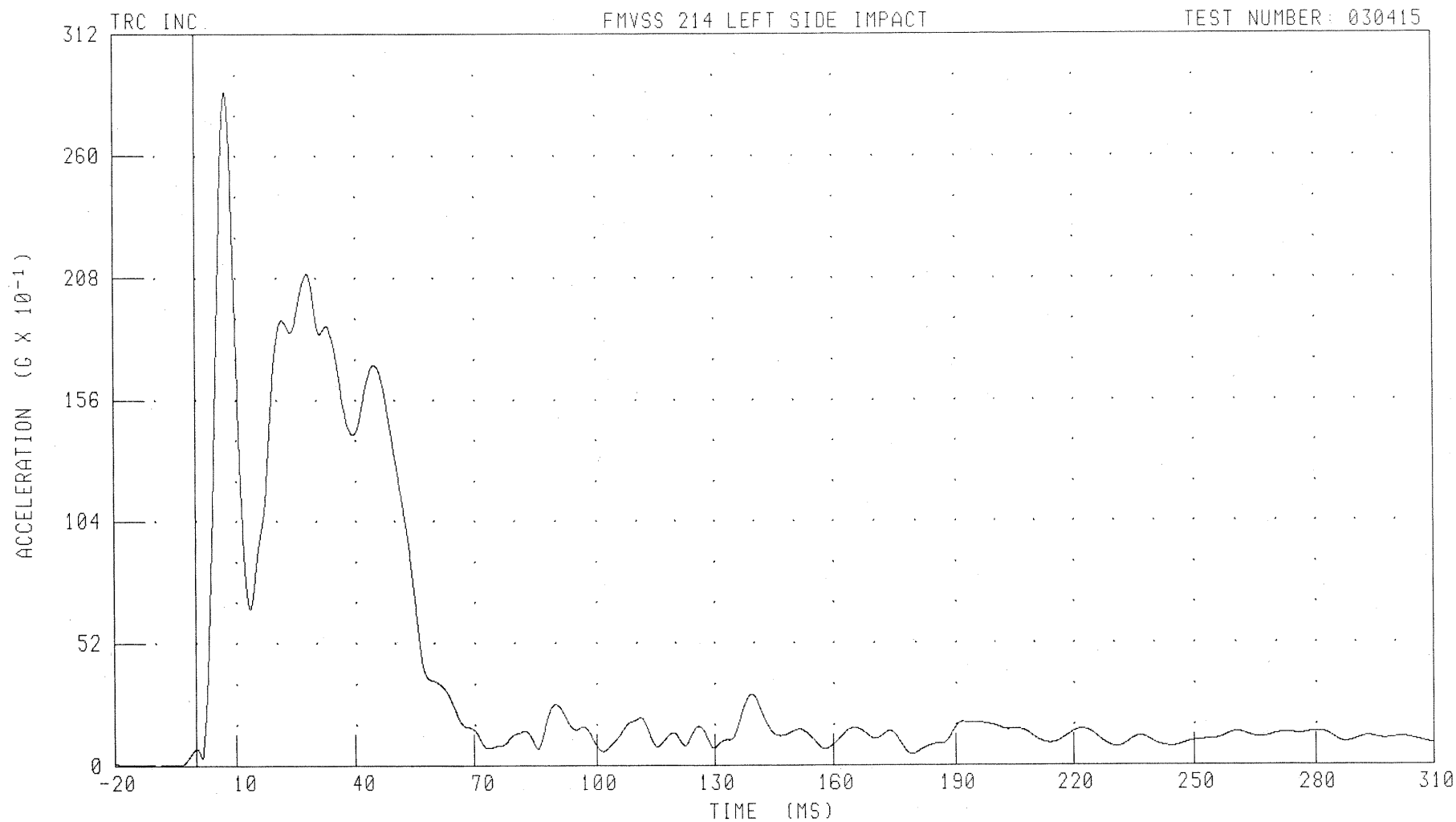
B-98

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT SIDE SILL AT REAR SEAT RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRSRG1 FILTER: CH. CLASS 60

PEAK DATA: 28.76 G @ 7.60 MS; 0.02 G @ -9.28 MS

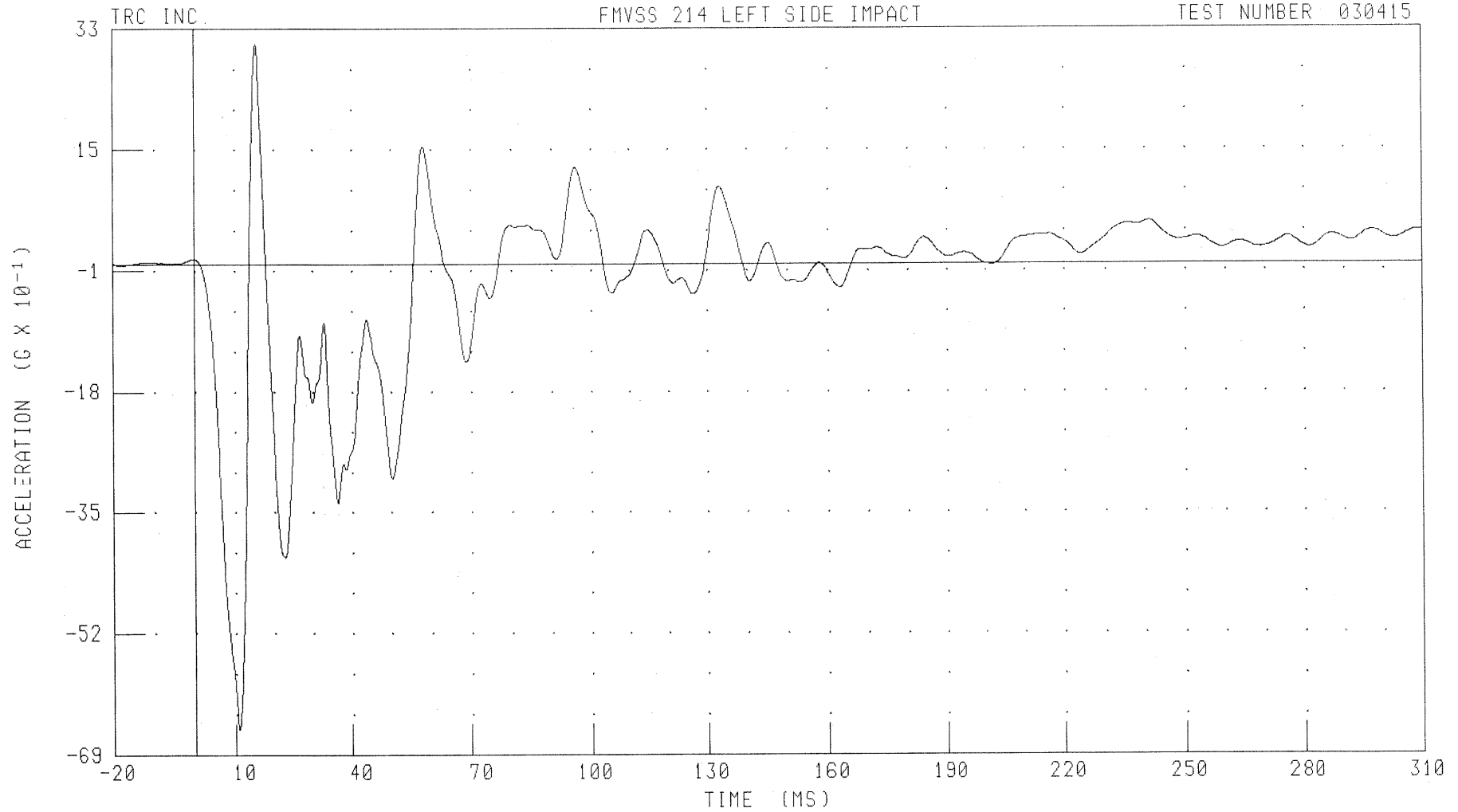
B-99

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: RDKXC1 FILTER: CH. CLASS 60

PEAK DATA: 3.09 G @ 15.52 MS; -6.55 G @ 10.88 MS

B-100

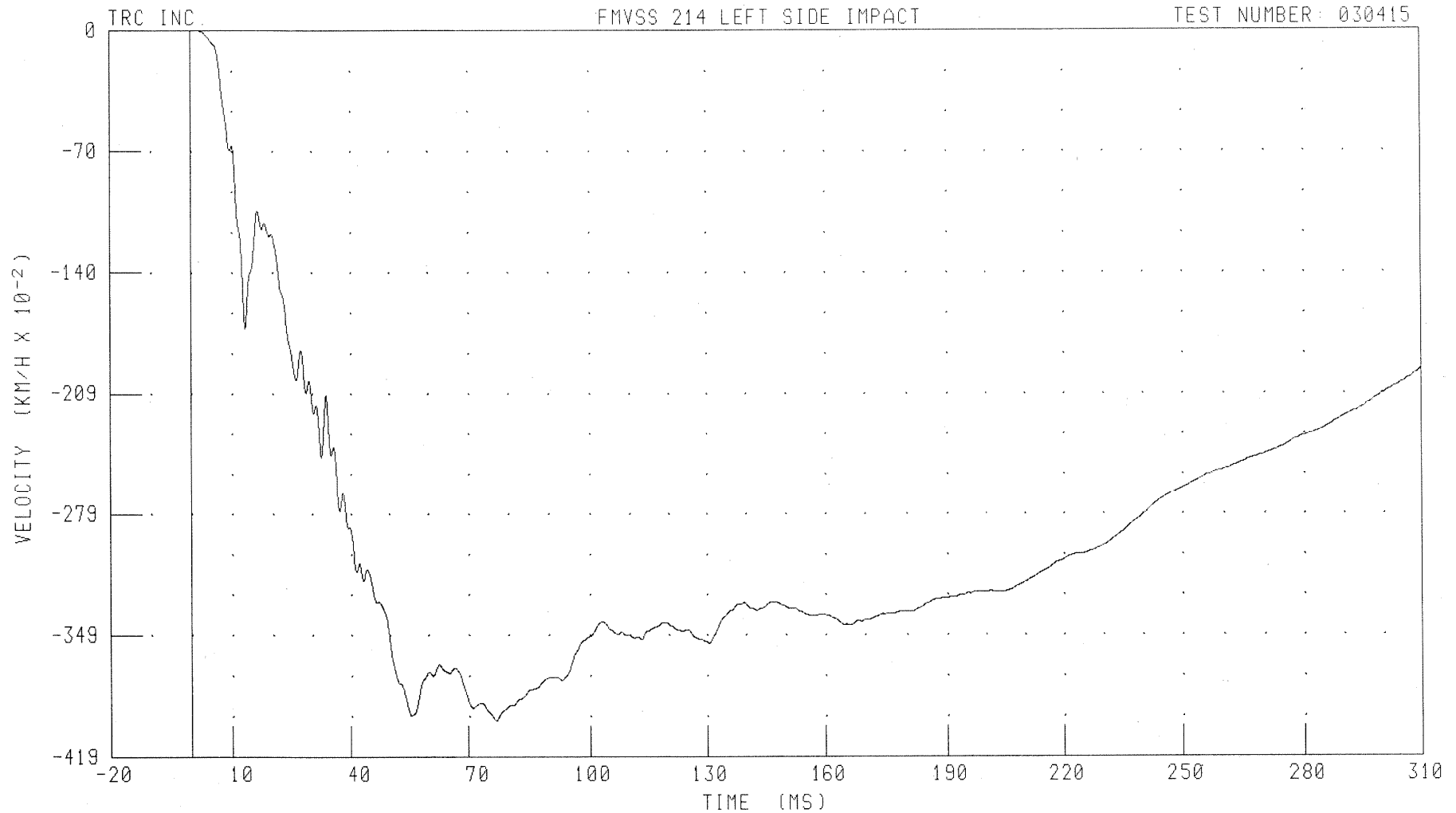
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

REAR FLOORPAN ABOVE AXLE X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RDKXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.00 KM/H @ 1.28 MS; -3.99 KM/H @ 77.04 MS

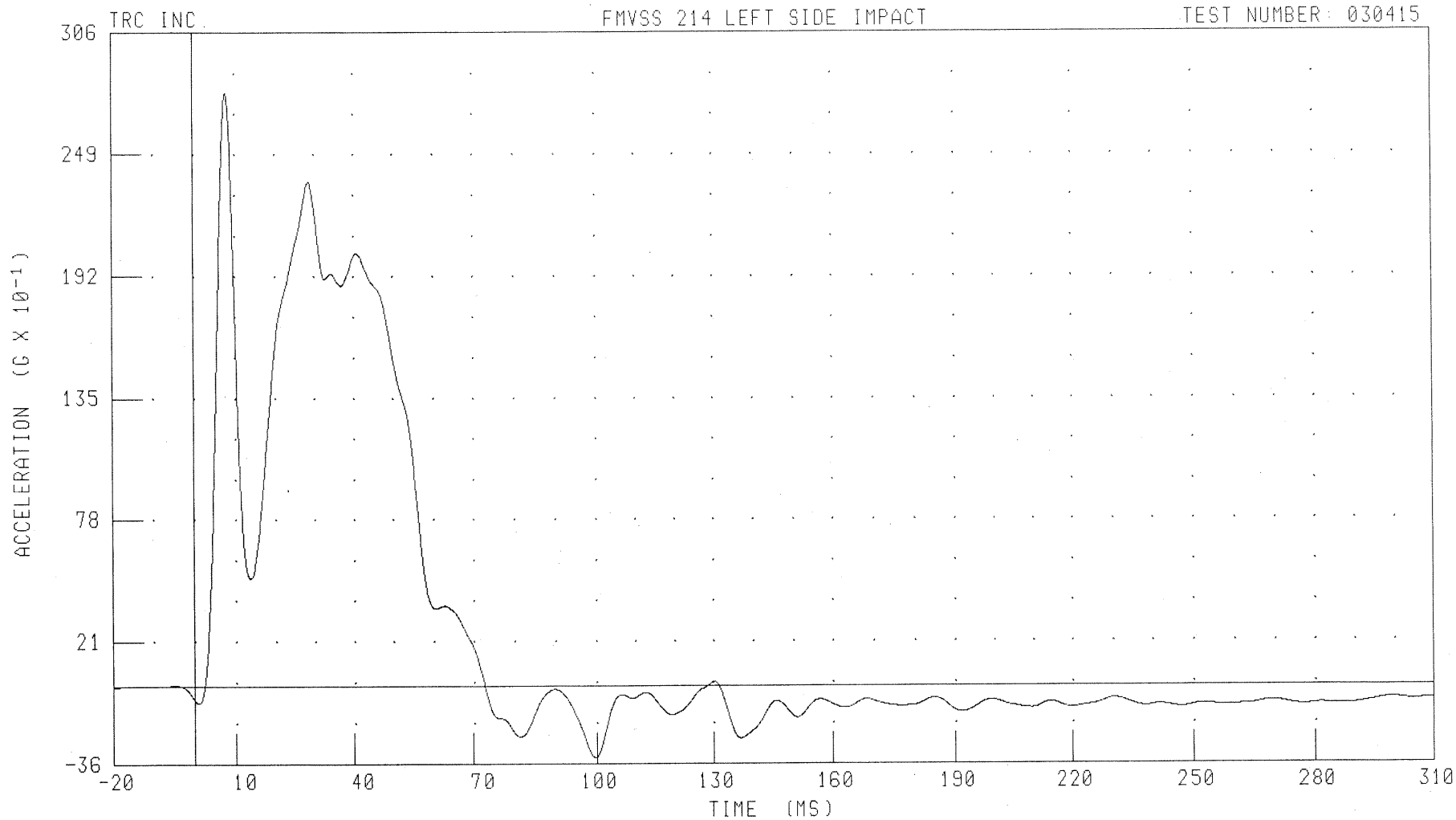
B-101

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RDKYG1 FILTER: CH. CLASS 60

PEAK DATA: 27.80 G @ 7.84 MS; -3.33 G @ 99.76 MS

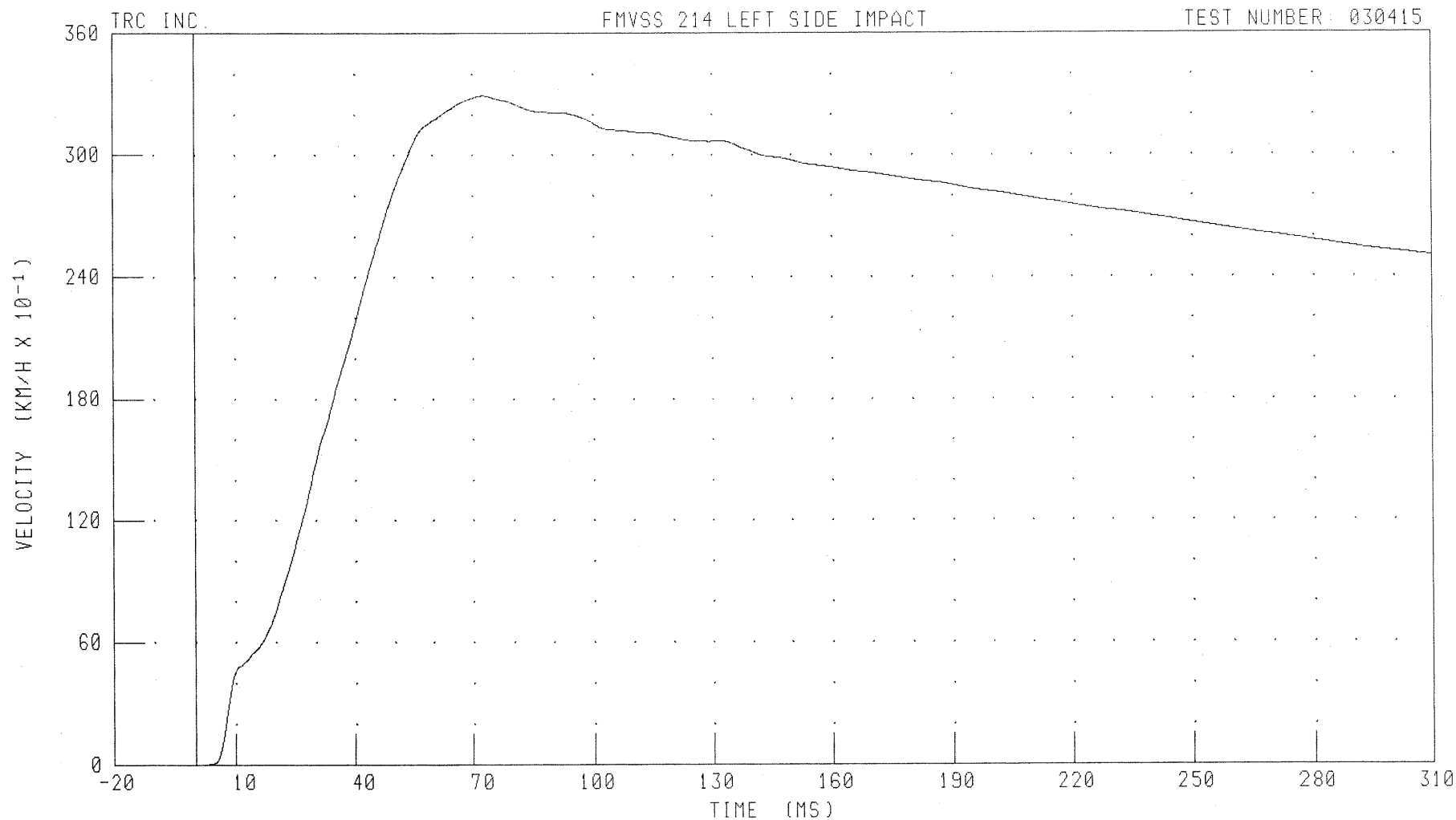
B-102

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



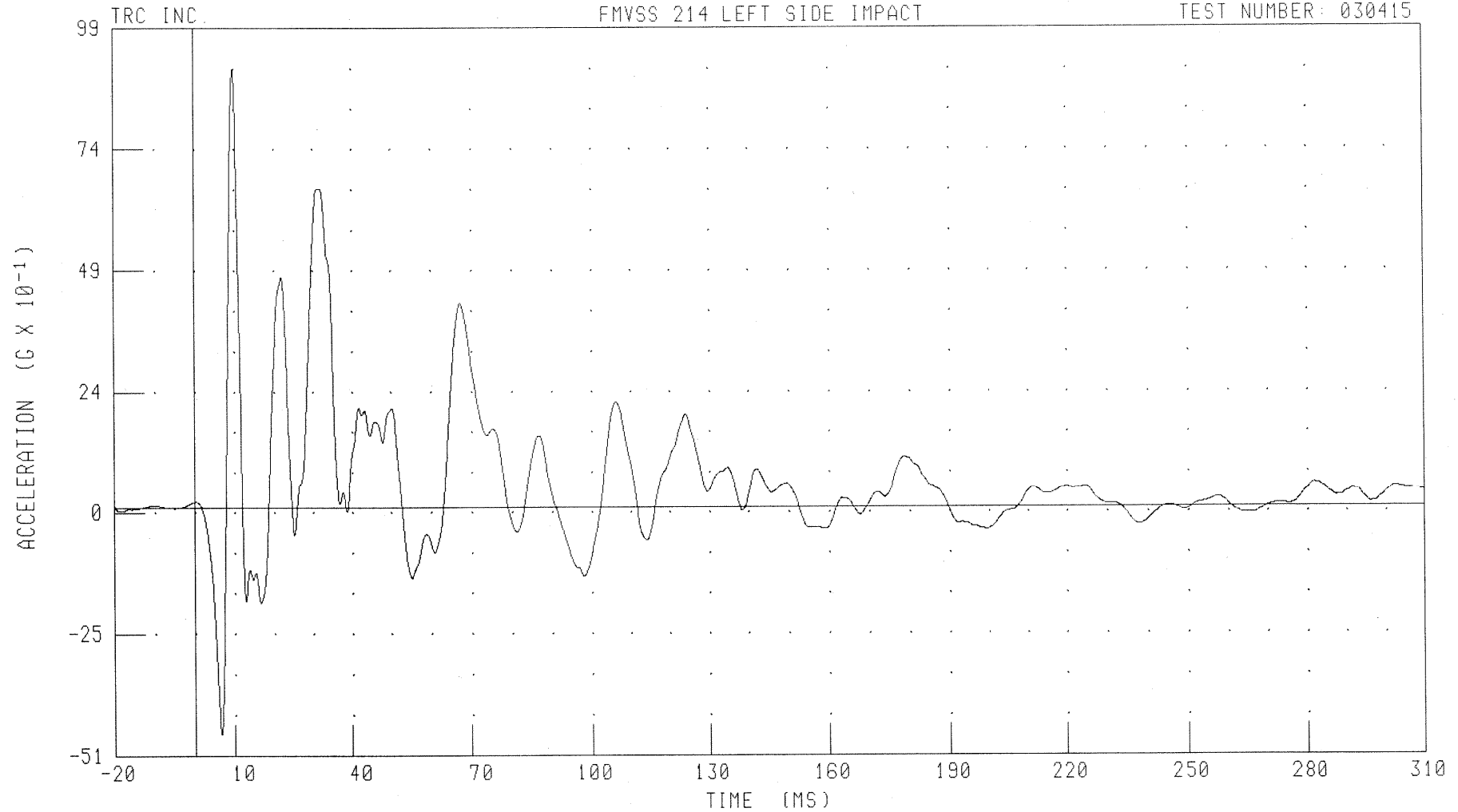
CHANNEL: RDKYV1 FILTER: CH. CLASS 180

PEAK DATA: 32.94 KM/H @ 72.88 MS; 0.00 KM/H @ 0.16 MS

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RDKZG1 FILTER: CH. CLASS 60

PEAK DATA: 9.06 G @ 9.76 MS, -4.66 G @ 6.48 MS

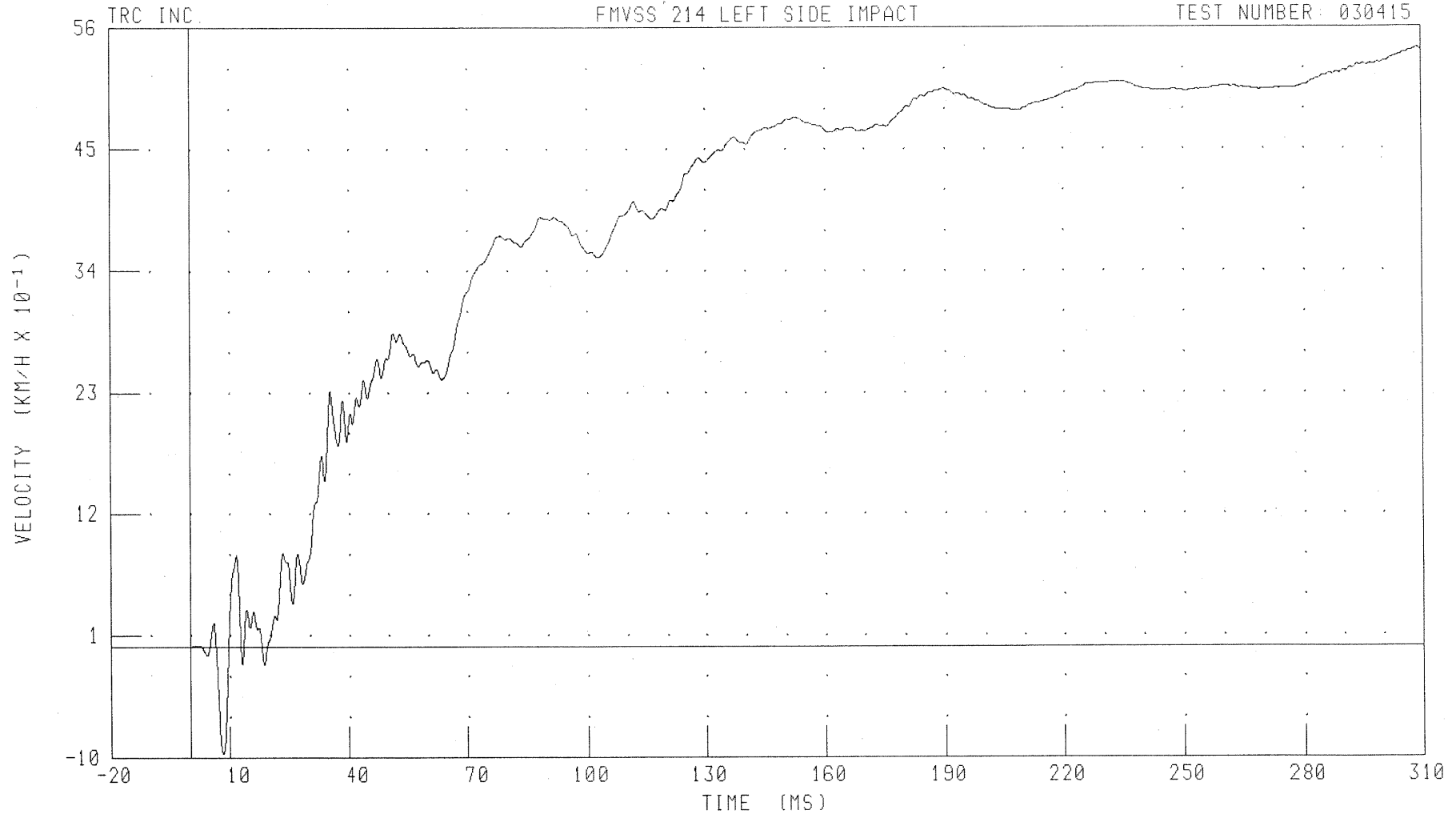
B-104

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



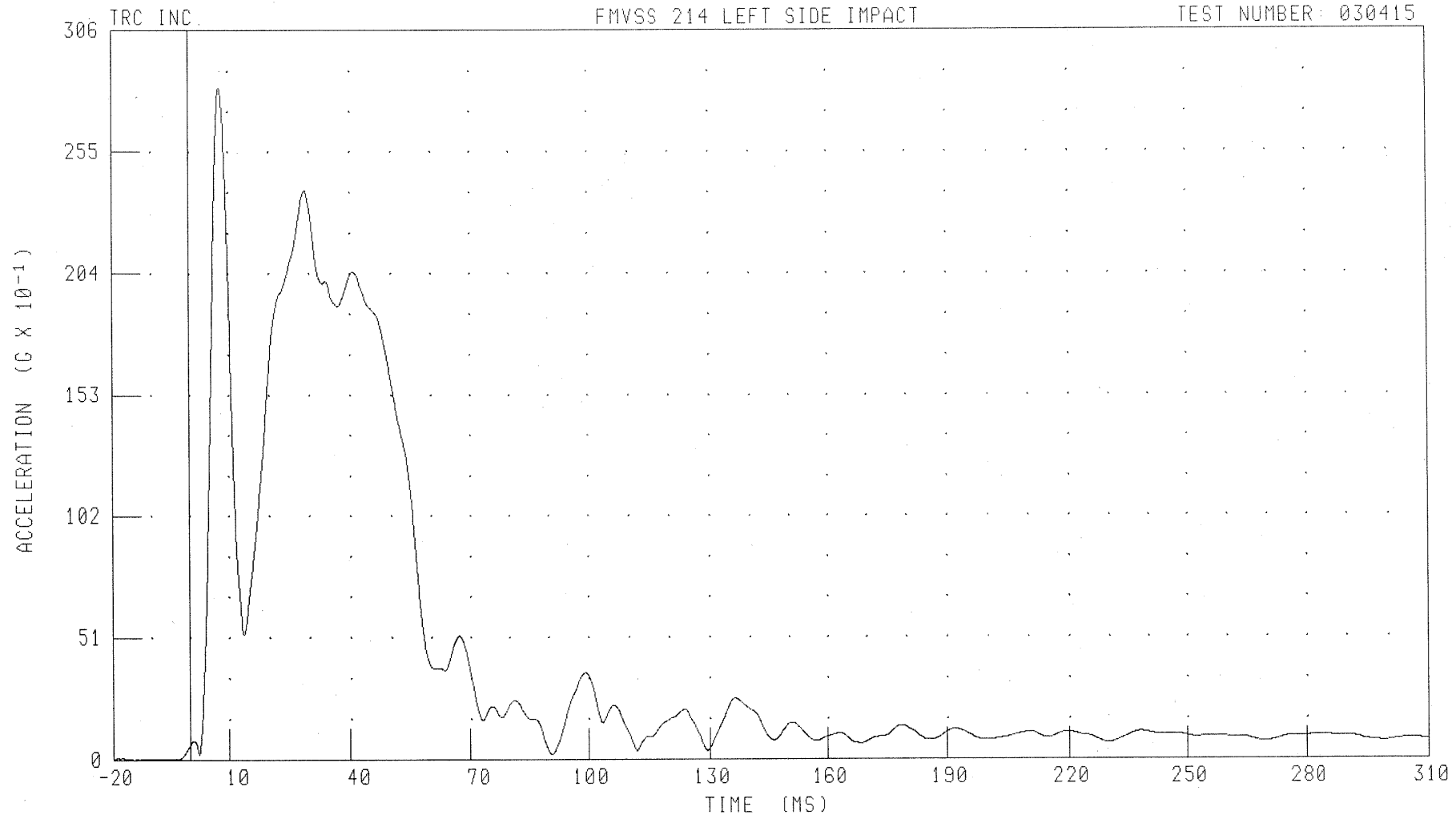
CHANNEL: RDKZV1 FILTER: CH. CLASS 180

PEAK DATA: 5.41 KM/H @ 308.96 MS; -0.96 KM/H @ 8.24 MS

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
REAR FLOORPAN ABOVE AXLE RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RDKRG1 FILTER: CH. CLASS 60

PEAK DATA: 28.20 G @ 7.92 MS; 0.01 G @ -14.64 MS

B-106

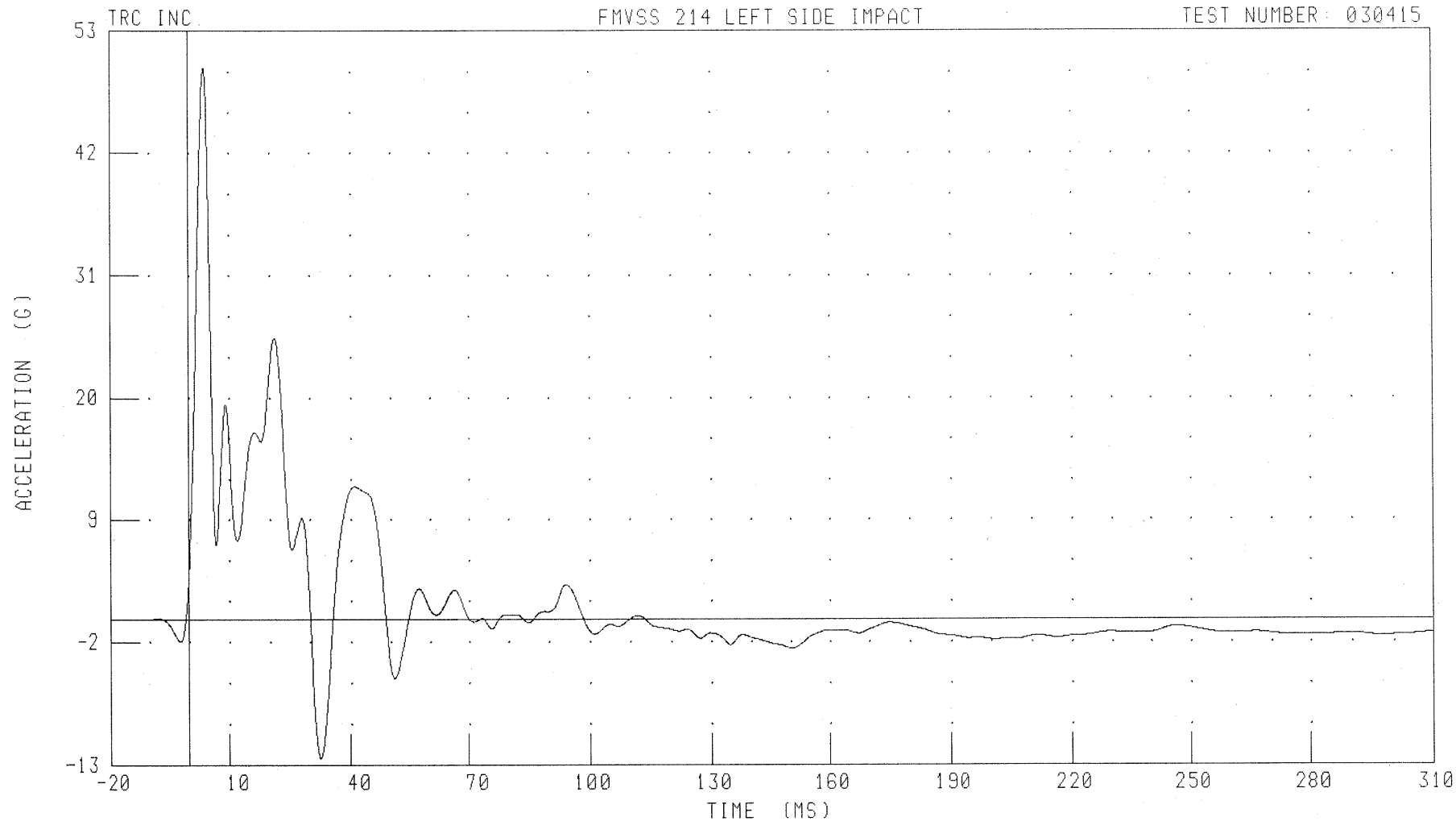
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT SIDE SILL AT FRONT SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFSYG1 FILTER: CH. CLASS 60

PEAK DATA: 49.64 G @ 3.92 MS; -12.41 G @ 32.64 MS

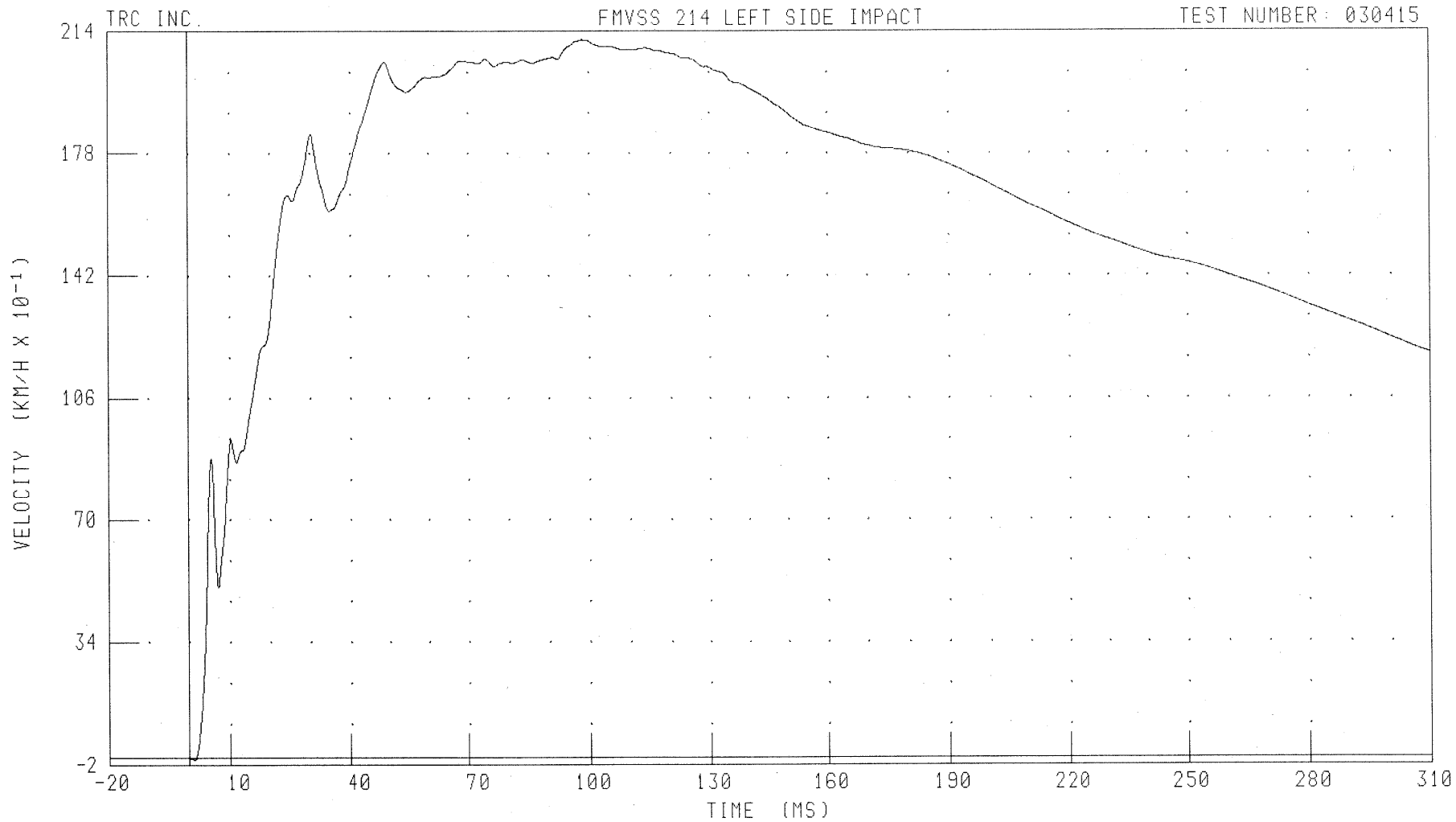
B-107

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT SIDE SILL AT FRONT SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFSYV1 FILTER: CH. CLASS 180

PEAK DATA: 21.15 KM/H @ 98.48 MS, -0.04 KM/H @ 1.28 MS

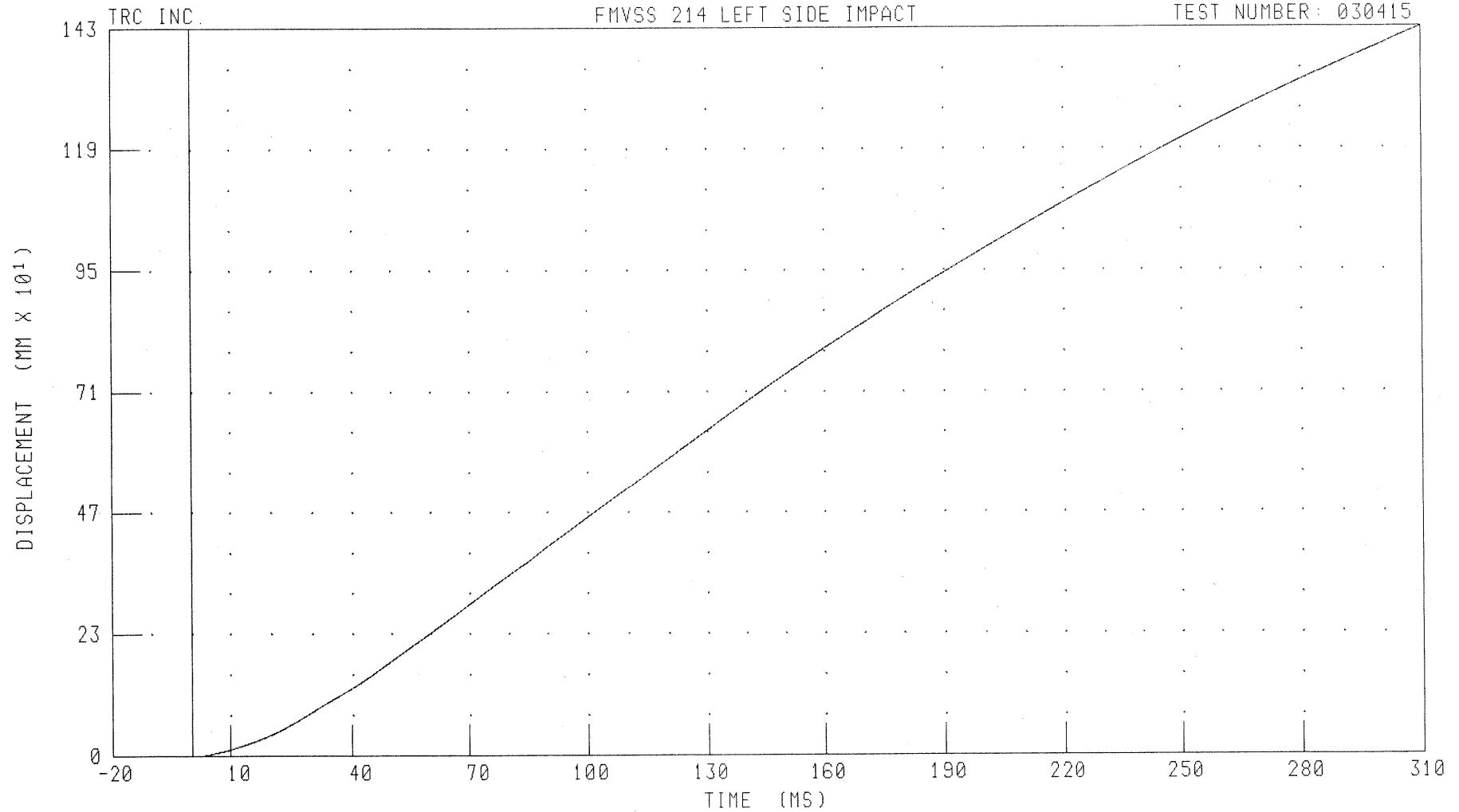
B-108

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT SIDE SILL AT FRONT SEAT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFSYD1

FILTER: CH. CLASS 180

PEAK DATA: 1438.96 MM @ 310.00 MS; -0.01 MM @ 1.76 MS

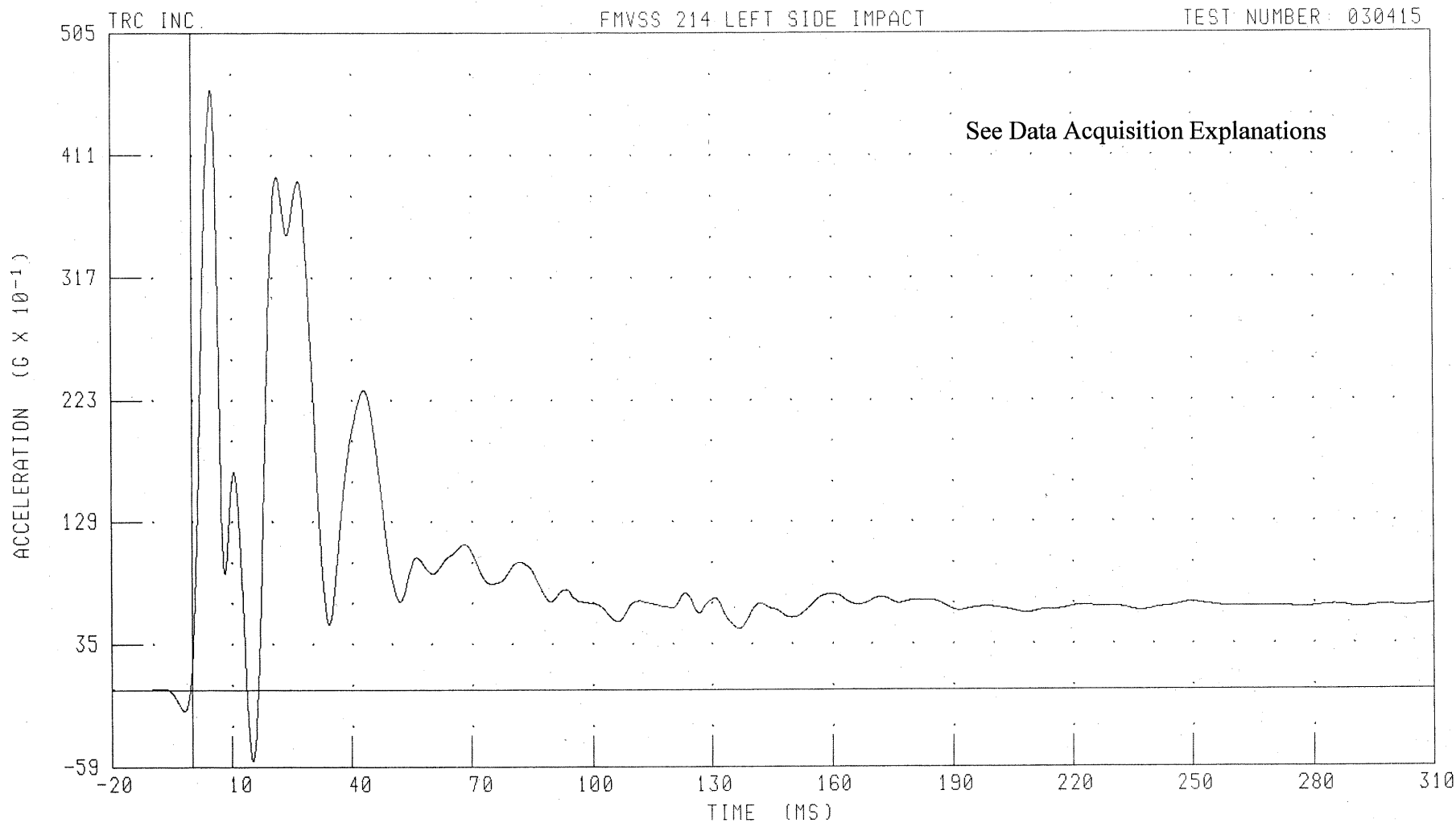
B-109

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT SIDE SILL AT REAR SEAT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRSYG1 FILTER: CH CLASS 60

PEAK DATA: 46.16 G @ 5.04 MS; -5.45 G @ 15.12 MS

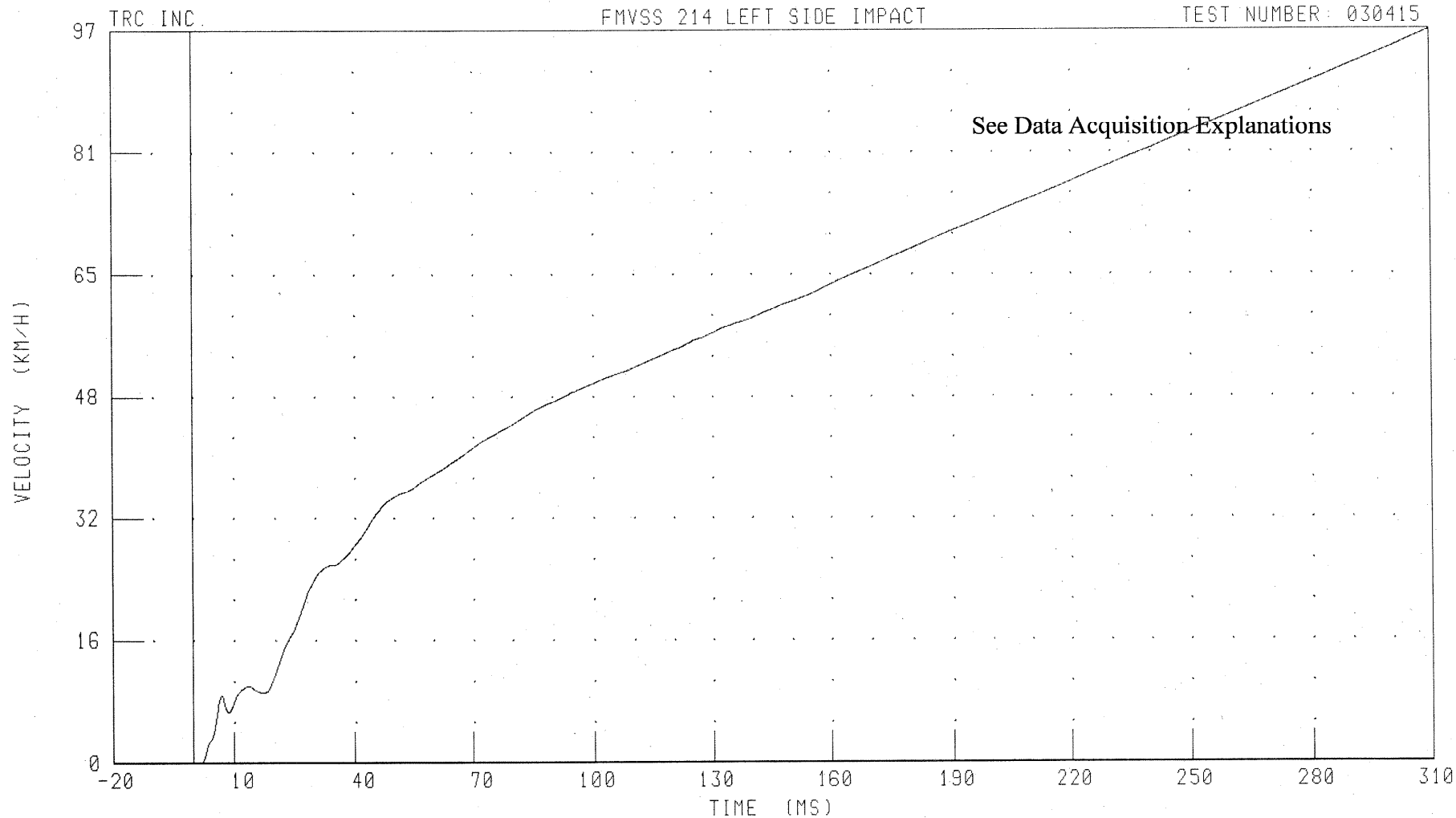
B-110

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT SIDE SILL AT REAR SEAT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRSYV1 FILTER: CH. CLASS 180

PEAK DATA: 97.61 KM/H @ 310.00 MS; -0.07 KM/H @ 1.60 MS

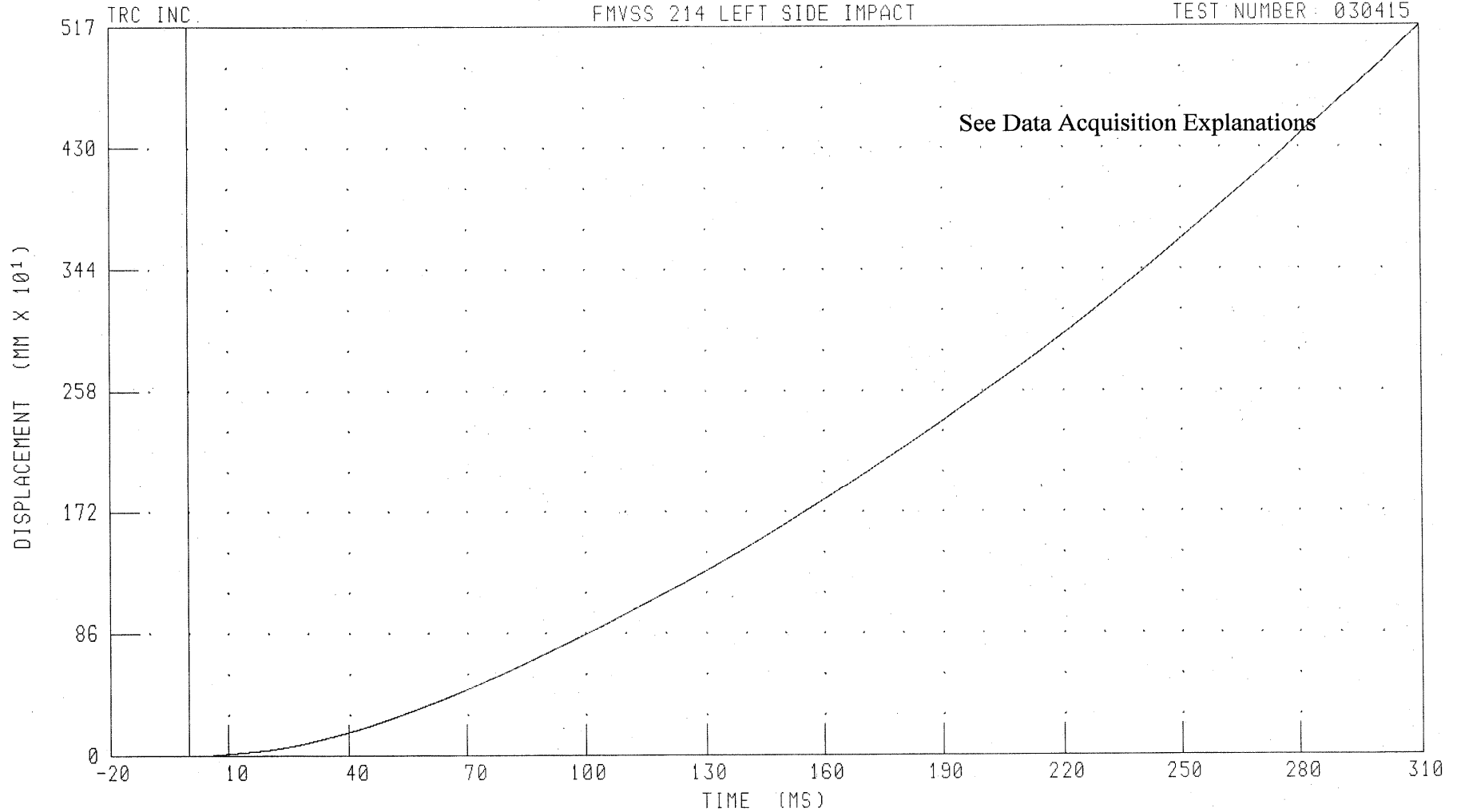
B-111

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT SIDE SILL AT REAR SEAT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRSYD1 FILTER: CH. CLASS 180

PEAK DATA: 5171.70 MM @ 310.00 MS; -0.02 MM @ 2.08 MS

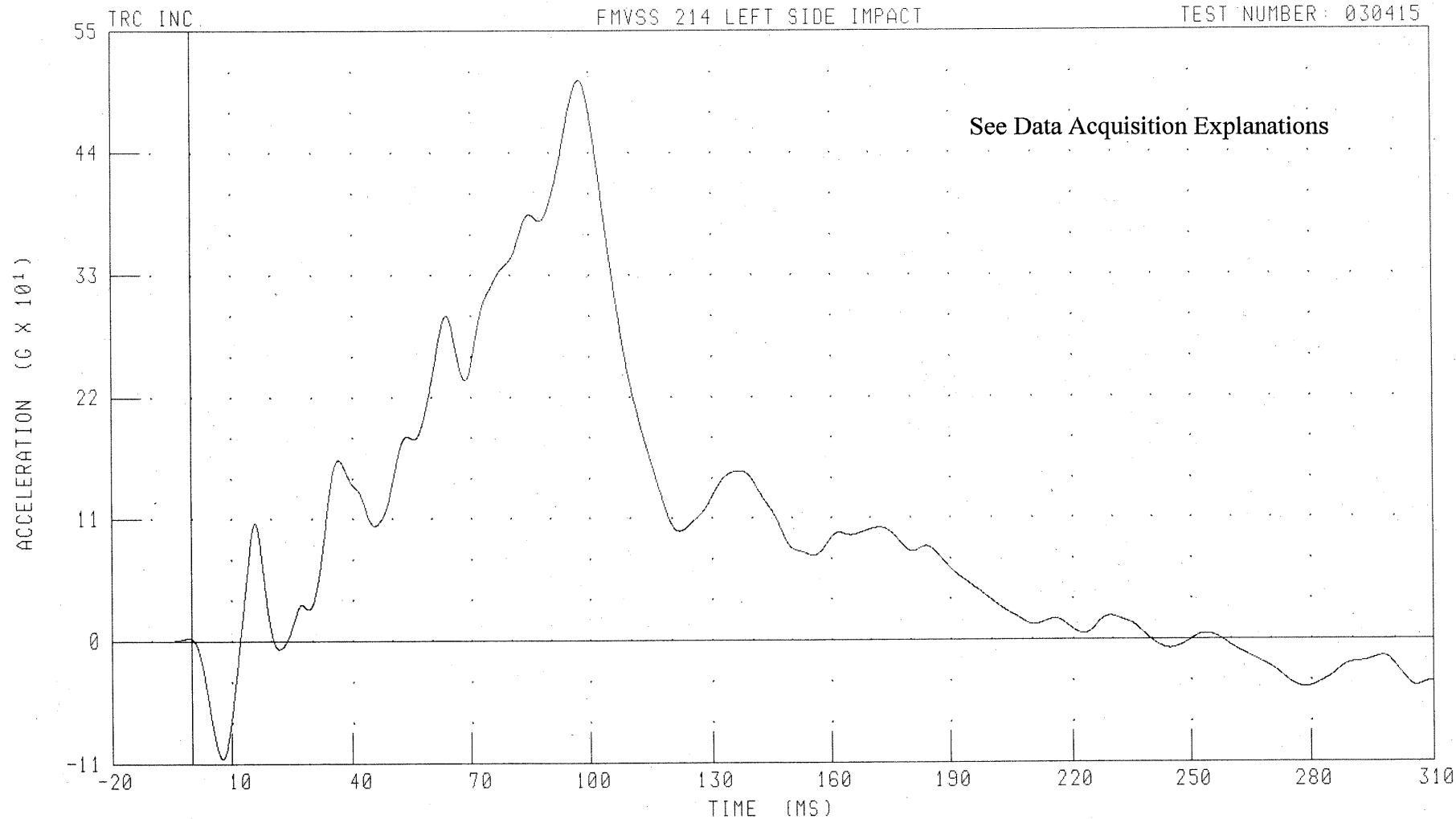
B-112

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFCYG1 FILTER: CH. CLASS 60

PEAK DATA: 505.70 G @ 97.60 MS; -105.82 G @ 7.68 MS

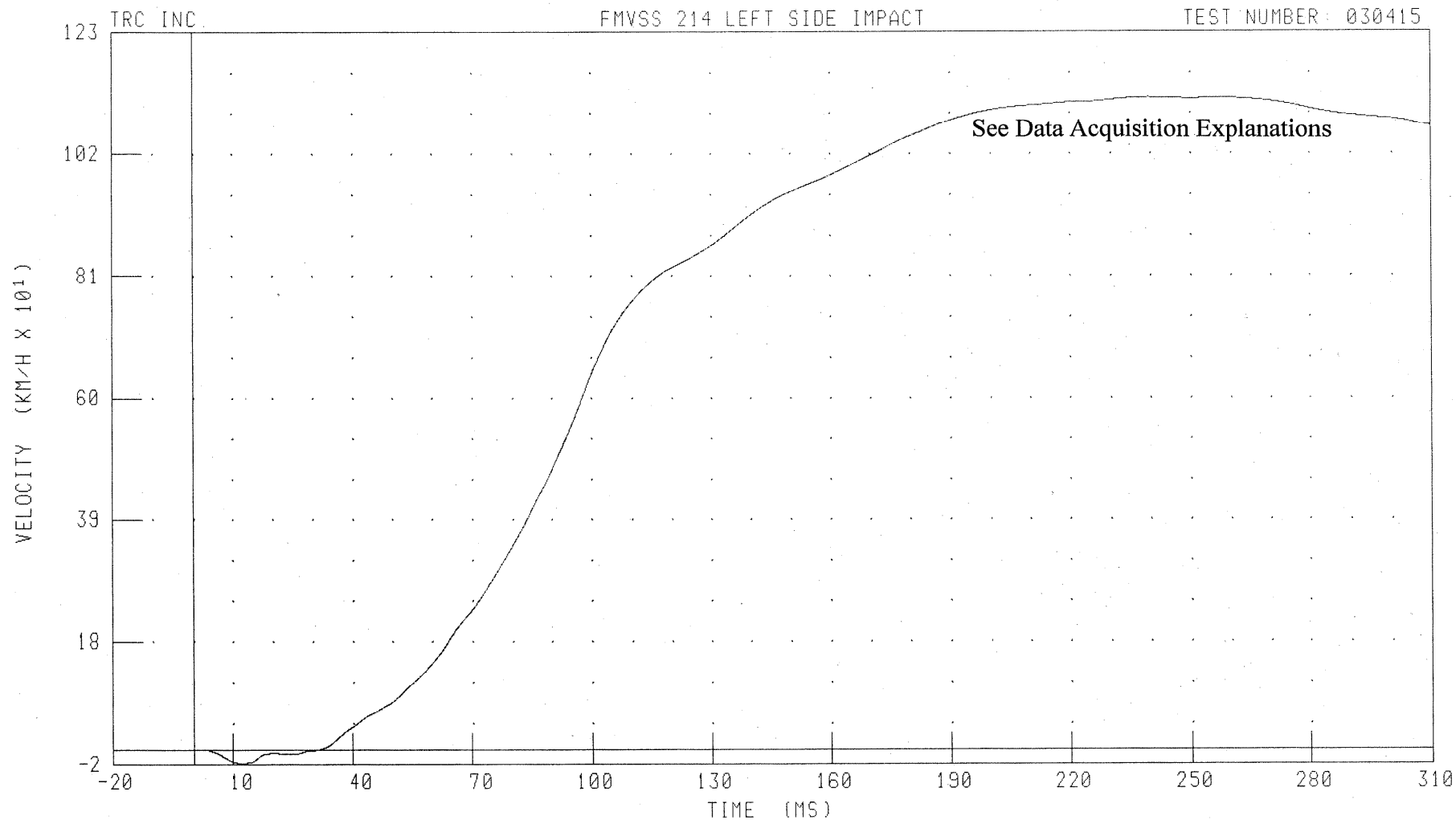
B-113

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFCYV1 FILTER: CH. CLASS 180

PEAK DATA: 1122.50 KM/H @ 239.68 MS; -23.40 KM/H @ 12.00 MS

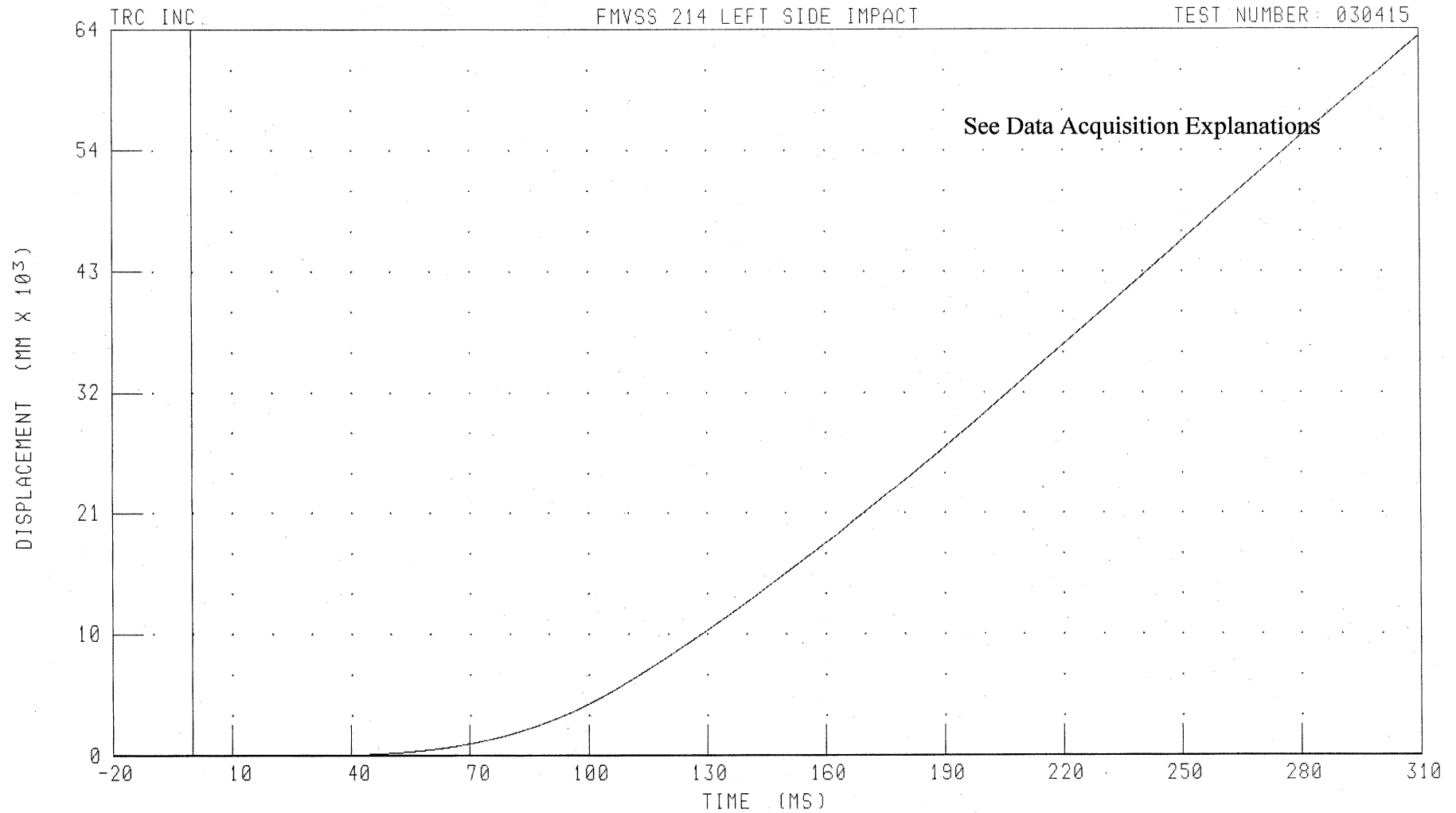
B-114

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFCYD1 FILTER: CH. CLASS 180

PEAK DATA: 64399.82 MM @ 310.00 MS; -79.03 MM @ 31.52 MS

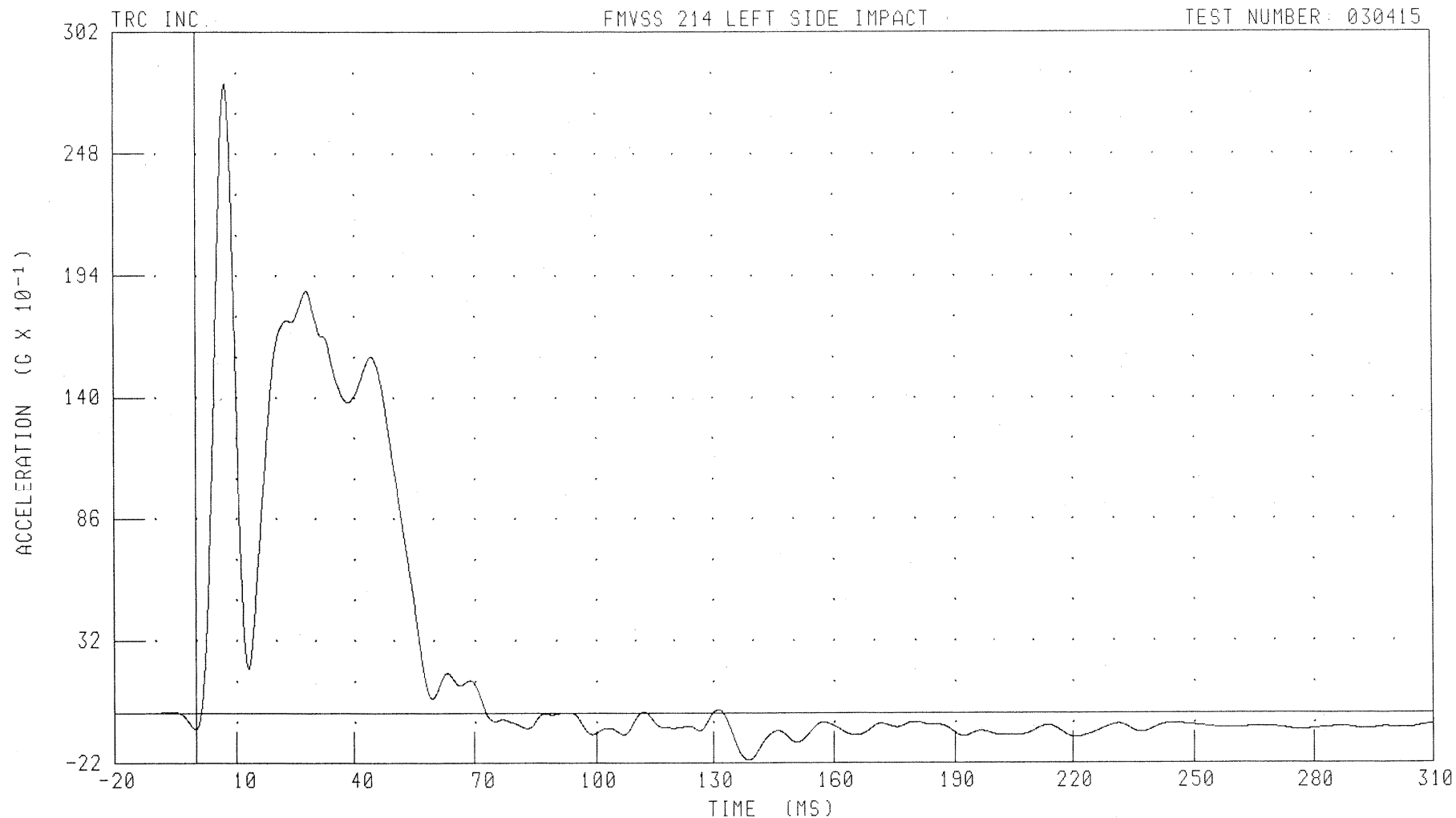
B-115

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRTYG1 FILTER: CH. CLASS 60

PEAK DATA: 27.90 G @ 7.28 MS; -2.09 G @ 139.04 MS

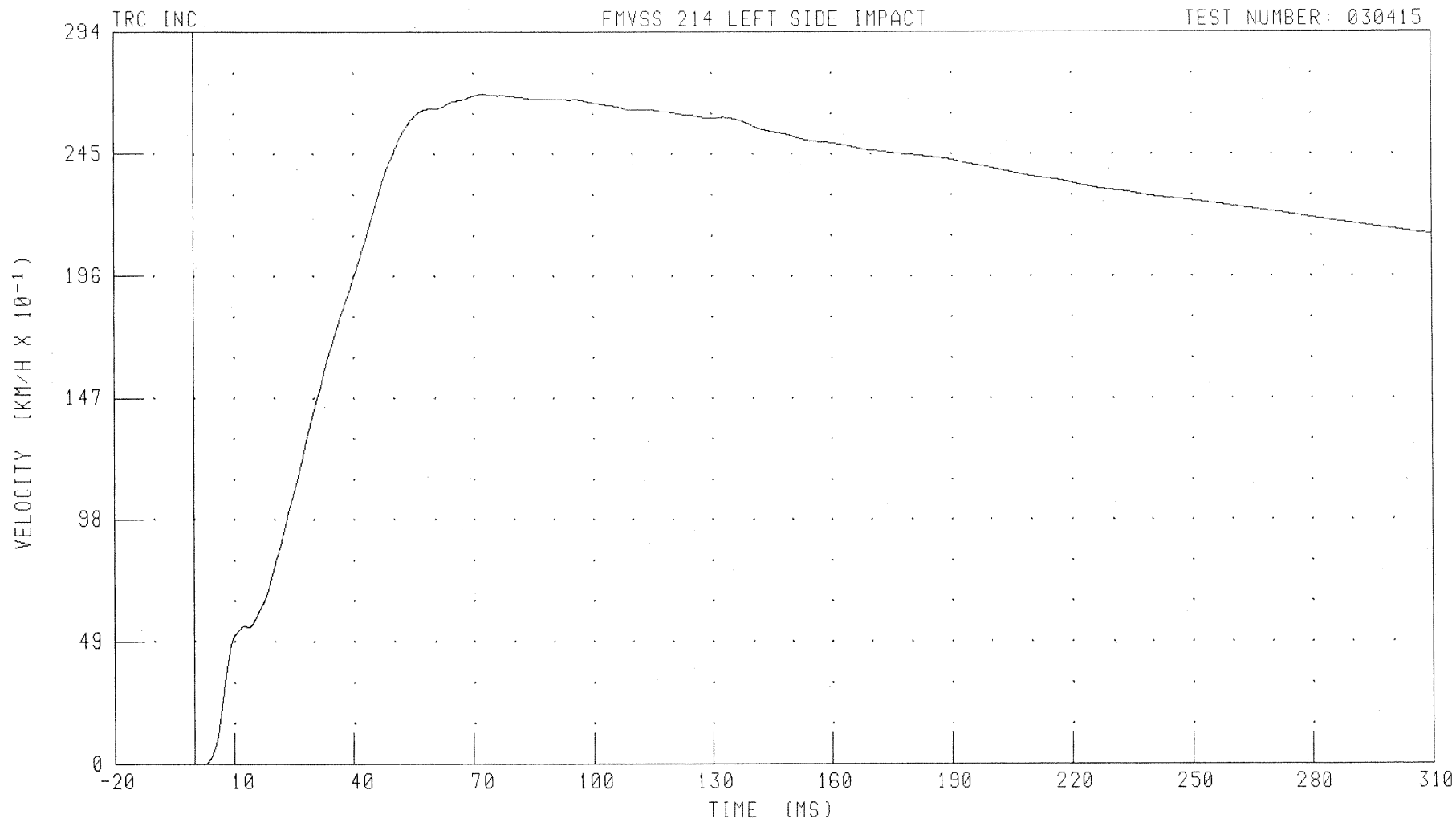
B-116

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRTYV1 FILTER: CH. CLASS 180

PEAK DATA: 26.92 KM/H @ 72.40 MS; 0.00 KM/H @ 2.08 MS

B-117

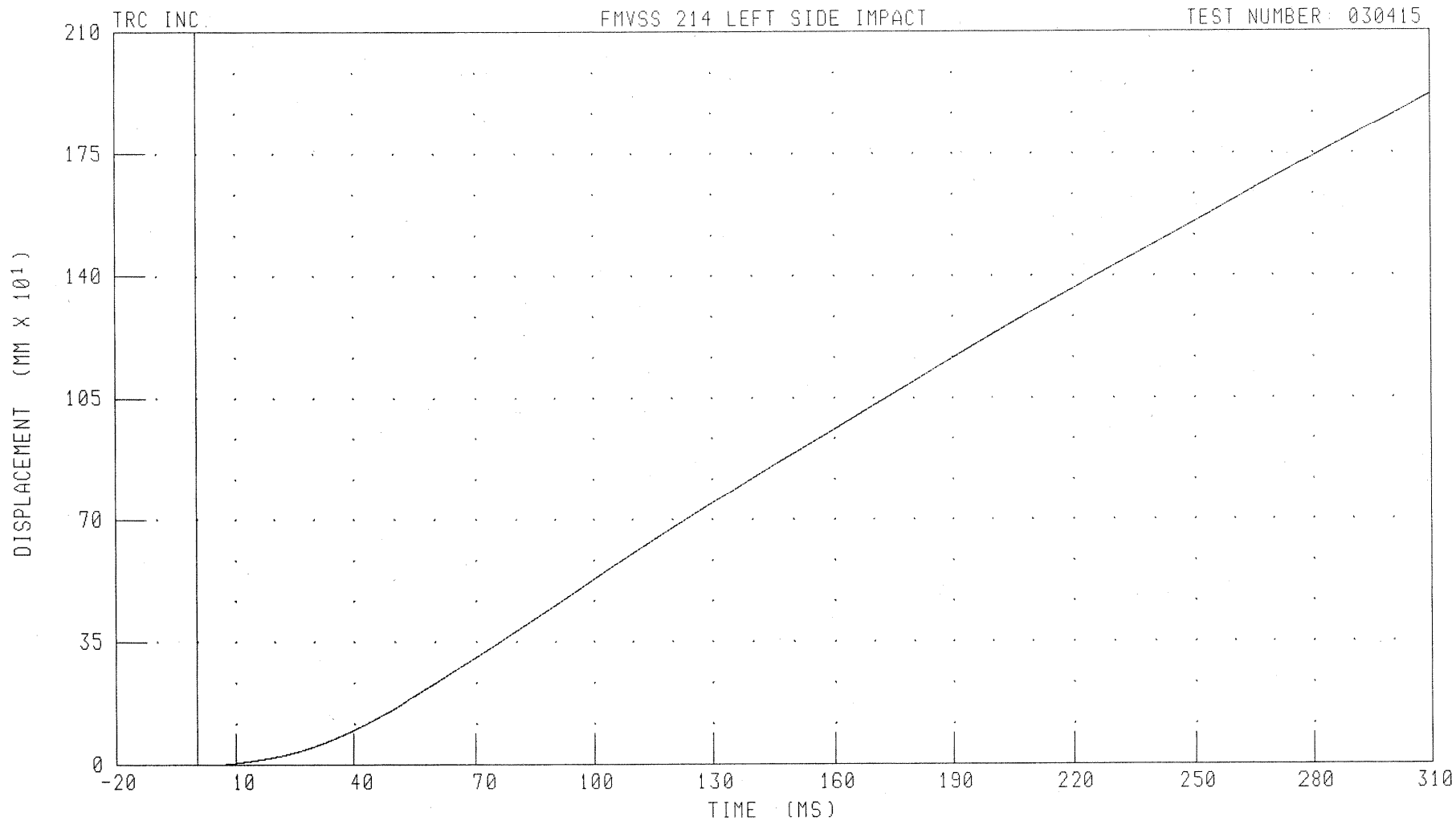
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

RIGHT REAR OCCUPANT COMPARTMENT Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: RRTYD1 FILTER: CH. CLASS 180

PEAK DATA: 1918.82 MM @ 310.00 MS; 0.00 MM @ 2.56 MS

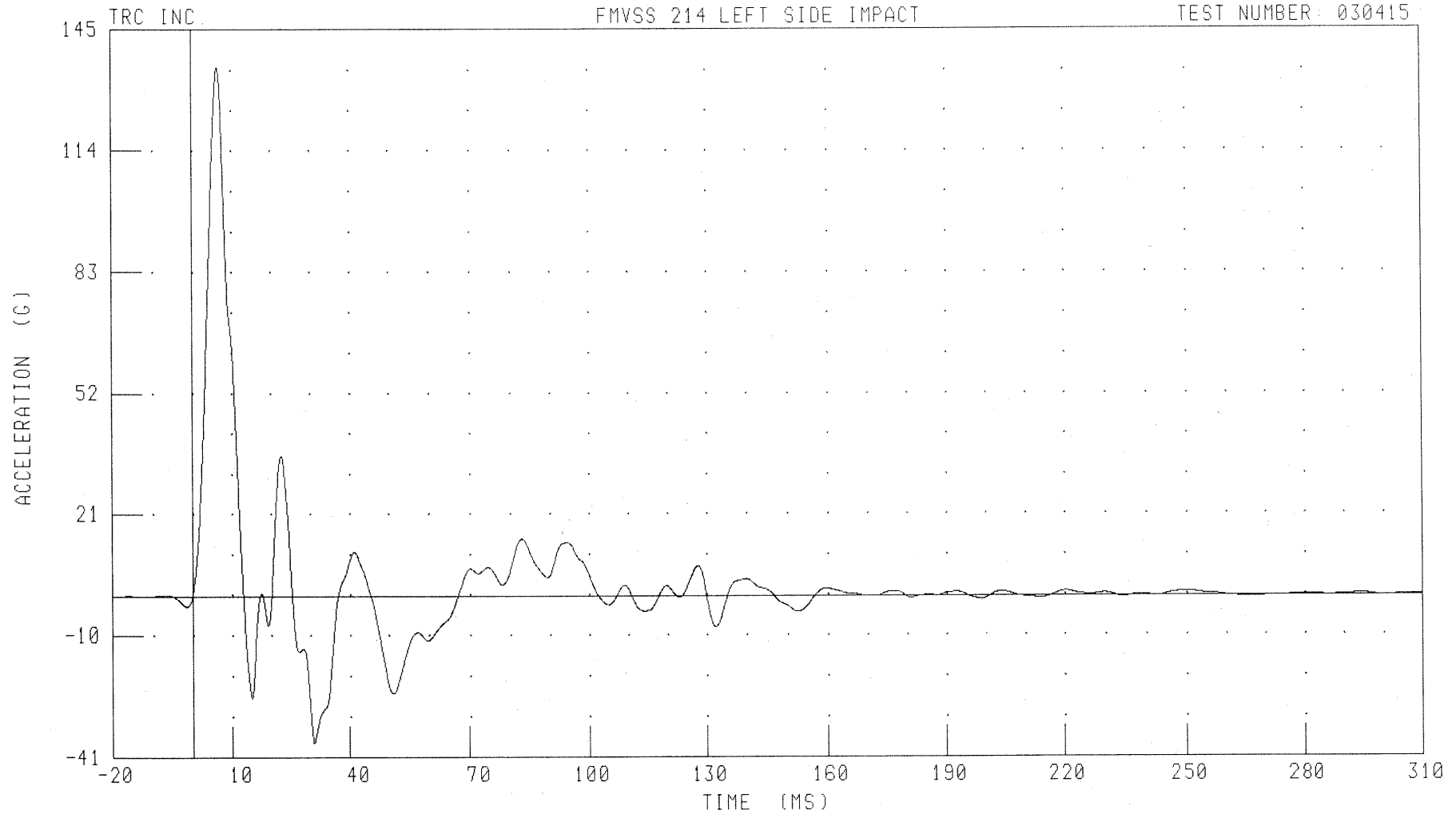
B-118

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFMYG1 FILTER: CH. CLASS 60

PEAK DATA: 135.34 G @ 6.48 MS; -37.48 G @ 30.96 MS

B-119

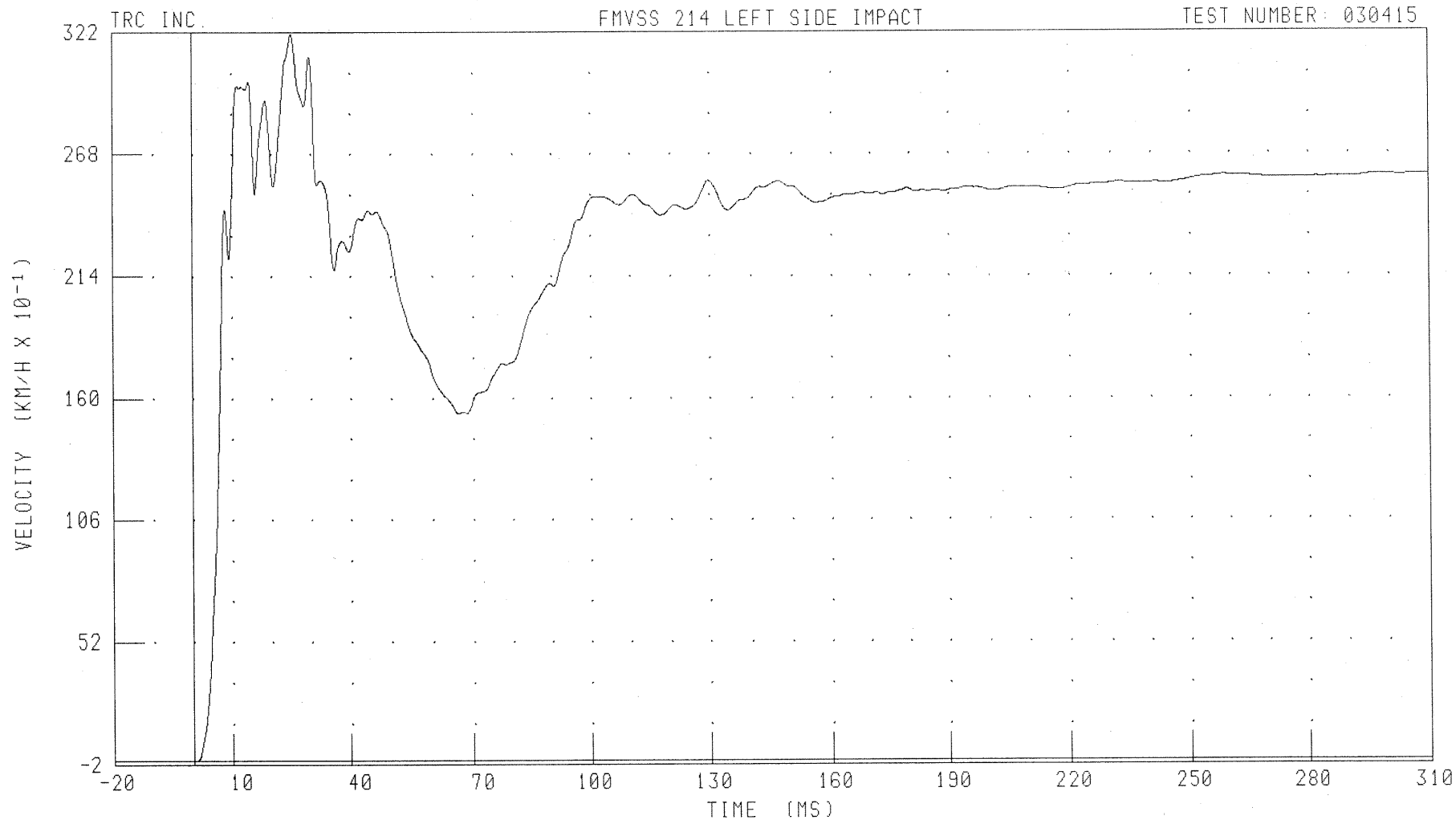
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT FRONT DOOR MID-REAR Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFMV1 FILTER: CH. CLASS 180

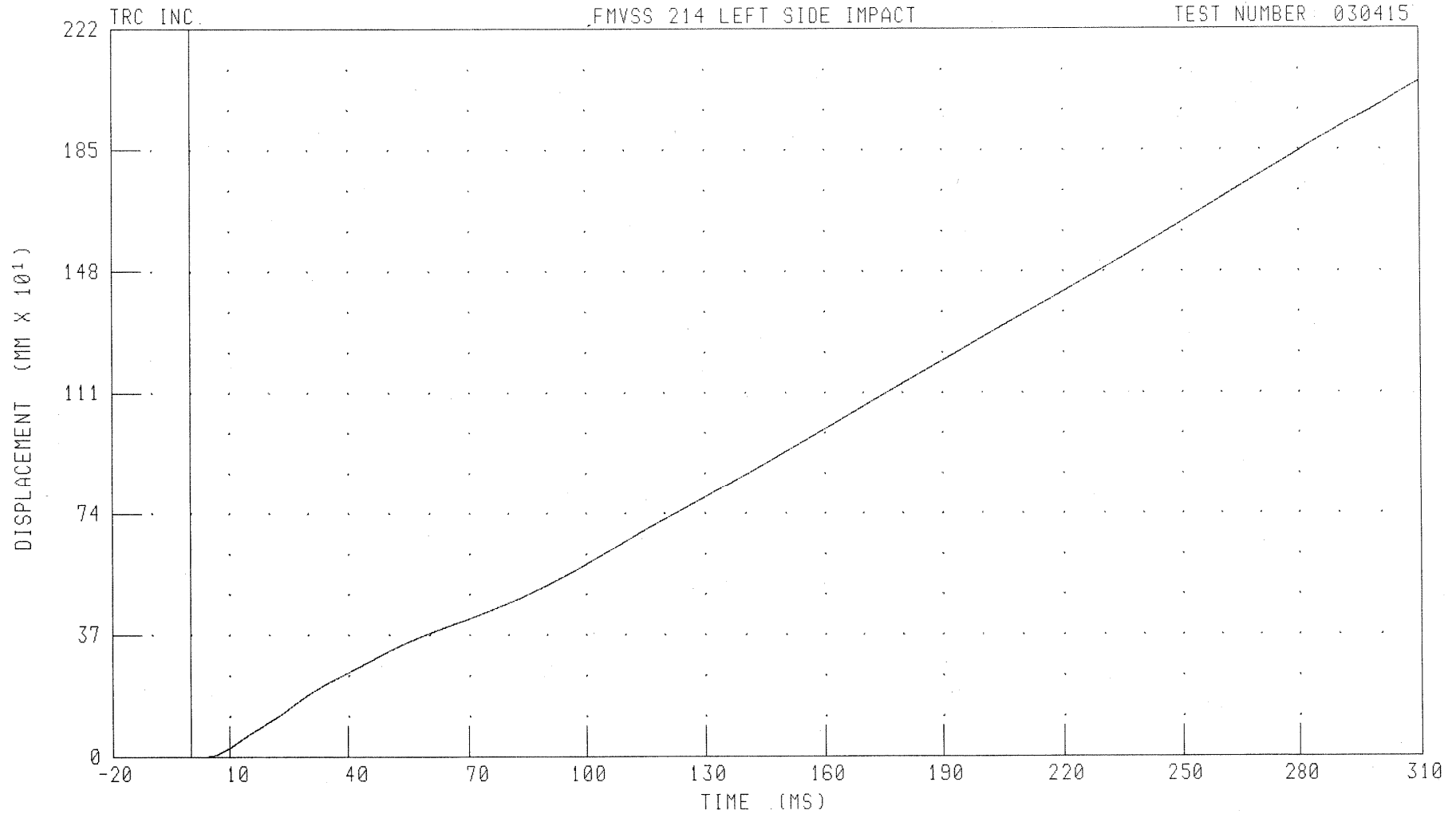
B-120

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFMYD1 FILTER: CH. CLASS 180

PEAK DATA: 2058.99 MM @ 310.00 MS; 0.00 MM @ 0.96 MS

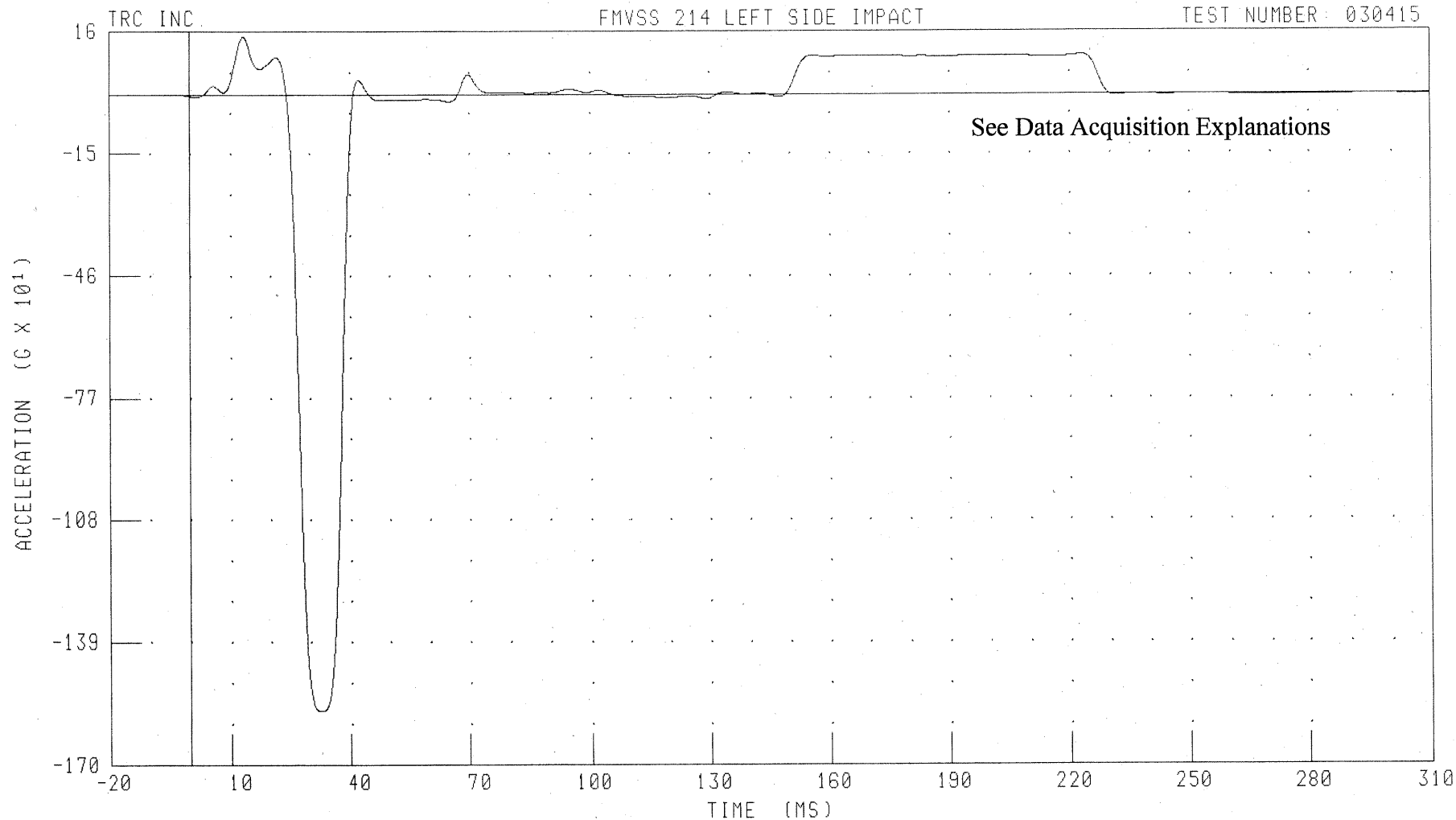
B-121

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFUYG1 FILTER: CH. CLASS 60

PEAK DATA: 147.14 G @ 13.28 MS; -156.425 G @ 32.64 MS

B-122

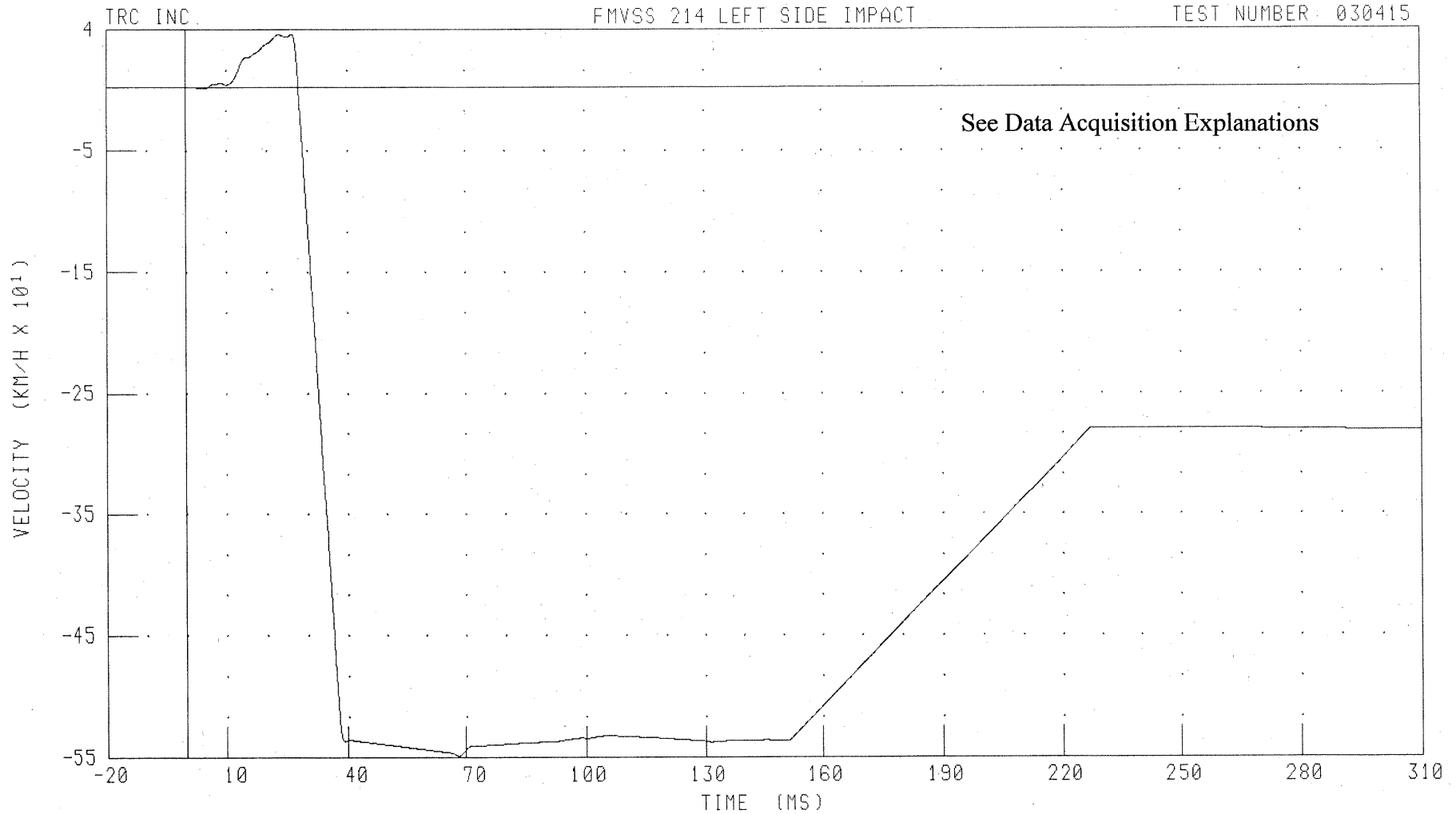
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT FRONT DOOR UPPER CENTERLINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFUYV1 FILTER: CH. CLASS 180

