

**Vehicle Research and Test Center
2002 Nissan Altima into
Fixed 40% Left Offset Deformable Load Cell Barrier at 56 km/h
TRC Inc. Test Number: 020815-1**

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**Final Report
August - October 2002**

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Table of Contents

<u>Section</u>	<u>Description</u>	<u>Page</u>
1.0	Purpose and Test Procedure	1-1
2.0	Fixed 40% Offset Deformable Load Cell Barrier Test Summary	2-1
3.0	Summary of FMVSS 208, 212, and 219 (Partial) Data	3-1
4.0	Occupant, Vehicle, Camera, and Barrier Information	4-1
Appendix A	Photographs	A-1
Appendix B	Data Plots	B-1
Appendix C	Dummy Configuration and Performance Verification Data	C-1
Appendix D	Miscellaneous Test Information	D-1
Appendix E	INSIA Report on Structural Measurements	E-1

List of Tables

<u>Number</u>	<u>Title</u>	<u>Page</u>
1	Crash Test Summary	2-4
2	General Test and Vehicle Parameter Data	2-5
3	Post-Impact Data	2-8
4	Vehicle Accelerometer Locations and Instrumentation Data Summary	2-11
5	Dummy Injury Criteria Data	3-2
6	Post-Impact Dummy/Vehicle Data	3-4
7	Dummy Measurement Data for Front Seat Occupants	4-4
8	Vehicle Structural Measurements	4-6
9	Impacted Vehicle Measurements	4-8
10	Test Vehicle Frontal Profile Data	4-11
11	Intrusion of Upper Instrument Panel	4-17
12	IIHS Measurement Location and Floorpan Deformation Data	4-18
13	Camera Information	4-21
14	Deformable Barrier Face Profile	4-26

List of Figures

<u>Number</u>	<u>Title</u>	<u>Page</u>
1	Impact Velocity Measurement System	2-9
2	Vehicle Accelerometer and String Potentiometer Placement	2-10
3	FMVSS 212 Test Data	3-5
4	FMVSS 219 (Partial) Test Data	3-6
5	Dummy Measurement Locations for Front Seat Occupants	4-3
6	Seat Belt Positioning Data	4-5
7	Pre-Test and Post-Test Measurement Points	4-7
8	Vehicle Crush	4-9
9	Vehicle Intrusion Measurements, Door Opening Width	4-12
10	Vehicle Intrusion Measurements, Static Footwell Deformation	4-13
11	Vehicle Intrusion Measurements, Static Passenger Compartment Intrusion	4-14
12	Floorboard Deformation	4-15
13	Toeboard Measurements	4-16
14	Camera Positions	4-19
15	Vehicle Reference Photo Target Locations	4-22
16	Offset Barrier and Vehicle Orientation	4-23
17	Load Cell Location on Fixed Offset Barrier	4-24
18	Offset Barrier Deformation Measurement Locations	4-25
19	Deformable Barrier Face Profile	4-29

List of Photographs

<u>Description</u>	<u>Figure</u>
Pre-Test Front View	A-1
Post-Test Front View	A-2
Pre-Test Left Front View	A-3
Post-Test Left Front View	A-4
Pre-Test Left Side View	A-5
Post-Test Left Side View	A-6
Pre-Test Left Rear View	A-7
Post-Test Left Rear View	A-8
Pre-Test Rear View	A-9
Post-Test Rear View	A-10
Pre-Test Right Rear View	A-11
Post-Test Right Rear View	A-12
Pre-Test Right Side View	A-13
Post-Test Right Side View	A-14
Pre-Test Right Front View	A-15
Post-Test Right Front View	A-16
Pre-Test Overhead View	A-17
Post-Test Overhead View	A-18
Pre-Test Front Underbody View	A-19
Post-Test Front Underbody View	A-20
Pre-Test Front Mid Underbody View	A-21
Post-Test Front Mid Underbody View	A-22
Pre-Test Rear Mid Underbody View	A-23
Post-Test Rear Mid Underbody View	A-24
Pre-Test Rear Underbody View	A-25
Post-Test Rear Underbody View	A-26
Pre-Test Engine Compartment View	A-27
Post-Test Engine Compartment View	A-28

List of Photographs, Cont'd.

<u>Description</u>	<u>Figure</u>
Pre-Test Windshield View	A-29
Post-Test Windshield View	A-30
Pre-Test Left Side Angled Windshield View	A-31
Post-Test Left Side Angled Windshield View	A-32
Pre-Test Right Side Angled Windshield View	A-33
Post-Test Right Side Angled Windshield View	A-34
Post-Test Windshield Close-up - View 1	A-35
Post-Test Windshield Close-up - View 2	A-36
Post-Test Windshield Close-up - View 3	A-37
Pre-Test Front Barrier Face View	A-38
Post-Test Front Barrier Face View	A-39
Pre-Test Left Side Barrier Face View	A-40
Post-Test Left Side Barrier Face View	A-41
Pre-Test Right Side Barrier Face View	A-42
Post-Test Right Side Barrier Face View	A-43
Pre-Test Overhead Barrier Face View	A-44
Post-Test Overhead Barrier Face View	A-45
Pre-Test Driver and Passenger Dummies Front View	A-46
Post-Test Driver and Passenger Dummies Front View	A-47
Pre-Test Driver Dummy Position - View 1	A-48
Post-Test Driver Dummy Position - View 1	A-49
Pre-Test Driver Dummy Position - View 2	A-50
Post-Test Driver Dummy Position - View 2	A-51
Pre-Test Driver Dummy & Vehicle Interior - View 1	A-52
Post-Test Driver Dummy & Vehicle Interior - View 1	A-53
Pre-Test Driver Dummy & Vehicle Interior - View 2	A-54
Post-Test Driver Dummy & Vehicle Interior - View 2	A-55
Pre-Test Driver Toeboard View	A-56

List of Photographs, Cont'd.

<u>Description</u>	<u>Figure</u>
Post-Test Driver Toeboard View	A-57
Pre-Test Passenger Dummy Position - View 1	A-58
Post-Test Passenger Dummy Position - View 1	A-59
Pre-Test Passenger Dummy Position - View 2	A-60
Post-Test Passenger Dummy Position - View 2	A-61
Pre-Test Passenger Dummy & Vehicle Interior - View 1	A-62
Post-Test Passenger Dummy & Vehicle Interior - View 1	A-63
Pre-Test Passenger Dummy & Vehicle Interior - View 2	A-64
Post-Test Passenger Dummy & Vehicle Interior - View 2	A-65
Pre-Test Passenger Toeboard View	A-66
Post-Test Passenger Toeboard View	A-67
Post-Test Driver Dummy Overall View	A-68
Post-Test Driver Dummy Head Contact - View 1	A-69
Post-Test Driver Dummy Head Contact - View 2	A-70
Post-Test Driver Dummy Head Contact - View 3	A-71
Post-Test Driver Dummy Knee Contact - View 1	A-72
Post-Test Driver Dummy Knee Contact - View 2	A-73
Post-Test Passenger Dummy Overall View	A-74
Post-Test Passenger Dummy Head Contact - View 1	A-75
Post-Test Passenger Dummy Head Contact - View 2	A-76
Post-Test Passenger Dummy Head Contact - View 3	A-77
Post-Test Passenger Dummy Knee Contact - View 1	A-78
Post-Test Passenger Dummy Knee Contact - View 2	A-79
Pre-Test Vehicle Certification Label View	A-80
Pre-Test Ballast View	A-81

Section 1.0

Purpose and Test Procedure

Purpose

This 56.0 km/h (34.8 mph) fixed 40% left offset deformable load cell barrier impact test was conducted for the National Highway Traffic Safety Administration (NHTSA) and Vehicle Research and Test Center (VRTC) by Transportation Research Center Inc. (TRC Inc.).

The purpose of this test was to evaluate frontal crash protection in a 40% offset frontal barrier impact test. The subject vehicle was a 2002 Nissan Altima 4-door sedan.

Test Procedure

This test was conducted in accordance with VRTC instructions for a vehicle into a fixed 40% left offset deformable load cell barrier test. Data was obtained relative to FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; and FMVSS 219, "Windshield Zone Intrusion" performance in an increased speed test mode using 5th percentile female anthropomorphic test devices (dummies).

The test vehicle, a 2002 Nissan Altima, was instrumented with six (6) accelerometers to measure longitudinal, lateral and vertical axis accelerations, one (1) displacement potentiometer, and four (4) seat belt load cells. The driver's and passenger's primary and secondary airbag signals were monitored with inductive pickups. The vehicle impacted a fixed offset deformable load cell barrier. The vehicle's specified impact velocity range was 55.2 to 56.8 km/h.

The deformable barrier face was offset to the left so that the right edge of the face was 178 millimeters left of the vehicle centerline. The bottom edge of the barrier face was 200 millimeters above the floor. The offset deformable barrier was instrumented with fifty (50) load cells to measure longitudinal forces.

The test vehicle contained two (2) Part 572O small adult female Hybrid III dummies. The dummies were positioned in the front outboard designated seating positions according to FMVSS 208 (December 18, 2001). The driver dummy and the passenger dummy were both belted and were restrained with front single stage airbags.

Both dummies were instrumented with an array of twelve (12) accelerometers in the head, plus six (6) chest, and three (3) pelvis, accelerometers to measure longitudinal, lateral, and vertical accelerations, and three (3) sternum accelerometers to measure longitudinal acceleration. The dummies were also instrumented with upper and lower neck moment and force load cells, lumbar moment and force load cells, left and right femur load cells to measure axial forces, and chest deflection potentiometers. Both dummies were also equipped with THOR-FLX legs, which included upper and lower tibia load cells to measure forces and

potentiometer at each knee, and three (3) rotary potentiometers at each ankle to measure foot rotations about three axes.

The 235 data channels were digitally sampled and recorded at 12,500 samples per second and processed per SAE J211 March 1995.

The crash event was recorded by one (1) real-time panning motion picture camera and nine (9) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera.

The barrier test summary data are presented in Section 2.0. The summary of FMVSS 208, 212, and 219 (partial) data are presented in Section 3.0. The occupant, camera, and vehicle measurements are presented in Section 4.0. Appendix A contains the still photographs. Appendix B contains the dummy and vehicle data plots. Appendix C contains the dummy verification data. Appendix D contains miscellaneous test information. Appendix E contains INSIA Report on Structural Measurements which documents the procedure for the measurements provided in Table 8.

Section 2.0

Fixed 40% Left Offset Deformable Load Cell Barrier Test Summary

Test Results Summary

This fixed 40% offset load cell barrier test was conducted by TRC Inc. on August 15, 2002.

The test vehicle, a 2002 Nissan Altima 4-door sedan, was equipped with a 2.5-liter transverse engine, automatic transmission, power steering, power brakes and dual stage front airbags. The vehicle's test weight was 1633.8 kg. The vehicle's impact speed was 56.1 km/h. The vehicle impacted 1 mm to the left of the 40% offset target line.

The driver's 36 millisecond Head Injury Criteria (HIC) was 75. The driver's 15 millisecond HIC was 40. The driver's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 37.1 g. The driver's maximum chest deflection was 22 mm. The driver's left and right femur maximum axial compressive forces were 1912 N and 1249 N, respectively. The driver dummy's neck injury calculations were as follows: NTF, 0.30; NTE, 0.58; NCF, 0.00; NCE, 0.40. The driver dummy's peak neck tension force was 1009 N and peak neck compression force was 308 N.

The right front passenger's 36 millisecond HIC was 492. The passenger's 15 millisecond HIC was 344. The passenger's chest maximum resultant acceleration with three (3) milliseconds minimum duration was 34.3 g. The passenger's maximum chest deflection was 23 mm. The passenger's left and right femur maximum axial compressive forces were 1102 N and 141 N, respectively. The right front passenger's neck injury calculations were as follows: NTF, 0.17; NTE, 0.21; NCF, 0.23; NCE, 0.29. The right front passenger dummy's peak neck tension force was 426 N and peak neck compression force was 577 N.

There was 84.9% windshield periphery retention. There was no penetration through the windshield.

Data Acquisition Explanations

There is no record to identify Wire A or Wire B as either the primary or secondary stage of the airbag.

One of the driver airbag events, Wire A data channel, DABETA, recorded questionable data throughout the impact event.

One of the passenger airbag events, Wire A data channel, PABETA, recorded questionable data throughout the impact event.

Table 1 Crash Test Summary

Test mode:	Fixed 40% left offset load cell barrier		
Test date:	08/15/02		
Test time:	1013		
Ambient temperature:	21° C		
Vehicle year/make/ model/body style:	2002/Nissan/Altima/4-door sedan		
Vehicle test weight:	1633.8 kg		
Impact angle ¹ :	0°		
Impact velocity ² :	56.1 km/h		
Maximum static crush ³ :	524 mm		
Average rebound:	N/A		
Number of data channels:	233		
Number of cameras:	High-speed	9	Real-time 1
<u>Dummies:</u>	<u>Driver #416</u>		<u>Passenger #421</u>
Type:	Part 572O		Part 572O
Location:	Left front		Right front
Restraint:	Dual stage airbag, seat belt		Dual stage airbag, seat belt
<u>Seat track position for test:</u>			
Driver:	Full forward		
Passenger:	Full forward		
<u>Seat back position for test:</u>			
Driver:	22.0°		
Passenger:	29.0°		
<u>Head restraint position for test:</u>			
Driver:	Full down		
Passenger:	Full down		
Steering column position:	67.9° Mid		

¹ With respect to tow track centerline.

² Speed trap measurement ($\pm$.08 km/h accuracy)

³ Measured (pre & post) with bumper fascia removed.

Table 2 General Test and Vehicle Parameter Data

Vehicle year/make/ model/body style:	2002/Nissan/Altima/4-door sedan
VIN:	1N4AL11DX2C265356
Model year:	Altima
Body style:	4-door sedan
Color:	White
Engine data:	
Cylinders:	4
Displacement	2.5 liters
Cylinder placement:	Straight
Engine placement:	Transverse
Transmission data:	<u>3</u> speed, ___ manual, <u>X</u> automatic, <u>X</u> overdrive
Final drive:	<u>X</u> FWD, ___ RWD, ___ 4WD
Date vehicle received:	08/04/2002
Odometer reading:	67
Dealer's name and address:	Supplied by VRTC

Accessories:

Power steering	Yes	Automatic transmission	Yes
Power brakes	Yes	Automatic speed control	Yes
Power seats	No	Tilting steering wheel	Yes
Power windows	Yes	Telescoping steering wheel	No
Tinted glass	Yes	Air conditioning	Yes
Radio	Yes	Anti-skid brake	Yes
Clock	Yes	Rear window defroster	Yes
Other	None	Power door locks	Yes

Certification data from vehicle's label:

Vehicle manufactured by:	Nissan Motor Co. LTD
Date of manufacture:	05/02
VIN:	1N4AL11DX2C265356
GVWR:	4202 lbs.
GAWR: Front:	2249 lbs.
Rear:	1969 lbs.

Table 2 General Test and Vehicle Parameter Data, Cont'd.

Tires on vehicle (mfr., line, size): Bridgestone, Turanza, P205/65R16

Tire pressure with maximum capacity vehicle load:

Front: 44 psi (300 kPa)

Rear: 44 psi (300 kPa)

Spare tire (mfr., line, size): Firestone, Temporary, T135/70R16

Type of seats:

Front Bucket

Rear Bench

Maximum width: 1780 mm

Wheelbase: 2805 mm

Location of "Recommended Tire Pressure" label:

The label was located on the center console.

Data from vehicle's "Recommended Tire Pressure" label":

Recommended tire size: P205/65R16

Recommended cold tire pressure:

Front: 29 psi (200 kPa)

Rear: 29 psi (200 kPa)

Vehicle Capacity Data:

Number of Occupants (Designated seating capacity):

Front 2

Mid

Rear 3

Total 5

Vehicle capacity weight: 390 kg

Rated cargo/luggage weight 50 kg (calculated from VCW)

Test vehicle attitude:

Delivered attitude: LF 735 mm; RF 743 mm; LR 711 mm; RR 704 mm

Fully loaded attitude: LF 719 mm; RF 728 mm; LR 693 mm; RR 684 mm

Pre-test attitude: LF 718 mm; RF 728 mm; LR 667 mm; RR 671 mm

Post-test attitude: LF 802 mm; RF 707 mm; LR 635 mm; RR 685 mm

Table 2 General Test and Vehicle Parameter Data Cont'd

Weight of test vehicle as received (with maximum fluids)=UDW:

Right front	424.5 kg	Right rear	261.5 kg
Left front	429 kg	Left rear	276.0 kg
Total front weight	853.5 kg	(61.4 % of total vehicle weight)	
Total rear weight	537.5 kg	(38.6 % of total vehicle weight)	
Total delivered weight	1391.0 kg		

Calculation of test vehicle's target test weight:

Total Delivered Weight (UDW) =	1391 kg
Rated Cargo/Luggage Weight (RCLW) ¹ =	50 kg
Weight of 2 Part 572O Dummies @ 49 kg each =	98 kg
Target test weight =	1539.0 kg

Weight of test vehicle with required dummies and 144.8 kg of cargo weight:

Right front	447.4 kg	Right rear	362.2 kg
Left front	454.6 kg	Left rear	369.6 kg
Total front weight	902.0 kg	(55.2% of total vehicle weight)	
Total rear weight	731.8 kg	(44.8% of total vehicle weight)	
Total test weight	1633.8 kg	(5.8% over target test weight)	

Weight of ballast secured in vehicle: 16.8 kg behind driver seat

Components removed to meet target test weight: Removed rear interior

Location of Vehicle's CG: 1256 mm rearward of front wheel centerline

Fuel System Data:

Usable fuel system capacity	75.7 liter (from owner's manual)
Actual test volume:	70.4 liter (93% of usable)

¹ Cargo weight for multipurpose passenger vehicles, trucks, and buses is the vehicle's rated cargo and luggage weight from the vehicle's label or 136 kilograms, whichever is less.

Table 3 Post-Impact Data

Test number: 020815-1
Test date: 08/15/02
Test time: 1013
Test type: Fixed 40% left offset deformable load cell barrier
Impact angle: 0°
Ambient temperature
at impact area: 21° C
Required impact velocity range: 55.2 to 56.8 km/h

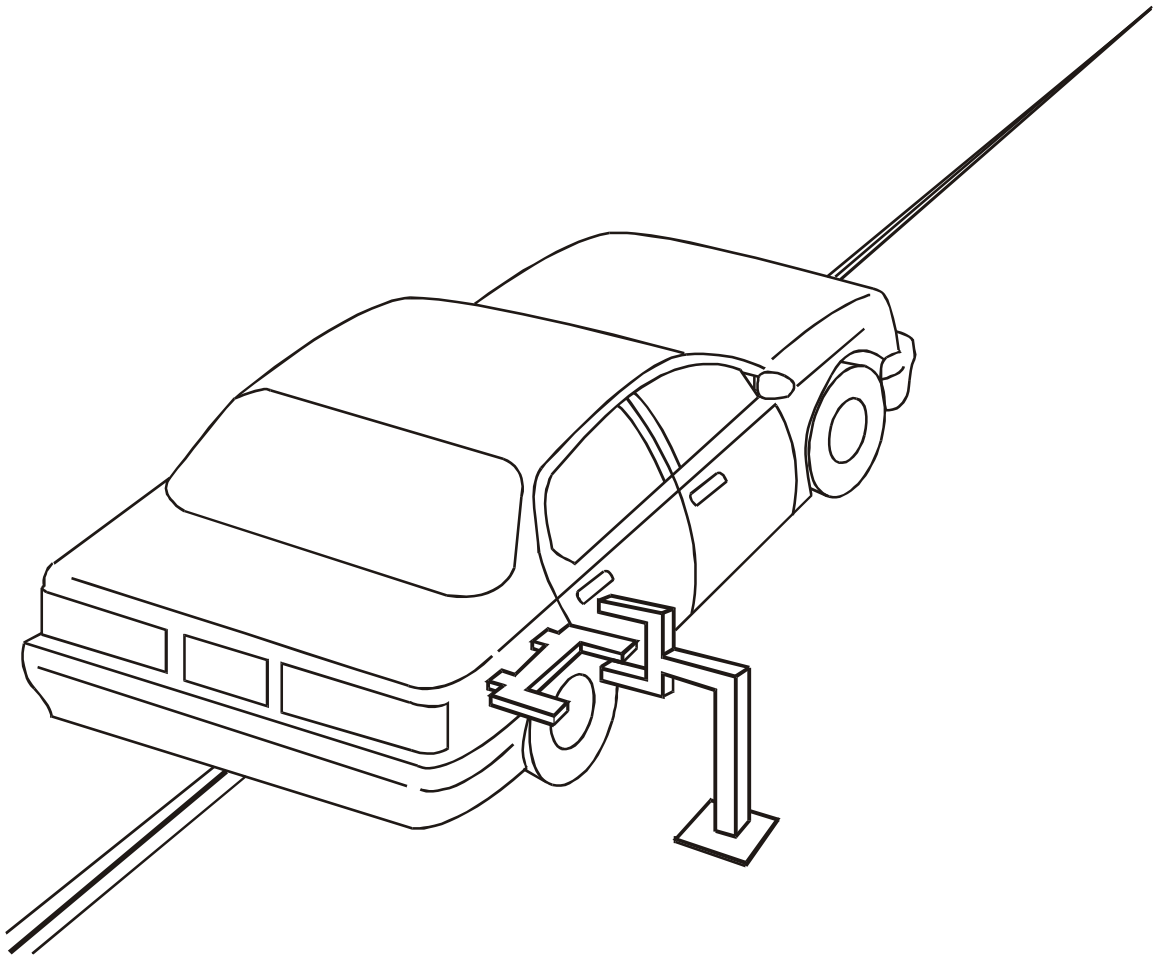
Barrier impact velocity:

Primary: 56.1 km/h
Secondary: 56.1 km/h
Distance from vehicle to barrier:
Entering velocity trap: 661 mm
Exiting velocity trap: 51 mm

Barrier Offset (at right edge of barrier):

Target offset: 178 mm left of vehicle centerline
Impact point variance: 1 mm left
Actual offset: 179 mm left of vehicle centerline

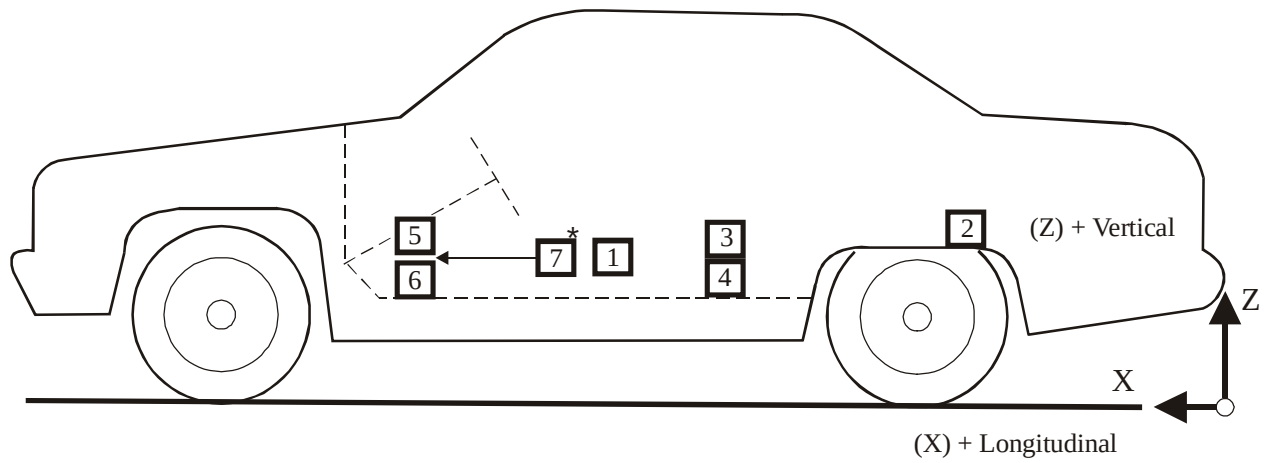
Figure 1 Impact Velocity Measurement System



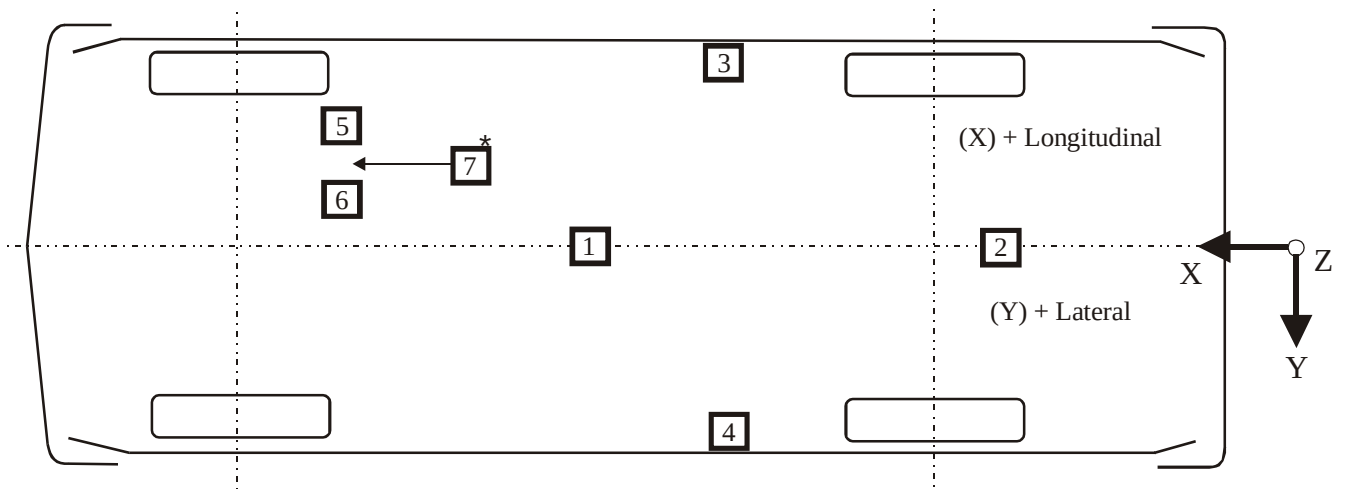
The final vane clears the final emitter/receiver pair 51 millimeters before impact.

The vanes have 610-millimeter spacing.

Figure 2 Vehicle Accelerometer and String Potentiometer Placement



Side View



Bottom View

* String potentiometer mounted under driver seat with string attached to toeboard to measure displacement.

Table 4 Vehicle Accelerometer Locations and Instrumentation Data Summary

TEST NUMBER: 020815-1				POSITIVE		NEGATIVE	
No. LOCATION	X	Y	Z	DIRECTION		DIRECTION	
1 VEHICLE CENTER OF GRAVITY	2624 mm	0 mm	-409 mm				
LONGITUDINAL				2.2 g	@ 169.4 ms	26.5 g	@ 94.6 ms
LATERAL				11.3 g	@ 100.6 ms	16.2 g	@ 127.0 ms
VERTICAL				5.8 g	@ 98.5 ms	14.6 g	@ 126.3 ms
RESULTANT				27.7 g	@ 94.2 ms		
2 REAR DECK VERTICAL	NA	NA	-440 mm	4.7 g	@ 135.1 ms	9.4 g	@ 85.4 ms
3 LEFT REAR SEAT CROSSMEMBER	1889 mm	-620 mm	-325 mm				
LONGITUDINAL				2.0 g	@ 199.5 ms	28.4 g	@ 108.1 ms
LATERAL				6.9 g	@ 83.0 ms	3.2 g	@ 120.5 ms
VERTICAL				3.1 g	@ 187.8 ms	10.2 g	@ 123.0 ms
RESULTANT				28.4 g	@ 108.1 ms		
4 RIGHT REAR SEAT CROSSMEMBER	1873 mm	625 mm	-318 mm				
LONGITUDINAL				0.7 g	@ 197.6 ms	26.8 g	@ 95.0 ms
LATERAL				2.3 g	@ 119.9 ms	6.7 g	@ 82.4 ms
VERTICAL				5.5 g	@ 120.2 ms	5.4 g	@ 89.5 ms
RESULTANT				27.5 g	@ 95.0 ms		
5 DRIVERS LEFT SIDE TOE PAN	3494 mm	-587 mm	-297 mm				
LONGITUDINAL				6.2 g	@ 60.3 ms	24.7 g	@ 87.8 ms
LATERAL				14.3 g	@ 79.6 ms	16.5 g	@ 59.3 ms
VERTICAL				4.3 g	@ 61.0 ms	24.8 g	@ 90.6 ms
RESULTANT				35.3 g	@ 88.2 ms		

Table 4 Vehicle Accelerometer Locations and Instrumentation Data Summary, Cont'd.

TEST NUMBER: 020815-1						
No. LOCATION	X	Y	Z	POSITIVE DIRECTION	NEGATIVE DIRECTION	
6 DRIVERS RIGHT SIDE TOE PAN	3494 mm	-142 mm	-265 mm			
LONGITUDINAL				8.8 g	48.8 g	@ 86.2 ms
LATERAL				16.2 g	40.9 g	@ 97.2 ms
VERTICAL				18.3 g	32.6 g	@ 98.0 ms
RESULTANT				64.4 g	@ 97.6 ms	
7 DRIVERS TOE PAN	NA	NA	NA			
DISPLACEMENT				7.9 mm	63.5 mm	@ 121.2 ms
LONGITUDINAL						
8 DRIVER SEAT BELT	NA	NA	NA			
LOAD CELLS						
LAP BELT				2258.5 N	0.8 N	@ 206.6 ms
SHOULDER BELT				3406.6 N	13.6 N	@ 207.0 ms
9 PASSENGER SEAT	NA	NA	NA			
BELT LOAD CELLS						
LAP BELT				2263.1 N	10.2 N	@ 272.3 ms
SHOULDER BELT				3887.0 N	18.1 N	@ 283.8 ms

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

Section 3.0

Summary of FMVSS 208, 212 and 219 (Partial) Data

Table 5 Dummy Injury Criteria Data

<u>Maximum Acceleration¹</u>								
	Head				Chest			
	X	Y	Z	R	X	Y	Z	R
Driver	-26.1 g	14.2 g	14.0 g	26.6 g	-34.8 g	14.4 g	-11.0 g	39.1 g
Passenger	-49.7 g	24.9 g	28.9 g	61.3 g	-34.2 g	8.9 g	-4.7 g	34.8 g

<u>Maximum Femur Compressive Force</u>		
	Left Femur	Right Femur
Driver	1912 N	1249 N
Passenger	1102 N	141 N

<u>Head Injury Criteria²</u>			
36 millisecond			
	HIC	Time t ₁	Time t ₂
Driver	75	59.0 ms	95.0 ms
Passenger	492	102.9 ms	133.7 ms

15 millisecond			
	HIC	Time t ₁	Time t ₂
Driver	40	62.8 ms	77.8 ms
Passenger	344	109.3 ms	124.3 ms

<u>Chest Maximum Resultant Acceleration³</u>			
	Acceleration	Time t ₁	Time t ₂
Driver	37.1 g	116.5 ms	119.5 ms
Passenger	34.3 g	112.2 ms	115.2 ms

Table 5 Dummy Injury Criteria Data, Cont'd.

Maximum Chest Deflection

Driver	22 mm
Passenger	23 mm

Neck Injury Calculations (Nij)²

	NTF	NTE	NCF	NCE
Driver	0.30	0.58	0.00	0.40
Passenger	0.17	0.21	0.23	0.29

Upper Neck Axial Force

	Neck Tension	Neck Compression
Driver	1009 N	308 N
Passenger	426 N	577 N

Tibia Index

	Upper Tibia	Lower Tibia
Driver-left	0.29	0.30
Driver-right	0.28	0.38
Passenger-left	0.26	0.44
Passenger-right	0.34	0.36

¹ See Report Sign Convention in Appendix D.

² As defined in FMVSS No. 208.

³ Defined as equal to or exceeding 0.003 sec. duration.

Table 6 Post-Impact Dummy/Vehicle Data

Visible Dummy Contact Points:

	<u>Driver</u>	<u>Passenger</u>
Head	Airbag, head restraint	Airbag, head restraint
Chest	Airbag	Airbag
Abdomen	None	None
Left knee	Knee bolster	Knee bolster
Right knee	Knee bolster	Knee bolster

Door opening:

	<u>Left</u>	<u>Right</u>
Front	Easy	Easy
Rear	Easy	Easy

Seat movement:

	<u>Seat back failure</u>	<u>Seat shift</u>
Left Front	None	None
Right Front	None	None
Left Rear	N/A	N/A
Right Rear	N/A	N/A

Glazing damage: Windshield cracked all over; some loss of retention along bottom.

Other notable impact effects: None

Figure 3 FMVSS 212 Test Data

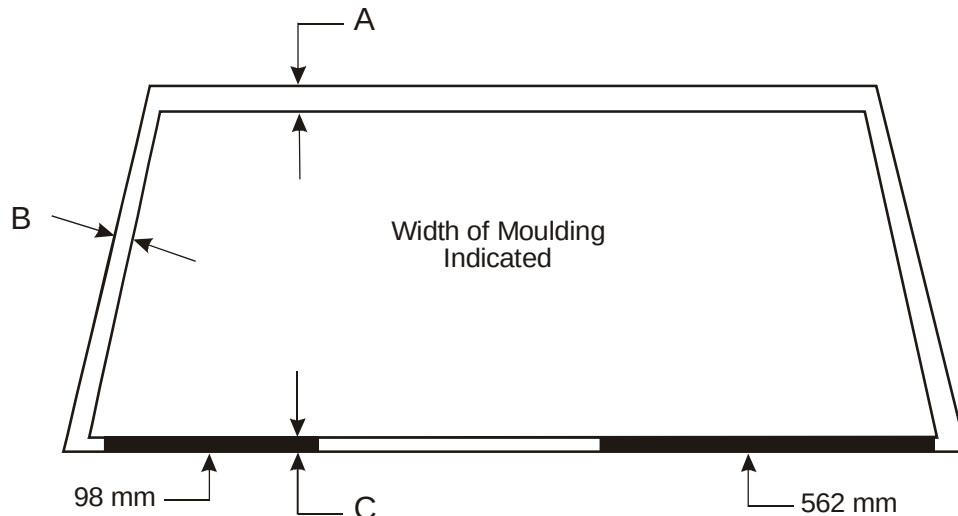
Details of windshield mounting such as retention method, trim type, etc.: Plastic trim around the outer perimeter, adhesive around inner perimeter.

FMVSS 212 requirements: The post-test periphery retention amount must be at least 75% of the pre-test periphery measurement for vehicles NOT equipped with automatic restraints, and 50% for each side of windshield for vehicles equipped with automatic restraint systems for front occupants.

Windshield periphery measurements:

	<u>Pre-test</u>	<u>Post-test</u>	<u>Percent retention</u>
Right side	2184 mm	2086 mm	95.5
Left side	2184 mm	1622 mm	74.3
Total	4368 mm	3708 mm	84.9

A = 14 mm
B = 16 mm
C = 8 mm



Front view of windshield¹

Loss of windshield retention lengths: 562 mm at left bottom, 98 mm at right bottom

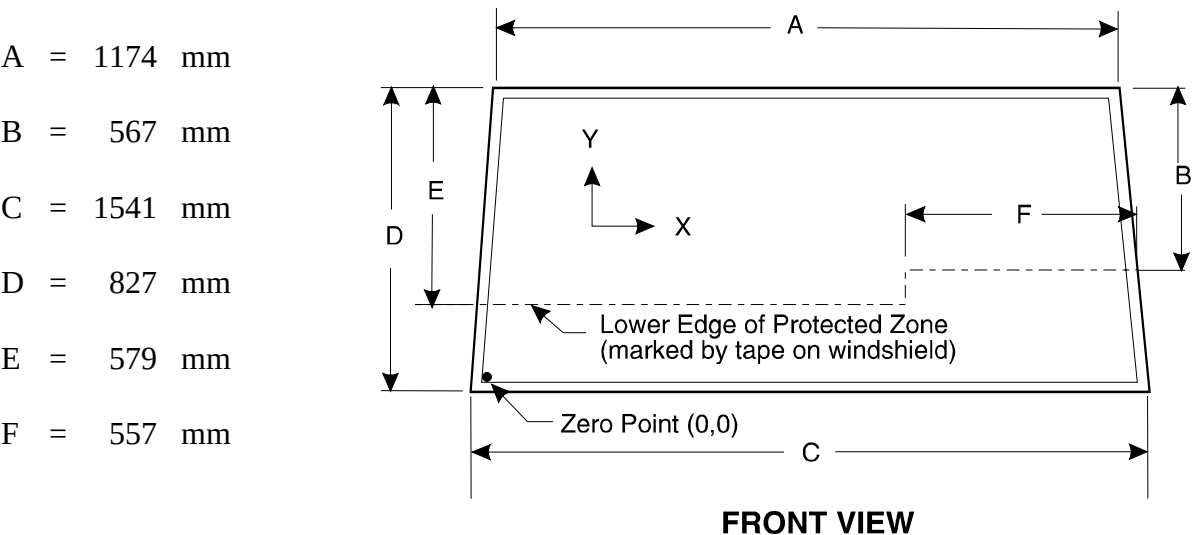
¹ Indicate areas of loss of retention, if any, on windshield diagram.

Figure 4 FMVSS 219 (partial) Test Data

Protected zone lower edge requirement:

The lower edge of the protected zone is determined by placing a 165-millimeter diameter rigid sphere weighing 6.8 kg in a position such that it simultaneously contacts the inner surface of the windshield and the top surface of the instrument panel including padding. Draw the locus of points on the inner surface of the windshield contactable by the sphere across the width of the instrument panel. From the outermost contactable points, extend the locus line horizontally to the edges of the windshield, and then draw a line on the inner surface of the windshield below and 13 millimeters from the locus line. The **lower edge of the protected zone** is the longitudinal projection onto the outer surface of the windshield of this line.

Windshield measurements:



Method of adhering protected zone template to windshield: NA

Areas of windshield template penetration greater than 6 mm: NA

Coordinates	
X	Y
1.	
2.	
3.	

Areas of windshield penetration, below the protected zone, through the inner surface of the windshield: None

- 1.
- 2.
- 3.

Section 4.0

Occupant, Vehicle, Camera, and Barrier Information

Dummy Kinematic Summary

Driver Dummy

Upon impact, the driver dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's head rotated forward as the head and chest impacted the airbag. The dummy's head and neck moved leftward towards the door as it went further into the airbag. The dummy moved back towards the center of the seat as it rebounded. The neck went into extension and contacted the seat back. The driver dummy came to rest seated upright in the driver's seat.

Right Front Passenger Dummy

Upon impact, the passenger dummy translated forward on the seat impacting both knees into the instrument panel. The dummy's head rotated forward as the head and chest impacted the airbag. The dummy's head rotated rearward as the dummy rebounded into the seat back with the head contacting the headrest. The dummy came to rest leaning seated upright in the passenger seat.

Figure 5 Dummy Measurement Locations for Front Seat Occupants

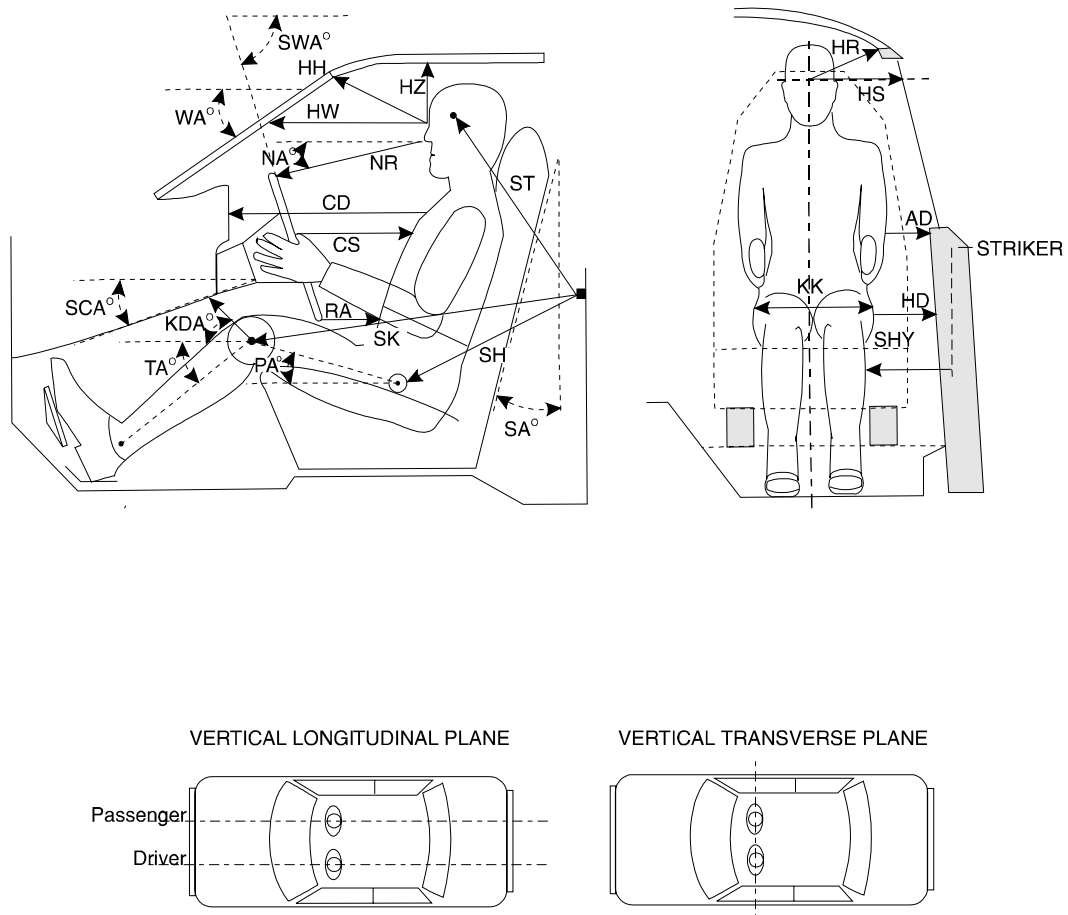


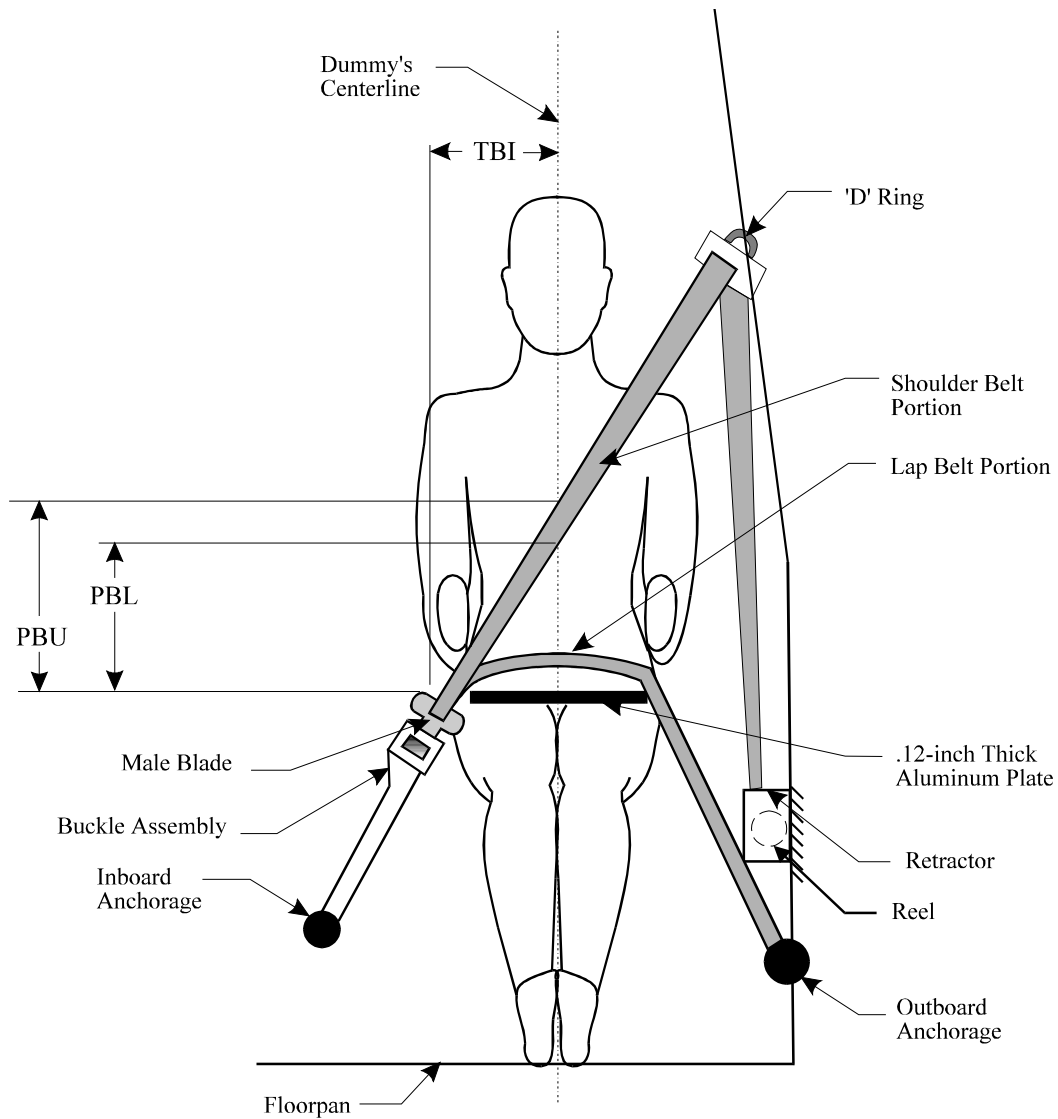
Table 7 Dummy Measurement Data For Front Seat Occupants

Designation	Type of Measurement	Driver (Serial # 416)	Passenger (Serial # 421)
WA	Windshield angle	25.5°	25.5°
SWA	Steering wheel angle	22.1°	N/A
SCA	Steering column angle	67.9°	N/A
SA	Seat back angle	22.1°	29.0°
HZ	Head to roof	215 mm	220 mm
HH	Head to header	250 mm	280 mm
HW	Head to windshield	572 mm	605 mm
HR	Head to side header	235 mm	240 mm
NR	Nose to rim	222 mm	N/A
NA	Nose to rim angle	86.9°	N/A
CD	Chest to dash	440 mm	429 mm
CS	Steering wheel to chest	166 mm	N/A
RA	Rim to abdomen	57 mm	N/A
KDL	Left knee to dash	110 mm	116 mm
KDR	Right knee to dash	92 mm	125 mm
KDA	Outboard knee to dash angle	55.2°	52.7°
PA	Pelvic angle	20.5°	21.3°
TA	Tibia angle	62.1°	64.2°
KK	Knee to knee	222 mm	165 mm
ST ¹	Striker to head	516 mm	494 mm
	Striker to head angle	-57.5°	-59.5°
SK ¹	Striker to knee	732 mm	700 mm
	Striker to knee angle	-2.2°	-0.6°
SH ¹	Striker to H-point	420 mm	401 mm
	Striker to H-point angle	15.0°	20.4°
SHY	Striker to H-point (Y dir.)	230 mm	258 mm
HS	Head to side window	264 mm	264 mm
HD	H-point to door	152 mm	164 mm
AD	Arm to door	201 mm	146 mm

The seat back angle (SA°) is measured relative to vertical, all other angles are measured relative to horizontal.

¹ A negative angle indicates the measurement point was above the striker.

Figure 6 Seat Belt Positioning Data



	Driver Dummy	Passenger Dummy
PBU - Top surface of aluminum plate to belt upper edge	297 mm	276 mm
PBL - Top surface of aluminum plate to belt lower edge	220 mm	192 mm
TBI - Dummy centerline to intersection of upper torso belt and lap belt	265 mm	265 mm

Table 8 Vehicle Structural Measurements^{1,2}

	Elements	Pre-Test
1	Total Length	4856
2	Total Width	1780
3	Bumper Top Height	-515
4	Bumper Bottom Height	-415
5	Longitudinal Member Top Height	-515
6	Longitudinal Member Bottom Height	-415
7	Distance Between Longitudinal Members	1195
7'	Longitudinal Member Width	70
8	Engine Top Height	-893
9	Engine Bottom Height	-167
10	Engine and Gearbox Width	943
11	Front Bumper - Engine Distance	490
12	Front Shock Absorber Fixing Height	-882
13	Bonnet Leading Edge Height	-724
14	Front Shock Absorber Fixing Width	1089
15	Front Bumper - Front Axle Distance	955
16	Front Axle - A Pillar Distance	549
17	A Pillar - B Pillar Distance	1098
18	B Pillar - Rear Axle Distance	1168
19	B Pillar - C Pillar Distance	1571
20	Roof Sill Bottom Height	-1146
21	Roof Sill Top Height	-1301
22	Floor Sill Bottom Height	-192
23	Floor Sill Top Height	-343

All distance measurements are in millimeters.

¹ Taken from INSIA report, “Structural Survey of Cars, Methodology of the Main Resistant Elements in the Car Body”, March 1999. This report is included in Appendix E.

² The vertical measurements from the ground were adjusted after the initial measurements based on the test vehicle’s pre-test attitude measurements.

Figure 7 Pre-Test And Post-Test Measurement Points

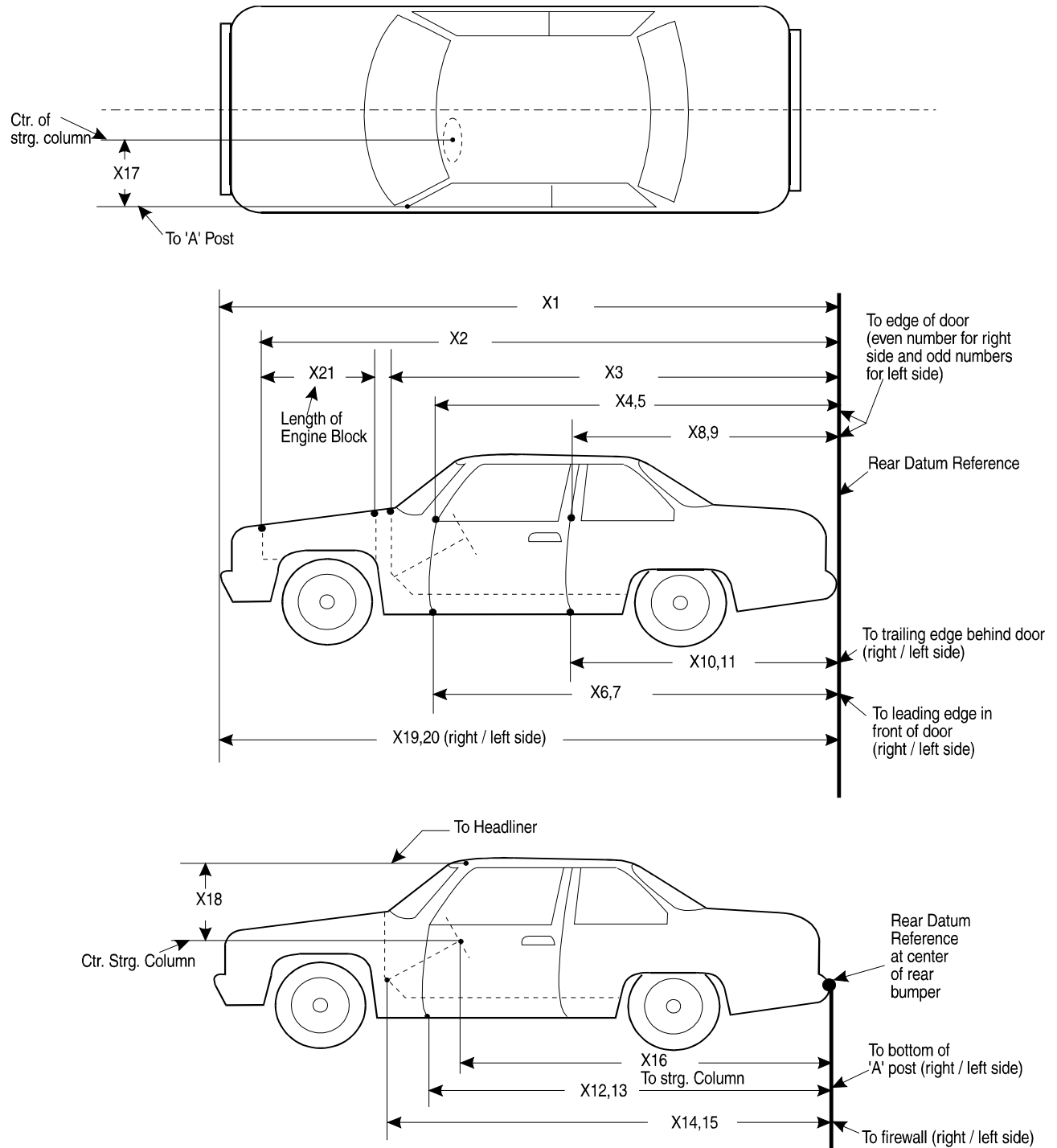


Table 9 Impacted Vehicle Measurements

Test number: 020815-1

Vehicle year/make/model/body style: 2002/Nissan/Altima/4-door sedan

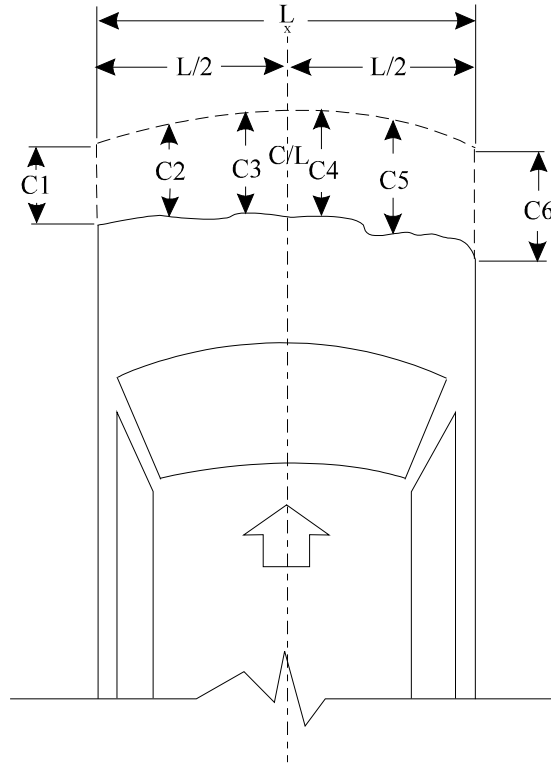
No.	Type of measurement	Pre-Test	Post-Test	Difference
X1	Total Length of Vehicle at Centerline	4856	4330 ^{1,2}	526 ^{1,2}
X2	Rear Surface of Vehicle to Front of Engine Block	4209	3993	216
X3	Rear Surface of Vehicle to Firewall	3716	3585	131
X4	Rear Surface of Veh. to Upper Leading Edge of Right Door	3308	3305	3
X5	Rear Surface of Veh. to Upper Leading Edge of Left Door	3324	3321	3
X6	Rear Surface of Veh. to Lower Leading Edge of Right Door	3348	3343	5
X7	Rear Surface of Veh. to Lower Leading Edge of Left Door	3358	3350	8
X8	Rear Surface of Veh. to Upper Trailing Edge of Right Door	2279	2280	-1
X9	Rear Surface of Veh. to Upper Trailing Edge of Left Door	2282	2280	2
X10	Rear Surface of Veh. to Lower Trailing Edge of Right Door	2279	2273	6
X11	Rear Surface of Veh. to Lower Trailing Edge of Left Door	2305	2294	11
X12	Rear Surface of Veh. to Bottom of " A " Post on Right Side	3364	3362	2
X13	Rear Surface of Veh. to Bottom of " A " Post on Left Side	3367	3360	7
X14	Rear Surface of Vehicle to Firewall--Right Side	3726	3692	34
X15	Rear Surface of Vehicle to Firewall --Left Side	3759	3548	211
X16	Rear Surface of Vehicle to Steering Wheel Center	2924	2840	84
X17	Center of Steering Column to " A " Post	310	348	-38
X18	Center of Steering Column to Headliner	440	480	-40
X19	Rear Surface of Vehicle to Right Side of Front Bumper	4693	N/A ¹	N/A ¹
X20	Rear Surface of Vehicle to Left Side of Front Bumper	4683	N/A ¹	N/A ¹
X21	Length of Engine Block	540	540	0
RD	Rear Surface of Vehicle to Right Side of Dash Panel	3143	3138	5
CD	Rear Surface of Vehicle to Center of Dash Panel	3055	3026	29
LD	Rear Surface of Vehicle to Left Side of Dash Panel	3151	3138	13

All distance measurements are in millimeters.

¹ The front bumper fascia separated from the vehicle during the impact.

² Post-test measurements included here were taken without bumper fascia attached. The calculated difference is also affected.

Figure 8 Vehicle Crush



Notes: L is pre-test length of contact surface.
C1 through C6 are spaced equally apart.
CL is vehicle centerline.

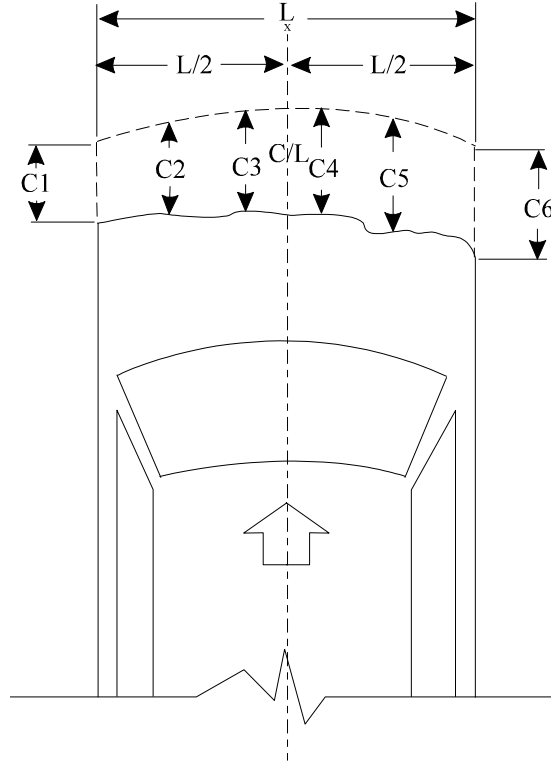
Vehicle: 2002 Nissan Altima

Measured with bumper fascia:

Location	Pre-test	Post-test	Difference
L	1525 mm		
C1	4683 mm	N/A ¹ mm	N/A ¹ mm
C2	4811 mm	N/A ¹ mm	N/A ¹ mm
C3	4858 mm	N/A ¹ mm	N/A ¹ mm
C4	4864 mm	N/A ¹ mm	N/A ¹ mm
C5	4813 mm	N/A ¹ mm	N/A ¹ mm
C6	4693 mm	N/A ¹ mm	N/A ¹ mm
CL	4856 mm	N/A ¹ mm	N/A ¹ mm

¹ The front bumper fascia separated from the vehicle during the impact.

Figure 8 Vehicle Crush, Cont'd.



Notes: L is pre-test length of contact surface.
C1 through C6 are spaced equally apart.
CL is vehicle centerline.

Vehicle: 2002 Nissan Altima

Measured to bumper beam without bumper fascia:

Location	Pre-test	Post-test	Difference
L ¹	1168 mm		
C1 ¹	4725 mm	4242 mm	483 mm
C2	4757 mm ²	4233 mm	524 mm
C3	4780 mm	N/A ³ mm	N/A ³ mm
C4	4788 mm	4443 mm	345 mm
C5	4762 mm	4650 mm	112 mm
C6	4737 mm ²	4732 mm	5 mm
CL ¹	4779 mm	4330 mm	449 mm

¹ Measurement points C1 and C6 were moved inboard to catch the end of the bumper beam.

² Pre-test measurement from Altima used in Test Number 020819.

³ Measurement point obscured by vehicle deformation.

Table 10 Test Vehicle Frontal Profile Data

Pre-Test Profile							
		Vehicle Left			Vehicle Right		
		Point 1	Point 2	Point 3	Point 4	Point 5	Point 6
Bottom of Front Bumper	X	4680 mm	4790 mm	4833 mm	4835 mm	4798 mm	4674 mm
	Y	-750 mm	-445 mm	-142 mm	134 mm	440 mm	744 mm
	Z	-292 mm	-296 mm	-293 mm	-291 mm	-298 mm	-300 mm
Top of Front Bumper	X	4658 mm	4778 mm	4809 mm	4805 mm	4768 mm	4658 mm
	Y	-762 mm	-454 mm	-150 mm	150 mm	457 mm	763 mm
	Z	-546 mm	-545 mm	-536 mm	-538 mm	-553 mm	-525 mm
Center of Grille	X	4599 mm	4738 mm	4788 mm	4774 mm	4729 mm	4593 mm
	Y	-763 mm	-456 mm	-144 mm	152 mm	461 mm	766 mm
	Z	-615 mm	-623 mm	-608 mm	-610 mm	-640 mm	-635 mm
Front of Hood	X	4553 mm	4678 mm	4728 mm	4729 mm	4690 mm	4543 mm
	Y	-758 mm	-454 mm	-148 mm	155 mm	462 mm	766 mm
	Z	-693 mm	-693 mm	-722 mm	-720 mm	-699 mm	-703 mm

Post-Test Profile							
		Vehicle Left			Vehicle Right		
		Point 1	Point 2	Point 3	Point 4	Point 5	Point 6
Bottom of Front Bumper	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
Top of Front Bumper	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
Center of Grille	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	-632 mm
Front of Hood	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	-676 mm	-660 mm	-685 mm	-720 mm	-698 mm

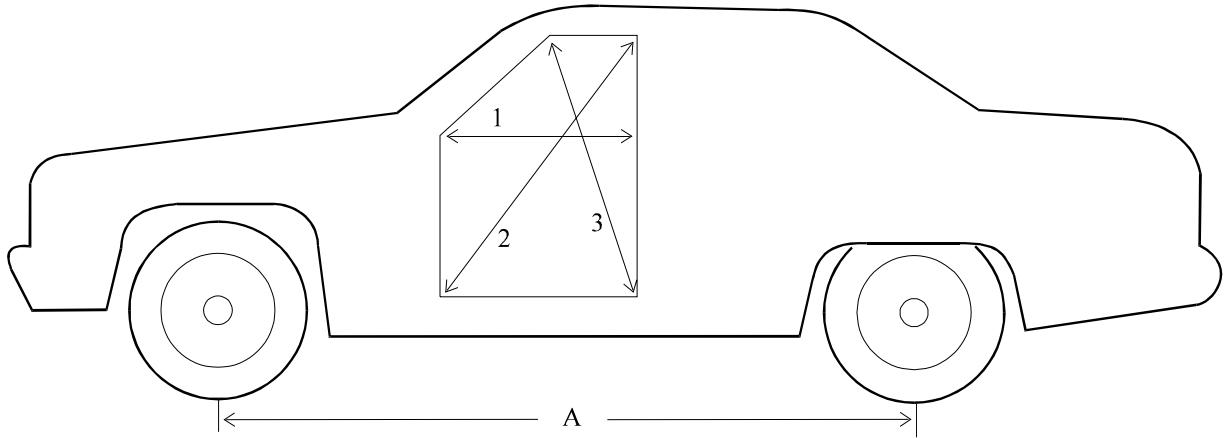
Difference							
		Vehicle Left			Vehicle Right		
		Point 1	Point 2	Point 3	Point 4	Point 5	Point 6
Bottom of Front Bumper	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
Top of Front Bumper	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
Center of Grille	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	-3 mm
Front of Hood	X	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Y	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm	N/A mm
	Z	N/A mm	-17 mm	-62 mm	-35 mm	21 mm	-5 mm

Note: Six points divide the width of the car. Pre- and post-test measurement references: +X, forward of rear bumper; +Y, rightward from vehicle centerline; +Z, downward from ground level.

N/A = Bumper fascia separated during impact, hood and grille points obscured during impact.

Figure 9 Vehicle Intrusion Measurements

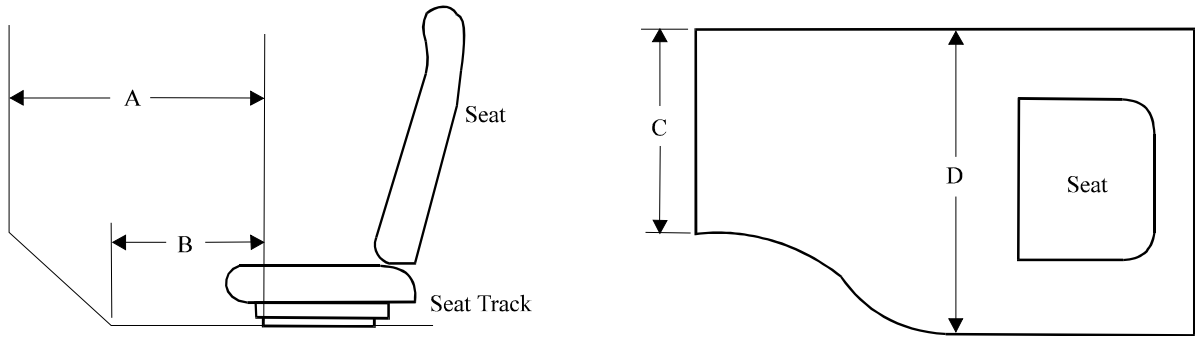
Door Opening Width



Units (mm)	Left			Right		
Measurement	1	2	3	1	2	3
Pre-Test	1050 mm	1500 mm	985 mm	1045 mm	1508 mm	993 mm
Post-Test	1036 mm	1493 mm	998 mm	1042 mm	1506 mm	995 mm
Difference	14 mm	7 mm	-13 mm	3 mm	2 mm	-2 mm

Units (mm)	A = Wheelbase Left	A = Wheelbase Right
Pre-Test	2808 mm	2805 mm
Post-Test	2687 mm	2825 mm
Difference	121 mm	-20 mm

Figure 10 Vehicle Intrusion Measurements
Static Footwell Deformation



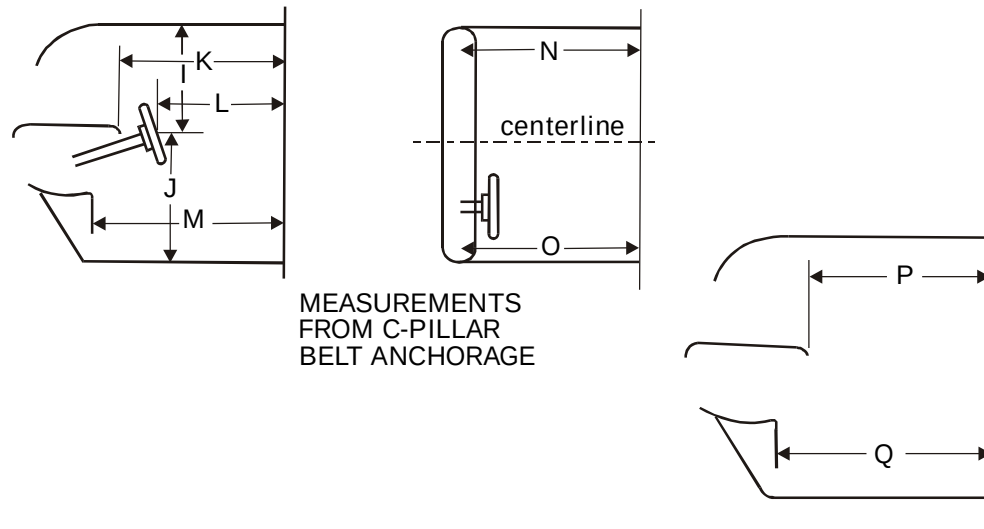
Driver's Side

Measurement	Pre-Test	Post-Test	Difference
A	755 mm	664 mm	91 mm
B	540 mm	531 mm	9 mm
C	457 mm	457 mm	0 mm
D	475 mm	520 mm	-45 mm

Passenger's Side

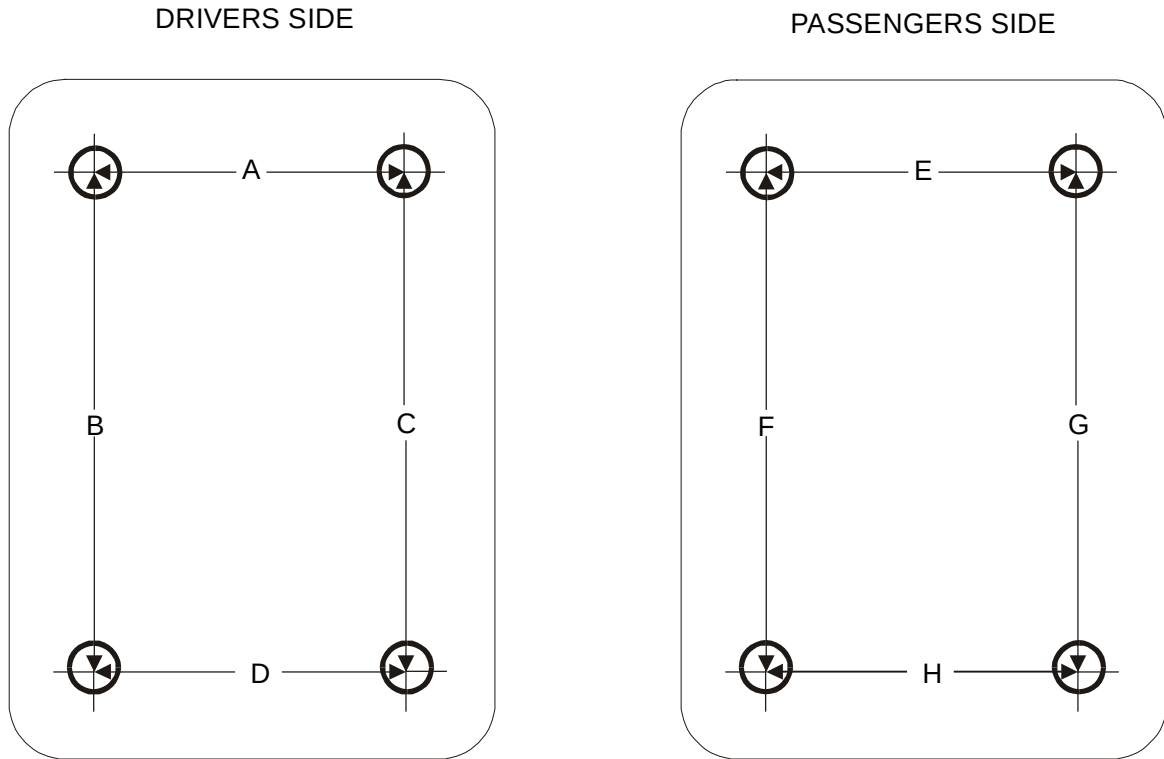
Measurement	Pre-Test	Post-Test	Difference
A	715 mm	715 mm	0 mm
B	570 mm	590 mm	-20 mm
C	464 mm	464 mm	0 mm
D	490 mm	505 mm	-15 mm

Figure 11 Vehicle Intrusion Measurements
Static Passenger Compartment Intrusion



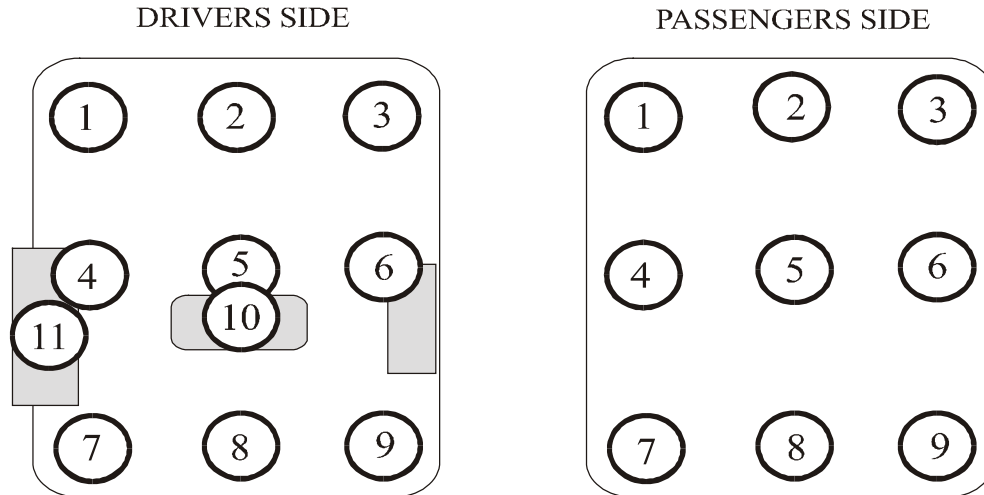
Measurement	Pre-Test	Post-Test	Difference
I	432 mm	450 mm	-18 mm
J	635 mm	670 mm	-35 mm
K (driver's side)	1705 mm	1689 mm	16 mm
L	1394 mm	1354 mm	40 mm
M (driver's side)	1778 mm	1784 mm	-6 mm
N (passenger's side)	1632 mm	1624 mm	8 mm
O (driver's side)	1638 mm	1632 mm	6 mm
P (passenger's side)	1710 mm	1709 mm	1 mm
Q (passenger's side)	1805 mm	1806 mm	-1 mm

Figure 12 Floorboard Deformation



Measurement	Pre-Test	Post-Test	Difference
A	455 mm	455 mm	0 mm
B	483 mm	470 mm	13 mm
C	500 mm	475 mm	25 mm
D	466 mm	470 mm	-4 mm
E	465 mm	464 mm	1 mm
F	525 mm	513 mm	12 mm
G	515 mm	520 mm	-5 mm
H	490 mm	505 mm	-15 mm

Figure 13 Toeboard Measurements



Driver's Side Toeboard Measurements in Millimeters

Toeboard Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	3628	-480	-460	3528	-403	-445	100	-77	-15
2	3603	-345	-408	3531	-262	-414	72	-83	6
3	3597	-183	-416	3521	-119	-364	76	-64	-52
4	3622	-485	-350	3485	-395	-299	137	-90	-51
5	3548	-338	-348	3474	-304	-305	74	-34	-43
6	3543	-165	-350	3449	-178	-292	94	13	-58
7	3473	-494	-255	3444	-448	-212	29	-46	-43
8	3469	-350	-263	3403	-338	-234	66	-12	-29
9	3485	-187	-277	3434	-140	-220	51	-47	-57
10	3401	-348	-420	3339	-453	-412	62	105	-8
11	3426	-570	-302	3413	-573	-253	13	3	-49

Passenger's Side Toeboard Measurements in Millimeters

Toeboard Location	Pre-Test			Post-Test			Difference		
	X	Y	Z	X	Y	Z	X	Y	Z
1	3616	197	-413	3594	197	-417	22	0	4
2	3635	327	-430	3608	329	-456	27	-2	26
3	3651	510	-445	3564	512	-455	87	-2	10
4	3556	197	-342	3531	197	-278	25	0	-64
5	3558	327	-350	3531	329	-296	27	-2	-54
6	3588	510	-357	3568	512	-305	20	-2	-52
7	3480	197	-266	3462	197	-201	18	0	-65
8	3485	327	-272	3468	329	-212	17	-2	-60
9	3456	510	-272	3458	512	-230	-2	-2	-42

Pre- and post-test measurements references: +X, forward from rear bumper; +Y, rightward from vehicle centerline; +Z, downward from ground level

Table 11 Intrusion of Upper Instrument Panel

Pre-Test	X	Y	Z
Driver Left Knee	3138	-535	-698
Driver Right Knee	3108	-210	-695
Passenger Left Knee	3141	306	-670
Passenger Right Knee	3153	525	-684

Post-Test	X	Y	Z
Driver Left Knee	3059	-554	-665
Driver Right Knee	3046	-214	-669
Passenger Left Knee	3156	313	-662
Passenger Right Knee	3171	536	-673

Difference	X	Y	Z
Driver Left Knee	79	19	-33
Driver Right Knee	62	4	-26
Passenger Left Knee	-15	-7	-8
Passenger Right Knee	-18	-11	-11

All measurements are in millimeters.

Knee intrusions are points measured pre and post, which are located just above where the four knees would be expected to contact the instrument panel.

Pre- and post-test measurement references: +X, forward of rear bumper; +Y, rightward from vehicle centerline; +Z, downward from ground level.

Table 12 Insurance Institute Measurement Locations and Floor Pan Deformation Data

IIHS Measurement Location Data (in millimeters)

Meas. Loc*	X-Axis Measurement			Y-Axis Measurement			Z-Axis Measurement		
	Pre	Post	Difference	Pre	Post	Difference	Pre	Post	Difference
1	2924	2840	84	-368	-375	7	-875	-847	-28
2	3111	3151	-40	-500	-498	-2	-647	-628	-19
3	3081	3121	-40	-210	-218	8	-645	-635	-10
4	3406	3485	-79	-338	-348	10	-418	-412	-6
5	3626	3513	113	-438	-426	-12	-423	-415	-8
6	3626	3518	108	-338	-315	-23	-404	-401	-3
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	3500	3442	58	-588	-567	-21	-405	-385	-20
17	3281	3316	-35	-744	-775	31	-934	-897	-37
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Floor Pan Deformation Measurement Data (in millimeters)

Meas. Loc**	X-Axis Measurement			Y-Axis Measurement			Z-Axis Measurement		
	Pre	Post	Difference	Pre	Post	Difference	Pre	Post	Difference
P0	2825	2844	-19	-597	-594	-3	-319	-282	-37
P1	3385	3379	6	-622	-598	-24	-200	-166	-34
P2	3391	3375	16	-402	-388	-14	-220	-192	-28
P3	3397	3379	18	-159	-166	7	-212	-180	-32
P4	3159	3145	14	-625	-607	-18	-200	-167	-33
P5	3170	3150	20	-402	-395	-7	-210	-179	-31
P6	3164	3158	6	-145	-176	31	-200	-187	-13
P7	2916	2900	16	-612	-600	-12	-203	-170	-33
P8	2957	2948	9	-418	-420	2	-212	-178	-34
P9	2911	2893	18	-167	-139	-28	-200	-185	-15

Pre- and post-test measurement references: +X, forward of rear bumper; +Y, rightward from vehicle centerline; +Z, downward from ground level.

* Measurement Location Descriptions

P0 Front Outside Seat Anchor Bolt

- 1 Steering Column - Geometric center of the steering wheel on airbag door.
- 2 Lower Instrument Panel Left - Taken 45 cm above floorpan and 15 cm to the left of the steering wheel center.
- 3 Lower Instrument Panel Right - Taken 45 cm above floorpan and 15 cm to the right of the steering wheel center.
- 4 Brake Pedal - Geometric center of the brake pedal.
- 5 Toeplan Left - Taken 15 cm to the left of the brake pedal center on the same vertical plane on the vehicle toeplan.
- 6 Toeplan Center - Taken directly behind the brake pedal center on the same vertical plane on the vehicle.
- 7 Toeplan Right - Taken 15 cm to the right of the brake pedal center on the same vertical plane on the vehicle toeplan.
- 8 Left Footrest - Taken 25 cm to the left of the brake pedal center on the same vertical plane on the vehicle toeplan.
- 17 A-Pillar - Taken on the vehicle exterior at the same vertical coordinate as the base of the left front window.
- 18 B-Pillar - Taken on the vehicle exterior at the same vertical coordinate as the lower A-pillar mark.

** There is an equal spaced 3x3 floor pan matrix. Position 1 is floor pan left side forwardmost position; Position 9 is located on the right side rearmost position of the 3x3 grid.

Figure 14 Camera Positions

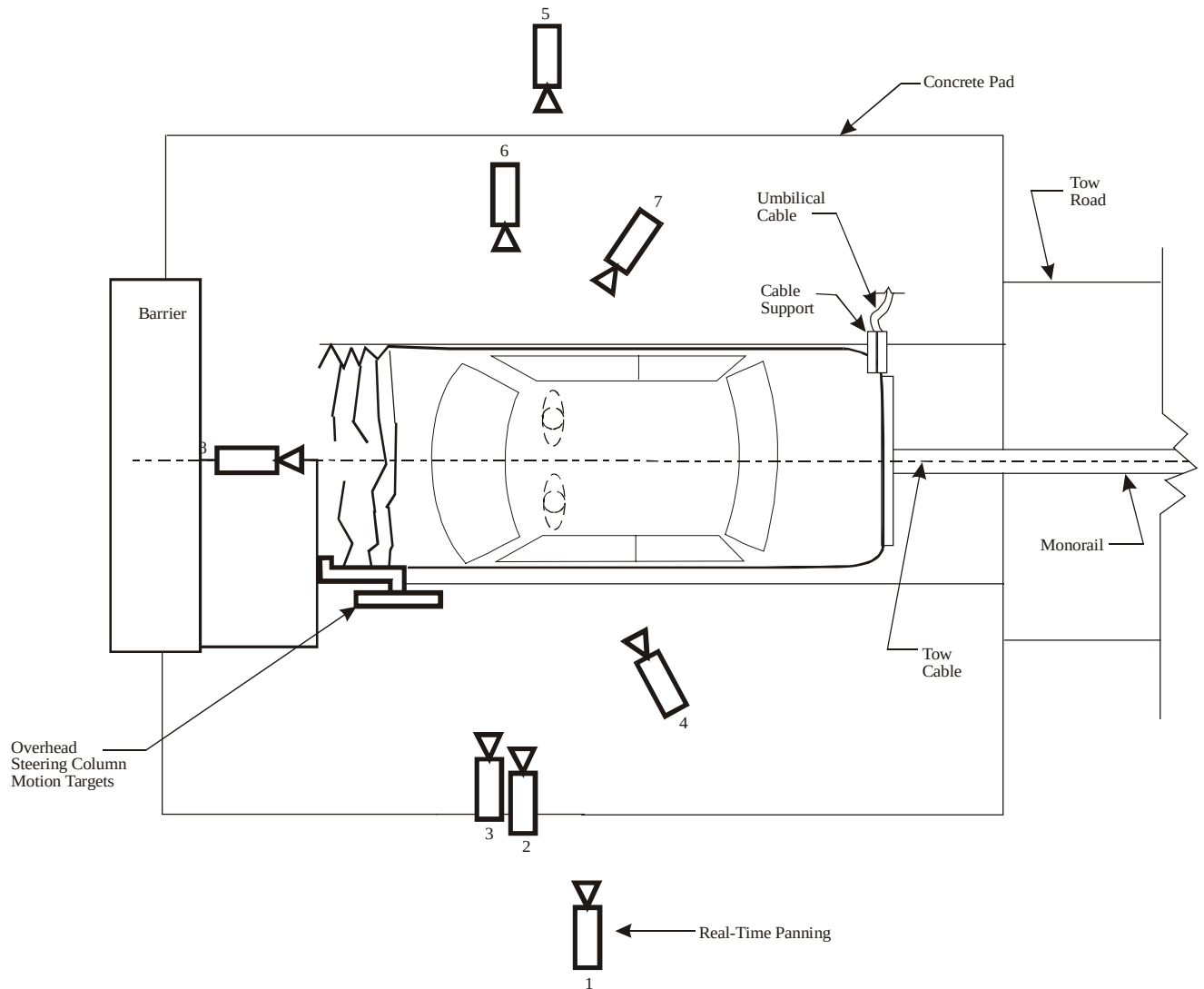


Figure 14 Camera Positions, Cont'd.

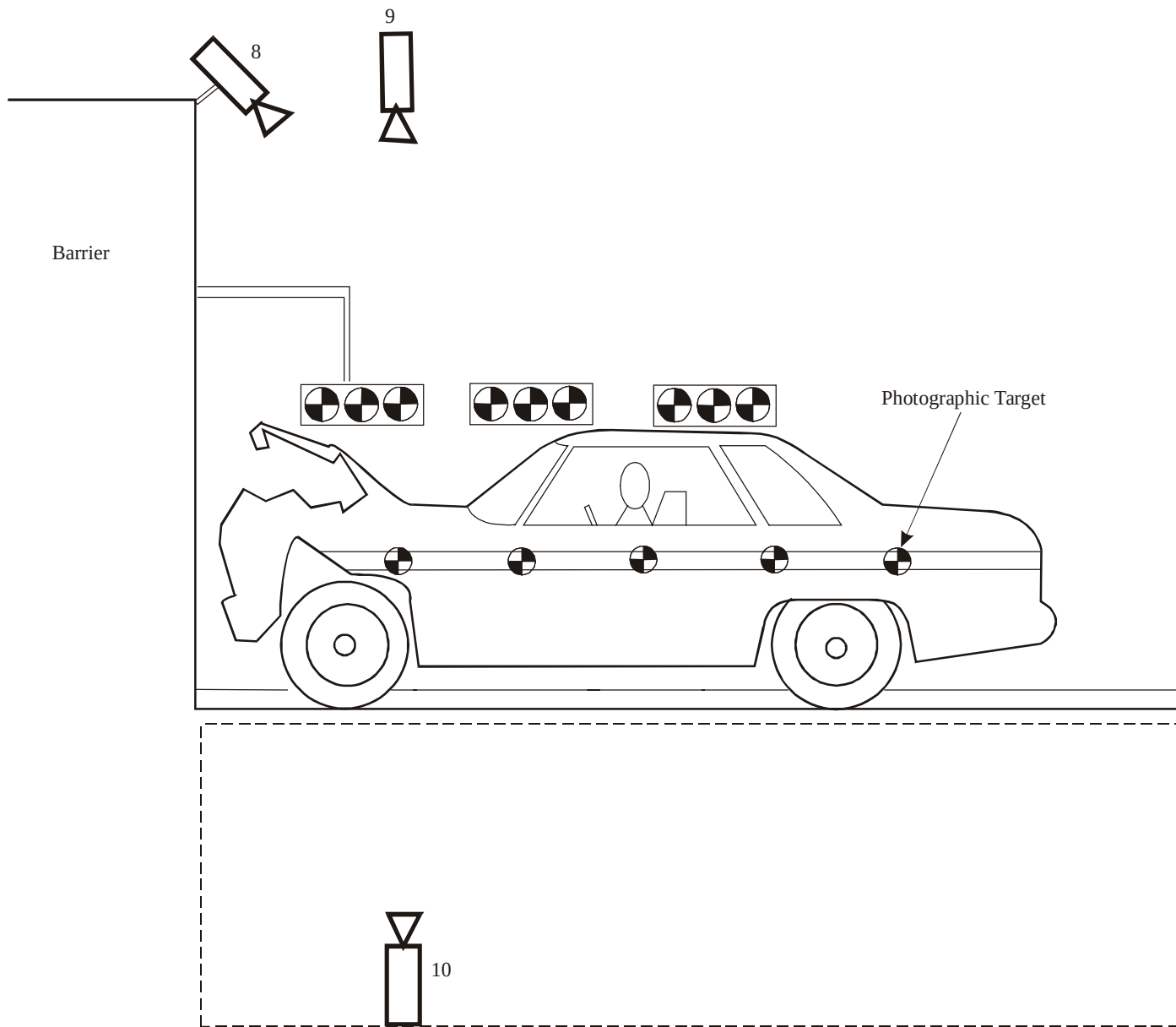
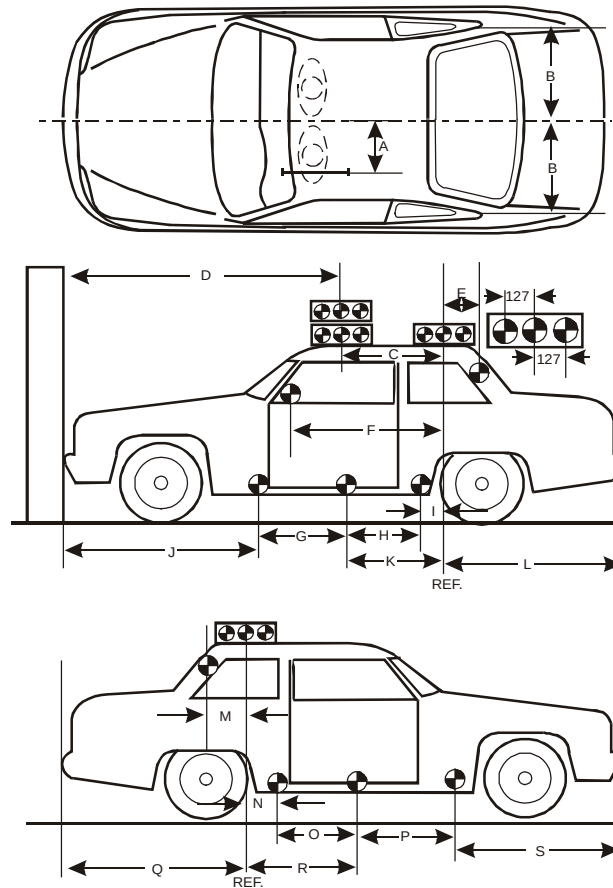


Table 13 Camera Information

Camera Number	Location	Type	Lens (mm)	Speed (fps)	Purpose of camera data
1	Panning	Bolex		24	Vehicle dynamics
2	Left perpendicular overall	Digital HG	13	1000	Vehicle crush
3	Left tight driver side	Digital HG	25	1000	Dummy kinematics
4	Left angled on driver	Digital HG	25	1000	Dummy and airbag
5	Right perpendicular overall	Digital HG	13	1000	Dummy kinematics
6	Right tight passenger side	Digital HG	Zoom	1000	Dummy kinematics
7	Right angled on passenger	Digital HG	25	1000	Dummy and airbag
8	Driver & passenger from barrier	Digital HG	13	1000	Airbag deployment
9	Overhead	Photosonic	25	997	Vehicle dynamics
10	Pit front	Photosonic	17	1002	Vehicle crush

Figure 15 Vehicle Reference Photo Target Locations



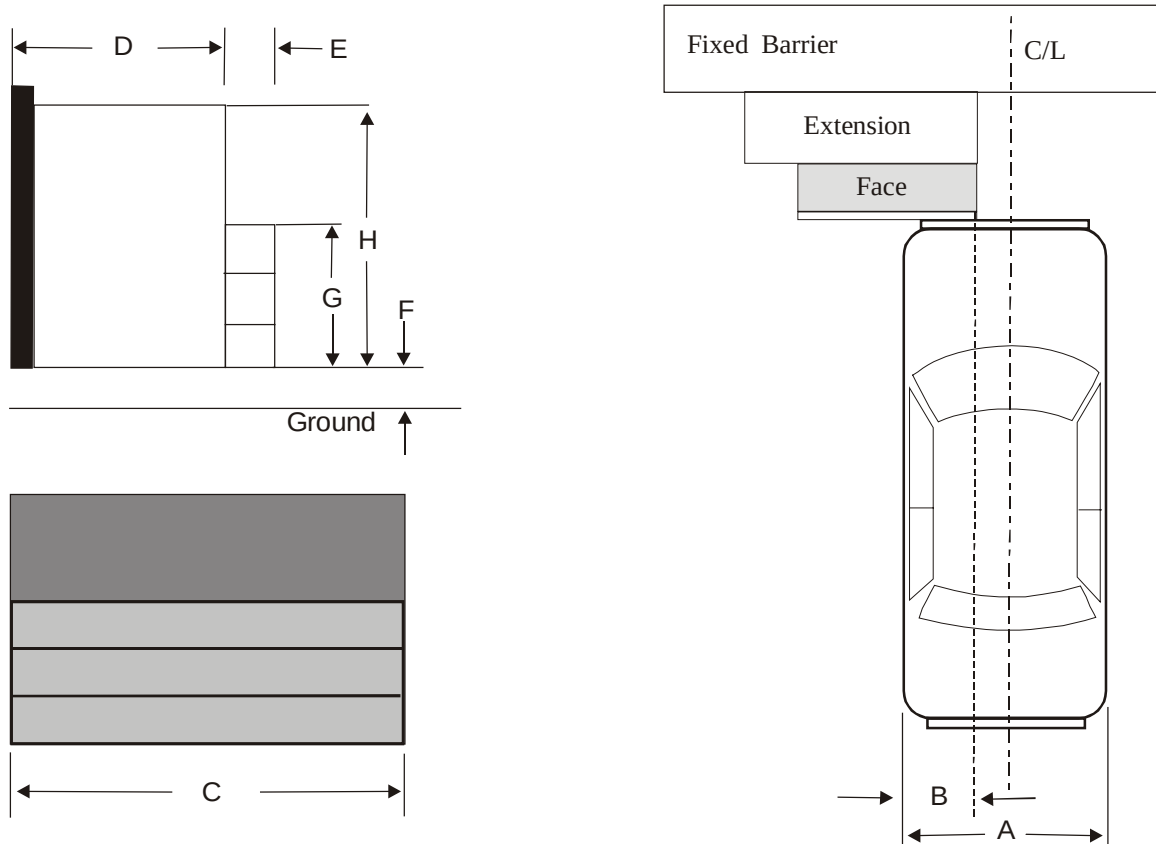
Measurement	Pre-Test
A	Left 358 mm
B	700 mm
C	Left 610 mm
D	1852 mm
E	844 mm
F	1242 mm
G	912 mm
H	748 mm
I	-1231 mm
J	1581 mm
K	519 mm
L	1844 mm
M	851 mm
N	-1271 mm
O	773 mm
P	940 mm
Q	1847 mm
R	507 mm
S	1562 mm

Figure 16 Offset Barrier and Vehicle Orientation

Vehicle: 2002 Nissan Altima

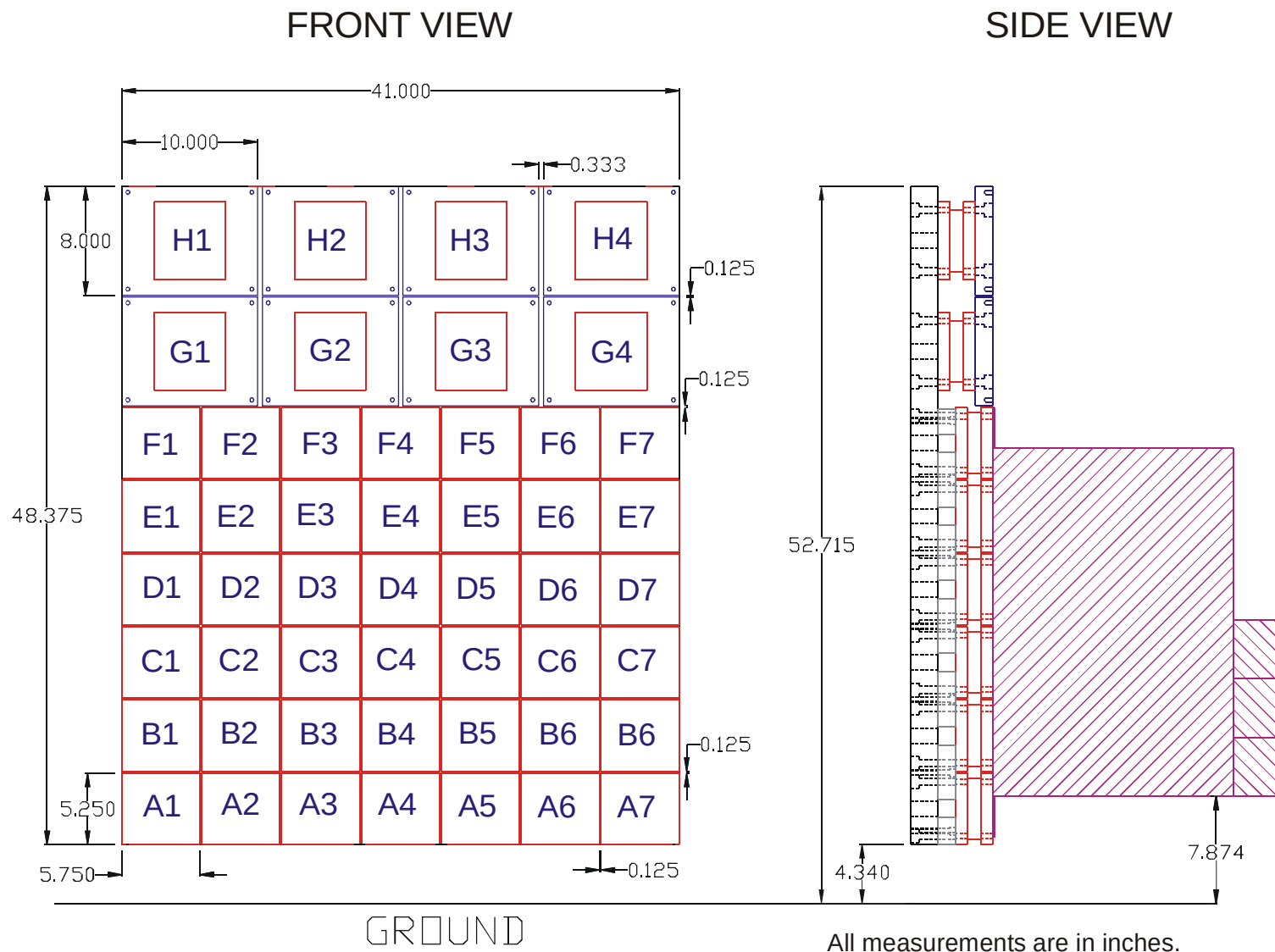
Barrier Manufacturer: Cellbond

Serial Number: CB 058



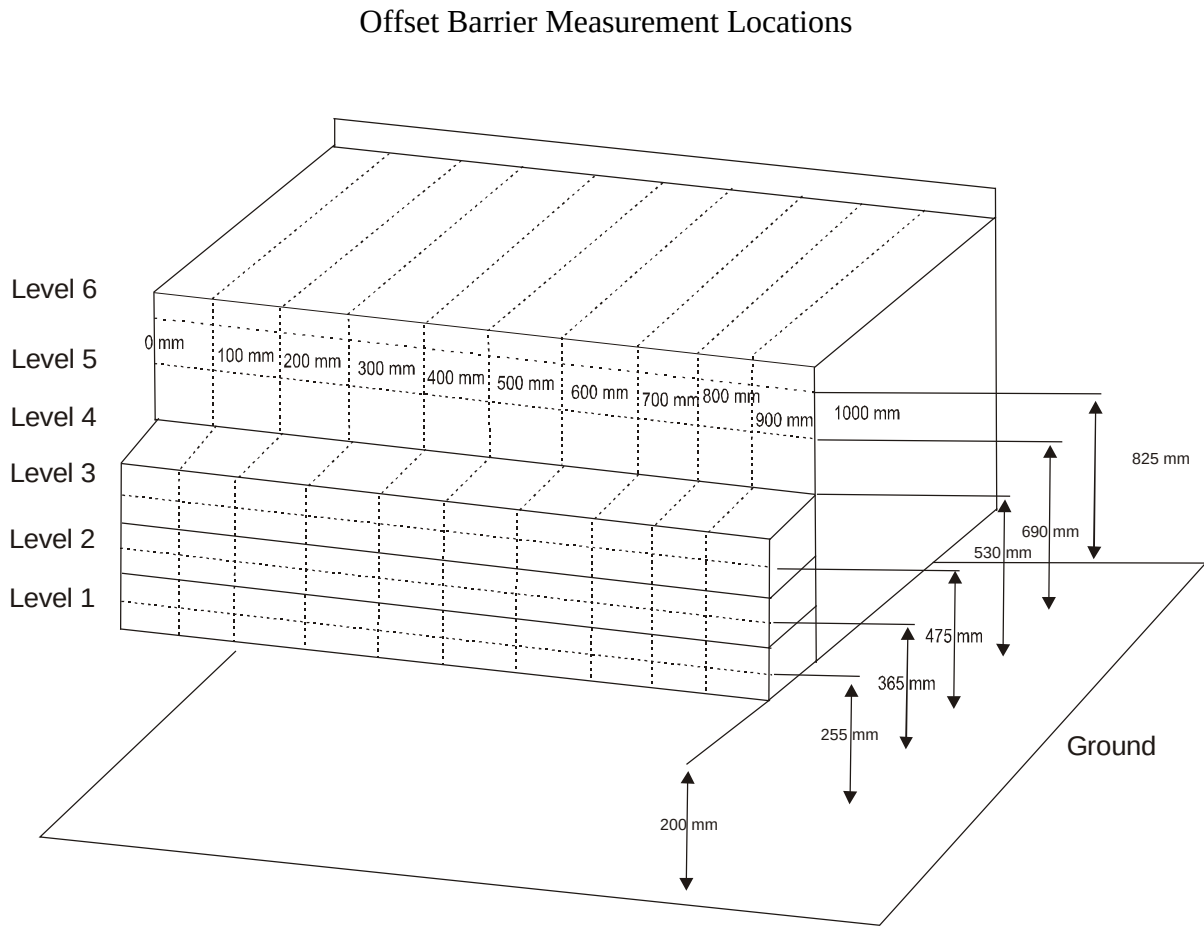
A	Total Vehicle Width	<u>1780</u>	mm
B	40% Overlap Distance	<u>712</u>	mm
C	Deformable Face Width	<u>1000</u>	mm
D	Single Stage Honeycomb Depth	<u>453</u>	mm
E	Bumper Element Depth	<u>90</u>	mm
F	Lower Edge Height From Ground	<u>200</u>	mm
G*	Bumper Element Height	<u>531</u>	mm
H	Deformable Barrier Honeycomb Height	<u>650</u>	mm

Figure 17 Load Cell Location on Fixed Offset Barrier¹



¹Load cell data is presented as plots in Appendix B.

Figure 18 Offset Barrier Deformation Measurement Locations



Height of levels at centerline:

Level 6 - Top stack	829 mm
Level 5 - Mid stack	694 mm
Level 4 - Stack at top of bumper	541 mm
Level 3 - Bumper top	480 mm
Level 2 - Bumper mid	370 mm
Level 1 - Bumper low	255 mm

Table 14 Deformable Barrier Face Profile

Level 6 Top Stack

Pre-Test			
Index	Xmm	Ymm	Zmm
1	455.0	-4.8	636.7
2	455.1	93.9	636.0
3	453.7	191.7	635.0
4	454.7	295.8	636.9
5	455.2	395.6	636.6
6	454.8	495.7	636.1
7	455.3	595.6	635.8
8	455.6	693.1	634.9
9	456.8	794.7	636.0
10	455.1	897.3	638.9
11	454.1	993.6	632.3

Post-Test			
Index	Xmm	Ymm	Zmm
1	523.6	116.7	533.1
2	484.3	207.4	522.9
3	462.4	304.2	508.1
4	437.0	399.0	490.9
5	392.3	485.2	478.7
6	333.4	566.4	470.4
7	258.4	619.7	496.8
8	202.9	691.4	487.3
9	147.9	755.2	491.8
10	118.4	844.4	468.0
11	86.3	935.2	441.6

Difference			
Index	Xmm	Ymm	Zmm
1	-68.7	-121.5	103.6
2	-29.2	-113.5	113.1
3	-8.7	-112.5	126.9
4	17.7	-103.2	146.0
5	62.9	-89.6	158.0
6	121.4	-70.7	165.7
7	197.0	-24.1	139.0
8	252.7	1.8	147.7
9	308.9	39.4	144.3
10	336.7	52.9	170.9
11	367.9	58.4	190.7

Level 5 Mid Stack

Pre-Test			
Index	Xmm	Ymm	Zmm
12	454.2	-6.4	500.0
13	454.2	94.3	500.2
14	454.8	194.4	500.3
15	453.6	295.8	500.3
16	454.5	394.1	499.9
17	453.6	496.1	501.3
18	455.3	596.6	500.8
19	454.8	698.1	503.2
20	457.6	798.8	504.2
21	454.0	891.8	498.9
22	456.7	994.9	500.9

Post-Test			
Index	Xmm	Ymm	Zmm
12	535.2	108.6	399.6
13	469.9	182.0	391.4
14	439.8	276.0	378.9
15	380.8	346.3	387.4
16	320.8	423.1	383.2
17	251.2	494.0	392.3
18	177.6	560.4	409.1
19	107.7	627.0	424.4
20	80.1	715.8	398.7
21	82.2	803.2	366.6
22	34.4	888.7	392.6

Difference			
Index	Xmm	Ymm	Zmm
12	-81.0	-115.0	100.5
13	-15.7	-87.7	108.9
14	15.1	-81.6	121.4
15	72.9	-50.5	113.0
16	133.7	-29.0	116.7
17	202.4	2.2	109.0
18	277.7	36.2	91.7
19	347.1	71.1	78.8
20	377.5	83.1	105.5
21	371.9	88.6	132.3
22	422.3	106.3	108.3

Table 14 Deformable Barrier Face Profile Cont'd.

Level 4 Stack Top of Bumper

Pre-Test			
Index	Xmm	Ymm	Zmm
23	452.6	-4.2	339.9
24	454.2	94.9	343.1
25	453.1	195.2	344.8
26	456.1	296.1	344.3
27	453.5	390.8	344.8
28	453.4	493.6	345.5
29	456.1	595.6	346.2
30	454.0	691.7	345.3
31	456.6	795.8	345.6
32	454.7	894.1	344.7
33	456.9	994.9	344.6

Post-Test			
Index	Xmm	Ymm	Zmm
23	534.2	93.2	242.9
24	452.5	156.5	255.1
25	N/A	N/A	N/A
26	309.0	292.1	279.8
27	228.5	347.4	280.2
28	164.2	425.9	293.9
29	96.9	495.1	297.8
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A

Difference			
Index	Xmm	Ymm	Zmm
23	-81.6	-97.4	97.0
24	1.7	-61.7	88.0
25	N/A	N/A	N/A
26	147.1	3.9	64.6
27	225.0	43.5	64.6
28	289.3	67.8	51.7
29	359.2	100.5	48.4
30	N/A	N/A	N/A
31	N/A	N/A	N/A
32	N/A	N/A	N/A
33	N/A	N/A	N/A

Level 3 Bumper Top

Pre-Test			
Index	Xmm	Ymm	Zmm
34	544.8	-10.6	285.0
35	545.0	90.3	284.4
36	544.4	190.4	284.1
37	545.5	290.7	284.8
38	545.7	391.4	284.6
39	544.6	490.8	285.1
40	547.0	591.7	285.4
41	545.0	691.2	285.2
42	547.0	789.5	284.2
43	547.3	891.3	284.9
44	547.7	991.8	283.2

Post-Test			
Index	Xmm	Ymm	Zmm
34	592.7	187.9	181.7
35	508.2	239.1	192.8
36	422.9	290.8	205.0
37	341.7	345.5	216.0
38	261.2	405.8	225.7
39	197.8	478.3	240.2
40	119.5	539.3	270.4
41	32.5	590.2	299.1
42	35.7	691.8	289.1
43	35.2	789.9	278.1
44	13.0	883.0	264.2

Difference			
Index	Xmm	Ymm	Zmm
34	-47.9	-198.5	103.3
35	36.8	-148.8	91.6
36	121.5	-100.4	79.1
37	203.8	-54.9	68.9
38	284.5	-14.5	58.9
39	346.8	12.5	44.9
40	427.5	52.4	15.0
41	512.5	101.0	-13.9
42	511.3	97.8	-4.9
43	512.1	101.5	6.8
44	534.8	108.8	19.0

Table 14 Deformable Barrier Face Profile Cont'd.

Level 2 Bumper Top

Pre-Test			
Index	Xmm	Ymm	Zmm
45	544.7	-6.6	171.5
46	545.5	89.4	175.8
47	545.9	193.9	173.9
48	545.0	289.1	174.7
49	545.5	391.4	174.4
50	546.3	492.0	175.1
51	546.4	591.8	175.1
52	548.5	688.9	175.4
53	547.1	794.2	173.9
54	547.8	891.4	171.8
55	546.3	989.4	170.7

Post-Test			
Index	Xmm	Ymm	Zmm
45	492.1	233.6	87.6
46	407.6	286.3	98.7
47	326.1	341.9	108.2
48	250.6	405.1	118.6
49	250.4	405.7	118.8
50	184.3	479.5	130.1
51	118.8	589.2	226.3
52	83.4	622.2	210.4
53	76.6	711.3	205.9
54	97.3	808.7	210.6
55	84.4	903.5	208.6

Difference			
Index	Xmm	Ymm	Zmm
45	52.6	-240.1	83.9
46	137.9	-196.9	77.2
47	219.9	-148.0	65.7
48	294.5	-116.0	56.1
49	295.2	-14.3	55.7
50	362.0	12.6	45.1
51	427.6	2.6	-51.2
52	465.2	66.8	-35.1
53	470.5	82.9	-32.0
54	450.5	82.7	-38.8
55	461.9	85.9	-37.9

Level 1 Bumper Low

Pre-Test			
Index	Xmm	Ymm	Zmm
56	546.5	-8.5	64.1
57	547.0	94.3	63.6
58	545.6	192.9	63.6
59	544.6	292.8	64.7
60	545.4	395.2	64.7
61	548.6	494.8	64.7
62	544.4	595.1	64.6
63	544.1	699.0	64.7
64	547.6	792.3	62.7
65	548.1	892.6	62.5
66	548.2	991.9	62.9

Post-Test			
Index	Xmm	Ymm	Zmm
56	550.4	161.2	-32.8
57	469.3	223.5	-21.3
58	389.1	281.8	-9.5
59	313.2	345.3	1.2
60	237.0	411.6	11.8
61	177.1	490.0	21.3
62	116.7	598.9	130.2
63	N/A	N/A	N/A
64	77.6	713.6	92.4
65	61.2	811.4	93.0
66	47.6	907.1	102.9

Difference			
Index	Xmm	Ymm	Zmm
56	-3.9	-169.6	96.9
57	77.8	-129.2	84.9
58	156.5	-89.0	73.1
59	231.4	-52.6	63.5
60	308.4	-16.4	52.9
61	371.5	4.8	43.4
62	427.7	-3.8	-65.7
63	N/A	N/A	N/A
64	470.1	78.7	-29.7
65	486.9	81.2	-30.5
66	500.6	84.8	-40.0

Figure 19 Deformable Barrier Face Profile 1-11 Level 6

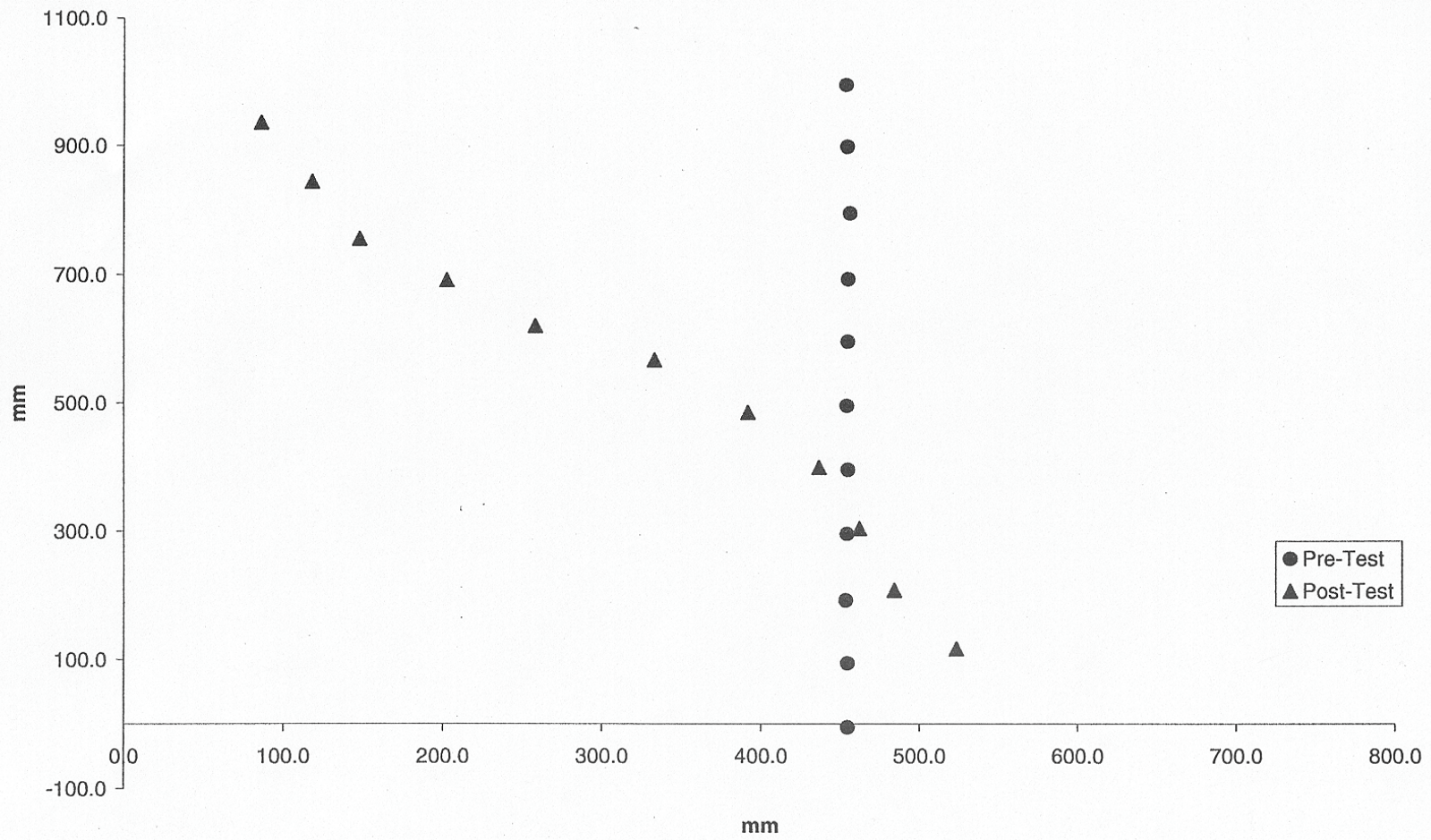


Figure 19 Deformable Barrier Face Profile 12-22 Level 5

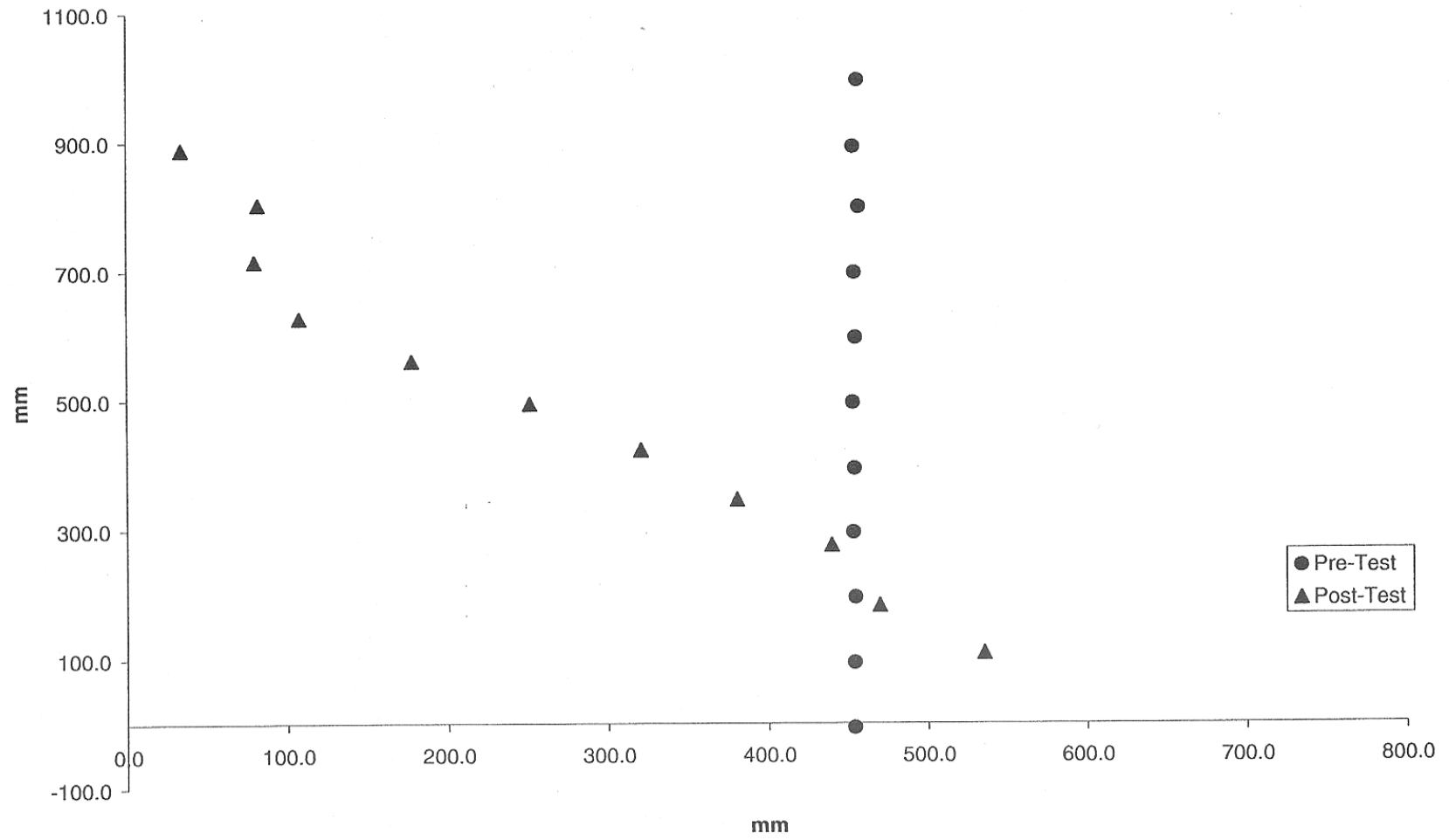


Figure 19 Deformable Barrier Face Profile 23-33 Level 4

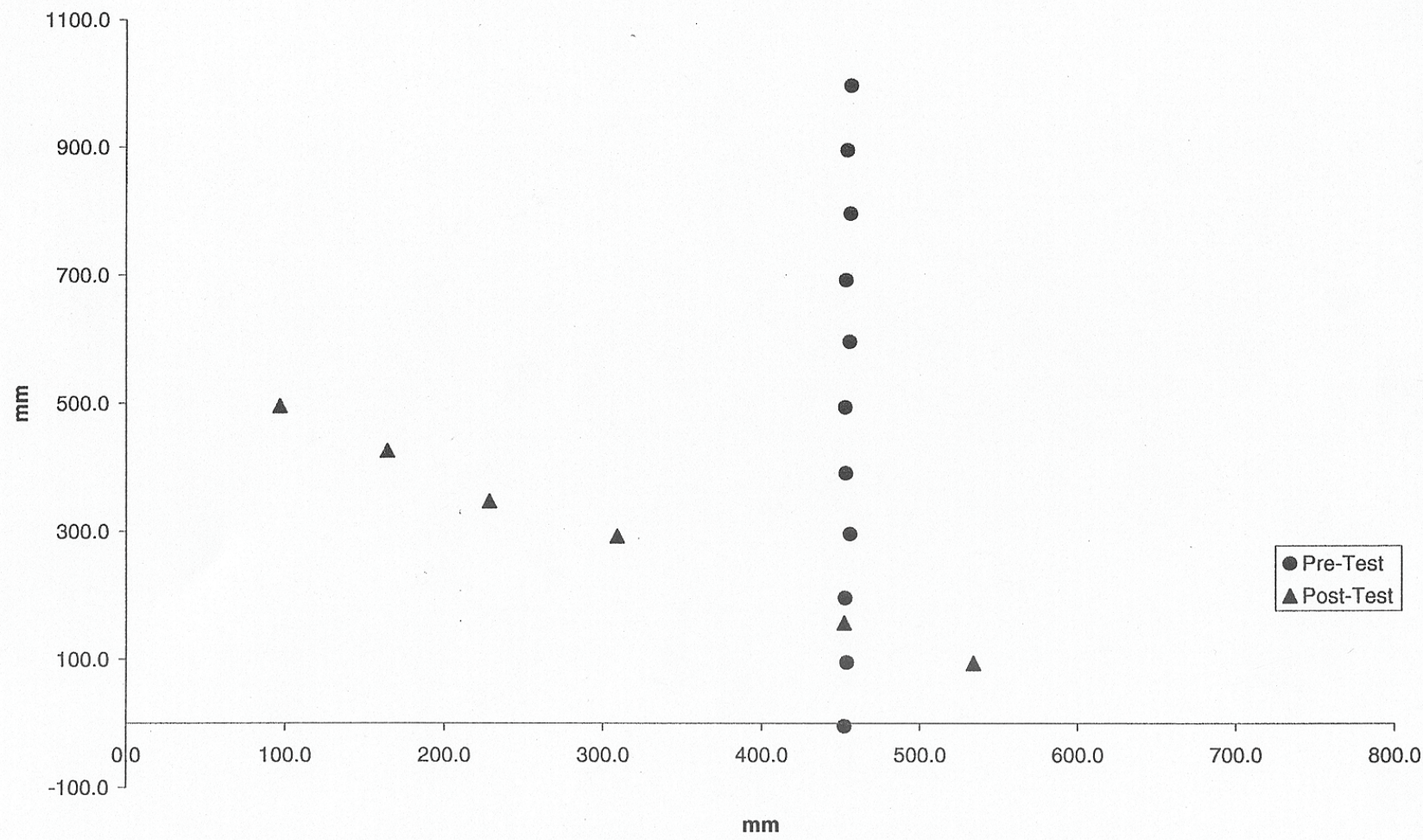


Figure 19 Deformable Barrier Face Profile 34-44 Level 3

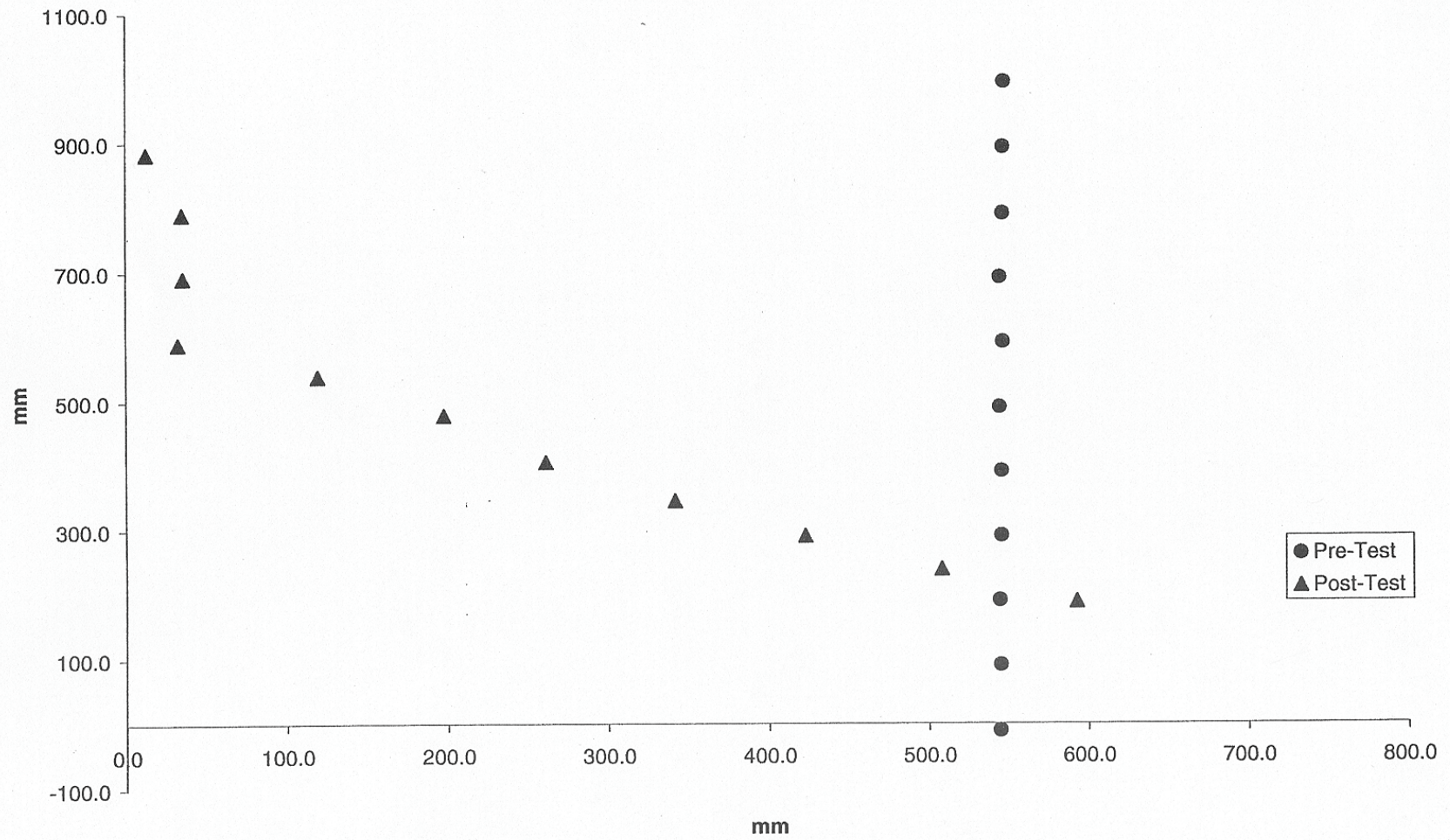


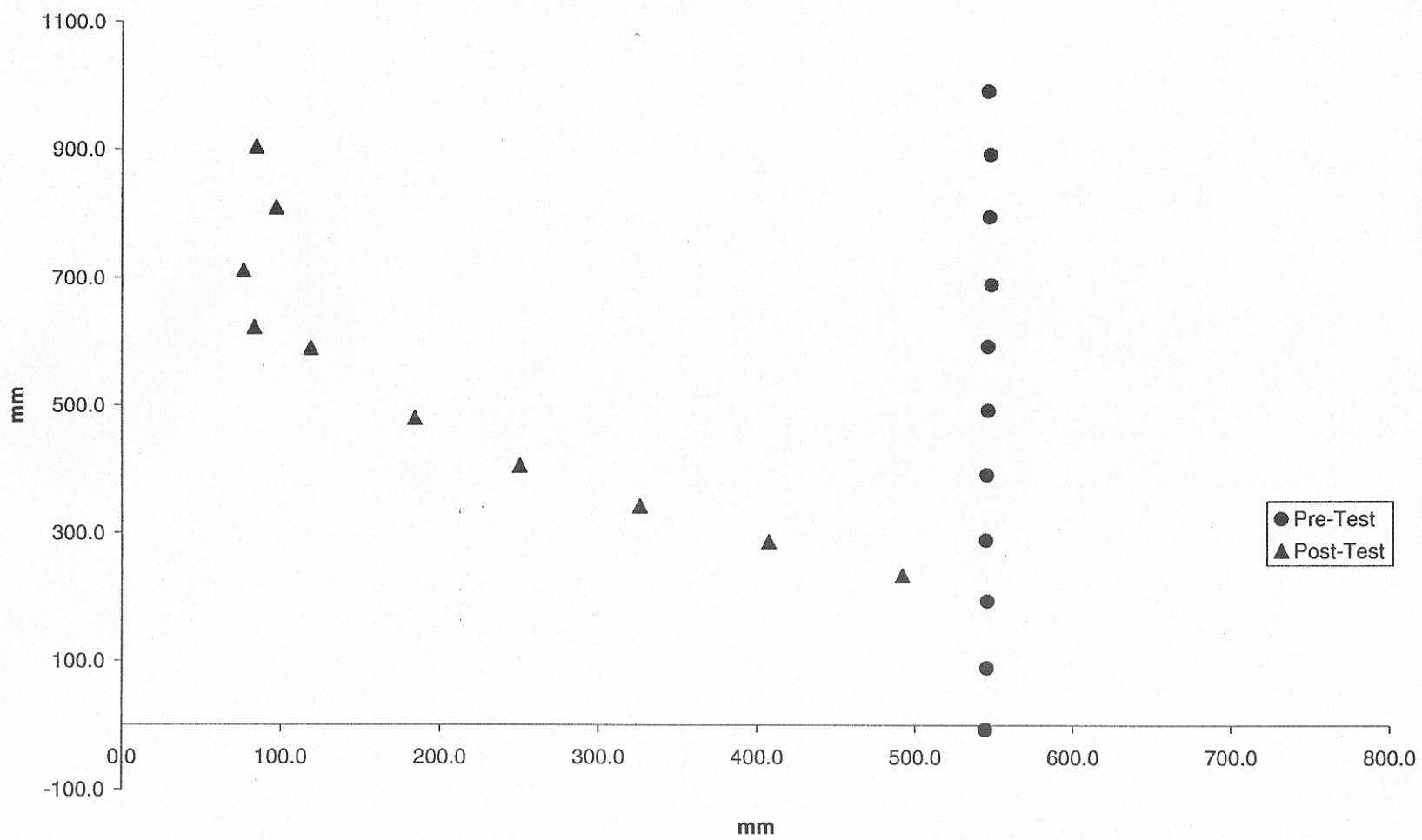
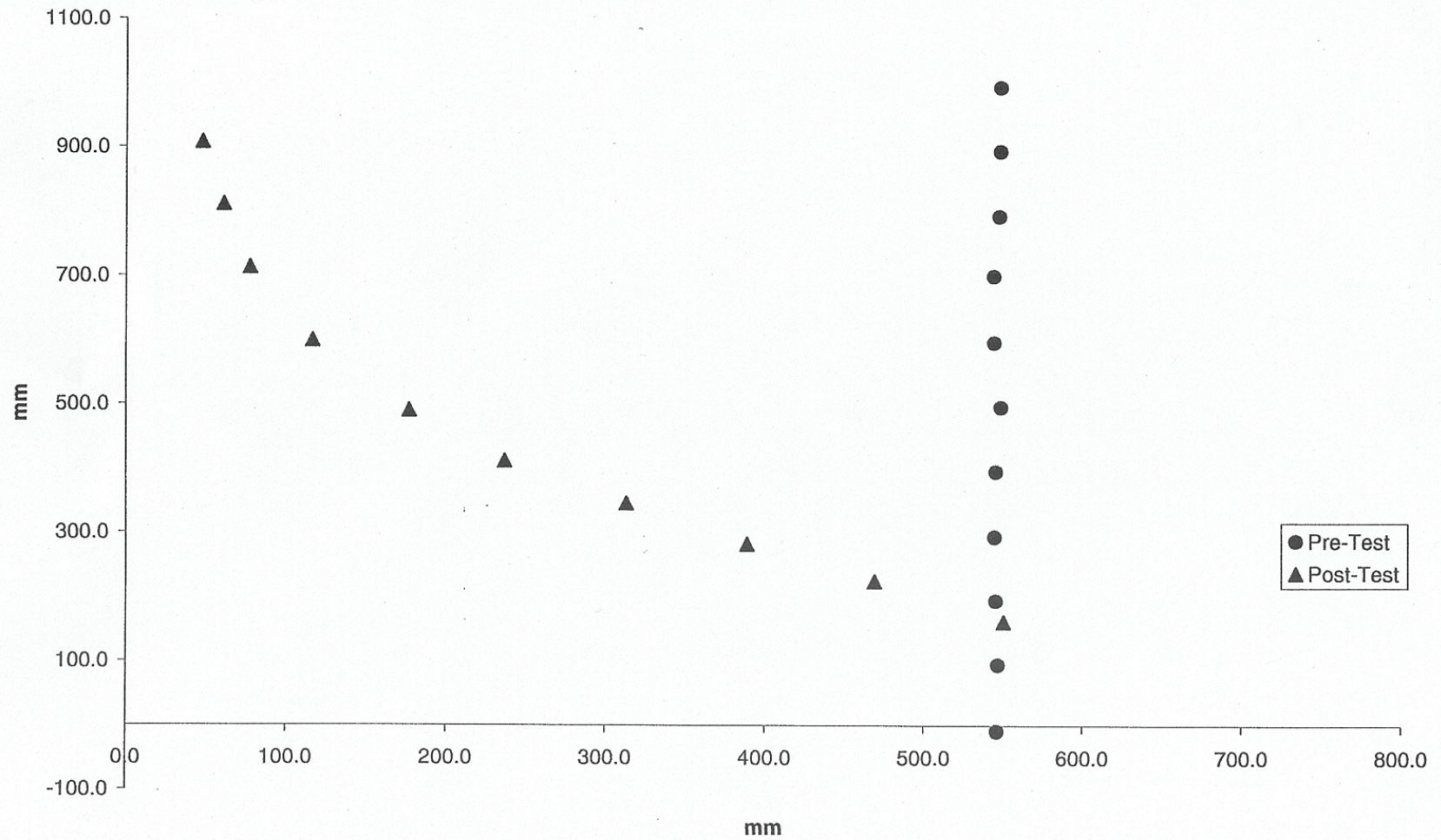
Figure 19 Deformable Barrier Face Profile 45-55 Level 2

Figure 19 Deformable Barrier Face Profile 56-66 Level 1



Appendix A

Photographs



Figure A-1 Pre-Test Front View



Figure A-2 Post-Test Front View



Figure A-3 Pre-Test Left Front View



Figure A-4 Post-Test Left Front View



Figure A-5 Pre-Test Left Side View



Figure A-6 Post-Test Left Side View



Figure A-7 Pre-Test Left Rear View



Figure A-8 Post-Test Left Rear View



Figure A-9 Pre-Test Rear View



Figure A-10 Post-Test Rear View



Figure A-11 Pre-Test Right Rear View



Figure A-12 Post-Test Right Rear View



Figure A-13 Pre-Test Right Side View



Figure A-14 Post-Test Right Side View



Figure A-15 Pre-Test Right Front View



Figure A-16 Post-Test Right Front View



Figure A-17 Pre-Test Overhead View



Figure A-18 Post-Test Overhead View



Figure A-19 Pre-Test Front Underbody View



Figure A-20 Post-Test Front Underbody View



Figure A-21 Pre-Test Front Mid Underbody View



Figure A-22 Post-Test Front Mid Underbody View

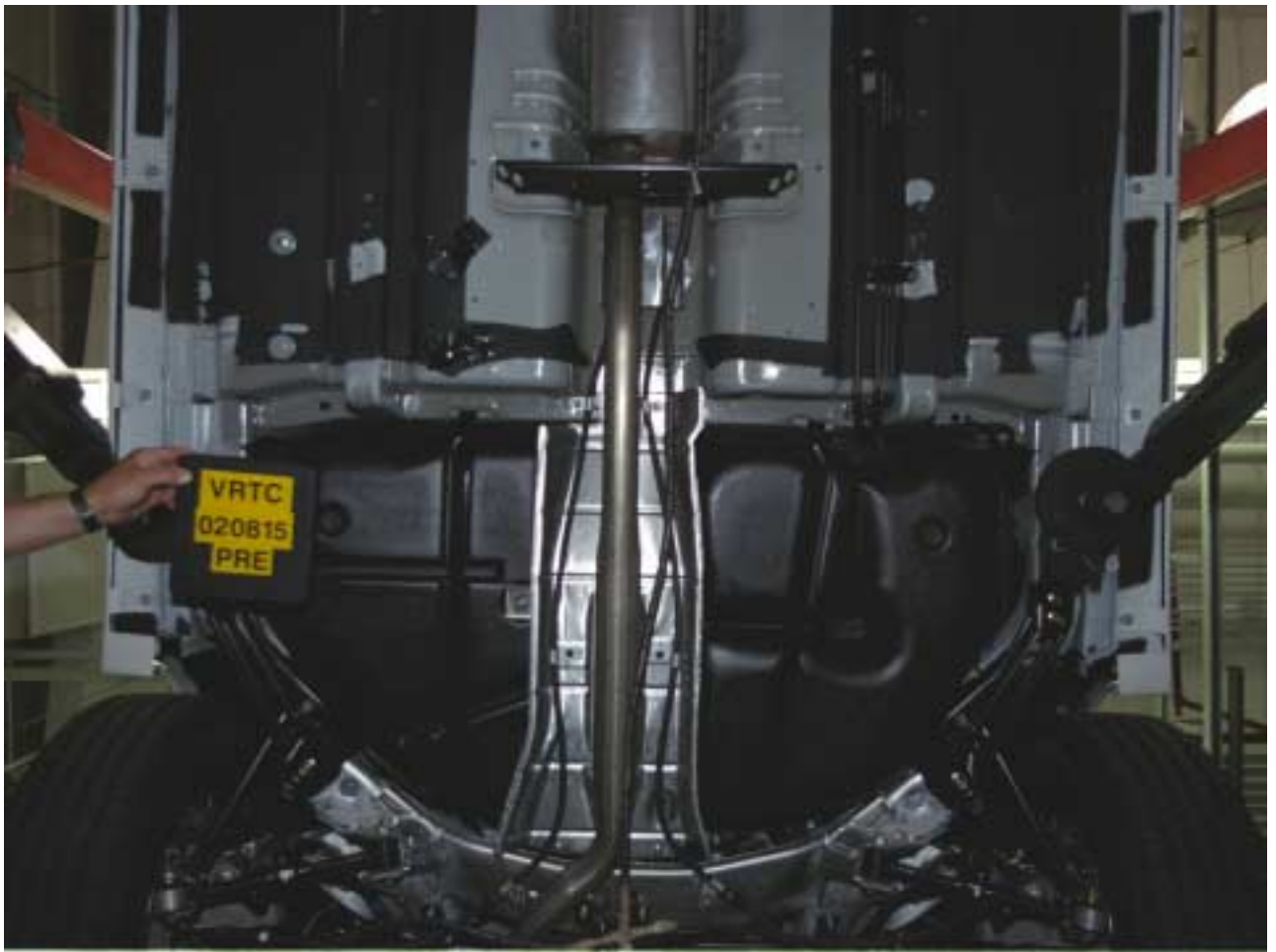


Figure A-23 Pre-Test Rear Mid Underbody View

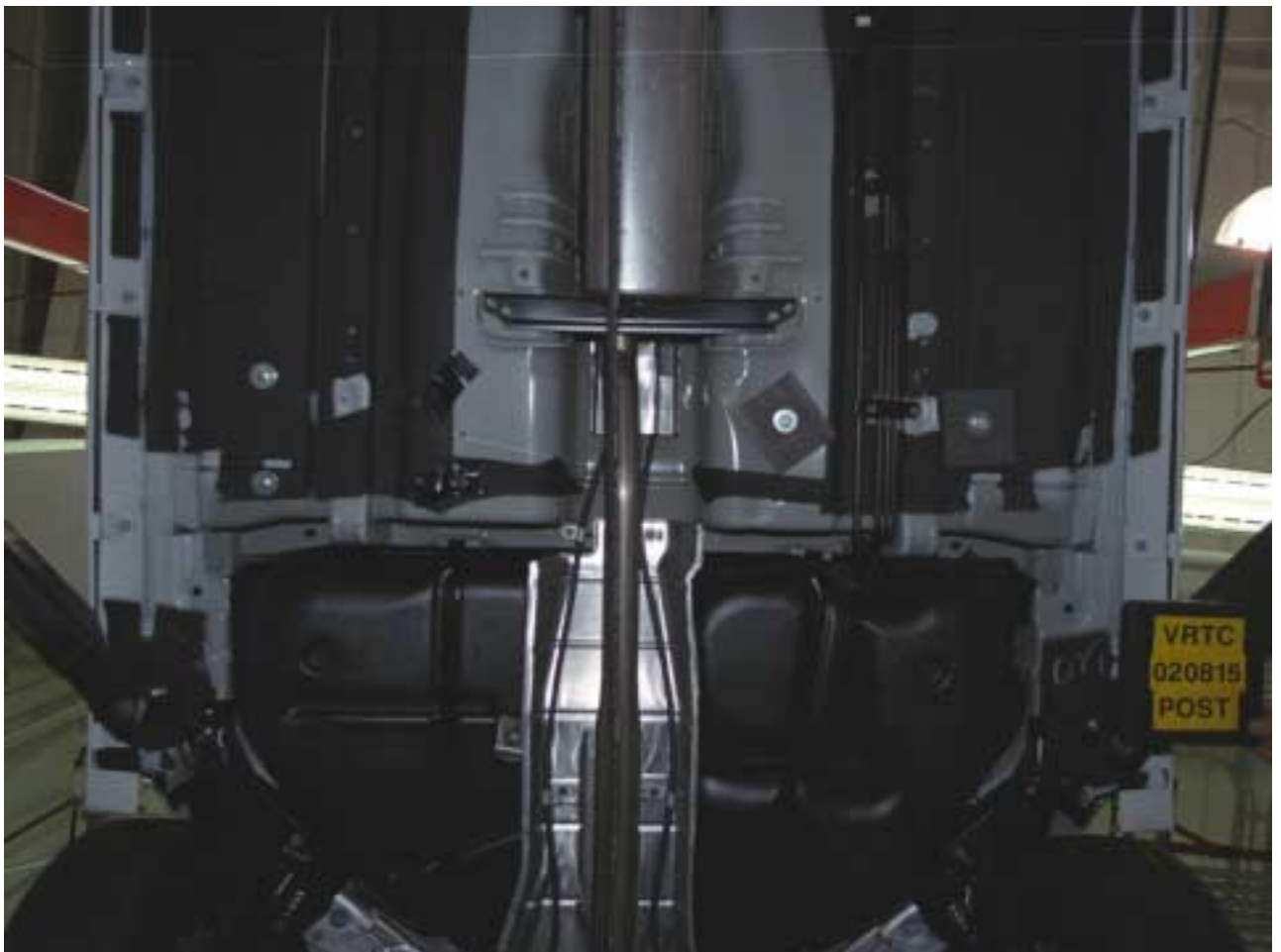


Figure A-24 Post-Test Rear Mid Underbody View

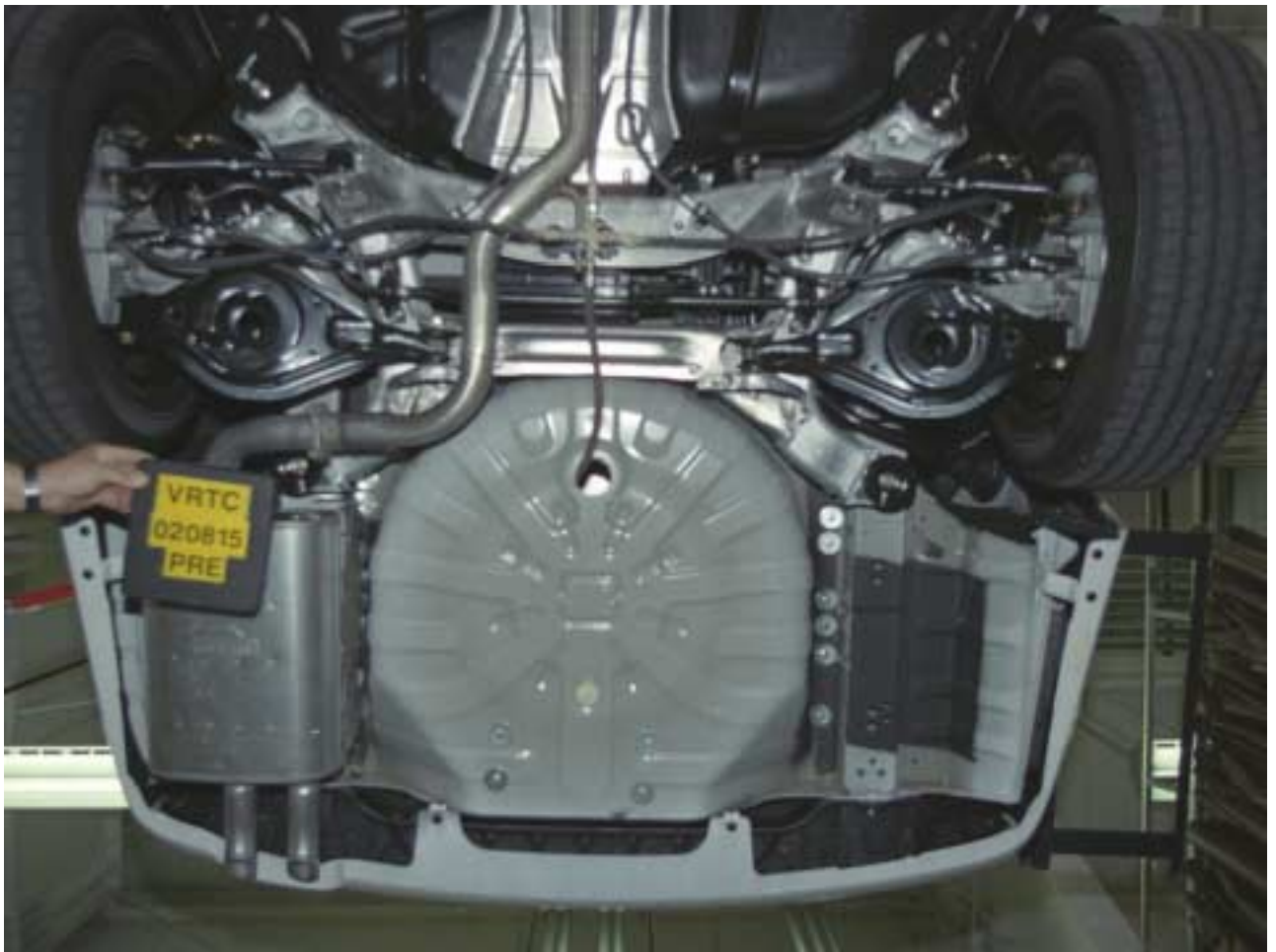


Figure A-25 Pre-Test Rear Underbody View



Figure A-26 Post-Test Rear Underbody View



Figure A-27 Pre-Test Engine Compartment View



Figure A-28 Post-Test Engine Compartment View



Figure A-29 Pre-Test Windshield View



Figure A-30 Post-Test Windshield View



Figure A-31 Pre-Test Left Side Angled Windshield View



Figure A-32 Post-Test Left Side Angled Windshield View



Figure A-33 Pre-Test Right Side Angled Windshield View



Figure A-34 Post-Test Right Side Angled Windshield View



Figure A-35 Post-Test Windshield Close-up - View 1



Figure A-36 Post-Test Windshield Close-up - View 2



Figure A-37 Post-Test Windshield Close-up - View 3

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Figure A-38 Pre-Test Front Barrier Face View



Figure A-39 Post-Test Front Barrier Face View



Figure A-40 Pre-Test Left Side Barrier Face View

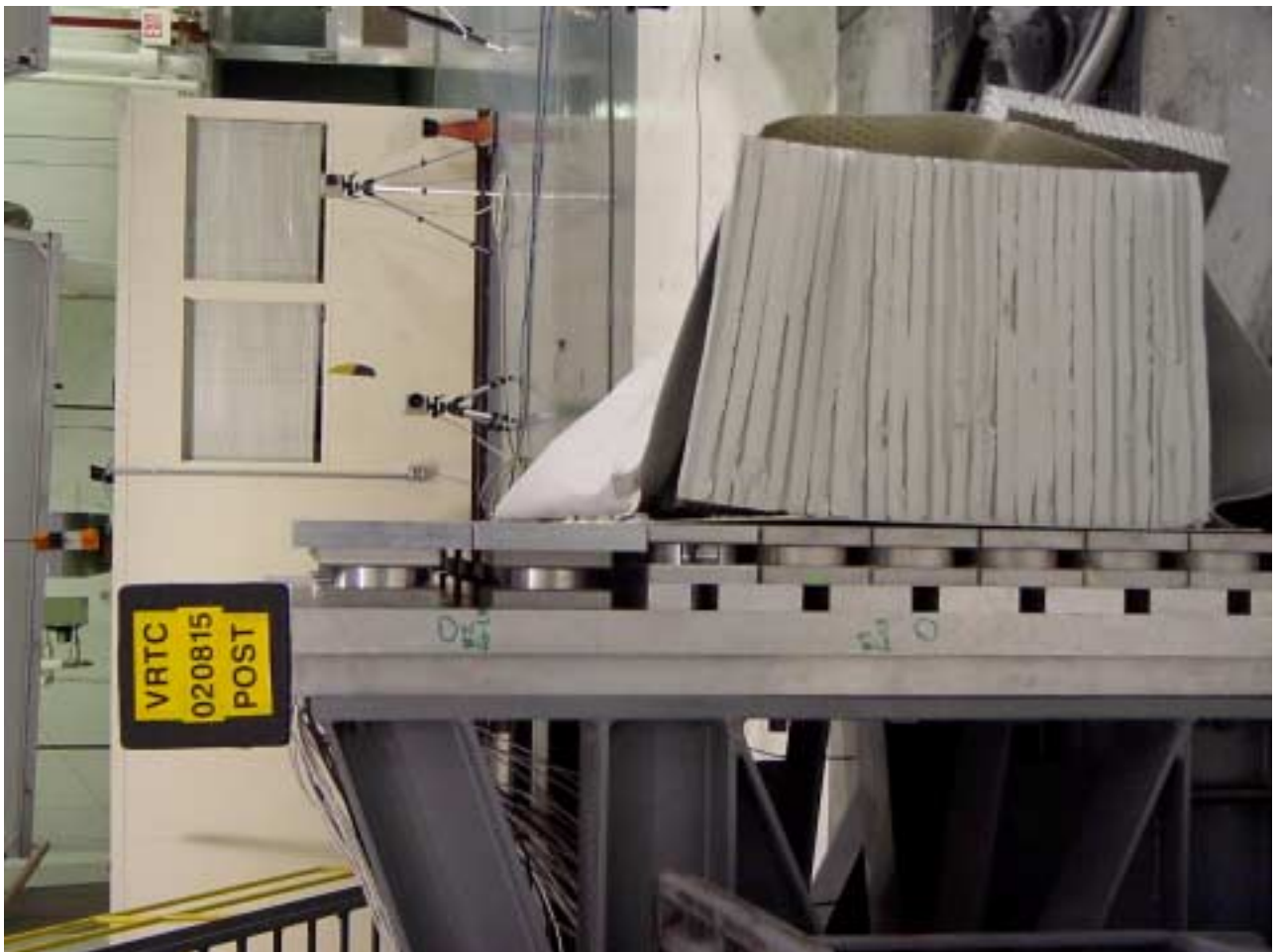


Figure A-41 Post-Test Left Side Barrier Face View

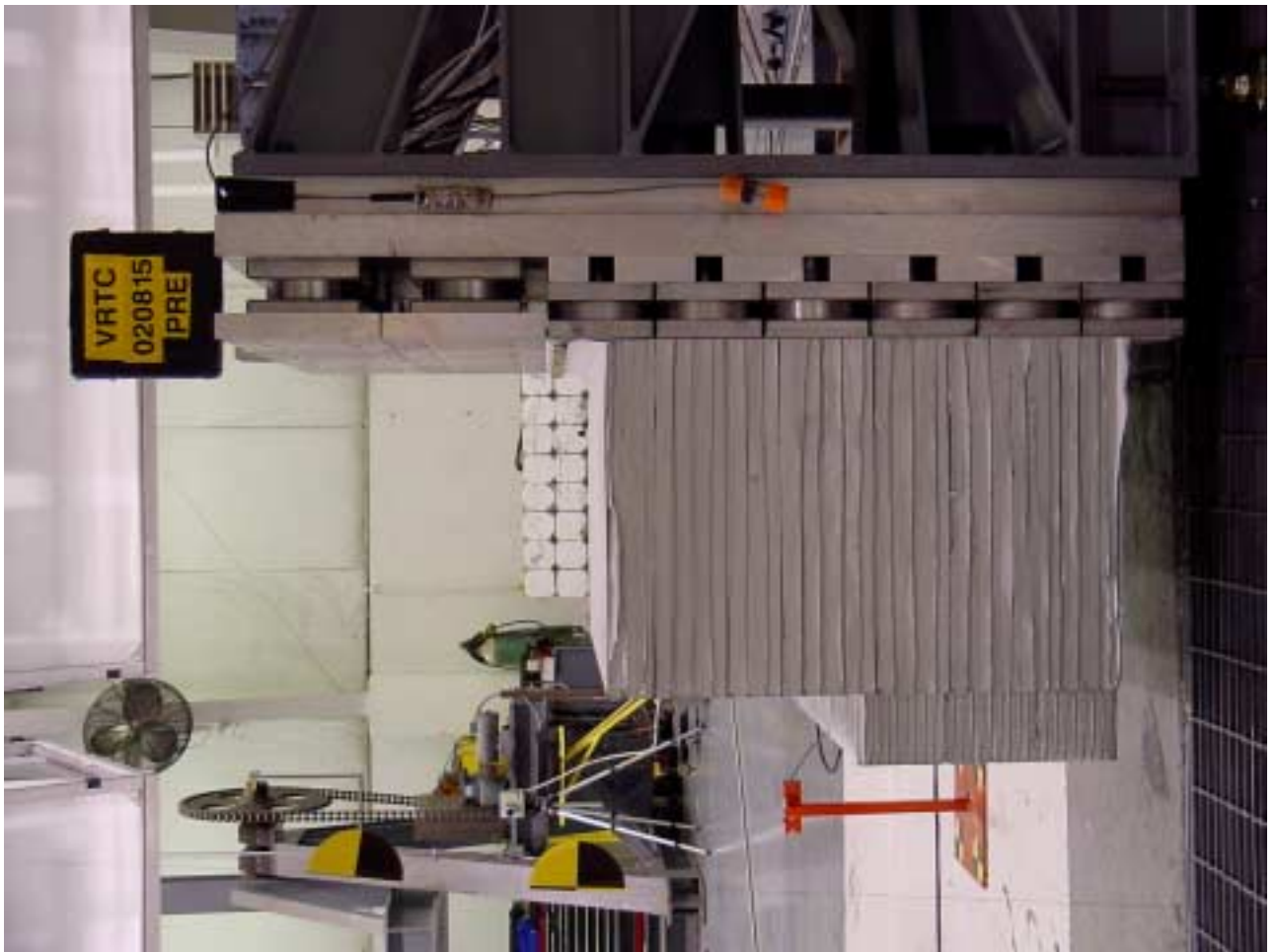


Figure A-42 Pre-Test Right Side Barrier Face View

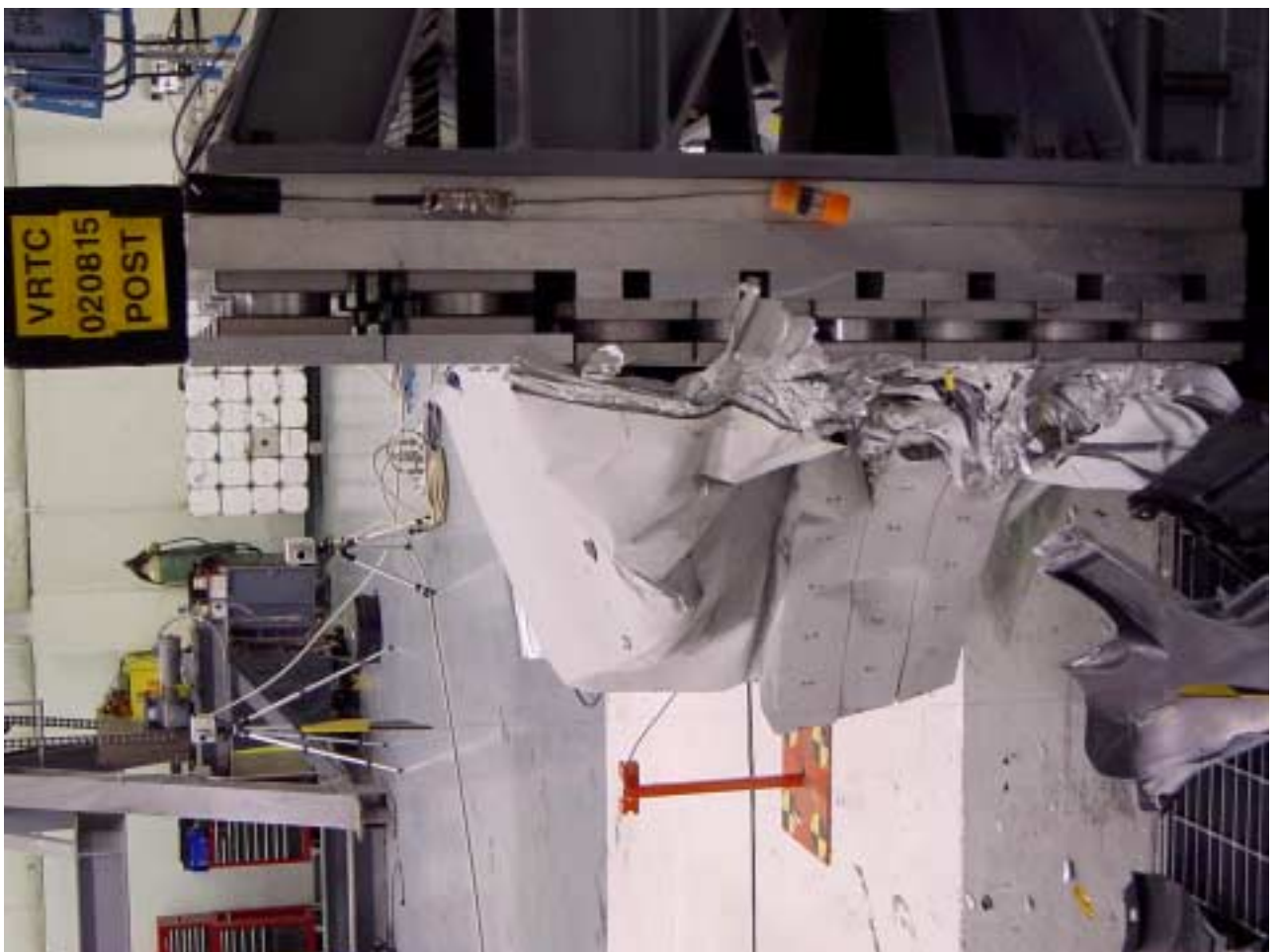


Figure A-43 Post-Test Right Side Barrier Face View



Figure A-44 Pre-Test Overhead Barrier Face View

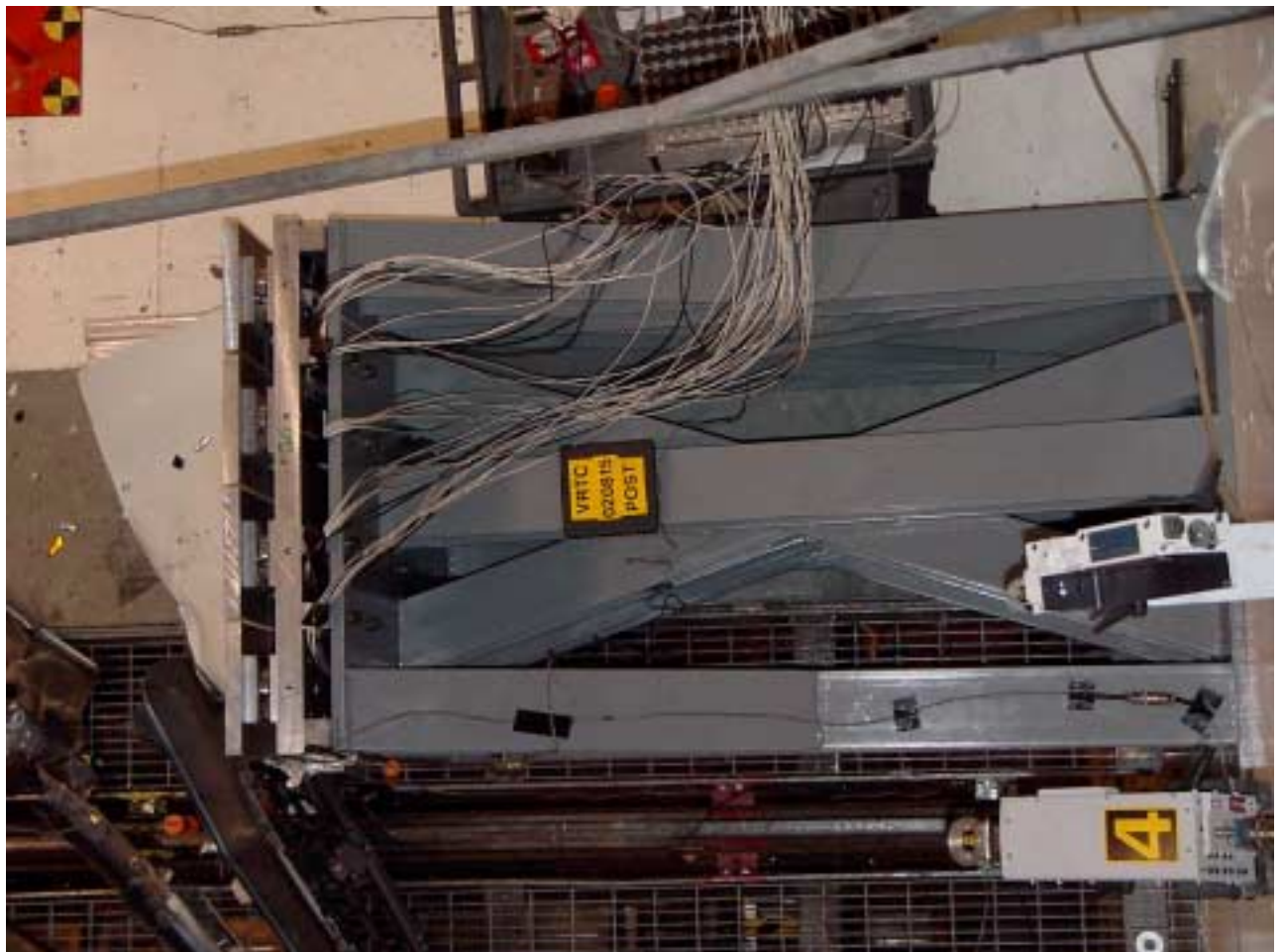


Figure A-45 Post-Test Overhead Barrier Face View



Figure A-46 Pre-Test Driver and Passenger Dummies Front View



Figure A-47 Post-Test Driver and Passenger Dummies Front View



Figure A-48 Pre-Test Driver Dummy Position - View 1

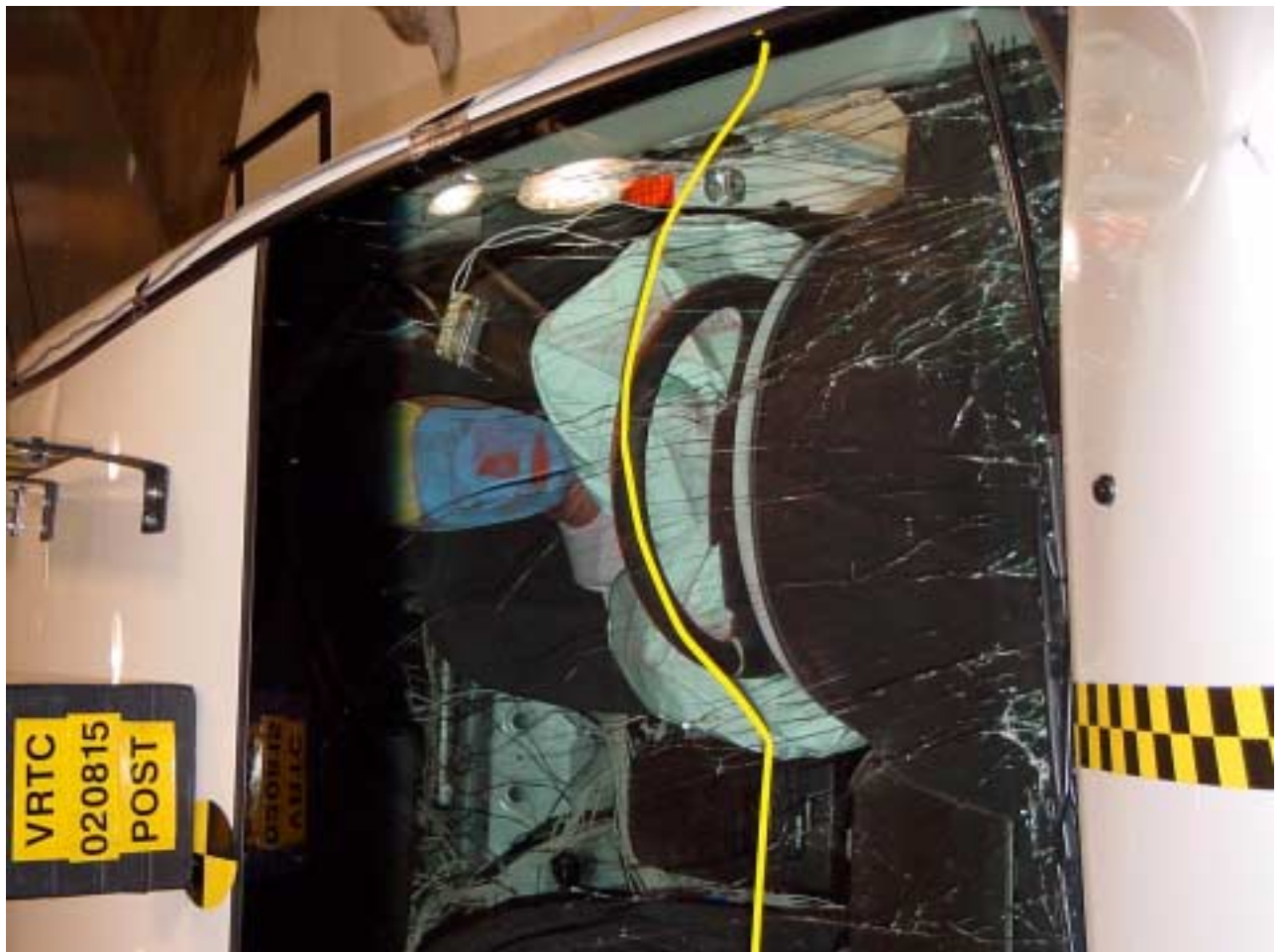


Figure A-49 Post-Test Driver Dummy Position - View 1



Figure A-50 Pre-Test Driver Dummy Position - View 2



Figure A-51 Post-Test Driver Dummy Position - View 2



Figure A-52 Pre-Test Driver Dummy & Vehicle Interior - View 1



Figure A-53 Post-Test Driver Dummy & Vehicle Interior - View 1



Figure A-54 Pre-Test Driver Dummy & Vehicle Interior - View 2



Figure A-55 Post-Test Driver Dummy & Vehicle Interior - View 2



Figure A-56 Pre-Test Driver Toeboard View



Figure A-57 Post-Test Driver Toeboard View



Figure A-58 Pre-Test Passenger Dummy Position - View 1



Figure A-59 Post-Test Passenger Dummy Position - View 1



Figure A-60 Pre-Test Passenger Dummy Position - View 2



Figure A-61 Post-Test Passenger Dummy Position - View 2



Figure A-62 Pre-Test Passenger Dummy & Vehicle Interior - View 1



Figure A-63 Post-Test Passenger Dummy & Vehicle Interior - View 1



Figure A-64 Pre-Test Passenger Dummy & Vehicle Interior - View 2



Figure A-65 Post-Test Passenger Dummy & Vehicle Interior - View 2



Figure A-66 Pre-Test Passenger Toeboard View



Figure A-67 Post-Test Passenger Toeboard View



Figure A-68 Post-Test Driver Dummy Overall View

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Figure A-69 Post-Test Driver Dummy Head Contact - View 1



Figure A-70 Post-Test Driver Dummy Head Contact - View 2



Figure A-71 Post-Test Driver Dummy Head Contact - View 3



Figure A-72 Post-Test Driver Dummy Knee Contact - View 1



Figure A-73 Post-Test Driver Dummy Knee Contact - View 2



Figure A-74 Post-Test Passenger Dummy Overall View



Figure A-75 Post-Test Passenger Dummy Head Contact - View 1



Figure A-76 Post-Test Passenger Dummy Head Contact - View 2



Figure A-77 Post-Test Passenger Dummy Head Contact - View 3



Figure A-78 Post-Test Passenger Dummy Knee Contact - View 1



Figure A-79 Post-Test Passenger Dummy Knee Contact - View 2

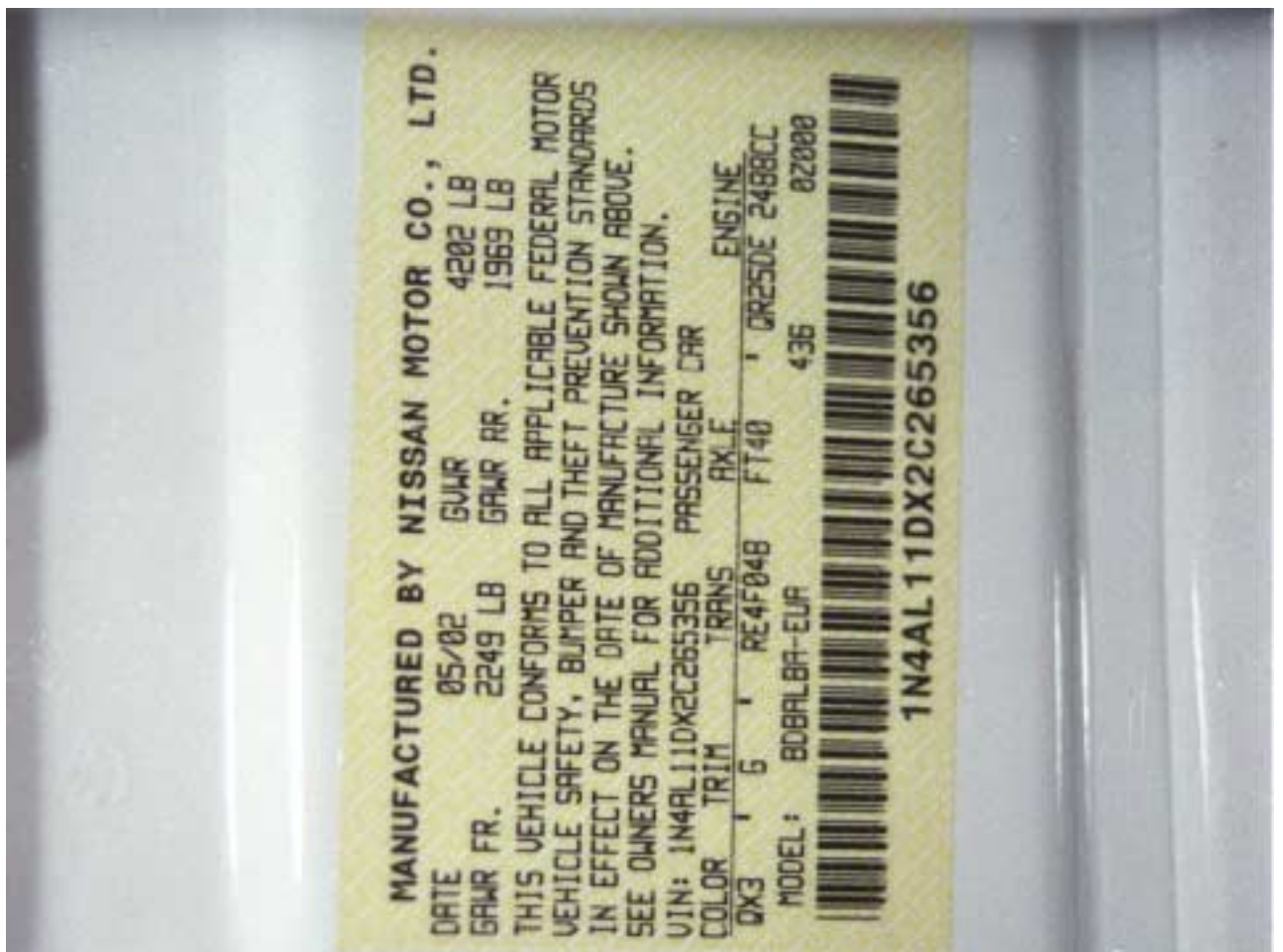


Figure A-80 Pre-Test Vehicle Certification Label View



Figure A-81 Pre-Test Ballast View

Appendix B

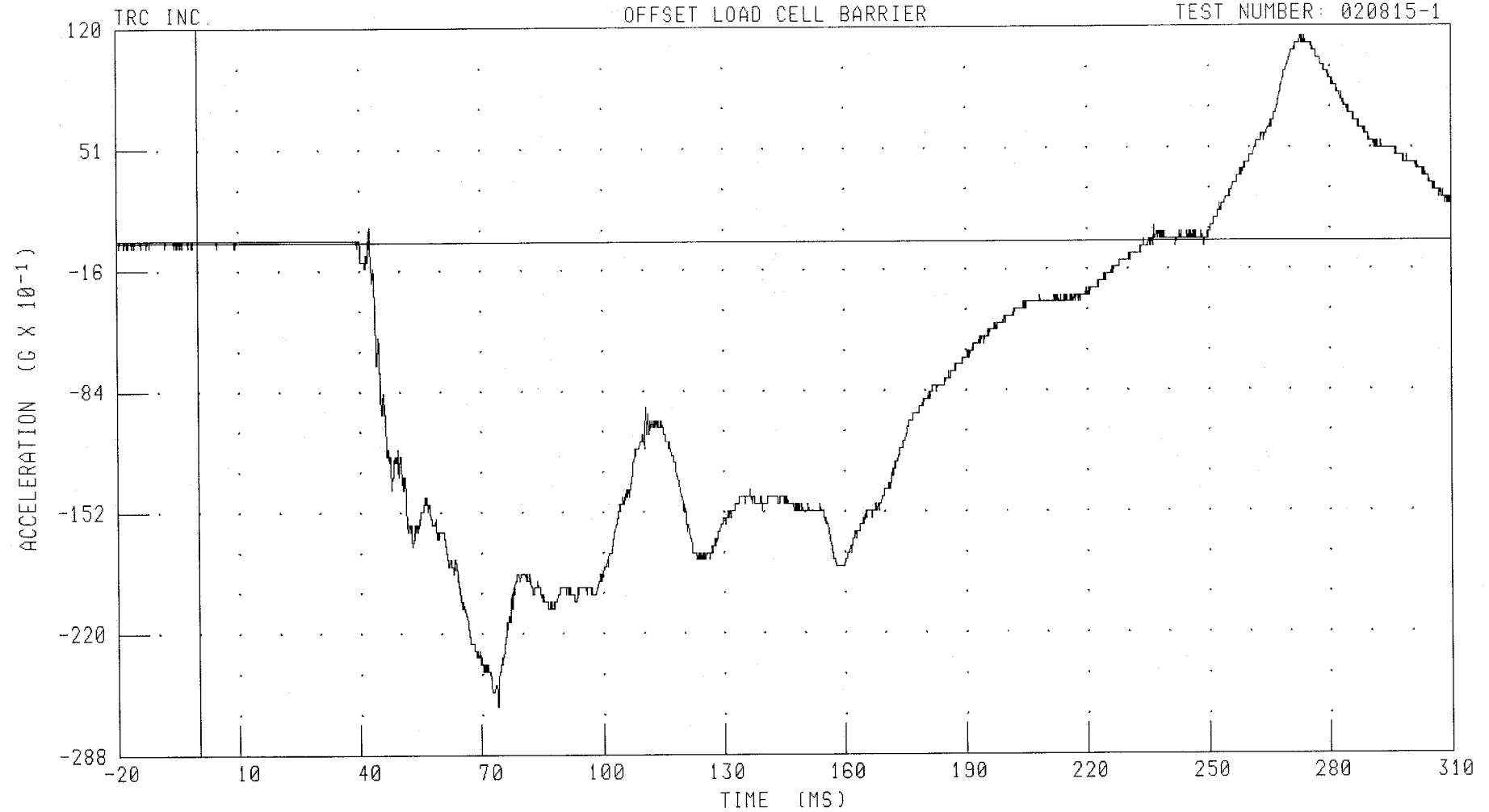
Data Plots

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDXG1 FILTER: CH. CLASS 1000

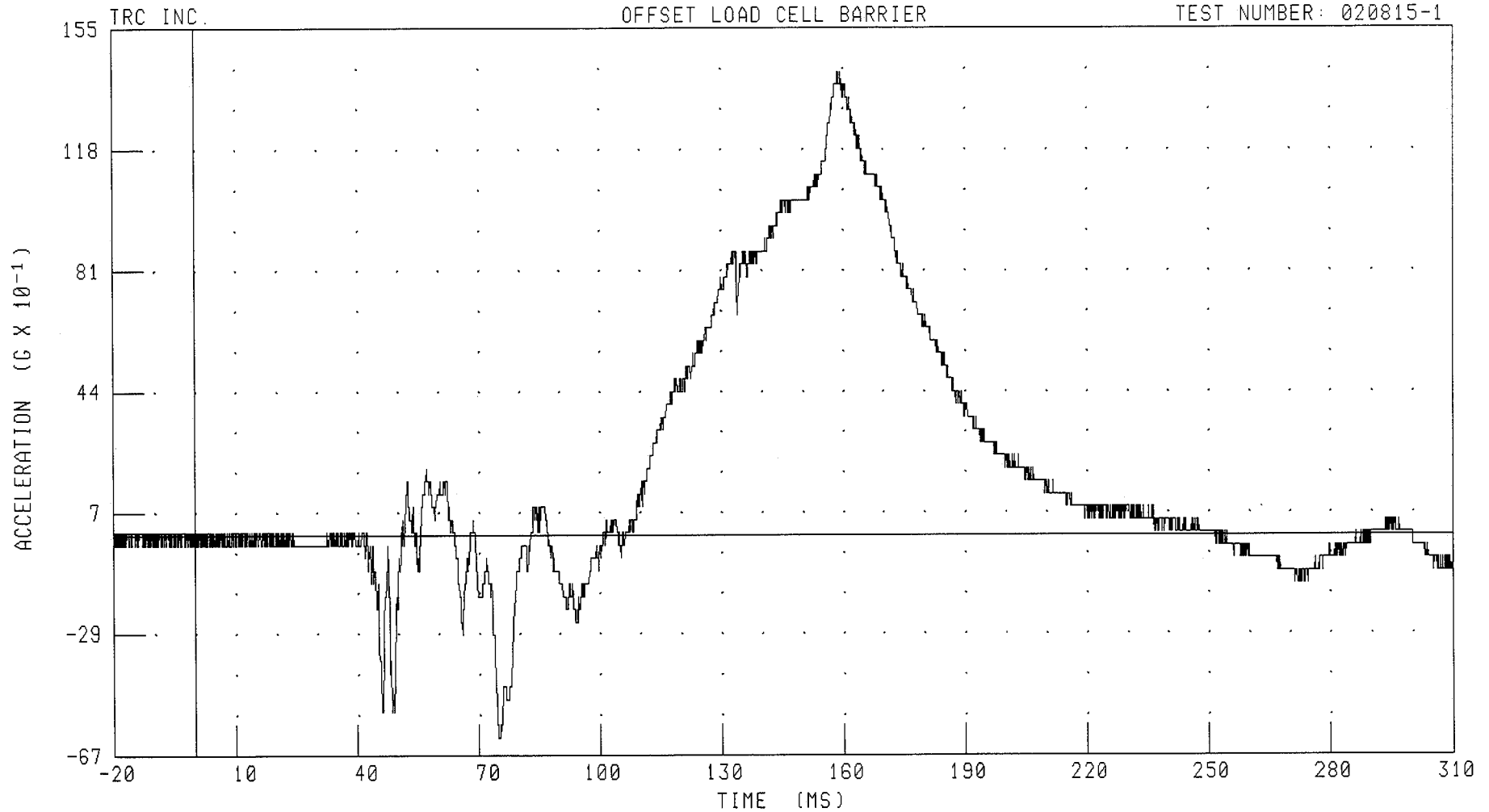
PEAK DATA: 11.41 G @ 272.72 MS; -26.09 G @ 74.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDYG1 FILTER: CH. CLASS 1000

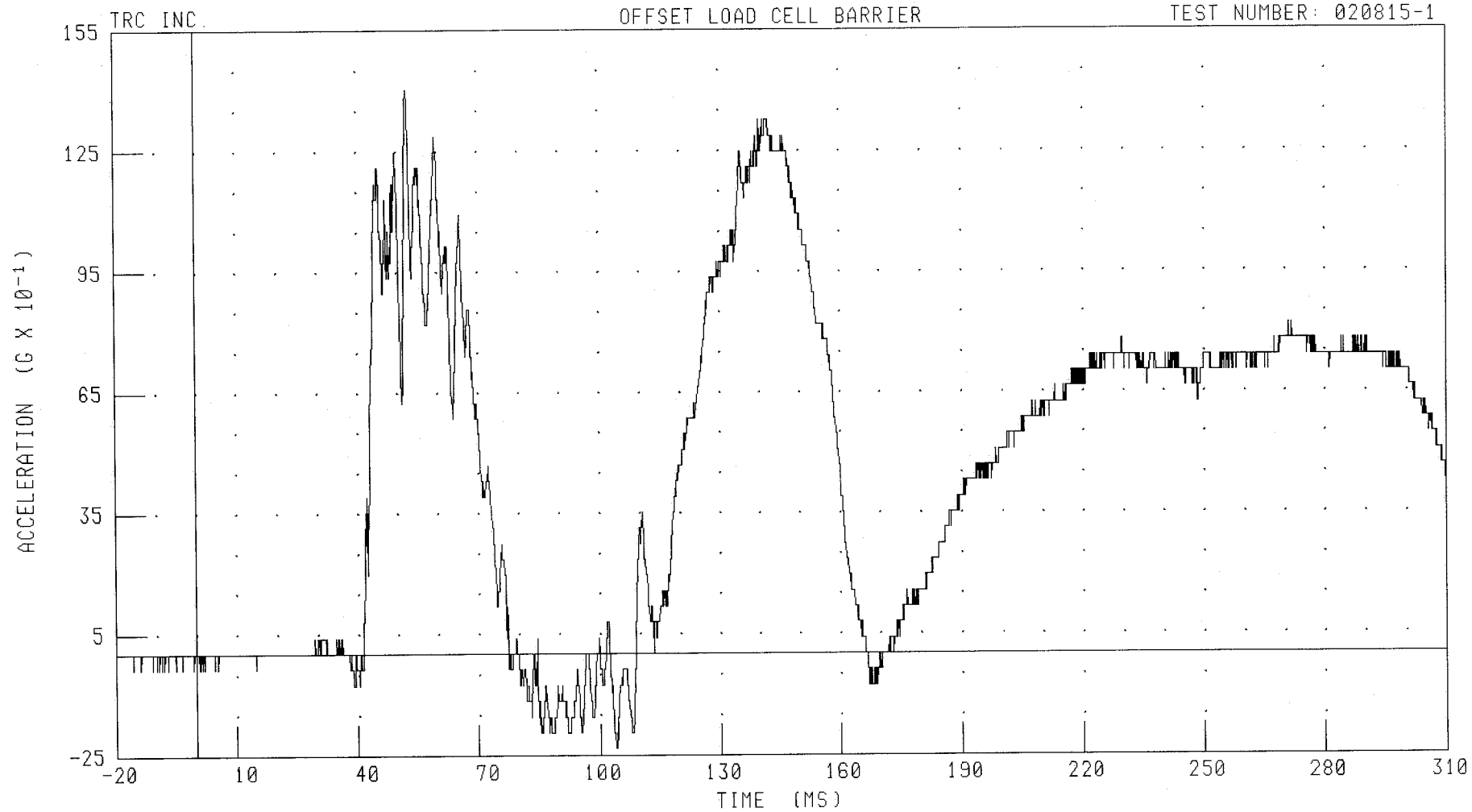
PEAK DATA: 14.17 G @ 158.80 MS; -6.17 G @ 74.80 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDZG1 FILTER: CH. CLASS 1000

