

REPORT NUMBER TR-P23001-04-NC

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

**TOYOTA MOTOR MANUFACTURING
2003 TOYOTA TACOMA PRERUNNER SR5
4 DOOR PICKUP**

NHTSA NUMBER: M35110

**PREPARED BY:
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ADELANTO, CALIFORNIA 92301**



JANUARY 3, 2003

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NVS-111
400 SEVENTH STREET, SW, ROOM 5311
WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-01-D-02005.

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Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

1. Report No. TR-P23001-04-NC	2. Government Accession No.	3. Recipients Catalog No.																																	
4. Title and Subtitle Final Report of New Car Assessment Program 2003 Toyota Tacoma Prerunner SR5 4 Door Pickup NHTSA No. M35110		5. Report Date January 15, 2003		6. Performing Organization Code KAR																															
		8. Performing Organization Report No. TR-P23001-04-NC																																	
7. Authors Mr. James E. Gorth, Project Engineer, Karco Mr. Frank Richardson, Project Manager, Karco		10. Work Unit No.																																	
						11. Contract or Grant No. DTNH22-01-D-02005																													
9. Performing Organization Name and Address KARCO Engineering, LLC 9270 Holly Road Adelanto, CA 92301		13. Type of Report and Period Covered Final Test Report Option Year 2																																	
						14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS/NVS-111																													
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Rulemaking Office of Crashworthiness Standards Mail Code: NVS-111 400 Seventh Street, SW, Room 5311 Washington, D.C 20590		15. Supplementary Notes																																	
						16. Abstract A 35mph (56.3 km/h) frontal barrier impact was conducted on a 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup at KARCO Engineering, LLC on 1/3/03. This test was conducted to obtain data indicant of FVMSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 55.61 km/h. The ambient temperature at the barrier face at the time of impact is 16.1 degrees Celcius. The test vehicle sustained post-impact maximum static crush of 534 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: 10%;">Units</th> <th style="width: 10%;">Threshold</th> <th style="width: 10%;">Driver ATD</th> <th style="width: 10%;">Pass. ATD</th> <th style="width: 25%;"></th> </tr> </thead> <tbody> <tr> <td>Head Injury Criteria (HIC)</td> <td>N/A</td> <td>1000</td> <td style="text-align: center;">658.7</td> <td style="text-align: center;">761.9</td> <td></td> </tr> <tr> <td>Max. Thorax Accel. (3 msec clip)</td> <td>G's</td> <td>60</td> <td style="text-align: center;">48.7</td> <td style="text-align: center;">50.0</td> <td></td> </tr> <tr> <td>Left Femur Force</td> <td>Newtons</td> <td>10009</td> <td style="text-align: center;">-5963.2</td> <td style="text-align: center;">-4133.4</td> <td></td> </tr> <tr> <td>Right Femur Force</td> <td>Newtons</td> <td>10009</td> <td style="text-align: center;">-4514.3</td> <td style="text-align: center;">-3873.4</td> <td></td> </tr> </tbody> </table>		Measurement Description	Units	Threshold	Driver ATD	Pass. ATD		Head Injury Criteria (HIC)	N/A	1000	658.7	761.9		Max. Thorax Accel. (3 msec clip)	G's	60	48.7	50.0		Left Femur Force	Newtons	10009	-5963.2	-4133.4		Right Femur Force	Newtons	10009	-4514.3	-3873.4		17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) 2003 Toyota Tacoma Prerunner SR5 4 Door Pickup NHTSA No. M35110			
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18. Distribution Statement Copies of this report available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, D.C. 20590																																			
19. Security Classification (this report) Unclassified	20. Security Classification (this page) Unclassified	21. No. Pages 486	22. Price																																

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SECTION 1
PURPOSE AND SUMMARY OF TEST M35110

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 36 load cells was impacted by a 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup truck at a velocity of 55.61 km/h. The test was performed at Karco Engineering, LLC on January 3, 2003. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

One real-time and 19 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 head (primary and redundant), chest (primary and redundant) 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. 35) and the right-front passenger (position 2) ATD (Serial No. 34) were calibrated prior to this test.

Ninety seven (97) channels of data were recorded using an on-board data acquisition system. Appendix A contains Photographs. 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 Child Restraint System (CRS).

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 534 mm and both the driver and the passenger side doors remained closed during the impact event and were operable after the impact.

The driver's visible contact points were as follows: The driver ATD head contacted the airbag and headrest, its chest contacted the airbag and no contact was made at the abdomen. Both knees contacted the steering column/ knee bolster.

The passenger's visible contact points were as follows: The passenger ATD head contacted the airbag and headrest. The chest and abdomen contacted the airbag. 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	658.7	48.7	-33.4	-5963.2	-4514.3	218.1
Passenger	761.9	50.0	-30.6	-4133.4	-3873.4	244.6

SECTION 2
OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	55.61
Test Weight	kg	1918
Impact Angle	degrees	0
Average Rebound	mm	405
Maximum Static Crush	mm	534

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door Opening	Remained closed, opened w/o tools	Remained Closed, opened w/o tools
Rear Door Opening	Remained closed, opened w/o tools	Remained Closed, opened w/o 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. 35	50% Male Hybrid III / No. 34
Head Contact	Headrest/Airbag	Headrest/Airbag
Chest Contact	Airbag	Airbag
Abdomen Contact	None	Airbag
Left Knee Contact	Steering Column/Knee Bolster	Glove Box
Right Knee Contact	Steering Column/Knee Bolster	Glove Box

16mm MOVIE COVERAGE

High Speed	19
Real Time	1
Total	20

DATA CHANNELS

Driver ATD Sensors	40
Passenger ATD Sensors	40
Belt Assessment Sensors	8
Vehicle Structure Accelerometers	9
Rigid Barrier Load Cells	36
Total	133

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

TEST VEHICLE INFORMATION

Make	Toyota
Model	Tacoma PreRunner SR5
Body Style	4 Door Pickup
NHTSA No.	M35110
VIN	5TEGM92N83Z178422
Color	Lunar Mist
Delivery Date	11/29/2002
Odometer Reading (mi.)	66
Dealer	Soutar's
Transmission	4 Speed Automatic
Final Drive	Rear
Type/No. Cylinders	In-Line 4
Engine Displacement (L)	2.7
Engine Placement	Longitudinal
Roof Rack	No
Sunroof/T-Top	No
Tinted Glass	Yes
Traction Control	No
Power Brakes	Yes
Front Disc	Yes
Rear Disc	N

TEST VEHICLE OPTIONS

Anti-Lock Brakes (ABS)	Yes
All Wheel Drive	No
Power Steering	Yes
Driver Airbag	Yes
Driver Side Bag	No
Driver Head Bag	No
Pass. Airbag	Yes
Pass. Side Bag	No
Pass. Head Bag	No
Pre-tensioners	Yes
Load Limiters	Yes
Bucket Seats	Yes
Center Console	Yes
Air Cond.	Yes
AM/Fm Cassette	Yes
Tilt Steering	Yes
Power Door Locks	Yes
Power Windows	Yes
Power Seats	No
Other	0
	0

DATA FROM CERTIFICATION LABEL

Manufactured By	Toyota Motor Manufacturing	GVWR (kg)	2315
Date of Manufacture	November-02	GAWR Front (kg)	1200
		GAWR Rear (kg)	1270

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	None	
Number of Occupants	2	3	N/A	5
Capacity Wt. (VCW) (kg)				677
Cargo Weight (RCLW) (kg)				136

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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

TIRE INFORMATION

Measured Parameter	Front	Rear
Max. Tire Pressure (kPa)	180	180
Cold Pressure (kPa)	180	180
Recommend Tire Size	P265/70R16	P265/70R16
Tire Size on Vehicle	P265/70R16	P265/70R16
Tire Manufacturer	Bridgestone	Bridgestone
Treadwear	180	180
Traction	B	B
Temperature Grades	B	B
Tire Plies Sidewall	2	2
Tire Plies Body	4	4
Load Index/Speed Symbol	111 S	111 S
Tire Material	Steel/poyester	Steel/poyester
DOT Safety Code Right	DOT 7X72 PDD 3802	DOT 7X72 PDD 3802
DOT Safety Code Left	DOT 7X72 PDD 3802	DOT 7X72 PDD 3802

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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

TEST VEHICLE WEIGHTS

	Units	As Delivered (<i>UVW</i>)			As Tested (<i>ATW</i>)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	461	376		516	460	
Right	kg	449	351		511	431	
Ratio	%	55.6	44.4		53.5	46.5	
Totals	kg	910	727	1637	1027	891	1918

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (<i>UVW</i>)	kg	1637
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Weight (<i>RCLW</i>)	kg	136
Calculated Vehicle Target Weight (<i>TVTW</i>)	kg	1925

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	905	905	924	925	1385
As Tested	mm	878	875	893	893	1450

Vehicle Wheel base (mm): 3119

Weight of Ballast secured in cargo area (kg): 63

Vehicle Components Removed: Spare tire and tailgate.

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

FUEL SYSTEM DATA

Fuel System Capacity From Owner's Manual (L): 70.0

Usable Capacity Figure Furnished by COTR (L): 70.0

Actual Test Volume with entire fuel System Filled (L): 65.1

Test Fluid Type: Stoddard Solvent ; Specific Gravity: 0.764

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

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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	55.51 to 57.12	55.61
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	55.63
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	5017	4572	-445
Center	mm	5148	4614	-534
Right Side	mm	5017	4573	-444

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	430
Center	mm	375
Right Side	mm	410
Average	mm	405

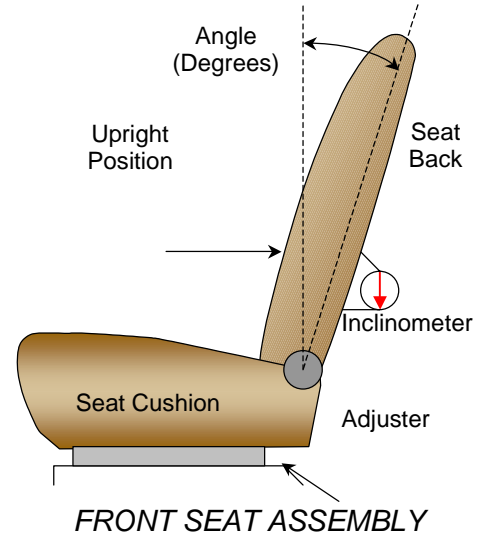
**DATA SHEET NO. 4
TEST VEHICLE INFORMATION**

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

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.



SEAT BACK ANGLES

	Deg.
Driver w/seated Dummy	8
Passenger w/seated Dummy	8

SEAT FORE/AFT POSITIONS

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 the driver and passenger.

SEAT FORE/AFT POSITIONING

	Total Fore/Aft Travel	Placed in Position #
Driver Seat	14	8
Passenger Seat	14	8

SEAT BELT UPPER ANCHORAGE

Position number one (1) is the uppermost position.

SEAT BELT UPPER ANCHORAGE

	Total # of Positions	Placed in Position #
Driver Seat	5	3
Passenger Seat	5	3

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

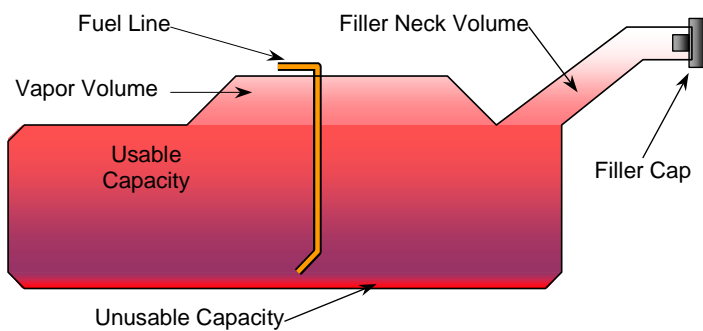
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

FUEL TANK CAPACITY DATA

	Liters
Usable Capacity of "Standard Tank"	70.0
Usable Capacity of "Optional Tank"	N/A
Usable Capacity used for FMVSS 301	64.43 to 65.83
Actual Amount of Solvent Used	65.1

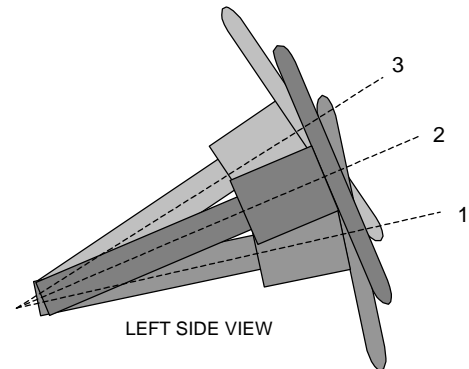
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender. The standard fuel tank occupies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



VEHICLE FUEL TANK ASSEMBLY

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.



STEERING COLUMN ASSEMBLY

STEERING COLUMN POSITIONS

	Degrees
Lowermost; position No. 1	21
Geometric center; position No. 2	28.5
Uppermost; position No. 3	36

DATA SHEET NO. 5
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
Test Date: 1/3/03

TEST DUMMY POSITION MEASUREMENTS

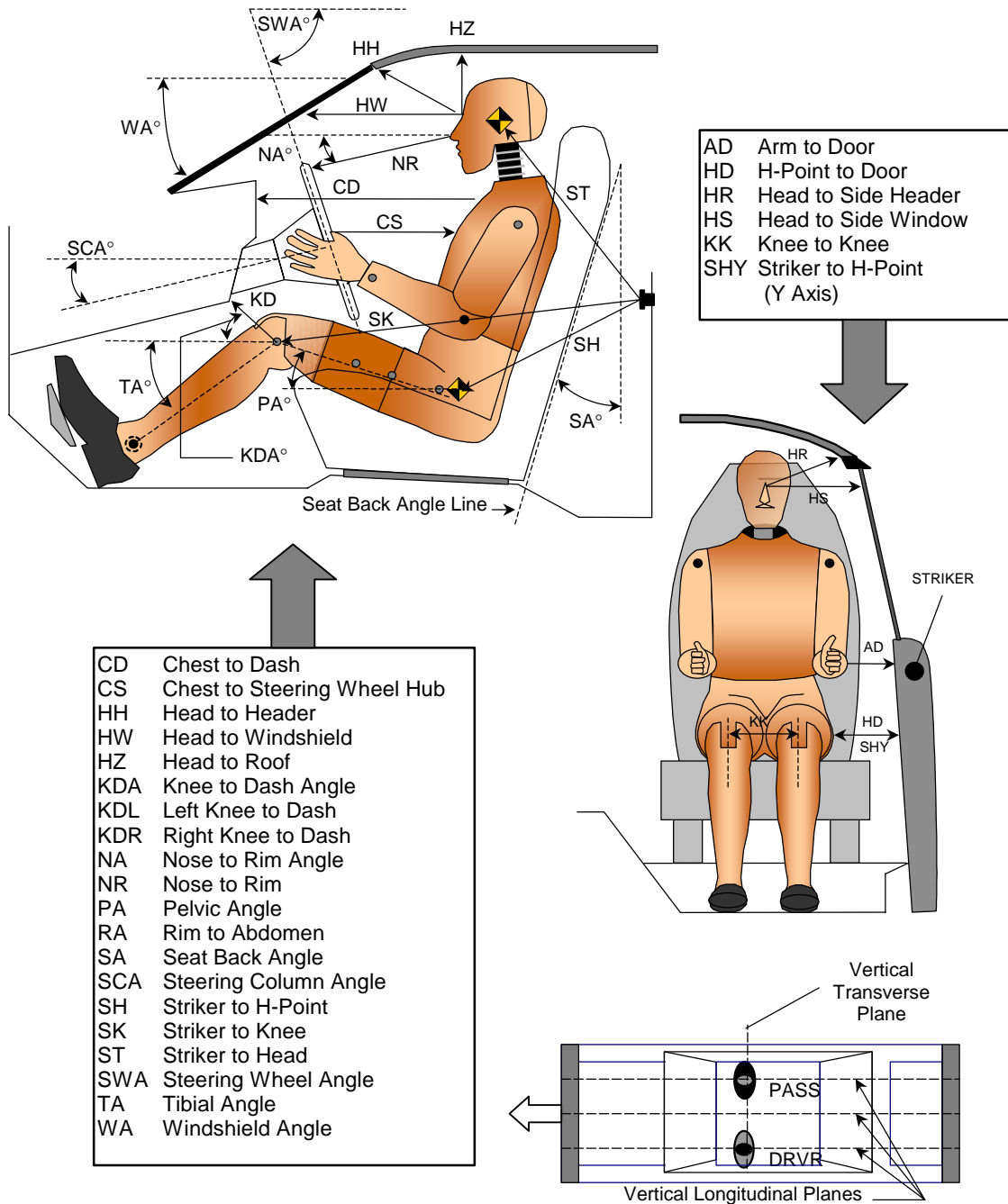
Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		39		
SWA	Steering Wheel Angle		61.5		
SCA	Steering Column Angle		28.5		
SA	Seat Back Angle		8		8
HZ	Head to Roof (Z)	220	90	200	90
HH	Head to Header	497		425	
HW	Head to Windshield	615		625	
HR	Head to Side Header (Y)	250		242	
NR	Nose to Rim	450	13		
CD	Chest to Dash	587		590	
CS	Chest to Steering Hub	317			
RA	Rim to Abdomen	195			
KDL	Left Knee to Dash	185	10	155	
KDR	Right Knee to Dash	265		160	18
PA	Pelvic Angle		25		24
TA	Tibia Angle		38		34
KK	Knee to Knee (Y)	328		275	
ST	Striker to Head	738	4	750	5
SK	Striker to Knee	543	67	575	67
SH	Striker to H-Point	340		335	
SHY	Striker to H-Point (Y)	208		200	
HS	Head to Side Window	300		300	
HD	H-Point to Door (Y)	138		133	
AD	Arm to Door (Y)	90		18	

DATA SHEET NO. 5...(CONTINUED)

DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

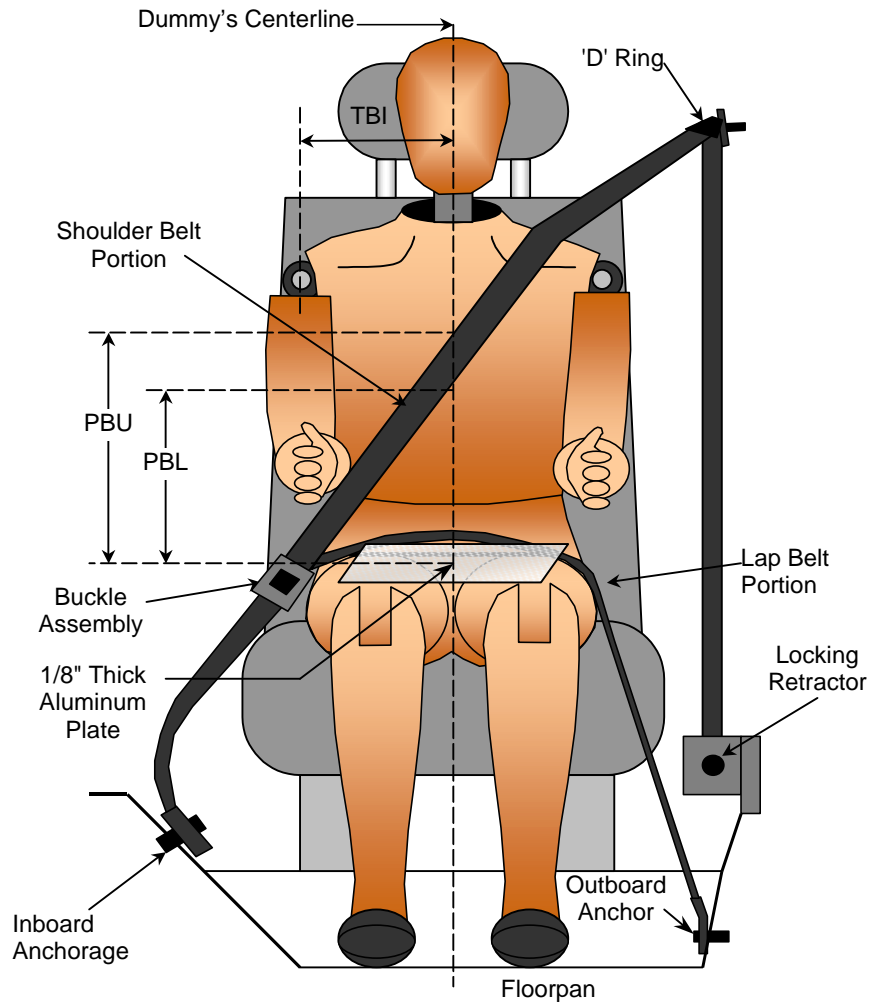


DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

**DATA SHEET NO. 6
SEATBELT POSITIONING DATA**

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	250	240
PBU - Top surface of reference to belt upper edge	mm	290	345
PBL - Top surface of reference to belt lower edge	mm	210	270
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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

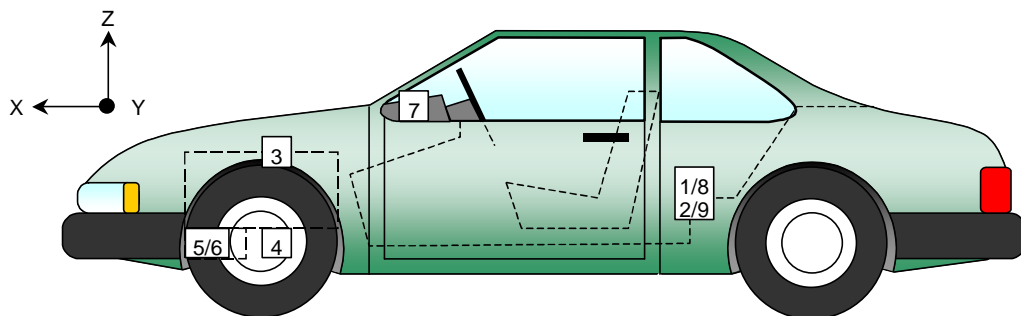
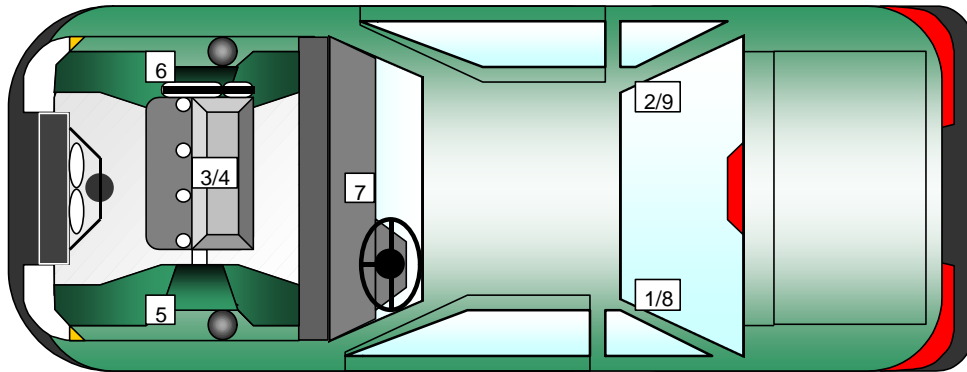
Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

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	2280	-670	610	G's	3.6	156.7	-35.1	45.3
2	Right Rear X-Member	2280	670	610	G's	4.3	142.9	-38.4	45.6
3	Engine Top	4570	60	1090	G's	38.9	39.0	-130.9	29.6
4	Engine Bottom	4300	110	400	G's	21.9	50.5	-109.8	32.7
5	Left Brake Caliper	4420	-650	450	G's	68.8	56.5	-129.3	41.3
6	Right Brake Caliper	4420	650	450	G's	53.6	56.7	-159.7	40.3
7	Instrument Panel	3580	10	1280	G's	18.9	30.7	-67.9	66.6
8	Left Rear X-Member (Z-Axis)	2185	-670	610	G's	11.4	57.4	-5.8	42.1
9	Right Rear X-Member (Z-Axis)	2185	670	610	G's	10.0	99.6	-8.1	40.9

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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	22.0	211.2	-58.4	69.2	23.3	205.3	-52.3	79.3
Head CG	Y	G's	3.8	163.5	-11.2	86.3	8.0	219.3	-28.9	83.0
Head CG	Z	G's	32.7	52.3	-4.9	135.5	39.3	80.1	-1.9	28.6
Head CG Resultant	N/A	G's	64.6	69.2			70.4	80.4		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.8	178.6	-49.7	66.8	5.8	181.4	-52.5	65.4
Chest CG	Y	G's	7.5	78.0	-4.7	47.5	7.2	50.9	-9.4	79.5
Chest CG	Z	G's	14.5	43.9	-9.3	104.4	11.9	68.9	-6.5	127.6
Chest CG Resultant	N/A	G's	50.2	66.9			52.9	65.4		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	787.8	45.9	-5963.2	48.3	86.3	30.0	-4133.4	49.4
Right Femur	Z	Newtons	1199.4	42.9	-4514.3	56.0	36.0	243.8	-3873.4	48.0

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Shoulder Belt Pullout	N/A	MM	218.1	82.6	-15.0	40.2	244.6	85.3	-11.9	39.5
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	8601.2	56.8	-19.2	219.5	8496.7	57.7	-10.7	118.6
Shoulder Belt Force	N/A	Newtons	5675.1	82.0	-41.6	160.6	7944.4	79.6	-22.0	299.9

1.) Not used with pre-tensioner

Location	Driver				Passenger			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary	658.7	57.5	91.4	51.9	761.9	61.6	96.1	54.6

PRIMARY CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	48.7	56.8	59.8	50.0	63.6	66.6

DATA SHEET NO. 8...(continued)

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	5.1	132.7	-72.9	55.1	6.2	121.9	-66.7	62.3
Pelvis	Y	G's	17.1	48.0	-12.9	55.0	4.8	41.8	-6.2	101.0
Pelvis	Z	G's	9.4	43.1	-26.9	56.7	3.2	244.3	-25.7	54.7
Pelvis Resultant	N/A	G's	77.9	55.1			71.0	58.5		

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	620.0	72.6	-795.7	132.0	481.7	64.2	-543.5	110.7
Neck Force	Y	Newtons	114.3	156.2	-280.5	70.4	392.0	66.5	-316.8	103.9
Neck Force	Z	Newtons	1979.7	63.3	-427.0	242.0	1326.1	73.2	-795.6	249.8
Neck Force Resultant	N/A	Newtons	2041.8	68.5			1431.6	73.2		
Neck Moment	X	N•m	18.9	69.4	-16.5	100.5	7.6	247.3	-27.4	64.2
Neck Moment	Y	N•m	47.3	123.3	-18.0	52.6	38.3	101.9	-37.3	246.5
Neck Moment	Z	N•m	9.4	78.2	-3.5	270.1	28.8	94.1	-13.9	140.4
Neck Moment Resultant	N/A	N•m	47.4	123.3			48.4	100.2		

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	19.4	66.6	-104.7	41.7	48.1	73.8	-150.5	40.6
Left Foot Aft	Z	G's	3.2	172.2	-63.6	41.0	27.5	67.8	-73.0	41.8
Left Foot Fore	Z	G's	40.0	60.1	-108.6	54.5	32.5	35.2	-162.4	39.4
Right Foot Aft	X	G's	53.6	51.6	-246.8	41.4	34.1	78.1	-95.3	46.3
Right Foot Aft	Z	G's	92.3	49.1	-214.3	44.6	6.4	82.5	-88.1	43.4
Right Foot Fore	Z	G's	250.4	49.4	-537.6	39.6	64.6	37.3	-145.1	43.4

1.) Passenger side failed, see plot for failure time

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	63.5	49.7	-29.4	53.6	162.8	40.7	-154.7	58.8
Left Upper Moment	Y	N•m	20.3	133.4	-113.0	43.4	60.9	58.9	-63.0	40.7
Right Upper Moment	X	N•m	87.4	55.7	-72.8	42.7	91.1	40.7	-124.9	60.0
Right Upper Moment	Y	N•m	62.1	60.0	-280.4	43.3	8.1	270.2	-59.5	68.8
Left Lower Moment	X	N•m	34.1	41.1	-77.5	44.1	37.1	40.4	-86.3	46.4
Left Lower Moment	Y	N•m	36.6	62.0	-34.8	43.9	92.7	87.6	-70.5	39.8
Left Lower Force	Z	Newtons	103.0	144.9	-3130.0	42.3	316.9	59.0	-5052.0	43.1
Right Lower Moment	X	N•m	66.2	43.2	-130.6	50.0	33.5	85.4	-3.3	172.5
Right Lower Moment	Y	N•m	128.1	55.8	-144.6	40.9	86.4	85.0	-15.8	52.1
Right Lower Force	Z	Newtons	196.5	154.5	-6624.3	43.9	139.1	129.7	-3138.1	42.6

DATA SHEET NO. 8...(continued)

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.2	16.1	-33.4	83.3	0.2	0.7	-30.6	83.2

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	22.0	209.5	-58.2	69.3	22.7	207.2	-52.3	76.2
Head CG	Y	G's	3.5	141.0	-10.8	85.6	7.7	215.5	-29.0	83.6
Head CG	Z	G's	31.5	52.1	-5.6	136.4	39.4	79.9	-1.7	28.8
Head CG Resultant	N/A	G's	64.1	68.7			70.1	80.1		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.9	242.5	-50.1	66.8	5.4	180.6	-52.3	65.4
Chest CG	Y	G's	7.1	78.1	-4.8	47.3	6.6	51.0	-9.2	79.6
Chest CG	Z	G's	14.5	43.9	-9.3	100.8	11.7	52.5	-6.9	127.6
Chest CG Resultant	N/A	G's	50.6	66.8			52.7	65.5		

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	655.7	57.5	91.3	51.8	755.8	61.9	96.3	54.5

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	49.0	56.7	59.7	50.1	63.4	66.4

DATA SHEET NO. 9
SEATBELT ASSESSMENT TEST DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
Test Date: 1/3/03

SEAT BELT PLACEMENT MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy C/L to Lap/Shoulder Belt Intersect	mm	250	240
PBU - Top surface of reference to belt upper edge	mm	290	345
PBL - Top surface of reference to belt lower edge	mm	210	270
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	760	760
Shoulder belt length as measured on ATD	mm	835	835
Lap belt length as measured on ATD	mm	865	920
Remainder of belt on reel	mm	800	750
Total belt length for continuous webbing systems	mm	3260	3265

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	190.0	145.0
As determined electronically	mm	218.1	244.6

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically between shoulder belt load cell and "D" ring	mm/cm	*	*
Mechanically	mm/cm	0.00	0.00

*Not used with shoulder belt pre-tensioner systems.

**DATA SHEET NO. 10
SUMMARY OF FMVSS 212 DATA**

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

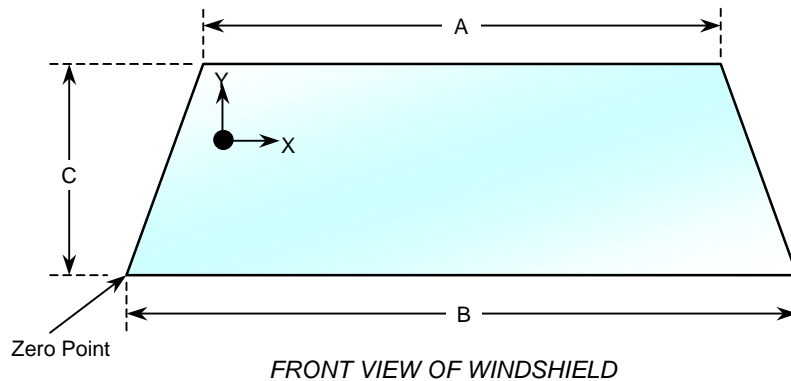
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. No molding covers the windshield periphery at any point.

