

REPORT NUMBER KAR22001-09

**NEW CAR ASSESSMENT PROGRAM
FRONTAL BARRIER IMPACT TEST**

**NISSAN MOTOR CORPORATION
2002 NISSAN XTERRA 4WD
SUV**

NHTSA NUMBER: M25204

**PREPARED BY:
KARCO ENGINEERING, LLC
9270 HOLLY ROAD
ADELANTO, CALIFORNIA 92301**



MAY 30, 2002

FINAL REPORT

**PREPARED FOR:
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Date of Acceptance

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16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2002 Nissan Xterra 4WD SUV at KARCO Engineering, LLC on 05/16/02. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 55.75 km/h. The ambient temperature at the barrier face at the time of impact is 28.9 degrees Celcius. The vehicle's maximum post test static crush is 471 mm at the vehicle centerline. The test vehicle is equipped with a 3-point continuous belt system and second generation supplemental airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 35%;">Measurement Description</th> <th style="width: 15%;">Units</th> <th style="width: 15%;">Threshold</th> <th style="width: 15%;">Driver ATD</th> <th style="width: 20%;">Passenger ATD</th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC)</td> <td>N/A</td> <td>1000</td> <td>637.8</td> <td>570.4</td> </tr> <tr> <td>Max. Thorax Accel. (3 msec Clip)</td> <td>G's</td> <td>60</td> <td>49.8</td> <td>56.2</td> </tr> <tr> <td>Left Femur force</td> <td>Newtons</td> <td>10000</td> <td>-523.9</td> <td>-1835.9</td> </tr> <tr> <td>Right Femur Force</td> <td>Newtons</td> <td>10000</td> <td>-1563.5</td> <td>-1500.4</td> </tr> </tbody> </table>				Measurement Description	Units	Threshold	Driver ATD	Passenger ATD	Head Injury Criteria (HIC)	N/A	1000	637.8	570.4	Max. Thorax Accel. (3 msec Clip)	G's	60	49.8	56.2	Left Femur force	Newtons	10000	-523.9	-1835.9	Right Femur Force	Newtons	10000	-1563.5	-1500.4
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SECTION 1
PURPOSE AND SUMMARY OF TEST M25204

1.1 PURPOSE

This 35 mph (56.3 km/h) frontal barrier impact test is part of the Vehicle Barrier Impact Testing Program sponsored by the National Highway Traffic Safety Administration (NHTSA) under Contract No. DTNH22-01-D-02005. The purpose of this test was to obtain vehicle crashworthiness and occupant restraint system performance data for an impact speed in excess of the current 30 mph (48.3 km/h) requirements.

The 35 mph (56.3 km/h) frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards Laboratory Test procedure.

1.2 SUMMARY

A load cell barrier consisting of 24 load cells was impacted by a 2002 Nissan Xterra 4WD SUV at a velocity of 55.75 km/h. The test was performed at Karco Engineering, LLC on May 16, 2002. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time and 16 high-speed cameras were used to document the frontal barrier impact event. Camera locations and other pertinent camera information can be found in this report.

Two Part 572E, 50th percentile male anthropomorphic test devices (ATDs), were placed in the driver and right-front passenger seating positions according to dummy placement instructions specified in the Laboratory Indicant Test Procedure.

Both ATDs were fully instrumented with nine accelerometer array head, chest and pelvis triaxial accelerometers, chest displacement potentiometers, six-axis upper neck transducers, right/left femur load cells, and lower leg instrumentation. Seat belt load cells were also placed on the driver's and passenger's lap and shoulder belts to measure dummy torso and pelvic section loading. The driver (position 1) ATD (Serial No. 34) and the right-front passenger (position 2) ATD (Serial No. 35) were calibrated prior to this test.

One Hundred and Nine (109) channels of data were recorded using an on-board data acquisition system. Appendix B contains the vehicle and dummy response data traces. Appendix C contains Load Cell Barrier information. Appendix D contains the Instrumentation Data Channel assignments. Appendix E contains the Dummy Calibration data and Appendix F contains the owner's manual instructions for the occupant and restraint systems. Appendix G contains the Nine Accelerometer Head Array data.

There was 100 percent windshield retention and no intrusion into the protected zone of the windshield during the impact event. There was no Stoddard solvent leakage after the event or during any phase of the static rollover.

The maximum static crush of the vehicle was 471 mm and both the driver and the passenger side doors remained closed and latched during the impact event and were operable without the aid of tools after the impact.

The driver's visible contact points were as follows: The driver ATD head contacted the airbag and headrest, its chest and abdomen contacted the airbag, and both knees contacted the knee bolster/steering column.

The passenger's visible contact points were as follows: The passenger ATD head contacted the airbag and headrest. The chest contacted the airbag and no contact by the abdomen. Both knees contacted the glove box.

Occupant injury data is contained in table below.

OCCUPANT DATA SUMMARY

ATD Position	HIC	Clip (g)	Chest Disp (mm)	Left Femur (N)	Right Femur (N)	Belt Spool (mm)
Driver	637.8	49.8	-36.0	-523.9	-1563.5	121.6
Passenger	570.4	56.2	-28.8	-1835.9	-1500.4	178.6

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

CONVERSION FACTORS USED IN THIS REPORT*

Quantity	Typical Application	Std Units	Metric Unit	Multiply By
Mass	Vehicle Weight	lb	kg	0.4536
Linear Velocity	Impact Velocity	mile/h	km/h	1.609
Length or Distance	Measurements	in	mm	25.4
Volume	Fuel Systems	gal	liter	3.785
Volume	Small Fluids	oz	mL	29.573
Pressure	Tire Pressures	lbf/in ²	kPa	7.0
Volume	Liquid	gal	liter	3.785
Temperature	General Use	°F	°C	=(tf -32)/1.8
Force	Dynamic Forces	lbf	N	4.448
Moment	Torque	lbf/ft	Nm	1.355

* Based on the Recommended Practice in SAE J916, May 85

**DATA SHEET NO. 1
CRASH TEST SUMMARY**

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	55.75
Test Weight	kg	2134
Impact Angle	degrees	0
Average Rebound	mm	558
Maximum Static Crush	mm	471

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door Opening	Remained closed & latched, opened w/o the aid of tools	Remained closed & latched, opened w/o the aid of tools
Rear Door Opening	Remained closed & latched, opened w/o the aid of tools	Remained closed & latched, opened w/o the aid of tools
Seat Track Shift (mm)	None	None
Seat Back Failure	None	None

TEST DUMMY INFORMATION

Description	Driver	Passenger
Dummy Type / Serial No.	50% Male Hybrid III / No. 34	50% Male Hybrid III / No. 35
Head Contact	Airbag/Headrest	Airbag/Headrest
Chest Contact	Airbag	Airbag
Abdomen Contact	Airbag	None
Left Knee Contact	Steering Column/Bolster	Glove Box
Right Knee Contact	Steering Column/Bolster	Glove Box

16mm MOVIE COVERAGE

High Speed	16
Real Time	1
Total	17

DATA CHANNELS

Driver ATD Sensors	46
Passenger ATD Sensors	46
Belt Assessment Sensors	8
Vehicle Structure Accelerometers	9
Rigid Barrier Load Cells	24
Total	133

**DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA**

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

TEST VEHICLE INFORMATION

Make	Nissan
Model	Xterra
Body Style	4-Door
NHTSA No.	M25204
VIN	5N1ED28Y52C575353
Color	Black
Delivery Date	5/6/2002
Odometer Reading (mi.)	176
Dealer	Soutars
Transmission	5-Speed Manual
Final Drive	4WD
Type/No. Cylinders	V-6
Engine Displacement (L)	3.3
Engine Placement	Longitudinal
Front Seat Side Airbag	No

TEST VEHICLE OPTIONS

Driver Front Airbag	Yes
Pass. Front Airbag	Yes
Power Windows	No
Pre-Tensioners	Yes
Power Door Locks	No
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	No
Anti-lock Brakes	Yes
Head Airbag	No
Load Limiters	Yes
Cruise Control	No
Bucket Seats	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Nissan Motor Corporation	GVWR (kg)	2359
Date of Manufacture	April-02	GAWR Front (kg)	1293
		GAWR Rear (kg)	1293

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	210	210
Cold Pressure (kPa)	210	210
Recommend Tire Size	265/70R15	265/70R15
Tire Size on Vehicle	265/70R15	265/70R15
Tire Manufacturer	B.F. Goodrich	B.F. Goodrich

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	None	
Number of Occupants	2	3	0	5
Capacity Wt. (VCW) (kg)				517
Cargo Weight (RCLW) (kg)				136

DATA SHEET NO. 2...(CONTINUED)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	503	417		546	528	
Right	kg	542	394		567	493	
Ratio	%	56.3	43.7		52.2	47.8	
Totals	kg	1045	811	1856	1113	1021	2134

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1856
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Weight (RCLW)	kg	136
Calculated Vehicle Target Weight (TVTW)	kg	2144

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	848	867	875	895	1159
As Tested	mm	828	848	825	850	1268

Vehicle Wheel base (mm): 2652

Weight of Ballast secured in cargo area (kg): 52

Vehicle Components Removed: _____

* Ballast weight does not include cameras, instrumentation, and brake abort system.

FUEL SYSTEM DATA

Fuel System Capacity From Owner's Manual (L): 73.4

Usable Capacity Figure Furnished by COTR (L): 69.2

Actual Test Volume with entire fuel System Filled (L): 64.3

Test Fluid Type: Stoddard Solvent ; Specific Gravity: 0.764

Kinematic Viscosity: as per ASTM Standard D484-71 ; Color: Red

Is Vehicle Fuel Pump Electric or Mechanical?: Electric

If electric, does pump operate with ignition switch "ON" & engine "OFF"? Yes

Fuel System Particulars: Driver side filler door, tank mounted at rear.

**DATA SHEET NO. 3
POST IMPACT DATA**

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	55.51 to 57.12	55.75
Trap No. 1 Entry Distance	mm	< 1524	1524
Trap No. 1 Exit Distance	mm	< 1524	305
Trap No. 2 Velocity (Redundant)	km/h	55.51 to 57.12	55.78
Trap No. 2 Entry Distance	mm	< 1524	1524
Trap No. 2 Exit Distance	mm	< 1524	305

VEHICLE STATIC CRUSH

Measured Parameter	Units	Pre-Test	Post-Test	Difference
Left Side	mm	4427	4015	-412
Center	mm	4575	4115	-460
Right Side	mm	4427	4075	-352

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	644
Center	mm	503
Right Side	mm	528
Average	mm	558

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

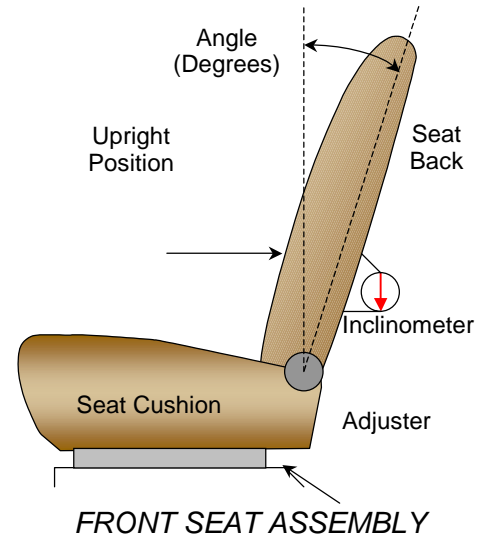
Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
Test Date: 05/16/02

NOMINAL DESIGN RIDING POSITION

The driver and passenger seat backs are positioned to the manufacturers designated angle. The procedure is as follows: A special application tool with pointed probes is inserted through the fabric to make contact with the rigid portion of the lower seat frame assembly, approximately 13 inches above the pivot point of the seat back. An inclinometer is placed against the flat surface of the tool and the seat back angle is measured directly from the dial face.

Driver seat back angle: 14° with a seated dummy
Passenger seat back angle: 14° with a seated dummy



SEAT FORE/AFT POSITIONS

Driver seat has 13 positions or detents and passenger seat has 20 positions or detents. The first or forward most position is counted as number one (1). The fore/aft position is set aft of the middle position for both driver and passenger.

Driver seat fore/aft total travel: 13 seating positions or detents
Driver seat fore/aft position: 7th detent from forward most
Passenger seat fore/aft total travel: 20 seating positions or detents
Passenger seat fore/aft position: 11th detent from forward most

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable anchorages for both driver and passenger seat positions. There are 4 positions or detents. Both the driver and the passenger anchorages are placed in the 1st position from the uppermost.

**DATA SHEET NO. 4...(CONTINUED)
TEST VEHICLE INFORMATION**

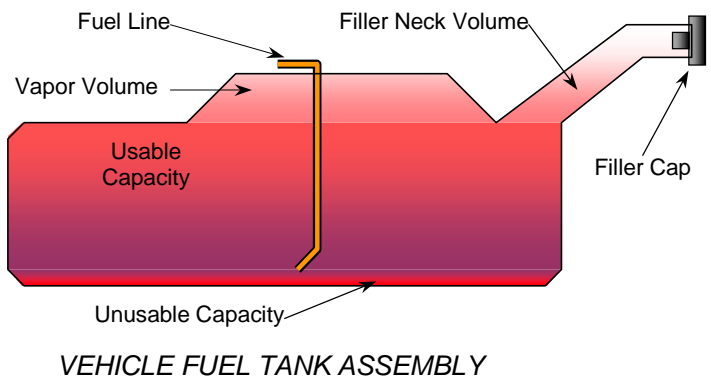
Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

FUEL TANK CAPACITY DATA

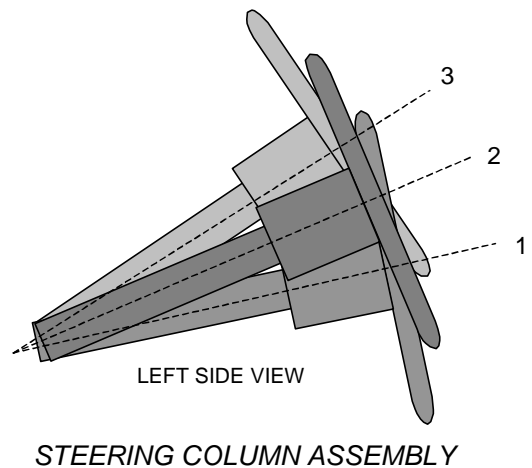
The "Usable Capacity" of the standard equipment fuel tank is: 73.4 liters
 The "Usable Capacity" of any optional equipment fuel tank is: N/A liters
 "Usable Capacity" used for certification tests FMVSS 301 requirements: 63.6 to 65.0 liters
 Actual amount of Stoddard solvent added to vehicle for certification test: 64.3 liters

The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies the area under the rear seat. Fuel lines run inside the right frame rail to the engine compartment.



STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes when moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed on the plate and the angle is measured. The steering column has seven (7) positions or detents and is set in the fourth (4) detent as indicated by the diagram at right and the angle below.



Lowermost; position 1: 24°
 Geometric center; position 2: 25°
 Uppermost position 3: 27.5°

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
Test Date: 05/16/02

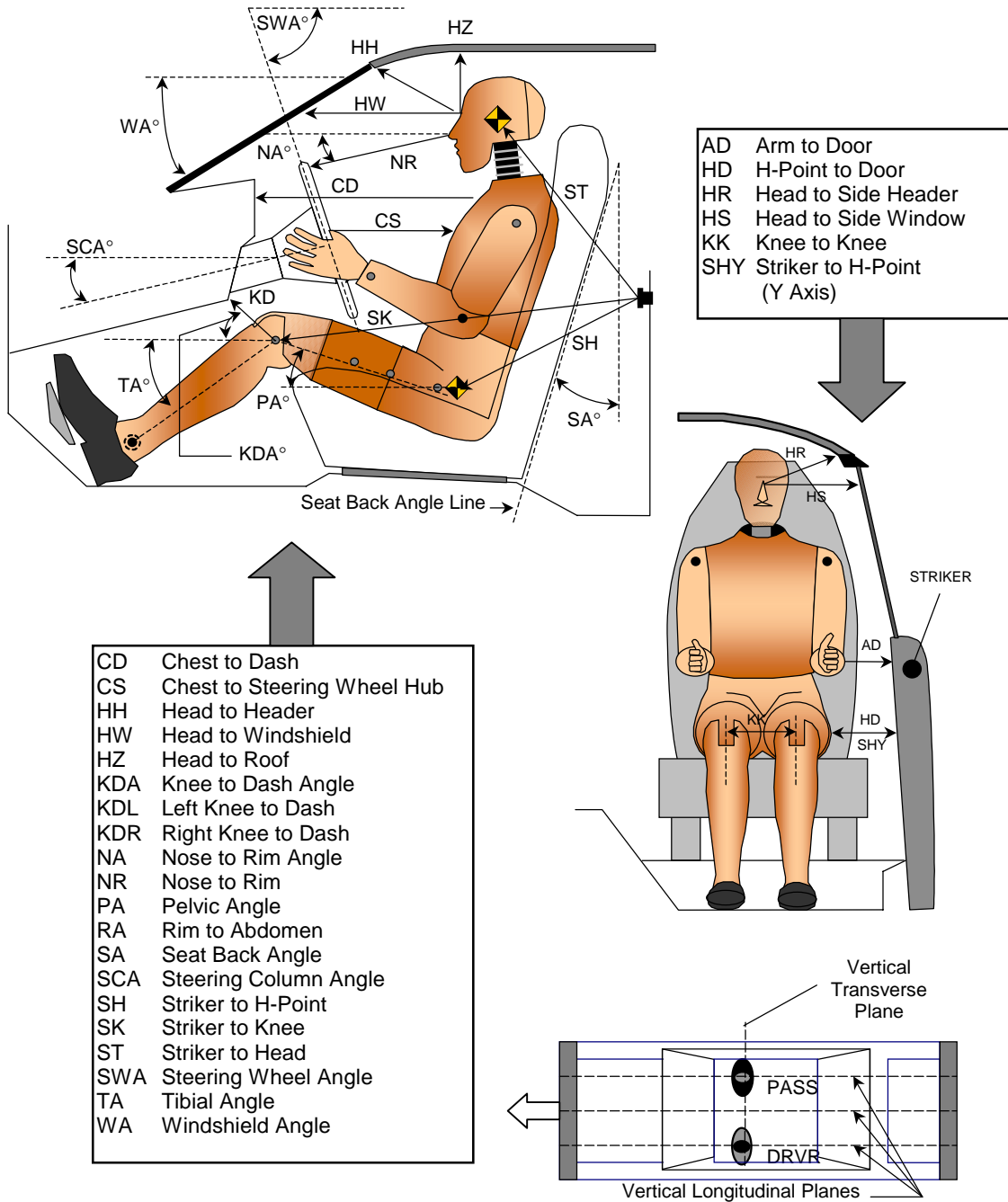
TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		36		
SWA	Steering Wheel Angle		65		
SCA	Steering Column Angle		25		
SA	Seat Back Angle		14		14
HZ	Head to Roof (Z)	200	90	205	90
HH	Head to Header	476		437	
HW	Head to Windshield	672		626	
HR	Head to Side Header (Y)	272		275	
NR	Nose to Rim	462	13		
CD	Chest to Dash	667		592	
CS	Chest to Steering Hub	363			
RA	Rim to Abdomen	225			
KDL	Left Knee to Dash	225	9	165	
KDR	Right Knee to Dash	215		195	17
PA	Pelvic Angle		25		25
TA	Tibia Angle		36		41
KK	Knee to Knee (Y)	290		265	
ST	Striker to Head	635	1	657	5
SK	Striker to Knee	597	78	578	76
SH	Striker to H-Point	241		268	
SHY	Striker to H-Point (Y)	205		154	
HS	Head to Side Window	310		300	
HD	H-Point to Door (Y)	146		140	
AD	Arm to Door (Y)	45		14	

DATA SHEET NO. 5...(CONTINUED)
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02



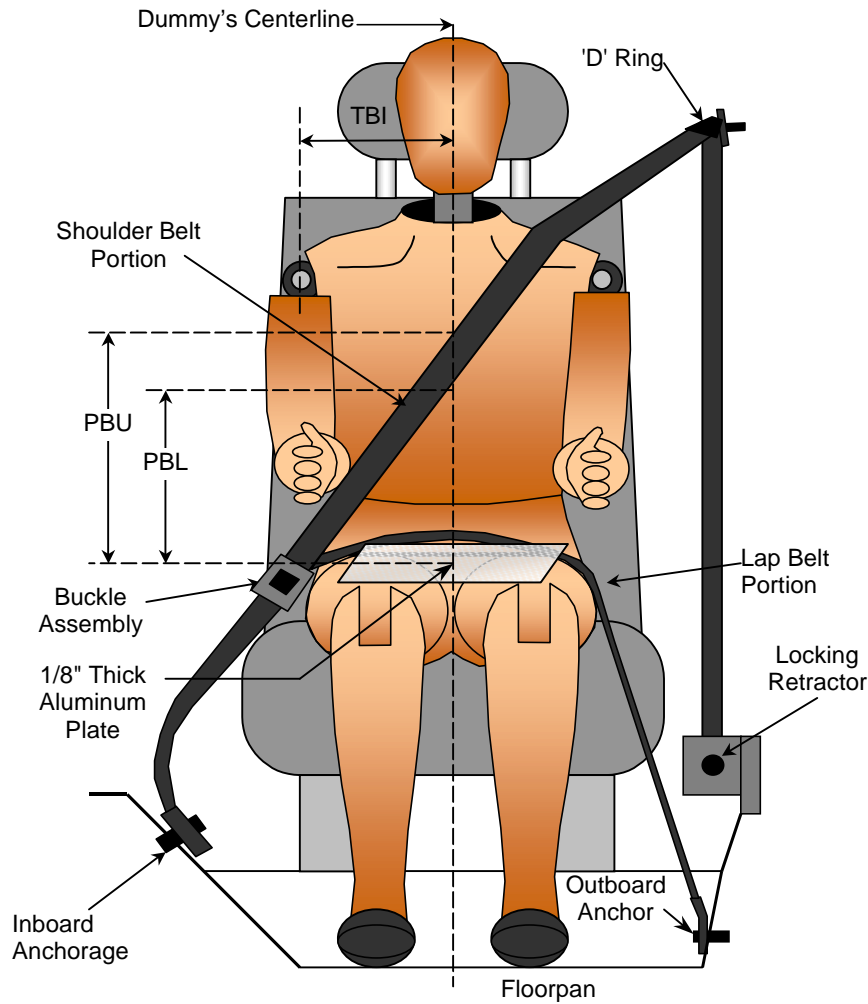
- CD Chest to Dash
- CS Chest to Steering Wheel Hub
- HH Head to Header
- HW Head to Windshield
- HZ Head to Roof
- KDA Knee to Dash Angle
- KDL Left Knee to Dash
- KDR Right Knee to Dash
- NA Nose to Rim Angle
- NR Nose to Rim
- PA Pelvic Angle
- RA Rim to Abdomen
- SA Seat Back Angle
- SCA Steering Column Angle
- SH Striker to H-Point
- SK Striker to Knee
- ST Striker to Head
- SWA Steering Wheel Angle
- TA Tibial Angle
- WA Windshield Angle

DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

DATA SHEET NO. 6
SEATBELT POSITIONING DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	225	203
PBU - Top surface of reference to belt upper edge	mm	343	320
PBL - Top surface of reference to belt lower edge	mm	265	240
Lap Belt tension	Newton's	10	10
Shoulder Belt tension	N/A	Retractor	Retractor

DATA SHEET NO. 7 - VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2002 Nissan Xterra 4WD SUV

NHTSA No.: M25204

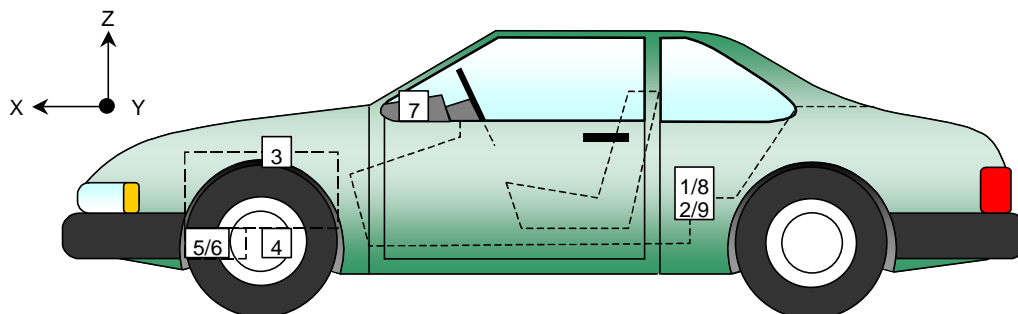
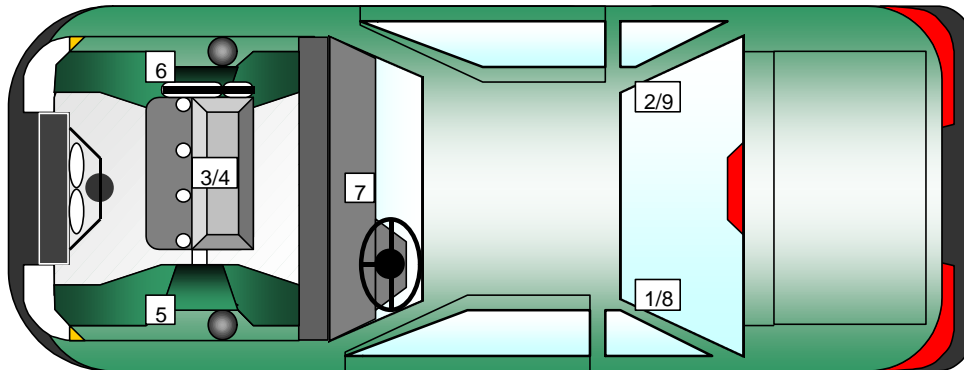
Test Program: 2002 NHTSA 35mph NCAP

Test Date: 5/16/02

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

No.	Accelerometer Location	Measurements (mm)			Peak Values				
		X	Y	Z	Units	Max	Time	Min	Time
1	Left Rear X-Member	1570	-610	675	G's	7.8	13.1	-45.8	63.1
2	Right Rear X-Member	1570	610	675	G's	2.7	157.3	-45.6	63.7
3	Engine Top	3700	-90	1080	G's	39.4	55.3	-164.7	37.2
4	Engine Bottom	3580	140	260	G's	22.3	52.9	-85.4	43.2
5	Left Brake Caliper	3500	715	310	G's	30.0	37.8	-115.6	44.9
6	Right Brake Caliper	3500	715	310	G's	33.3	59.2	-90.0	53.7
7	Instrument Panel	3040	0	1270	G's	24.0	85.4	-73.7	71.8
8	Left Rear X-Member (Z-Axis)	1740	-500	570	G's	17.6	72.6	-10.3	12.9
9	Right Rear X-Member (Z-Axis)	1740	500	570	G's	23.7	71.2	-12.2	12.0

Reference Planes: X=From Rear Surface of Vehicle, Y=Vehicle Centerline, Z=Ground Plane



DATA SHEET NO. 8 - HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV

NHTSA No.: M25204

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 5/16/02

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	14.5	231.2	-66.5	76.1	4.4	236.5	-56.7	81.3
Head CG	Y	G's	4.4	191.6	-16.0	84.6	2.1	61.8	-22.9	68.6
Head CG	Z	G's	24.5	65.3	-16.9	87.1	34.7	79.8	-2.9	17.8
Head CG Resultant	N/A	G's	66.9	76.1			66.9	80.1		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.3	140.6	-49.8	67.2	1.6	153.1	-57.8	72.8
Chest CG	Y	G's	6.9	99.3	-5.7	54.6	4.0	45.8	-10.5	69.5
Chest CG	Z	G's	11.2	68.9	-11.8	99.7	13.0	66.7	-13.0	103.4
Chest CG Resultant	N/A	G's	50.8	67.2			58.4	73.0		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	1327.3	57.1	-523.9	91.4	1241.9	74.4	-1835.9	64.0
Right Femur	Z	Newtons	1546.0	51.3	-1563.5	61.7	1386.2	57.2	-1500.4	65.3

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	121.6	88.2	-34.1	41.8	178.6	87.5	-10.6	50.2
Shoulder Belt Stretch	N/A	MM/CM	0.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0
Lap Belt Force	N/A	Newtons	11247.6	68.7	-12.3	0.0	9221.0	67.3	-2.5	6.5
Shoulder Belt Force	N/A	Newtons	5909.2	54.6	-31.4	16.1	6540.9	73.0	-34.3	15.9

* Not used with pre-tensioner

PRIMARY HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary	637.8	57.5	90.7	51.6	570.4	62.5	95.8	49.3

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	49.8	66.5	69.5	56.2	71.6	74.6

DATA SHEET NO. 8...(continued)

Test Vehicle: 2002 Nissan Xterra 4WD SUV

NHTSA No.: M25204

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 5/16/02

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	13.5	95.3	-53.3	62.1	12.8	98.3	-61.5	64.4
Pelvis	Y	G's	13.6	82.7	-12.0	55.4	6.1	25.9	-10.5	79.3
Pelvis	Z	G's	2.2	241.2	-28.0	70.0	3.2	226.2	-31.4	74.4
Pelvis Resultant	N/A	G's	58.4	62.1			66.8	64.4		

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	403.7	67.4	-455.4	141.7	650.0	69.9	-887.3	114.2
Neck Force	Y	Newtons	263.0	73.6	-178.0	113.9	95.2	34.6	-338.5	70.9
Neck Force	Z	Newtons	2364.8	72.2	-445.1	97.2	742.7	47.4	-720.8	75.0
Neck Force Resultant	N/A	Newtons	2390.5	72.2			888.6	114.2		
Neck Moment	X	N•m	9.6	155.1	-16.7	120.4	22.3	70.4	-7.3	131.2
Neck Moment	Y	N•m	39.1	132.1	-36.5	261.4	55.3	124.0	-23.8	84.0
Neck Moment	Z	N•m	18.2	91.0	-11.8	152.7	12.4	95.4	-4.3	145.4
Neck Moment Resultant	N/A	N•m	40.2	133.1			55.5	124.0		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	5.1	107.2	-33.3	42.6	17.0	87.9	-25.6	39.2
Left Foot Aft	Z	G's	7.2	74.3	-53.1	45.2	30.0	73.8	-60.4	52.6
Left Foot Fore	Z	G's	10.7	135.4	-62.2	45.4	26.0	31.7	-152.0	42.2
Right Foot Aft	X	G's	65.0	59.1	-206.6	49.5	21.4	89.9	-47.8	40.6
Right Foot Aft	Z	G's	13.8	74.7	-168.1	49.0	13.1	77.3	-53.1	48.9
Right Foot Fore	Z	G's	63.0	53.6	-305.4	48.1	19.4	103.9	-68.3	48.4

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Upper Moment	X	N•m	55.9	63.4	-29.1	93.1	19.6	158.1	-76.5	55.4
Left Upper Moment	Y	N•m	25.5	227.7	-88.7	53.5	82.8	66.1	-146.3	54.9
Right Upper Moment	X	N•m	98.7	51.6	-50.2	59.1	15.8	171.3	-74.4	80.1
Right Upper Moment	Y	N•m	26.8	112.2	-169.3	51.8	16.4	98.4	-99.0	53.9
Left Lower Moment	X	N•m	64.4	57.2	-10.8	39.8	52.7	93.6	-65.9	54.8
Left Lower Moment	Y	N•m	18.3	236.5	-15.8	69.8	31.4	88.5	-49.8	35.3
Left Lower Force	Z	Newtons	105.3	267.0	-2546.2	52.5	150.1	293.2	-4209.0	53.1
Right Lower Moment	X	N•m	70.9	50.7	-166.4	58.3	17.6	97.4	-42.9	80.5
Right Lower Moment	Y	N•m	118.0	60.2	-99.6	49.4	31.6	91.3	-31.7	59.3
Right Lower Force	Z	Newtons	357.5	46.5	-6050.2	55.0	174.2	126.4	-2990.4	87.3

DATA SHEET NO. 8...(continued)

Test Vehicle: 2002 Nissan Xterra 4WD SUV

NHTSA No.: M25204

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 5/16/02

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.3	12.2	-36.0	72.8	0.3	15.6	-28.8	72.1

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	14.1	230.7	-66.7	77.0	4.1	237.1	-55.8	80.2
Head CG	Y	G's	3.8	191.5	-15.4	82.8	4.0	62.8	-22.4	68.4
Head CG	Z	G's	23.8	64.8	-17.5	86.2	35.4	79.7	-2.0	19.5
Head CG Resultant	N/A	G's	67.0	77.0			66.8	79.7		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	2.7	140.5	-49.7	67.1	1.9	152.9	-58.3	72.7
Chest CG	Y	G's	7.2	98.8	-5.9	54.2	4.5	45.7	-9.7	69.3
Chest CG	Z	G's	10.7	59.9	-12.3	99.5	13.1	66.4	-13.5	103.0
Chest CG Resultant	N/A	G's	50.5	67.0			58.8	72.8		

REDUNDANT HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Redundant	632.7	57.5	90.8	51.4	560.6	62.3	95.2	49.2

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	49.5	66.4	69.4	56.5	71.7	74.7

**DATA SHEET NO. 9
SEATBELT ASSESSMENT TEST DATA**

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	225	203
PBU - Top surface of reference to belt upper edge	mm	343	320
PBL - Top surface of reference to belt lower edge	mm	265	240
Lap Belt tension	Newton's	10	10
Shoulder Belt tension	N/A	Retractor	Retractor

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	702	702
Shoulder belt length as measured on ATD	mm	840	840
Lap belt length as measured on ATD	mm	800	845
Remainder of belt on reel	mm	630	660
Total belt length for continuous webbing systems	mm	2972	3047

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	73.0	160.0
As determined electronically	mm	121.6	178.6
As determined by photography	mm	unk.	260.0

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically between shoulder belt load cell and "D" ring	mm/cm	*	*
Mechanically	mm/cm	None	None

*Not used with shoulder belt pre-tensioner systems.

DATA SHEET NO. 10
SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
Test Date: 05/16/02

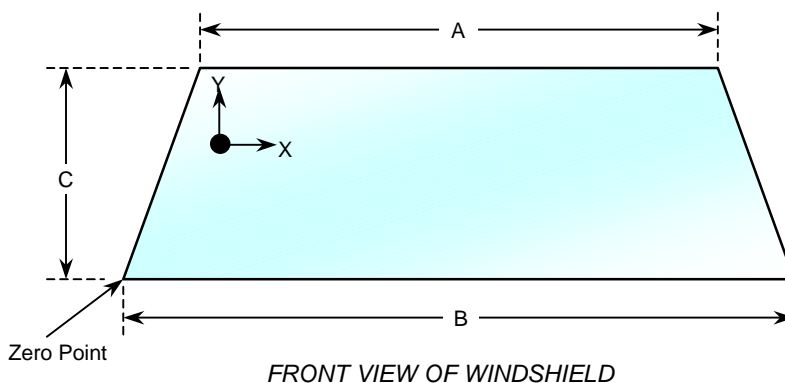
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

The standard requires that the posttest retention measurement be a minimum of 75 percent of the pretest total periphery measurement for vehicles not equipped with occupant passive restraints and 50 percent for each side of the windshield for vehicles that are equipped with occupant passive restraints.

Temperature of windshield molding during test: 21.1 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test(mm)	Post-Test (mm)	% of Retention
Left Side	1990	1990	100
Right Side	1990	1990	100
Total	3979	3979	100



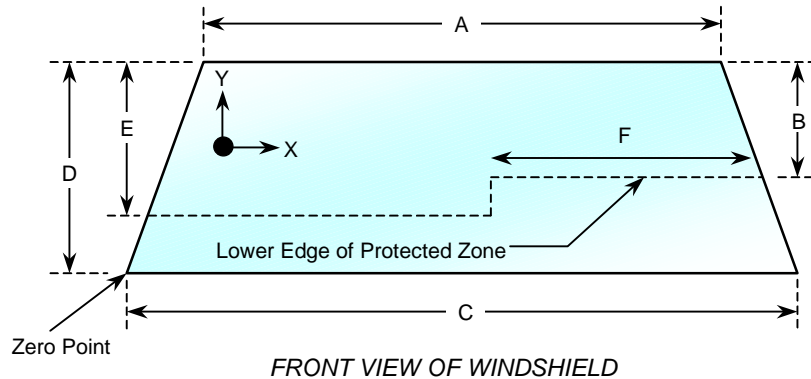
WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1216	13
B	mm	1465	7
C	mm	649	13

**DATA SHEET NO. 11
WINDSHIELD ZONE INTRUSION FMVSS 219 DATA (PARTIAL)**

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02



**WINDSHIELD AND
PROTECTED ZONE**

Item	Units	Value
A	mm	1216
B	mm	440
C	mm	1465
D	mm	649
E	mm	415
F	mm	487

AREA OF PROTECTED ZONE FAILURES

- A. Provide coordinates of the area that the protected zone was penetrated more than 0.25 in. by a vehicle component other than one that is normally in contact with the windshield.

X	Y
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

- B. Provide coordinates of the area beneath the protected zone that the inner surface of the windshield was penetrated by a vehicle component.

X	Y
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

DATA SHEET NO. 12
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
Test Date: 05/16/02

Test Time: 1:35 P.M.

Temperature at Time of Impact 28.8 Deg. C

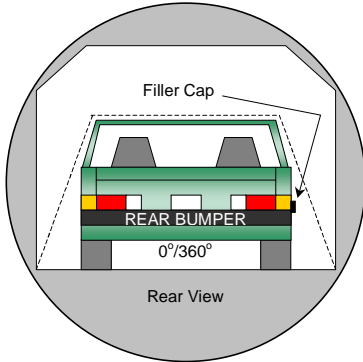
STODDARD SOLVENT SPILLAGE MEASUREMENTS

- A. From impact until vehicle motion ceases: 0.0 oz.
(Maximum Allowable = 1 ounce)
- B. For the 5 minute period after motion ceases: 0.0 oz.
(Maximum Allowable = 5 ounces)
- C. For the following 25 minutes: 0.0 oz.
(Maximum Allowable = 1 oz./minute)
- D. Spillage Location Details: No leakage occurred

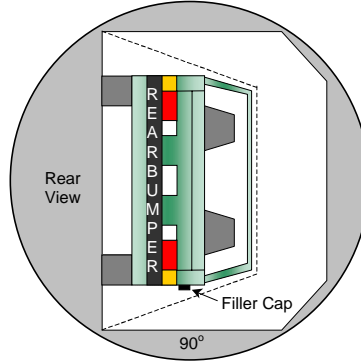
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

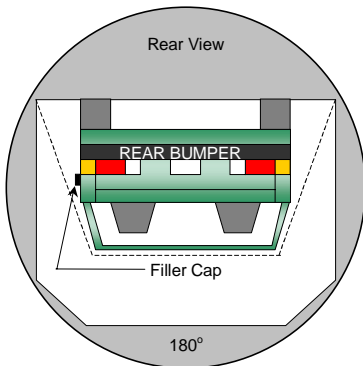
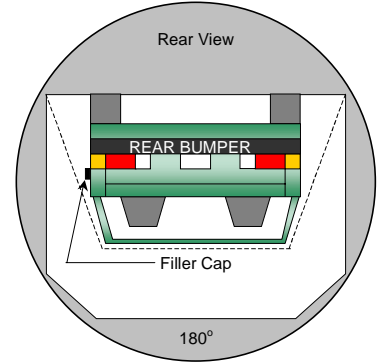
NHTSA No.: M25204
 Test Date: 05/16/02



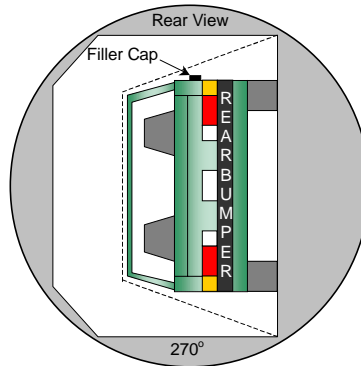
0° to 90°



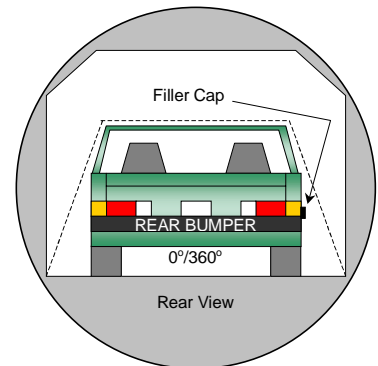
90° to 180°



180° to 270°



270° to 360°



1. The specified fixture rollover rate for each 90° of rotation is 60 to 120 seconds.
2. The position hold time at each position is 300 seconds (minimum).
3. No solvent leakage occurred during rollover.

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° to 90°	82	300	0
90° to 180°	82	300	0
180° to 270°	78	300	0
270° to 360°	82	300	0

DATA SHEET NO. 14
VEHICLE MEASUREMENTS

Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

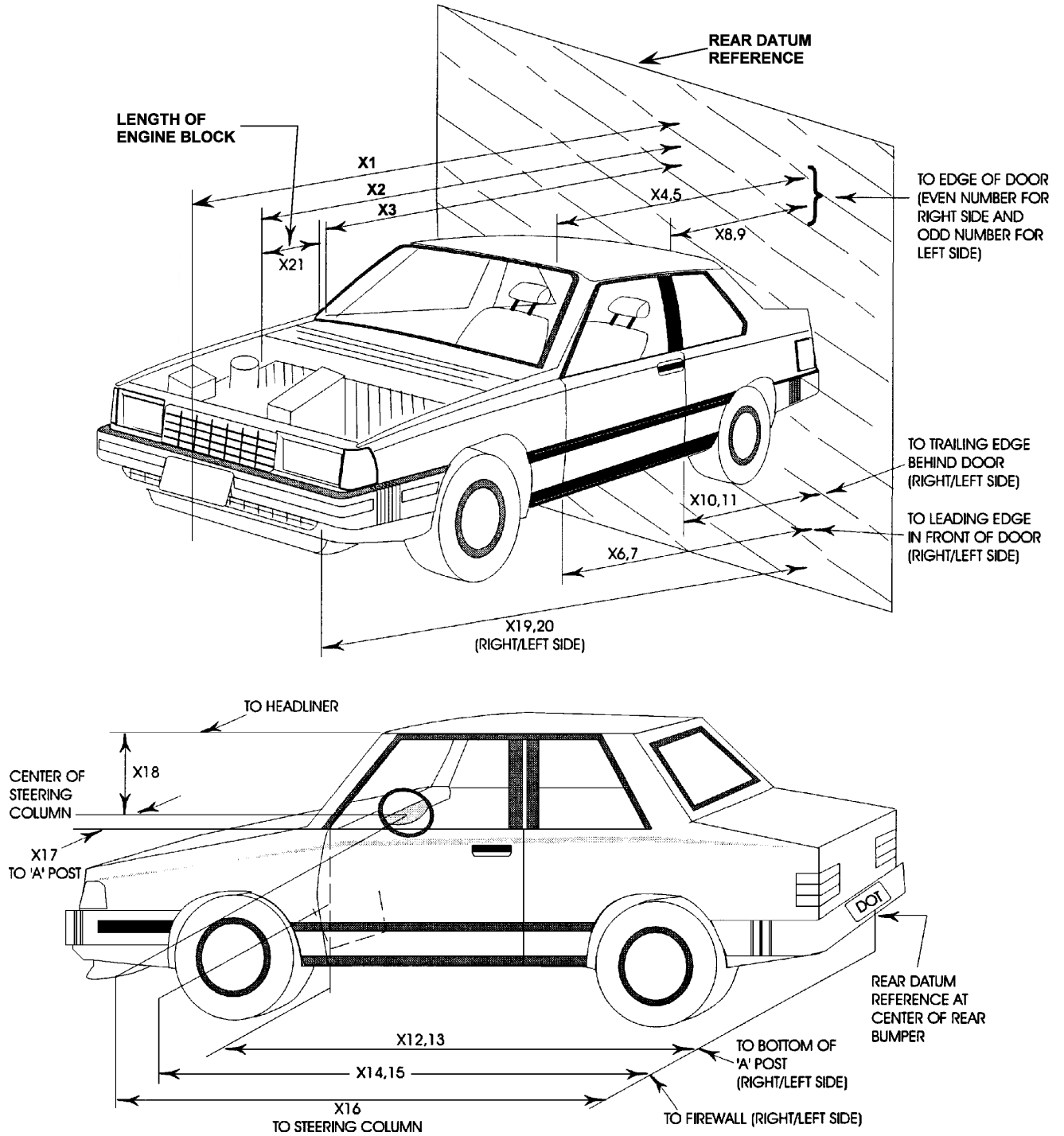
NHTSA No.: M25204
Test Date: 05/16/02

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4575	4115	-460
2	RSOV to front of engine	mm	3997	3212	-785
3	RSOV to firewall centerline	mm	3391	3364	-27
4	RSOV to leading edge of right door	mm	3201	3227	26
5	RSOV to leading edge of left door	mm	3199	3215	16
6	RSOV to lower leading edge of right door	mm	3111	3115	4
7	RSOV to lower leading edge of left door	mm	3114	3110	-4
8	RSOV to upper trailing edge of right door	mm	2031	2058	27
9	RSOV to upper trailing edge of left door	mm	2028	2048	20
10	RSOV to lower trailing edge of right door	mm	2019	2015	-4
11	RSOV to lower trailing edge of left door	mm	2017	2015	-2
12	RSOV to bottom of right 'A' pillar	mm	3167	3198	31
13	RSOV to bottom of left 'A' pillar	mm	3167	3176	9
14	RSOV to firewall on right side	mm	3418	3430	12
15	RSOV to firewall of left side	mm	3416	3403	-13
16	RSOV to steering column	mm	2714	2676	-38
17	Center of steering column to left 'A' pillar	mm	355	370	15
18	Center of steering column to headlining	mm	415	425	10
19	RSOV to right side of front bumper	mm	4427	4075	-352
20	RSOV to left side of front bumper	mm	4427	4015	-412
21	Length of engine block	mm	345	345	0
RD	RSOV to right side of dash panel	mm	2929	2940	11
CD	RSOV to center of dash panel	mm	2860	2865	5
LD	RSOV to left side of dash panel	mm	2934	2910	-24

DATA SHEET NO. 14...(CONTINUED)
VEHICLE MEASUREMENTS

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02



DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
Test Date: 05/16/02

No.	Camera View	Location (mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Side, Real Time	3454	10973	1245	0	1651	Zoom	24
2	Left Side, No. 1	2000	-8250	1270	0	7930	13	1030
3	Left Side, No. 2	1060	-6370	1630	-1	6182	25	1010
4	Left Side, No. 3	6500	-10580	4640	-16	11511	65	1000
5	Left Side, No. 4	1460	-8250	3340	-17	8197	19	1000
6	Left Side, No. 5	1460	-8250	2970	-16	8118	19	910
7	Right Side, No. 1	2400	8150	1590	-2	7822	15	N/A
8	Right Side, No. 2	1000	7180	1590	0	6986	35	1020
9	Right Side, No. 3	7860	8900	2800	-9	10275	80	N/A
10	Right Side, No. 4	2750	9600	1520	0	9279	50	1030
11	Overhead Overall	250	0	4460	-86	N/A	13	N/A
12	Front View, Driver	2970	-380	1330	-36	N/A	12	970
13	Front View, Passenger	2970	380	1330	-37	N/A	13	1130
14	Pit Camera, Engine	650	0	-1360	-90	N/A	10	N/A
15	Pit Camera, Fuel Tank	3760	0	-1820	-55	N/A	10	1220
16	Driver Belt	3190	-330	1440	-8	N/A	13	830
17	Passenger Belt	3190	330	1440	-8	N/A	13	880
18	Left Side Extra	N/A	N/A	N/A	N/A	N/A	N/A	N/A

X - Barrier Face Y - Monorail Centerline Z - Ground

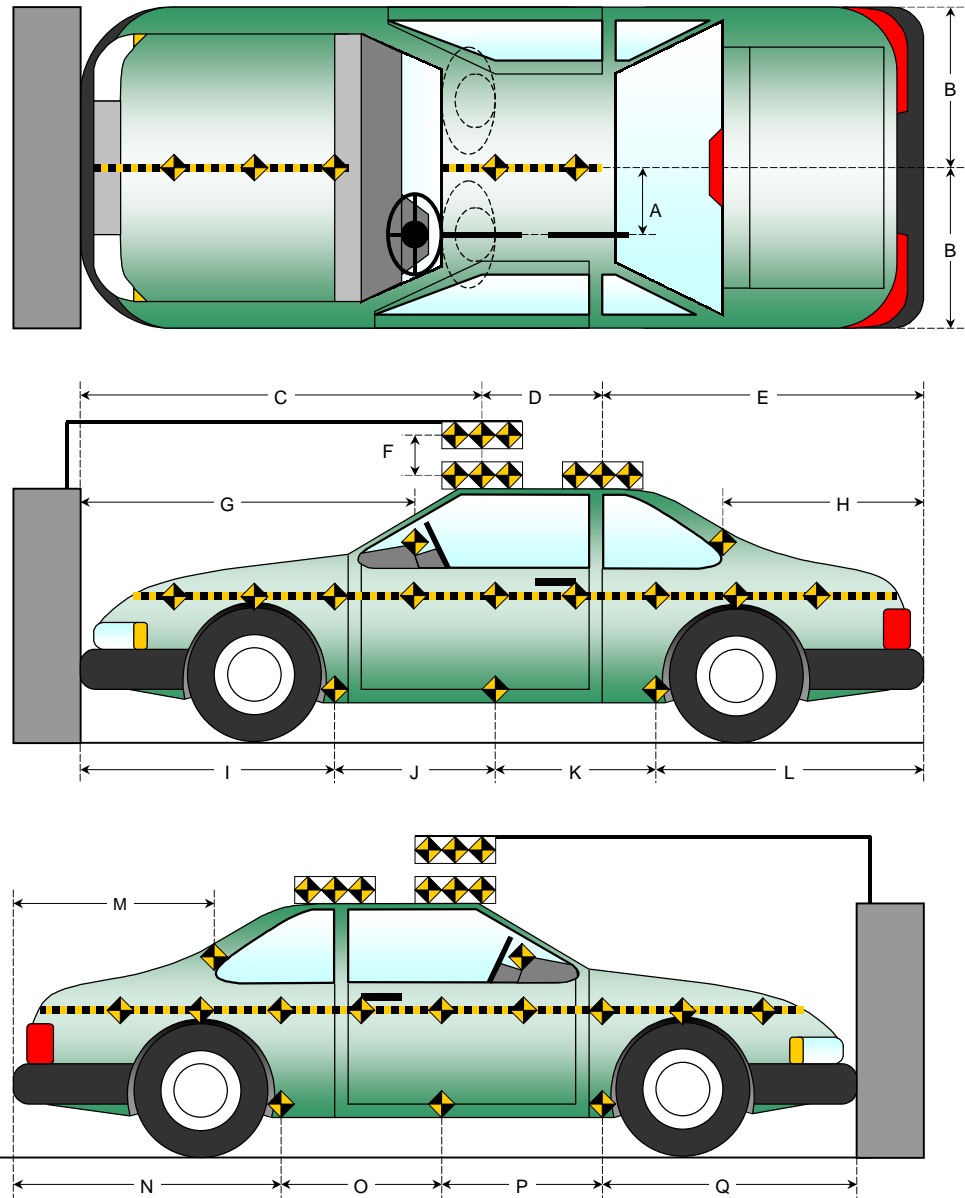
DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

All Dimensions
 in mm

Item	Value
A	496
B	898
C	2485
D	606
E	1495
F	155
G	1676
H	1086
I	1517
J	766
K	766
L	1524
M	1088
N	1510
O	774
P	774
Q	1514



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

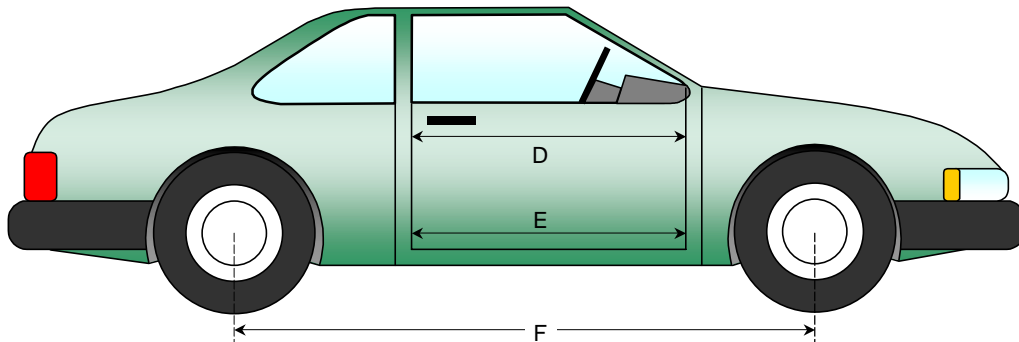
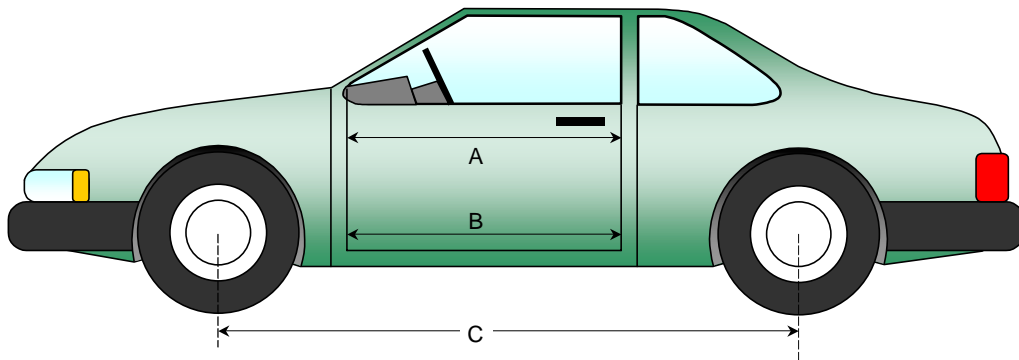
NHTSA No.: M25204
 Test Date: 05/16/02

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1082	1058	-24
B	Left Side Lower	mm	1053	1042	-11
D	Right Side Upper	mm	1087	1082	-5
E	Right Side Lower	mm	1054	1054	0

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheel base	mm	2652	2605	-47
F	Right Side Wheel base	mm	2652	2626	-26



DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

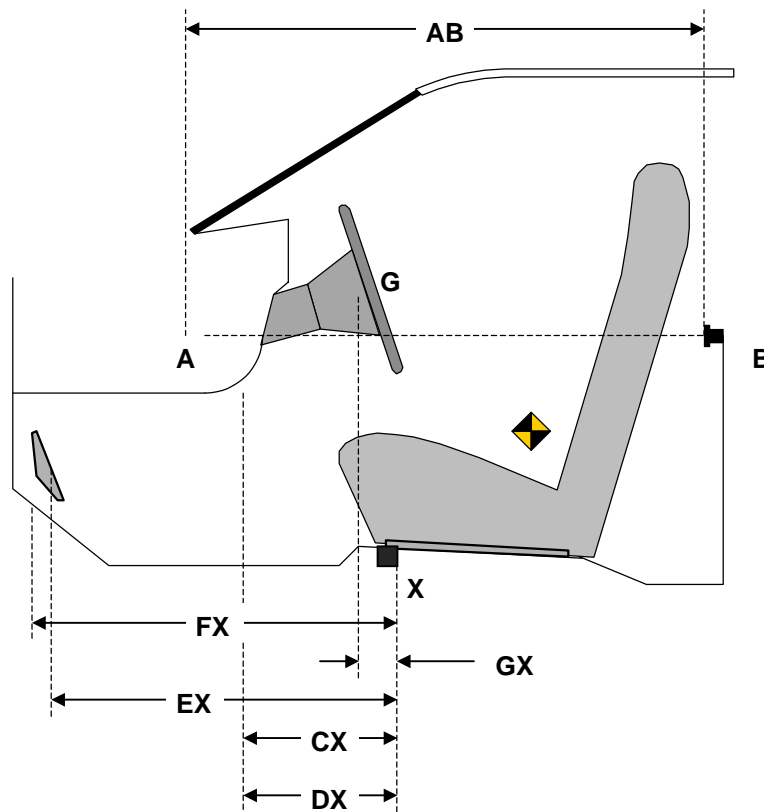
Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside window jam)	mm	1082	1058	-24
CX	Left Knee Bolster to X	mm	302	300	-2
DX	Right Knee Bolster to X	mm	312	298	-14
EX	Brake Pedal to X	mm	588	550	-38
FX	Foot Rest to X	mm	595	560	-35
GX	Center of Steering Wheel Hub to X	mm	55	50	-5

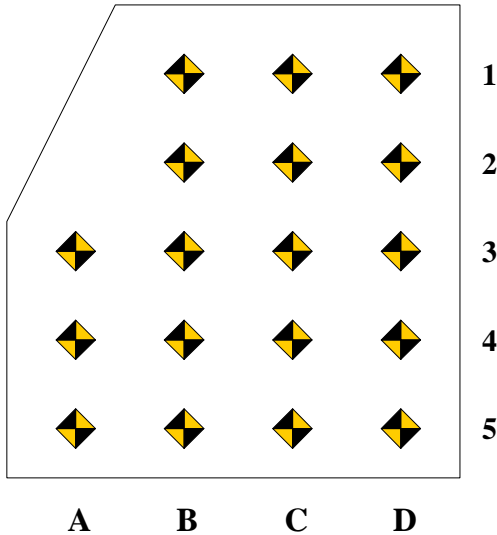
X = Left Front Seat Outboard Anchor Bolt Head



**DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02



Measurement reference point for X and Z-axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3,4 and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.

DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		693	695	680		639	616	608		-54	-79	-72
2		594	598	583		561	548	528		-33	-50	-55
3	500	495	495	479	473	468	451	448	-27	-27	-44	-31
4	398	395	393	379	375	372	361	353	-23	-23	-32	-26
5	298	296	296	281	275	272	264	256	-23	-24	-32	-25

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		-45	-44	-40		-25	-30	-30		20	14	10
2		-78	-79	-82		-90	-84	-65		-12	-5	17
3	-81	-81	-80	-90	-100	-98	-90	-82	-19	-17	-10	8
4	-76	-72	-76	-79	-81	-75	-74	-68	-5	-3	2	11
5	-76	-68	-67	-75	-73	-65	-65	-61	3	3	2	14

**DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS**

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

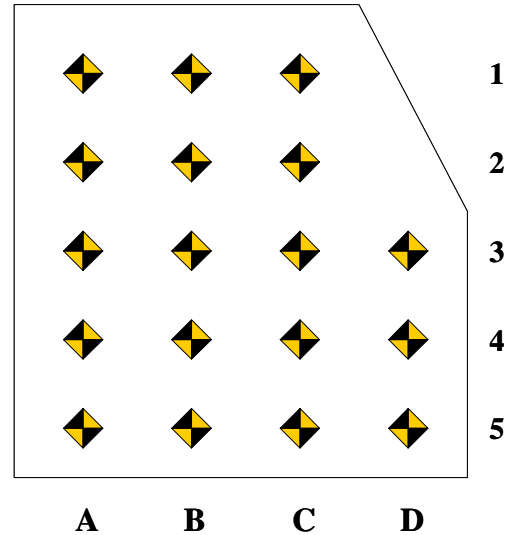
NHTSA No.: M25204
 Test Date: 05/16/02

Measurement reference point for X and Z axis is the forward outboard seat mounting bolt.

Columns A through D are evenly spaced.

Rows 1 and 2 are on the toe kick portion of the floor pan. Rows 3,4, and 5 are located on the most level portion of the floor pan.

Row 3 will be at the intersection of the toe kick and the level sections of the floor pan.



PASSENGER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	690	698	697		590	620	667		-100	-78	-30	
2	616	628	625		560	564	612		-56	-64	-13	
3	516	521	520	519	490	491	508	506	-26	-30	-12	-13
4	422	423	420	419	400	402	414	410	-22	-21	-6	-9
5	322	318	320	321	315	315	315	314	-7	-3	-5	-7

PASSENGER FLOOR PAN Z-AXIS

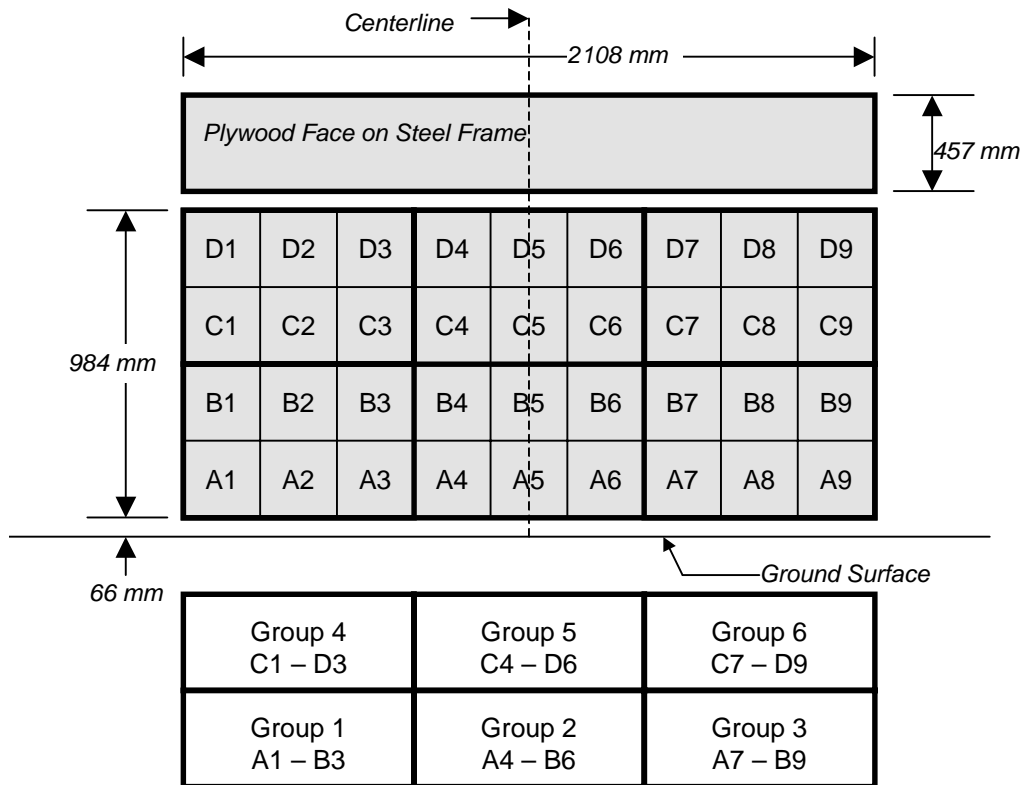
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	-13	-14	-14		52	44	22		65	58	36	
2	-54	-75	-70		-4	-35	-48		50	40	22	
3	-57	-83	-80	-80	-5	-63	-78	-87	52	20	2	-7
4	-52	-80	-78	-75	-15	-42	-57	-75	37	38	21	0
5	-48	-60	-78	-73	-15	-33	-68	-66	33	27	10	7

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

Test Vehicle: 2002 Nissan Xterra 4WD SUV
 Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
 Test Date: 05/16/02

36 Load Cell Rigid Barrier (NHTSA Standard)
Load Cell Locations on Fixed Barrier



6 Groups of 6 Load Cells Each

The Data is presented in Appendix C with the following requirements:

- 1.) Data from 36 individual load cells
- 2.) Sum data from 6 groupings shown above (6 cells/group)
- 3.) Total or sum of all 36 individual load cells
- 4.) Sum of all 36 individual load cells vs. vehicle dynamic crush

DATA SHEET NO. 19
ACCIDENT INVESTIGATION DIVISION DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
Test Date: 05/16/02

VEHICLE INFORMATION

VIN: 5N1ED28Y52C575353 Wheel base (mm): 2652
Vehicle Size Category: 4-Door Test Weight (kg): 2134

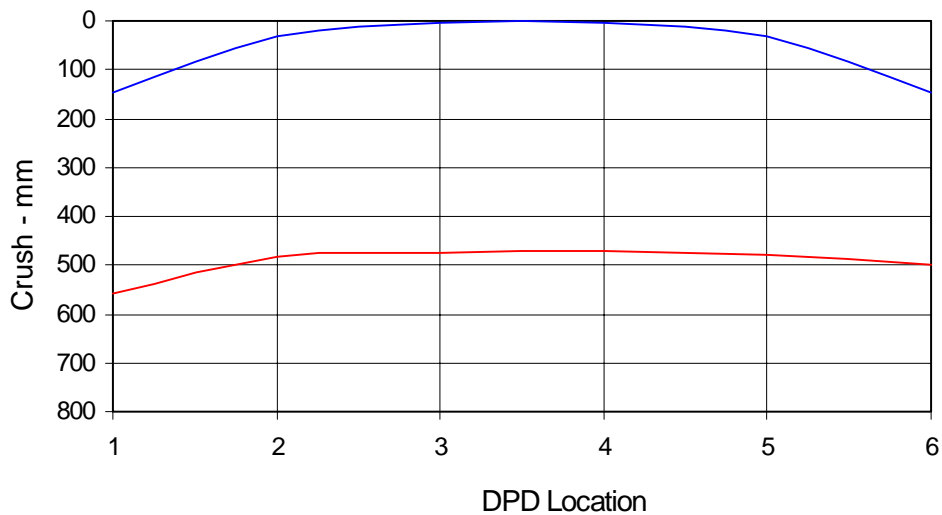
ACCELEROMETER DATA

Accelerometer Location: Left rear floor pan
Cal. Procedure/Interval: 6 months / drop test
Integration Algorithm: NHTSA Standard Linearity: Good
Impact Velocity (km/h): 55.75
Velocity Change (km/h): 70.1 Time of Separation (msec): 64.8

CRUSH PROFILE

Collision Deformation Classification 12FDEW6 Midpoint of Damage: Vehicle Centerline
Damage Region Length (mm): 1440 Impact Mode: Full Frontal

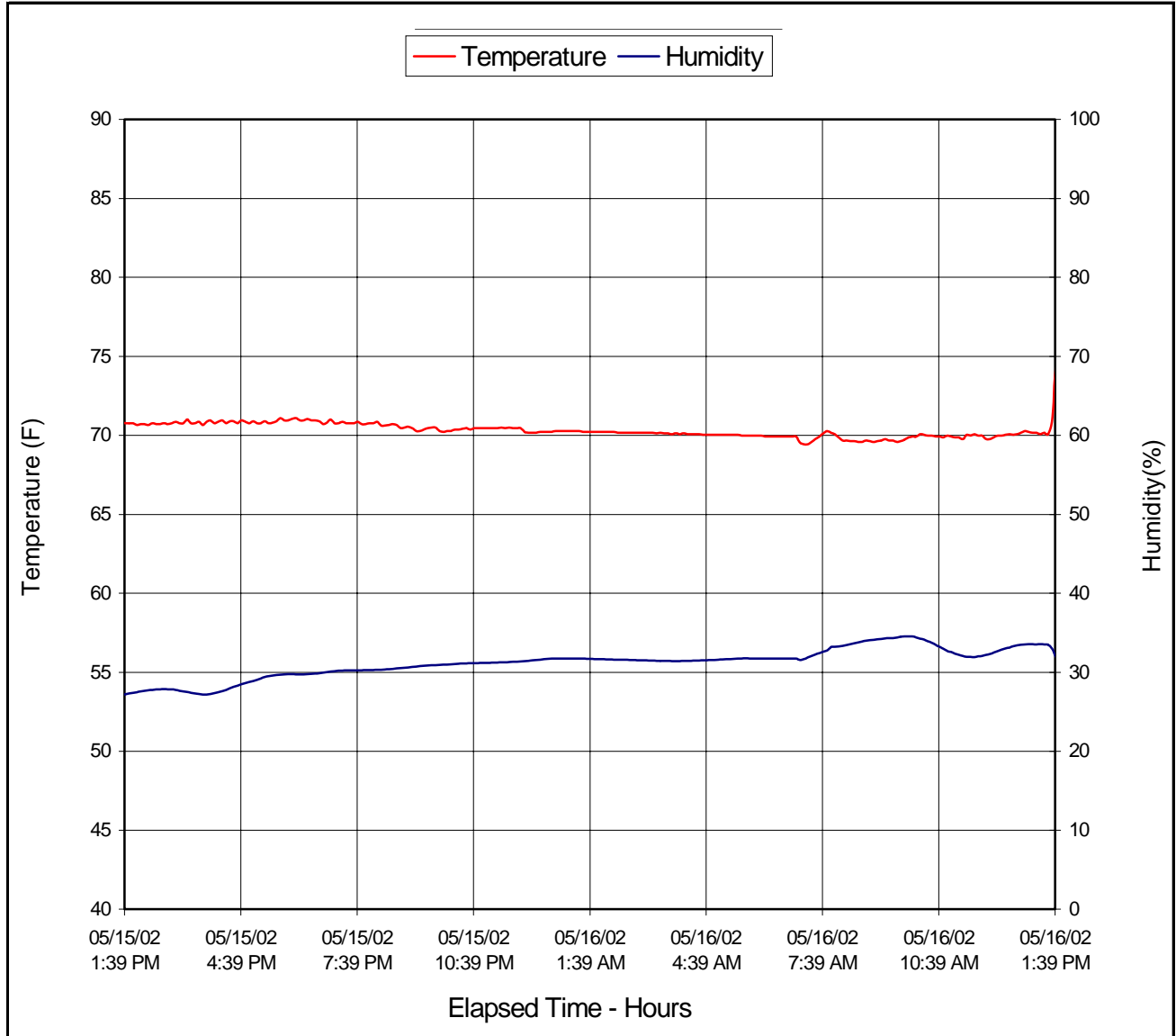
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	148	560	-412
C2	Crush zone 2 on left side	mm	32	485	-453
C3	Crush zone 3 on left side	mm	4	475	-471
C4	Crush zone 4 on right side	mm	4	472	-468
C5	Crush zone 5 on right side	mm	30	478	-448
C6	Crush zone 6 at right side	mm	148	500	-352



DATA SHEET NO. 20
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2002 Nissan Xterra 4WD SUV
Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204
Test Date: 05/16/02



APPENDIX A

PHOTOGRAPHS

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Figure A-1: Right Front, as Received



Figure A-2: Left Rear, as Received

MFD BY NISSAN MOTOR CO. LTD

DATE 04/02

GVWR 5200 LB

GAWR FR. 2850 LB

WITH P265/70R15 TIRES

15X7.0 RIMS AT 30 PSI

COLD SINGLE

GAWR RR. 2850 LB

WITH P265/70R15 TIRES

15X7.0 RIMS AT 30 PSI

COLD SINGLE

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

5N1ED28Y52C575353

TYPE:MPV 585 7

MODEL: TLPNLEF-EUA 0Z000

COLOR TRIM TRANS

KH3 W F55R30A

AXLE ENGINE

HG46 UG33 3275CC



Figure A-3: Vehicle Certification Label

MFD BY NISSAN MOTOR CO. LTD

DATE 04/02
GVWR 5200 LB
GAWR FR. 2850 LB
WITH P265/70R15 TIRES
15X7.0 RIMS AT 30 PSI
COLD SINGLE
GAWR RR. 2850 LB
WITH P265/70R15 TIRES
15X7.0 RIMS AT 30 PSI
COLD SINGLE

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

5N1ED28Y52C575353

TYPE:MPV	585	7
MODEL:	TLPNLEF-EUA	0Z000
COLOR	TRIM	TRANS
KH3		F55R30A
AXLE	ENGINE	
HG46	UG33	3275CC



Figure A-4: Vehicle Tire Label



Figure A-5: Front View, Pre-Test (Correct NHTSA #M25204)



Figure A-6: Front View, Post-Test (Correct NHTSA #M25204) (Vehicle Moved)



Figure A-7: Left Side View, Pre-Test (Correct NHTSA #M25204)



Figure A-8: Left Side View, Post-Test (Correct NHTSA #M25204)



Figure A-9: Right Side View, Pre-Test (Correct NHTSA #M25204)



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Figure A-10: Right Side View, Post-Test (Correct NHTSA #M25204)



Figure A-11: Right Front View, Pre-Test (Correct NHTSA #M25204)



Figure A-12: Right Front View, Post-Test (Correct NHTSA #M25204)



Figure A-13: Left Rear View, Pre-Test (Correct NHTSA #M25204)



Figure A-14: Left Rear View, Post-Test (Correct NHTSA #M25204)

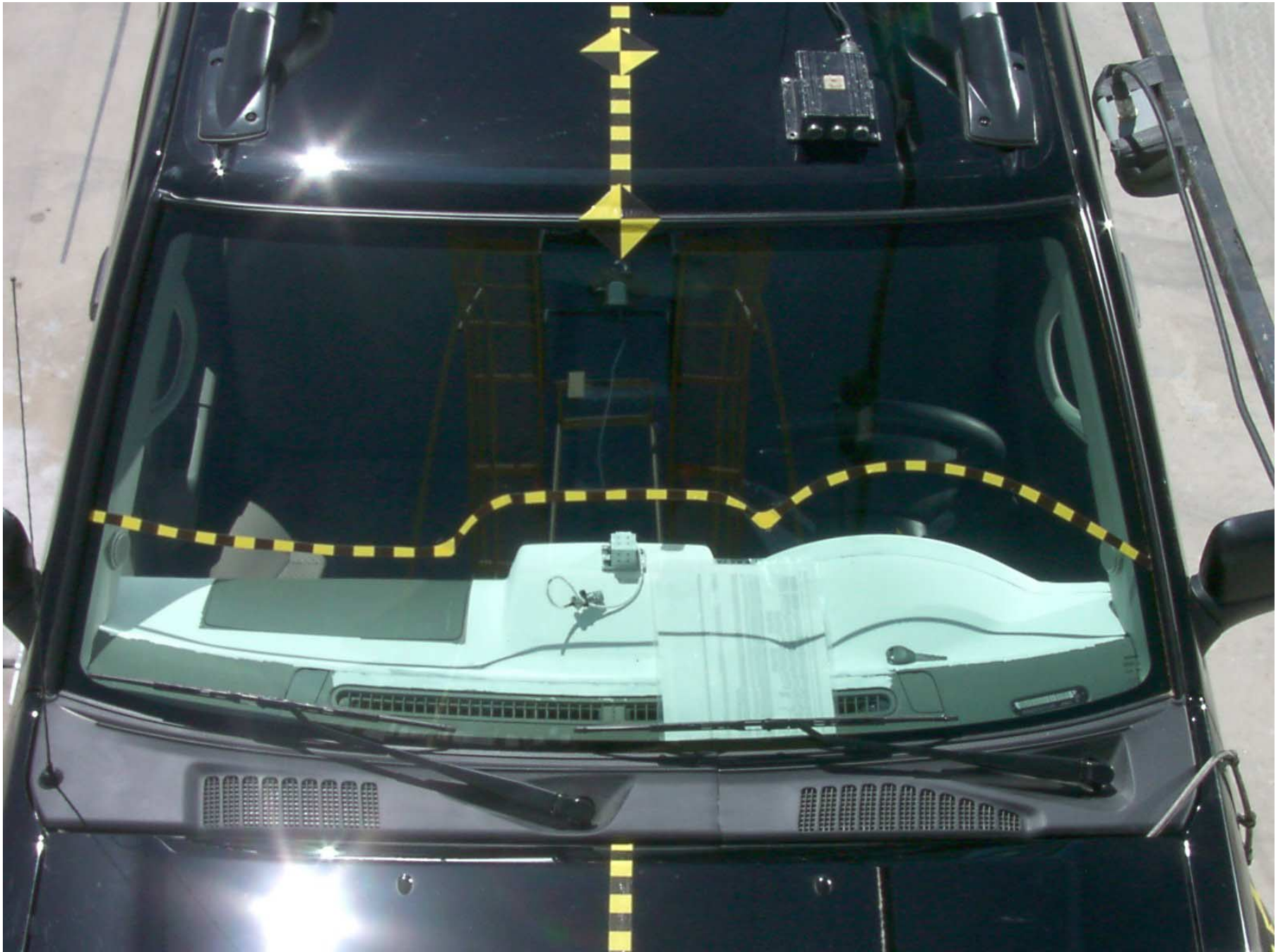


Figure A-15: Windshield, Pre-Test (Correct NHTSA #M25204)



Figure A-16: Windshield, Post-Test (Correct NHTSA #M25204)



Figure A-17: Engine Compartment, Pre-Test (Correct NHTSA #M25204)



Figure A-18: Engine Compartment, Post-Test (Correct NHTSA #M25204) (Vehicle Moved)

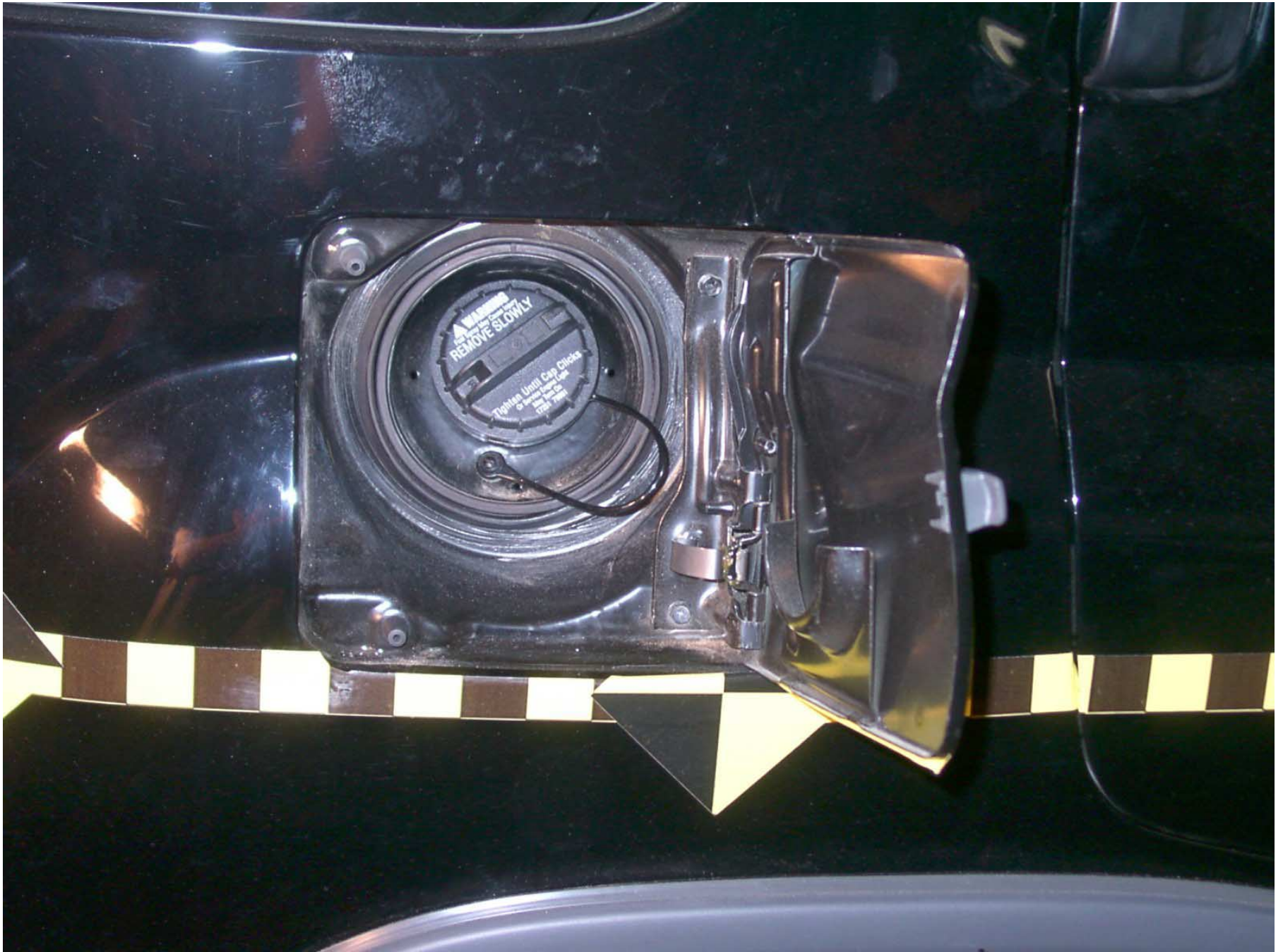


Figure A-19: Fuel Cap, Pre-test (Correct NHTSA #M25204)



Figure A-20: Fuel Cap, Post-Test (Correct NHTSA #M25204)

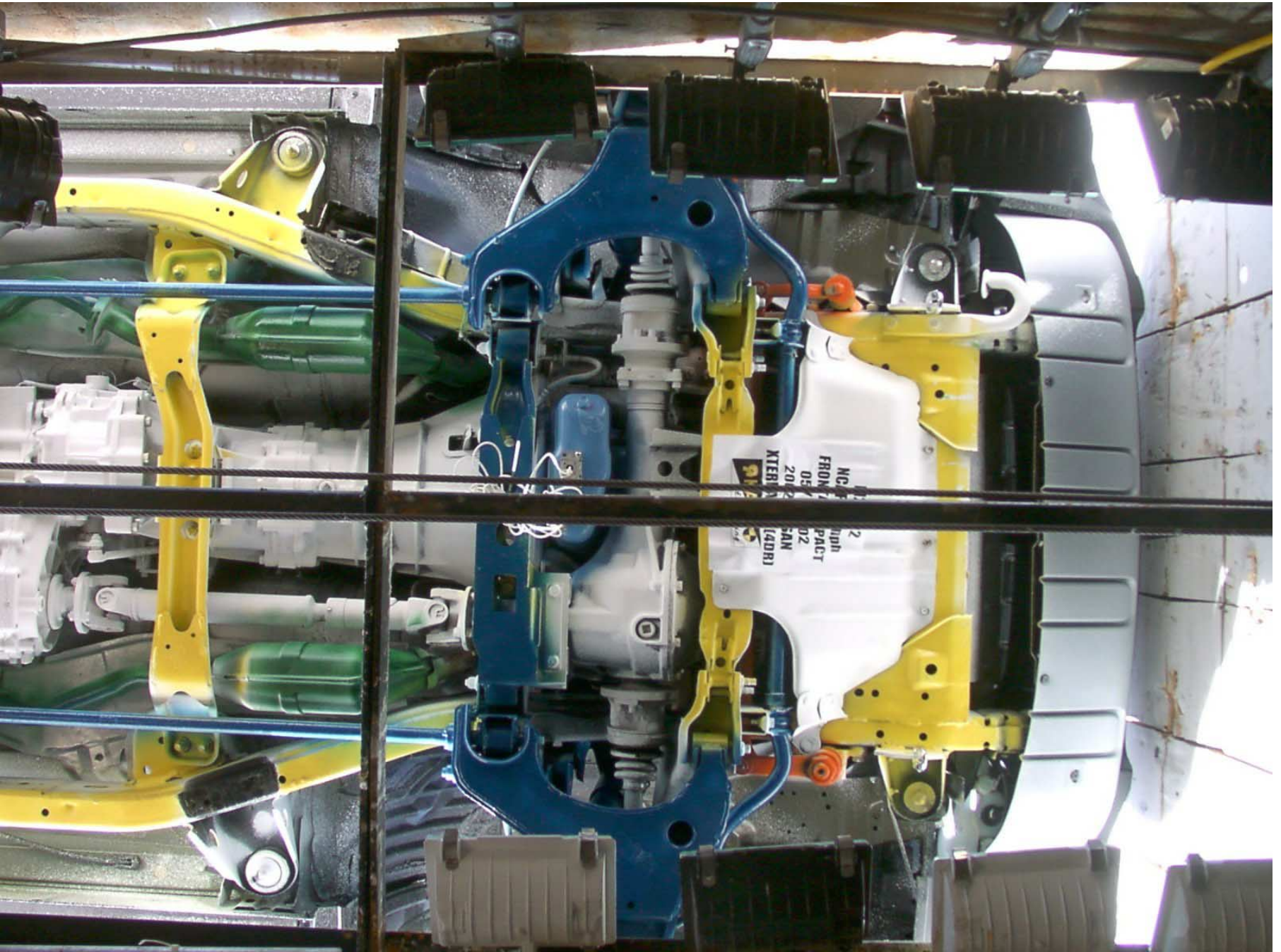


Figure A-21: Front Underside, Pre-Test (Correct NHTSA #M25204)



Figure A-22: Front Underside, Post-Test (Correct NHTSA #M25204) (Vehicle Moved)

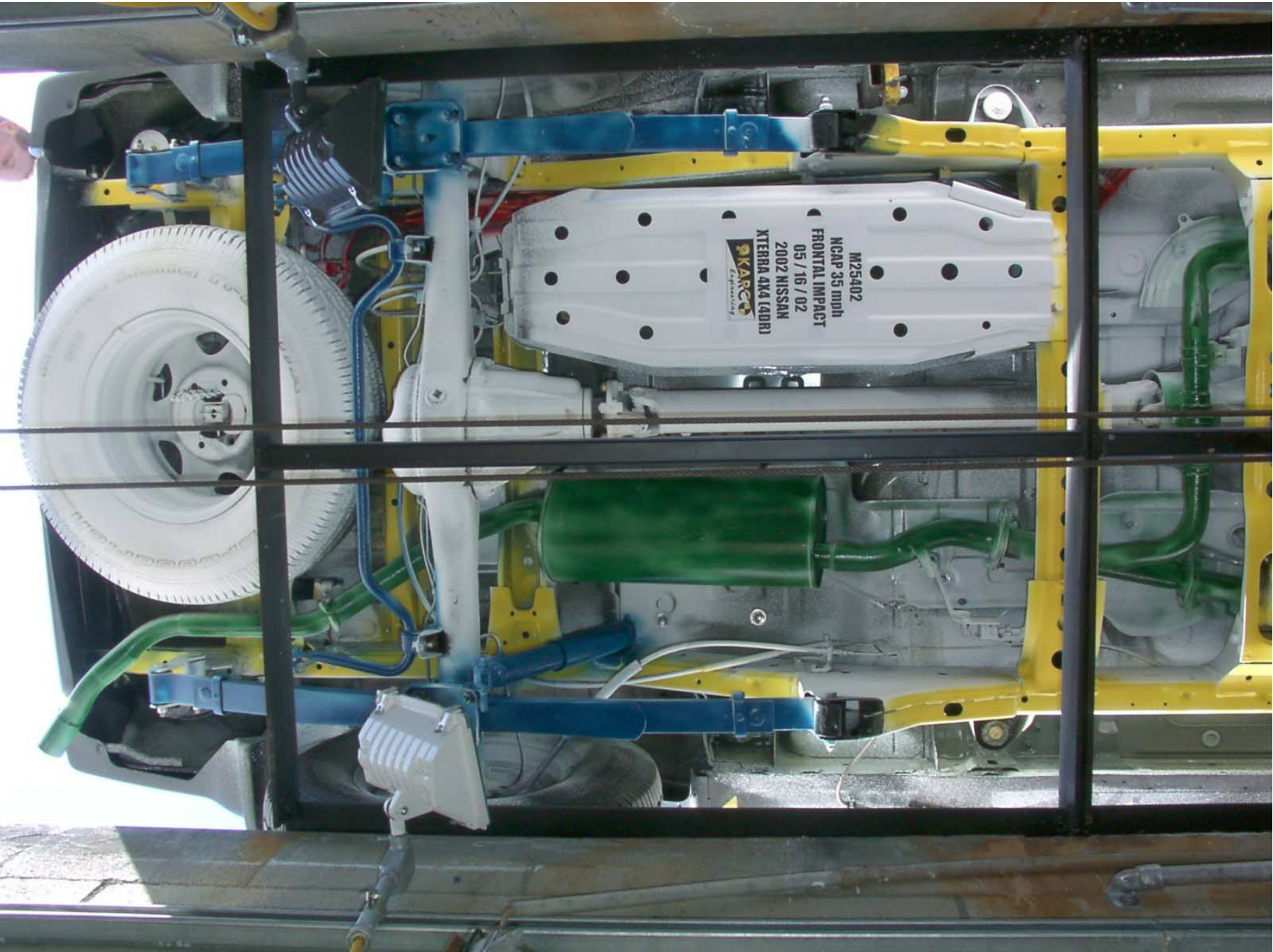


Figure A-23: Rear Underside, Pre-Test (Correct NHTSA #M25204)

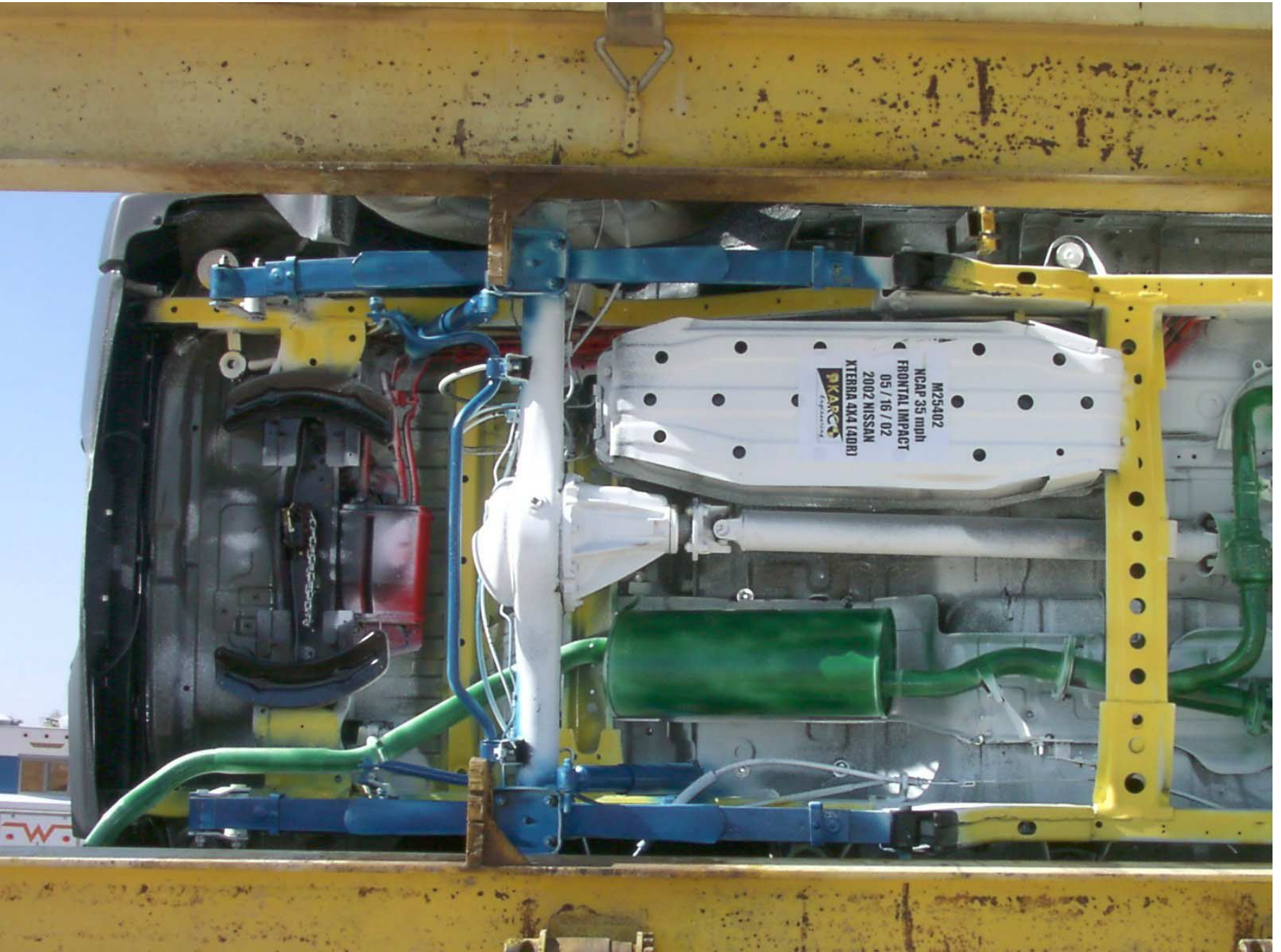


Figure A-24: Rear Underside, Post-Test (Correct NHTSA #M25204) (Vehicle Moved)



Figure A-25: Driver Dummy Front View, Pre-Test (Correct NHTSA #M25204)



Figure A-26: Driver Dummy Front View, Post-Test (Correct NHTSA #M25204)



Figure A-27: Driver Dummy Through Window, Pre-Test (Correct NHTSA #M25204)



Figure A-28: Driver Dummy Through Window, Post-Test (Correct NHTSA #M25204)



Figure A-29: Driver Dummy Door Open, Pre-Test (Correct NHTSA #M25204)



Figure A-30: Driver Dummy Door Open, Post-Test (Correct NHTSA #M25204)



Figure A-31: Driver Dummy 90° To Vehicle, Pre-Test (Correct NHTSA #M25204)



Figure A-32: Driver Dummy 90° To Vehicle, Post-Test (Correct NHTSA #M25204)



Figure A-33: Driver Dummy Feet, Pre-Test (Correct NHTSA #M25204)



Figure A-34: Driver Dummy Feet and Knee Contact, Post-Test (Correct NHTSA #M25204)



Figure A-35: Driver Side Knee Bolster, Pre-Test (Correct NHTSA #M25204)



Figure A-36: Driver Side Knee Bolster, Post-Test (Correct NHTSA #M25204)



Figure A-37: Driver Side Floor Pan, Pre-Test (Correct NHTSA #M25204)



Figure A-38: Driver Side Floor Pan, Post-Test (Correct NHTSA #M25204)



Figure A-39: Driver Dummy Head, Post-Test (Correct NHTSA #M25204)



Figure A-40: Driver Dummy Contact, Post-Test (Correct NHTSA #M25204)

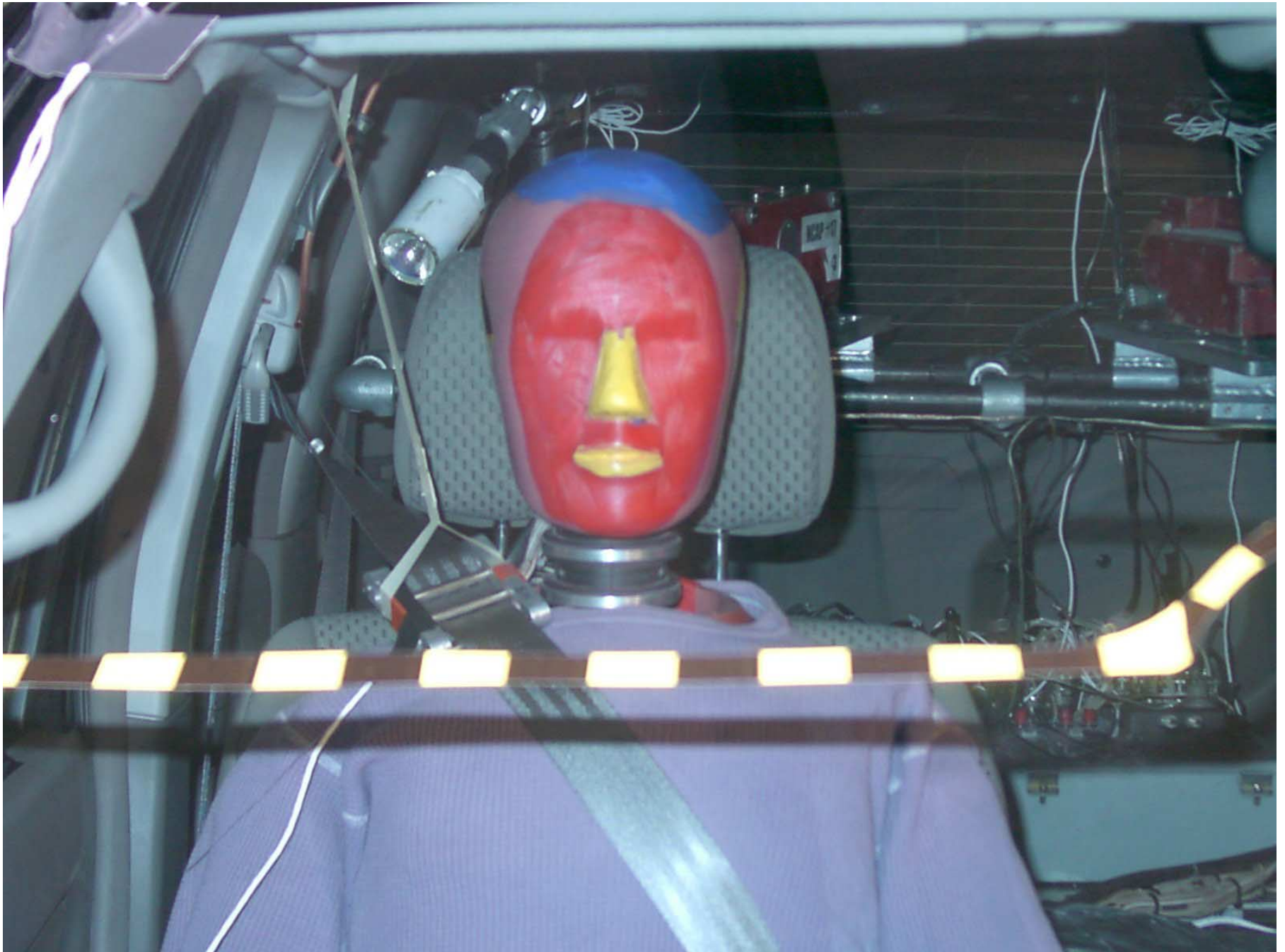


Figure A-41: Passenger Dummy Front View, Pre-Test (Correct NHTSA #M25204)



Figure A-42: Passenger Dummy Front View, Post-Test (Correct NHTSA #M25204)



Figure A-43: Passenger Dummy Through Window, Pre-Test (Correct NHTSA #M25204)



Figure A-44: Passenger Dummy Through Window, Post-Test (Correct NHTSA #M25204)



Figure A-45: Passenger Dummy Door Open, Pre-Test (Correct NHTSA #M25204)



Figure A-46: Passenger Dummy Door Open, Post-Test (Correct NHTSA #M25204)

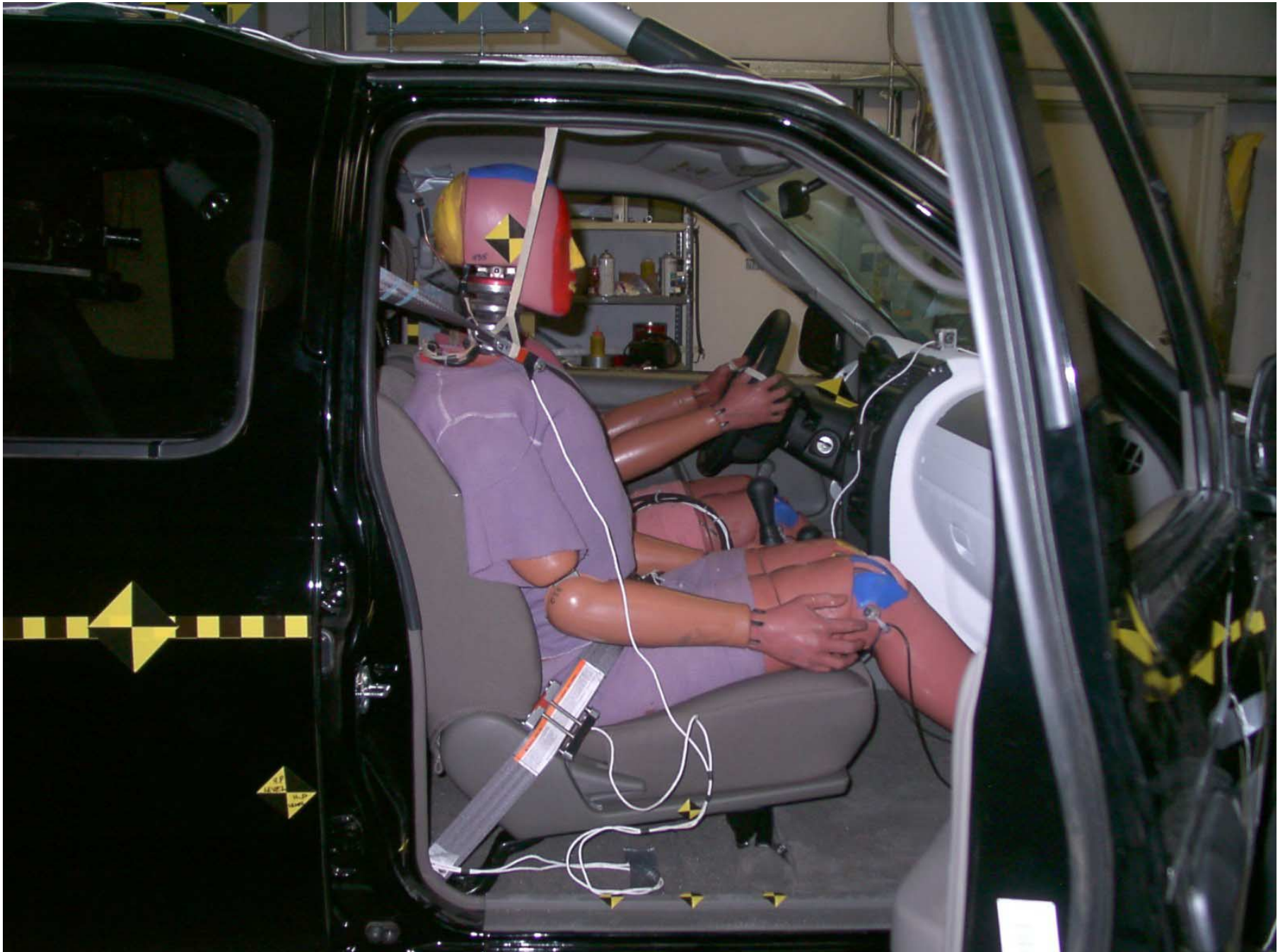


Figure A-47: Passenger Dummy 90° To Vehicle, Pre-Test (Correct NHTSA #M25204)



Figure A-48: Passenger Dummy 90° To Vehicle, Post-Test (Correct NHTSA #M25204)



Figure A-49: Passenger Dummy Feet, Pre-Test (Correct NHTSA #M25204)

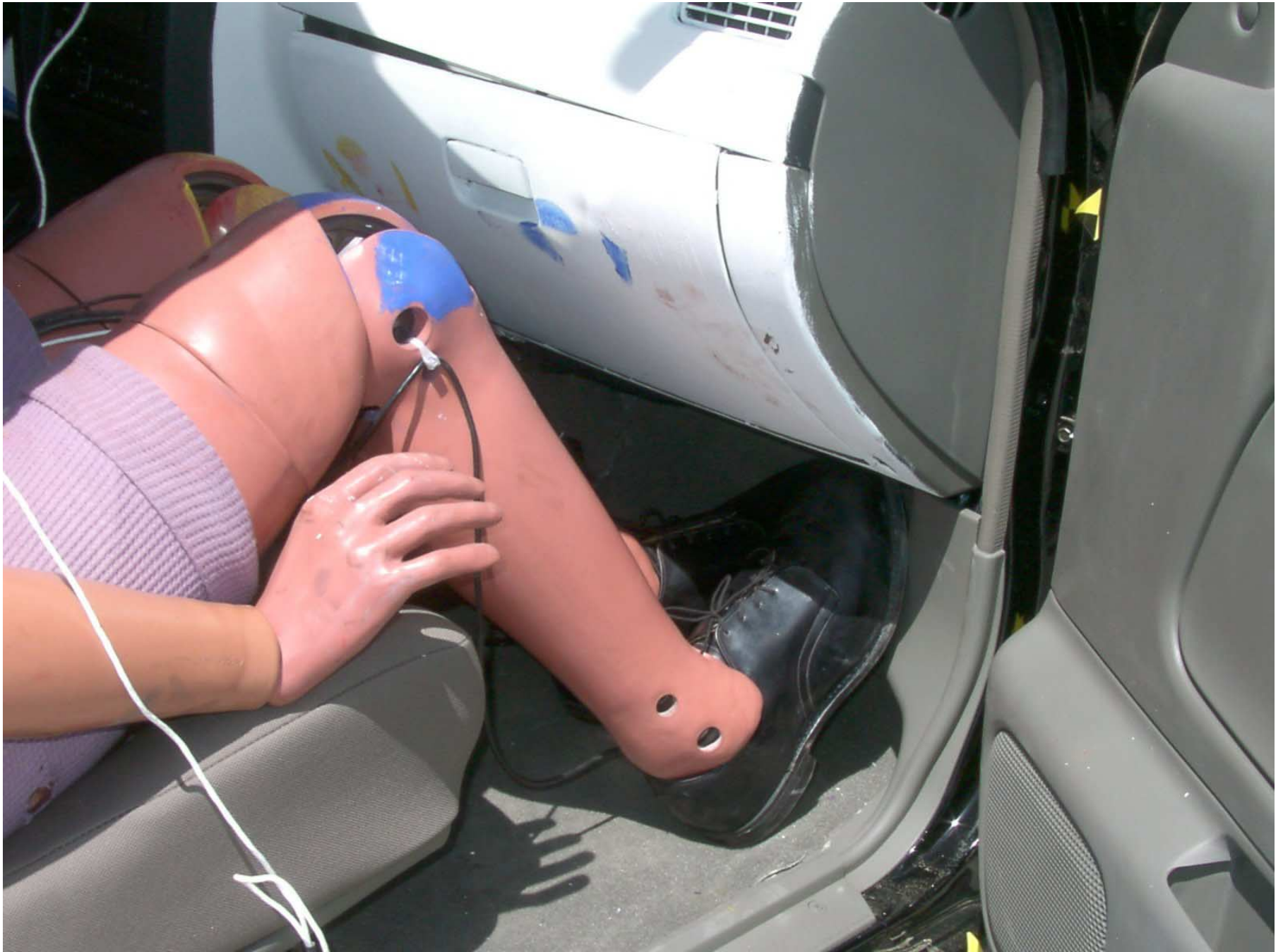


Figure A-50: Passenger Dummy Feet and Knee Contact, Post-Test (Correct NHTSA #M25204)



Figure A-51: Passenger Side Floor Pan, Pre-Test (Correct NHTSA #M25204)



Figure A-52: Passenger Side Floor Pan, Post-Test (Correct NHTSA #M25204)



Figure A-53: Passenger Side Knee Bolster, Pre-Test (Correct NHTSA #M25204)



Figure A-54: Passenger Side Knee Bolster, Post-Test (Correct NHTSA #M25204)



Figure A-55: Passenger Head, Post-Test (Correct NHTSA #M25204)



Figure A-56: Passenger Dummy Contact, Post-Test (Correct NHTSA #M25204)



Figure A-57: ¾ Left Rear View of Doors Closed After Impact (Correct NHTSA #M25204)



Figure A-58: ³/₄Right Rear View of Doors Closed After Impact (Correct NHTSA #M25204)



Figure A-59: Vehicle on Rollover Device (Correct NHTSA #M25204) (Vehicle Moved)



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Figure A-60: Vehicle During Impact (Correct NHTSA #M25204)

APPENDIX B

DATA PLOTS

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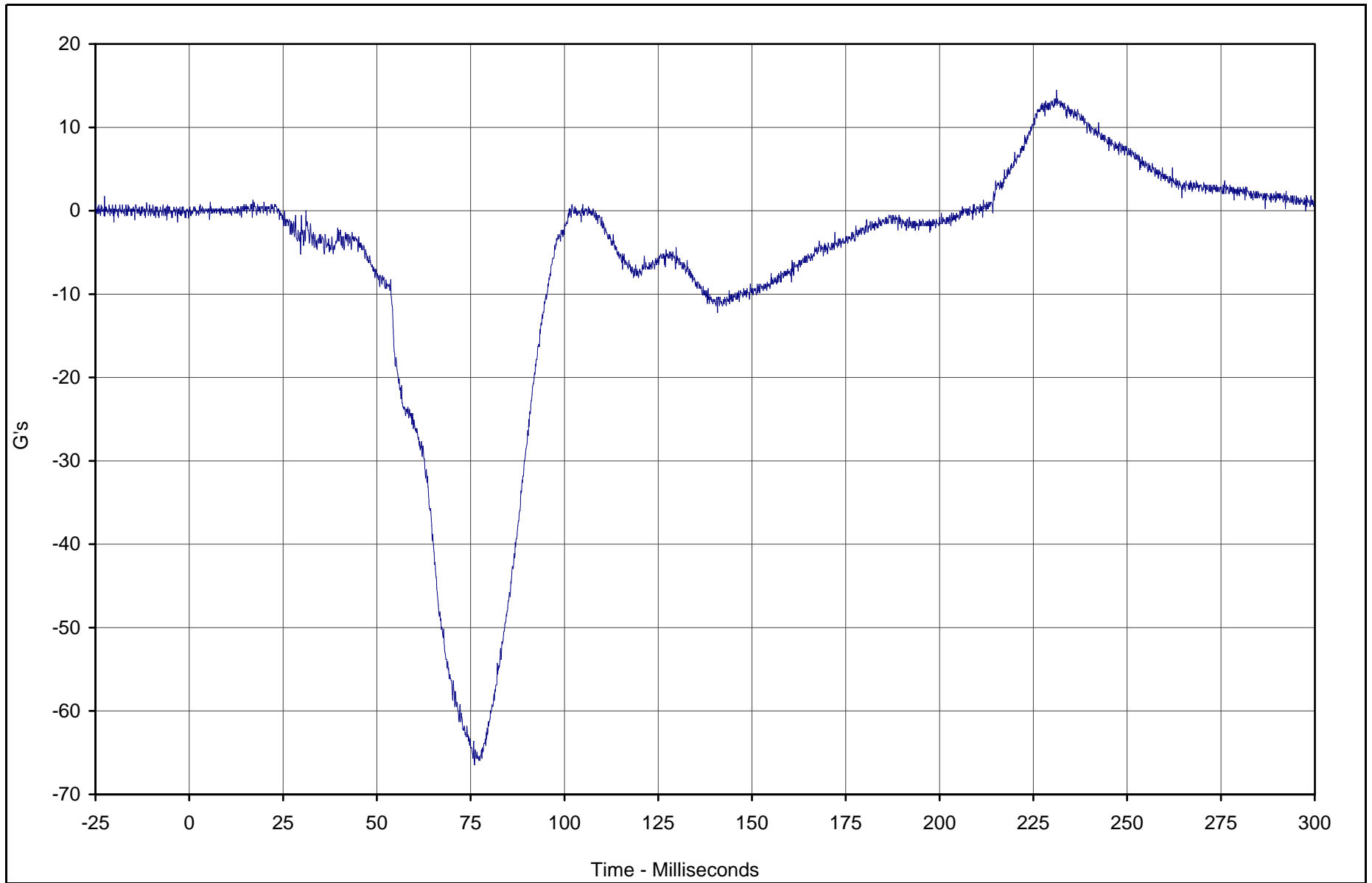
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B-1



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X	001	FIL	G's	14.5	231.2	-66.5	76.1	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

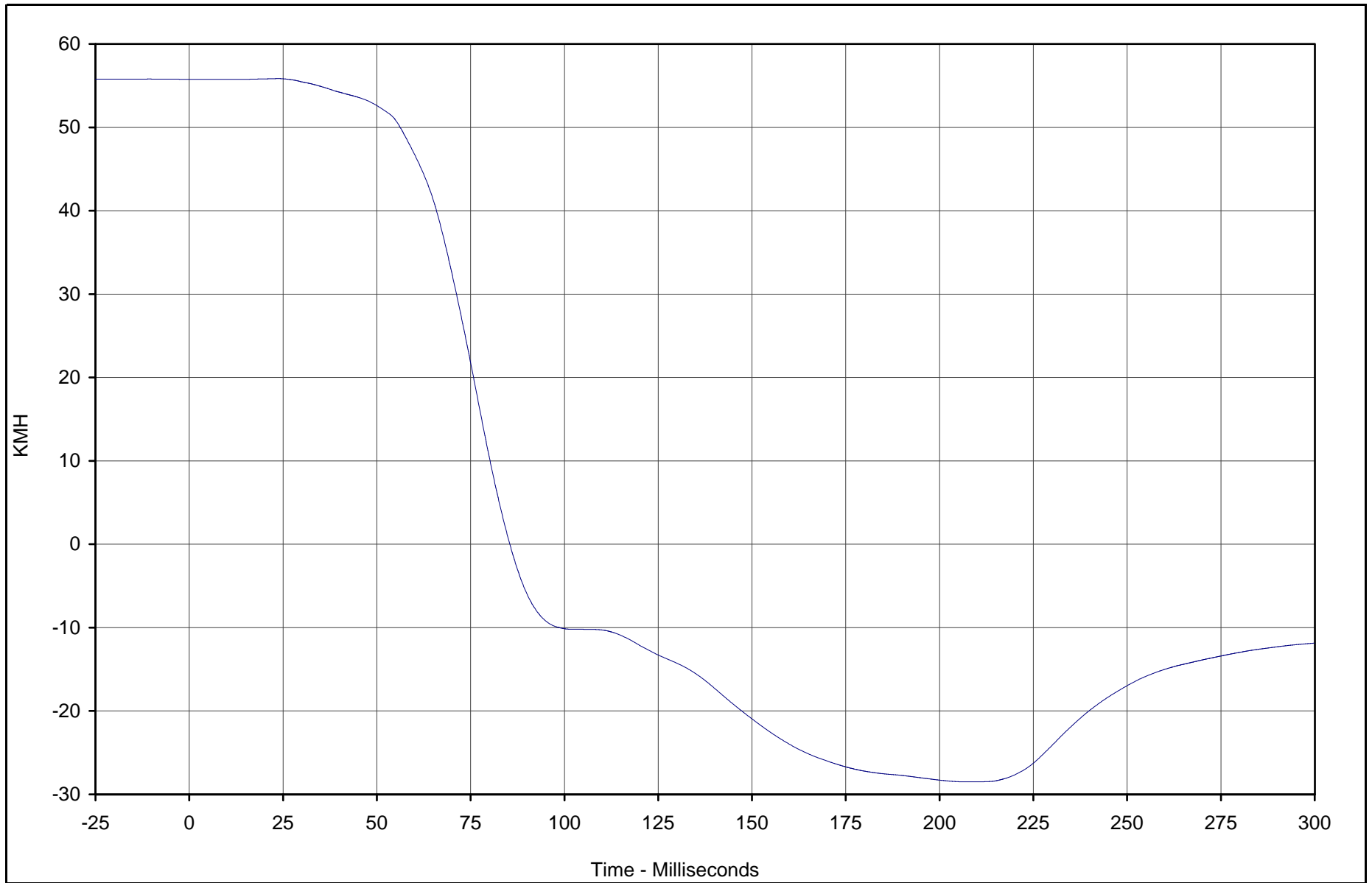
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-2



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X Velocity	001	IN1	KMH	55.8	23.7	-28.5	208.9	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

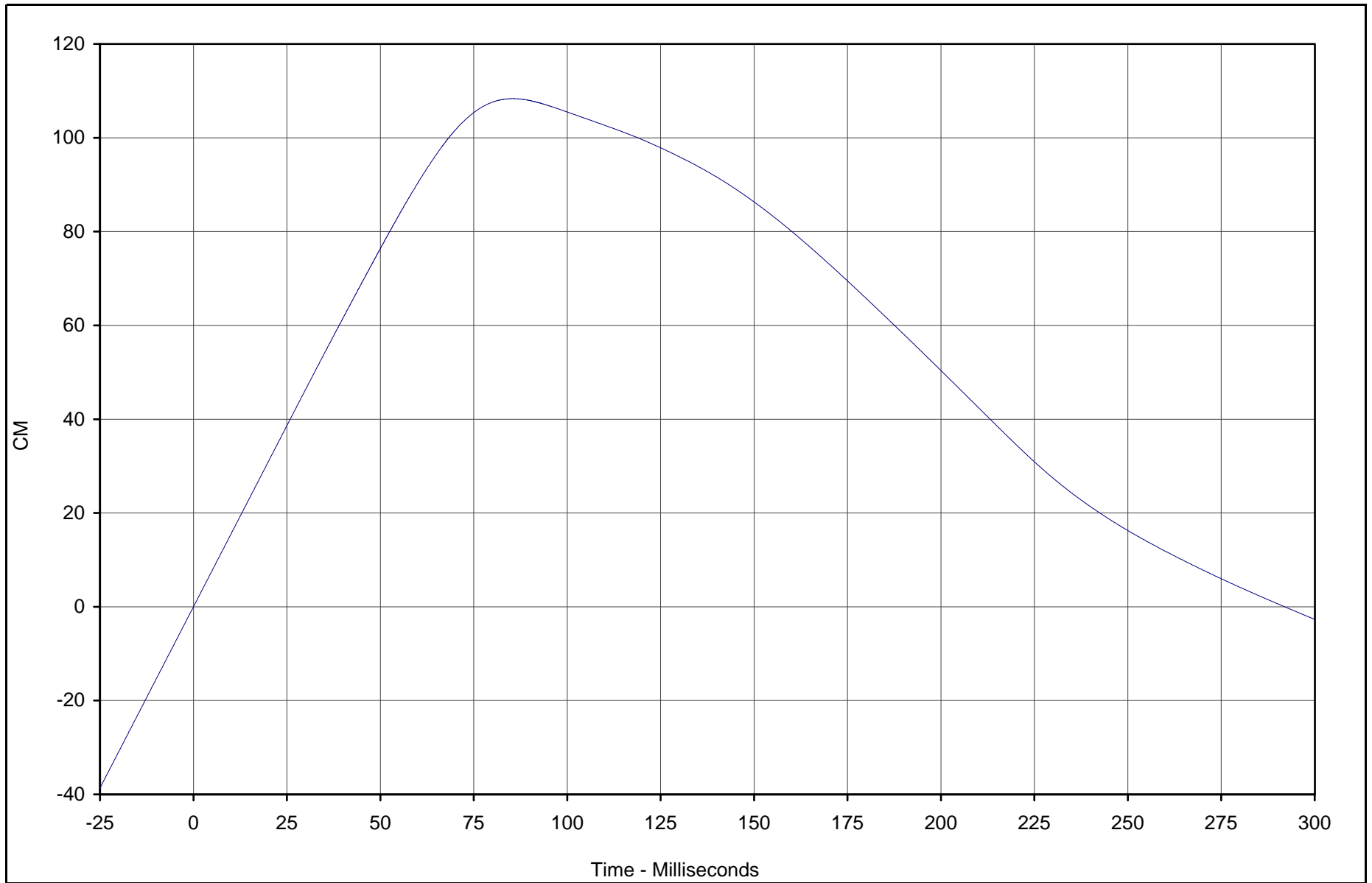
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-3



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X Displ.	001	IN2	CM	108.3	85.4	-2.6	299.9	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

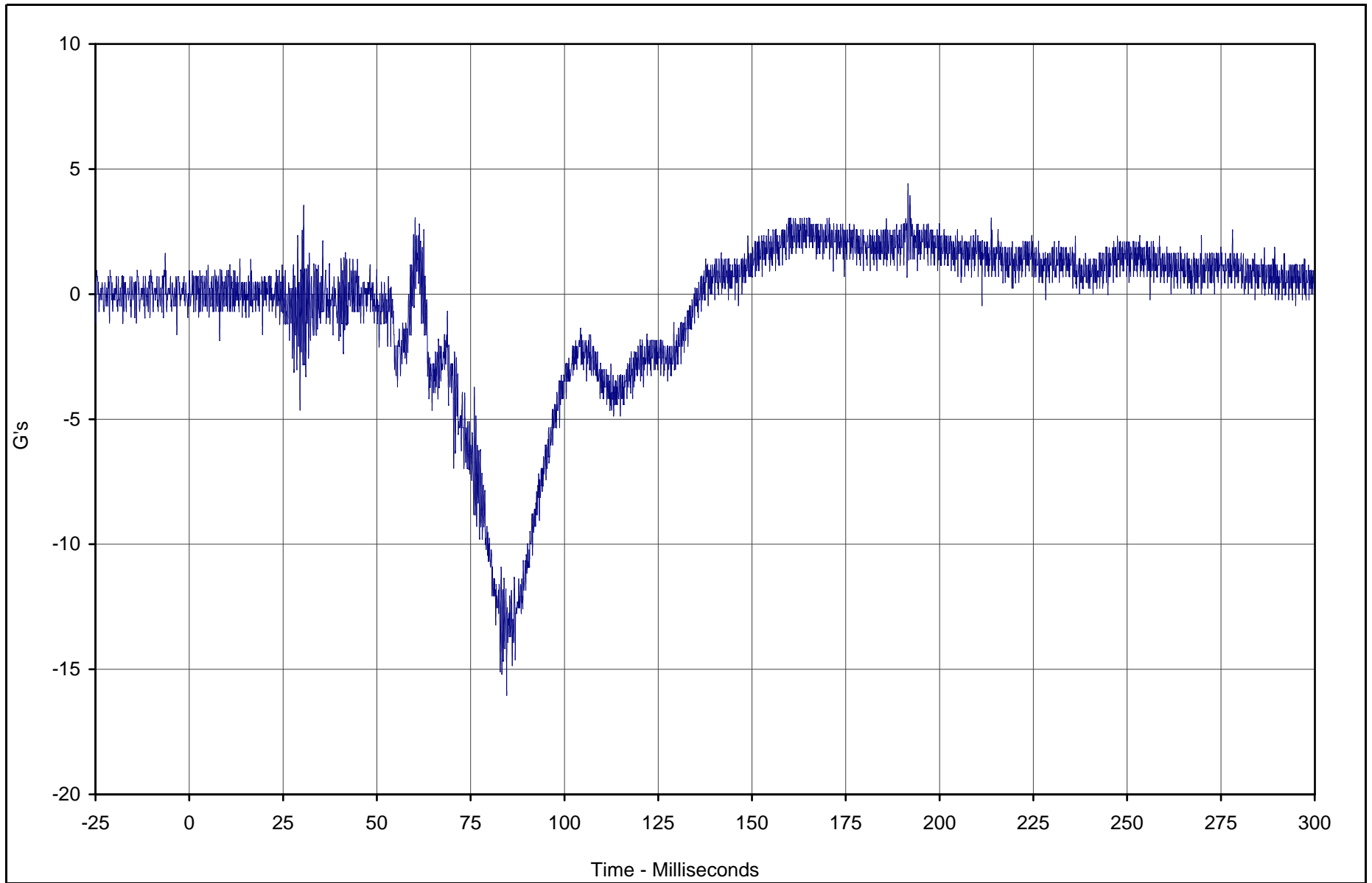
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-4



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Y	002	FIL	G's	4.4	191.6	-16.0	84.6	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