PEAK DATA: 43.33 KM/H @ 26.40 MS; -552.06 KM/H @ 68.08 MS

B-123

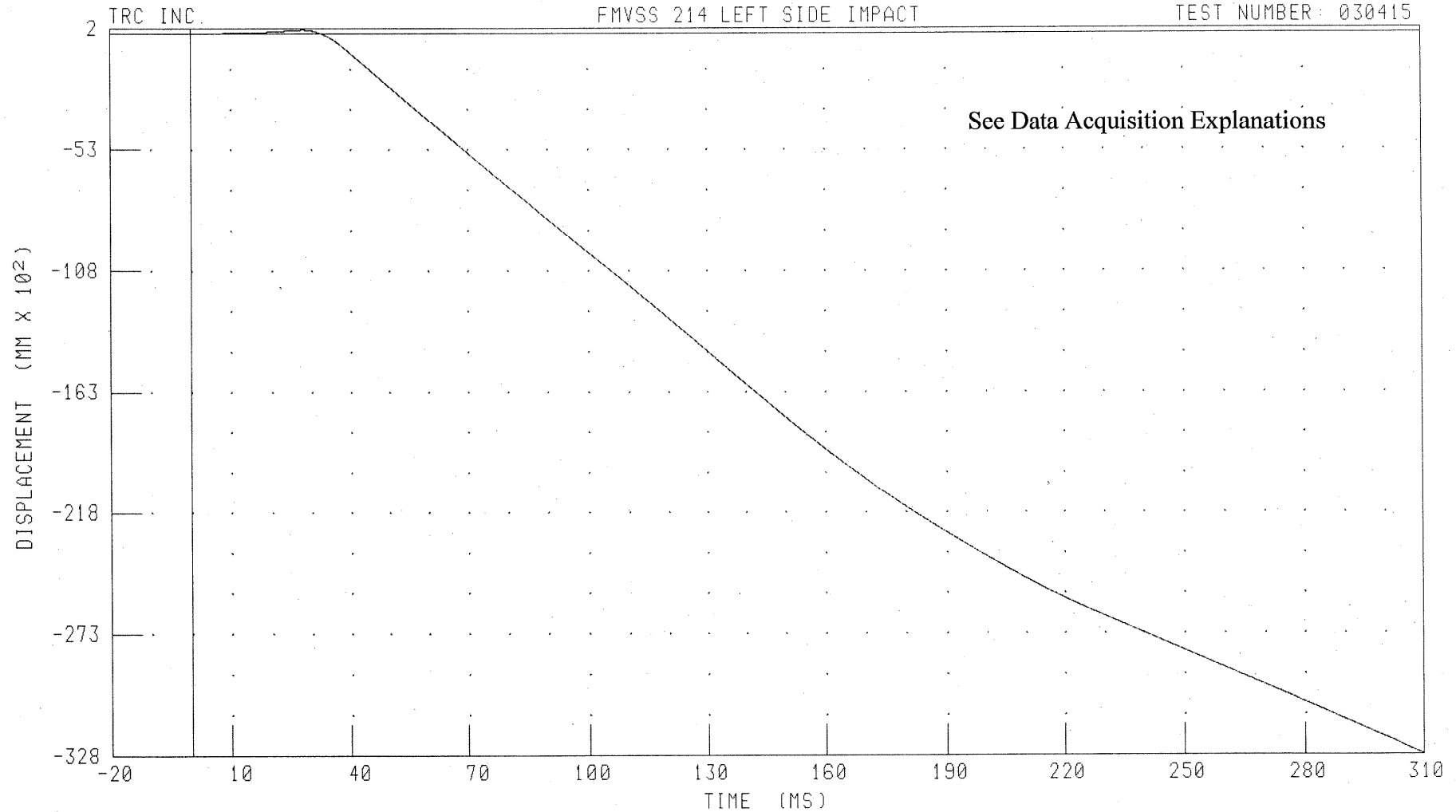
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT FRONT DOOR UPPER CENTERLINE Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFUYD1 FILTER: CH. CLASS 180

PEAK DATA: 141.94 MM @ 28.00 MS; -32792.59 MM @ 310.00 MS

B-124

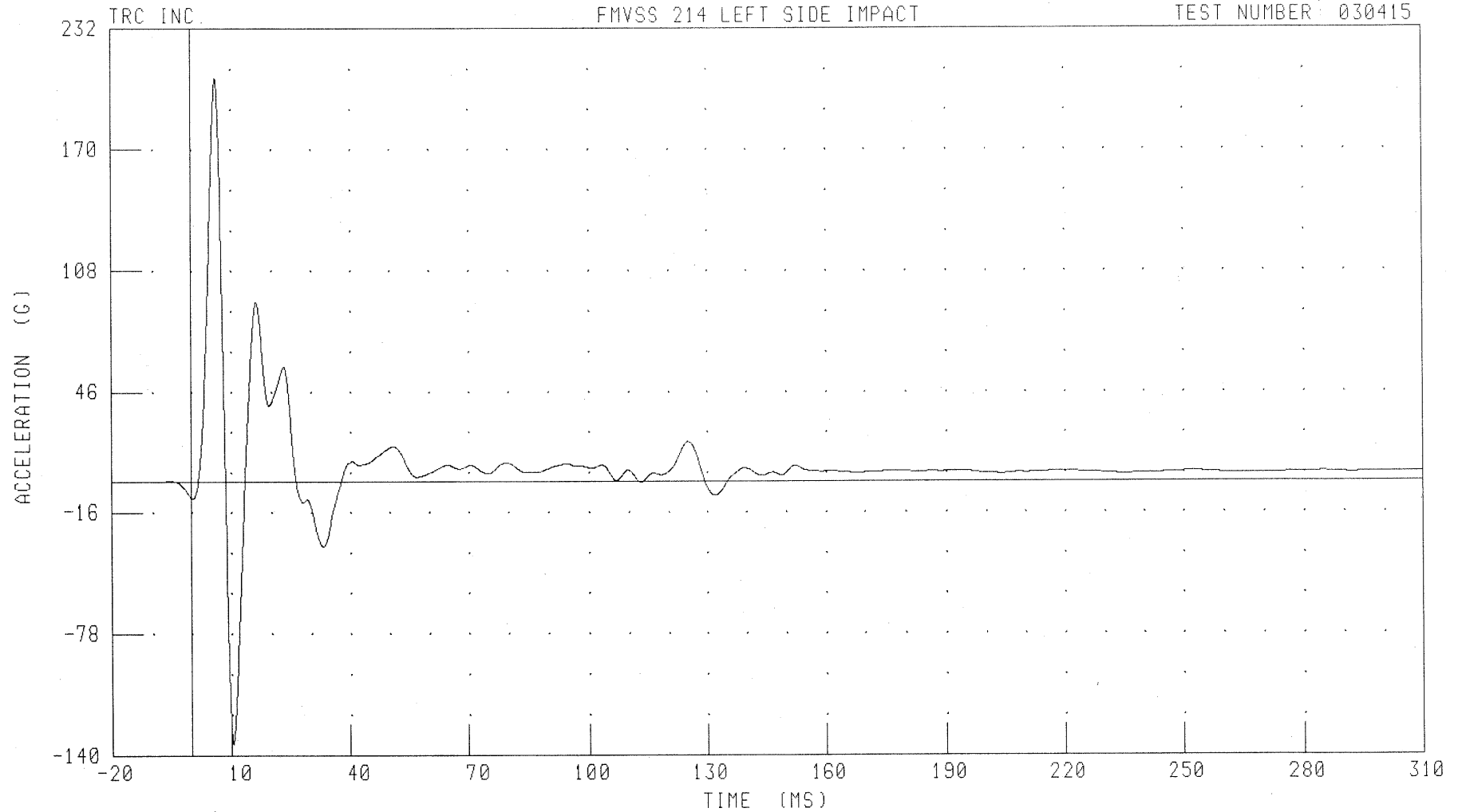
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR DOOR MID-REAR Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRMYG1 FILTER: CH. CLASS 60

PEAK DATA: 206.88 G @ 6.24 MS; -134.34 G @ 10.40 MS

B-125

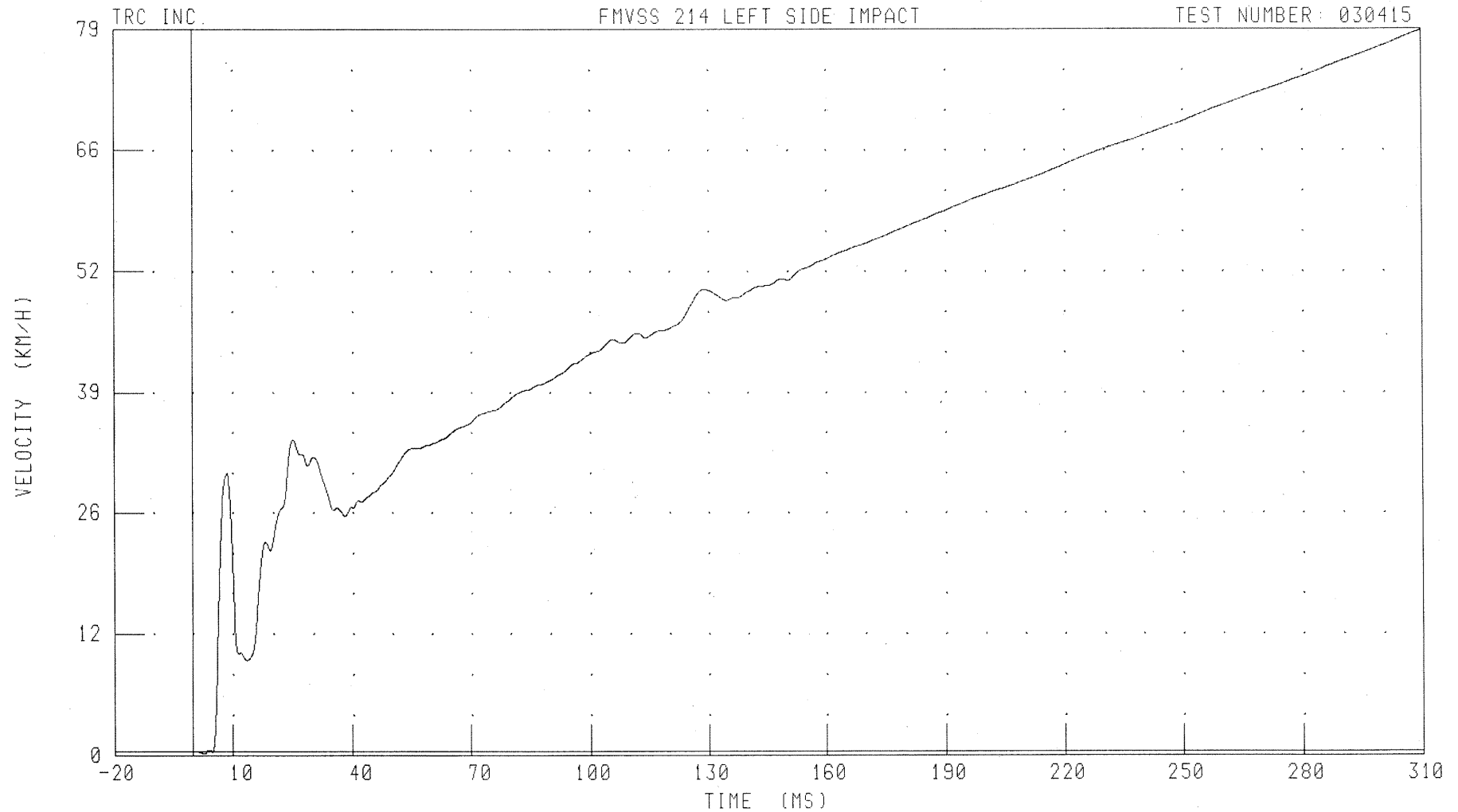
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR DOOR MID-REAR Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRMV1 FILTER: CH. CLASS 180

PEAK DATA: 79.31 KM/H @ 310.00 MS; -0.21 KM/H @ 2.80 MS

B-126

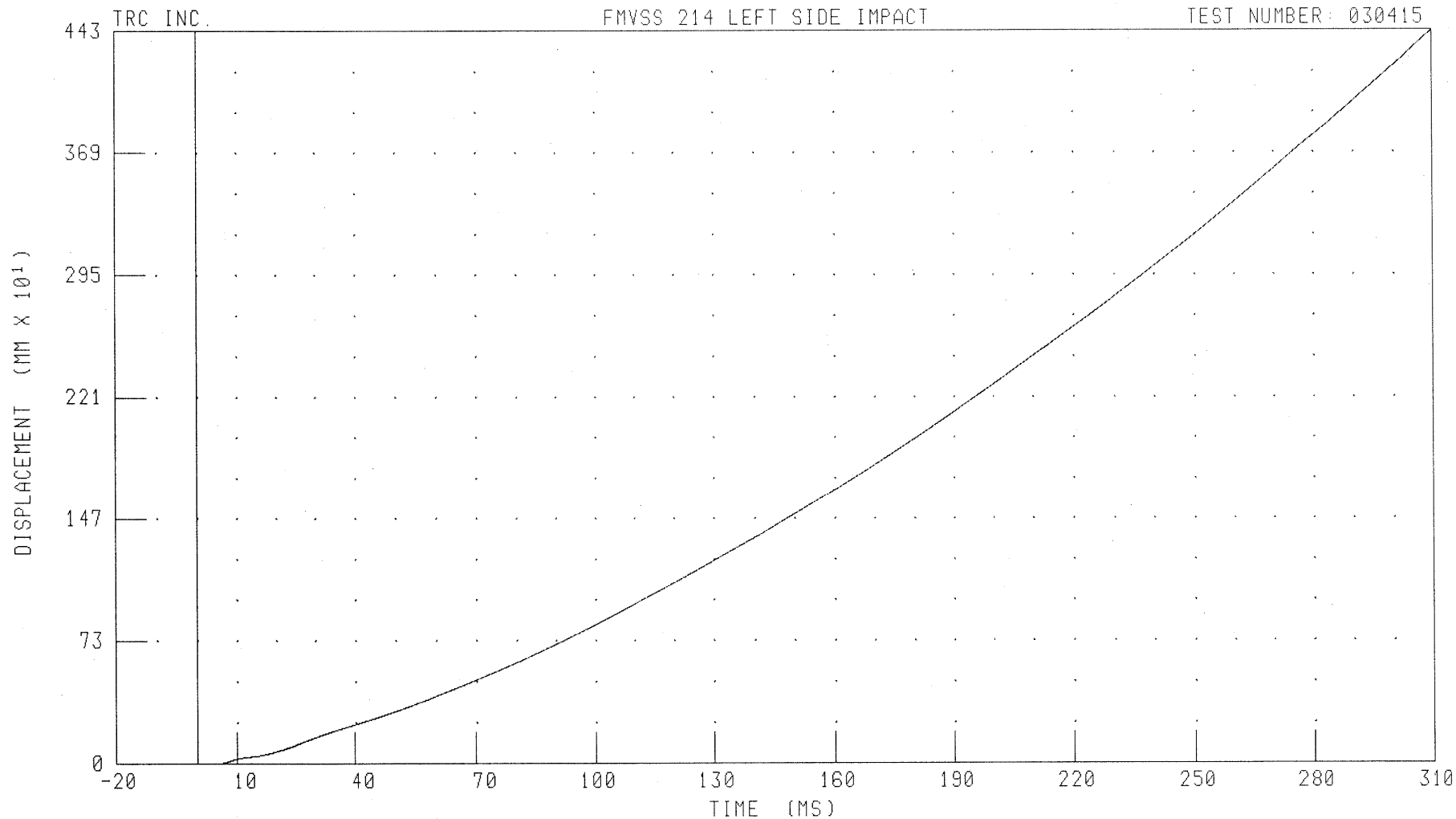
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR DOOR MID-REAR Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRMYD1 FILTER: CH. CLASS 180

PEAK DATA: 4435.76 MM @ 310.00 MS; -0.06 MM @ 3.44 MS

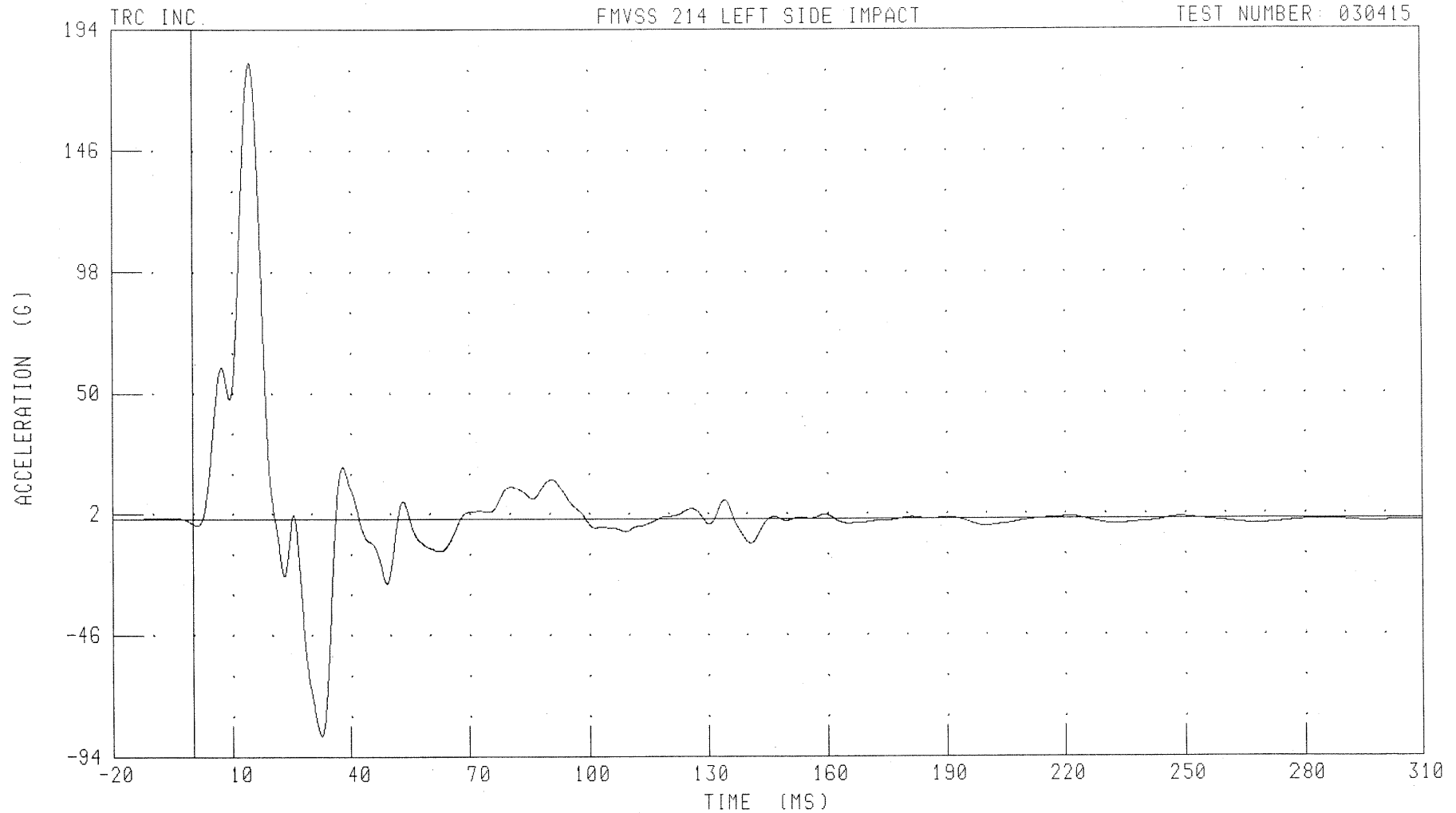
B-127

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR DOOR UPPER CENTERLINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRUYG1 FILTER: CH. CLASS 60

PEAK DATA: 180.98 G @ 14.56 MS; -85.80 G @ 32.56 MS

B-128

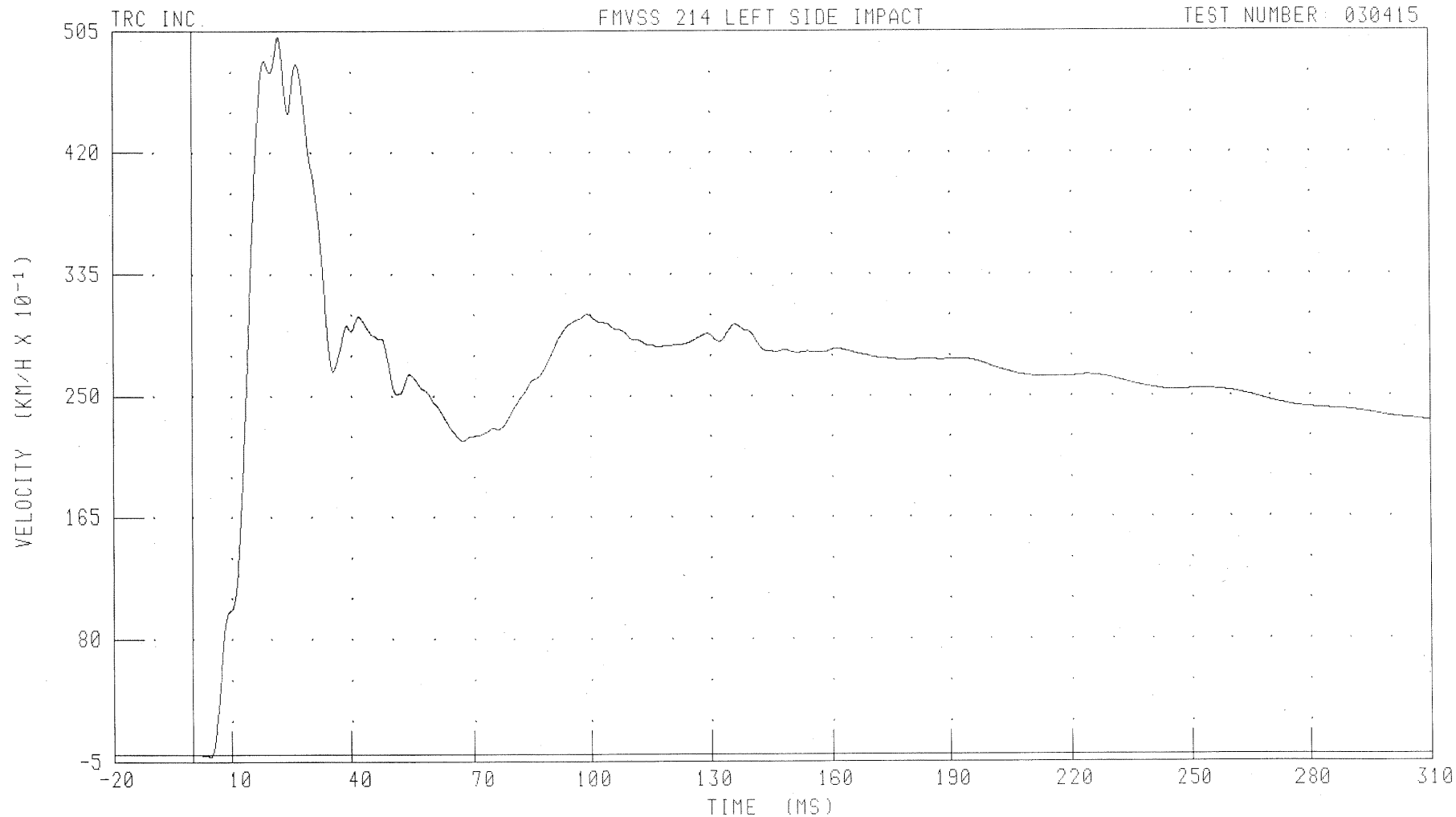
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR DOOR UPPER CENTERLINE Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRUYV1 FILTER: CH. CLASS 180

PEAK DATA: 500.10 KM/H @ 22.16 MS; -0.17 KM/H @ 4.56 MS

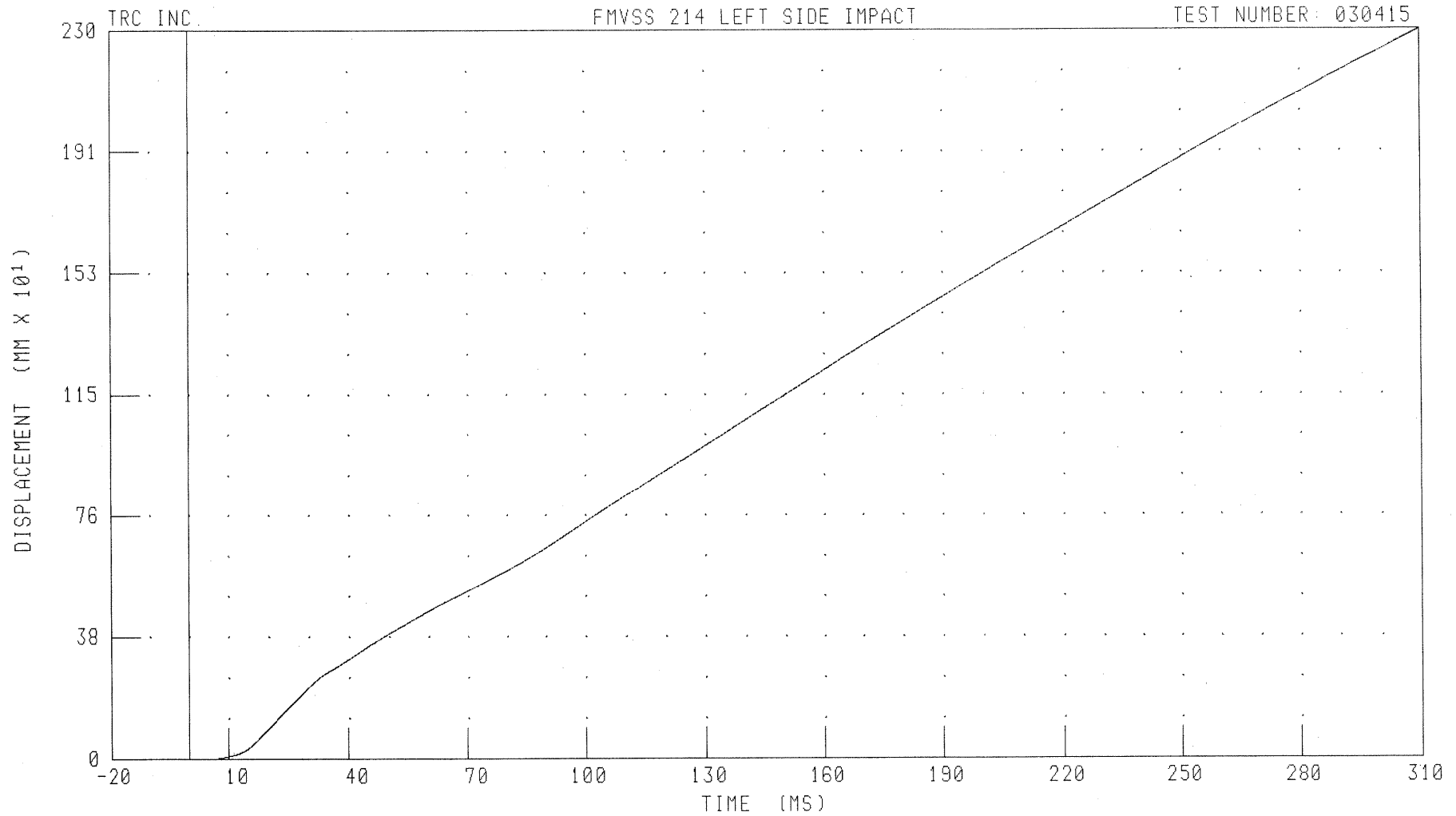
B-129

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR DOOR UPPER CENTERLINE Y-AXIS DISPLACEMENT

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRUVD1 FILTER: CH. CLASS 180

PEAK DATA: 2302.90 MM @ 310.00 MS; -0.07 MM @ 5.12 MS

B-130

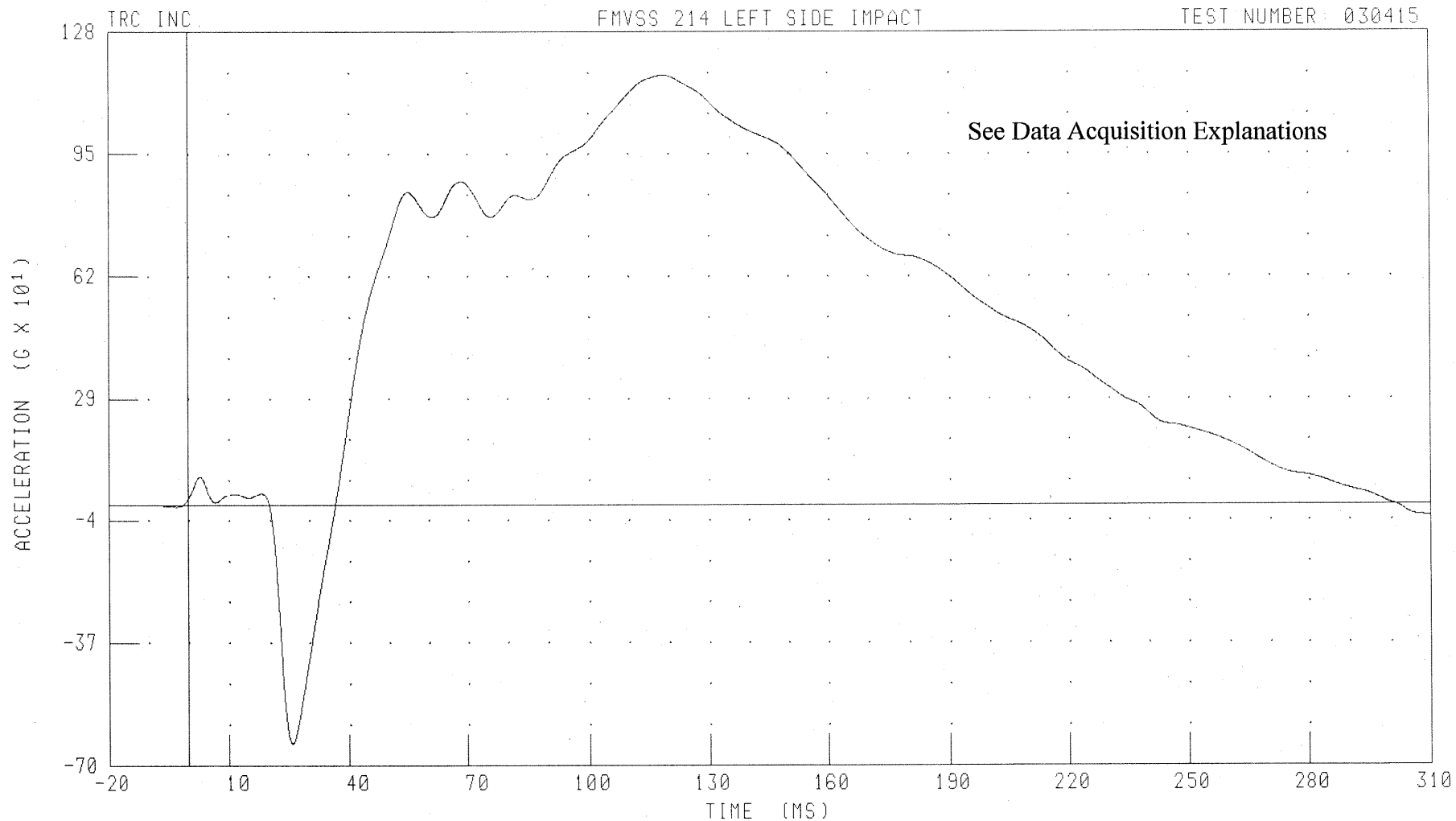
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT LOWER A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLAG1 FILTER: CH. CLASS 60

PEAK DATA: 1163.29 G @ 118.88 MS; -640.76 G @ 25.84 MS

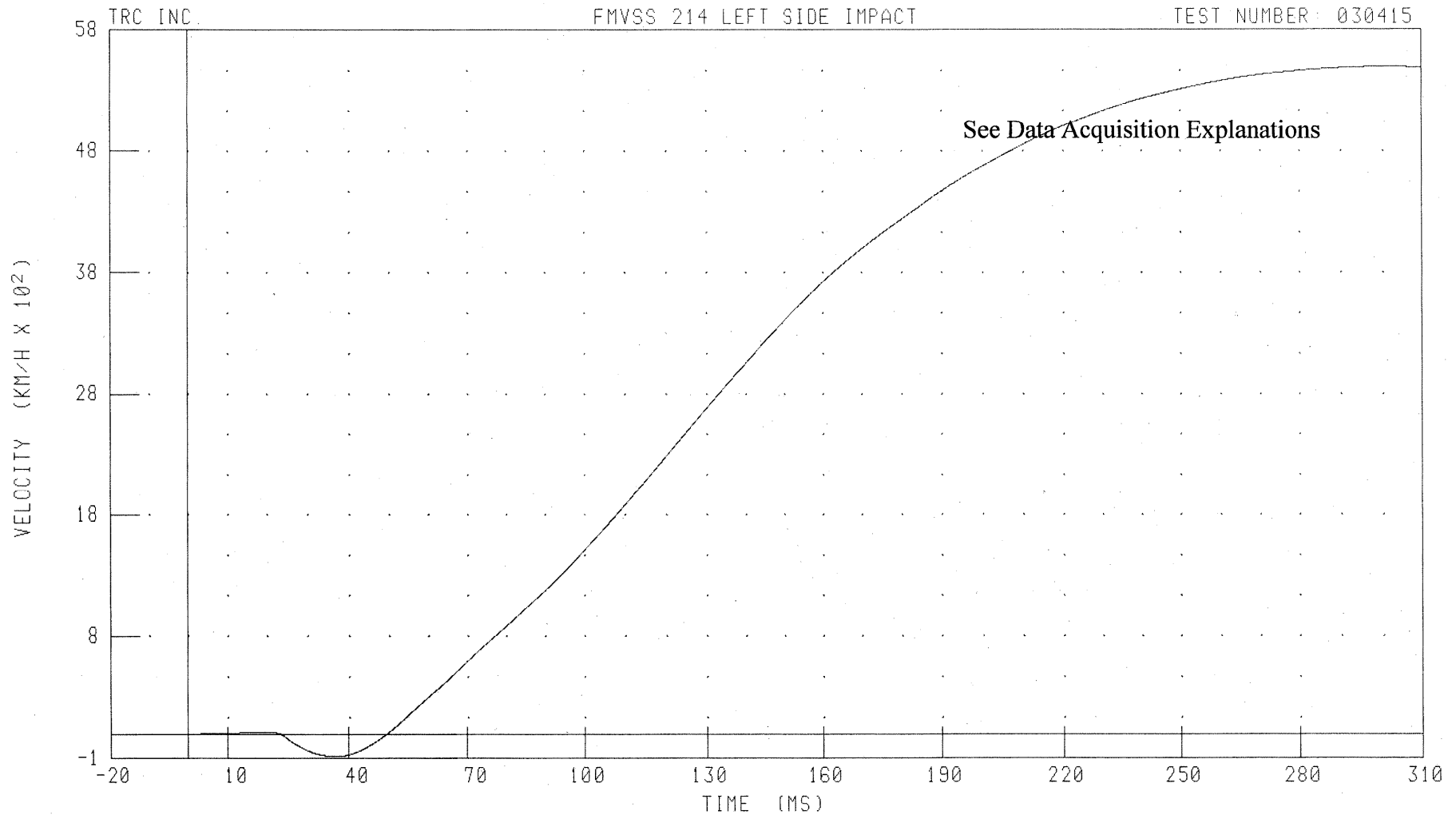
B-131

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LAYV1 FILTER: CH. CLASS 180

PEAK DATA: 5505.53 KM/H @ 302.32 MS; -176.89 KM/H @ 36.64 MS

B-132

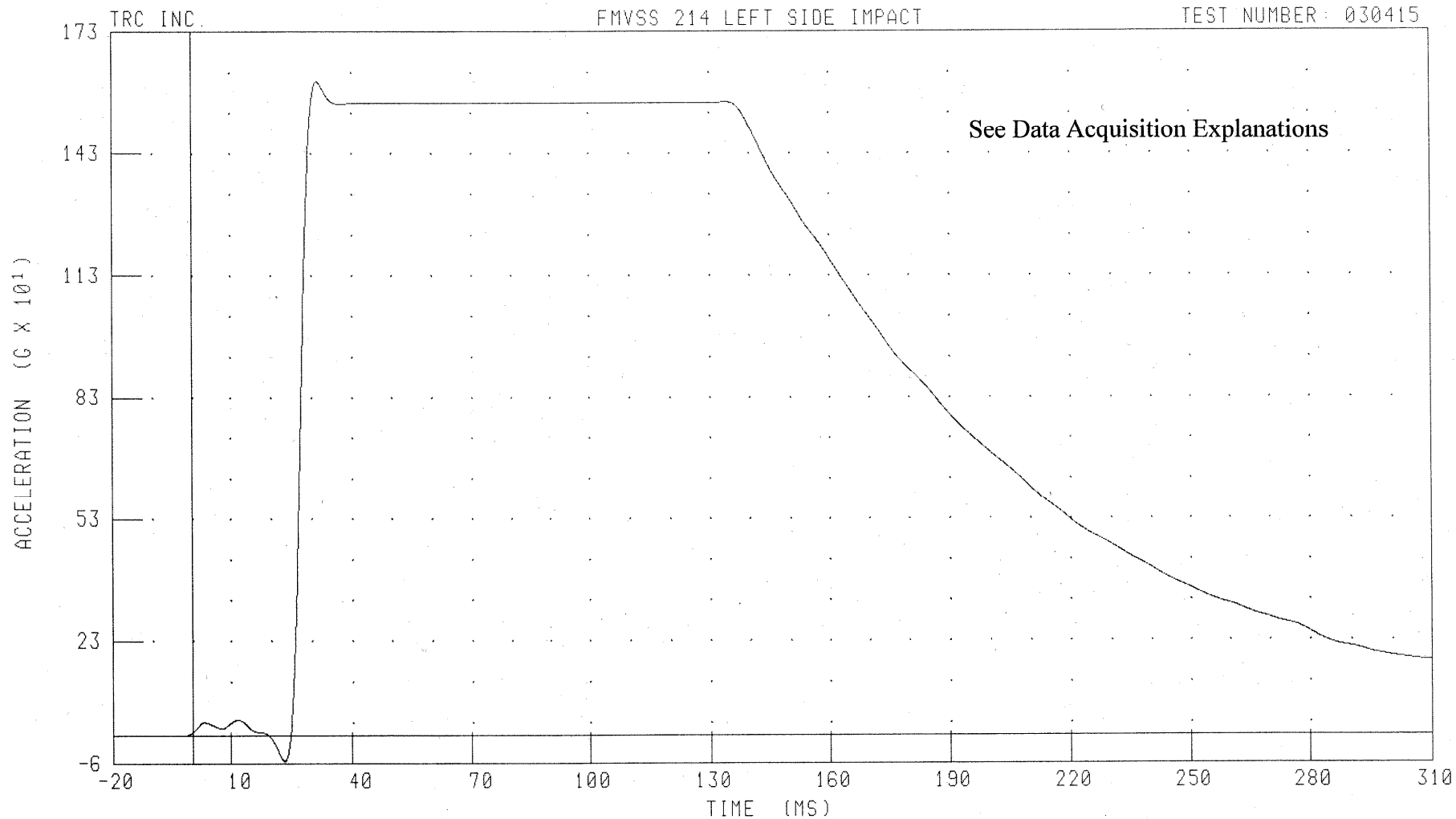
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT MIDDLE A-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LMAYG1 FILTER: CH. CLASS 60

PEAK DATA: 1608.97 G @ 31.60 MS; -63.34 G @ 23.20 MS

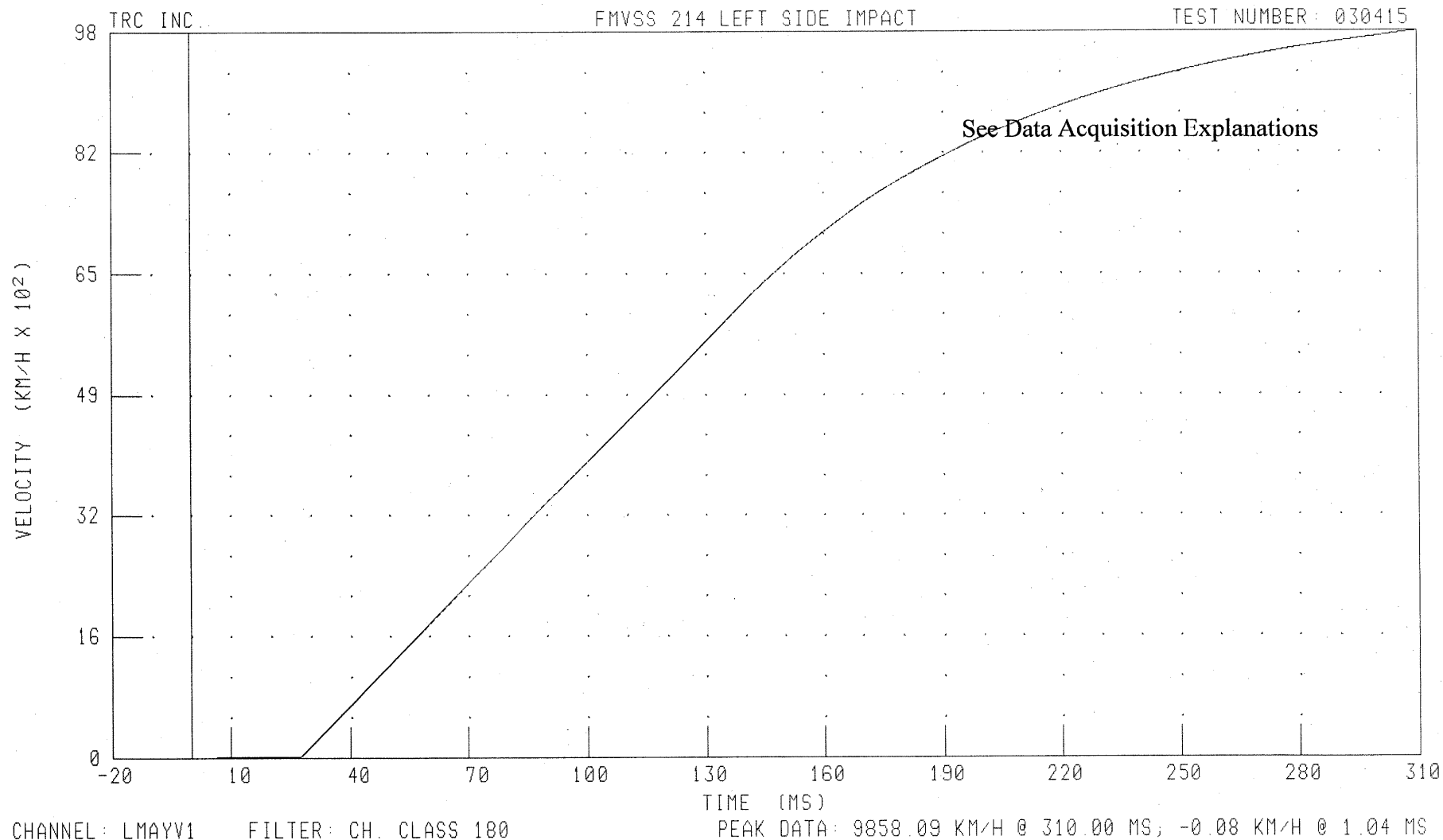
B-133

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



B-134

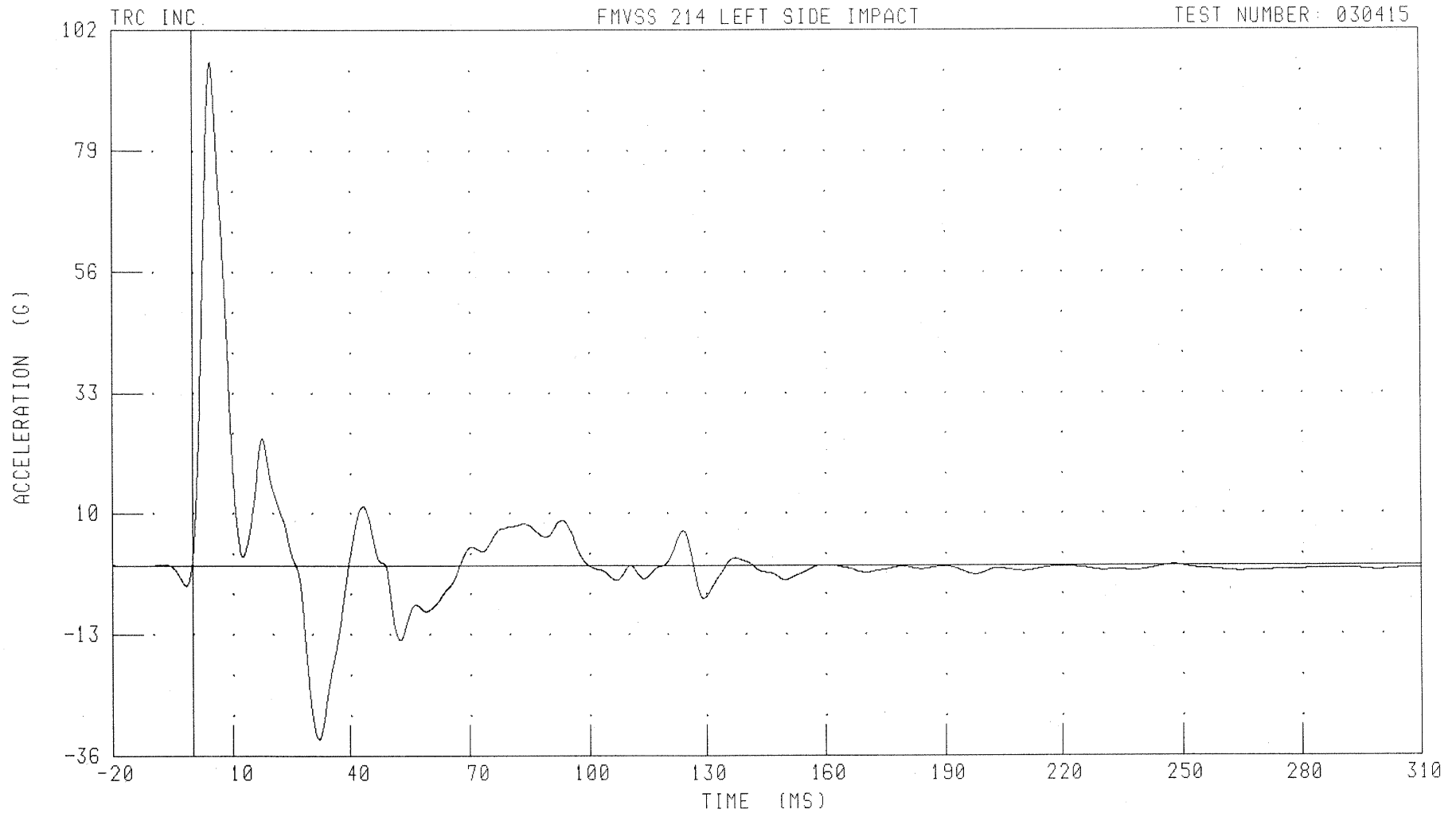
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT LOWER B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLBYG1 FILTER: CH. CLASS 60

PEAK DATA: 96.01 G @ 4.48 MS; -32.83 G @ 31.84 MS

B-135

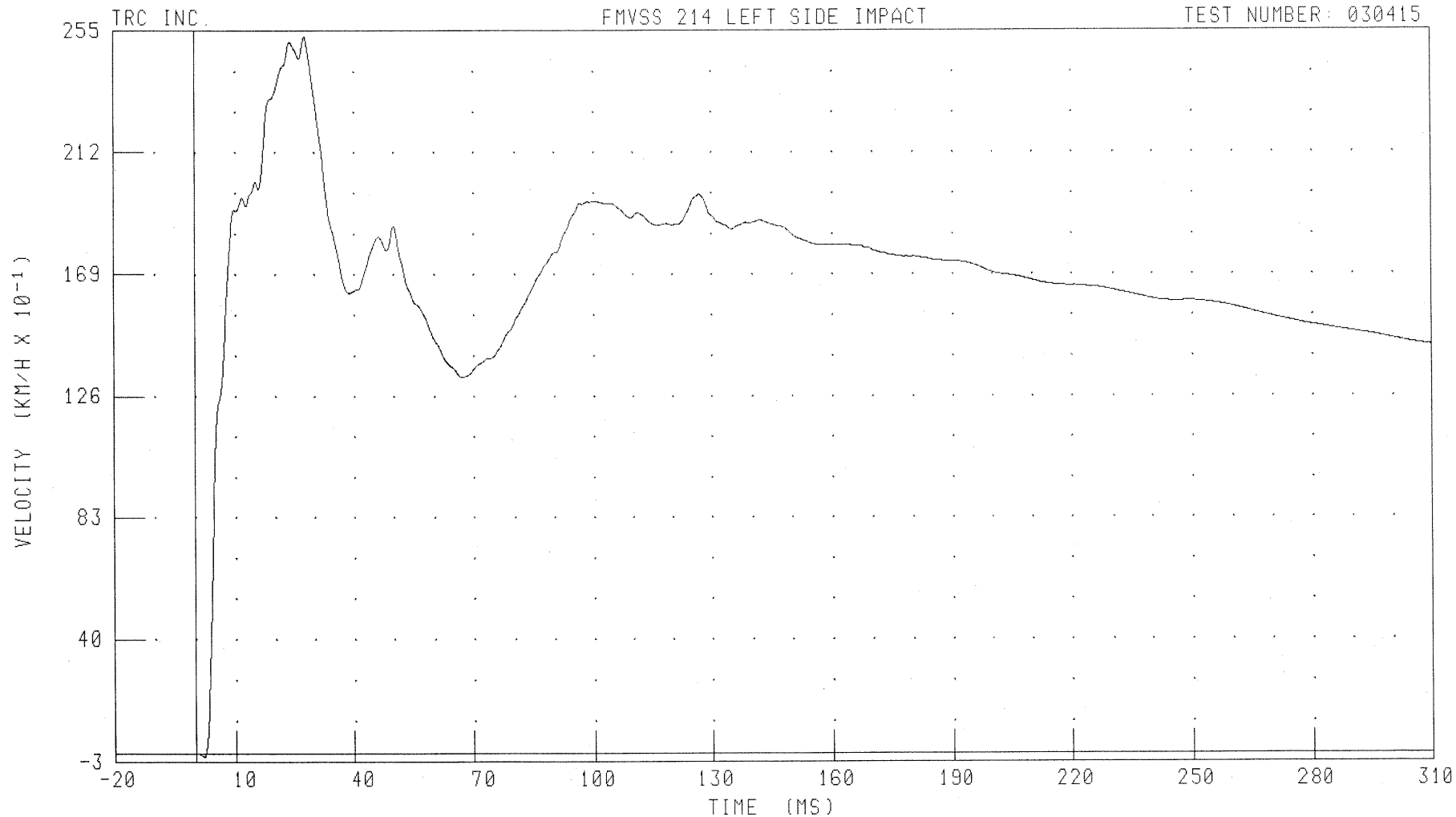
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT LOWER B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLBYV1 FILTER: CH. CLASS 180

PEAK DATA: 25.30 KM/H @ 27.76 MS; -0.13 KM/H @ 2.00 MS

B-136

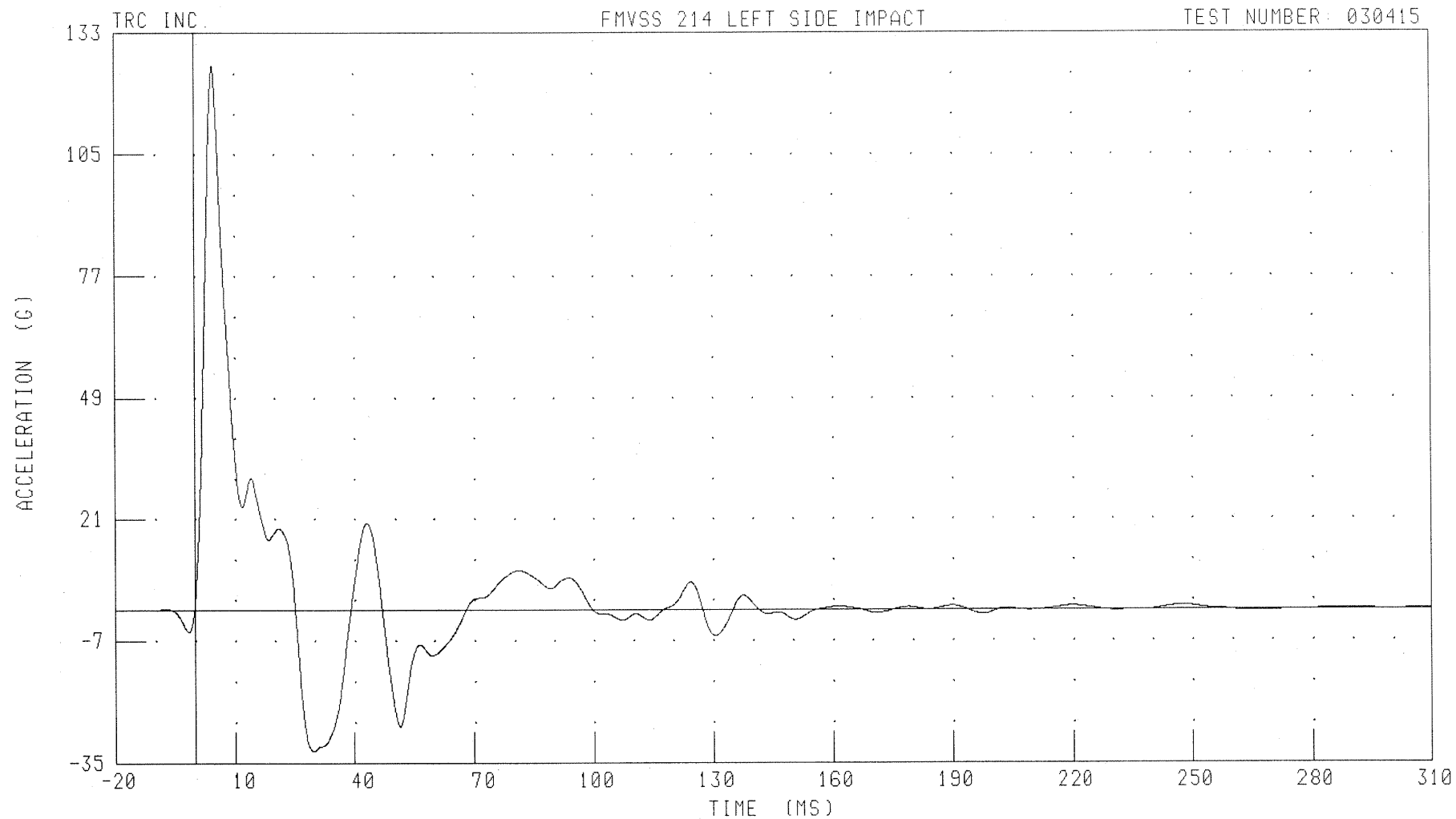
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT MIDDLE B-POST Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LMBYG1 FILTER: CH. CLASS 60

B-137

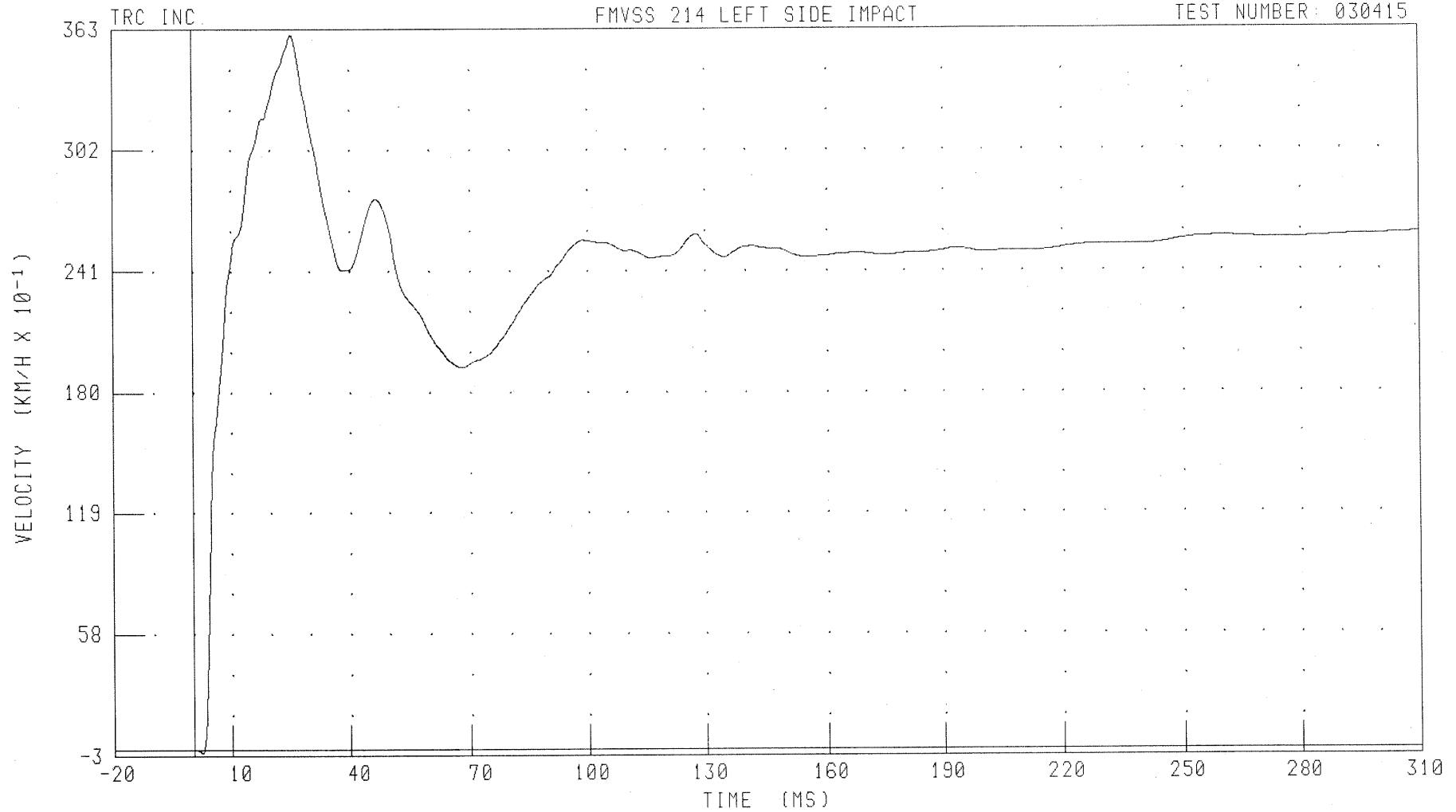
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT MIDDLE B-POST Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LMBYV1 FILTER: CH. CLASS 180

PEAK DATA: 36.02 KM/H @ 25.60 MS; -0.16 KM/H @ 2.08 MS

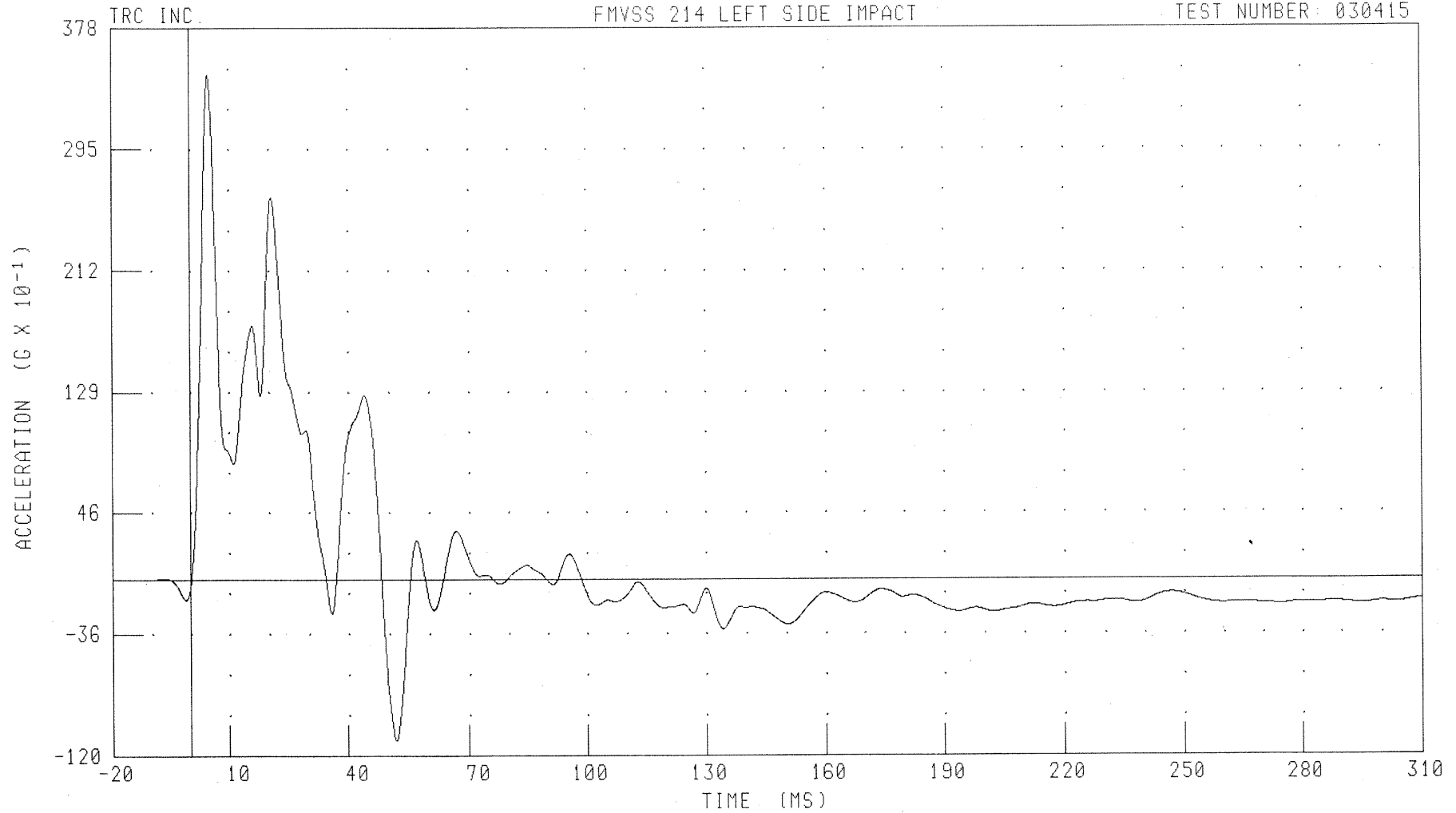
B-138

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



B-139

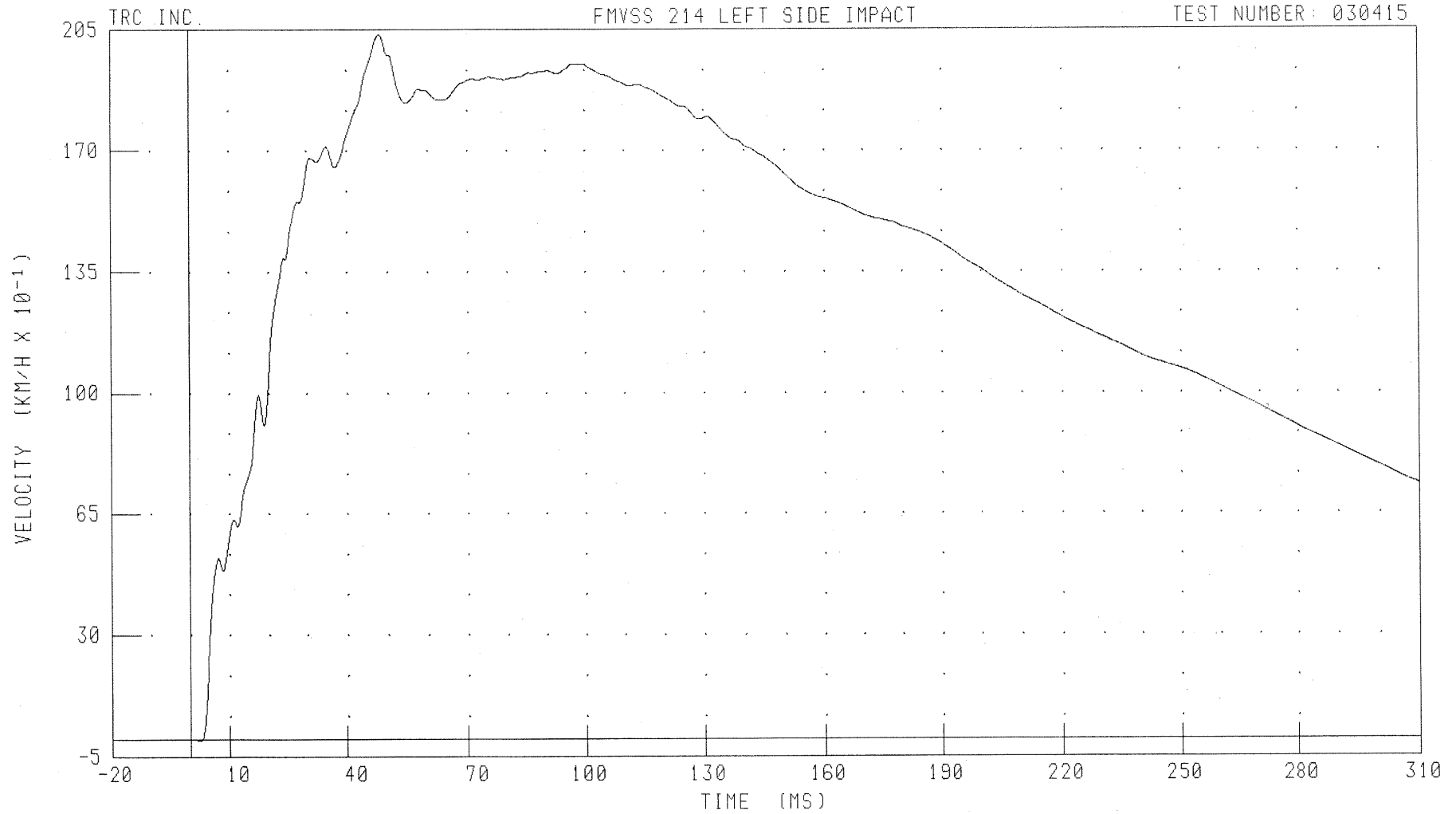
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT FRONT SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LFTYV1 FILTER: CH. CLASS 180

PEAK DATA: 20.36 KM/H @ 48.16 MS; -0.03 KM/H @ 2.56 MS

B-140

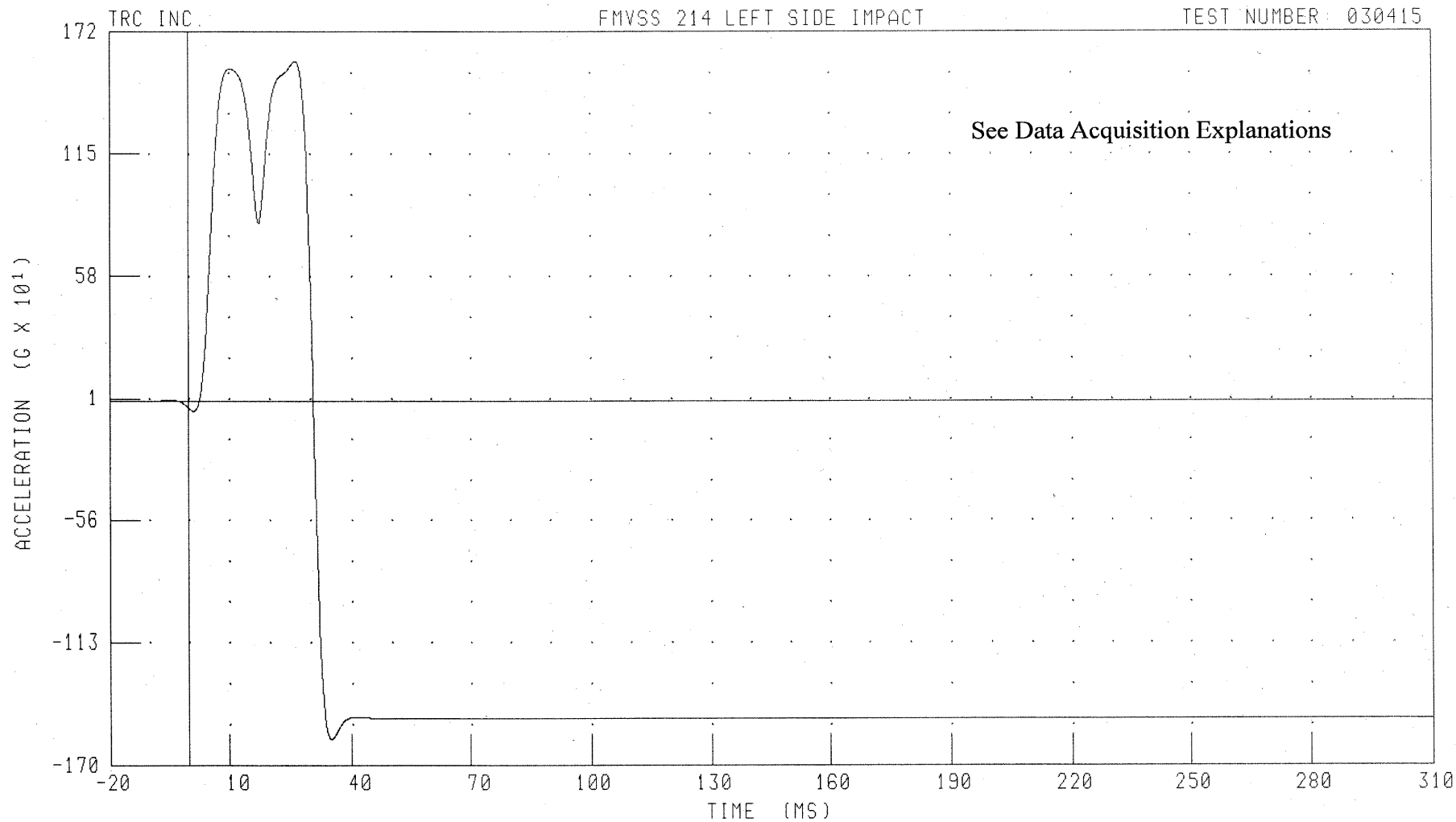
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR SEAT TRACK Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRTYG1 FILTER: CH. CLASS 60

PEAK DATA: 1583.00 G @ 26.48 MS; -1580.31 G @ 35.04 MS

B-141

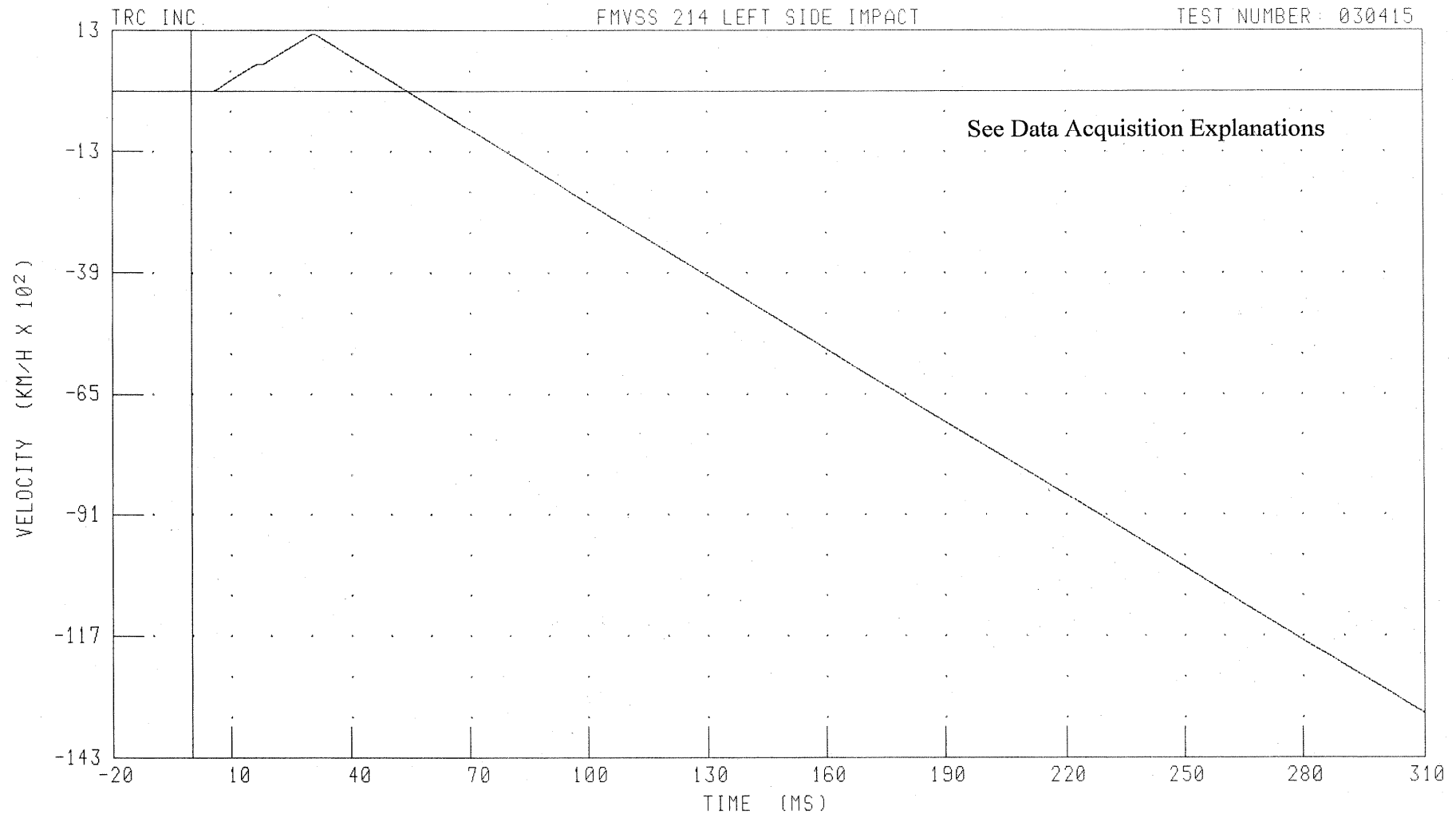
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR SEAT TRACK Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRTYV1 FILTER: CH. CLASS 180

PEAK DATA: 1218.56 KM/H @ 30.80 MS; -13363.08 KM/H @ 310.00 MS

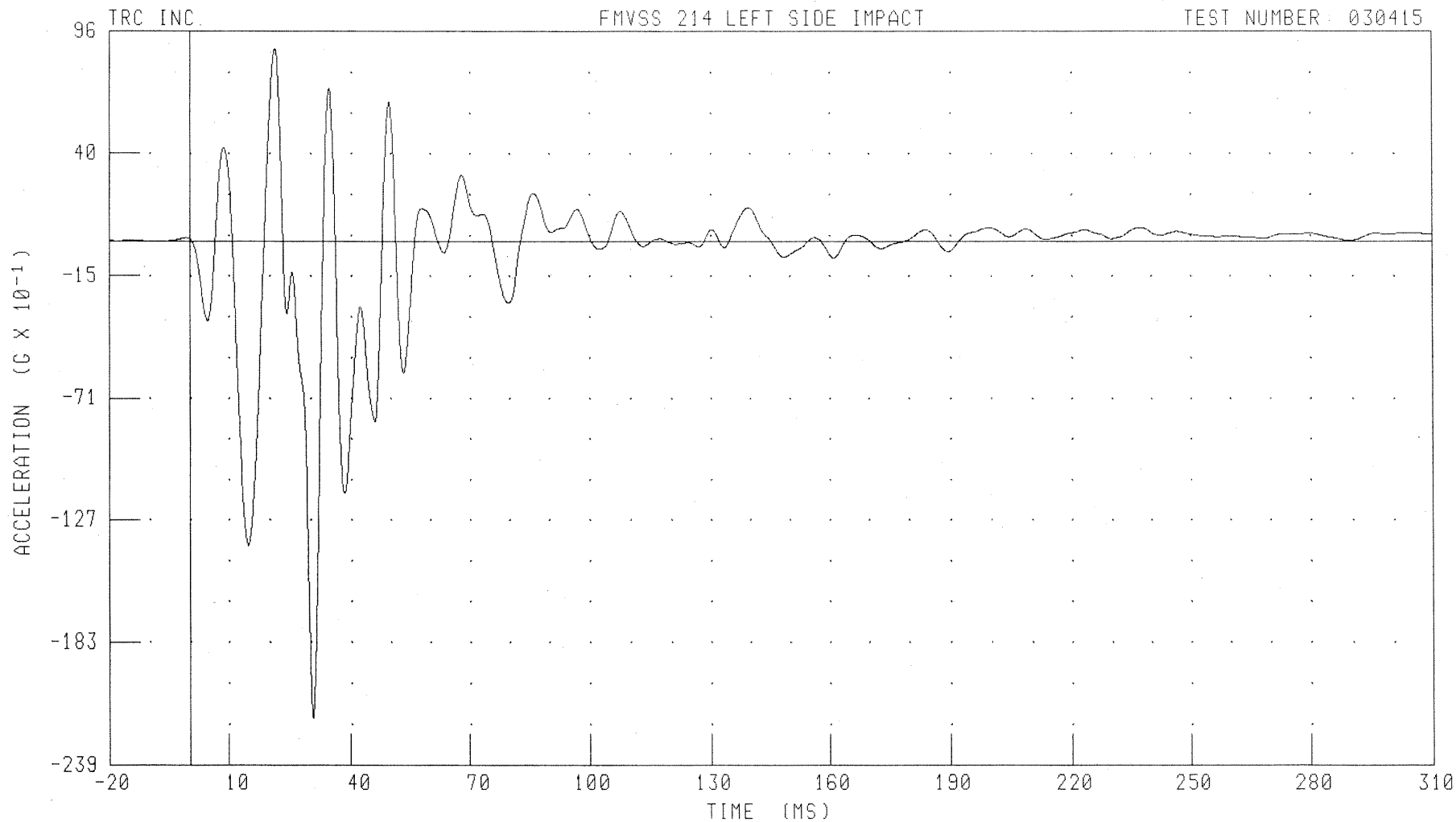
B-142

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: VCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 8.80 G @ 21.36 MS, -21.86 G @ 30.64 MS

B-143

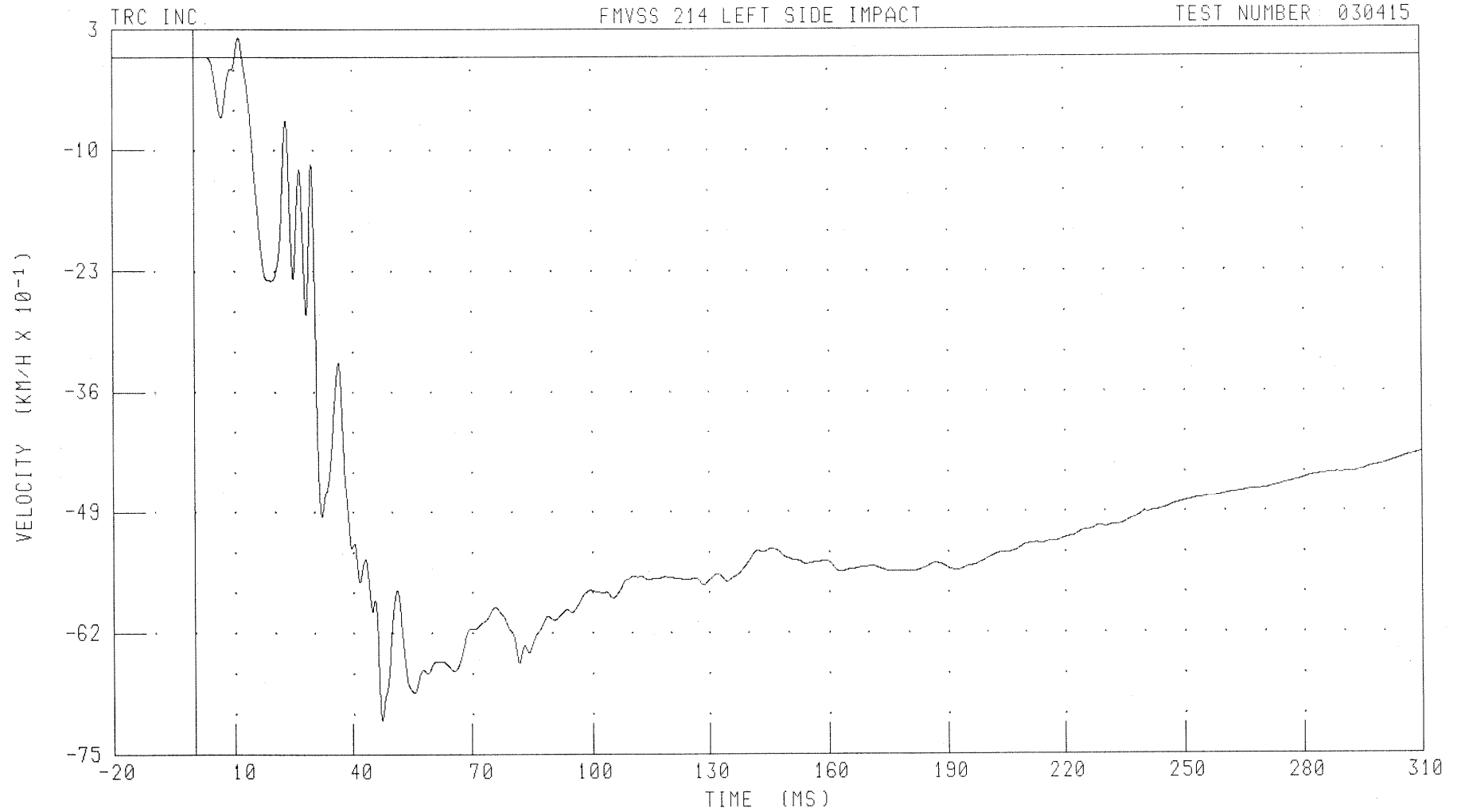
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: VCCXV1 FILTER: CH. CLASS 180

PEAK DATA: 0.21 KM/H @ 11.20 MS; -7.13 KM/H @ 47.44 MS

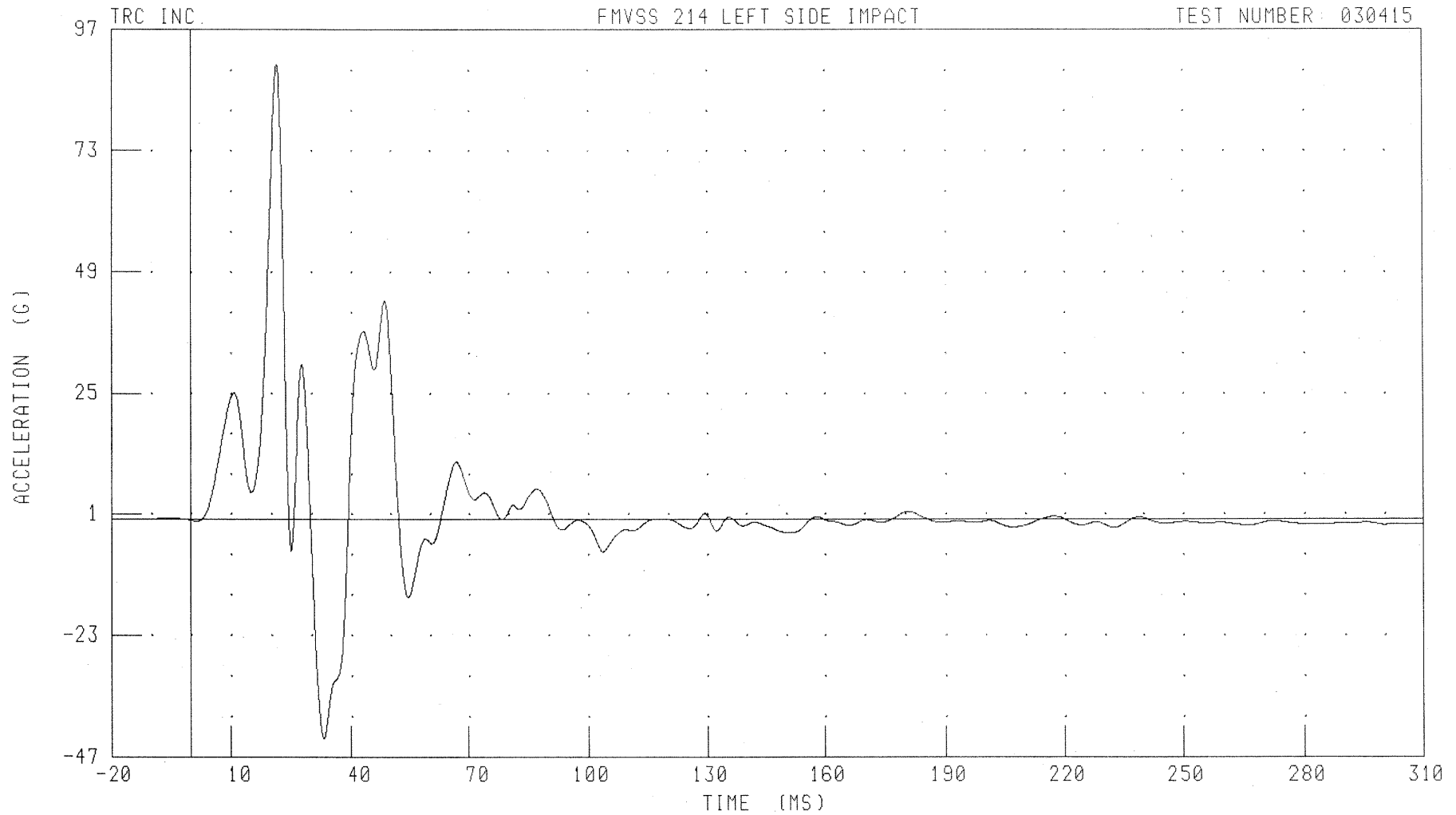
B-144

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: VCGYG1 FILTER: CH. CLASS 60