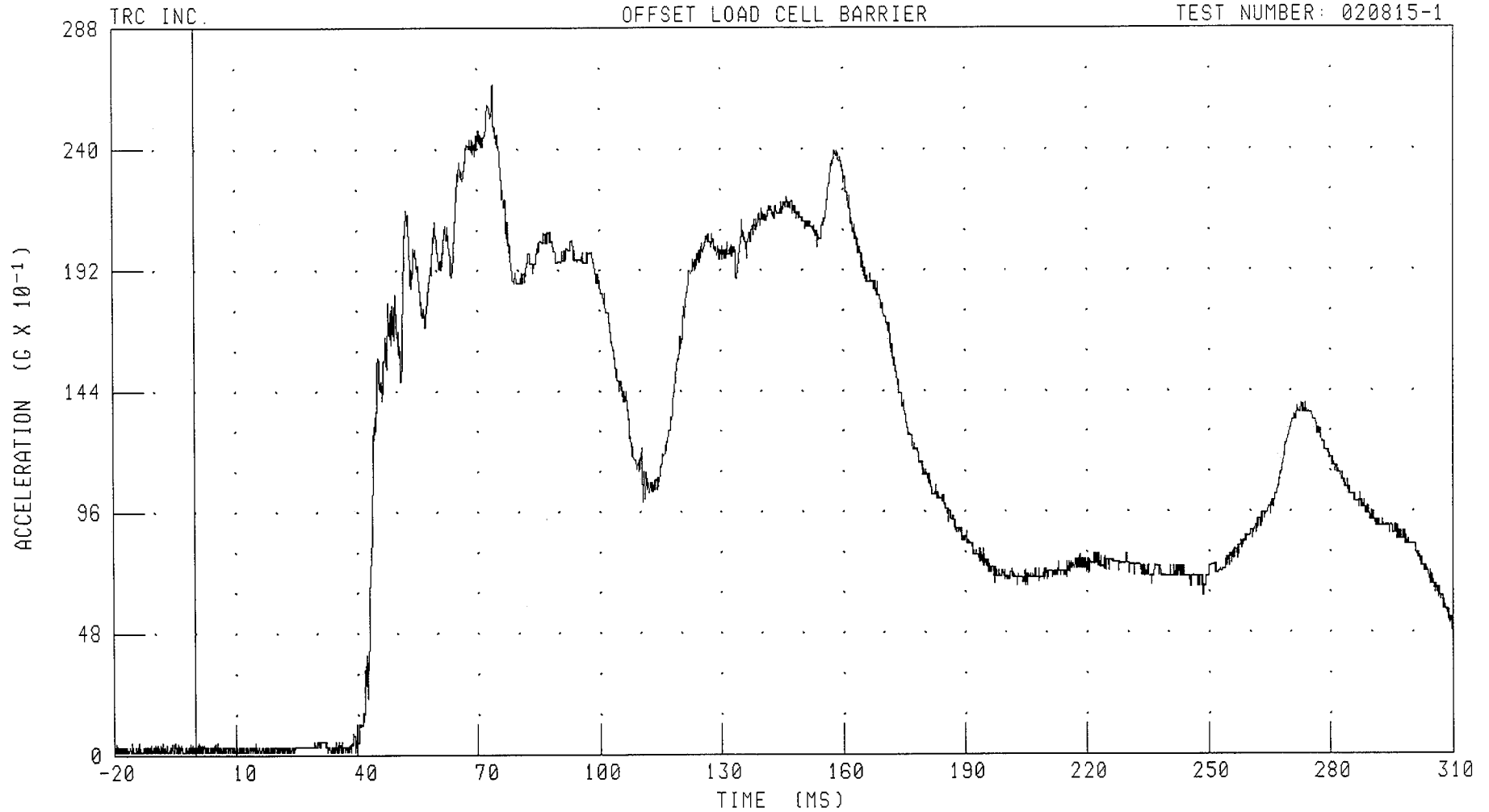
PEAK DATA: 14.04 G @ 52.56 MS; -2.33 G @ 103.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



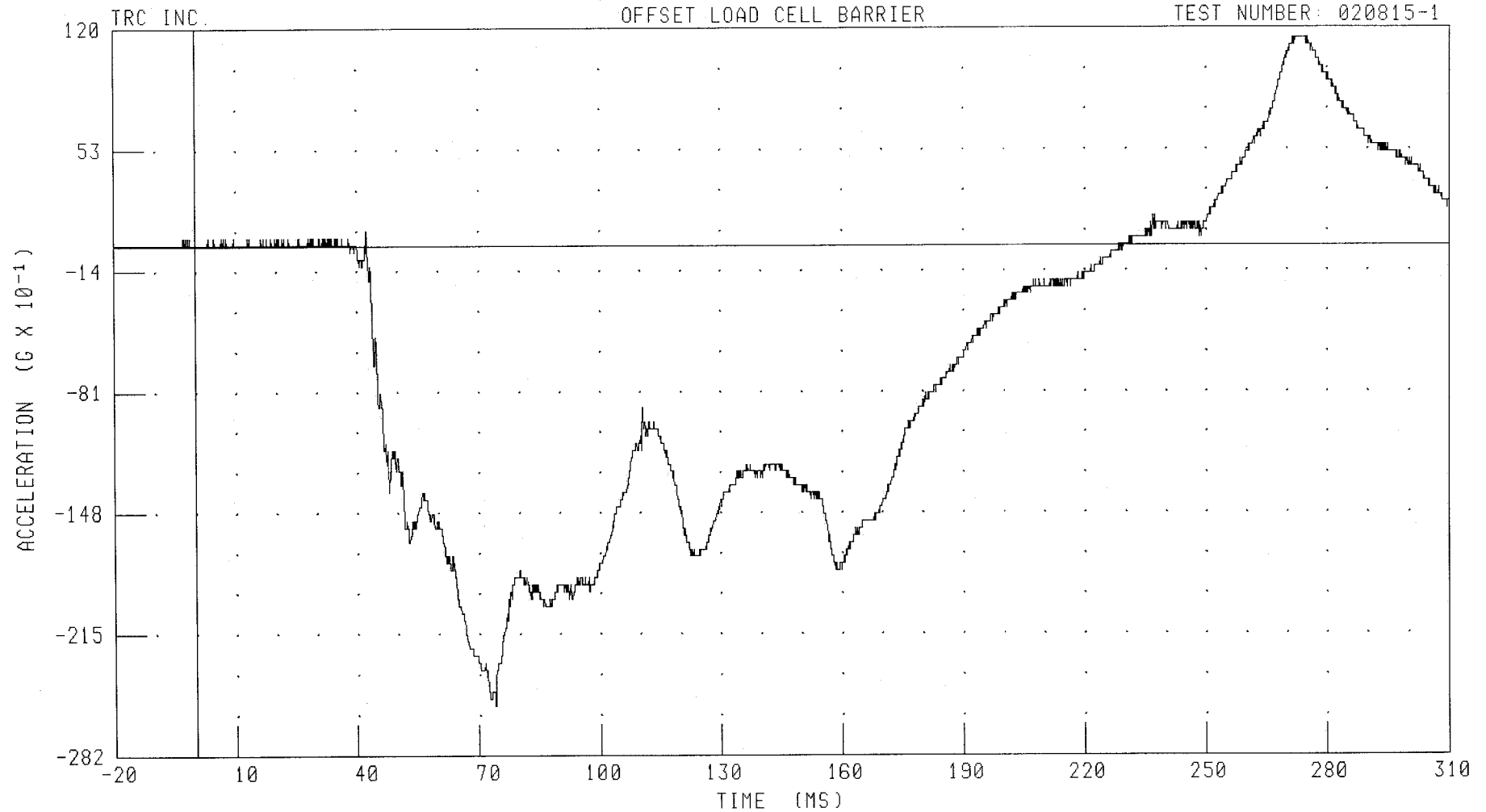
CHANNEL: HEDRG1 FILTER: CH. CLASS 1000

PEAK DATA: 26.57 G @ 74.08 MS; 0.12 G @ -19.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER HEAD X-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDXR1 FILTER: CH. CLASS 1000

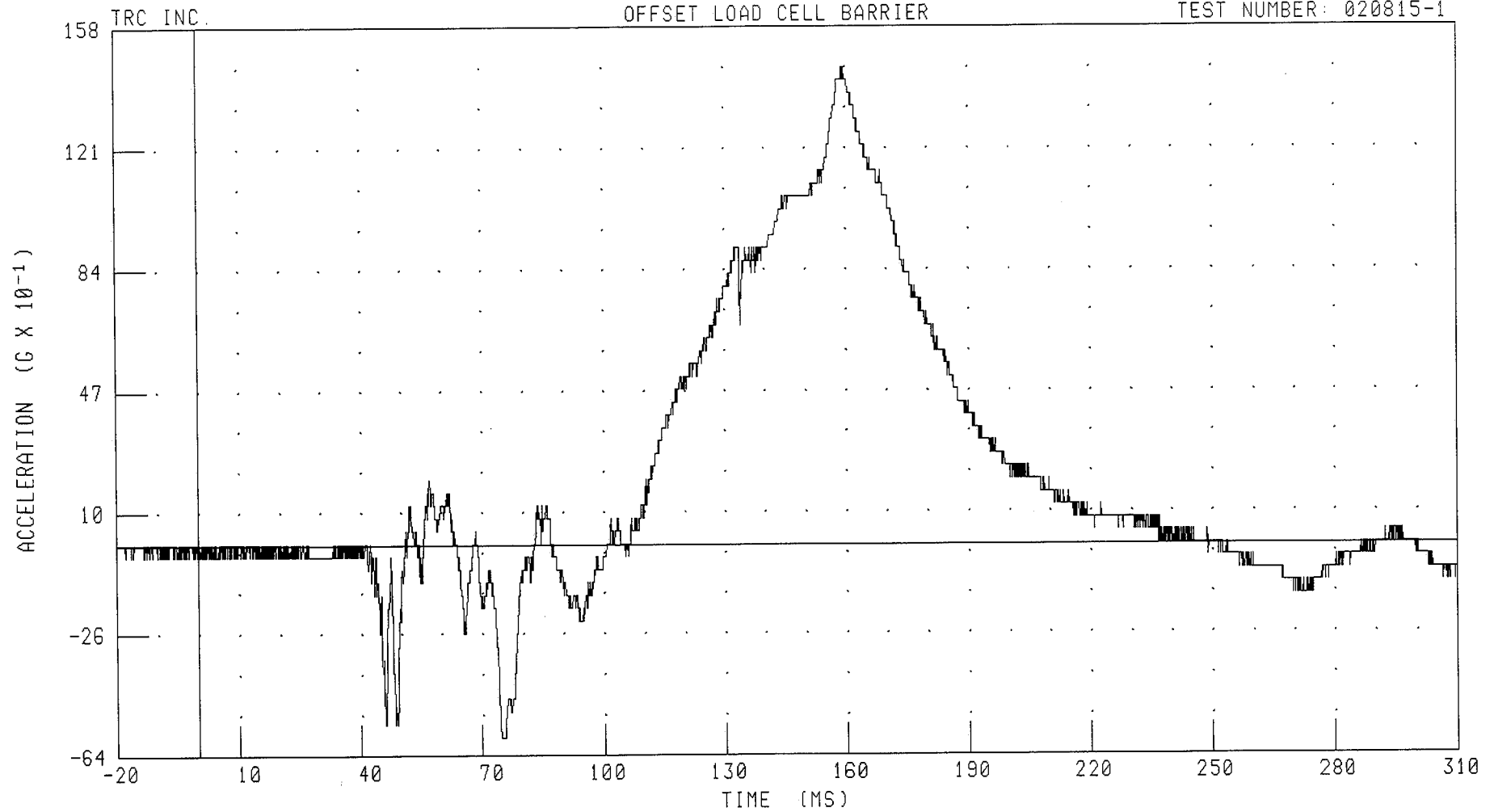
PEAK DATA: 11.43 G @ 271.52 MS; -25.47 G @ 74.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD Y-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



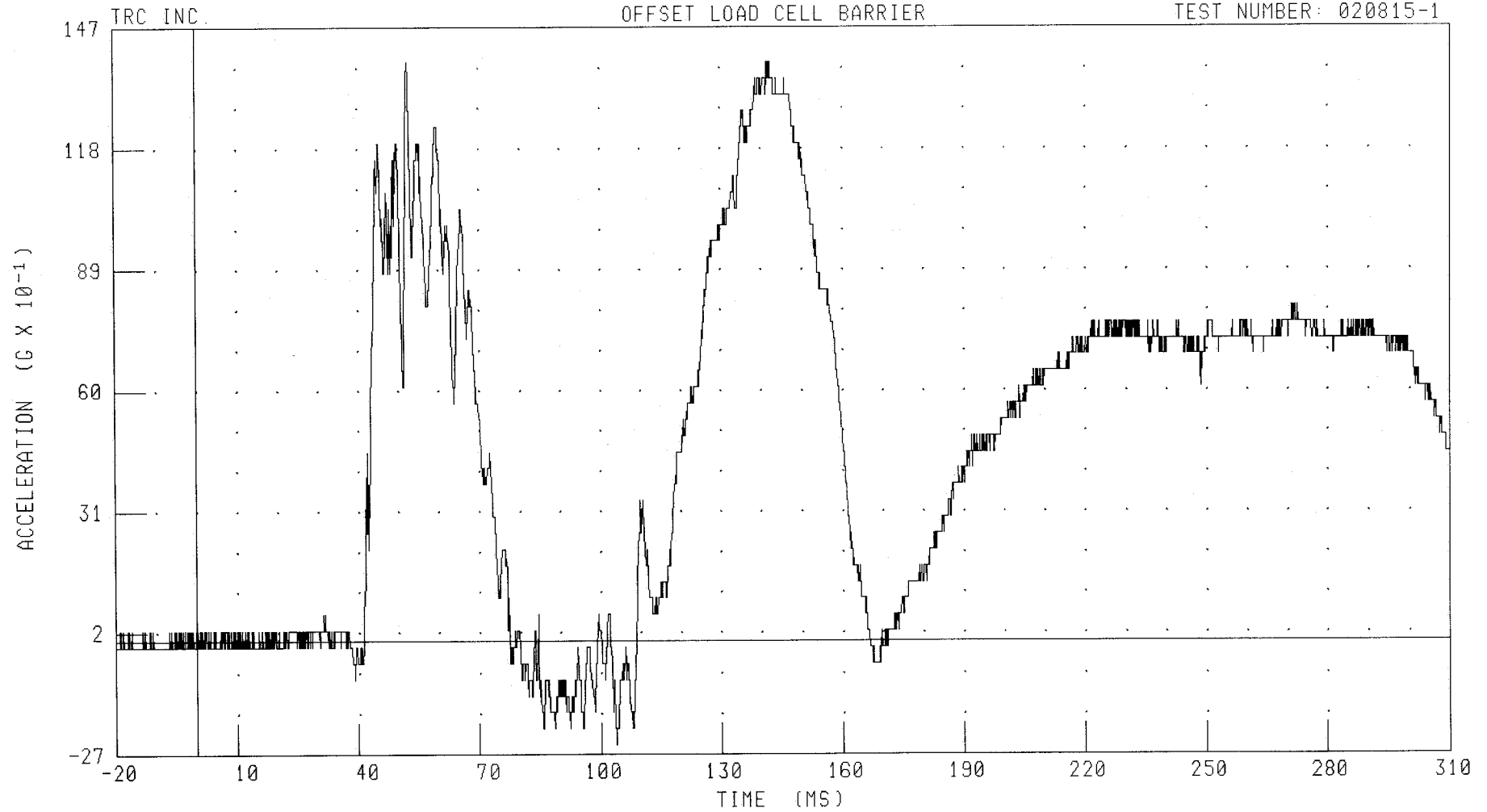
CHANNEL: HEDYR1 FILTER: CH. CLASS 1000

PEAK DATA: 14.56 G @ 159.28 MS; -5.86 G @ 74.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER HEAD Z-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDZR1 FILTER: CH. CLASS 1000

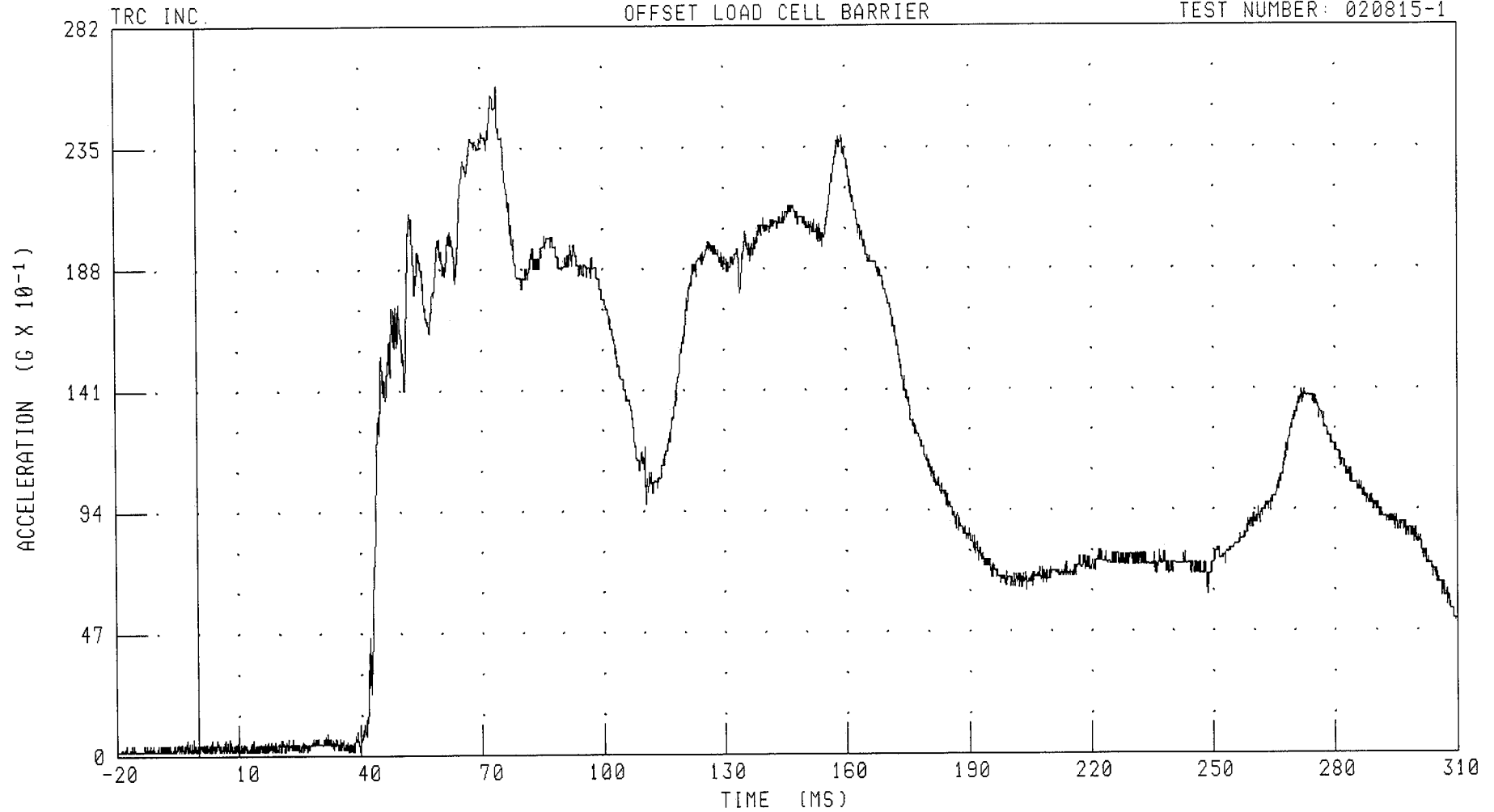
PEAK DATA: 13.87 G @ 52.56 MS; -2.49 G @ 103.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD RESULTANT ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDRR1 FILTER: CH. CLASS 1000

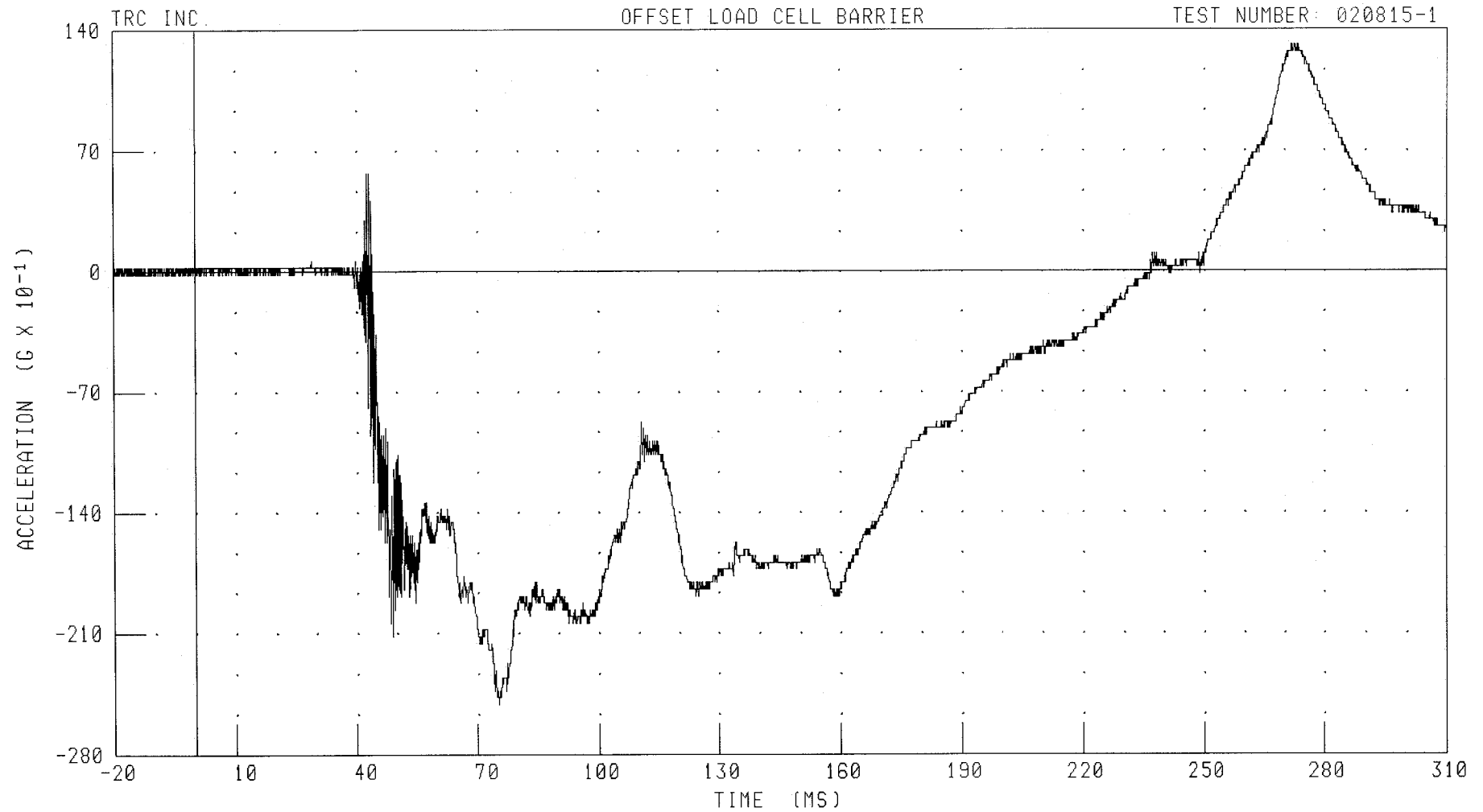
PEAK DATA: 25.89 G @ 74.08 MS; 0.16 G @ -19.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD X-AXIS (LT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD1XG1 FILTER: CH. CLASS 1000

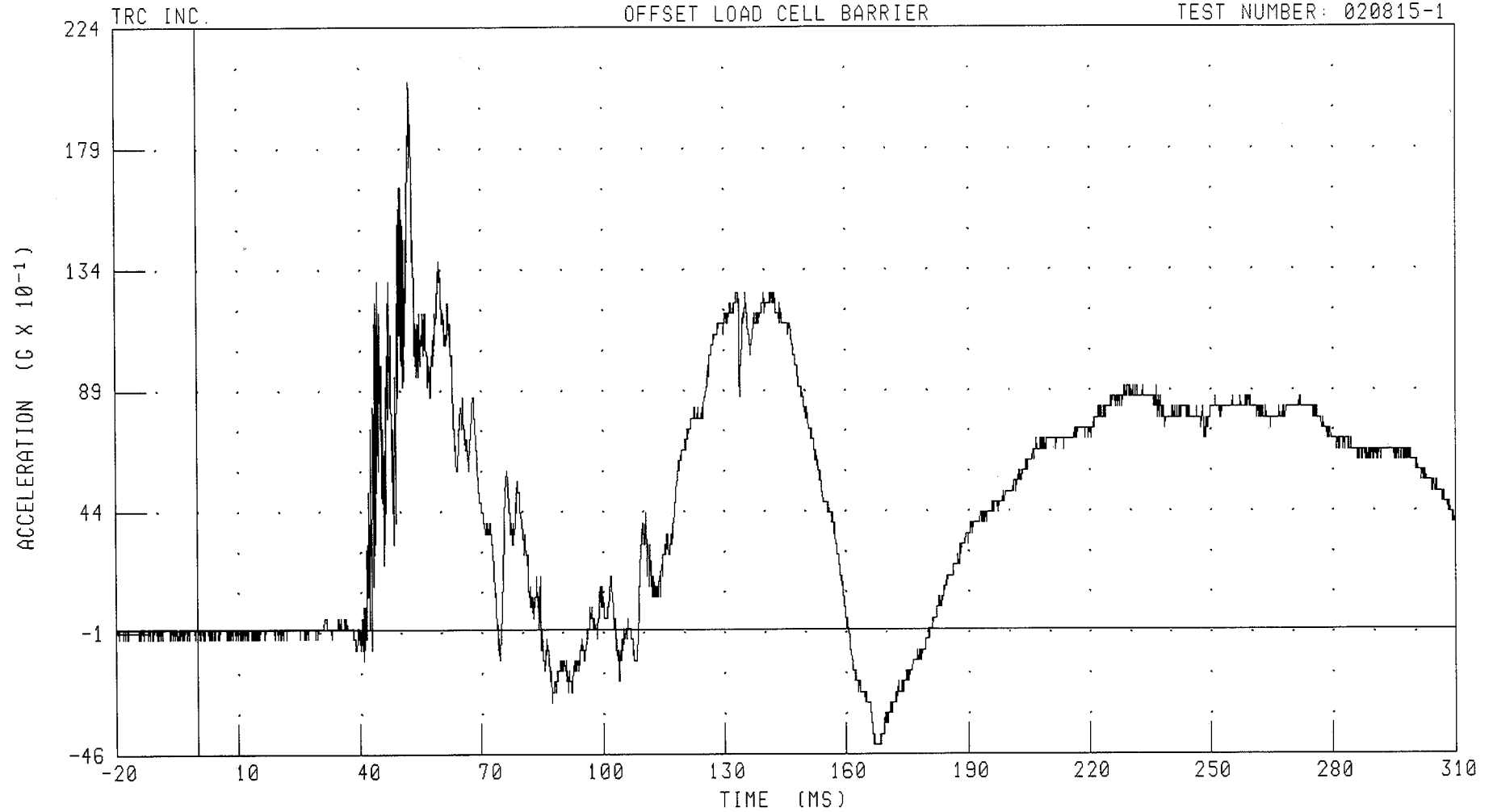
PEAK DATA: 13.11 G @ 271.92 MS; -25.09 G @ 75.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD Z-AXIS (LT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD1ZG1 FILTER: CH. CLASS 1000

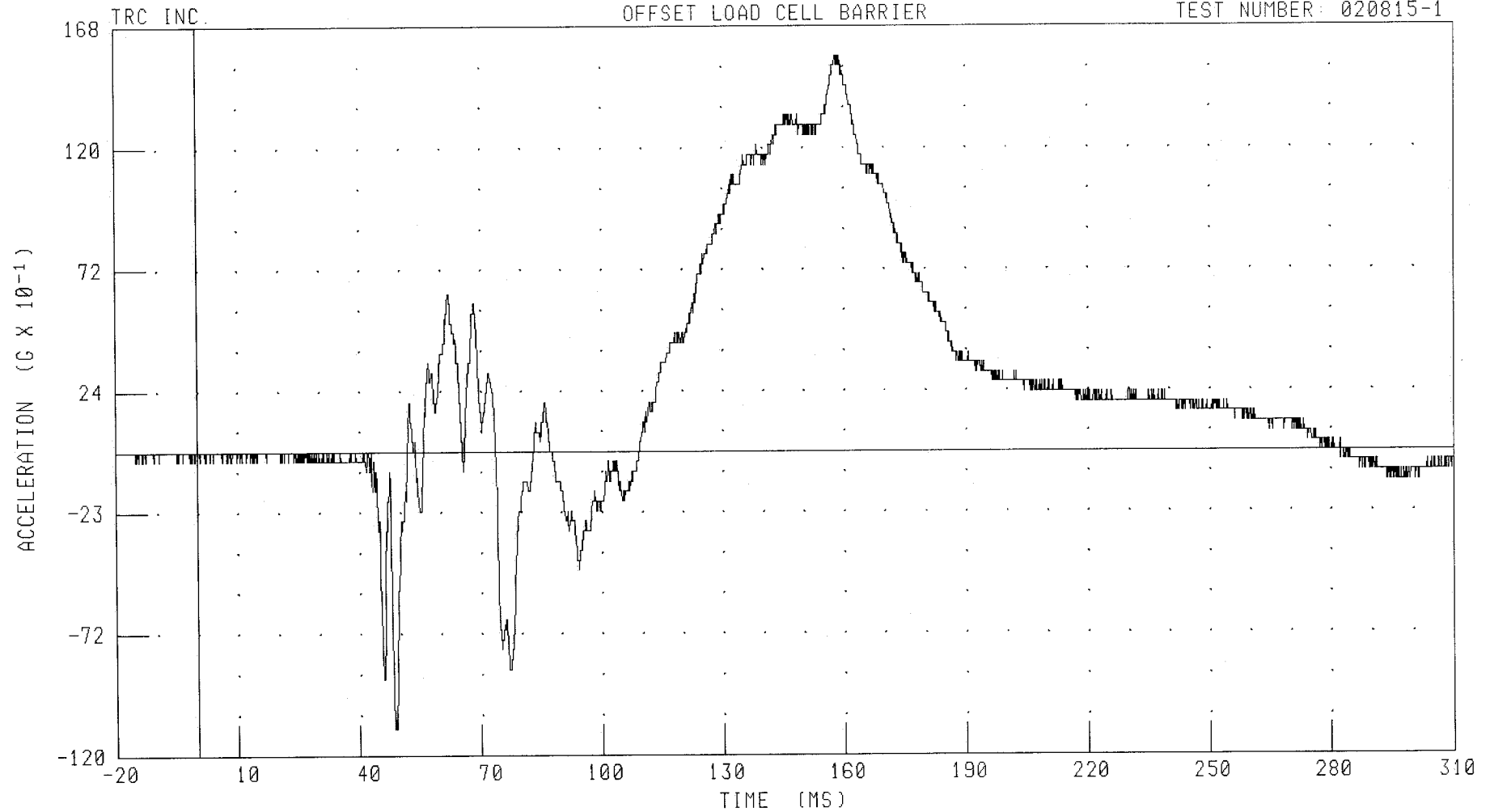
PEAK DATA: 20.37 G @ 52.48 MS; -4.26 G @ 166.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD Y-AXIS (FT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD2YG1 FILTER: CH. CLASS 1000

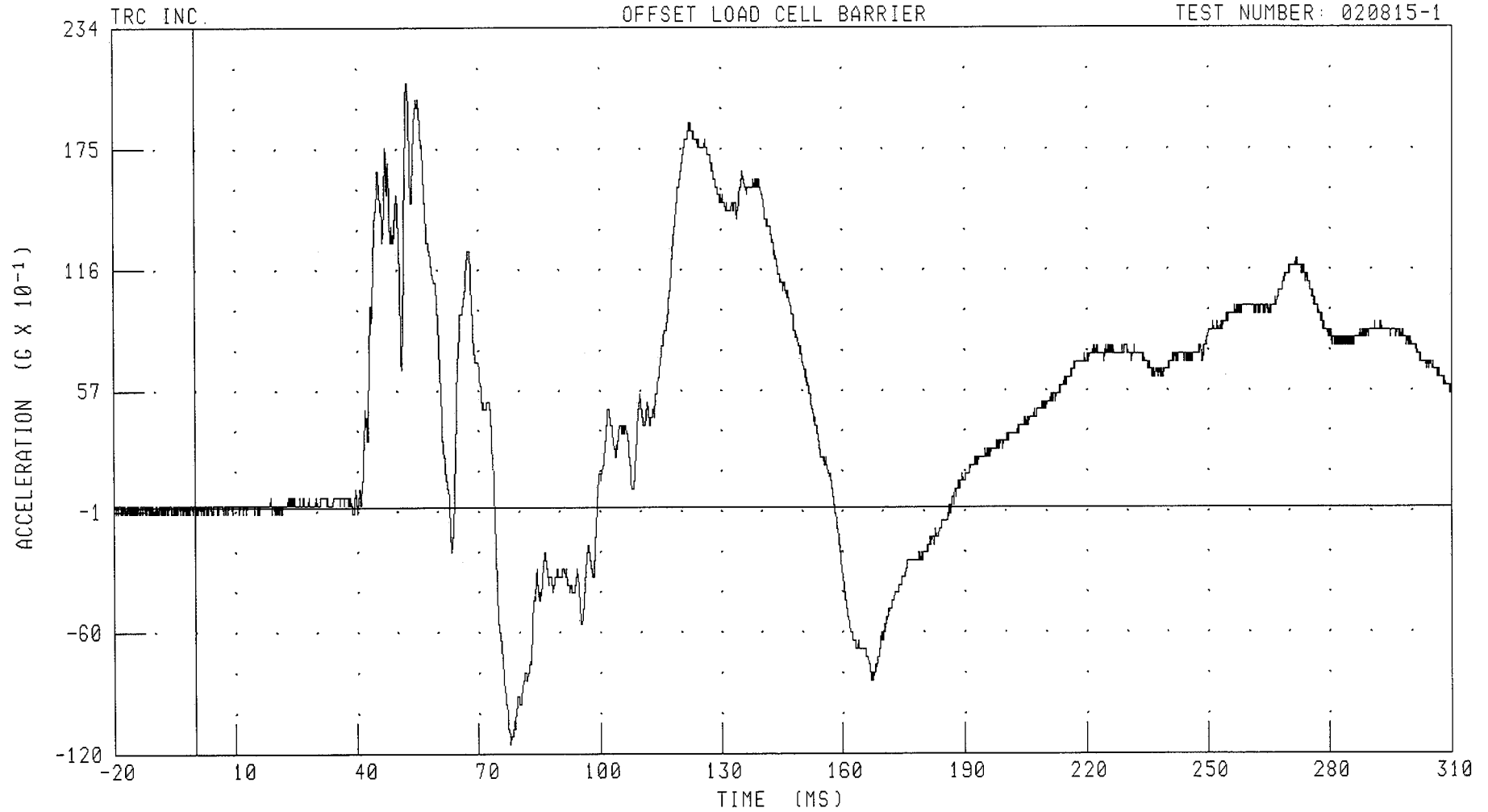
PEAK DATA: 15.64 G @ 158.16 MS; -10.96 G @ 48.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD Z-AXIS (FT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD2ZG1 FILTER: CH. CLASS 1000

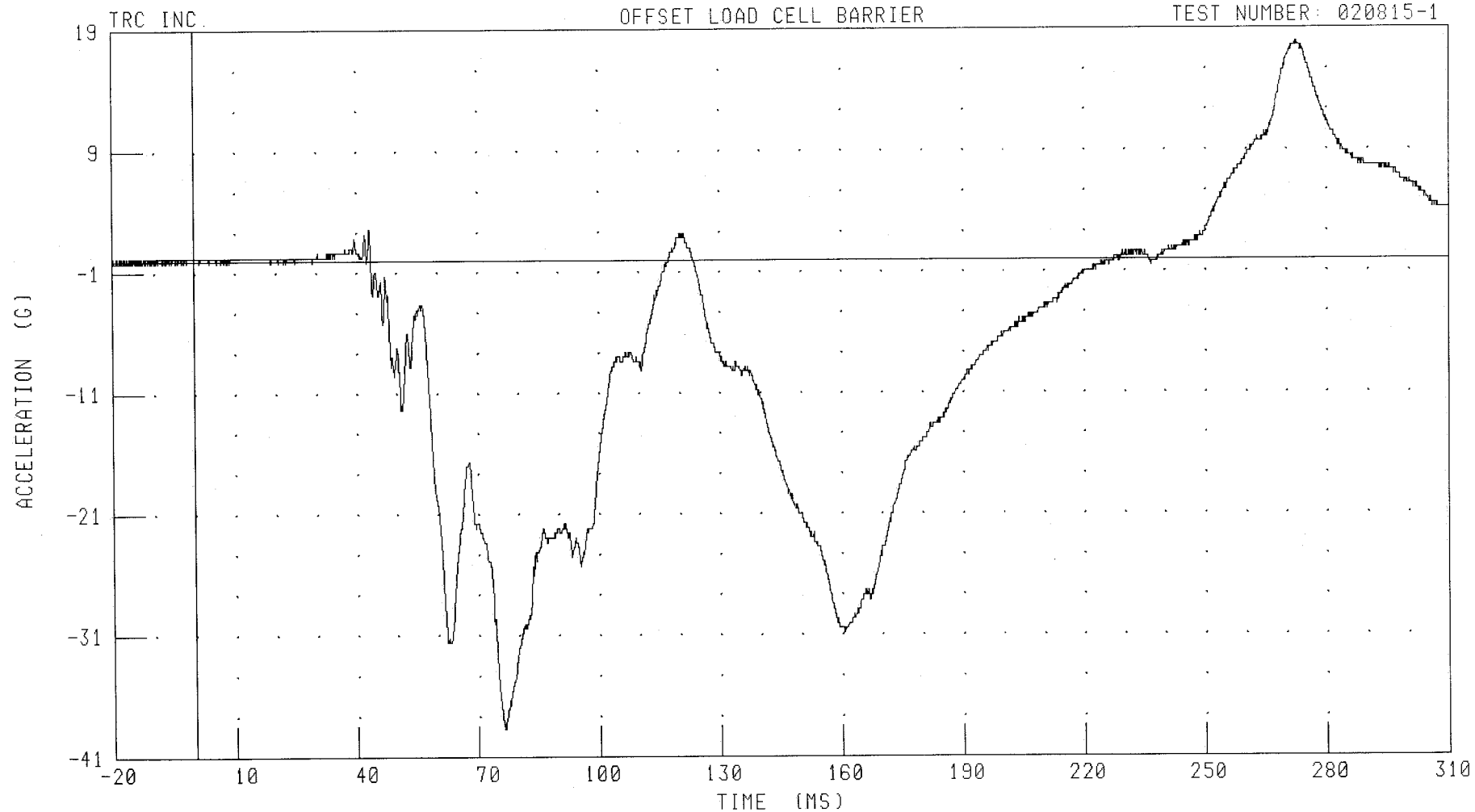
PEAK DATA: 20.70 G @ 52.64 MS; -11.56 G @ 77.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD X-AXIS (TP) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD3XC1 FILTER: CH. CLASS 1000

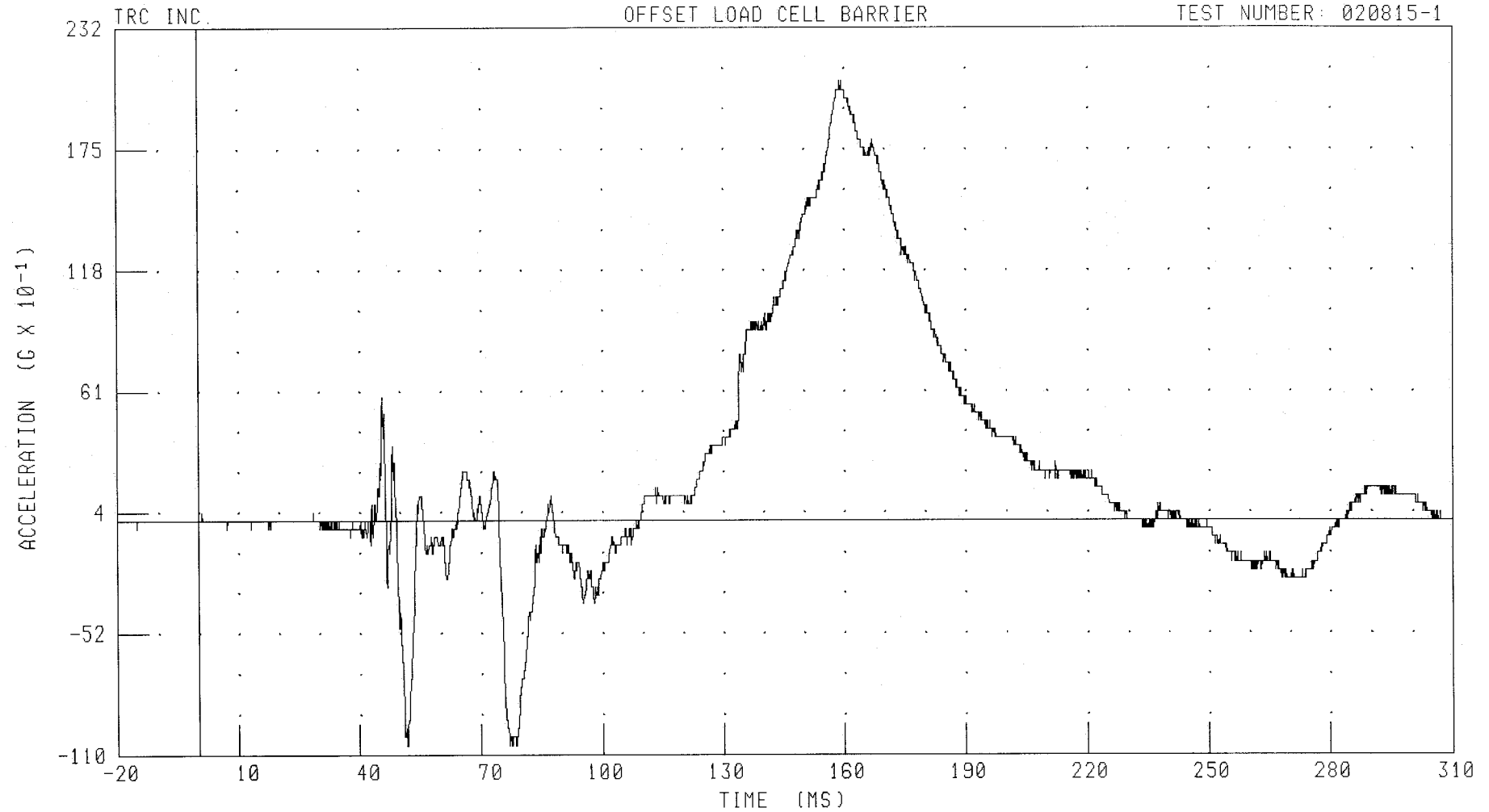
PEAK DATA: 17.95 G @ 272.48 MS; -38.73 G @ 76.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER HEAD Y-AXIS (TP) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD3YG1 FILTER: CH. CLASS 1000

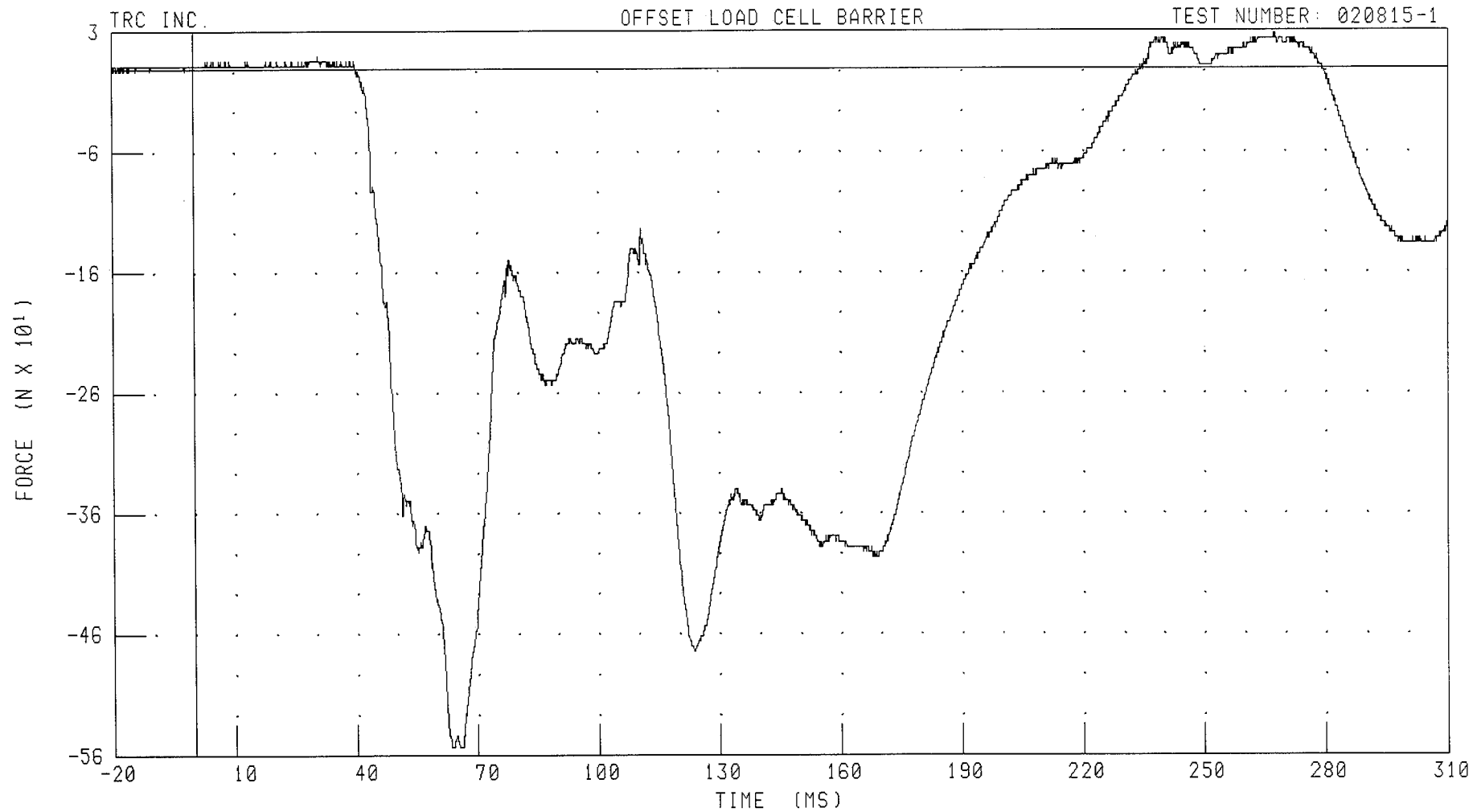
PEAK DATA: 20.68 G @ 159.12 MS; -10.55 G @ 51.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK X-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKXF1 FILTER: CH. CLASS 1000

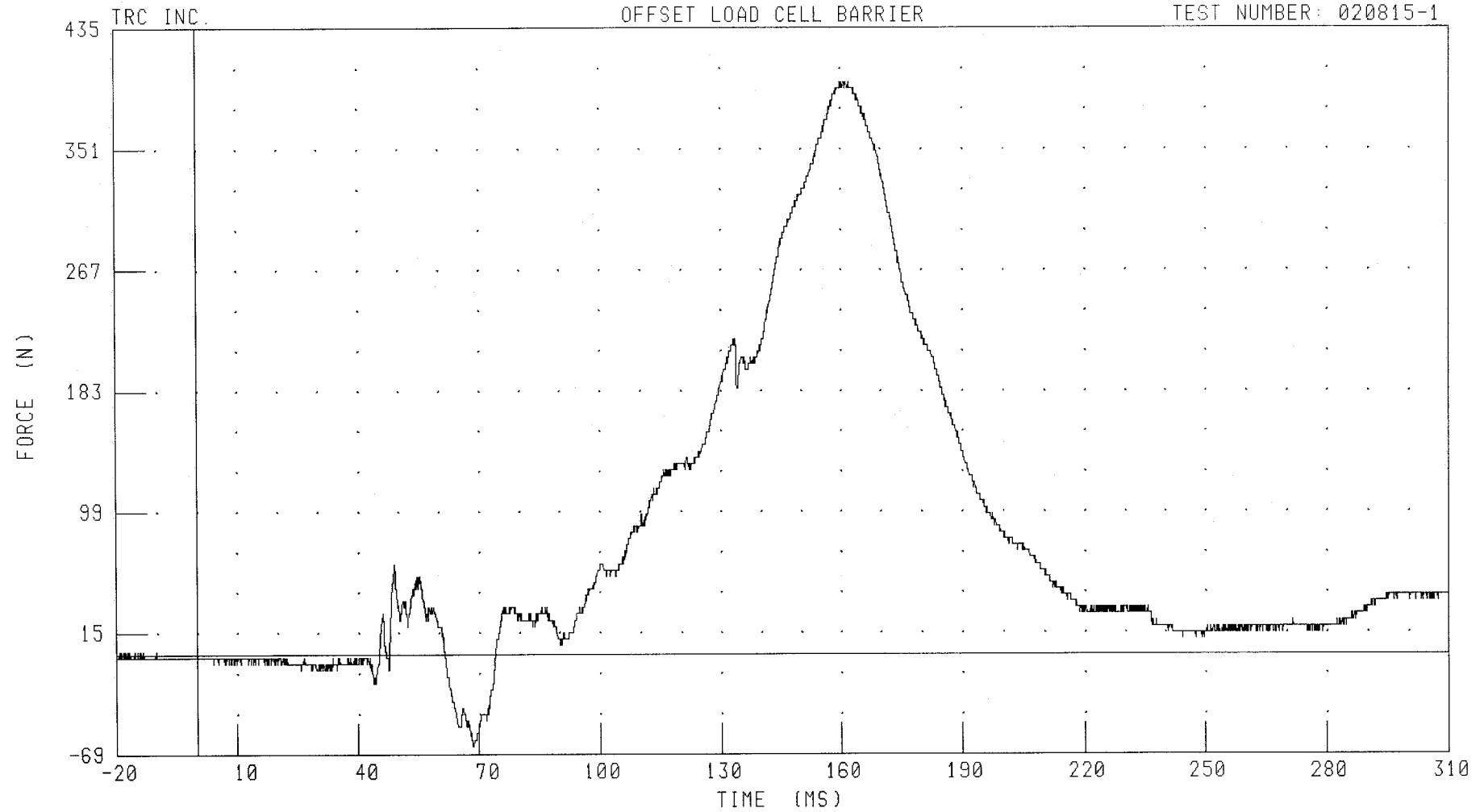
PEAK DATA: 28.55 N @ 267.28 MS; -561.96 N @ 63.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK Y-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKYF1 FILTER: CH. CLASS 1000

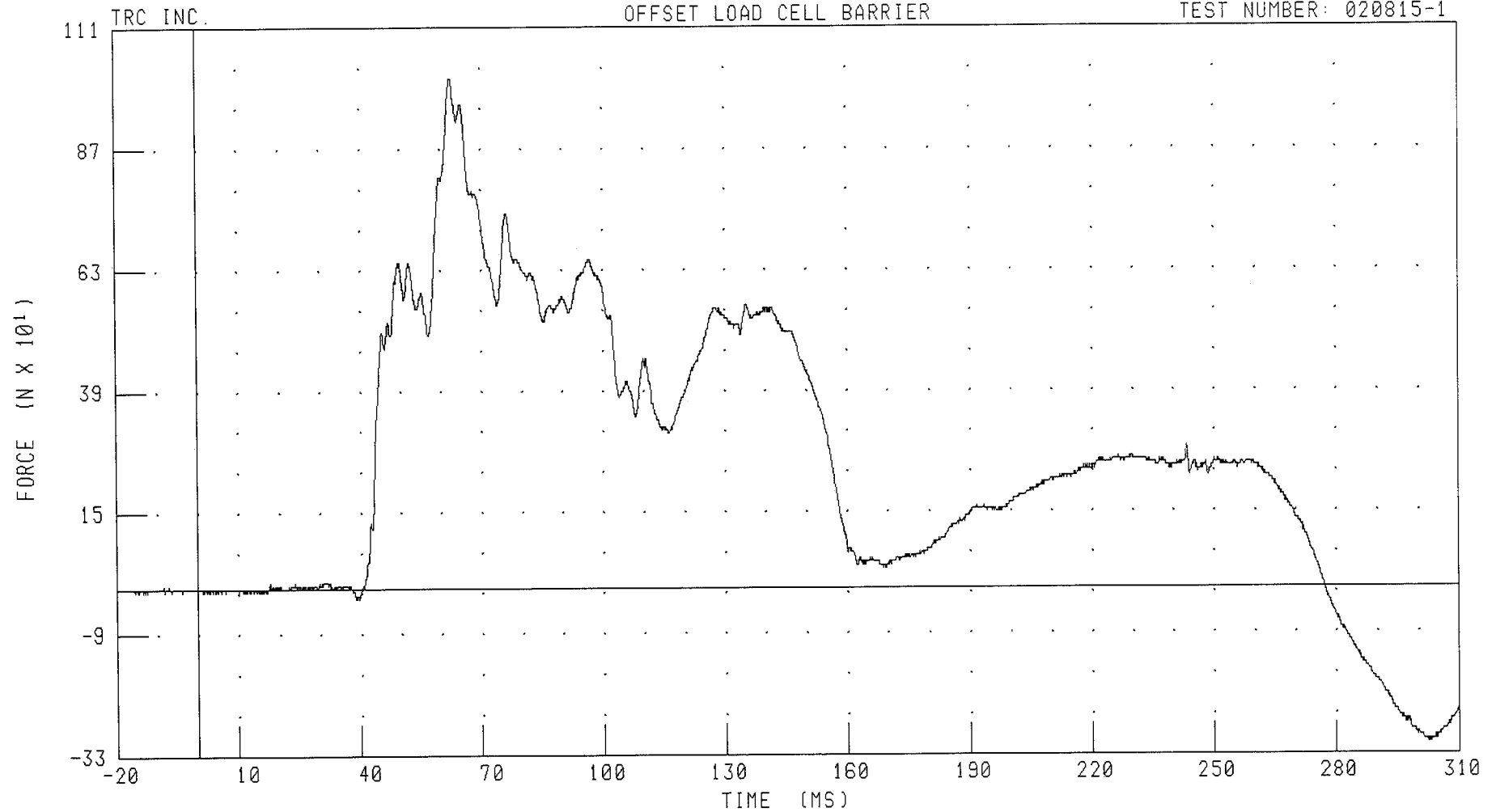
PEAK DATA: 397.43 N @ 160.08 MS; -63.19 N @ 68.48 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK Z-AXIS AXIAL FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKZF1 FILTER: CH. CLASS 1000

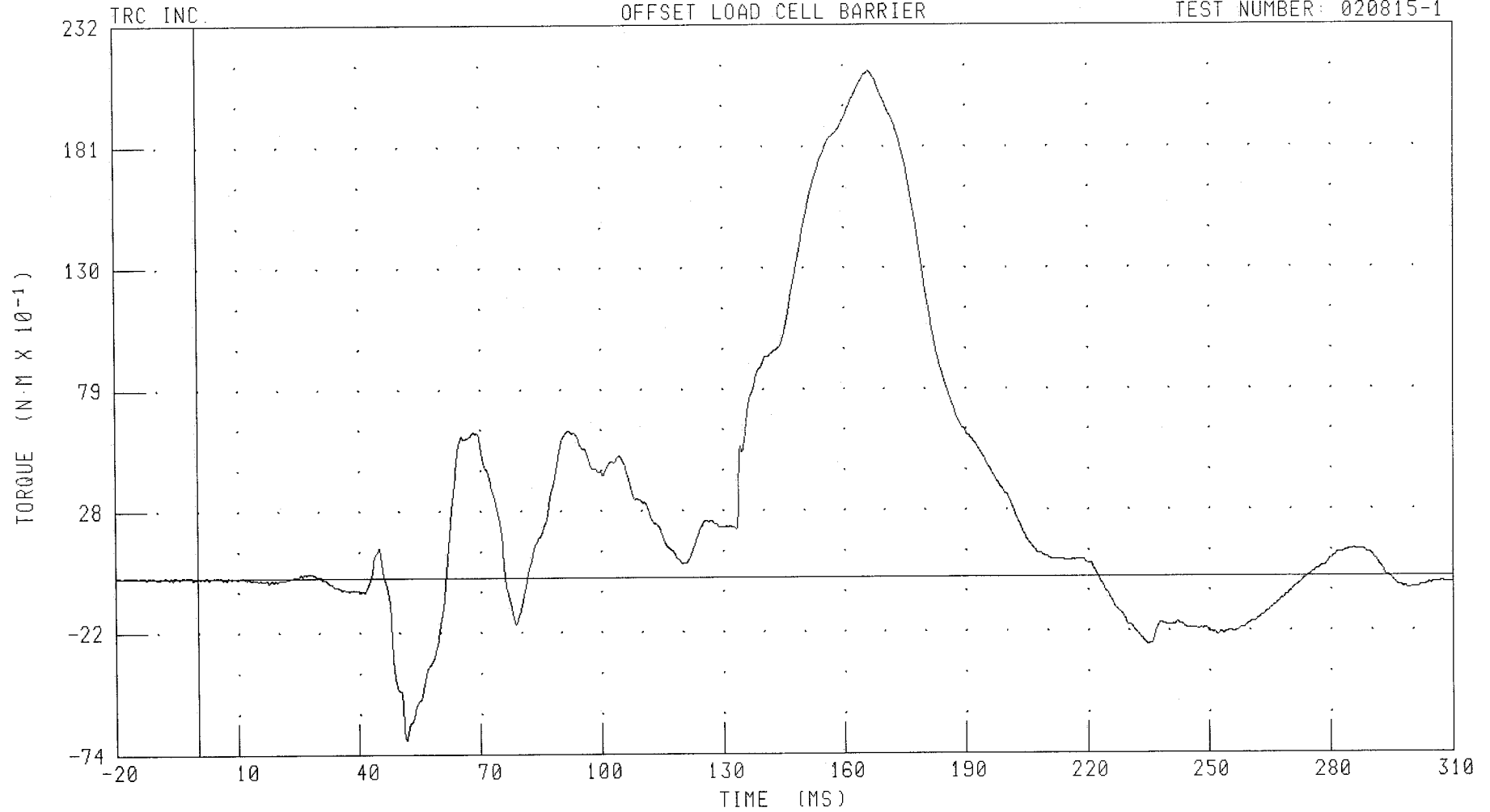
PEAK DATA: 1009.26 N @ 62.56 MS; -307.65 N @ 302.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKXM1 FILTER: CH. CLASS 600

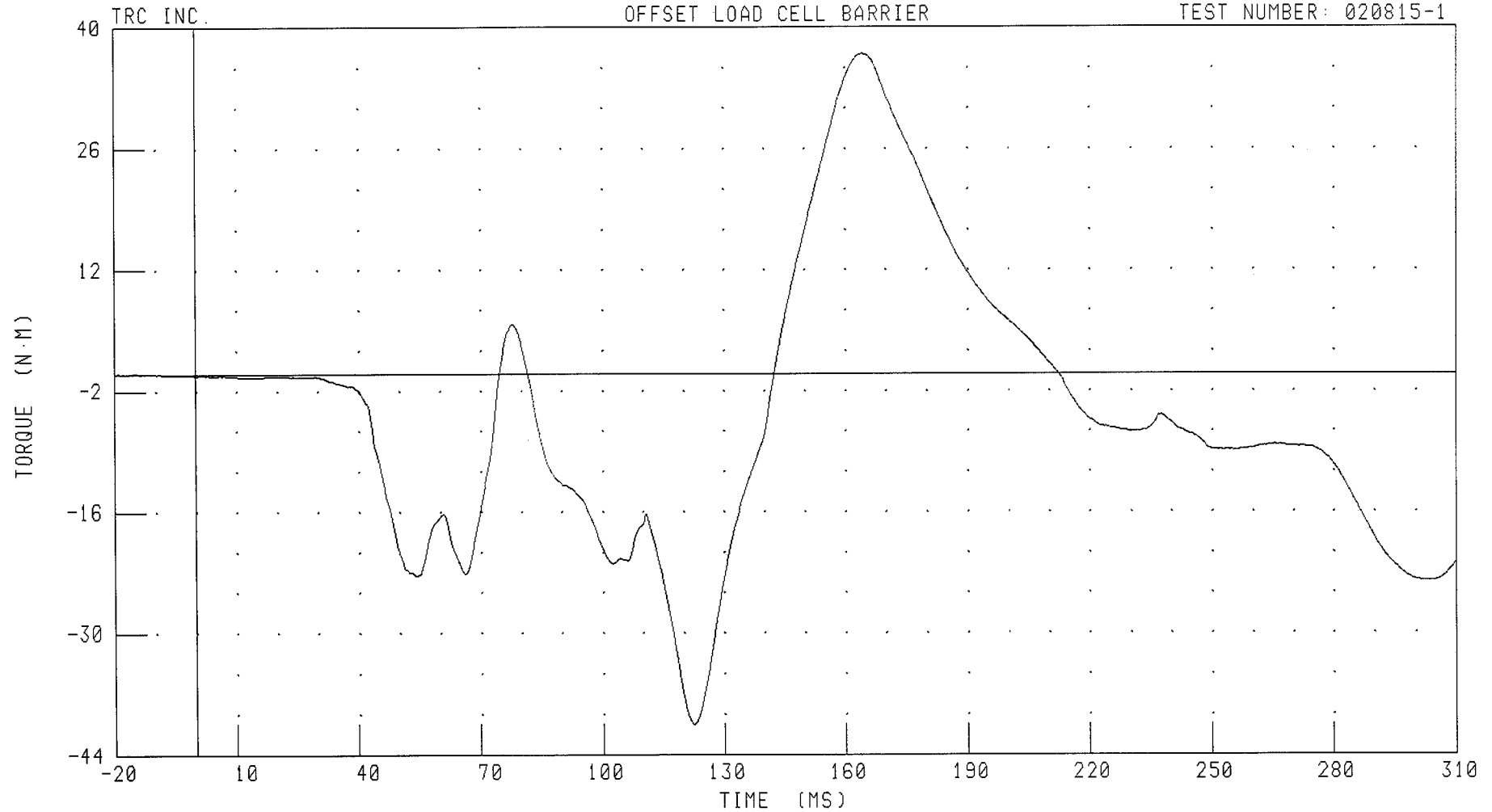
PEAK DATA: 21.27 N·M @ 166.48 MS; -6.80 N·M @ 51.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKYM1 FILTER: CH. CLASS 600

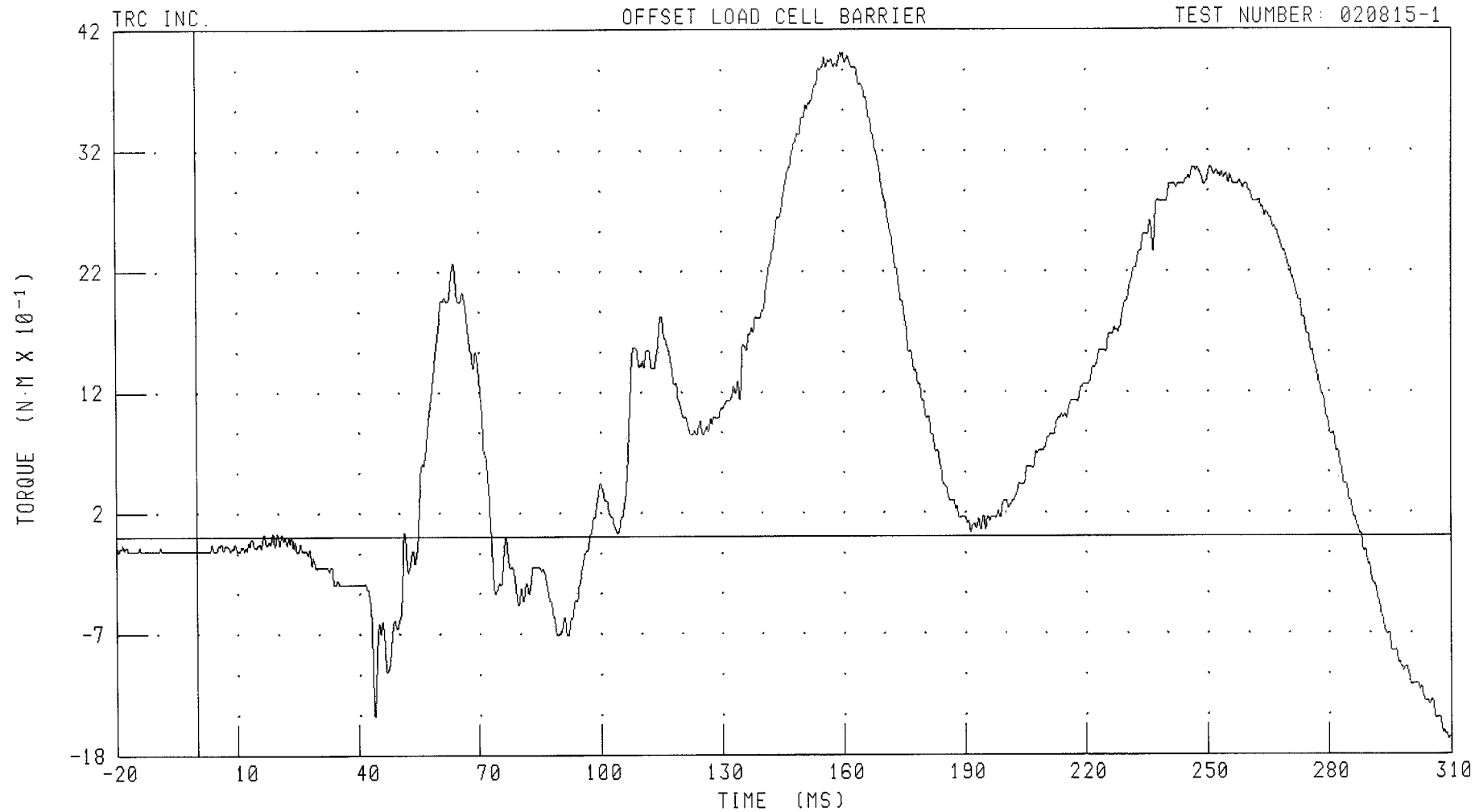
PEAK DATA: 36.93 N·M @ 164.48 MS; -40.57 N·M @ 122.48 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK MOMENT ABOUT Z AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



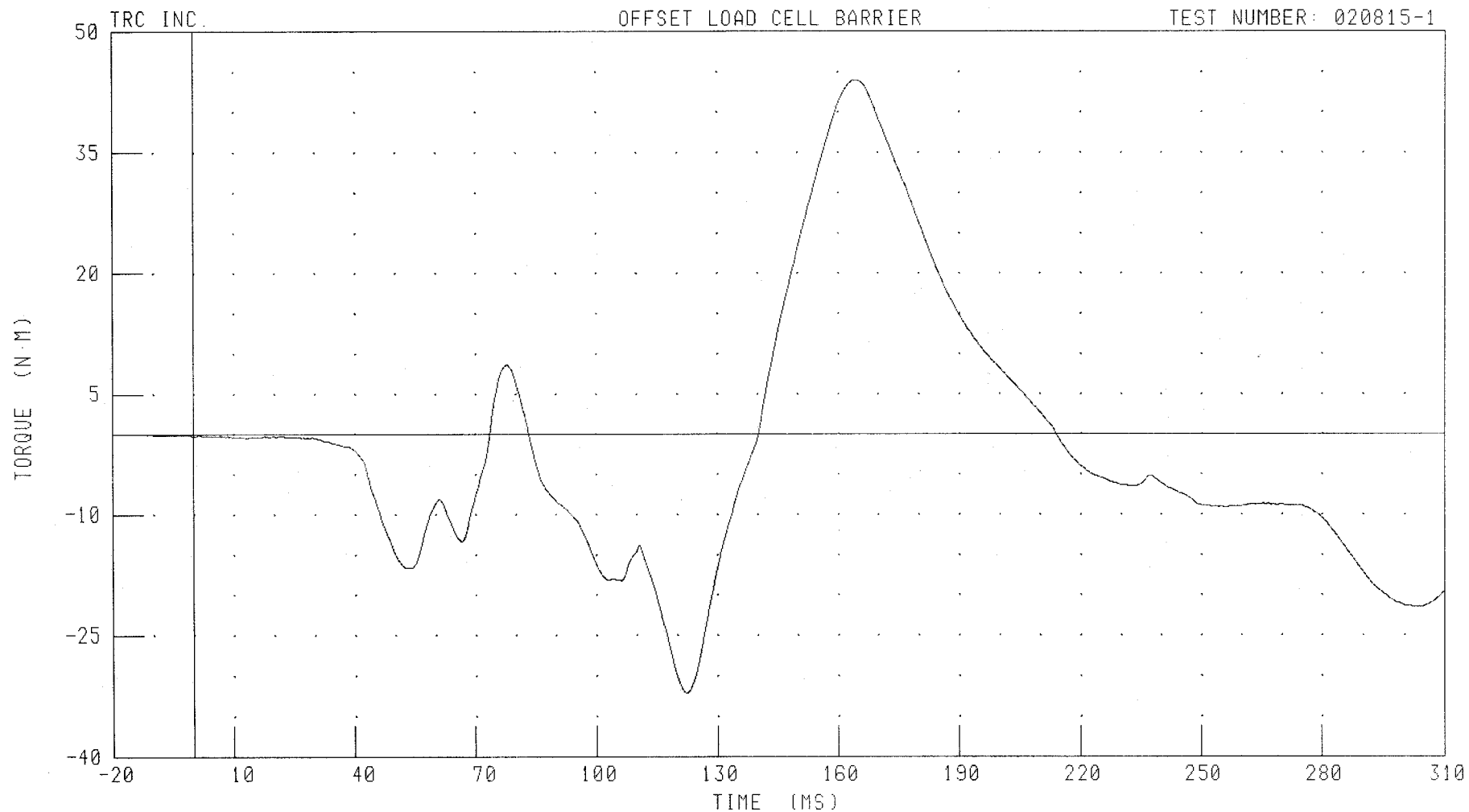
CHANNEL: NEKZM1 FILTER: CH. CLASS 600

PEAK DATA: 4.01 N·M @ 160.16 MS; -1.68 N·M @ 309.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER NECK OCCIPITAL CONDYLE MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKOM1 FILTER: CH. CLASS 600

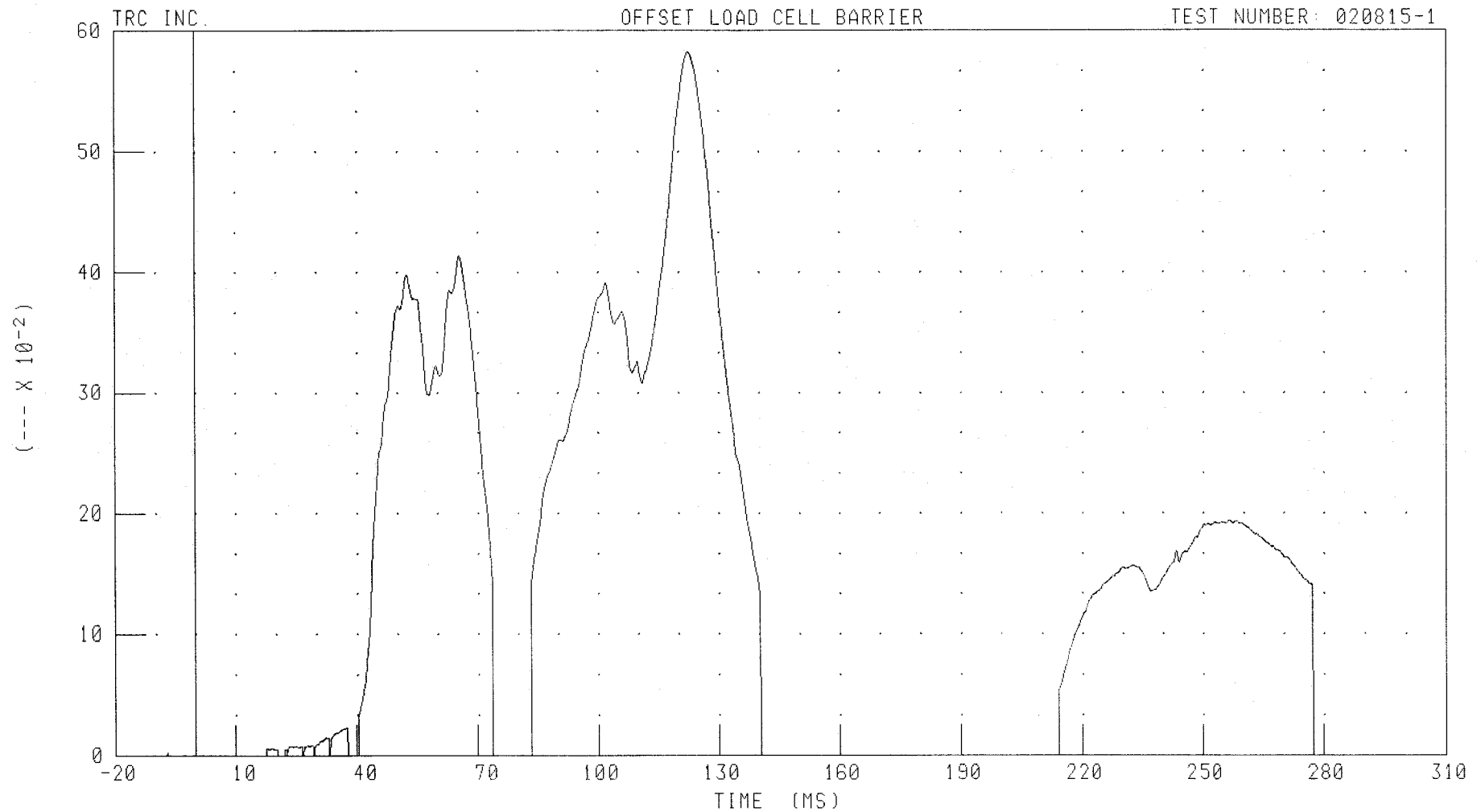
PEAK DATA: 43.99 N·M @ 164.48 MS; -32.19 N·M @ 122.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NIJ TENSION/EXTENSION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NTE1

FILTER: CH. CLASS 600

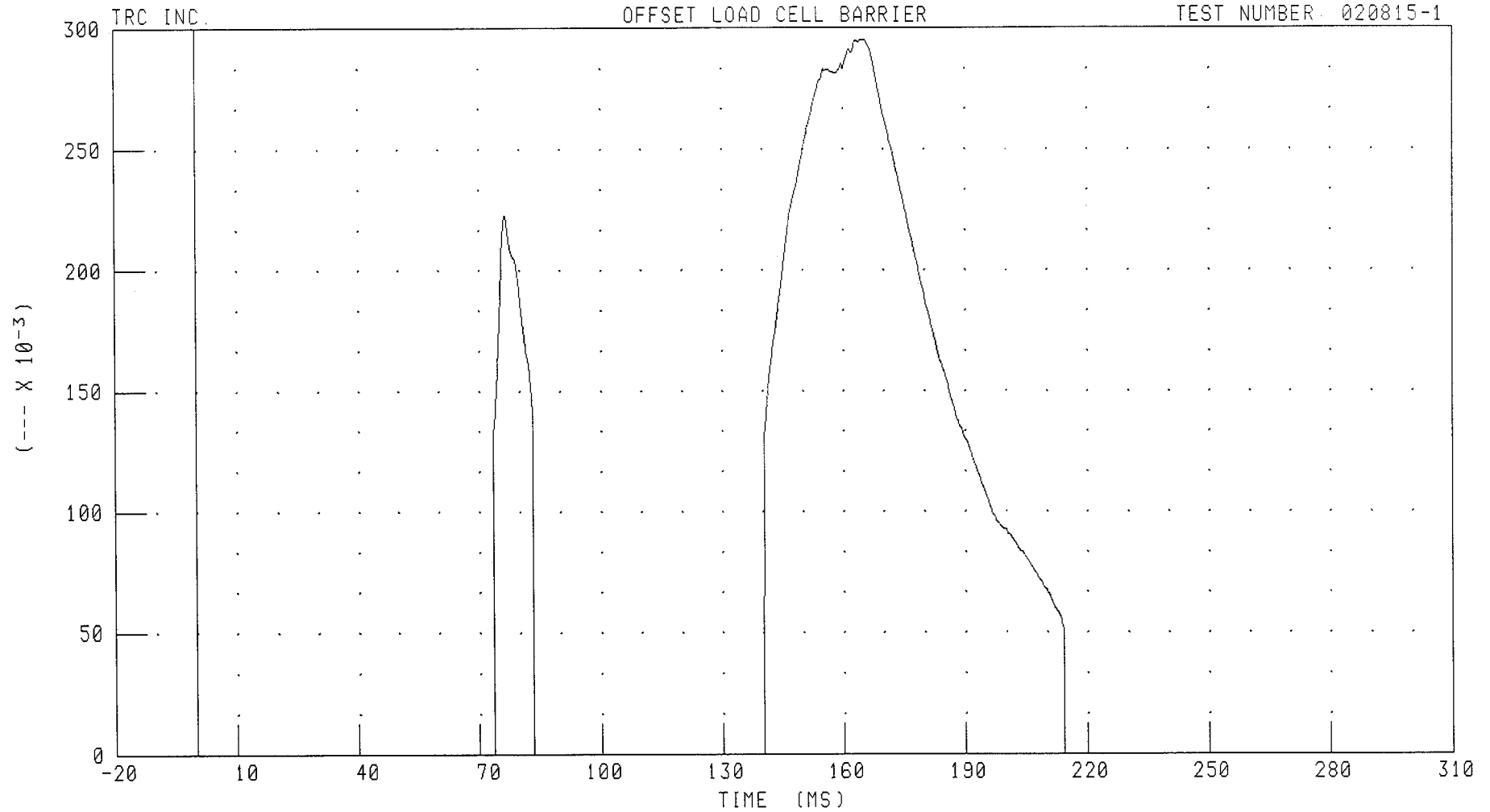
PEAK DATA: 0.58 --- @ 122.56 MS; 0.00 --- @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NIJ TENSION/FLEXION

OFFSET LOAD CELL BARRIER

TEST NUMBER 020815-1



CHANNEL: NTF1

FILTER: CH. CLASS 600

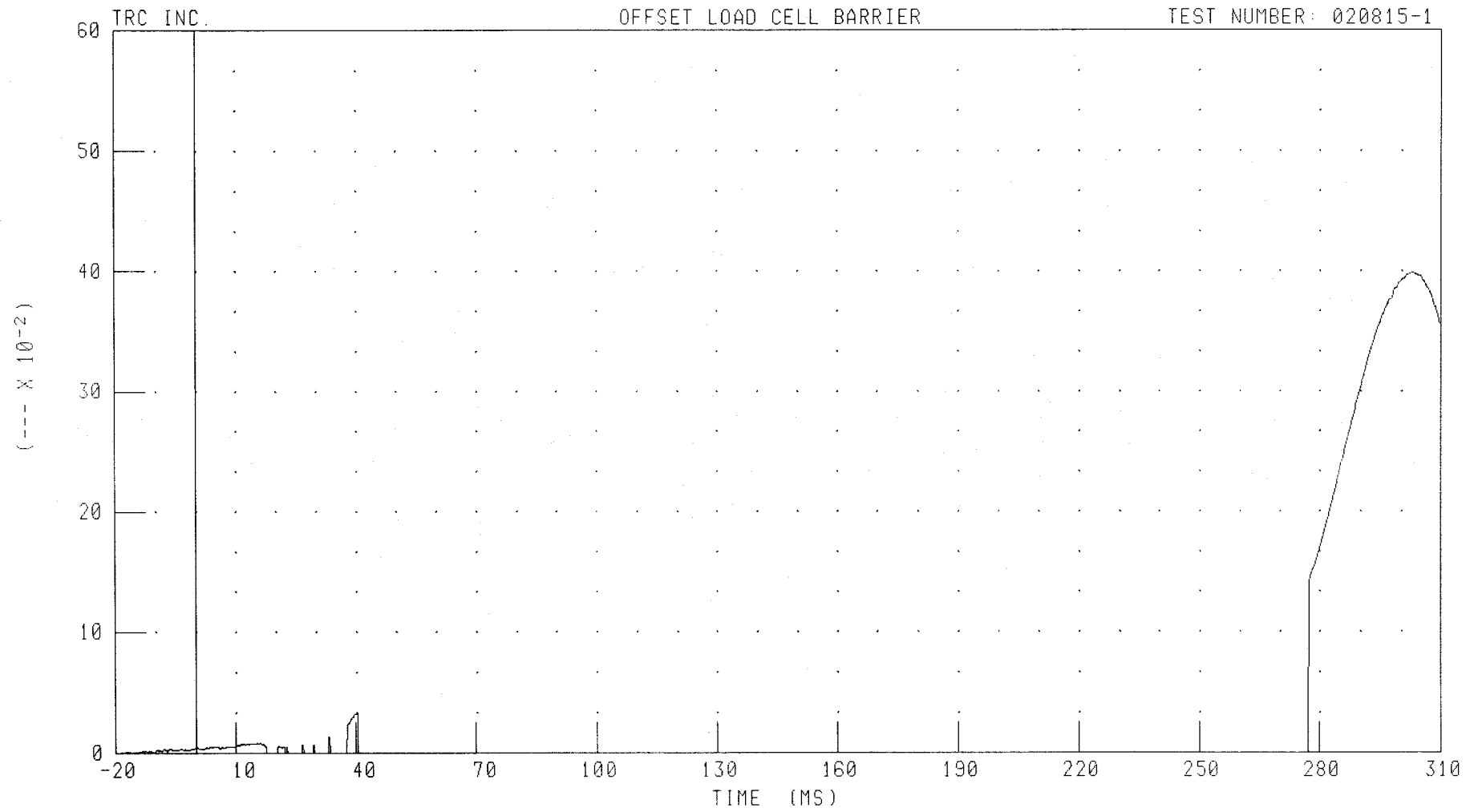
PEAK DATA: 0.30 --- @ 165.04 MS; 0.00 --- @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NIJ COMPRESSION/EXTENSION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NCE1

FILTER: CH. CLASS 600

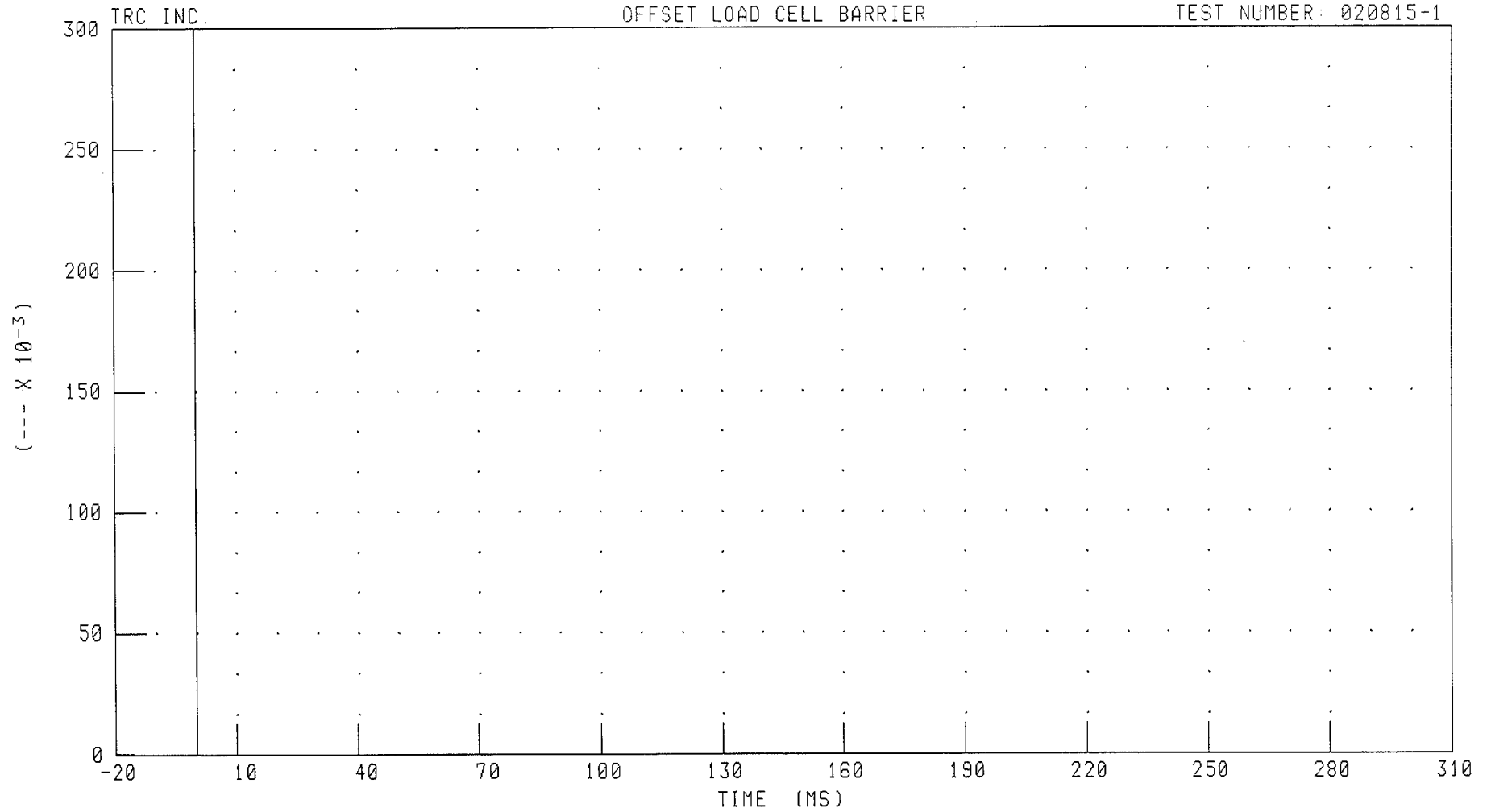
PEAK DATA: 0.40 --- @ 302.88 MS; 0.00 --- @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NIJ COMPRESSION/FLEXION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NCF1

FILTER: CH. CLASS 600

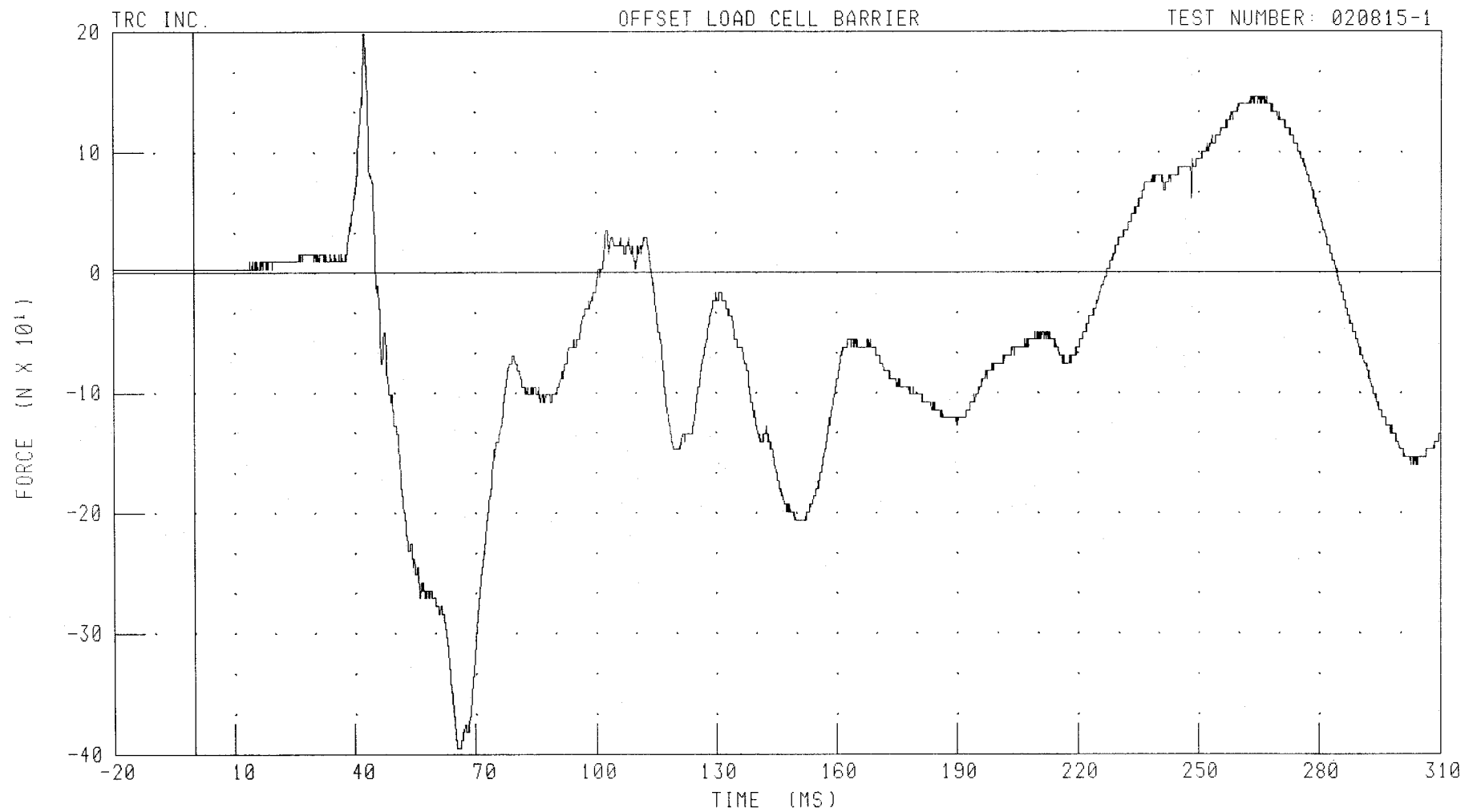
PEAK DATA: 0.00 --- @ -19.76 MS; 0.00 --- @ -18.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK LOWER X-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLXF1 FILTER: CH. CLASS 1000

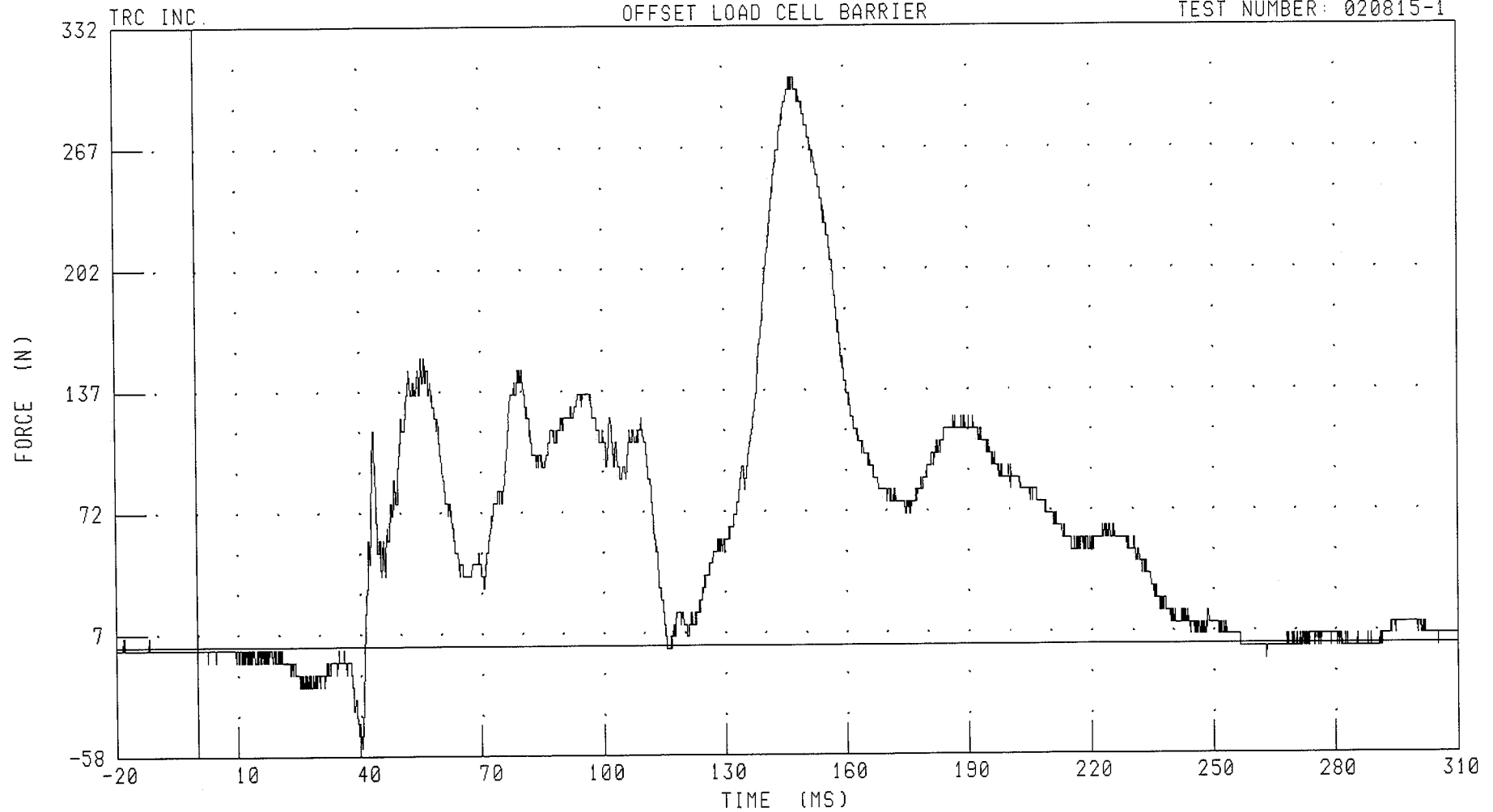
PEAK DATA: 198.39 N @ 42.56 MS; -394.81 N @ 65.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK LOWER Y-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLYF1 FILTER: CH. CLASS 1000

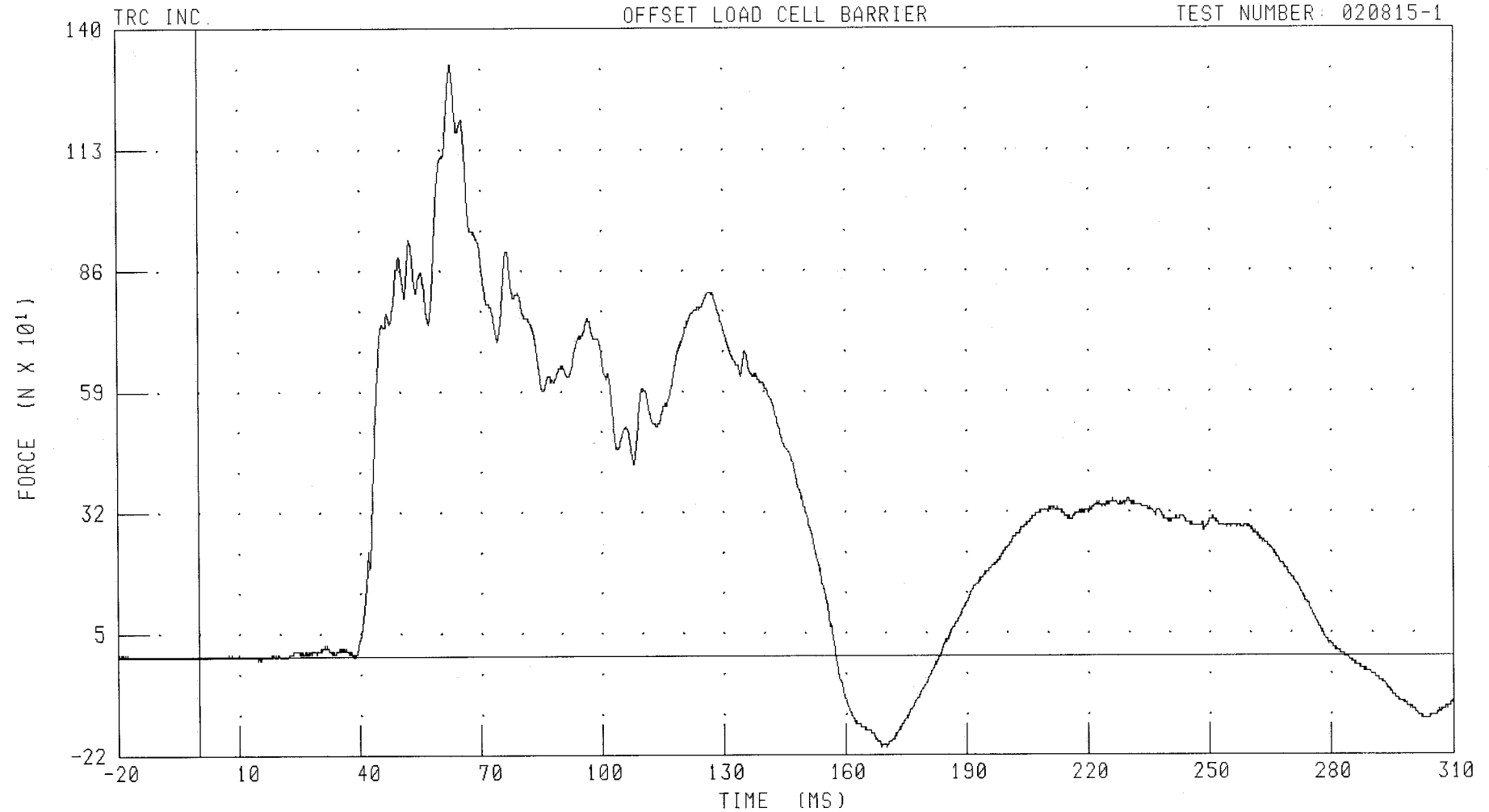
PEAK DATA: 304.58 N @ 146.64 MS; -53.61 N @ 40.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK LOWER Z-AXIS AXIAL FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLZF1 FILTER: CH. CLASS 1000

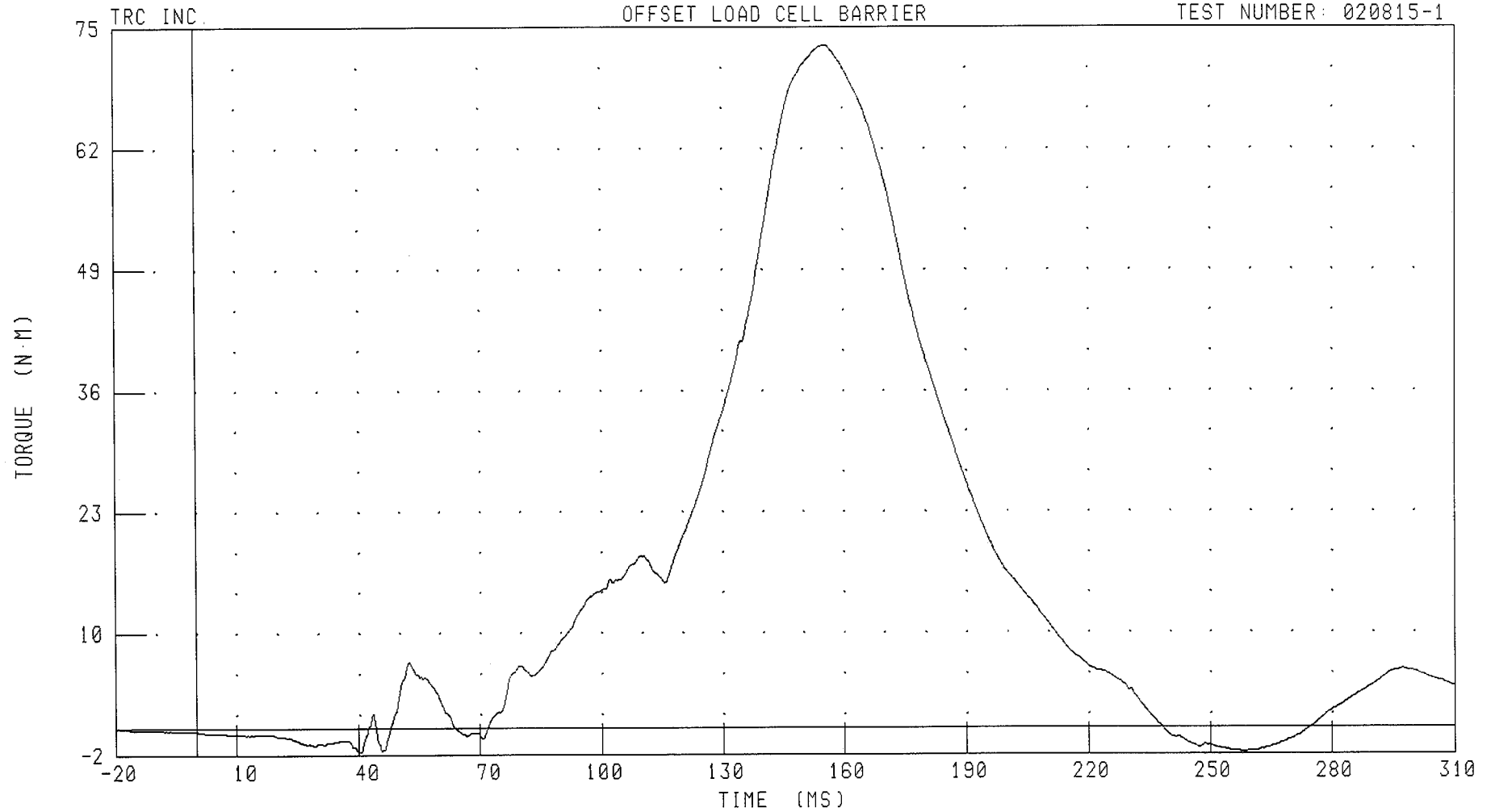
PEAK DATA: 1319.85 N @ 62.56 MS; -204.53 N @ 169.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK LOWER MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLXM1 FILTER: CH. CLASS 600

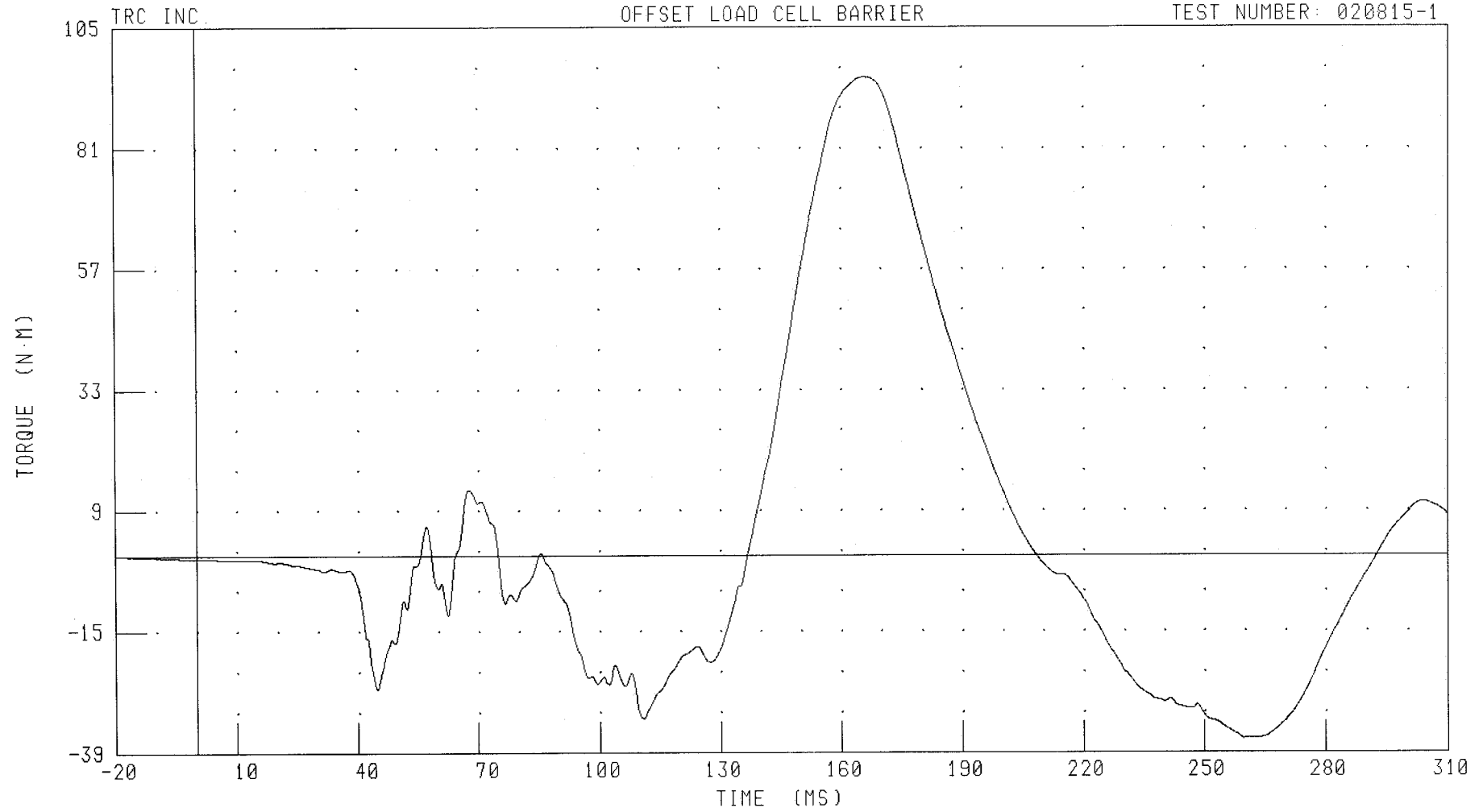
PEAK DATA: 73.13 N·M @ 155.36 MS; -2.72 N·M @ 258.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK LOWER MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLYM1 FILTER: CH. CLASS 600

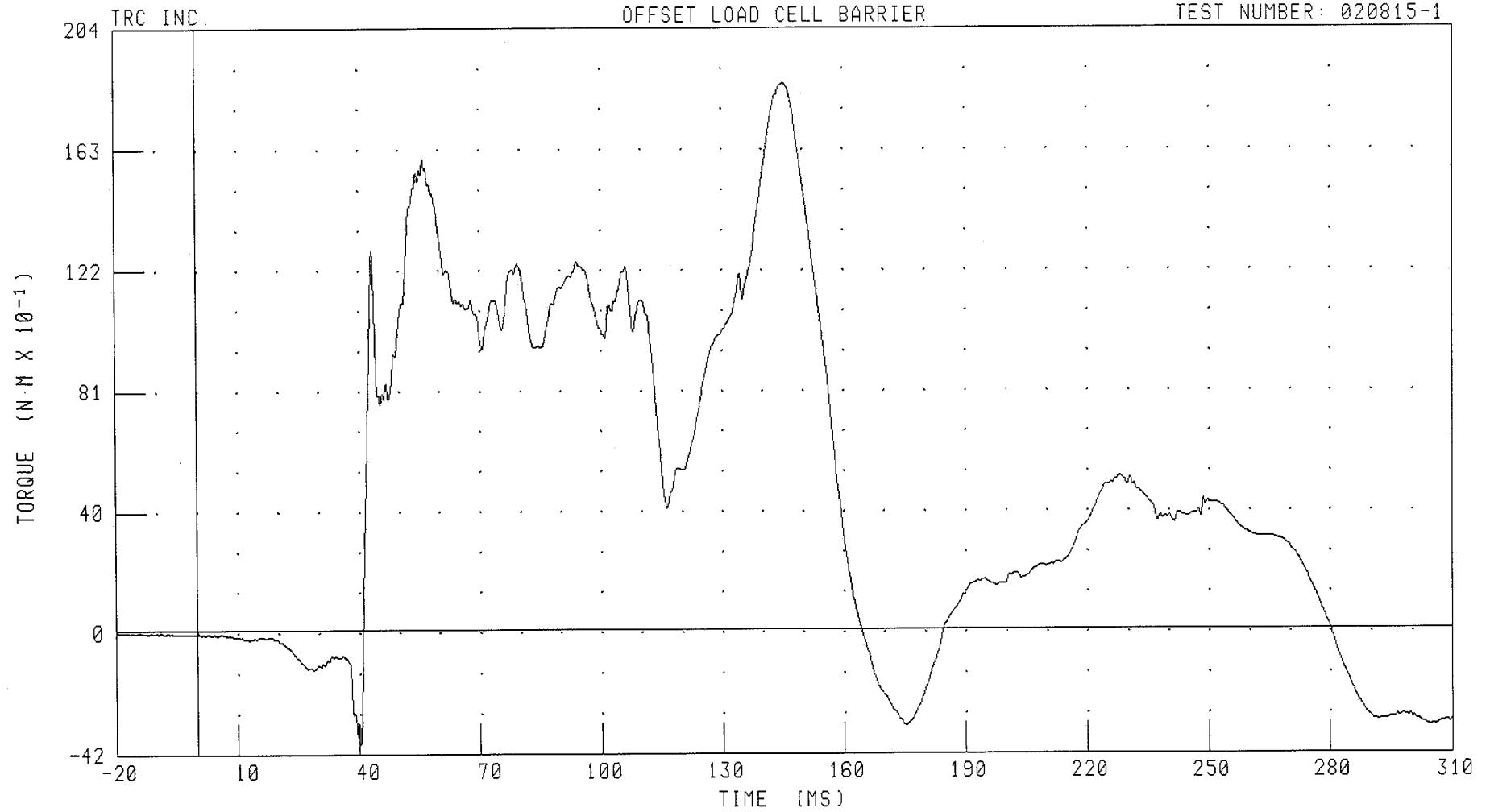
PEAK DATA: 95.06 N·M @ 166.16 MS; -36.28 N·M @ 259.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER NECK LOWER MOMENT ABOUT Z AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLZM1 FILTER: CH. CLASS 600

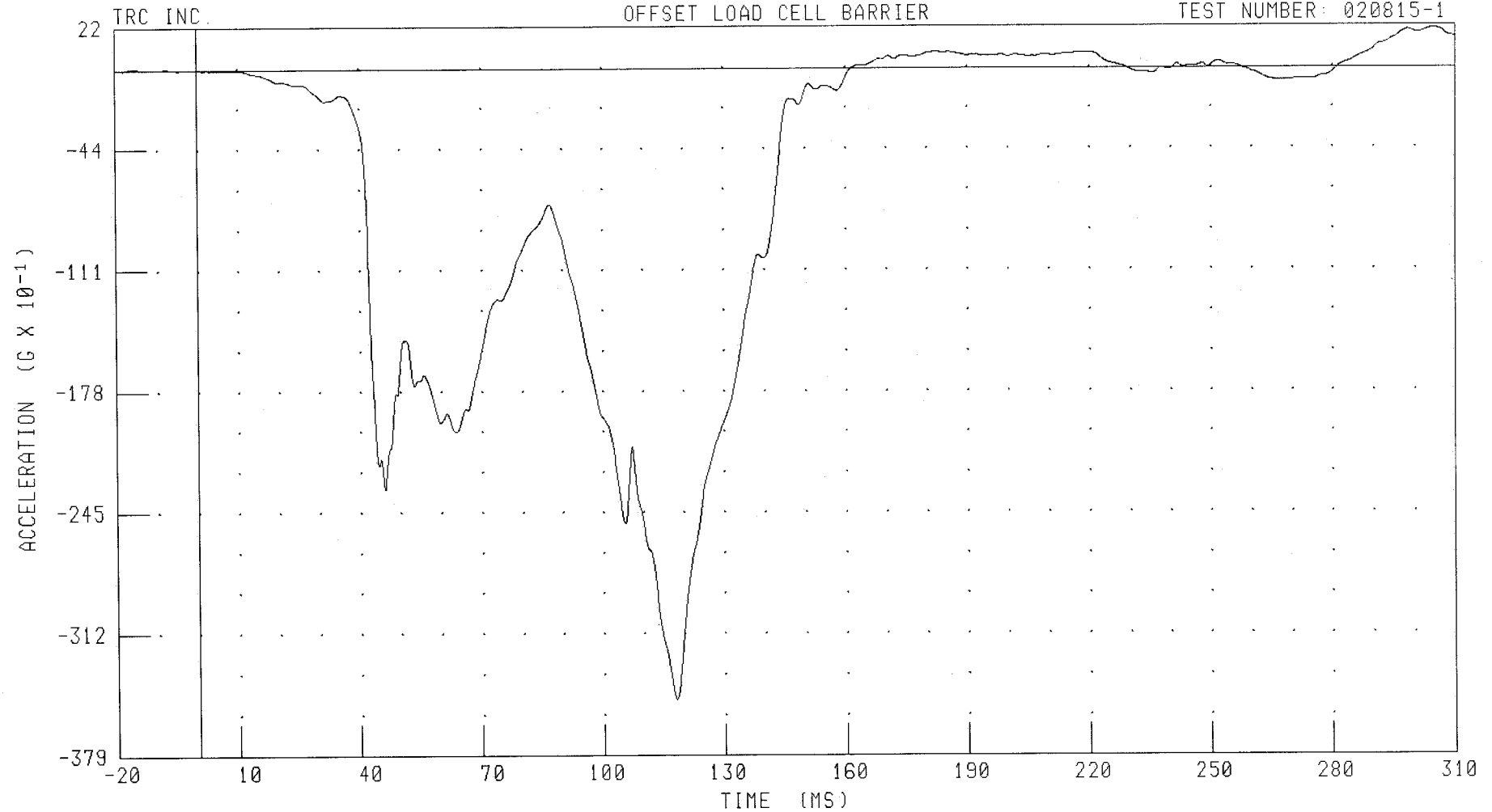
PEAK DATA: 18.53 N·m @ 145.68 MS; -3.87 N·m @ 40.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTXG1 FILTER: CH. CLASS 180

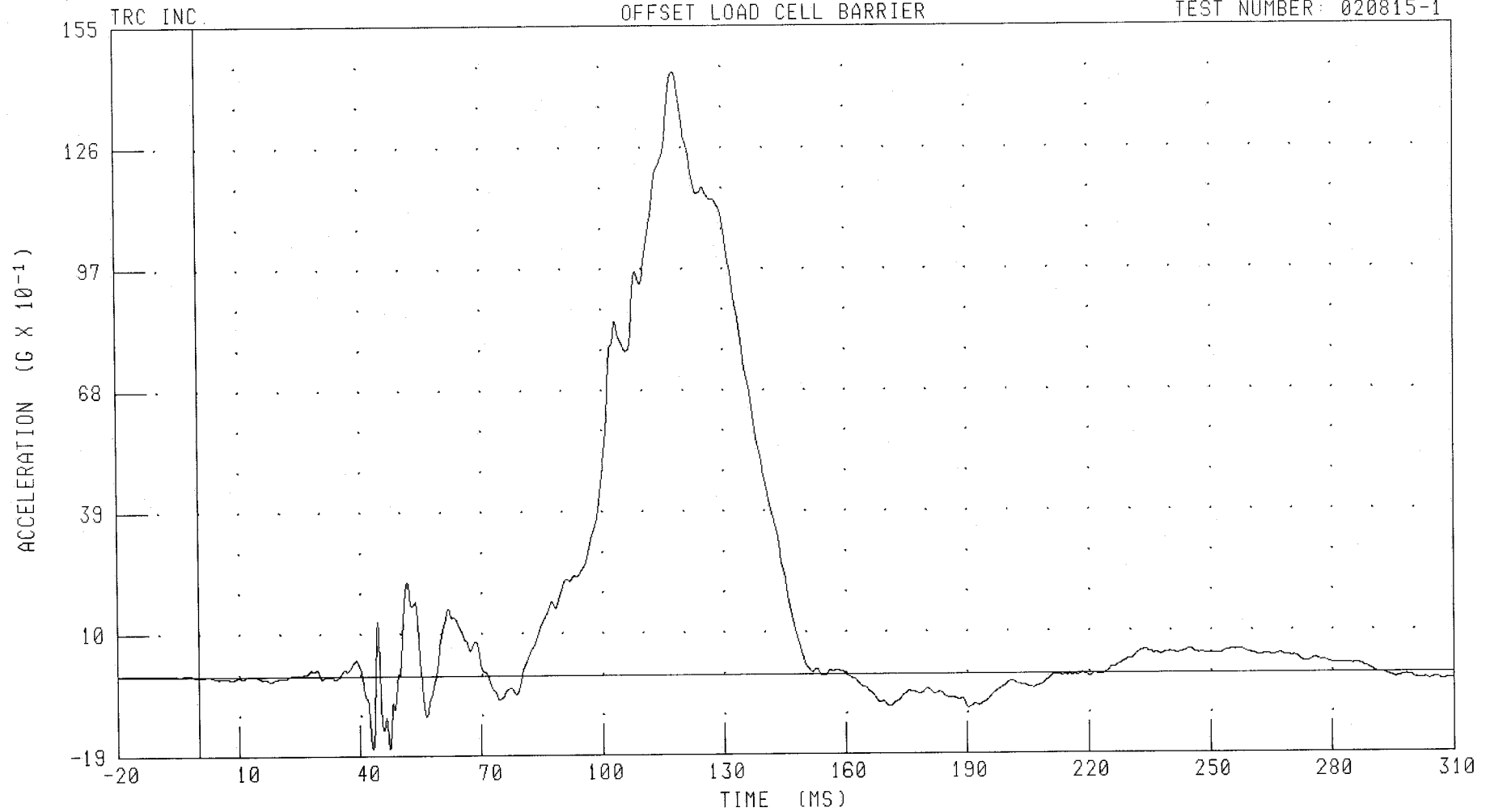
PEAK DATA: 2.16 G @ 304.72 MS; -34.82 G @ 118.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTYC1 FILTER: CH. CLASS 180

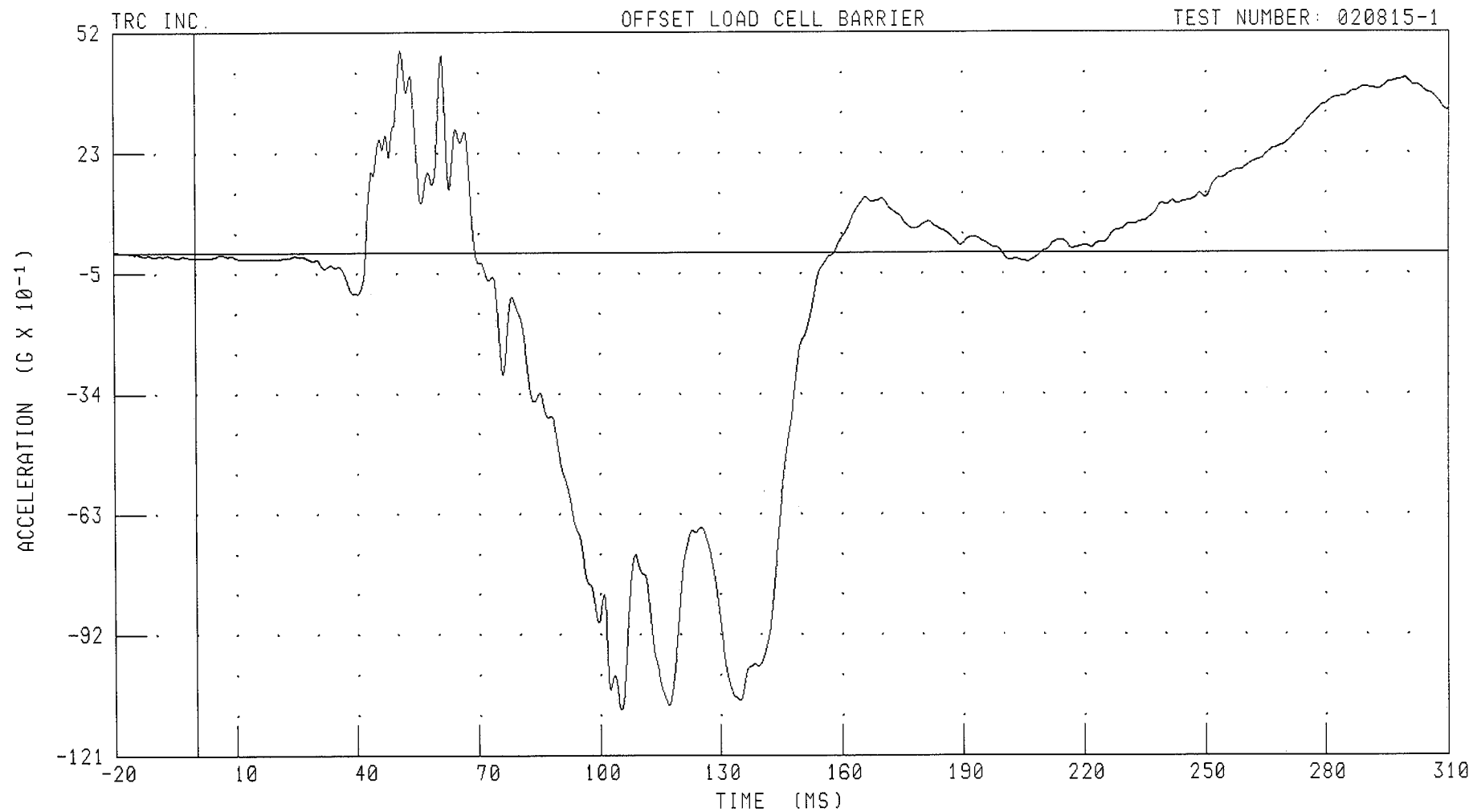
PEAK DATA: 14.39 G @ 118.24 MS; -1.74 G @ 43.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTZG1

FILTER: CH. CLASS 180

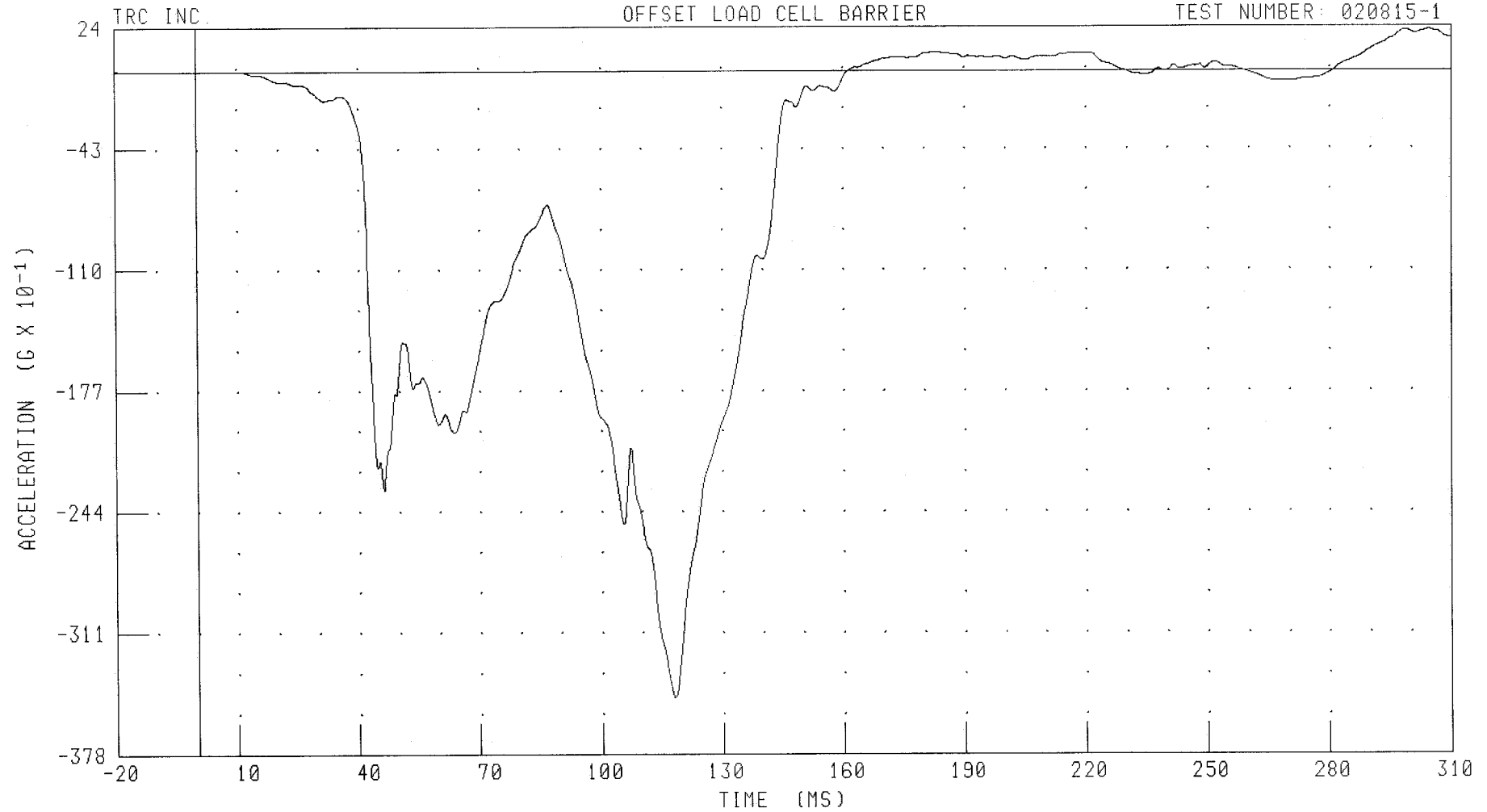
PEAK DATA: 4.86 G @ 51.12 MS; -11.01 G @ 105.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST X-AXIS REDUNDANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTXR1 FILTER: CH. CLASS 180

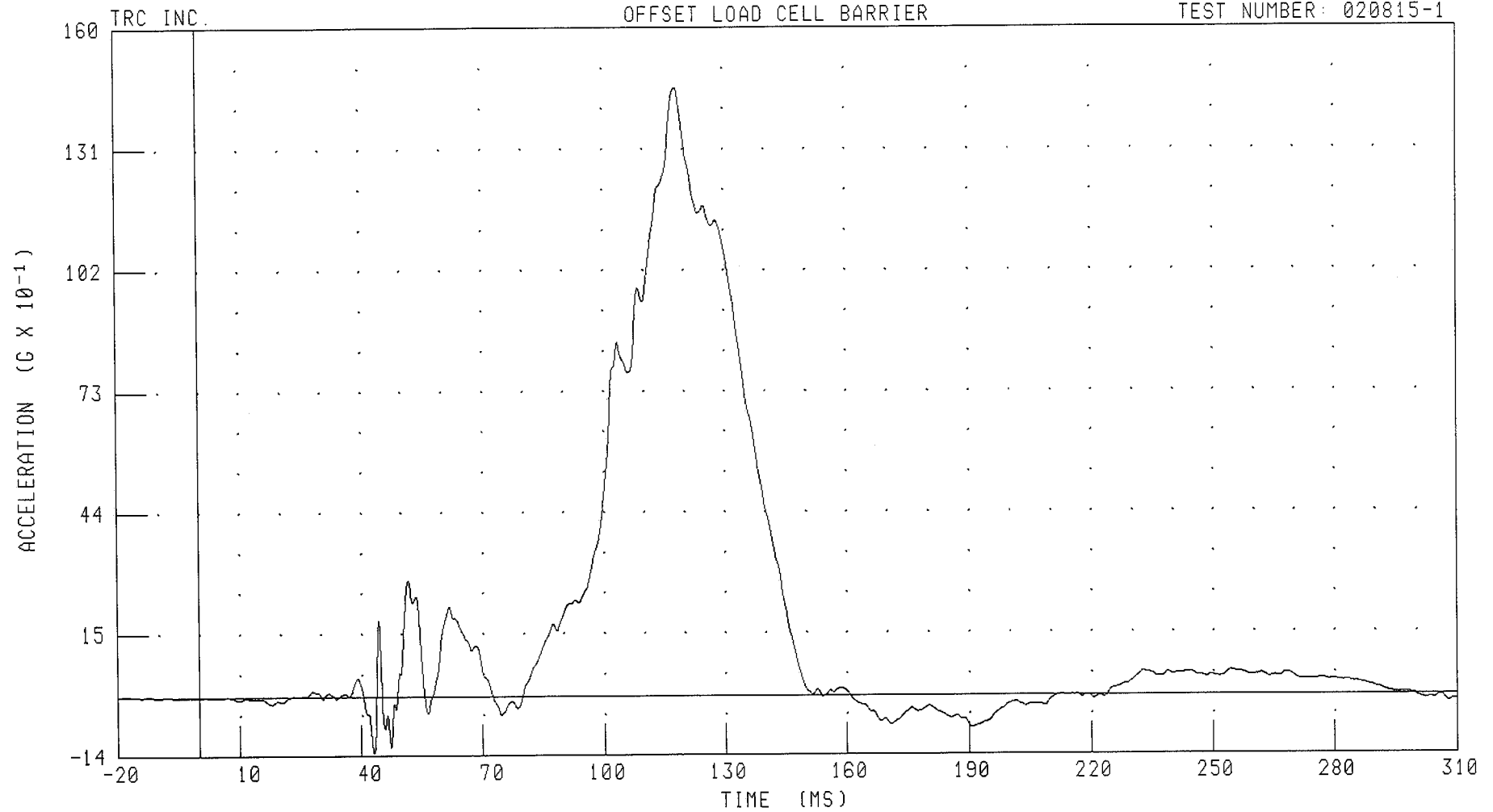
PEAK DATA: 2.23 G @ 304.40 MS, -34.68 G @ 118.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST Y-AXIS REDUNDANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTYR1 FILTER: CH. CLASS 180

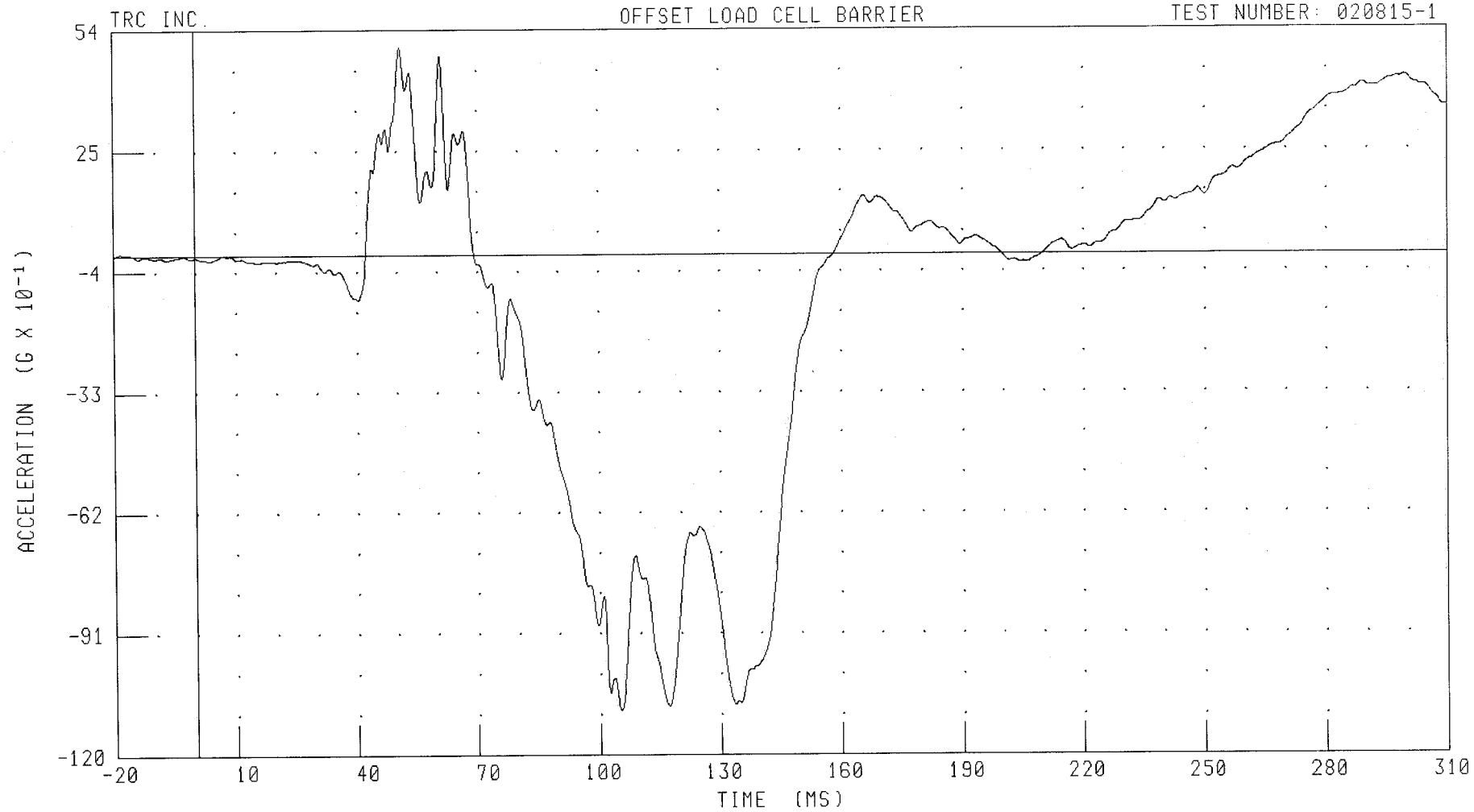
PEAK DATA: 14.56 G @ 118.40 MS; -1.34 G @ 43.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST Z-AXIS REDUNDANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTZR1 FILTER: CH. CLASS 180

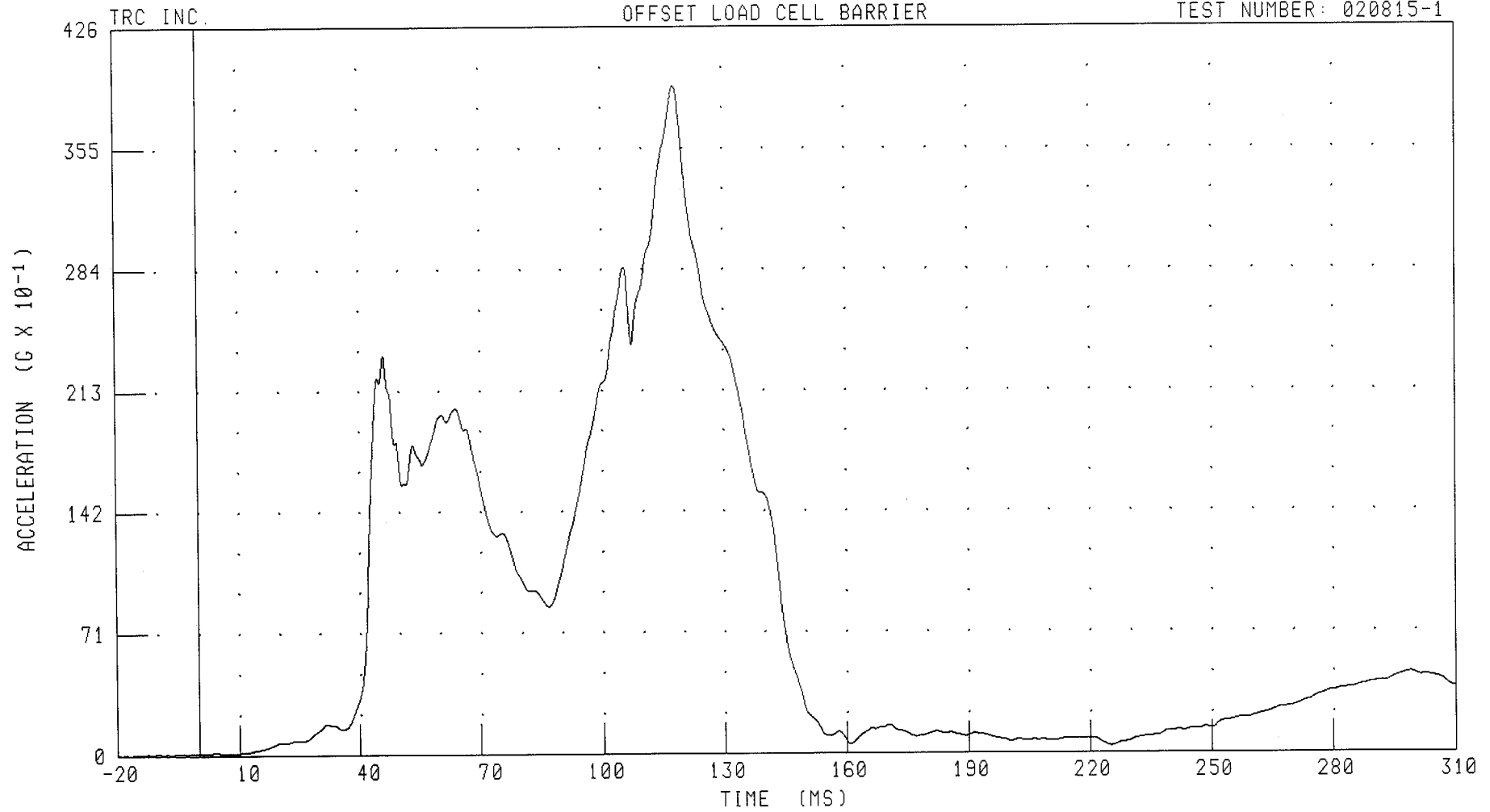
PEAK DATA: 5.00 G @ 51.12 MS; -10.94 G @ 105.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTRG1

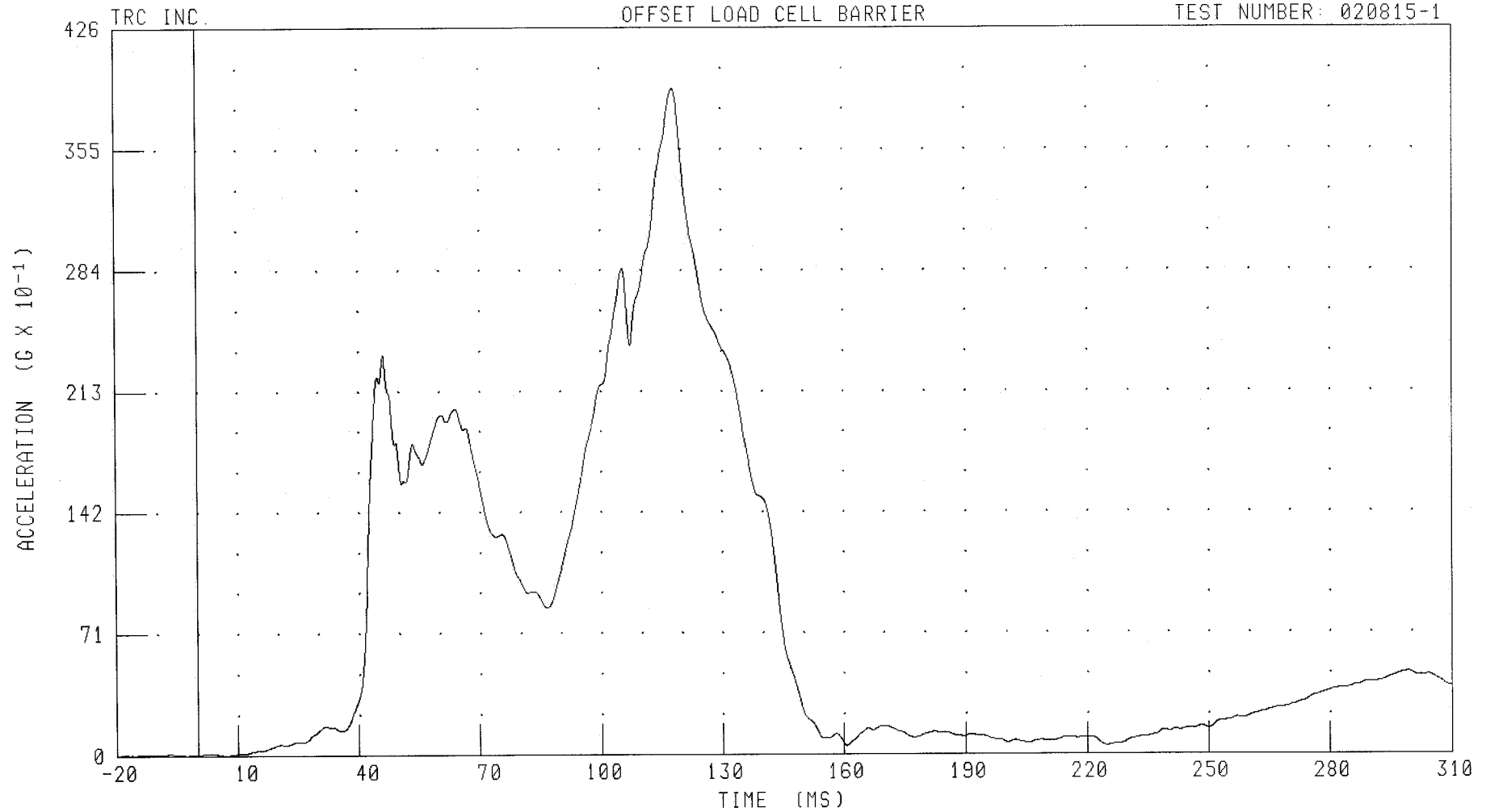
FILTER: CH. CLASS 180

PEAK DATA: 39.15 G @ 118.08 MS; 0.00 G @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER CHEST REDUNDANT RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTRR1 FILTER: CH. CLASS 180

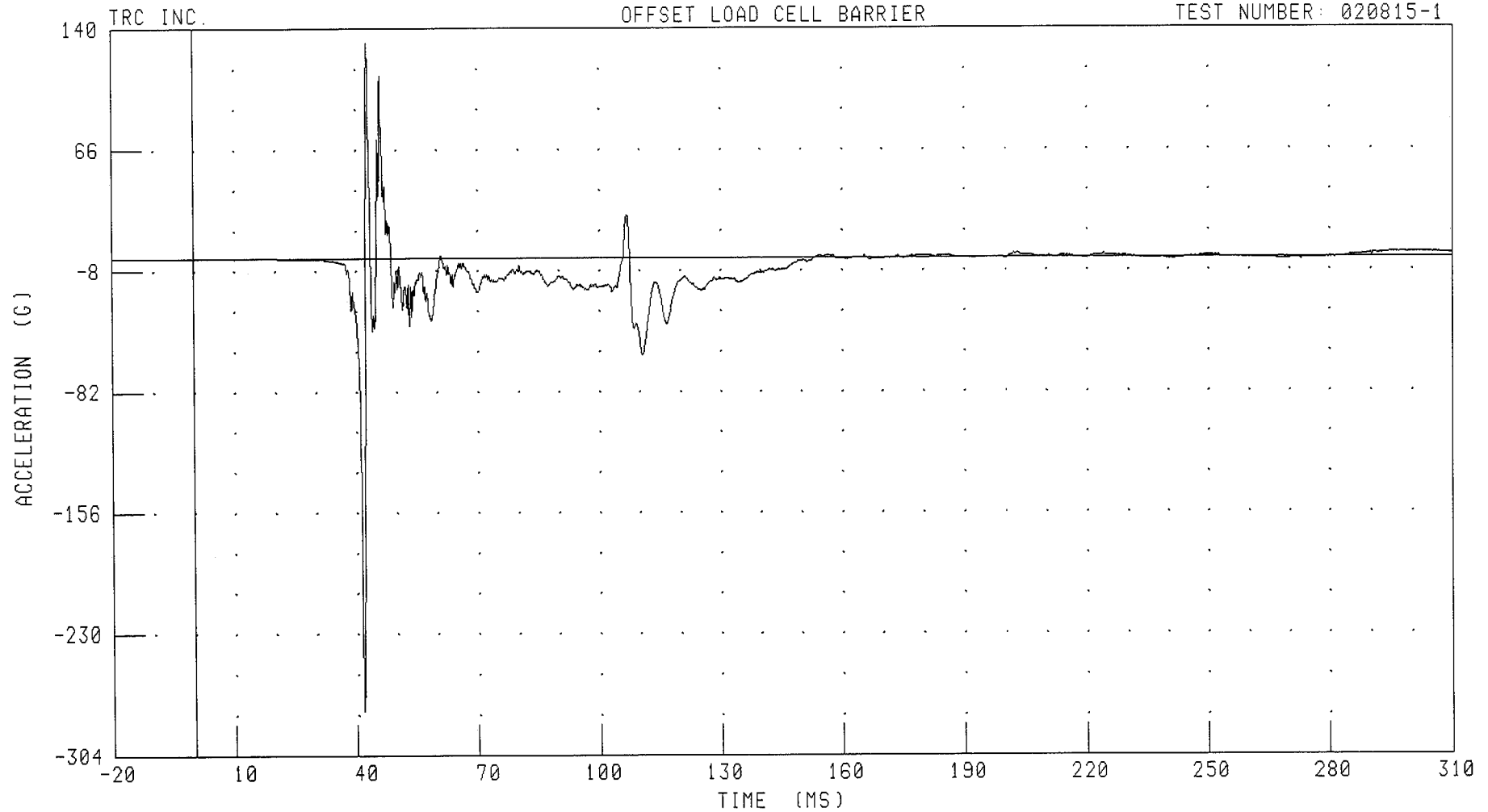
PEAK DATA: 39.04 G @ 118.08 MS; 0.00 G @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER STERNUM UPPER X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: STUXG1 FILTER: CH. CLASS 1000

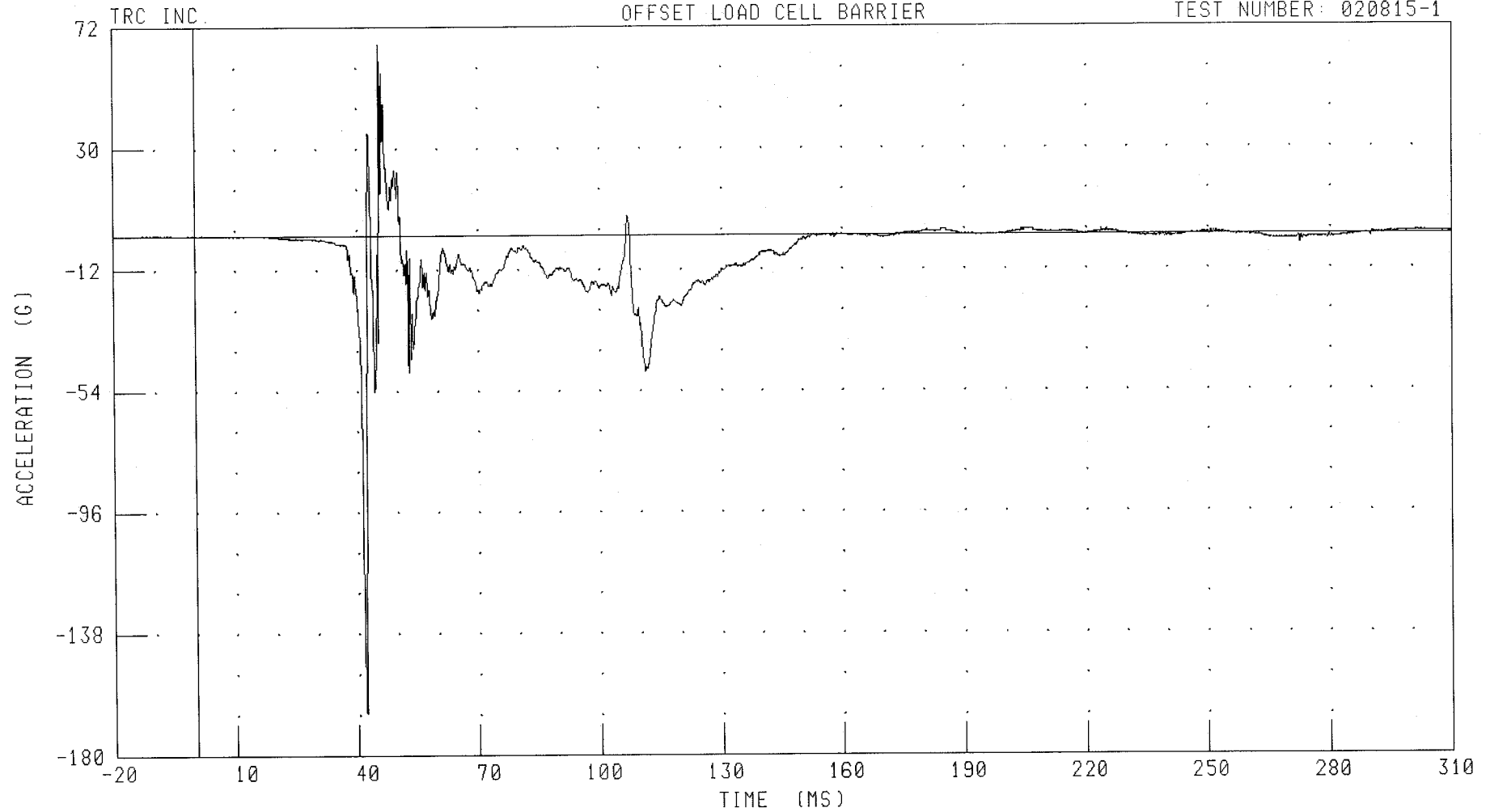
PEAK DATA: 131.15 G @ 42.96 MS; -277.32 G @ 41.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER STERNUM MID X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: STMXG1 FILTER: CH. CLASS 1000

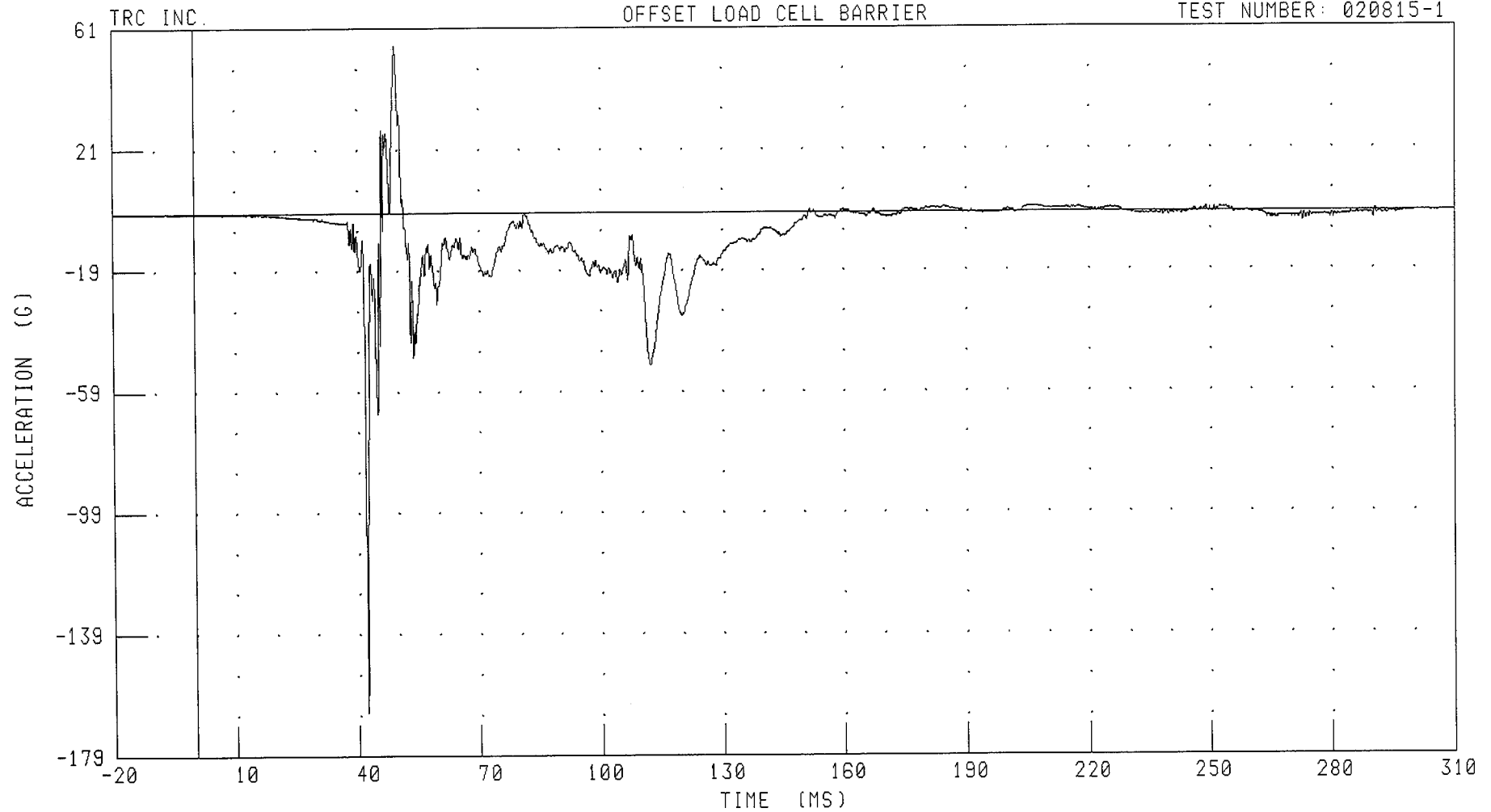
PEAK DATA: 66.10 G @ 45.84 MS; -165.56 G @ 42.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER STERNUM LOWER X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: STLXG1 FILTER: CH. CLASS 1000

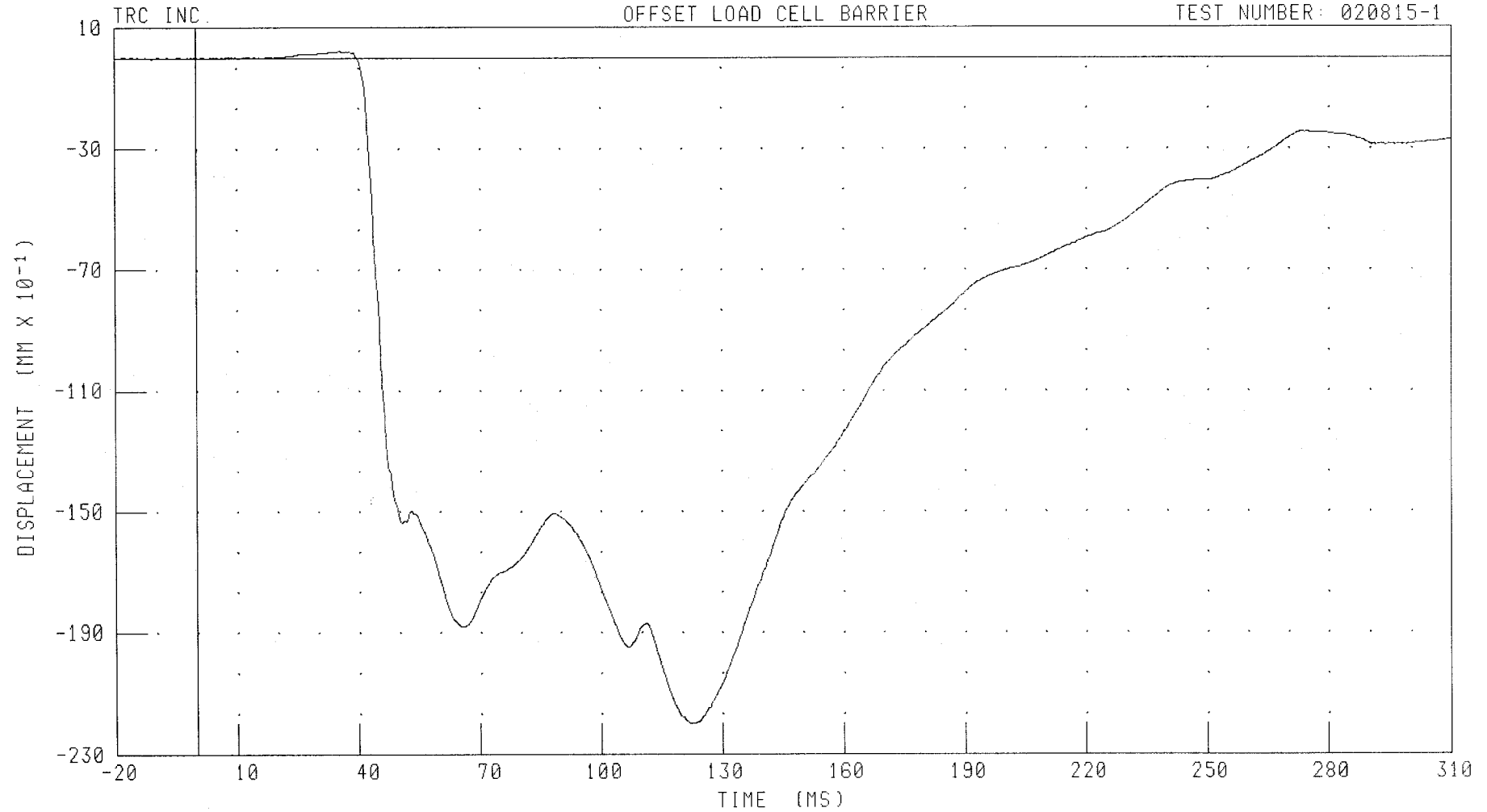
PEAK DATA: 55.48 G @ 49.60 MS; -164.70 G @ 42.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER CHEST DEFLECTION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTXD1 FILTER: CH. CLASS 600

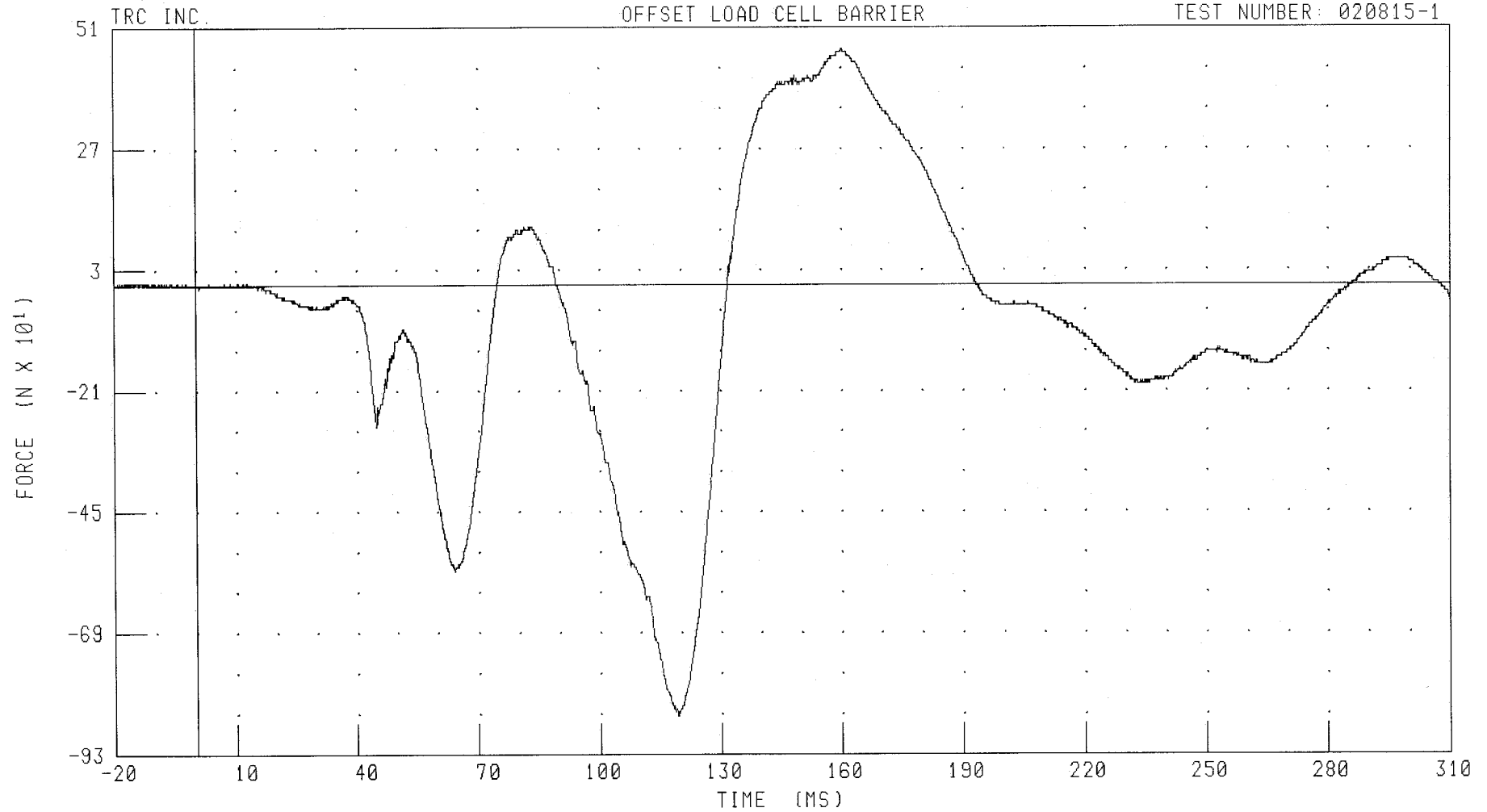
PEAK DATA: 0.22 MM @ 35.52 MS; -22.00 MM @ 123.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LUMBAR X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBXF1 FILTER: CH. CLASS 1000

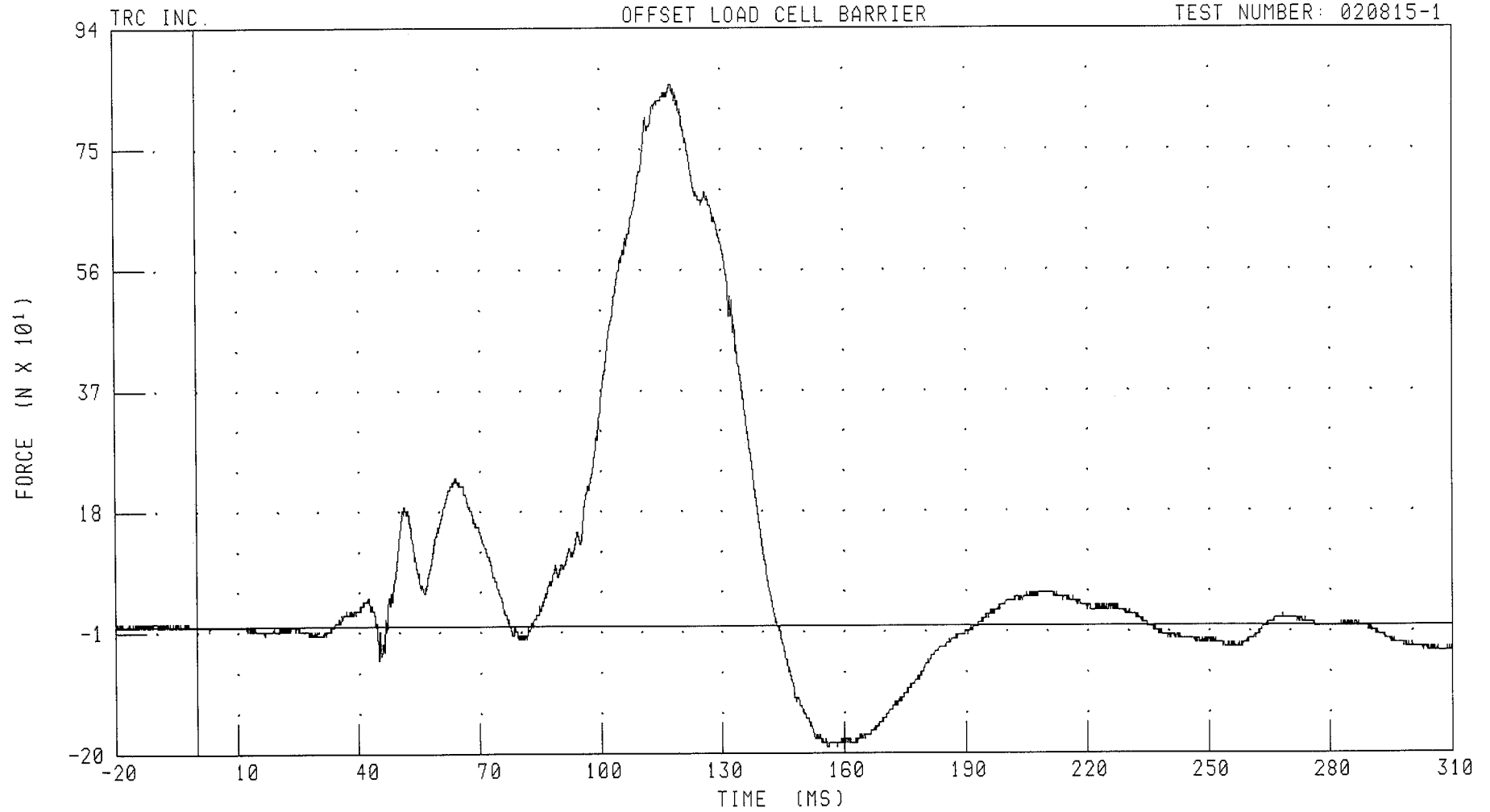
PEAK DATA: 467.33 N @ 160.24 MS; -854.25 N @ 119.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LUMBAR Y-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBYF1 FILTER: CH. CLASS 1000

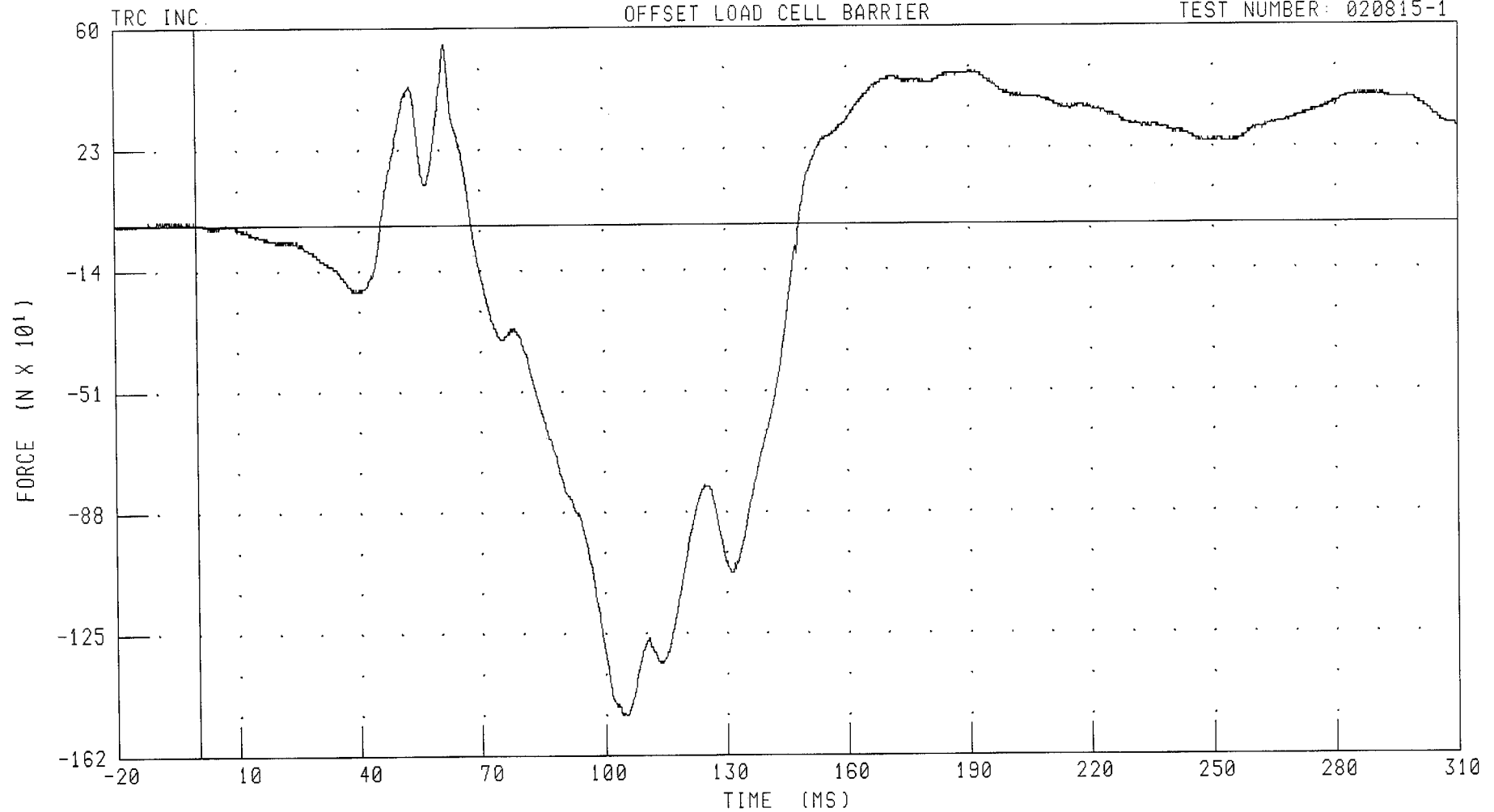
PEAK DATA: 851.76 N @ 117.44 MS; -190.80 N @ 155.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LUMBAR Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBZF1 FILTER: CH. CLASS 1000

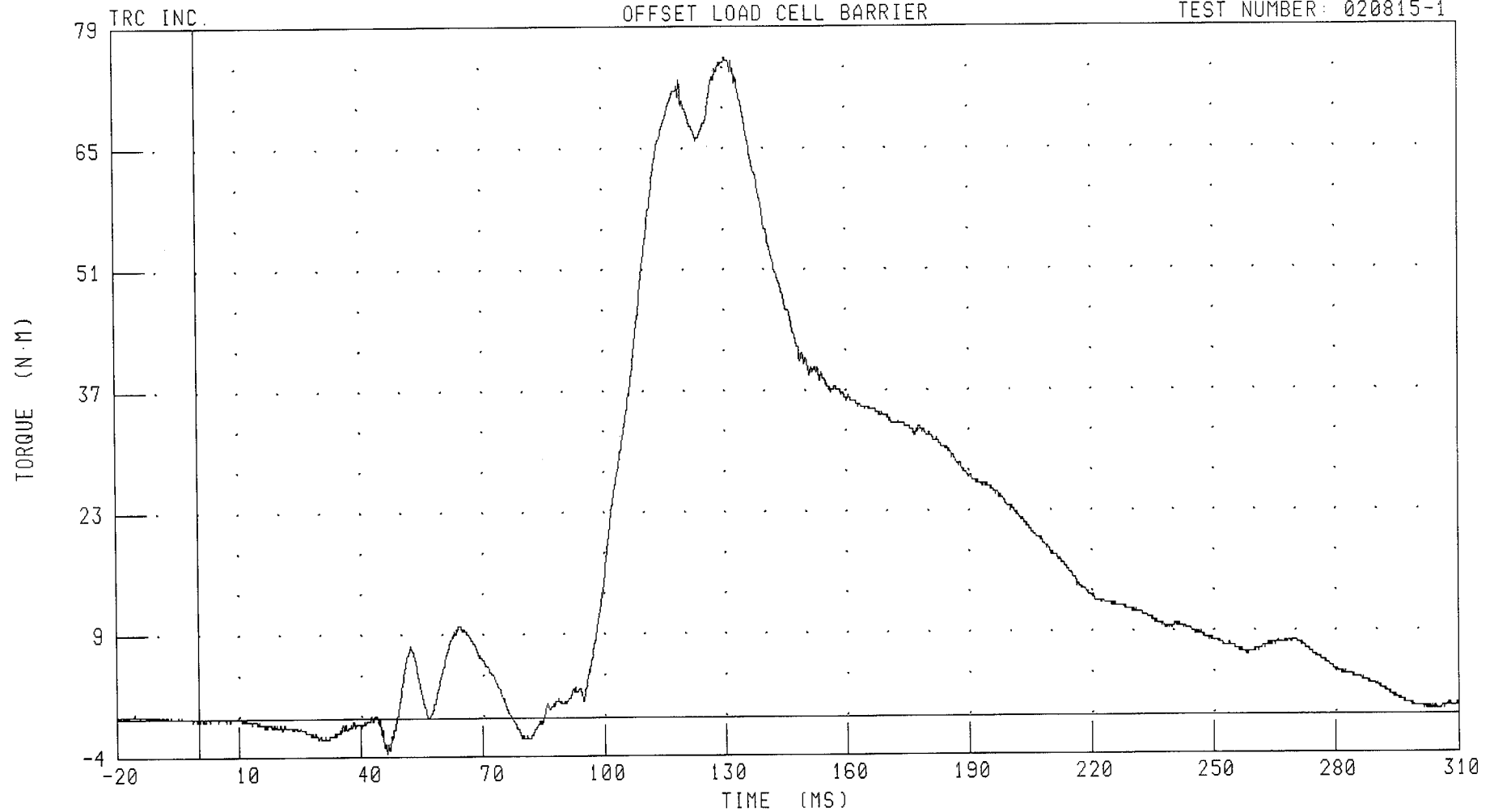
PEAK DATA: 551.05 N @ 61.20 MS; -1499.11 N @ 104.24 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LUMBAR X-AXIS MOMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBXM1 FILTER: CH. CLASS 1000

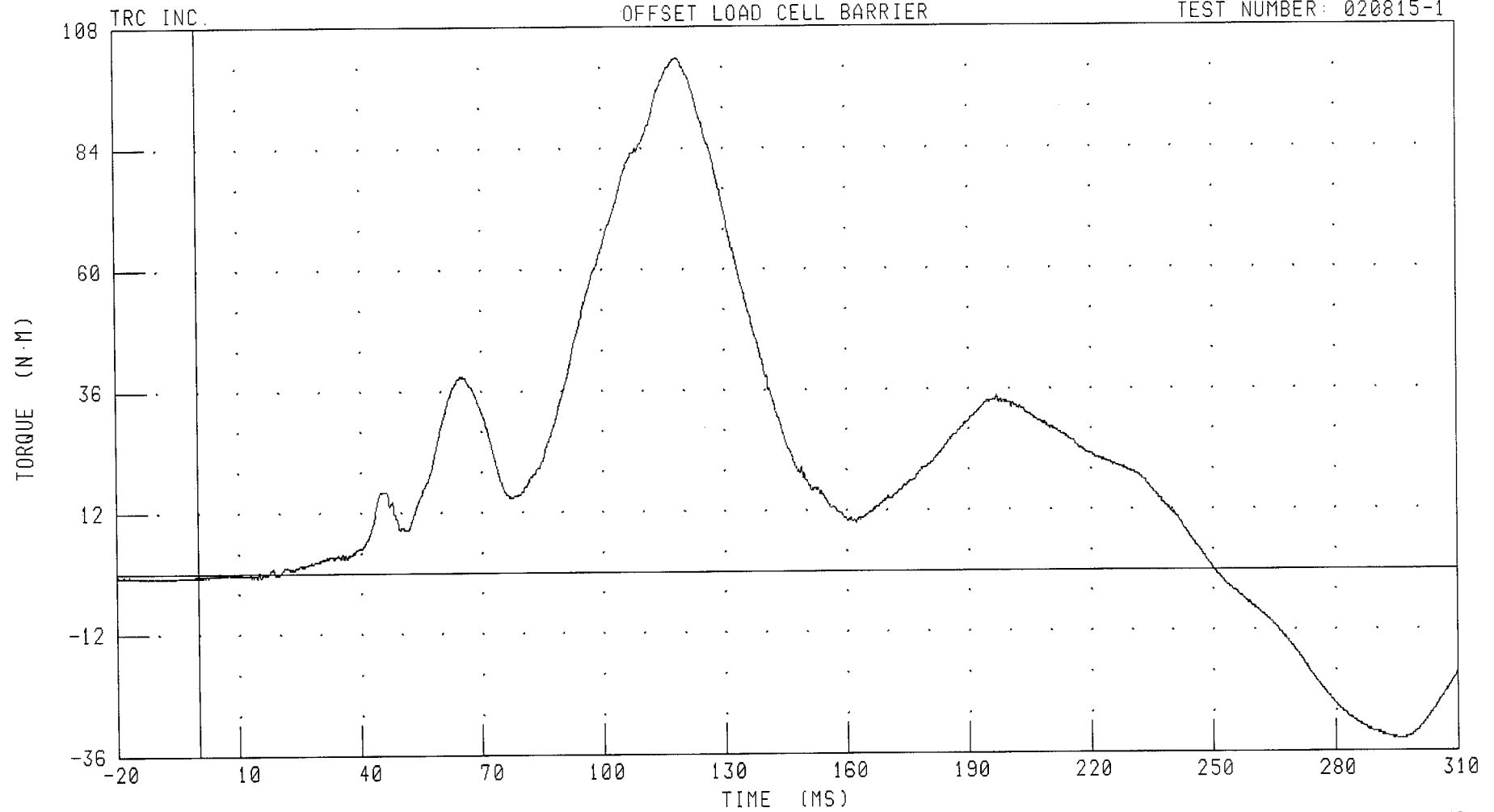
PEAK DATA: 76.09 N·M @ 130.56 MS; -4.04 N·M @ 46.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LUMBAR Y-AXIS MOMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



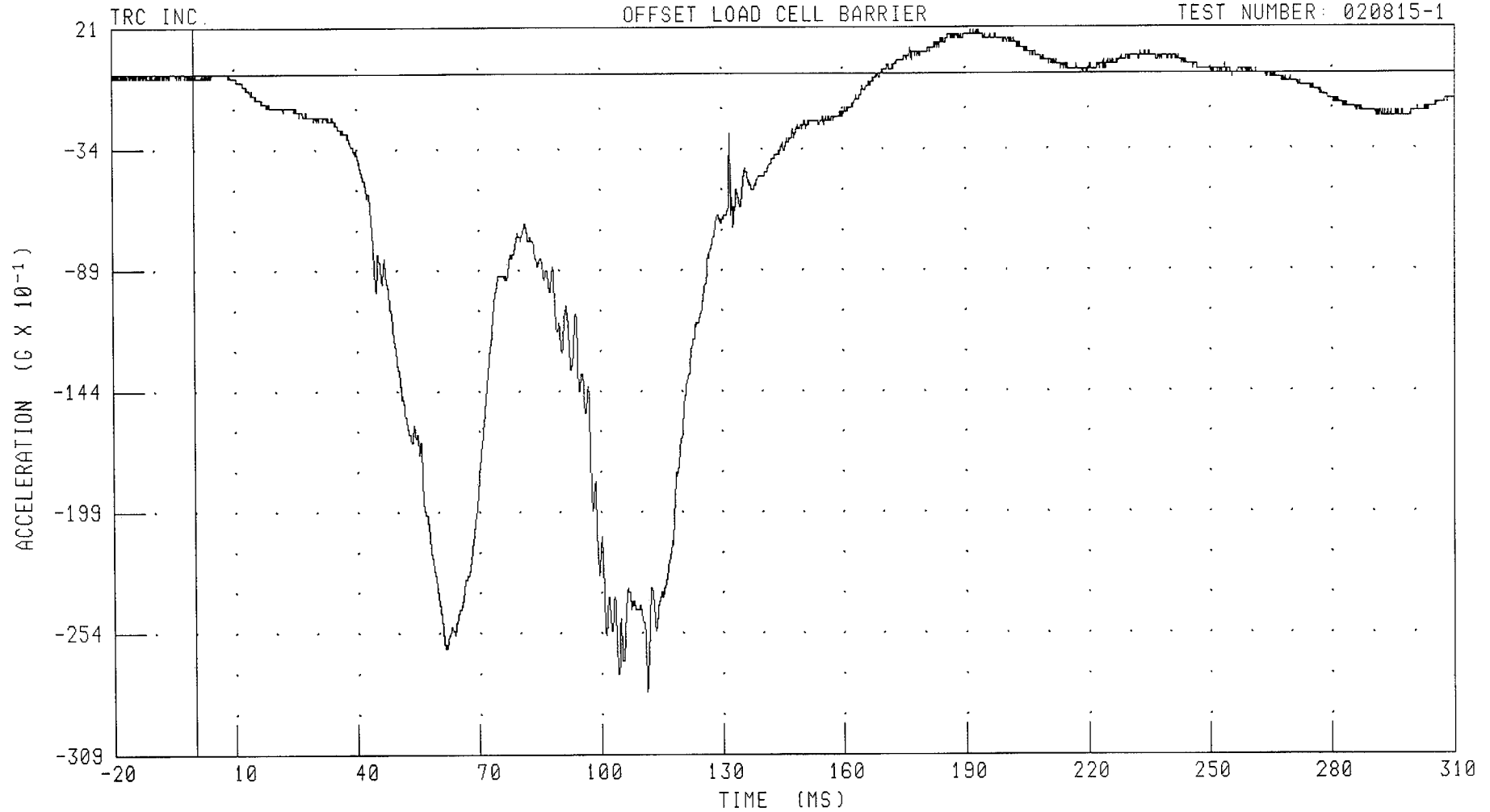
CHANNEL: LMBYM1 FILTER: CH. CLASS 1000

PEAK DATA: 101.84 N·M @ 118.56 MS; -33.56 N·M @ 294.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER PELVIS X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVXG1 FILTER: CH. CLASS 1000

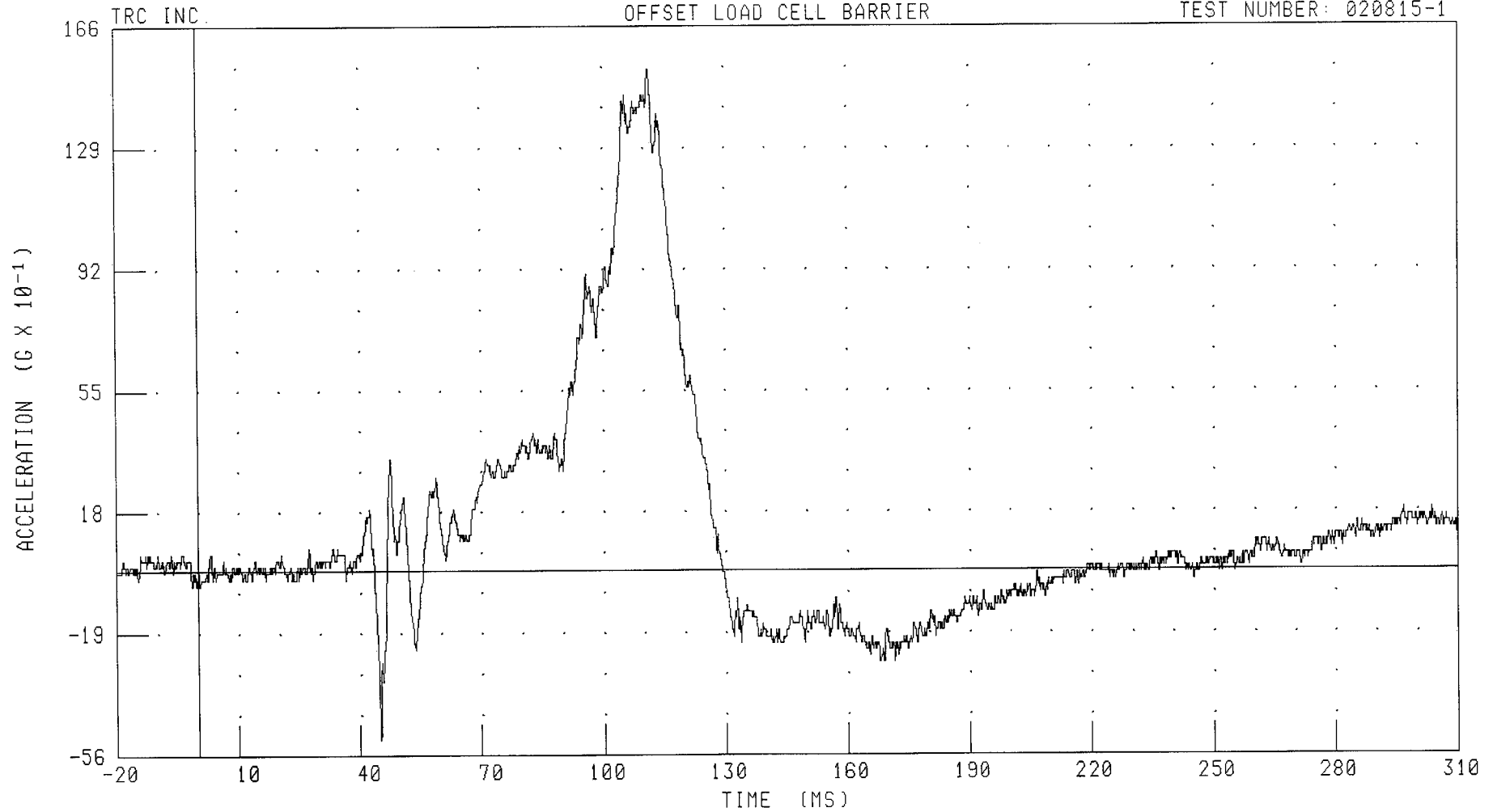
PEAK DATA: 1.98 G @ 191.52 MS; -28.05 G @ 111.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER PELVIS Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVYG1 FILTER: CH. CLASS 1000