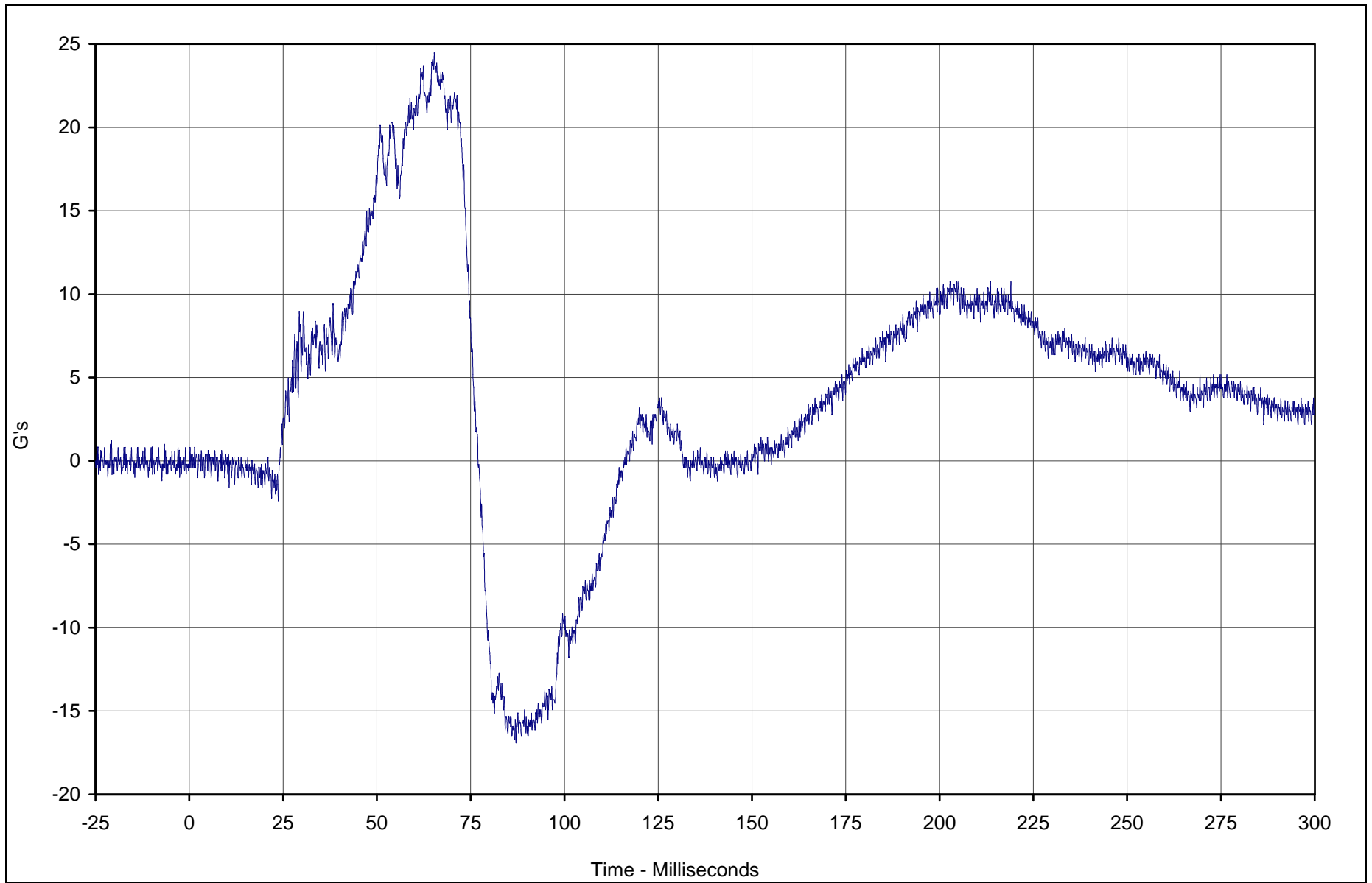
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-5



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Z	003	FIL	G's	24.5	65.3	-16.9	87.1	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

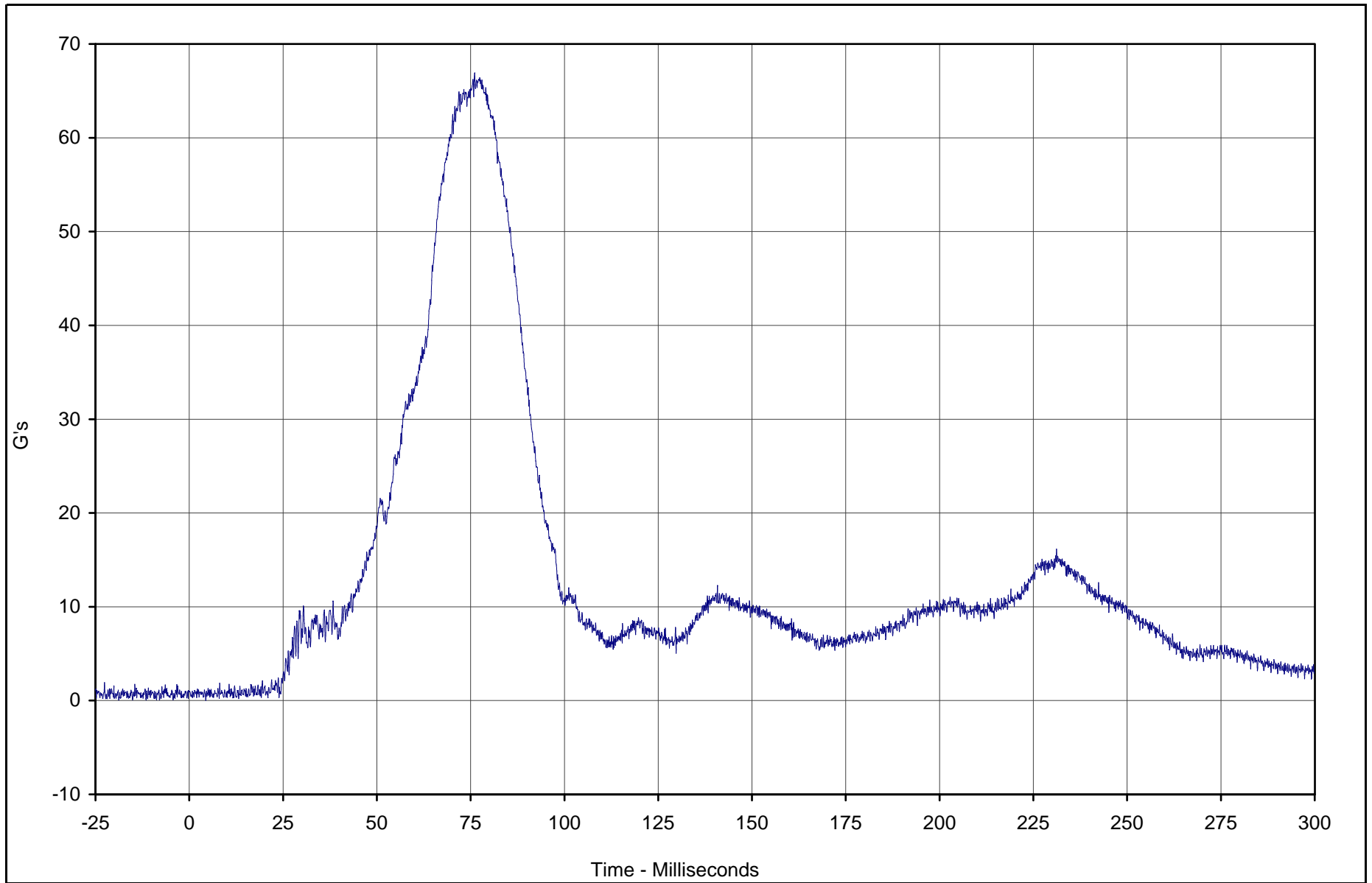
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-6



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Resultant Primary	001	RES	G's	66.9	76.1	0.0	4.4	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

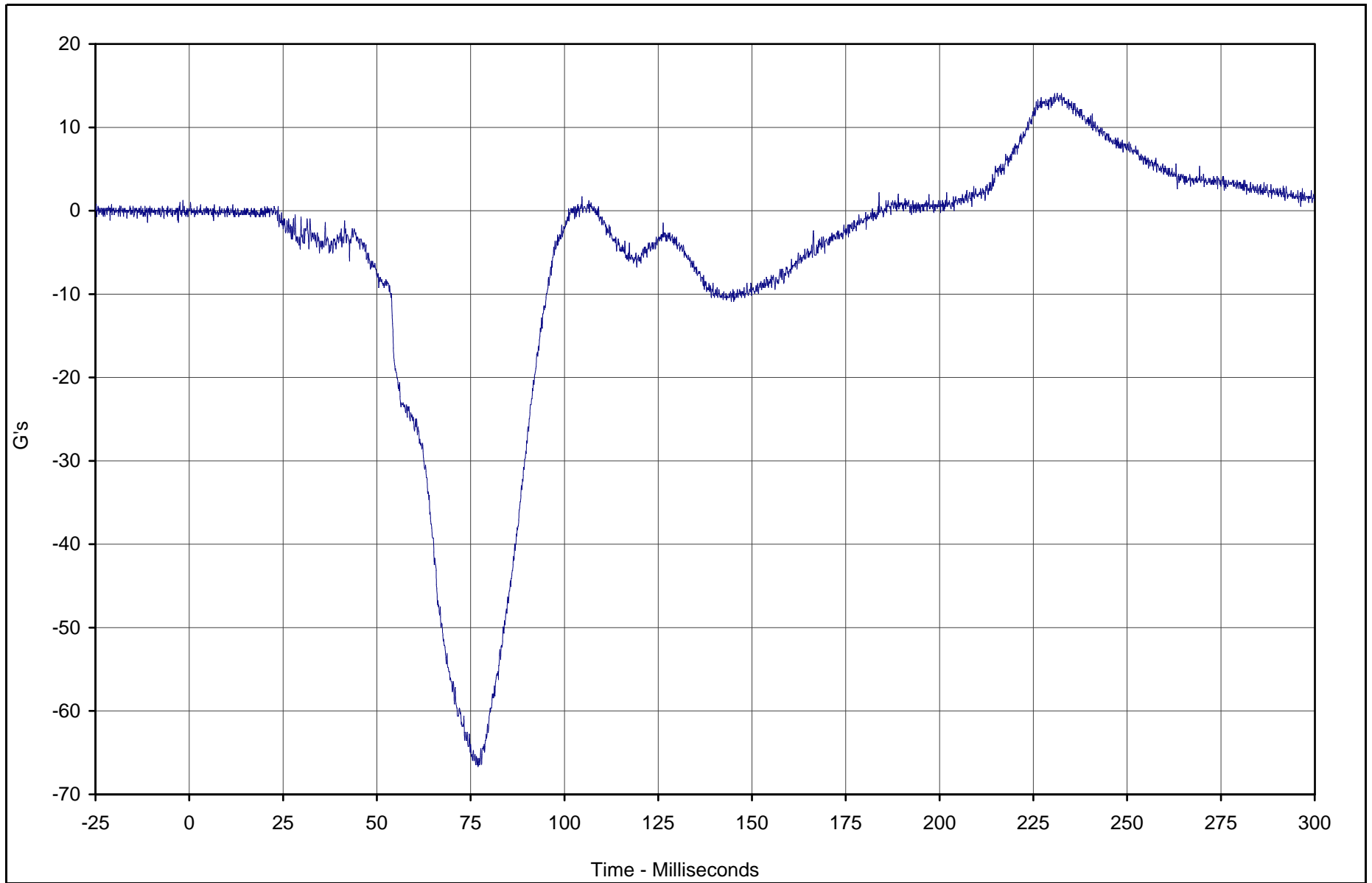
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-7



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X	004	FIL	G's	14.1	230.7	-66.7	77.0	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

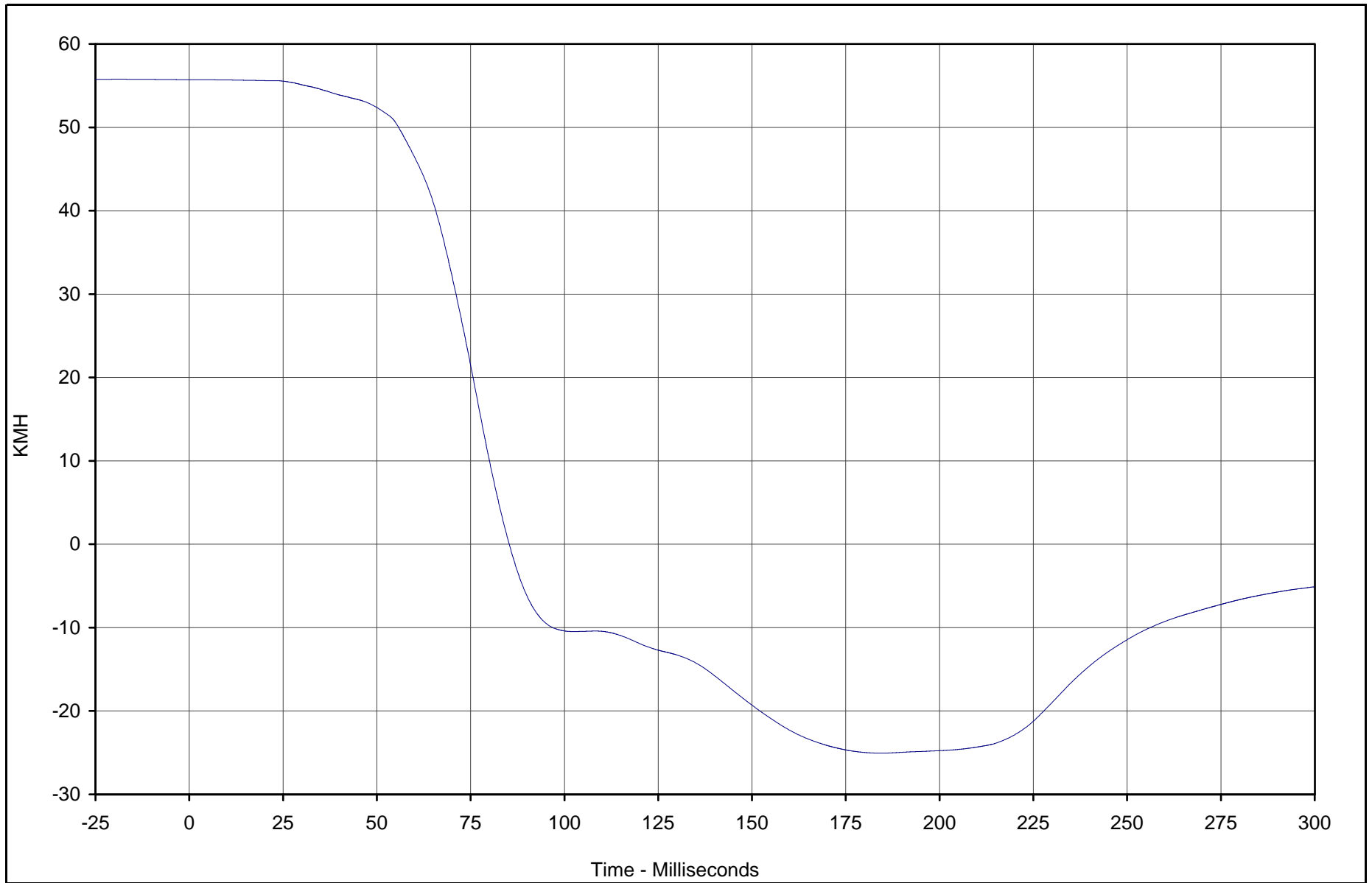
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-8



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X Velocity	004	IN1	KMH	55.7	0.8	-25.1	183.7	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

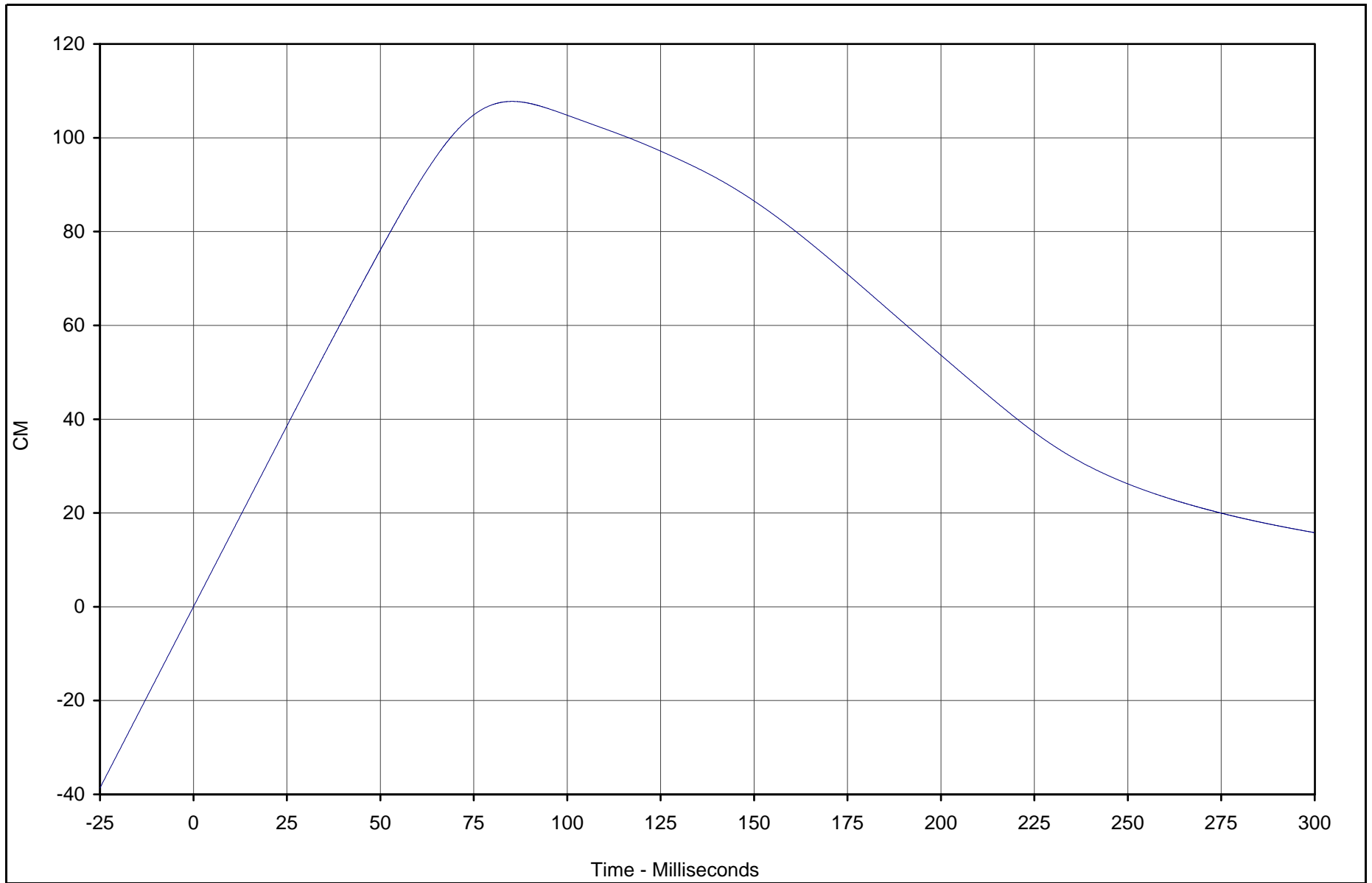
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-9



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X Displ.	004	IN2	CM	107.8	85.3	0.0	0.0	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

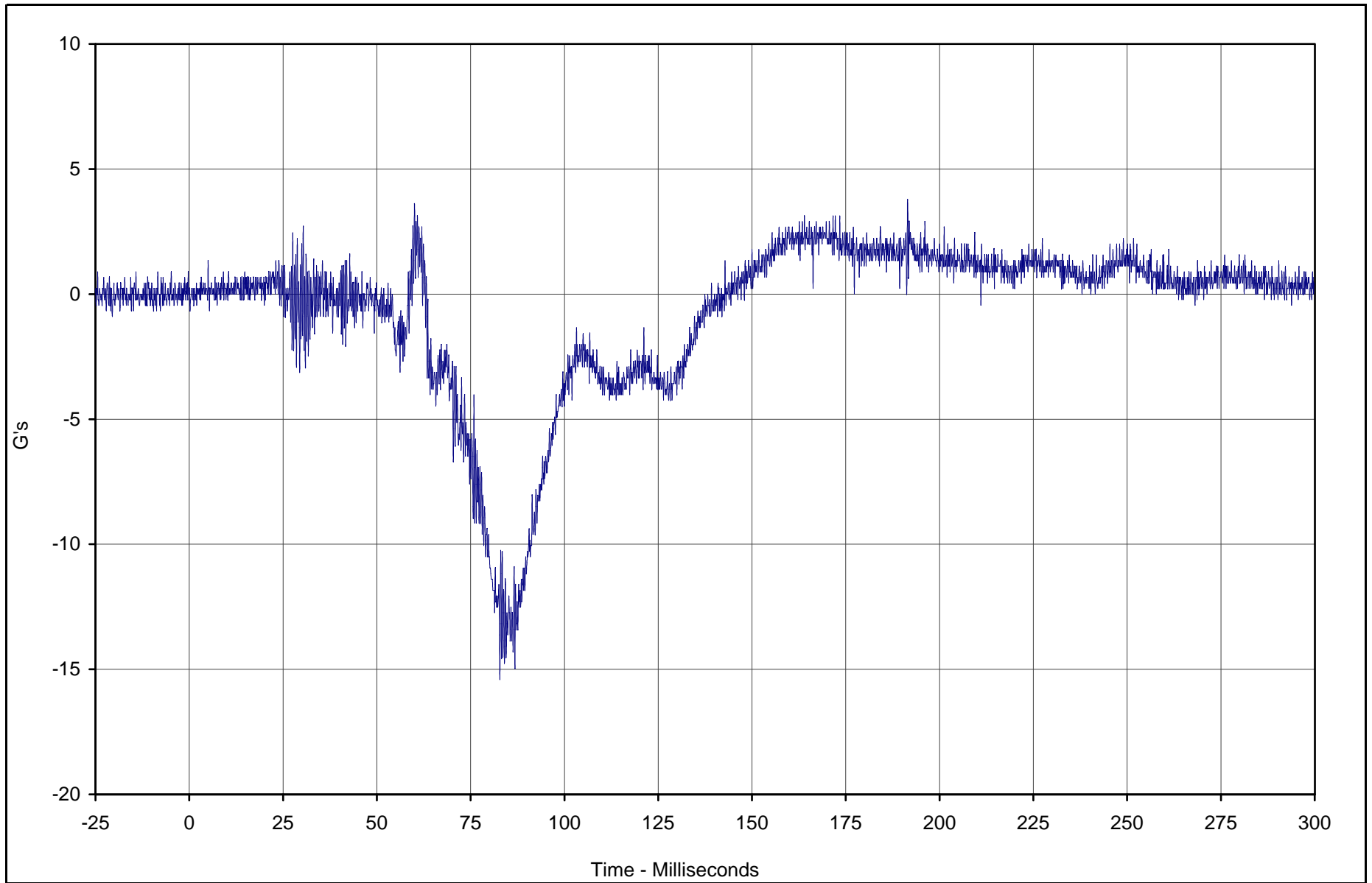
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-10



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant Y	005	FIL	G's	3.8	191.5	-15.4	82.8	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

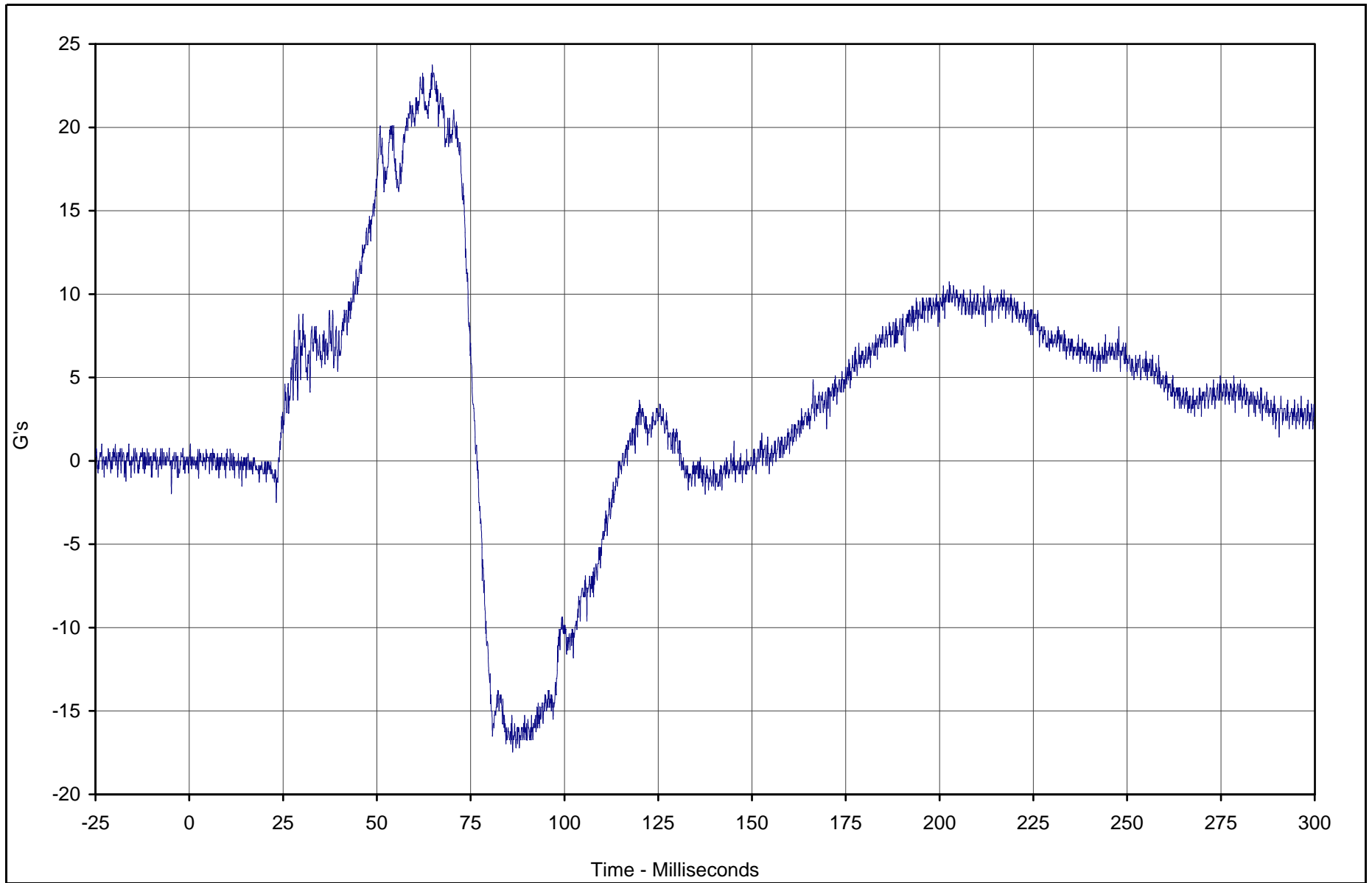
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-11



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant Z	006	FIL	G's	23.8	64.8	-17.5	86.2	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

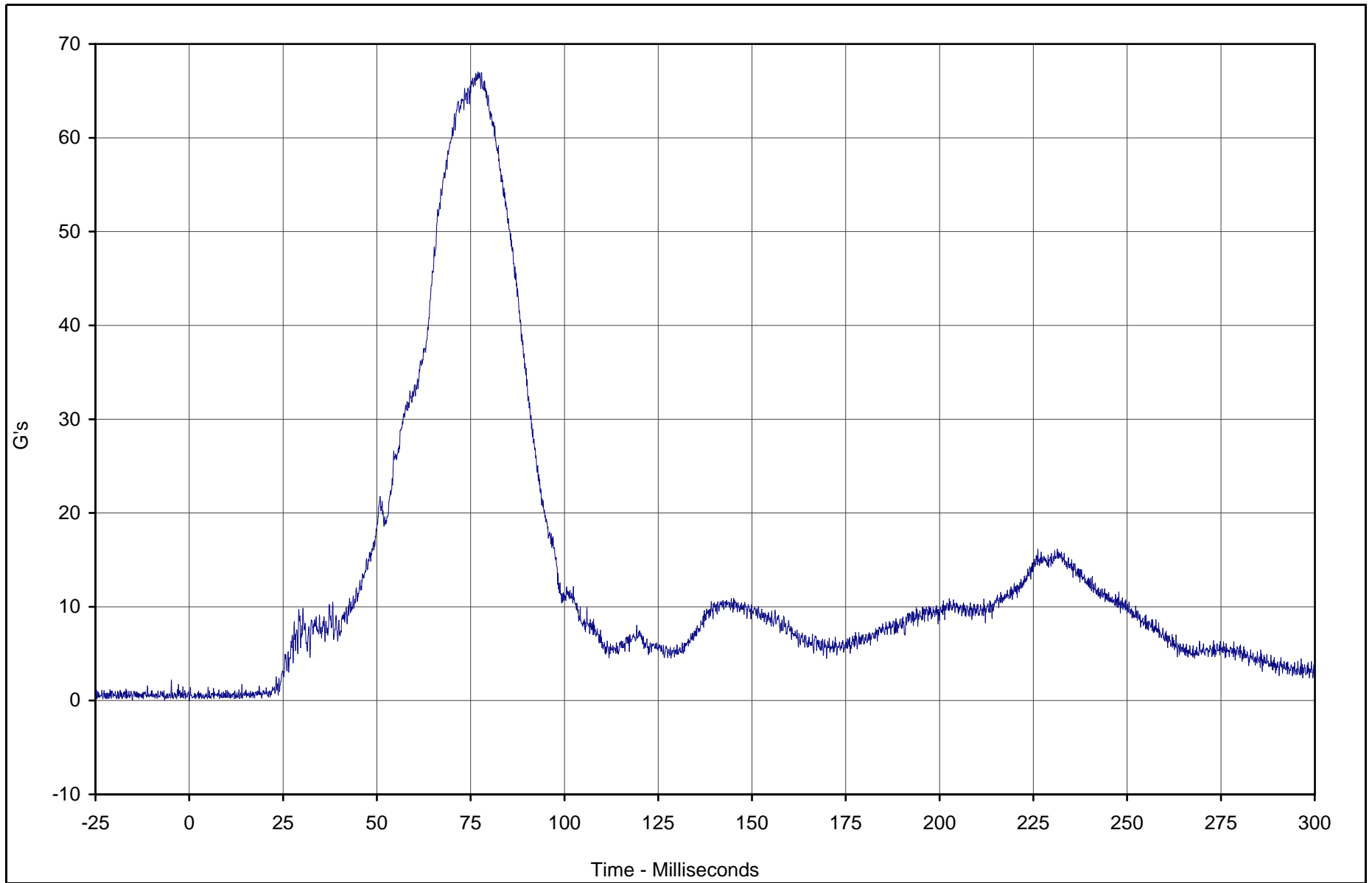
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-12



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Resultant Redundant	004	RES	G's	67.0	77.0	0.0	0.0	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

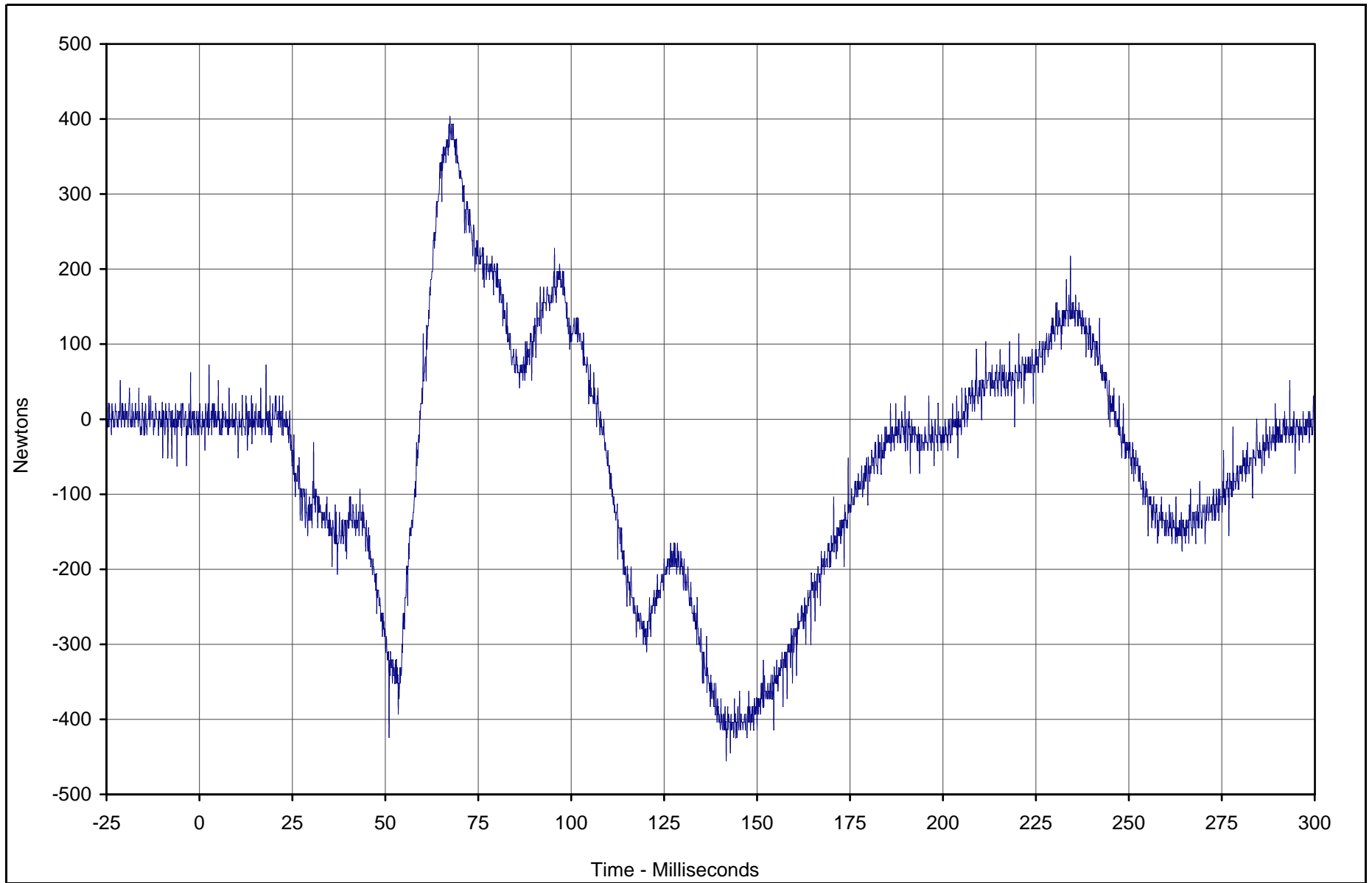
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-13



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force X	007	FIL	Newtons	403.7	67.4	-455.4	141.7	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

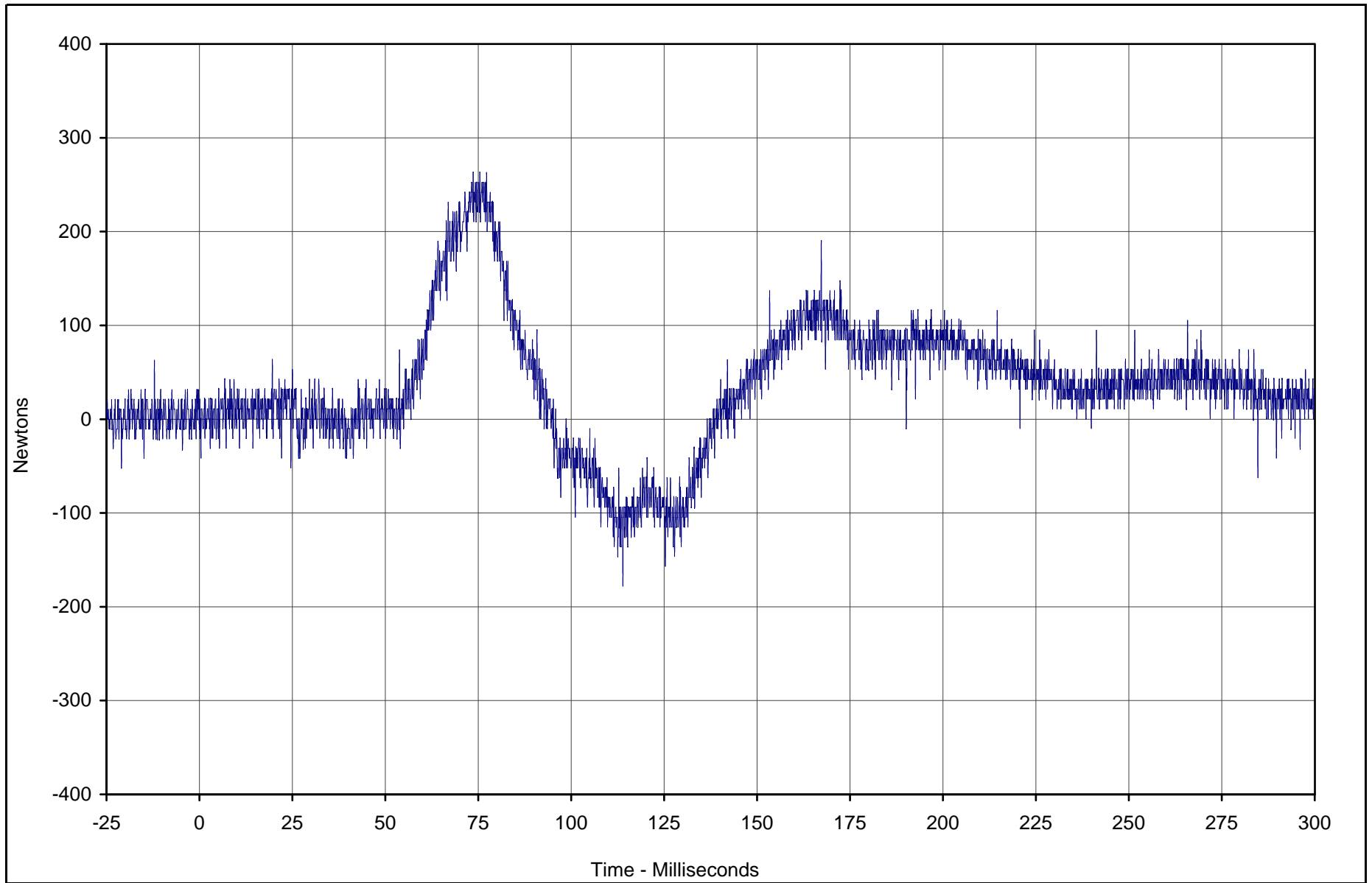
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-14



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Y	008	FIL	Newtons	263.0	73.6	-178.0	113.9	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

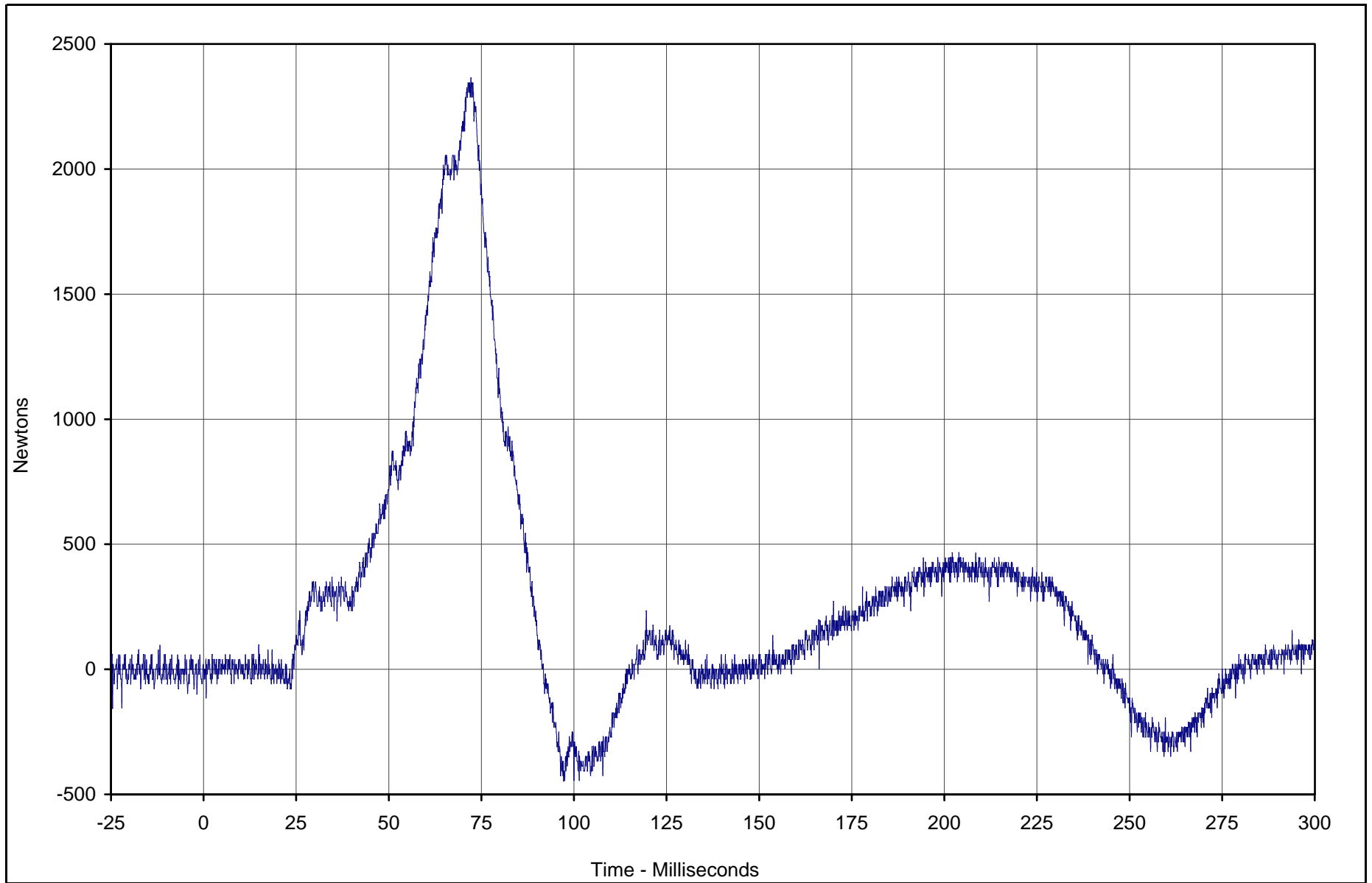
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-15



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Z	009	FIL	Newtons	2364.8	72.2	-445.1	97.2	1000



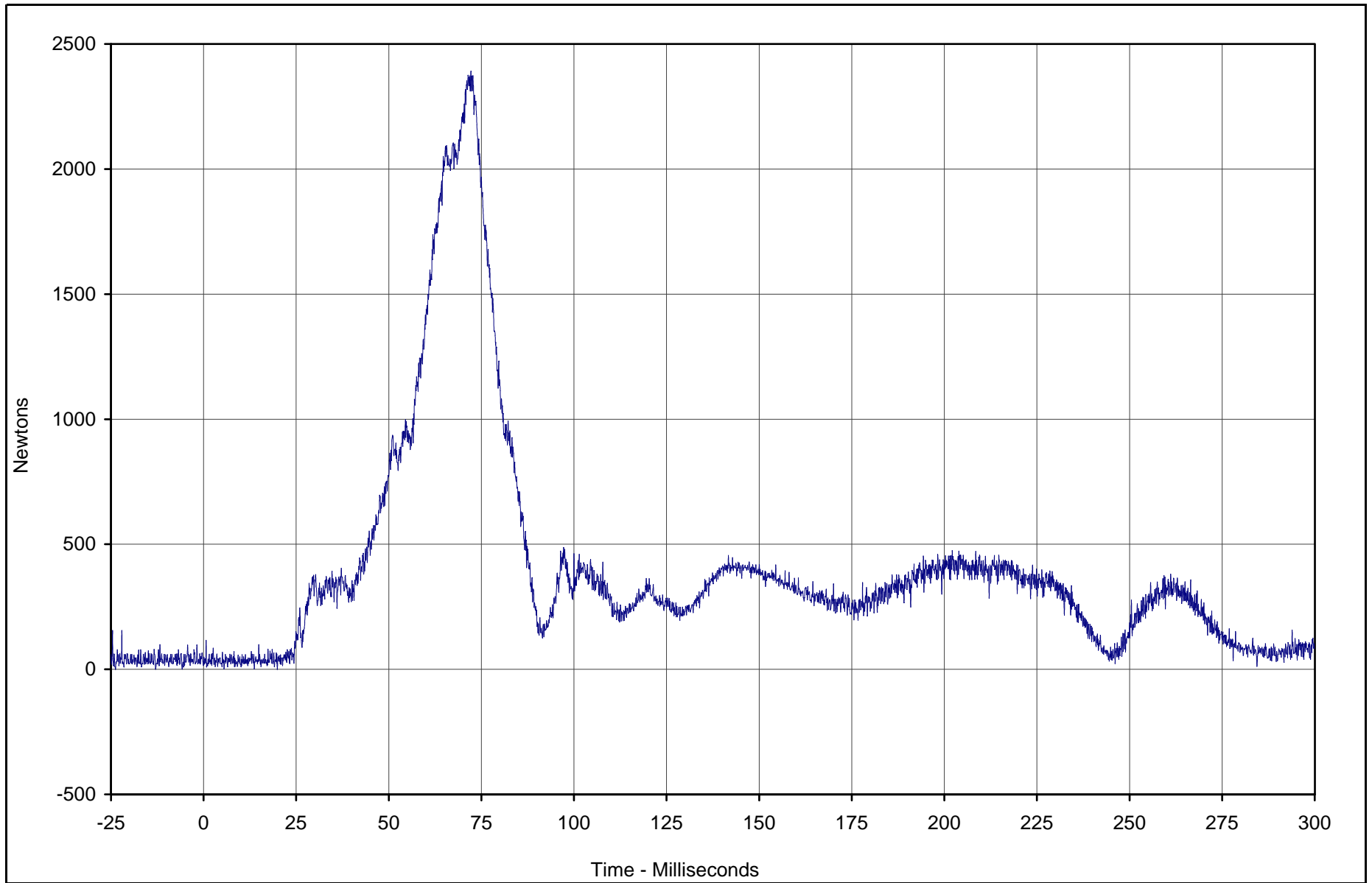
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Resultant	007	RES	Newtons	2390.5	72.2	0.8	5.5	1000



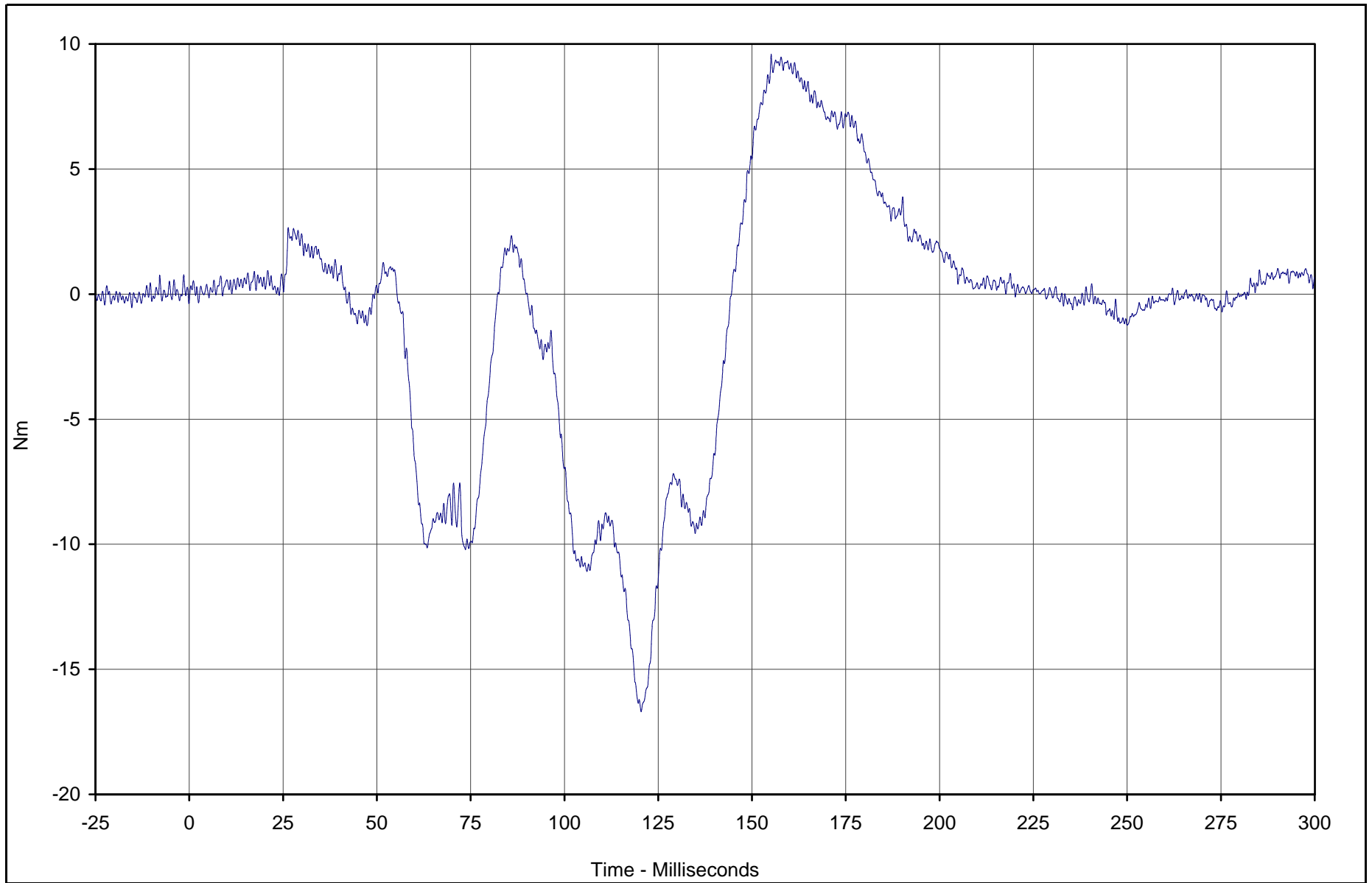
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-17



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment X	010	FIL	Nm	9.6	155.1	-16.7	120.4	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

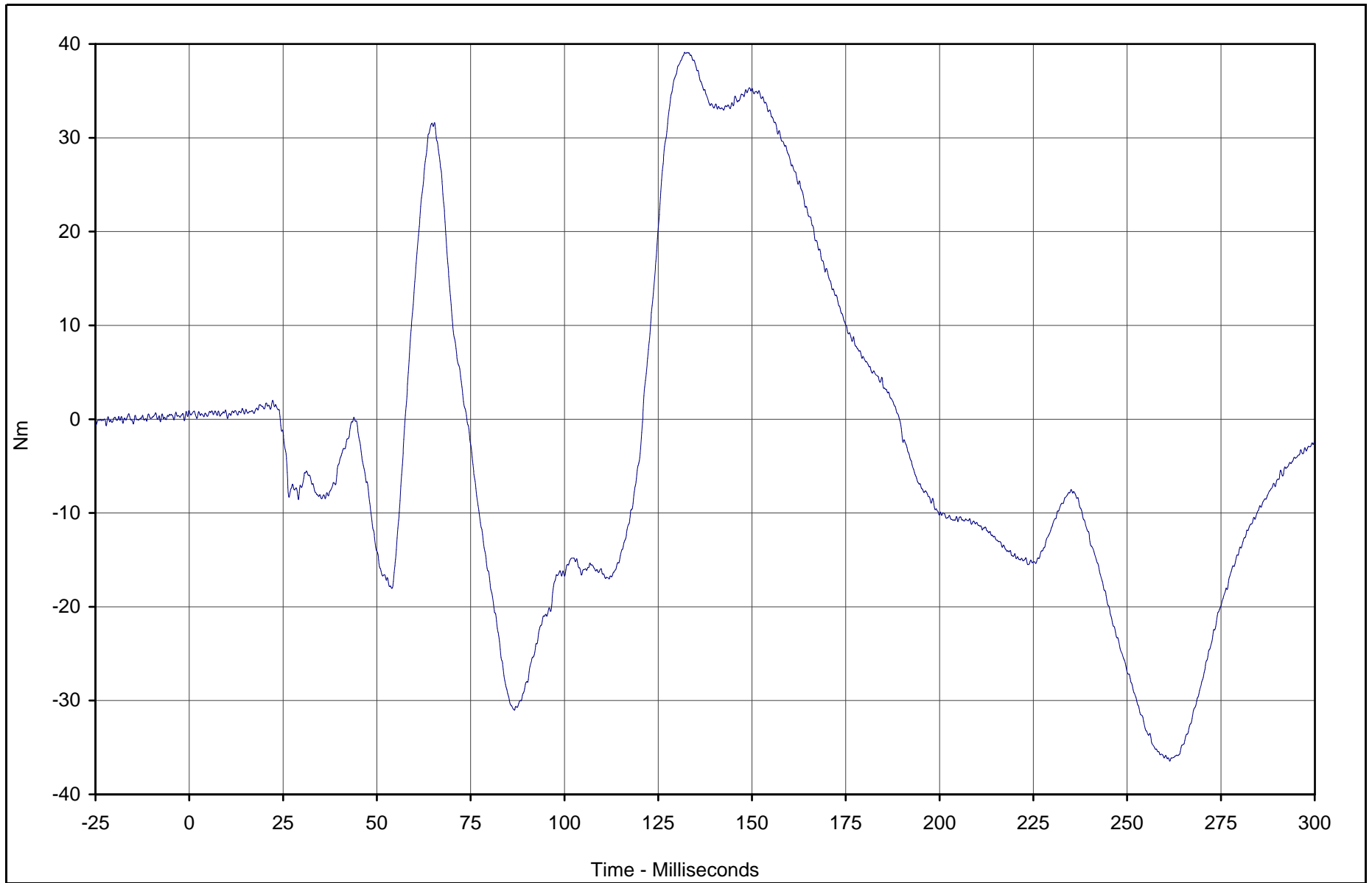
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-18



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Y	011	FIL	Nm	39.1	132.1	-36.5	261.4	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

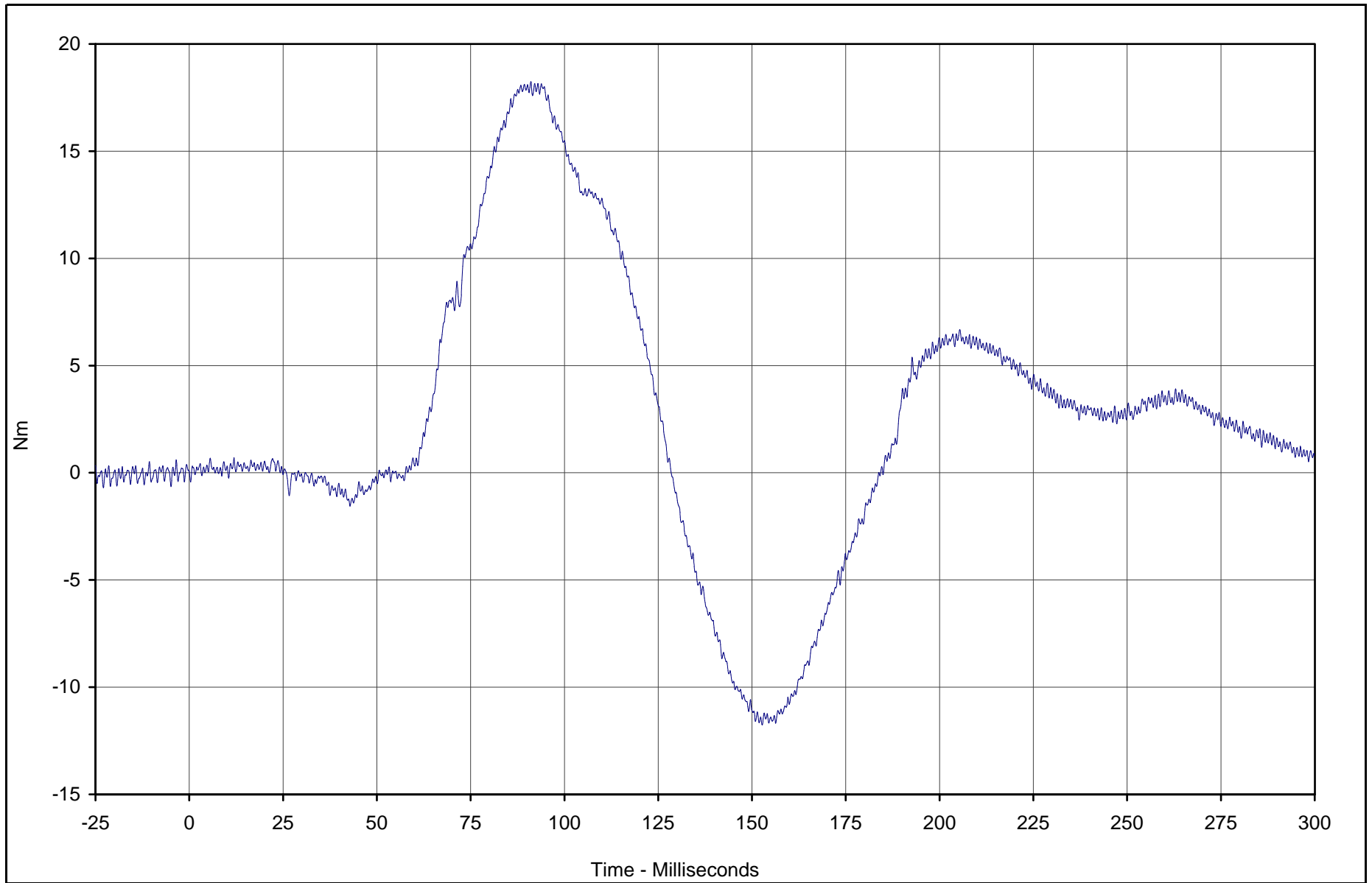
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-19



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Z	012	FIL	Nm	18.2	91.0	-11.8	152.7	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

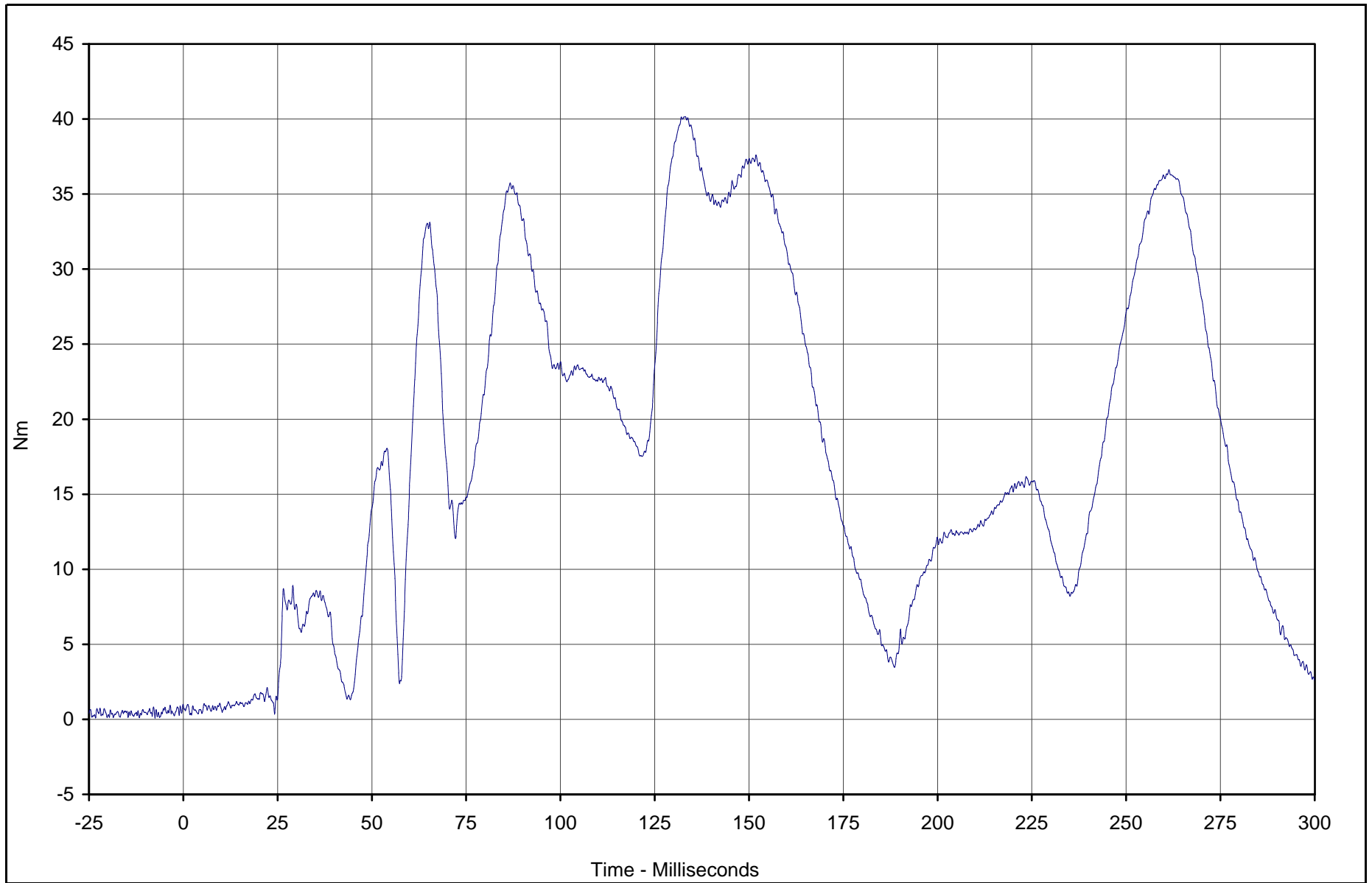
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-20



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Resultant	010	RES	Nm	40.2	133.1	0.3	2.2	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

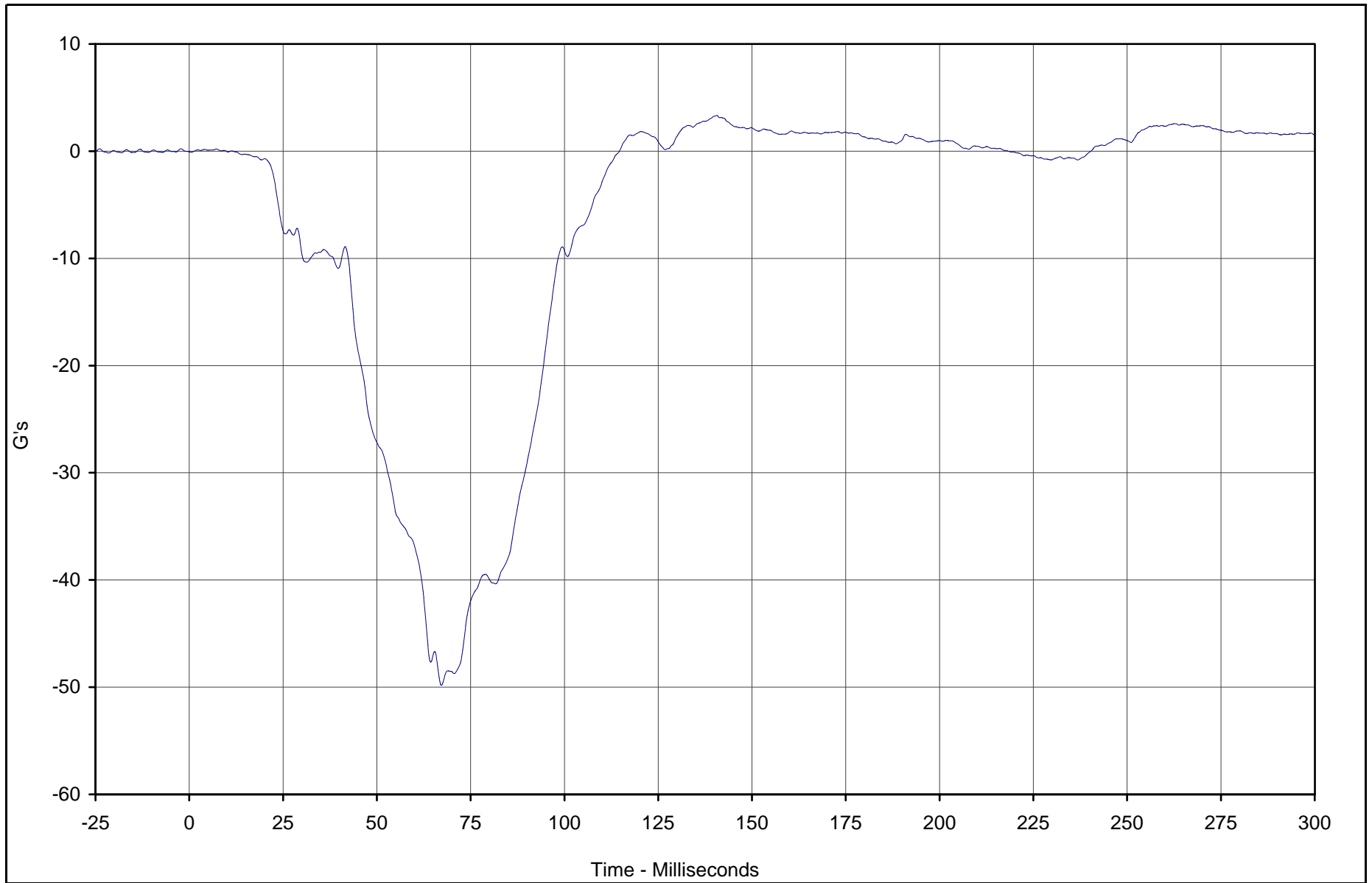
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-21



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X	013	FIL	G's	3.3	140.6	-49.8	67.2	180



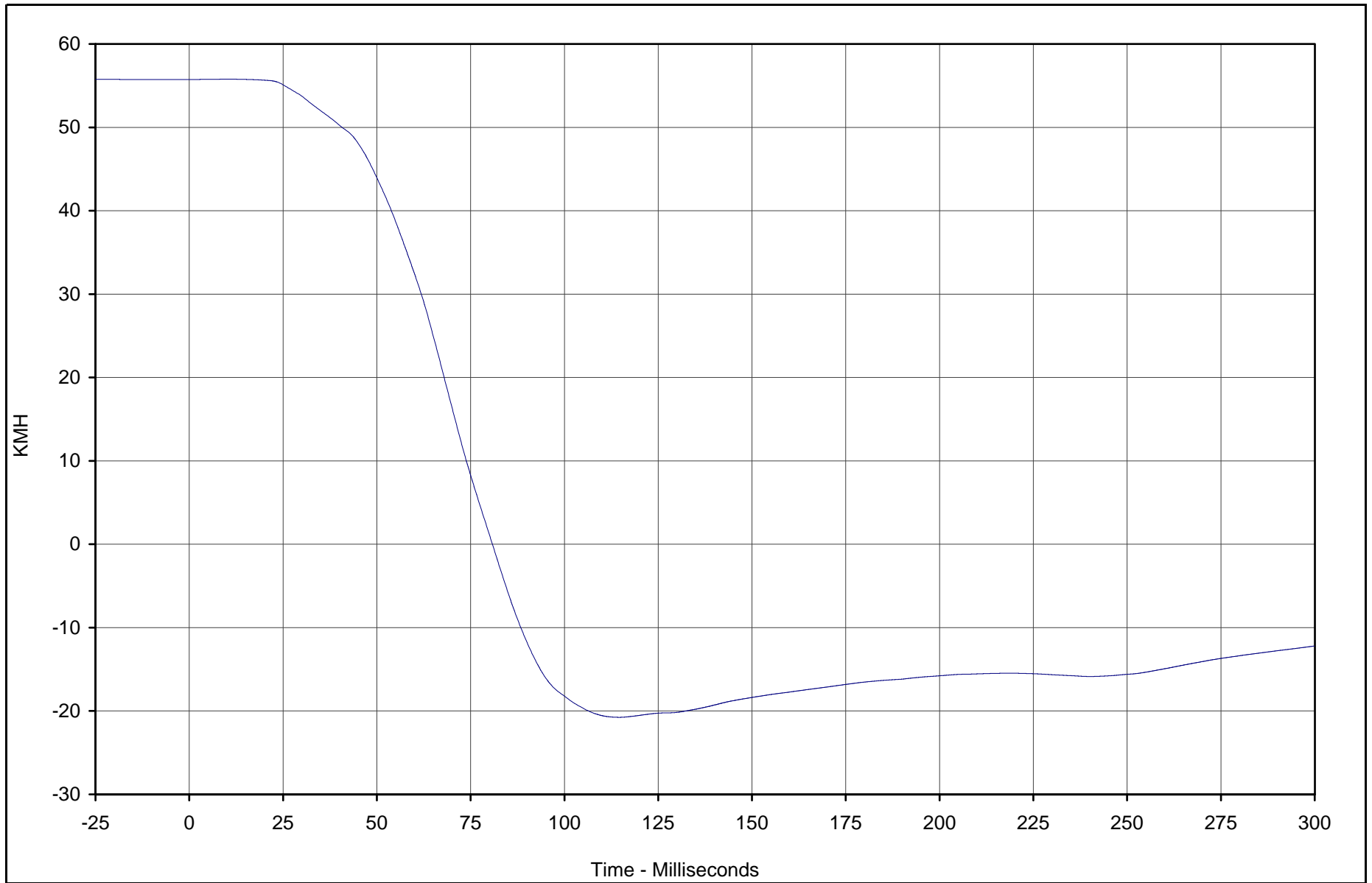
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-22



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X Velocity	013	IN1	KMH	55.8	9.9	-20.8	114.7	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

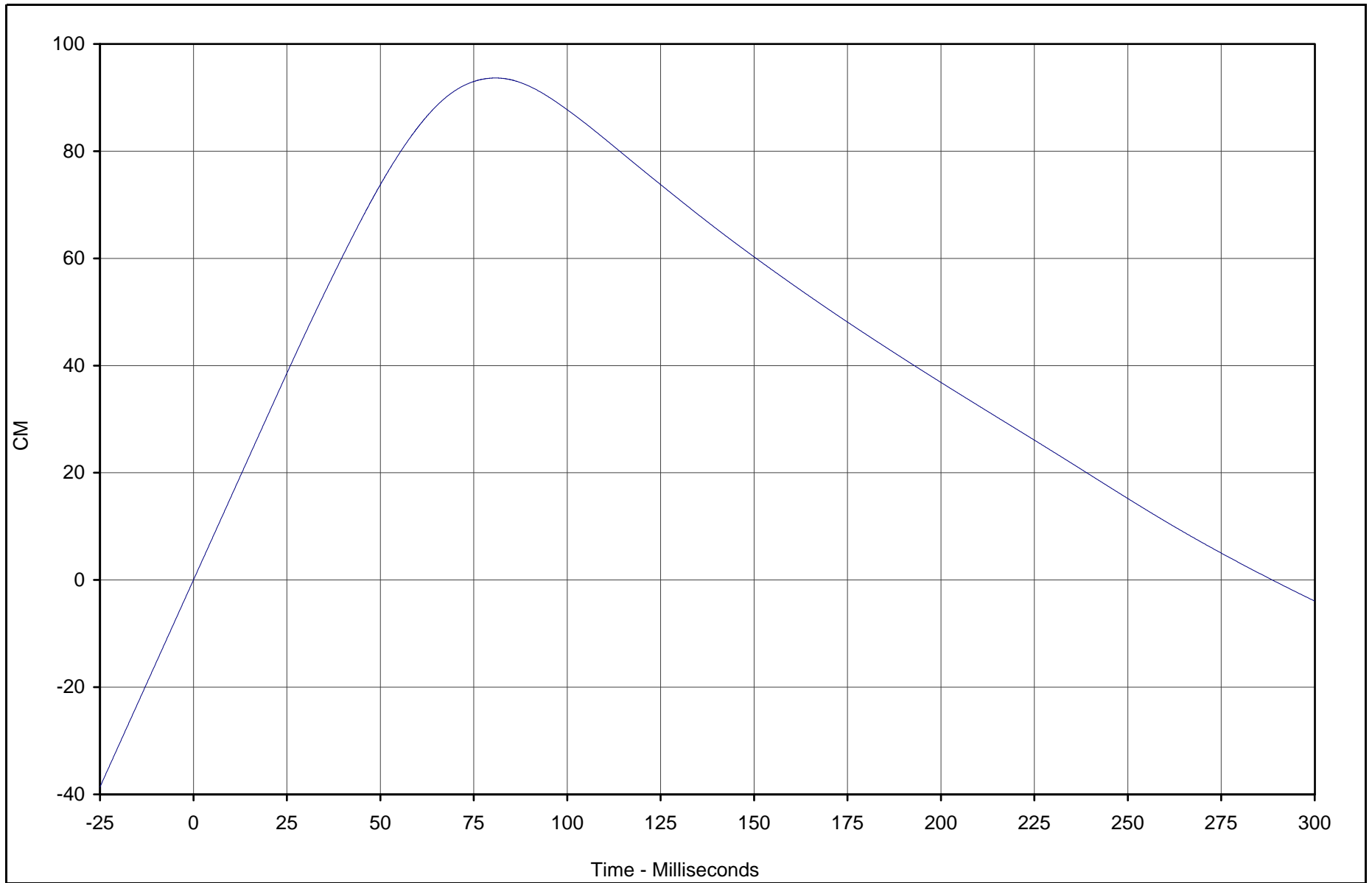
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-23



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X Displ.	013	IN2	CM	93.7	80.8	-3.9	299.9	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

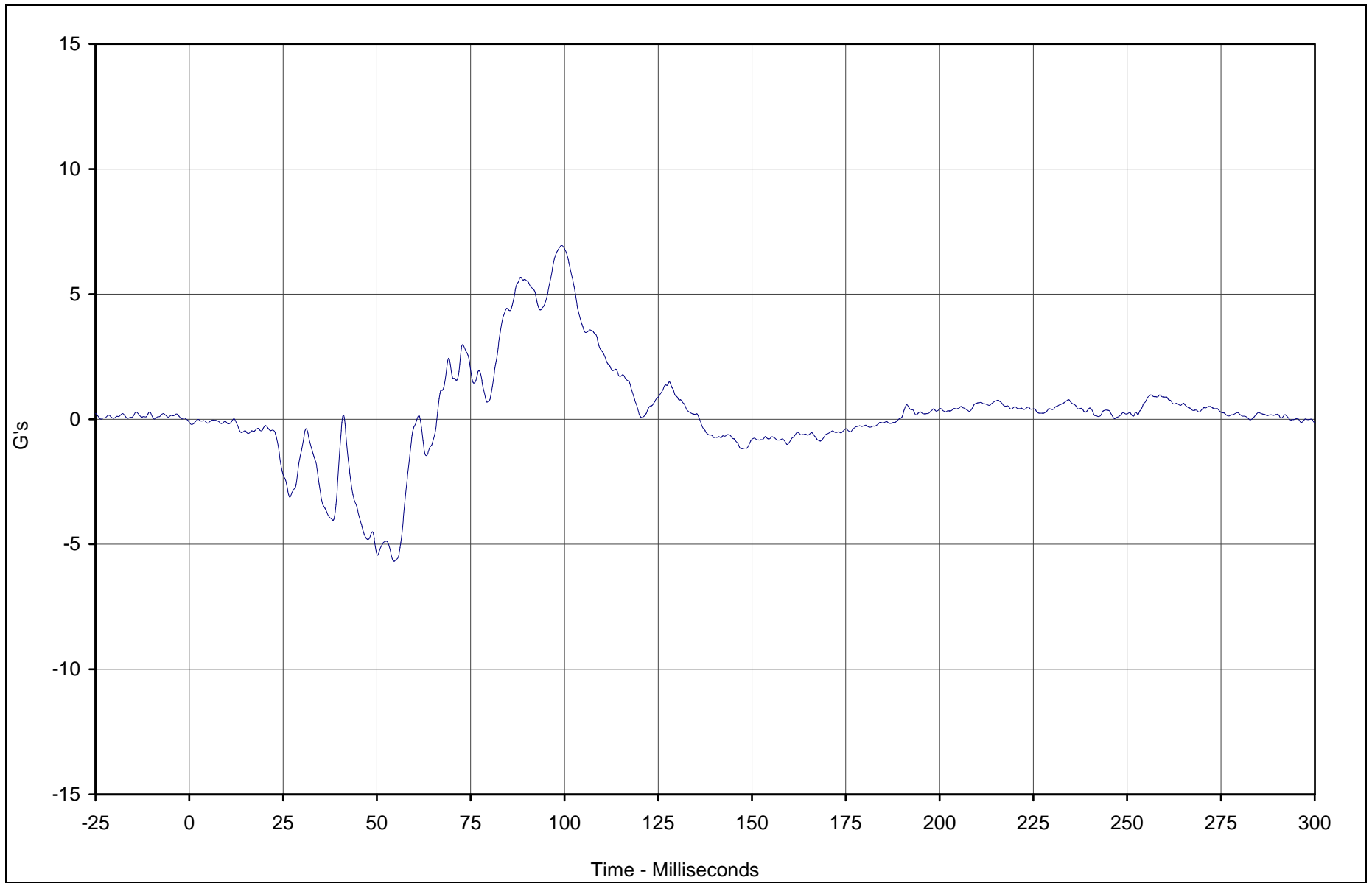
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-24



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary Y	014	FIL	G's	6.9	99.3	-5.7	54.6	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

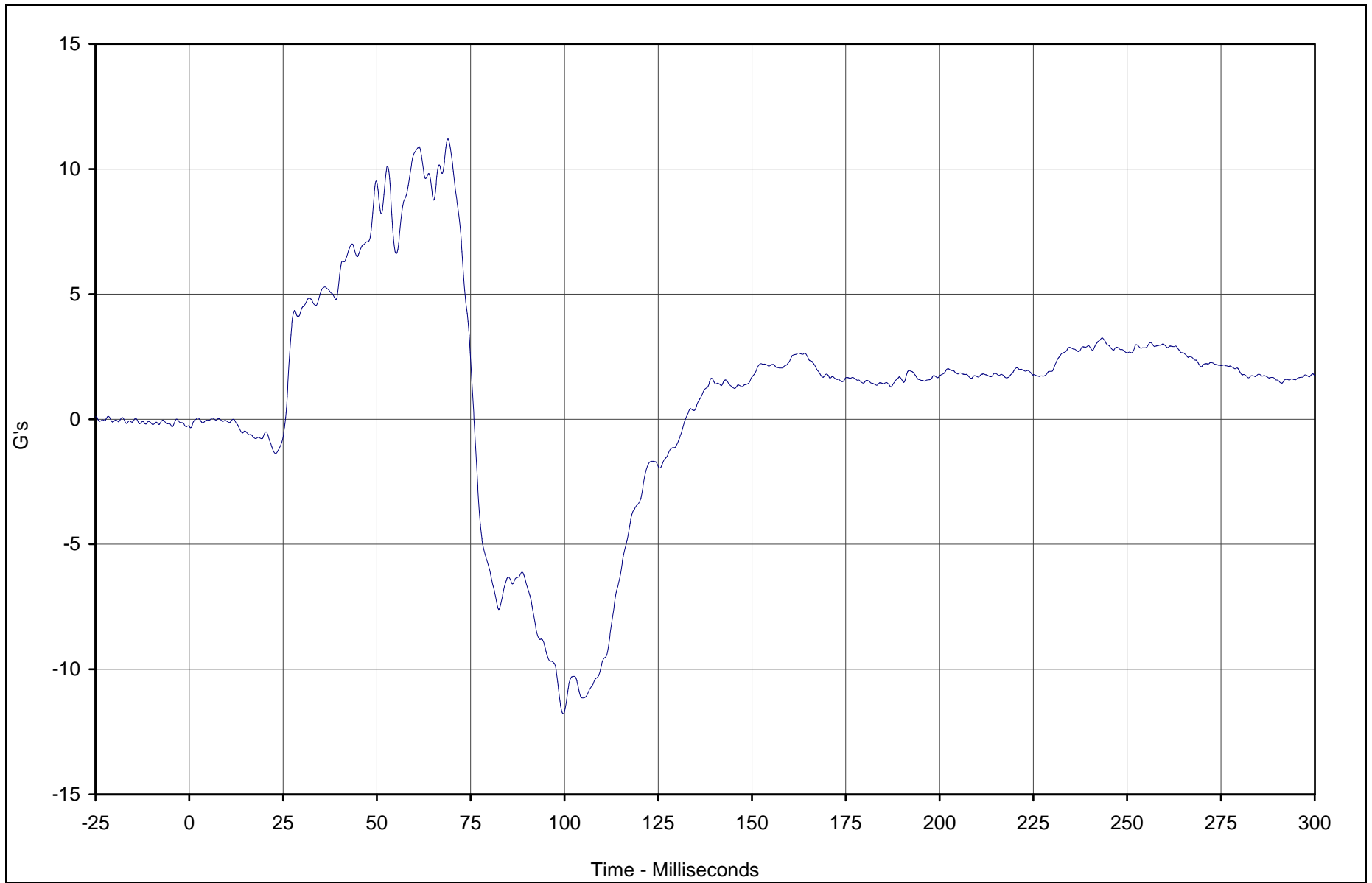
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-25



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary Z	015	FIL	G's	11.2	68.9	-11.8	99.7	180

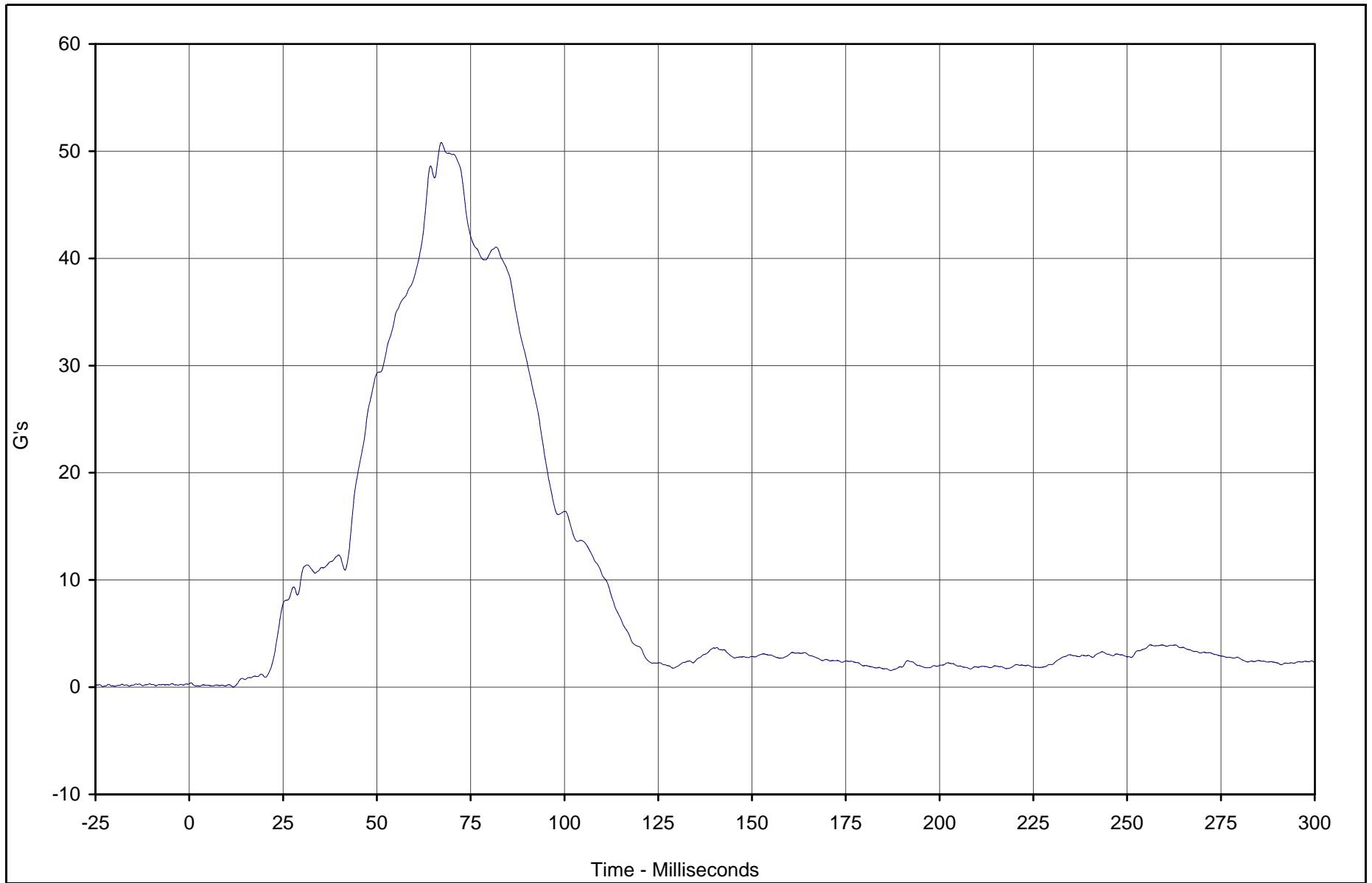


Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Resultant Primary	013	RES	G's	50.8	67.2	0.0	11.7	180



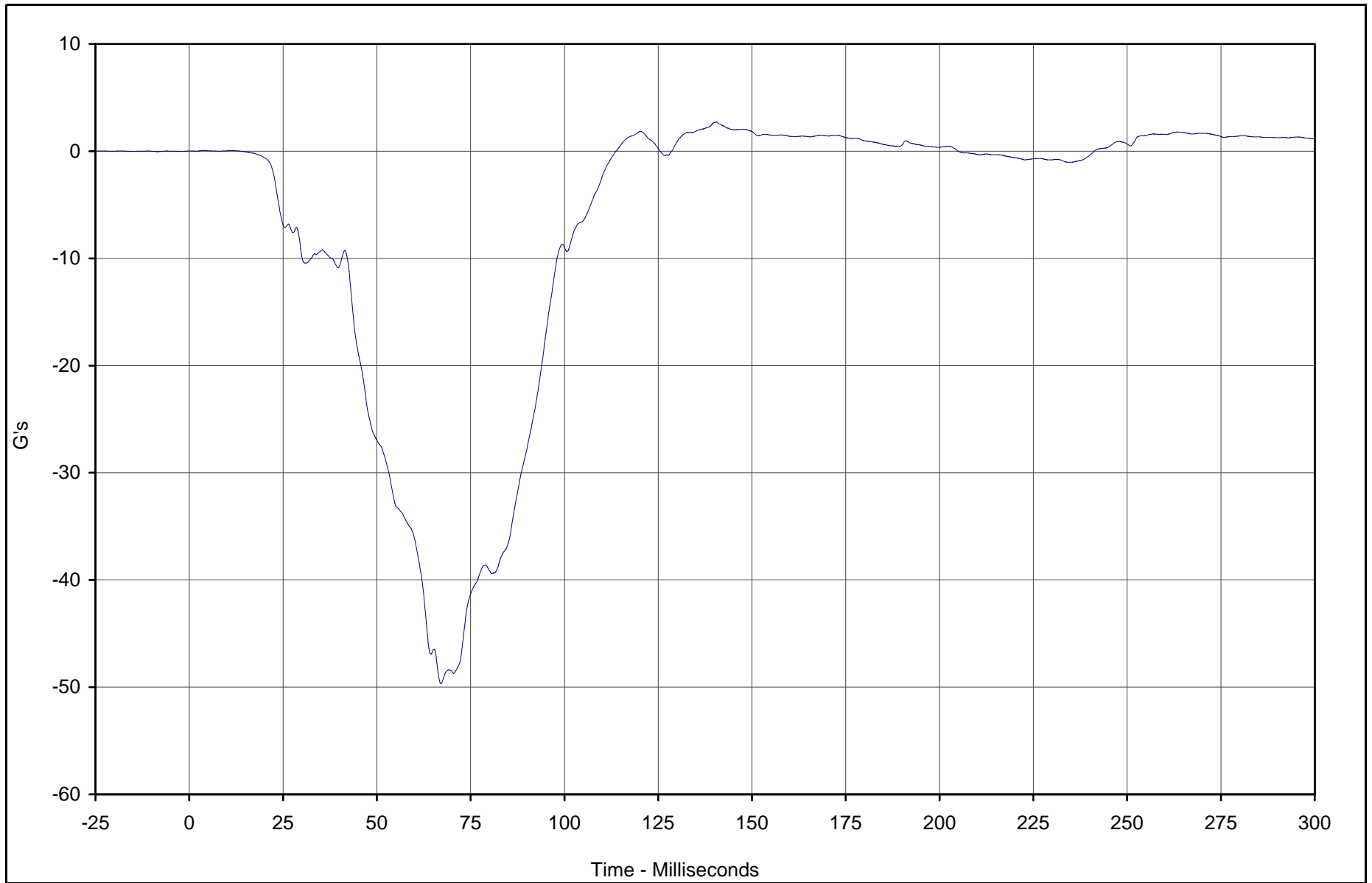
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-27



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X	016	FIL	G's	2.7	140.5	-49.7	67.1	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

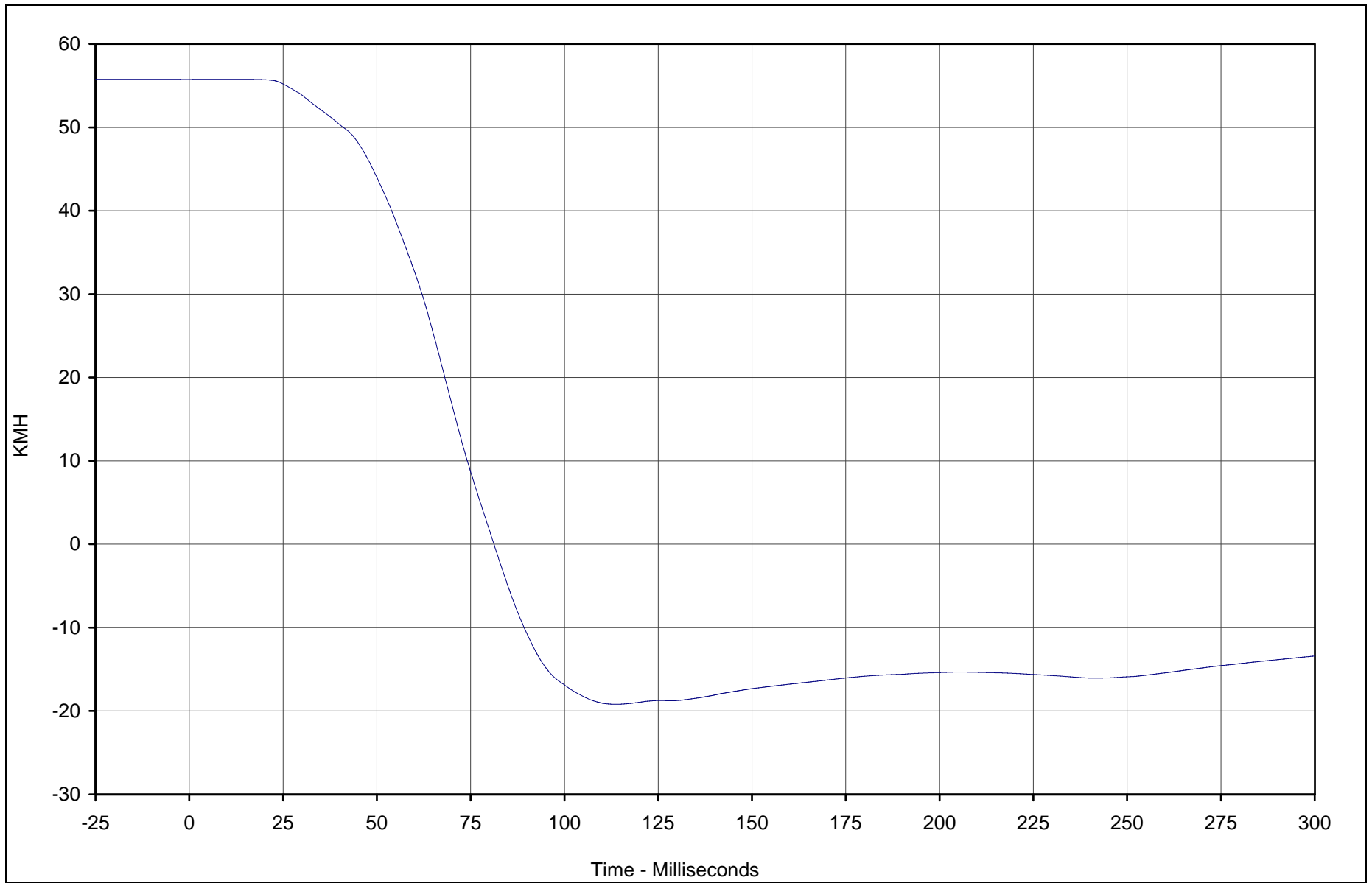
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-28



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X Velocity	016	IN1	KMH	55.8	13.6	-19.2	113.7	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

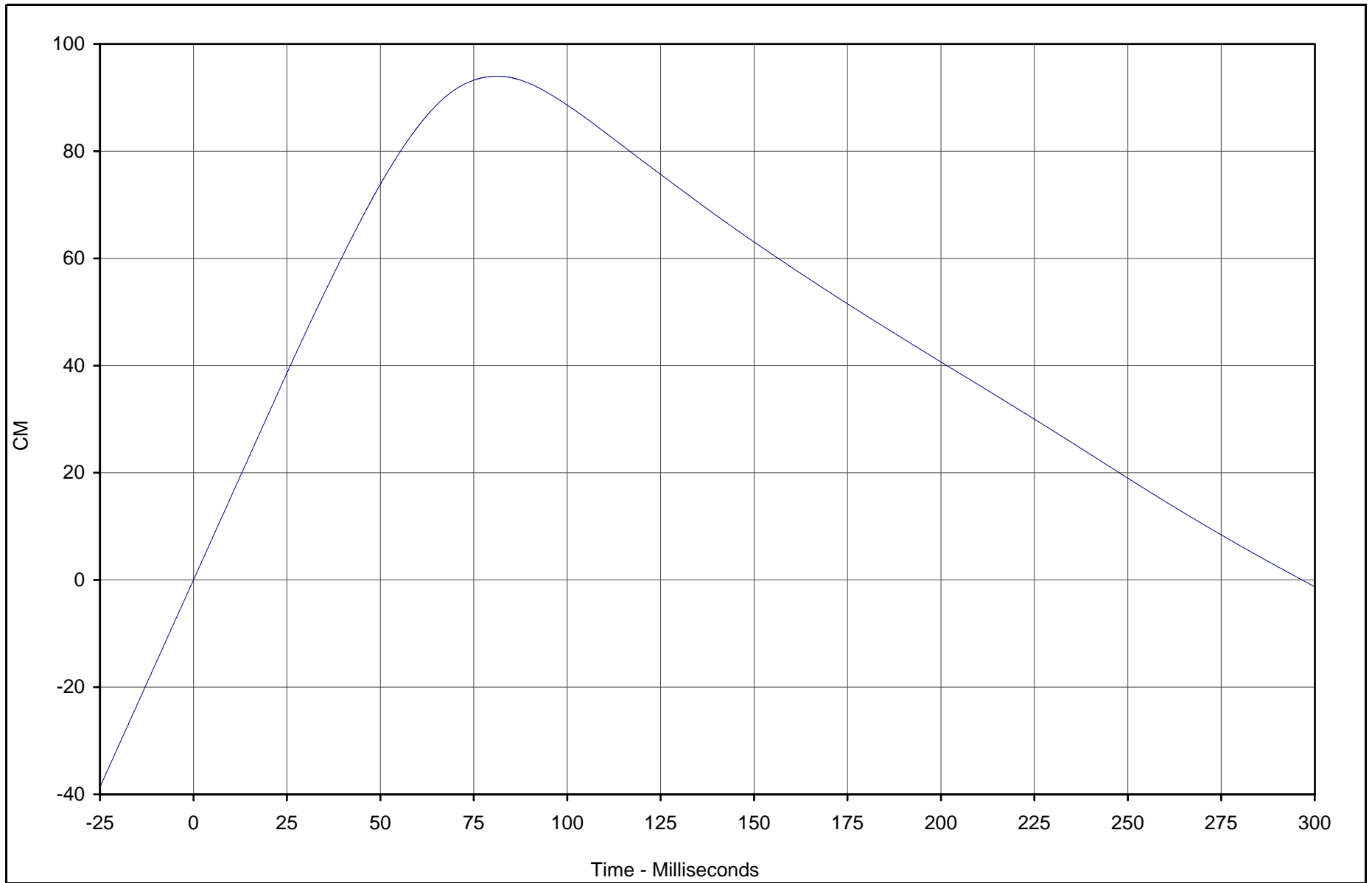
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-29



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X Displ.	016	IN2	CM	94.0	81.2	-1.2	299.9	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

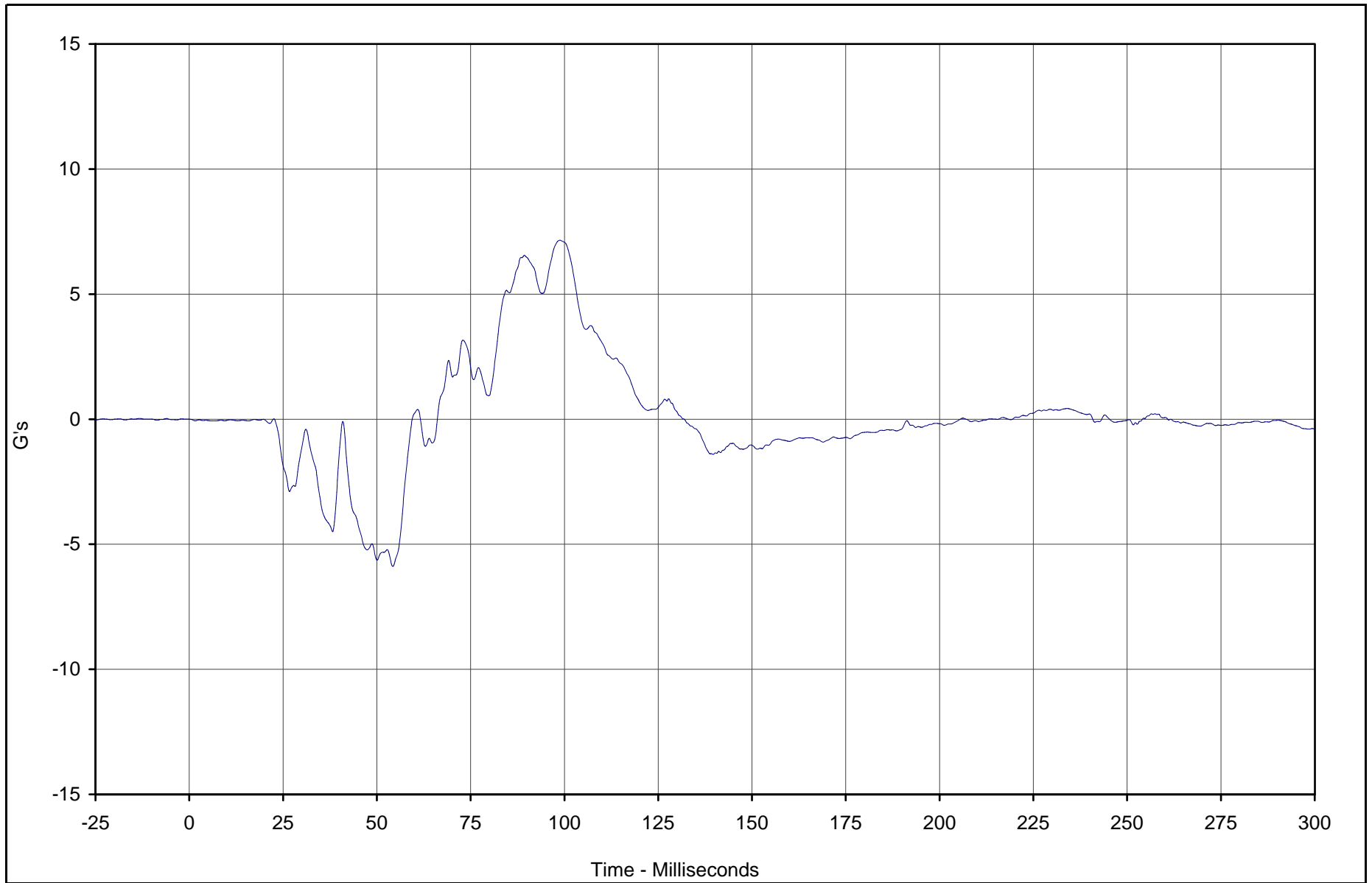
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-30



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant Y	017	FIL	G's	7.2	98.8	-5.9	54.2	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

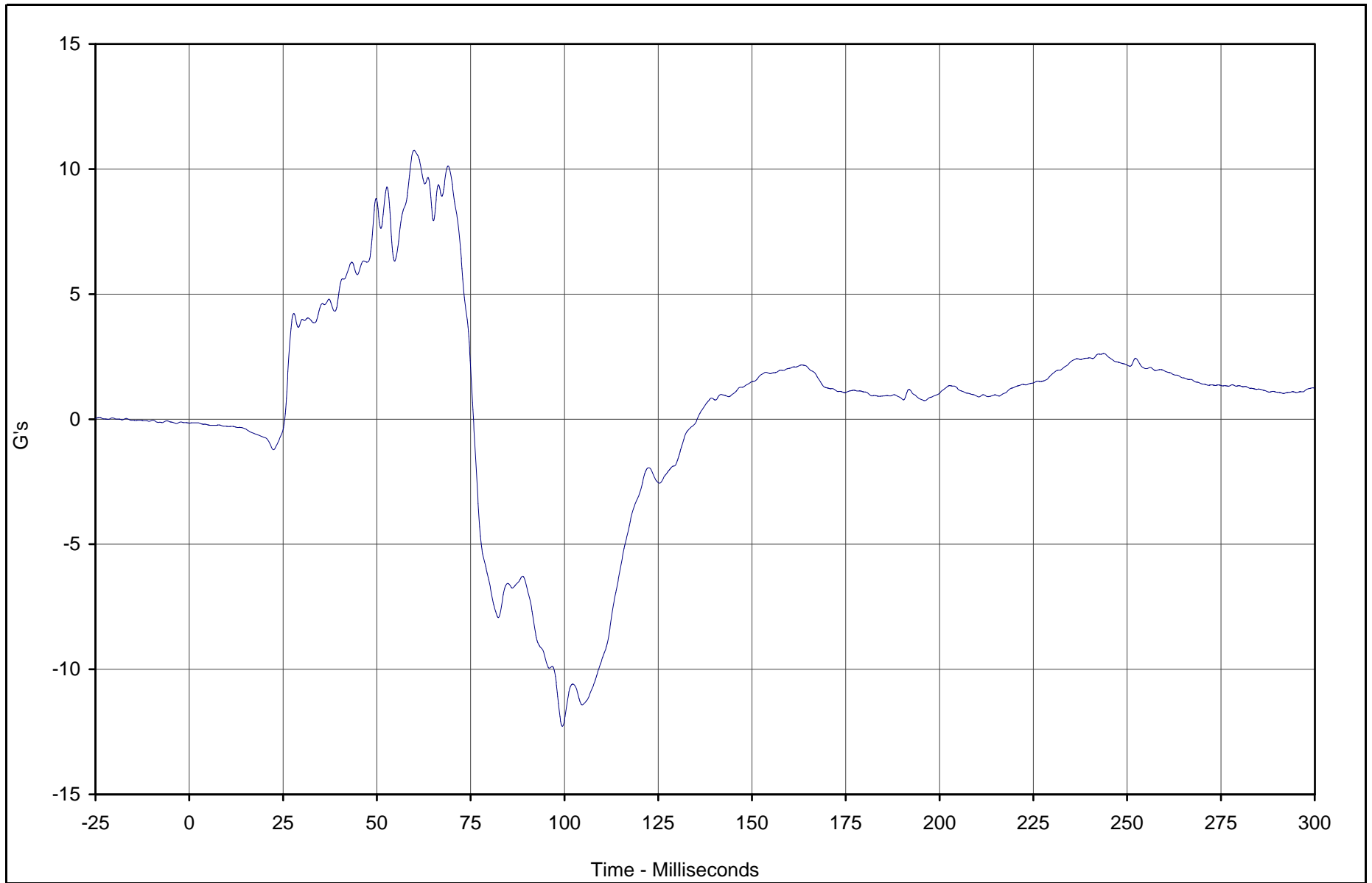
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-31



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant Z	018	FIL	G's	10.7	59.9	-12.3	99.5	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

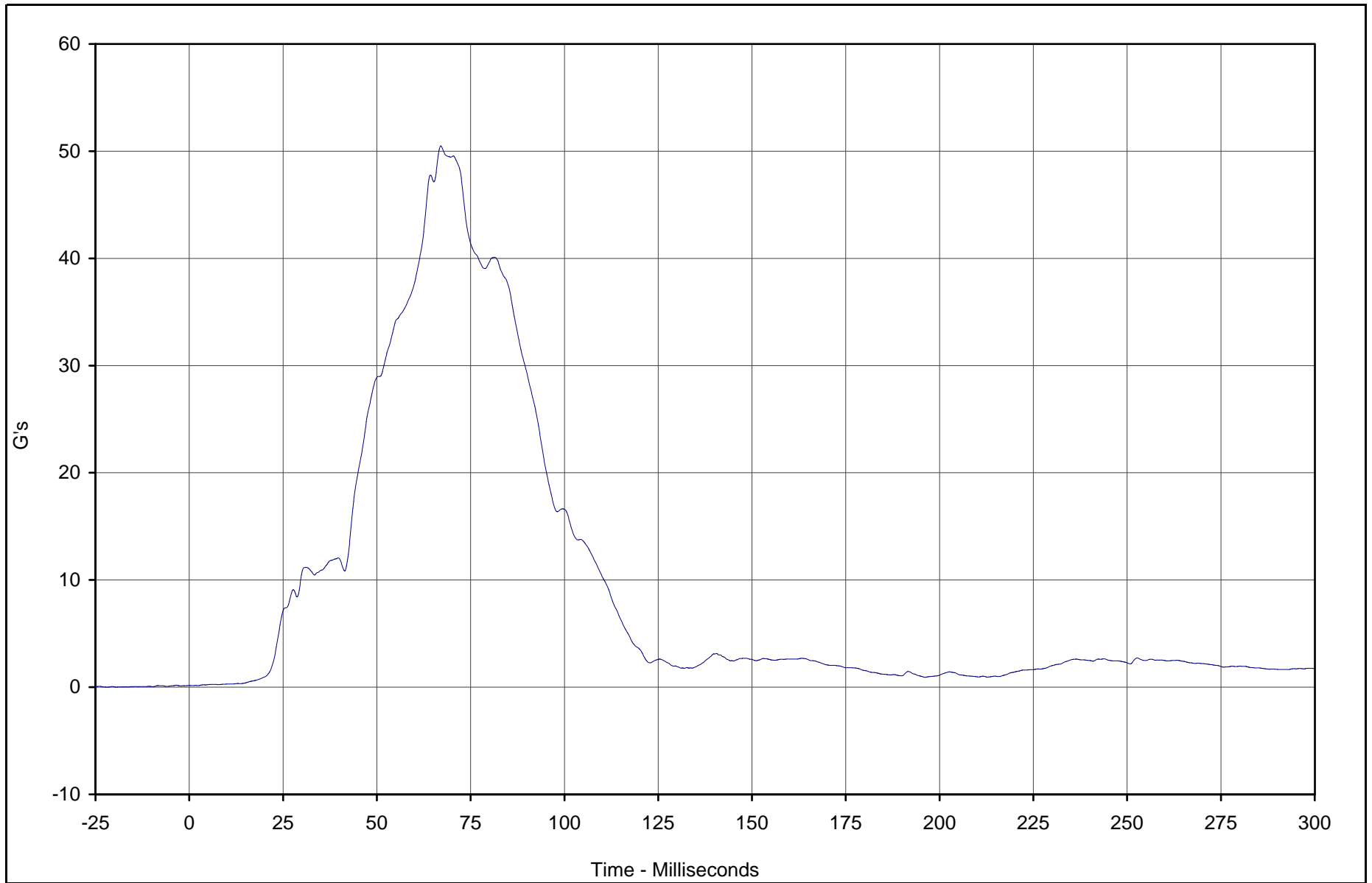
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-32



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Resultant Redundant	016	RES	G's	50.5	67.0	0.1	0.8	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

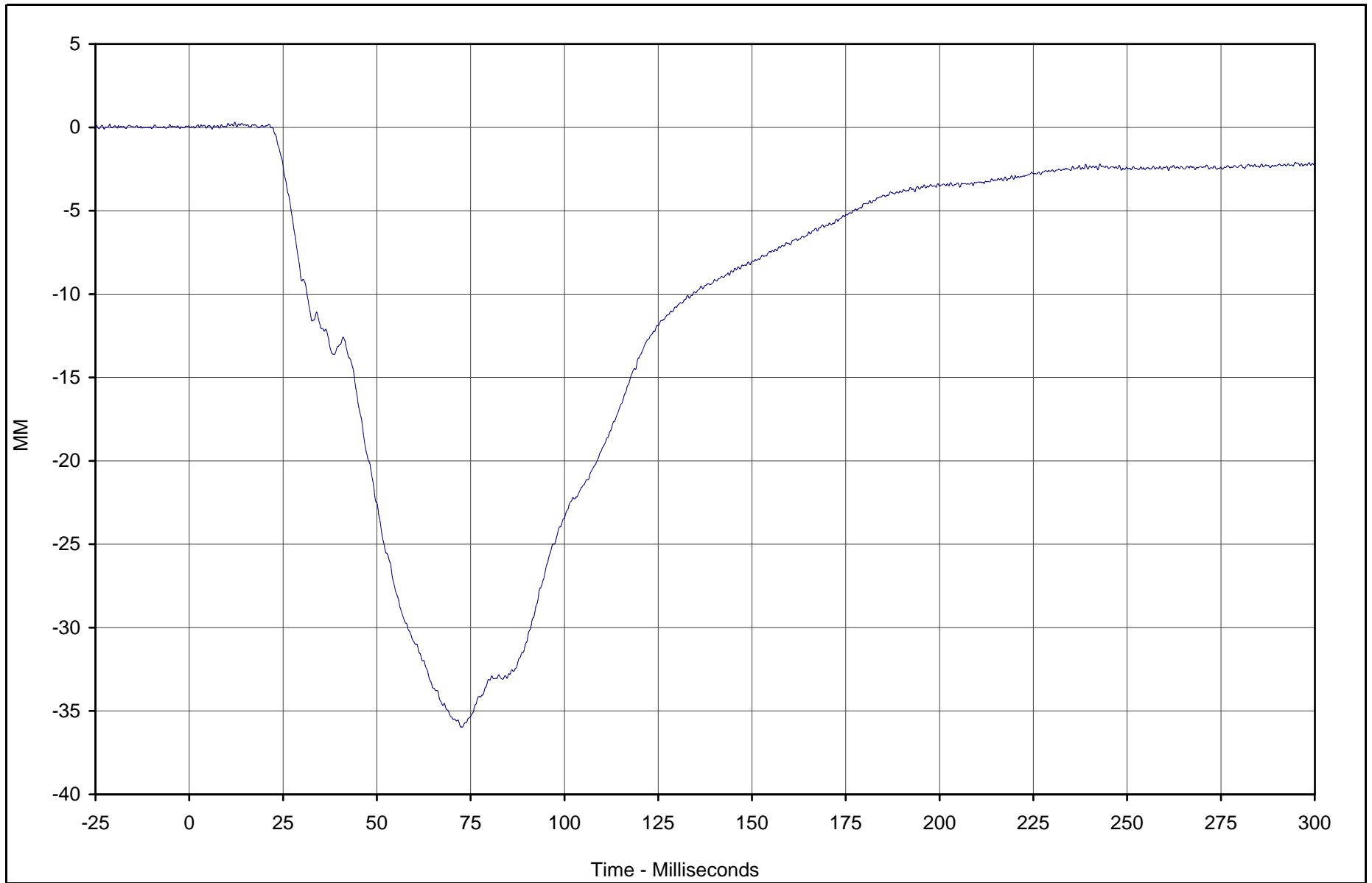
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-33



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Displacement X	019	FIL	MM	0.3	12.2	-36.0	72.8	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

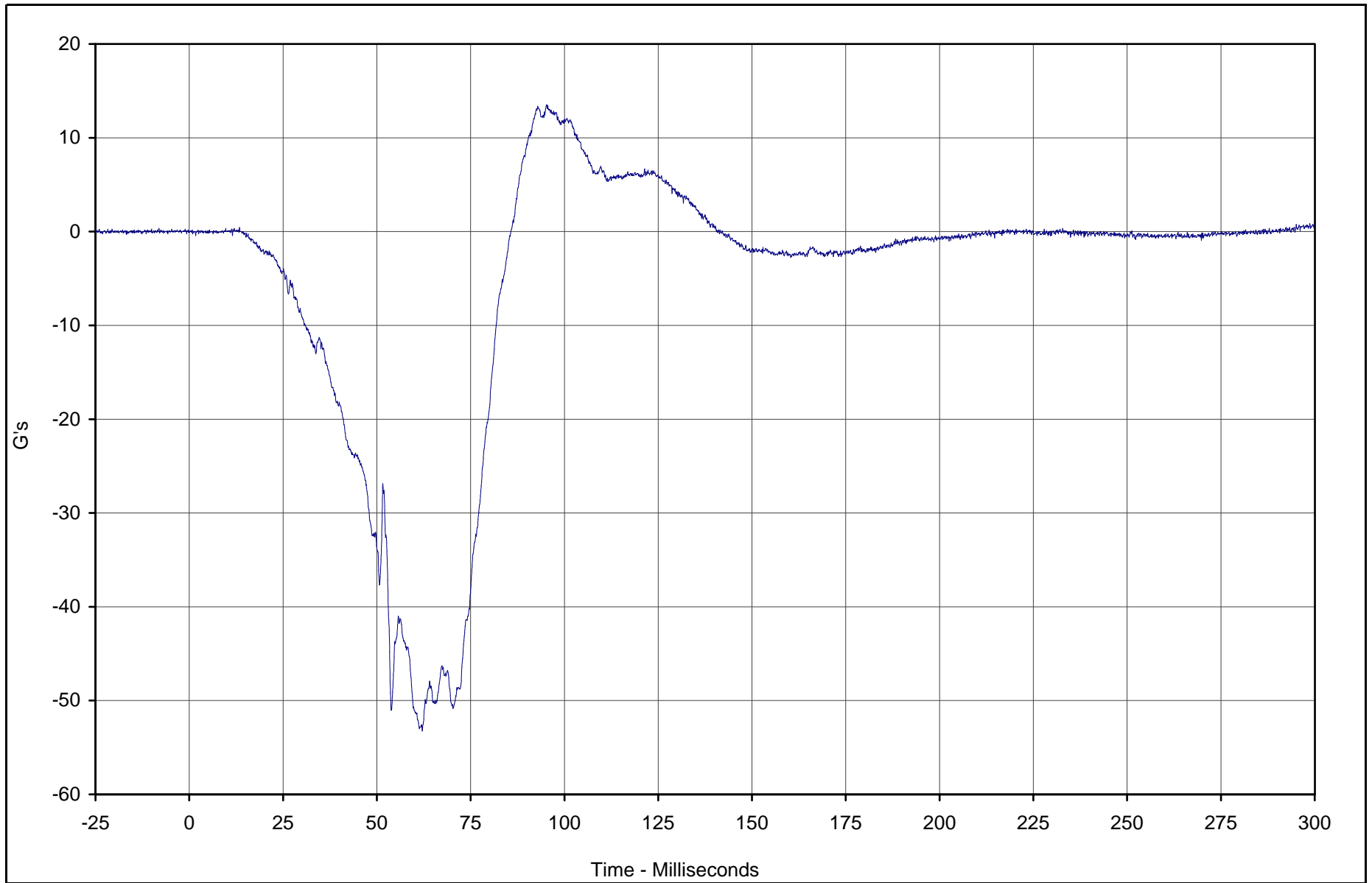
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-34



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X	020	FIL	G's	13.5	95.3	-53.3	62.1	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

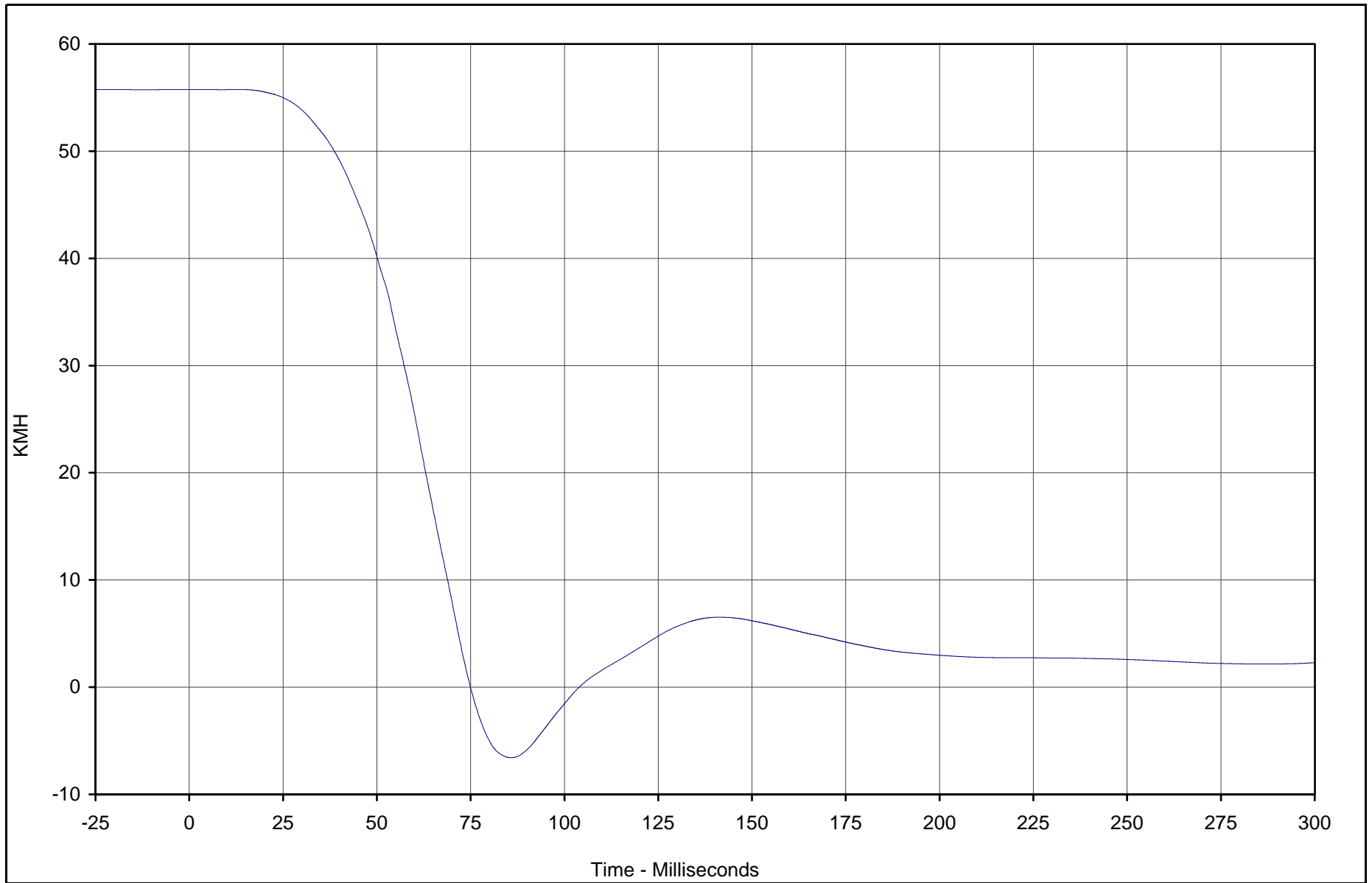
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-35



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X Velocity	020	IN1	KMH	55.8	13.8	-6.6	85.8	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

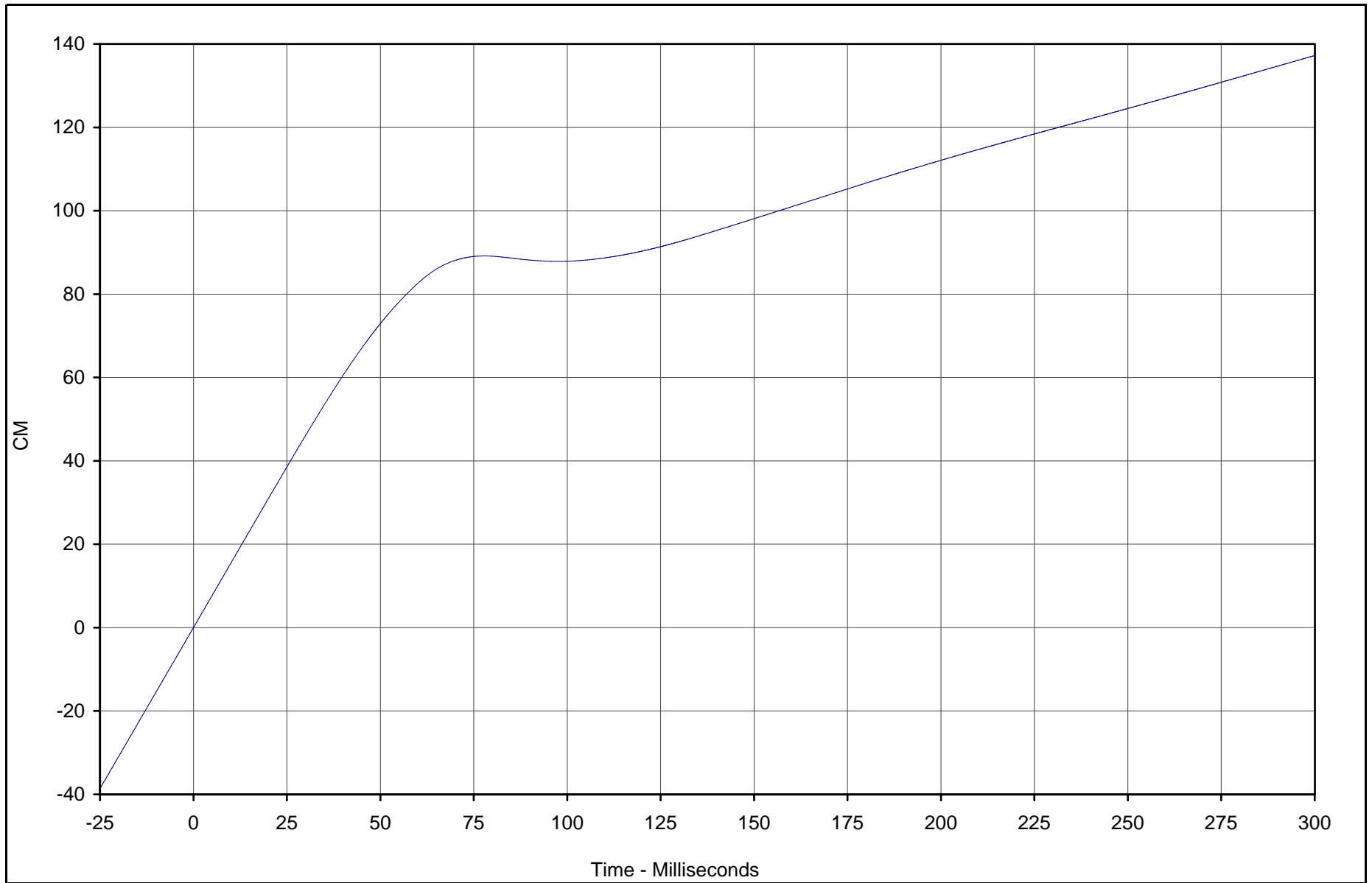
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-36



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X Displ.	020	IN2	CM	137.2	299.9	0.0	0.0	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