PEAK DATA: 90.19 G @ 21.44 MS; -43.30 G @ 33.20 MS

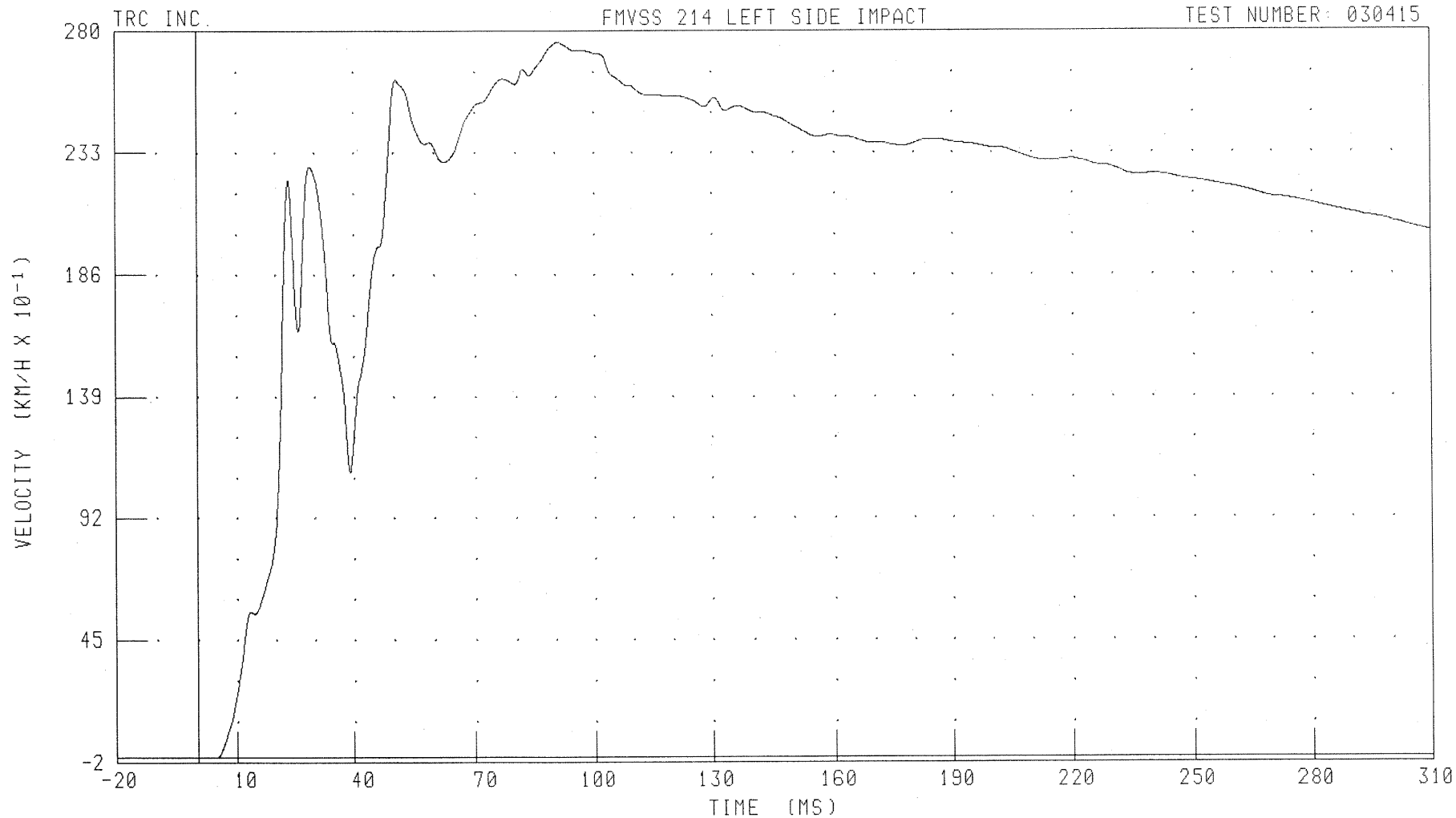
B-145

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: VCGYV1

FILTER: CH. CLASS 180

PEAK DATA: 27.57 KM/H @ 90.96 MS; -0.02 KM/H @ 4.48 MS

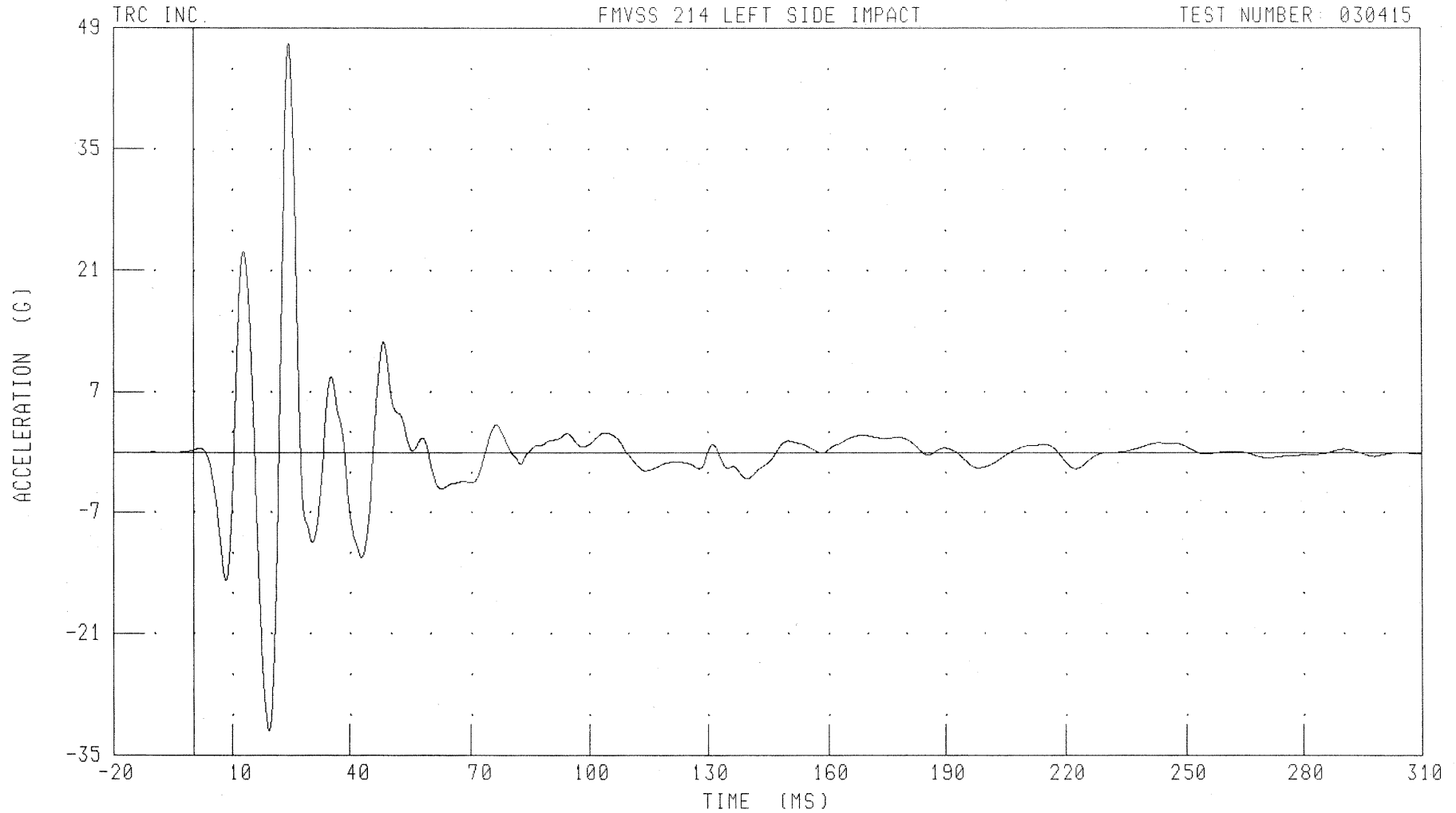
B-146

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: VCGZG1 FILTER: CH. CLASS 60

PEAK DATA: 47.31 G @ 24.64 MS; -32.16 G @ 19.44 MS

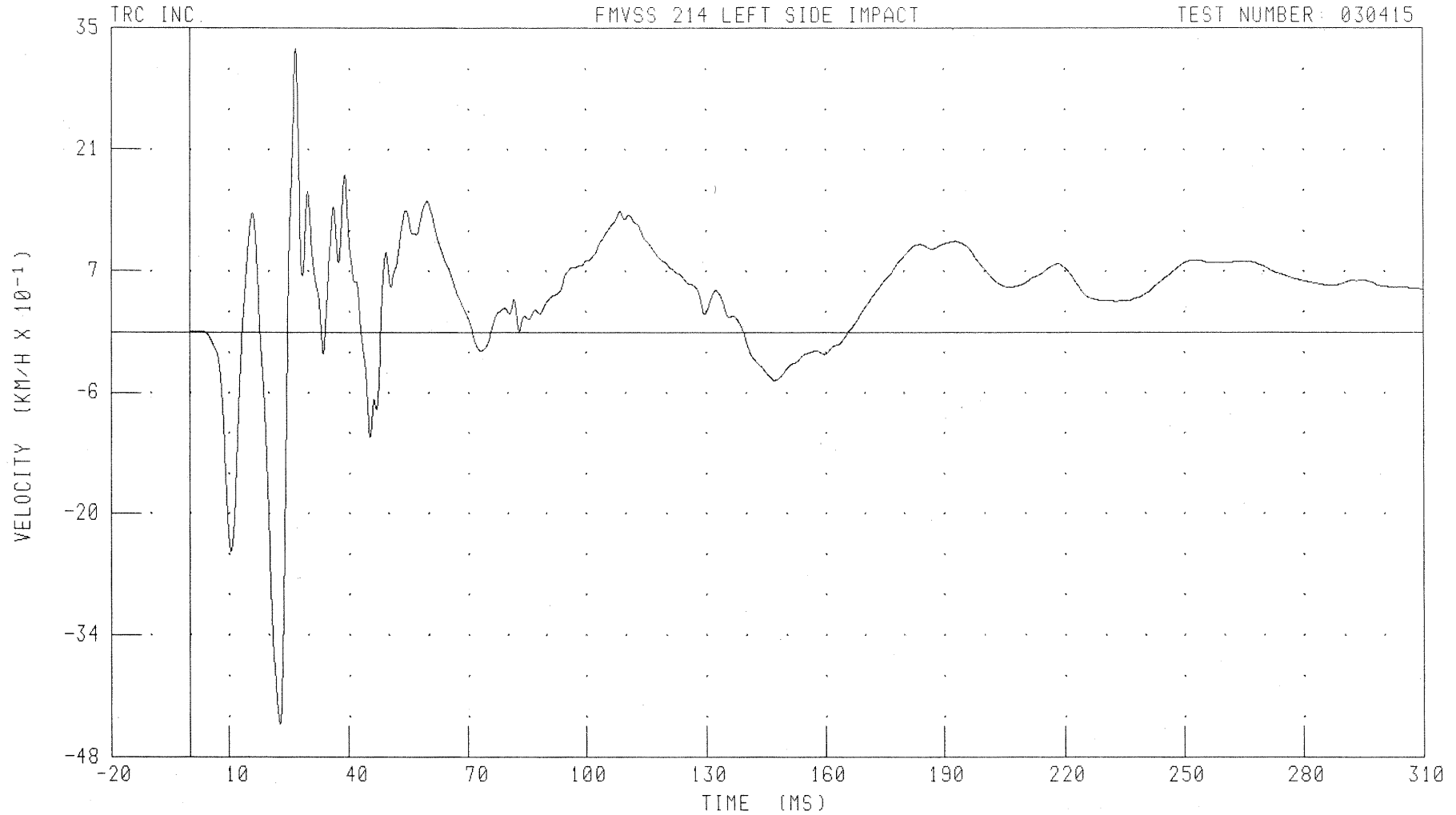
B-147

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: VCGZV1 FILTER: CH. CLASS 180

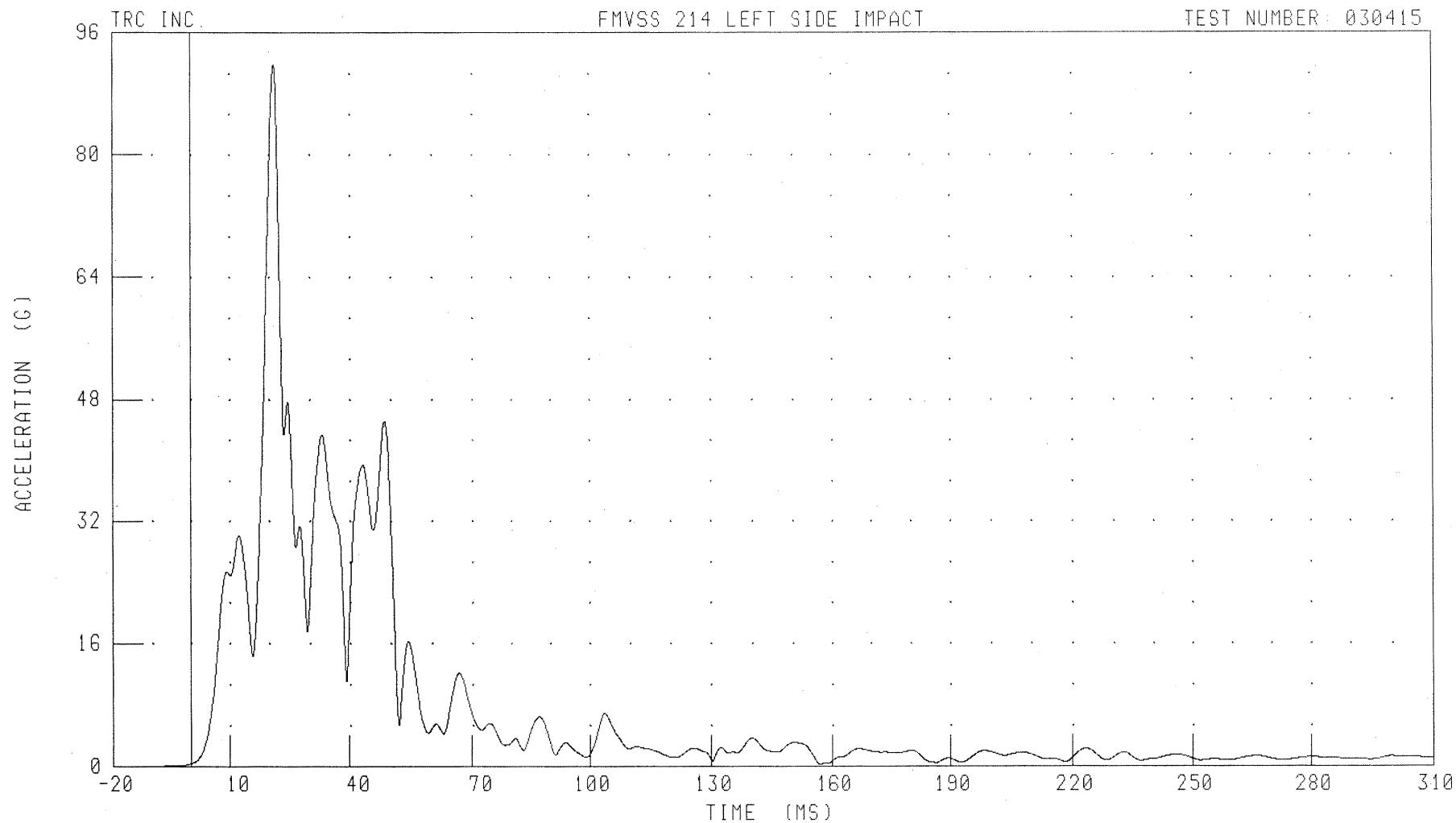
B-148

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: VCGRG1 FILTER: CH. CLASS 60

PEAK DATA: 91.85 G @ 21.28 MS; 0.01 G @ -17.68 MS

B-149

030415

MDB Instrumentation Plots

Acceleration Data - Filter Class 60

Integration Data - Filter Class 180

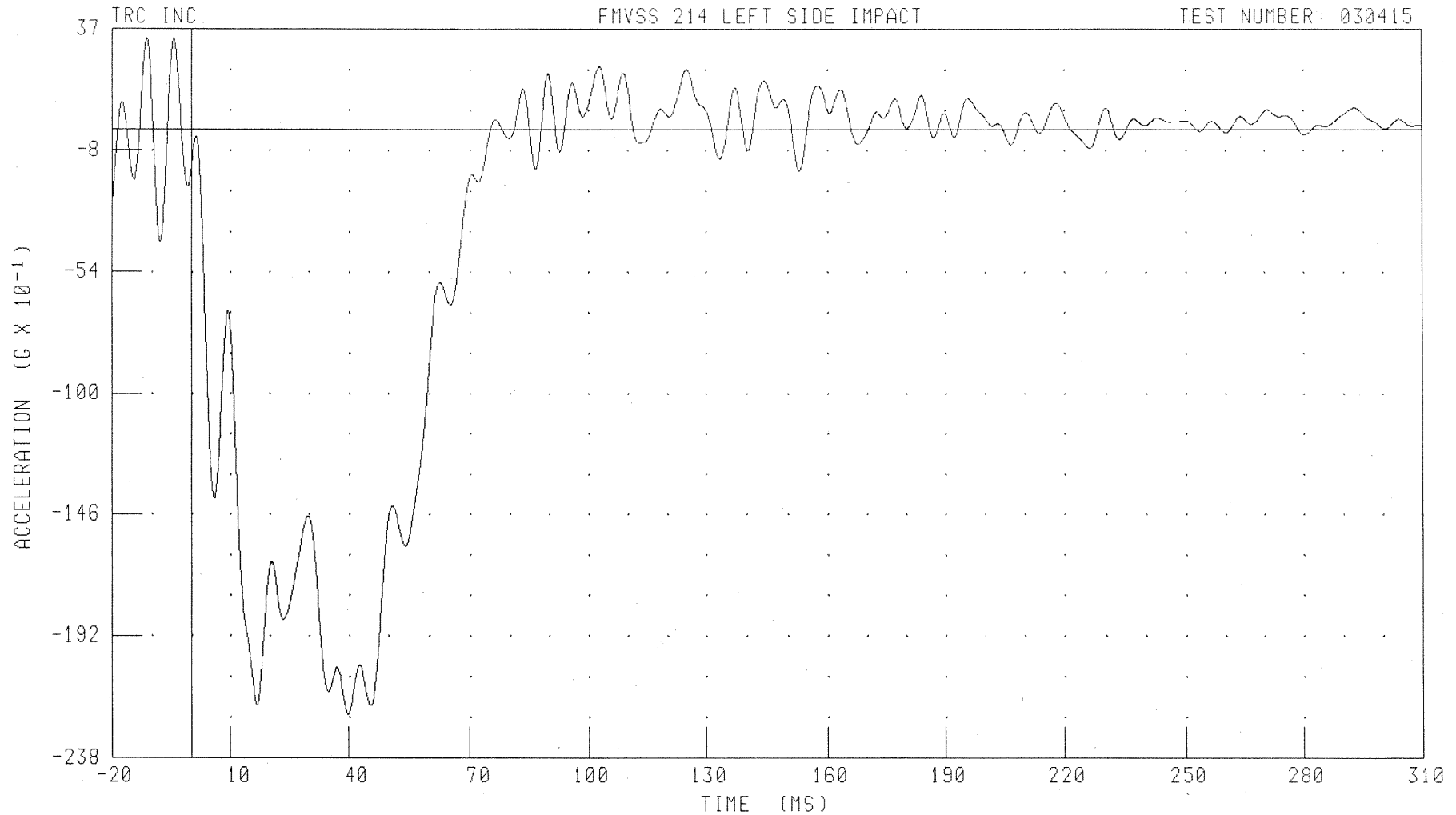
Contact Data - Filter Class 1000

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MDB CENTER OF GRAVITY X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: BCGXG1 FILTER: CH. CLASS 60

PEAK DATA: 3.47 G @ -11.20 MS; -22.15 G @ 39.84 MS

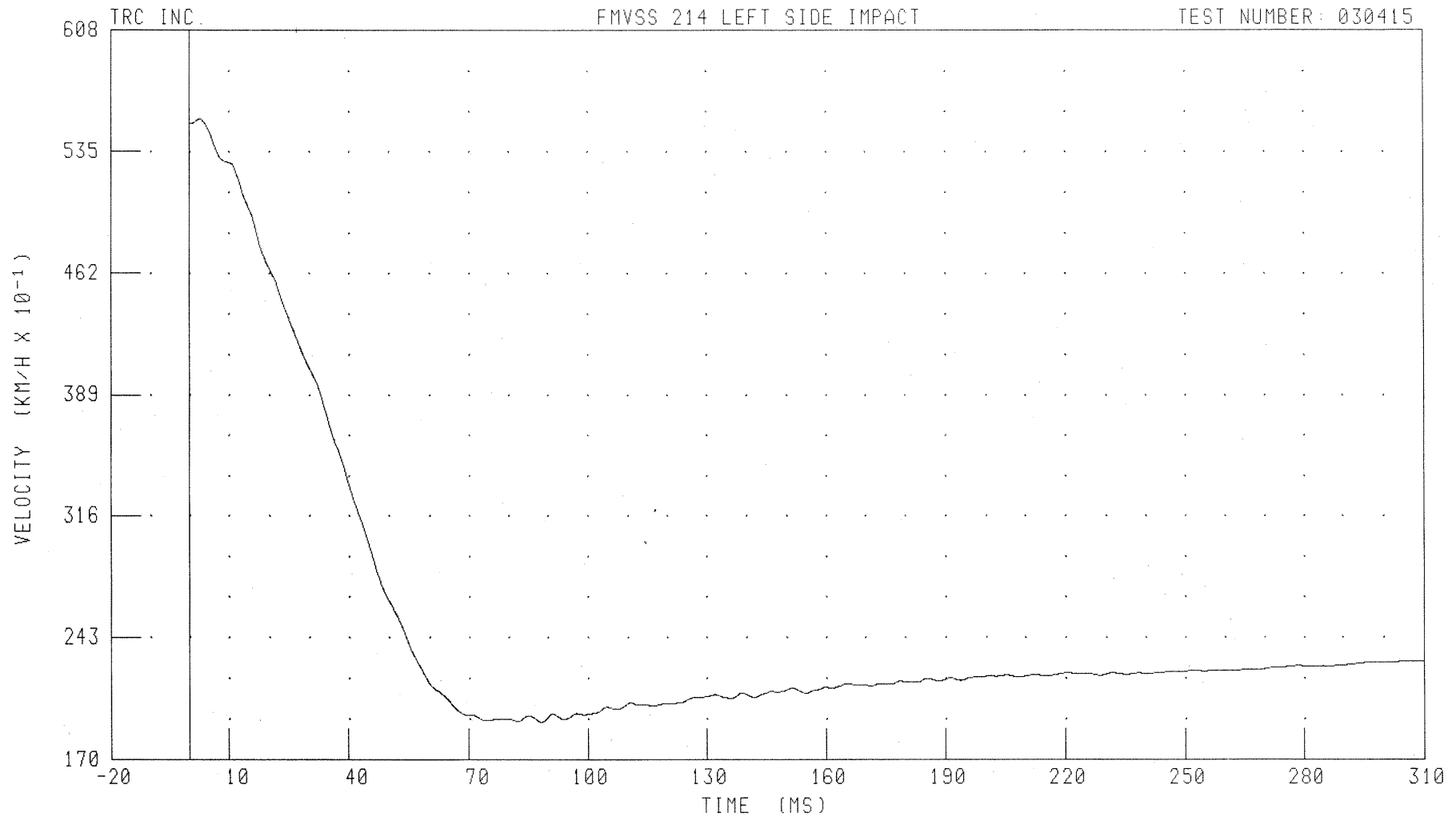
B-151

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
MDB CENTER OF GRAVITY X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: BCGXV1 FILTER: CH. CLASS 180

PEAK DATA: 55.51 KM/H @ 2.80 MS; 19.23 KM/H @ 88.32 MS

B-152

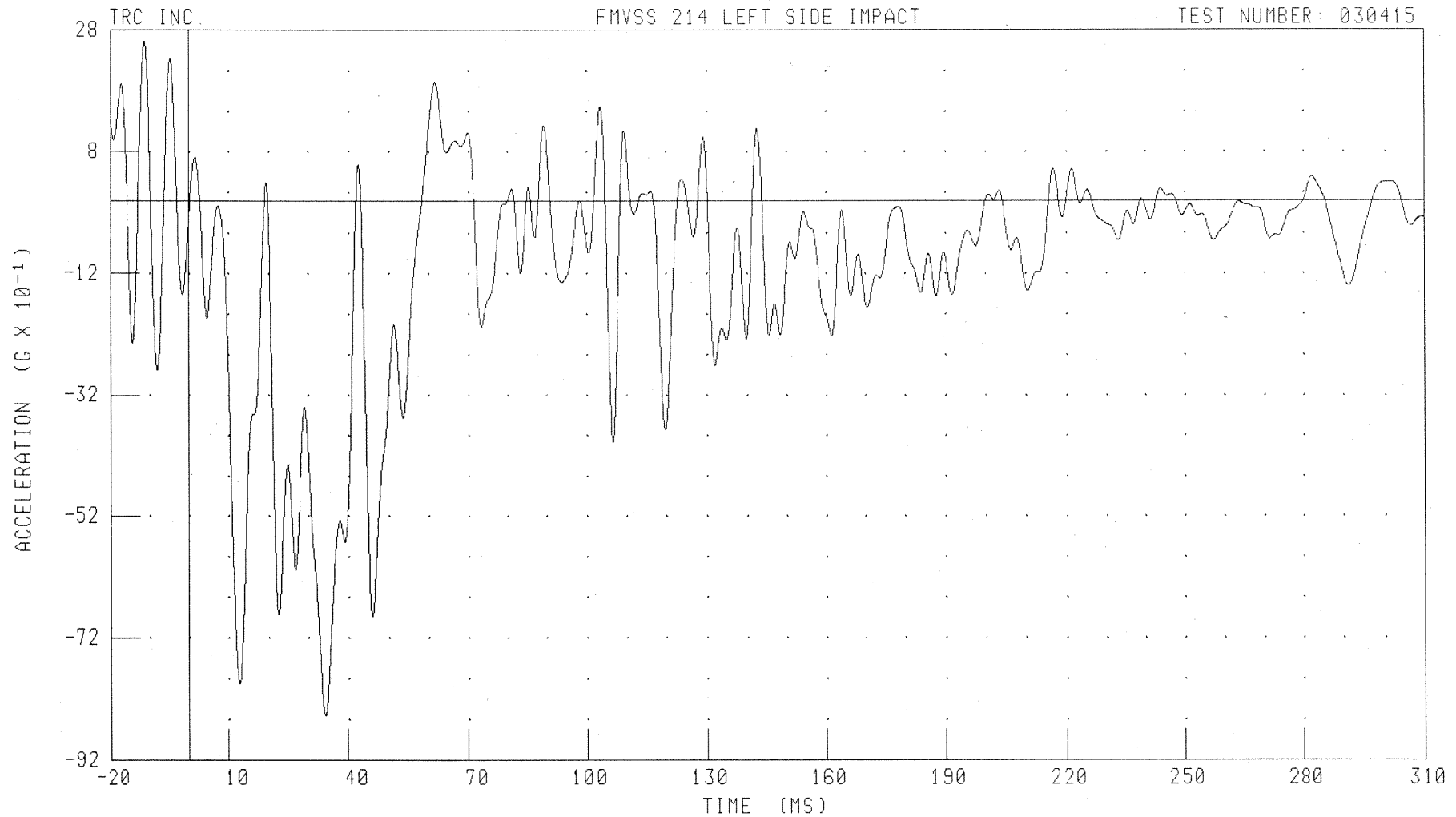
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MDB CENTER OF GRAVITY Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: BCGYG1

FILTER: CH. CLASS 60

PEAK DATA: 2.62 G @ -11.28 MS; -8.48 G @ 34.40 MS

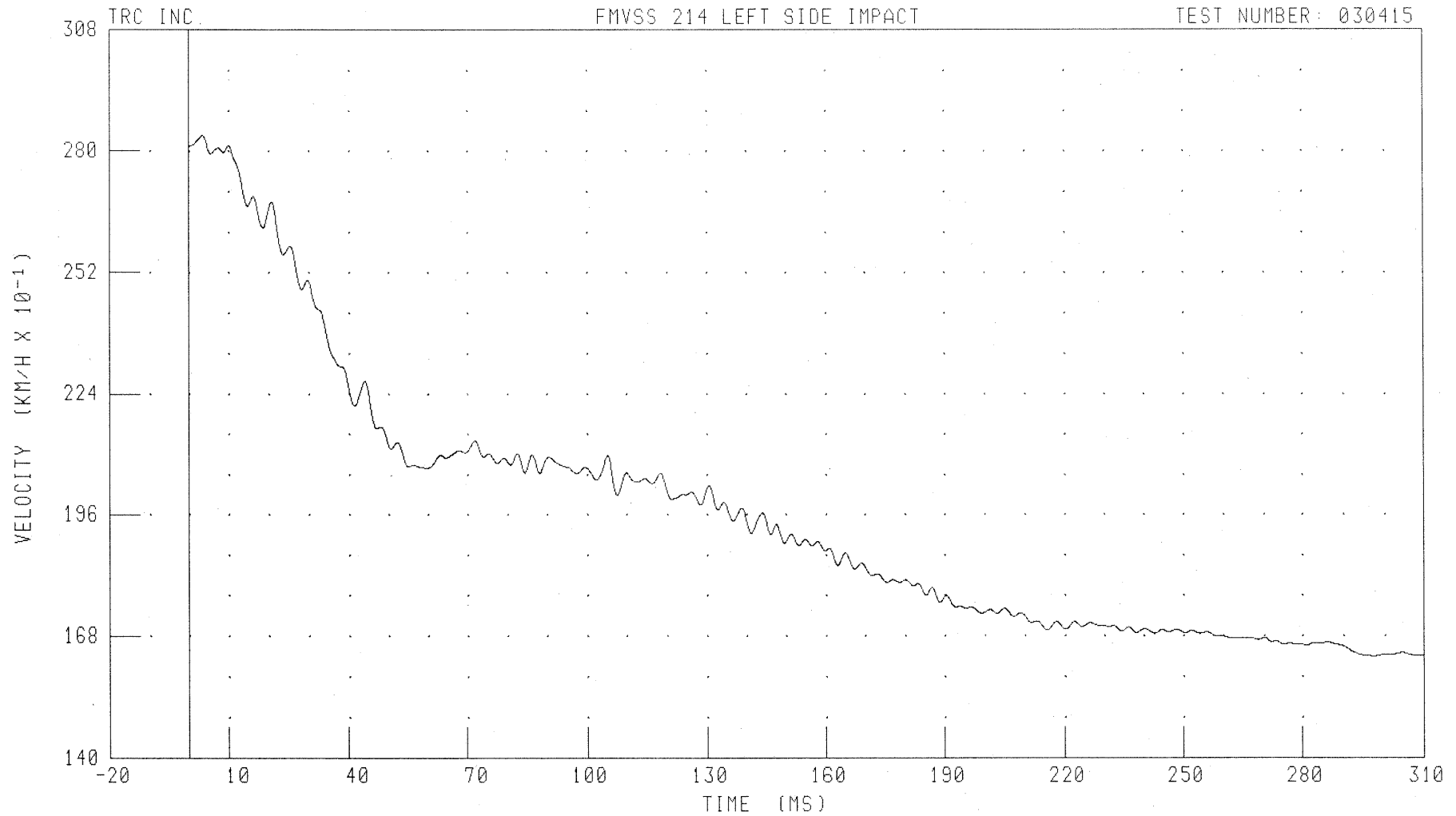
B-153

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
MDB CENTER OF GRAVITY Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: BCGYV1 FILTER: CH. CLASS 180

PEAK DATA: 28.36 KM/H @ 3.52 MS; 16.32 KM/H @ 297.36 MS

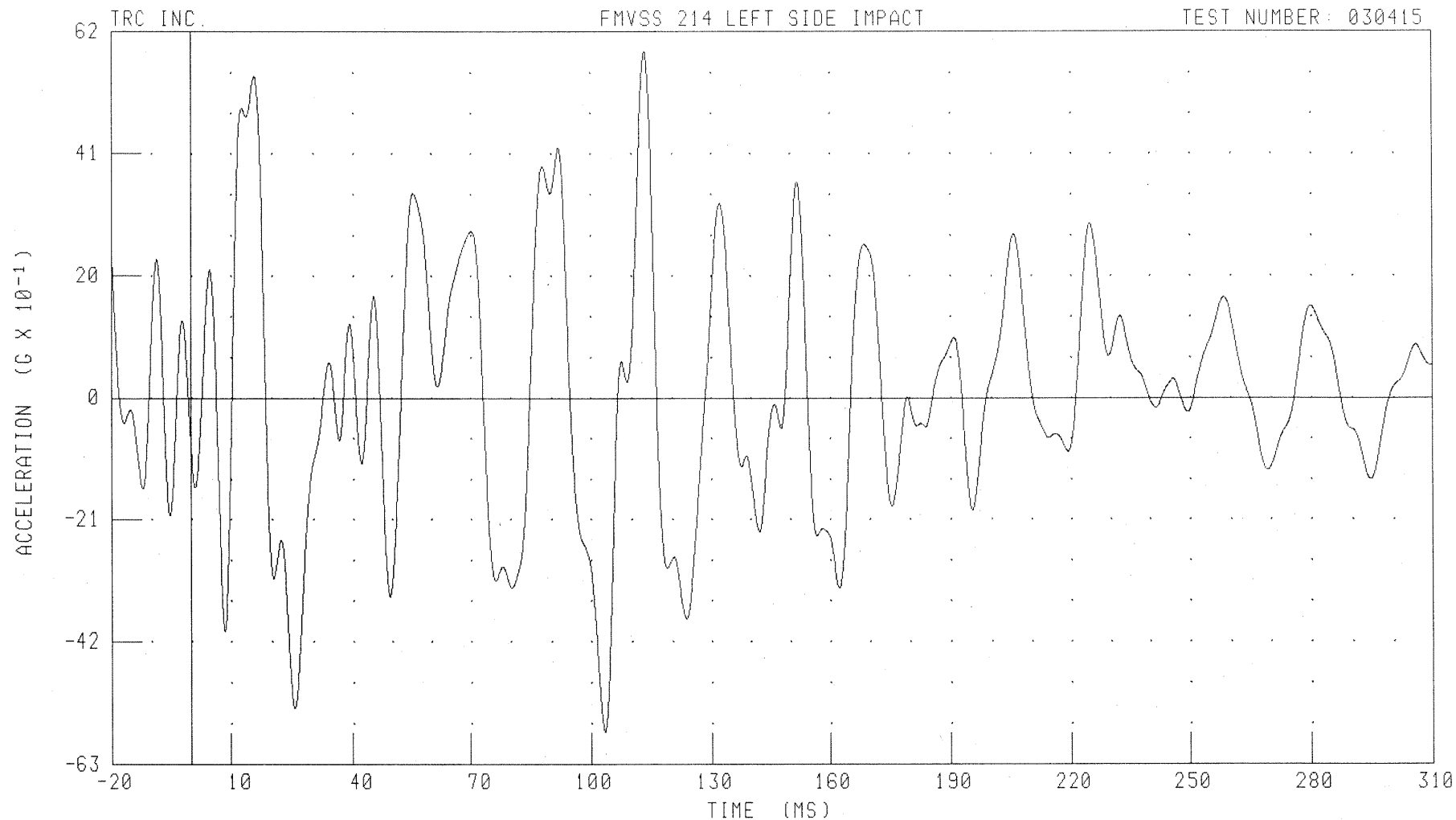
B-154

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
MDB CENTER OF GRAVITY Z-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: BCGZG1 FILTER: CH. CLASS 60

PEAK DATA: 5.97 G @ 113.28 MS; -5.75 G @ 103.52 MS

B-155

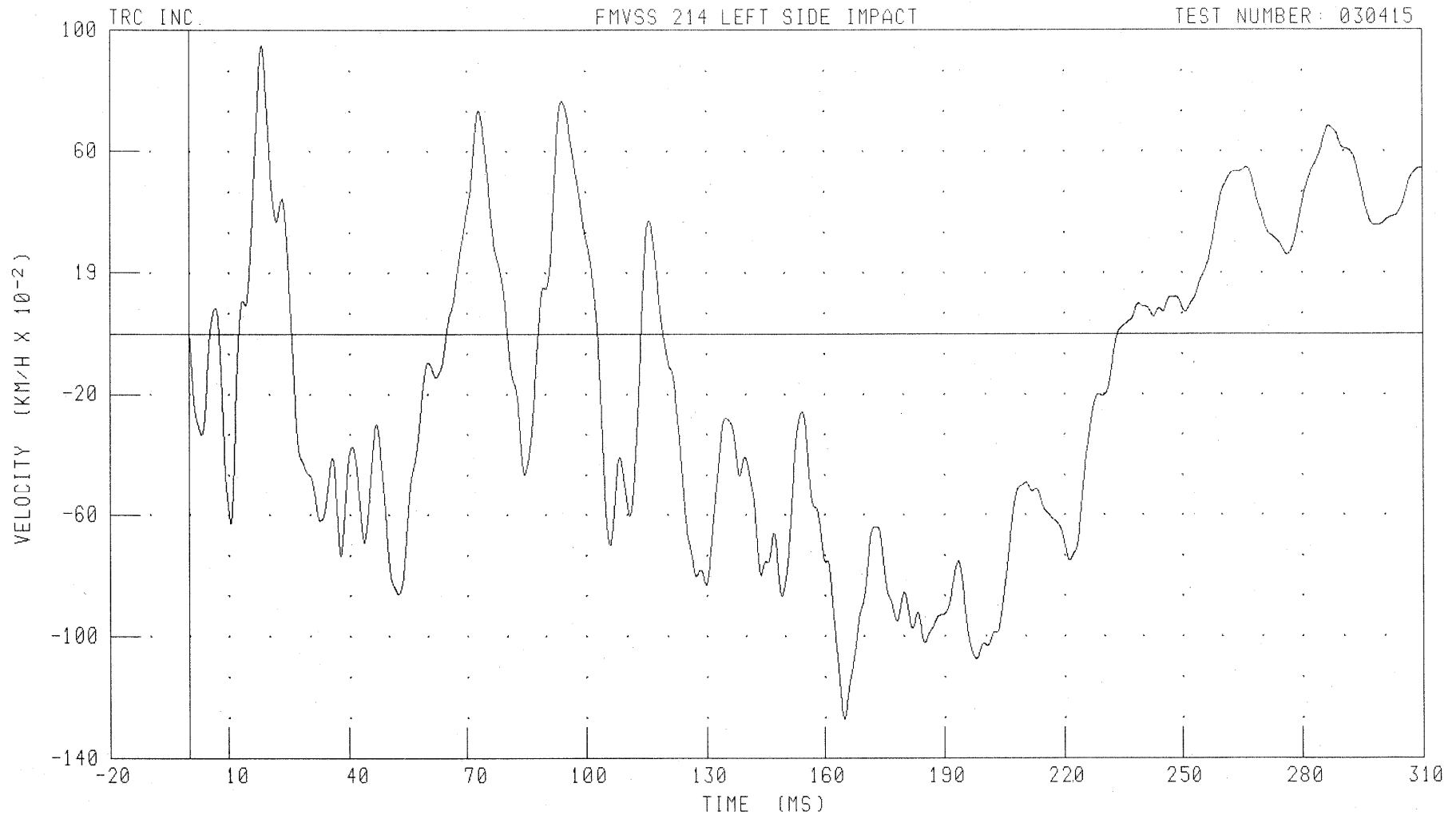
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MDB CENTER OF GRAVITY Z-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: BCGZV1 FILTER: CH. CLASS 180

PEAK DATA: 0.95 KM/H @ 18.24 MS, -1.27 KM/H @ 164.96 MS

B-156

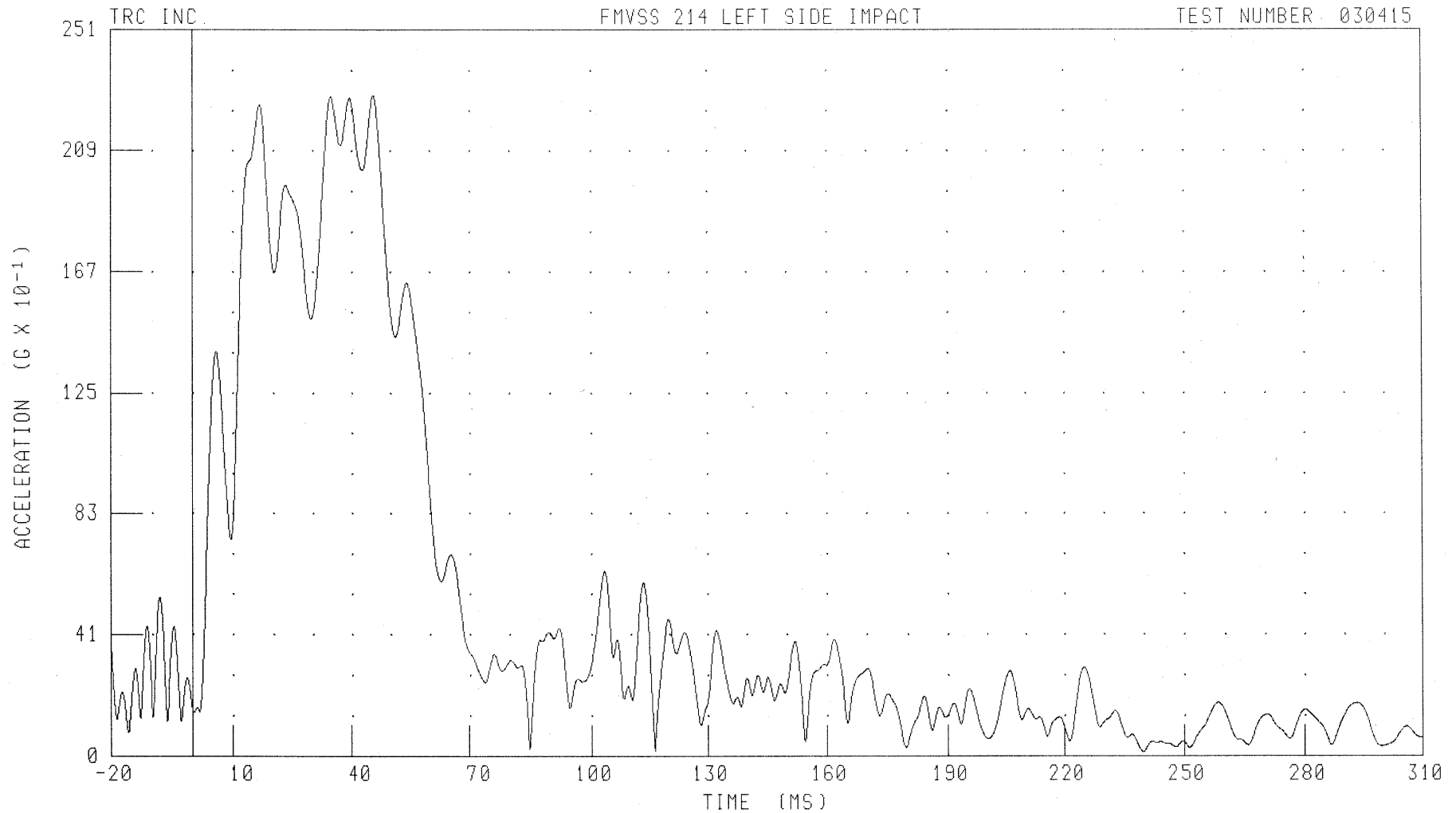
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MDB CENTER OF GRAVITY RESULTANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: BCCRG1 FILTER: CH. CLASS 60

PEAK DATA: 22.93 G @ 45.76 MS; 0.14 G @ 239.84 MS

B-157

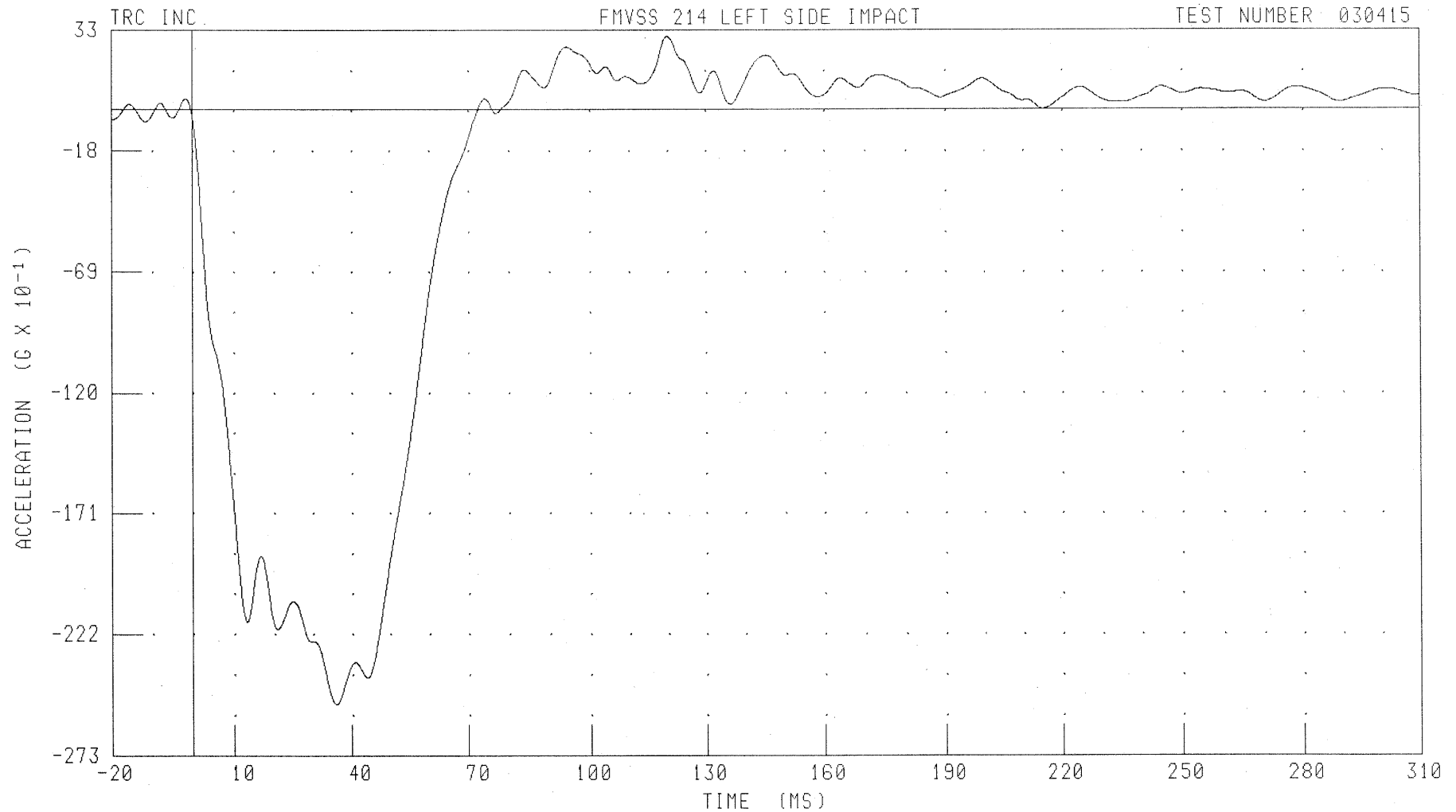
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MOB LEFT REAR X-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: LRRXG1 FILTER: CH. CLASS 60

PEAK DATA: 3.04 G @ 120.24 MS; -25.14 G @ 36.00 MS

B-158

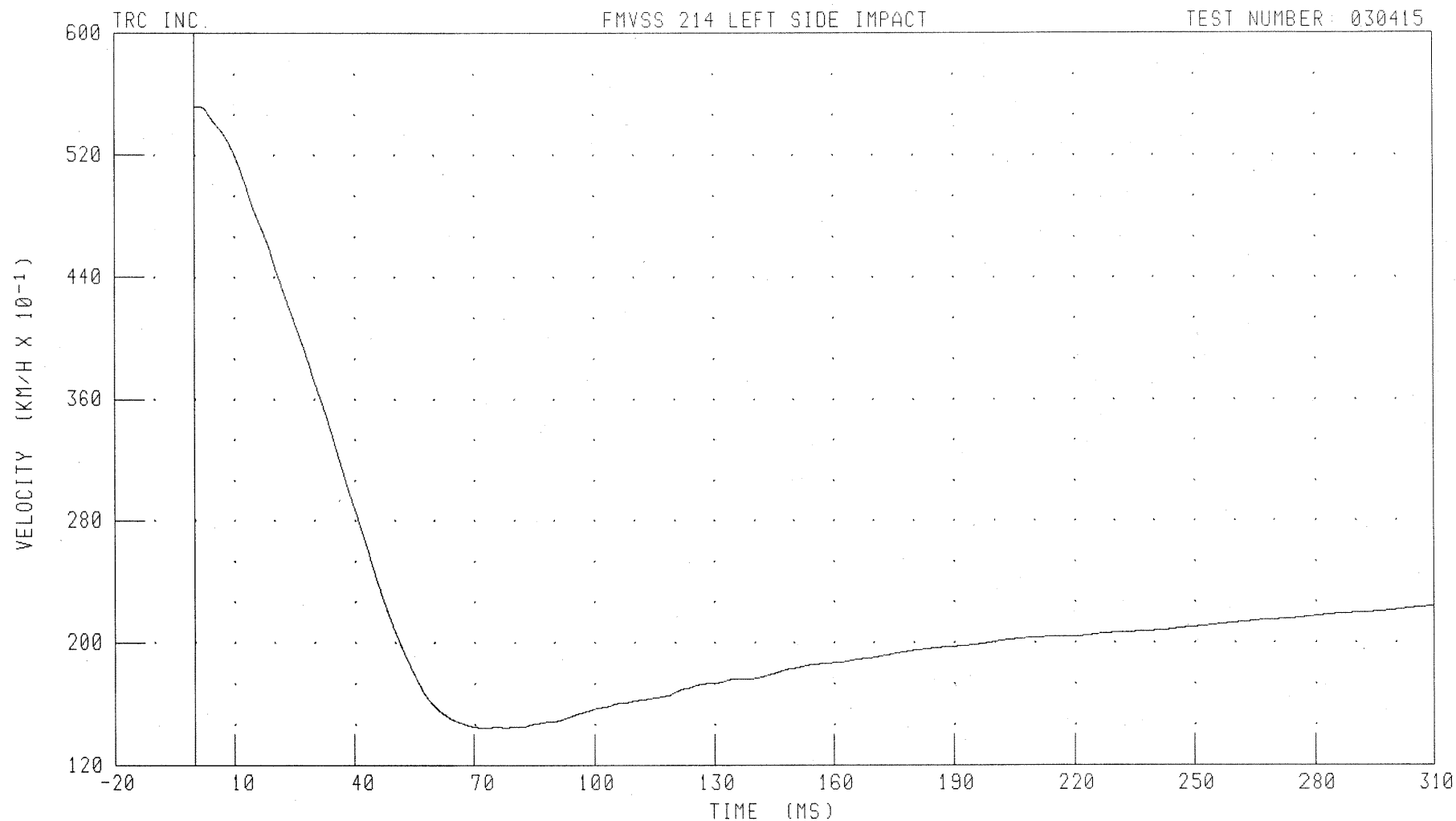
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MDB LEFT REAR X-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRRXV1 FILTER: CH. CLASS 180

PEAK DATA: 55.20 KM/H @ 0.00 MS; 14.43 KM/H @ 72.88 MS

B-159

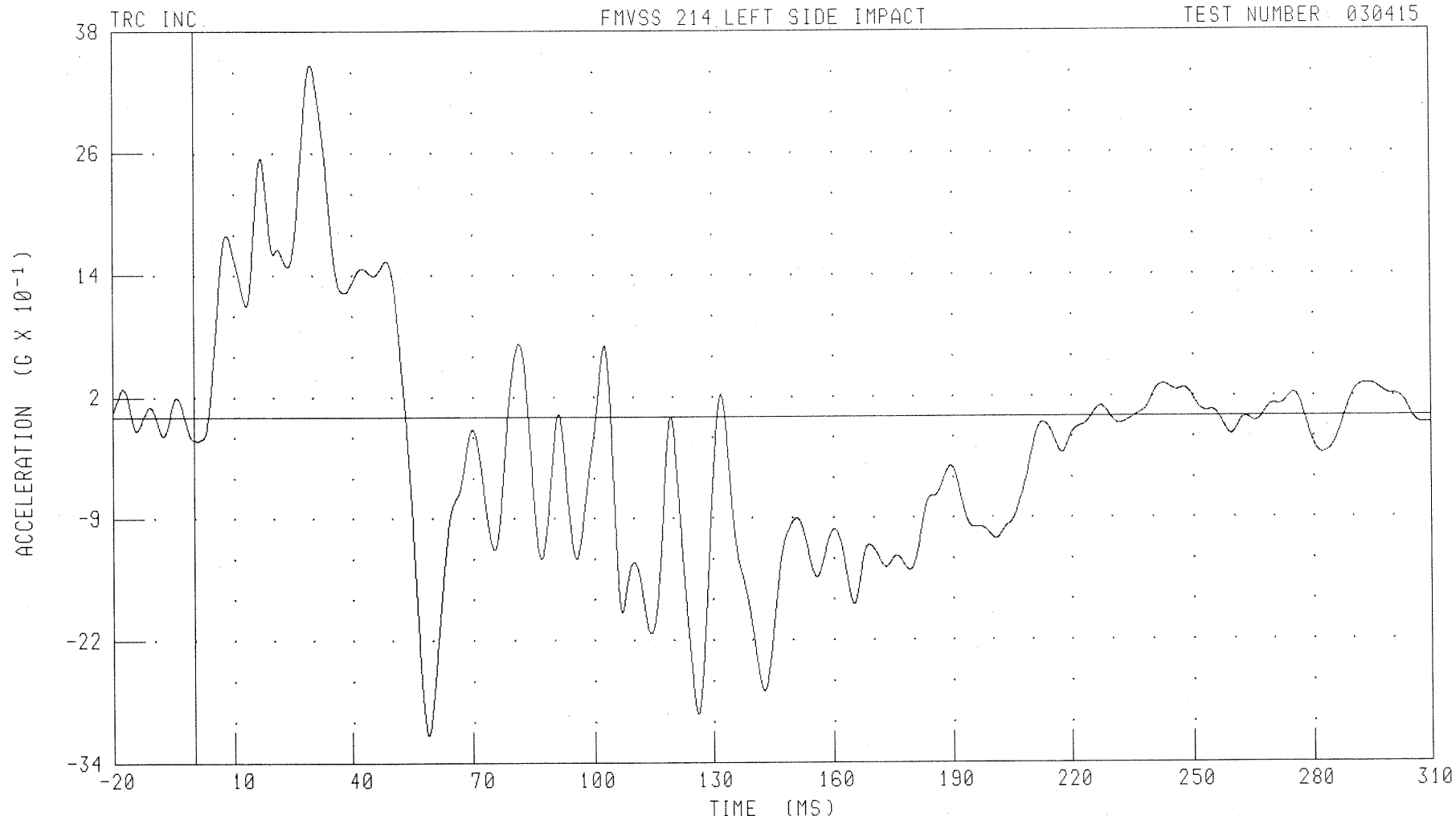
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MDB LEFT REAR Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRRYG1 FILTER: CH. CLASS 60

PEAK DATA: 3.47 G @ 29.76 MS, -3.13 G @ 58.96 MS

B-160

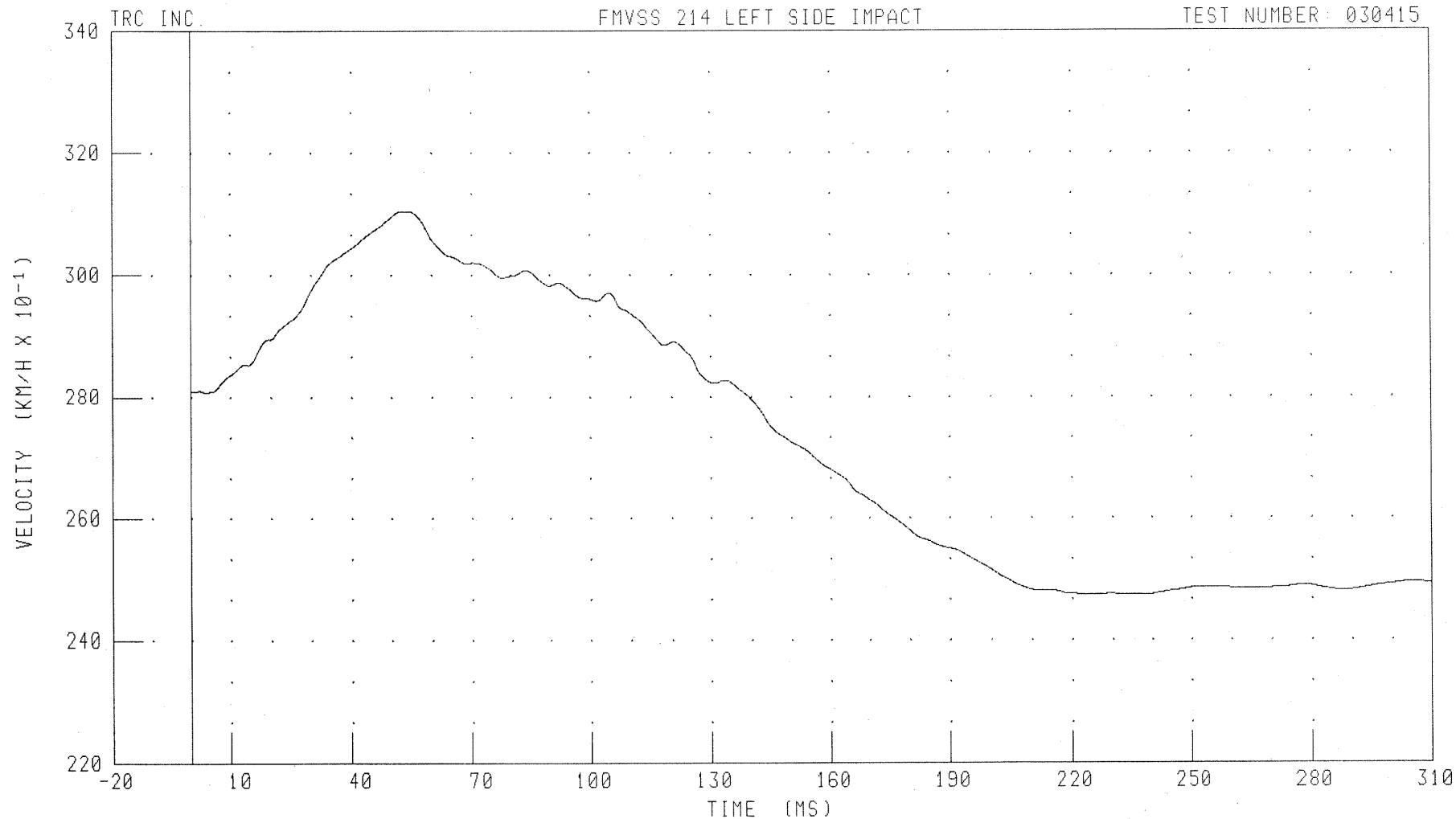
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MOB LEFT REAR Y-AXIS VELOCITY

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LRRYV1

FILTER: CH. CLASS 180

PEAK DATA: 31.05 KM/H @ 52.72 MS; 24.74 KM/H @ 225.44 MS

B-161

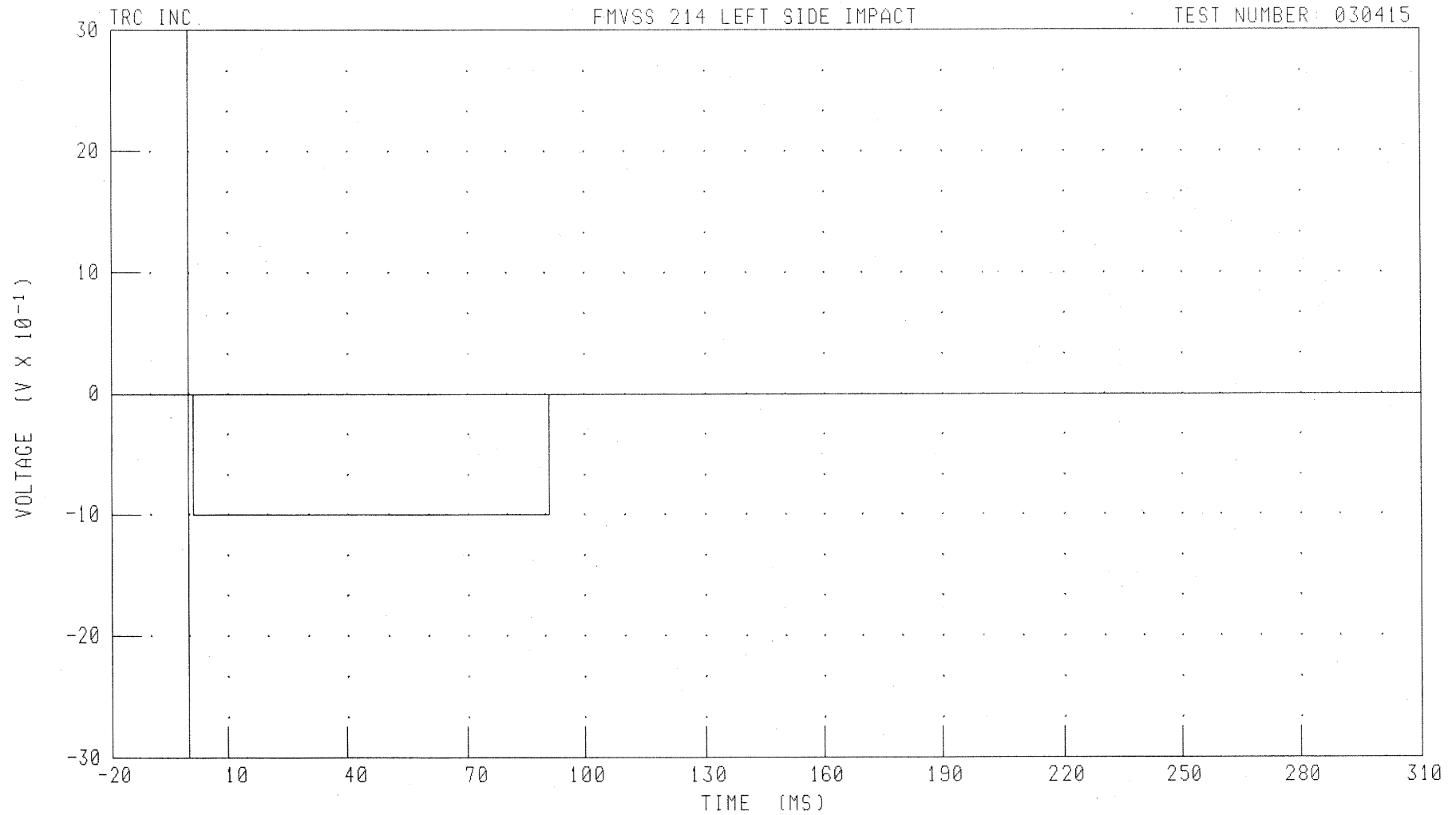
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MOB RIGHT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: MOBR1 FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS; -1.00 V @ 1.36 MS

B-162

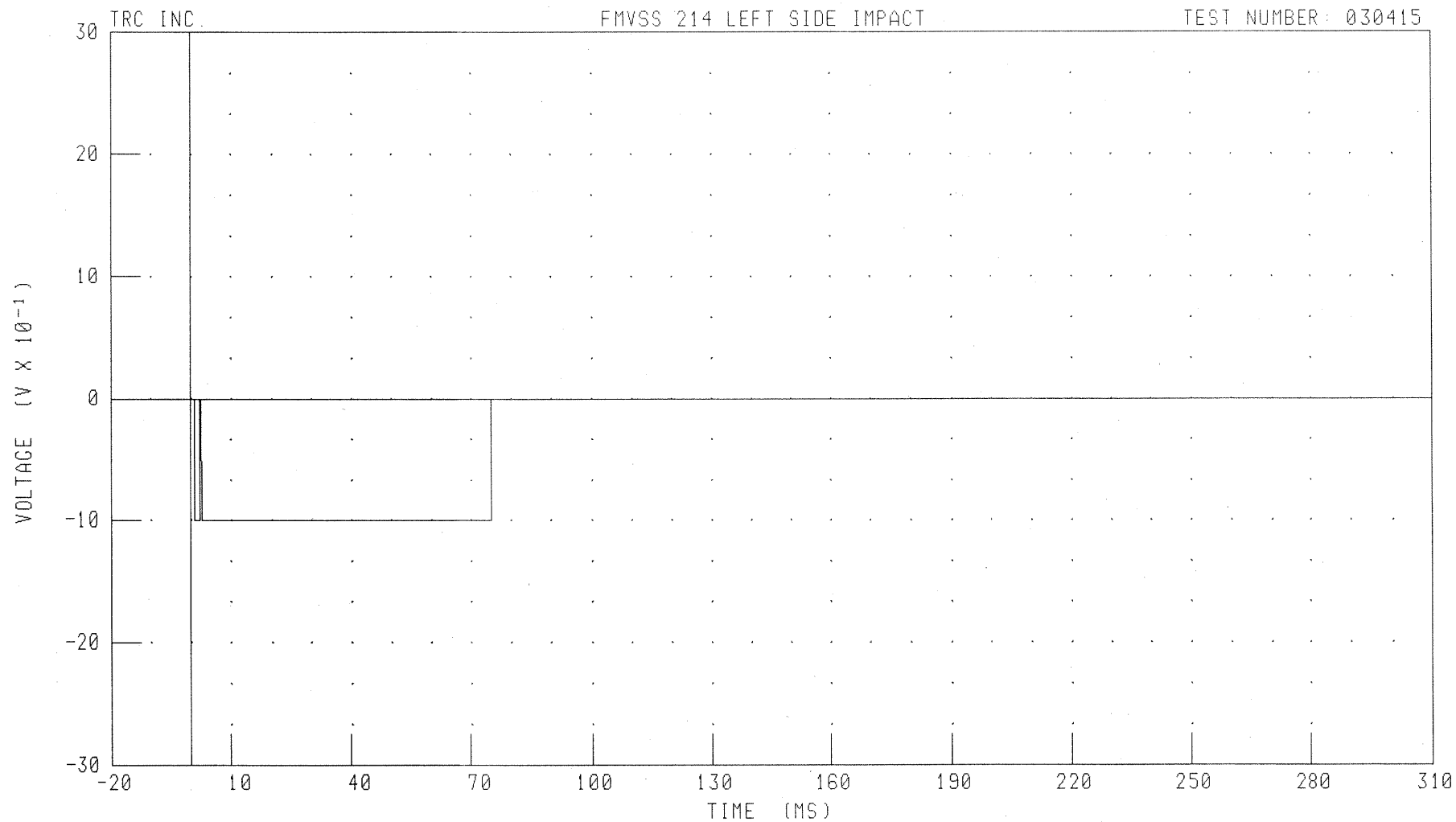
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

MDB LEFT SIDE CONTACT SWITCH

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: MDBL1

FILTER: CH. CLASS 1000

PEAK DATA: 0.00 V @ 310.00 MS, -1.00 V @ 1.12 MS

B-163

030415

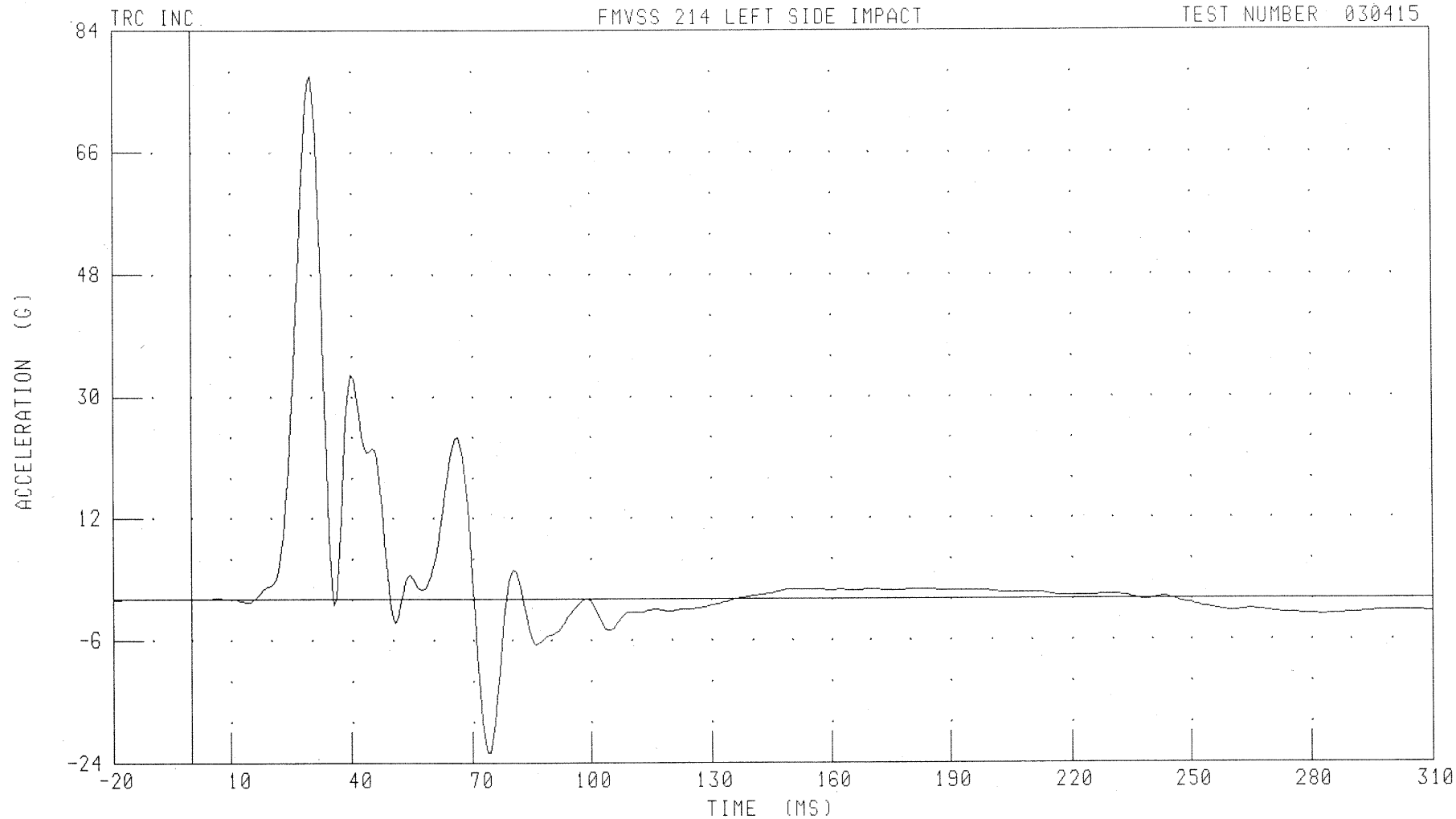
Driver and Passenger Dummy Instrumentation Plots
Acceleration Data - FIR Filtered

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER 030415



CHANNEL: LURYG1 FILTER: FIR 100

PEAK DATA: 77.36 G @ 30.00 MS; -22.53 G @ 73.75 MS

B-165

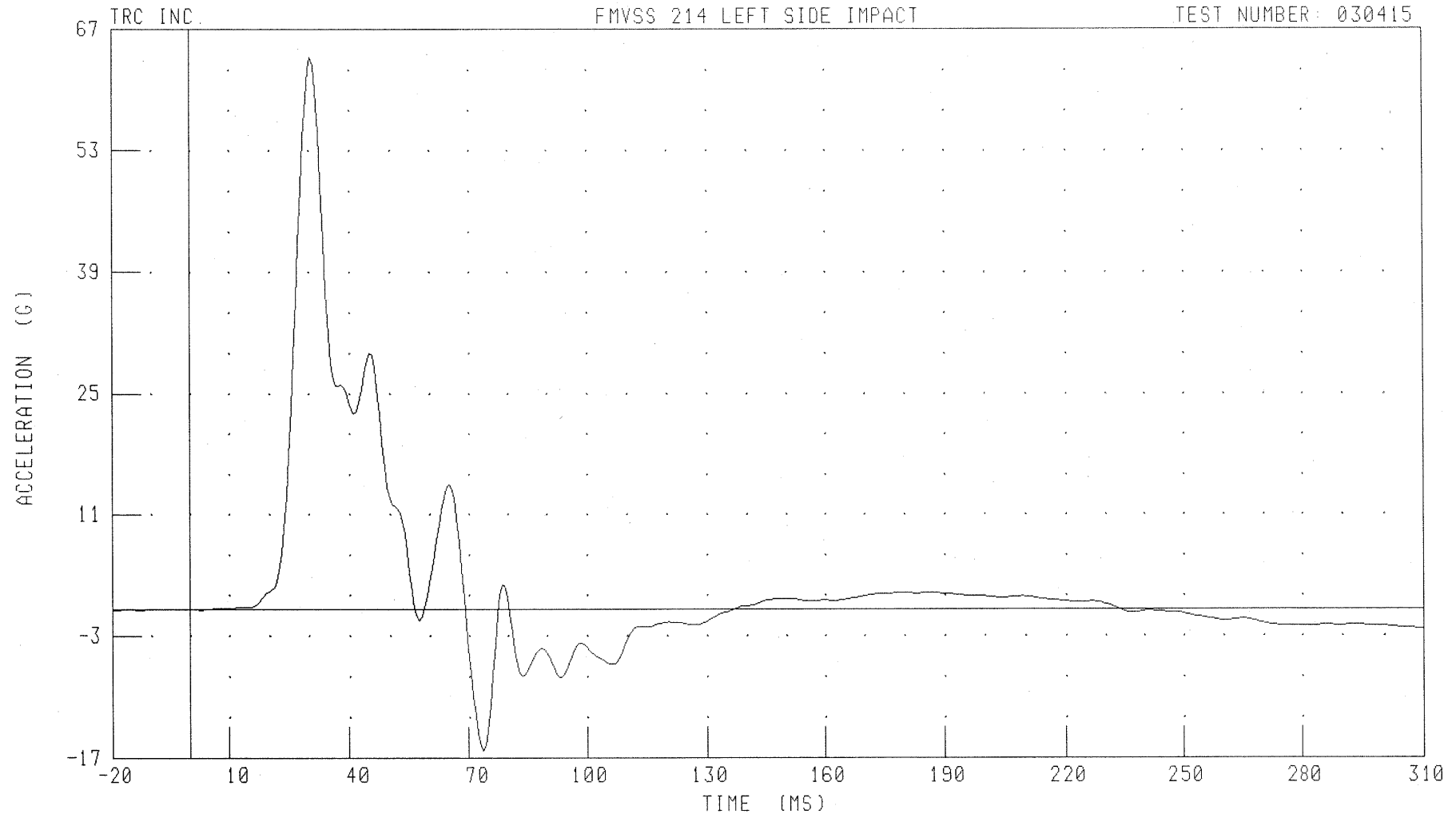
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYG1 FILTER: FIR 100

PEAK DATA: 63.77 G @ 30.62 MS; -16.15 G @ 73.75 MS

B-166

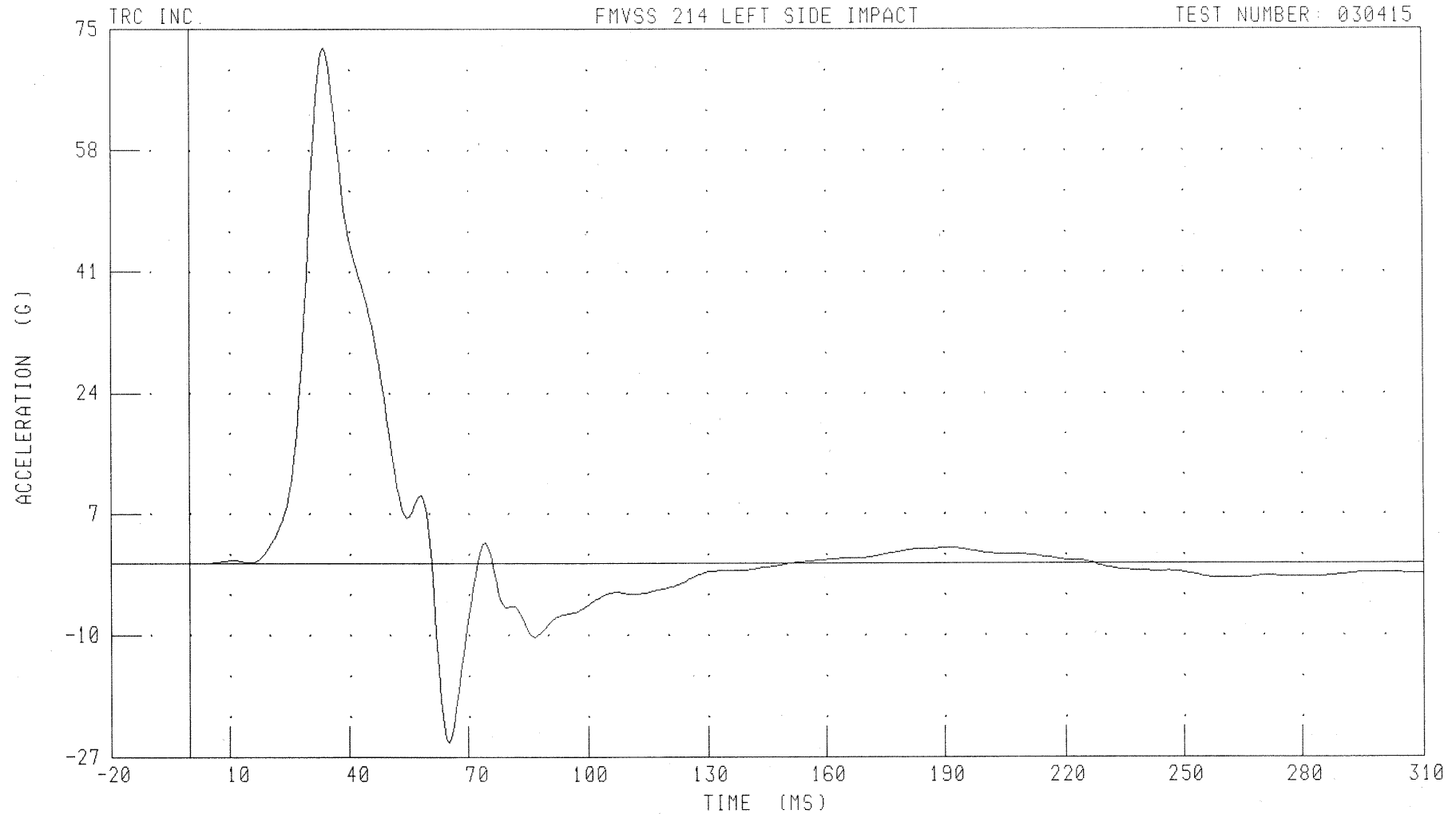
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YG1 FILTER: FIR 100

PEAK DATA: 72.48 G @ 33.75 MS; -25.01 G @ 65.00 MS

B-167

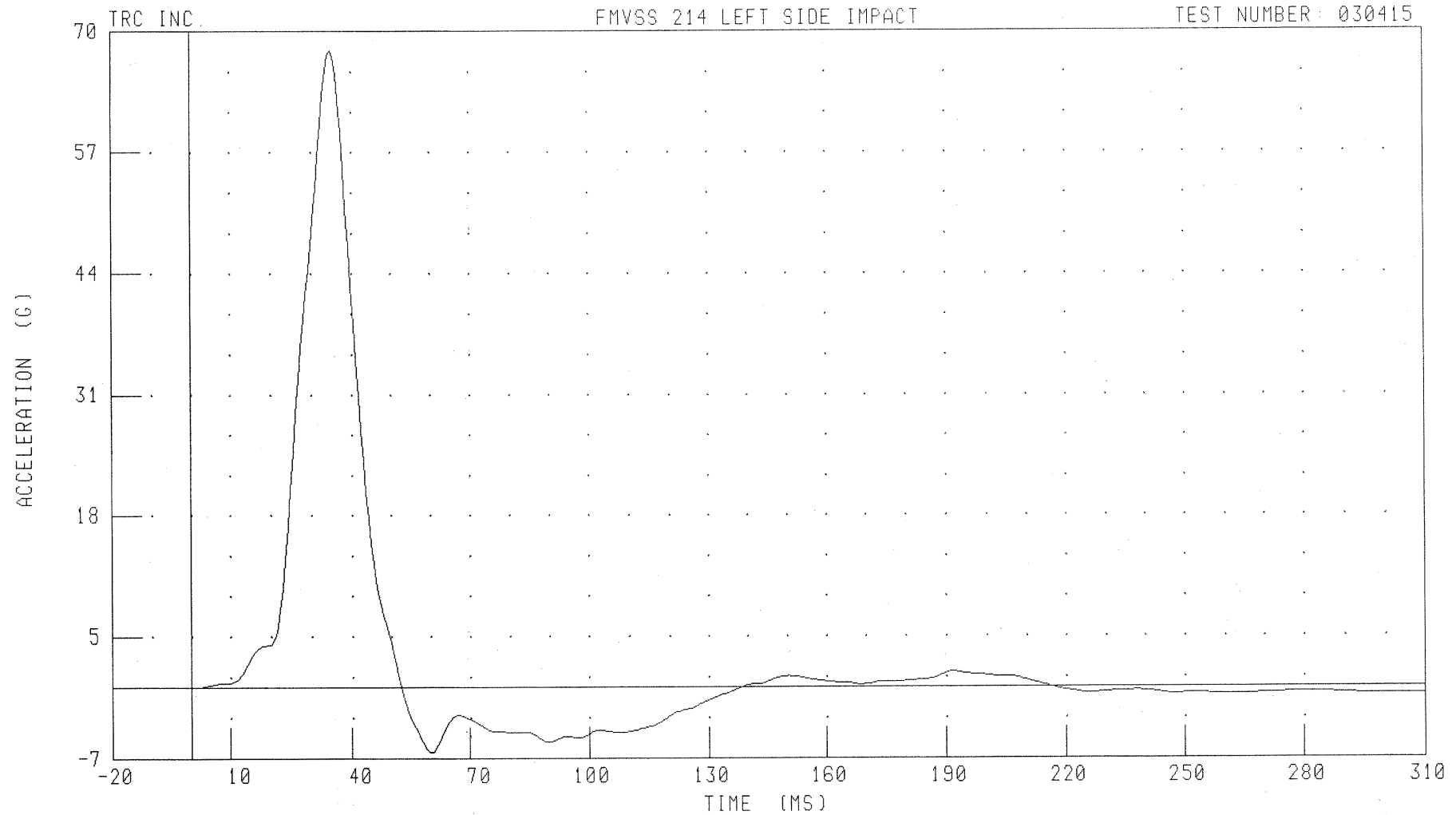
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: PEVYG1 FILTER: FIR 100

PEAK DATA: 68.37 G @ 35.00 MS; -6.97 G @ 60.00 MS

B-168

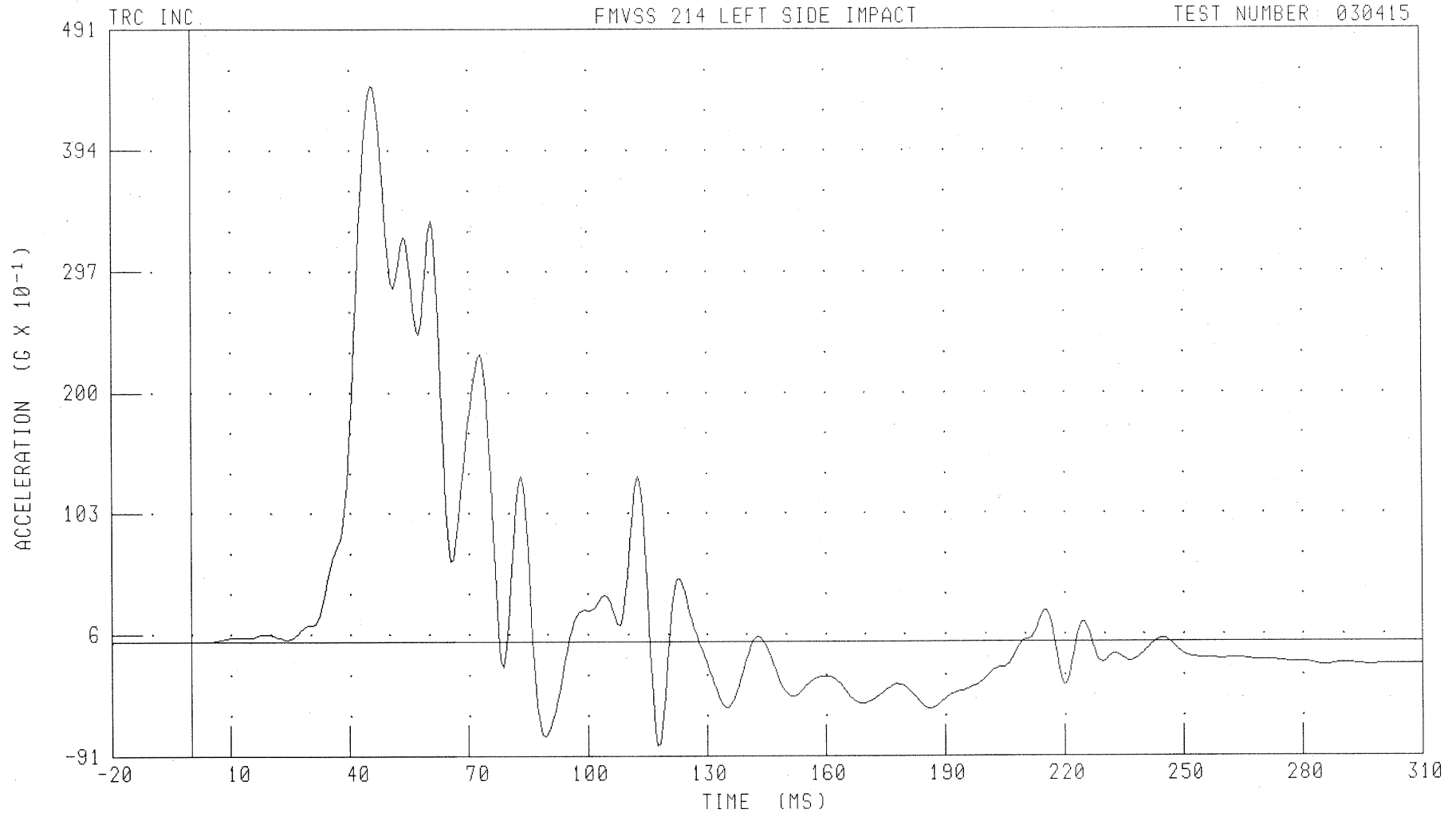
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER UPPER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYG4 FILTER: FIR 100

PEAK DATA: 44.62 G @ 45.62 MS, -8.29 G @ 117.50 MS

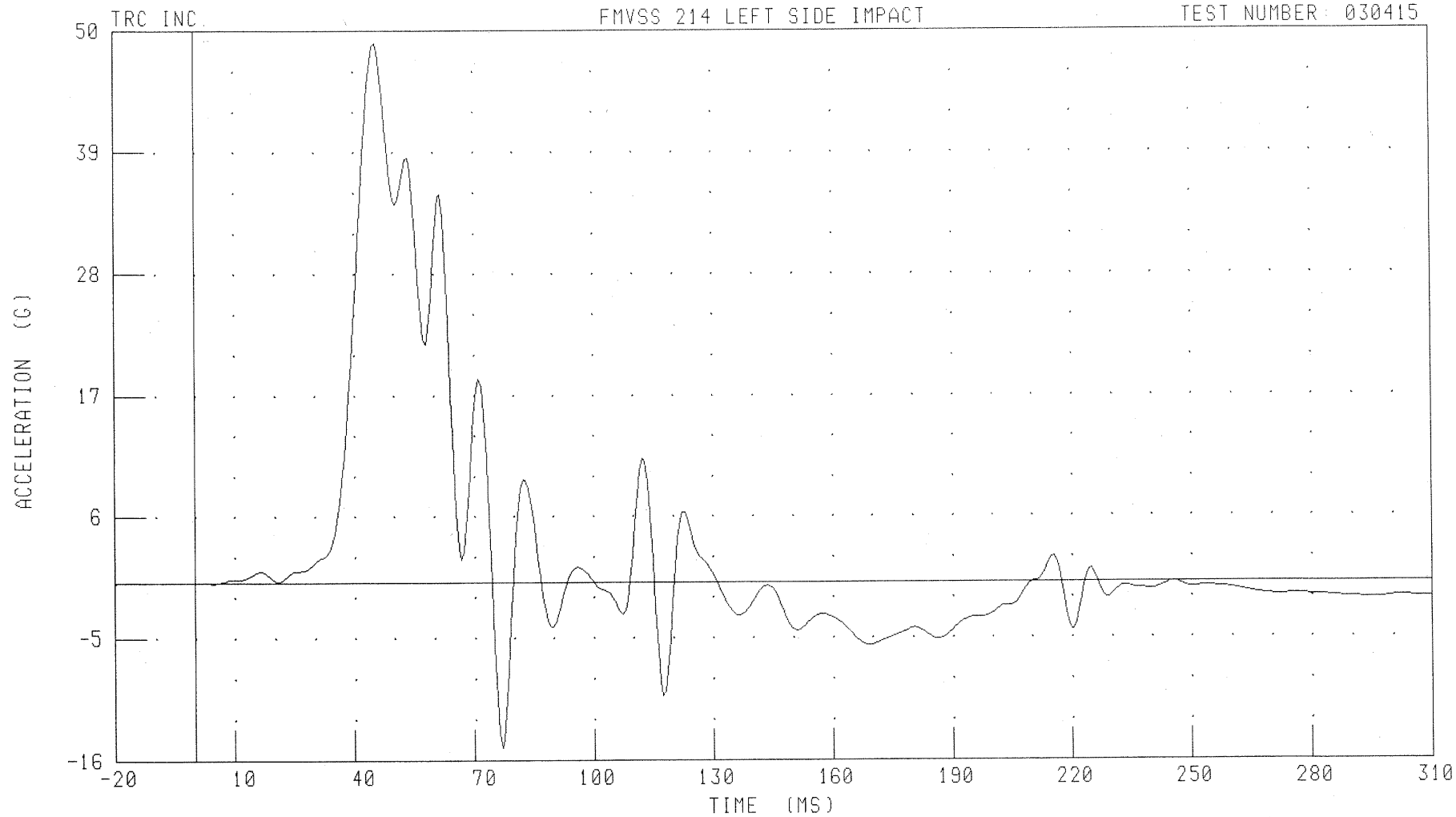
B-169

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER RIB Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYG4 FILTER: FIR 100

PEAK DATA: 48.87 G @ 45.62 MS; -14.87 G @ 76.88 MS

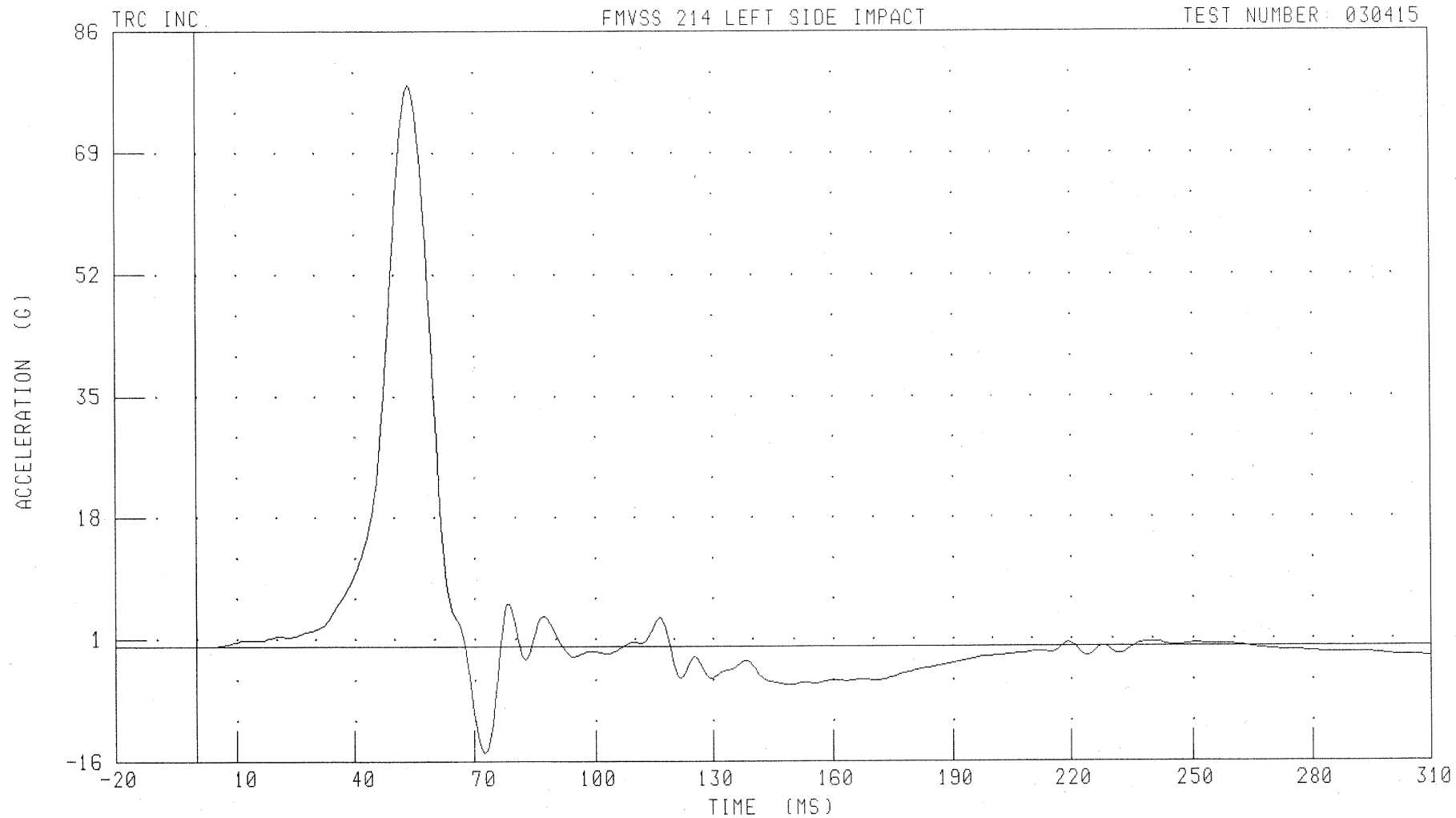
B-170

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER SPINE Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YG4 FILTER: FIR 100