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	1864.5	1864.5	100
Right Side	1864.5	1864.5	100
Total	3729.0	3729.0	100



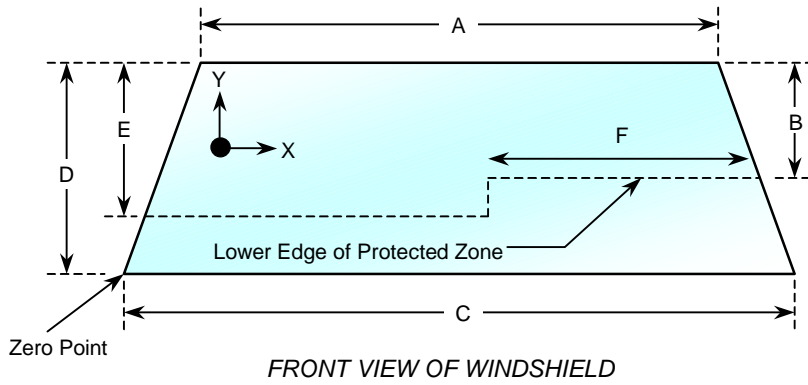
WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1120	18
B	mm	1383	10
C-left	mm	613	18
C-right	mm	613	18

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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03



**WINDSHIELD AND
 PROTECTED ZONE**

Item	Units	Value
A	mm	1120
B	mm	360
C	mm	1383
D	mm	613
E	mm	380
F	mm	415

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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
Test Date: 1/3/03

Test Time: 1:30 PM

Temperature at Test Time: 18.0 Deg. C

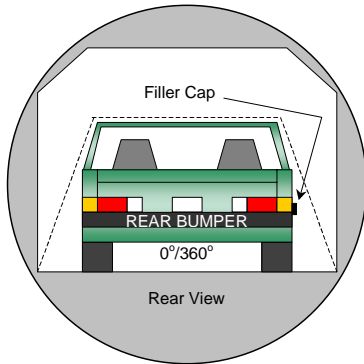
STODDARD SOLVENT SPILLAGE MEASUREMENTS

- 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

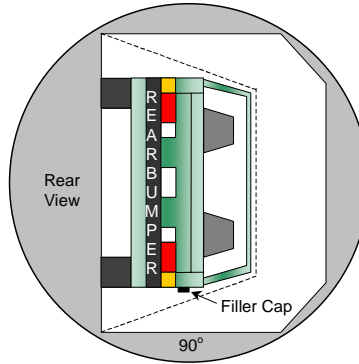
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

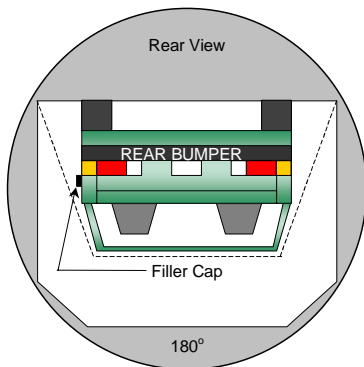
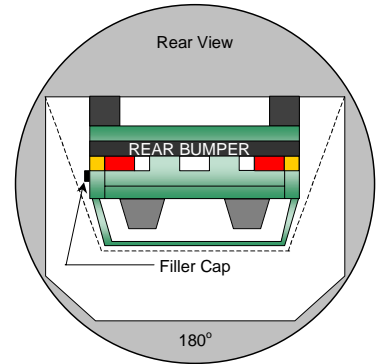
NHTSA No.: M35110
 Test Date: 1/3/03



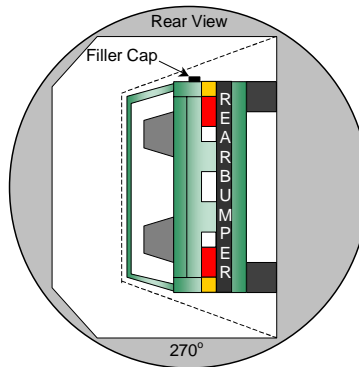
0° to 90°



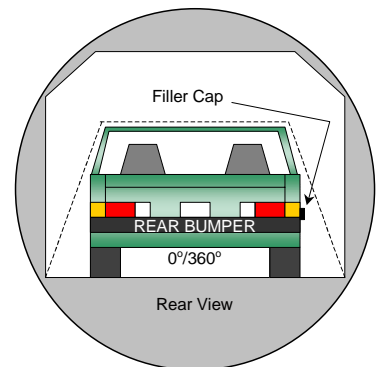
90° to 180°



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.

DATA SHEET NO. 13....(CONTINUED)
FMVSS 301 STATIC ROLLOVER DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

SOLVENT COLLECTION TIME TABLE IN SECONDS

Test Phase	Rotation Time	Hold Time	Total Time
0° to 90°	84	300	384
90° to 180°	79	300	379
180° to 270°	78	300	378
270° to 360°	81	300	381

FMVSS 301 SPILLAGE REQUIREMENT TABLE (oz.)

First 5 minutes	5.0
Sixth Minute	1.0
Seventh minute	1.0
Eighth Minute	1.0

ACTUAL TEST VEHICLE SOLVENT SPILLAGE (oz.)

Test Phase	First 5 Minutes	Sixth Minute	Seventh Minute	Eighth Minute
0° to 90°	0	0	0	0
90° to 180°	0	0	0	0
180° to 270°	0	0	0	0
270° to 360°	0	0	0	0

SOLVENT SPILLAGE LOCATION TABLE

Test Phase	SPILLAGE LOCATION
0° to 90°	None
90° to 180°	None
180° to 270°	None
270° to 360°	None

DATA SHEET NO. 14
VEHICLE MEASUREMENTS

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
Test Date: 1/3/03

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	5148	4614	-534
2	RSOV to front of engine	mm	4632	4468	-164
3	RSOV to firewall centerline	mm	4055	4003	-52
4	RSOV to leading edge of right door	mm	3786	3810	24
5	RSOV to leading edge of left door	mm	3791	3800	9
6	RSOV to lower leading edge of right door	mm	3750	3760	10
7	RSOV to lower leading edge of left door	mm	3760	3750	-10
8	RSOV to upper trailing edge of right door	mm	2682	2700	18
9	RSOV to upper trailing edge of left door	mm	2681	2690	9
10	RSOV to lower trailing edge of right door	mm	2681	2698	17
11	RSOV to lower trailing edge of left door	mm	2687	2695	8
12	RSOV to bottom of right 'A' pillar	mm	3774	3800	26
13	RSOV to bottom of left 'A' pillar	mm	3783	3786	3
14	RSOV to firewall on right side	mm	4054	4038	-16
15	RSOV to firewall of left side	mm	4055	4008	-47
16	RSOV to steering column	mm	3373	3381	8
17	Center of steering column to left 'A' pillar	mm	400	360	-40
18	Center of steering column to headlining	mm	395	350	-45
19	RSOV to right side of front bumper	mm	5017	4573	-444
20	RSOV to left side of front bumper	mm	5017	4572	-445
21	Length of engine block	mm	530	530	0
RD	RSOV to right side of dash panel	mm	3581	3590	9
CD	RSOV to center of dash panel	mm	3558	3576	18
LD	RSOV to left side of dash panel	mm	3607	3613	6

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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

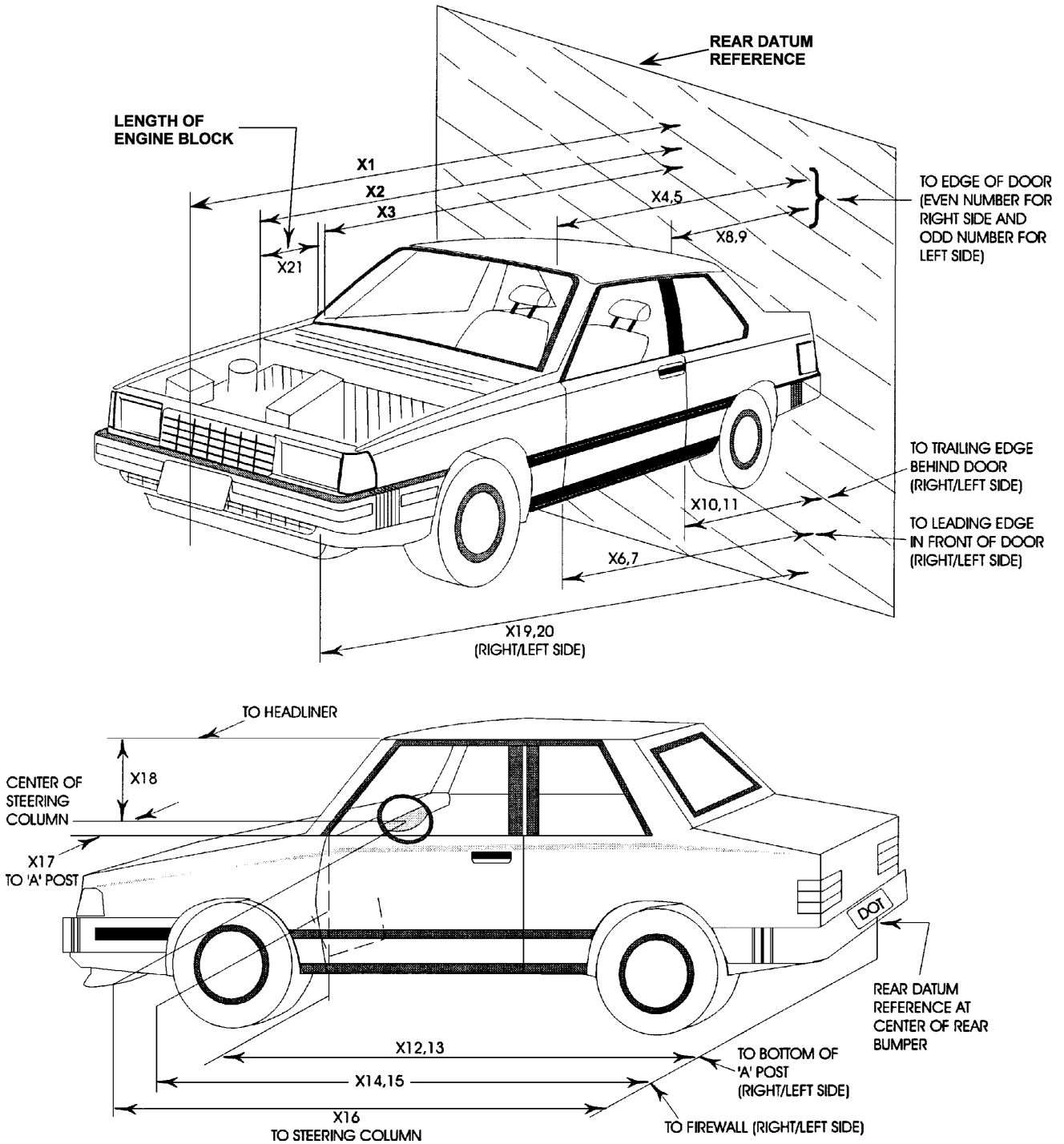
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total Length	mm	5148	4614	-534
2	Total Width	mm	1654	1665	11
3	Bumper Top Height	mm	762	790	28
4	Bumper Bottom Height	mm	415	470	55
5	Longitudinal Member Top Height	mm	543	630	87
6	Longitudinal Member Bottom Height	mm	484	445	-39
7	Distance Between Longitudinal Members	mm	753	850	97
8	Longitudinal Member Width	mm	55	55	0
9	Engine Top Height	mm	1060	1110	50
10	Engine Bottom Height	mm	323	506	183
11	Engine and Gear Box Width	mm	220	220	0
12	Front Bumper to Engine Distance	mm	528	230	-298
13	Front Shock Absorber Fixing Width	mm	344	390	46
14	Bonnet Leading Edge Height	mm	1060	1100	40
15	Front Schock Absorber Fixing Width	mm	993	960	-33
16	Front Bumper to Front Axle Distance	mm	810	340	-470
17	Front Axle to A-Pillar Distance	mm	510	452	-58
18	A-Pillar to B-Pillar Distance	mm	1140	1100	-40
19	B-Pillar to Rear Axla Distance	mm	1450	1438	-12
20	B-Pillar to C-Pillar Distance	mm	805	800	-5
21	Roof Sill Bottom Height	mm	1640	1550	-90
22	Roof Sill Top Heigth	mm	1700	1633	-67
23	Floor Sill Bottom Height	mm	495	420	-75
24	Floor Sill Top Height	mm	580	510	-70

All Measurements in millimeters

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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03



DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
Test Date: 1/3/03

No.	Camera View	Location (mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Side, Real Time	18288	-22860	2540	10	N/A	Zoom	24
2	Driver Overall	1930	8357	1321	4	7849	13	1040
2B	Driver Overall	1626	8230	1092	4	7849	17	980
3	Driver Close-up	1727	8230	1600	4	7747	35	980
4	3/4 Driver (Shoulder)	6477	10185	4648	13	11024	35-80	1000
5	Driver Steering Column	1524	8230	3404	20	8001	17	1020
6	Driver Steering Column	1524	8230	2947	16	7899	17	1030
7	Passenger Overall	2057	-8306	1600	6	7798	24	1000
8	Passenger Close-up	1676	-8052	1600	4	7569	35	1030
9	3/4 Passenger (Shoulder)	8026	-8941	2947	9	10338	80	960
10	Passenger Door	2438	-9525	1600	4	9017	35	910
11	Overhead	610	0	6172	90	N/A	13	1060
12	Driver Front	-610	381	2743	40	N/A	13	820
13	Passenger Front	-610	-432	2743	40	N/A	12	950
14	Pit Camera, Engine	610	0	-1491	90	N/A	19	880
15	Pit Camera, Fuel Tank	2743	0	-1491	90	N/A	28	1130
16	Rear Child Driver Side	2692	-762	1651	18	1194	13	850
16B	Rear Child Driver Side	2896	3299	1499	1	5994	25	1010
17	Rear Child Pass. Side	2692	762	1657	48	1168	13	480
17B	Rear Child Pass. Side	3048	-8306	1854	3	8052	50	990

X - Barrier Face Y - Monorail Centerline Z - Ground

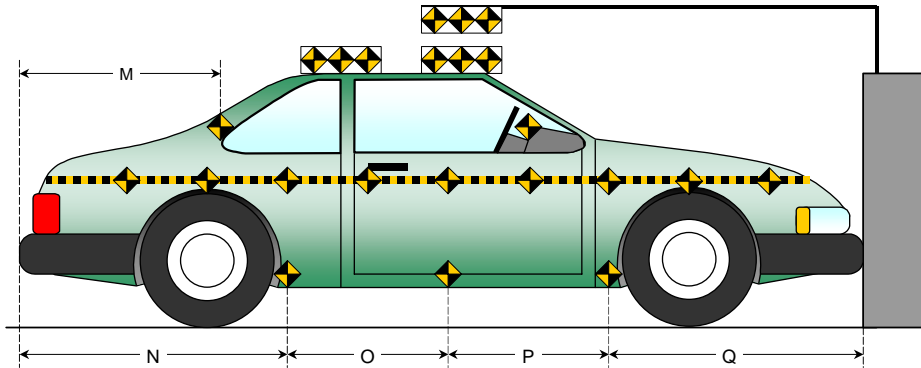
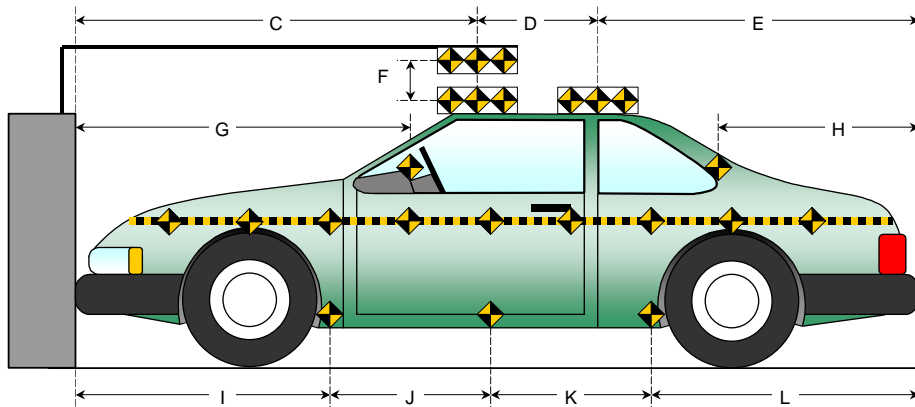
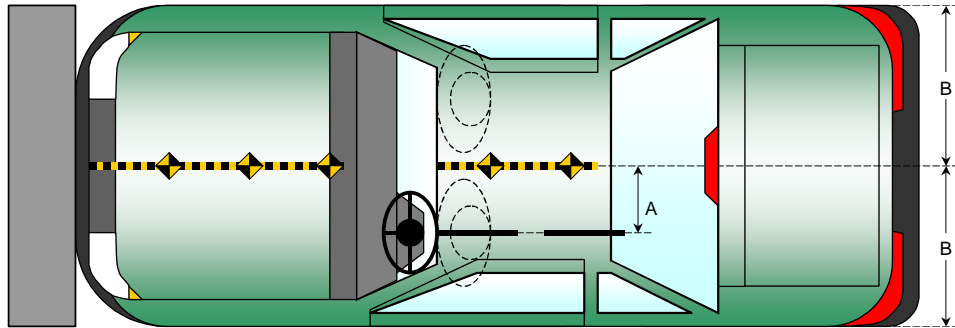
DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

All Dimensions
 in mm

Item	Value
A	408
B	1777
C	2094
D	608
E	2454
F	155
G	1596
H	1922
I	1431
J	955
K	955
L	1884
M	1922
N	1884
O	955
P	955
Q	1431



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

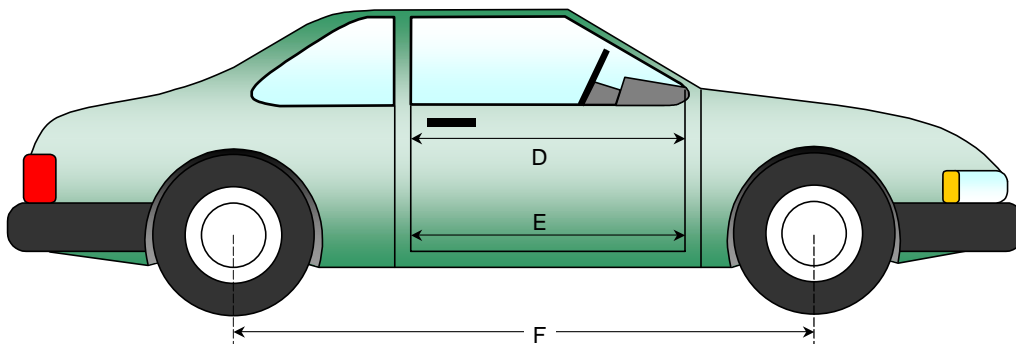
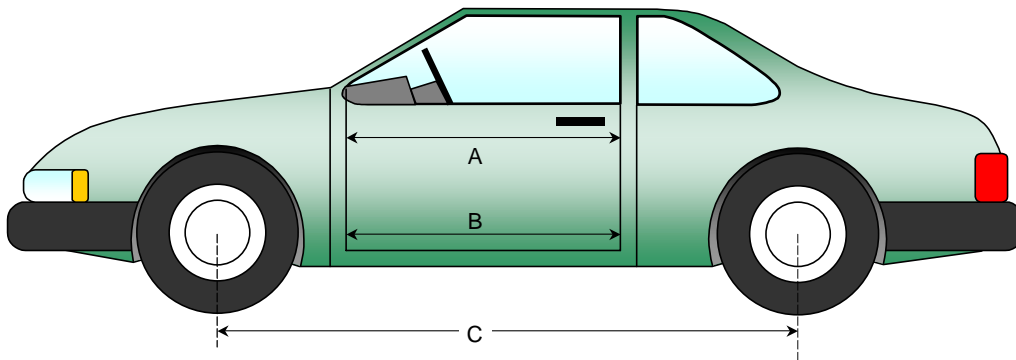
NHTSA No.: M35110
 Test Date: 1/3/03

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1093	1084	-9
B	Left Side Lower	mm	1062	1054	-8
D	Right Side Upper	mm	1091	1083	-8
E	Right Side Lower	mm	1059	1052	-7

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheel base	mm	3119	3020	-99
F	Right Side Wheel base	mm	3119	3060	-59



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

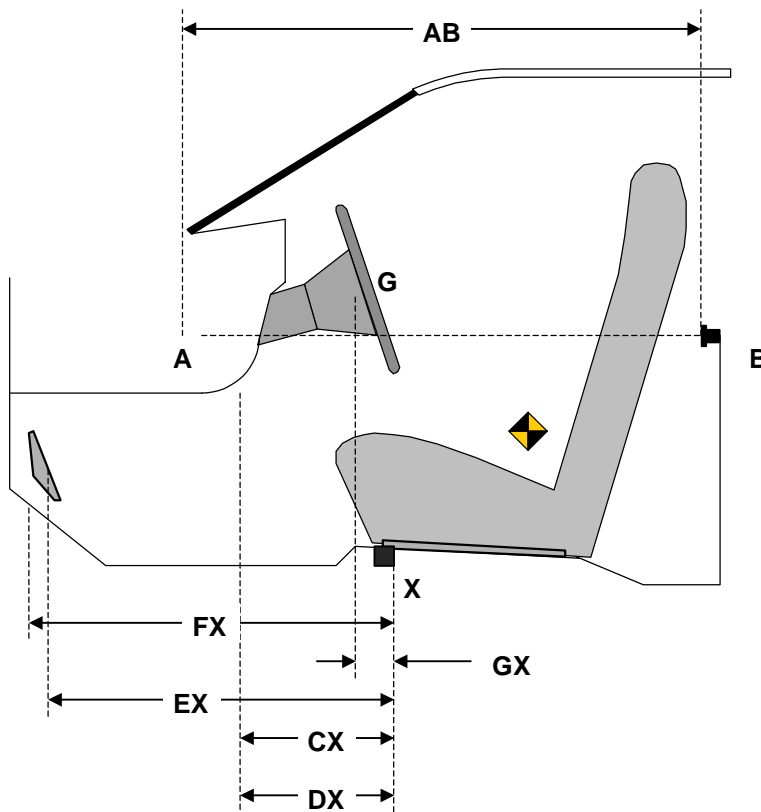
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside window jam)	mm	1093	1084	-9
CX	Left Knee Bolster to X	mm	275	260	-15
DX	Right Knee Bolster to X	mm	276	223	-53
EX	Brake Pedal to X	mm	587	430	-157
FX	Foot Rest to X	mm	626	590	-36
GX	Center of Steering Wheel Hub to X	mm	70	30	-40

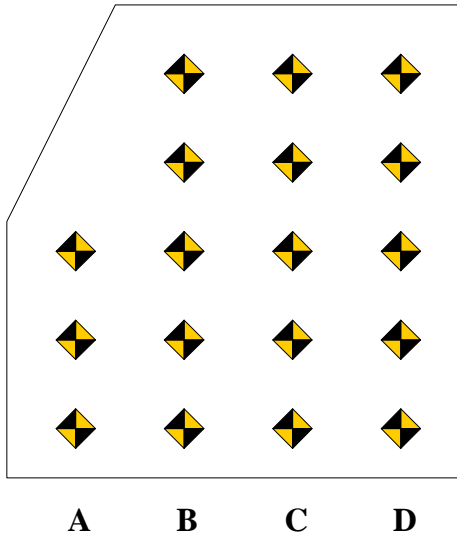
X = Left Front Seat Outboard Anchor Bolt Head



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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03



- 1 Measurement reference point for X and Z-axis is the forward outboard seat mounting bolt.
 - 2 Columns A through D are evenly spaced.
 - 3 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.
 - 4
 - 5
- 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		710	718	706		655	665	620		-55	-53	-86
2		652	651	651		635	607	589		-17	-44	-62
3	556	557	557	556	563	555	547	555	7	-2	-10	-1
4	456	457	458	456	465	465	462	455	9	8	4	-1
5	356	358	358	358	365	370	372	375	9	12	14	17

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		79	70	71		110	115	110		31	45	39
2		-4	-13	-2		15	15	23		19	28	25
3	-33	-35	-35	-30	-64	-65	-45	-43	-31	-30	-10	-13
4	-49	-52	-55	-55	-78	-100	-85	-79	-29	-48	-30	-24
5	-61	-62	-68	-63	-80	-100	-101	-88	-19	-38	-33	-25

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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

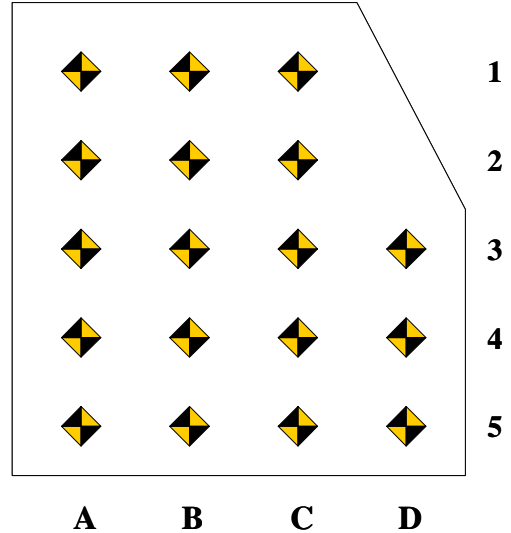
NHTSA No.: M35110
 Test Date: 1/3/03

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	712	717	716		584	630	640		-128	-87	-76	
2	648	651	649		570	610	620		-78	-41	-29	
3	557	555	556	555	530	540	545	523	-27	-15	-11	-32
4	457	457	456	455	450	460	460	458	-7	3	4	3
5	357	357	356	357	360	360	360	360	3	3	4	3

PASSENGER FLOOR PAN Z-AXIS

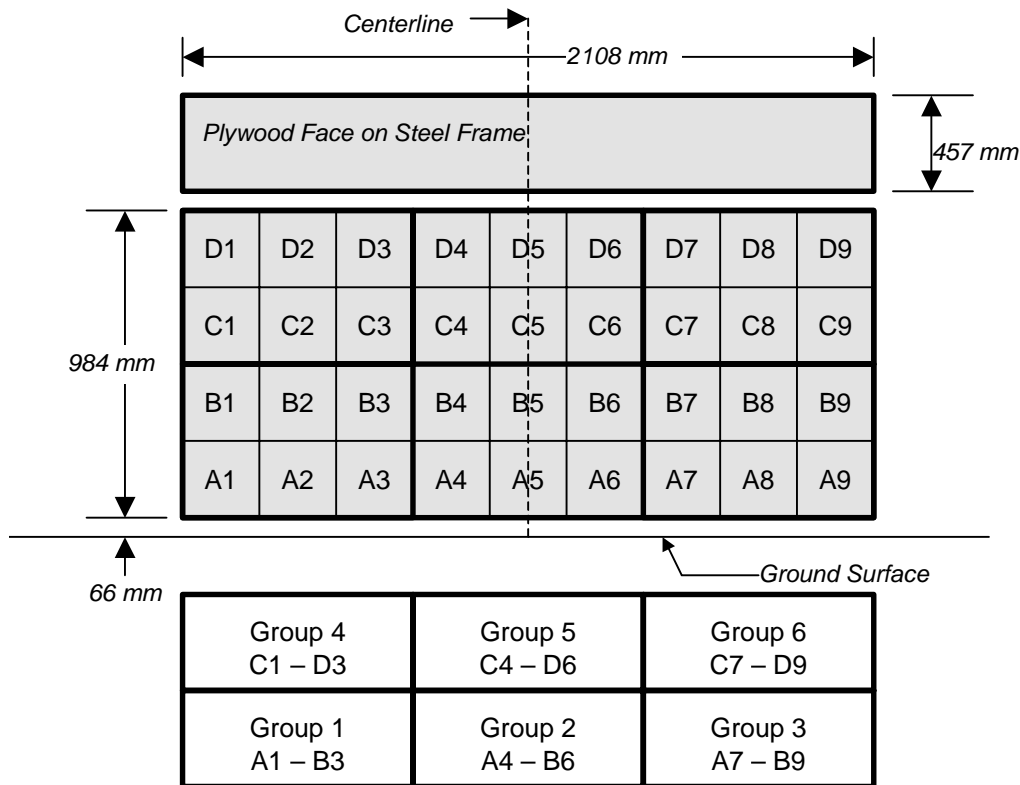
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	90	85	83		128	128	126		38	43	43	
2	7	-3	-3		48	29	30		41	32	33	
3	-40	-42	-40	-37	-43	-62	-62	-60	-3	-20	-22	-23
4	-60	-62	-58	-57	-80	-83	-90	-89	-20	-21	-32	-32
5	-65	-65	-65	-65	-90	-82	-94	-90	-25	-17	-29	-25

DATA SHEET NO. 18
FIXED BARRIER LOAD CELL LOCATIONS

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

VEHICLE INFORMATION

VIN: 5TEGM92N83Z178422 Wheel base (mm): 3119
 Vehicle Size Category: 4 Door Pickup Test Weight (kg): 1918

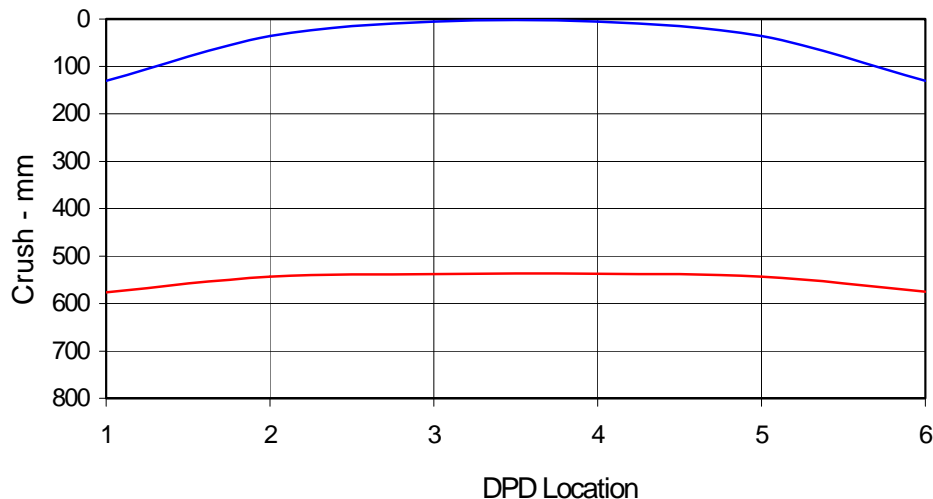
ACCELEROMETER DATA

Accelerometer Location: Left rear floor pan
 Cal. Procedure/Interval: 6 months / drop test
 Integration Algorithm: NHTSA Standard Linearity: Good
 Impact Velocity (km/h): 55.61
 Velocity Change (km/h): 70.5 Time of Separation (msec): 63.8

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 Midpoint of Damage: Vehicle Centerline
 Damage Region Length (mm): 1415 Impact Mode: Full Frontal

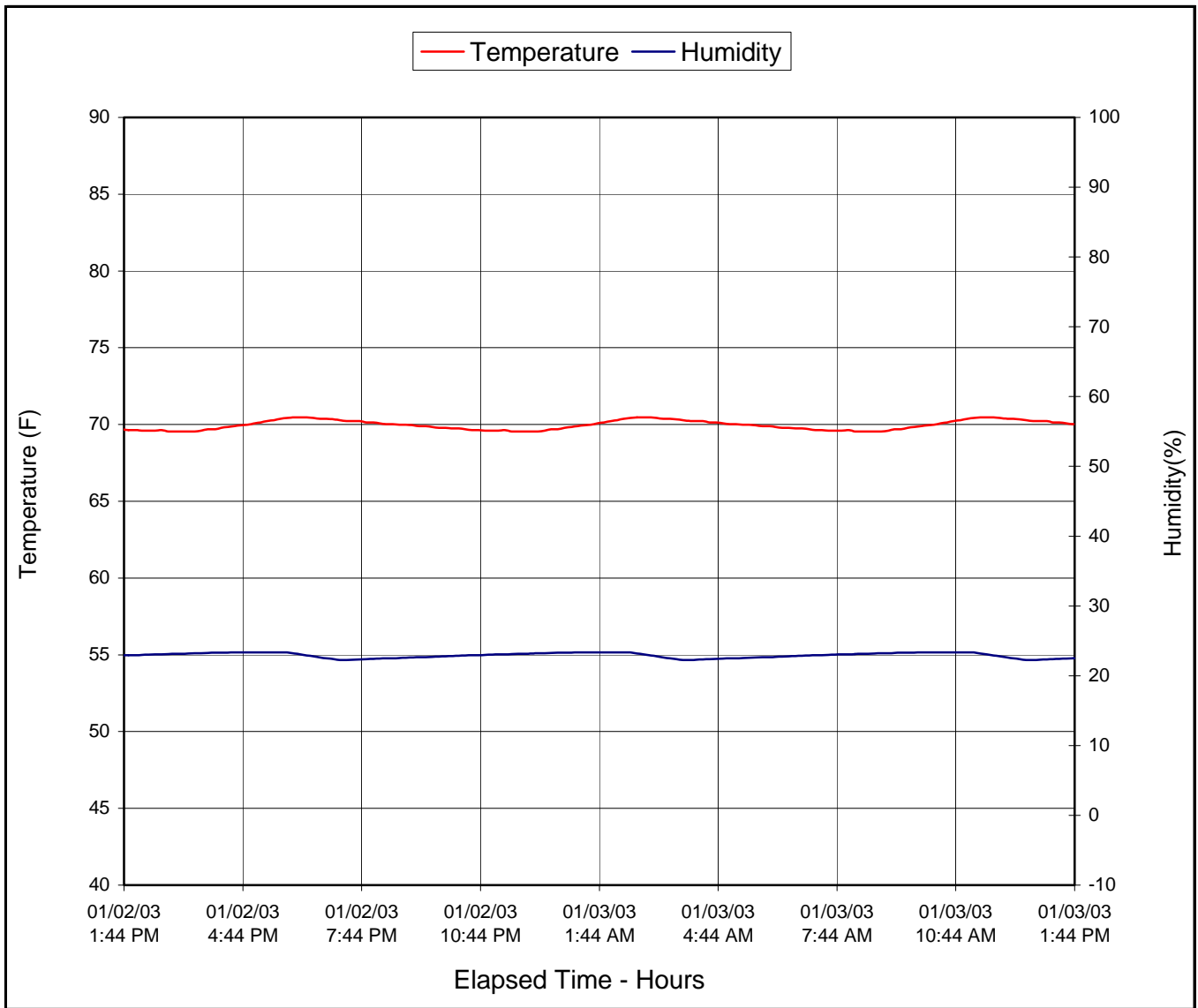
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	131	576	-445
C2	Crush zone 2 on left side	mm	36	543	-507
C3	Crush zone 3 on left side	mm	6	538	-532
C4	Crush zone 4 on right side	mm	6	537	-531
C5	Crush zone 5 on right side	mm	36	543	-507
C6	Crush zone 6 at right side	mm	131	575	-444



DATA SHEET NO. 20
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03



APPENDIX A

PHOTOGRAPHS

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Figure A-1: Load Cell Location

MFD. BY TOYOTA MOTOR MANUFACTURING CALIFORNIA INC.