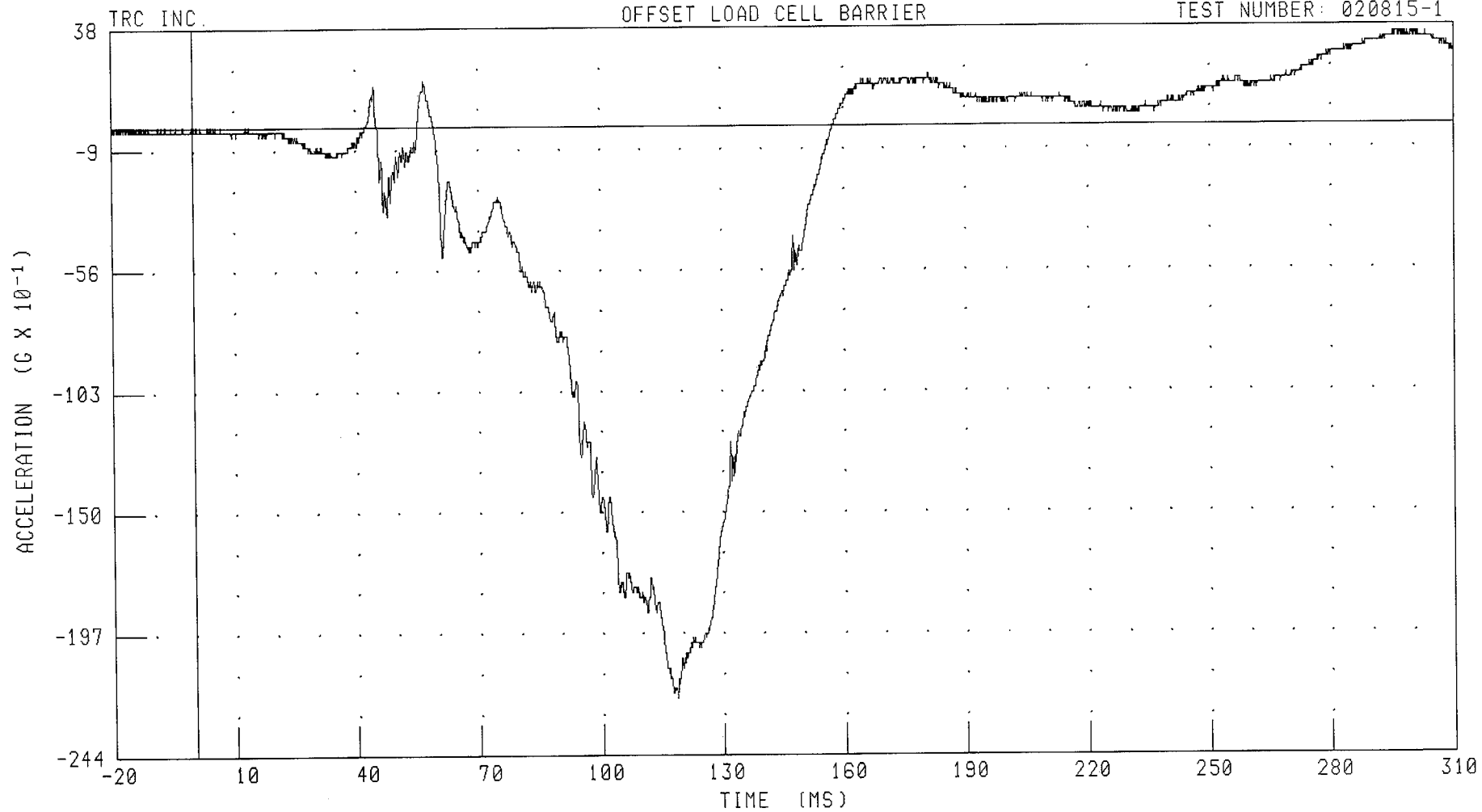
PEAK DATA: 15.29 G @ 111.28 MS; -5.13 G @ 45.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER PELVIS Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVZG1

FILTER: CH. CLASS 1000

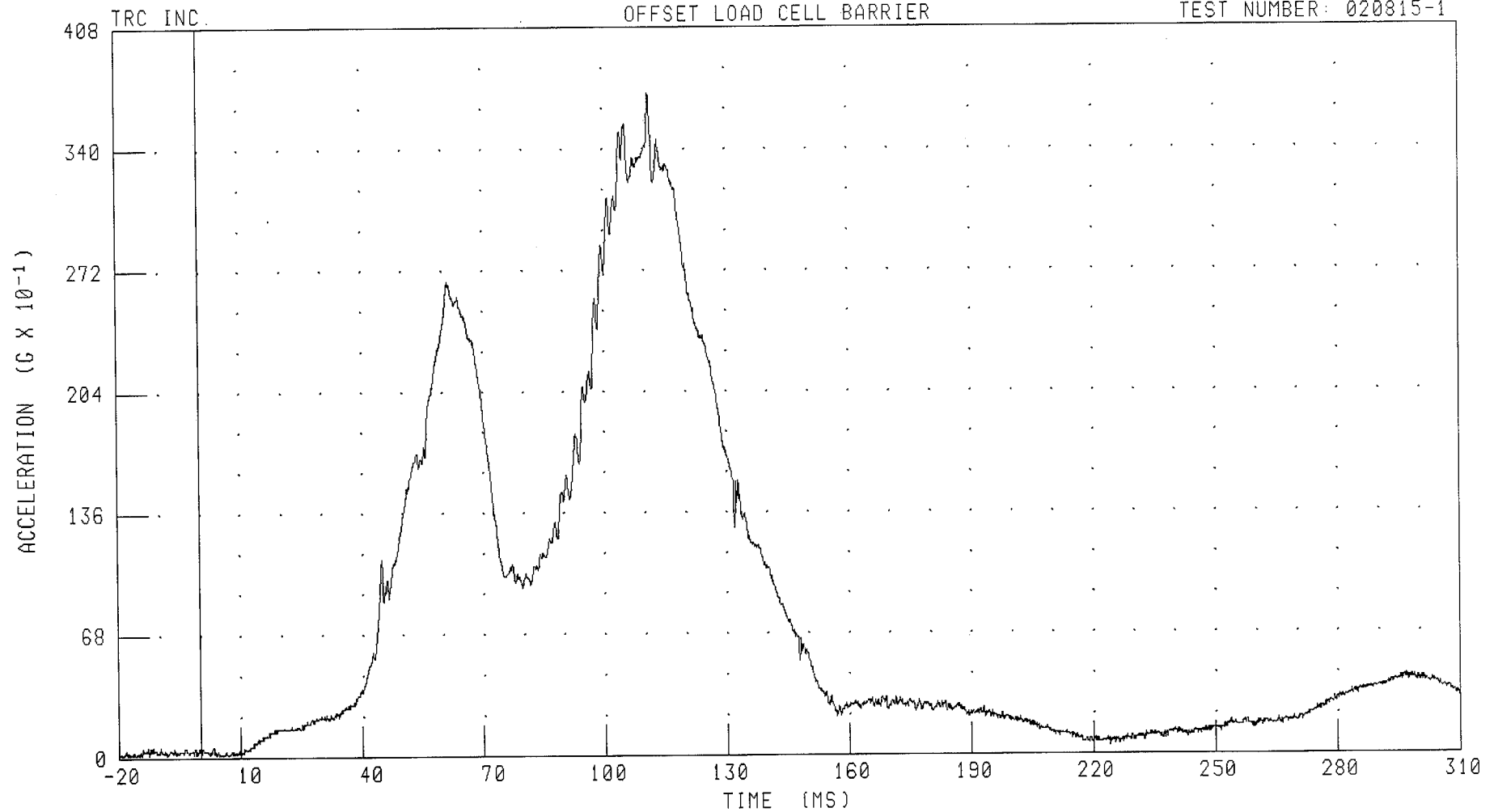
PEAK DATA: 3.54 G @ 295.20 MS; -22.23 G @ 118.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER PELVIS RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVRG1 FILTER: CH. CLASS 1000

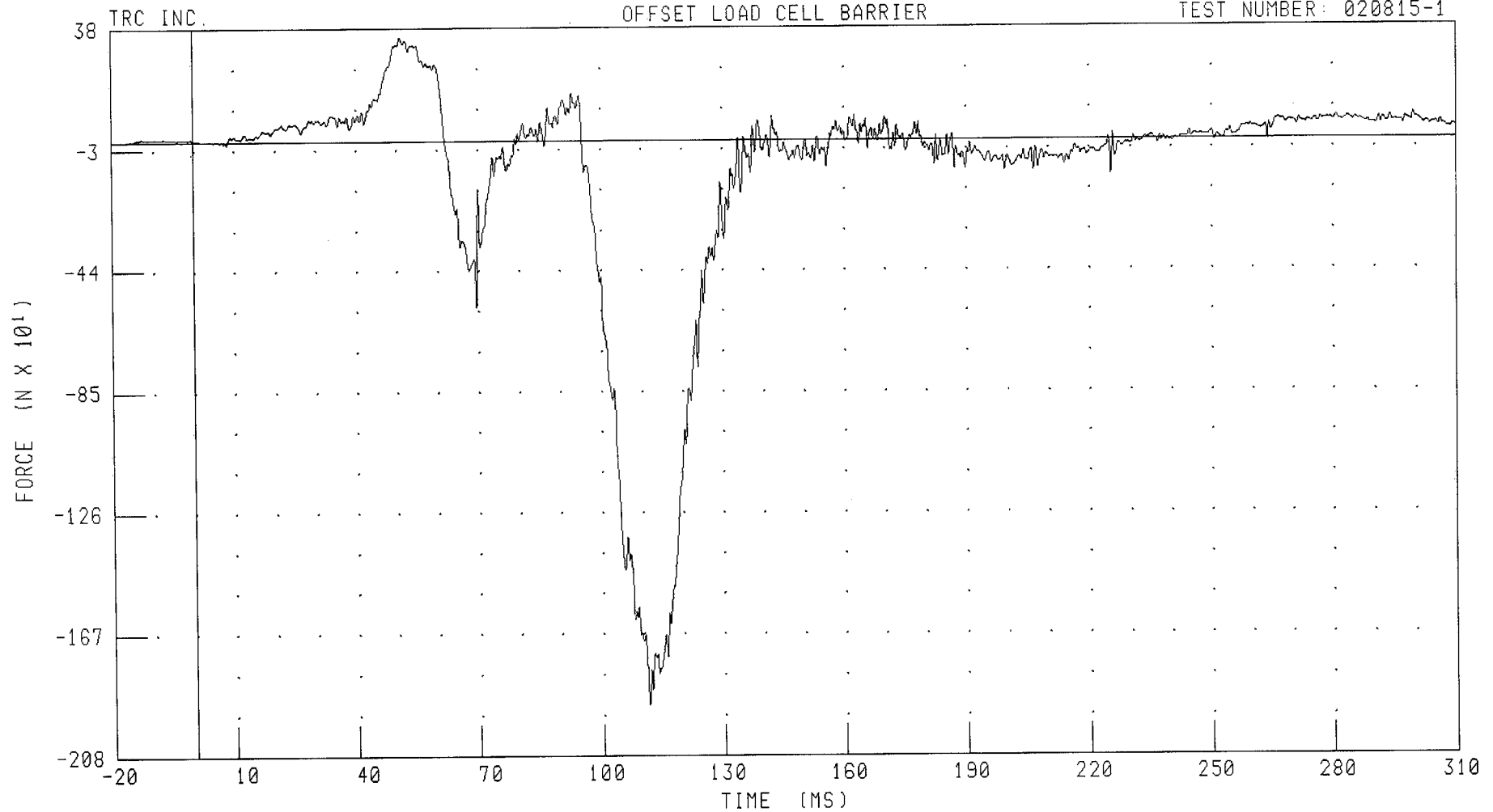
PEAK DATA: 37.13 G @ 111.36 MS; 0.08 G @ -19.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT FEMUR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LFMZF1 FILTER: CH. CLASS 600

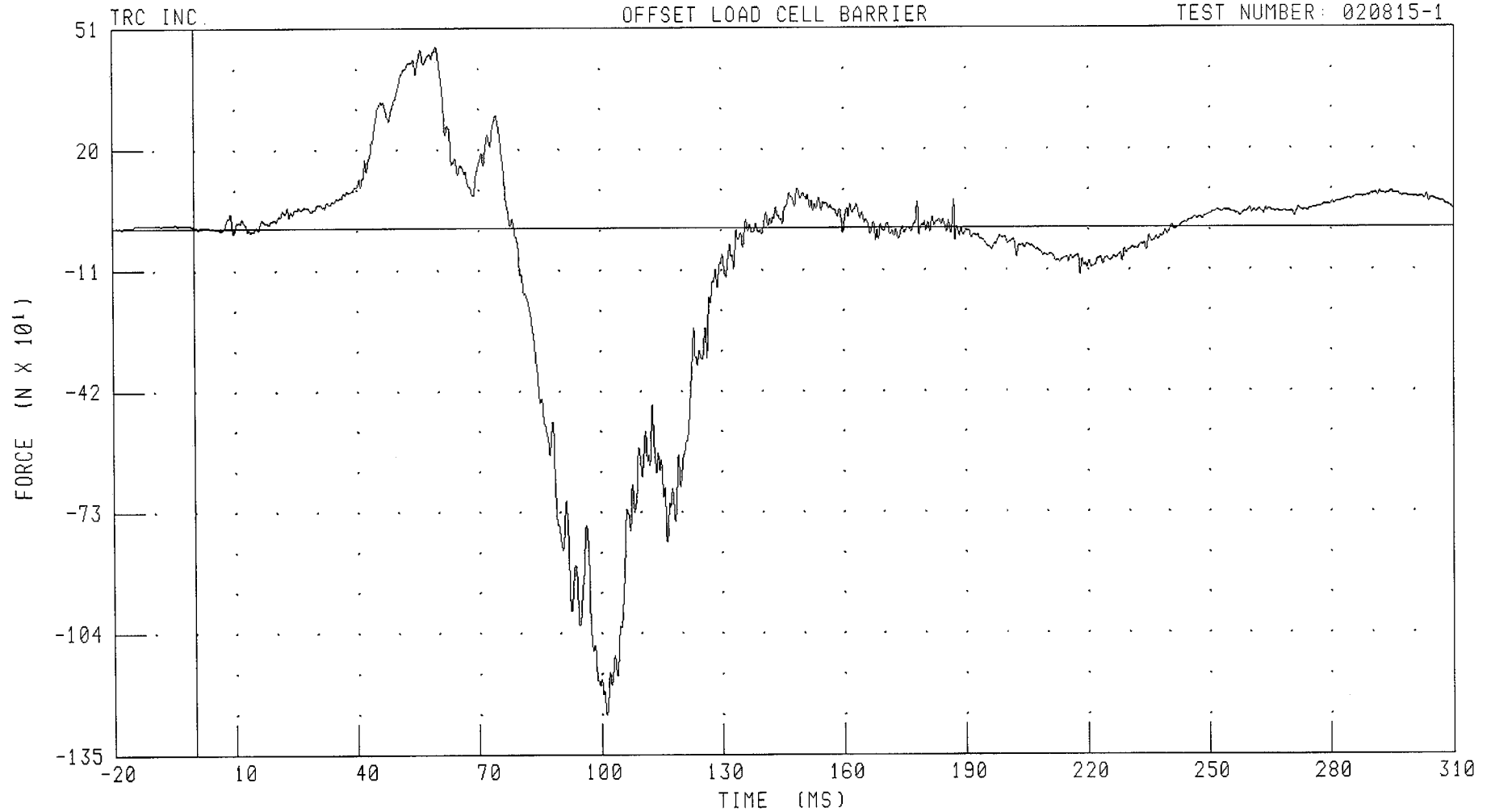
PEAK DATA: 350.73 N @ 51.28 MS; -1911.74 N @ 111.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT FEMUR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RFMZFI FILTER: CH. CLASS 600

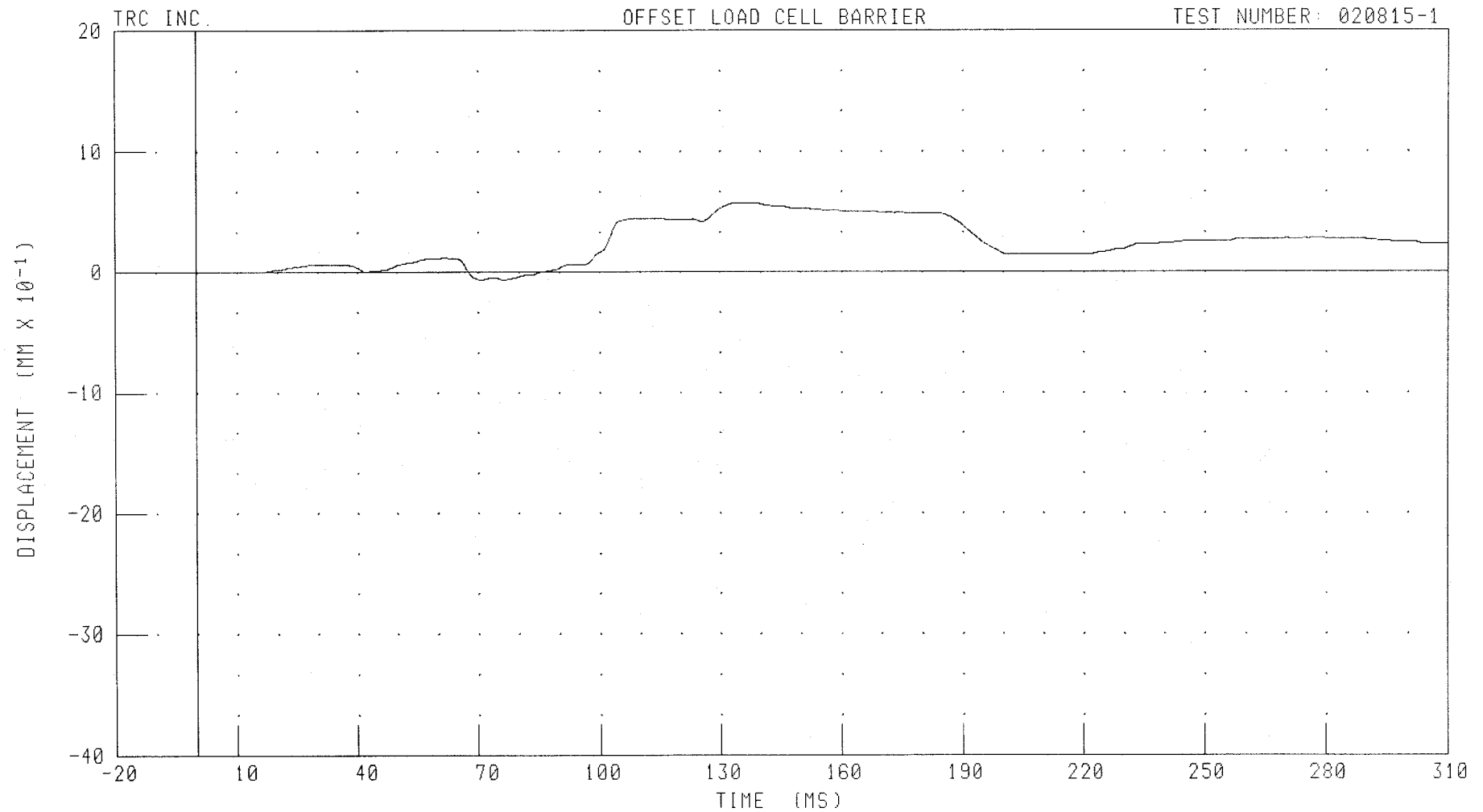
PEAK DATA: 463.74 N @ 59.76 MS; -1248.78 N @ 101.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT TIBIA TO FEMUR DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: KNLXD1 FILTER: CH. CLASS 180

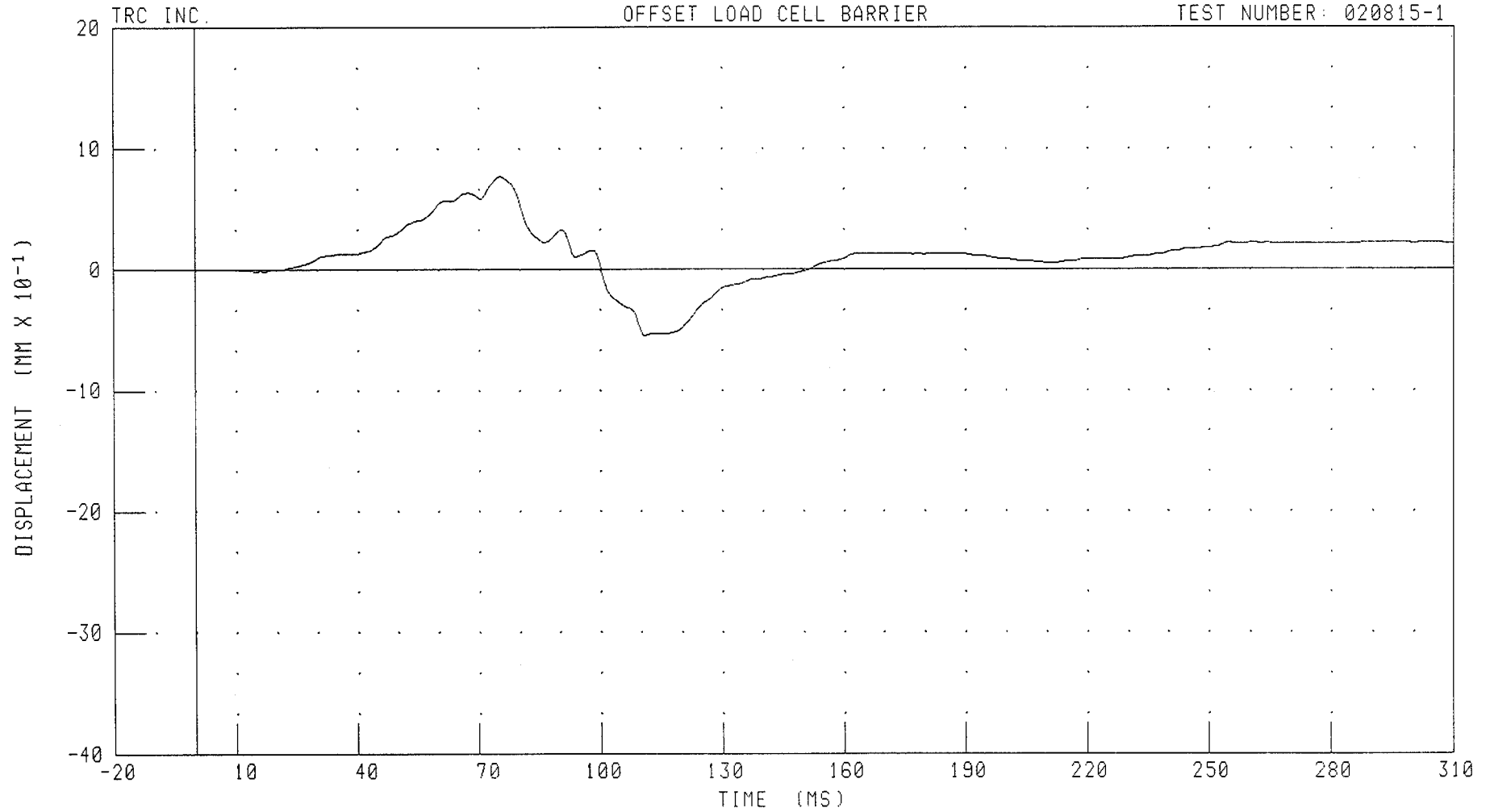
PEAK DATA: 0.57 MM @ 135.76 MS; -0.06 MM @ 76.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT TIBIA TO FEMUR DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: KNRXD1 FILTER: CH. CLASS 180

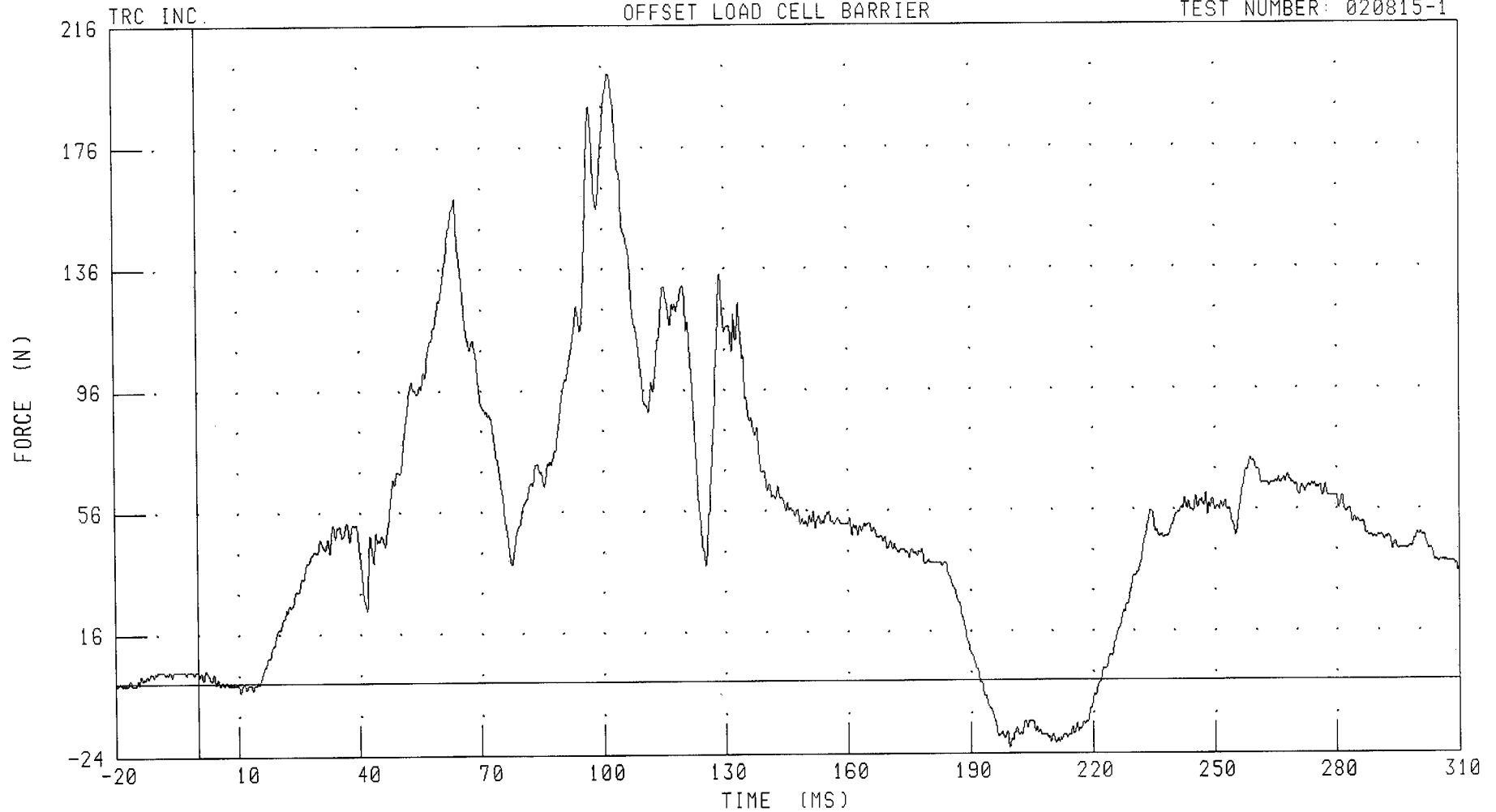
PEAK DATA: 0.77 MM @ 75.44 MS; -0.55 MM @ 111.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT UPPER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLXF1 FILTER: CH. CLASS 600

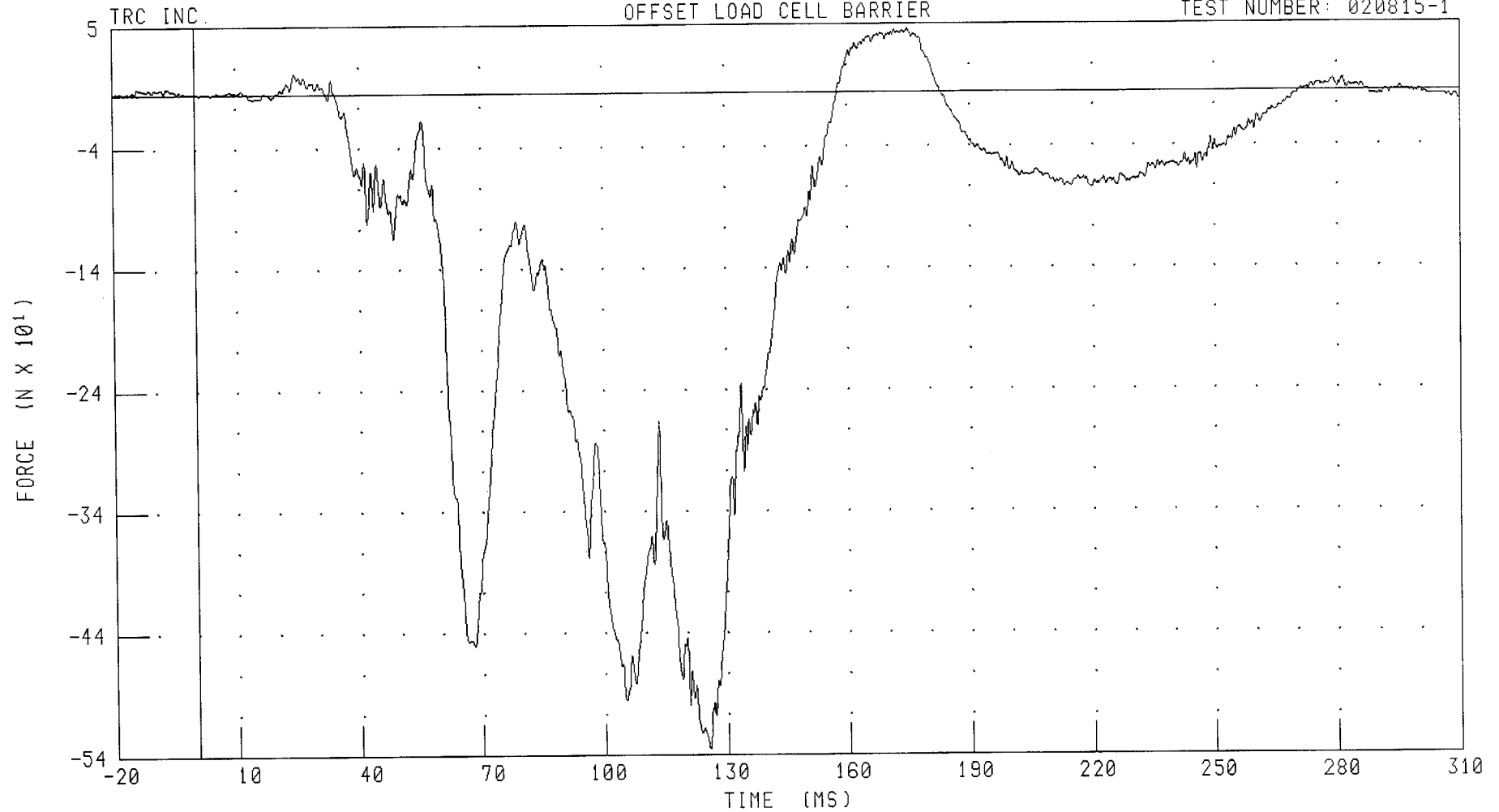
PEAK DATA: 200.25 N @ 101.76 MS; -21.92 N @ 199.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT UPPER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1

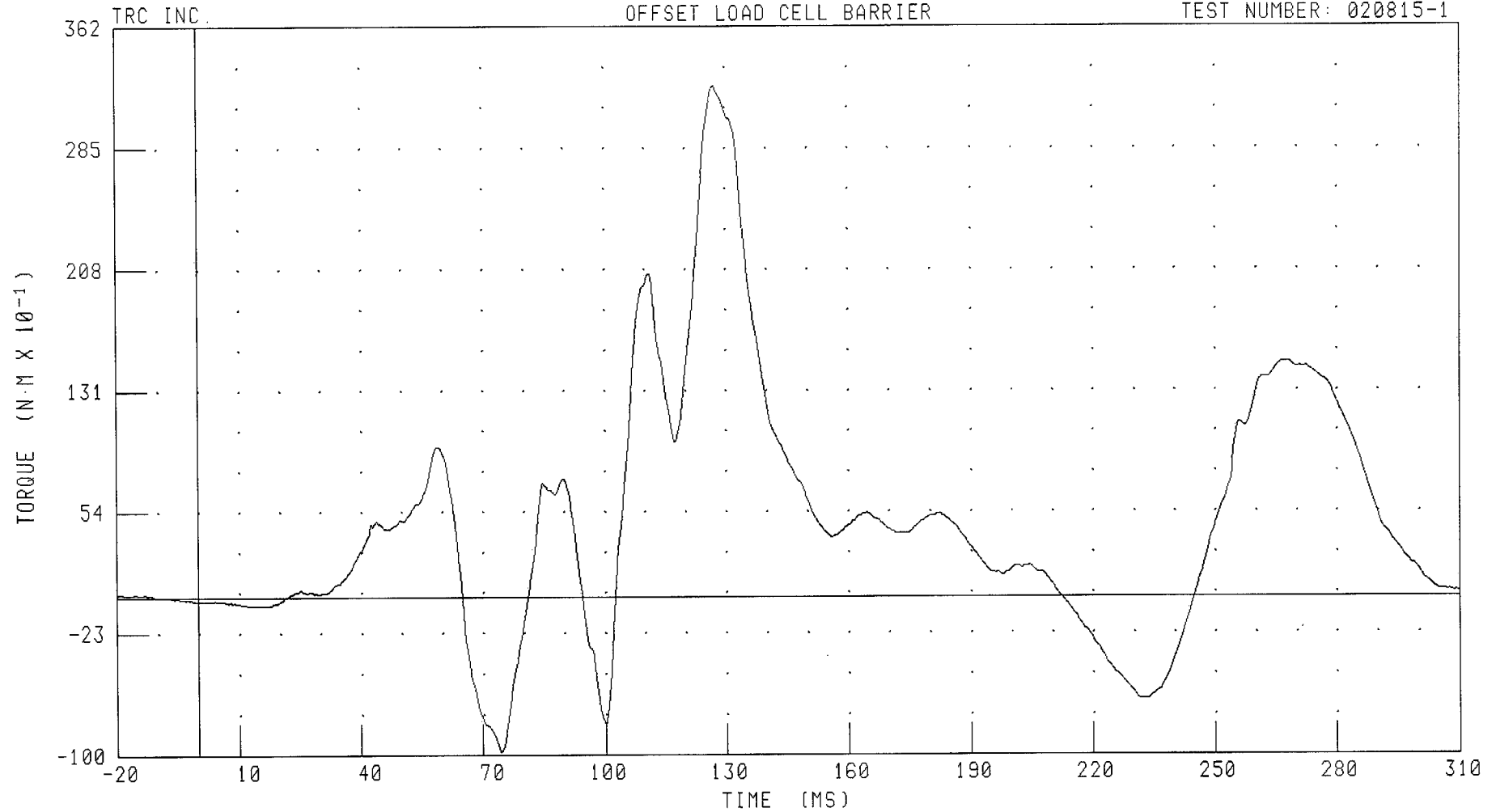


CHANNEL: TBLZF1 FILTER: CH. CLASS 600

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER LEFT UPPER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



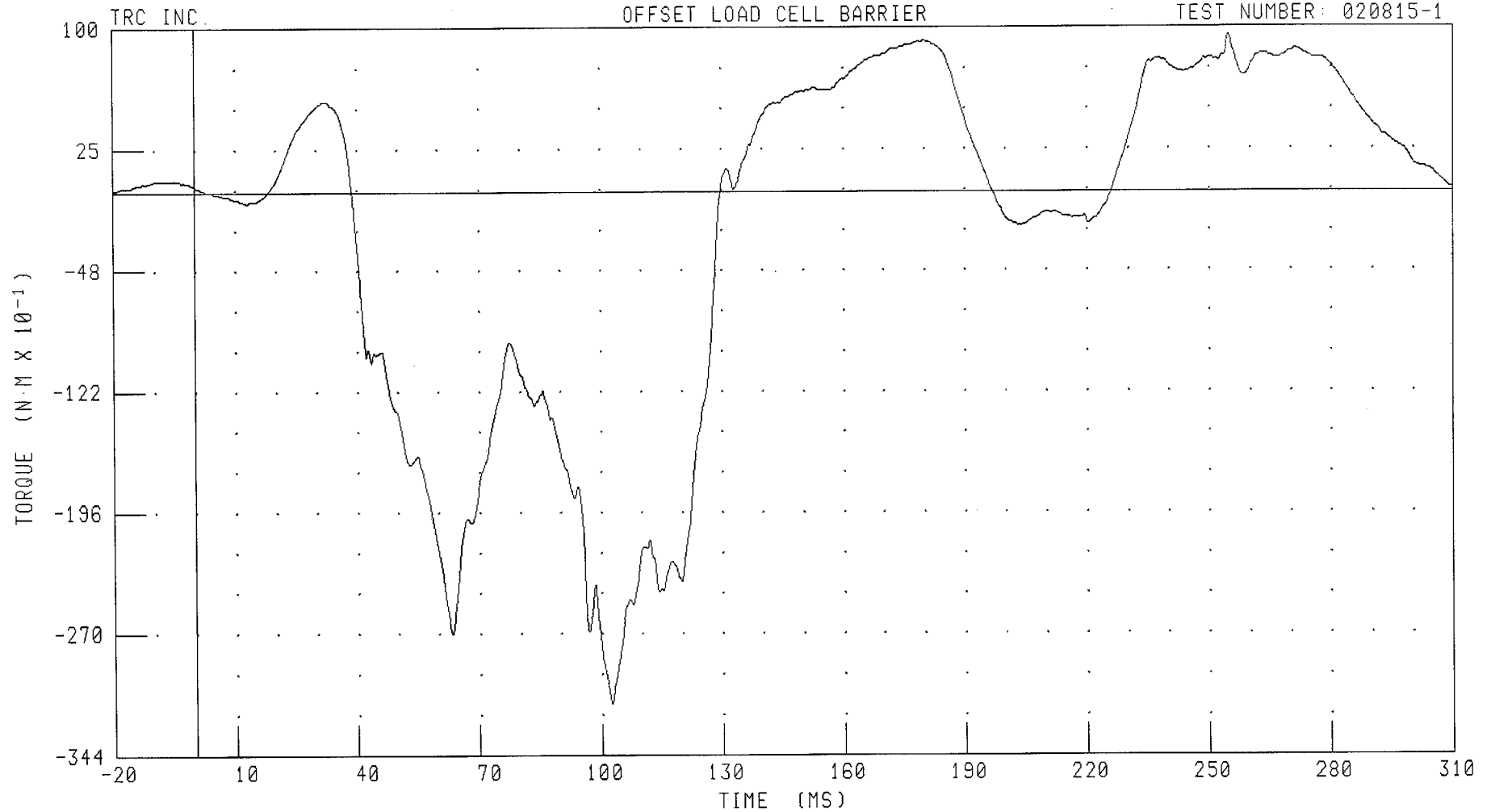
CHANNEL: TBLXM1 FILTER: CH. CLASS 600

PEAK DATA: 32.40 N·M @ 127.36 MS; -9.81 N·M @ 74.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER LEFT UPPER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLYM1 FILTER: CH. CLASS 600

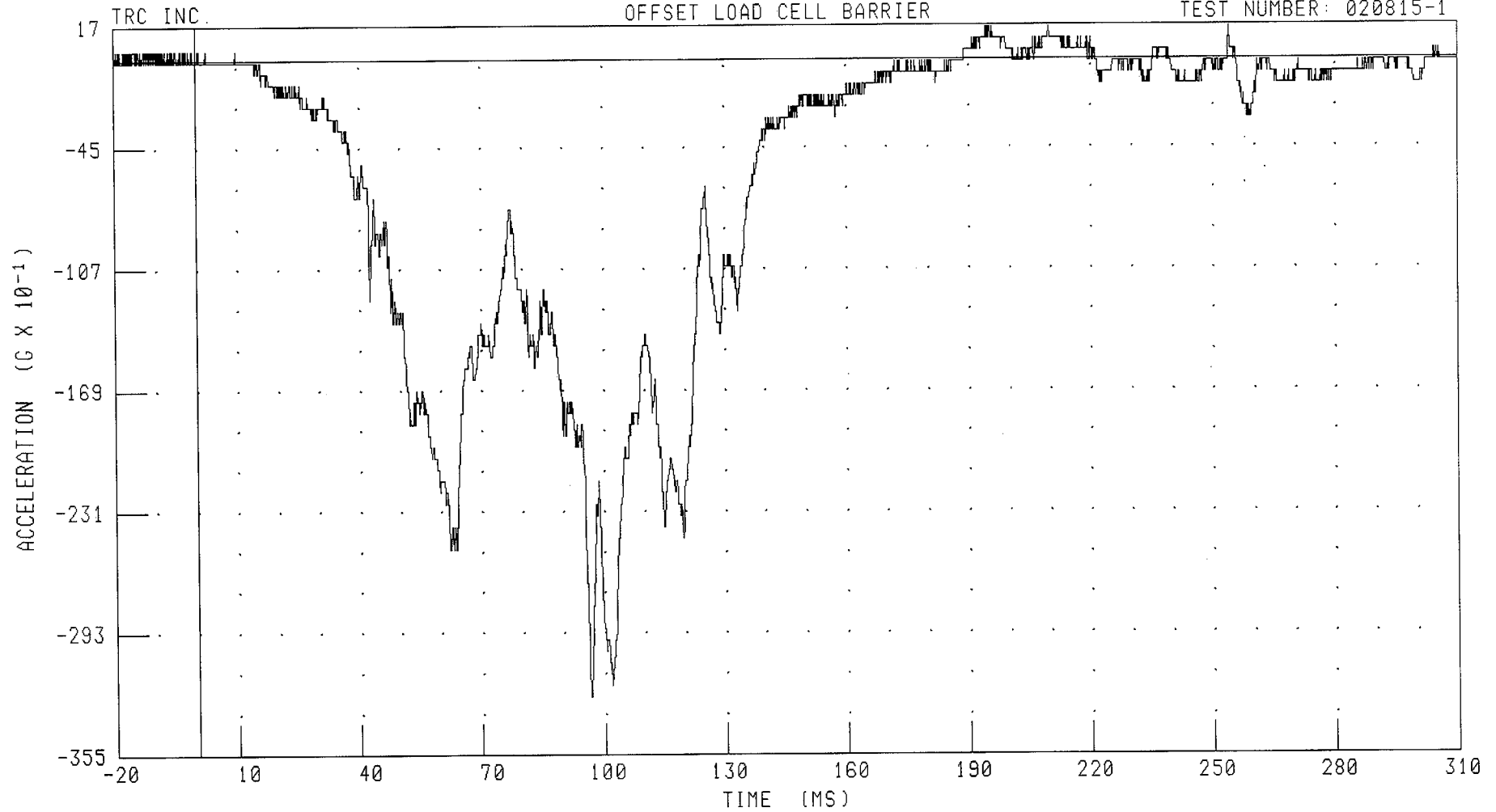
PEAK DATA: 9.50 N·M @ 254.88 MS; -31.28 N·M @ 102.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT TIBIA X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLXG1 FILTER: CH. CLASS 1000

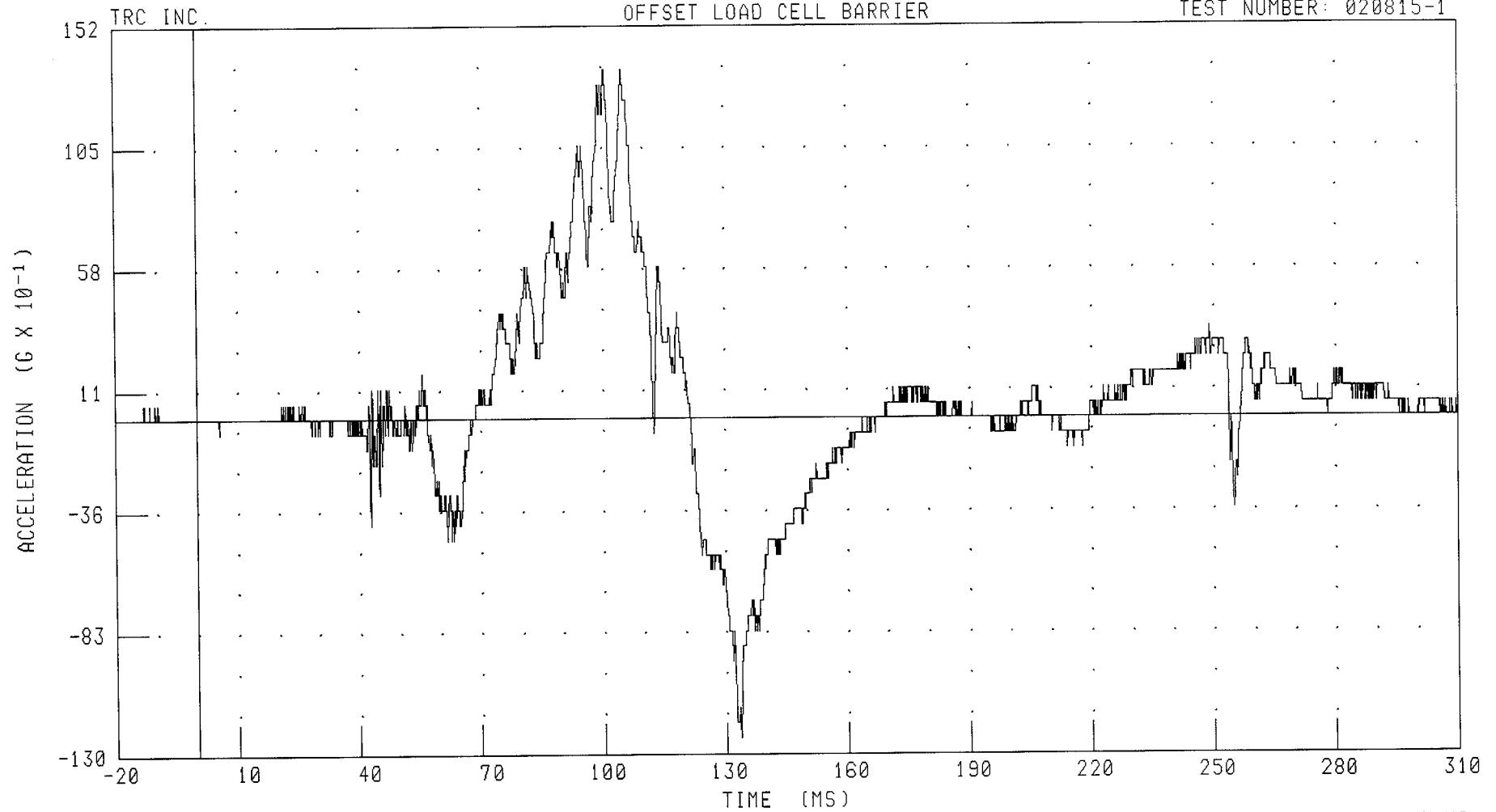
PEAK DATA: 1.62 G @ 194.32 MS; -32.58 G @ 96.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT TIBIA Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLYG1 FILTER: CH. CLASS 1000

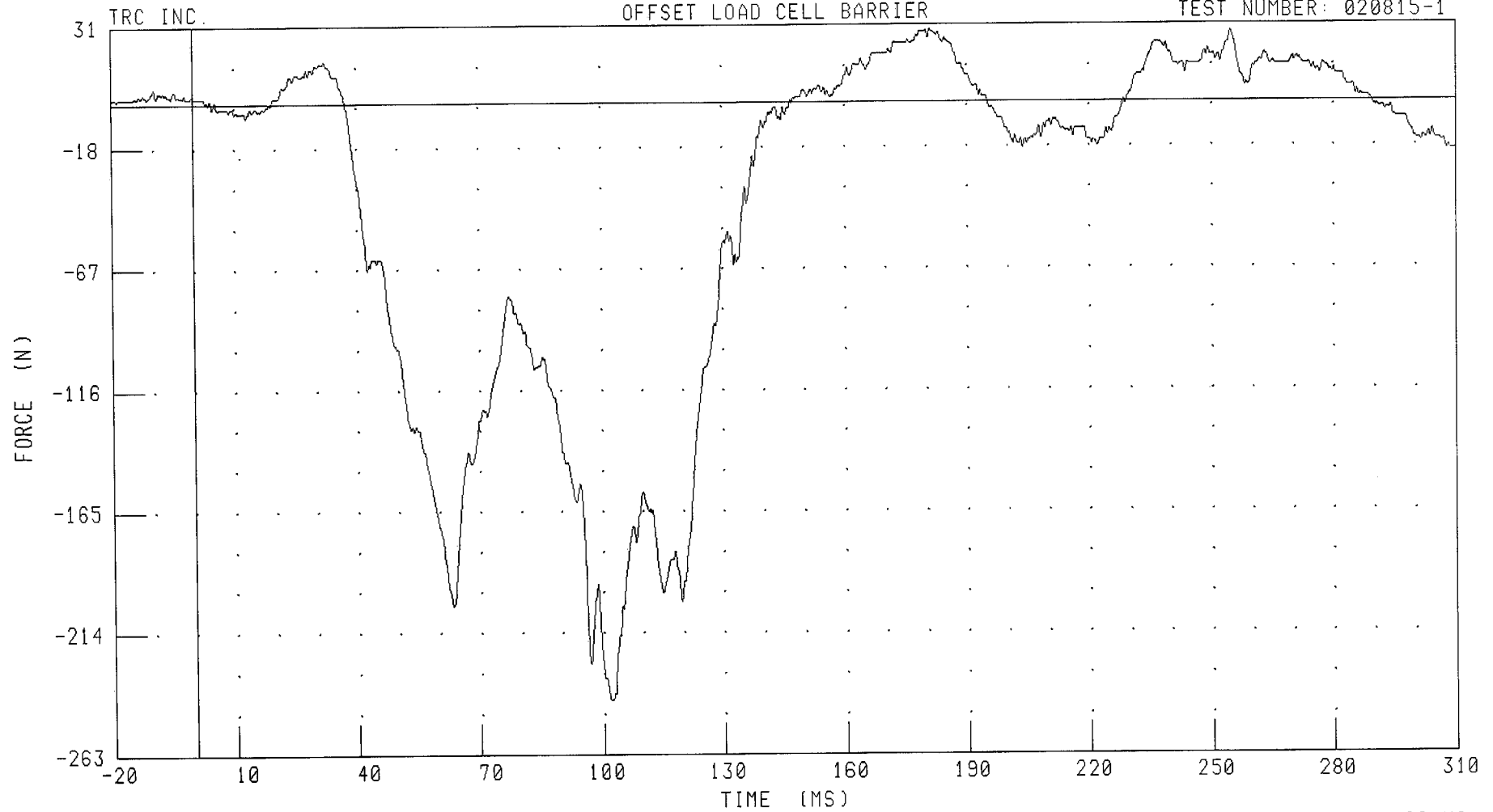
PEAK DATA: 13.53 G @ 100.72 MS; -12.37 G @ 133.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT LOWER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLXF1 FILTER: CH. CLASS 600

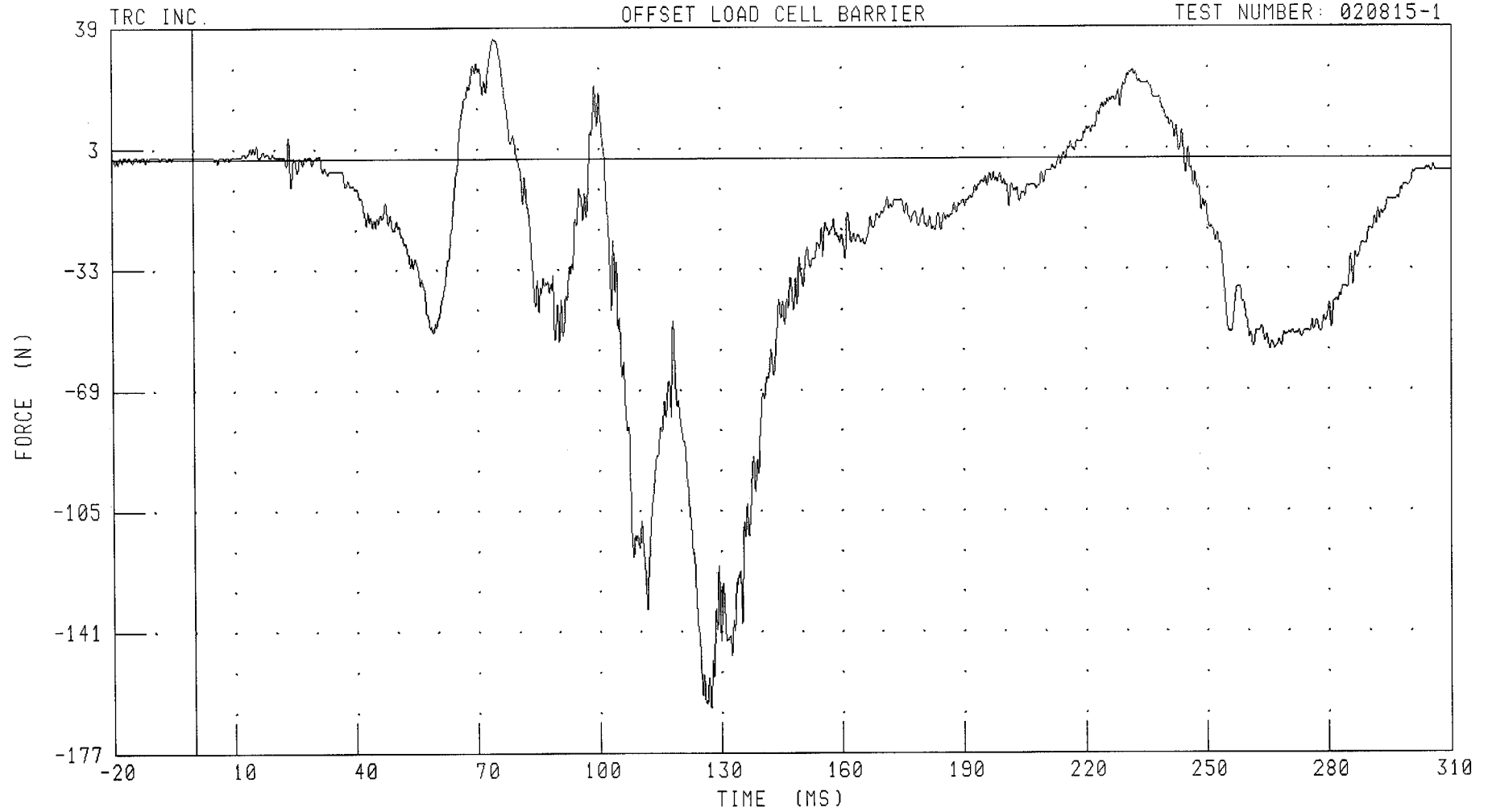
PEAK DATA: 29.08 N @ 181.20 MS; -241.20 N @ 102.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT LOWER TIBIA Y-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLYF1 FILTER: CH. CLASS 600

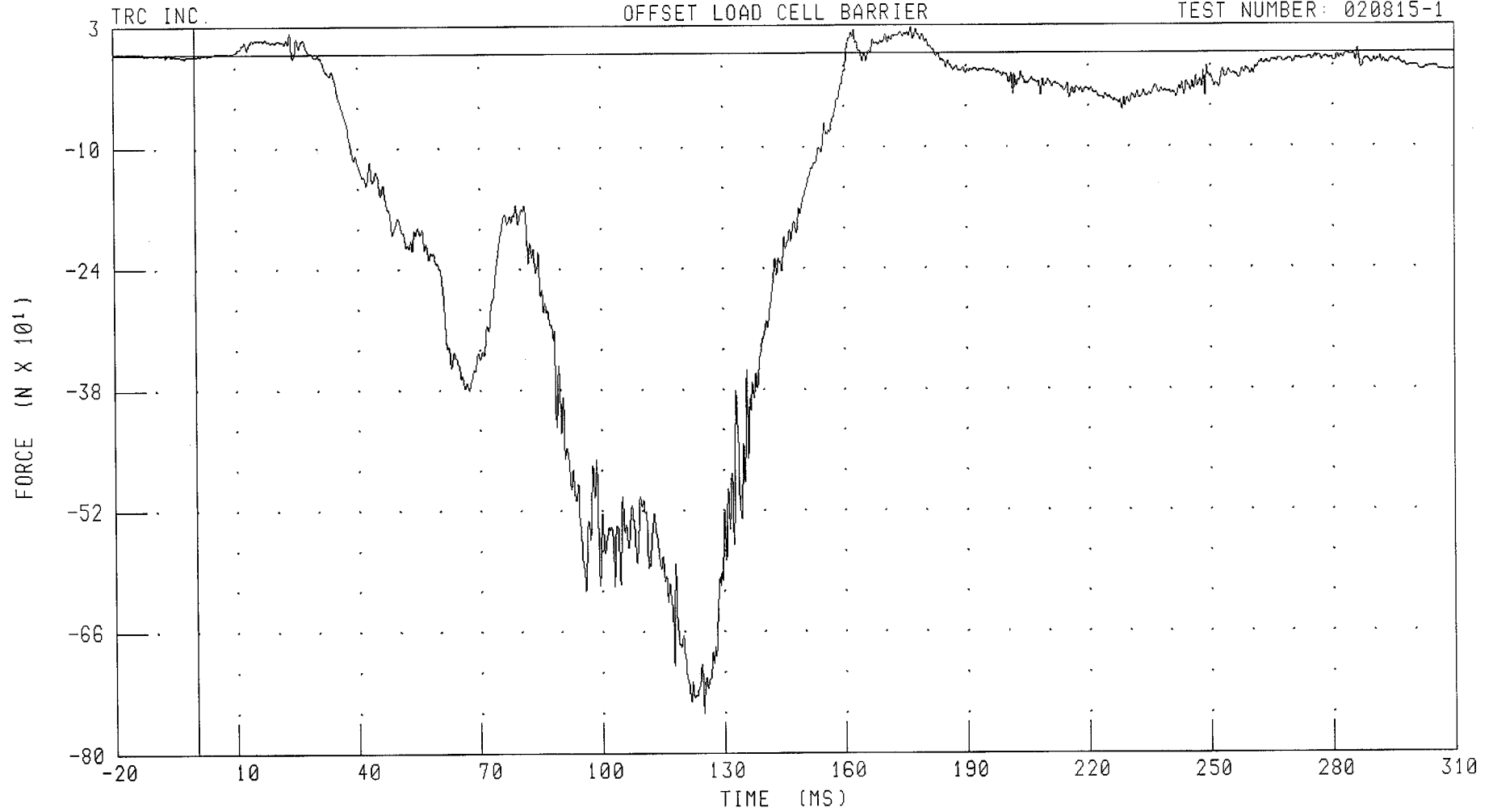
PEAK DATA: 35.58 N @ 74.24 MS; -163.53 N @ 127.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT LOWER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



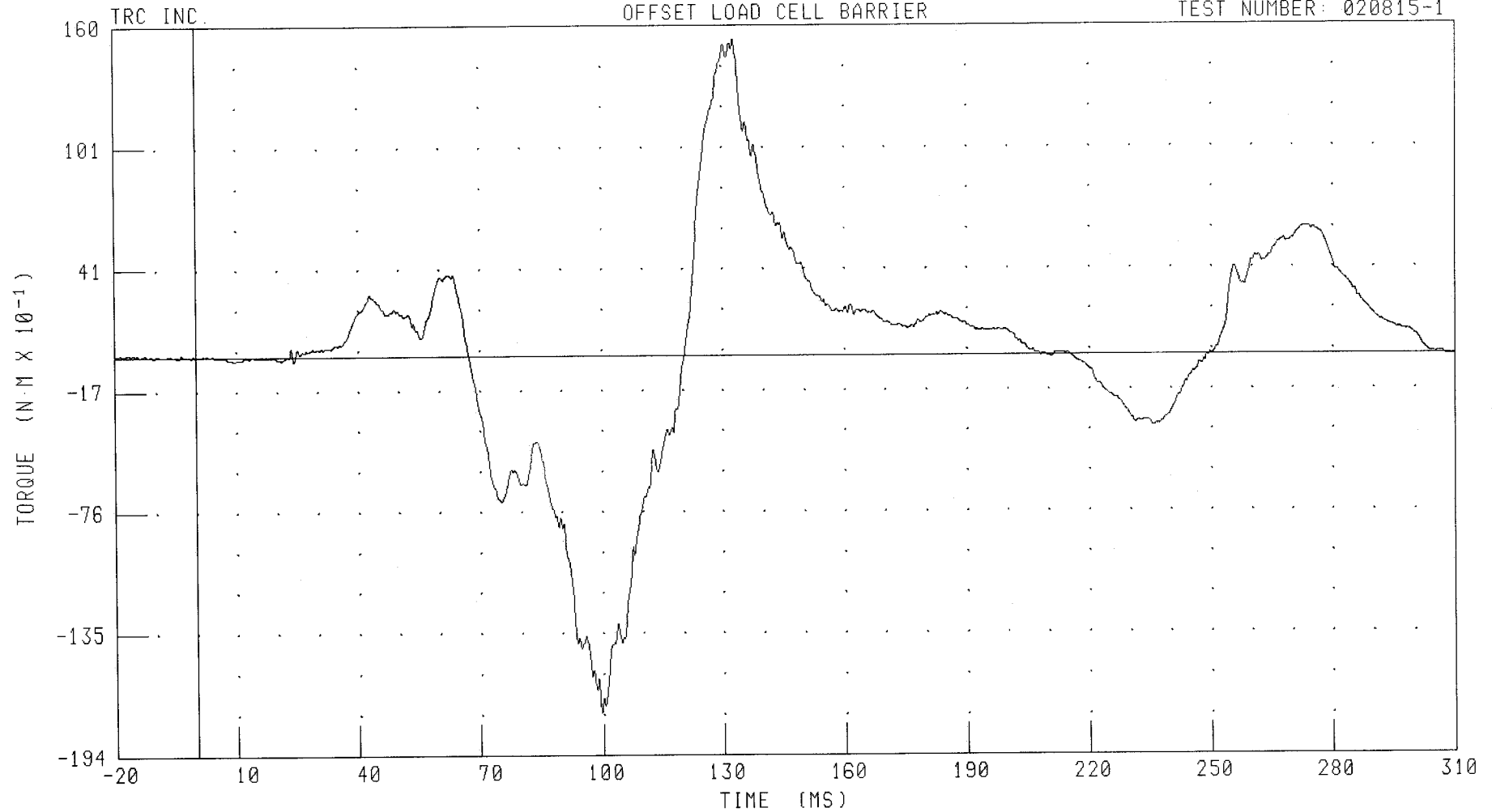
CHANNEL: ANLZF1 FILTER: CH. CLASS 600

PEAK DATA: 29.47 N @ 176.72 MS; -761.60 N @ 124.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER LEFT LOWER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



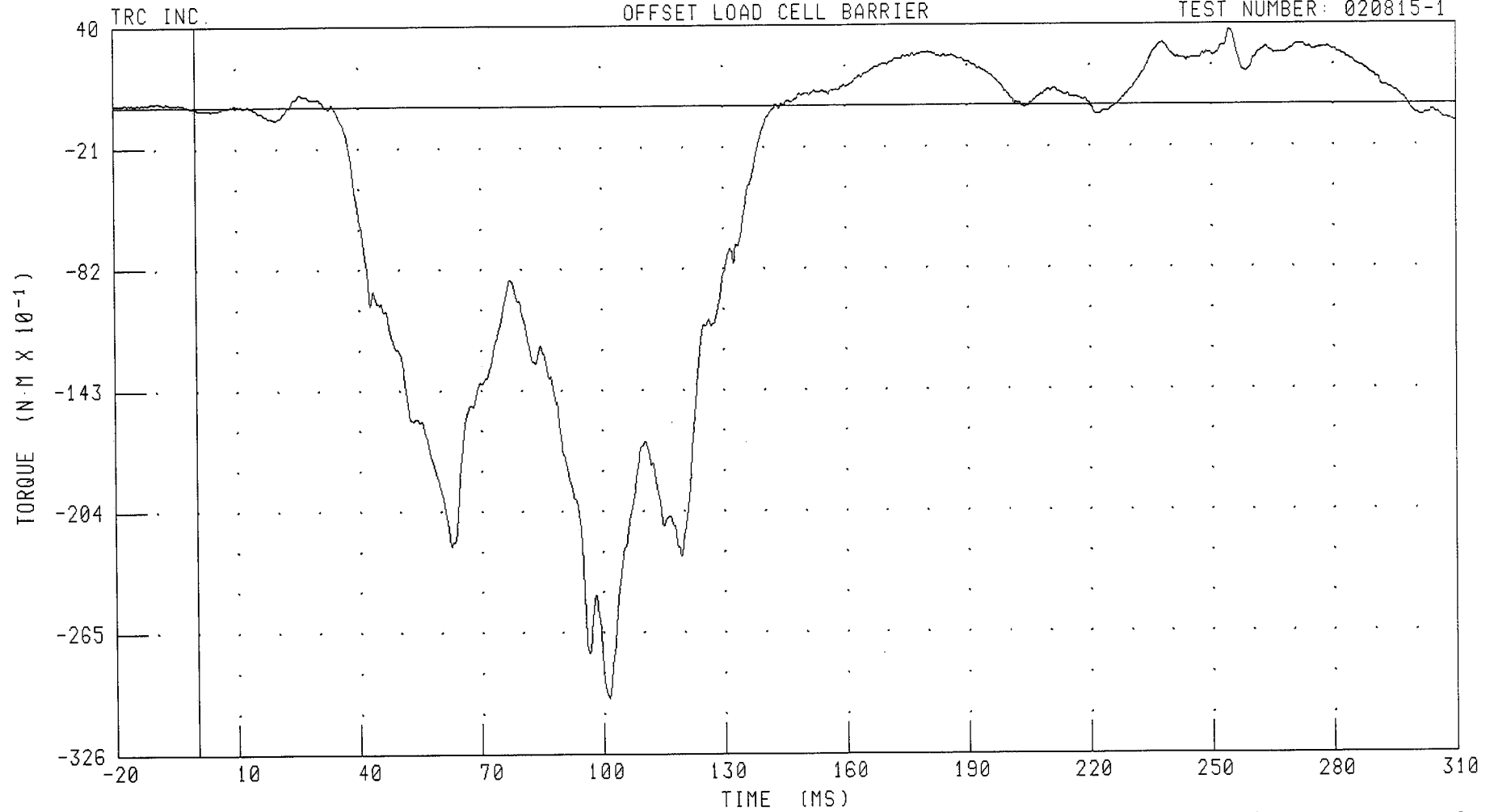
CHANNEL: ANLXM1 FILTER: CH. CLASS 600

PEAK DATA: 15.33 N·m @ 133.04 ms; -17.36 N·m @ 99.68 ms

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER LEFT LOWER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLYM1

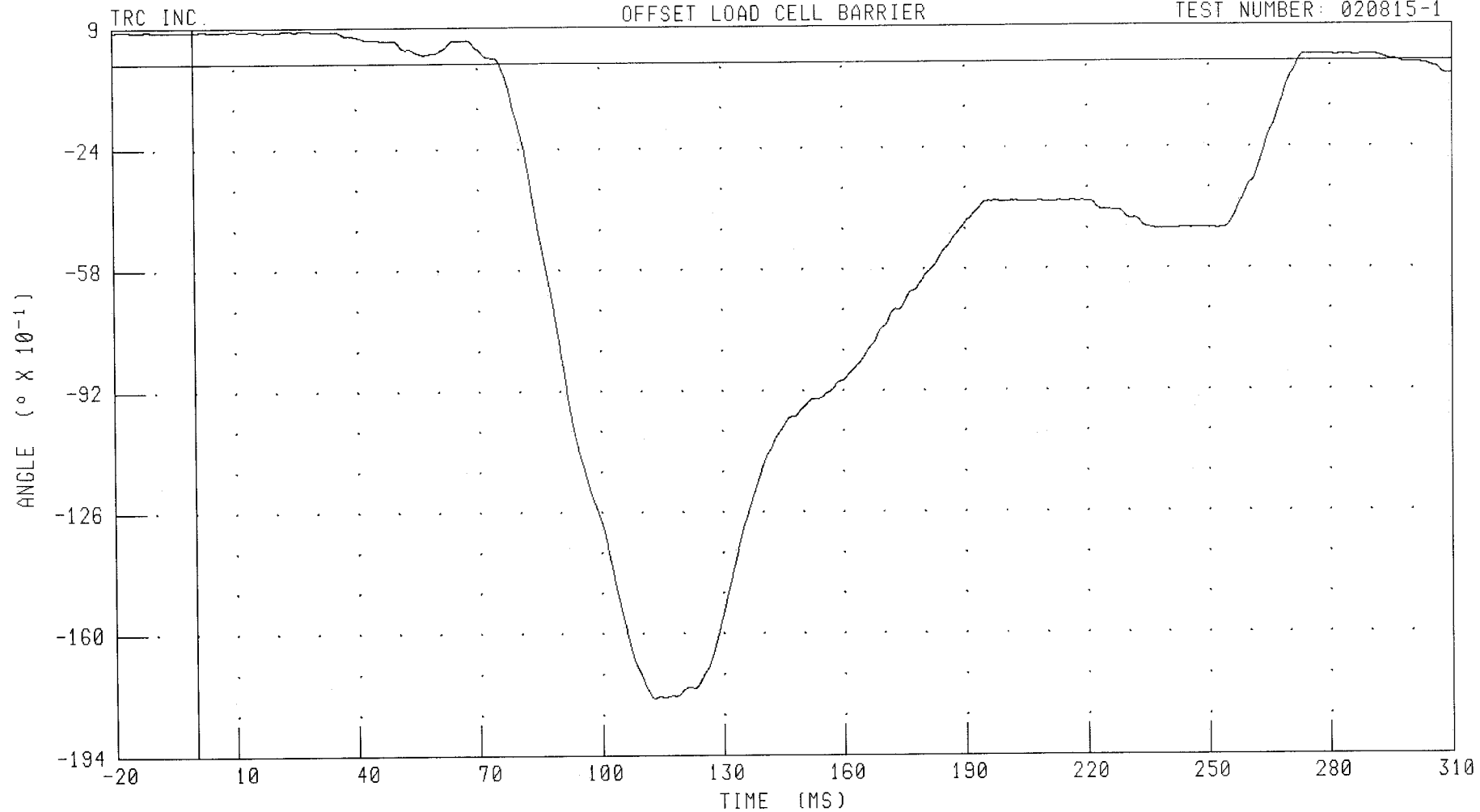
FILTER: CH. CLASS 600

PEAK DATA: 3.69 N·M @ 254.56 MS; -29.81 N·M @ 101.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER LEFT FOOT TO ANKLE X-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



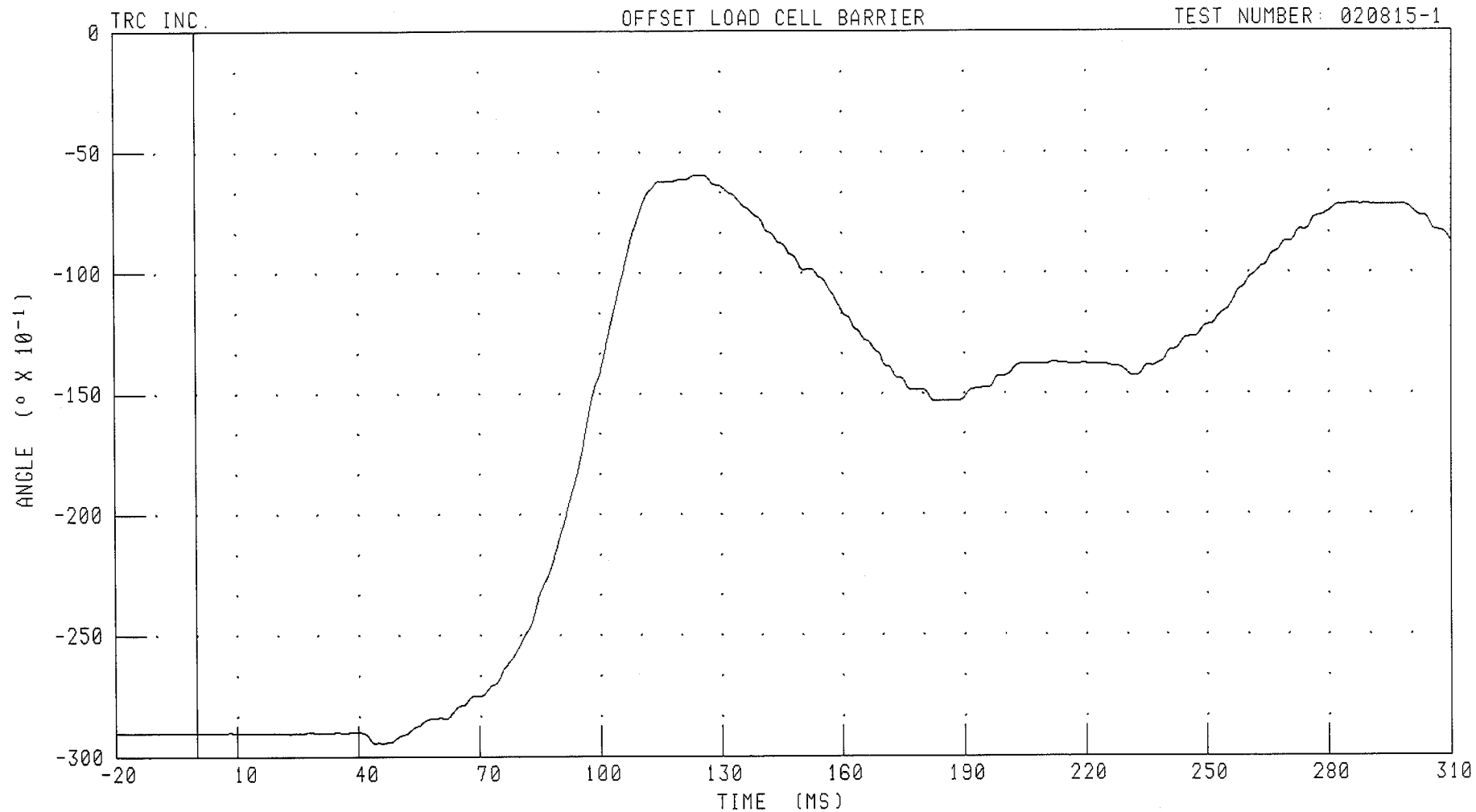
CHANNEL: FTLXD1 FILTER: CH. CLASS 180

PEAK DATA: 0.93 ° @ 23.76 MS; -17.81 ° @ 112.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER LEFT FOOT TO ANKLE Y-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



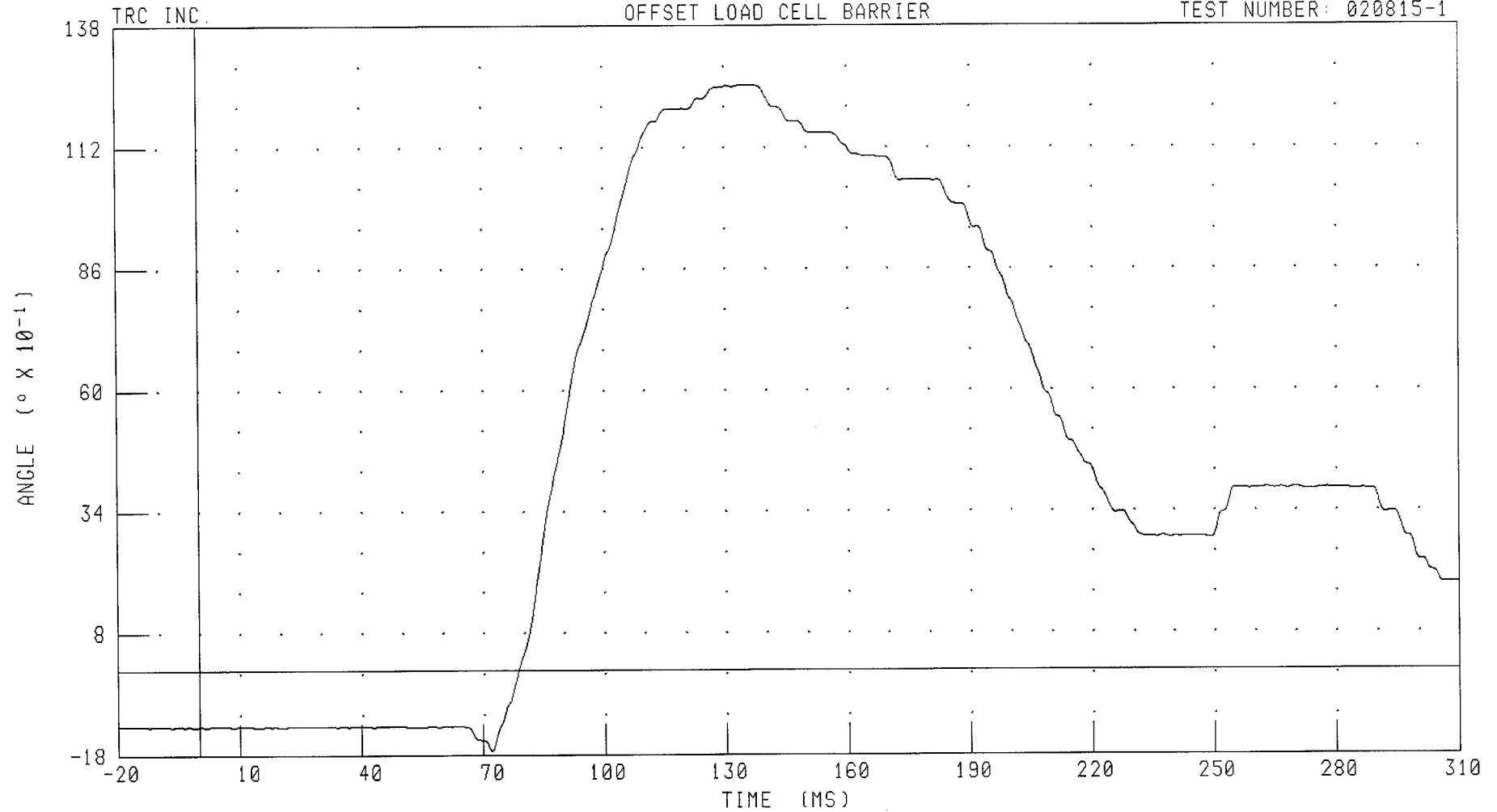
CHANNEL: FTLYD1 FILTER: CH. CLASS 180

PEAK DATA: -5.94° @ 124.40 MS; -29.46° @ 46.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER LEFT FOOT TO ANKLE Z-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLZD1 FILTER: CH. CLASS 100

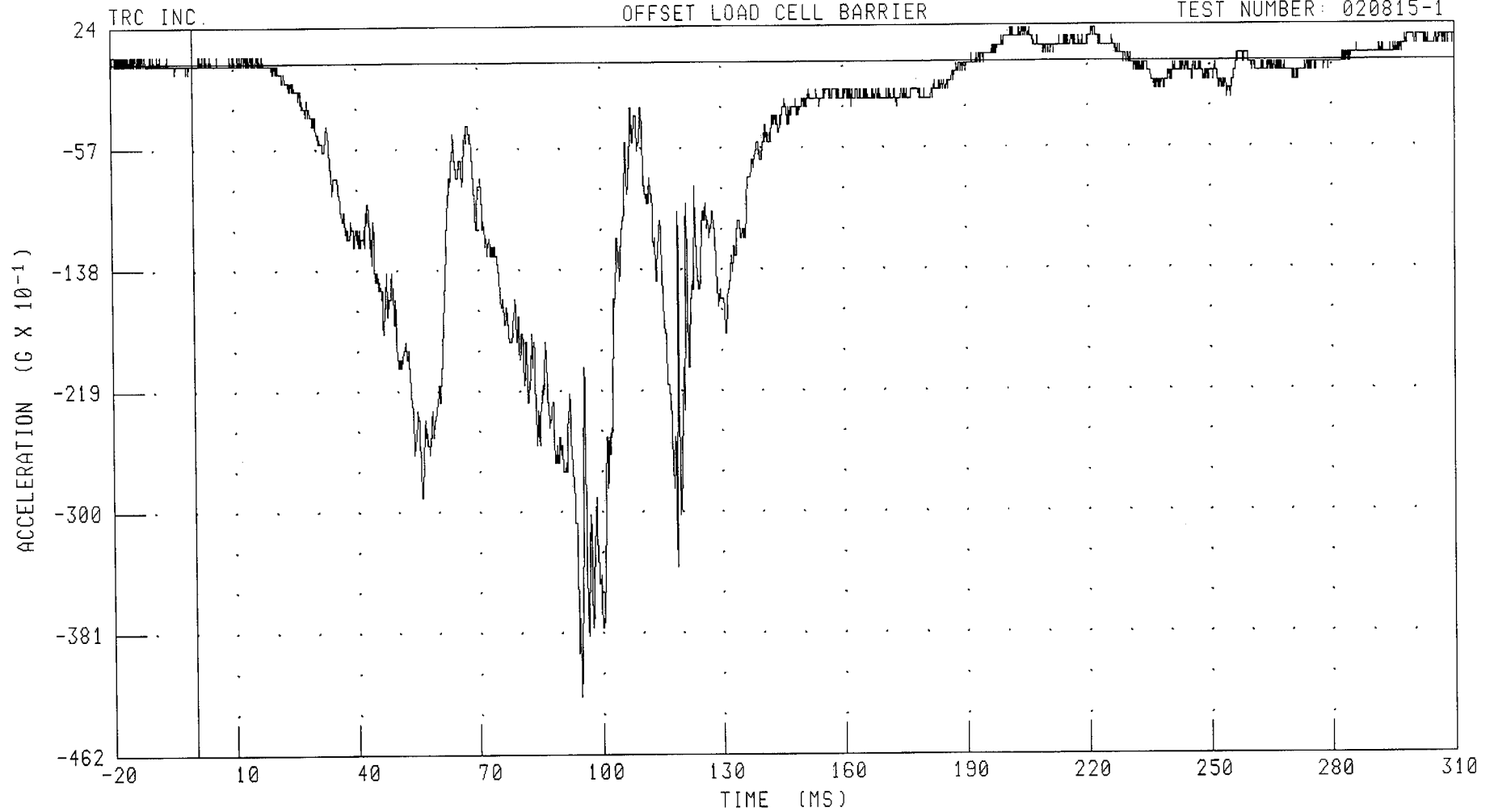
PEAK DATA: 12.54 $^{\circ}$ @ 134.88 MS; -1.71 $^{\circ}$ @ 72.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT FOOT X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLXG1 FILTER: CH. CLASS 1000

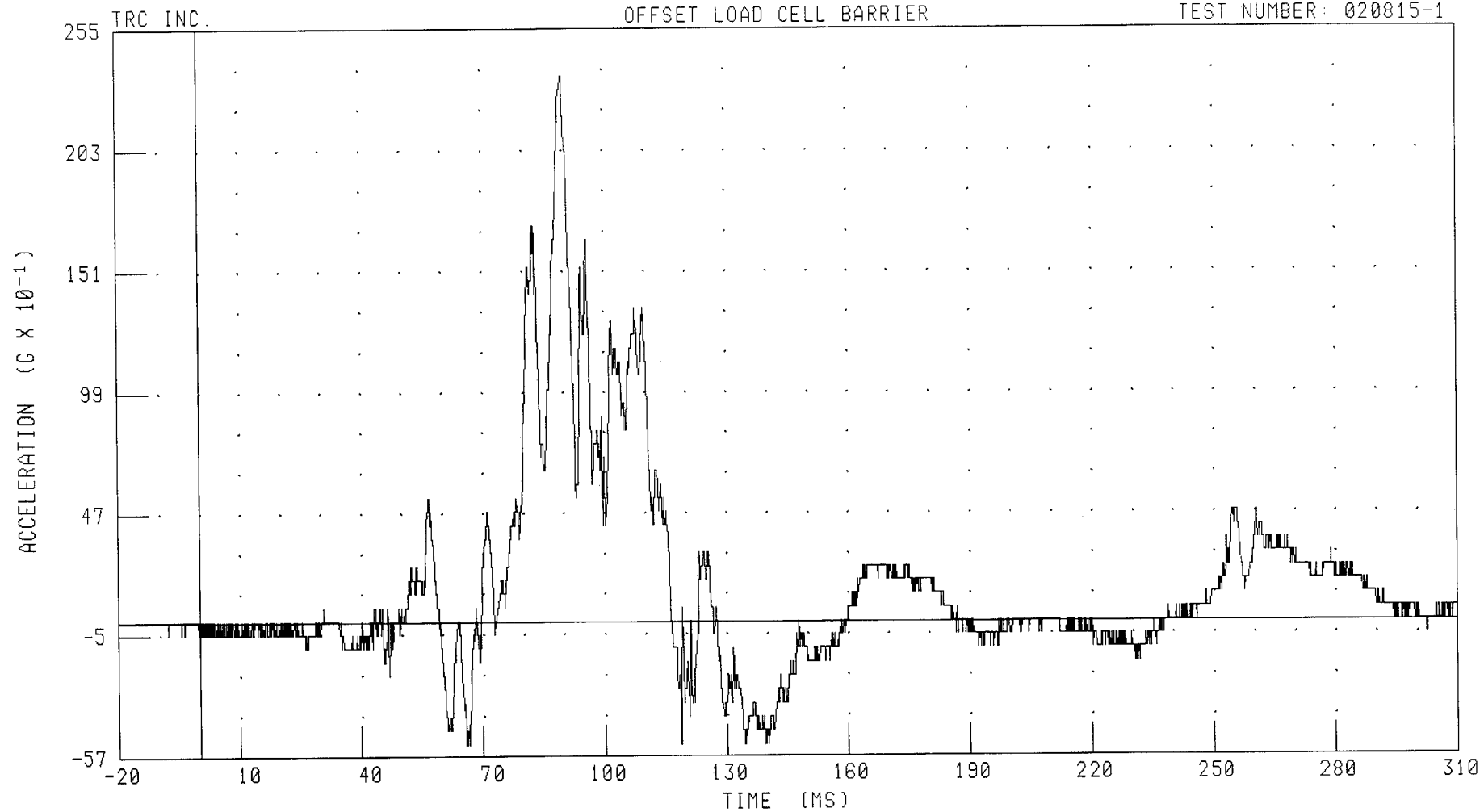
PEAK DATA: 2.21 G @ 201.28 MS; -42.38 G @ 94.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT FOOT Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLYG1 FILTER: CH. CLASS 1000

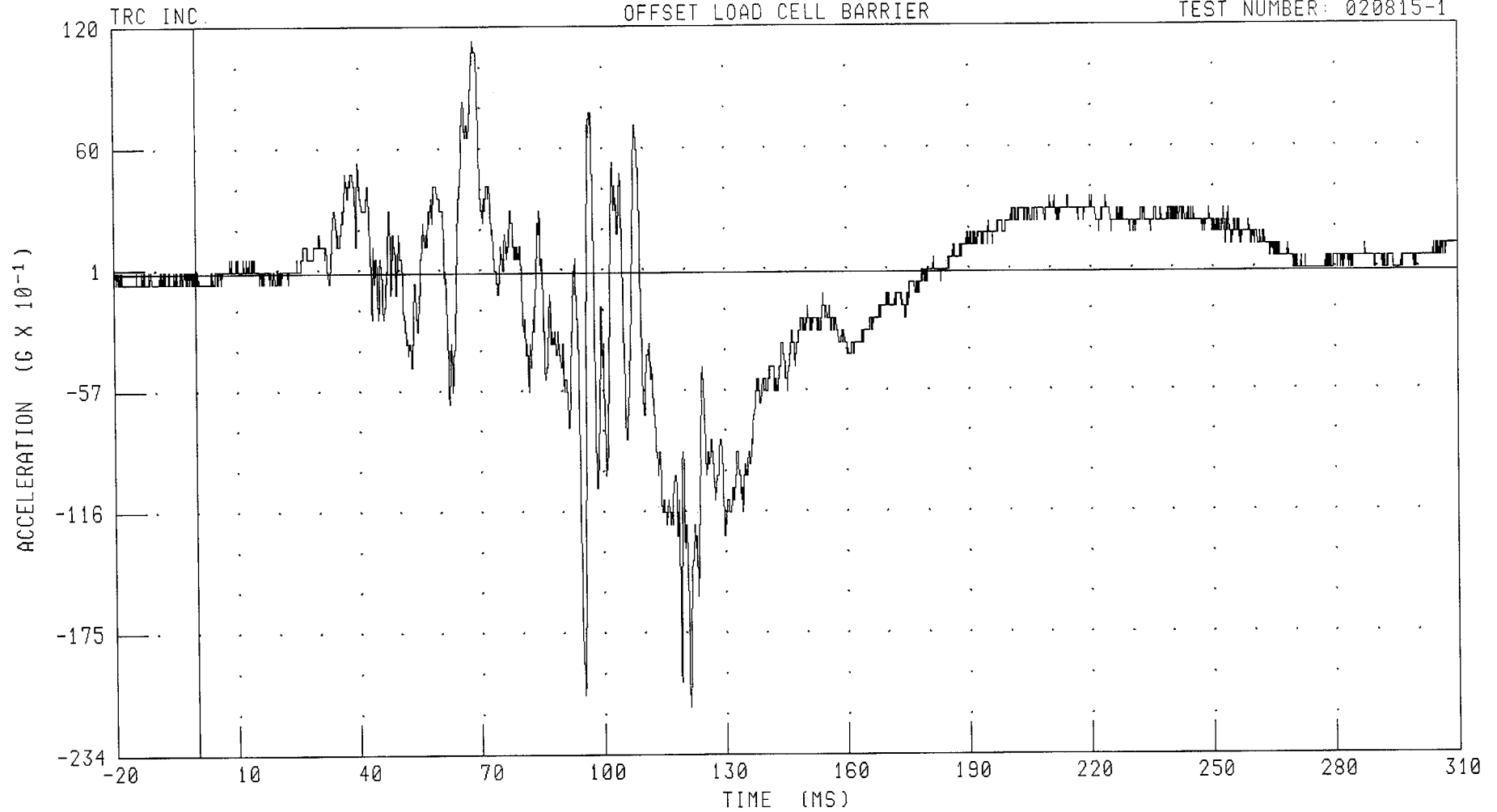
PEAK DATA: 23.51 G @ 89.84 MS; -5.21 G @ 65.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT FOOT Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLZG1 FILTER: CH. CLASS 1000

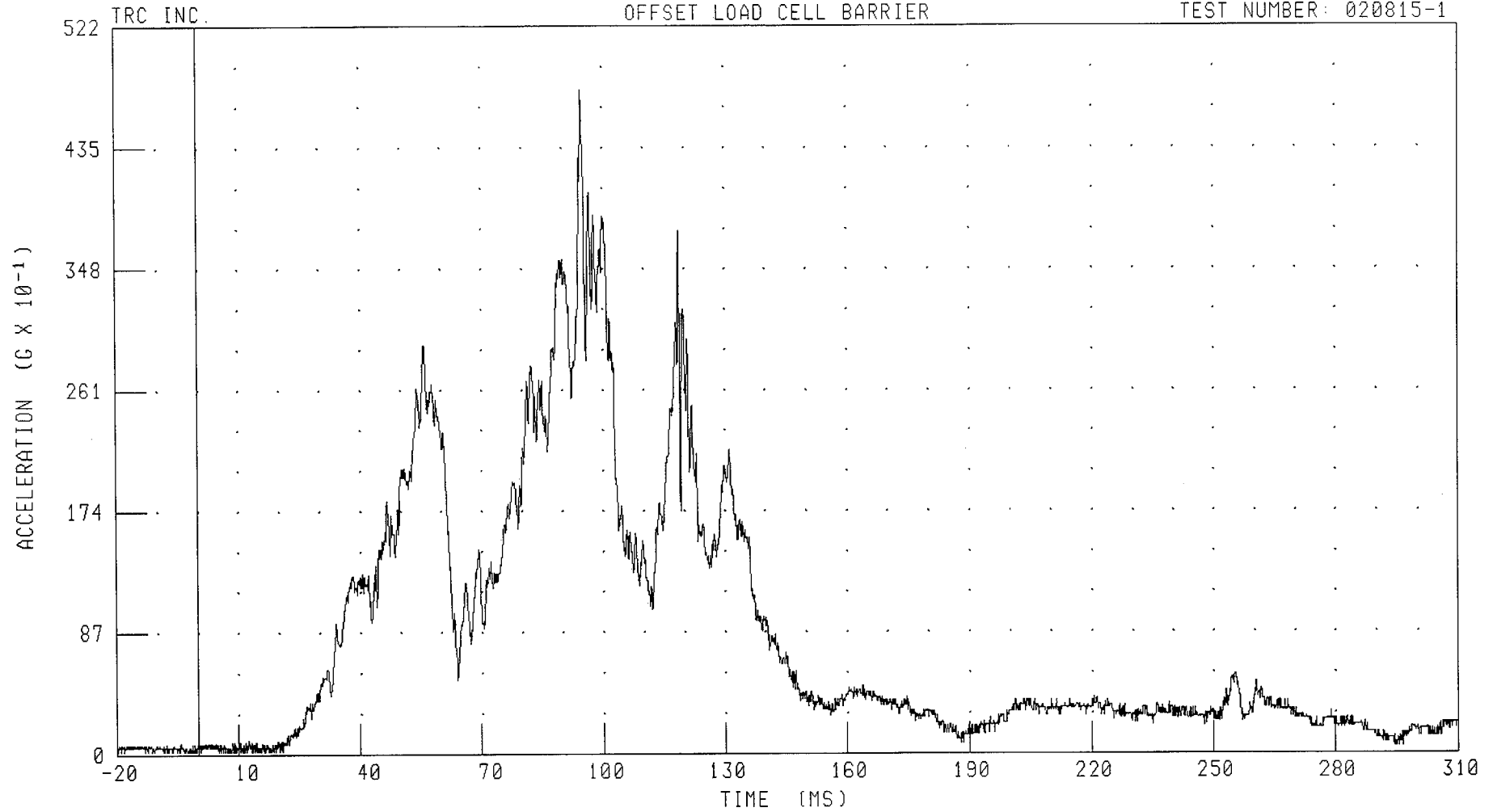
PEAK DATA: 11.33 G @ 68.72 MS; -21.08 G @ 121.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LEFT FOOT RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLRG1 FILTER: CH. CLASS 1000

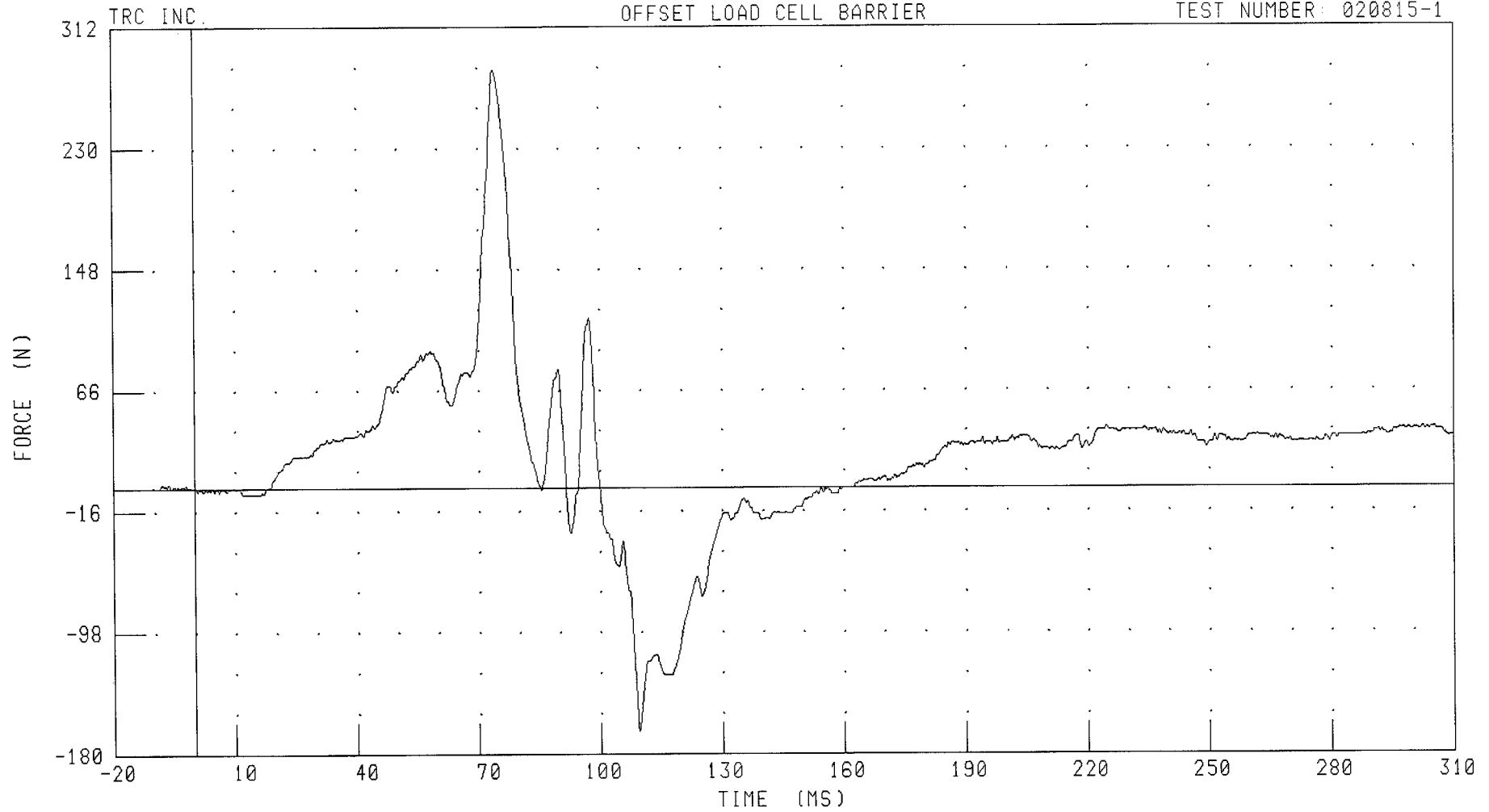
PEAK DATA: 47.66 G @ 94.88 MS; 0.18 G @ -19.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT UPPER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRXF1 FILTER: CH. CLASS 600

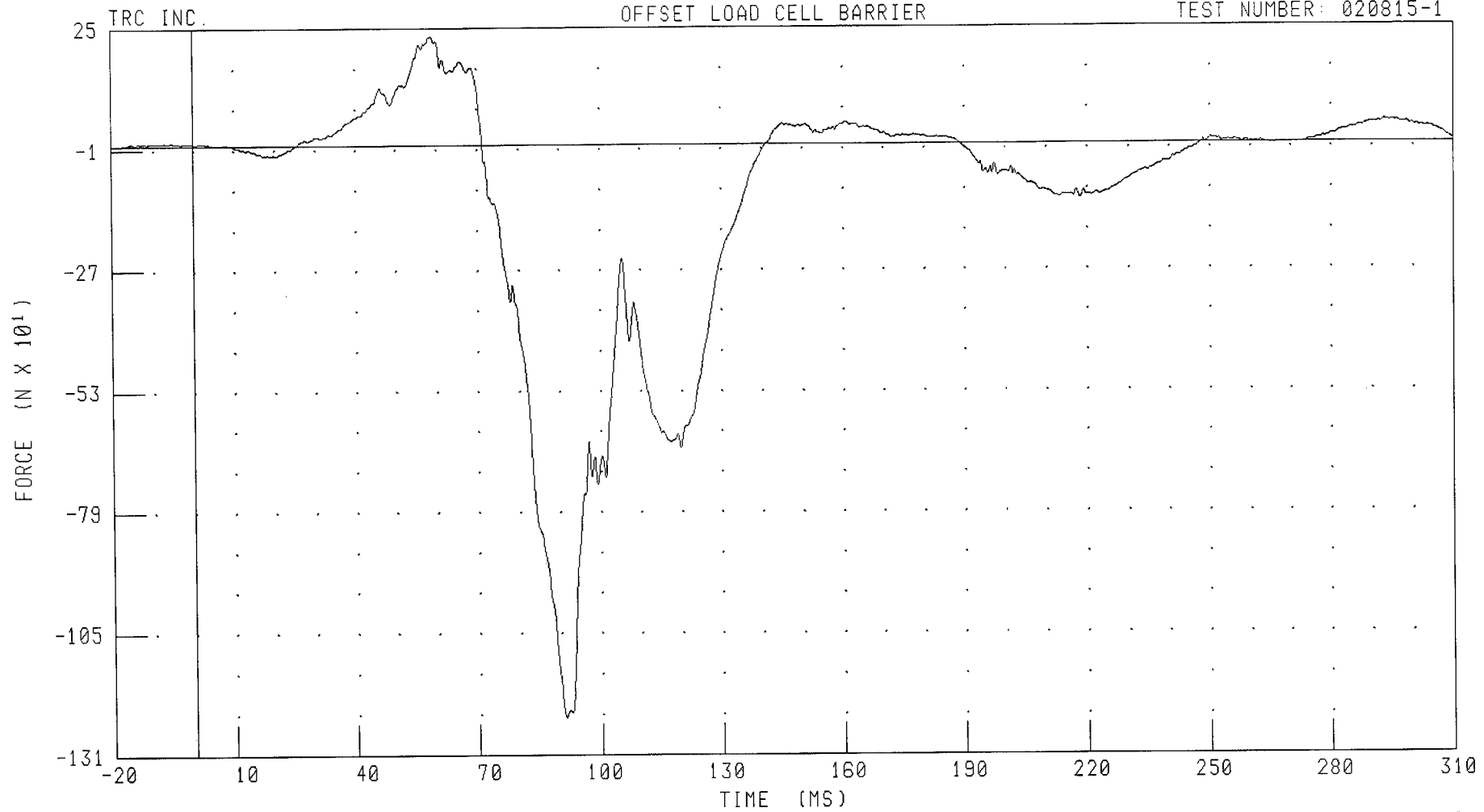
PEAK DATA: 282.97 N @ 74.00 MS; -164.60 N @ 109.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT UPPER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRZF1 FILTER: CH. CLASS 600

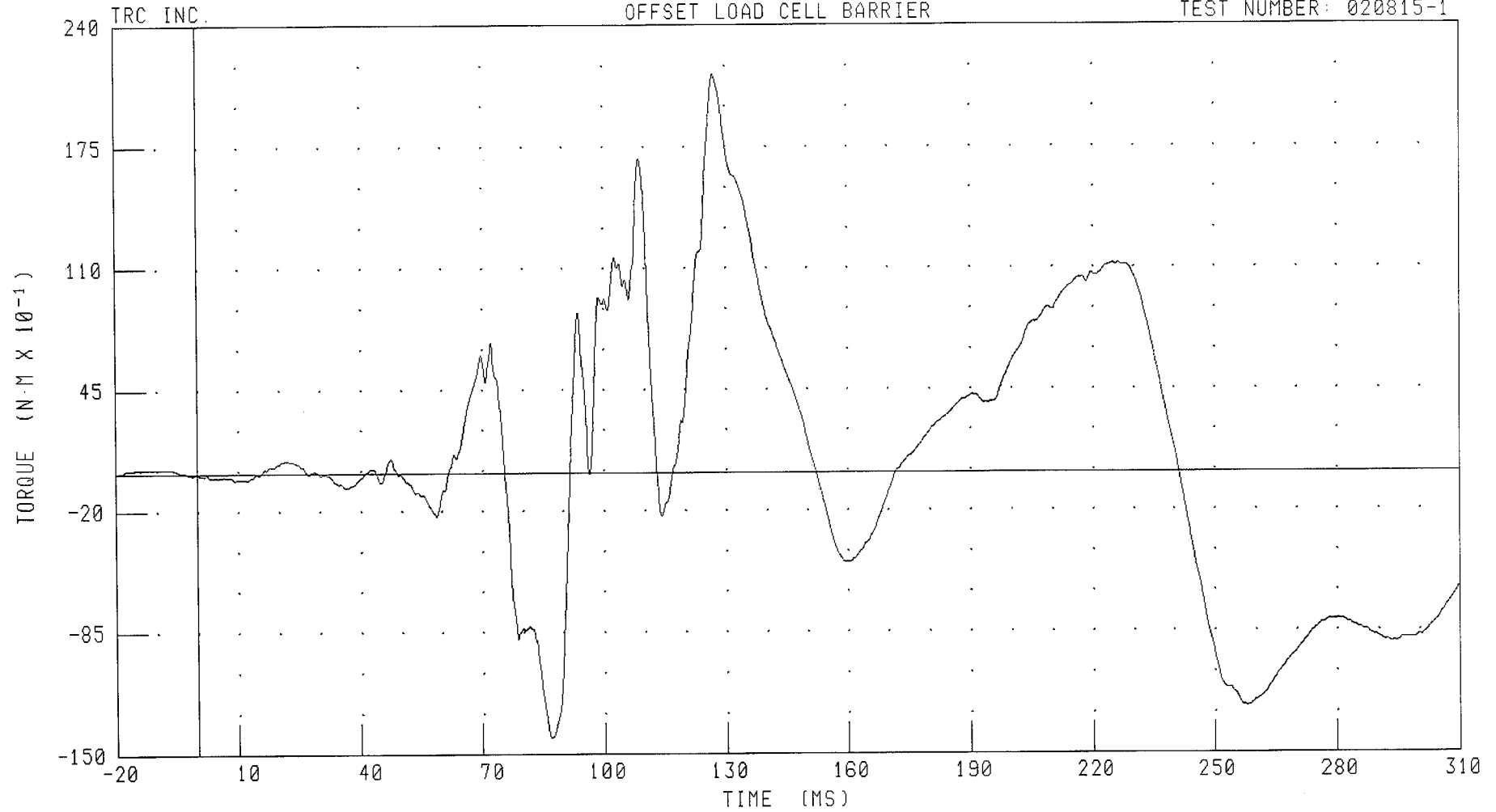
PEAK DATA: 232.27 N @ 58.96 MS; -1230.63 N @ 91.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT UPPER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1

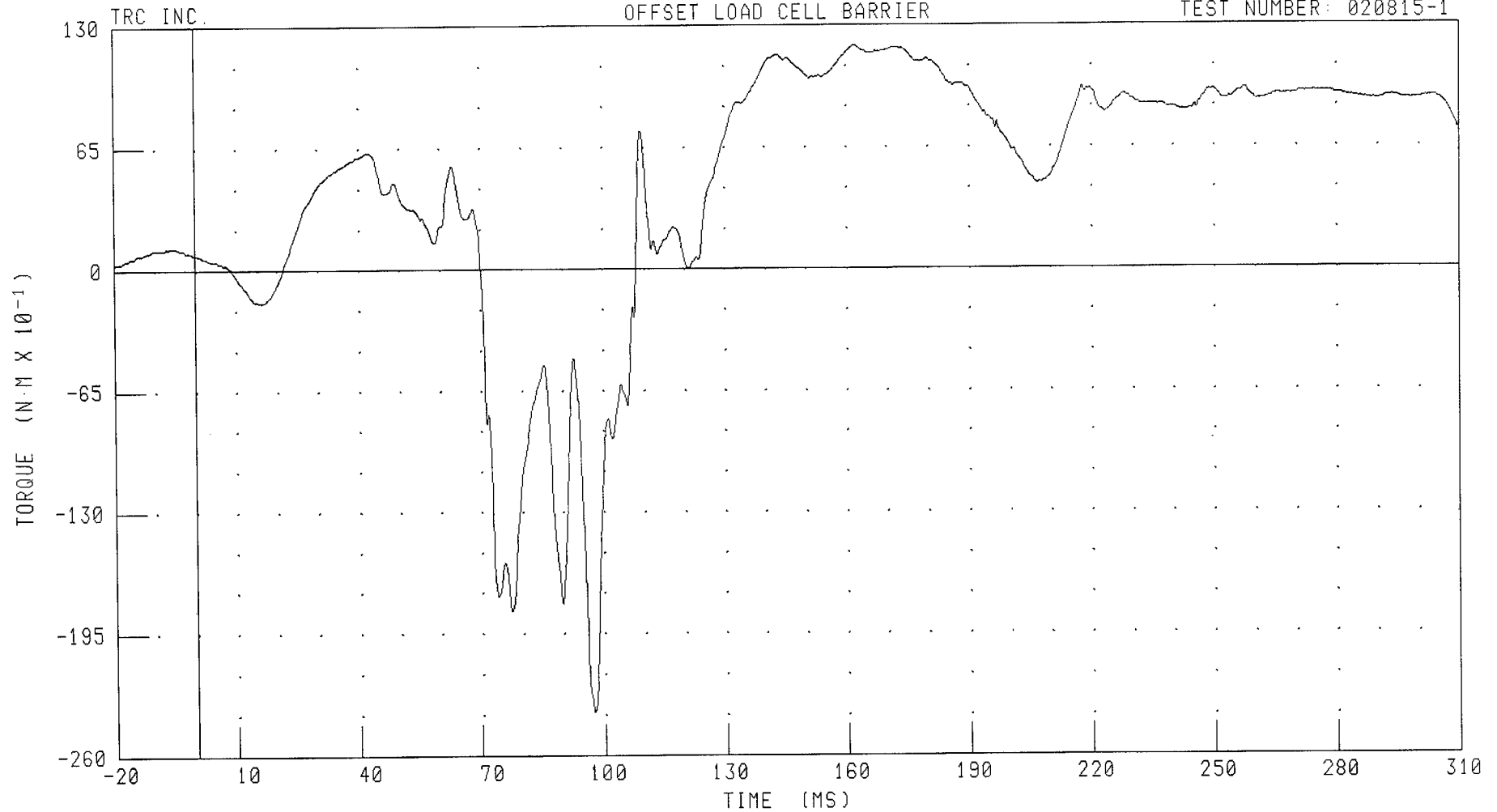


CHANNEL: TBRXM1 FILTER: CH. CLASS 600

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER RIGHT UPPER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRYM1 FILTER: CH. CLASS 600

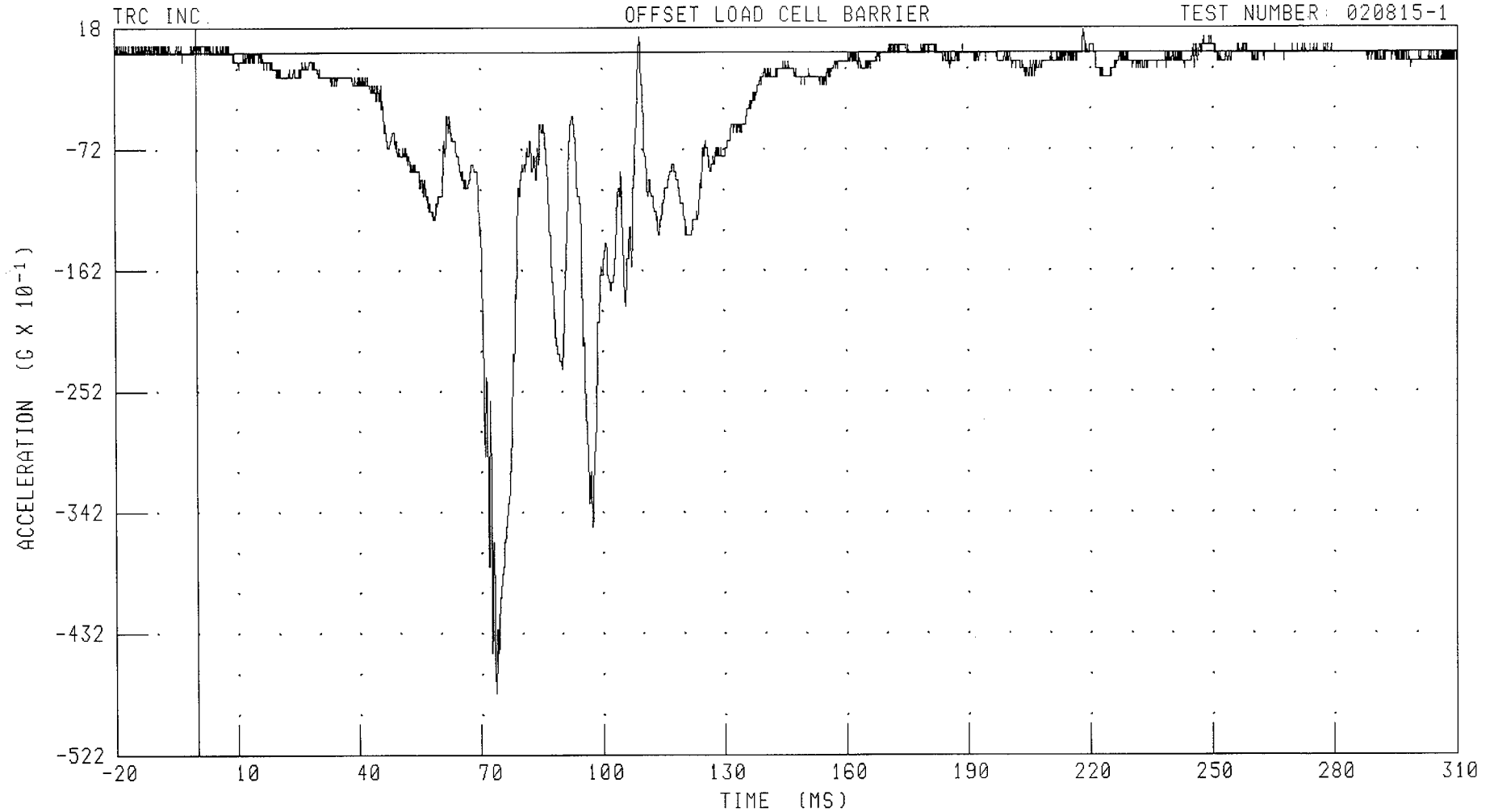
PEAK DATA: 11.94 N·M @ 162.40 MS; -23.69 N·M @ 97.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT TIBIA X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRXG1 FILTER: CH. CLASS 1000

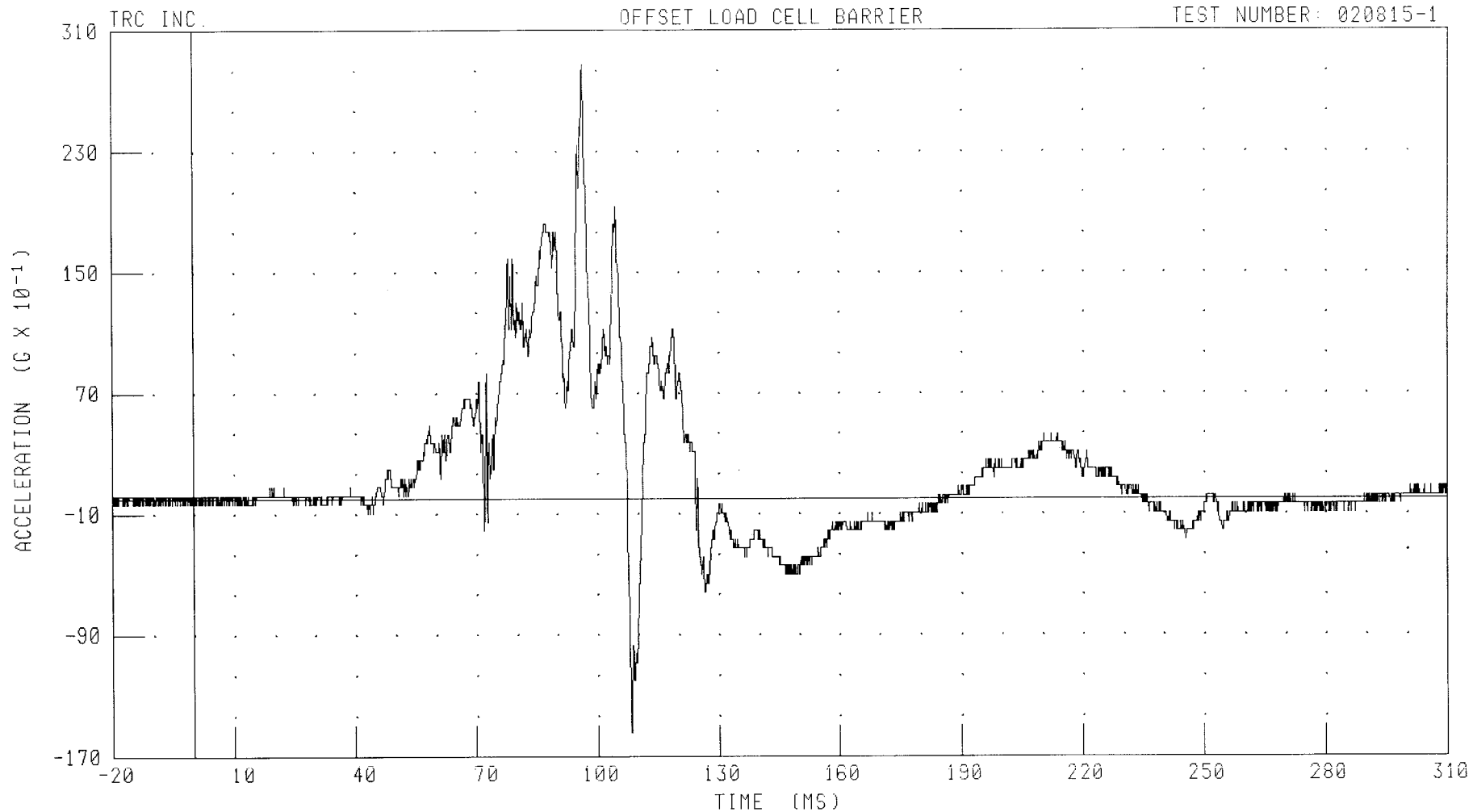
PEAK DATA: 1.69 G @ 218.48 MS; -47.62 G @ 73.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT TIBIA Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRYG1 FILTER: CH. CLASS 1000

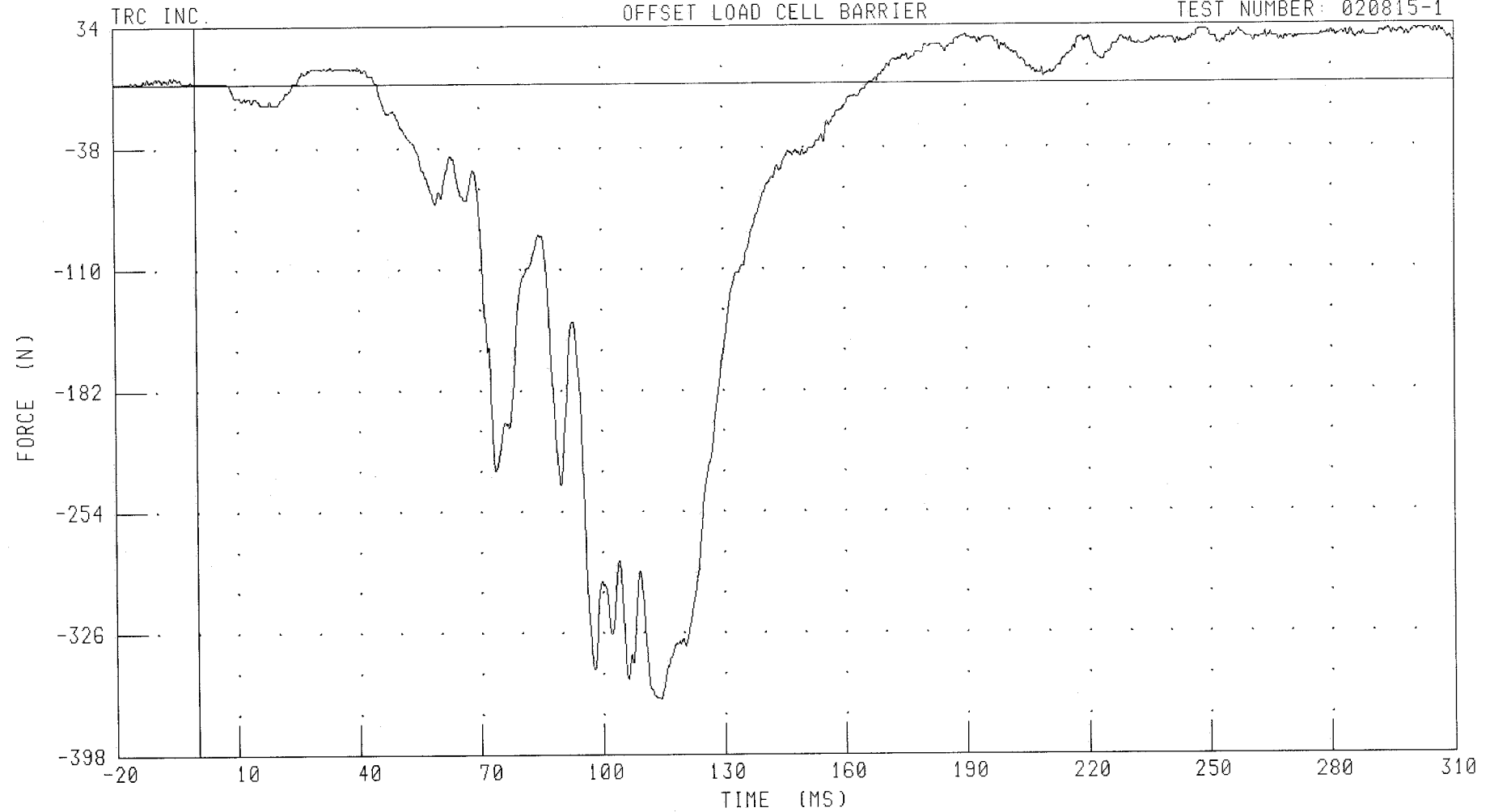
PEAK DATA: 28.69 G @ 96.48 MS; -15.48 G @ 108.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT LOWER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRXF1 FILTER: CH. CLASS 600

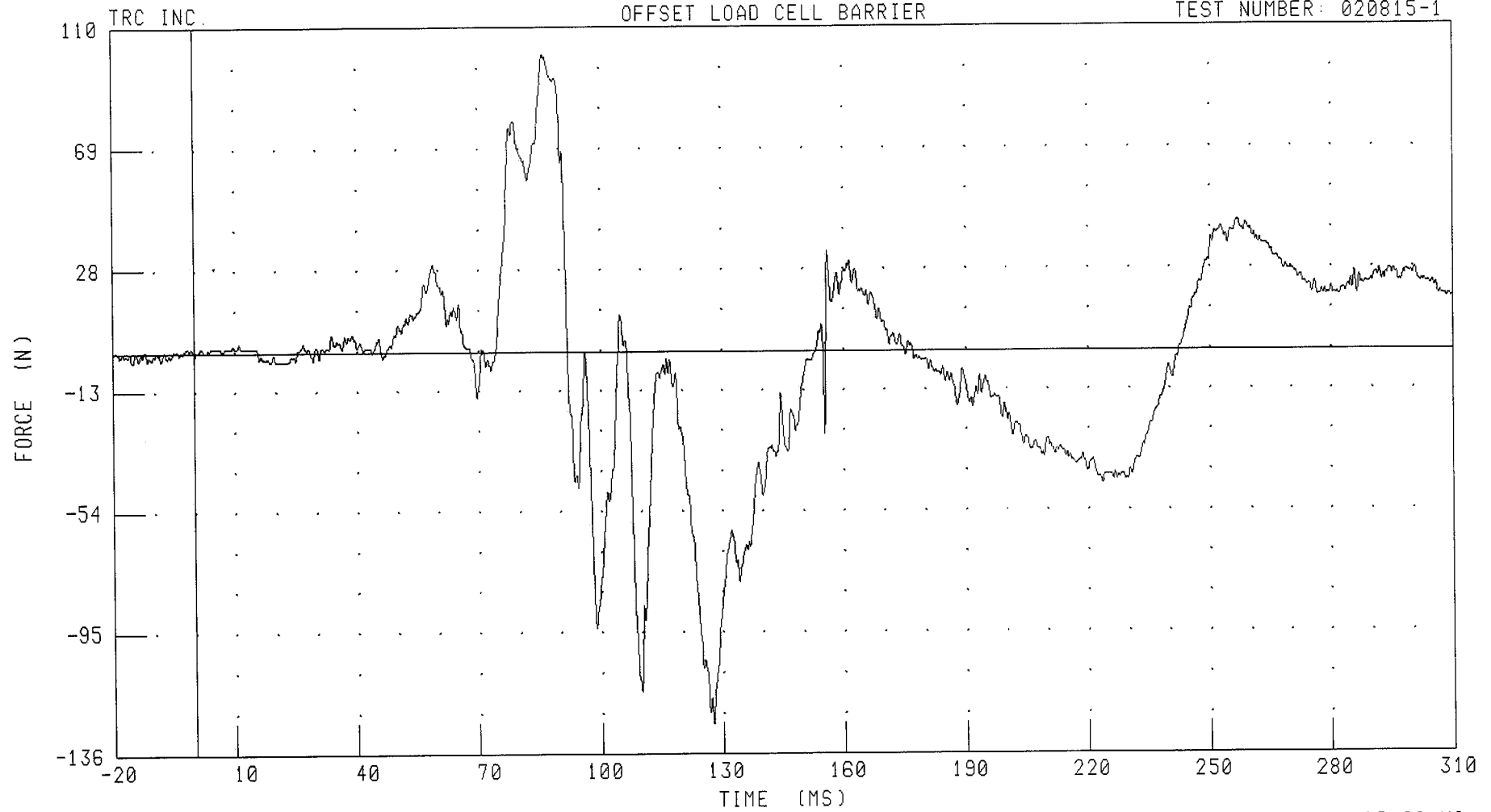
PEAK DATA: 31.29 N @ 305.44 MS; -365.38 N @ 114.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT LOWER TIBIA Y-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRYF1 FILTER: CH. CLASS 600

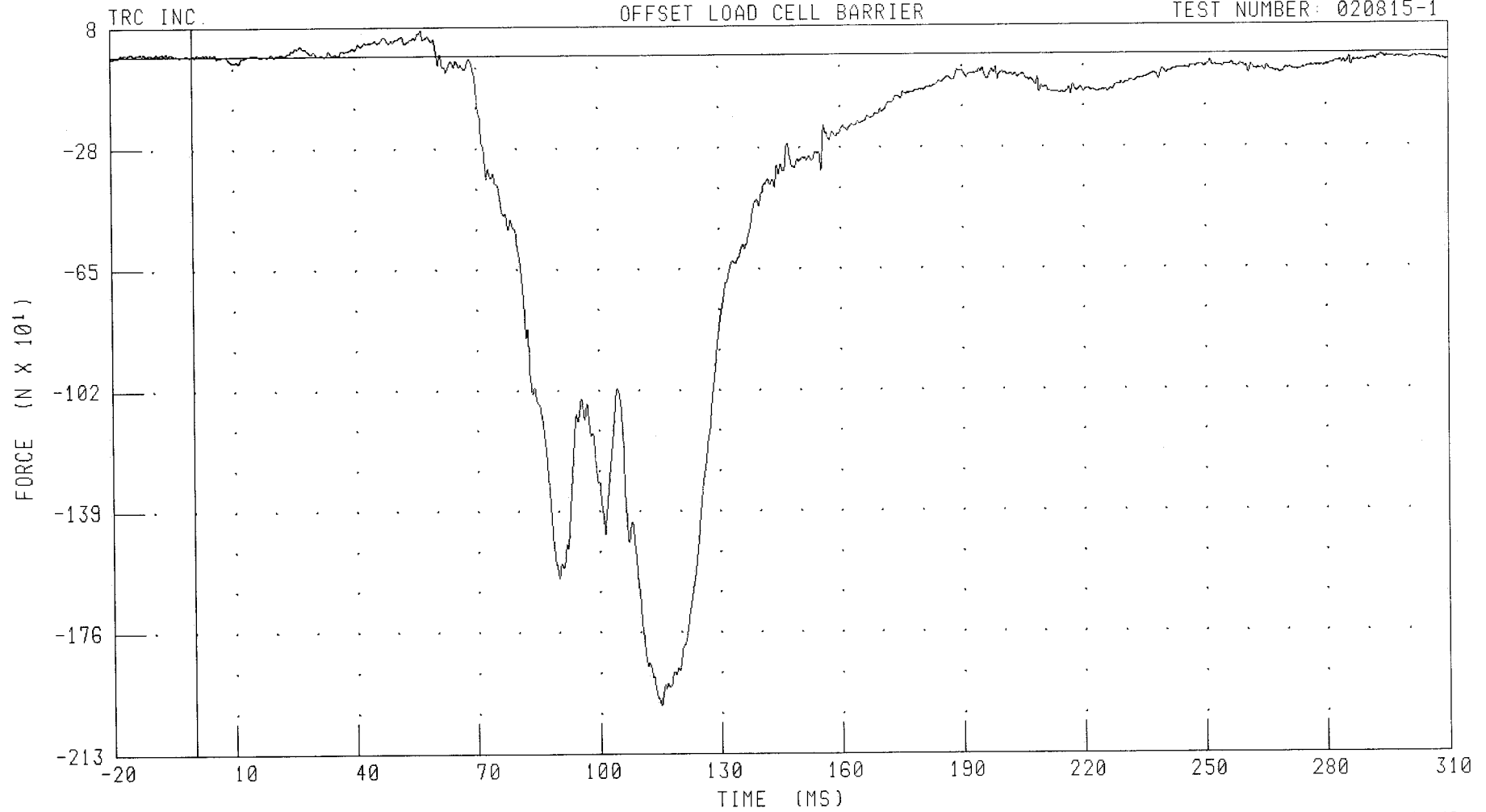
PEAK DATA: 100.86 N @ 86.24 MS; -125.99 N @ 127.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT LOWER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



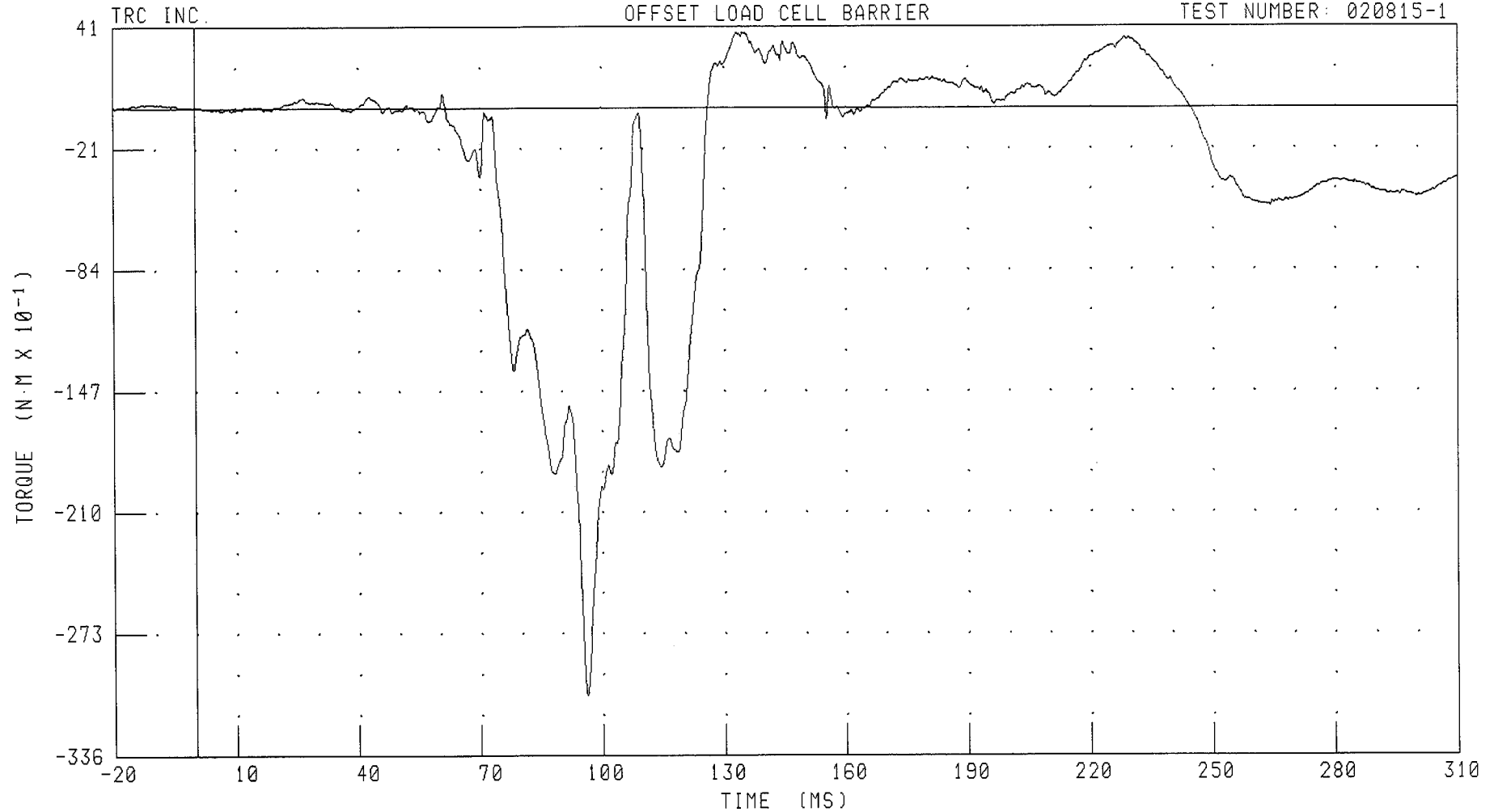
CHANNEL: ANRZF1 FILTER: CH. CLASS 600

PEAK DATA: 78.50 N @ 56.72 MS; -1986.06 N @ 115.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER RIGHT LOWER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



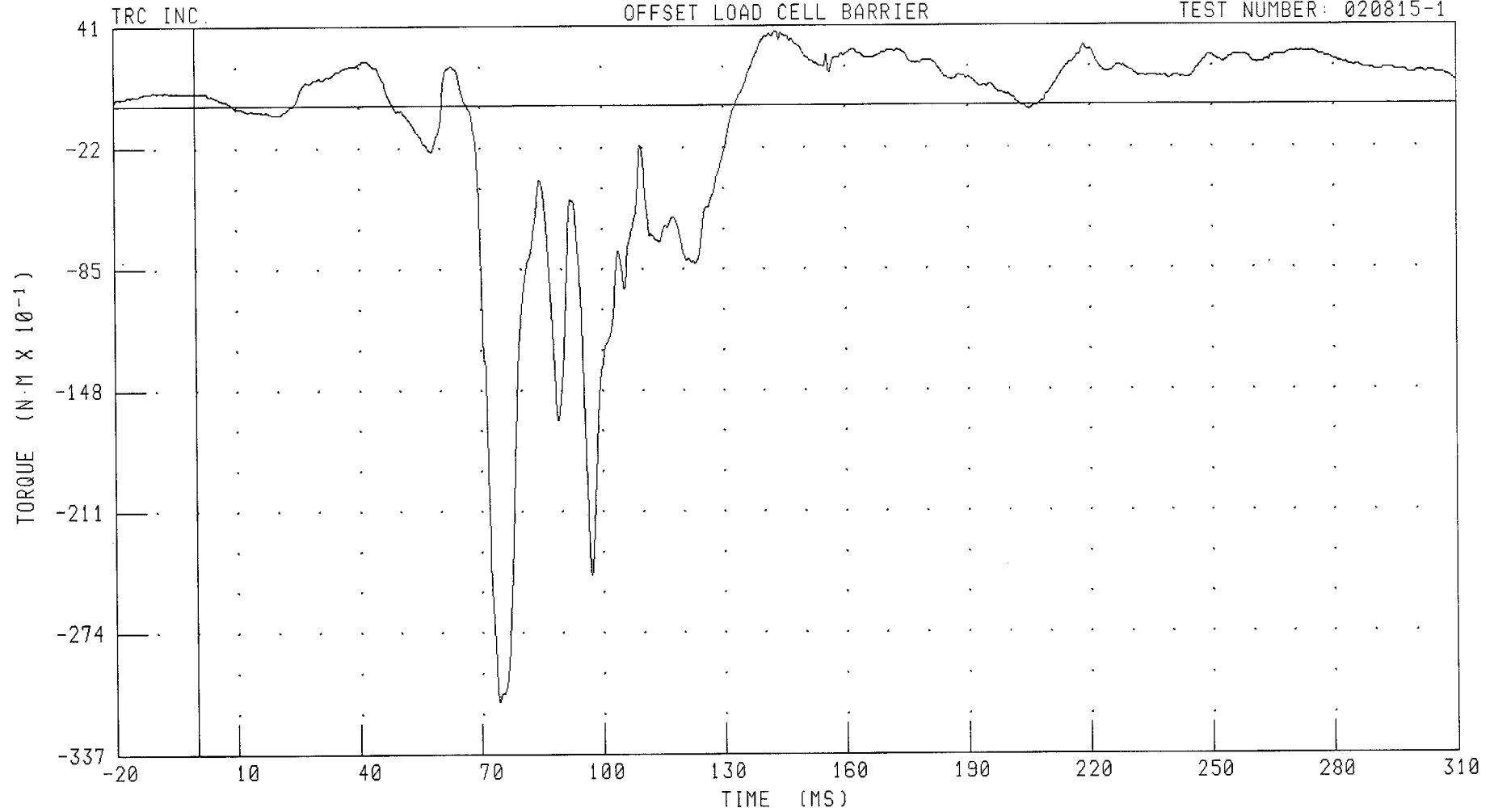
CHANNEL: ANRXM1 FILTER: CH. CLASS 600

PEAK DATA: 3.90 N·M @ 134.80 MS; -30.49 N·M @ 96.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER RIGHT LOWER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRYM1 FILTER: CH. CLASS 600

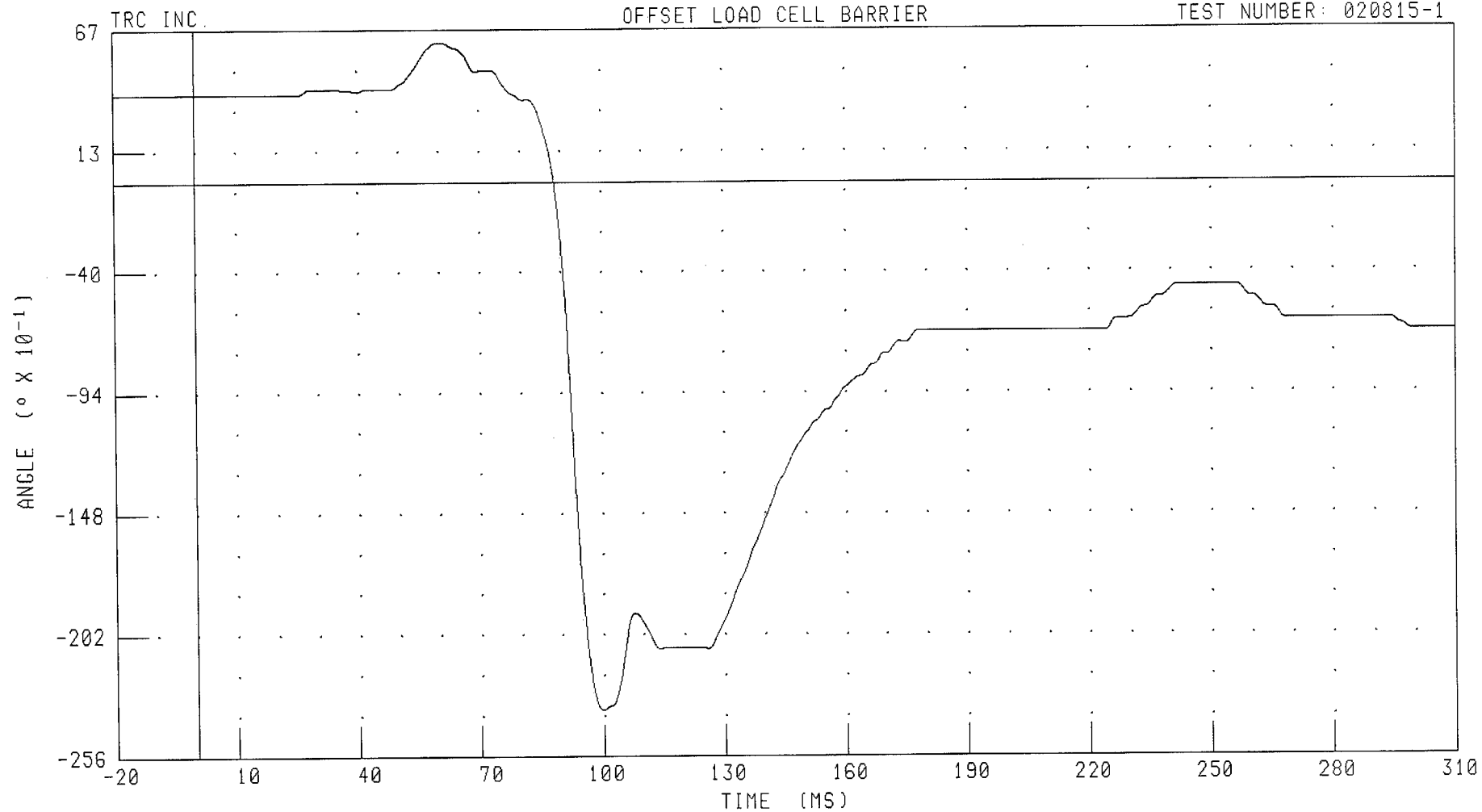
PEAK DATA: 3.81 N·M @ 143.44 MS; -30.98 N·M @ 74.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT FOOT TO ANKLE X-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



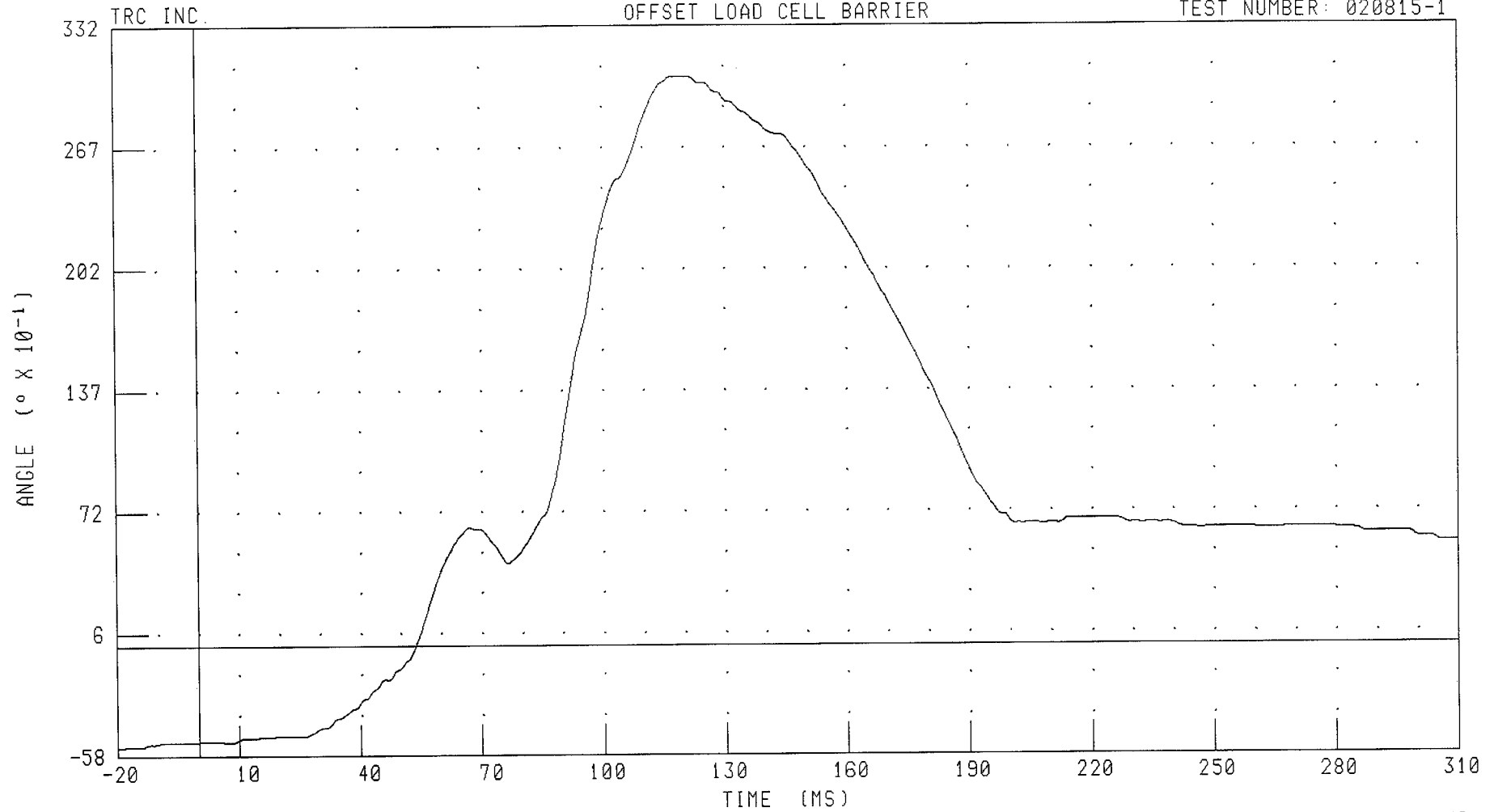
CHANNEL: FTRXD1 FILTER: CH. CLASS 180

PEAK DATA: 6.21 $^{\circ}$ @ 61.36 MS; -23.55 $^{\circ}$ @ 100.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
DRIVER RIGHT FOOT TO ANKLE Y-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRYD1 FILTER: CH. CLASS 180

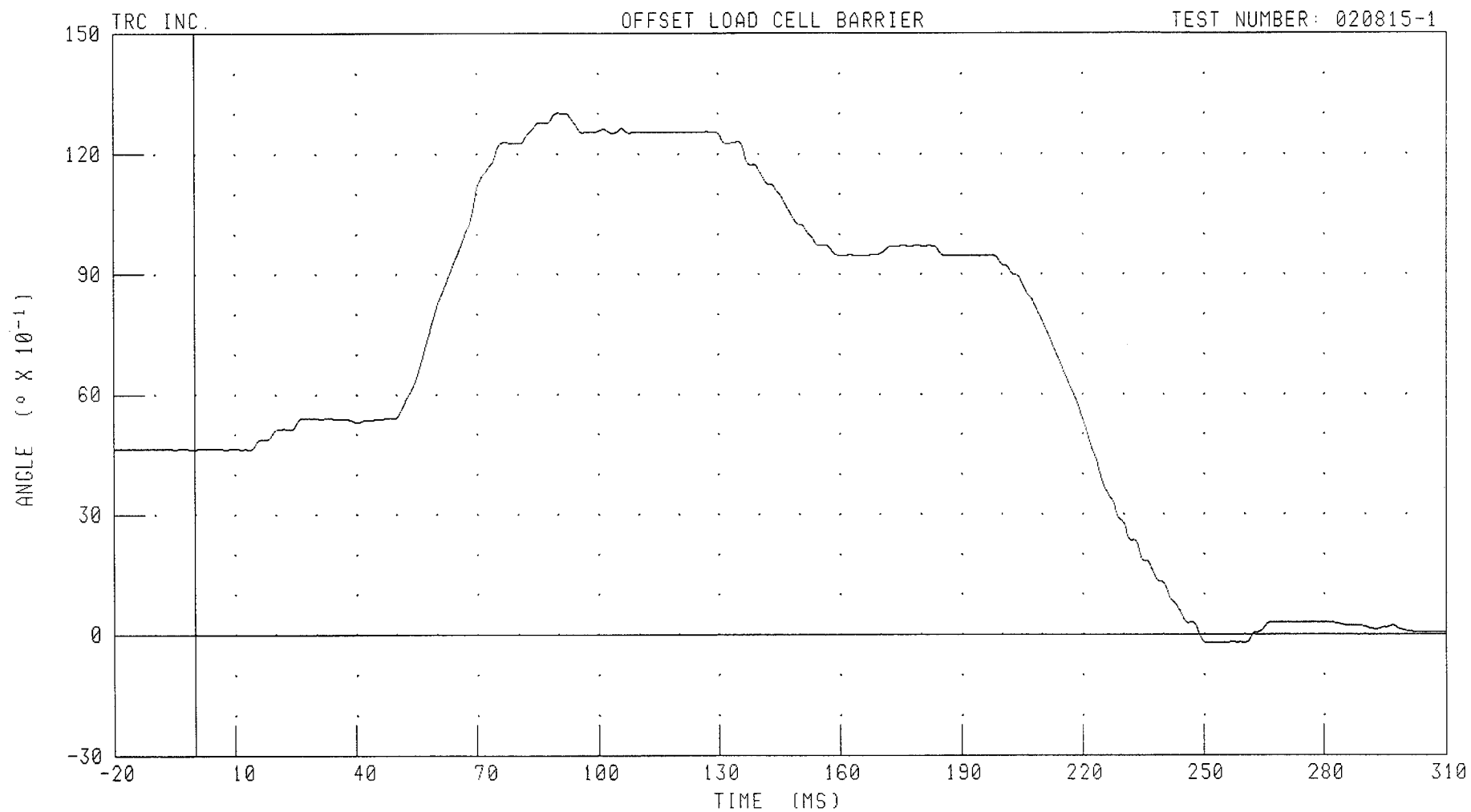
PEAK DATA: 30.45 ° @ 121.36 MS; -5.34 ° @ -18.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT FOOT TO ANKLE Z-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRZD1 FILTER: CH. CLASS 180

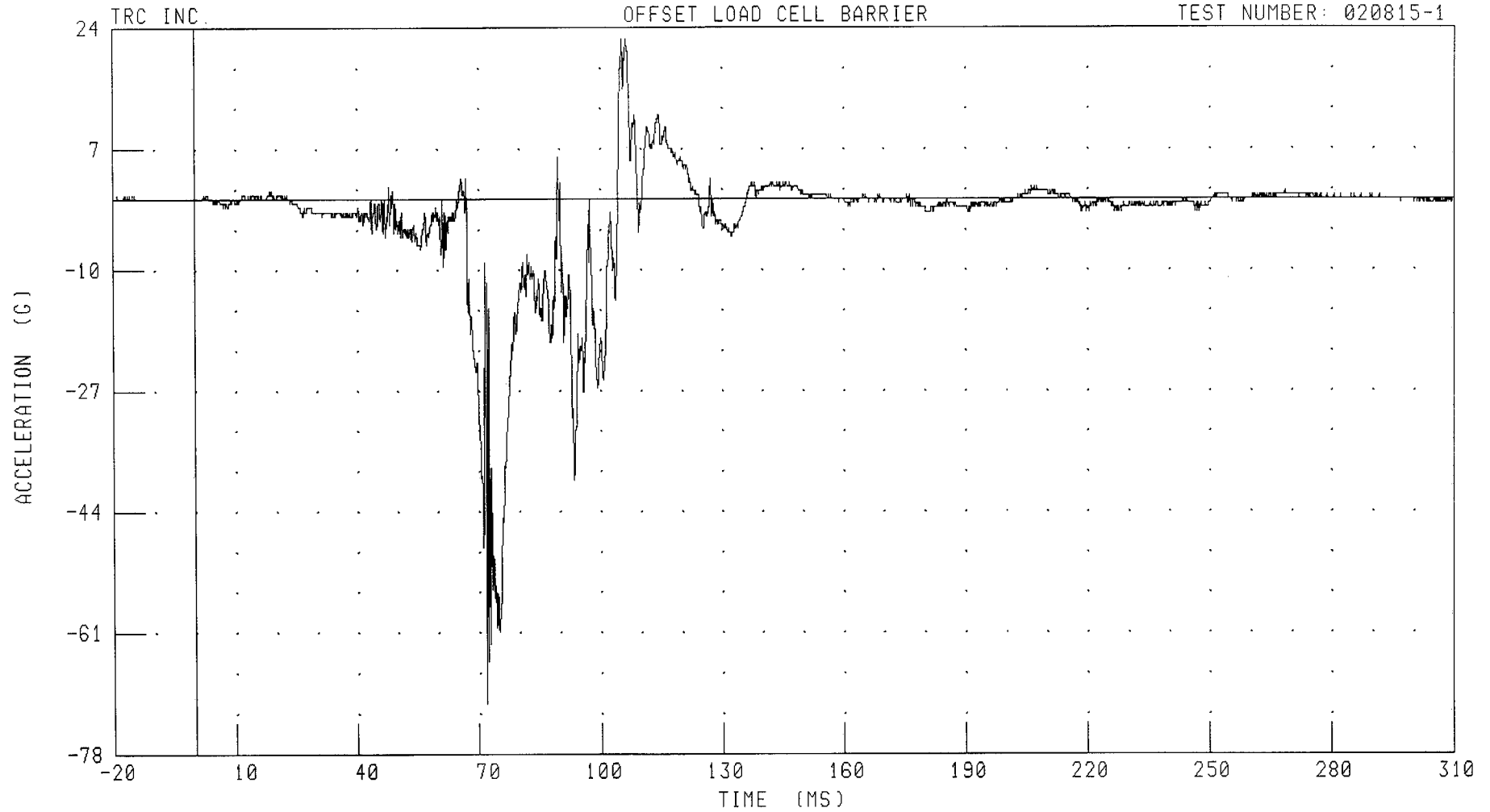
PEAK DATA: 13.01 $^{\circ}$ @ 90.16 MS; -0.21 $^{\circ}$ @ 255.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT FOOT X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRXG1 FILTER: CH. CLASS 1000

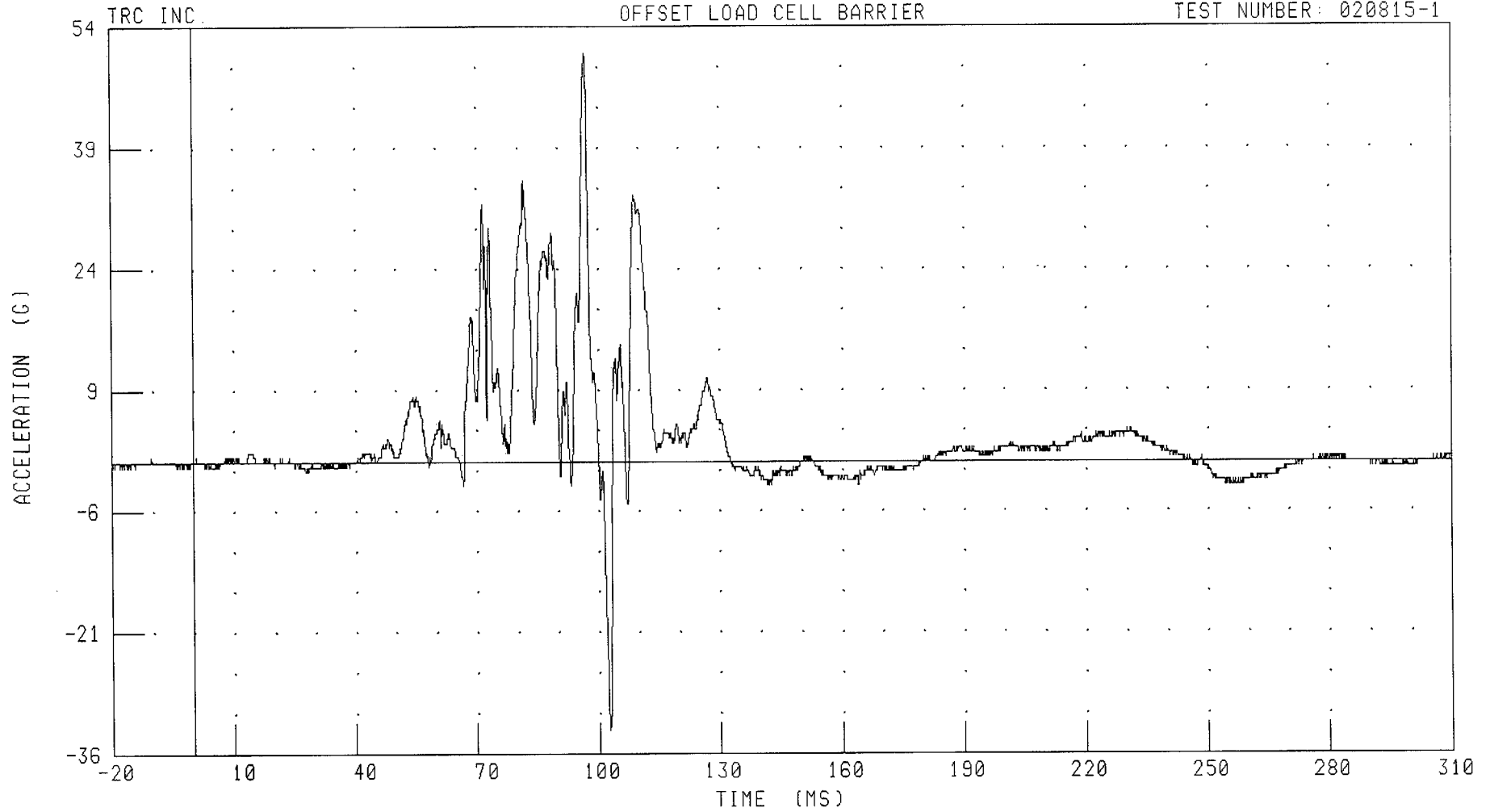
PEAK DATA: 22.43 G @ 105.44 MS; -70.95 G @ 72.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT FOOT Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRYG1 FILTER: CH. CLASS 1000

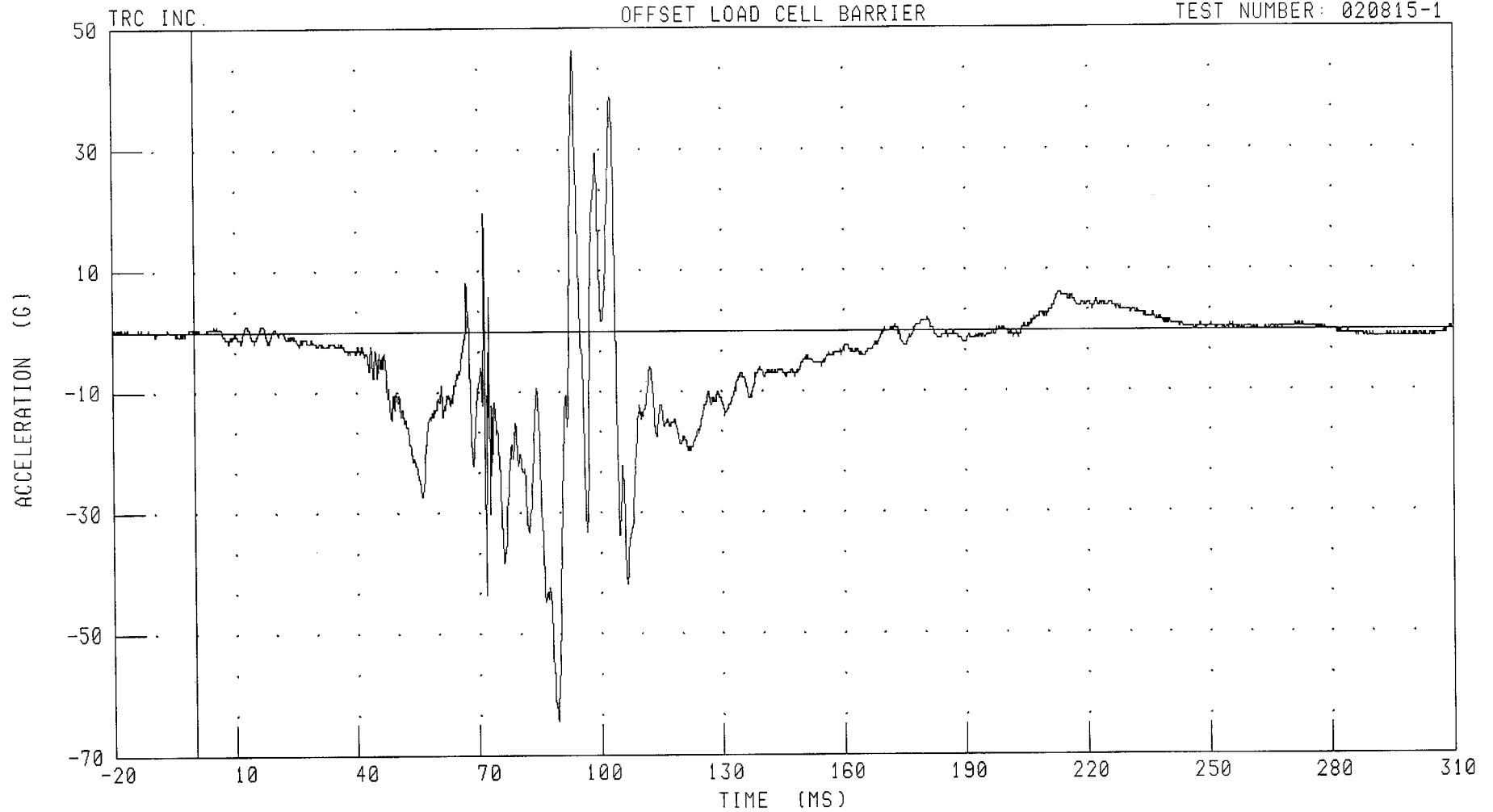
PEAK DATA: 50.68 G @ 96.80 MS; -33.11 G @ 102.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT FOOT Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRZG1 FILTER: CH. CLASS 1000

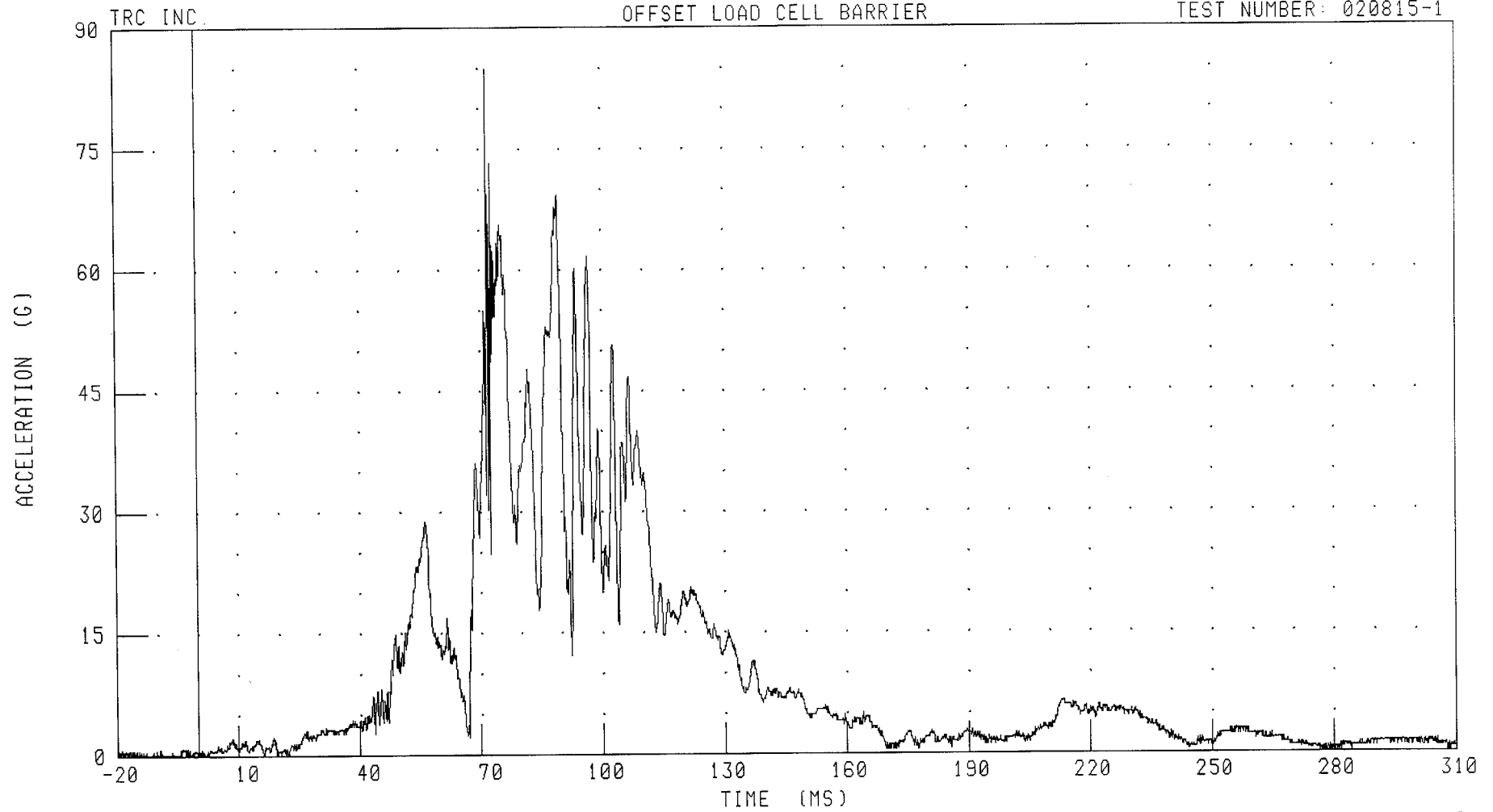
PEAK DATA: 46.24 G @ 93.68 MS; -64.52 G @ 89.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER RIGHT FOOT RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTTRG1 FILTER: CH. CLASS 1000

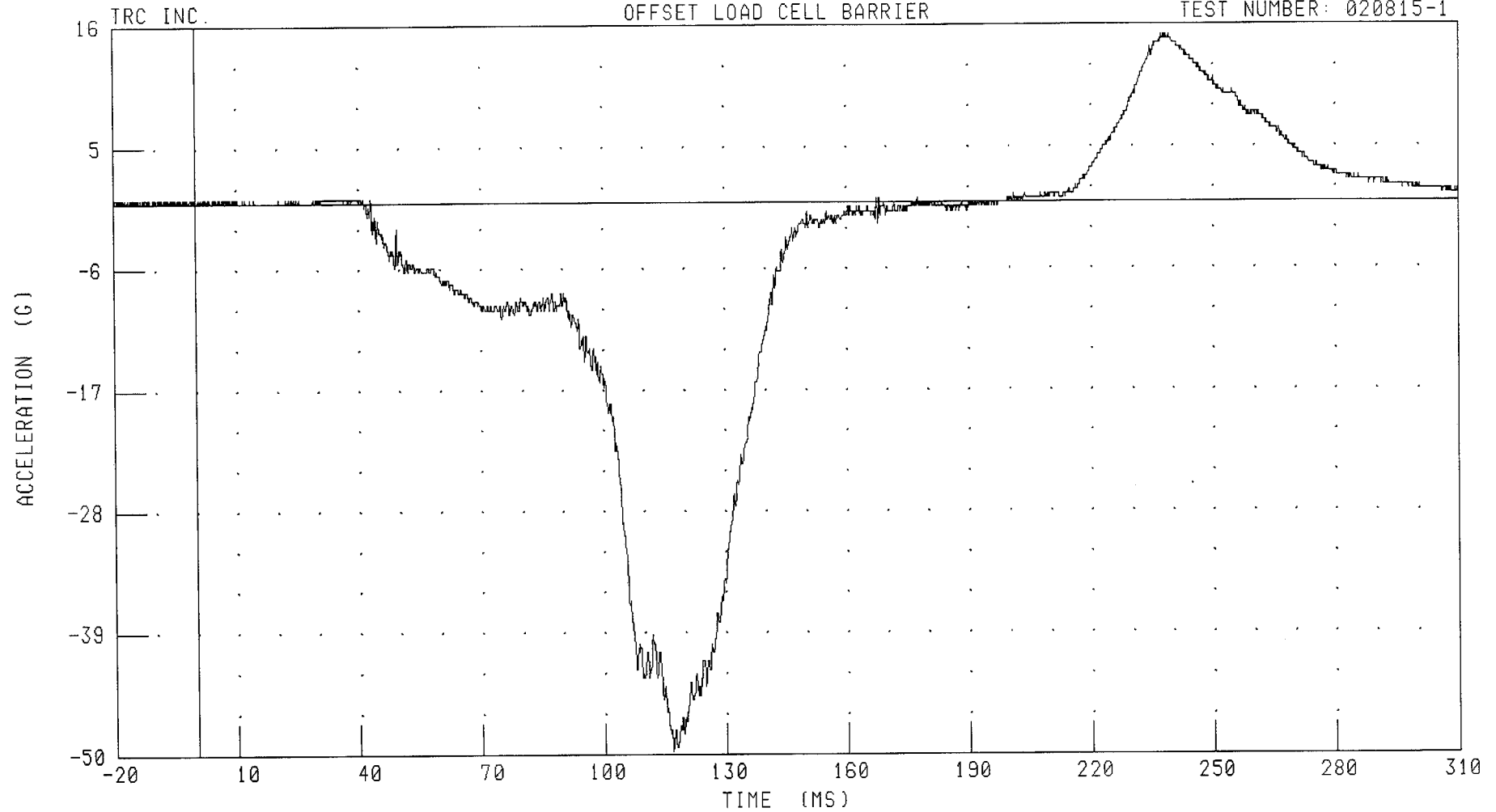
PEAK DATA: 84.90 G @ 71.92 MS; 0.16 G @ -19.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDXG2 FILTER: CH. CLASS 1000

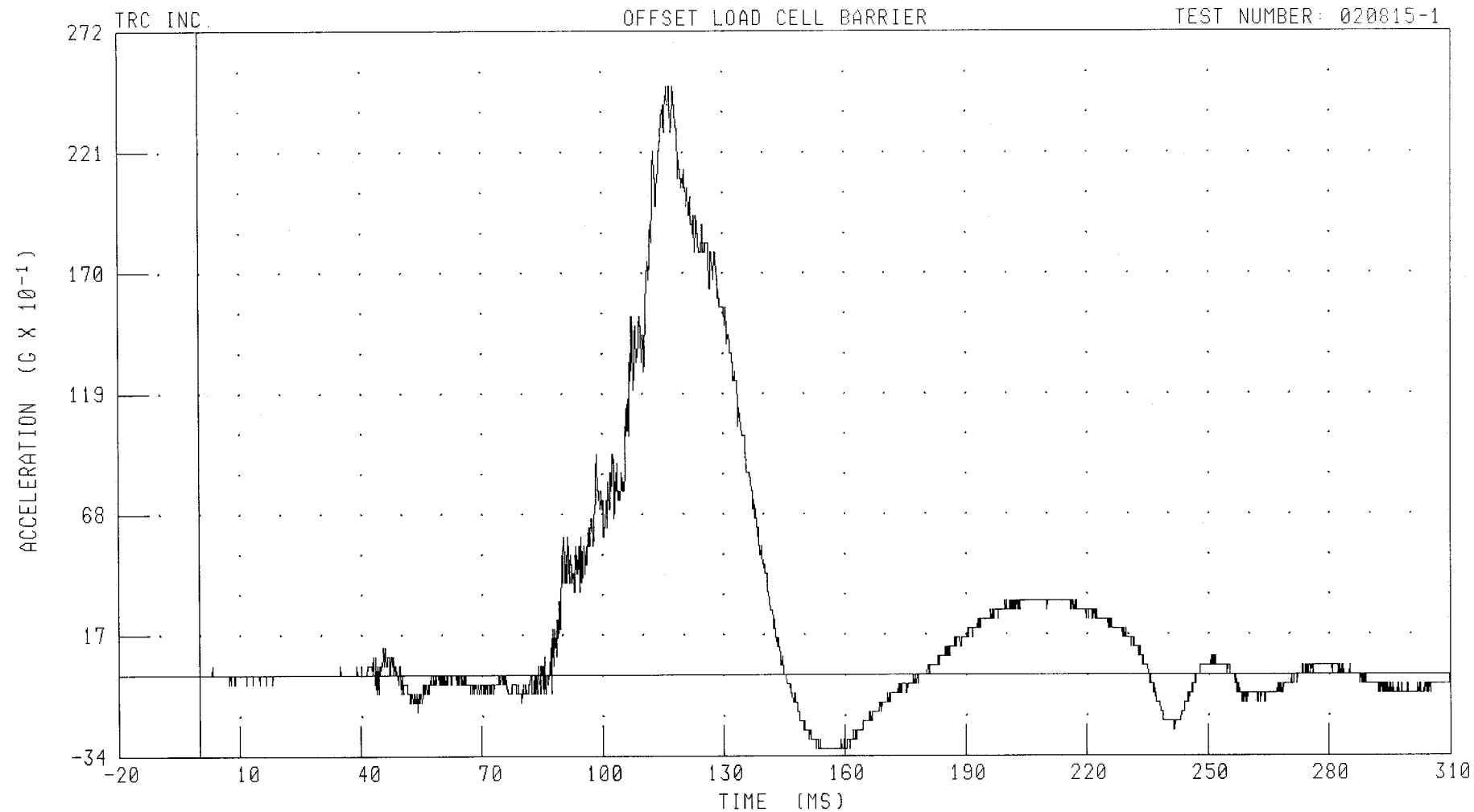
PEAK DATA: 15.11 G @ 237.36 MS; -49.72 G @ 116.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDYG2 FILTER: CH. CLASS 1000

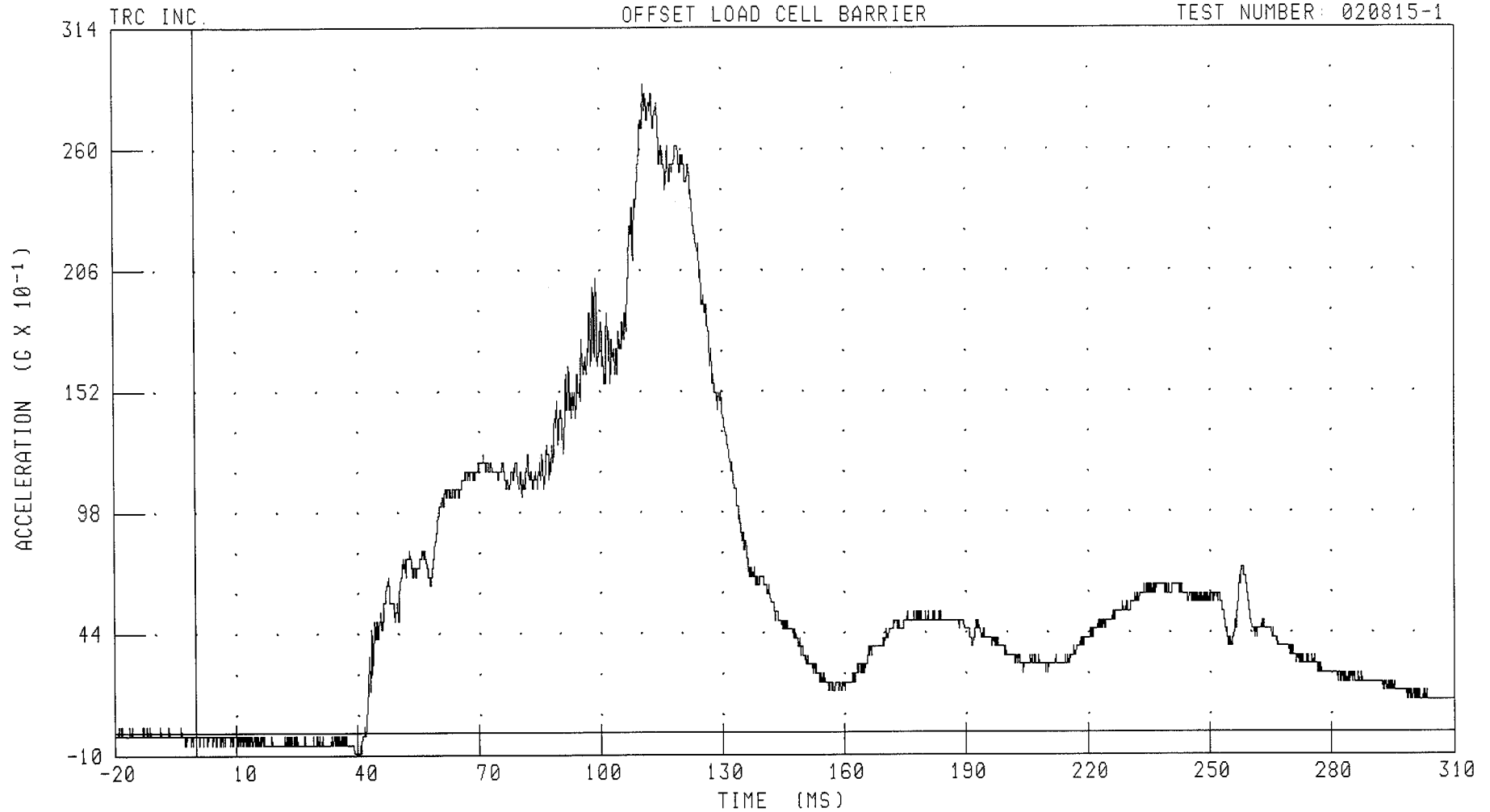
PEAK DATA: 24.88 G @ 116.40 MS; -3.10 G @ 152.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDZG2 FILTER: CH. CLASS 1000

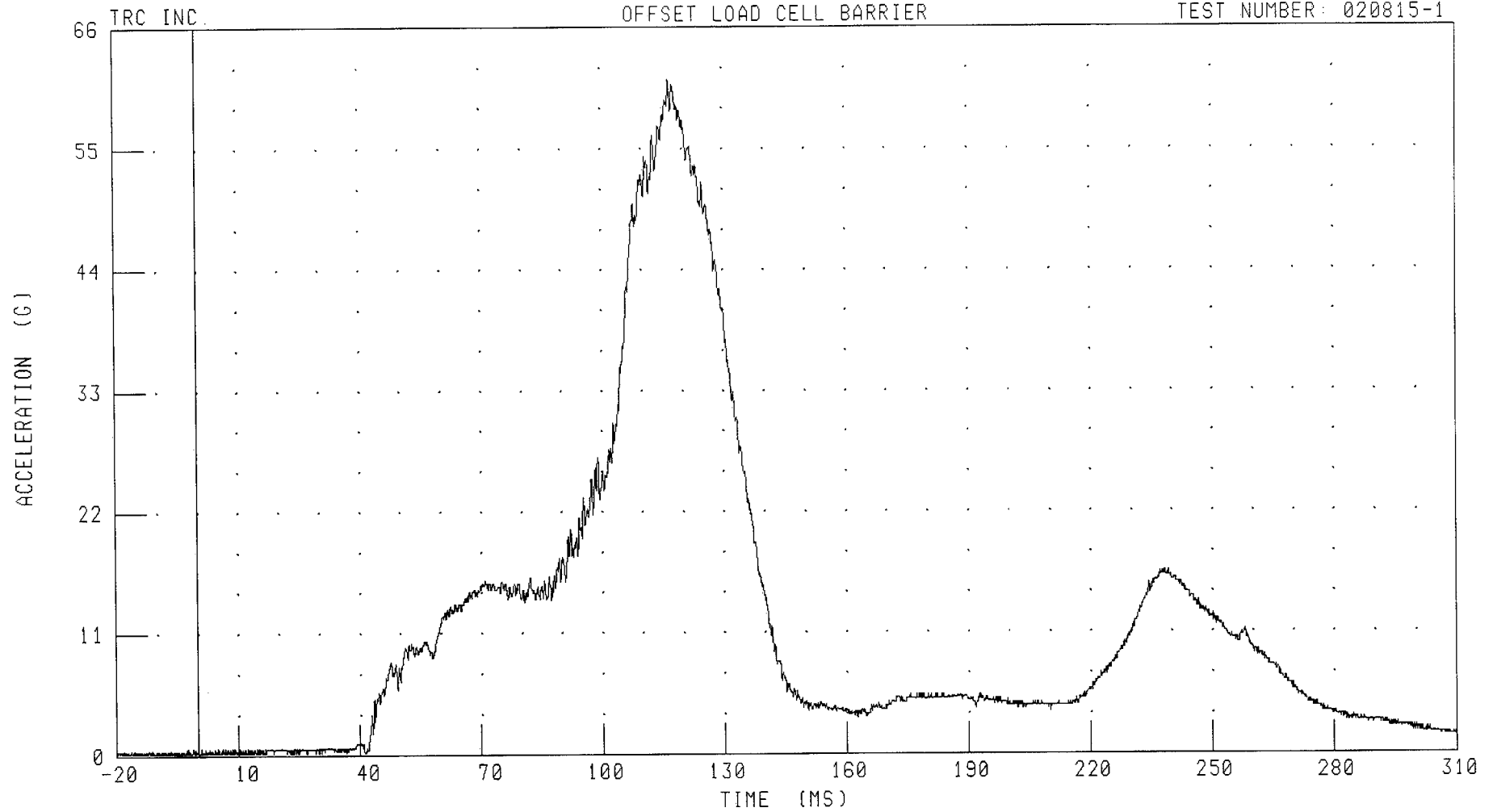
PEAK DATA: 28.88 G @ 111.04 MS; -0.92 G @ 39.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDRG2 FILTER: CH. CLASS 1000

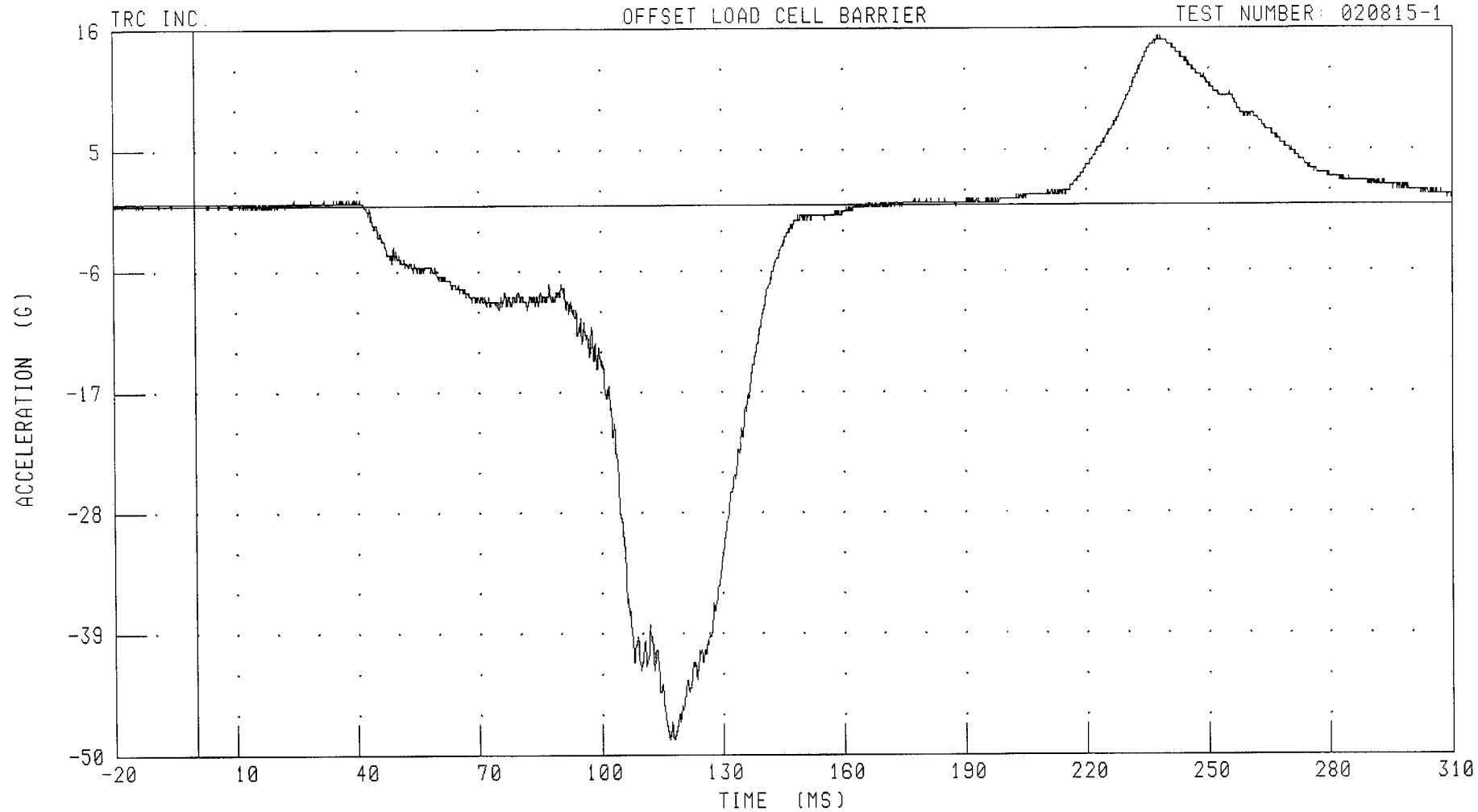
PEAK DATA: 61.26 G @ 116.96 MS; 0.14 G @ -19.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD X-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDXR2 FILTER: CH. CLASS 1000