PEAK DATA: 78.49 G @ 53.75 MS; -14.83 G @ 72.50 MS

B-171

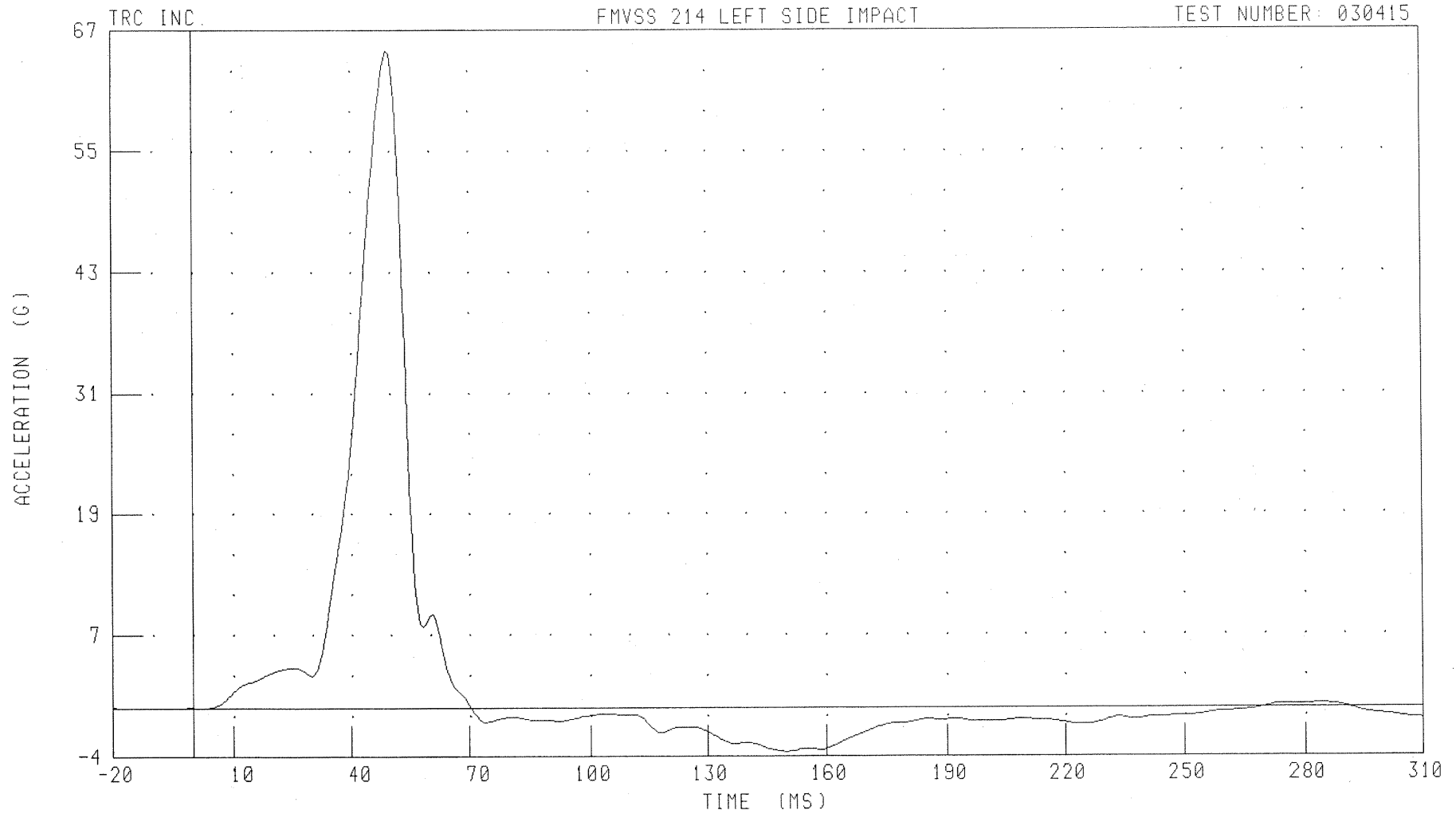
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

LEFT REAR PASSENGER PELVIS Y-AXIS ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



B-172

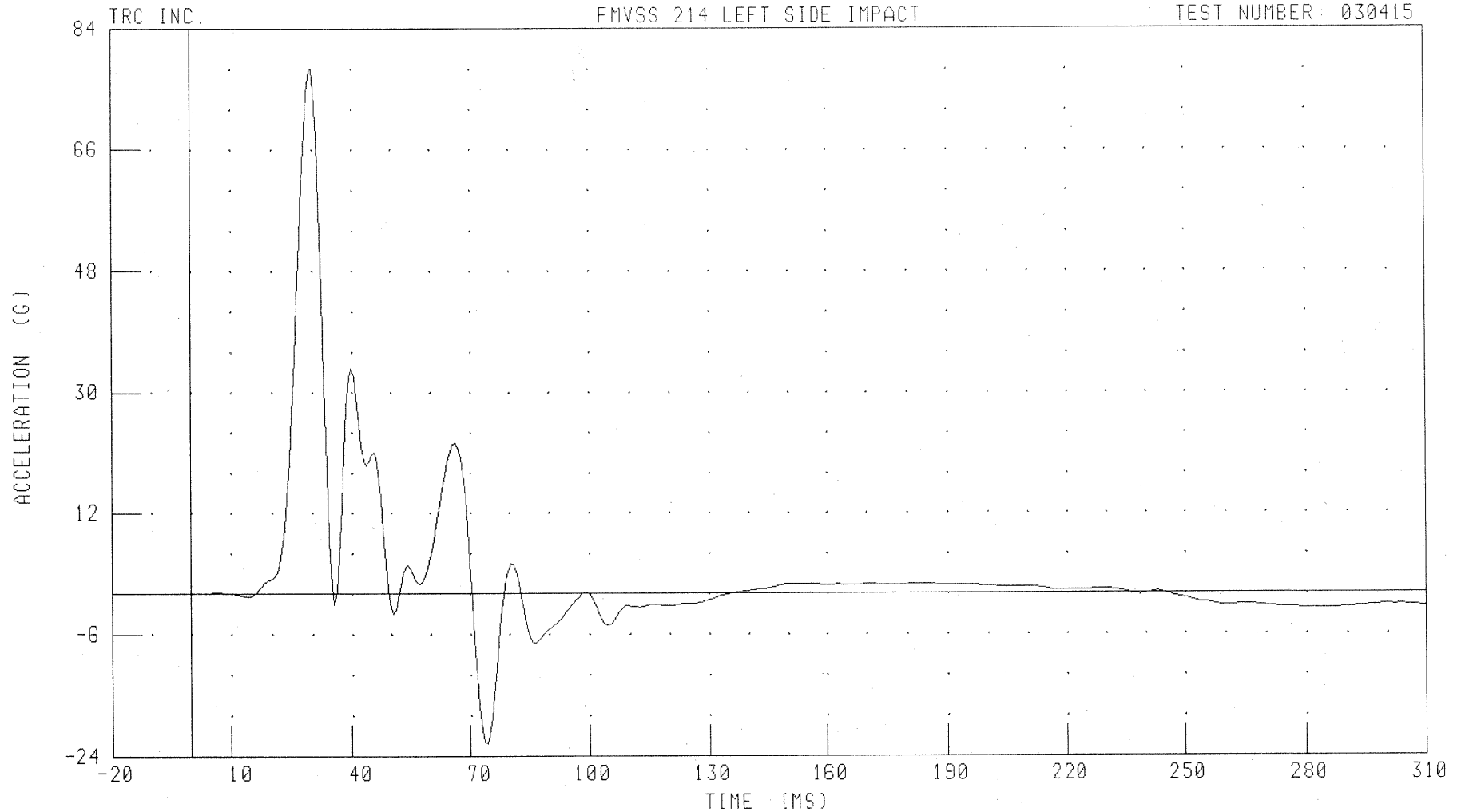
030415

Driver and Passenger Dummy Instrumentation Plots
Acceleration Data - FIR Filtered - Redundant

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYR1

FILTER: FIR 100

PEAK DATA: 78.07 G @ 30.00 MS; -22.13 G @ 74.37 MS

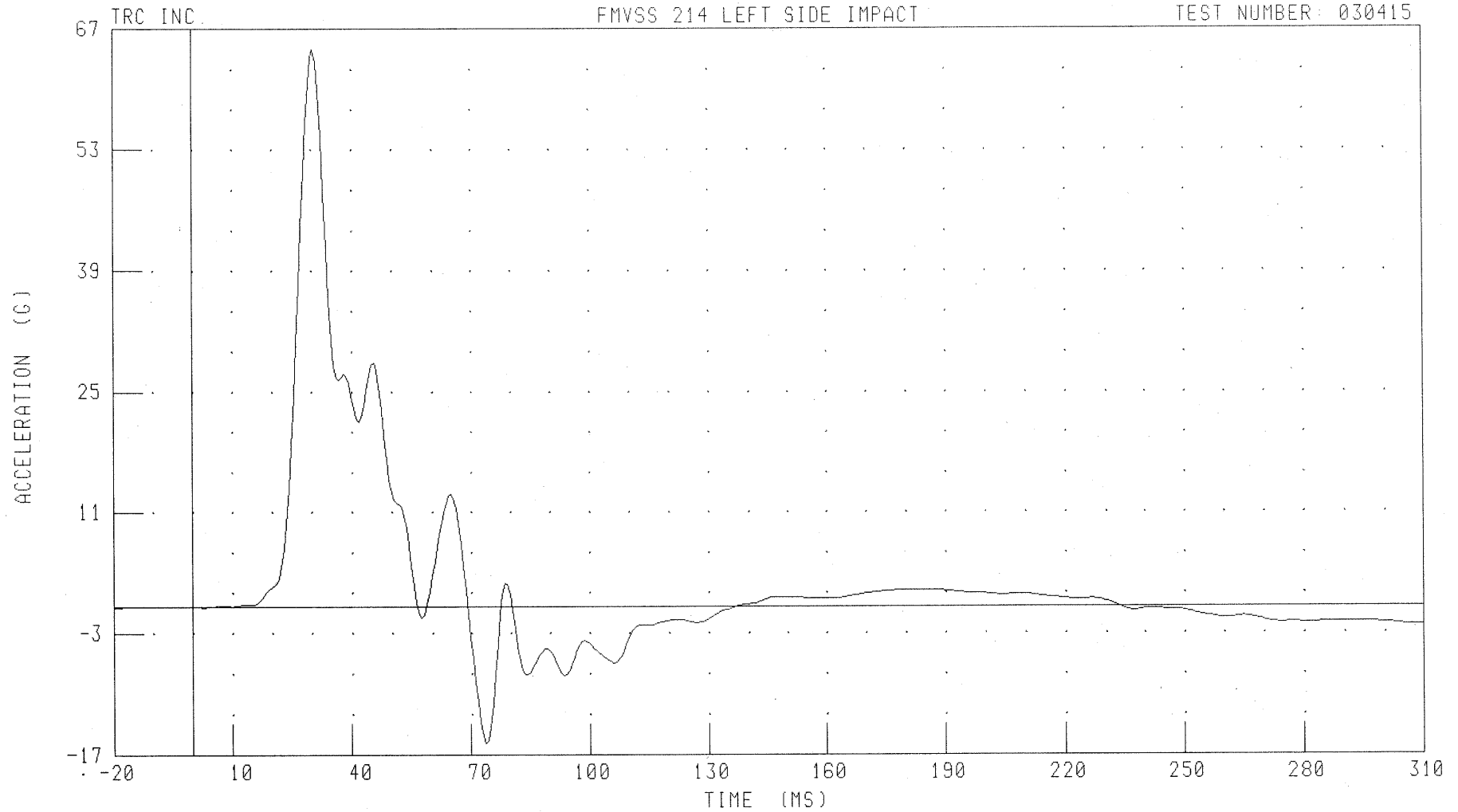
B-174

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYR1 FILTER: FIR 100

PEAK DATA: 64.61 G @ 30.62 MS; -15.67 G @ 73.75 MS

B-175

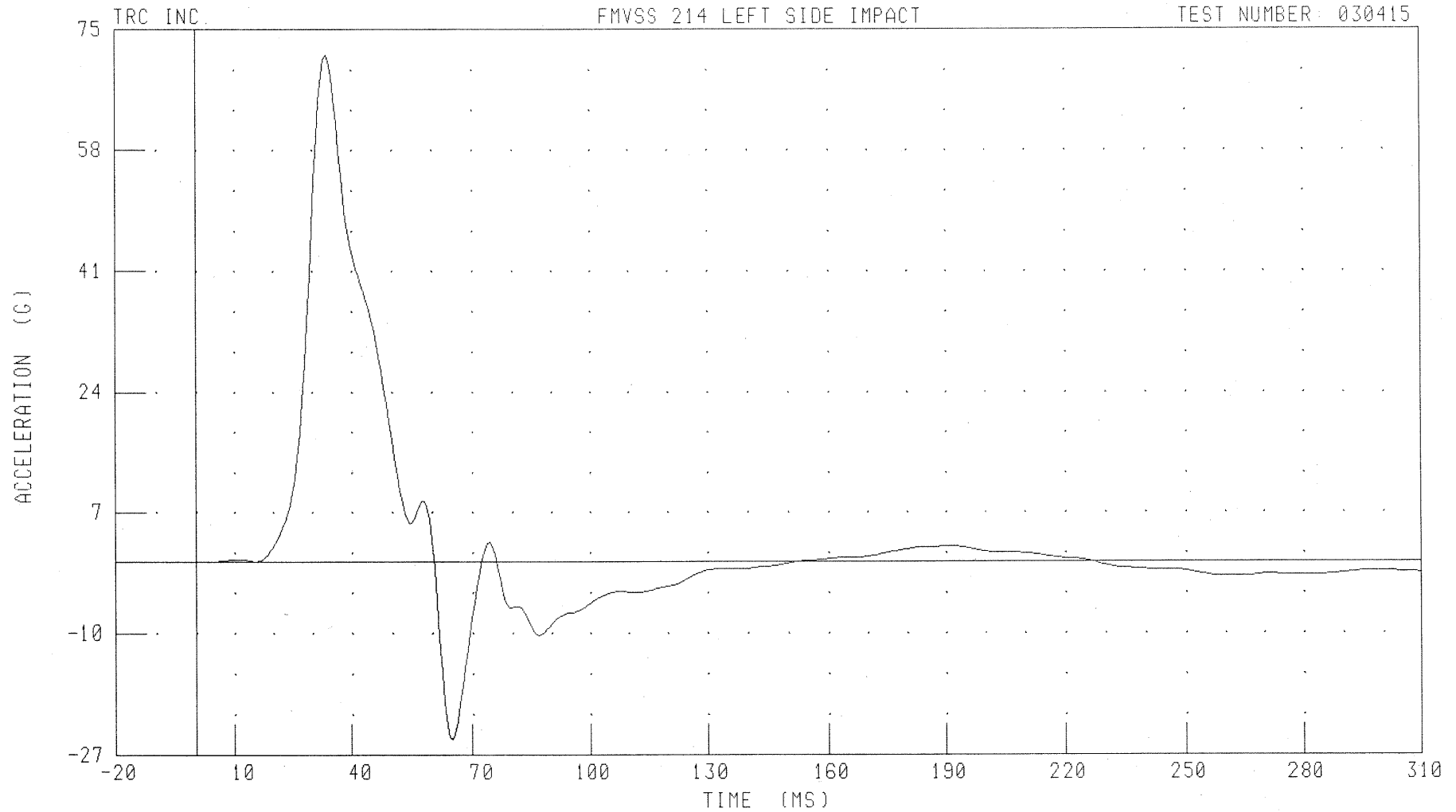
030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY

DRIVER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YR1 FILTER: FIR 100

PEAK DATA: 71.49 G @ 33.75 MS; -24.93 G @ 65.00 MS

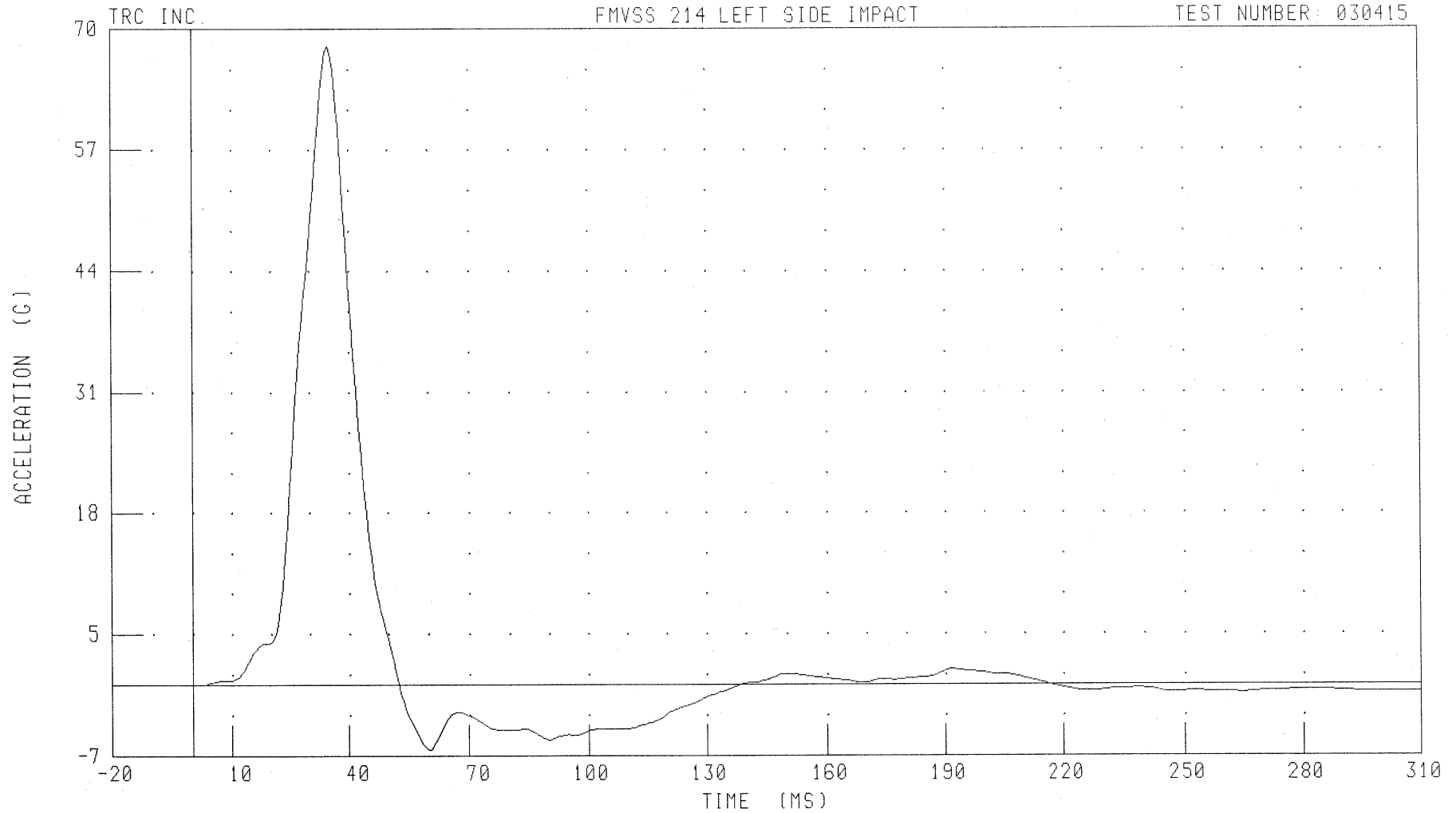
B-176

030415

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

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



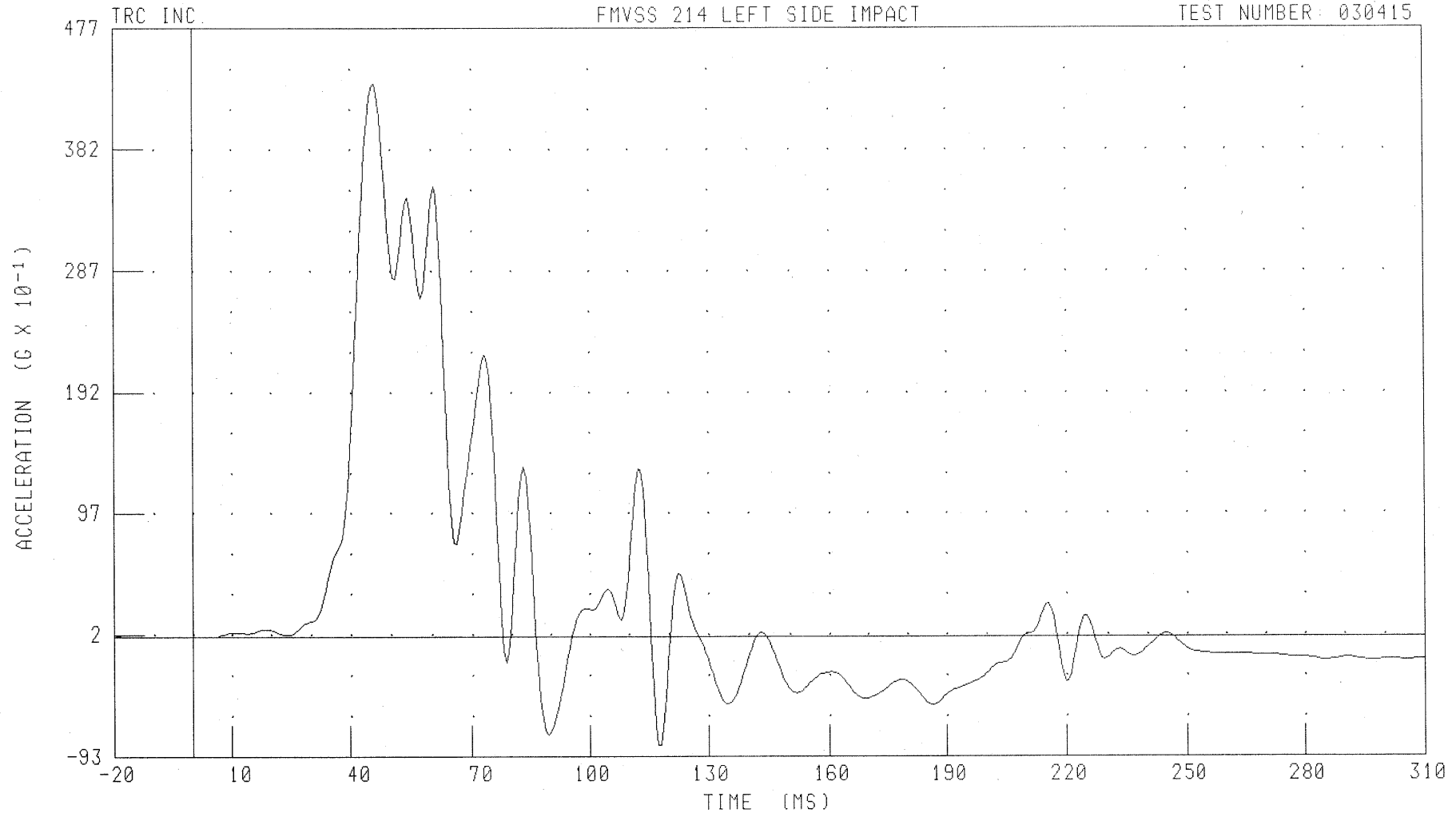
B-177

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER UPPER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LURYR4 FILTER: FIR 100

PEAK DATA: 43.41 G @ 46.25 MS, -8.46 G @ 117.50 MS

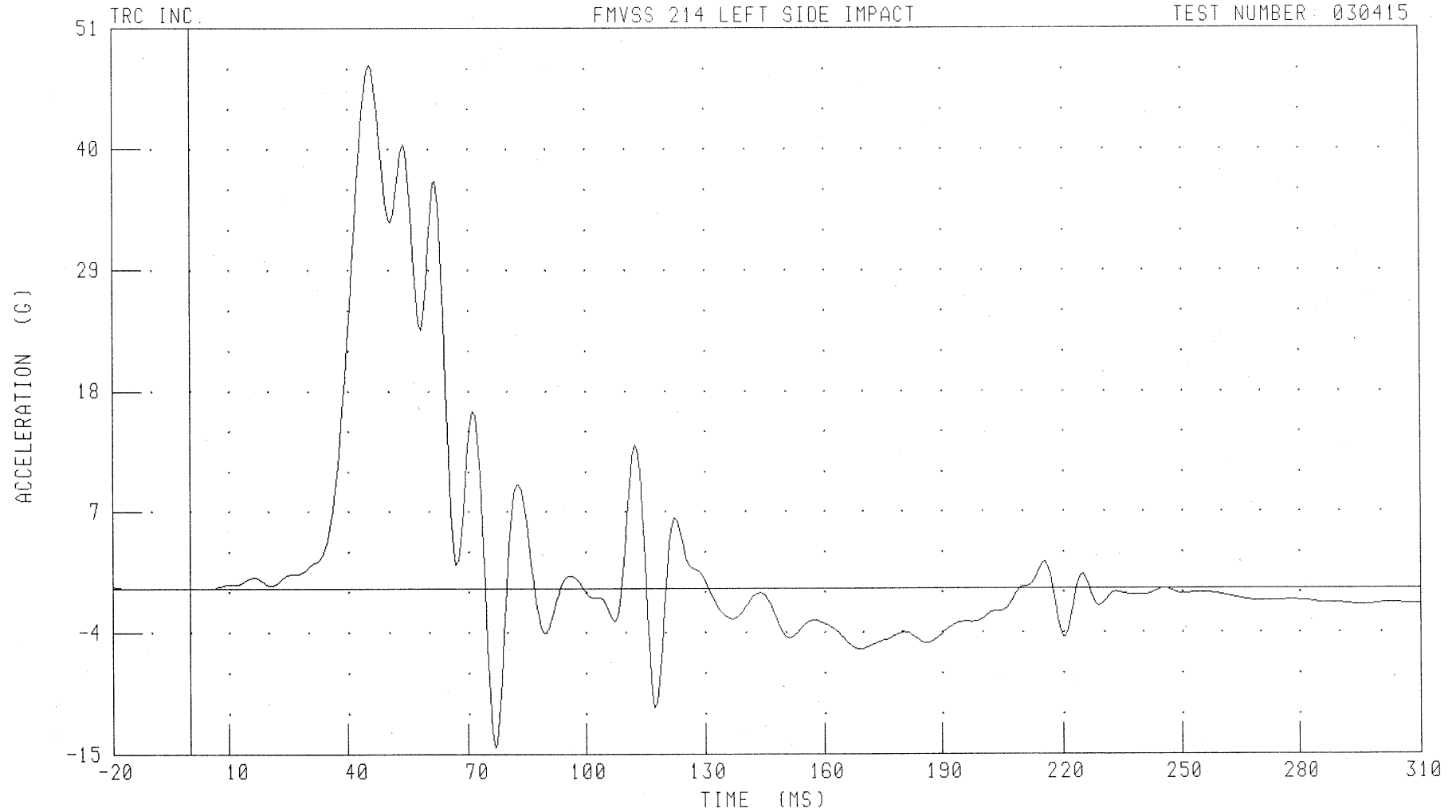
B-178

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55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER RIB Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: LLRYR4 FILTER: FIR 100

PEAK DATA: 47.69 G @ 45.62 MS; -14.41 G @ 76.88 MS

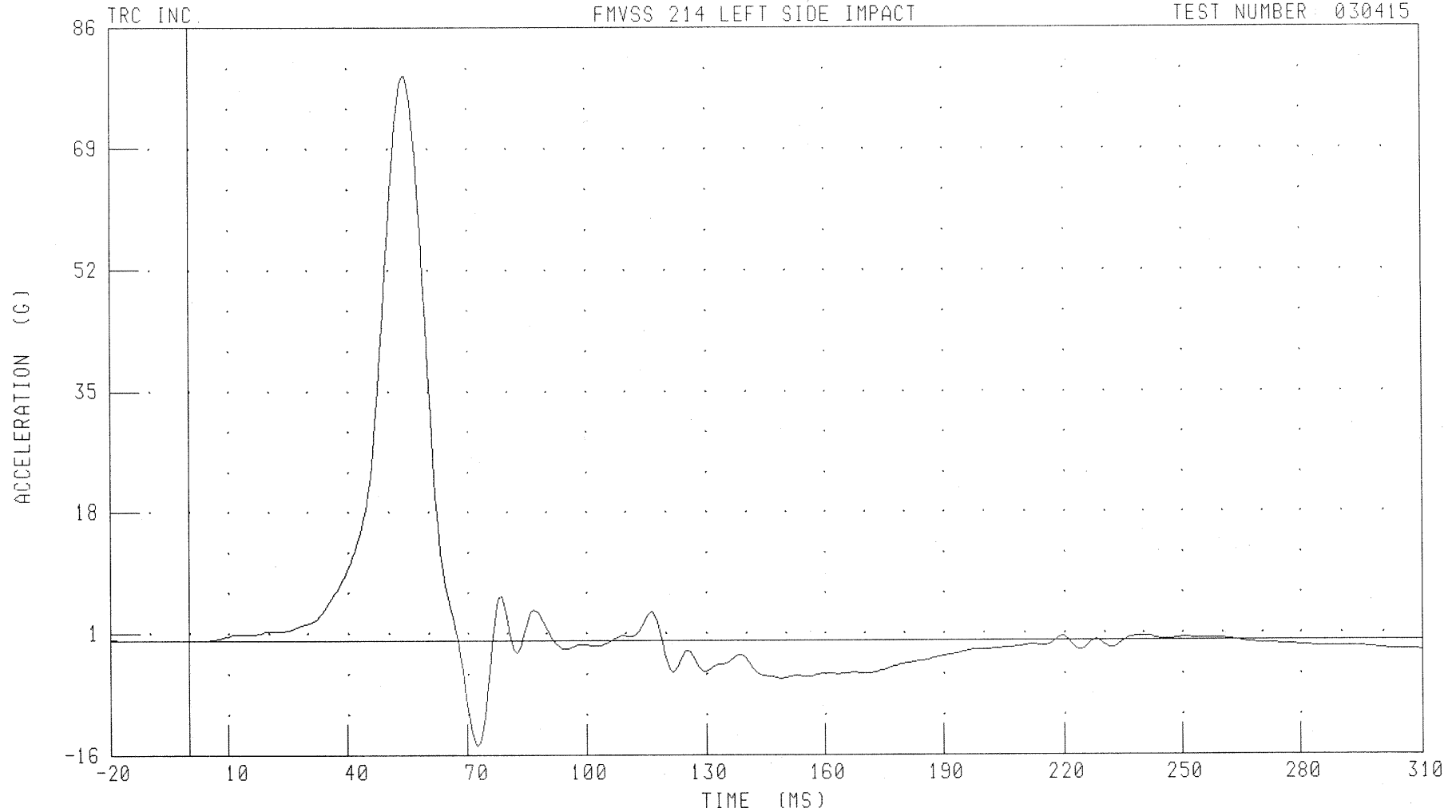
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55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER LOWER SPINE Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



CHANNEL: T12YR4 FILTER: FIR 100

PEAK DATA: 79.31 G @ 53.75 MS; -14.65 G @ 72.50 MS

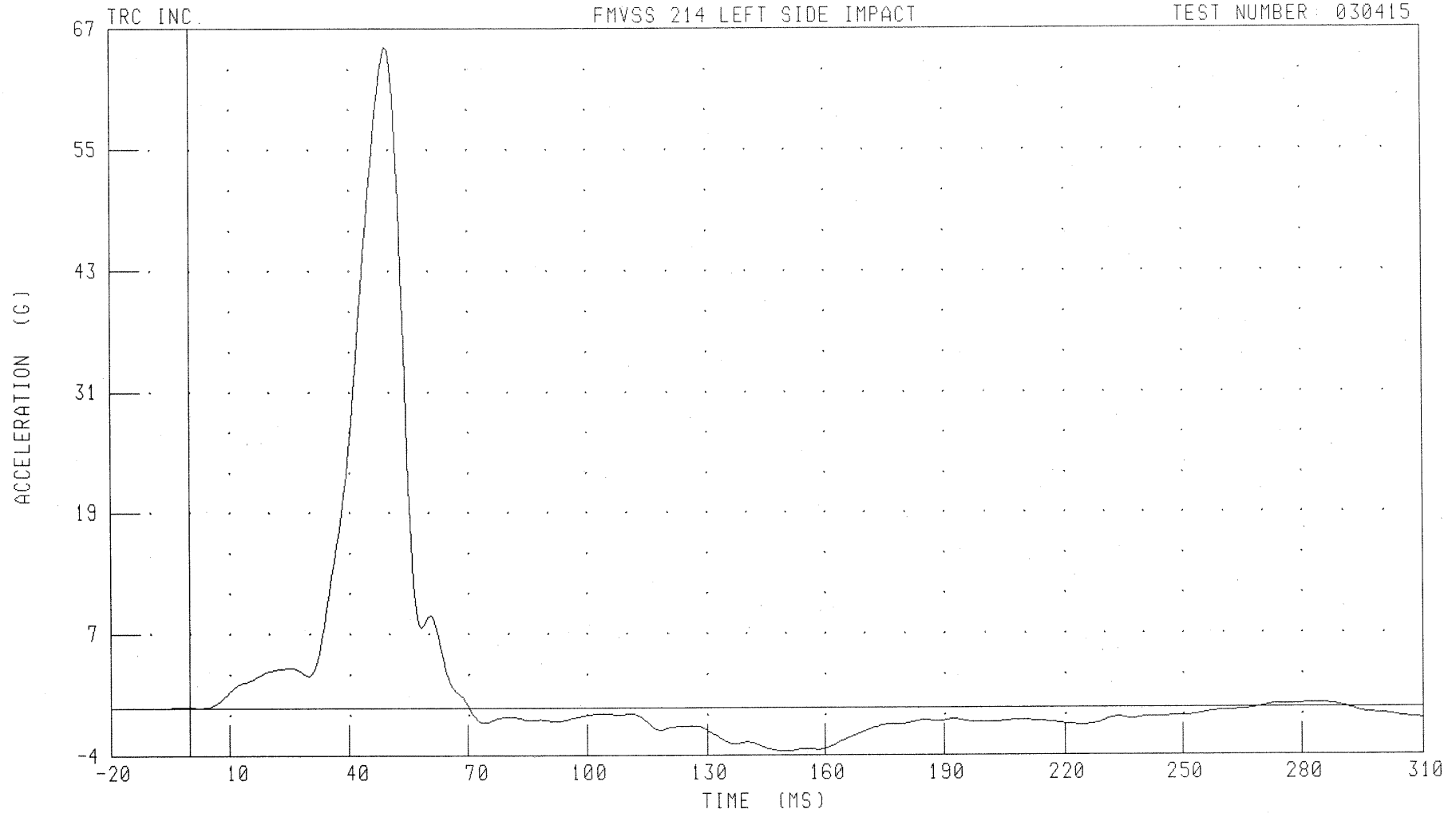
B-180

030415

55/28 KPH 90 DEGREE SIDE IMPACT (MOVING DEFORMABLE BARRIER) INTO LEFT SIDE OF 2003 SUBARU LEGACY
LEFT REAR PASSENGER PELVIS Y-AXIS REDUNDANT ACCELERATION

FMVSS 214 LEFT SIDE IMPACT

TEST NUMBER: 030415



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Appendix C

SID Configuration and Performance Verification Data

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

Date: April 3-17, 2003 TRC Inc. Test Number: 065C07/C08 & 028C04/C05
Laboratory Technician: Chris Roberts, Jack Willeke

Test Parameter	Specification	SID-HIII 065		SID-HIII 028	
		Pre-Test	Post-Test	Pre-Test	Post-Test
SH - Seated Height (mm)	889-909	895	894	896	895
RH - Rib Height (mm)	502-520	509	511	504	503
HP - Hip Pivot Height (mm)	99 ref	99.1	99.1	99.1	99.1
RD - Rib from Back Line (mm)	229-241	237	238	233	231
KH - Knee Pivot from Back Line (mm)	511-526	513	514	514	514
KV - Knee Pivot to Floor (mm)	490-505	498	499	498	499
HW - Hip Width (mm)	356-391	372	370	373	372
Thorax Impacts					
Temperature (°C)	18.9-25.5	21.7	22.2	21.7	22.2
Relative Humidity (%)	10-70	41	41	40	40
Probe Speed (m/s)	4.27-4.33	4.31	4.30	4.30	4.30
Upper Rib (g's)	37-46	41.9	43.2	39.6	39.1
Lower Rib (g's)	37-46	42.4	39.7	39.1	40.4
Lower Spine (g's)	15-22	21.2	19.6	16.4	18.2
Pelvis Impacts					
Temperature (°C)	18.9-25.5	21.7	22.2	21.7	22.2
Relative Humidity (%)	10-70	40	41	38	41
Probe Speed (m/s)	4.27-4.33	4.28	4.25	4.26	4.30
Pelvis (g's)	40-60	53.8	53.5	47.0	48.4

Calibration Test Results

Pre-Test

SID: 065

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 (tested on February 3, 2002, for a previous calibration series).

Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 065 Calibration No. 07

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	509 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	237 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	513 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	498 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	372 mm	Yes
Top Rib Width From C/L	RW-1	165.1 - 180.3 mm	168 mm	Yes
Bottom Rib Width From C/L	RW-2	165.1 - 180.3 mm	169 mm	Yes
Difference Between Top & Bottom Rib Width from C/L		<= 2.5 mm	1.0 mm	Yes

Technician



Approved





TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

SID/HIII DUMMY

03-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO. HDL06507

572M SID/HIII SN065 HEAD CAL07

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	49.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	143.38 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-8.39 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 042803.0627;1

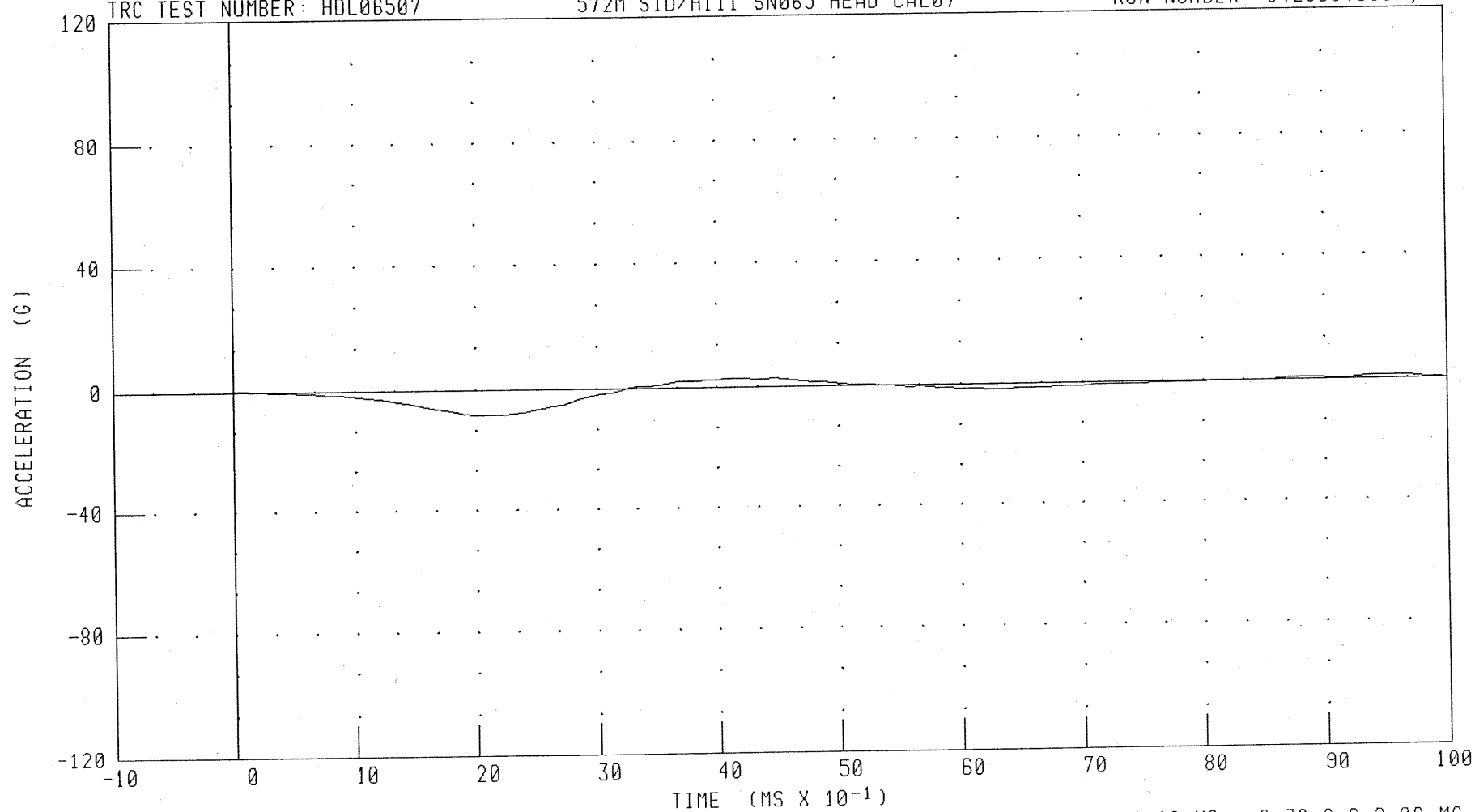
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION X AXIS

TRC TEST NUMBER: HDL06507

572M SID/HIII SN065 HEAD CAL07

RUN NUMBER: 042803.0614;2



CHANNEL: HEDXC

FILTER: CH. CLASS 1000

PEAK DATA: 2.70 G @ 4.16 MS; -8.39 G @ 2.08 MS

030415

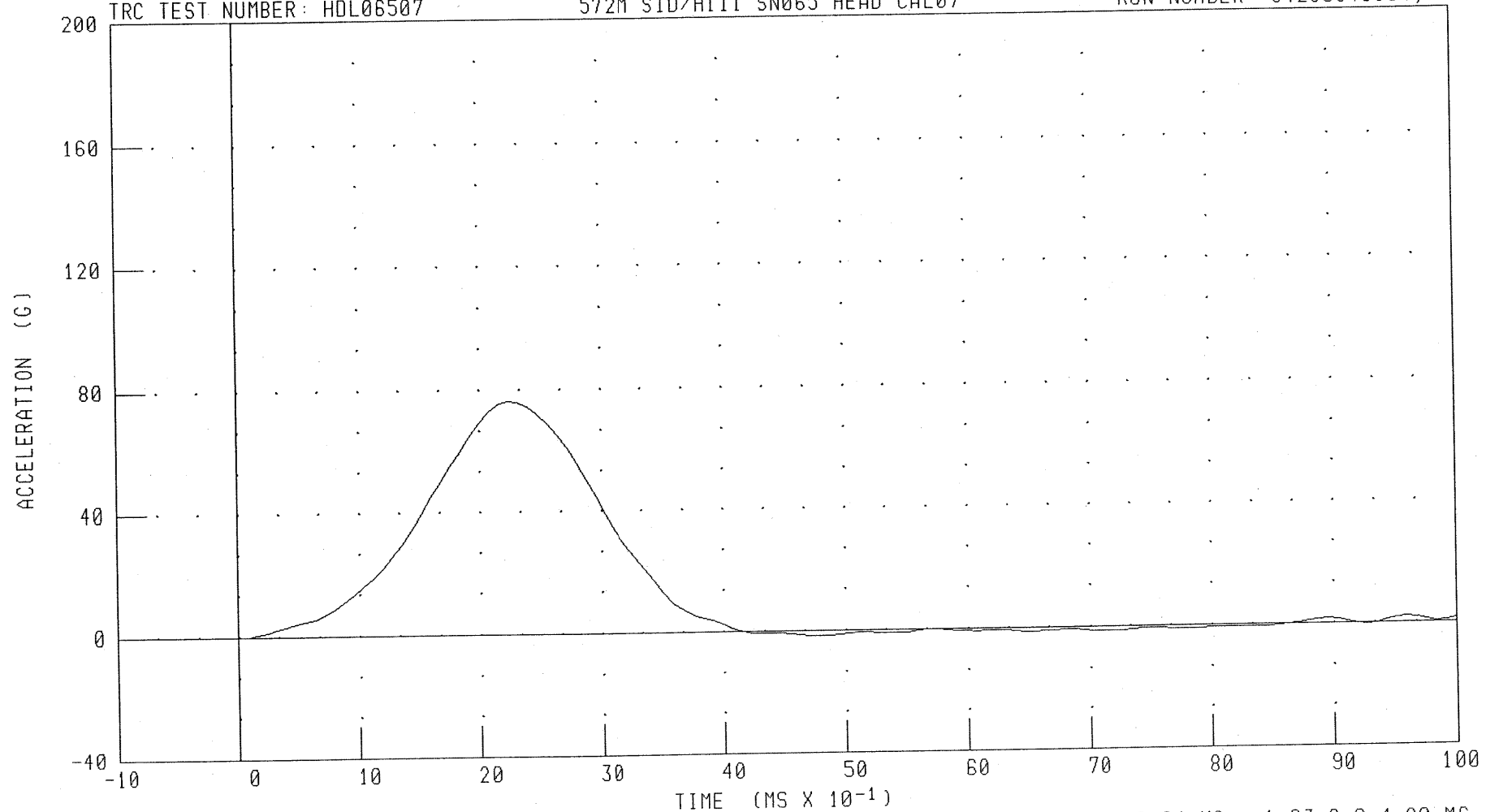
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER: HDL06507

572M SID/HIII SN065 HEAD CAL07

RUN NUMBER: 042803.0614;2



CHANNEL: HEDYC

FILTER: CH. CLASS 1000

PEAK DATA: 76.19 G @ 2.24 MS; -1.93 G @ 4.80 MS

030415

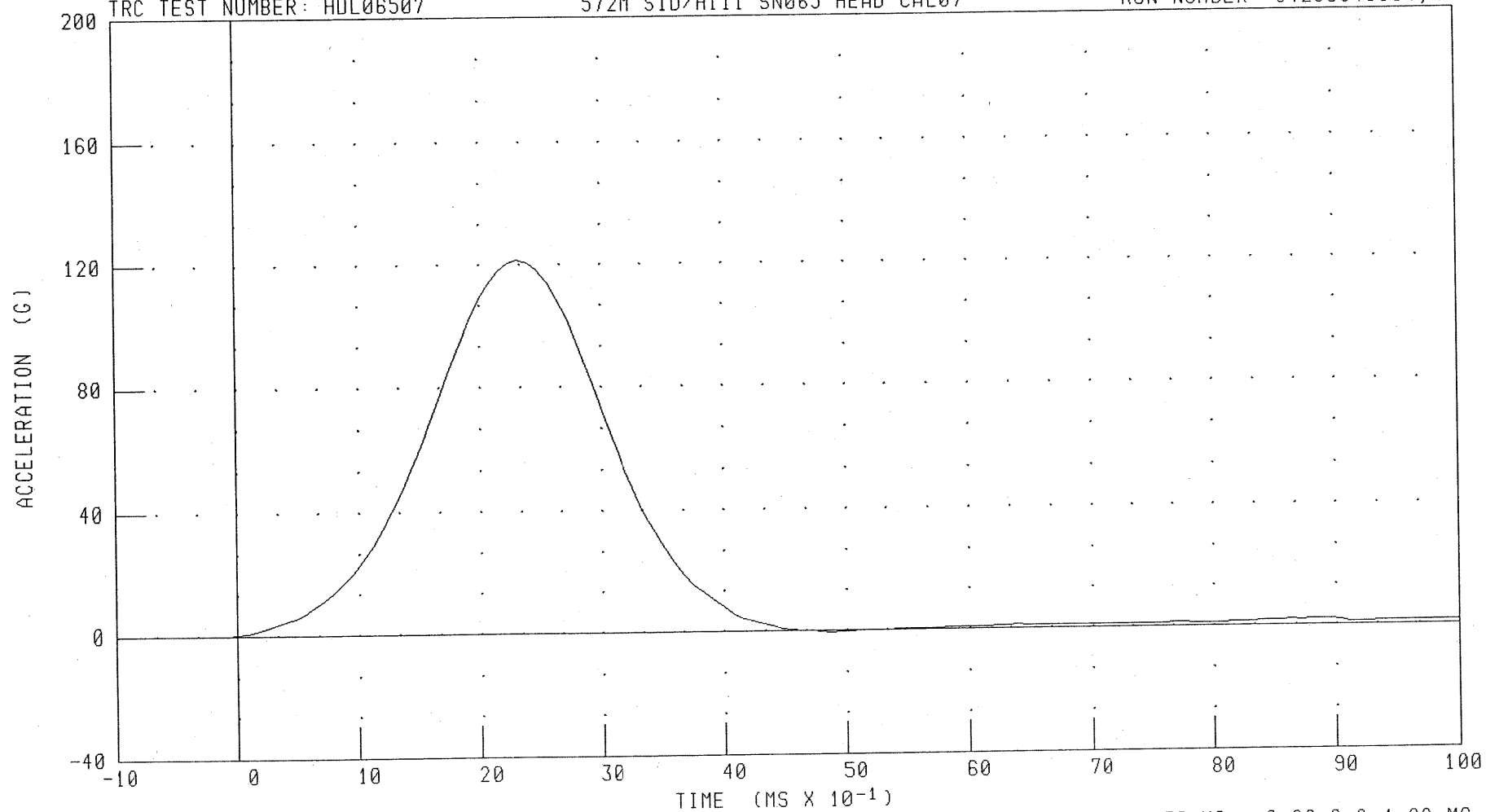
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

TRC TEST NUMBER: HDL06507

572M SID/HIII SN065 HEAD CAL07

RUN NUMBER: 042803.0614;2



CHANNEL: HEDZG

FILTER: CH. CLASS 1000

PEAK DATA: 121.35 G @ 2.32 MS; -0.66 G @ 4.88 MS

C-8

030415

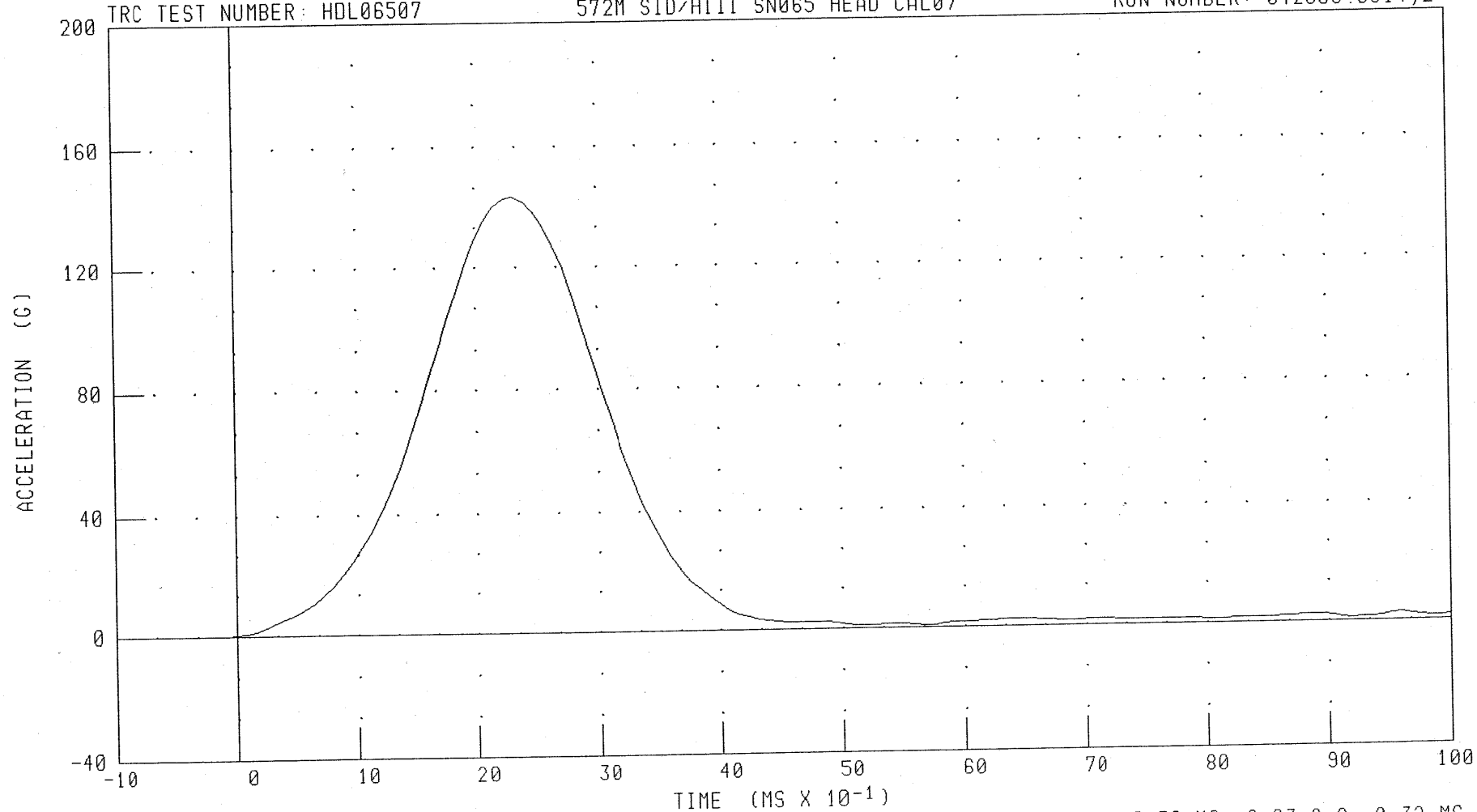
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

572M SID/HIII SN065 HEAD CAL07

RUN NUMBER: 042803.0614;2

TRC TEST NUMBER: HDL06507



CHANNEL: HEDRG

FILTER: CH. CLASS 1000

PEAK DATA: 143.38 G @ 2.32 MS; 0.03 G @ -0.32 MS

C-9

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL NECK TEST

HYBRIDI III SID DUMMY

03-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO. NFL06507

H3/SID SN065 NECK LEFT CAL07

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 deg. C	21.67 deg. C
RELATIVE HUMIDITY		10 - 70 %	50.00 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.99 M/S
INTEGRATED VELOCITY	10 MS	1.96 - 2.55 M/S	2.48 M/S
	20 MS	4.12 - 5.10 M/S	4.86 M/S
	30 MS	5.73 - 7.01 M/S	6.81 M/S
	40 - 70 MS	6.27 - 7.64 M/S	7.10- 7.20 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION		66 - 82 deg.	72.35 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO		58 - 67 MS	60.80 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE		73 - 88 NM	81.76 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO		49 - 64 MS	52.56 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT		2 - 16 MS	8.80 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 040303.1437;1

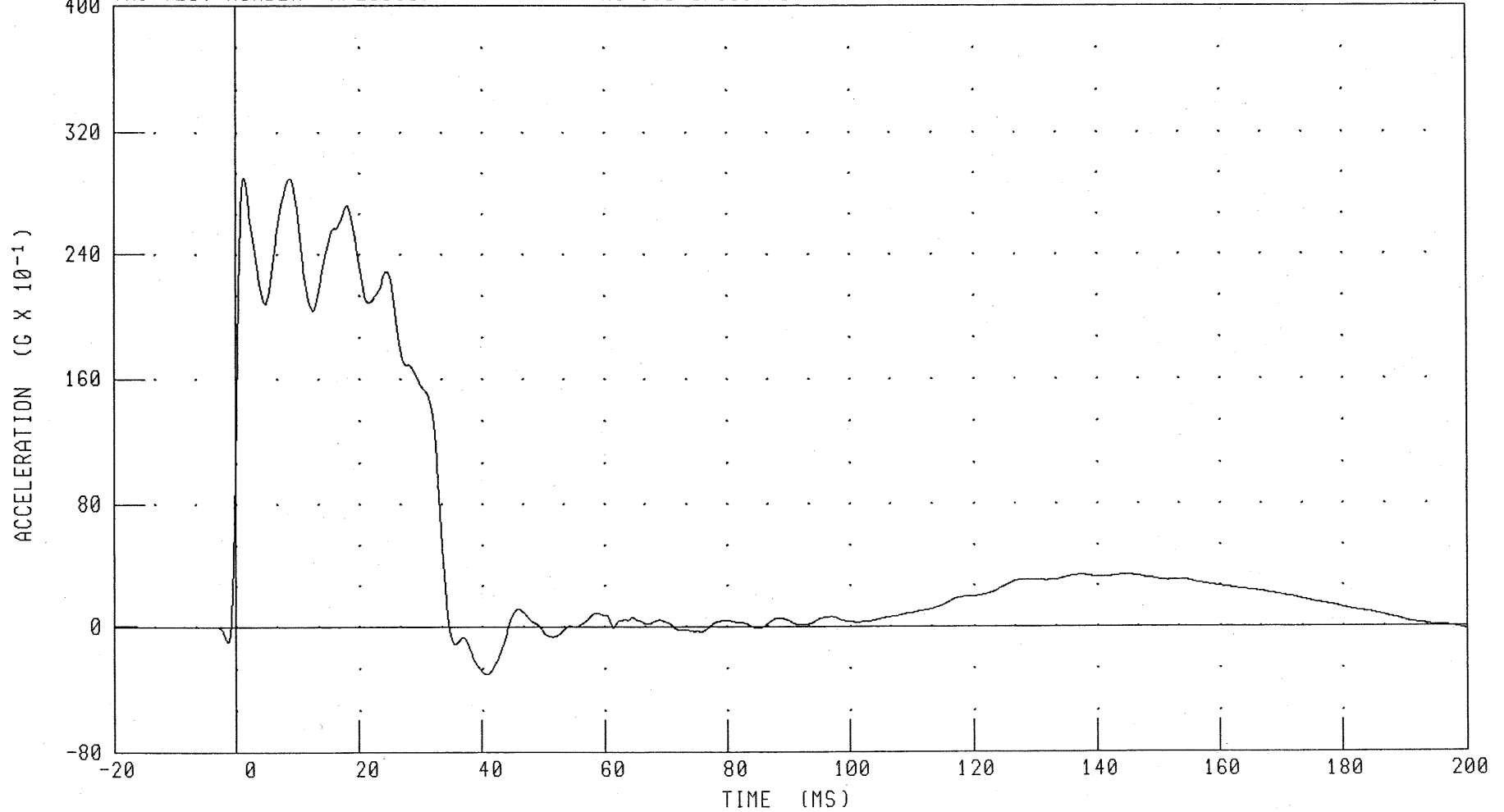
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

PENDULUM DECELERATION

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: PENXG

FILTER: CH. CLASS 180

PEAK DATA: 29.02 G @ 1.36 MS; -3.08 G @ 40.80 MS

030415

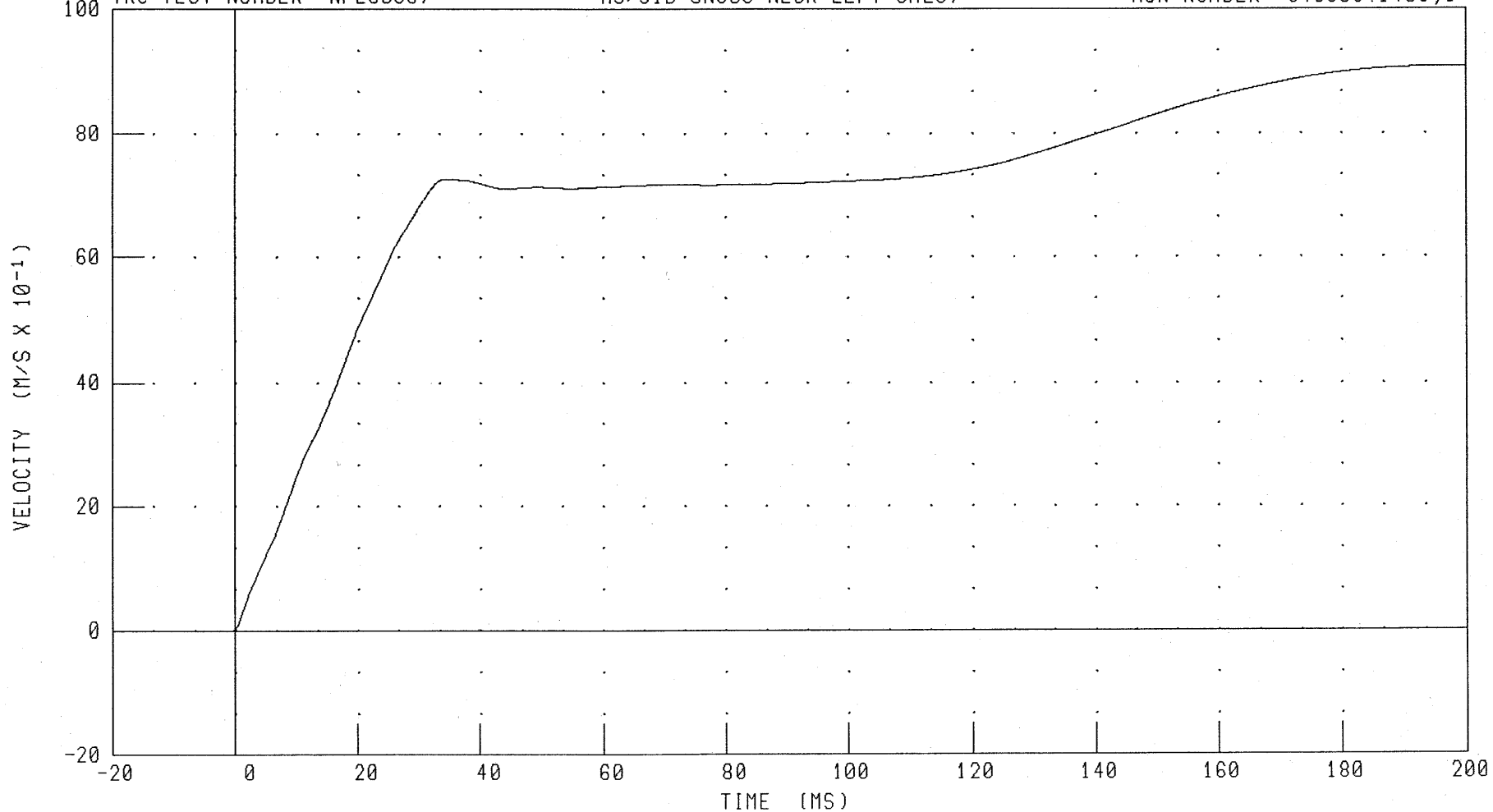
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

INTEGRATED PENDULUM VELOCITY

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: PENXVI FILTER: CH. CLASS 180

PEAK DATA: 9.07 M/S @ 197.28 MS; -0.01 M/S @ -0.80 MS

C-12

030415

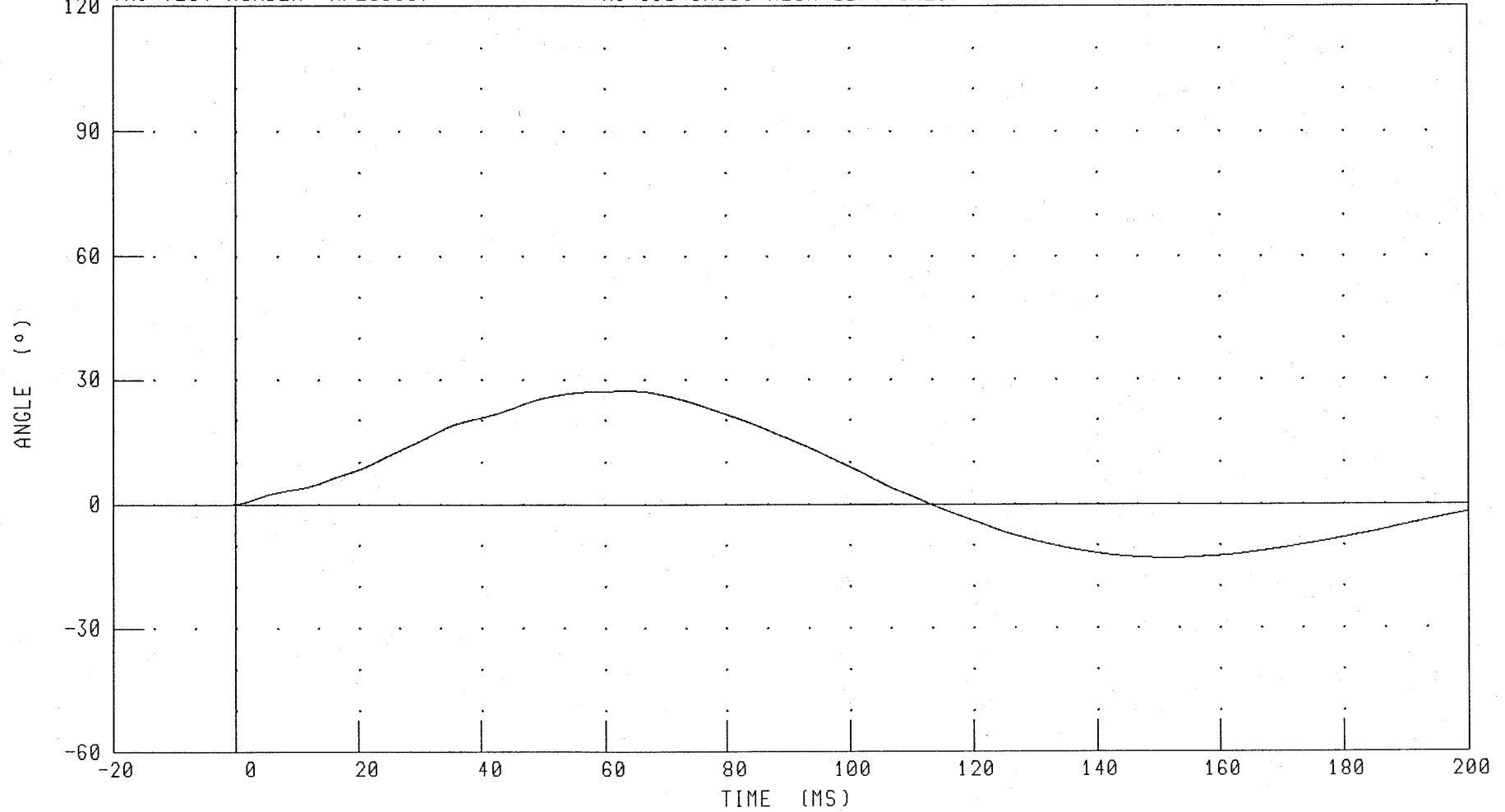
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: BETA

FILTER: CH. CLASS 60

PEAK DATA: 27.26 ° @ 63.84 MS; -13.26 ° @ 151.92 MS

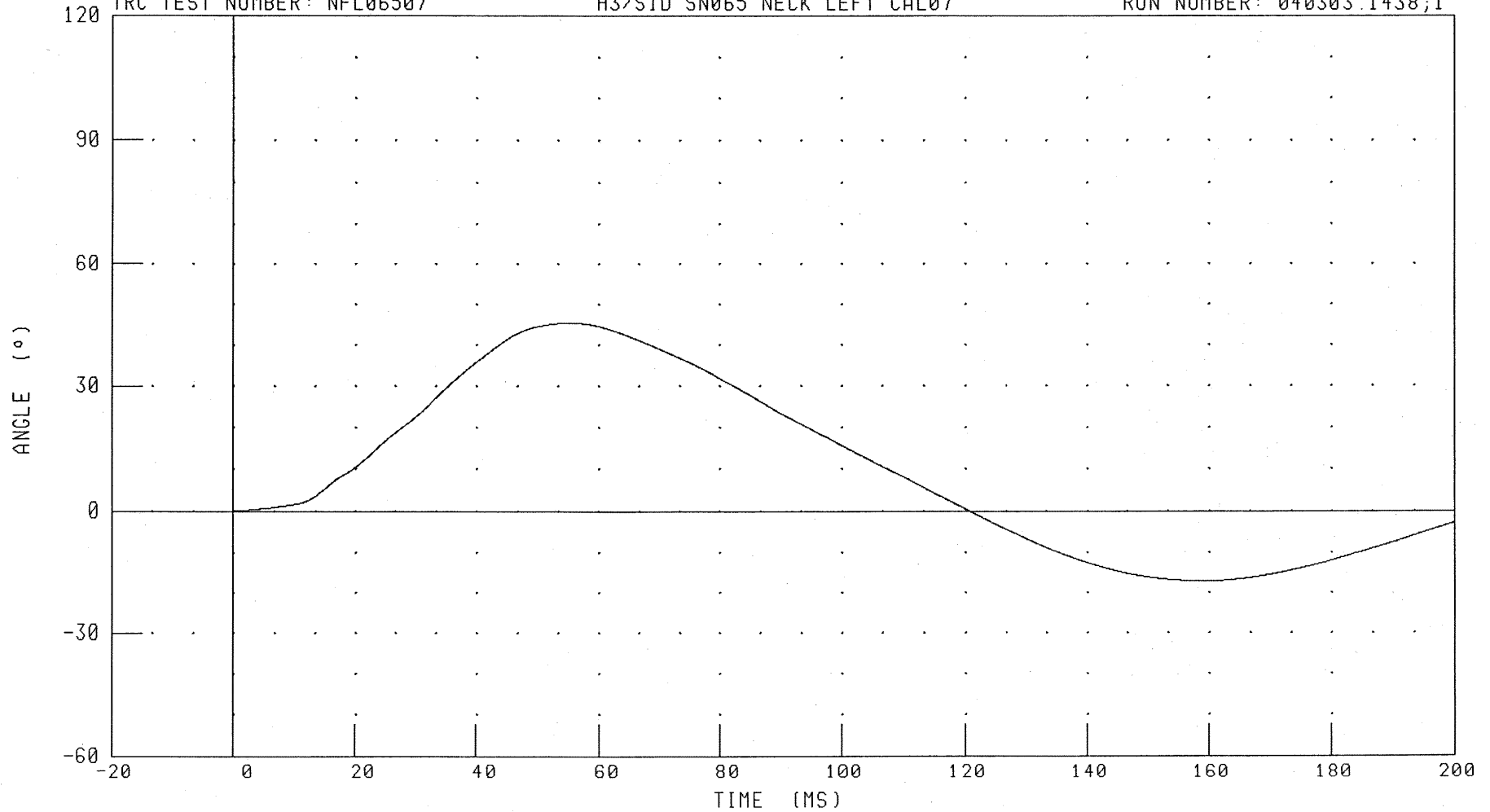
030415

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

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: THETA

FILTER: CH. CLASS 60

PEAK DATA: 45.46 ° @ 55.36 MS; -17.14 ° @ 159.04 MS

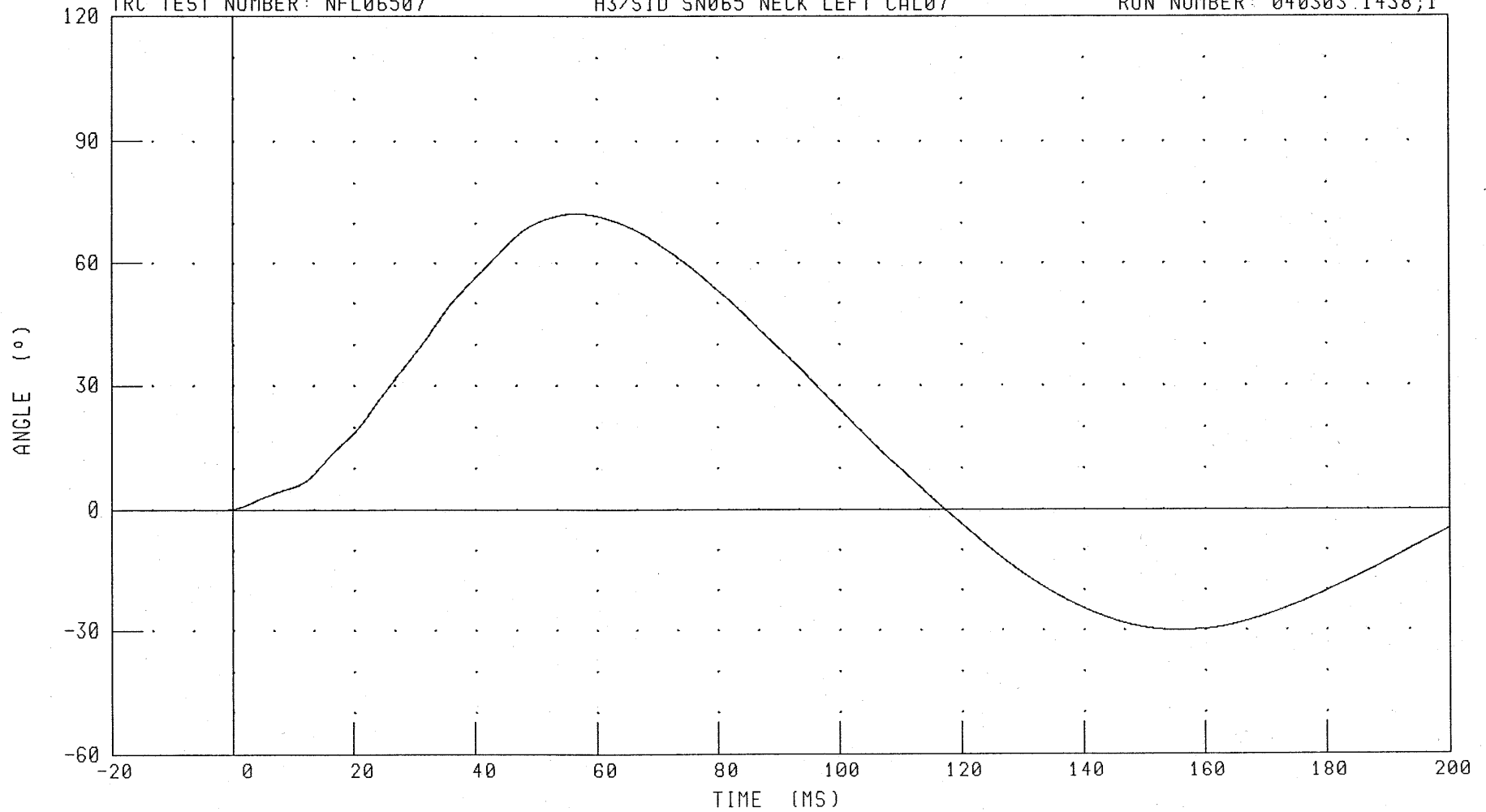
030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST
TOTAL ROTATION

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: TOTAN FILTER: CH. CLASS 60

PEAK DATA: 72.35 ° @ 56.56 MS; -30.05 ° @ 155.52 MS

030415

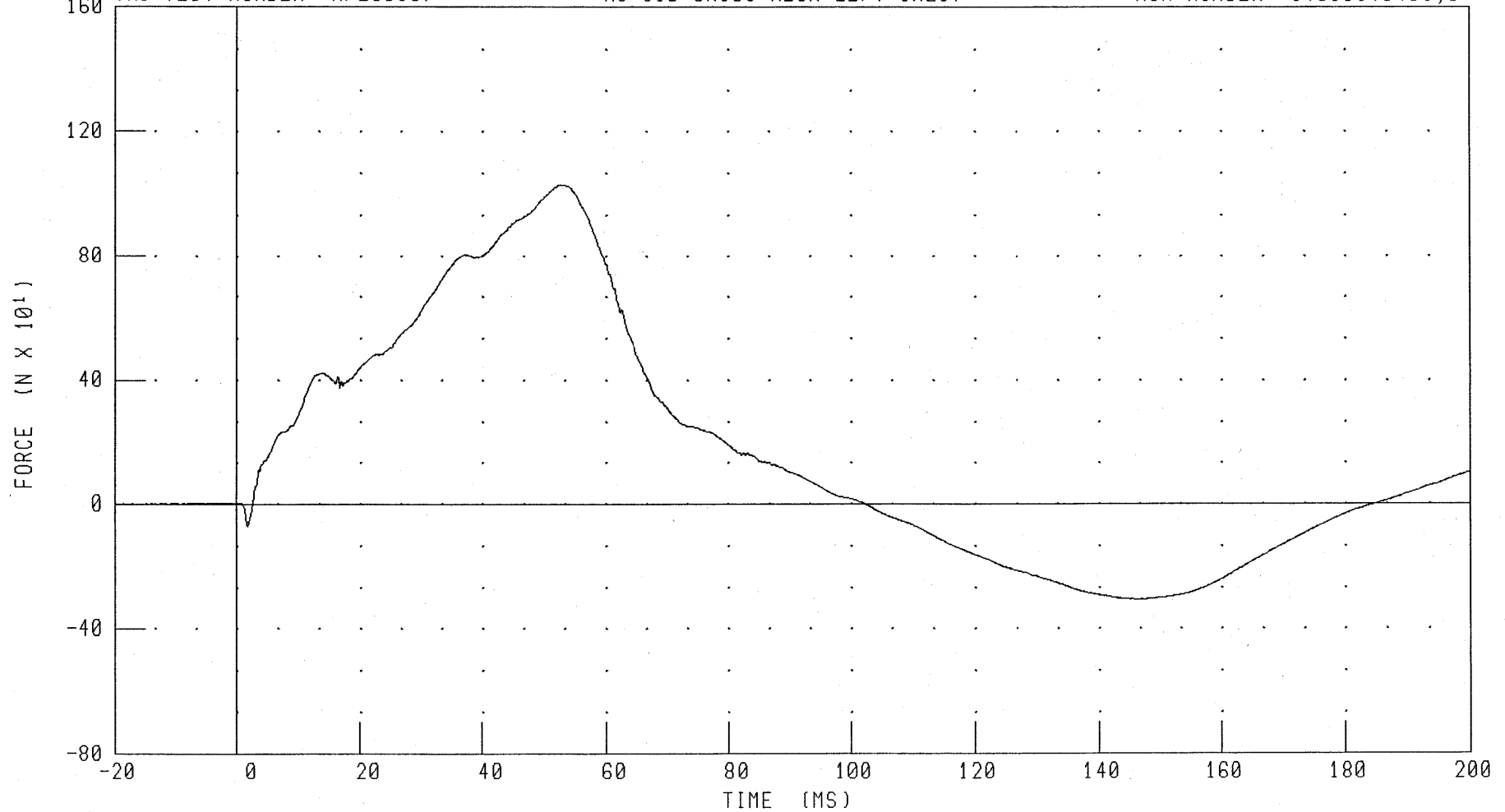
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: NEKYF

FILTER: CH. CLASS 1000

PEAK DATA: 1029.45 N @ 53.20 MS; -305.41 N @ 146.48 MS

C-16

030415

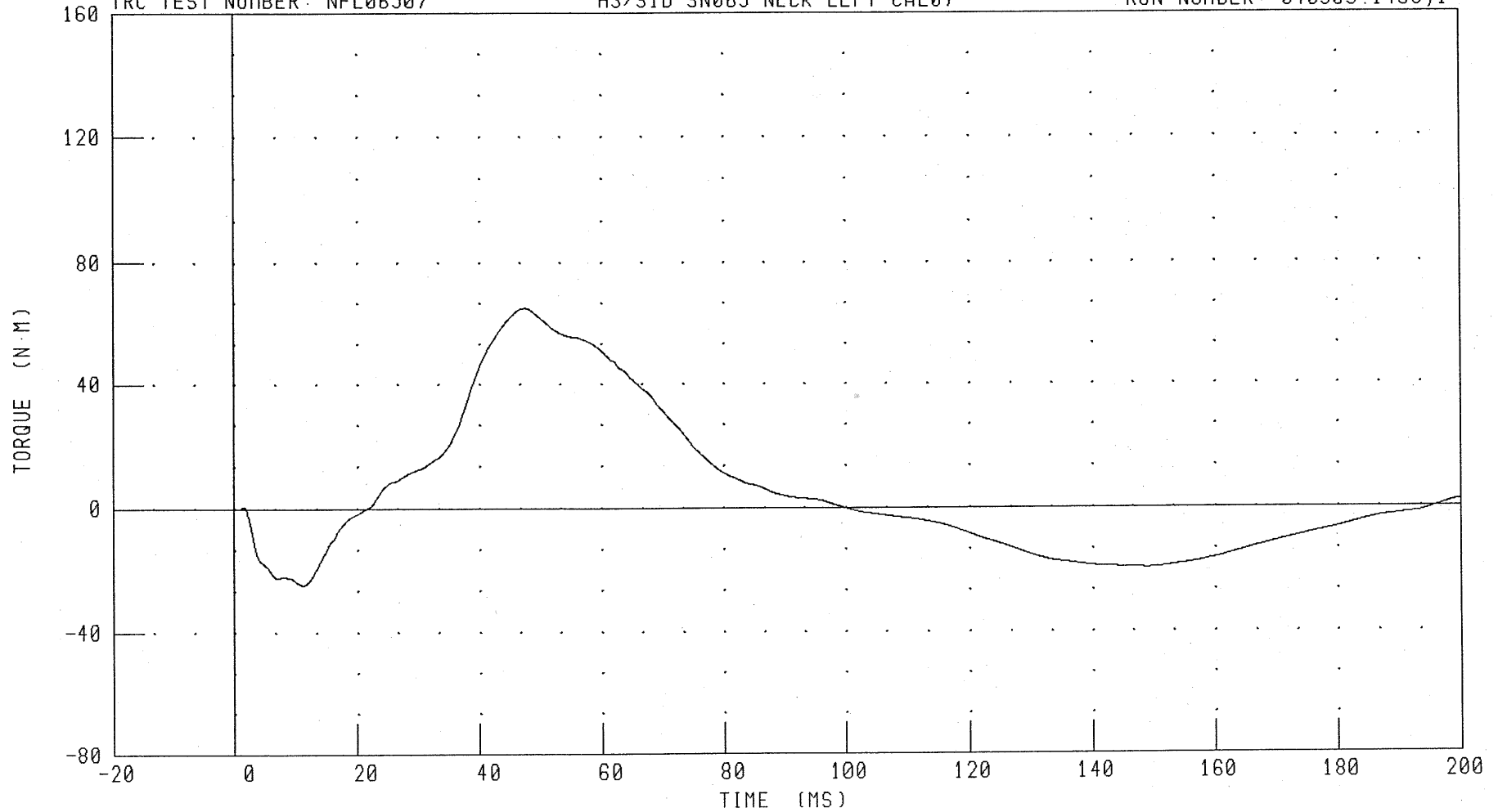
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK MOMENT X AXIS

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: NEKXM

FILTER: CH. CLASS 600

PEAK DATA: 65.09 N·M @ 47.60 MS; -24.78 N·M @ 11.20 MS

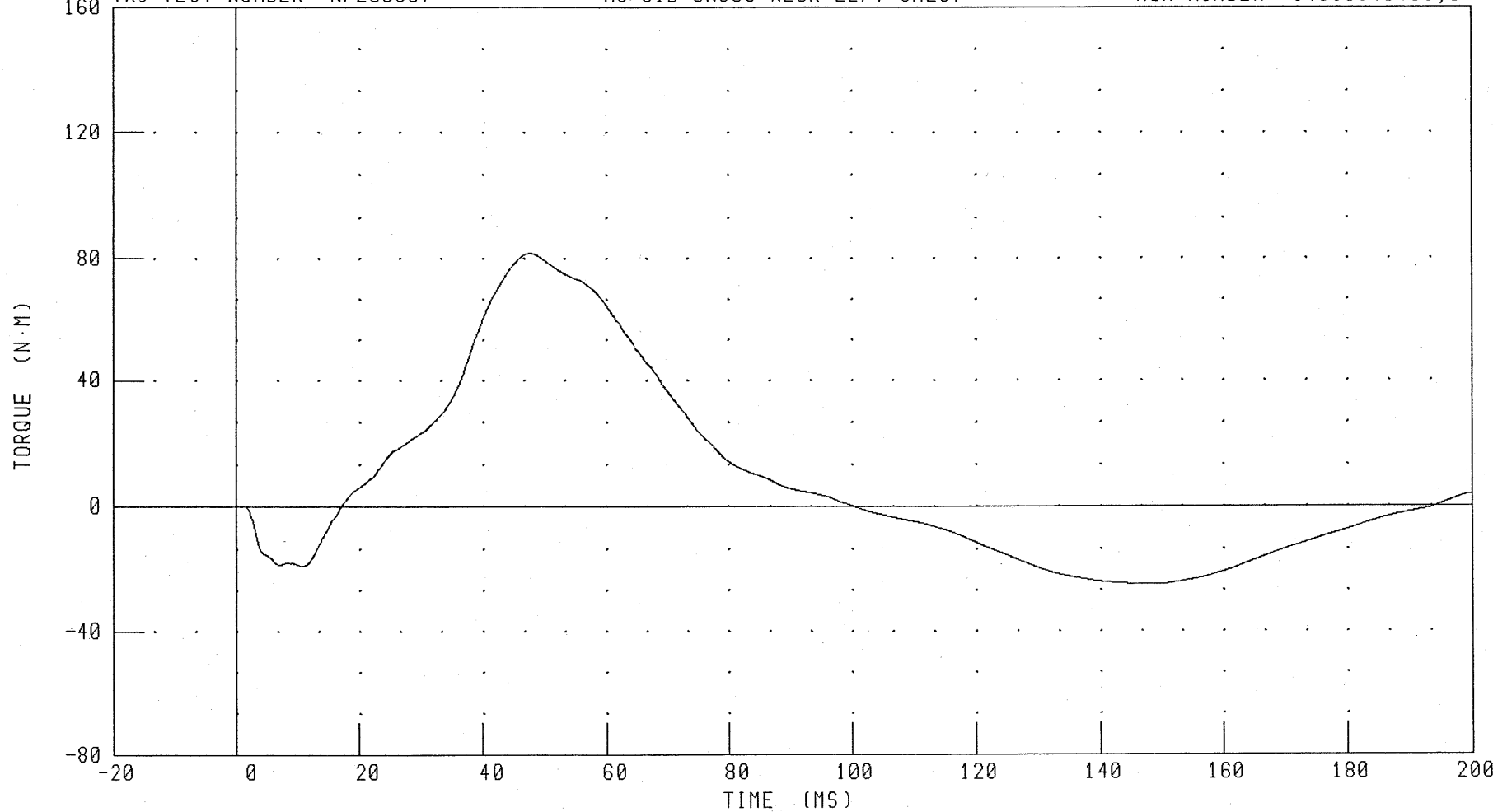
030415

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

TRC TEST NUMBER: NFL06507

H3/SID SN065 NECK LEFT CAL07

RUN NUMBER: 040303.1438;1



CHANNEL: NEKOM

FILTER: CH. CLASS 600

PEAK DATA: 81.76 N·m @ 47.76 MS; -24.97 N·m @ 148.56 MS

C-18

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

03-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO: STL06507A

572F SID SN065 L.THORAX CAL07

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	41.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.31 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	41.9 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	42.4 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	21.2 G

TEST MEETS SPECIFICATIONS

TECHNICIAN



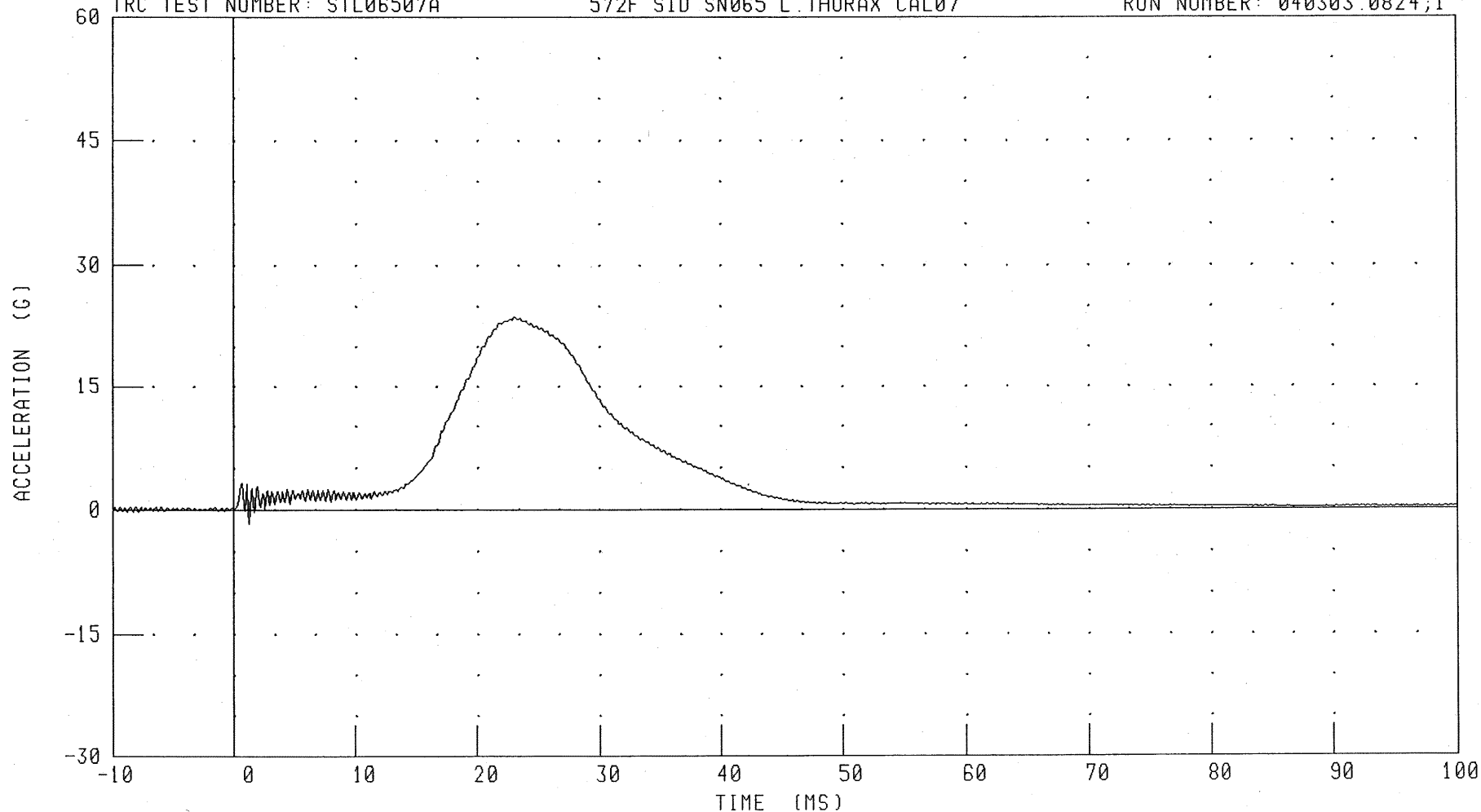
RUN NUMBER: 040303.0823;1

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

TRC TEST NUMBER: STL06507A

572F SID SN065 L THORAX CAL07

RUN NUMBER: 040303.0824;1



CHANNEL: PENXC

FILTER: CH. CLASS 1000

PEAK DATA: 23.72 G @ 23.12 MS; -1.67 G @ 1.28 MS

C-20

030415

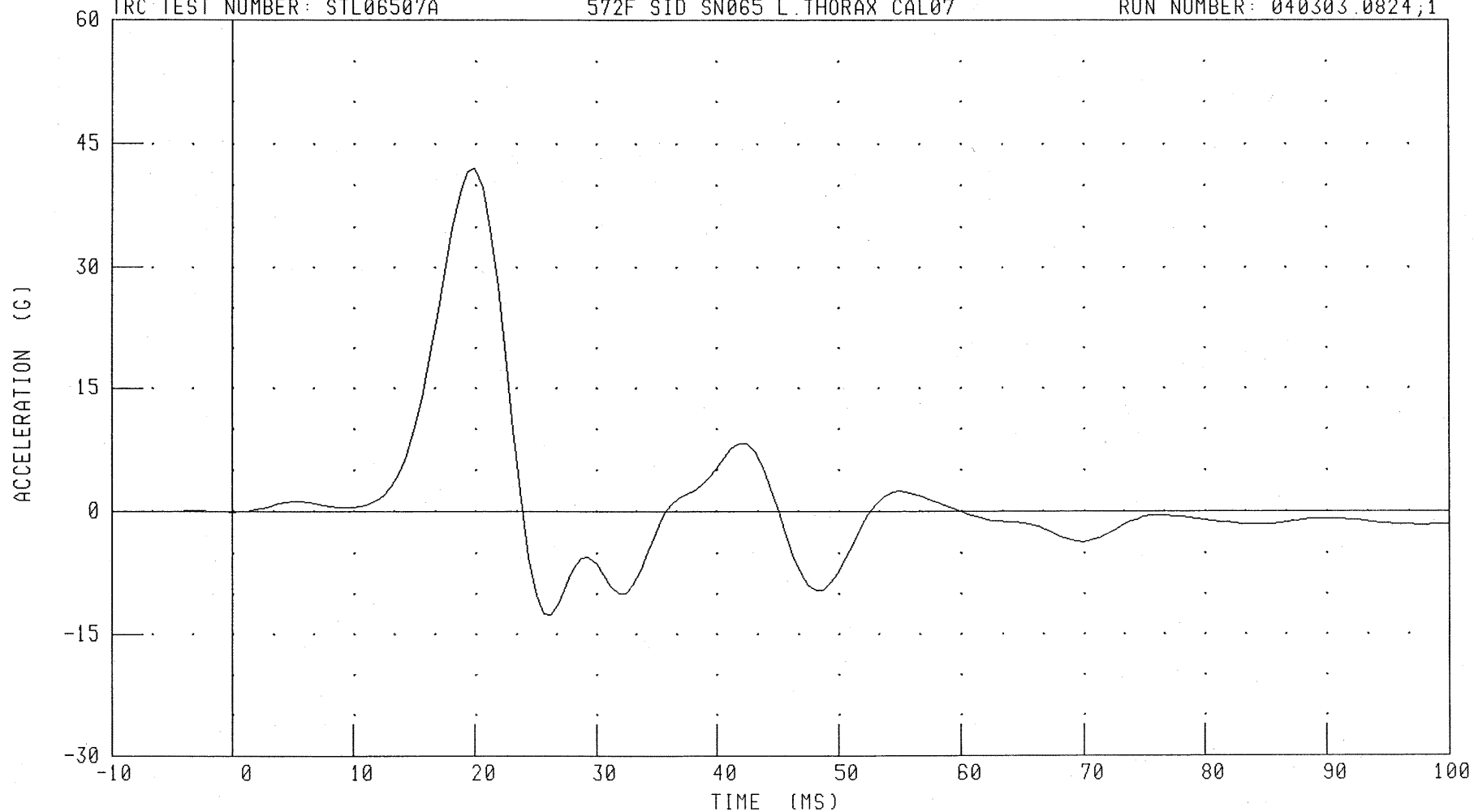
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL06507A

572F SID SN065 L THORAX CAL07

RUN NUMBER: 040303.0824;1



CHANNEL: LURYG

FILTER: FIR 100

PEAK DATA: 41.95 G @ 20.00 MS; -12.59 G @ 26.25 MS

C-21

030415

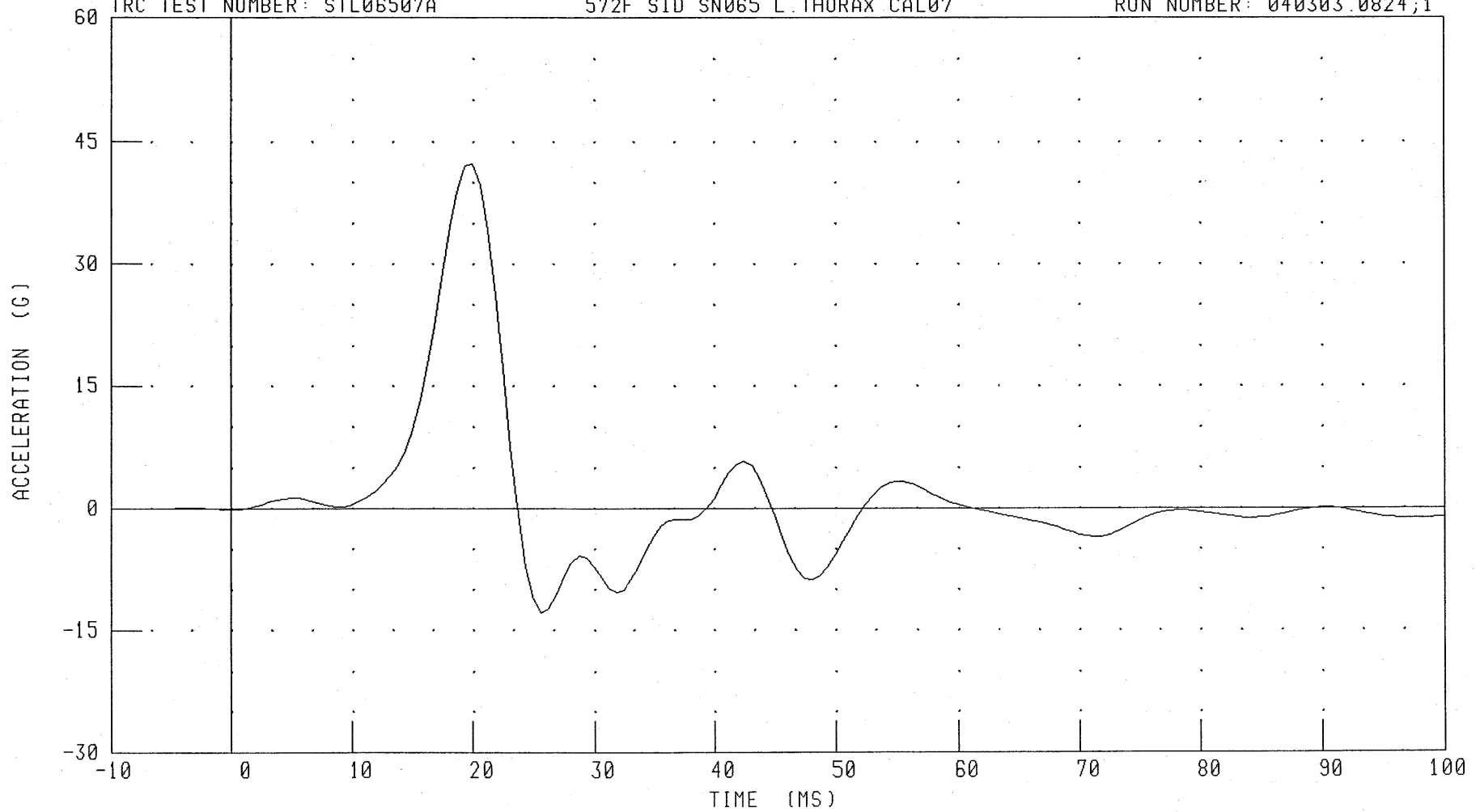
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL06507A

572F SID SN065 L THORAX CAL07

RUN NUMBER: 040303.0824;1



CHANNEL: LLRYG

FILTER: FIR 100

PEAK DATA: 42.36 G @ 20.00 MS; -12.80 G @ 25.63 MS

C-22

030415

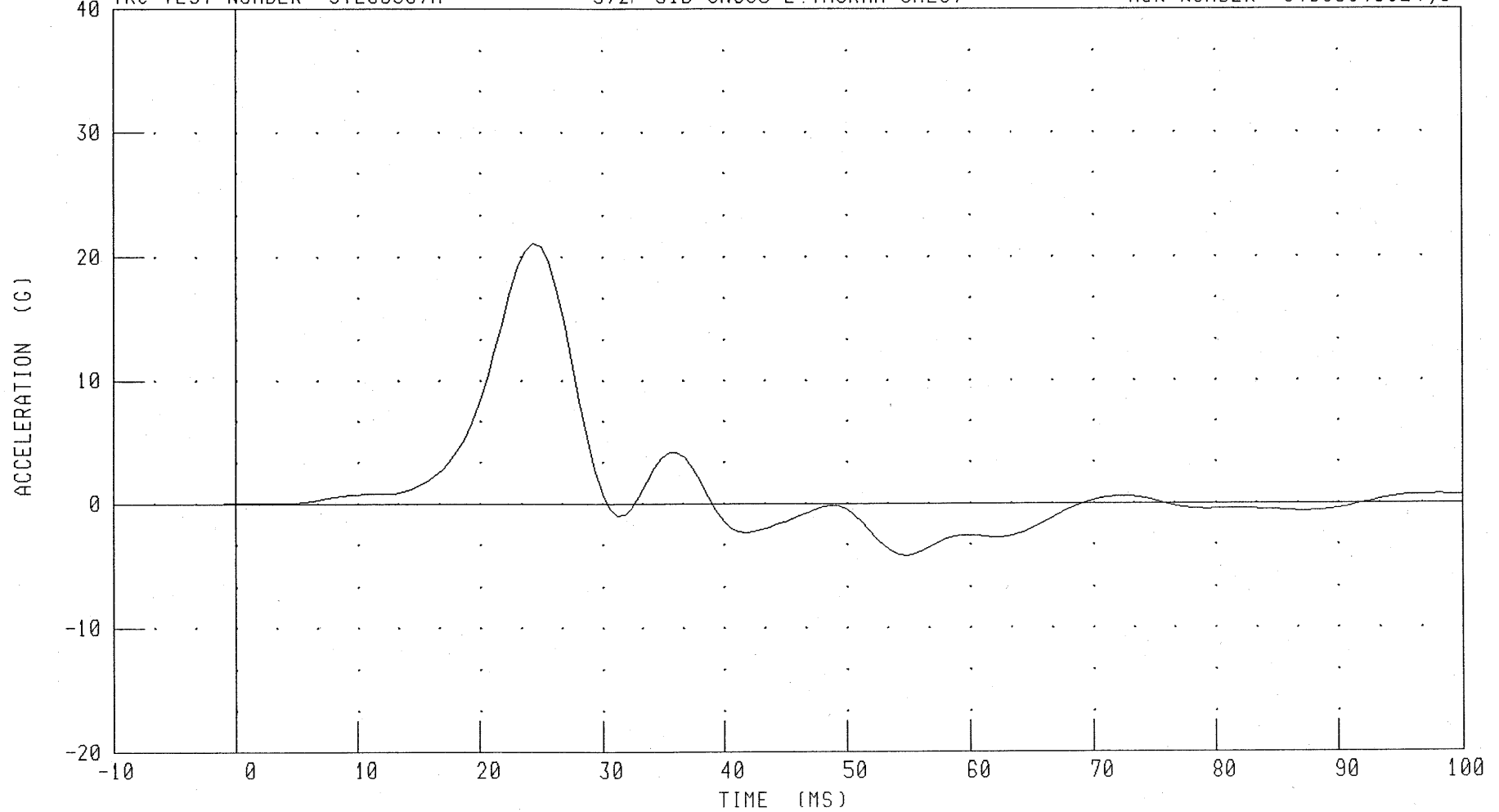
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

TRC TEST NUMBER: STL06507A

572F SID SN065 L THORAX CAL07

RUN NUMBER: 040303.0824;1



CHANNEL: T12YG

FILTER: FIR 100

PEAK DATA: 21.18 G @ 24.38 MS; -4.24 G @ 55.00 MS

C-23

030415

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 03-Apr-03

TRC, INC.