DATE 11/02 GVWR: 2315KG (5100LB)

GAWR : FRT. 1200KG (2650LB) WITH 2315 TIRES.

15X7JJ RIMS, AT 180KPA (26PSI) COLD.

RR. 1270KG (2800LB) WITH P225/75R15 TIRES.

15X7JJ RIMS, AT 200KPA (29PSI) COLD.

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

5TEGM92N83Z178422 TRUCK

RZN196L-PRPKAB

C/TR 1C8 / FK10

A/TM B04A /

A340E



Figure A-2: Vehicle Certification Label

RECOMMENDED COLD TIRE
INFLATION PRESSURE (kPa)
PRESSION DE PNEUS (psi)

TIRE SIZE DIMENSIONS	FRONT AV	REAR AR
P225/75R15 102S	180 (26)	200 (29)
P265/70R16 111S	180 (26)	180 (26)
P265/70R16 111T	180 (26)	180 (26)

See Owner's Manual
for additional information.
Voir le Manuel du Propriétaire
pour de plus amples informations.

04040

KE

Figure A-3: Vehicle Tire Label



Figure A-4: Right Front $\frac{3}{4}$ View, As Received



A-5

TR-P23001-04-NC

Figure A-5: Left Rear 3/4 View, as Received



Figure A-6: Pre-Test Front View

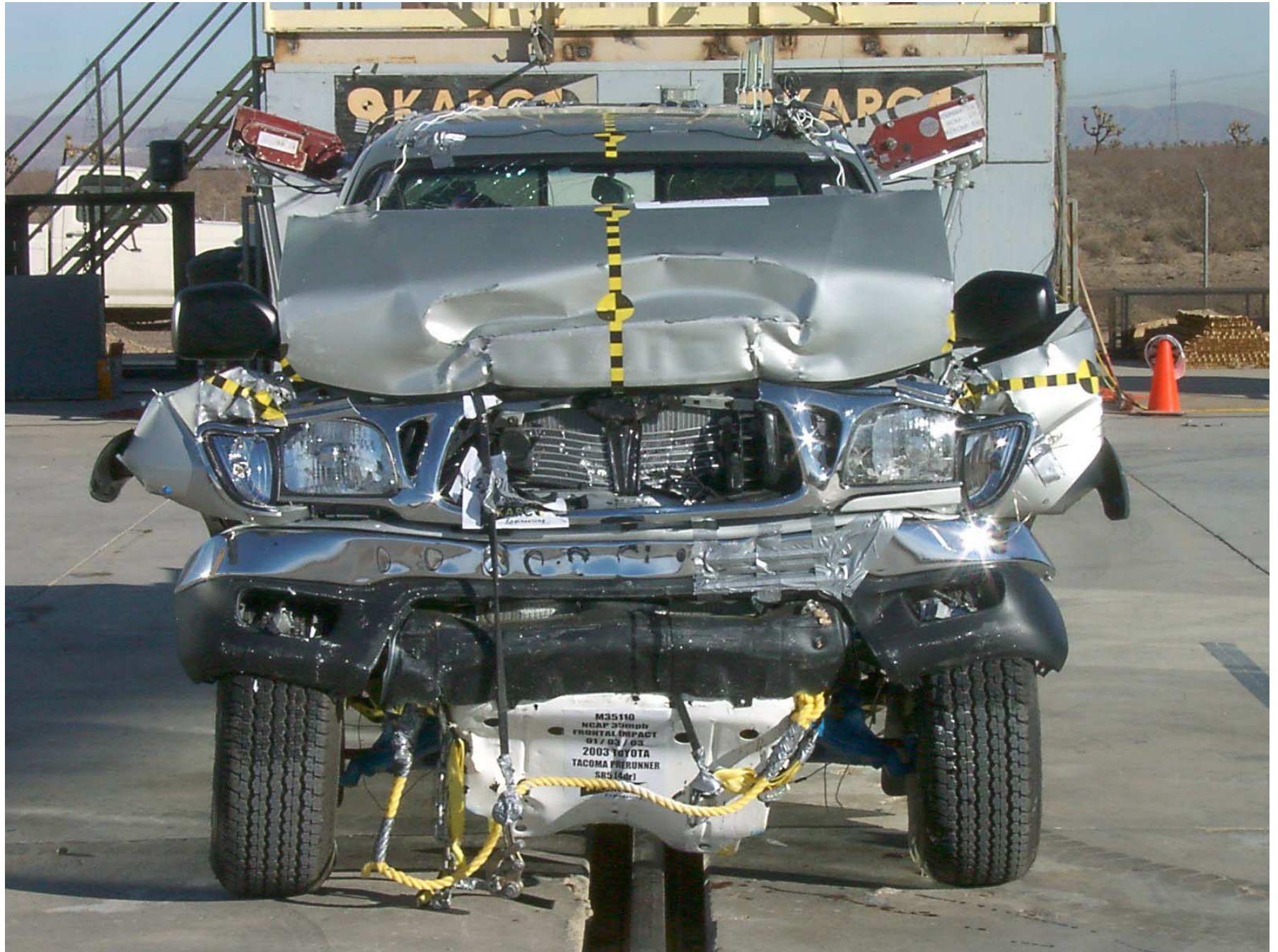


Figure A-7: Post-Test Front View



Figure A-8: Pre-Test Left Side View



Figure A-9: Post-Test Left Side View



Figure A-10: Pre-Test Right Side View



Figure A-11: Post-Test Right Side View



Figure A-12: Pre-Test Right Front 3/4 View



Figure A-13: Post-Test Right Front ¾ View



Figure A-14: Pre-Test Left Rear $\frac{3}{4}$ View



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TR-P23001-04-NC

Figure A-15: Post-Test Left Rear ¾ View



Figure A-16: Left Rear $\frac{3}{4}$ View of Doors After Impact



Figure A-17: Right Rear 3/4 View of Doors After Impact

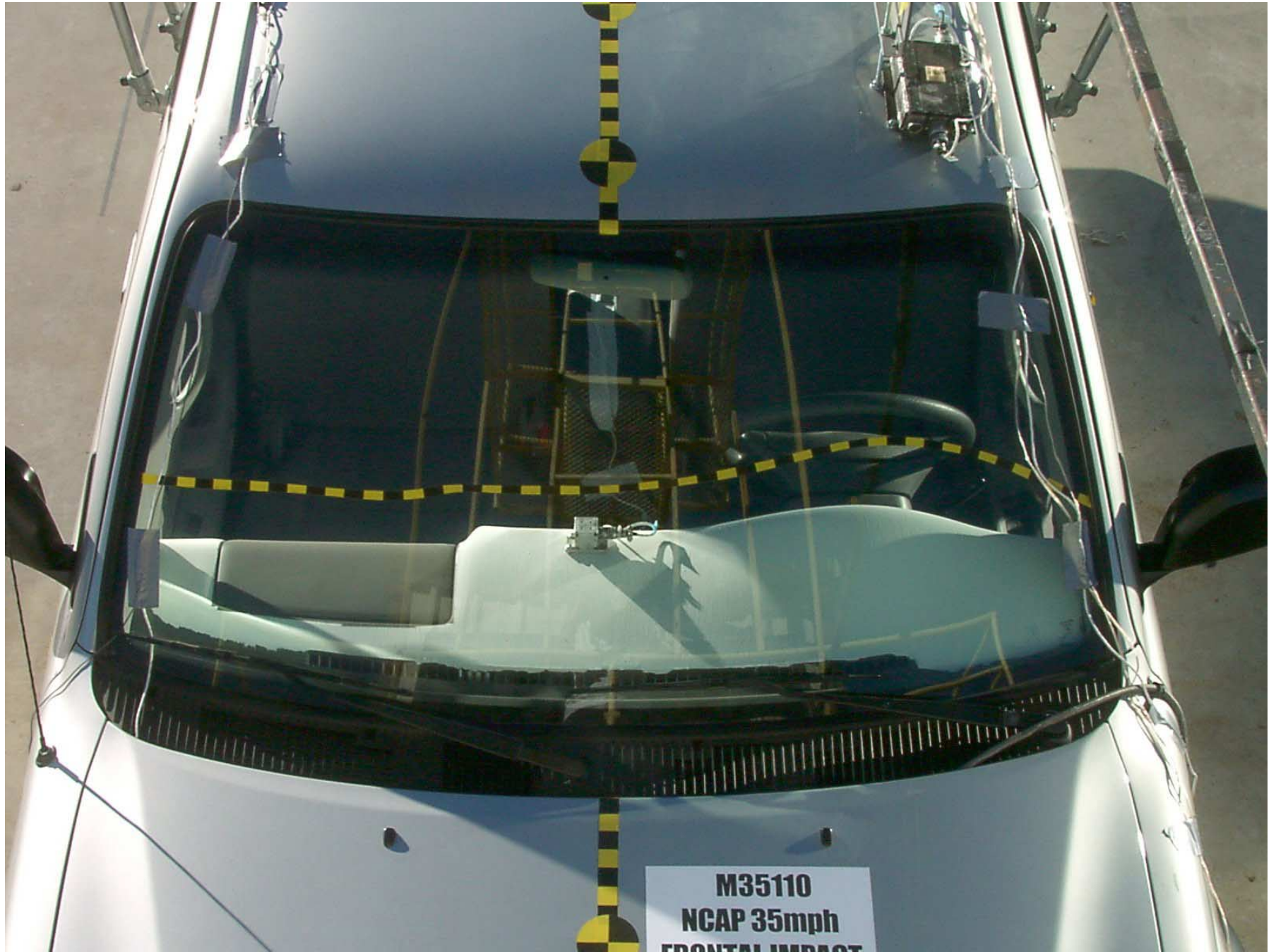


Figure A-18: Pre-Test Windshield View



Figure A-19: Post-Test Windshield View



Figure A-20: Pre-Test Engine Compartment



Figure A-21: Post-Test Engine Compartment



Figure A-22: Pre-Test Fuel Cap



Figure A-23: Post-Test Fuel Cap

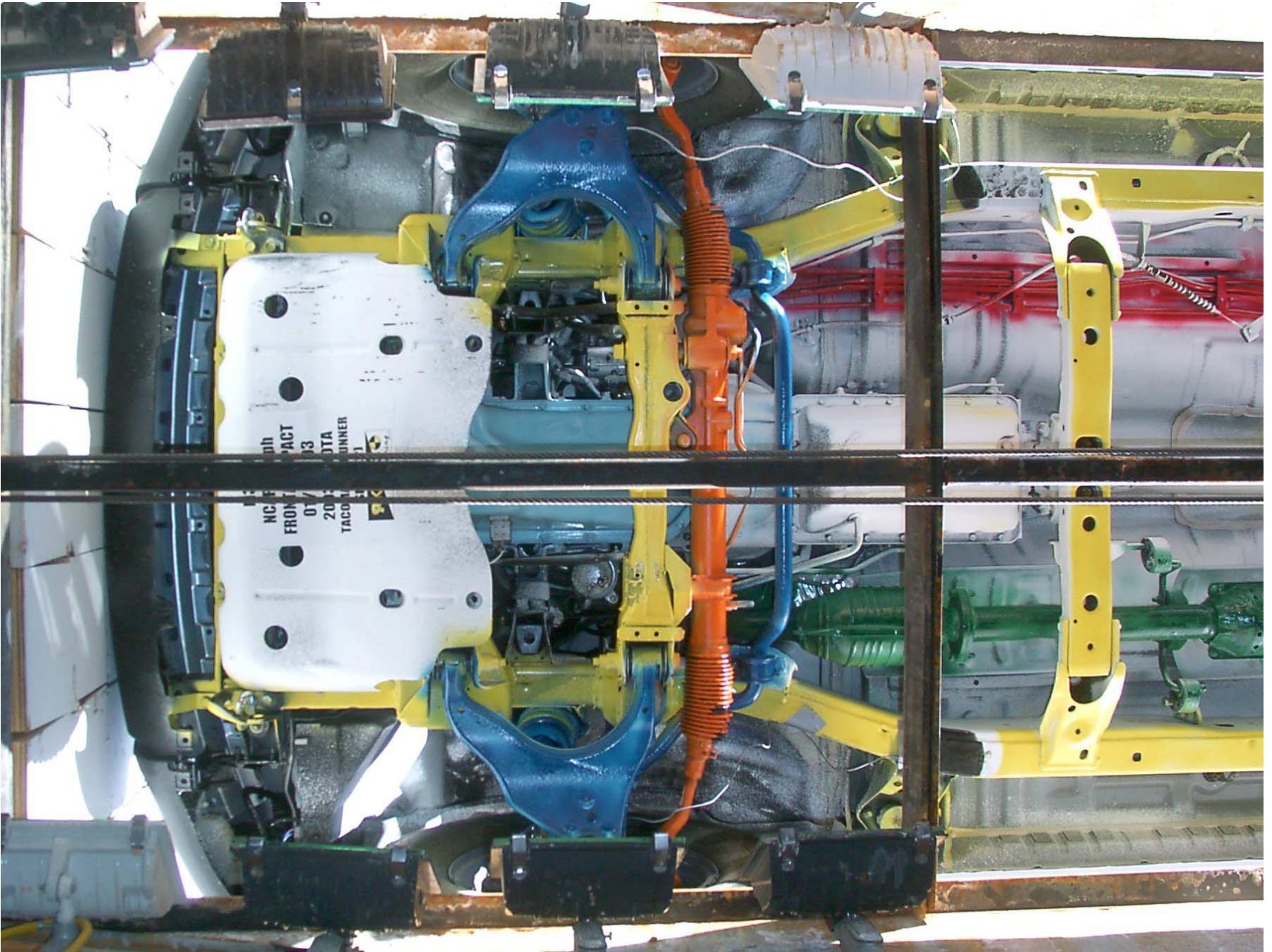


Figure A-24: Pre-Test Front Underbody View

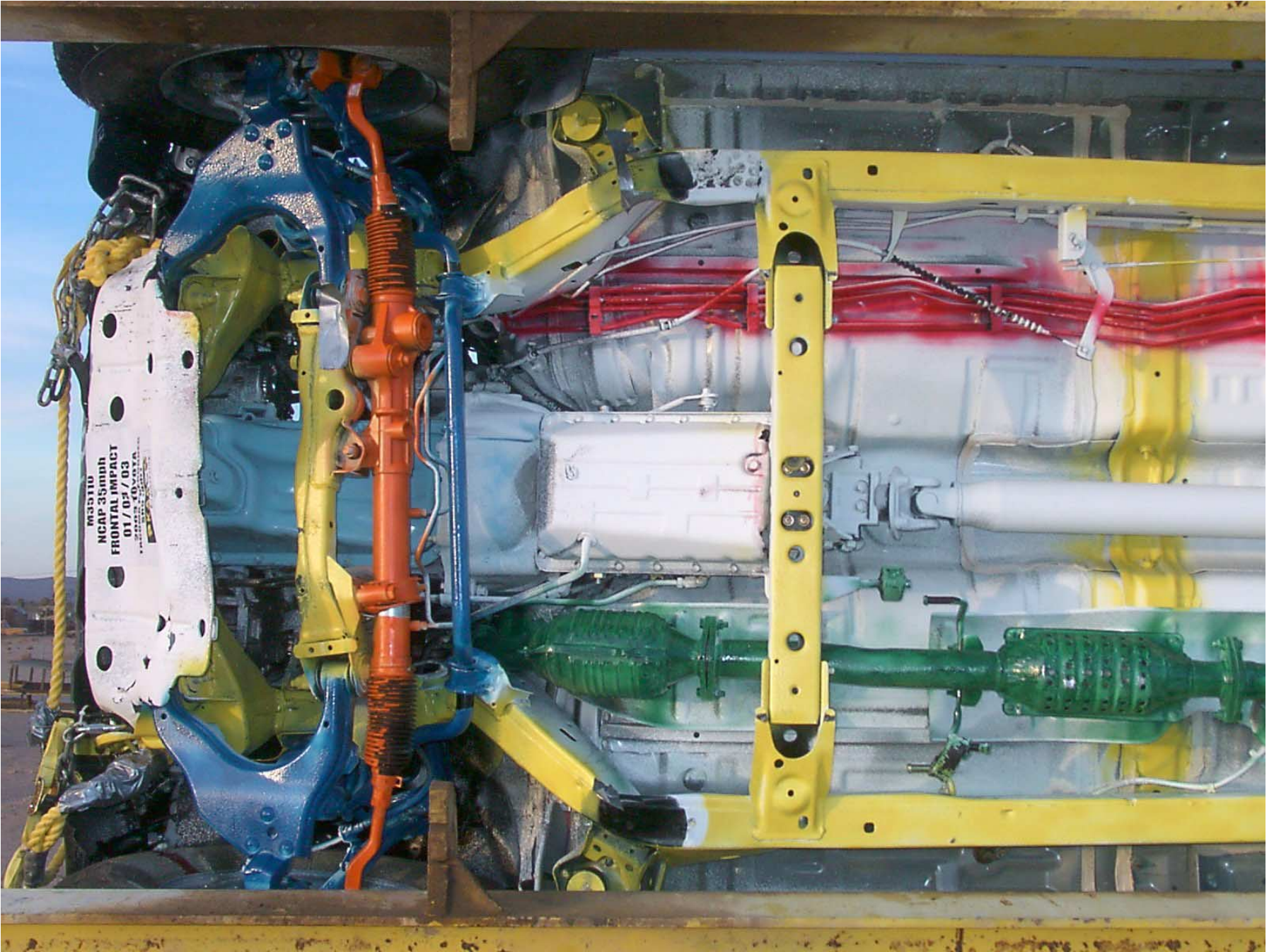


Figure A-25: Post-Test Front Underbody View

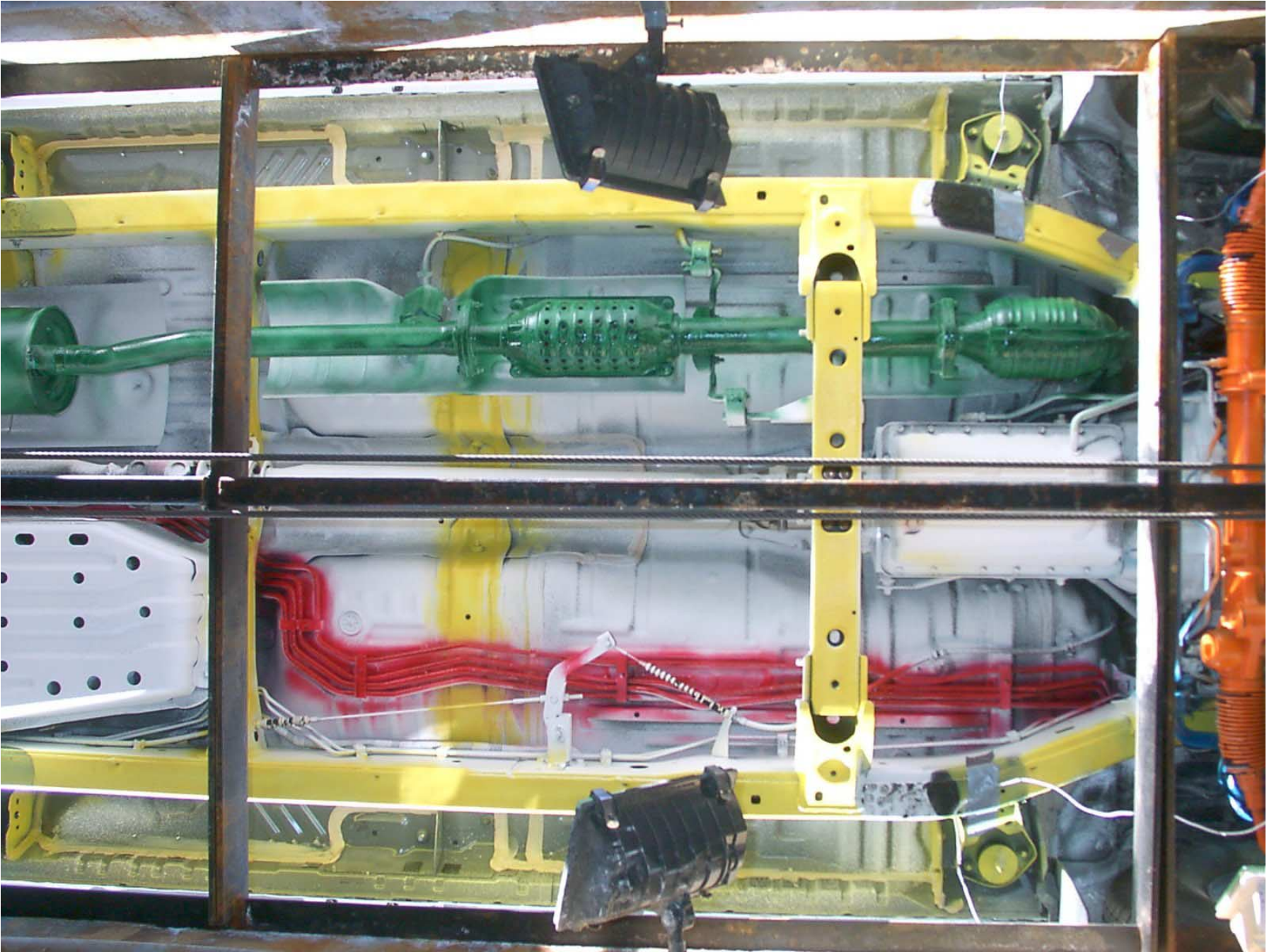


Figure A-26: Pre-Test Mid Underbody View

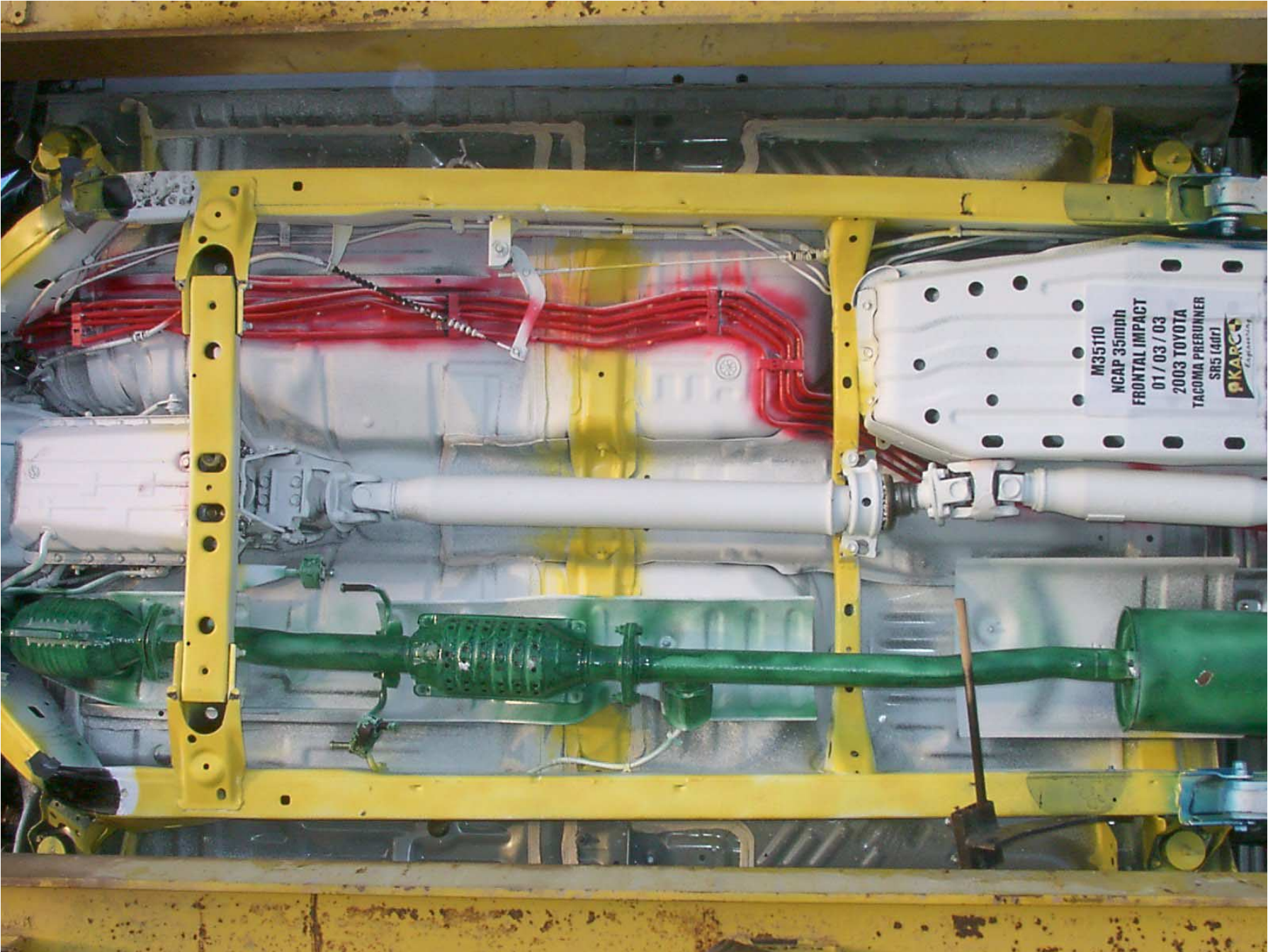


Figure A-27: Post-Test Mid Underbody View

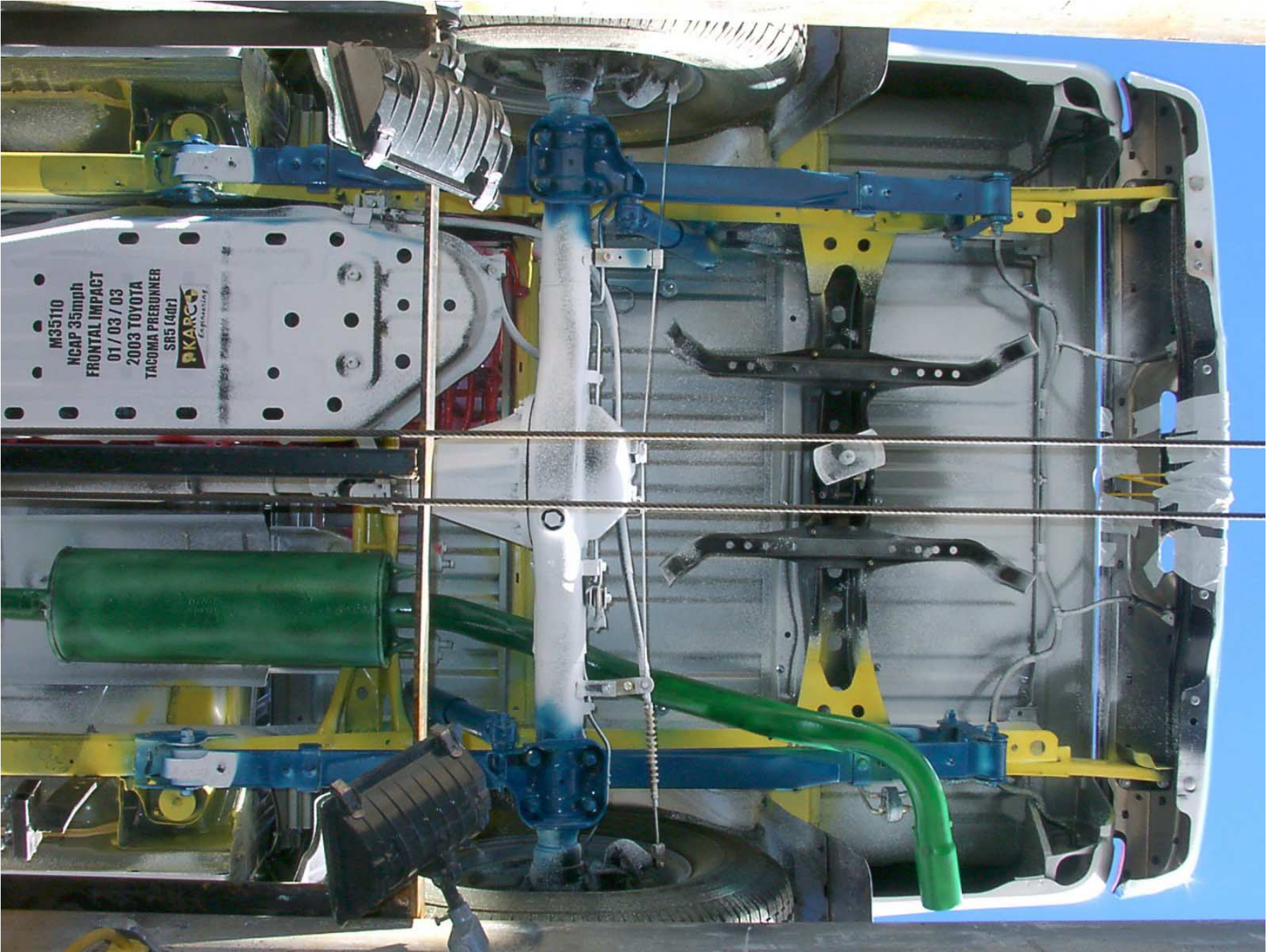


Figure A-28: Pre-Test Rear Underbody View

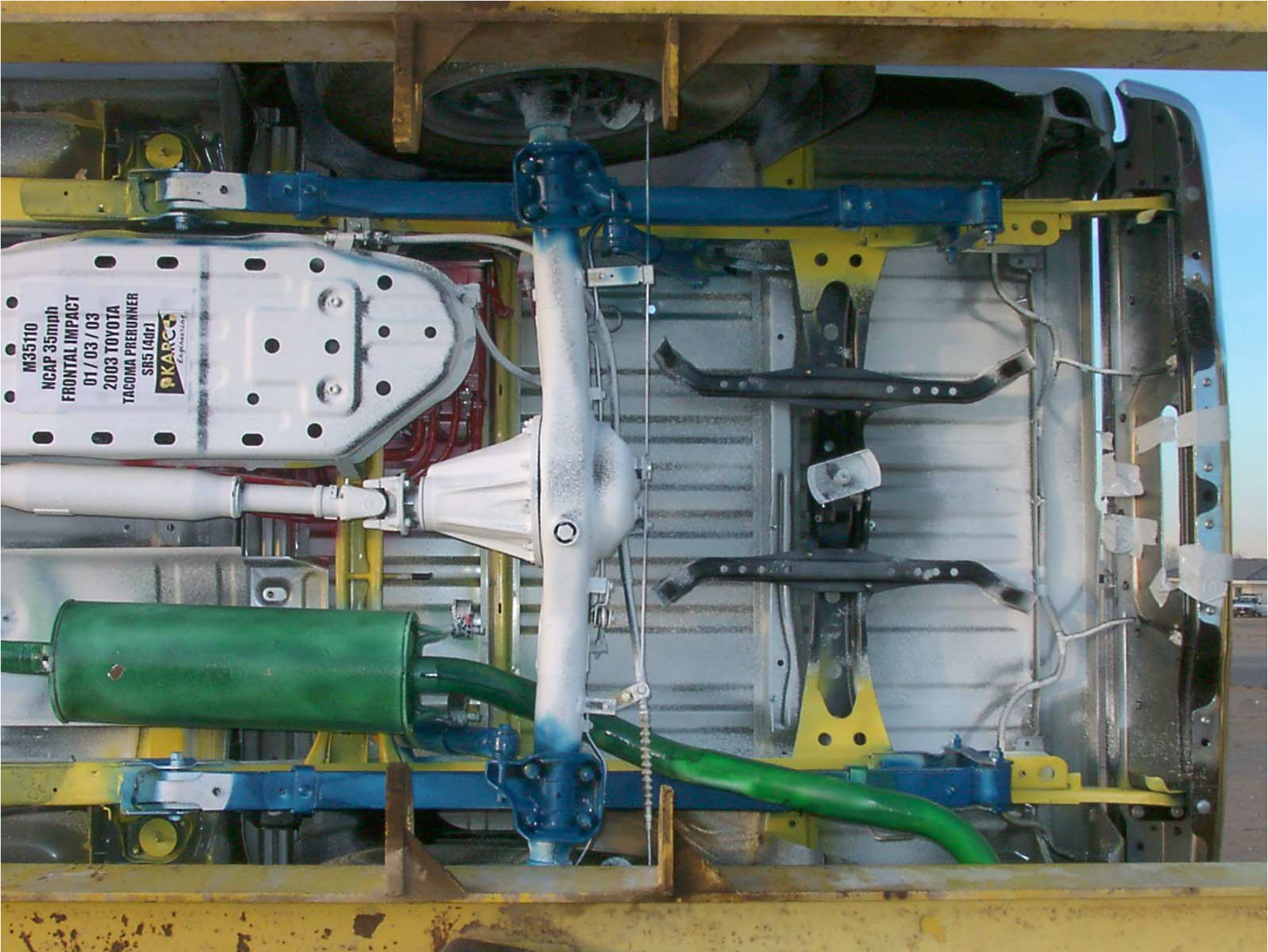


Figure A-29: Post-Test Rear Underbody View

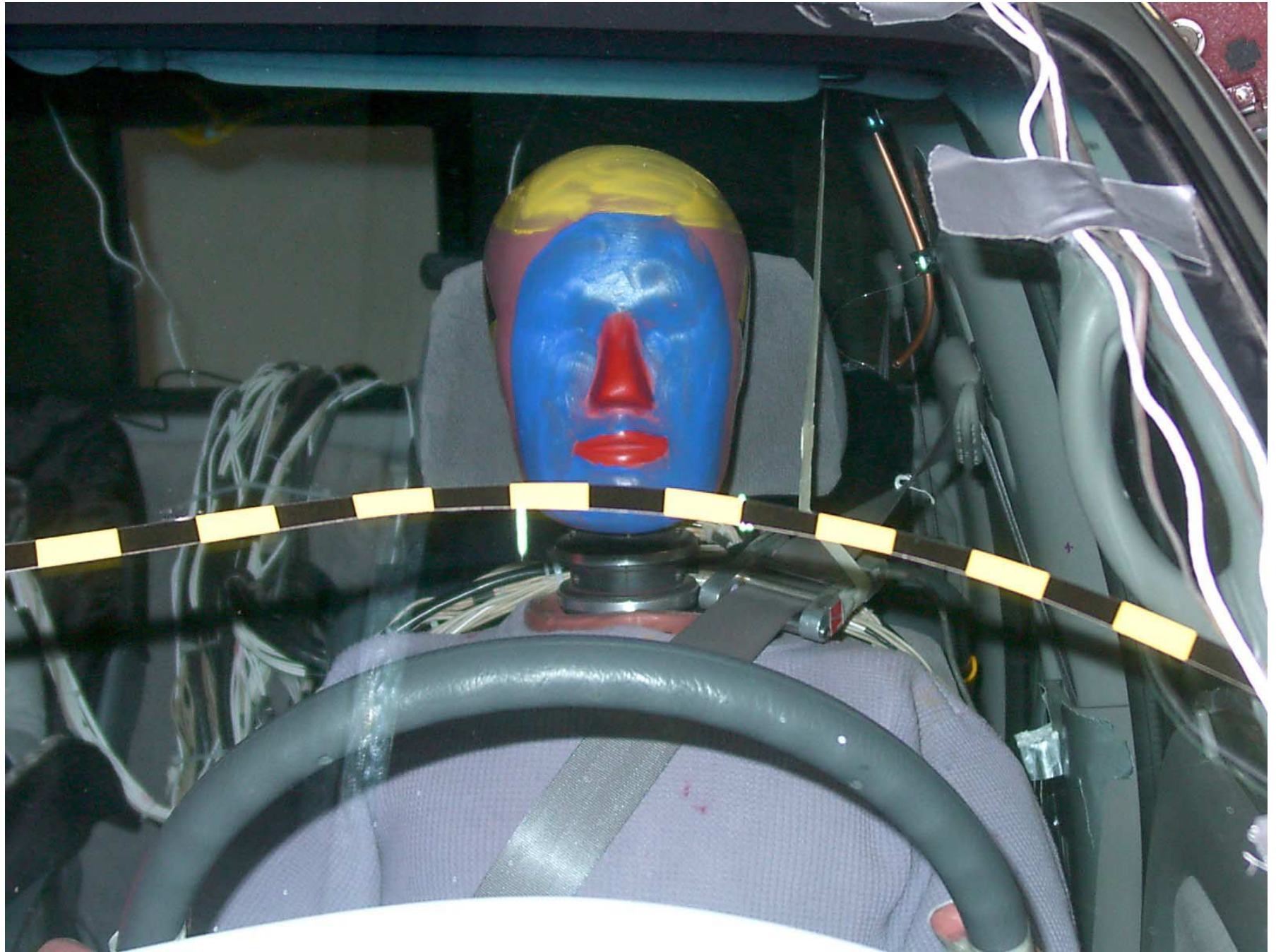


Figure A-30: Pre-Test Driver Dummy Front View (Head Position)