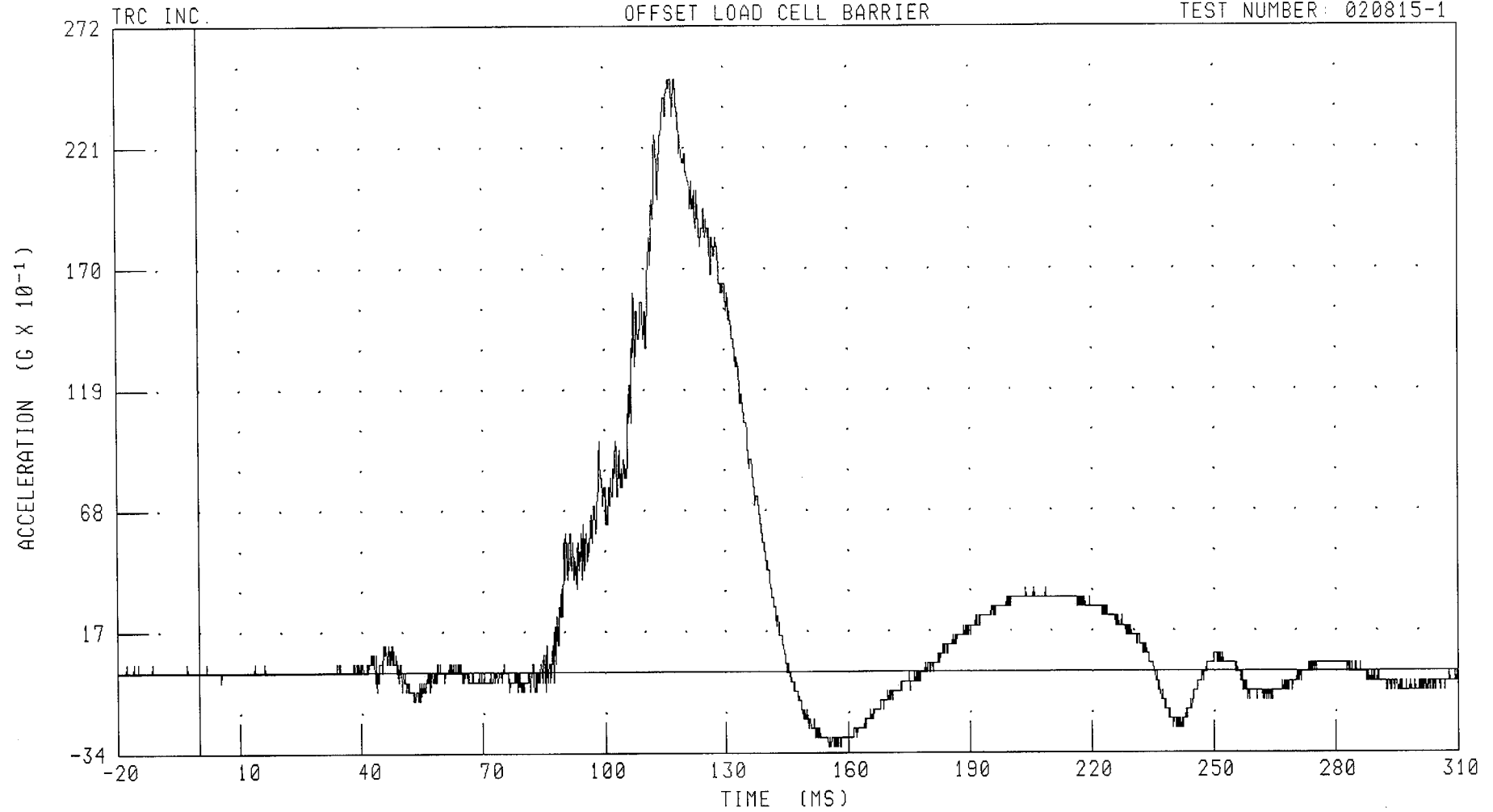
PEAK DATA: 15.29 G @ 237.52 MS; -48.60 G @ 116.80 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Y-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDYR2 FILTER: CH. CLASS 1000

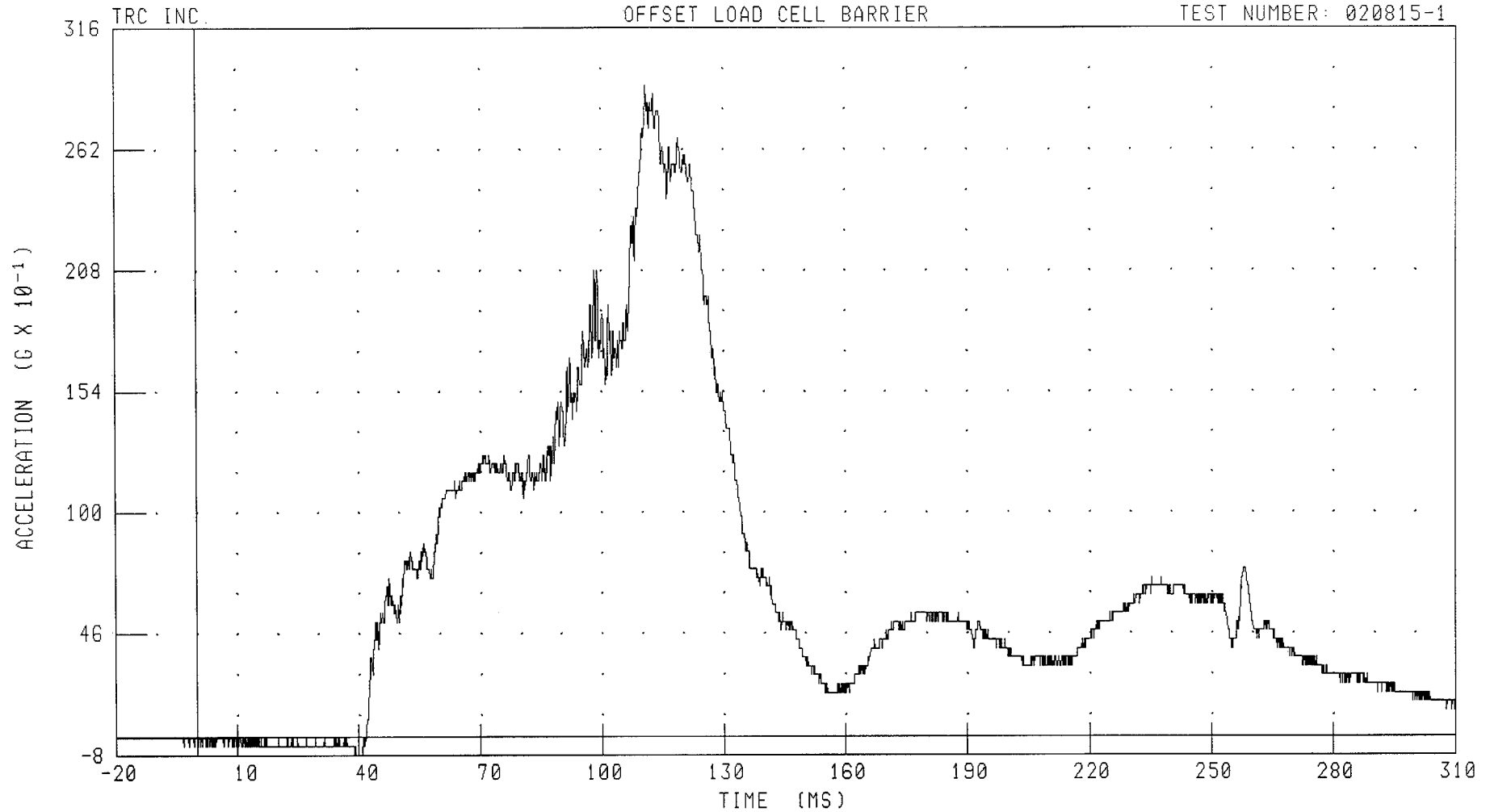
PEAK DATA: 24.97 G @ 116.40 MS; -3.15 G @ 155.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Z-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDZR2 FILTER: CH. CLASS 1000

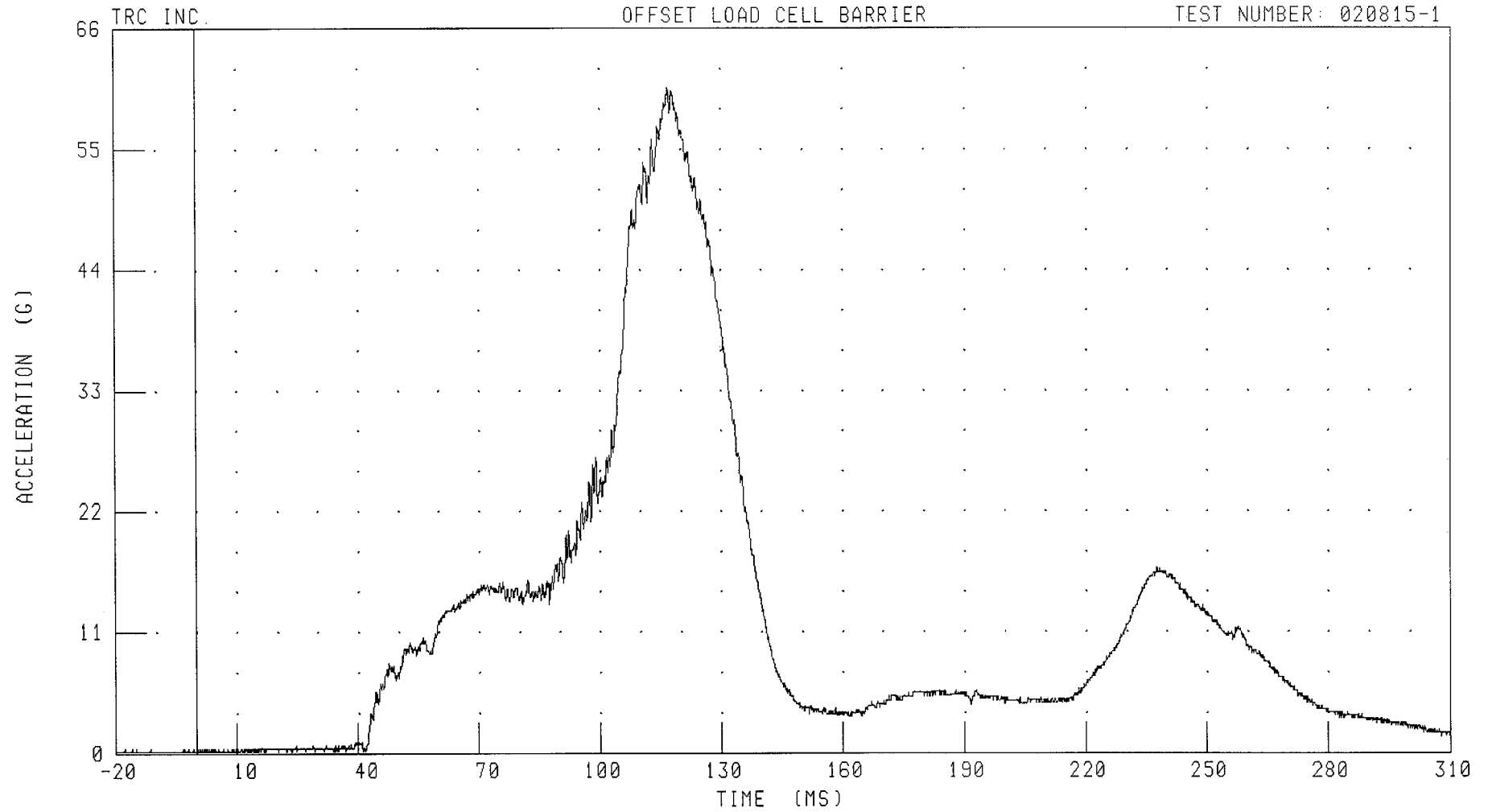
PEAK DATA: 29.07 G @ 111.04 MS; -0.80 G @ 38.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD RESULTANT ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HEDRR2 FILTER: CH. CLASS 1000

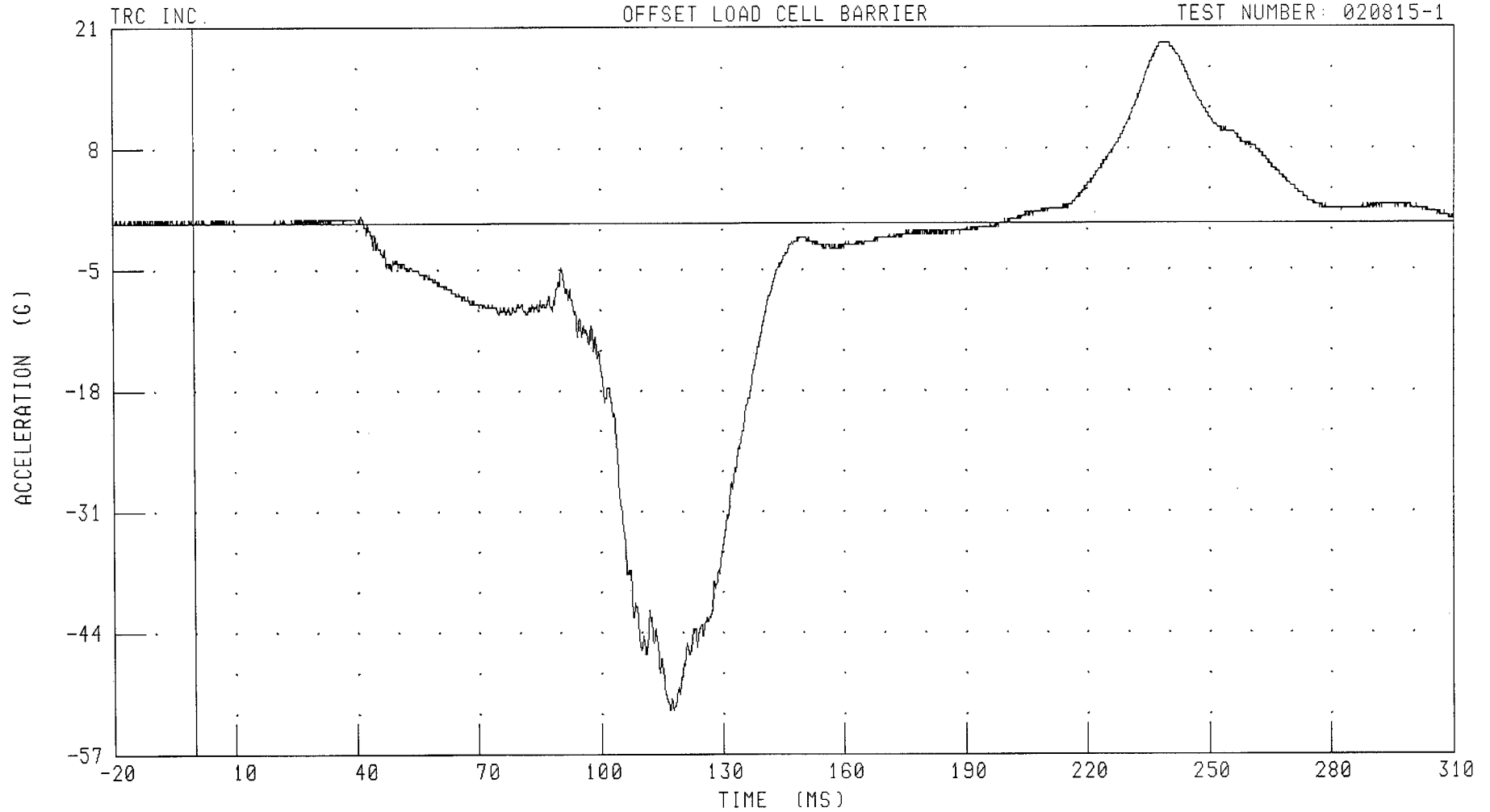
PEAK DATA: 60.65 G @ 116.96 MS; 0.19 G @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD X-AXIS (LT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD1XG2 FILTER: CH. CLASS 1000

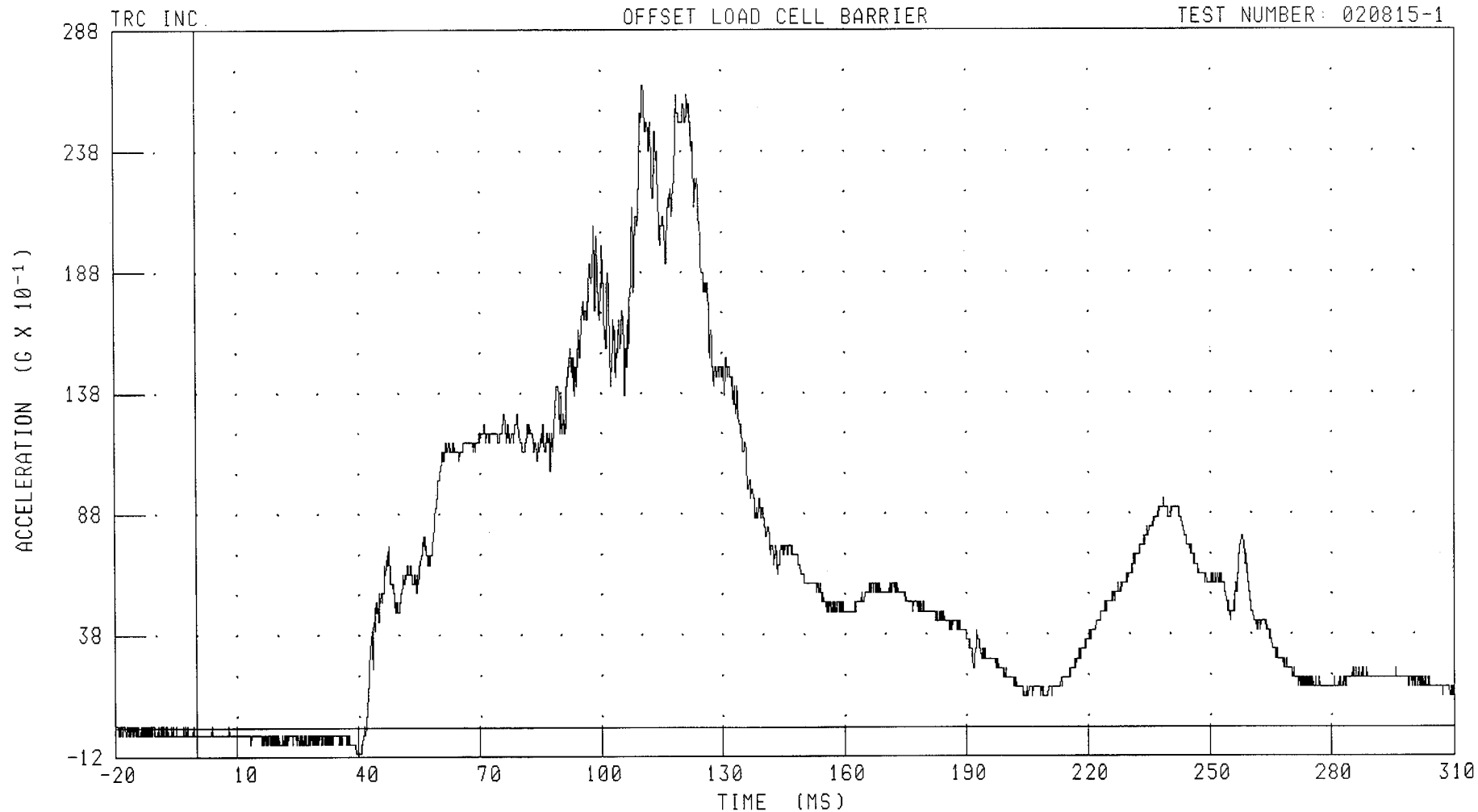
PEAK DATA: 19.24 G @ 237.84 MS; -52.23 G @ 116.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Z-AXIS (LT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD1ZG2 FILTER: CH. CLASS 1000

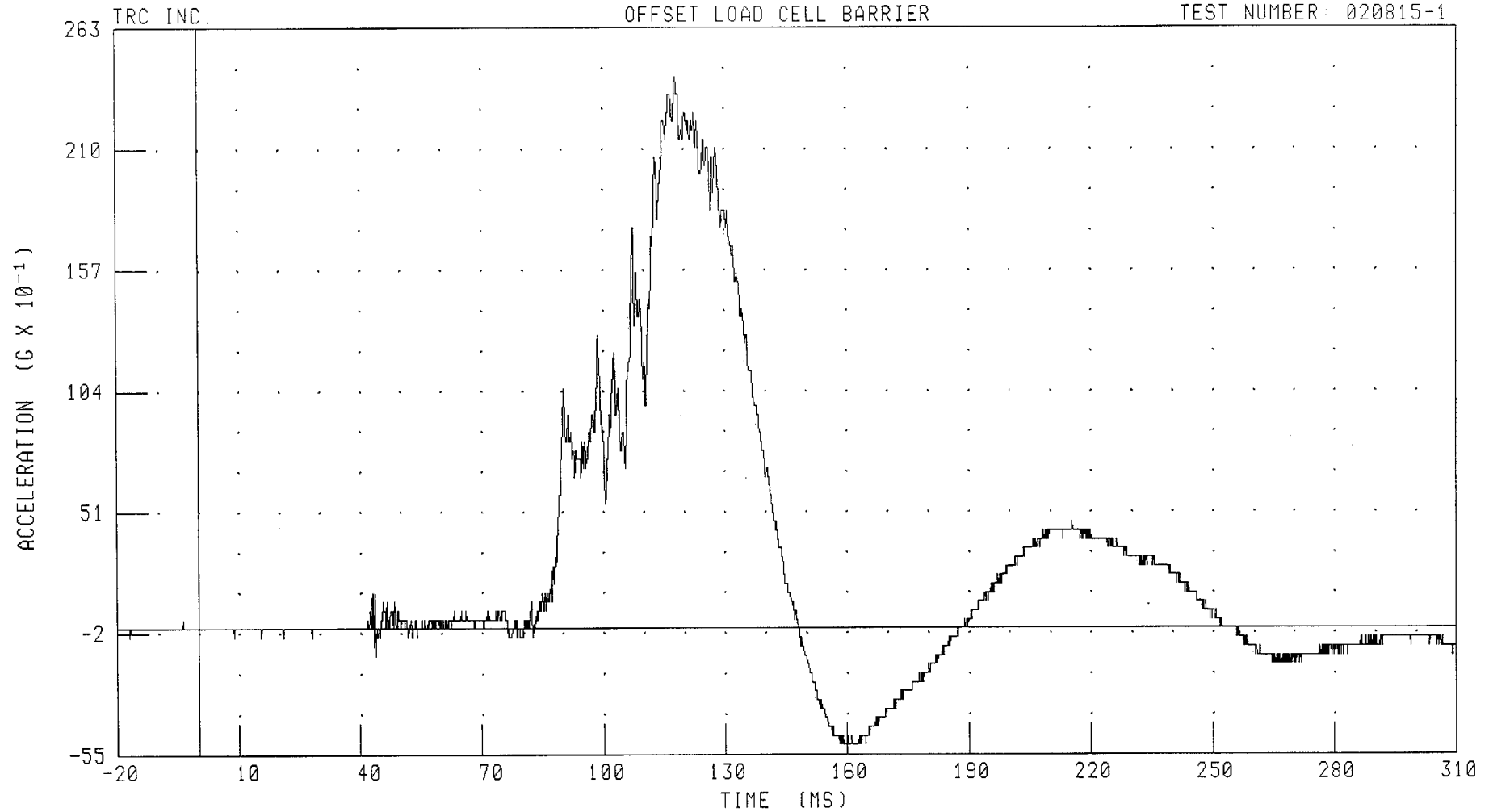
PEAK DATA: 26.55 G @ 110.64 MS; -1.10 G @ 39.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Y-AXIS (FT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD2YG2 FILTER: CH. CLASS 1000

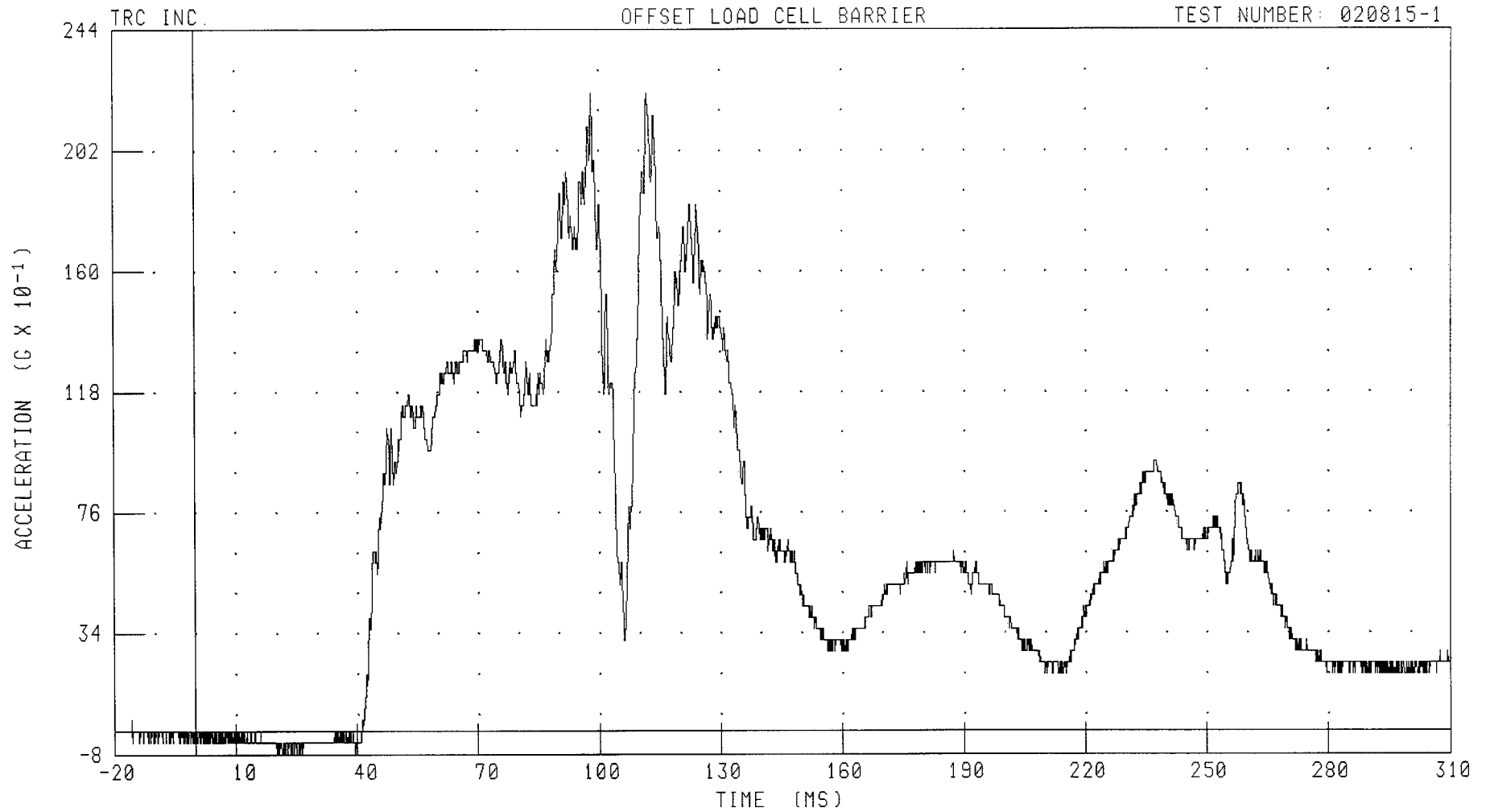
PEAK DATA: 24.17 G @ 118.08 MS; -5.08 G @ 158.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Z-AXIS (FT) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD2ZG2 FILTER: CH. CLASS 1000

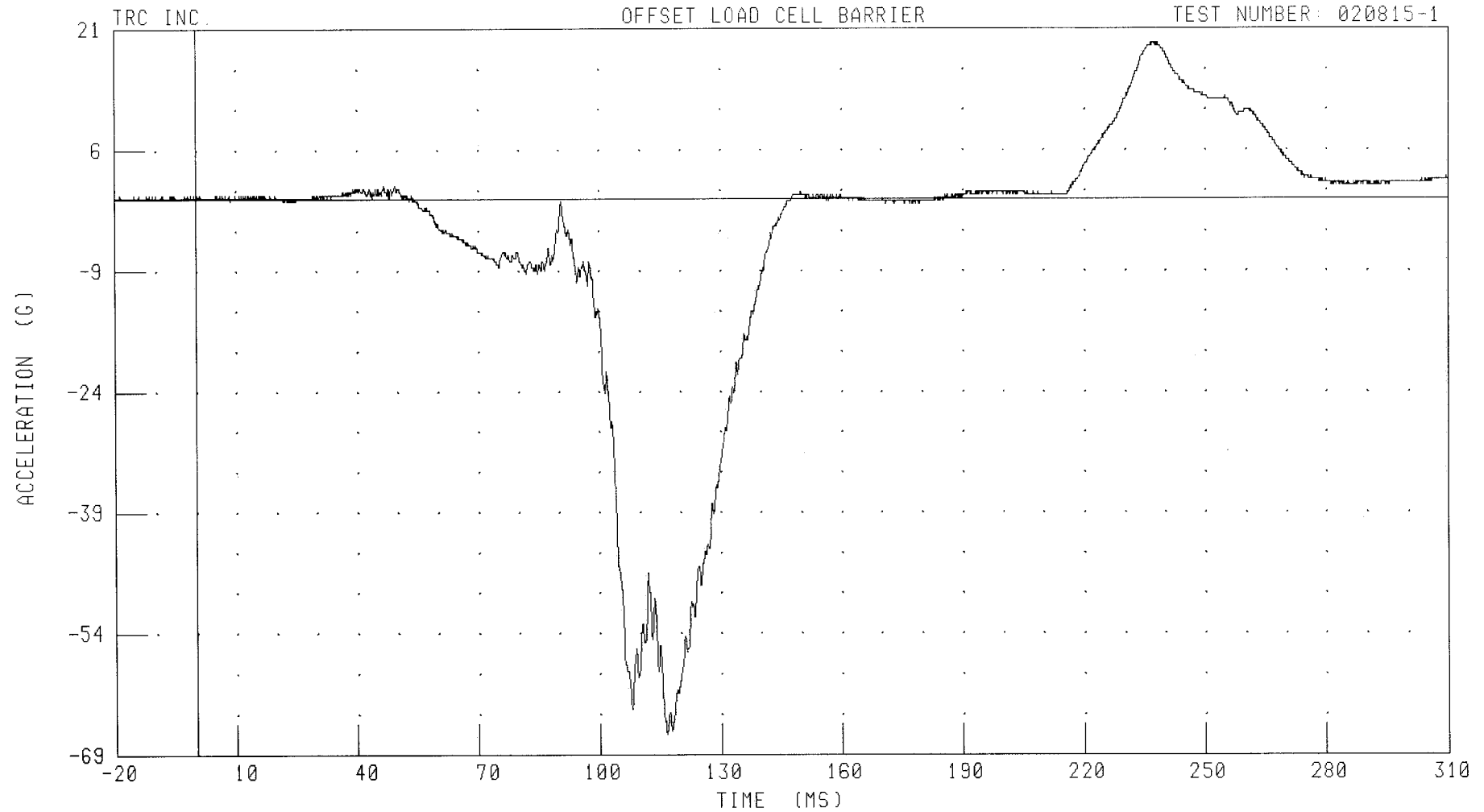
PEAK DATA: 22.21 G @ 98.32 MS; -0.76 G @ 20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD X-AXIS (TP) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD3XC2 FILTER: CH. CLASS 1000

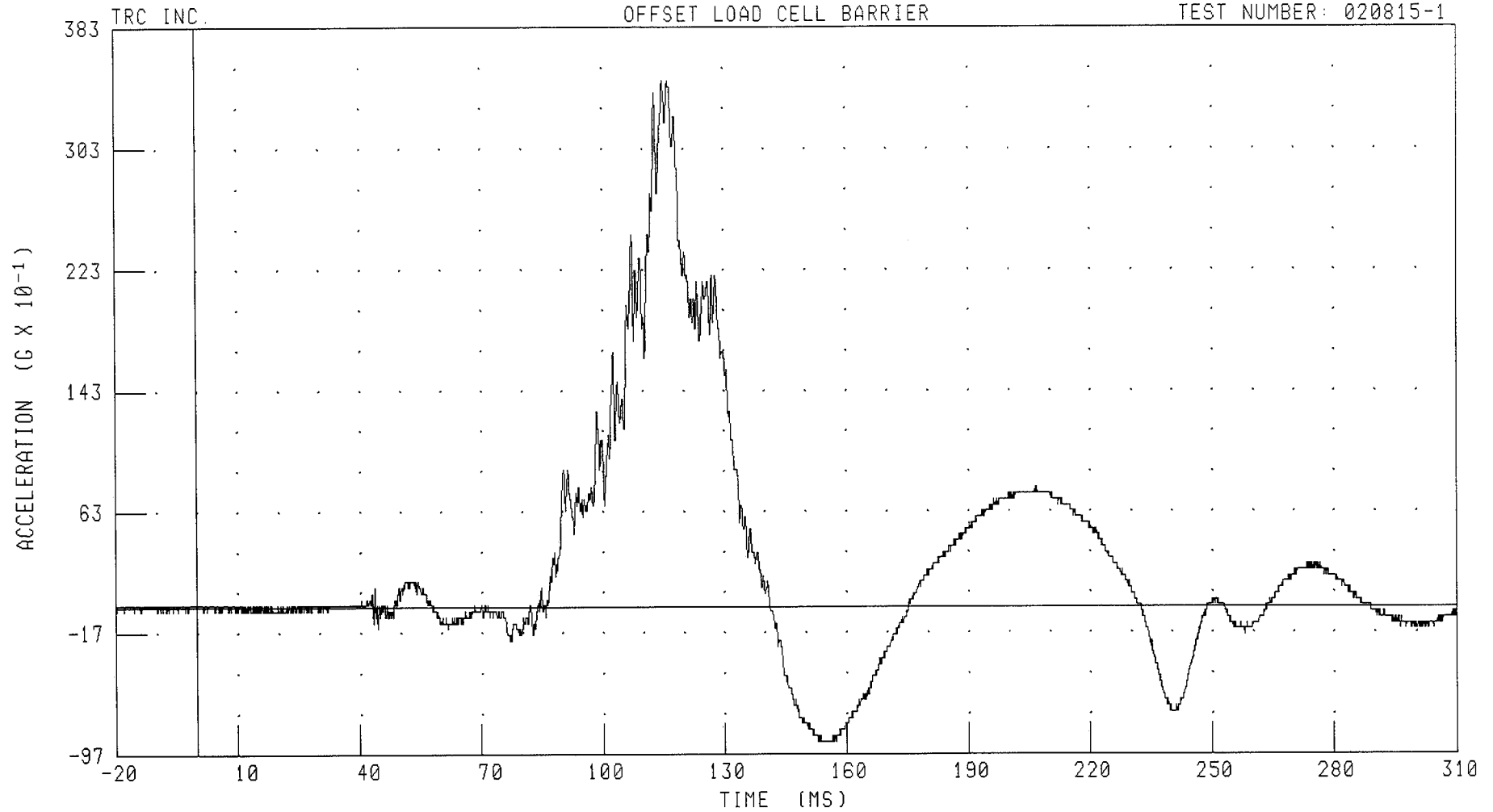
PEAK DATA: 19.25 G @ 236.48 MS; -66.54 G @ 116.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER HEAD Y-AXIS (TP) ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: HD3YG2 FILTER: CH. CLASS 1000

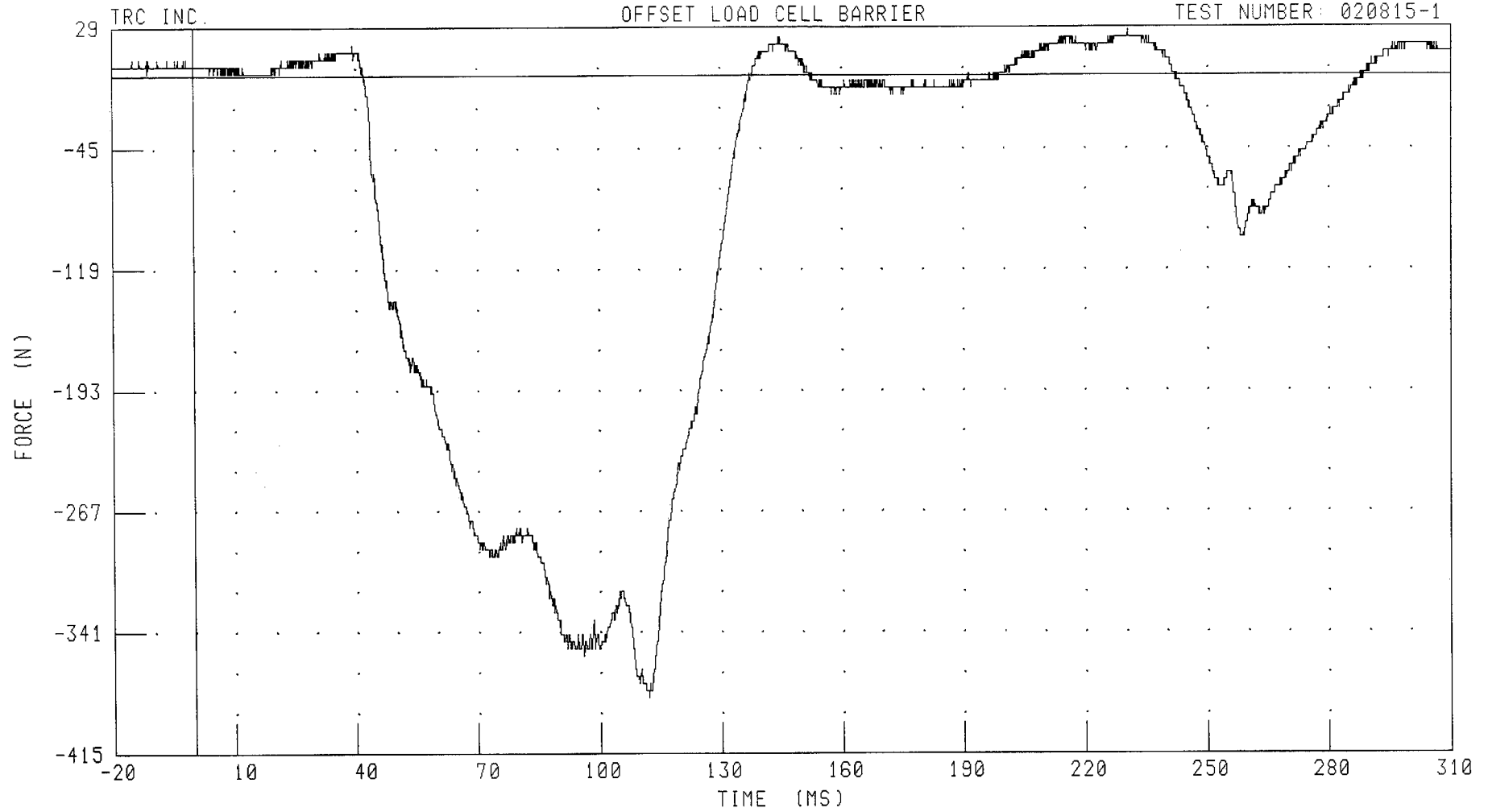
PEAK DATA: 34.76 G @ 115.04 MS; -8.88 G @ 153.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK X-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKXF2 FILTER: CH. CLASS 1000

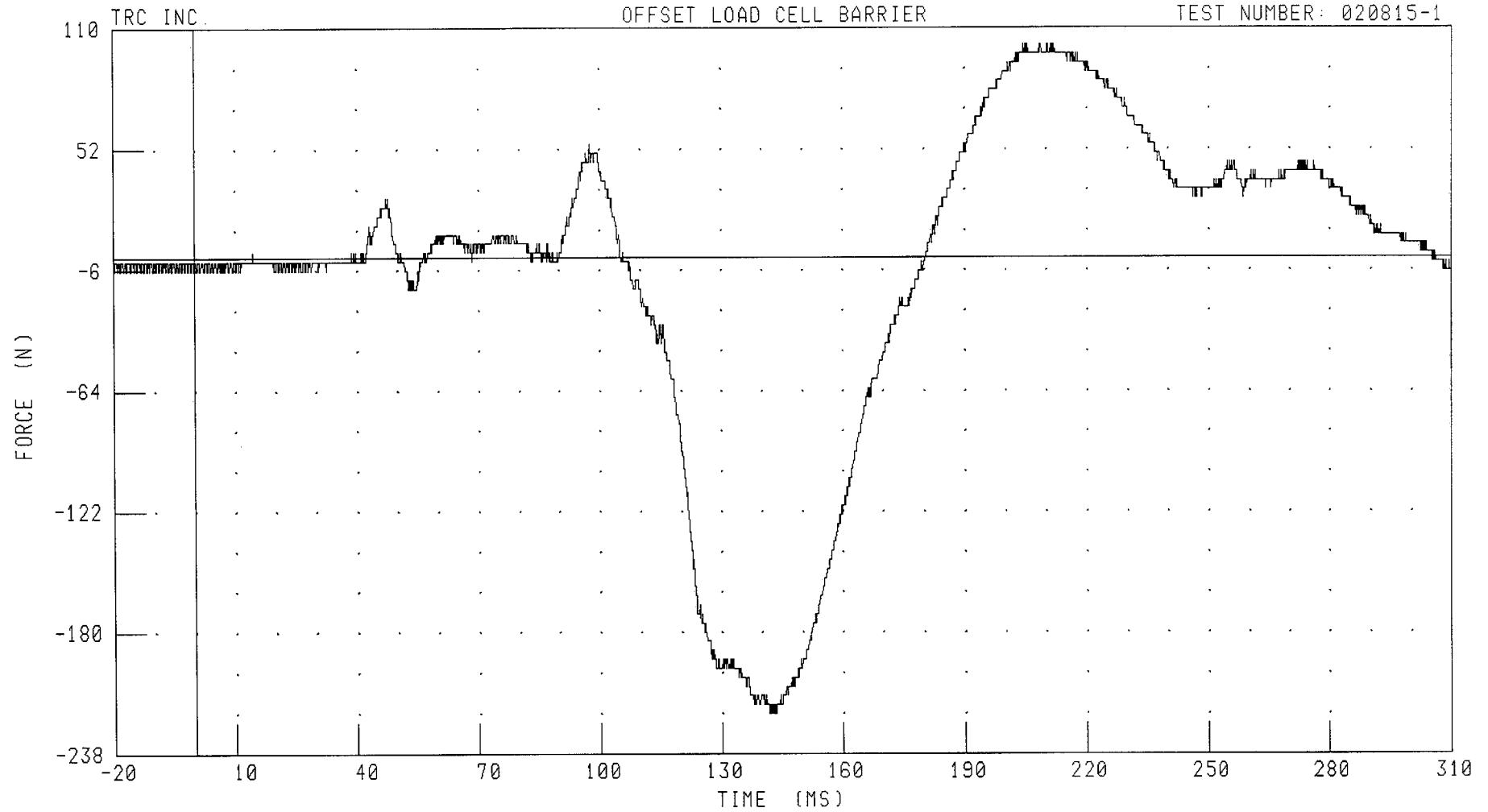
PEAK DATA: 26.97 N @ 230.56 MS; -381.33 N @ 112.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK Y-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKYF2 FILTER: CH. CLASS 1000

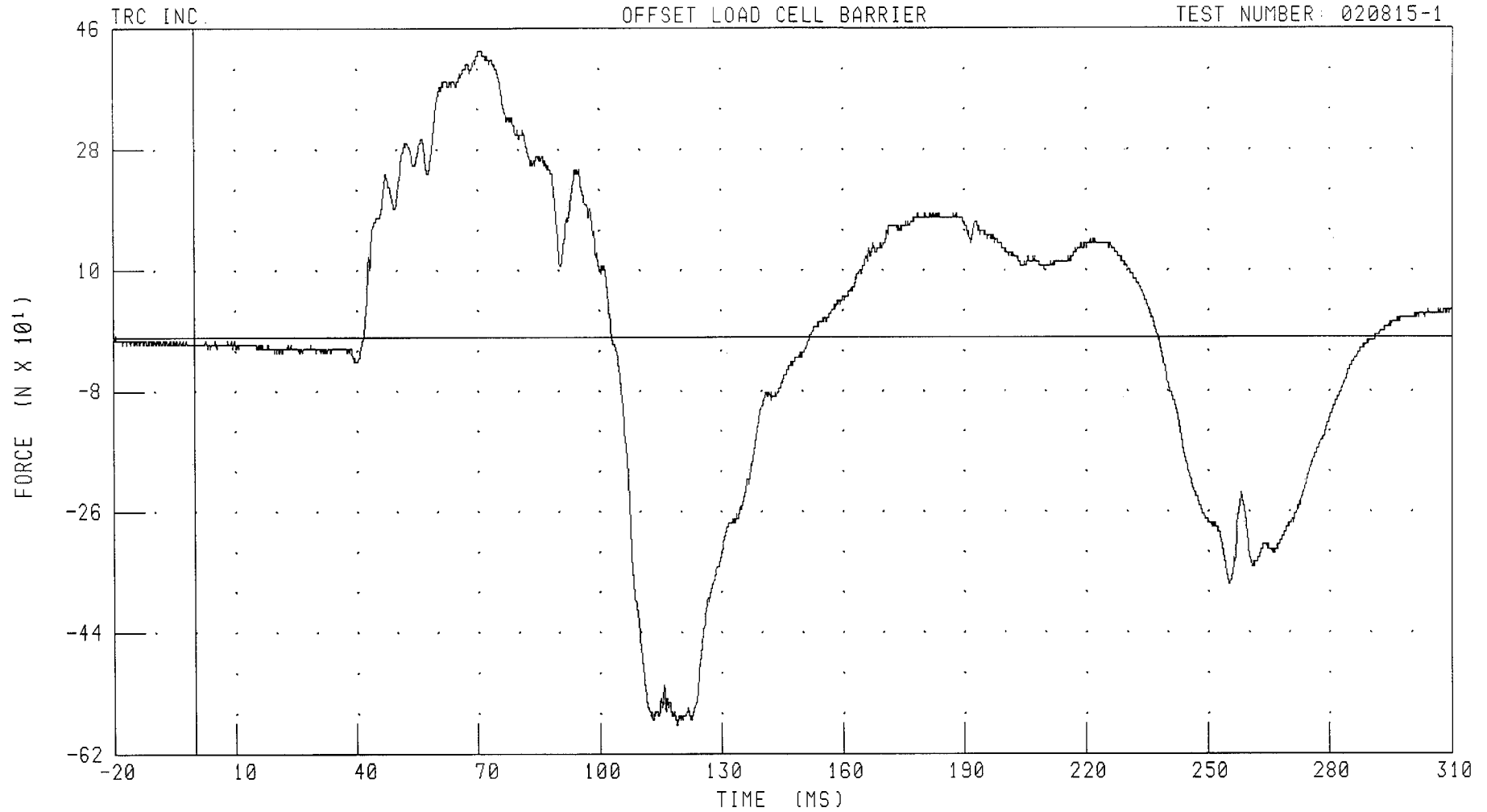
PEAK DATA: 102.24 N @ 204.56 MS; -218.96 N @ 141.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK Z-AXIS AXIAL FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKZF2 FILTER: CH. CLASS 1000

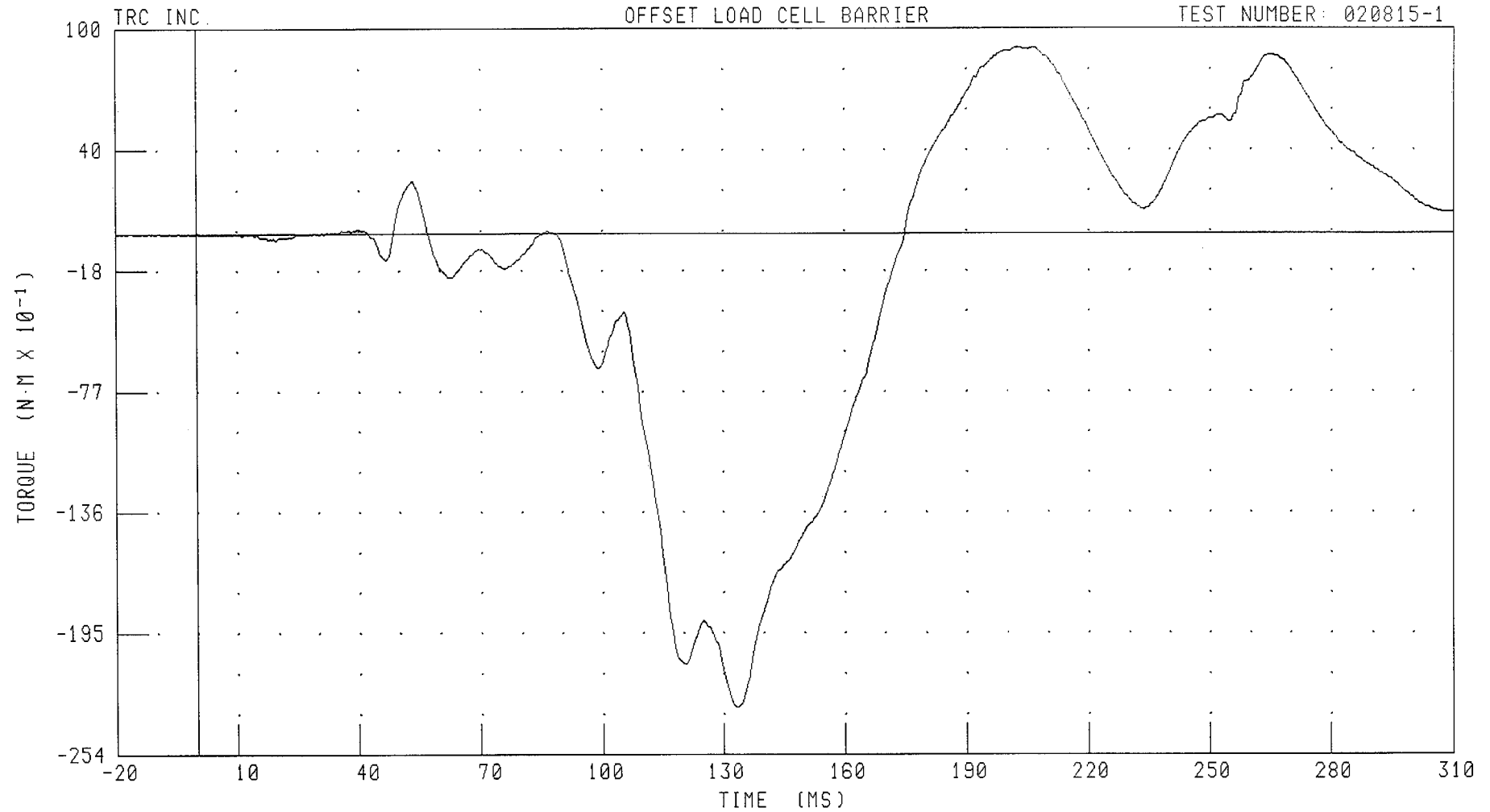
PEAK DATA: 426.16 N @ 70.40 MS; -576.89 N @ 118.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKXM2 FILTER: CH. CLASS 600

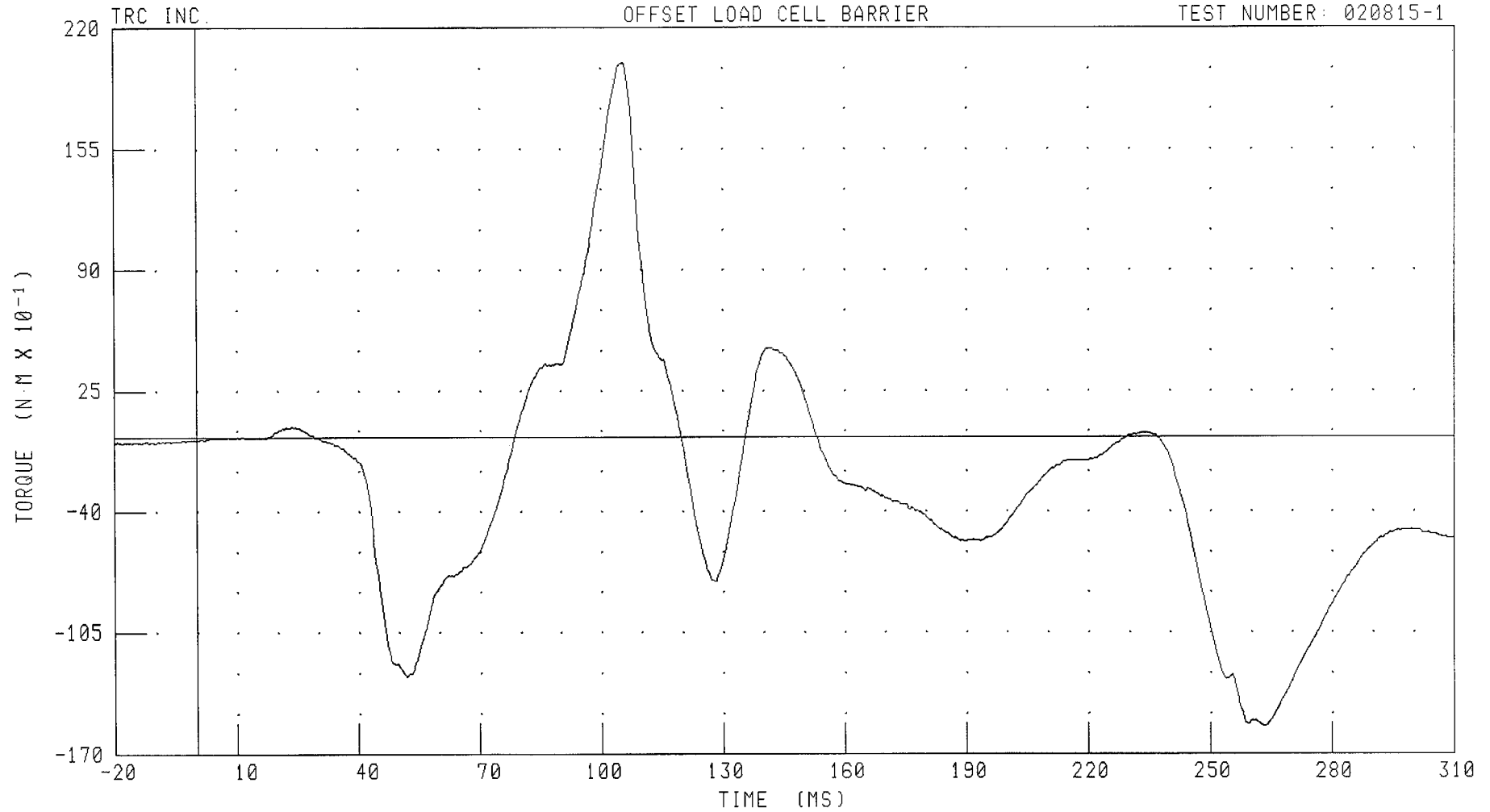
PEAK DATA: 9.10 N·M @ 202.56 MS; -23.11 N·M @ 133.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKYM2 FILTER: CH. CLASS 600

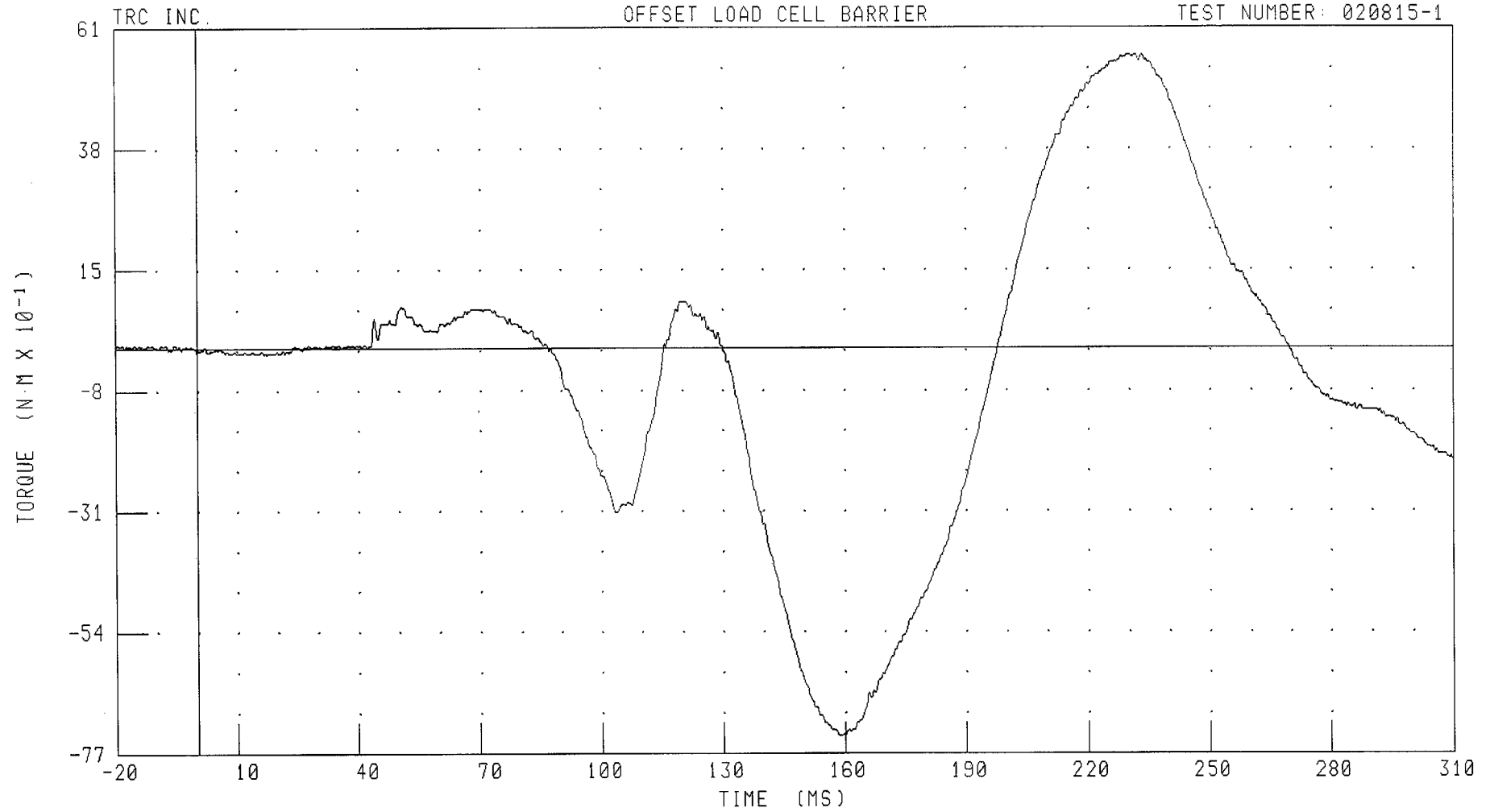
PEAK DATA: 20.13 N·m @ 105.68 MS; -15.52 N·m @ 263.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK MOMENT ABOUT Z AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKZM2 FILTER: CH. CLASS 600

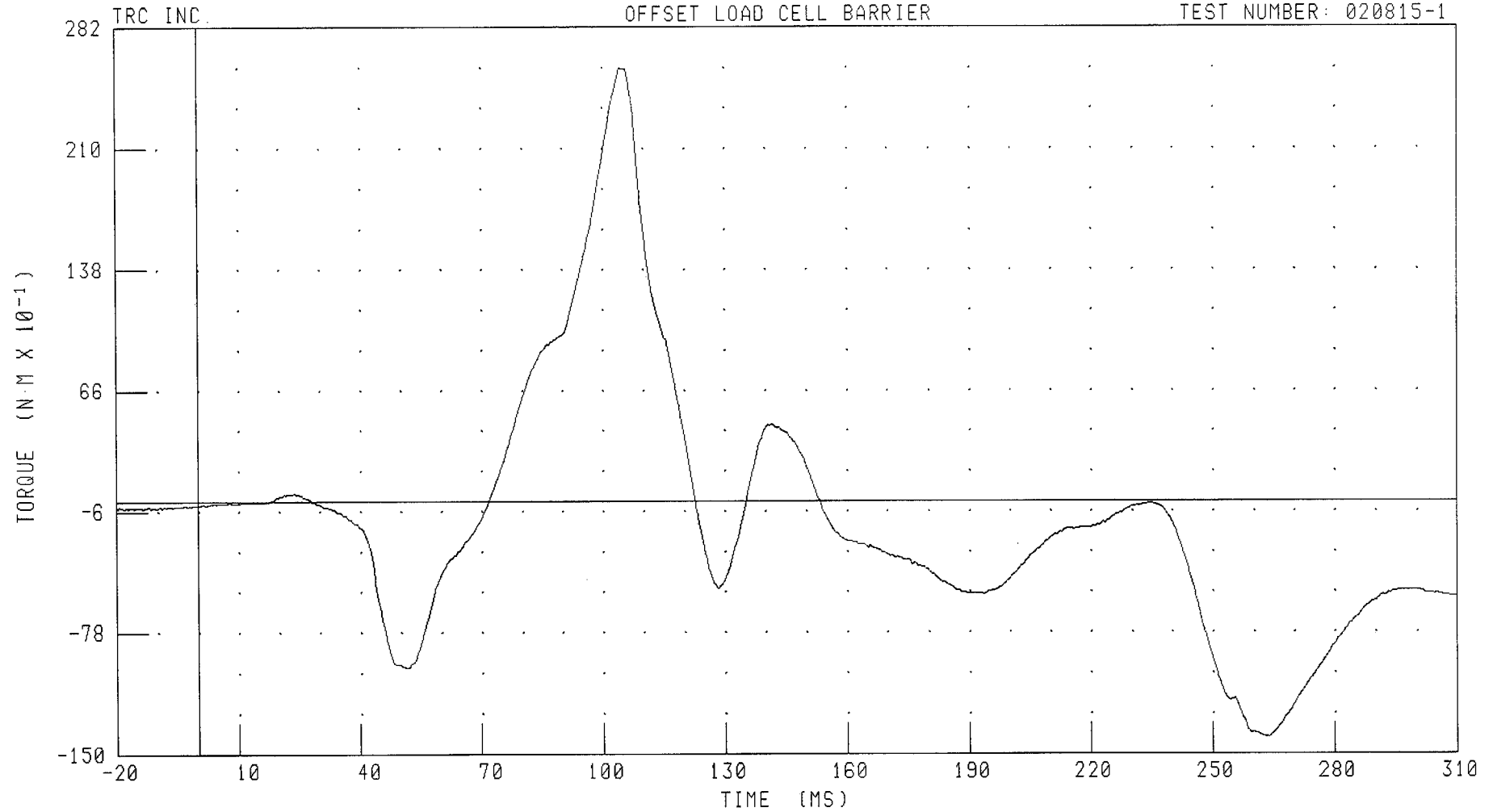
PEAK DATA: 5.59 N·M @ 233.28 MS; -7.37 N·M @ 160.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK OCCIPITAL CONDYLE MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NEKOM2 FILTER: CH. CLASS 600

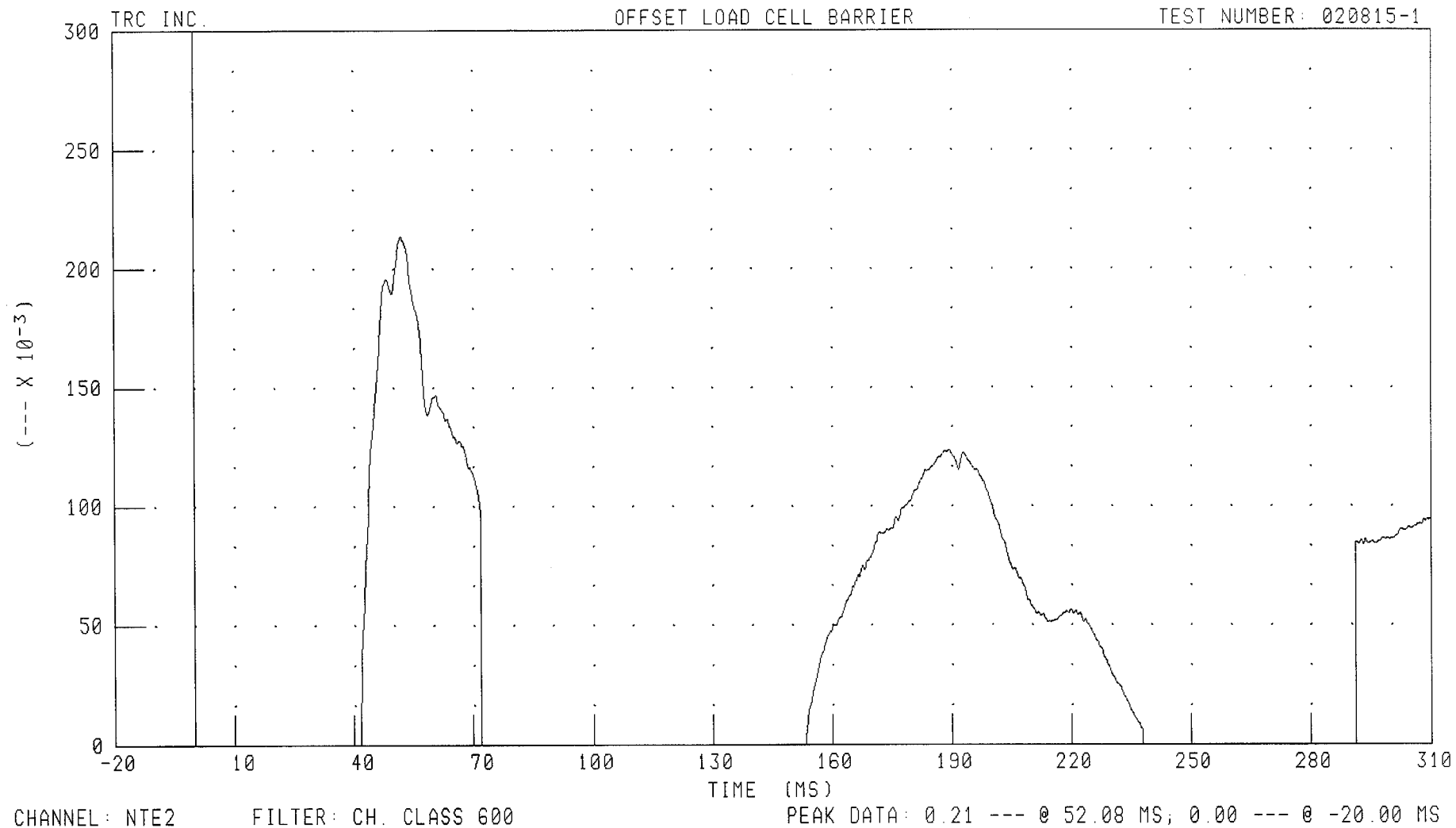
PEAK DATA: 25.75 N·m @ 104.48 MS; -14.01 N·m @ 263.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NIJ TENSION/EXTENSION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1

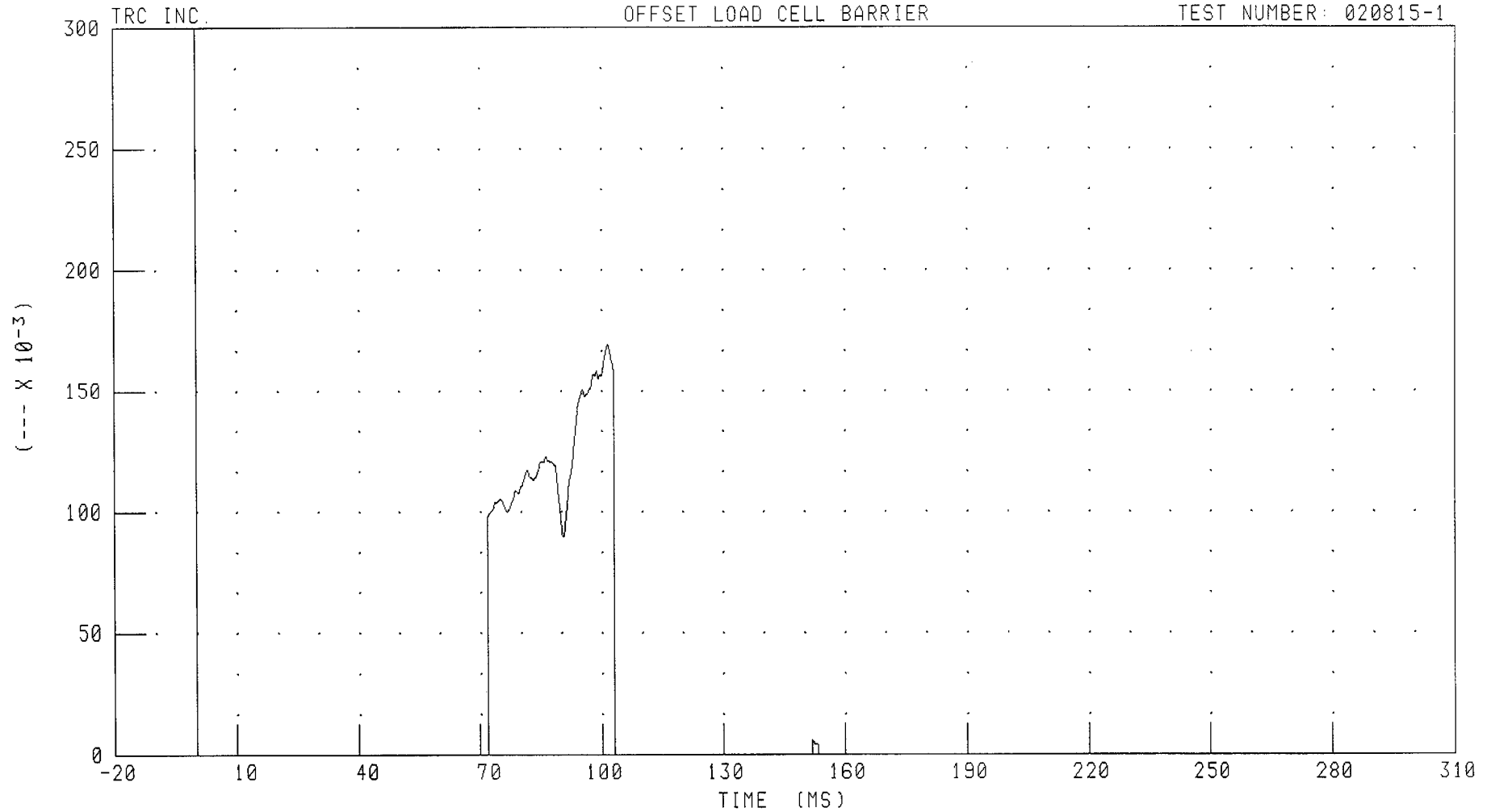


2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NIJ TENSION/FLEXION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NTF2

FILTER: CH. CLASS 600

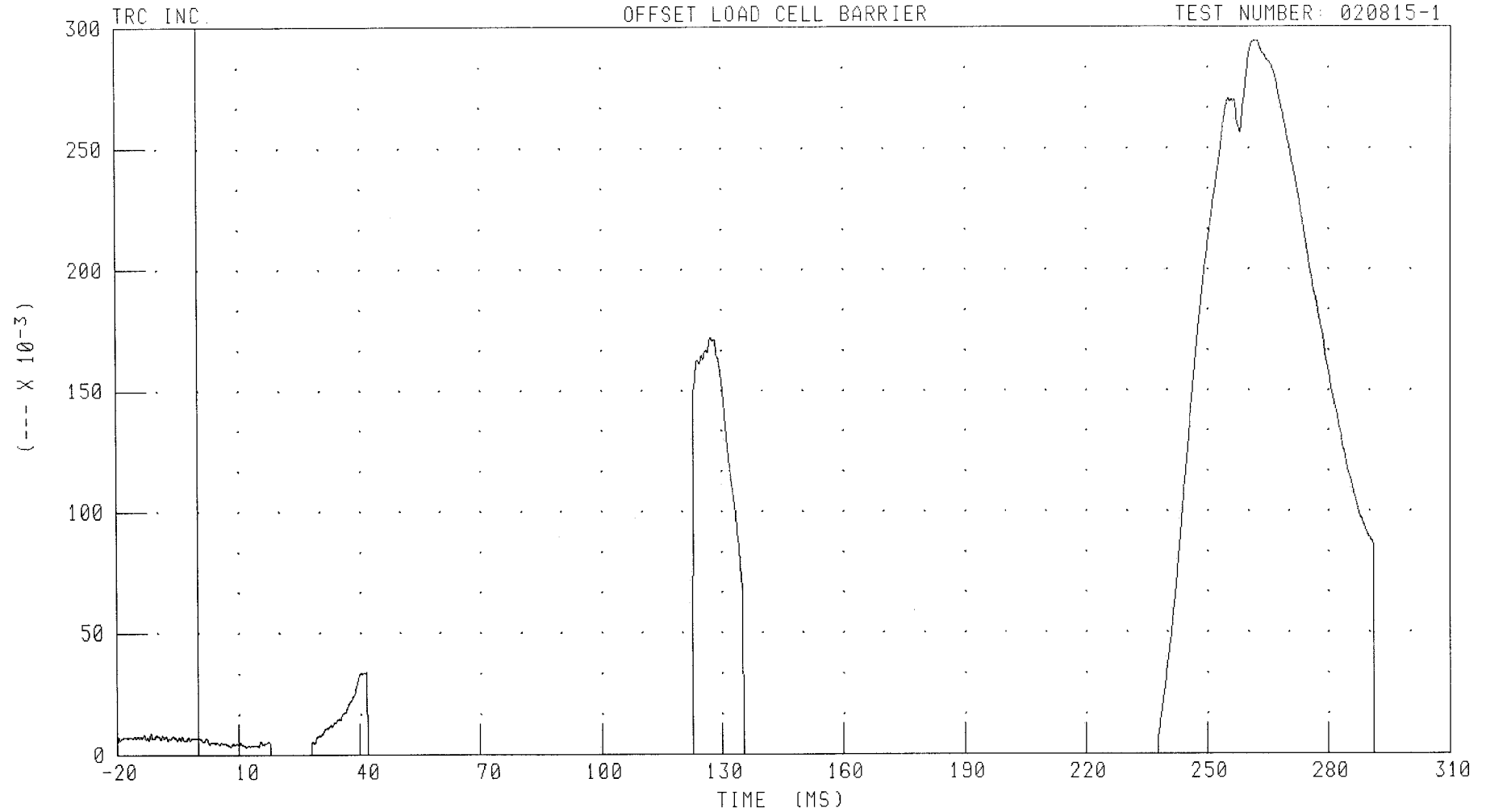
PEAK DATA: 0.17 --- @ 101.68 MS; 0.00 --- @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NIJ COMPRESSION/EXTENSION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NCE2

FILTER: CH. CLASS 600

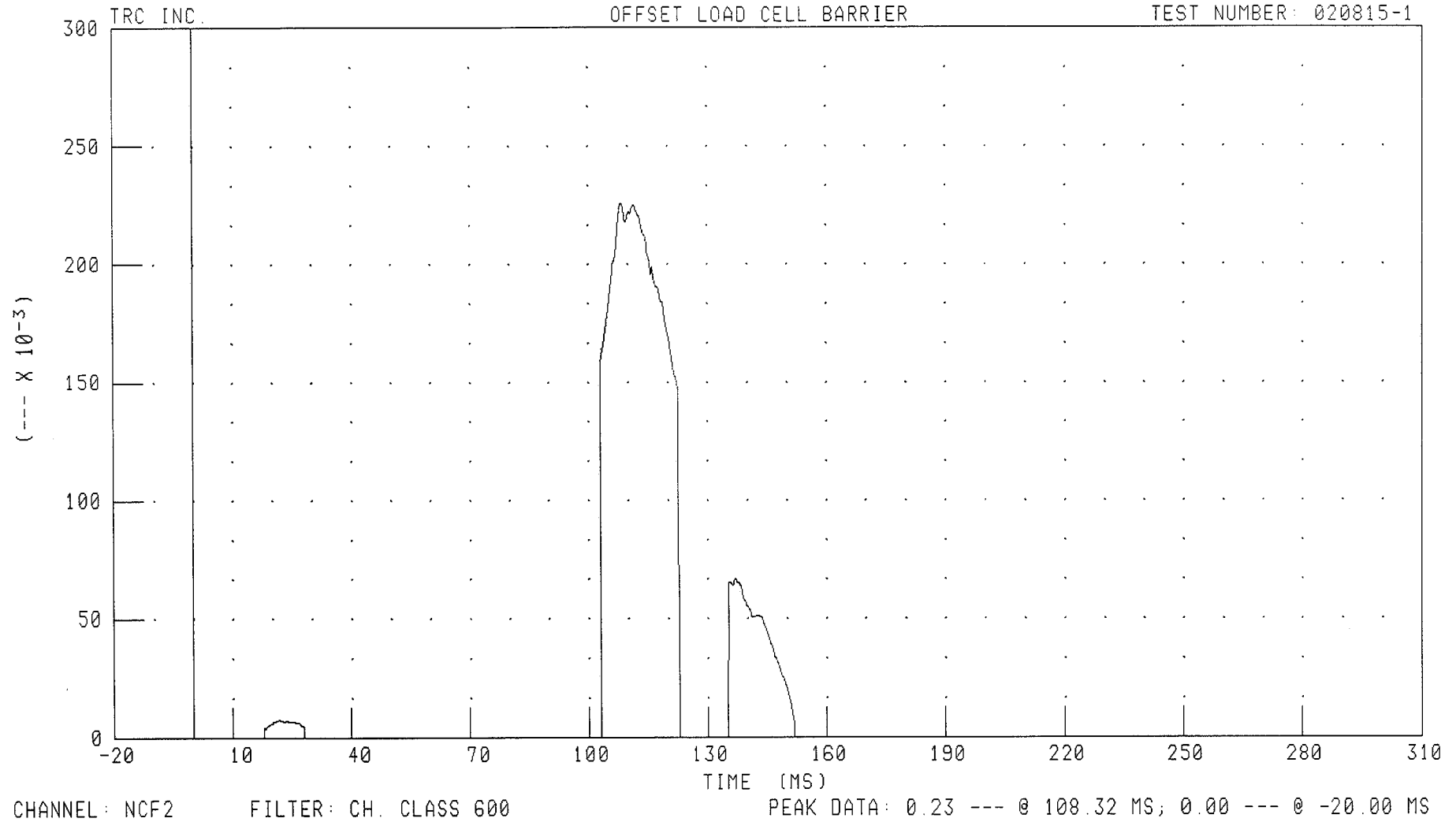
PEAK DATA: 0.29 --- @ 261.44 MS; 0.00 --- @ 17.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NIJ COMPRESSION/FLEXION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1

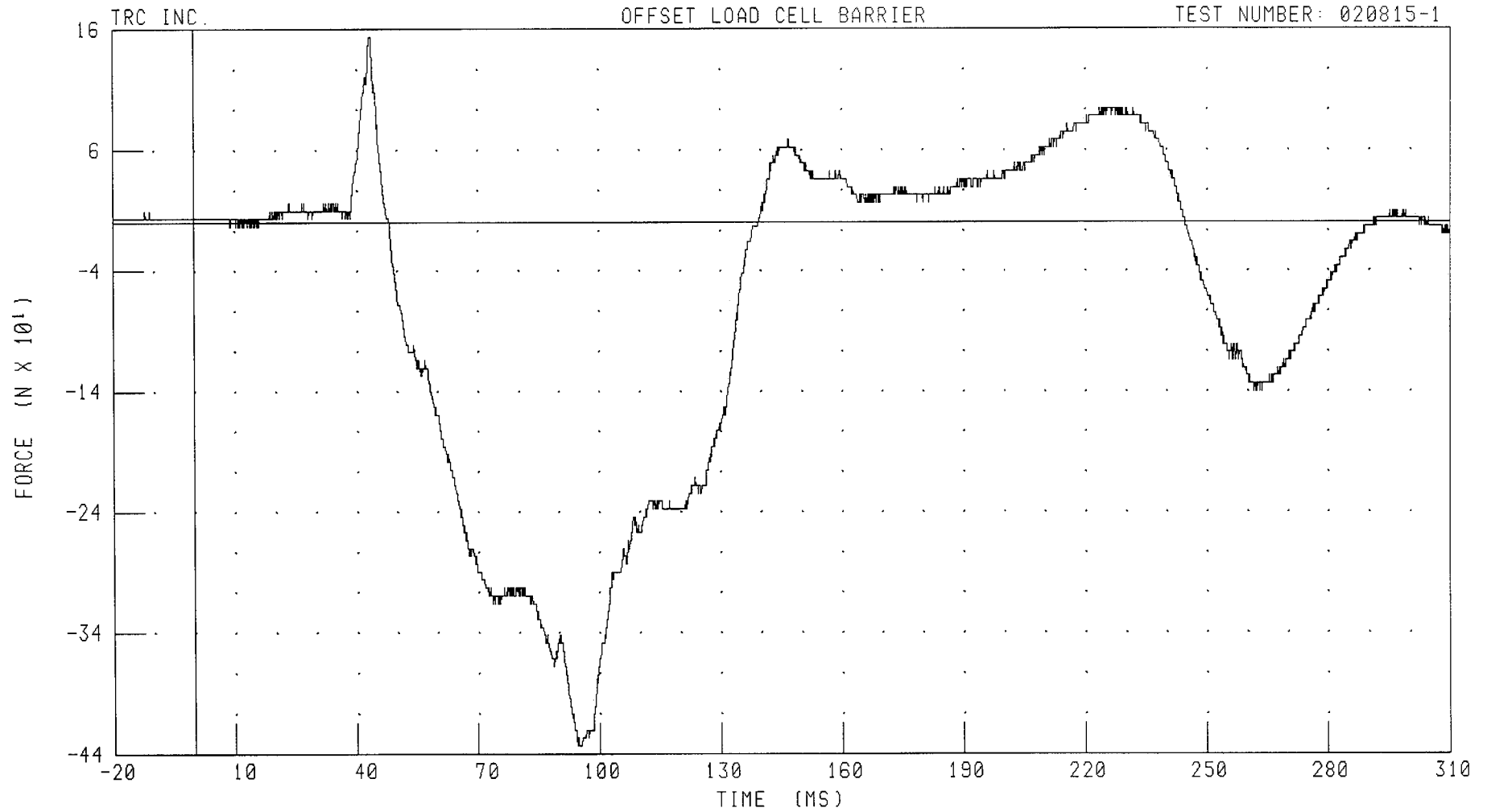


2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK LOWER X-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLXF2 FILTER: CH. CLASS 1000

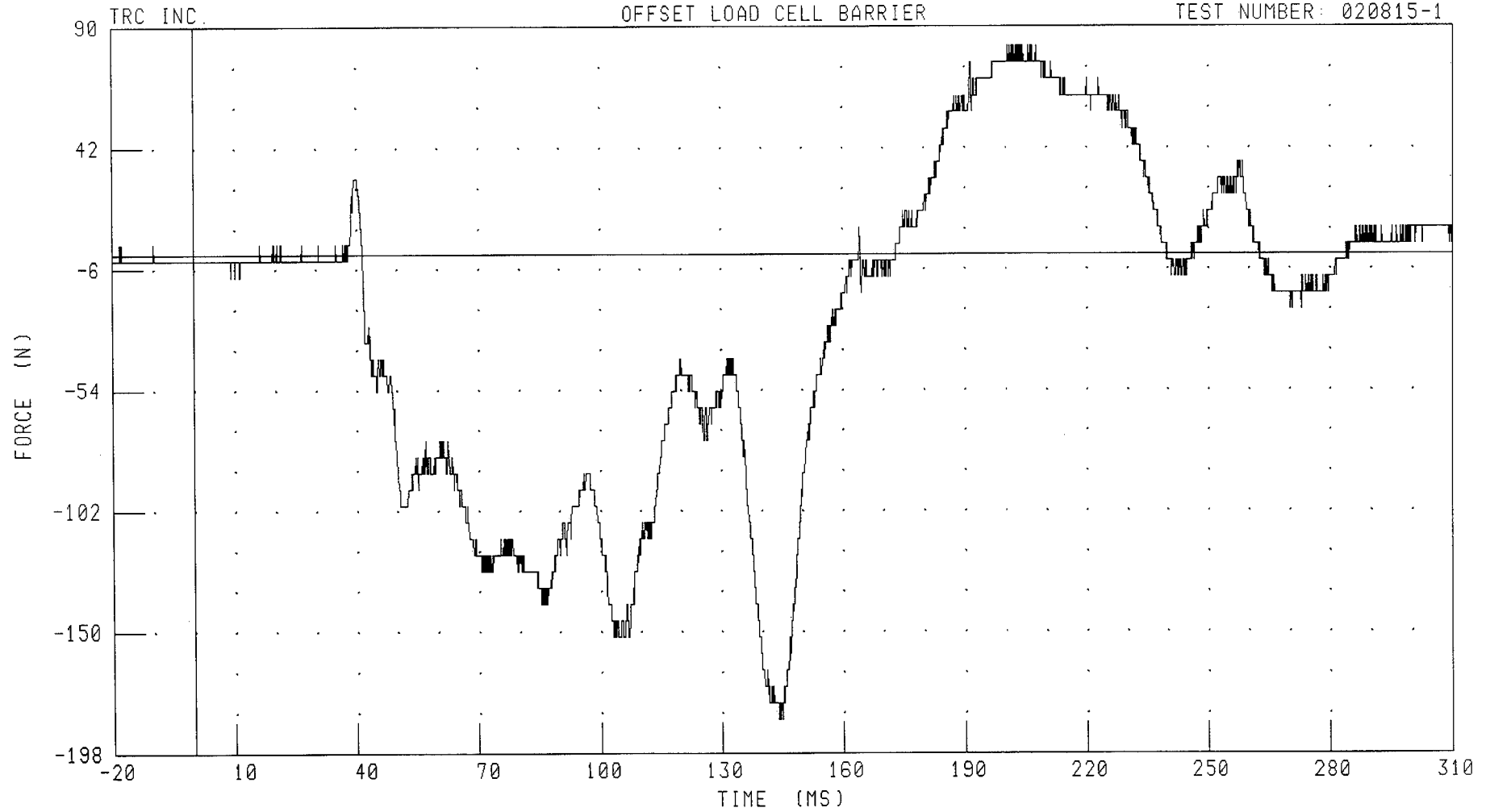
PEAK DATA: 153.17 N @ 43.28 MS; -433.41 N @ 94.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK LOWER Y-AXIS SHEAR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLYF2 FILTER: CH. CLASS 1000

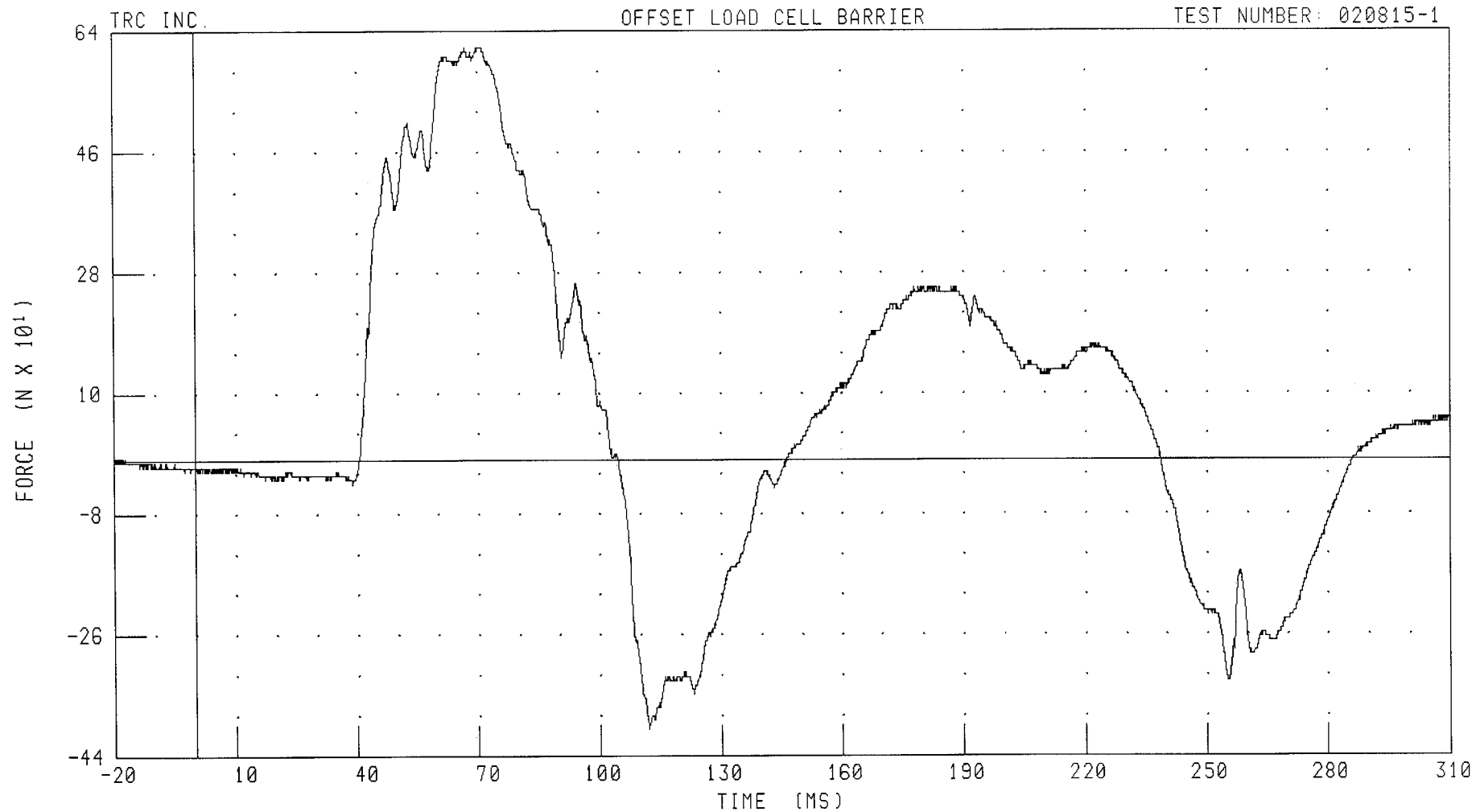
PEAK DATA: 82.19 N @ 200.80 MS; -184.69 N @ 144.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK LOWER Z-AXIS AXIAL FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLZF2 FILTER: CH. CLASS 1000

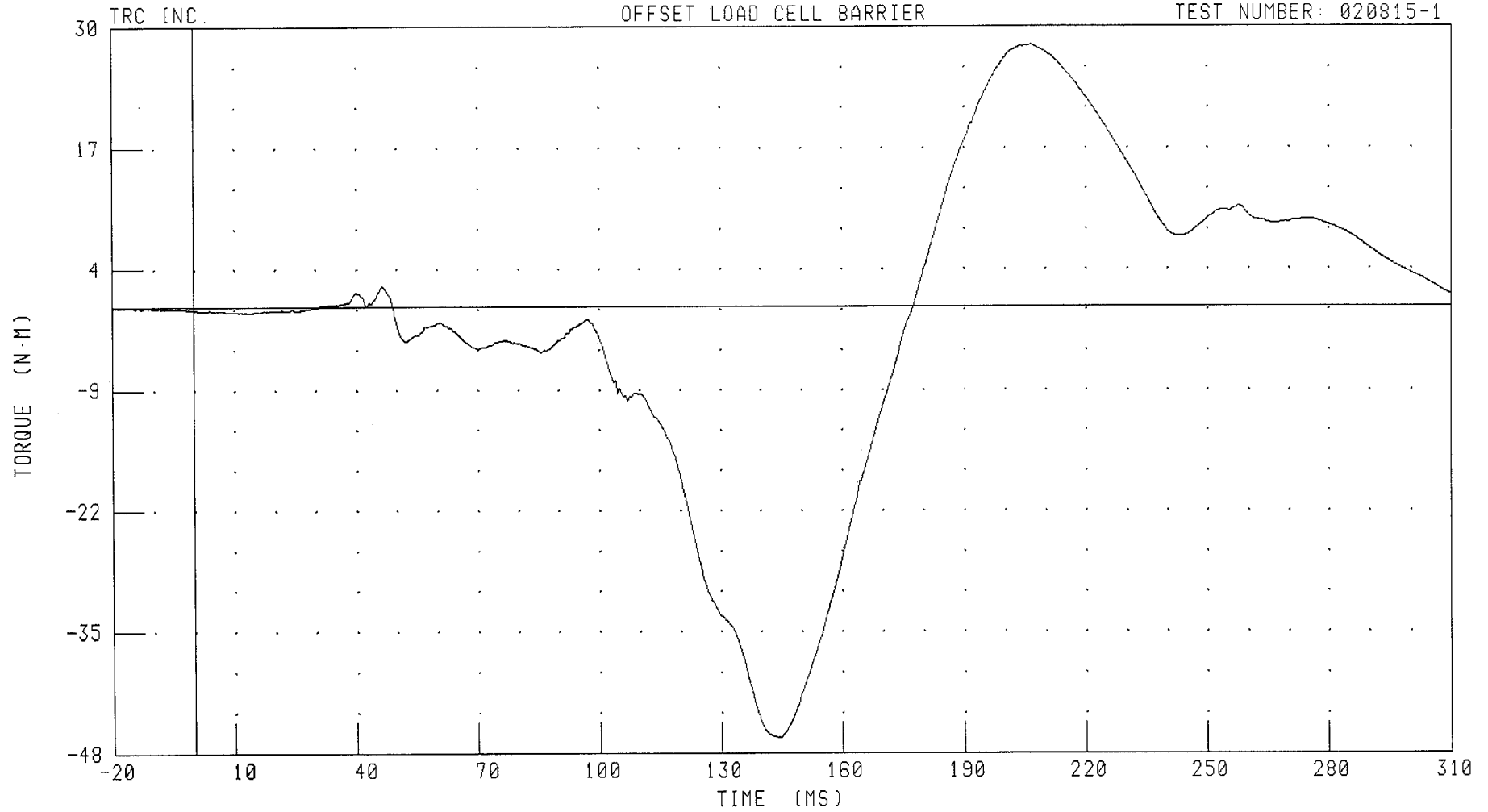
PEAK DATA: 615.75 N @ 67.04 MS; -400.49 N @ 112.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK LOWER MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLXM2 FILTER: CH. CLASS 600

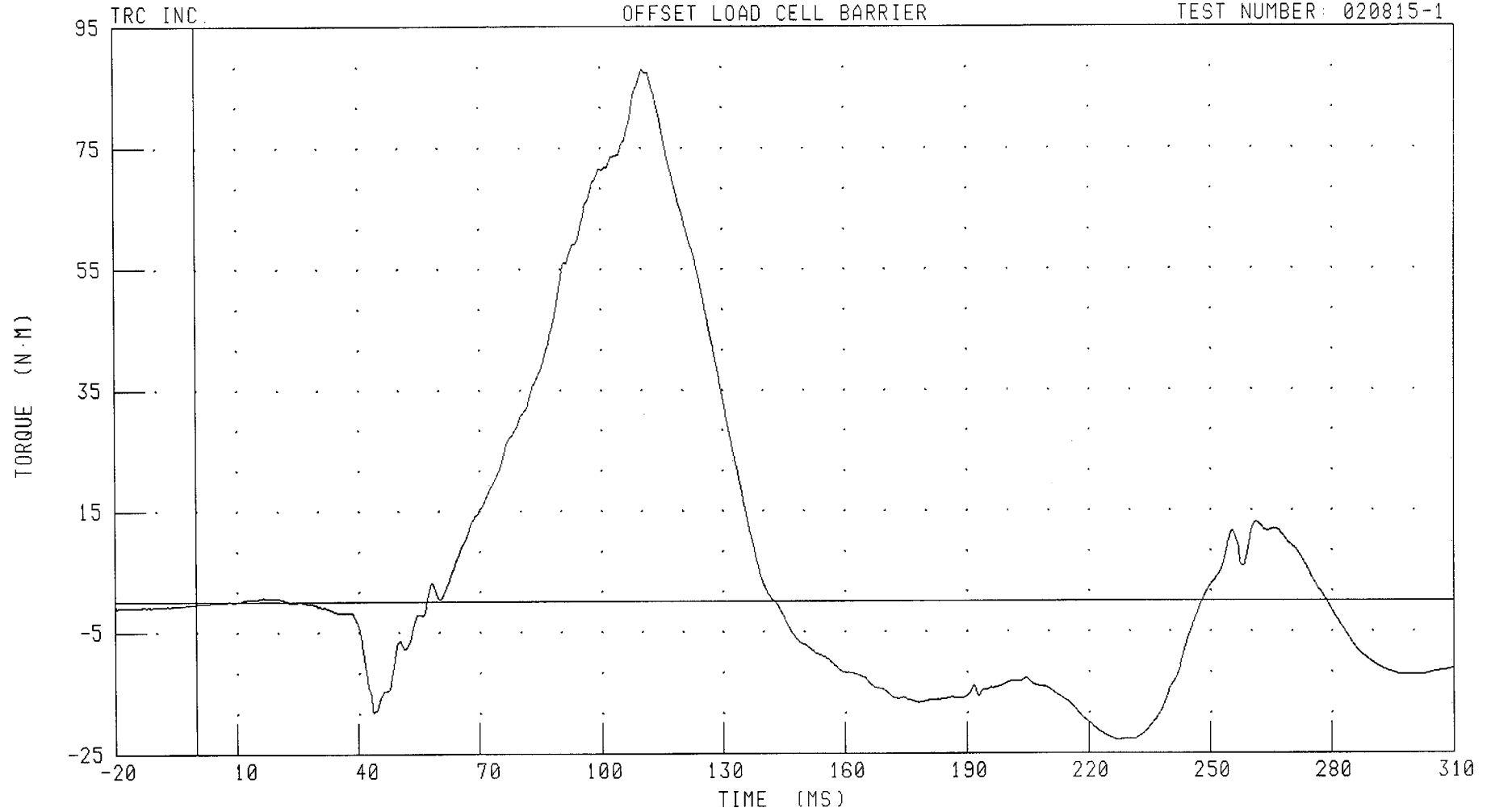
PEAK DATA: 28.04 N·M @ 206.72 MS; -46.34 N·M @ 144.80 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK LOWER MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLYM2 FILTER: CH. CLASS 600

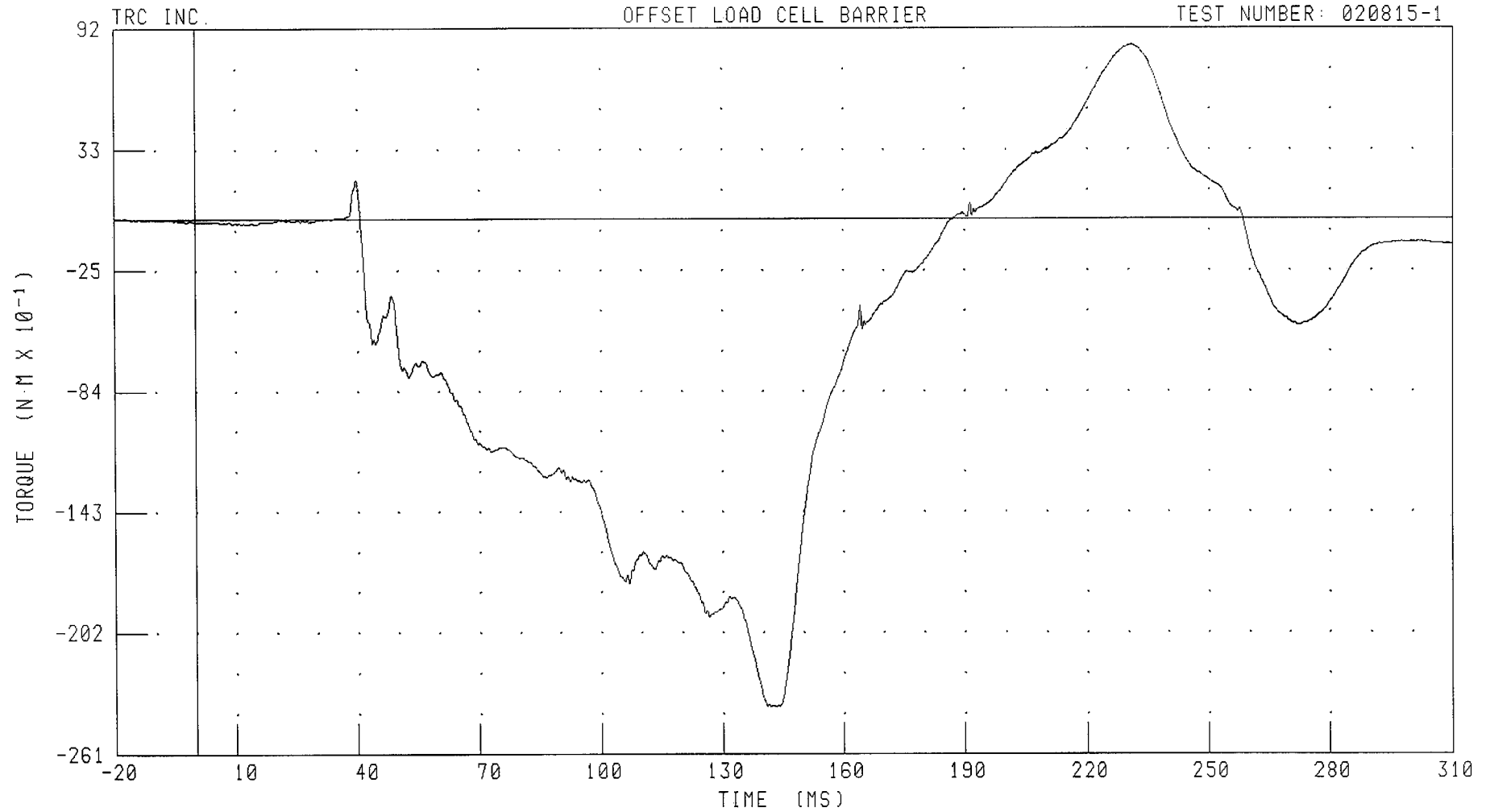
PEAK DATA: 87.85 N·M @ 110.64 MS; -22.86 N·M @ 227.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER NECK LOWER MOMENT ABOUT Z AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: NKLZM2 FILTER: CH. CLASS 600

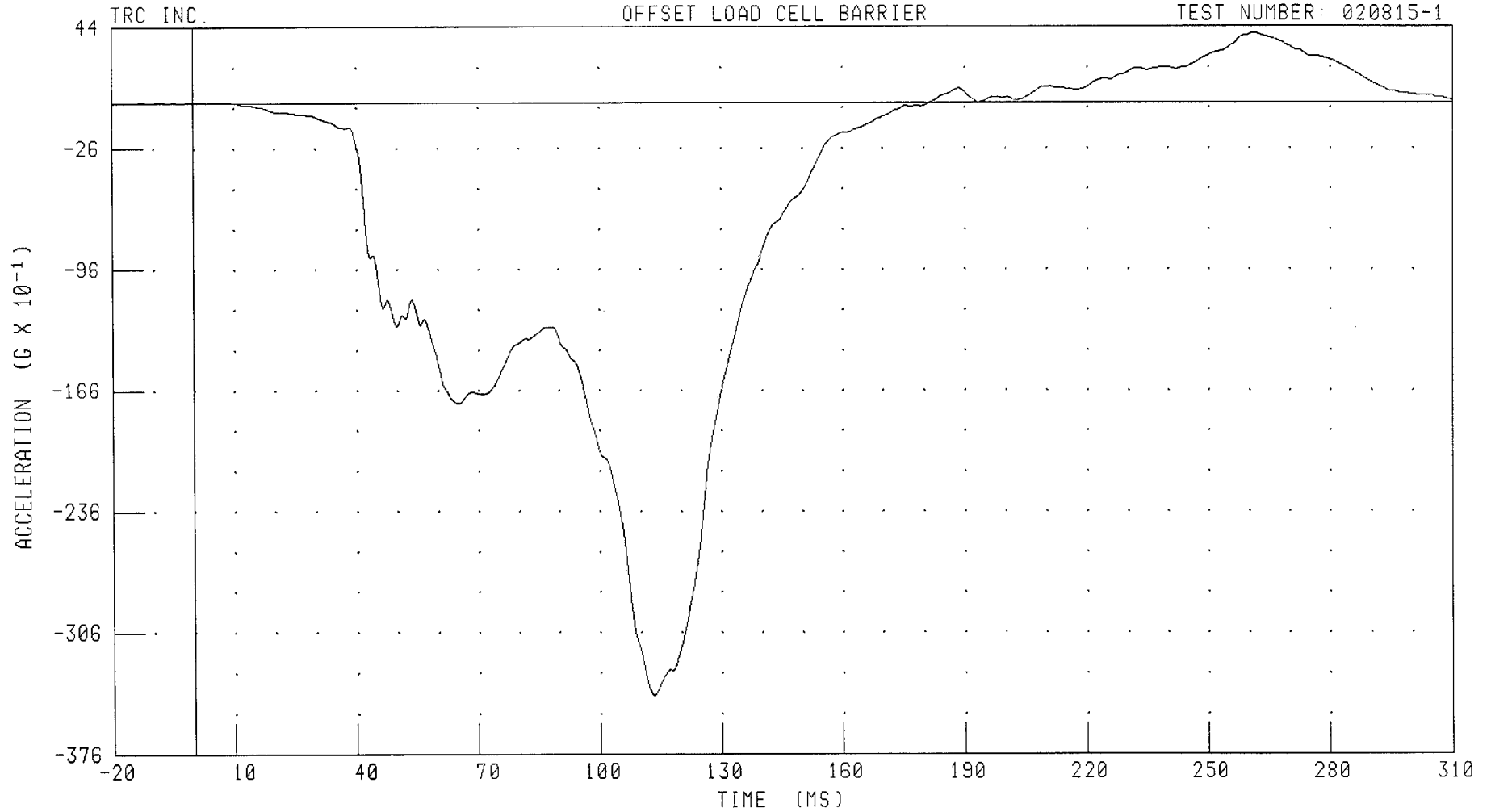
PEAK DATA: 8.49 N·m @ 231.12 MS; -23.82 N·m @ 141.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTXG2 FILTER: CH. CLASS 180

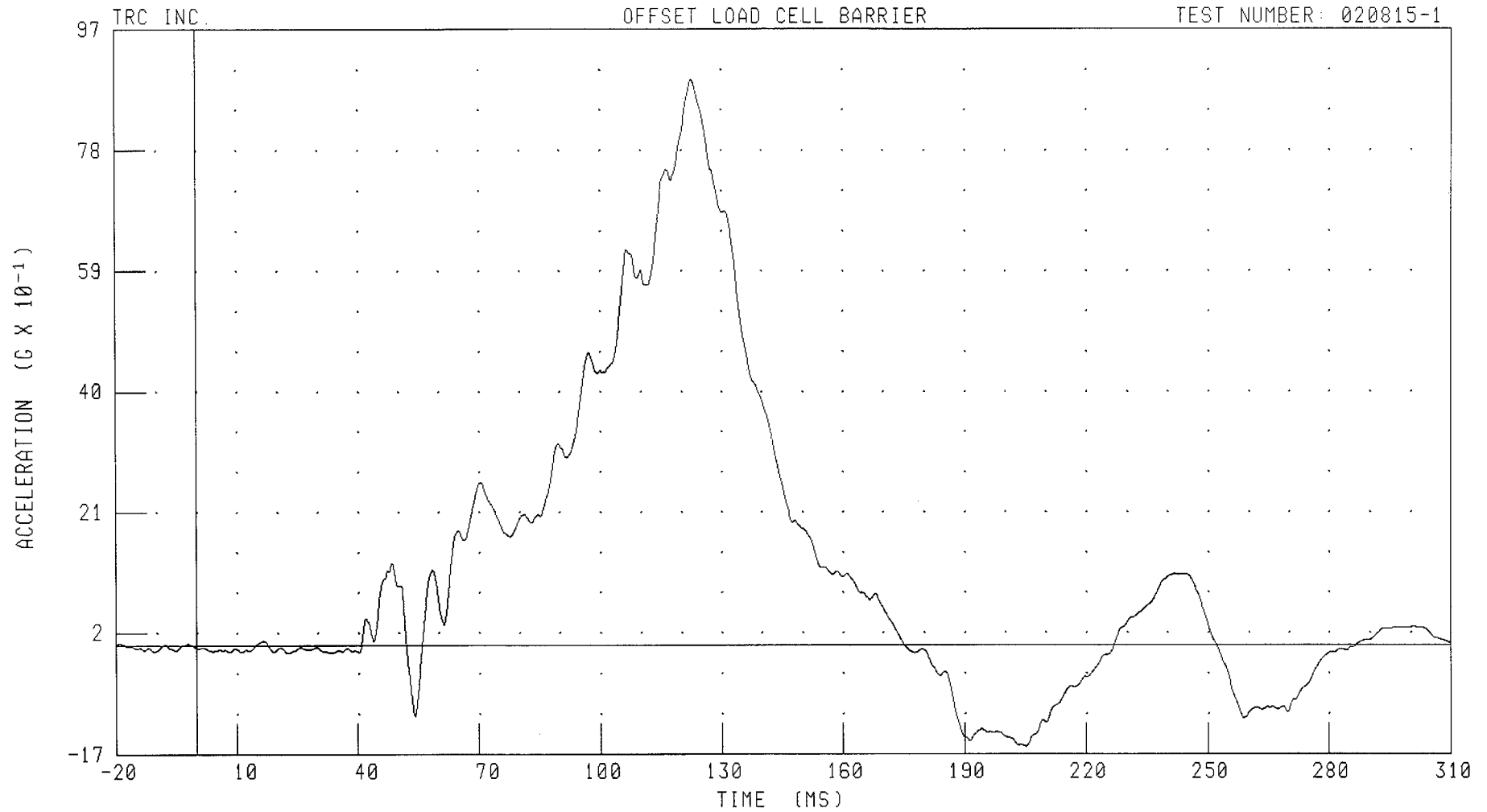
PEAK DATA: 4.00 G @ 261.04 MS; -34.24 G @ 113.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTYG2 FILTER: CH. CLASS 180

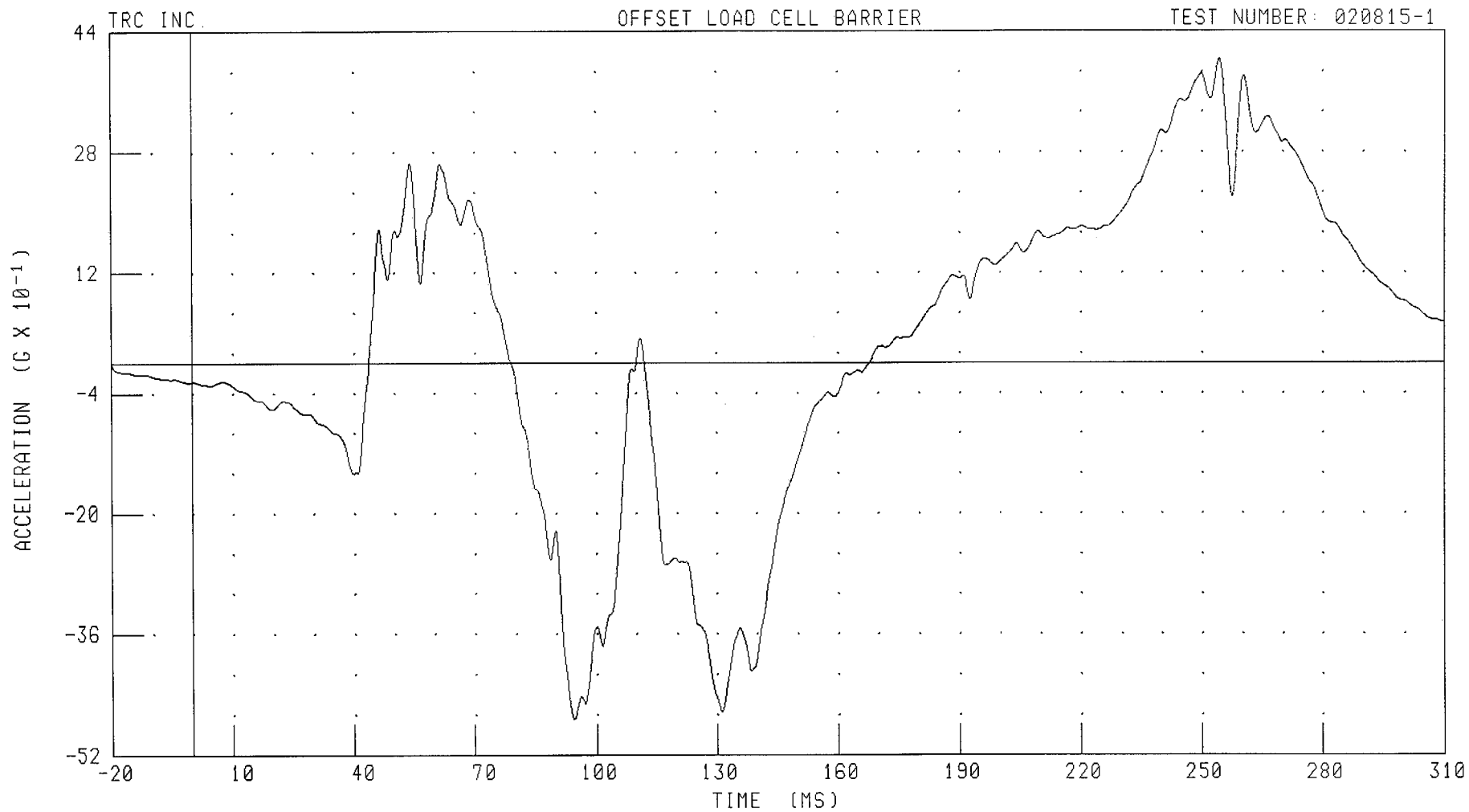
PEAK DATA: 8.91 G @ 122.64 MS; -1.58 G @ 205.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTZG2 FILTER: CH. CLASS 180

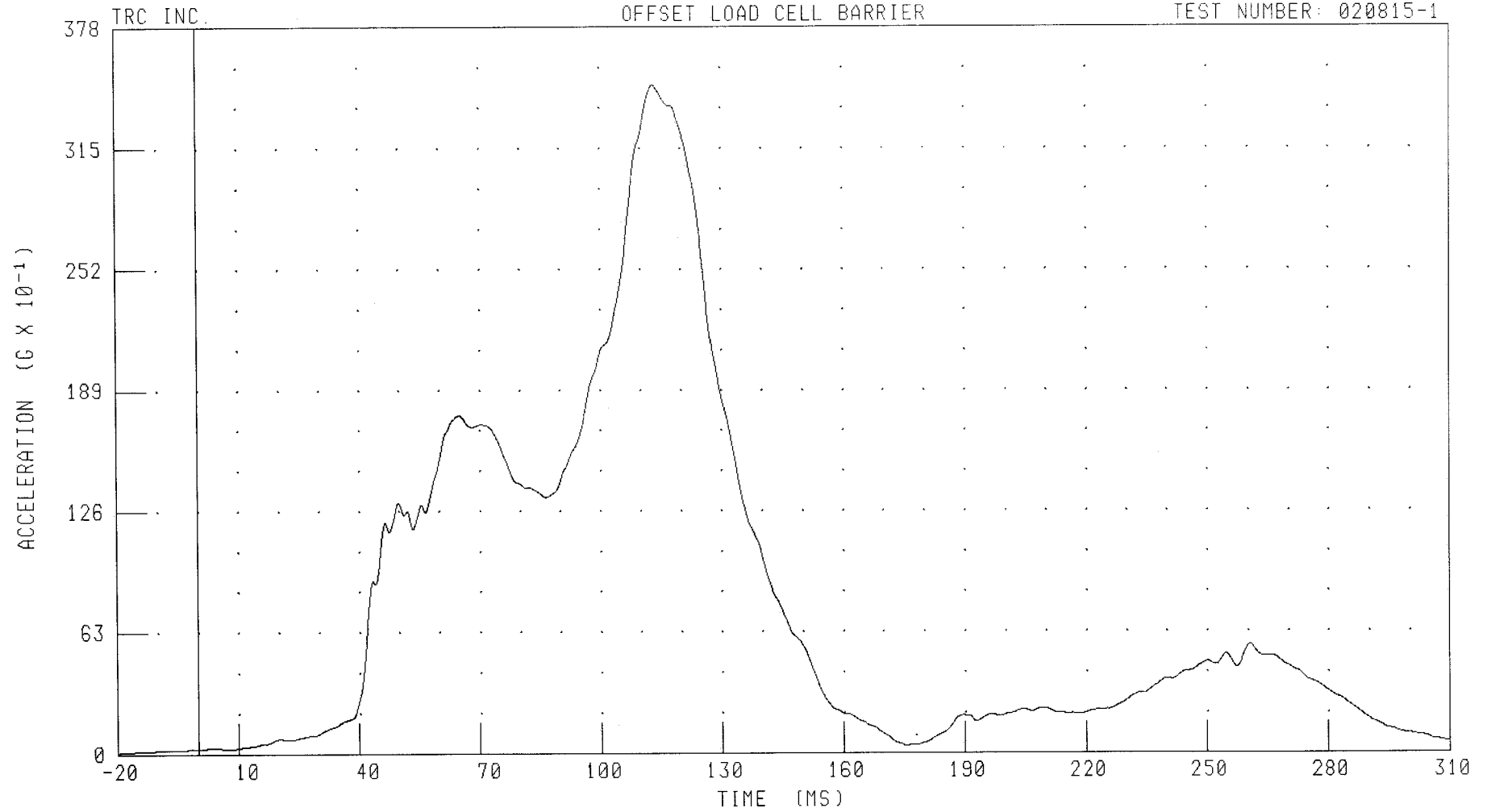
PEAK DATA: 4.03 G @ 254.56 MS; -4.73 G @ 94.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTRG2 FILTER: CH. CLASS 180

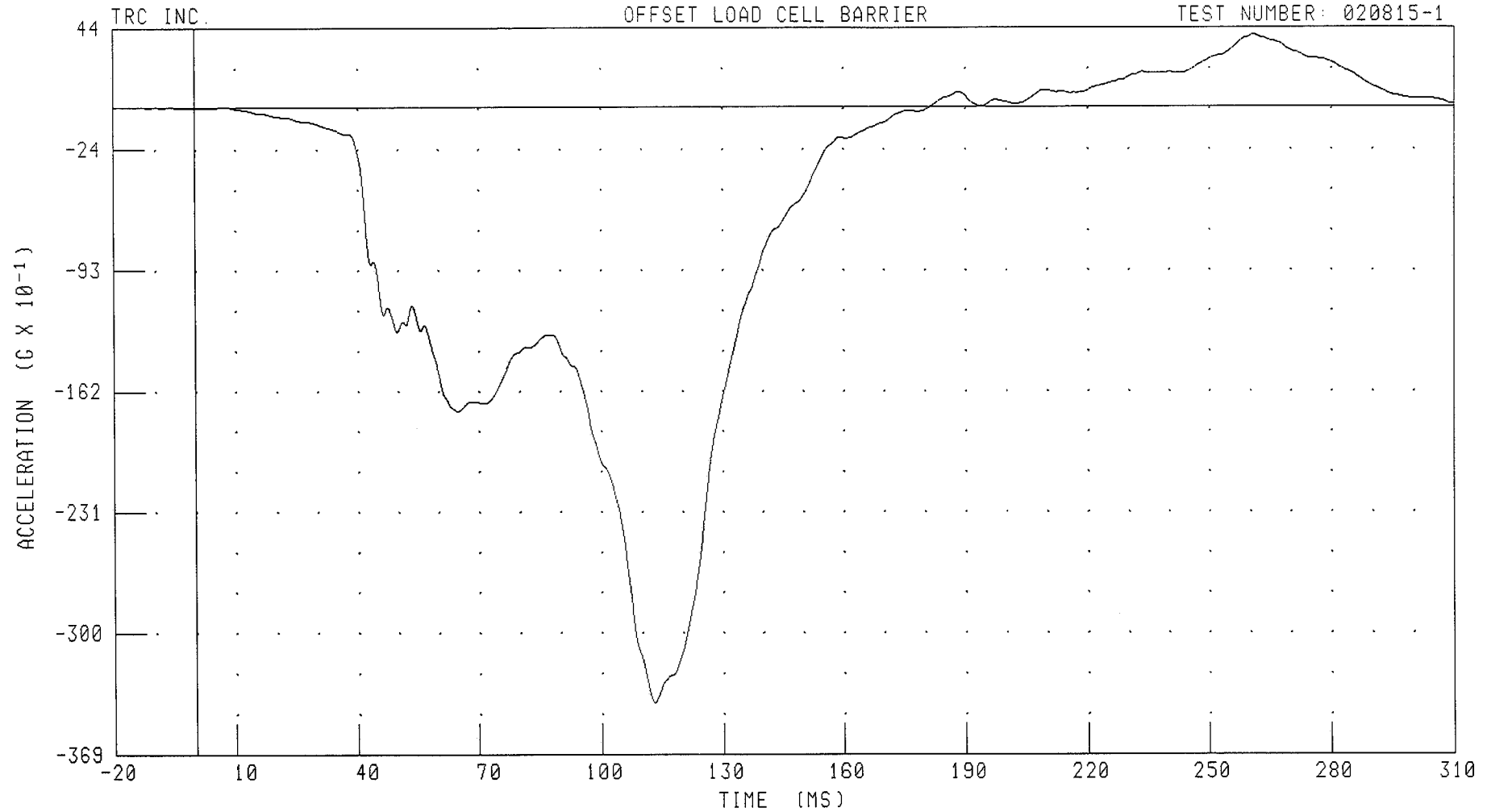
PEAK DATA: 34.79 G @ 113.44 MS; 0.01 G @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST X-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



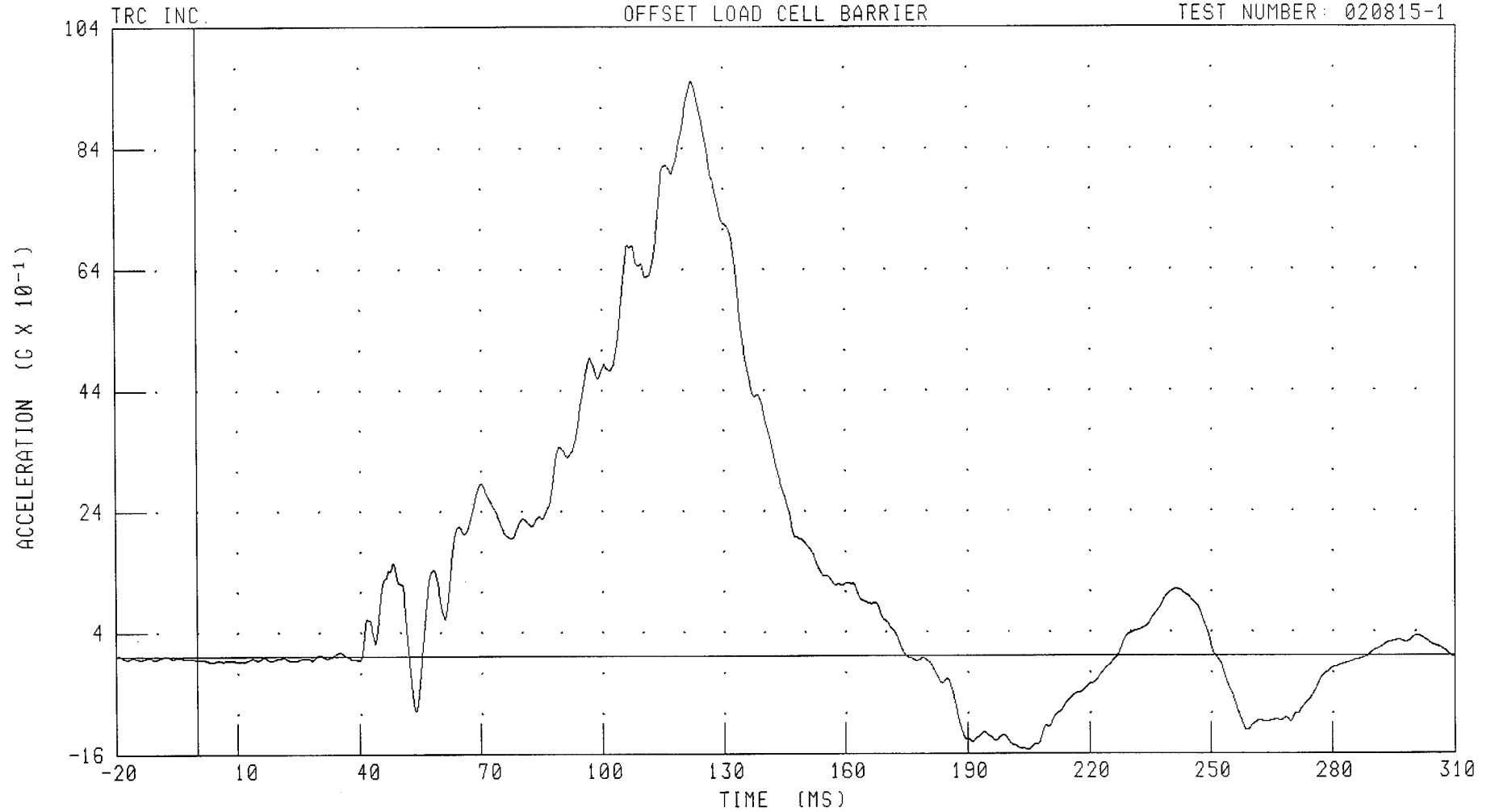
CHANNEL: CSTXR2 FILTER: CH. CLASS 180

PEAK DATA: 4.10 G @ 261.04 MS; -33.97 G @ 113.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
PASSENGER CHEST Y-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTYR2 FILTER: CH. CLASS 180

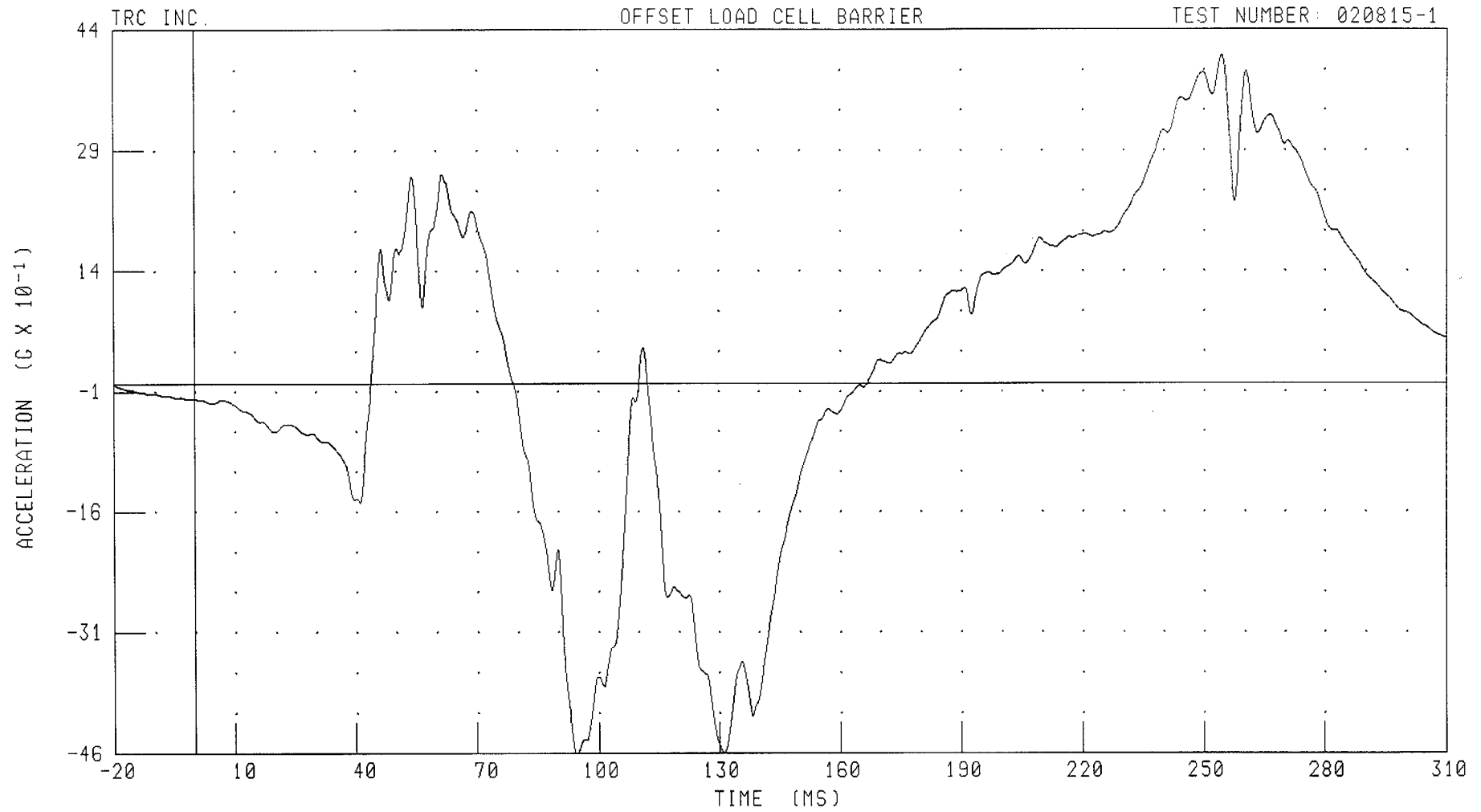
PEAK DATA: 9.50 G @ 122.48 MS; -1.53 G @ 204.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST Z-AXIS ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTZR2 FILTER: CH. CLASS 180

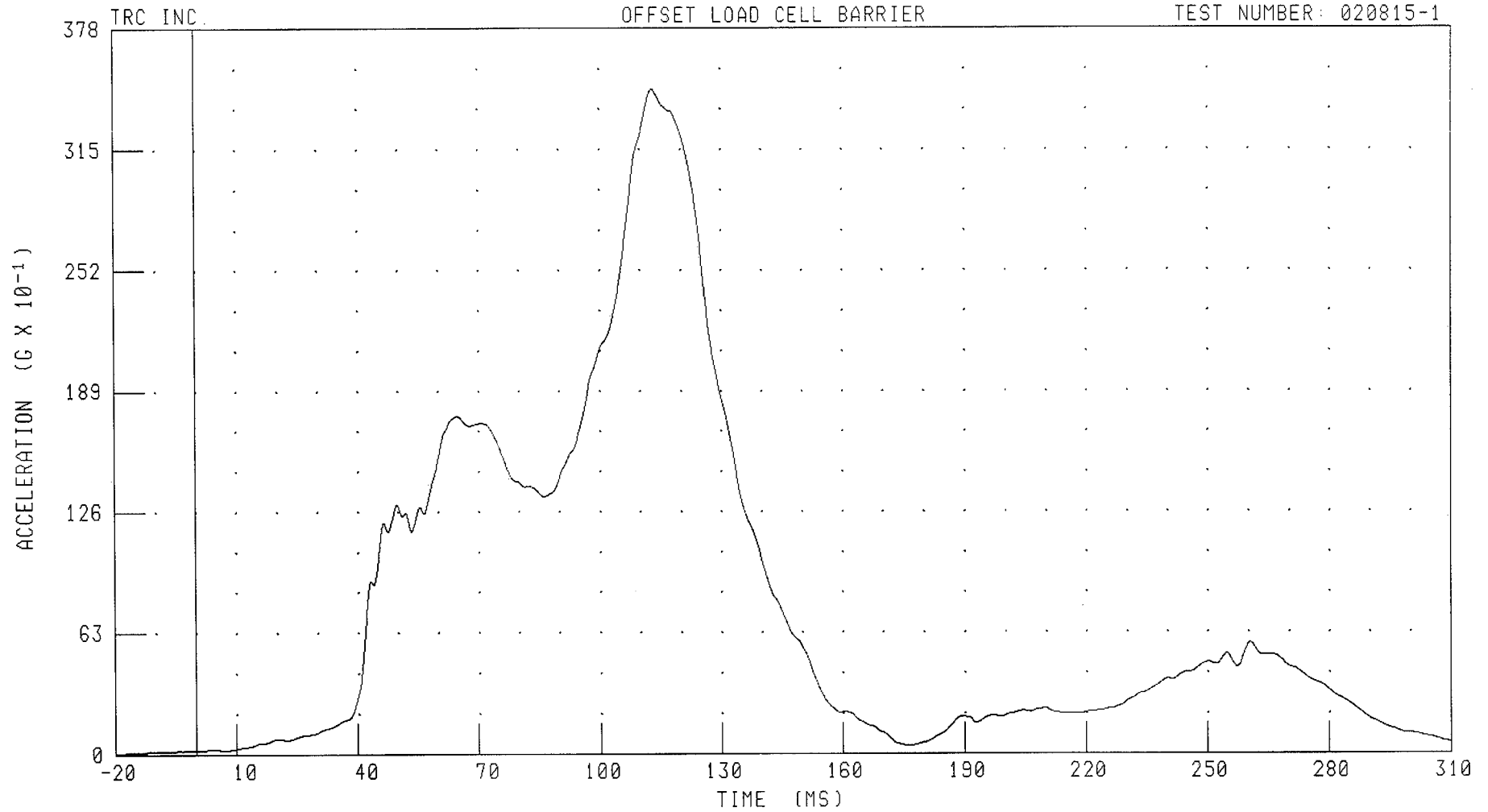
PEAK DATA: 4.08 G @ 254.56 MS; -4.62 G @ 94.48 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST RESULTANT ACCELERATION REDUNDANT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTRR2 FILTER: CH. CLASS 180

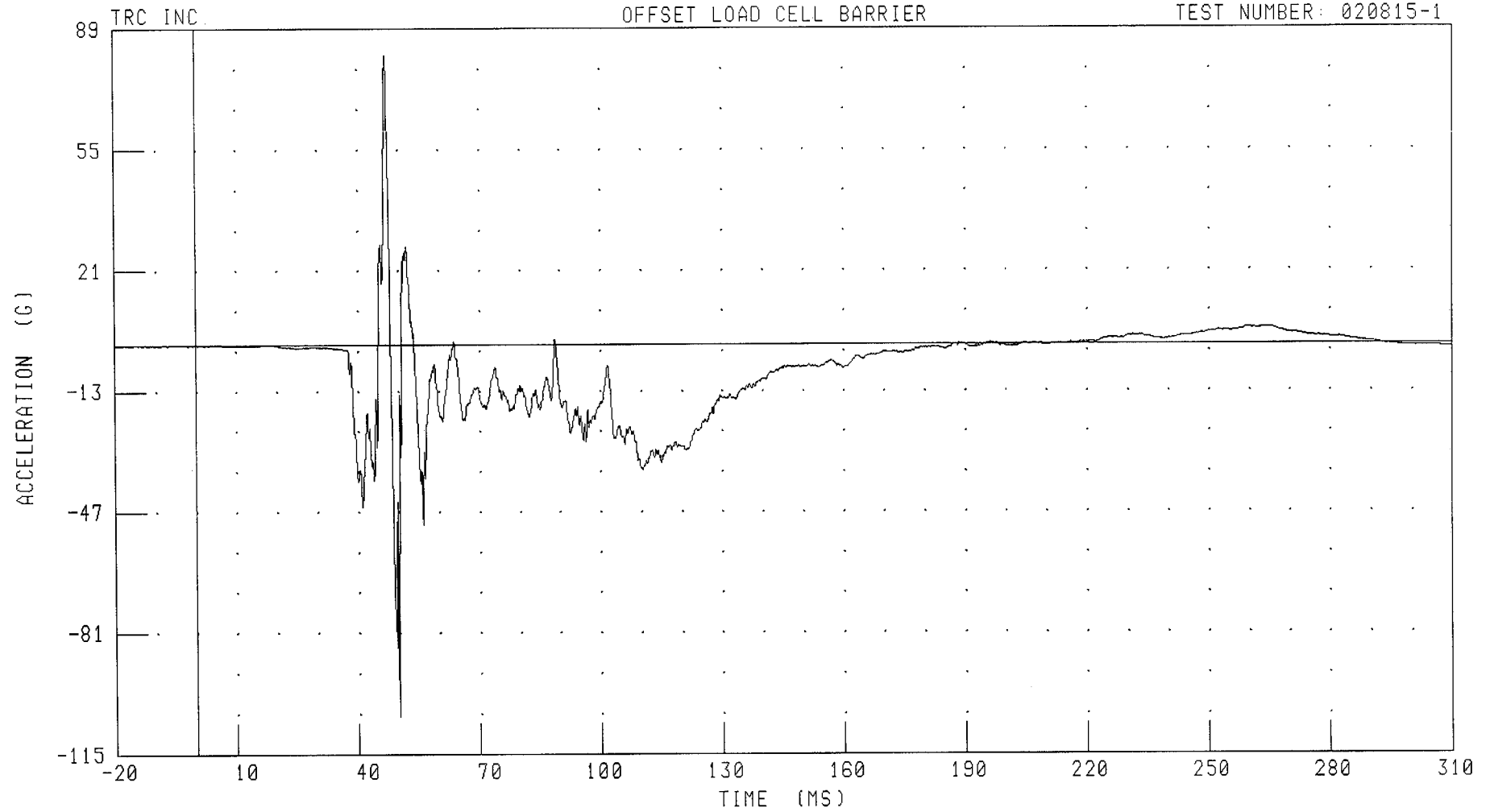
PEAK DATA: 34.62 G @ 113.20 MS; 0.00 G @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER STERNUM UPPER X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: STUXC2 FILTER: CH. CLASS 1000

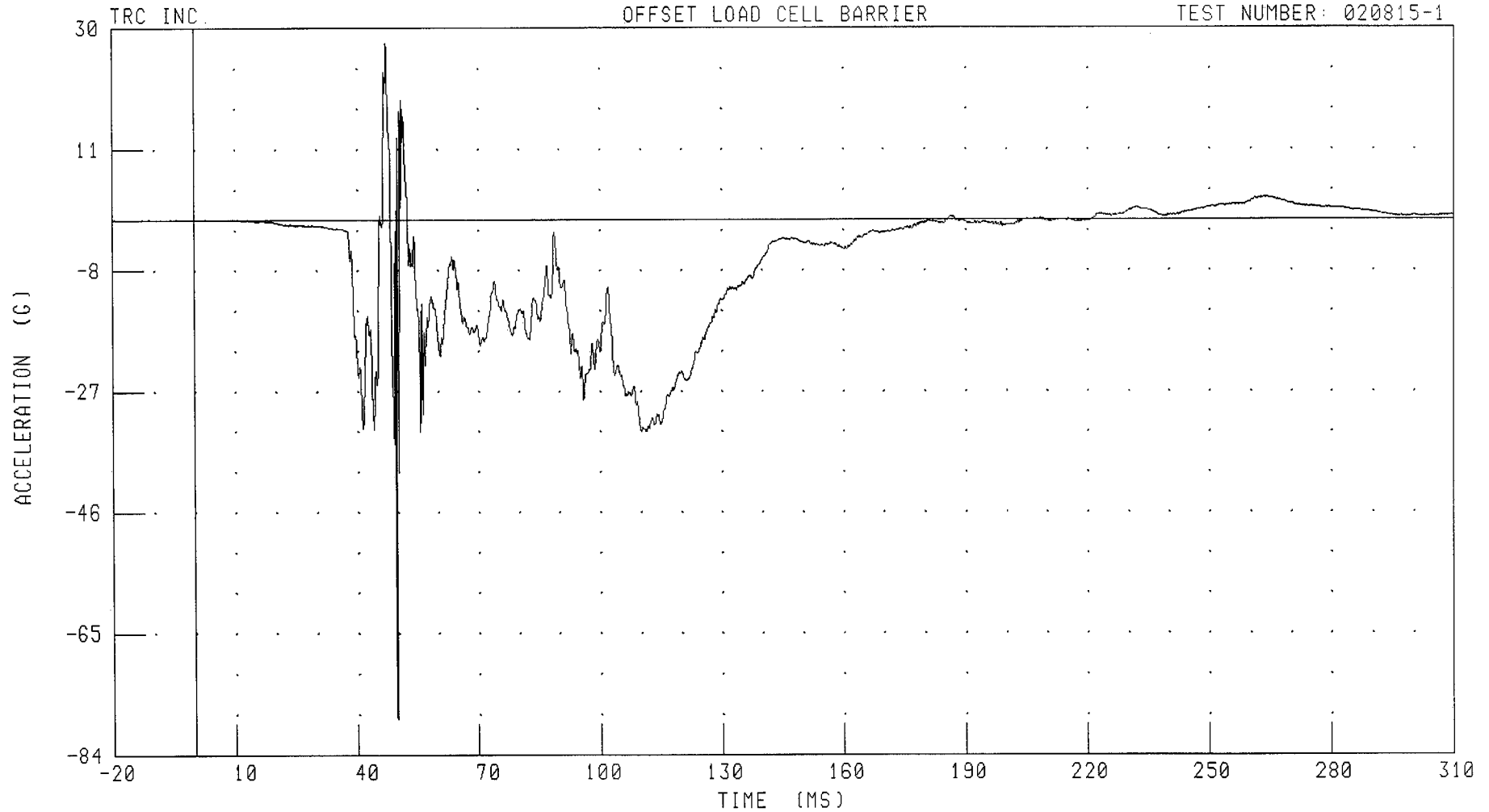
PEAK DATA: 81.63 G @ 47.04 MS; -104.36 G @ 50.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER STERNUM MID X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: STMXG2 FILTER: CH. CLASS 1000

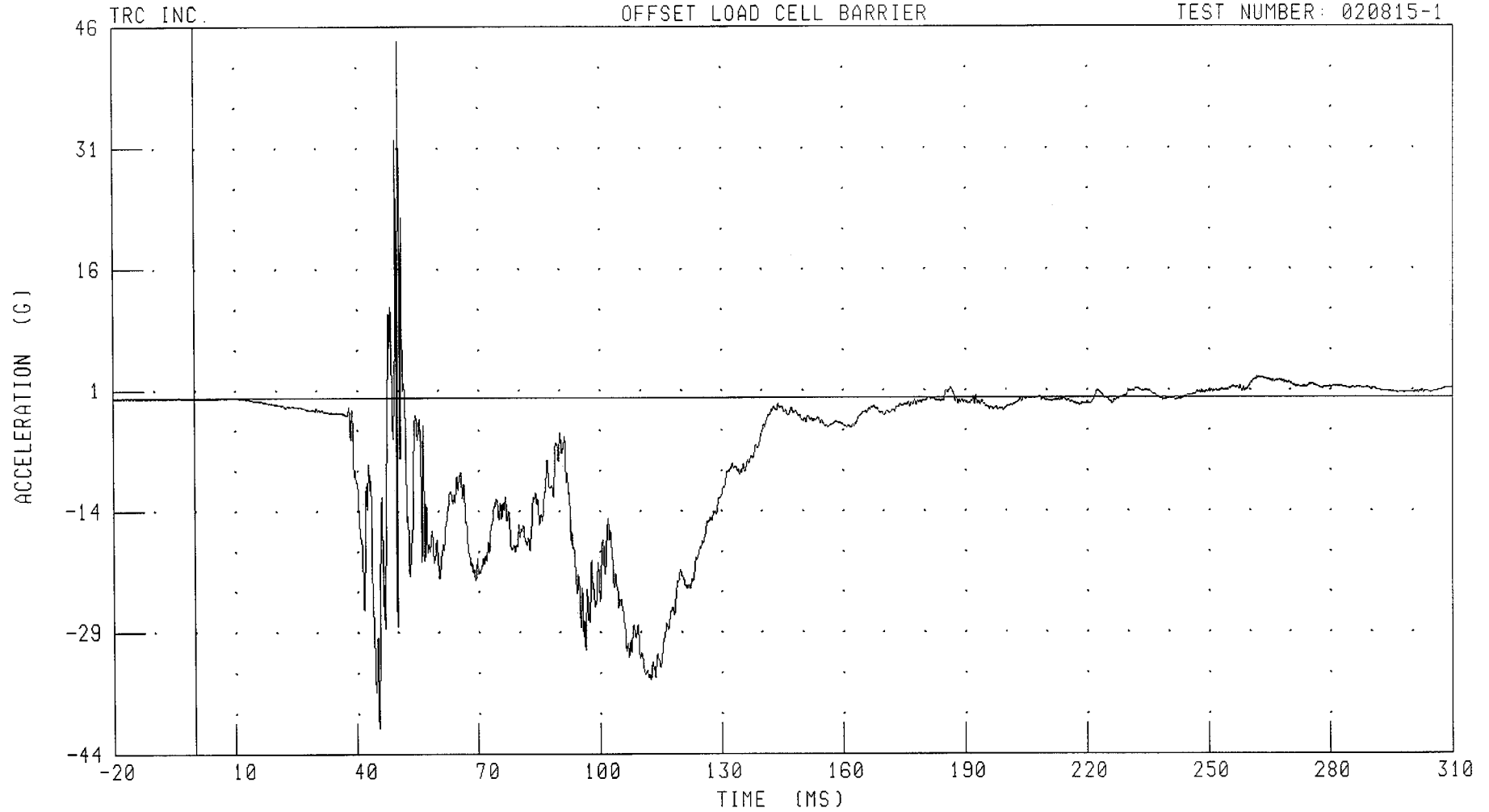
PEAK DATA: 27.67 G @ 47.36 MS; -78.35 G @ 49.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER STERNUM LOWER X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: STLXC2 FILTER: CH. CLASS 1000

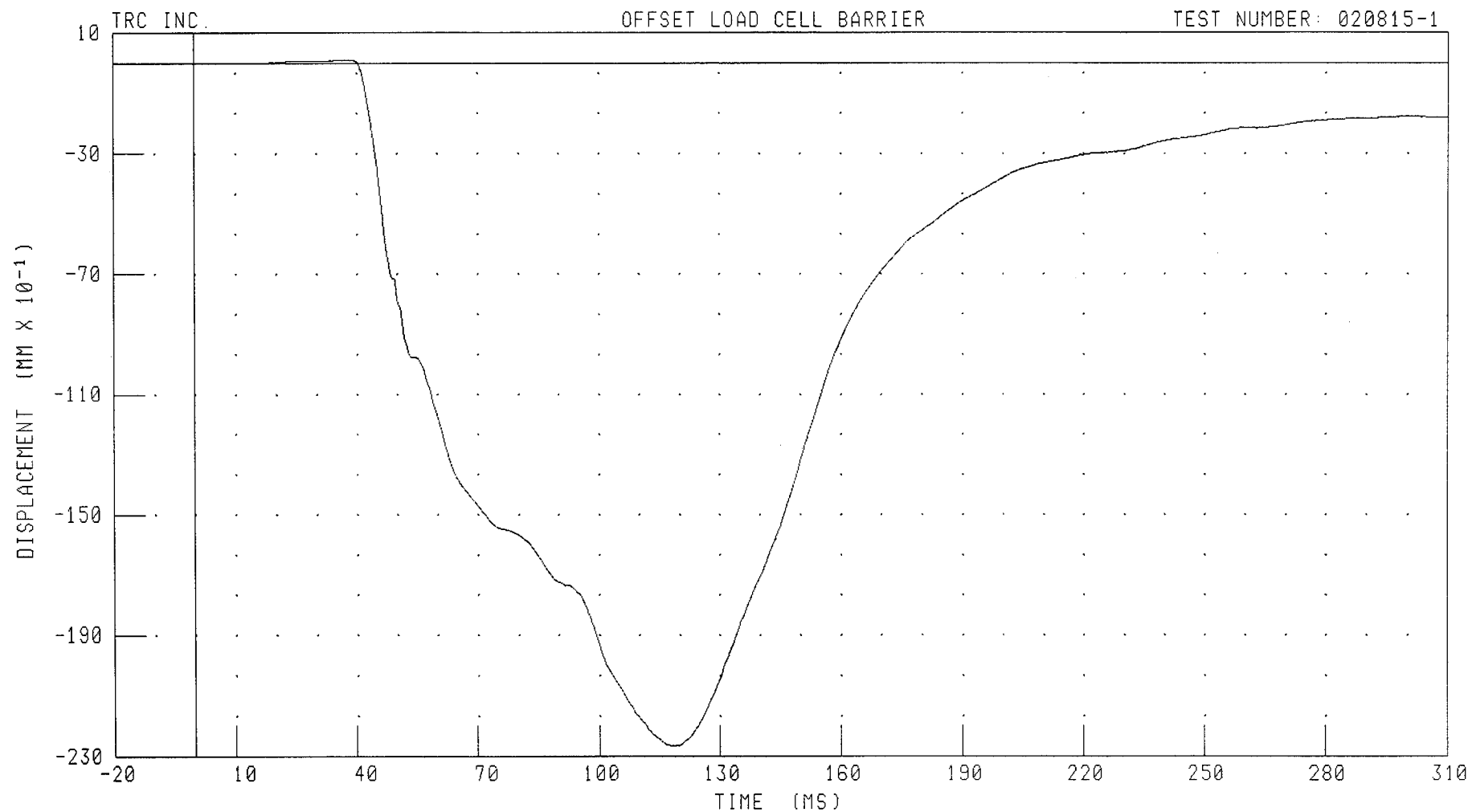
PEAK DATA: 44.20 G @ 50.32 MS; -40.82 G @ 45.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER CHEST DEFLECTION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: CSTXD2 FILTER: CH. CLASS 600

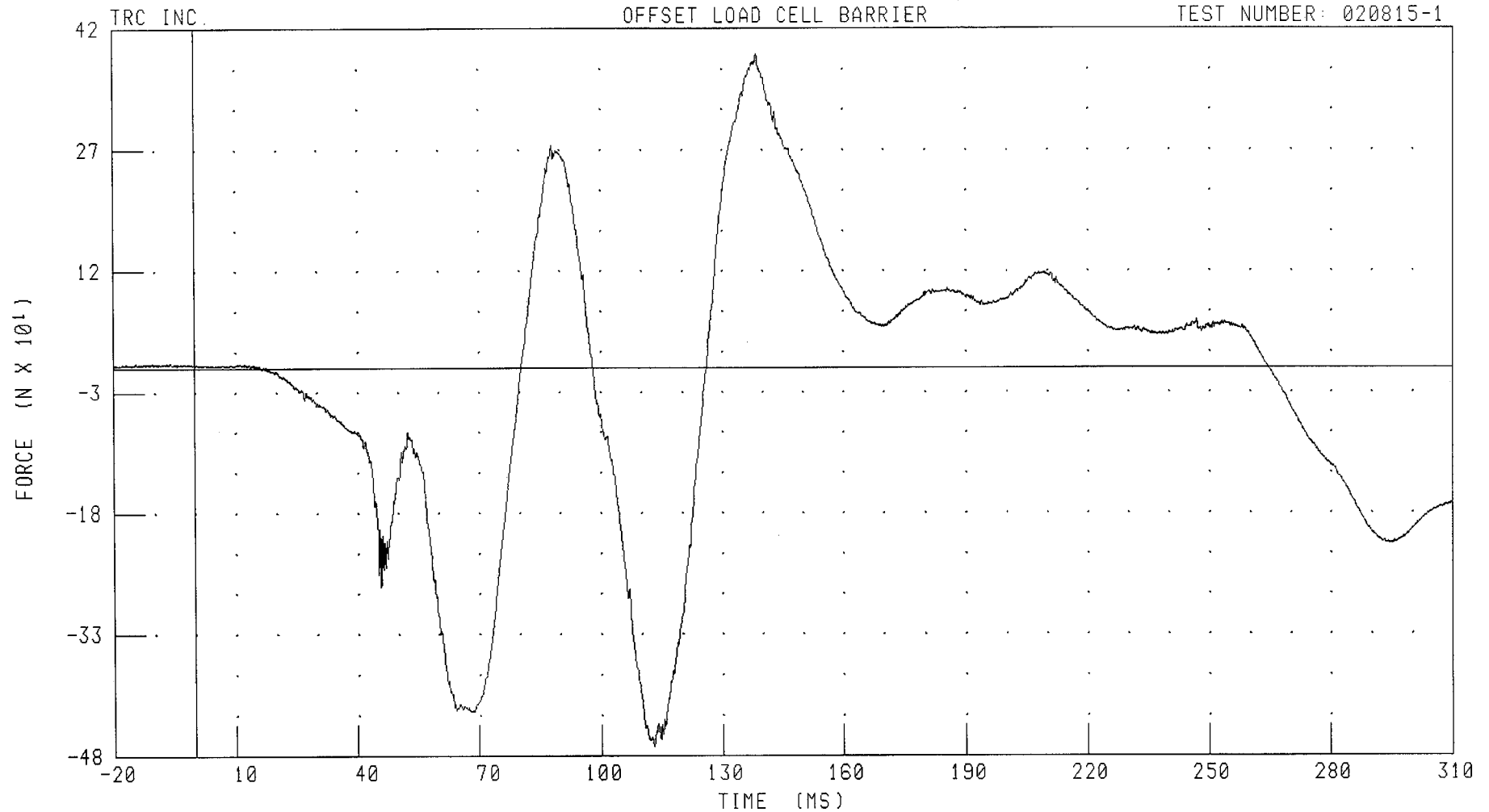
PEAK DATA: 0.10 MM @ 38.40 MS; -22.67 MM @ 118.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LUMBAR X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBXF2 FILTER: CH. CLASS 1000

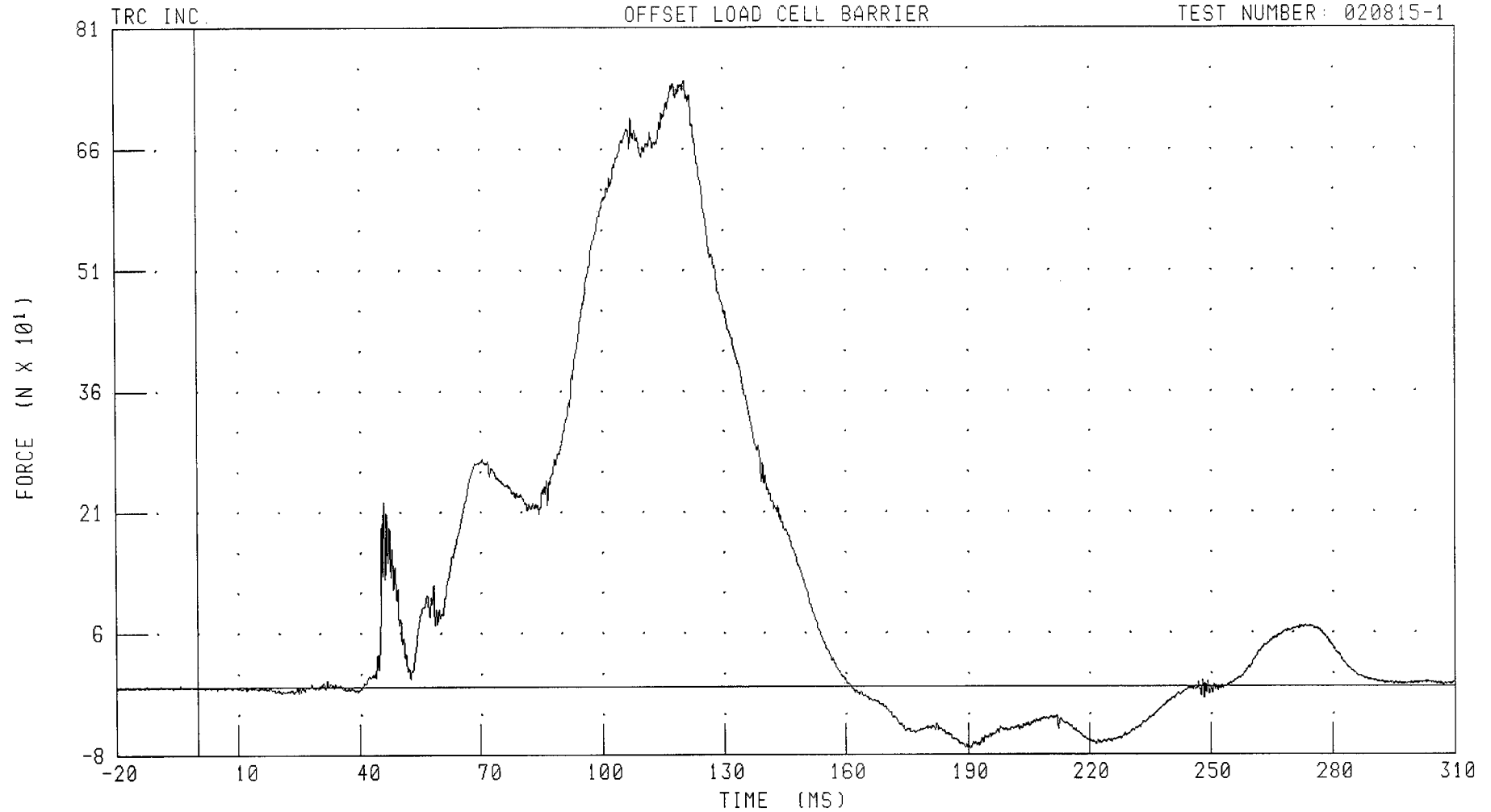
PEAK DATA: 388.99 N @ 138.72 MS; -468.05 N @ 113.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LUMBAR Y-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LM BYF2 FILTER: CH. CLASS 1000

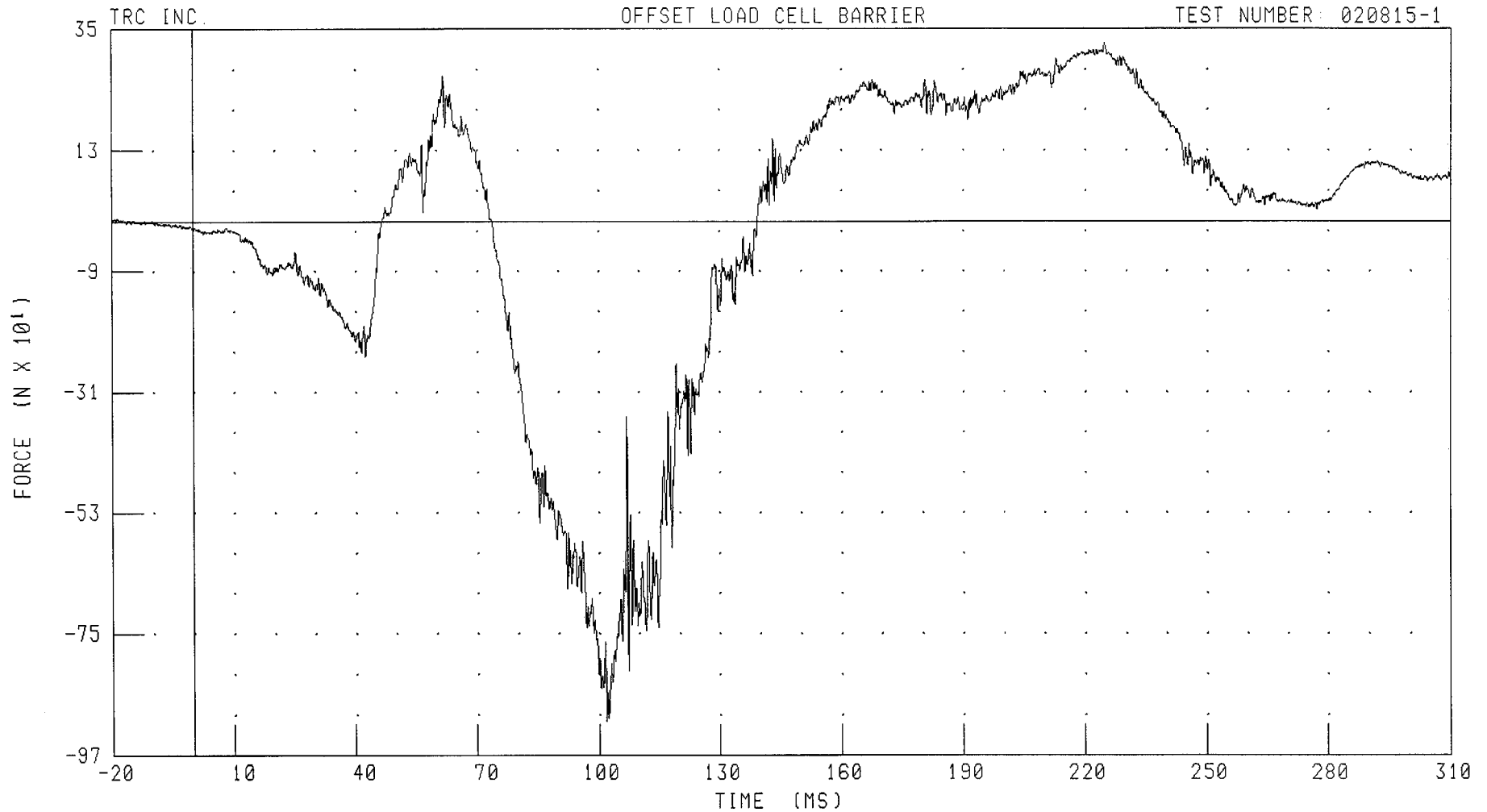
PEAK DATA: 750.49 N @ 120.64 MS; -76.69 N @ 190.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LUMBAR Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBZF2 FILTER: CH. CLASS 1000

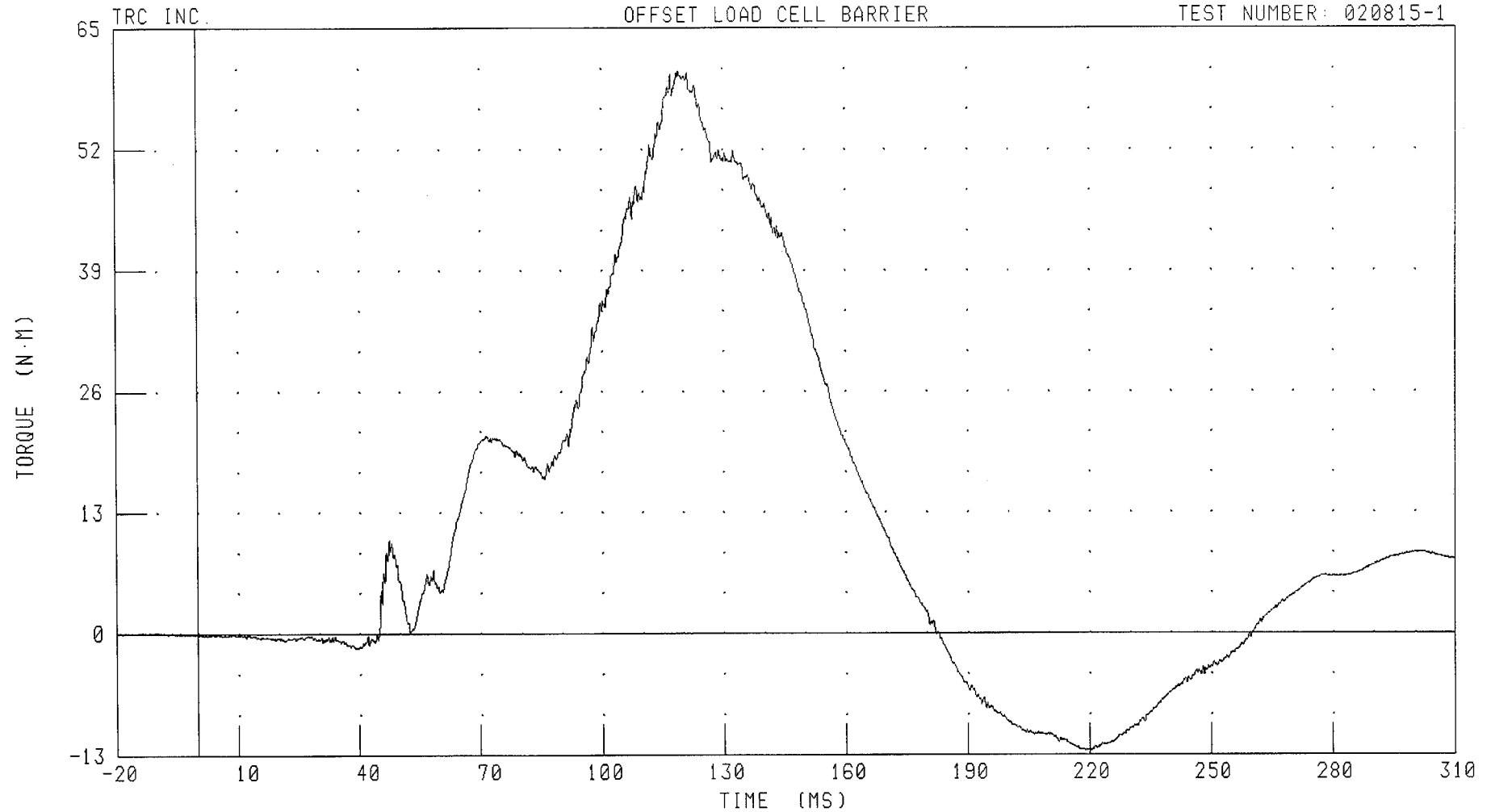
PEAK DATA: 323.66 N @ 224.80 MS; -908.48 N @ 102.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LUMBAR X-AXIS MOMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBXM2 FILTER: CH. CLASS 1000

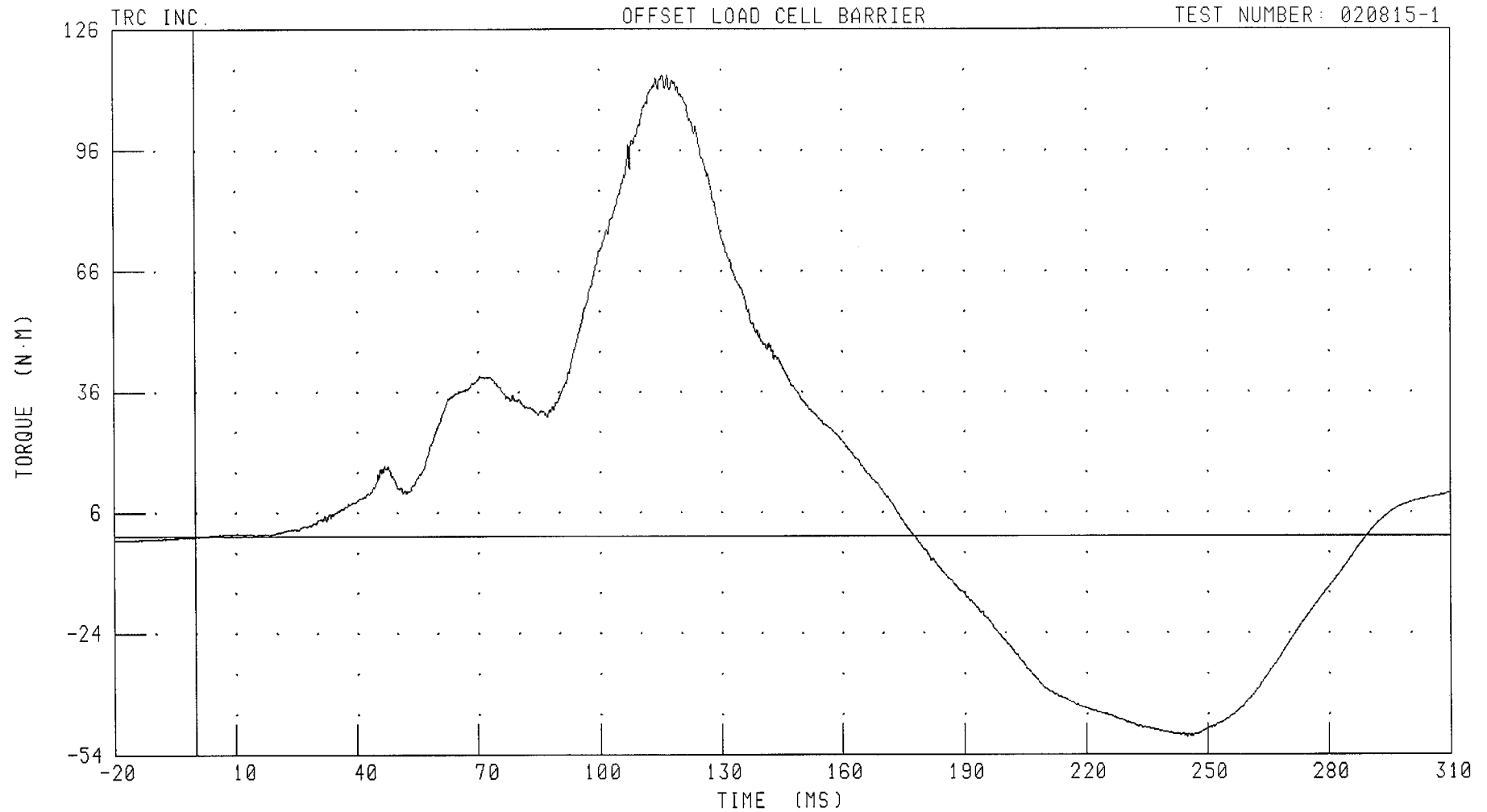
PEAK DATA: 60.37 N·m @ 119.28 MS; -12.62 N·m @ 220.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LUMBAR Y-AXIS MOMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LMBYM2 FILTER: CH. CLASS 1000

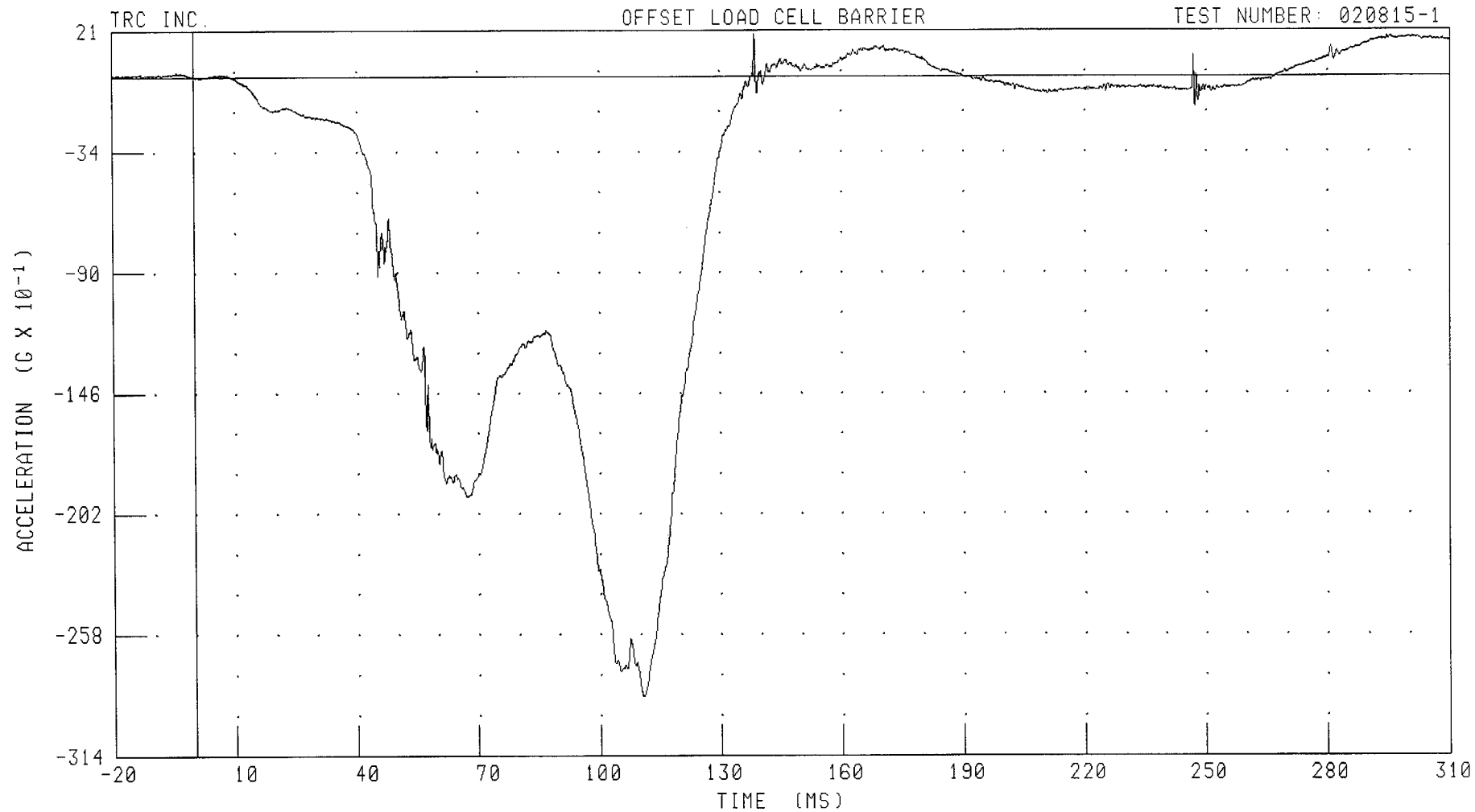
PEAK DATA: 114.53 N·M @ 116.88 MS; -49.59 N·M @ 244.80 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER PELVIS X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVXC2 FILTER: CH. CLASS 1000

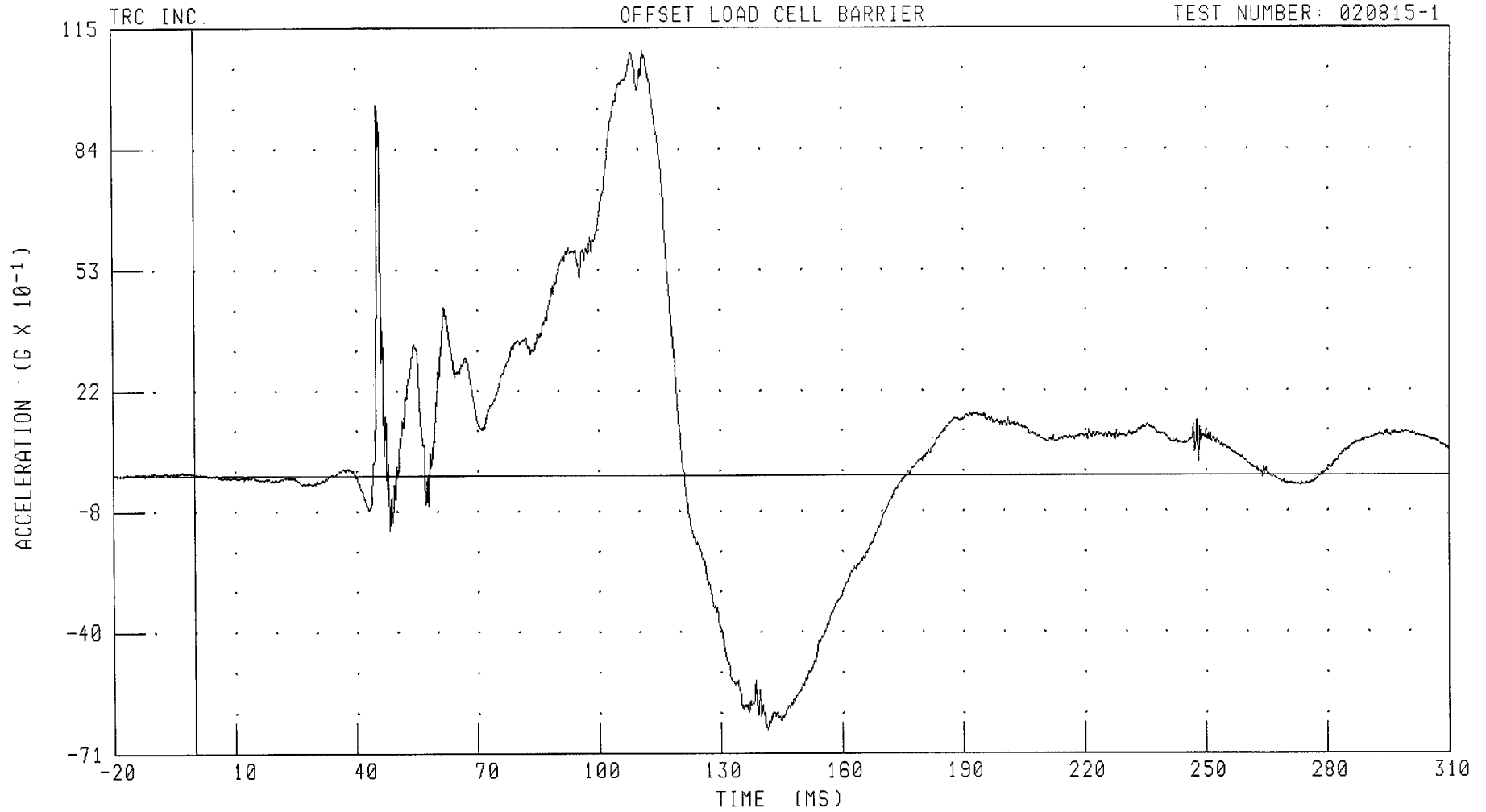
PEAK DATA: 1.93 G @ 138.80 MS; -28.77 G @ 110.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER PELVIS Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVYG2 FILTER: CH. CLASS 1000

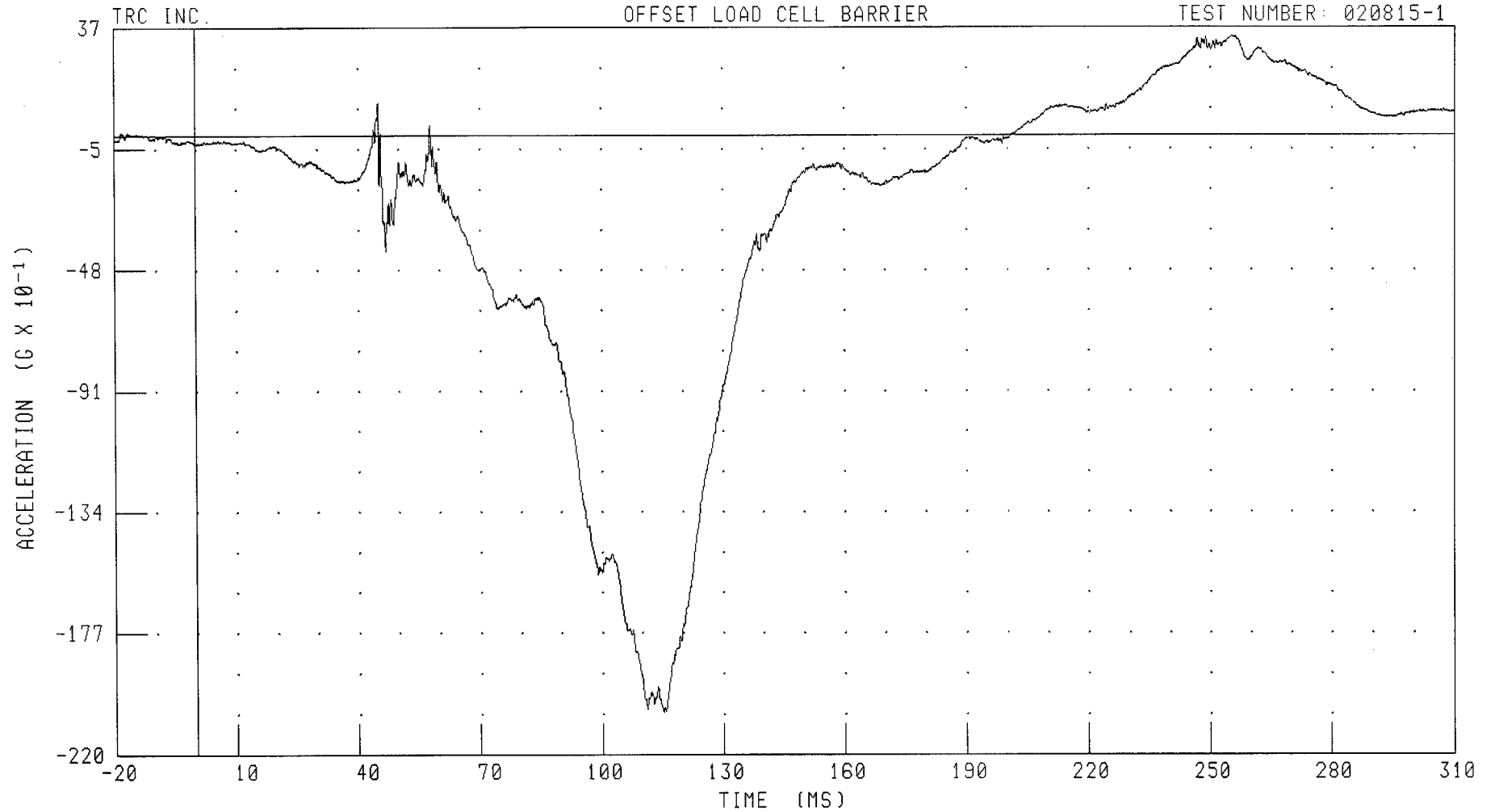
PEAK DATA: 10.92 G @ 111.28 MS; -6.50 G @ 141.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER PELVIS Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVZG2 FILTER: CH. CLASS 1000