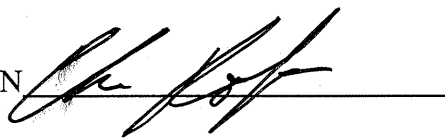
TEST NO: 065C07TF1

572B SN 065 TORSO FLEX CAL 07

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.7 °C
RELATIVE HUMIDITY	10 – 70 %	50 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	111.2 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	164.6 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	218.0 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	9 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

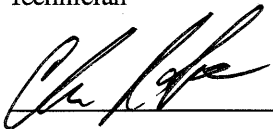
HIH SID Serial No. 065 Calibration No. 07 - 1

Test Date 04/03/2003

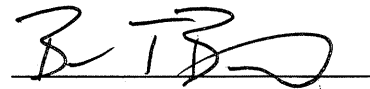
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	50 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.7 - 8.2 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



04.03.2003 13:41:56 216

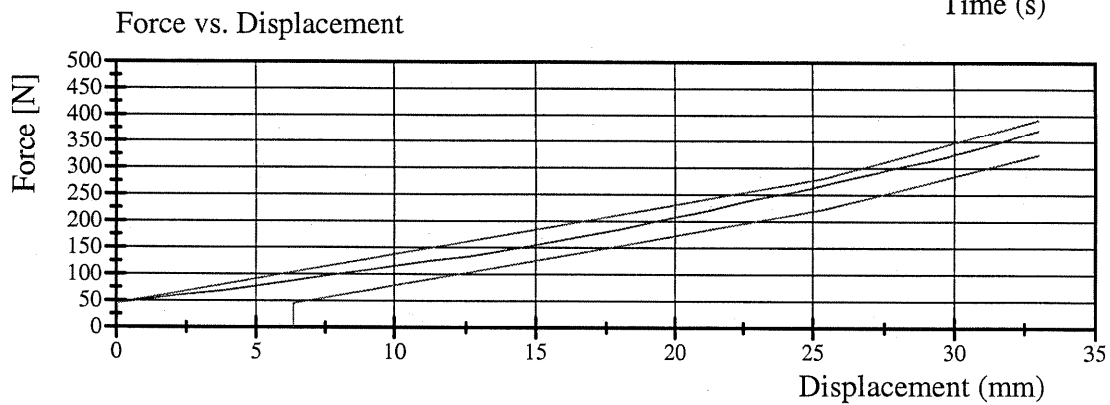
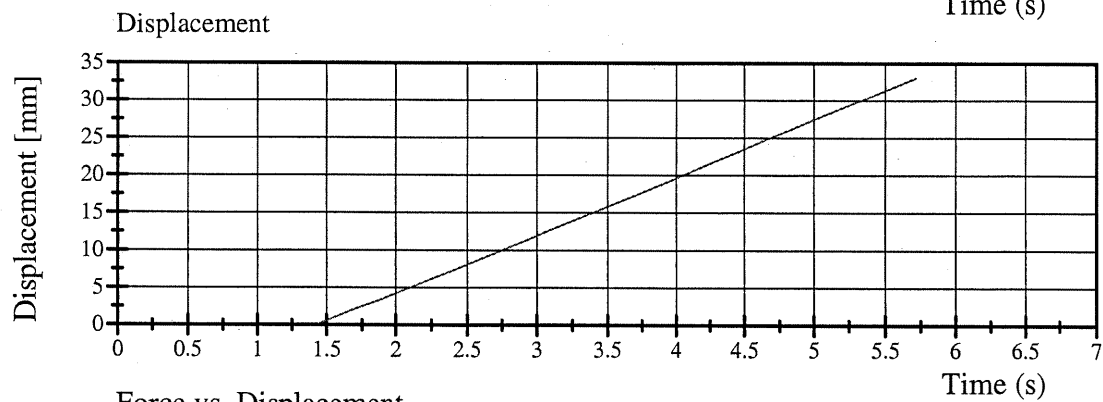
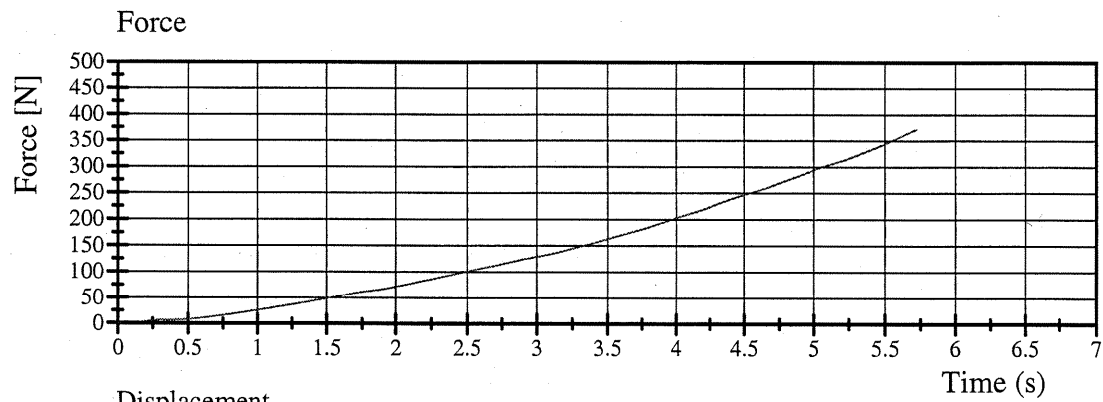


Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 065 Calibration No. 07 - 1

Test Date 04/03/2003



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

03-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

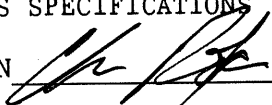
TEST NO: SPL06507

572F SN065 LEFT PELVIS CAL07

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	40.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.28 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	53.8 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	5.9 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 040303.0744;1

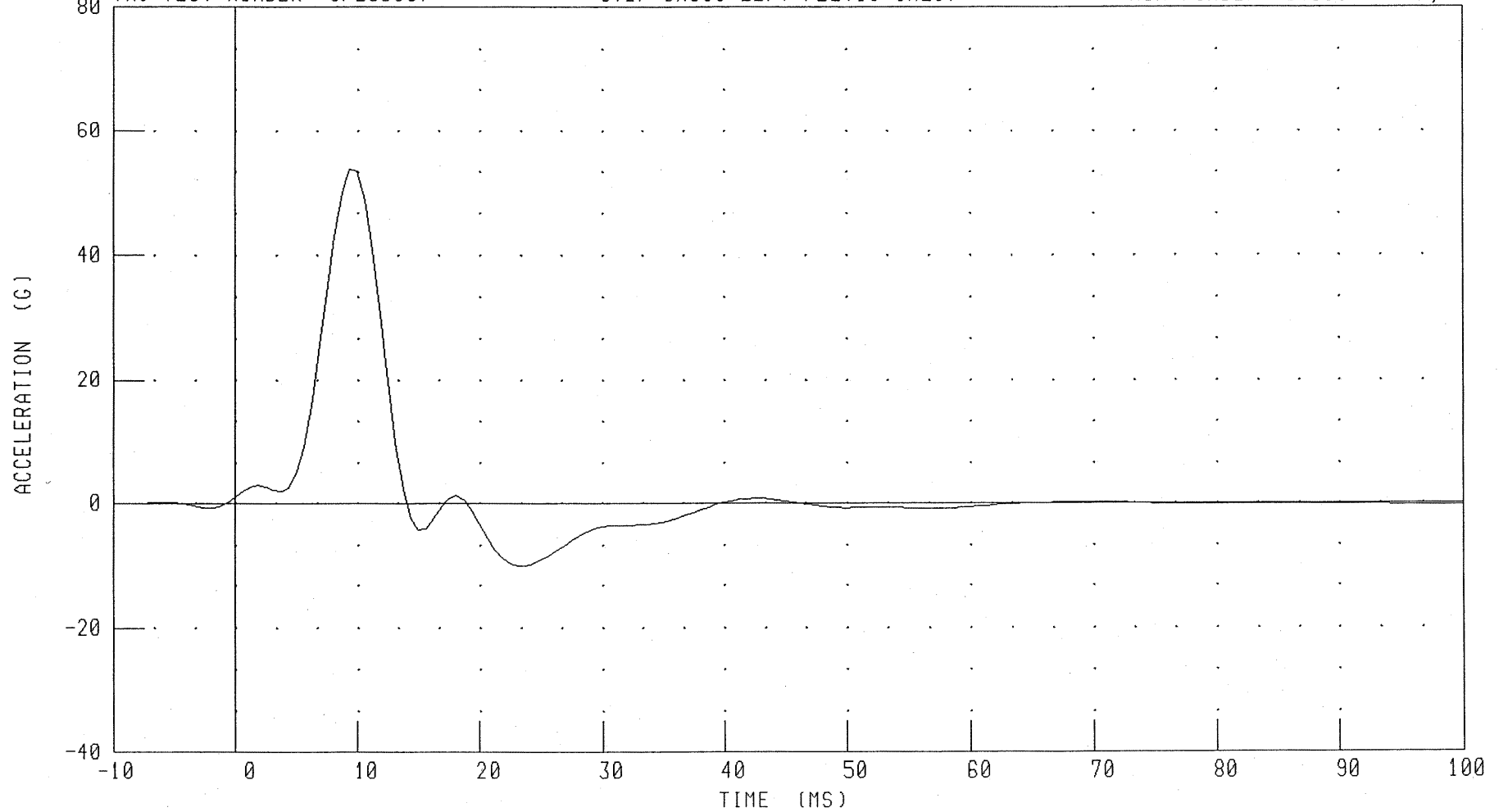
PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

TRC TEST NUMBER: SPL06507

572F SN065 LEFT PELVIS CAL07

RUN NUMBER: 040303.0744;1



CHANNEL: PEVYG

FILTER: FIR 100

PEAK DATA: 53.85 G @ 9.37 MS; -10.28 G @ 23.13 MS

C-28

030415

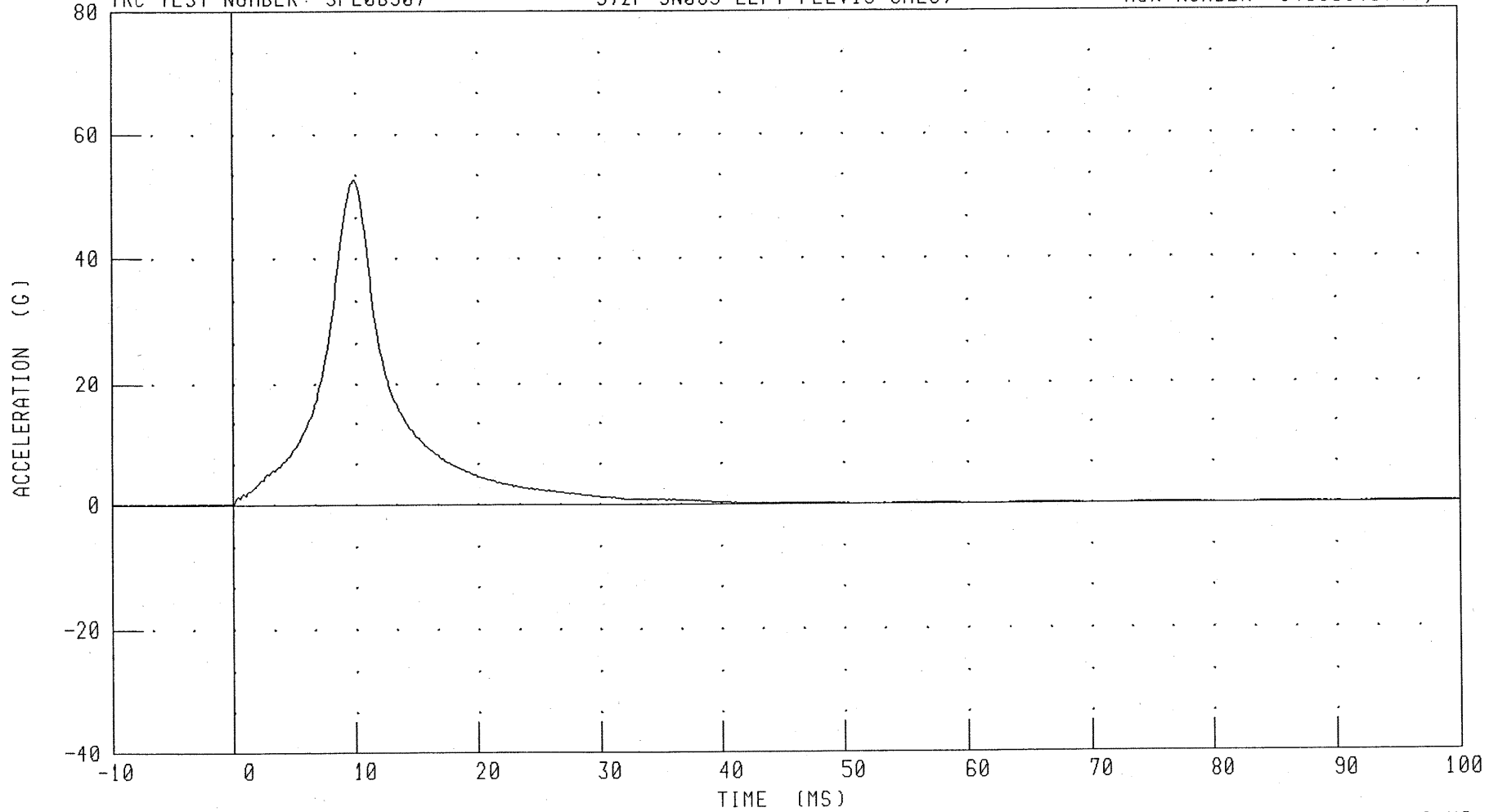
PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: SPL06507

572F SN065 LEFT PELVIS CAL07

RUN NUMBER: 040303.0744;1



CHANNEL: PENXG

FILTER: CH. CLASS 1000

PEAK DATA: 52.63 G @ 9.92 MS; -0.10 G @ 61.36 MS

030415

TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

03-FEB-03

TRC INC.

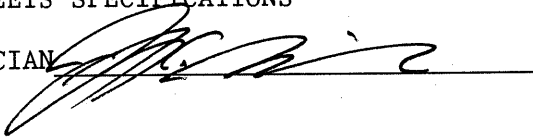
572F SN065 DAMPER TEST CAL02

TEST NUMBERS: DP06502A,DP06502B,DP06502C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	46.0 %
VELOCITY	FORCE	667 - 925 N	791 N
2.71 M/S	DISPLACEMENT	29.7 - 34.5 MM	31.1 MM
VELOCITY	FORCE	1706 - 2072 N	1715 N
4.24 M/S	DISPLACEMENT	31.6 - 37.2 MM	36.5 MM
VELOCITY	FORCE	3784 - 4495 N	4243 N
6.12 M/S	DISPLACEMENT	33.3 - 39.6 MM	37.2 MM

DAMPER SETTING = 5.5

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 020303.0805;1

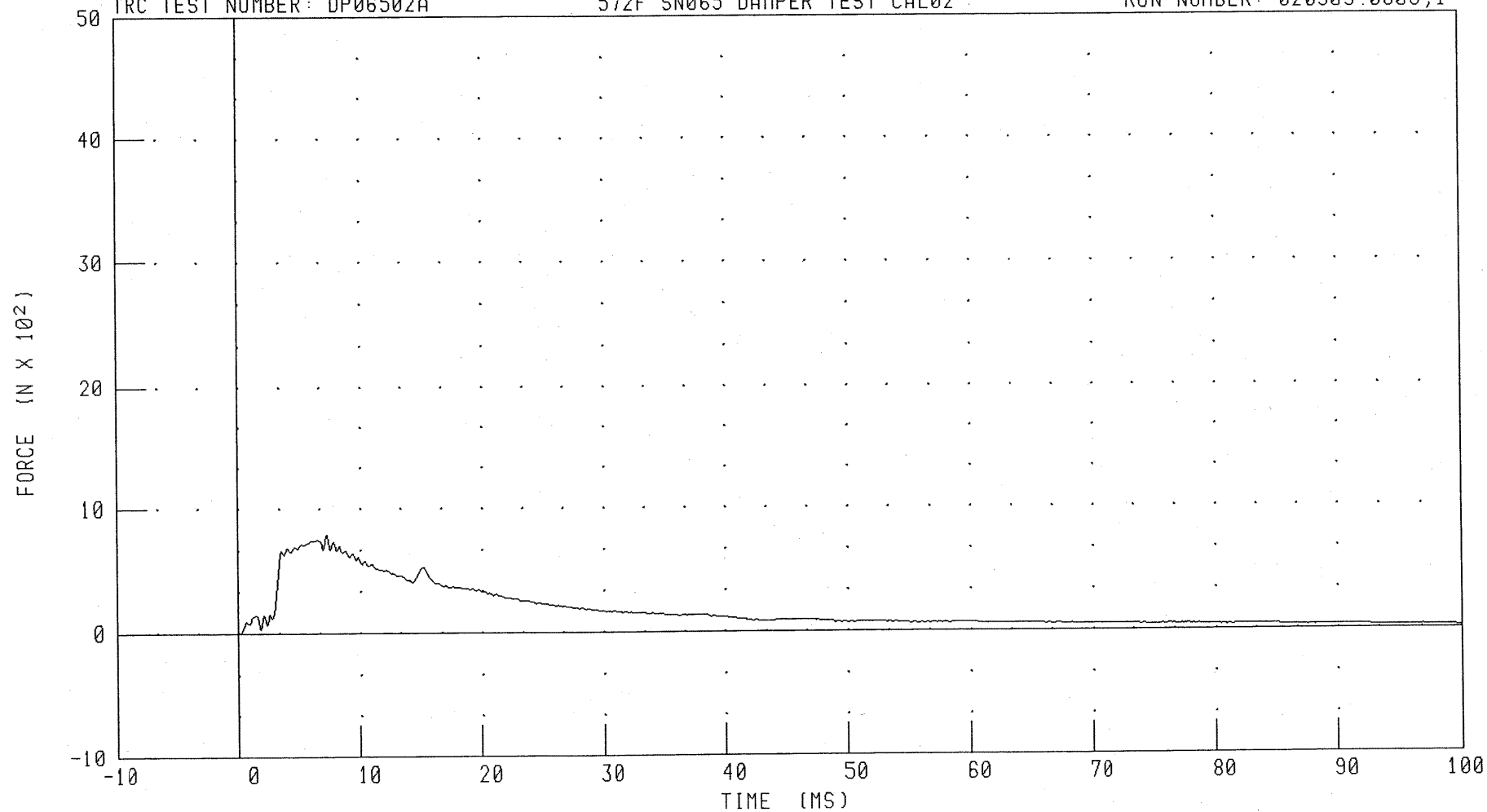
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06502A

572F SN065 DAMPER TEST CAL02

RUN NUMBER: 020303.0806;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 790.76 N @ 7.36 MS; -1.99 N @ -6.96 MS

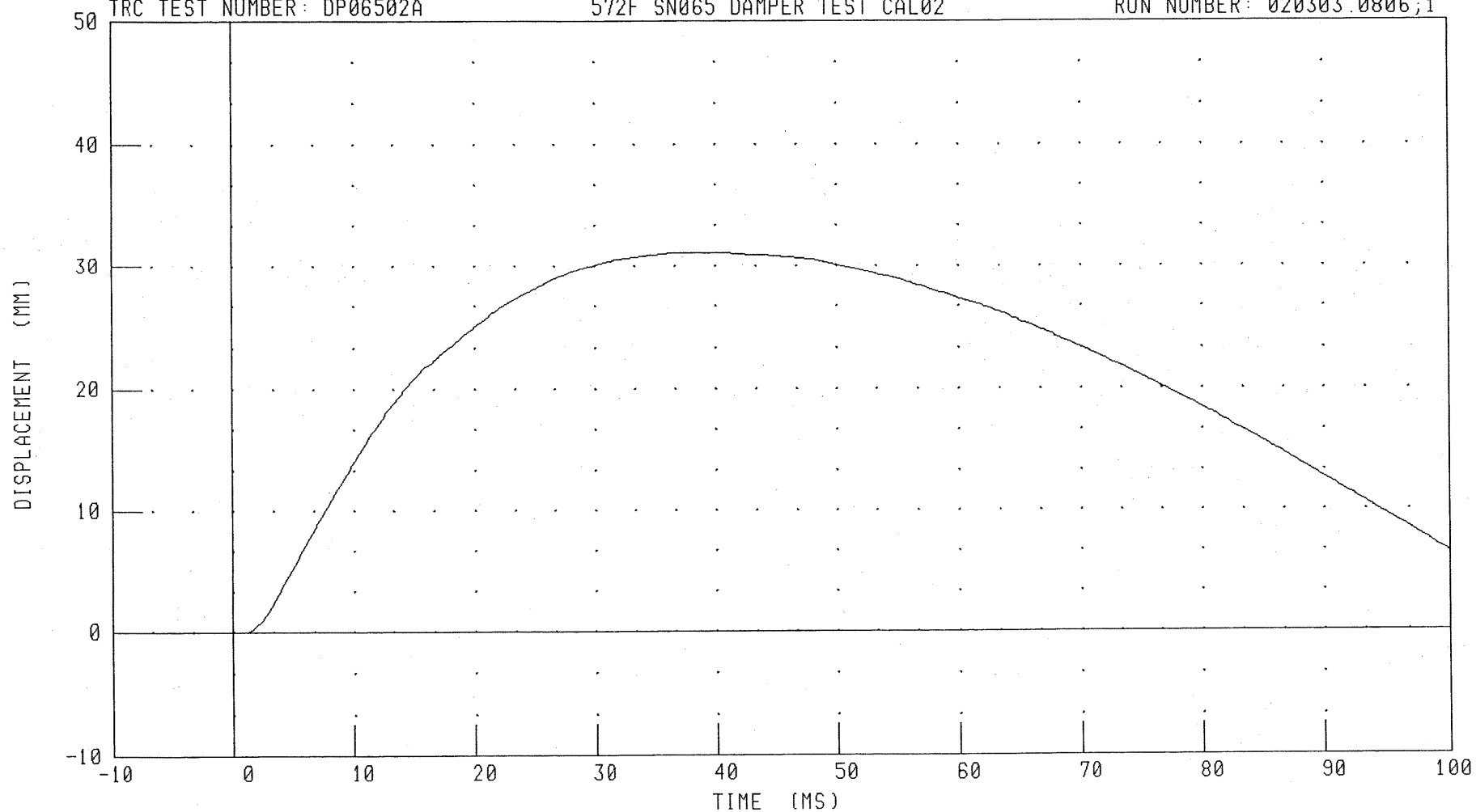
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06502A

572F SN065 DAMPER TEST CAL02

RUN NUMBER: 020303.0806;1



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 31.08 MM @ 37.76 MS; 0.00 MM @ -8.00 MS

C-32

030415

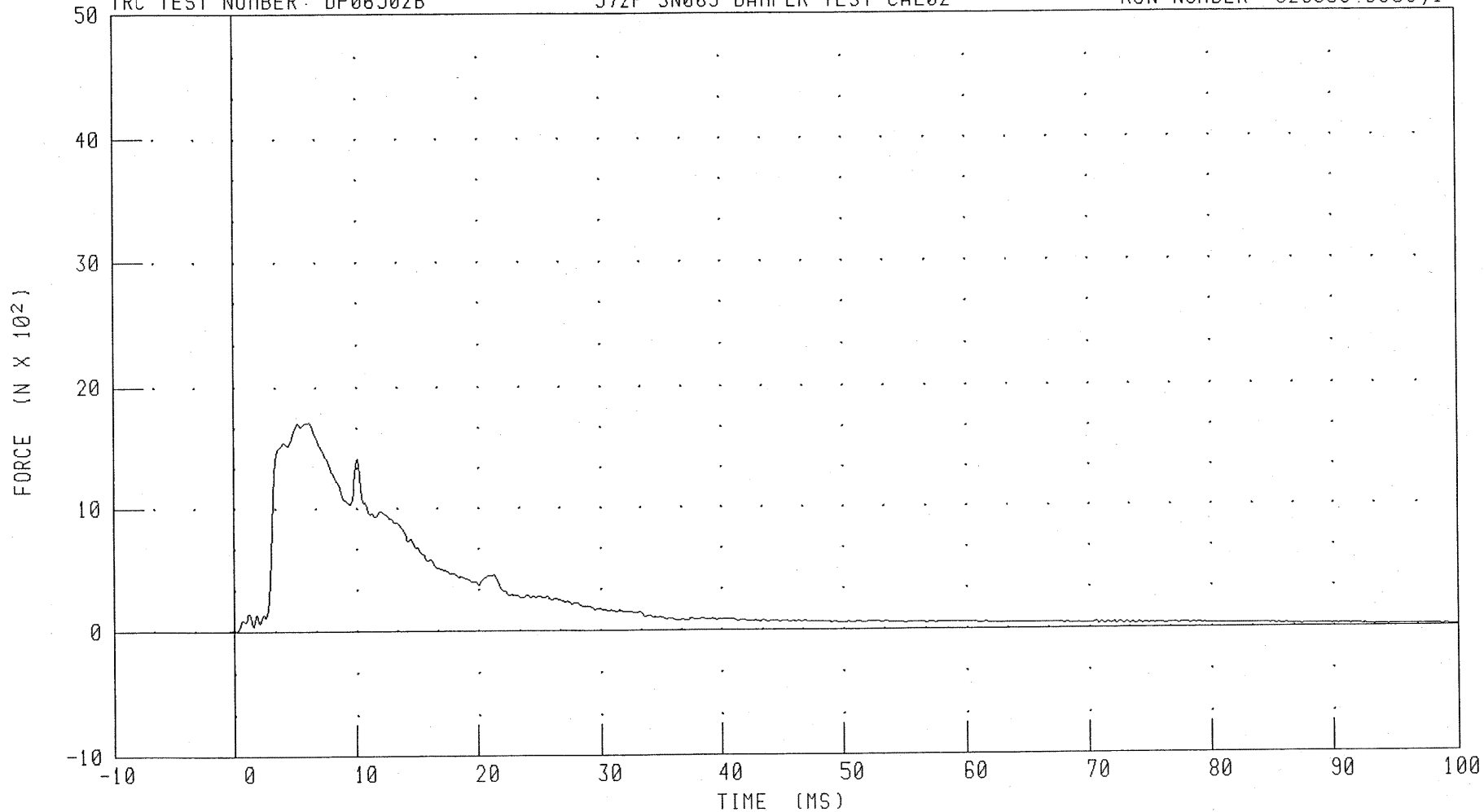
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06502B

572F SN065 DAMPER TEST CAL02

RUN NUMBER: 020303.0806;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 1714.69 N @ 6.16 MS; -1.52 N @ -8.24 MS

C-33

030415

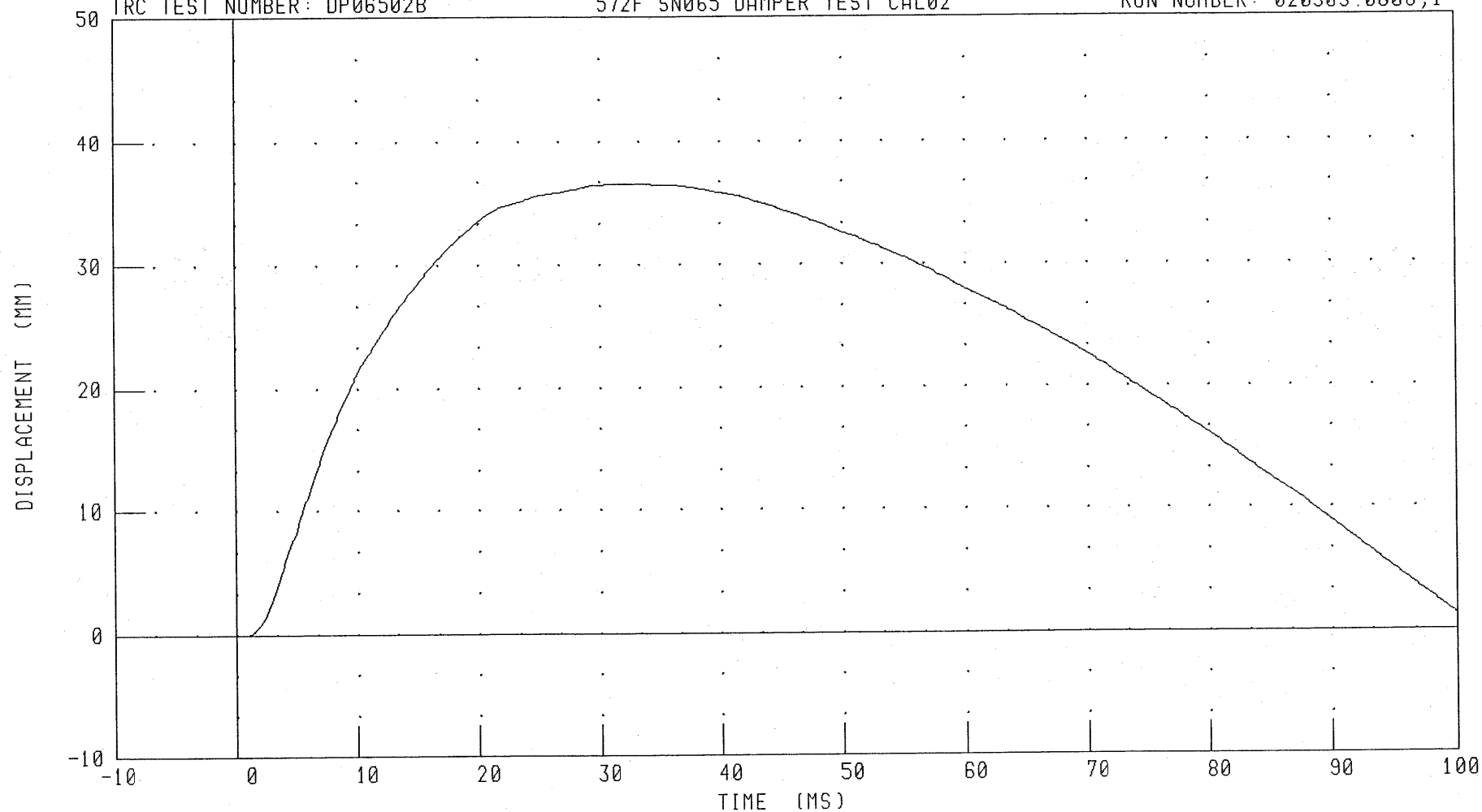
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06502B

572F SN065 DAMPER TEST CAL02

RUN NUMBER: 020303.0806;1



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 36.48 MM @ 31.44 MS; -0.01 MM @ -2.80 MS

030415

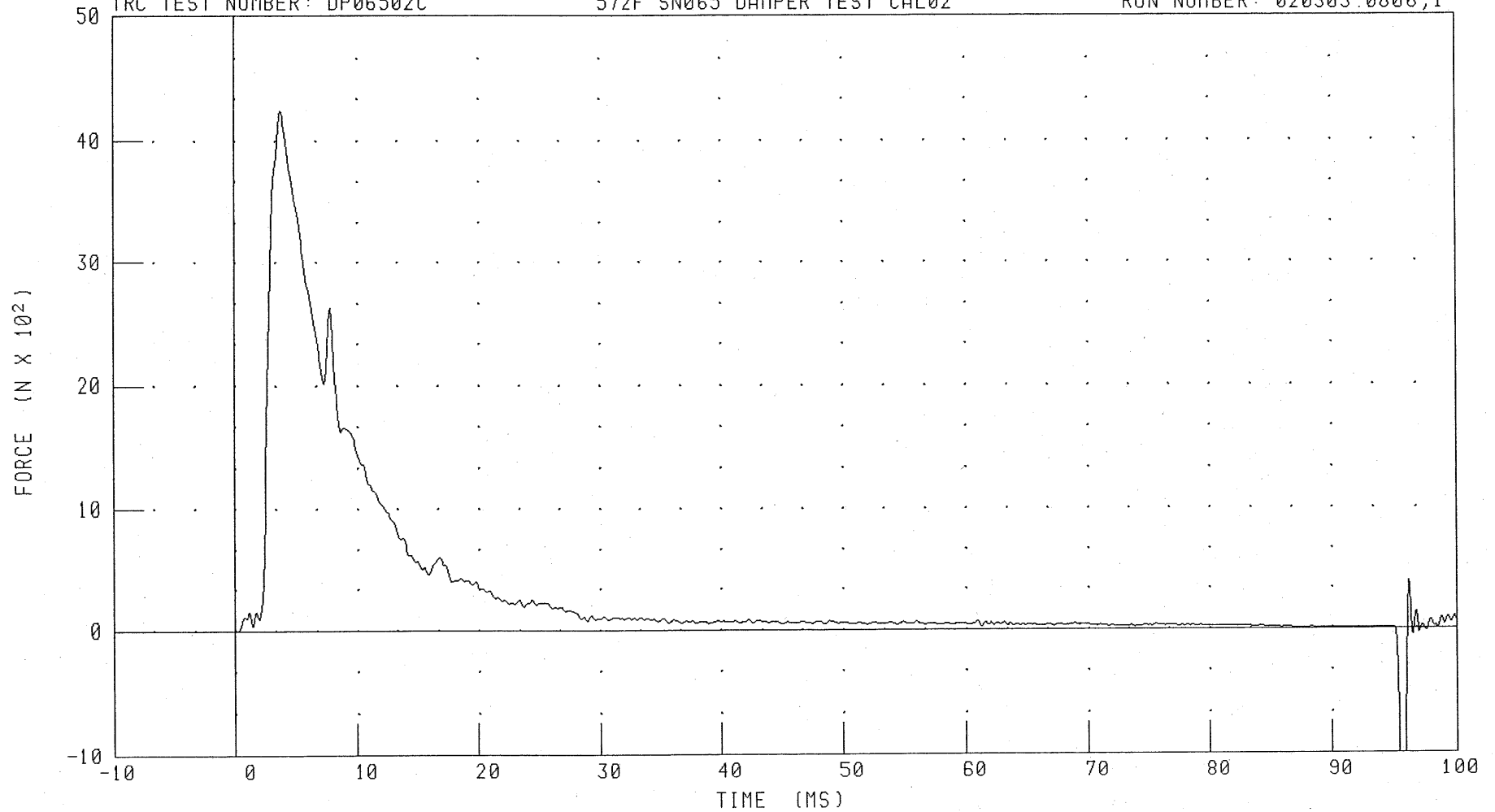
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06502C

572F SN065 DAMPER TEST CAL02

RUN NUMBER: 020303.0806,1



CHANNEL: DAMPF FILTER: CH. CLASS 1000

PEAK DATA: 4243.19 N @ 3.76 MS; -1446.15 N @ 95.60 MS

C-35

030415

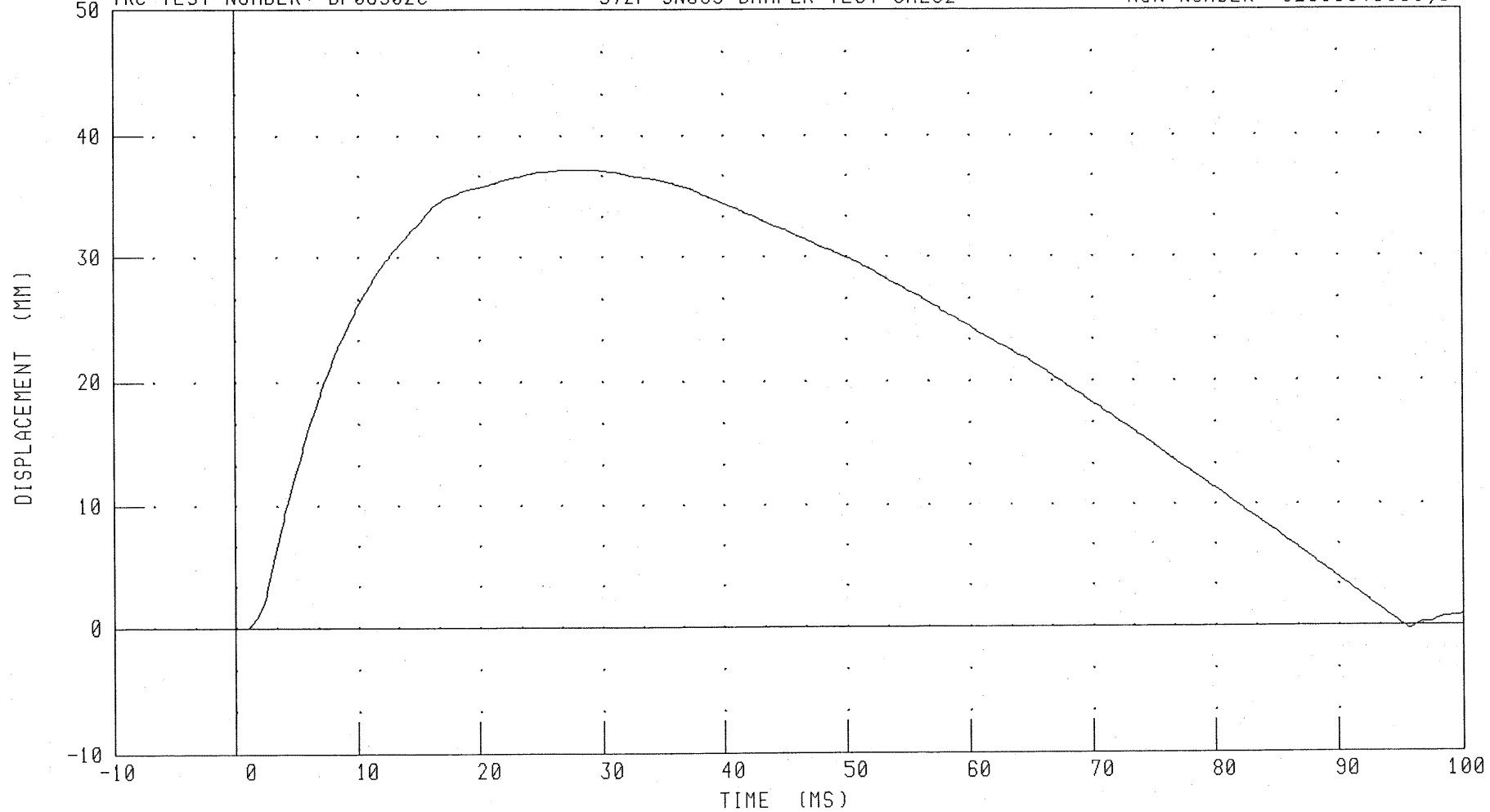
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06502C

572F SN065 DAMPER TEST CAL02

RUN NUMBER: 020303.0806;1



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 37.18 MM @ 28.80 MS; -0.26 MM @ 95.68 MS

C-36

030415

Calibration Test Results

Pre-Test

SID: 028

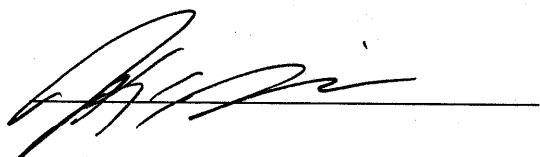
Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all 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 (tested on February 3, 2003, for a previous calibration series).

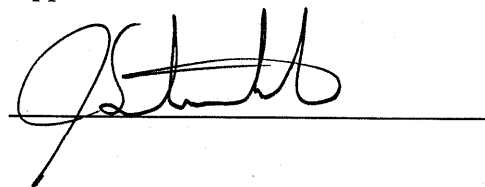
Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 028 Calibration No. 04

Test Parameter	Dimension	Specification	Results	Pass
Seated Height	SH	889.0 - 909.3 mm	896 mm	Yes
Rib Height	RH	501.7 - 520.7 mm	504 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	233 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	514 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	498 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	373 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	170 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	2.0 mm	Yes

Technician



Approved




TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

HYBRIDI III SID DUMMY

14-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

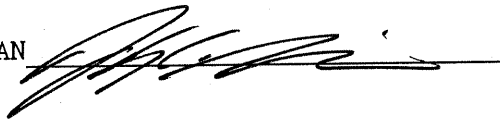
TEST NO. HDL02804

572M SID/HIII SN028 HEAD CAL04

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	38.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	143.81 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-8.93 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 042103.0934;1

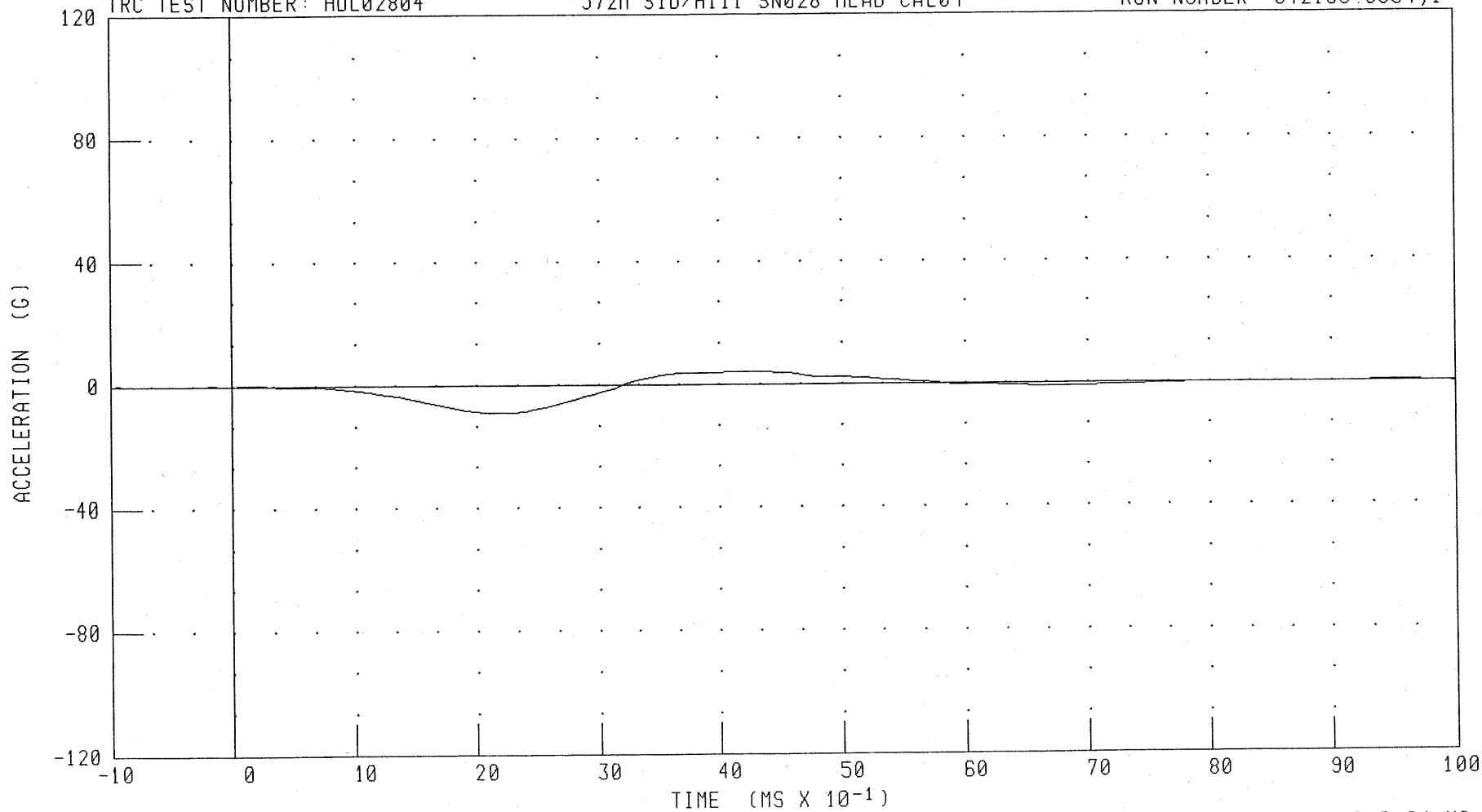
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION X AXIS

TRC TEST NUMBER: HDL02804

572M SID/HIII SN028 HEAD CAL04

RUN NUMBER: 042103.0934;1



CHANNEL: HEDXC

FILTER: CH. CLASS 1000

PEAK DATA: 3.86 G @ 4.24 MS; -8.93 G @ 2.24 MS

C-40

030415

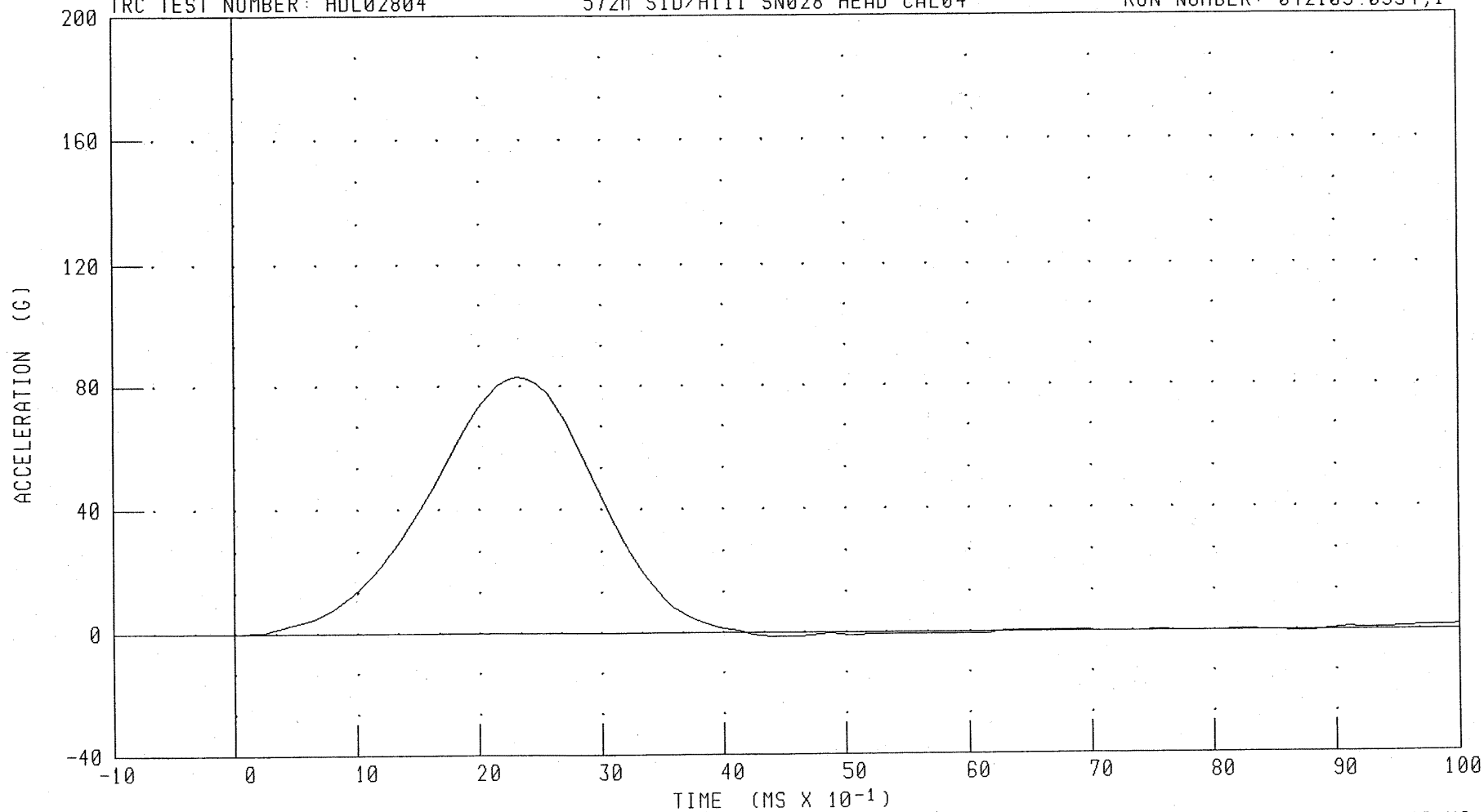
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER: HDL02804

572M SID/HIII SN028 HEAD CAL04

RUN NUMBER: 042103.0934,1



CHANNEL: HEDYG

FILTER: CH. CLASS 1000

PEAK DATA: 83.05 G @ 2.32 MS; -1.58 G @ 4.48 MS

030415

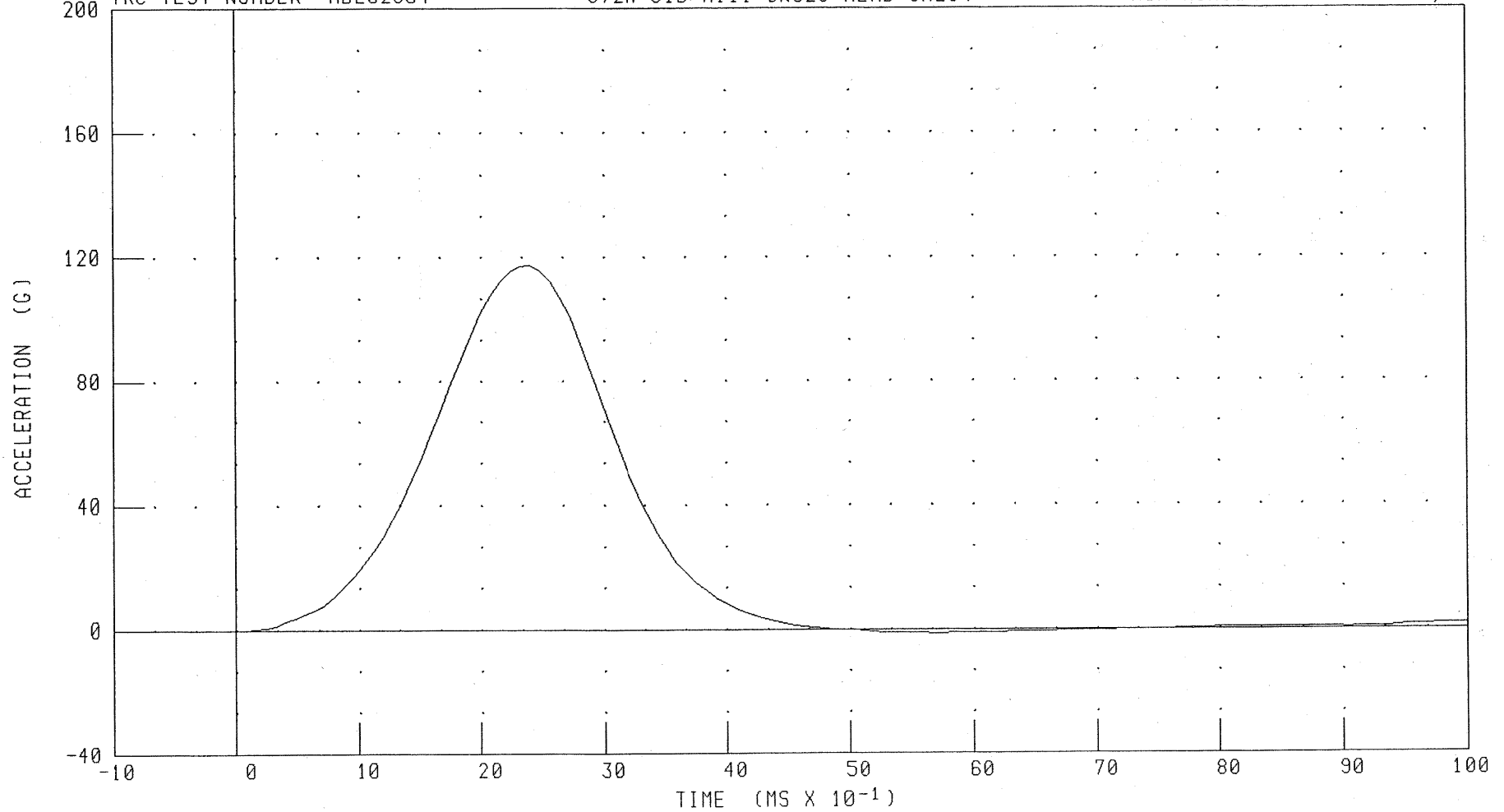
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

TRC TEST NUMBER: HDL02804

572M SID/HIII SN028 HEAD CAL04

RUN NUMBER: 042103.0934;1



CHANNEL: HEDZG

FILTER: CH. CLASS 1000

PEAK DATA: 117.44 G @ 2.40 MS; -1.39 G @ 5.68 MS

030415

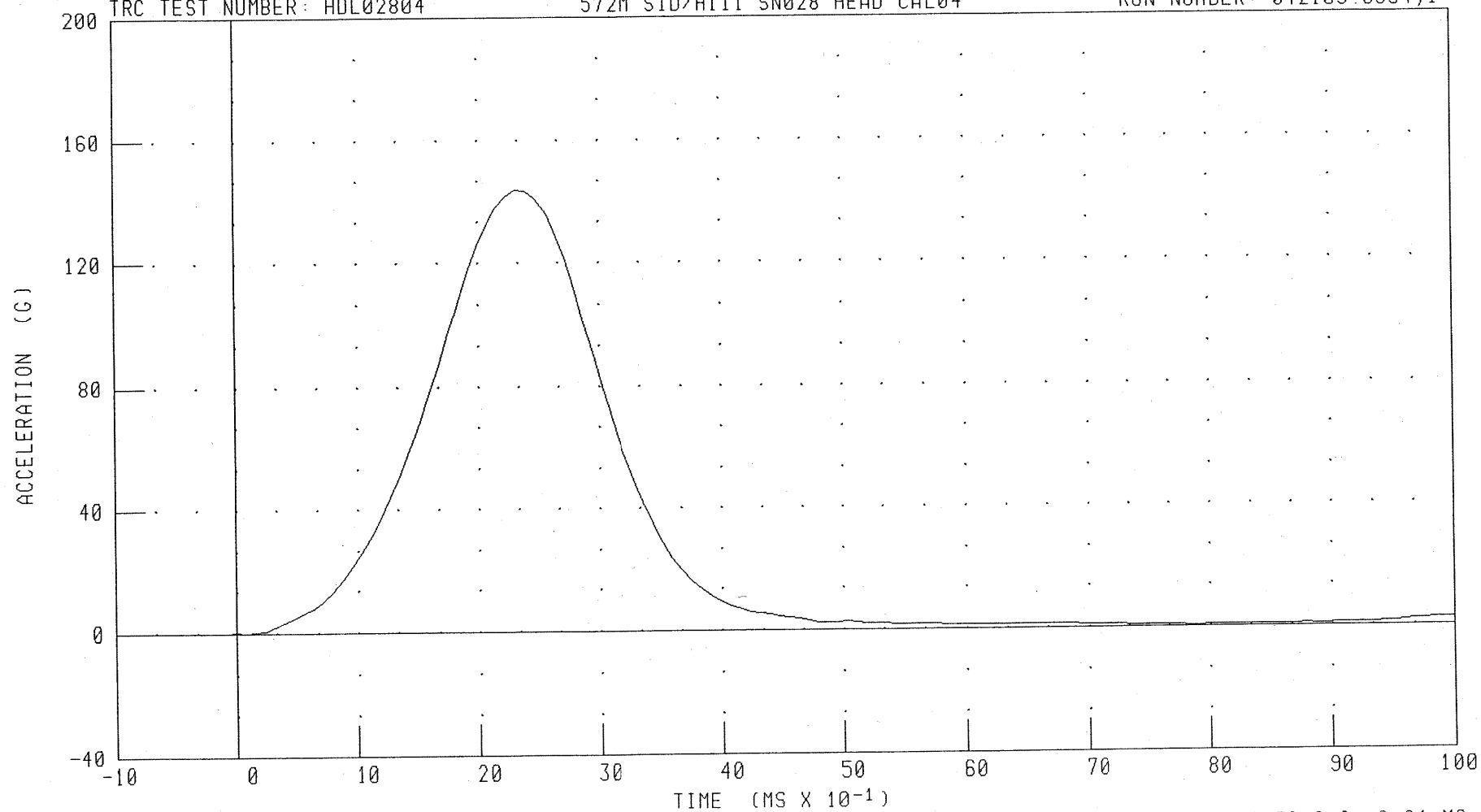
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

572M SID/HIII SN028 HEAD CAL04

RUN NUMBER: 042103.0934;1

TRC TEST NUMBER: HDL02804



CHANNEL: HEDRG

FILTER: CH. CLASS 1000

PEAK DATA: 143.81 G @ 2.32 MS; 0.02 G @ -0.24 MS

C-43

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL NECK TEST

HYBRIDI III SID DUMMY

14-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

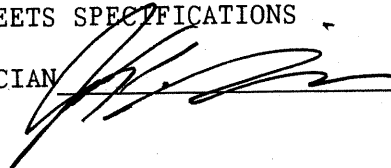
TEST NO. NFL02804

H3/SID SN028 NECK LEFT CAL04

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 deg. C	21.67 deg. C
RELATIVE HUMIDITY		10 - 70 %	35.00 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.99 M/S
INTEGRATED VELOCITY	10 MS	1.96 - 2.55 M/S	2.43 M/S
	20 MS	4.12 - 5.10 M/S	4.84 M/S
	30 MS	5.73 - 7.01 M/S	6.71 M/S
	40 - 70 MS	6.27 - 7.64 M/S	7.12- 7.23 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION		66 - 82 deg.	71.91 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO		58 - 67 MS	59.44 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE		73 - 88 NM	83.95 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO		49 - 64 MS	52.56 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT		2 - 16 MS	8.48 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 041403.1054;1

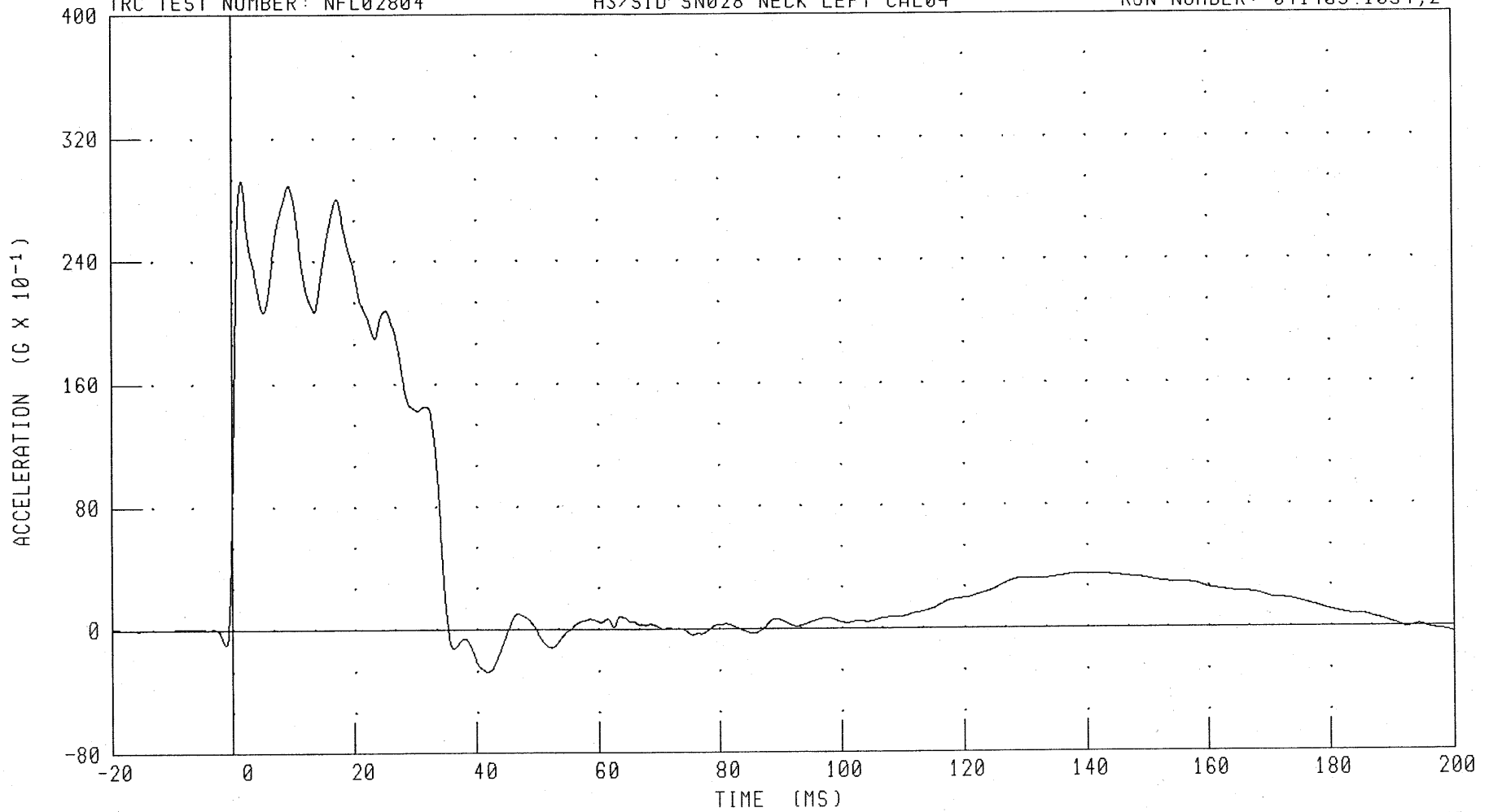
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

PENDULUM DECELERATION

TRC TEST NUMBER: NFL02804

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2



CHANNEL: PENXC

FILTER: CH. CLASS 180

PEAK DATA: 29.23 G @ 1.60 MS; -2.71 G @ 41.84 MS

030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

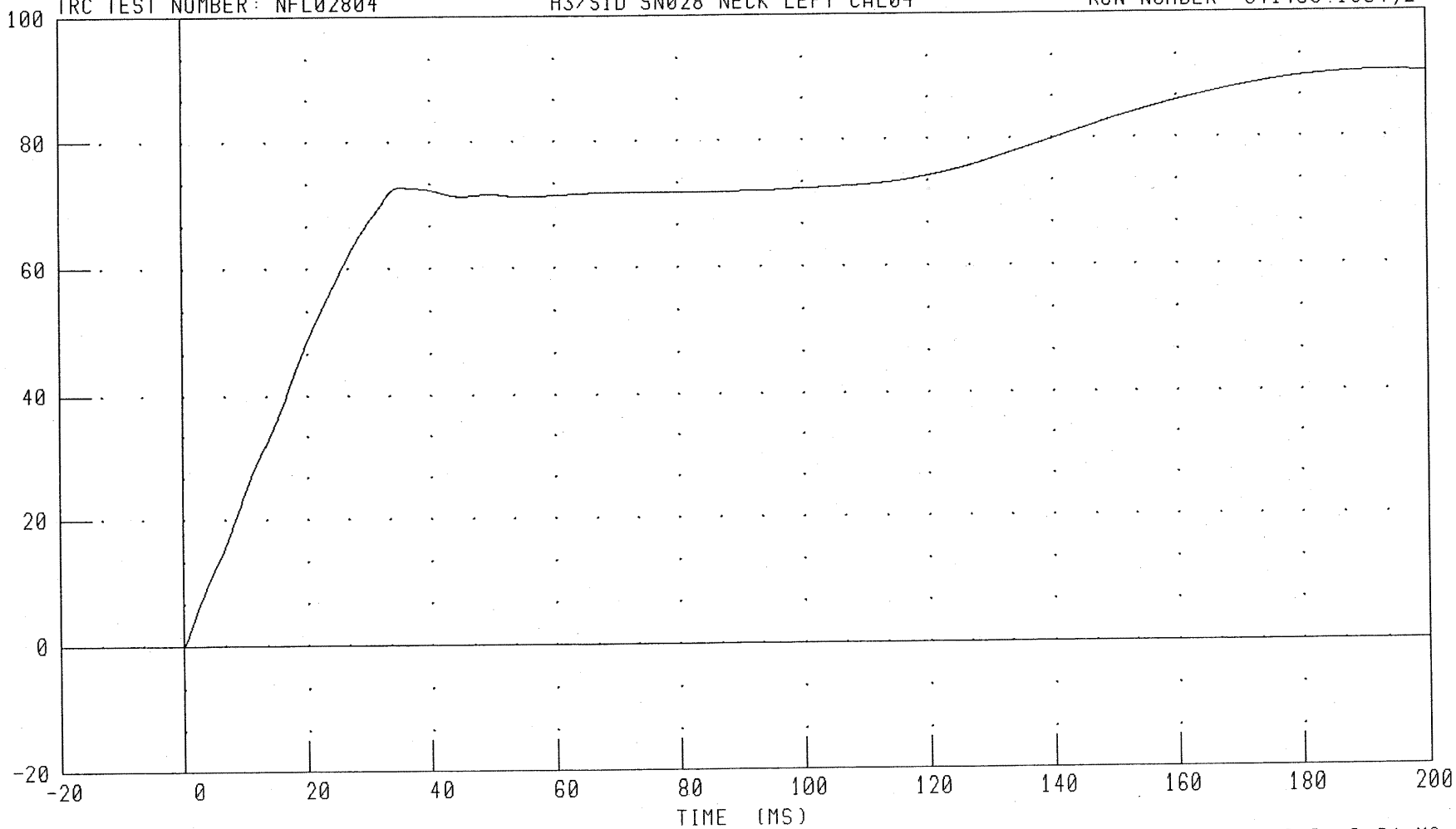
INTEGRATED PENDULUM VELOCITY

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2

TRC TEST NUMBER: NFL02804

(1-01 X S/M) AL1007A
C-46



TIME (MS)

PEAK DATA: 9.05 M/S @ 195.20 MS; -0.01 M/S @ -0.64 MS

CHANNEL: PENXVI FILTER: CH. CLASS 180

030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

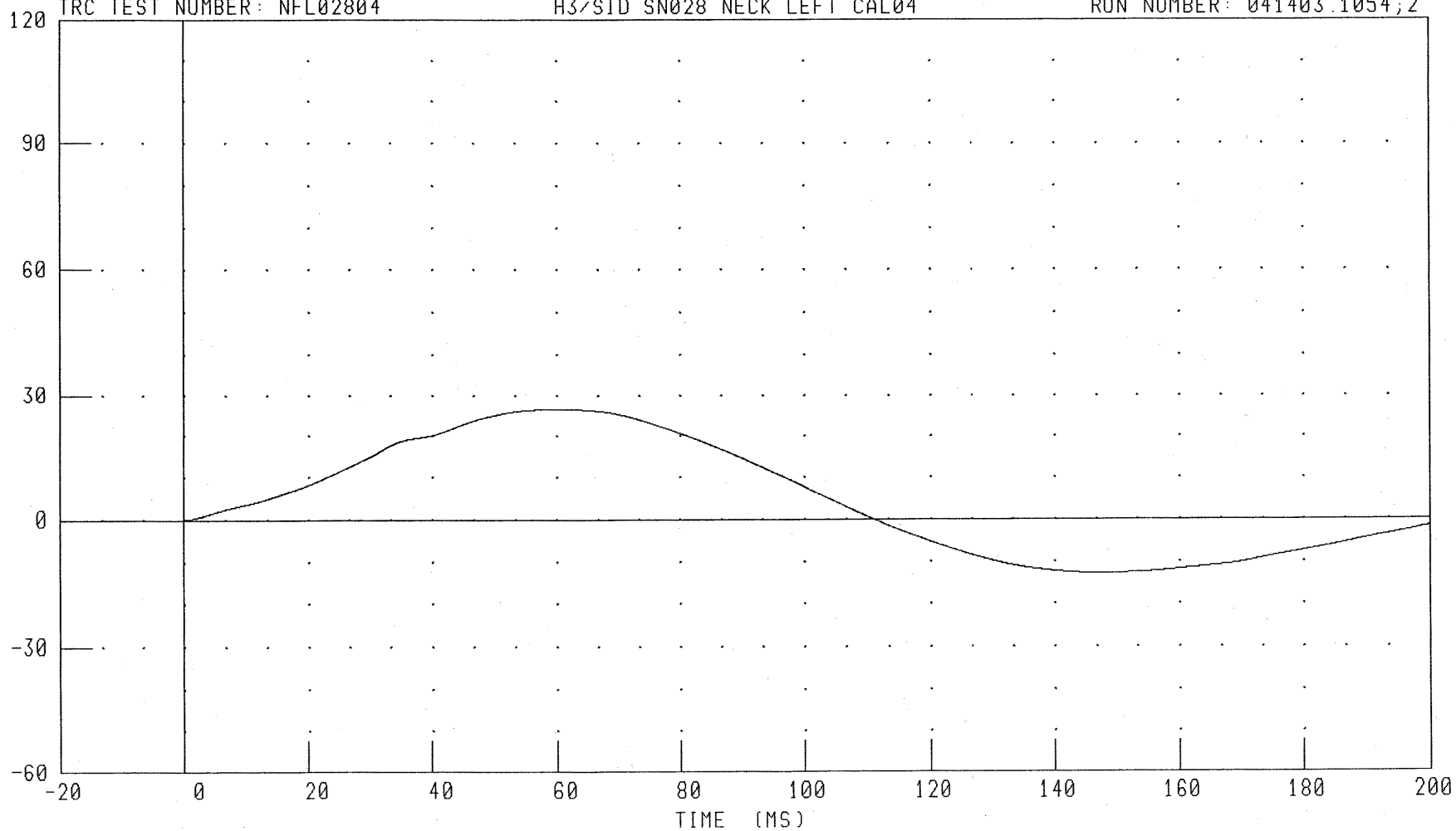
ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: NFL02804

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2

(°) ANGLE
C-47



CHANNEL: BETA

FILTER: CH. CLASS 60

PEAK DATA: 26.65 ° @ 60.40 MS; -12.76 ° @ 147.52 MS

030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

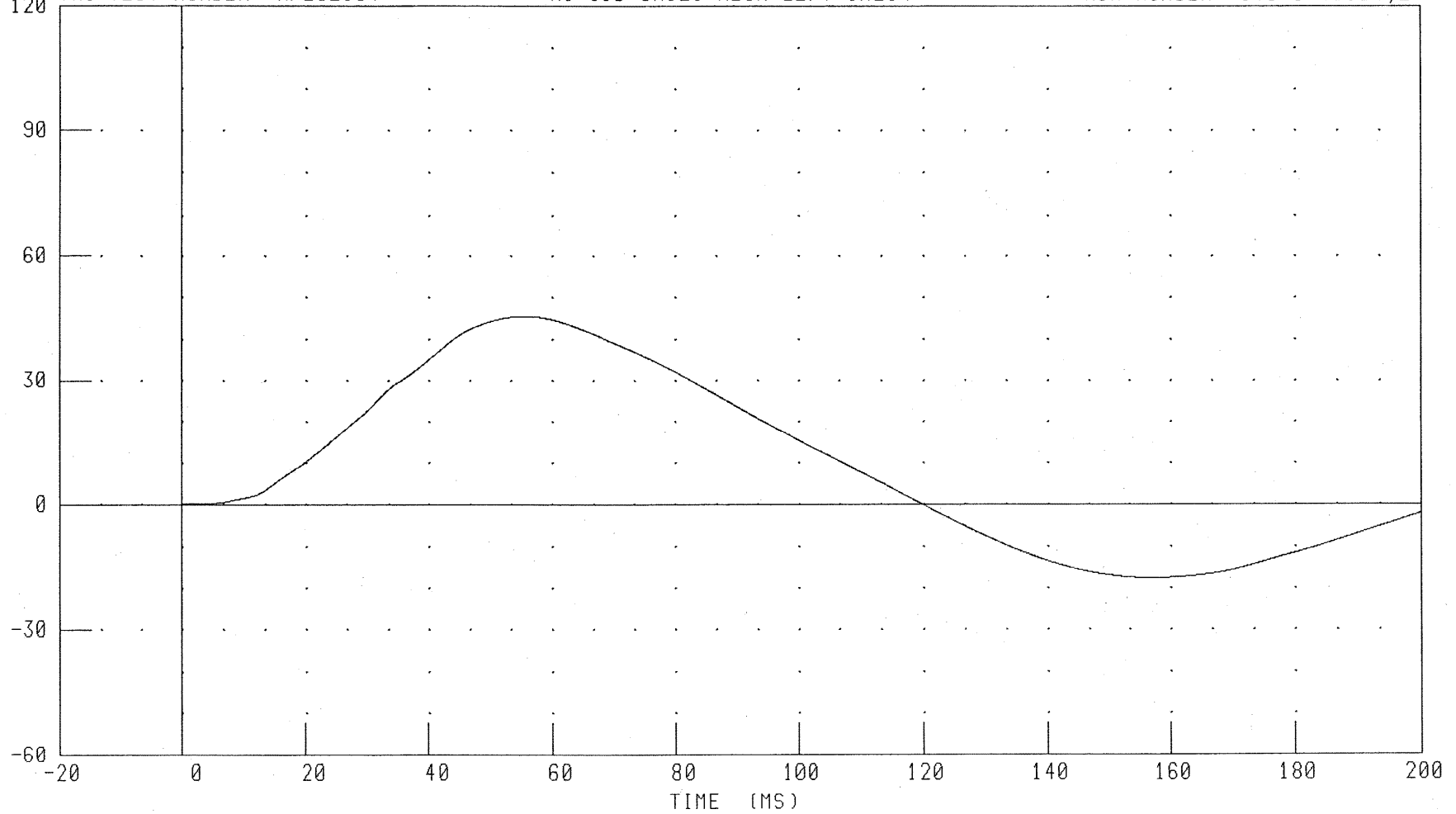
ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL02804

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2

(°) ANGLE
C-48



CHANNEL: THETA

FILTER: CH. CLASS 60

PEAK DATA: 45.48 ° @ 55.60 MS; -17.58 ° @ 156.80 MS

030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

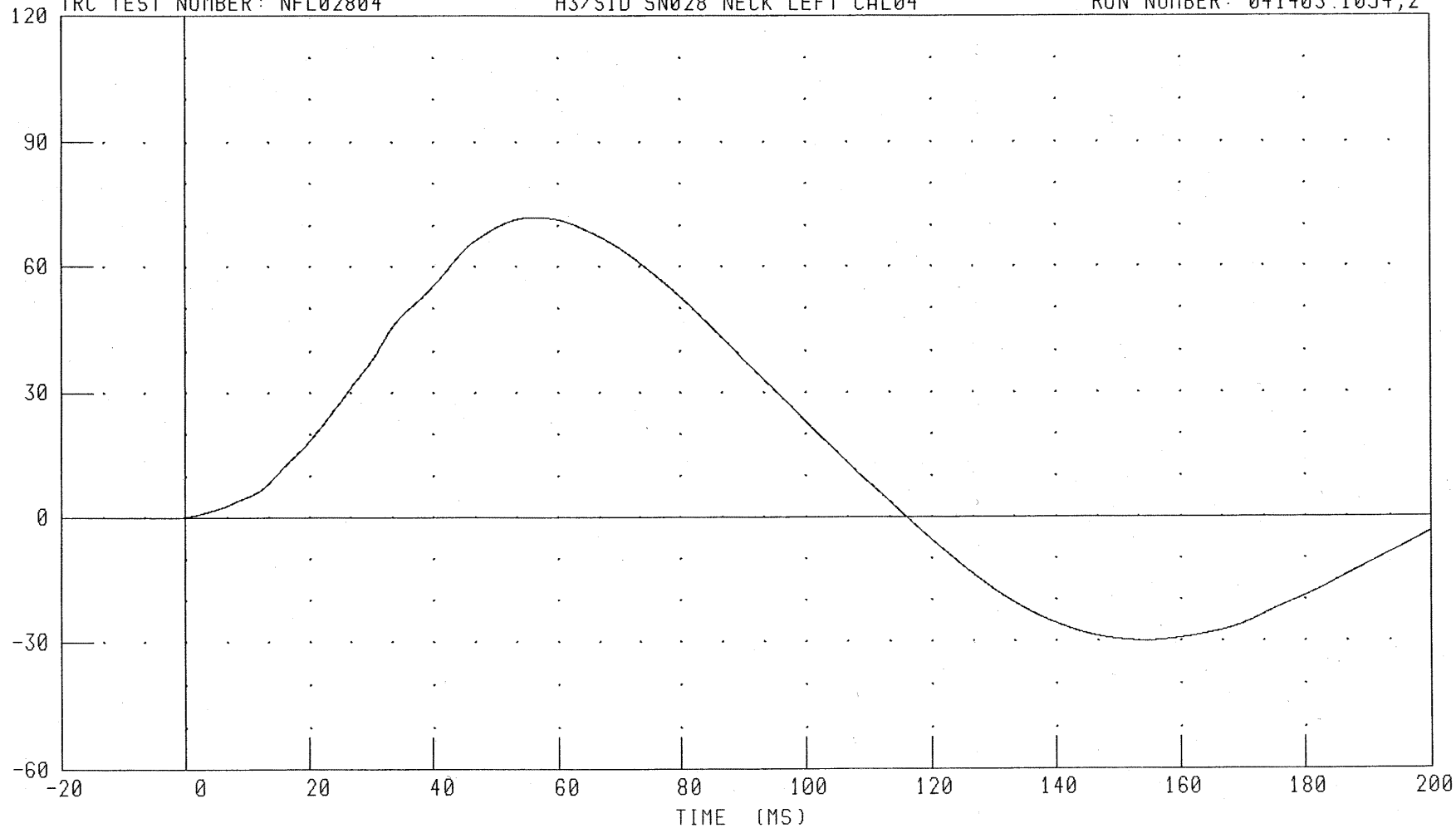
TOTAL ROTATION

TRC TEST NUMBER: NFL02804

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2

C-49
ANGLE (°)



CHANNEL: TOTAN

FILTER: CH. CLASS 60

PEAK DATA: 71.91 ° @ 56.64 MS; -30.01 ° @ 154.32 MS

030415

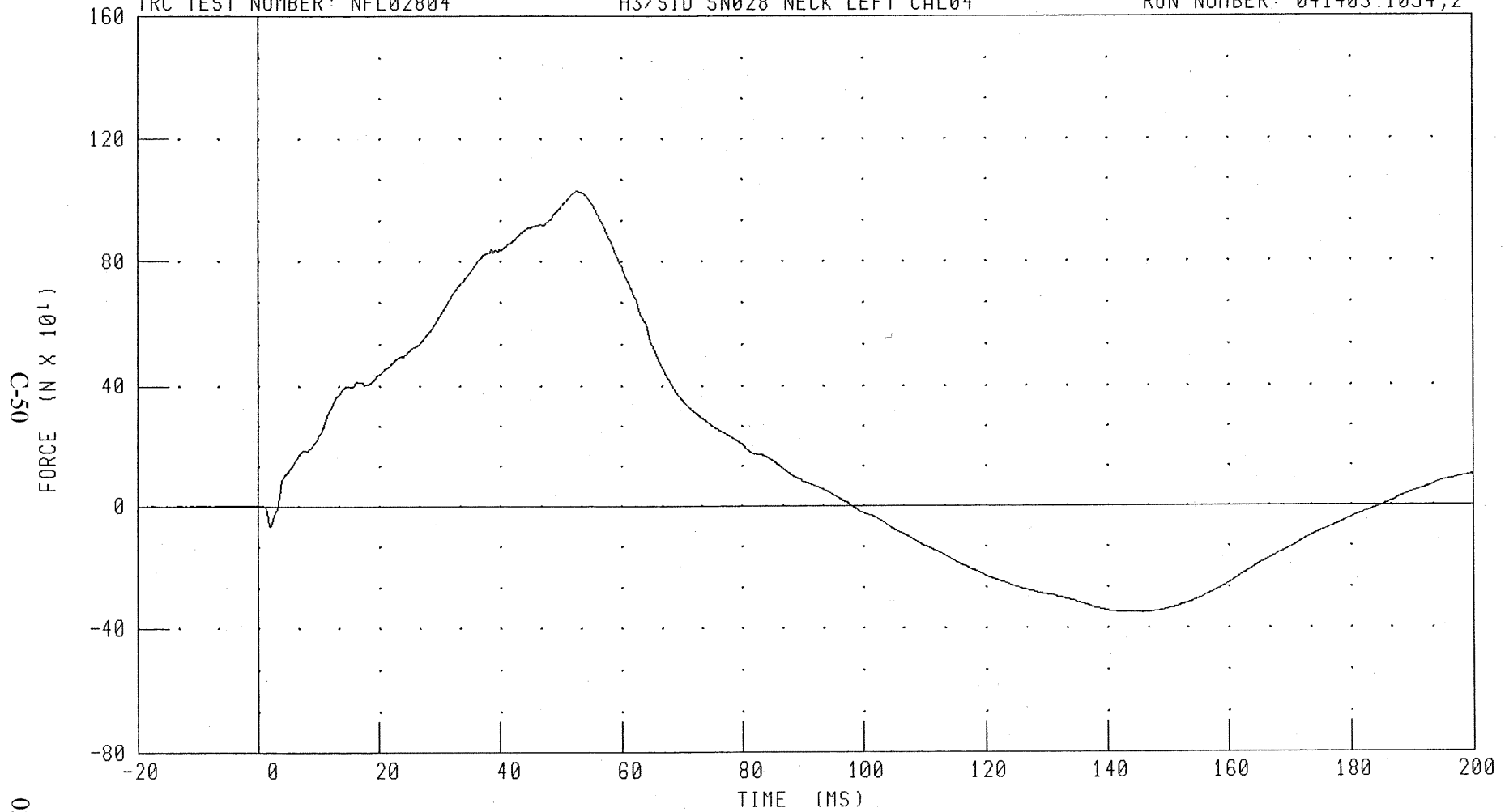
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

TRC TEST NUMBER: NFL02804

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2



CHANNEL: NEKYF

FILTER: CH. CLASS 1000

PEAK DATA: 1027.94 N @ 52.64 MS; -348.36 N @ 145.68 MS

030415

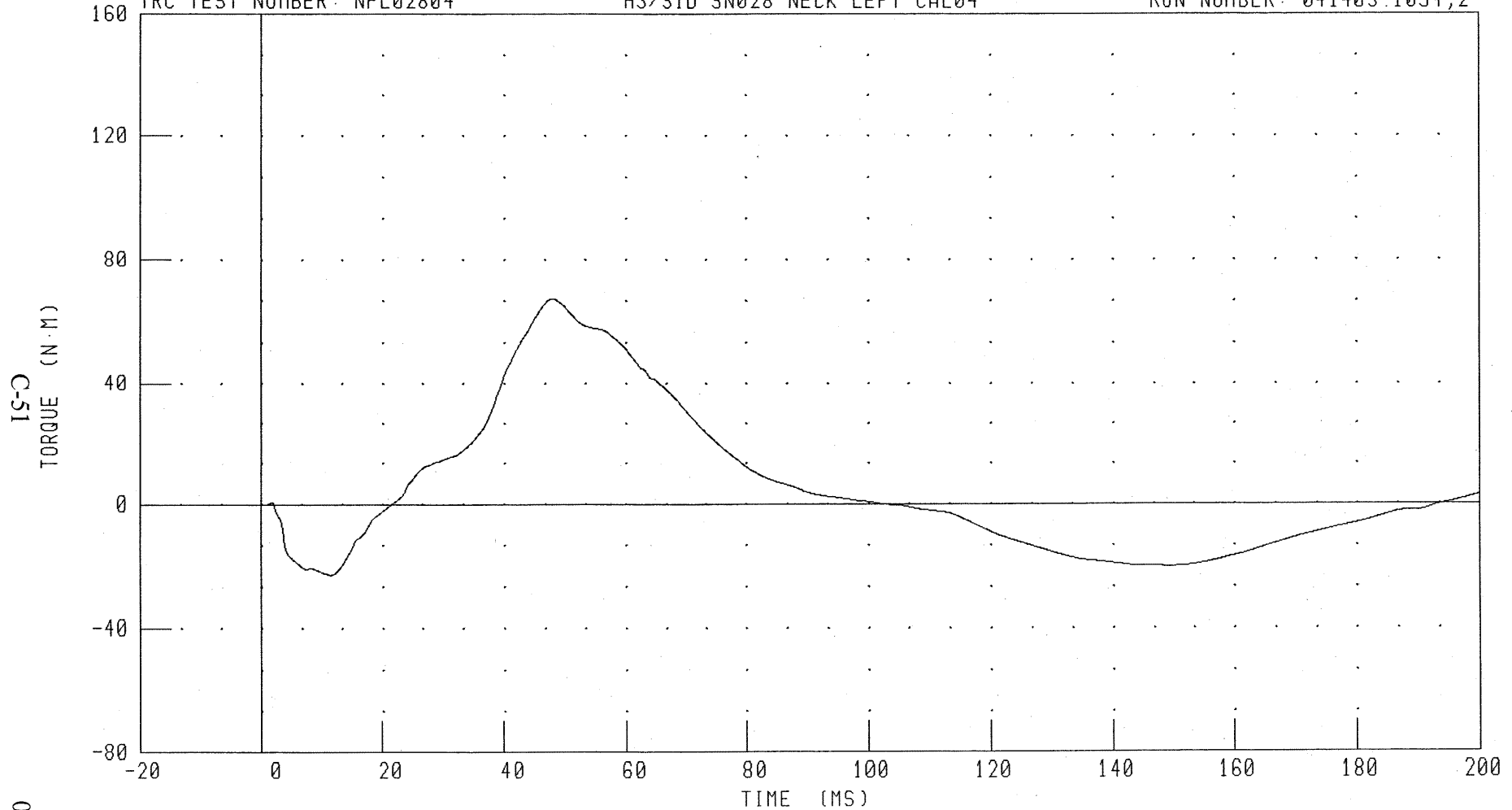
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK MOMENT X AXIS

TRC TEST NUMBER: NFL02804

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2



TIME (MS)