Figure A-31: Post-Test Driver Dummy Front View (Head Position)



Figure A-32: Pre-Test Driver Dummy Front Through Window



Figure A-33: Post-Test Driver Dummy Front Through Window



Figure A-34: Pre-Test Driver Dummy Door Open



Figure A-35: Post-Test Driver Dummy Door Open



Figure A-36: Pre-Test Driver Dummy Feet



Figure A-37: Post-Test Driver Dummy Feet



Figure A-38: Pre-Test Driver Side Knee Bolster



Figure A-39: Post-Test Driver Side Knee Bolster



Figure A-40: Pre-Test Driver Side Floor Pan



Figure A-41: Post-Test Driver Side Floor Pan



Figure A-42: Post-Test Driver Dummy Head



Figure A-43: Post-Test Driver Dummy Contact to Air Bag



Figure A-44: Pre-Test Passenger Dummy Front View (Head Position)



Figure A-45: Post-Test Passenger Dummy Front View (Head Position)



A-46

TR-P23001-04-NC

Figure A-46: Pre-Test Passenger Dummy Front Through Window



Figure A-47: Post-Test Passenger Dummy Front Through Window



Figure A-48: Pre-Test Passenger Dummy Door Open



Figure A-49: Post-Test Passenger Dummy Door Open



Figure A-50: Pre-Test Passenger Dummy Feet



Figure A-51: Post-Test Passenger Dummy Feet



Figure A-52: Pre-Test Passenger Side Floor Pan



Figure A-53: Post-Test Passenger Side Floor Pan



Figure A-54: Pre-Test Passenger Side Knee Bolster



Figure A-55: Post-Test Passenger Side Knee Bolster



Figure A-56: Post-Test Passenger Dummy Head



Figure A-57: Post-Test Passenger Dummy Contact to Air Bag



Figure A-58: Vehicle on Rollover Device



Figure A-59: Vehicle During Impact

APPENDIX B

DATA PLOTS

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LIST OF DATA PLOTS...(Continued)

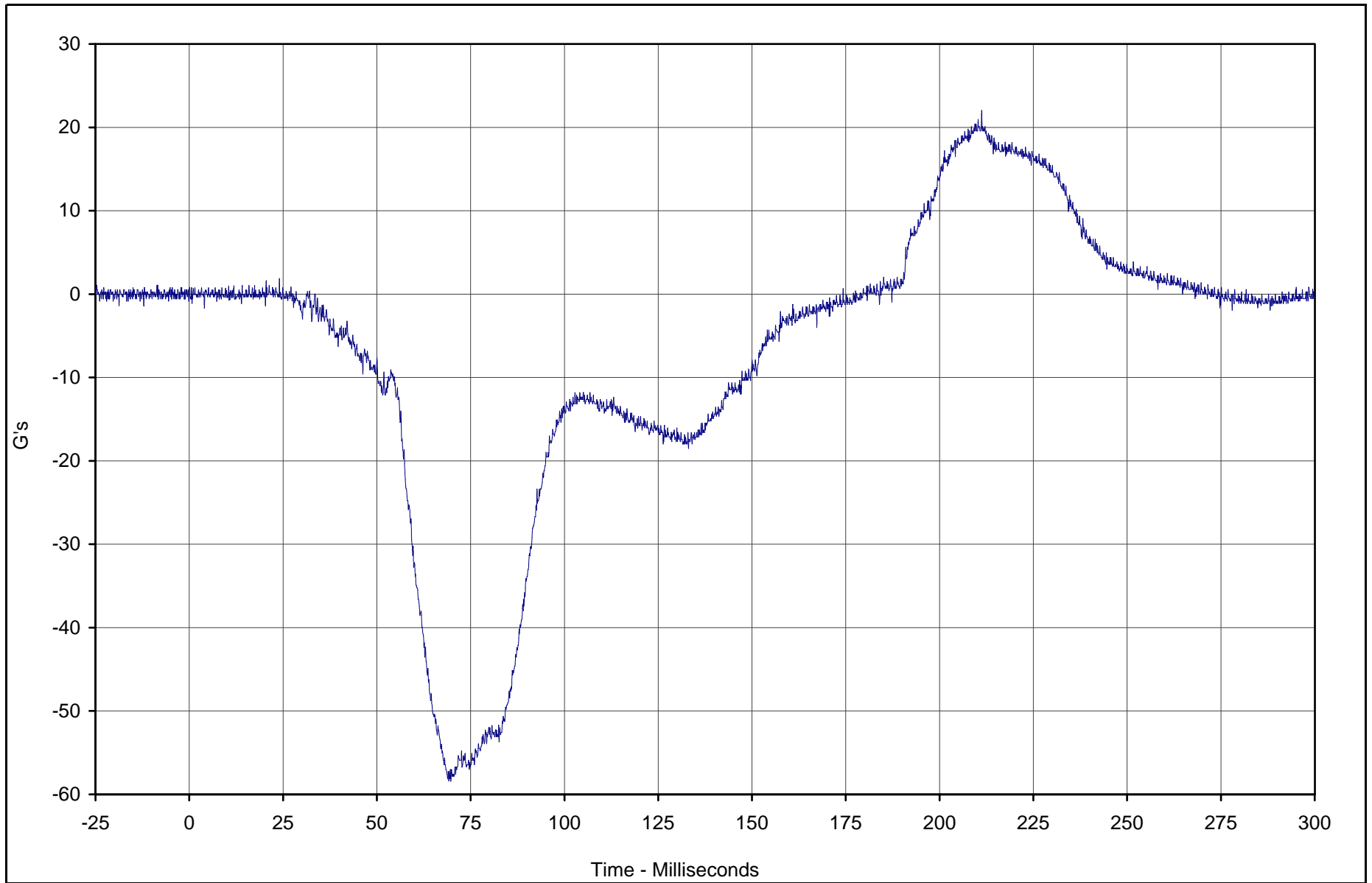
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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X	001	FIL	G's	22.0	211.2	-58.4	69.2	1000

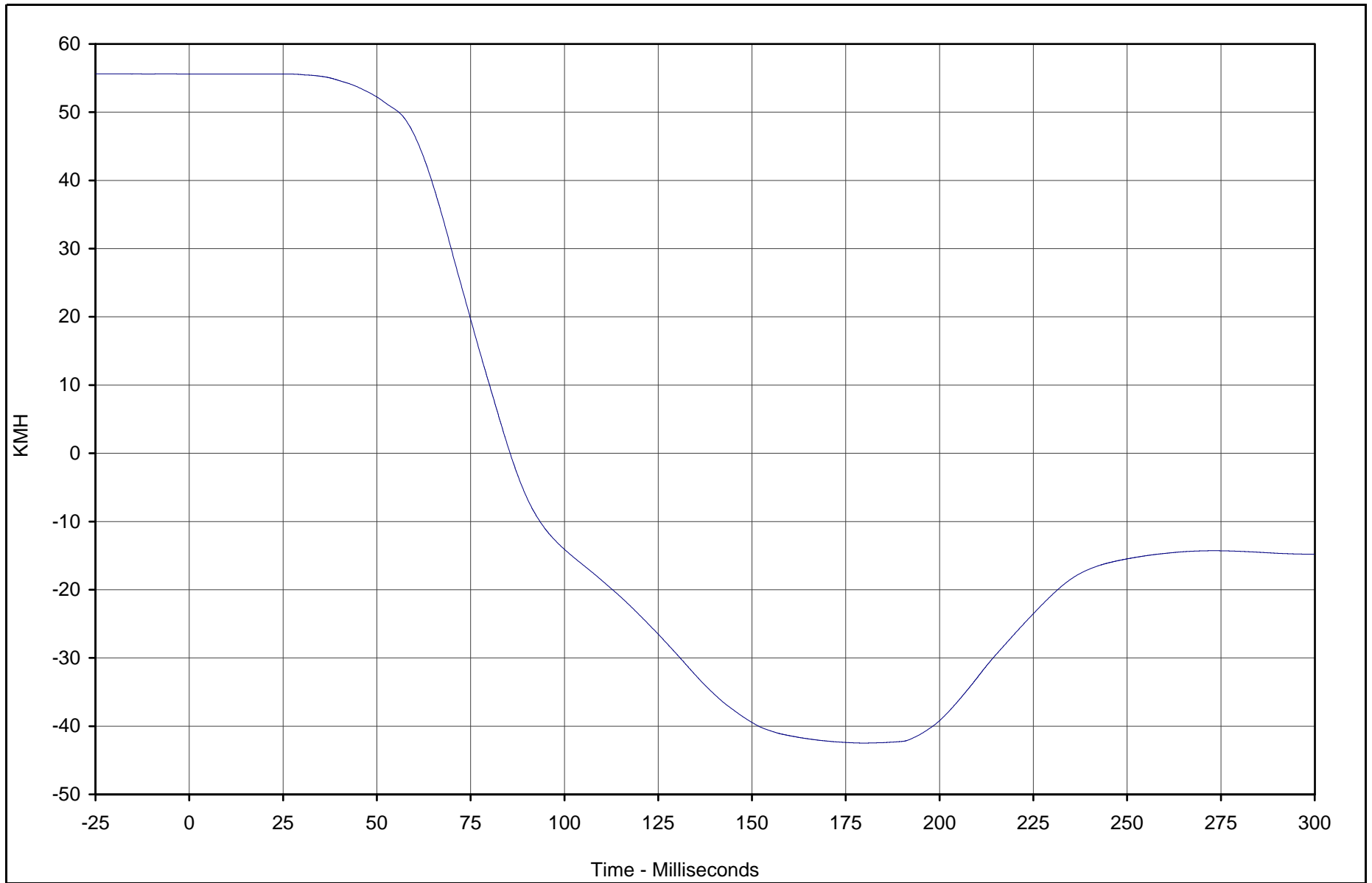


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X Velocity	001	IN1	KMH	55.6	24.3	-42.5	179.8	180

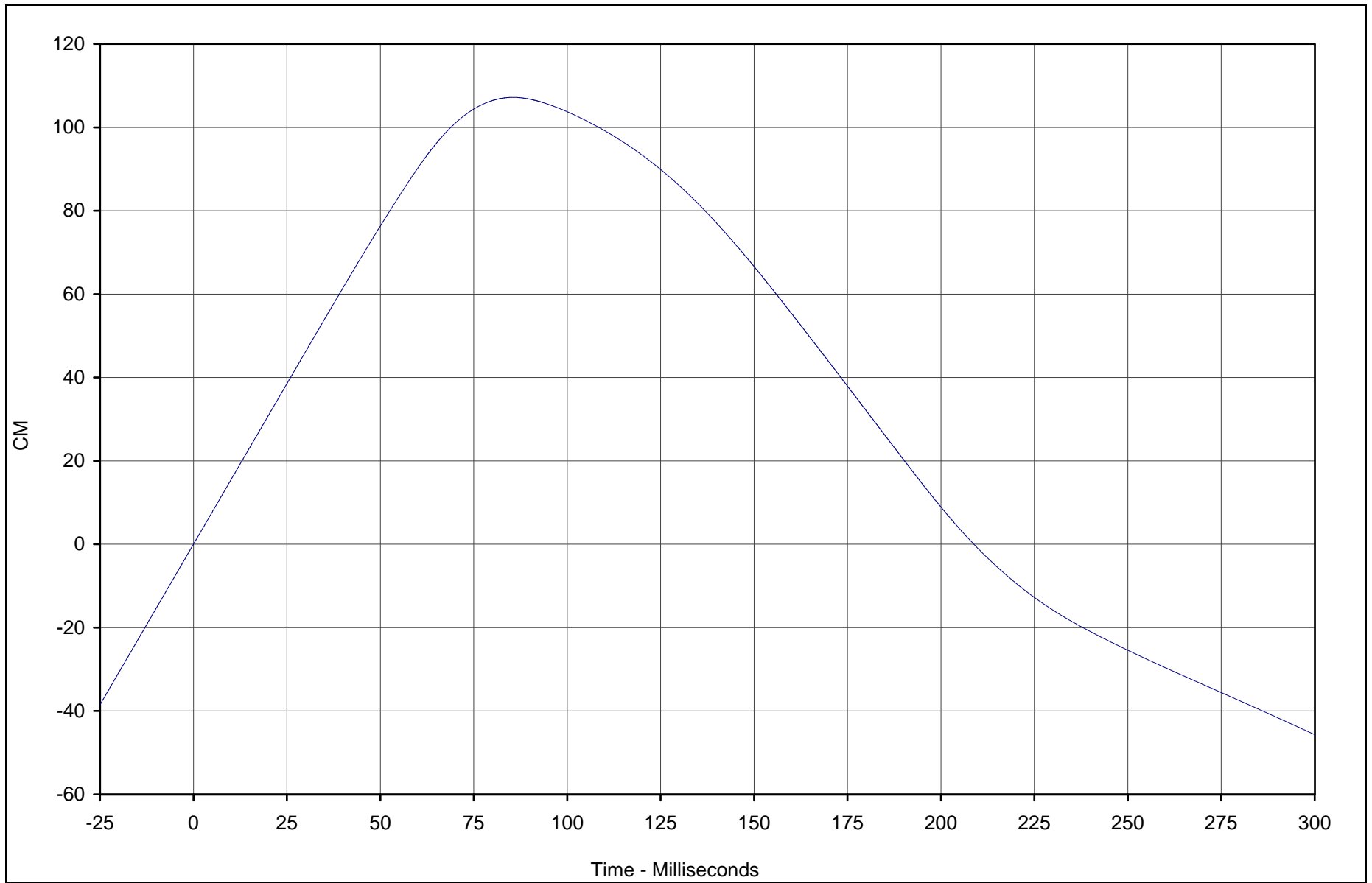


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary X Displ.	001	IN2	CM	107.2	85.5	-45.6	299.9	180

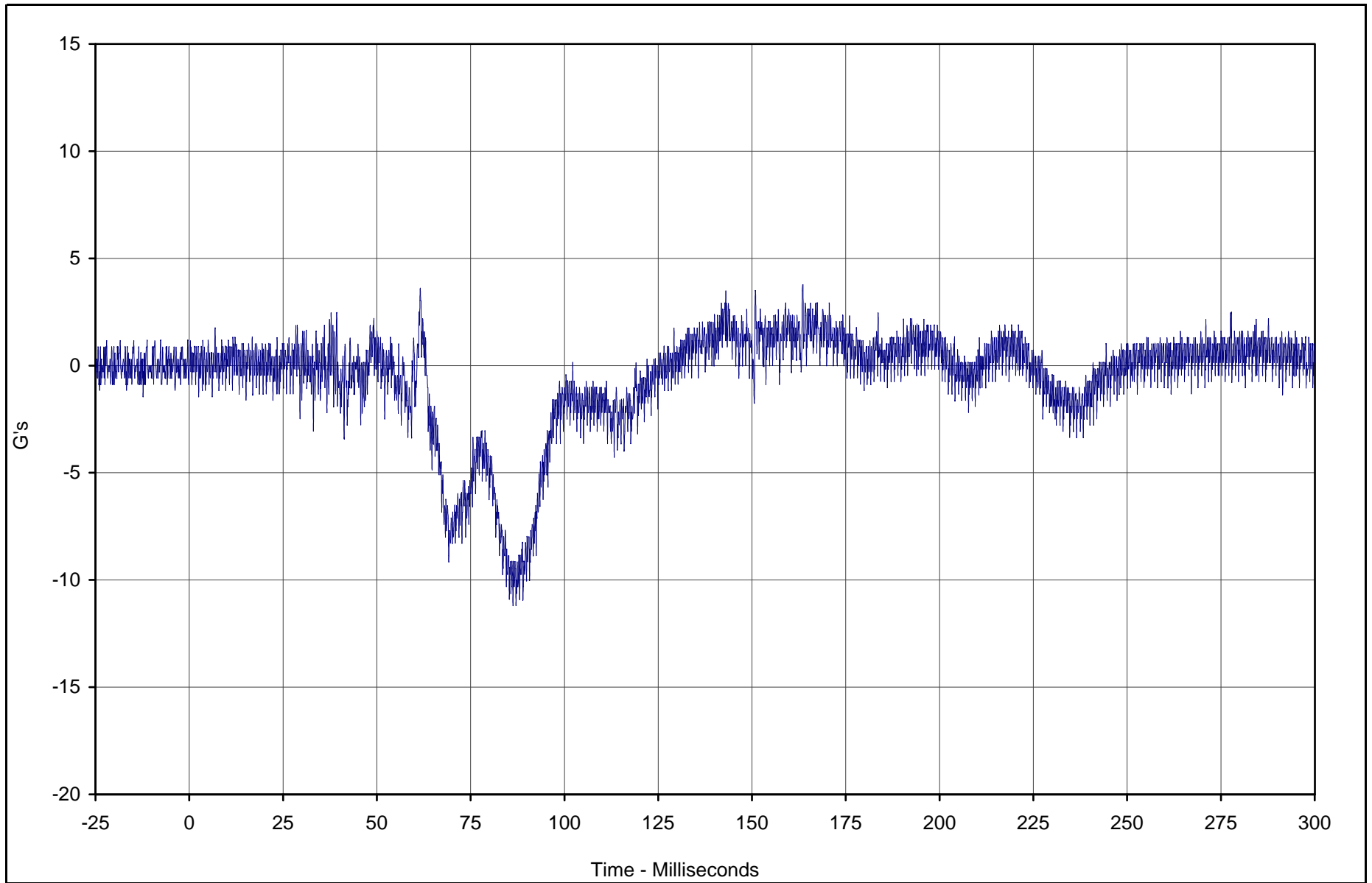


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Y	002	FIL	G's	3.8	163.5	-11.2	86.3	1000

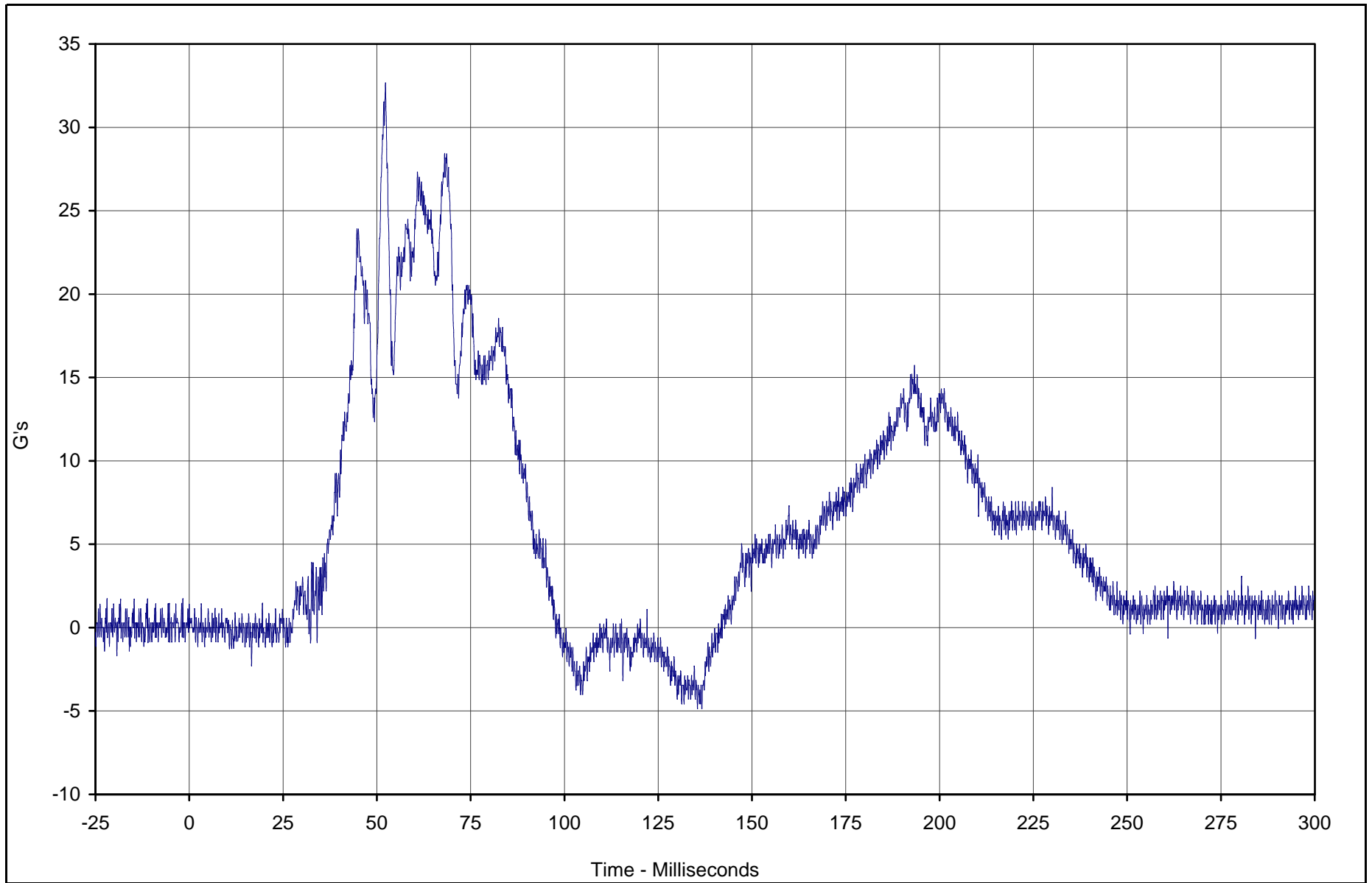


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Primary Z	003	FIL	G's	32.7	52.3	-4.9	135.5	1000