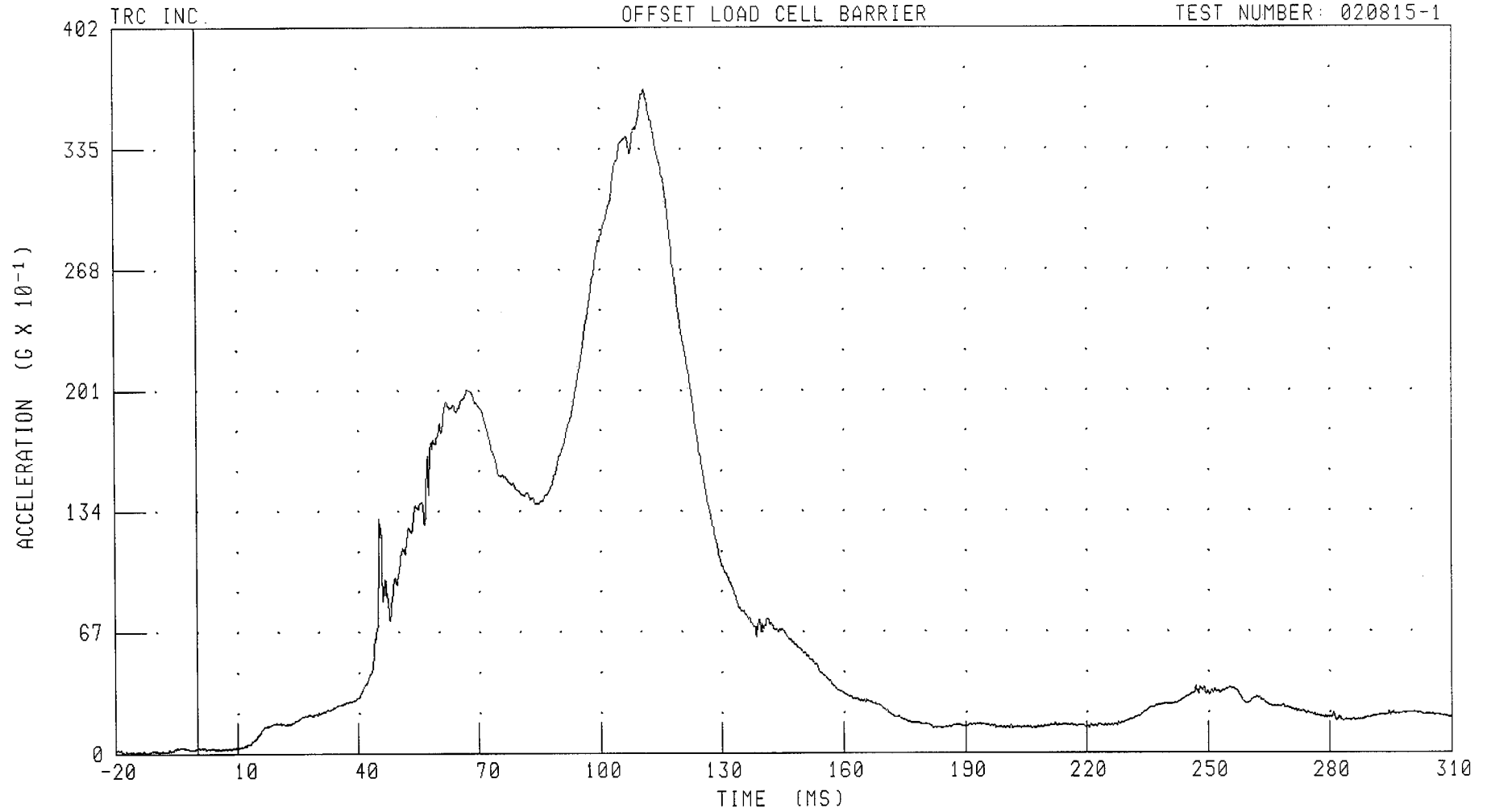
PEAK DATA: 3.49 G @ 255.28 MS; -20.50 G @ 115.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER PELVIS RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PEVRG2 FILTER: CH. CLASS 1000

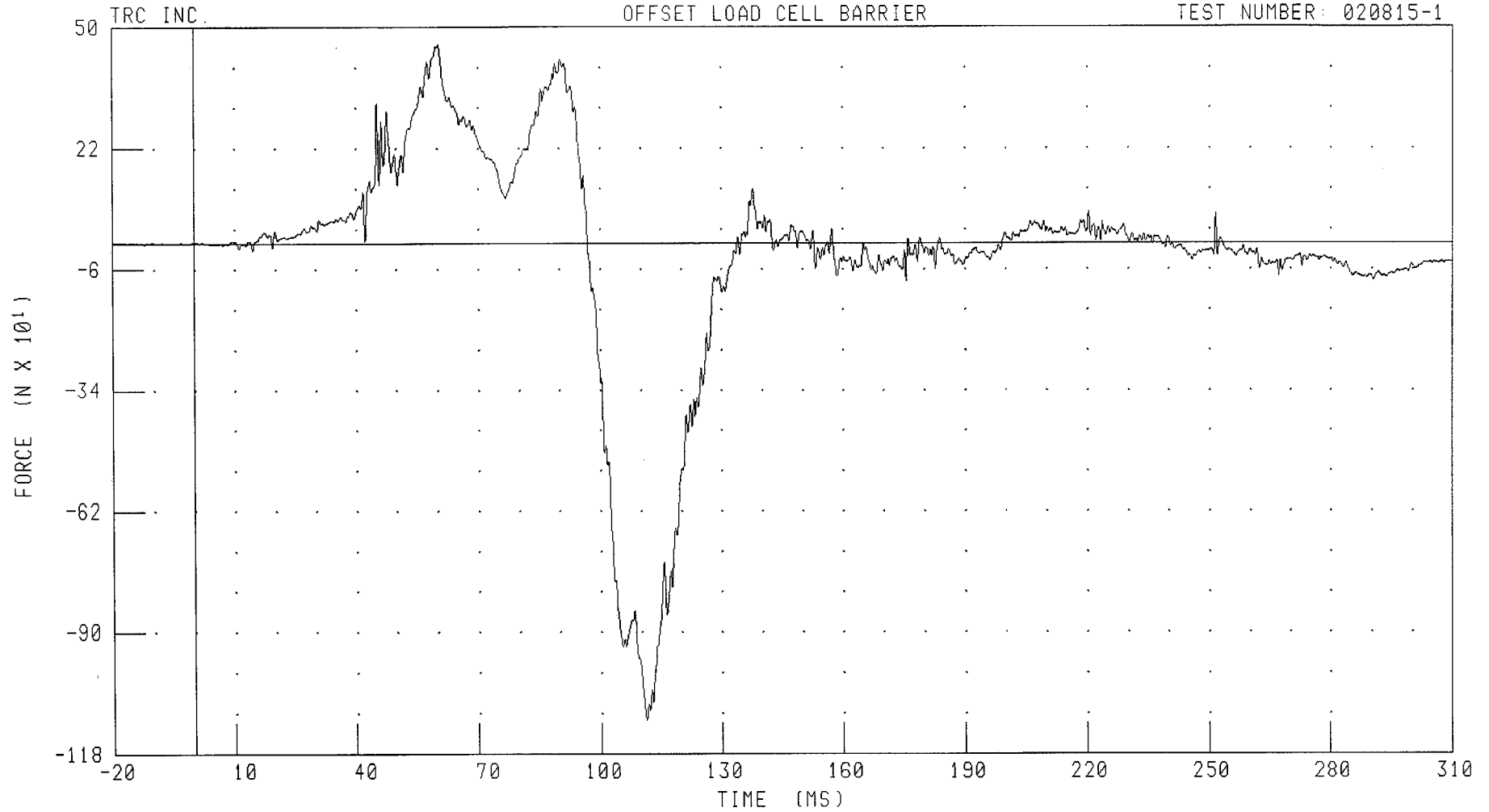
PEAK DATA: 36.81 G @ 111.20 MS; 0.03 G @ -16.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FEMUR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LFMZF2 FILTER: CH. CLASS 600

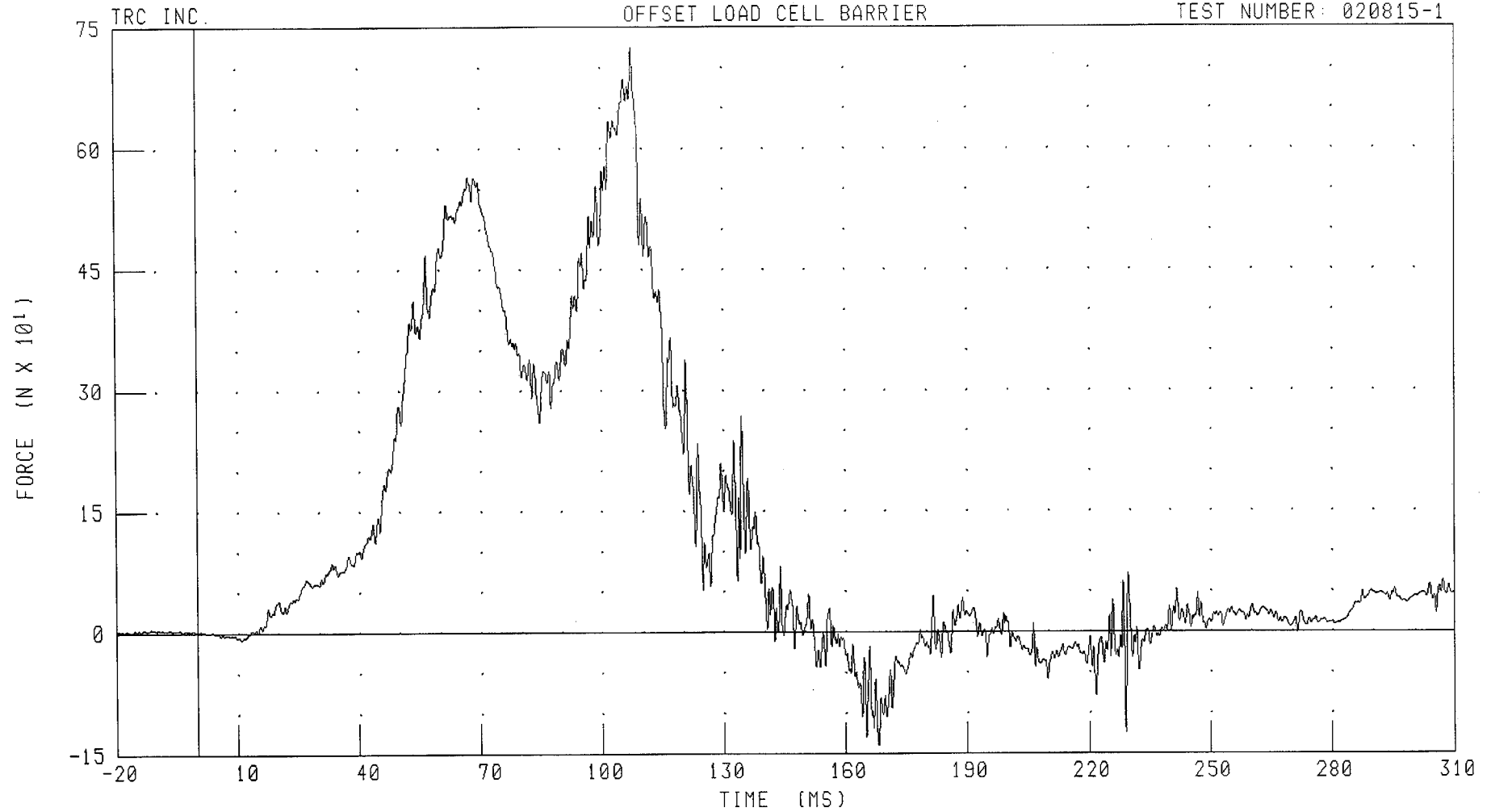
PEAK DATA: 459.47 N @ 60.40 MS; -1101.99 N @ 111.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FEMUR FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



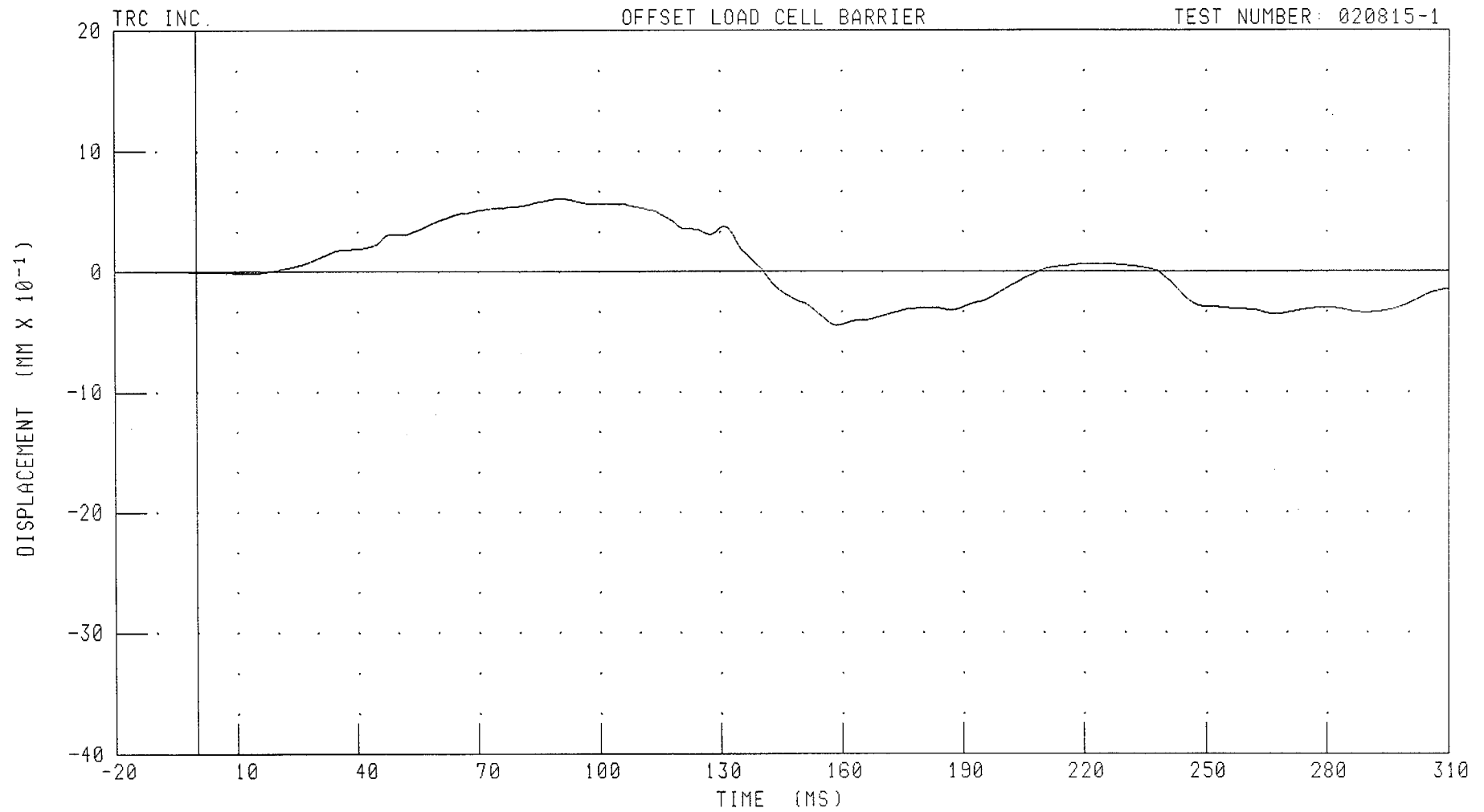
CHANNEL: RFMZ F2 FILTER: CH. CLASS 600

PEAK DATA: 724.82 N @ 107.68 MS; -140.59 N @ 168.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
PASSENGER LEFT TIBIA TO FEMUR DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: KNLXD2 FILTER: CH. CLASS 180

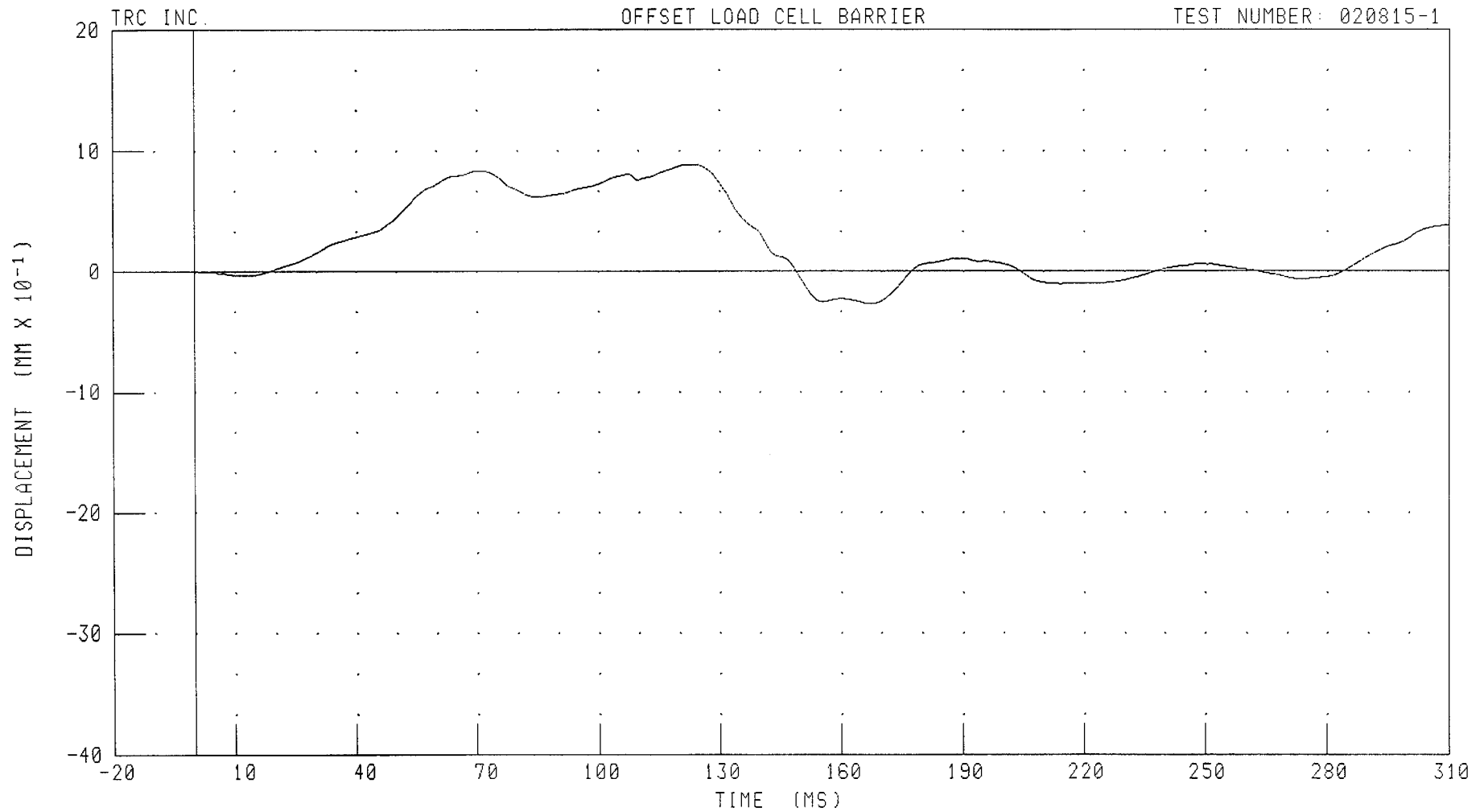
PEAK DATA: 0.60 MM @ 90.56 MS; -0.45 MM @ 158.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT TIBIA TO FEMUR DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: KNRXD2 FILTER: CH. CLASS 180

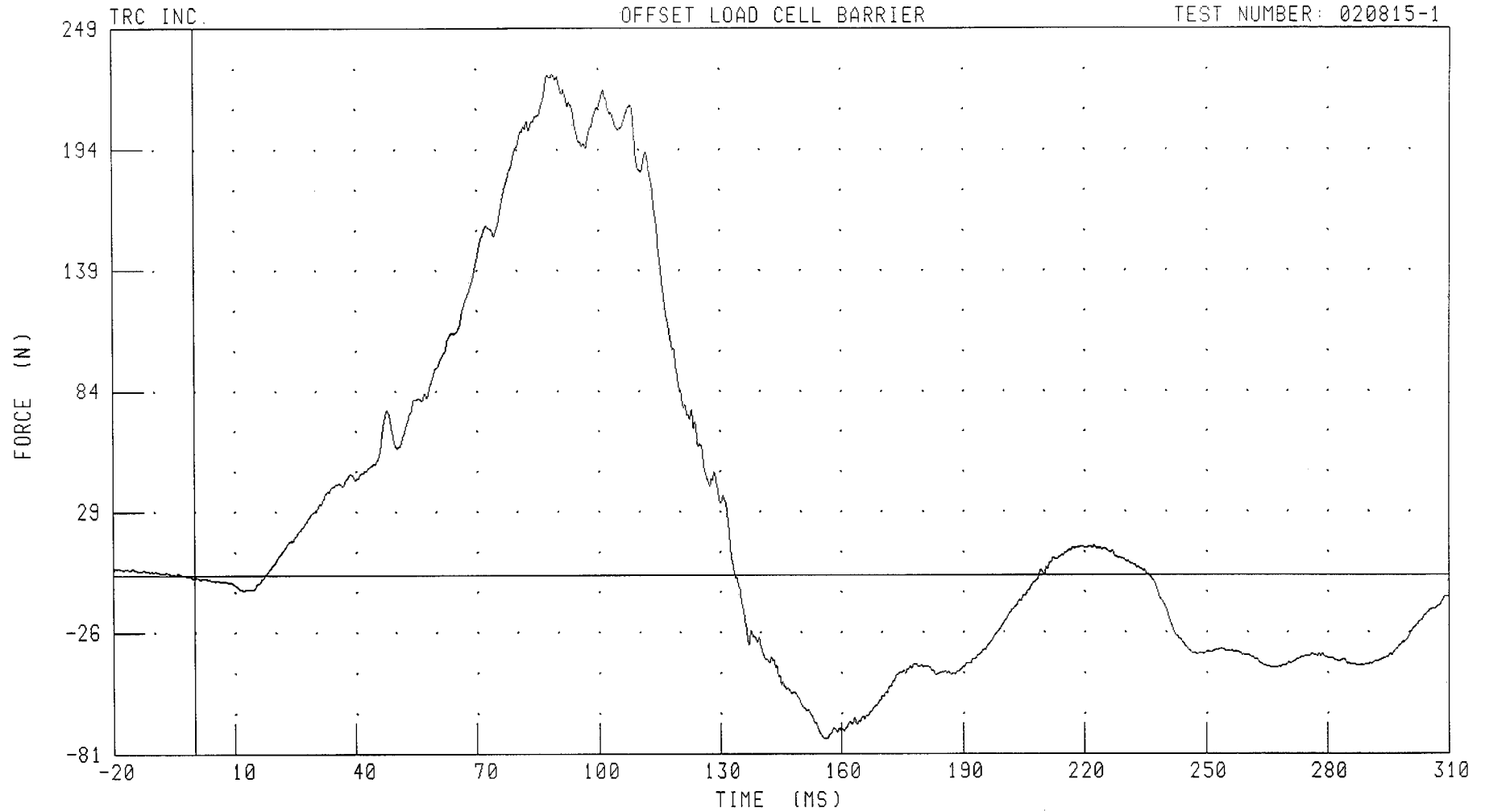
PEAK DATA: 0.89 MM @ 122.24 MS; -0.27 MM @ 167.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT UPPER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLXF2 FILTER: CH. CLASS 600

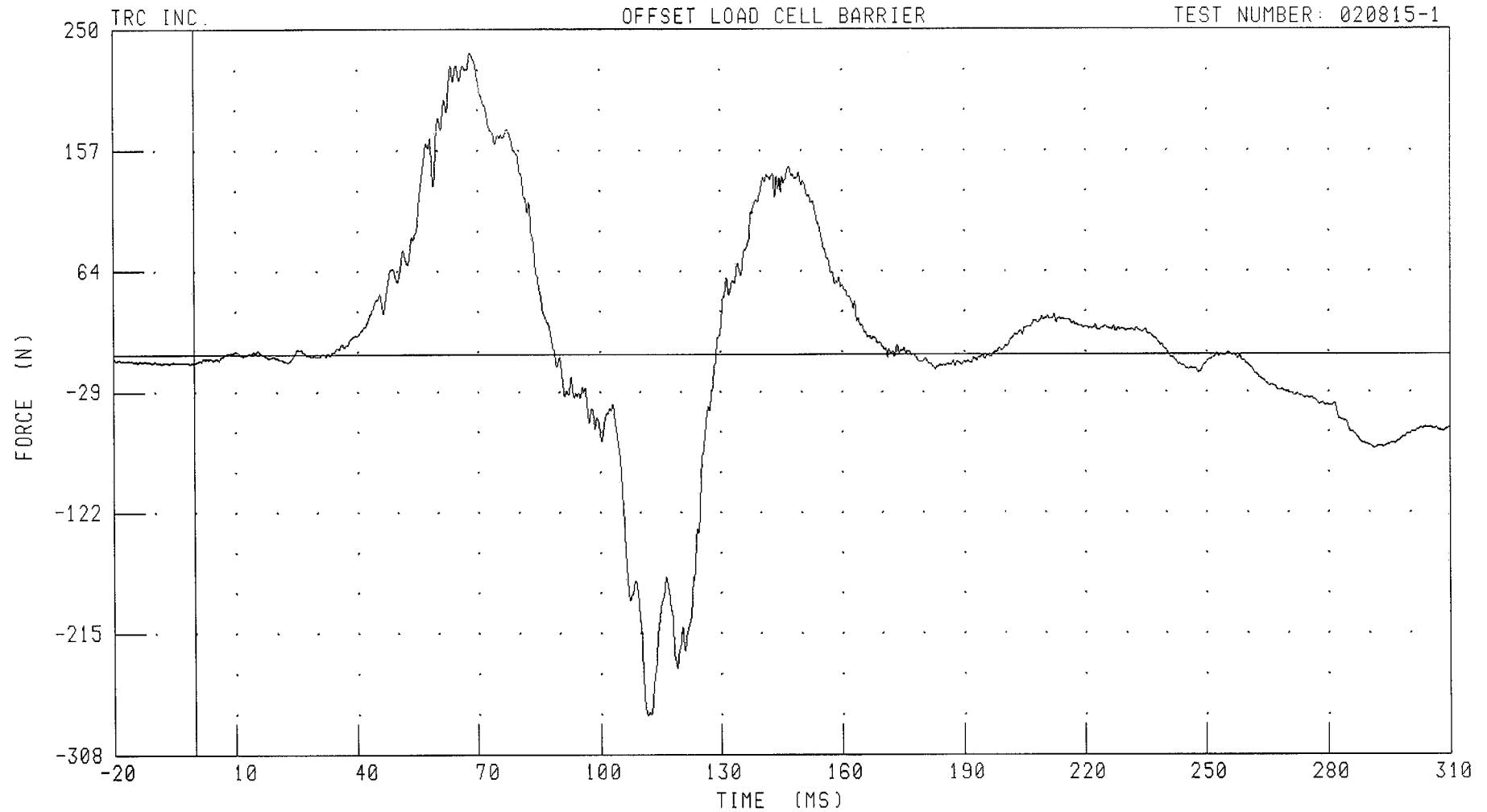
PEAK DATA: 228.20 N @ 88.96 MS; -74.16 N @ 156.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT UPPER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLZF2 FILTER: CH. CLASS 600

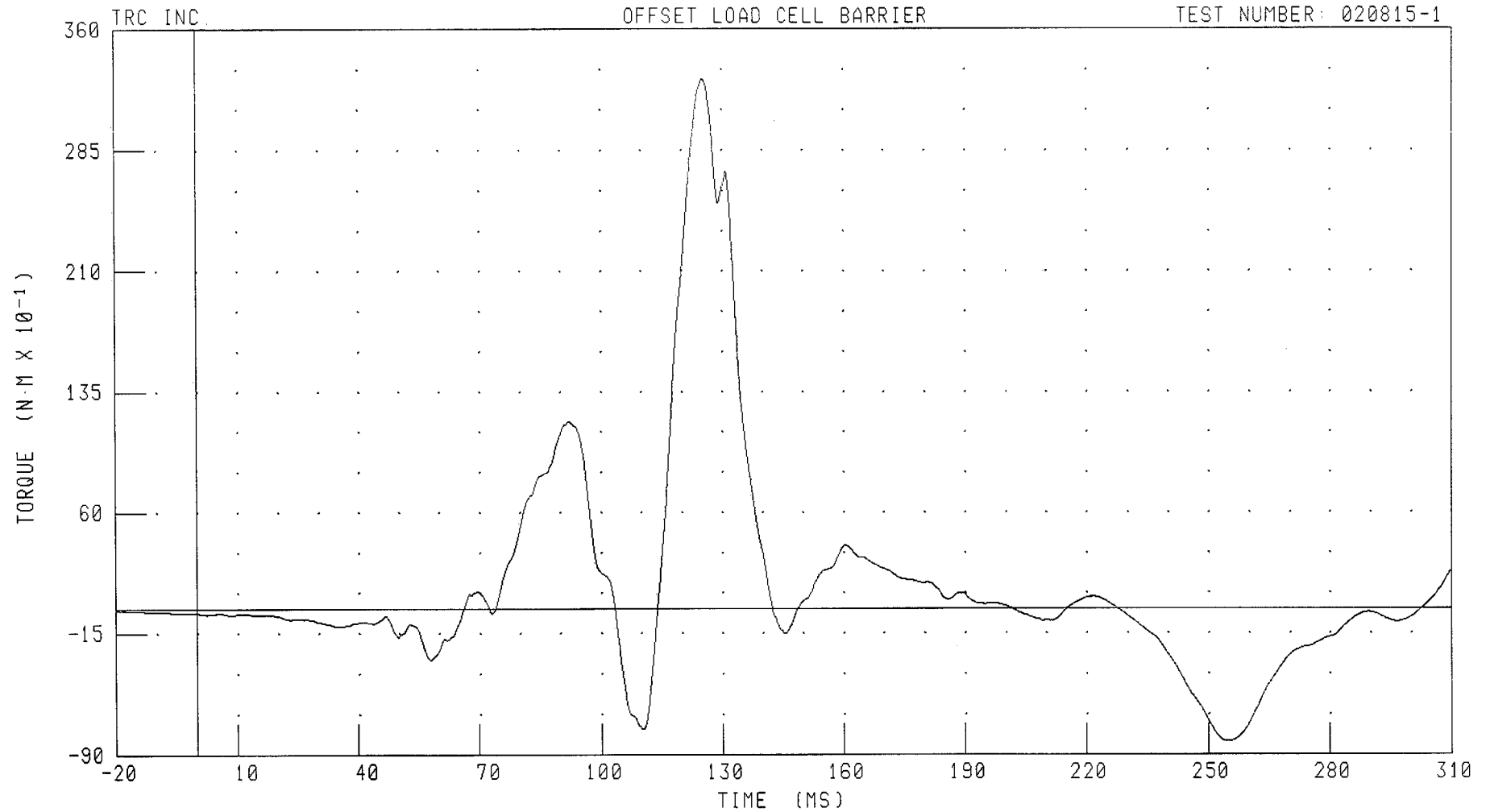
PEAK DATA: 232.35 N @ 68.40 MS, -277.88 N @ 111.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT UPPER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLXM2 FILTER: CH. CLASS 600

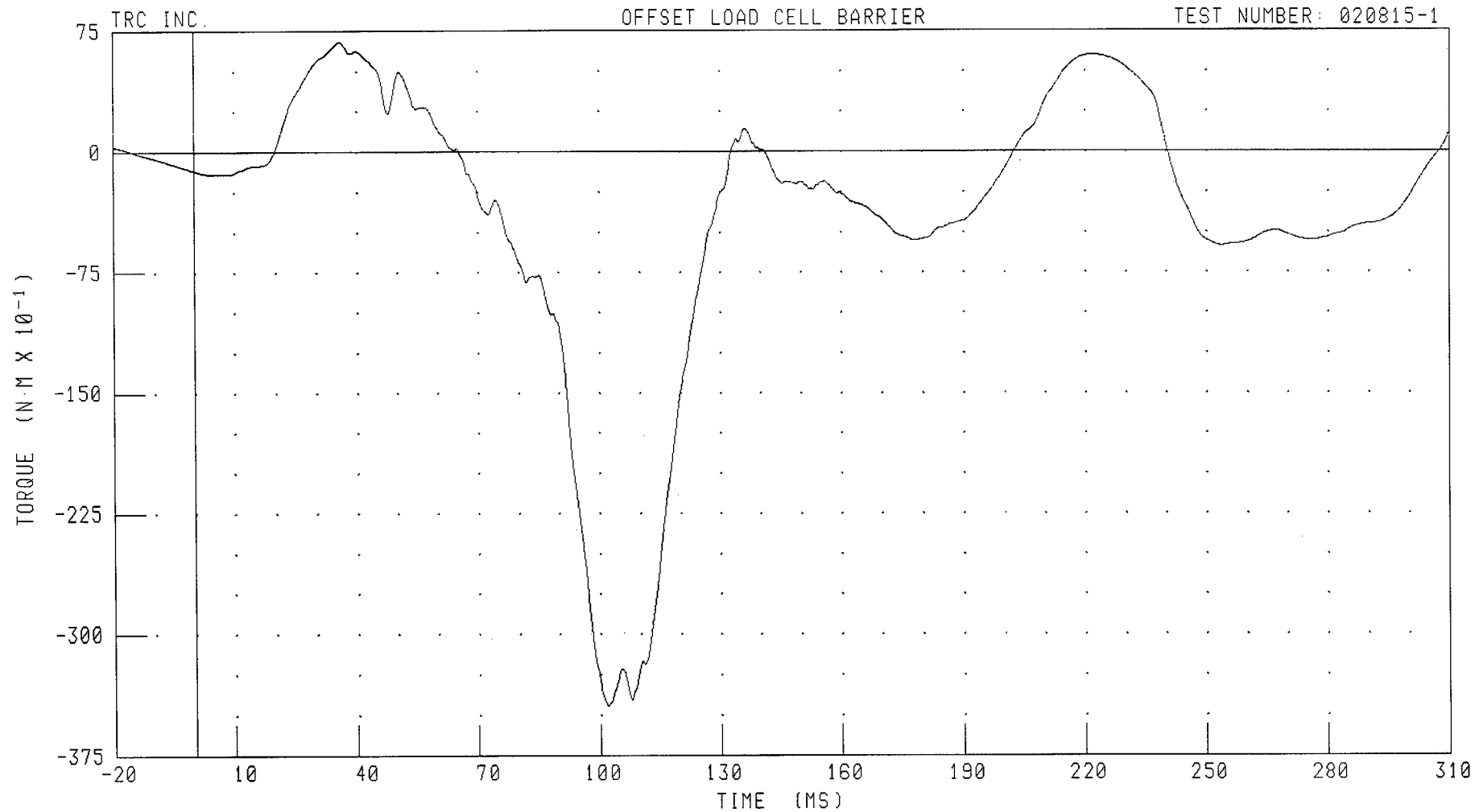
PEAK DATA: 32.91 N·M @ 125.44 MS; -8.21 N·M @ 254.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT UPPER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLYM2 FILTER: CH. CLASS 600

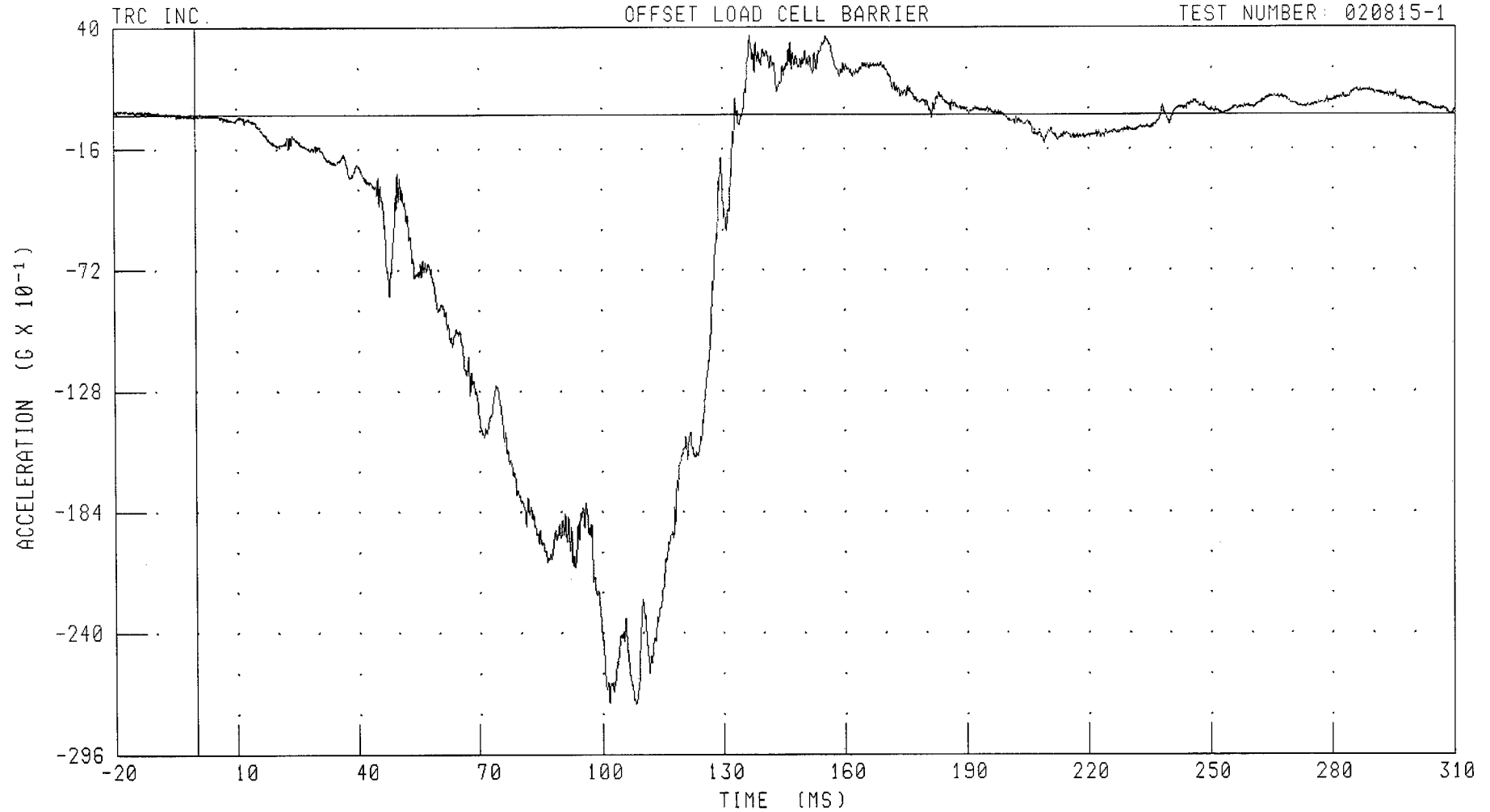
PEAK DATA: 6.84 N·m @ 35.92 MS; -34.44 N·m @ 102.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT TIBIA X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLXG2 FILTER: CH. CLASS 1000

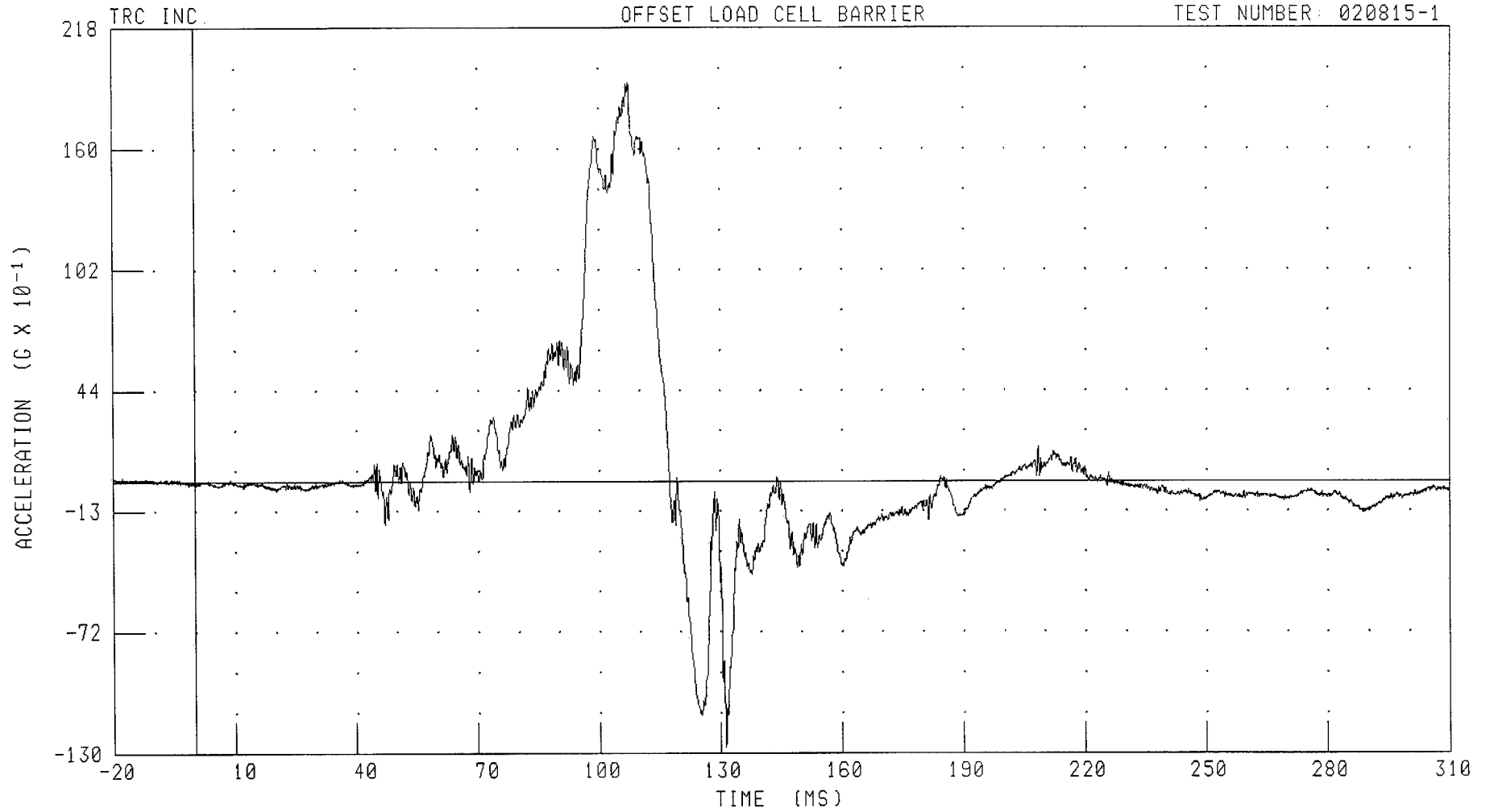
PEAK DATA: 3.64 G @ 136.96 MS; -27.29 G @ 108.24 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT TIBIA Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBLYG2 FILTER: CH. CLASS 1000

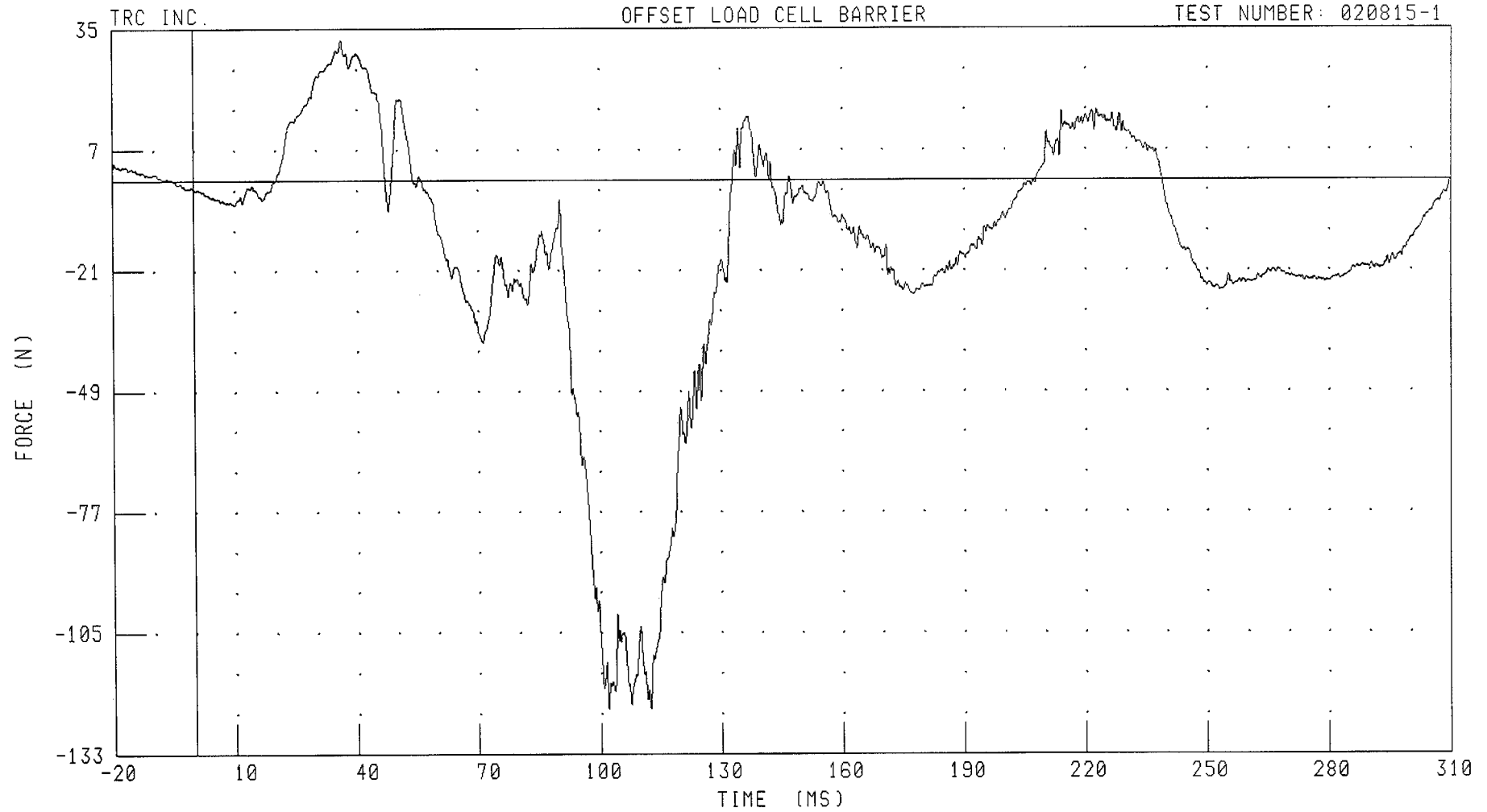
PEAK DATA: 19.14 G @ 107.52 MS; -12.71 G @ 131.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT LOWER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLXF2 FILTER: CH. CLASS 600

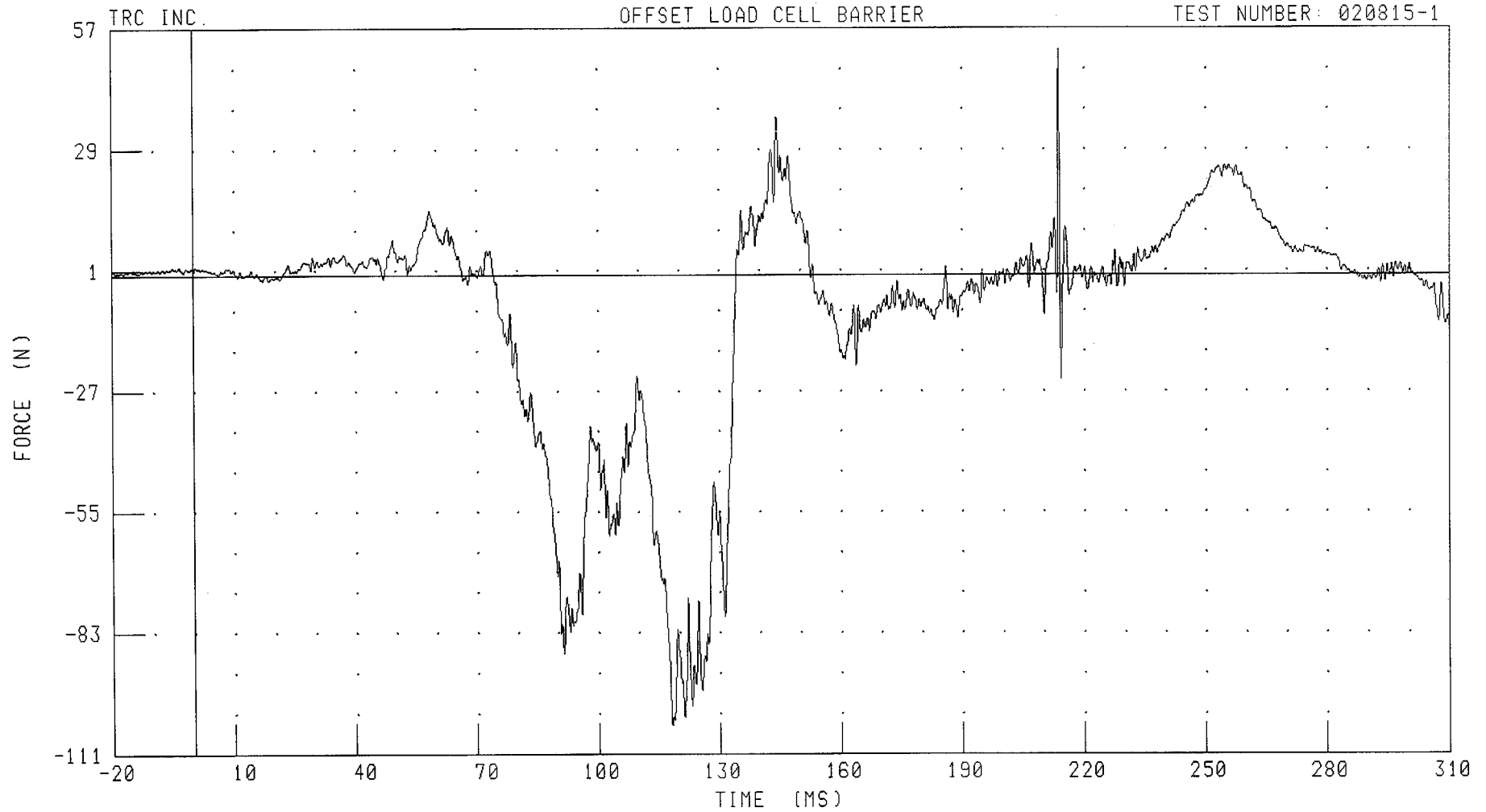
PEAK DATA: 32.45 N @ 36.32 MS; -122.55 N @ 102.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT LOWER TIBIA Y-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLYF2

FILTER: CH. CLASS 600

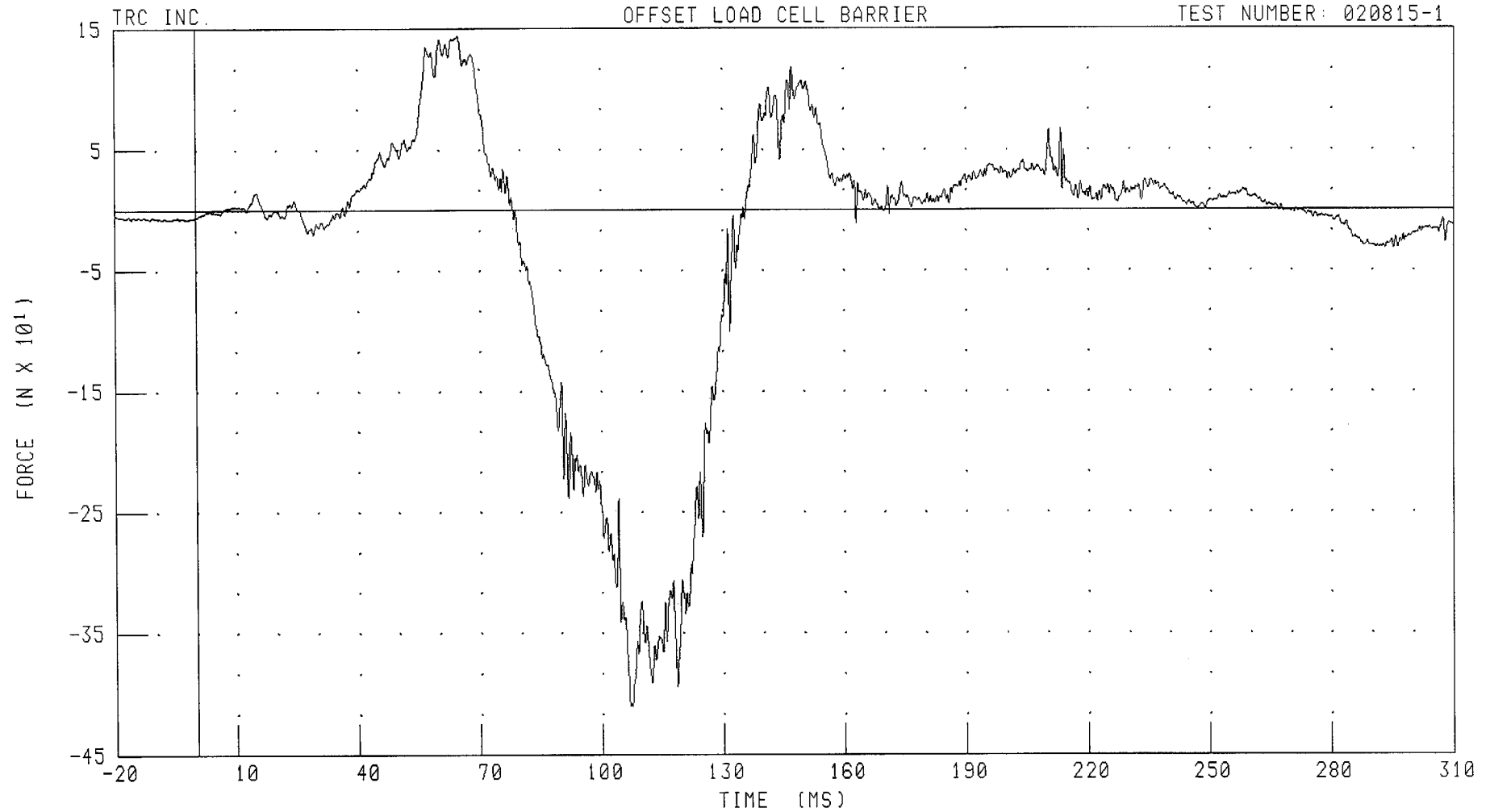
PEAK DATA: 52.11 N @ 213.84 MS; -104.30 N @ 118.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT LOWER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLZF2 FILTER: CH. CLASS 600

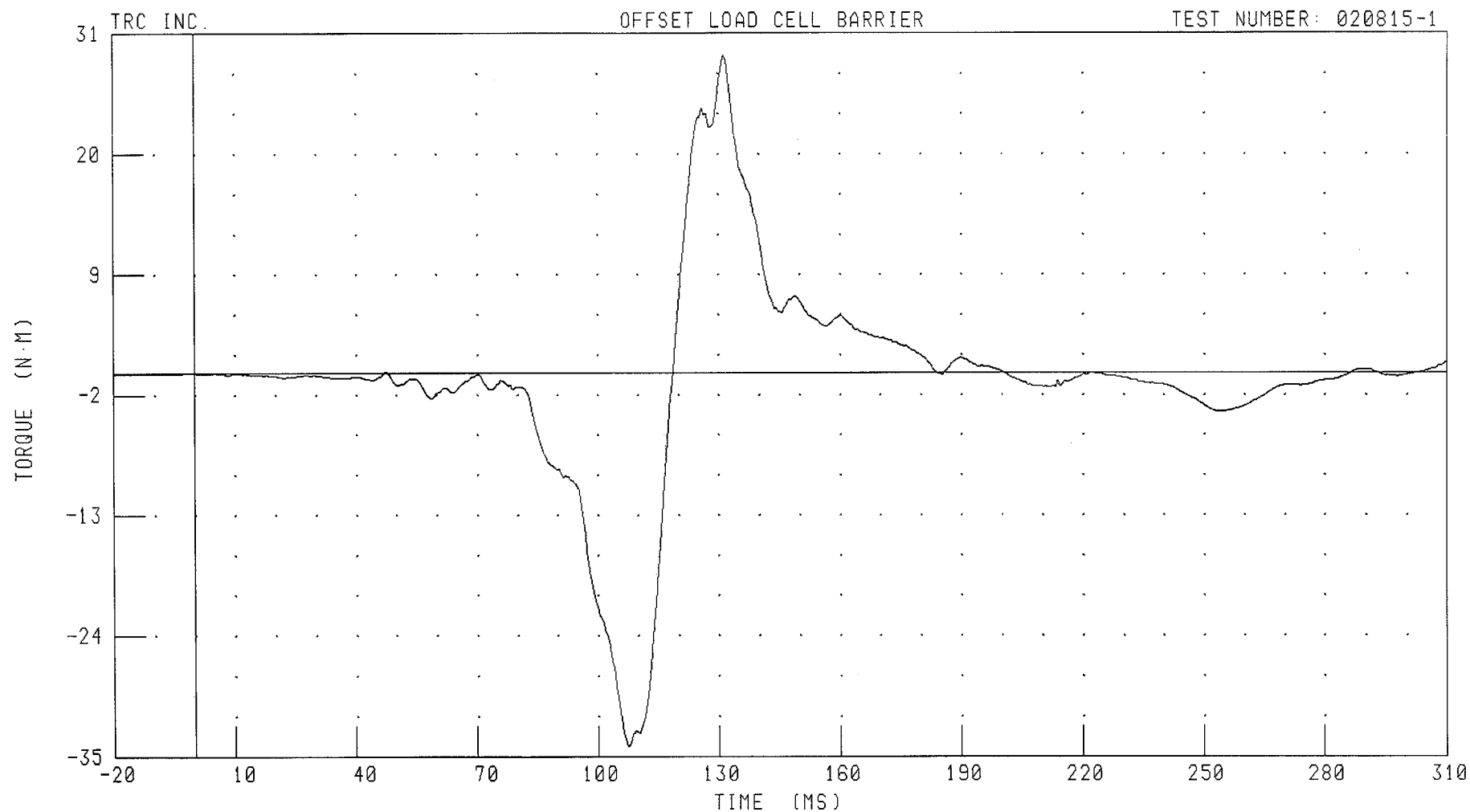
PEAK DATA: 144.03 N @ 64.88 MS; -410.65 N @ 107.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT LOWER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLXM2 FILTER: CH. CLASS 600

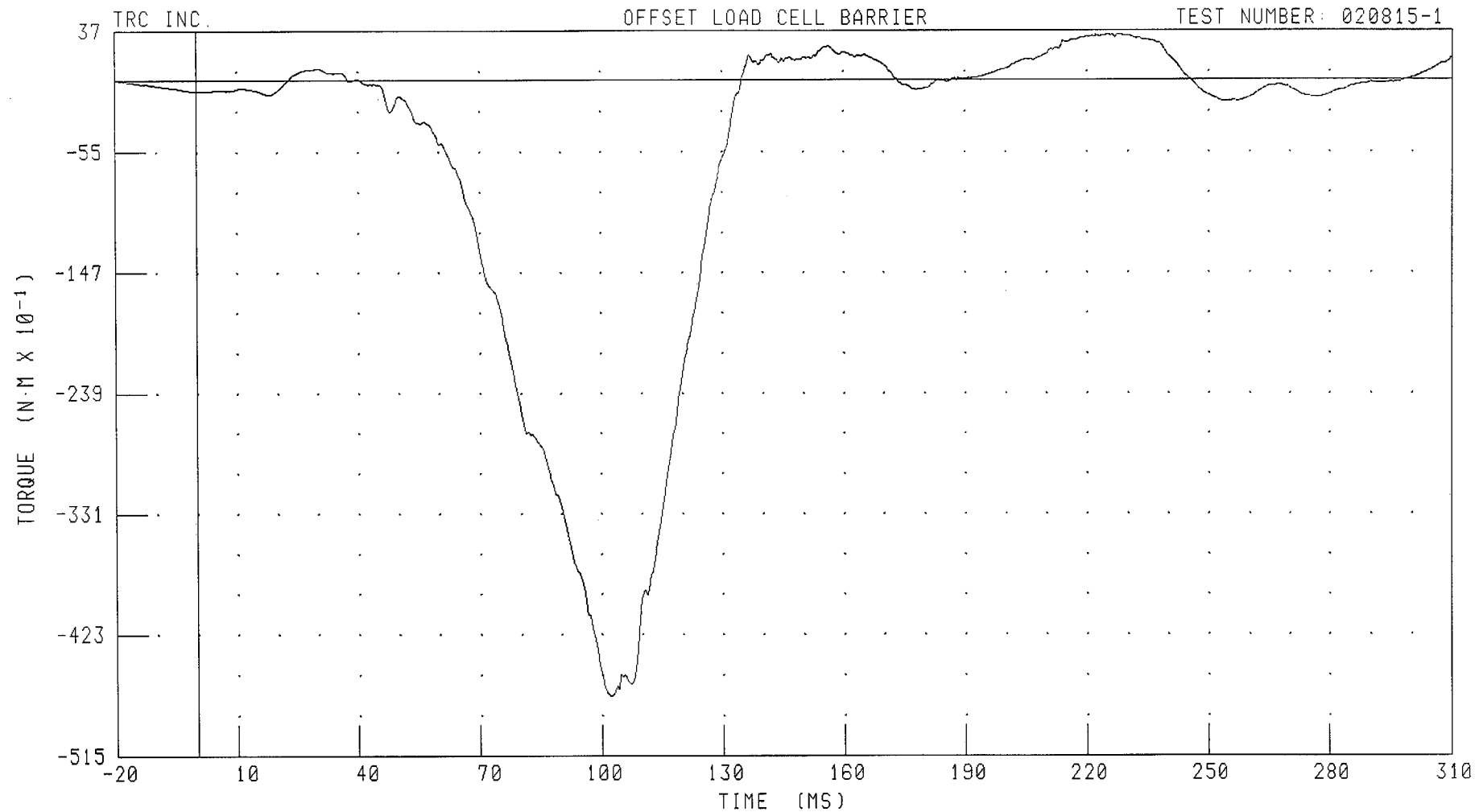
PEAK DATA: 28.96 N·M @ 131.52 MS; -34.12 N·M @ 107.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT LOWER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANLYM2 FILTER: CH. CLASS 600

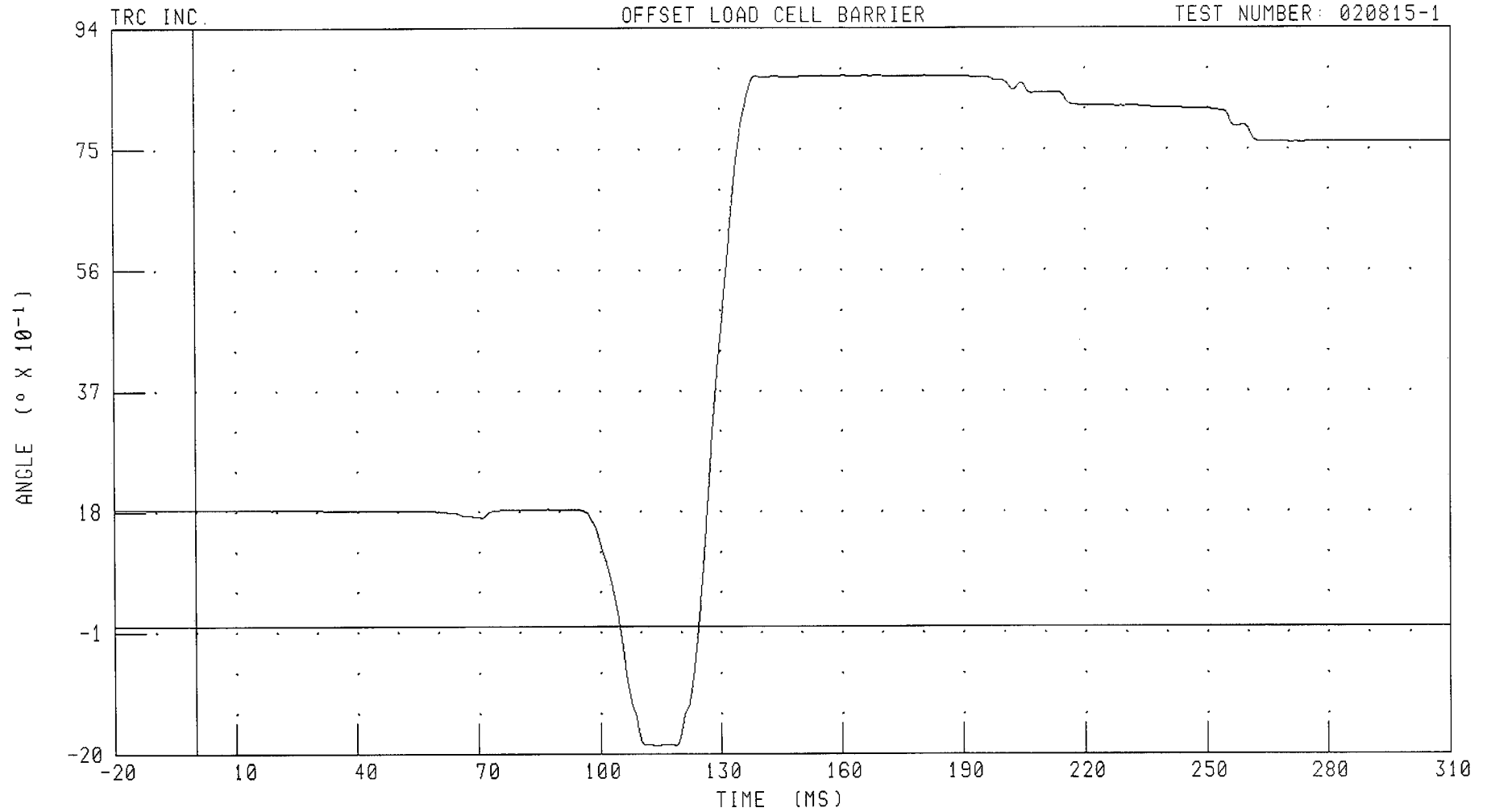
PEAK DATA: 3.43 N·M @ 227.76 MS; -46.99 N·M @ 102.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FOOT TO ANKLE X-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLXD2 FILTER: CH. CLASS 180

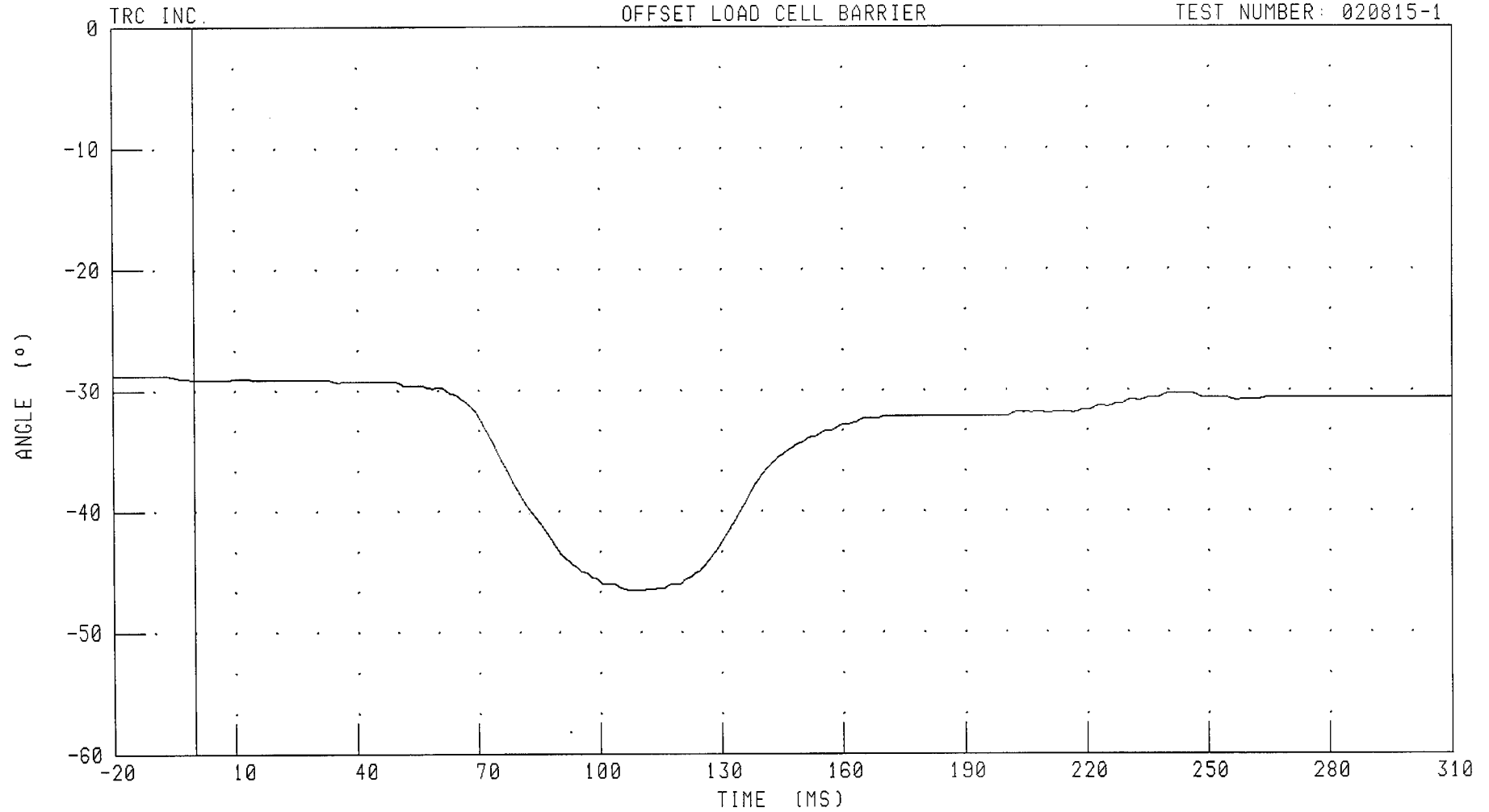
PEAK DATA: 8.66 $^{\circ}$ @ 169.12 MS; -1.87 $^{\circ}$ @ 118.72 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FOOT TO ANKLE Y-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLYD2

FILTER: CH. CLASS 180

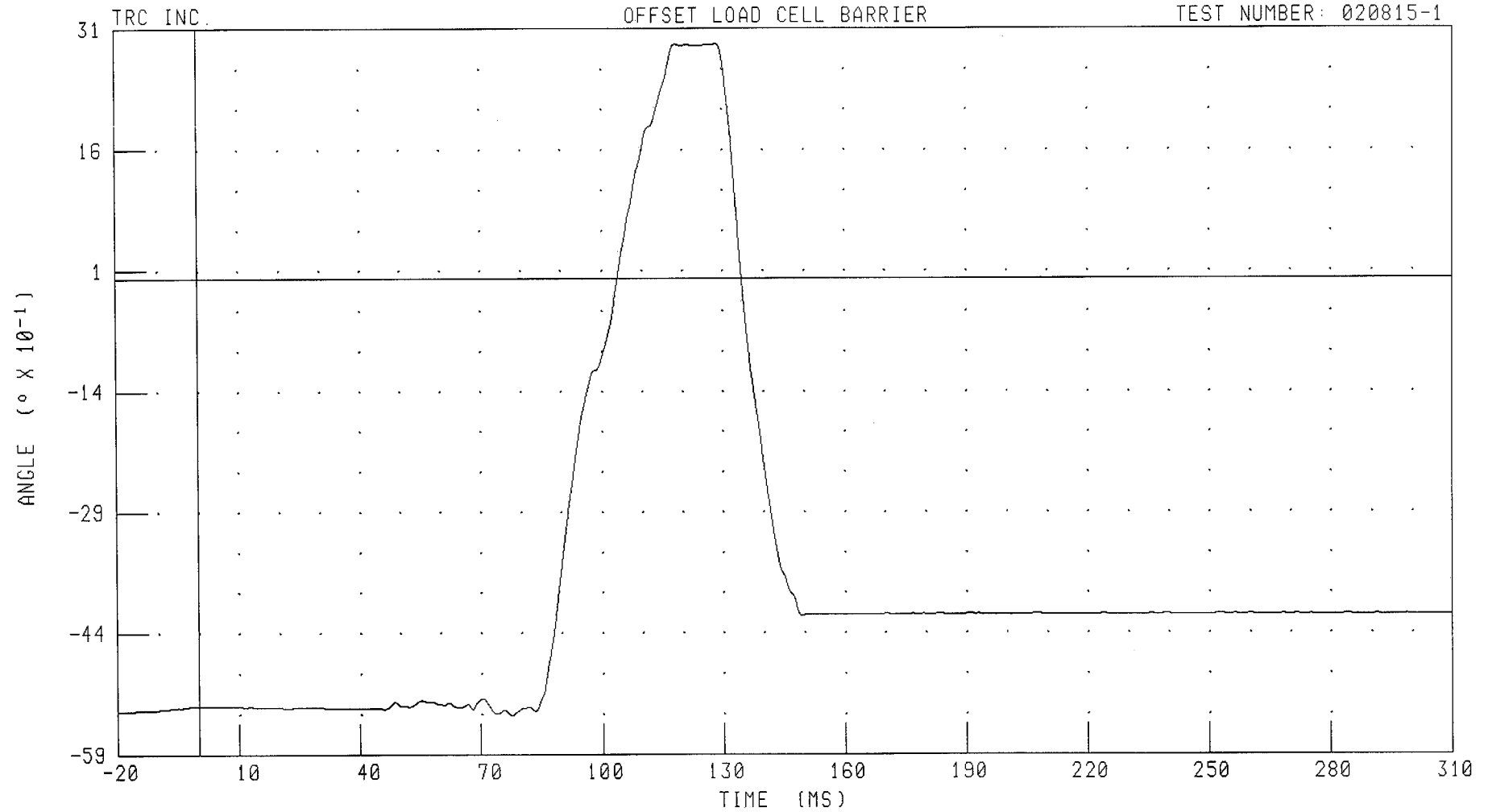
PEAK DATA: -28.80 ° @ -6.80 MS; -46.58 ° @ 109.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FOOT TO ANKLE Z-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLZD2 FILTER: CH. CLASS 180

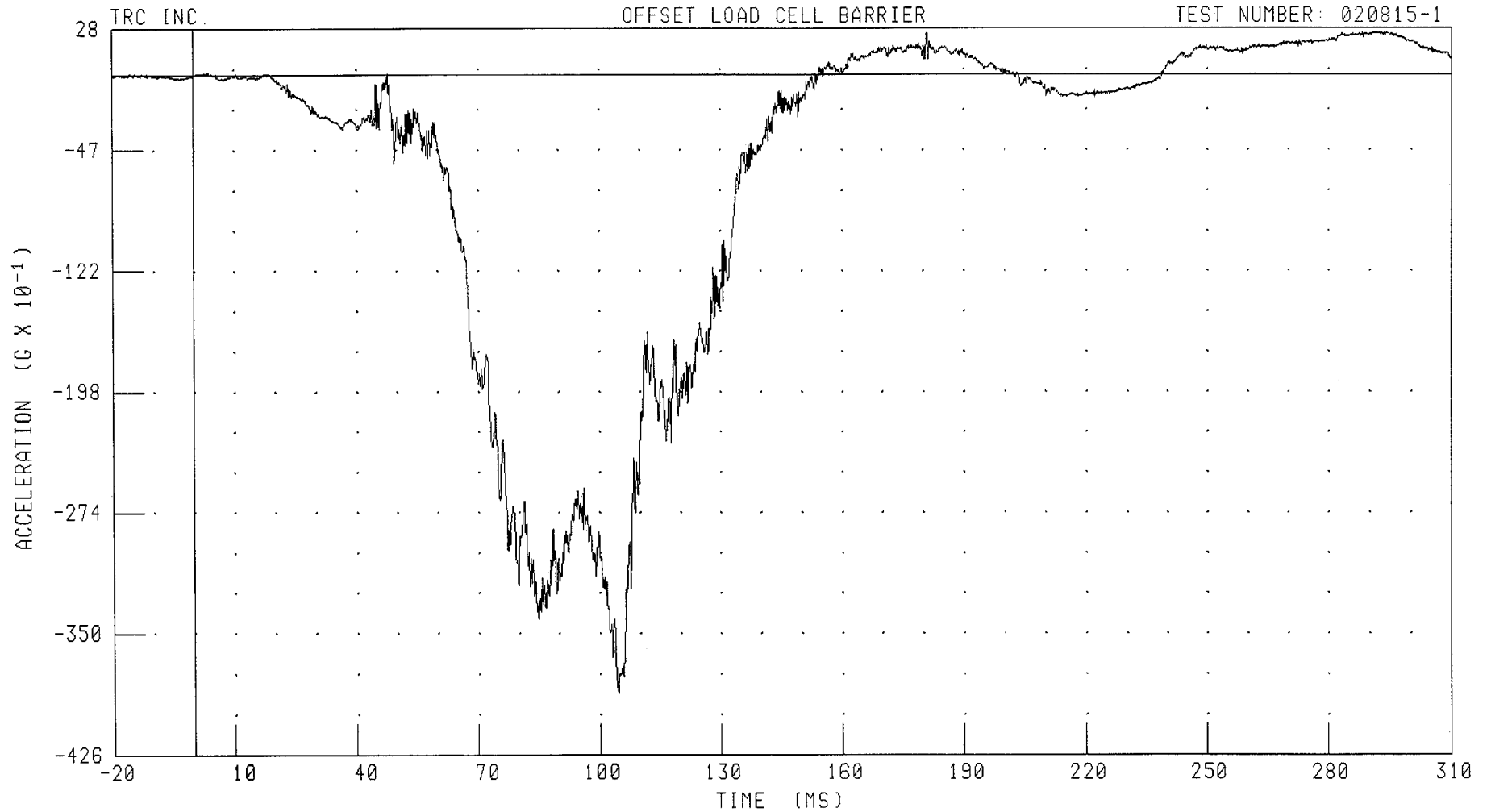
PEAK DATA: 2.91 $^{\circ}$ @ 128.80 MS; -5.42 $^{\circ}$ @ 77.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FOOT X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLXG2

FILTER: CH. CLASS 1000

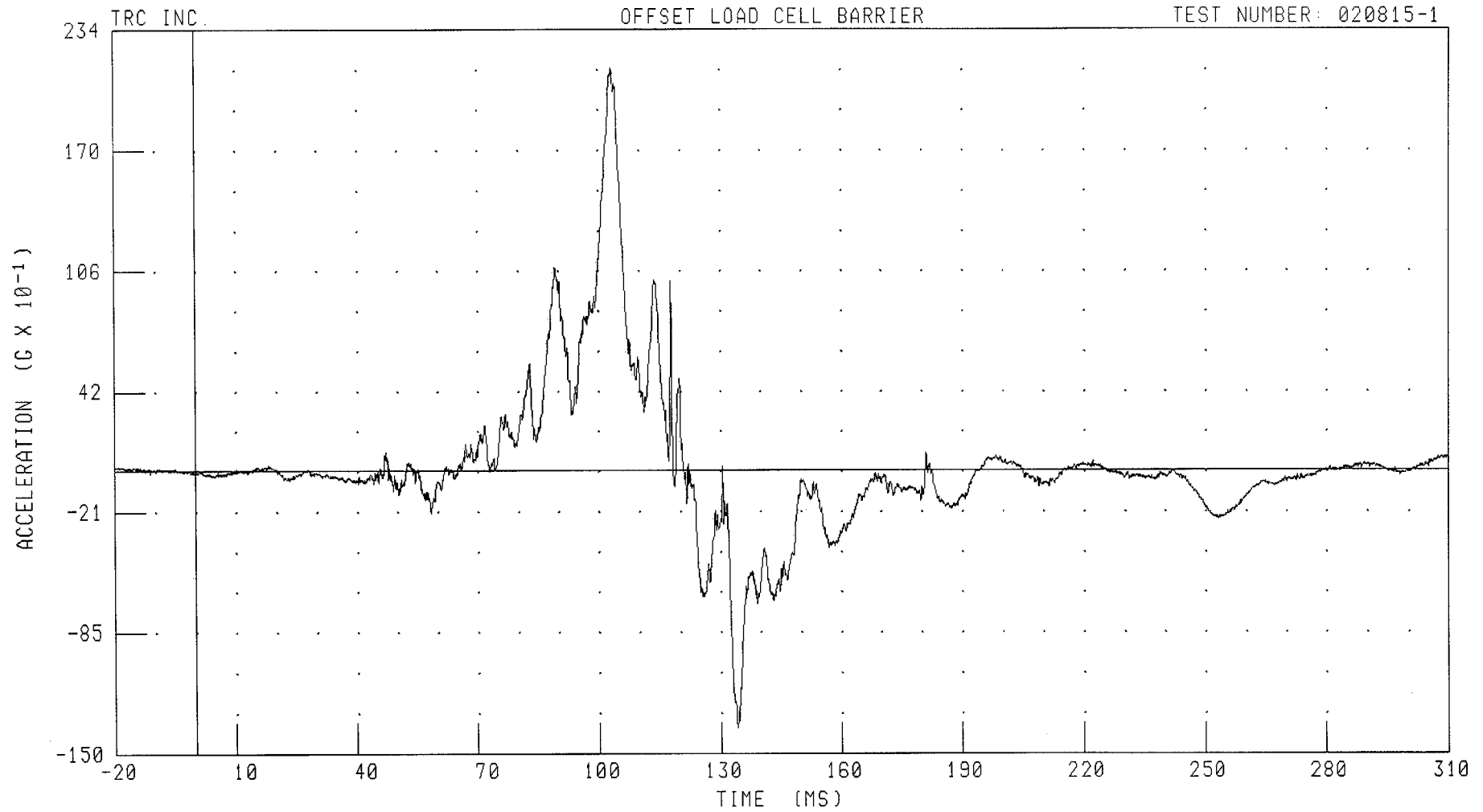
PEAK DATA: 2.67 G @ 291.12 MS; -38.86 G @ 104.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FOOT Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLYG2 FILTER: CH. CLASS 1000

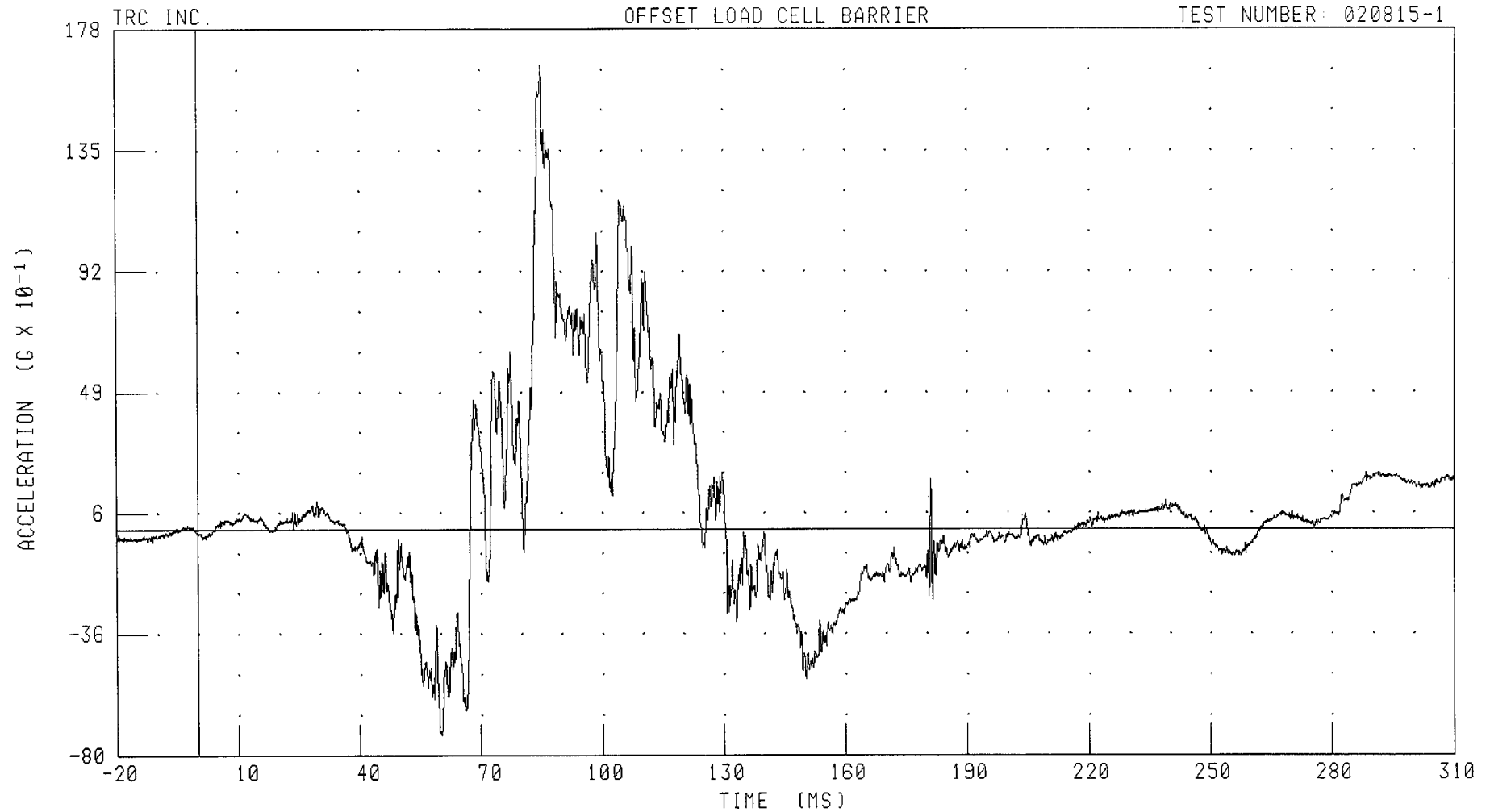
PEAK DATA: 21.33 G @ 103.52 MS, -13.67 G @ 134.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FOOT Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLZG2 FILTER: CH. CLASS 1000

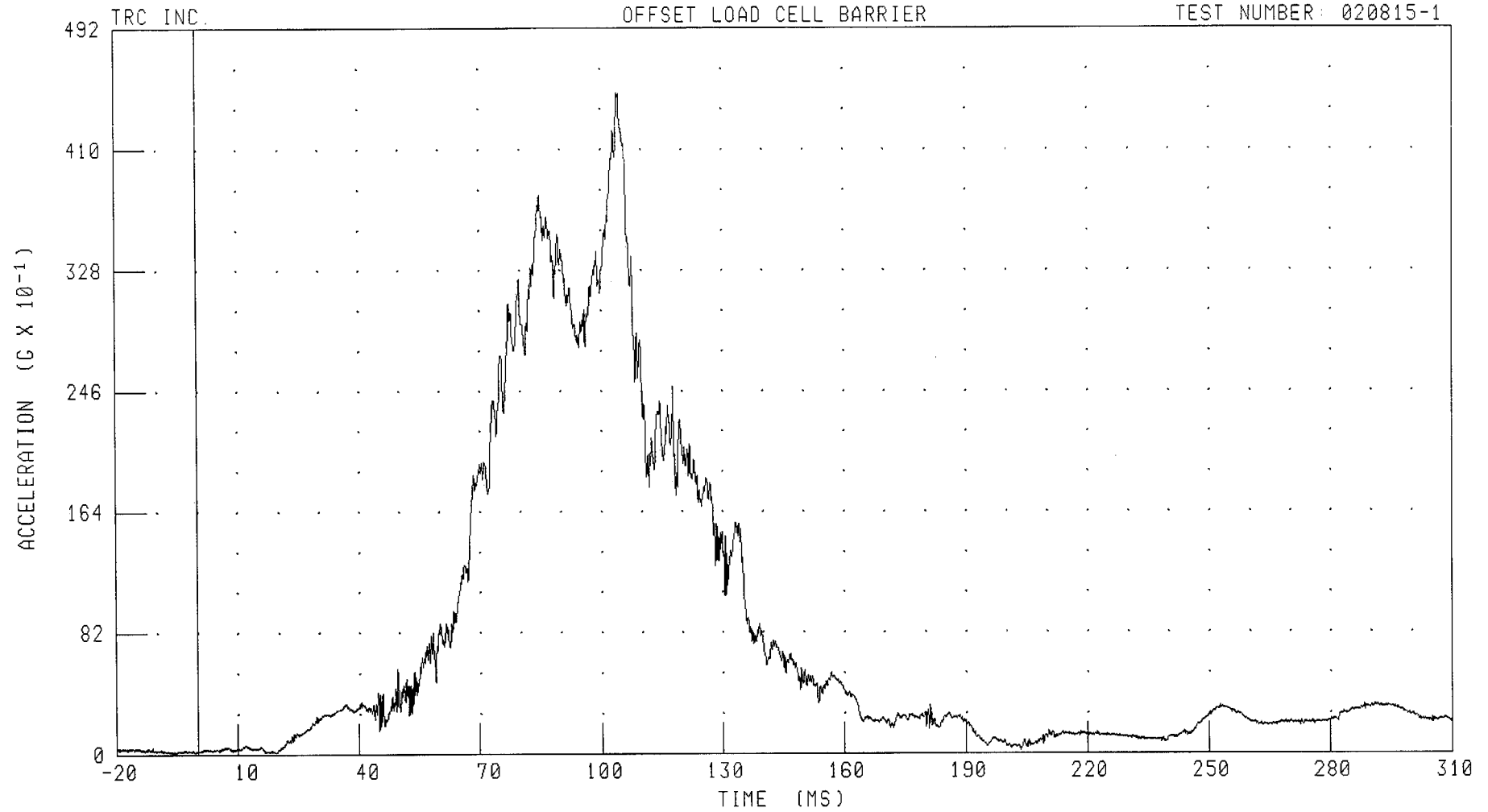
PEAK DATA: 16.53 G @ 85.12 MS; -7.27 G @ 60.24 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LEFT FOOT RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTLRG2 FILTER: CH. CLASS 1000

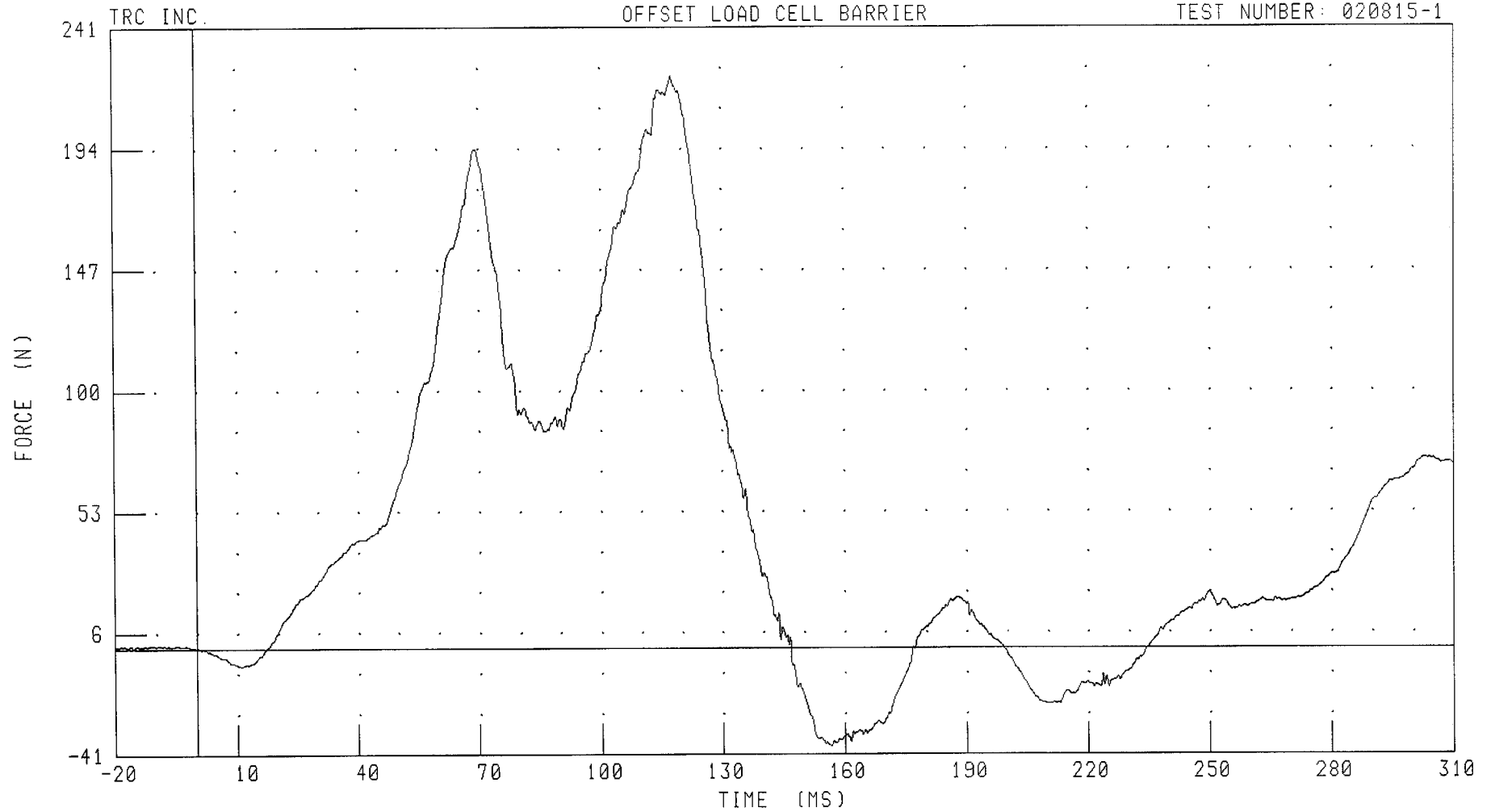
PEAK DATA: 44.83 G @ 104.24 MS; 0.06 G @ -5.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT UPPER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRXF2 FILTER: CH. CLASS 600

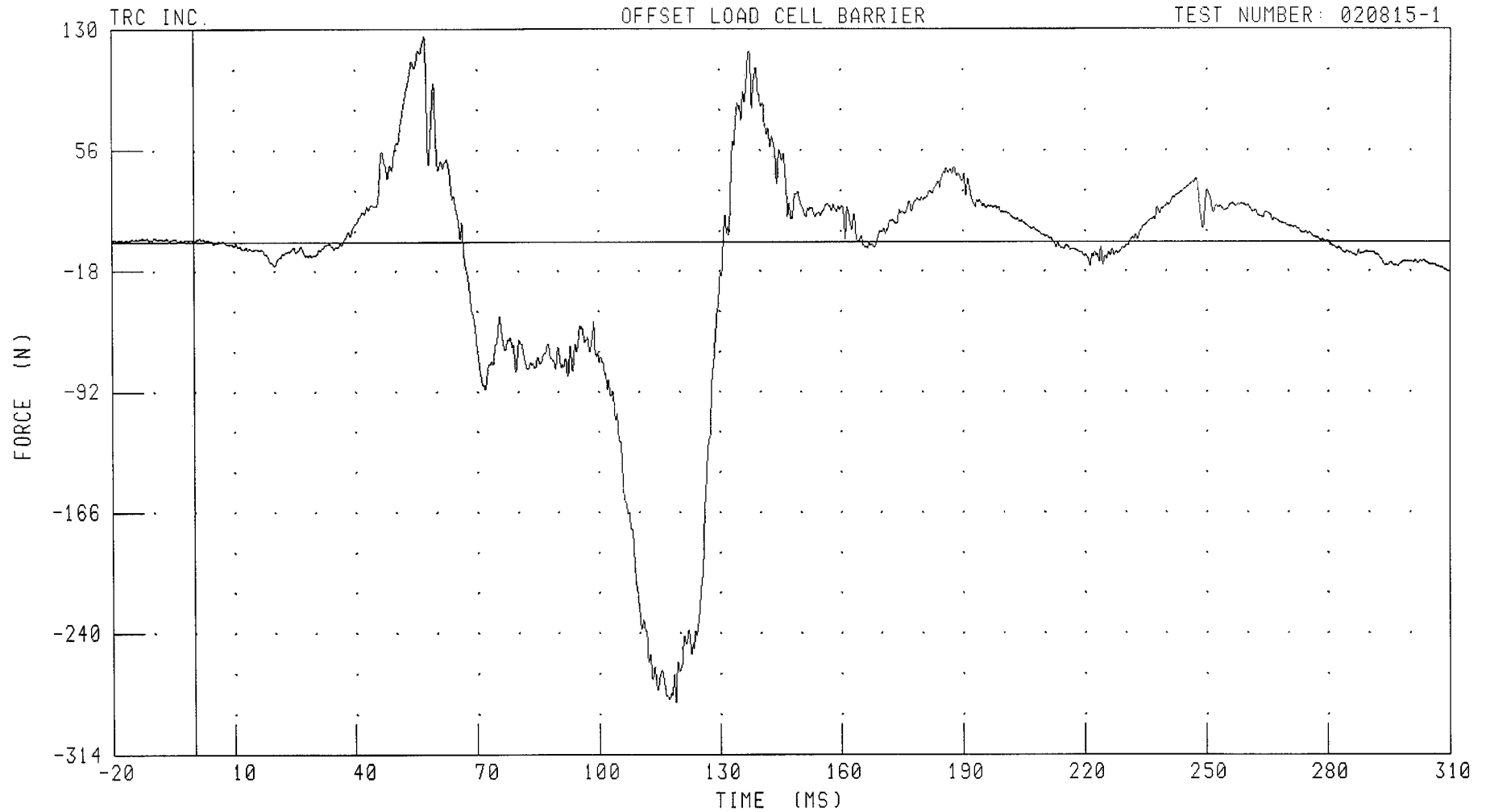
PEAK DATA: 222.42 N @ 117.76 MS; -38.00 N @ 156.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT UPPER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRZF2 FILTER: CH. CLASS 600

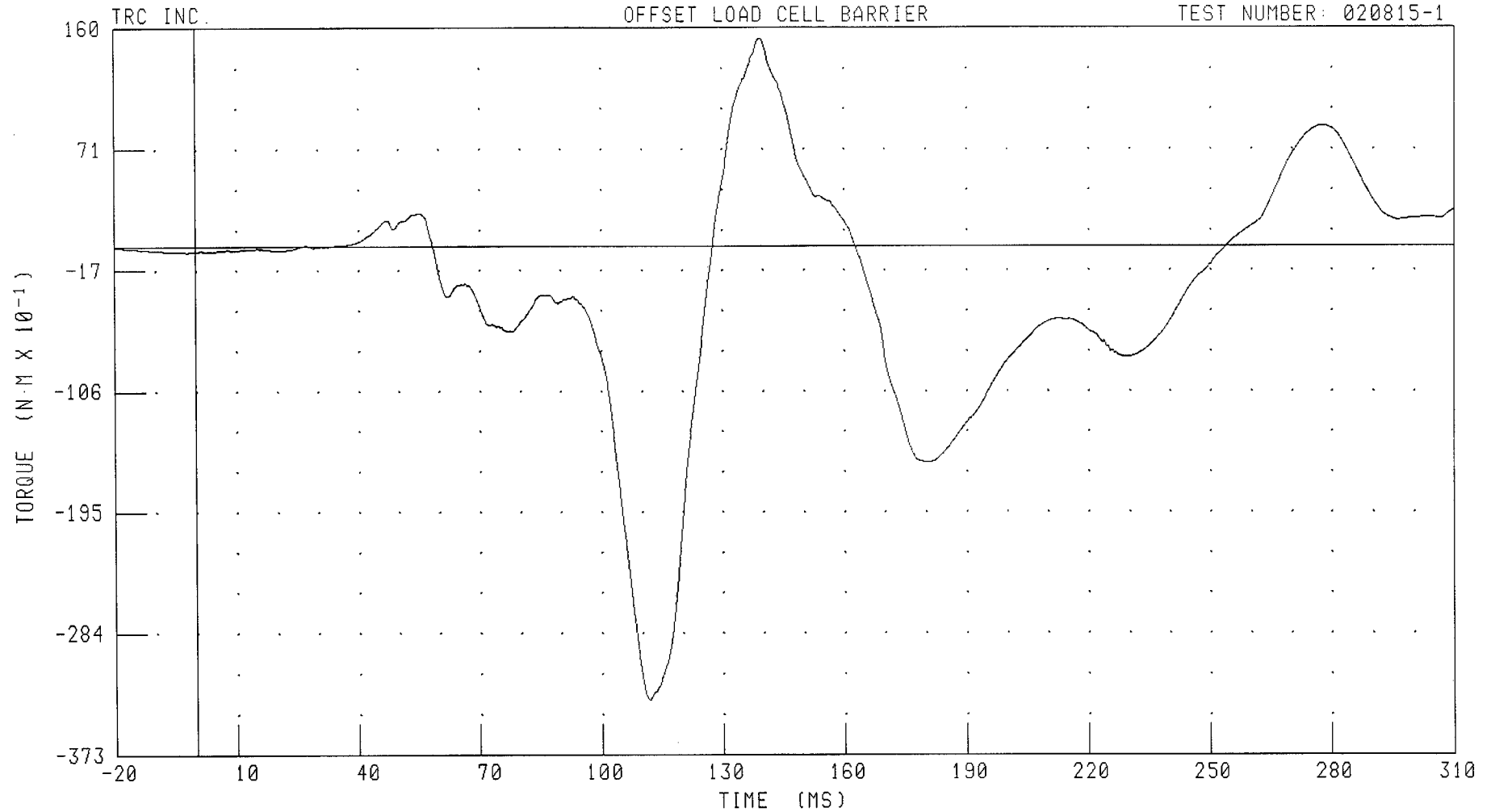
PEAK DATA: 125.56 N @ 57.28 MS; -282.36 N @ 118.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT UPPER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRXM2

FILTER: CH. CLASS 600

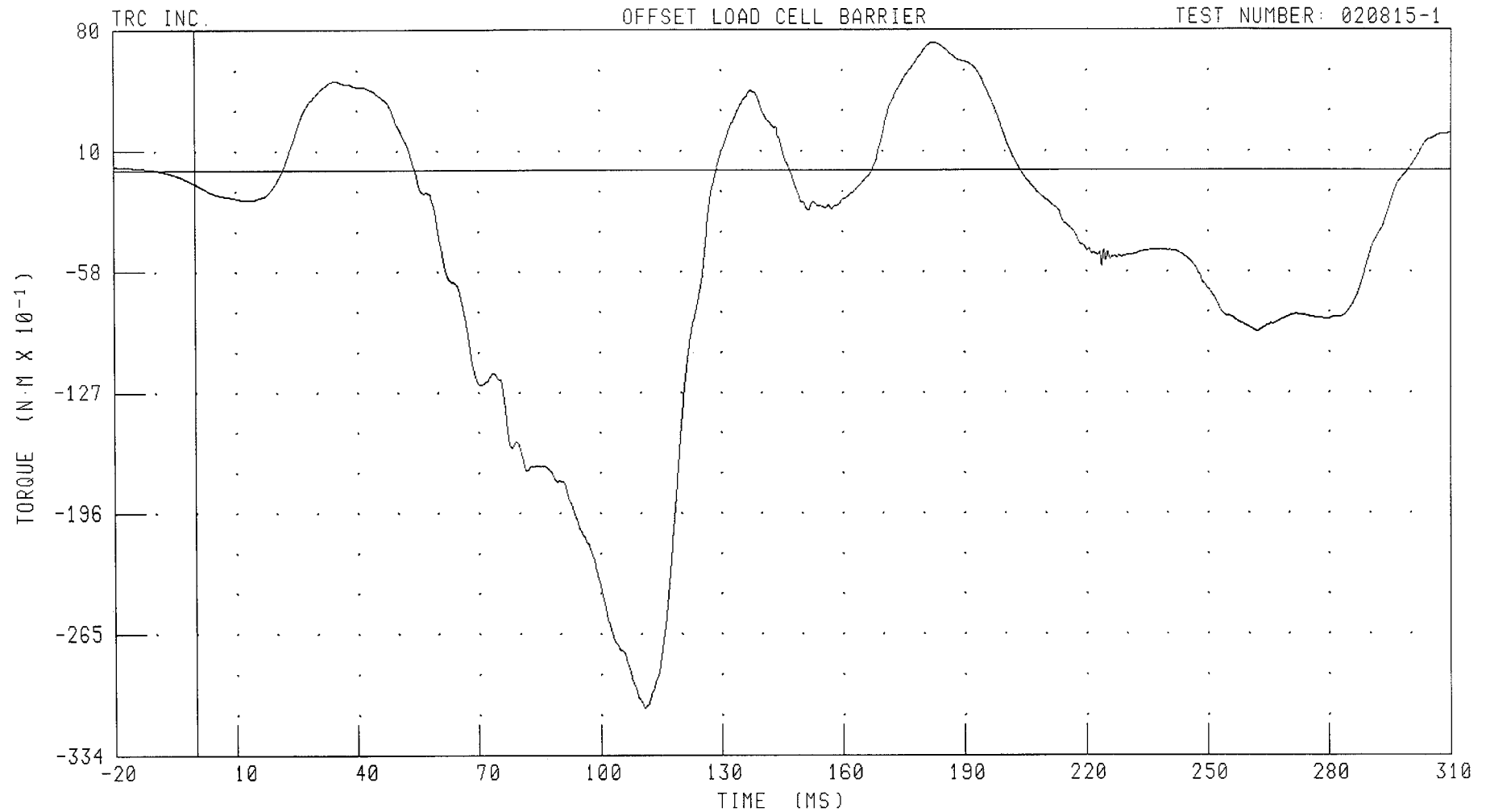
PEAK DATA: 15.22 N·m @ 139.60 MS; -33.39 N·m @ 111.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT UPPER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRYM2 FILTER: CH. CLASS 600

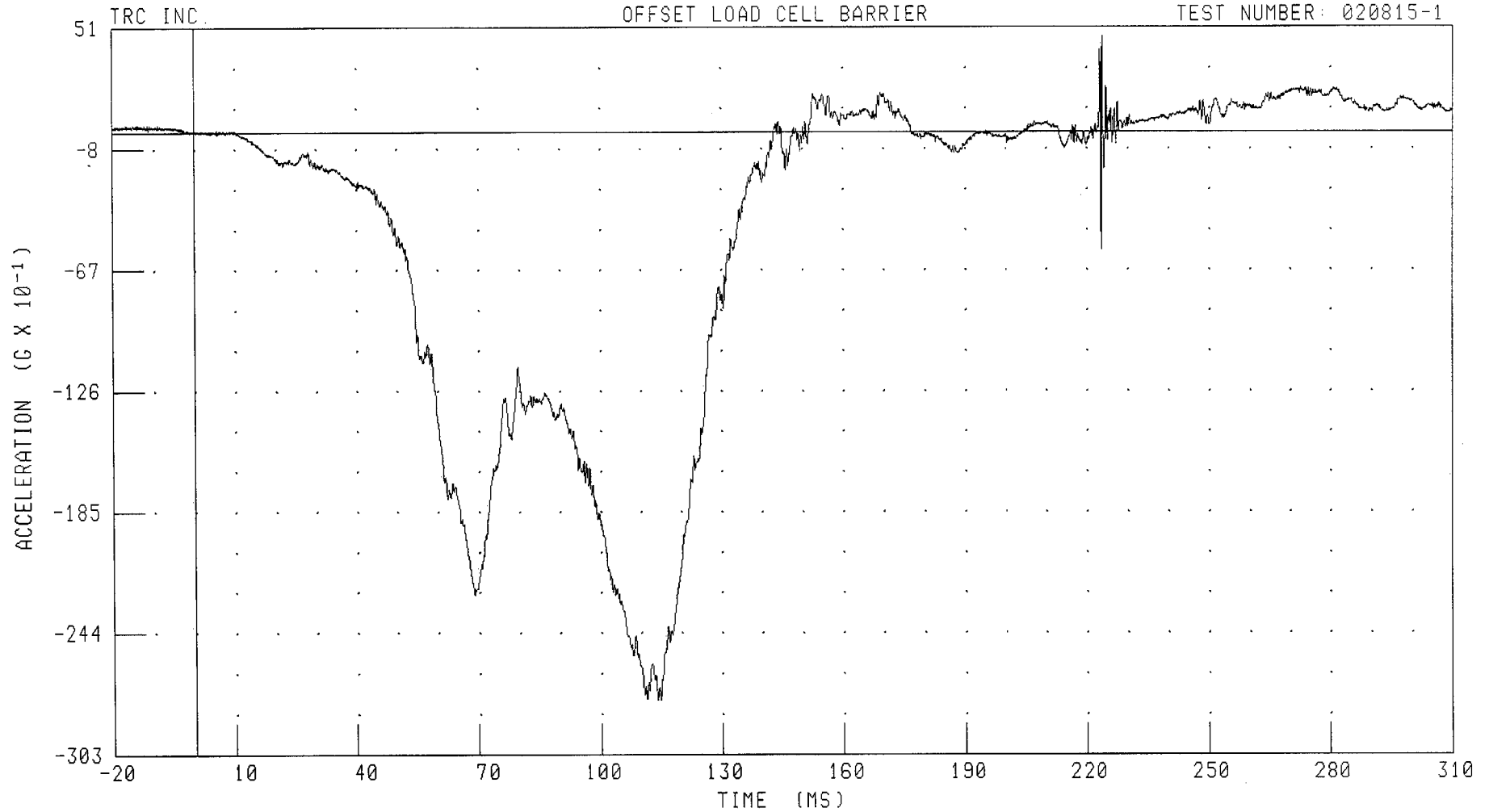
PEAK DATA: 7.27 N·M @ 182.72 MS; -30.71 N·M @ 111.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT TIBIA X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRXG2 FILTER: CH. CLASS 1000

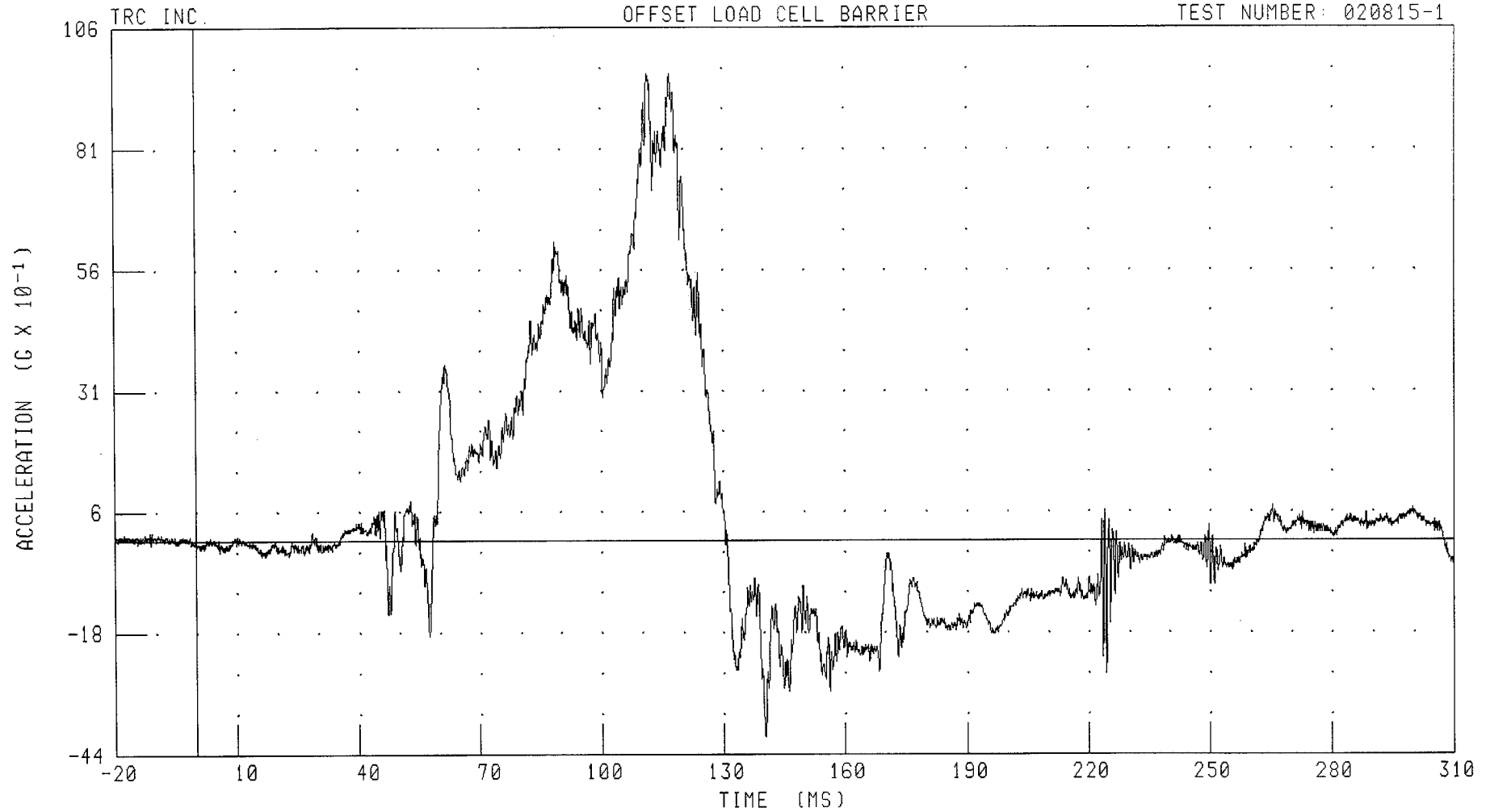
PEAK DATA: 4.69 G @ 224.00 MS; -27.68 G @ 114.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT TIBIA Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TBRYG2 FILTER: CH. CLASS 1000

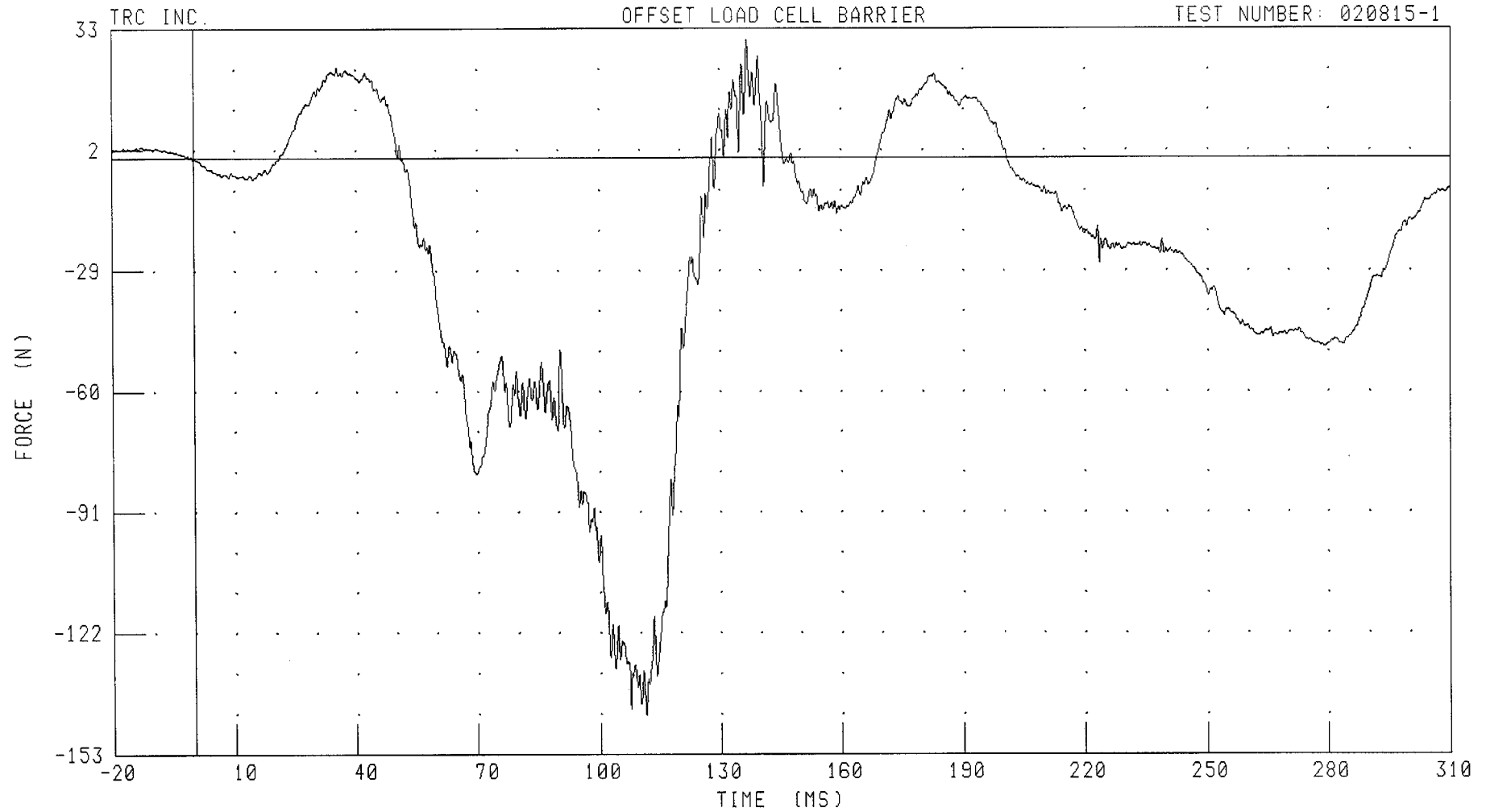
PEAK DATA: 9.64 G @ 111.52 MS; -4.04 G @ 140.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT LOWER TIBIA X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRXF2 FILTER: CH. CLASS 600

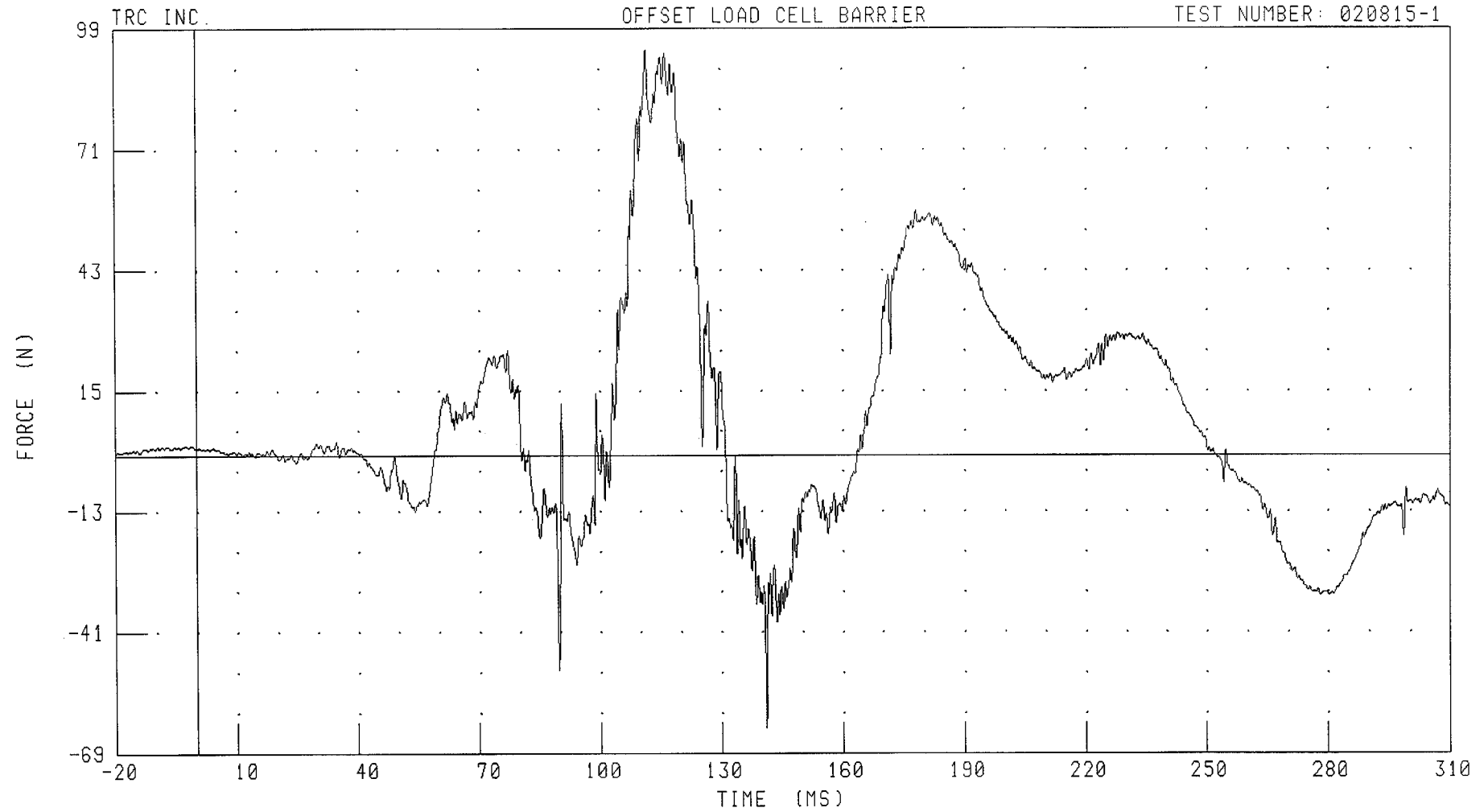
PEAK DATA: 30.07 N @ 136.96 MS, -143.06 N @ 111.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT LOWER TIBIA Y-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRYF2 FILTER: CH. CLASS 600

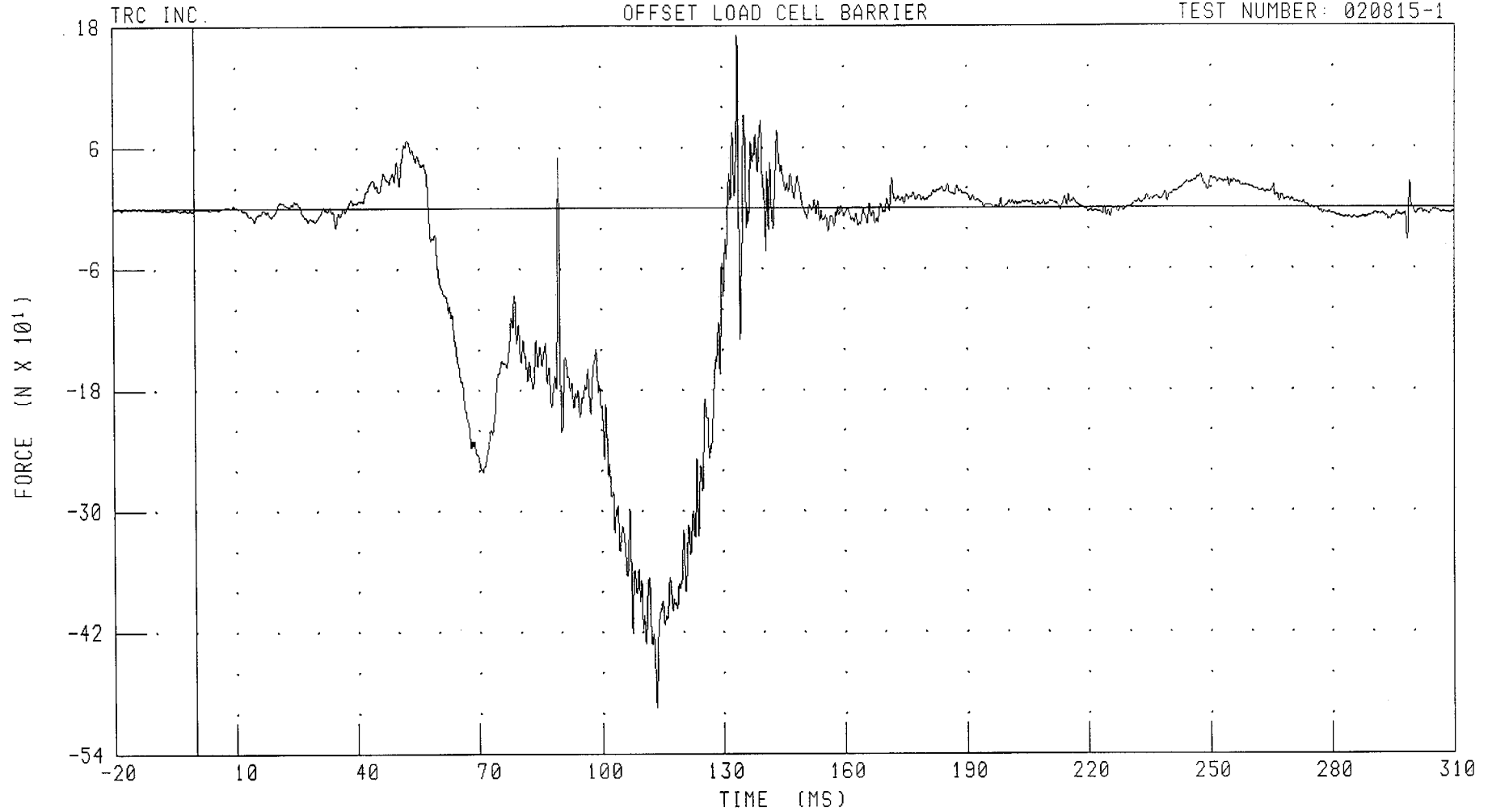
PEAK DATA: 93.96 N @ 111.68 MS; -63.13 N @ 141.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT LOWER TIBIA Z-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRZF2 FILTER: CH. CLASS 600

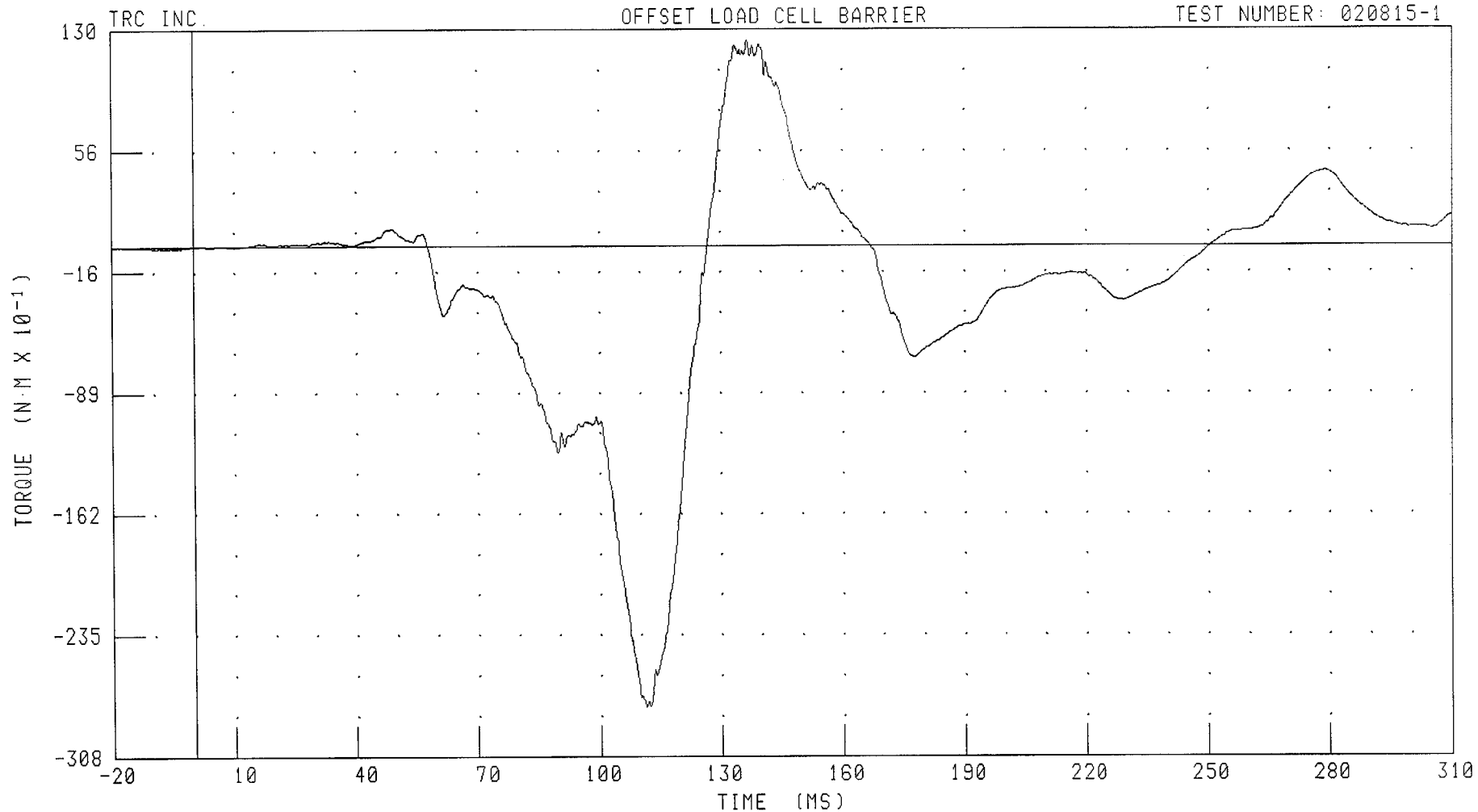
PEAK DATA: 170.99 N @ 134.00 MS; -494.26 N @ 113.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT LOWER TIBIA MOMENT ABOUT X AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRXM2 FILTER: CH. CLASS 600

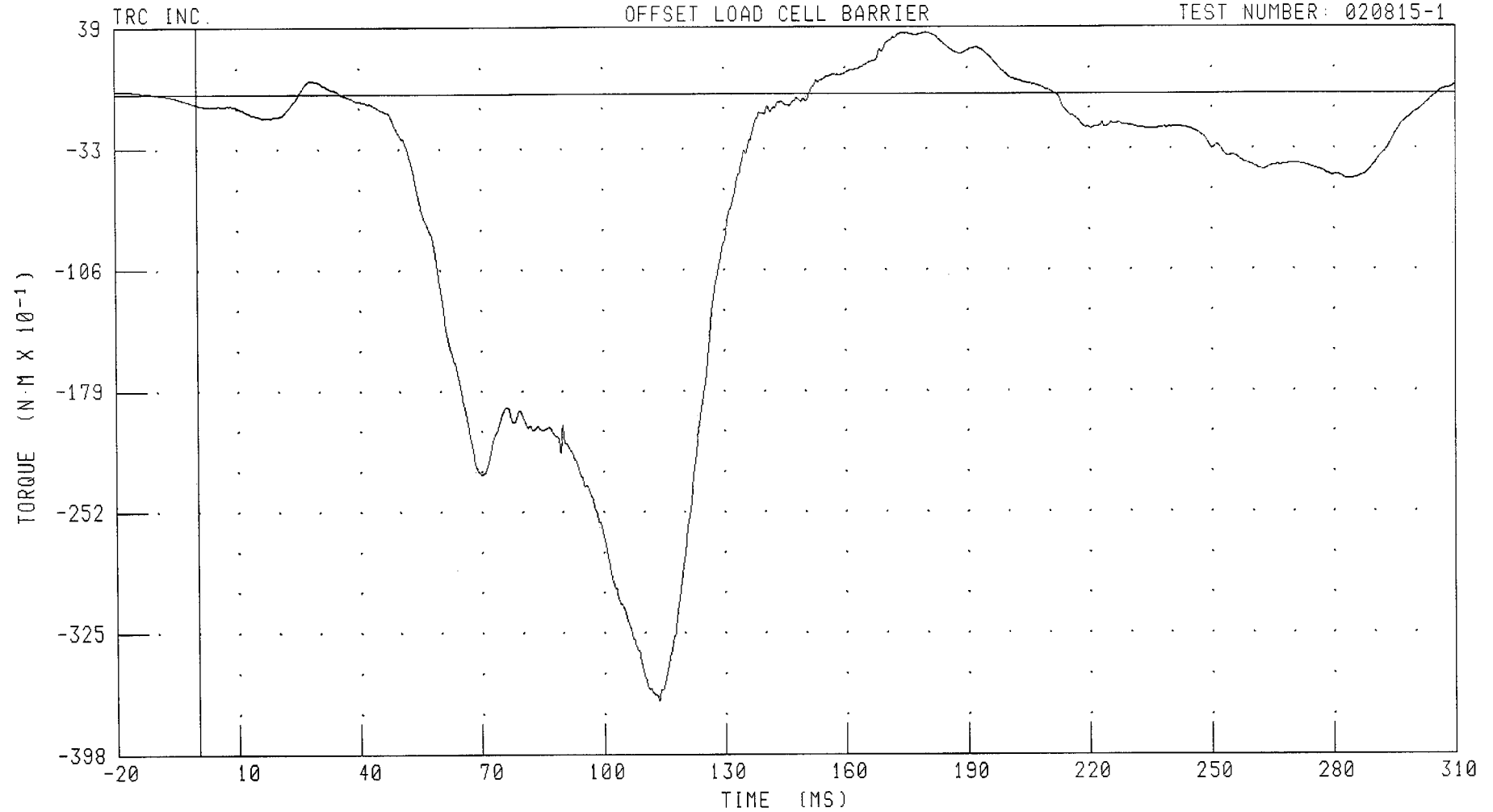
PEAK DATA: 12.32 N·M @ 136.96 MS; -27.81 N·M @ 111.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT LOWER TIBIA MOMENT ABOUT Y AXIS

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: ANRYM2

FILTER: CH. CLASS 600

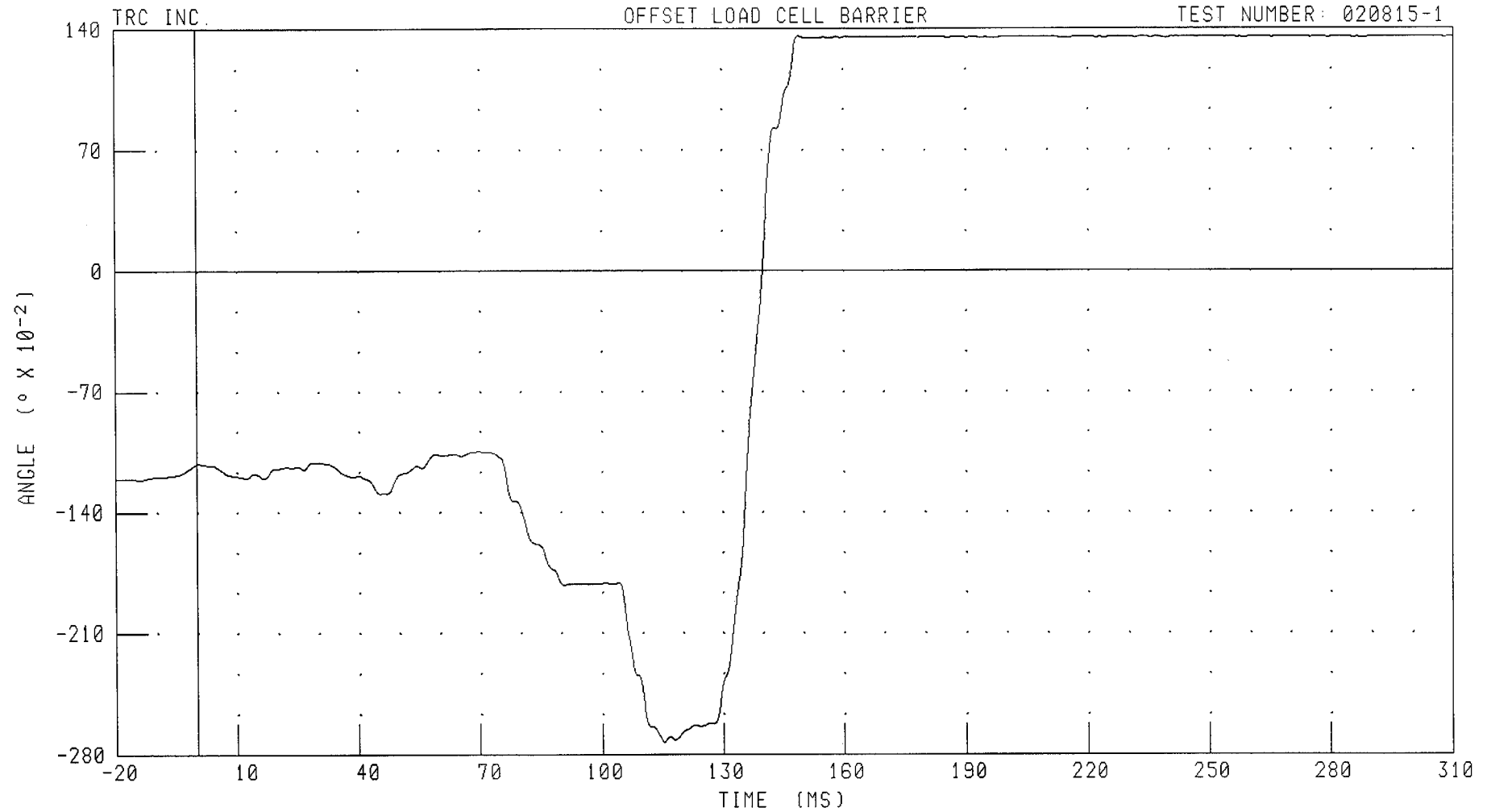
PEAK DATA: 3.68 N·m @ 180.08 MS; -36.57 N·m @ 113.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FOOT TO ANKLE X-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRXD2 FILTER: CH. CLASS 180

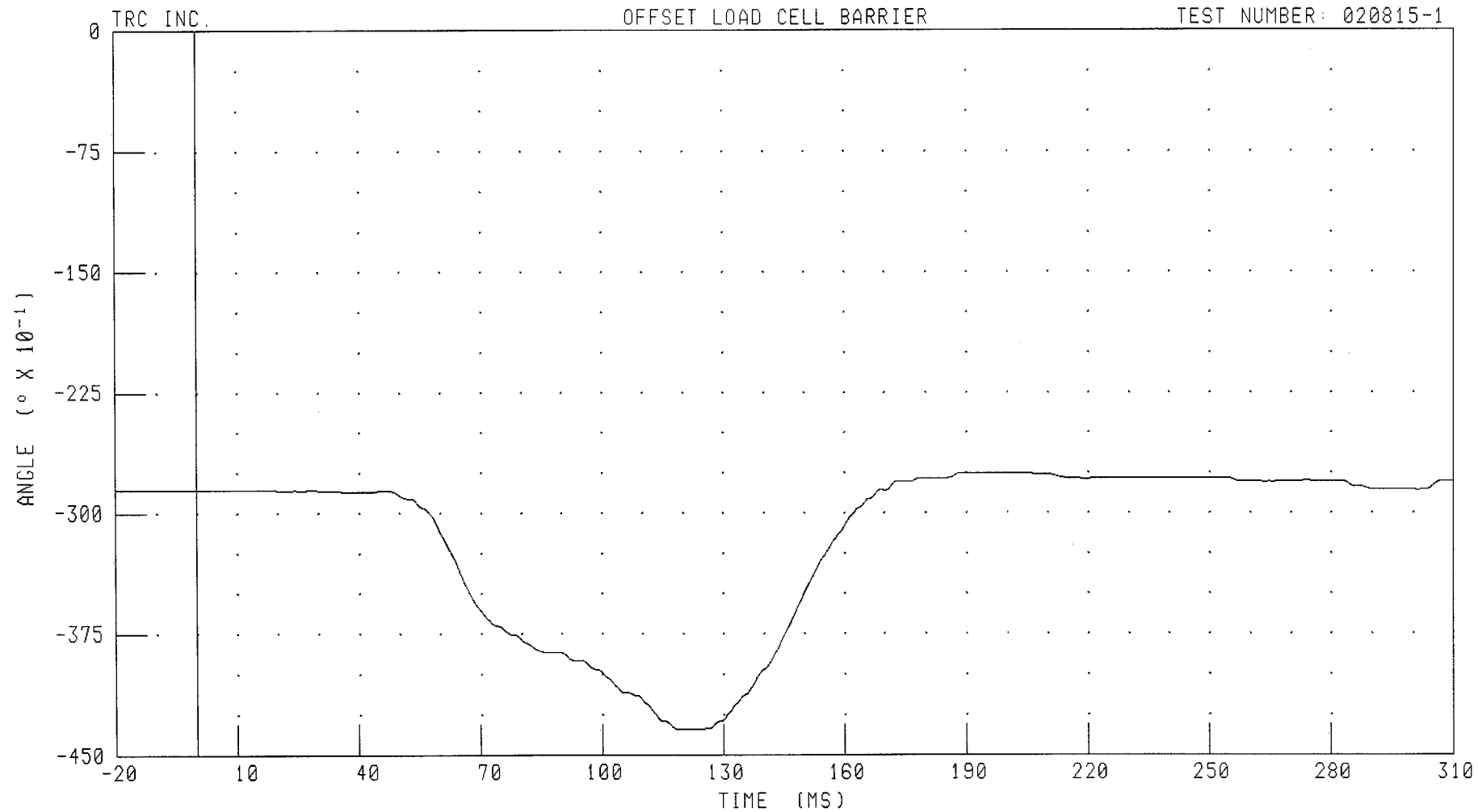
PEAK DATA: 1.36 $^{\circ}$ @ 149.12 MS; -2.73 $^{\circ}$ @ 115.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FOOT TO ANKLE Y-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRYD2 FILTER: CH. CLASS 180

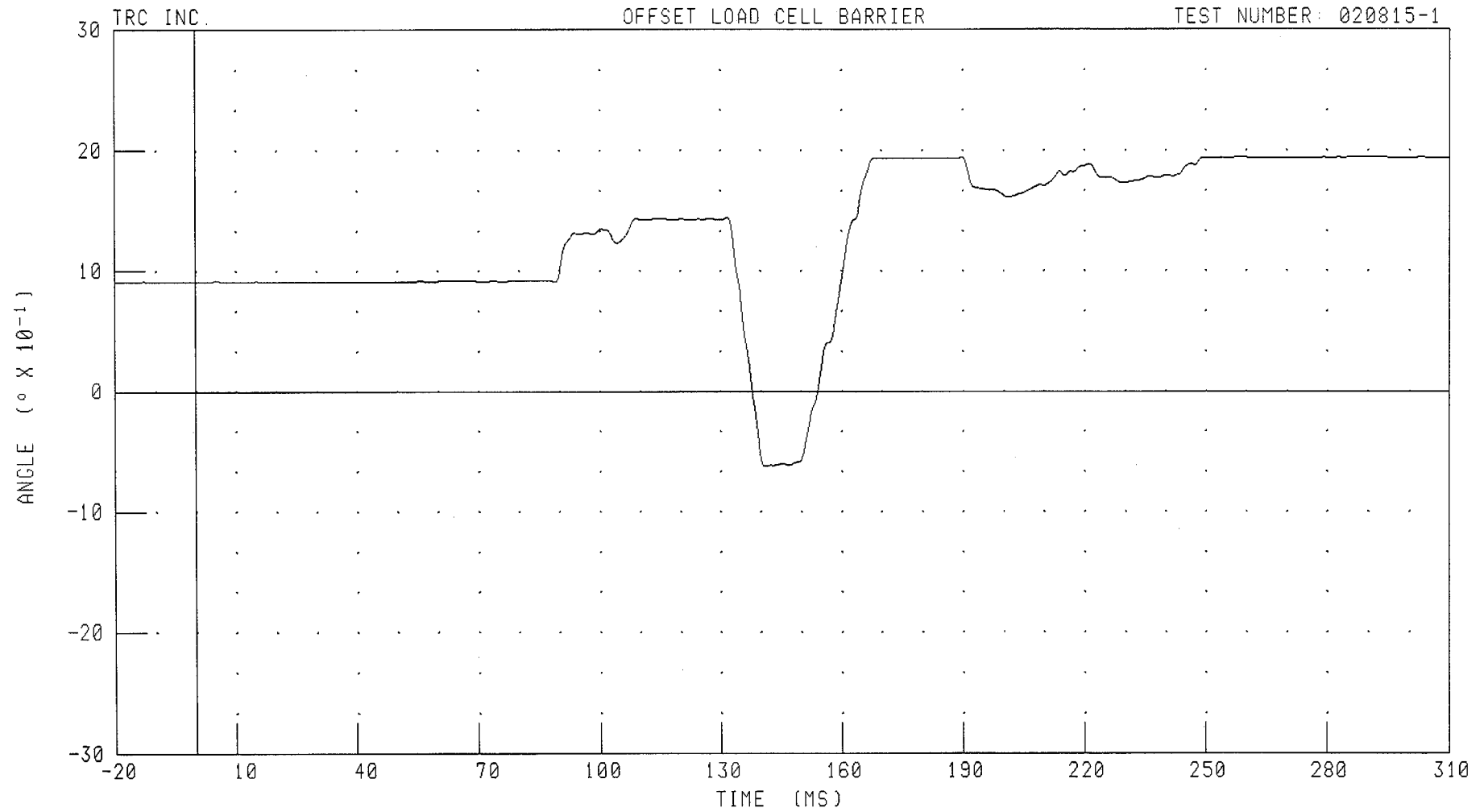
PEAK DATA: -27.54° @ 188.88 MS; -43.41° @ 121.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FOOT TO ANKLE Z-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRZD2 FILTER: CH. CLASS 180

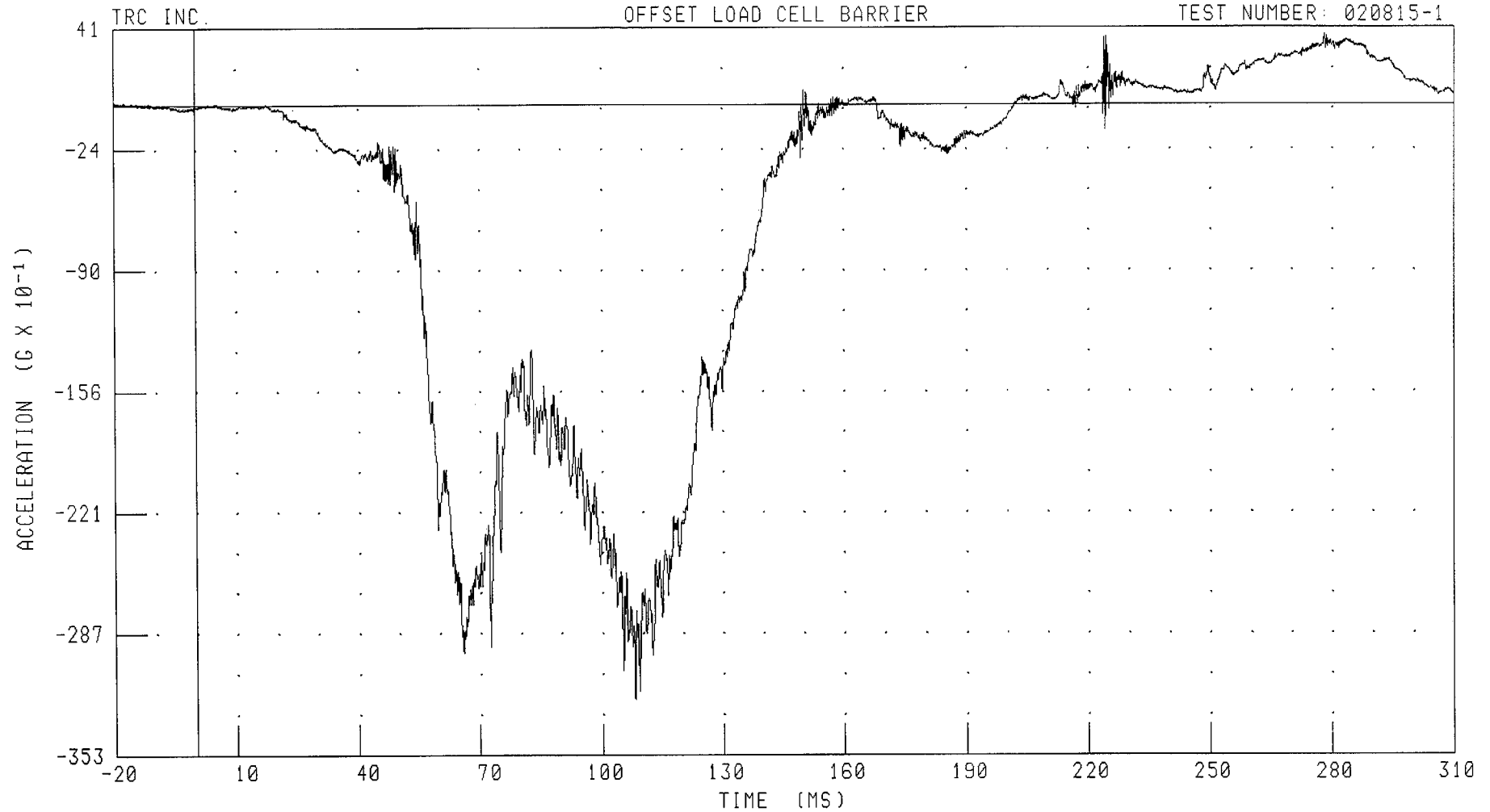
PEAK DATA: 1.94 $^{\circ}$ @ 258.64 MS; -0.63 $^{\circ}$ @ 141.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FOOT X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRXG2 FILTER: CH. CLASS 1000

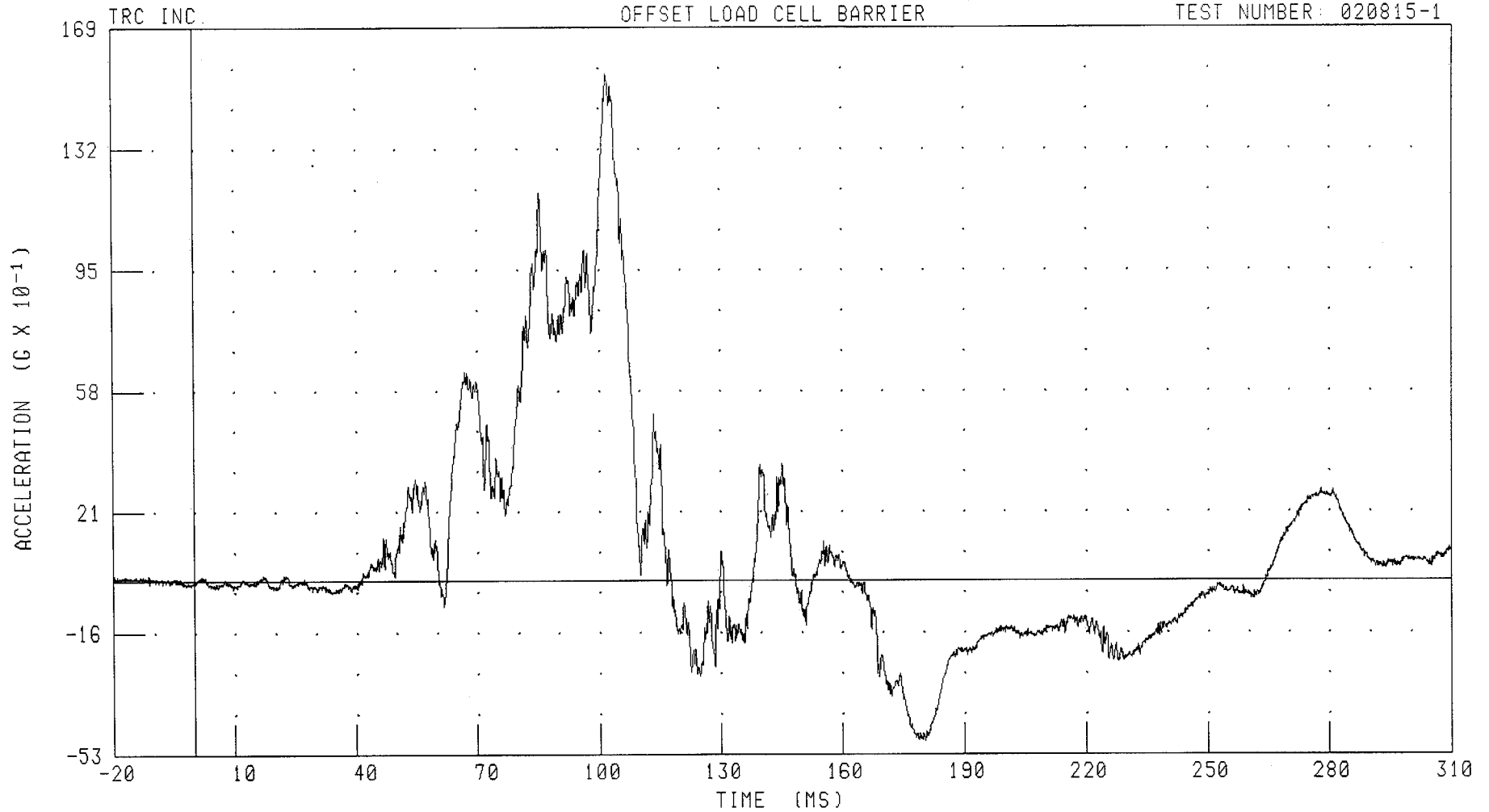
PEAK DATA: 3.84 G @ 278.16 MS; -32.37 G @ 108.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FOOT Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRYG2 FILTER: CH. CLASS 1000

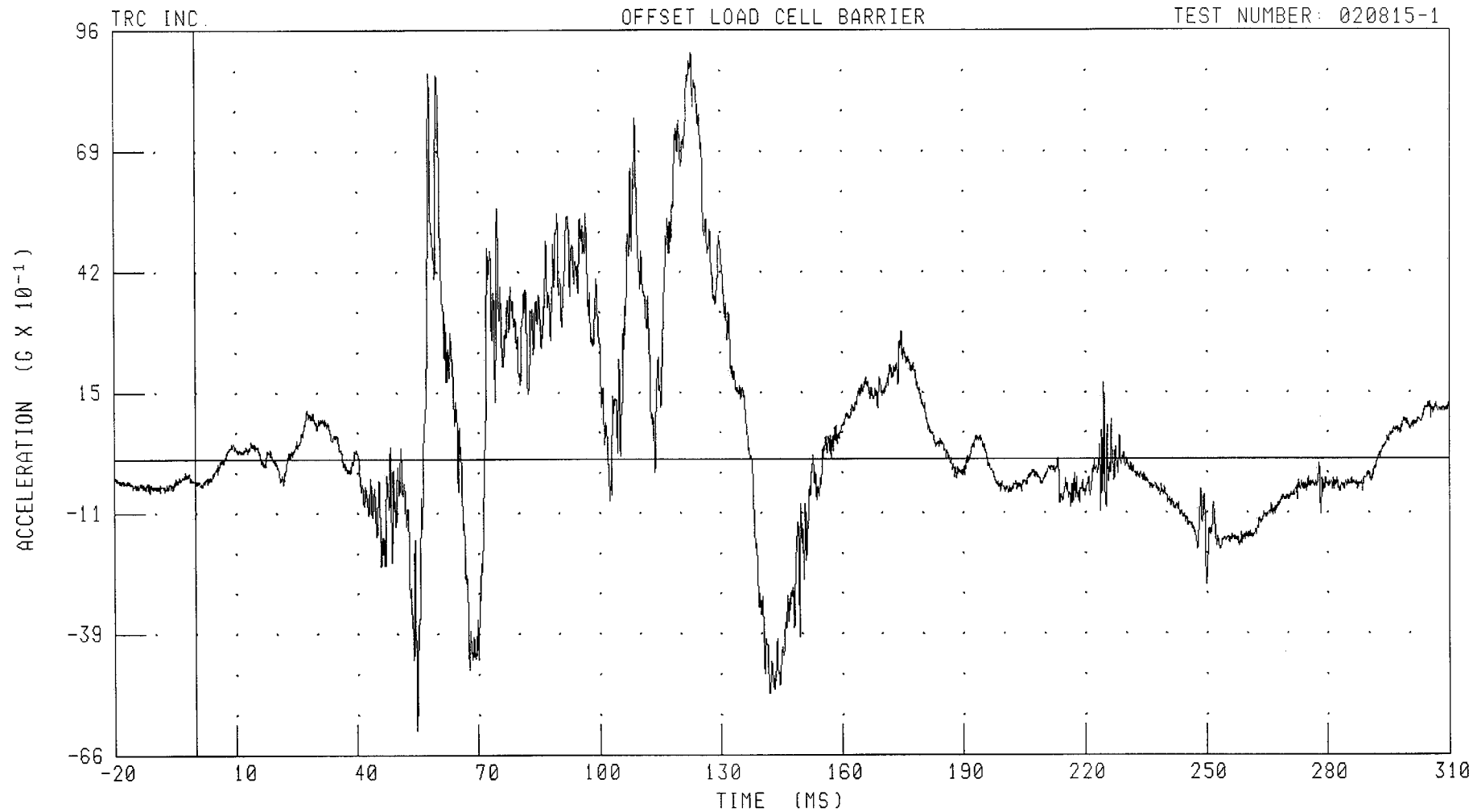
PEAK DATA: 15.49 G @ 101.92 MS; -4.90 G @ 180.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FOOT Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTRZG2 FILTER: CH. CLASS 1000

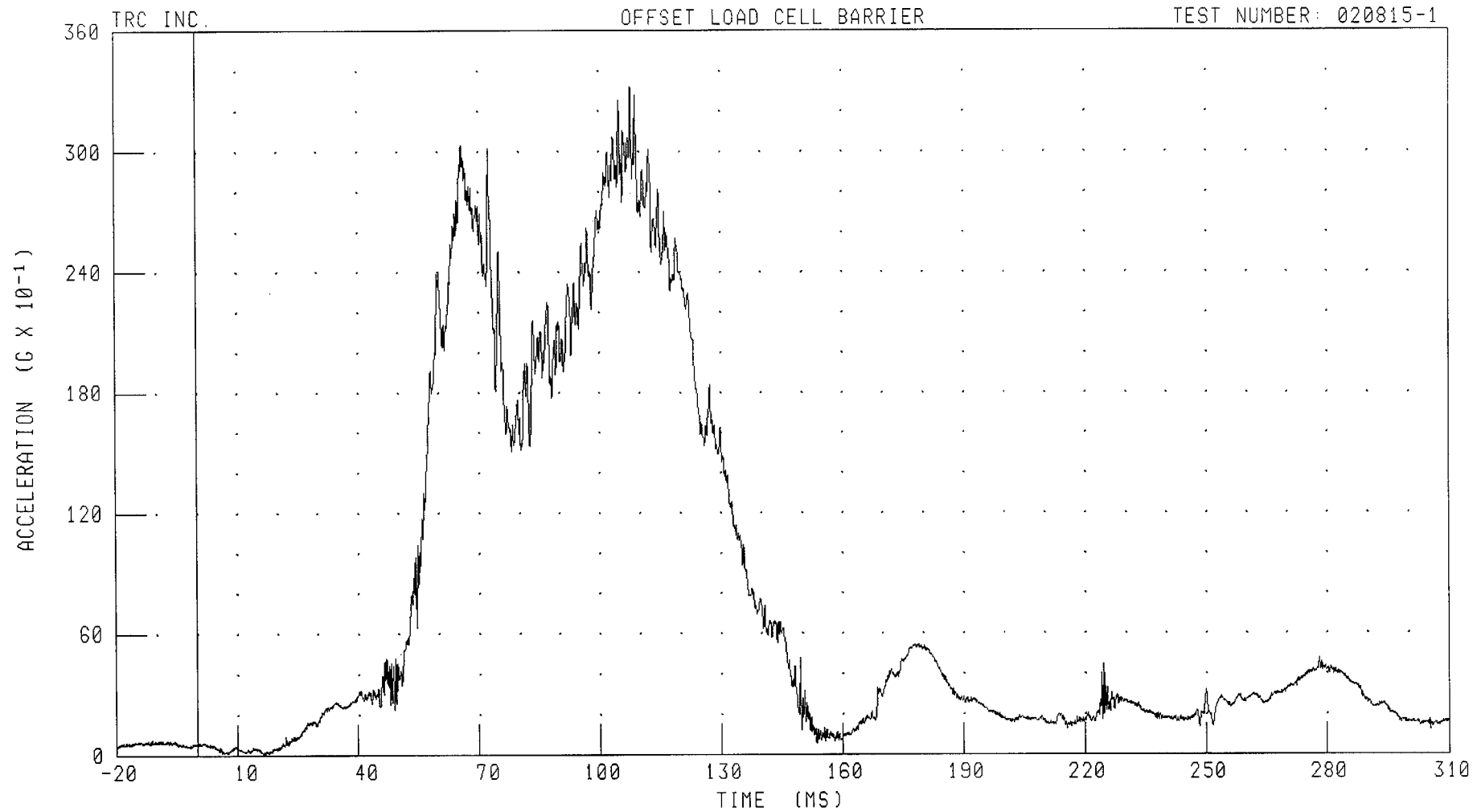
PEAK DATA: 9.10 G @ 123.04 MS; -6.06 G @ 54.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER RIGHT FOOT RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: FTTRG2 FILTER: CH. CLASS 1000

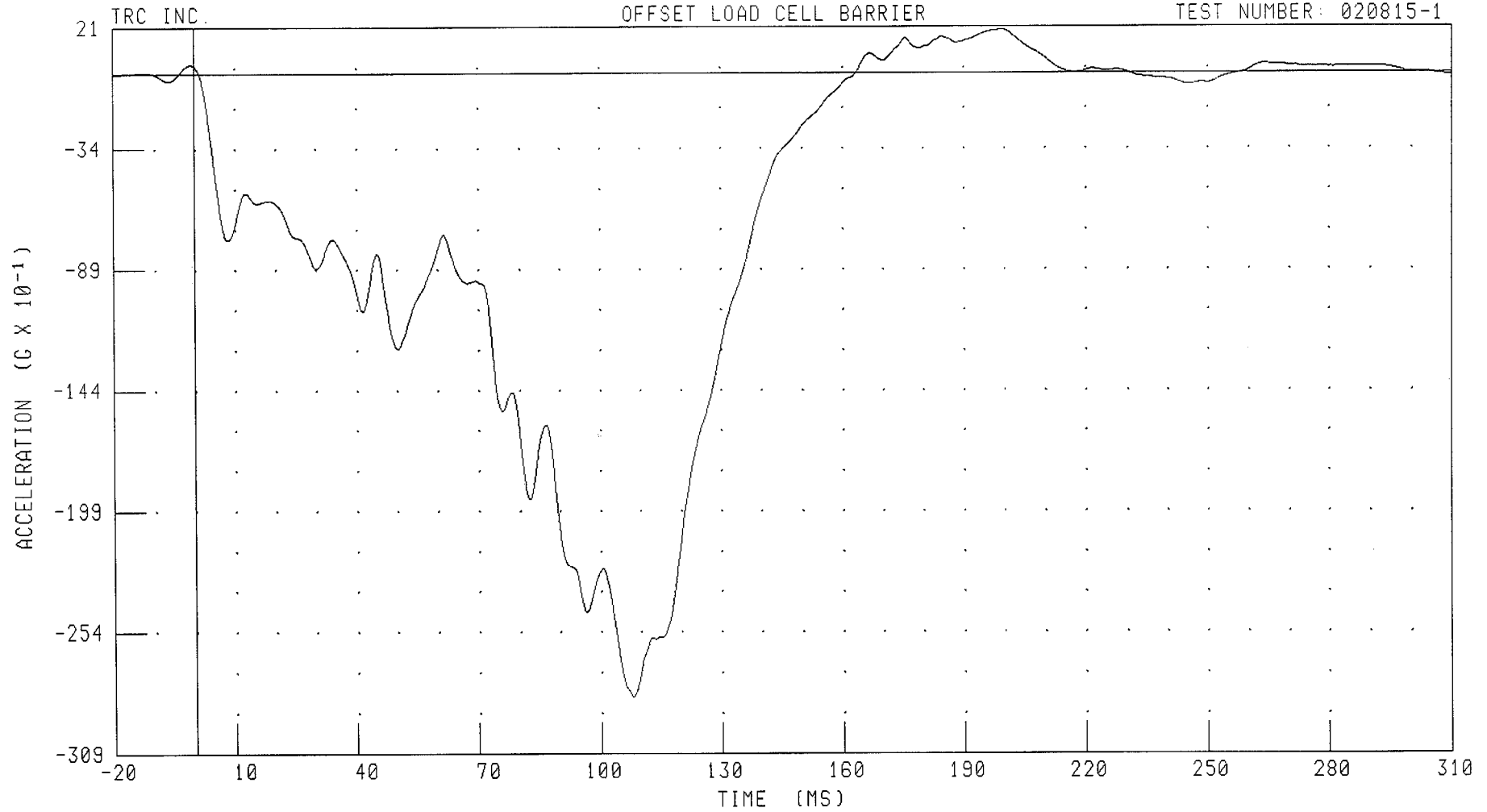
PEAK DATA: 33.22 G @ 108.08 MS; 0.05 G @ 16.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

LEFT REAR SEAT CROSSMEMBER X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LRXXG1 FILTER: CH. CLASS 60

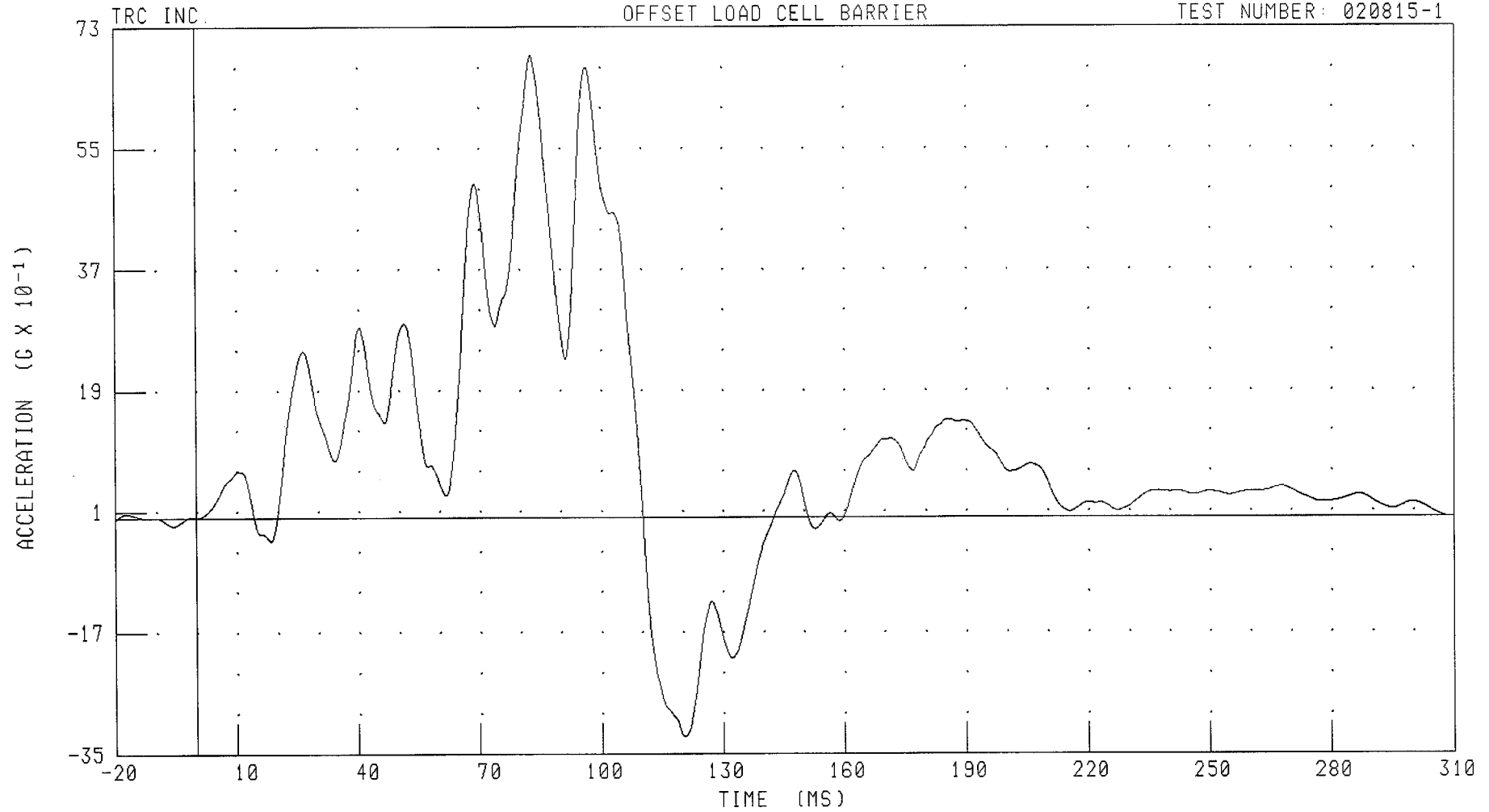
PEAK DATA: 1.98 G @ 199.52 MS; -28.35 G @ 108.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

LEFT REAR SEAT CROSSMEMBER Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LRXYG1 FILTER: CH. CLASS 60

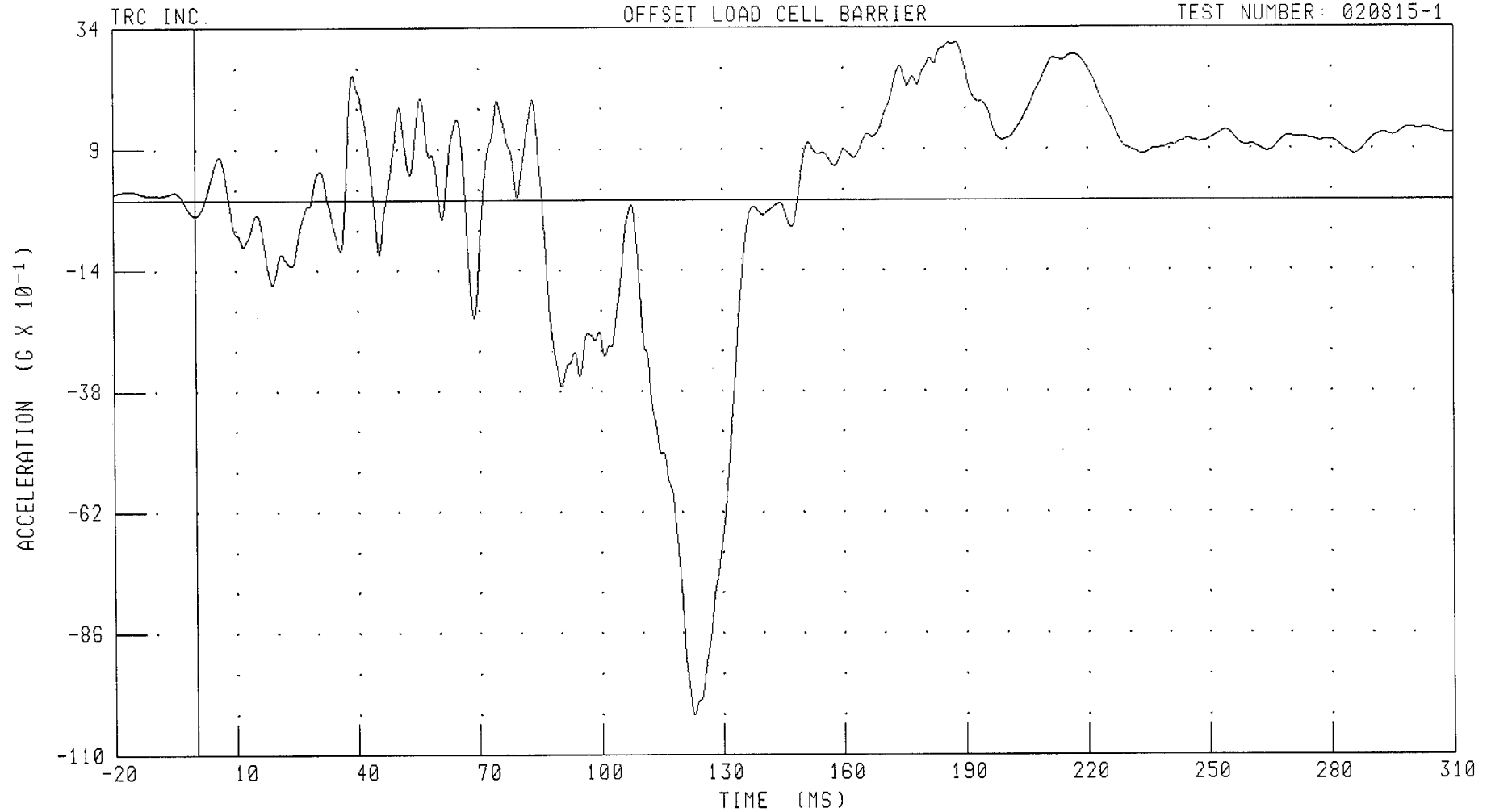
PEAK DATA: 6.88 G @ 82.96 MS; -3.25 G @ 120.48 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

LEFT REAR SEAT CROSSMEMBER Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LRXZG1 FILTER: CH. CLASS 60

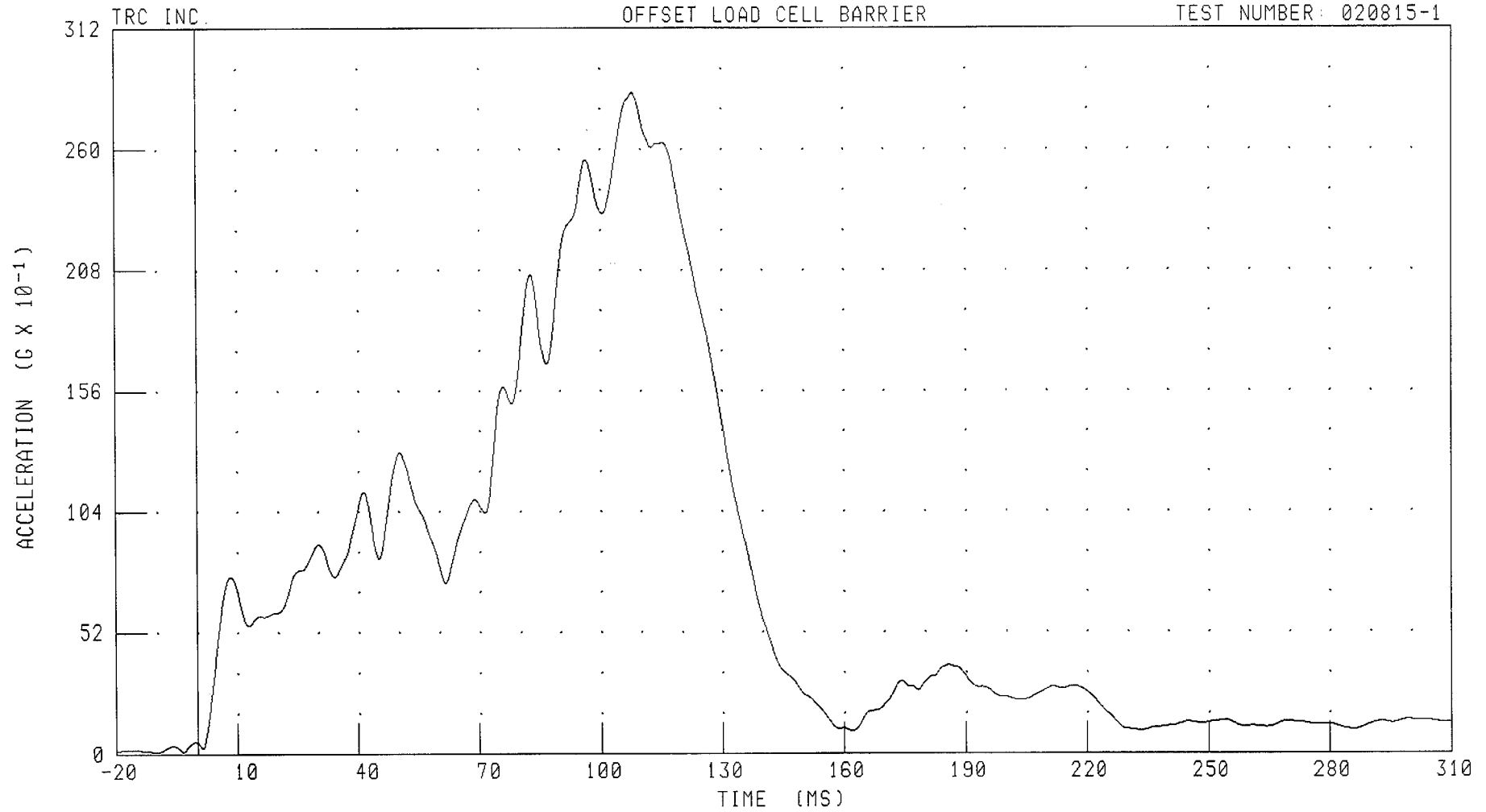
PEAK DATA: 3.11 G @ 187.84 MS; -10.21 G @ 122.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

LEFT REAR SEAT CROSSMEMBER RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LRXRG1 FILTER: CH. CLASS 60

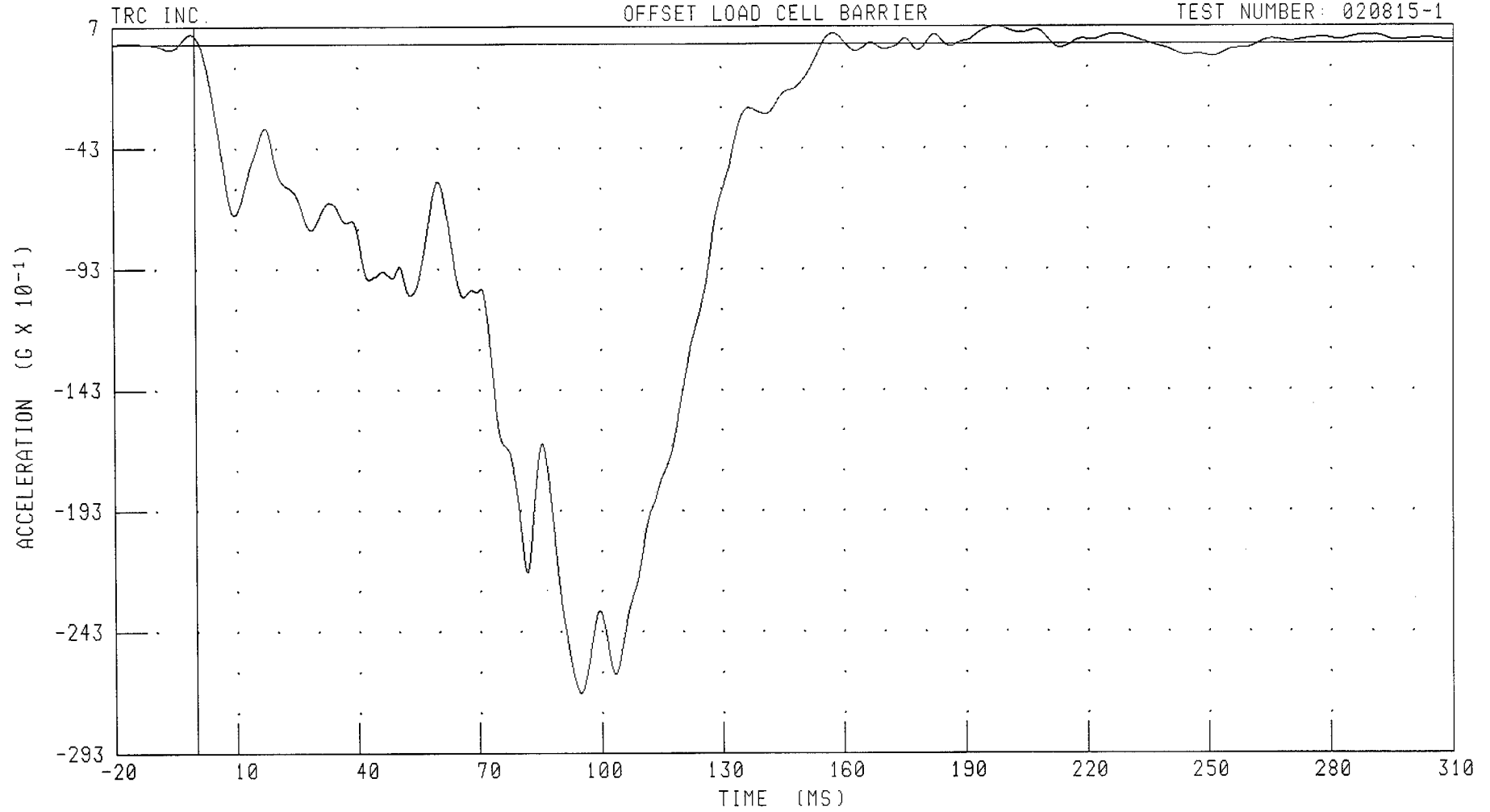
PEAK DATA: 28.42 G @ 108.08 MS; 0.08 G @ -10.24 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

RIGHT REAR SEAT CROSSMEMBER X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RRXXG1 FILTER: CH. CLASS 60

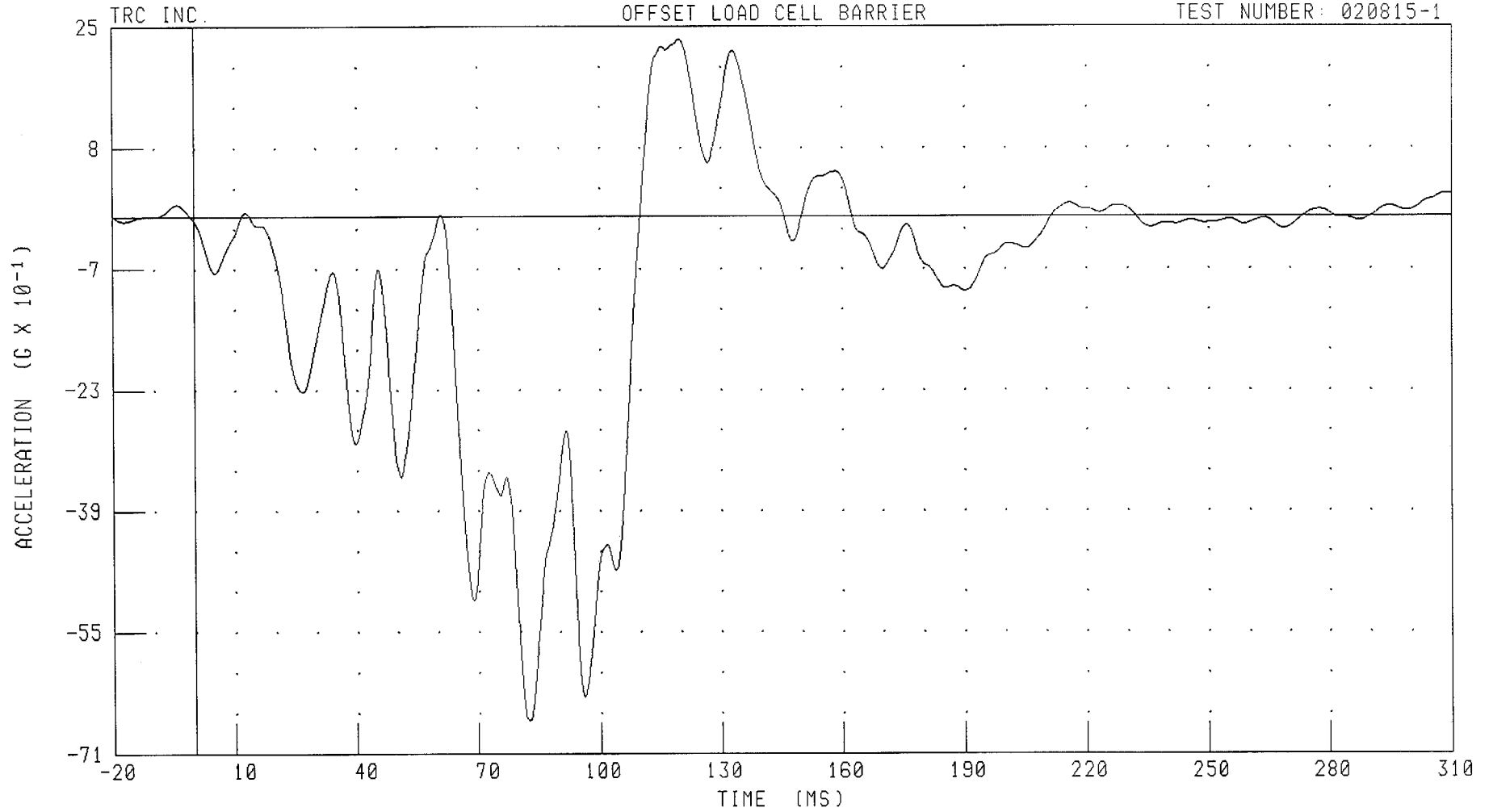
PEAK DATA: 0.71 G @ 197.60 MS; -26.84 G @ 94.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