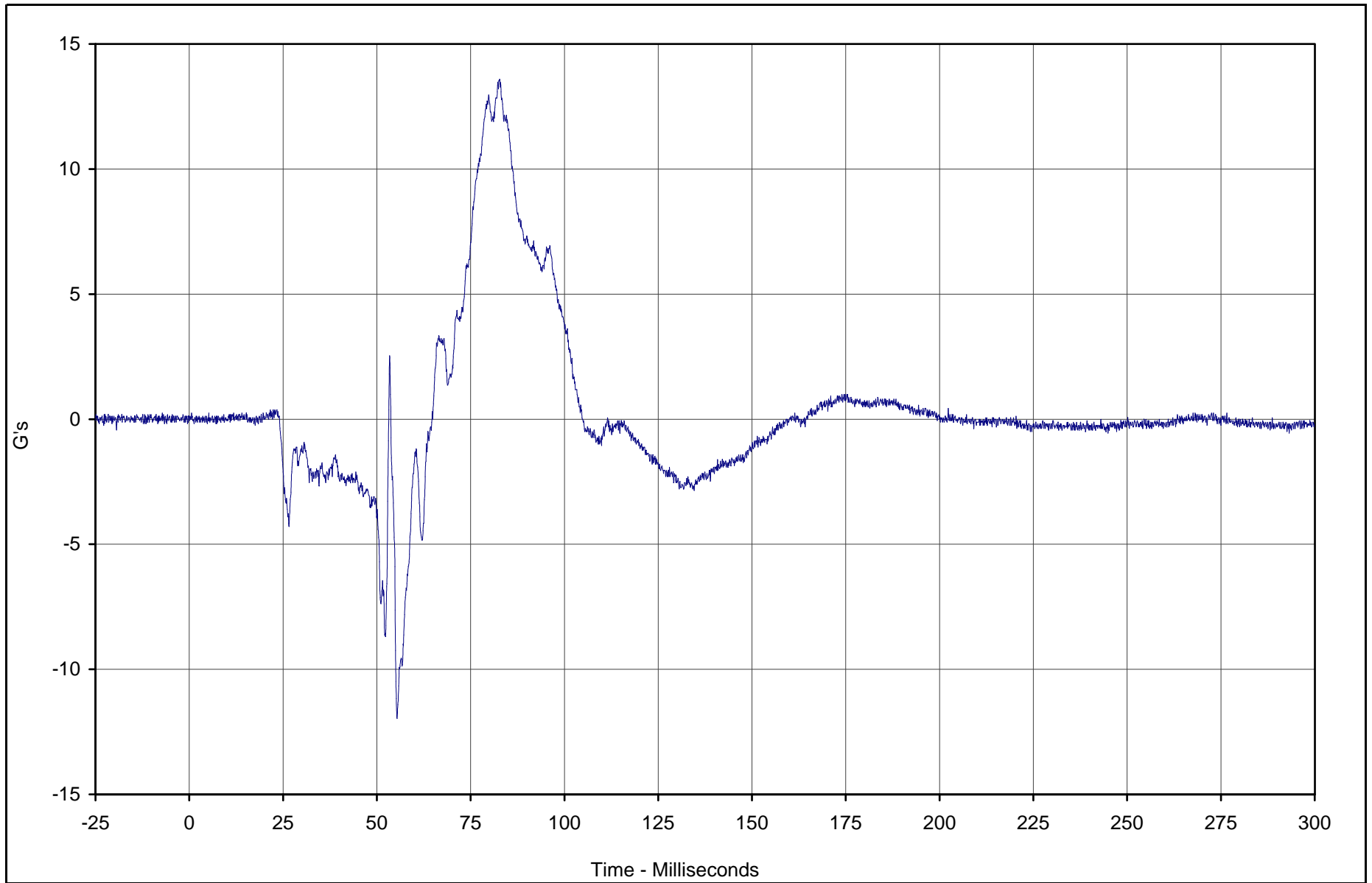
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Y	021	FIL	G's	13.6	82.7	-12.0	55.4	1000



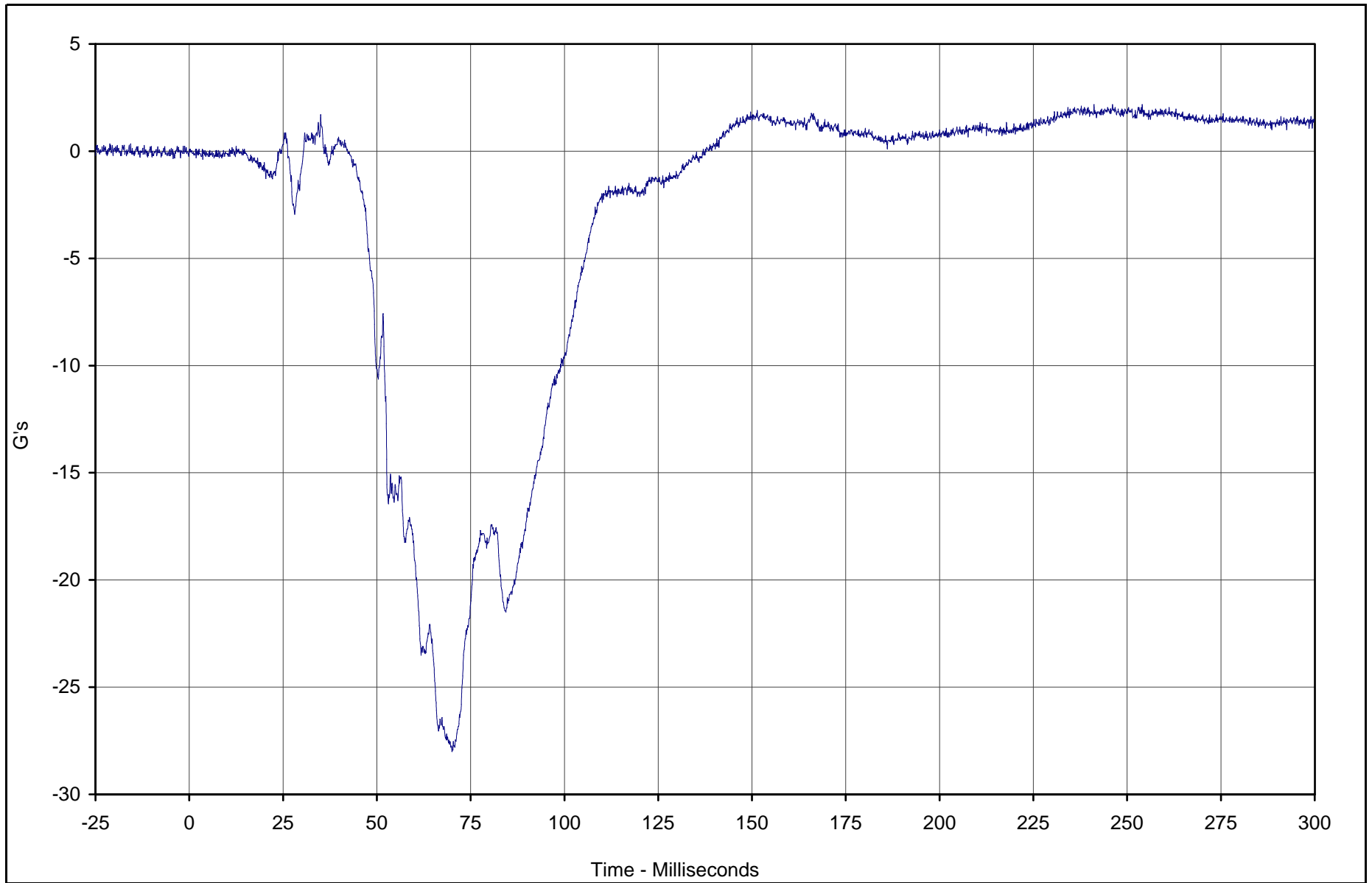
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Z	022	FIL	G's	2.2	241.2	-28.0	70.0	1000



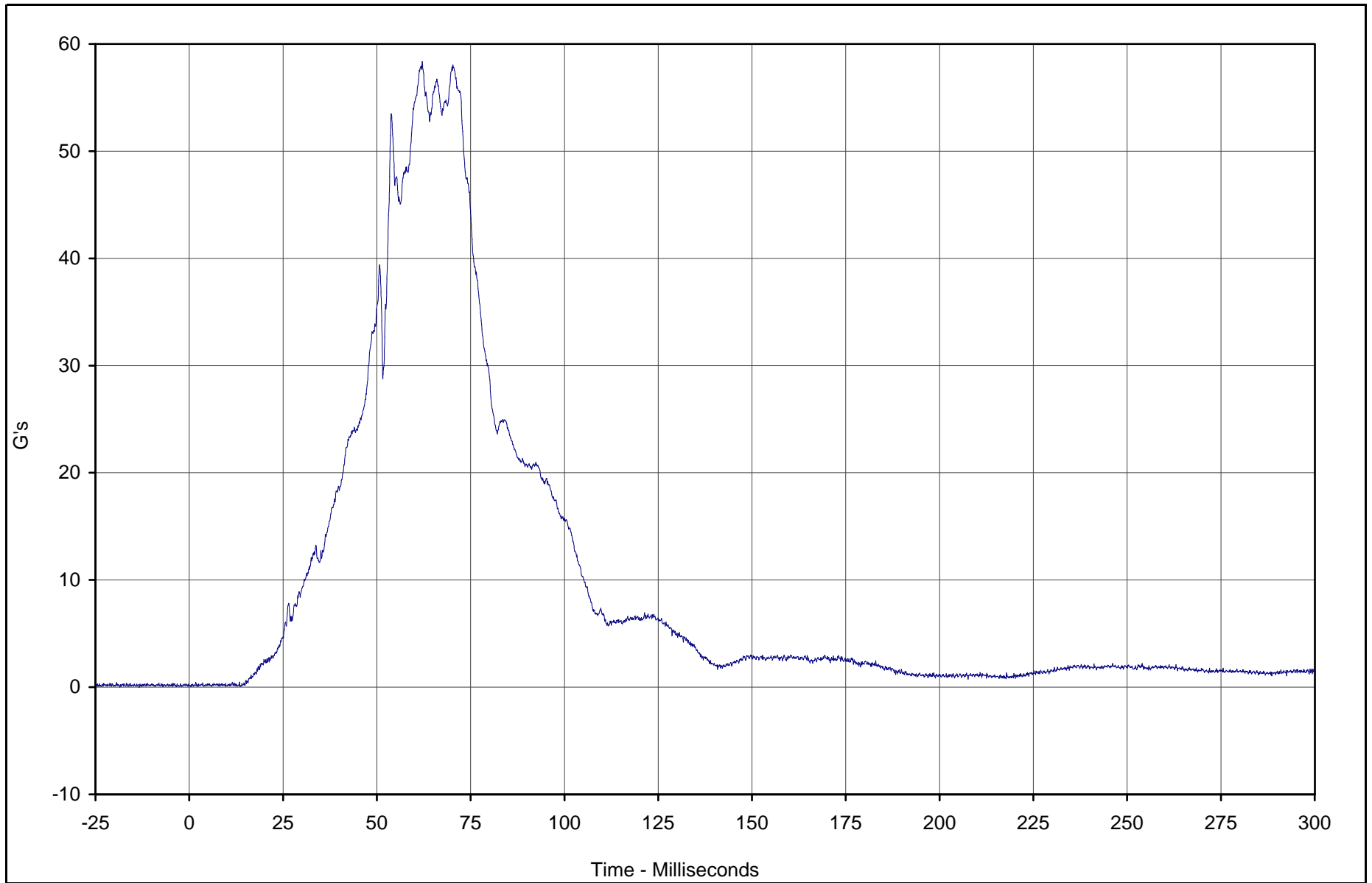
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Resultant	023	RES	G's	58.4	62.1	0.0	0.4	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

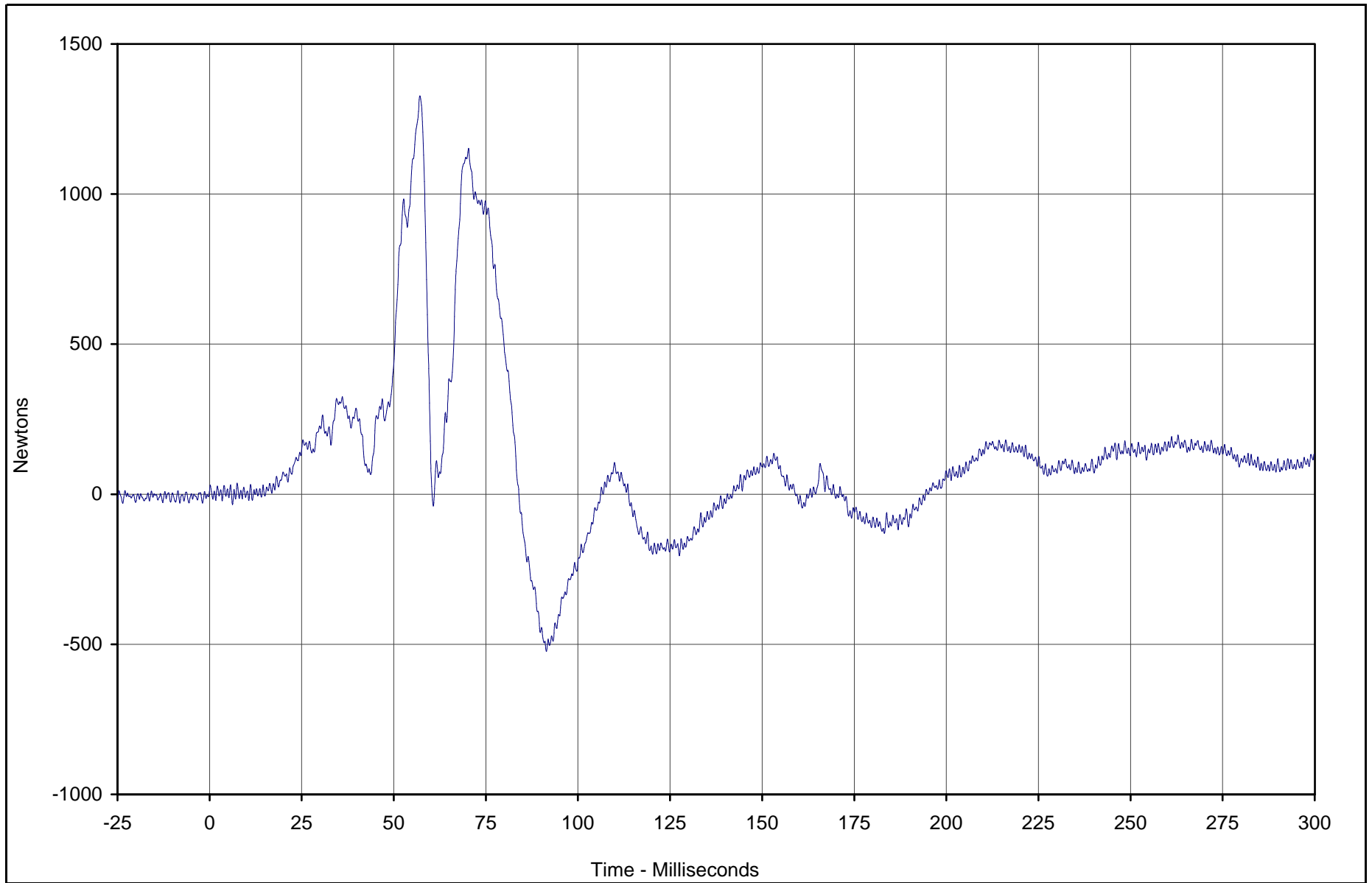
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-40



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Femur Force	023	FIL	Newtons	1327.3	57.1	-523.9	91.4	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

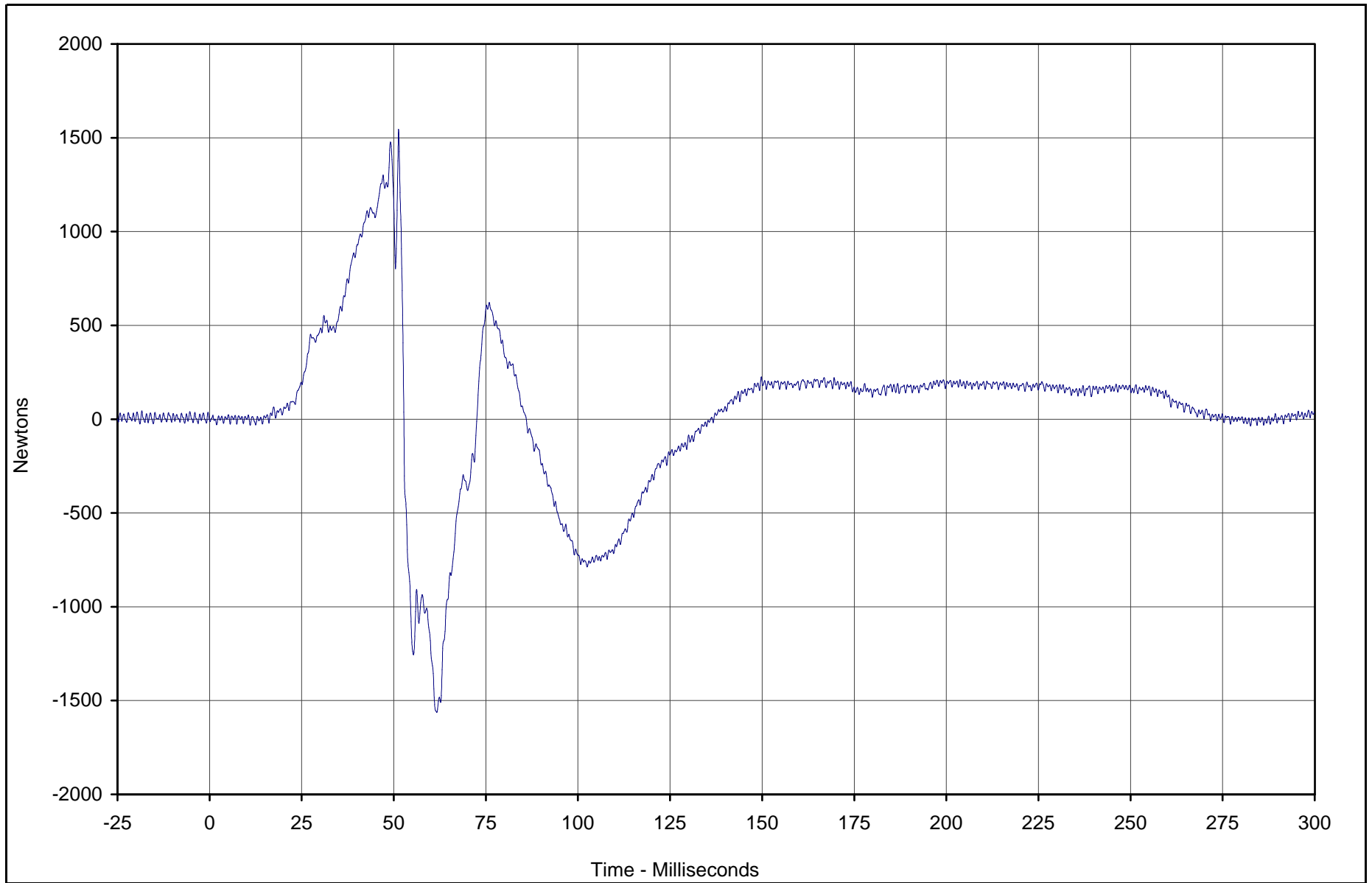
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-41



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Femur Force	024	FIL	Newtons	1546.0	51.3	-1563.5	61.7	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

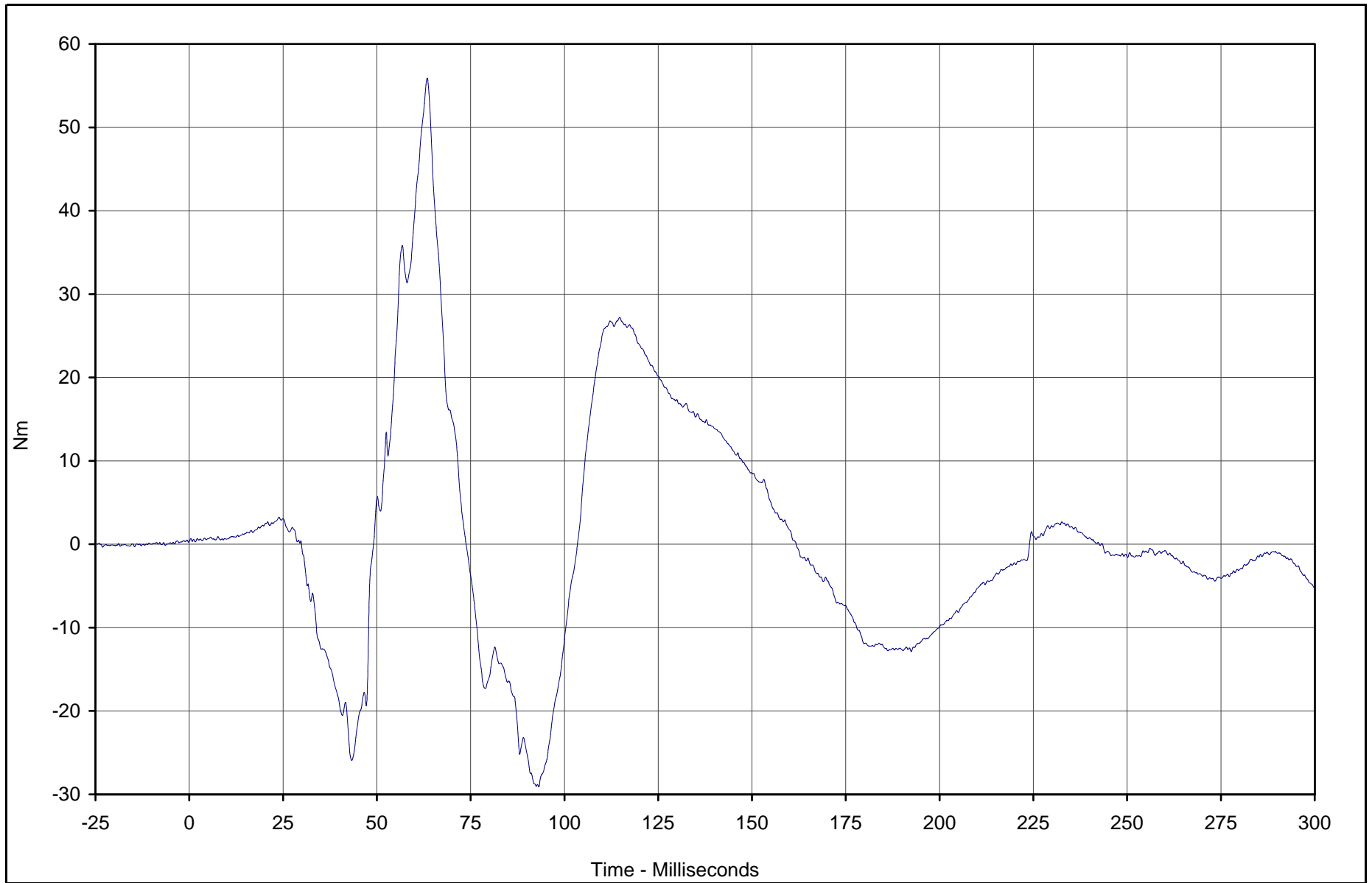
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-42



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Upper Tibia Moment X	025	FIL	Nm	55.9	63.4	-29.1	93.1	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

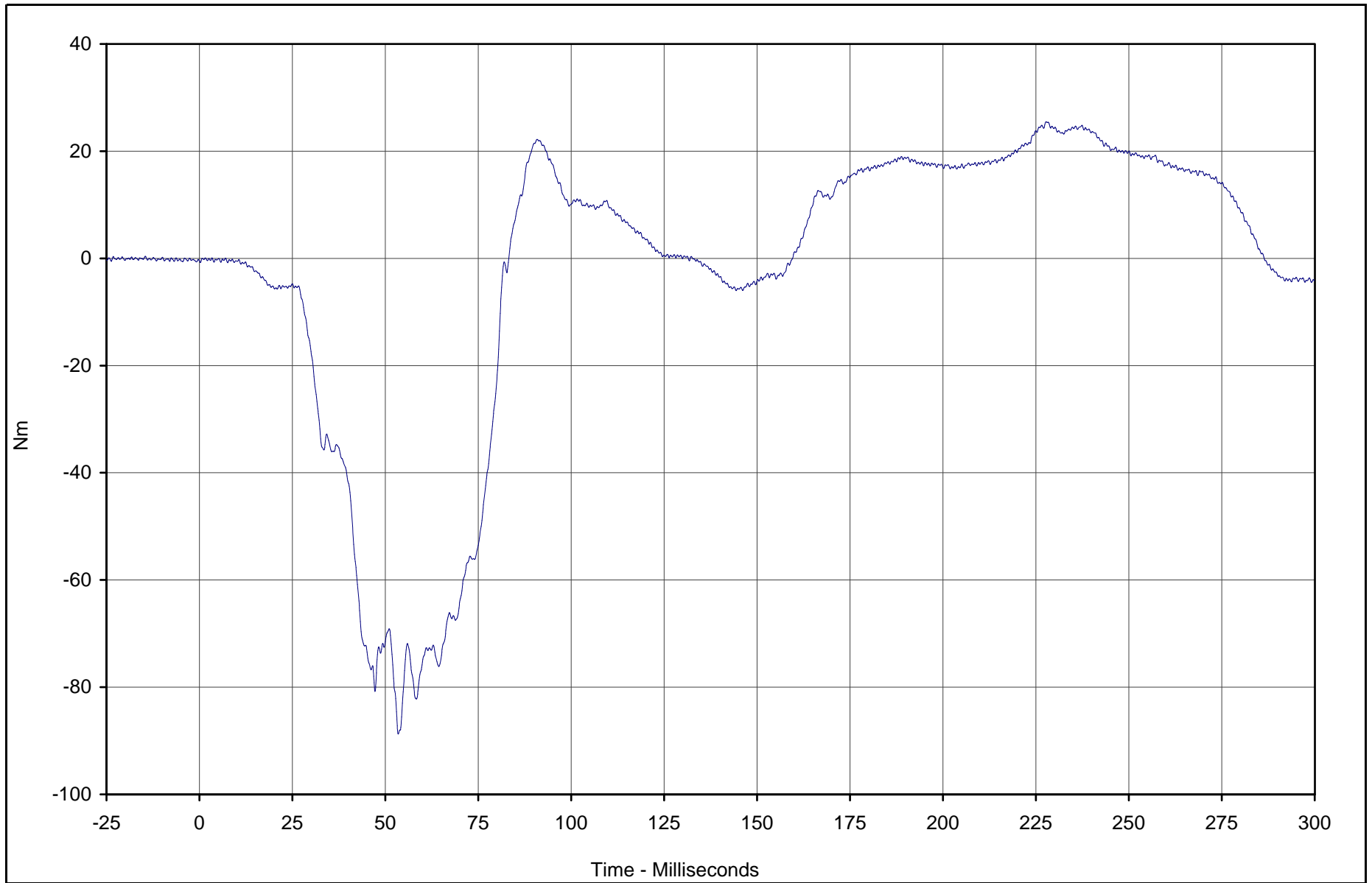
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Upper Tibia Moment Y	026	FIL	Nm	25.5	227.7	-88.7	53.5	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

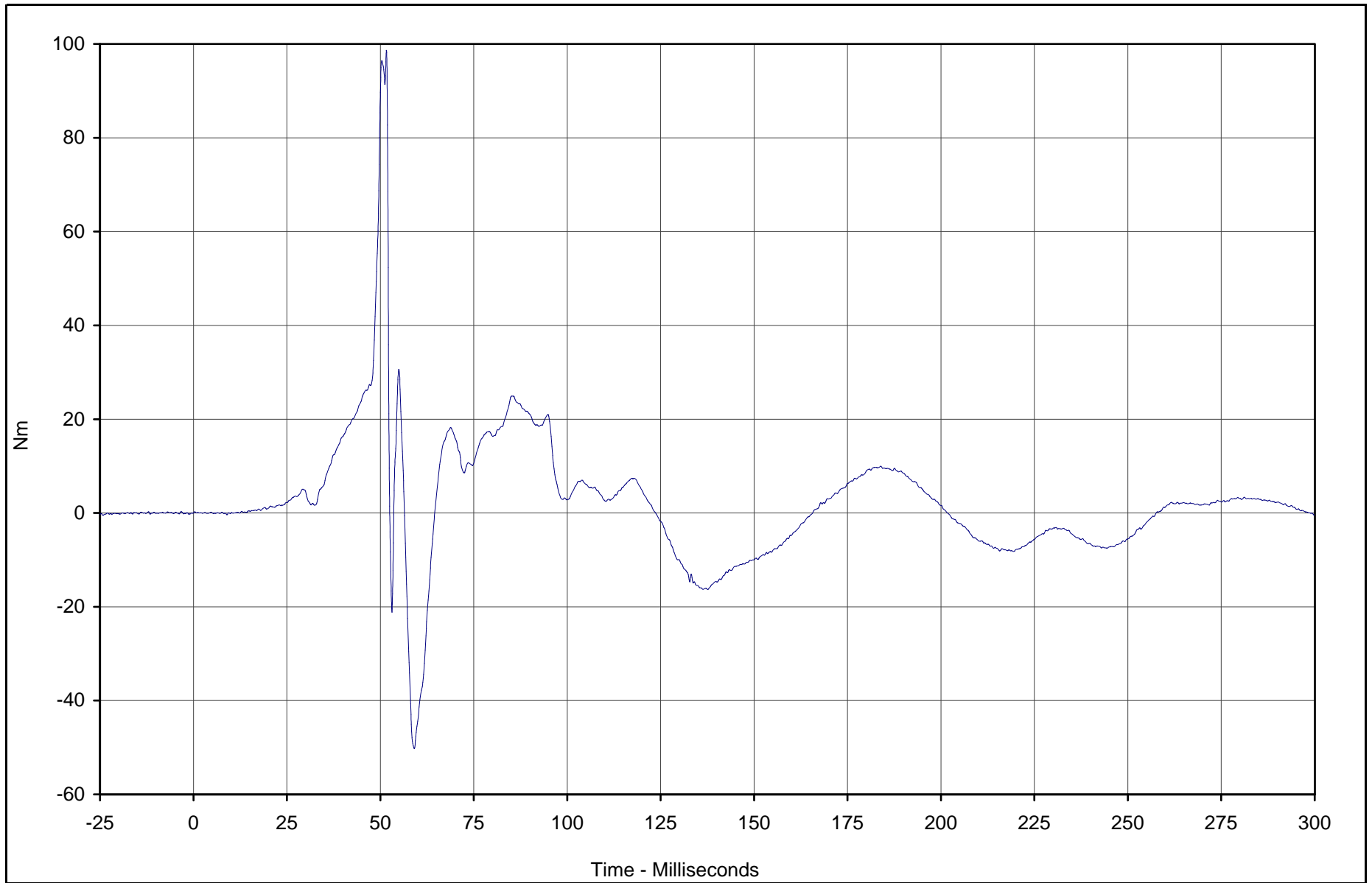
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Upper Tibia Moment X	027	FIL	Nm	98.7	51.6	-50.2	59.1	600



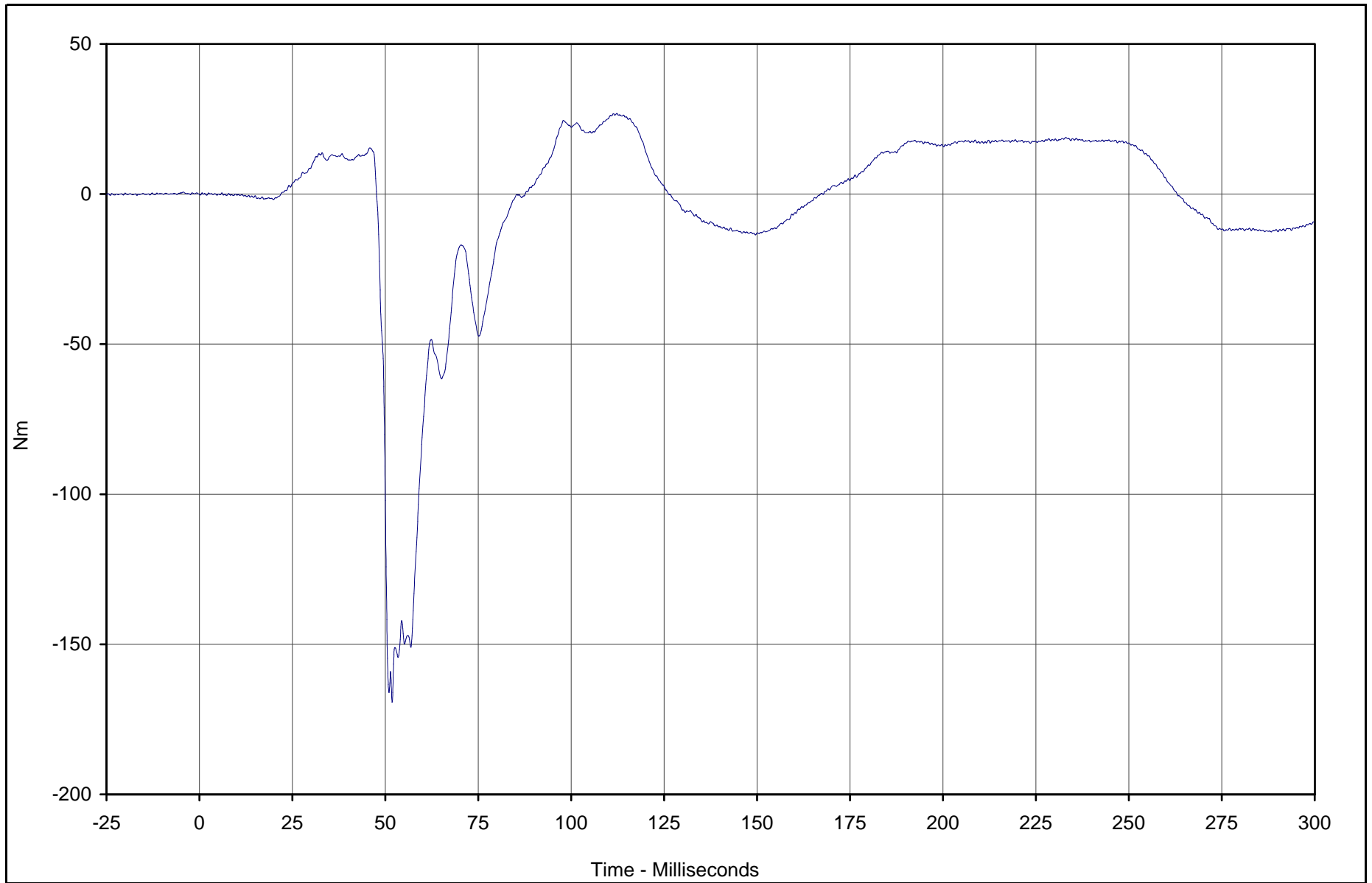
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Upper Tibia Moment Y	028	FIL	Nm	26.8	112.2	-169.3	51.8	600



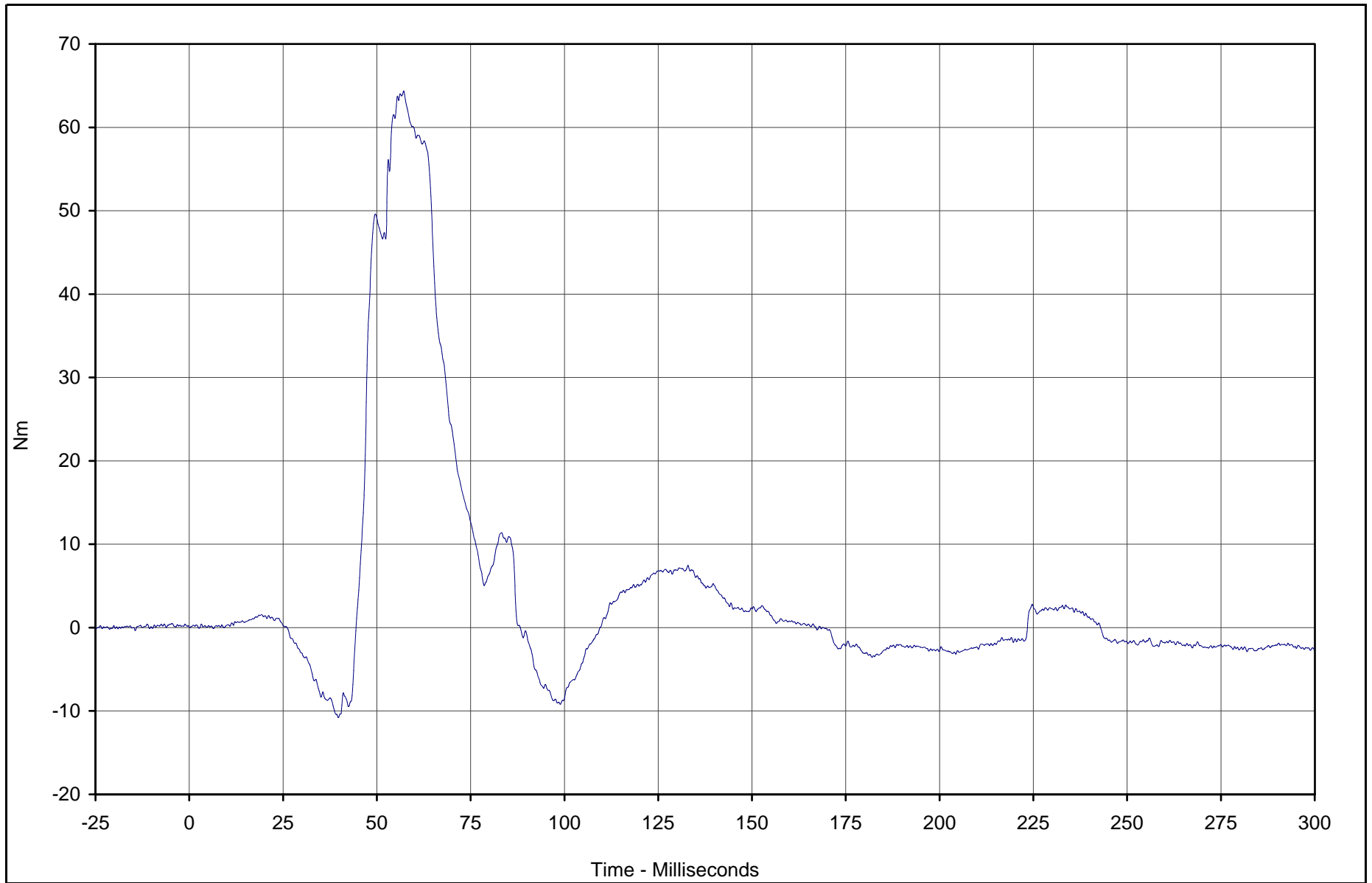
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Moment X	029	FIL	Nm	64.4	57.2	-10.8	39.8	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

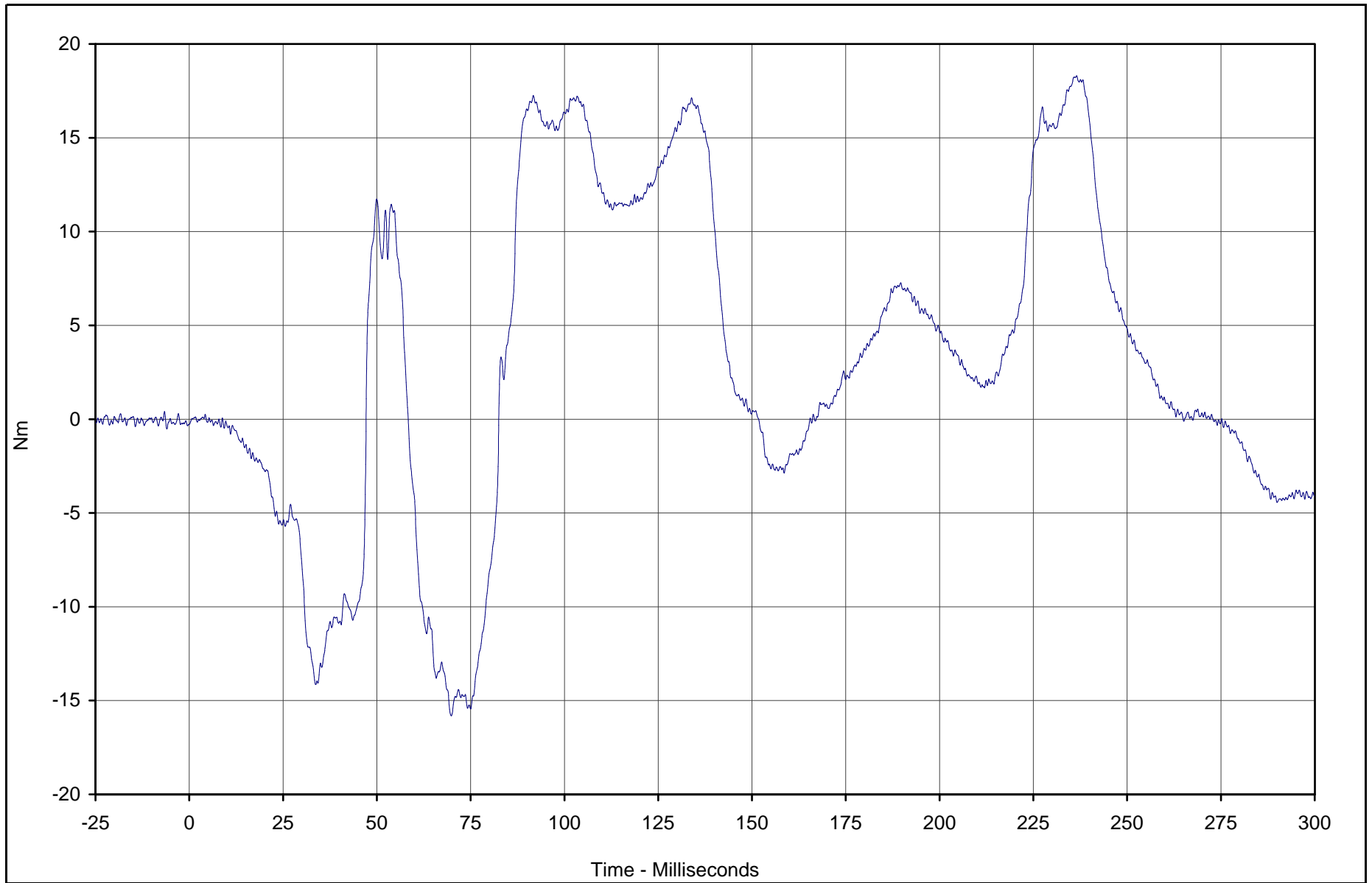
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Moment Y	030	FIL	Nm	18.3	236.5	-15.8	69.8	600



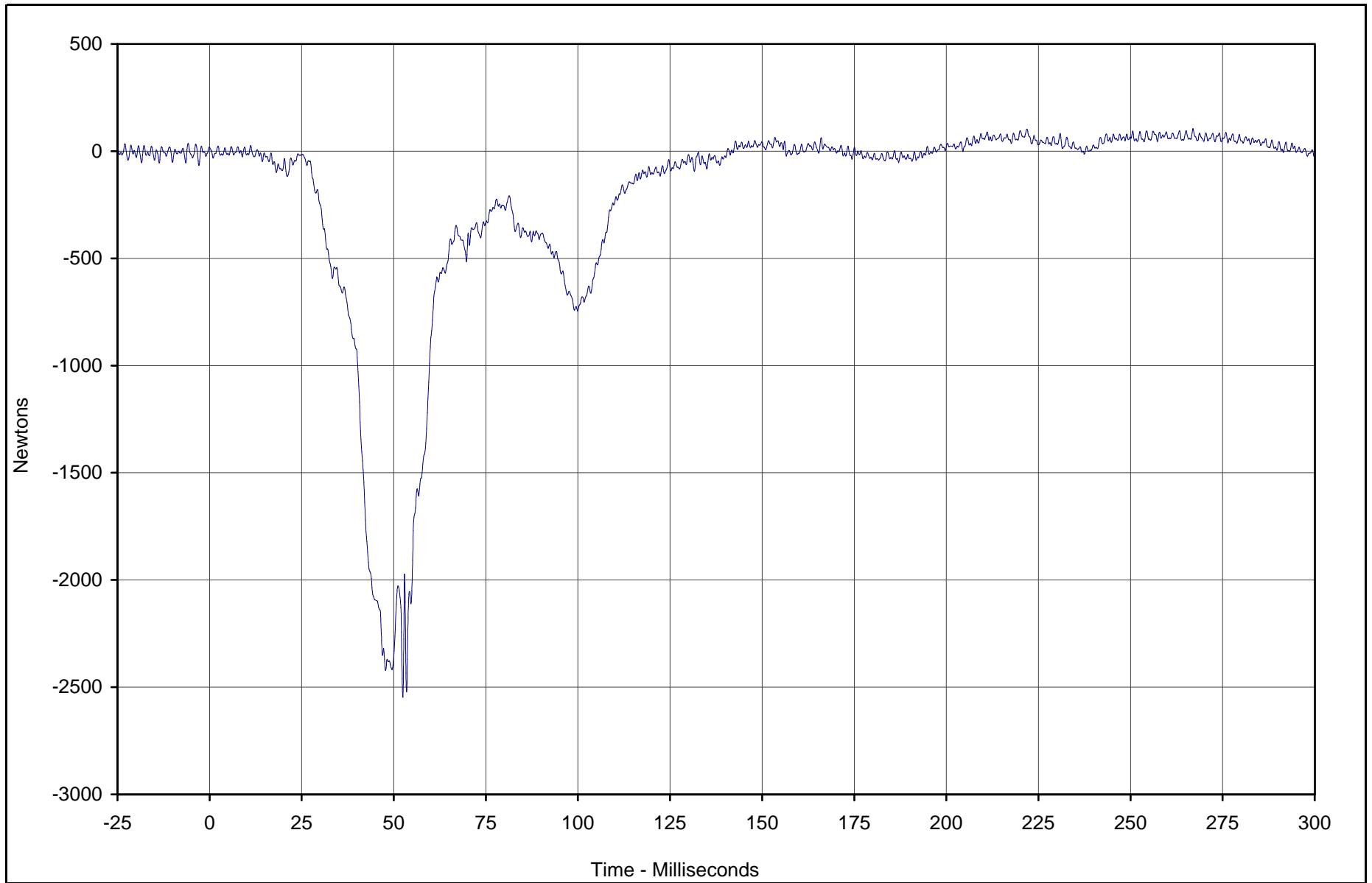
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Force Z	031	FIL	Newtons	105.3	267.0	-2546.2	52.5	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

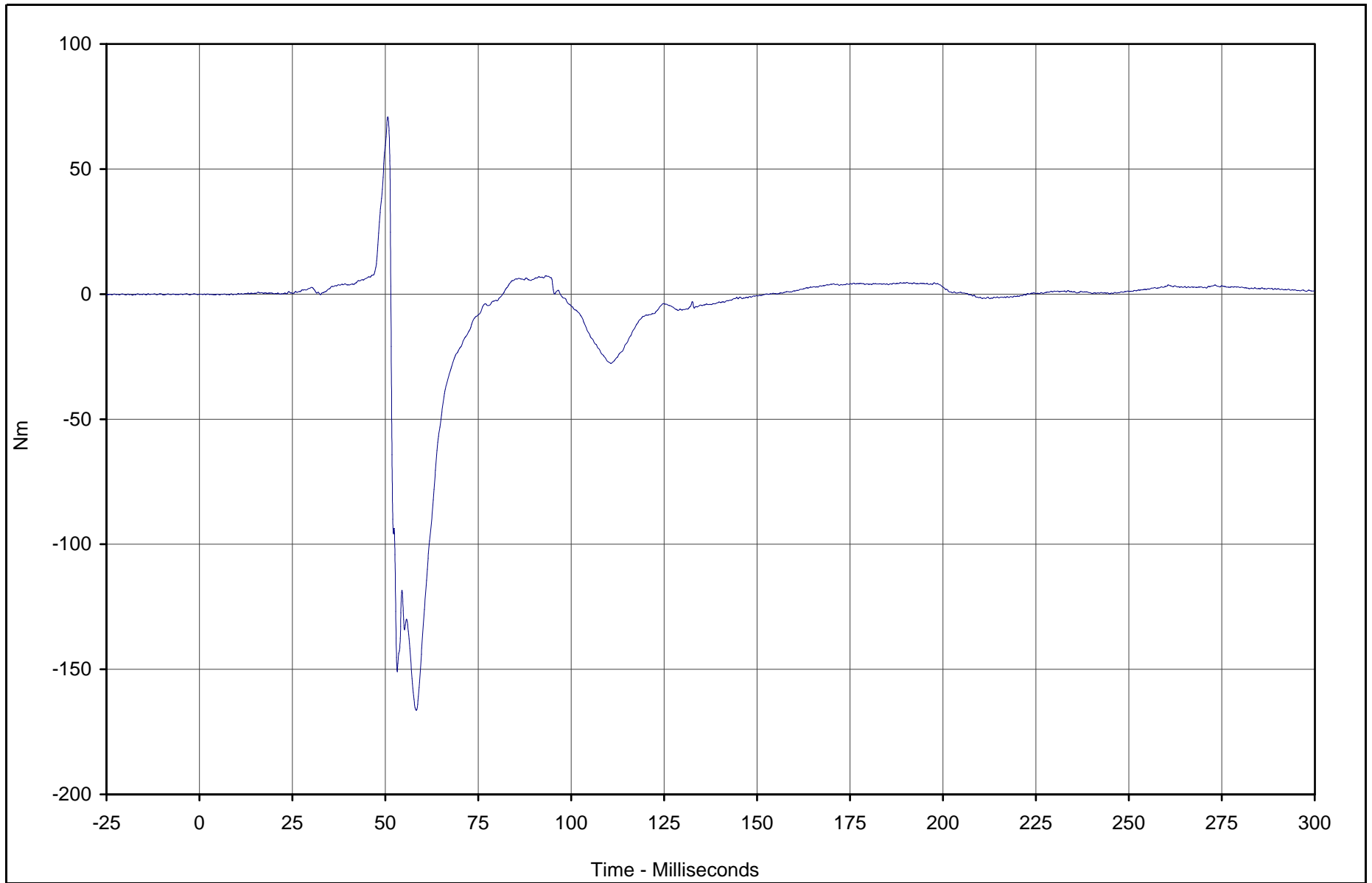
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

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KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Moment X	032	FIL	Nm	70.9	50.7	-166.4	58.3	600



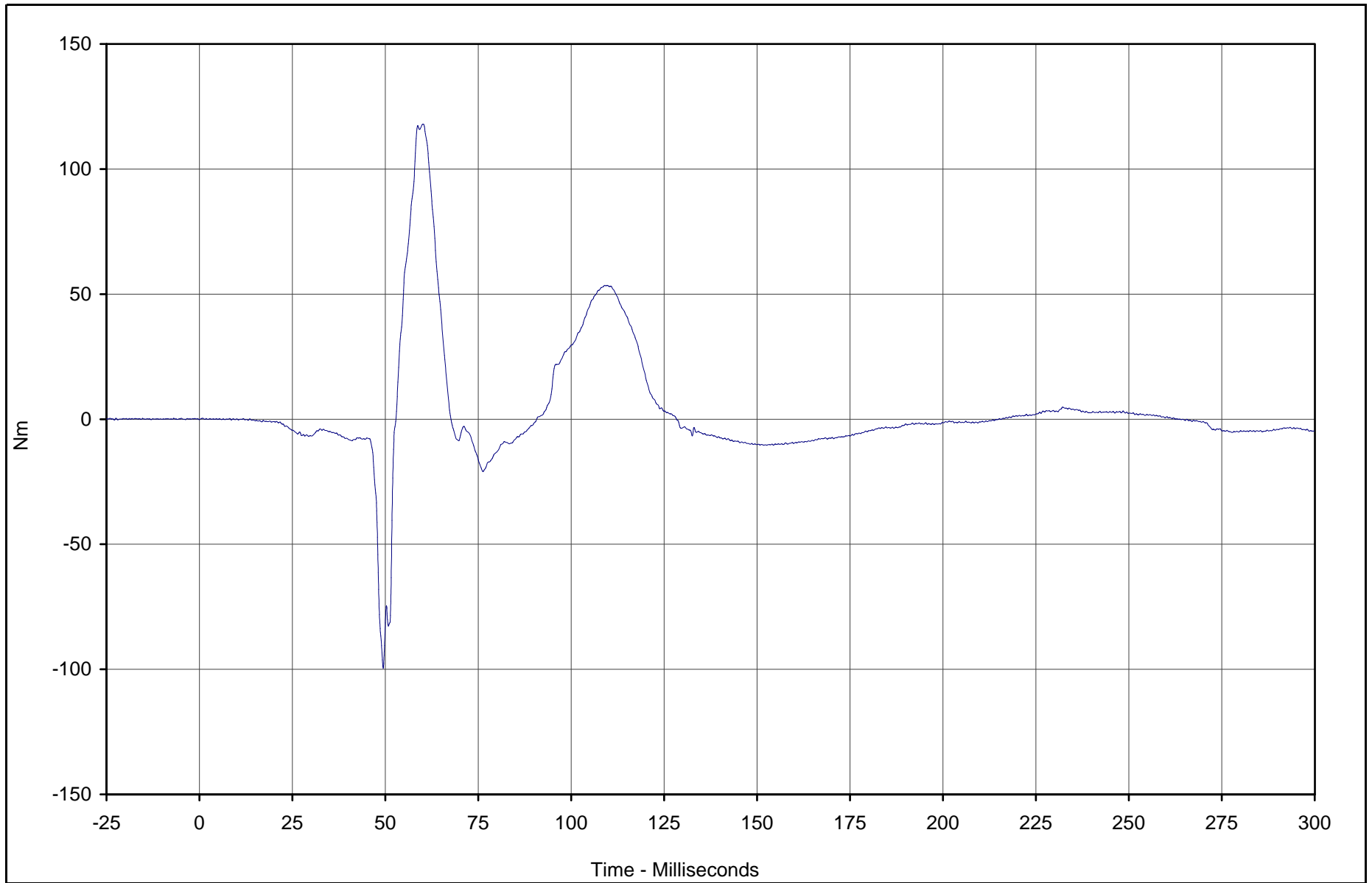
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-50



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Moment Y	033	FIL	Nm	118.0	60.2	-99.6	49.4	600



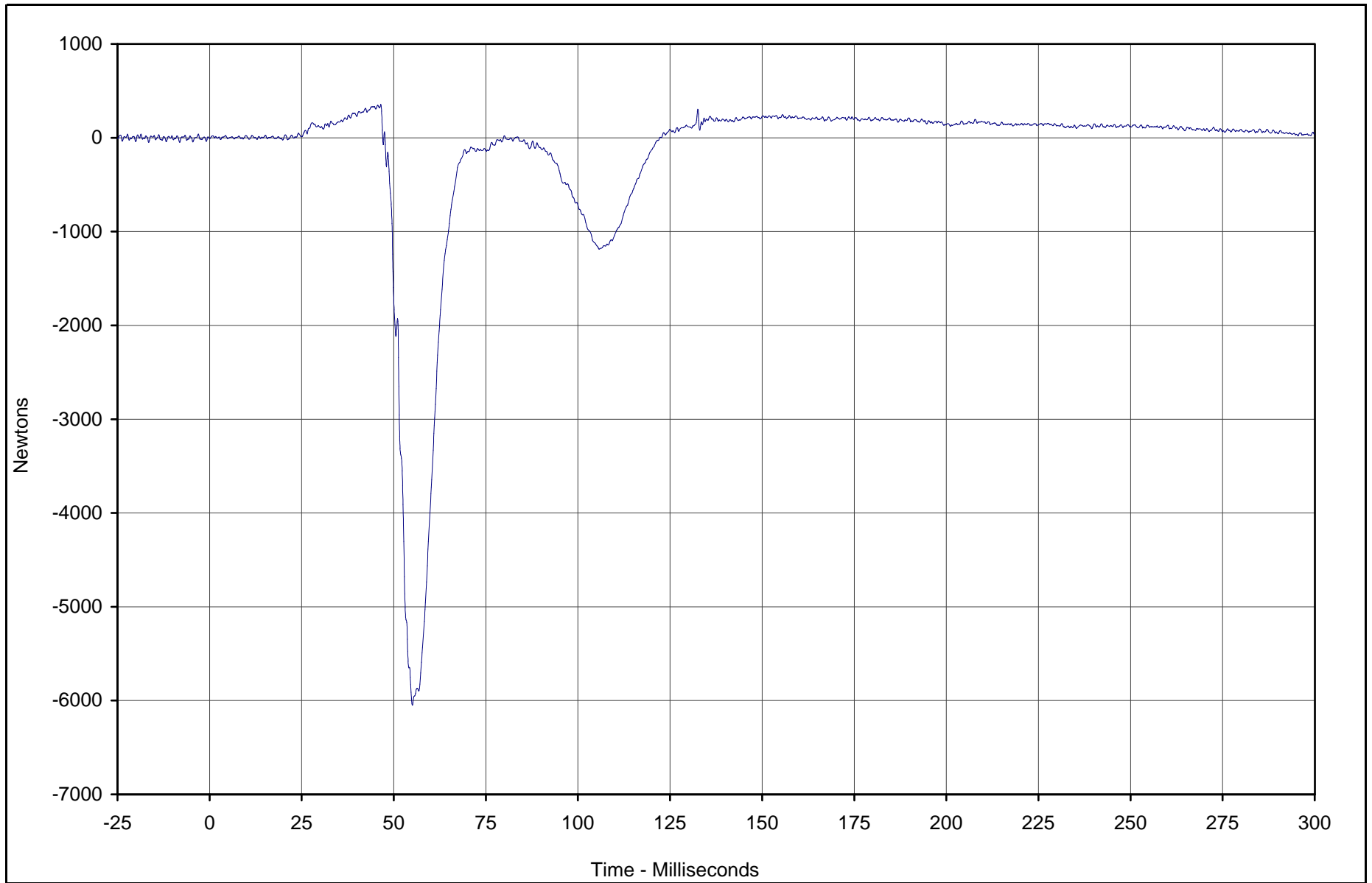
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Force Z	034	FIL	Newtons	357.5	46.5	-6050.2	55.0	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

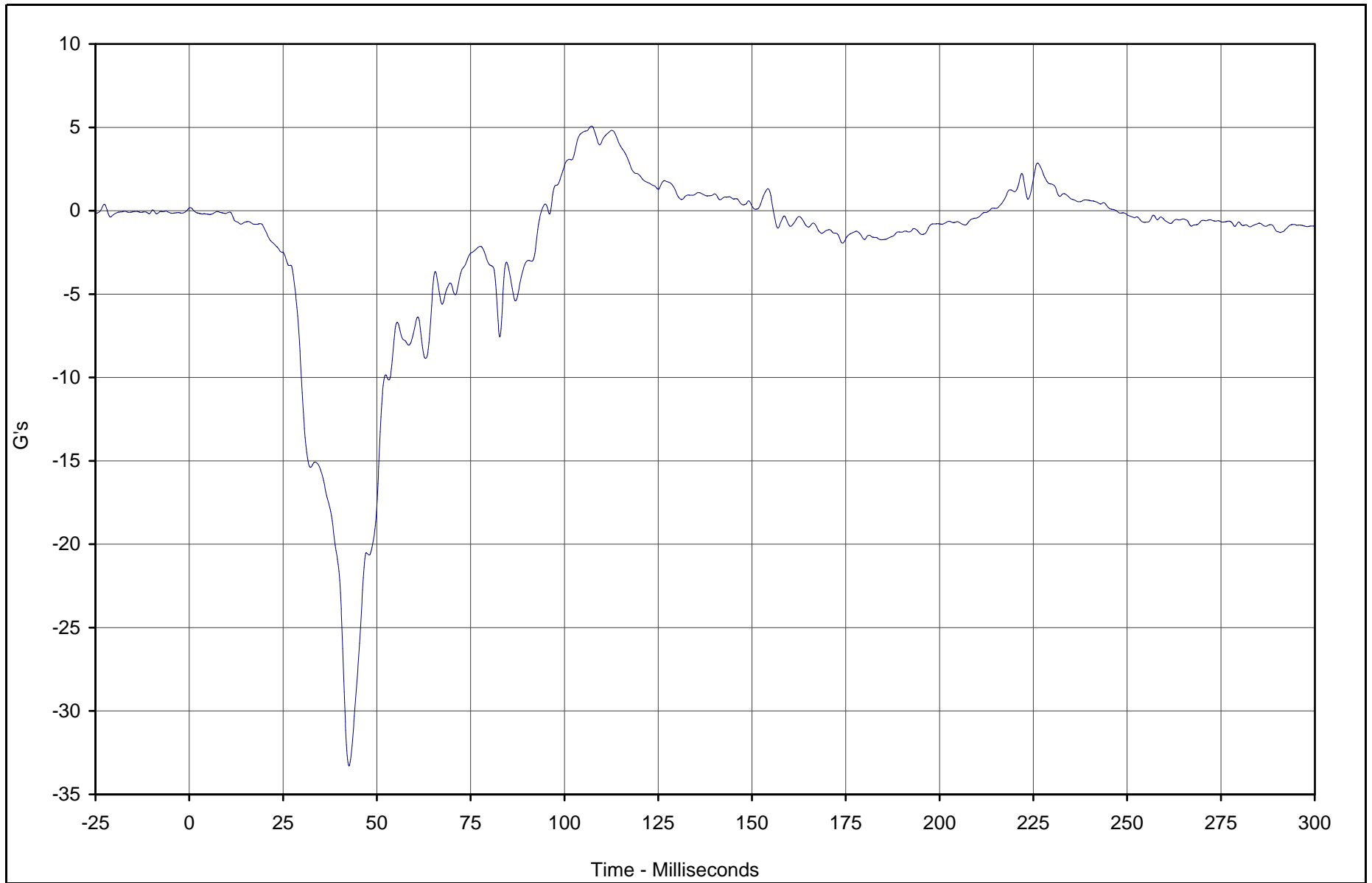
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-52



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Aft X	035	FIL	G's	5.1	107.2	-33.3	42.6	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

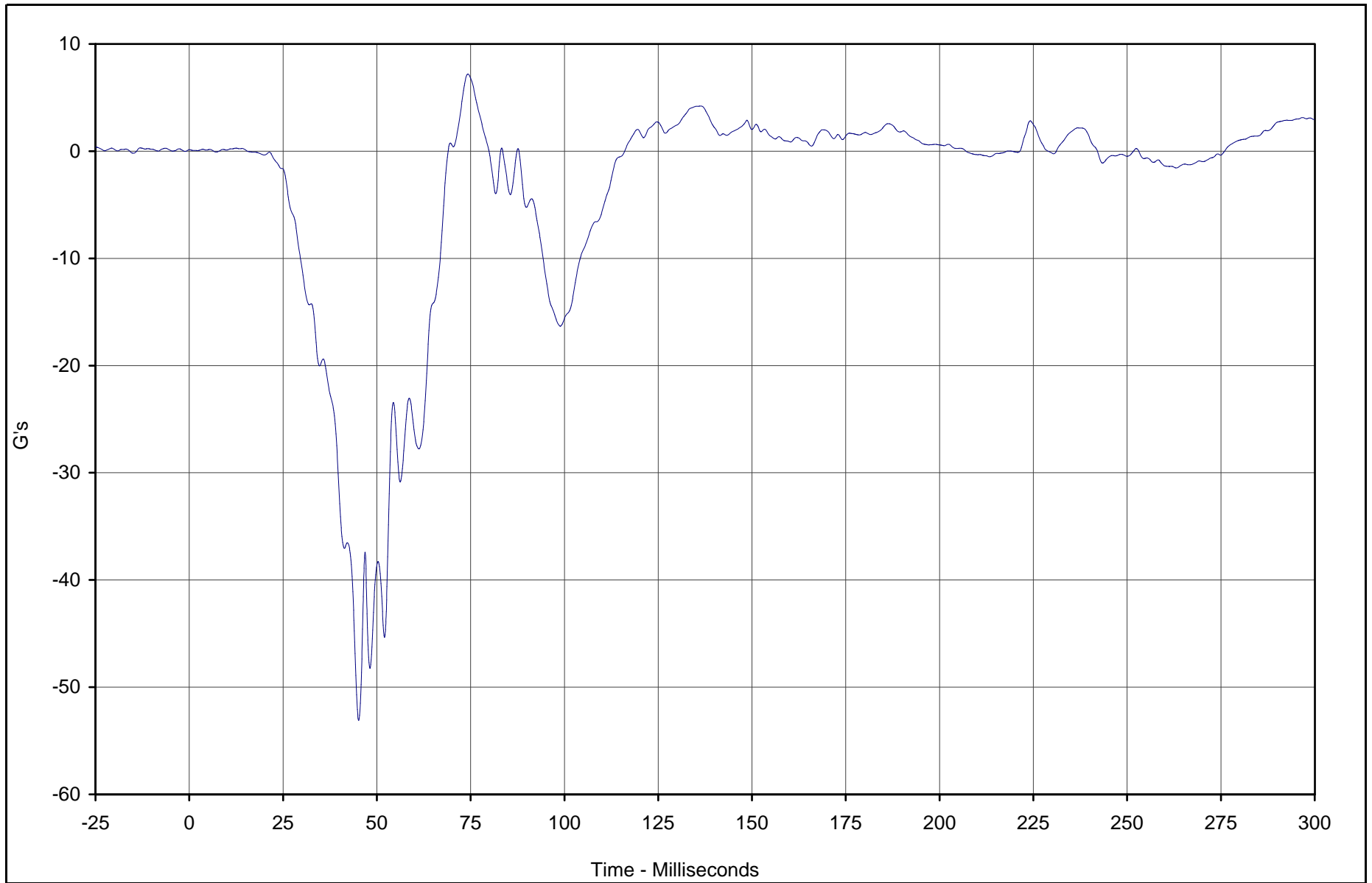
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-53



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Aft Z	036	FIL	G's	7.2	74.3	-53.1	45.2	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

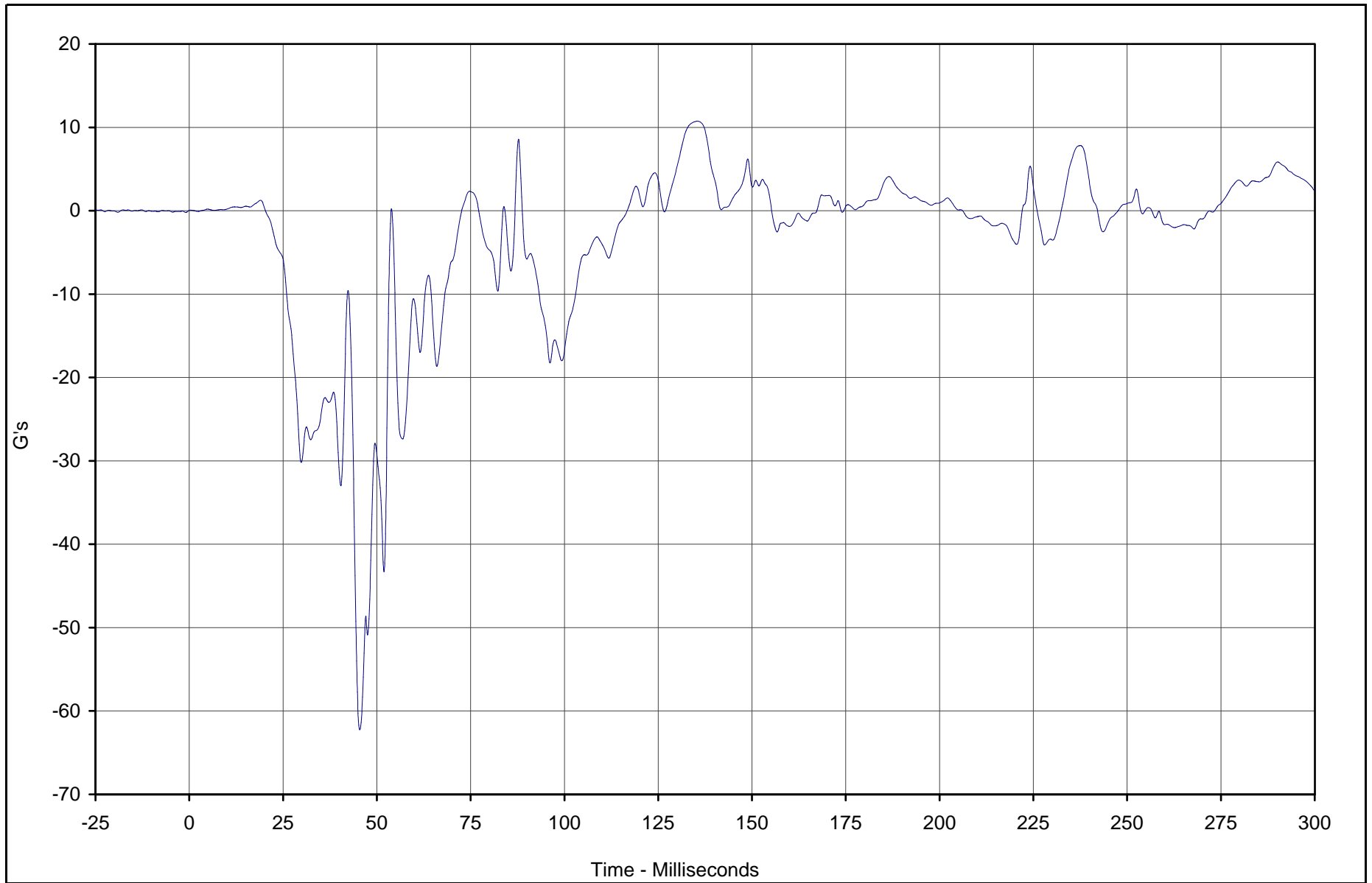
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-54



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Fore Z	037	FIL	G's	10.7	135.4	-62.2	45.4	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

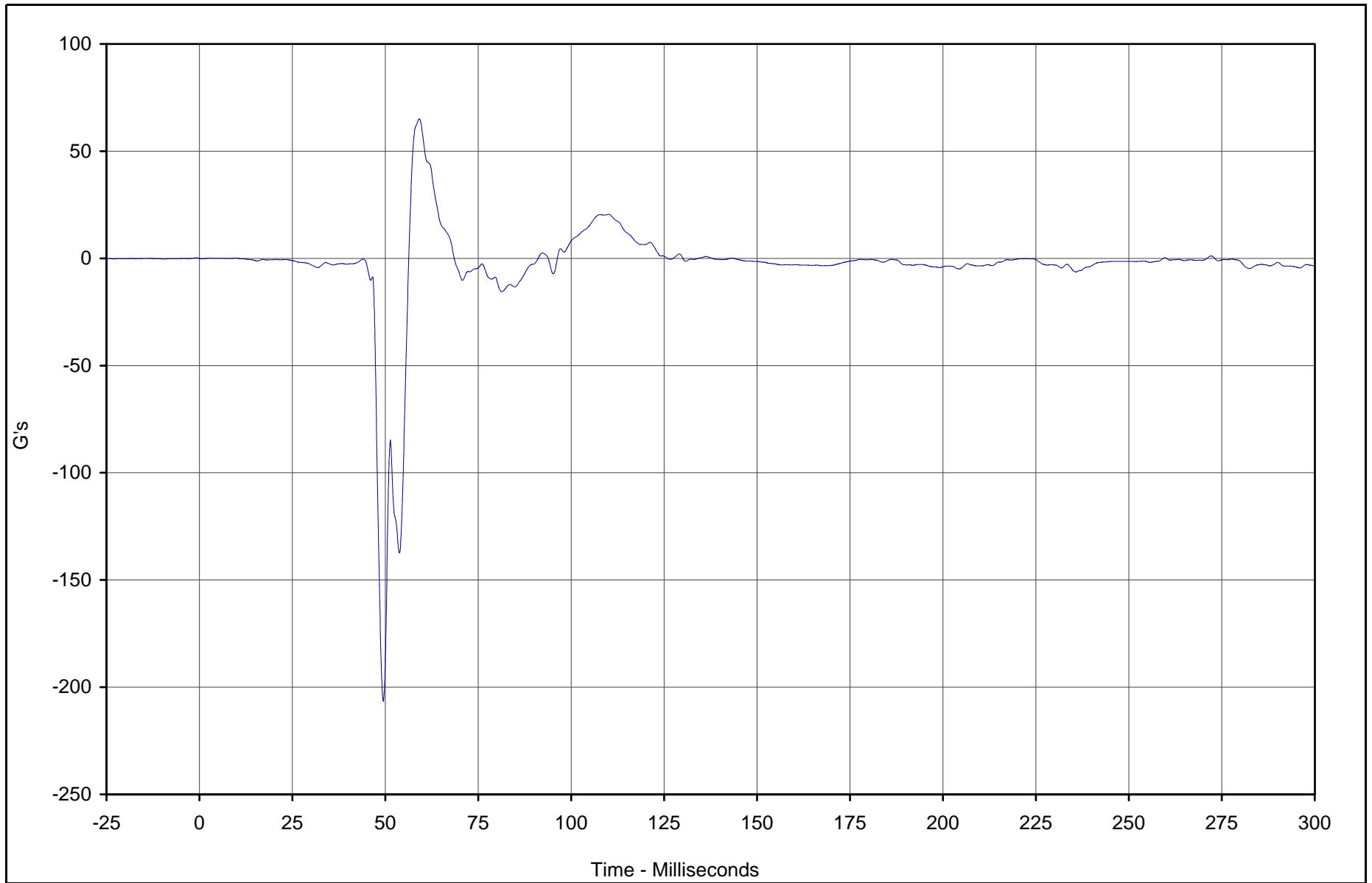
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-55



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Aft X	038	FIL	G's	65.0	59.1	-206.6	49.5	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

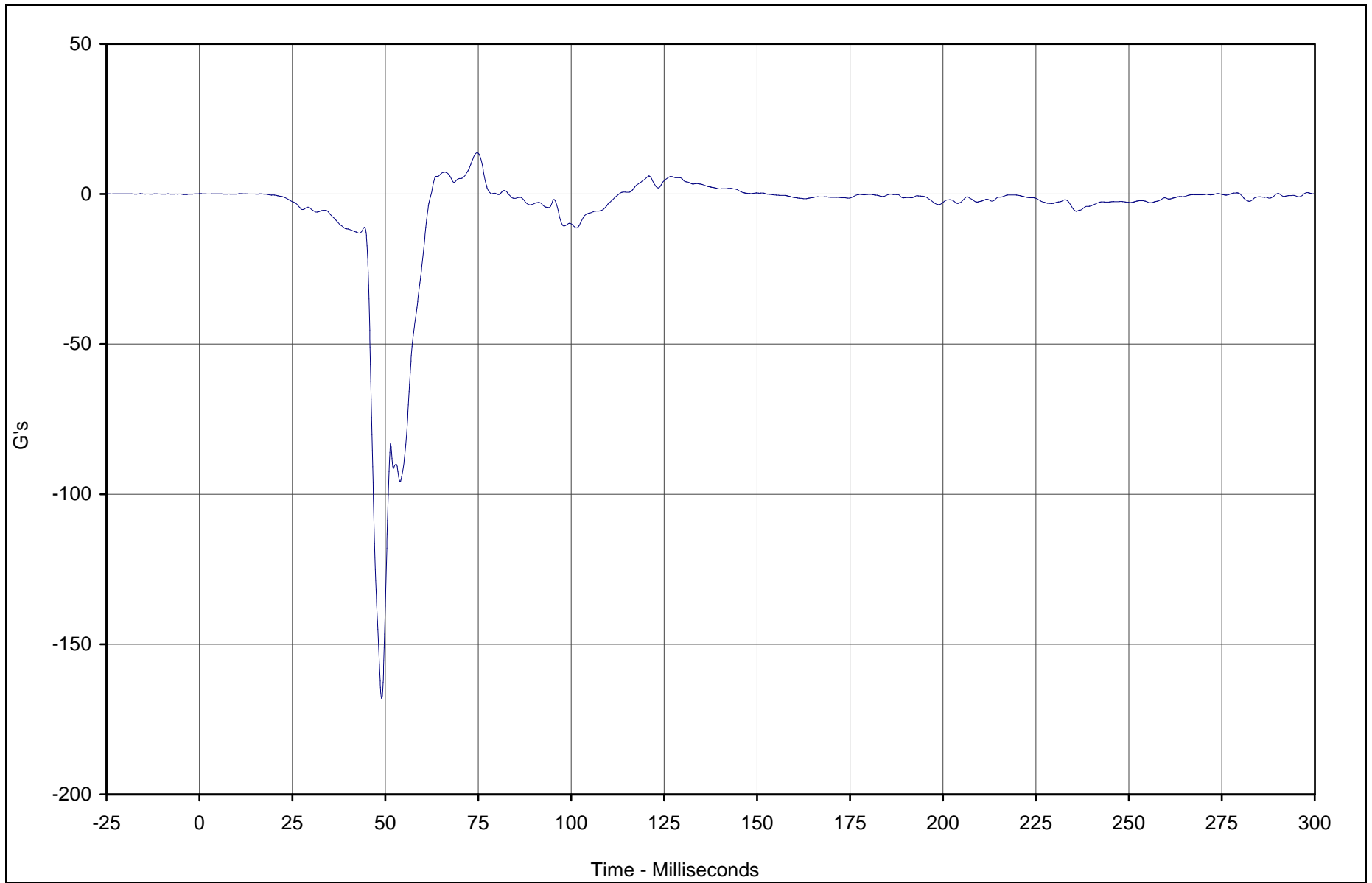
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-56



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Aft Z	039	FIL	G's	13.8	74.7	-168.1	49.0	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

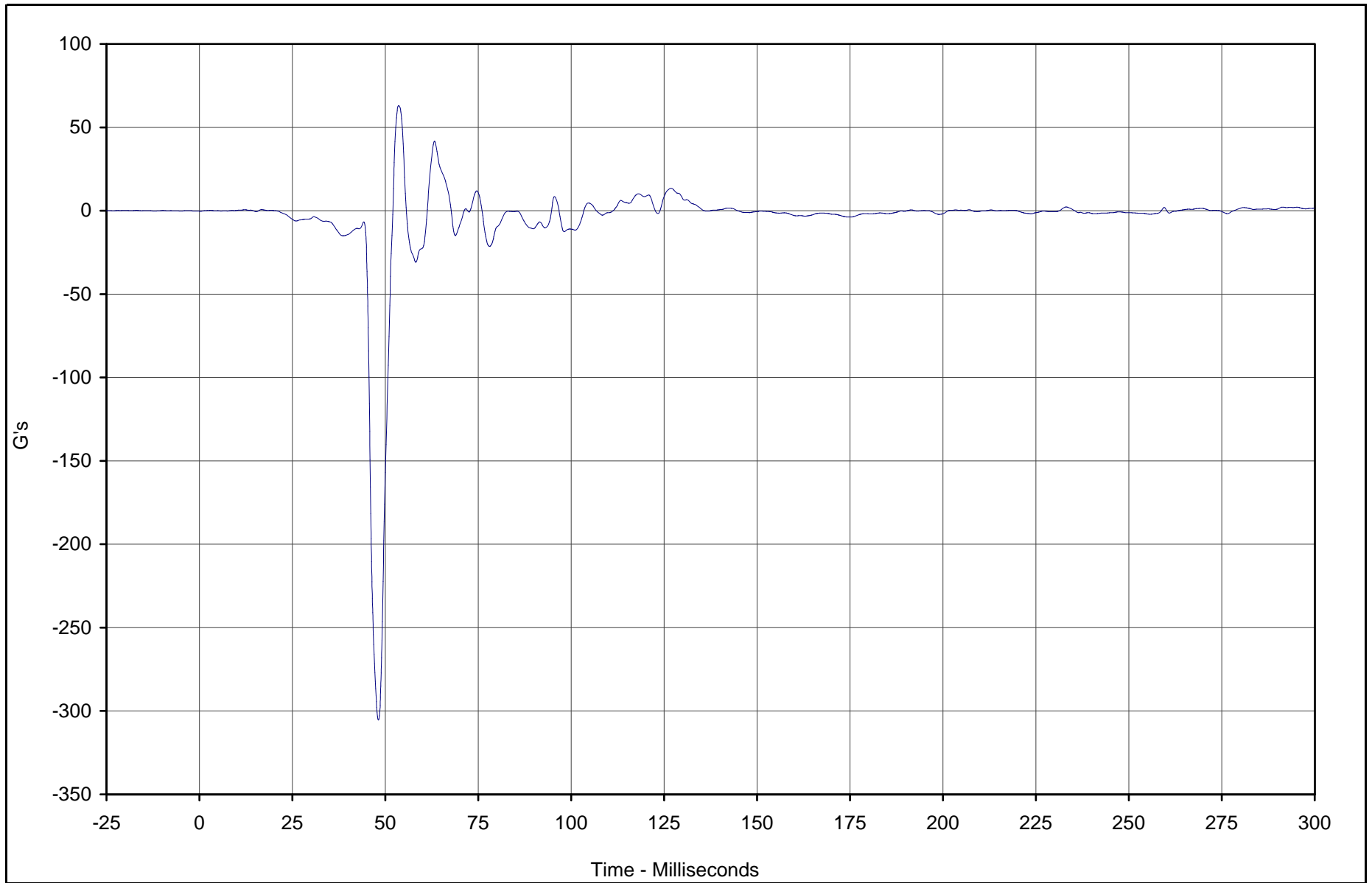
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-57



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Fore Z	040	FIL	G's	63.0	53.6	-305.4	48.1	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

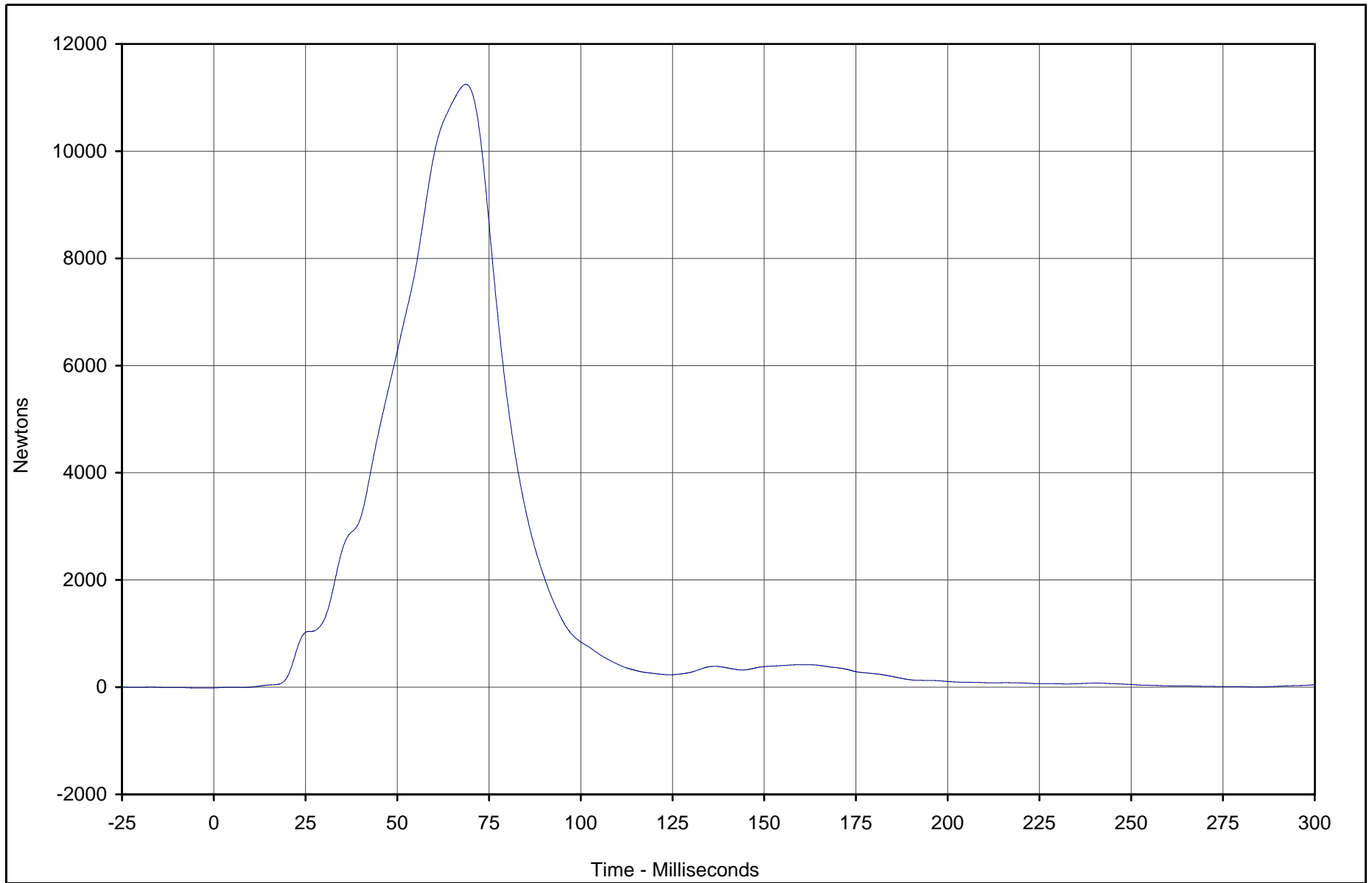
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-58



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Lap Belt Force	041	FIL	Newtons	11247.6	68.7	-12.3	0.0	60



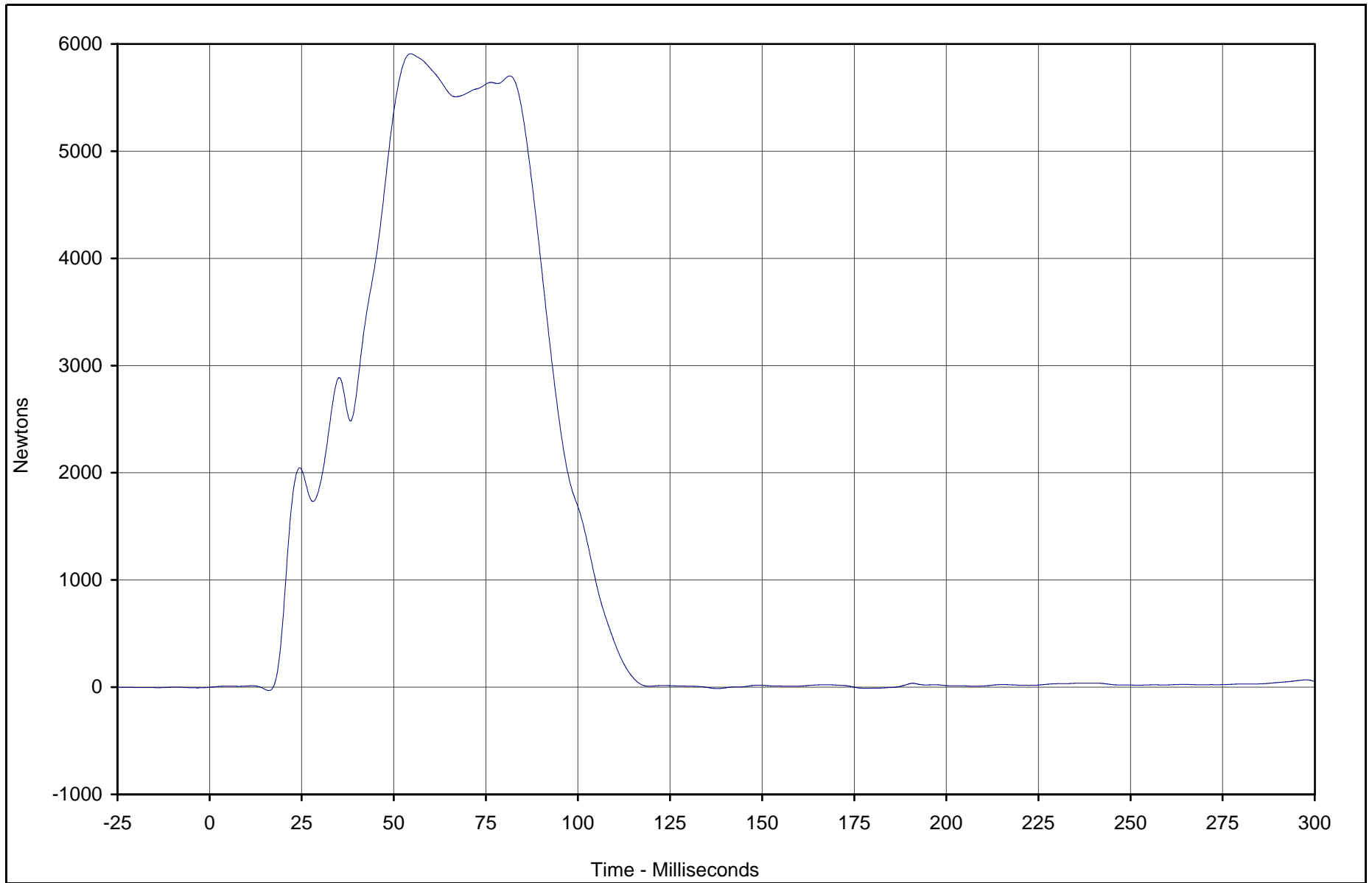
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-59



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Force	042	FIL	Newtons	5909.2	54.6	-31.4	16.1	60



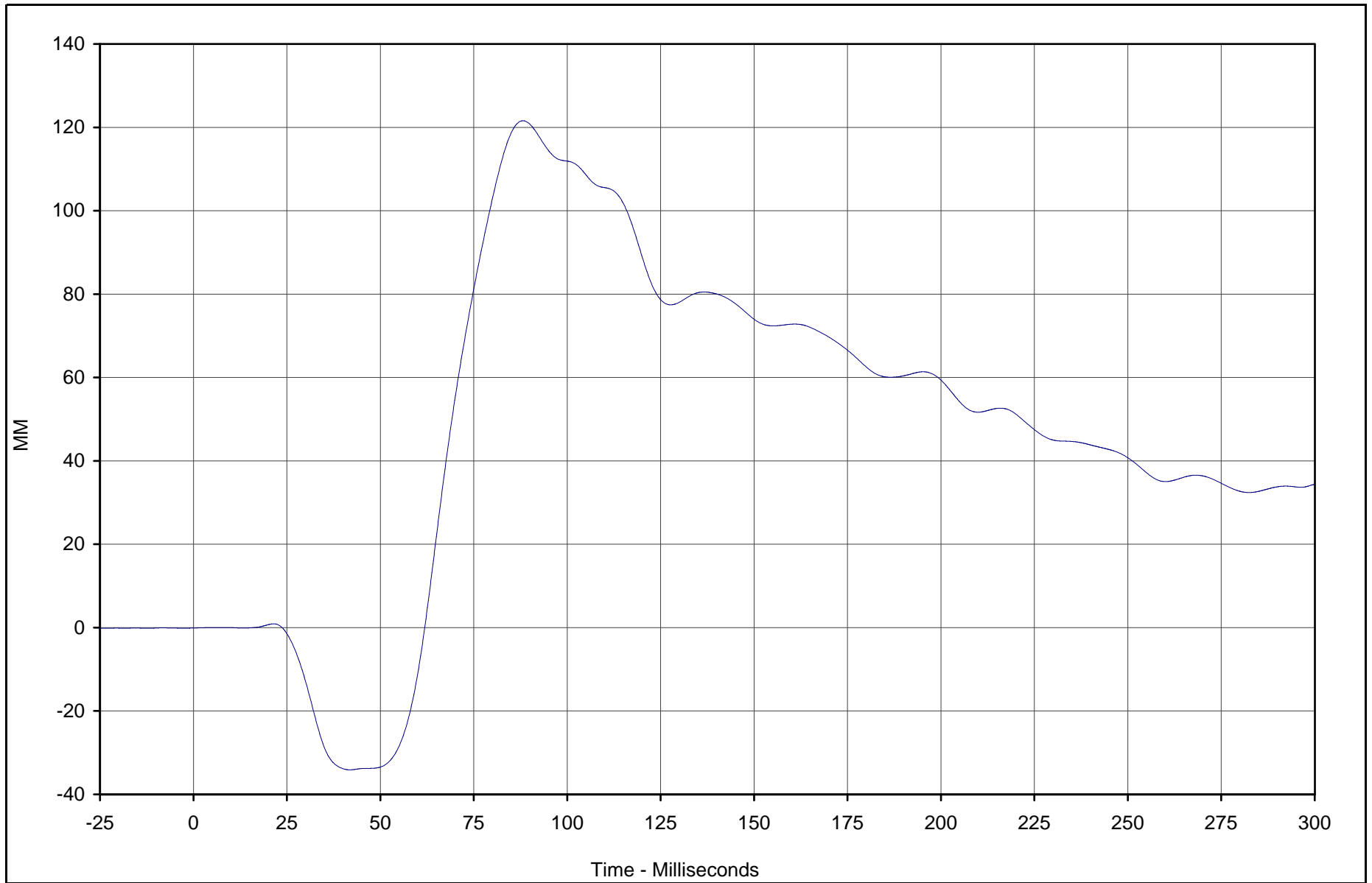
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-60



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Pullout	043	FIL	MM	121.6	88.2	-34.1	41.8	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

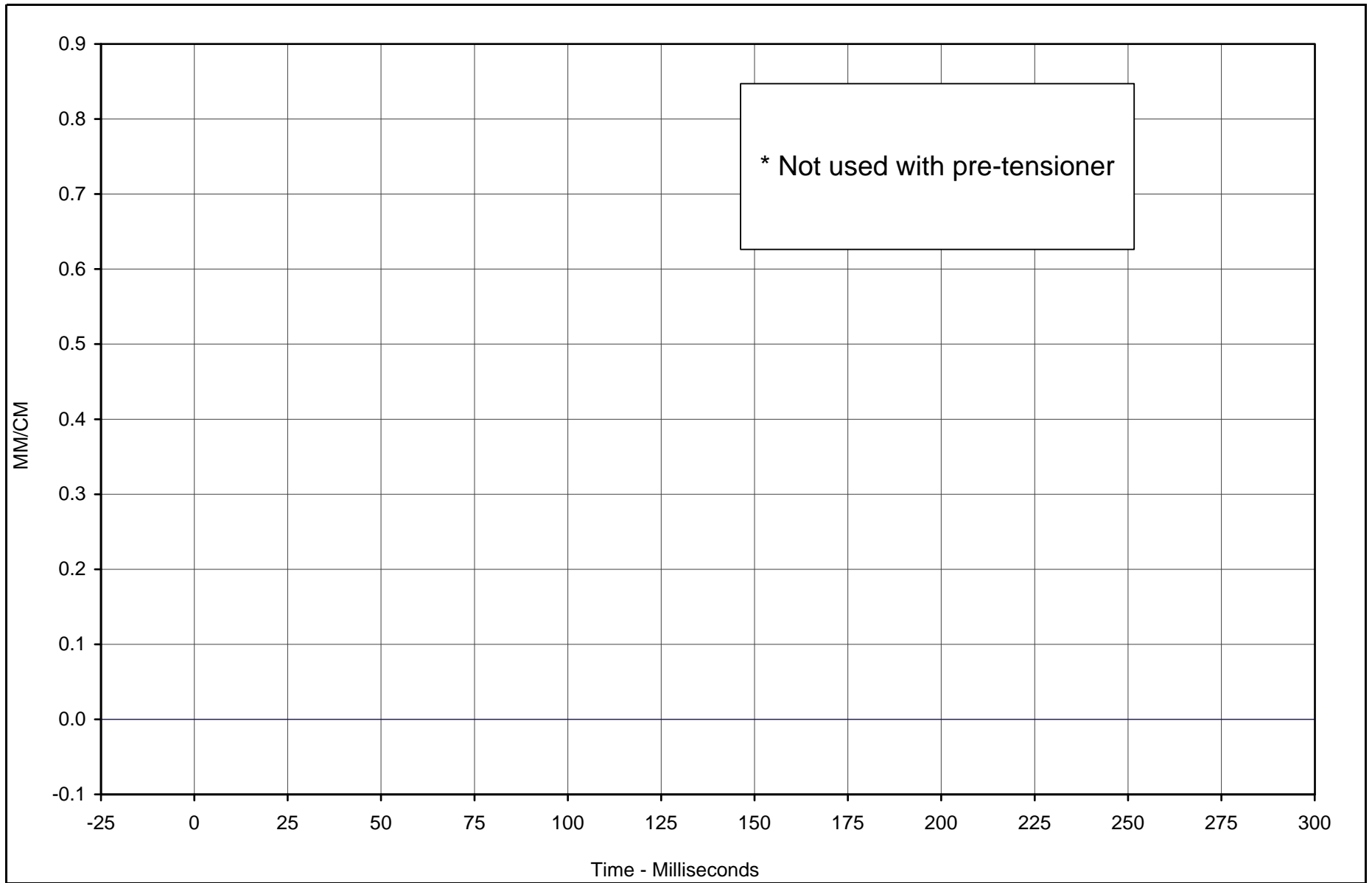
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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* Not used with pre-tensioner

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Elongation	044	FIL	MM/CM	0.00	0.0	0.00	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

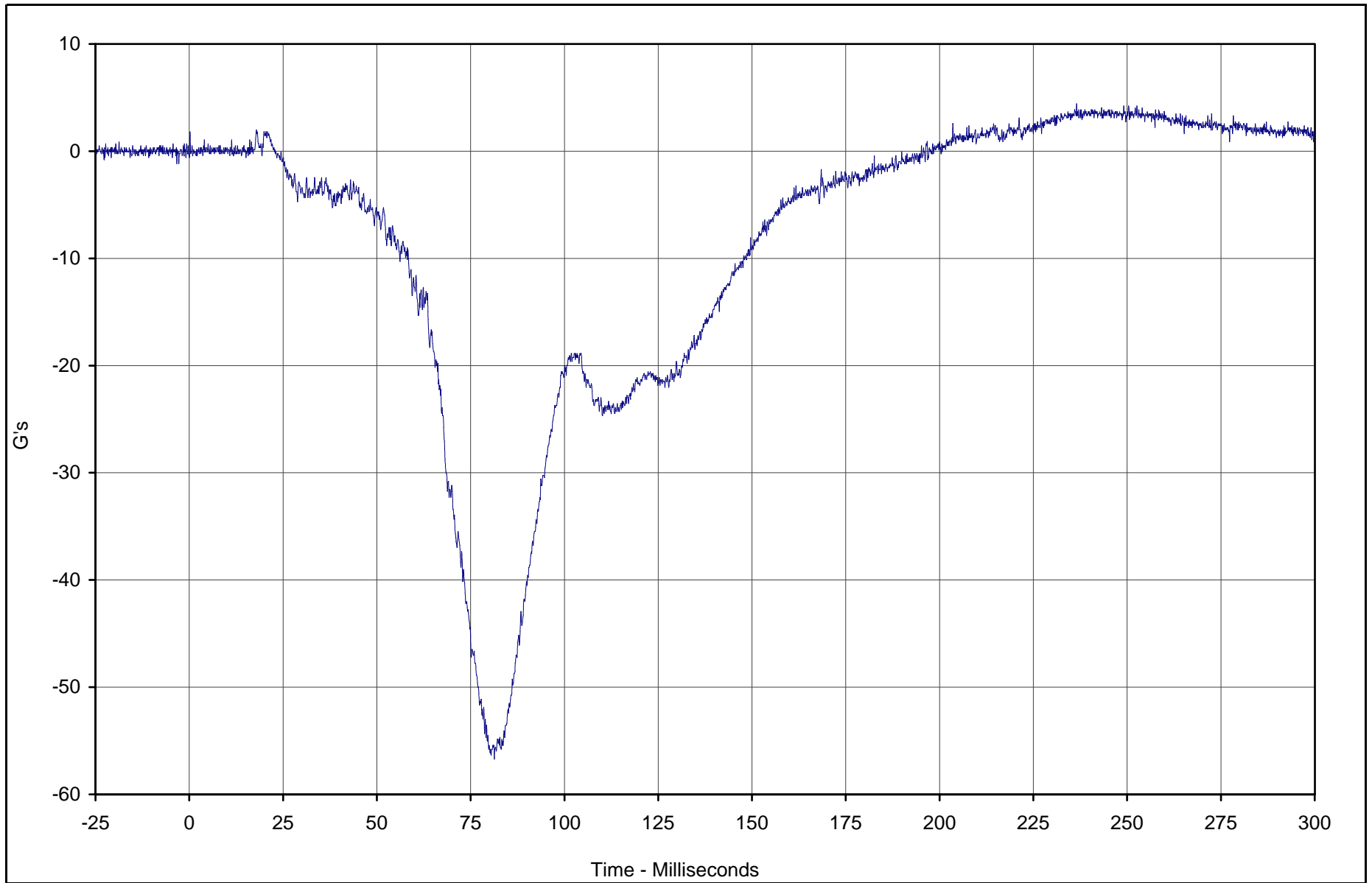
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-62



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X	045	FIL	G's	4.4	236.5	-56.7	81.3	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

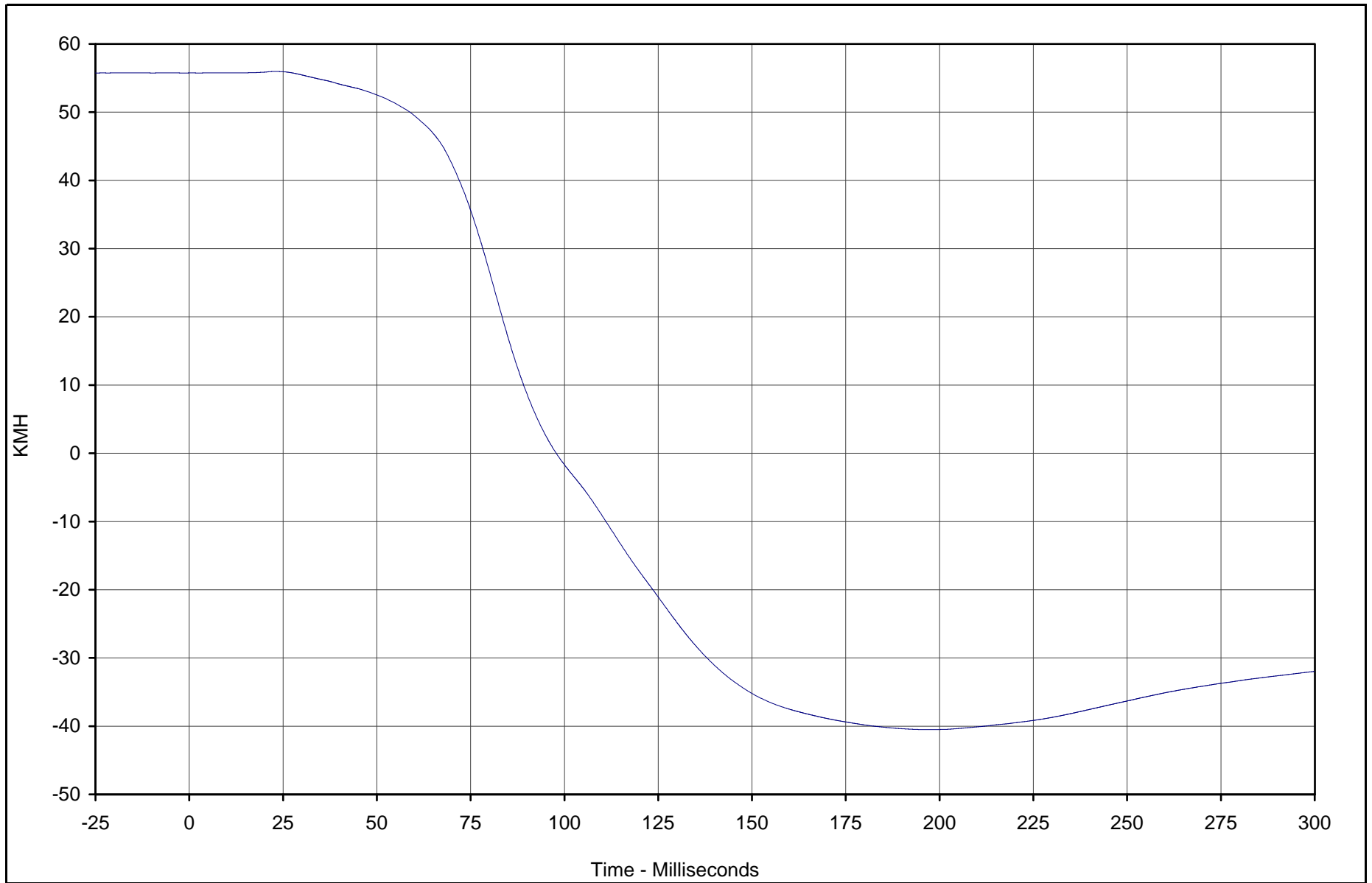
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-63



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X Velocity	045	IN1	KMH	56.0	22.8	-40.5	197.5	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

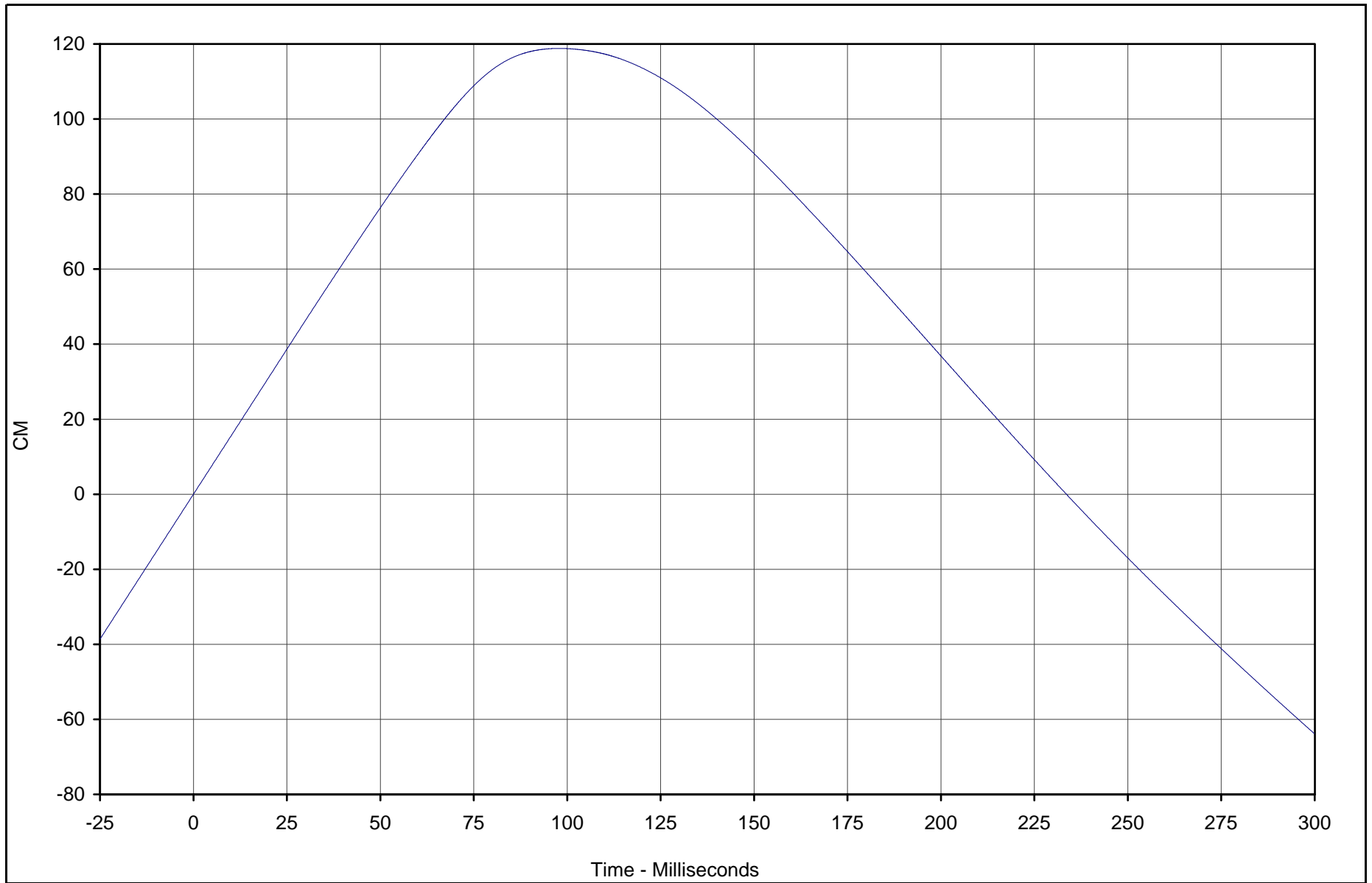
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-64



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X Displ.	045	IN2	CM	118.8	97.8	-63.8	299.9	180



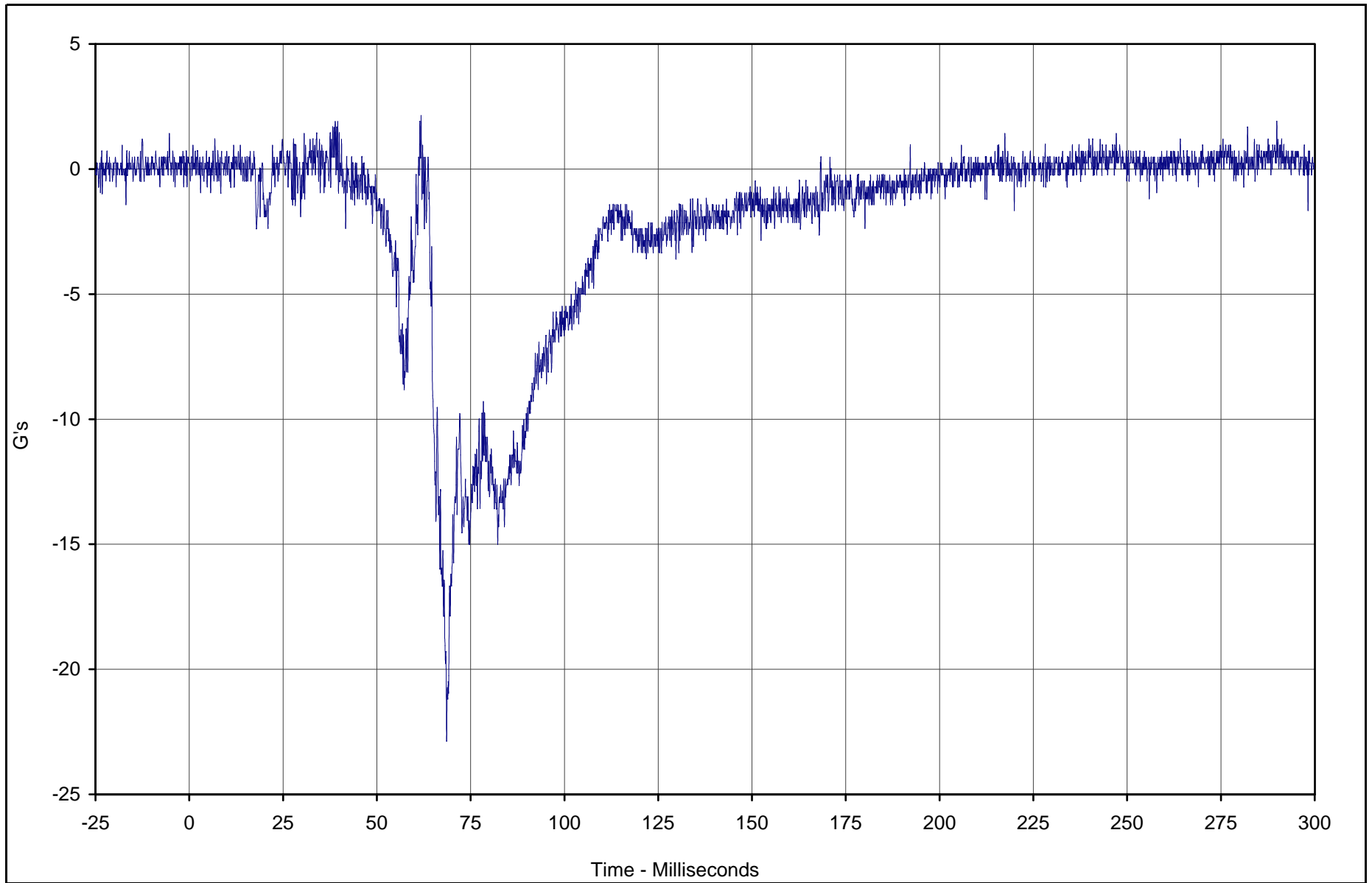
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-65



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Y	046	FIL	G's	2.1	61.8	-22.9	68.6	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

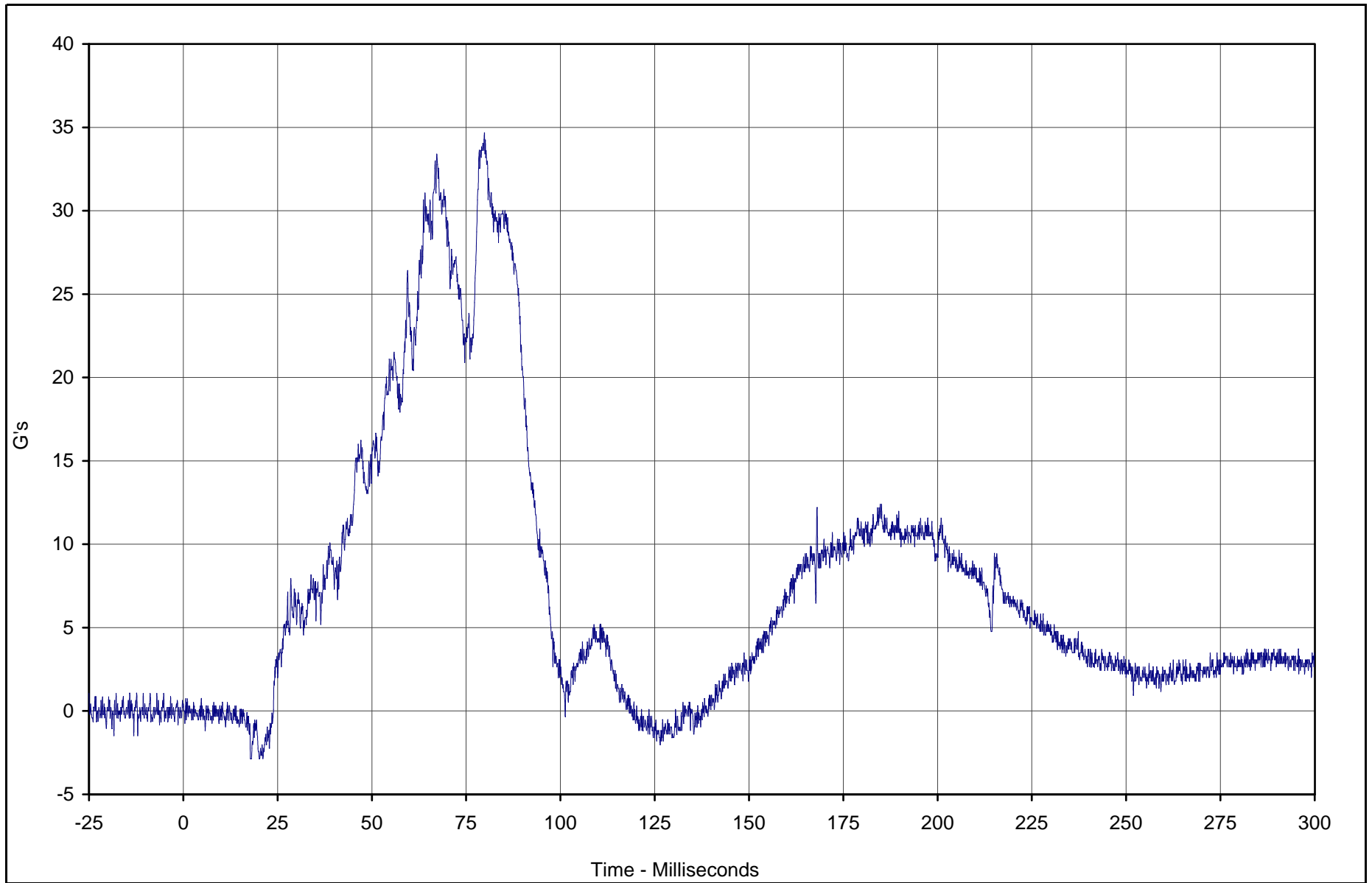
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-66



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Z	047	FIL	G's	34.7	79.8	-2.9	17.8	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

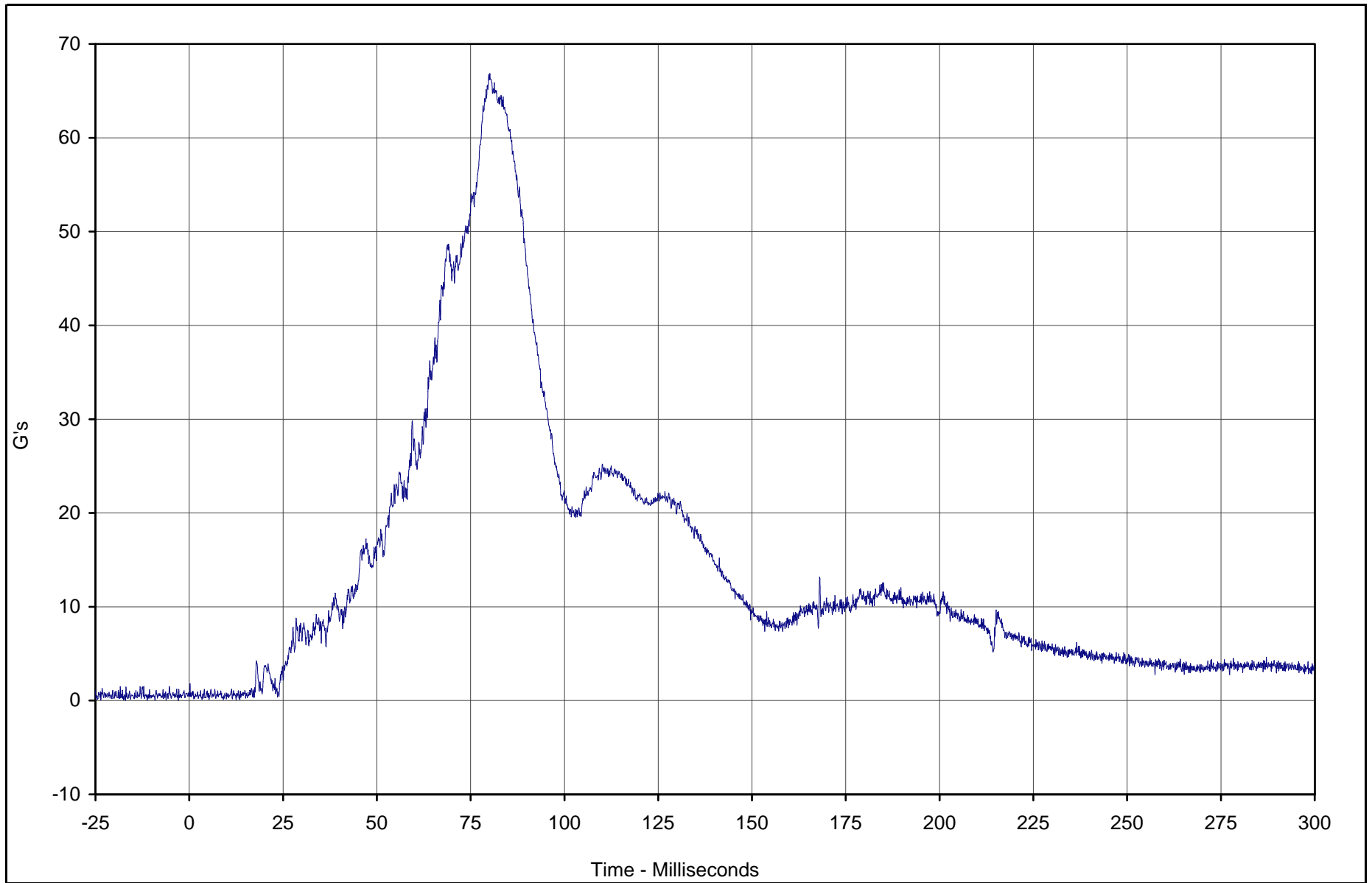
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-67



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Resultant Primary	045	RES	G's	66.9	80.1	0.1	5.3	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

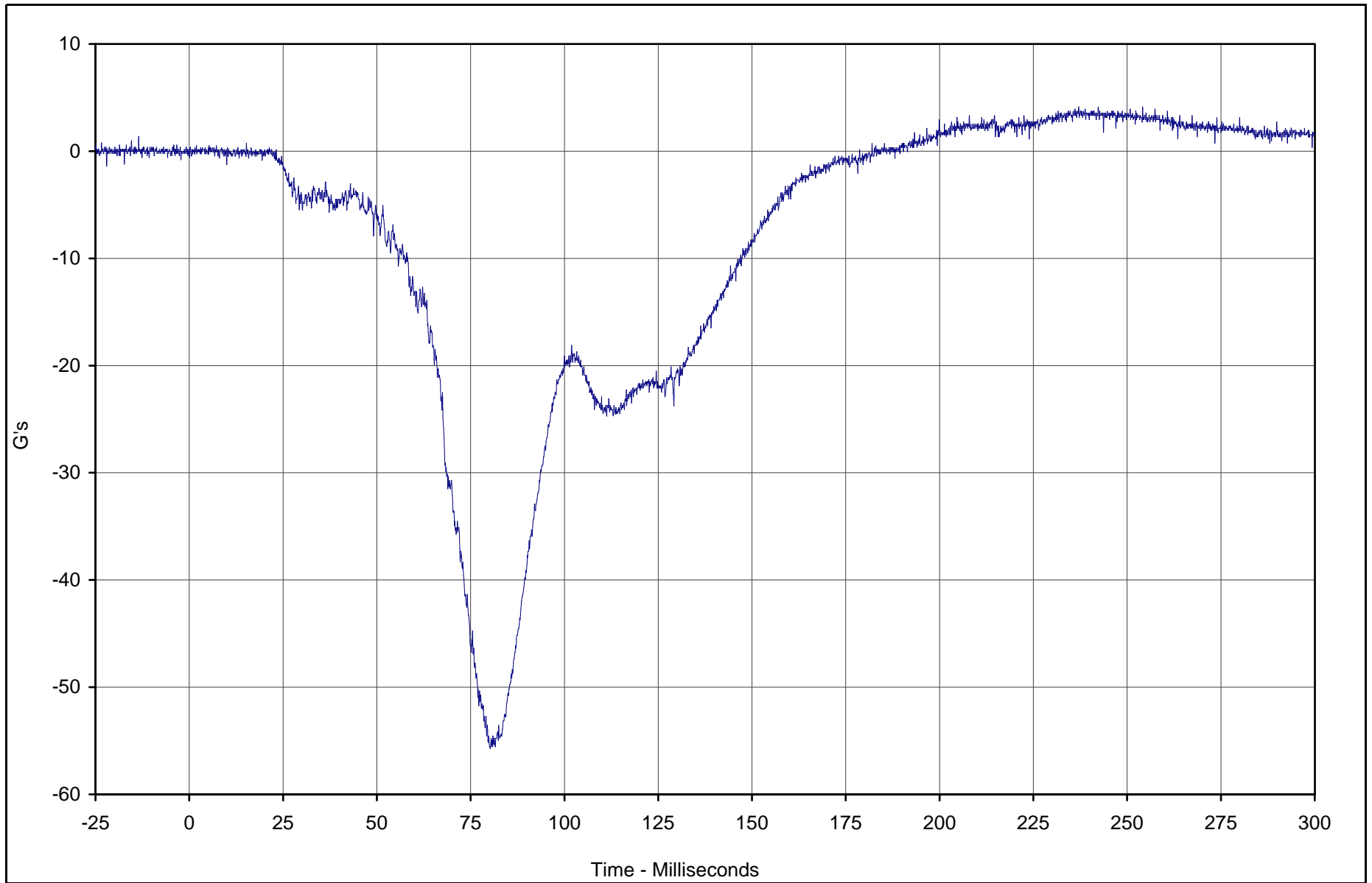
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-68