PEAK DATA: 67.41 N·M @ 48.00 MS; -23.00 N·M @ 11.52 MS

CHANNEL: NEKXM

FILTER: CH. CLASS 600

030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

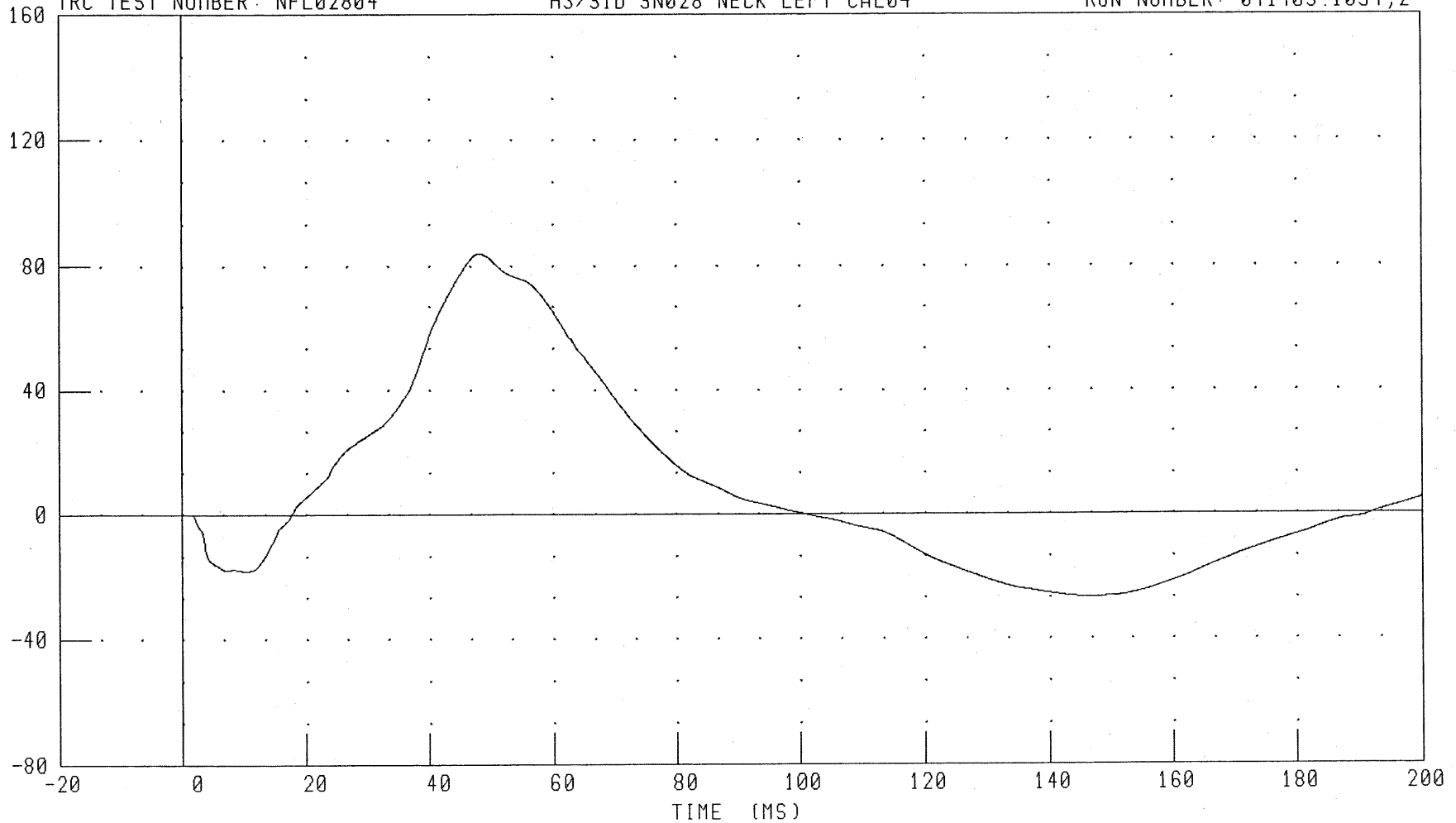
TOTAL MOMENT ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL02804

H3/SID SN028 NECK LEFT CAL04

RUN NUMBER: 041403.1054;2

C-52
TORQUE (N·M)



TIME (MS)

CHANNEL: NEKOM

FILTER: CH. CLASS 600

PEAK DATA: 83.95 N·M @ 48.16 MS, -26.41 N·M @ 145.92 MS

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

11-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

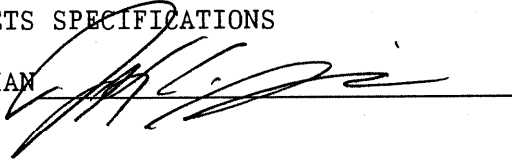
TEST NO: STL02804

572F SID SN028 L.THORAX CAL04

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	40.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.30 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	39.6 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	39.1 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	16.4 G

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 041103.1311;1

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

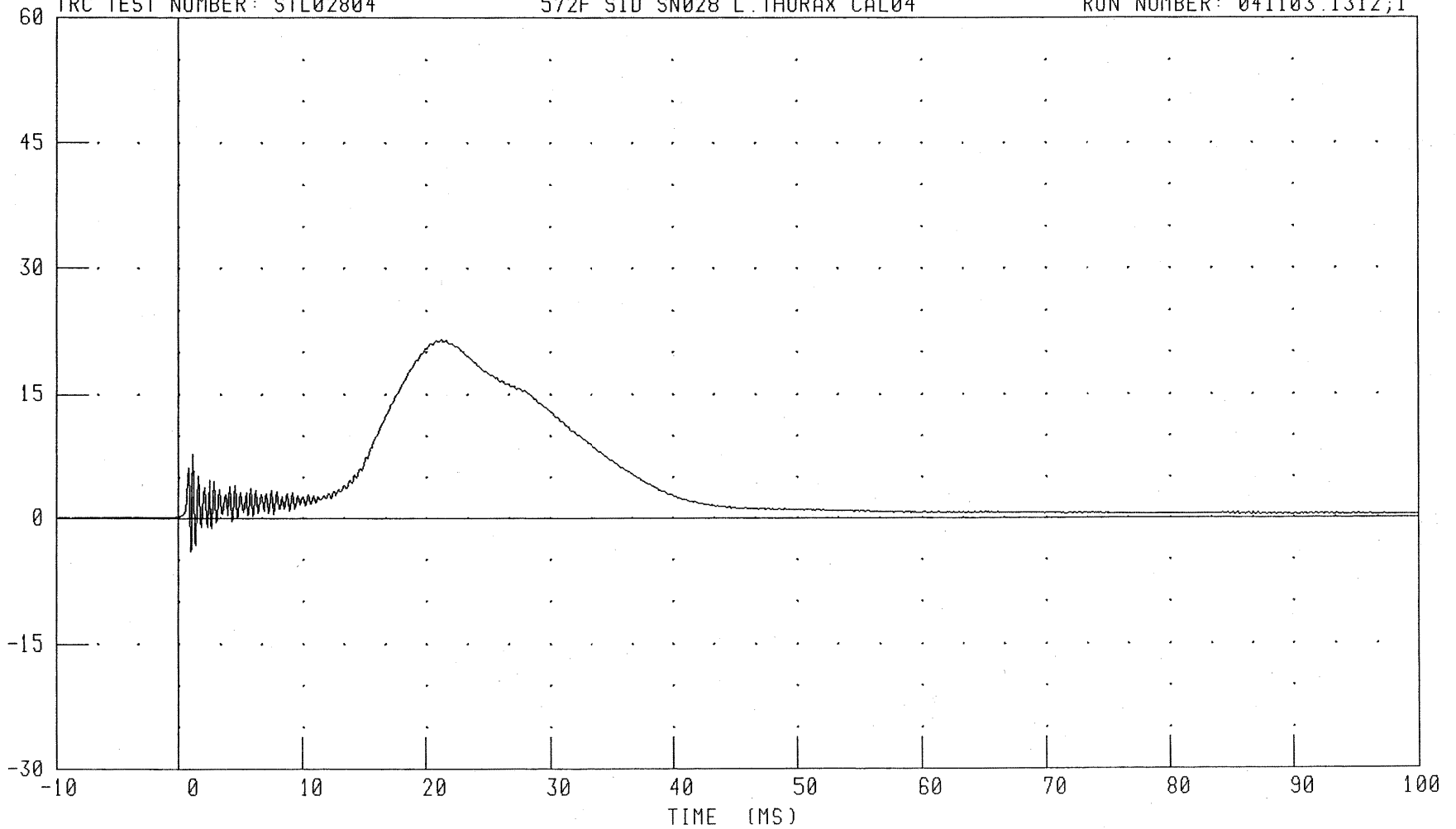
PENDULUM DECELERATION

TRC TEST NUMBER: STL02804

572F SID SN028 L THORAX CAL04

RUN NUMBER: 041103.1312;1

C-54
ACCELERATION (G)



CHANNEL: PENXC

FILTER: CH. CLASS 1000

PEAK DATA: 21.49 G @ 21.28 MS; -3.99 G @ 0.96 MS

030415

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

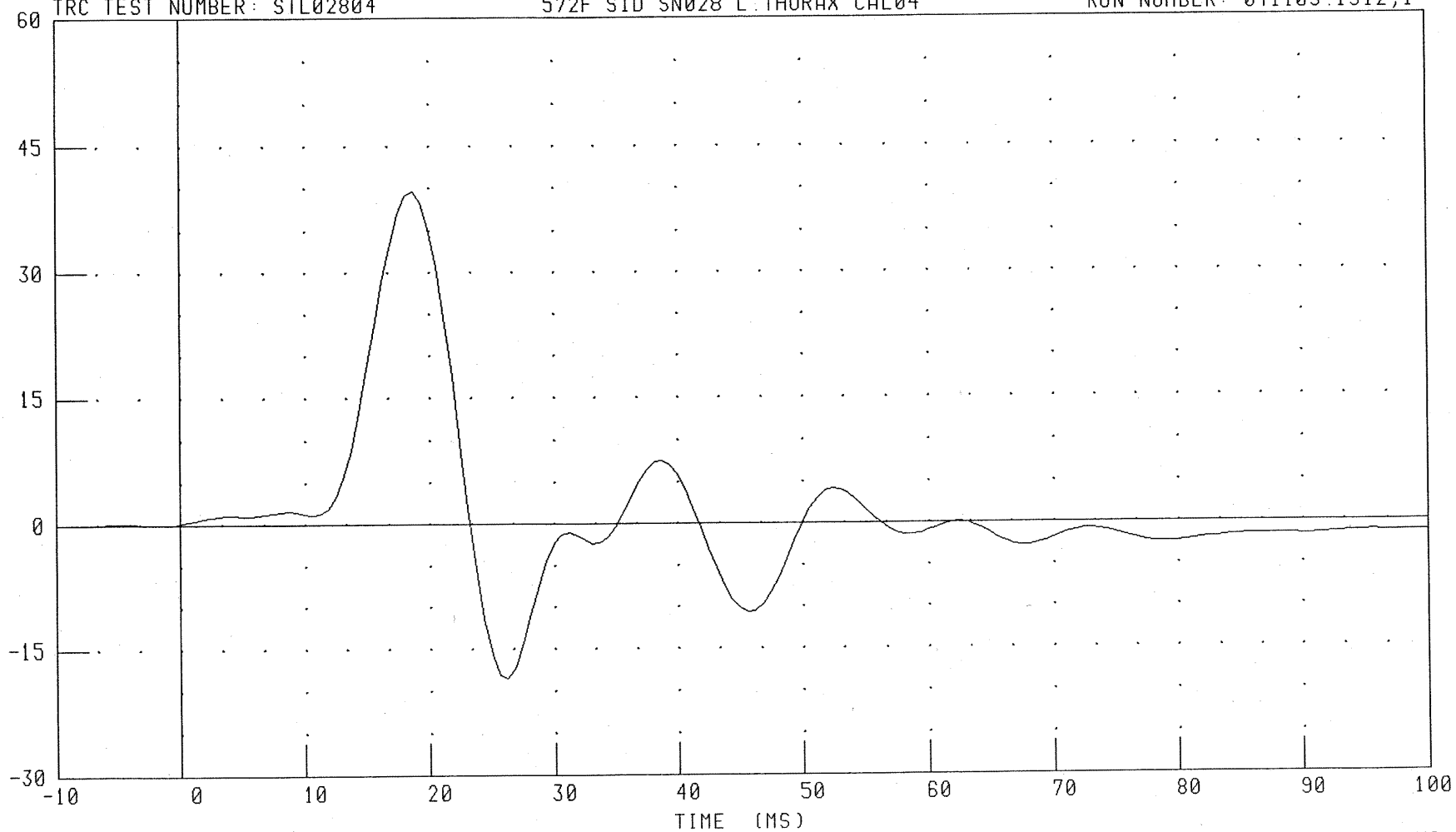
LEFT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL02804

572F SID SN028 L THORAX CAL04

RUN NUMBER: 041103.1312;1

C-55
ACCELERATION (G)



CHANNEL: LURYG

FILTER: FIR 100

PEAK DATA: 39.58 G @ 18.75 MS; -18.46 G @ 26.25 MS

030415

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

LEFT LOWER RIB ACCELERATION Y AXIS

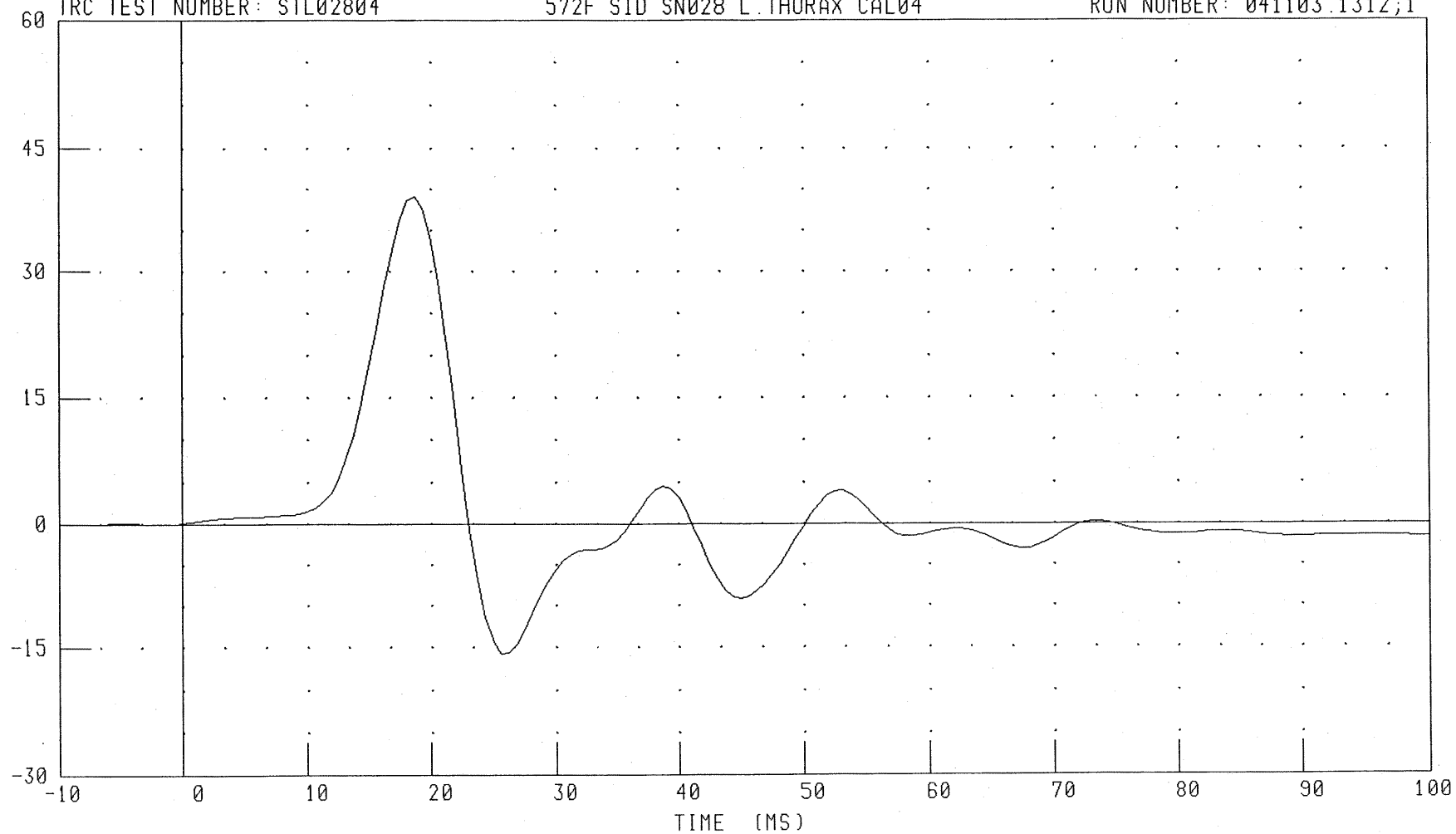
TRC TEST NUMBER: STL02804

572F SID SN028 L THORAX CAL04

RUN NUMBER: 041103.1312;1

C-56

ACCELERATION (G)



TIME (MS)

CHANNEL: LLRYG

FILTER: FIR 100

PEAK DATA: 39.13 G @ 18.75 MS; -15.74 G @ 25.63 MS

030415

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

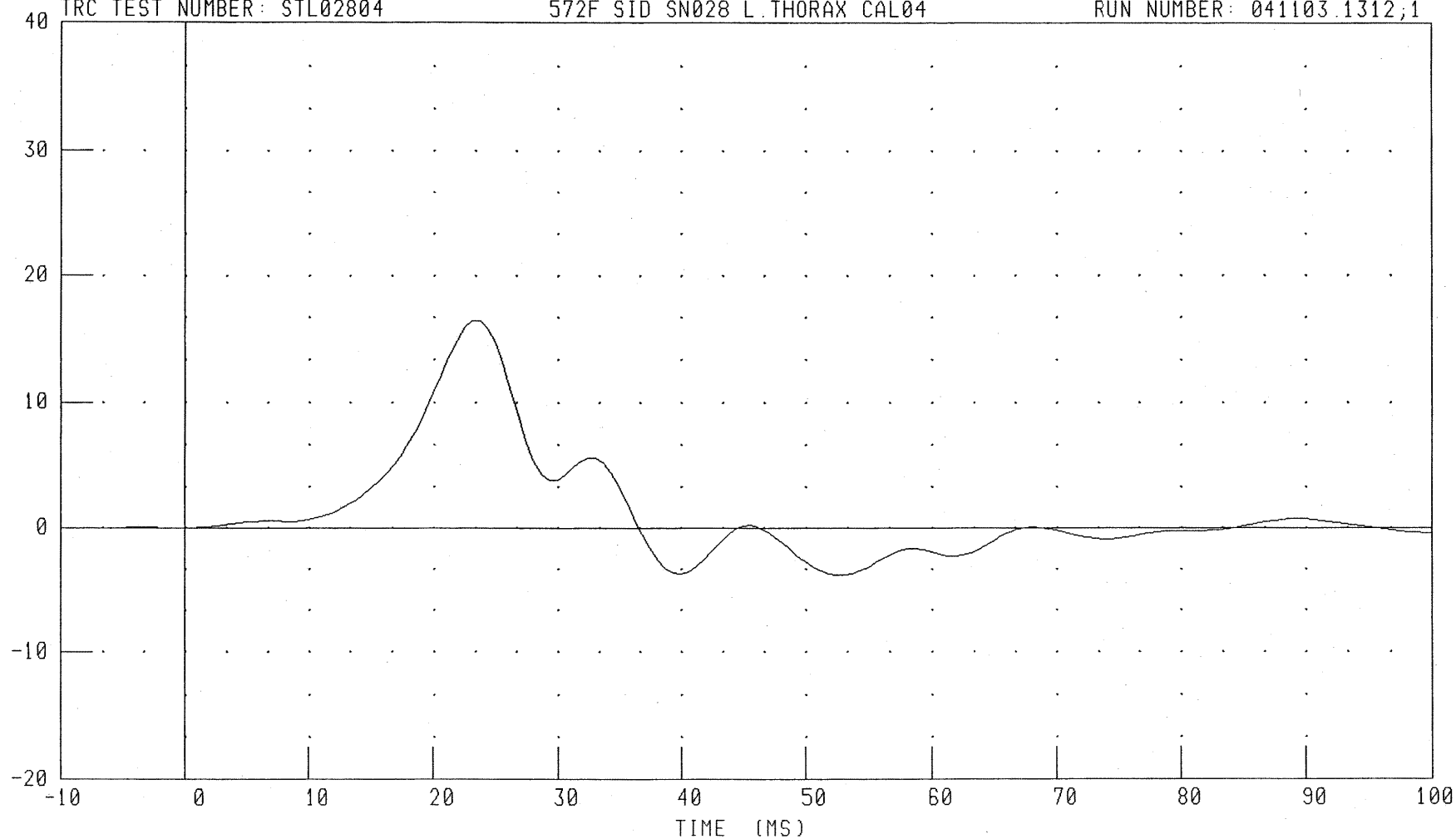
LOWER SPINE ACCELERATION Y AXIS

TRC TEST NUMBER: STL02804

572F SID SN028 L THORAX CAL04

RUN NUMBER: 041103.1312;1

C-57
ACCELERATION



CHANNEL: T12YC

FILTER: FIR 100

PEAK DATA: 16.44 G @ 23.75 MS; -3.87 G @ 53.12 MS

030415

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 14-Apr-03

TRC, INC.

TEST NO: 028C04LF1

572B SN 028 TORSO FLEX CAL 04

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.7 °C
RELATIVE HUMIDITY	10 – 70 %	39 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	124.6 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	182.4 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	226.9 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	8.0 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

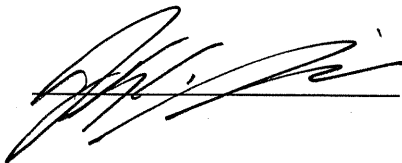
HIII SID Serial No. 028 Calibration No. 04 - 8

Test Date 04/14/2003

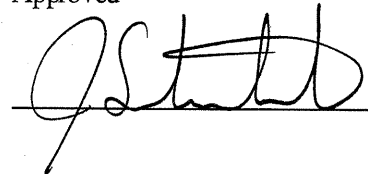
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	6.8 - 8.0 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved

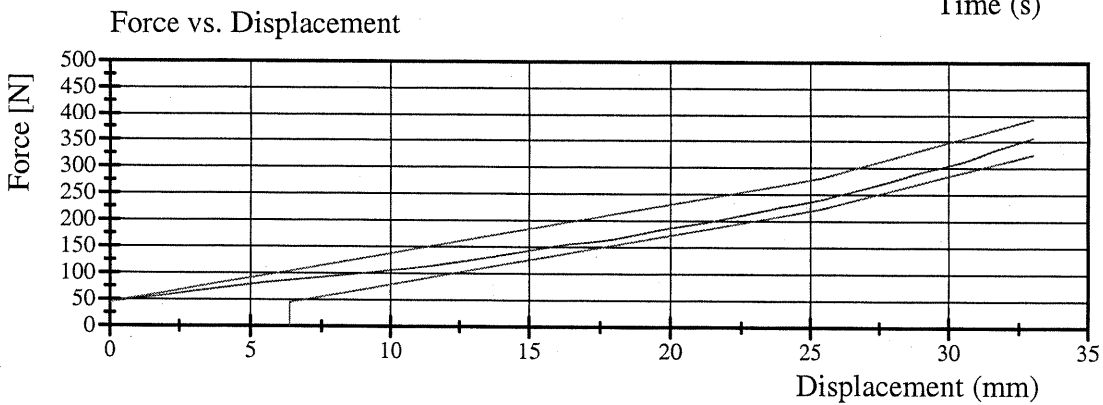
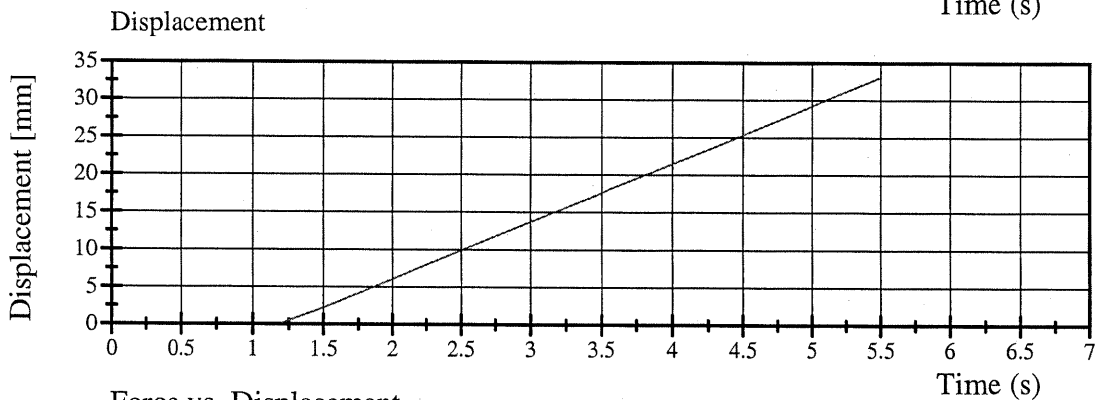
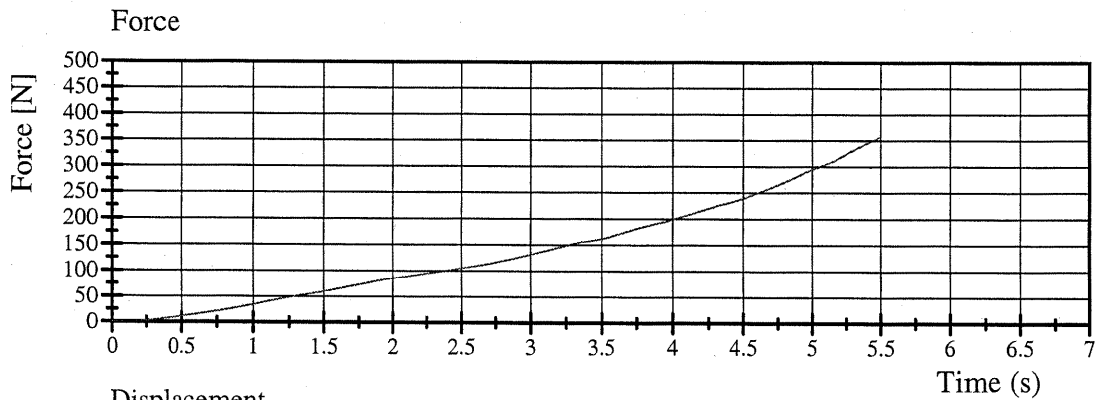


Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 028 Calibration No. 04 - 8

Test Date 04/14/2003



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

11-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

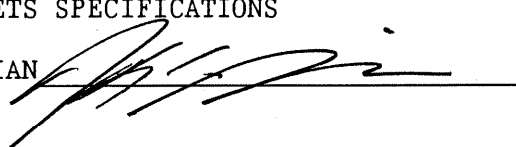
TEST NO: SPL02804

572F SN028 LEFT PELVIS CAL04

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY	10 - 70 %	38.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.26 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	47.0 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.3 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 041103.1318;1

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

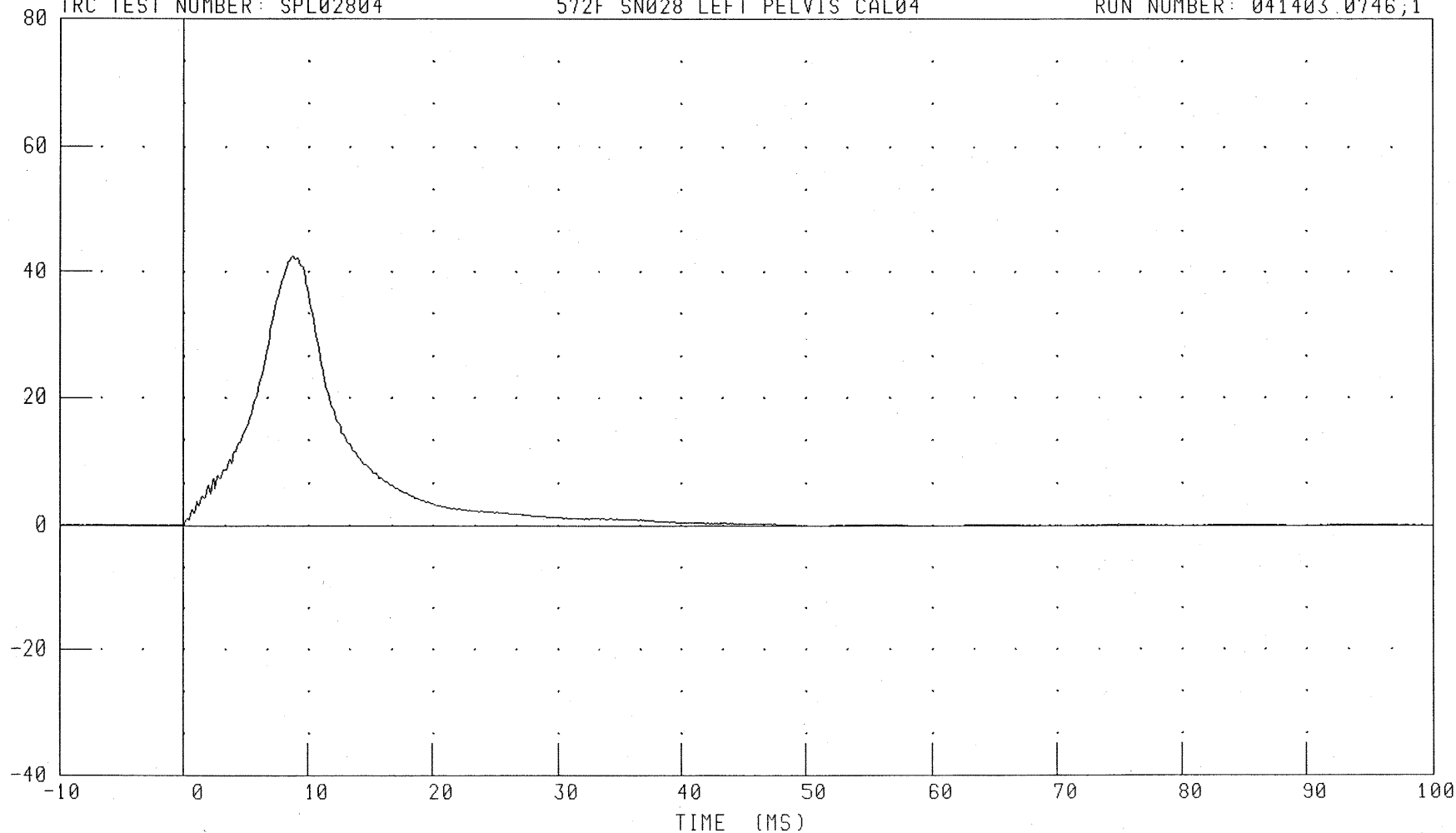
PENDULUM DECELERATION

TRC TEST NUMBER: SPL02804

572F SN028 LEFT PELVIS CAL04

RUN NUMBER: 041403.0746;1

C-62
ACCELERATION (G)



CHANNEL: PENXC

FILTER: CH. CLASS 1000

PEAK DATA: 42.65 G @ 8.80 MS; -0.10 G @ 68.88 MS

030415

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

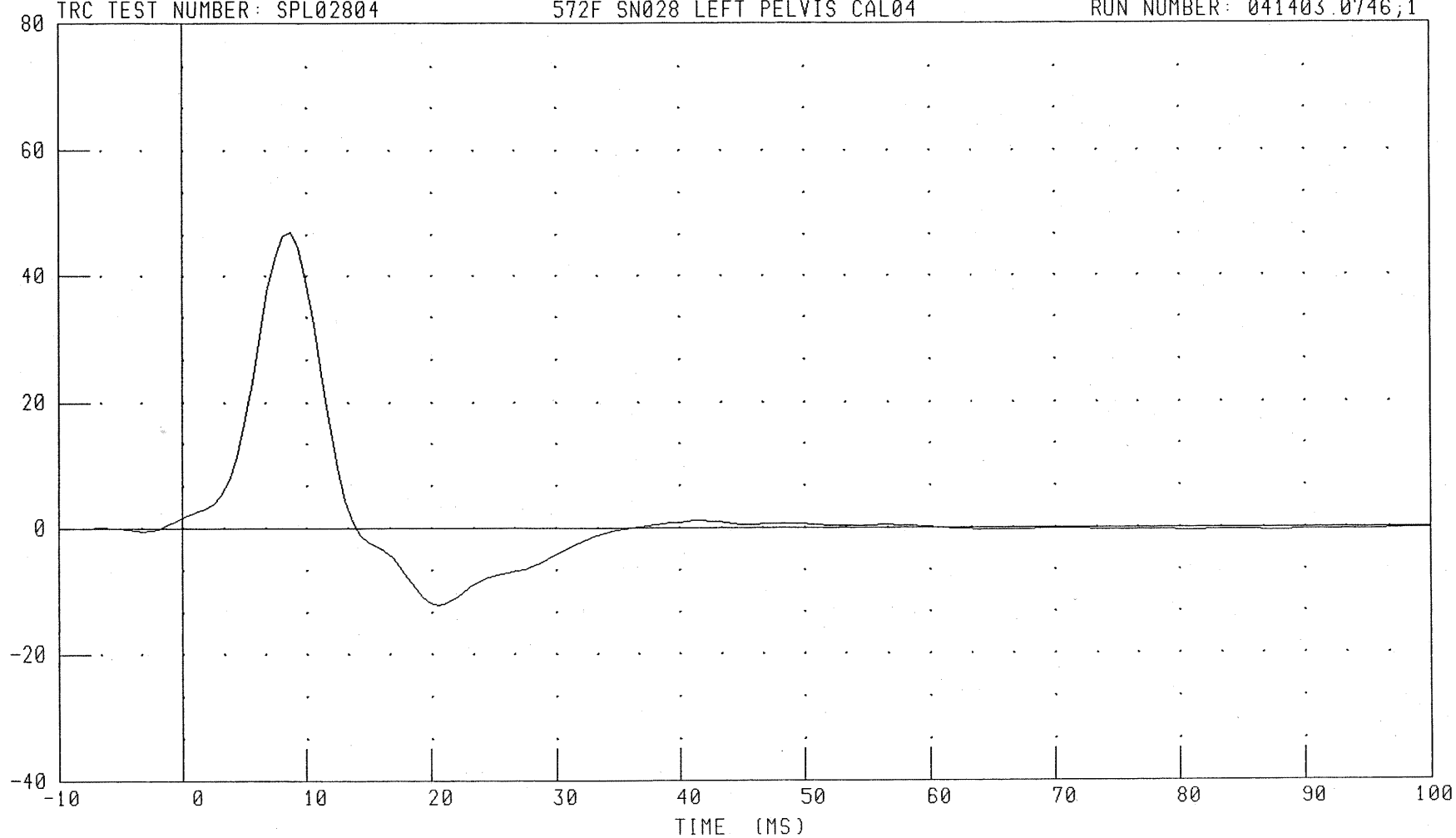
PELVIS ACCELERATION Y AXIS

TRC TEST NUMBER: SPL02804

572F SN028 LEFT PELVIS CAL04

RUN NUMBER: 041403.0746;1

(G) NOTATION
C-63
ACCELERATION



CHANNEL: PEVYG

FILTER: FIR 100

PEAK DATA: 47.01 G @ 8.75 MS; -12.17 G @ 20.62 MS

030415

TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

03-FEB-03

TRC INC.

572F SN028 DAMPER TEST CAL01

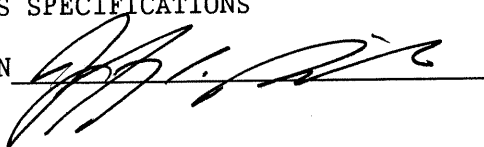
TEST NUMBERS: DP02801A,DP02801B,DP02801C

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

DAMPER SETTING = 5.6

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 020303.1116;2

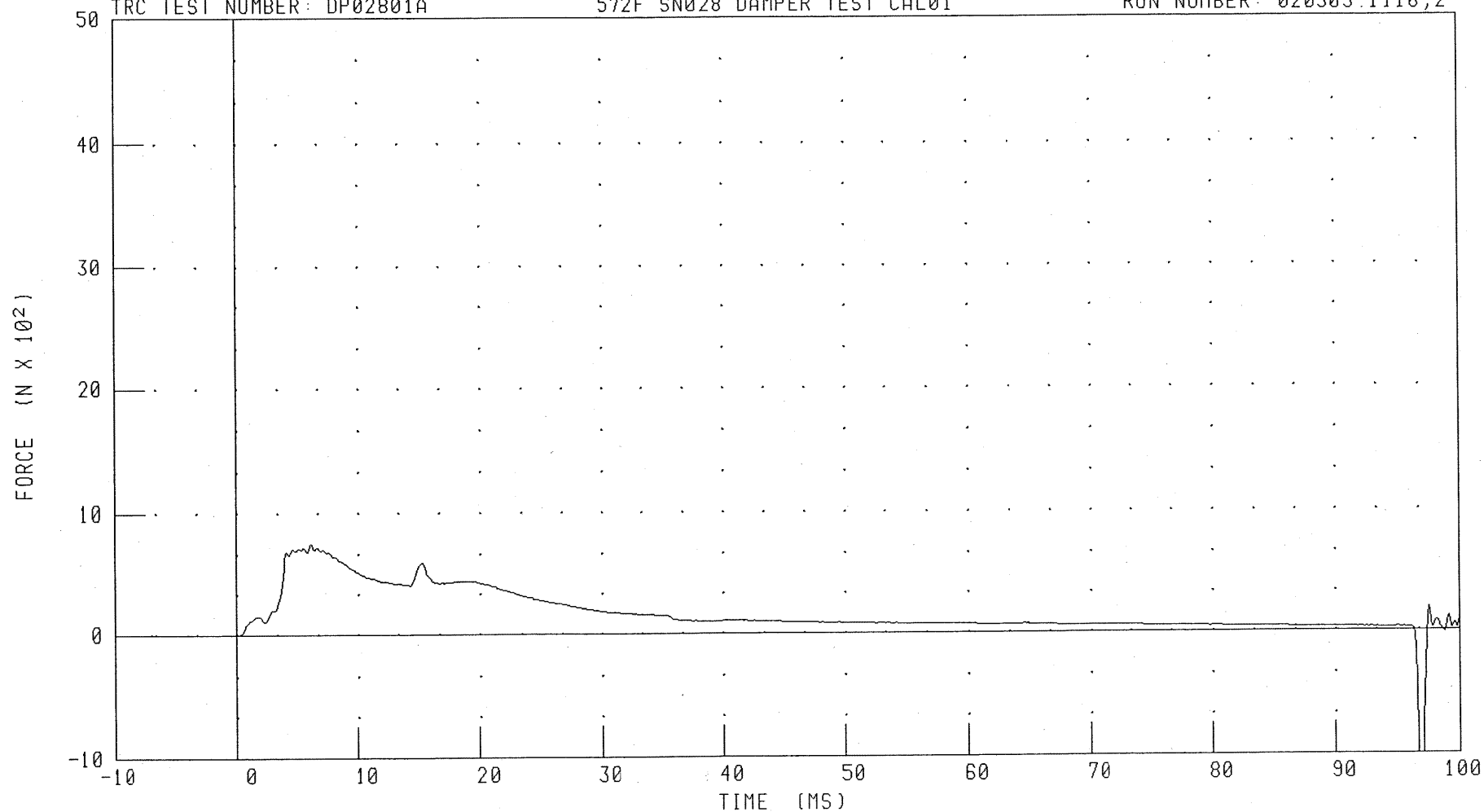
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP02801A

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116,2



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

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

C-65

030415

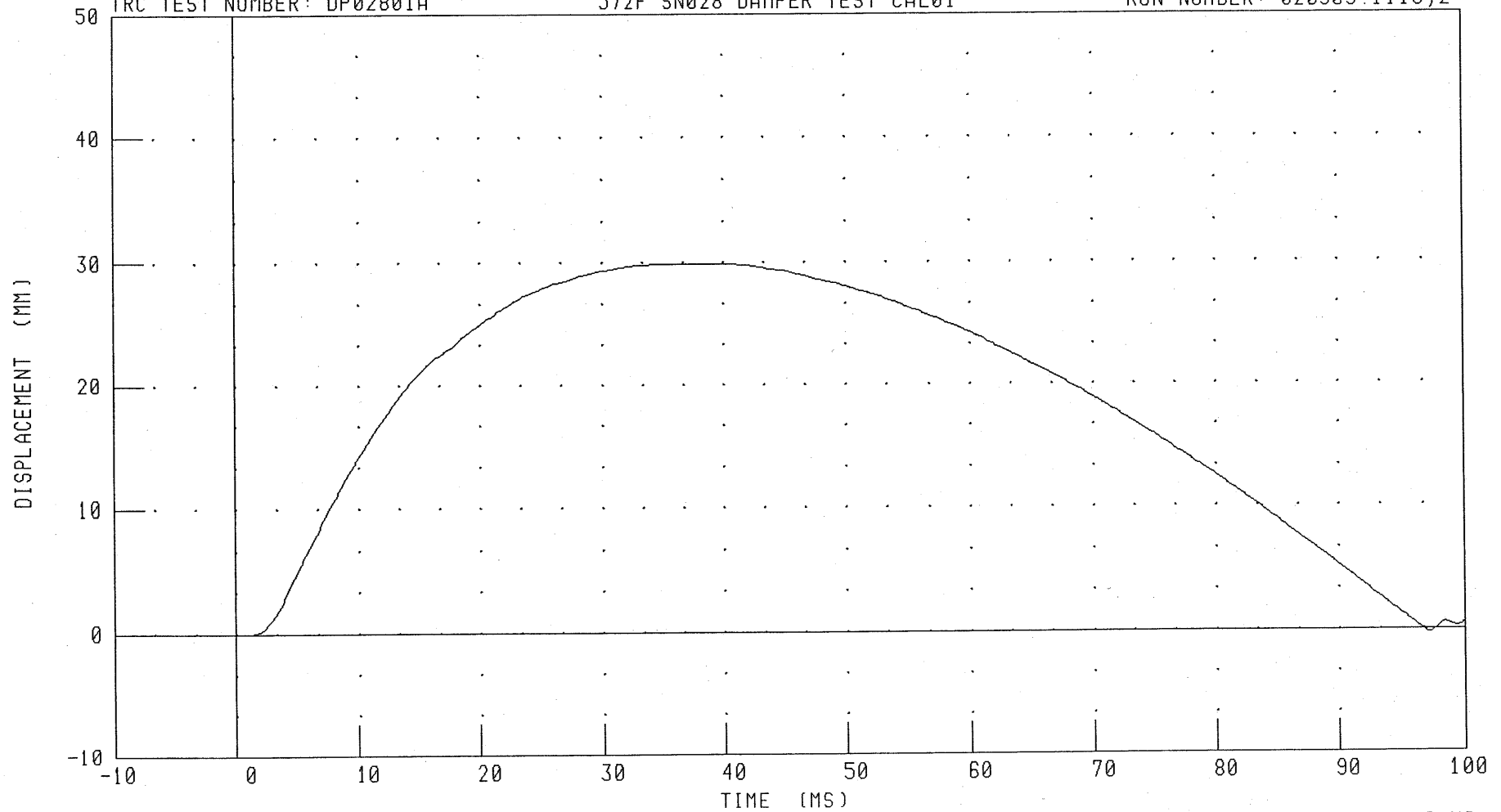
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP02801A

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116;2



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

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

C-66

030415

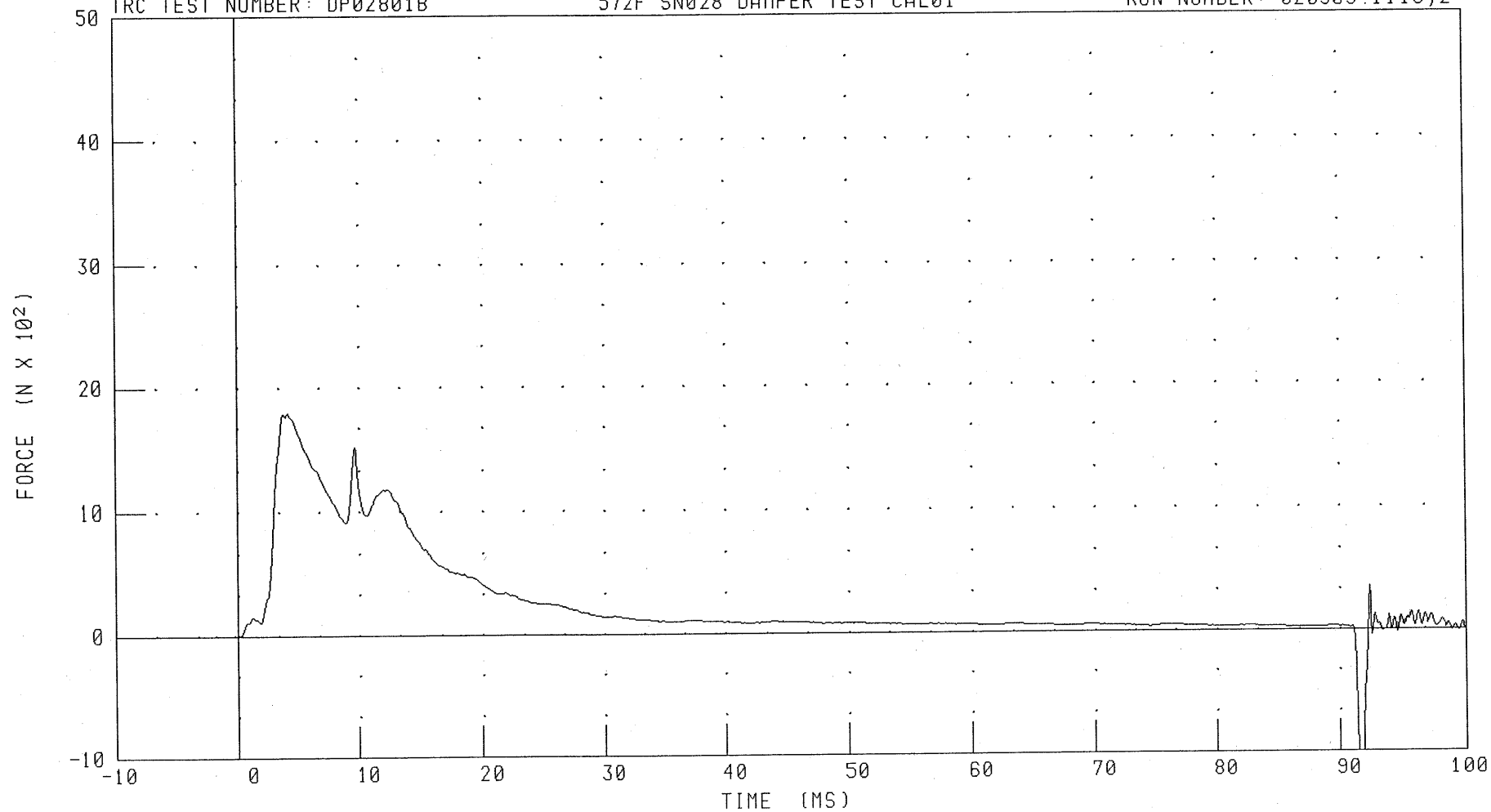
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP02801B

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116;2



CHANNEL: DAMPF FILTER: CH. CLASS 1000

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

C-67

030415

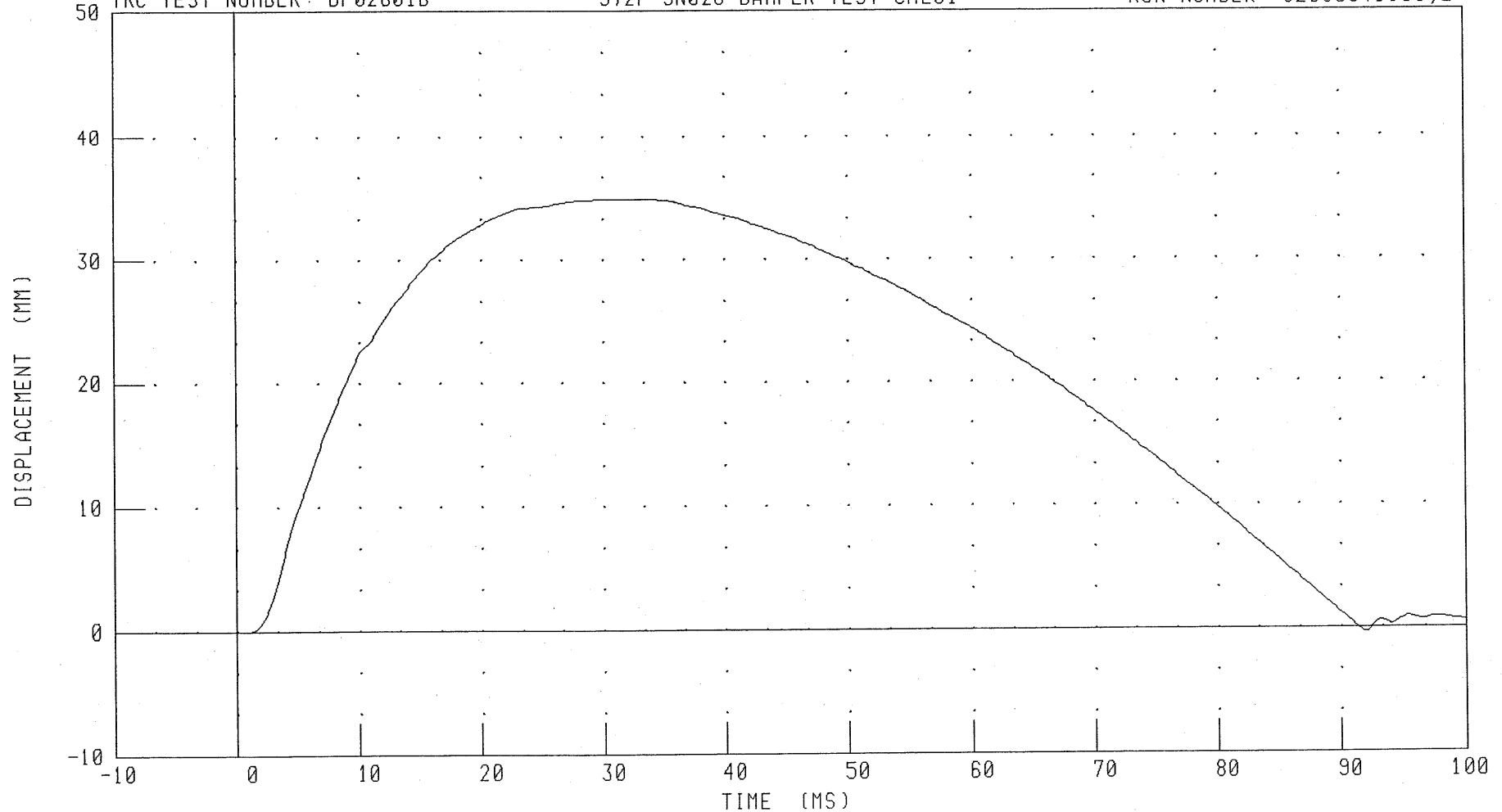
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP02801B

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1116;2



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

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

C-68

030415

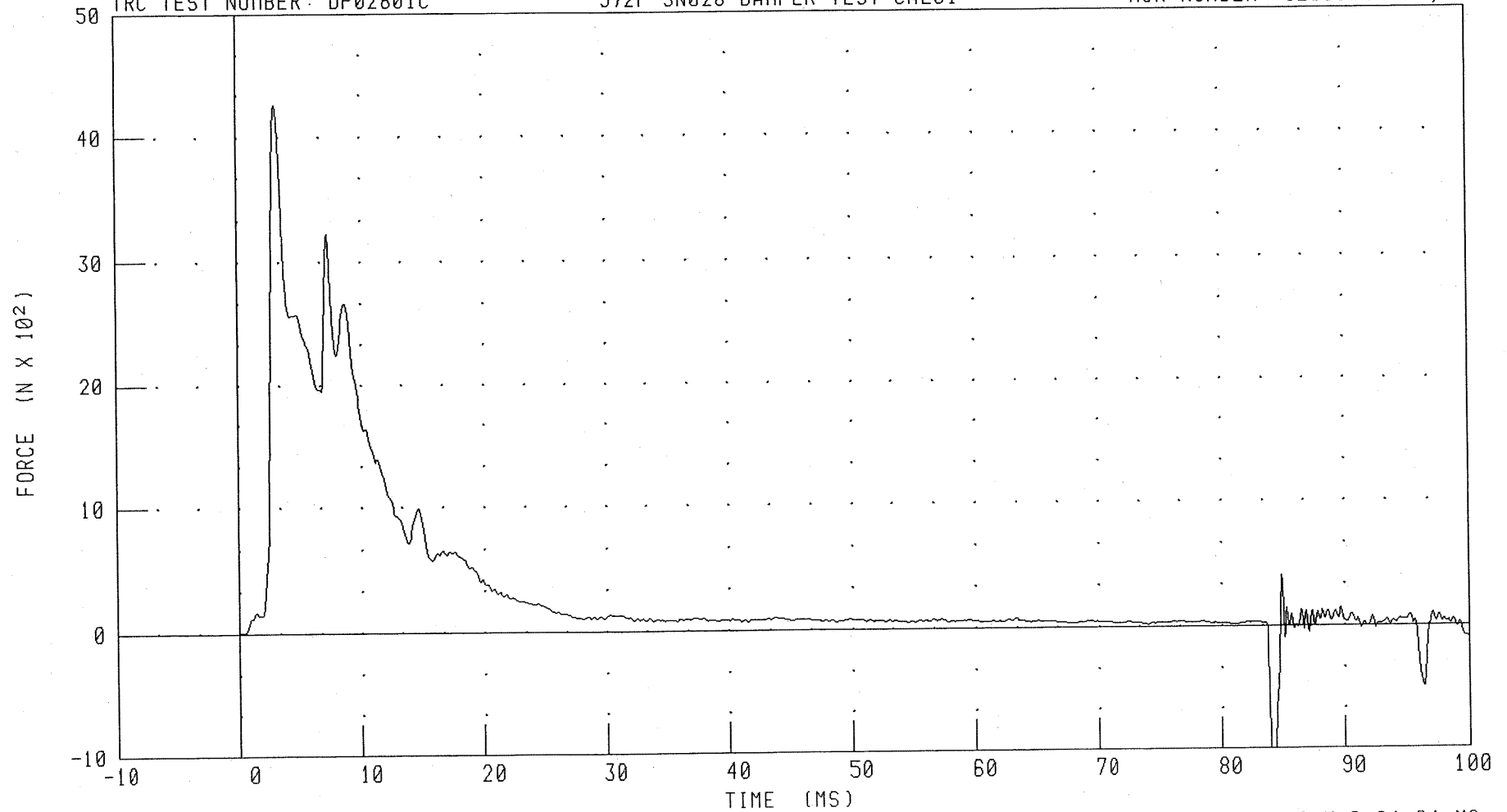
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP02801C

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1117;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

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

C-69

030415

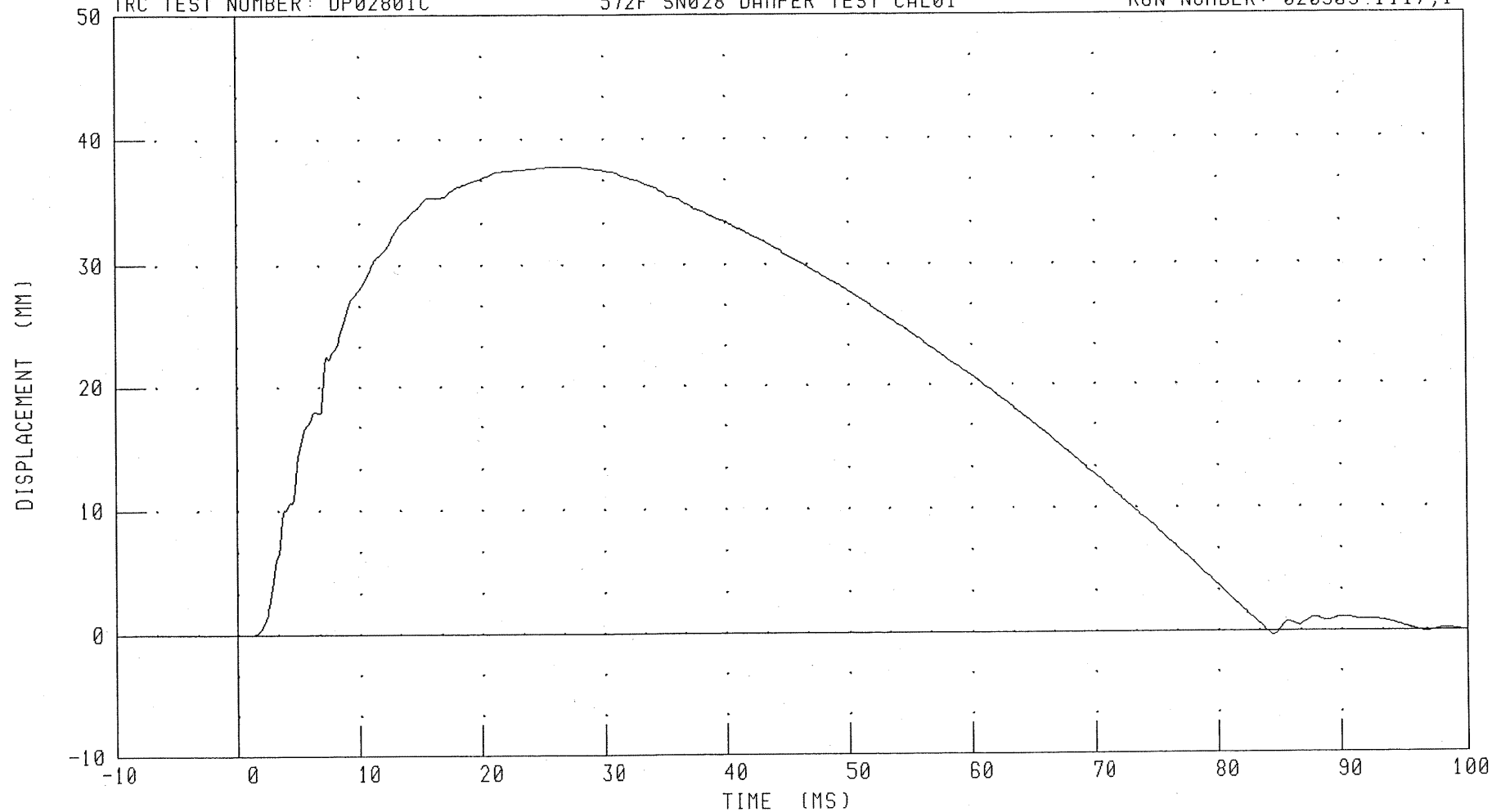
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP02801C

572F SN028 DAMPER TEST CAL01

RUN NUMBER: 020303.1117;1



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

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

C-70

030415

Calibration Test Results

Post-Test

SID: 065

Configured for Left Side Impact

External Dimensions:	The dummy passed all external dimension requirements.
Lateral Head Drop Test:	The head passed all lateral drop test requirements.
Lateral Neck Test:	The neck passed all impact test requirements.
Lateral Thorax Impact Test:	The thorax passed all impact test requirements.
Thoracic Shock Absorber Test:	The thoracic shock absorber passed all 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.

Transportation Research Center Inc.

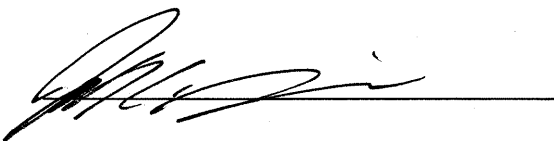
572F SID Dummy

External Dimensions

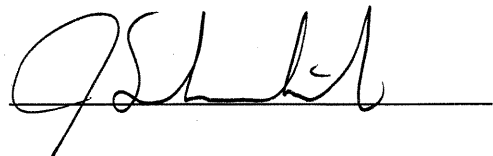
Serial No. 065 Calibration No. 08

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	511 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	238 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	514 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	499 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	169 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	168 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	1.0 mm	Yes

Technician



Approved



TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

SID/HIII DUMMY

17-APR-03

LEFT SIDE CONFIGURATION

TRC INC. TEST NO. HDL06508 572M SID/HIII SN065 HEAD CAL08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	21.67 deg. C
RELATIVE HUMIDITY	10 - 70 %	29.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	127.54 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-5.18 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 042803.0629;1

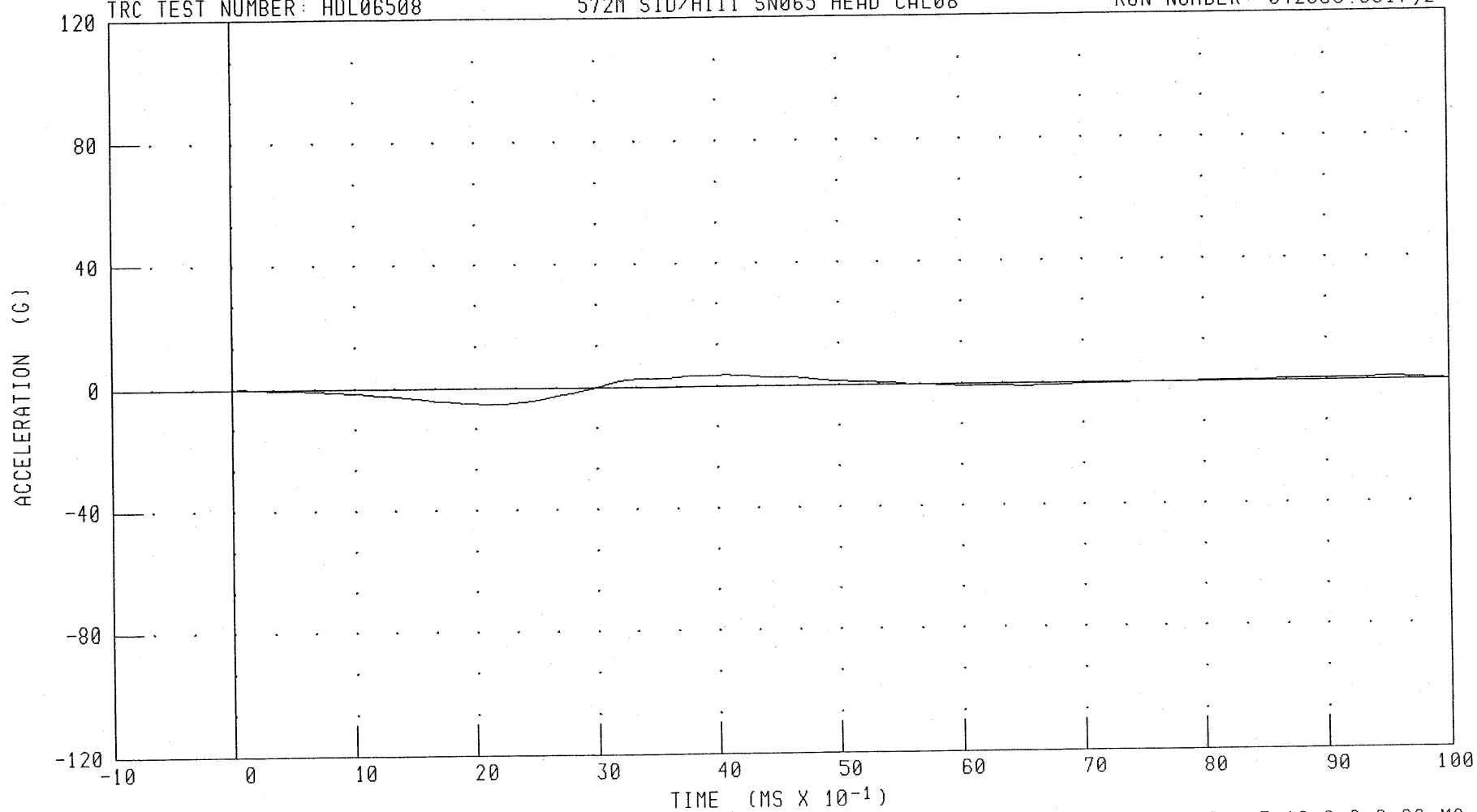
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION X AXIS

TRC TEST NUMBER: HDL06508

572M SID/HIII SN065 HEAD CAL08

RUN NUMBER: 042803.0617;2



CHANNEL: HEDXC

FILTER: CH. CLASS 1000

PEAK DATA: 3.42 G @ 4.08 MS; -5.18 G @ 2.08 MS

C-74

030415

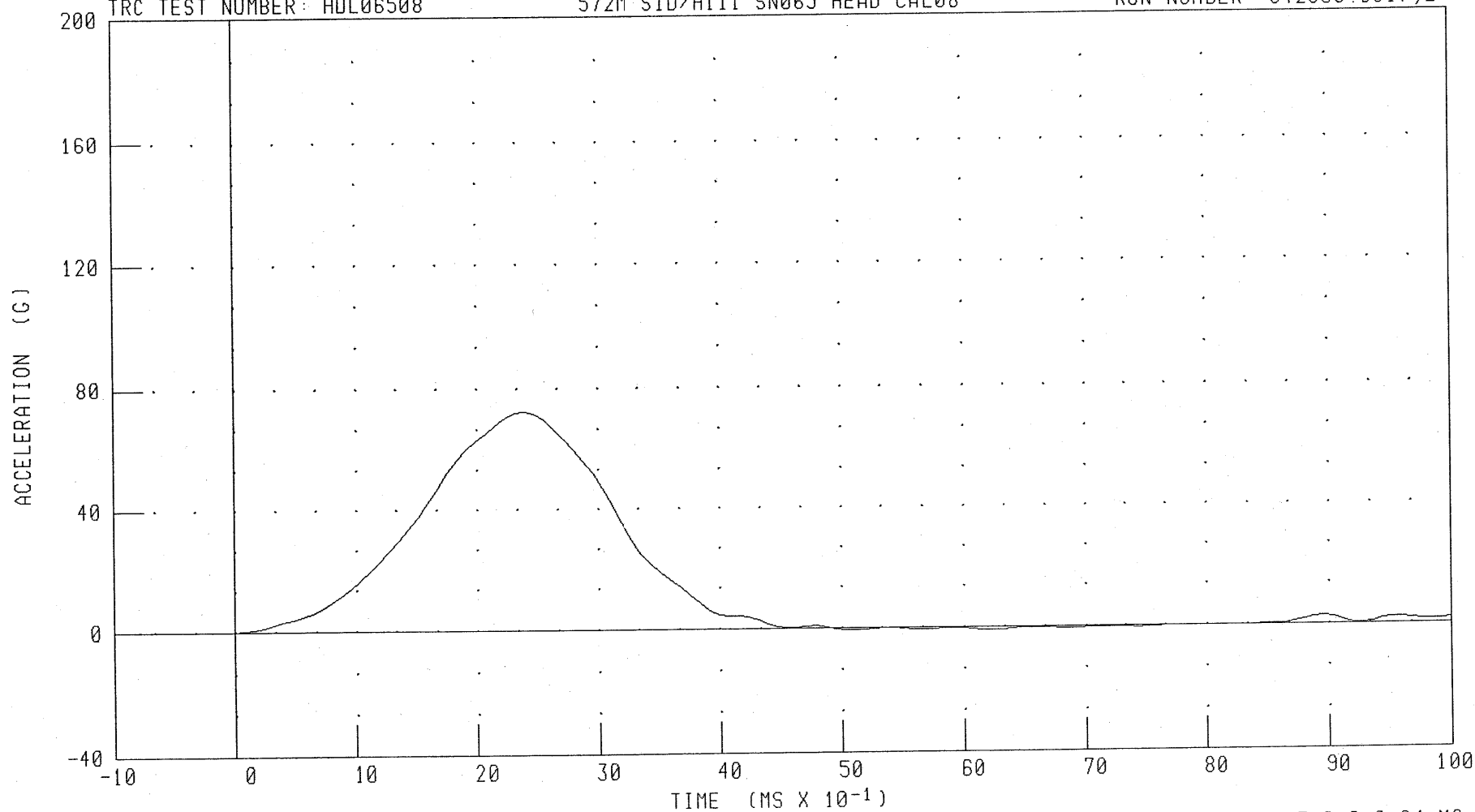
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER: HDL06508

572M SID/HIII SN065 HEAD CAL08

RUN NUMBER: 042803.0617;2



CHANNEL: HEDYC

FILTER: CH. CLASS 1000

PEAK DATA: 72.46 G @ 2.40 MS; -1.15 G @ 6.24 MS

030415

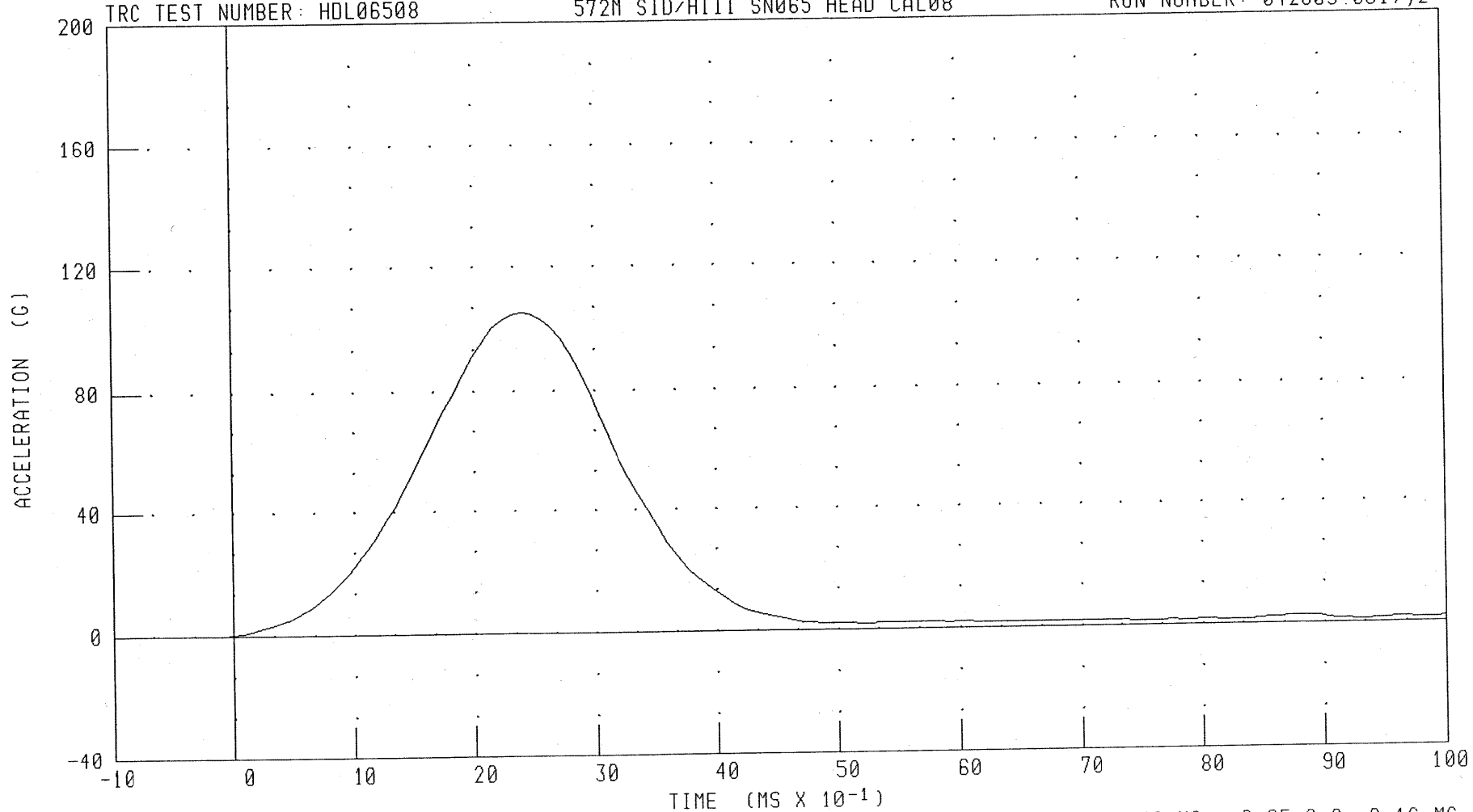
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

TRC TEST NUMBER: HDL06508

572M SID/HIII SN065 HEAD CAL08

RUN NUMBER: 042803.0617;2



CHANNEL: HEDZG

FILTER: CH. CLASS 1000

PEAK DATA: 104.86 G @ 2.40 MS; -0.05 G @ -0.16 MS

C-76

030415

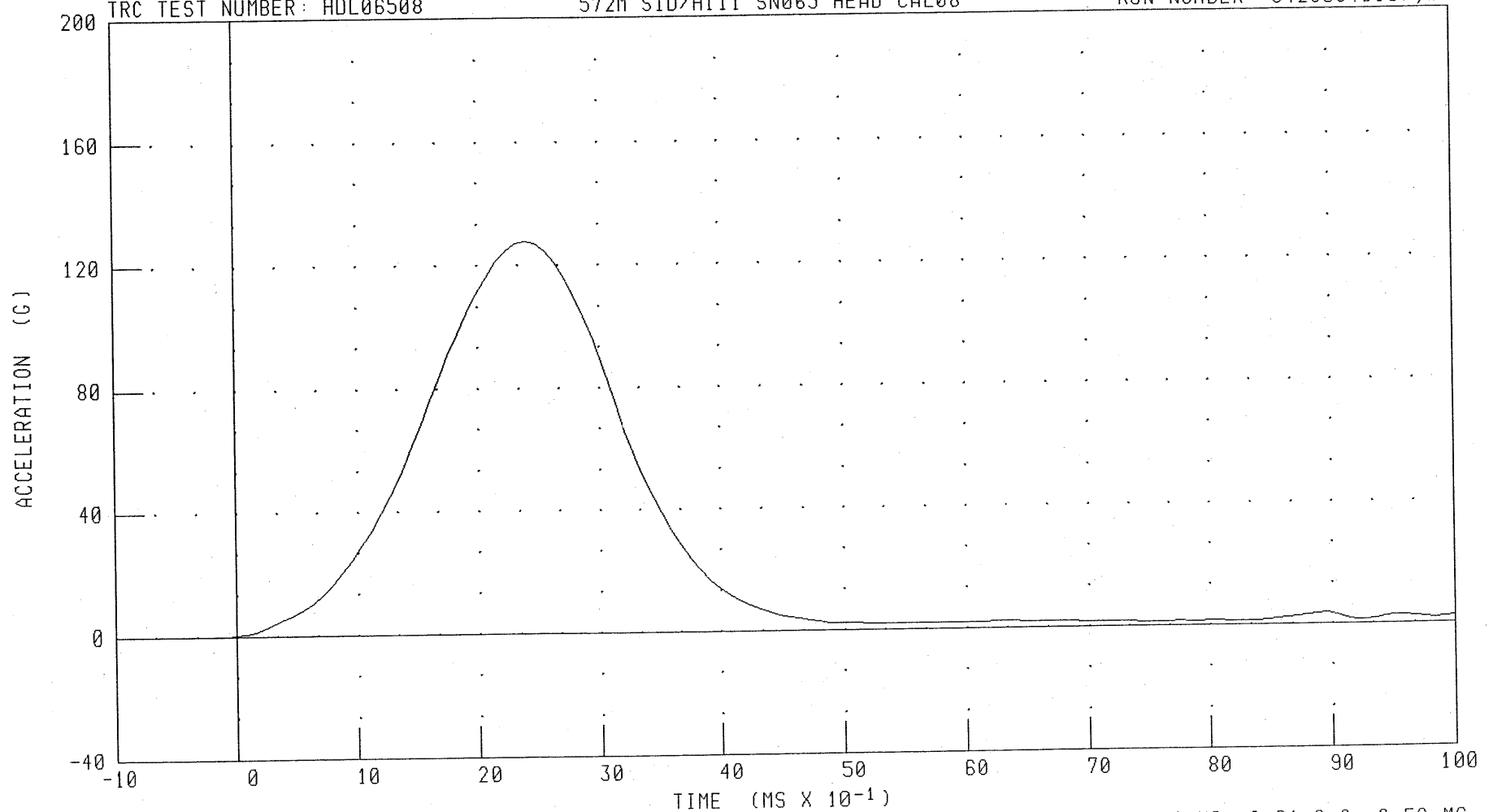
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

TRC TEST NUMBER: HDL06508

572M SID/HIII SN065 HEAD CAL08

RUN NUMBER: 042803.0617;2



CHANNEL: HEDRG

FILTER: CH. CLASS 1000

PEAK DATA: 127.54 G @ 2.40 MS; 0.01 G @ -0.56 MS

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL NECK TEST

HYBRIDIII SID DUMMY

17-APR-03

LEFT SIDE CONFIGURATION

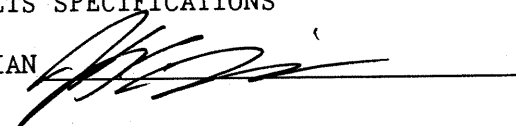
TRC INC.

TEST NO. NFL06508

H3/SID SN065 NECK LEFT CAL08

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 deg. C	21.11 deg. C
RELATIVE HUMIDITY		10 - 70 %	40.00 %
IMPACT VELOCITY		6.89 - 7.13 M/S	7.06 M/S
INTEGRATED VELOCITY	10 MS	1.96 - 2.55 M/S	2.53 M/S
	20 MS	4.12 - 5.10 M/S	4.95 M/S
	30 MS	5.73 - 7.01 M/S	6.91 M/S
	40 - 70 MS	6.27 - 7.64 M/S	7.14- 7.23 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION		66 - 82 deg.	70.33 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO		58 - 67 MS	59.84 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE		73 - 88 NM	82.84 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO		49 - 64 MS	52.48 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT		2 - 16 MS	8.64 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN 

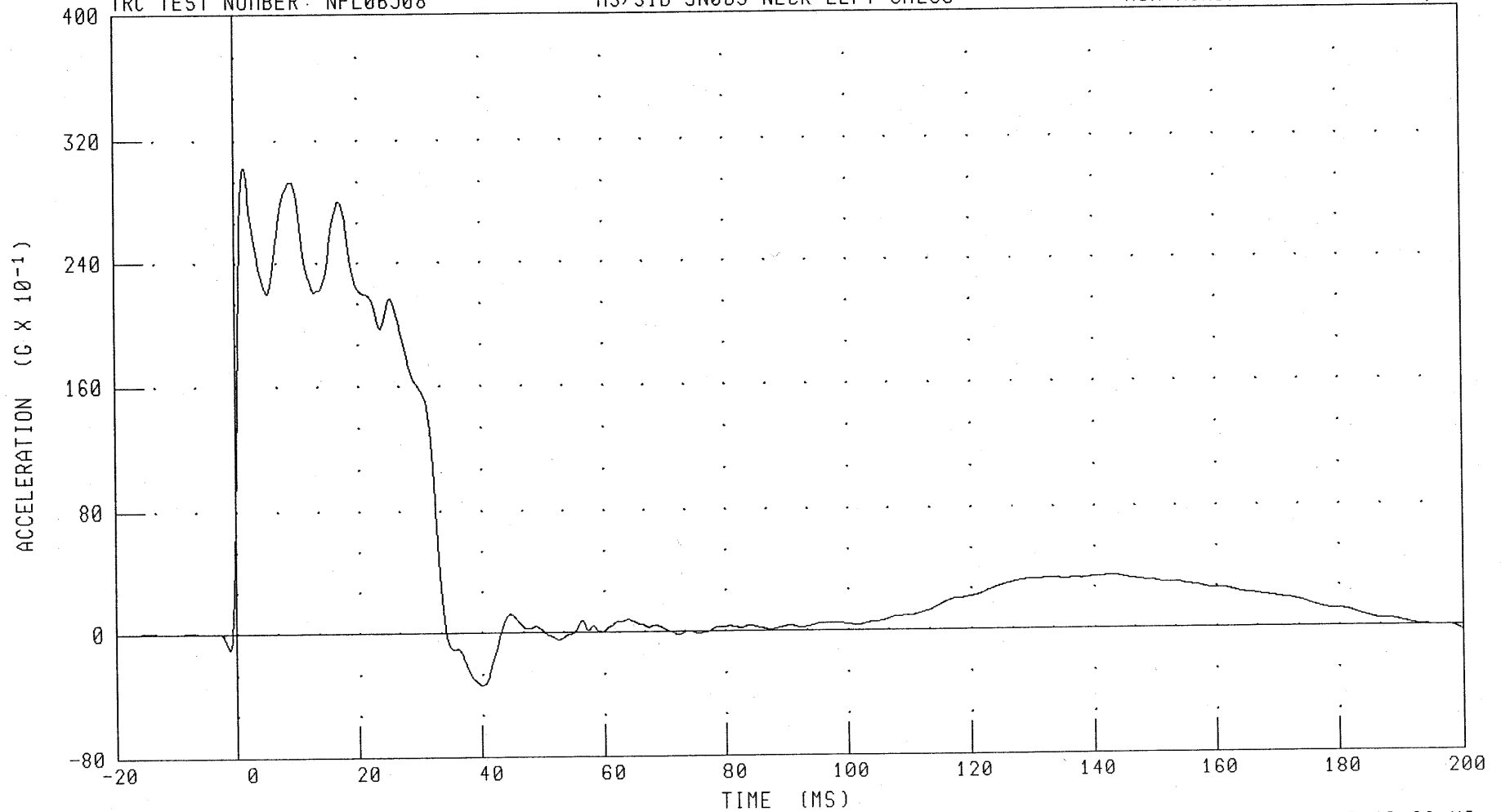
RUN NUMBER: 041703.1452;1

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

TRC TEST NUMBER: NFL06508

H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1



CHANNEL: PENXC

FILTER: CH. CLASS 180

PEAK DATA: 30.27 G @ 1.60 MS; -3.40 G @ 40.00 MS

C-79

030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

INTEGRATED PENDULUM VELOCITY

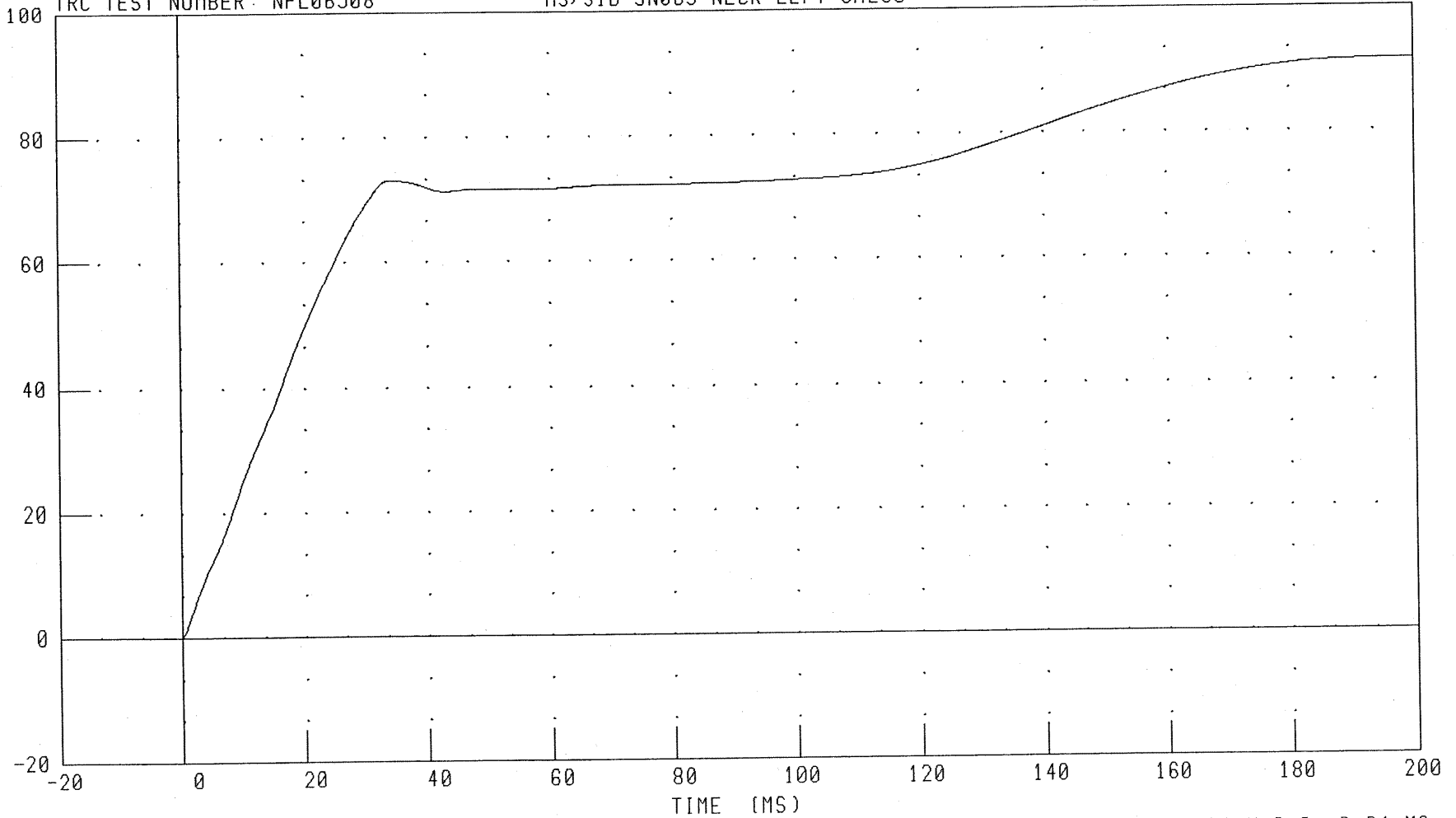
H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1

TRC TEST NUMBER: NFL06508

C-80

VELOCITY (M/S X 10⁻¹)



CHANNEL: PENXVI

FILTER: CH. CLASS 180

PEAK DATA: 9.14 M/S @ 194.72 MS; -0.01 M/S @ -0.64 MS

030415

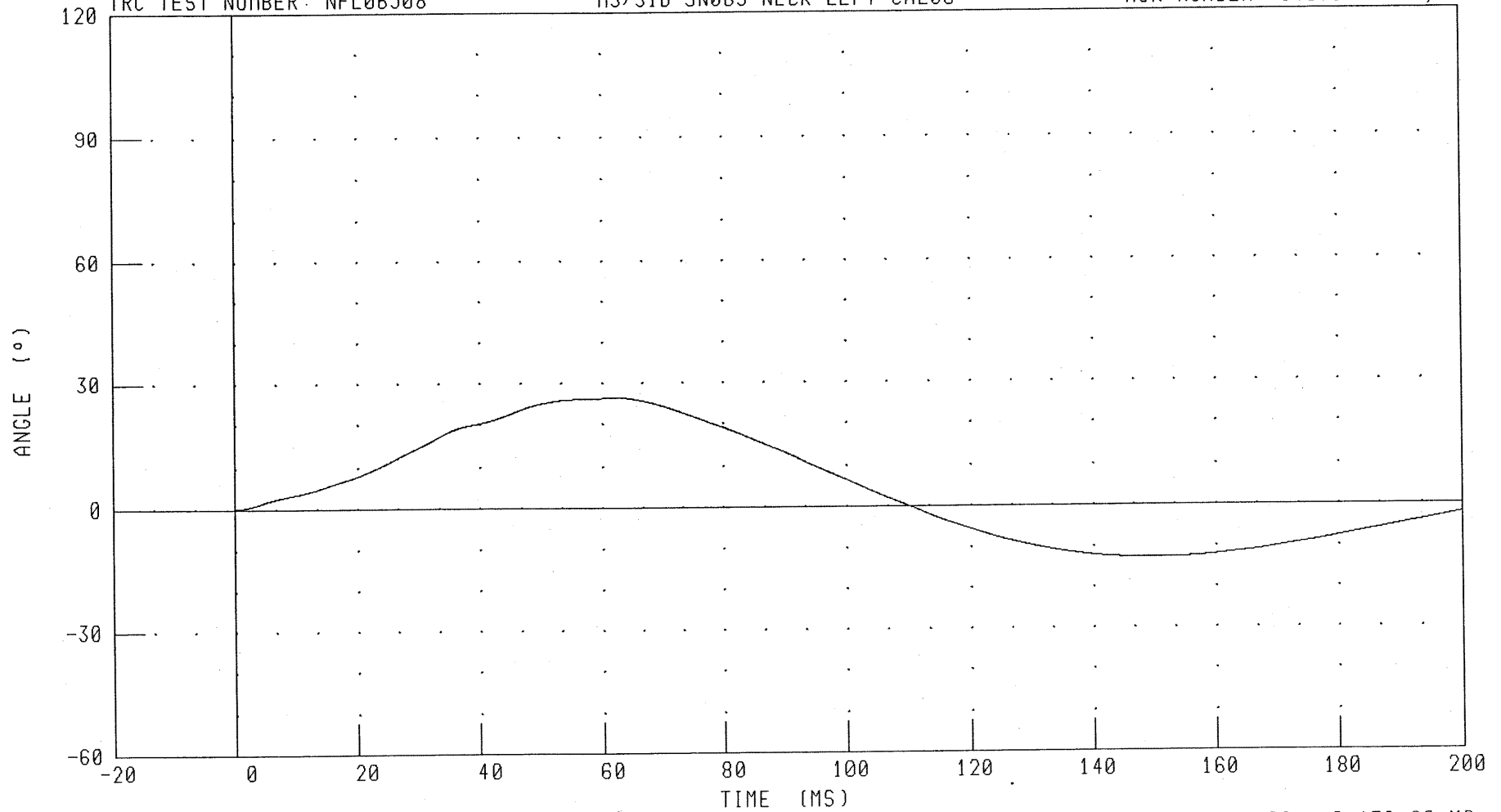
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: NFL06508

H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1



CHANNEL: BETA

FILTER: CH. CLASS 60

PEAK DATA: 26.33 ° @ 62.16 MS; -12.80 ° @ 150.00 MS

C-81

030415

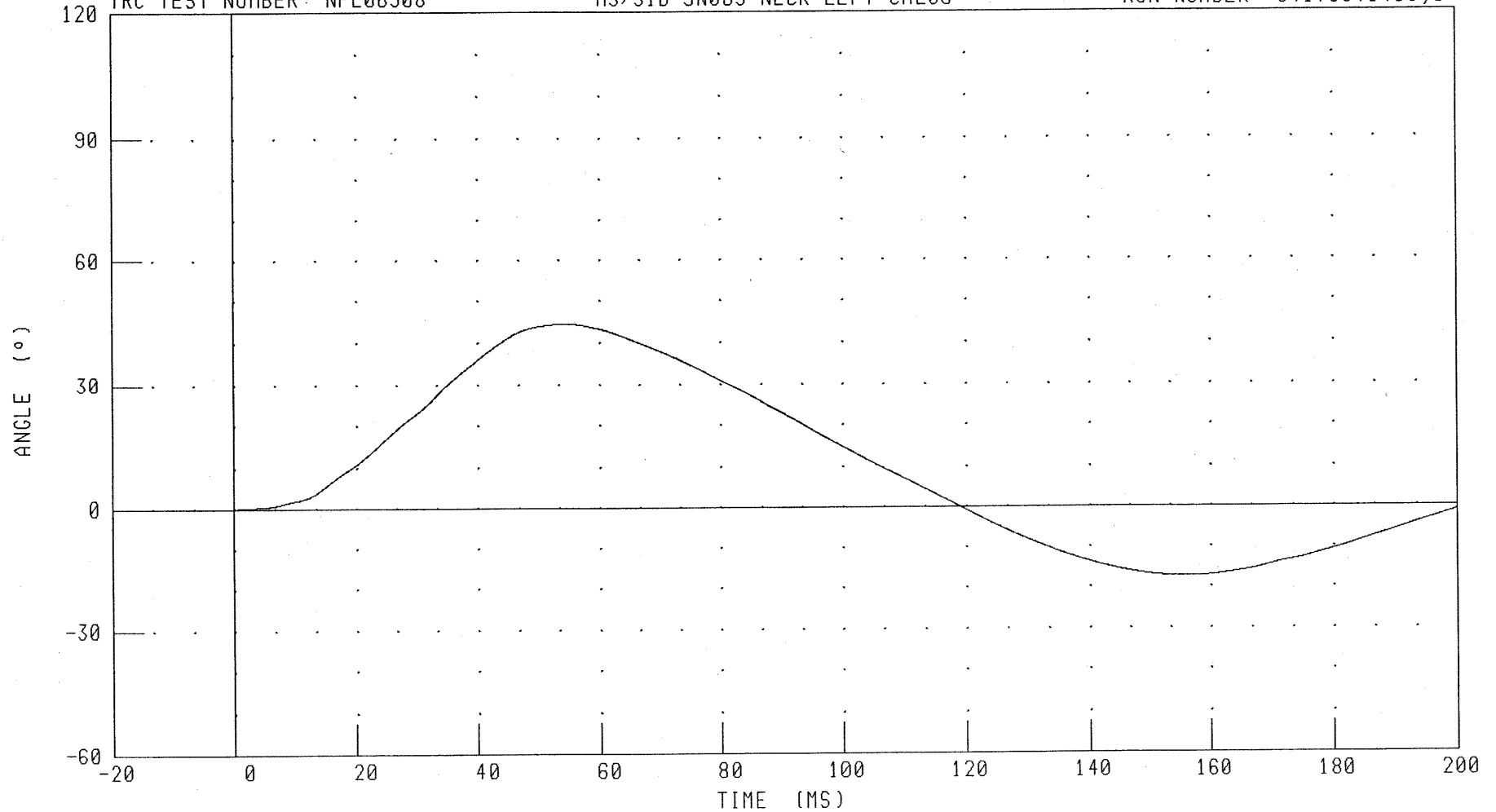
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL06508