RIGHT REAR SEAT CROSSMEMBER Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RRXYG1 FILTER: CH. CLASS 60

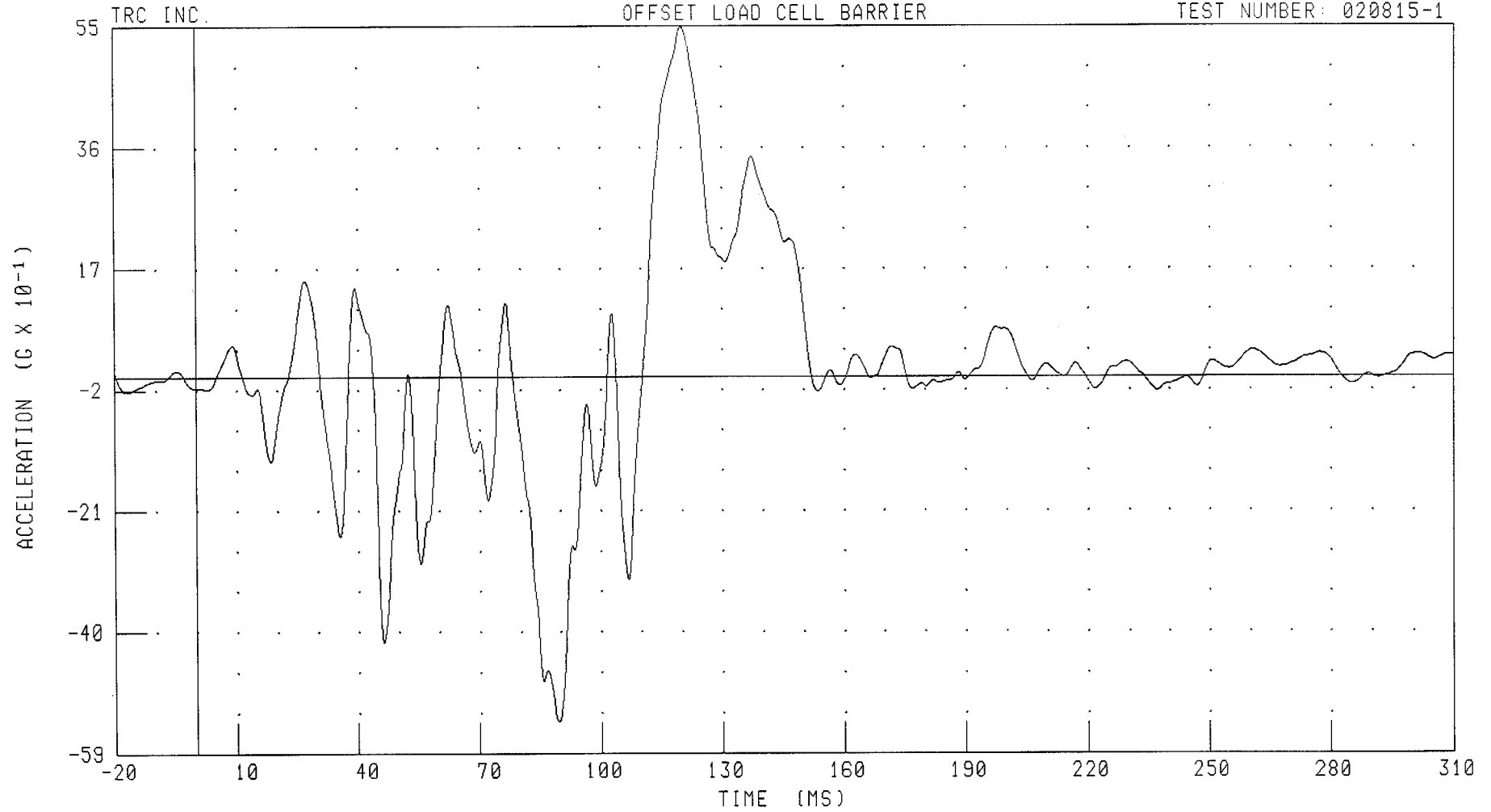
PEAK DATA: 2.33 G @ 119.92 MS, -6.66 G @ 82.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

RIGHT REAR SEAT CROSSMEMBER Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RRXZG1 FILTER: CH. CLASS 60

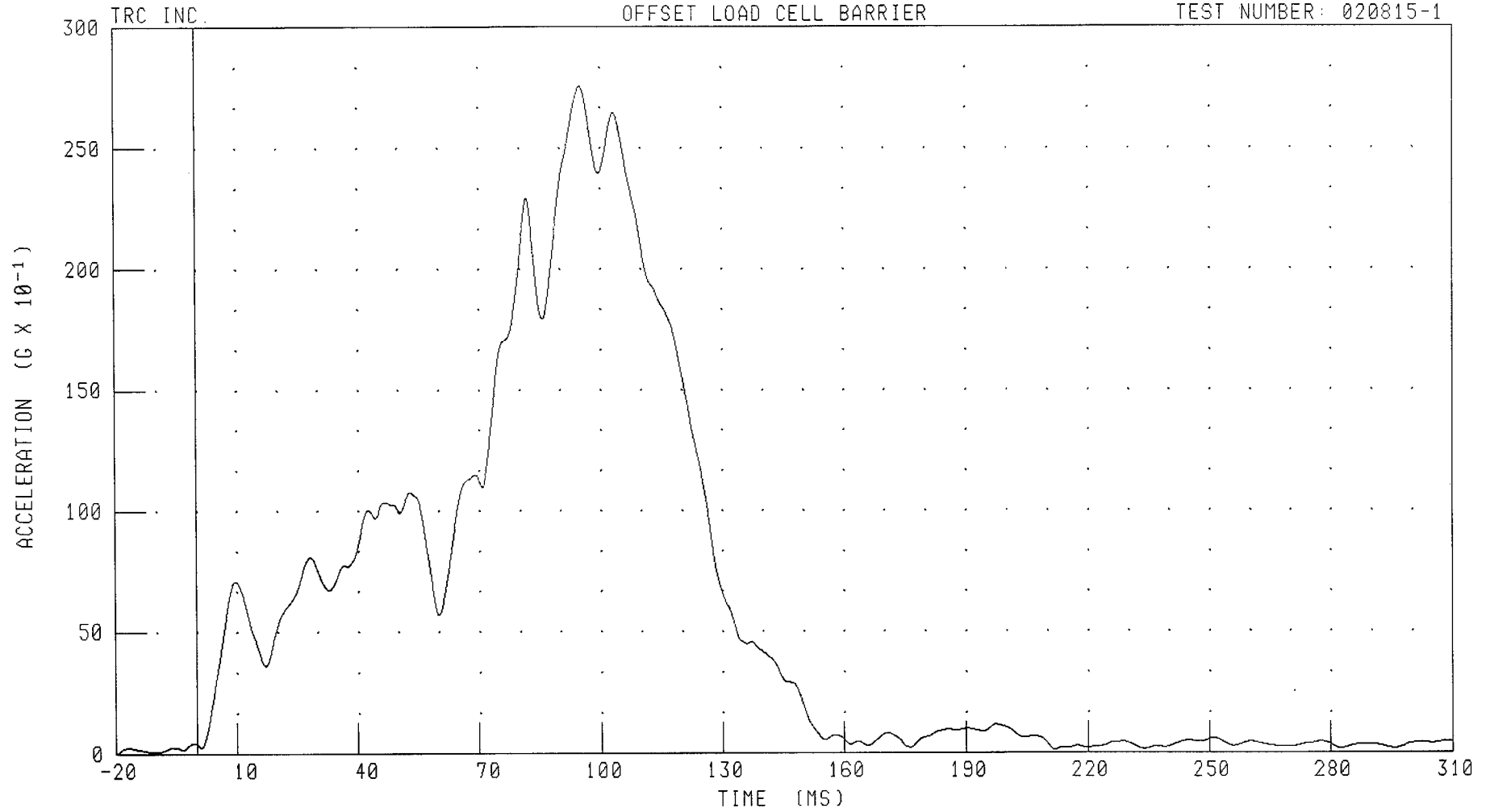
PEAK DATA: 5.48 G @ 120.24 MS; -5.41 G @ 89.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

RIGHT REAR SEAT CROSSMEMBER RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RRXRG1 FILTER: CH. CLASS 60

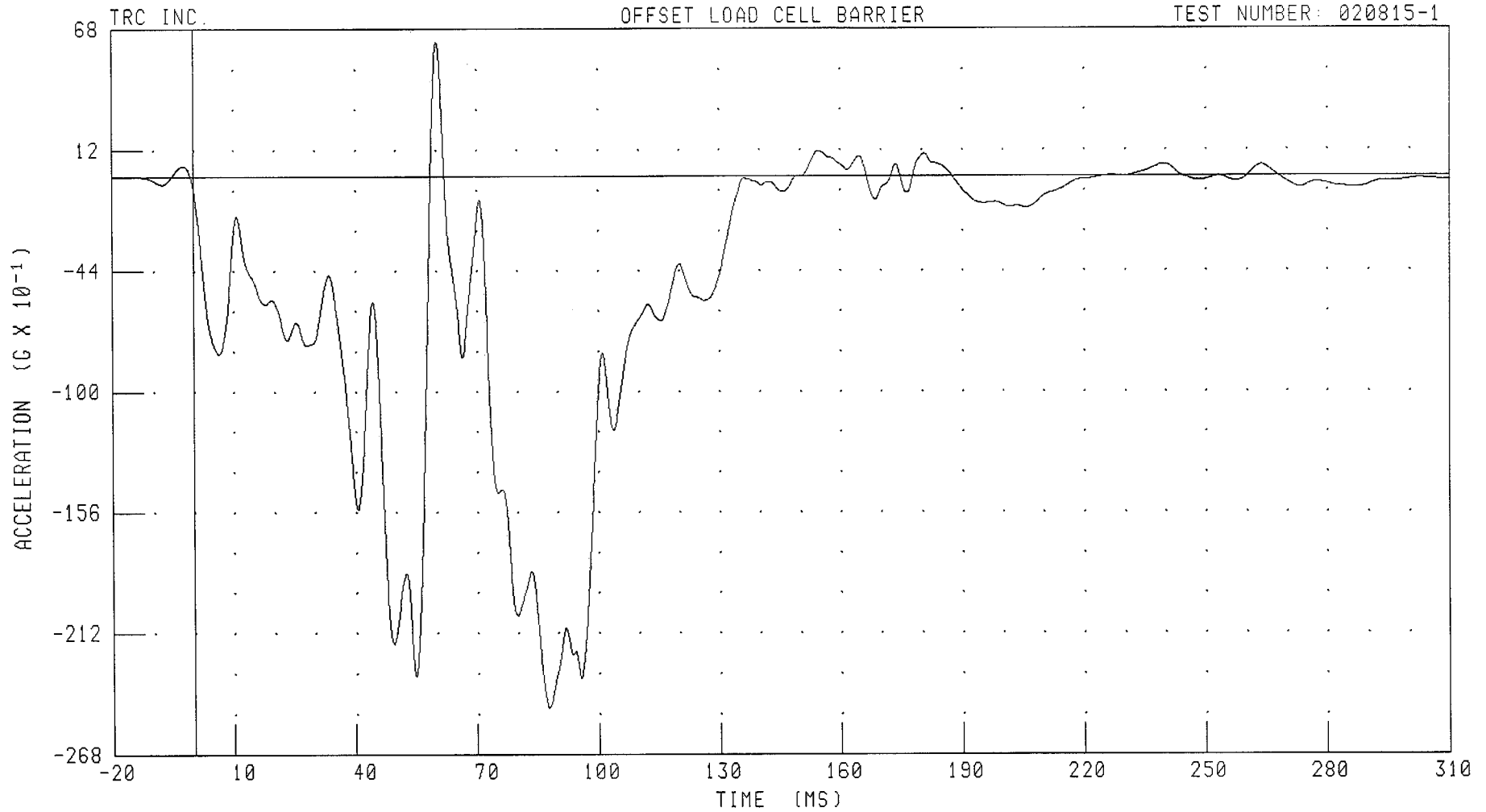
PEAK DATA: 27.55 G @ 95.04 MS; 0.02 G @ -19.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS LEFT SIDE TOE PAN X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LTPXG1 FILTER: CH. CLASS 60

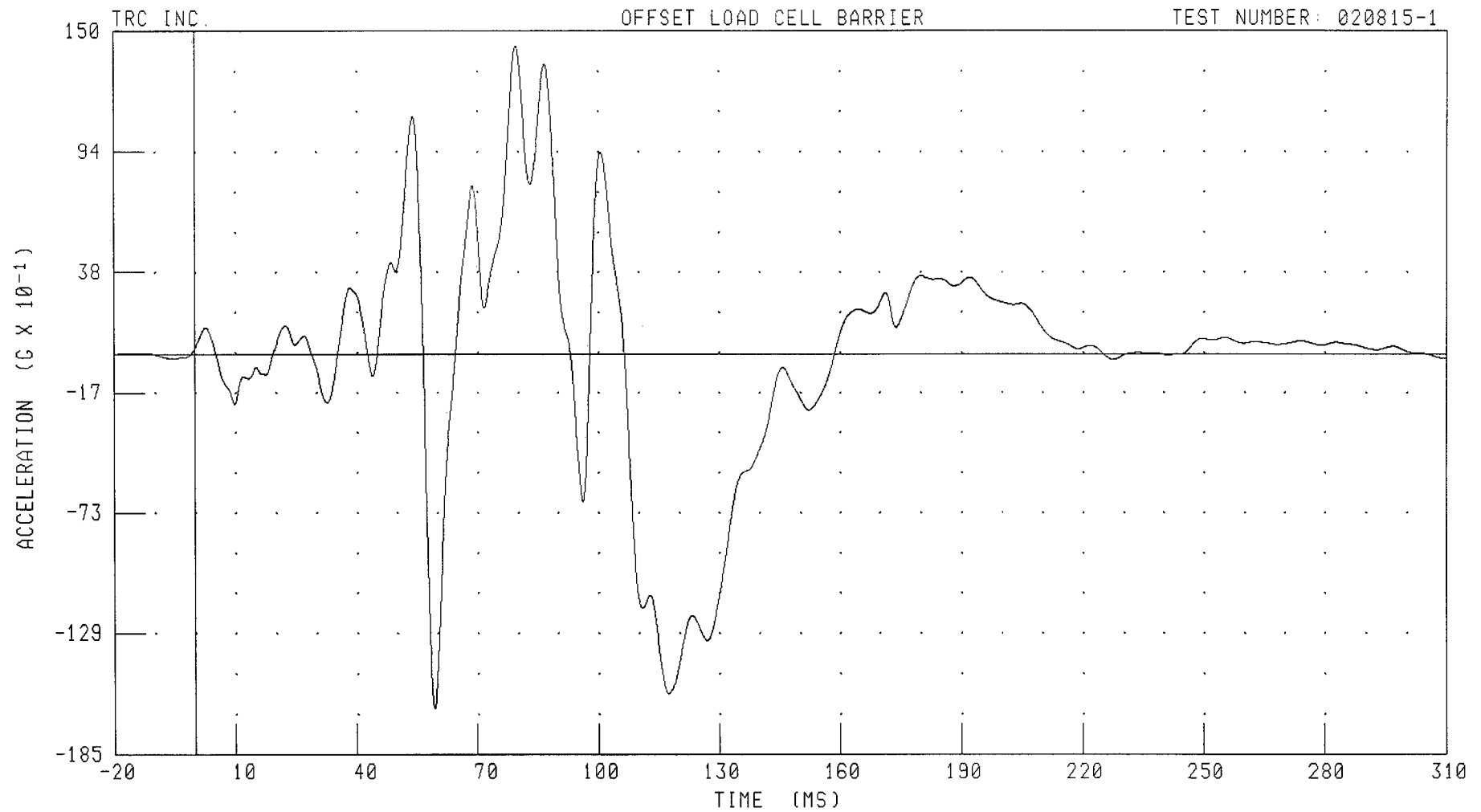
PEAK DATA: 6.20 G @ 60.32 MS, -24.65 G @ 87.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS LEFT SIDE TOE PAN Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LTPYG1 FILTER: CH. CLASS 60

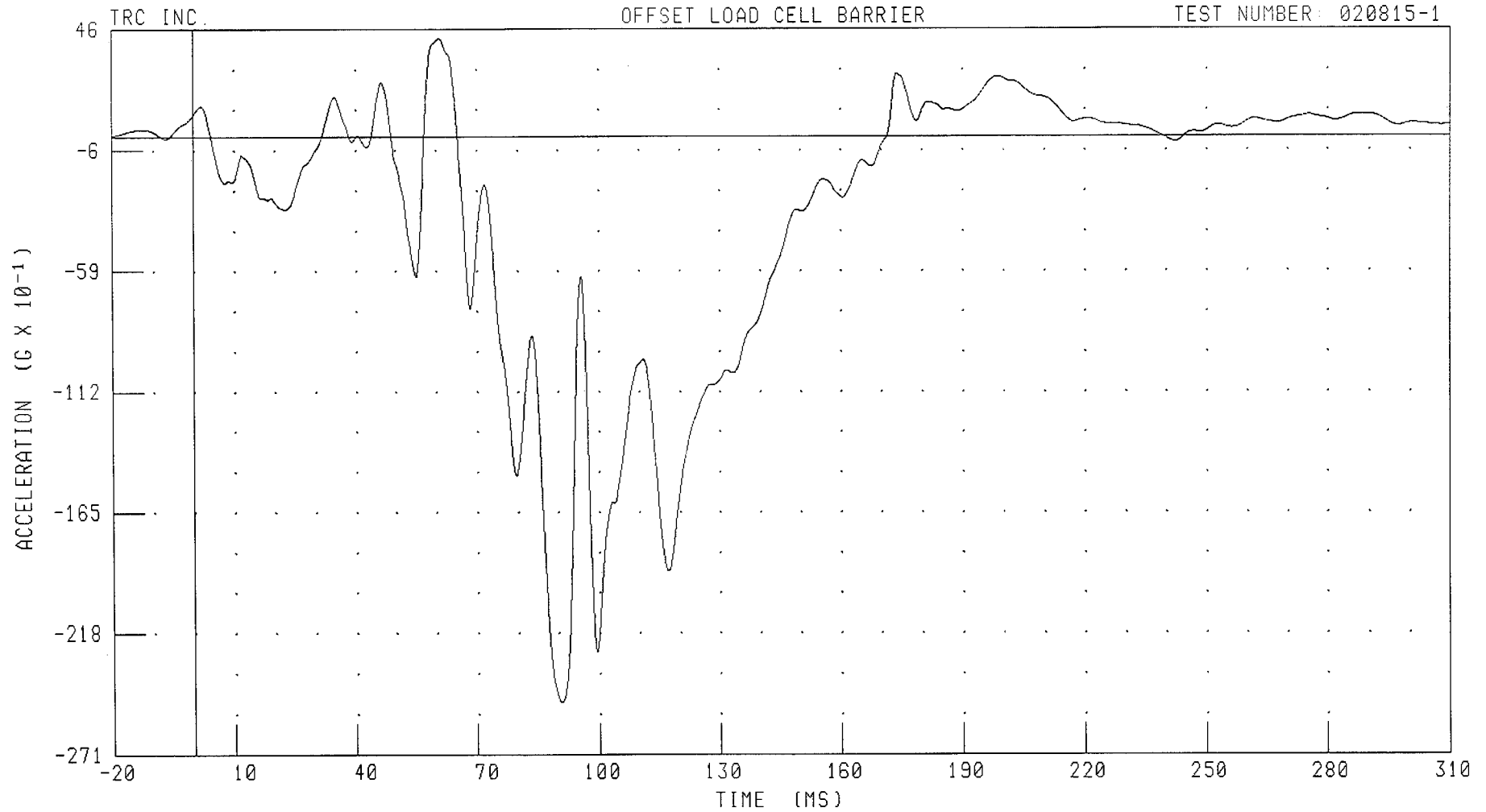
PEAK DATA: 14.29 G @ 79.60 MS, -16.48 G @ 59.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS LEFT SIDE TOE PAN Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LTPZG1 FILTER: CH. CLASS 60

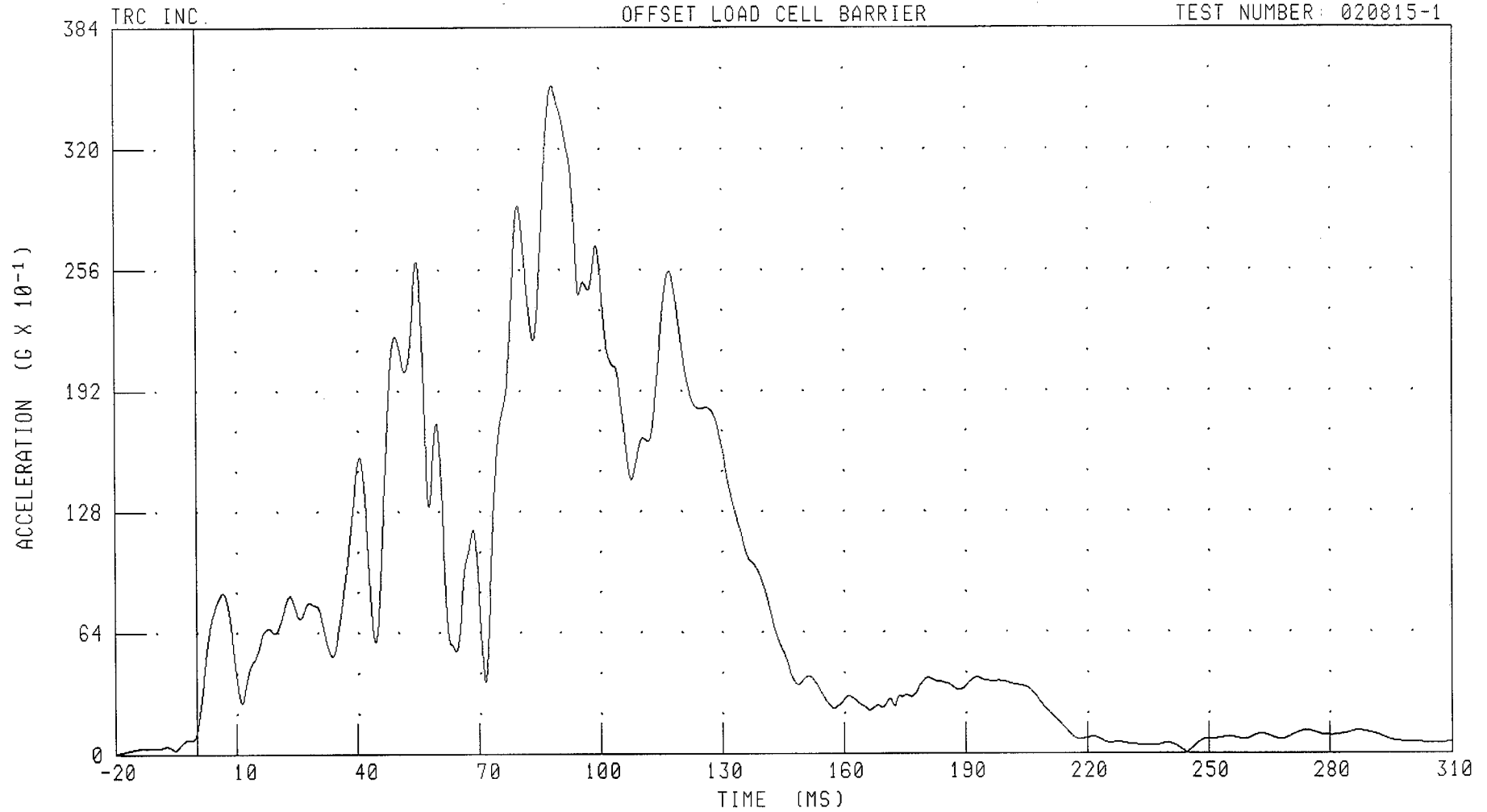
PEAK DATA: 4.32 G @ 60.96 MS; -24.81 G @ 90.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS LEFT SIDE TOE PAN RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LTPRG1 FILTER: CH. CLASS 60

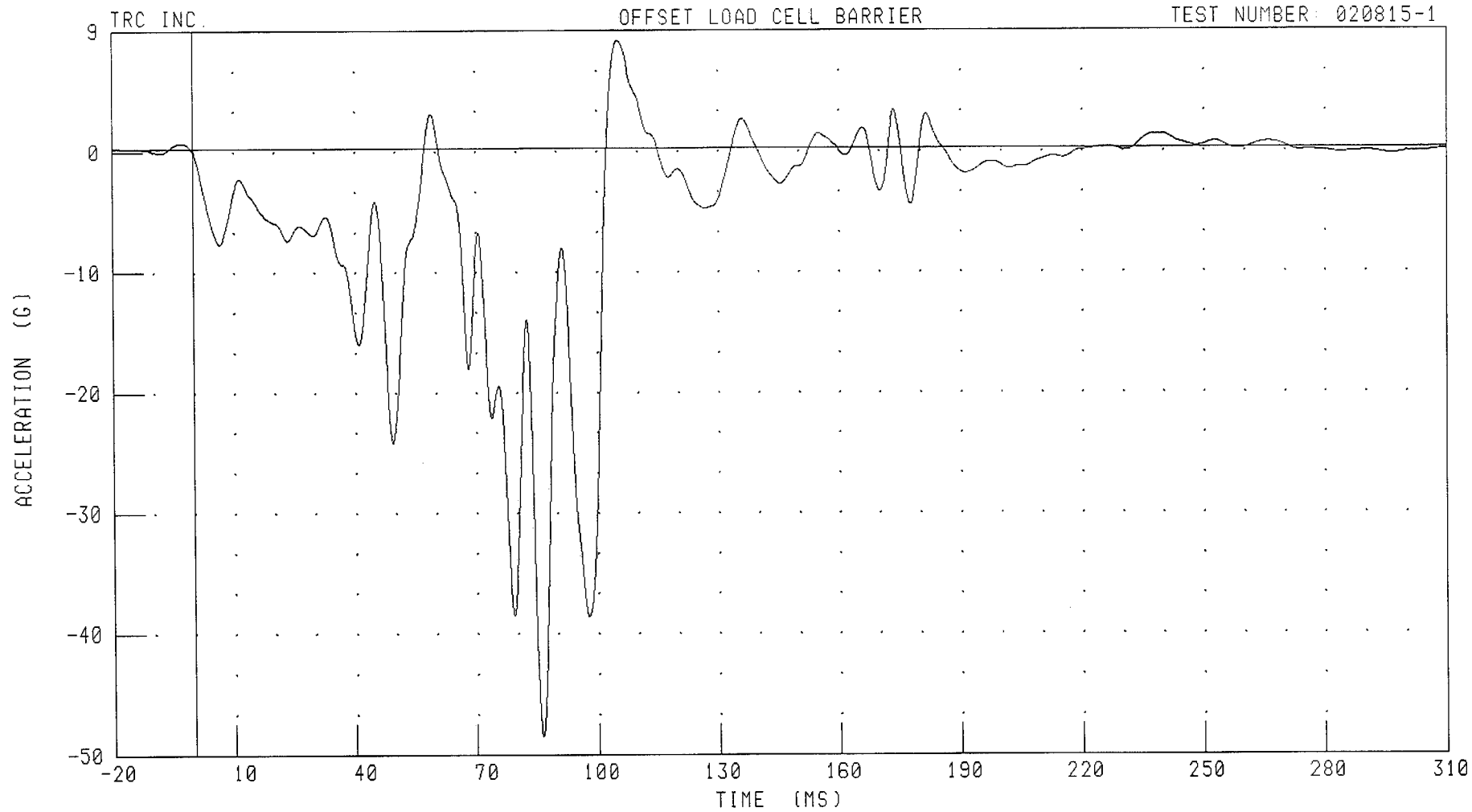
PEAK DATA: 35.34 G @ 88.24 MS; 0.03 G @ 244.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS RIGHT SIDE TOE PAN X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RTPXC1 FILTER: CH. CLASS 60

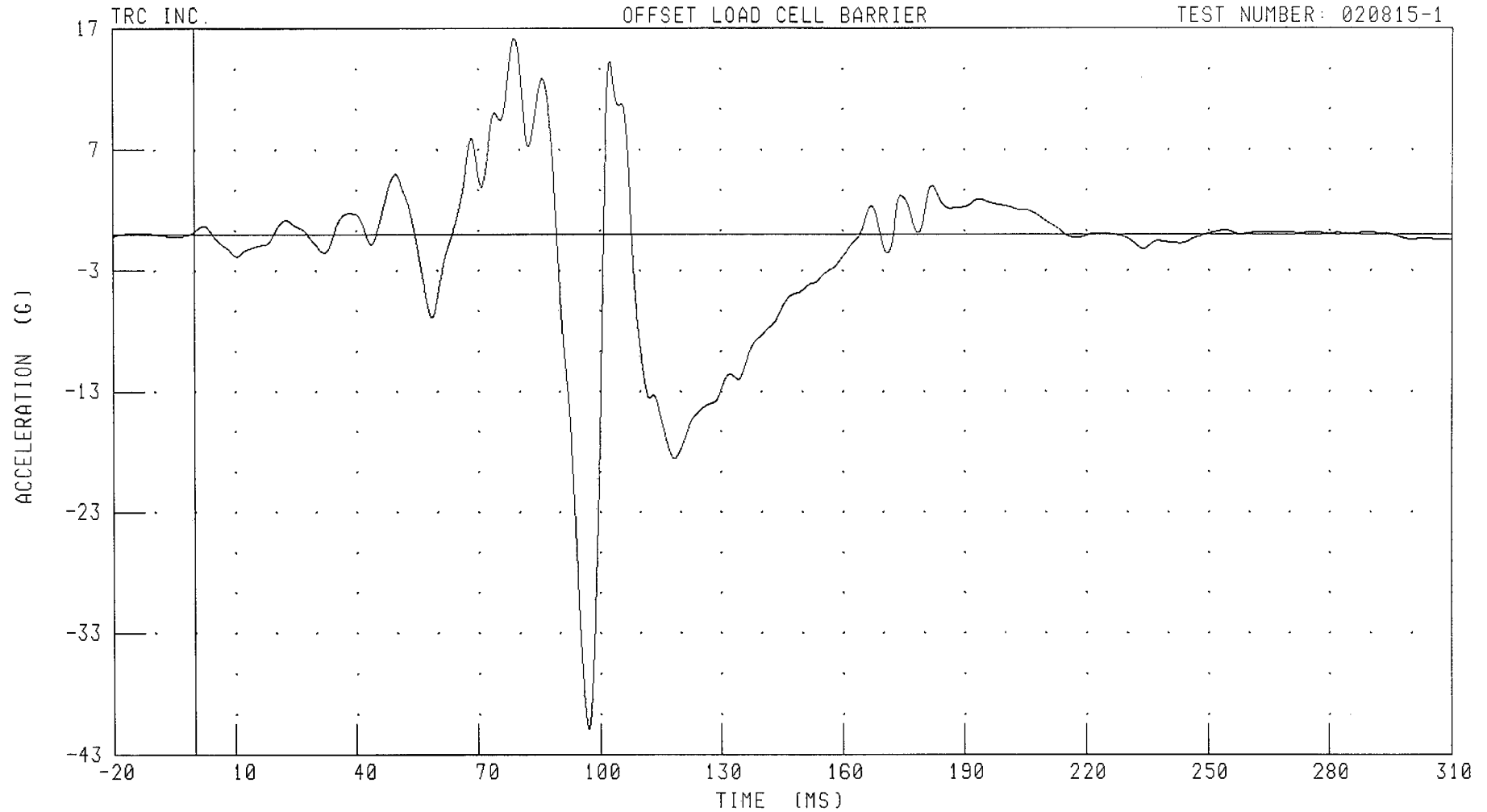
PEAK DATA: 8.85 G @ 105.36 MS; -48.76 G @ 86.24 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS RIGHT SIDE TOE PAN Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RTPYG1

FILTER: CH. CLASS 60

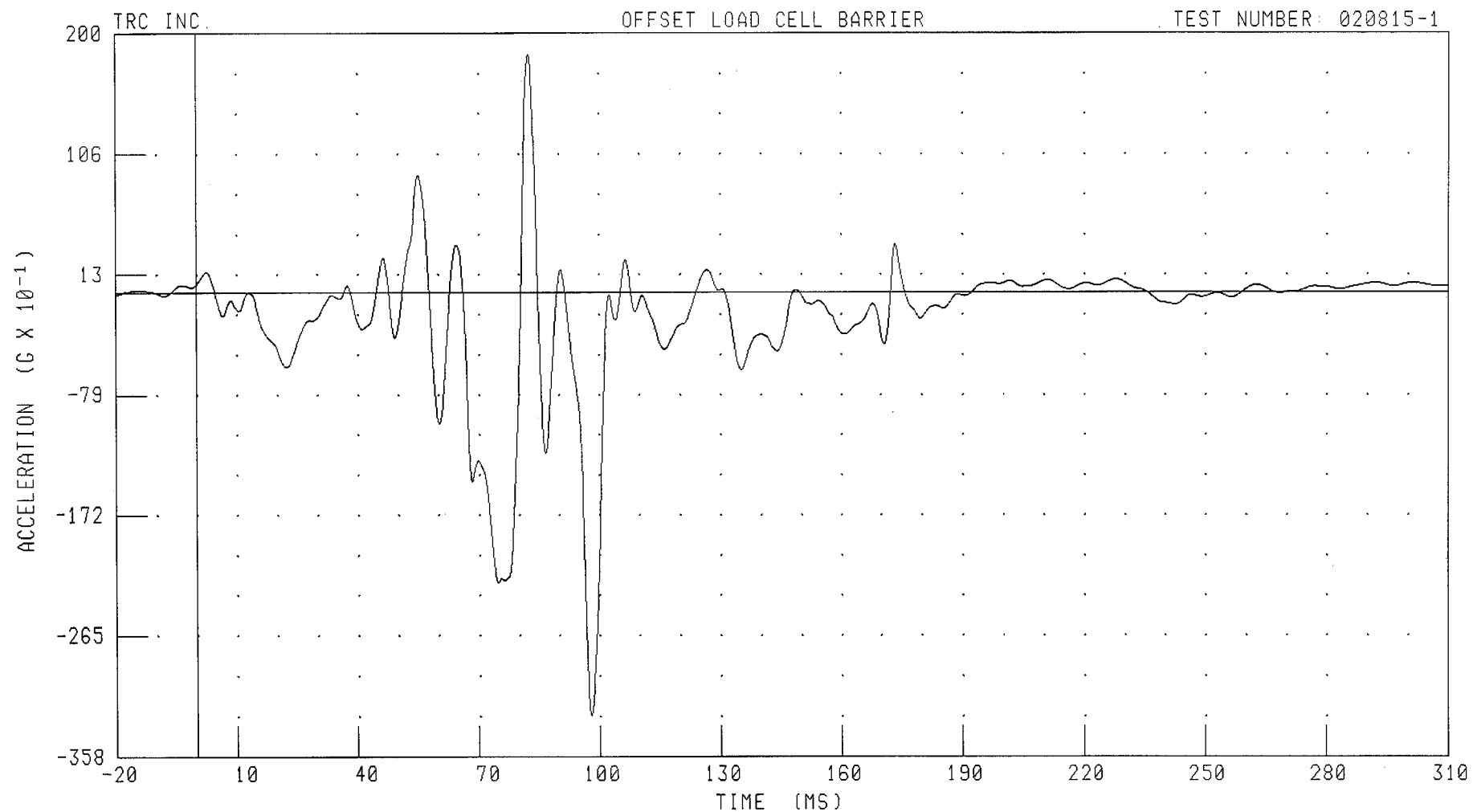
PEAK DATA: 16.16 G @ 78.96 MS; -40.92 G @ 97.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS RIGHT SIDE TOE PAN Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RTPZG1 FILTER: CH. CLASS 60

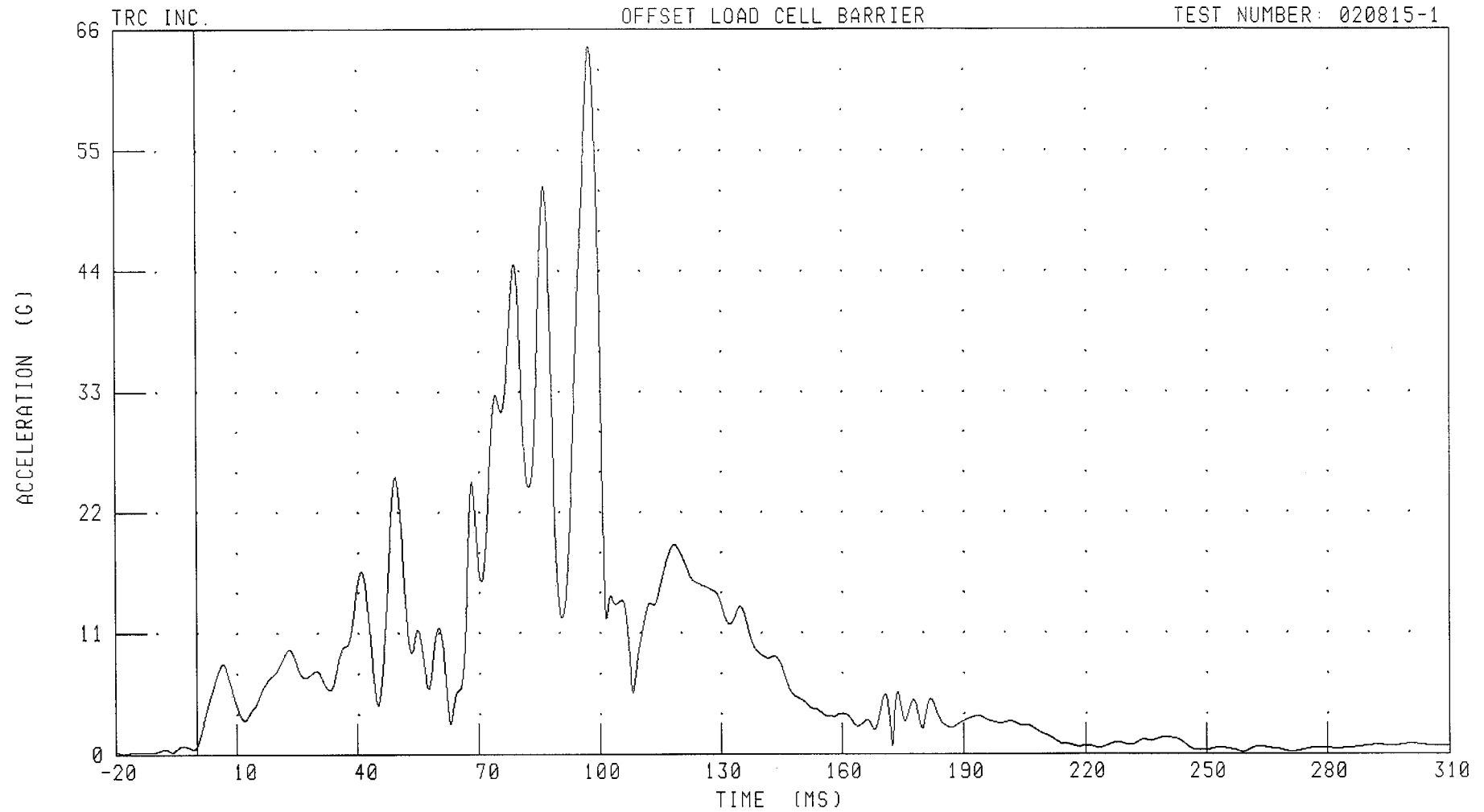
PEAK DATA: 18.34 G @ 82.56 MS; -32.64 G @ 98.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVERS RIGHT SIDE TOE PAN RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1

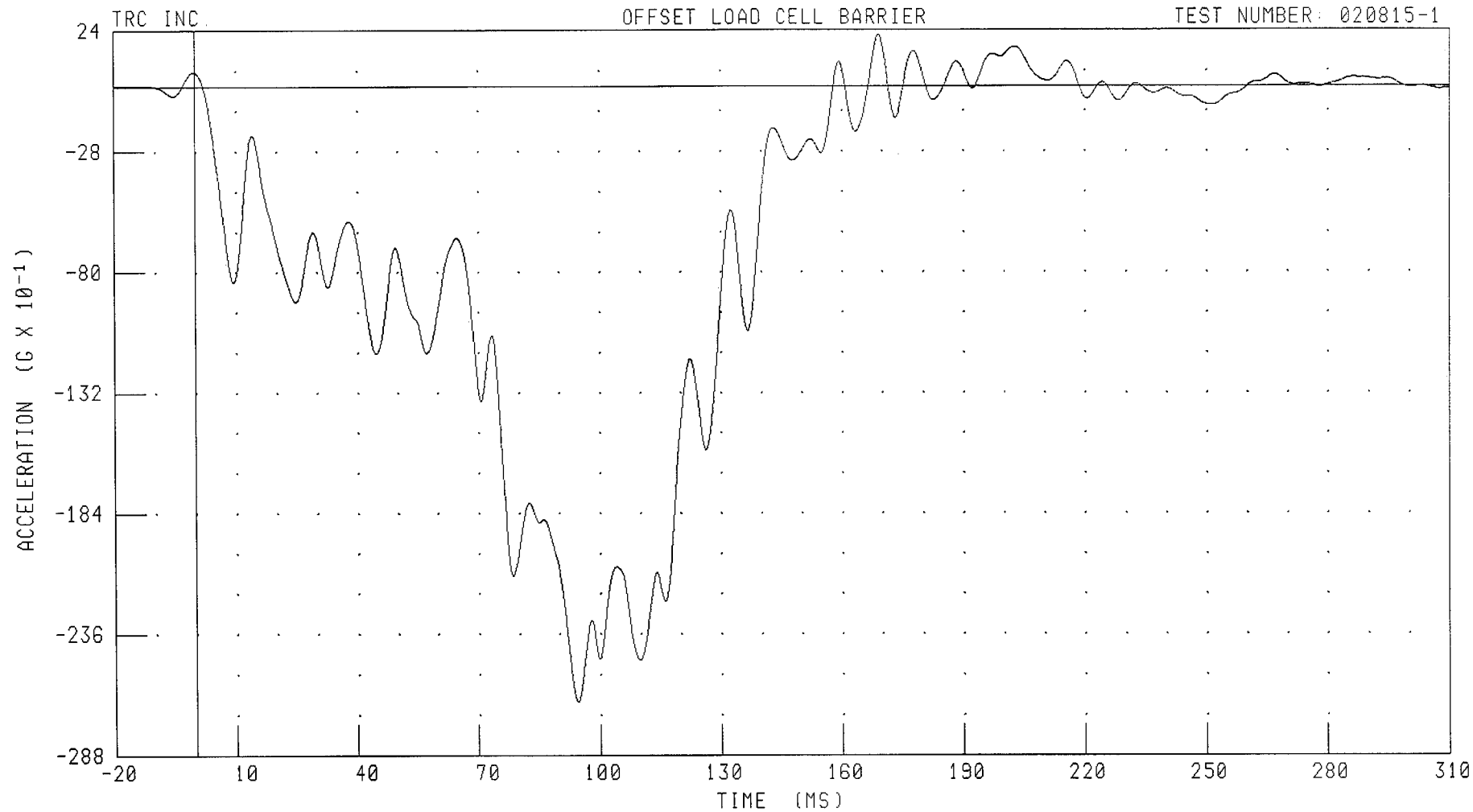


2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY X-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGXG1 FILTER: CH. CLASS 60

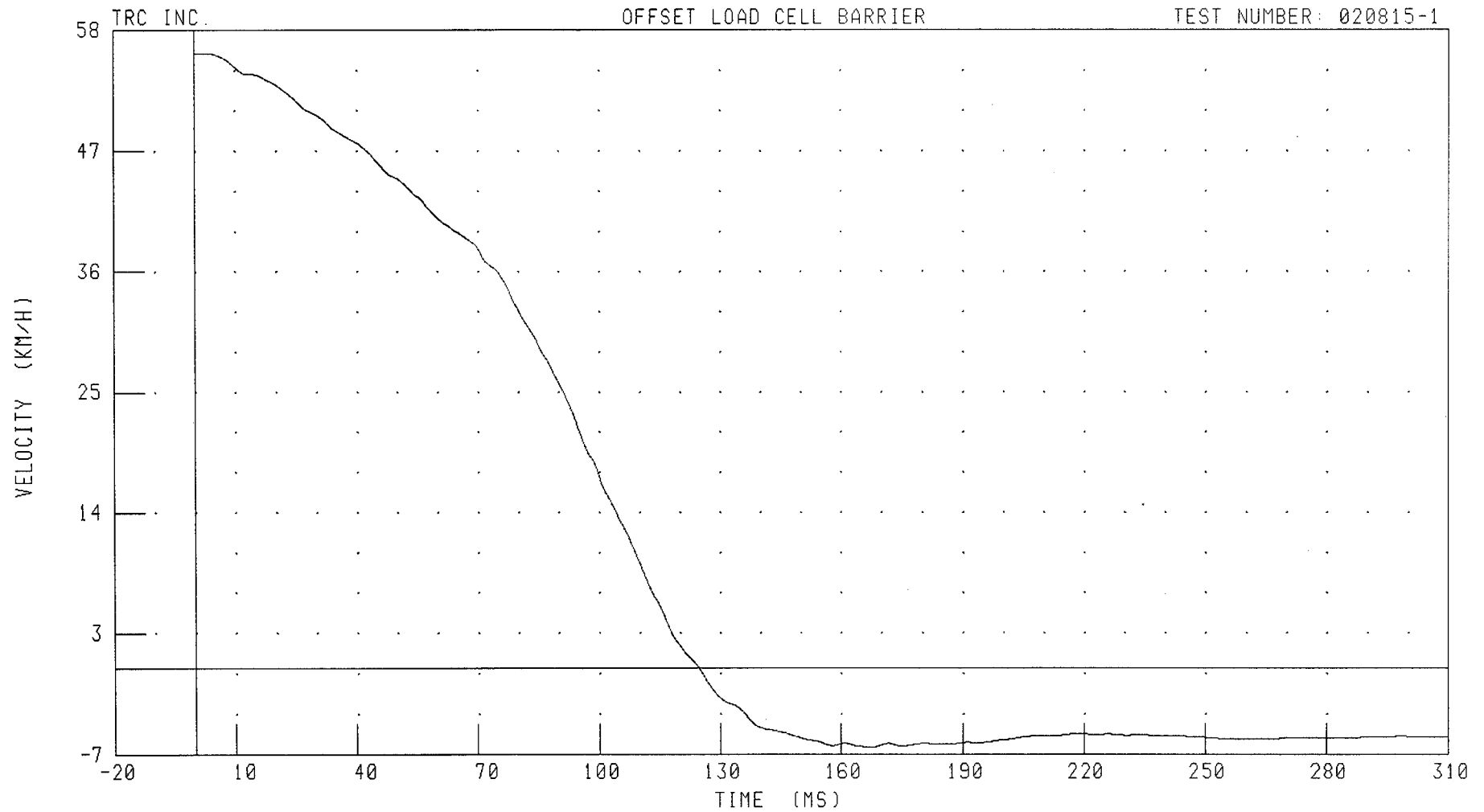
PEAK DATA: 2.19 G @ 169.36 MS; -26.54 G @ 94.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY X-AXIS VELOCITY

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGXV1 FILTER: CH. CLASS 180

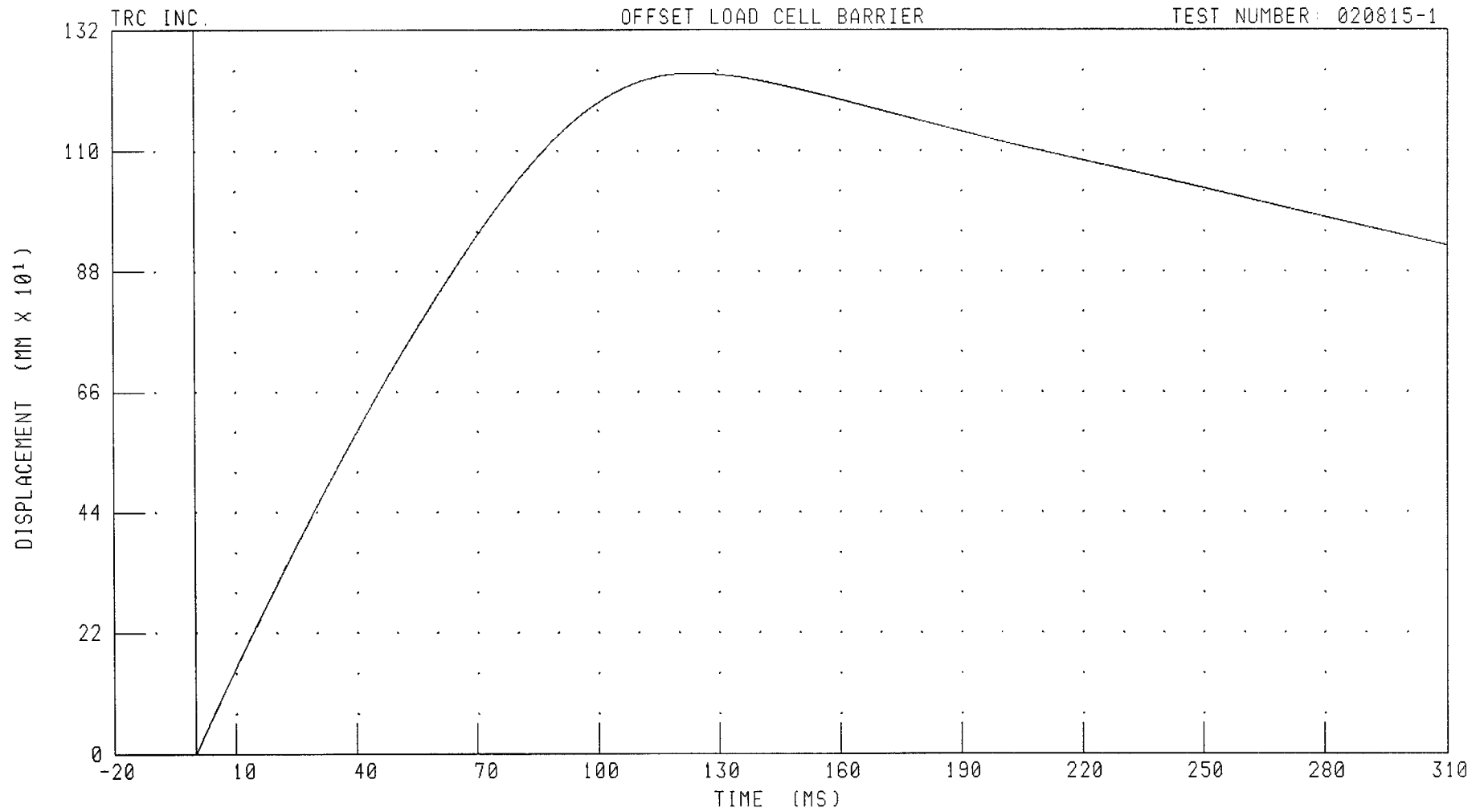
PEAK DATA: 56.12 KM/H @ 2.24 MS; -7.18 KM/H @ 167.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY X-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGXD1 FILTER: CH. CLASS 180

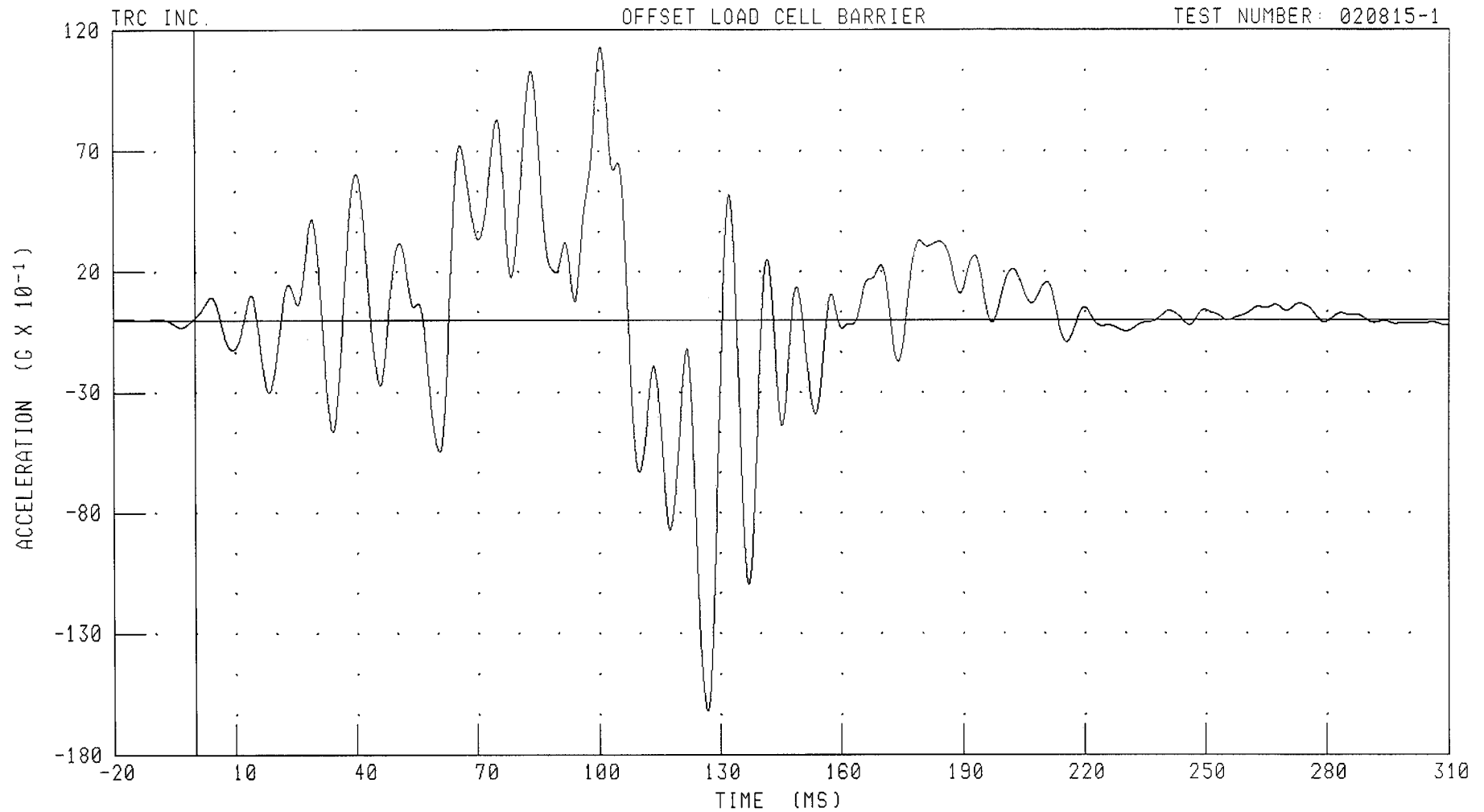
PEAK DATA: 1241.23 MM @ 124.88 MS; 0.00 MM @ 0.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY Y-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGYG1 FILTER: CH. CLASS 60

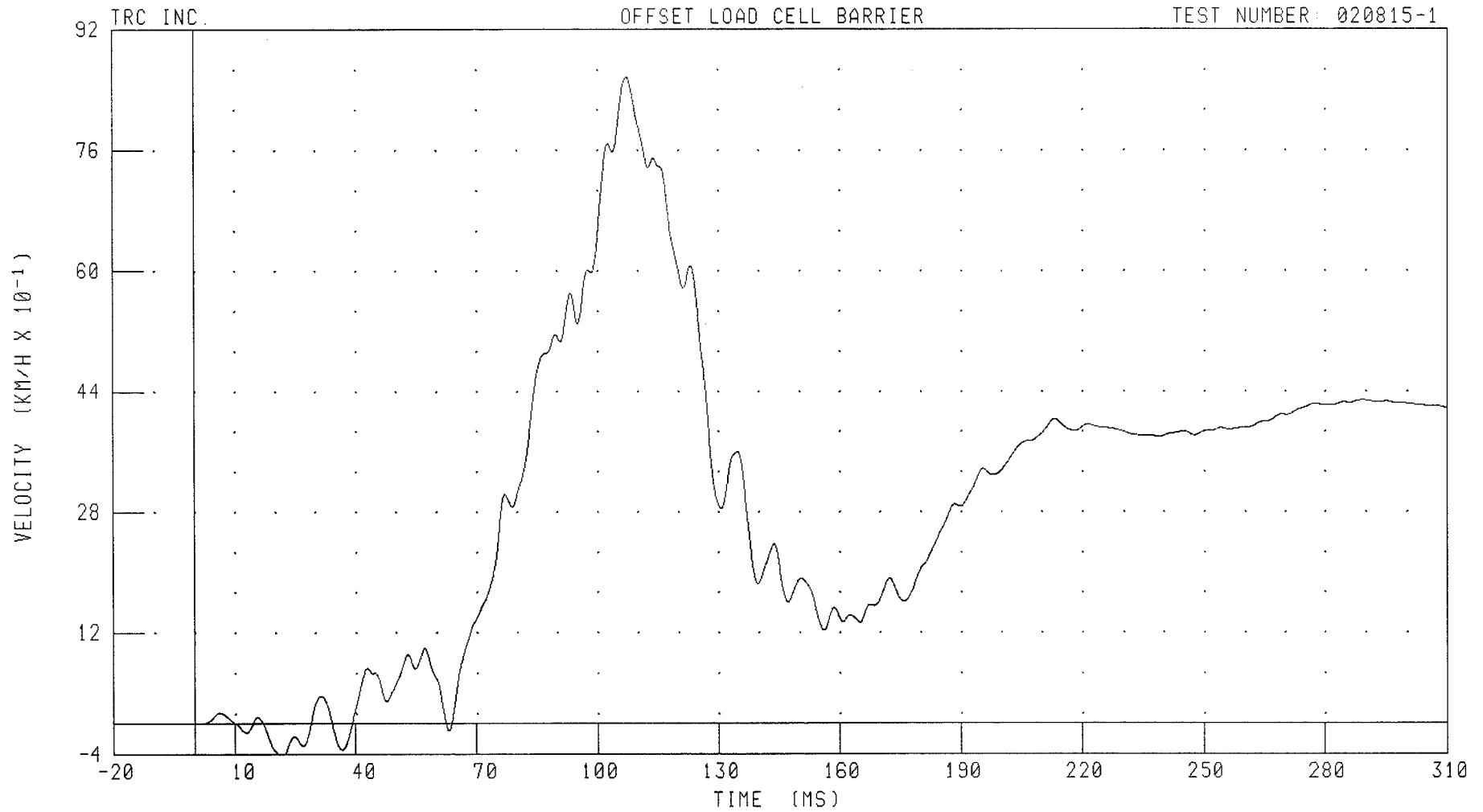
PEAK DATA: 11.27 G @ 100.64 MS; -16.19 G @ 126.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY Y-AXIS VELOCITY

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



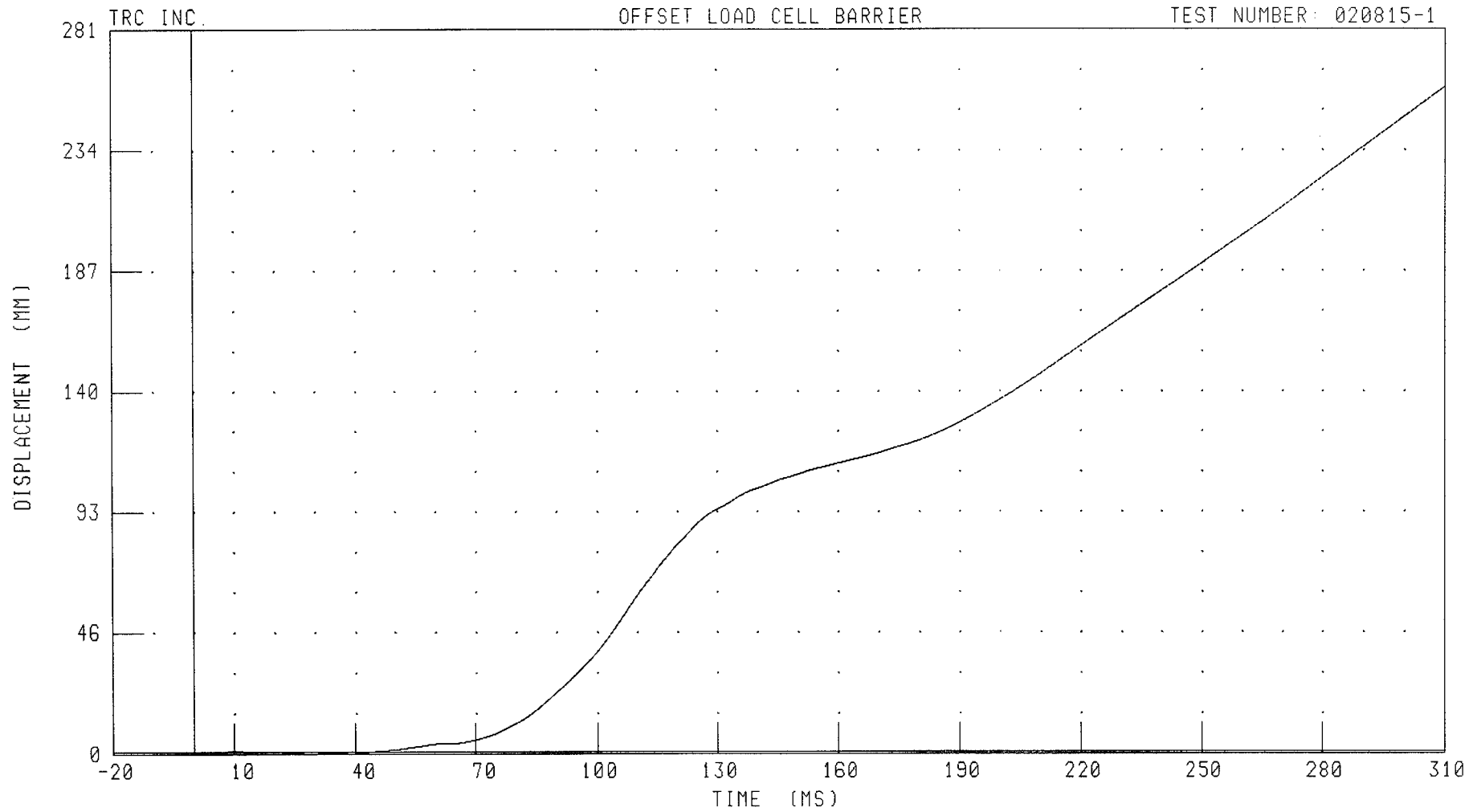
CHANNEL: VCGYV1 FILTER: CH. CLASS 180

PEAK DATA: 8.57 KM/H @ 107.36 MS; -0.45 KM/H @ 21.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
VEHICLE CENTER OF GRAVITY Y-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



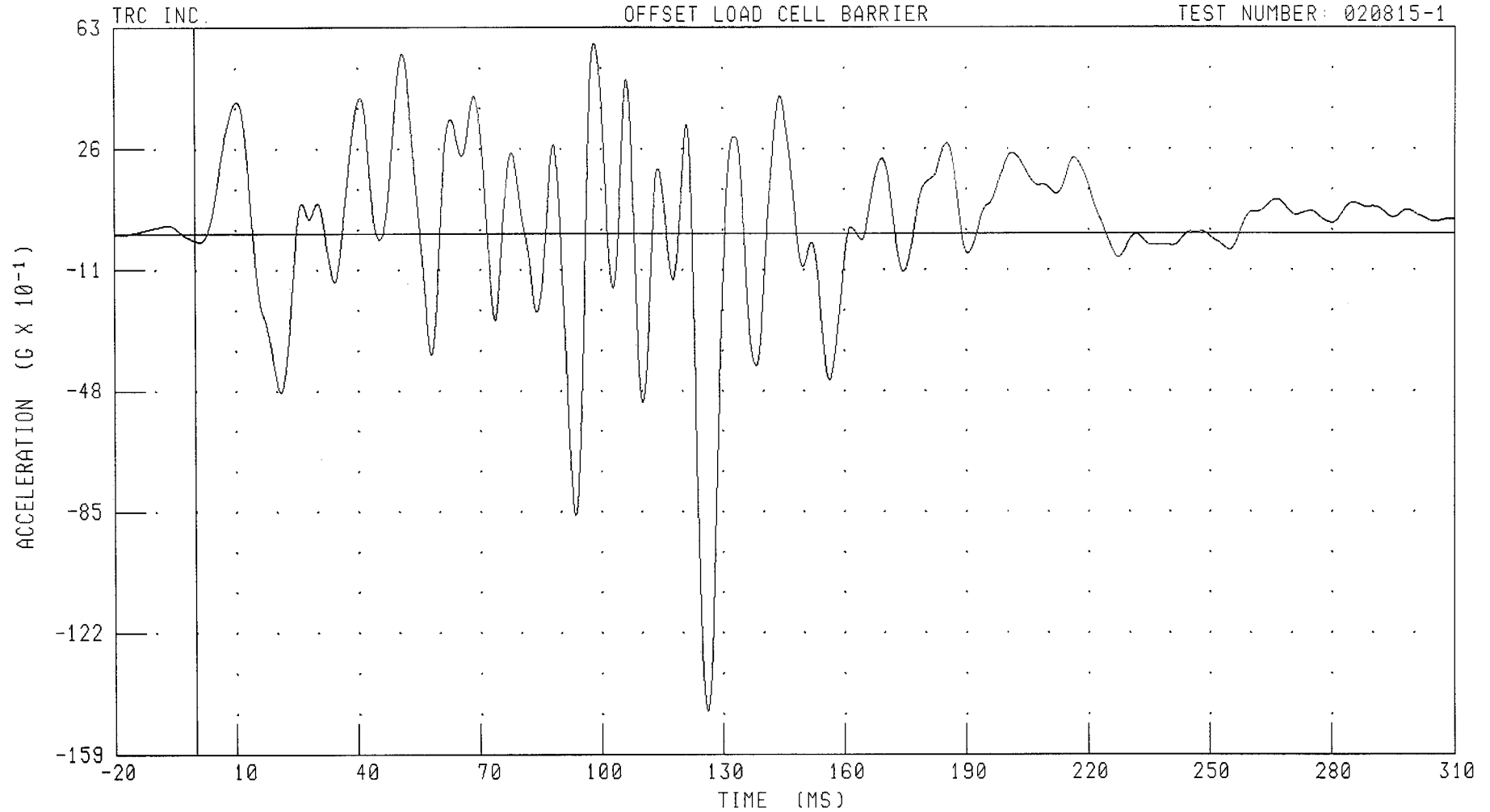
CHANNEL: VCGYD1 FILTER: CH. CLASS 180

PEAK DATA: 258.92 MM @ 310.00 MS; -0.73 MM @ 28.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H
VEHICLE CENTER OF GRAVITY Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGZG1 FILTER: CH. CLASS 60

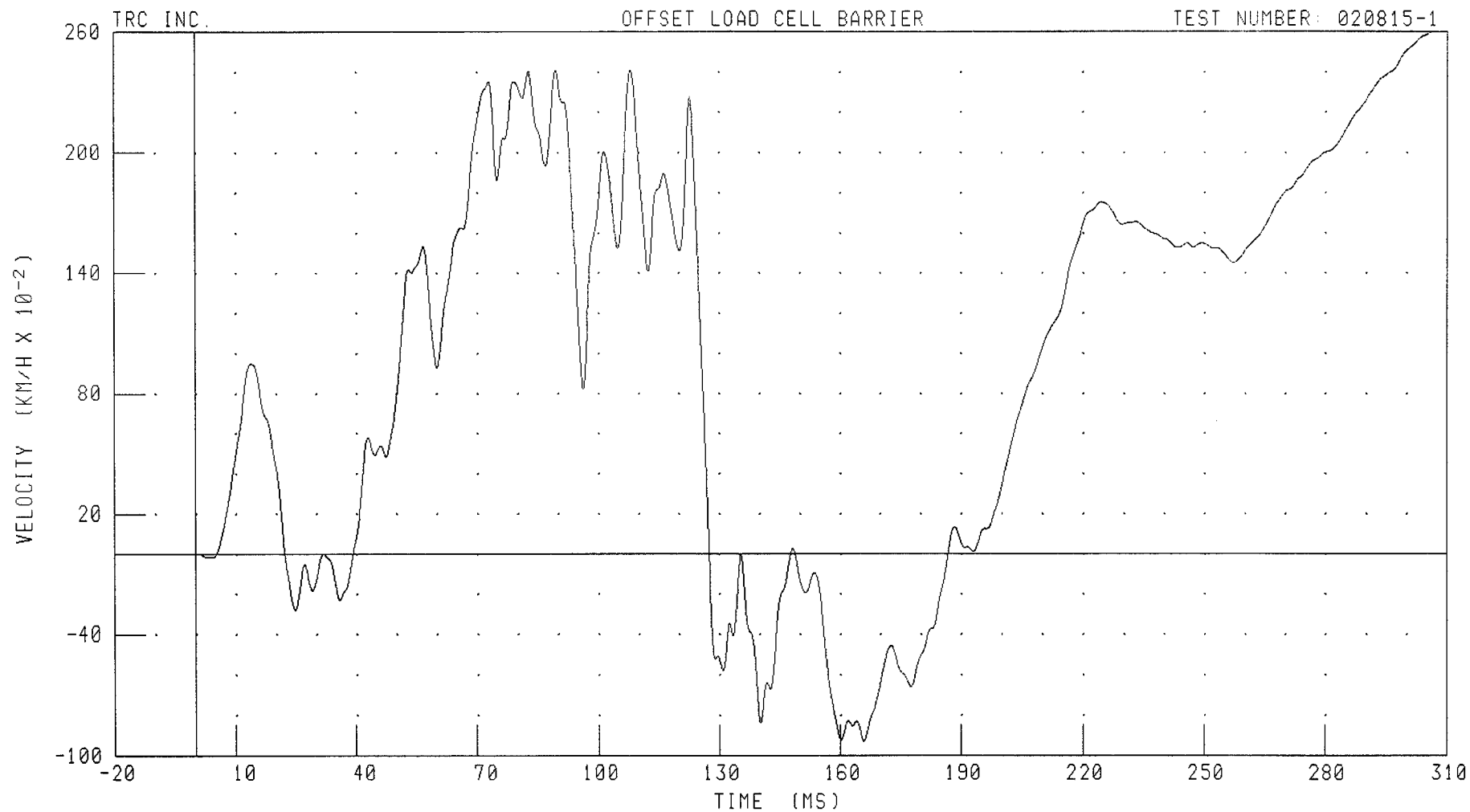
PEAK DATA: 5.81 G @ 98.48 MS; -14.58 G @ 126.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY Z-AXIS VELOCITY

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGZV1 FILTER: CH. CLASS 180

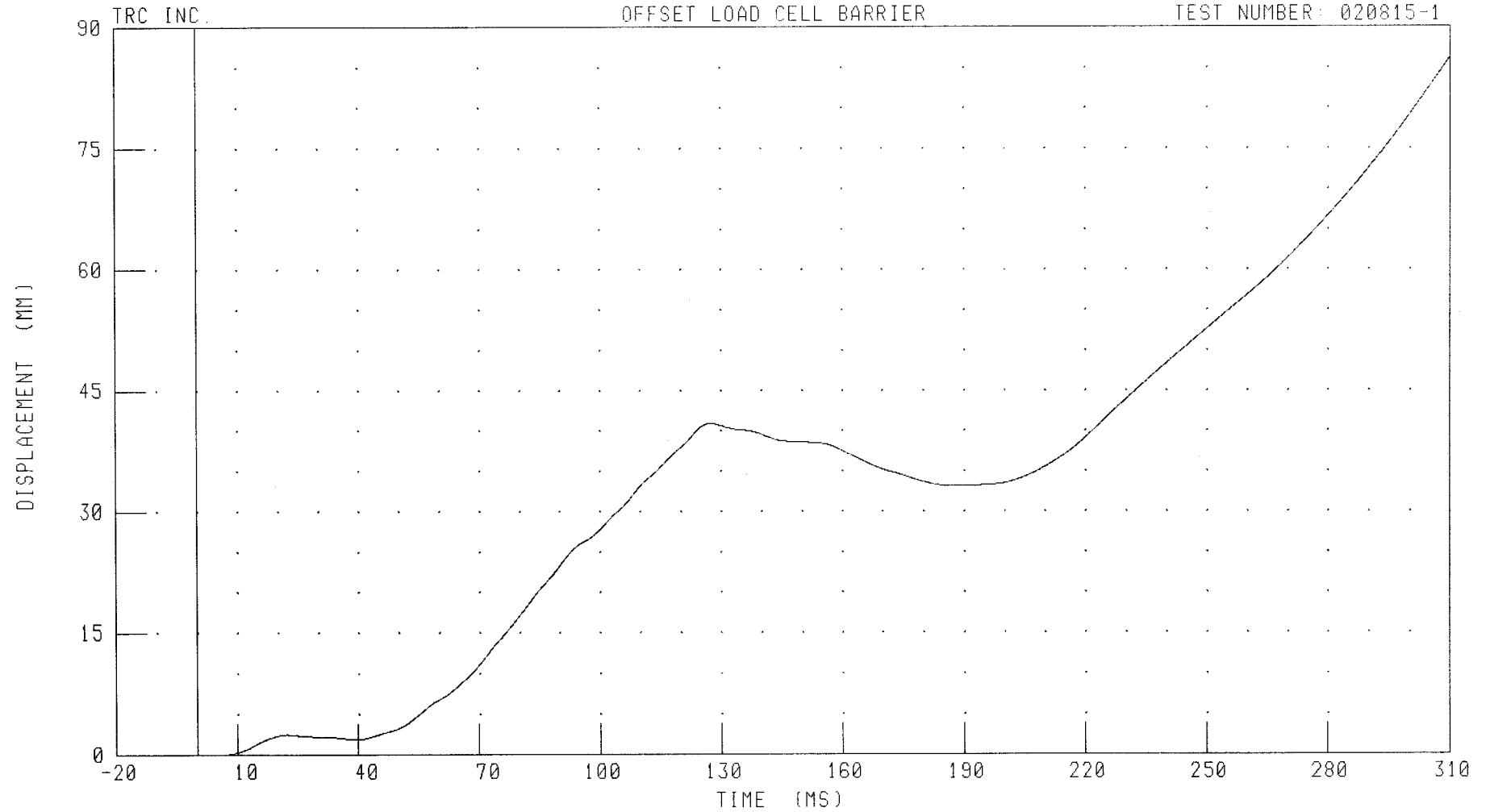
PEAK DATA: 2.67 KM/H @ 310.00 MS; -0.93 KM/H @ 165.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY Z-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGZD1 FILTER: CH. CLASS 180

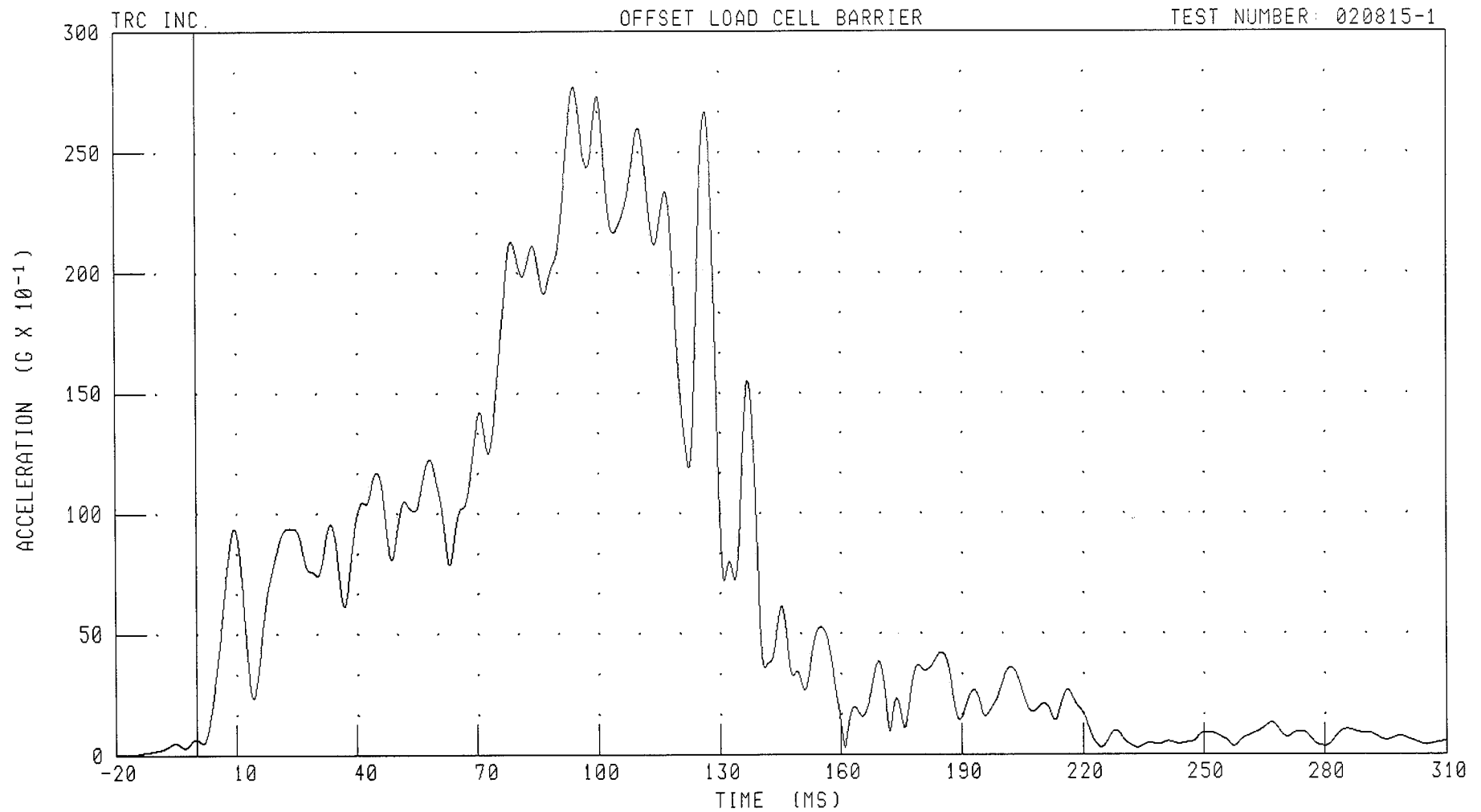
PEAK DATA: 86.31 MM @ 310.00 MS; -0.01 MM @ 5.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

VEHICLE CENTER OF GRAVITY RESULTANT ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: VCGRG1 FILTER: CH. CLASS 60

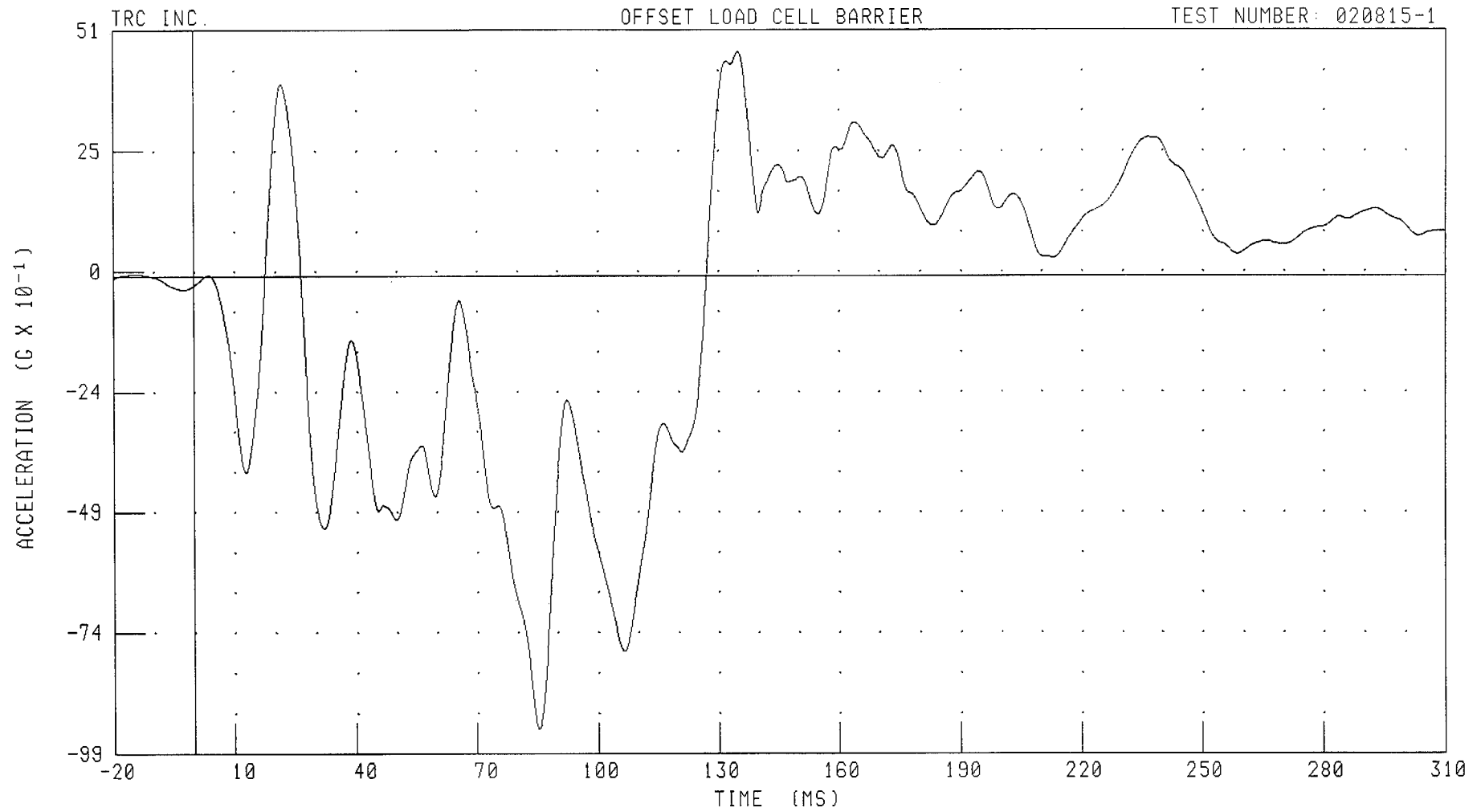
PEAK DATA: 27.71 G @ 94.24 MS; 0.02 G @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

REAR DECK Z-AXIS ACCELERATION

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: RDKZG1 FILTER: CH. CLASS 60

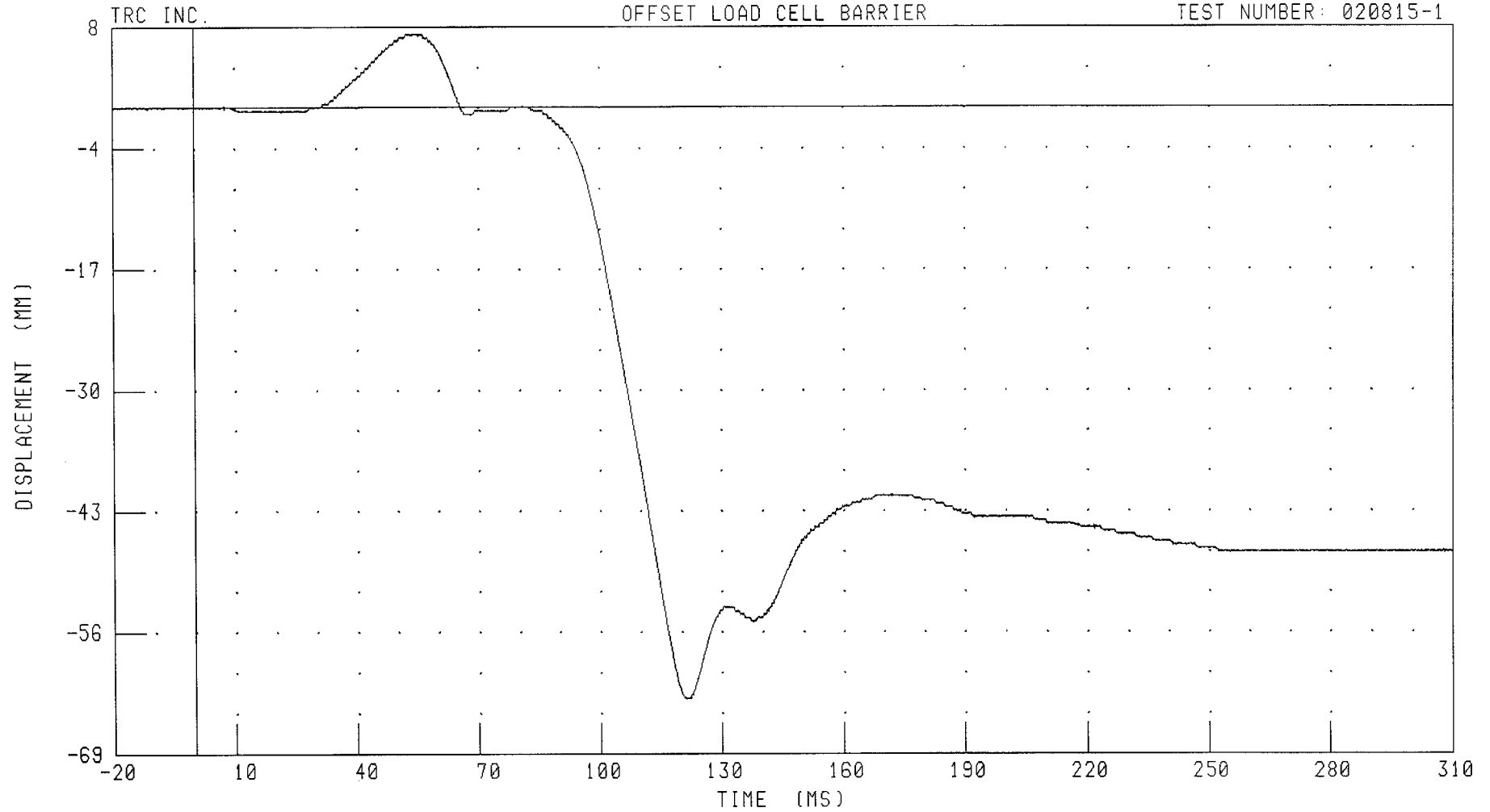
PEAK DATA: 4.65 G @ 135.12 MS; -9.39 G @ 85.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

TOE PAN X-AXIS DISPLACEMENT

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: TPDxD1 FILTER: CH. CLASS 1000

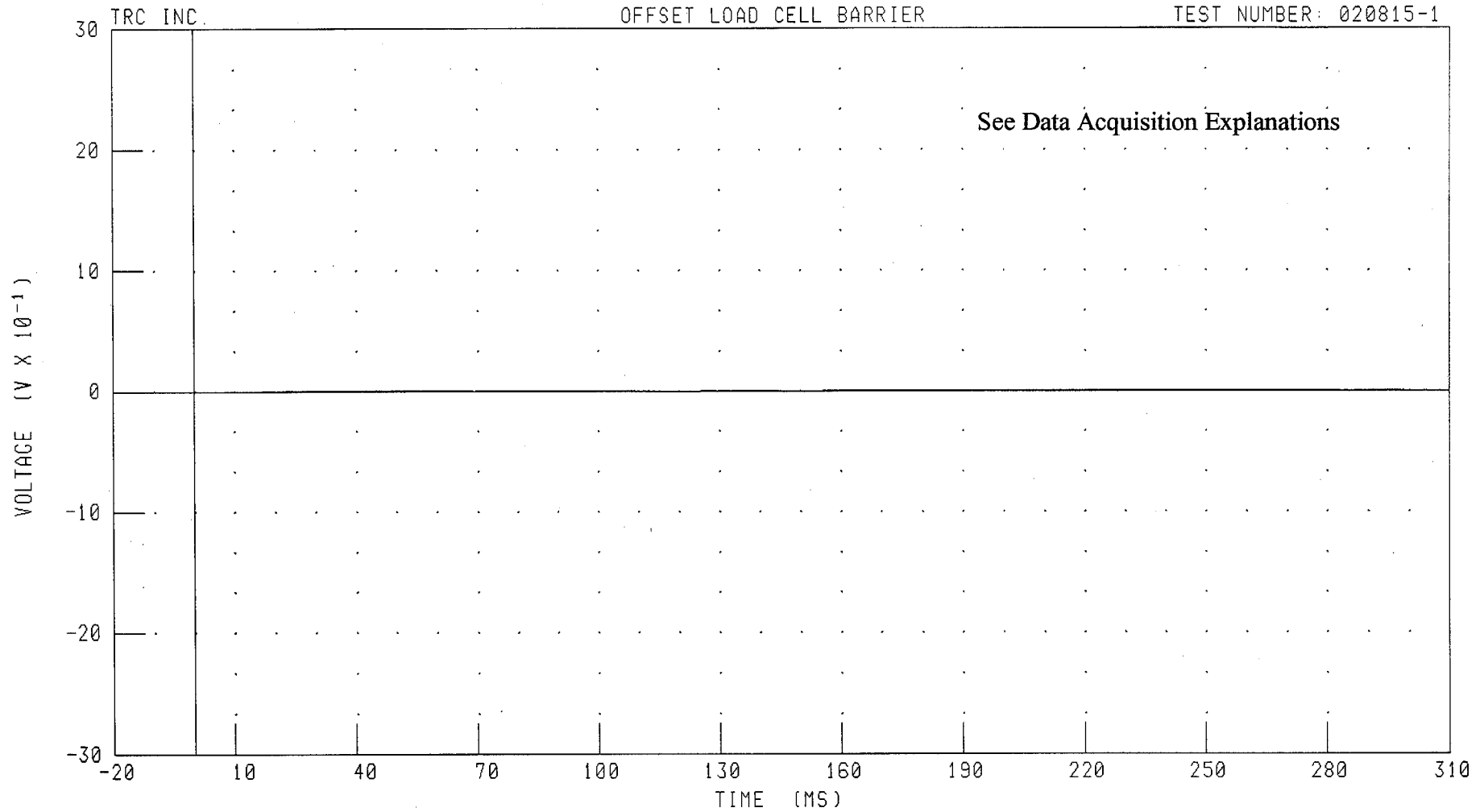
PEAK DATA: 7.91 MM @ 54.48 MS; -63.54 MM @ 121.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER AIRBAG EVENT - WIRE A

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: DABETA FILTER: CH. CLASS 1000

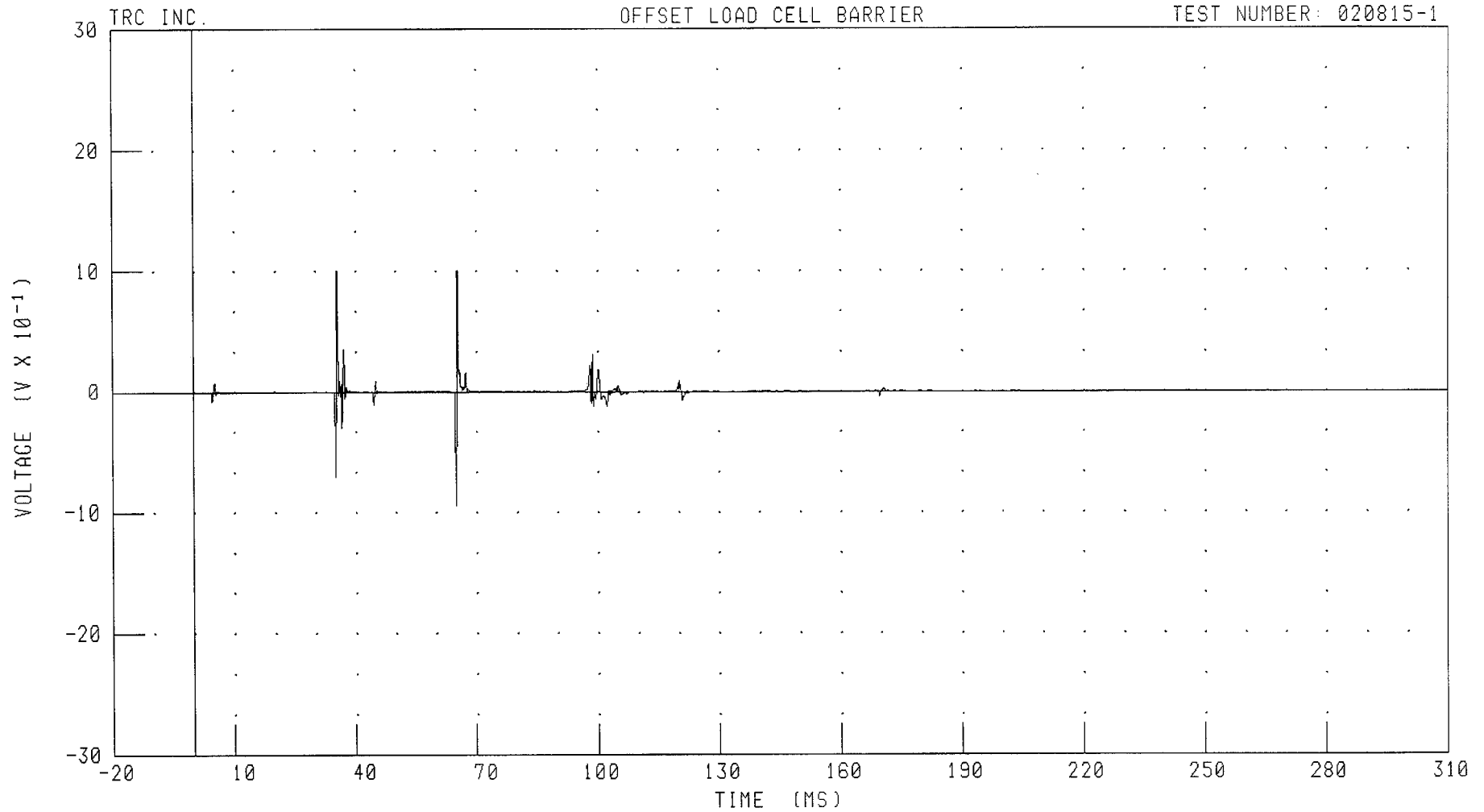
PEAK DATA: 0.00 V @ 215.12 MS; 0.00 V @ -11.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER AIRBAG EVENT - WIRE B

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: DABETB FILTER: CH. CLASS 1000

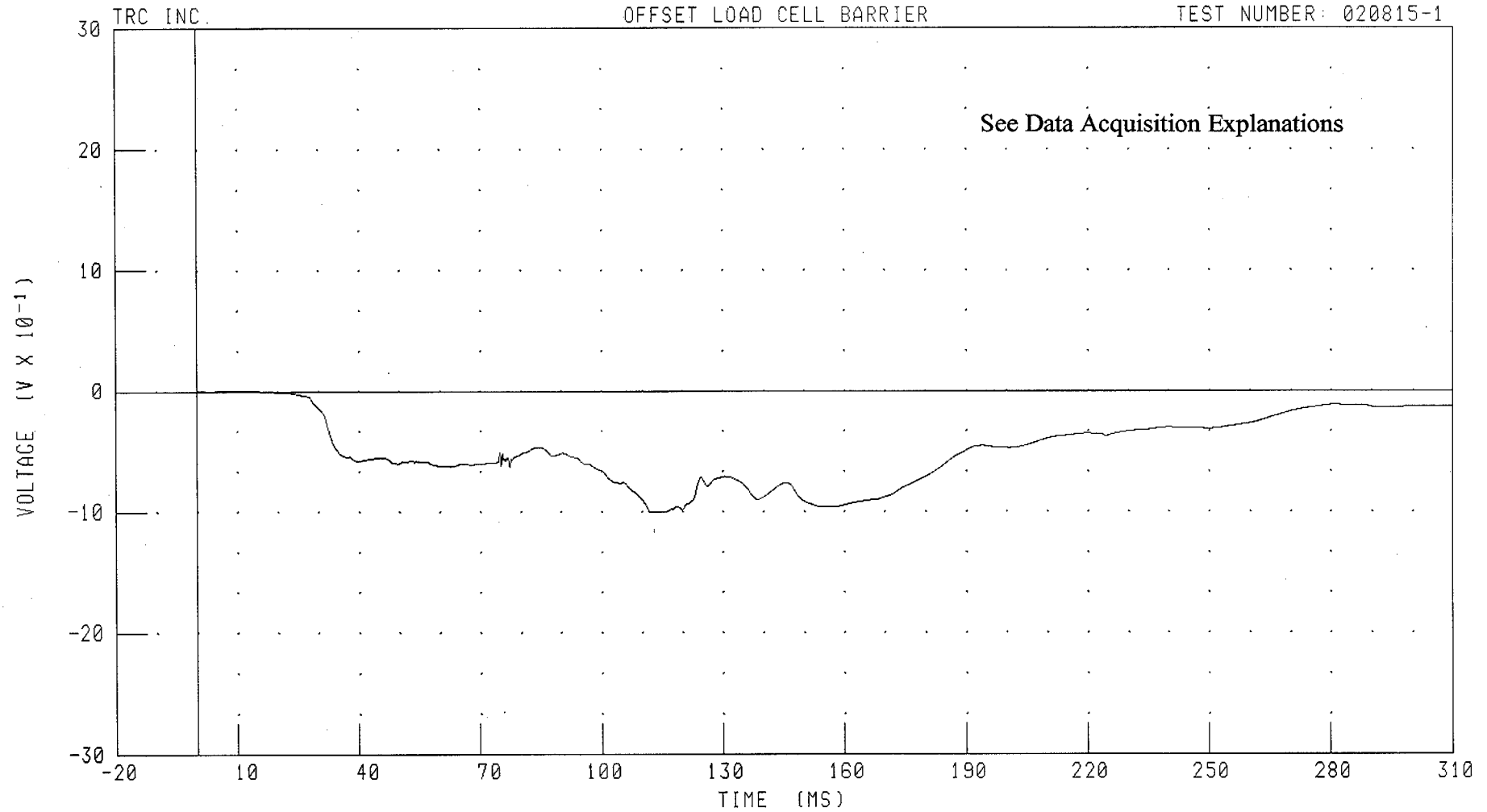
PEAK DATA: 1.00 V @ 35.44 MS; -0.94 V @ 65.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER AIRBAG EVENT - WIRE A

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PABETA FILTER: CH. CLASS 1000

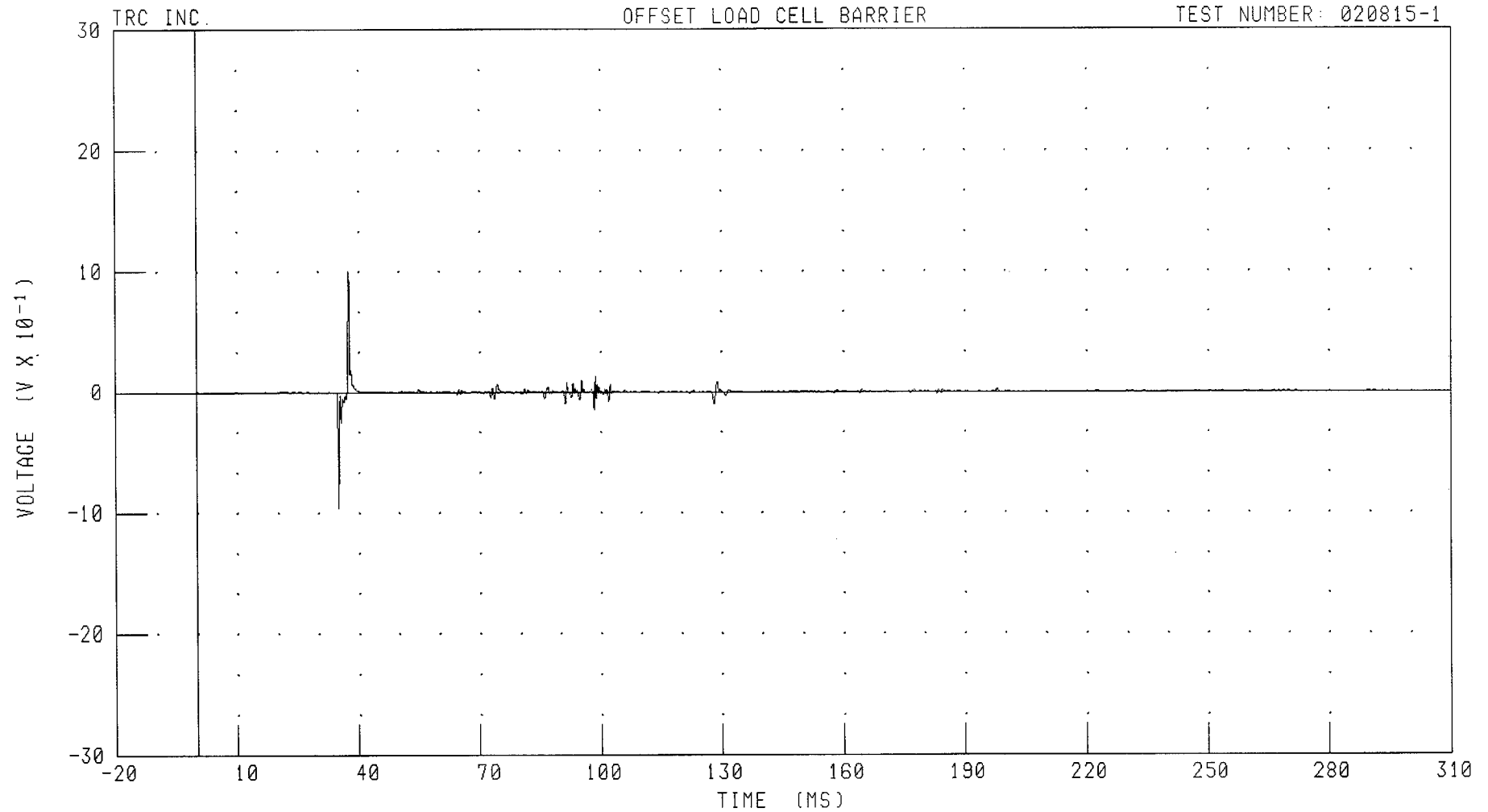
PEAK DATA: 0.00 V @ 13.28 MS; -1.00 V @ 111.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER AIRBAG EVENT - WIRE B

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: PABETB FILTER: CH. CLASS 1000

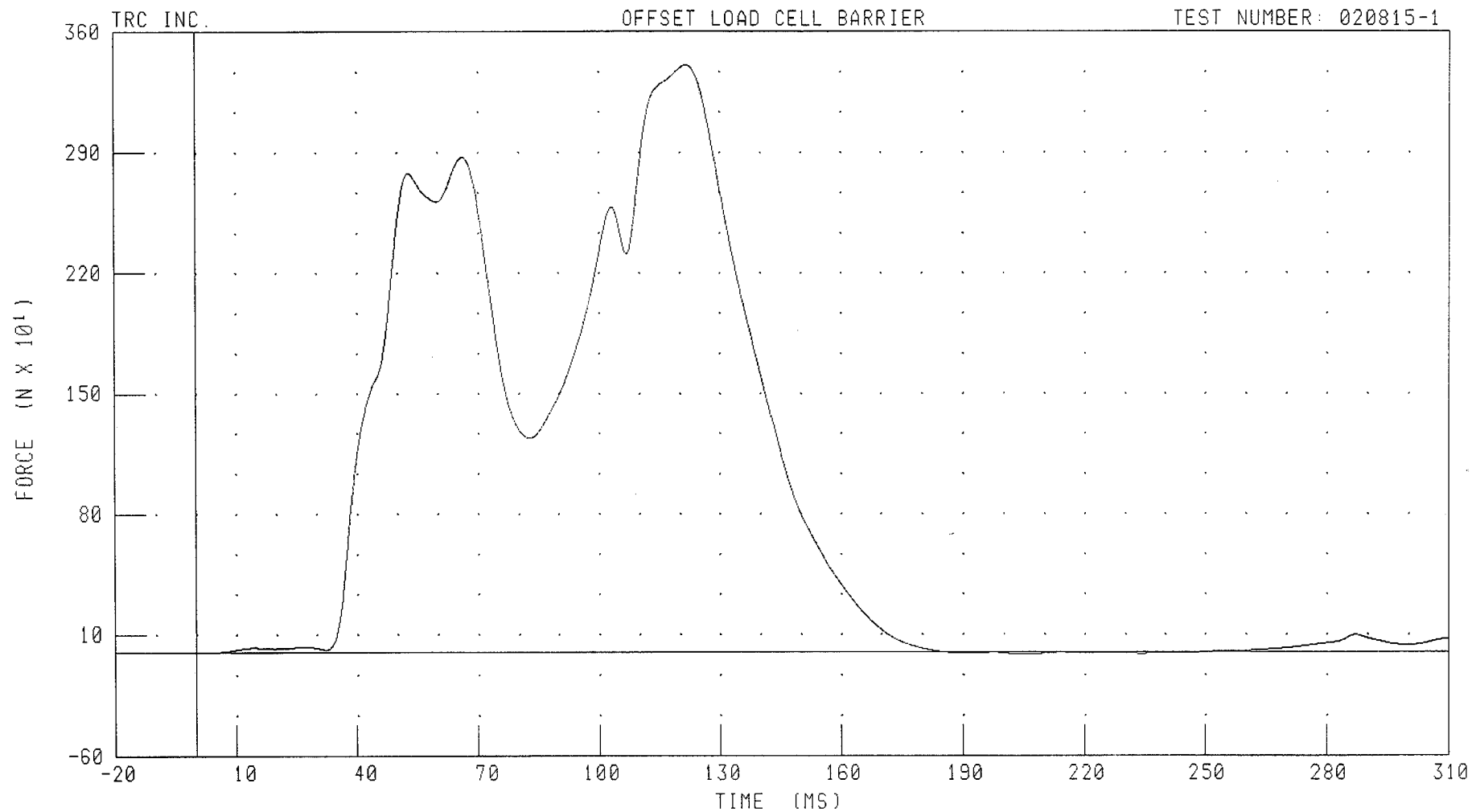
PEAK DATA: 1.00 V @ 37.60 MS; -0.96 V @ 35.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER SHOULDER BELT FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: SHBF1

FILTER: CH. CLASS 60

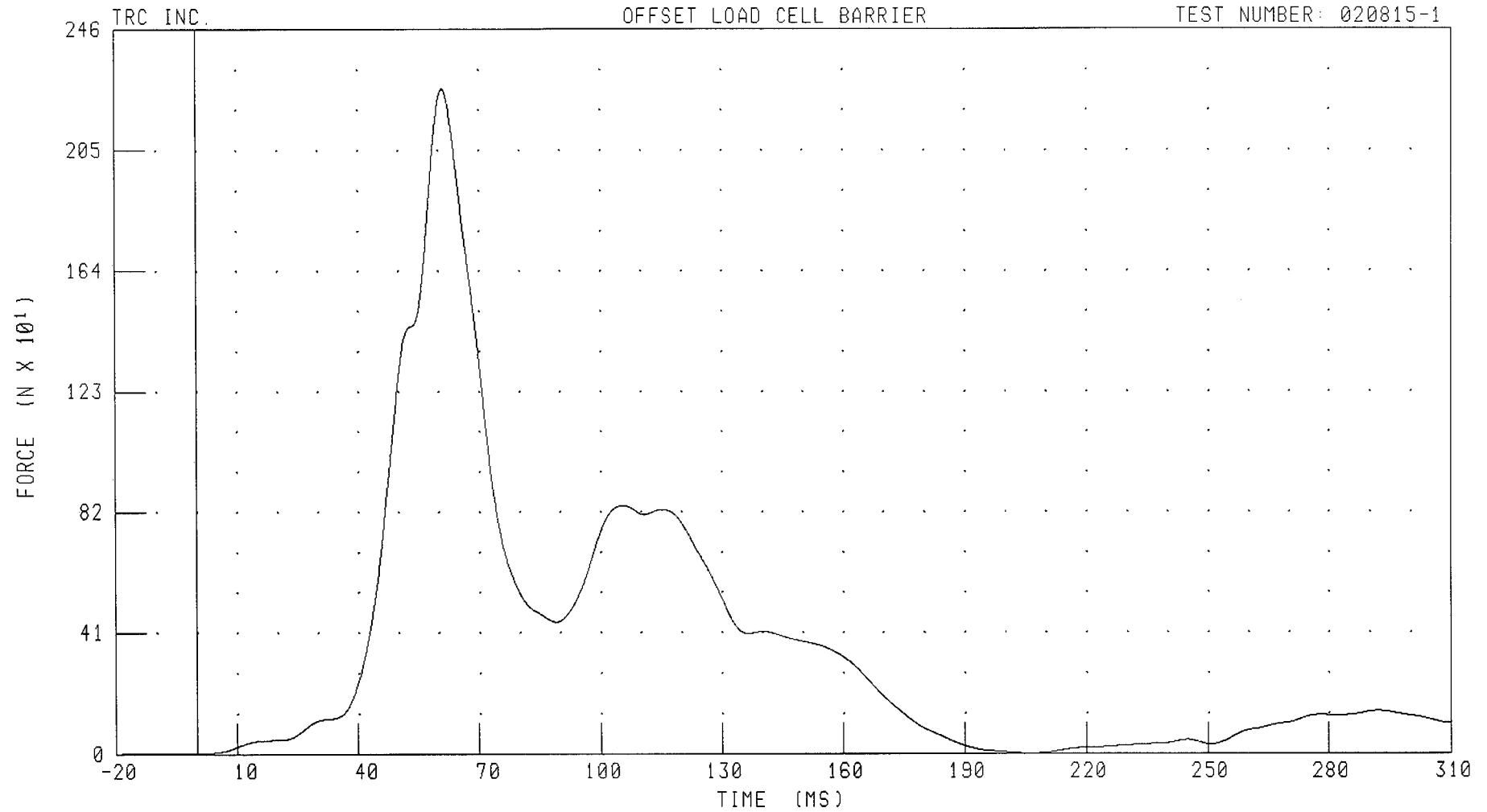
PEAK DATA: 3406.56 N @ 121.76 MS; -13.57 N @ 207.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

DRIVER LAP BELT FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LPBF1

FILTER: CH. CLASS 60

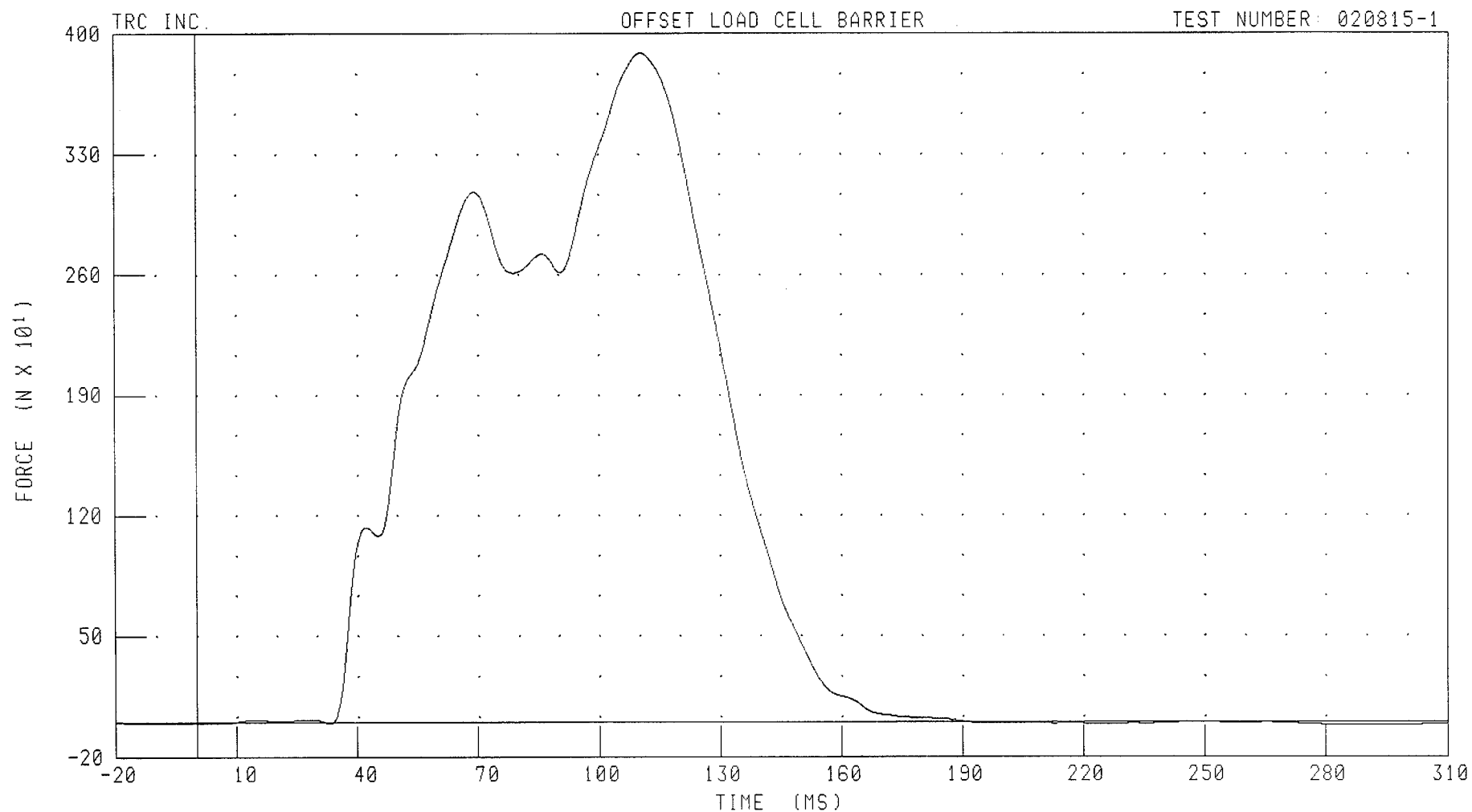
PEAK DATA: 2258.45 N @ 61.12 MS; 0.11 N @ -20.00 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER SHOULDER BELT FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: SHBF2

FILTER: CH. CLASS 60

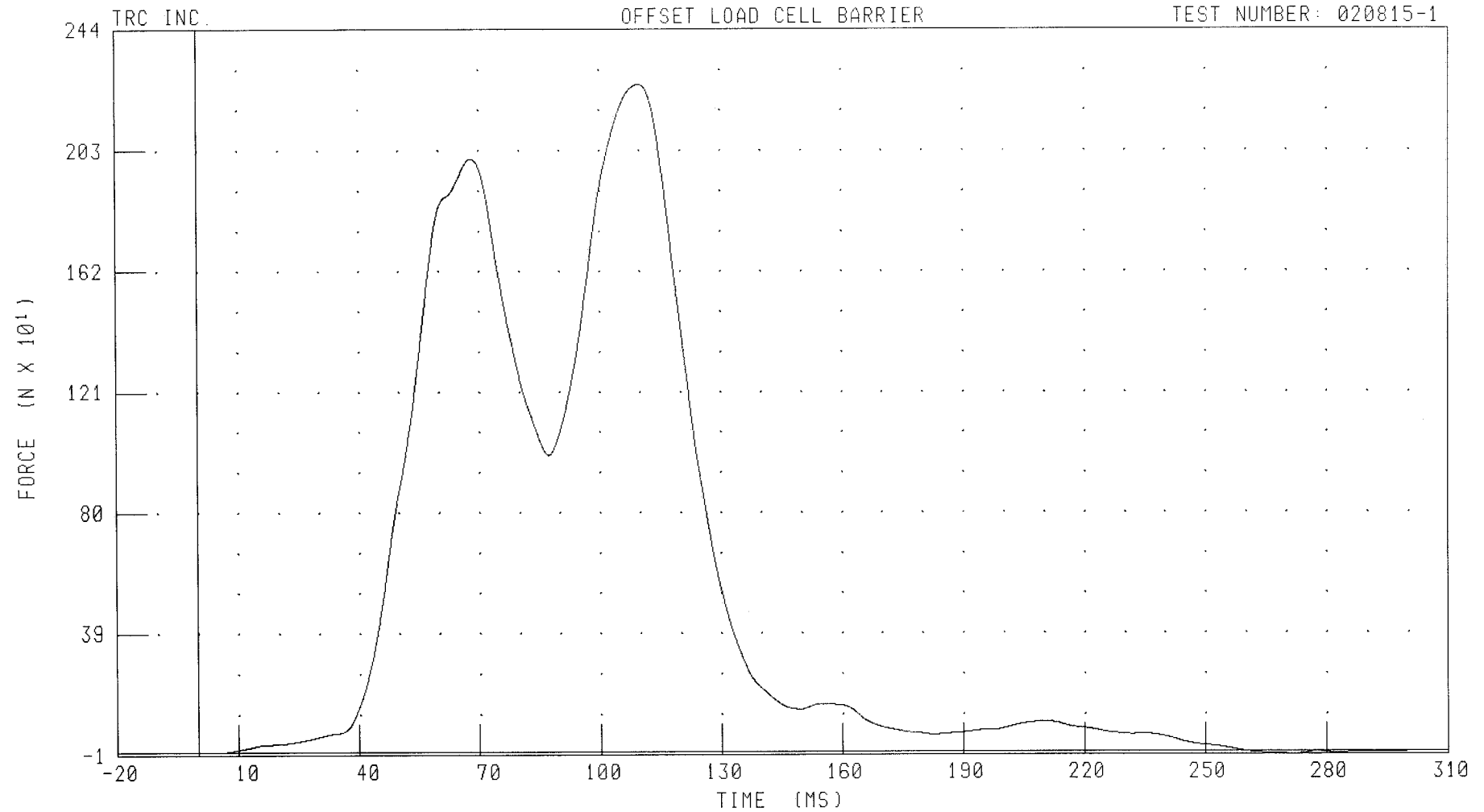
PEAK DATA: 3887.01 N @ 110.64 MS; -18.13 N @ 283.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

PASSENGER LAP BELT FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LPBF2

FILTER: CH. CLASS 60

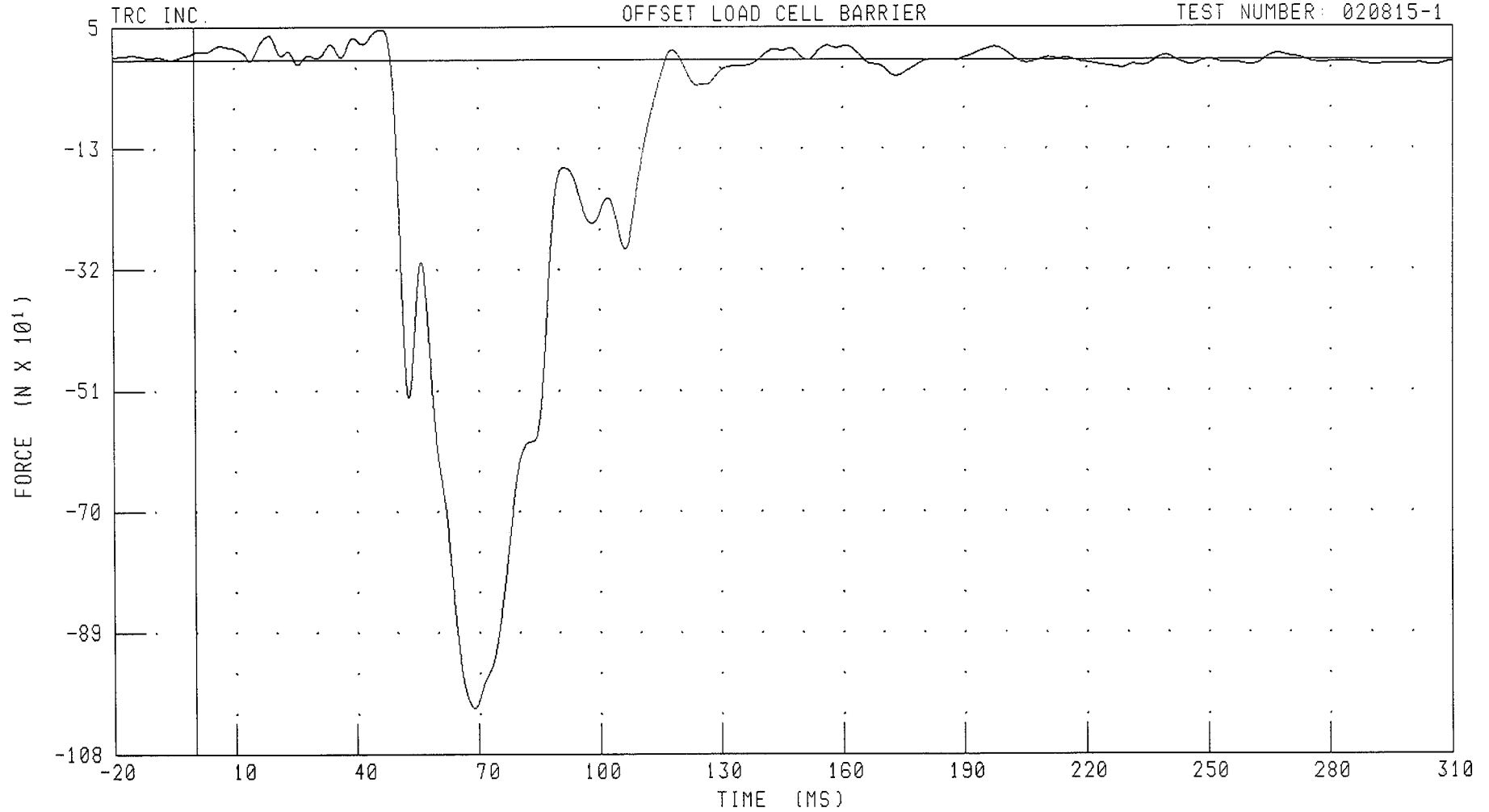
PEAK DATA: 2263.08 N @ 110.08 MS; -10.15 N @ 272.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL A1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCA1XF FILTER: CH. CLASS 60

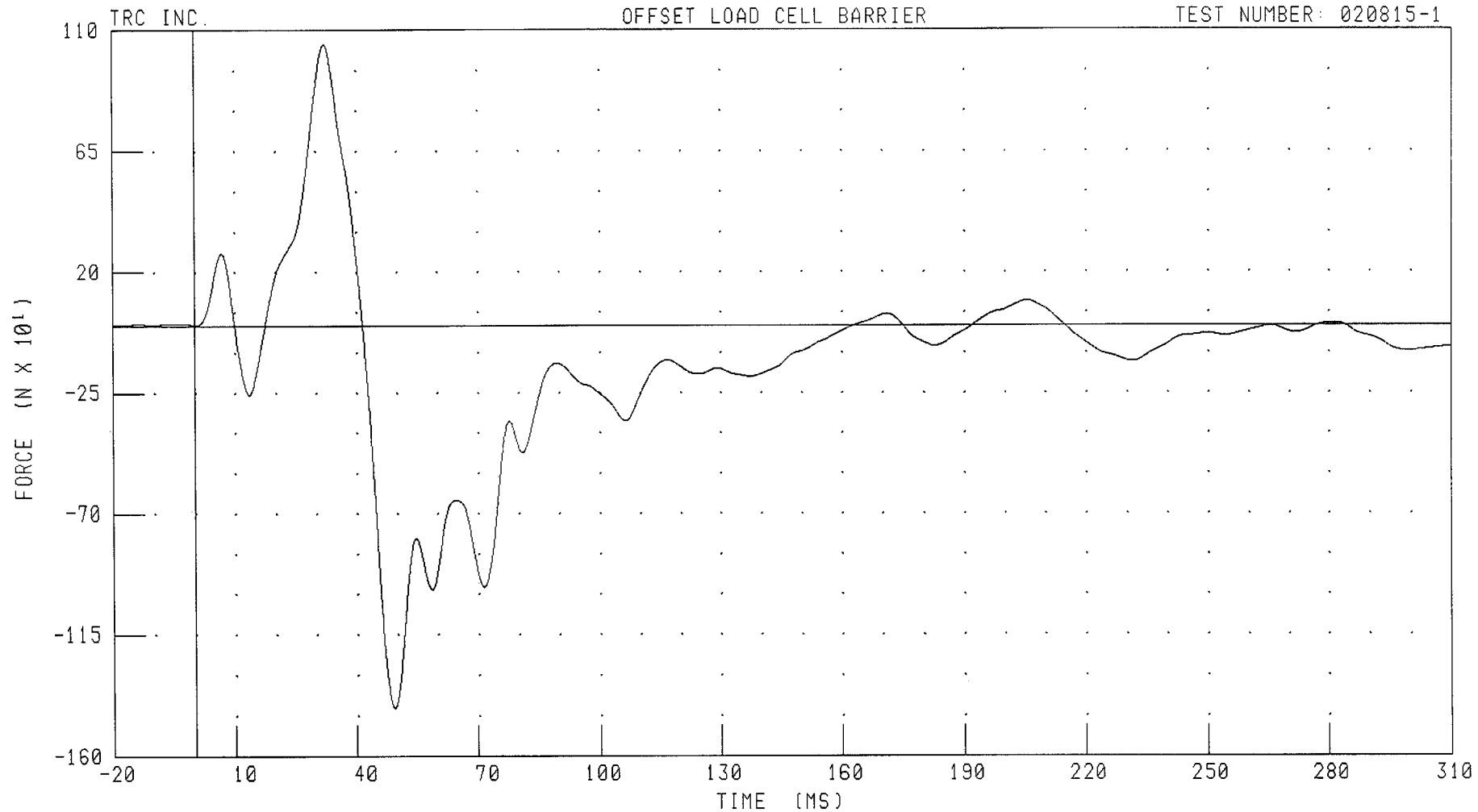
PEAK DATA: 47.11 N @ 46.64 MS; -1017.06 N @ 68.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL A2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCA2XF FILTER: CH. CLASS 60

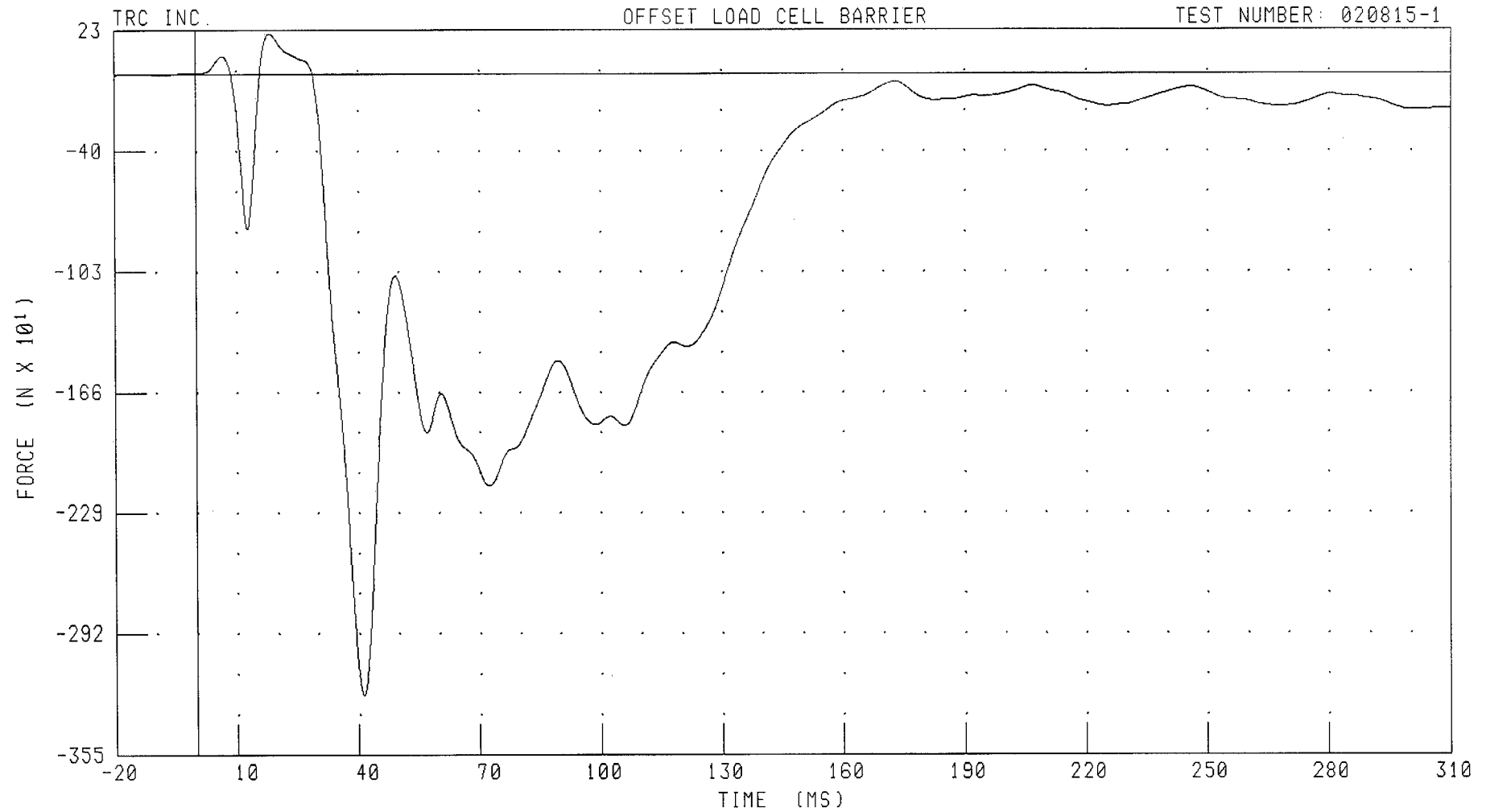
PEAK DATA: 1047.80 N @ 32.32 MS; -1423.44 N @ 49.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL A3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCA3XF FILTER: CH. CLASS 60

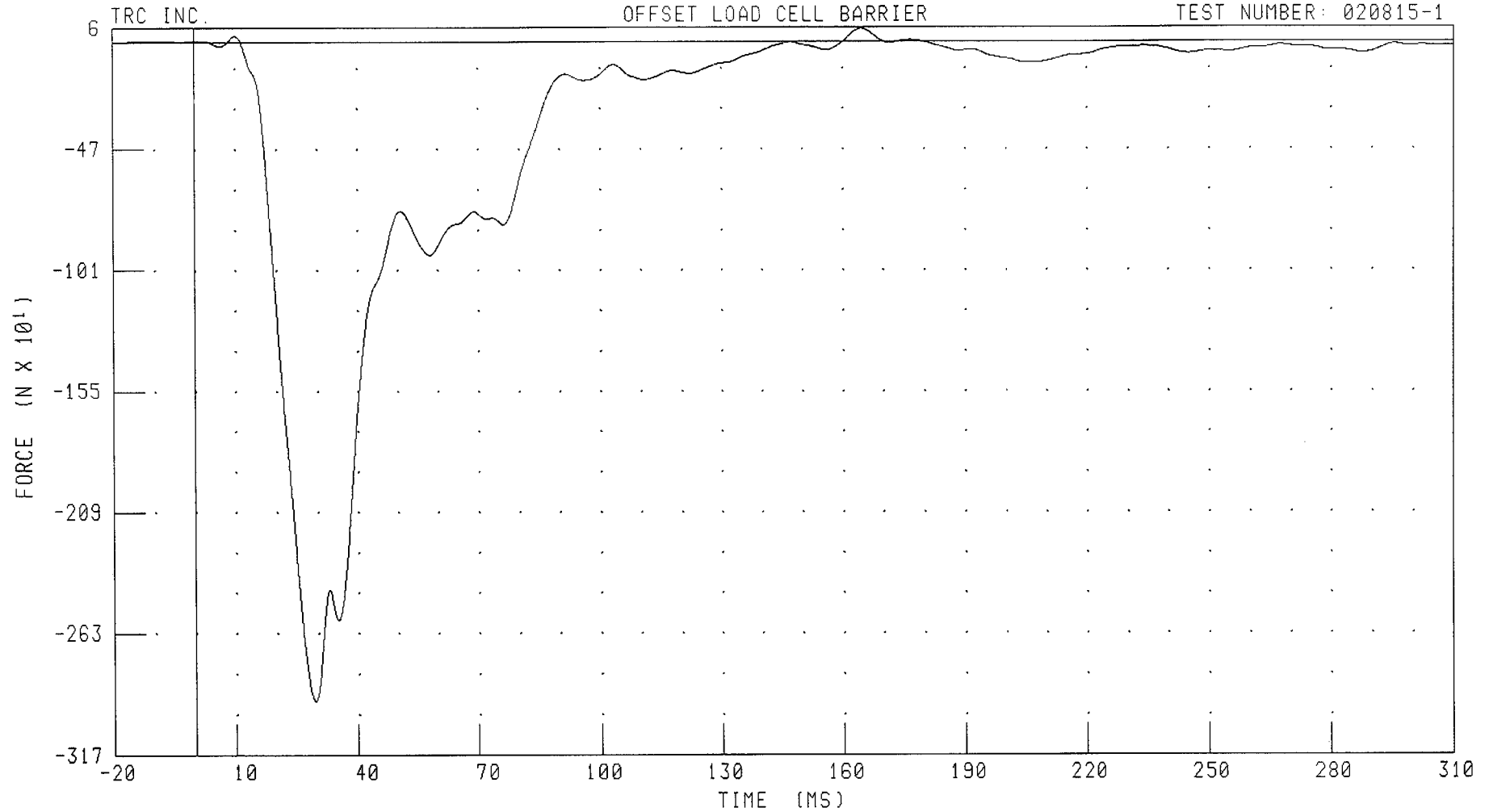
PEAK DATA: 212.39 N @ 18.32 MS; -3242.35 N @ 41.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL A4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCA4XF FILTER: CH. CLASS 60

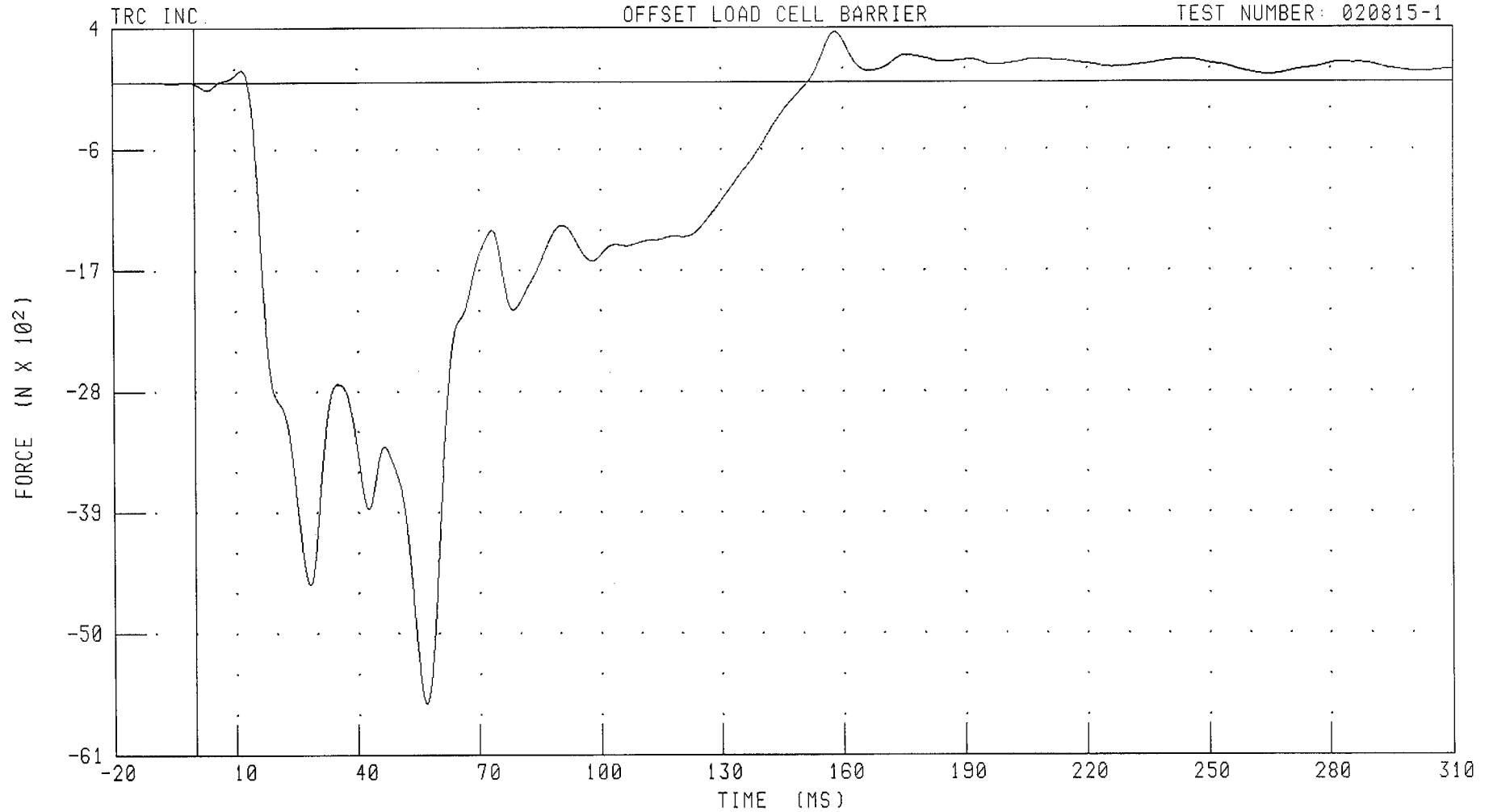
PEAK DATA: 57.78 N @ 164.72 MS; -2939.14 N @ 29.36 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL A5 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCA5XF

FILTER: CH. CLASS 60

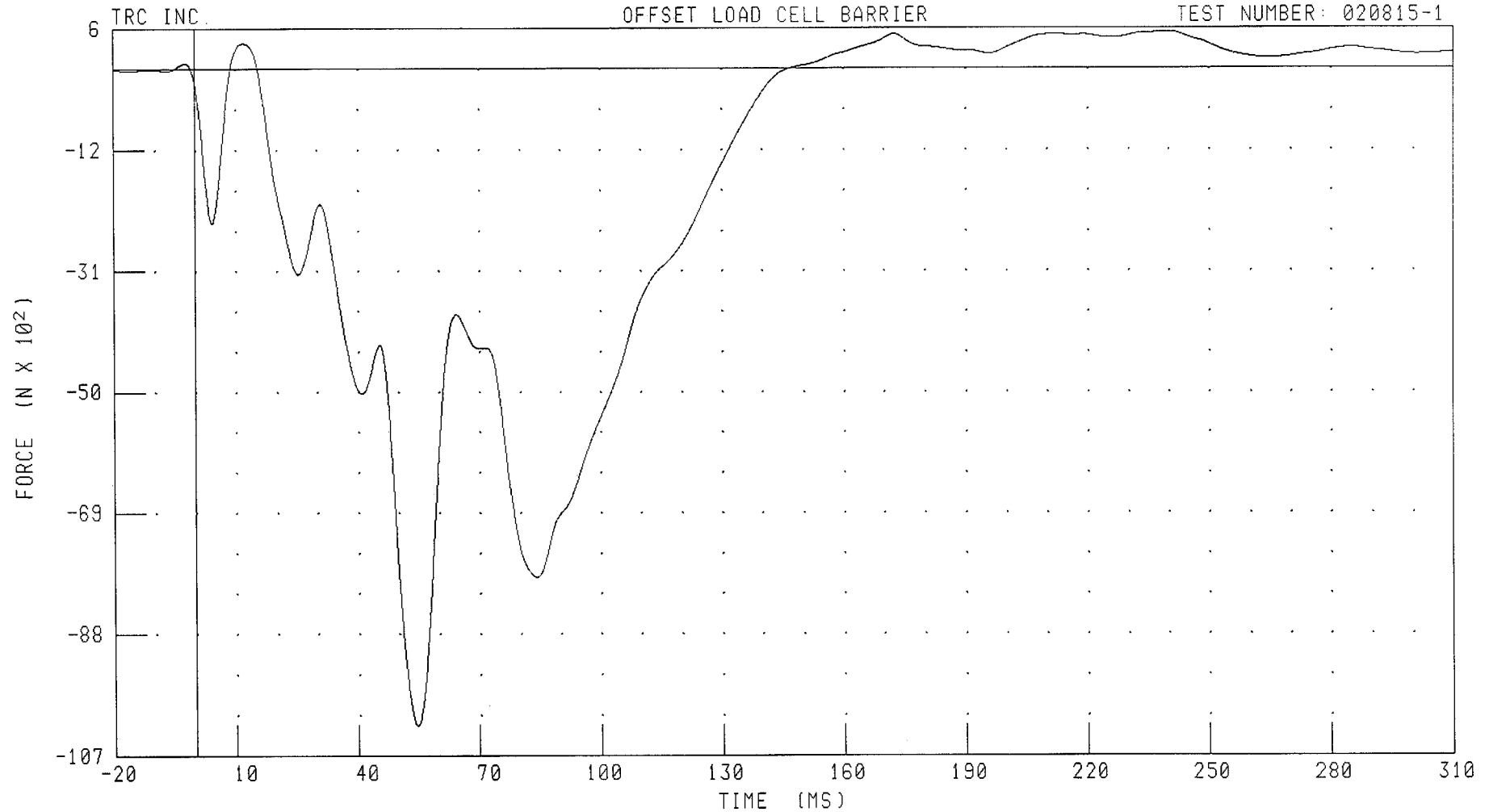
PEAK DATA: 451.17 N @ 158.24 MS; -5646.23 N @ 56.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL A6 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCA6XF

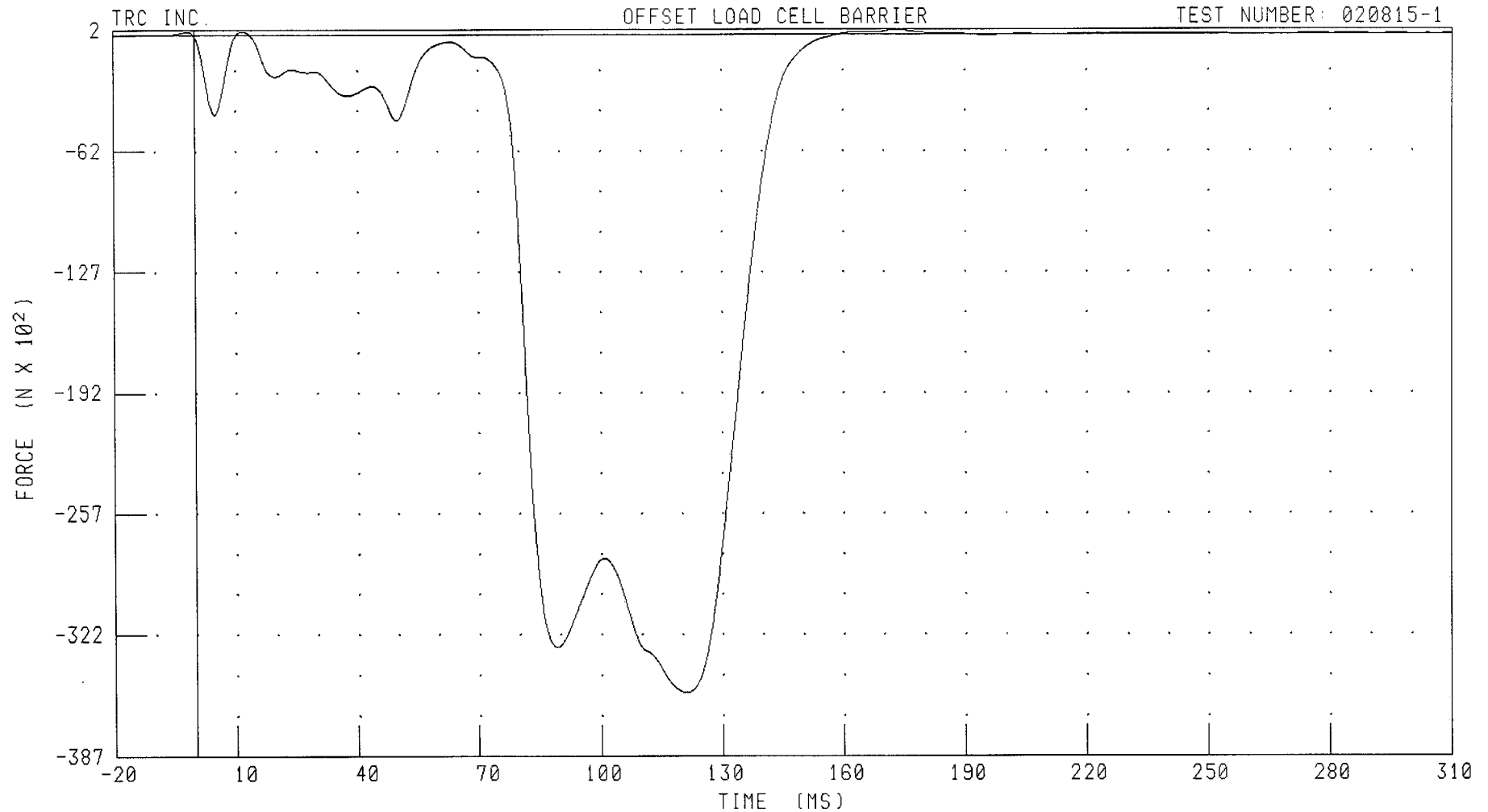
FILTER: CH. CLASS 60

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL A7 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCA7XF FILTER: CH. CLASS 60

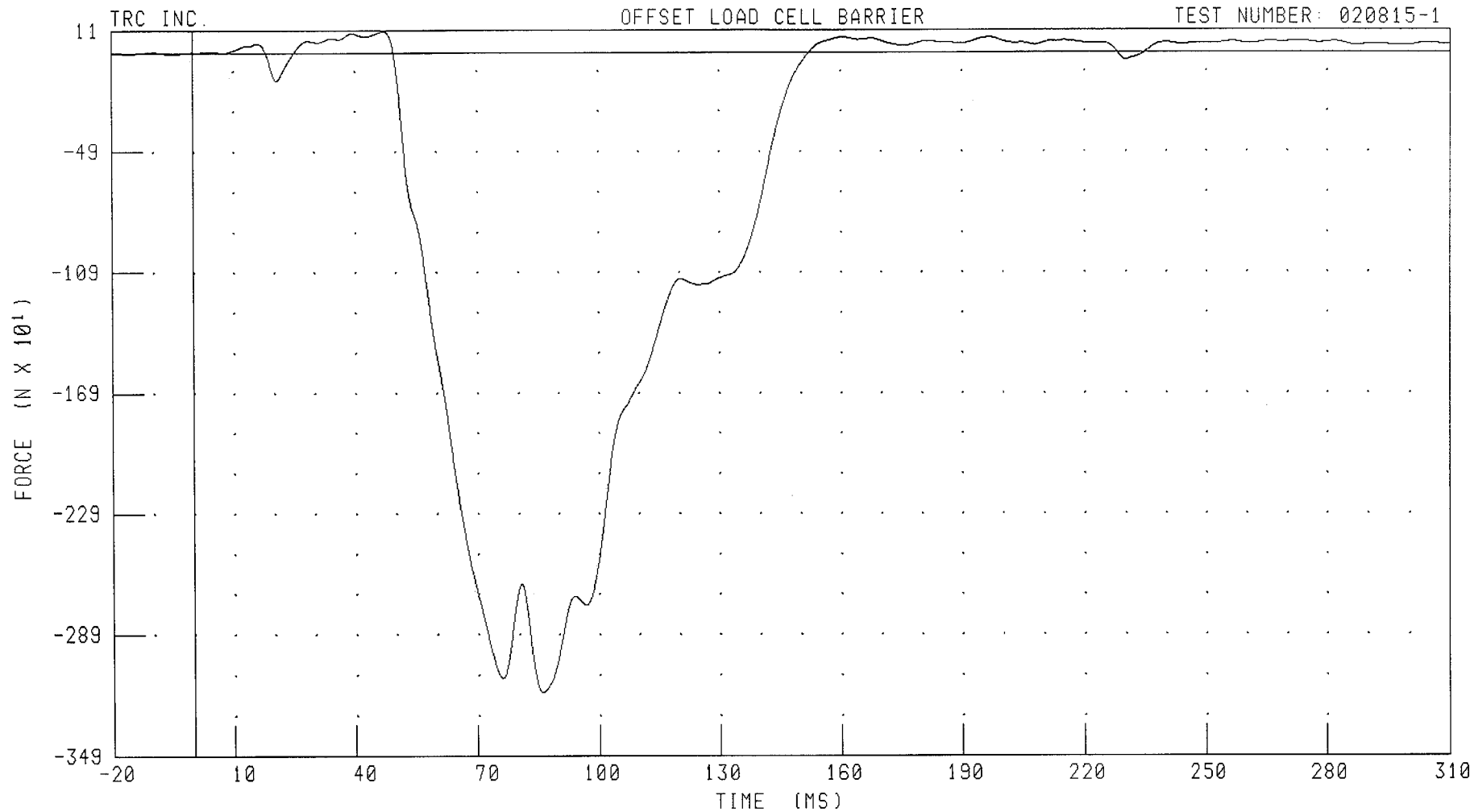
PEAK DATA: 244.71 N @ 173.20 MS; -35346.06 N @ 121.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL B1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCB1XF FILTER: CH. CLASS 60

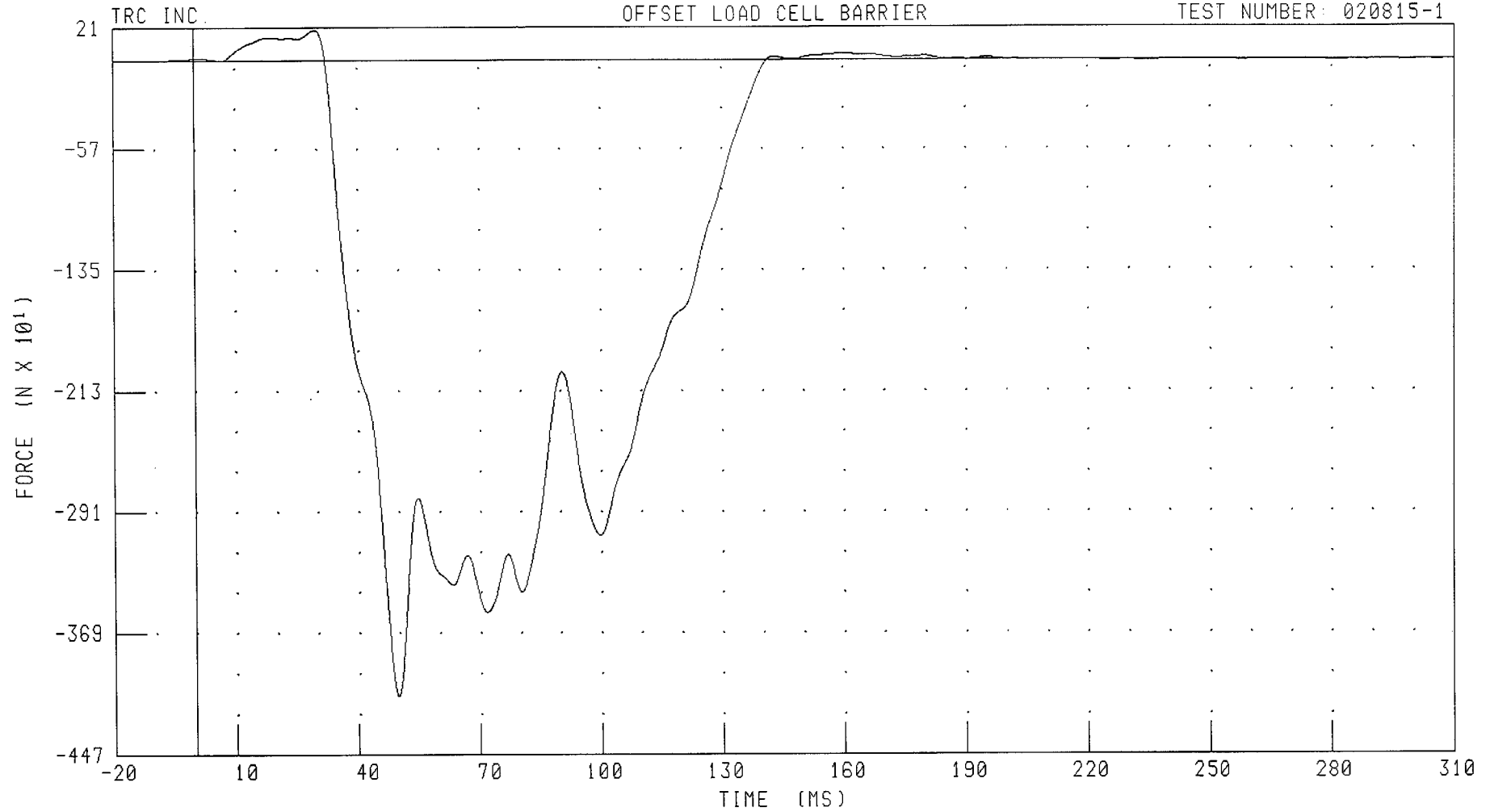
PEAK DATA: 105.48 N @ 47.28 MS; -3176.99 N @ 85.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL B2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCB2XF FILTER: CH. CLASS 60

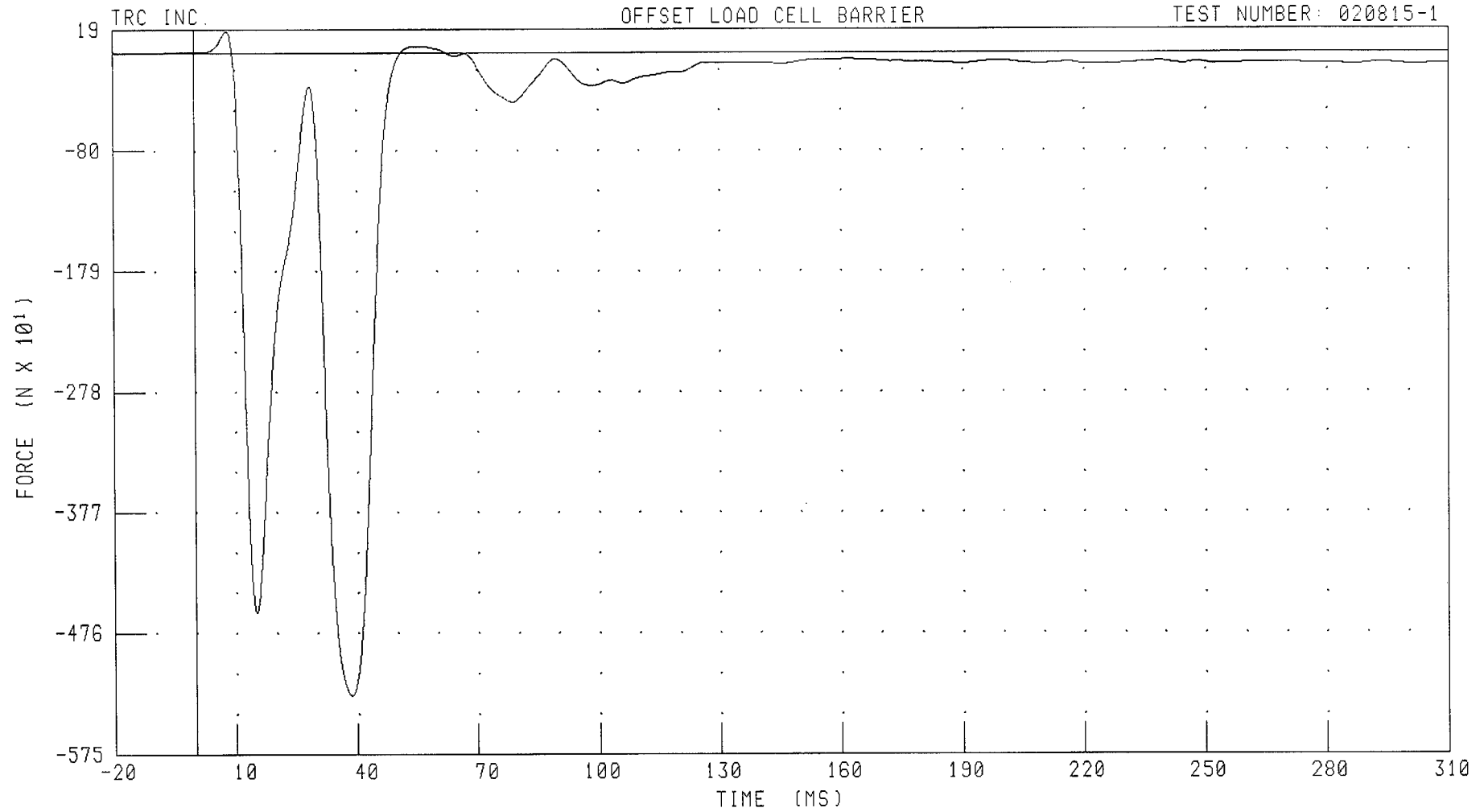
PEAK DATA: 194.41 N @ 29.76 MS; -4094.97 N @ 49.84 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL B3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCB3XF FILTER: CH. CLASS 60

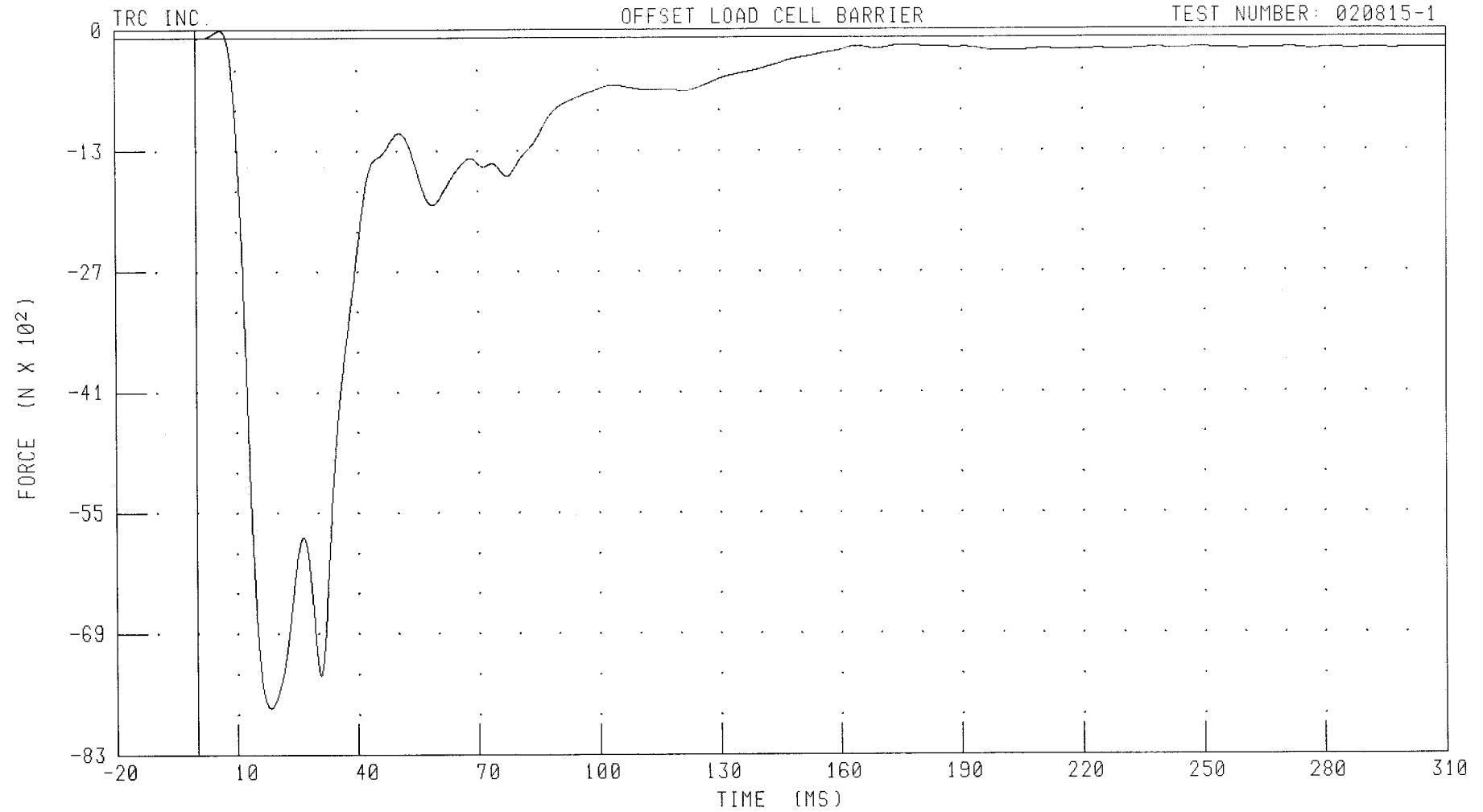
PEAK DATA: 174.90 N @ 8.08 MS, -5270.92 N @ 38.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL B4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCB4XF FILTER: CH. CLASS 60

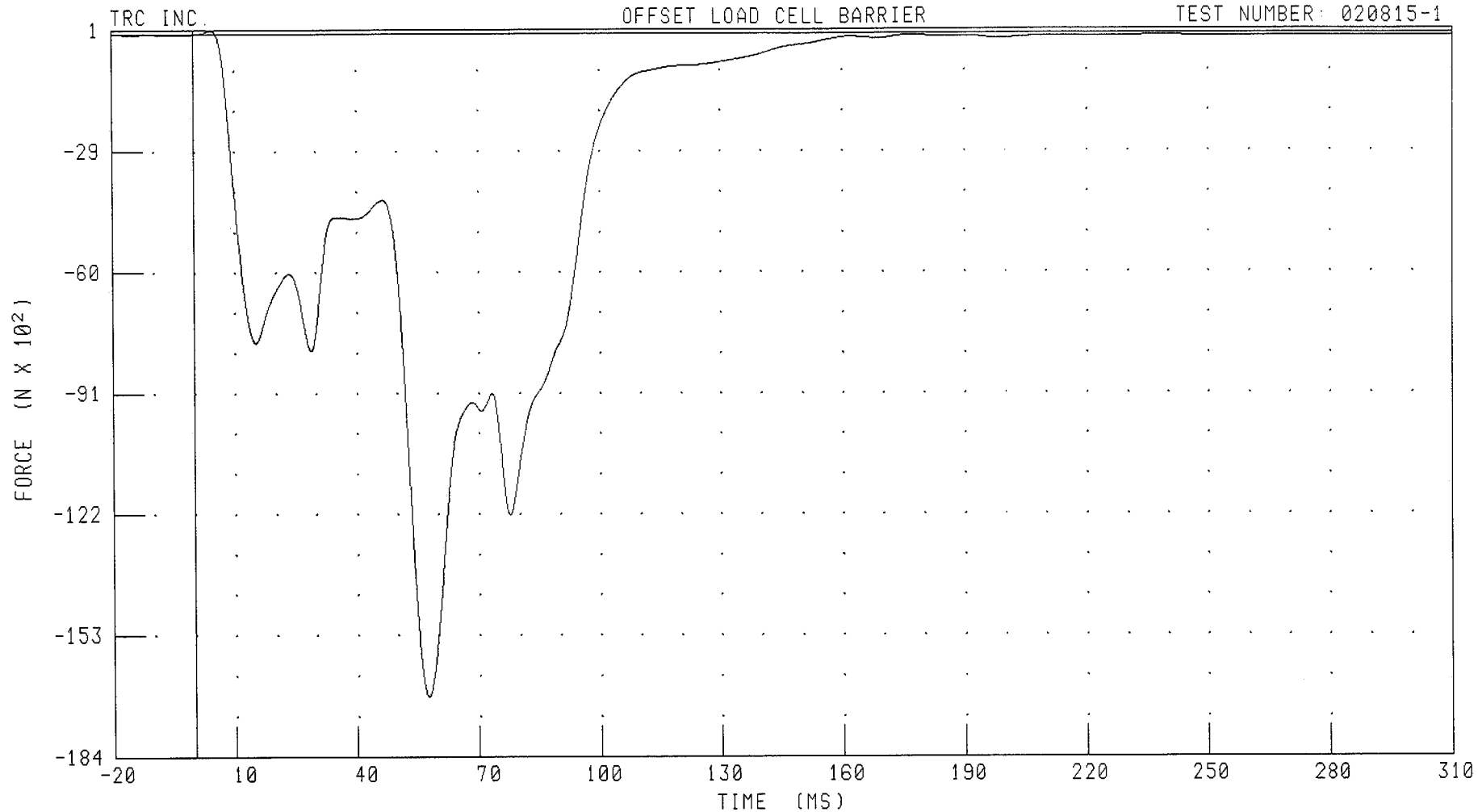
PEAK DATA: 86.29 N @ 6.16 MS; -7767.97 N @ 18.24 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL B5 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCB5XF

FILTER: CH. CLASS 60

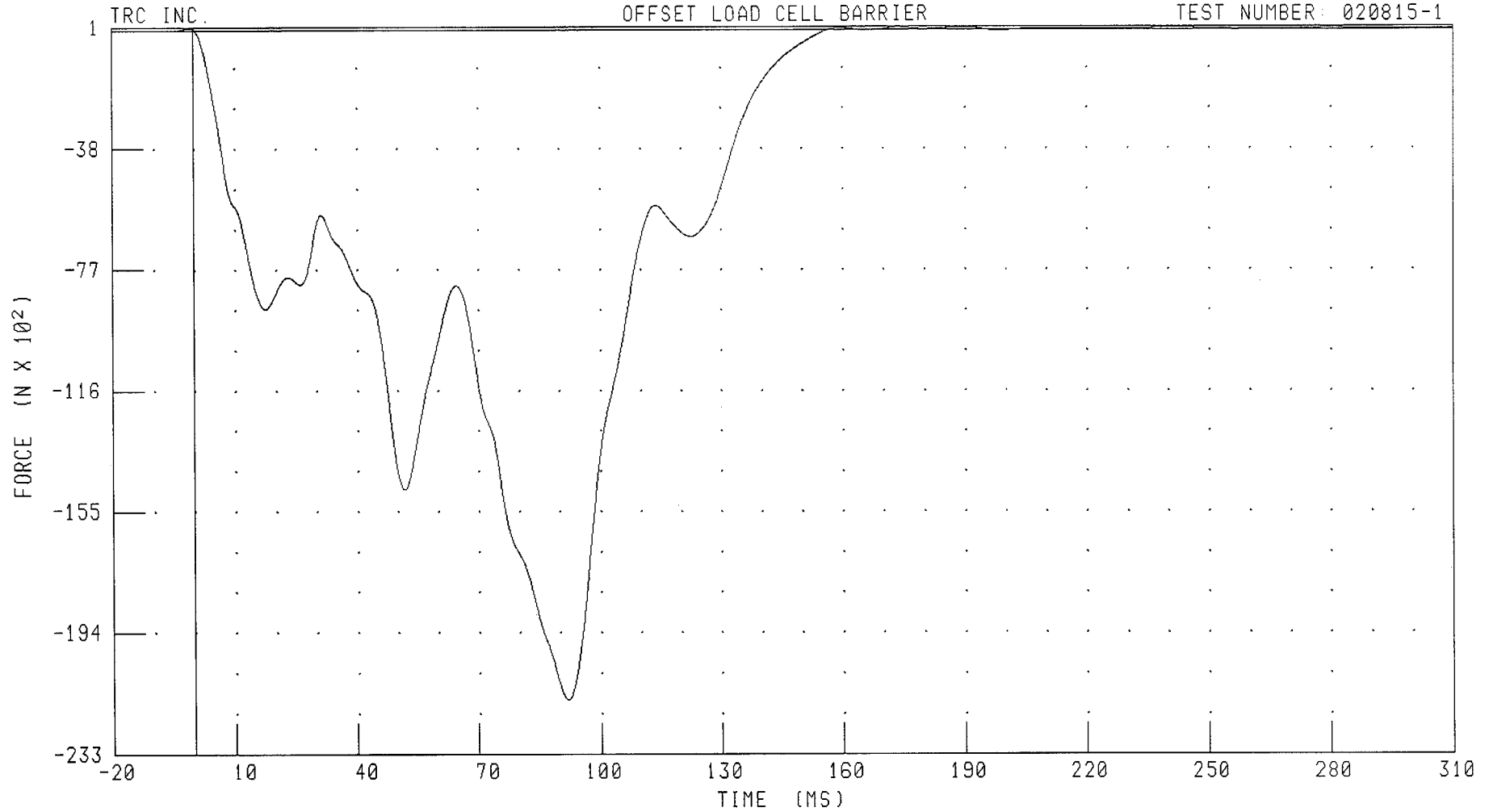
PEAK DATA: 104.89 N @ 4.40 MS; -16959.30 N @ 57.52 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL B6 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCB6XF

FILTER: CH. CLASS 60

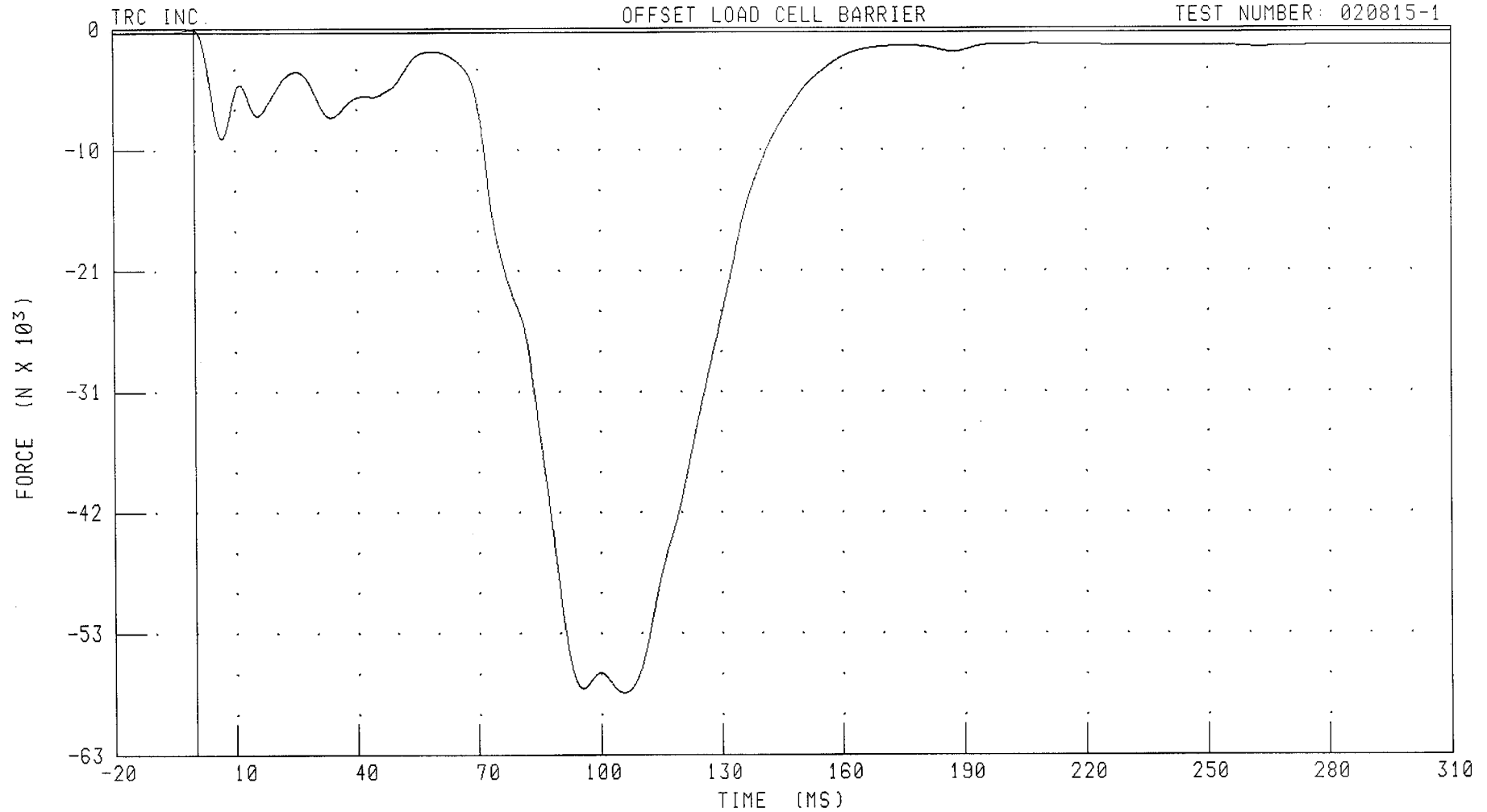
PEAK DATA: 95.29 N @ 173.84 MS; -21564.07 N @ 91.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL B7 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCB7XF FILTER: CH. CLASS 60

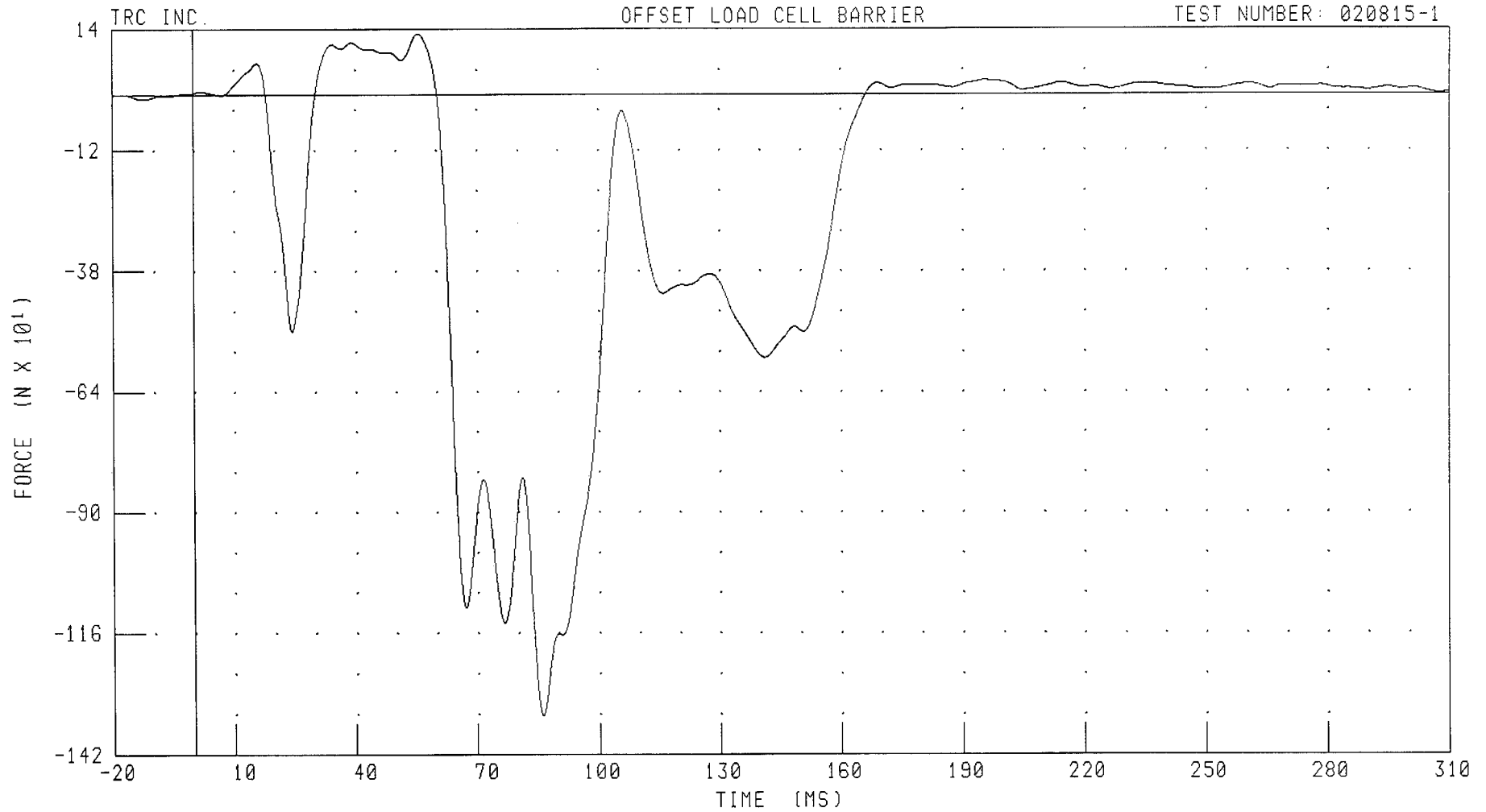
PEAK DATA: 274.42 N @ -0.64 MS; -58450.08 N @ 105.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL C1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCC1XF

FILTER: CH. CLASS 60

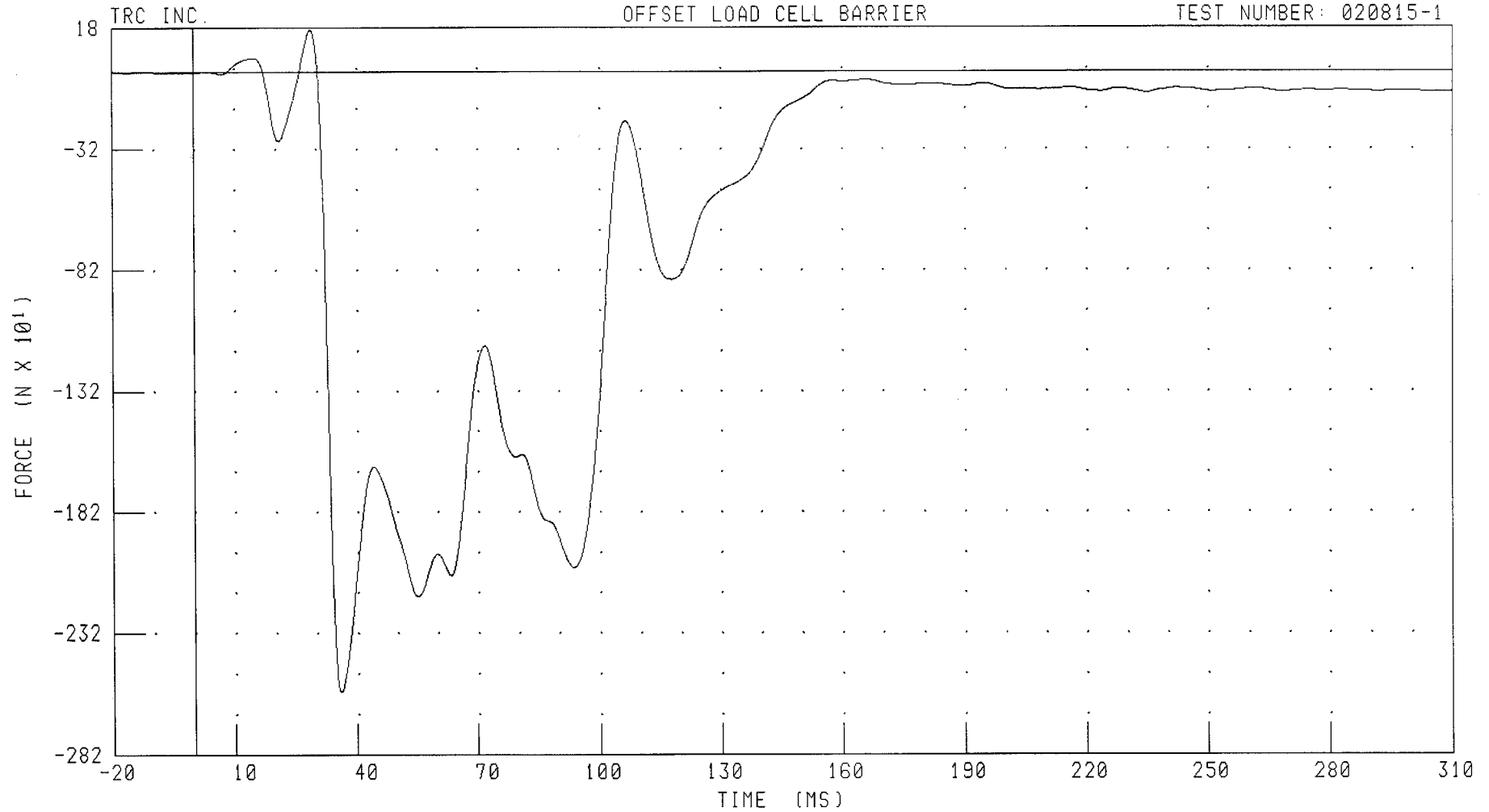
PEAK DATA: 130.42 N @ 55.68 MS; -1337.33 N @ 86.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL C2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCC2XF

FILTER: CH. CLASS 60

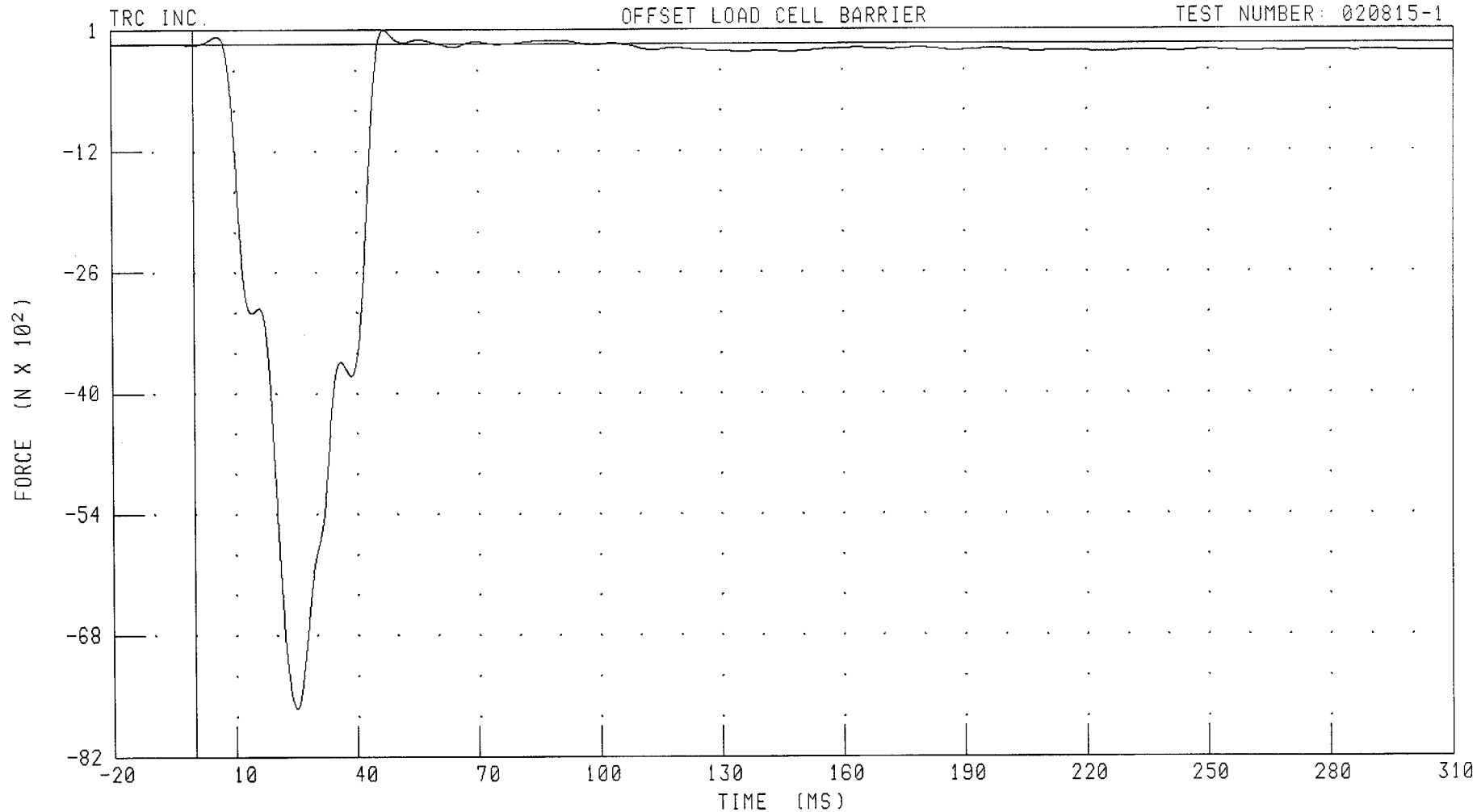
PEAK DATA: 171.56 N @ 28.88 MS; -2562.28 N @ 35.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL C3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCC3XF FILTER: CH. CLASS 60