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X	048	FIL	G's	4.1	237.1	-55.8	80.2	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

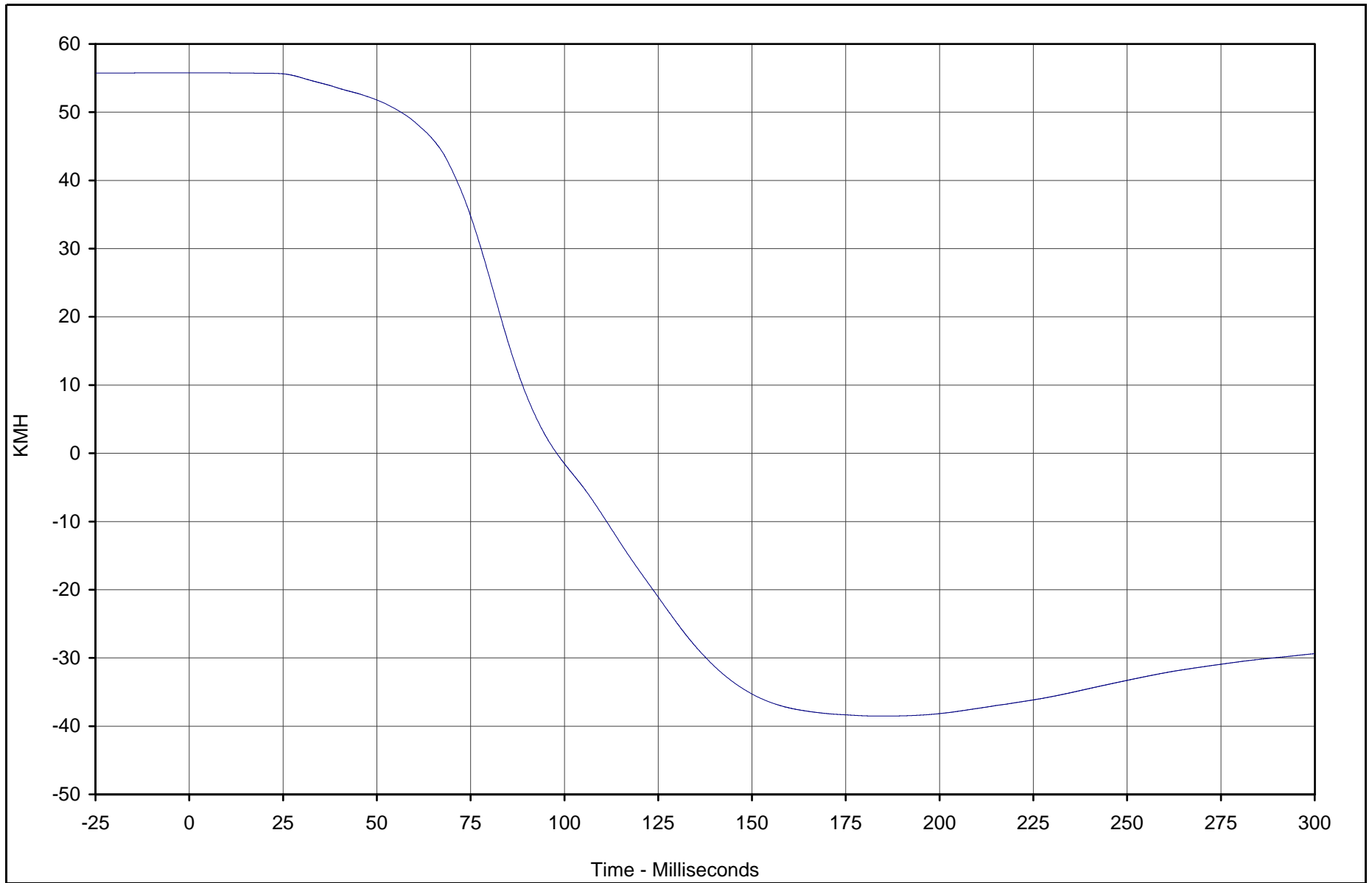
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-69



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X Velocity	048	IN1	KMH	55.8	7.0	-38.5	184.1	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

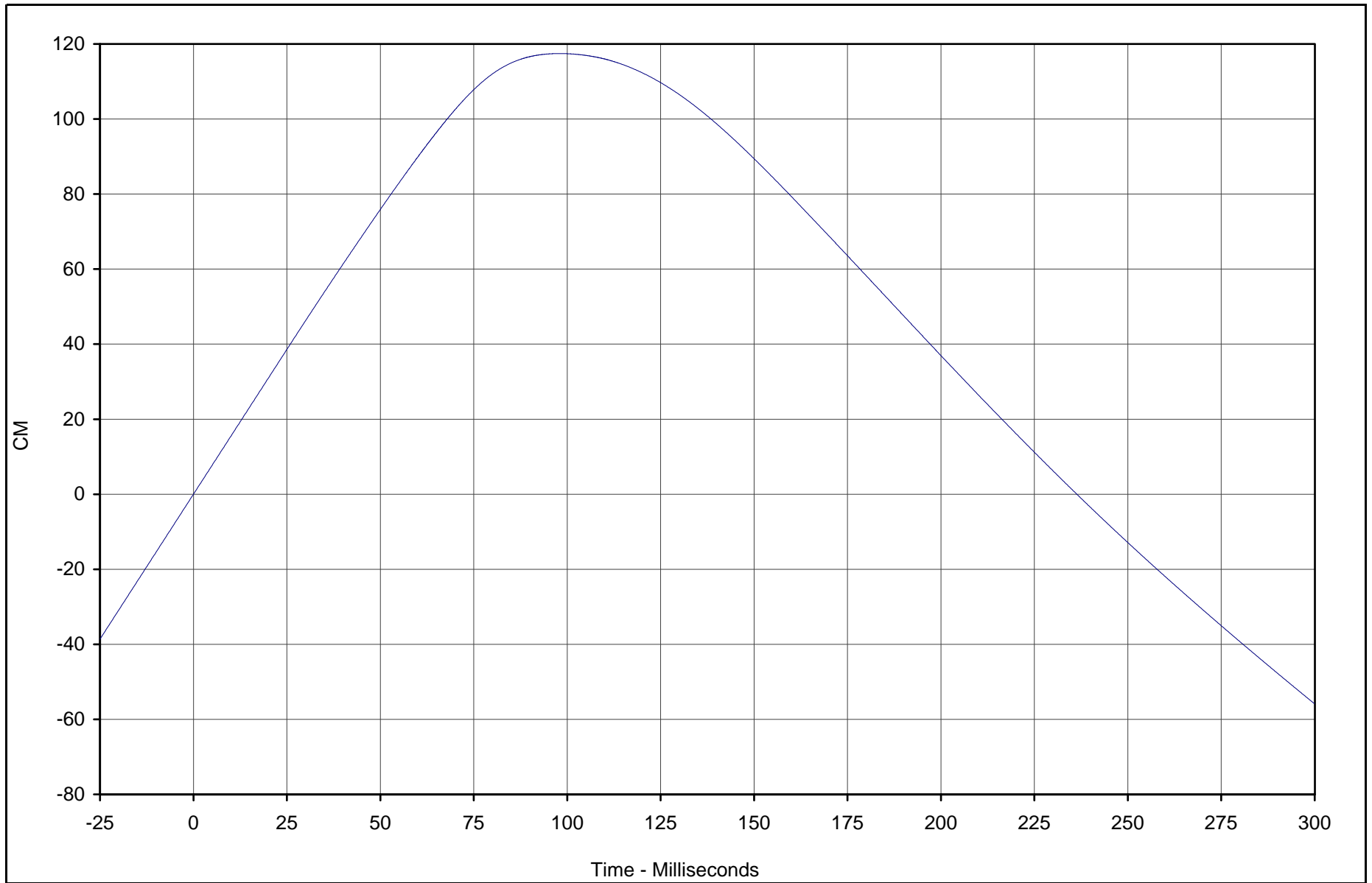
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-70



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X Displ.	048	IN2	CM	117.4	97.9	-55.8	299.9	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

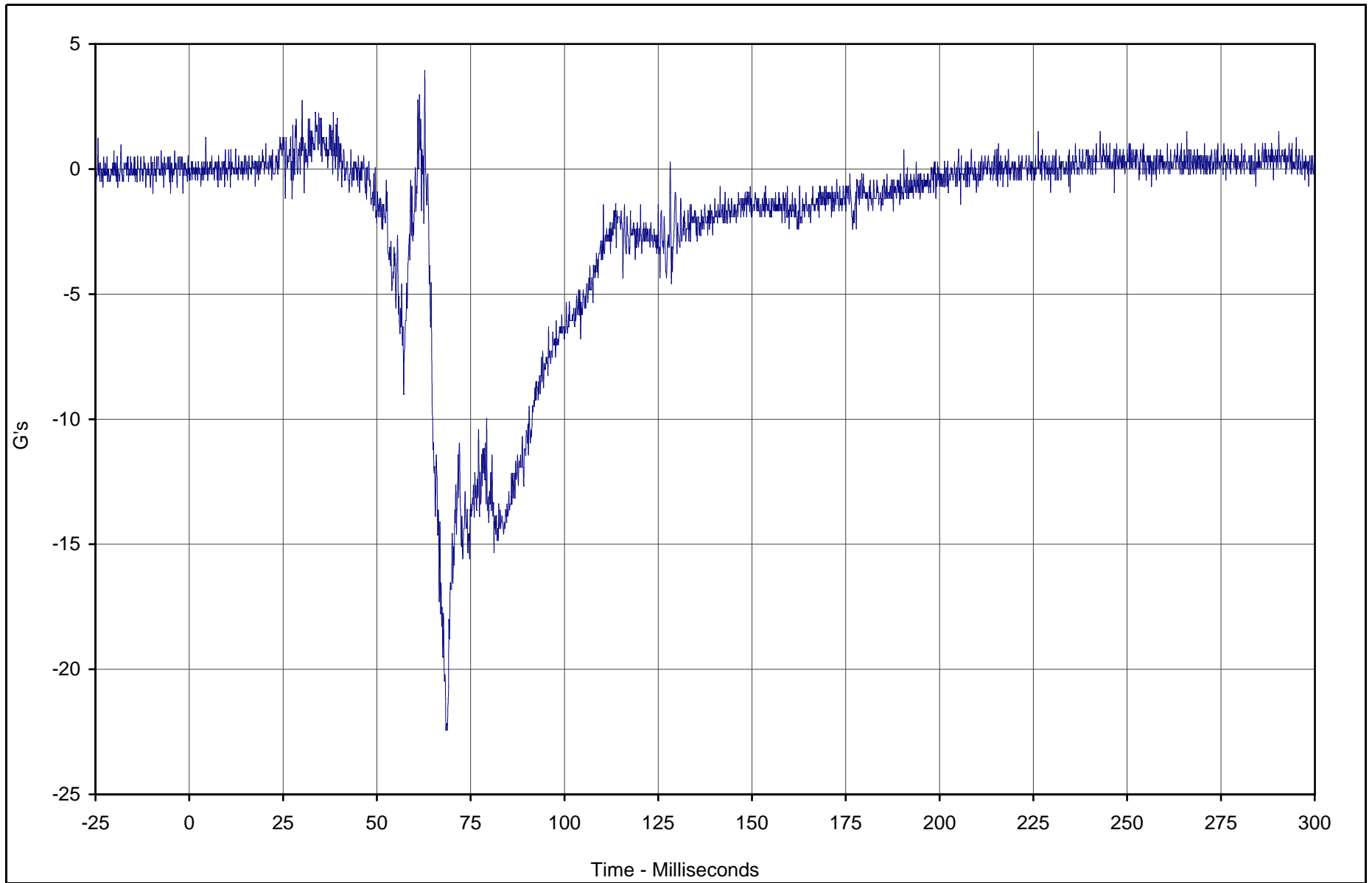
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-71



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant Y	049	FIL	G's	4.0	62.8	-22.4	68.4	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

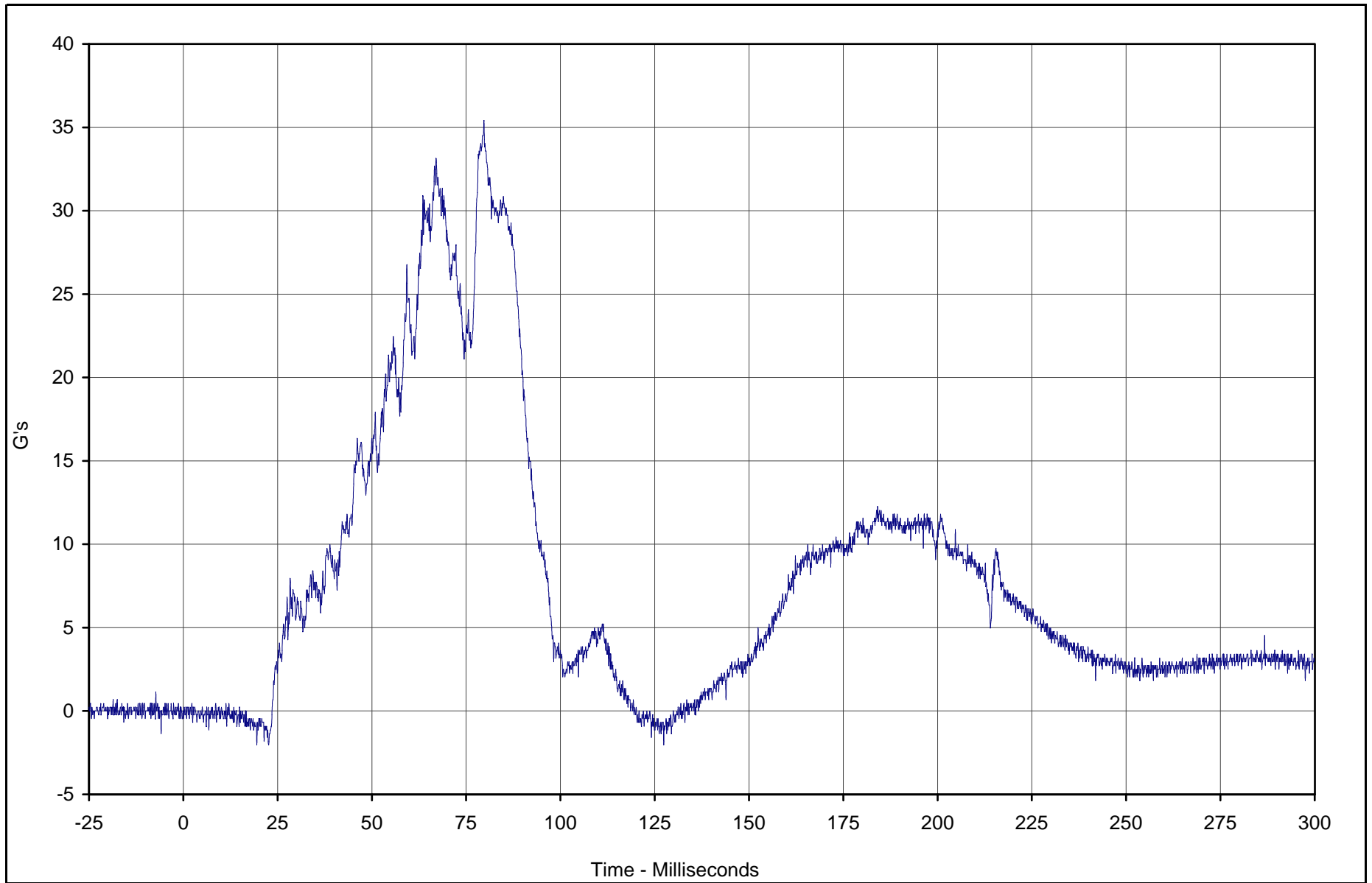
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-72



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant Z	050	FIL	G's	35.4	79.7	-2.0	19.5	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

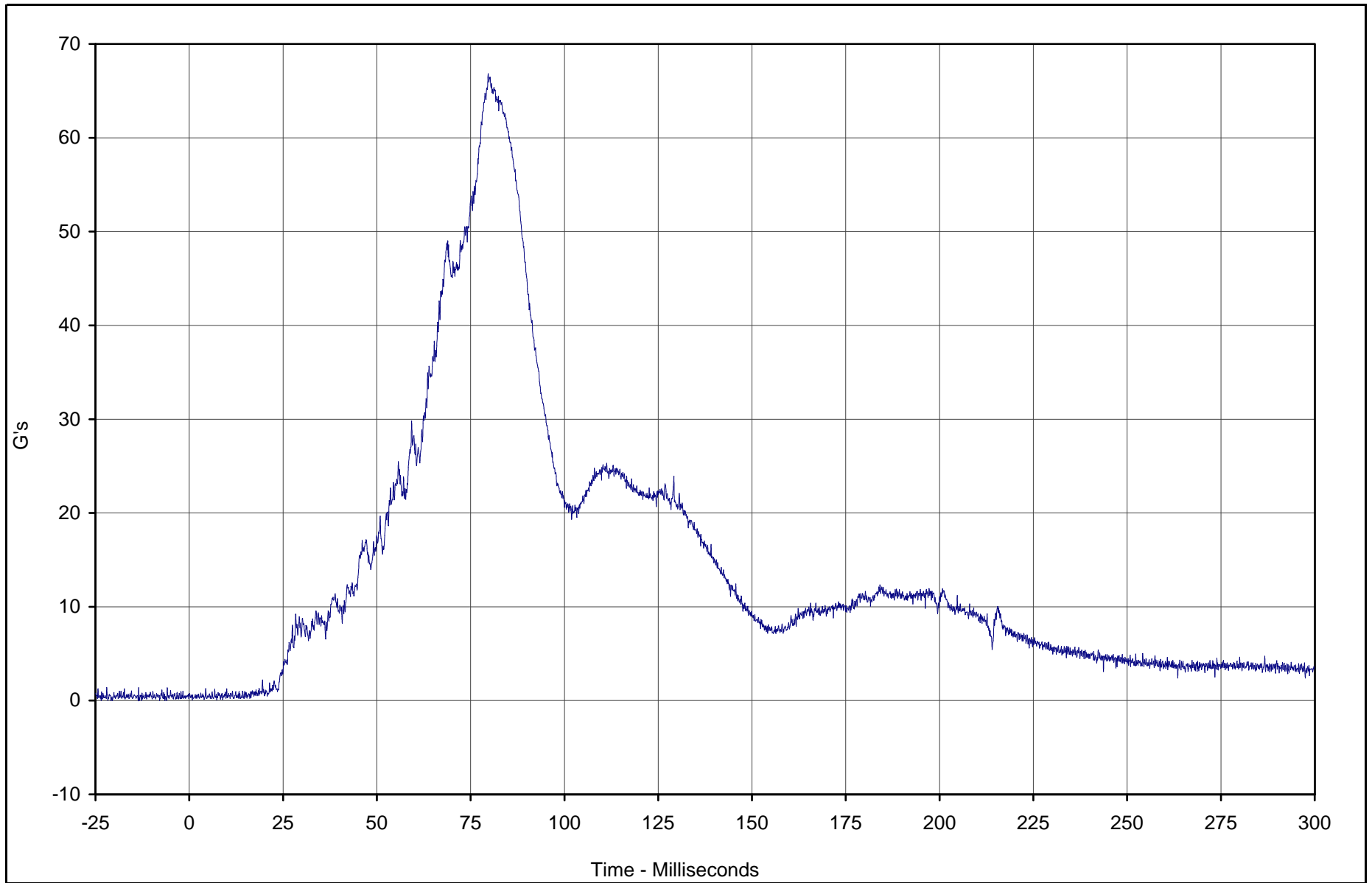
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-73



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Resultant Redundant	048	RES	G's	66.8	79.7	0.1	0.8	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

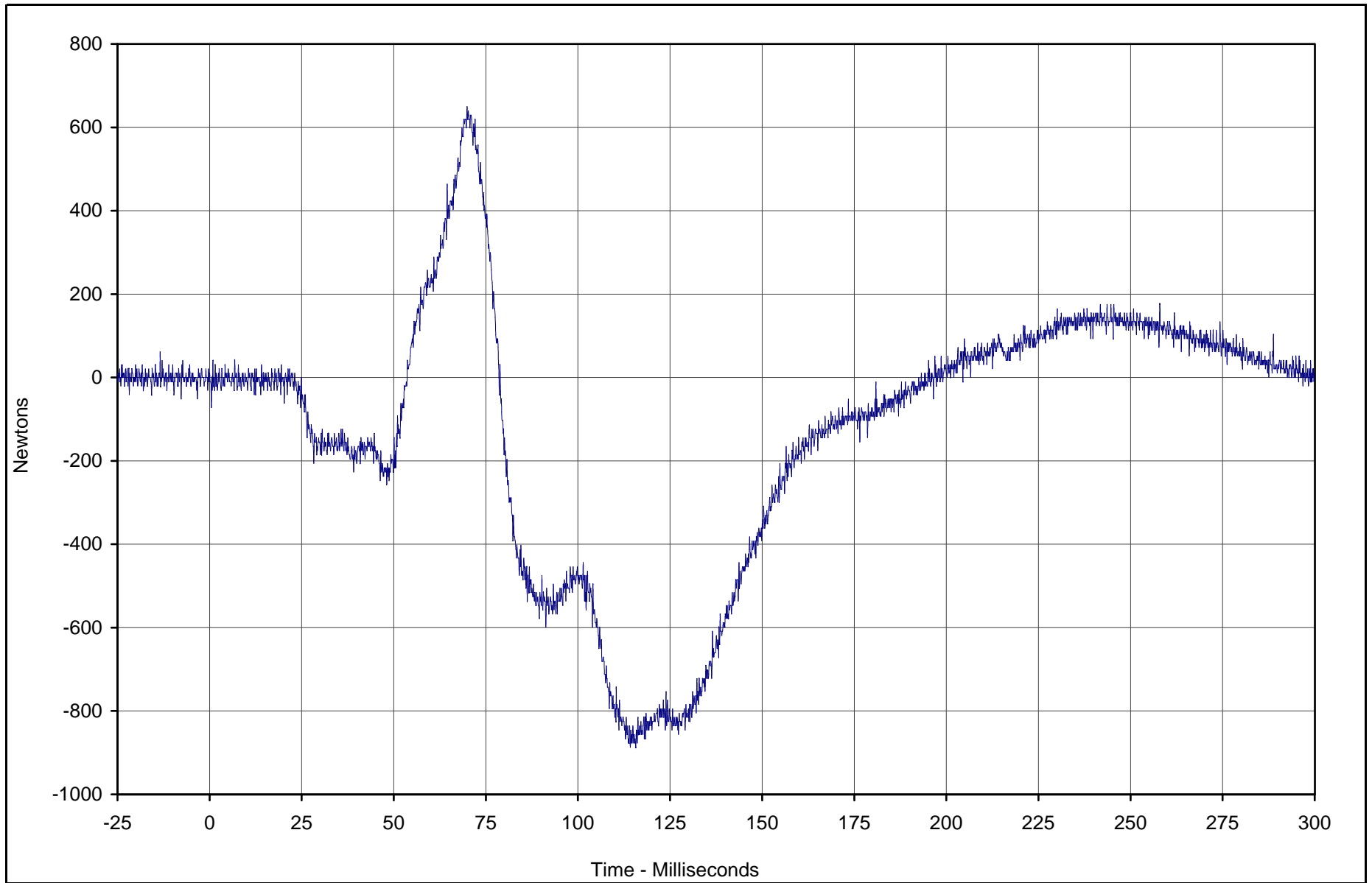
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-74



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force X	051	FIL	Newtons	650.0	69.9	-887.3	114.2	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

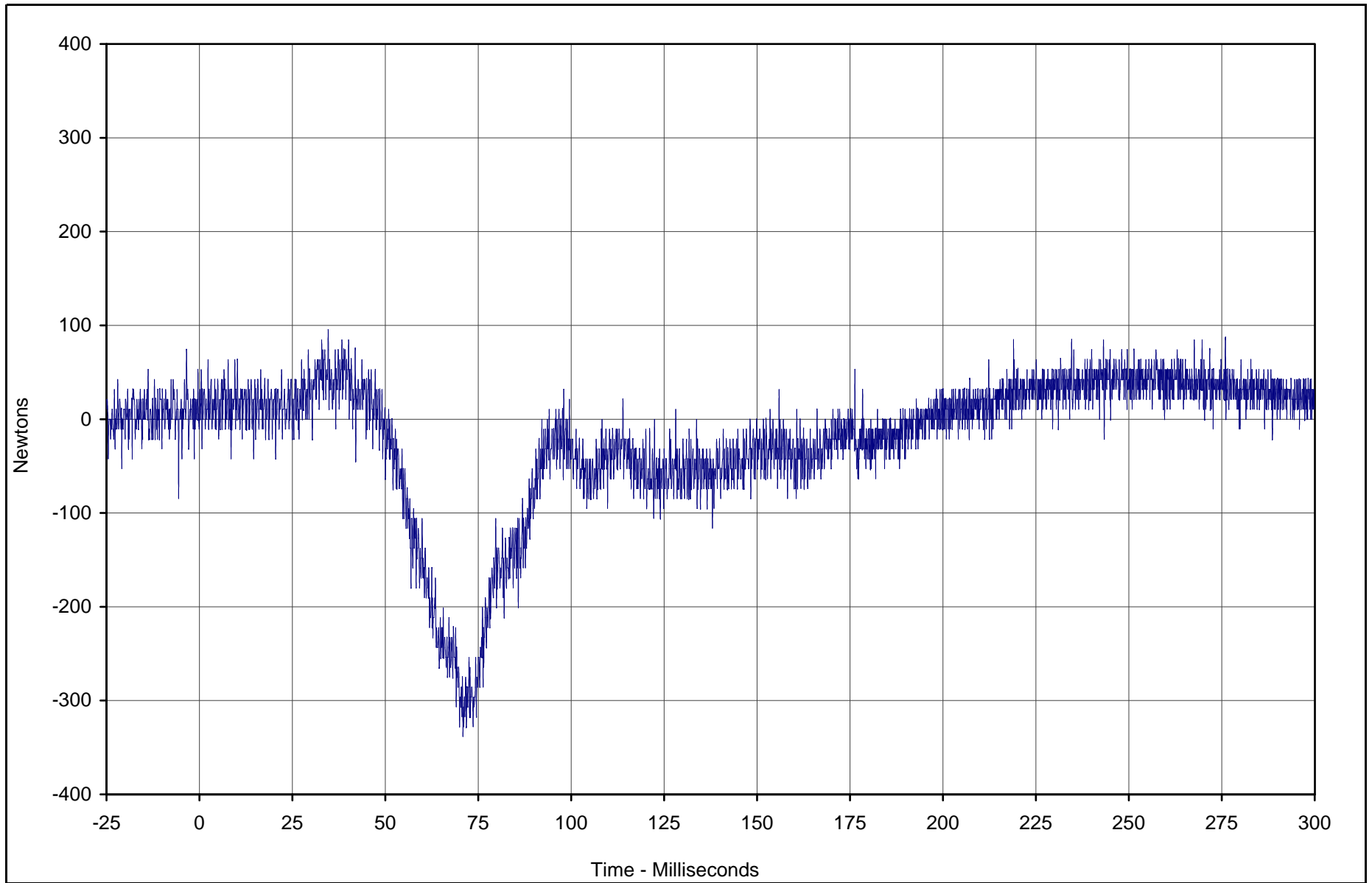
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-75



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Y	052	FIL	Newtons	95.2	34.6	-338.5	70.9	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

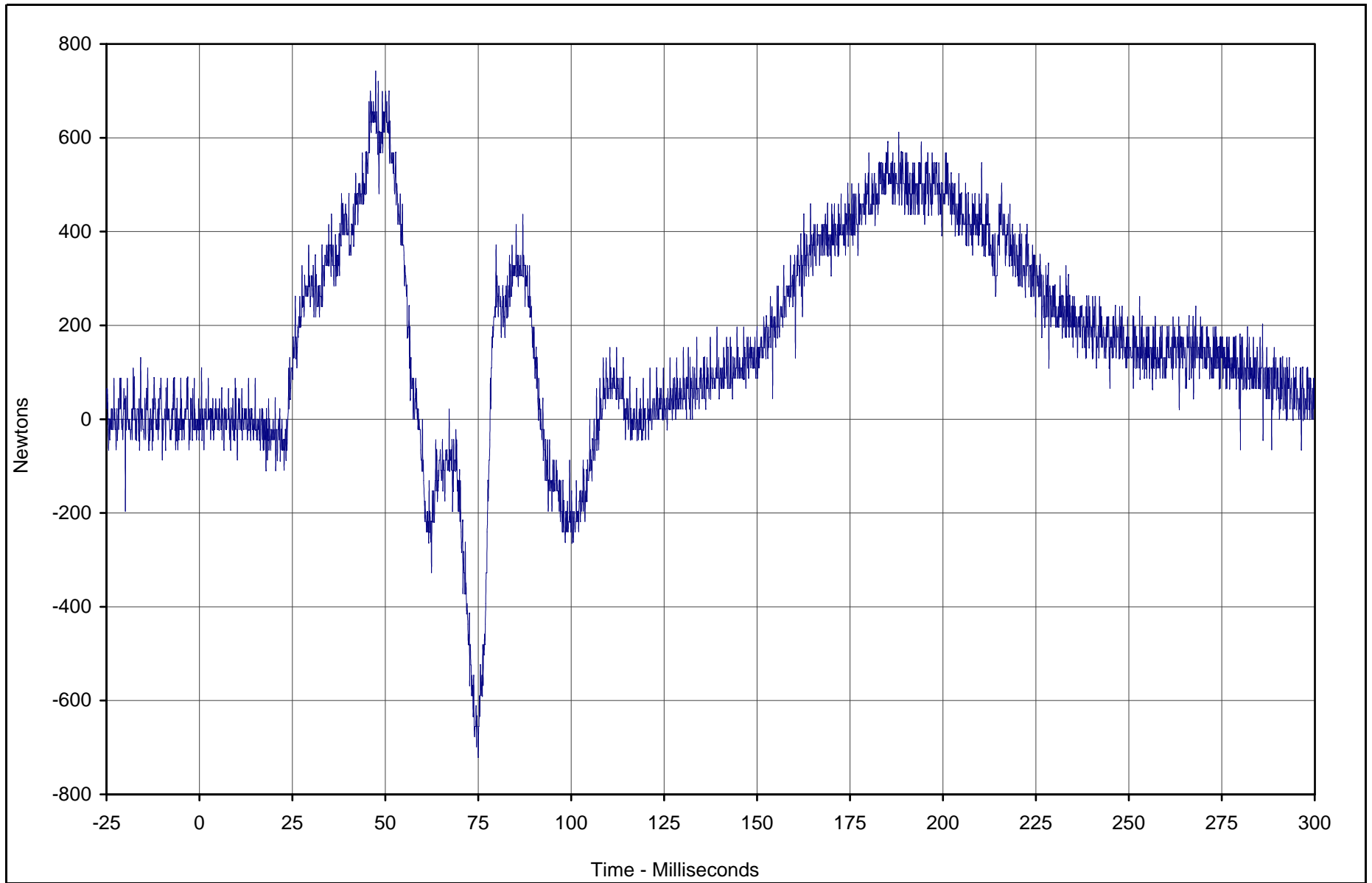
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

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B-76



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Z	053	FIL	Newtons	742.7	47.4	-720.8	75.0	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

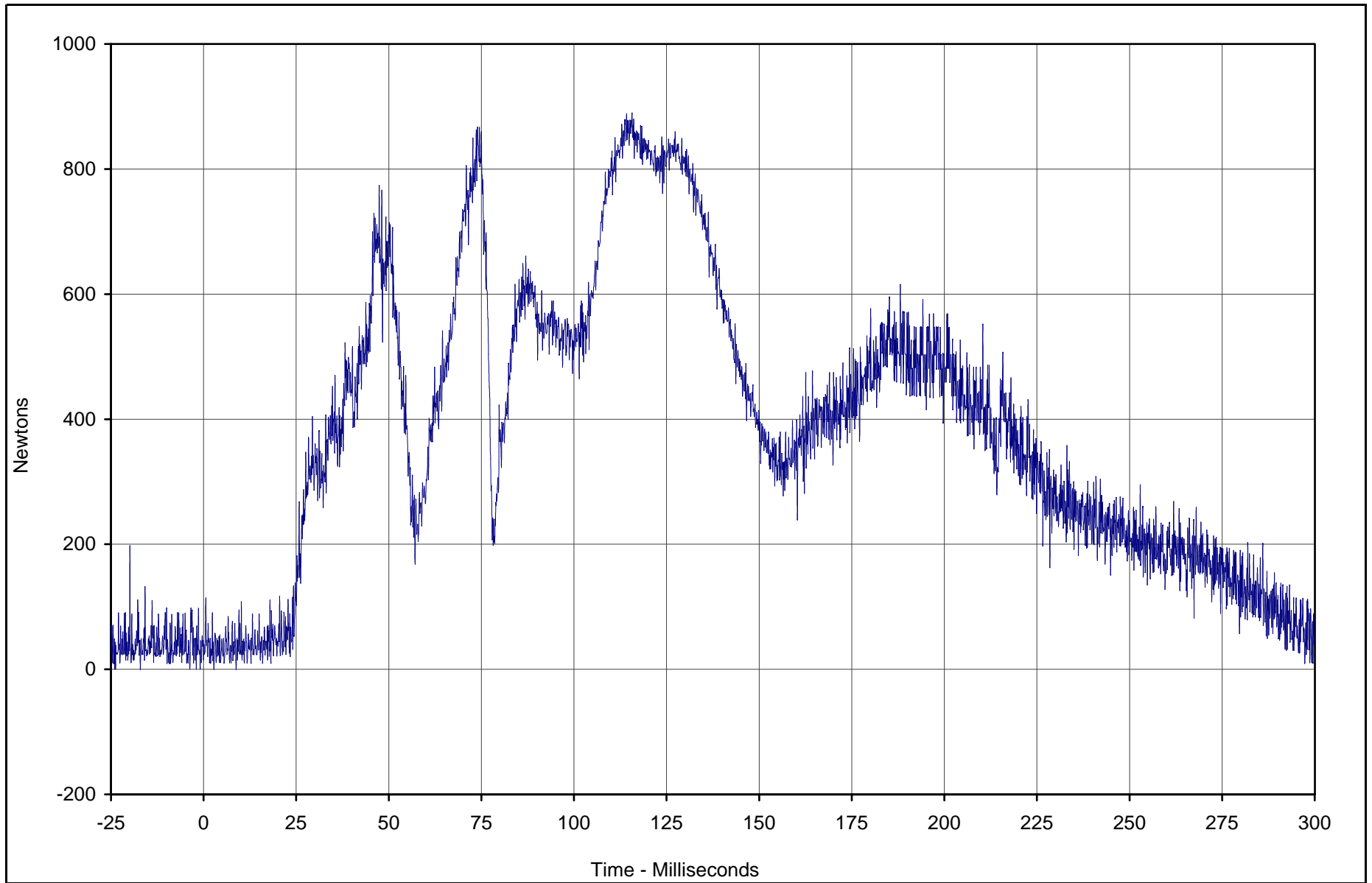
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-77



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Resultant	051	RES	Newtons	888.6	114.2	0.0	2.8	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

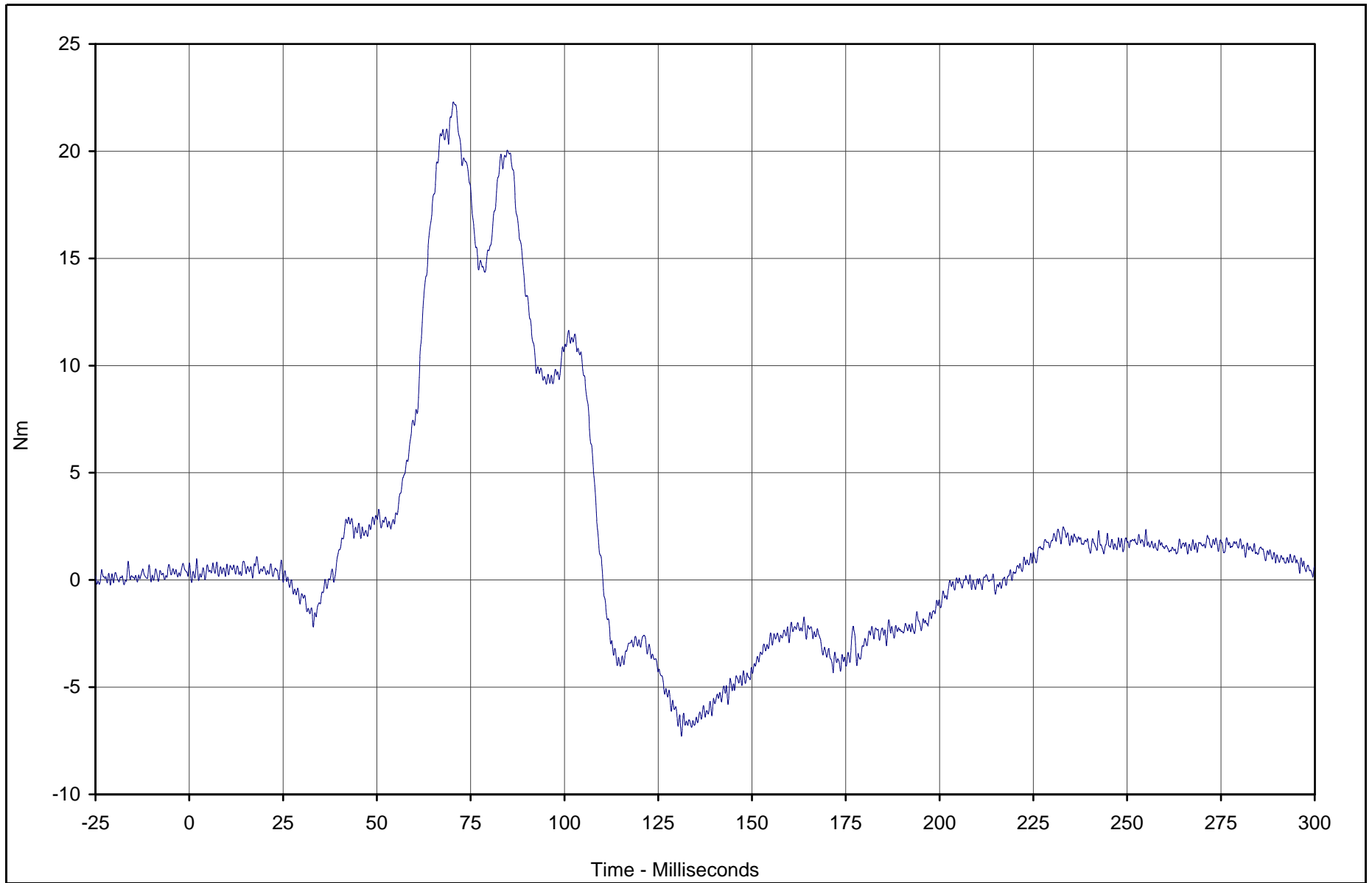
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-78



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment X	054	FIL	Nm	22.3	70.4	-7.3	131.2	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

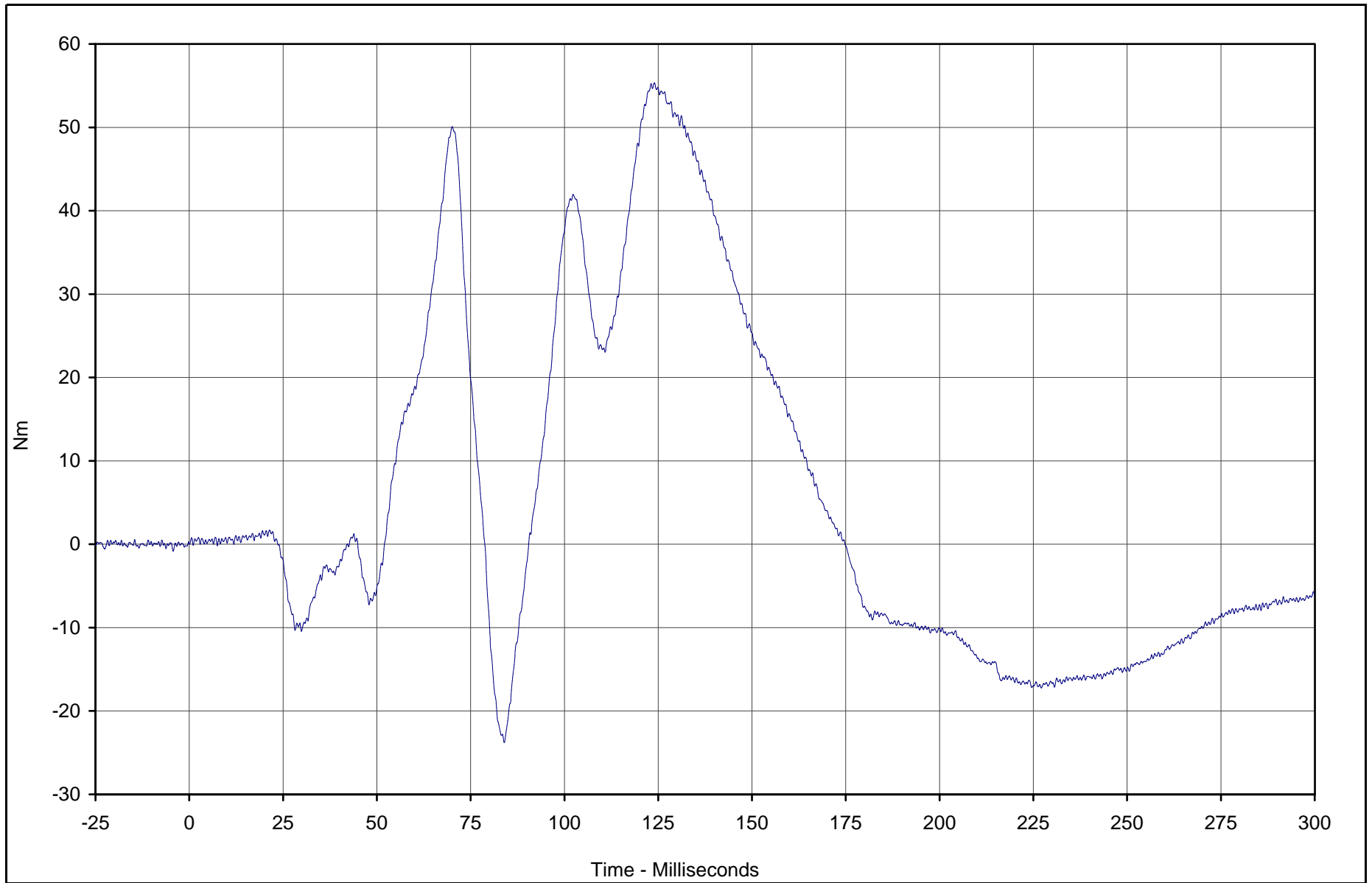
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-79



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Y	055	FIL	Nm	55.3	124.0	-23.8	84.0	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

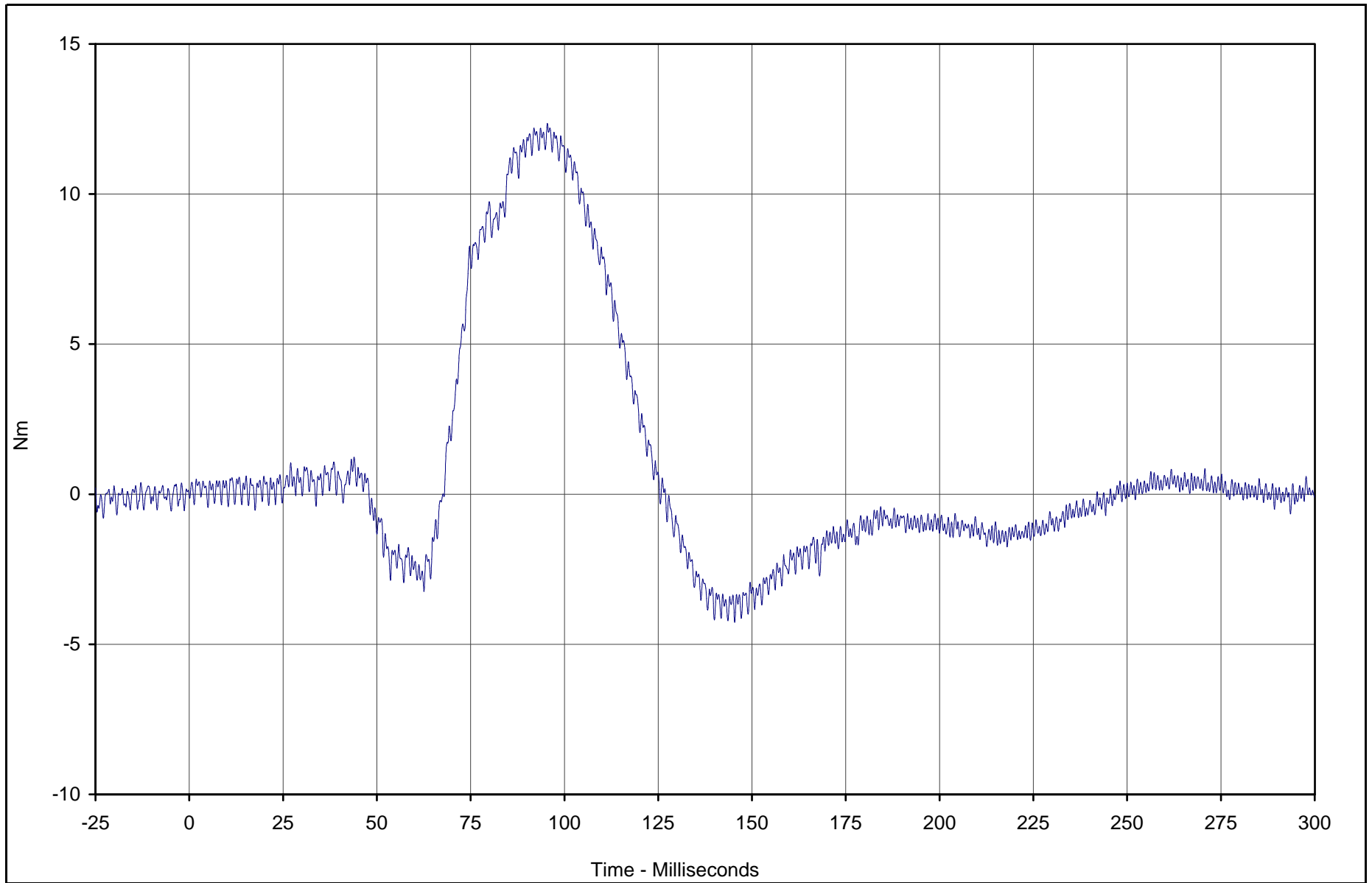
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-80



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Z	056	FIL	Nm	12.4	95.4	-4.3	145.4	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

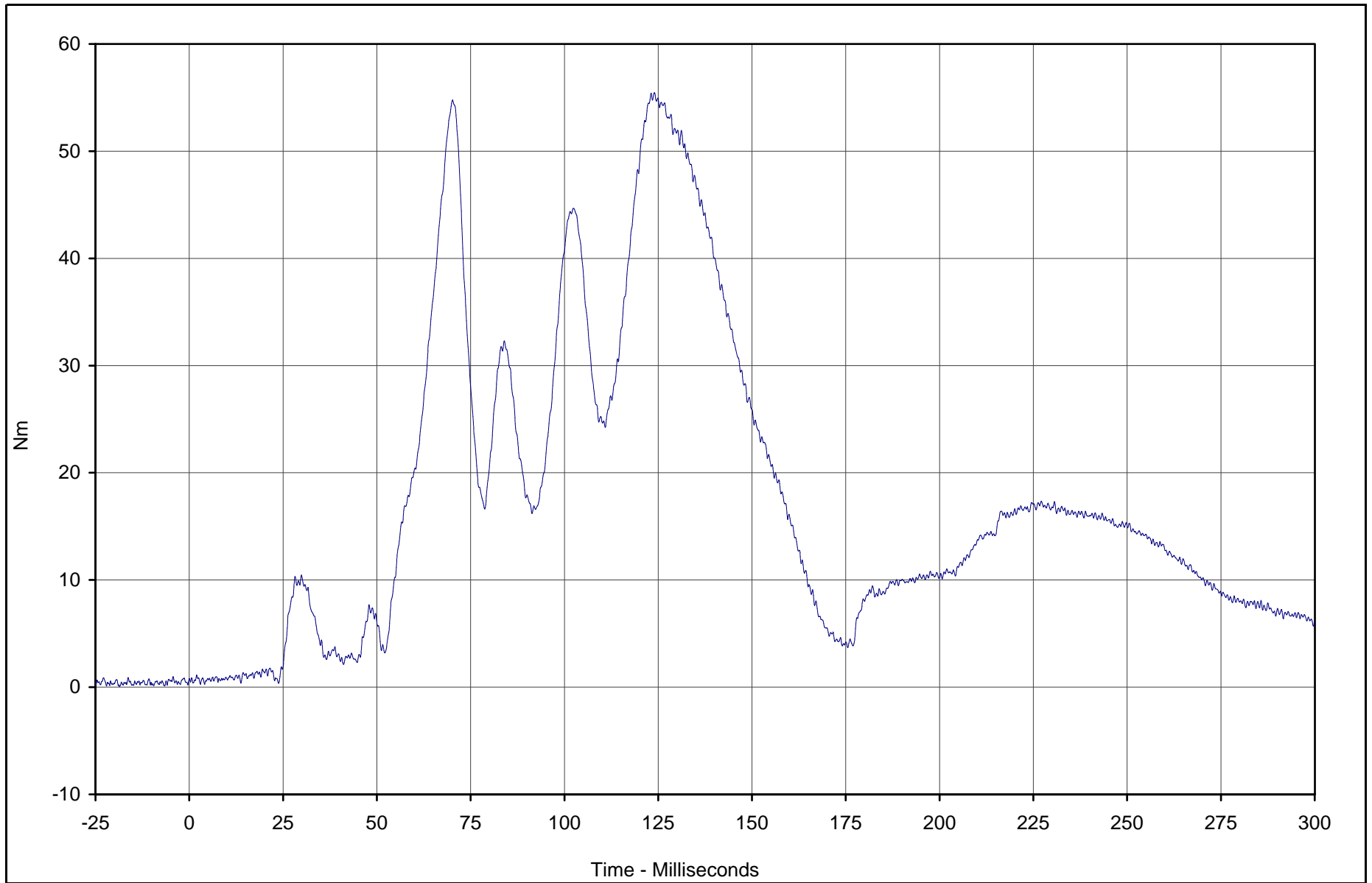
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-81



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Resultant	054	RES	Nm	55.5	124.0	0.3	3.0	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

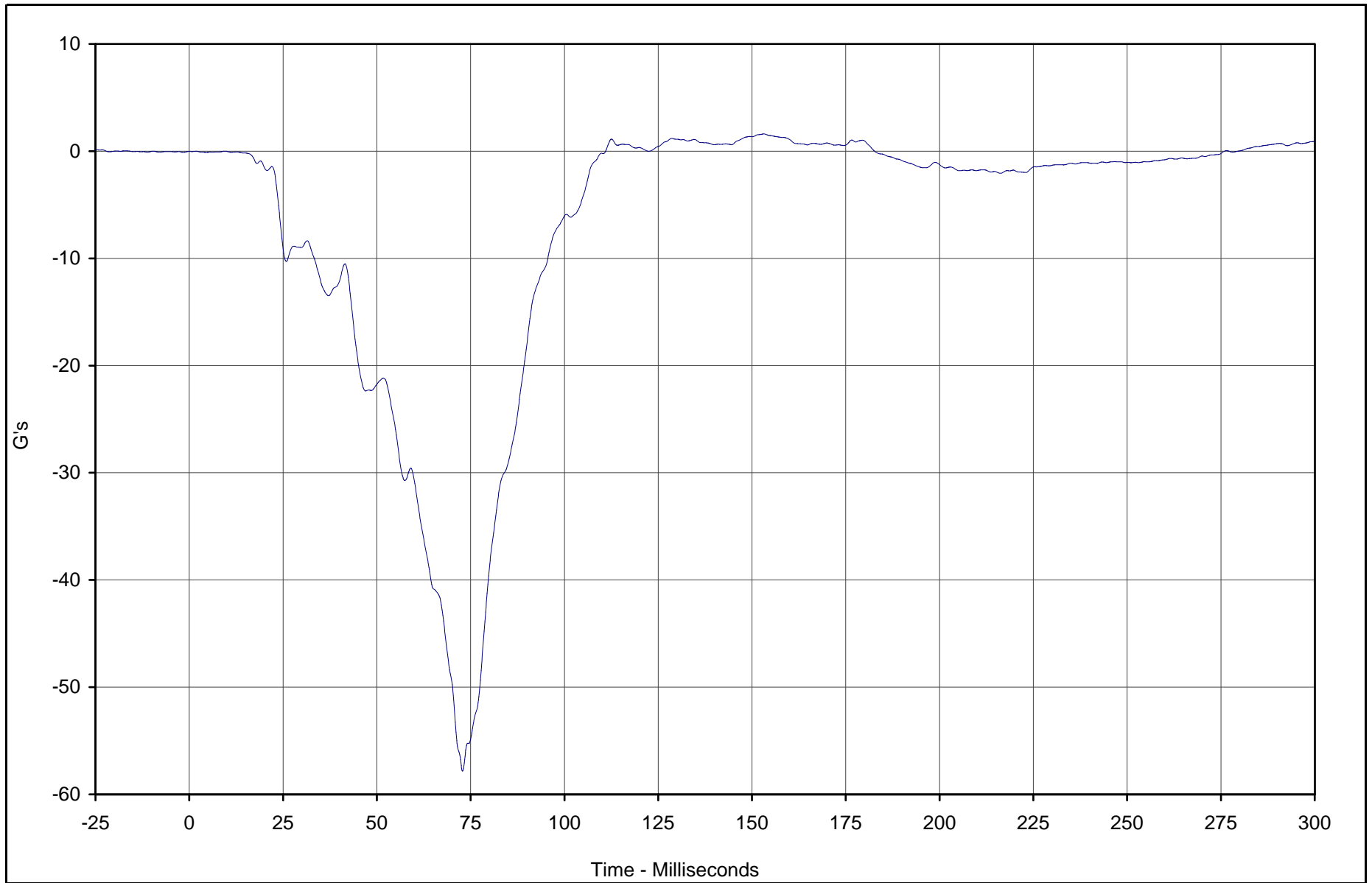
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-82



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X	057	FIL	G's	1.6	153.1	-57.8	72.8	180



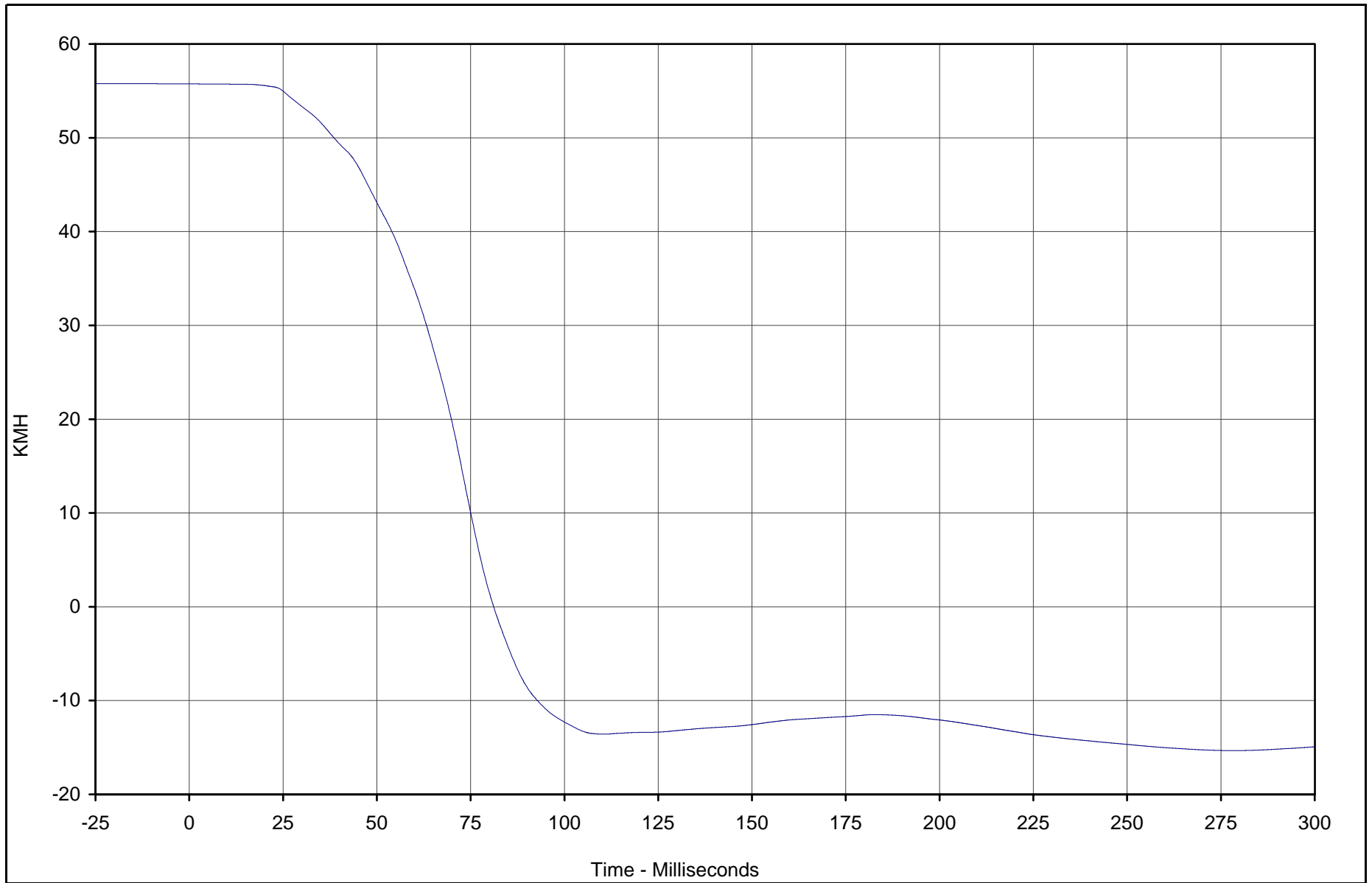
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-83



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X Velocity	057	IN1	KMH	55.7	0.0	-15.3	279.5	180



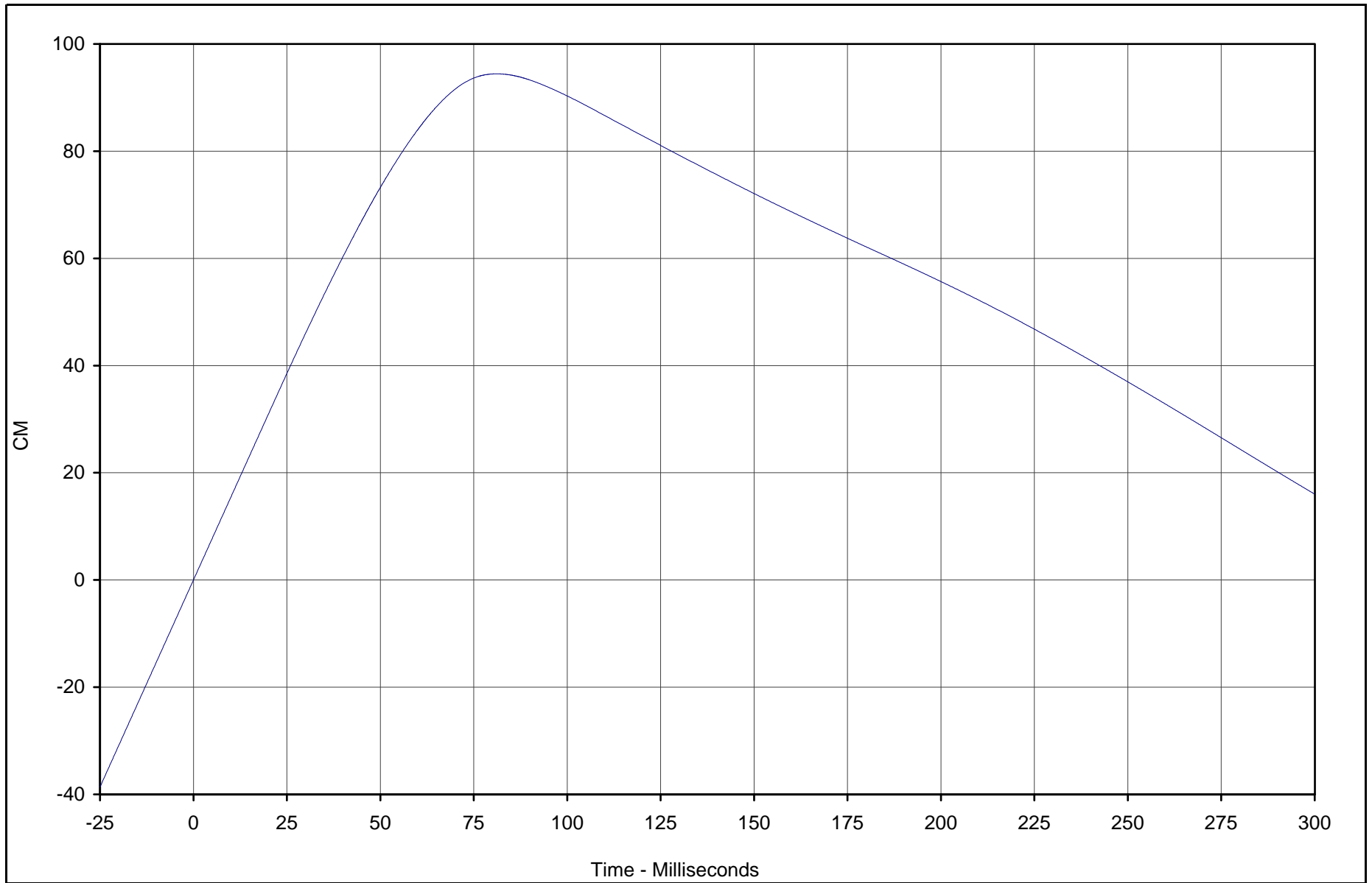
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-84



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X Displ.	057	IN2	CM	94.4	81.1	0.0	0.0	180



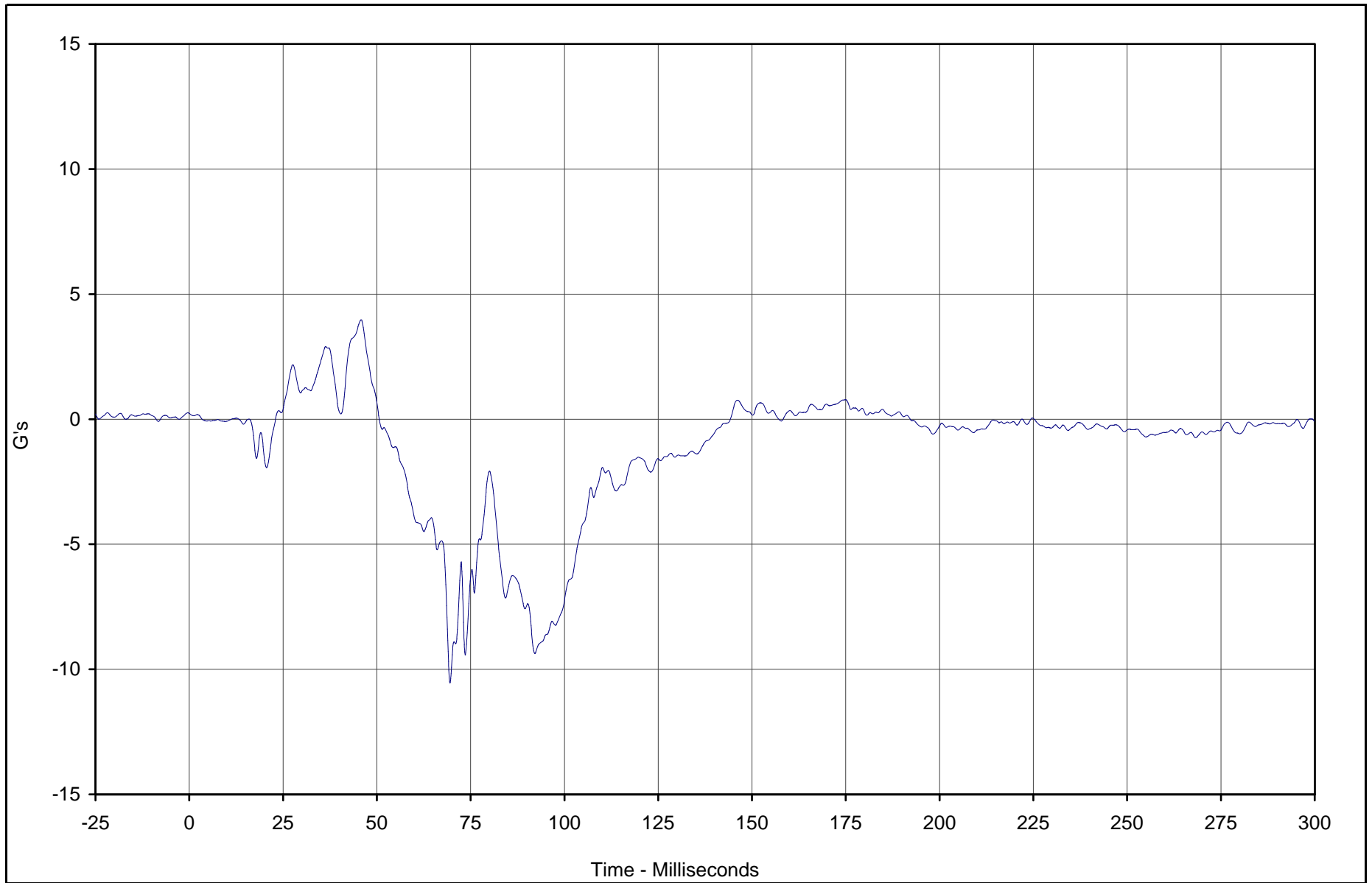
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-85



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary Y	058	FIL	G's	4.0	45.8	-10.5	69.5	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

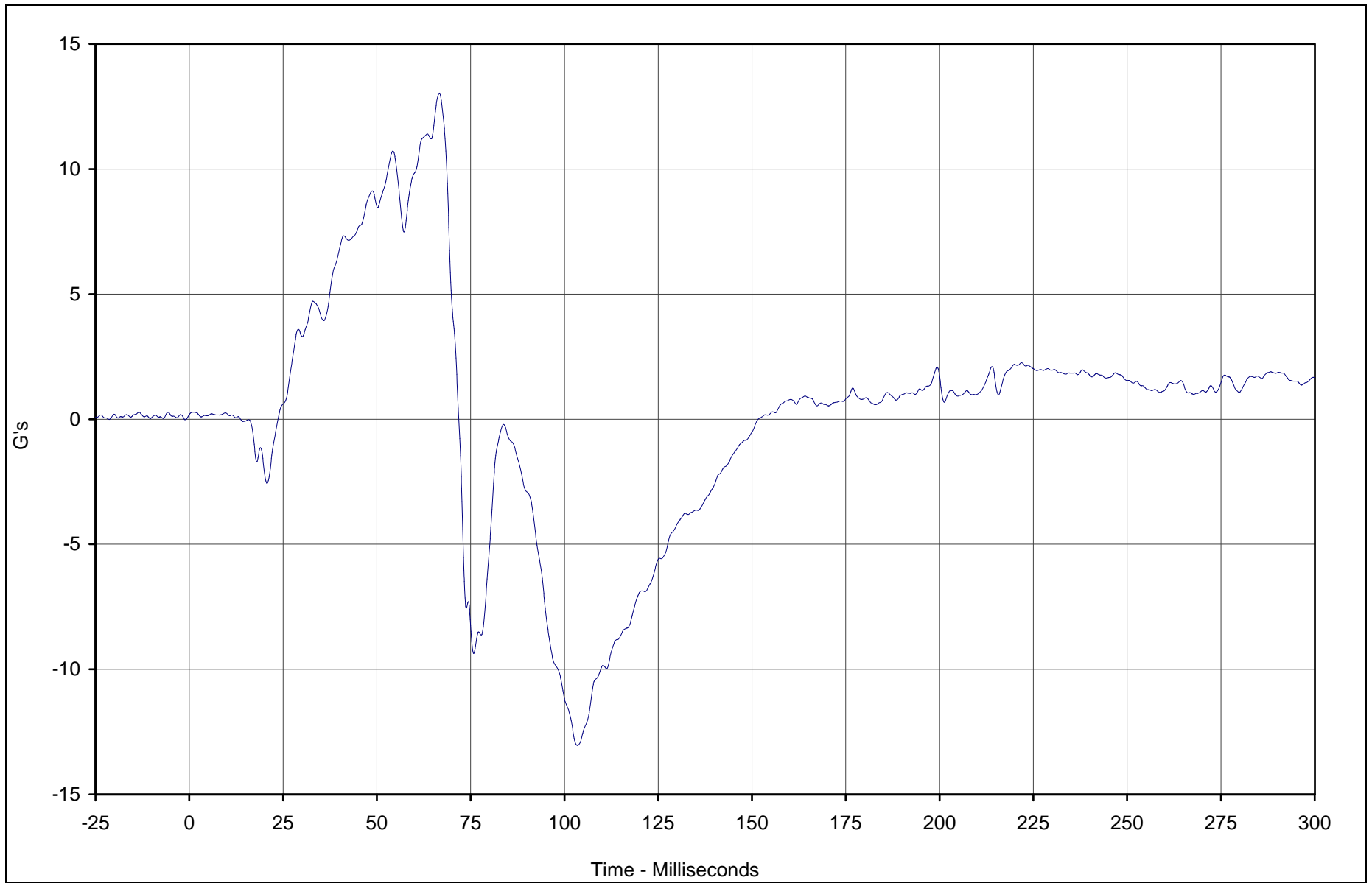
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-86



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary Z	059	FIL	G's	13.0	66.7	-13.0	103.4	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

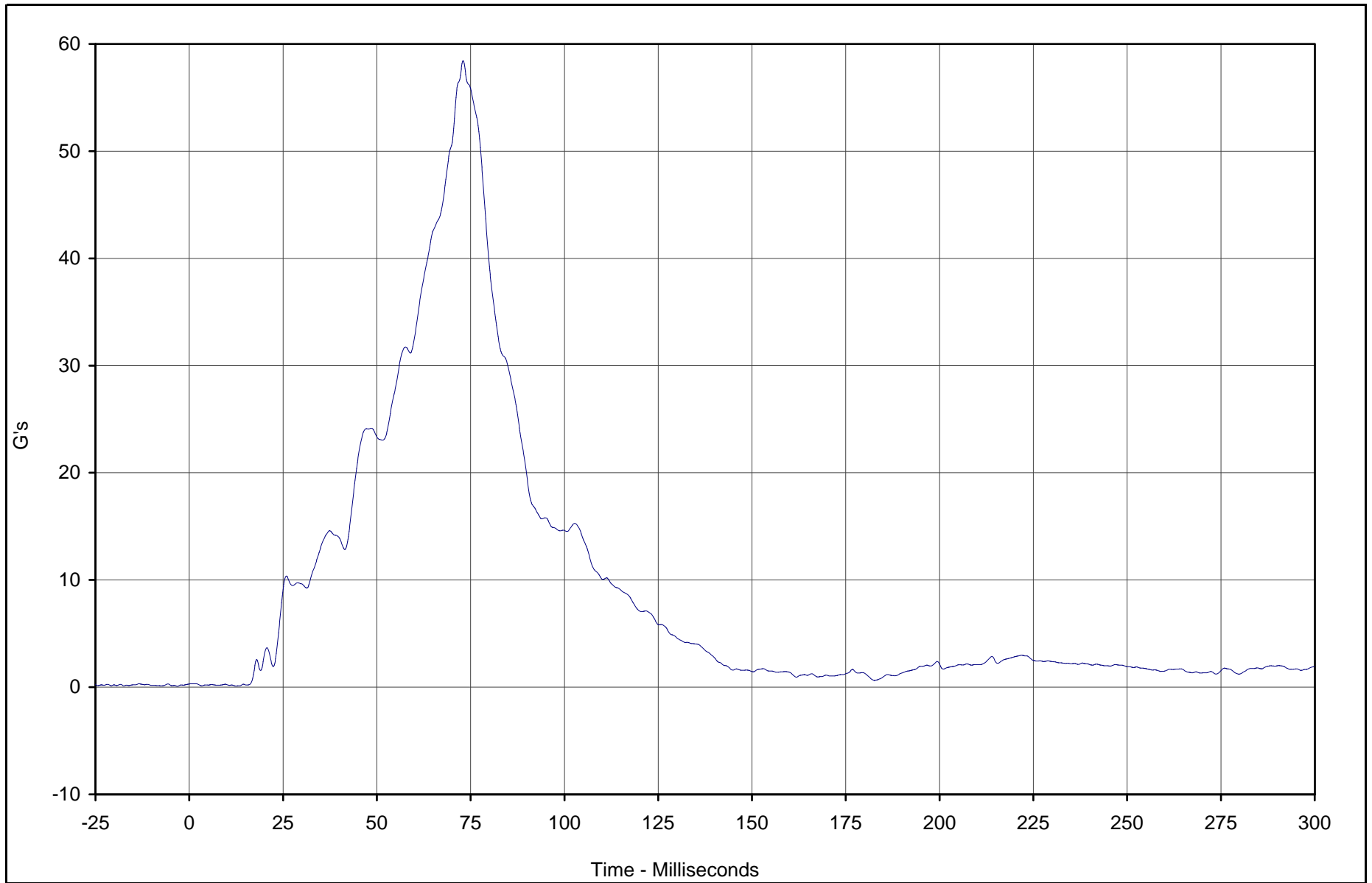
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-87



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Resultant Primary	057	RES	G's	58.4	73.0	0.1	12.5	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

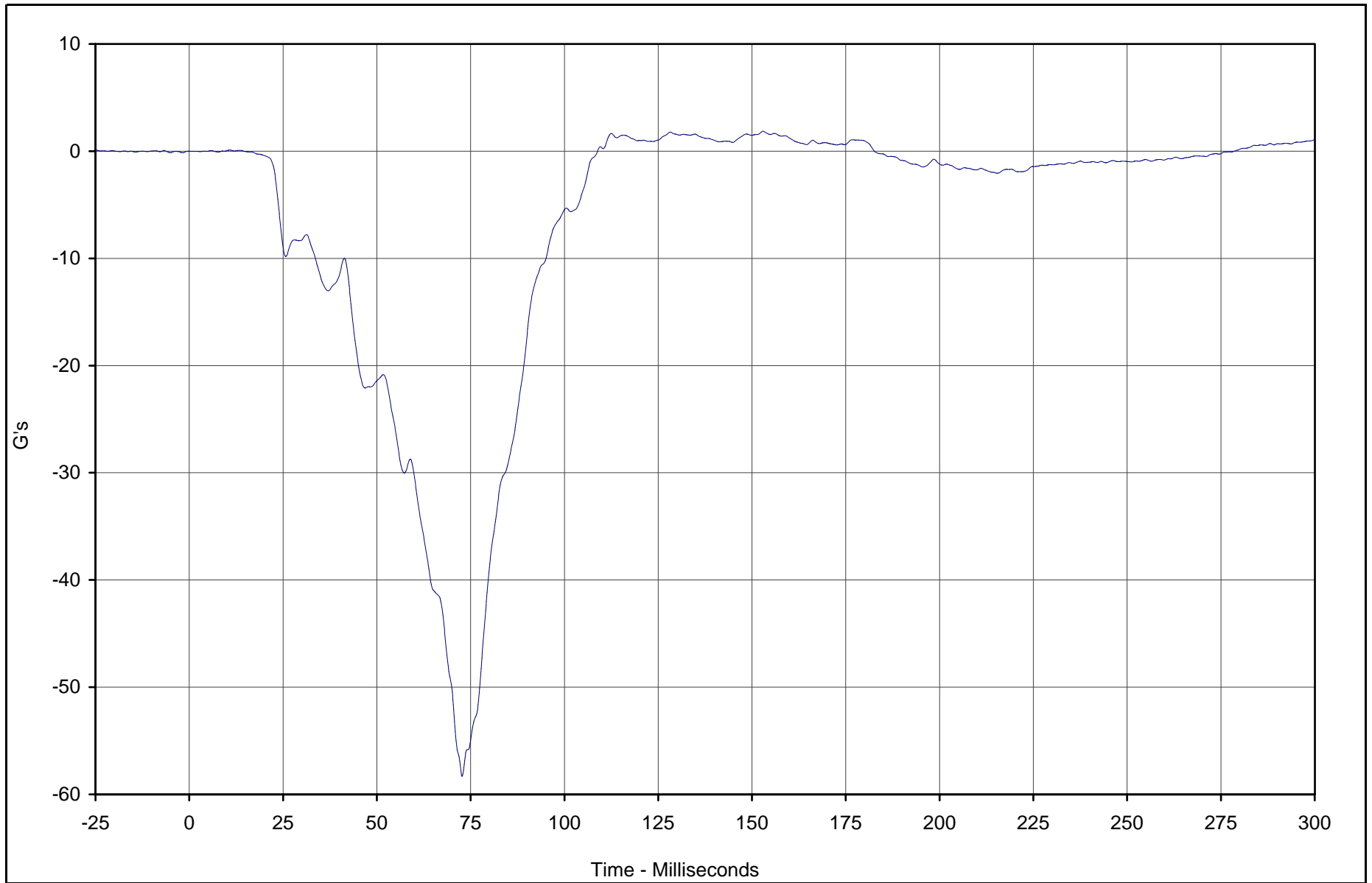
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-88



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X	060	FIL	G's	1.9	152.9	-58.3	72.7	180



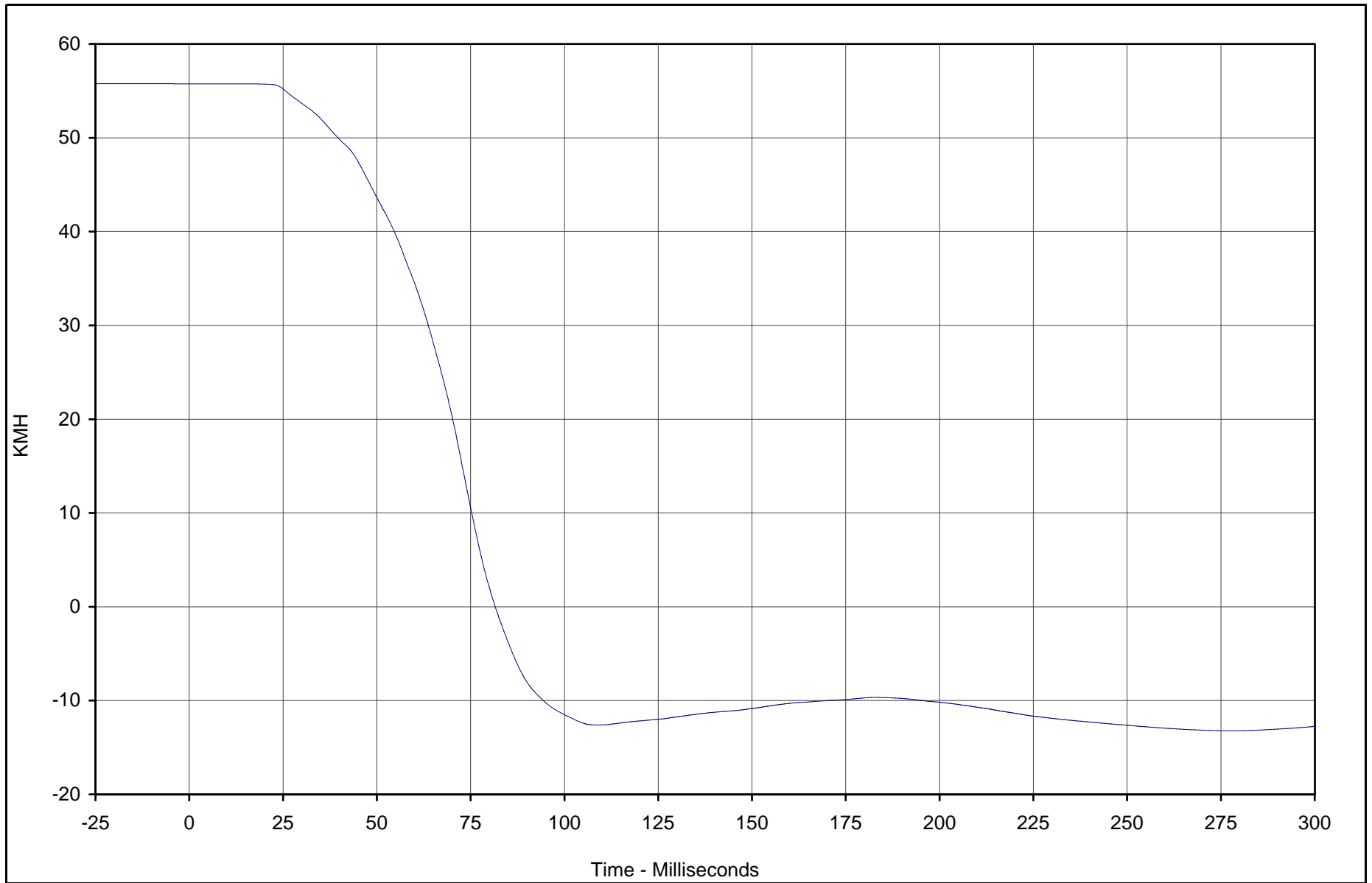
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-89



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X Velocity	060	IN1	KMH	55.8	14.5	-13.2	278.6	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

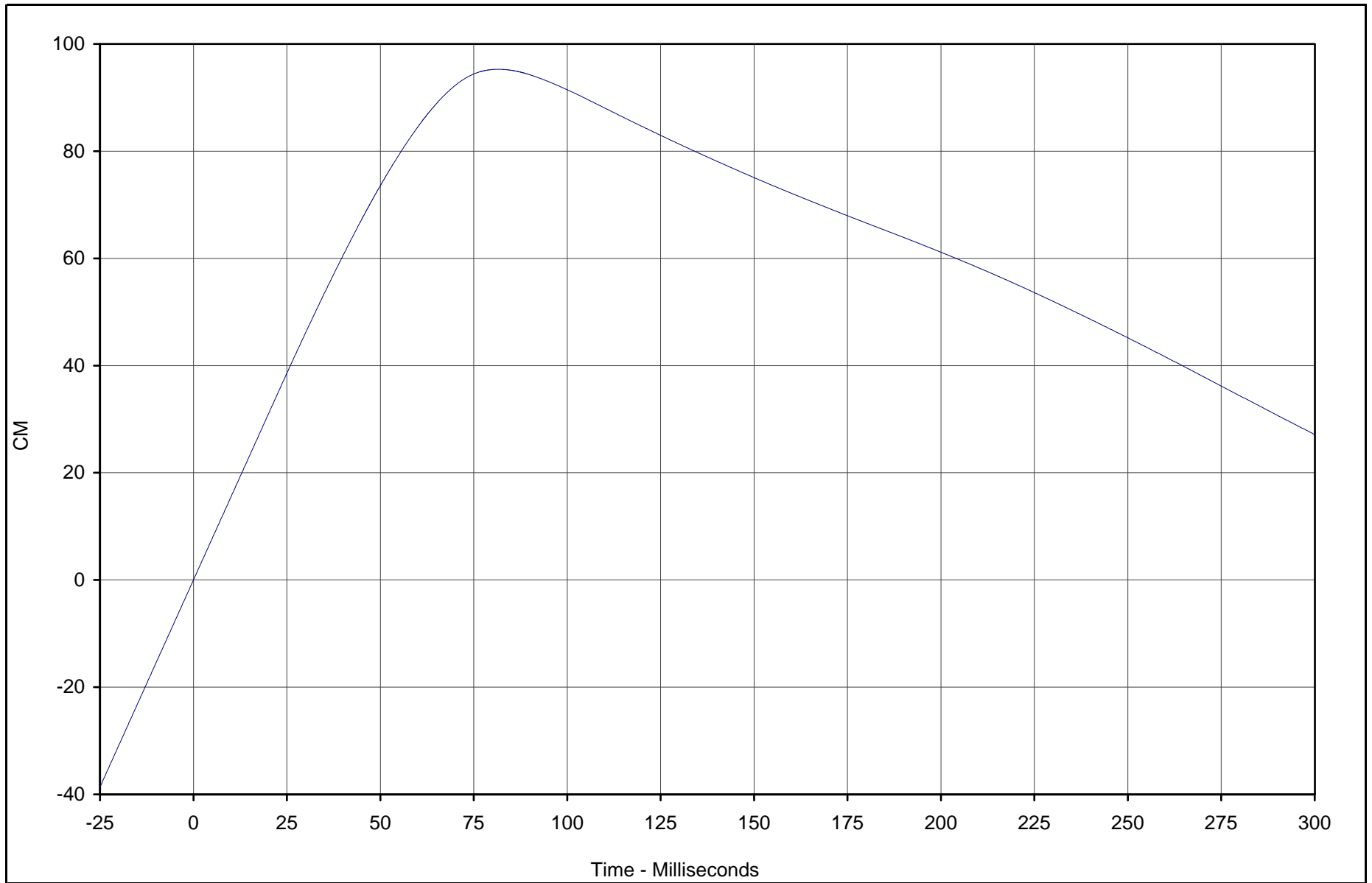
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-90



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X Displ.	060	IN2	CM	95.3	81.6	0.0	0.0	180



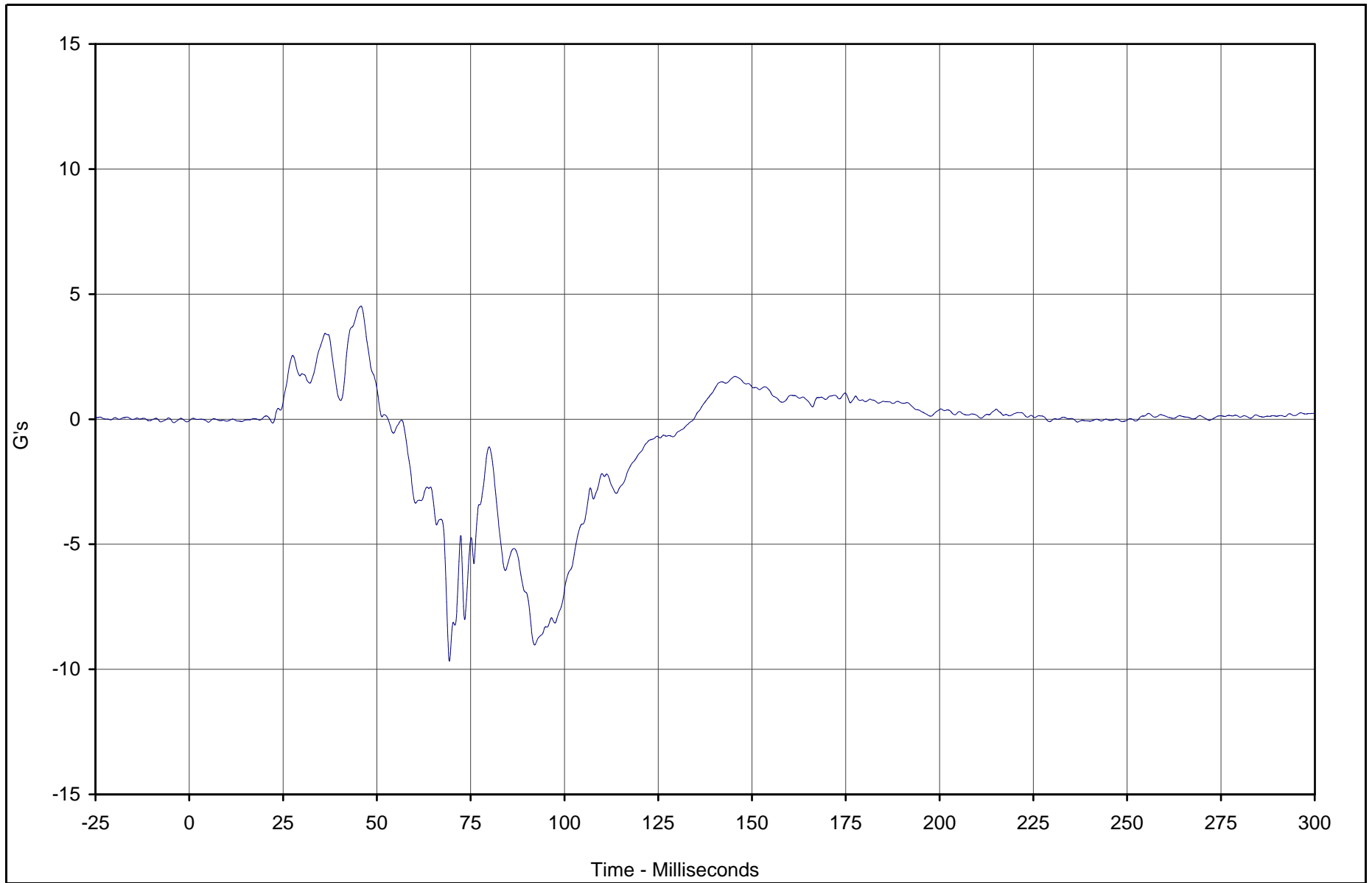
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-91



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant Y	061	FIL	G's	4.5	45.7	-9.7	69.3	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

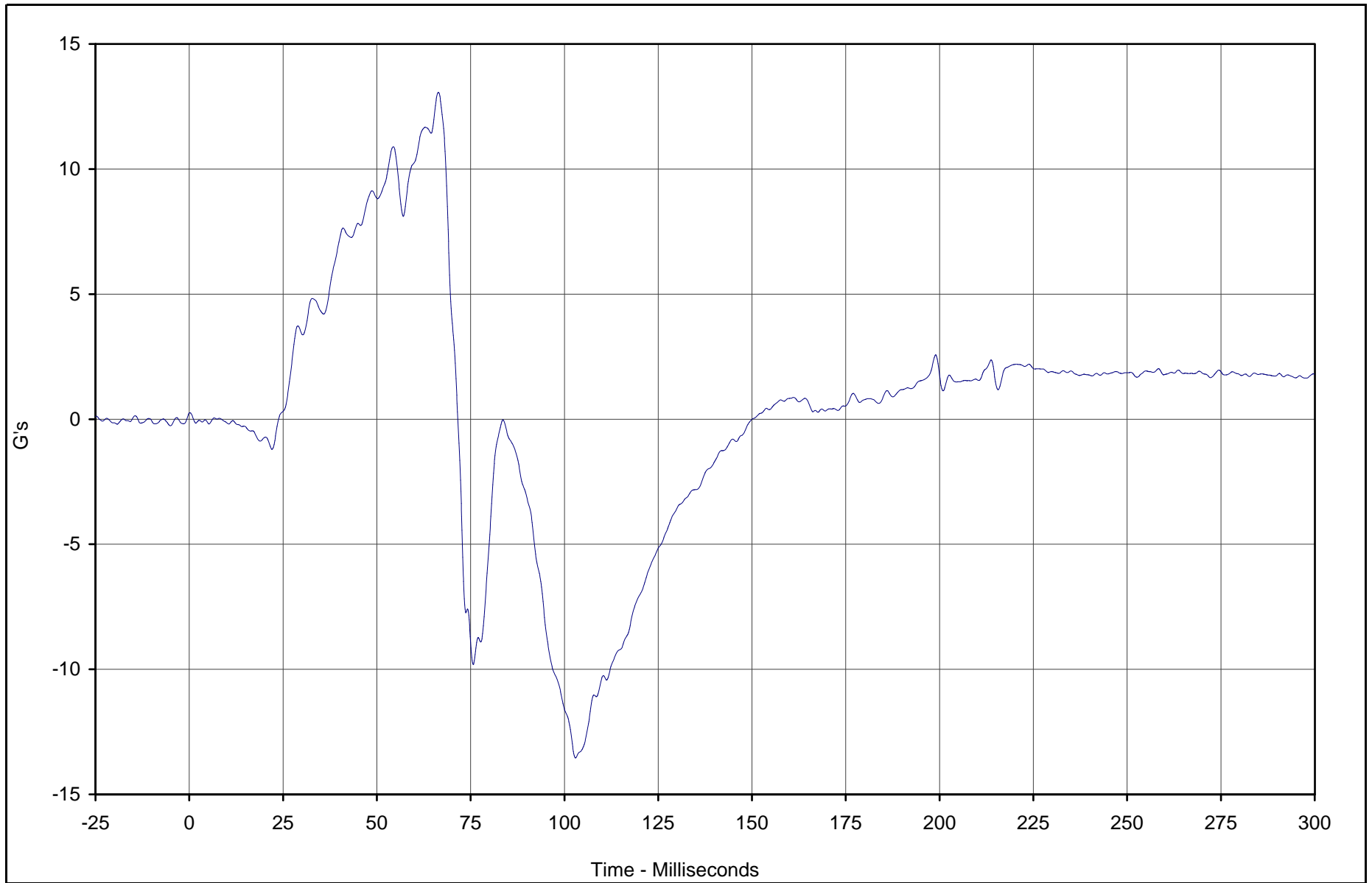
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-92



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant Z	062	FIL	G's	13.1	66.4	-13.5	103.0	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

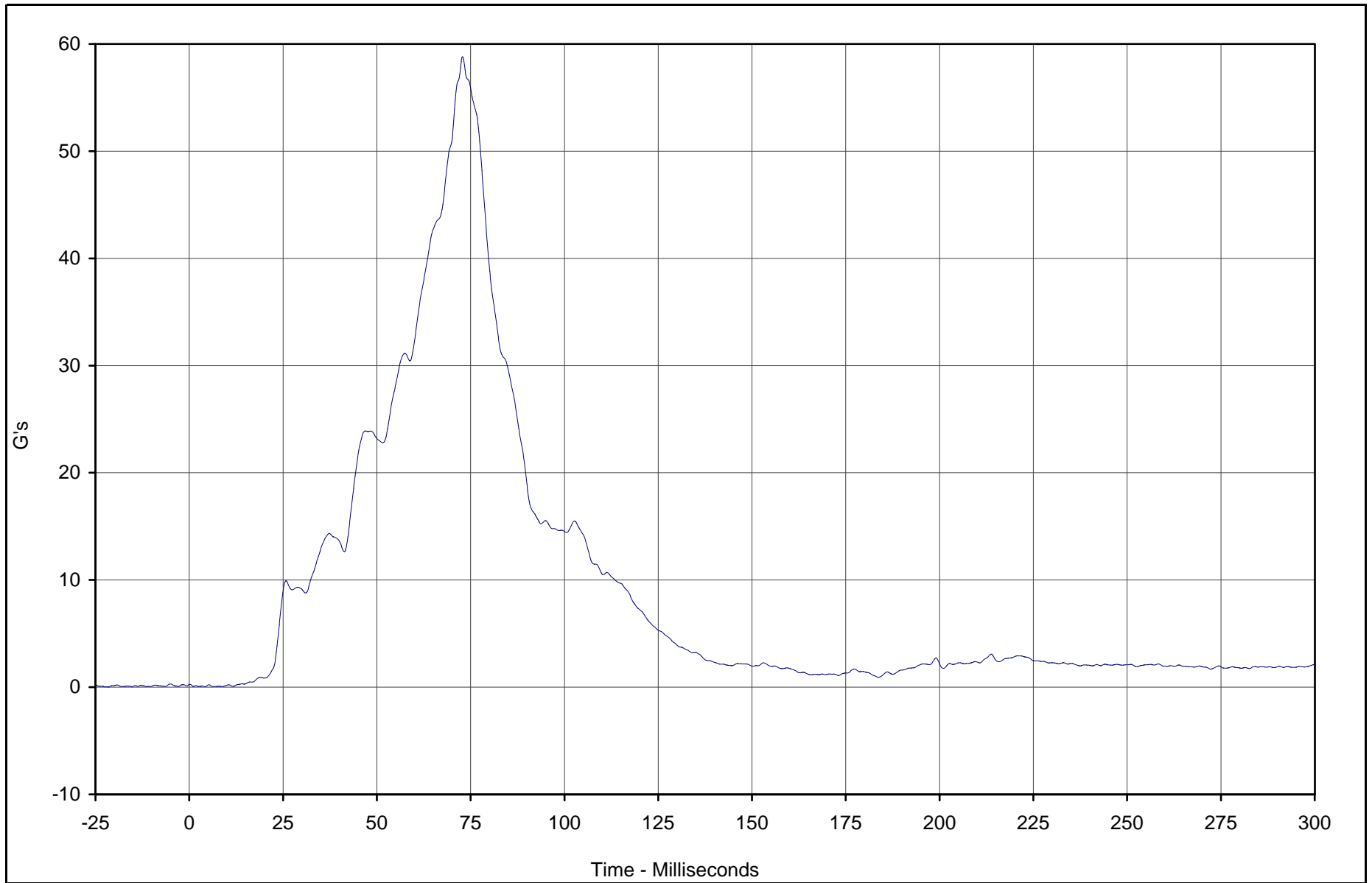
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-93



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Resultant Redundant	060	RES	G's	58.8	72.8	0.0	6.3	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

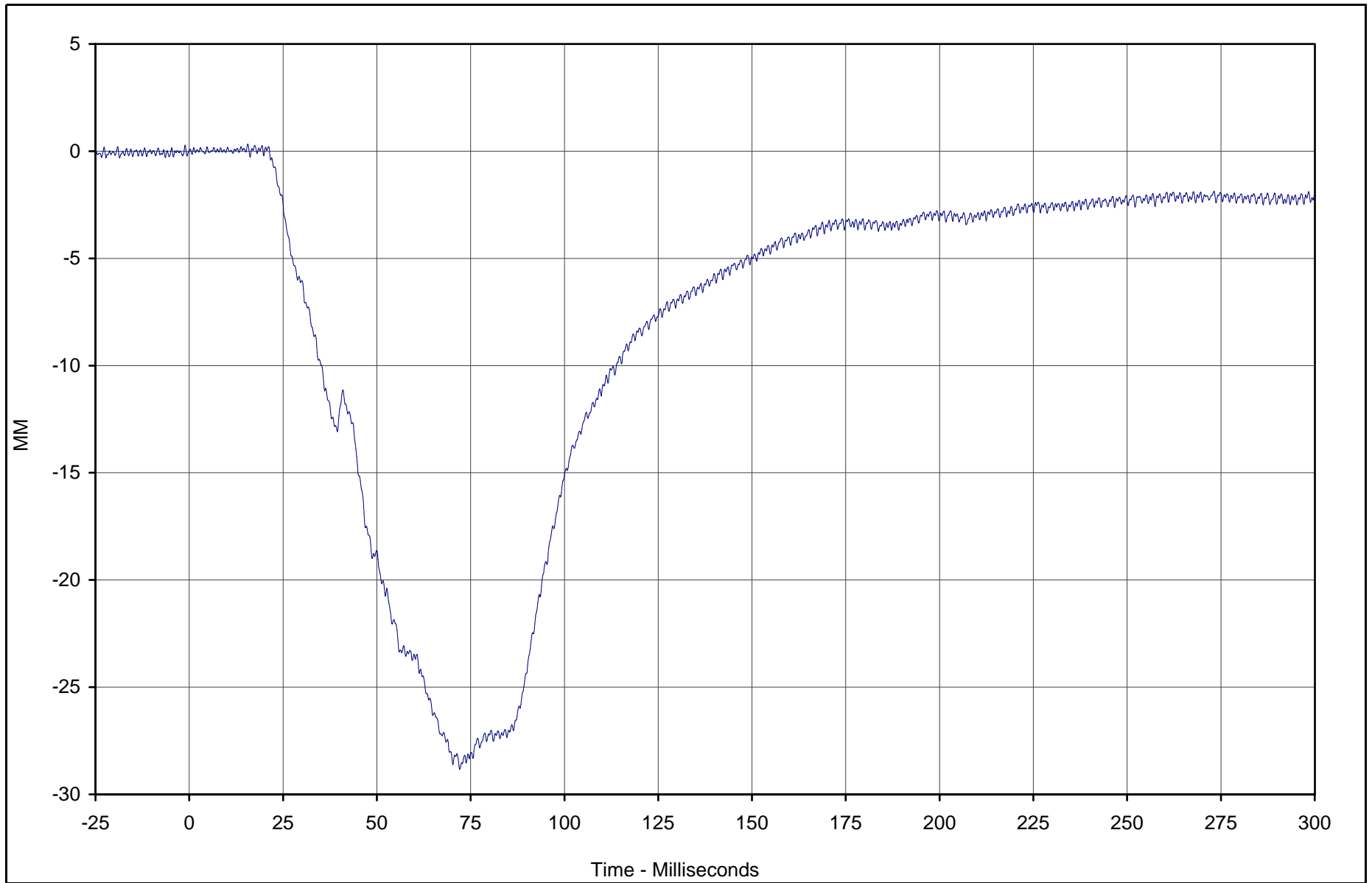
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-94



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Displacement X	063	FIL	MM	0.3	15.6	-28.8	72.1	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

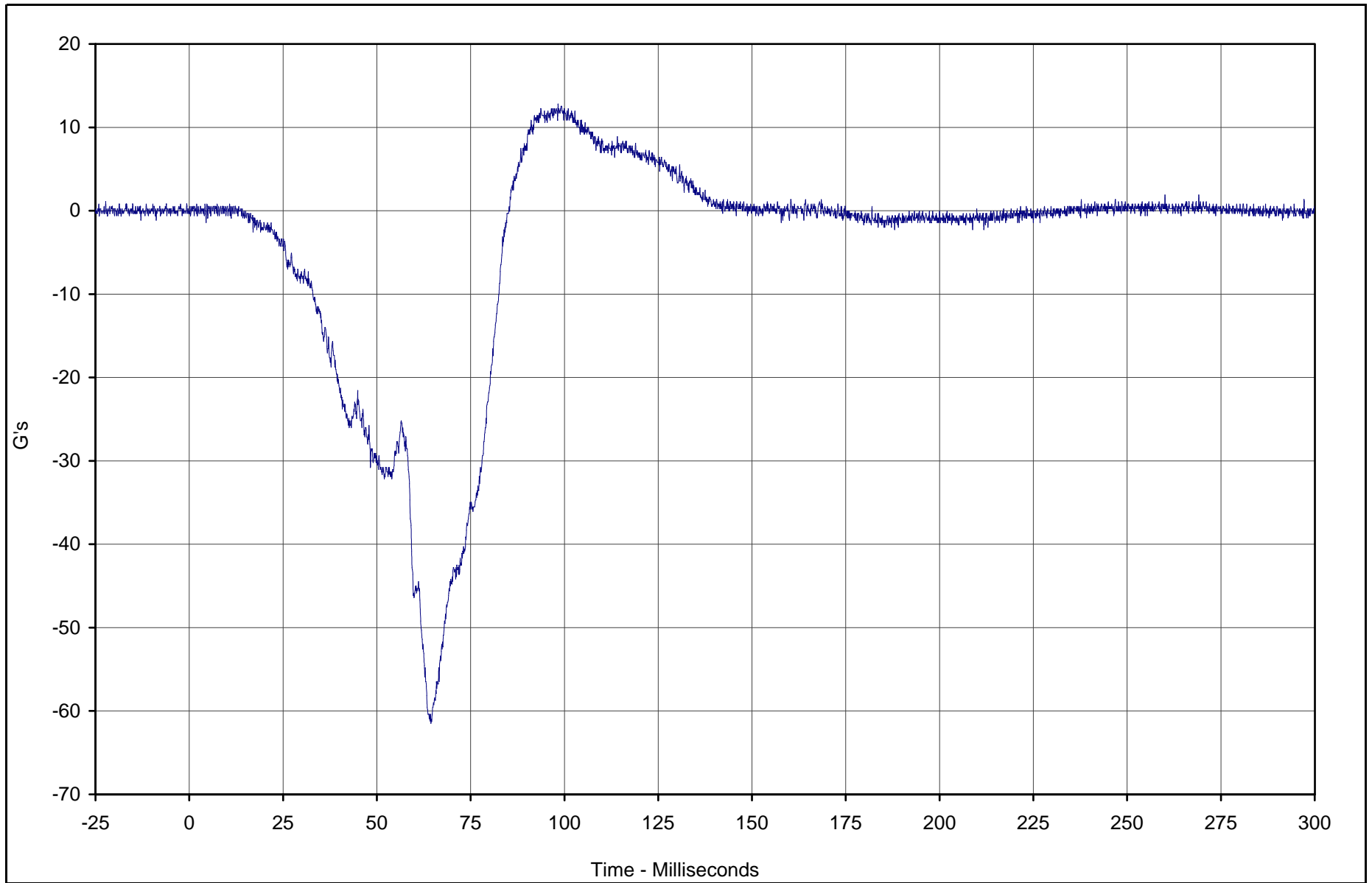
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-95



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X	064	FIL	G's	12.8	98.3	-61.5	64.4	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

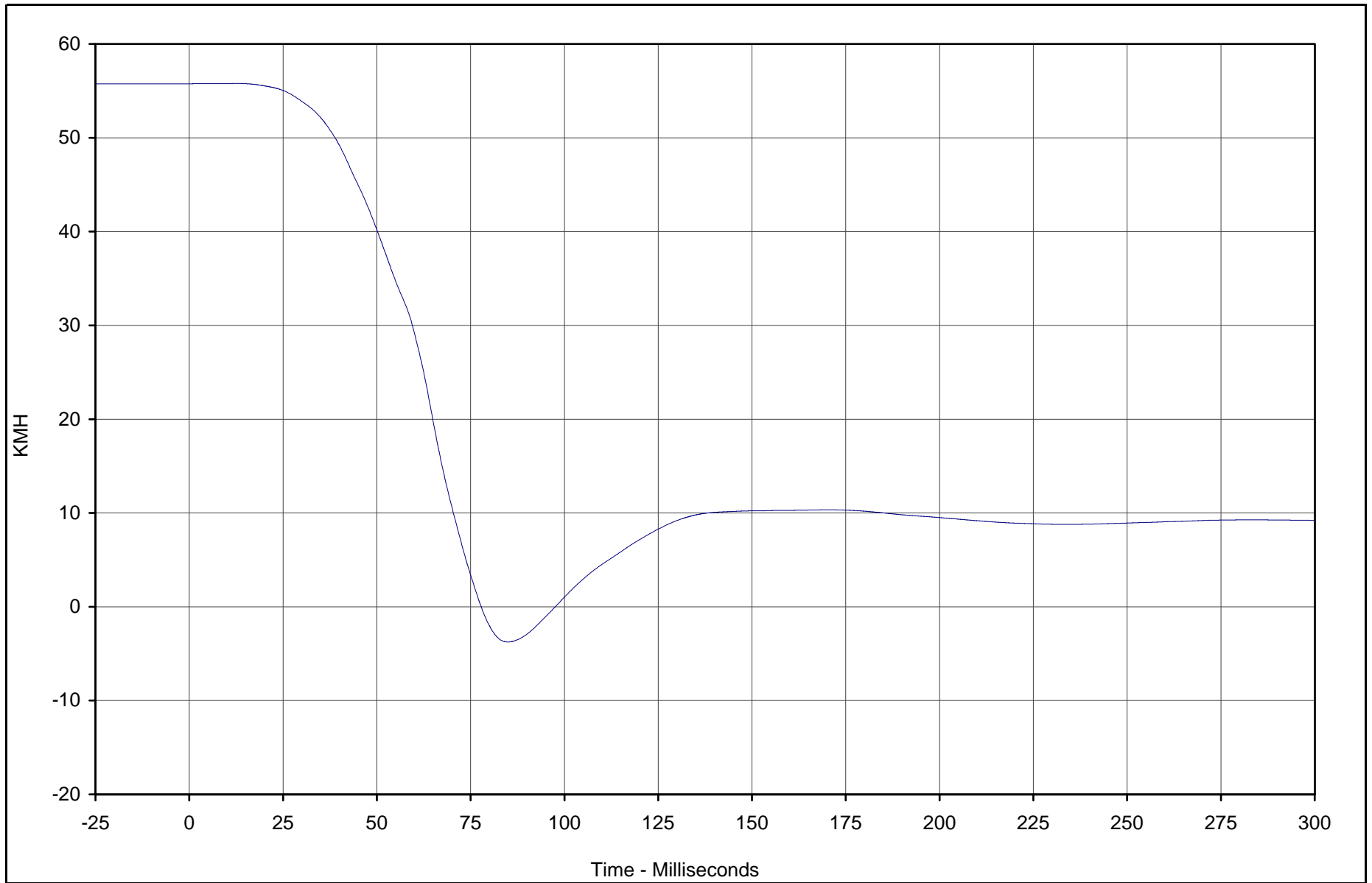
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-96



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X Velocity	064	IN1	KMH	55.8	12.8	-3.8	85.0	180



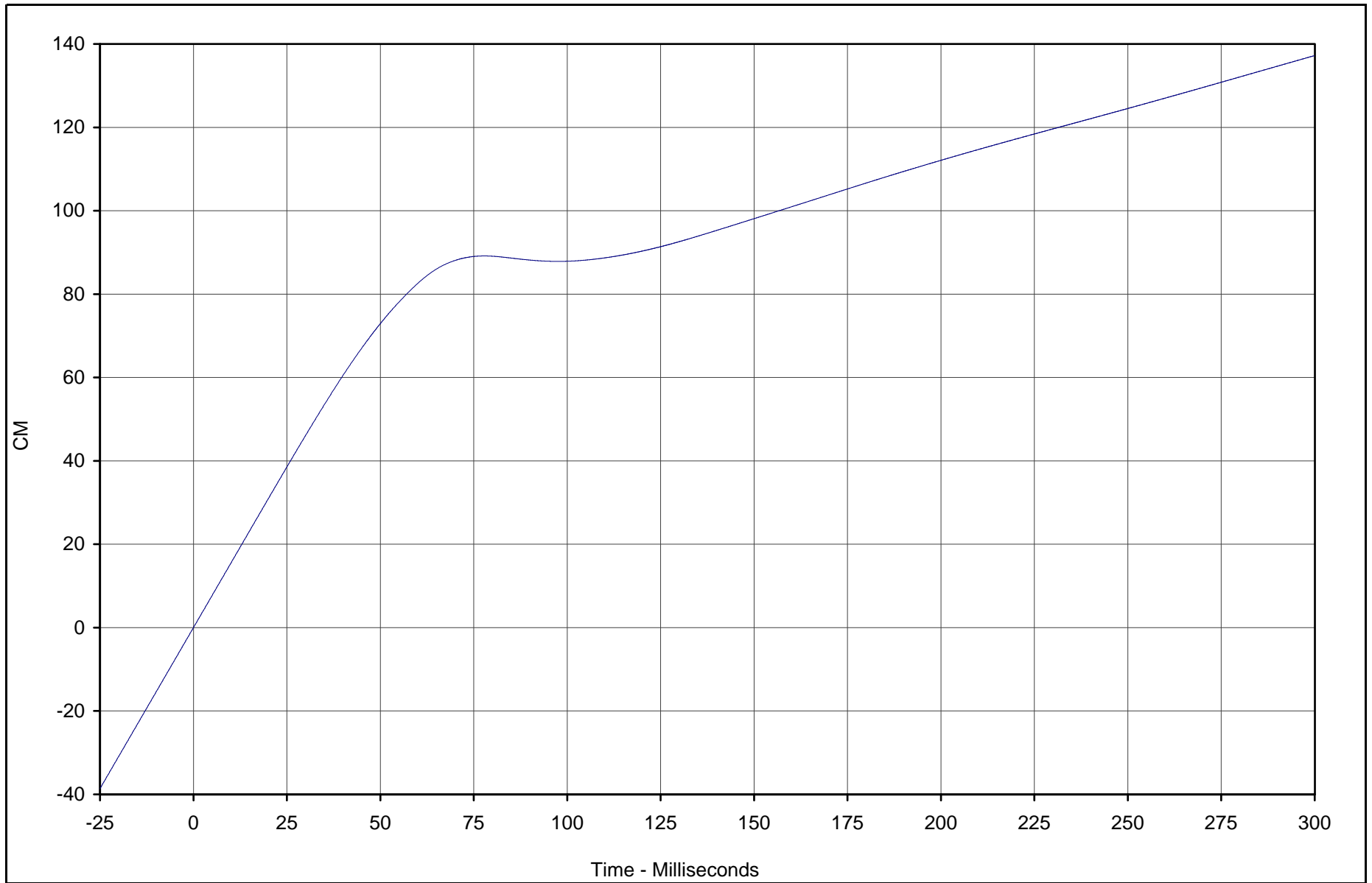
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-97



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X Displ.	064	IN2	CM	137.2	299.9	0.0	0.0	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

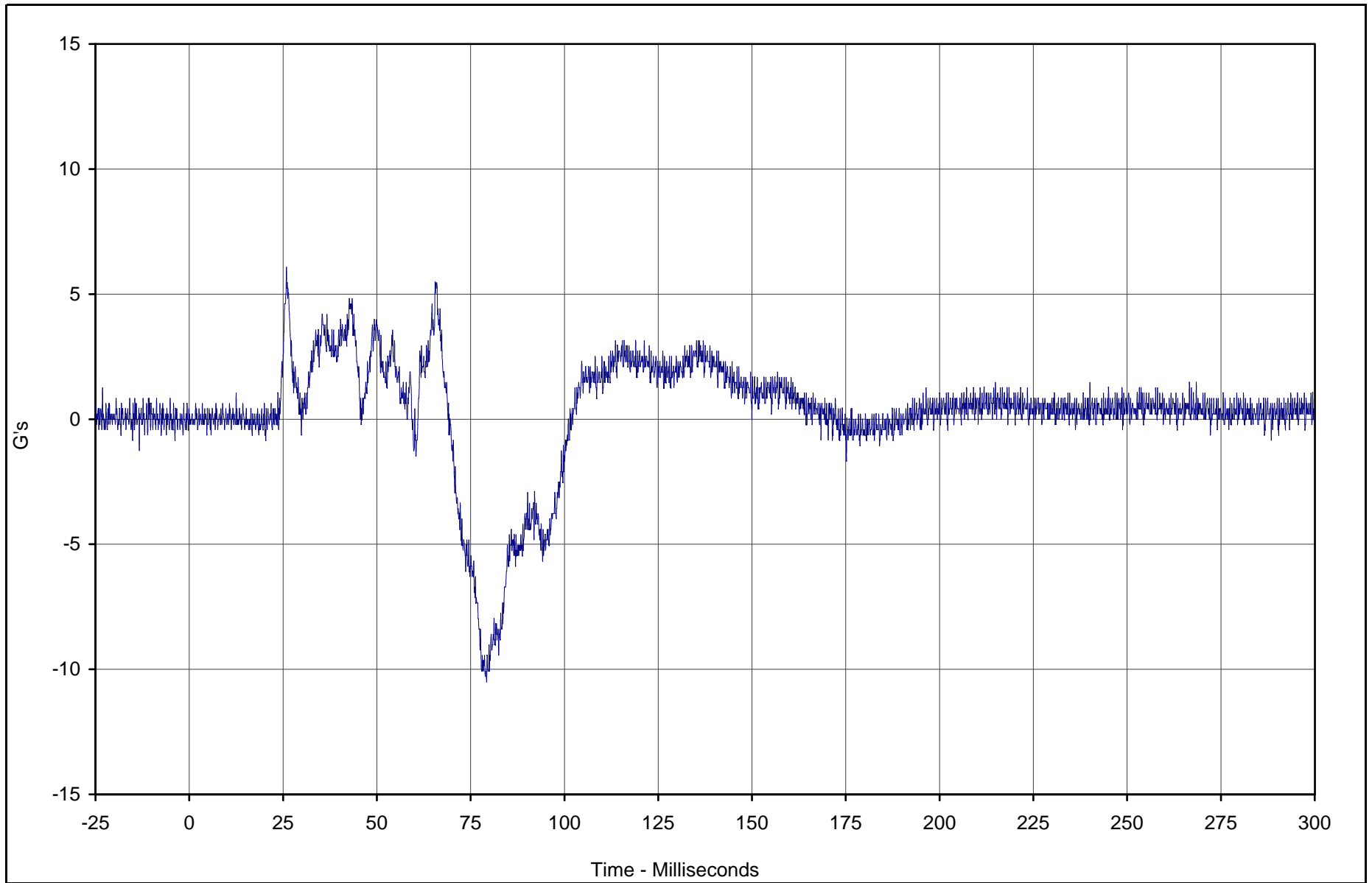
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-98



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Y	065	FIL	G's	6.1	25.9	-10.5	79.3	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

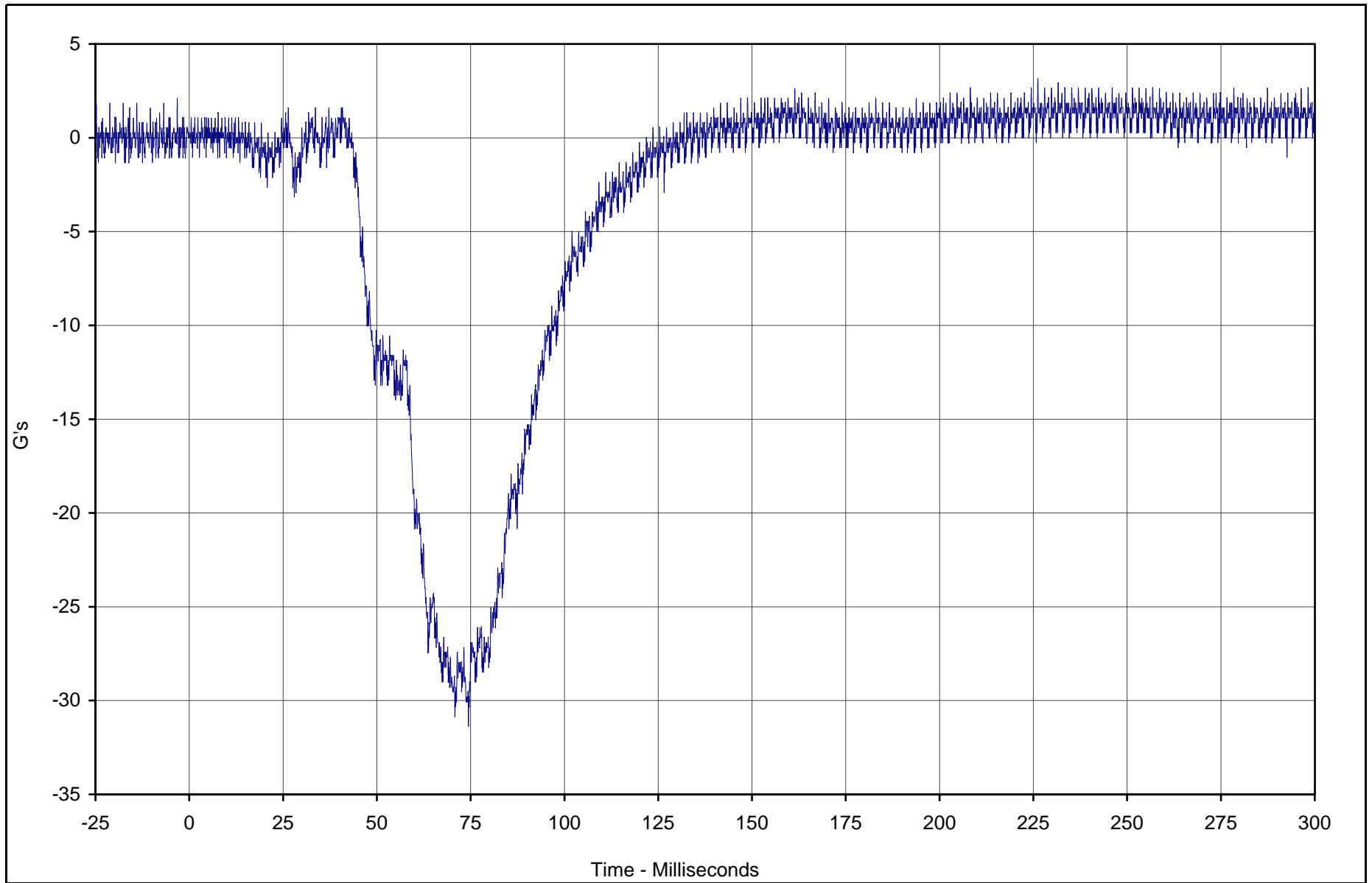
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-99



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Z	066	FIL	G's	3.2	226.2	-31.4	74.4	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

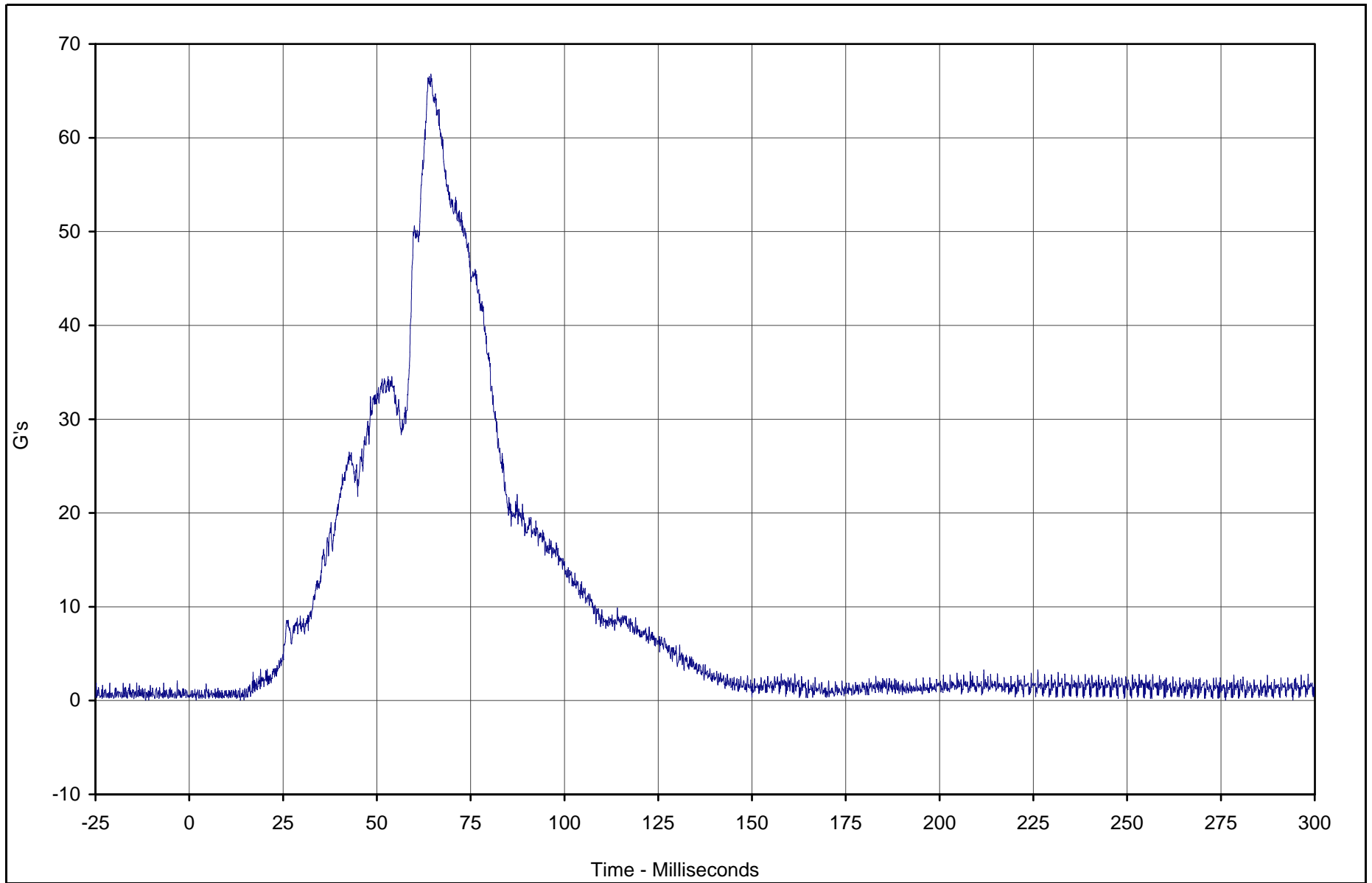
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-100