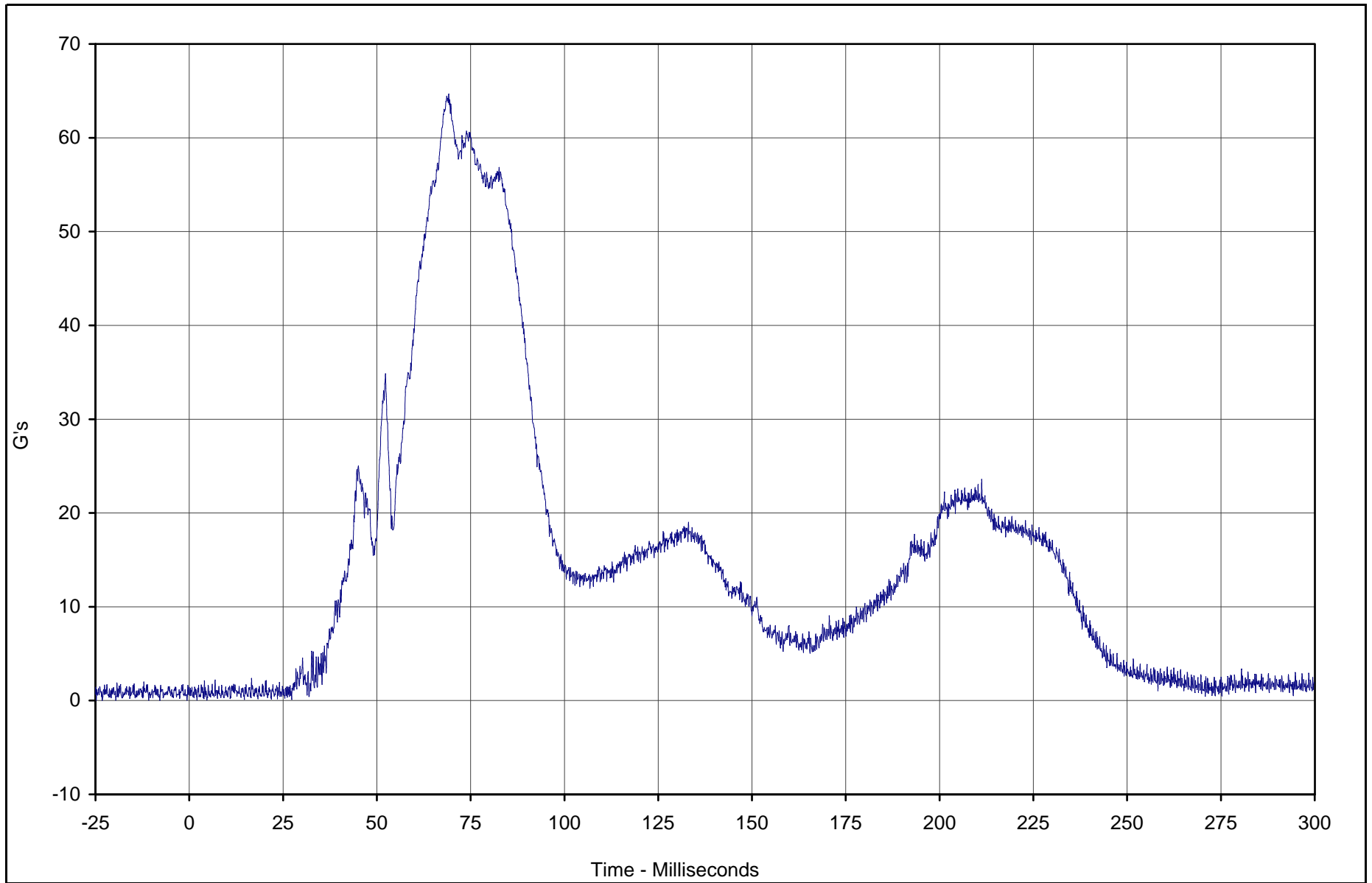


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Resultant Primary	001	RES	G's	64.6	69.2	0.1	2.1	1000

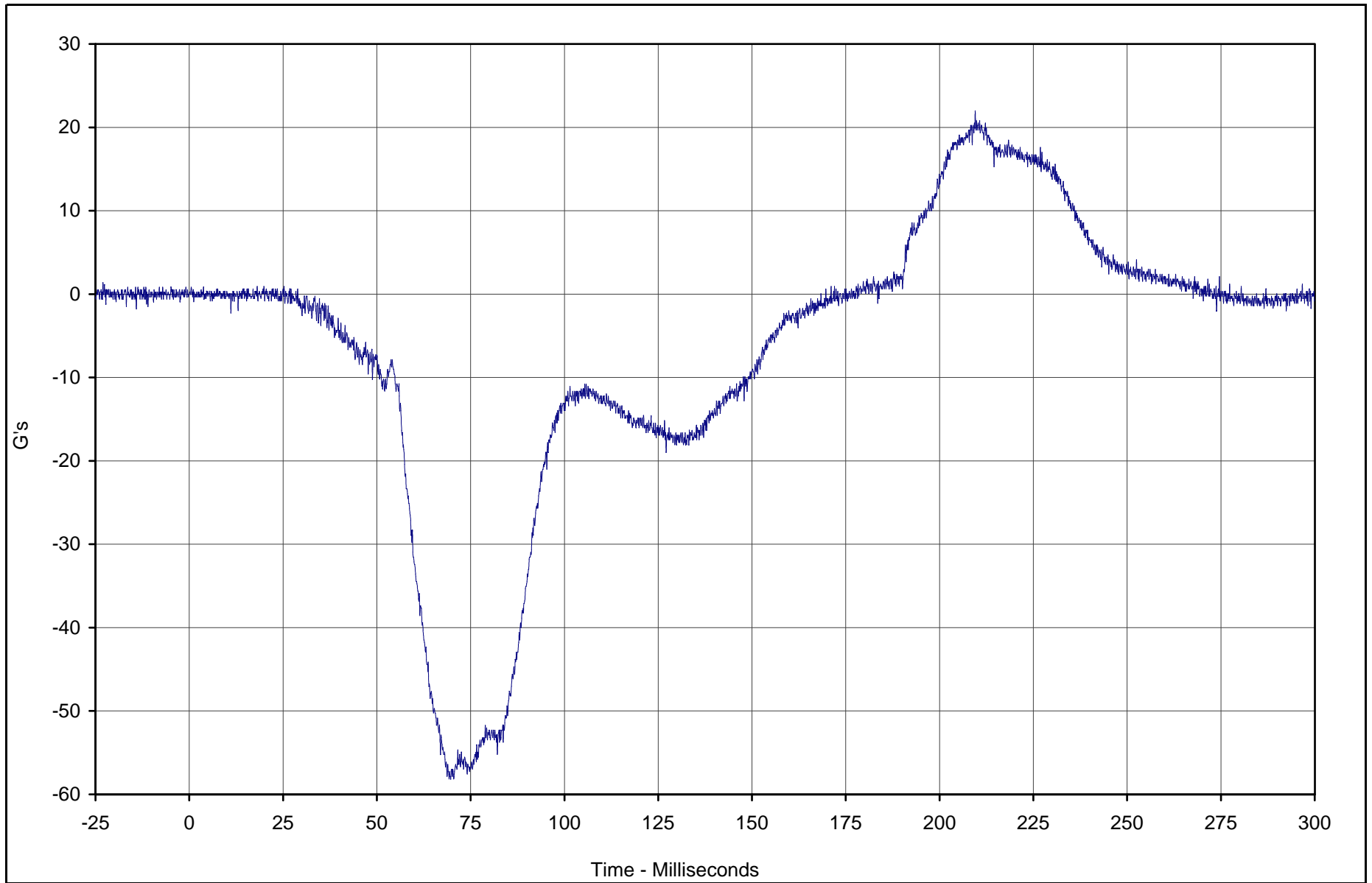


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X	004	FIL	G's	22.0	209.5	-58.2	69.3	1000

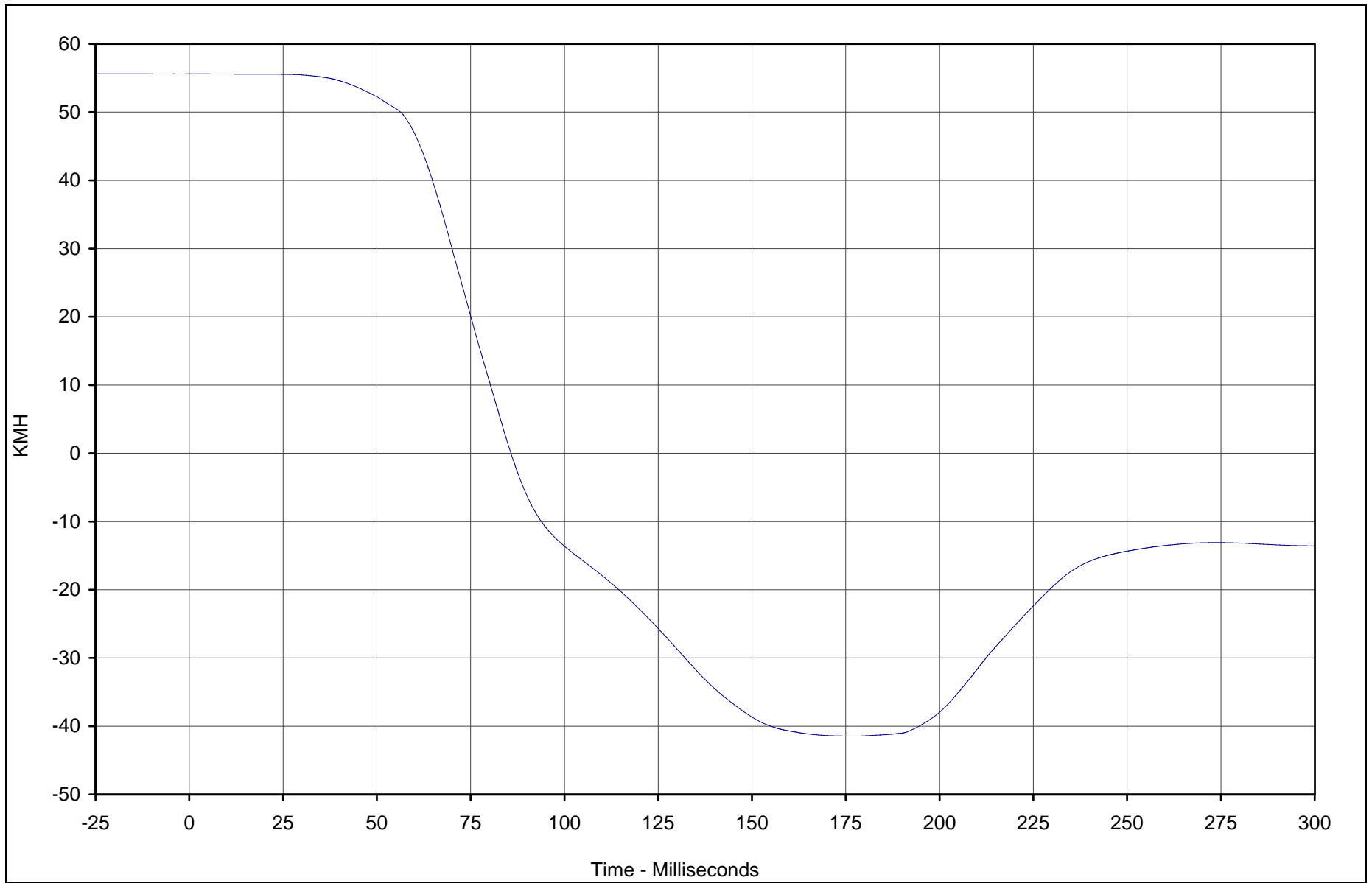


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X Velocity	004	IN1	KMH	55.6	1.2	-41.5	177.2	180

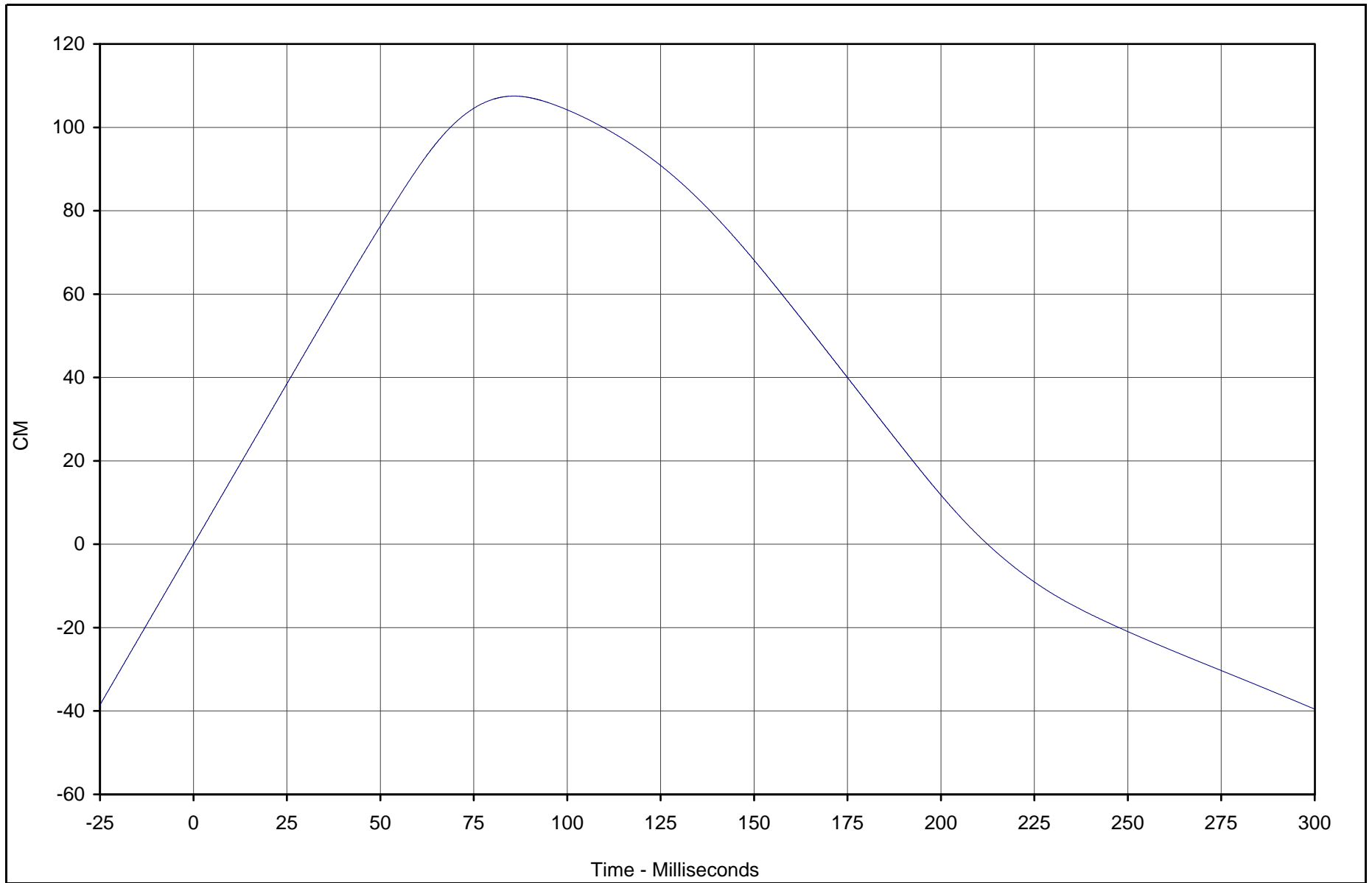


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant X Displ.	004	IN2	CM	107.5	85.7	-39.5	299.9	180

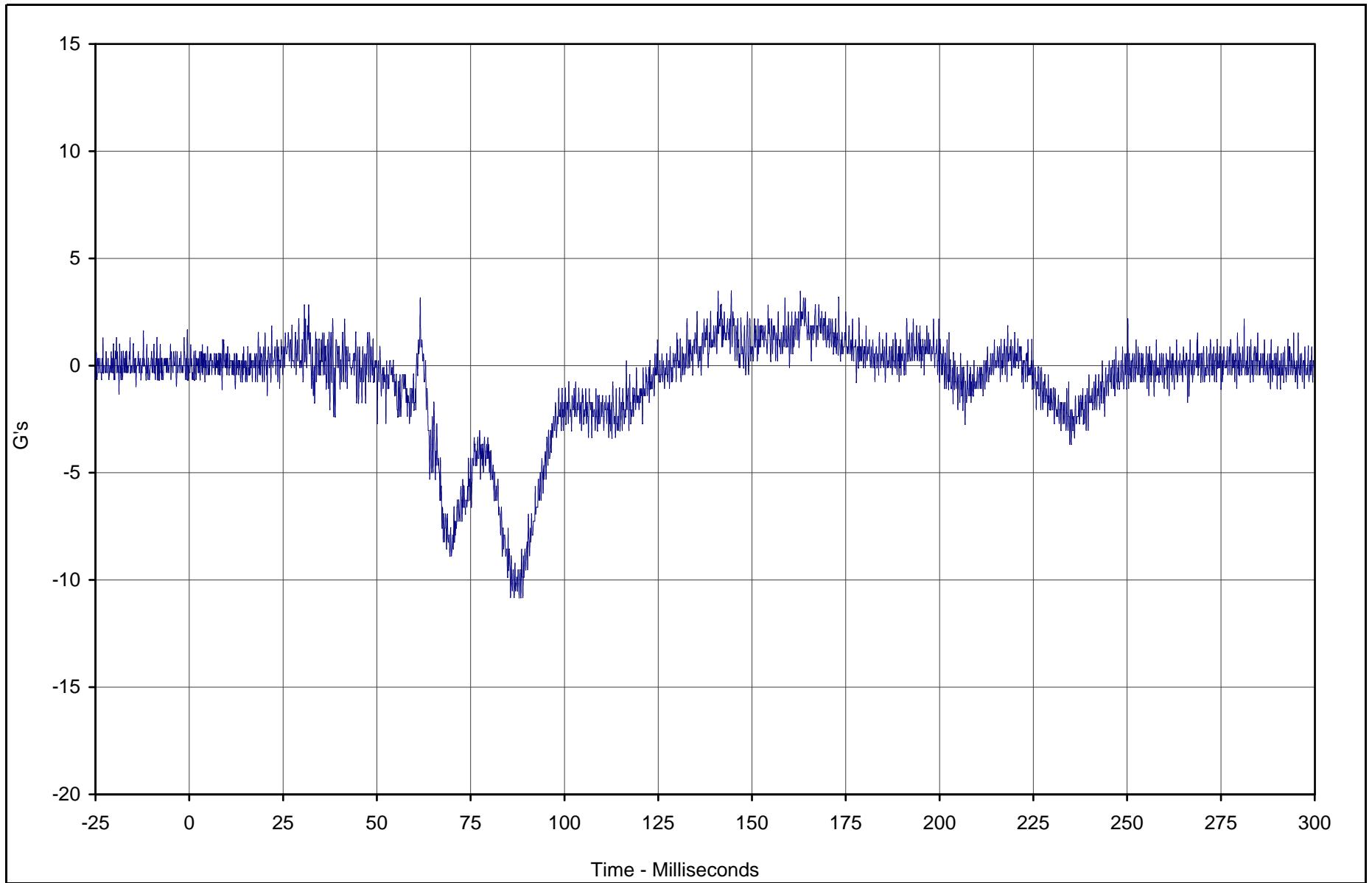


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant Y	005	FIL	G's	3.5	141.0	-10.8	85.6	1000

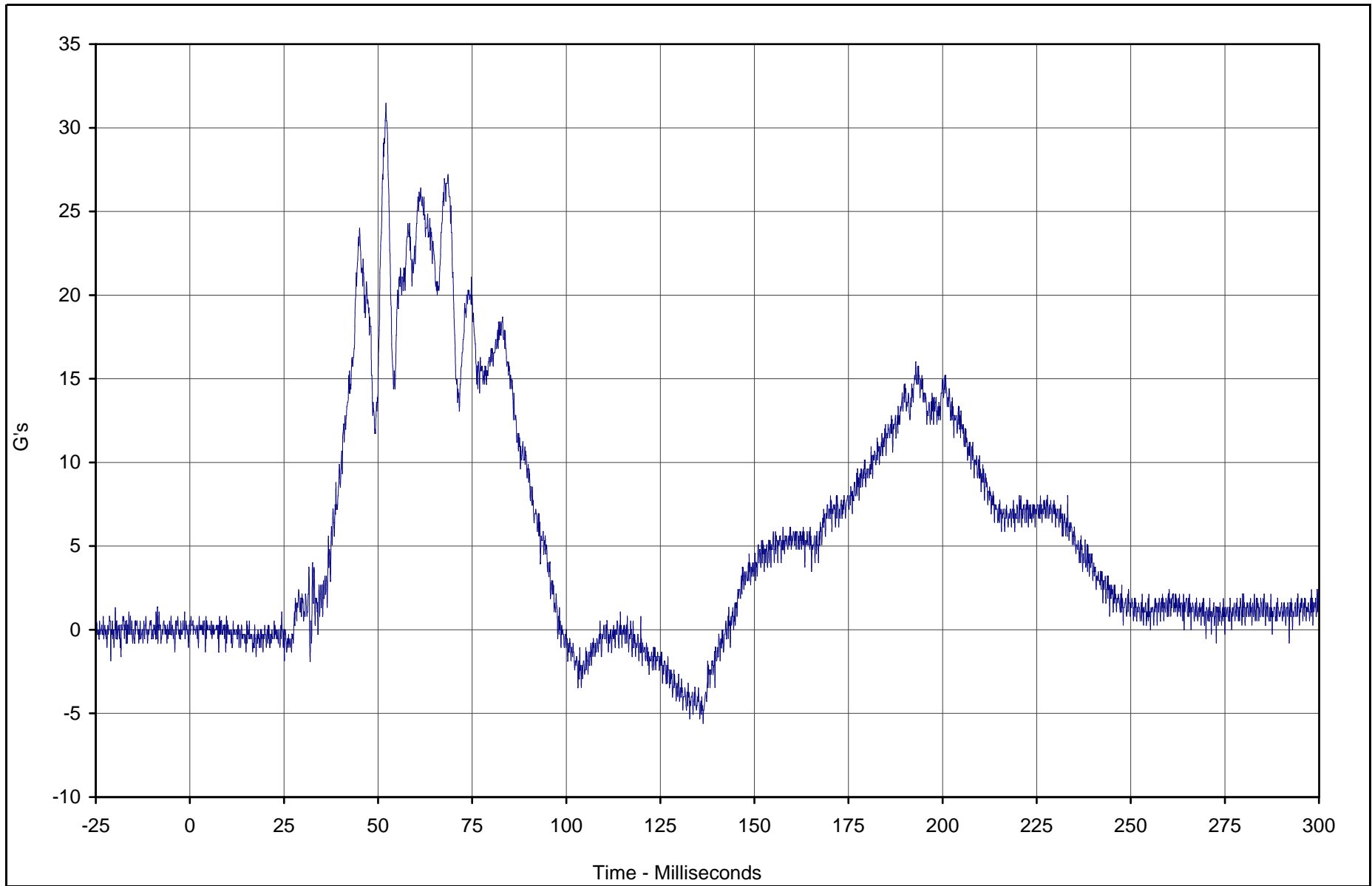


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Redundant Z	006	FIL	G's	31.5	52.1	-5.6	136.4	1000

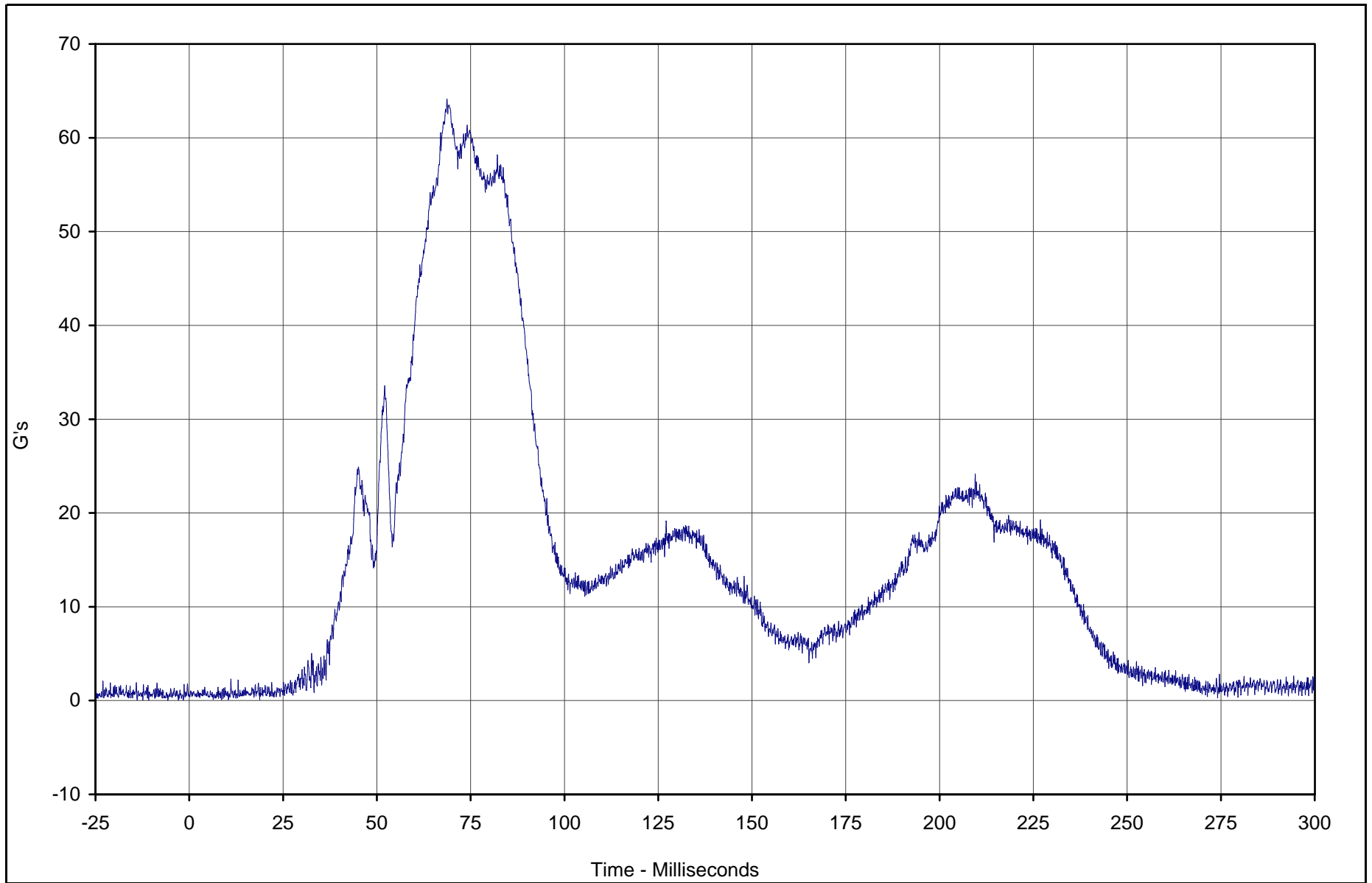


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Head Resultant Redundant	004	RES	G's	64.1	68.7	0.1	6.4	1000

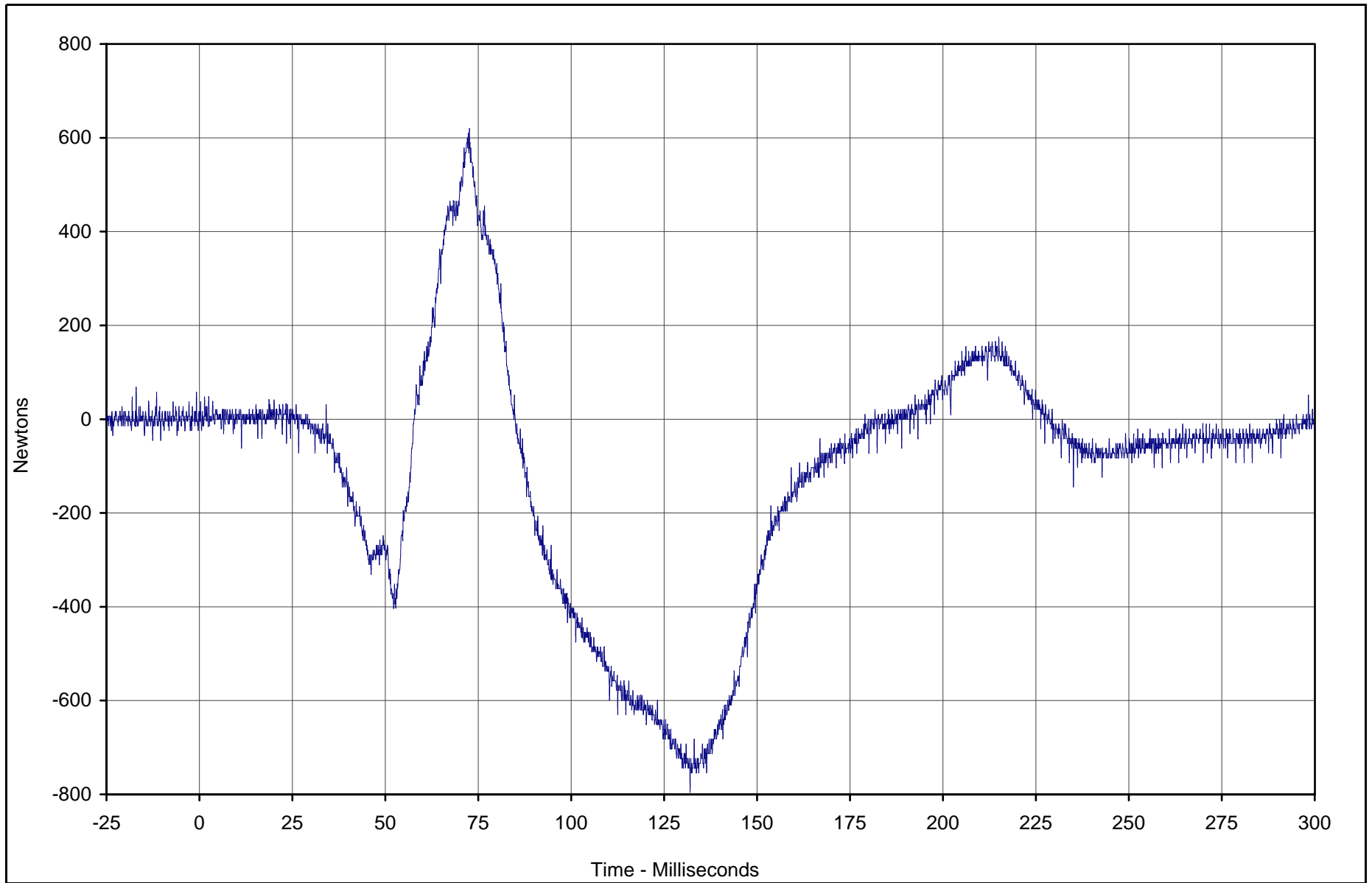


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force X	007	FIL	Newtons	620.0	72.6	-795.7	132.0	1000