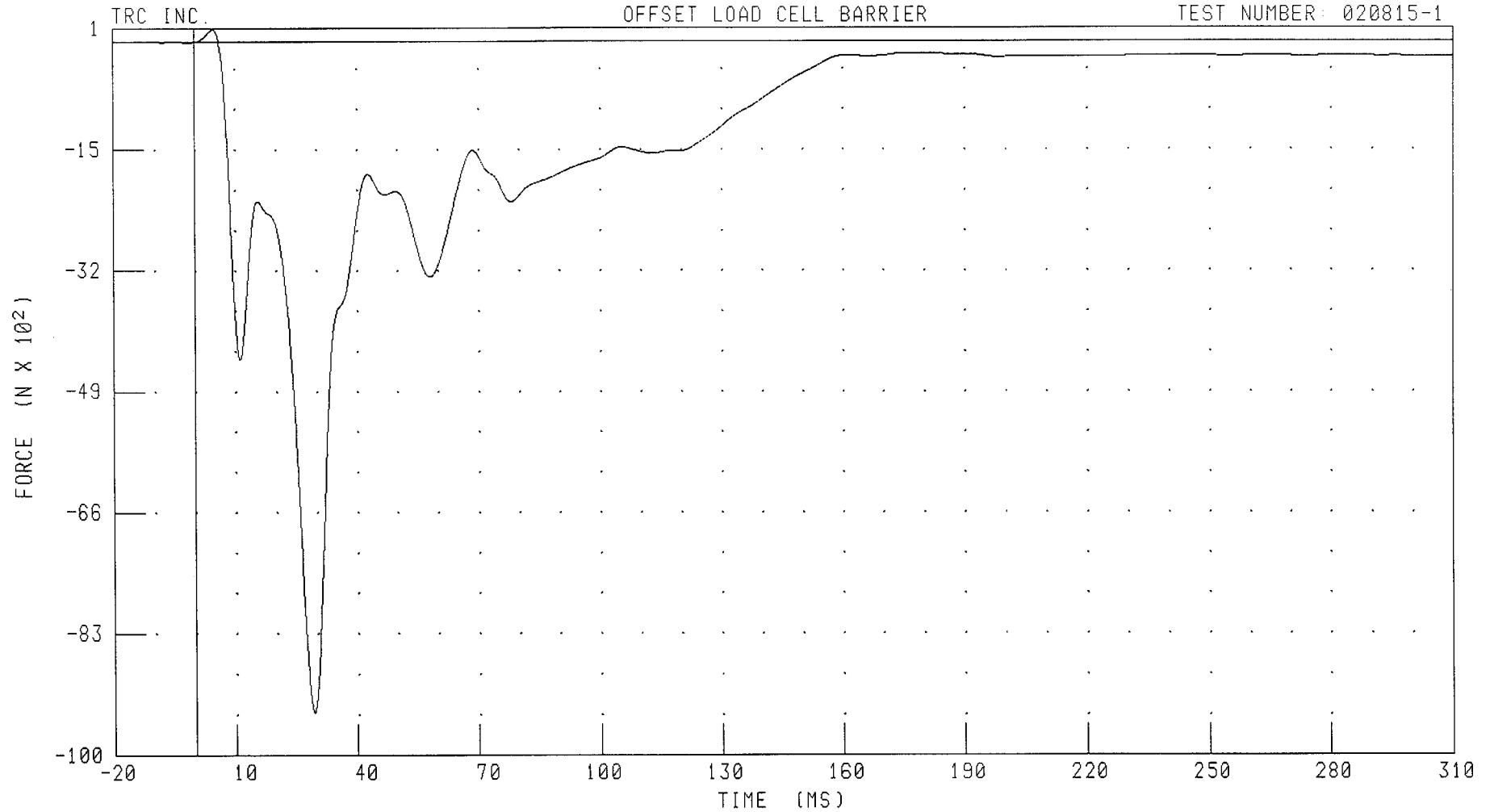
PEAK DATA: 153.96 N @ 47.12 MS; -7686.28 N @ 24.96 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL C4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCC4XF FILTER: CH. CLASS 60

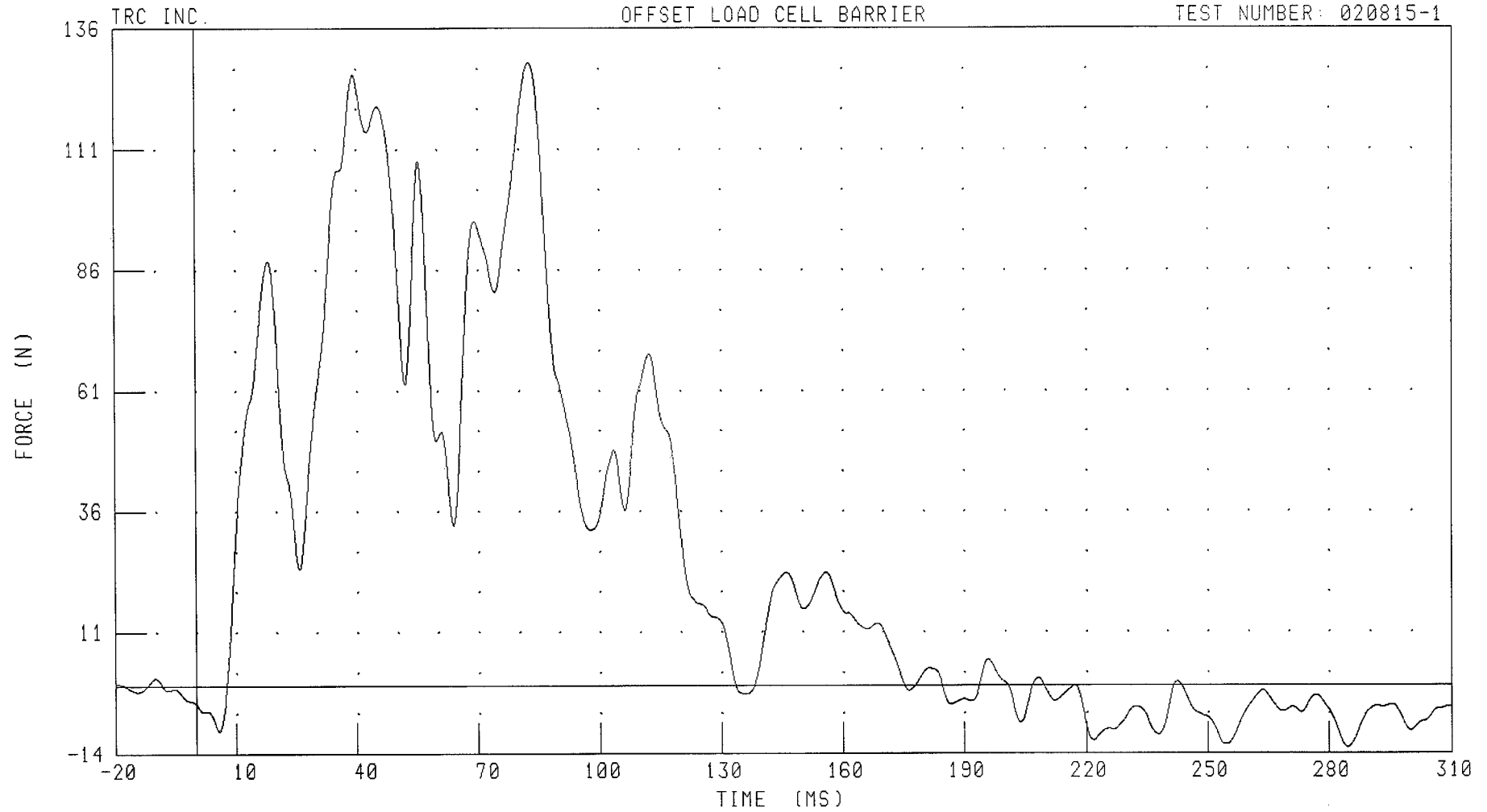
PEAK DATA: 176.03 N @ 4.72 MS; -9419.78 N @ 29.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL C5 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCC5XF FILTER: CH. CLASS 60

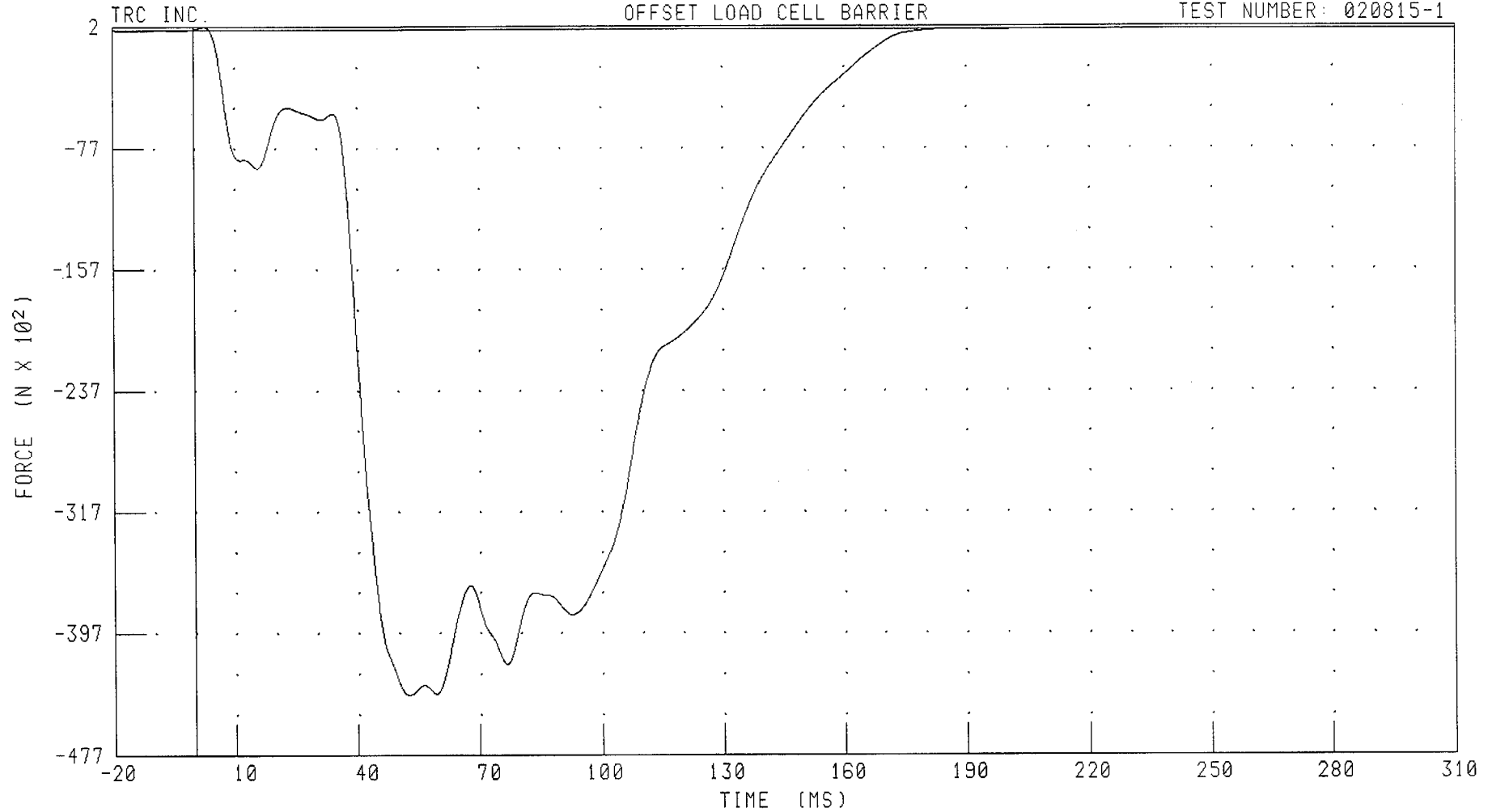
PEAK DATA: 128.89 N @ 82.72 MS; -12.86 N @ 284.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL C6 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCC6XF FILTER: CH. CLASS 60

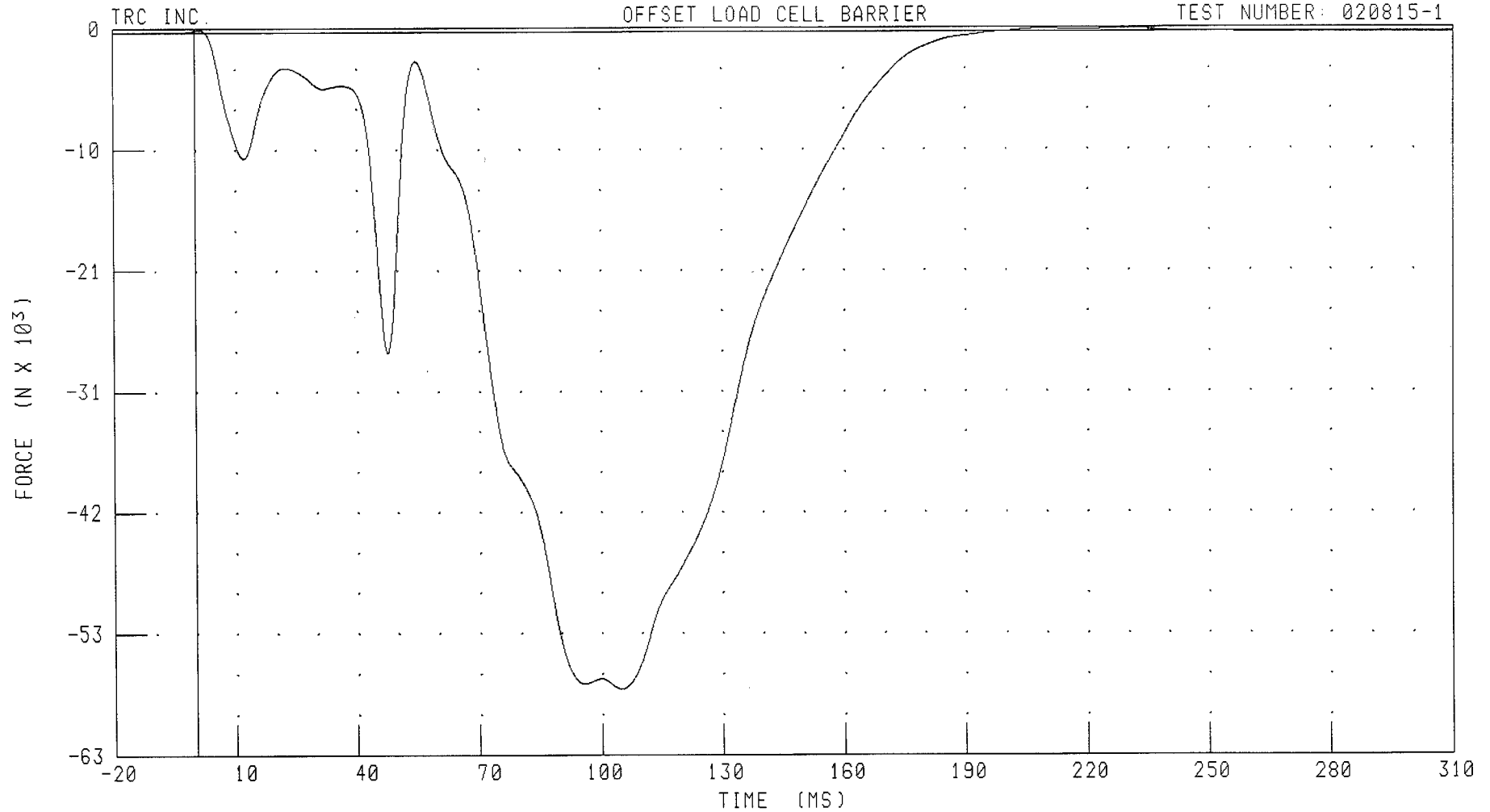
PEAK DATA: 208.44 N @ 2.64 MS; -43849.64 N @ 52.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL C7 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCC7XF

FILTER: CH. CLASS 60

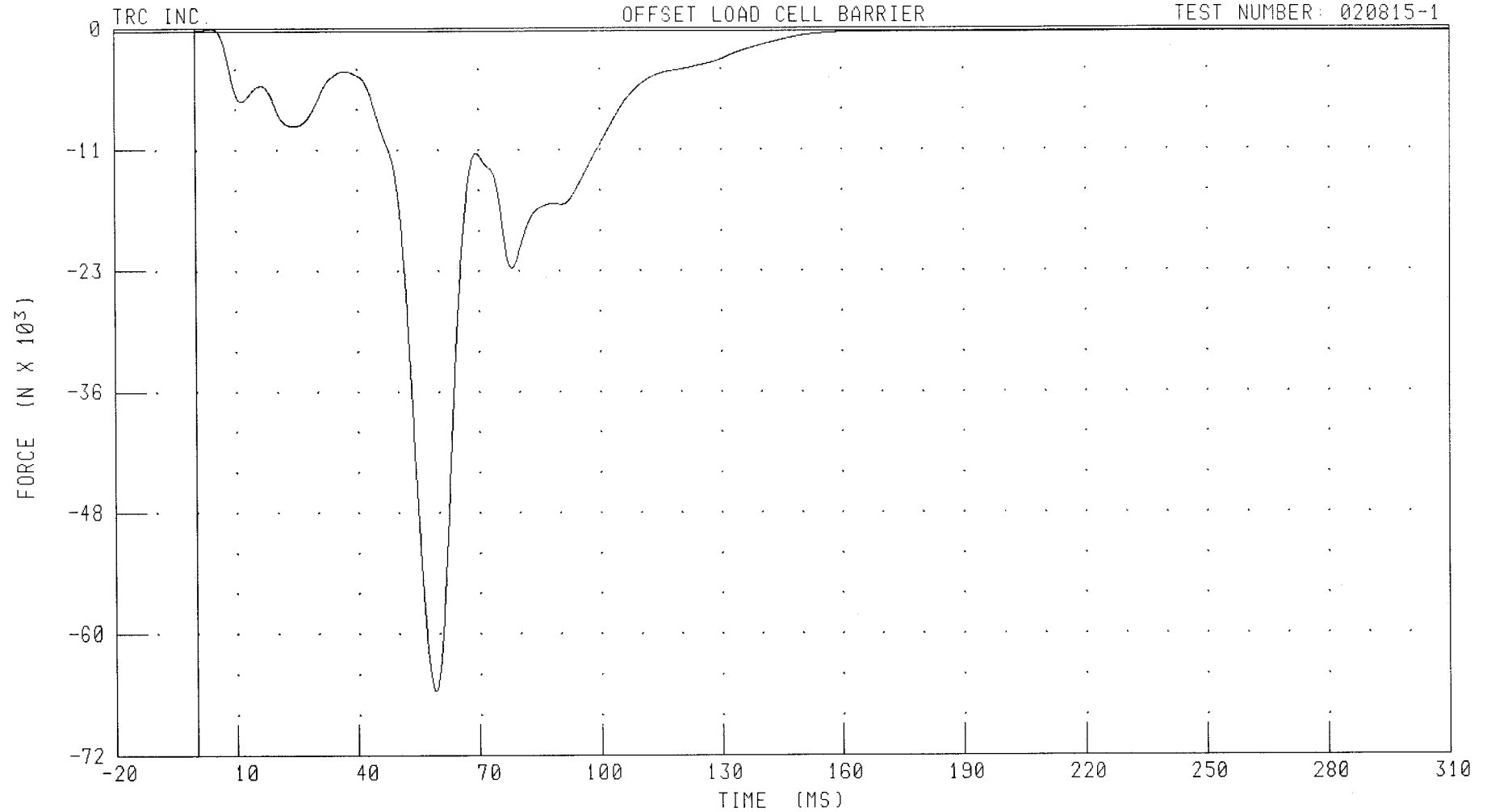
PEAK DATA: 302.82 N @ 231.36 MS, -58085.88 N @ 104.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL D1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCD1XF FILTER: CH. CLASS 60

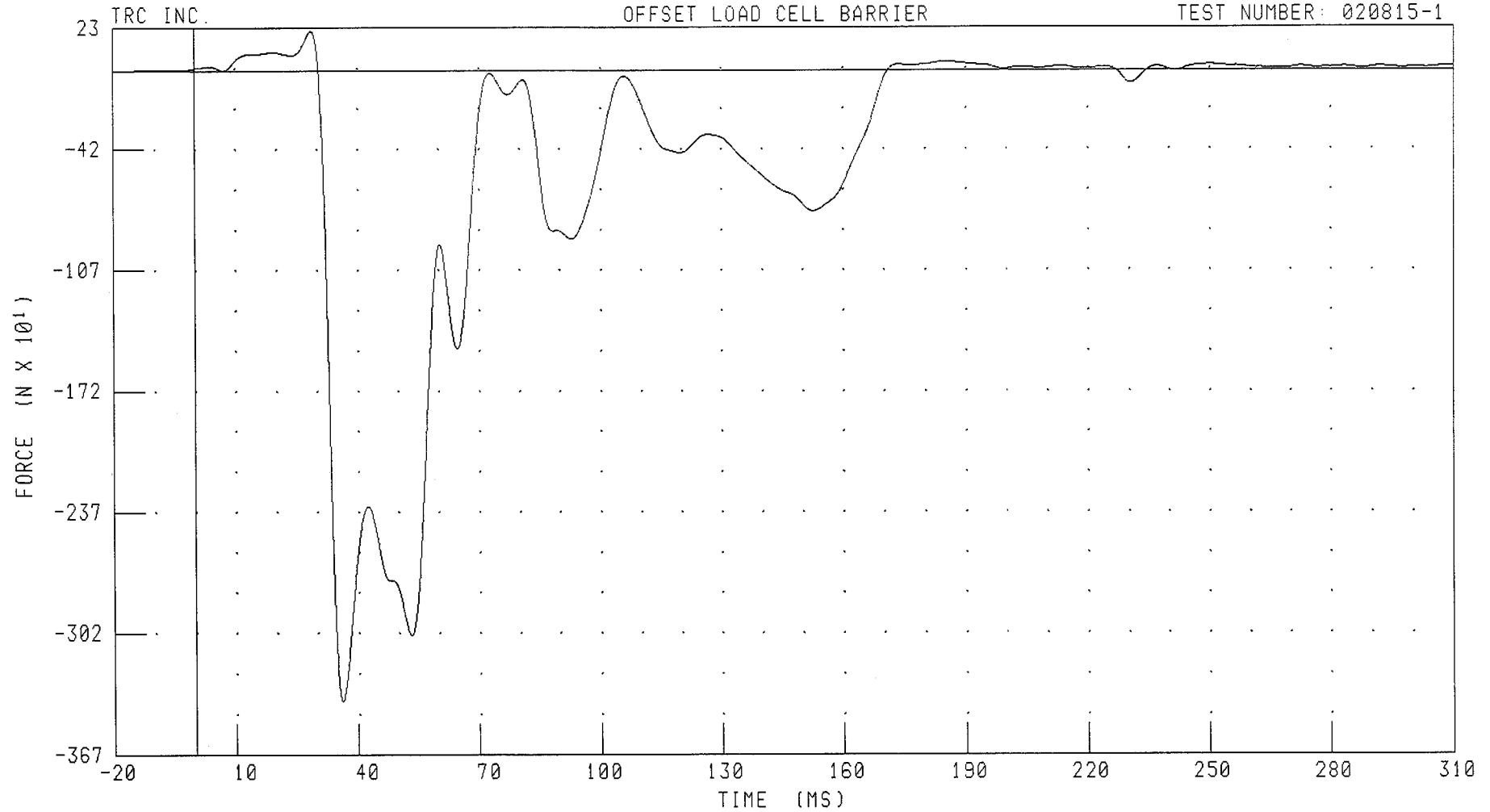
PEAK DATA: 218.44 N @ 4.08 MS; -65951.72 N @ 59.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL D2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCD2XF FILTER: CH. CLASS 60

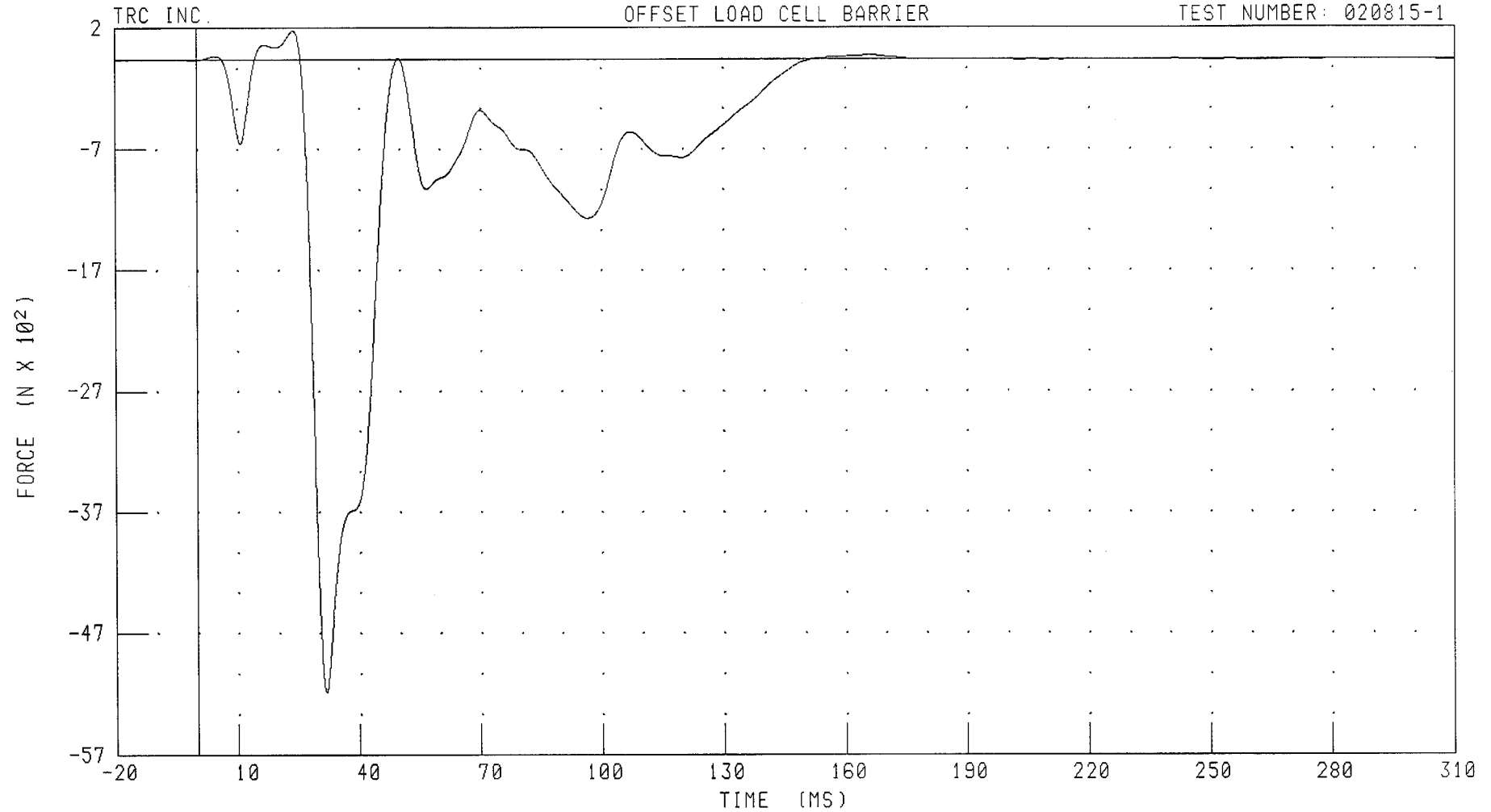
PEAK DATA: 212.17 N @ 28.80 MS; -3386.56 N @ 36.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL D3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCD3XF

FILTER: CH. CLASS 60

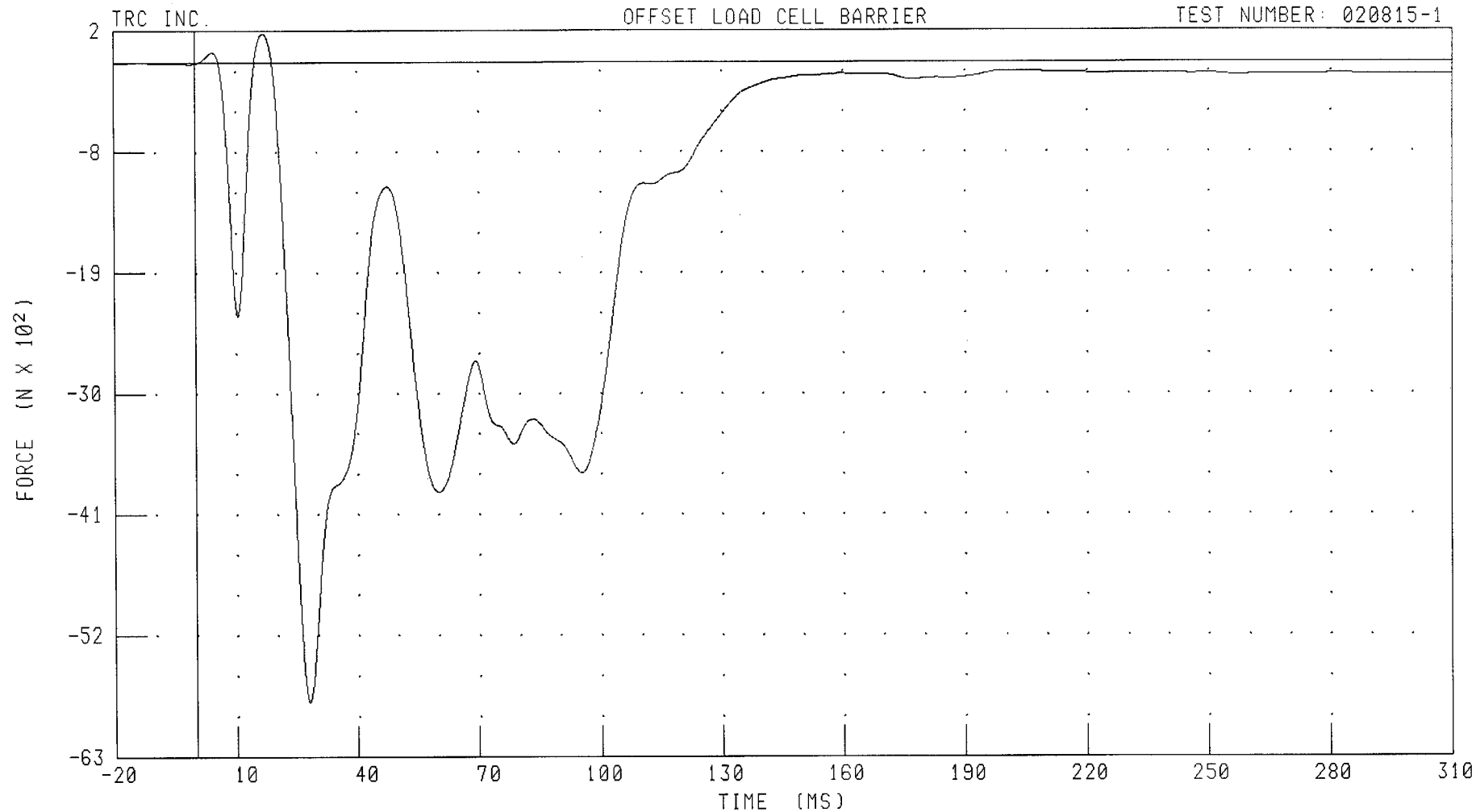
PEAK DATA: 237.15 N @ 23.92 MS; -5226.96 N @ 31.76 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL D4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCD4XF FILTER: CH. CLASS 60

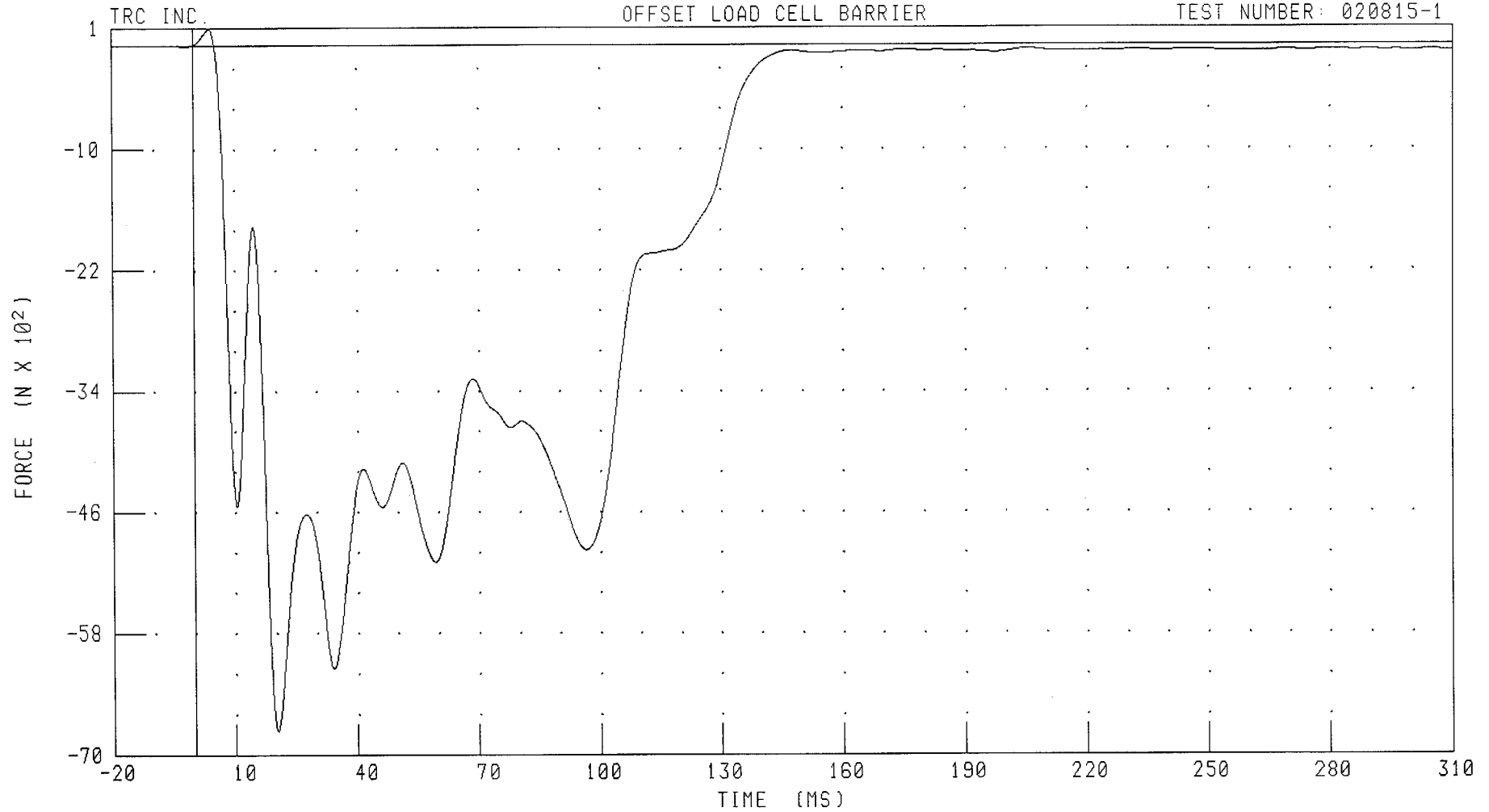
PEAK DATA: 267.19 N @ 16.88 MS; -5818.55 N @ 27.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL D5 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCD5XF

FILTER: CH. CLASS 60

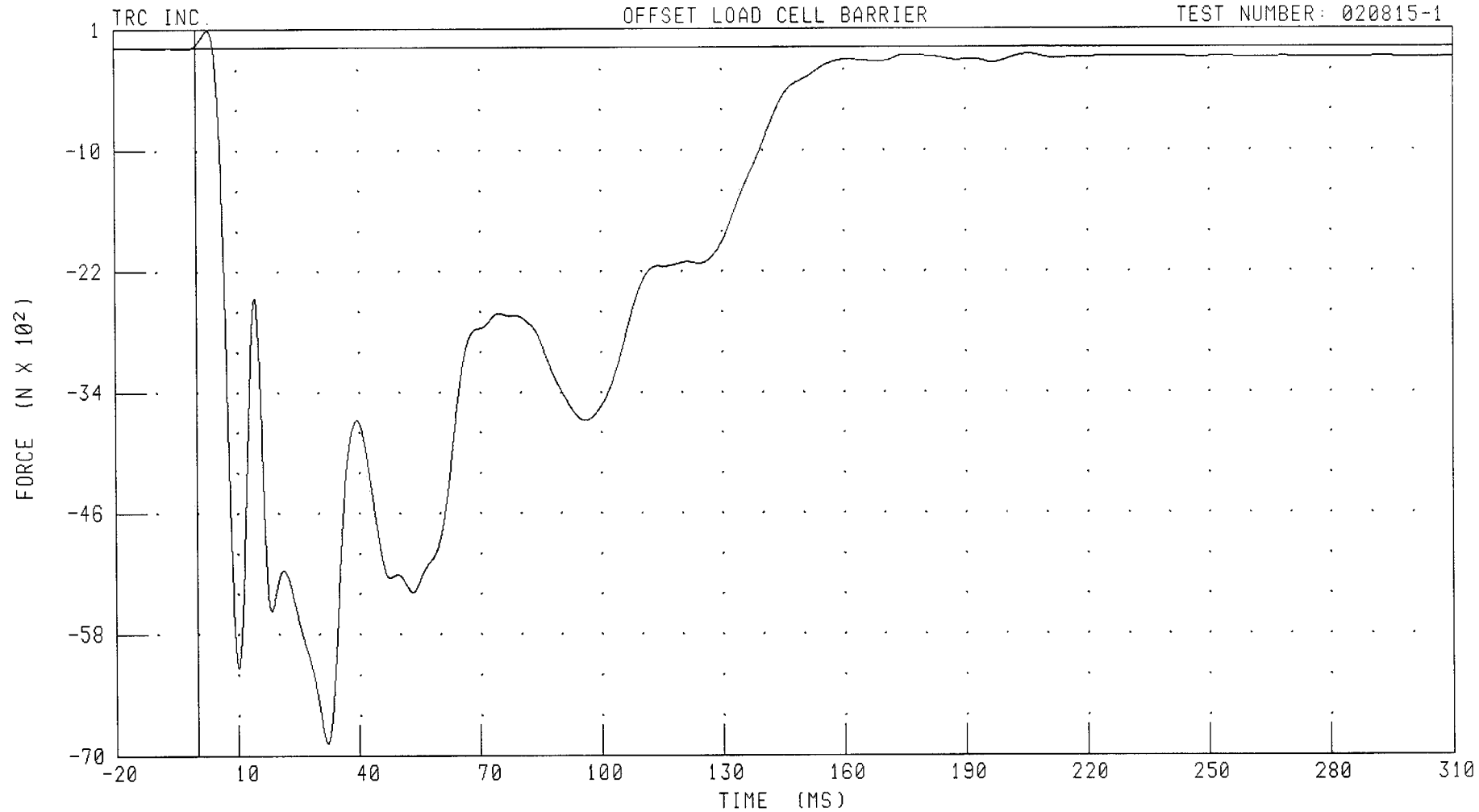
PEAK DATA: 161.76 N @ 3.92 MS; -6792.90 N @ 20.32 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL D6 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCD6XF

FILTER: CH. CLASS 60

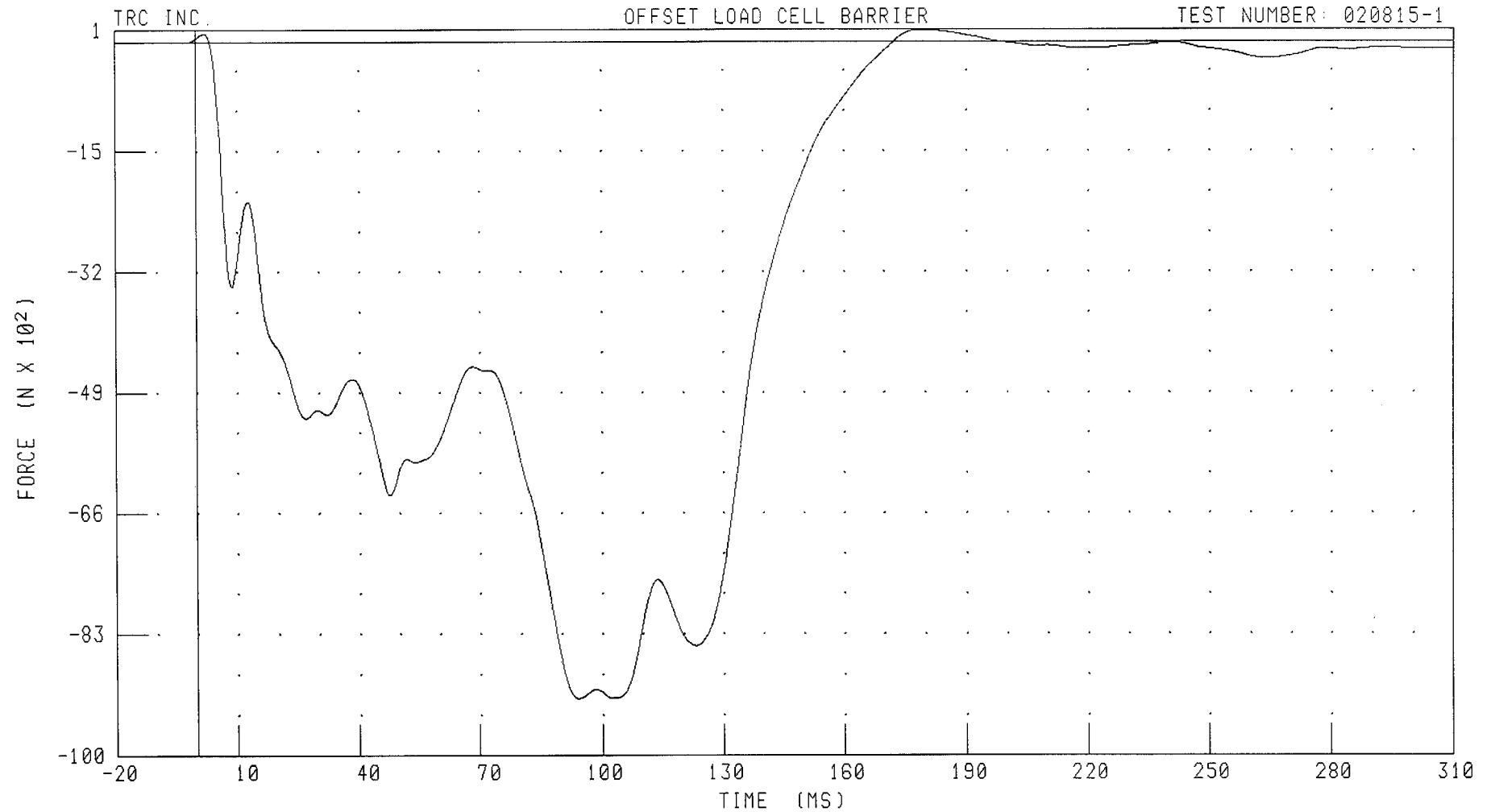
PEAK DATA: 168.72 N @ 2.88 MS; -6898.70 N @ 32.08 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL D7 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCD7XF

FILTER: CH. CLASS 60

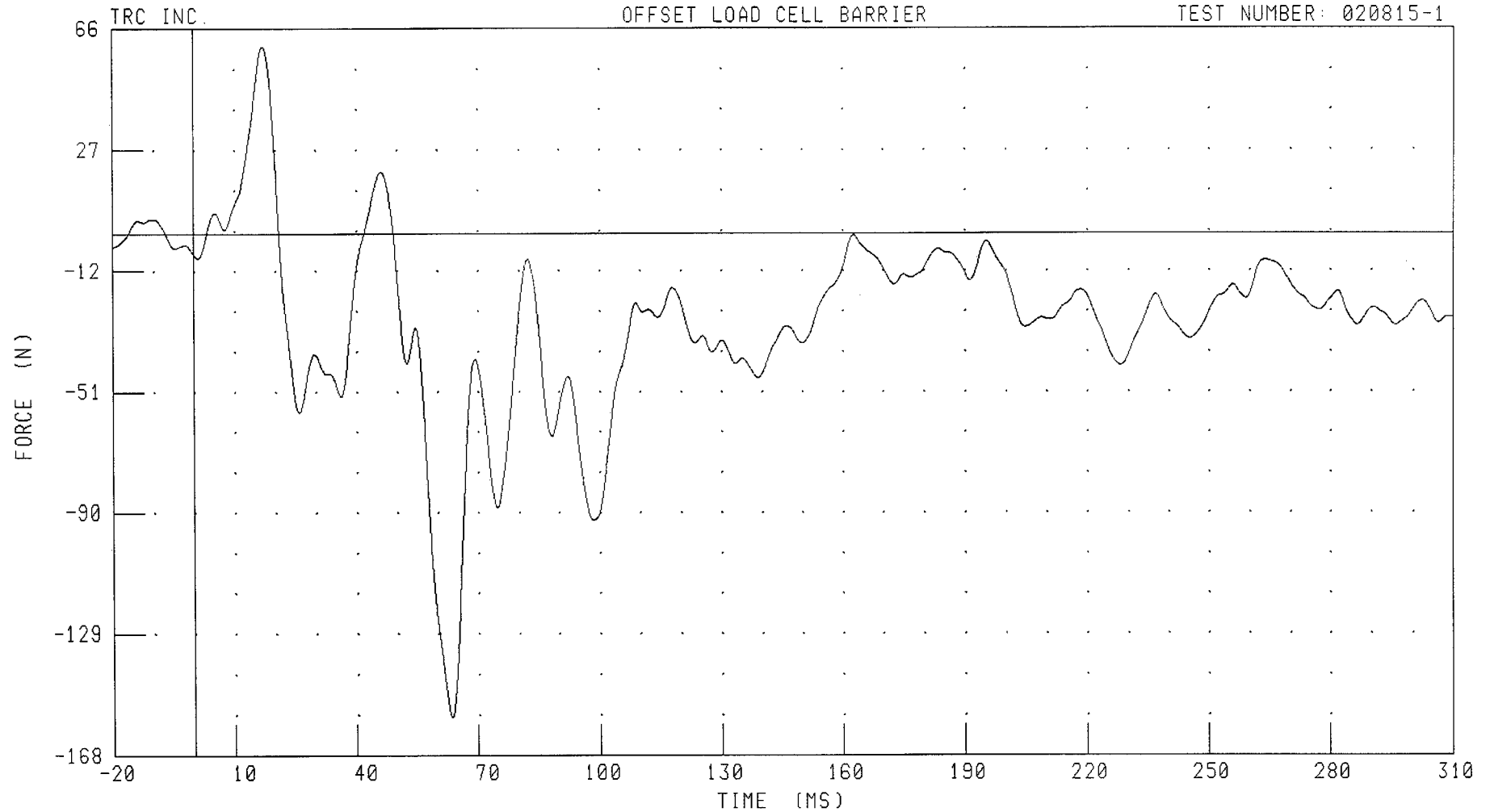
PEAK DATA: 162.41 N @ 178.80 MS; -9236.61 N @ 94.16 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL E1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCE1XF FILTER: CH. CLASS 60

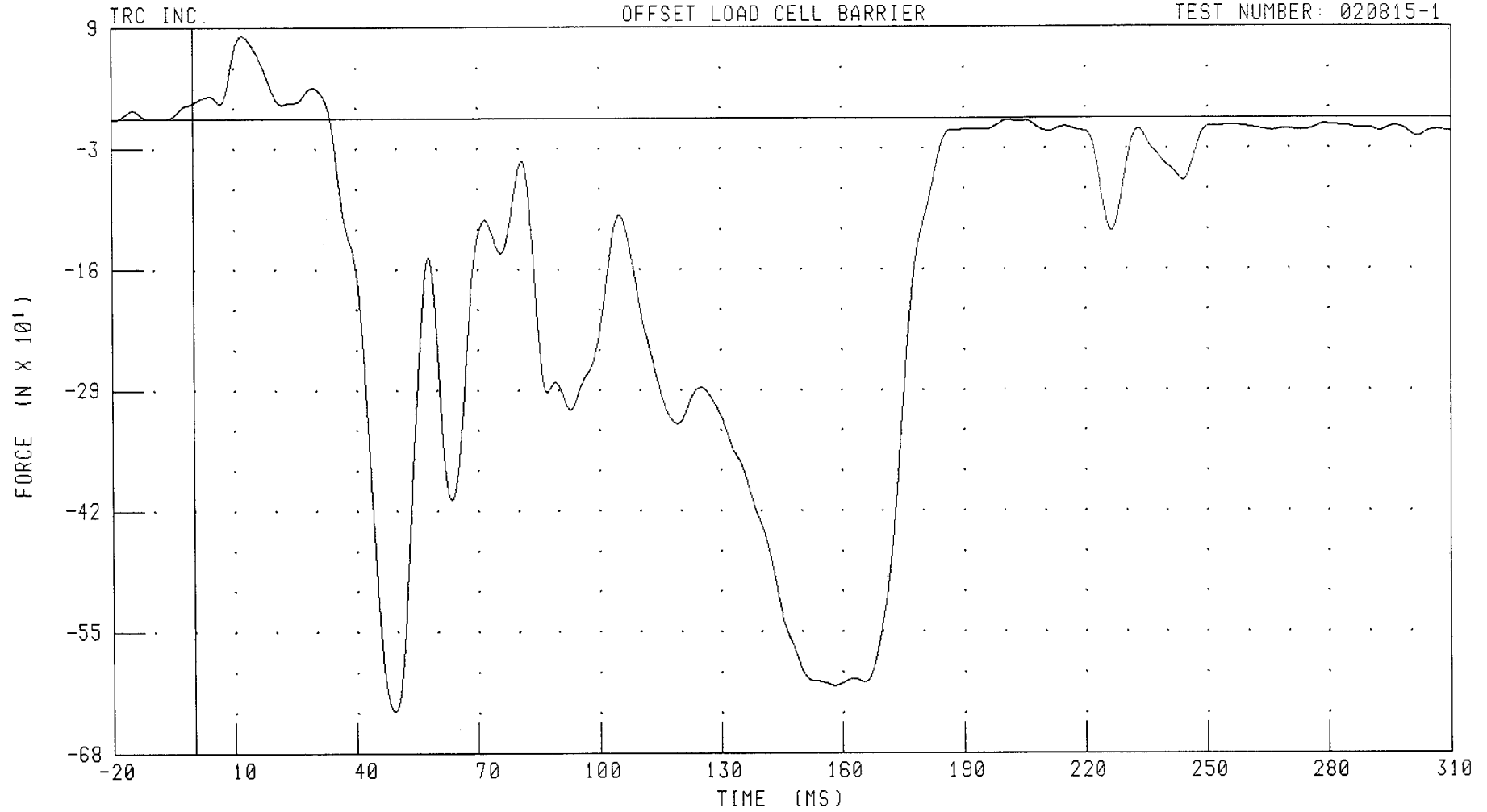
PEAK DATA: 60.29 N @ 17.12 MS; -155.77 N @ 63.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL E2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCE2XF FILTER: CH. CLASS 60

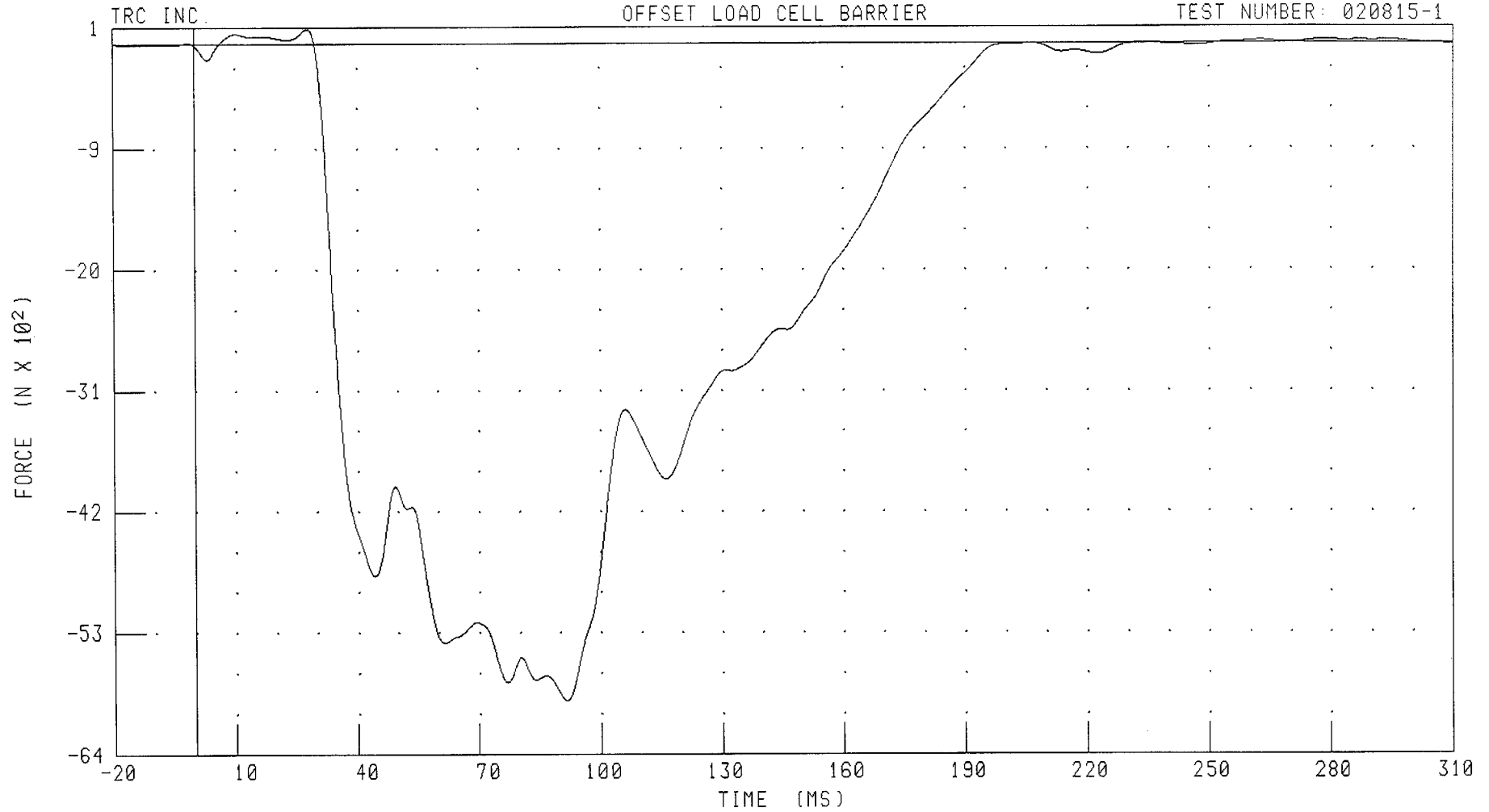
PEAK DATA: 89.09 N @ 12.16 MS; -637.28 N @ 49.44 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL E3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCE3XF FILTER: CH. CLASS 60

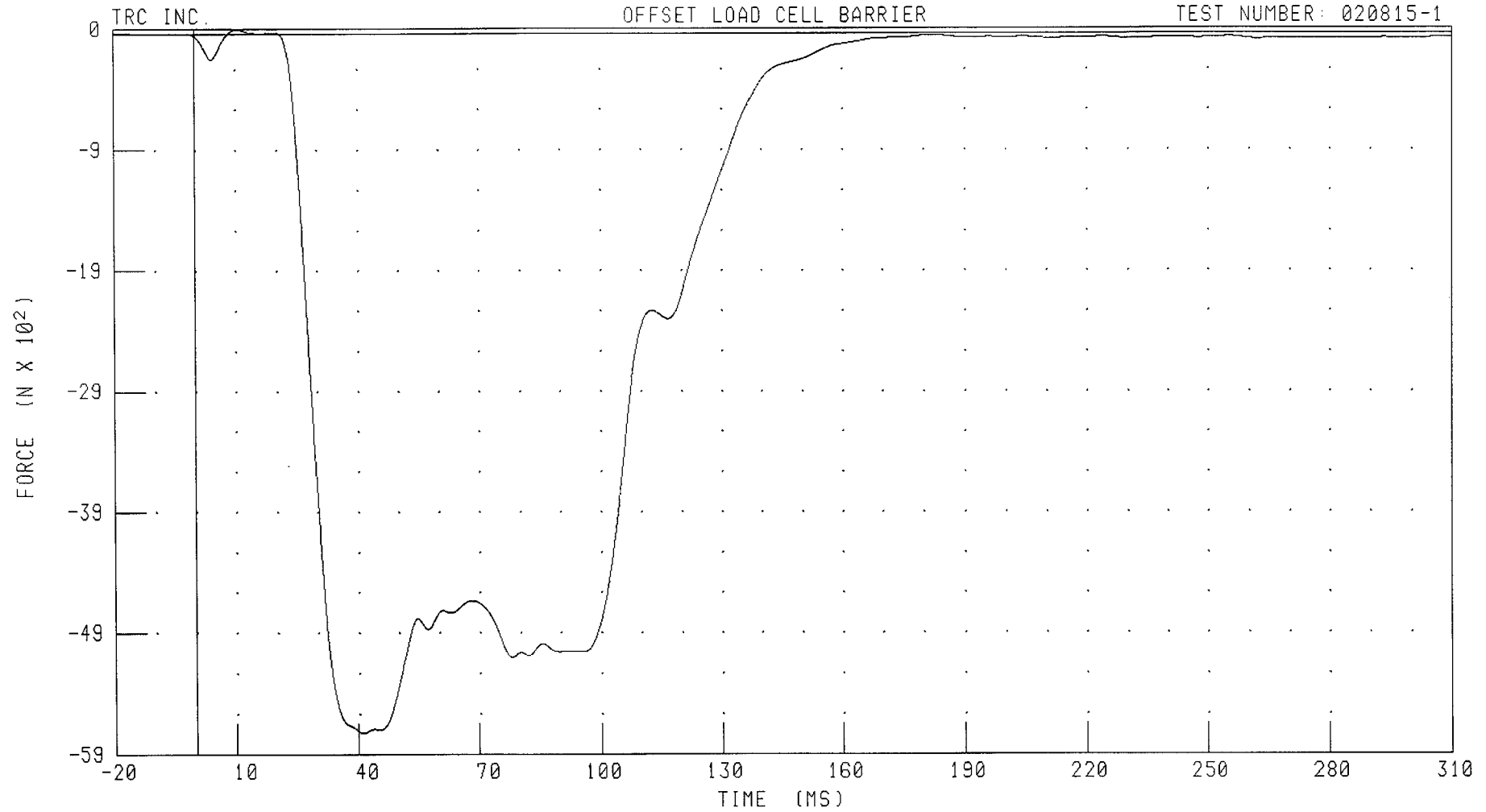
PEAK DATA: 137.66 N @ 28.08 MS; -5967.38 N @ 91.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL E4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCE4XF FILTER: CH. CLASS 60

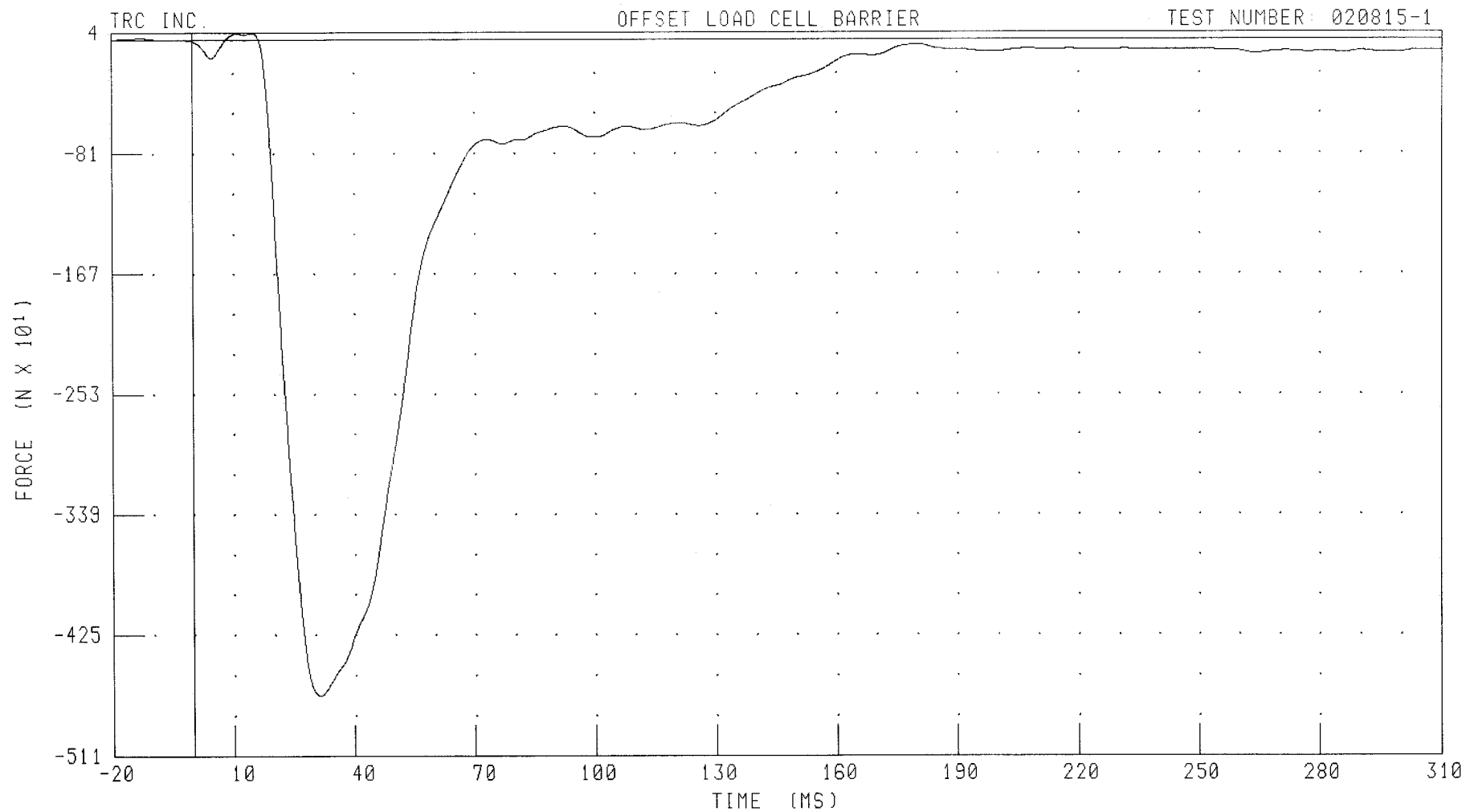
PEAK DATA: 34.36 N @ 10.48 MS; -5789.53 N @ 41.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL E5 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCE5XF FILTER: CH. CLASS 60

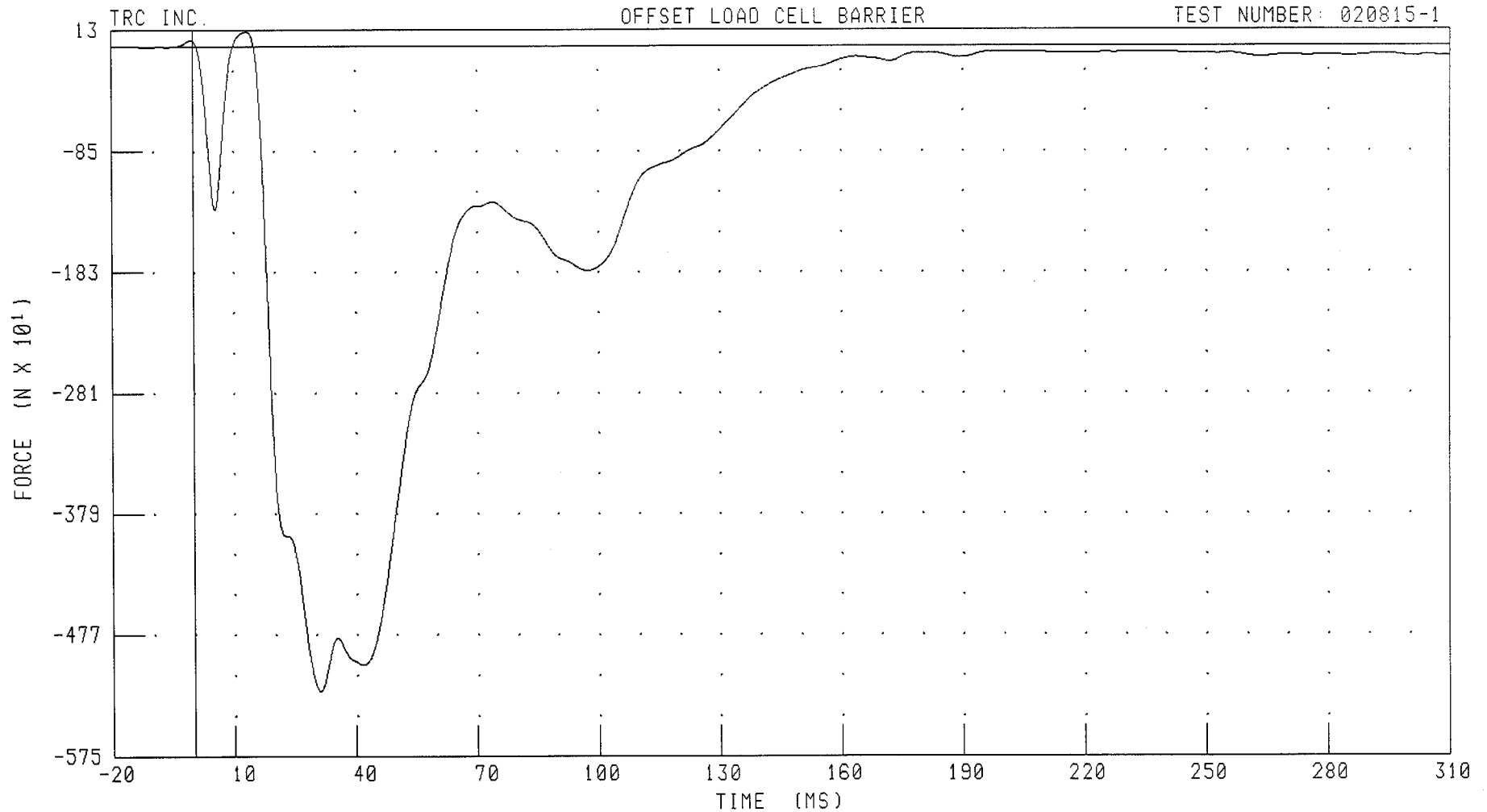
PEAK DATA: 42.63 N @ 14.80 MS; -4686.08 N @ 31.28 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL E6 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCE6XF FILTER: CH. CLASS 60

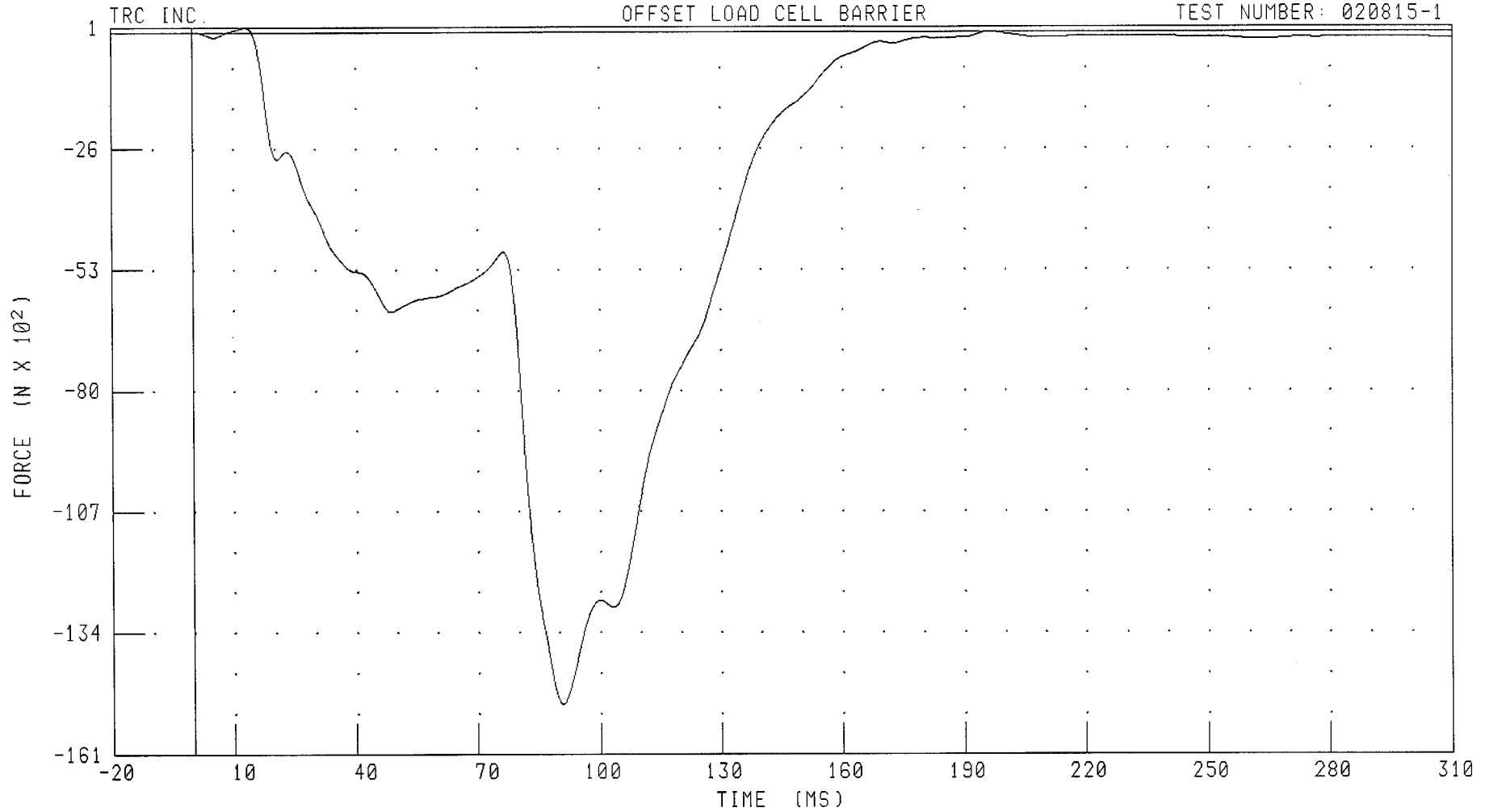
PEAK DATA: 120.31 N @ 13.36 MS; -5227.32 N @ 31.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL E7 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCE7XF

FILTER: CH. CLASS 60

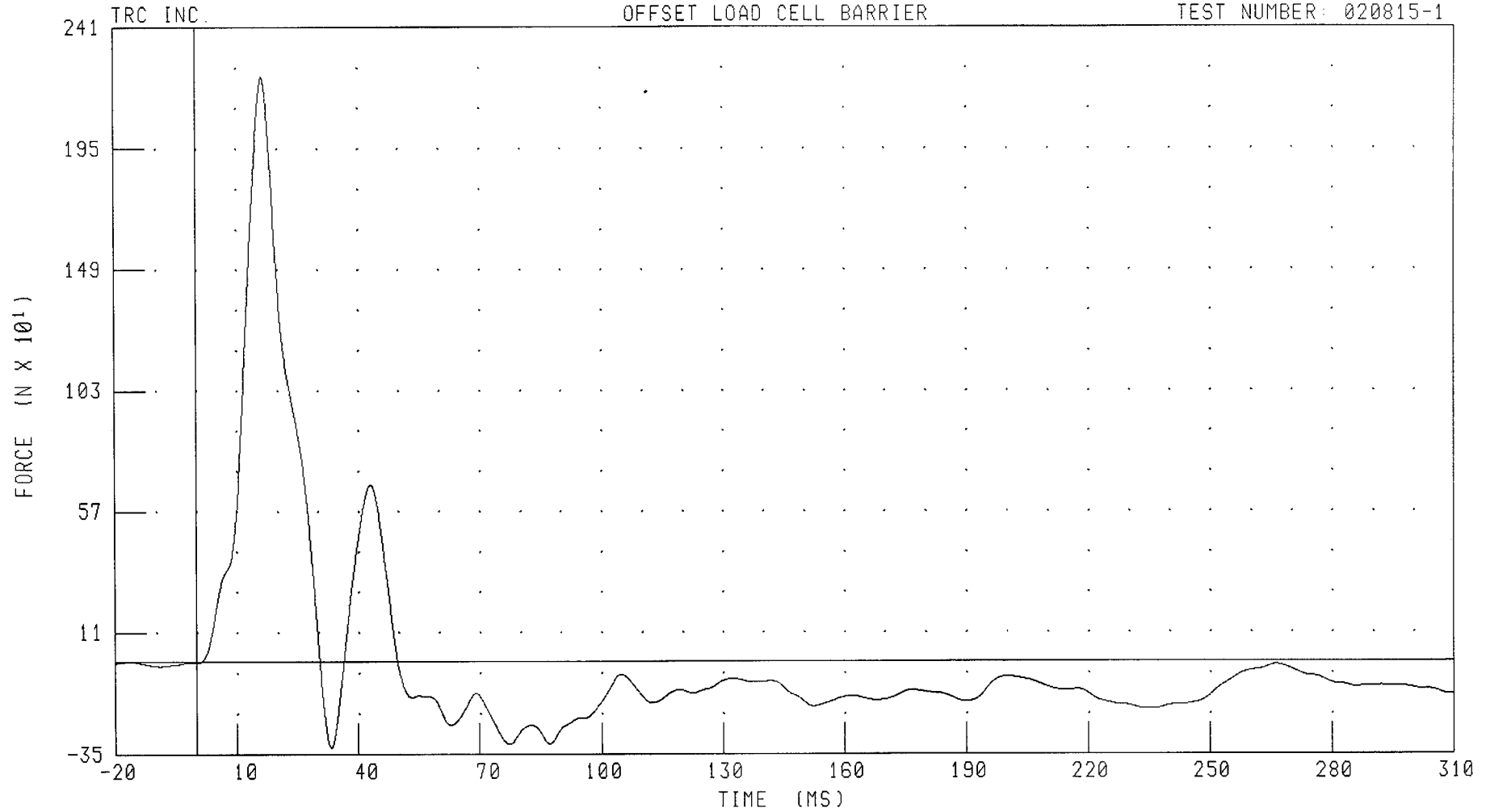
PEAK DATA: 97.34 N @ 13.04 MS; -14994.35 N @ 90.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL F1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCF1XF FILTER: CH. CLASS 60

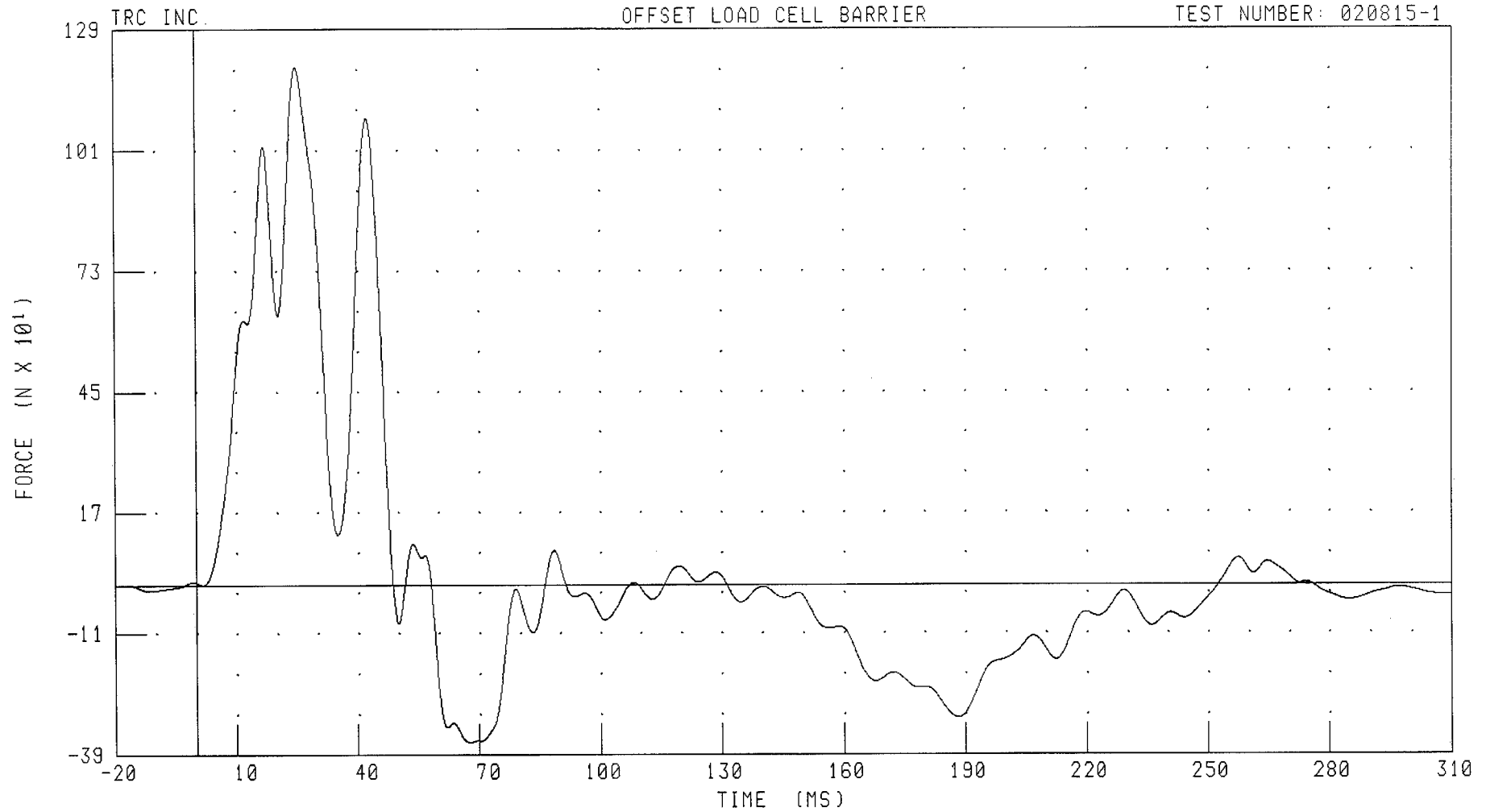
PEAK DATA: 2222.36 N @ 16.40 MS; -325.22 N @ 33.20 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL F2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCF2XF FILTER: CH. CLASS 60

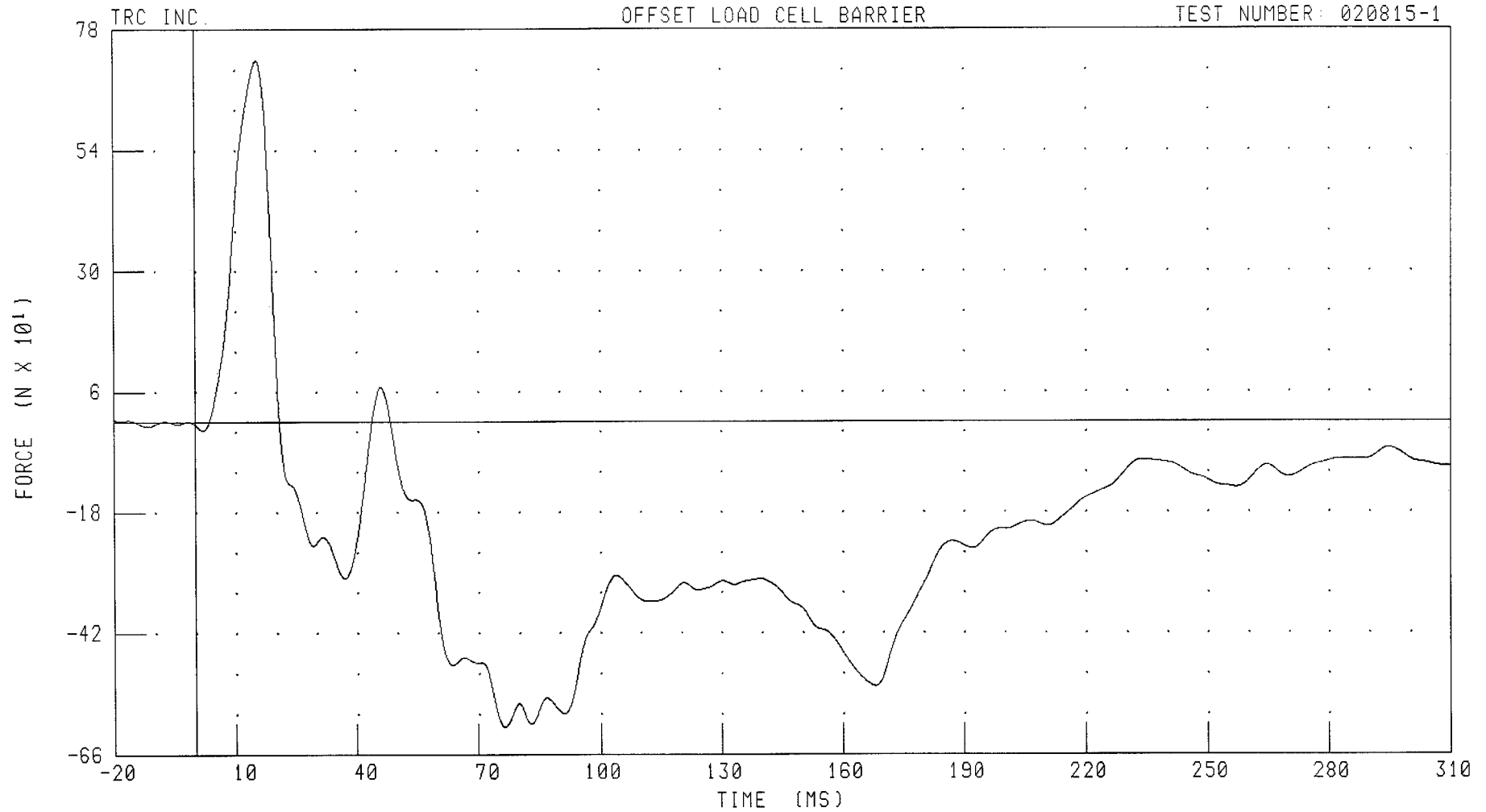
PEAK DATA: 1202.27 N @ 24.96 MS, -362.43 N @ 67.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL F3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCF3XF FILTER: CH. CLASS 60

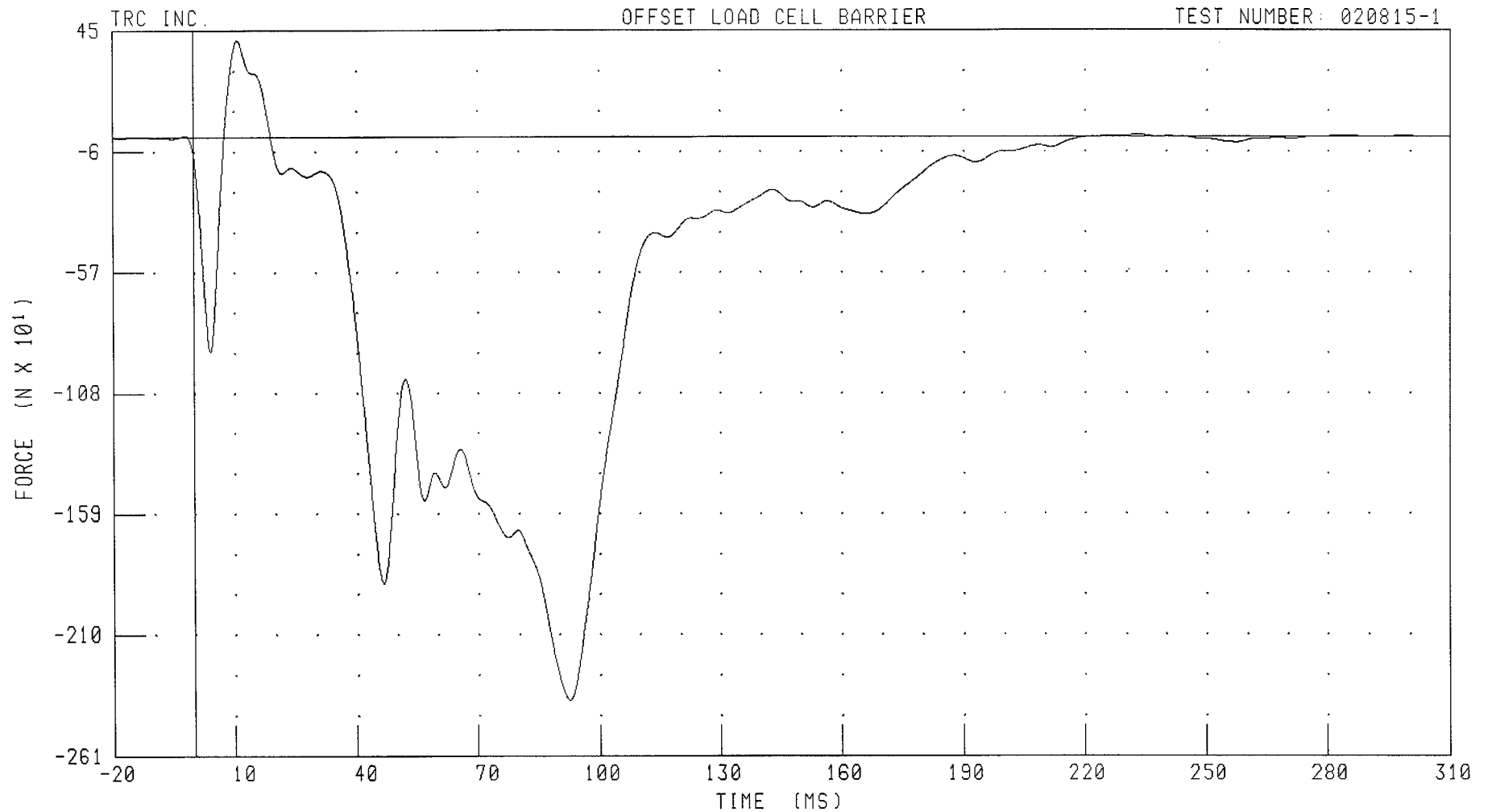
PEAK DATA: 718.61 N @ 15.36 MS, -605.48 N @ 76.40 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL F4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCF4XF FILTER: CH. CLASS 60

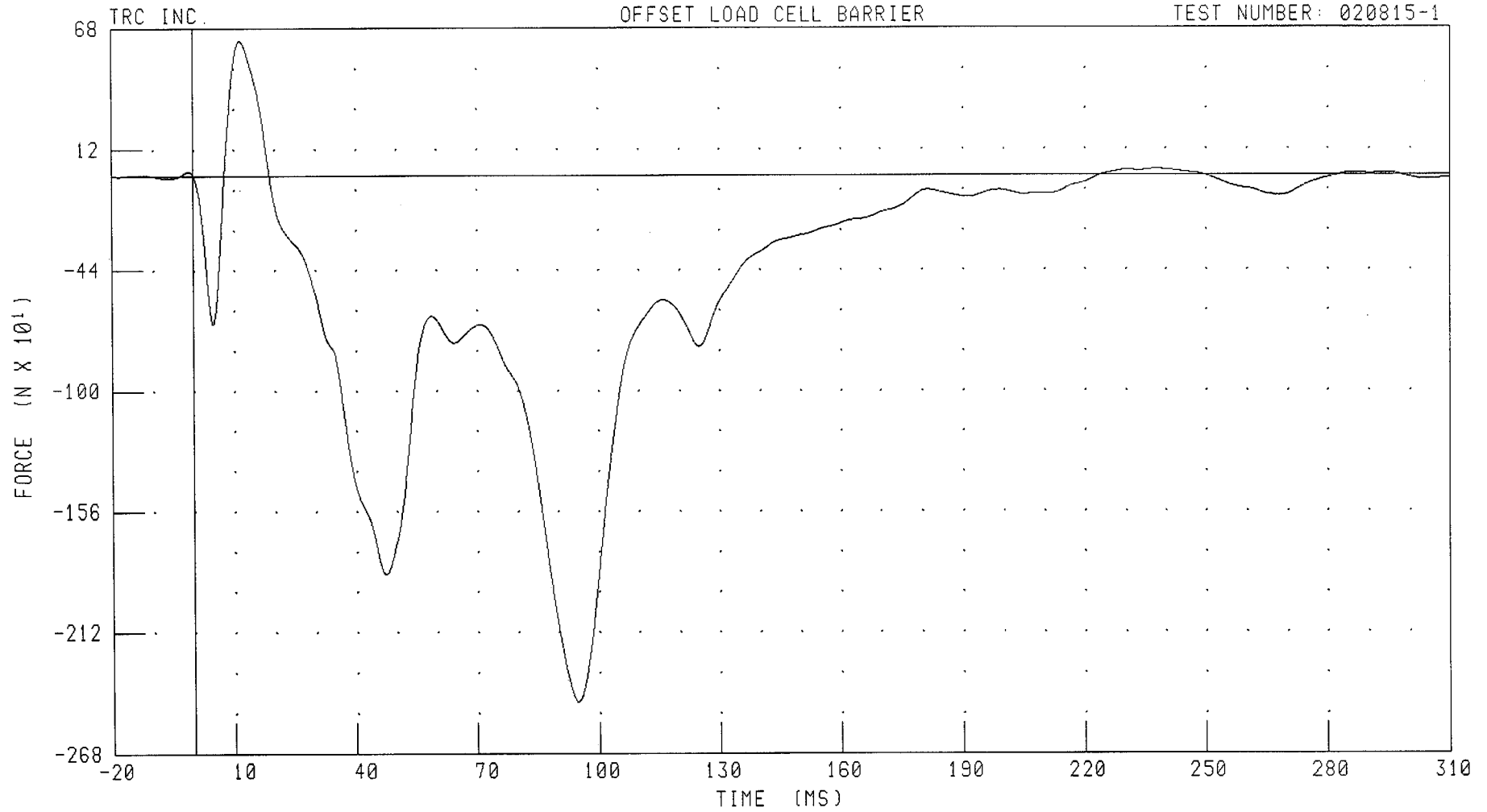
PEAK DATA: 409.95 N @ 10.96 MS; -2376.25 N @ 92.64 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL F5 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCF5XF FILTER: CH. CLASS 60

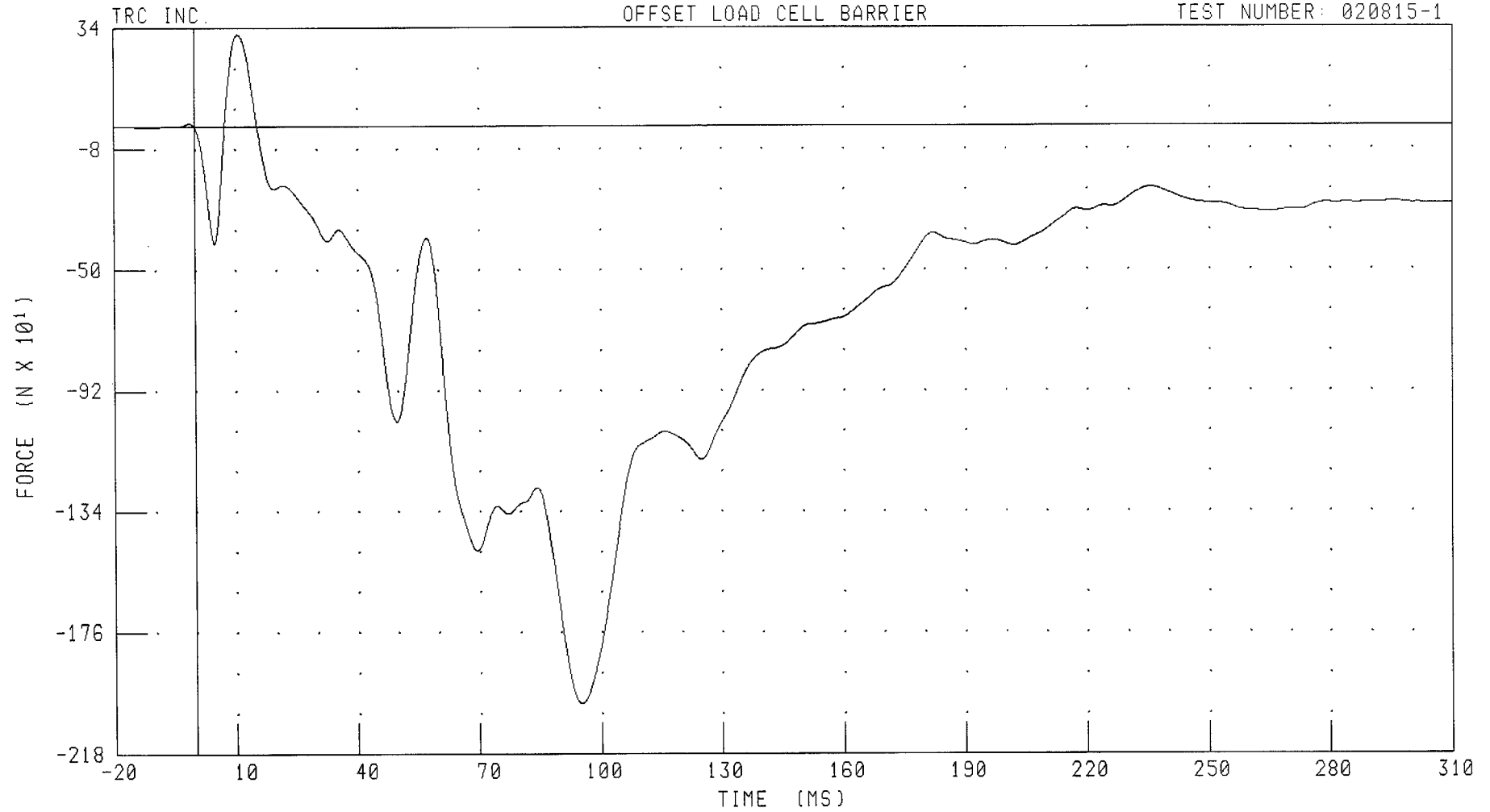
PEAK DATA: 623.77 N @ 11.60 MS; -2442.25 N @ 94.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL F6 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCF6XF FILTER: CH. CLASS 60

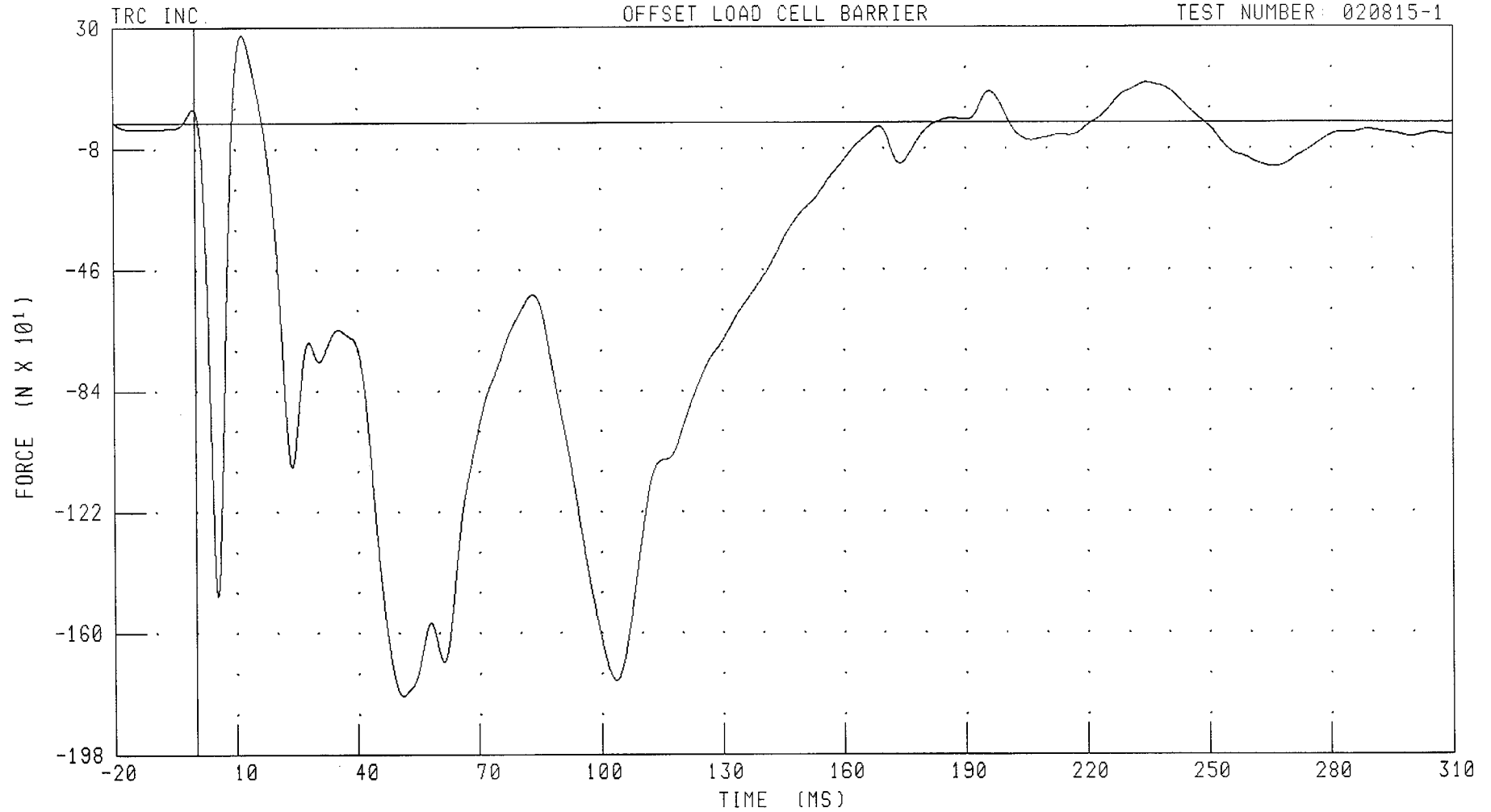
PEAK DATA: 317.87 N @ 10.72 MS; -2005.63 N @ 95.12 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL F7 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCF7XF FILTER: CH. CLASS 60

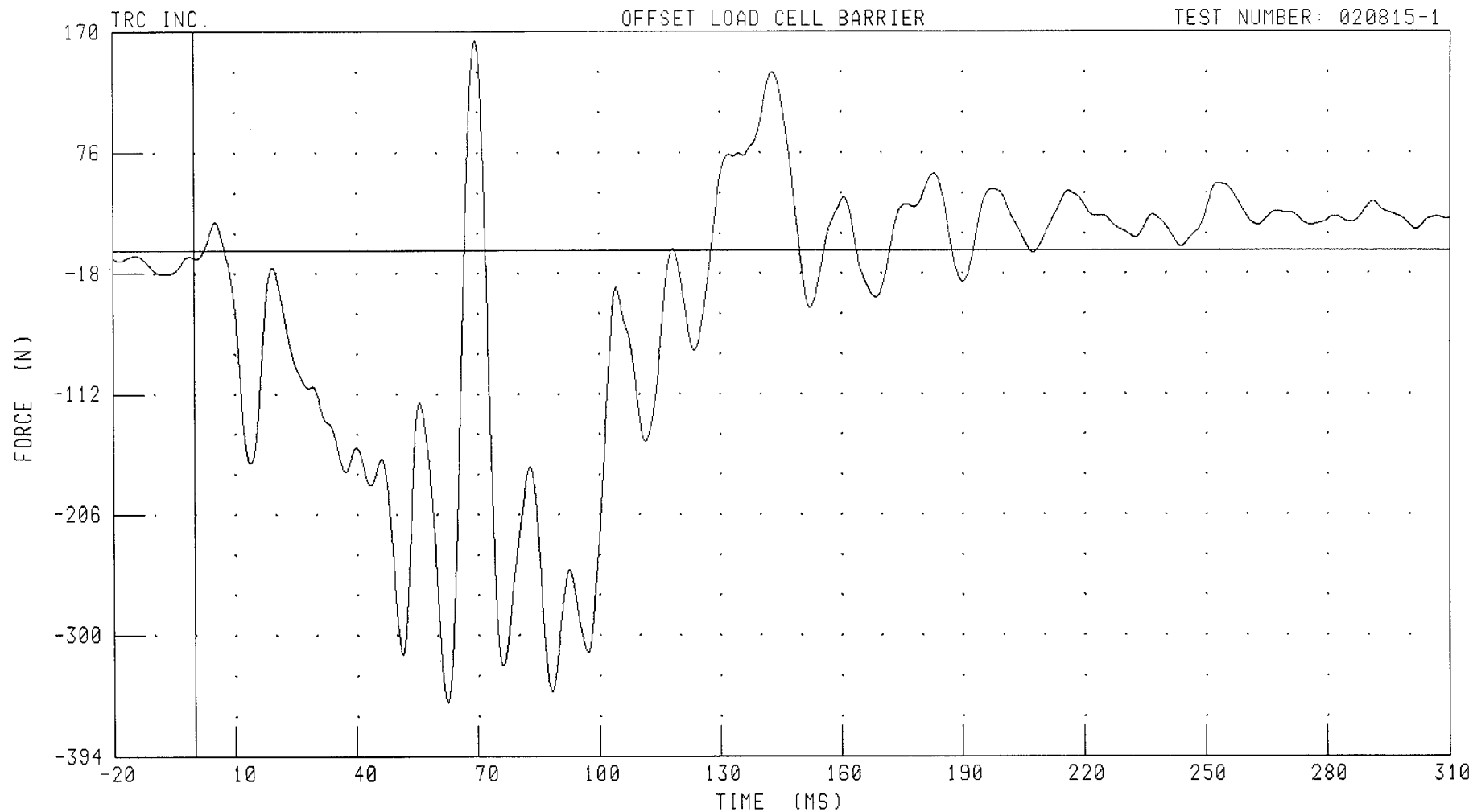
PEAK DATA: 276.84 N @ 11.76 MS; -1797.39 N @ 51.04 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL G1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCG1XF

FILTER: CH. CLASS 60

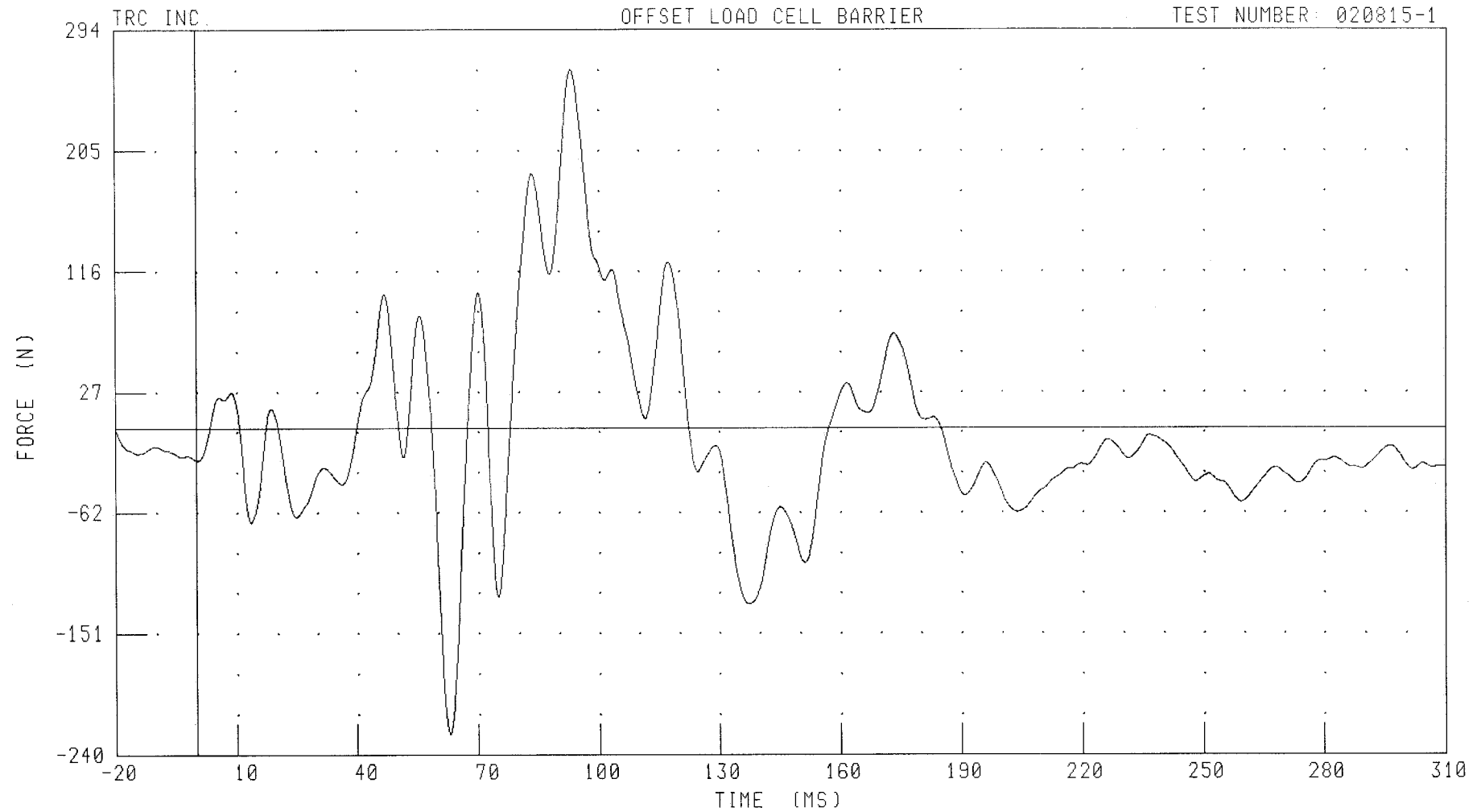
PEAK DATA: 163.38 N @ 69.76 MS; -352.35 N @ 62.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL G2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCG2XF FILTER: CH. CLASS 60

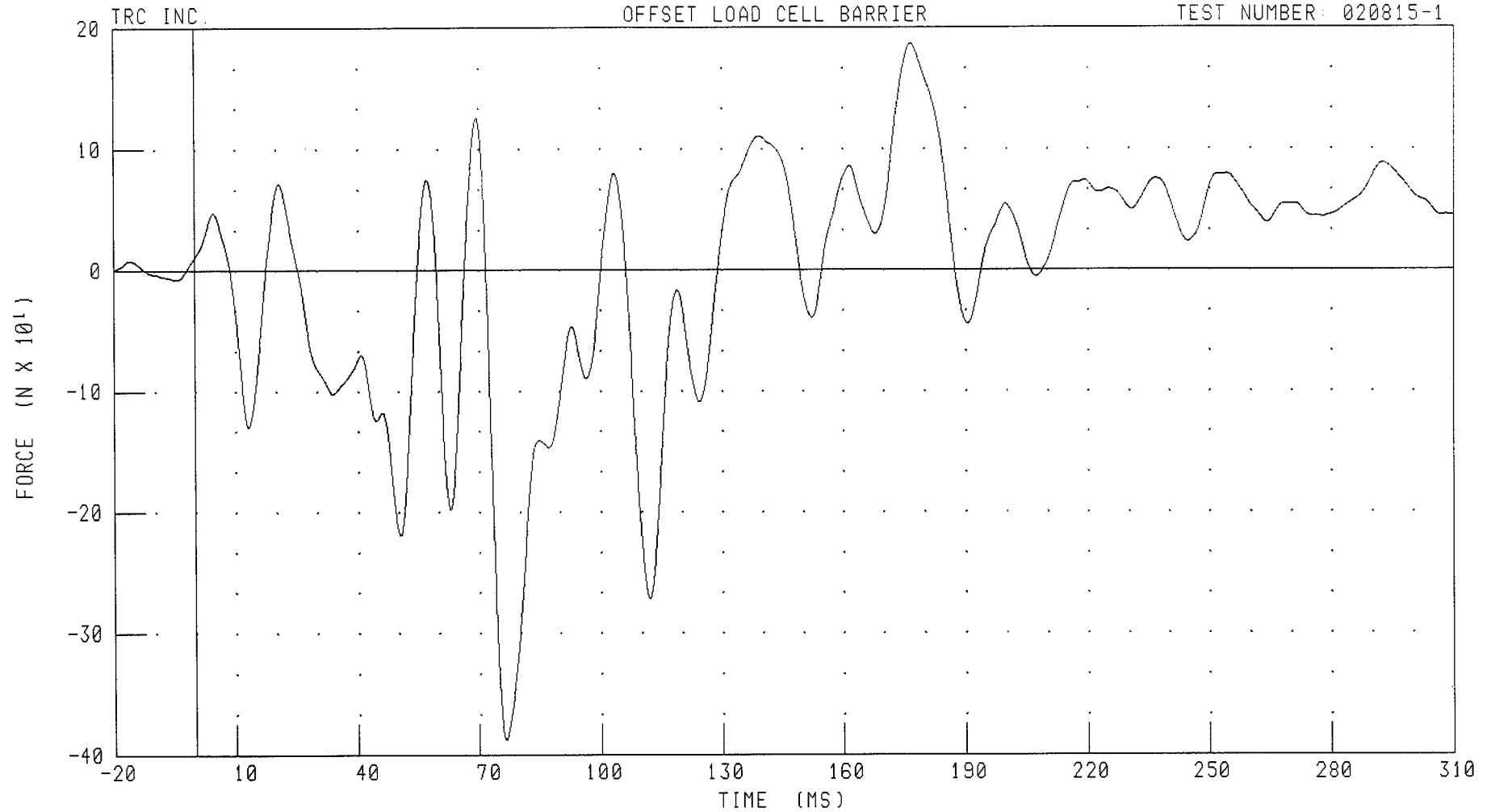
PEAK DATA: 264.50 N @ 93.12 MS; -225.15 N @ 62.88 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL G3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCG3XF FILTER: CH. CLASS 60

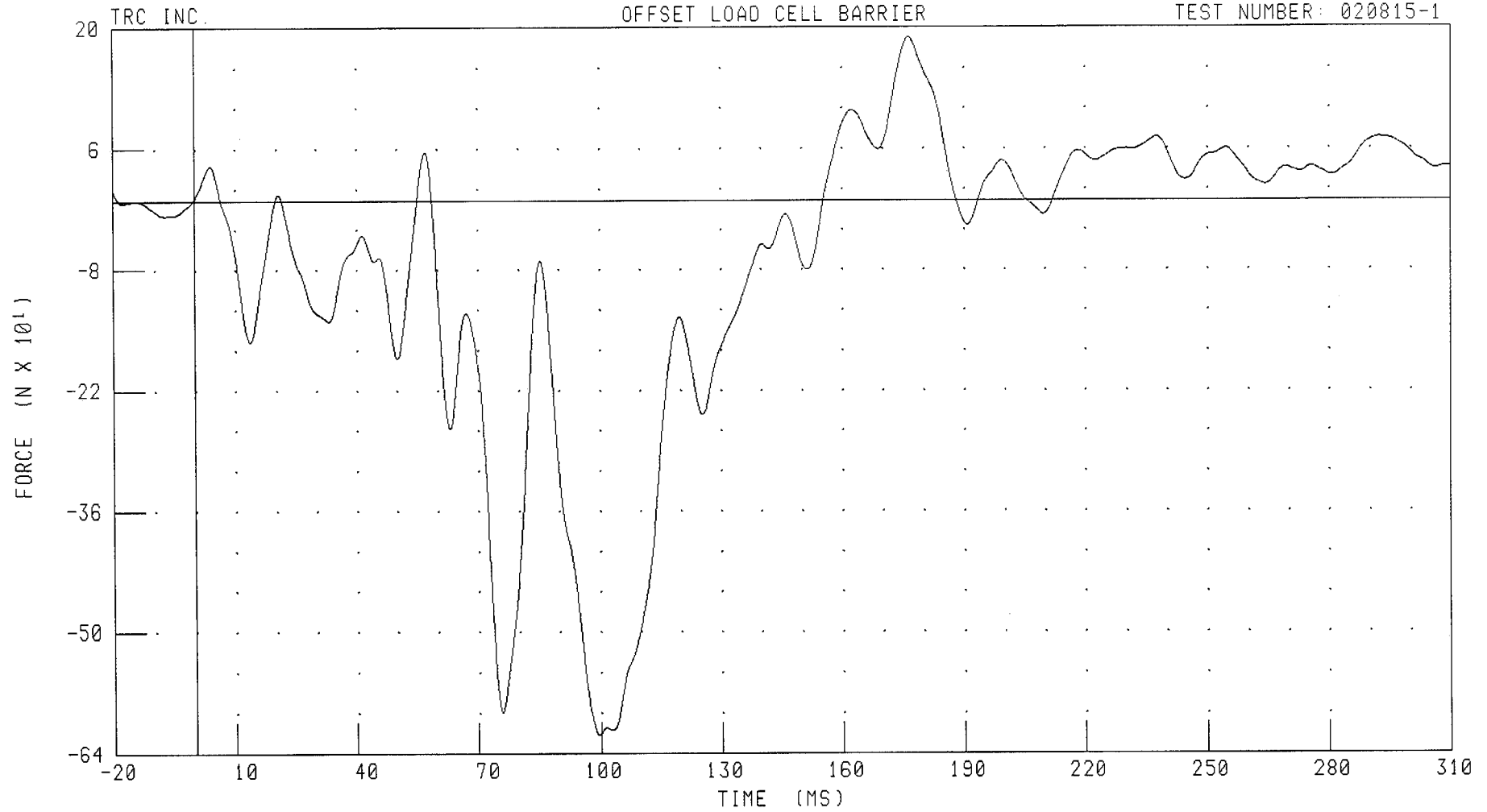
PEAK DATA: 186.71 N @ 176.96 MS; -387.53 N @ 76.48 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL G4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCG4XF FILTER: CH. CLASS 60

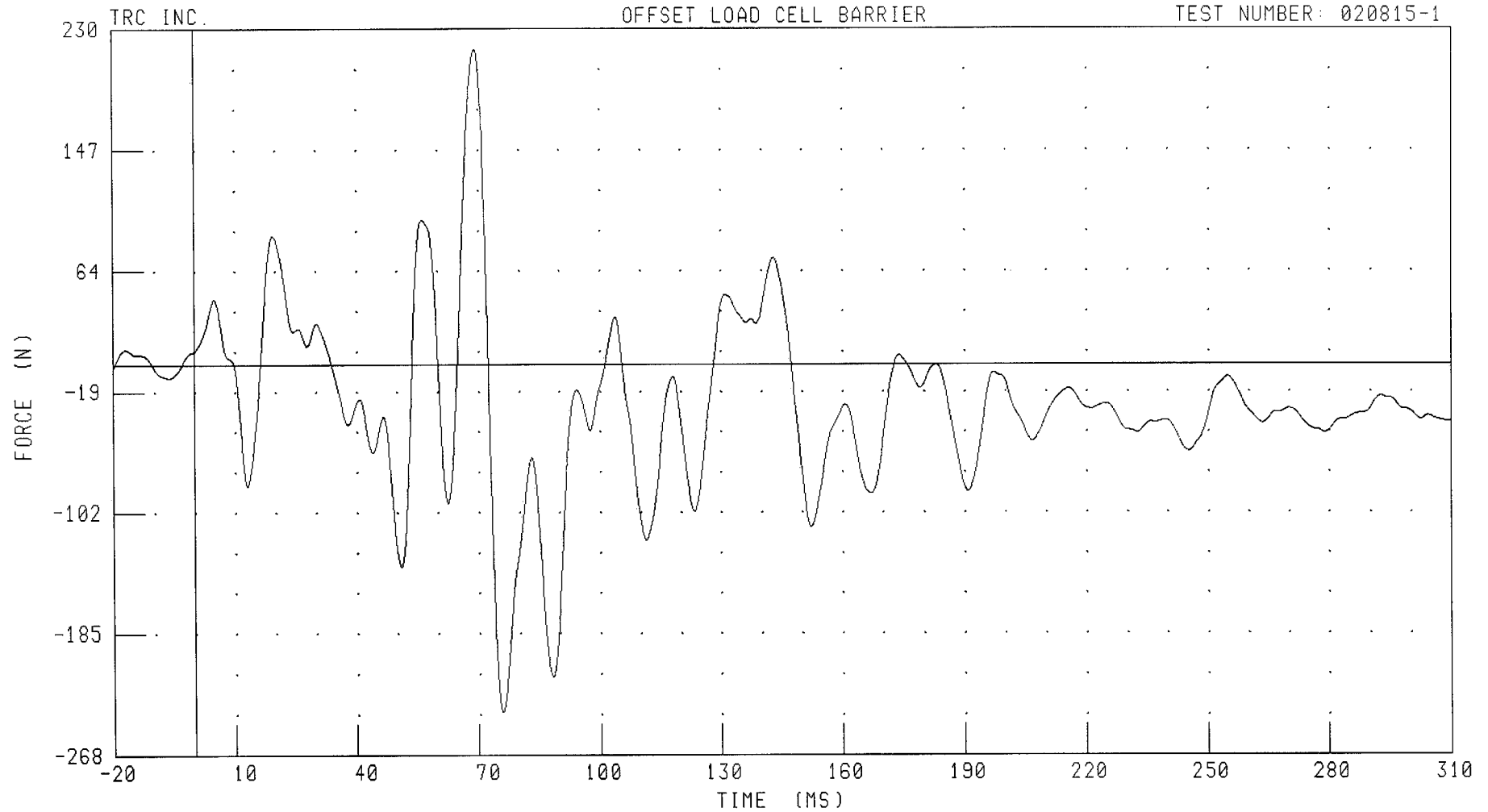
PEAK DATA: 188.73 N @ 176.56 MS; -618.73 N @ 99.60 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL H1 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCH1XF FILTER: CH. CLASS 60

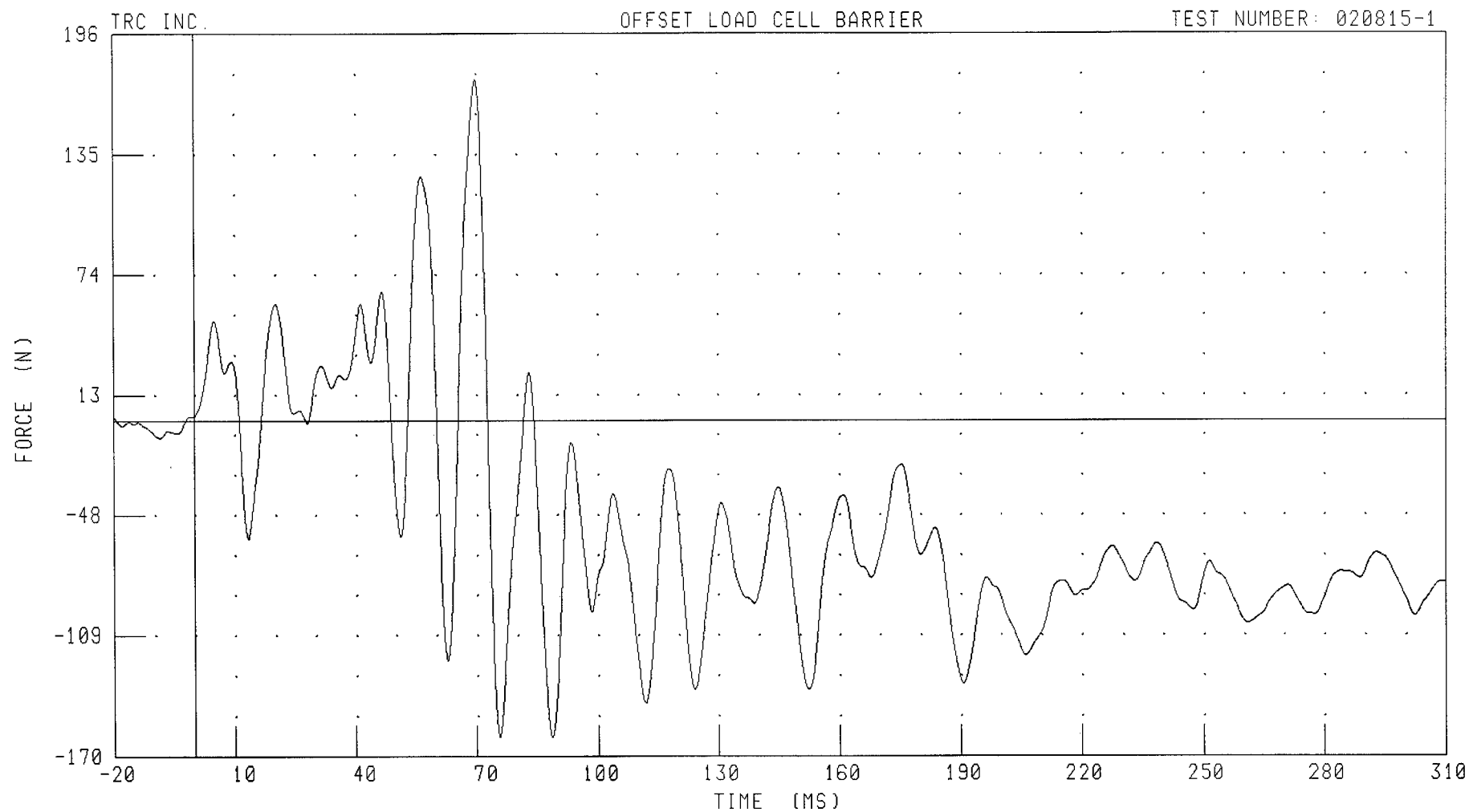
PEAK DATA: 215.78 N @ 69.44 MS; -238.69 N @ 75.92 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL H2 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCH2XF FILTER: CH. CLASS 60

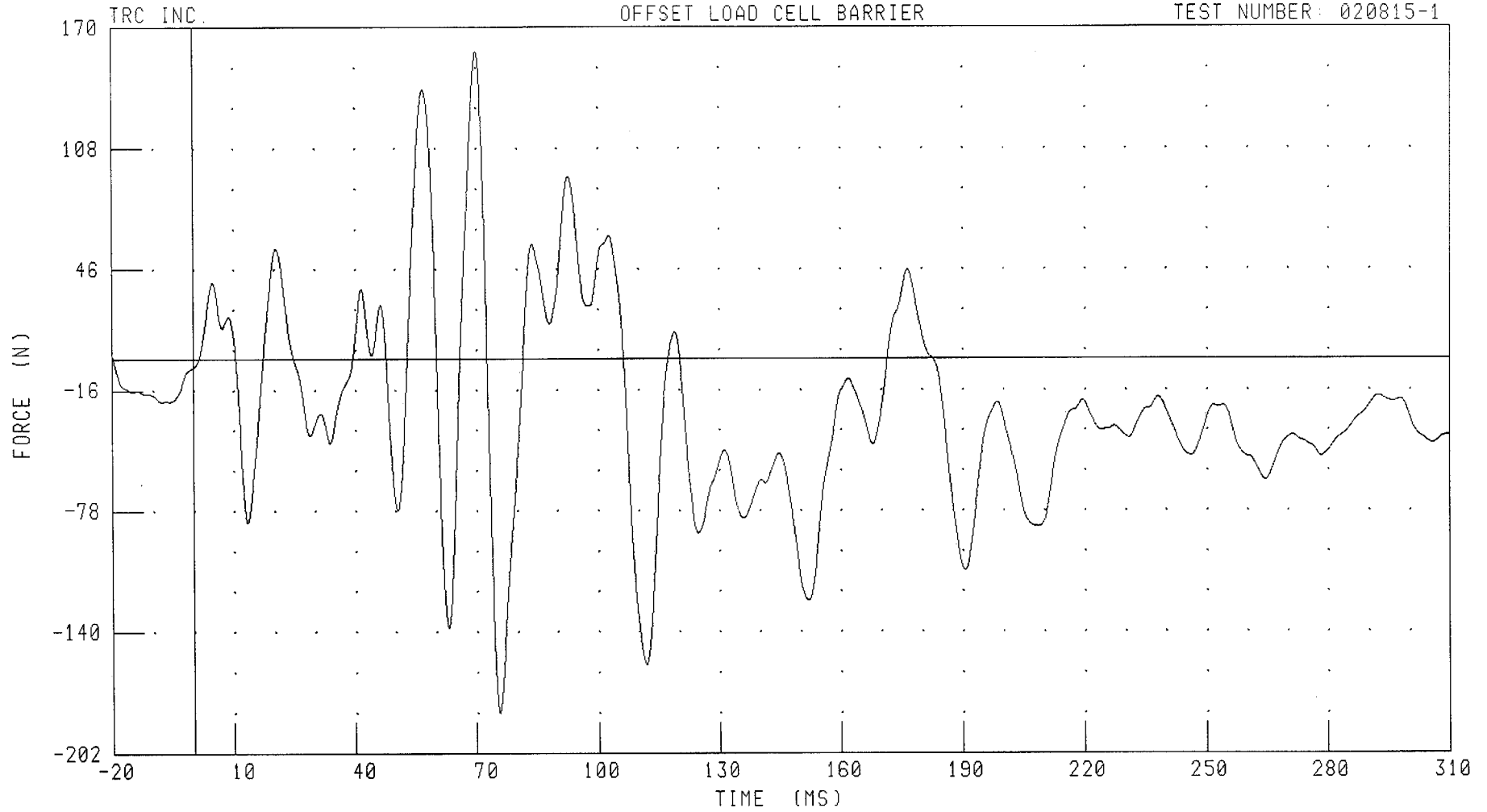
PEAK DATA: 172.78 N @ 69.92 MS; -160.41 N @ 88.56 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL H3 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCH3XF FILTER: CH. CLASS 60

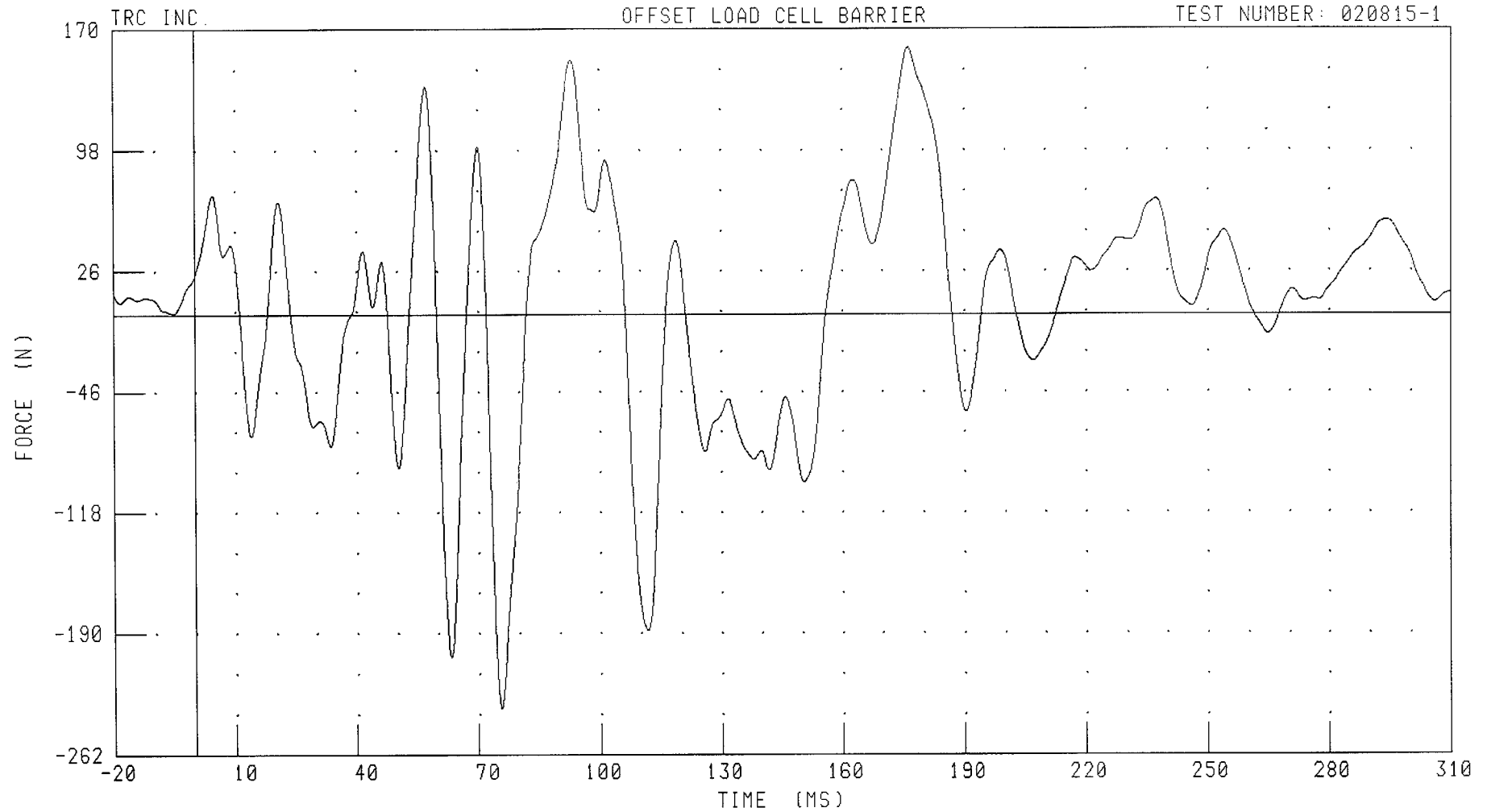
PEAK DATA: 157.54 N @ 70.16 MS; -181.65 N @ 75.68 MS

2002 NISSAN ALTIMA INTO 40% LEFT OFFSET LOAD CELL BARRIER AT 56 KM/H

BARRIER LOAD CELL H4 X-AXIS FORCE

OFFSET LOAD CELL BARRIER

TEST NUMBER: 020815-1



CHANNEL: LCH4XF FILTER: CH. CLASS 60

PEAK DATA: 158.96 N @ 176.64 MS; -234.91 N @ 75.68 MS

Appendix C

Dummy Configuration and Performance Verification Data

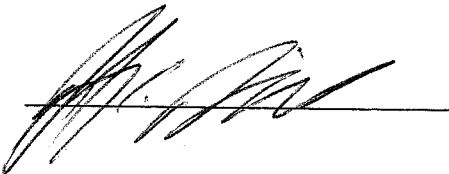
Pre-Test Dummy Configuration and Performance Verification Data

Driver Dummy S/N: 416

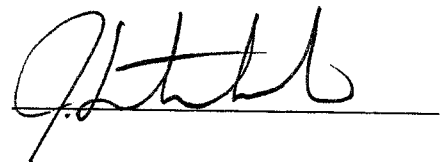
Transportation Research Center Inc.
572F HIII 5th Dummy
External Dimensions
Serial No. 416 Calibration No. 16

Test Parameter	Dimension	Specification	Results	Pass
Total Sitting Height	A	774.7 - 800.1 mm	779 mm	Yes
Shoulder Pivot Height	B	431.8 - 457.2 mm	443 mm	Yes
Hip Pivot Height	C	81.3 - 86.3 mm	83 mm	Yes
Hip Pivot from Backline	D	144.8 - 149.8 mm	145 mm	Yes
Shoulder Pivot from Backline	E	68.6 - 83.8 mm	73 mm	Yes
Thigh Clearance	F	119.4 - 134.6 mm	124 mm	Yes
Back of Elbow to Wrist Pivot	G	243.9 - 259.0 mm	249 mm	Yes
Head Back to Backline	H	40.7 - 45.7 mm	42 mm	Yes
Shoulder to Elbow Length	I	276.9 - 297.1 mm	285 mm	Yes
Elbow Rest Height	J	182.9 - 203.2 mm	198 mm	Yes
Buttock Knee Length	K	520.7 - 546.1 mm	541 mm	Yes
Popliteal Height	L	355.6 - 375.9 mm	363 mm	Yes
Knee Pivot Height	M	393.7 - 419.1 mm	404 mm	Yes
Buttock Popliteal Height	N	414.1 - 439.4 mm	422 mm	Yes
Chest Depth without Jacket	O	175.3 - 190.5 mm	186 mm	Yes
Foot Length	P	218.5 - 233.6 mm	228 mm	Yes
Buttock to Knee Pivot Length	R	457.2 - 482.6 mm	463 mm	Yes
Head Breadth	S	137.2 - 147.3 mm	140 mm	Yes
Head Depth	T	177.8 - 187.9 mm	185 mm	Yes
Hip Breadth	U	299.8 - 314.9 mm	303 mm	Yes
Shoulder Breadth	V	350.6 - 365.7 mm	357 mm	Yes
Foot Breadth	W	78.8 - 93.9 mm	91 mm	Yes
Head Circumference	X	528.4 - 548.6 mm	544 mm	Yes
Chest Circumference with Jacket	Y	850.9 - 881.3 mm	870 mm	Yes
Waist Circumference	Z	759.5 - 789.9 mm	782 mm	Yes
Reference Location for Chest Circumference	AA	299.8 - 309.8 mm	305 mm	Yes
Reference Location for Waist Circumference	BB	160.1 - 170.1 mm	165 mm	Yes

Technician



Approved




Transportation Research Center Inc.

5720 Head Drop Test

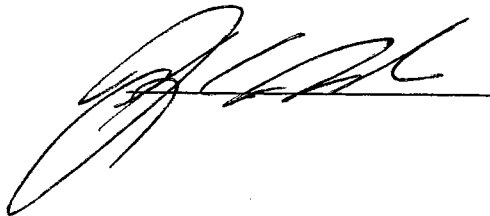
HIII 5th Female Serial No. 416 Calibration No. 16 - 2

Test Date 08/14/2002

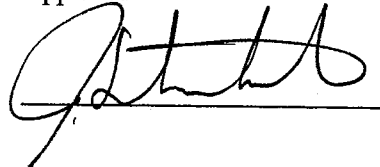
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Peak Resultant Acceleration	250 - 300 g	280.7 g	Yes
Peak Lateral Acceleration	15 g Max	-2.6 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician



Approved

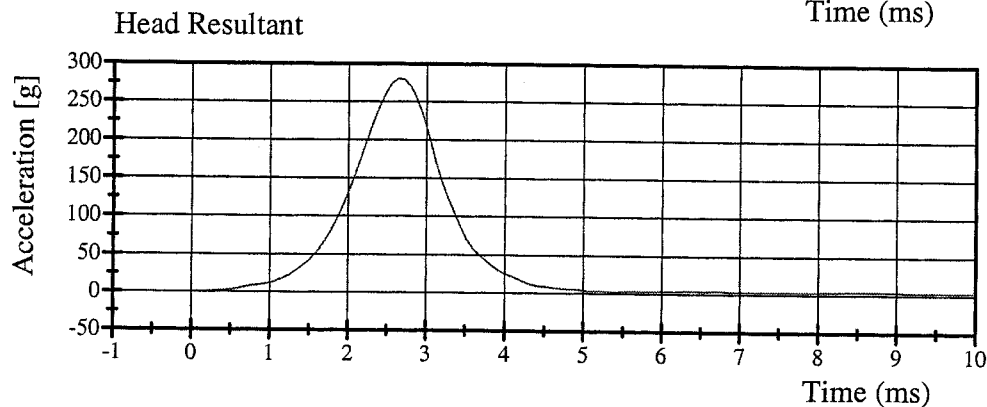
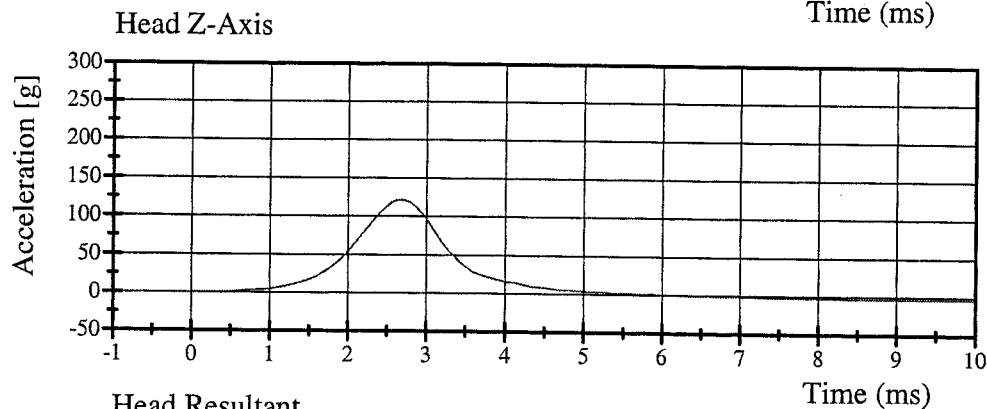
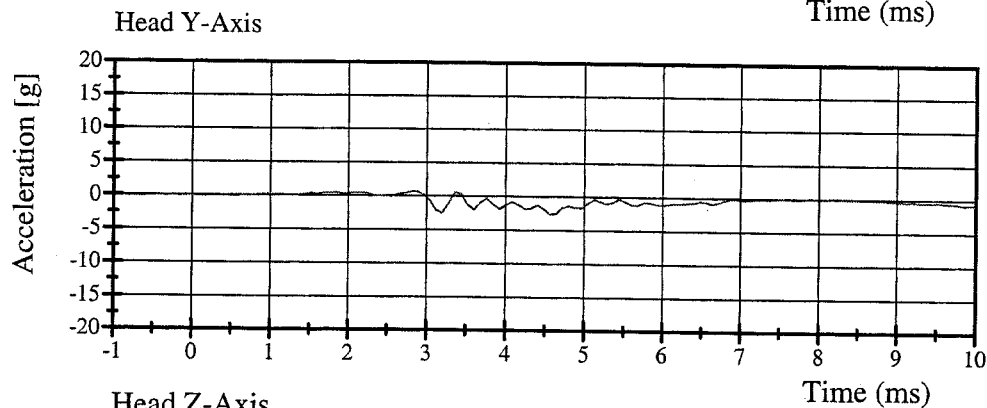
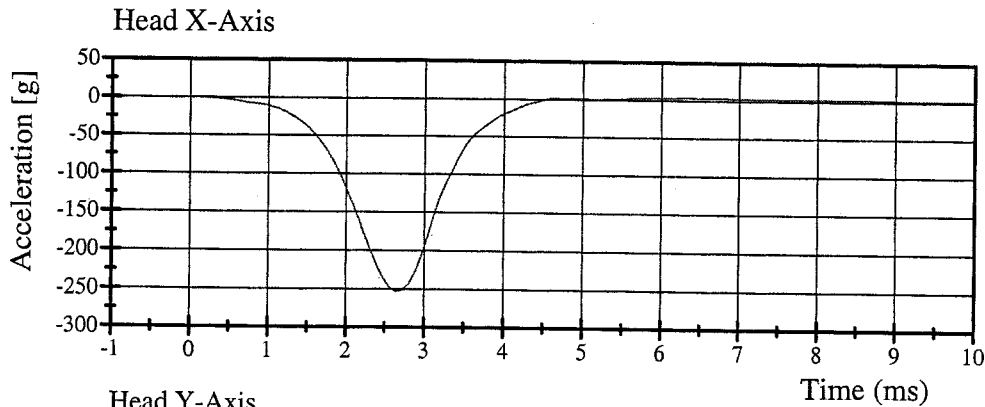


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 2

Test Date 08/14/2002



Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

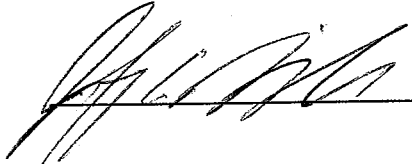
HIII 5th Female Serial No. 416 Calibration No. 16 - 2

Test Date 07/08/2002

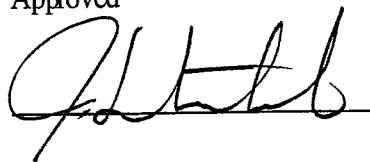
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.06 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.17 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.36 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.30 m/s	Yes
Peak D Plane Rotation	77 - 91 °	77.3 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	71.25 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	88.88 ms	Yes

Comments:

Technician



Approved



07.08.2002 13:11:21 477



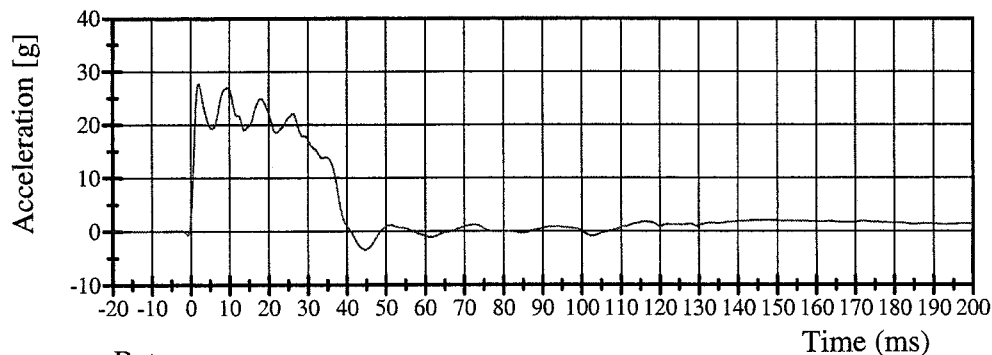
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 2

Test Date 07/08/2002

Pendulum Deceleration

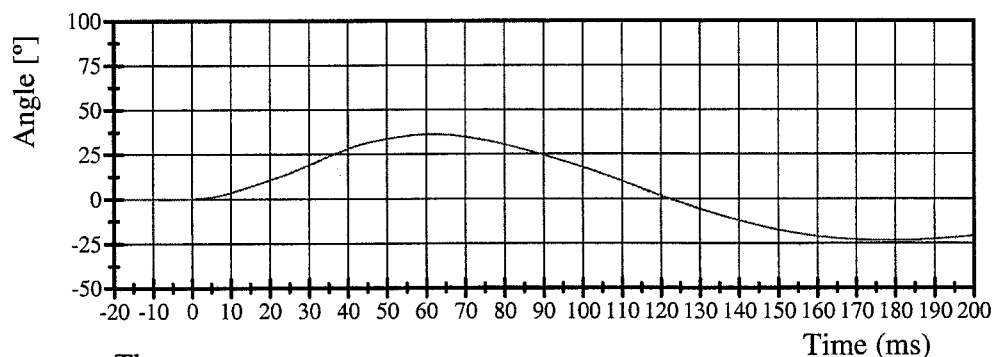


Filter Class: 180

Max: 27.7 g at 2.0 ms

Min: -3.5 g at 44.9 ms

Beta

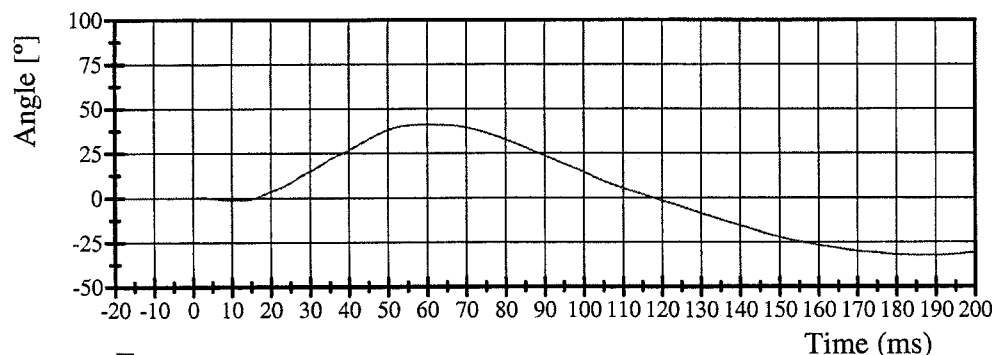


Filter Class: 60

Max: 36.2 ° at 61.5 ms

Min: -23.4 ° at 179.0 ms

Theta

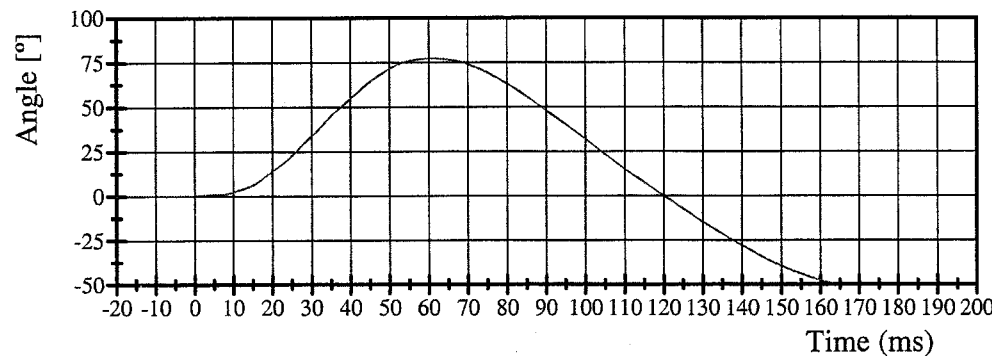


Filter Class: 60

Max: 41.1 ° at 59.8 ms

Min: -32.2 ° at 186.9 ms

Totan



Filter Class: 60

Max: 77.3 ° at 60.6 ms

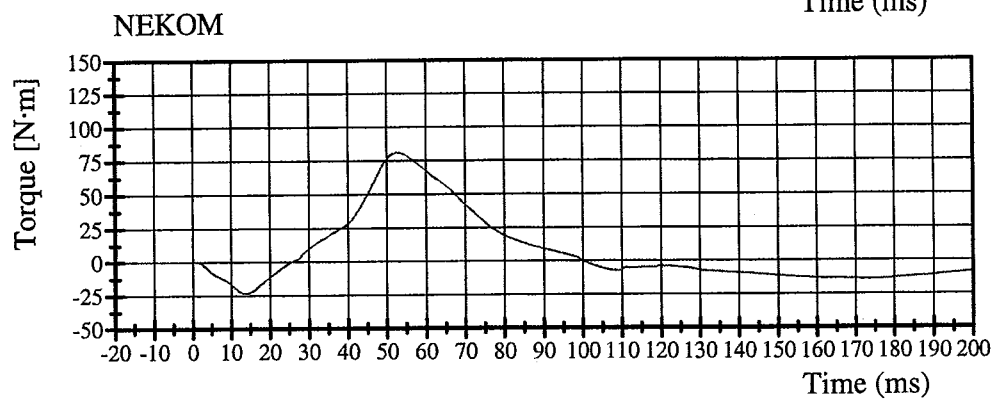
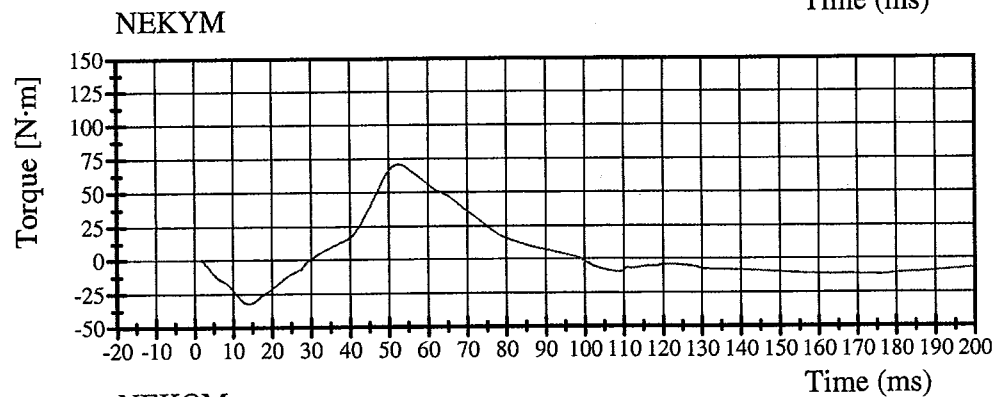
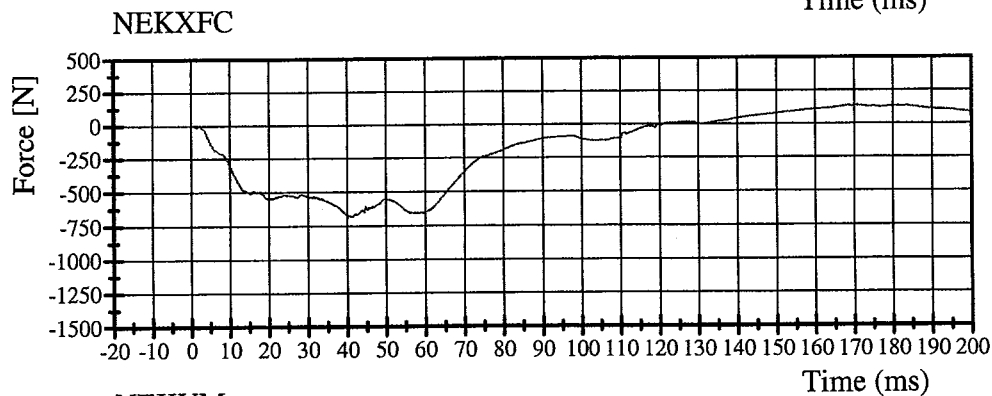
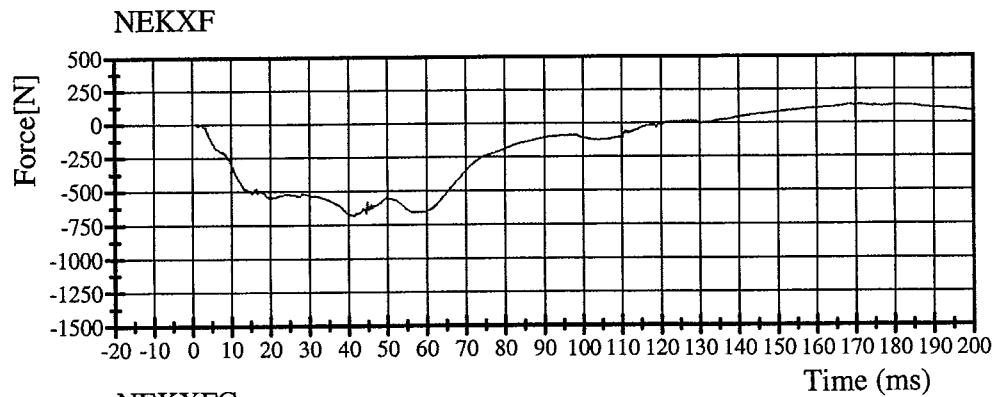
Min: -55.4 ° at 183.5 ms

Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 2

Test Date 07/08/2002



Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

HIII 5th Female Serial No. 416 Calibration No. 16 - 3

Test Date 07/10/2002

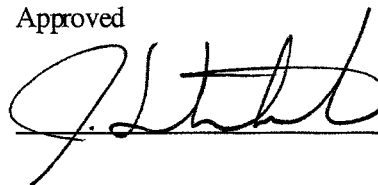
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	58 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.15 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.78 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.49 m/s	Yes
30 ms	4.60 - 5.60 m/s	5.06 m/s	Yes
Peak D Plane Rotation	99 - 114 °	107.5 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-63.69 N·m	Yes
Positive Moment Decay Time To -10 N·m	94 - 114 ms	101.12 ms	Yes

Comments:

Technician



Approved



07.10.2002 11:21:31 530



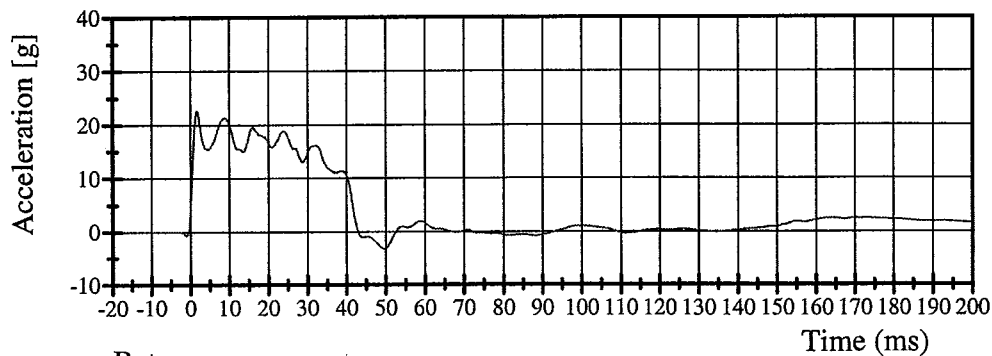
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 3

Test Date 07/10/2002

Pendulum Deceleration

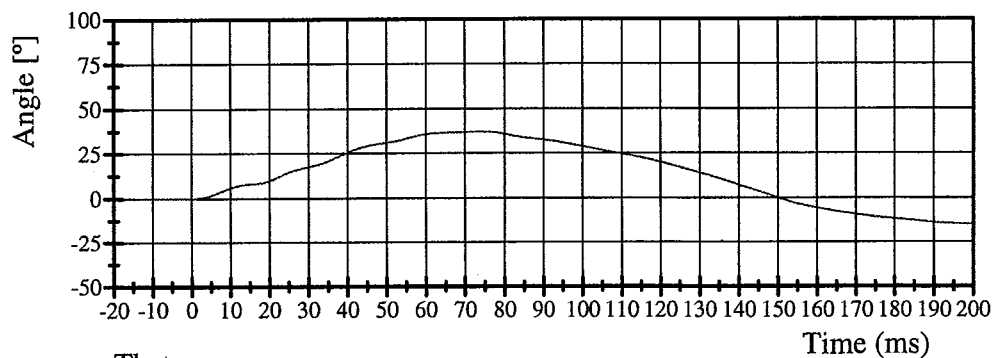


Filter Class: 180

Max: 22.6 g at 1.7 ms

Min: -3.2 g at 49.6 ms

Beta

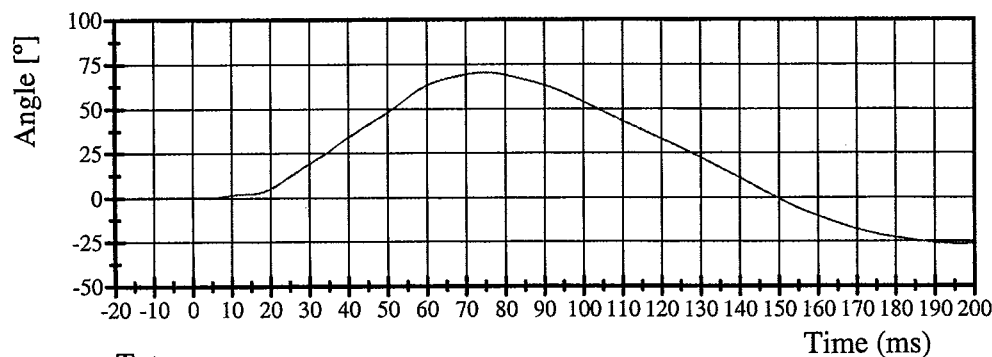


Filter Class: 60

Max: 37.2 ° at 73.8 ms

Min: -14.7 ° at 199.1 ms

Theta

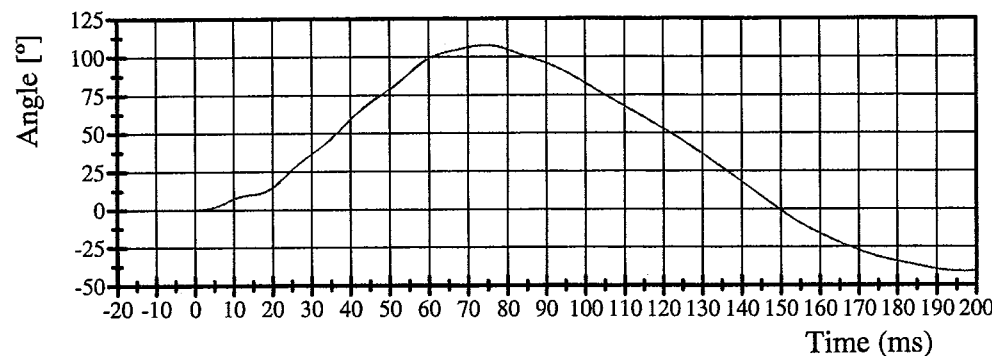


Filter Class: 60

Max: 70.3 ° at 74.8 ms

Min: -26.4 ° at 196.3 ms

Totan



Filter Class: 60

Max: 107.5 ° at 74.5 ms

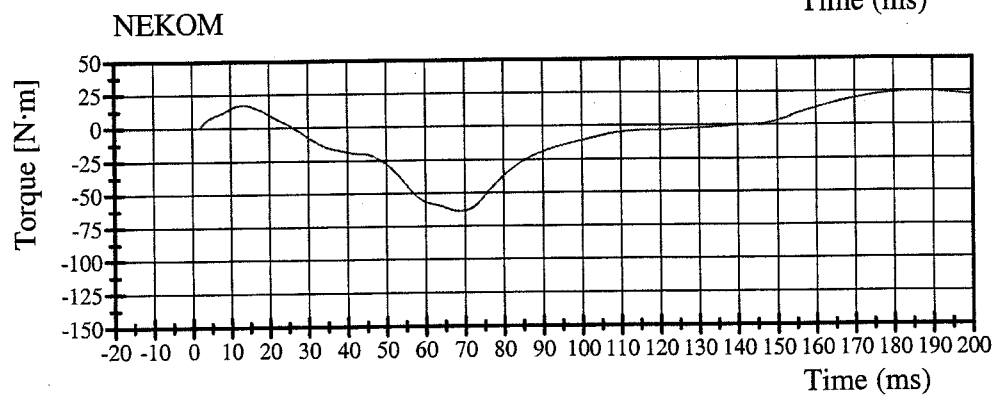
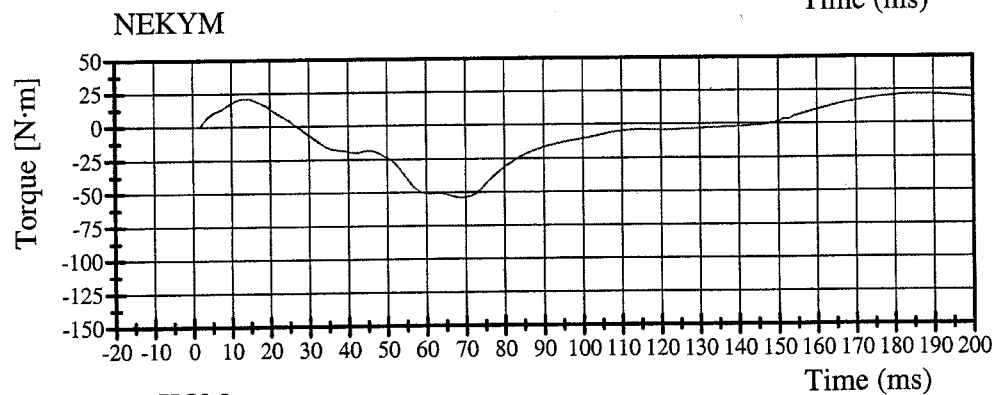
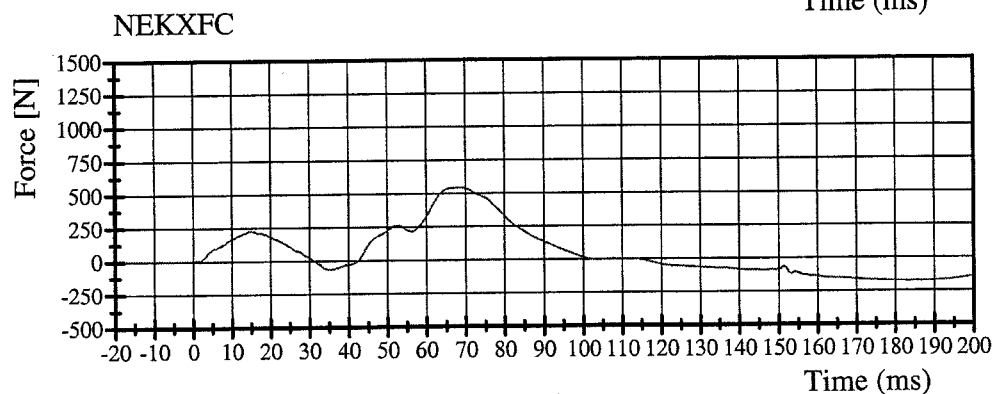
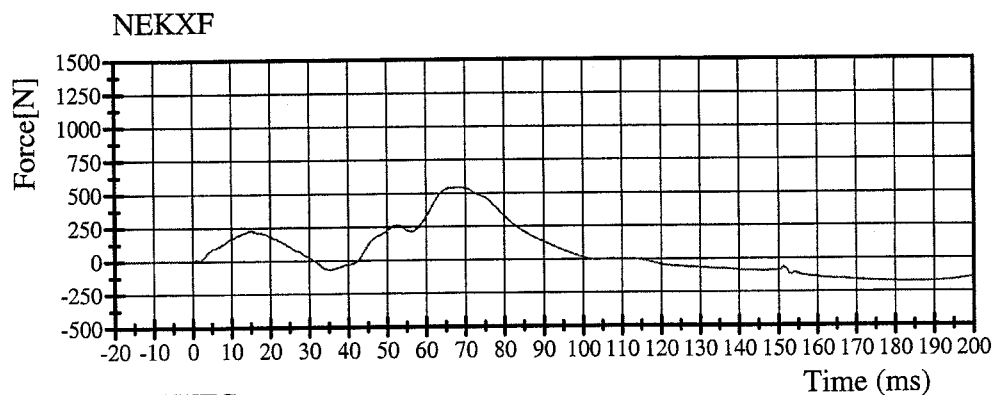
Min: -41.0 ° at 197.3 ms

Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 3

Test Date 07/10/2002



Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 3

Test Date 08/12/2002

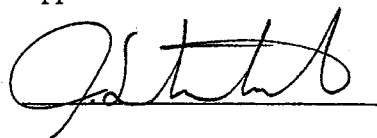
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.63 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-56.9 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4202 N	Yes
Internal Hysteresis	105 % Max.	94 %	Yes
Internal Hysteresis	69 - 85 %	72 %	Yes

Comments:

Technician



Approved



08.12.2002 09:53:28 1100



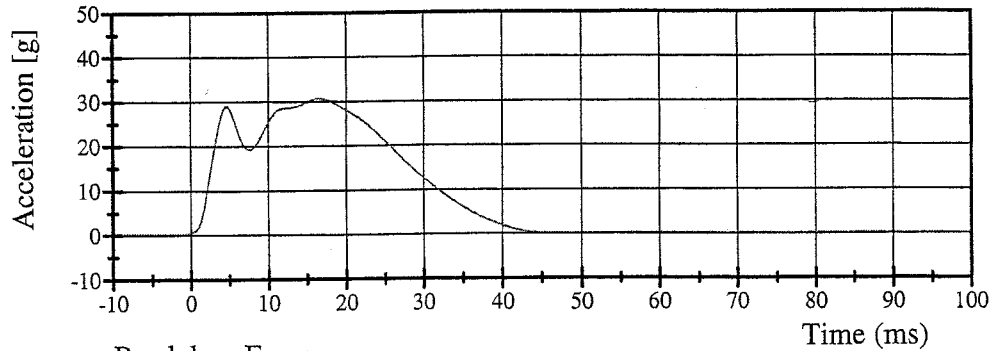
Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 3

Test Date 08/12/2002

Pendulum Deceleration

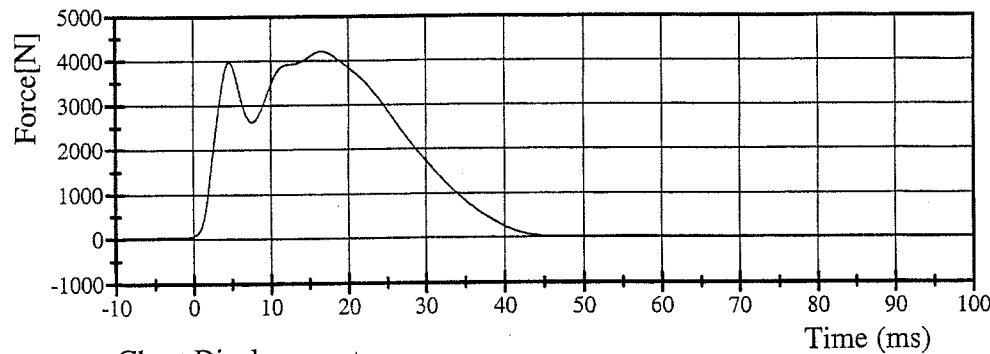


Filter Class: 180

Max: 30.7 g at 16.6 ms

Min: -0.1 g at 206.7 ms

Pendulum Force

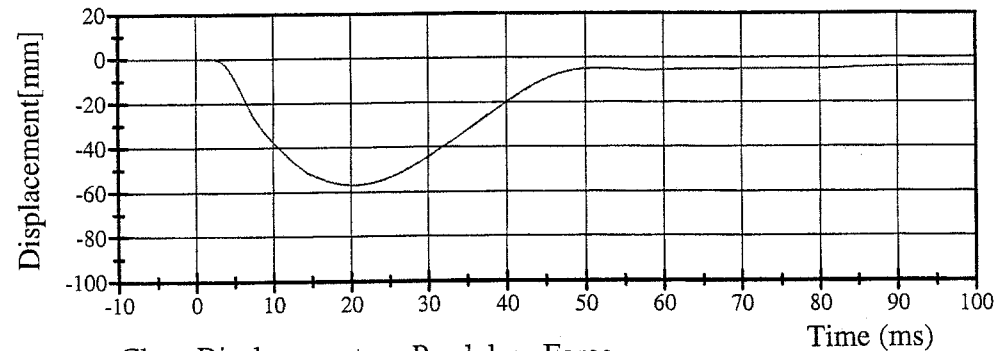


Filter Class: 180

Max: 4202.2 N at 16.6 ms

Min: -8.3 N at 206.7 ms

Chest Displacement

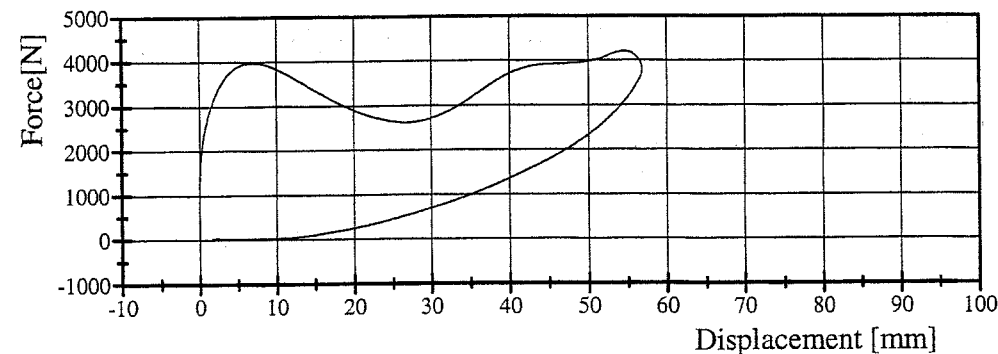


Filter Class: 180

Max: 0.0 mm at 1.6 ms

Min: -56.9 mm at 20.4 ms

Chest Displacement vs. Pendulum Force



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

CAL DATE: 16-Jul-02

TRC, INC. TEST NO: 416C16TF4 572 O SN 416 TORSO FLEX CAL 16

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	18.9 – 25.6 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 – 70 %	55 %
INITIAL ANGLE OF UNSUPPORTRED DUMMY	<= 20 DEG. REFERENCED TO VERTICAL	14.0 DEG.
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	379.6 N
RETURN ANGLE @ 3MINUTES	+/- 8 DEG OF INTIAL ANGLE	18.6 DEG.

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

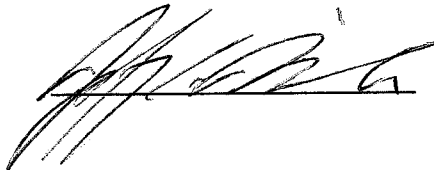
HIII 5th Female Serial No. 416 Calibration No. 16 - 1

Test Date 07/15/2002

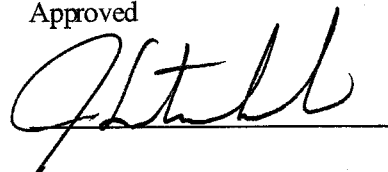
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.11 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3524 N	Yes

Comments:

Technician



Approved



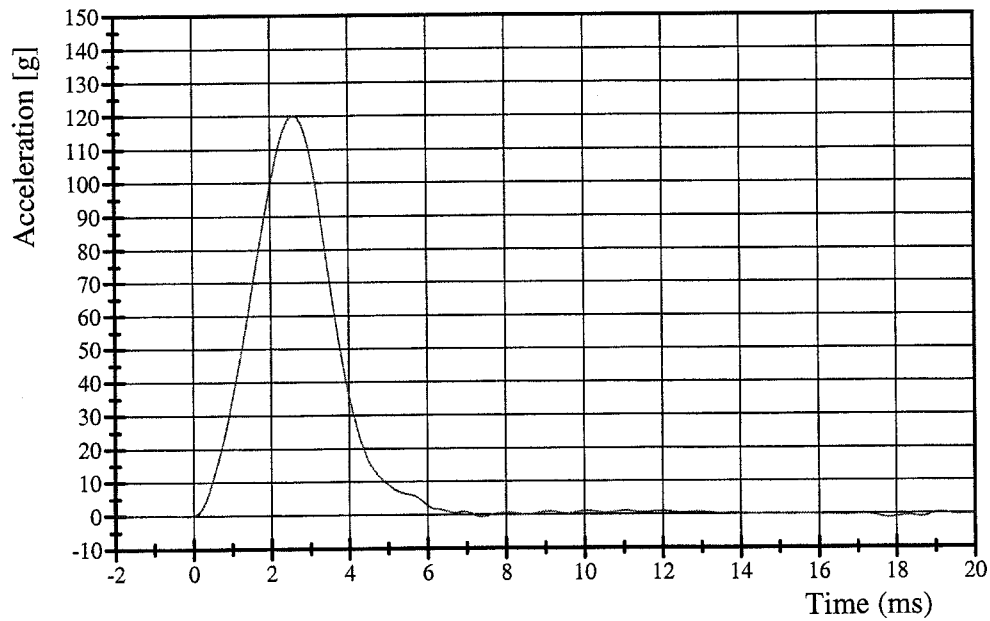
Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 1

Test Date 07/15/2002

Pendulum Deceleration

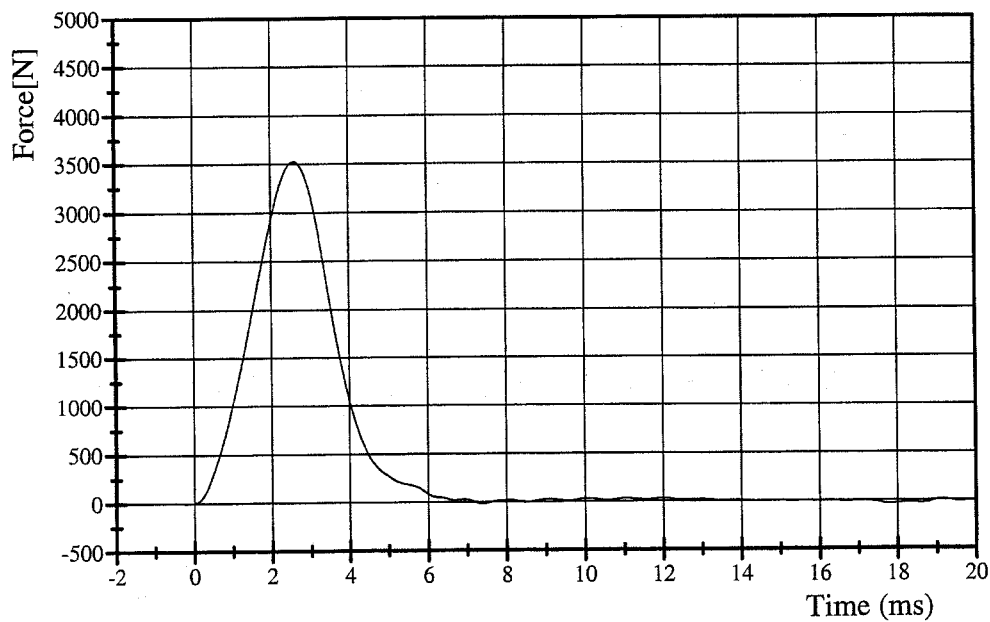


Filter Class: 600

Max: 120.2 g at 2.6 ms

Min: -1.2 g at 17.8 ms

Pendulum Force



Filter Class: 600

Max: 3524.4 N at 2.6 ms

Min: -34.7 N at 17.8 ms

Transportation Research Center Inc.

5720 Right Knee Test

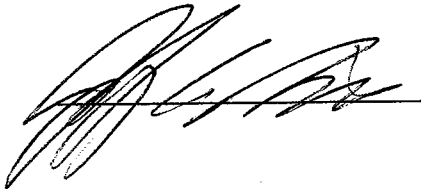
HIII 5th Female Serial No. 416 Calibration No. 16 - 1

Test Date 07/15/2002

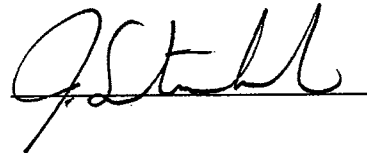
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.10 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3497 N	Yes

Comments:

Technician



Approved



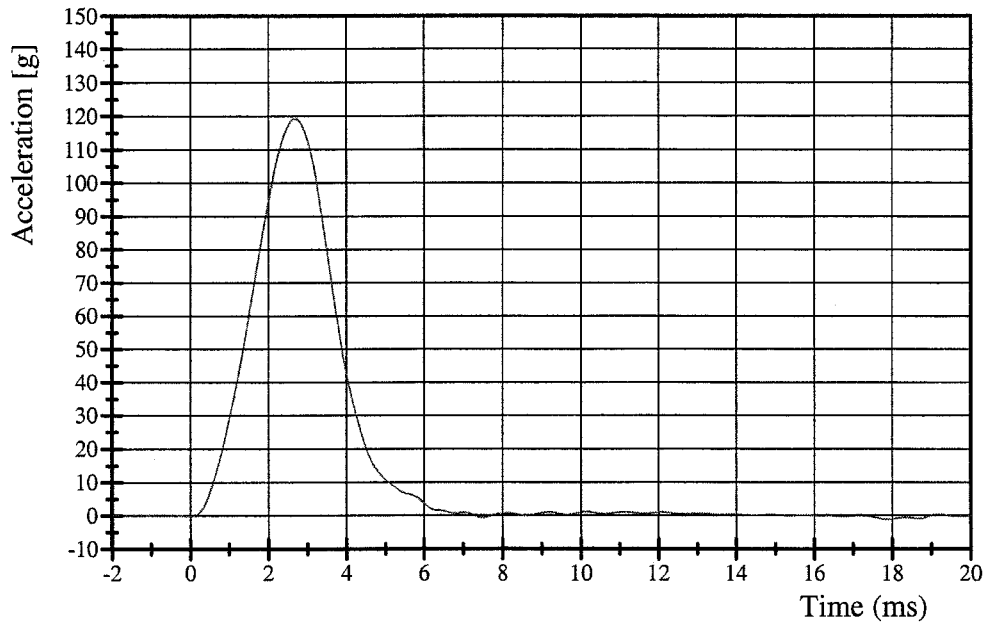
Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 1

Test Date 07/15/2002

Pendulum Deceleration

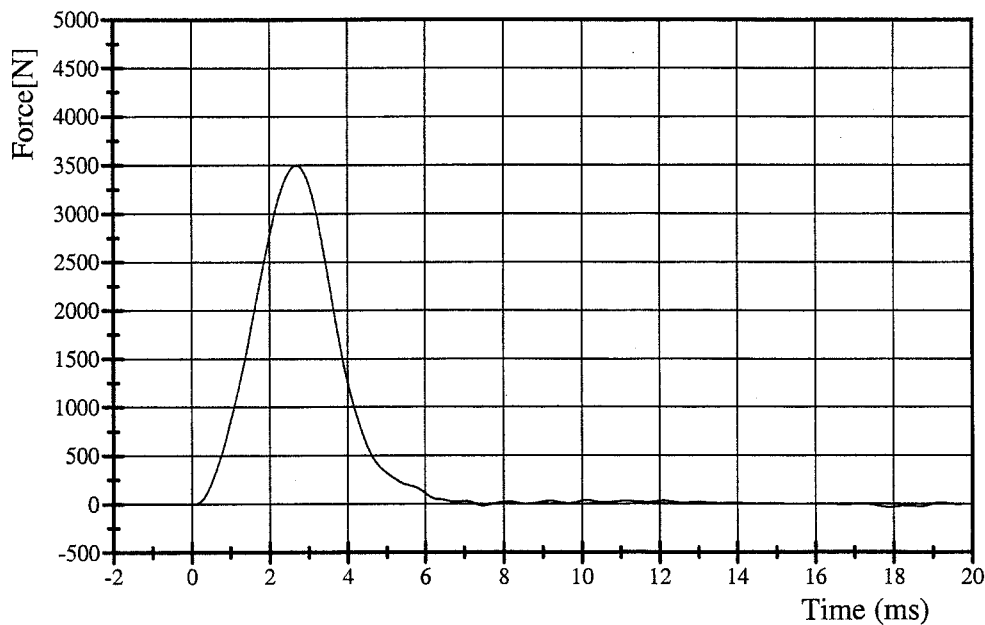


Filter Class: 600

Max: 119.3 g at 2.7 ms

Min: -1.2 g at 17.8 ms

Pendulum Force



Filter Class: 600

Max: 3496.7 N at 2.7 ms

Min: -34.9 N at 17.8 ms

Transportation Research Center Inc.

5720 Left Knee Slider Test

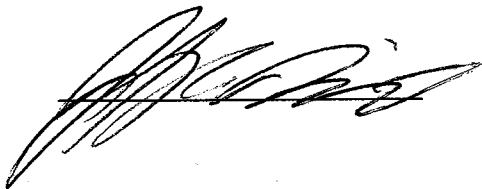
HIII 5th Female Serial No. 416 Calibration No. 16 - 1

Test Date 07/10/2002

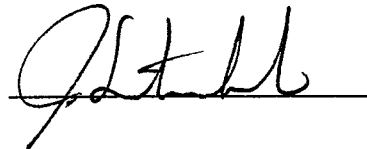
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	55 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.71 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-13.4 mm	Yes

Comments:

Technician



Approved

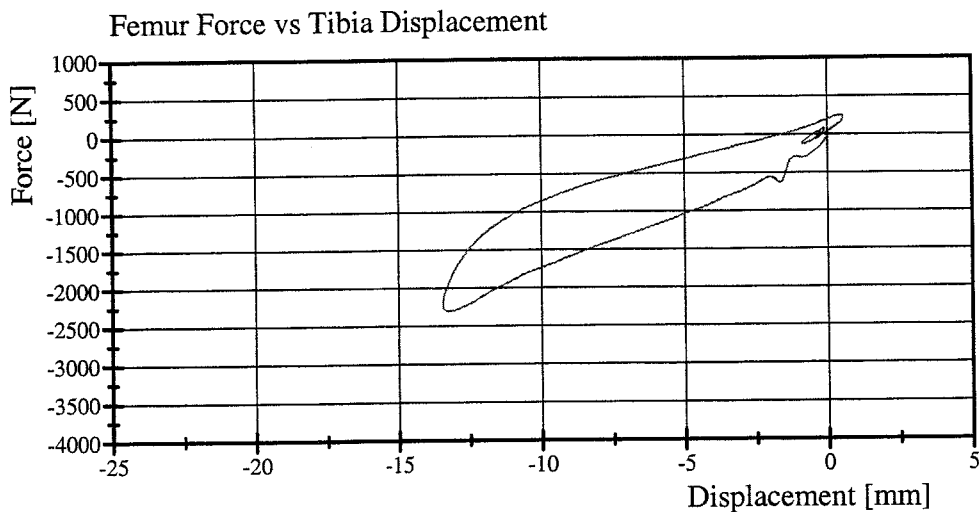
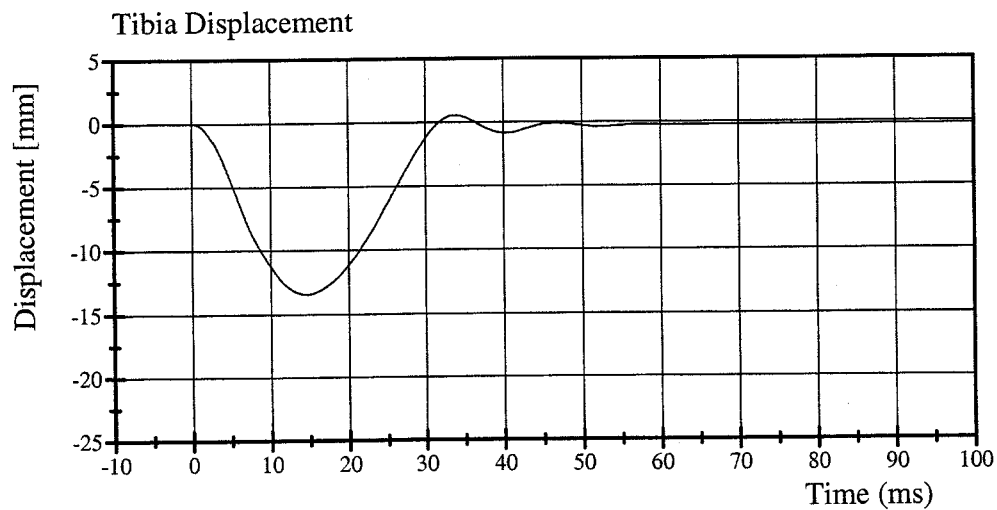
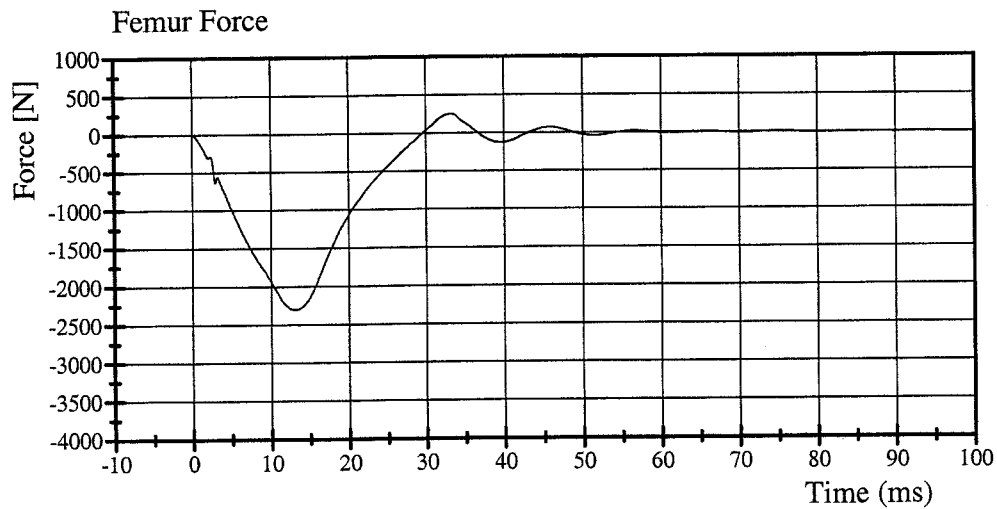


Transportation Research Center Inc.