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Resultant	066	RES	G's	66.8	64.4	0.0	1.8	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

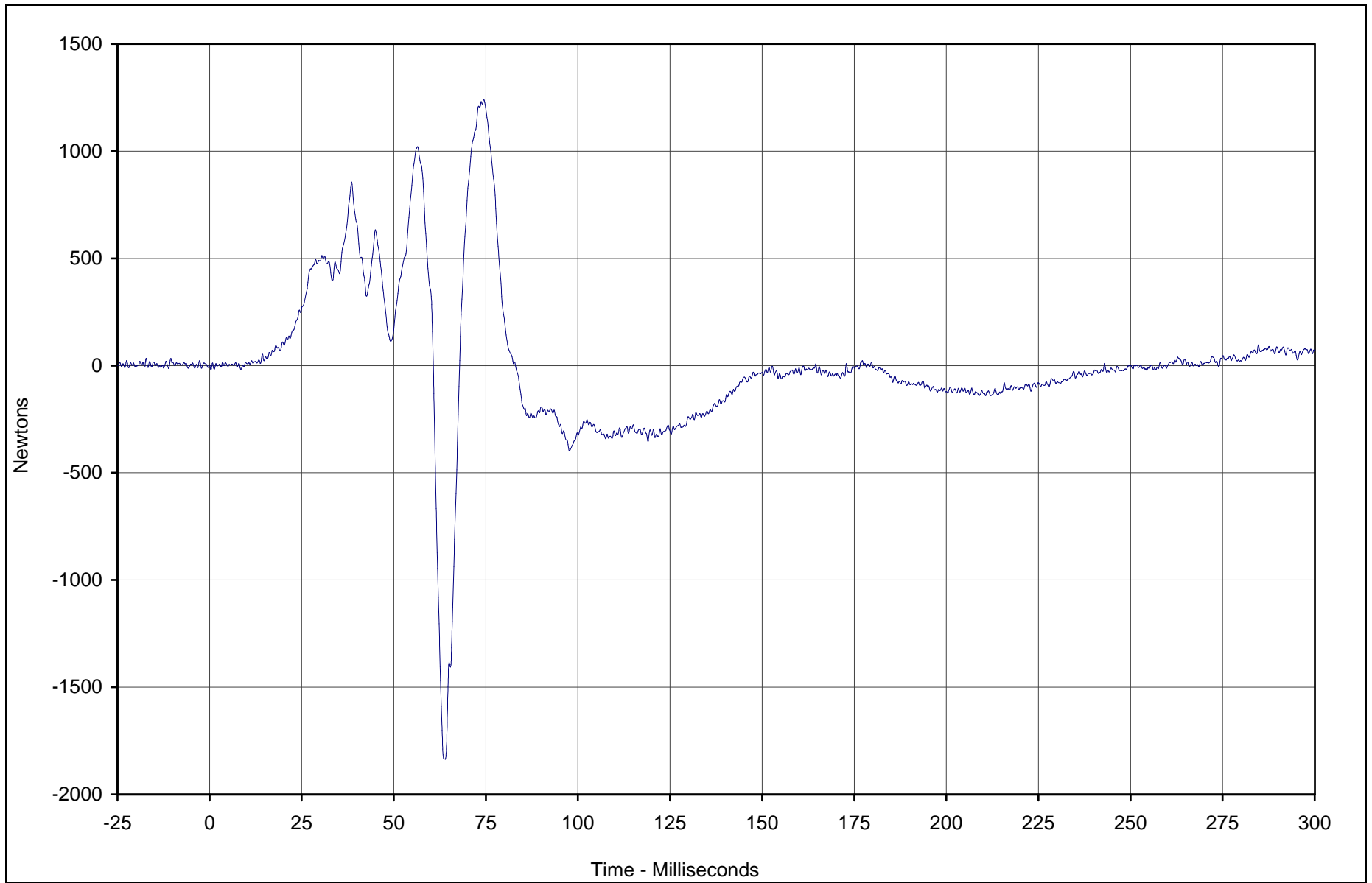
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-101



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Femur Force	067	FIL	Newtons	1241.9	74.4	-1835.9	64.0	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

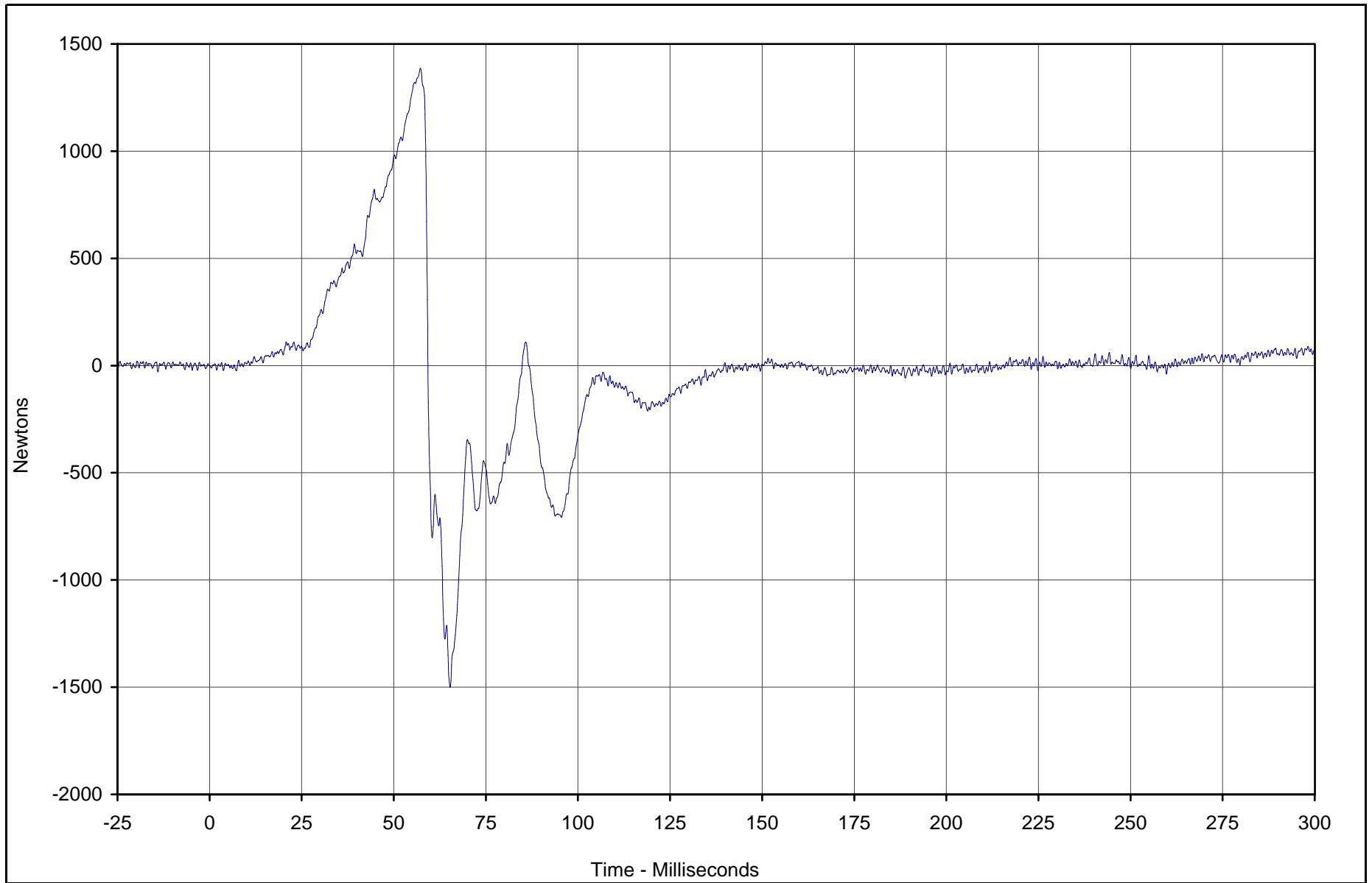
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-102



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Femur Force	068	FIL	Newtons	1386.2	57.2	-1500.4	65.3	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

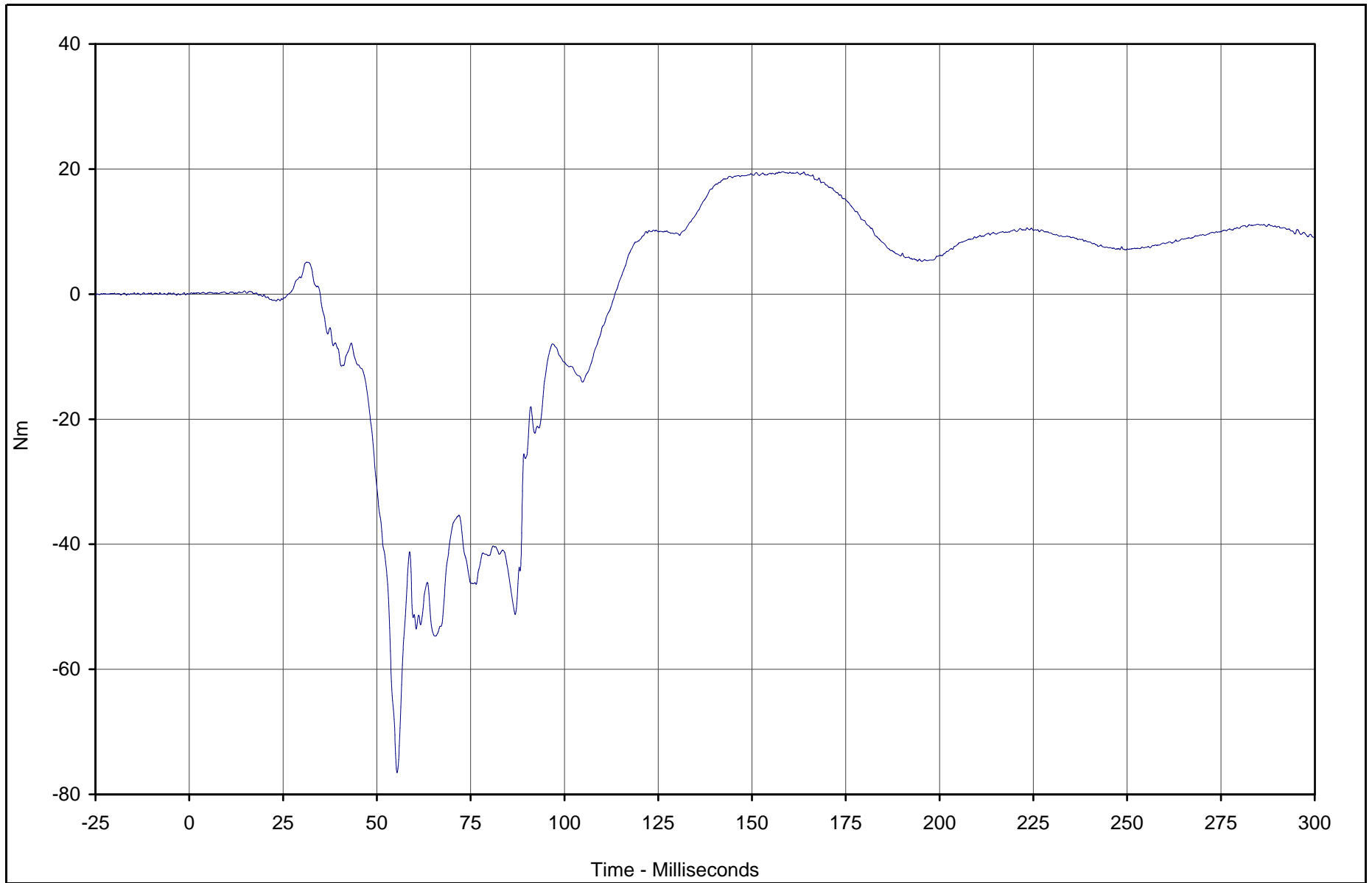
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-103



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Upper Tibia Moment X	069	FIL	Nm	19.6	158.1	-76.5	55.4	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

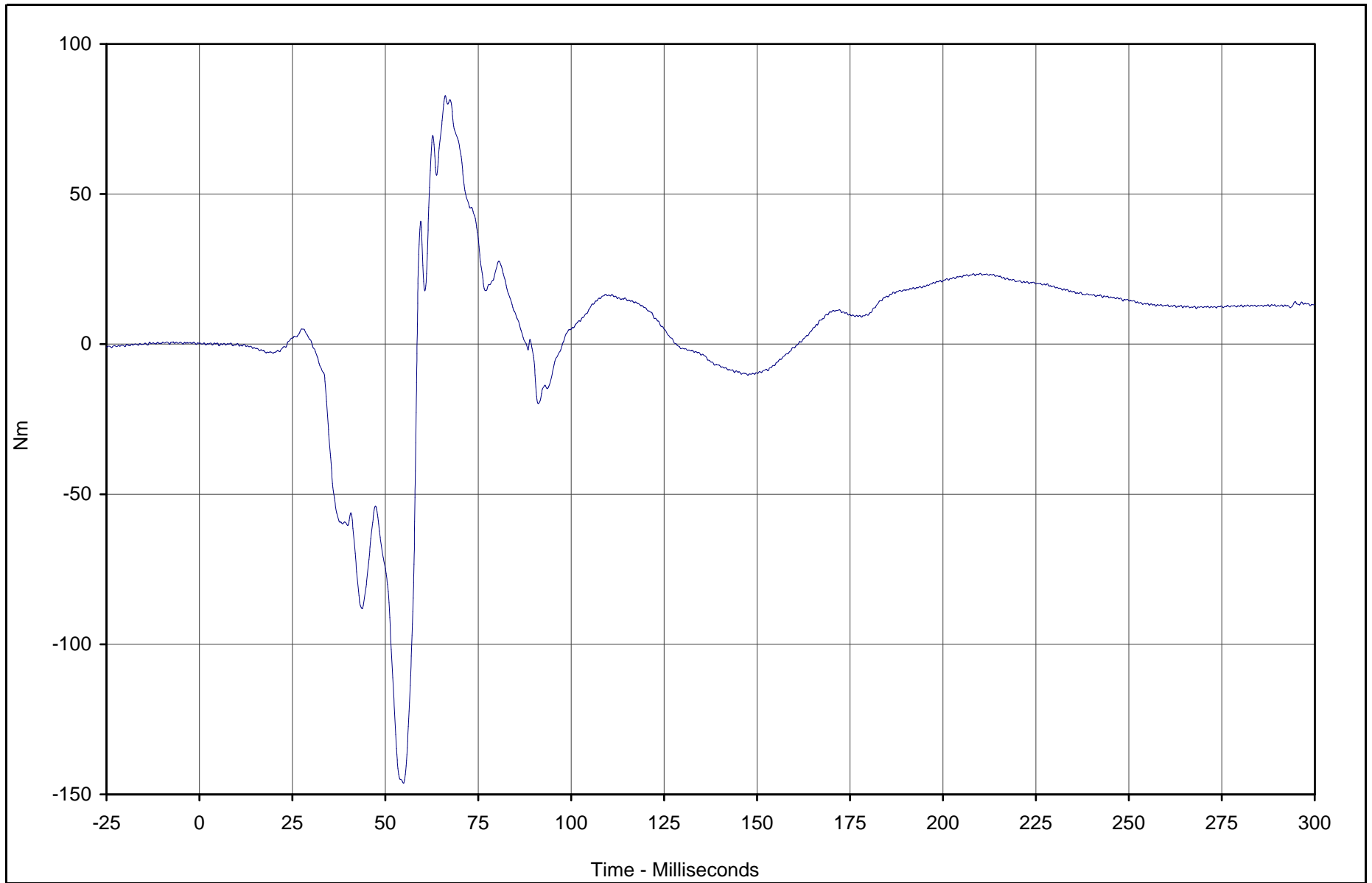
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-104



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Upper Tibia Moment Y	070	FIL	Nm	82.8	66.1	-146.3	54.9	600



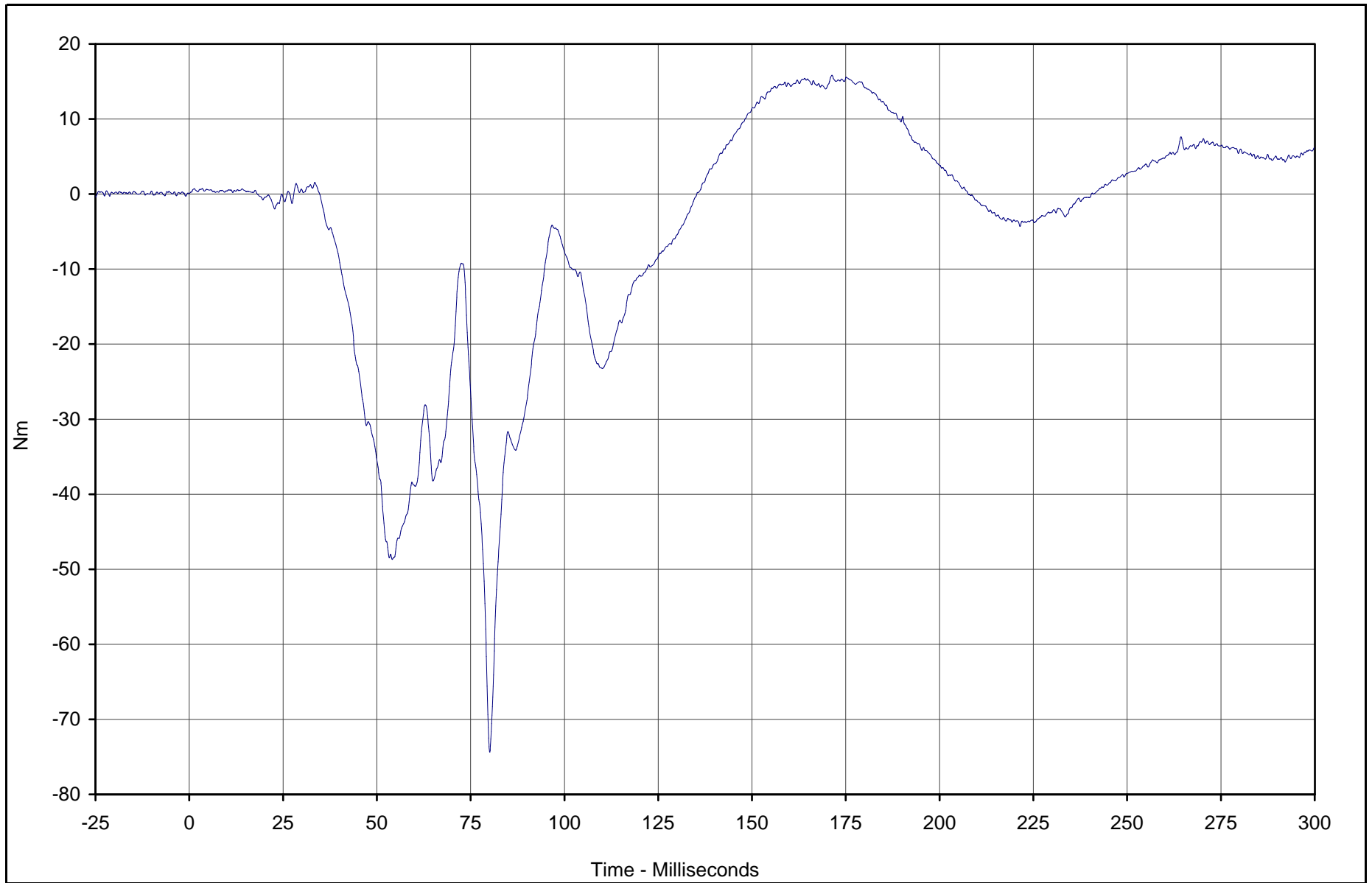
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-105



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Upper Tibia Moment X	071	FIL	Nm	15.8	171.3	-74.4	80.1	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

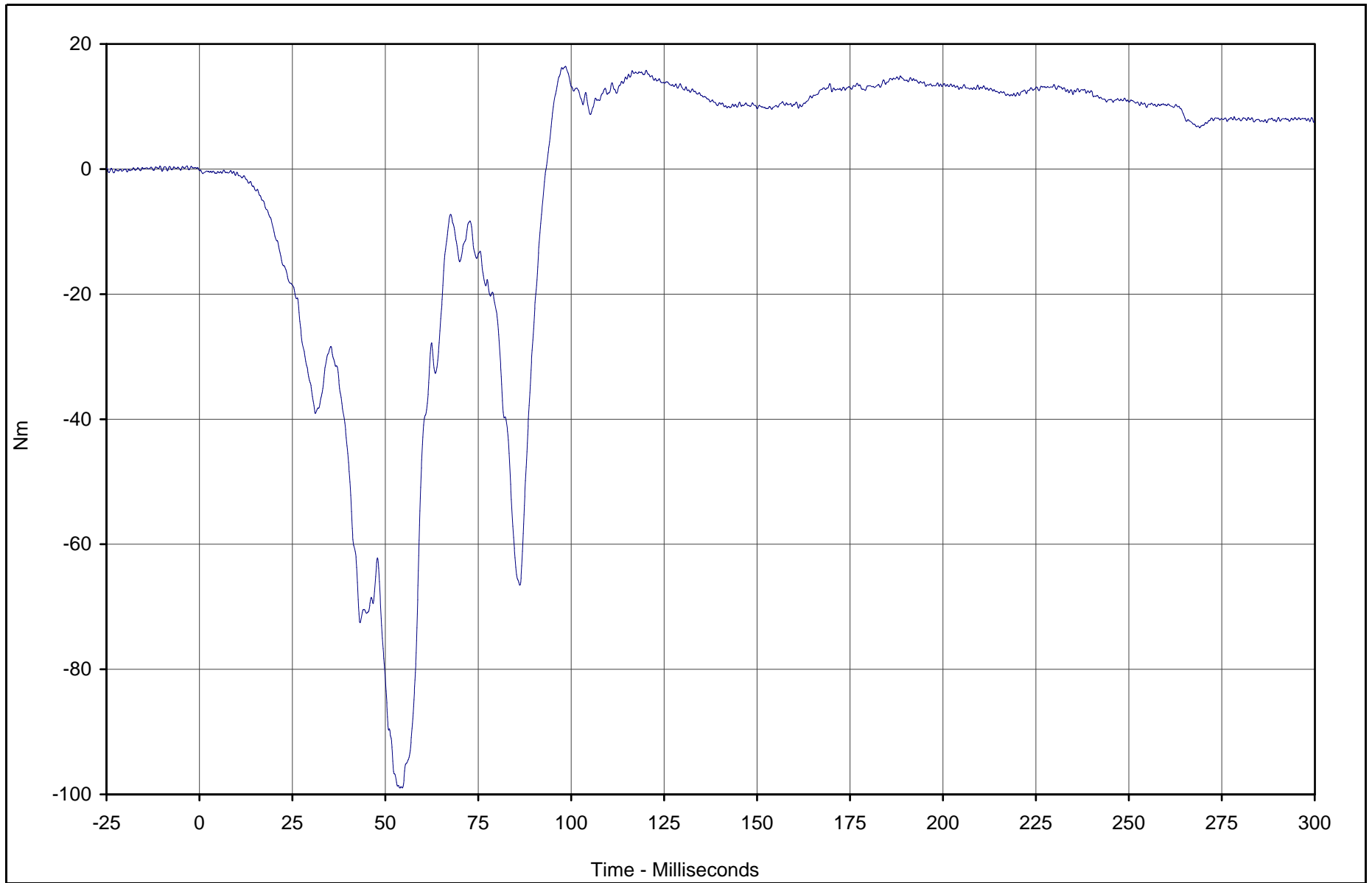
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-106



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Upper Tibia Moment Y	072	FIL	Nm	16.4	98.4	-99.0	53.9	600



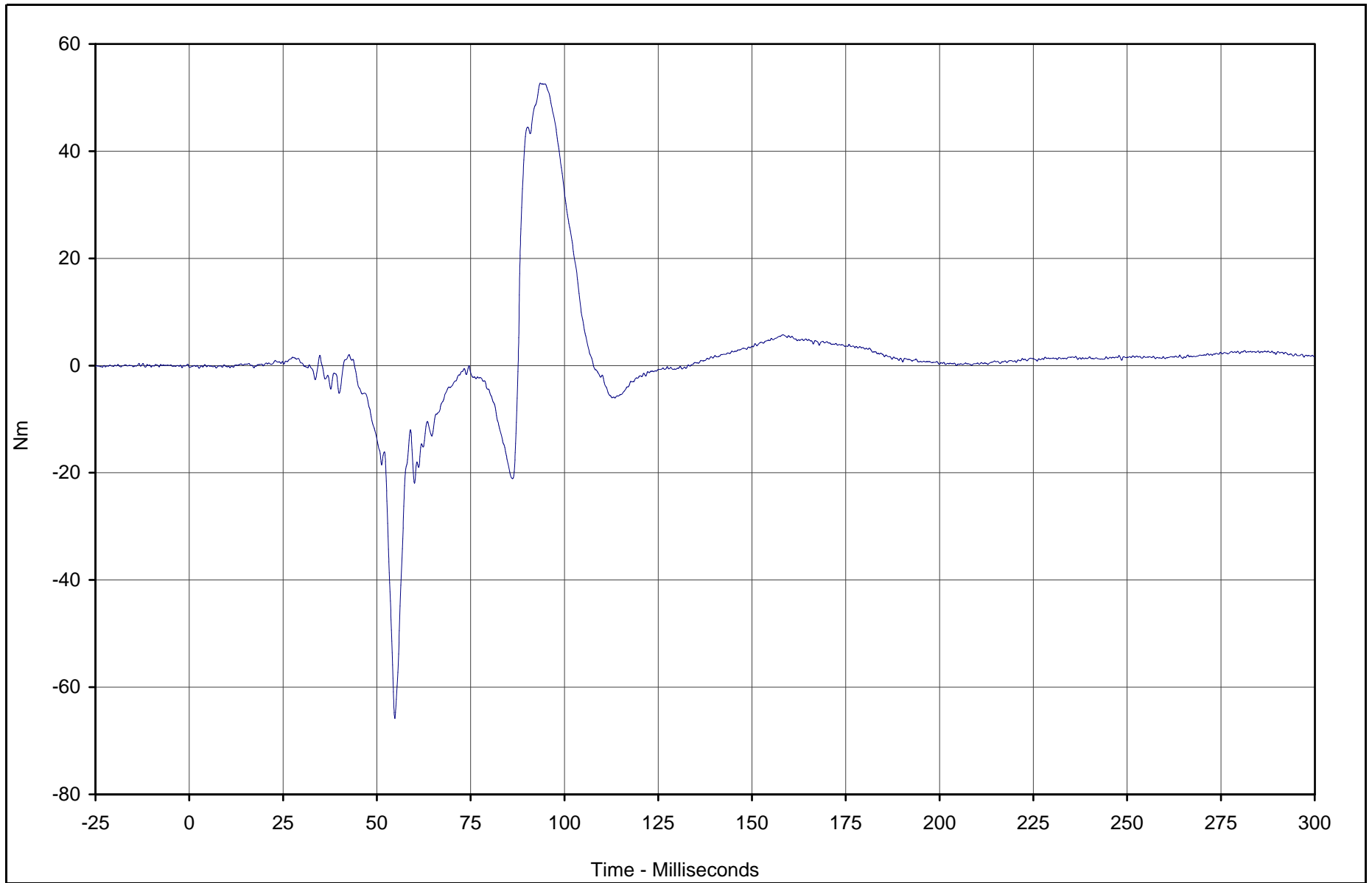
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-107



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Moment X	073	FIL	Nm	52.7	93.6	-65.9	54.8	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

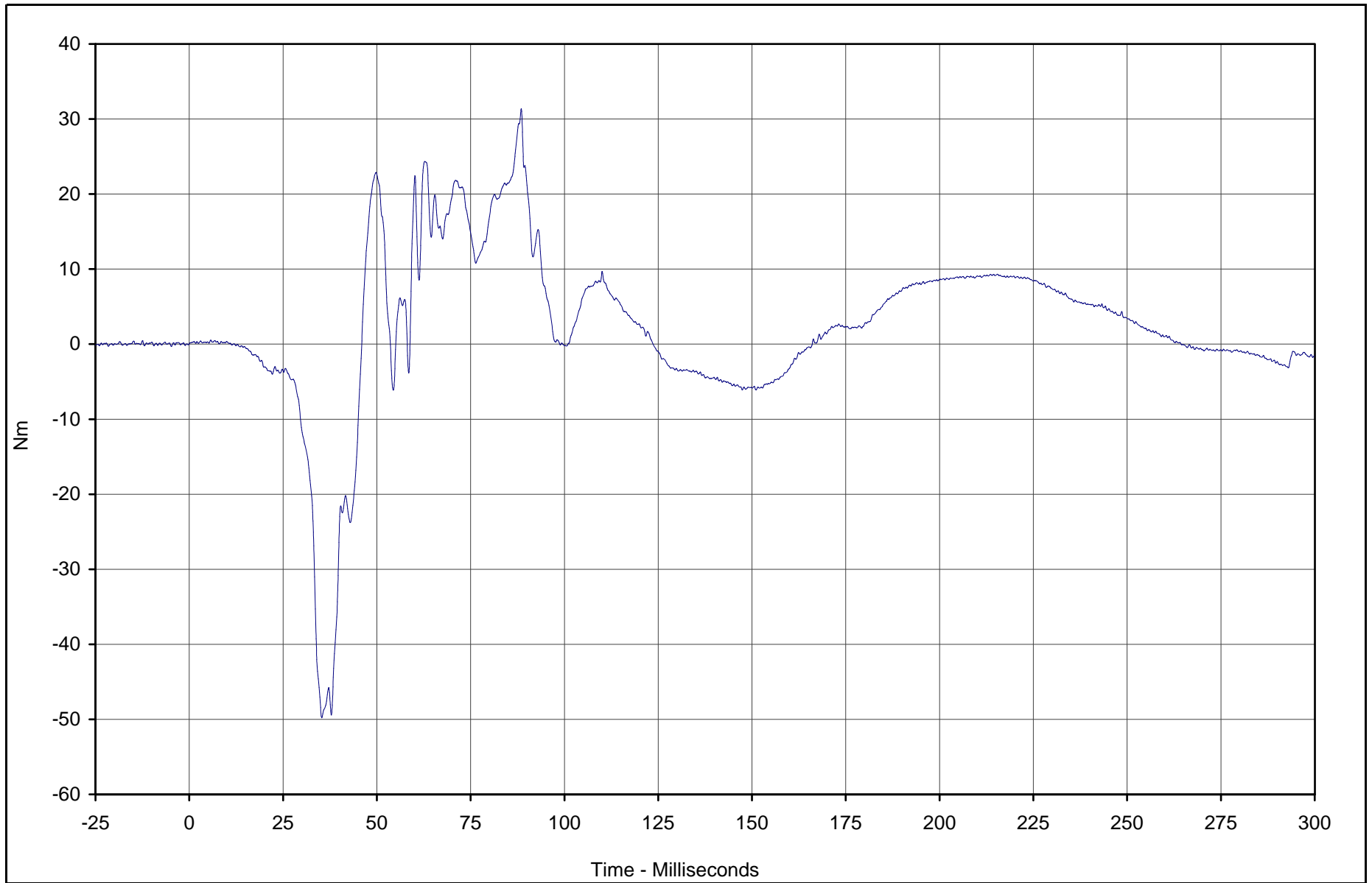
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-108



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Moment Y	074	FIL	Nm	31.4	88.5	-49.8	35.3	600



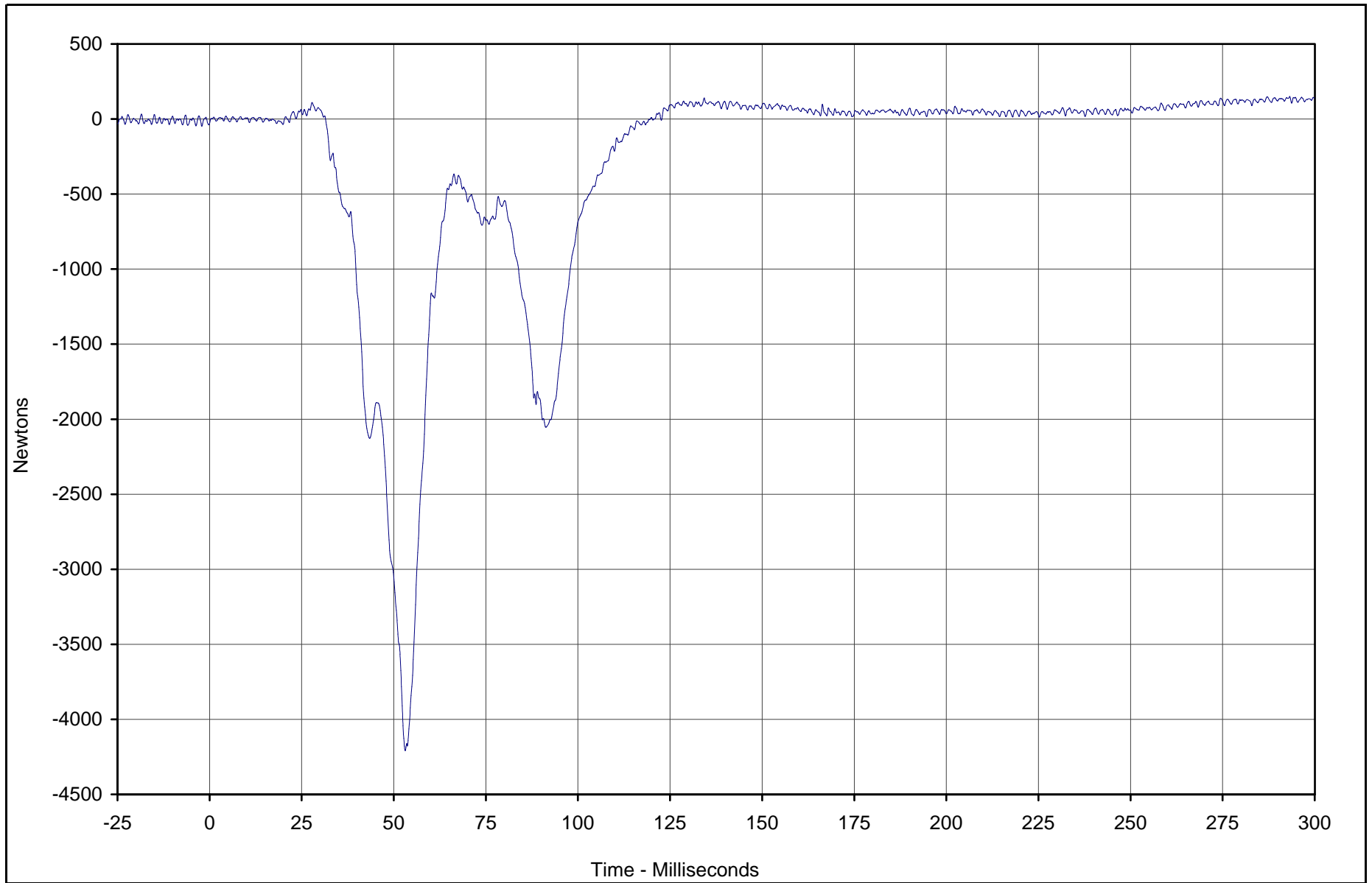
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-109



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Force Z	075	FIL	Newtons	150.1	293.2	-4209.0	53.1	600



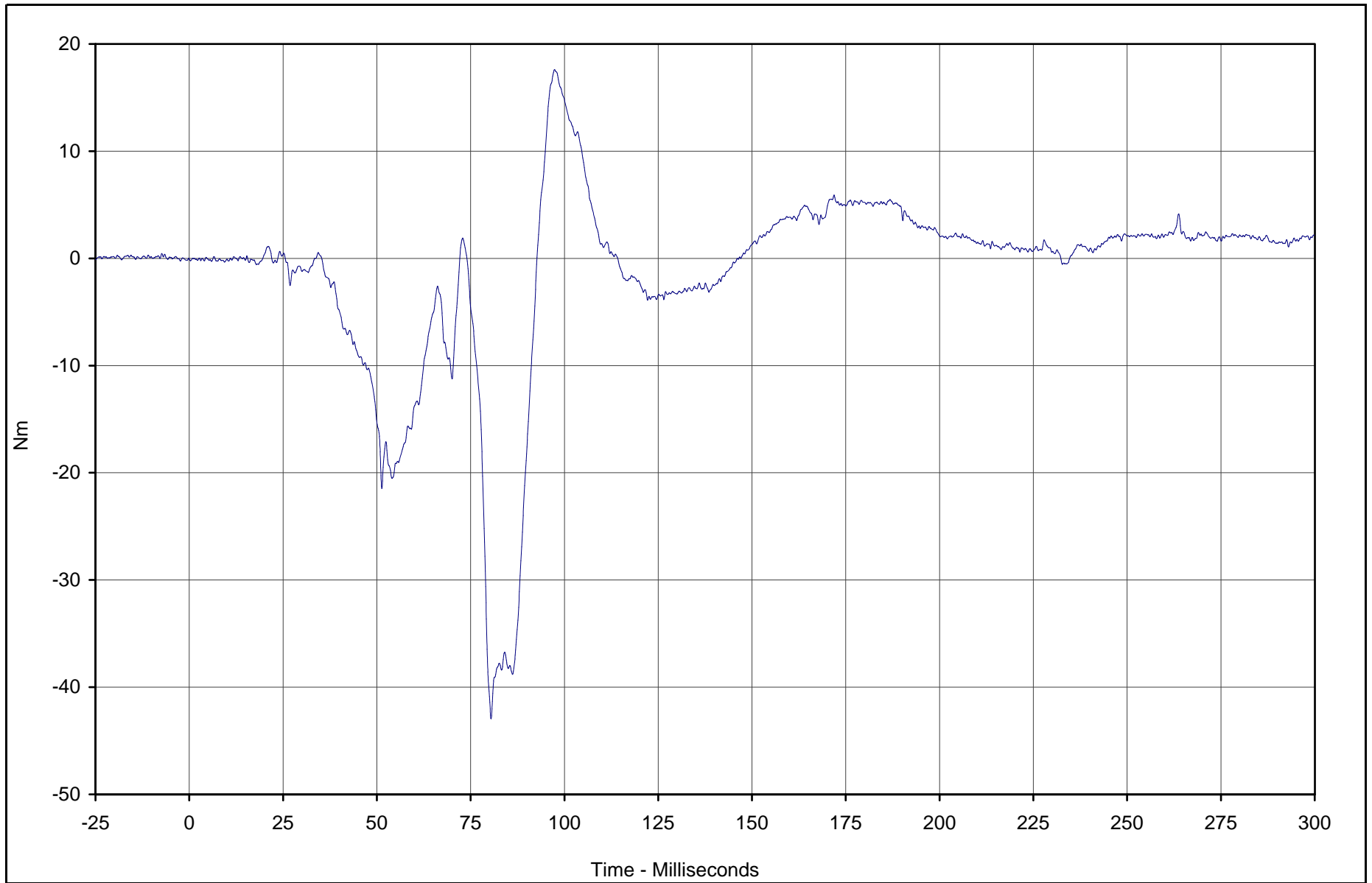
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Lower Tibia Moment X	076	FIL	Nm	17.6	97.4	-42.9	80.5	600



Test Vehicle: 2002 Nissan Xterra 4WD SUV

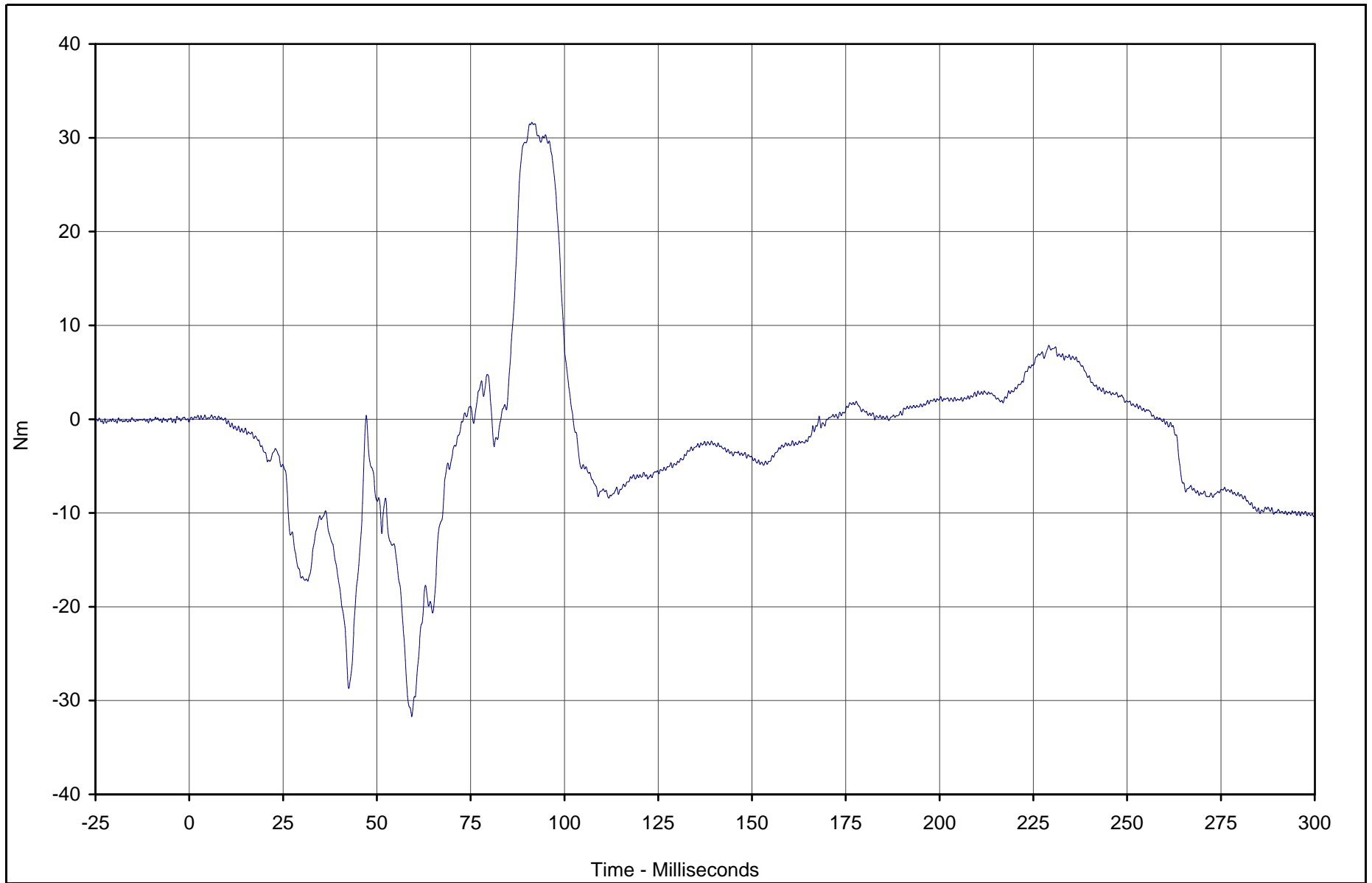
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-111



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Lower Tibia Moment Y	077	FIL	Nm	31.6	91.3	-31.7	59.3	600



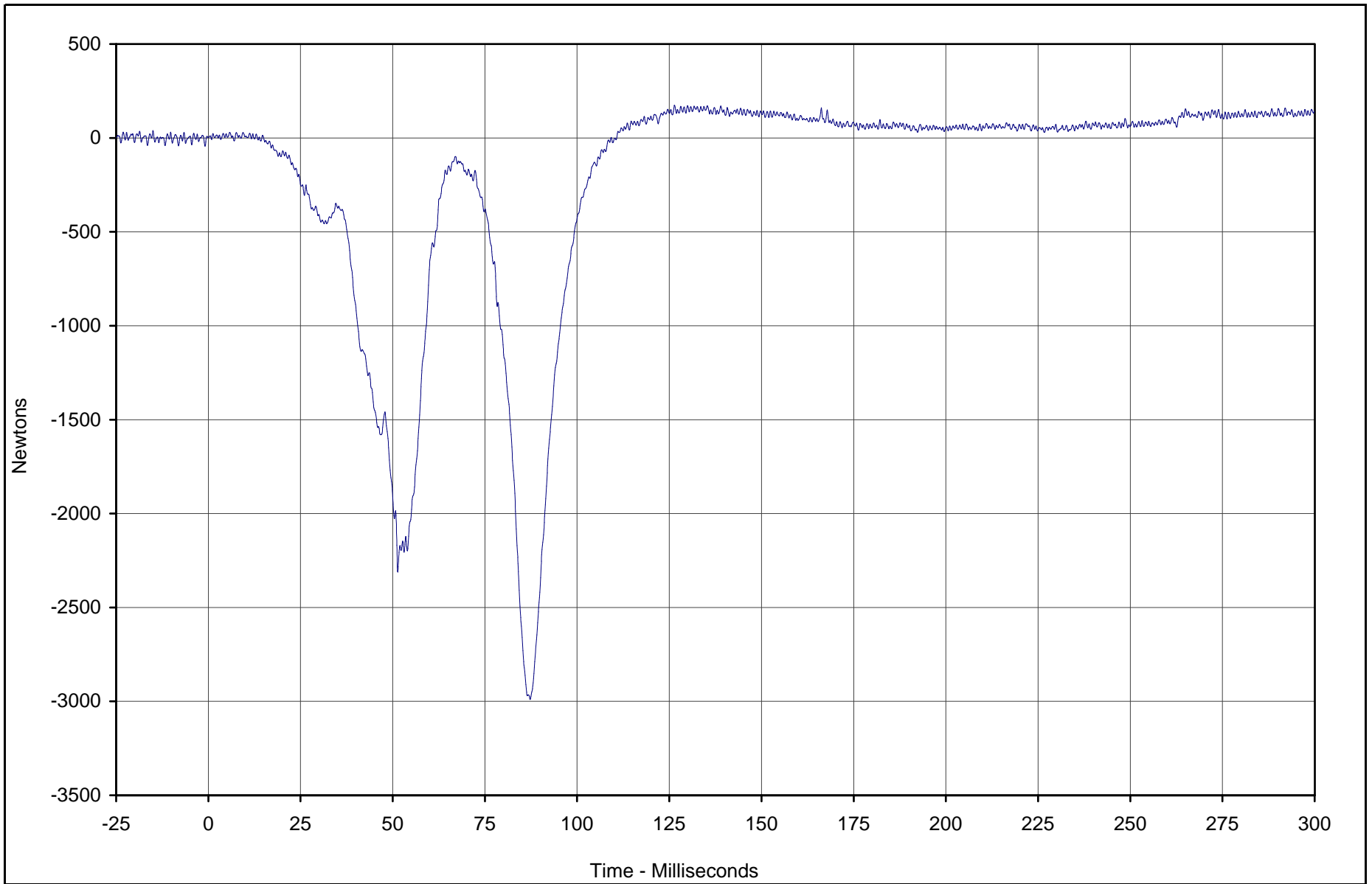
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09



B-112

KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right lower Tibia Force Z	078	FIL	Newtons	174.2	126.4	-2990.4	87.3	600



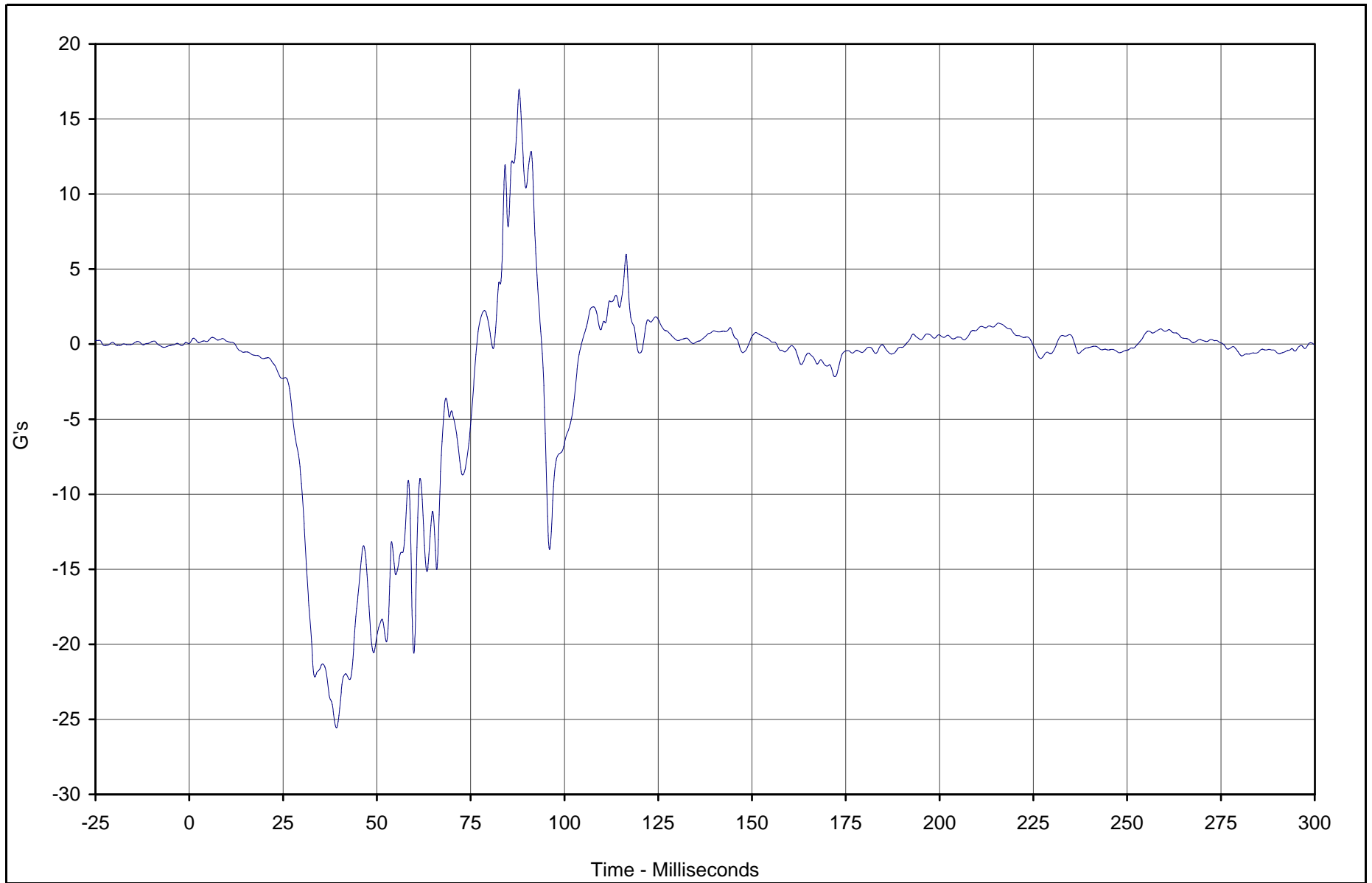
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-113



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Aft X	079	FIL	G's	17.0	87.9	-25.6	39.2	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

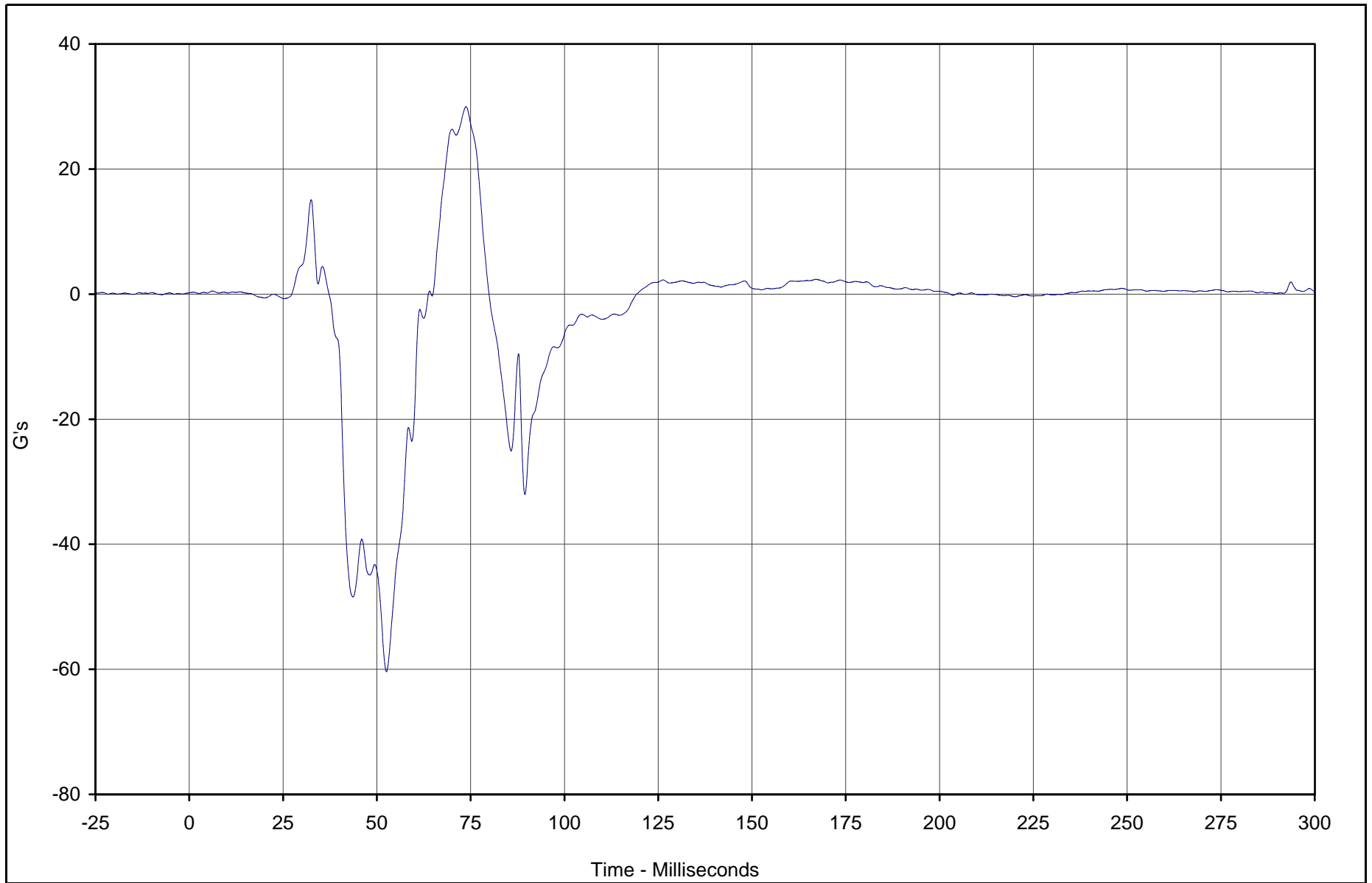
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-114



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Aft Z	080	FIL	G's	30.0	73.8	-60.4	52.6	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

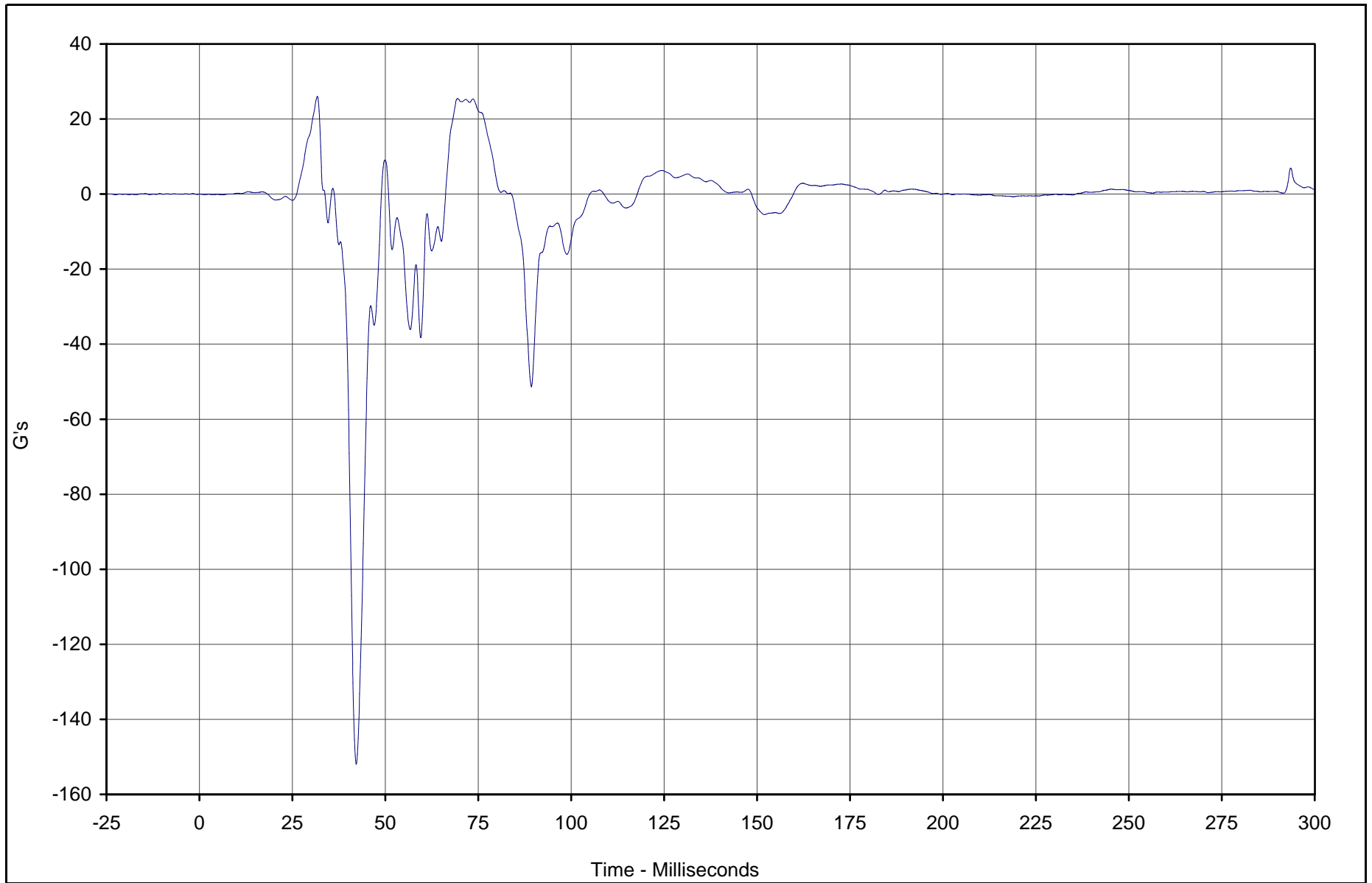
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-115



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Fore Z	081	FIL	G's	26.0	31.7	-152.0	42.2	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

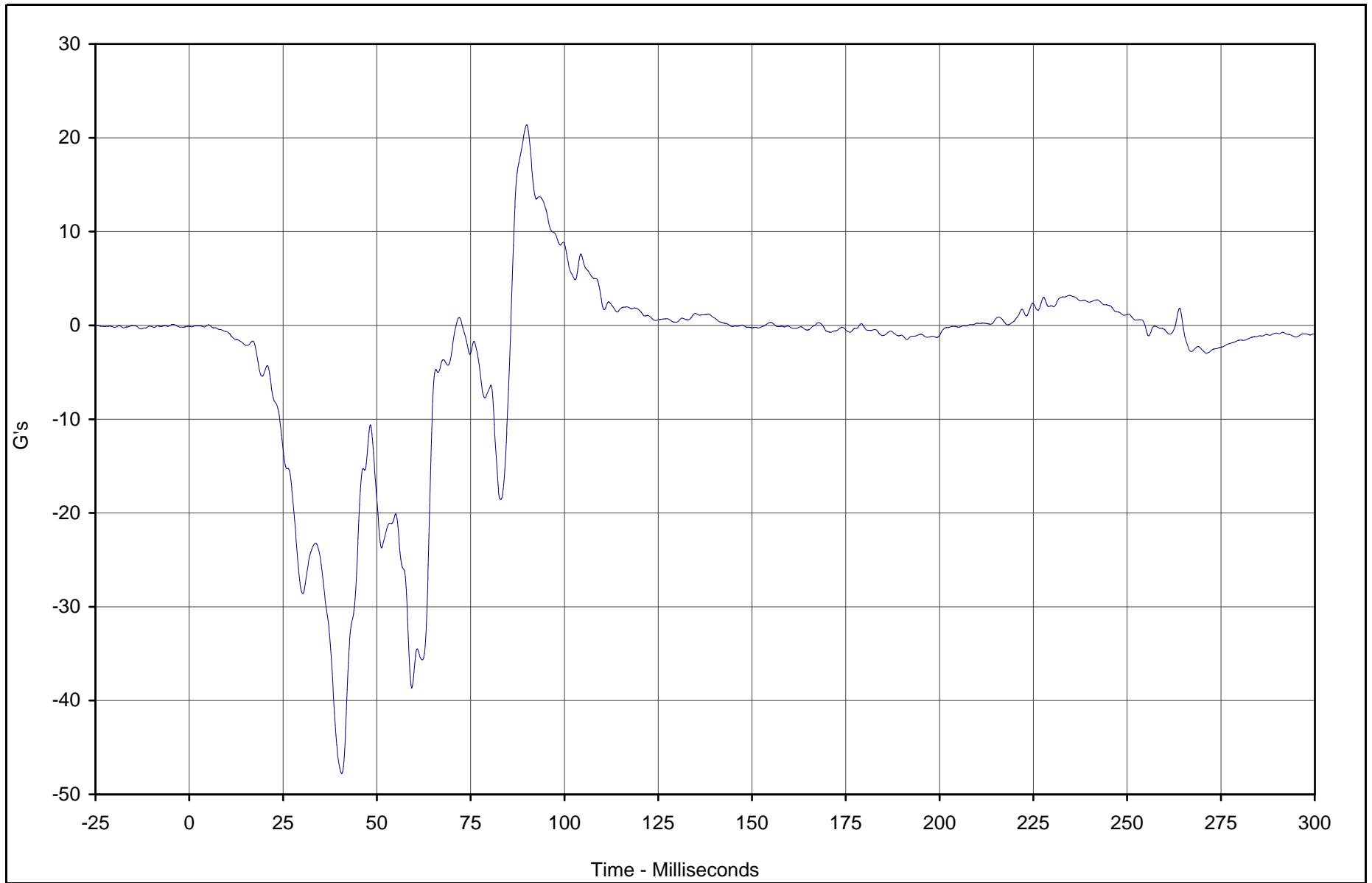
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-116



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Aft X	082	FIL	G's	21.4	89.9	-47.8	40.6	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

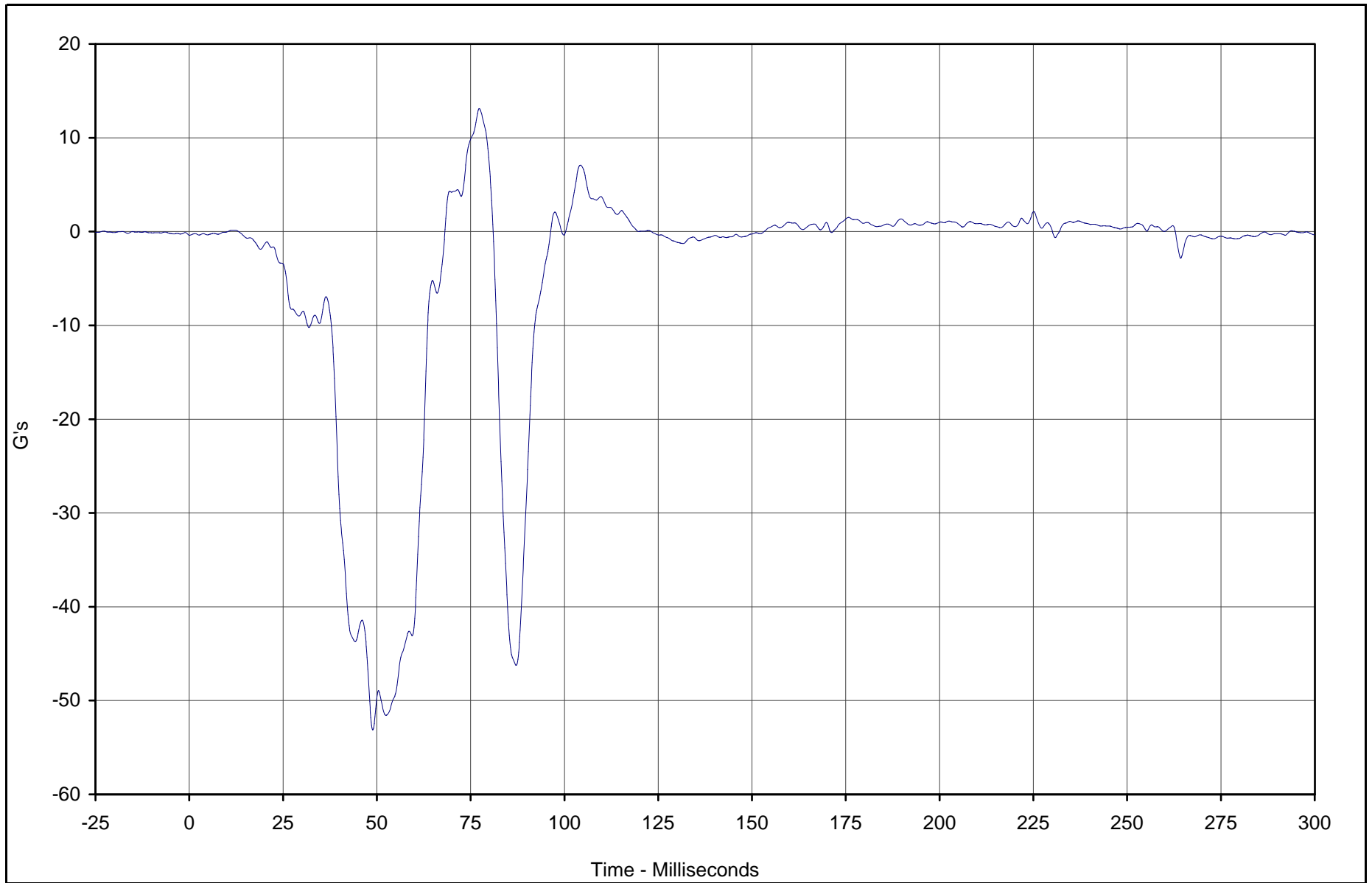
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-117



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Aft Z	083	FIL	G's	13.1	77.3	-53.1	48.9	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

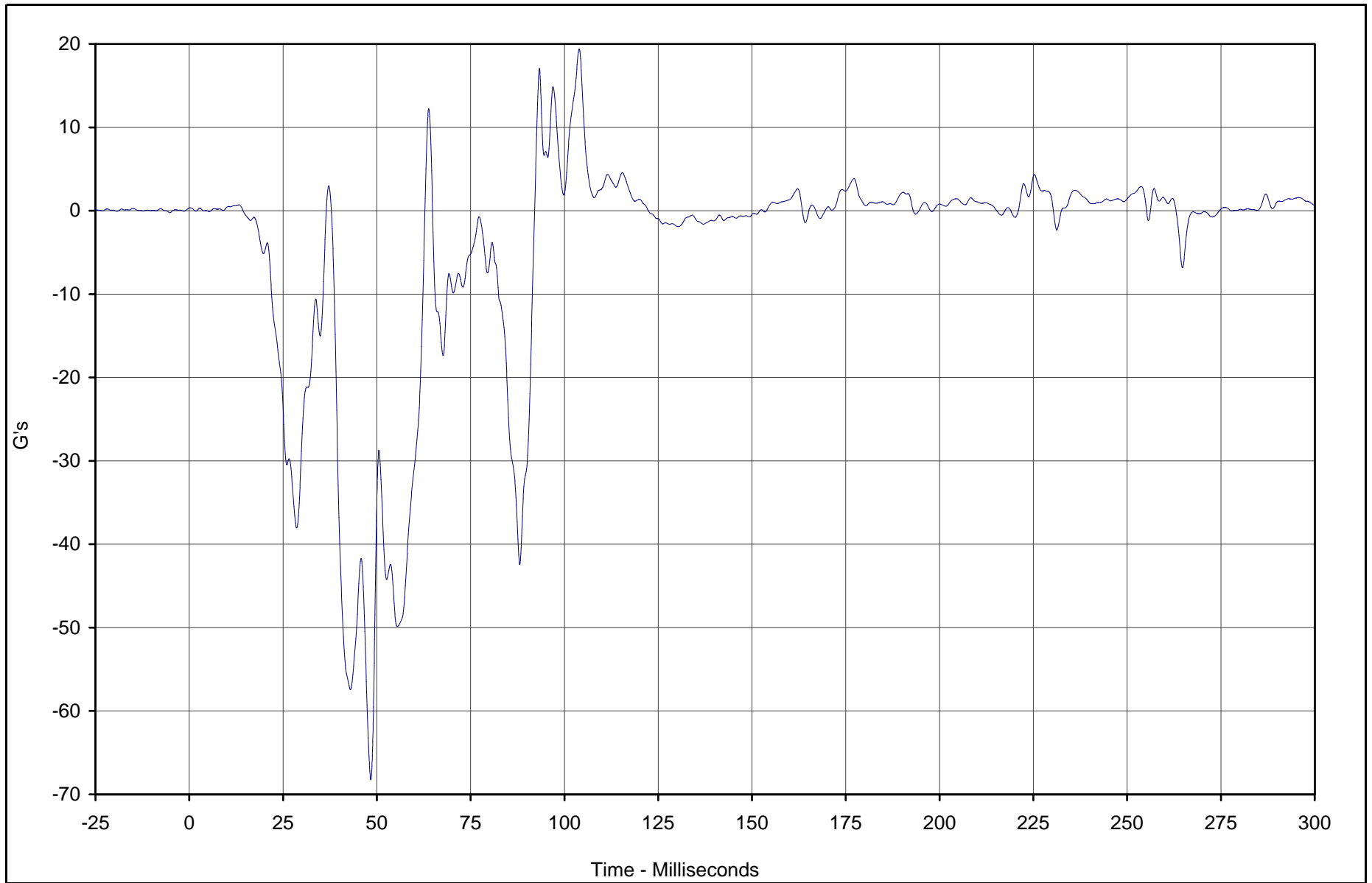
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-118



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Fore Z	084	FIL	G's	19.4	103.9	-68.3	48.4	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

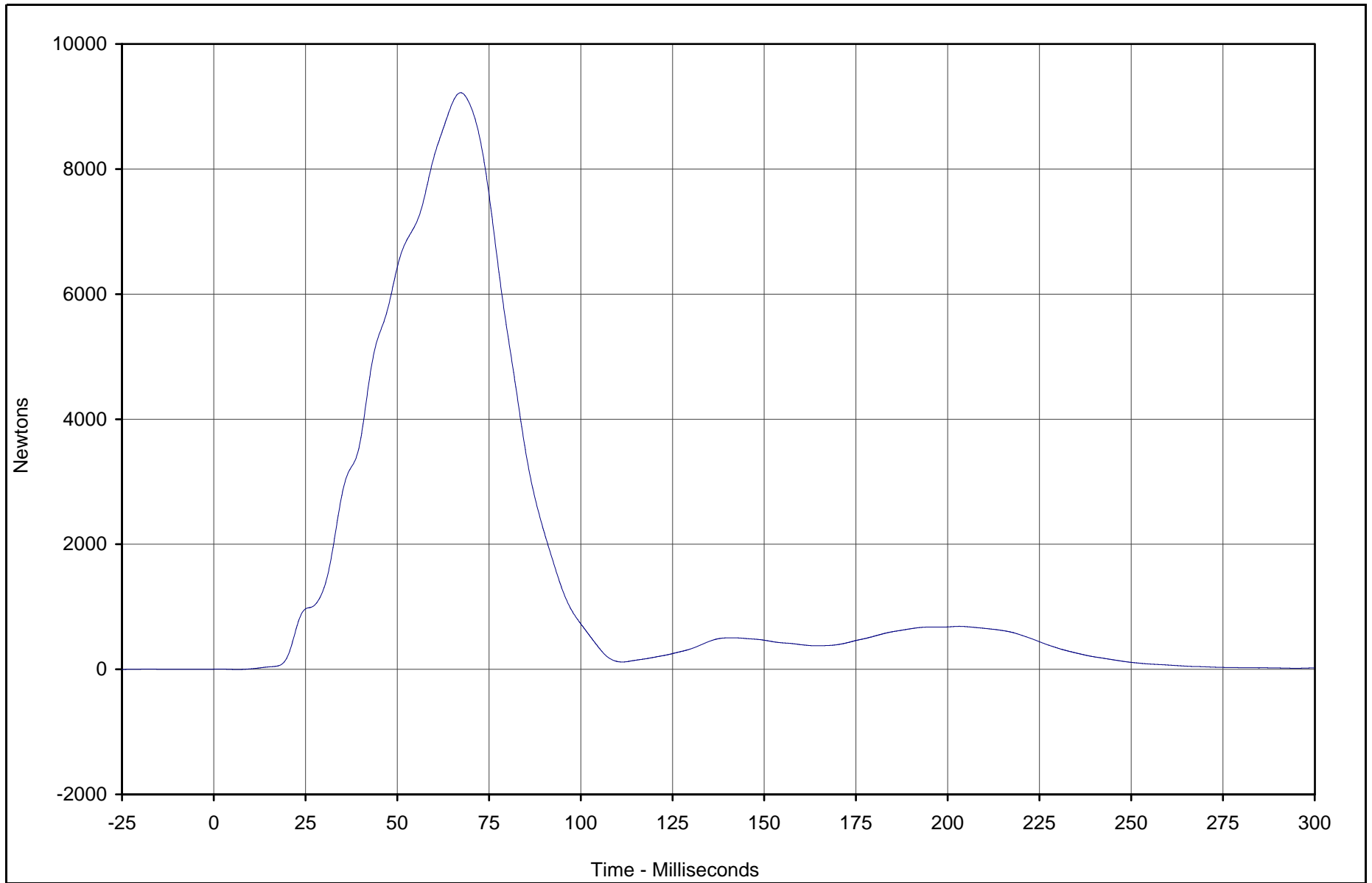
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-119



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Lap Belt Force	085	FIL	Newtons	9221.0	67.3	-2.5	6.5	60



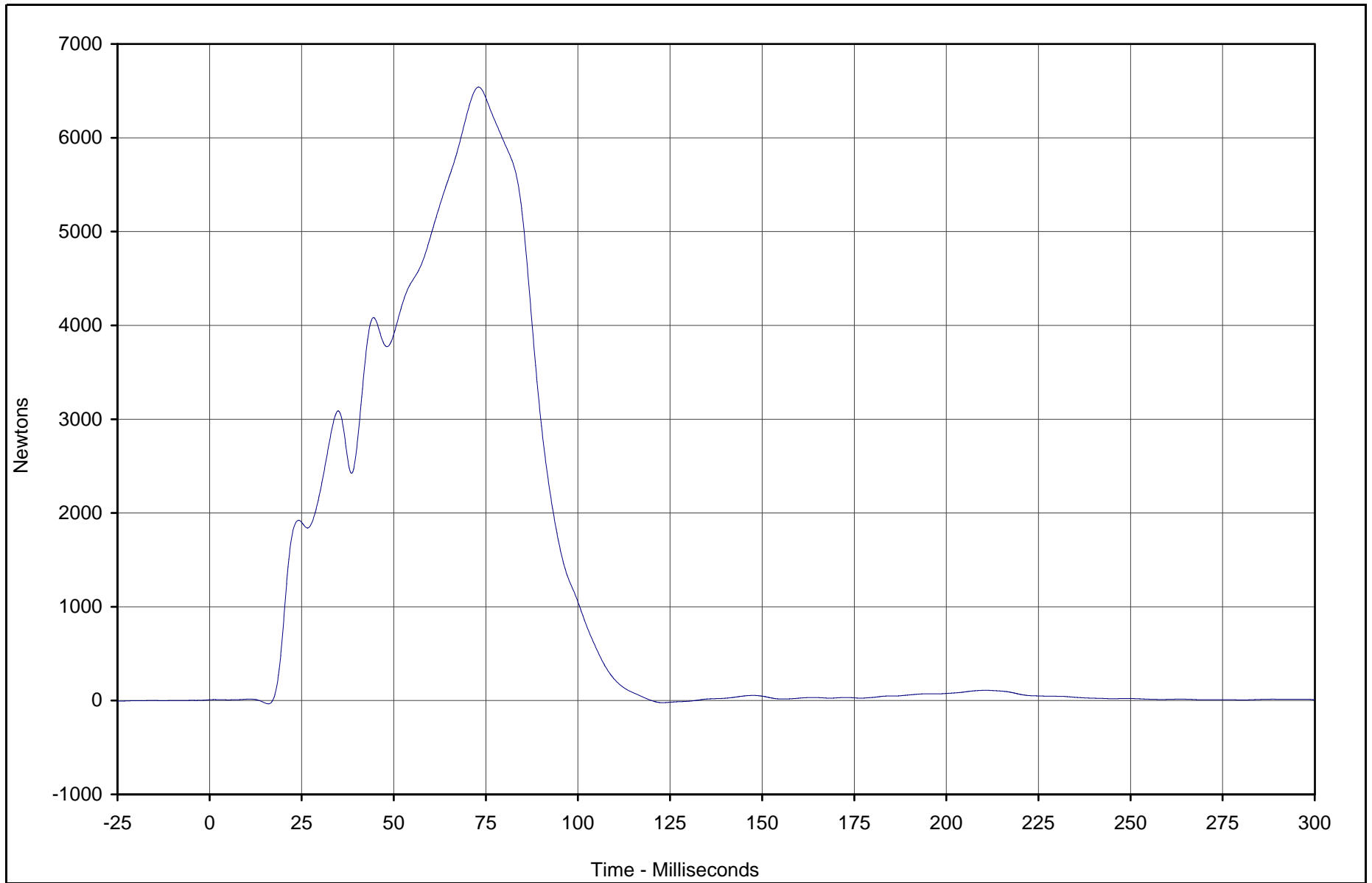
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-120



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Force	086	FIL	Newtons	6540.9	73.0	-34.3	15.9	60



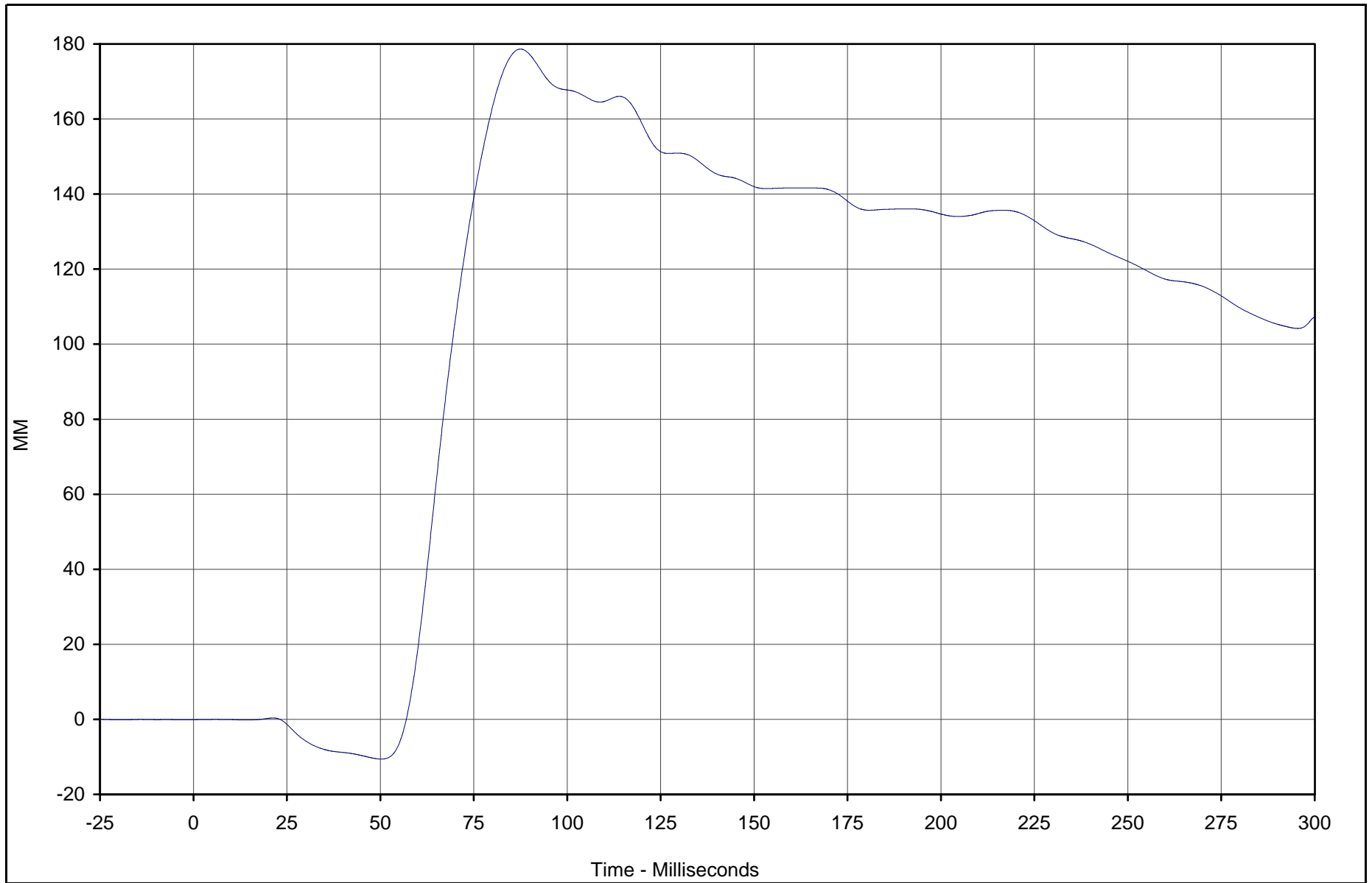
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-121



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Pullout	087	FIL	MM	178.6	87.5	-10.6	50.2	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

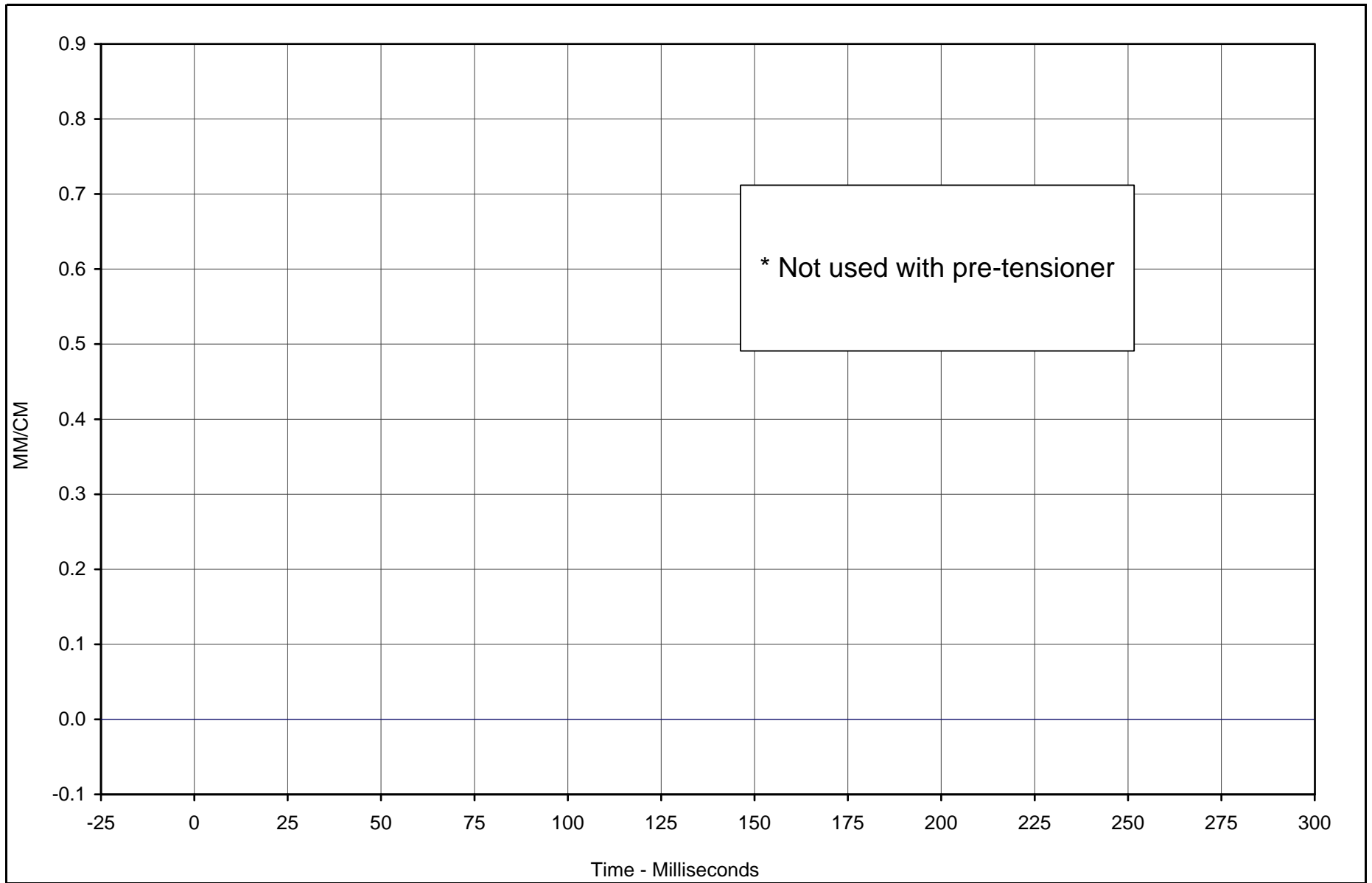
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-122



* Not used with pre-tensioner

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Elongation	088	FIL	MM/CM	0.00	0.0	0.00	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

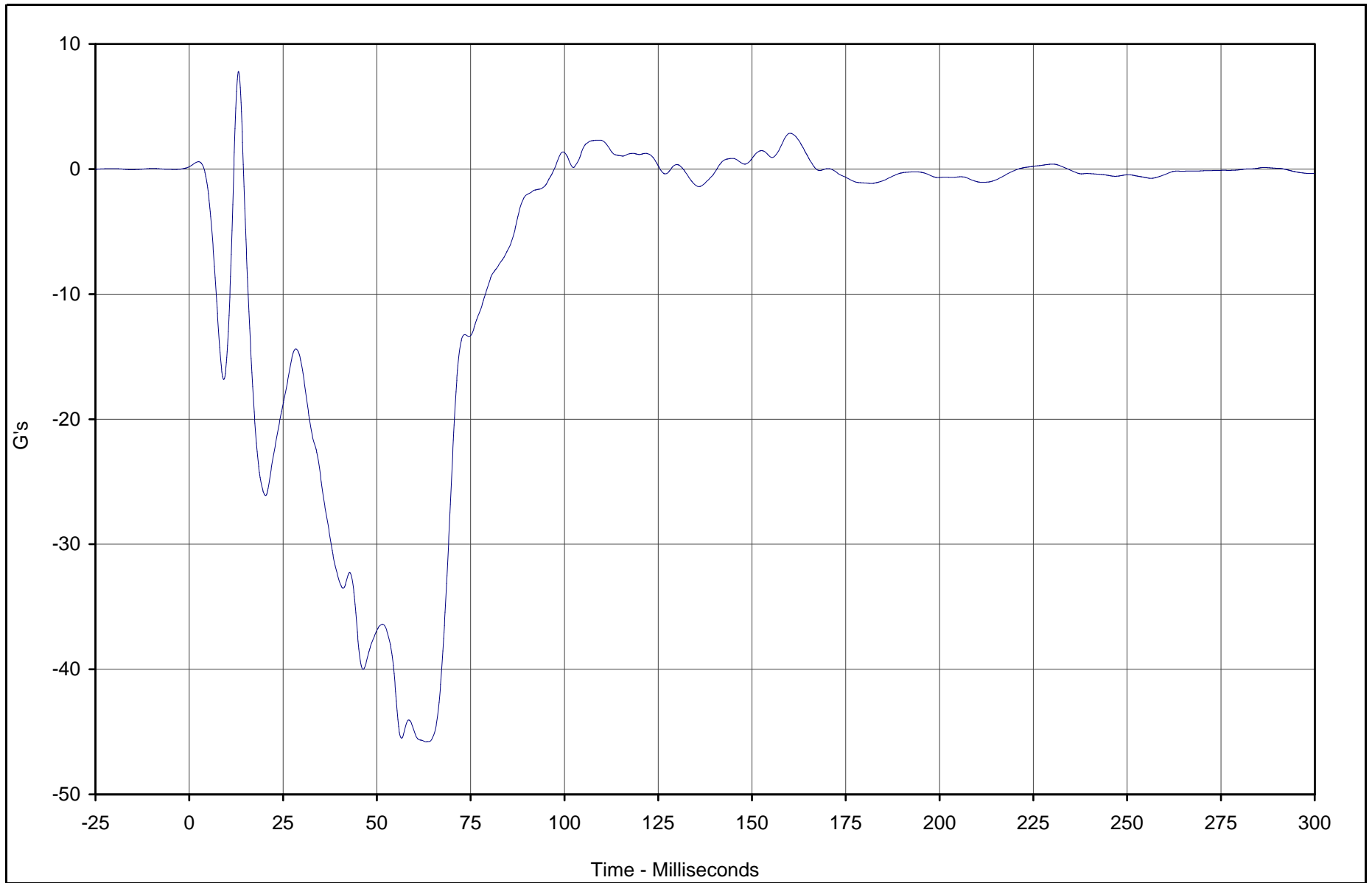
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-123



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X	089	FIL	G's	7.8	13.1	-45.8	63.1	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

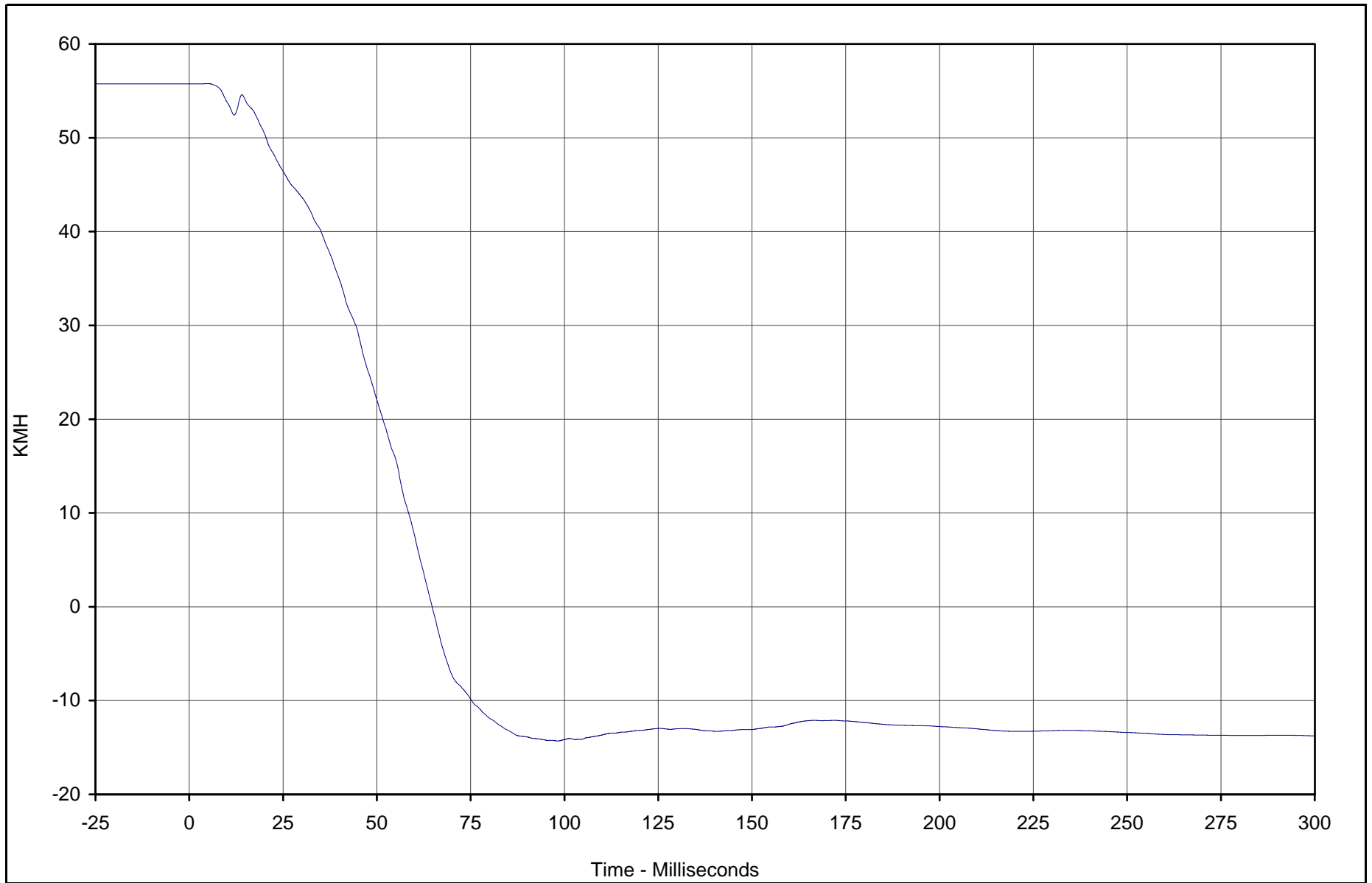
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-124



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X Velocity	089	IN1	KMH	55.8	5.0	-14.3	98.2	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

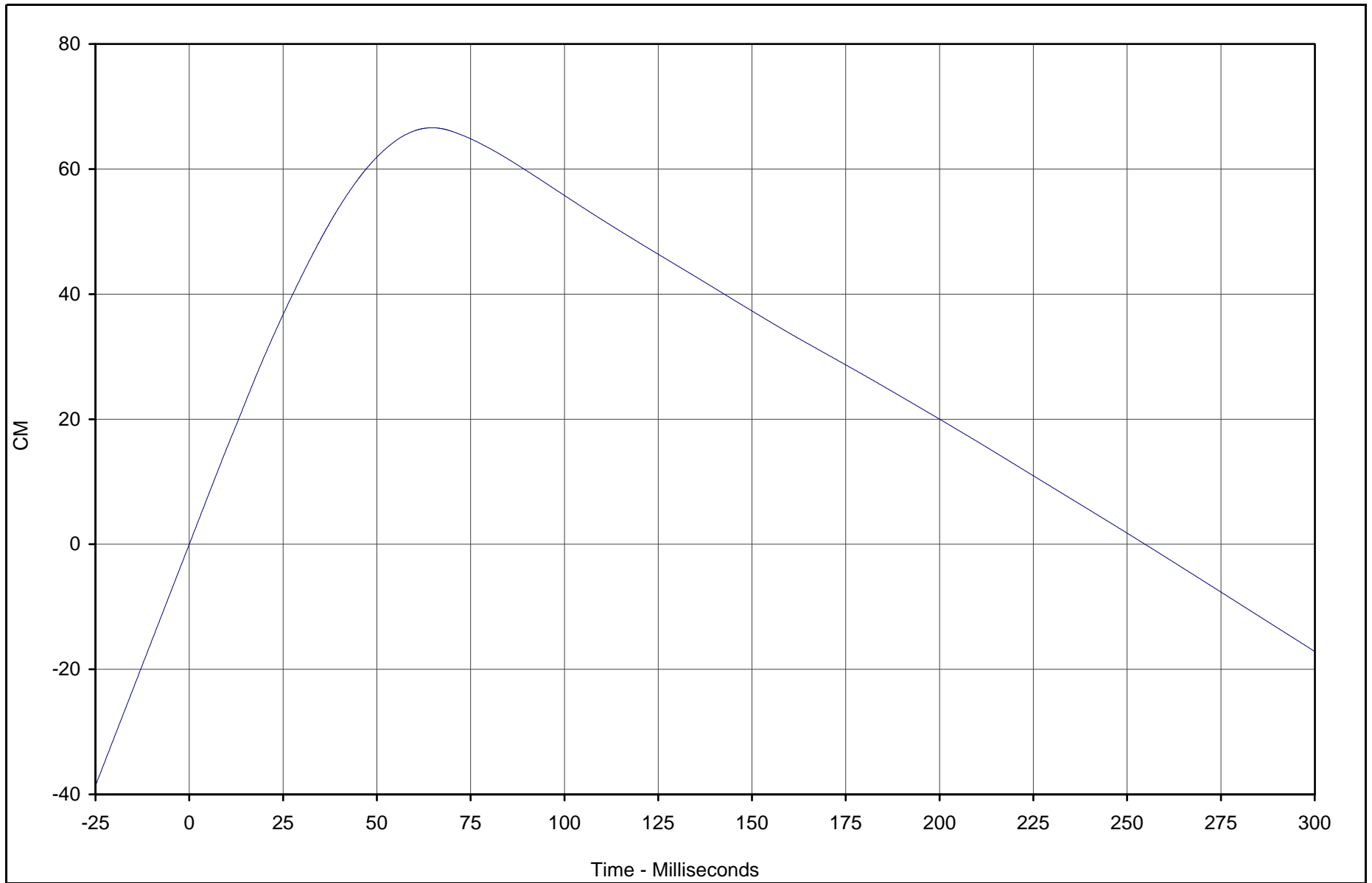
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-125



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X Displ.	089	IN2	CM	66.6	64.7	-17.1	299.9	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

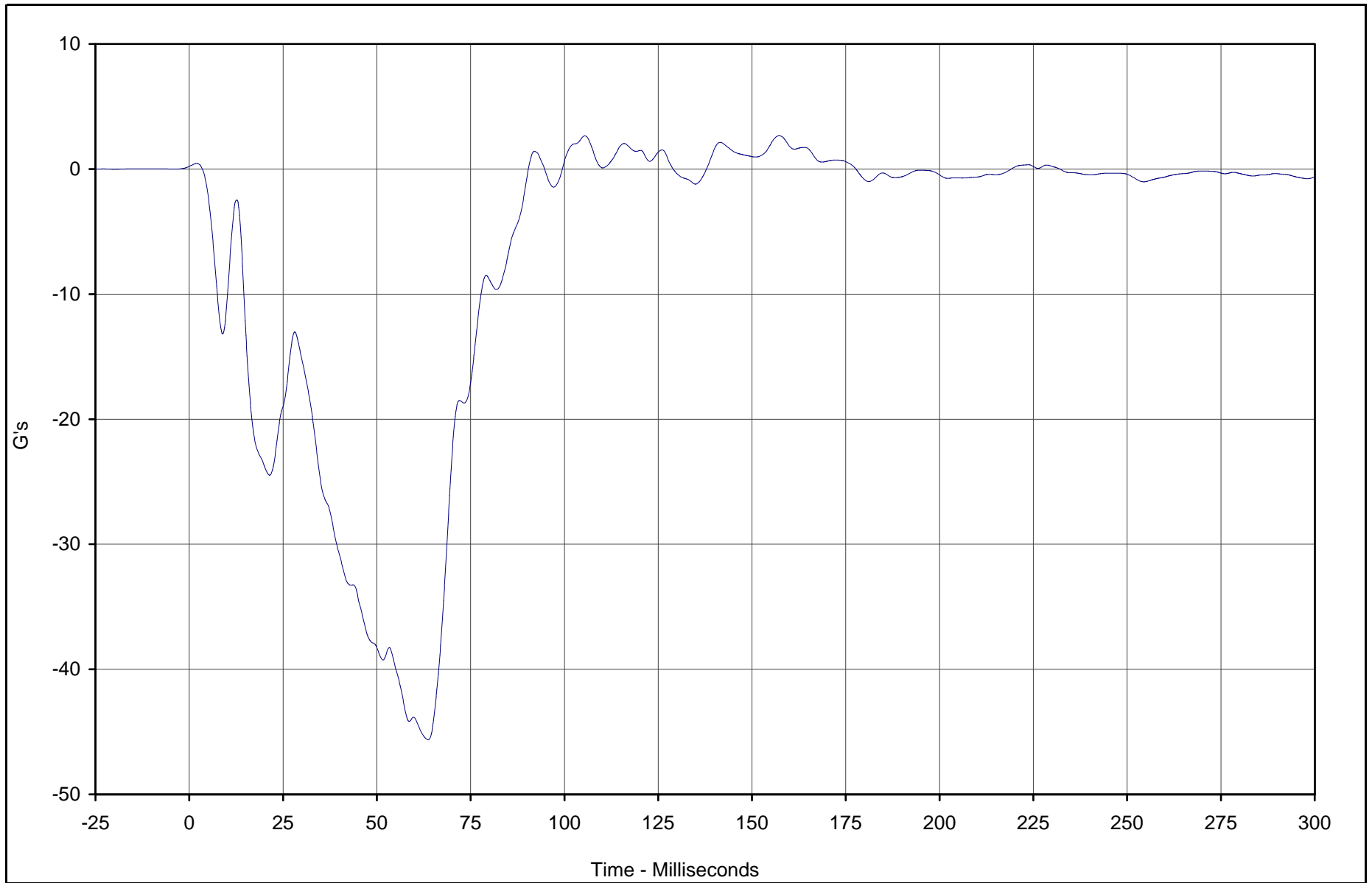
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-126



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X	090	FIL	G's	2.7	157.3	-45.6	63.7	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

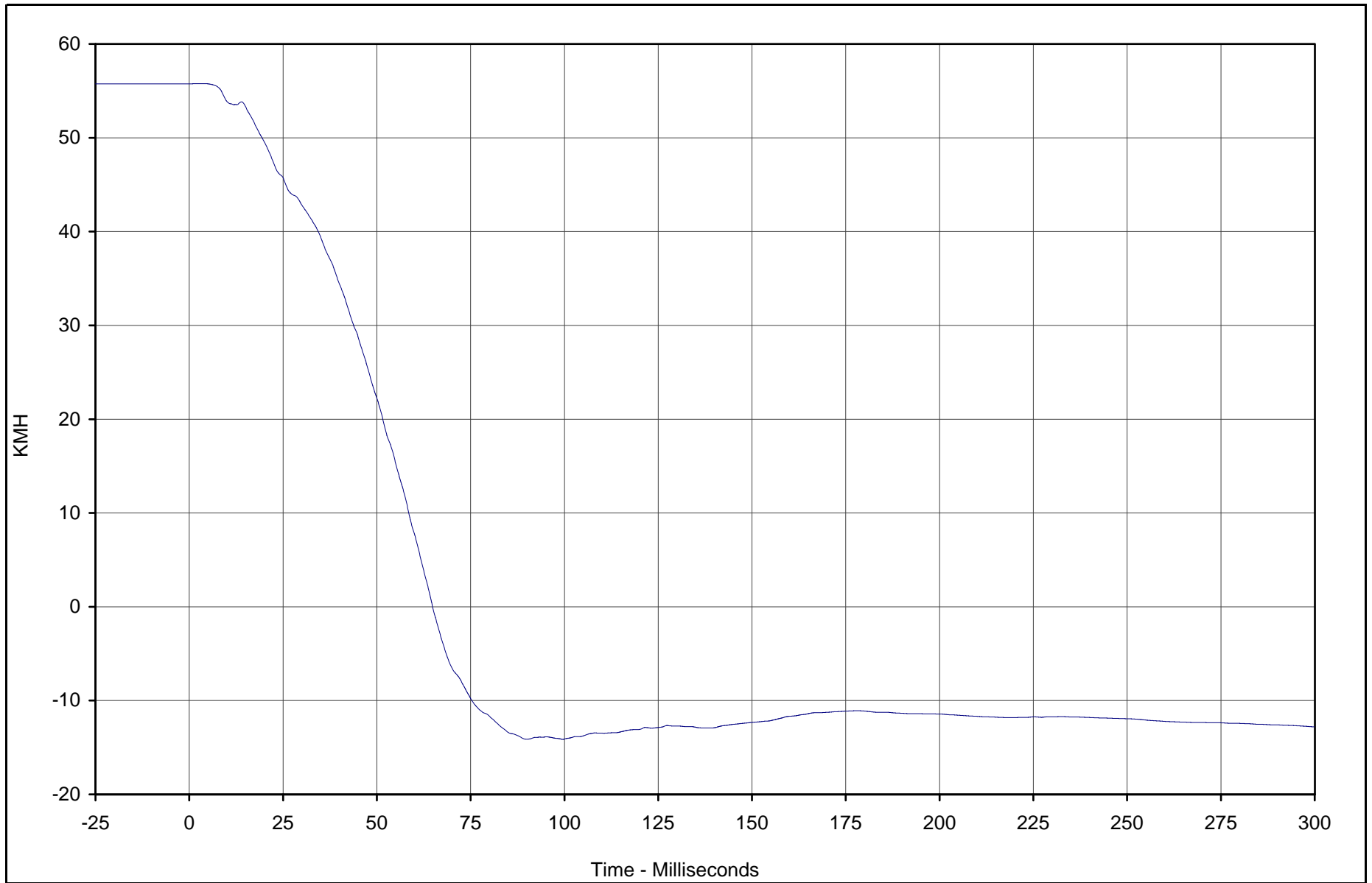
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-127



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X Velocity	090	IN1	KMH	55.8	4.0	-14.1	99.6	180



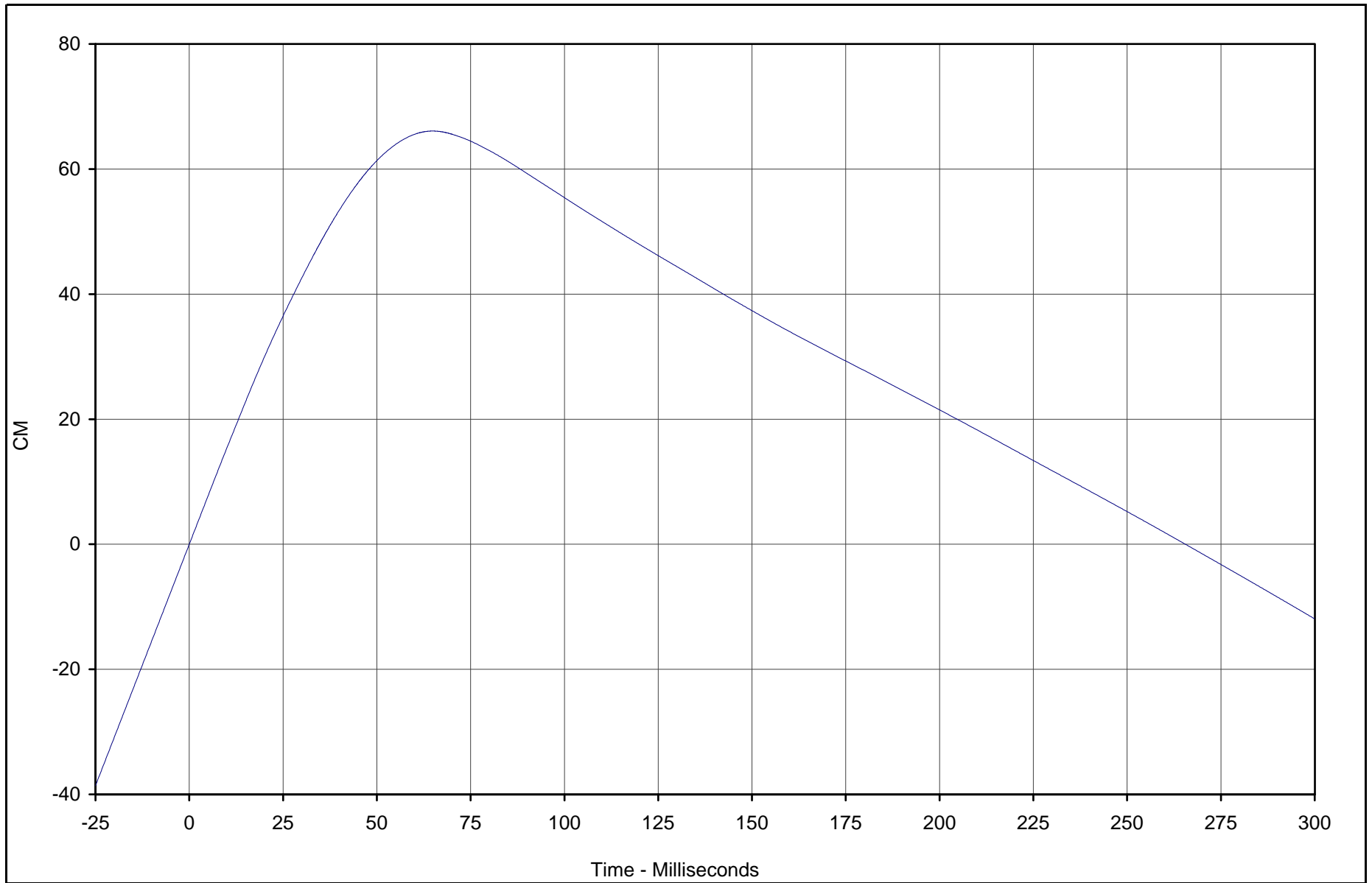
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-128



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X Displ.	090	IN2	CM	66.1	64.9	-11.9	299.9	180



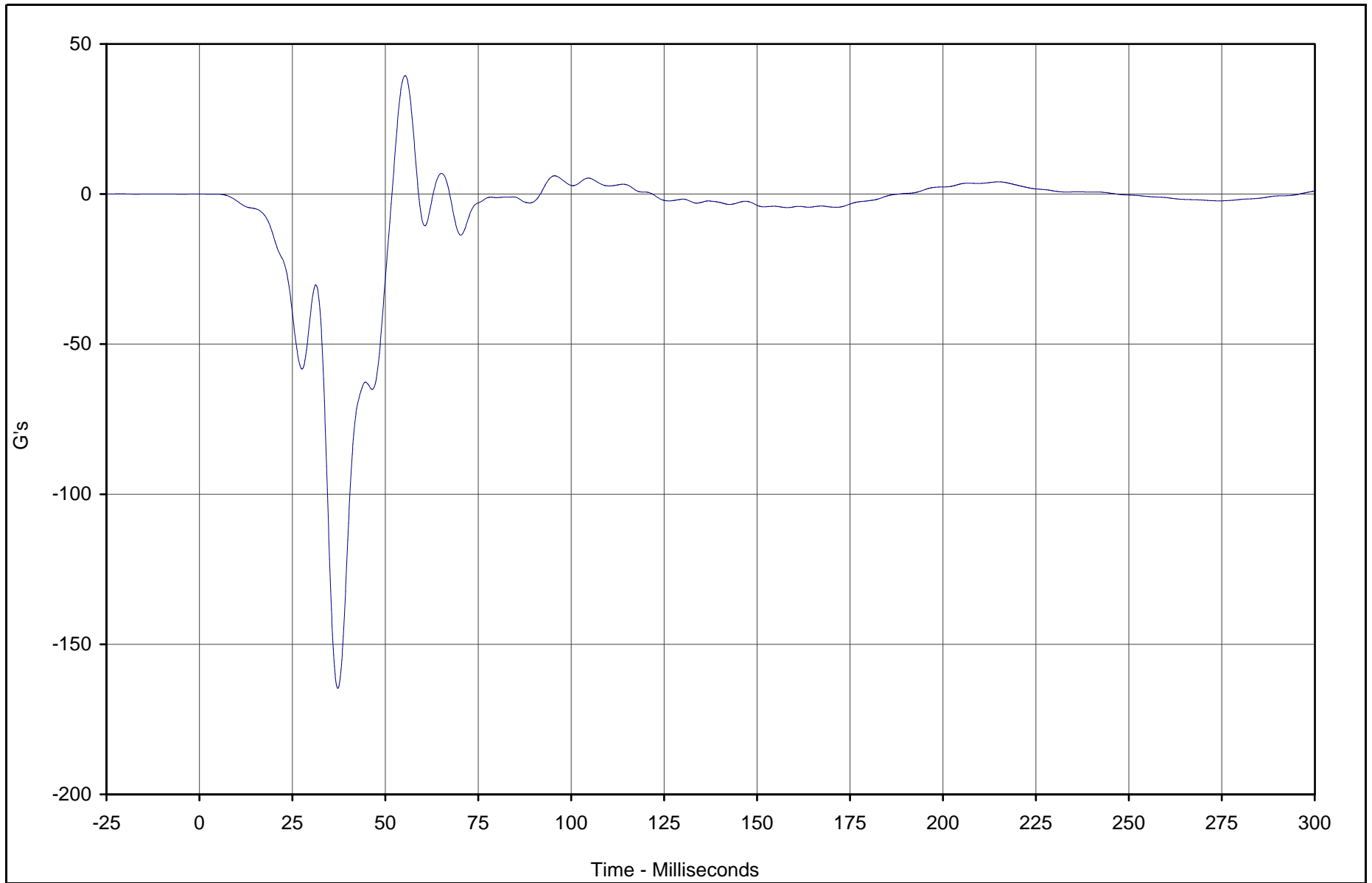
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-129



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top	091	FIL	G's	39.4	55.3	-164.7	37.2	60



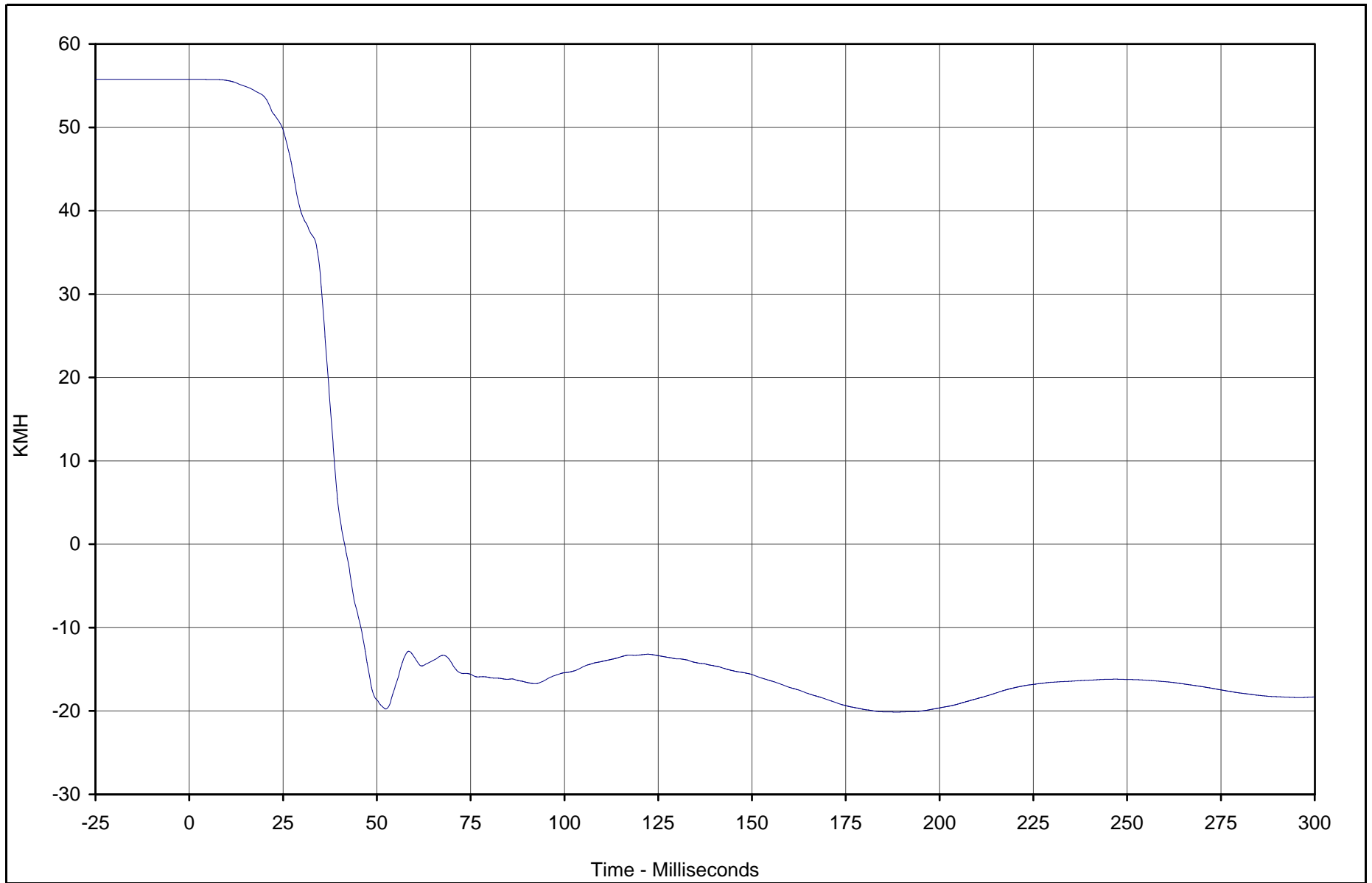
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-130



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top Velocity	091	IN1	KMH	55.8	0.9	-20.1	188.5	180



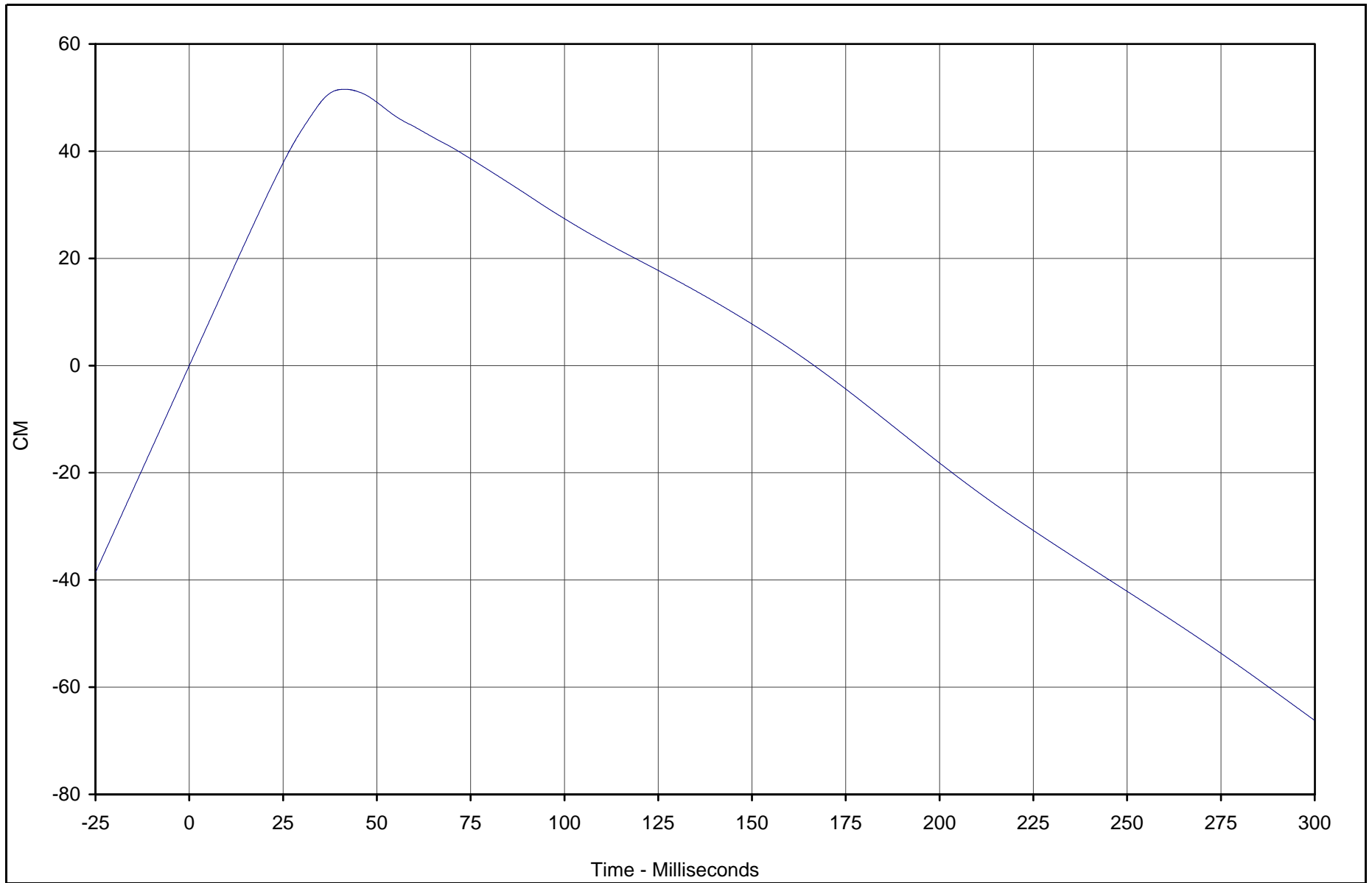
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-131



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top Displacement	091	IN2	CM	51.5	41.4	-66.2	299.9	180