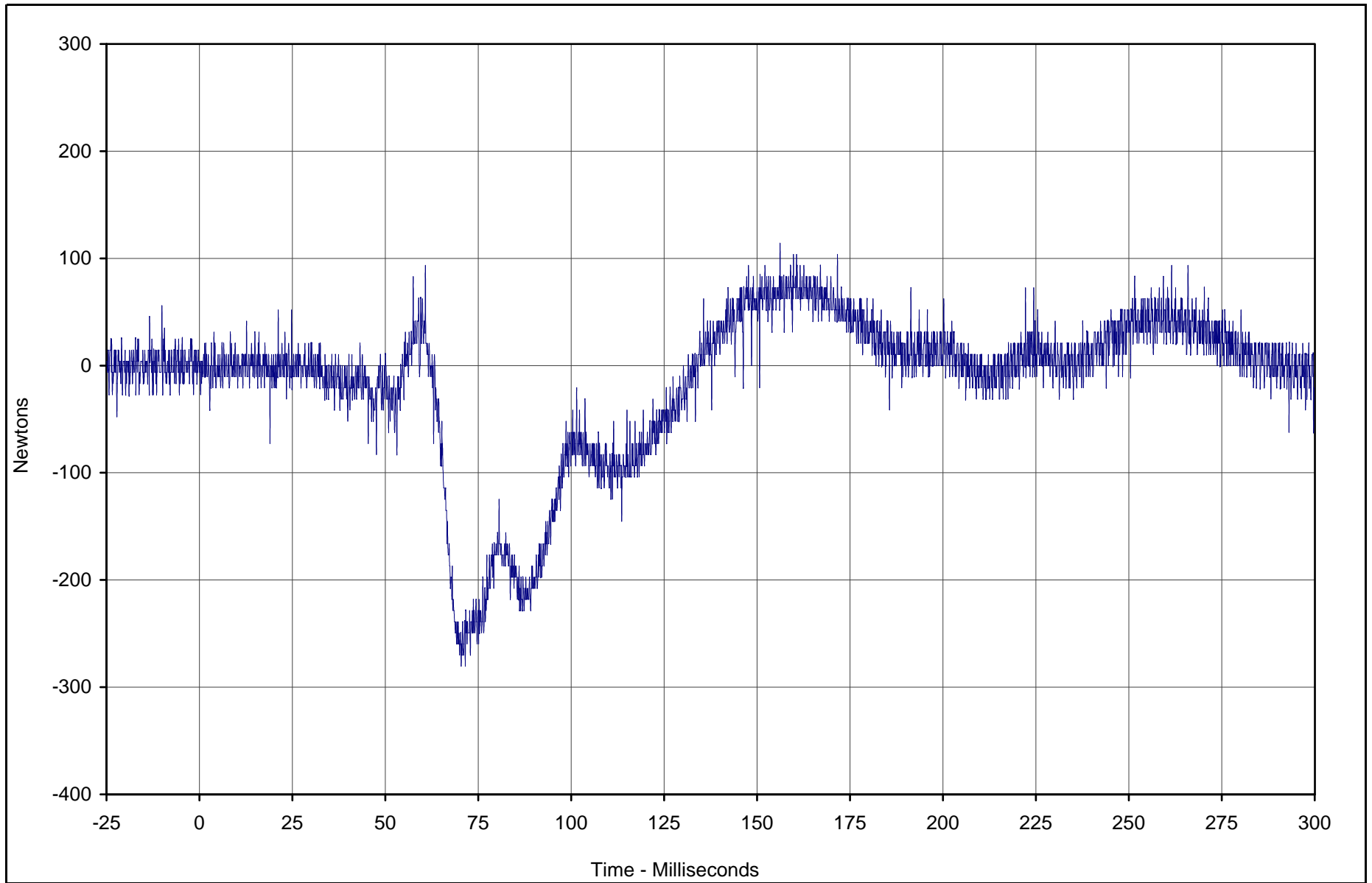


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Y	008	FIL	Newtons	114.3	156.2	-280.5	70.4	1000

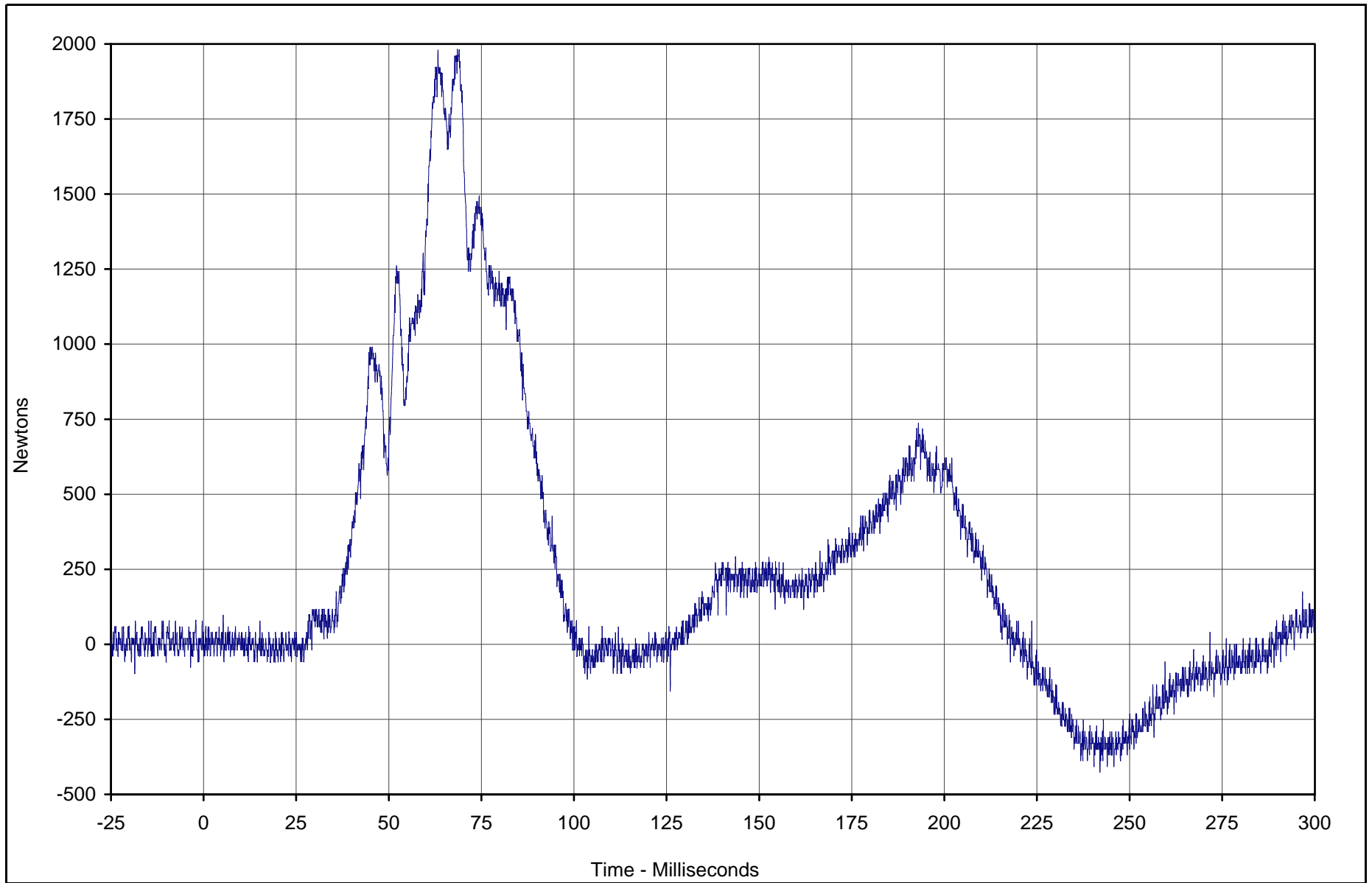


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Z	009	FIL	Newtons	1979.7	63.3	-427.0	242.0	1000

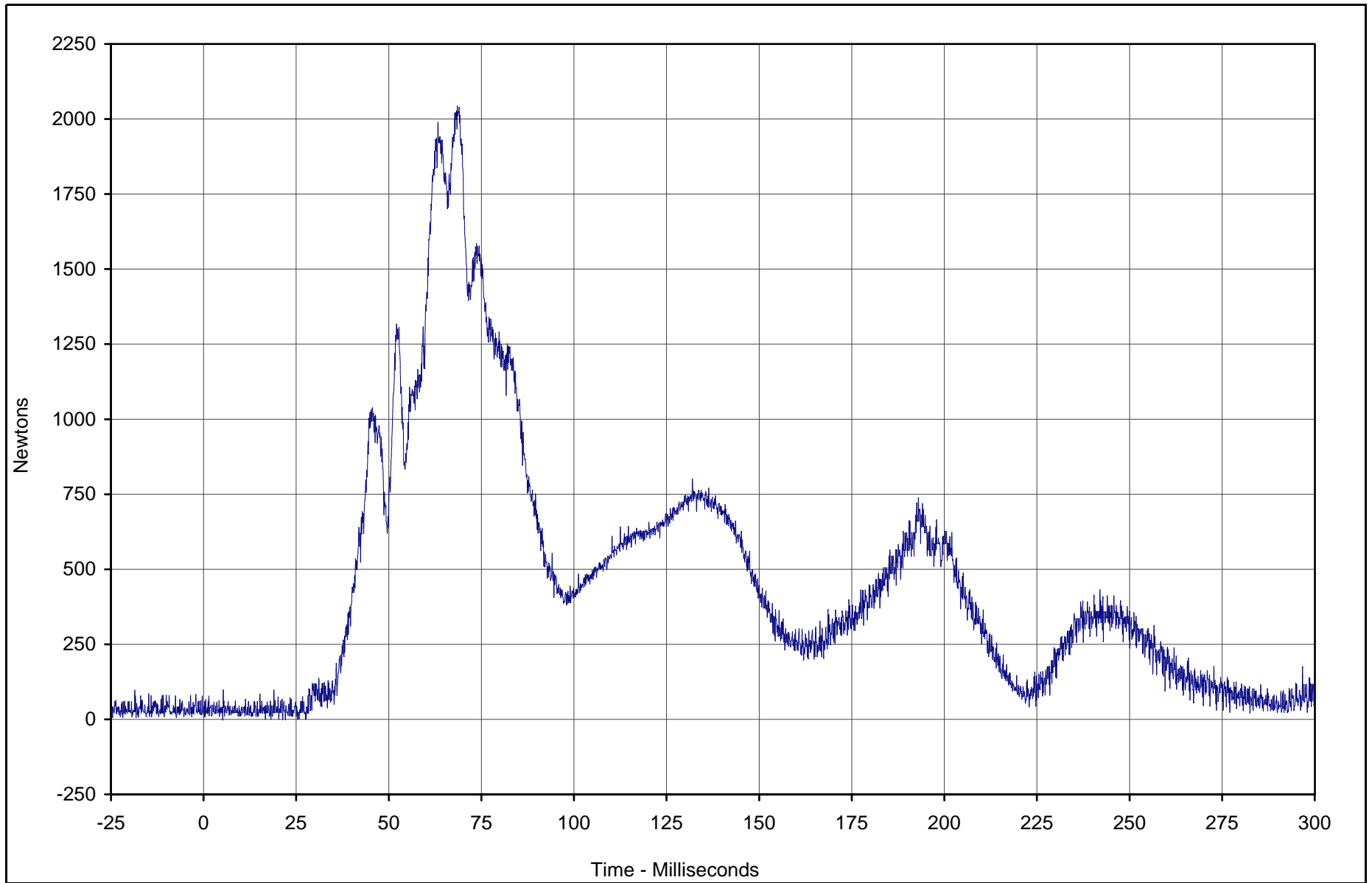


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Force Resultant	007	RES	Newtons	2041.8	68.5	0.0	5.2	1000

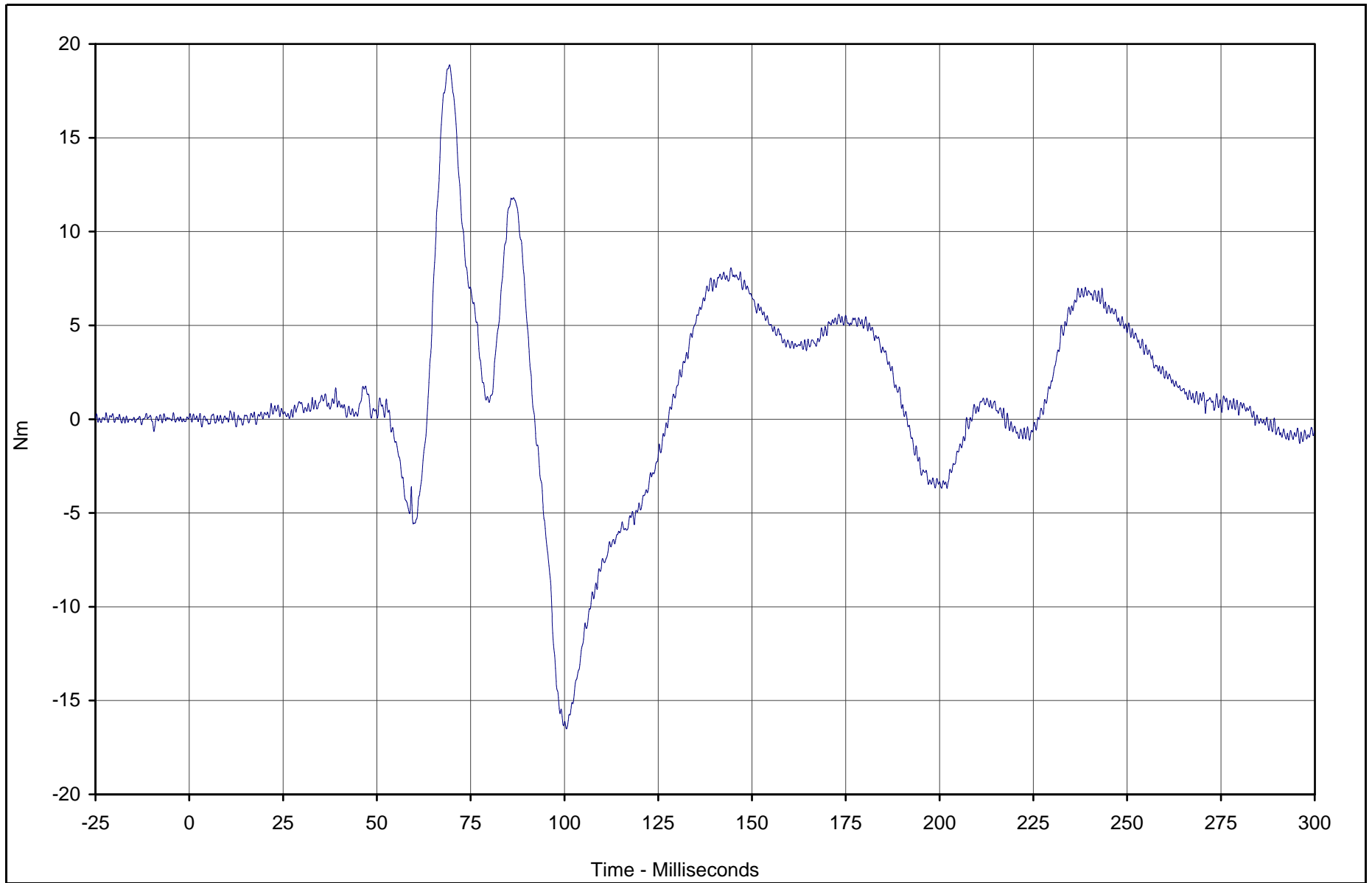


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment X	010	FIL	Nm	18.9	69.4	-16.5	100.5	600

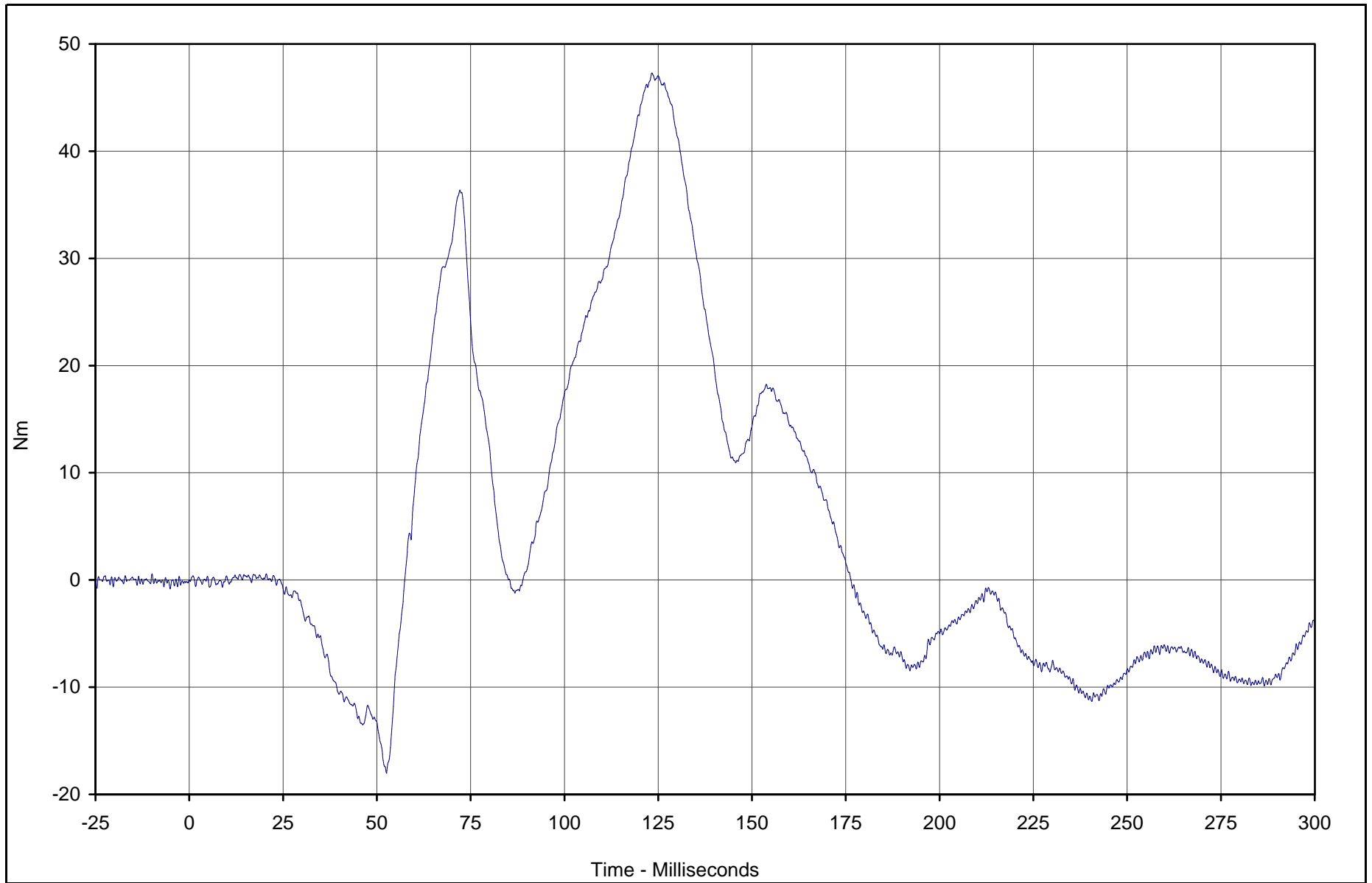


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Y	011	FIL	Nm	47.3	123.3	-18.0	52.6	600

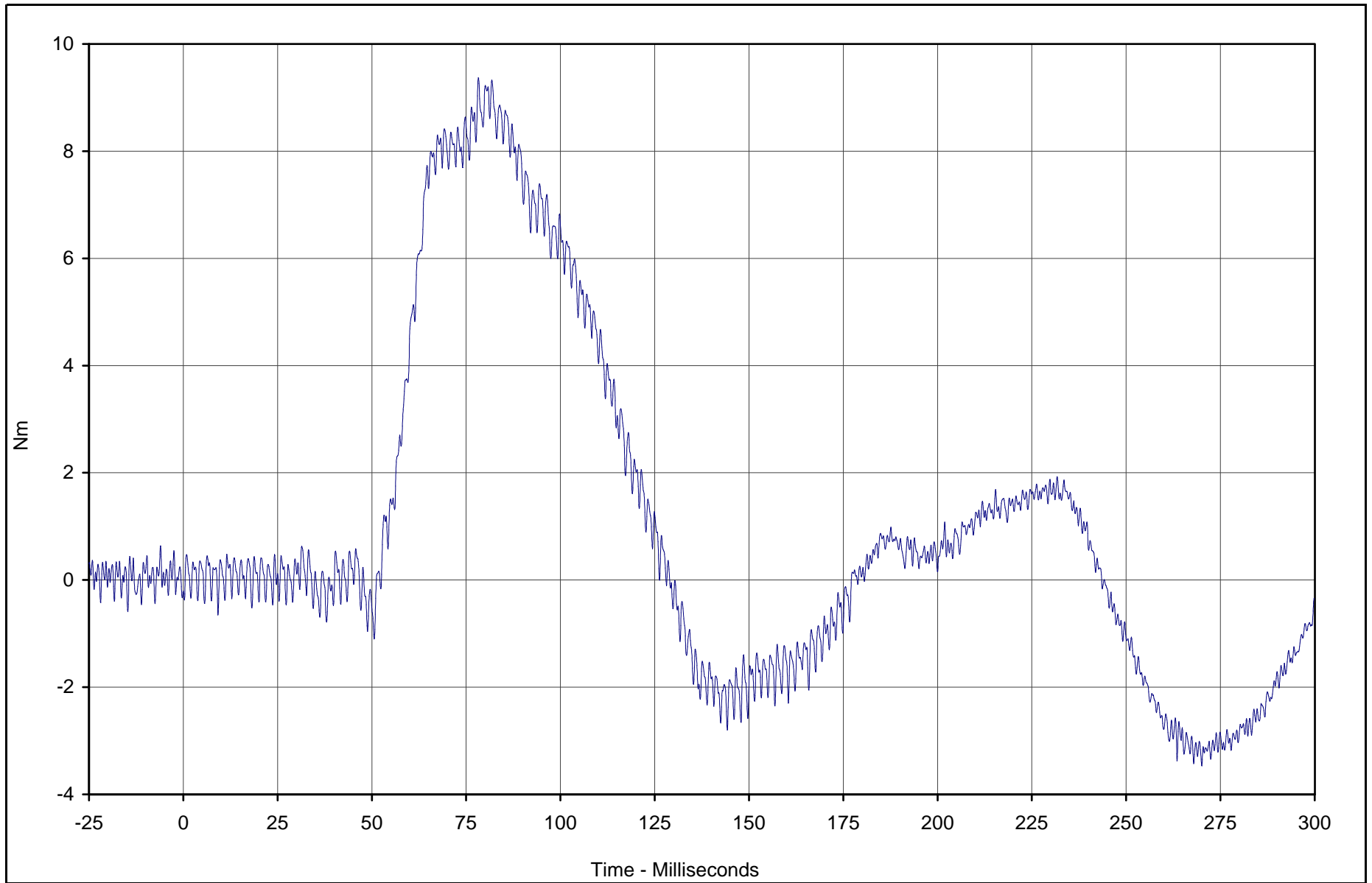


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Z	012	FIL	Nm	9.4	78.2	-3.5	270.1	600

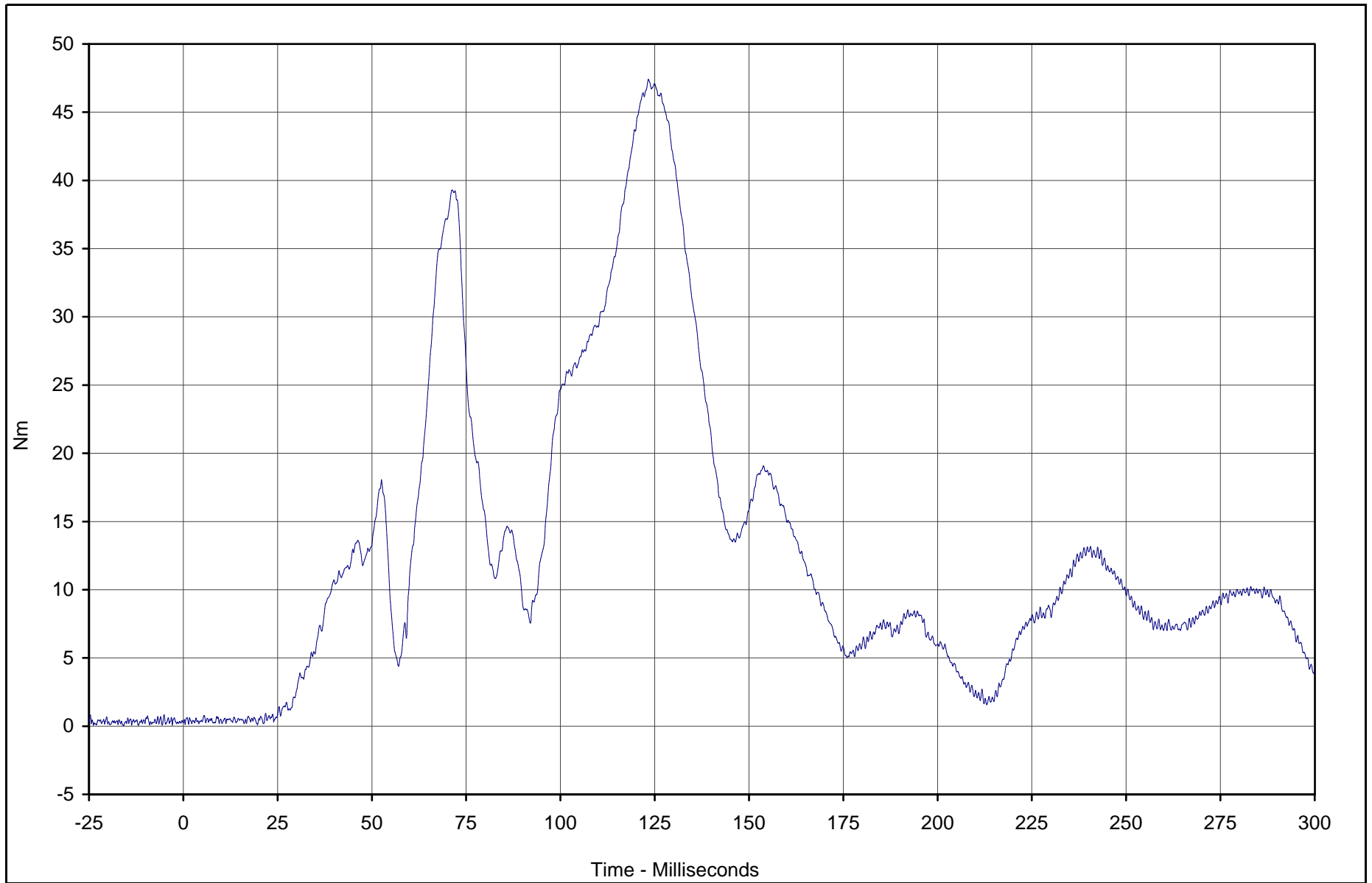


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Neck Moment Resultant	010	RES	Nm	47.4	123.3	0.1	19.7	600

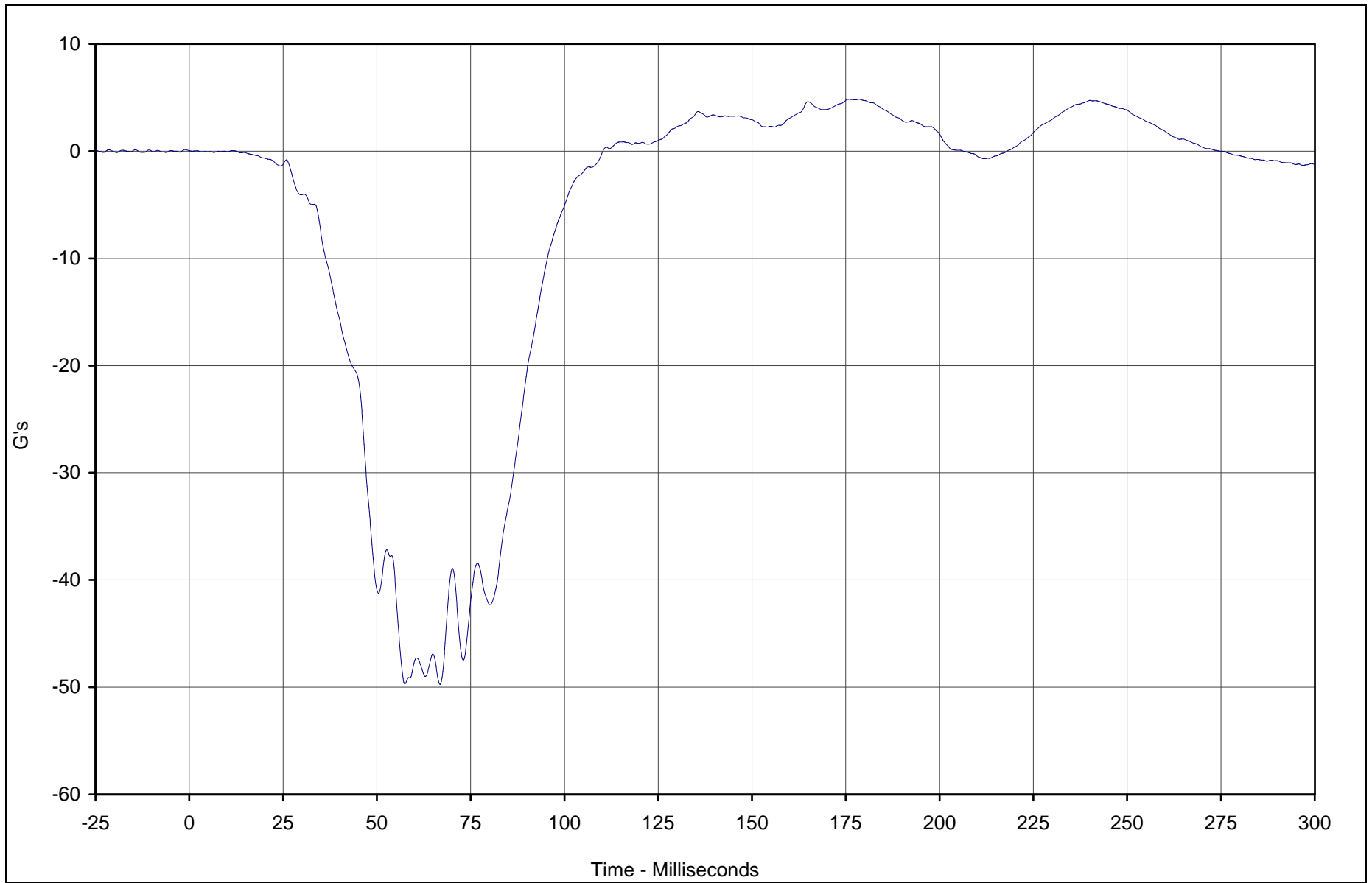


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X	013	FIL	G's	4.8	178.6	-49.7	66.8	180