5720 Left Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 1

Test Date 07/10/2002



Transportation Research Center Inc.

5720 Right Knee Slider Test

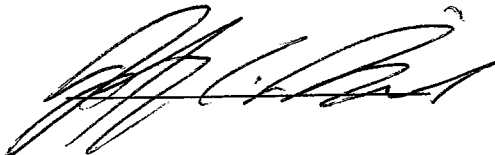
HIII 5th Female Serial No. 416 Calibration No. 16 - 1

Test Date 07/10/2002

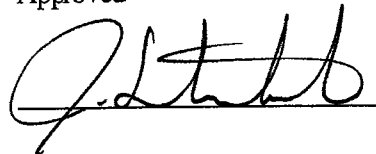
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.71 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-13.5 mm	Yes

Comments:

Technician



Approved

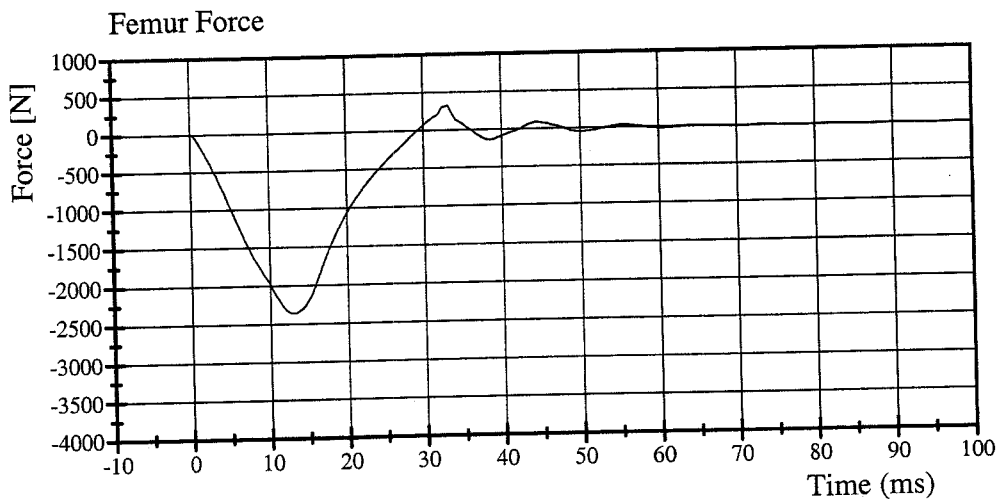


Transportation Research Center Inc.

5720 Right Knee Slider Test

HIII 5th Female Serial No. 416 Calibration No. 16 - 1

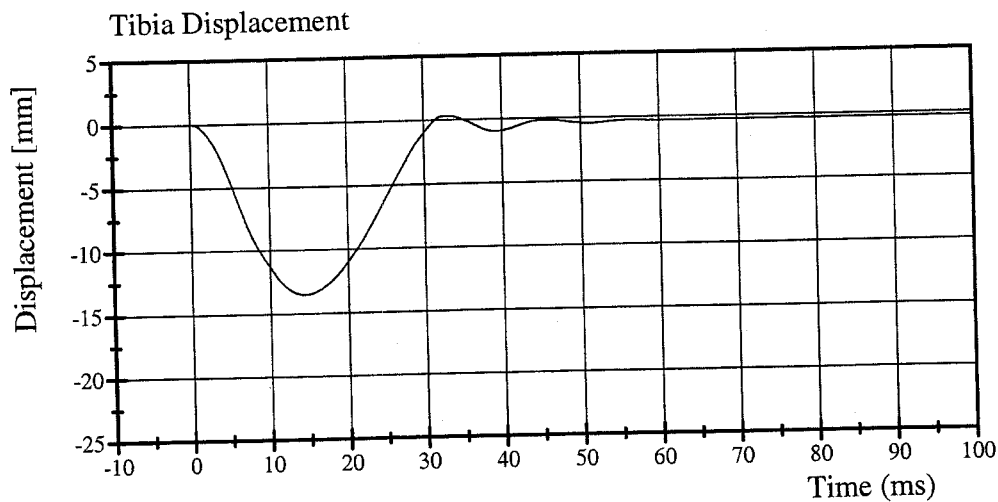
Test Date 07/10/2002



Filter Class: 600

Max: 326.8 N at 33.1 ms

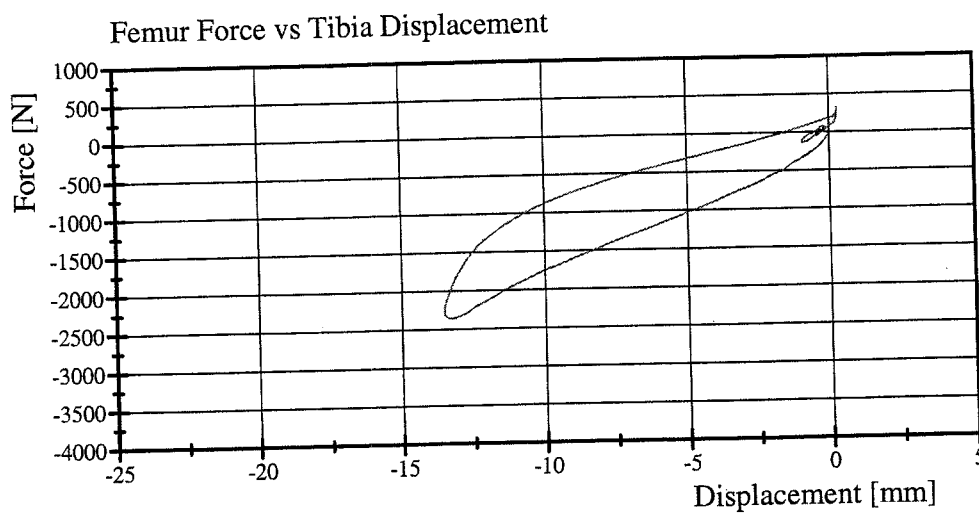
Min: -2357.7 N at 13.0 ms



Filter Class: 600

Max: 0.3 mm at 32.4 ms

Min: -13.5 mm at 14.5 ms



07.10.2002 14:33:00 1353



Pre-Test Dummy Configuration and Performance Verification Data

Passenger Dummy S/N: 421

Transportation Research Center Inc.

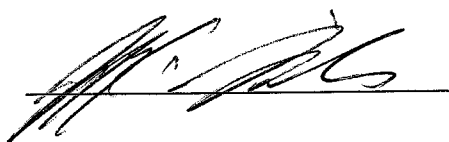
572F HIII 5th Dummy

External Dimensions

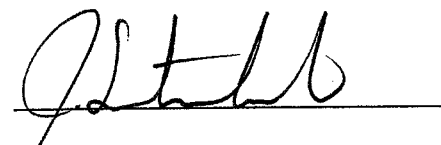
Serial No. 421 Calibration No. 09

Test Parameter	Dimension	Specification	Results	Pass
Total Sitting Height	A	774.7 - 800.1 mm	795 mm	Yes
Shoulder Pivot Height	B	431.8 - 457.2 mm	455 mm	Yes
Hip Pivot Height	C	81.3 - 86.3 mm	83 mm	Yes
Hip Pivot from Backline	D	144.8 - 149.8 mm	148 mm	Yes
Shoulder Pivot from Backline	E	68.6 - 83.8 mm	81 mm	Yes
Thigh Clearance	F	119.4 - 134.6 mm	125 mm	Yes
Back of Elbow to Wrist Pivot	G	243.9 - 259.0 mm	249 mm	Yes
Head Back to Backline	H	40.7 - 45.7 mm	45 mm	Yes
Shoulder to Elbow Length	I	276.9 - 297.1 mm	285 mm	Yes
Elbow Rest Height	J	182.9 - 203.2 mm	197 mm	Yes
Buttock Knee Length	K	520.7 - 546.1 mm	530 mm	Yes
Popliteal Height	L	355.6 - 375.9 mm	370 mm	Yes
Knee Pivot Height	M	393.7 - 419.1 mm	416 mm	Yes
Buttock Popliteal Height	N	414.1 - 439.4 mm	419 mm	Yes
Chest Depth without Jacket	O	175.3 - 190.5 mm	188 mm	Yes
Foot Length	P	218.5 - 233.6 mm	228 mm	Yes
Buttock to Knee Pivot Length	R	457.2 - 482.6 mm	478 mm	Yes
Head Breadth	S	137.2 - 147.3 mm	143 mm	Yes
Head Depth	T	177.8 - 187.9 mm	181 mm	Yes
Hip Breadth	U	299.8 - 314.9 mm	308 mm	Yes
Shoulder Breadth	V	350.6 - 365.7 mm	351 mm	Yes
Foot Breadth	W	78.8 - 93.9 mm	85 mm	Yes
Head Circumference	X	528.4 - 548.6 mm	539 mm	Yes
Chest Circumference with Jacket	Y	850.9 - 881.3 mm	874 mm	Yes
Waist Circumference	Z	759.5 - 789.9 mm	773 mm	Yes
Reference Location for Chest Circumference	AA	299.8 - 309.8 mm	305 mm	Yes
Reference Location for Waist Circumference	BB	160.1 - 170.1 mm	165 mm	Yes

Technician



Approved




Transportation Research Center Inc.

5720 Head Drop Test

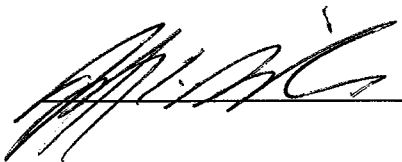
HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/08/2002

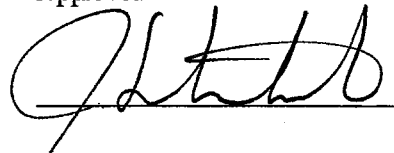
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.5 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Peak Resultant Acceleration	250 - 300 g	269.4 g	Yes
Peak Lateral Acceleration	15 g Max	1.9 g	Yes
Is Acceleration Curve Unimodal?	Yes	Yes	Yes

Comments:

Technician



Approved

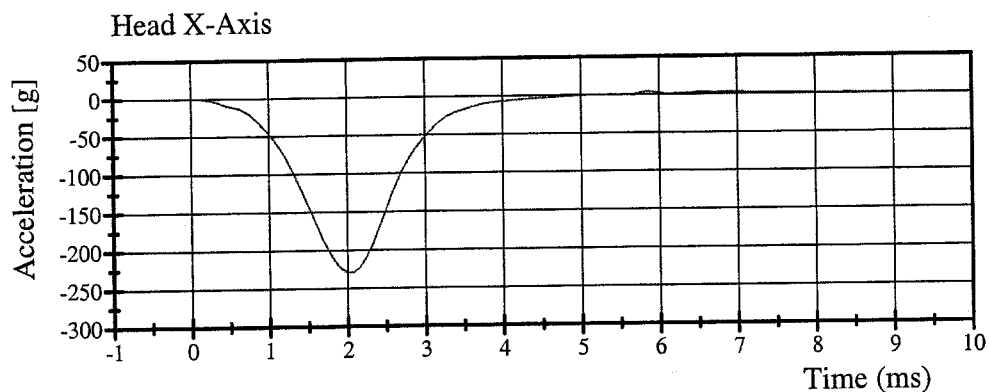


Transportation Research Center Inc.

5720 Head Drop Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 1

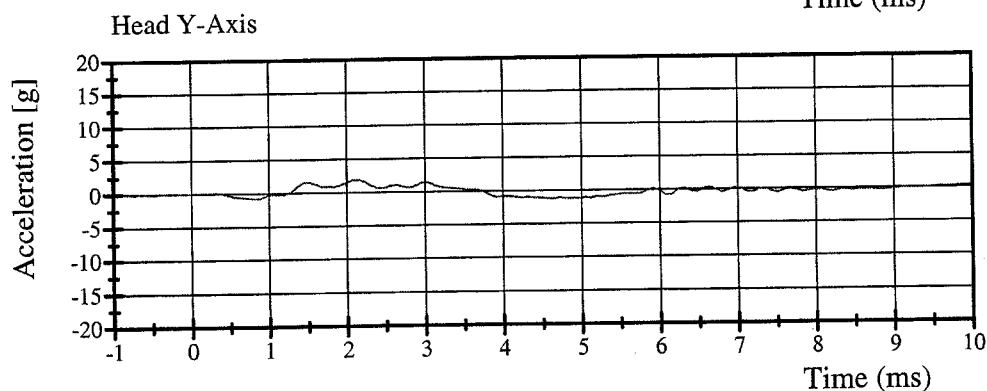
Test Date 07/08/2002



Filter Class: 1000

Max: 3.8 g at 5.8 ms

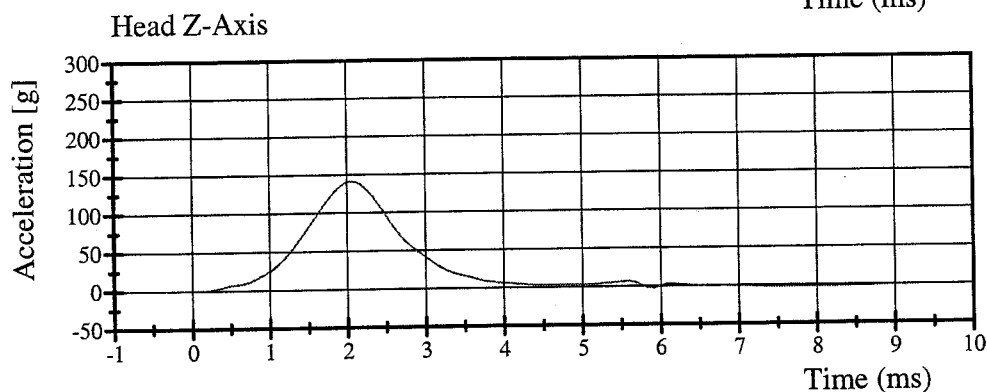
Min: -229.6 g at 2.0 ms



Filter Class: 1000

Max: 1.9 g at 2.1 ms

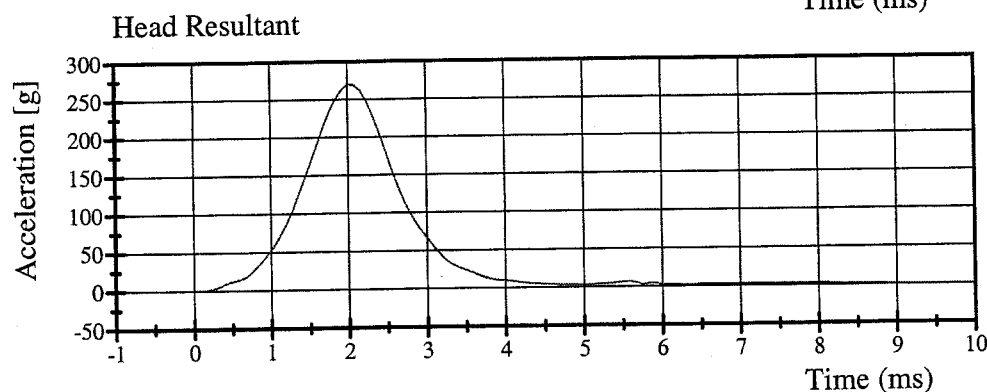
Min: -1.2 g at 4.6 ms



Filter Class: 1000

Max: 141.9 g at 2.1 ms

Min: -2.3 g at 5.9 ms



Filter Class: 1000

Max: 269.4 g at 2.0 ms

Min: 0.0 g at 0.0 ms

Transportation Research Center Inc.

5720 Neck Flexion Test - 6 Channel Transducer

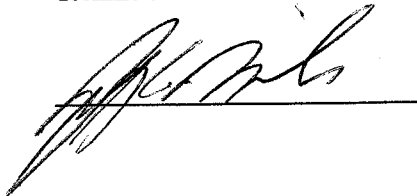
HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/18/2002

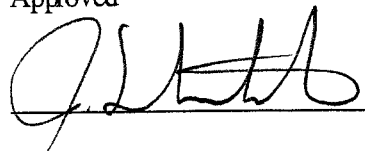
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Impact Velocity	6.89 - 7.13 m/s	7.06 m/s	Yes
Integrated Pendulum Velocity			
10 ms	2.10 - 2.50 m/s	2.46 m/s	Yes
20 ms	4.00 - 5.00 m/s	4.71 m/s	Yes
30 ms	5.80 - 7.00 m/s	6.74 m/s	Yes
Peak D Plane Rotation	77 - 91 °	86.4 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	69.0 - 83.0 N·m	70.83 N·m	Yes
Positive Moment Decay Time To 10 N·m	80 - 100 ms	91.84 ms	Yes

Comments:

Technician



Approved



07.18.2002 09:27:00 461



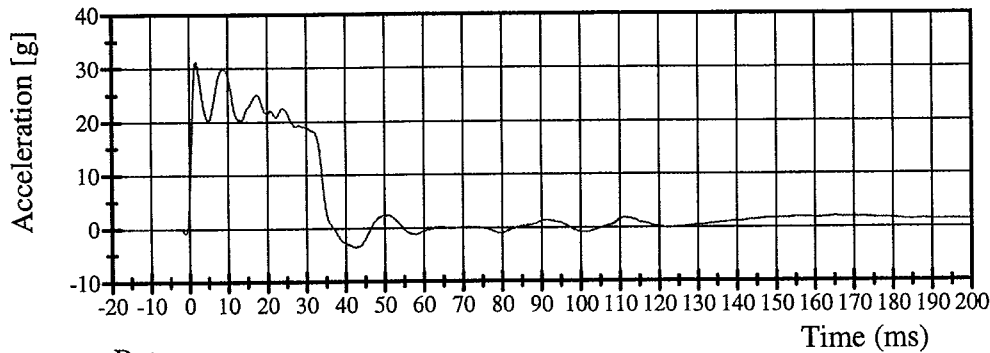
Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/18/2002

Pendulum Deceleration

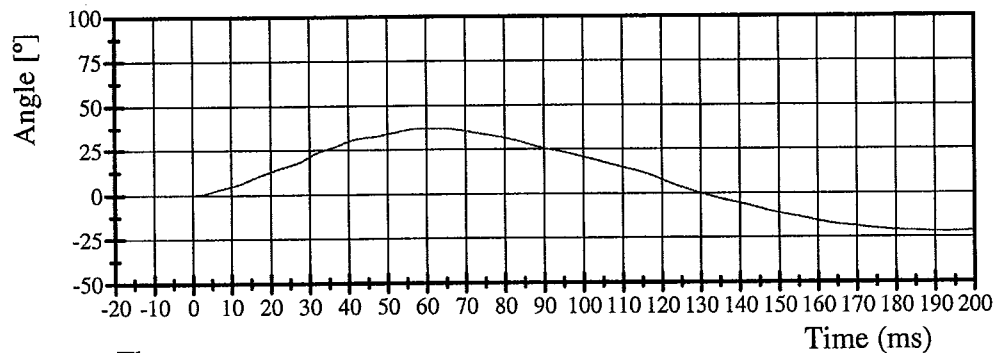


Filter Class: 180

Max: 31.2 g at 1.8 ms

Min: -3.5 g at 42.5 ms

Beta

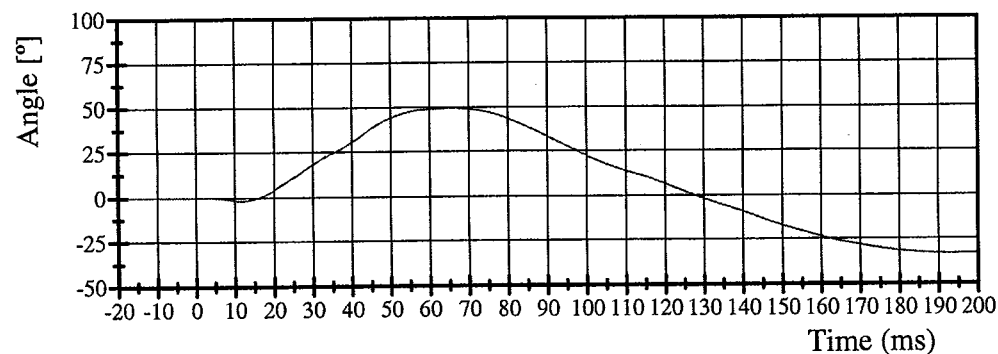


Filter Class: 60

Max: 37.2 ° at 59.8 ms

Min: -21.9 ° at 192.8 ms

Theta

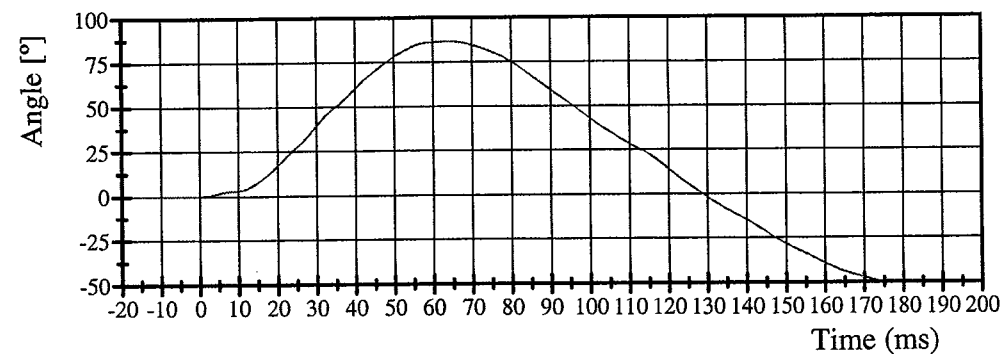


Filter Class: 60

Max: 49.4 ° at 65.4 ms

Min: -33.2 ° at 193.4 ms

Totan



Filter Class: 60

Max: 86.4 ° at 64.2 ms

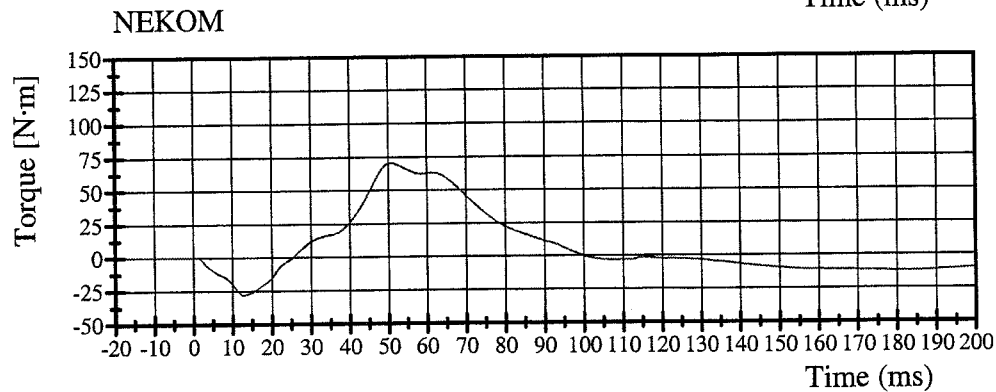
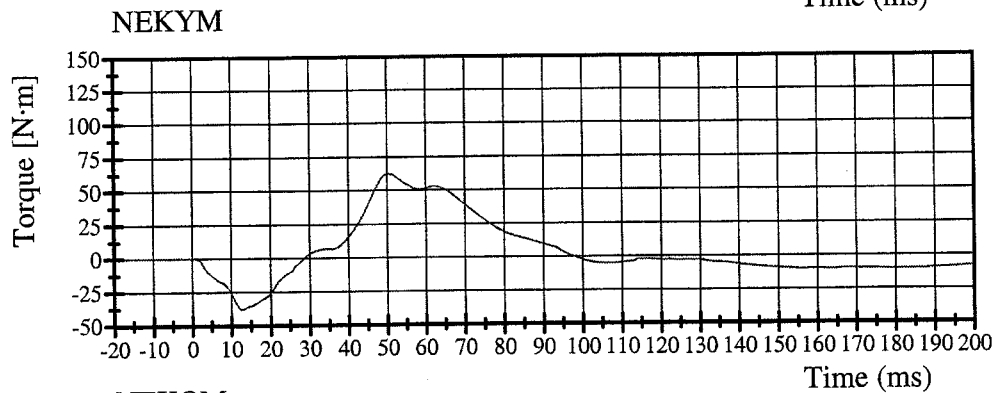
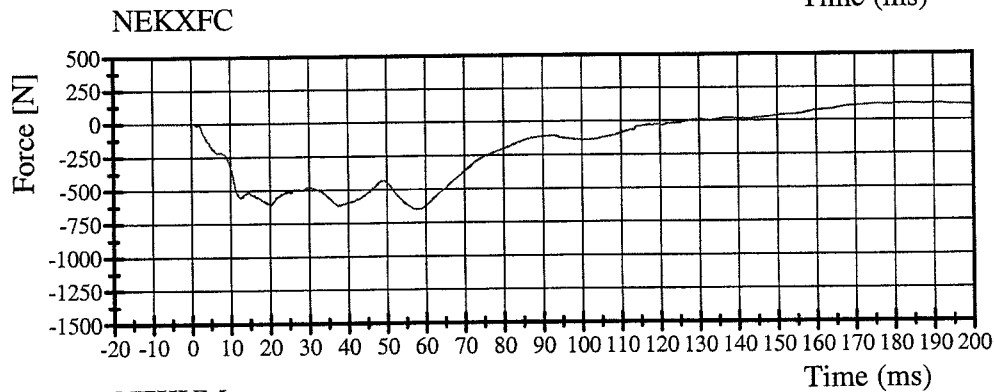
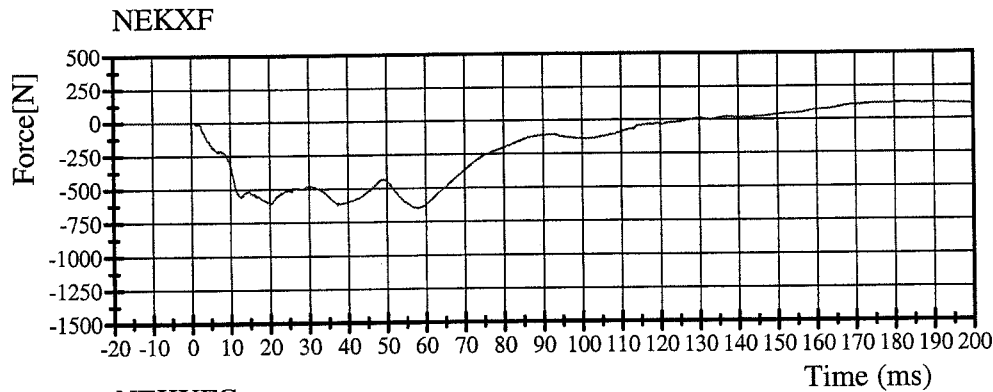
Min: -55.2 ° at 193.0 ms

Transportation Research Center Inc.

5720 Neck Flexion Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/18/2002



Transportation Research Center Inc.

5720 Neck Extension Test - 6 Channel Transducer

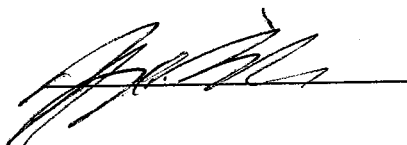
HIII 5th Female Serial No. 421 Calibration No. 09 - 3

Test Date 07/18/2002

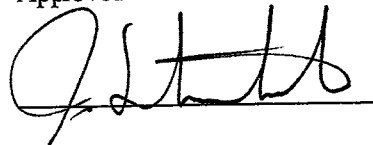
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Impact Velocity	5.95 - 6.19 m/s	6.18 m/s	Yes
Integrated Pendulum Velocity			
10 ms	1.50 - 1.90 m/s	1.69 m/s	Yes
20 ms	3.10 - 3.90 m/s	3.39 m/s	Yes
30 ms	4.60 - 5.60 m/s	4.93 m/s	Yes
Peak D Plane Rotation	99 - 114 °	111.2 °	Yes
Peak Moment About Occipital Condyles (During time interval rotation is within specified corridors)	-65.0 - (-53.0) N·m	-58.31 N·m	Yes
Positive Moment Decay Time To -10 N·m	94 - 114 ms	104.00 ms	Yes

Comments:

Technician



Approved



07.18.2002 12:22:00 526



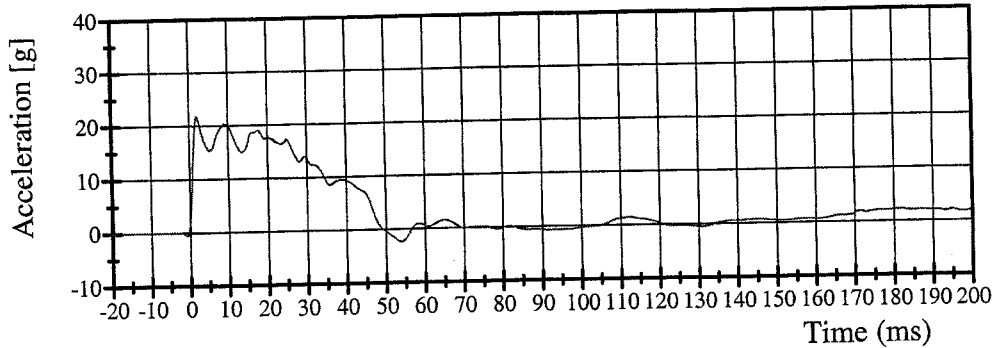
Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 3

Test Date 07/18/2002

Pendulum Deceleration

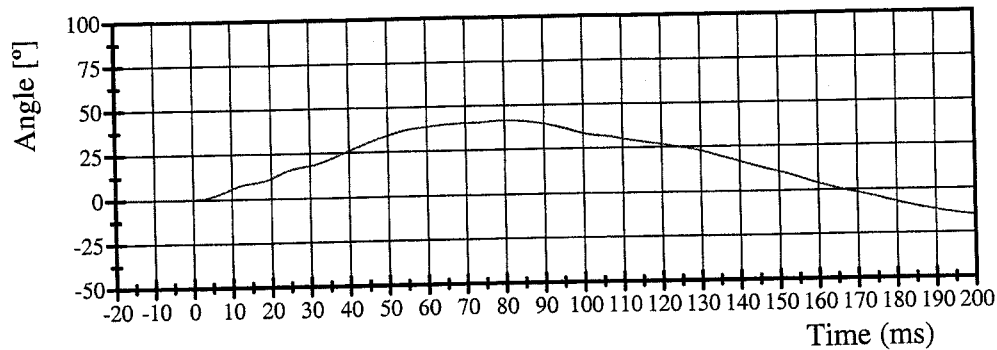


Filter Class: 180

Max: 21.7 g at 1.9 ms

Min: -2.3 g at 54.0 ms

Beta

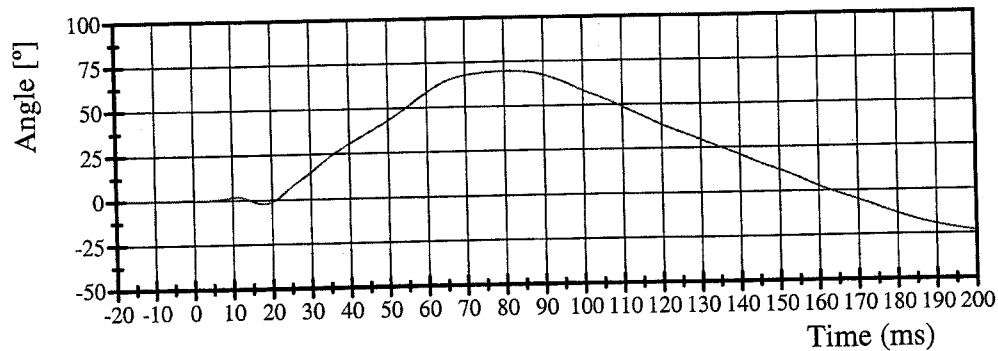


Filter Class: 60

Max: 41.5 ° at 80.5 ms

Min: -17.3 ° at 211.6 ms

Theta

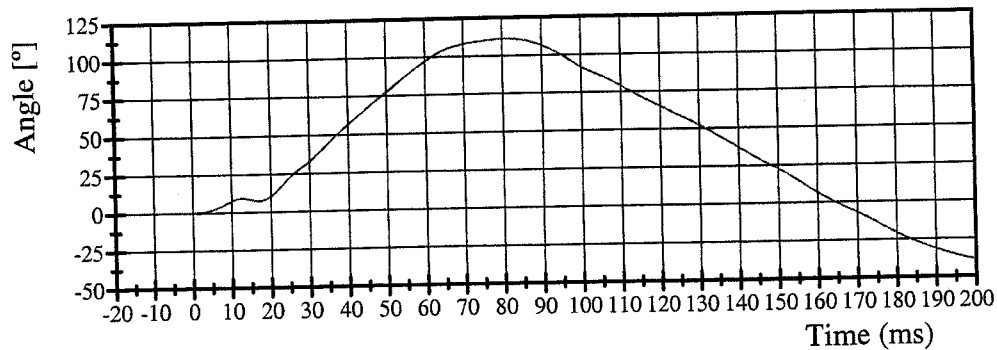


Filter Class: 60

Max: 69.8 ° at 81.0 ms

Min: -25.4 ° at 209.4 ms

Totan



Filter Class: 60

Max: 111.2 ° at 80.6 ms

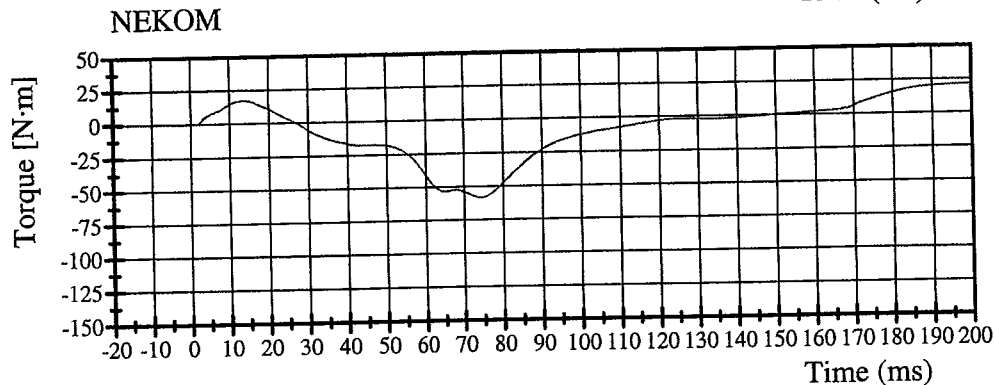
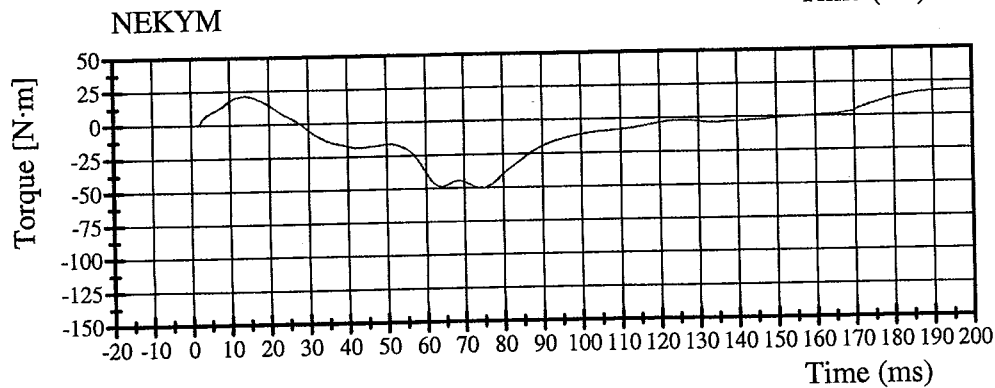
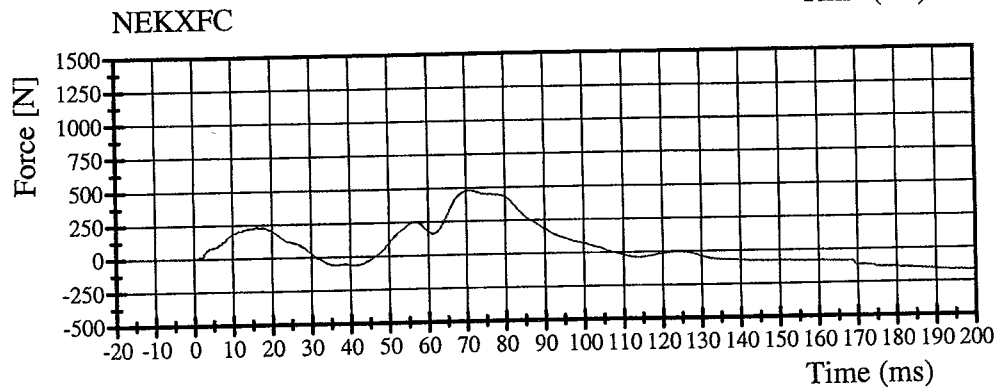
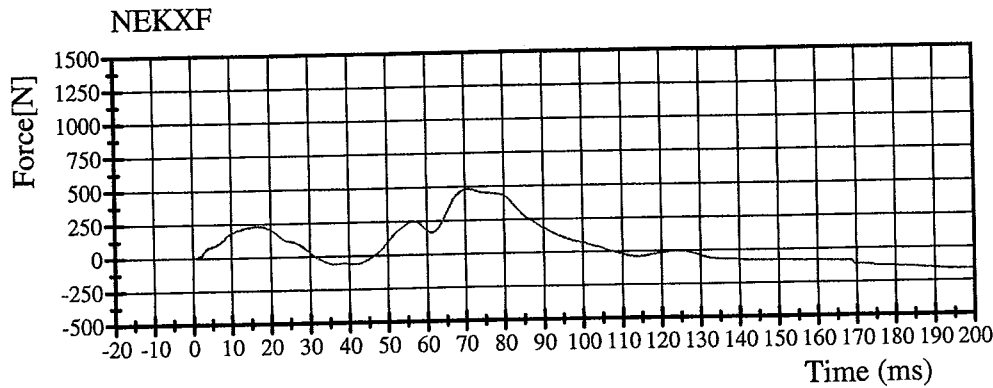
Min: -42.6 ° at 210.2 ms

Transportation Research Center Inc.

5720 Neck Extension Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 3

Test Date 07/18/2002



Transportation Research Center Inc.

5720 Thorax Test

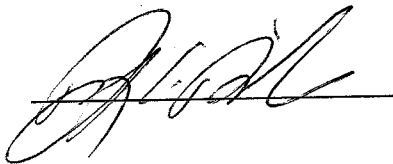
HIII 5th Female Serial No. 421 Calibration No. 09 - 2

Test Date 08/12/2002

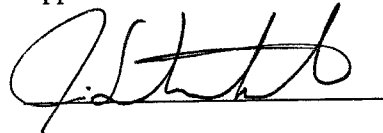
Test Parameter	Specification	Test Results	Pass
Temperature	20.6 - 22.2 °C	21.1 °C	Yes
Relative Humidity	10 - 70 %	59 %	Yes
Pendulum Velocity	6.59 - 6.83 m/s	6.63 m/s	Yes
Maximum Chest Deflection	-58.0 - (-50.0) mm	-53.4 mm	Yes
Peak Impact Probe Force Within Compression Corridor	3900 - 4400 N	4194 N	Yes
Internal Hysteresis	105 % Max.	98 %	Yes
Internal Hysteresis	69 - 85 %	72 %	Yes

Comments:

Technician



Approved



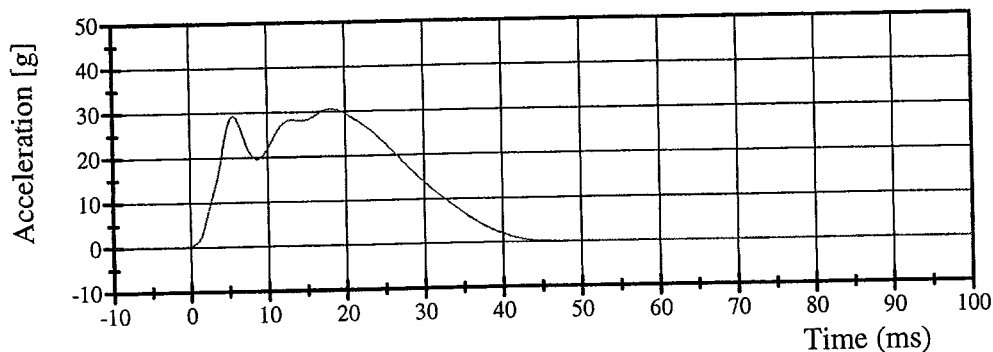
Transportation Research Center Inc.

5720 Thorax Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 2

Test Date 08/12/2002

Pendulum Deceleration

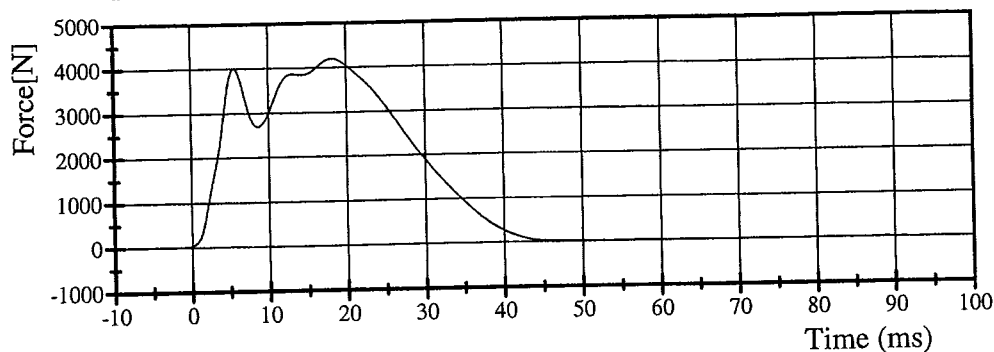


Filter Class: 180

Max: 30.6 g at 18.2 ms

Min: -0.1 g at 474.5 ms

Pendulum Force

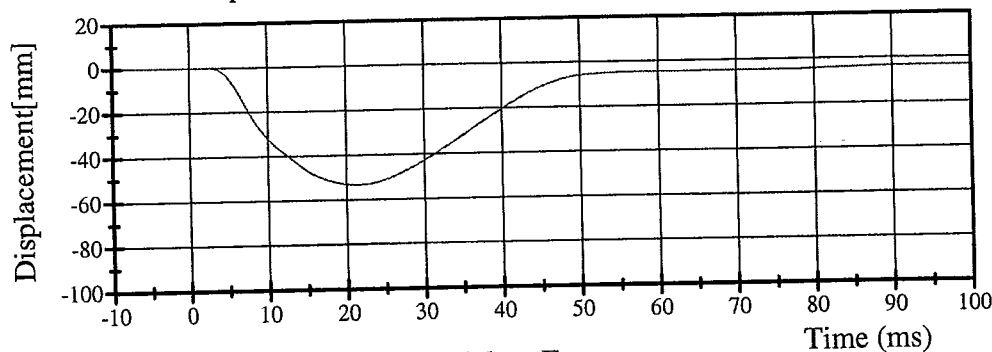


Filter Class: 180

Max: 4194.0 N at 18.2 ms

Min: -10.3 N at 474.5 ms

Chest Displacement

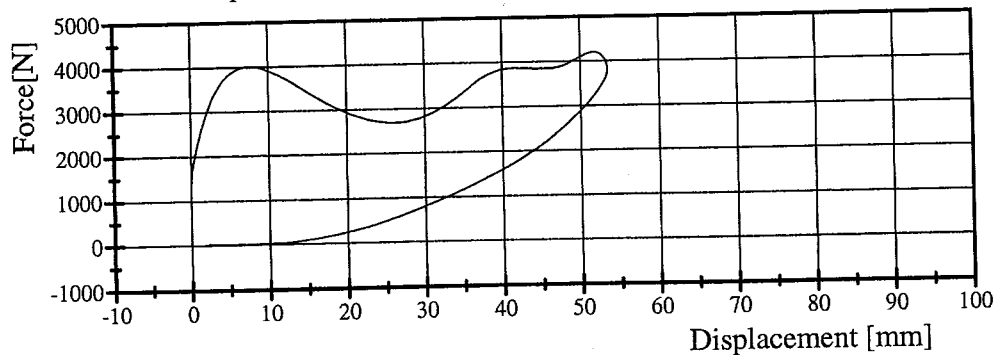


Filter Class: 180

Max: 0.0 mm at 2.2 ms

Min: -53.4 mm at 21.5 ms

Chest Displacement vs. Pendulum Force



TRANSPORTATION RESEARCH CENTER INC.

TORSO FLEXION TEST

HYBRID III SMALL FEMALE

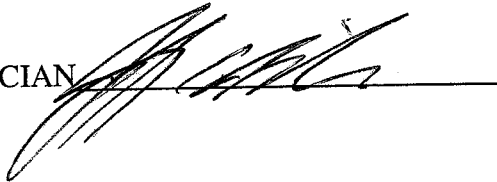
CAL DATE: 23-Jul-02

TRC, INC. TEST NO: 421C09TF3 572 O SN421 TORSO FLEX CAL 09

TEST PARAMETER	SPECIFICATION	TEST RESULTS
TEMPERATURE	20.6 – 22.2 DEG. C	21.7 DEG. C
RELATIVE HUMIDITY	10 – 70 %	56 %
INITIAL ANGLE OF UNSUPPORTRED DUMMY	<= 20 DEG. REFERENCED TO VERTICAL	9.2 DEG.
MAXIMUM FORCE AT 45 DEG. DURING 10 SECOND PERIOD	320 – 390 N	379.9 N
RETURN ANGLE		15.3 DEG.
DIFFERENCE BETWEEN RETURN ANGLE & INTIAL ANGLE	+/- 8 DEG. OF INTIAL ANGLE	6.1 DEG.

TEST MEETS SPECIFICATIONS

TECHNICIAN



Transportation Research Center Inc.

5720 Left Knee Test

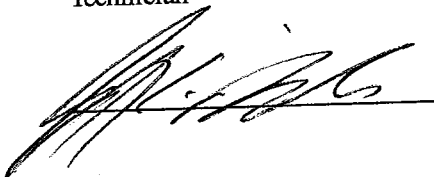
HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/15/2002

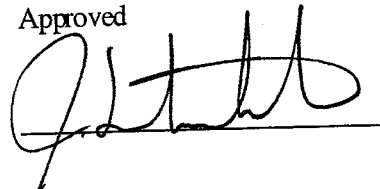
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	53 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.11 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3665 N	Yes

Comments:

Technician



Approved

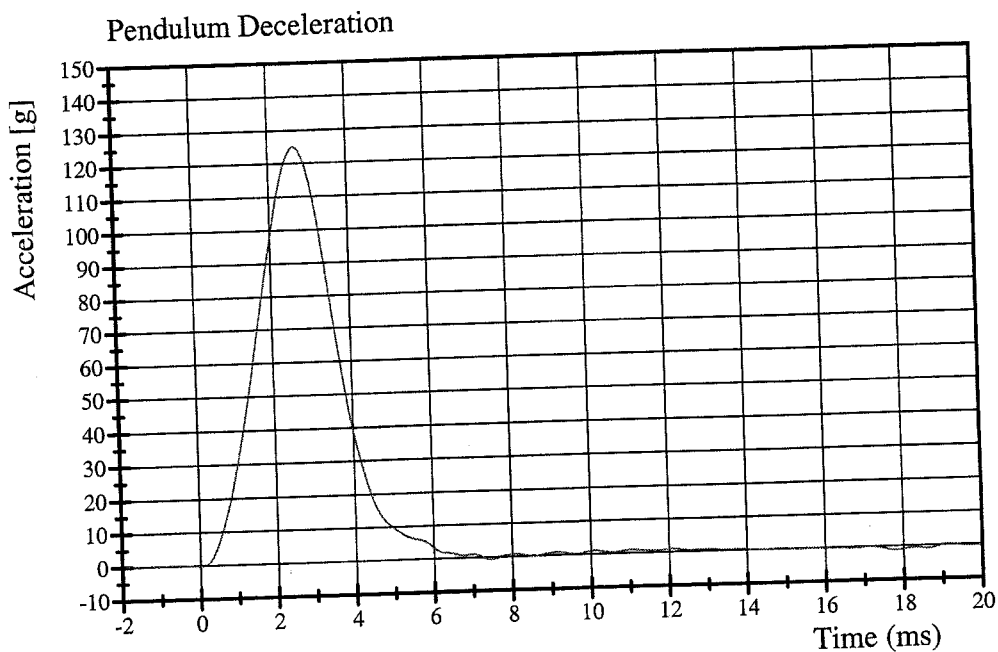


Transportation Research Center Inc.

5720 Left Knee Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 1

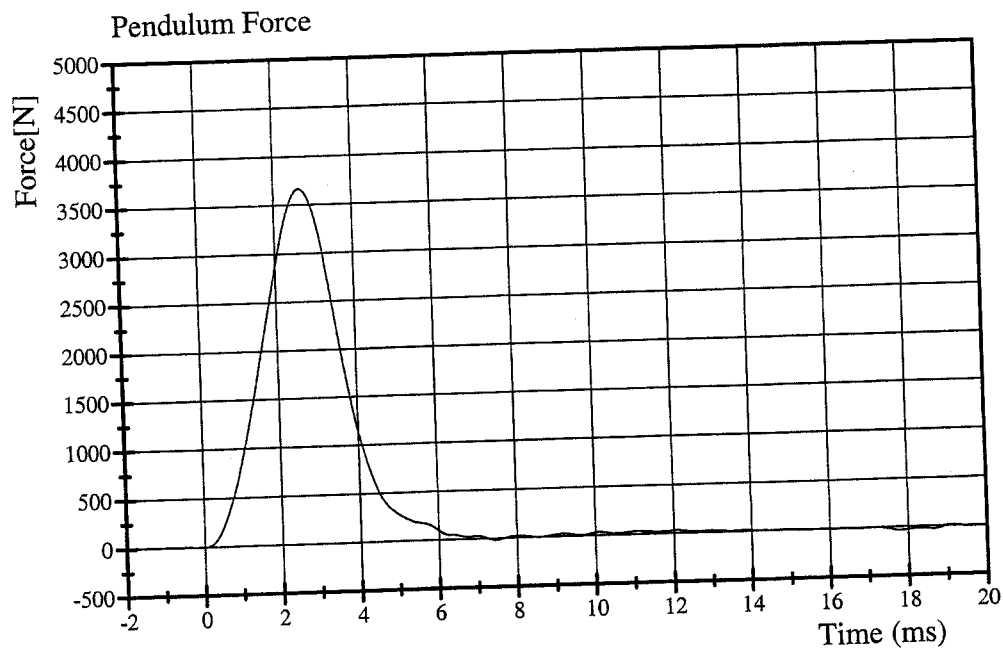
Test Date 07/15/2002



Filter Class: 600

Max: 125.0 g at 2.6 ms

Min: -1.2 g at 17.8 ms



Filter Class: 600

Max: 3665.2 N at 2.6 ms

Min: -34.4 N at 17.8 ms

Transportation Research Center Inc.

5720 Right Knee Test

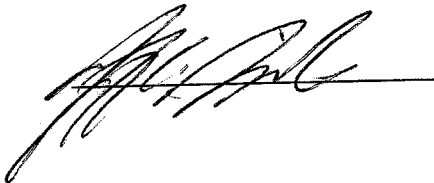
HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/15/2002

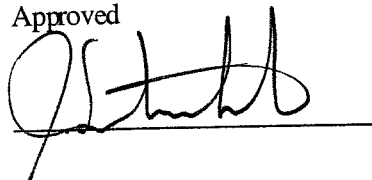
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	54 %	Yes
Pendulum Velocity	2.07 - 2.13 m/s	2.10 m/s	Yes
Maximum Pendulum Force	3450 - 4060 N	3563 N	Yes

Comments:

Technician



Approved



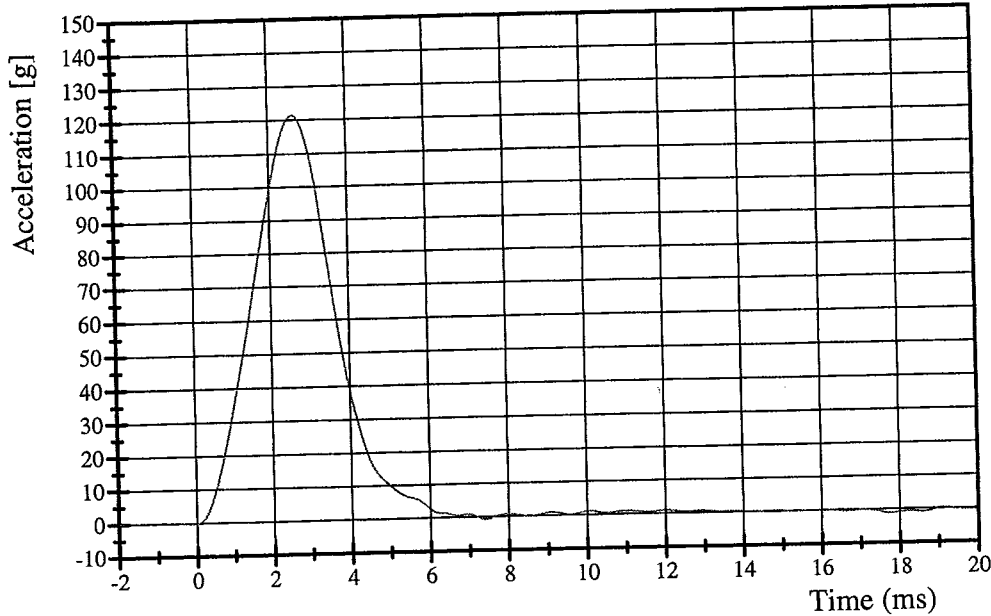
Transportation Research Center Inc.

5720 Right Knee Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/15/2002

Pendulum Deceleration

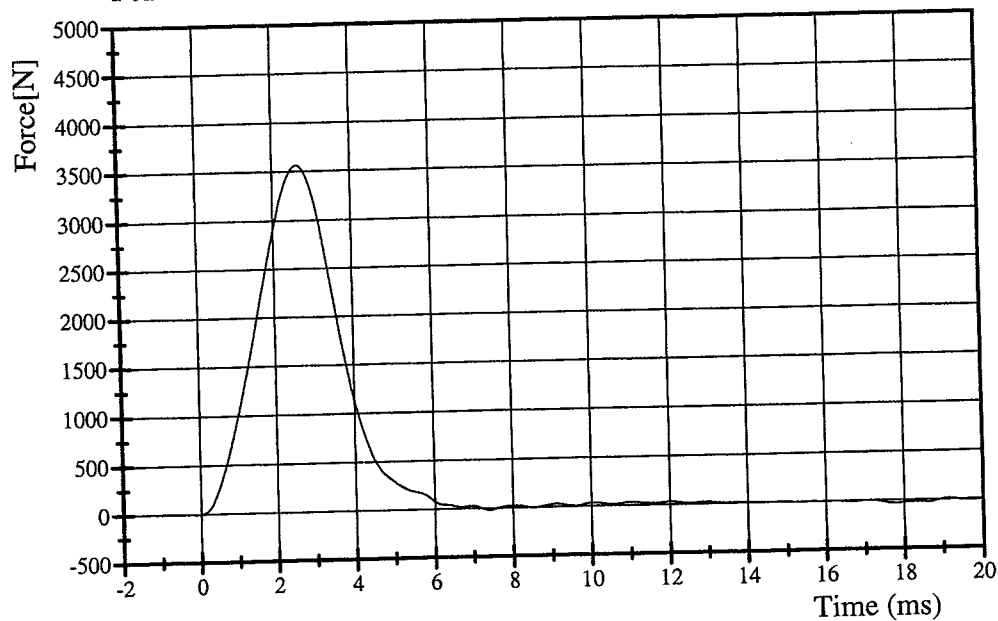


Filter Class: 600

Max: 121.5 g at 2.6 ms

Min: -1.1 g at 17.8 ms

Pendulum Force



Filter Class: 600

Max: 3563.1 N at 2.6 ms

Min: -31.9 N at 17.8 ms

Transportation Research Center Inc.

5720 Left Knee Slider Test

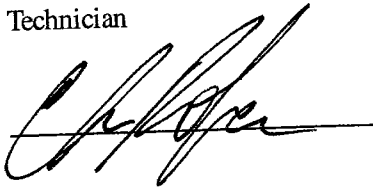
HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/29/2002

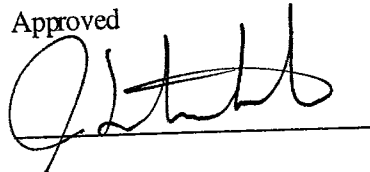
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	22.1 °C	Yes
Relative Humidity	10 - 70 %	57 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.75 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-14.7 mm	Yes

Comments:

Technician



Approved

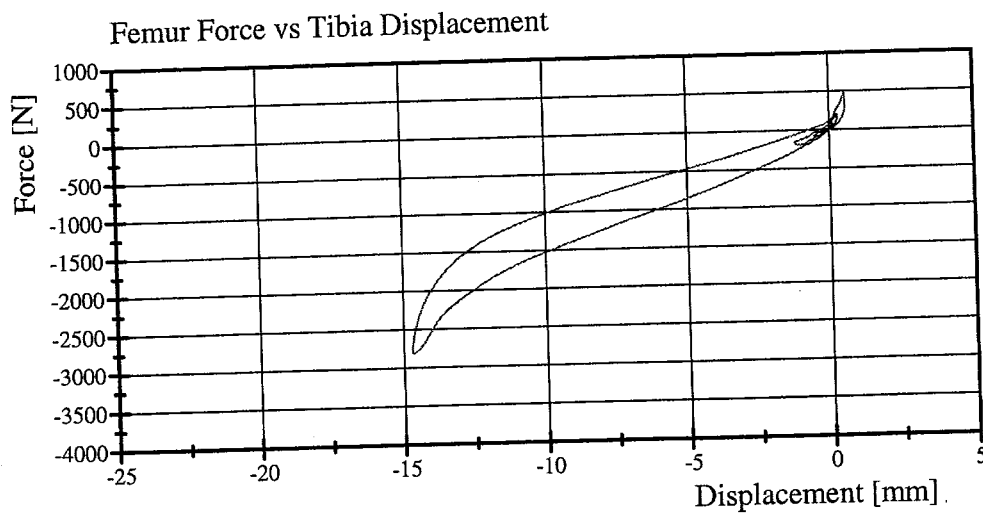
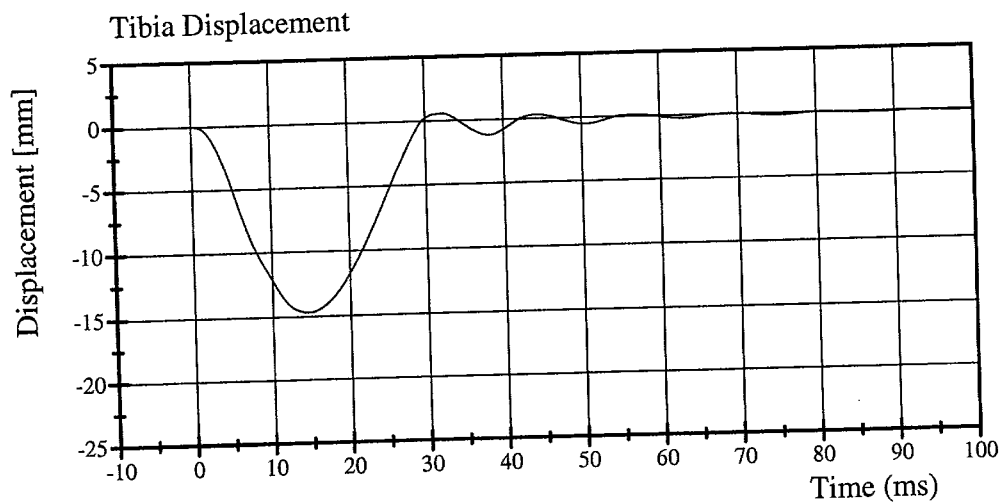
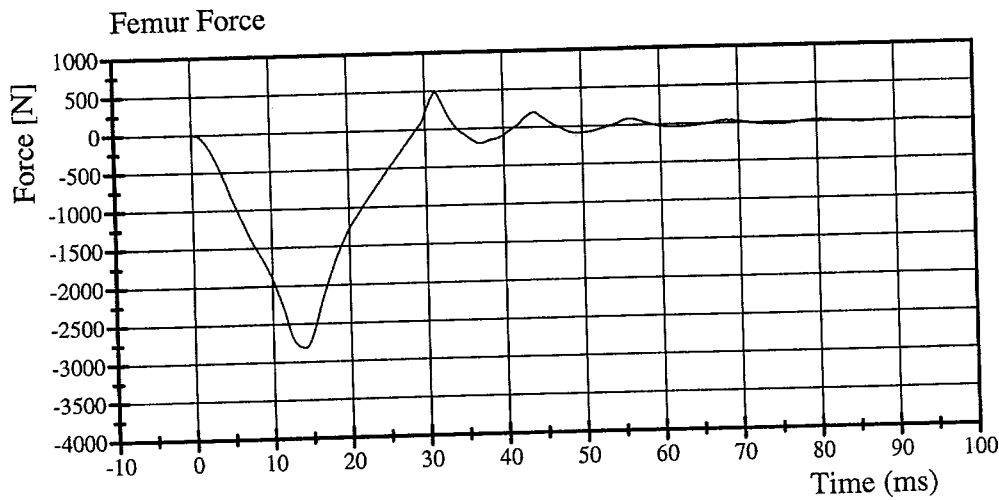


Transportation Research Center Inc.

5720 Left Knee Slider Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/29/2002



Transportation Research Center Inc.

5720 Right Knee Slider Test

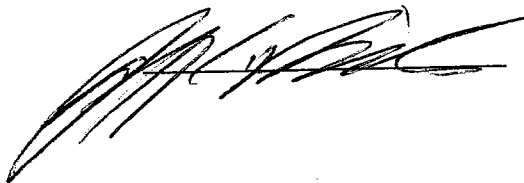
HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/11/2002

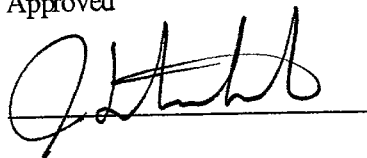
Test Parameter	Specification	Test Results	Pass
Temperature	18.9 - 25.6 °C	21.7 °C	Yes
Relative Humidity	10 - 70 %	52 %	Yes
Pendulum Velocity	2.70 - 2.80 m/s	2.71 m/s	Yes
Knee Displacement	-15.5 - (-12.7) mm	-14.3 mm	Yes

Comments:

Technician



Approved

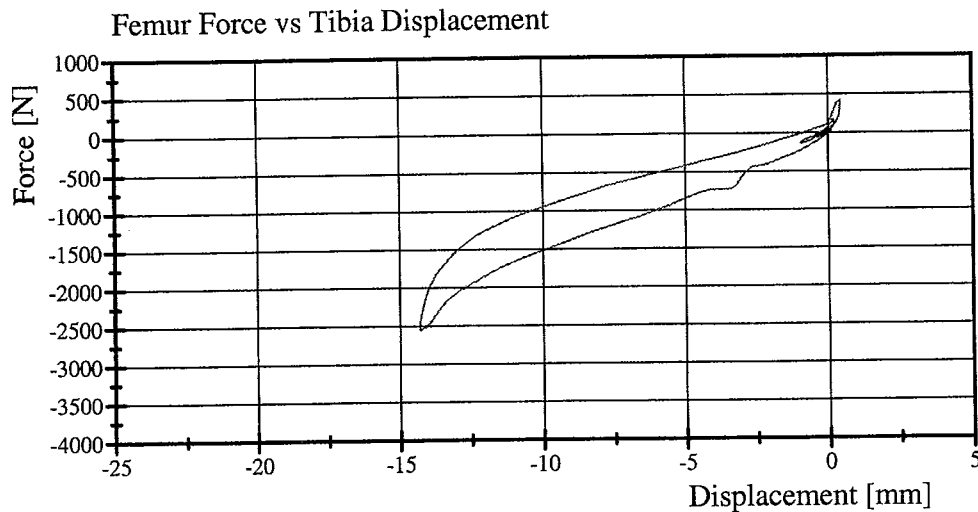
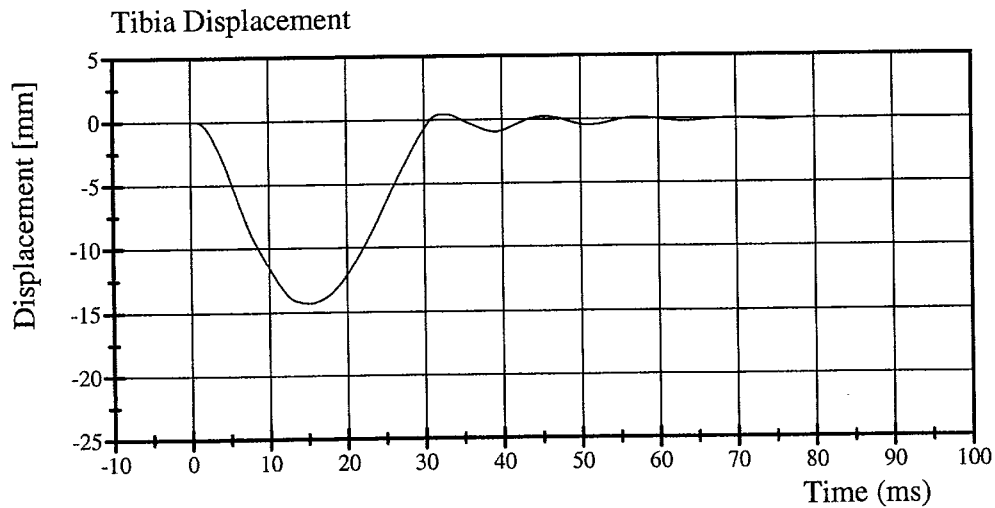
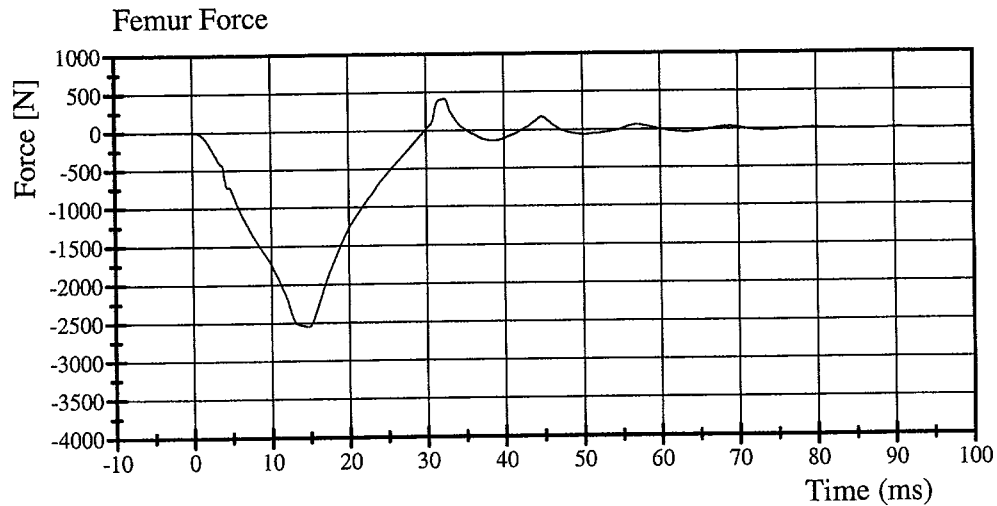


Transportation Research Center Inc.

5720 Right Knee Slider Test

HIII 5th Female Serial No. 421 Calibration No. 09 - 1

Test Date 07/11/2002



Post-Test Dummy Configuration and Performance Verification Data

Driver Dummy S/N: 416

No post-test calibration.

Passenger Dummy S/N: 421

No post-test calibration.

Appendix D

Miscellaneous Test Information

Sign Convention
SAE J211 MAR95

Accelerometers:

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

Potentiometers:

+Chest longitudinal deflection: Outward
+Chest lateral deflection: Leftward
+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	180
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

Description Of Timing Marks On TRC High-Speed Film

All TRC high-speed cameras are equipped with red LEDs which put timing marks on the right edge of the film. TRC uses a single timing generator to generate the timing for all cameras. This allows the timing marks to be common to all cameras. The timing marks can be used to measure camera speed (frames per second) or to locate a point in time before or after the time-zero event.

The timing marks appear on the film as small red marks on the right edge of the film. Round marks are left by the Photosonic cameras.

The timing generator puts out a pulse for every millisecond plus it generates additional pulses for hundredths and tenths of seconds. To explain this further, we can use an example of a camera running at 1000 frames per second.

1. Every frame will have **one** LED appear in it. This indicates a *millisecond* pulse.
2. Every ten frames will have **two** LEDs appear in it. These indicate a *millisecond* pulse plus a *hundredth of a second* pulse.
3. Every one hundred frames will have **three** LEDs appear in it. These indicate a *millisecond* pulse, a *hundredth of a second* pulse, and a *tenth of a second* pulse.

To locate time-zero, observe the continuous LED that is visible on the left side of the frame at the beginning of each view. Locate the frame where the left side LED is fully extinguished and reverse 4 frames for the Photosonic cameras; reverse 5 frames for Hycam cameras; reverse 2 frames for Stalex cameras. This frame is time-zero.



CERTIFICATE OF CONFORMITY

Certificate No. 10311
Serial No. CB 058

Product Description	EEVC Frontal Impact Barrier
Cellbond Part No.	70EEVCFI

	Test Results	GR No.	Blk No.
1	15997-04	PO60946-01	N/A
2	15852-59	PO58715-01	N/A

Declaration.

The above moving deformable barriers have been manufacture in accordance with the provisions of the European Parliament and Council No 96/79/EC Directive (ECE R94)

Additional Information...

For and on behalf of Cellbond Composites Ltd

Signed
Quality Manager



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www.cellbond.com

company registration
England 1944904

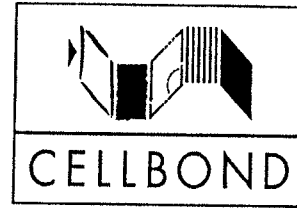
registered office
5 Stukeley Business Centre
Blackstone Road
Huntingdon
Cambridgeshire
PE29 6EF

Cellbond offices
United Kingdom
Germany
United States of America



ISO 9002
QS 9000





EEVC DEFORMABLE FRONTAL BARRIER
ALUMINIUM HONEYCOMB CERTIFICATION
STATIC TEST RESULTS

MAIN BLOCK

Core: 1.8 3/4 3003

Required Crush Strength
0.308 MPa to 0.342 MPa

Test No: 15997-04

GR No: PO60946-01

Block No:

	Crush Strength (MPa)			RESULT
	6.4 to 9.7 mm	9.7 to 13.2 mm	13.2 to 16.5 mm	
Sample* 1	0.3266	0.3289	0.3367	PASS
Sample 2	0.3156	0.3302	0.3254	PASS
Sample 3	0.3142	0.3150	0.3253	PASS
Sample 4	0.3341	0.3352	0.3394	PASS
Sample 5	0.3186	0.3306	0.3286	PASS
Sample 6	0.3168	0.3230	0.3193	PASS
Sample 7	0.3167	0.3270	0.3250	PASS
Sample 8	0.3152	0.3223	0.3274	PASS

Seven out of the eight samples must fulfil the crush strength
requirement in order to pass the block certification

*Sample size and location as per R94.

EVC DEFORMABLE FRONTAL BARRIER
MAIN BLOCK

Honeycomb Type: 1.8 3/4 3003

Higher Acceptable Crush Strength Limit: 0.342 MPa

Lower Acceptable Crush Strength Limit: 0.308 MPa

Section 1: 6.4 - 9.7mm

Section 2: 9.7 - 13.2mm

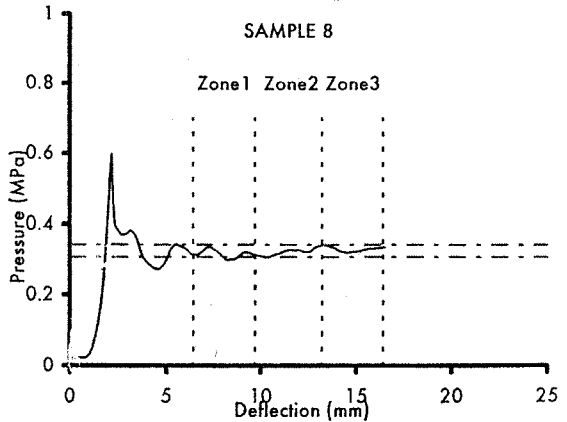
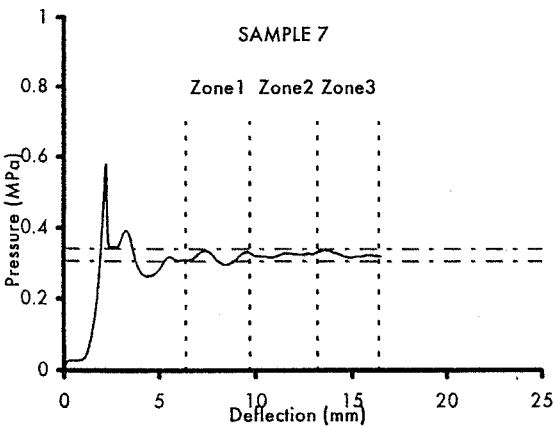
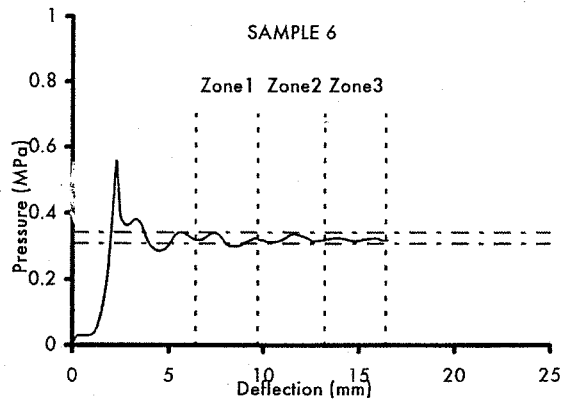
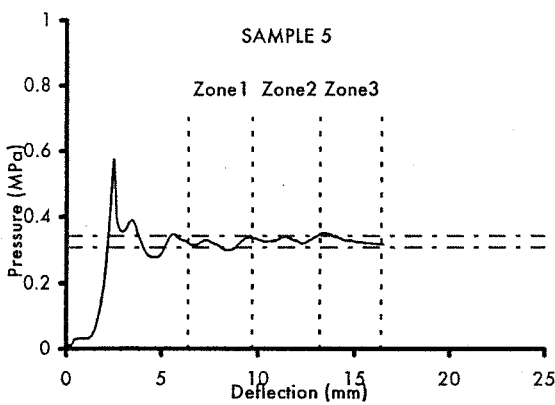
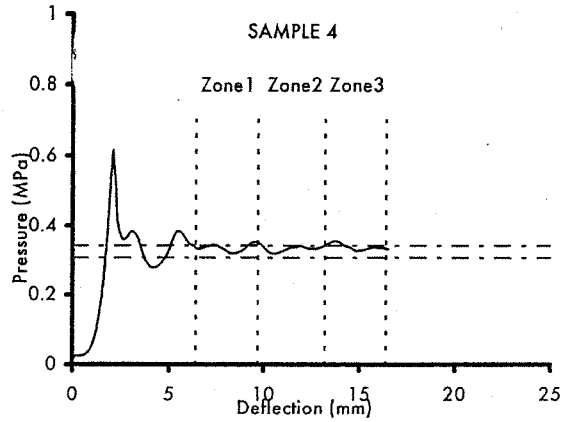
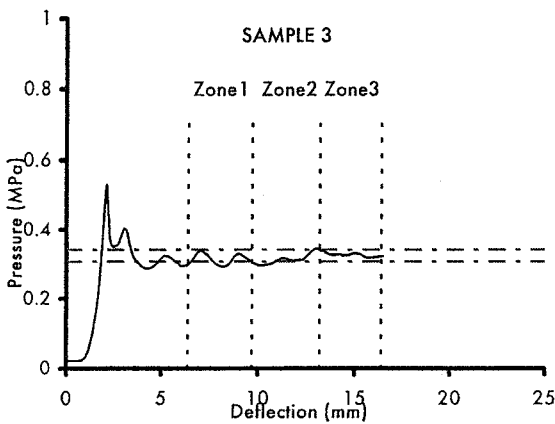
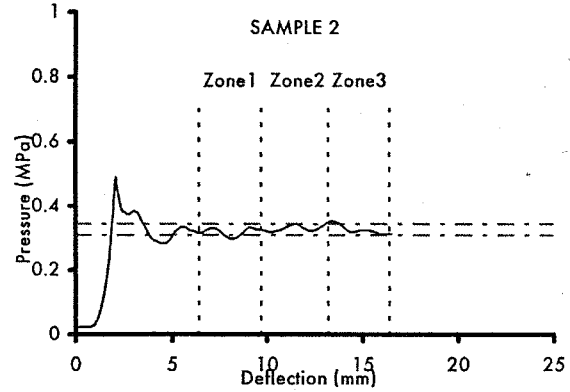
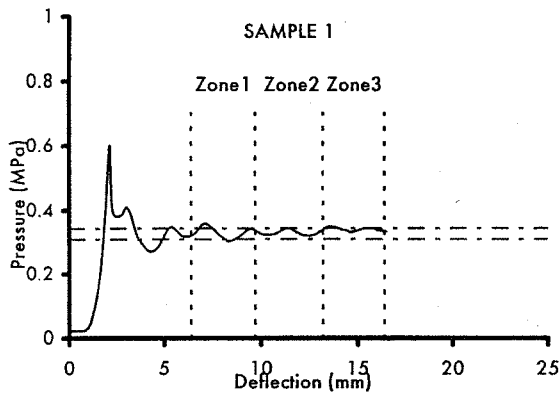
Section 3: 13.2 - 16.5mm

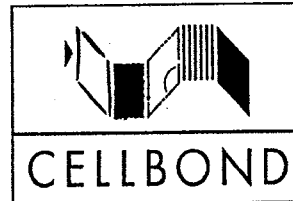
Speed: 6.35 mm/min

Test No: 15997-04

GR No: PO60946-01

Block No:





EEVC DEFORMABLE FRONTAL BARRIER
ALUMINIUM HONEYCOMB CERTIFICATION
STATIC TEST RESULTS

BUMPER

Core: 5.2 1/4 3003

Required Crush Strength
1.540 MPa to 1.711 MPa

Test No: 15852-59

GR No: PO58715-01

Block No: NA

	Crush Strength (MPa)			RESULT
	6.4 to 9.7 mm	9.7 to 13.2 mm	13.2 to 16.5 mm	
Sample* 1	1.628	1.630	1.644	PASS
Sample 2	1.656	1.646	1.640	PASS
Sample 3	1.643	1.646	1.649	PASS
Sample 4	1.685	1.674	1.677	PASS
Sample 5	1.692	1.693	1.684	PASS
Sample 6	1.681	1.659	1.669	PASS
Sample 7	1.653	1.650	1.651	PASS
Sample 8	1.621	1.633	1.623	PASS

Seven out of the eight samples must fulfil the crush strength
requirement in order to pass the block certification

*Sample size and location as per R94.

RESULT: PASSED

EEVC DEFORMABLE FRONTAL BARRIER BUMPER

Honeycomb Type: 5.2 1/4 3003

Higher Acceptable Crush Strength Limit: 1.711 MPa

Lower Acceptable Crush Strength Limit: 1.540 MPa

Section 1: 6.4 - 9.7mm

Section 2: 9.7 - 13.2mm

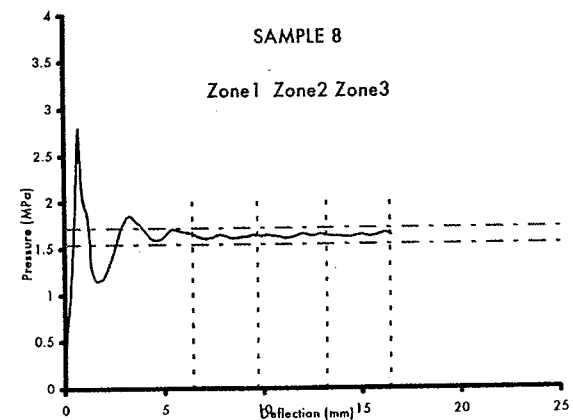
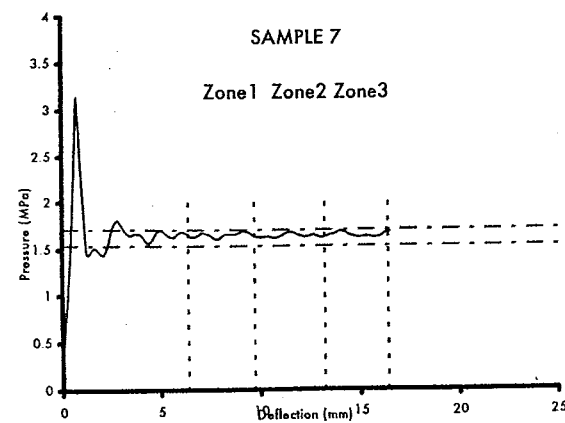
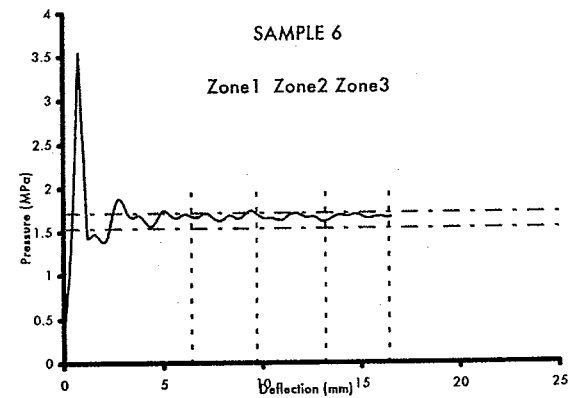
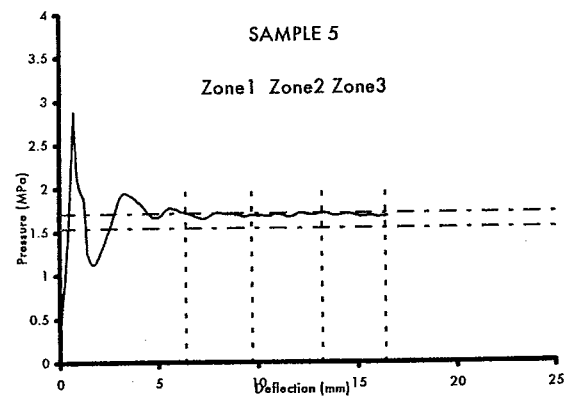
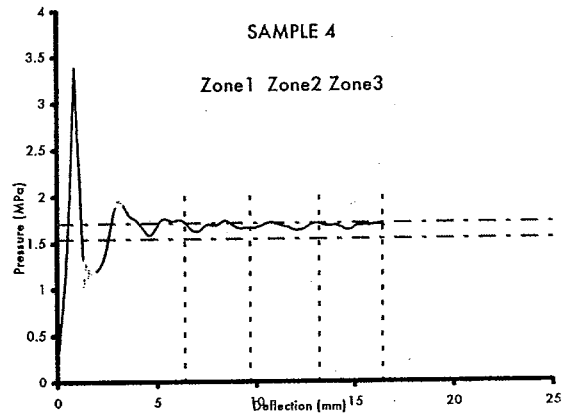
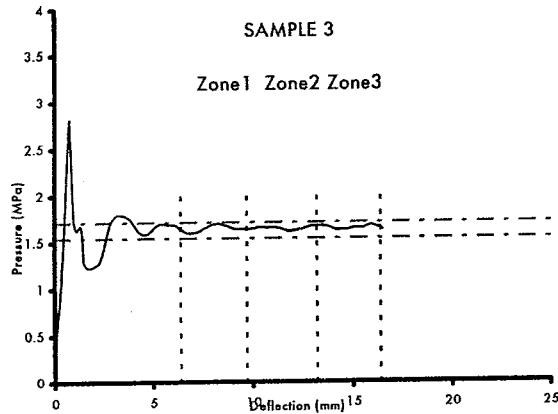
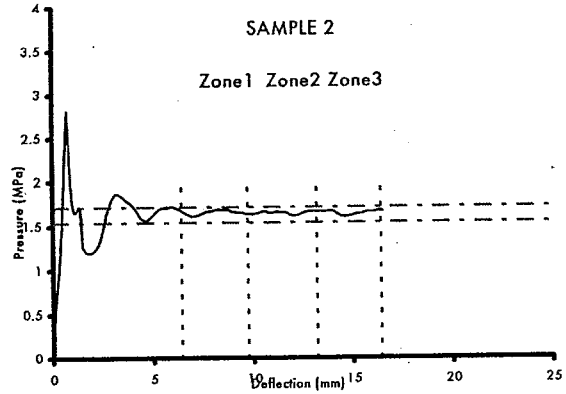
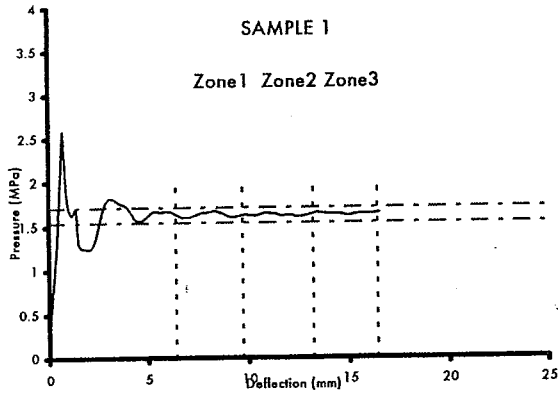
Section 3: 13.2 - 16.5mm

Speed: 6.35 mm/min

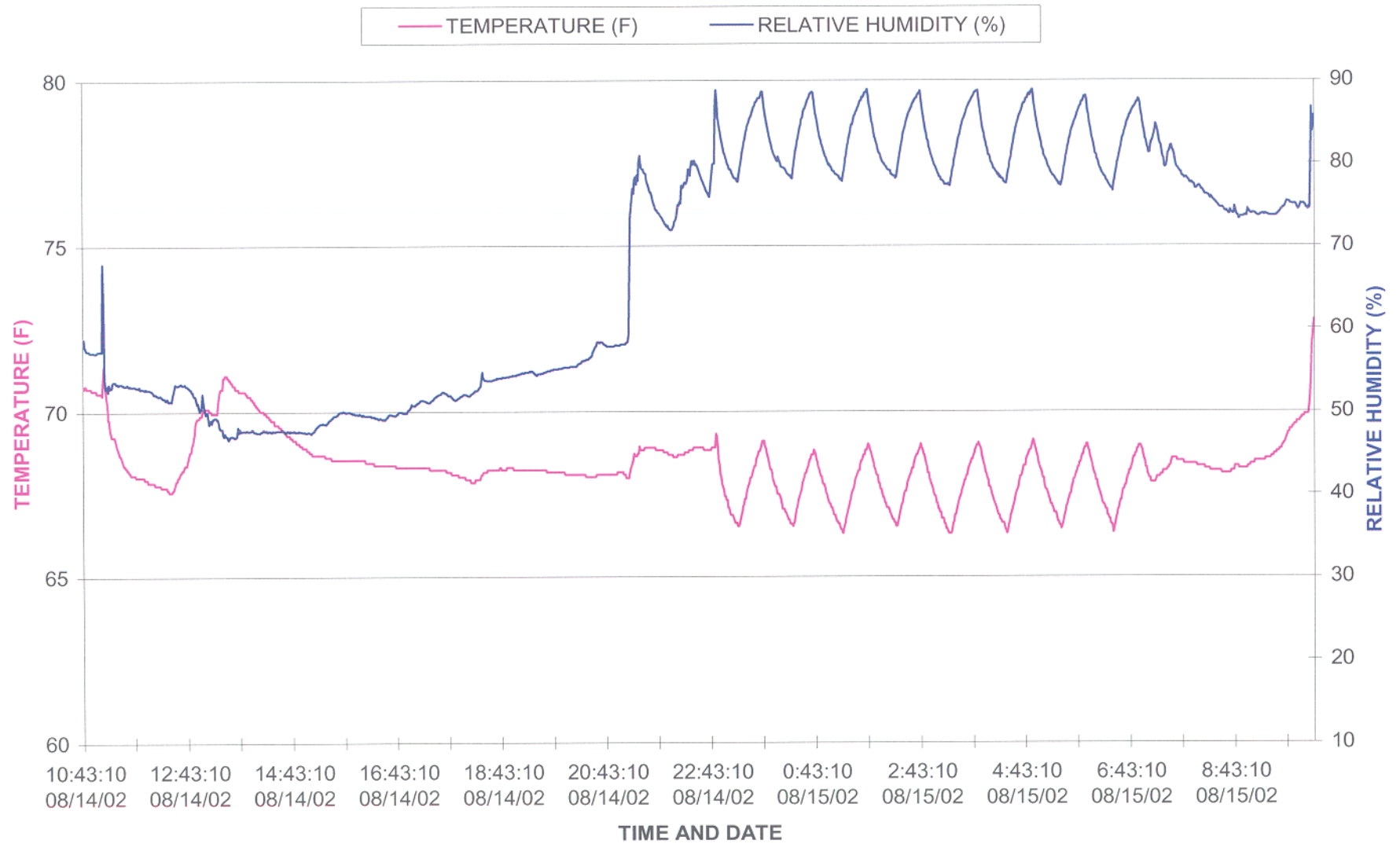
Test No: 15852-59

GR No: PO58715-01

Block No: NA



TEMPERATURE AND RELATIVE HUMIDITY CHART 020815-1



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

8/14/2002 3:03:44 PM

Name of Test 020815-1

System K3600

Name of DAU DAU1

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal.	Group	Mfg.	Model	
1000	EVENT1	SYNC1	SYNC1		10.24	V	+	4/15/2002	OK	-1	TRC	Event
1001	02A02-F02	HEDXG1	Head Accel X	Fwd	799.93750	g	+	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1002	02A18-N10	HEDYG1	Head Accel Y	Lft	800.90727	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1003	02A09-F15	HEDZG1	Head Accel Z	Up	798.25381	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1004	01L26-F02	HEDXR1	Head Accel Red X	Rwd	803.85599	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1005	02A09-F13	HEDYR1	Head Accel Red Y	Lft	804.17795	g	-	8/5/2002	OK	416v	Entran	EGE-73B6Q-200
1006	02A16-A06	HEDZR1	Head Accel Red Z	Up	797.69416	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1007	02A16-A19	HD1XG1	Head (LT) Accel X	Fwd	798.23515	g	+	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1008	02A16-A22	HD1ZG1	Head (LT) Accel Z	Up	800.68809	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1009	02A18-N04	HD2YG1	Head (FT) Accel Y	Lft	801.31465	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1010	02A18-N20	HD2ZG1	Head (FT) Accel Z	Up	796.01990	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1011	02A09-F01	HD3XG1	Head (TP) Accel X	Fwd	806.04534	g	+	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1012	02A09-F17	HD3YG1	Head (TP) Accel Y	Lft	799.42541	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1013	IF-205-161-FX	NEKXF1	Neck Force X	Hd	8892.5003	N	-	3/18/2002	OK	416v	FTSS	IF-205
1014	IF-205-161-FY	NEKYF1	Neck Force Y	Hd	8899.5046	N	+	3/18/2002	OK	416v	FTSS	IF-205
1015	IF-205-161-FZ	NEKZF1	Neck Force Z	Hd	13351.704	N	+	3/18/2002	OK	416v	FTSS	IF-205
1016	IF-205-161-MX	NEKXM1	Neck Moment X	Rt Ear	282.61167	N-m	-	3/18/2002	OK	416v	FTSS	IF-205
1017	IF-205-161-MY	NEKYM1	Neck Moment Y	Chin	282.67032	N-m	+	3/18/2002	OK	416v	FTSS	IF-205
1018	IF-205-161-MZ	NEKZM1	Neck Moment Z	Chn	282.76257	N-m	+	3/18/2002	OK	416v	FTSS	IF-205
1019	3251-108-FX	NKLXF1	Neck Lwr Force X	Hd	13350.194	N	-	8/21/2001	OK	416v	Denton	3251
1020	3251-108-FY	NKLYF1	Neck Lwr Force Y	Hd	13337.912	N	+	8/21/2001	OK	416v	Denton	3251
1021	3251-108-FZ	NKLZF1	Neck Lwr Force Z	Hd	13341.543	N	+	8/21/2001	OK	416v	Denton	3251
1022	3251-108-MX	NKLXM1	Neck Lwr Moment X	Rt Ear	339.23322	N-m	-	8/21/2001	OK	416v	Denton	3251
1023	3251-108-MY	NKLYM1	Neck Lwr Moment Y	Chn	338.91670	N-m	+	8/21/2001	OK	416v	Denton	3251
1024	3251-108-MZ	NKLZM1	Neck Lwr Moment Z	Chn	181.17067	N-m	+	8/21/2001	OK	416v	Denton	3251
1025	02A16-A04	CSTXG1	Chest Accel X	Fwd	399.87816	g	+	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1026	C02B19-F02	CSTYG1	Chest Accel Y	Lft	400.71377	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1027	C02B19-F06	CSTZG1	Chest Accel Z	Up	398.59091	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1028	B02A25-N08	CSTXR1	Chest Accel Red X	Rwd	399.84381	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1029	01L17-F09	CSTYR1	Chest Accel Red Y	Lft	399.25763	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200

Channel Report

8/14/2002 3:03:44 PM

1030	C02B19-F04	CSTZR1	Chest Accel Red Z	Up	400.62597	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1031	B02A09-F08	STUXG1	Sternum Upr Accel X	Fwd	799.00124	g	+	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1032	02A16-A05	STMXG1	Sternum Mid Accel X	Fwd	801.41499	g	+	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1033	02A16-A16	STLXG1	Sternum Lwr Accel X	Fwd	802.35692	g	+	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1034	14CB1-2897-416	CSTXD1	Chest Deflection X 516	Strnm	98.566265	mm	+	6/18/2001	---	416v	Servo	14CB1-2897
1035	2152-076-FX	LMBXF1	Lumbar Force X	Cst	13333.047	N	-	6/1/2001	---	416v	Denton	2152
1036	2152-076-FY	LMBYF1	Lumbar Force Y	Cst	13344.730	N	+	6/1/2001	---	416v	Denton	2152
1037	2152-076-FZ	LMBZF1	Lumbar Force Z	Cst	17791.212	N	+	6/1/2001	---	416v	Denton	2152
1038	2152-076-MX	LMBXM1	Lumbar Moment X	Rt	678.13736	N-m	-	6/1/2001	---	416v	Denton	2152
1039	2152-076-MY	LMBYM1	Lumbar Moment Y	Strnm	677.99944	N-m	+	6/1/2001	---	416v	Denton	2152
1040	C02B19-F03	PEVXG1	Pelvis Accel X	Rwd	399.41336	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1041	02A16-A27	PEVYG1	Pelvis Accel Y	Lft	398.38157	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1042	C02B19-F01	PEVZG1	Pelvis Accel Z	Up	399.83600	g	-	8/1/2002	OK	416v	Entran	EGE-73B6Q-200
1043	2430-736	LFMZFI	Left Femur Force Z #8	Knee	13340.662	N	+	3/18/2002	OK	416v	GSE	2430
1044	2430-742	RFMZFI	Right Femur Force Z 507	Knee	13339.705	N	+	3/18/2002	OK	416v	GSE	2430
1045	150-0121VR-555	KNLXD1	Left Knee Displacement	Tib	43.132134	mm	-	5/8/2002	OK	416v	SpaceAge	150-0121VR
1046	4825J-79-FX	TBLXF1	Left Upr Tibia Force X	Tib	8903.6734	N	+	7/16/2002	OK	416v	Denton	4825J
1047	4825J-79-FZ	TBLZF1	Left Upr Tibia Force Z	Tib	8893.6833	N	+	7/16/2002	OK	416v	Denton	4825J
1048	4825J-79-MX	TBLXM1	Left Upr Tibia Moment X	Ank	282.30784	N-m	+	7/16/2002	OK	416v	Denton	4825J
1049	4825J-79-MY	TBLYM1	Left Upr Tibia Moment Y	Ank	282.14513	N-m	+	7/16/2002	OK	416v	Denton	4825J
1050	99H30-Z10	TBLXG1	Left Tibia Accel X	Fwd	1186.9986	g	+	4/26/2002	OK	416v	Entran	EGE-73BQE0-20
1051	98H10-F17	TBLYG1	Left Tibia Accel Y	Rt	1205.7697	g	+	4/25/2002	OK	416v	Entran	EGE-73BQ-2000
1052	4826J-77-FX	ANLXF1	Left Lwr Tibia Force X	Ank	8889.0387	N	+	7/16/2002	OK	416v	Denton	4826J
1053	4826J-77-FY	ANLYF1	Left Lwr Tibia Force Y	Ank	8906.0898	N	+	7/16/2002	OK	416v	Denton	4826J
1054	4826J-77-FZ	ANLZF1	Left Lwr Tibia Force Z	Ank	8896.6450	N	+	7/16/2002	OK	416v	Denton	4826J
1055	4826J-77-MX	ANLXM1	Left Lwr Tibia Moment X	Ank	282.58654	N-m	+	7/16/2002	OK	416v	Denton	4826J
1056	4826J-77-MY	ANLYM1	Left Lwr Tibia Moment Y	Ank	282.28504	N-m	+	7/16/2002	OK	416v	Denton	4826J
1057	FLX103X	FTLXD1	Left Foot Disp. X	Invers	160.72961	°	-	7/22/2002	OK	416v	Contelec	PD210-4B
1058	FLX103Y	FTLYD1	Left Foot Disp. Y	Dorsif	161.06048	°	+	7/22/2002	OK	416v	Contelec	PD210-4B
1059	FLX103Z	FTLZD1	Left Foot Disp. Z	Exter	160.54570	°	-	7/22/2002	OK	416v	Contelec	PD210-4B
1060	99H30-Z11	FTLXG1	Left Foot Accel X	Fwd	1185.8439	g	+	4/26/2002	OK	416v	Entran	EGE-73BQE0-20
1061	01J02-F05	FTLYG1	Left Foot Accel Y	Rt	1200.0187	g	+	4/25/2002	OK	416v	Entran	EGE-73B6Q-200
1062	01J02-F22	FTLZG1	Left Foot Accel Z	Dn	1206.9636	g	+	4/25/2002	OK	416v	Entran	EGE-73B6Q-200
1063	150-0121VL-548	KNRXD1	Right Knee Displacement	Tib	43.923990	mm	-	5/8/2002	OK	416v	SpaceAge	150-0121VL
1064	4825J-76-FX	TBRXF1	Right Upr Tibia Force X	Tib	8905.2037	N	+	7/16/2002	OK	416v	Denton	4825J

Channel Report

8/14/2002 3:03:44 PM

1065	4825J-76-FZ	TBRZF1	Right Upr Tibia Force Z	Tib	8907.0972	N	+	7/16/2002	OK	416v	Denton	4825J
1066	4825J-76-MX	TBRXM1	Right Upr Tibia Moment X	Ank	282.64605	N-m	+	7/16/2002	OK	416v	Denton	4825J
1067	4825J-76-MY	TBRYM1	Right Upr Tibia Moment Y	Ank	282.03138	N-m	+	7/16/2002	OK	416v	Denton	4825J
1068	99H30-Z13	TBRXG1	Right Tibia Accel X	Fwd	1202.2165	g	+	4/25/2002	OK	416v	Entran	EGE-73BQE0-20
1069	99H30-Z01	TBRYG1	Right Tibia Accel Y	Rt	1190.1441	g	+	4/25/2002	OK	416v	Entran	EGE-73BQE0-20
1070	4826J-78-FX	ANRXF1	Right Lwr Tibia Force X	Ank	8898.3772	N	+	7/16/2002	OK	416v	Denton	4826J
1071	4826J-78-FY	ANRYF1	Right Lwr Tibia Force Y	Ank	8887.1604	N	+	7/16/2002	OK	416v	Denton	4826J
1072	4826J-78-FZ	ANRZF1	Right Lwr Tibia Force Z	Ank	8896.7481	N	+	7/16/2002	OK	416v	Denton	4826J
1073	4826J-78-MX	ANRXM1	Right Lwr Tibia Moment X	Ank	282.37800	N-m	+	7/16/2002	OK	416v	Denton	4826J
1074	4826J-78-MY	ANRYM1	Right Lwr Tibia Moment Y	Ank	282.59350	N-m	+	7/16/2002	OK	416v	Denton	4826J
1075	FLX104X	FTRXD1	Right Foot Disp. X	Eversi	162.00460	°	-	7/19/2002	OK	416v	Contelec	PD210-4B
1076	FLX104Y	FTRYD1	Right Foot Disp. Y	Dorsif	162.83081	°	+	7/19/2002	OK	416v	Contelec	PD210-4B
1077	FLX104Z	FTRZD1	Right Foot Disp. Z	Intern	161.77027	°	-	7/19/2002	OK	416v	Contelec	PD210-4B
1078	01J02-F10	FTRXG1	Right Foot Accel X	Fwd	1210.4018	g	+	4/25/2002	OK	416v	Entran	EGE-73B6Q-200
1079	99H30-Z15	FTRYG1	Right Foot Accel Y	Rt	1191.6399	g	+	4/26/2002	OK	416v	Entran	EGE-73BQE0-20
1080	01J02-F03	FTRZG1	Right Foot Accel Z	Dn	1187.5768	g	+	4/26/2002	OK	416v	Entran	EGE-73B6Q-200
1081	AJ4R6	HEDXG2	Head Accel X VRTC 5	Fwd	795.04957	g	+	8/6/2002	OK	421v	Endevco	7264-2KM5T
1082	02A16-A01	HEDYG2	Head Accel Y	Lft	795.96421	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1083	01L26-F06	HEDZG2	Head Accel Z	Up	802.94832	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1084	02A16-A03	HEDXR2	Head Accel Red X	Rwd	792.96245	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1085	02A16-A08	HEDYR2	Head Accel Red Y	Lft	799.93750	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1086	02A16-A09	HEDZR2	Head Accel Red Z	Up	804.87958	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1087	02A16-A28	HD1XG2	Head (LT) Accel X	Fwd	804.25374	g	+	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1088	02A16-A20	HD1ZG2	Head (LT) Accel Z	Up	797.37737	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1089	02A09-F12	HD2YG2	Head (FT) Accel Y	Lft	798.51526	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1090	02A18-N07	HD2ZG2	Head (FT) Accel Z	Up	797.20976	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1091	02A16-A23	HD3XG2	Head (TP) Accel X	Fwd	802.26891	g	+	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1092	02A16-A25	HD3YG2	Head (TP) Accel Y	Lft	797.93658	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1093	IF-205-180-FX	NEKXF2	Neck Force X	Hd	8895.5814	N	-	3/18/2002	OK	421v	FTSS	IF-205
1094	IF-205-180-FY	NEKYF2	Neck Force Y	Hd	8889.5852	N	+	3/18/2002	OK	421v	FTSS	IF-205
1095	IF-205-180-FZ	NEKZF2	Neck Force Z	Hd	13339.358	N	+	3/18/2002	OK	421v	FTSS	IF-205
1096	IF-205-180-MX	NEKXM2	Neck Moment X	Rt Ear	282.44346	N-m	-	3/18/2002	OK	421v	FTSS	IF-205
1097	IF-205-180-MY	NEKYM2	Neck Moment Y	Chin	282.51594	N-m	+	3/18/2002	OK	421v	FTSS	IF-205
1098	IF-205-180-MZ	NEKZM2	Neck Moment Z	Chn	282.66794	N-m	+	3/18/2002	OK	421v	FTSS	IF-205
1099	3251-107-FX	NKLXF2	Neck Lwr Force X	Hd	13348.061	N	-	7/6/2001	---	421v	Denton	3251

Channel Report

8/14/2002 3:03:45 PM

1100	3251-107-FY	NKLYF2	Neck Lwr Force Y	Hd	13331.262	N	+	7/6/2001	---	421v	Denton	3251
1101	3251-107-FZ	NKLZF2	Neck Lwr Force Z	Hd	13341.504	N	+	7/6/2001	---	421v	Denton	3251
1102	3251-107-MX	NKLXM2	Neck Lwr Moment X	Rt Ear	338.99620	N-m	-	7/6/2001	---	421v	Denton	3251
1103	3251-107-MY	NKLYM2	Neck Lwr Moment Y	Chn	338.80164	N-m	+	7/6/2001	---	421v	Denton	3251
1104	3251-107-MZ	NKLZM2	Neck Lwr Moment Z	Chn	181.03965	N-m	+	7/6/2001	---	421v	Denton	3251
1105	B02A25-N03	CSTXG2	Chest Accel X	Fwd	401.20046	g	+	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1106	02A18-N12	CSTYG2	Chest Accel Y	Lft	399.75327	g	-	8/5/2002	OK	421v	Entran	EGE-73B6Q-200
1107	J40971	VCGXG1	VEHICLE CG X-AXIS	FWD	1004.1578	g	+	6/6/2002	OK	-1	Endevco	7264-2000TZ

Channel Report

8/14/2002 3:03:45 PM

Name of Test 020815-1

System MINIDAU

Name of DAU DAU6

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
6001	B02A25-N10	CSTZG2	Chest Accel Z	Up	400.45363	g	- 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6002	AE9B7	CSTXR2	Chest Accel Red X	Rwd	397.02233	g	- 8/6/2002	OK 421v	Endevco	7264-2KM5T
6003	02A04-A24	CSTYR2	Chest Accel Red Y	Lft	397.18248	g	- 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6004	B02A18-N22	CSTZR2	Chest Accel Red Z	Up	398.54903	g	- 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6005	02A16-A14	STUXG2	Sternum Upr Accel X	Fwd	806.24842	g	+ 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6006	02A16-A12	STMXG2	Sternum Mid Accel X	Fwd	791.71176	g	+ 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6007	02A18-N16	STLXG2	Sternum Lwr Accel X	Fwd	786.77238	g	+ 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6008	14CB1-2897-135	CSTXD2	Chest Deflection X	Strnm	99.823164	mm	+ 3/25/2002	OK 421v	Servo	14CB1-2897
6009	2152A-086-FX	LMBXF2	Lumbar Force X	Cst	13347.713	N	- 6/2/2001	--- 421v	Denton	2152A
6010	2152A-086-FY	LMBYF2	Lumbar Force Y	Cst	13345.651	N	+ 6/2/2001	--- 421v	Denton	2152A
6011	2152A-086-FZ	LMBZF2	Lumbar Force Z	Cst	17801.847	N	+ 6/2/2001	--- 421v	Denton	2152A
6012	2152A-086-MX	LMBXM2	Lumbar Moment X	Rt	676.59836	N-m	- 6/2/2001	--- 421v	Denton	2152A
6013	2152A-086-MY	LMBYM2	Lumbar Moment Y	Strnm	677.74043	N-m	+ 6/2/2001	--- 421v	Denton	2152A
6014	AF9K3	PEVXG2	Pelvis Accel X	Rwd	395.91710	g	- 8/5/2002	OK 421v	Endevco	7264-2000LC
6015	02A16-A26	PEVYG2	Pelvis Accel Y	Lft	404.52882	g	- 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6016	02A18-N15	PEVZG2	Pelvis Accel Z	Up	401.14074	g	- 8/5/2002	OK 421v	Entran	EGE-73B6Q-200
6017	2430-739	LFMZ2	Left Femur Force Z S37	Knee	13342.961	N	+ 3/18/2002	OK 421v	GSE	2430
6018	2430-760	RFMZ2	Right Femur Force Z VRTC 4	Knee	13346.030	N	+ 3/18/2002	OK 421v	GSE	2430
6019	150-0121VR-150	KNLXD2	Left Knee Displacement	Tib	43.785008	mm	+ 5/8/2002	OK 421v	SpaceAge	150-0121VR
6020	4825J-82-FX	TBLXF2	Left Upr Tibia Force X	Tib	8883.1205	N	+ 7/16/2002	OK 421v	Denton	4825J
6021	4825J-82-FZ	TBLZF2	Left Upr Tibia Force Z	Tib	8899.4853	N	+ 7/16/2002	OK 421v	Denton	4825J
6022	4825J-82-MX	TBLXM2	Left Upr Tibia Moment X	Ank	281.82342	N-m	+ 7/16/2002	OK 421v	Denton	4825J
6023	4825J-82-MY	TBLYM2	Left Upr Tibia Moment Y	Ank	282.67104	N-m	+ 7/16/2002	OK 421v	Denton	4825J
6024	99H30-Z09	TBLXG2	Left Tibia Accel X	Fwd	1191.0300	g	+ 4/25/2002	OK 421v	Entran	EGE-73BQE0-20
6025	99H12-F09	TBLYG2	Left Tibia Accel Y	Rt	1205.2446	g	+ 4/26/2002	OK 421v	Entran	EGE-73BQE0-20
6026	4826J-82-FX	ANLXF2	Left Lwr Tibia Force X	Ank	8903.7473	N	+ 7/16/2002	OK 421v	Denton	4826J
6027	4826J-82-FY	ANLYF2	Left Lwr Tibia Force Y	Ank	8872.5100	N	+ 7/16/2002	OK 421v	Denton	4826J
6028	4826J-82-FZ	ANLZF2	Left Lwr Tibia Force Z	Ank	8897.3840	N	+ 7/16/2002	OK 421v	Denton	4826J
6029	4826J-82-MX	ANLXM2	Left Lwr Tibia Moment X	Ank	283.50606	N-m	+ 7/16/2002	OK 421v	Denton	4826J
6030	4826J-82-MY	ANLYM2	Left Lwr Tibia Moment Y	Ank	282.42322	N-m	+ 7/16/2002	OK 421v	Denton	4826J

Channel Report

8/14/2002 3:03:46 PM

6031	FLX108X	FTLXD2	Left Foot Disp. X	Eversi 162.16125 °	+	7/22/2002	OK	421v	Contelec	PD210-4B
6032	FLX108Y	FTLYD2	Left Foot Disp. Y	Dorsif 161.60453 °	+	7/22/2002	OK	421v	Contelec	PD210-4B

Channel Report

8/14/2002 3:03:46 PM

Name of Test 020815-1

System MINIDAU

Name of DAU DAU7

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
7001	FLX108Z	FTLZD2	Left Foot Disp. Z	Intern	160.64468	°	+ 7/22/2002	OK 421v	Contelec	PD210-4B
7002	98H10-F03	FTLXG2	Left Foot Accel X	Fwd	1172.1611	g	+ 4/25/2002	OK 421v	Entran	EGE-73BQ-2000
7003	98H10-F07	FTLYG2	Left Foot Accel Y	Rt	1200.7504	g	+ 4/25/2002	OK 421v	Entran	EGE-73BQ-2000
7004	98H13-F16	FTLZG2	Left Foot Accel Z	Dn	1167.6701	g	+ 4/25/2002	OK 421v	Entran	EGE-73BQ-2000
7005	150-0121VL-149	KNRXD2	Right Knee Displacement	Tib	43.693463	mm	+ 5/8/2002	OK 421v	SpaceAge	150-0121VL
7006	4825J-80-FX	TBRXF2	Right Upr Tibia Force X	Tib	8897.8530	N	+ 7/16/2002	OK 421v	Denton	4825J
7007	4825J-80-FZ	TBRZF2	Right Upr Tibia Force Z	Tib	8908.6233	N	+ 7/16/2002	OK 421v	Denton	4825J
7008	4825J-80-MX	TBRXM2	Right Upr Tibia Moment X	Ank	282.67118	N-m	+ 7/16/2002	OK 421v	Denton	4825J
7009	4825J-80-MY	TBRYM2	Right Upr Tibia Moment Y	Ank	282.08905	N-m	+ 7/16/2002	OK 421v	Denton	4825J
7010	99H12-F19	TBRXG2	Right Tibia Accel X	Fwd	1227.6411	g	+ 4/26/2002	OK 421v	Entran	EGE-73BQE0-20
7011	99H30-Z12	TBRYG2	Right Tibia Accel Y	Rt	1208.1740	g	+ 4/26/2002	OK 421v	Entran	EGE-73BQE0-20
7012	4826J-76-FX	ANRXF2	Right Lwr Tibia Force X	Ank	8902.4909	N	+ 7/16/2002	OK 421v	Denton	4826J
7013	4826J-76-FY	ANRYF2	Right Lwr Tibia Force Y	Ank	8899.4437	N	+ 7/16/2002	OK 421v	Denton	4826J
7014	4826J-76-FZ	ANRZF2	Right Lwr Tibia Force Z	Ank	8898.8267	N	+ 7/16/2002	OK 421v	Denton	4826J
7015	4826J-76-MX	ANRXM2	Right Lwr Tibia Moment X	Ank	281.24210	N-m	+ 7/16/2002	OK 421v	Denton	4826J
7016	4826J-76-MY	ANRYM2	Right Lwr Tibia Moment Y	Ank	282.07777	N-m	+ 7/16/2002	OK 421v	Denton	4826J
7017	FLX107X	FTRXD2	Right Foot Disp. X	Eversi	163.16031	°	- 7/22/2002	OK 421v	Contelec	PD210-4B
7018	FLX107Y	FTRYD2	Right Foot Disp. Y	Dorsif	160.73496	°	+ 7/22/2002	OK 421v	Contelec	PD210-4B
7019	FLX107Z	FTRZD2	Right Foot Disp. Z	Exter	161.54100	°	+ 7/22/2002	OK 421v	Contelec	PD210-4B
7020	98H14-K06	FTRXG2	Right Foot Accel X	Fwd	1213.2701	g	+ 4/26/2002	OK 421v	Entran	EGE-73BQ-2000
7021	99H12-F03	FTRYG2	Right Foot Accel Y	Rt	1174.0964	g	+ 4/25/2002	OK 421v	Entran	EGE-73BQE0-20
7022	98H14-K10	FTRZG2	Right Foot Accel Z	Dn	1174.7430	g	+ 4/25/2002	OK 421v	Entran	EGE-73BQ-2000
7023	J40525	LRXXG1	REAR SEAT X-MEMBER	FWD	995.83770	g	+ 3/25/2002	OK -1	Endevco	7264-2000TZ
7024	J39062	LRXYG1	REAR SEAT Y-MEMBER	LT	1015.4499	g	- 7/15/2002	OK -1	Endevco	7264-2000TZ
7025	J39618	LRXZG1	REAR SEAT Z-MEMBER	UP	999.25836	g	- 5/9/2002	OK -1	Endevco	7264-2000TZ
7026	J41111	RRXXG1	REAR SEAT X-MEMBER	RR	1008.3106	g	- 5/2/2002	OK -1	Endevco	7264-2000TZ
7027	J14374	RRXYG1	REAR SEAT Y-MEMBER	RT	1005.1040	g	+ 6/6/2002	OK -1	Endevco	7264-2000T
7028	J41122	RRXZG1	REAR SEAT Z-MEMBER	UP	994.90886	g	- 5/2/2002	OK -1	Endevco	7264-2000TZ
7029	J40975	LTPXG1	DRIVERS LT. SIDE TOE PAN	RR	985.71483	g	- 4/3/2002	OK -1	Endevco	7264-2000TZ
7030	J41130	LTPYG1	DRIVERS LT. SIDE TOE PAN	LT	1016.4982	g	- 5/2/2002	OK -1	Endevco	7264-2000TZ

Channel Report

8/14/2002 3:03:46 PM

7031	J41123	LTPZG1	DRIVERS LT. SIDE TOE PAN	UP	989.71622	g	-	4/4/2002	OK	-1	Endevco	7264-2000TZ
7032	J38530	RTPXG1	DRIVERS RT. SIDE TOE PAN	RR	981.55745	g	-	3/20/2002	OK	-1	Endevco	7264-2000TZ

Channel Report

8/14/2002 3:03:46 PM

Name of Test 020815-1

System MINIDAU

Name of DAU DAU9

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range	Pol.	Cal.	Group	Mfg.	Model
9001	J40730	RTPYG1	DRIVERS RT. SIDE TOE PAN	LT	1011.8577	g	- 3/20/2002	OK -1	Endevco	7264-2000TZ
9002	J41131	RTPZG1	DRIVERS RT. SIDE TOE PAN	UP	980.61748	g	- 4/3/2002	OK -1	Endevco	7264-2000TZ
9003	J40970	VCGYG1	VEHICLE CG Y-AXIS	RT	987.31150	g	+ 6/6/2002	OK -1	Endevco	7264-2000TZ
9004	J27117	VCGZG1	VEHICLE CG Z-AXIS	UP	1011.8577	g	- 8/1/2002	OK -1	Endevco	7264-2000TZ
9005	J35676	RDKZG1	REAR DECK Z-AXIS	UP	1012.6582	g	- 4/17/2002	OK -1	Endevco	7264-2000TZ
9006	A51808	TPDXD1	TOE PAN DISPLACEMENT	SPO4	305.06145	mm	+ 7/10/2002	OK -1	Celesco	PT-101-0050-11
9007	IP1	DABETA	DRIVER AIRBAG EVENT -	8	1.0039215	V	+ 6/15/2000	--- VRTC	FLUKE	Y8101A
9008	IP2	DABETB	DRIVER AIRBAG EVENT -	P	1.0039215	V	+ 6/15/2000	--- VRTC	FLUKE	Y8101A
9009	IP2	PABETA	PASSENGER AIRBAG EVENT	69	1.0039215	V	+ 6/15/2000	--- VRTC	FLUKE	Y8101A
9010	IP4	PABETB	PASSENGER AIRBAG EVENT	A3	1.0039215	V	+ 6/15/2000	--- -1	FLUKE	Y8101A
9011	615	SHBF1	DRIVER SHOULDER FORCE		13364.727	N	+ 4/3/2002	OK -1	Lebow	3419T
9012	610	LPBF1	DRIVER LAP FORCE		13337.946	N	+ 4/3/2002	OK -1	Lebow	3419T
9013	808	SHBF2	PASSENGER SHOULDER	CS4	13330.079	N	+ 4/3/2002	OK -1	Lebow	3419T
9014	807	LPBF2	PASSENGER LAP FORCE	P12	13330.167	N	+ 4/3/2002	OK -1	Lebow	3419T

Channel Report

8/14/2002 3:03:45 PM

Name of Test 020815-1

System K3600

Name of DAU DAU3

Chan.#	Sensor #	Mnemonic	Description	Dir.	Range		Pol.	Cal.		Group	Mfg.	Model
3000	EVENT0	SYNC3	SYNC3	Ank	10.24	V	+	4/15/2002	OK	-1	TRC	Event
3001	6244-02-144-FZ	LCA1XF	Barr. L.C. A1 X-Axis Force		111096.52	N	-	2/20/2002	OK	VRTC	Key	6244-02
3002	6244-02-125-FZ	LCA2XF	Barr. L.C. A2 X-Axis Force		111079.33	N	-	2/19/2002	OK	VRTC	Key	6244-02
3003	6244-02-131-FZ	LCA3XF	Barr. L.C. A3 X-Axis Force		111135.42	N	-	2/5/2002	---	VRTC	Key	6244-02
3004	6244-02-106-FZ	LCA4XF	Barr. L.C. A4 X-Axis Force		111096.52	N	-	2/12/2002	---	VRTC	Key	6244-02
3005	6244-02-115-FZ	LCA5XF	Barr. L.C. A5 X-Axis Force		111114.84	N	-	2/5/2002	---	VRTC	Key	6244-02
3006	6244-02-122-FZ	LCA6XF	Barr. L.C. A6 X-Axis Force		111096.52	N	-	2/21/2002	OK	VRTC	Key	6244-02
3007	6244-02-143-FZ	LCA7XF	Barr. L.C. A7 X-Axis Force		111096.52	N	-	2/5/2002	---	VRTC	Key	6244-02
3008	6244-02-119-FZ	LCB1XF	Barr. L.C. B1 X-Axis Force		111196.07	N	-	2/22/2002	OK	VRTC	Key	6244-02
3009	6244-02-132-FZ	LCB2XF	Barr. L.C. B2 X-Axis Force		111278.56	N	-	2/20/2002	OK	VRTC	Key	6244-02
3010	6244-02-113-FZ	LCB3XF	Barr. L.C. B3 X-Axis Force		111135.42	N	-	2/22/2002	OK	VRTC	Key	6244-02
3011	6244-02-129-FZ	LCB4XF	Barr. L.C. B4 X-Axis Force		111096.52	N	-	2/21/2002	OK	VRTC	Key	6244-02
3012	6244-02-123-FZ	LCB5XF	Barr. L.C. B5 X-Axis Force		111083.84	N	-	2/11/2002	---	VRTC	Key	6244-02
3013	6244-02-136-FZ	LCB6XF	Barr. L.C. B6 X-Axis Force		111083.84	N	-	1/24/2002	---	VRTC	Key	6244-02
3014	6244-02-116-FZ	LCB7XF	Barr. L.C. B7 X-Axis Force		111196.07	N	-	2/22/2002	OK	VRTC	Key	6244-02
3015	6244-02-147-FZ	LCC1XF	Barr. L.C. C1 X-Axis Force		111196.07	N	-	2/22/2002	OK	VRTC	Key	6244-02
3016	6244-02-137-FZ	LCC2XF	Barr. L.C. C2 X-Axis Force		111079.33	N	-	2/21/2002	OK	VRTC	Key	6244-02
3017	6244-02-107-FZ	LCC3XF	Barr. L.C. C3 X-Axis Force		111289.22	N	-	2/12/2002	---	VRTC	Key	6244-02
3018	6244-02-126-FZ	LCC4XF	Barr. L.C. C4 X-Axis Force		111083.84	N	-	2/12/2002	---	VRTC	Key	6244-02
3019	6244-02-148-FZ	LCC5XF	Barr. L.C. C5 X-Axis Force		111096.52	N	-	2/19/2002	OK	VRTC	Key	6244-02
3020	6244-02-124-FZ	LCC6XF	Barr. L.C. C6 X-Axis Force		111096.52	N	-	2/19/2002	OK	VRTC	Key	6244-02
3021	6244-02-104-FZ	LCC7XF	Barr. L.C. C7 X-Axis Force		111096.52	N	-	2/12/2002	---	VRTC	Key	6244-02
3022	6244-02-138-FZ	LCD1XF	Barr. L.C. D1 X-Axis Force		111079.33	N	-	2/21/2002	OK	VRTC	Key	6244-02
3023	6244-02-128-FZ	LCD2XF	Barr. L.C. D2 X-Axis Force		111196.07	N	-	1/7/2002	---	VRTC	Key	6244-02
3024	6244-02-102-FZ	LCD3XF	Barr. L.C. D3 X-Axis Force		111135.42	N	-	2/12/2002	---	VRTC	Key	6244-02
3025	6244-02-117-FZ	LCD4XF	Barr. L.C. D4 X-Axis Force		111079.33	N	-	2/19/2002	OK	VRTC	Key	6244-02
3026	6244-02-127-FZ	LCD5XF	Barr. L.C. D5 X-Axis Force		111135.42	N	-	2/22/2002	OK	VRTC	Key	6244-02
3027	6244-02-109-FZ	LCD6XF	Barr. L.C. D6 X-Axis Force		111083.84	N	-	2/12/2002	---	VRTC	Key	6244-02
3028	6244-02-162-FZ	LCD7XF	Barr. L.C. D7 X-Axis Force		111162.73	N	-	1/7/2002	---	VRTC	Key	6244-02
3029	6244-02-114-FZ	LCE1XF	Barr. L.C. E1 X-Axis Force		111079.33	N	-	2/19/2002	OK	VRTC	Key	6244-02

Channel Report

8/14/2002 3:03:45 PM

3030	6244-02-145-FZ	LCE2XF	Barr. L.C. E2 X-Axis Force	111229.50	N	-	2/20/2002	OK	VRTC	Key	6244-02
3031	6244-02-118-FZ	LCE3XF	Barr. L.C. E3 X-Axis Force	111135.42	N	-	2/19/2002	OK	VRTC	Key	6244-02
3032	6244-02-120-FZ	LCE4XF	Barr. L.C. E4 X-Axis Force	111079.33	N	-	1/7/2002	---	VRTC	Key	6244-02
3033	6244-02-101-FZ	LCE5XF	Barr. L.C. E5 X-Axis Force	111083.84	N	-	2/12/2002	---	VRTC	Key	6244-02
3034	6244-02-112-FZ	LCE6XF	Barr. L.C. E6 X-Axis Force	111278.56	N	-	2/19/2002	OK	VRTC	Key	6244-02
3035	6244-02-108-FZ	LCE7XF	Barr. L.C. E7 X-Axis Force	111096.52	N	-	2/12/2002	---	VRTC	Key	6244-02
3036	6244-02-164-FZ	LCF1XF	Barr. L.C. F1 X-Axis Force	111174.80	N	-	8/2/2002	OK	VRTC	Key	6244-02
3037	6244-02-135-FZ	LCF2XF	Barr. L.C. F2 X-Axis Force	111317.11	N	-	8/2/2002	OK	VRTC	Key	6244-02
3038	6244-02-165-FZ	LCF3XF	Barr. L.C. F3 X-Axis Force	111058.32	N	-	3/18/2002	OK	VRTC	Key	6244-02
3039	6244-02-141-FZ	LCF4XF	Barr. L.C. F4 X-Axis Force	111196.07	N	-	2/19/2002	OK	VRTC	Key	6244-02
3040	6244-02-130-FZ	LCF5XF	Barr. L.C. F5 X-Axis Force	111096.52	N	-	2/20/2002	OK	VRTC	Key	6244-02
3041	6244-02-168-FZ	LCF6XF	Barr. L.C. F6 X-Axis Force	111114.84	N	-	1/7/2002	---	VRTC	Key	6244-02
3042	6244-02-149-FZ	LCF7XF	Barr. L.C. F7 X-Axis Force	111079.33	N	-	2/20/2002	OK	VRTC	Key	6244-02
3043	6244-02-159-FZ	LCG1XF	Barr. L.C. G1 X-Axis Force	111170.00	N	-	8/2/2002	OK	VRTC	Key	6244-02
3044	6244-02-160-FZ	LCG2XF	Barr. L.C. G2 X-Axis Force	111250.17	N	-	8/2/2002	OK	VRTC	Key	6244-02
3046	6244-02-161-FZ	LCG3XF	Barr. L.C. G3 X-Axis Force	111215.54	N	-	8/2/2002	OK	VRTC	Key	6244-02
3047	6244-02-166-FZ	LCG4XF	Barr. L.C. G4 X-Axis Force	111327.00	N	-	8/2/2002	OK	VRTC	Key	6244-02
3048	6244-02-157-FZ	LCH1XF	Barr. L.C. H1 X-Axis Force	111160.32	N	-	8/2/2002	OK	VRTC	Key	6244-02
3049	6244-02-169-FZ	LCH2XF	Barr. L.C. H2 X-Axis Force	111115.56	N	-	8/2/2002	OK	VRTC	Key	6244-02
3050	6244-02-163-FZ	LCH3XF	Barr. L.C. H3 X-Axis Force	111220.15	N	-	8/2/2002	OK	VRTC	Key	6244-02
3051	6244-02-167-FZ	LCH4XF	Barr. L.C. H4 X-Axis Force	111254.28	N	-	8/2/2002	OK	VRTC	Key	6244-02

Dummy 416v Type HYBRID III 5th Description VRTC - 416v HYBRID III 5th Female CAL'd 6-1-01 (DKS 8-12-02)J211

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
HEDXG	Head Accel X	EGE-73B6Q-20	02A02-F02	Entran	0.0251 g	2000	8/1/02	Fwd	0
HEDYG	Head Accel Y	EGE-73B6Q-20	02A18-N10	Entran	0.01967 g	2000	8/1/02	Lft	1
HEDZG	Head Accel Z	EGE-73B6Q-20	02A09-F15	Entran	0.02138 g	2000	8/1/02	Up	1
HEDXR	Head Accel Red X	EGE-73B6Q-20	01L26-F02	Entran	0.02022 g	2000	8/1/02	Rwd	1
HEDYR	Head Accel Red Y	EGE-73B6Q-20	02A09-F13	Entran	0.01959 g	2000	8/5/02	Lft	1
HEDZR	Head Accel Red Z	EGE-73B6Q-20	02A16-A06	Entran	0.01945 g	2000	8/1/02	Up	1
HD1XG	Head (LT) Accel X	EGE-73B6Q-20	02A16-A19	Entran	0.02103 g	2000	8/1/02	Fwd	0
HD1ZG	Head (LT) Accel Z	EGE-73B6Q-20	02A16-A22	Entran	0.02205 g	2000	8/1/02	Up	1
HD2YG	Head (FT) Accel Y	EGE-73B6Q-20	02A18-N04	Entran	0.01966 g	2000	8/1/02	Lft	1
HD2ZG	Head (FT) Accel Z	EGE-73B6Q-20	02A18-N20	Entran	0.0201 g	2000	8/1/02	Up	1
HD3XG	Head (TP) Accel X	EGE-73B6Q-20	02A09-F01	Entran	0.01985 g	2000	8/1/02	Fwd	0
HD3YG	Head (TP) Accel Y	EGE-73B6Q-20	02A09-F17	Entran	0.02066 g	2000	8/1/02	Lft	1
NEKXF	Neck Force X	IF-205	IF-205-161-FX	FTSS	0.000187241 N	8896	3/18/02	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	IF-205	IF-205-161-FY	FTSS	0.000180632 N	8896	3/18/02	Hd Lt,Cst Rt	0
NEKZF	Neck Force Z	IF-205	IF-205-161-FZ	FTSS	0.000092626 N	13344	3/18/02	Hd Up,Cst Dn	0
NEKXM	Neck Moment X	IF-205	IF-205-161-MX	FTSS	0.005688142 N-m	282.5	3/18/02	Rt Ear to Rt Shld	1
NEKYM	Neck Moment Y	IF-205	IF-205-161-MY	FTSS	0.005759292 N-m	282.5	3/18/02	Chn to Strnm	0
NEKZM	Neck Moment Z	IF-205	IF-205-161-MZ	FTSS	0.00836354 N-m	282.5	3/18/02	Chn to Lt Shld	0
NKLXF	Neck Lwr Force X	3251	3251-108-FX	Denton	0.000174325 N	13344.6	8/21/01	Hd Fd,Cst Rr	1
NKLYF	Neck Lwr Force Y	3251	3251-108-FY	Denton	0.000173696 N	13344.6	8/21/01	Hd Lt,Cst Rt	0
NKLZF	Neck Lwr Force Z	3251	3251-108-FZ	Denton	0.000096061 N	13344.6	8/21/01	Hd Up,Cst Dn	0
NKLXM	Neck Lwr Moment X	3251	3251-108-MX	Denton	0.004491923 N-m	451.9	8/21/01	Rt Ear to Rt Shld	1
NKLYM	Neck Lwr Moment Y	3251	3251-108-MY	Denton	0.004297854 N-m	451.9	8/21/01	Chn to Strnm	0
NKLZM	Neck Lwr Moment Z	3251	3251-108-MZ	Denton	0.005223779 N-m	338.95	8/21/01	Chn to Lt Shld	0
CSTXG	Chest Accel X	EGE-73B6Q-20	02A16-A04	Entran	0.02099 g	2000	8/1/02	Fwd	0
CSTYG	Chest Accel Y	EGE-73B6Q-20	C02B19-F02	Entran	0.01879 g	2000	8/1/02	Lft	1

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
CSTZG	Chest Accel Z	EGE-73B6Q-20	C02B19-F06	Entran	0.01903 g	2000	8/1/02	Up	1
CSTXR	Chest Accel Red X	EGE-73B6Q-20	B02A25-N08	Entran	0.0197 g	2000	8/1/02	Rwd	1
CSTYR	Chest Accel Red Y	EGE-73B6Q-20	01L17-F09	Entran	0.01943 g	2000	8/1/02	Lft	1
CSTZR	Chest Accel Red Z	EGE-73B6Q-20	C02B19-F04	Entran	0.01775 g	2000	8/1/02	Up	1
STUXG	Sternum Upr Accel X	EGE-73B6Q-20	B02A09-F08	Entran	0.02136 g	2000	8/1/02	Fwd	0
STMXG	Sternum Mid Accel X	EGE-73B6Q-20	02A16-A05	Entran	0.02203 g	2000	8/1/02	Fwd	0
STLXG	Sternum Lwr Accel X	EGE-73B6Q-20	02A16-A16	Entran	0.02279 g	2000	8/1/02	Fwd	0
CSTXD	Chest Deflection X 516	14CB1-2897	14CB1-2897-416	Servo	1.5983 mm	100	6/18/01	Strnm Away Frm Spn	0
LMBXF	Lumbar Force X	2152	2152-076-FX	Denton	0.000144364 N	13344.6	6/1/01	Cst Fd,Pel Rr	1
LMBYF	Lumbar Force Y	2152	2152-076-FY	Denton	0.000143967 N	13344.6	6/1/01	Cst Lt,Pel Rt	0
LMBZF	Lumbar Force Z	2152	2152-076-FZ	Denton	0.000058433 N	17793	6/1/01	Cst Up,Pel Dn	0
LMBXM	Lumbar Moment X	2152	2152-076-MX	Denton	0.002374243 N-m	677.9	6/1/01	Rt Shld to Rt Hip	1
LMBYM	Lumbar Moment Y	2152	2152-076-MY	Denton	0.002370998 N-m	677.9	6/1/01	Strnm to Frt of Legs	0
PEVXG	Pelvis Accel X	EGE-73B6Q-20	C02B19-F03	Entran	0.01756 g	2000	8/1/02	Rwd	1
PEVYG	Pelvis Accel Y	EGE-73B6Q-20	02A16-A27	Entran	0.0216 g	2000	8/1/02	Lft	1
PEVZG	Pelvis Accel Z	EGE-73B6Q-20	C02B19-F01	Entran	0.01955 g	2000	8/1/02	Up	1
LFMZ	Left Femur Force Z #8	2430	2430-736	GSE	0.000069527 N	13344	3/18/02	Knee Fd,Pel Rr	0
RFMZ	Right Femur Force Z 507	2430	2430-742	GSE	0.000066867 N	13344	3/18/02	Knee Fd,Pel Rr	0
KNLXD	Left Knee Displacement	150-0121VR	150-0121VR-5556	SpaceAge	23.741 mm	40	5/8/02	Tib Rr,Hld Fem	1
TBLXF	Left Upr Tibia Force X	4825J	4825J-79-FX	Denton	0.000264388 N	8896.4	7/16/02	Tib Fd,Knee Rr	0
TBLZF	Left Upr Tibia Force Z	4825J	4825J-79-FZ	Denton	0.000108212 N	8896.4	7/16/02	Tib Dn,Knee Up	0
TBLXM	Left Upr Tibia Moment X	4825J	4825J-79-MX	Denton	0.010160353 N-m	282.5	7/16/02	Ank Lt,Hld Knee	0
TBLYM	Left Upr Tibia Moment Y	4825J	4825J-79-MY	Denton	0.01028141 N-m	282.5	7/16/02	Ank Fd,Hld Knee	0
TBLXG	Left Tibia Accel X	EGE-73BQE0-2	99H30-Z10	Entran	0.02054 g	2000	4/26/02	Fwd	0
TBLYG	Left Tibia Accel Y	EGE-73BQ-200	98H10-F17	Entran	0.01975 g	2000	4/25/02	Rt	0
ANLXF	Left Lwr Tibia Force X	4826J	4826J-77-FX	Denton	0.000261814 N	8896.4	7/16/02	Ank Fd,Knee Rr	0
ANLYF	Left Lwr Tibia Force Y	4826J	4826J-77-FY	Denton	0.000263106 N	8896.4	7/16/02	Ank Rt,Knee Lft	0
ANLZF	Left Lwr Tibia Force Z	4826J	4826J-77-FZ	Denton	0.000107369 N	8896.4	7/16/02	Ank Dn,Knee Up	0

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
ANLXM	Left Lwr Tibia Moment X	4826J	4826J-77-MX	Denton	0.010294513 N-m	282.4	7/16/02	Ank Lt,Hld Knee	0
ANLYM	Left Lwr Tibia Moment Y	4826J	4826J-77-MY	Denton	0.010132790 N-m	282.4	7/16/02	Ank Fd,Hld Knee	0
FTLXD	Left Foot Disp. X	PD210-4B	FLX103X	Contelec	3.185474 °	318	7/22/02	Inversion	1
FTLYD	Left Foot Disp. Y	PD210-4B	FLX103Y	Contelec	3.17893 °	318	7/22/02	Dorsiflexion	0
FTLZD	Left Foot Disp. Z	PD210-4B	FLX103Z	Contelec	3.189123 °	318	7/22/02	External Rotation	1
FTLXG	Left Foot Accel X	EGE-73BQE0-2	99H30-Z11	Entran	0.02056 g	2000	4/26/02	Fwd	0
FTLYG	Left Foot Accel Y	EGE-73B6Q-20	01J02-F05	Entran	0.02188 g	2000	4/25/02	Rt	0
FTLZG	Left Foot Accel Z	EGE-73B6Q-20	01J02-F22	Entran	0.02293 g	2000	4/25/02	Dn	0
KNRXD	Right Knee Displacement	150-0121VL	150-0121VL-5482	SpaceAge	23.313 mm	40	5/8/02	Tib Rr,Hld Fem	1
TBRXF	Right Upr Tibia Force X	4825J	4825J-76-FX	Denton	0.000260746 N	8896.4	7/16/02	Tib Fd,Knee Rr	0
TBRZF	Right Upr Tibia Force Z	4825J	4825J-76-FZ	Denton	0.000107043 N	8896.4	7/16/02	Tib Dn,Knee Up	0
TBRXM	Right Upr Tibia Moment X	4825J	4825J-76-MX	Denton	0.01003575 N-m	282.5	7/16/02	Ank Lt,Hld Knee	0
TBRYM	Right Upr Tibia Moment Y	4825J	4825J-76-MY	Denton	0.01022761 N-m	282.5	7/16/02	Ank Fd,Hld Knee	0
TBRXG	Right Tibia Accel X	EGE-73BQE0-2	99H30-Z13	Entran	0.02028 g	2000	4/25/02	Fwd	0
TBRYG	Right Tibia Accel Y	EGE-73BQE0-2	99H30-Z01	Entran	0.01912 g	2000	4/25/02	Rt	0
ANRXF	Right Lwr Tibia Force X	4826J	4826J-78-FX	Denton	0.000264545 N	8896.4	7/16/02	Ank Fd,Knee Rr	0
ANRYF	Right Lwr Tibia Force Y	4826J	4826J-78-FY	Denton	0.000265489 N	8896.4	7/16/02	Ank Rt,Knee Lft	0
ANRZF	Right Lwr Tibia Force Z	4826J	4826J-78-FZ	Denton	0.000108583 N	8896.4	7/16/02	Ank Dn,Knee Up	0
ANRXM	Right Lwr Tibia Moment X	4826J	4826J-78-MX	Denton	0.010420531 N-m	282.5	7/16/02	Ank Lt,Hld Knee	0
ANRYM	Right Lwr Tibia Moment Y	4826J	4826J-78-MY	Denton	0.0102361 N-m	282.5	7/16/02	Ank Fd,Hld Knee	0
FTRXD	Right Foot Disp. X	PD210-4B	FLX104X	Contelec	3.160404 °	318	7/19/02	Eversion	1
FTRYD	Right Foot Disp. Y	PD210-4B	FLX104Y	Contelec	3.144368 °	318	7/19/02	Dorsiflexion	0
FTRZD	Right Foot Disp. Z	PD210-4B	FLX104Z	Contelec	3.164982 °	318	7/19/02	Internal Rotation	1
FTRXG	Right Foot Accel X	EGE-73B6Q-20	01J02-F10	Entran	0.02115 g	2000	4/25/02	Fwd	0
FTRYG	Right Foot Accel Y	EGE-73BQE0-2	99H30-Z15	Entran	0.01953 g	2000	4/26/02	Rt	0
FTRZG	Right Foot Accel Z	EGE-73B6Q-20	01J02-F03	Entran	0.02053 g	2000	4/26/02	Dn	0

Dummy	421v	Type	HYBRID III 5th	Description	VRTC - 421v HYBRID III 5th Female CAL'd 6-2-01 (DKS 8-12-02)J211						
Chsname	Location		Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip	
HEDXG	Head Accel X	VRTC 5	7264-2KM5T	AJ4R6	Endevco	0.02183	g	2000	8/6/02	Fwd	0
HEDYG	Head Accel Y		EGE-73B6Q-20	02A16-A01	Entran	0.02109	g	2000	8/5/02	Lft	1
HEDZG	Head Accel Z		EGE-73B6Q-20	01L26-F06	Entran	0.01962	g	2000	8/5/02	Up	1
HEDXR	Head Accel Red X		EGE-73B6Q-20	02A16-A03	Entran	0.02306	g	2000	8/5/02	Rwd	1
HEDYR	Head Accel Red Y		EGE-73B6Q-20	02A16-A08	Entran	0.0251	g	2000	8/5/02	Lft	1
HEDZR	Head Accel Red Z		EGE-73B6Q-20	02A16-A09	Entran	0.02052	g	2000	8/5/02	Up	1
HD1XG	Head (LT) Accel X		EGE-73B6Q-20	02A16-A28	Entran	0.02021	g	2000	8/5/02	Fwd	0
HD1ZG	Head (LT) Accel Z		EGE-73B6Q-20	02A16-A20	Entran	0.02253	g	2000	8/5/02	Up	1
HD2YG	Head (FT) Accel Y		EGE-73B6Q-20	02A09-F12	Entran	0.01943	g	2000	8/5/02	Lft	1
HD2ZG	Head (FT) Accel Z		EGE-73B6Q-20	02A18-N07	Entran	0.02007	g	2000	8/5/02	Up	1
HD3XG	Head (TP) Accel X		EGE-73B6Q-20	02A16-A23	Entran	0.02026	g	2000	8/5/02	Fwd	0
HD3YG	Head (TP) Accel Y		EGE-73B6Q-20	02A16-A25	Entran	0.02037	g	2000	8/5/02	Lft	1
NEKXF	Neck Force X		IF-205	IF-205-180-FX	FTSS	0.00018243	N	8896	3/18/02	Hd Fd,Cst Rr	1
NEKYF	Neck Force Y	IF-205	IF-205-180-FY	FTSS	0.000175596	N	8896	3/18/02	Hd Lt,Cst Rt	0	
NEKZF	Neck Force Z	IF-205	IF-205-180-FZ	FTSS	0.000092266	N	13344	3/18/02	Hd Up,Cst Dn	0	
NEKXM	Neck Moment X	IF-205	IF-205-180-MX	FTSS	0.005577699	N-m	282.5	3/18/02	Rt Ear to Rt Shld	1	
NEKYM	Neck Moment Y	IF-205	IF-205-180-MY	FTSS	0.005602124	N-m	282.5	3/18/02	Chin to Strmm	0	
NEKZM	Neck Moment Z	IF-205	IF-205-180-MZ	FTSS	0.008122478	N-m	282.5	3/18/02	Chn to Lt Shld	0	
NKLXF	Neck Lwr Force X		3251	3251-107-FX	Denton	0.000175149	N	13344.6	7/6/01	Hd Fd,Cst Rr	1
NKLYF	Neck Lwr Force Y		3251	3251-107-FY	Denton	0.000175771	N	13344.6	7/6/01	Hd Lt,Cst Rt	0
NKLZF	Neck Lwr Force Z		3251	3251-107-FZ	Denton	0.000095109	N	13344.6	7/6/01	Hd Up,Cst Dn	0
NKLXM	Neck Lwr Moment X		3251	3251-107-MX	Denton	0.004384155	N-m	451.9	7/6/01	Rt Ear to Rt Shld	1
NKLYM	Neck Lwr Moment Y		3251	3251-107-MY	Denton	0.004373976	N-m	451.9	7/6/01	Chn to Strmm	0
NKLZM	Neck Lwr Moment Z		3251	3251-107-MZ	Denton	0.005777548	N-m	338.95	7/6/01	Chn to Lt Shld	0
CSTXG	Chest Accel X		EGE-73B6Q-20	B02A25-N03	Entran	0.02163	g	2000	8/5/02	Fwd	0
CSTYG	Chest Accel Y		EGE-73B6Q-20	02A18-N12	Entran	0.01926	g	2000	8/5/02	Lft	1

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
CSTZG	Chest Accel Z	EGE-73B6Q-20	B02A25-N10	Entran	0.01967 g	2000	8/5/02	Up	1
CSTXR	Chest Accel Red X	7264-2KM5T	AE9B7	Endevco	0.0248 g	2000	8/6/02	Rwd	1
CSTYR	Chest Accel Red Y	EGE-73B6Q-20	02A04-A24	Entran	0.01924 g	2000	8/5/02	Lft	1
CSTZR	Chest Accel Red Z	EGE-73B6Q-20	B02A18-N22	Entran	0.02106 g	2000	8/5/02	Up	1
STUXG	Sternum Upr Accel X	EGE-73B6Q-20	02A16-A14	Entran	0.02268 g	2000	8/5/02	Fwd	0
STMXG	Sternum Mid Accel X	EGE-73B6Q-20	02A16-A12	Entran	0.0223 g	2000	8/5/02	Fwd	0
STLXG	Sternum Lwr Accel X	EGE-73B6Q-20	02A18-N16	Entran	0.01972 g	2000	8/5/02	Fwd	0
CSTXD	Chest Deflection X	14CB1-2897	14CB1-2897-1355	Servo	1.70969 mm	100	3/25/02	Strnm Away Frm Spn	0
LMBXF	Lumbar Force X	2152A	2152A-086-FX	Denton	0.000139995 N	13344.6	6/2/01	Cst Fd,Pel Rr	1
LMBYF	Lumbar Force Y	2152A	2152A-086-FY	Denton	0.000138002 N	13344.6	6/2/01	Cst Lt,Pel Rt	0
LMBZF	Lumbar Force Z	2152A	2152A-086-FZ	Denton	0.000050458 N	17793	6/2/01	Cst Up,Pel Dn	0
LMBXM	Lumbar Moment X	2152A	2152A-086-MX	Denton	0.002293111 N-m	677.9	6/2/01	Rt Shld to Rt Hip	1
LMBYM	Lumbar Moment Y	2152A	2152A-086-MY	Denton	0.002268623 N-m	677.9	6/2/01	Strnm to Frt of Legs	0
PEVXG	Pelvis Accel X	7264-2000LC	AF9K3	Endevco	0.0212 g	2000	8/5/02	Rwd	1
PEVYG	Pelvis Accel Y	EGE-73B6Q-20	02A16-A26	Entran	0.02009 g	2000	8/5/02	Lft	1
PEVZG	Pelvis Accel Z	EGE-73B6Q-20	02A18-N15	Entran	0.01877 g	2000	8/5/02	Up	1
LFMZf	Left Femur Force Z S37	2430	2430-739	GSE	0.000067676 N	13344	3/18/02	Knee Fd,Pel Rr	0
RFMZf	Right Femur Force Z VRTC 4	2430	2430-760	GSE	0.000067069 N	13344	3/18/02	Knee Fd,Pel Rr	0
KNLXD	Left Knee Displacement POT10	150-0121VR	150-0121VR-15021	SpaceAge	23.387 mm	40	5/8/02	Tib Fd,Hld Fem	0
TBLXF	Left Upr Tibia Force X	4825J	4825J-82-FX	Denton	0.000269334 N	8896.4	7/16/02	Tib Fd,Knee Rr	0
TBLZF	Left Upr Tibia Force Z	4825J	4825J-82-FZ	Denton	0.000109584 N	8896.4	7/16/02	Tib Dn,Knee Up	0
TBLXM	Left Upr Tibia Moment X	4825J	4825J-82-MX	Denton	0.01026407 N-m	282.5	7/16/02	Ank Lt,Hld Knee	0
TBLYM	Left Upr Tibia Moment Y	4825J	4825J-82-MY	Denton	0.0104699 N-m	282.4	7/16/02	Ank Fd,Hld Knee	0
TBLXG	Left Tibia Accel X	EGE-73BQE0-2	99H30-Z09	Entran	0.01954 g	2000	4/25/02	Fwd	0
TBLYG	Left Tibia Accel Y	EGE-73BQE0-2	99H12-F09	Entran	0.01847 g	2000	4/26/02	Rt	0
ANLXF	Left Lwr Tibia Force X	4826J	4826J-82-FX	Denton	0.000264995 N	8896.4	7/16/02	Ank Fd,Knee Rr	0
ANLYF	Left Lwr Tibia Force Y	4826J	4826J-82-FY	Denton	0.000265928 N	8896.4	7/16/02	Ank Rt,Knee Lft	0
ANLZF	Left Lwr Tibia Force Z	4826J	4826J-82-FZ	Denton	0.000108167 N	8896.4	7/16/02	Ank Dn,Knee Up	0

Chsname	Location	Model	Name	Manufacturer	Sens./mV/V/U	Fullscale	Caldate	Pos Output	Flip
ANLXM	Left Lwr Tibia Moment X	4826J	4826J-82-MX	Denton	0.010319759 N-m	282.4	7/16/02	Ank Lt,Hld Knee	0
ANLYM	Left Lwr Tibia Moment Y	4826J	4826J-82-MY	Denton	0.010127833 N-m	282.4	7/16/02	Ank Fd,Hld Knee	0
FTLXD	Left Foot Disp. X	PD210-4B	FLX108X	Contelec	3.157351 °	318	7/22/02	Eversion	0
FTLYD	Left Foot Disp. Y	PD210-4B	FLX108Y	Contelec	3.168228 °	318	7/22/02	Dorsiflexion	0
FTLZD	Left Foot Disp. Z	PD210-4B	FLX108Z	Contelec	3.187158 °	318	7/22/02	Internal Rotation	0
FTLXG	Left Foot Accel X	EGE-73BQ-200	98H10-F03	Entran	0.0168 g	2000	4/25/02	Fwd	0
FTLYG	Left Foot Accel Y	EGE-73BQ-200	98H10-F07	Entran	0.02132 g	2000	4/25/02	Rt	0
FTLZG	Left Foot Accel Z	EGE-73BQ-200	98H13-F16	Entran	0.01827 g	2000	4/25/02	Dn	0
KNRXD	Right Knee Displacement AXRRP	150-0121VL	150-0121VL-14949	SpaceAge	23.436 mm	40	5/8/02	Tib Fd,Hld Fem	0
TBRXF	Right Upr Tibia Force X	4825J	4825J-80-FX	Denton	0.000271424 N	8896.4	7/16/02	Tib Fd,Knee Rr	0
TBRZF	Right Upr Tibia Force Z	4825J	4825J-80-FZ	Denton	0.000109471 N	8896.4	7/16/02	Tib Dn,Knee Up	0
TBRXM	Right Upr Tibia Moment X	4825J	4825J-80-MX	Denton	0.010291431 N-m	282.4	7/16/02	Ank Lt,Hld Knee	0
TBRYM	Right Upr Tibia Moment Y	4825J	4825J-80-MY	Denton	0.010491501 N-m	282.4	7/16/02	Ank Fd,Hld Knee	0
TBRXG	Right Tibia Accel X	EGE-73BQE0-2	99H12-F19	Entran	0.01986 g	2000	4/26/02	Fwd	0
TBRYG	Right Tibia Accel Y	EGE-73BQE0-2	99H30-Z12	Entran	0.02018 g	2000	4/26/02	Rt	0
ANRXF	Right Lwr Tibia Force X	4826J	4826J-76-FX	Denton	0.000262612 N	8896.4	7/16/02	Ank Fd,Knee Rr	0
ANRYF	Right Lwr Tibia Force Y	4826J	4826J-76-FY	Denton	0.000262702 N	8896.4	7/16/02	Ank Rt,Knee Lft	0
ANRZF	Right Lwr Tibia Force Z	4826J	4826J-76-FZ	Denton	0.000108763 N	8896.4	7/16/02	Ank Dn,Knee Up	0
ANRXM	Right Lwr Tibia Moment X	4826J	4826J-76-MX	Denton	0.010402832 N-m	282.5	7/16/02	Ank Lt,Hld Knee	0
ANRYM	Right Lwr Tibia Moment Y	4826J	4826J-76-MY	Denton	0.01055292 N-m	282.5	7/16/02	Ank Fd,Hld Knee	0
FTRXD	Right Foot Disp. X	PD210-4B	FLX107X	Contelec	3.138018 °	318	7/22/02	Eversion	1
FTRYD	Right Foot Disp. Y	PD210-4B	FLX107Y	Contelec	3.185368 °	318	7/22/02	Dorsiflexion	0
FTRZD	Right Foot Disp. Z	PD210-4B	FLX107Z	Contelec	3.169474 °	318	7/22/02	External Rotation	0
FTRXG	Right Foot Accel X	EGE-73BQ-200	98H14-K06	Entran	0.0211 g	2000	4/26/02	Fwd	0
FTRYG	Right Foot Accel Y	EGE-73BQE0-2	99H12-F03	Entran	0.01896 g	2000	4/25/02	Rt	0
FTRZG	Right Foot Accel Z	EGE-73BQ-200	98H14-K10	Entran	0.01816 g	2000	4/25/02	Dn	0

Appendix E

INSIA Report on Structural Measurements



STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY

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March, 1999

REPORT DOCUMENTATION PAGE	
Title:	<i>STRUCTURAL SURVEY OF CARS. MEASUREMENT METHODOLOGY OF THE MAIN RESISTANT ELEMENTS IN THE CAR BODY</i>
Author(s):	Aparicio Izquierdo, Francisco Páez Ayuso, Francisco Javier
Performing Organisation name and address:	INSIA – University Institute for Automobile Research Carretera de Valencia, Km. 7 – Campus Sur de la Universidad Politécnica de Madrid 28031 – Madrid – Spain
Supplementary notes:	Under contract to: THE EUROPEAN COMMUNITY Project: “Improvement of Crash Compatibility between Cars” Contract N°: RO – 97 – SC.1064
Abstract:	The main aim of this working package -<i>Structural Survey of Cars</i>- is the reduction of incompatibilities, both structural and geometric, between passenger vehicles and their potential collision partners. The understanding of these incompatibilities needs a previous step for the knowledge of the existing car fleet. Firstly, it is necessary to select the main resistant elements in the car body. These elements have to be chosen from the point of view of the sort of collision that we want to study, that is to say, frontal and side impacts. Detailed measurements have been taken from exterior and interior elements, spread to a total number of 74 models selected from the main vehicle manufacturers at Spain. All of them are being sold this year. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars will be defined. This report shows the methodology followed to get these measurements.
Subject terms:	Crash compatibility, geometric compatibility, resistant elements, measure methodology
Date:	March, 1999

1.- METHODOLOGY.

Detailed measurements have been taken from exterior and interior elements. Using the information available from the previous measurements in vehicles, the geometric characteristics of the main resistant elements involved in the geometric compatibility between cars have been defined. These elements are presented in the following figures, and have been divided in two main groups according to the vehicle zones studied in this project.

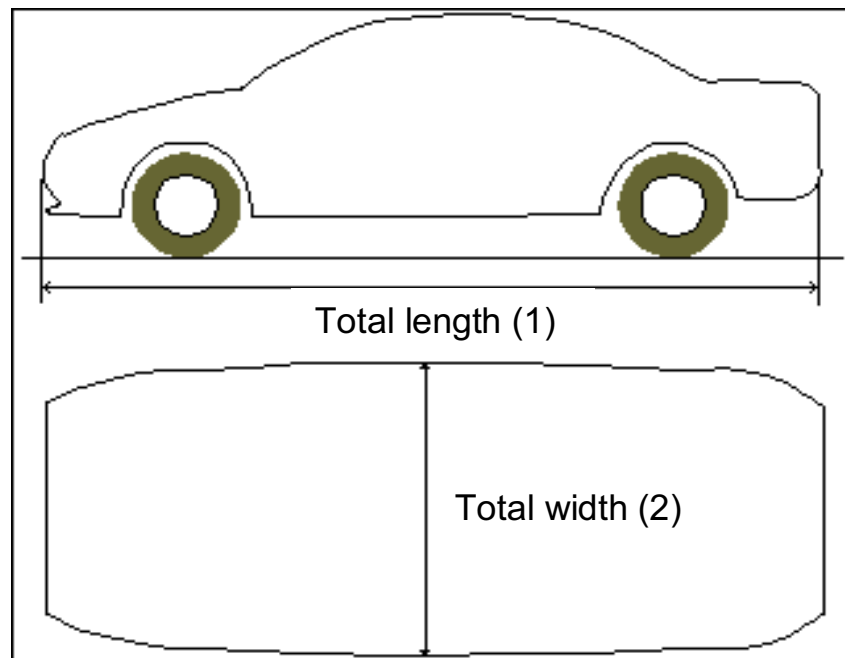


Figure 1.- Definition of the main resistant elements. General dimensions.

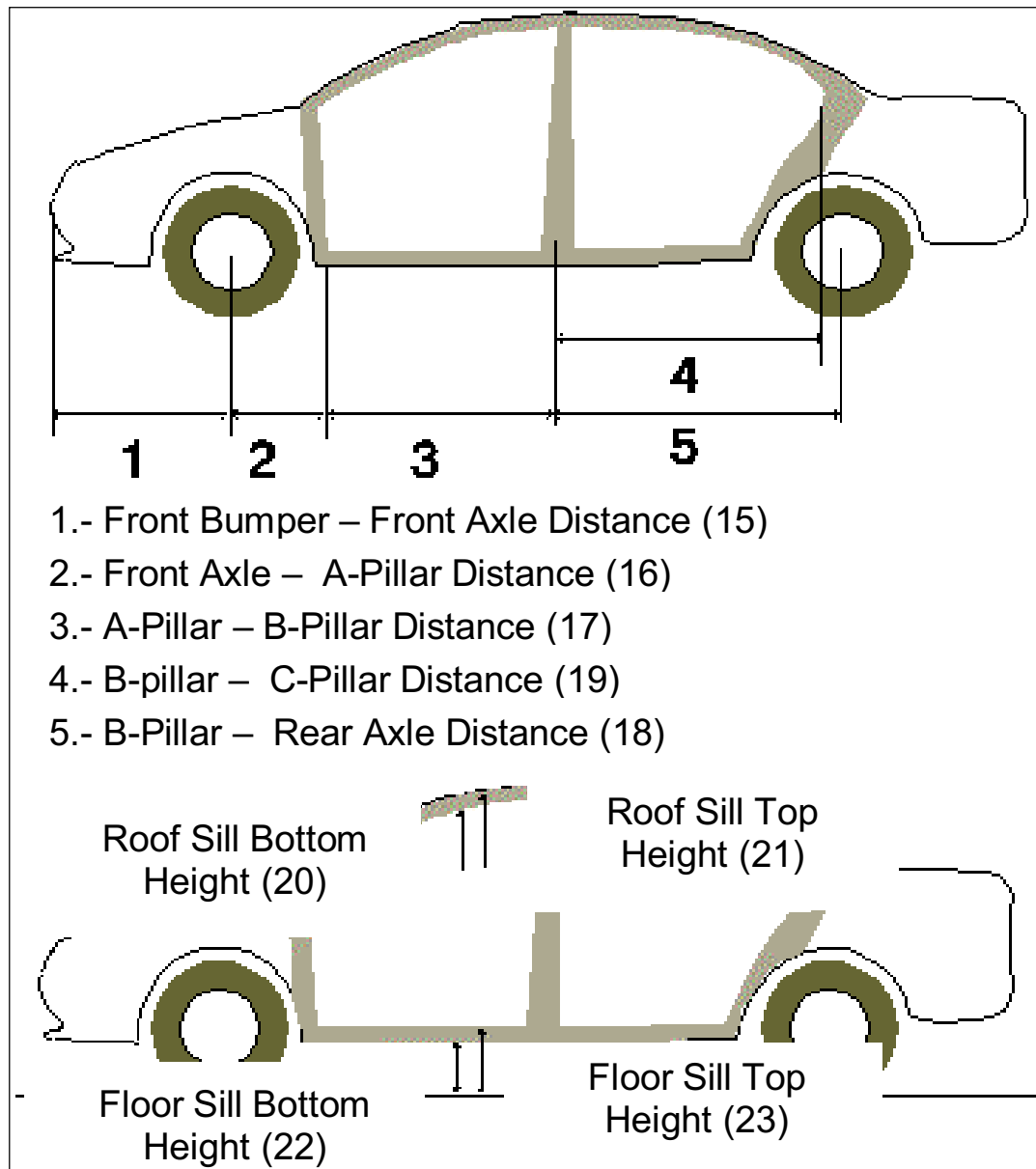


Figure 2.- Definition of the main resistant elements. Side elements.

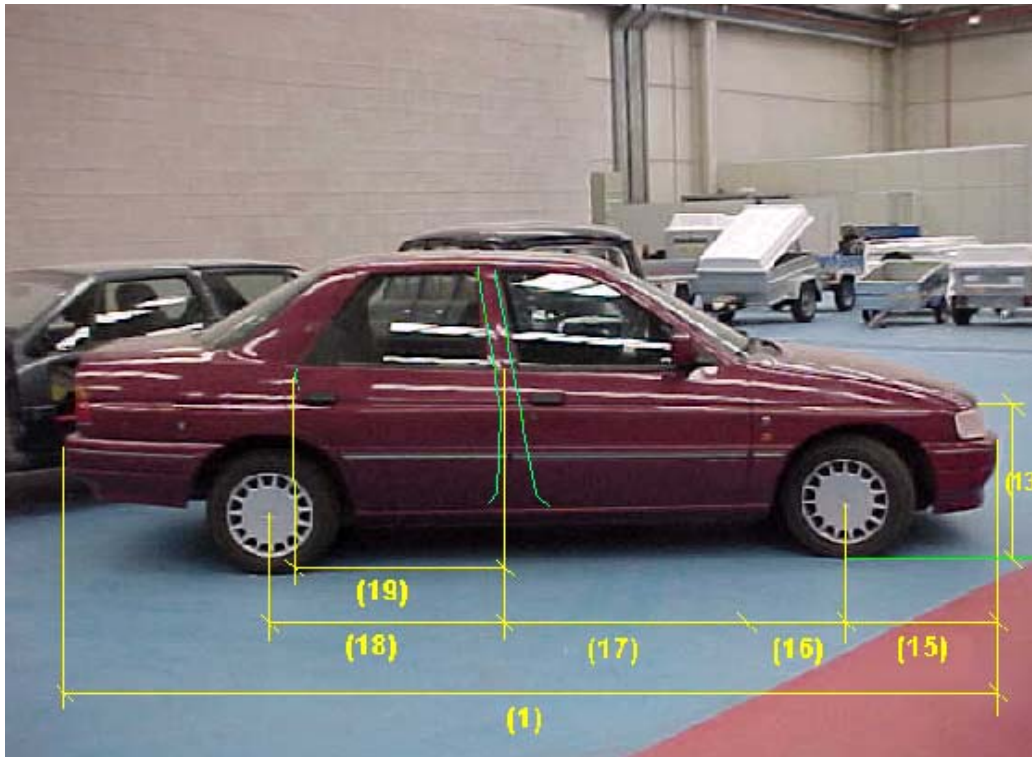


Figure 3.-
Measurements of
the side resistant
elements (outer).

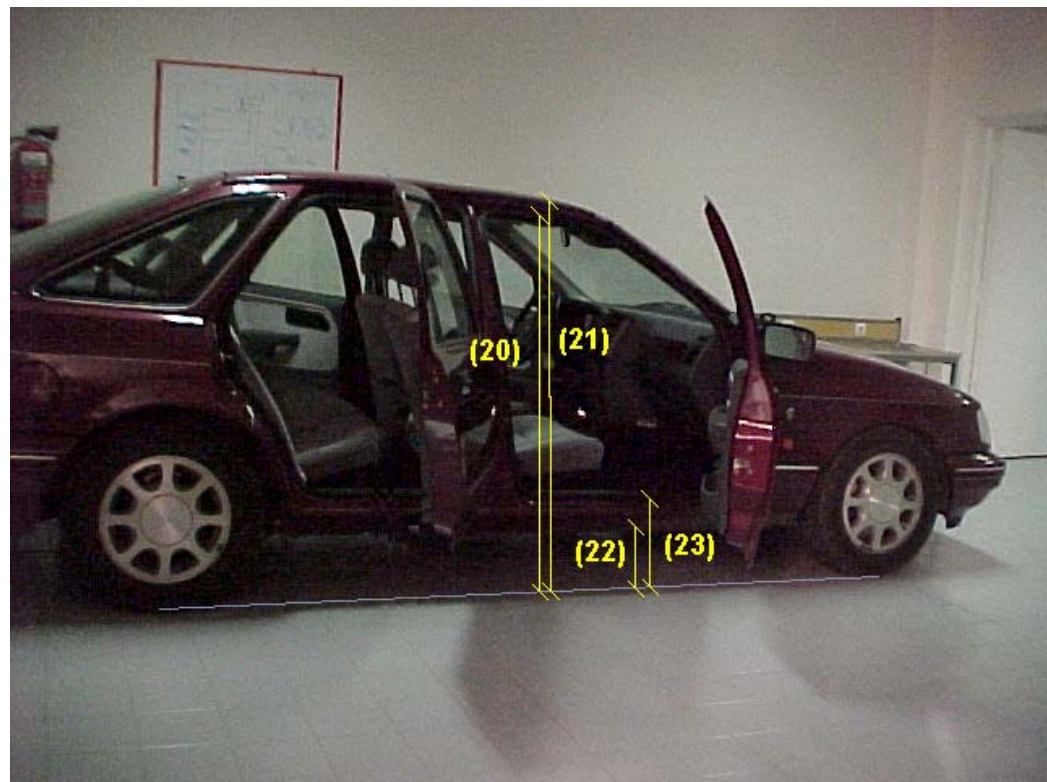


Figure 4.- Measurements
of the side resistant
elements (inner).

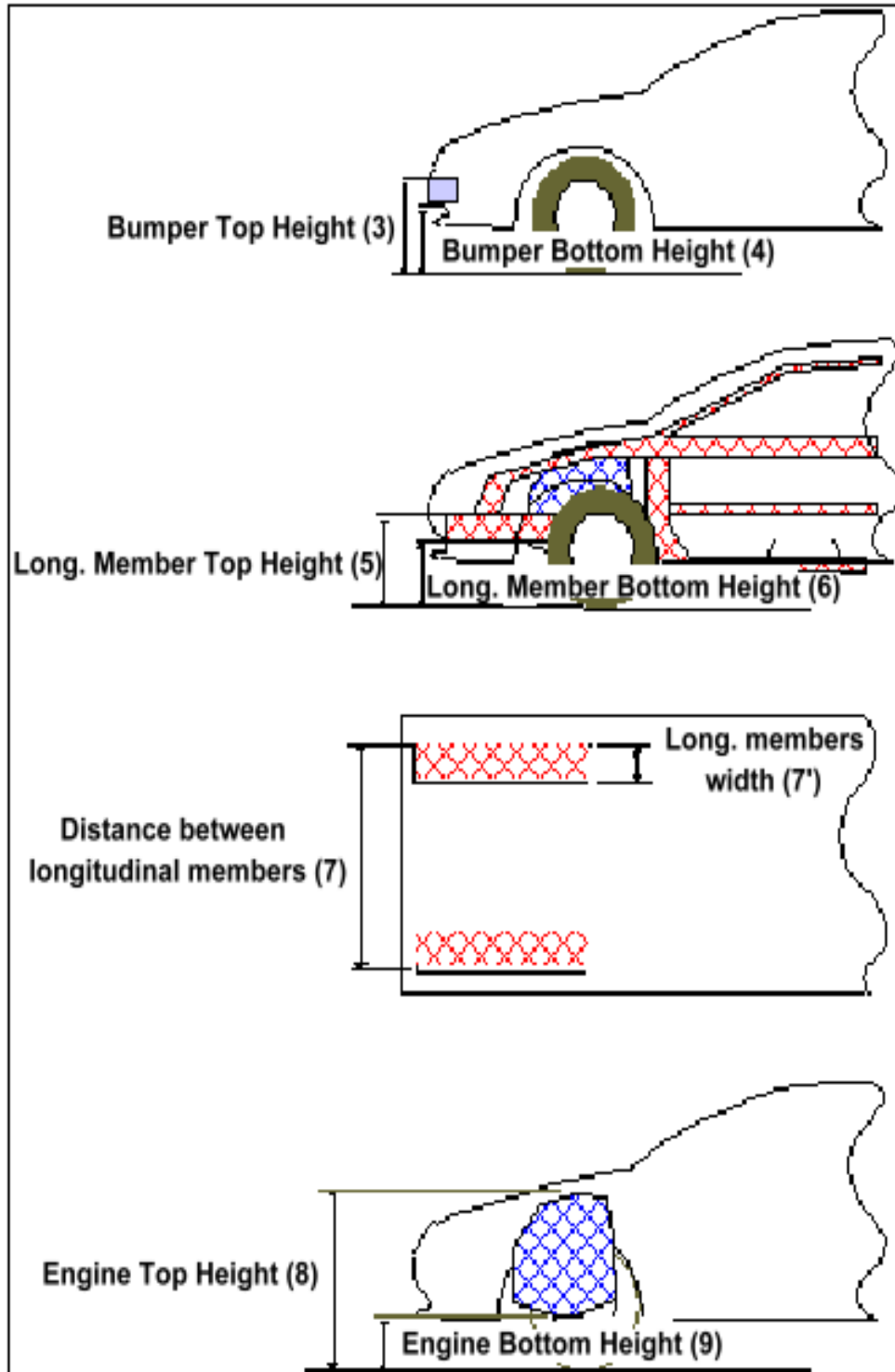


Figure 5.- Definition of the main resistant elements. Front elements.

Figure 6.-
Measurements of the
main resistant elements.
Front elements 1.

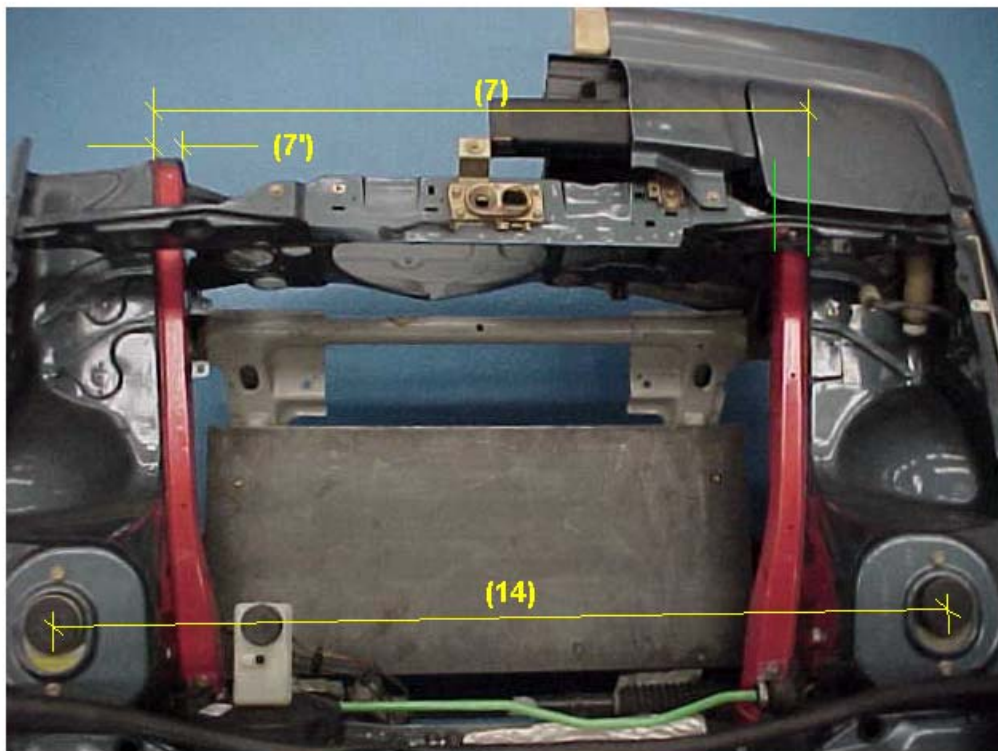
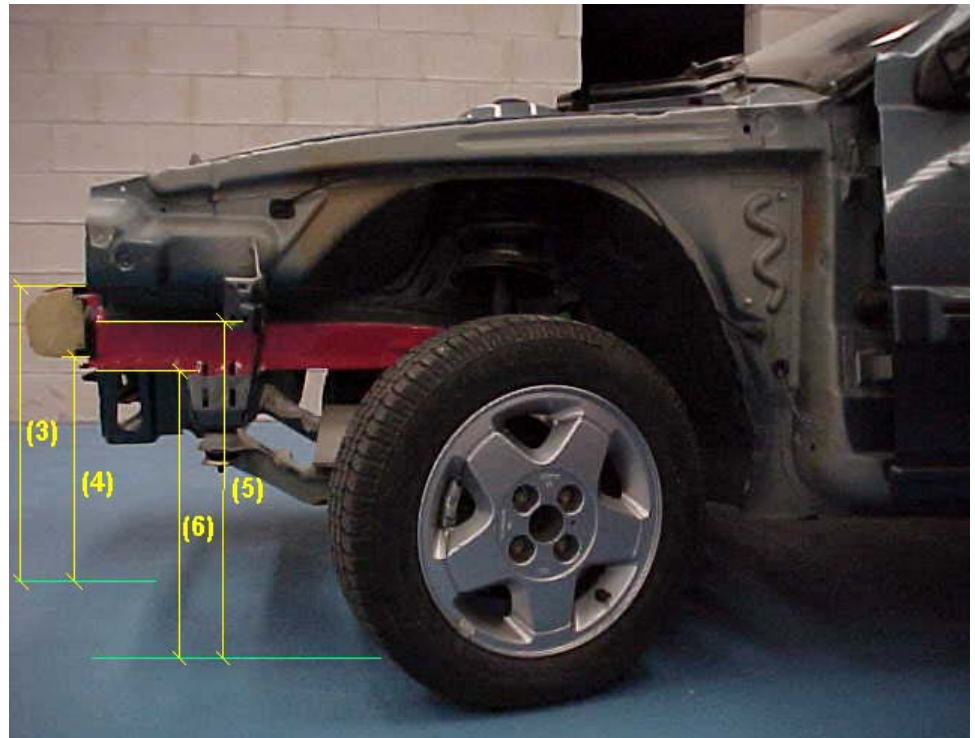


Figure 7.-
Measurements
of the main
resistant
elements. Front
elements 2.

Figure 8.-
Measurements of
the main resistant
elements. Front
elements 3.

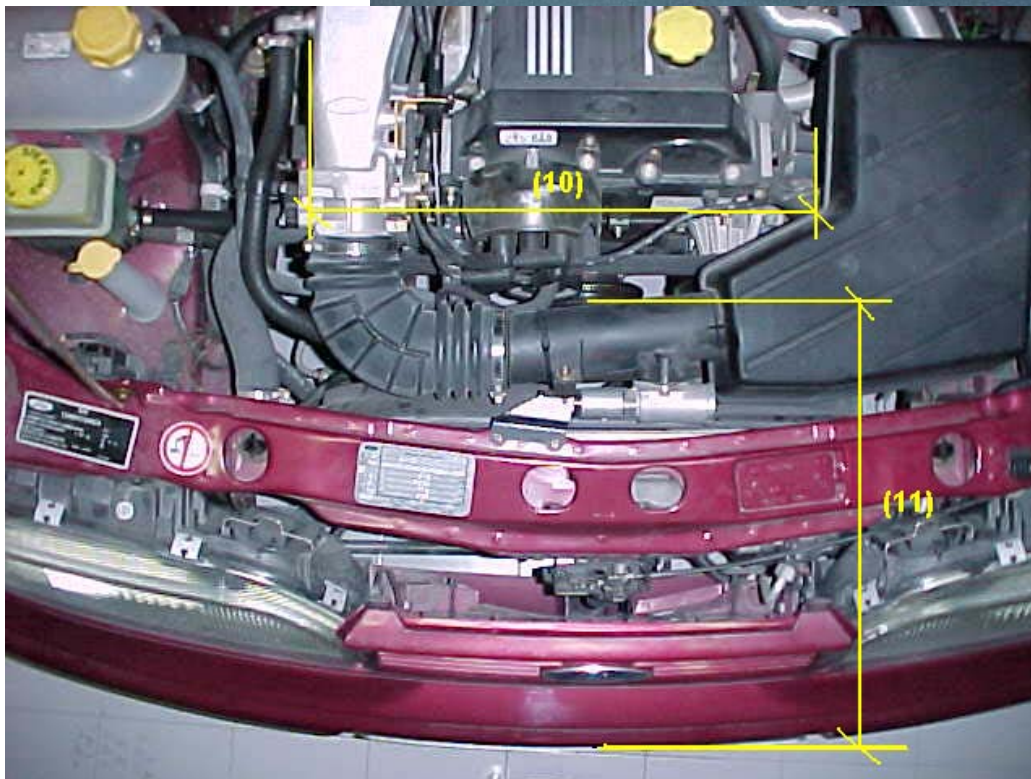
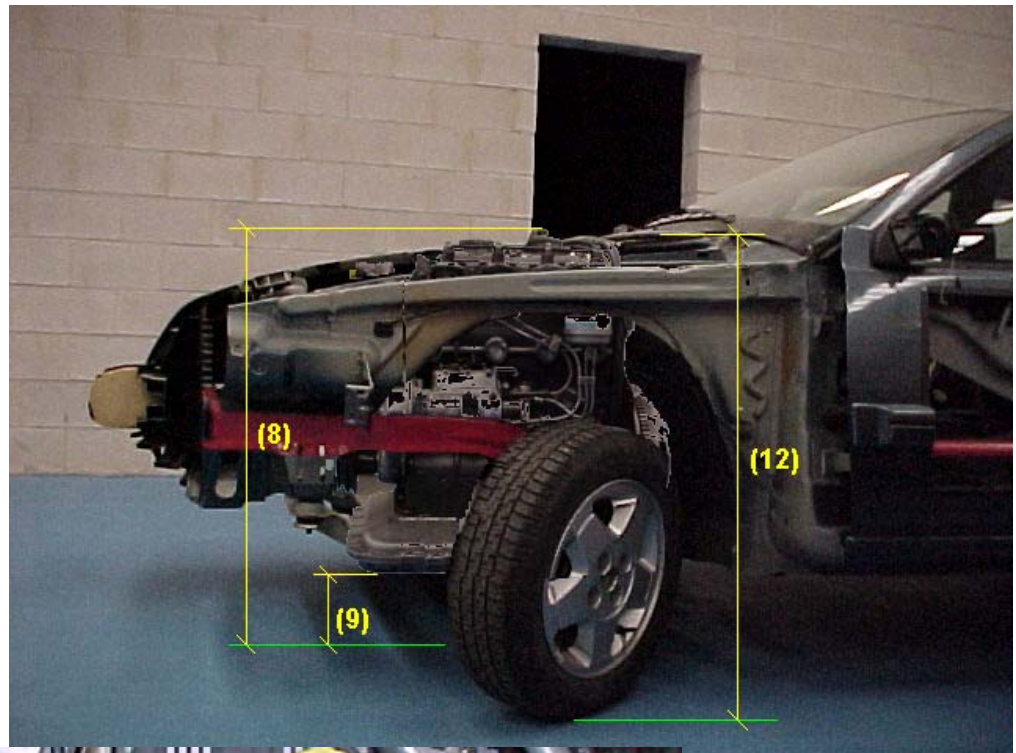


Figure 9.-
Definition of
the main
resistant
elements. Front
elements
(Longitudinal
engine).



The procedure considered to measure these elements is described as follows, where it is indicated the location of these ones in the Excel Sheet (SURVEY.XLS) into brackets:

FRONT ELEMENTS

- **Total Length –(1)- (Side & Front Sheets - C column):** distance between the point in the front bumper further on and the point in the rear bumper further back.
- **Weight (Side & Front Sheets - D column):** mass, including an average driver weight (70 kg), and the fuel tank mass (at half-capacity).
- **Total Width –(2)- (Side & Front Sheets - E column):** distance between the outer side points in a transverse plane of the vehicle (middle plane between the front and rear axles).
- **Bumper bottom height –(4)- (Front Sheet G column):** distance between the ground and the lowest point on the front bumper, being a resistant member (aerodynamic elements under the front bumper are not considered).
- **Bumper top height –(3)- (Front Sheet H column):** distance between the ground and the highest point on the front bumper, being a resistant member (aerodynamic elements are not considered).
- **Longitudinal member top height –(5)- (Front Sheet I column):** distance between the ground and the highest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint (when accessible).
- **Longitudinal member bottom height –(6)- (Front Sheet J column):** distance between the ground and the lowest point on the longitudinal members, measured approximately in the front bumper-longitudinal member joint.
- **Distance between longitudinal members (Front Sheet K column):** transverse distance between extreme points in longitudinal members, measured approximately in the front bumper-longitudinal member joint.

Depending on the accessibility of these members, the extreme points are the inner points (I) or the outer points (O).

- **Longitudinal member width -7'- (Front Sheet L column):** width of one of the longitudinal members, measured approximately in the front bumper-longitudinal member joint.



- **Engine top height (8) (Front Sheet N column):** distance between the ground and the highest point on the engine that can be a resistant member in case of accident (usually, the highest point on the head, or the highest point of the inlet or exhaust manifolds).
- **Engine bottom height (9) (Front Sheet M column):** distance between the ground and the lowest point on the engine (usually, the lowest point on the crankcase).
- **Engine and Gearbox width (10) (Front Sheet O & P columns):**
 - *Transverse configuration engine:* distance between extreme points in the gearbox-cylinder block unit or others resistant members attached to the cylinder block unit, i.e. fan belts (from a front point of view).
 - *Longitudinal configuration engine:* distance between extreme points in the cylinder block unit (from a front point of view).
- **Front bumper - Engine distance (11) (Front Sheet Q column):** distance between the point in the front bumper further on and the point in the engine further on that is a resistant element, i.e. the further on point of the exhaust manifold placed in the front of the engine.
- **Front shock absorber fixing width (14) (Front Sheet R column):** transverse distance between the front shock absorber - body car joints.
- **Front shock absorber fixing height (12) (Front Sheet S column):** distance between the ground and the front shock absorber-body car joint.
- **Bonnet leading edge height (Front Sheet T column):** distance between the ground and the bonnet edge further on.

SIDE ELEMENTS

- **Front bumper - Front axle distance (15) (Side Sheet G column):** distance between the point in the front bumper further on and the middle point in the front tyre-road contact patch.
- **Front axle - A Pillar distance (16) (Side Sheet H column):** distance between the middle point in the front tyre-road contact patch and the point in the A-pillar further back.
- **A Pillar - B Pillar distance (17) (Side Sheet I column):** distance between the point in the A-pillar further back and the middle point in the B-pillar.
- **B Pillar - C Pillar distance (19) (Side Sheet J column):** distance between the middle point in the B-pillar and the point in the C-pillar further back (only 4/5-door vehicles).
- **B Pillar - Rear axle distance (18) (Side Sheet K column):** distance between the middle point in the B-pillar and the middle point in the rear tyre-road contact patch.
- **Roof sill bottom height (20) (Side Sheet L column):** distance between the ground and the lowest point on the roof sill, measured in the front door middle point.
- **Roof sill top height (21) (Side Sheet M column):** distance between the ground and the highest point on the roof sill (usually located in the sill-roof joint), measured in the front door middle point.
- **Floor sill bottom height (22) (Side Sheet N column):** distance between the ground and the lowest point on the floor sill, measured in the front door middle point.
- **Floor sill top height (23) (Side Sheet O column):** distance between the ground and the highest point on the floor sill, measured in the front door middle point.

NOTE

- N/A: dimension not available.