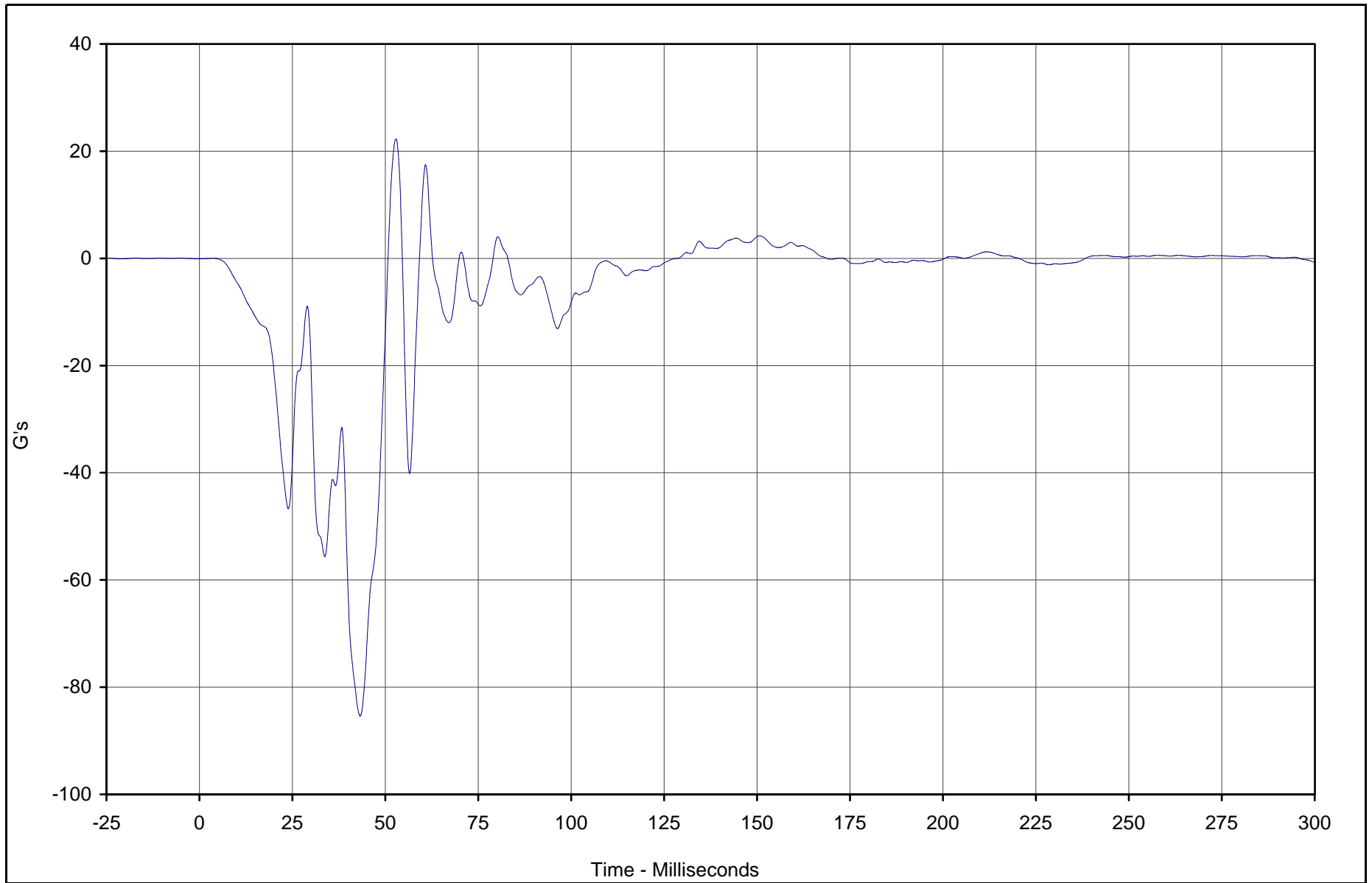
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-132



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom	092	FIL	G's	22.3	52.9	-85.4	43.2	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

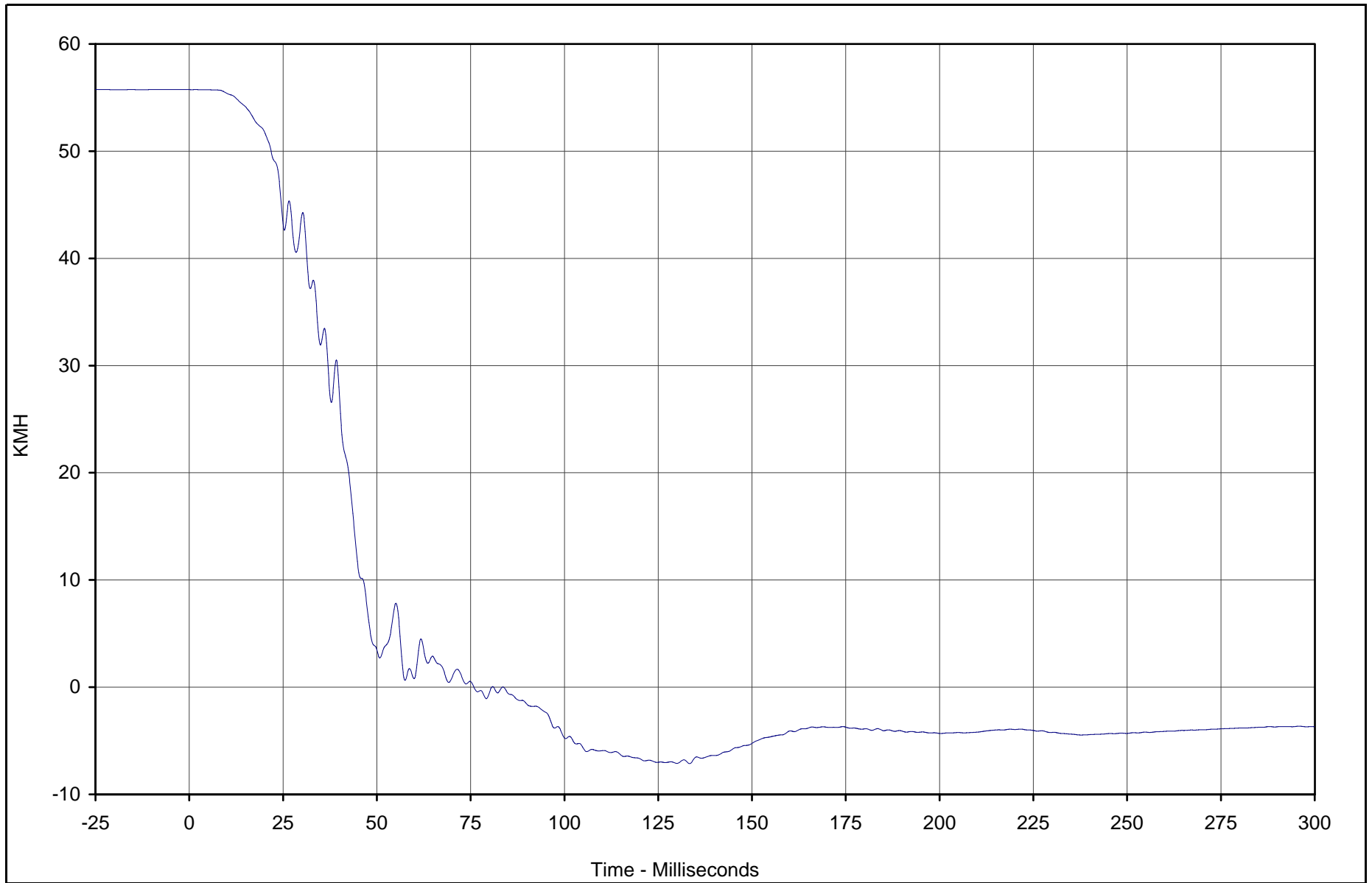
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-133



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom Velocity	092	IN1	KMH	55.7	1.8	-7.1	133.4	180



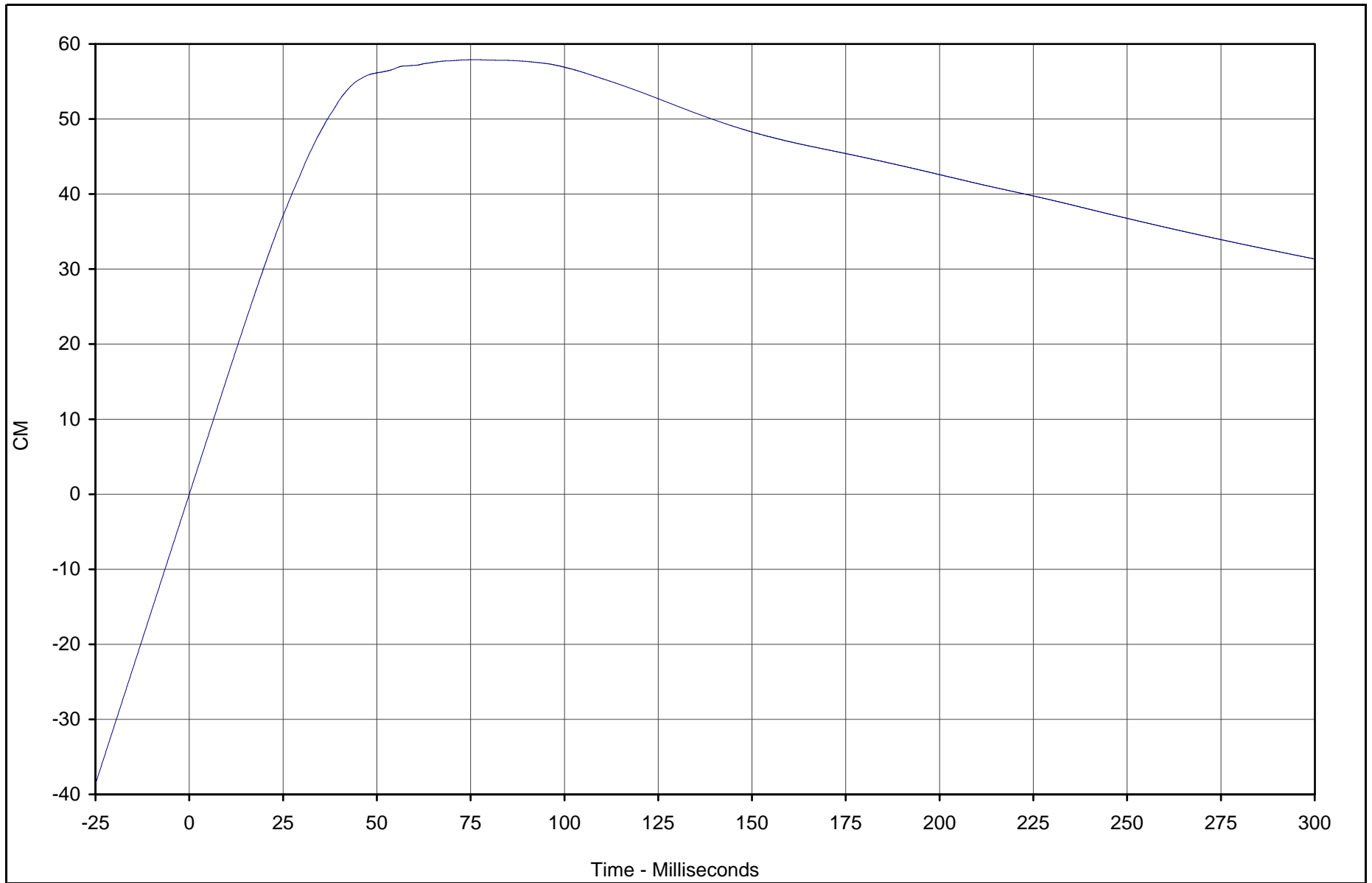
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-134



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom Displacement	092	IN2	CM	57.9	75.9	0.0	0.0	180



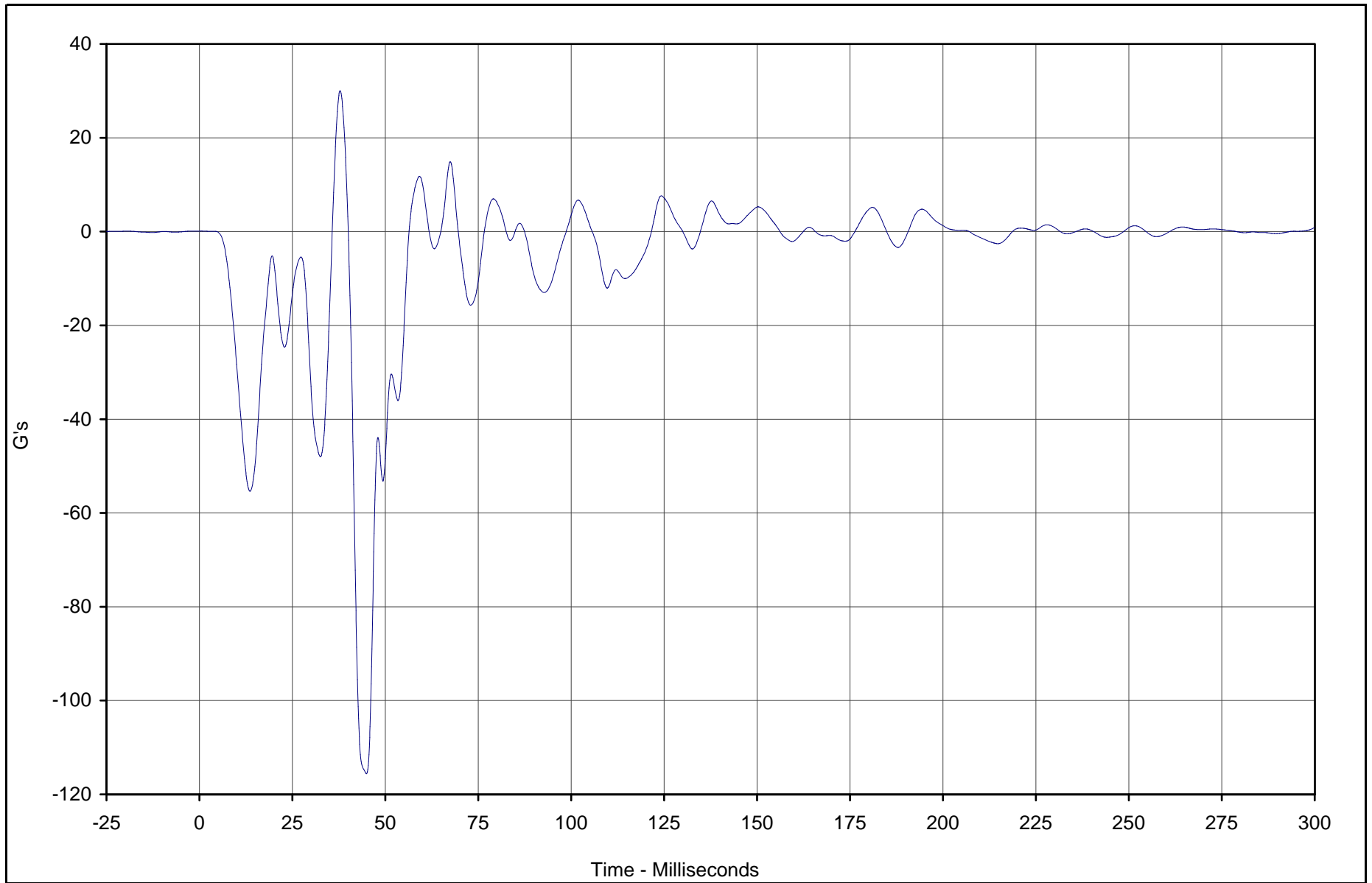
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-135



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper	093	FIL	G's	30.0	37.8	-115.6	44.9	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

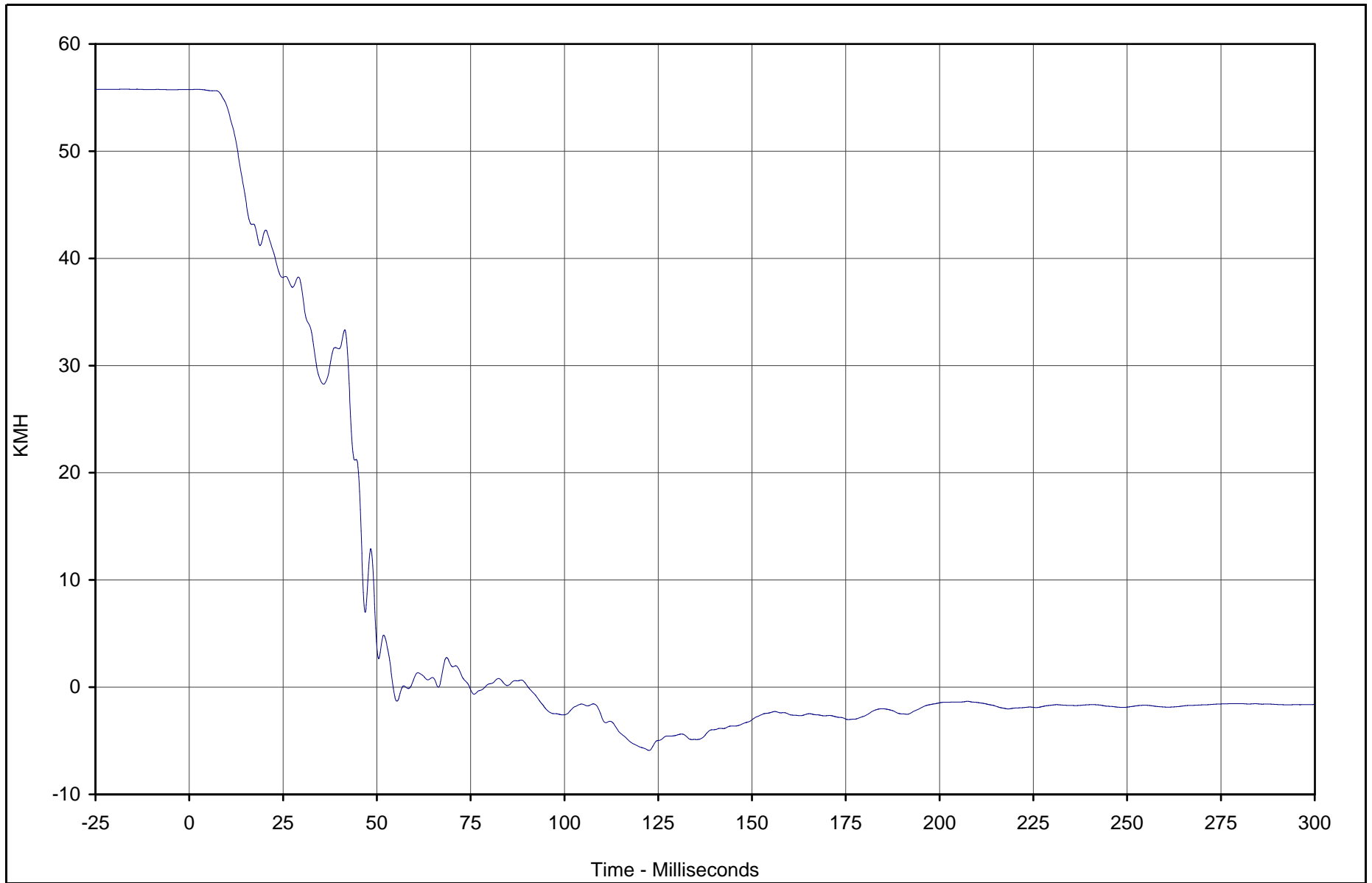
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-136



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper Velocity	093	IN1	KMH	55.8	2.0	-5.9	122.5	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

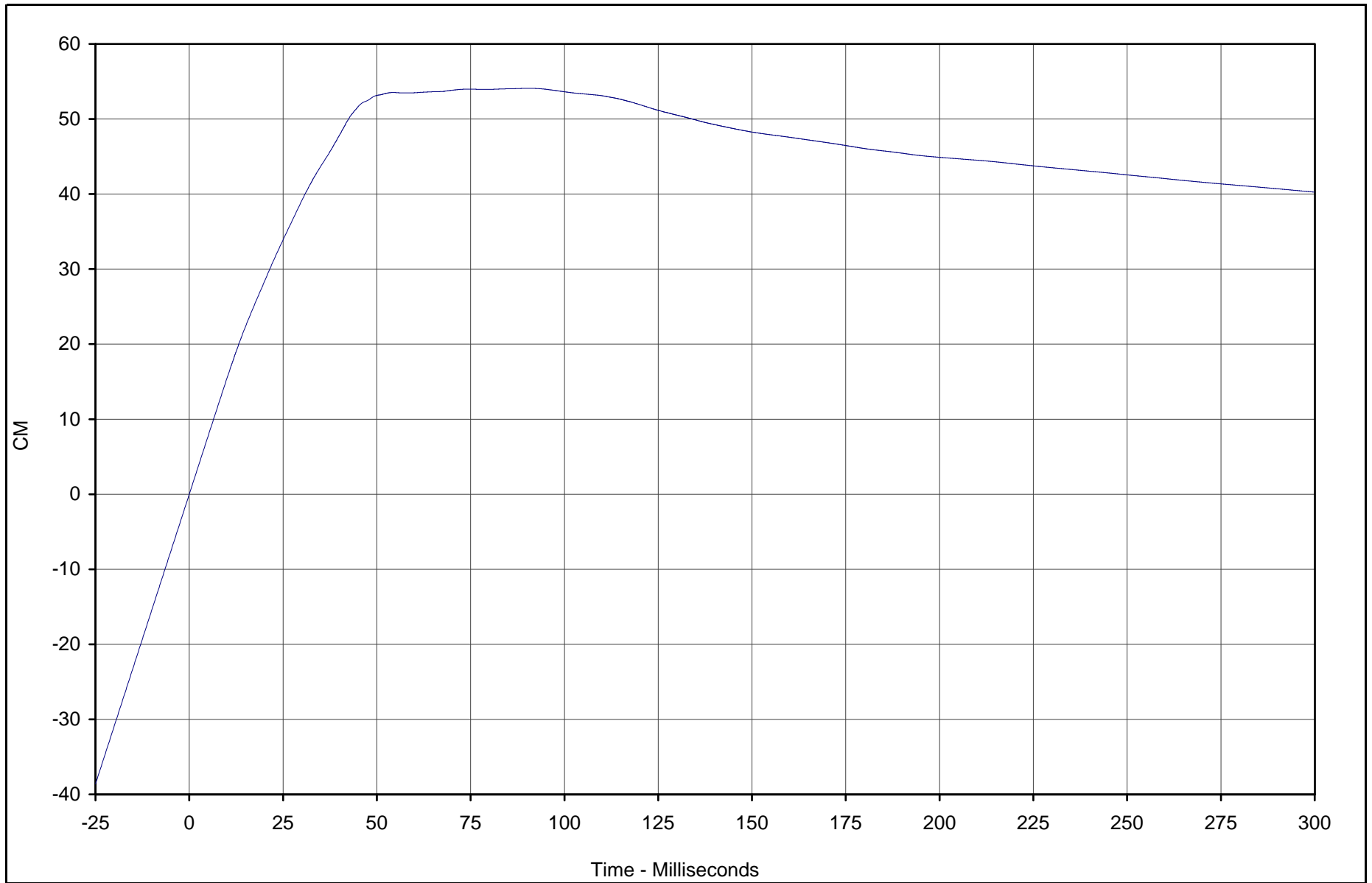
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-137



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper Displ.	093	IN2	CM	54.1	90.3	0.0	0.0	180



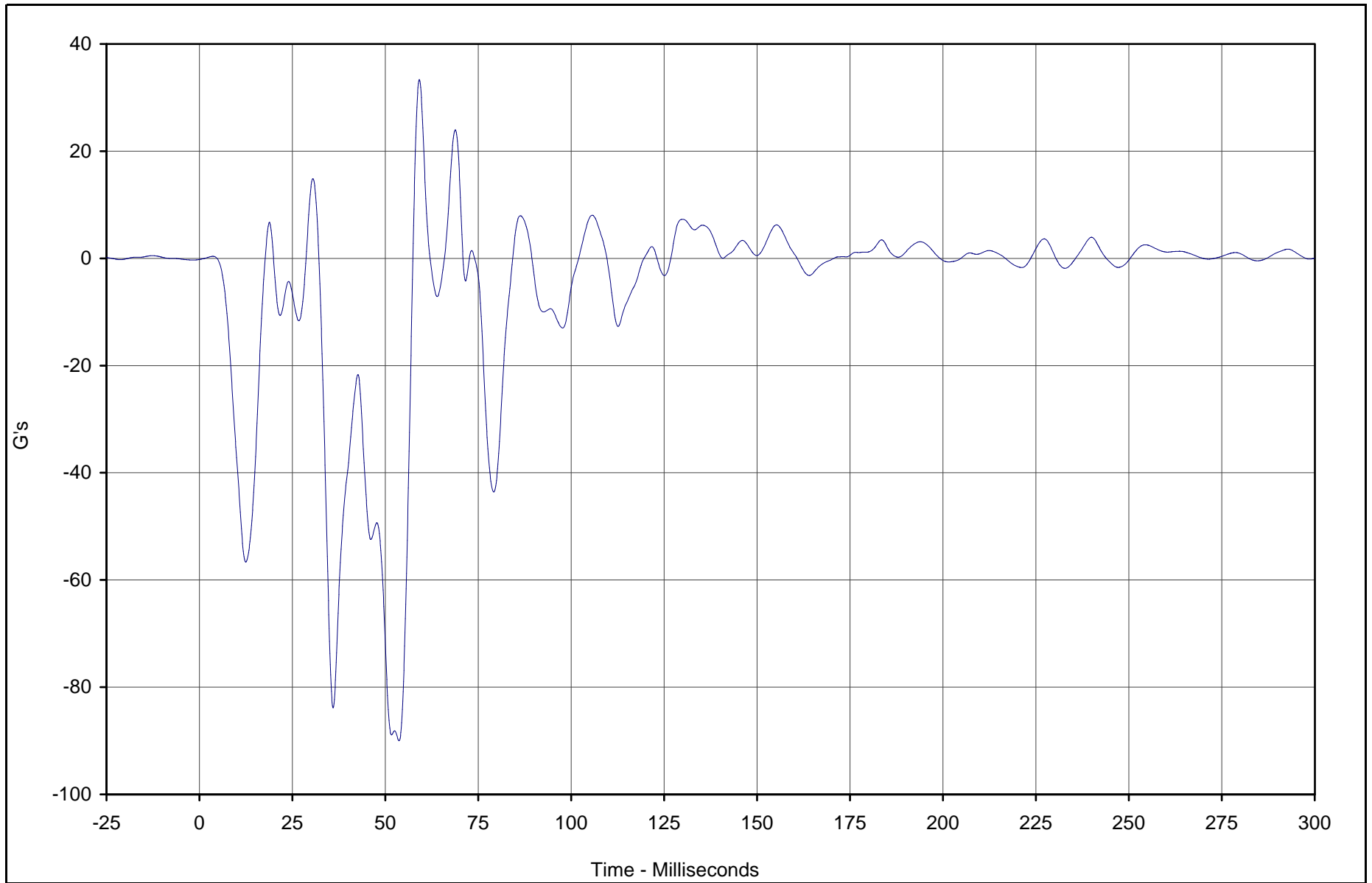
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-138



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper	094	FIL	G's	33.3	59.2	-90.0	53.7	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

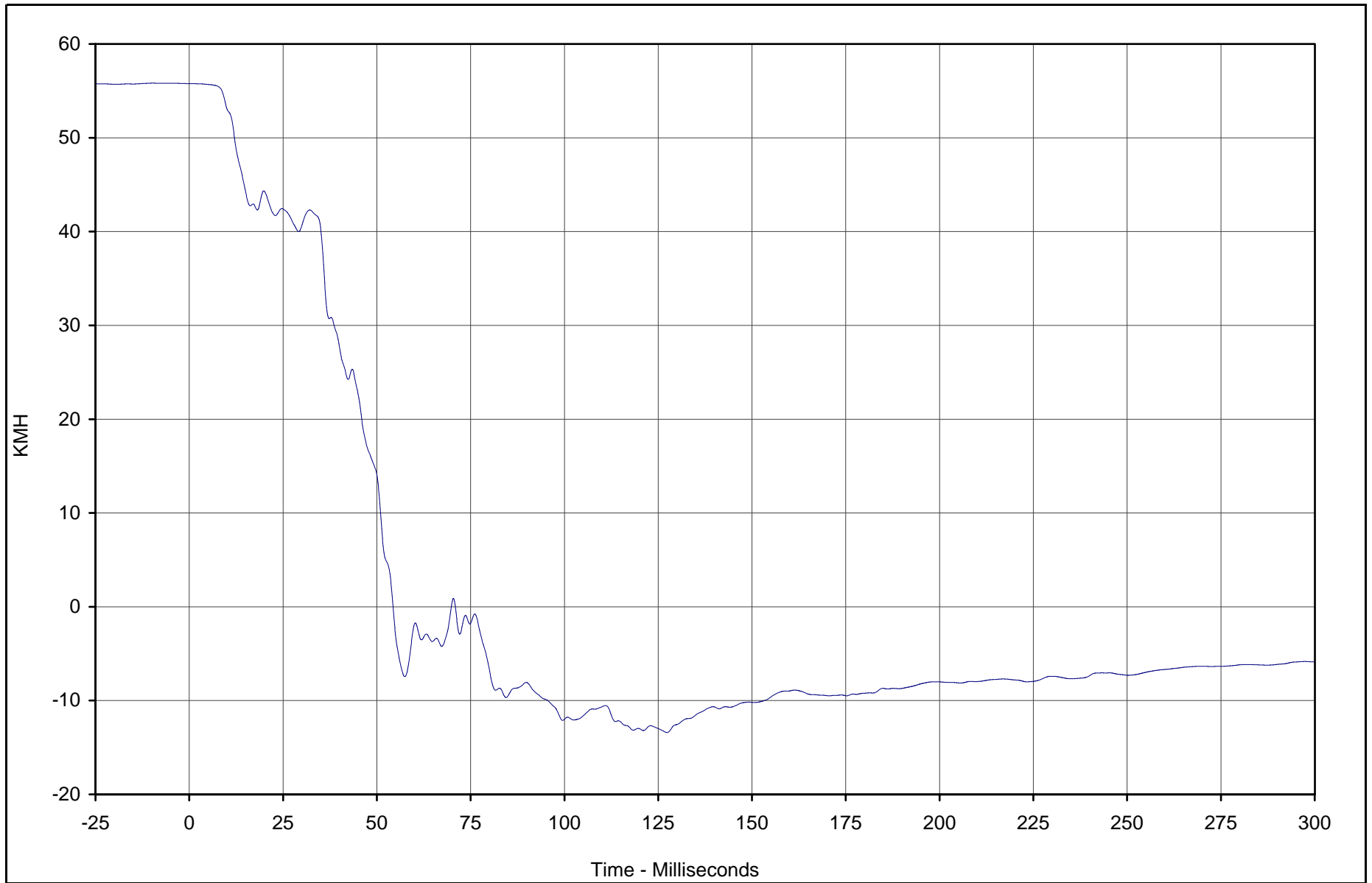
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-139



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper Velocity	094	IN1	KMH	55.8	0.0	-13.4	127.4	180



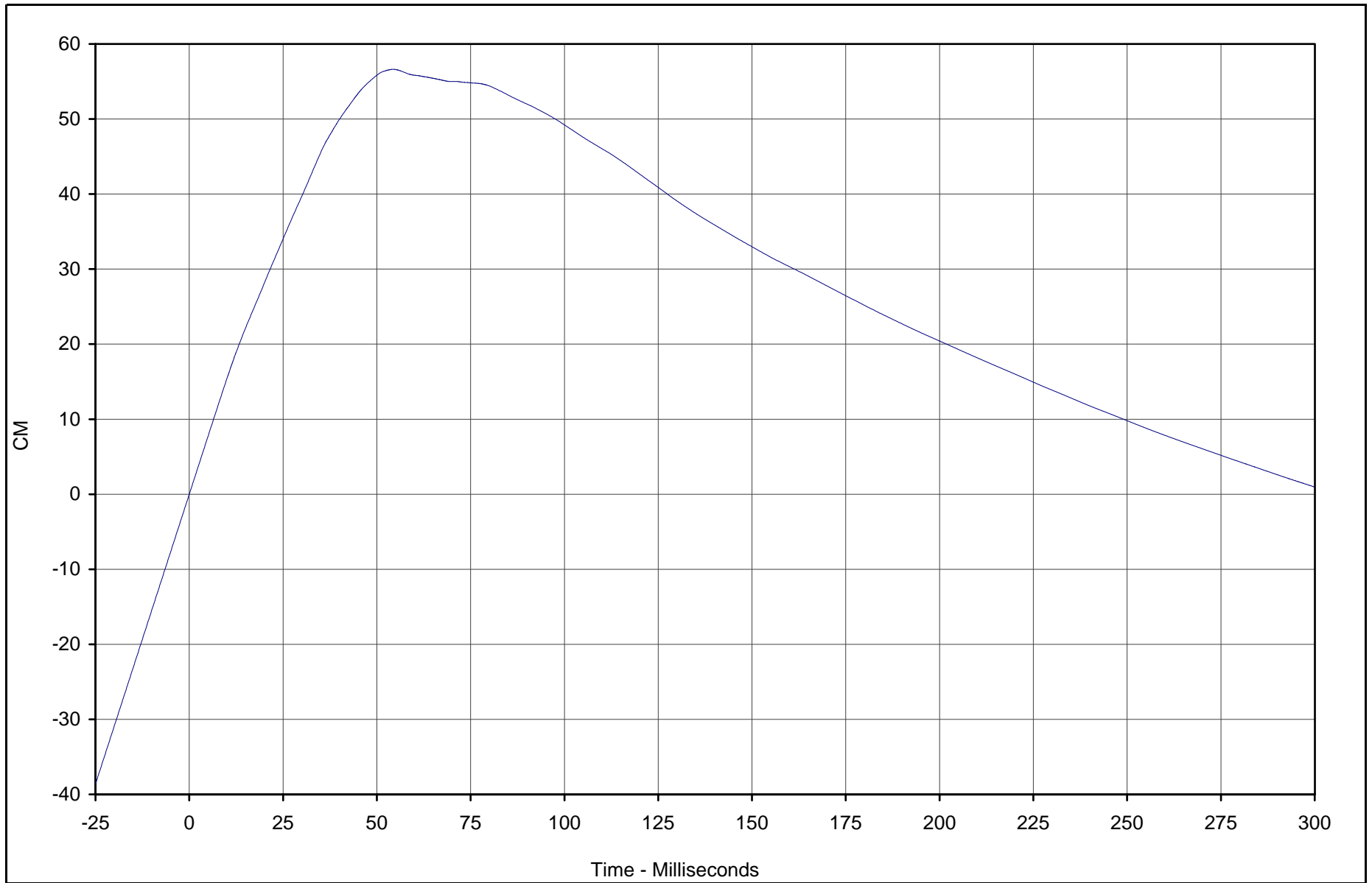
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-140



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper Displ.	094	IN2	CM	56.6	54.3	0.0	0.0	180



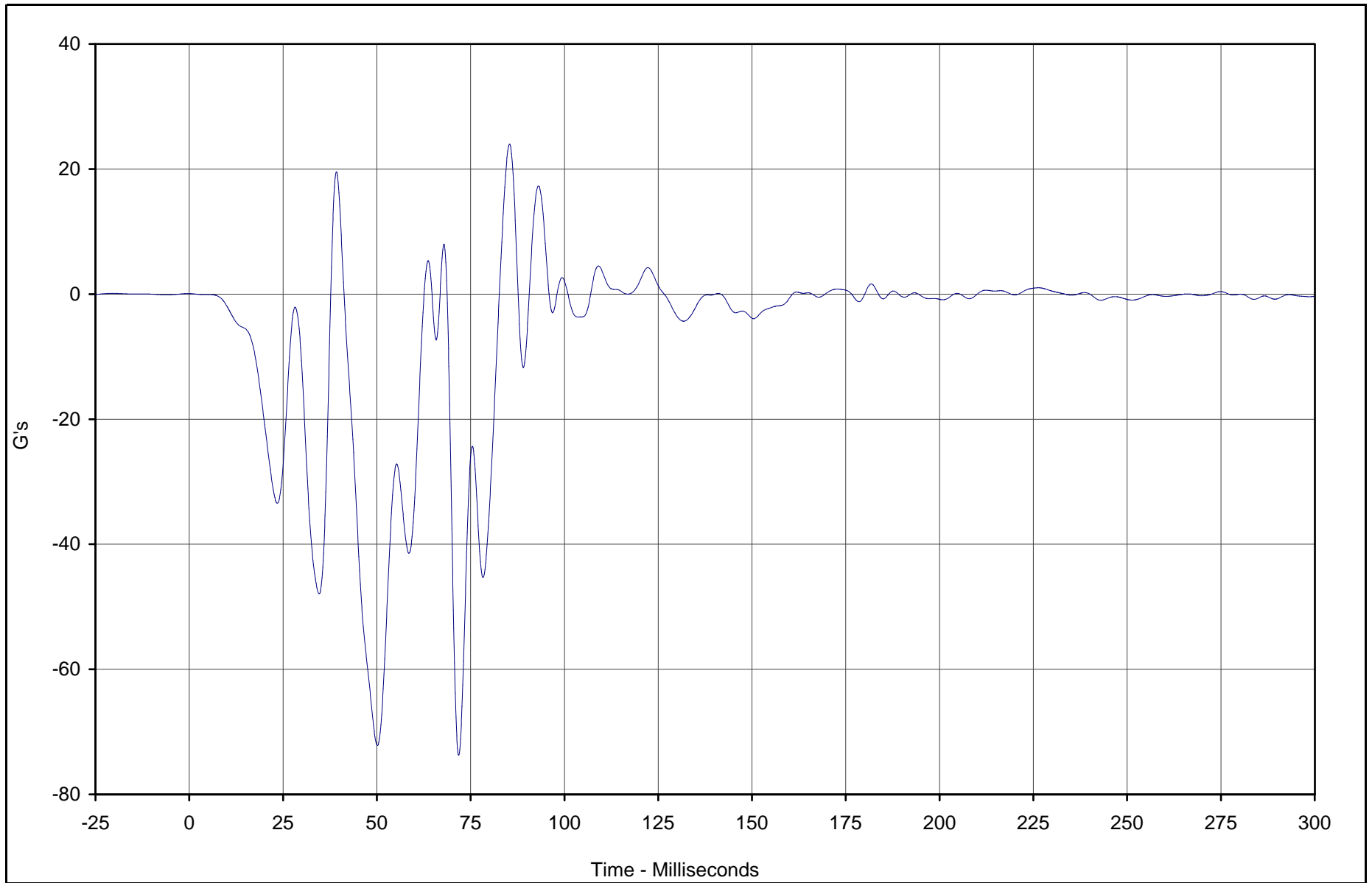
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-141



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel	095	FIL	G's	24.0	85.4	-73.7	71.8	60



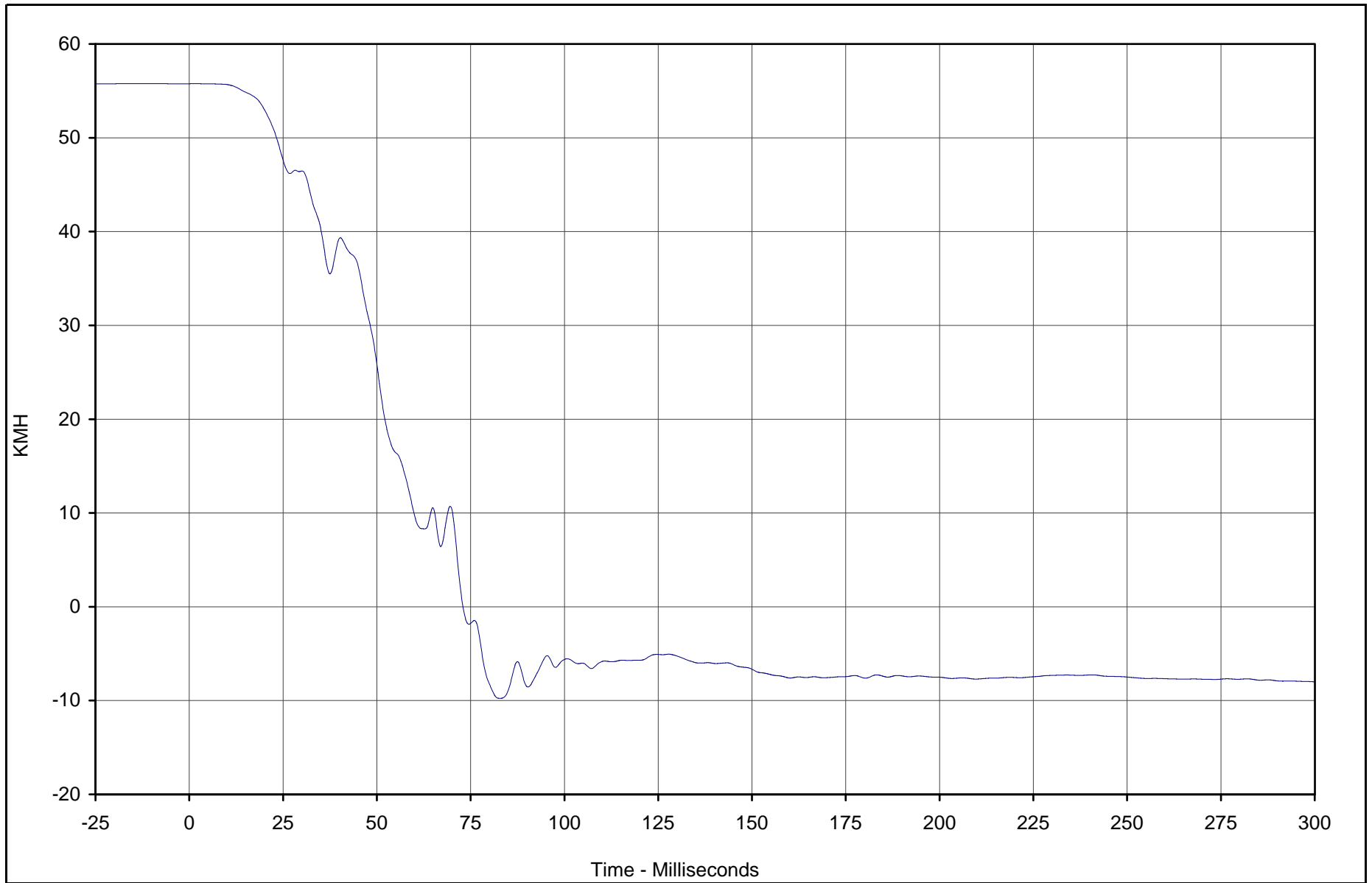
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-142



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel Velocity	095	IN1	KMH	55.8	1.4	-9.8	82.8	180



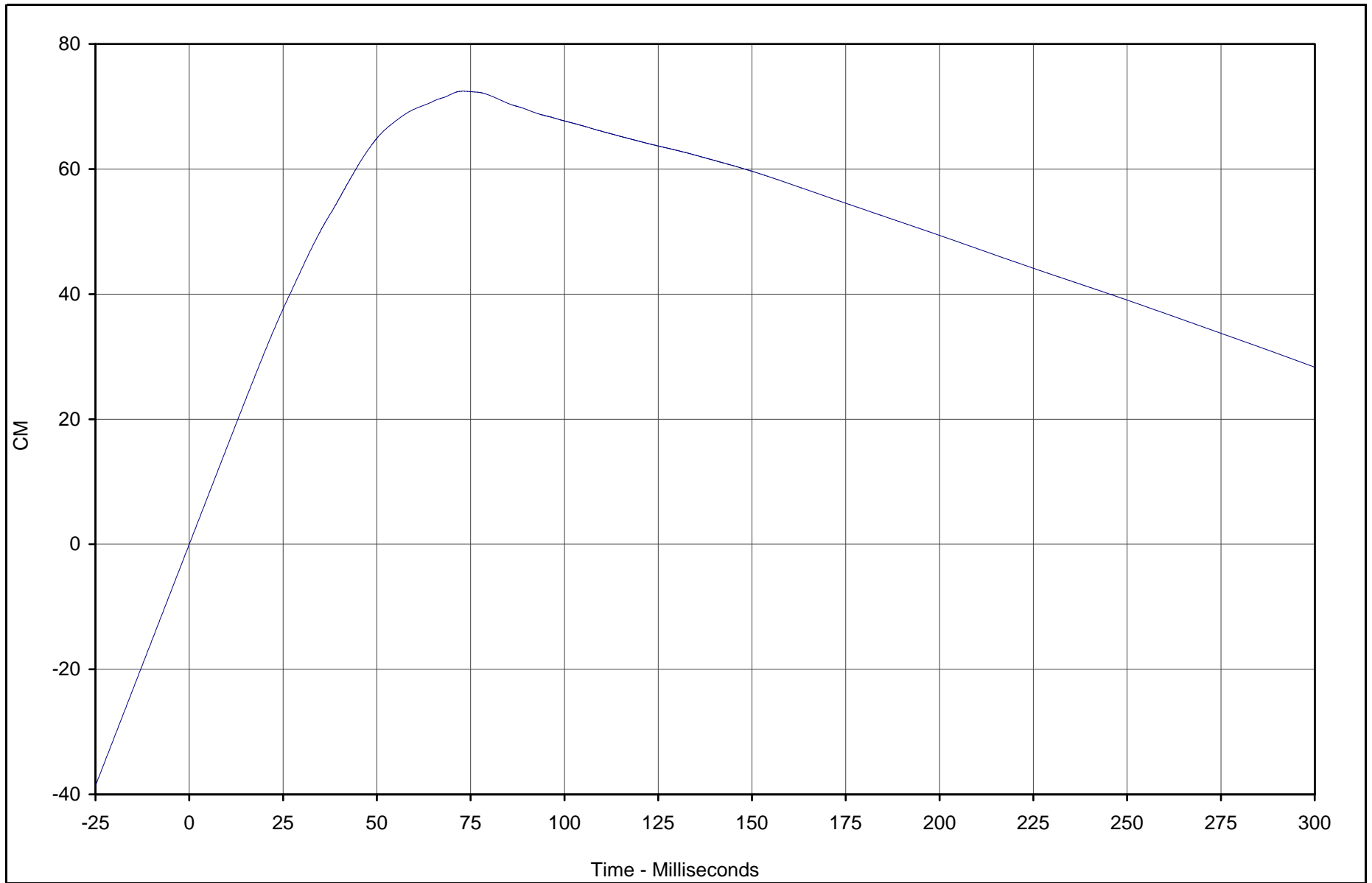
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-143



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel Displacement	095	IN2	CM	72.5	73.0	0.0	0.0	180



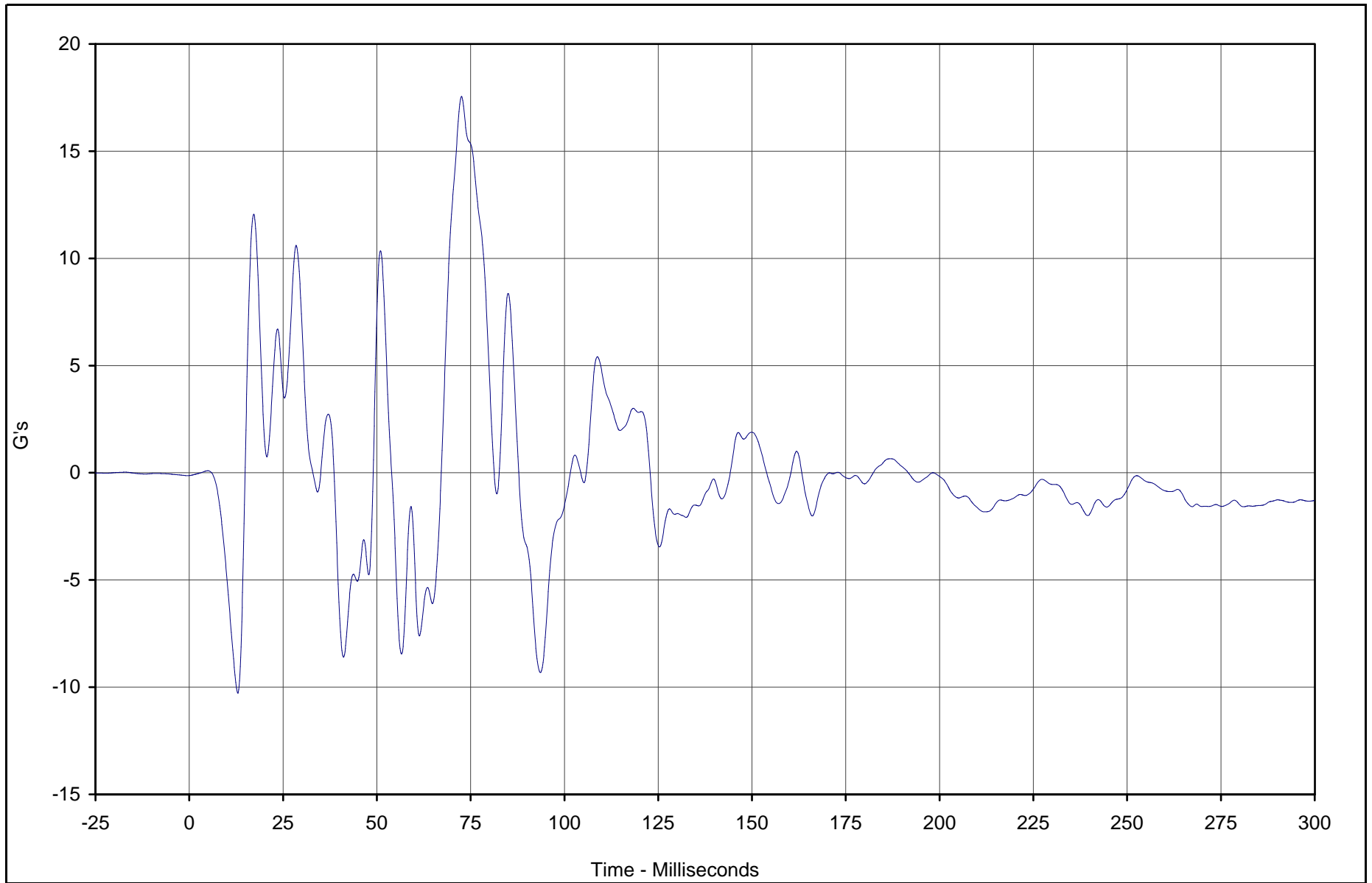
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

B-144



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z	096	FIL	G's	17.6	72.6	-10.3	12.9	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

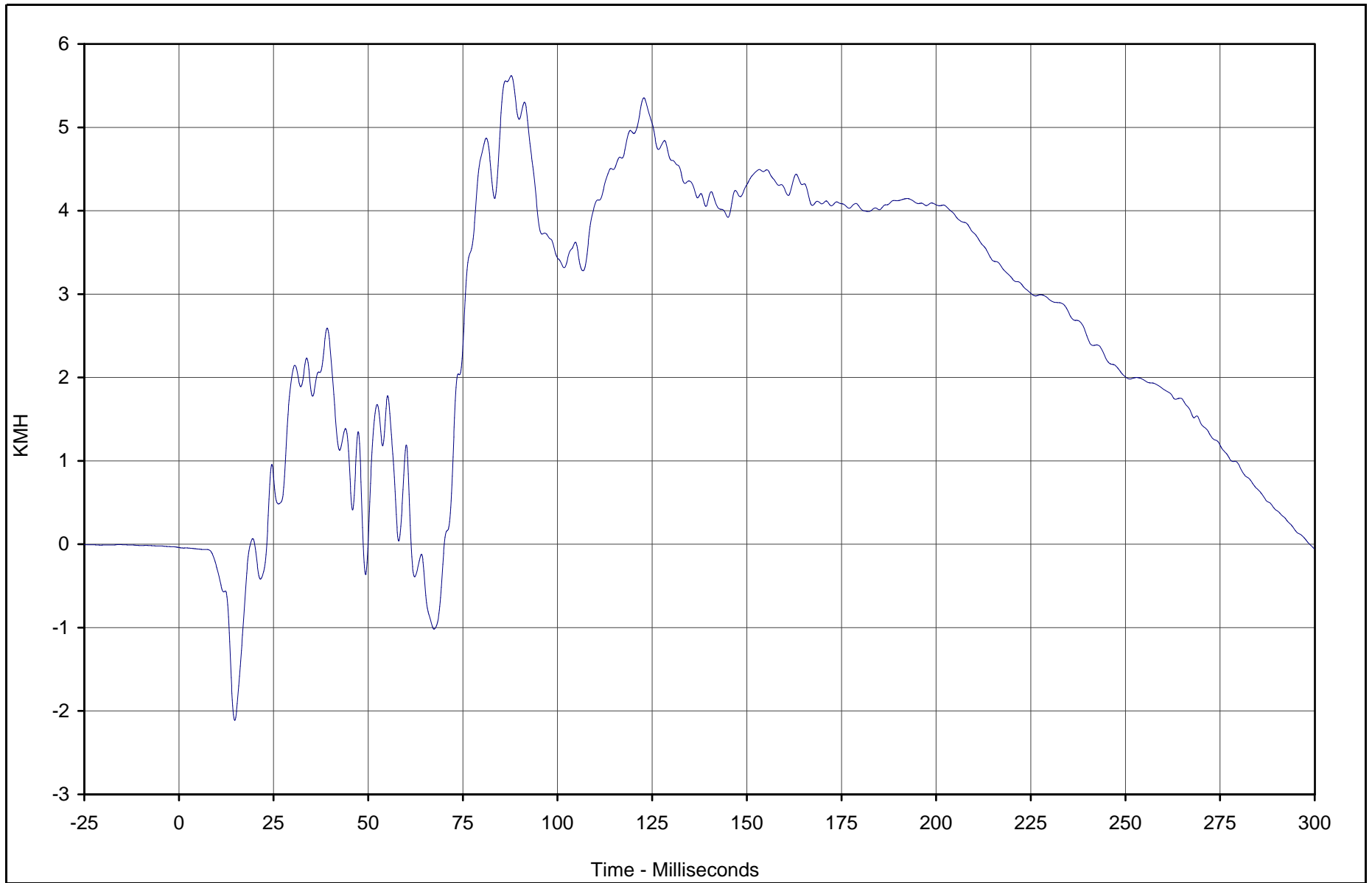
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-145



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z Velocity	096	IN1	KMH	5.6	87.8	-2.1	14.7	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

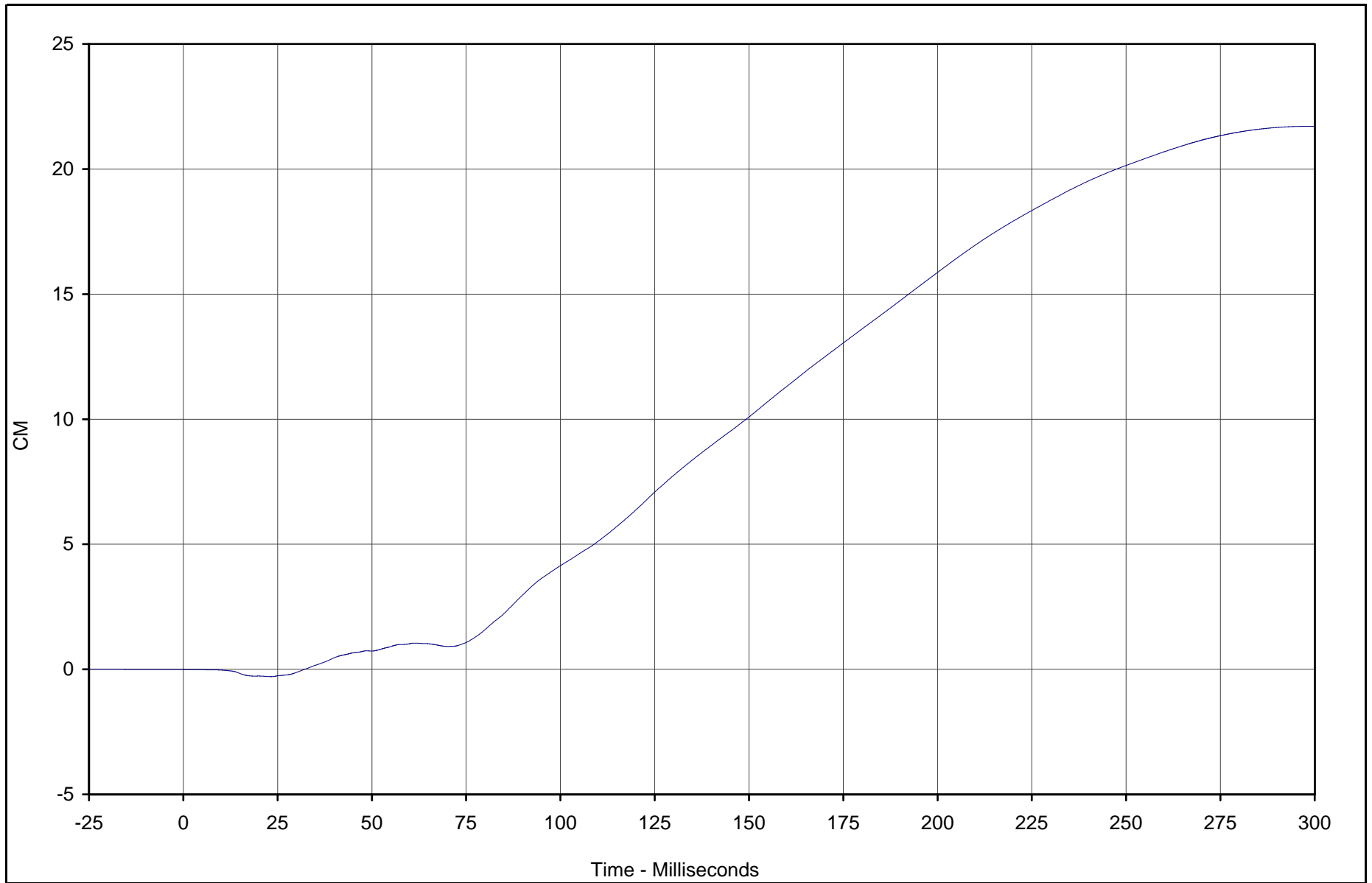
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-146



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z Displ.	096	IN2	CM	21.7	298.7	-0.3	23.2	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

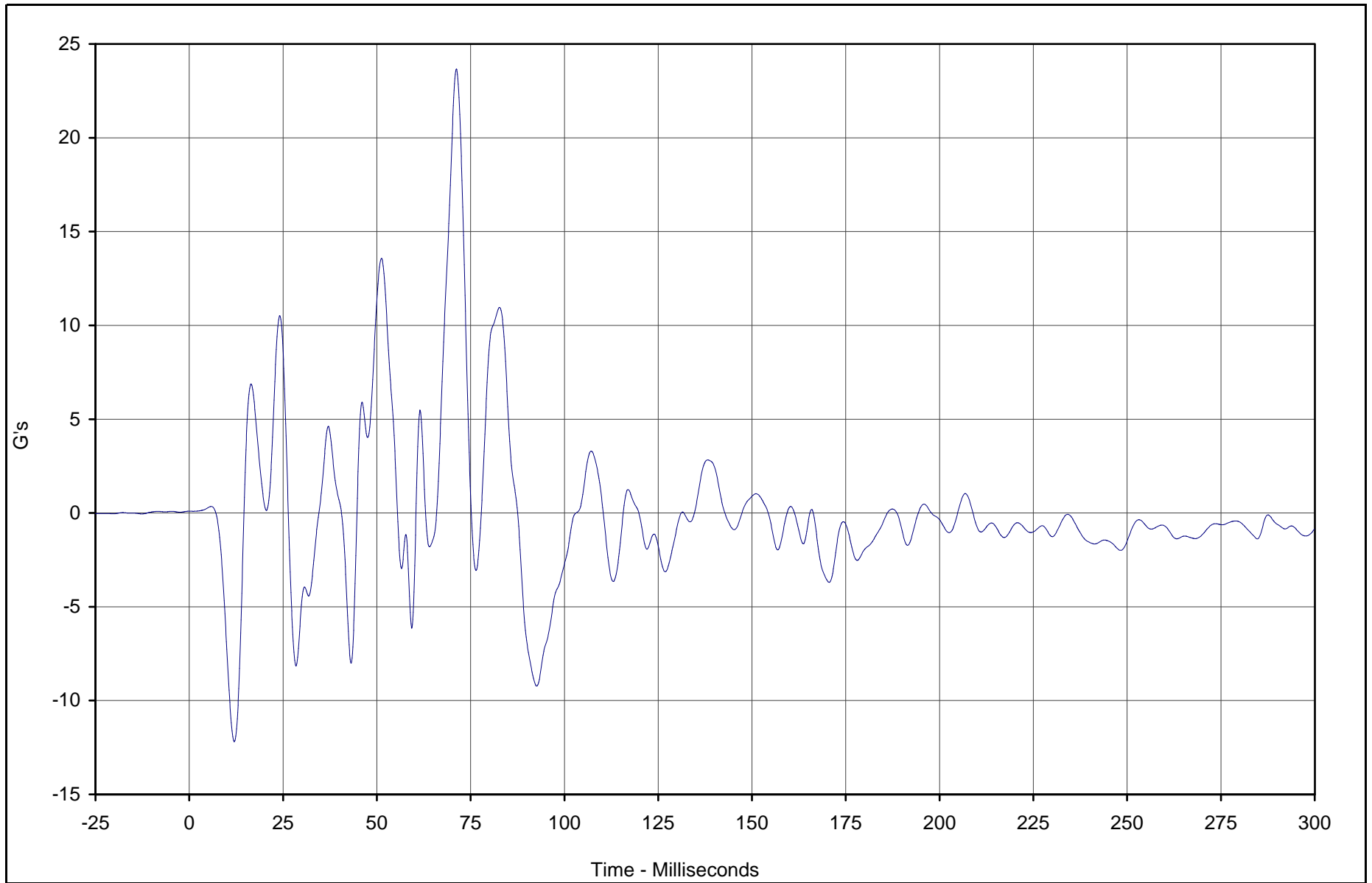
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-147



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z	097	FIL	G's	23.7	71.2	-12.2	12.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

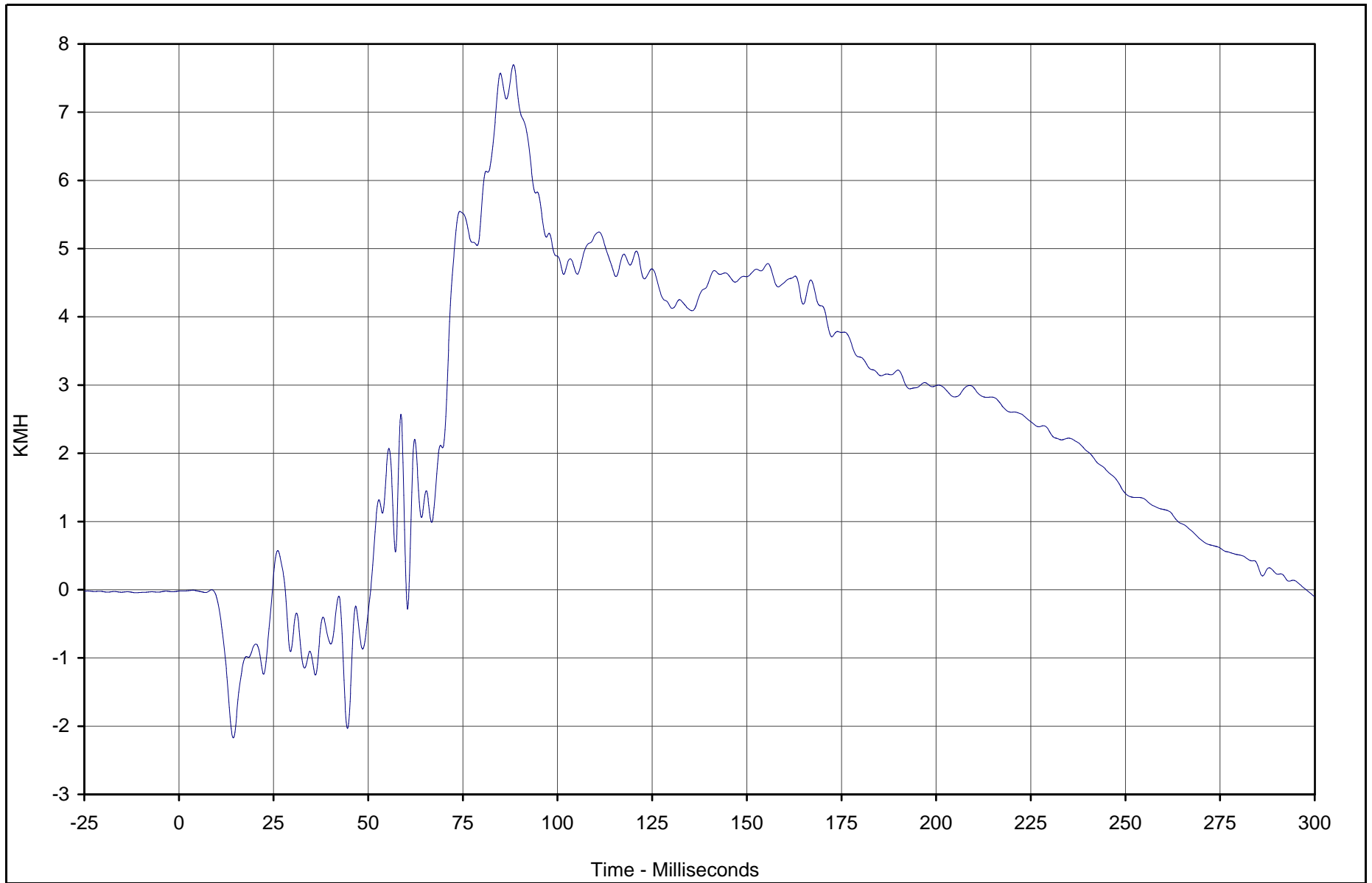
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-148



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z Velocity	097	IN1	KMH	7.7	88.4	-2.2	14.4	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

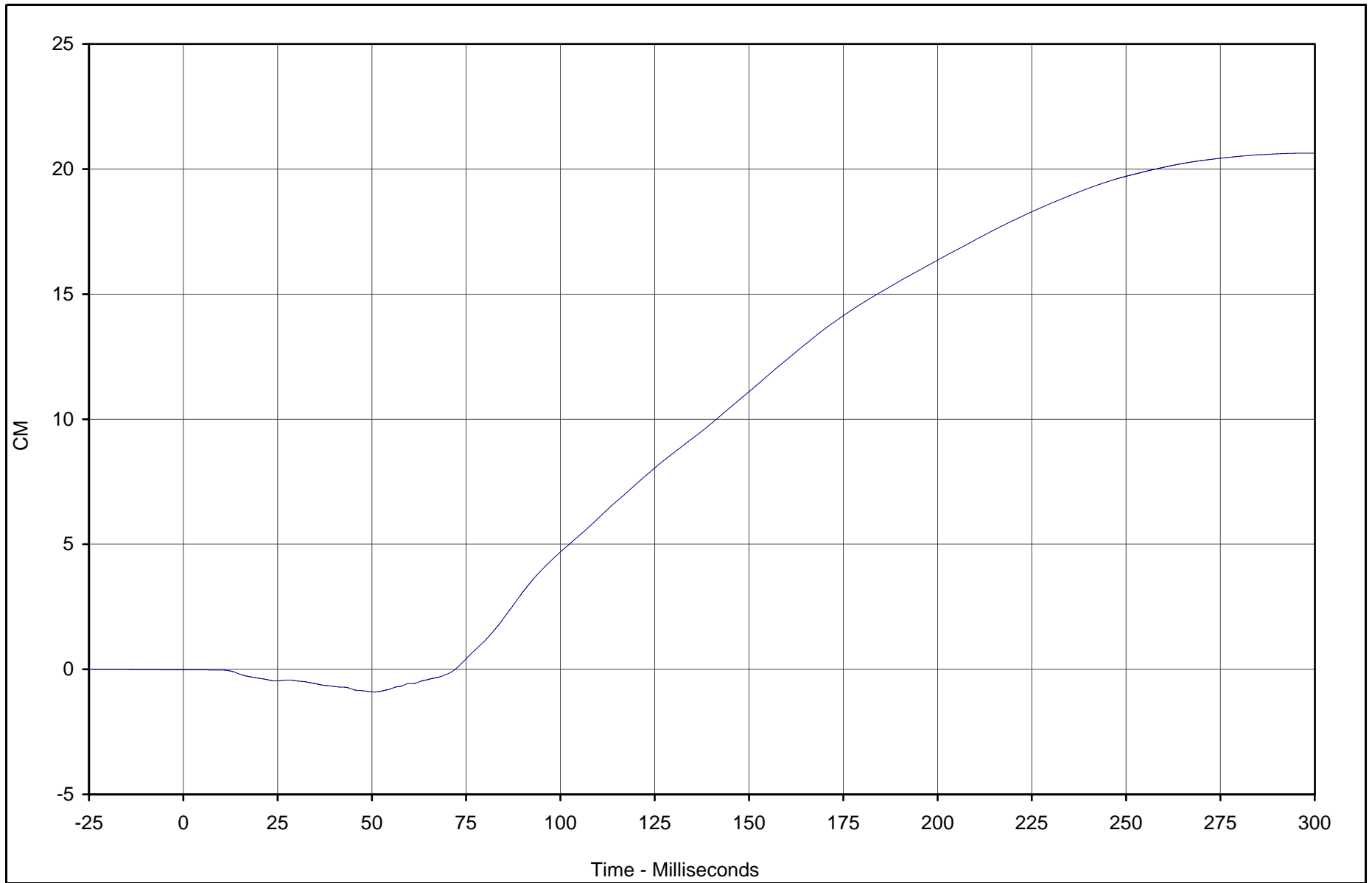
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

B-149



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z Displ.	097	IN2	CM	20.6	297.7	-0.9	50.6	180



Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

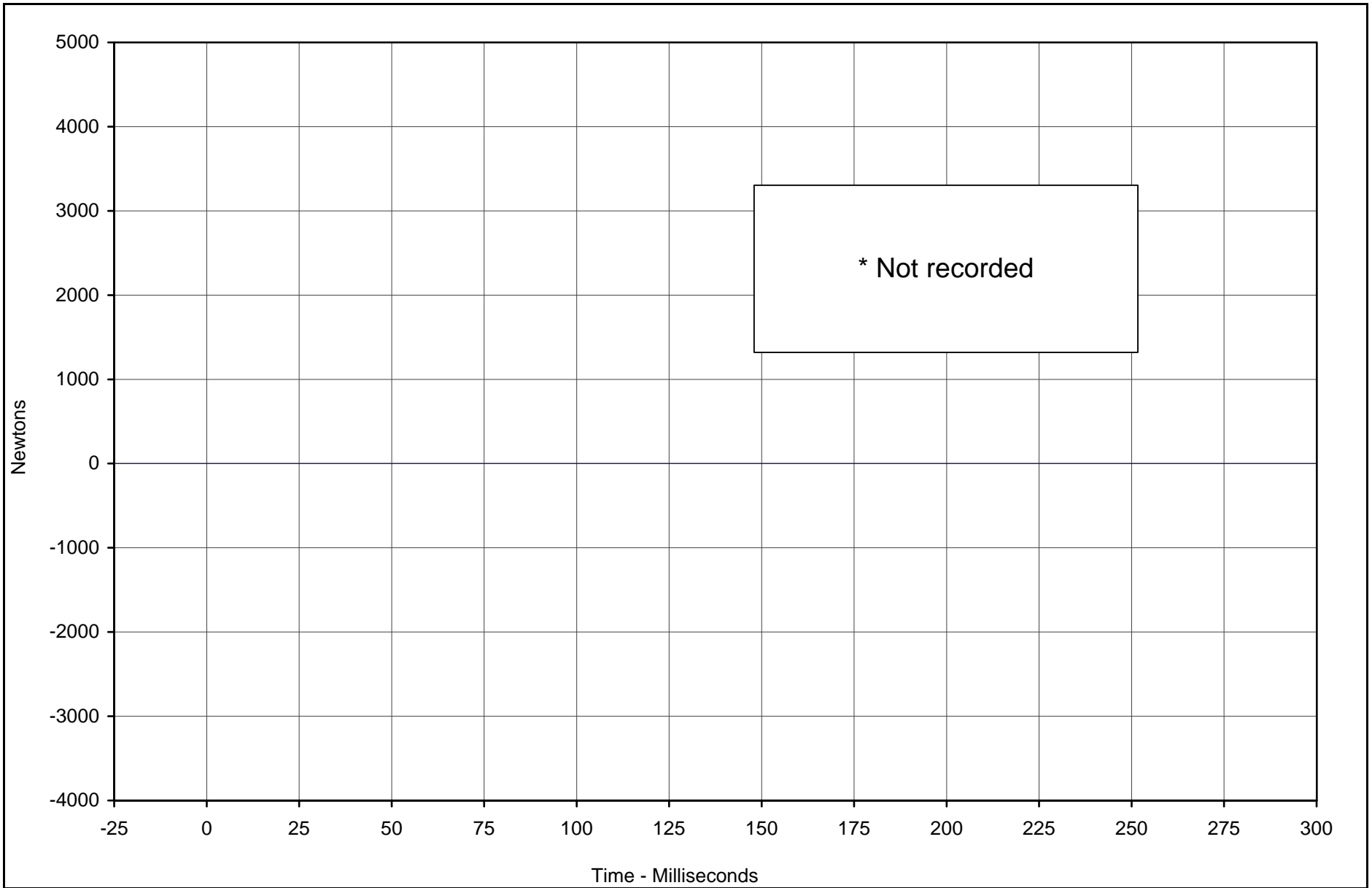
NHTSA No.: M25204

KAR22001-09

APPENDIX C

LOAD CELL BARRIER DATA PLOTS

C-1



* Not recorded

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A1	098	FIL	Newtons	0.0	0.0	0.0	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

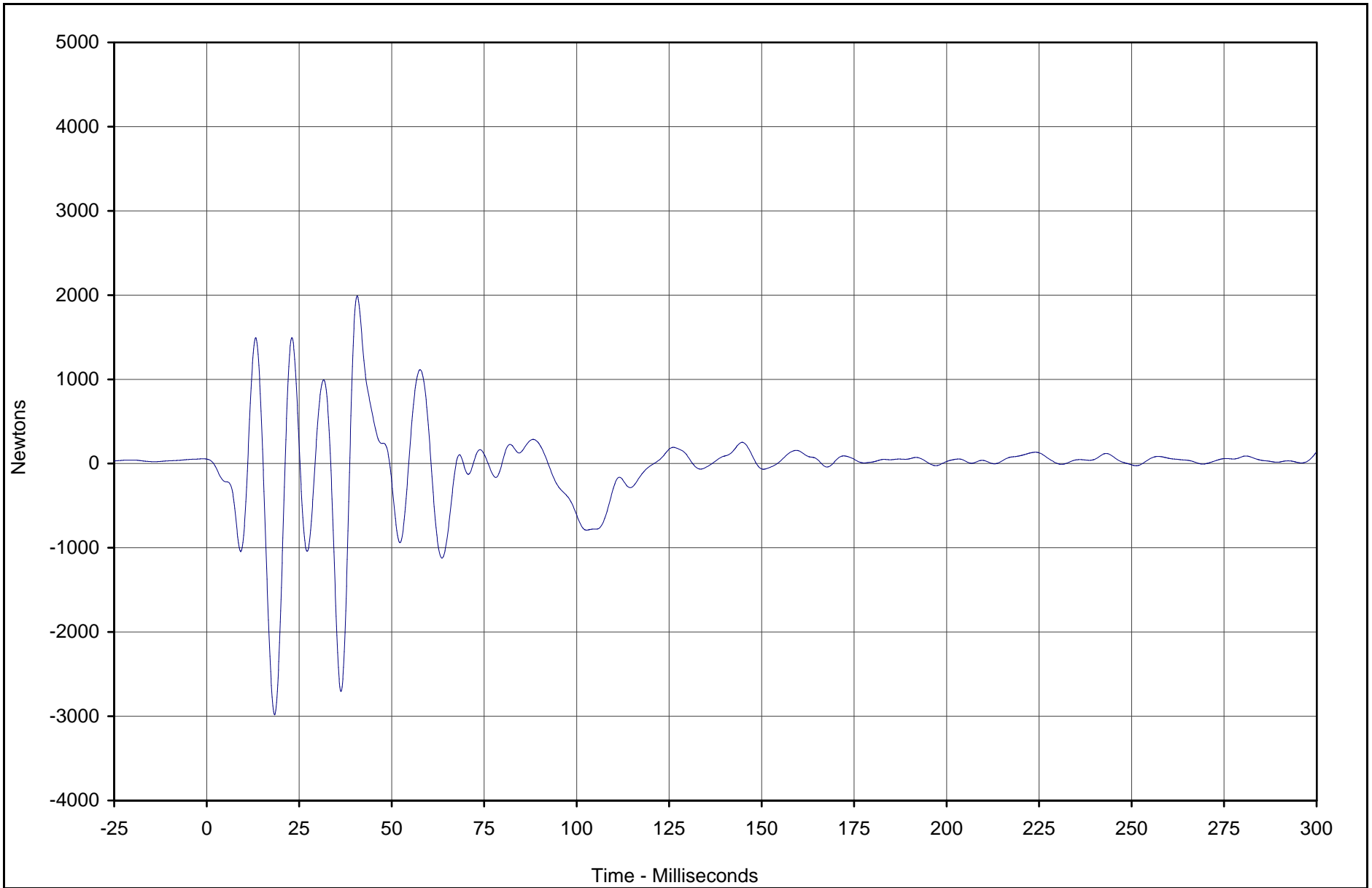
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-2



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A2	099	FIL	Newtons	1990.0	40.7	-2982.8	18.4	60



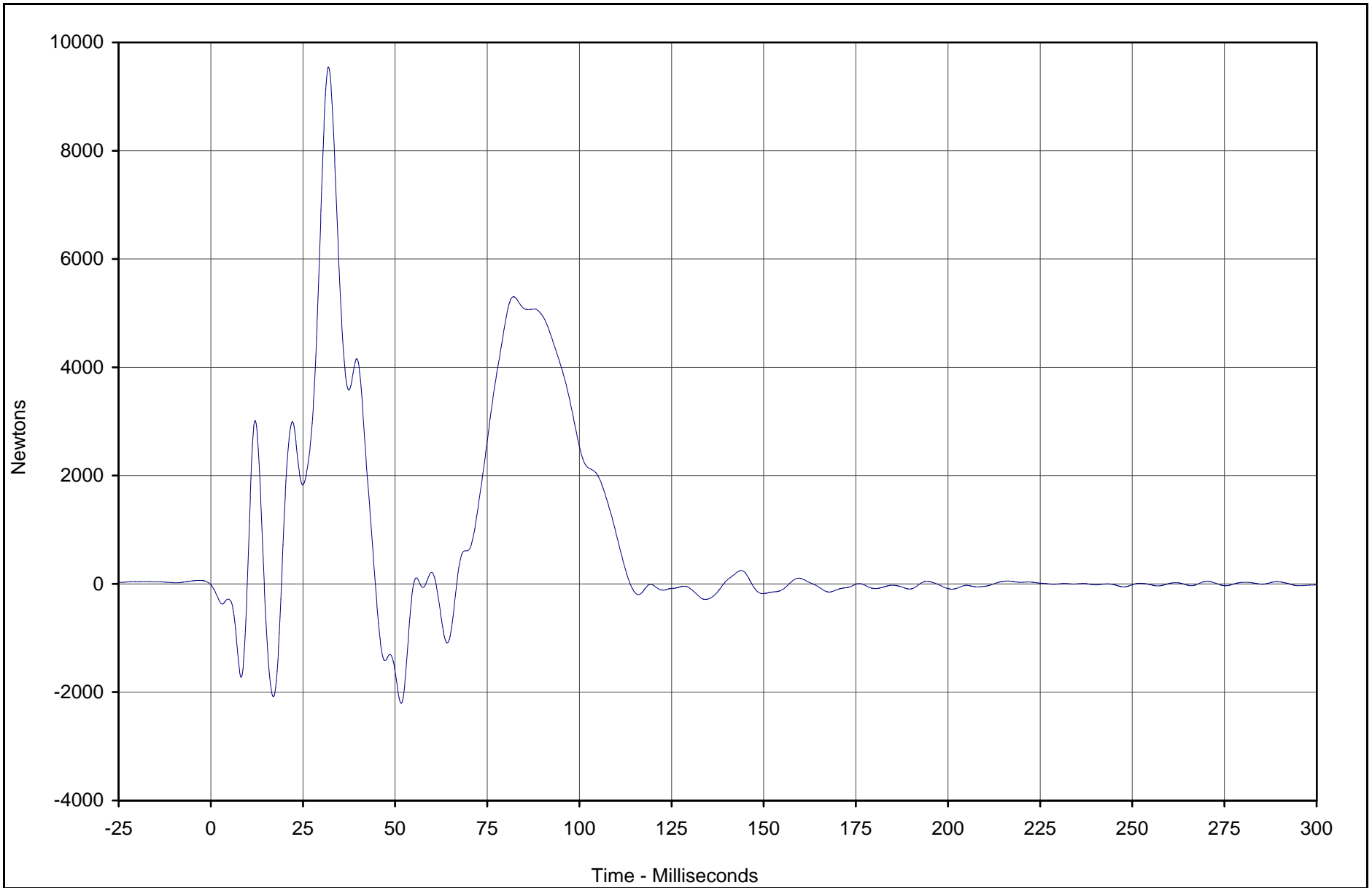
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-3



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A3	100	FIL	Newtons	9542.7	31.9	-2208.2	51.7	60



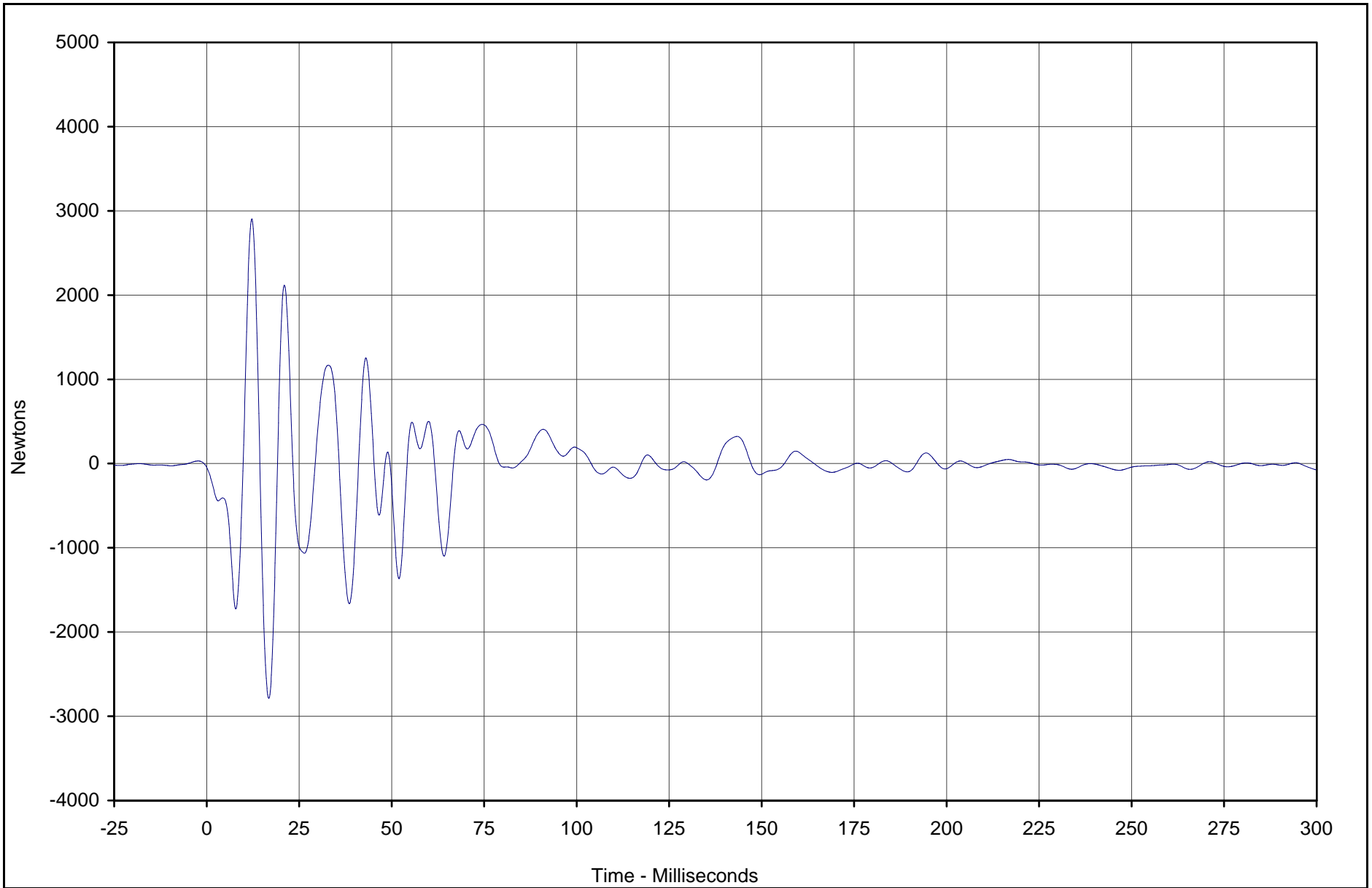
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-4



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A4	101	FIL	Newtons	2905.5	12.2	-2787.8	16.8	60



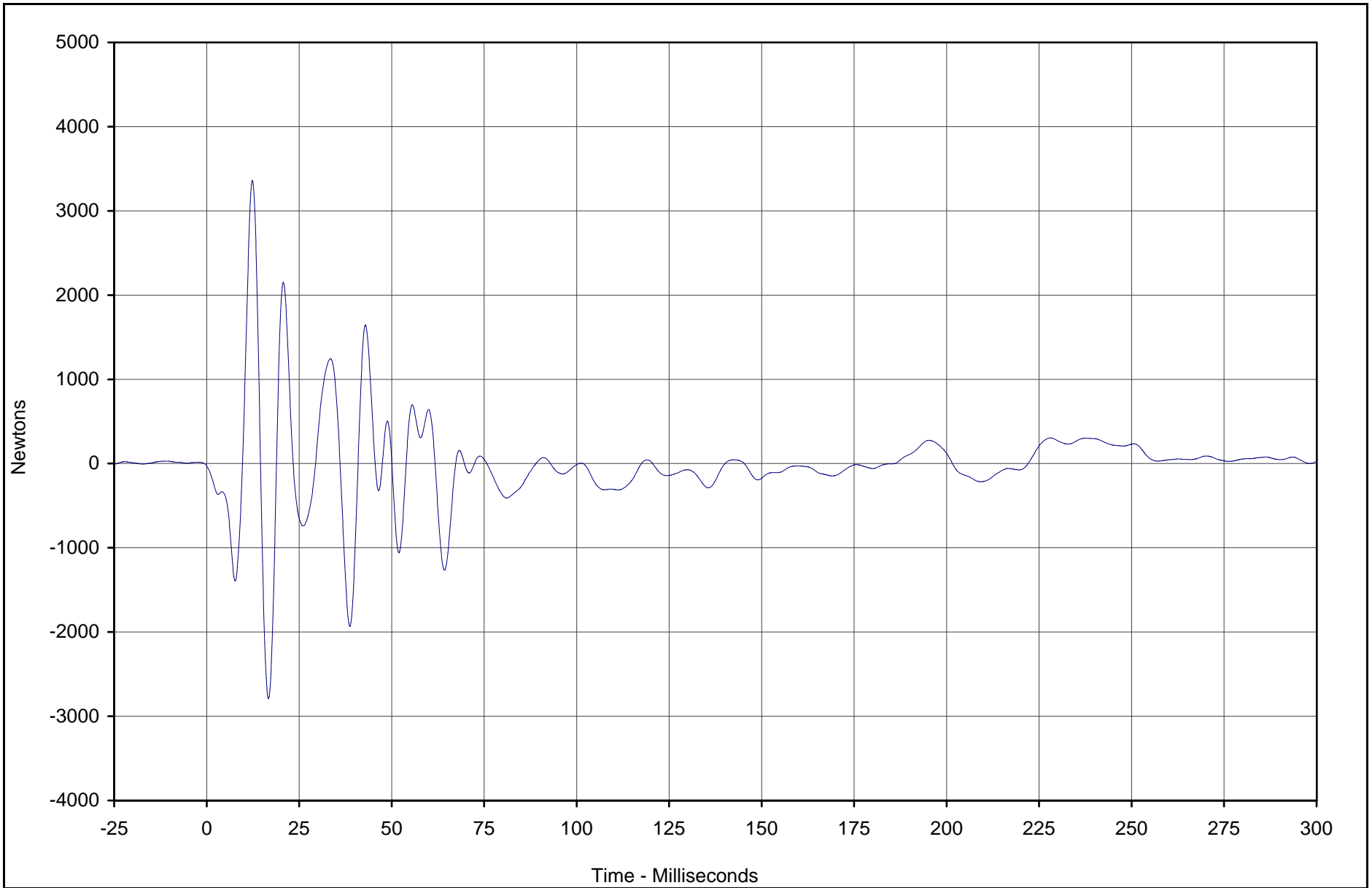
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-5



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A5	102	FIL	Newtons	3362.7	12.3	-2790.8	16.7	60



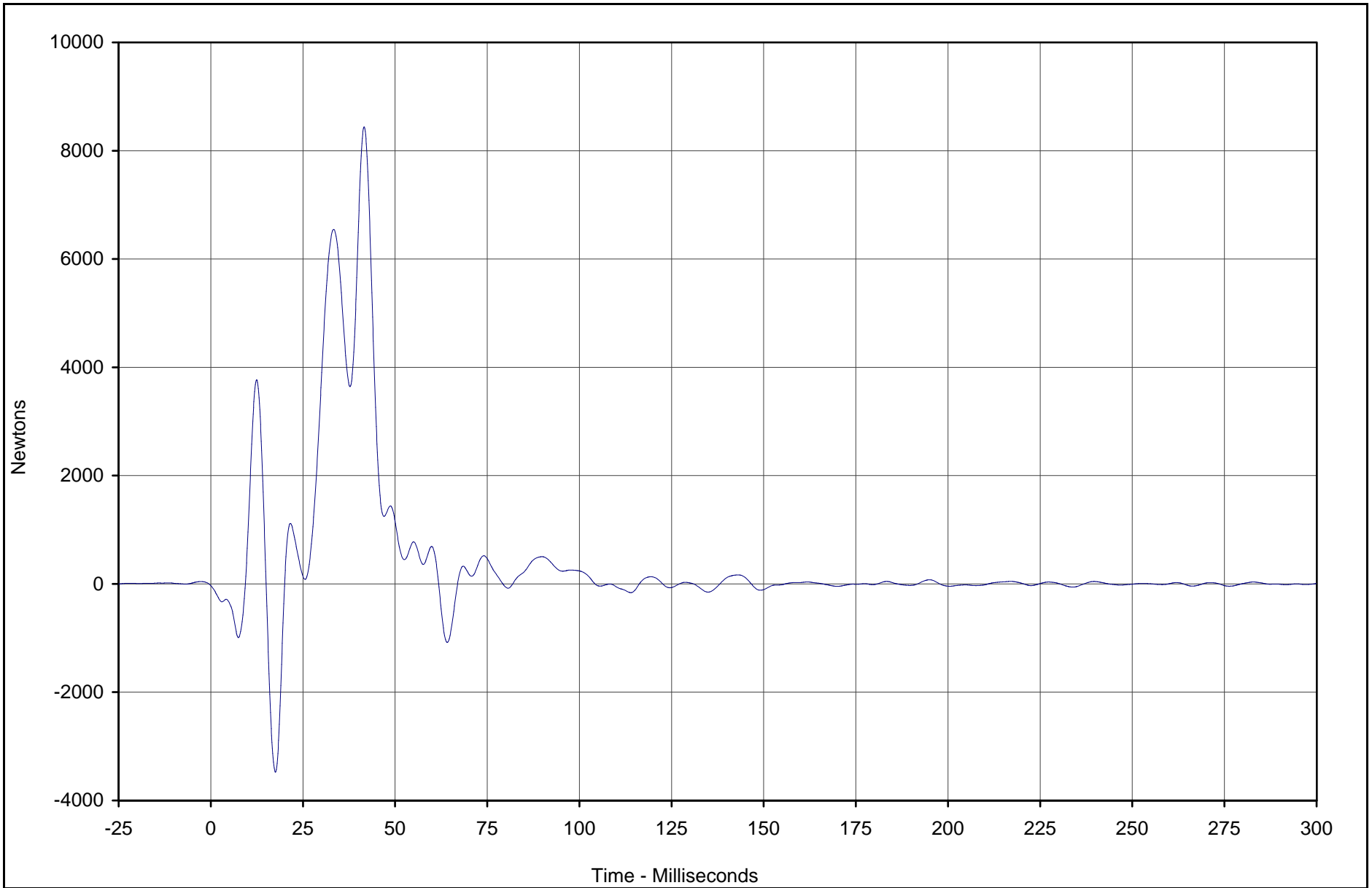
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-6



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A6	103	FIL	Newtons	8439.3	41.6	-3476.8	17.5	60



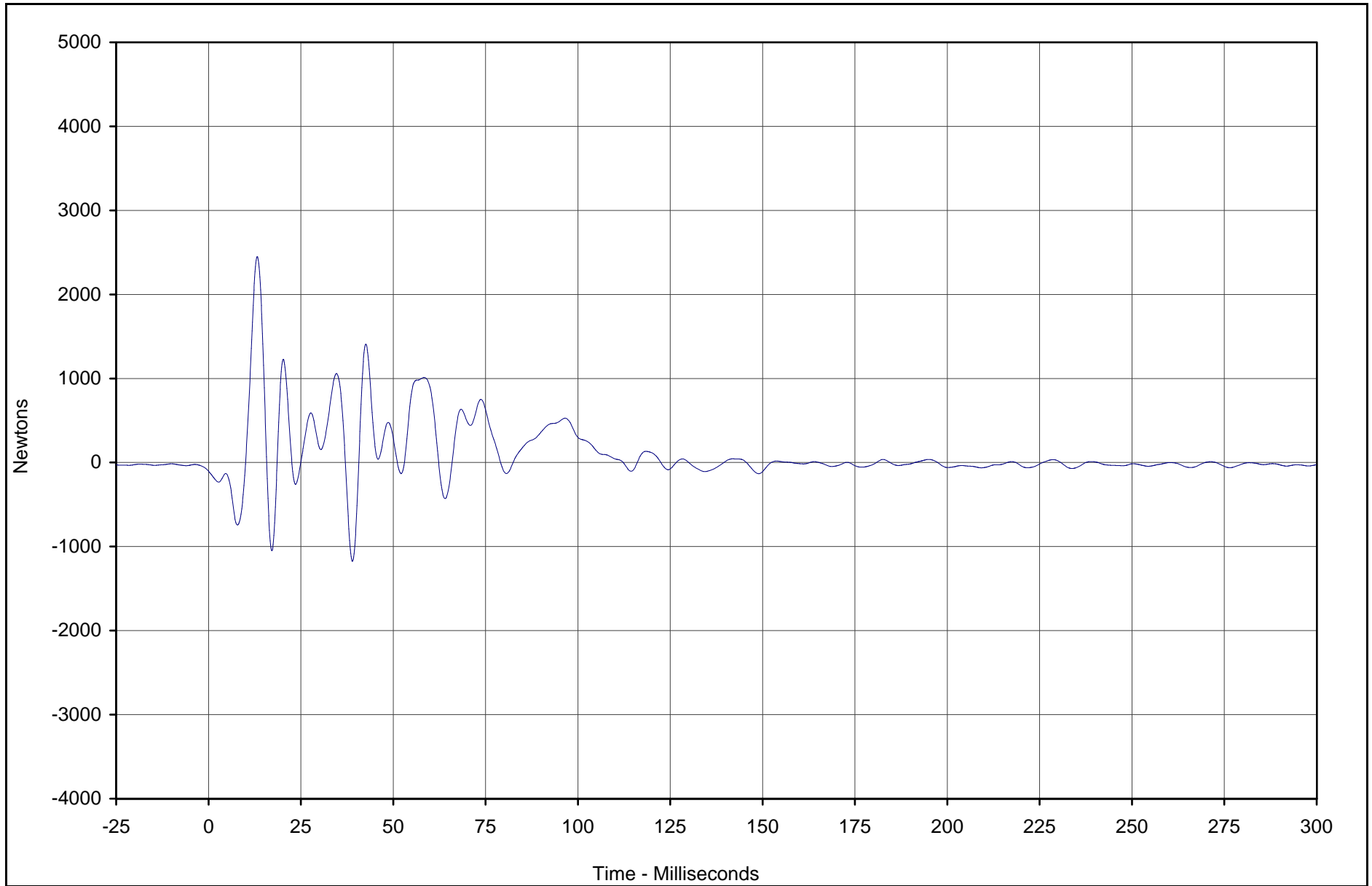
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-7



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A7	104	FIL	Newtons	2450.5	13.2	-1175.6	39.0	60



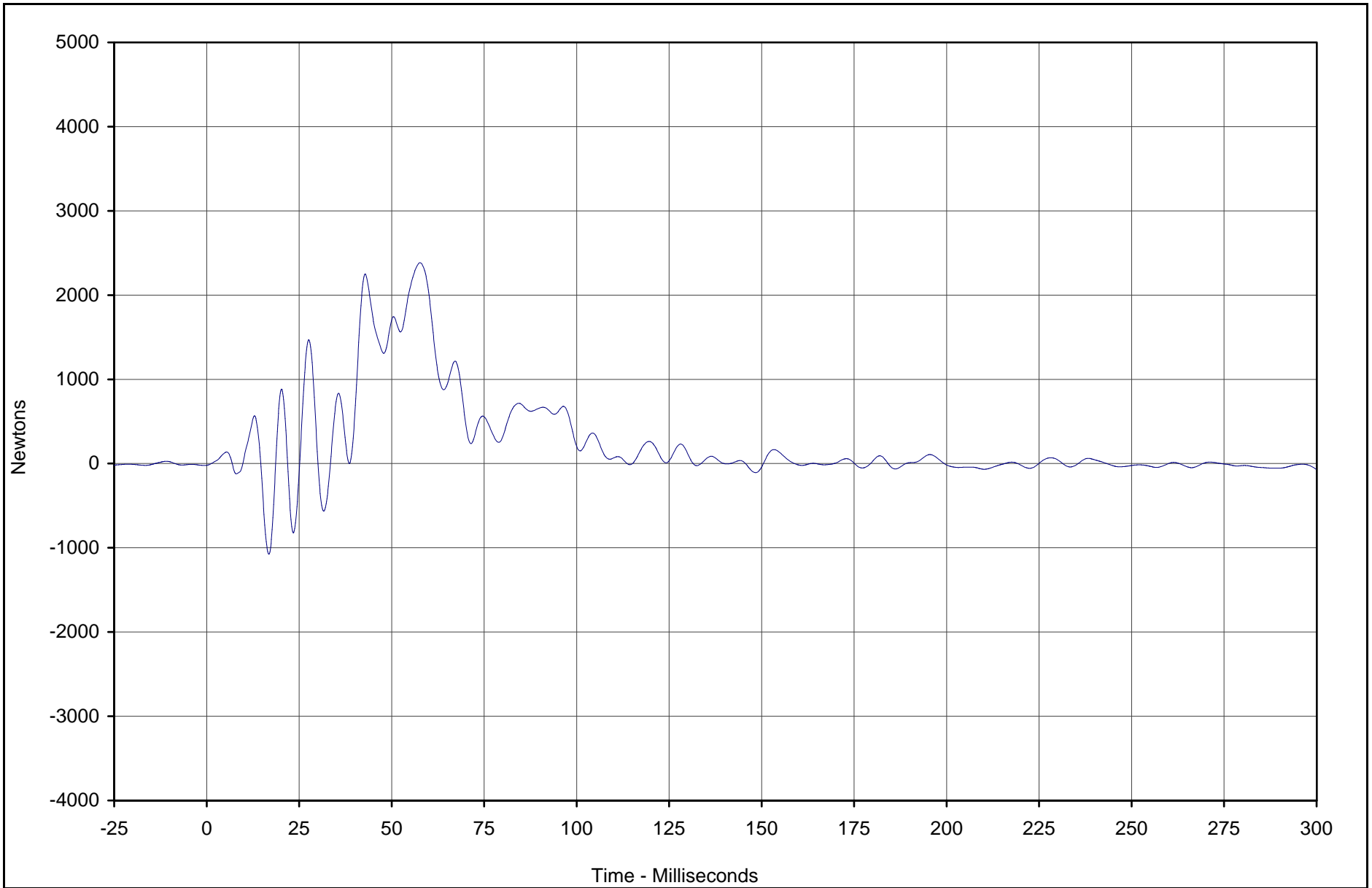
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-8



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A8	105	FIL	Newtons	2384.8	57.7	-1075.2	16.8	60



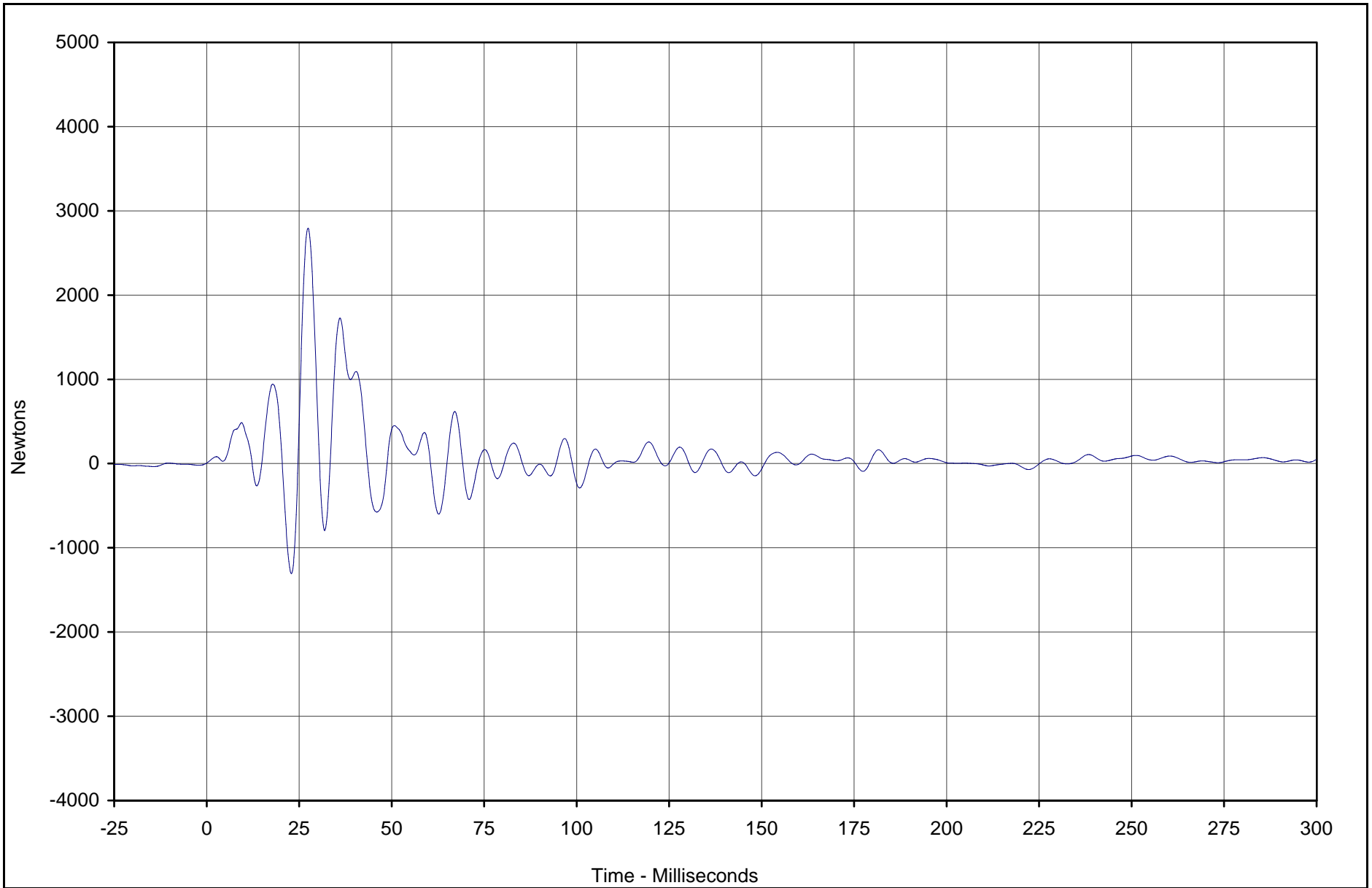
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-9



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A9	106	FIL	Newtons	2794.5	27.4	-1305.3	22.9	60



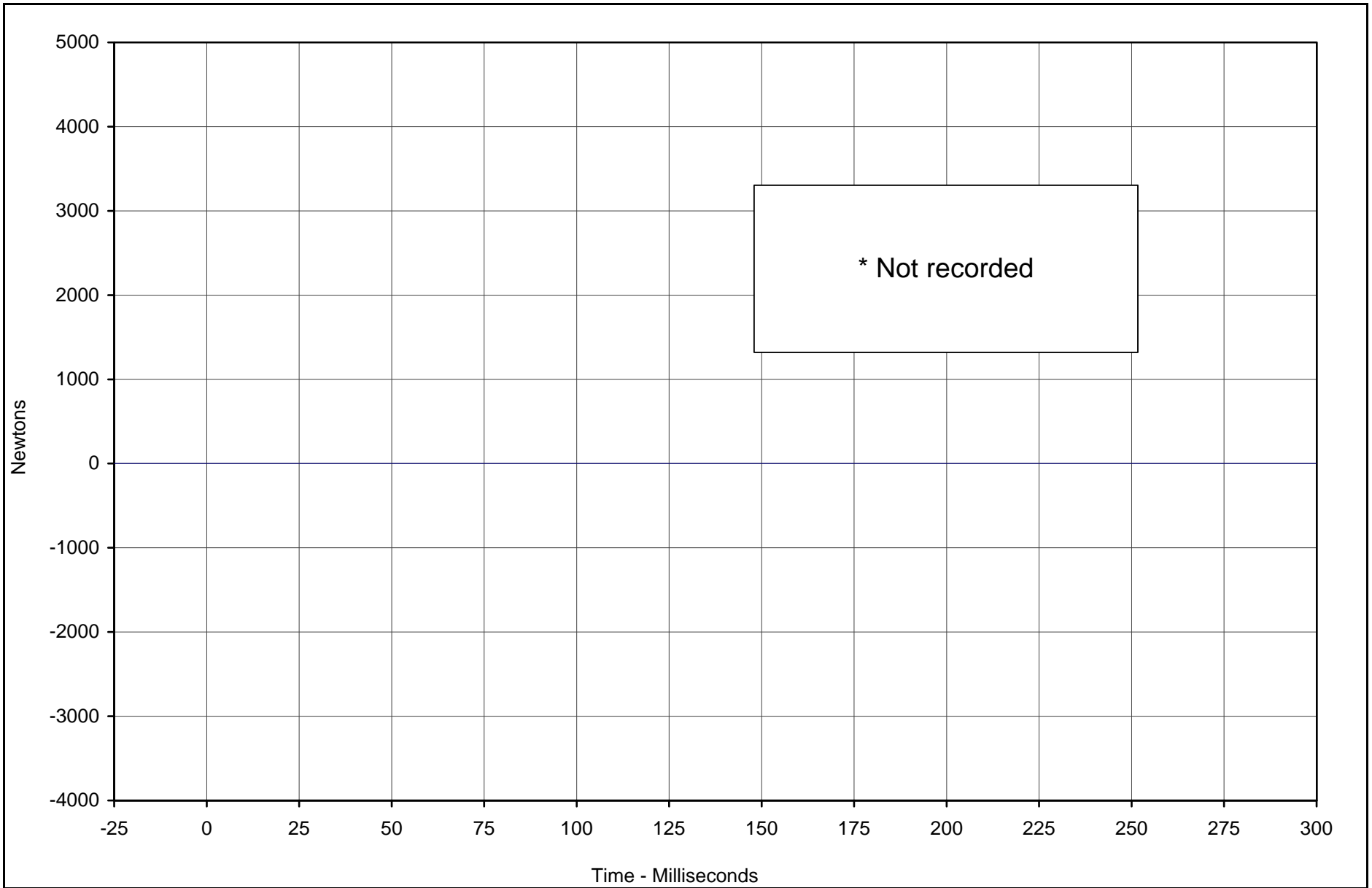
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-10



* Not recorded

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B1	107	FIL	Newtons	0.0	0.0	0.0	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

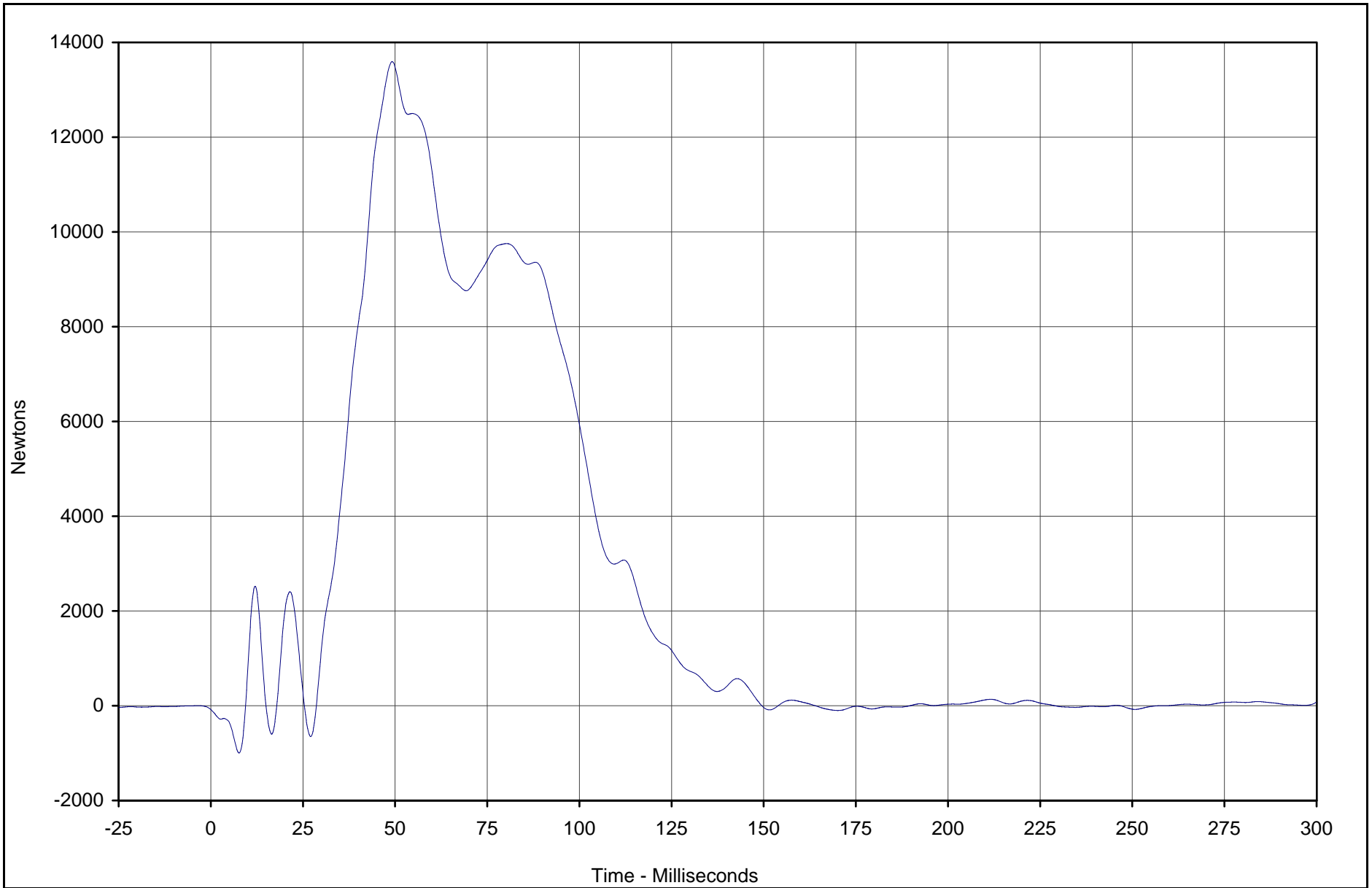
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-11



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B2	108	FIL	Newtons	13594.7	49.2	-998.0	7.7	60



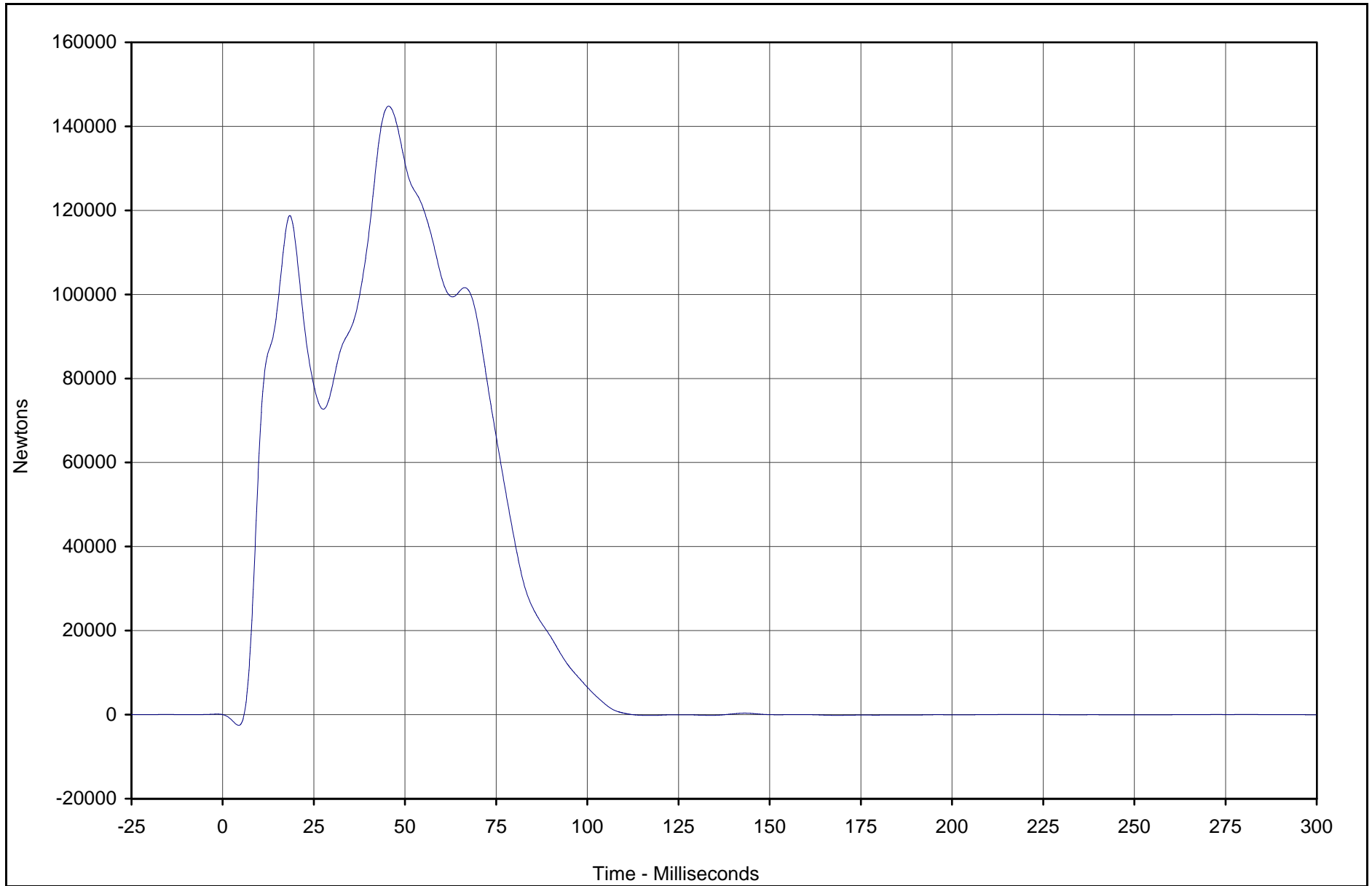
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-12



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B3	109	FIL	Newtons	144791.1	45.5	-2557.9	4.4	60



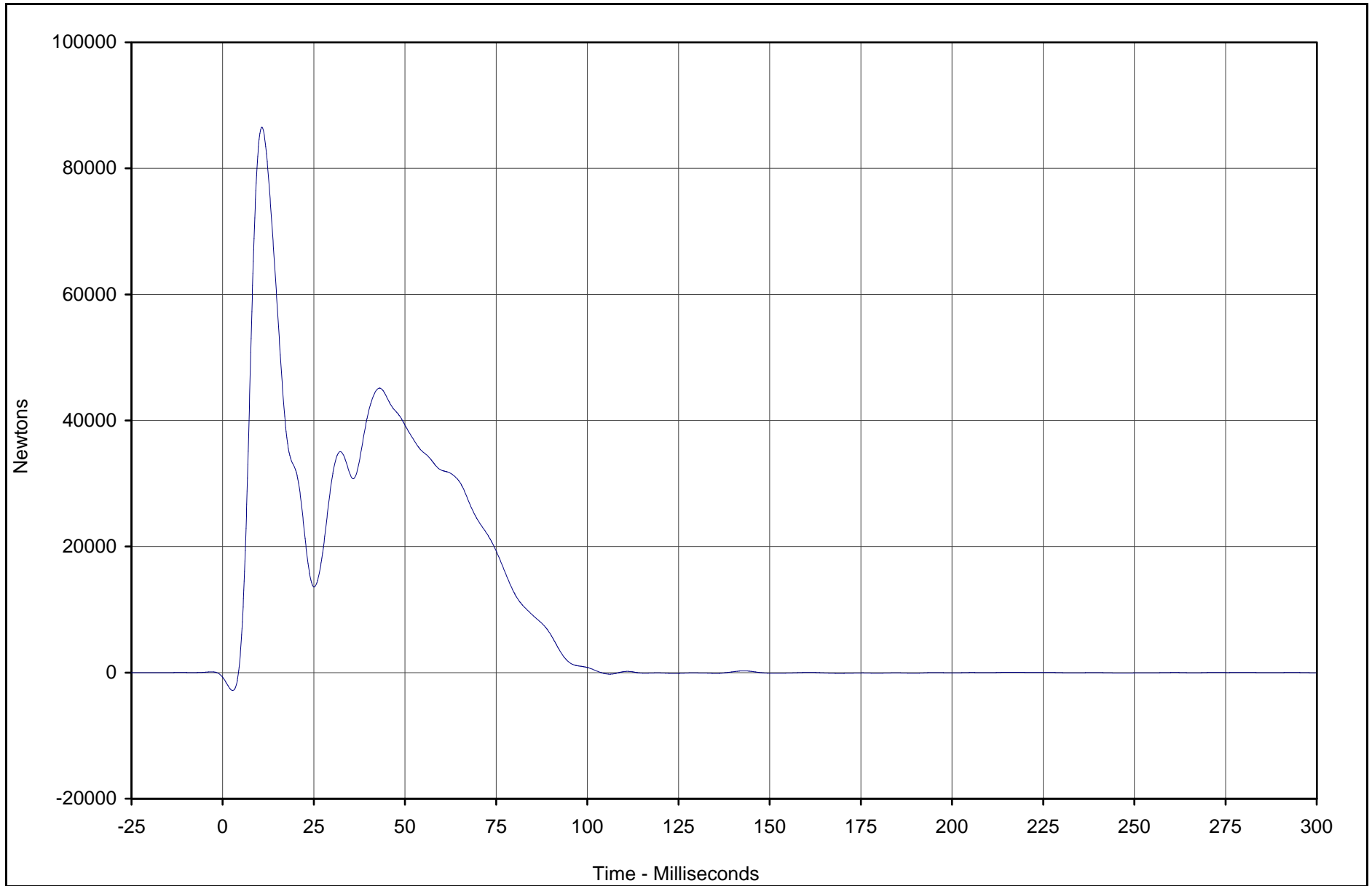
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-13



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B4	110	FIL	Newtons	86529.9	10.7	-2830.9	2.7	60



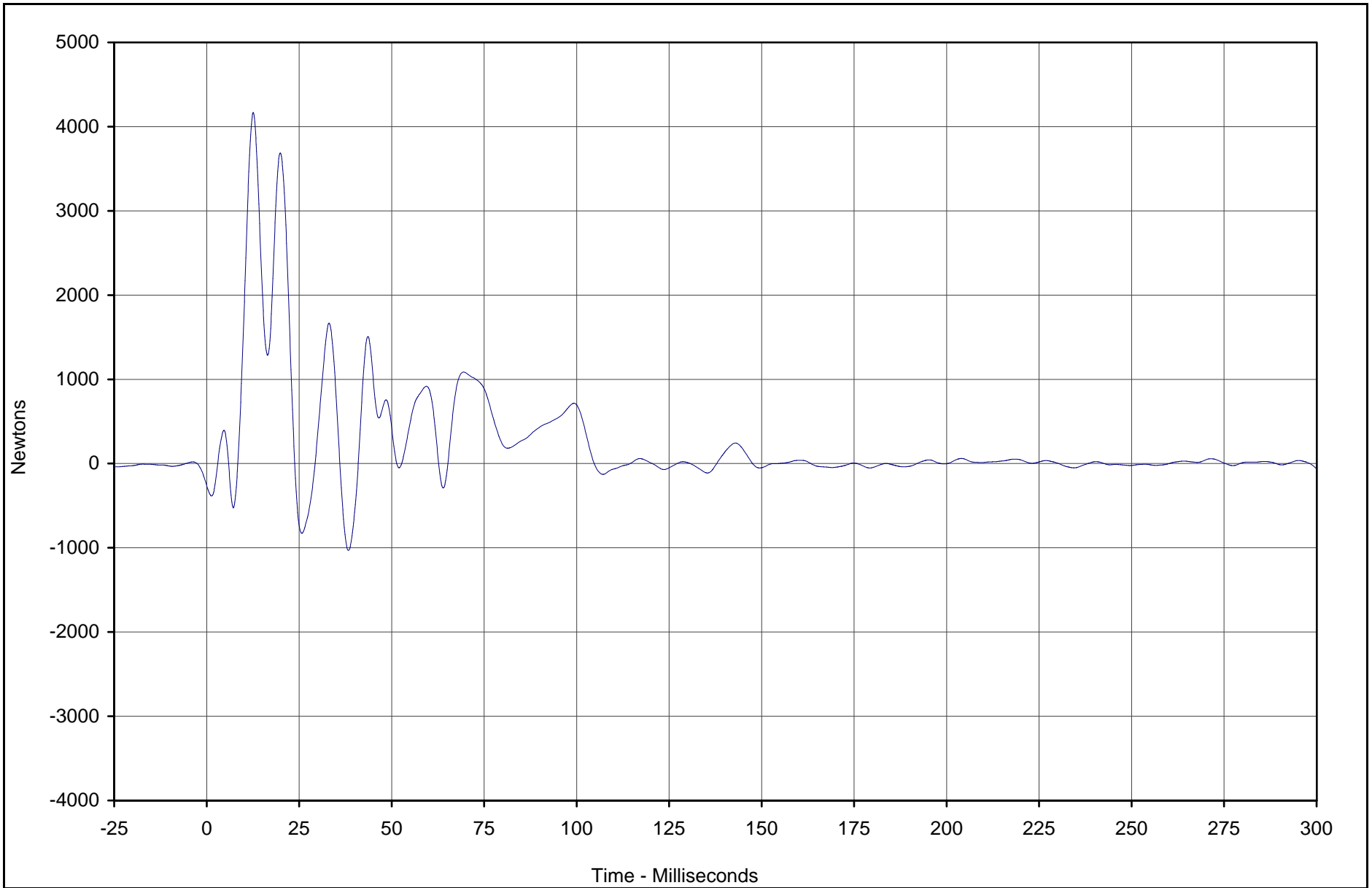
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-14



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B5	111	FIL	Newtons	4168.1	12.6	-1032.0	38.3	60