H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1



CHANNEL: THETA

FILTER: CH. CLASS 60

PEAK DATA: 44.40 ° @ 54.56 MS; -17.43 ° @ 156.08 MS

030415

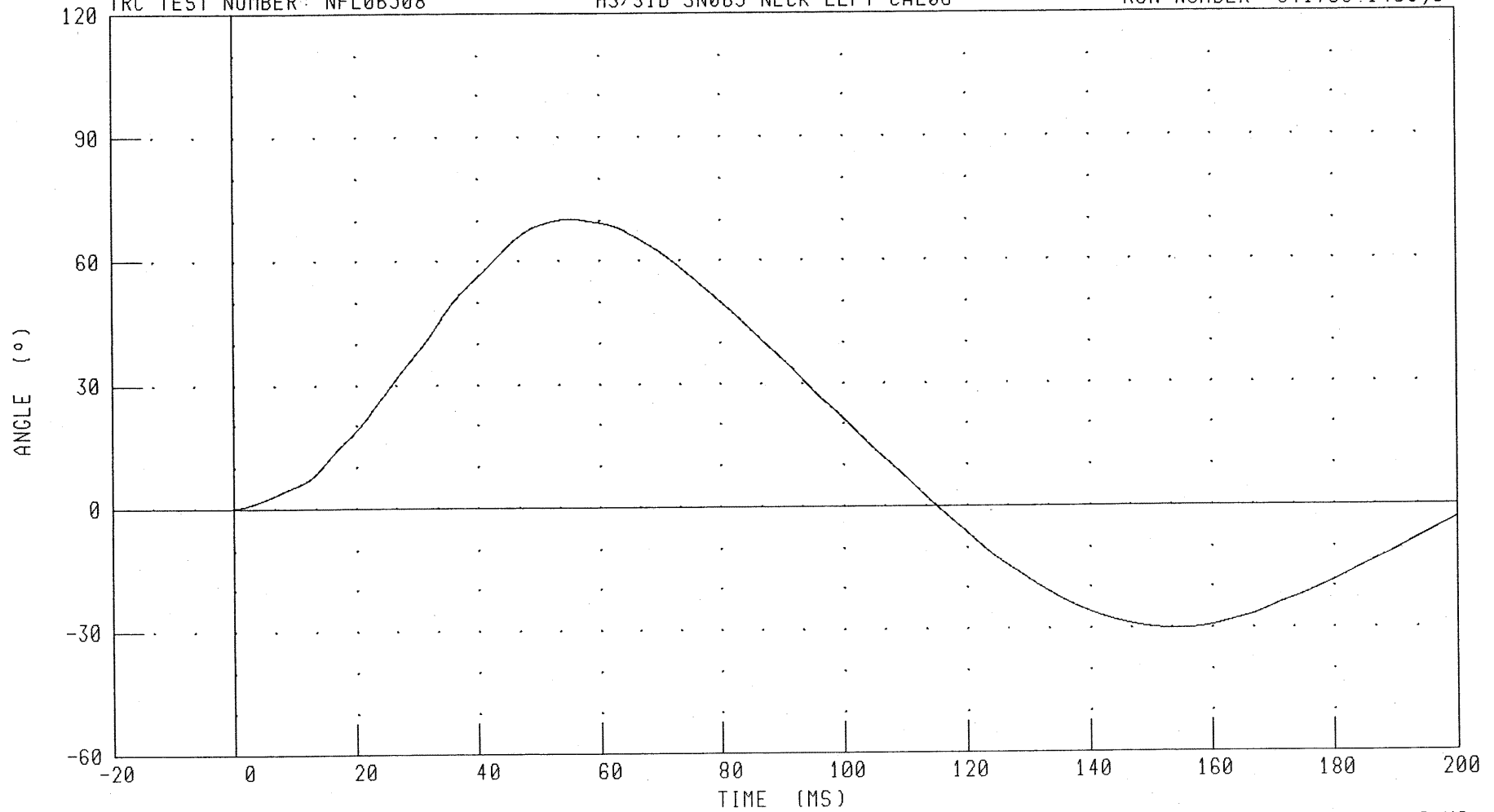
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

TOTAL ROTATION

TRC TEST NUMBER: NFL06508

H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1



CHANNEL: TOTAN

FILTER: CH. CLASS 60

PEAK DATA: 70.33 ° @ 55.28 MS; -30.12 ° @ 154.48 MS

C-83

030415

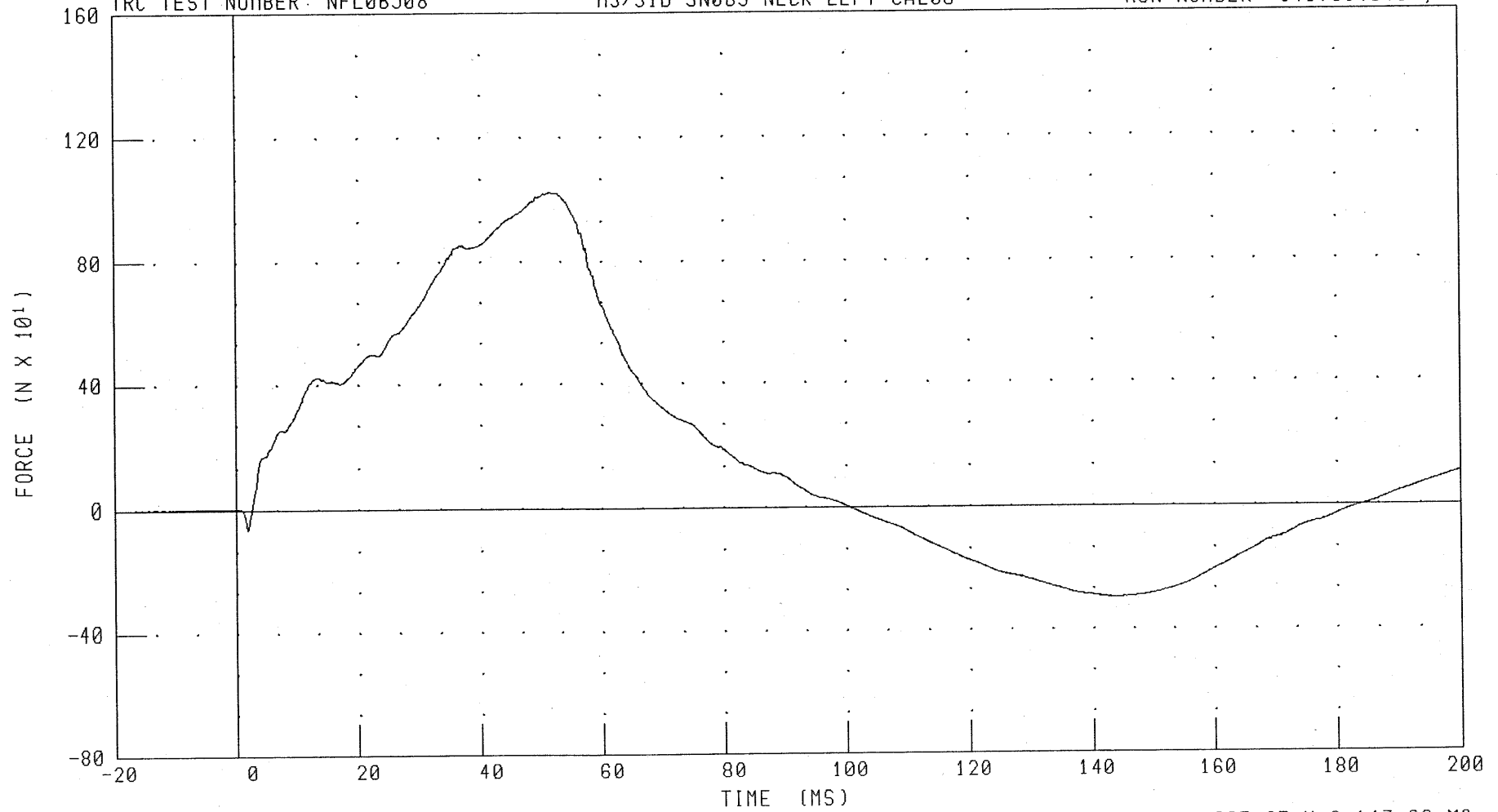
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK FORCE Y AXIS

TRC TEST NUMBER: NFL06508

H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1



CHANNEL: NEKYF FILTER: CH. CLASS 1000

030415

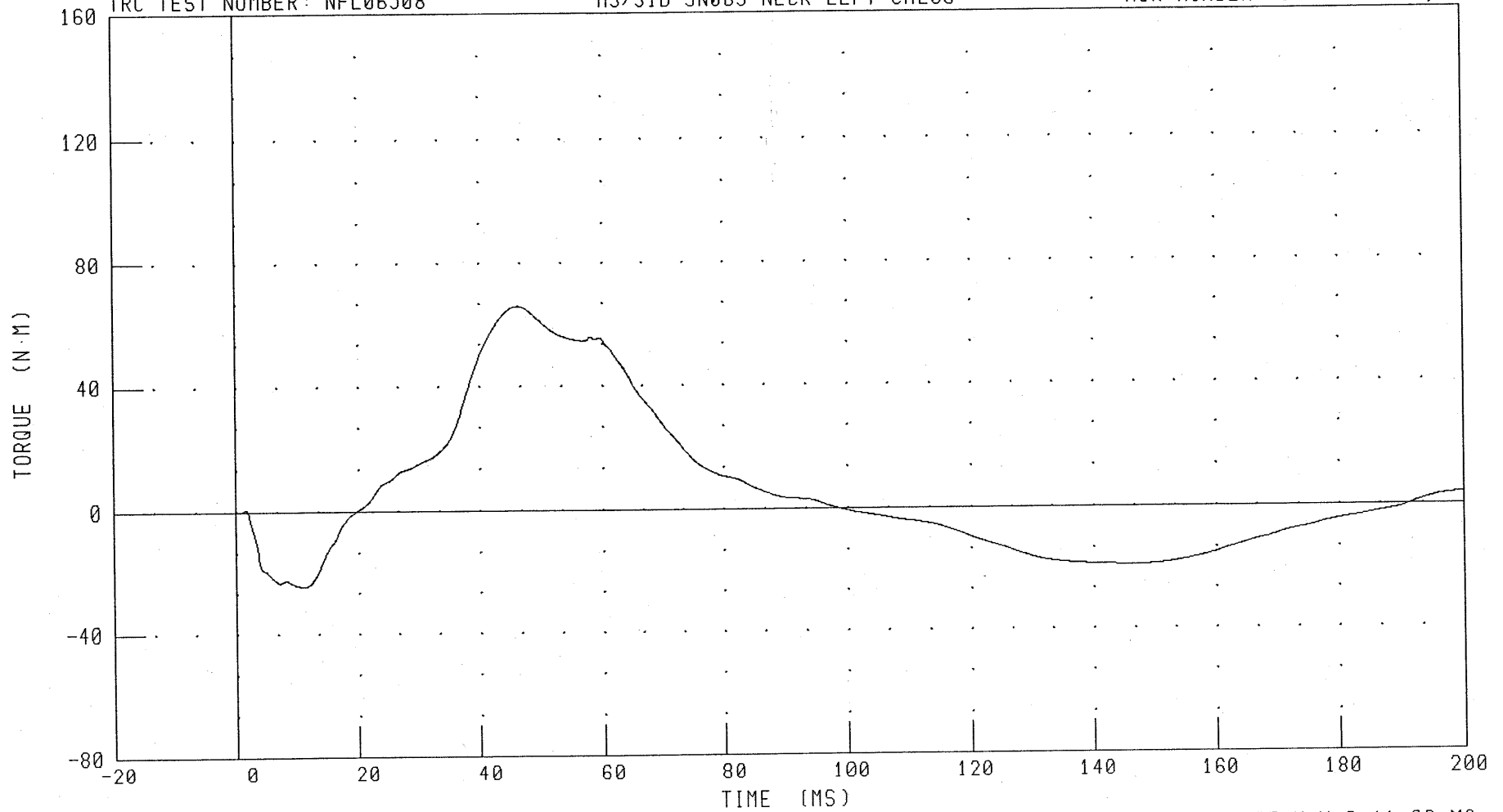
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

NECK MOMENT X AXIS

TRC TEST NUMBER: NFL06508

H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1



CHANNEL: NEKXM

FILTER: CH. CLASS 600

PEAK DATA: 65.77 N·m @ 46.48 MS; -24.63 N·m @ 11.20 MS

C-85

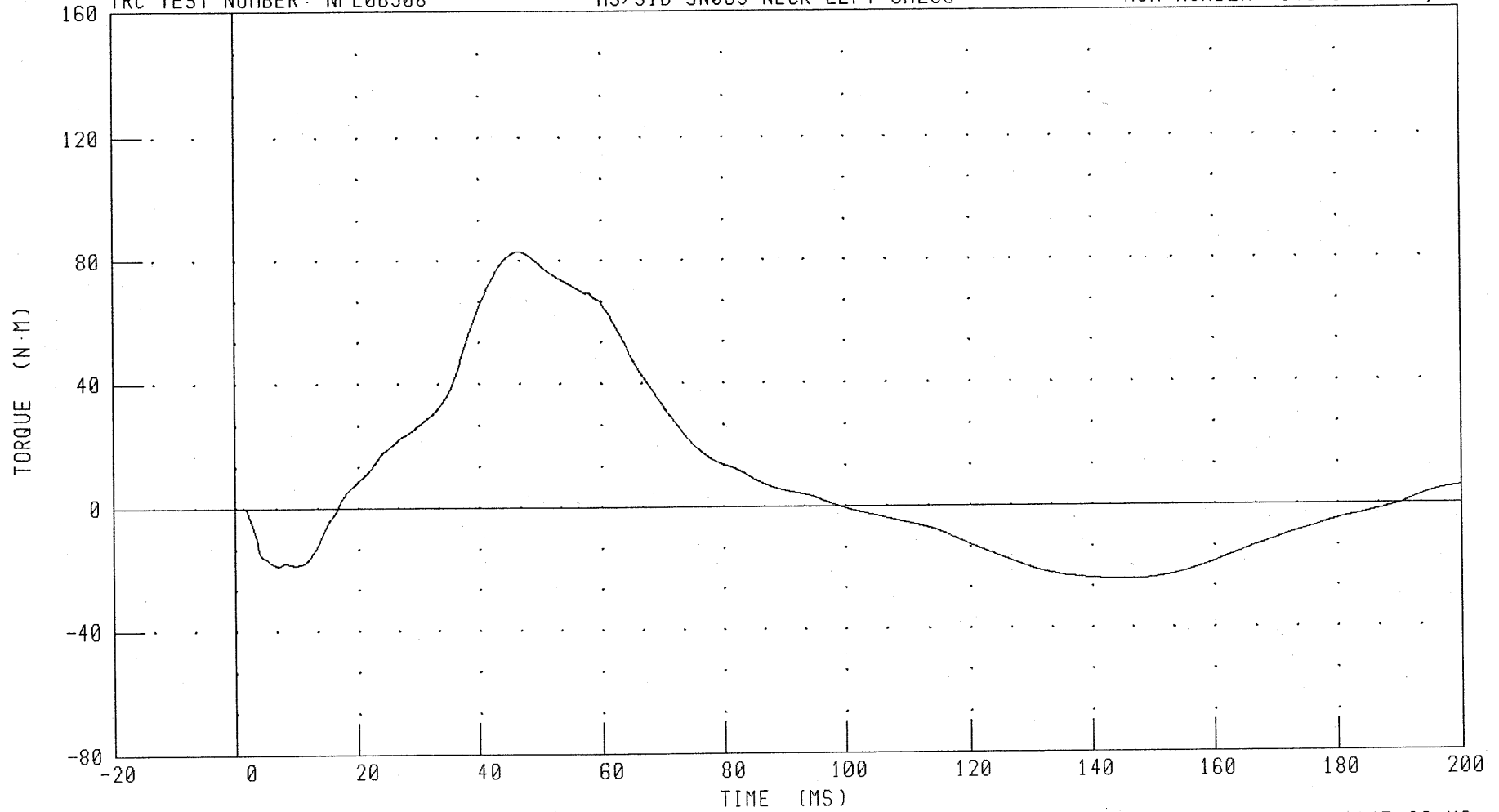
030415

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

TRC TEST NUMBER: NFL06508

H3/SID SN065 NECK LEFT CAL08

RUN NUMBER: 041703.1453;1



CHANNEL: NEKOM

FILTER: CH. CLASS 600

PEAK DATA: 82.84 N·M @ 46.64 MS; -24.24 N·M @ 145.60 MS

C-86

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

16-APR-03

LEFT SIDE CONFIGURATION

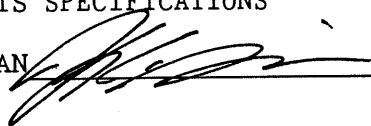
TRC INC.

TEST NO: STL06508

572F SID SN065 L.THORAX CAL08

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	22.2 DEG. C
RELATIVE HUMIDITY	10 - 70 %	41.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.30 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	43.2 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	39.7 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	19.6 G

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 041603.1118;1

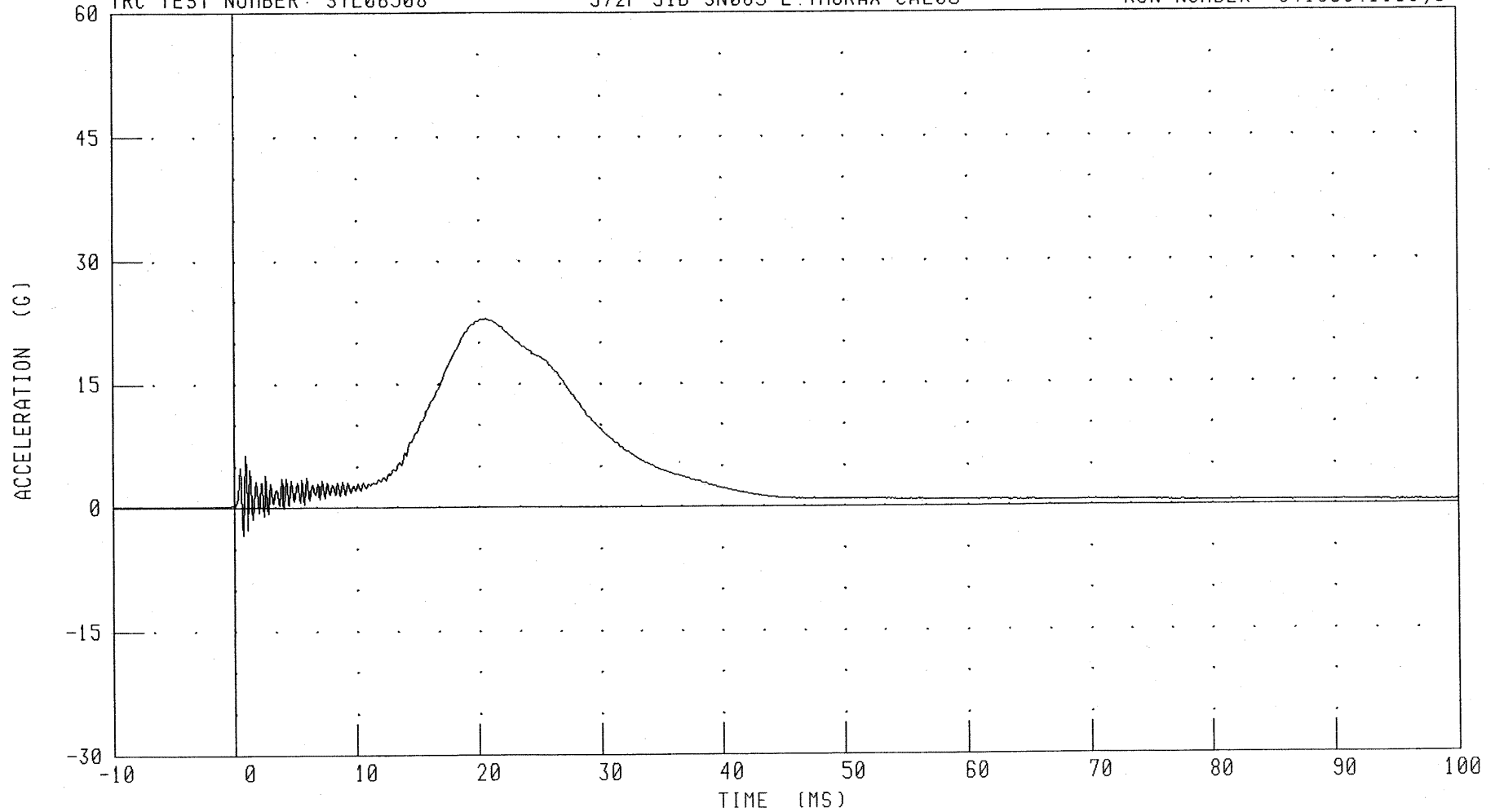
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STL06508

572F SID SN065 L THORAX CAL08

RUN NUMBER: 041603.1118;1



CHANNEL: PENXG

FILTER: CH. CLASS 1000

PEAK DATA: 22.90 G @ 20.64 MS; -3.34 G @ 0.72 MS

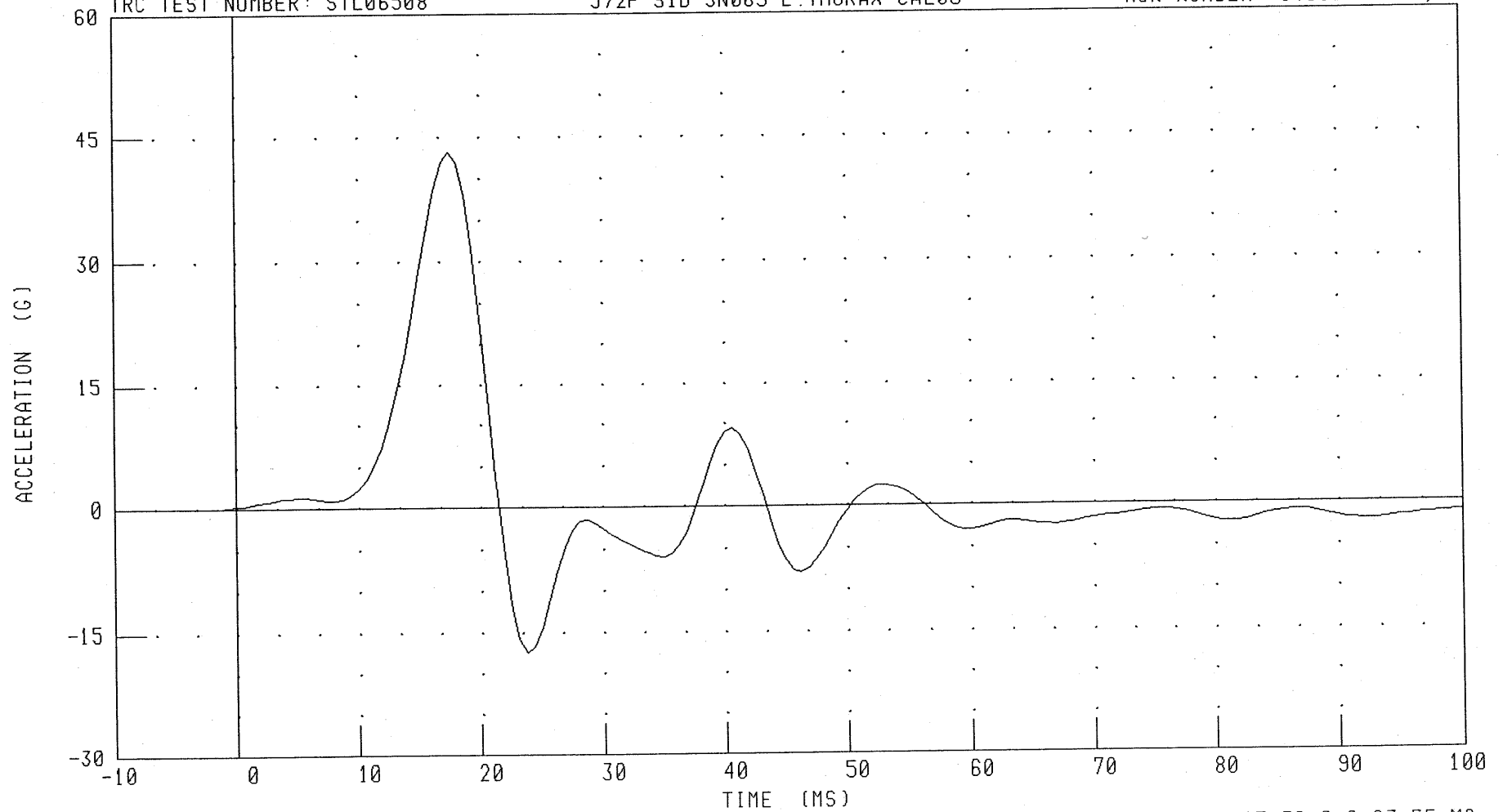
030415

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

TRC TEST NUMBER: STL06508

572F SID SN065 L THORAX CAL08

RUN NUMBER: 041603.1118;1



CHANNEL: LURYG

FILTER: FIR 100

PEAK DATA: 43.18 G @ 17.50 MS; -17.39 G @ 23.75 MS

C-89

030415

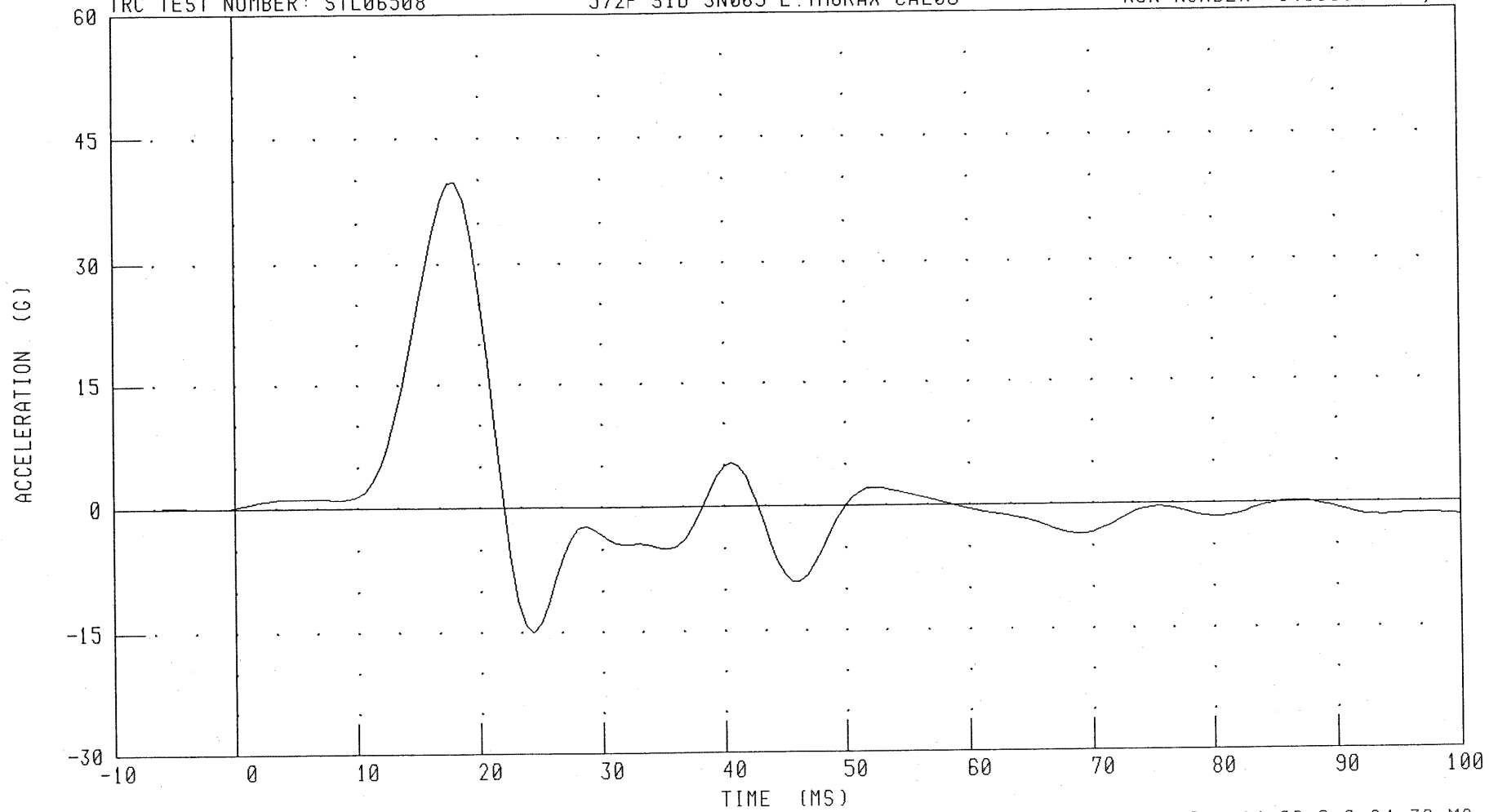
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL06508

572F SID SN065 L.THORAX CAL08

RUN NUMBER: 041603.1118;1



CHANNEL: LLRYG FILTER: FIR 100

PEAK DATA: 39.72 G @ 18.13 MS; -14.99 G @ 24.38 MS

C-90

030415

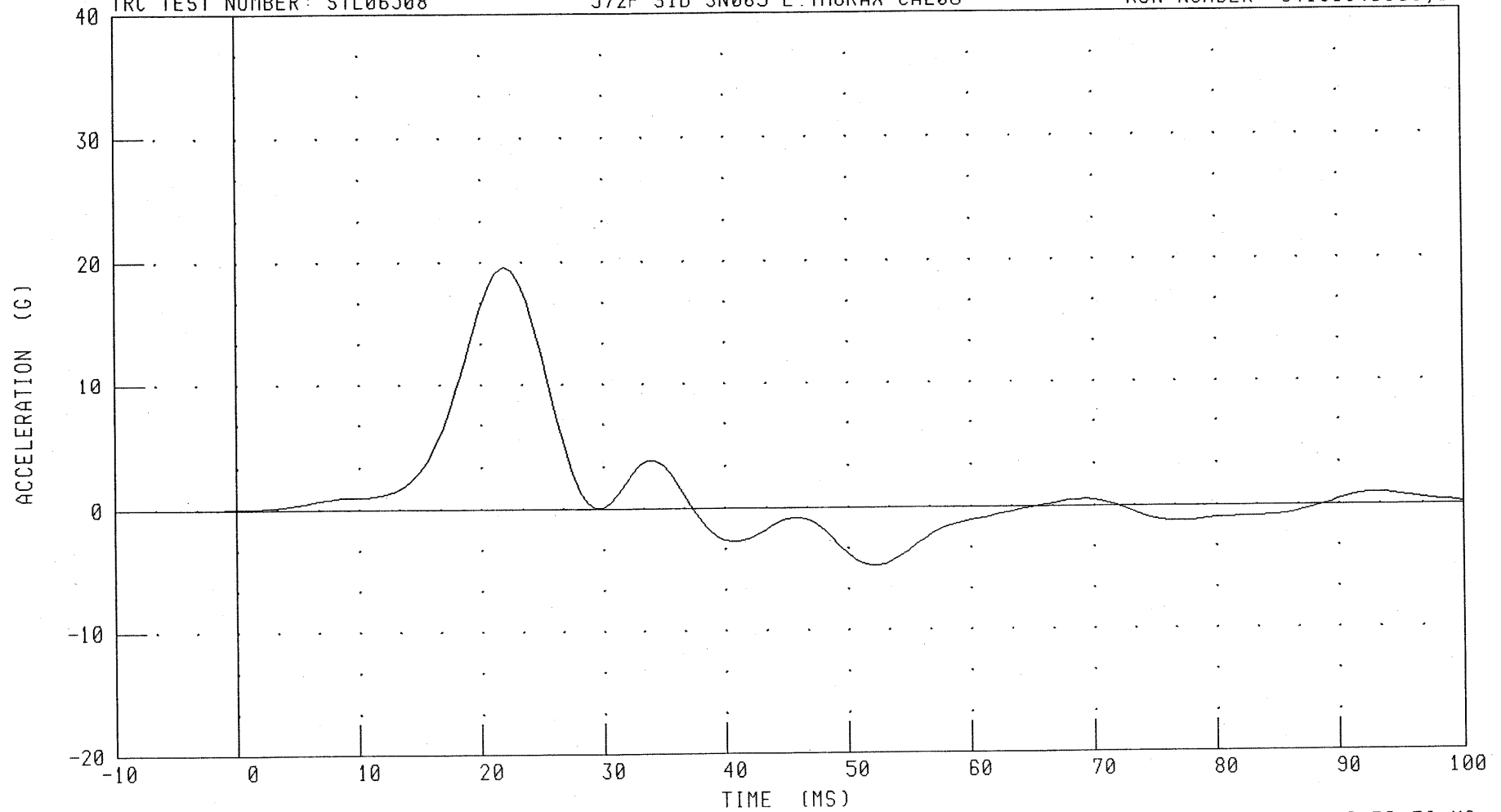
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

TRC TEST NUMBER: STL06508

572F SID SN065 L.THORAX CAL08

RUN NUMBER: 041603.1118;1



CHANNEL: T12YG

FILTER: FIR 100

PEAK DATA: 19.63 G @ 21.88 MS; -4.79 G @ 52.50 MS

030415

TRANSPORTATION RESEARCH CENTER INC.

THORACIC SHOCK ABSORBER TESTS

SIDE IMPACT DUMMY

17-APR-03

TRC INC.

572F SN065 DAMPER TEST CAL08

TEST NUMBERS: DP06508A,DP06508B,DP06508C

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		18.9 - 25.5 C	21.7 DEG. C
RELATIVE HUMIDITY		10 - 70 %	38.0 %
VELOCITY	FORCE	683 - 944 N	840 N
2.78 M/S	DISPLACEMENT	29.8 - 34.6 MM	32.2 MM
VELOCITY	FORCE	1733 - 2100 N	2005 N
4.26 M/S	DISPLACEMENT	31.6 - 37.2 MM	34.4 MM
VELOCITY	FORCE	3824 - 4542 N	4040 N
6.14 M/S	DISPLACEMENT	33.3 - 39.6 MM	38.4 MM

DAMPER SETTING = 5.5

TEST MEETS SPECIFICATIONS

TECHNICIAN 

RUN NUMBER: 041703.1401;1

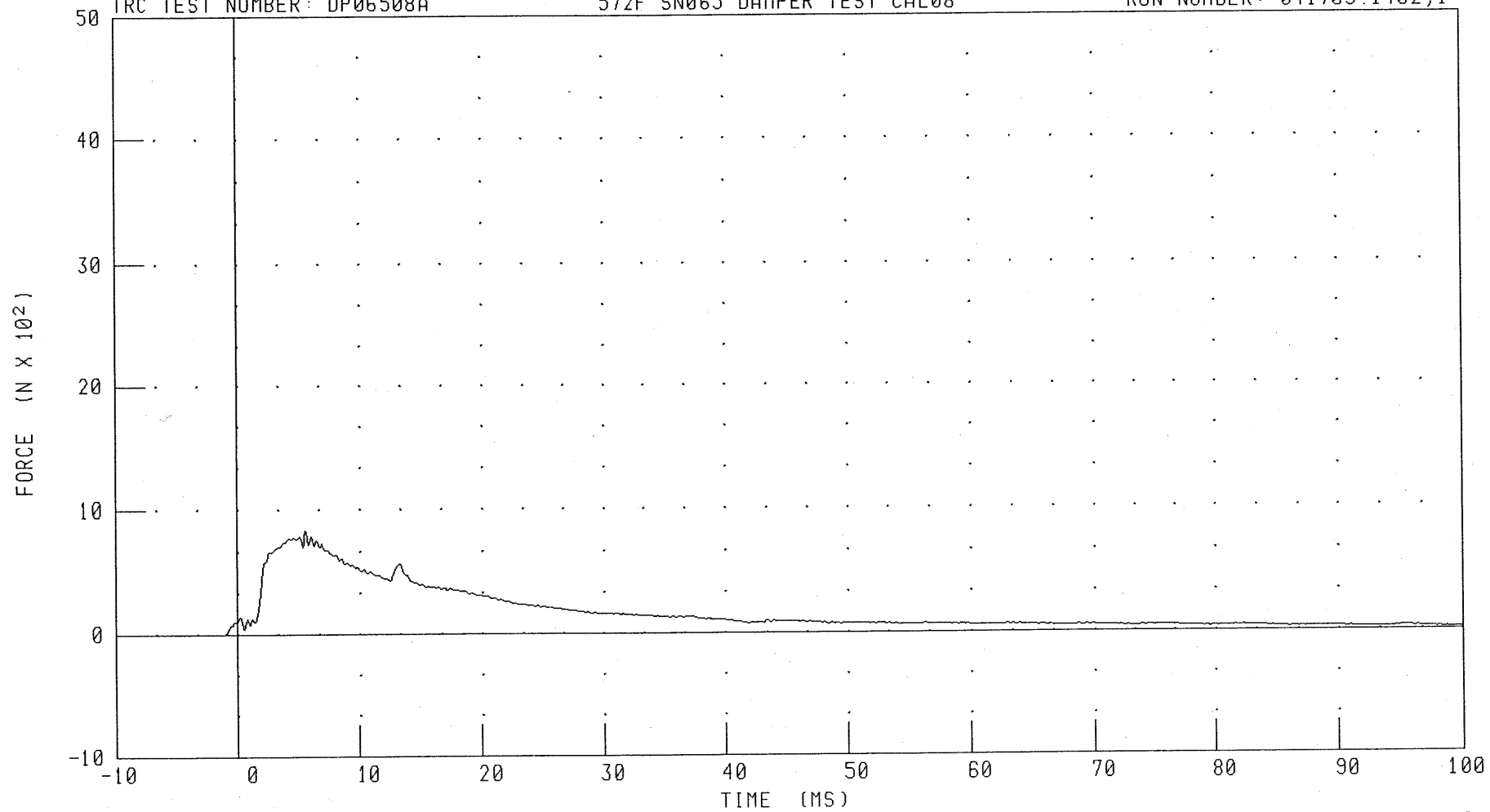
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06508A

572F SN065 DAMPER TEST CAL08

RUN NUMBER: 041703.1402;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 839.51 N @ 5.60 MS; -1.68 N @ -8.64 MS

030415

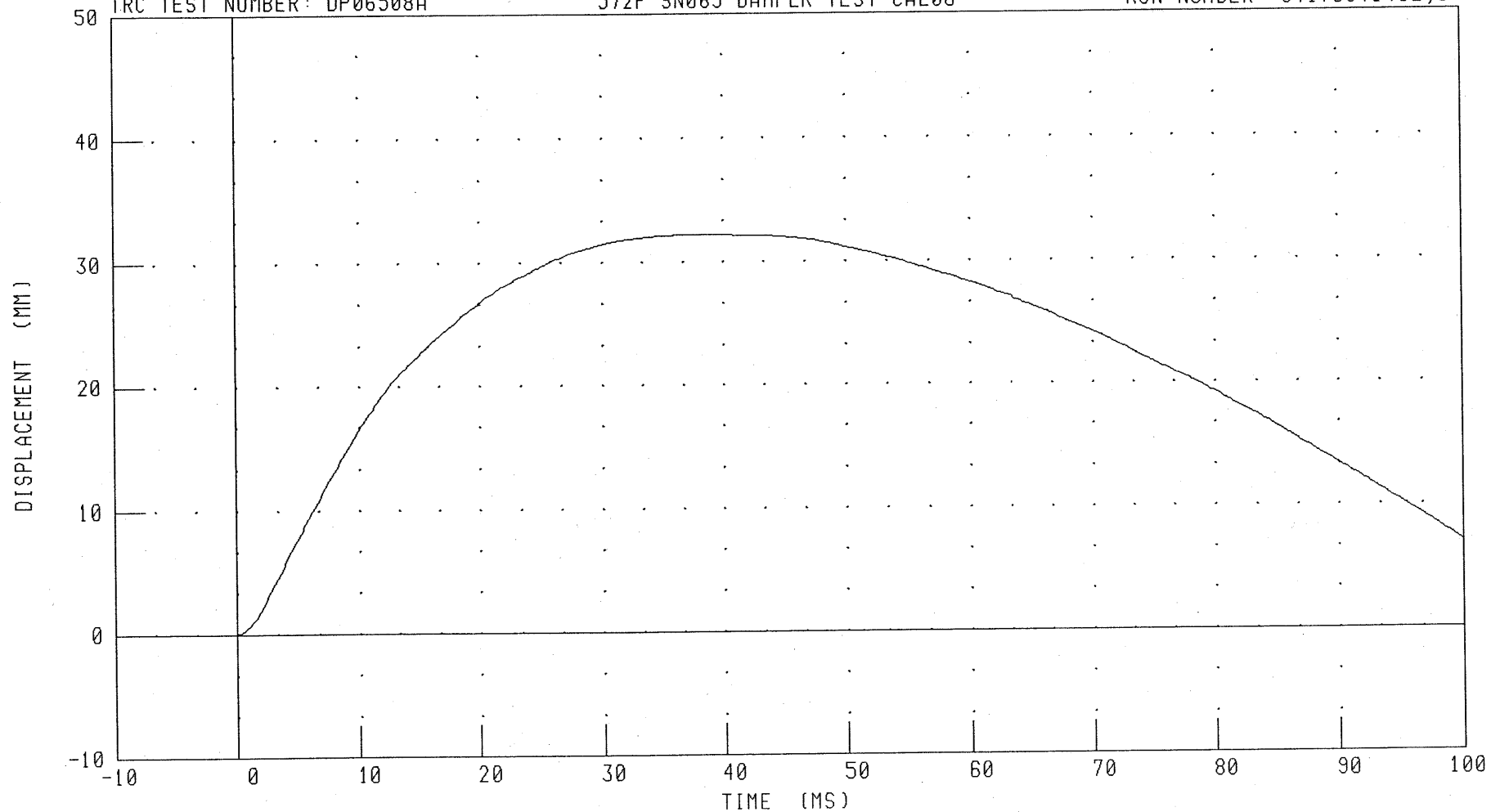
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (3.0 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06508A

572F SN065 DAMPER TEST CAL08

RUN NUMBER: 041703.1402;1



PEAK DATA: 32.15 MM @ 36.88 MS; 0.00 MM @ -3.84 MS

CHANNEL: CSTYD

FILTER: CH. CLASS 1000

C-94

030415

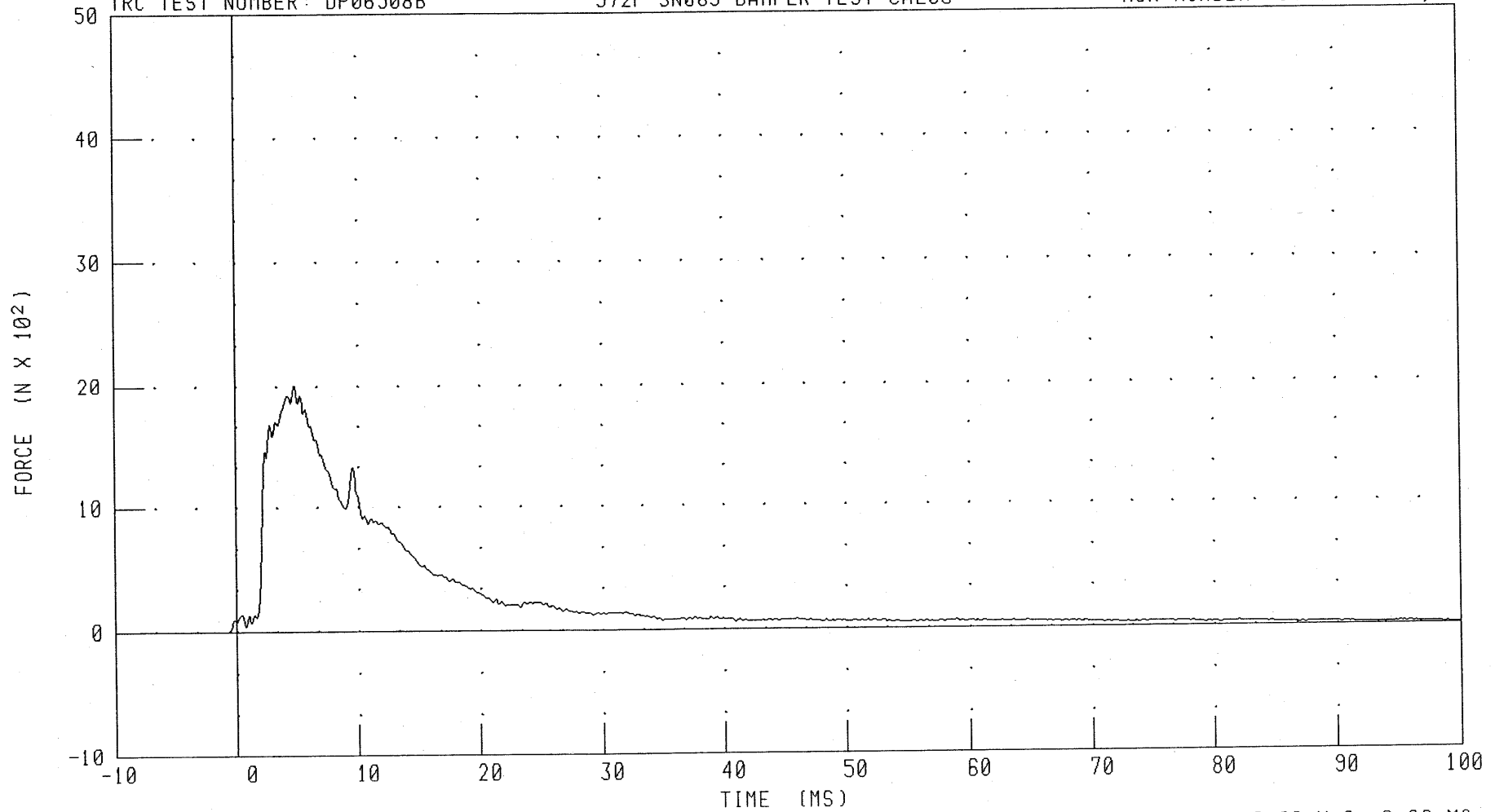
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06508B

572F SN065 DAMPER TEST CAL08

RUN NUMBER: 041703.1402,1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 2004.54 N @ 4.88 MS; -2.26 N @ -6.80 MS

C-95

030415

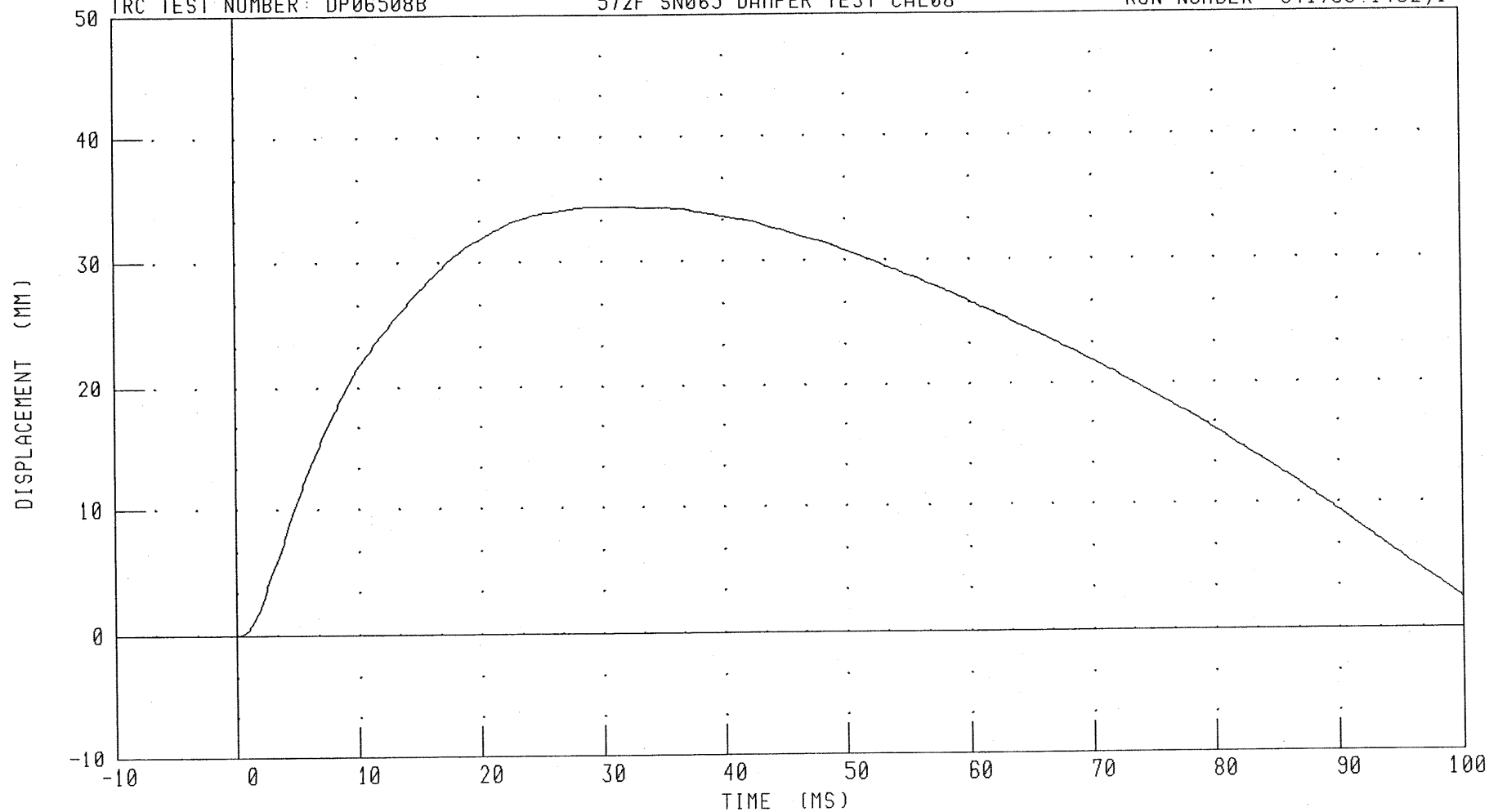
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (4.3 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06508B

572F SN065 DAMPER TEST CAL08

RUN NUMBER: 041703.1402;1



CHANNEL: CSTYD

FILTER: CH. CLASS 1000

PEAK DATA: 34.36 MM @ 30.64 MS; 0.00 MM @ -9.52 MS

C-96

030415

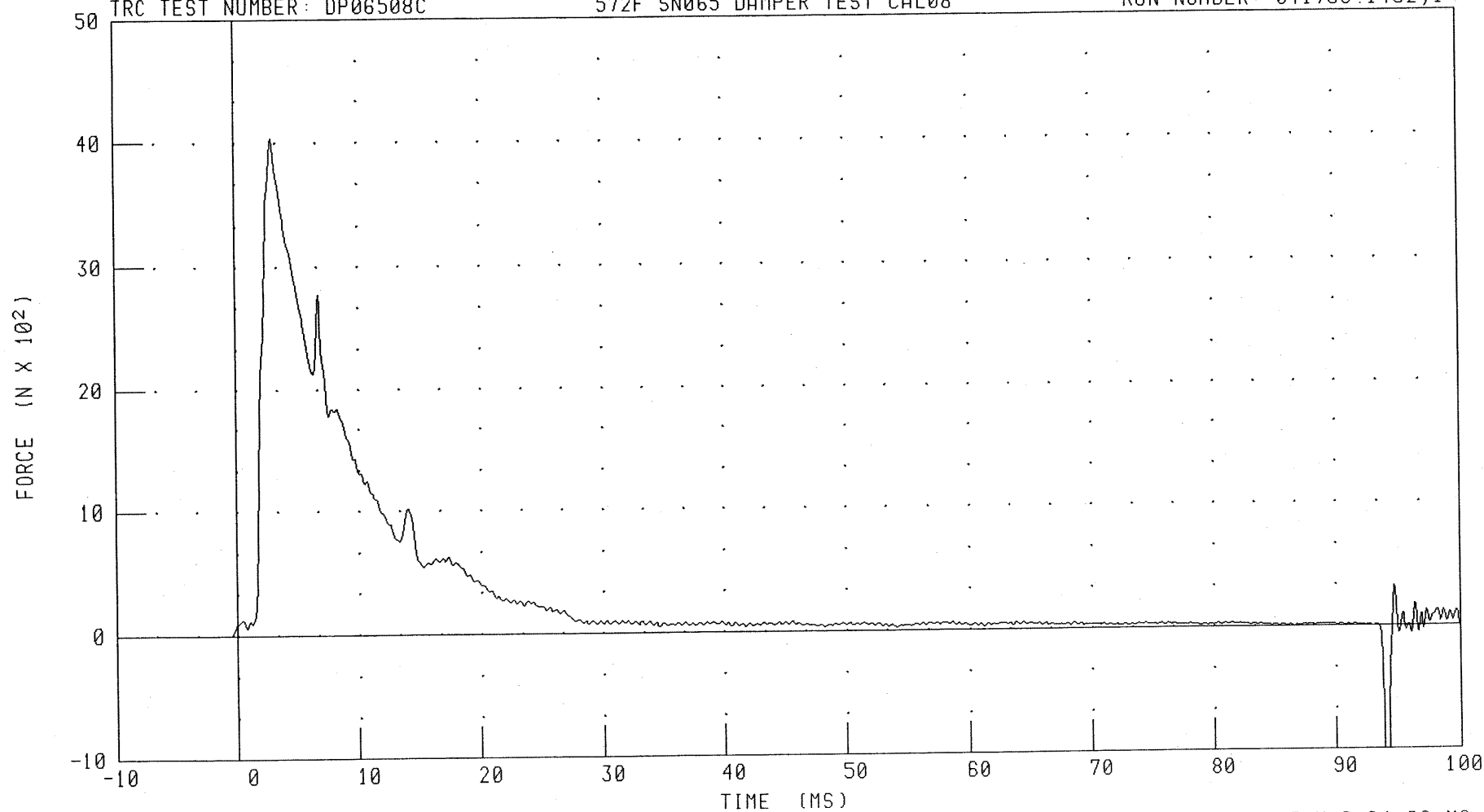
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER RESISTIVE FORCE

TRC TEST NUMBER: DP06508C

572F SN065 DAMPER TEST CAL08

RUN NUMBER: 041703.1402;1



CHANNEL: DAMPF

FILTER: CH. CLASS 1000

PEAK DATA: 4040.25 N @ 3.04 MS; -2244.23 N @ 94.08 MS

030415

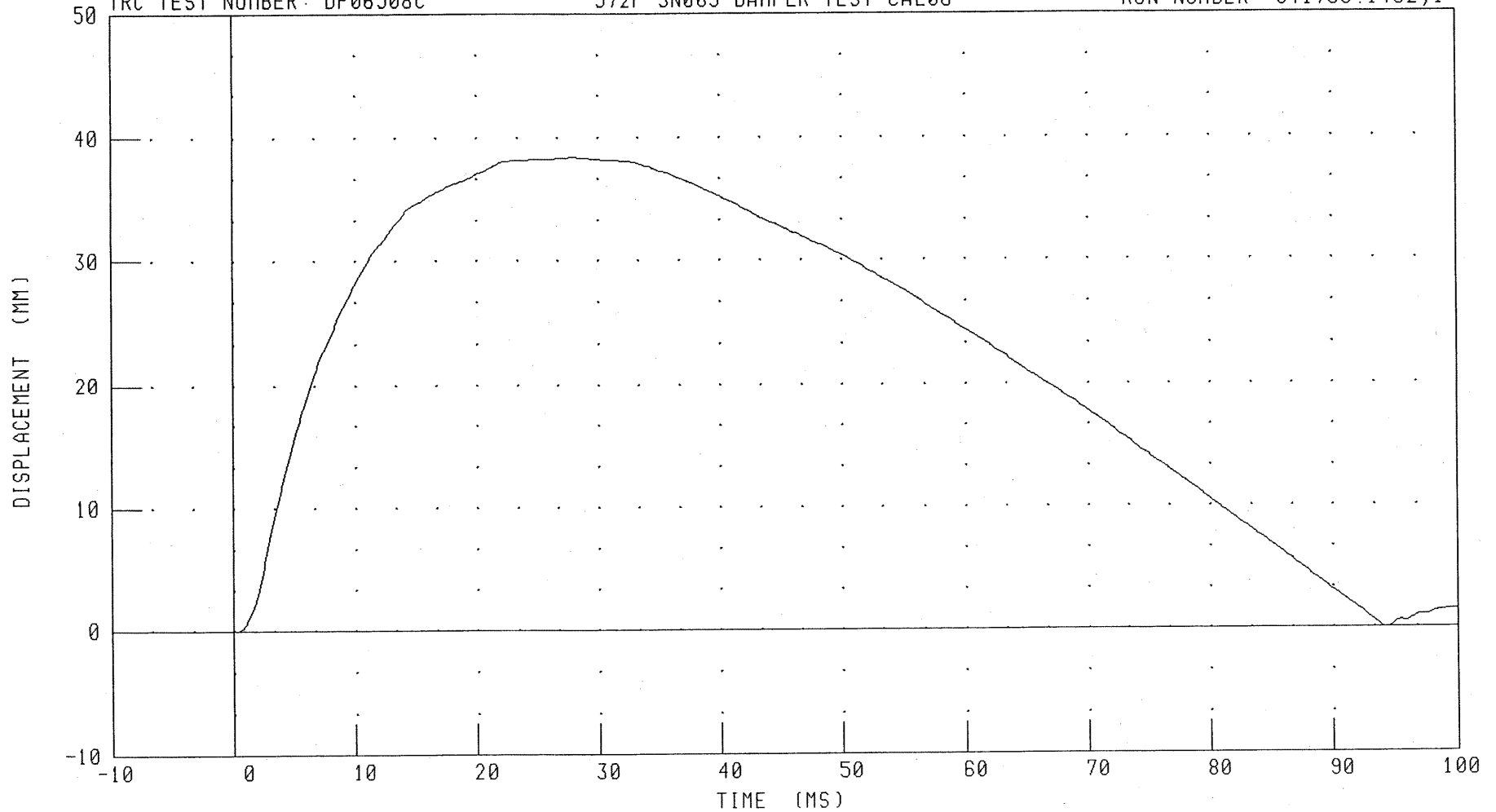
PART 572-F S.I.D. THORACIC SHOCK ABSORBER CALIBRATION (6.1 M/SEC)

SHOCK ABSORBER DISPLACEMENT

TRC TEST NUMBER: DP06508C

572F SN065 DAMPER TEST CAL08

RUN NUMBER: 041703.1402;1



CHANNEL: CSTYD FILTER: CH. CLASS 1000

PEAK DATA: 38.39 MM @ 27.84 MS; -0.02 MM @ 94.40 MS

C-98

030415

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 16-Apr-03

TRC, INC.

TEST NO: 065C08TF1

572B SN 065 TORSO FLEX CAL 08

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.9 °C
RELATIVE HUMIDITY	10 – 70 %	39 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	115.7 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	160.2 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	209.1 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	8 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 065 Calibration No. 08 - 1

Test Date 04/16/2003

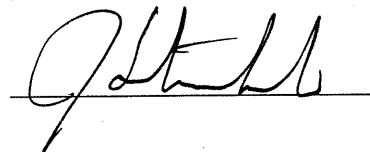
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	22.2 °C	Yes
Relative Humidity	10 - 70 %	40 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.3 - 8.1 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



04.18.2003 09:08:28 260

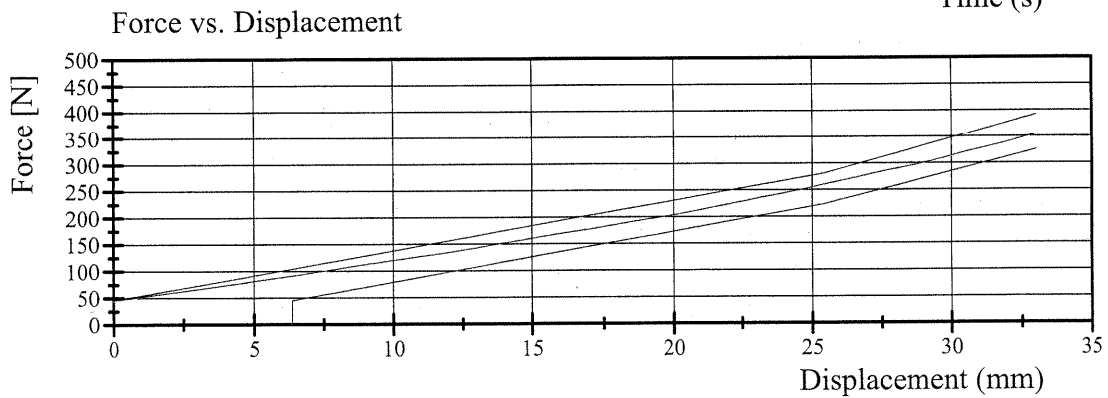
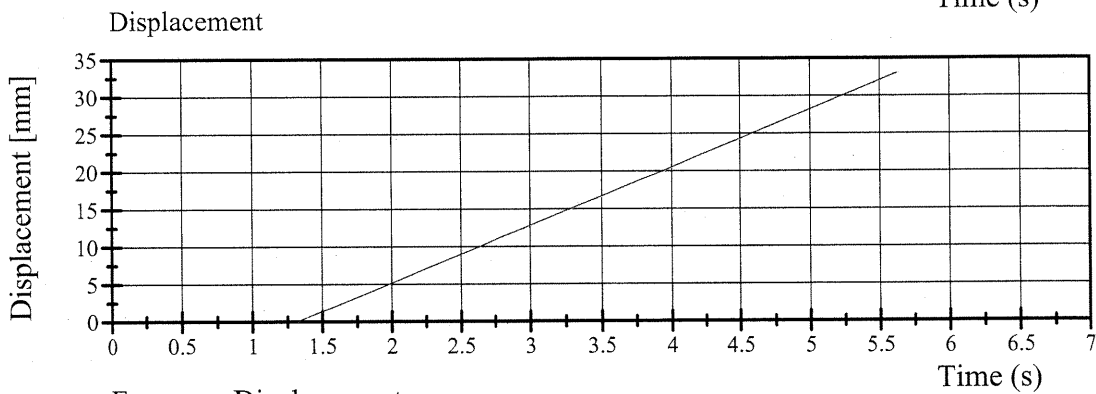
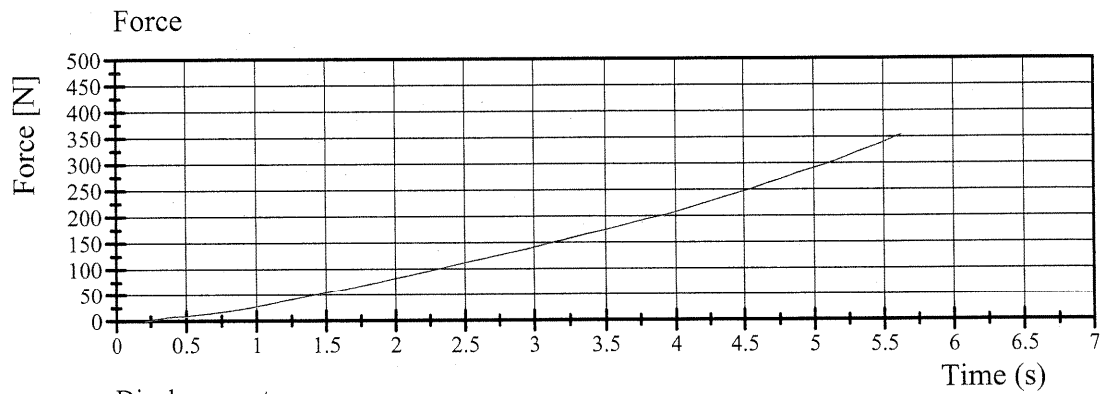


Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 065 Calibration No. 08 - 1

Test Date 04/16/2003



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

16-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO: SPL06508

572F SN065 LEFT PELVIS CAL08

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	22.2 DEG. C
RELATIVE HUMIDITY	10 - 70 %	41.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.25 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	53.5 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	5.8 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 041603.1109;1

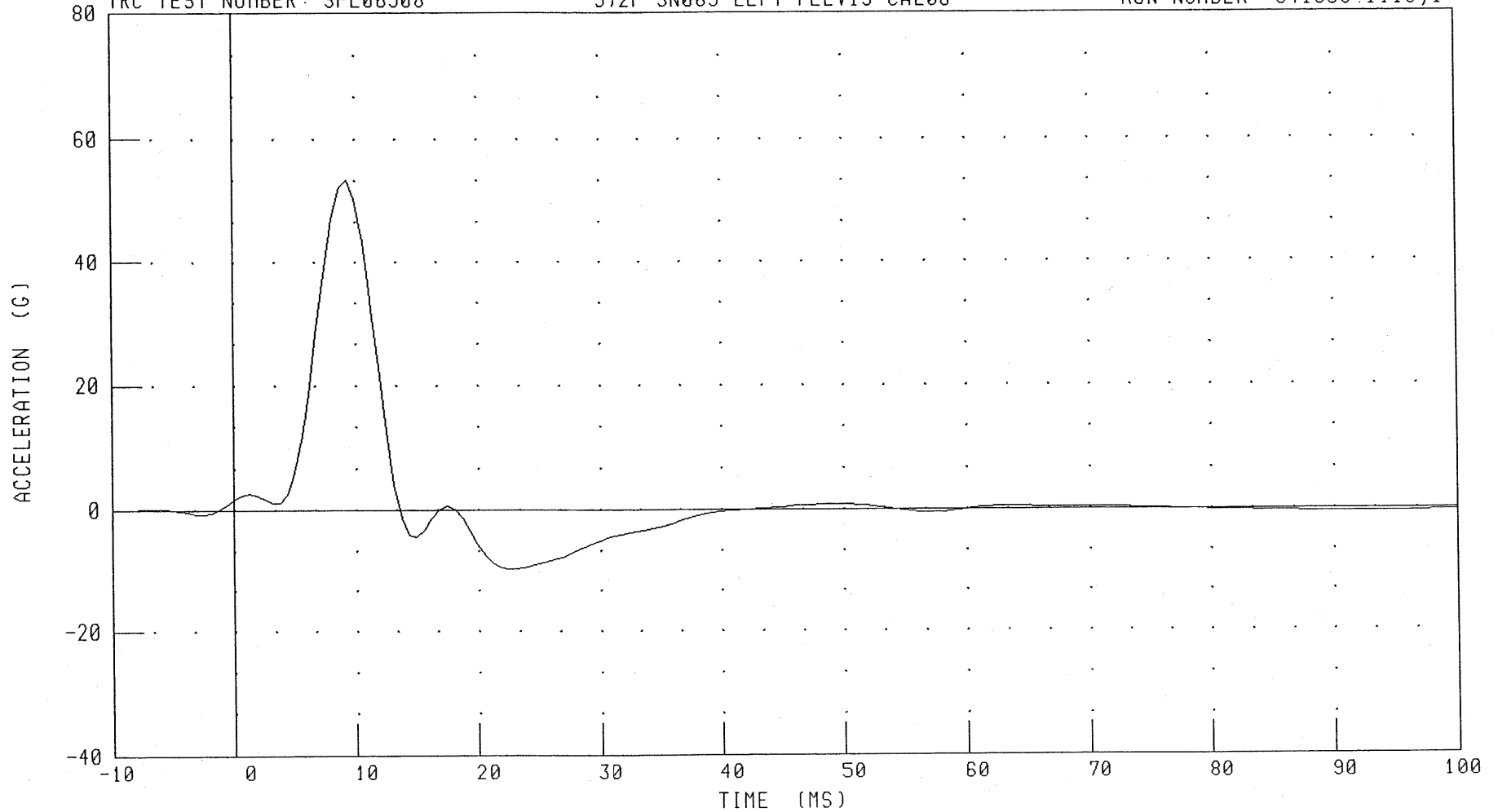
PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

TRC TEST NUMBER: SPL06508

572F SN065 LEFT PELVIS CAL08

RUN NUMBER: 041603.1110;1



CHANNEL: PEVYG FILTER: FIR 100

PEAK DATA: 53.51 G @ 9.37 MS; -9.78 G @ 22.50 MS

C-103

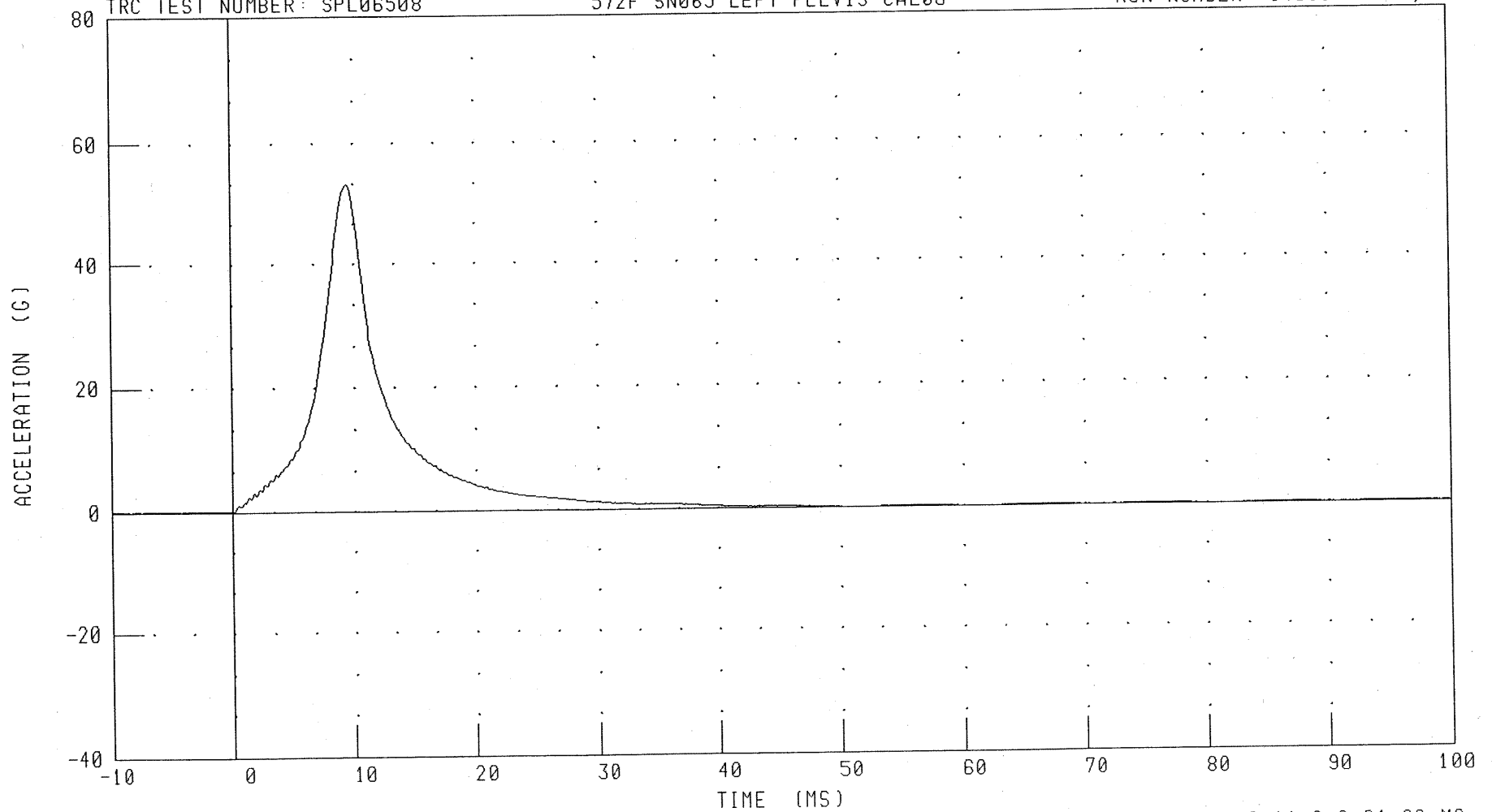
030415

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

TRC TEST NUMBER: SPL06508

572F SN065 LEFT PELVIS CAL08

RUN NUMBER: 041603.1110;1



CHANNEL: PENXC FILTER: CH. CLASS 1000

PEAK DATA: 53.29 G @ 9.52 MS; -0.11 G @ 81.60 MS

C-104

030415

Calibration Test Results

Post-Test

SID: 028

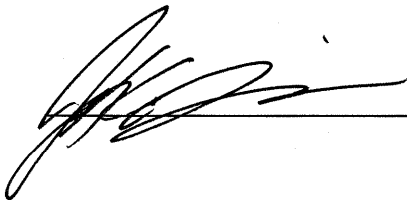
Configured for Left Side Impact

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

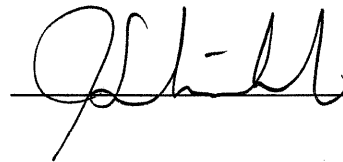
Transportation Research Center Inc.
572F SID Dummy
External Dimensions
Serial No. 028 Calibration No. 05

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	503 mm	Yes
Hip Pivot Height	HP	99.1 REF mm	99.1 mm	
Rib From Backline	RD	228.6 - 241.3 mm	231 mm	Yes
Knee Pivot From Backline	KH	510.5 - 525.8 mm	514 mm	Yes
Knee Pivot From Floor	KV	490.2 - 505.5 mm	499 mm	Yes
Hip Width	HW	355.6 - 391.2 mm	372 mm	Yes
Top Rib Width From CVL	RW-1	165.1 - 180.3 mm	171 mm	Yes
Bottom Rib Width From CVL	RW-2	165.1 - 180.3 mm	170 mm	Yes
Difference Between Top & Bottom Rib Width from CVL		<= 2.5 mm	1.0 mm	Yes

Technician



Approved




TRANSPORTATION RESEARCH CENTER INC.

LATERAL HEAD DROP TEST

SID/HIII DUMMY

16-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

TEST NO. HDL02805

572M SID/HIII SN028 HEAD CAL05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 - 25.6 deg. C	22.22 deg. C
RELATIVE HUMIDITY	10 - 70 %	41.00 %
PEAK RESULTANT ACCELERATION	120 - 150 G	149.76 G
PEAK LONGITUDINAL ACCELERATION	15 G MAX	-9.66 G
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



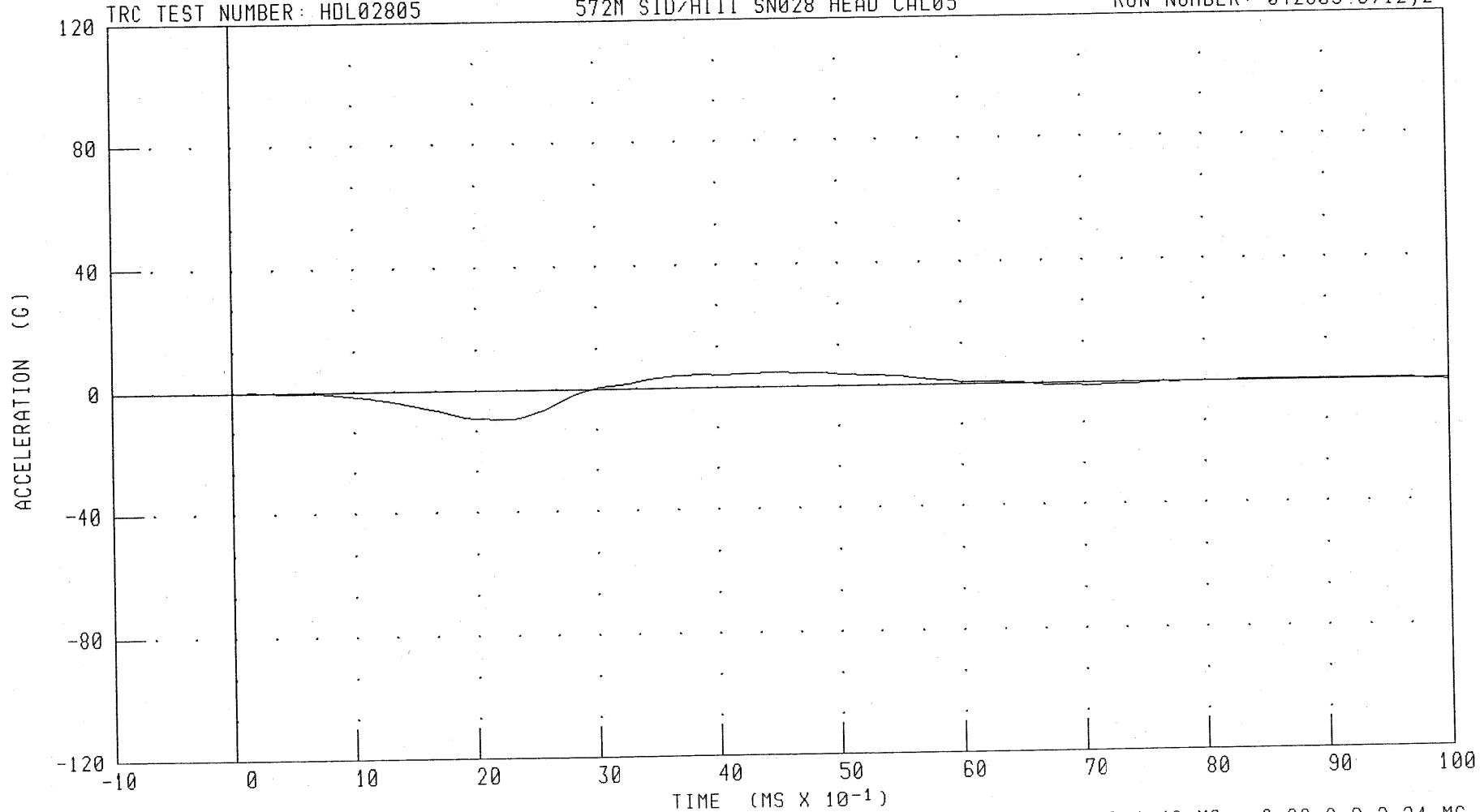
RUN NUMBER: 042803.0635;1

572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP
HEAD ACCELERATION X AXIS

TRC TEST NUMBER: HDL02805

572M SID/HIII SN028 HEAD CAL05

RUN NUMBER: 042803.0712;2



CHANNEL: HEDXC

FILTER: CH. CLASS 1000

PEAK DATA: 4.71 G @ 4.48 MS; -9.66 G @ 2.24 MS

C-108

030415

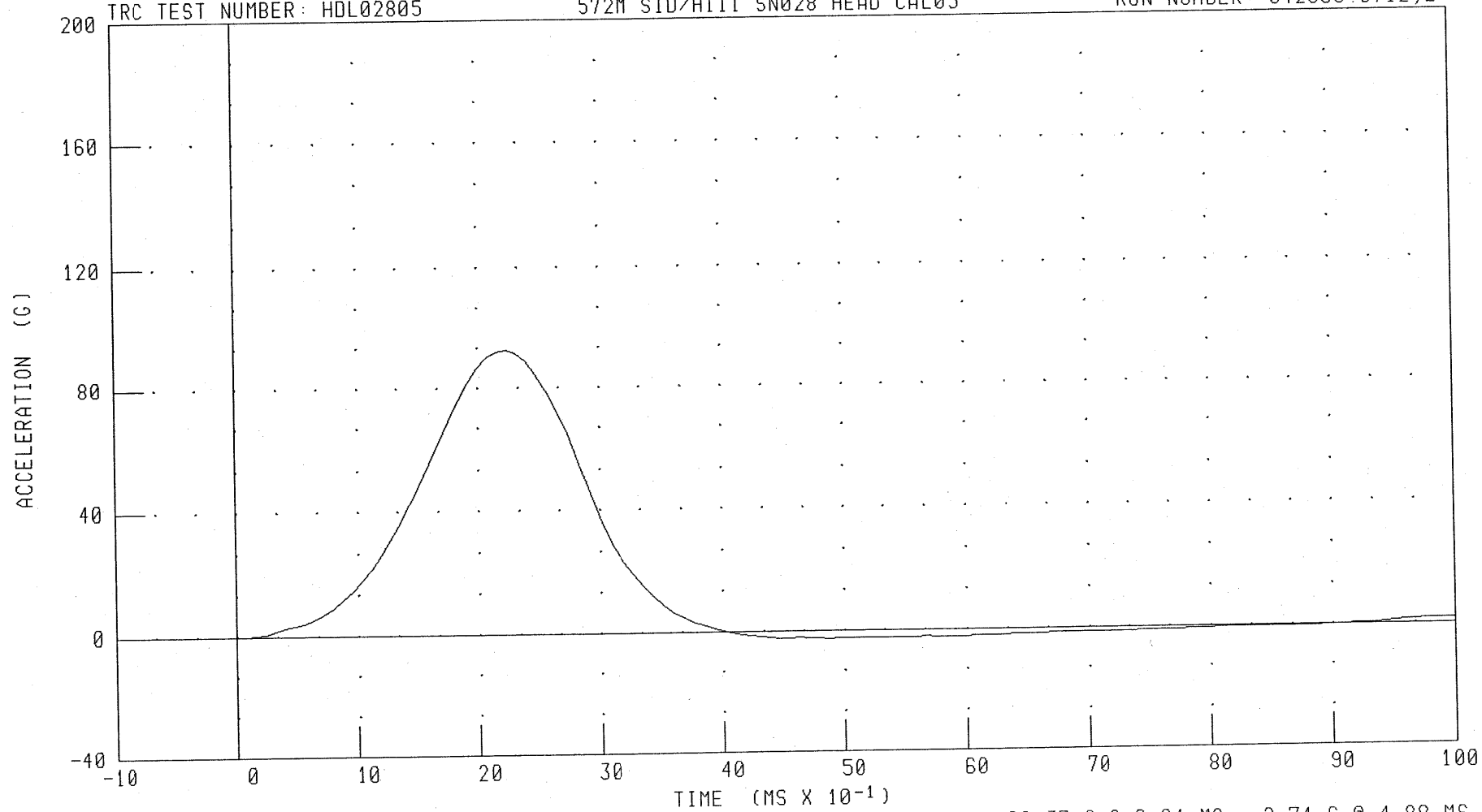
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Y AXIS

TRC TEST NUMBER: HDL02805

572M SID/HIII SN028 HEAD CAL05

RUN NUMBER: 042803.0712;2



CHANNEL: HEDYG

FILTER: CH. CLASS 1000

PEAK DATA: 92.37 G @ 2.24 MS; -2.74 G @ 4.88 MS

C-109

030415

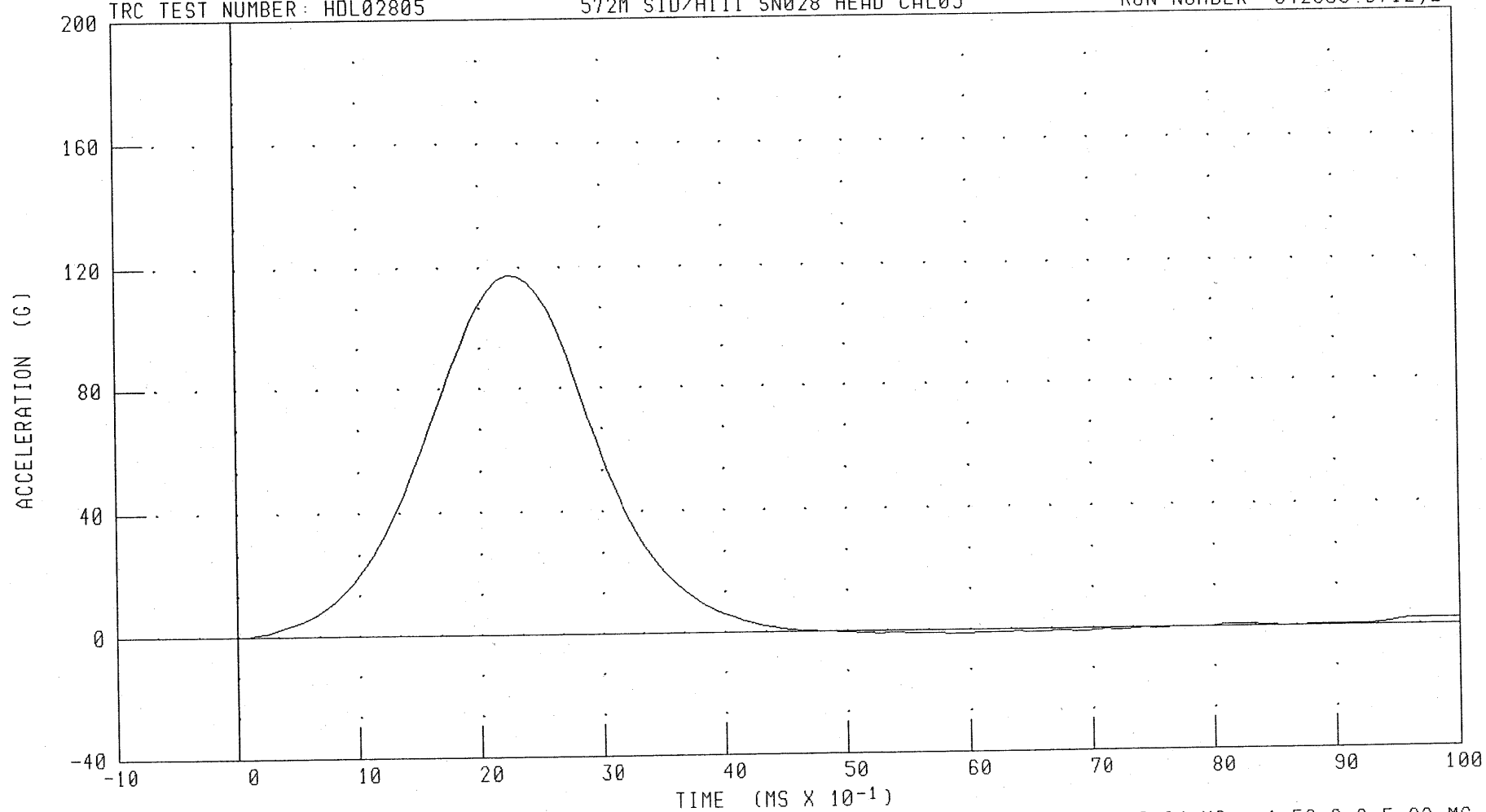
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD ACCELERATION Z AXIS

572M SID/HIII SN028 HEAD CAL05

RUN NUMBER: 042803.0712;2

TRC TEST NUMBER: HDL02805



CHANNEL: HEDZG

FILTER: CH. CLASS 1000

PEAK DATA: 117.48 G @ 2.24 MS; -1.52 G @ 5.92 MS

030415

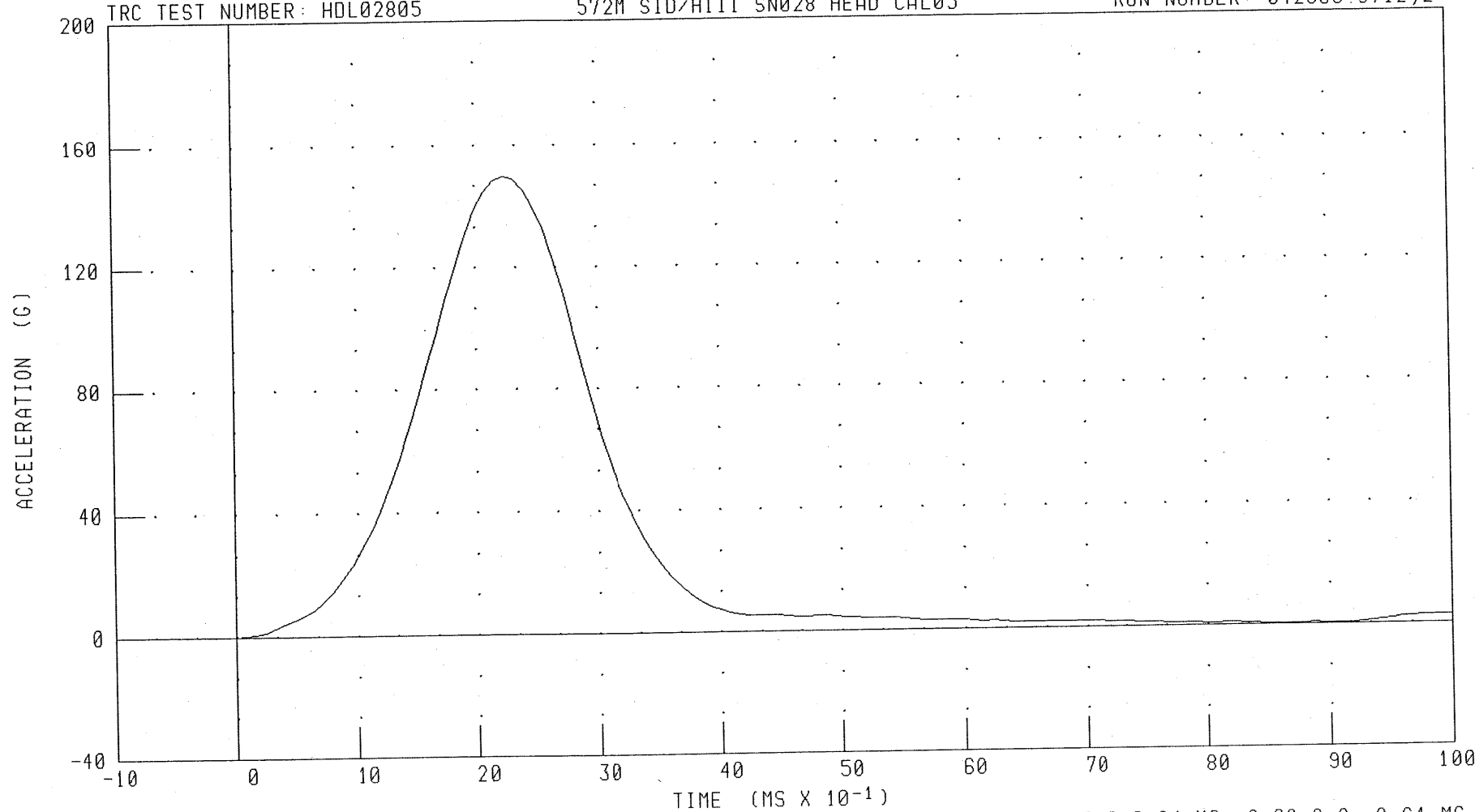
572M SID/HIII DUMMY CALIBRATION -- 35 DEGREE LEFT LATERAL HEAD DROP

HEAD RESULTANT ACCELERATION

TRC TEST NUMBER: HDL02805

572M SID/HIII SN028 HEAD CAL05

RUN NUMBER: 042803.0712;2



CHANNEL: HEDRG

FILTER: CH. CLASS 1000

PEAK DATA: 149.76 G @ 2.24 MS; 0.02 G @ -0.64 MS

C-111

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL NECK TEST

HYBRIDI III SID DUMMY

17-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

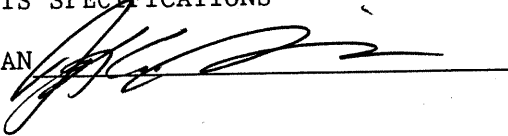
TEST NO. NFL02805

H3/SID SN028 NECK LEFT CAL05

TEST PARAMETER		SPECIFICATION	TEST RESULTS
TEMPERATURE		20.6 - 22.2 deg. C	21.11 deg. C
RELATIVE HUMIDITY		10 - 70 %	41.00 %
IMPACT VELOCITY		6.89 - 7.13 M/S	6.99 M/S
INTEGRATED VELOCITY	10 MS	1.96 - 2.55 M/S	2.44 M/S
	20 MS	4.12 - 5.10 M/S	4.88 M/S
	30 MS	5.73 - 7.01 M/S	6.88 M/S
	40 - 70 MS	6.27 - 7.64 M/S	7.12- 7.18 M/S
MAXIMUM MIDSAGGITAL PLANE ROTATION		66 - 82 deg.	71.05 deg.
ROTATION ANGLE DECAY TIME FROM PEAK TO ZERO		58 - 67 MS	61.20 MS
MAXIMUM MOMENT ABOUT OCCIPITAL CONDYLE		73 - 88 NM	78.66 NM
POSITIVE MOMENT DECAY TIME FROM PEAK TO ZERO		49 - 64 MS	54.24 MS
TIME OF MAXIMUM ROTATION AFTER MAXIMUM MOMENT		2 - 16 MS	8.32 MS