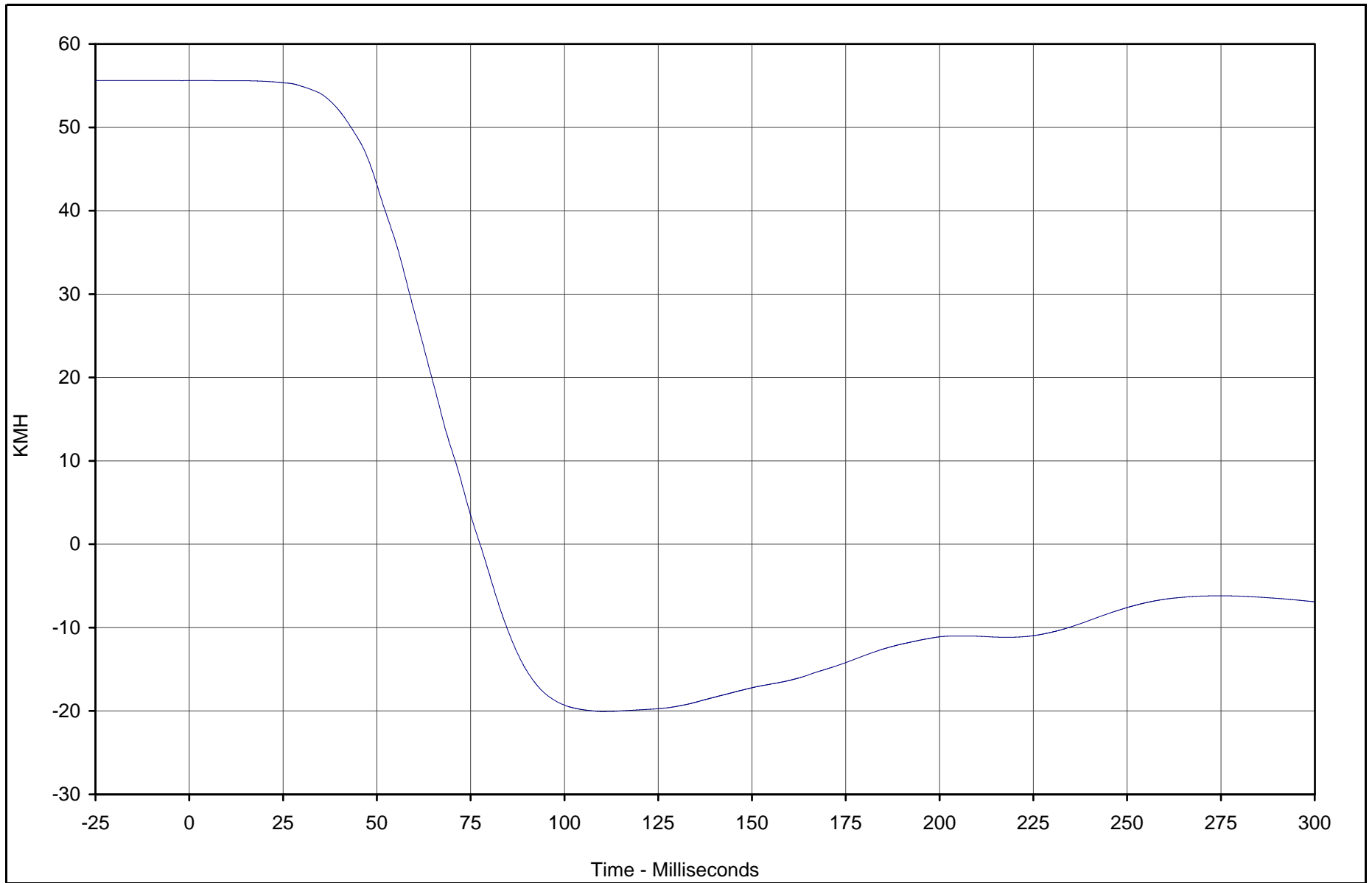


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X Velocity	013	IN1	KMH	55.6	2.6	-20.1	110.2	180

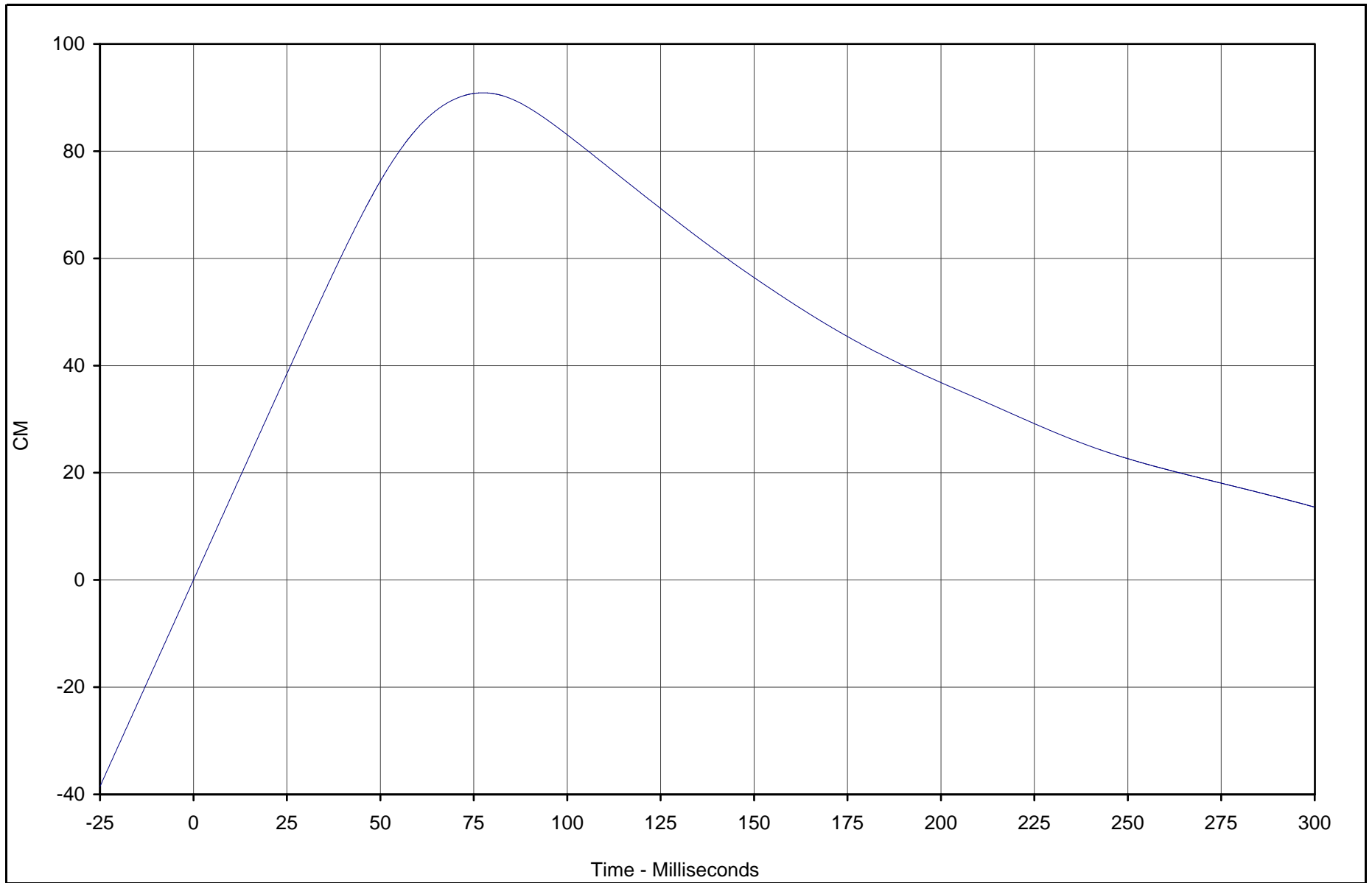


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary X Displ.	013	IN2	CM	90.9	77.5	0.0	0.0	180

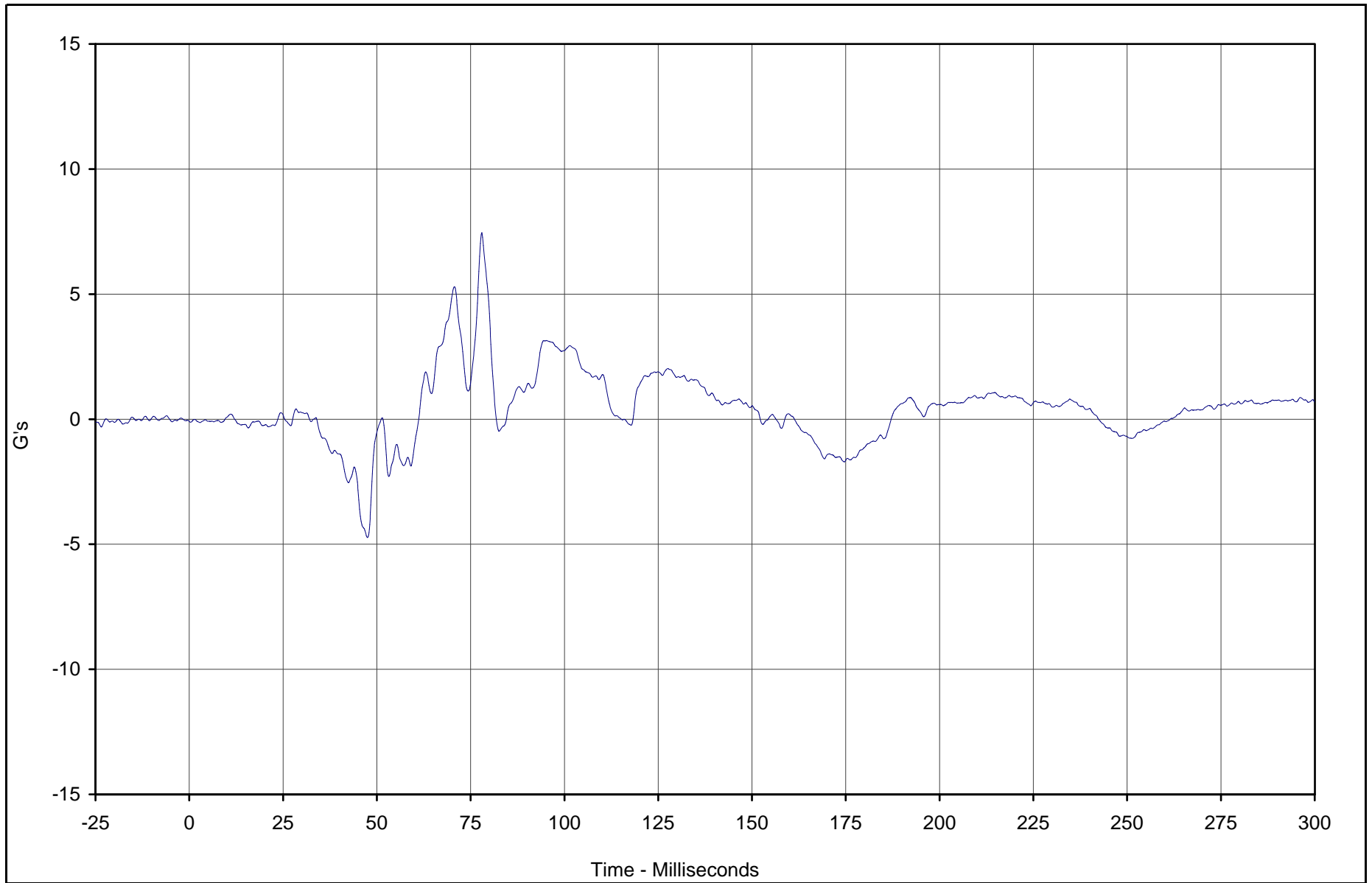


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary Y	014	FIL	G's	7.5	78.0	-4.7	47.5	180

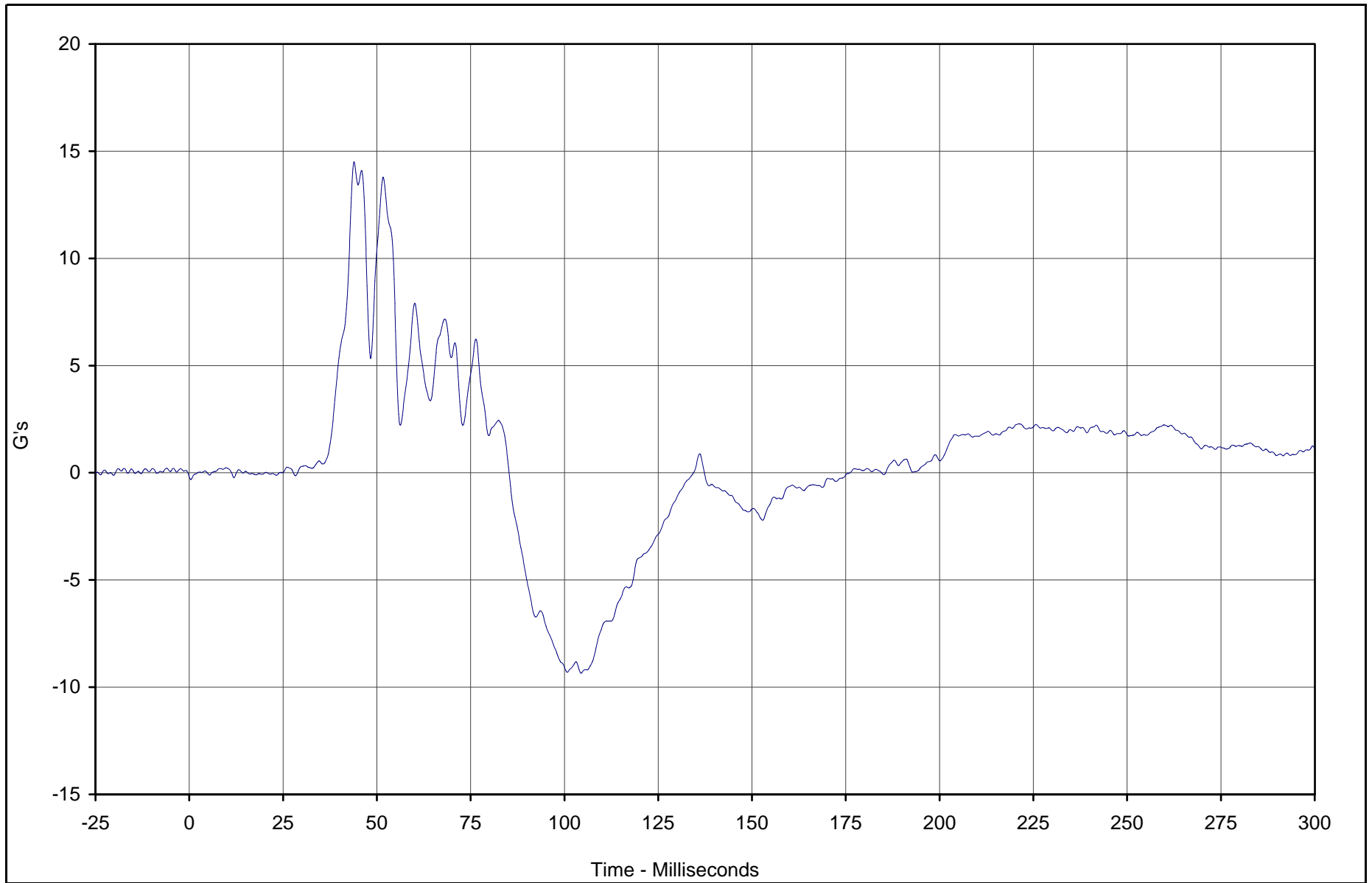


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Primary Z	015	FIL	G's	14.5	43.9	-9.3	104.4	180

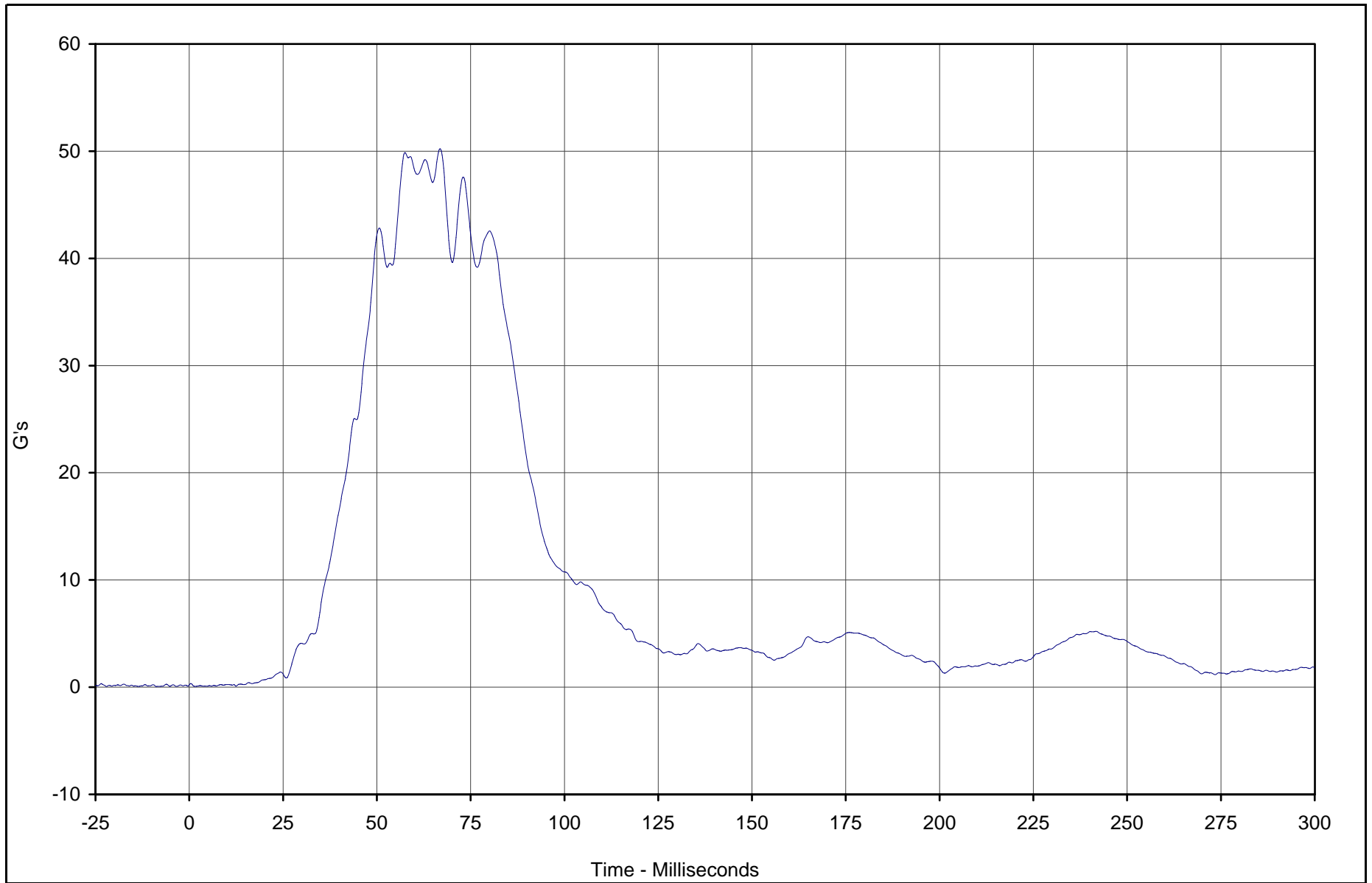


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Resultant Primary	013	RES	G's	50.2	66.9	0.1	1.6	180

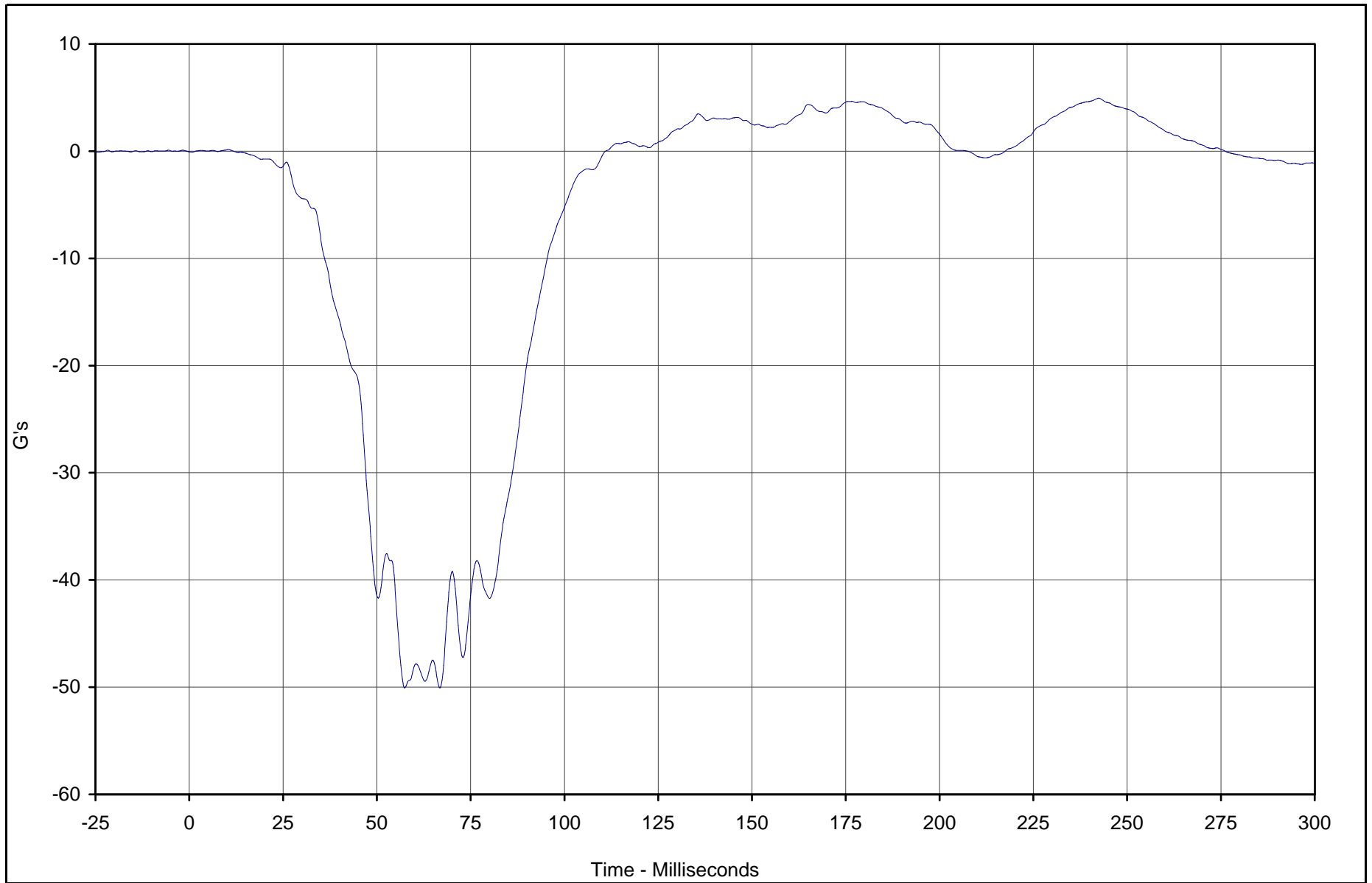


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X	016	FIL	G's	4.9	242.5	-50.1	66.8	180

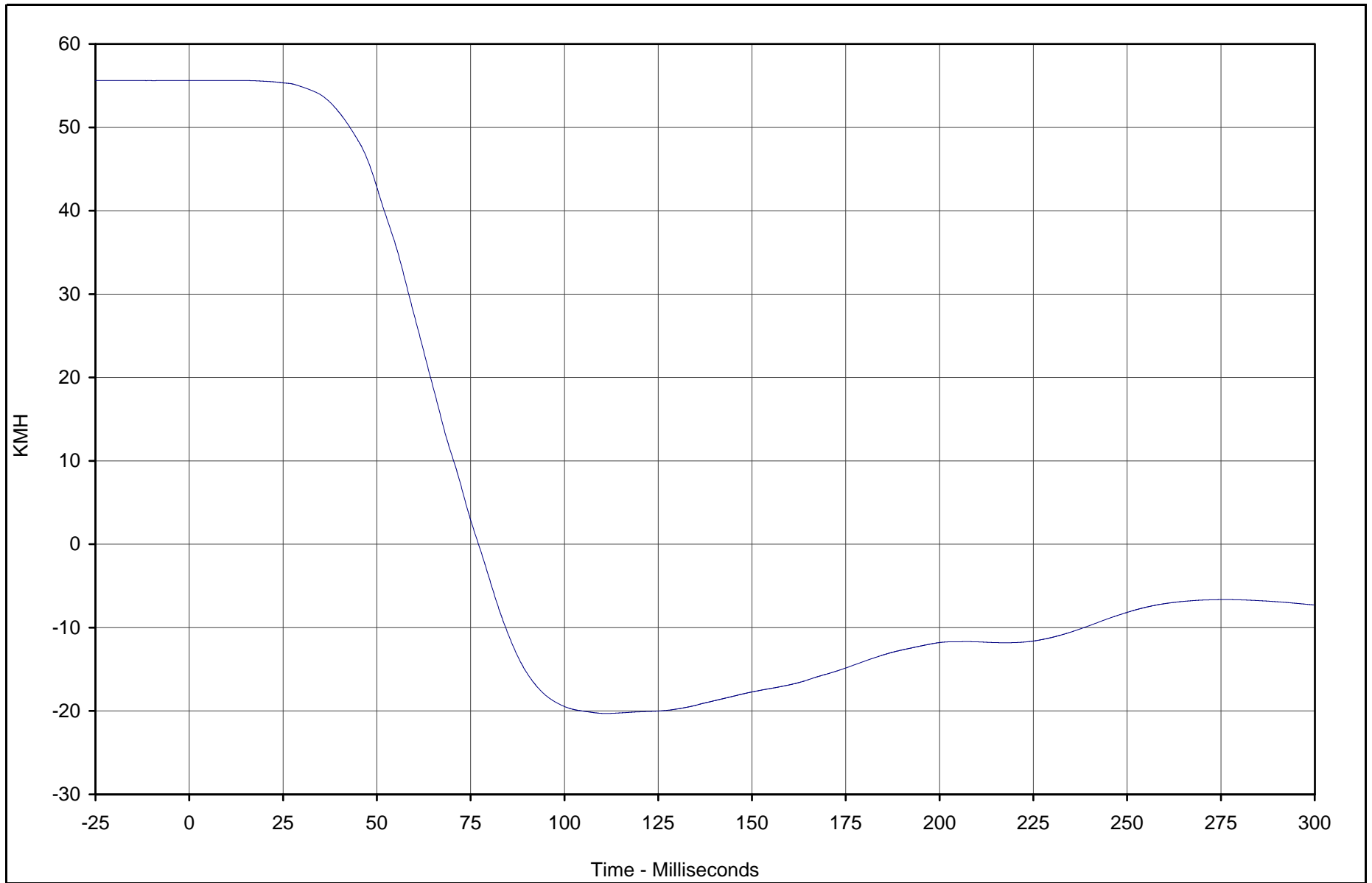


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X Velocity	016	IN1	KMH	55.6	11.8	-20.3	110.9	180

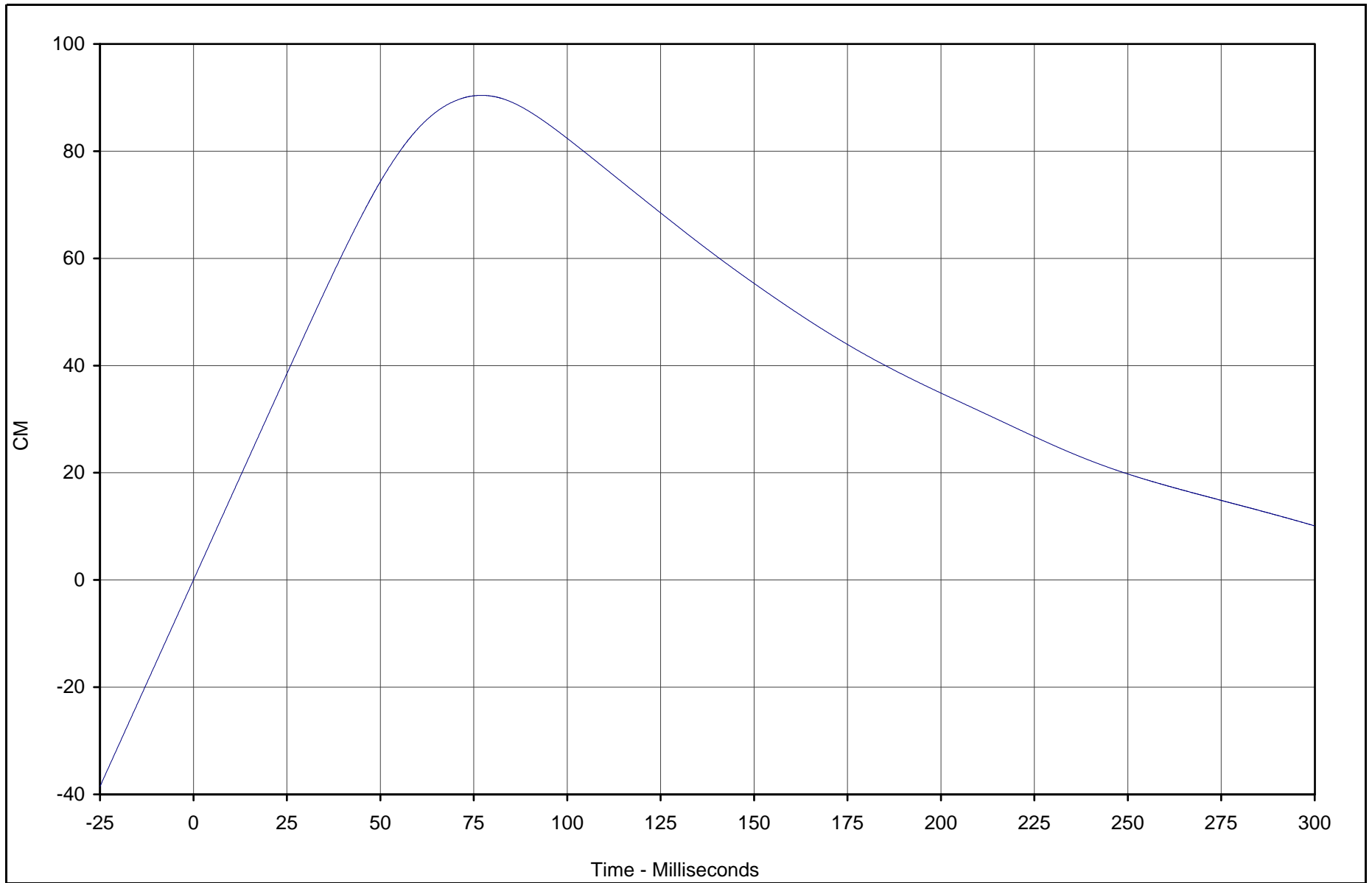


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant X Displ.	016	IN2	CM	90.4	77.1	0.0	0.0	180