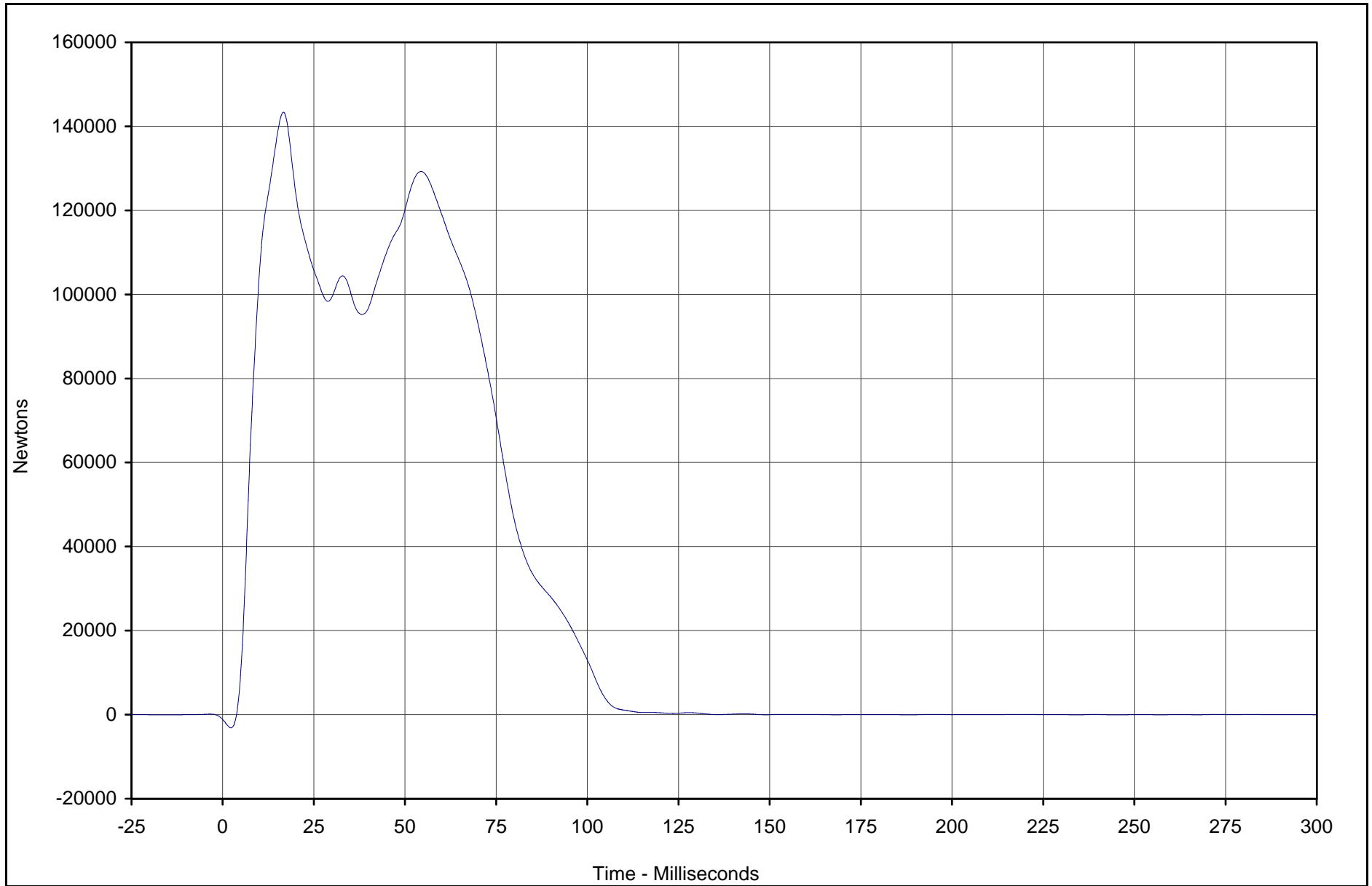
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-15



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B6	112	FIL	Newtons	143362.3	16.6	-3143.2	2.3	60



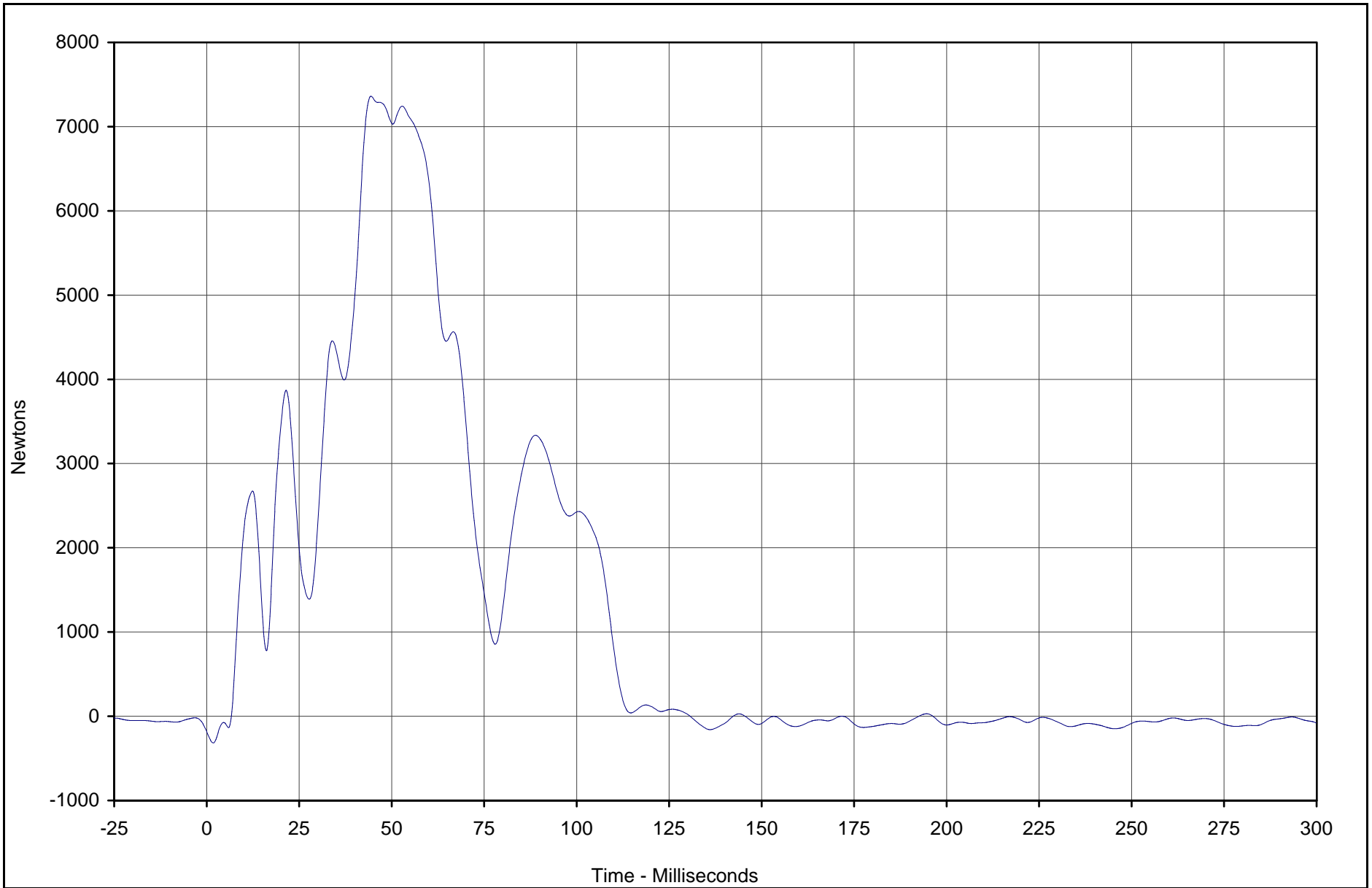
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-16



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B7	113	FIL	Newtons	7360.4	44.4	-316.7	1.8	60



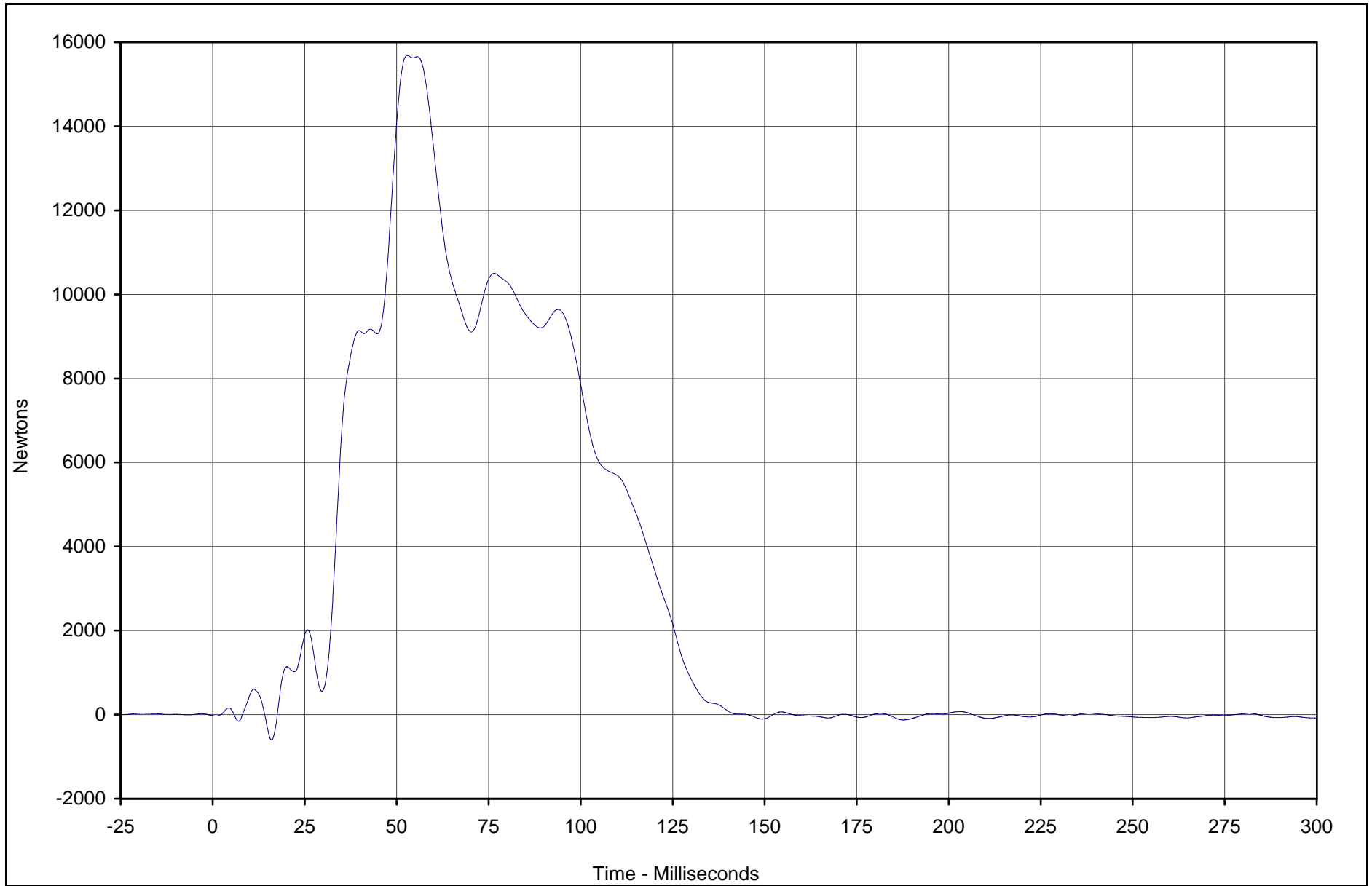
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-17



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B8	114	FIL	Newtons	15688.0	52.9	-600.0	16.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

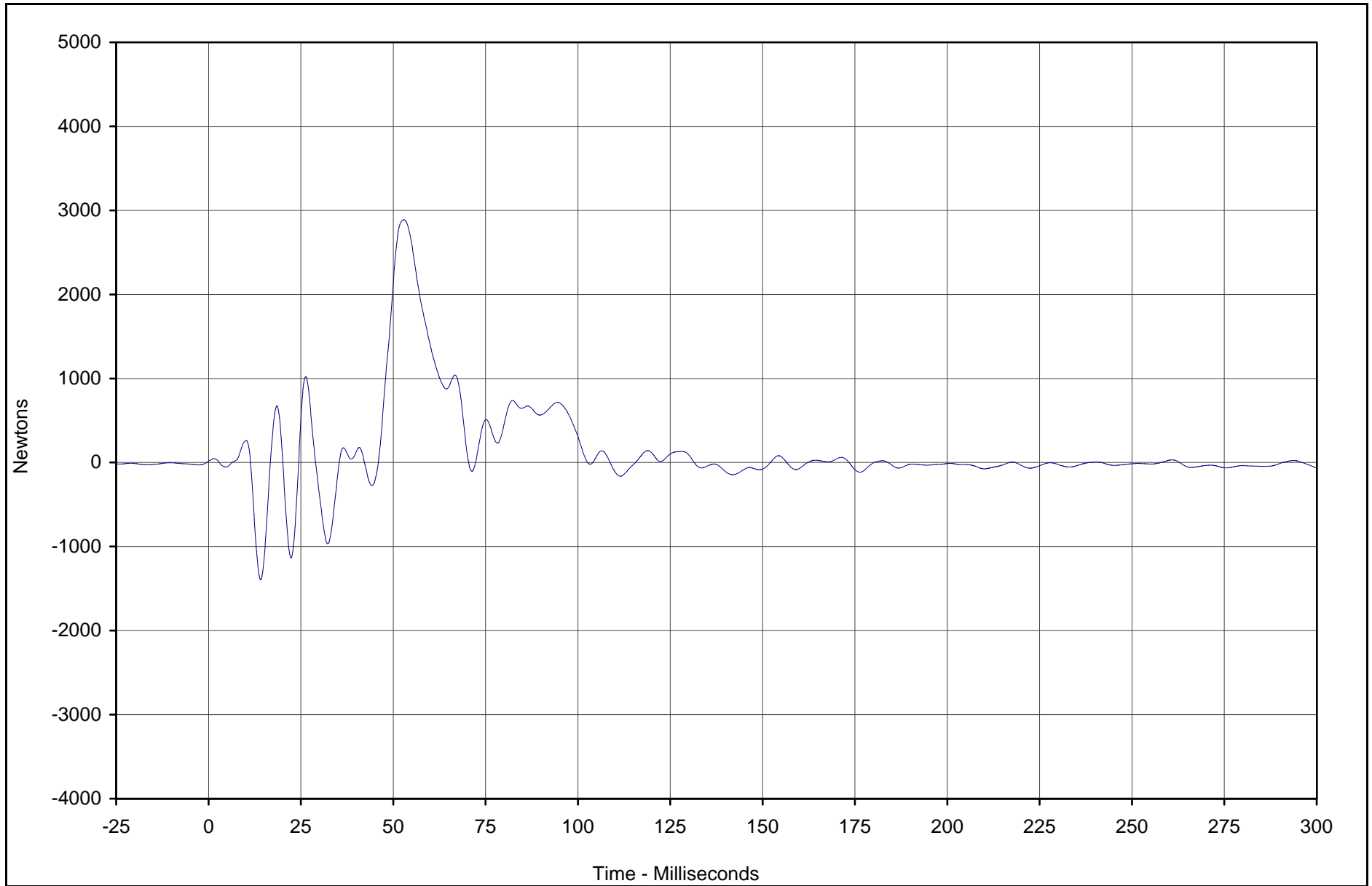
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

C-18



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B9	115	FIL	Newtons	2888.3	52.9	-1395.9	14.1	60



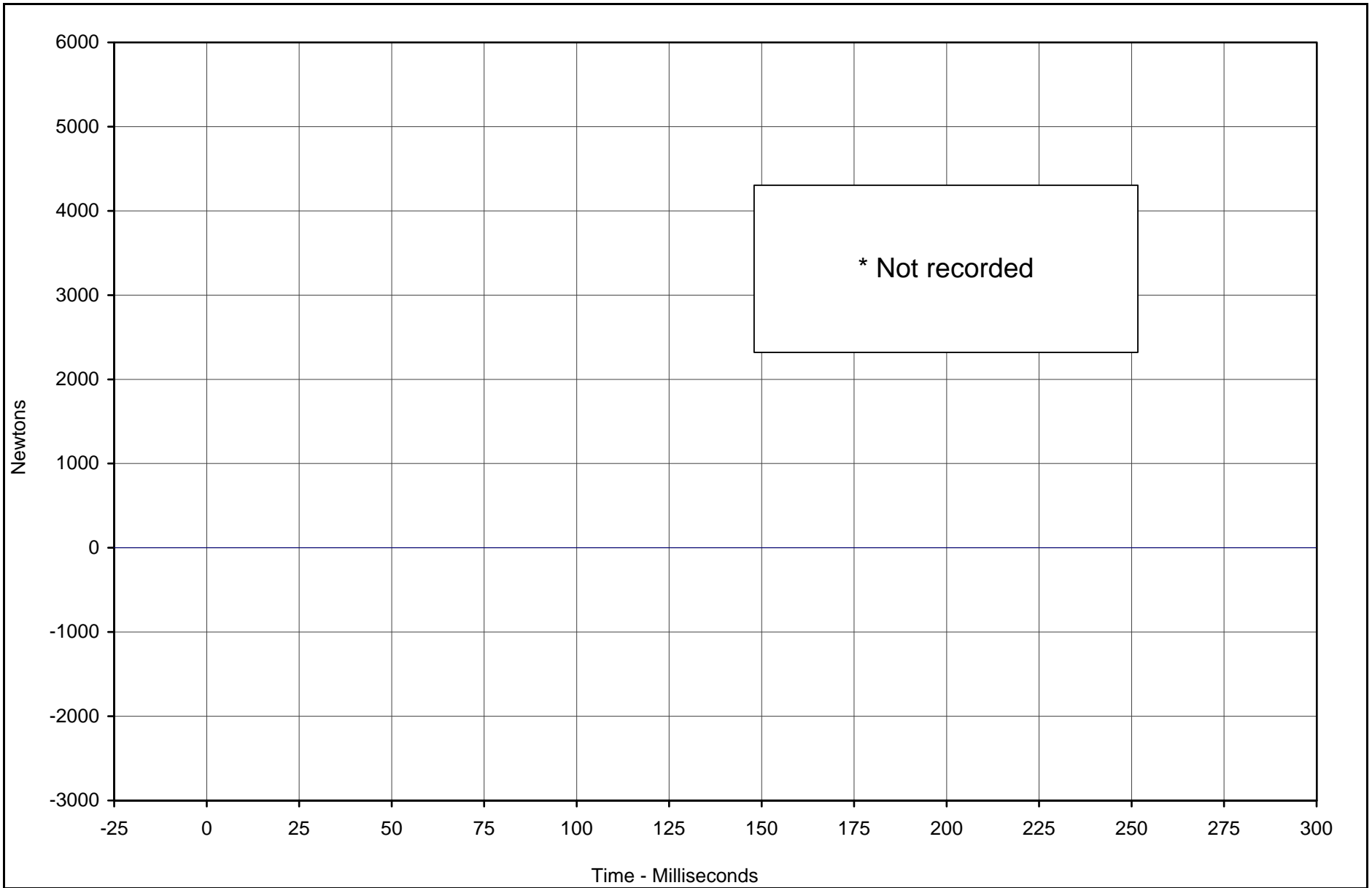
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-19



* Not recorded

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C1	116	FIL	Newtons	0.0	0.0	0.0	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

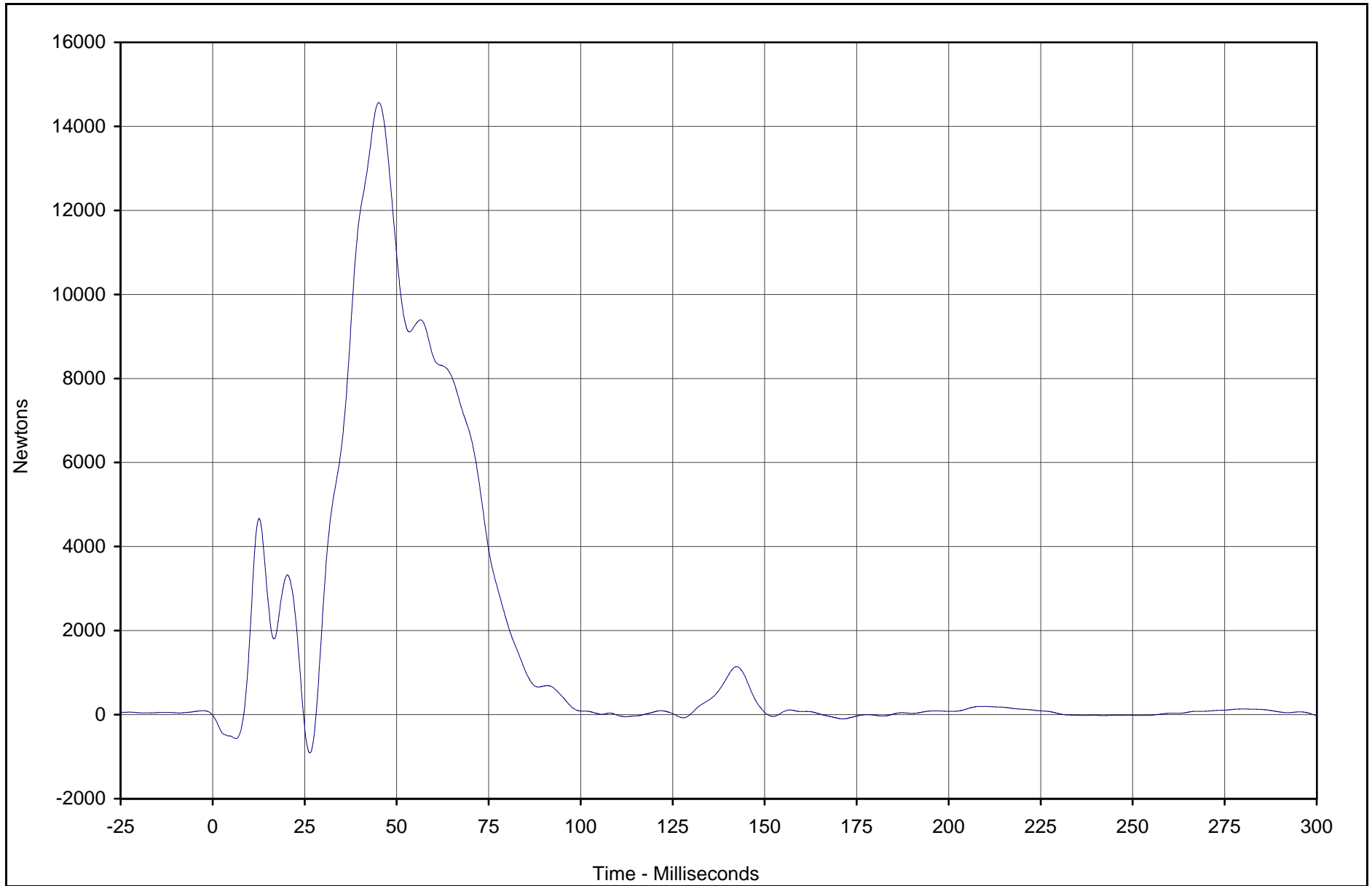
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-20



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C2	117	FIL	Newtons	14567.2	45.2	-909.6	26.4	60



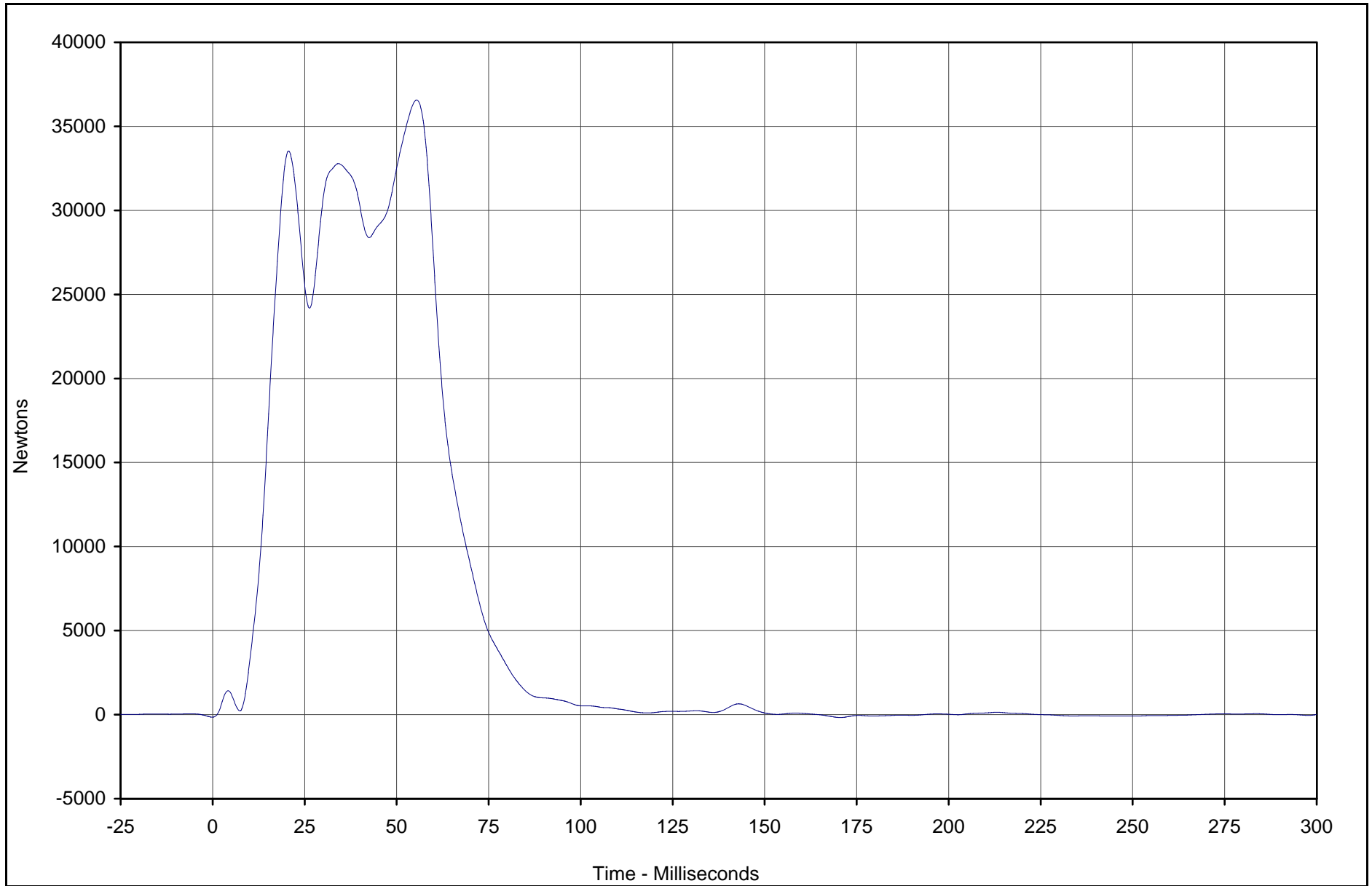
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-21



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C3	118	FIL	Newtons	36569.1	55.4	-172.6	170.6	60



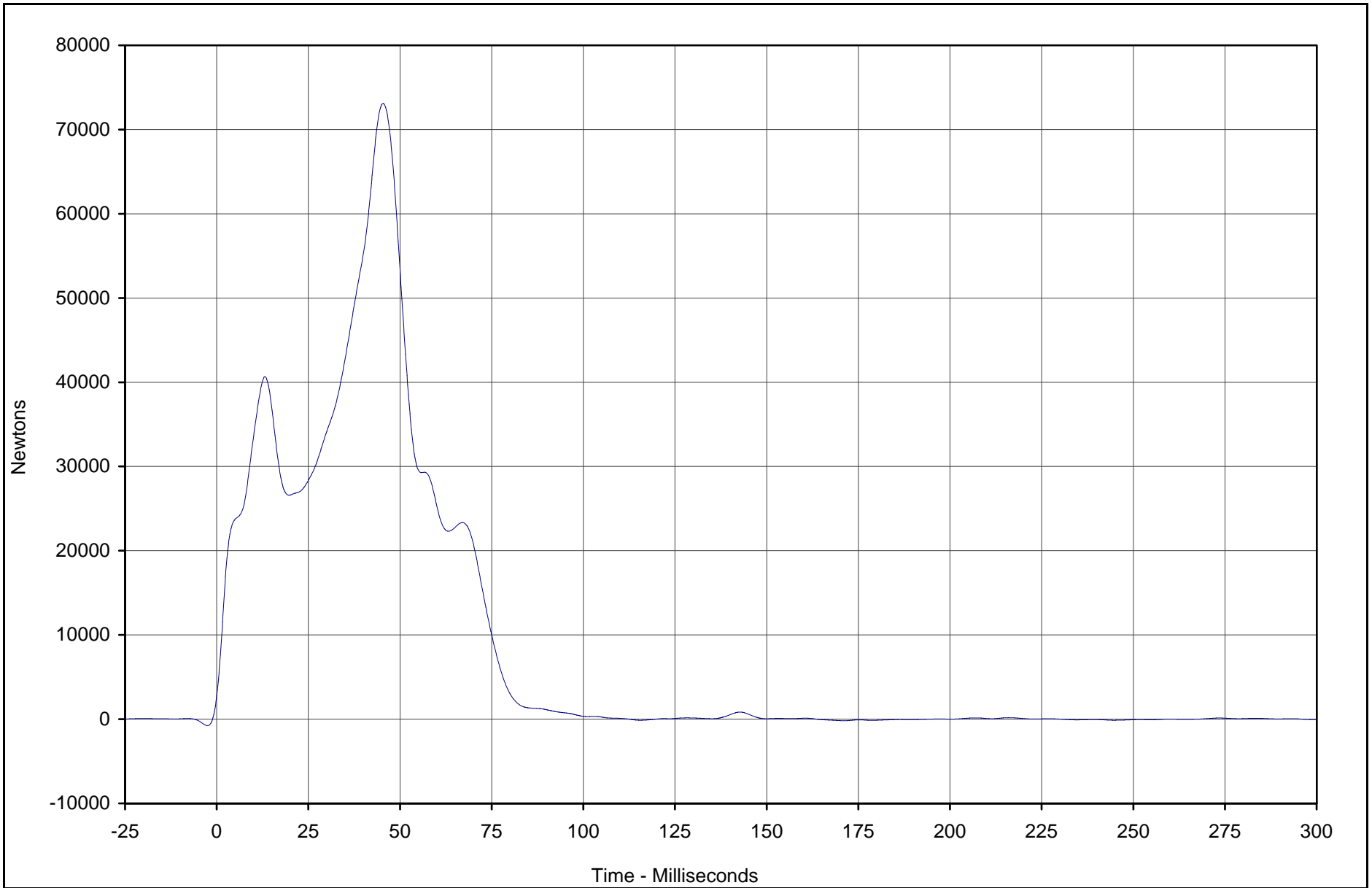
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-22



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C4	119	FIL	Newtons	73102.1	45.4	-180.3	171.1	60



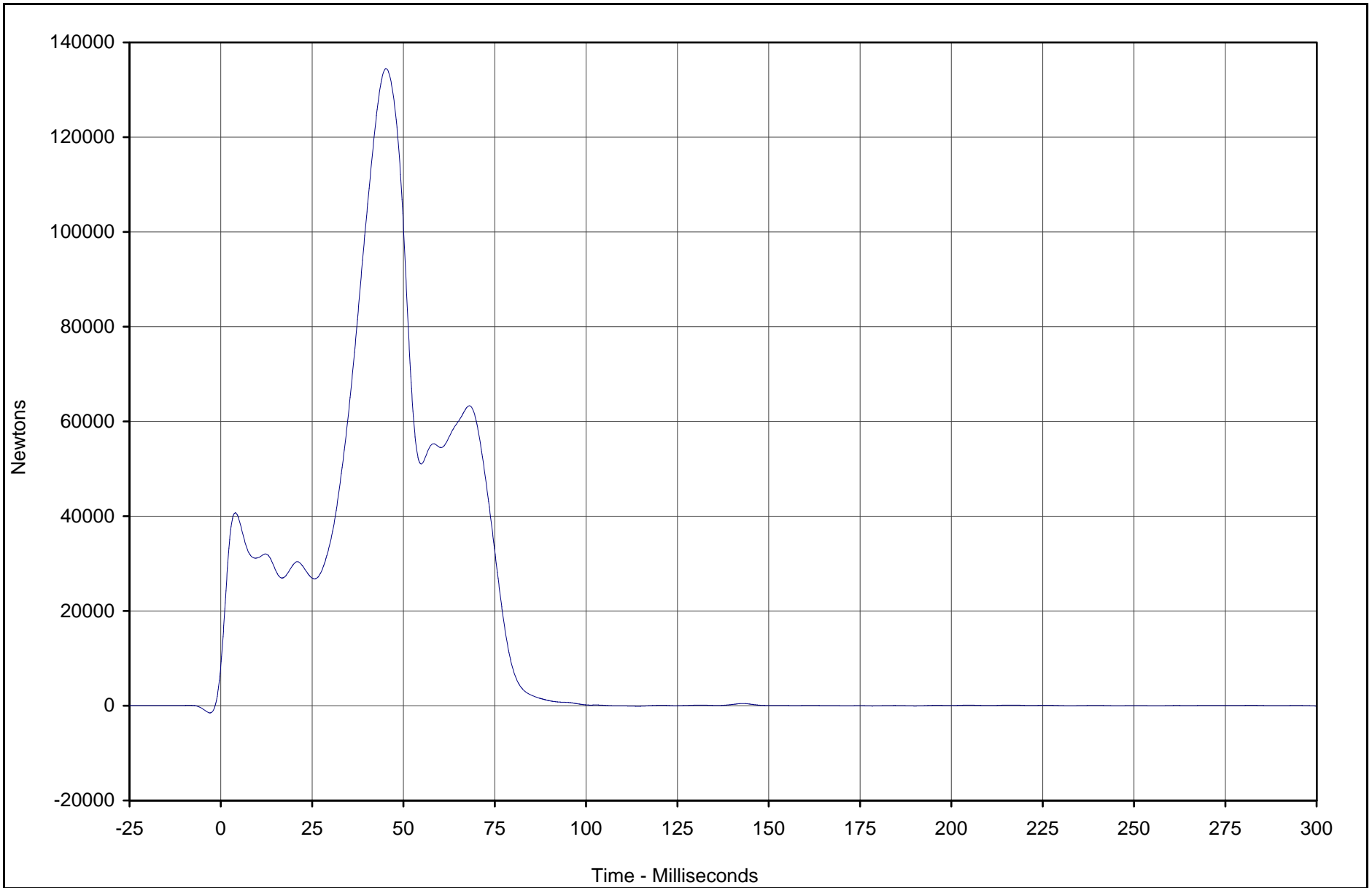
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-23



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C5	120	FIL	Newtons	134469.0	45.2	-108.1	114.3	60



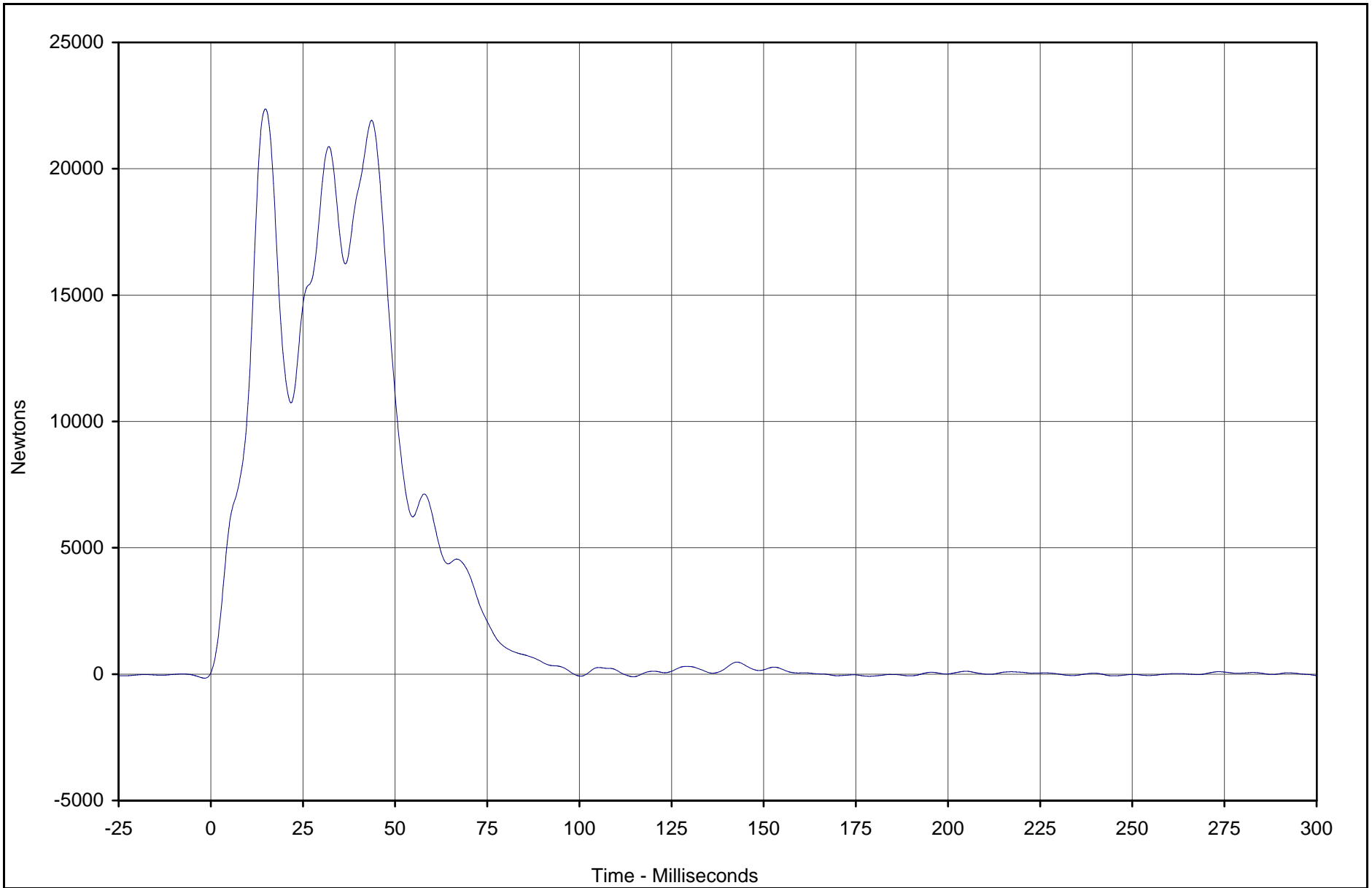
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-24



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C6	121	FIL	Newtons	22365.7	14.8	-106.0	114.6	60



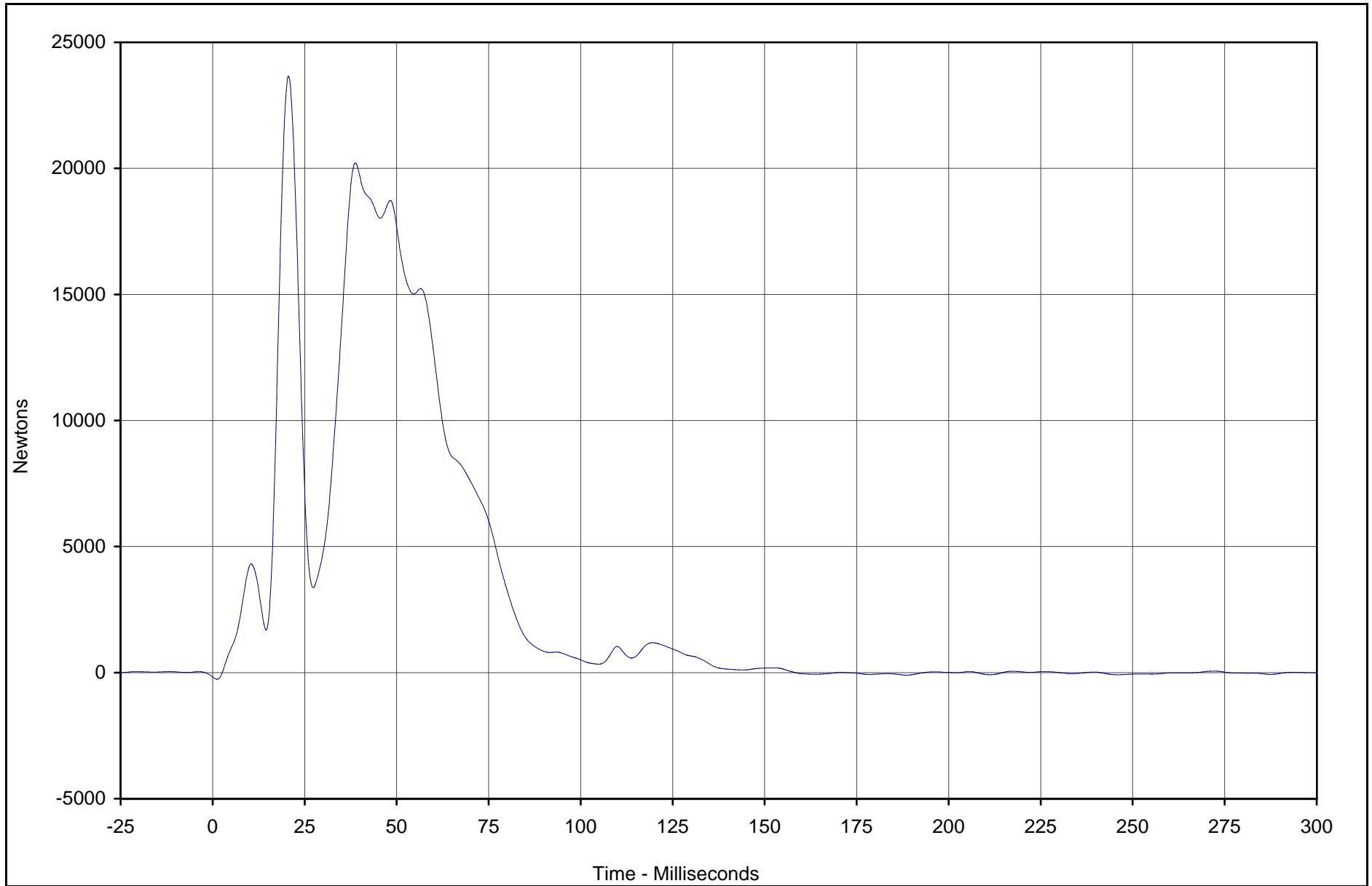
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-25



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C7	122	FIL	Newtons	23659.8	20.6	-263.1	1.2	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

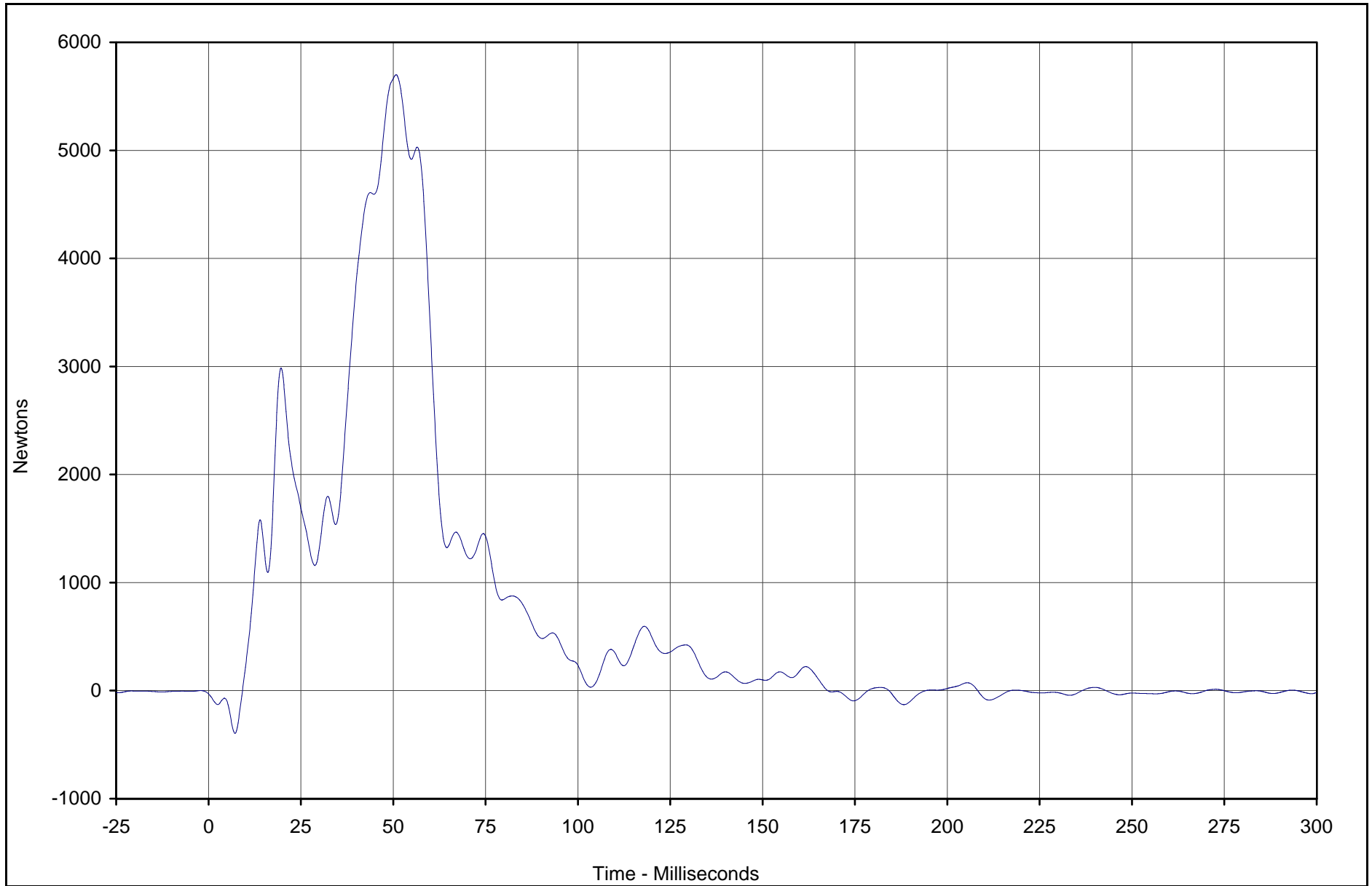
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

C-26



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C8	123	FIL	Newtons	5699.8	50.8	-396.8	7.2	60



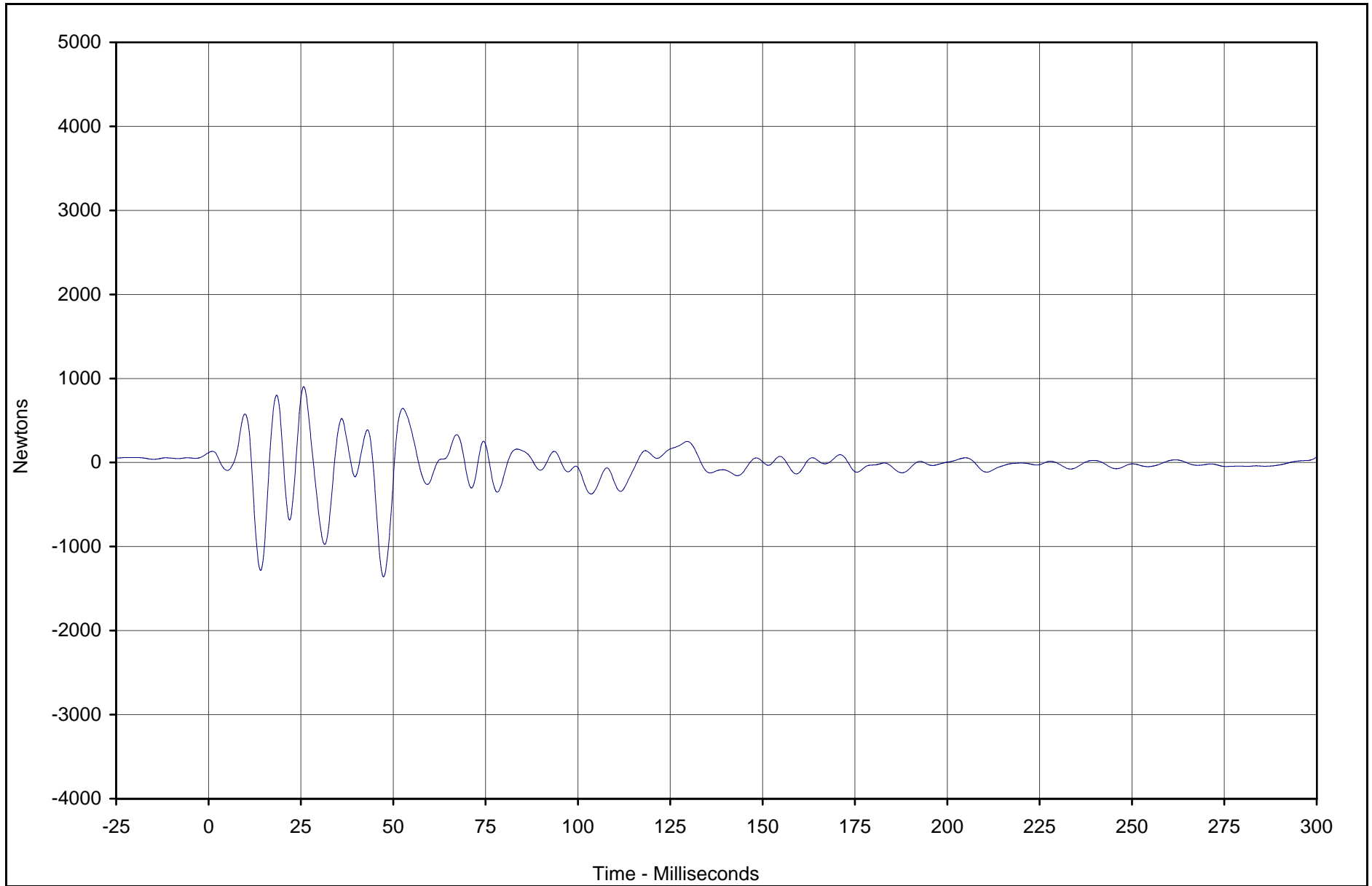
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-27



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C9	124	FIL	Newtons	902.4	25.8	-1359.1	47.4	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

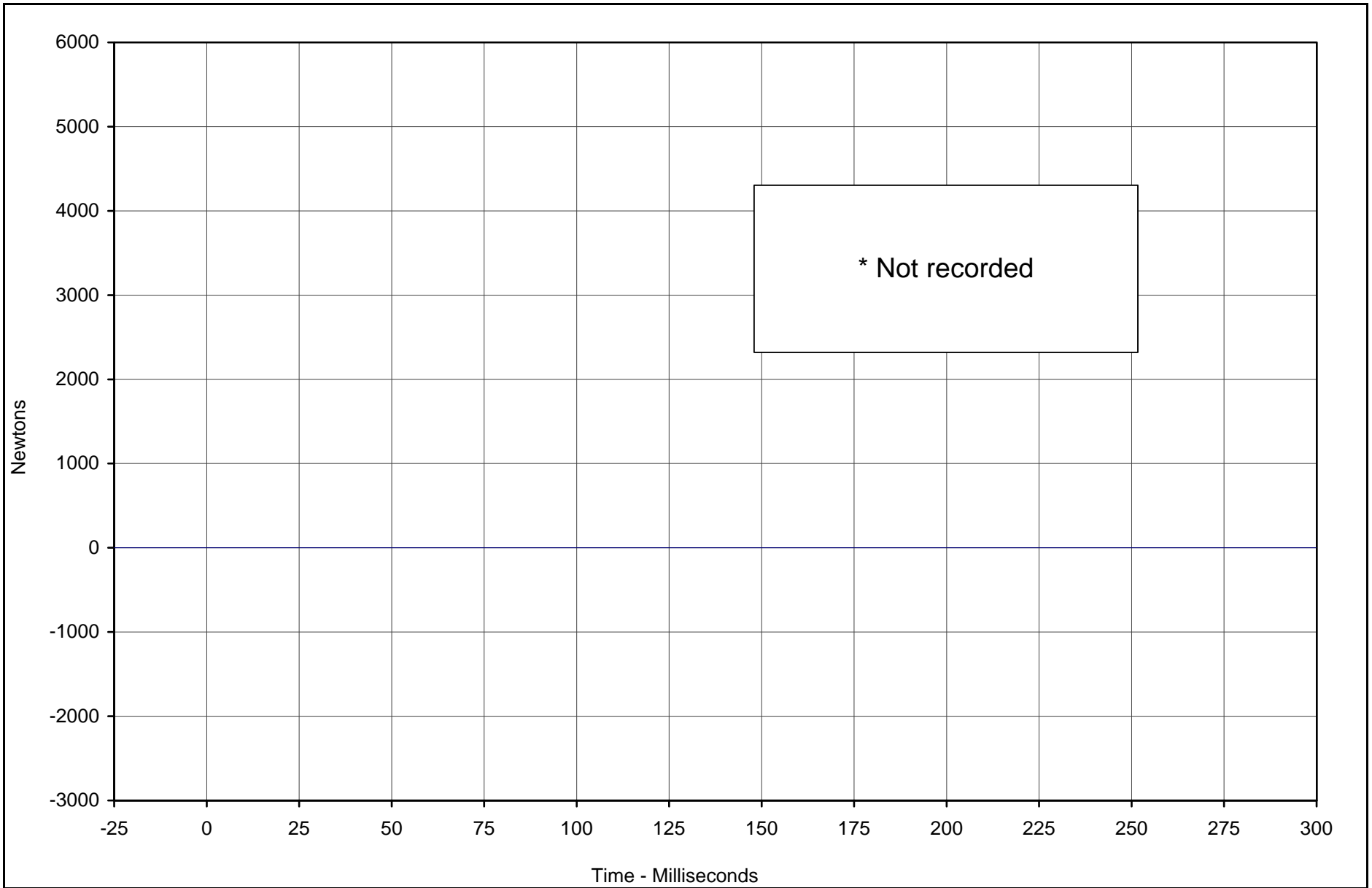
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-28



* Not recorded

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D1	125	FIL	Newtons	0.0	0.0	0.0	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

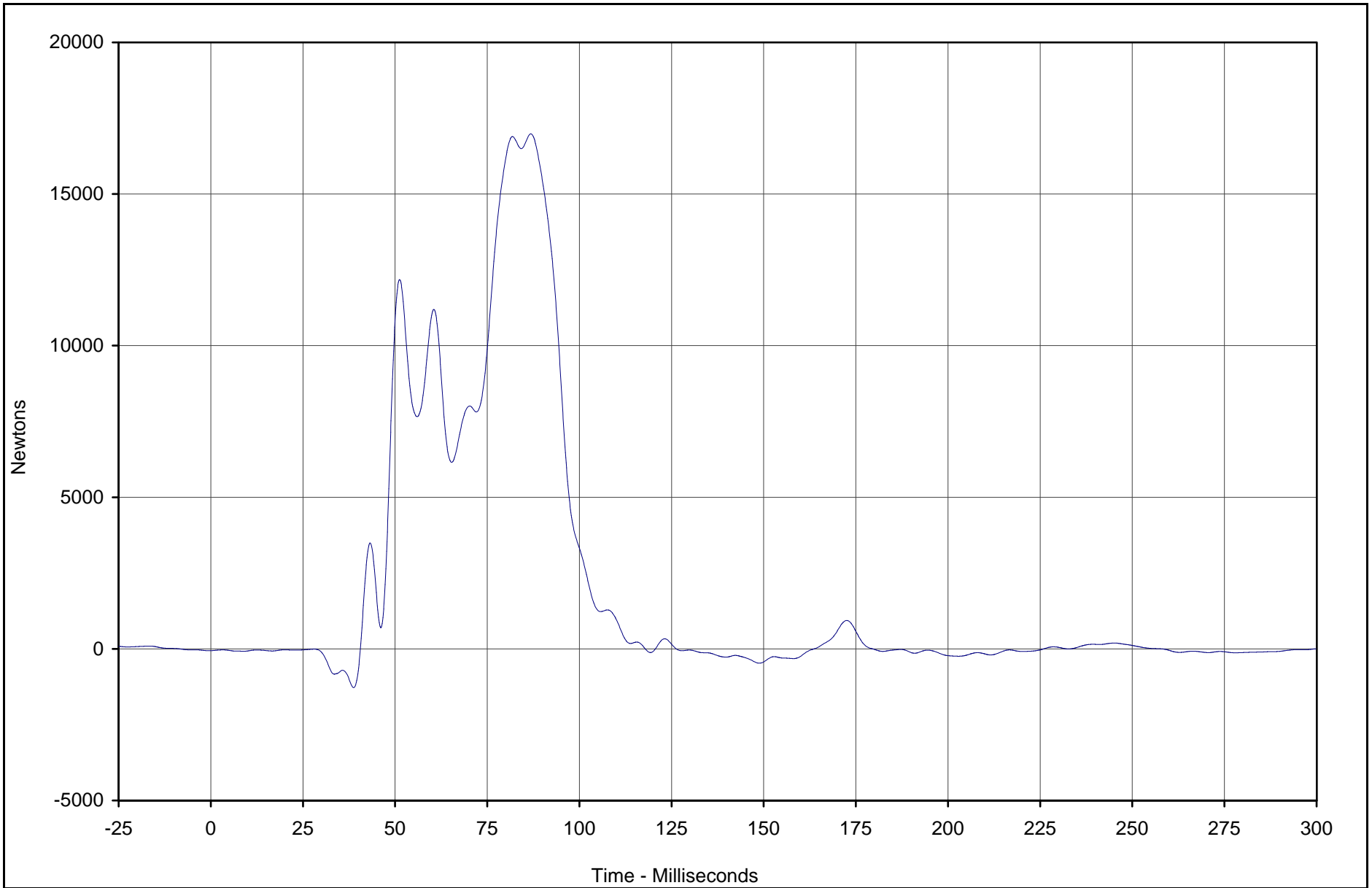
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-29



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D2	126	FIL	Newtons	16986.4	86.8	-1276.7	38.7	60



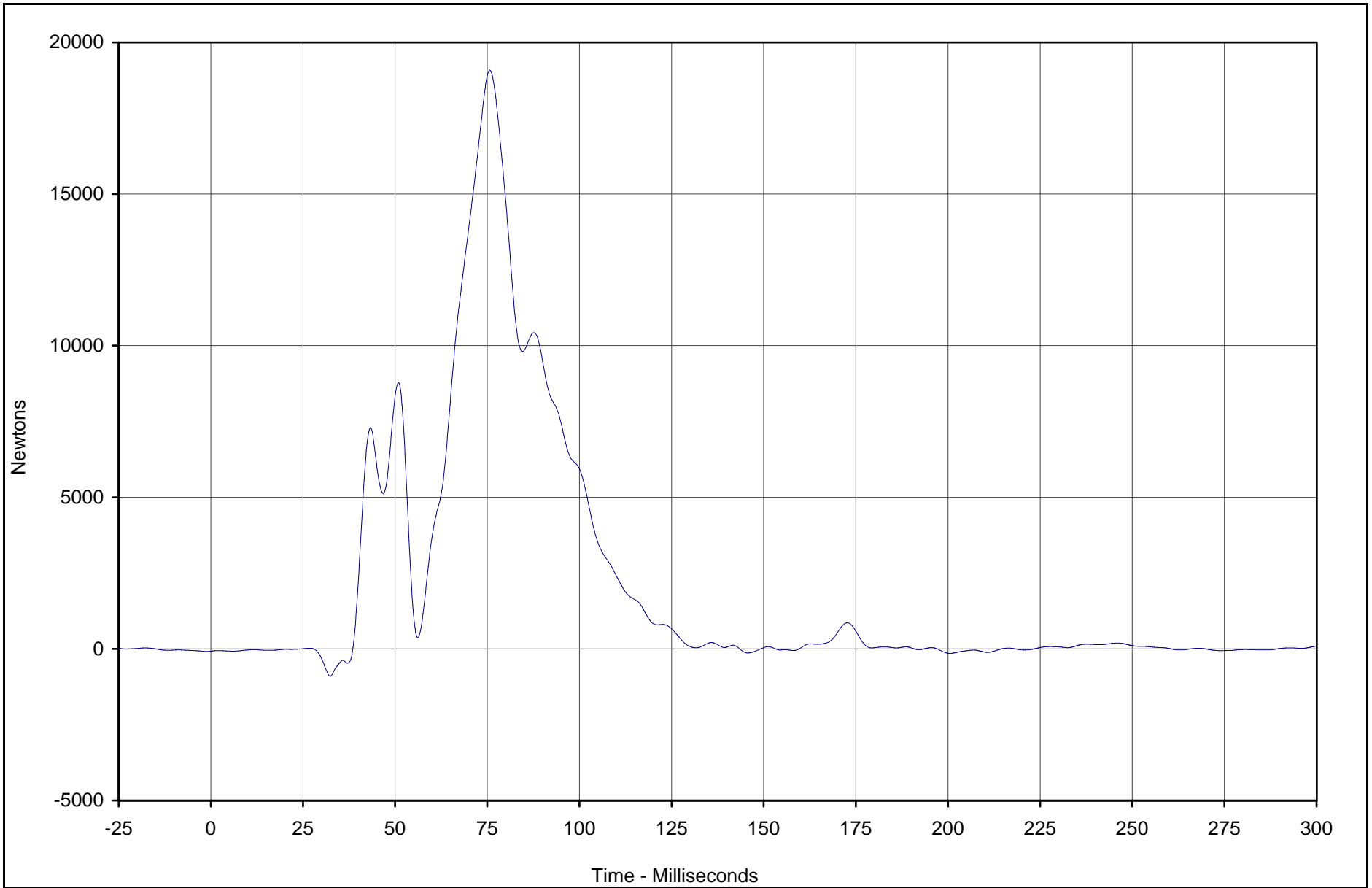
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-30



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D3	127	FIL	Newtons	19087.3	75.7	-903.5	32.4	60



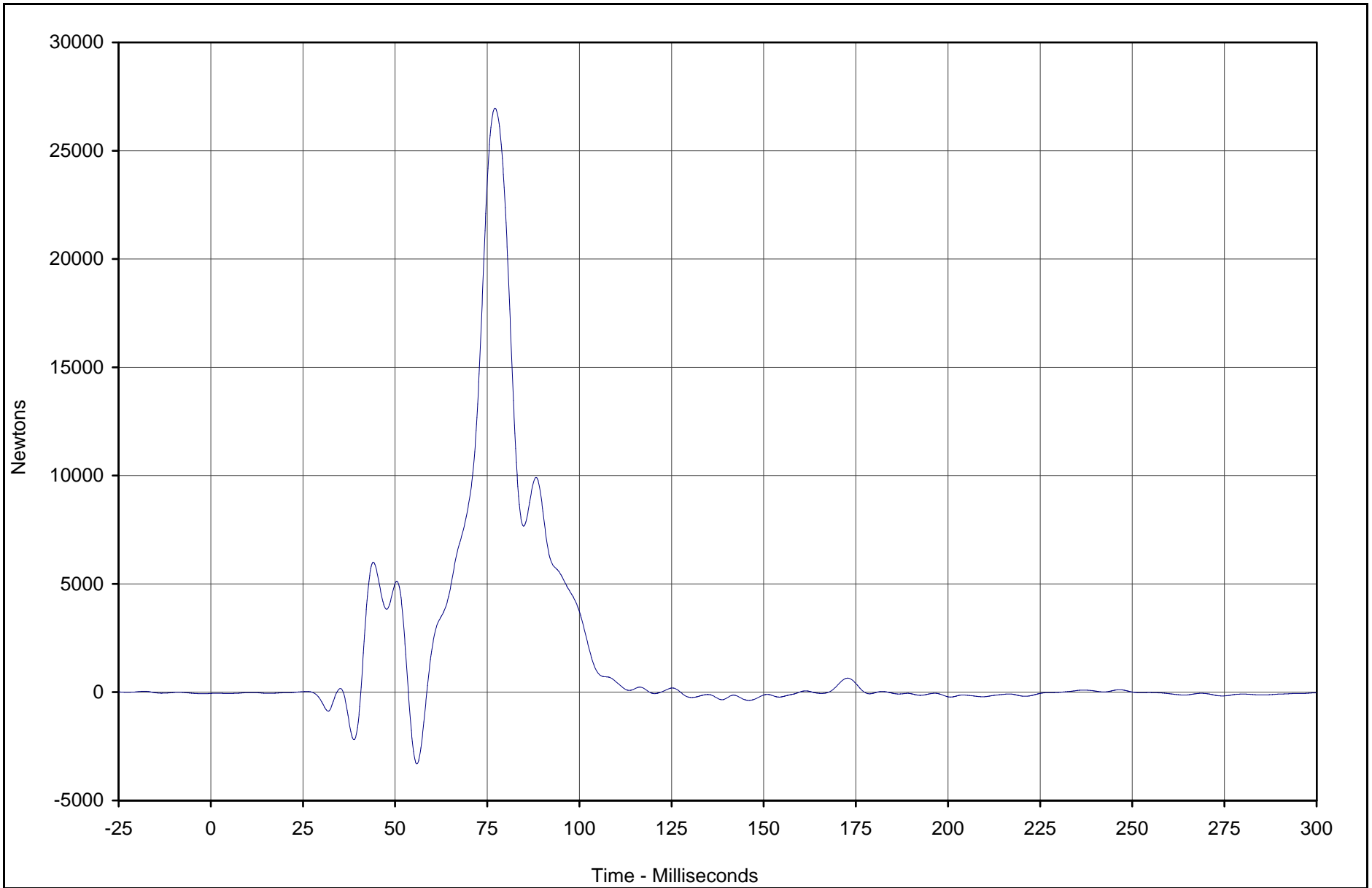
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-31



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D4	128	FIL	Newtons	26959.8	77.1	-3308.4	55.9	60



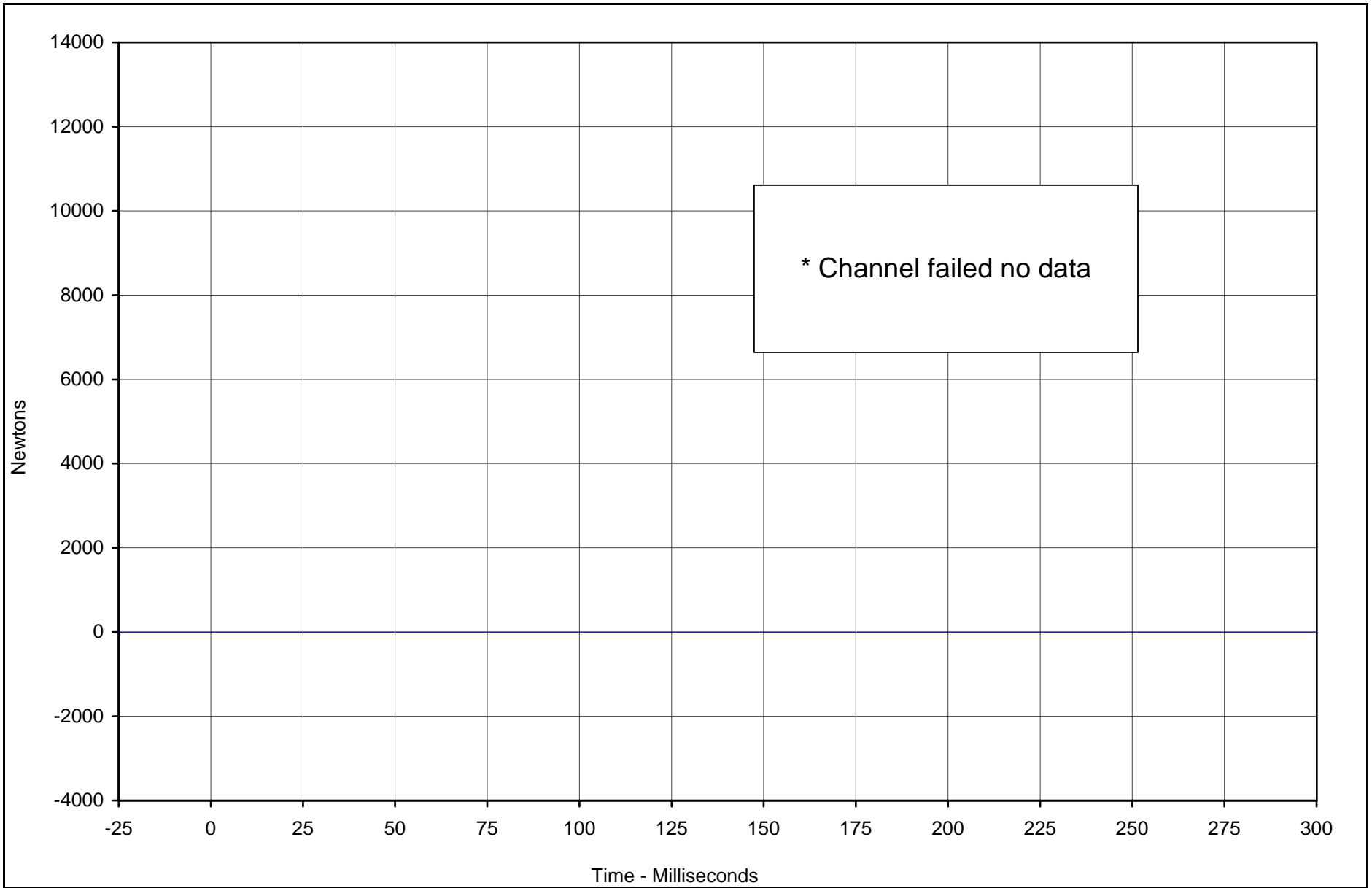
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-32



* Channel failed no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D5	129	FIL	Newtons	0.0	0.0	0.0	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

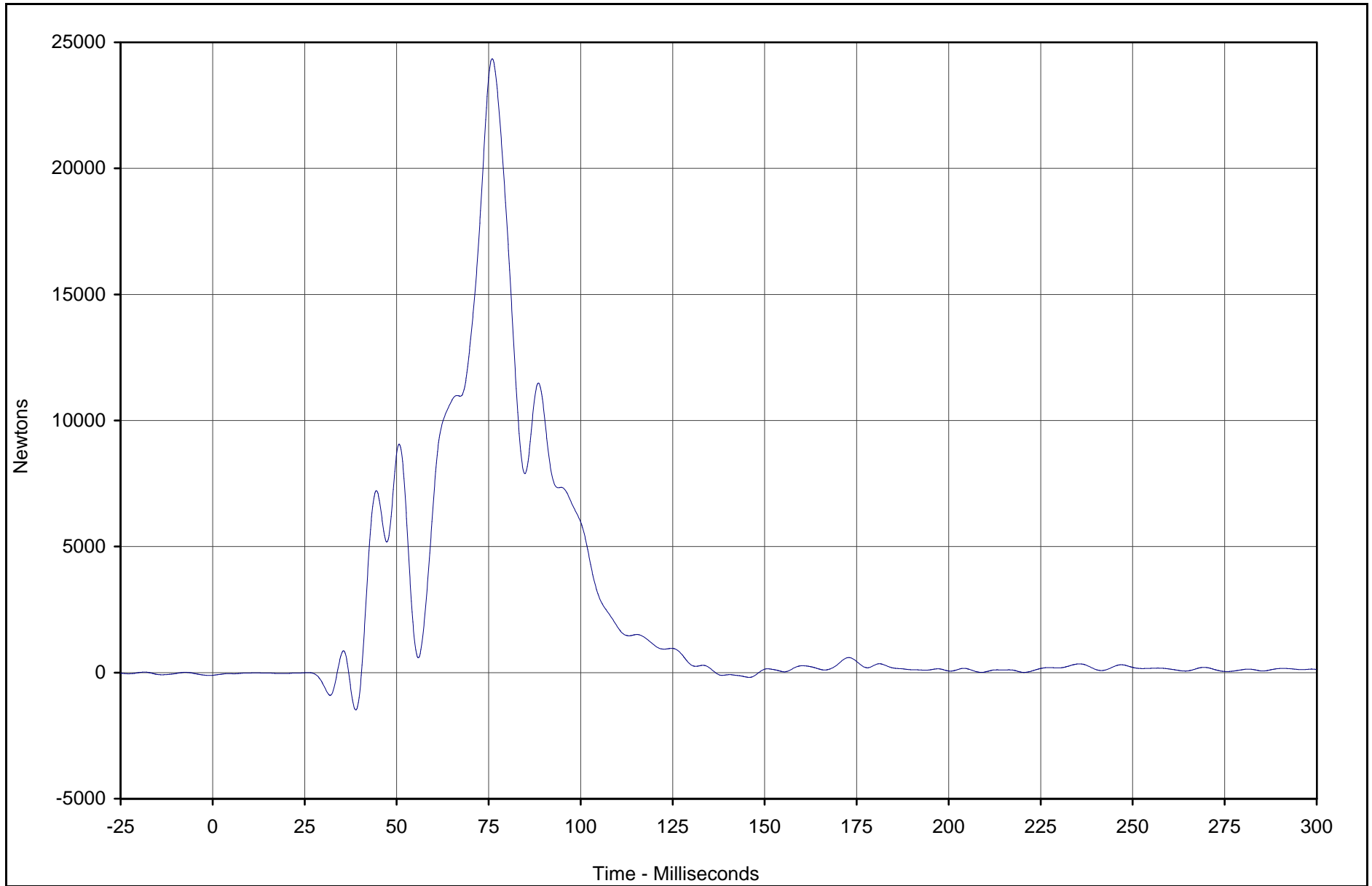
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

C-33



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D6	130	FIL	Newtons	24348.8	76.0	-1478.7	38.9	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

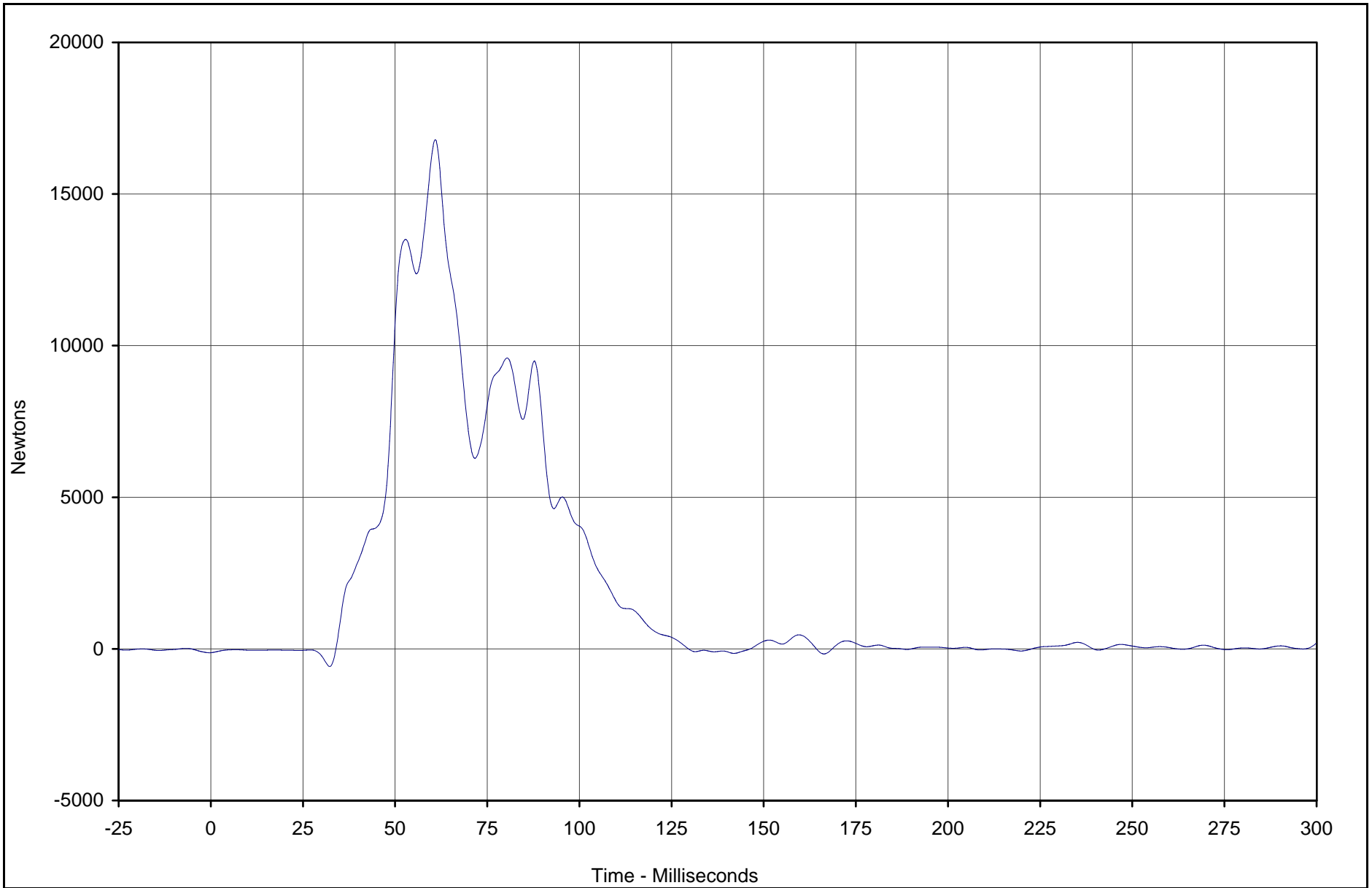
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-34



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D7	131	FIL	Newtons	16792.3	60.9	-581.7	32.3	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

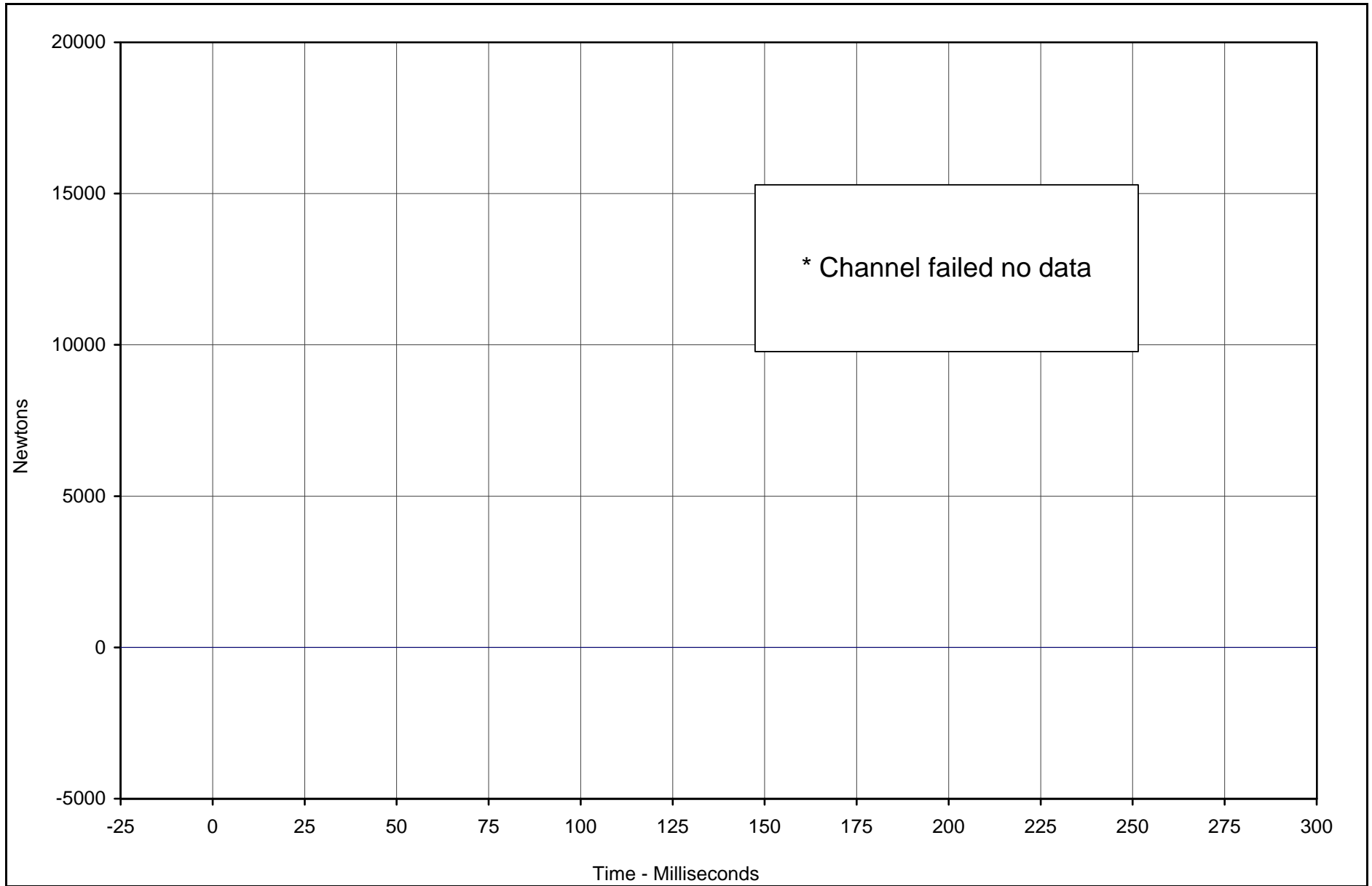
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-35



* Channel failed no data

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D8	132	FIL	Newtons	0.0	0.0	0.0	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

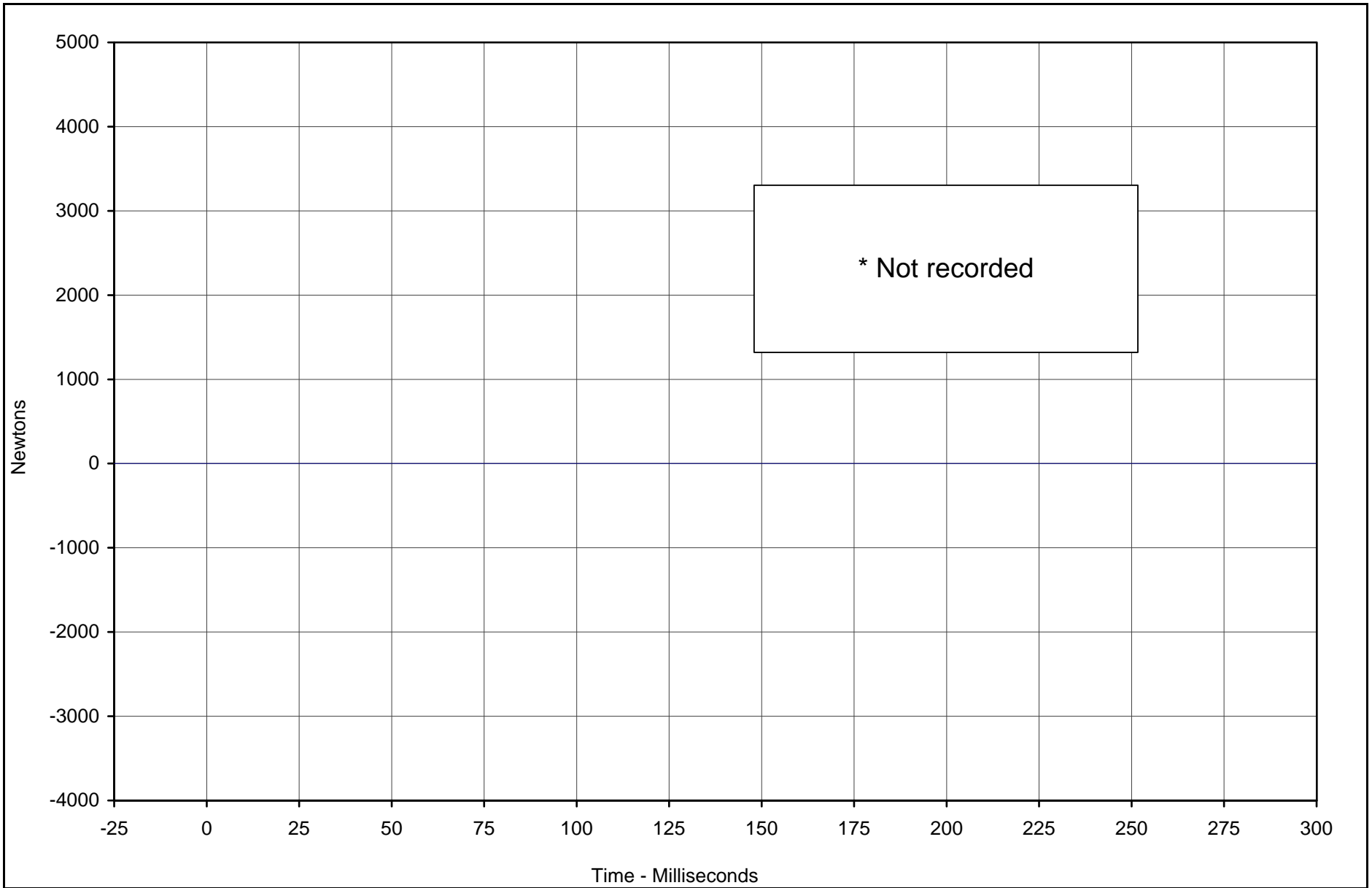
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-36



* Not recorded

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D9	133	FIL	Newtons	0.0	0.0	0.0	0.0	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

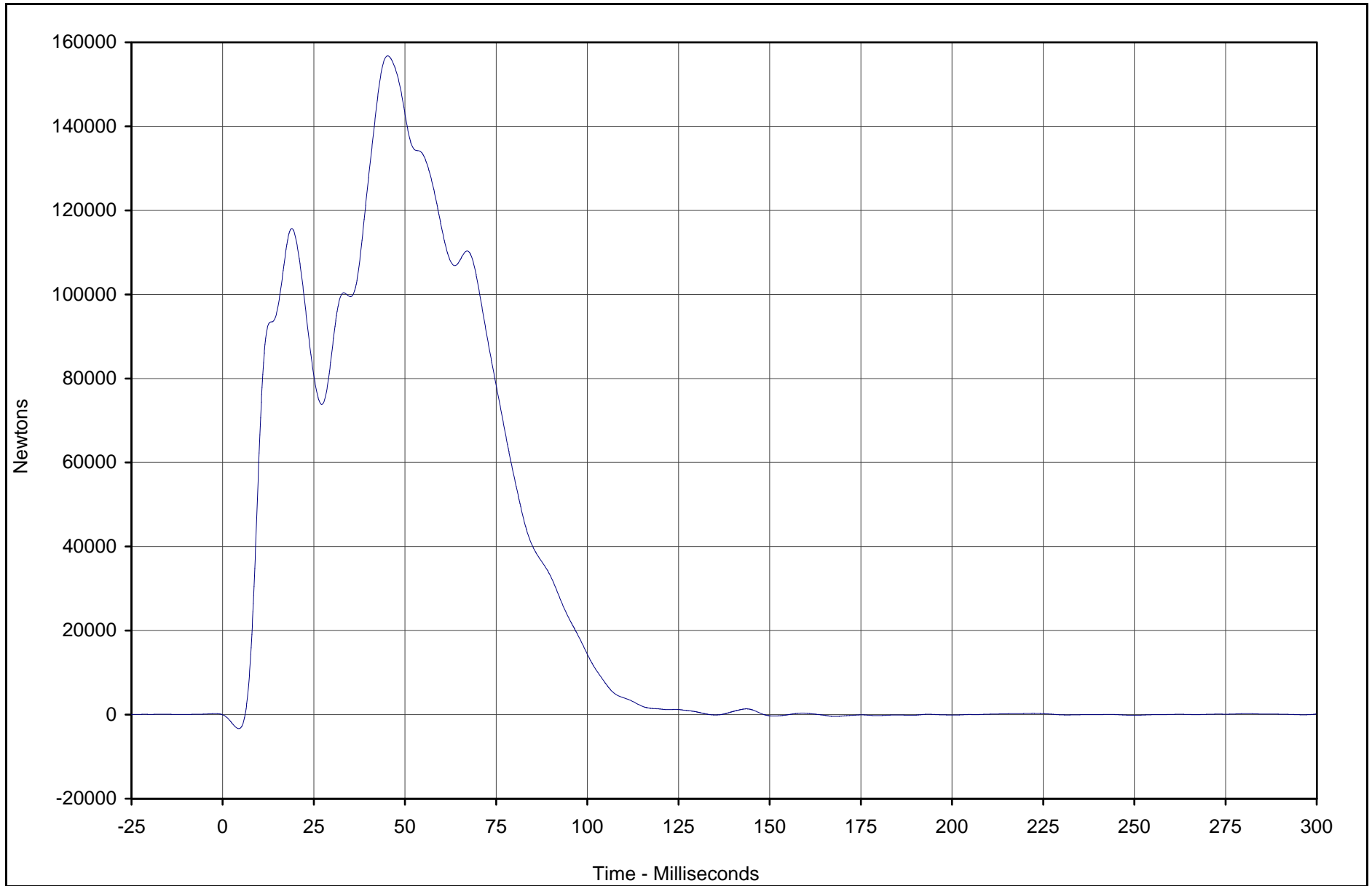
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-37



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 1	001	SUM	Newtons	156784.4	45.2	-3339.9	4.4	60



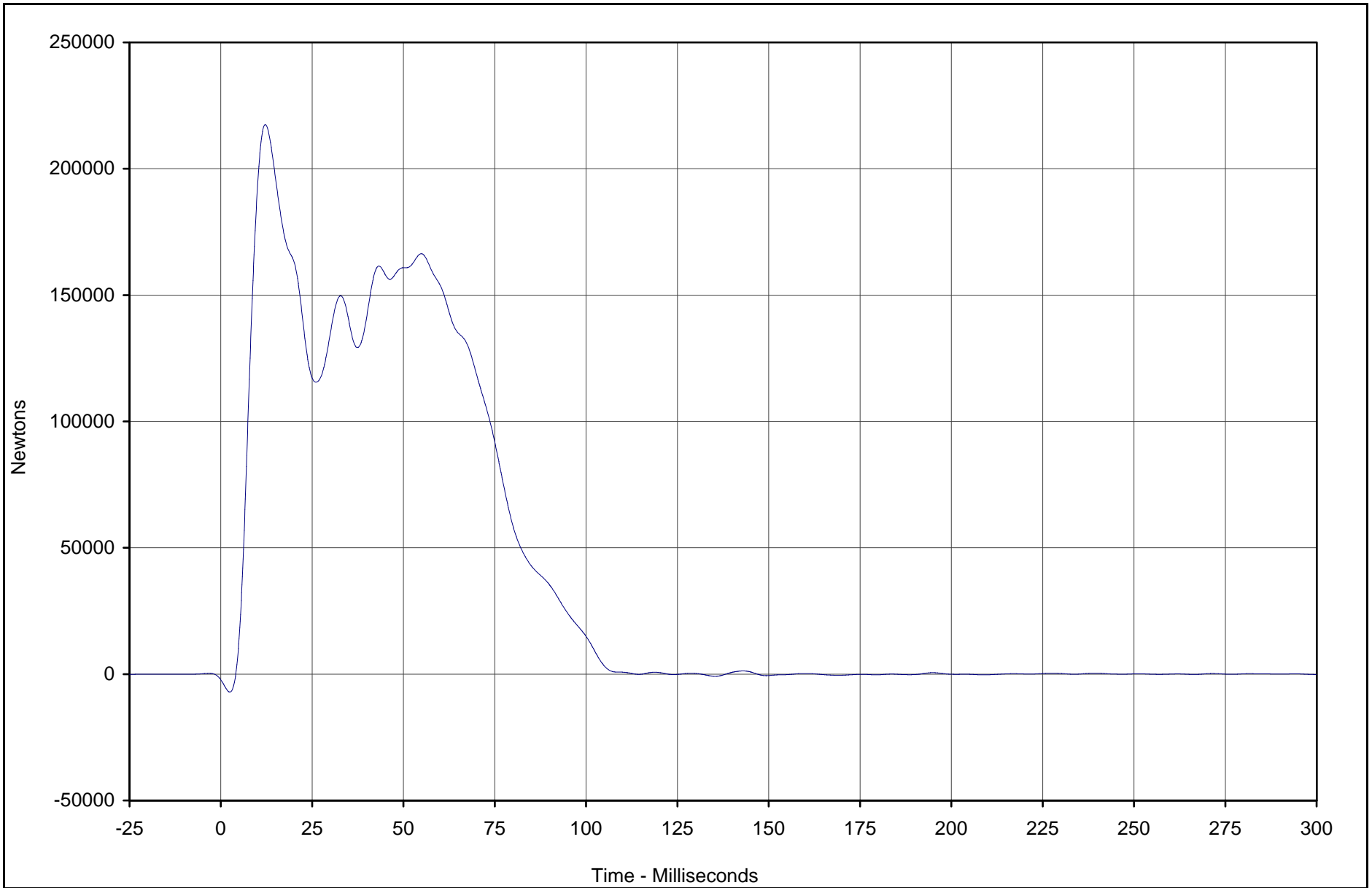
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-38



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 2	002	SUM	Newtons	217497.6	12.2	-7104.3	2.4	60



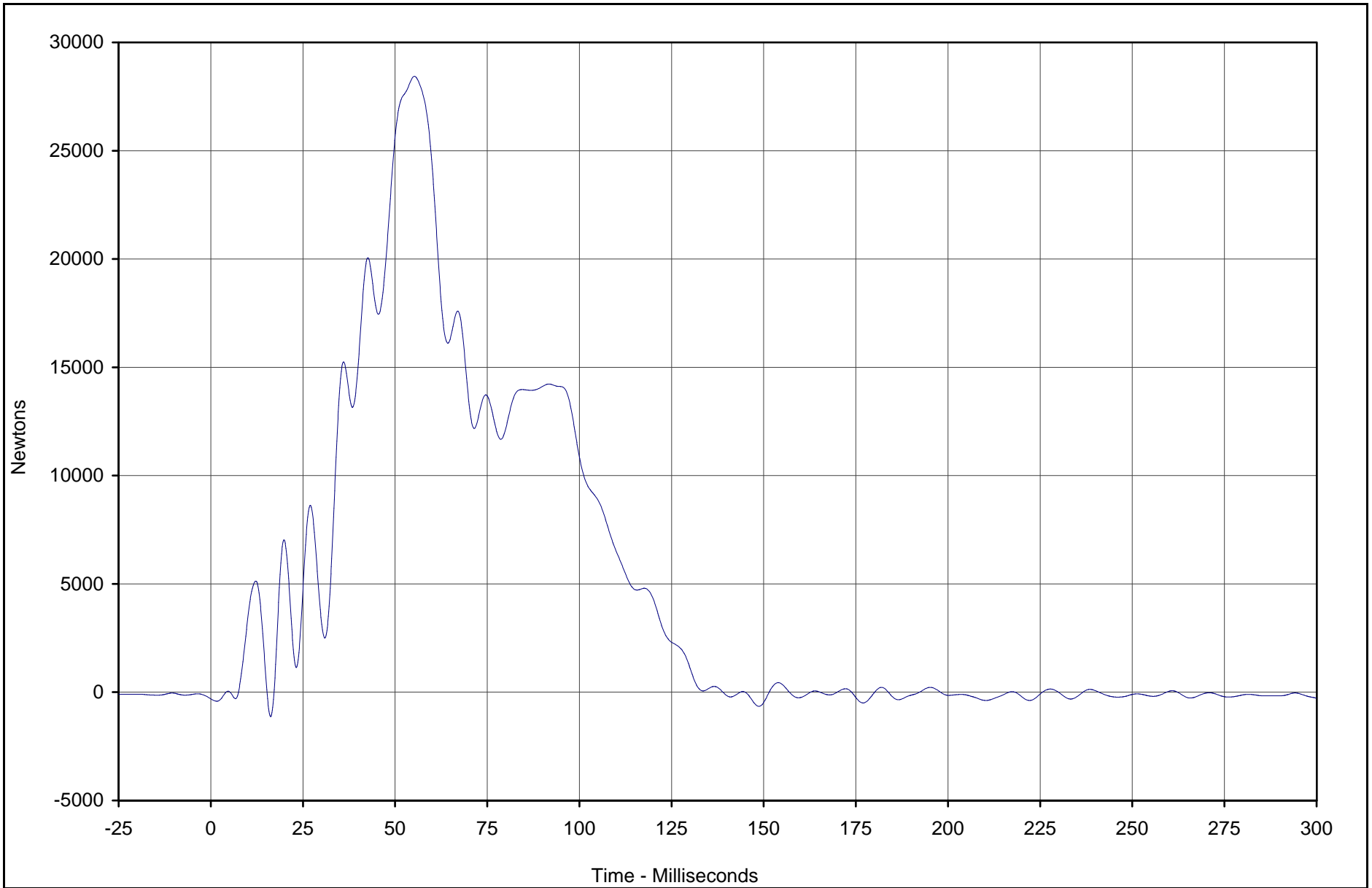
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-39



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 3	003	SUM	Newtons	28433.7	55.2	-1124.3	16.2	60



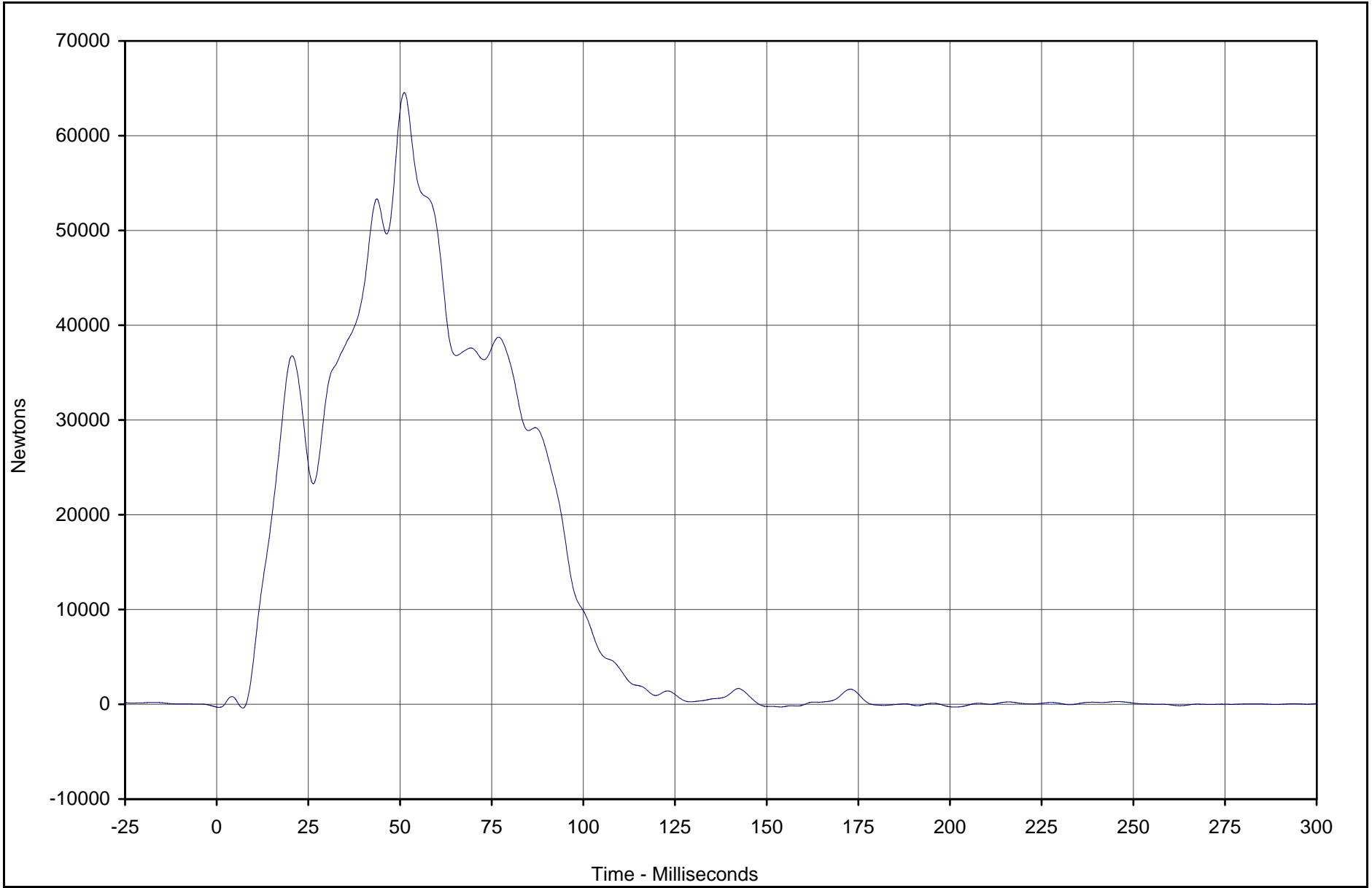
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-40



KARR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 4	004	SUM	Newtons	64548.3	51.2	-396.5	7.1	60



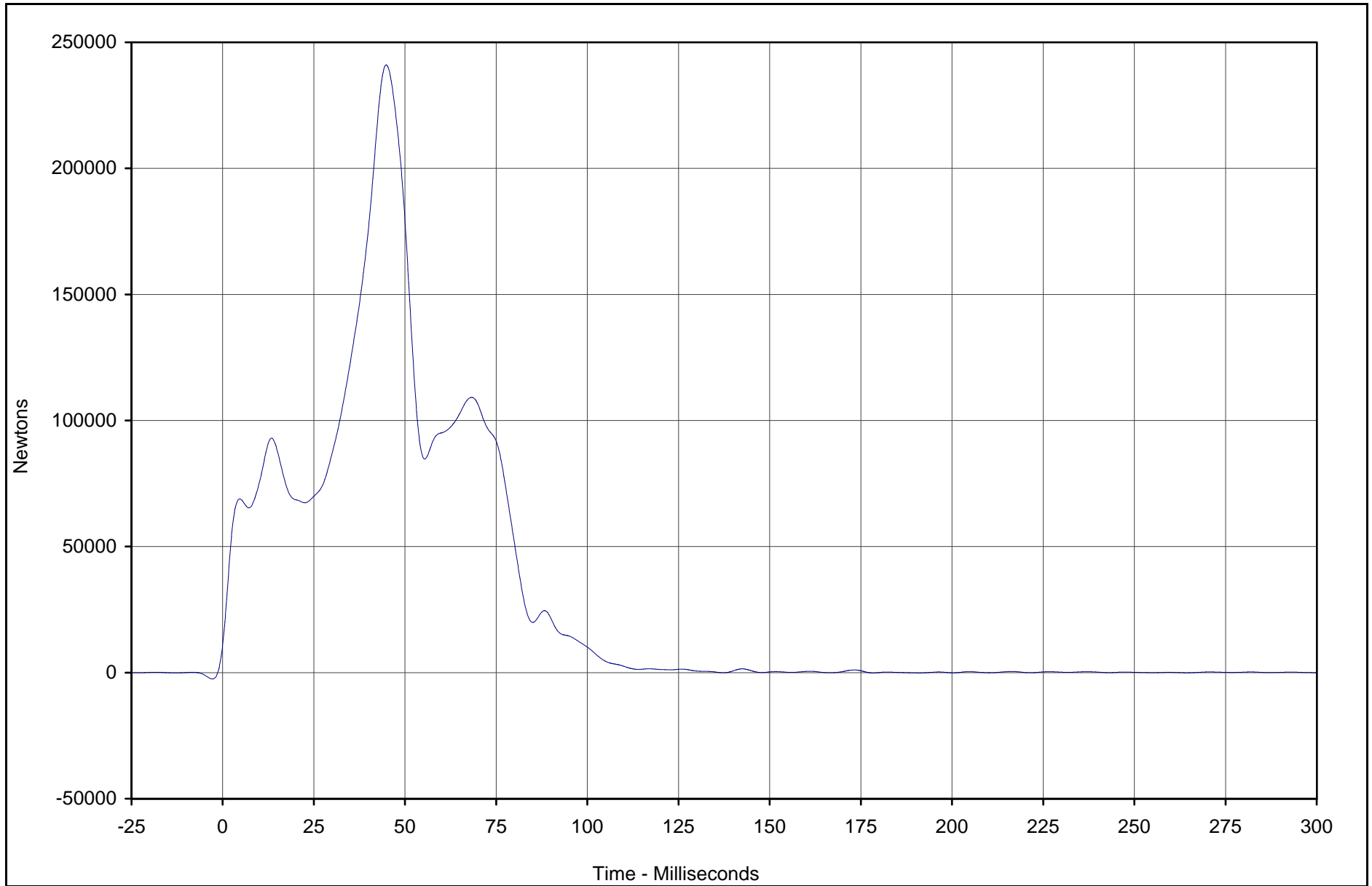
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-41



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 5	005	SUM	Newtons	241043.2	44.8	-155.2	178.4	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

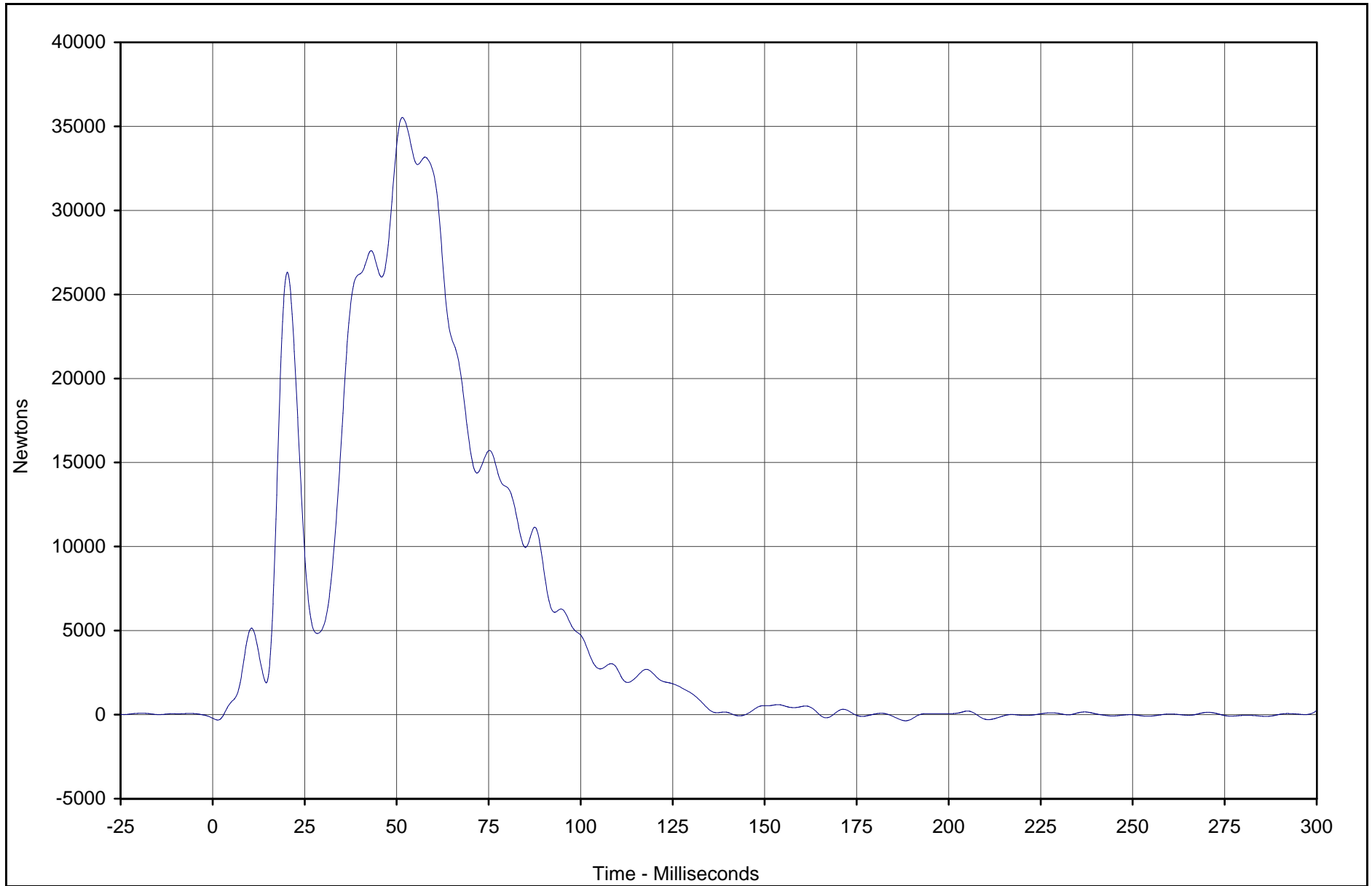
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KARR22001-09

C-42



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 6	006	SUM	Newtons	35525.3	51.6	-364.8	188.3	60



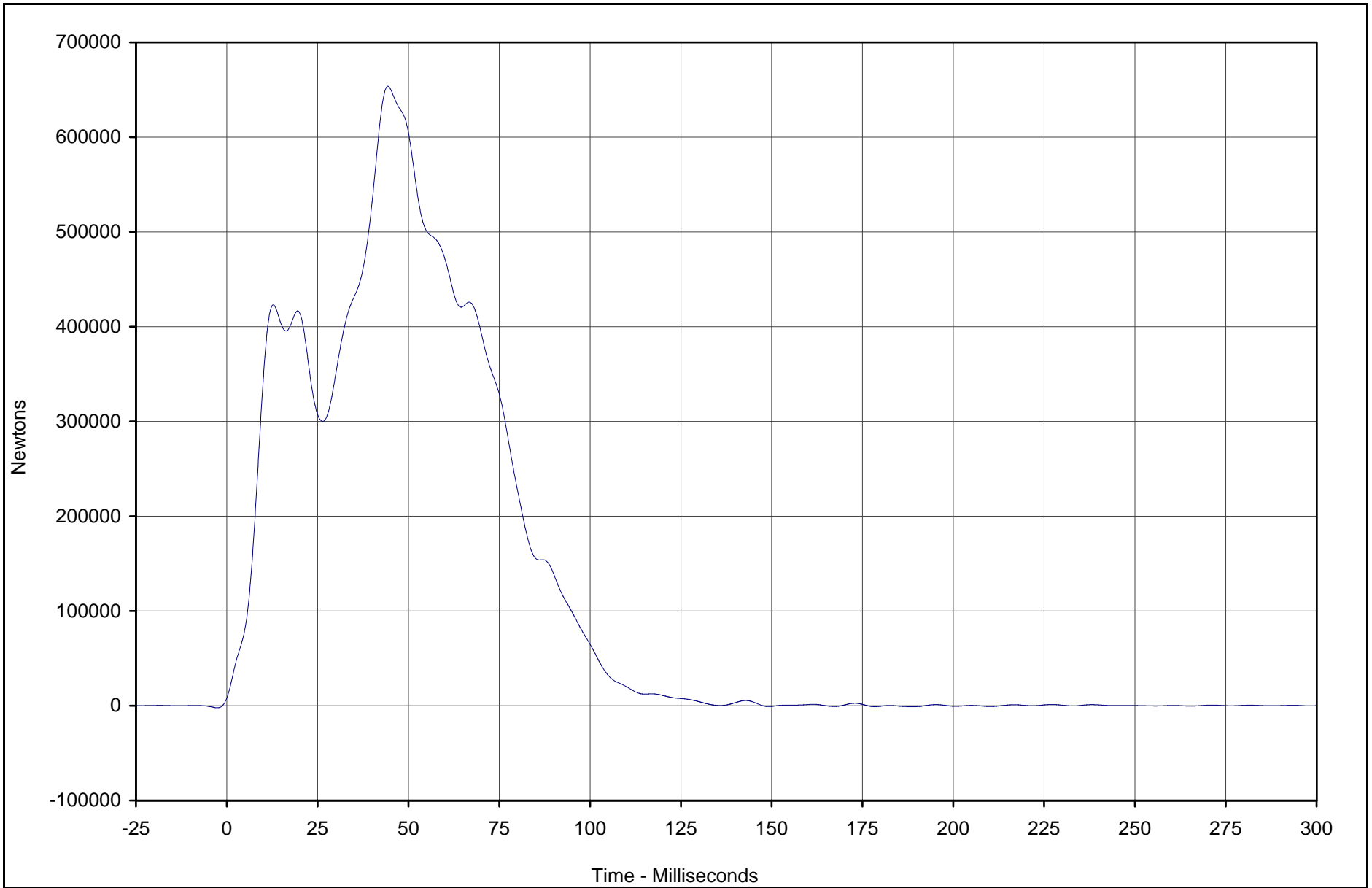
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-43



KAR22001-09

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Total Sum	007	SUM	Newtons	653726.6	44.3	-1009.2	188.7	60



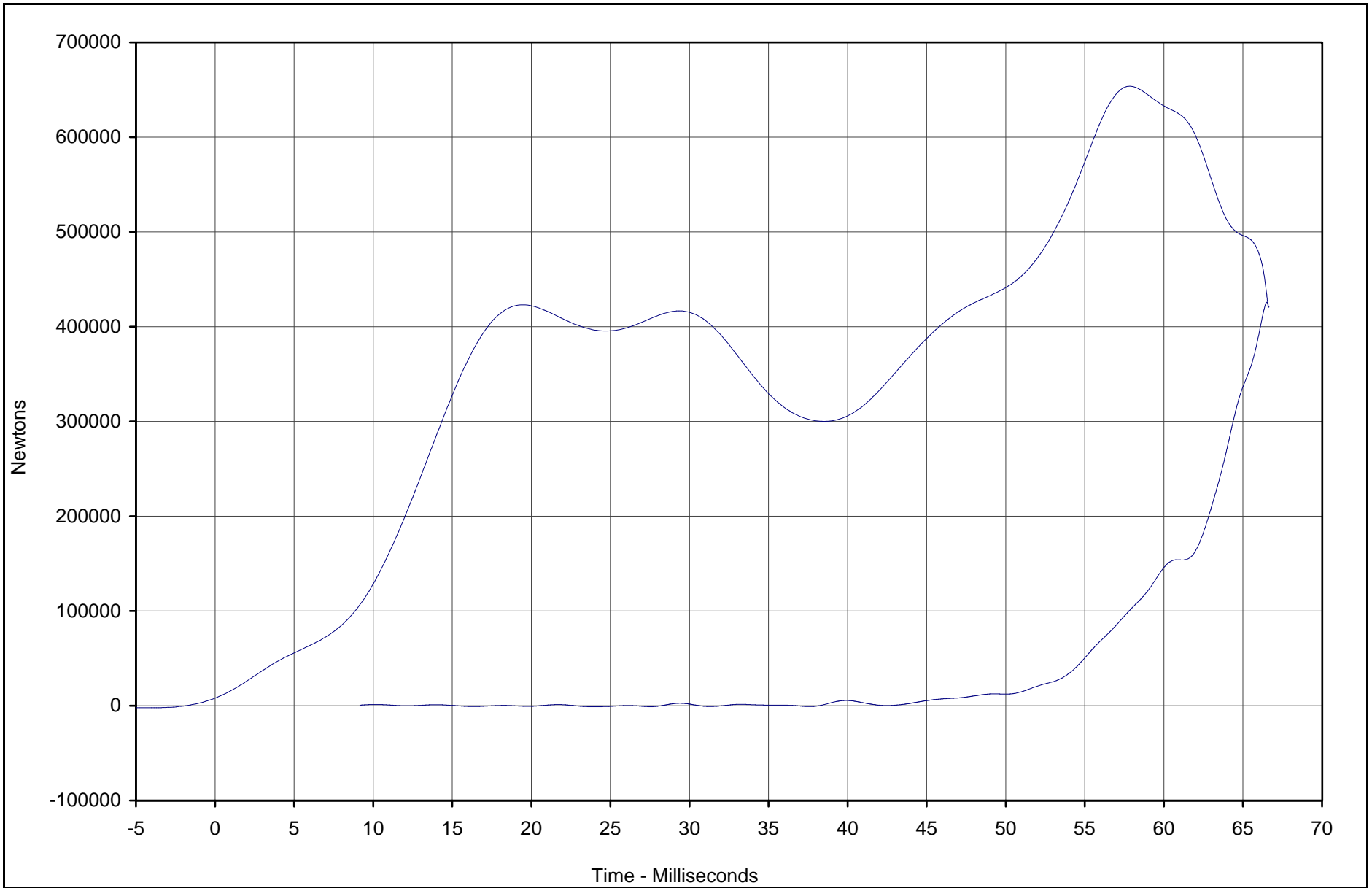
Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

C-44



KAR22001-09

Curve Description	CURNO	Type	Units	Max	CM	Energy (Joules)	SAE Class
Barrier Force Total Sum vs. Displ.	001	XVY	Newtons	653726.6	57.8	219156.7	60



Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2002 Nissan Xterra 4WD SUV

NHTSA No.: M25204

Test Program: 2002 NHTSA 35mph NCAP

Test Date: 5/16/02

Location	Units	Max	Time	Min	Time	
Barrier Force A1	Newtons	0.0	0.0	0.0	0.0	*
Barrier Force A2	Newtons	1990.0	40.7	-2982.8	18.4	
Barrier Force A3	Newtons	9542.7	31.9	-2208.2	51.7	
Barrier Force A4	Newtons	2905.5	12.2	-2787.8	16.8	
Barrier Force A5	Newtons	3362.7	12.3	-2790.8	16.7	
Barrier Force A6	Newtons	8439.3	41.6	-3476.8	17.5	
Barrier Force A7	Newtons	2450.5	13.2	-1175.6	39.0	
Barrier Force A8	Newtons	2384.8	57.7	-1075.2	16.8	
Barrier Force A9	Newtons	2794.5	27.4	-1305.3	22.9	
Barrier Force B1	Newtons	0.0	0.0	0.0	0.0	*
Barrier Force B2	Newtons	13594.7	49.2	-998.0	7.7	
Barrier Force B3	Newtons	144791.1	45.5	-2557.9	4.4	
Barrier Force B4	Newtons	86529.9	10.7	-2830.9	2.7	
Barrier Force B5	Newtons	4168.1	12.6	-1032.0	38.3	
Barrier Force B6	Newtons	143362.3	16.6	-3143.2	2.3	
Barrier Force B7	Newtons	7360.4	44.4	-316.7	1.8	
Barrier Force B8	Newtons	15688.0	52.9	-600.0	16.0	
Barrier Force B9	Newtons	2888.3	52.9	-1395.9	14.1	
Barrier Force C1	Newtons	0.0	0.0	0.0	0.0	*
Barrier Force C2	Newtons	14567.2	45.2	-909.6	26.4	
Barrier Force C3	Newtons	36569.1	55.4	-172.6	170.6	
Barrier Force C4	Newtons	73102.1	45.4	-180.3	171.1	
Barrier Force C5	Newtons	134469.0	45.2	-108.1	114.3	
Barrier Force C6	Newtons	22365.7	14.8	-106.0	114.6	
Barrier Force C7	Newtons	23659.8	20.6	-263.1	1.2	
Barrier Force C8	Newtons	5699.8	50.8	-396.8	7.2	
Barrier Force C9	Newtons	902.4	25.8	-1359.1	47.4	
Barrier Force D1	Newtons	0.0	0.0	0.0	0.0	*
Barrier Force D2	Newtons	16986.4	86.8	-1276.7	38.7	
Barrier Force D3	Newtons	19087.3	75.7	-903.5	32.4	
Barrier Force D4	Newtons	26959.8	77.1	-3308.4	55.9	
Barrier Force D5	Newtons	0.0	0.0	0.0	0.0	**
Barrier Force D6	Newtons	24348.8	76.0	-1478.7	38.9	
Barrier Force D7	Newtons	16792.3	60.9	-581.7	32.3	
Barrier Force D8	Newtons	0.0	0.0	0.0	0.0	**
Barrier Force D9	Newtons	0.0	0.0	0.0	0.0	*
Barrier Force Sum Group 1	Newtons	156784.4	45.2	-3339.9	4.4	
Barrier Force Sum Group 2	Newtons	217497.6	12.2	-7104.3	2.4	
Barrier Force Sum Group 3	Newtons	28433.7	55.2	-1124.3	16.2	
Barrier Force Sum Group 4	Newtons	64548.3	51.2	-396.5	7.1	
Barrier Force Sum Group 5	Newtons	241043.2	44.8	-155.2	178.4	
Barrier Force Sum Group 6	Newtons	35525.3	51.6	-364.8	188.3	
Barrier Force Total Sum	Newtons	653726.6	44.3	-1009.2	188.7	

* Not recorded

** Channels failed, no data

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	KEAC039	Accel.,1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	KEAC038	Accel.,1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	KEAC027	Accel.,1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	KEAC031	Accel.,1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	KEAC032	Accel.,1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	KEAC026	Accel.,1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
11	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
12	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
13	CHEST , PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST , PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST , PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST , REDUNDANT	X	KEAC023	Accel.,1/2 bridge	Endevco	7264-200	G
17	CHEST , REDUNDANT	Y	KEAC022	Accel.,1/2 bridge	Endevco	7264-200	G
18	CHEST , REDUNDANT	Z	KEAC024	Accel.,1/2 bridge	Endevco	7264-200	G
19	CHEST DISPLACEMENT	X	GPCP001	Rotary Pot Chest	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	KEAC019	Accel.,1/2 bridge	Endevco	7264-200	G
21	PELVIS, PRIMARY	Y	KEAC020	Accel.,1/2 bridge	Endevco	7264-200	G
22	PELVIS, PRIMARY	Z	KEAC021	Accel.,1/2 bridge	Endevco	7264-200	G
23	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
26	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
29	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
30	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
31	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
32	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
33	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
34	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
35	FOOT LEFT, AFT	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	KELC003	Load cell, Seat belt	Lebow	3371	N
42	SHOULDER BELT FORCE	X	KELC004	Load cell, Seat belt	Lebow	3371	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	CM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
55	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
56	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
57	CHEST , PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST , PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST , PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST , REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
61	CHEST , REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
62	CHEST , REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
63	CHEST DISPLACEMENT	X	GPCP002	Rotary Pot Chest	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
65	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
66	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
67	LEFT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	KEFF004	Load cell, Femur	R.A. Denton	2121	N

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
70	UP. TIBIA LEFT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
71	UP. TIBIA RIGHT MOM.	X	GPUT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
72	UP. TIBIA RIGHT MOM.	Y	GPUT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
73	LWR. TIBIA LEFT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
74	LWR. TIBIA LEFT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
75	LWR. TIBIA LEFT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
76	LWR. TIBIA RIGHT MOM.	X	GPLT09MX	3 ch., lower tibia gage	R. A. Denton	3093	Nm
77	LWR. TIBIA RIGHT MOM.	Y	GPLT09MY	3 ch., lower tibia gage	R. A. Denton	3093	Nm
78	LWR. TIBIA RIGHT FORCE	Z	GPLT09FZ	3 ch., lower tibia gage	R. A. Denton	3093	N
79	FOOT LEFT, AFT	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT, AFT	Z	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT, FORE	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT, AFT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT, AFT	Z	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT, FORE	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	KELC001	Load cell, Seat belt	Lebow	3371	N
86	SHOULDER BELT FORCE	X	KELC002	Load cell, Seat belt	Lebow	3371	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
89	Left Rear	X	KEVA002	Accel., Pre-Amp	I.C.S/Karco	3031-500	G
90	Right Rear	X	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
91	Engine Top	X	KEVA012	Accel., Vehicle block	I.C. Sensor	3031-500	G
92	Engine Bottom	X	KEVA008	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	Left Brake Caliper	X	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	Right Brake Caliper	X	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G
95	Instrument Panel	X	KEVA012	Accel., Vehicle block	I.C. Sensor	3031-500	G
96	Left Rear	Z	KEVA005	Accel., Vehicle block	I.C. Sensor	3031-500	G
97	Right Rear	Z	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-200	G