TEST MEETS SPECIFICATIONS

TECHNICIAN



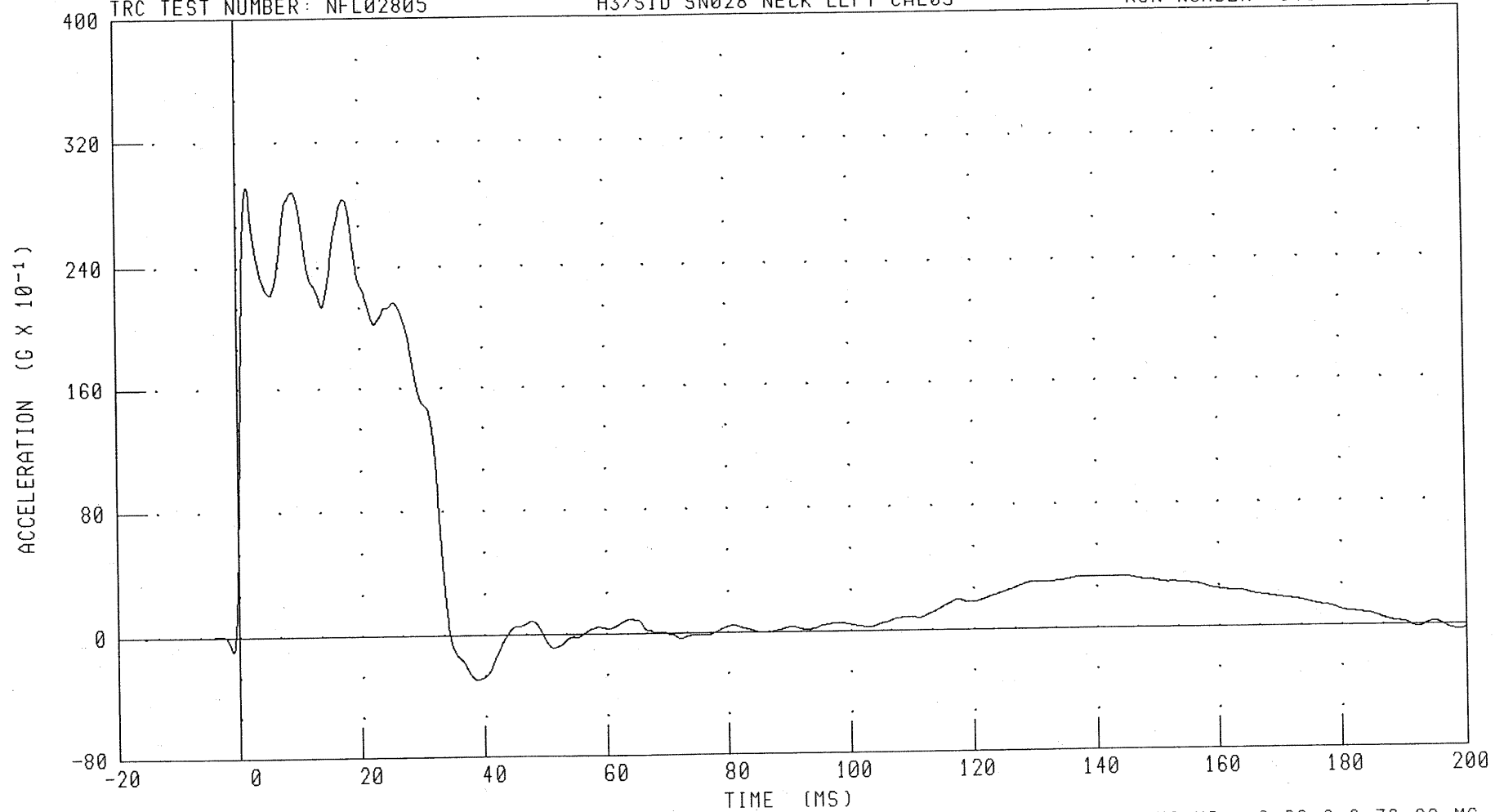
RUN NUMBER: 041703.1527;1

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

TRC TEST NUMBER: NFL02805

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1



CHANNEL: PENXC

FILTER: CH. CLASS 180

PEAK DATA: 29.06 G @ 1.76 MS; -2.96 G @ 38.80 MS

C-113

030415

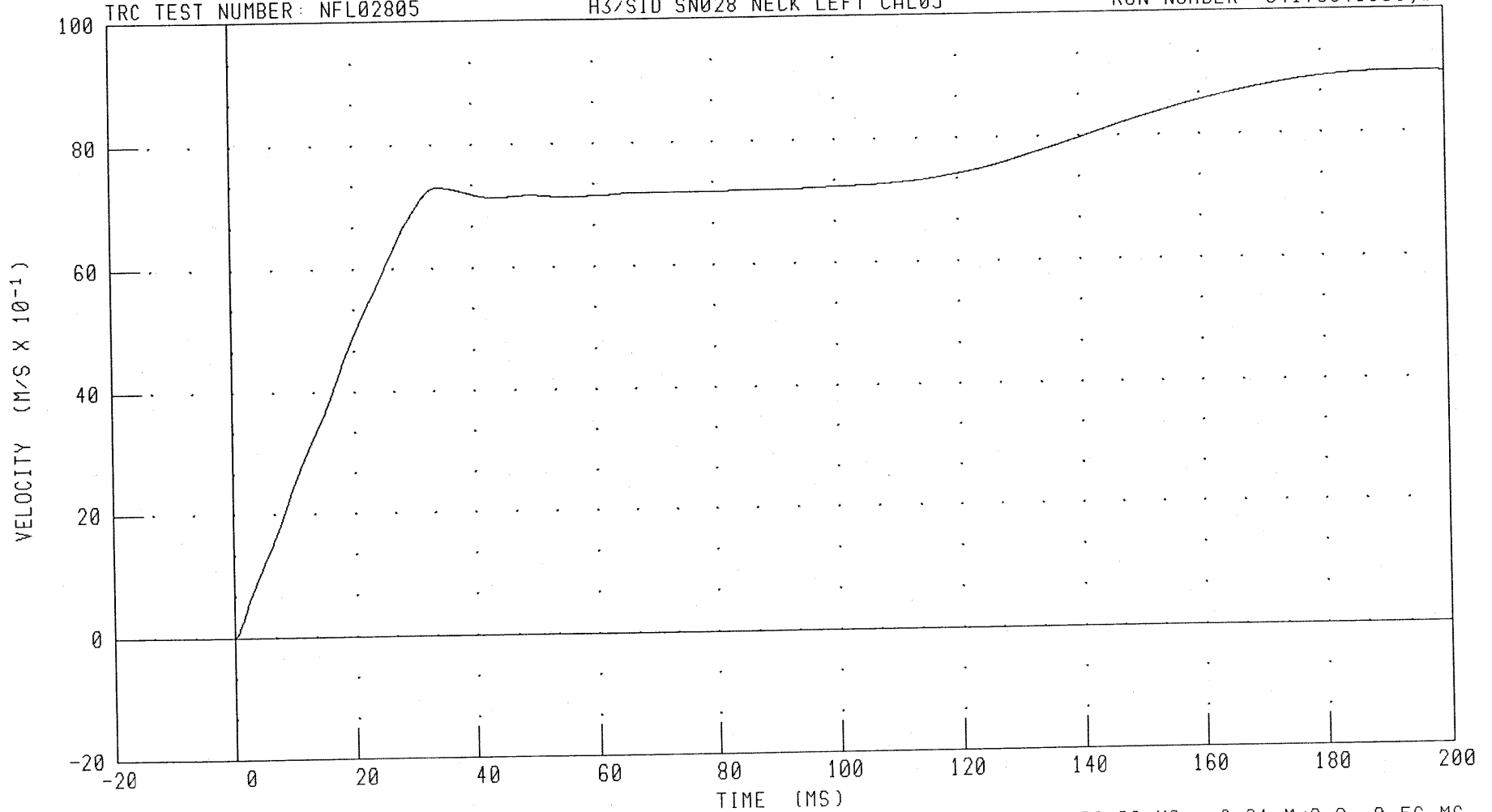
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

INTEGRATED PENDULUM VELOCITY

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1

TRC TEST NUMBER: NFL02805



CHANNEL: PENXVI FILTER: CH. CLASS 180

PEAK DATA: 8.99 M/S @ 196.08 MS; -0.01 M/S @ -0.56 MS

C-114

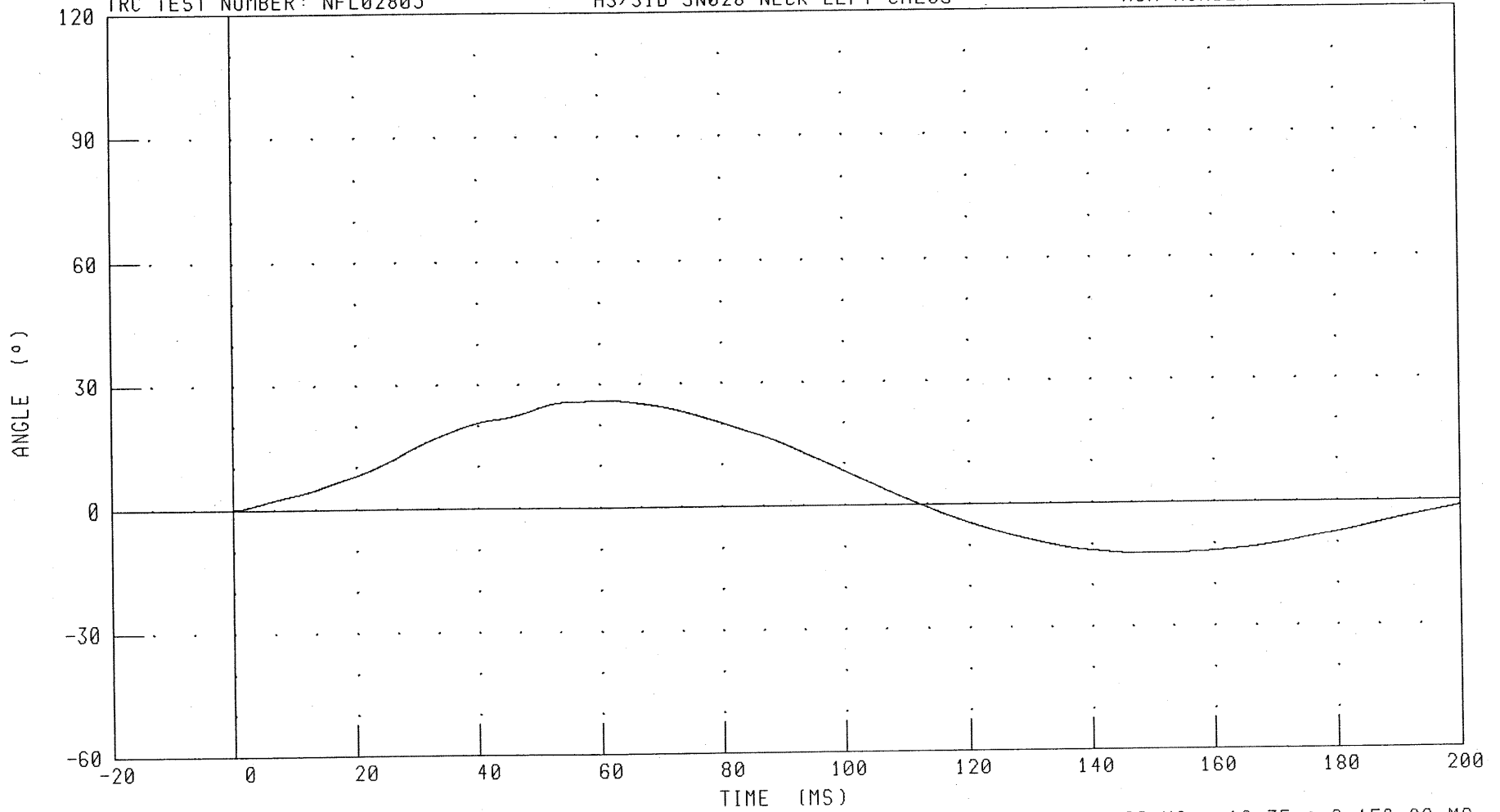
030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST
ROTATION ABOUT BASE OF NECK

TRC TEST NUMBER: NFL02805

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1



CHANNEL: BETA

FILTER: CH. CLASS 60

PEAK DATA: 25.85 ° @ 61.20 MS; -12.35 ° @ 150.80 MS

C-115

030415

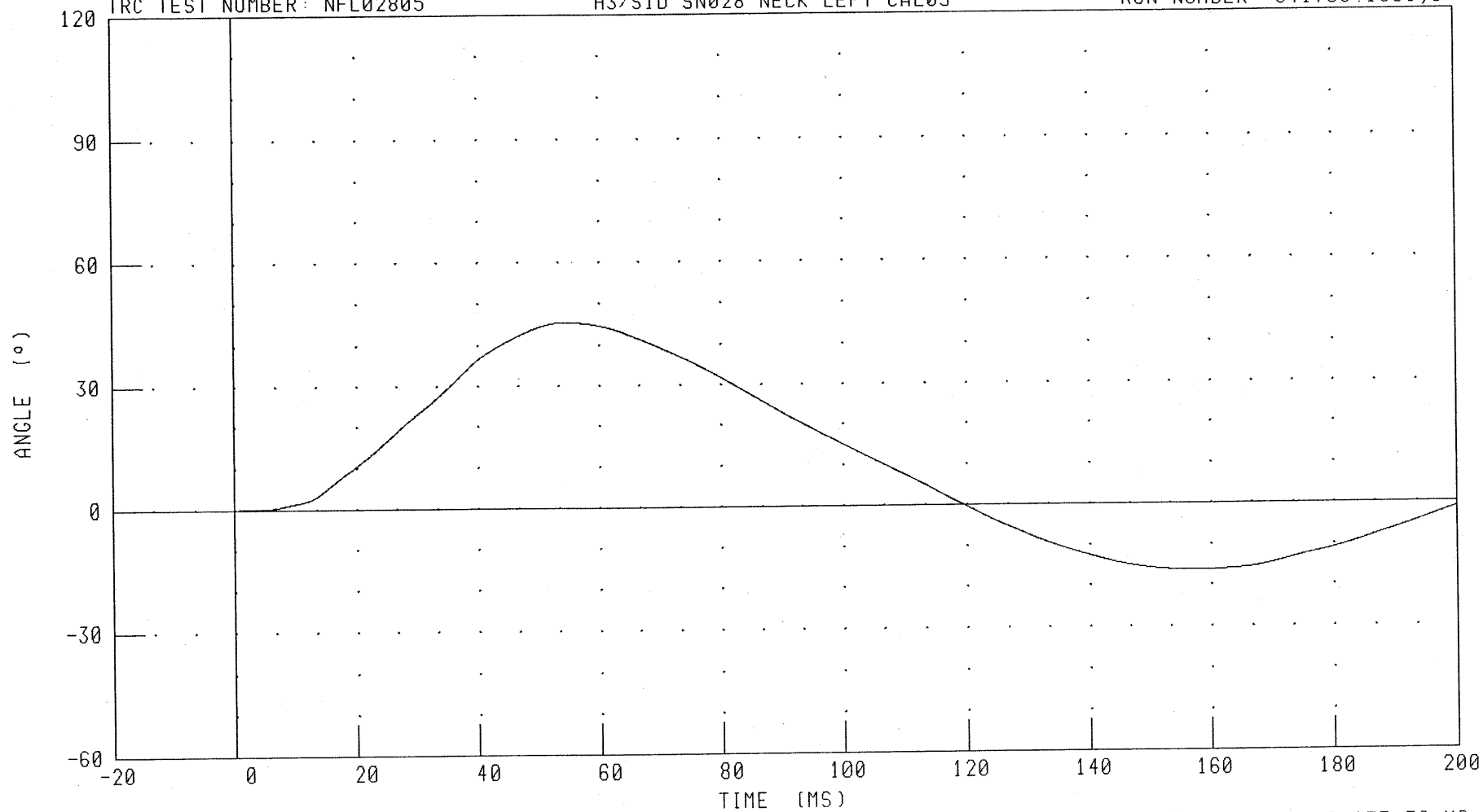
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

ROTATION ABOUT OCCIPITAL CONDYLE

TRC TEST NUMBER: NFL02805

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1



CHANNEL: THETA

FILTER: CH. CLASS 60

PEAK DATA: 45.47 ° @ 54.48 MS; -16.40 ° @ 157.52 MS

C-116

030415

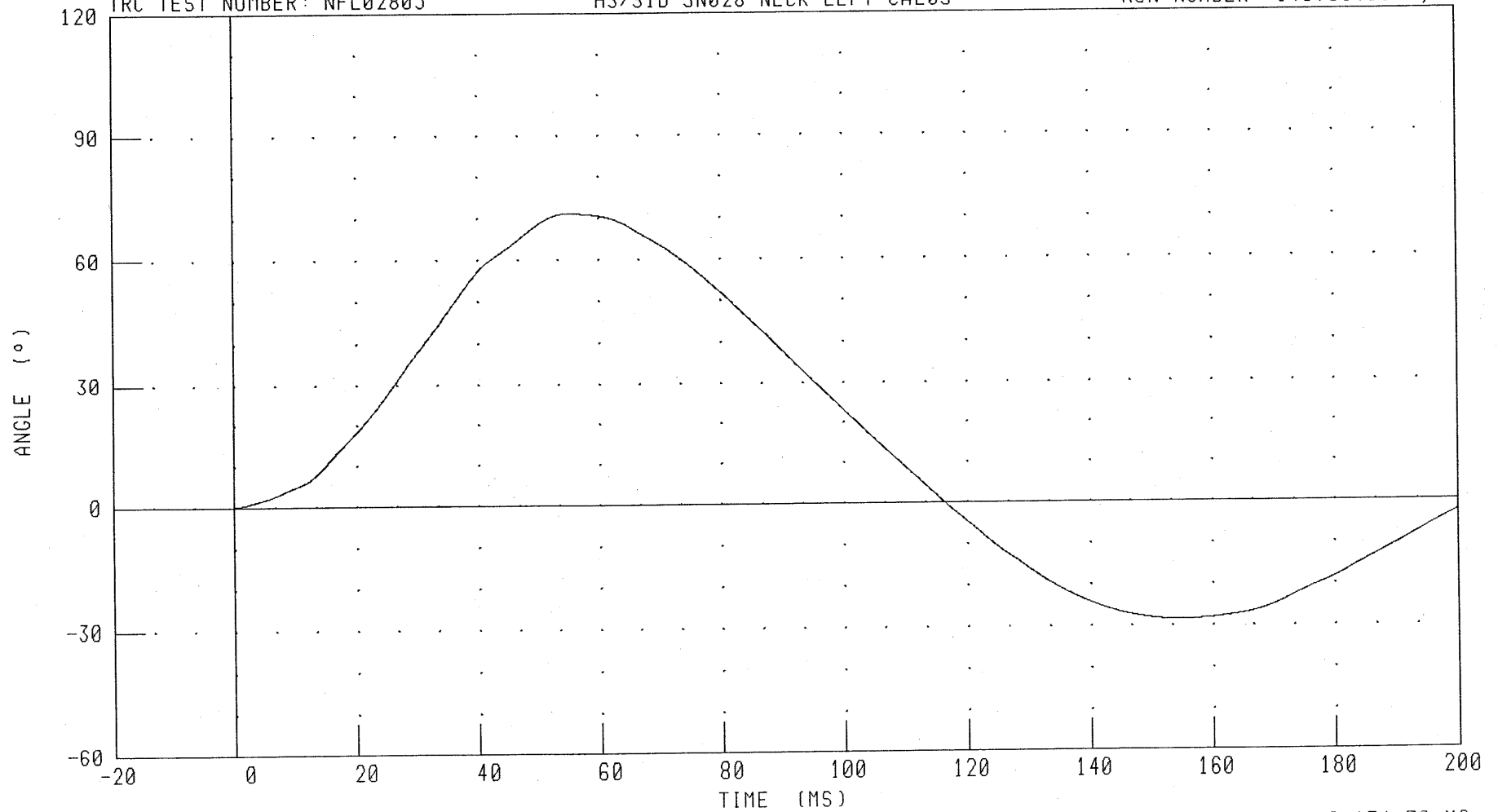
H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST

TOTAL ROTATION

TRC TEST NUMBER: NFL02805

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1



CHANNEL: TOTAN FILTER: CH. CLASS 60

PEAK DATA: 71.05 ° @ 55.20 MS; -28.55 ° @ 154.72 MS

C-117

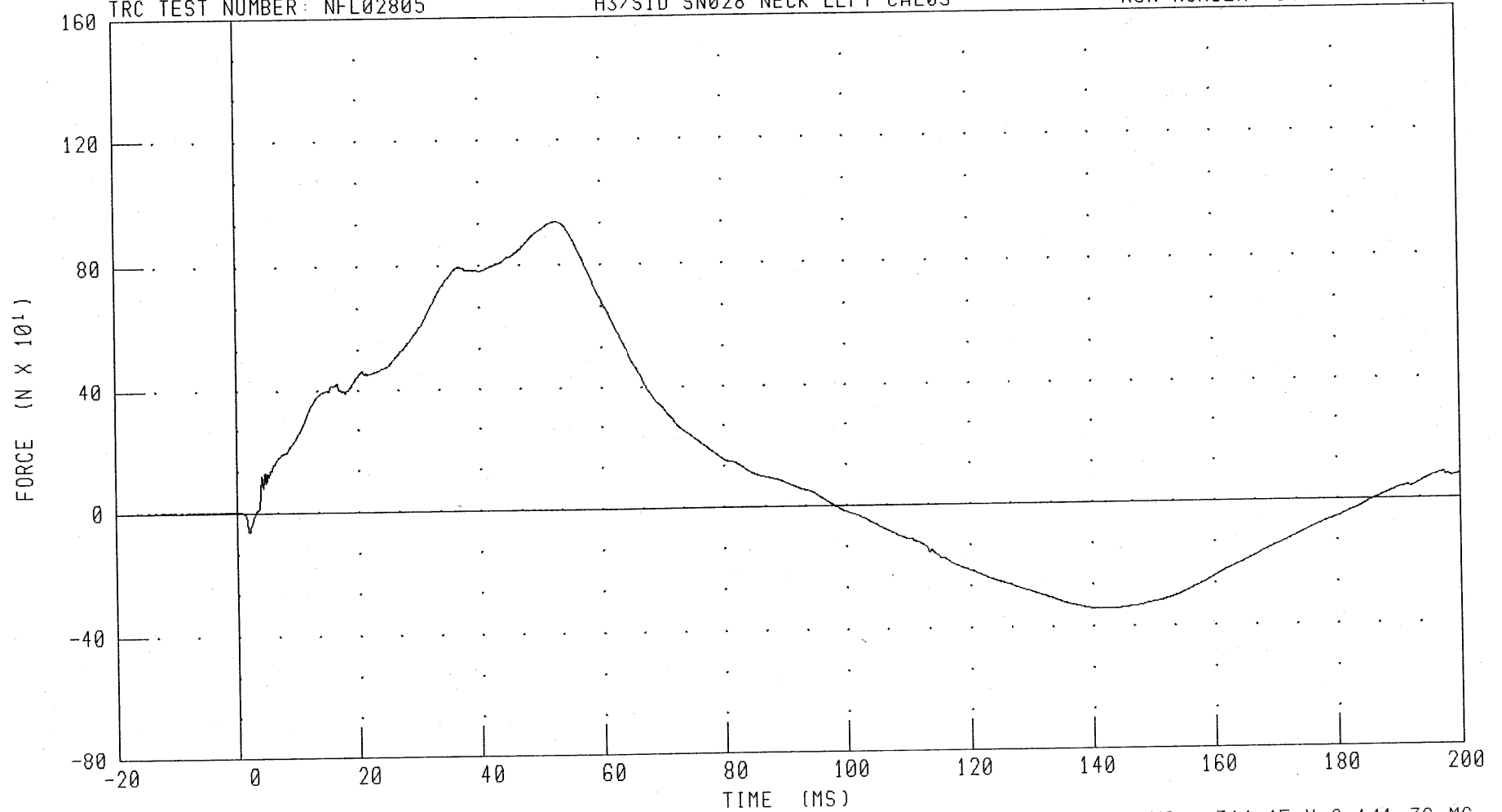
030415

H3/SID DUMMY CALIBRATION -- LEFT LATERAL NECK TEST
NECK FORCE Y AXIS

TRC TEST NUMBER: NFL02805

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1



CHANNEL: NEKYF

FILTER: CH. CLASS 1000

PEAK DATA: 937.92 N @ 52.88 MS; -344.45 N @ 141.36 MS

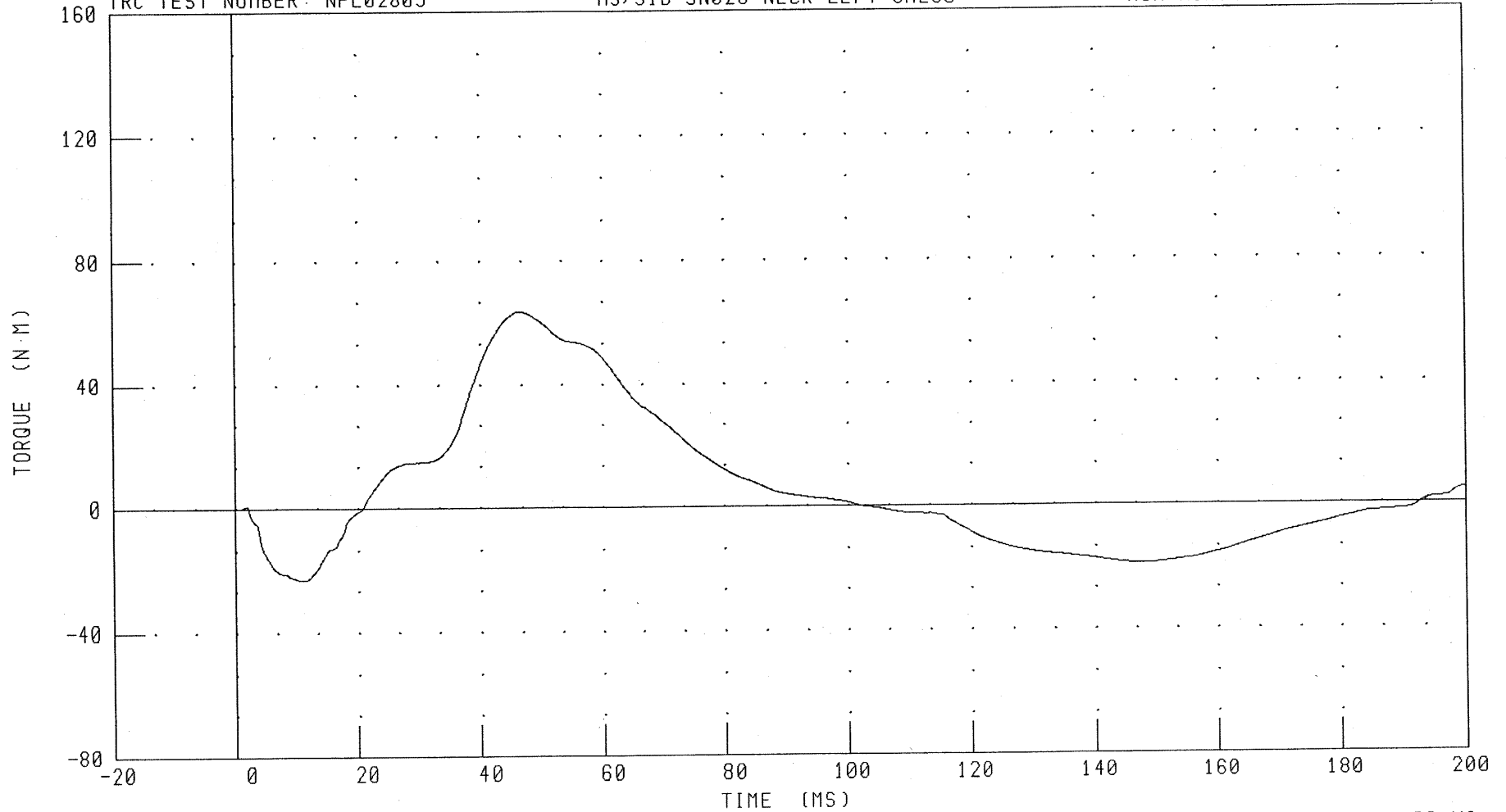
030415

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

TRC TEST NUMBER: NFL02805

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1



CHANNEL: NEKXM

FILTER: CH. CLASS 600

PEAK DATA: 63.59 N·M @ 46.64 MS; -22.90 N·M @ 10.80 MS

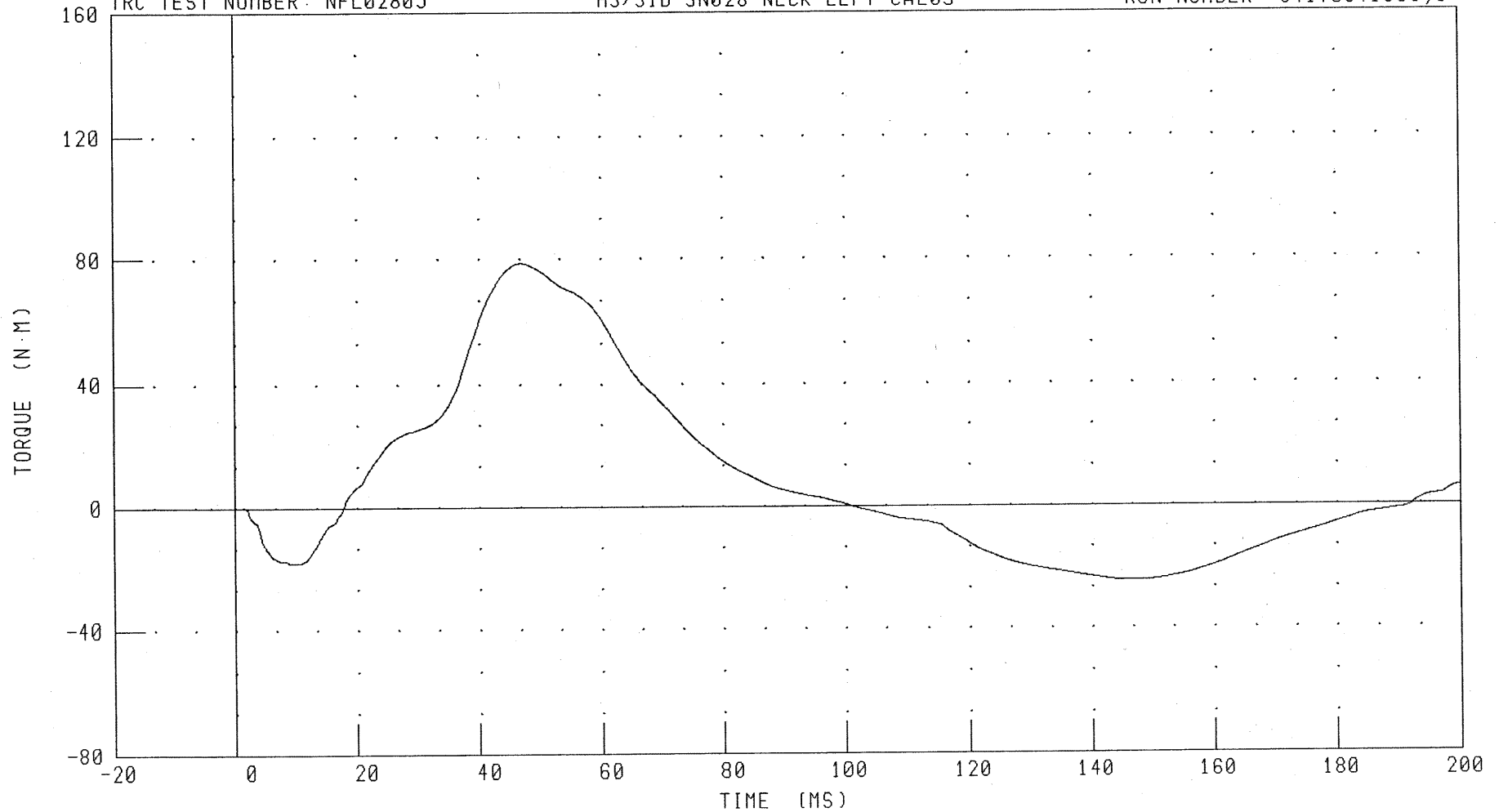
030415

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

TRC TEST NUMBER: NFL02805

H3/SID SN028 NECK LEFT CAL05

RUN NUMBER: 041703.1530;1



CHANNEL: NEKOM

FILTER: CH. CLASS 600

PEAK DATA: 78.66 N·M @ 46.88 MS; -24.65 N·M @ 145.92 MS

C-120

030415

TRANSPORTATION RESEARCH CENTER INC.

LATERAL THORAX IMPACT TEST

SIDE IMPACT DUMMY

16-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

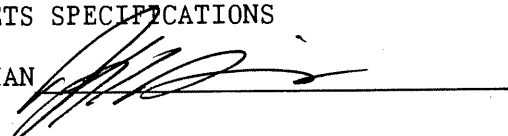
TEST NO: STL02805

572F SID SN028 L.THORAX CAL05

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	22.2 DEG. C
RELATIVE HUMIDITY	10 - 70 %	40.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.30 M/S
PEAK ACCELERATION: UPPER RIB BAR	37 - 46 G	39.1 G
PEAK ACCELERATION: LOWER RIB BAR	37 - 46 G	40.4 G
PEAK ACCELERATION: LOWER THORACIC SPINE	15 - 22 G	18.2 G

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 041603.1019;1

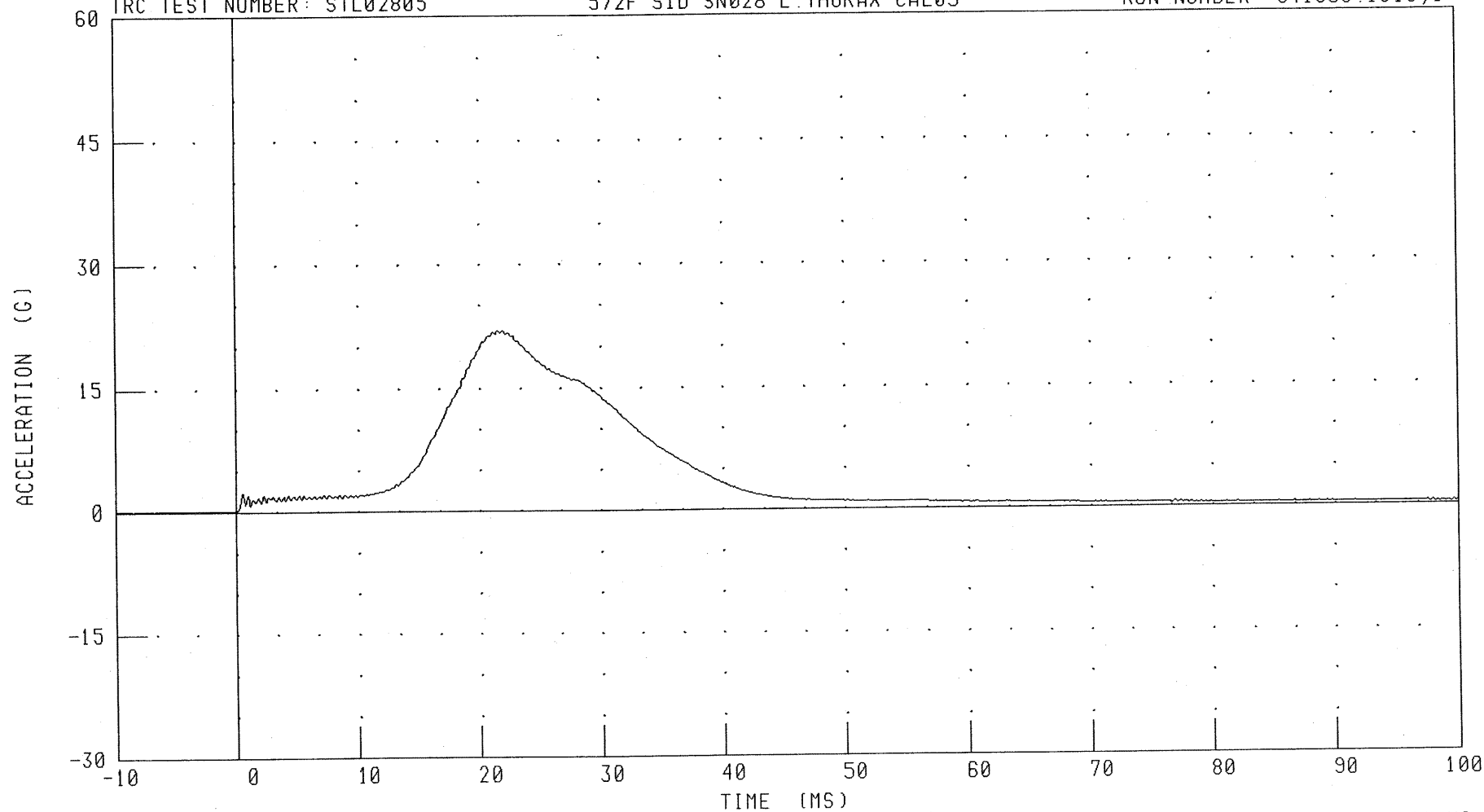
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

PENDULUM DECELERATION

TRC TEST NUMBER: STL02805

572F SID SN028 L THORAX CAL05

RUN NUMBER: 041603.1019;1



CHANNEL: PENXC

FILTER: CH. CLASS 1000

PEAK DATA: 21.99 G @ 21.52 MS; -0.01 G @ -8.56 MS

C-122

030415

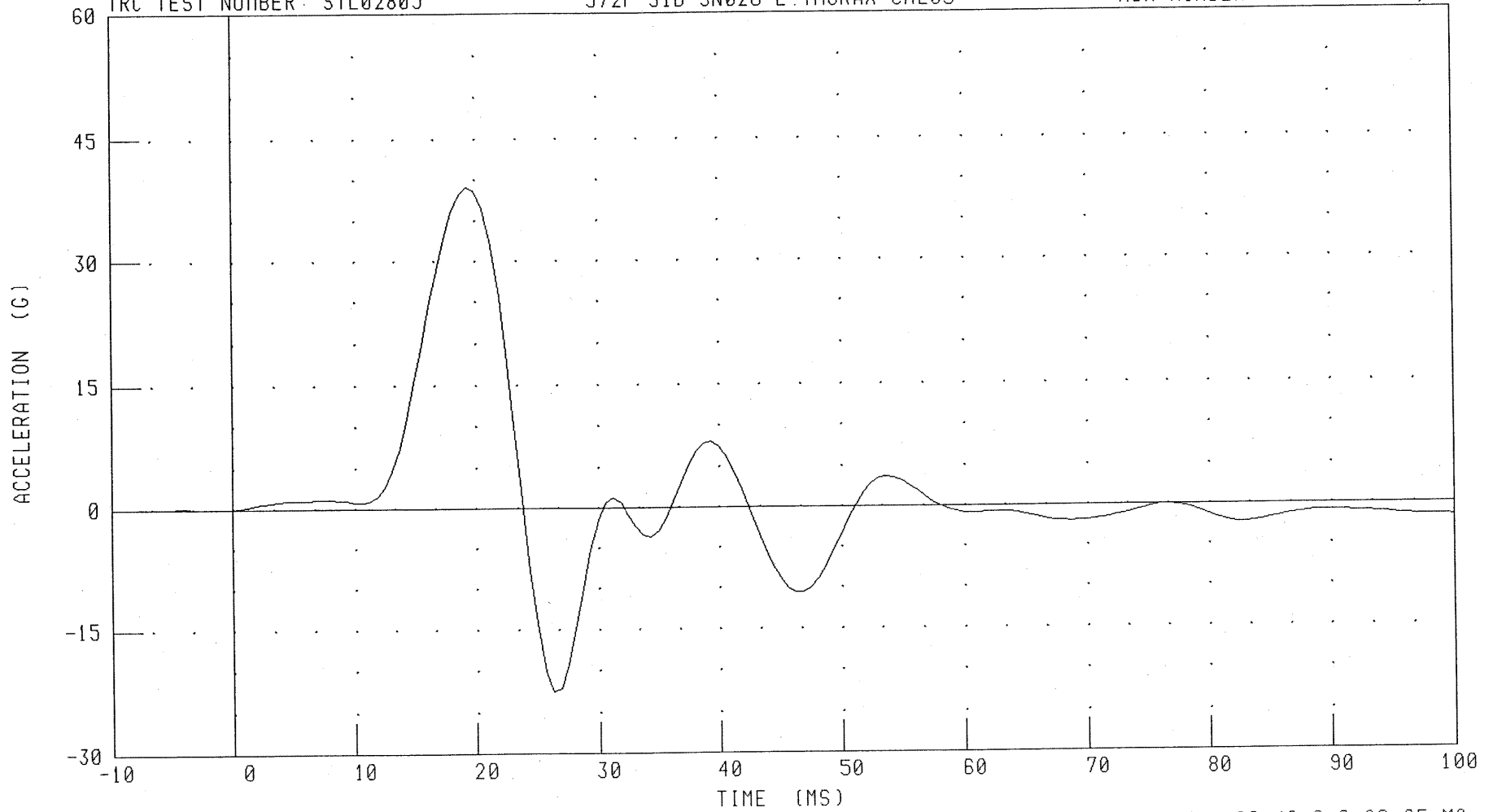
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT UPPER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL02805

572F SID SN028 L THORAX CAL05

RUN NUMBER: 041603.1019;1



CHANNEL: LURYG

FILTER: FIR 100

PEAK DATA: 39.12 G @ 19.38 MS; -22.49 G @ 26.25 MS

C-123

030415

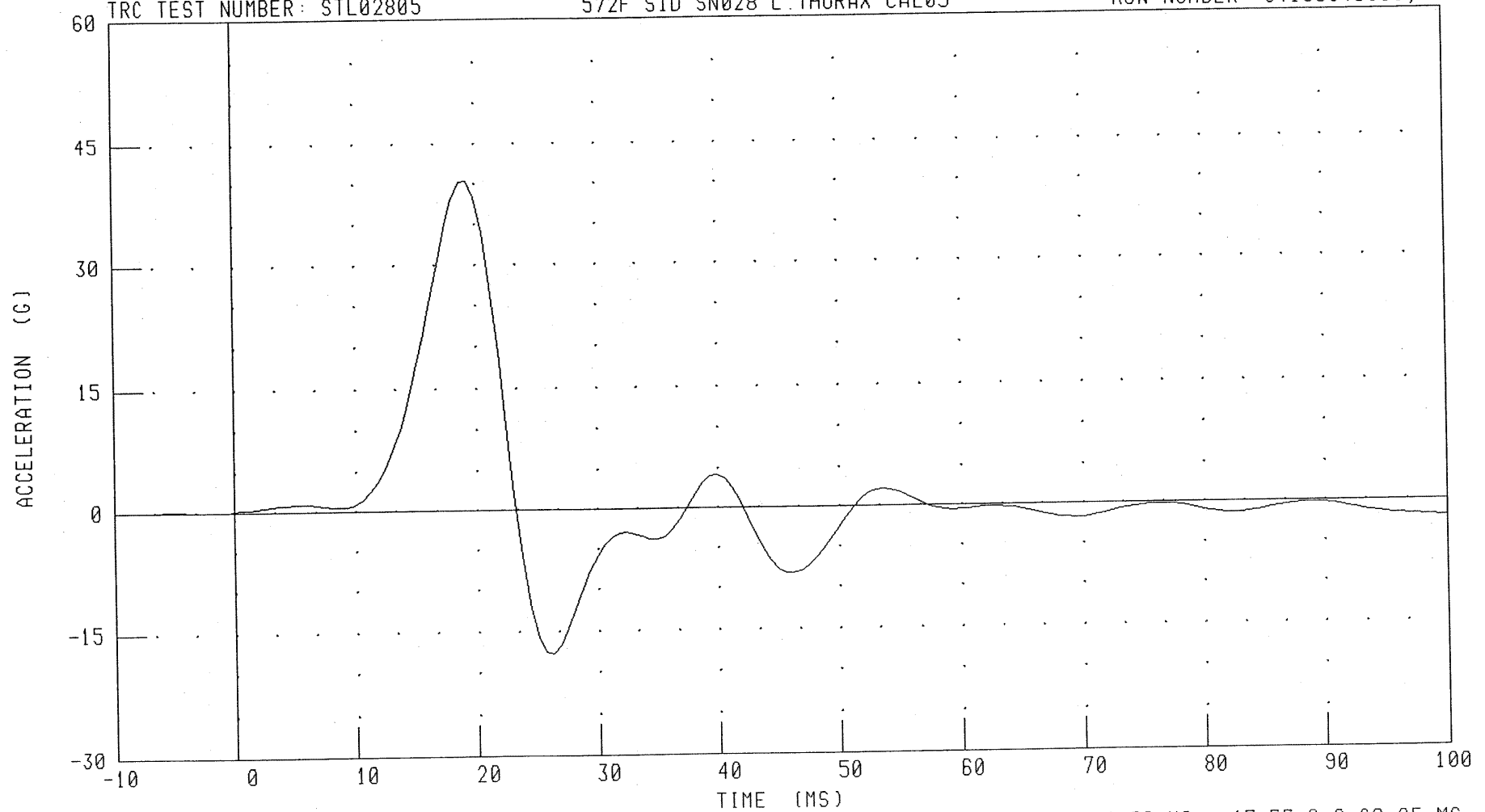
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LEFT LOWER RIB ACCELERATION Y AXIS

TRC TEST NUMBER: STL02805

572F SID SN028 L THORAX CAL05

RUN NUMBER: 041603.1019;1



CHANNEL: LLRYG

FILTER: FIR 100

C-124

030415

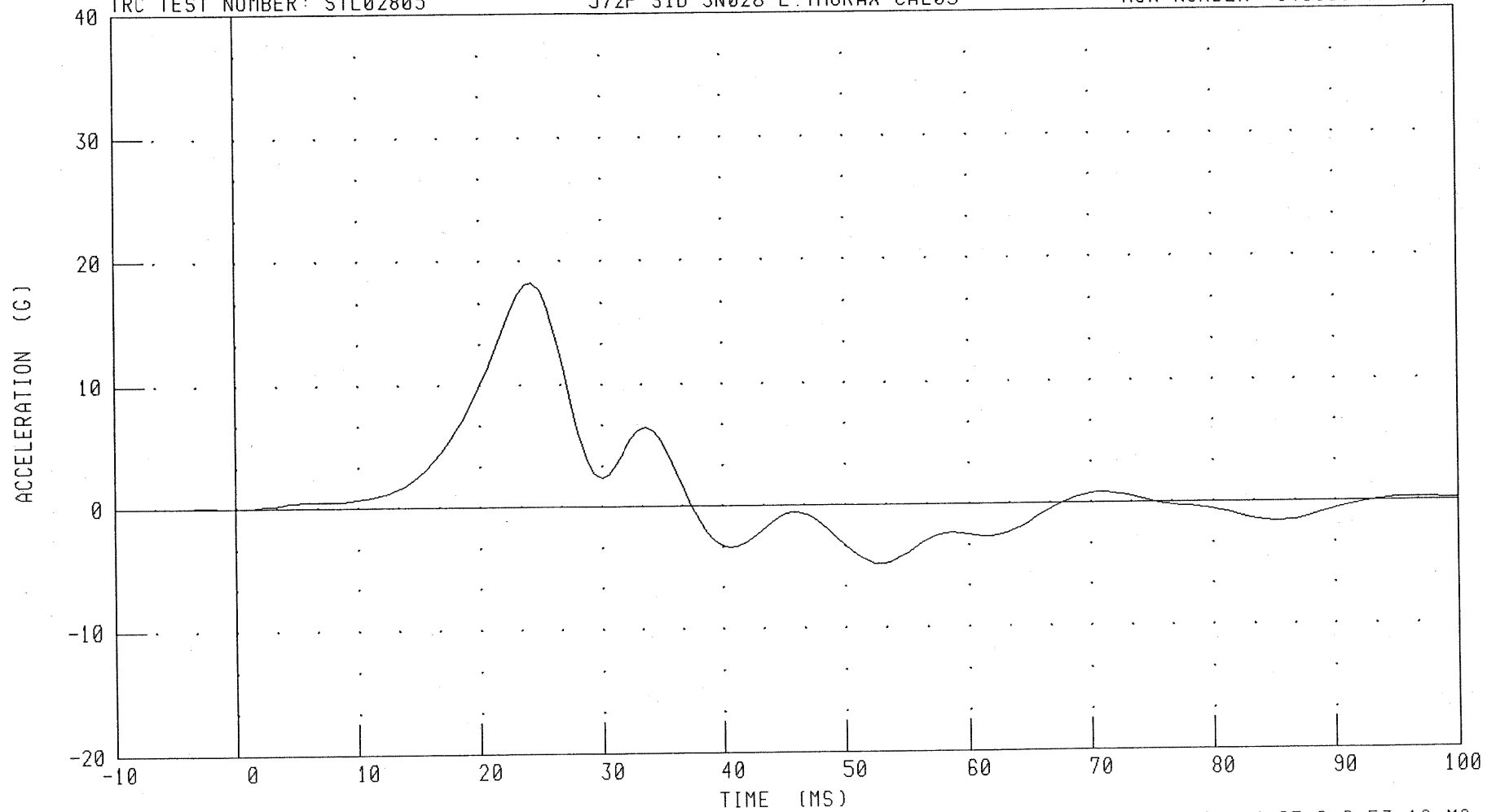
PART 572-F S.I.D. THORAX CALIBRATION - (LEFT SIDE IMPACT)

LOWER SPINE ACCELERATION Y AXIS

TRC TEST NUMBER: STL02805

572F SID SN028 L THORAX CAL05

RUN NUMBER: 041603.1019;1



CHANNEL: T12YC

FILTER: FIR 100

PEAK DATA: 18.25 G @ 24.38 MS; -4.87 G @ 53.12 MS

C-125

030415

TRANSPORTATION RESEARCH CENTER INC.

LUMBAR FLEXION TEST

SID PART 572B

CAL DATE: 16-Apr-03

TRC, INC.

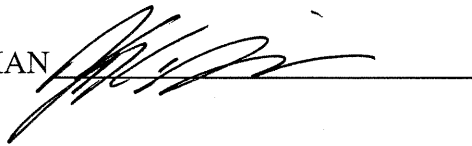
TEST NO: 028C05LF1

572B SN 028 TORSO FLEX CAL 05

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6° C	21.9 °C
RELATIVE HUMIDITY	10 – 70 %	39 %
FORCE AT 0 DEG. FLEXION	-27 – 27 N	0 N
FORCE AT 20 DEG OF FLEXION	98 – 151 N	115.7 N
FORCE AT 30 DEG OF FLEXION	151 – 205 N	177.9 N
FORCE AT 40 DEG OF FLEXION	205 – 258 N	213.5 N
NET RETURN ANGLE AFTER 3 MINUTES	< 12 °	6.0 °

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 028 Calibration No. 05 - 1

Test Date 04/16/2003

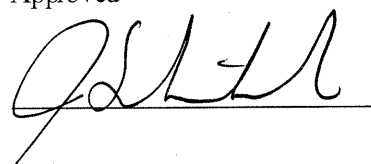
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	22.2 °C	Yes
Relative Humidity	10 - 70 %	39 %	Yes
Displacement Rate	6.35 - 8.89 mm/s	7.0 - 8.1 mm/s	Yes
Data Within Required Corridor	Yes	Yes	Yes

Comments:

Technician



Approved



04.18.2003 09:12:04 98

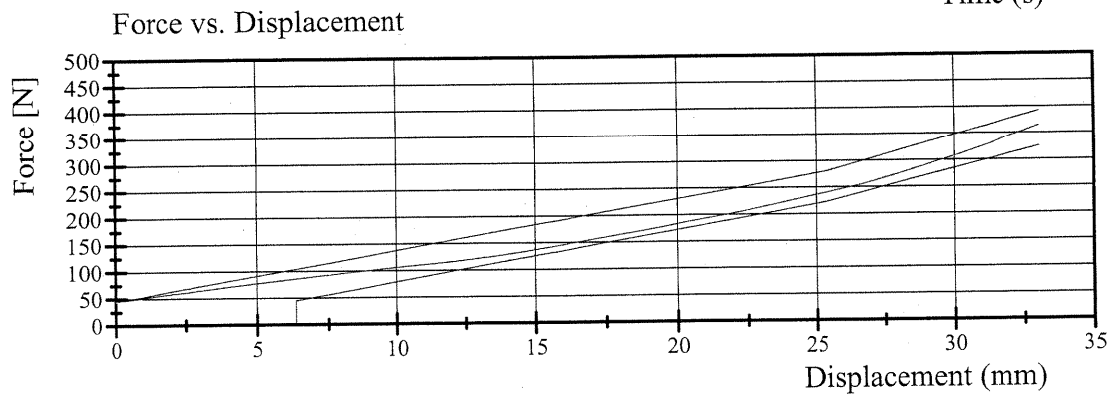
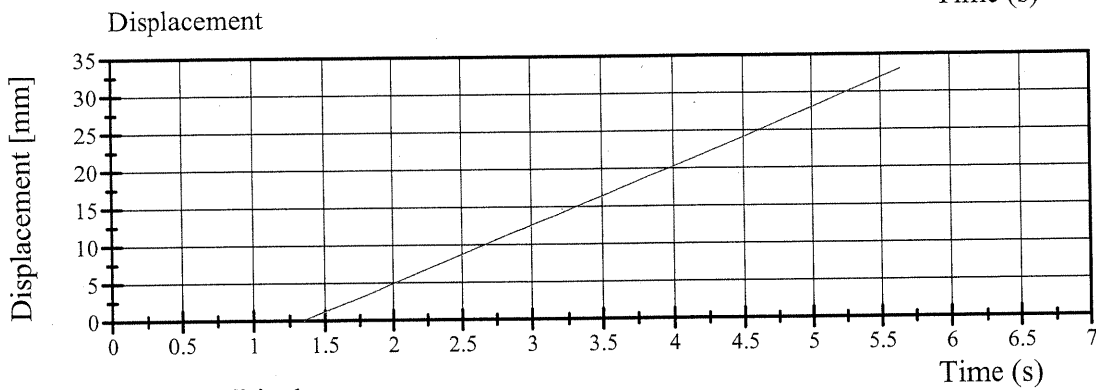
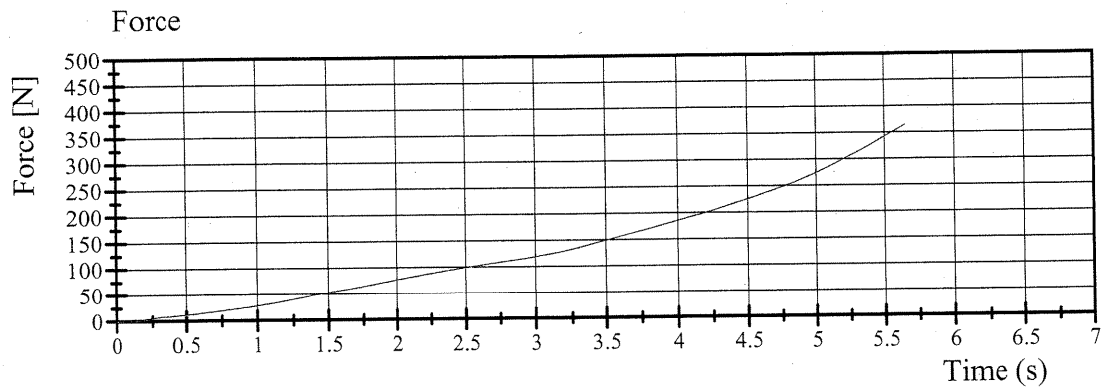


Transportation Research Center Inc.

572B Abdomen Compression Test

HIII SID Serial No. 028 Calibration No. 05 - 1

Test Date 04/16/2003



04.18.2003 09:12:05 98



TRANSPORTATION RESEARCH CENTER INC.

LATERAL PELVIS IMPACT TEST

SIDE IMPACT DUMMY

16-APR-03

LEFT SIDE CONFIGURATION

TRC INC.

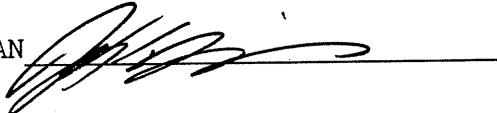
TEST NO: SPL02805

572F SN028 LEFT PELVIS CAL05

TEST PARAMETER	SPECIFICATION (ABSOLUTE VALUE)	TEST RESULTS
TEMPERATURE	18.9 - 25.5 C	22.2 DEG. C
RELATIVE HUMIDITY	10 - 70 %	41.0 %
PENDULUM VELOCITY	4.21 - 4.33 M/S	4.30 M/S
PEAK PELVIC ACCELERATION	40 - 60 G	48.4 G
TIME ABOVE 20 G LEVEL	3 - 7 MS	6.2 MS
IS ACCELERATION CURVE UNIMODAL?	YES	YES

TEST MEETS SPECIFICATIONS

TECHNICIAN



RUN NUMBER: 041603.1024;1

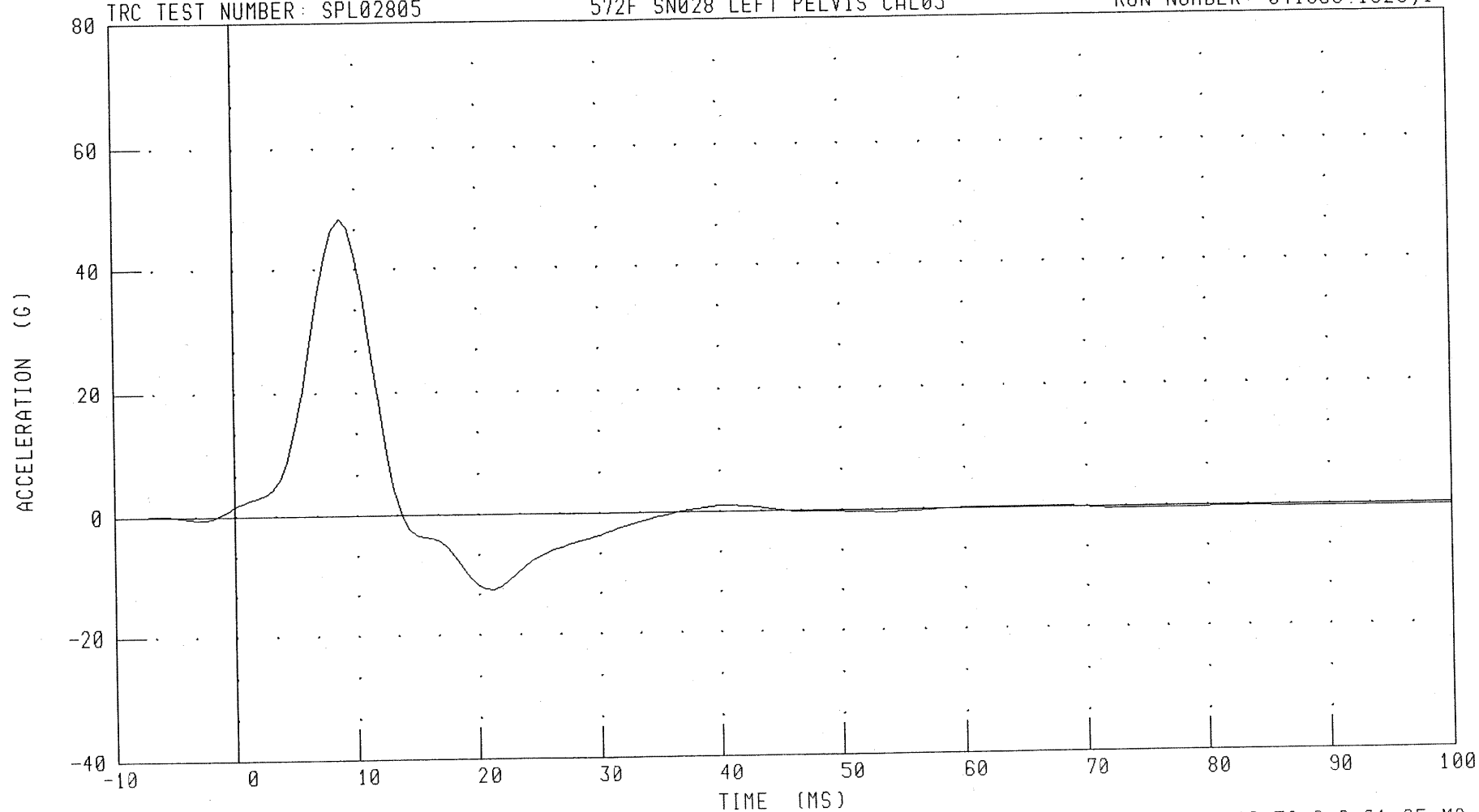
PART 572-F S.I.D. PELVIS CALIBRATION - (LEFT SIDE IMPACT)

PELVIS ACCELERATION Y AXIS

572F SN028 LEFT PELVIS CAL05

RUN NUMBER: 041603.1025;1

TRC TEST NUMBER: SPL02805



CHANNEL: PEVYG

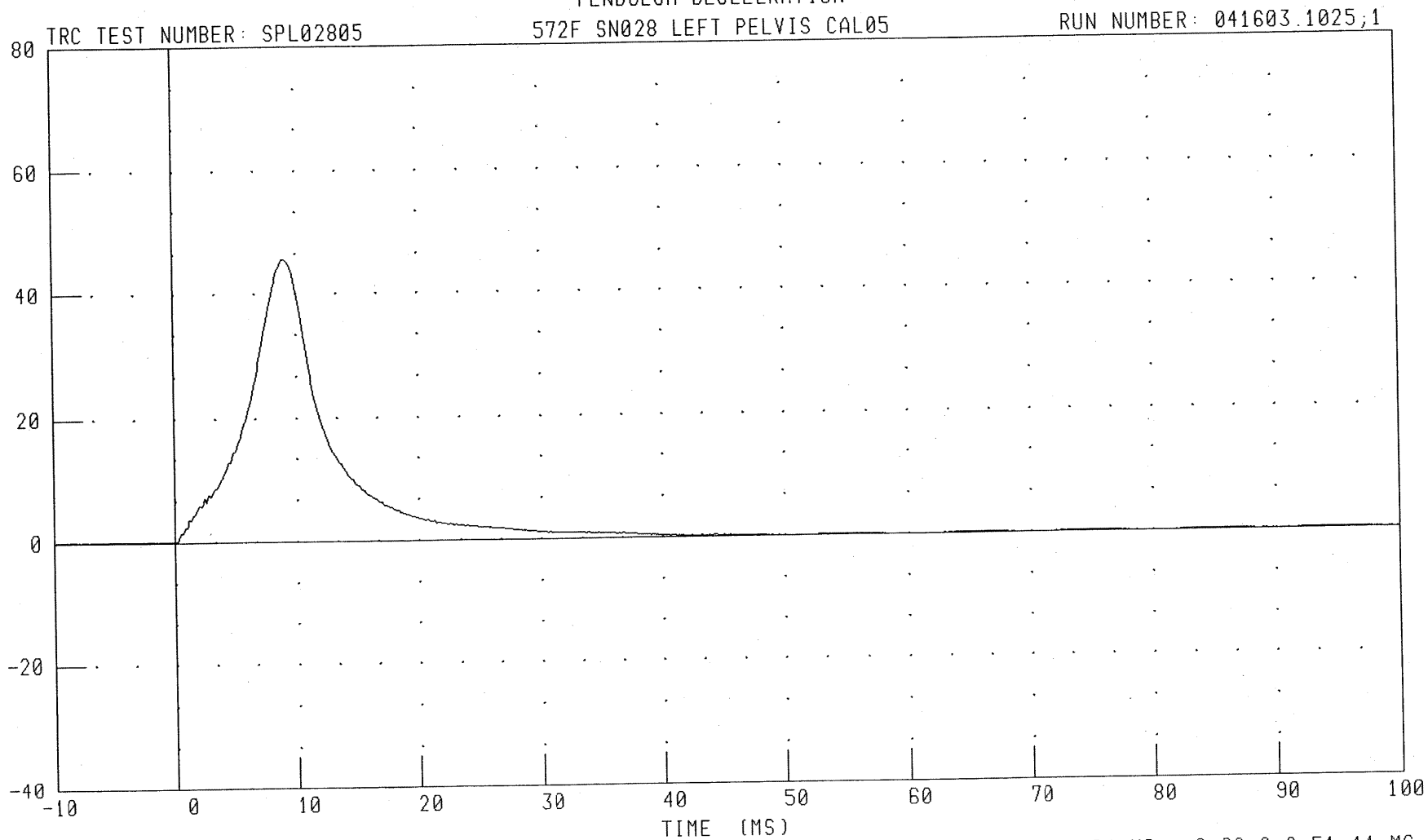
FILTER: FIR 100

PEAK DATA: 48.40 G @ 8.75 MS; -12.52 G @ 21.25 MS

C-130

030415

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



CHANNEL: PENXG

FILTER: CH. CLASS 1000

PEAK DATA: 45.71 G @ 9.04 MS; -0.08 G @ 51.44 MS

C-131

030415

Transportation Research Center Inc.

SID Pre-Use Inspection

Type: SID-HIII S/N: 065 Mfr: Denton Test Date: 04/15/03

Proj./Seg. No.: 20020455-1130 Test Eng.: Ginny Watters

ITEM	PRE-USE	
HEAD:		
Head Ballast Condition	X	
Accel. Mount Bolts and Cables	X	
Skull Cap Bolts	X	
Head Skin Condition	X	
Accel. Cable Exit (left or right)	(Left)	(Right) N/A
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 (40 ft/lbs)	X	
Breakaway Femur Bolts (5-6 ft/lbs)	X	
Knee Joint Function and Range of Motion	X	
Leg Skin Condition and Position	X	
Ankle Range of Motion	X	
Foot Condition	X	
OTHER:		
Cleanliness	X	
Target Position	X	
Clothes	X	
Shoes	X	
Knee & Ankle One G Joint Adjustments	X	

Inspection Completed By: J. Clarridge Date: 04/14/03

Transportation Research Center Inc.

SID Pre-Use Inspection

Type: SID-HIII S/N: 028 Mfr: Vector Test Date: 04/15/03

Proj./Seg. No.: 20020455-1130 Test Eng.: Ginny Watters

ITEM	PRE-USE	
HEAD:		
Head Ballast Condition	X	
Accel. Mount Bolts and Cables	X	
Skull Cap Bolts	X	
Head Skin Condition	X	
Accel. Cable Exit (left or right)	(Left)	(Right) N/A
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 (40 ft/lbs)	X	
Breakaway Femur Bolts (5-6 ft/lbs)	X	
Knee Joint Function and Range of Motion	X	
Leg Skin Condition and Position	X	
Ankle Range of Motion	X	
Foot Condition	X	
OTHER:		
Cleanliness	X	
Target Position	X	
Clothes	X	
Shoes	X	
Knee & Ankle One G Joint Adjustments	X	

Inspection Completed By: J. Clarridge Date: 04/14/03

Transportation Research Center Inc.

SID Post-Use Inspection

Type: SID-HIII S/N: 065 Mfr: Denton Test Date: 04/15/03

Proj./Seg. No.: 20020455-1130 Test Eng.: Ginny Watters

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:	
Illioc Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
LEGS AND FEET:	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: No damage to report.

Inspection Completed By: J. Clarridge

Date: 04/16/03

Transportation Research Center Inc.

SID Post-Use Inspection

Type: SID-HIII S/N: 028 Mfr: Vector Test Date: 04/15/03

Proj./Seg. No.: 20020455-1130 Test Eng.: Ginny Watters

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	*
Arm Foam Condition	X
Damper and Chest Pot Movement and Condition	X
Rib Cage Spring and Support Assembly Condition	X
Rib Wrap Condition	X
Abdomen condition	X
Thorax/Lumbar Spine Bolts	X
Lumbar Spine Condition and Separation From End Caps	X
PELVIS:	
Illioc Crest bone	X
Flesh Condition	X
Hip Range of Motion	X
LEGS AND FEET:	
Knee Skins and Castings Condition	X
Leg Skin Condition	X
Foot Condition	X
Knee Joint Range of Motion	X
Ankle Range of Motion	X

NOTES: Left side jacket torn in a couple of places. Will check with NHTSA dummy management about
getting a new one after post cal. No other damage to report.

Inspection Completed By: J. Clarridge

Date: 04/16/03

Appendix D

Test Equipment List and Calibration Information

Sign Convention
SAE J211 MAR95

Accelerometers:

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

Potentiometers:

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

Rotation potentiometers:

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

Load cells:

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

Neck load cells:

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

Tibia load cells:

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

Sign Convention, Cont'd.
SAE J211 MAR95

Lumbar load cells:

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

Frequency Response Classes
SAE J211 MAR95

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

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

Channel Report

4/25/2003 8:12:48 AM

Name of Test 030415

System MINIDAU

Name of DAU DAU6

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
6001	03C03C14-F01	BCGXG1	MDB CENTER OF GRAVITY	FWD	600.51606 g	+	3/28/2003	OK -1	Entran	EGE-73B6Q-200
6002	03C03C14-F21	BCGYG1	MDB CENTER OF GRAVITY	RT	594.65737 g	+	3/27/2003	OK -1	Entran	EGE-73B6Q-200
6003	03C03C14-F24	BCGZG1	MDB CENTER OF GRAVITY	UP	606.92271 g	-	3/31/2003	OK -1	Entran	EGE-73B6Q-200
6004	03C03C14-F08	LRRXG1	MDB LT RR X-AXIS	RR	602.21124 g	-	3/28/2003	OK -1	Entran	EGE-73B6Q-200
6005	03C03C14-F06	LRRYG1	MDB LT RR Y-AXIS	RT	595.34883 g	+	3/31/2003	OK -1	Entran	EGE-73B6Q-200

Channel Report

4/25/2003 8:12:48 AM

Name of Test 030415

System MINIDAU

Name of DAU DAU8

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal.		Group	Mfg.	Model
8001	J27271	HEDXG1	Head Accel X	Rwd	800.50031	g	-	3/11/2003	OK	065nlr	Endevco	7264-2000TZ
8002	J27352	HEDYG1	Head Accel Y	Lft	793.42941	g	-	3/11/2003	OK	065nlr	Endevco	7264-2000TZ
8003	J27283	HEDZG1	Head Accel Z	Up	809.34541	g	-	3/11/2003	OK	065nlr	Endevco	7264-2000TZ
8004	J29134	HEDXR1	Head Accel X Red	Rwd	793.89691	g	-	3/11/2003	OK	065nlr	Endevco	7264-2000TZ
8005	J29020	HEDYR1	Head Accel Y Red	Lt	802.35692	g	-	3/11/2003	OK	065nlr	Endevco	7264-2000TZ
8006	J27322	HEDZR1	Head Accel Z Red	Up	814.06811	g	-	3/11/2003	OK	065nlr	Endevco	7264-2000TZ
8007	1716-0627-FX	NEKXF1	Neck Force X	Hd	8900.5691	N	-	3/10/2003	OK	065nlr	Denton	1716
8008	1716-0627-FY	NEKYF1	Neck Force Y	Hd	8904.8480	N	+	3/10/2003	OK	065nlr	Denton	1716
8009	1716-0627-FZ	NEKZF1	Neck Force Z	Hd	13331.510	N	+	3/10/2003	OK	065nlr	Denton	1716
8010	1716-0627-MX	NEKXM1	Neck Moment X	Rt Ear	282.90624	N·m	-	3/10/2003	OK	065nlr	Denton	1716
8011	1716-0627-MY	NEKYM1	Neck Moment Y	Chn	282.62862	N·m	+	3/10/2003	OK	065nlr	Denton	1716
8012	1716-0627-MZ	NEKZM1	Neck Moment Z	Chn	282.46679	N·m	+	3/10/2003	OK	065nlr	Denton	1716
8013	P25068	LURYG1	Left Upper Rib Y	Rgt	804.05798	g	+	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8014	P25067	LURYR1	Left Upper Rib Red Y	Rgt	808.88509	g	+	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8015	P25389	LLRYG1	Left Lower Rib Y	Rgt	799.52528	g	+	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8016	P25395	LLRYR1	Left Lower Rib Red Y	Rgt	788.95463	g	+	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8017	P14826	T12YG1	Lower Spine Y	Lft	401.80813	g	-	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8018	P25069	T12YR1	Lower Spine Red Y	Lft	398.15851	g	-	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8019	P25397	PEVYG1	Pelvis Accel Y	Lft	400.34404	g	-	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8020	P25061	PEVYR1	Pelvis Accel Red Y	Lft	401.07161	g	-	12/19/2002	OK	065nlr	Endevco	7264C-2K-2-180
8021	P25307	HEDXG4	Head Accel X	Rwd	809.10240	g	-	1/22/2003	OK	028nlr	Endevco	7264C-2K-2-180
8022	P25326	HEDYG4	Head Accel Y	Lft	808.84676	g	-	1/22/2003	OK	028nlr	Endevco	7264C-2K-2-180
8023	P25298	HEDZG4	Head Accel Z	Up	807.64741	g	-	1/22/2003	OK	028nlr	Endevco	7264C-2K-2-180
8024	P25318	HEDXR4	Head Accel X Red	Rwd	810.61397	g	-	1/22/2003	OK	028nlr	Endevco	7264C-2K-2-180
8025	P25301	HEDYR4	Head Accel Y Red	Lt	802.80983	g	-	1/22/2003	OK	028nlr	Endevco	7264C-2K-2-180
8026	P25305	HEDZR4	Head Accel Z Red	Up	807.23993	g	-	1/21/2003	OK	028nlr	Endevco	7264C-2K-2-180
8027	1716A-1535-FX	NEKXF4	Neck Force X	Hd	8891.7626	N	-	3/21/2003	OK	028nlr	Denton	1716A
8028	1716A-1535-FY	NEKYF4	Neck Force Y	Hd	8889.1703	N	+	3/21/2003	OK	028nlr	Denton	1716A
8029	1716A-1535-FZ	NEKZF4	Neck Force Z	Hd	13358.833	N	+	3/21/2003	OK	028nlr	Denton	1716A
8030	1716A-1535-MX	NEKXM4	Neck Moment X	Rt Ear	282.62505	N·m	-	3/21/2003	OK	028nlr	Denton	1716A
8031	1716A-1535-MY	NEKYM4	Neck Moment Y	Chn	282.40583	N·m	+	3/21/2003	OK	028nlr	Denton	1716A
8032	1716A-1535-MZ	NEKZM4	Neck Moment Z	Chn	282.83189	N·m	+	3/21/2003	OK	028nlr	Denton	1716A

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Channel Report

4/25/2003 8:12:49 AM

Name of Test 030415

System MINIDAU

Name of DAU DAU9

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
9001	P25231	LURYG4	Left Upper Rib Y	Rgt	806.24842	g	+ 12/13/2002	OK 028nlr	Endevco	7264C-2K-2-180
9002	J27507	LURYR4	Left Upper Rib Red Y	Rgt	808.38701	g	+ 3/18/2003	OK 028nlr	Endevco	7264-2KM5T
9003	P25075	LLRYG4	Left Lower Rib Y	Rgt	801.25195	g	+ 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
9004	P25076	LLRYR4	Left Lower Rib Red Y	Rgt	797.43326	g	+ 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
9005	P25261	T12YG4	Lower Spine Y	Lft	401.56862	g	- 11/21/2002	OK 028nlr	Endevco	7264C-2K-2-180
9006	P25374	T12YR4	Lower Spine Red Y	Lft	396.97923	g	- 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
9007	P25063	PEVYG4	Pelvis Accel Y	Lft	400.40353	g	- 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
9008	P25074	PEVYR4	Pelvis Accel Red Y	Lft	397.60196	g	- 12/19/2002	OK 028nlr	Endevco	7264C-2K-2-180
9009	03D03C28-N22	RFSXG1	RGT SIDE SILL FRNT ST X	FWD	403.53089	g	+ 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9010	03D03C28-N21	RFSYG1	RGT SIDE SILL FRNT ST Y	LT	1020.7336	g	- 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9011	03D03C28-N02	RFSZG1	RGT SIDE SILL FRNT ST Z	UP	396.89922	g	- 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9012	03D03C28-N01	RRSXG1	RGT SIDE SILL RR ST X	FWD	400.62597	g	+ 4/3/2003	OK -1	Entran	EGE-73B6Q-200
9013	03D03C28-N014	RRSYG1	RGT SIDE SILL RR ST Y	LT	984.61538	g	- 4/3/2003	OK -1	Entran	EGE-73B6Q-200
9014	03D03C28-N12	RRSZG1	RGT SIDE SILL RR ST Z	UP	399.68774	g	- 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9015	03D03C28-N11	RDKXG1	RR FLR PAN ABV AXLE X	FWD	996.88473	g	+ 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9016	03D03C28-N04	RDKYG1	RR FLR PAN ABV AXLE Y	LT	984.61538	g	- 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9017	03D03C28-N05	RDKZG1	RR FLR PAN ABV AXLE Z	UP	994.56099	g	- 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9018	03D03C27-N13	LRSYG1	LFT SIDE SILL RR ST Y	RT	989.37198	g	+ 4/3/2003	OK -1	Entran	EGE-73B6Q-200
9020	03D03C28-N10	LFSYG1	LFT SIDE SILL FRNT ST Y	RT	999.02439	g	+ 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9021	P26525	LFCYG1	LFT FRNT DOOR CTRLN Y	RT	1506.5913	g	+ 3/20/2003	OK -1	Endevco	7264C-2K-2-180
9022	03C03C14-N13	RRTYG1	RGT RR OCP COMP Y	RT	1468.7320	g	+ 3/24/2003	OK -1	Entran	EGE-73B6Q-200
9023	03D03C28-N03	LFMYG1	LFT FRNT DOOR MIDRR Y	RT	1466.2084	g	+ 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9024	P25329	LFUYG1	LFT FRNT DOOR UPPER C/L	RT	1493.9309	g	+ 1/22/2003	OK -1	Endevco	7264C-2K-2-180
9025	03D03C28-N06	LRMYG1	LFT RR DOOR MIDREAR Y	RT	1516.5876	g	+ 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9026	03D03C28-N15	LRUYG1	LT RR DR UPPER CL Y	RT	1462.0217	g	+ 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9027	P25050	LLBYG1	LFT LOWER B-POST Y	RT	1471.3912	g	+ 4/2/2003	OK -1	Endevco	7264C-2K-2-180
9028	J27030	LUBYG1	LFT MID B-POST Y	RT	1478.9139	g	+ 3/6/2003	OK -1	Endevco	7264-2000TZ
9029	03D03C28-N07	LLAYG1	LFT LOWER A-POST Y	LT	1497.0760	g	- 4/4/2003	OK -1	Entran	EGE-73B6Q-200
9030	03D03C28-N18	LUAYG1	LFT MID A-POST Y	LT	1556.7041	g	- 4/22/2003	OK -1	Entran	EGE-73B6Q-200
9031	03D03C28-N20	LFTYG1	LFT FRNT ST TRK Y	RT	1461.1872	g	+ 4/3/2003	OK -1	Entran	EGE-73B6Q-200
9032	03D03C28-N16	LRTYG1	LFT RR ST TR Y	LT	1481.4814	g	- 4/4/2003	OK -1	Entran	EGE-73B6Q-200

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Channel Report

4/25/2003 8:12:49 AM

Name of Test 030415

System MINIDAU

Name of DAU DAUA

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
0001	03D03C27-N26	VCGXG1	VEH C/G X	FWD	1006.2893 g	+	4/3/2003	OK -1	Entran	EGE-73B6Q-200
0002	03D03C27-N18	VCGYG1	VEH C/G Y	RT	1020.7336 g	+	4/3/2003	OK -1	Entran	EGE-73B6Q-200
0003	03D03C27-N22	VCGZG1	VEH C/G Z	UP	989.37198 g	-	4/3/2003	OK -1	Entran	EGE-73B6Q-200

Digital and System Channel Report

2003-04-25 08:12:32

Name of Test 030415

System MINIDAU

Name of DAU DAU6 descriptio

enable Channel

Short Name

Type

Data File

Module Type

d

Yes 6501

DIG6

dig0

DAT66501

KM3710 Controller

bit position

bit

short

long

descriptio

MSB = bit 15

1

MDBR1

MDB RT SIDE CONTACT SWITCH

bit 14

1

MDBL1

MDB LT SIDE CONTACT SWITCH

bit 13

0

bit 12

0

bit 11

0

bit 10

0

bit 09

0

bit 08

0

bit 07

0

bit 06

0

bit 05

0

bit 04

0

bit 03

0

bit 02

0

bit 01

0

LSB = bit 00

0

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030415

Dummy 065nlr Type SID Description NHTSA - 065n SID-LEFT IMP.W/ RED ACCELS. CAL DUE 6-19-03 (DKS 3-11-03)J211

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
HEDXG	Head Accel X	7264-2000TZ	J27271	Endevco	0.03198 g	2000	3/11/2003	Rwd	1
HEDYG	Head Accel Y	7264-2000TZ	J27352	Endevco	0.0239 g	2000	3/11/2003	Lft	1
HEDZG	Head Accel Z	7264-2000TZ	J27283	Endevco	0.02343 g	2000	3/11/2003	Up	1
HEDXR	Head Accel X Red	7264-2000TZ	J29134	Endevco	0.02804 g	2000	3/11/2003	Rwd	1
HEDYR	Head Accel Y Red	7264-2000TZ	J29020	Endevco	0.02279 g	2000	3/11/2003	Lt	1
HEDZR	Head Accel Z Red	7264-2000TZ	J27322	Endevco	0.02419 g	2000	3/11/2003	Up	1
NEKXF	Neck Force X	1716	1716-0627-FX	Denton	0.000191111 N	8896.4	3/10/2003	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	1716	1716-0627-FY	Denton	0.000188514 N	8896.4	3/10/2003	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	1716	1716-0627-FZ	Denton	0.000085345 N	13344.6	3/10/2003	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	1716	1716-0627-MX	Denton	0.005914336 N·m	282.5	3/10/2003	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	1716	1716-0627-MY	Denton	0.005978761 N·m	282.5	3/10/2003	Chn to Strnm	0
NEKZM	Neck Moment Z	1716	1716-0627-MZ	Denton	0.00831469 N·m	282.5	3/10/2003	Chn to Lt Shld	0
LURYG	Left Upper Rib Y	7264C-2K-2-18	P25068	Endevco	0.01721 g	2000	12/19/2002	Rgt	0
LURYR	Left Upper Rib Red Y	7264C-2K-2-18	P25067	Endevco	0.01623 g	2000	12/19/2002	Rgt	0
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P25389	Endevco	0.01642 g	2000	12/19/2002	Rgt	0
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P25395	Endevco	0.02028 g	2000	12/19/2002	Rgt	0
T12YG	Lower Spine Y	7264C-2K-2-18	P14826	Endevco	0.01991 g	2000	12/19/2002	Lft	1
T12YR	Lower Spine Red Y	7264C-2K-2-18	P25069	Endevco	0.01692 g	2000	12/19/2002	Lft	1
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P25397	Endevco	0.01827 g	2000	12/19/2002	Lft	1
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P25061	Endevco	0.01798 g	2000	12/19/2002	Lft	1

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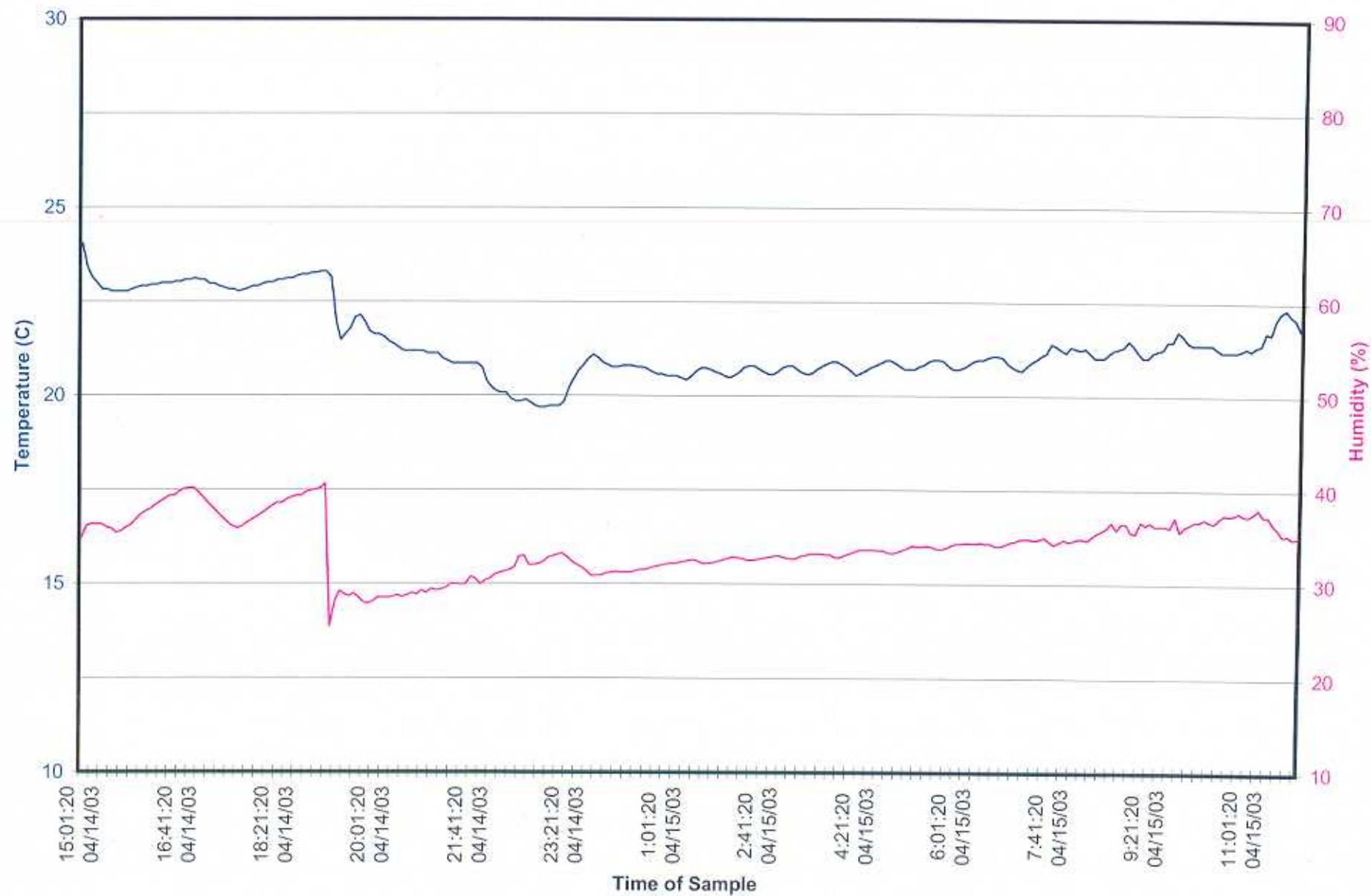
030415

Dummy	028nlr	Type	SID/H3	Description	NHTSA - 028n SID-LEFT IMP. CONFIG. w/RED ACCELS CAL DUE 6-19-03(DKS 4-14-03)J21					
Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip	
HEDXG	Head Accel X	7264C-2K-2-18	P25307	Endevco	0.01808 g	2000	1/22/2003	Rwd	1	
HEDYG	Head Accel Y	7264C-2K-2-18	P25326	Endevco	0.0211 g	2000	1/22/2003	Lft	1	
HEDZG	Head Accel Z	7264C-2K-2-18	P25298	Endevco	0.02186 g	2000	1/22/2003	Up	1	
HEDXR	Head Accel X Red	7264C-2K-2-18	P25318	Endevco	0.01914 g	2000	1/22/2003	Rwd	1	
HEDYR	Head Accel Y Red	7264C-2K-2-18	P25301	Endevco	0.01993 g	2000	1/22/2003	Lt	1	
HEDZR	Head Accel Z Red	7264C-2K-2-18	P25305	Endevco	0.02046 g	2000	1/21/2003	Up	1	
NEKXF	Neck Force X	1716A	1716A-1535-FX	Denton	0.000185746 N	8896.4	3/21/2003	Hd Fd,Cst Rr	1	
NEKYF	Neck Force Y	1716A	1716A-1535-FY	Denton	0.000181126 N	8896.4	3/21/2003	Hd Lt,Cst Rt	0	
NEKZF	Neck Force Z	1716A	1716A-1535-FZ	Denton	9.37083E-05 N	13344.6	3/21/2003	Hd Up,Cst Dn	0	
NEKXM	Neck Moment X	1716A	1716A-1535-MX	Denton	0.00580637 N-m	282.5	3/21/2003	Rt Ear to Rt Shld	1	
NEKYM	Neck Moment Y	1716A	1716A-1535-MY	Denton	0.005701238 N-m	282.5	3/21/2003	Chn to Strnm	0	
NEKZM	Neck Moment Z	1716A	1716A-1535-MZ	Denton	0.008154336 N-m	282.5	3/21/2003	Chn to Lt Shld	0	
LURYG	Left Upper Rib Y	7264C-2K-2-18	P25231	Endevco	0.01764 g	2000	12/13/2002	Rgt	0	
LURYR	Left Upper Rib Red Y	7264-2KM5T	J27507	Endevco	0.02639 g	2000	3/18/2003	Rgt	0	
LLRYG	Left Lower Rib Y	7264C-2K-2-18	P25075	Endevco	0.01775 g	2000	12/19/2002	Rgt	0	
LLRYR	Left Lower Rib Red Y	7264C-2K-2-18	P25076	Endevco	0.01566 g	2000	12/19/2002	Rgt	0	
T12YG	Lower Spine Y	7264C-2K-2-18	P25261	Endevco	0.017 g	2000	11/21/2002	Lft	1	
T12YR	Lower Spine Red Y	7264C-2K-2-18	P25374	Endevco	0.02186 g	2000	12/19/2002	Lft	1	
PEVYG	Pelvis Accel Y	7264C-2K-2-18	P25063	Endevco	0.01801 g	2000	12/19/2002	Lft	1	
PEVYR	Pelvis Accel Red Y	7264C-2K-2-18	P25074	Endevco	0.01764 g	2000	12/19/2002	Lft	1	

55/28 KPH 90 DEGREE SIDE IMPACT / 030415

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030415



SIDE IMPACTOR BARRIER CERTIFICATION

Date: April 1, 2003

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

PURCHASE ORDER INFORMATION

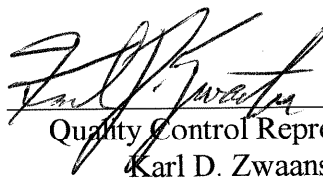
Customer P.O. Number: 22964
Work Order Number: 16444
Quantity: 01 piece

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: 013C0203

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


Quality Control Representative
Karl D. Zwaanstra

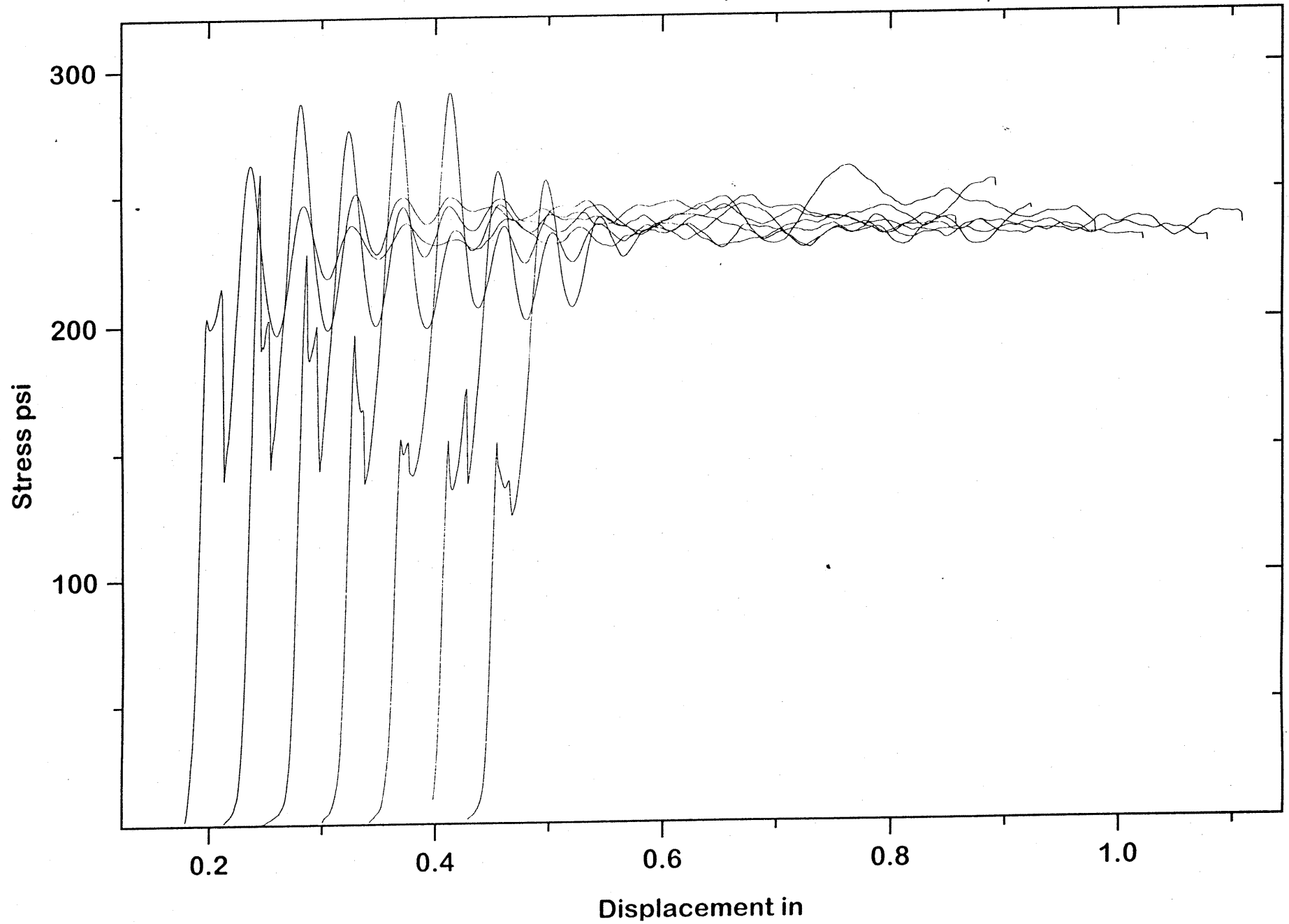


Crush Data
232 - 250 psi per DWG # DSL-1285

Block Number: **013C0203**

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	233.48	233.35	237.86
2	242.12	244.14	240.86
3	240.11	239.69	235.51
4	239.95	247.24	244.81
5	236.72	235.46	235.51
6	233.23	233.94	234.72
7	235.06	233.80	236.57

BLOCK # 013C0203 Sample ID: IN226629



D-16

030415

SIDE IMPACTOR BARRIER CERTIFICATION

Date: April 1, 2003
To: Transportation Research
Ship & Rec Bldg 50
10820 St. Route 347
East Liberty, OH 43319-0367

PURCHASE ORDER INFORMATION

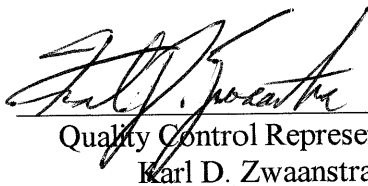
Customer P.O. Number: 22964
Work Order Number: 16444
Quantity: 01 piece

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: 017A0303

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


Quality Control Representative
Karl D. Zwaanstra



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

Block Number: **017A0303**

<u>Specimen Number</u>	<u>Zone 1</u>	<u>Zone 2</u>	<u>Zone 3</u>
1	47.36	47.37	46.10
2	45.92	46.01	45.65
3	44.49	45.21	44.80
4	47.04	47.15	46.28
5	47.27	46.64	46.10
6	45.56	45.16	43.98
7	46.96	47.04	46.54

BLOCK # 017A0303 Sample ID: IN226932