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
98	BARRIER FORCE A1	X	BARRIER	Not Used	N/A	N/A	N/A
99	BARRIER FORCE A2	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
100	BARRIER FORCE A3	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
101	BARRIER FORCE A4	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
102	BARRIER FORCE A5	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
103	BARRIER FORCE A6	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
104	BARRIER FORCE A7	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
105	BARRIER FORCE A8	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
106	BARRIER FORCE A9	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
107	BARRIER FORCE B1	X	BARRIER	Not Used	N/A	N/A	N/A
108	BARRIER FORCE B2	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
109	BARRIER FORCE B3	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
110	BARRIER FORCE B4	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
111	BARRIER FORCE B5	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
112	BARRIER FORCE B6	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
113	BARRIER FORCE B7	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
114	BARRIER FORCE B8	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
115	BARRIER FORCE B9	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
116	BARRIER FORCE C1	X	BARRIER	Not Used	N/A	N/A	N/A
117	BARRIER FORCE C2	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
118	BARRIER FORCE C3	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
119	BARRIER FORCE C4	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
120	BARRIER FORCE C5	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
121	BARRIER FORCE C6	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
122	BARRIER FORCE C7	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
123	BARRIER FORCE C8	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
124	BARRIER FORCE C9	X	BARRIER	Load Cell, LCB	Lebow	1220-FS	N
125	BARRIER FORCE D1	X	BARRIER	Not Used	N/A	N/A	N/A
126	BARRIER FORCE D2	X	BARRIER	Not Used	N/A	N/A	N/A
127	BARRIER FORCE D3	X	BARRIER	Not Used	N/A	N/A	N/A
128	BARRIER FORCE D4	X	BARRIER	Not Used	N/A	N/A	N/A
129	BARRIER FORCE D5	X	BARRIER	Not Used	N/A	N/A	N/A
130	BARRIER FORCE D6	X	BARRIER	Not Used	N/A	N/A	N/A
131	BARRIER FORCE D7	X	BARRIER	Not Used	N/A	N/A	N/A
132	BARRIER FORCE D8	X	BARRIER	Not Used	N/A	N/A	N/A
133	BARRIER FORCE D9	X	BARRIER	Not Used	N/A	N/A	N/A

**2002 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Nine Accelerometer Head Array Channels
5/16/02
2002 Nissan Xterra 4WD SUV**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
134	Driver Head CG	X	KEAC039	Accel., 1/2 bridge	Endevco	7264-2000	G *
135	Driver Head CG	Y	KEAC038	Accel., 1/2 bridge	Endevco	7264-2000	G *
136	Driver Head CG	Z	KEAC027	Accel., 1/2 bridge	Endevco	7264-2000	G *
137	Driver Y-arm	Z	GPAC016	Accel., 1/2 bridge	Endevco	7264-2000	G
138	Driver Y-arm	X	GPAC015	Accel., 1/2 bridge	Endevco	7264-2000	G
139	Driver X-arm	Z	GPAC004	Accel., 1/2 bridge	Endevco	7264-2000	G
140	Driver X-arm	Y	GPAC018	Accel., 1/2 bridge	Endevco	7264-2000	G
141	Driver Z-arm	X	GPAC006	Accel., 1/2 bridge	Endevco	7264-2000	G
142	Driver Z-arm	Y	GPAC007	Accel., 1/2 bridge	Endevco	7264-2000	G
143	Passenger Head CG	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G *
144	Passenger Head CG	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G *
145	Passenger Head CG	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G *
146	Passenger Y-arm	Z	GPAC012	Accel., 1/2 bridge	Endevco	7264-2000	G
147	Passenger Y-arm	X	GPAC001	Accel., 1/2 bridge	Endevco	7264-2000	G
148	Passenger X-arm	Z	GPAC036	Accel., 1/2 bridge	Endevco	7264-2000	G
149	Passenger X-arm	Y	GPAC014	Accel., 1/2 bridge	Endevco	7264-2000	G
150	Passenger Z-arm	X	GPAC030	Accel., 1/2 bridge	Endevco	7264-2000	G
151	Passenger Z-arm	Y	GPAC037	Accel., 1/2 bridge	Endevco	7264-2000	G

* Duplicate of Head CG Primary Channels

APPENDIX E

DUMMY CALIBRATION DATA



Calibration Data Sheet Hybrid III 50th Percentile Male Knee Impact Test

ATD Serial No.: 034

Location: Left Knee

Test I.D.: LK01G

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	N	4715 to 5782	5717	Pass
Overall Test Results				Pass

ATD Serial No.: 034

Location: Right Knee

Test I.D.: RK01C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	N	4715 to 5782	5726	Pass
Overall Test Results				Pass

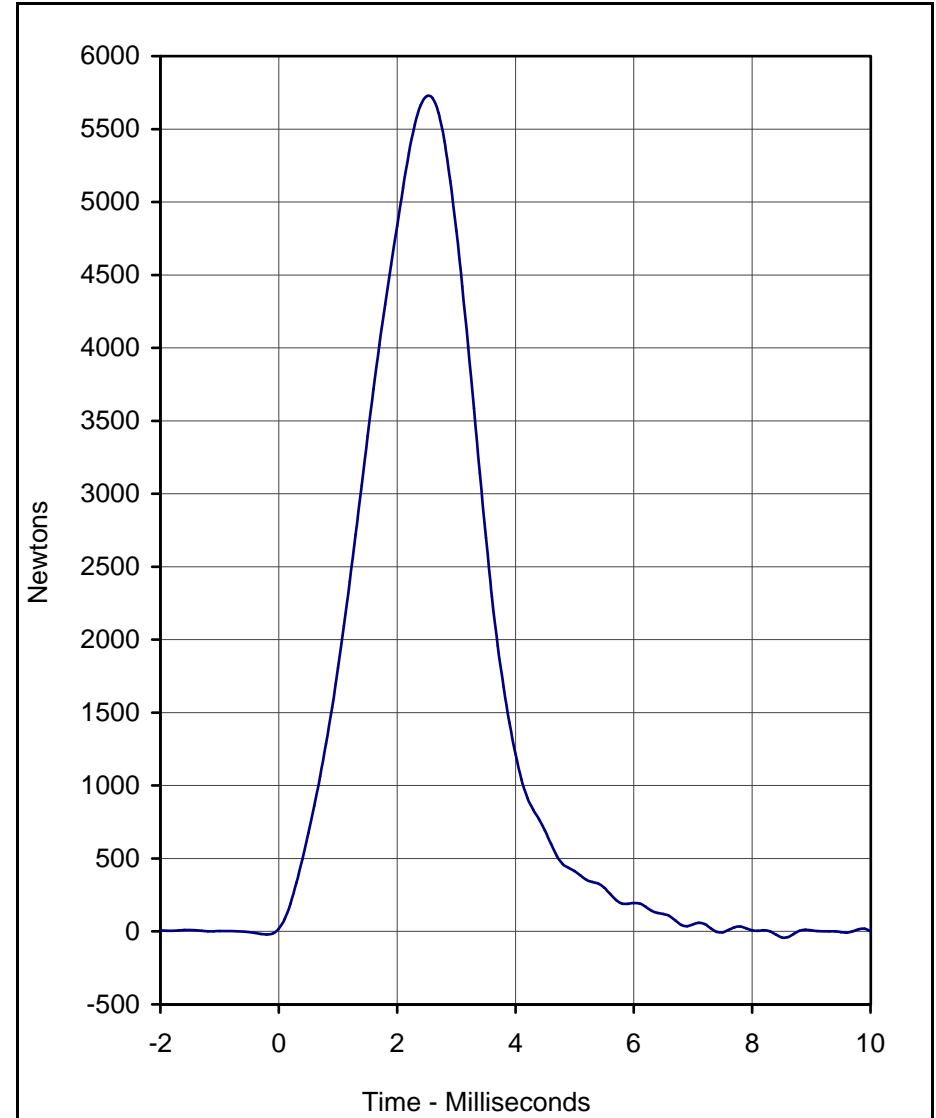
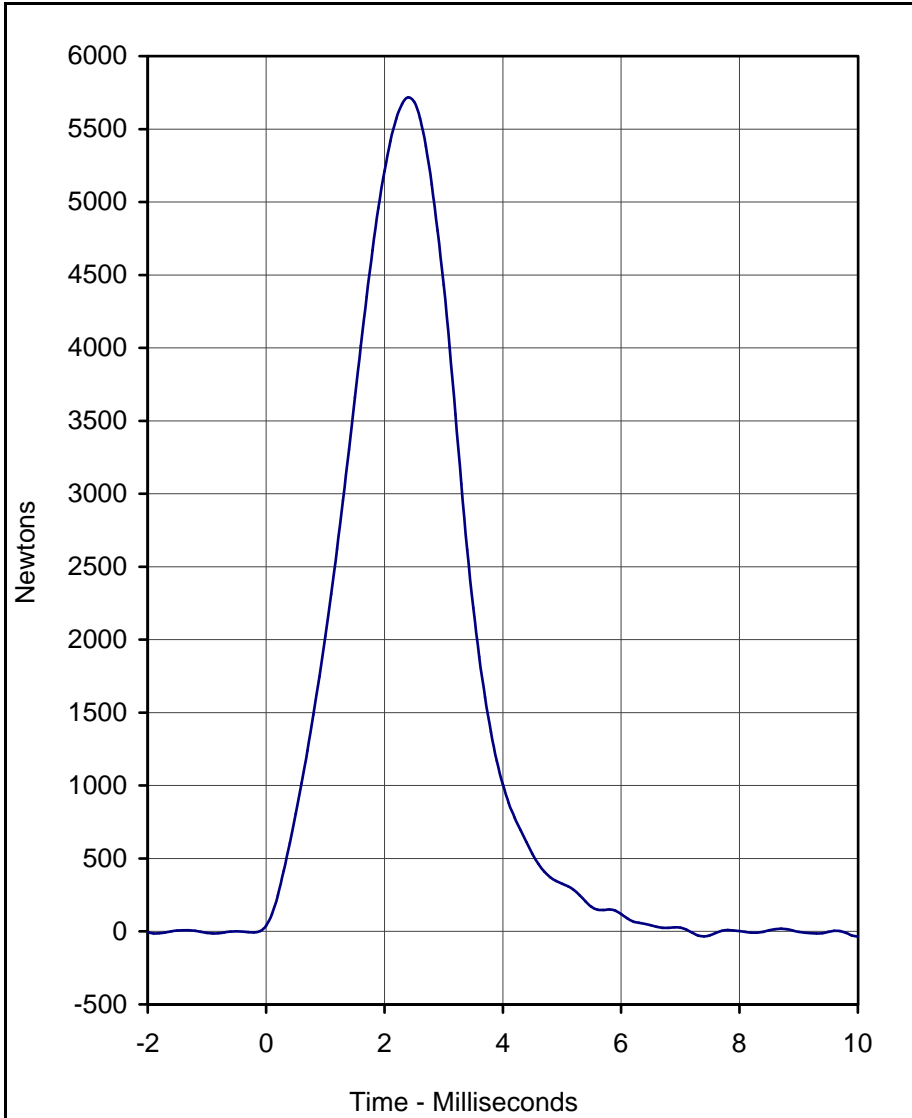
Laboratory Technician

May 14, 2002

Test Date

E-1

-KAR22001-09



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	LK01G	001	FIL

Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	RK01C	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5716.8	2.4	-36.3	10.0	600

Units	Max	Time	Min	Time	SAE Class
Newtons	5725.8	2.5	-41.8	8.5	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 5/14/02

A.T.D. Serial No.: 034





Calibration Data Sheet Hybrid III 50th Percentile Male Head Drop Test

ATD Serial No.: 034

Test I.D.: HD01E

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	228.7	Pass
Peak Lateral Acceleration	G's	≤15.0	5.9	Pass
Overall Test Results				Pass

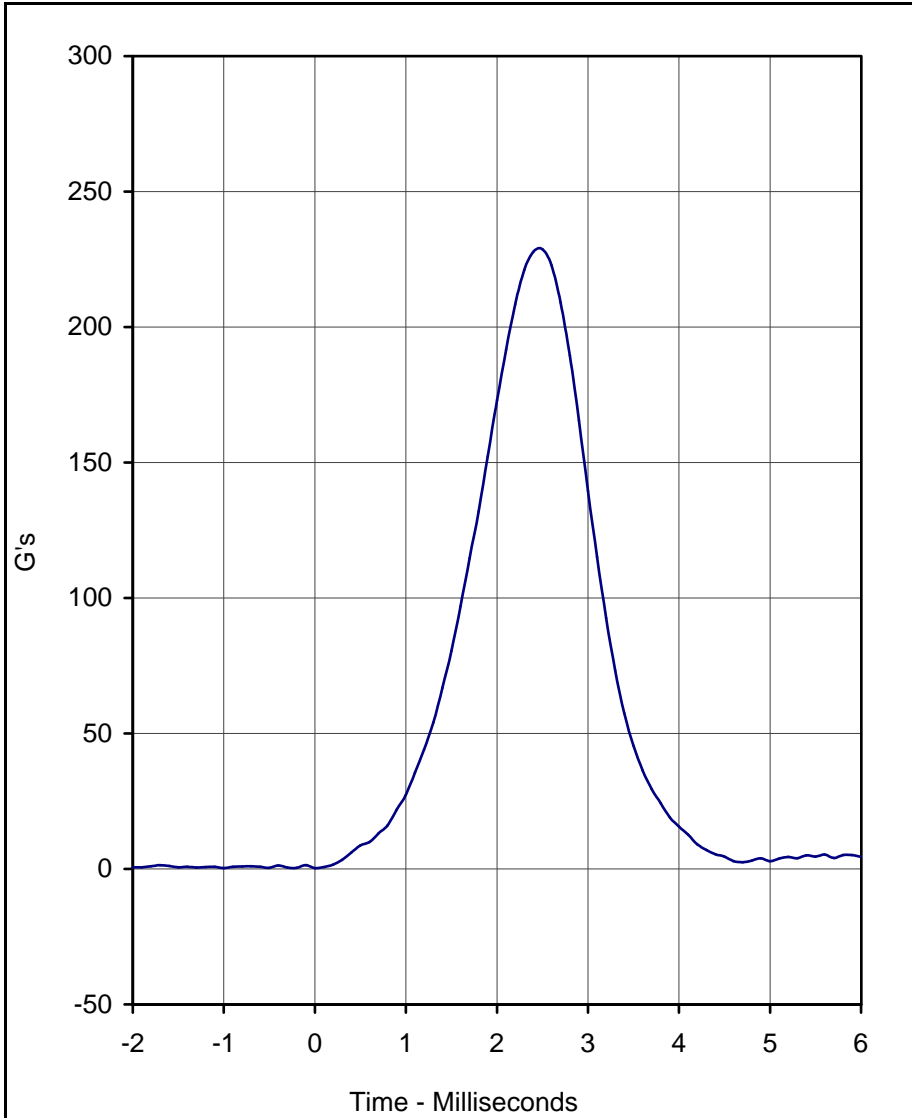
E-3

KAR22001-09

Laboratory Technician

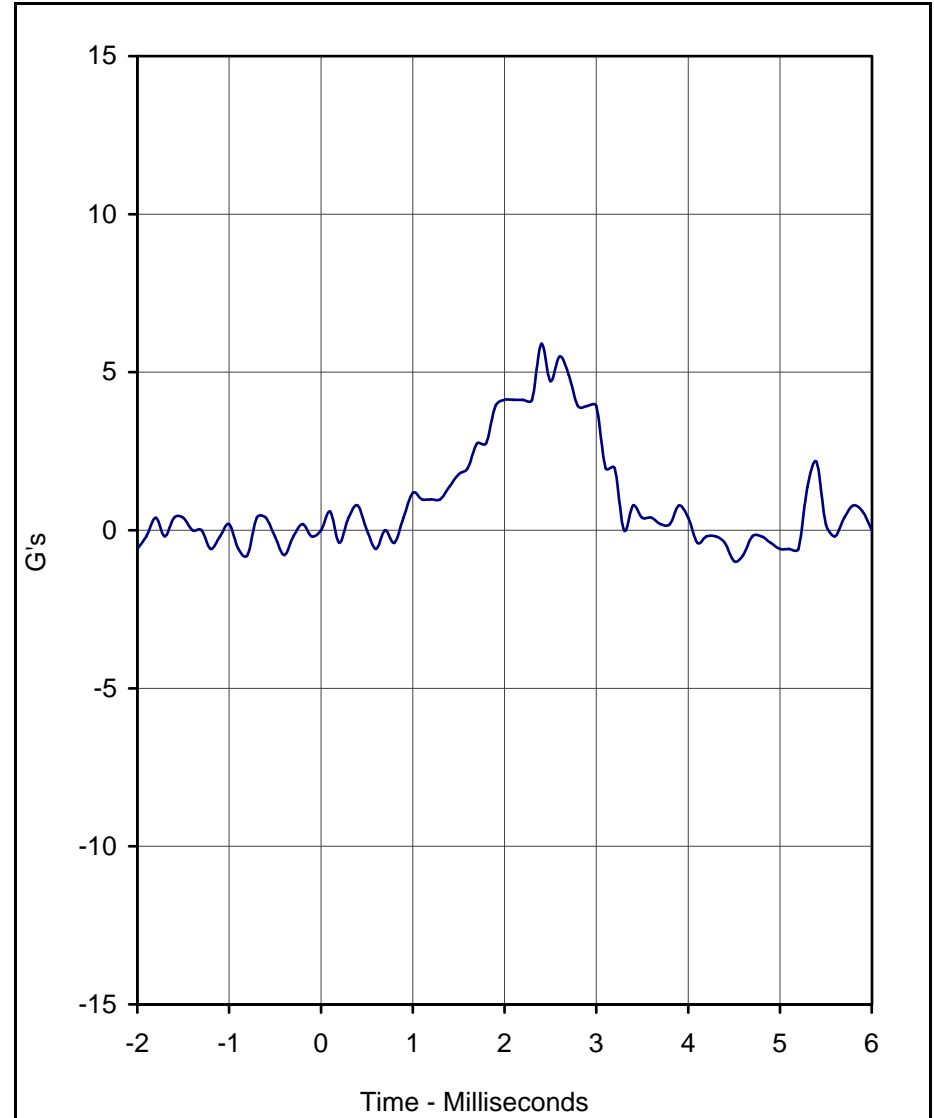
May 14, 2002

Test Date



Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	228.7	2.5	0.3	-1.0	1000



Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	5.9	2.4	-1.0	4.5	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 5/14/02

A.T.D. Serial No.: 034
 Test I.D.: HD01E





Calibration Data Sheet Hybrid III 50th Percentile Male Thorax Impact Test

ATD Serial No.: 034

Test I.D.: CH06A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.80	Pass
Peak Probe Force	Newtons	5159 to 5893	5502	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.98	Pass
Internal Hysteresis	%	69 to 85	75.3	Pass
Overall Test Results				Pass

E-5

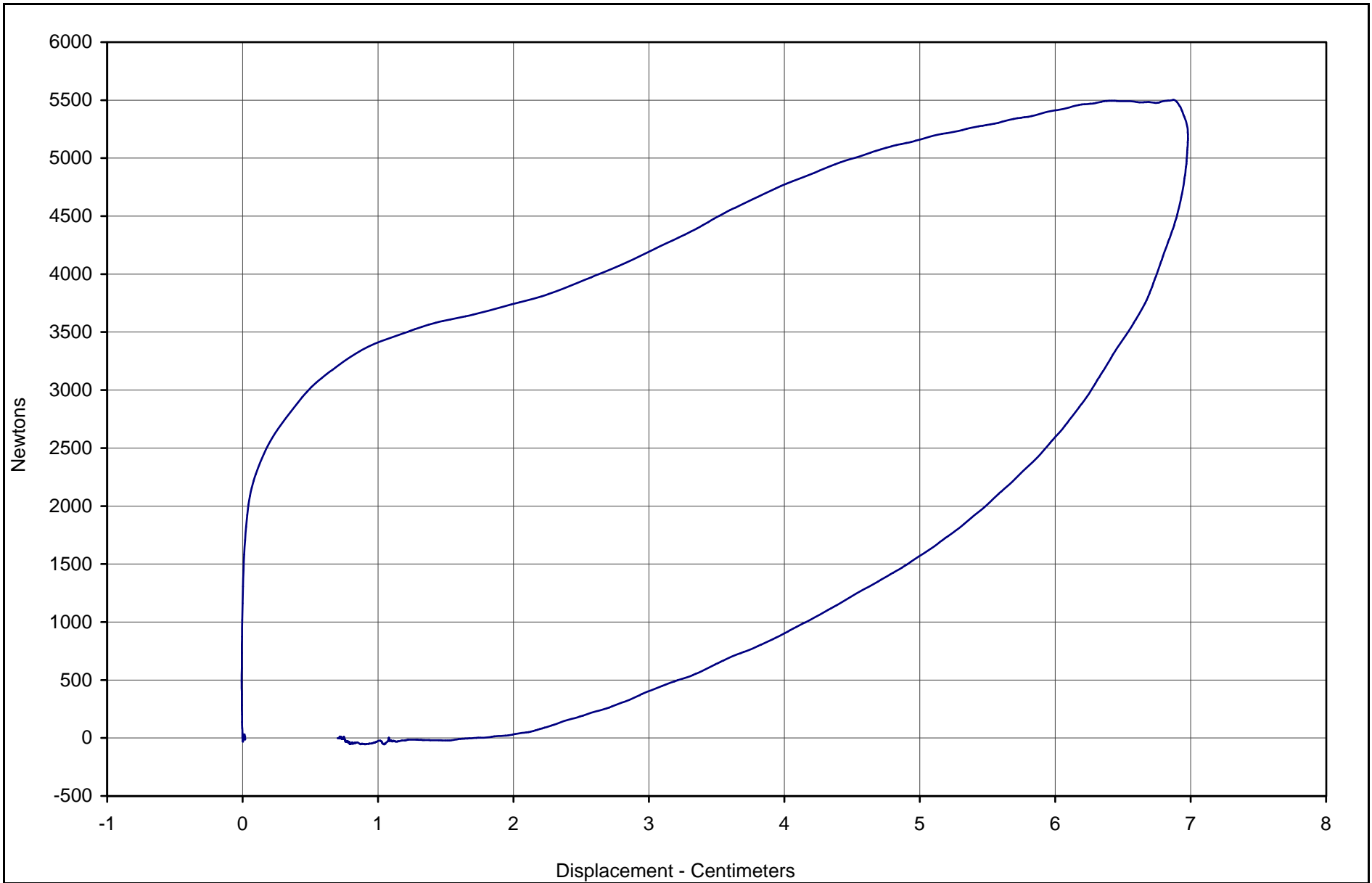
KAR22001-09

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May 15, 2002

Test Date

E-6



KAR22001-09

Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	75.3	6.98	5502.4	180



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 034

Test Date: 5/15/02

Test I.D.: CH06A



Calibration Data Sheet Hybrid III 50th Percentile Male Neck Flexion Test

ATD Serial No.: 034

Test I.D.: NF01A

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.05	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.3	Pass
	20 Msec.	G's	17.6 to 22.6	20.1	Pass
	30 Msec.	G's	12.5 to 18.5	16.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	19.6	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	34.4	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	73.6	Pass
	Time	Msec.	57.0 to 64.0	63.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	122.6	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	85.3	Pass
	Time	Msec.	47.0 to 58.0	54.1	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	99.5	Pass
Overall Test Results					Pass

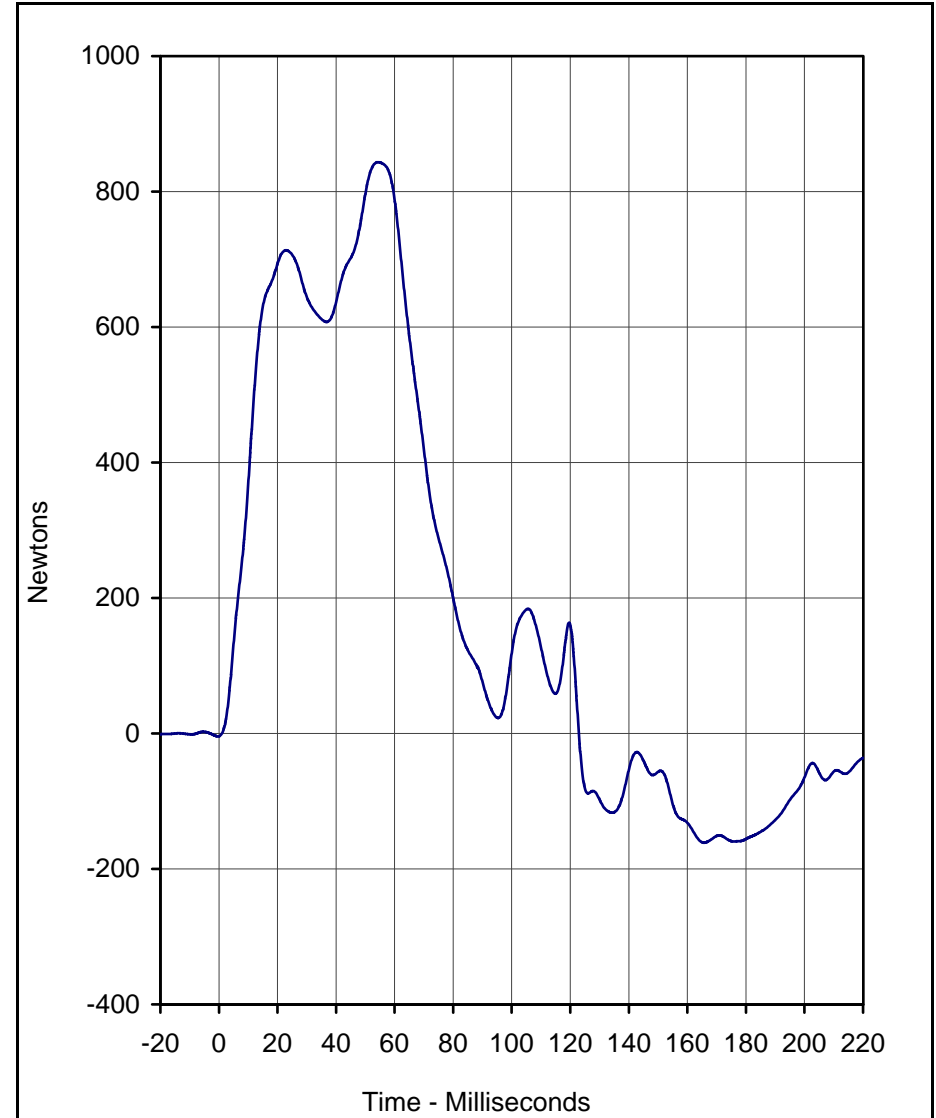
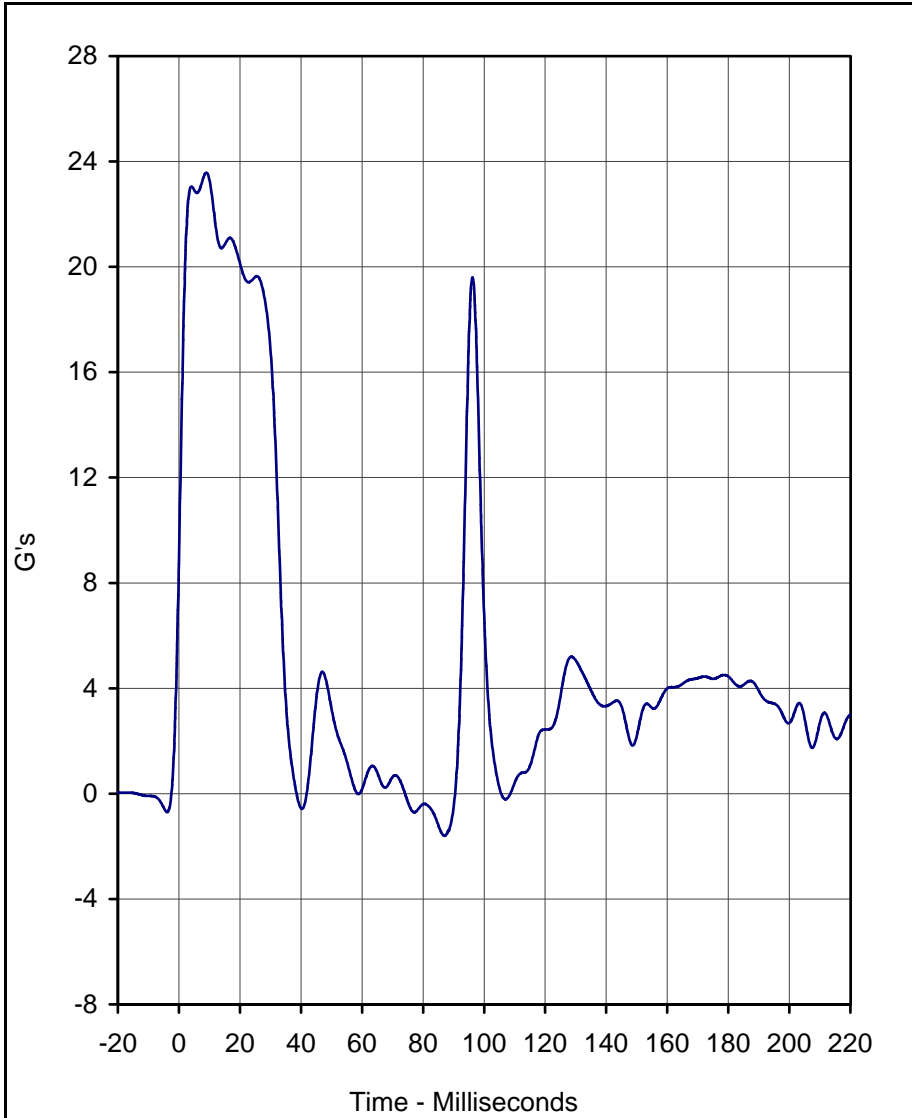
Laboratory Technician

May 15, 2002

Test Date

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Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Curve Description	CURNO	Type
Neck Force X	002	FIL

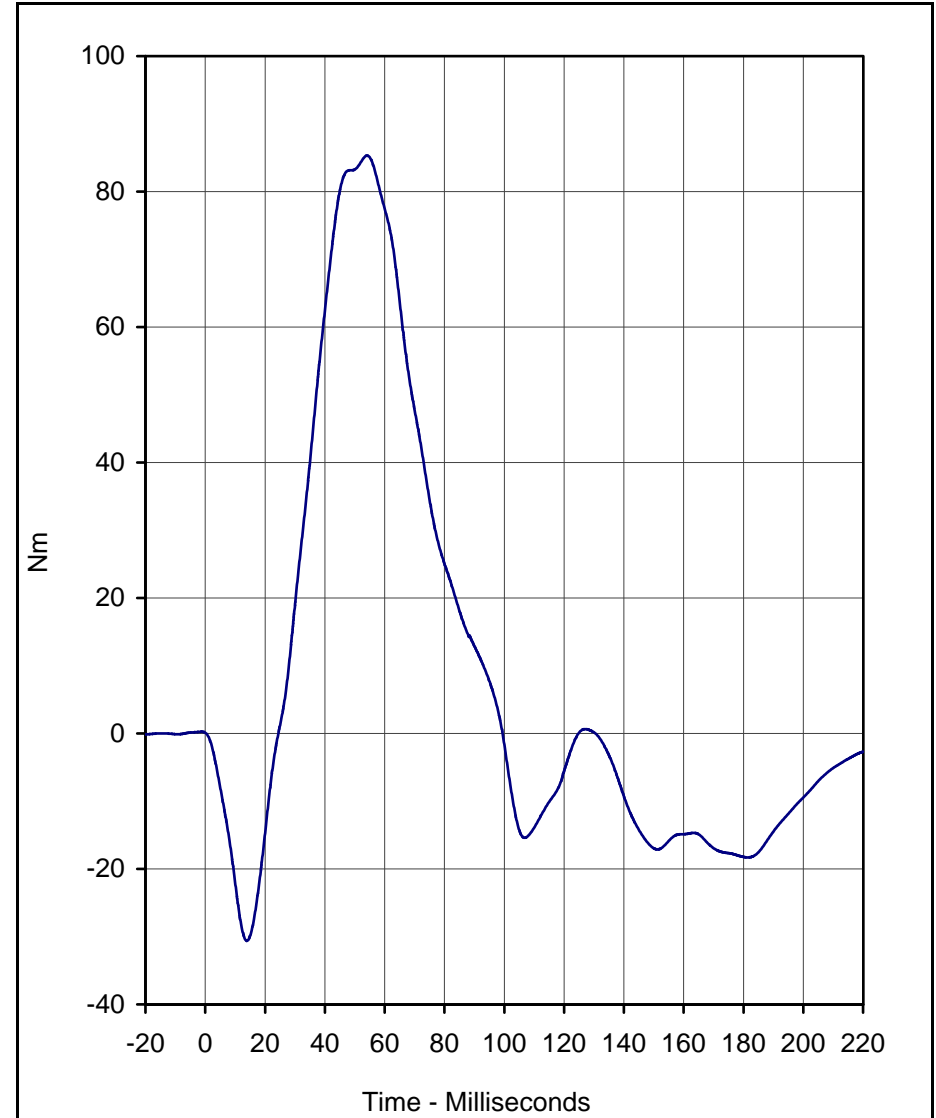
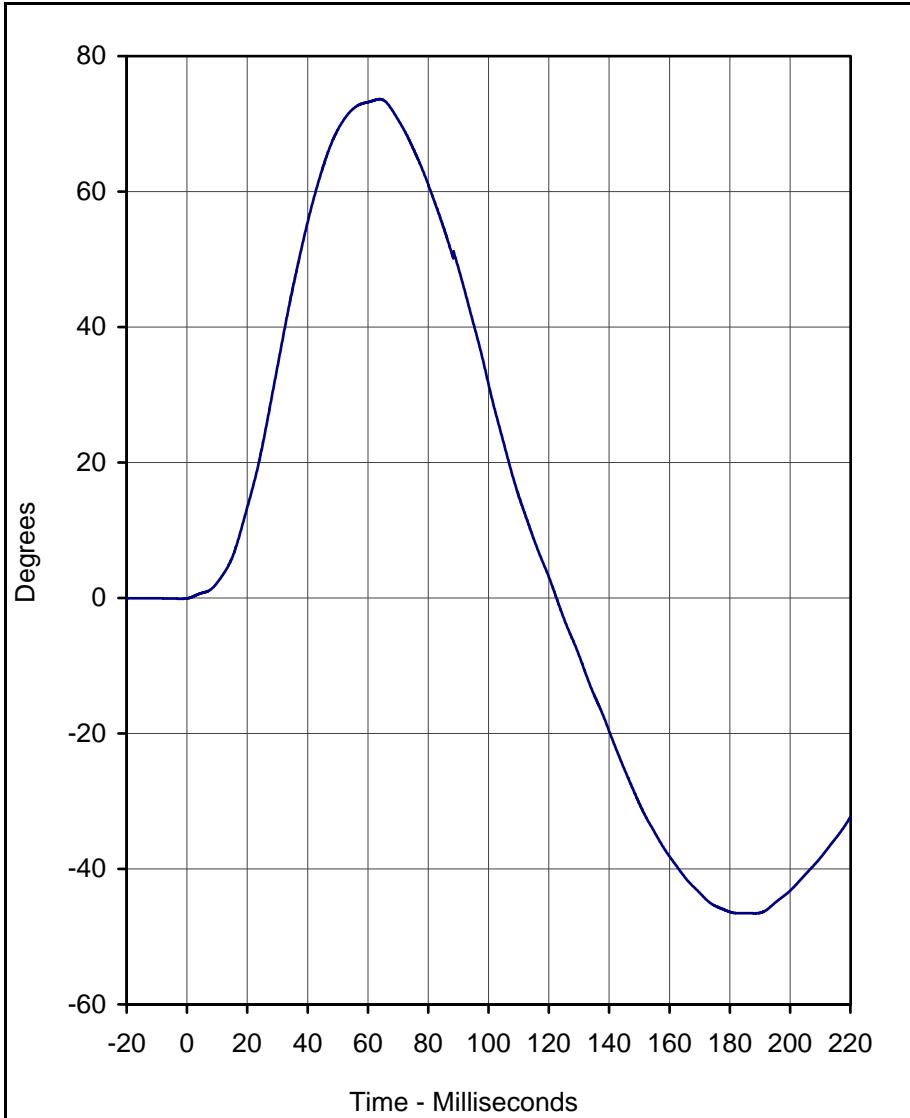
Units	Max	Time	Min	Time	SAE Class
G's	23.6	9.0	-1.6	87.0	60

Units	Max	Time	Min	Time	SAE Class
Newtons	843.4	54.3	-161.2	165.7	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 5/15/02

A.T.D. Serial No.: 034
 Test I.D.: NF01A





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	73.6	63.9	-46.6	188.3	60

Units	Max	Time	Min	Time	SAE Class
Nm	85.3	54.1	-30.6	13.9	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 5/15/02

A.T.D. Serial No.: 034
 Test I.D.: NF01A





Calibration Data Sheet Hybrid III 50th Percentile Male Neck Extension Test

ATD Serial No.: 034

Test I.D.: NE01A

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.16	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.2	Pass
	20 Msec.	G's	14.0 to 19.0	16.3	Pass
	30 Msec.	G's	11.0 to 16.0	15.0	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.0	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	45.7	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	92.3	Pass
	Time	Msec.	72.0 to 82.0	76.8	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	151.2	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-69.1	Pass
	Time	Msec.	65.0 to 79.0	65.3	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	139.8	Pass
Overall Test Results					Pass

E-10

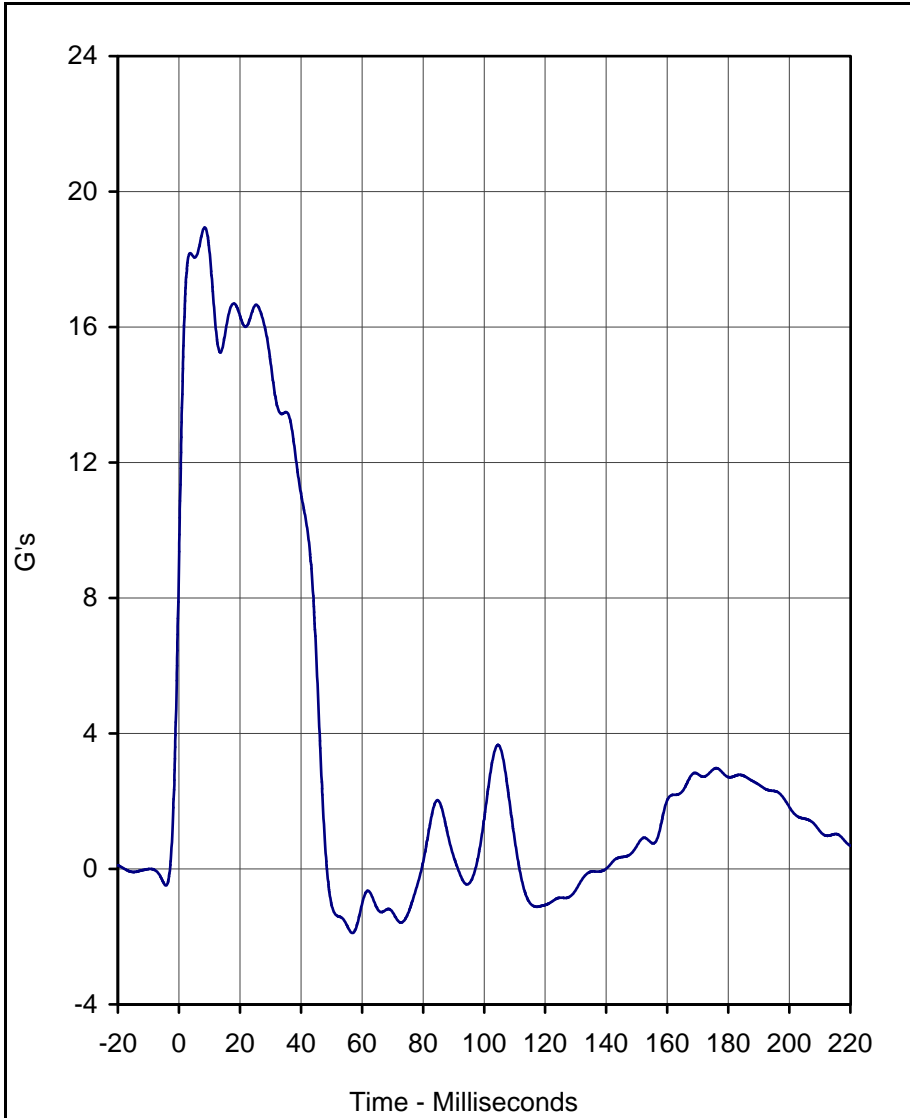
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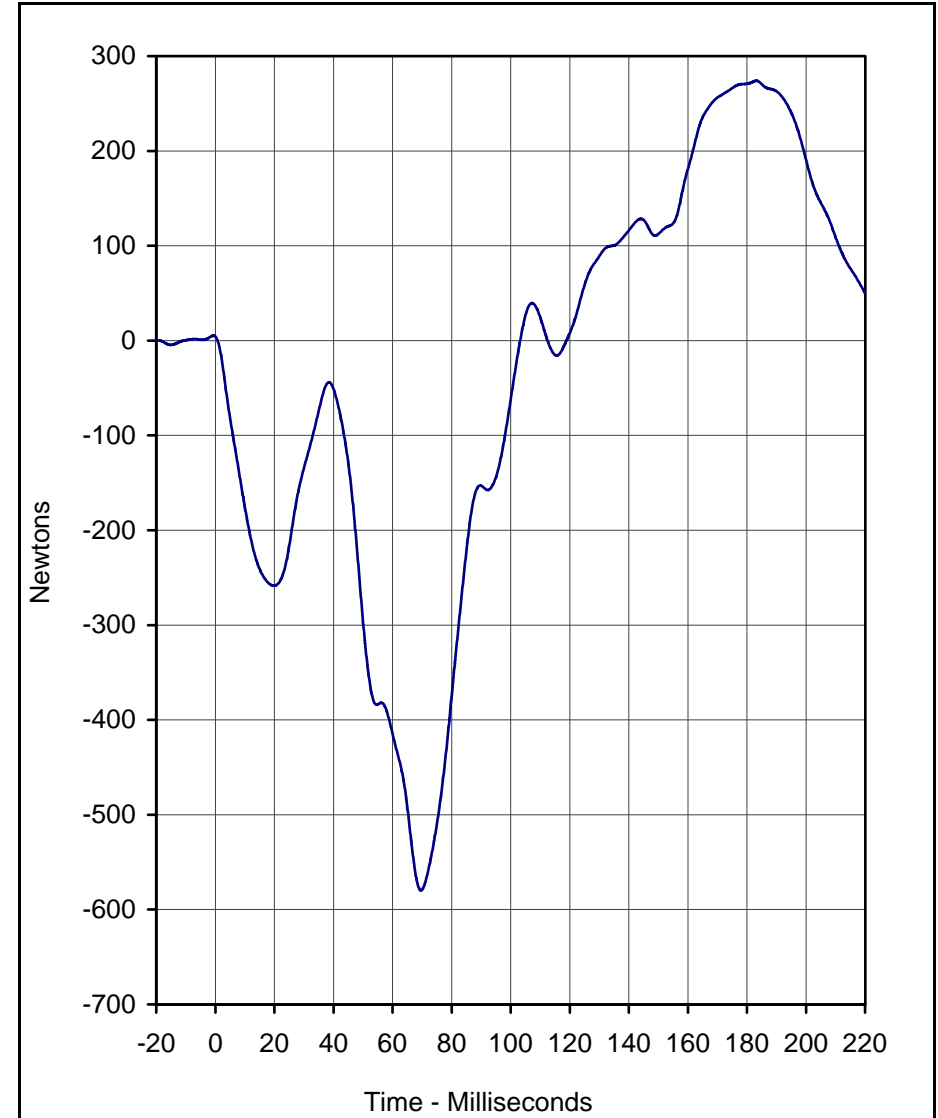
Test Date

E-11



Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	18.9	8.5	-1.9	56.9	60



Curve Description	CURNO	Type
Neck Force X	002	FIL

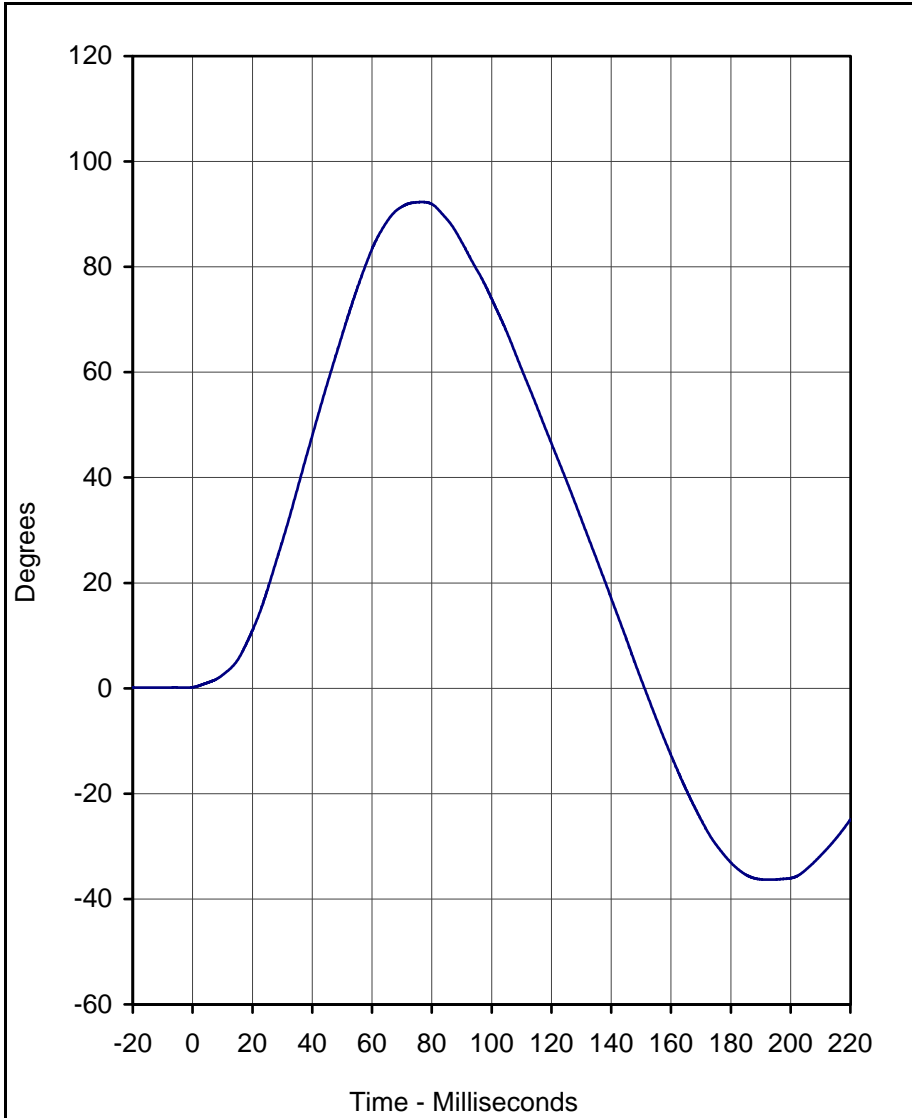
Units	Max	Time	Min	Time	SAE Class
Newtons	274.0	183.2	-579.8	69.6	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 5/15/02

A.T.D. Serial No.: 034
 Test I.D.: NE01A

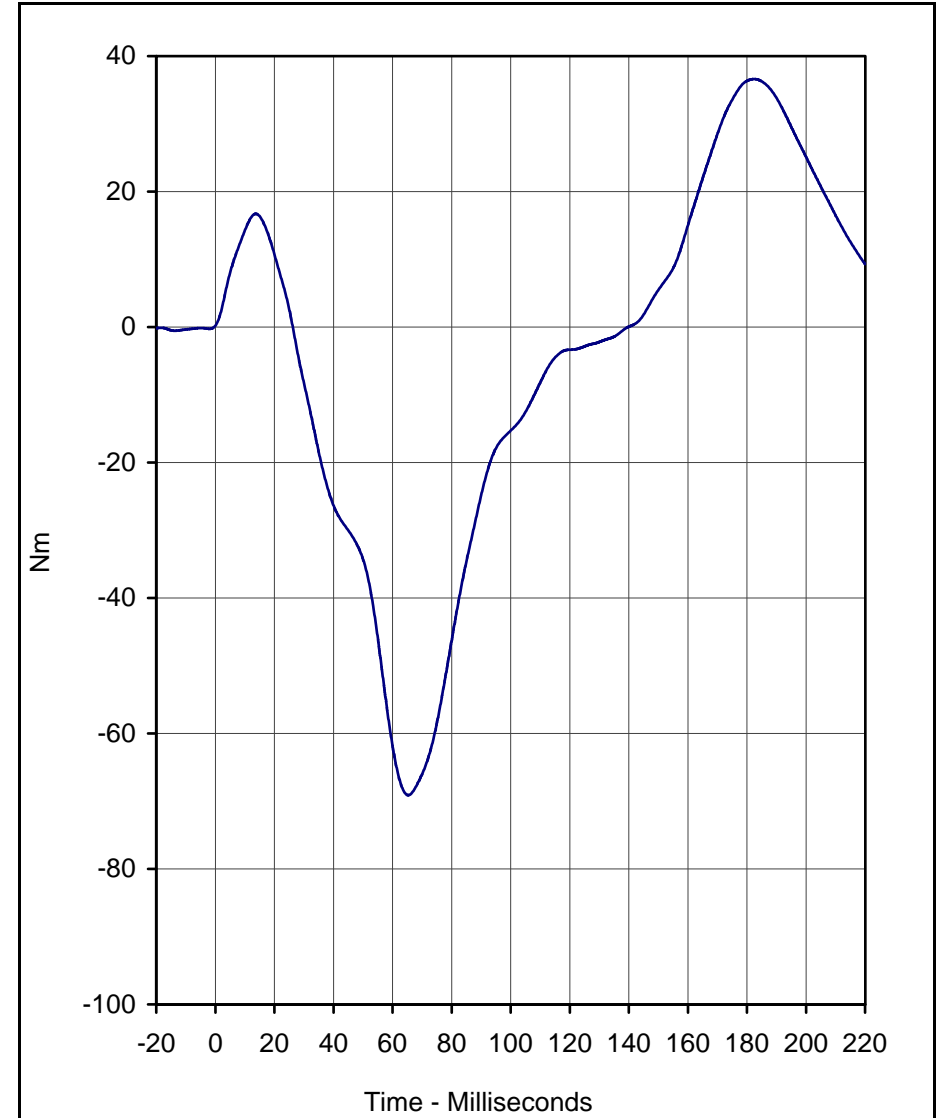


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Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	92.3	76.8	-36.3	192.9	60



Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	36.6	182.5	-69.1	65.3	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 5/15/02

A.T.D. Serial No.: 034
 Test I.D.: NE01A





Calibration Data Sheet Hybrid III 50th Percentile Male External Measurements

ATD Serial No.: 034

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	515	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	295	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	340	Pass
J - Elbow rest height	mm	190 to 211	210	Pass
K - Buttock to knee length	mm	579 to 604	590	Pass
L - Popliteal length	mm	429 to 455	430	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock popliteal length	mm	452 to 477	460	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	425	Pass
W - Foot breadth	mm	91 to 107	95	Pass
Y - Chest circumference	mm	970 to 1001	990	Pass
Z - Waist circumference	mm	836 to 866	855	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

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Test Date



Calibration Data Sheet Hybrid III 50th Percentile Male Knee Impact Test

ATD Serial No.: 035

Location: Left Knee

Test I.D.: LK01F

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.09	Pass
Peak Probe Force	N	4715 to 5782	5632	Pass
Overall Test Results				Pass

ATD Serial No.: 035

Location: Right Knee

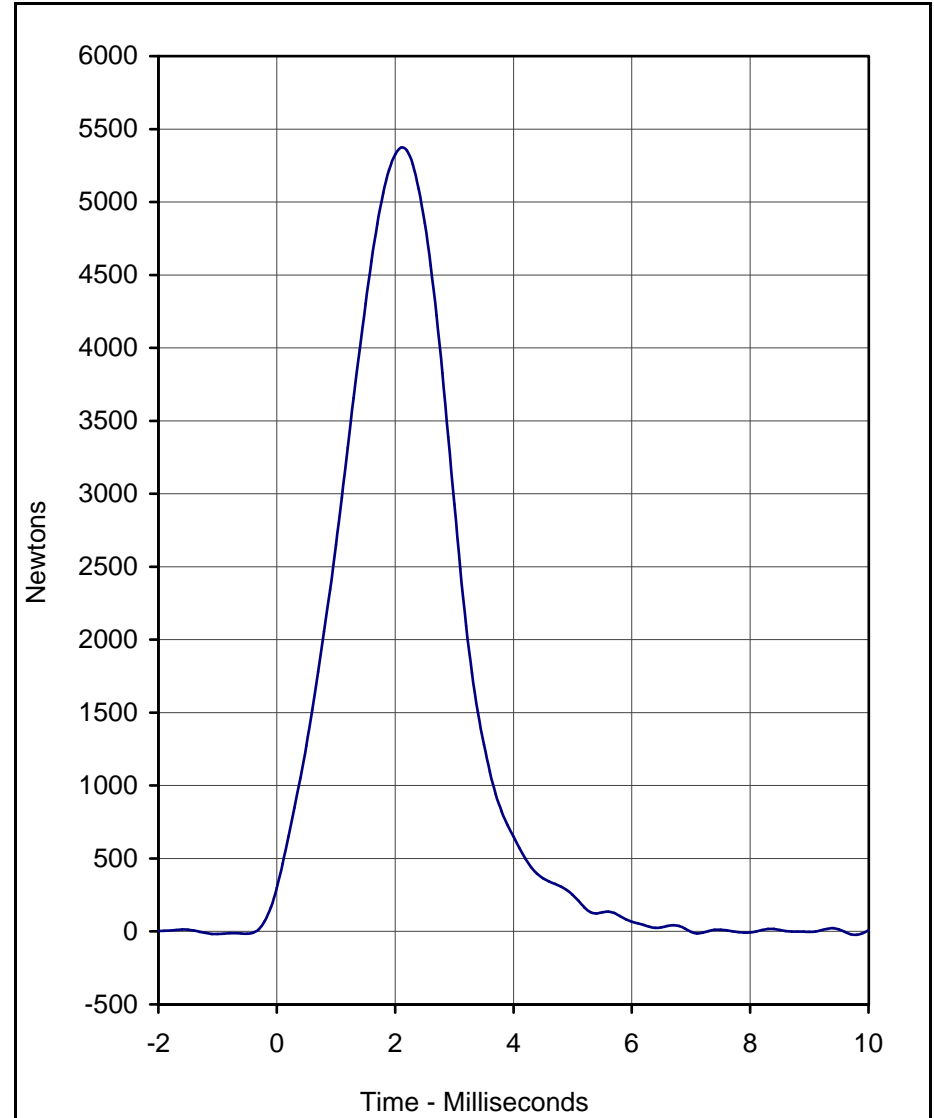
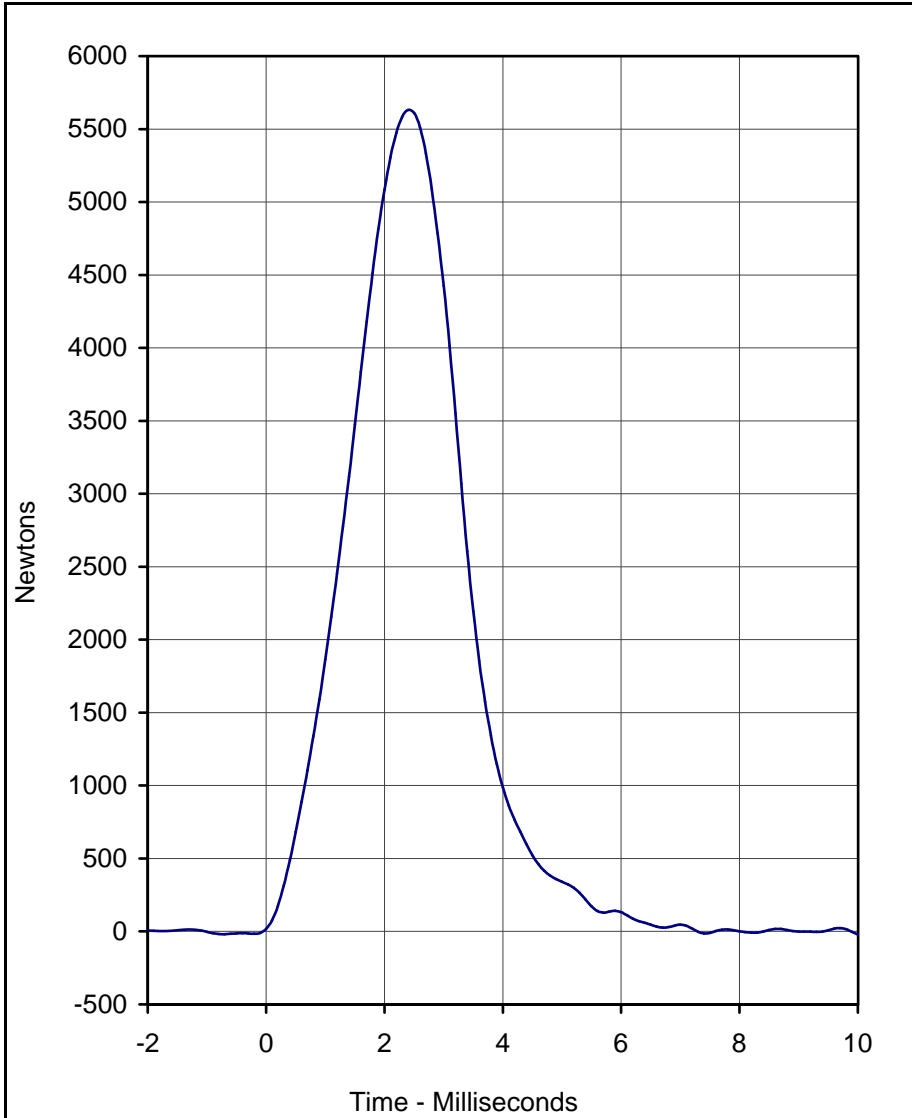
Test I.D.: RK01F

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.13	Pass
Peak Probe Force	N	4715 to 5782	5373	Pass
Overall Test Results				Pass

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Test Date



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	LK01F	001	FIL

Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	RK01F	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5631.6	2.4	-20.7	10.0	600

Units	Max	Time	Min	Time	SAE Class
Newtons	5372.5	2.1	-23.6	9.8	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 5/14/02

A.T.D. Serial No.: 035





Calibration Data Sheet Hybrid III 50th Percentile Male Head Drop Test

ATD Serial No.: 035

Test I.D.: HD05A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	231.8	Pass
Peak Lateral Acceleration	G's	≤15.0	7.7	Pass
Overall Test Results				Pass

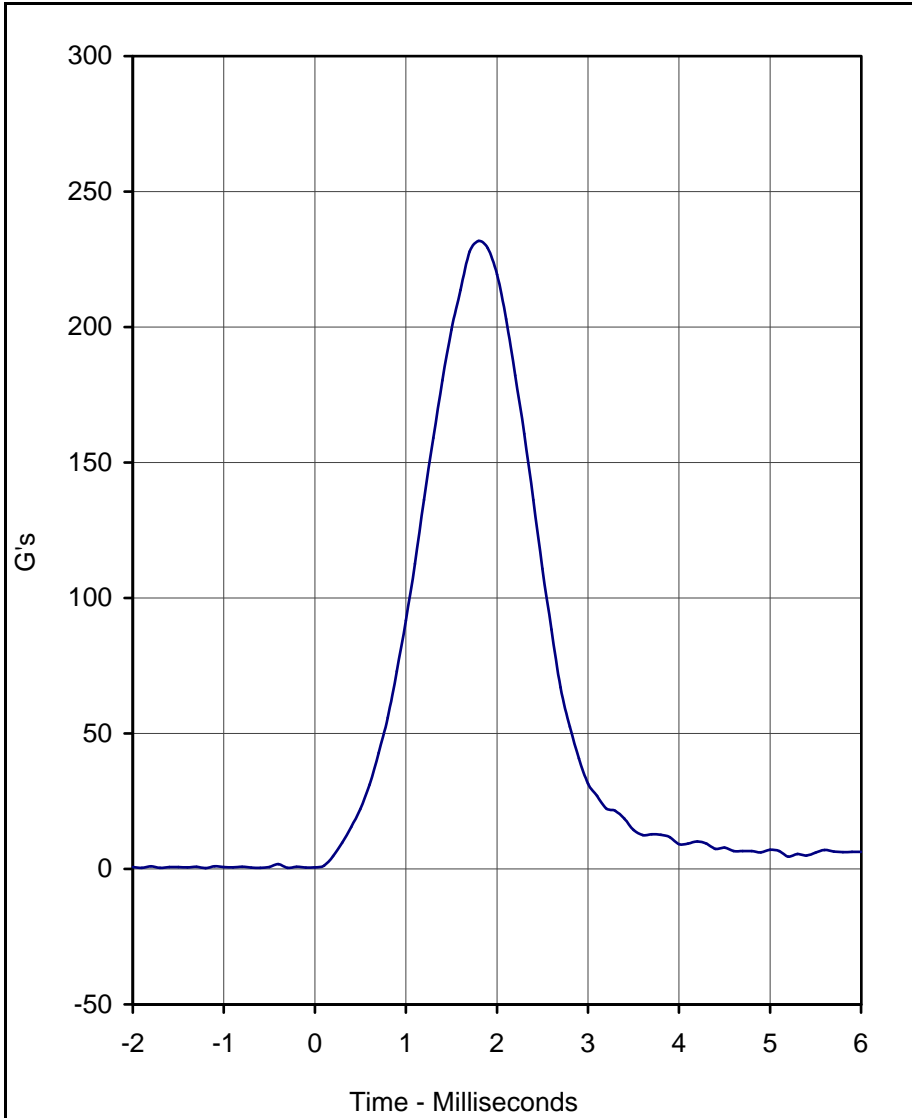
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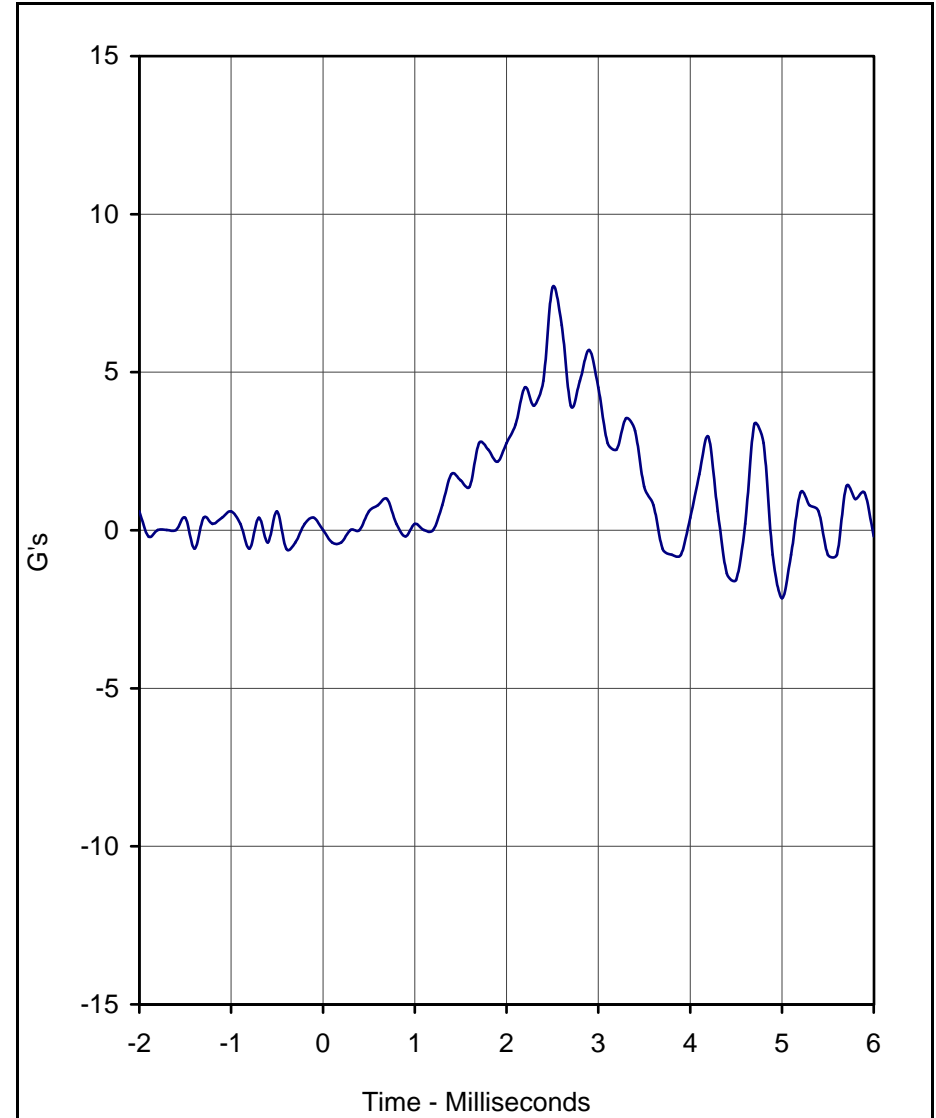
May 14, 2002

Test Date



Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	231.8	1.8	0.3	-1.2	1000



Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	7.7	2.5	-2.2	5.0	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 5/14/02

A.T.D. Serial No.: 035
 Test I.D.: HD05A





Calibration Data Sheet Hybrid III 50th Percentile Male Thorax Impact Test

ATD Serial No.: 035

Test I.D.: CH06B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	6.58 to 6.82	6.67	Pass
Peak Probe Force	Newtons	5159 to 5893	5679	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	7.06	Pass
Internal Hysteresis	%	69 to 85	75.1	Pass
Overall Test Results				Pass

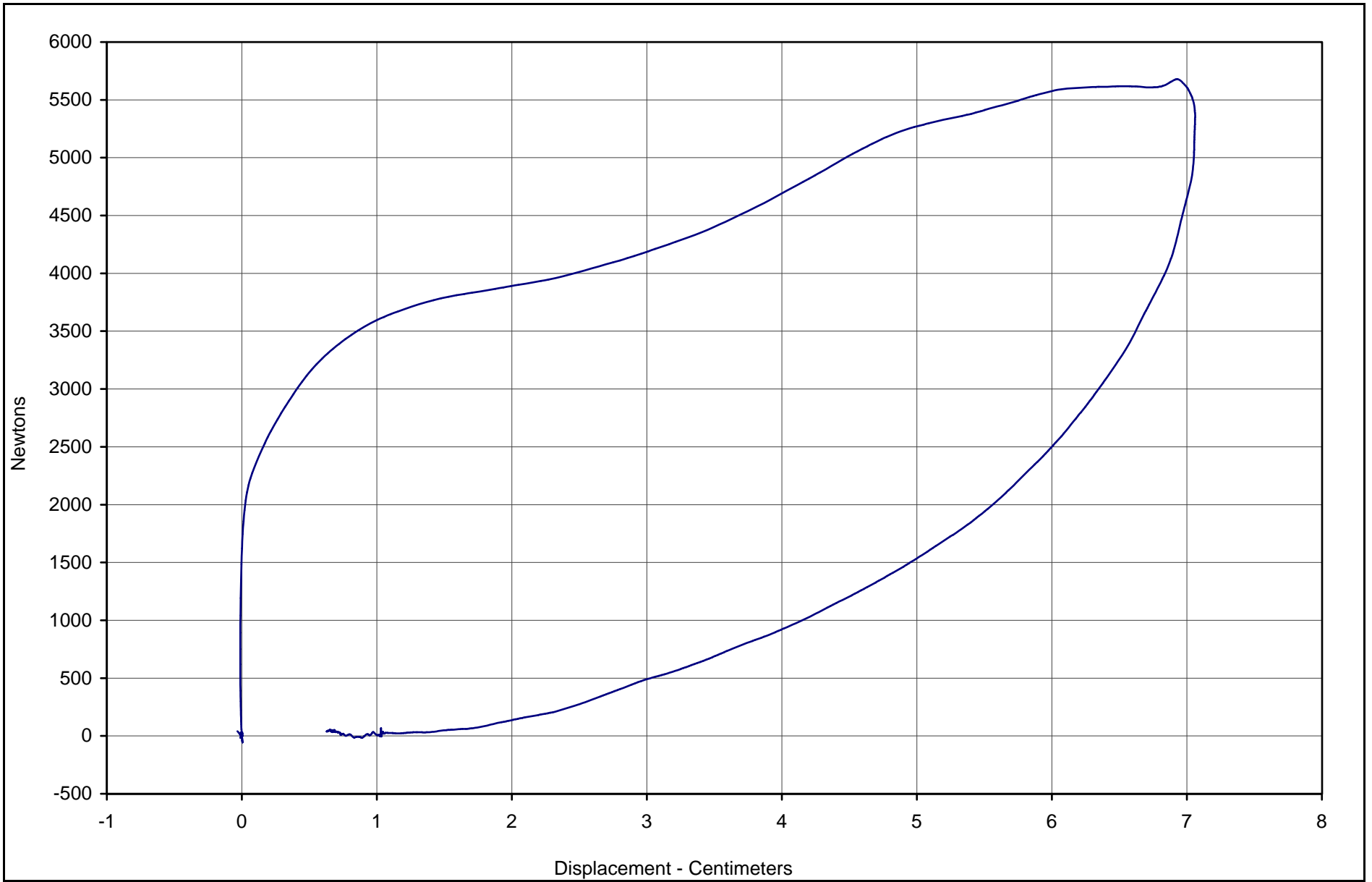
E-18

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May 15, 2002
Test Date

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Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	75.1	7.06	5678.9	180



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 035

Test Date: 5/15/02

Test I.D.: CH06B



Calibration Data Sheet Hybrid III 50th Percentile Male Neck Flexion Test

ATD Serial No.: 035

Test I.D.: NF01B

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.13	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.9	Pass
	20 Msec.	G's	17.6 to 22.6	21.0	Pass
	30 Msec.	G's	12.5 to 18.5	17.3	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.3	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	40.2	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	64.4	Pass
	Time	Msec.	57.0 to 64.0	62.2	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	113.8	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	87.2	Pass
	Time	Msec.	47.0 to 58.0	52.8	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	98.7	Pass
Overall Test Results					Pass

E-20

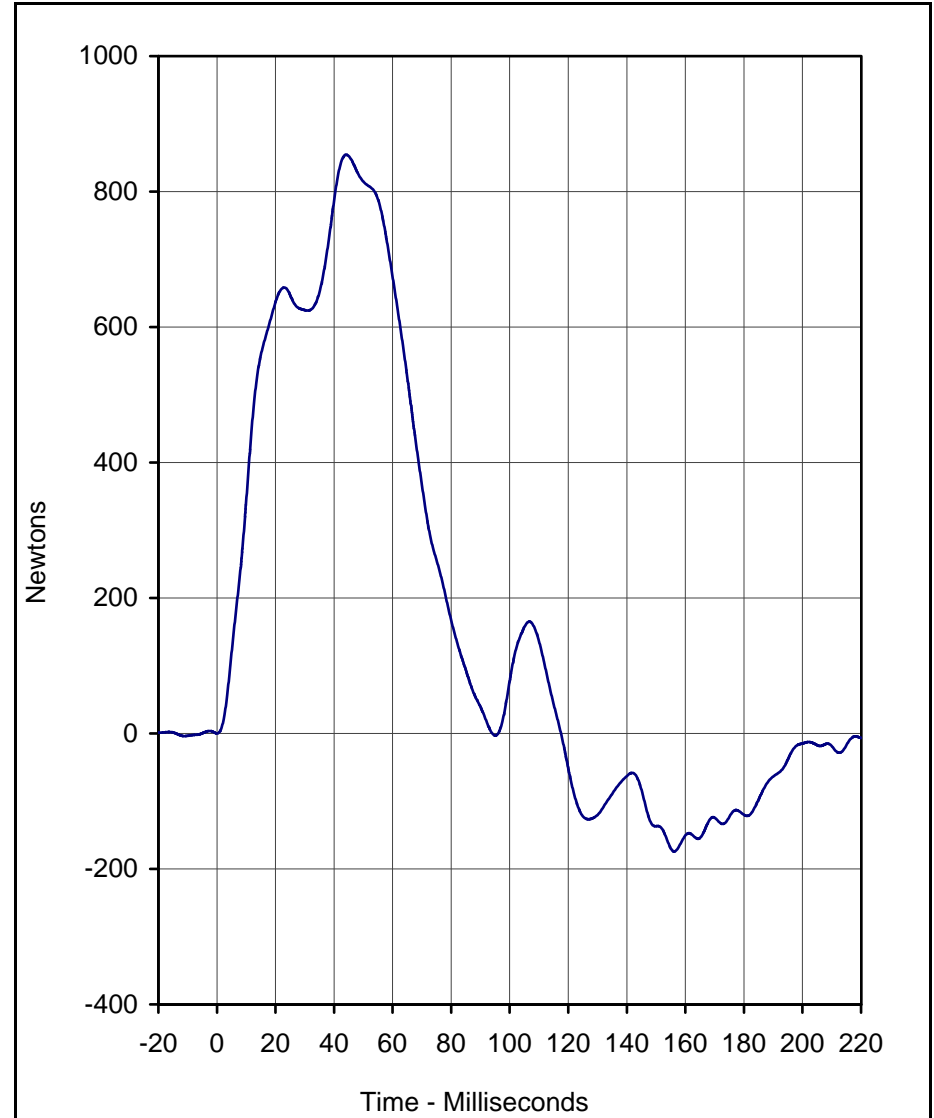
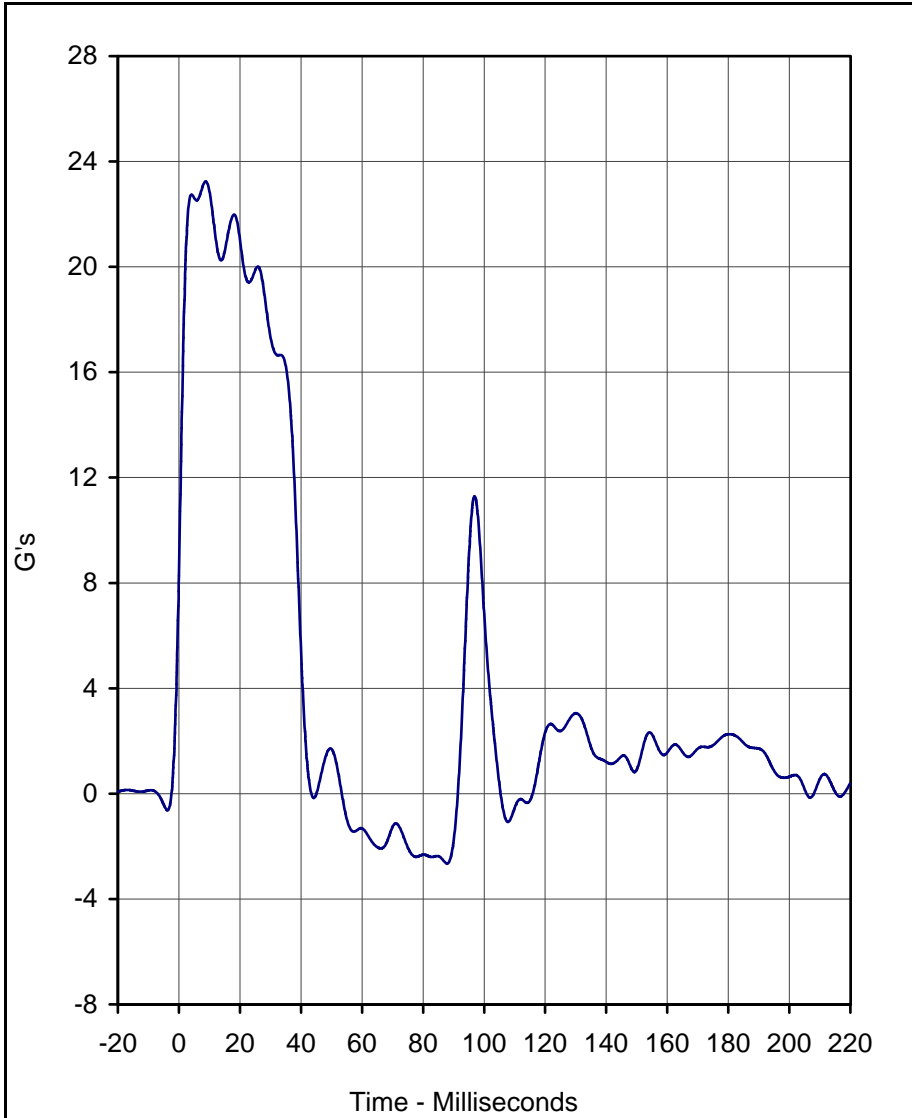
KAR22001-09

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Test Date

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Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	23.2	8.8	-2.7	87.9	60

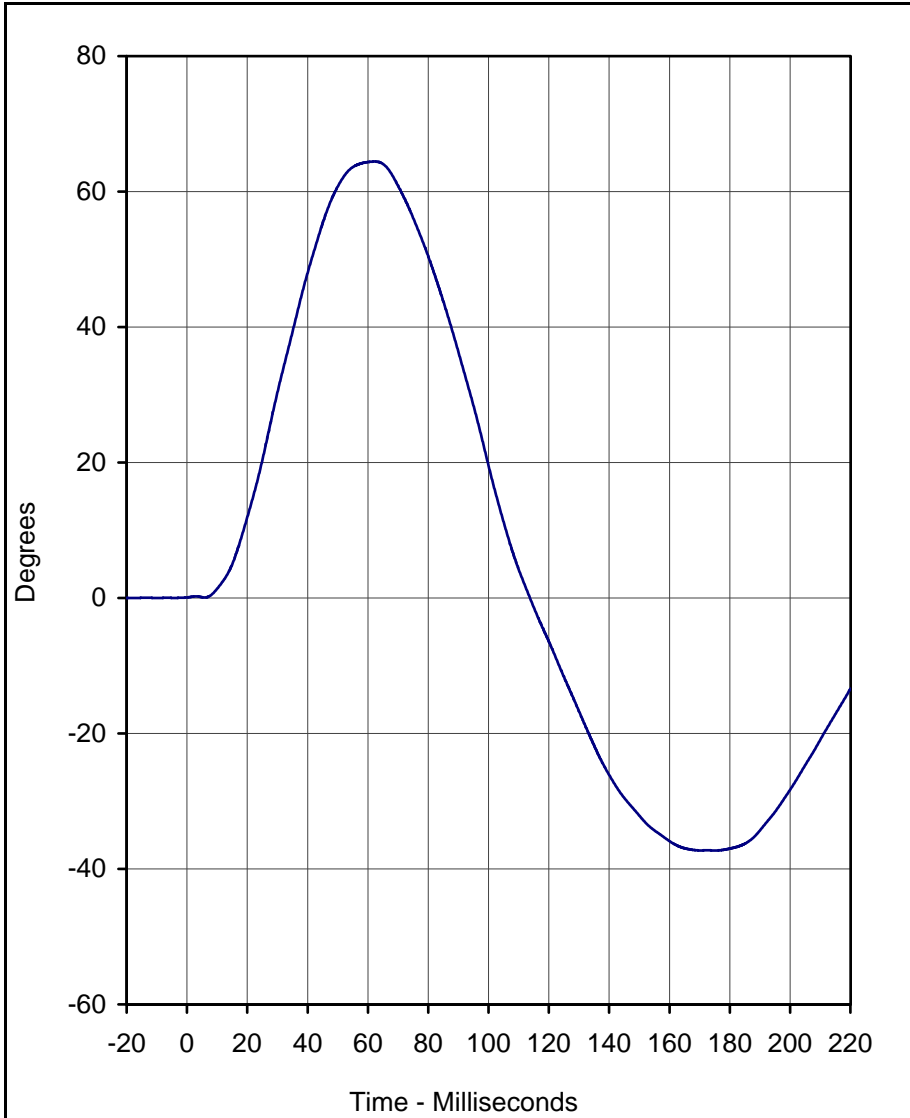
Units	Max	Time	Min	Time	SAE Class
Newtons	854.5	44.1	-174.2	156.2	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 5/15/02

A.T.D. Serial No.: 035
 Test I.D.: NF01B

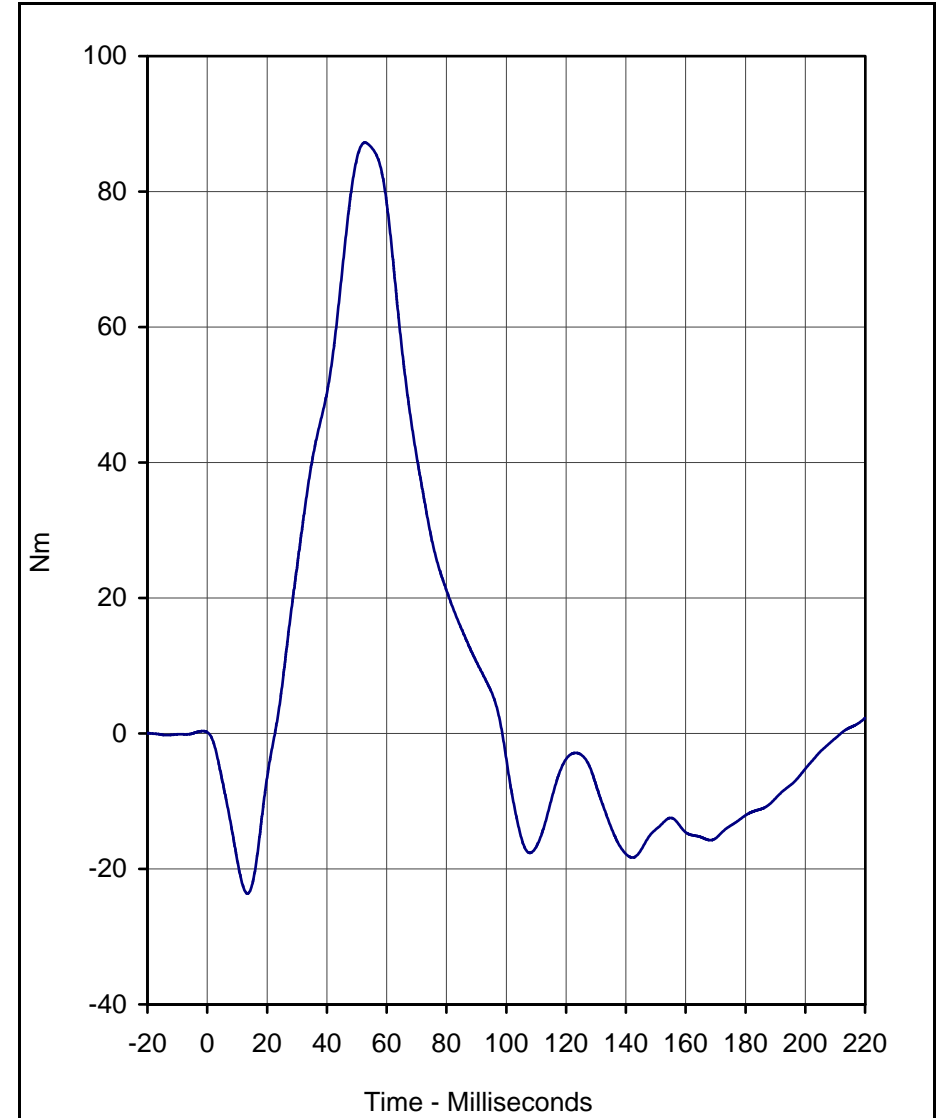


KAR22001-09



Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	64.4	62.2	-37.3	175.1	60



Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	87.2	52.8	-23.6	13.5	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 5/15/02

A.T.D. Serial No.: 035
 Test I.D.: NF01B





Calibration Data Sheet Hybrid III 50th Percentile Male Neck Extension Test

ATD Serial No.: 035

Test I.D.: NE01B

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.94 to 6.19	6.02	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.1	Pass
	20 Msec.	G's	14.0 to 19.0	16.1	Pass
	30 Msec.	G's	11.0 to 16.0	15.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	44.6	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	99.7	Pass
	Time	Msec.	72.0 to 82.0	80.0	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	160.2	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-68.2	Pass
	Time	Msec.	65.0 to 79.0	71.6	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	142.9	Pass
Overall Test Results					Pass

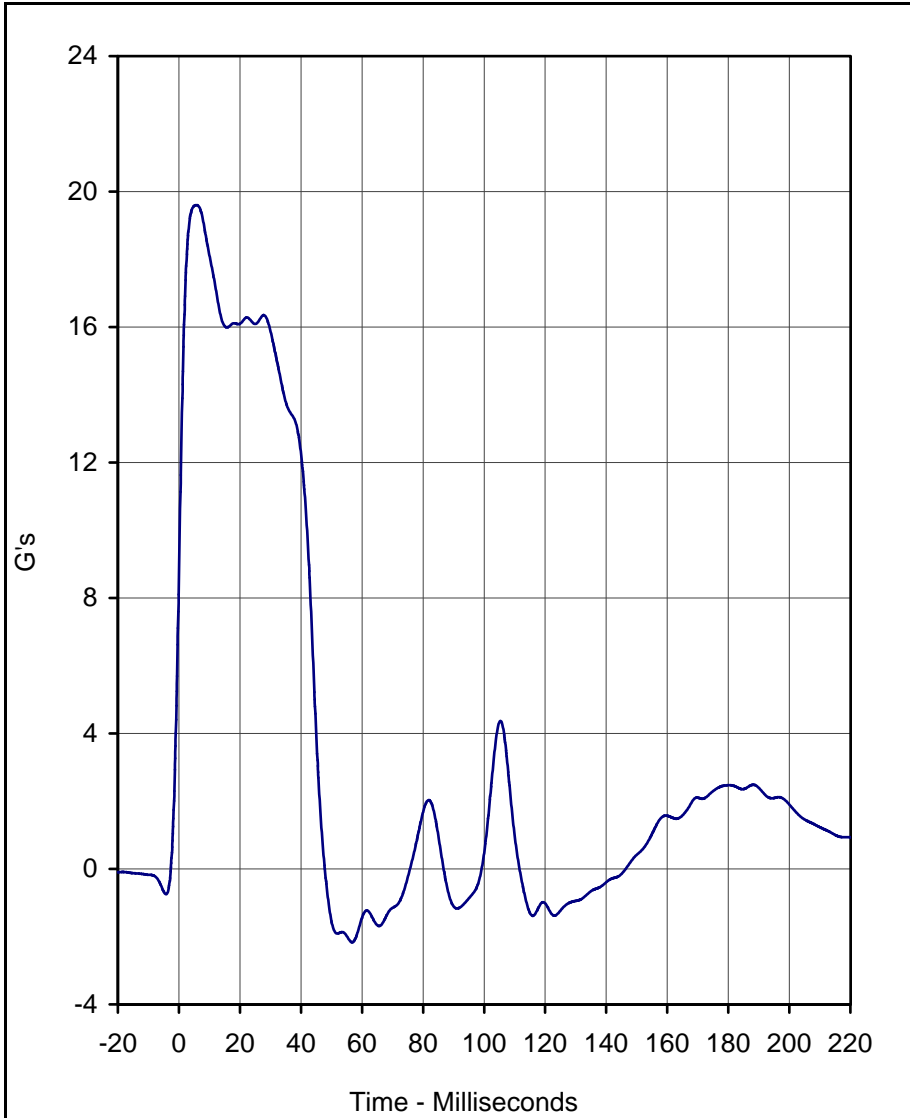
E-23

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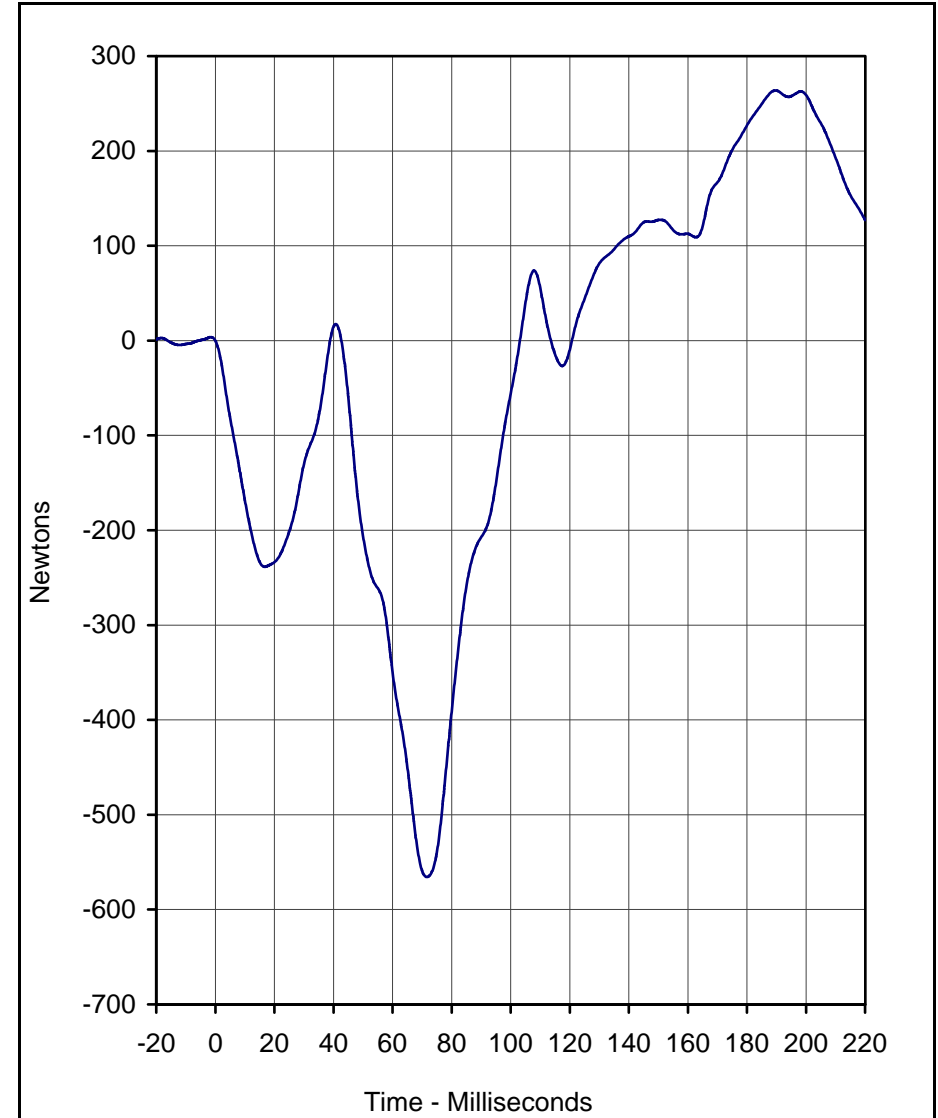
May 15, 2002

Test Date



Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	19.6	5.7	-2.2	56.8	60



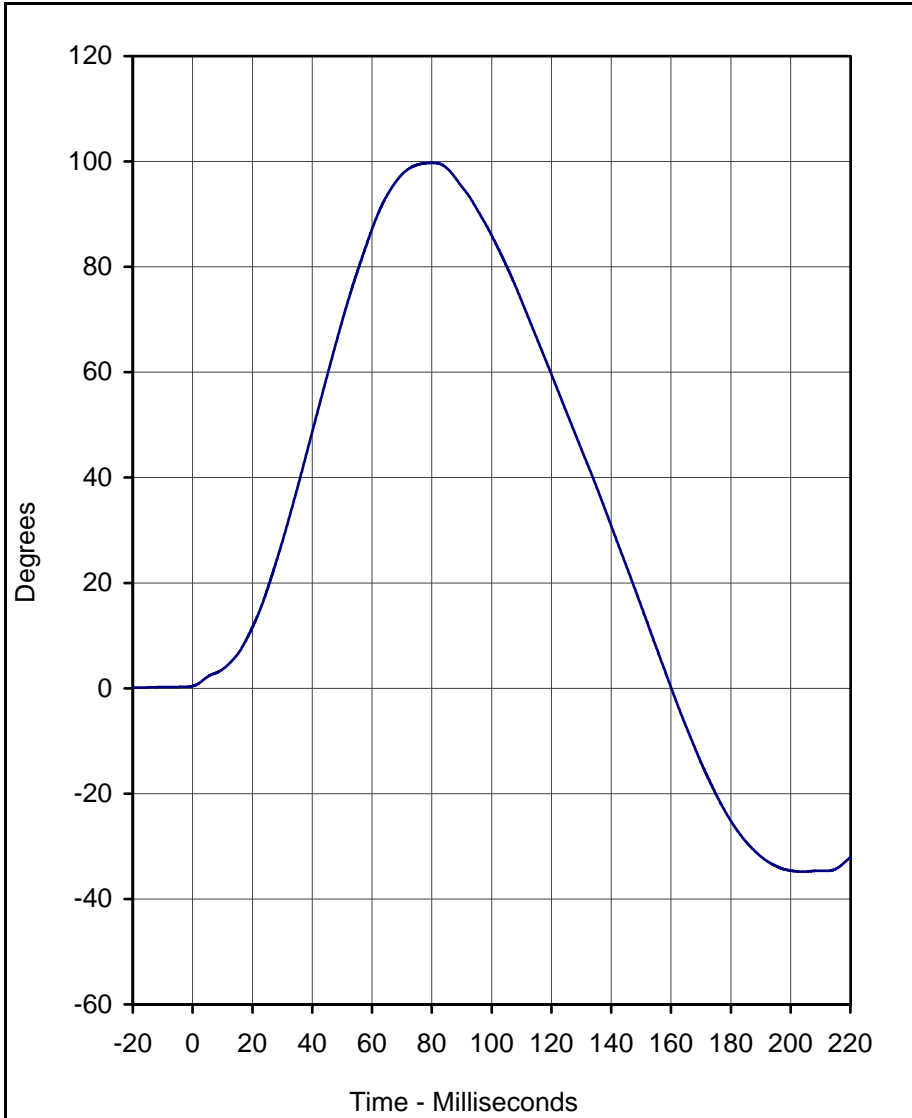
Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	263.7	189.7	-565.7	71.6	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 5/15/02

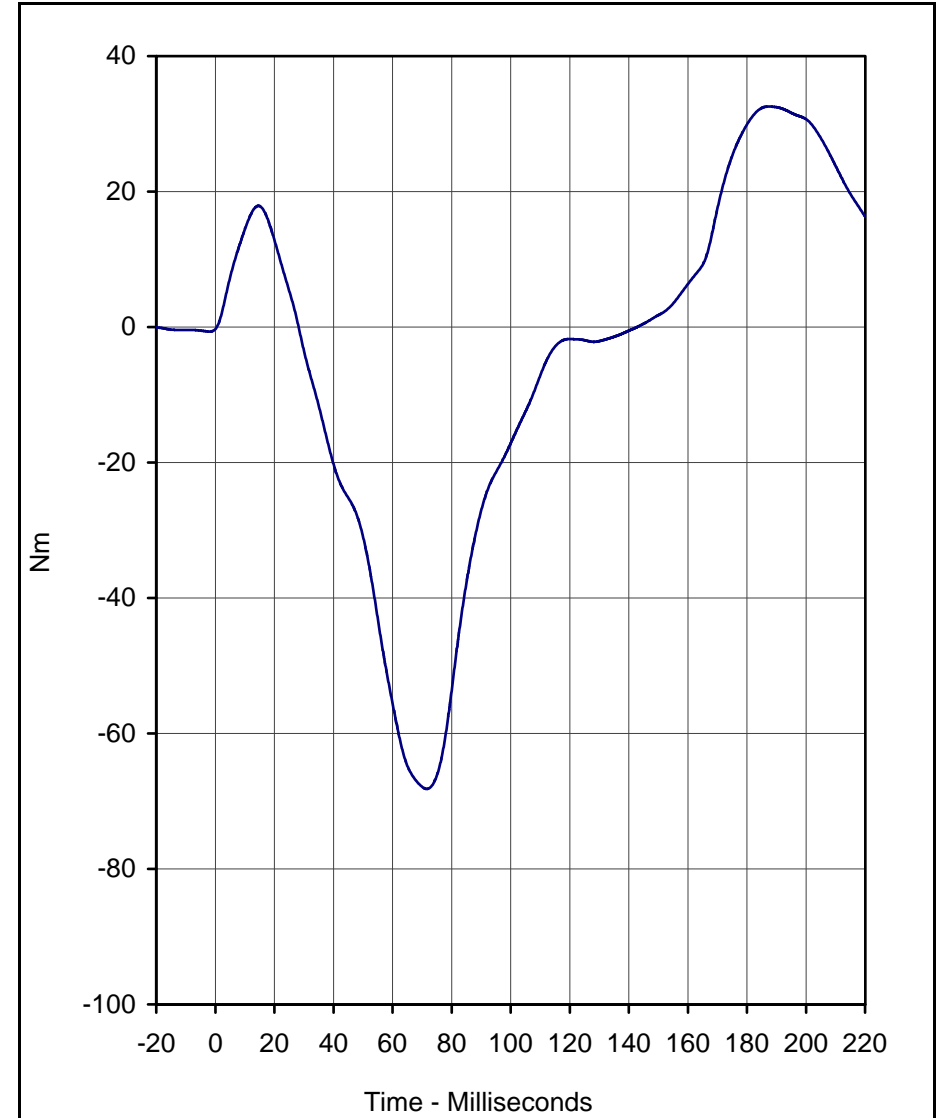
A.T.D. Serial No.: 035
 Test I.D.: NE01B





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	99.7	80.0	-34.8	204.1	60



Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	32.6	187.6	-68.2	71.6	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 5/15/02

A.T.D. Serial No.: 035
 Test I.D.: NE01B





Calibration Data Sheet Hybrid III 50th Percentile Male External Measurements

ATD Serial No.: 035

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	515	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	145	Pass
G - Elbow back to wrist pivot	mm	290 to 305	300	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	340	Pass
J - Elbow rest height	mm	190 to 211	210	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	450	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	220	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	435	Pass
W - Foot breadth	mm	91 to 107	100	Pass
Y - Chest circumference	mm	970 to 1001	980	Pass
Z - Waist circumference	mm	836 to 866	850	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

Laboratory Technician

May 15, 2002

Test Date

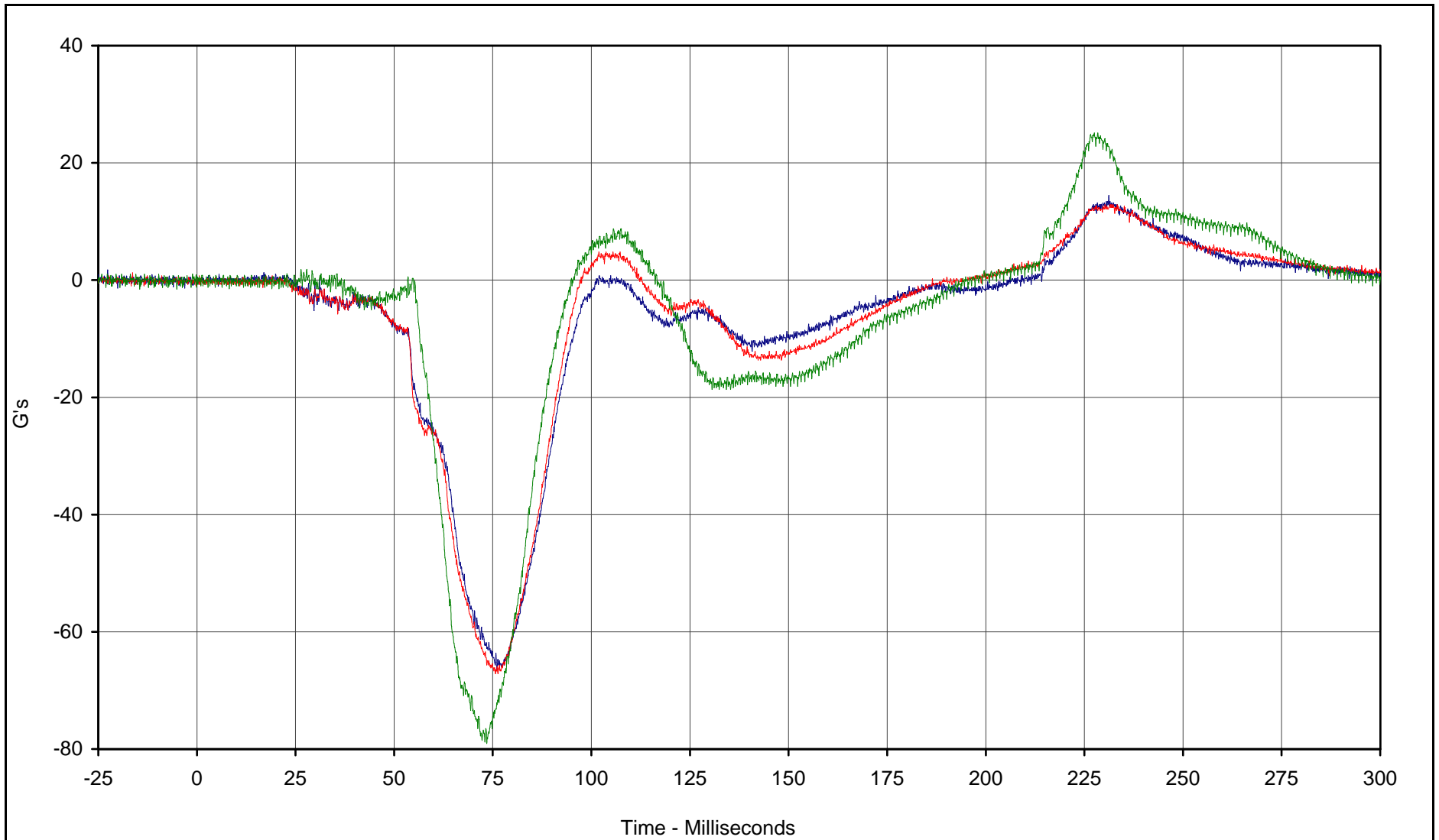
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APPENDIX G

NINE ACCELEROMETER HEAD ARRAY DATA

G-1



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X	134	FIL	G's	14.5	231.2	-66.5	76.1	1000
Driver NAHA Yarm-X	138	FIL	G's	12.9	230.2	-67.2	75.7	1000
Driver NAHA Zarm-X	141	FIL	G's	25.1	227.5	-79.1	73.5	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

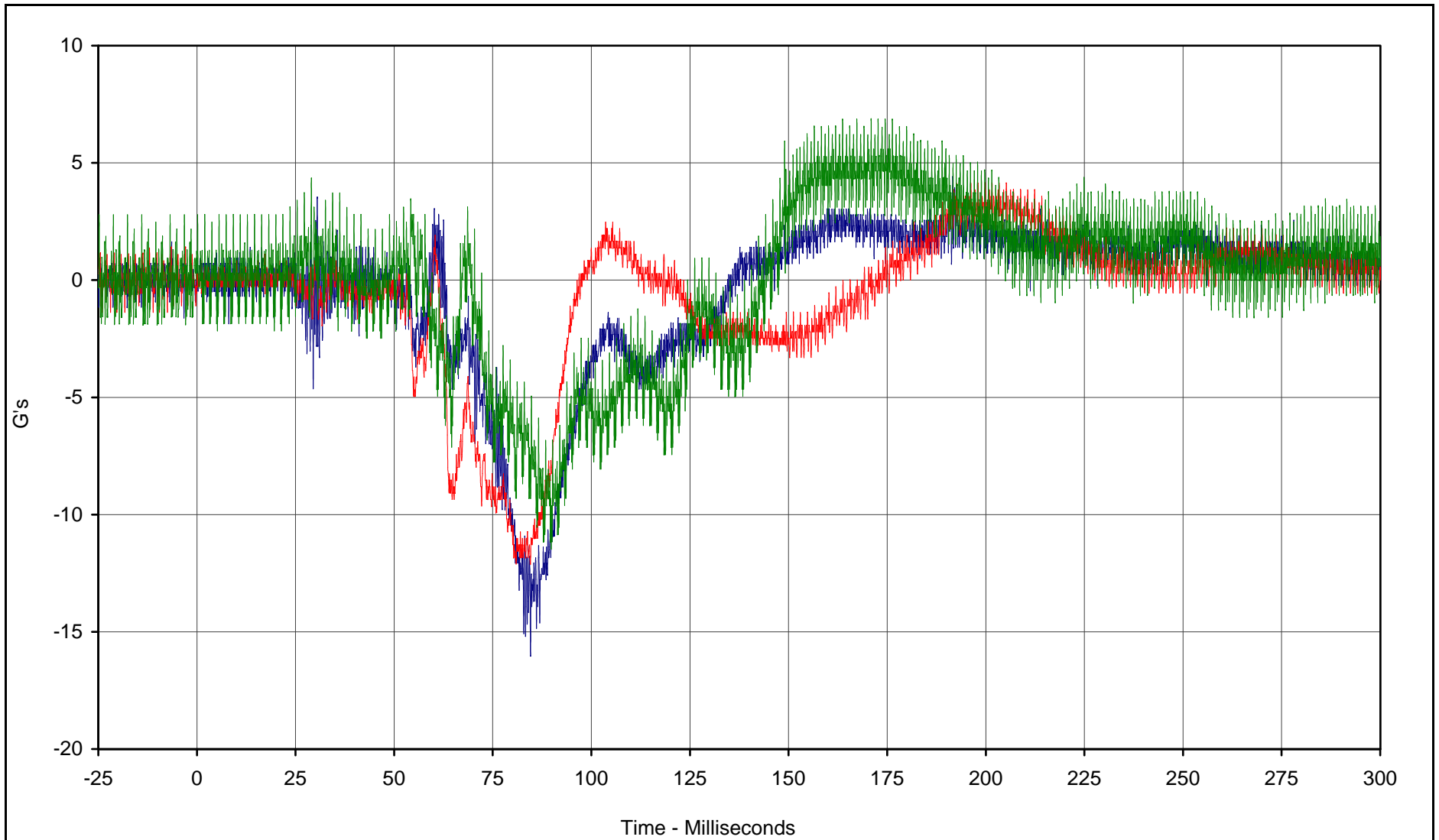
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

G-2



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Y	135	FIL	G's	4.4	191.6	-16.0	84.6	1000
Driver NAHA Xarm-Y	140	FIL	G's	4.1	192.6	-12.1	80.9	1000
Driver NAHA Zarm-Y	142	FIL	G's	6.8	163.7	-11.5	89.8	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

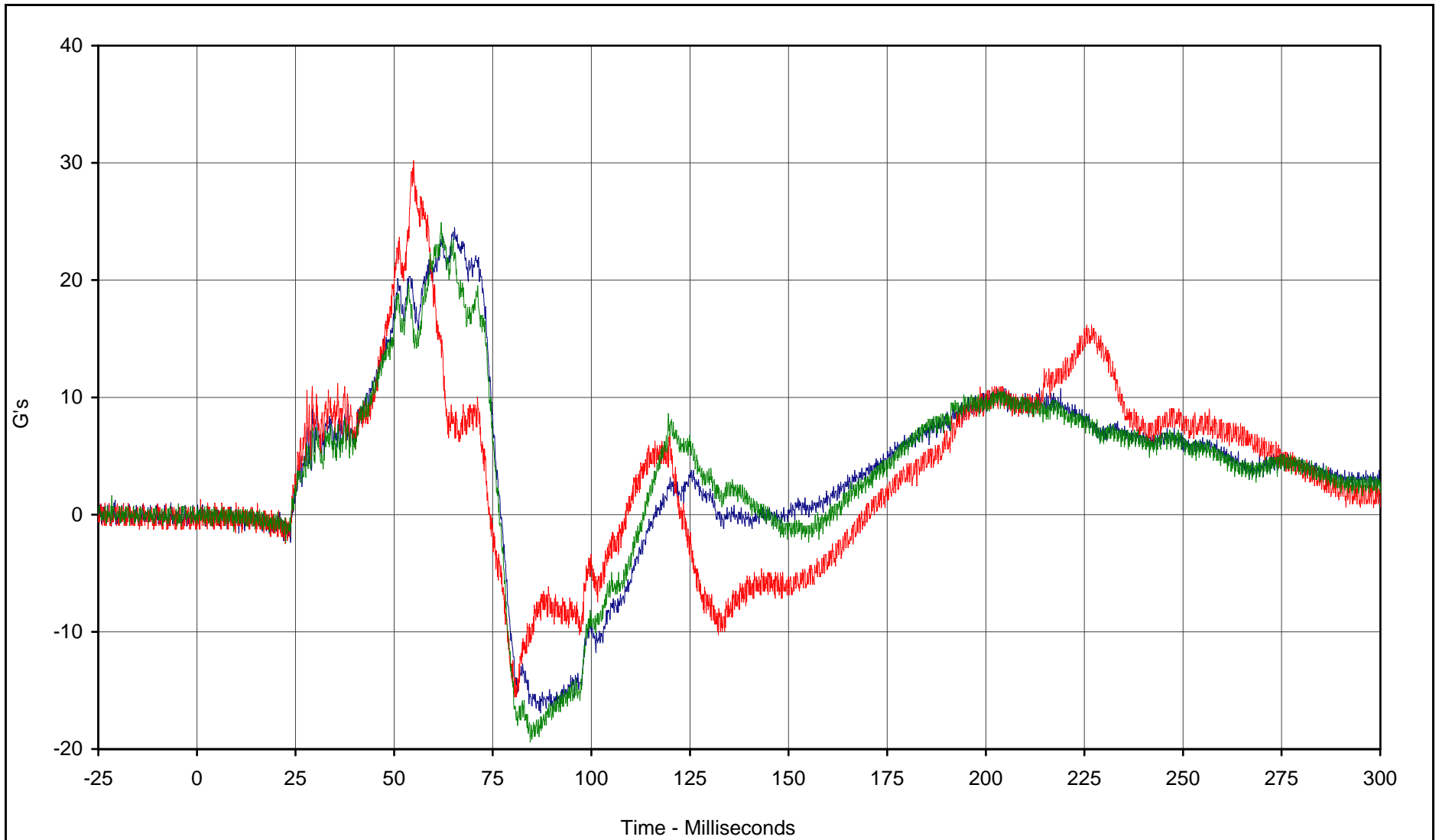
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

G-3



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Z	136	FIL	G's	24.5	65.3	-16.9	87.1	1000
Driver NAHA Xarm-Z	139	FIL	G's	30.2	54.9	-15.6	80.5	1000
Driver NAHA Yarm-Z	137	FIL	G's	24.9	61.9	-19.4	84.5	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

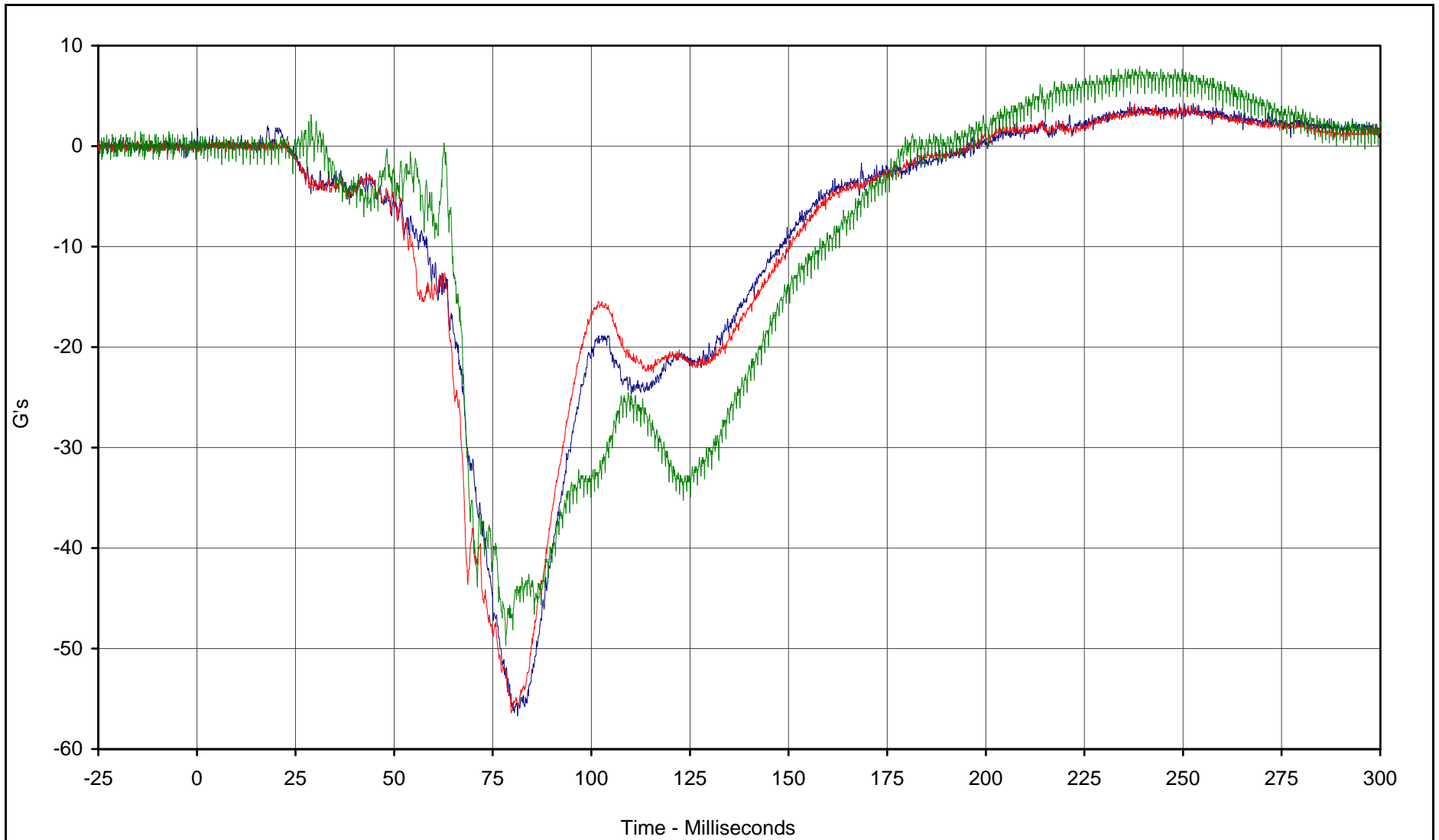
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

G-4



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X	143	FIL	G's	4.4	236.5	-56.7	81.3	1000
Passenger NAHA Yarm-X	147	FIL	G's	4.2	237.7	-56.4	79.7	1000
Passenger NAHA Zarm-X	150	FIL	G's	8.0	239.0	-49.7	78.3	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

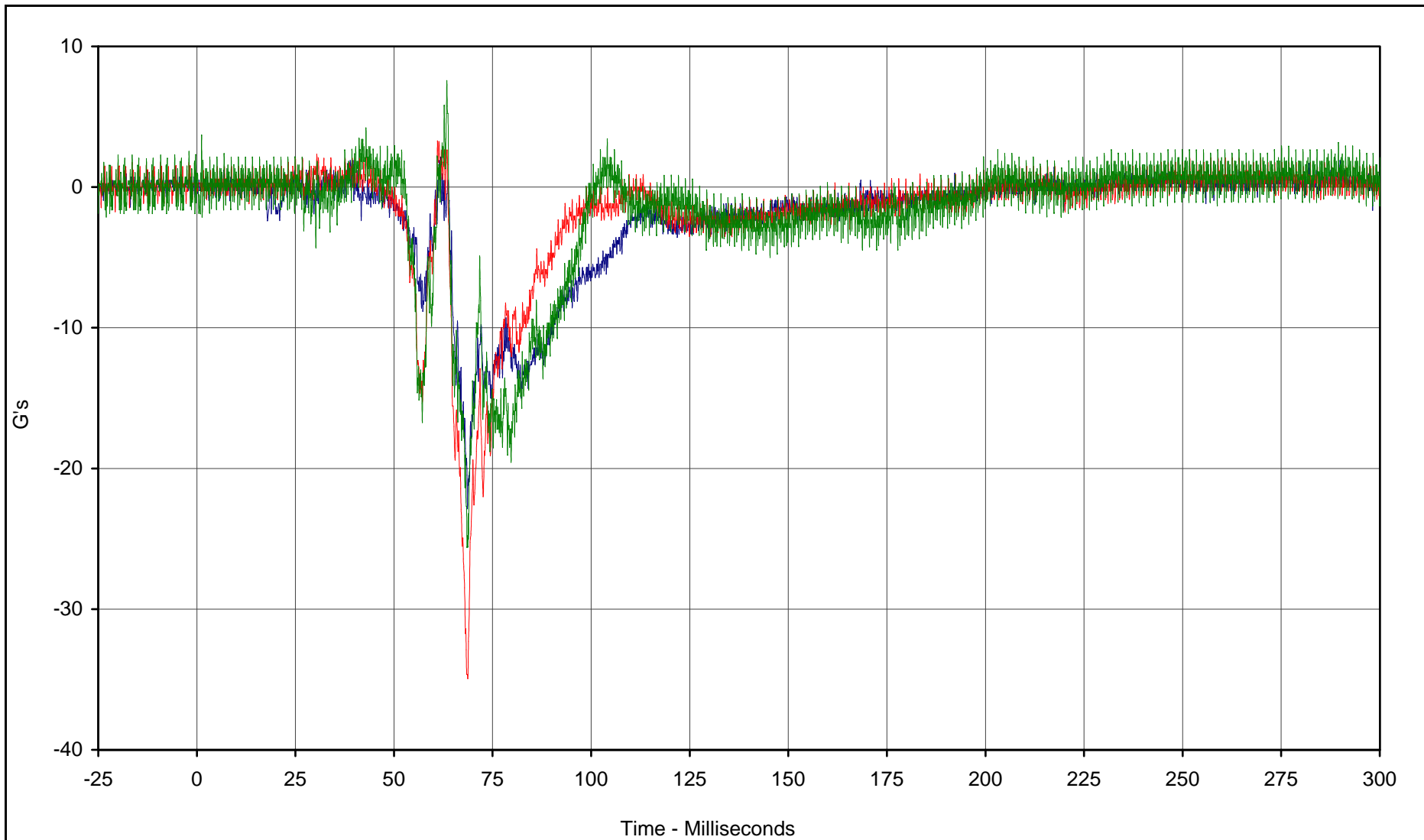
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

G-5



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Y	144	FIL	G's	2.1	61.8	-22.9	68.6	1000
Passenger NAHA Xarm-Y	149	FIL	G's	3.2	61.0	-34.9	68.7	1000
Passenger NAHA Zarm-Y	151	FIL	G's	7.6	63.4	-25.6	68.5	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

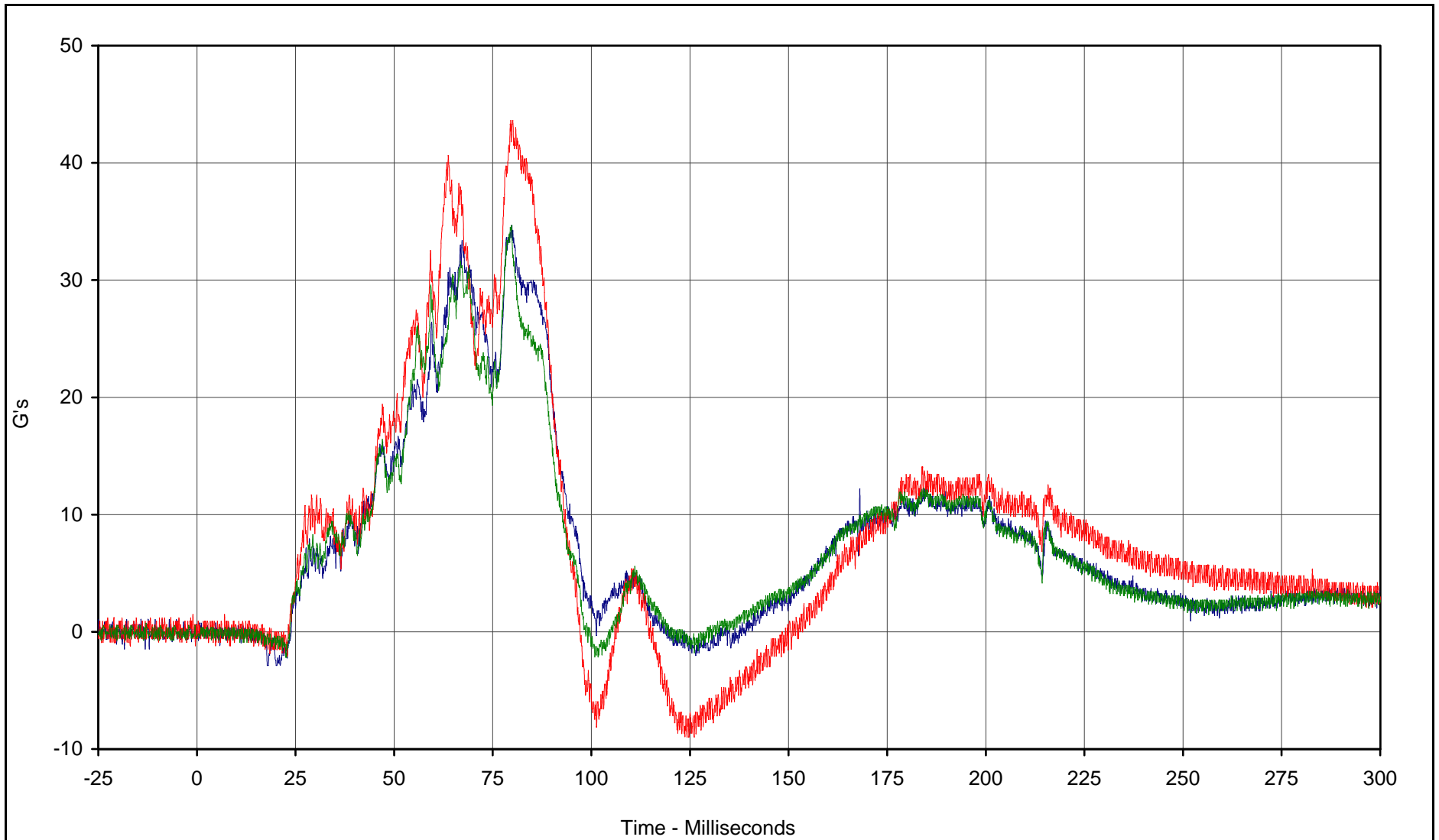
Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09

G-6



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Z	145	FIL	G's	34.7	79.8	-2.9	17.8	1000
Passenger NAHA Xarm-Z	148	FIL	G's	43.6	79.6	-9.0	123.7	1000
Passenger NAHA Yarm-Z	146	FIL	G's	34.7	79.8	-2.2	22.5	1000



Test Vehicle: 2002 Nissan Xterra 4WD SUV

Test Date: 5/16/02

Test Program: 2002 NHTSA 35mph NCAP

NHTSA No.: M25204

KAR22001-09