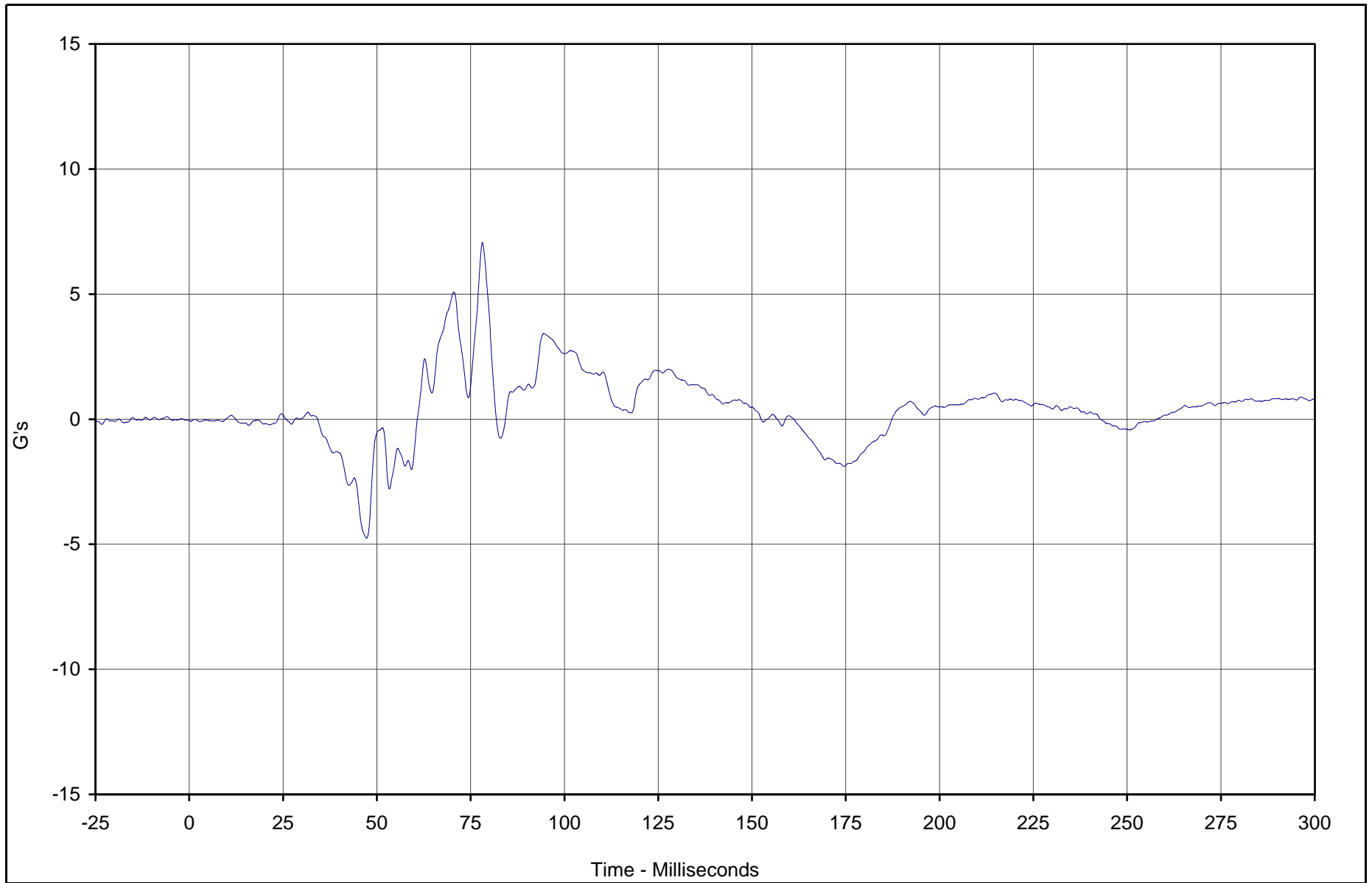
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant Y	017	FIL	G's	7.1	78.1	-4.8	178.1	180



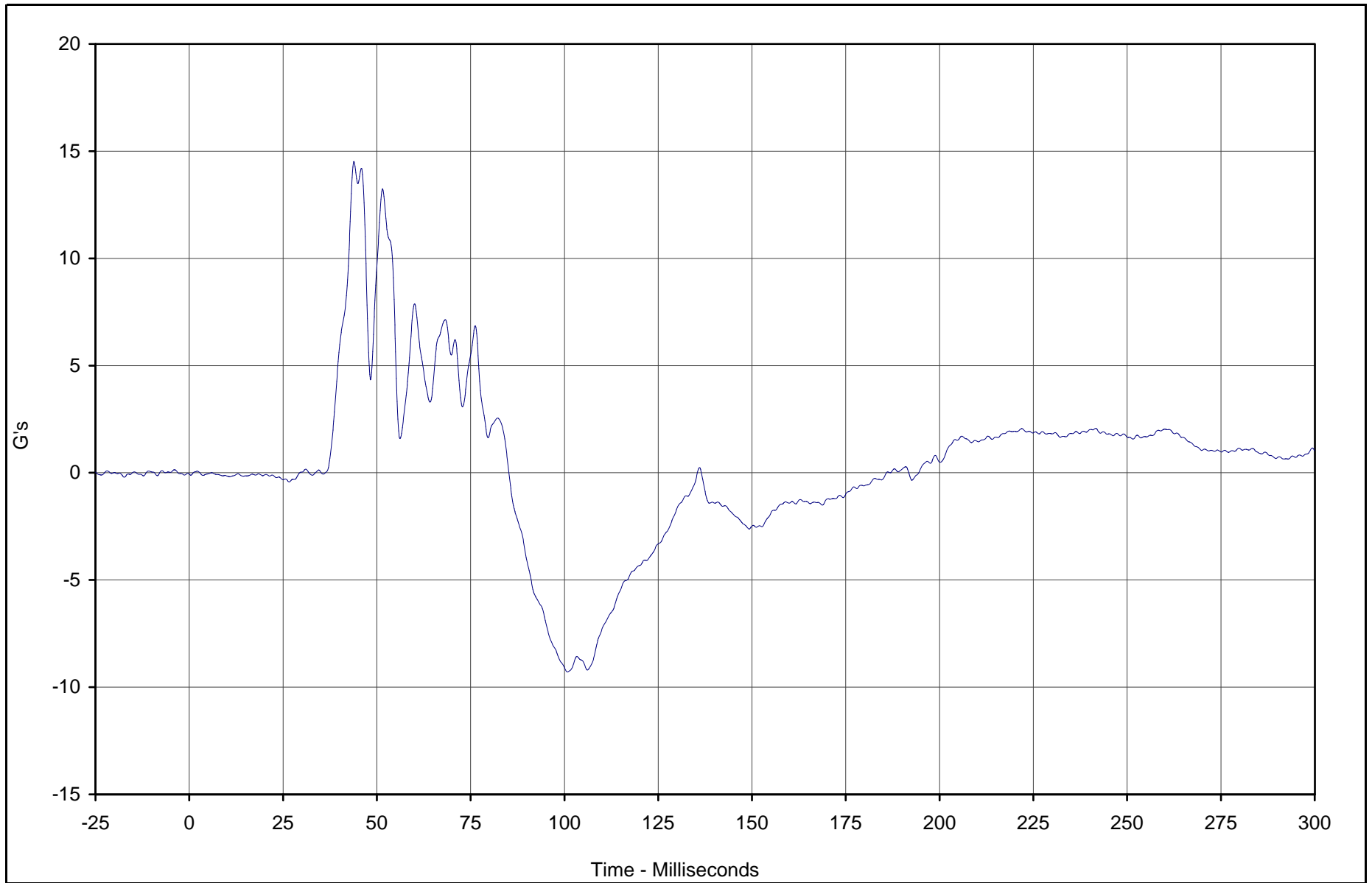
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Redundant Z	018	FIL	G's	14.5	43.9	-9.3	100.8	180

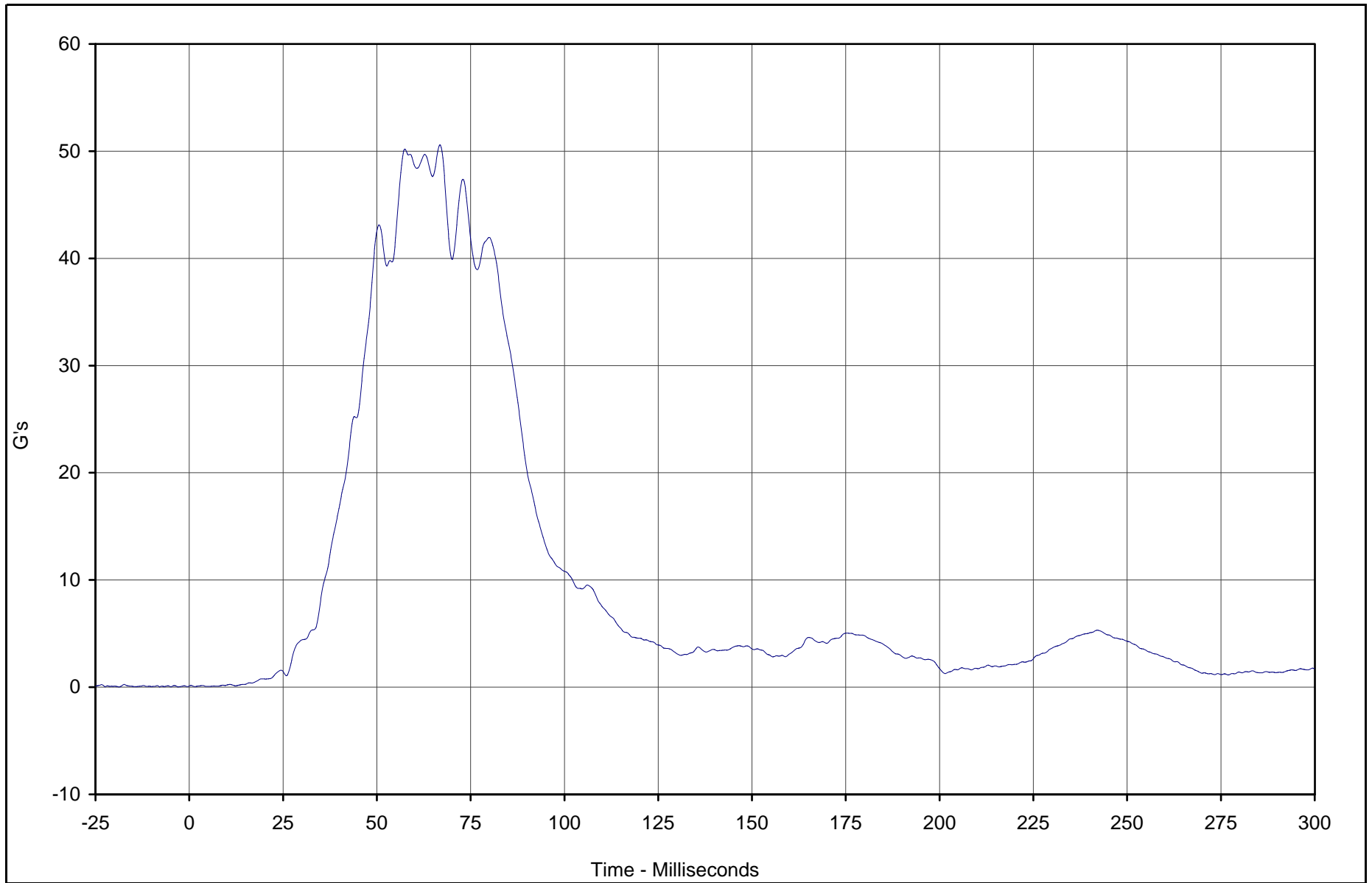


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Resultant Redundant	016	RES	G's	50.6	66.8	0.0	1.6	180

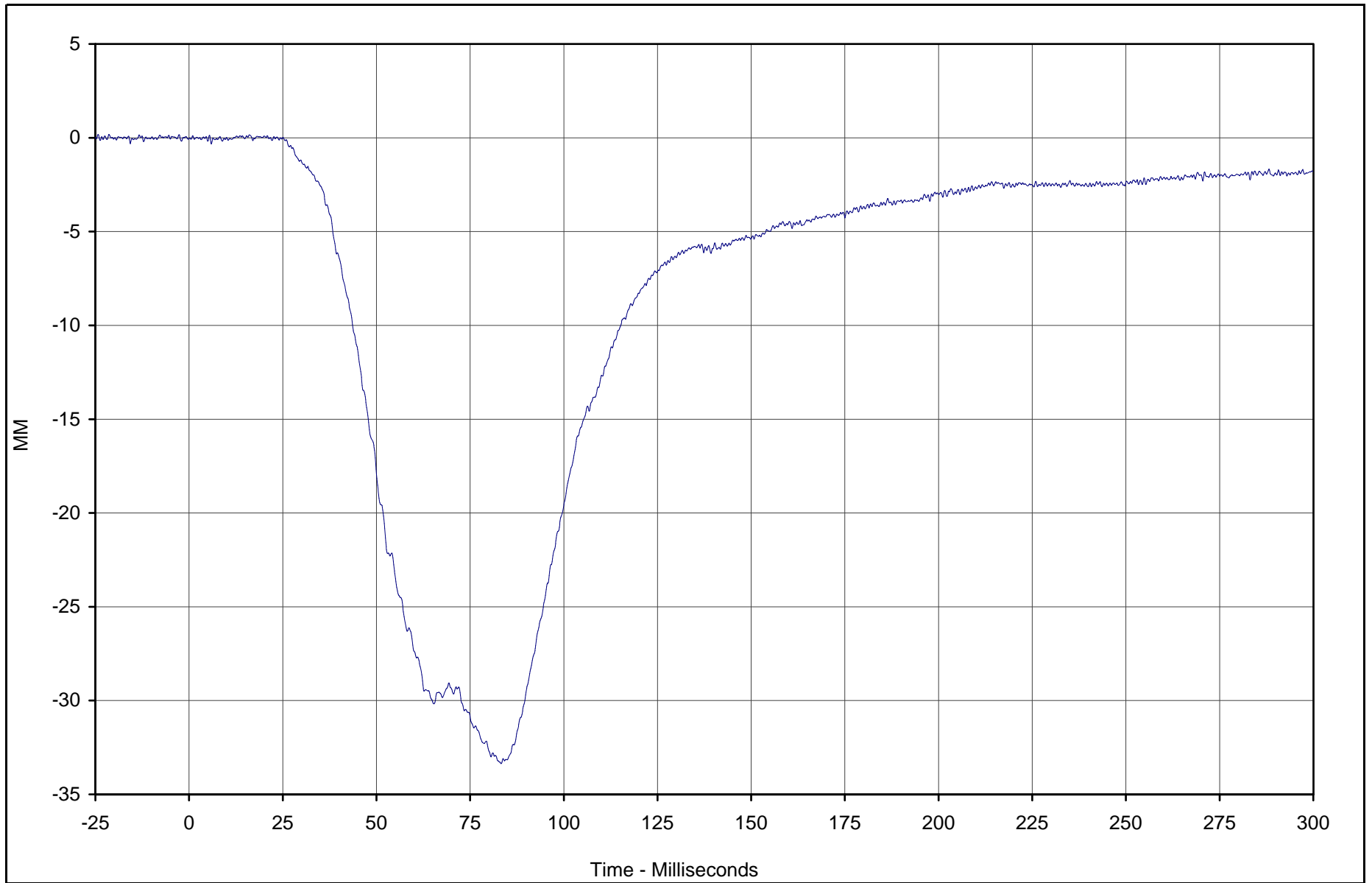


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Chest Displacement X	019	FIL	MM	0.2	16.1	-33.4	83.3	600

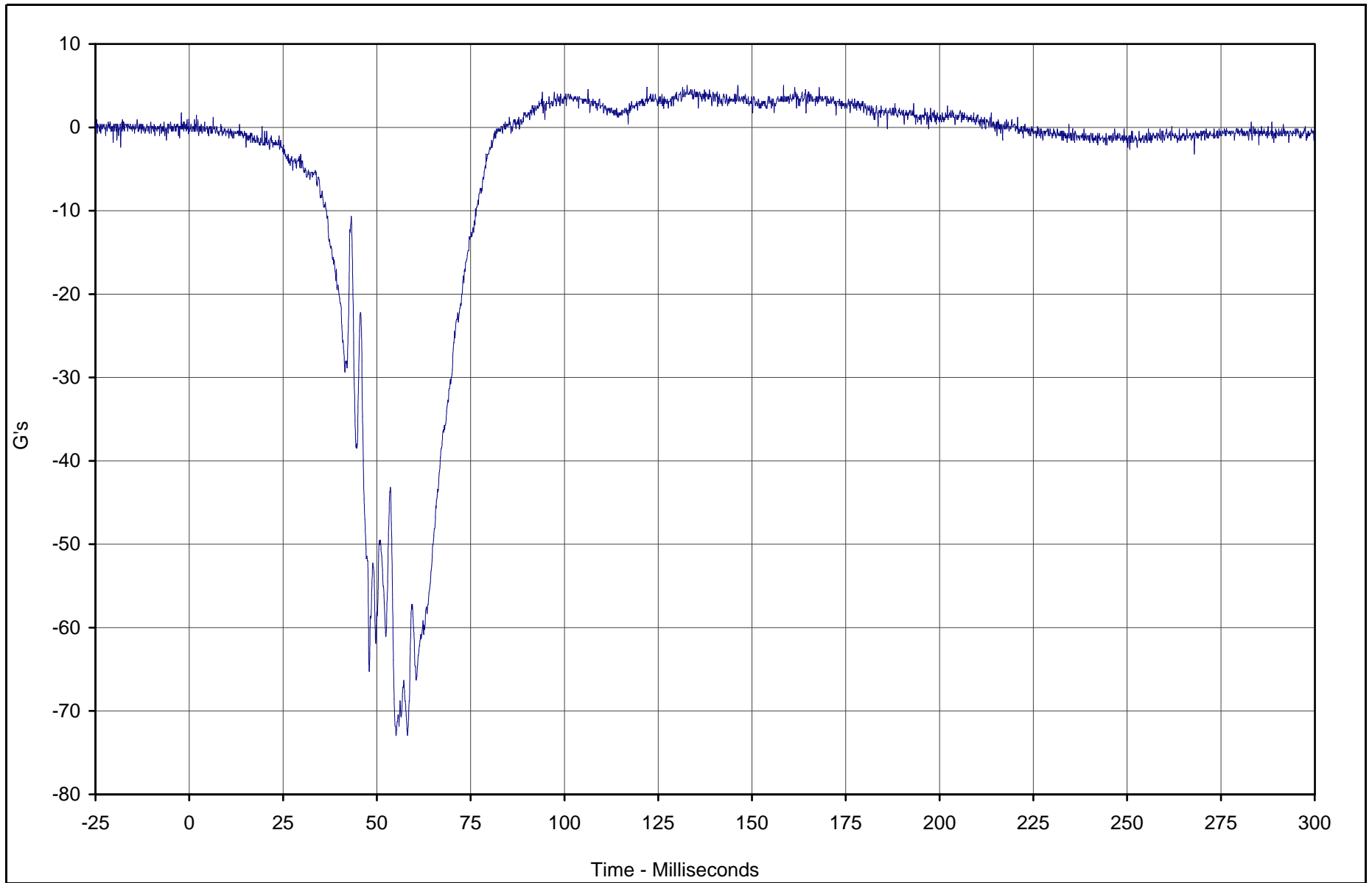


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X	020	FIL	G's	5.1	132.7	-72.9	55.1	1000

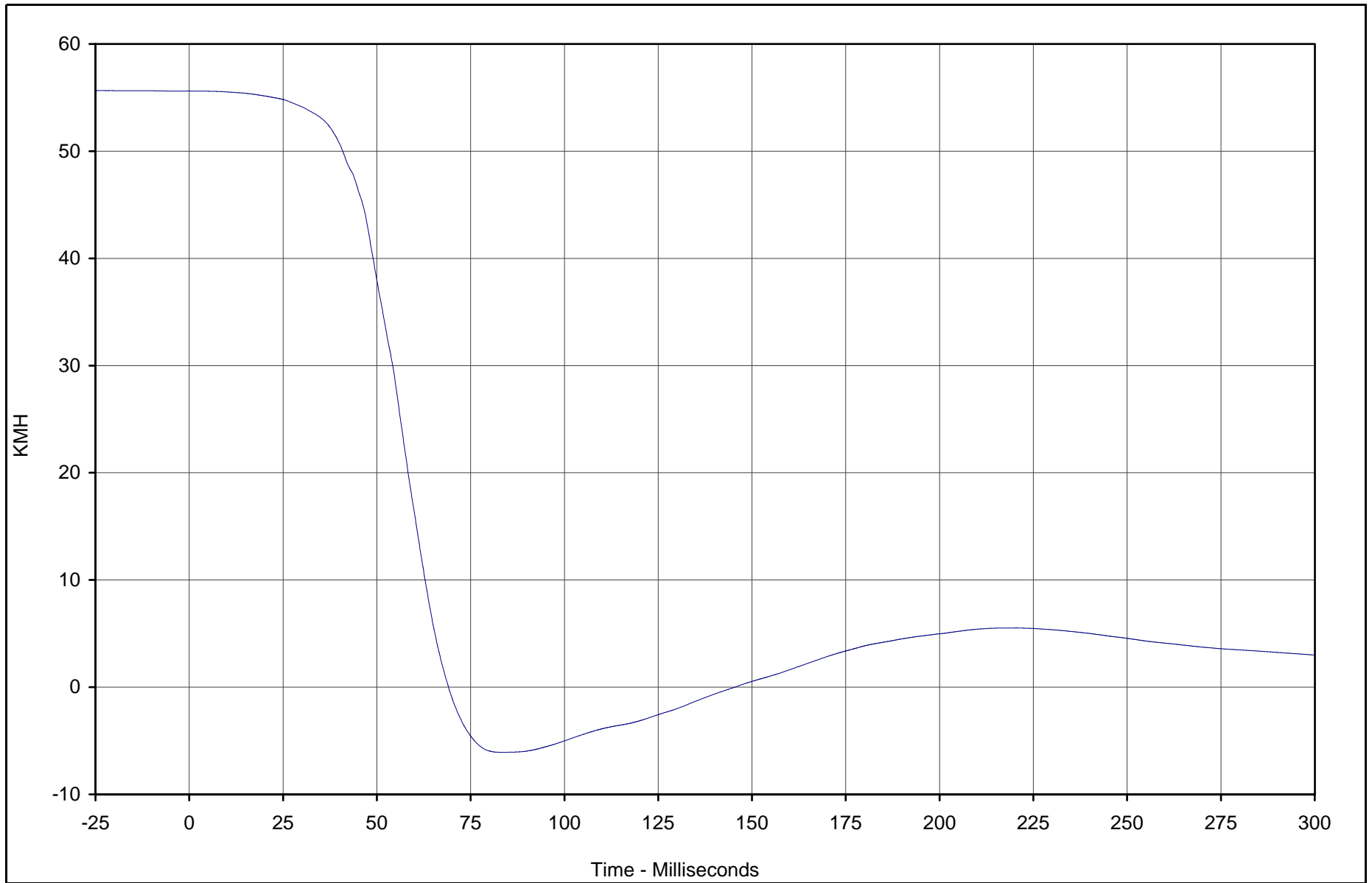


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X Velocity	020	IN1	KMH	55.6	0.0	-6.1	83.7	180



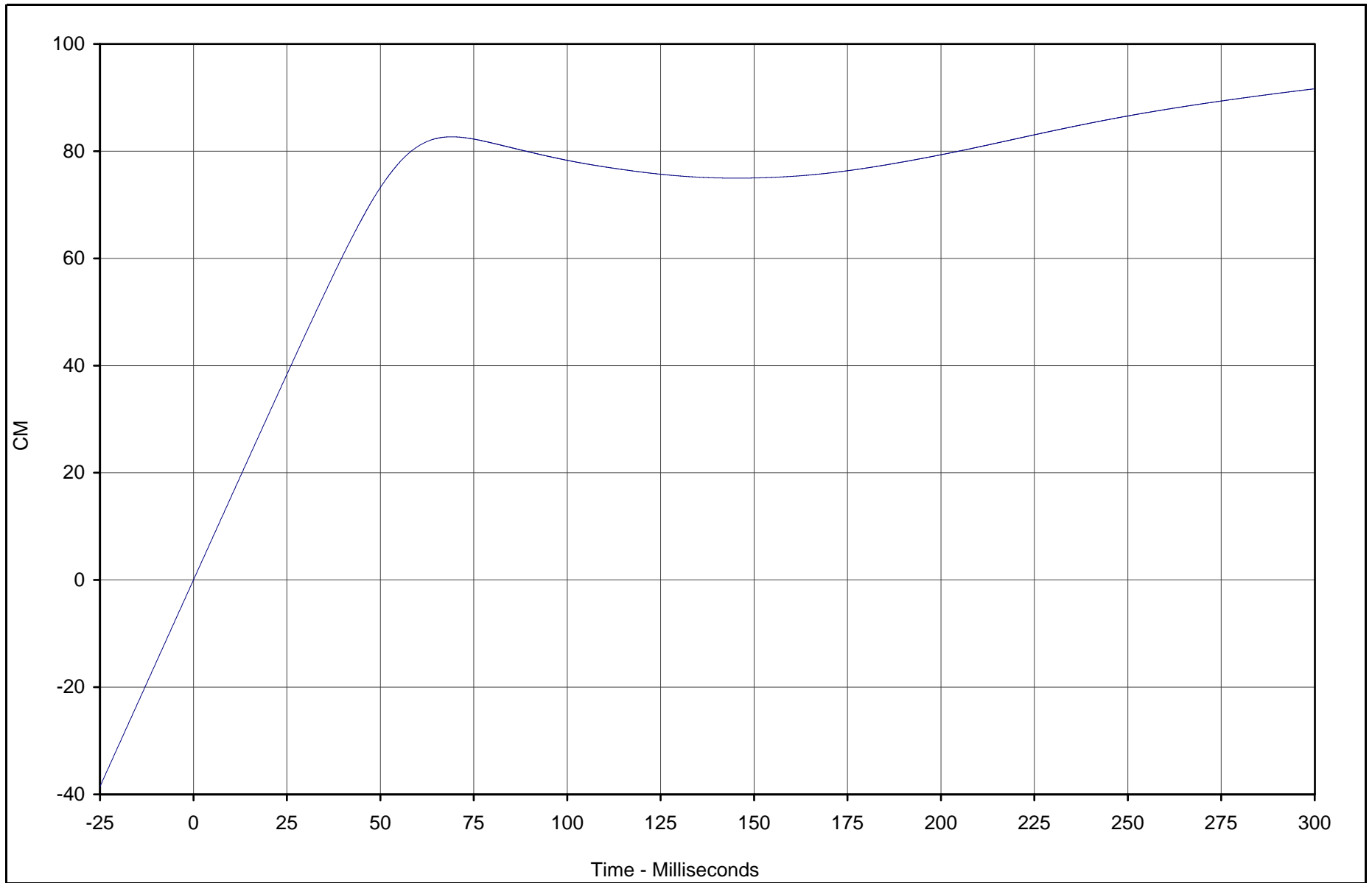
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis X Displ.	020	IN2	CM	91.6	299.9	0.0	0.0	180

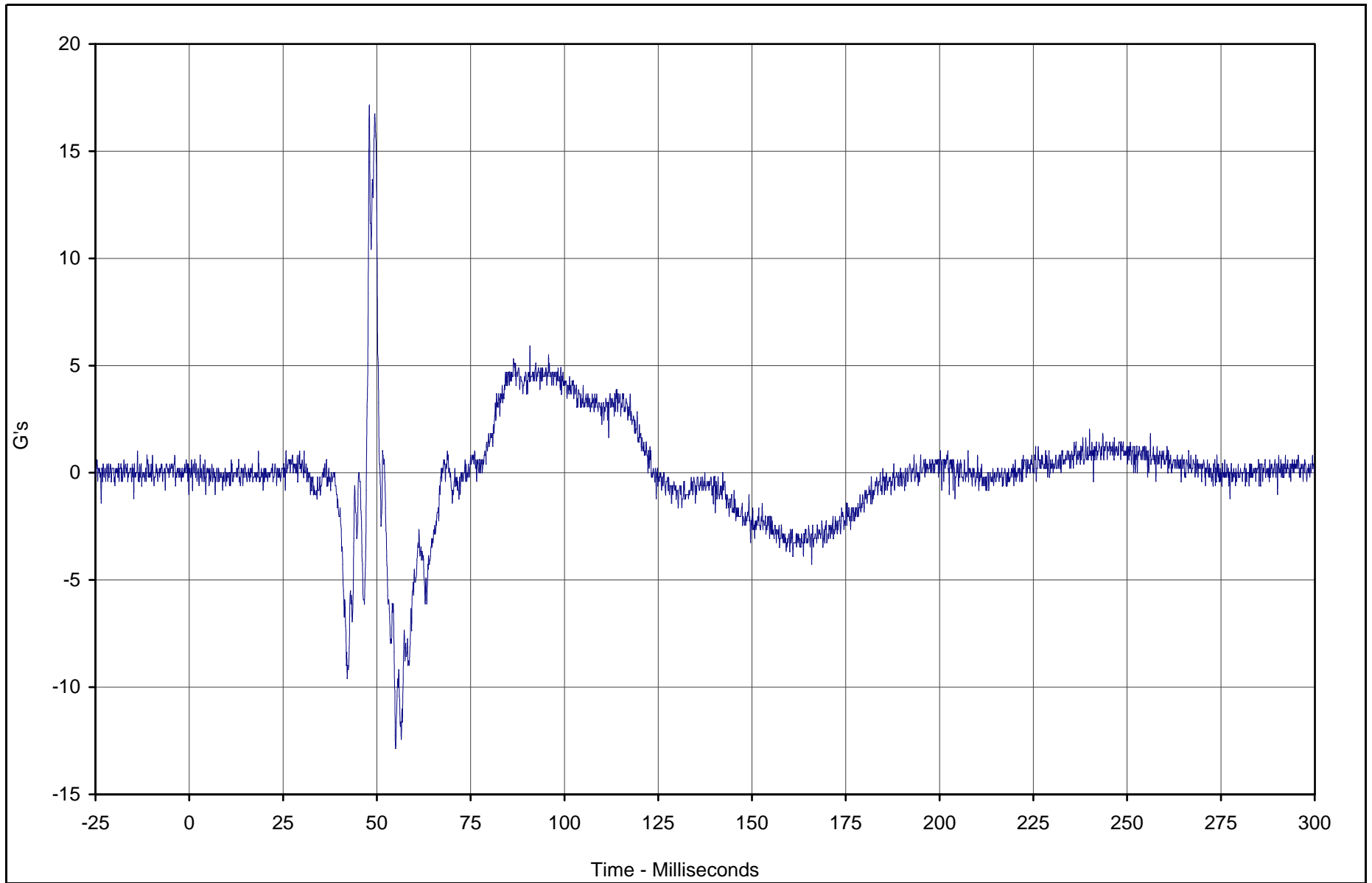


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Y	021	FIL	G's	17.1	48.0	-12.9	55.0	1000

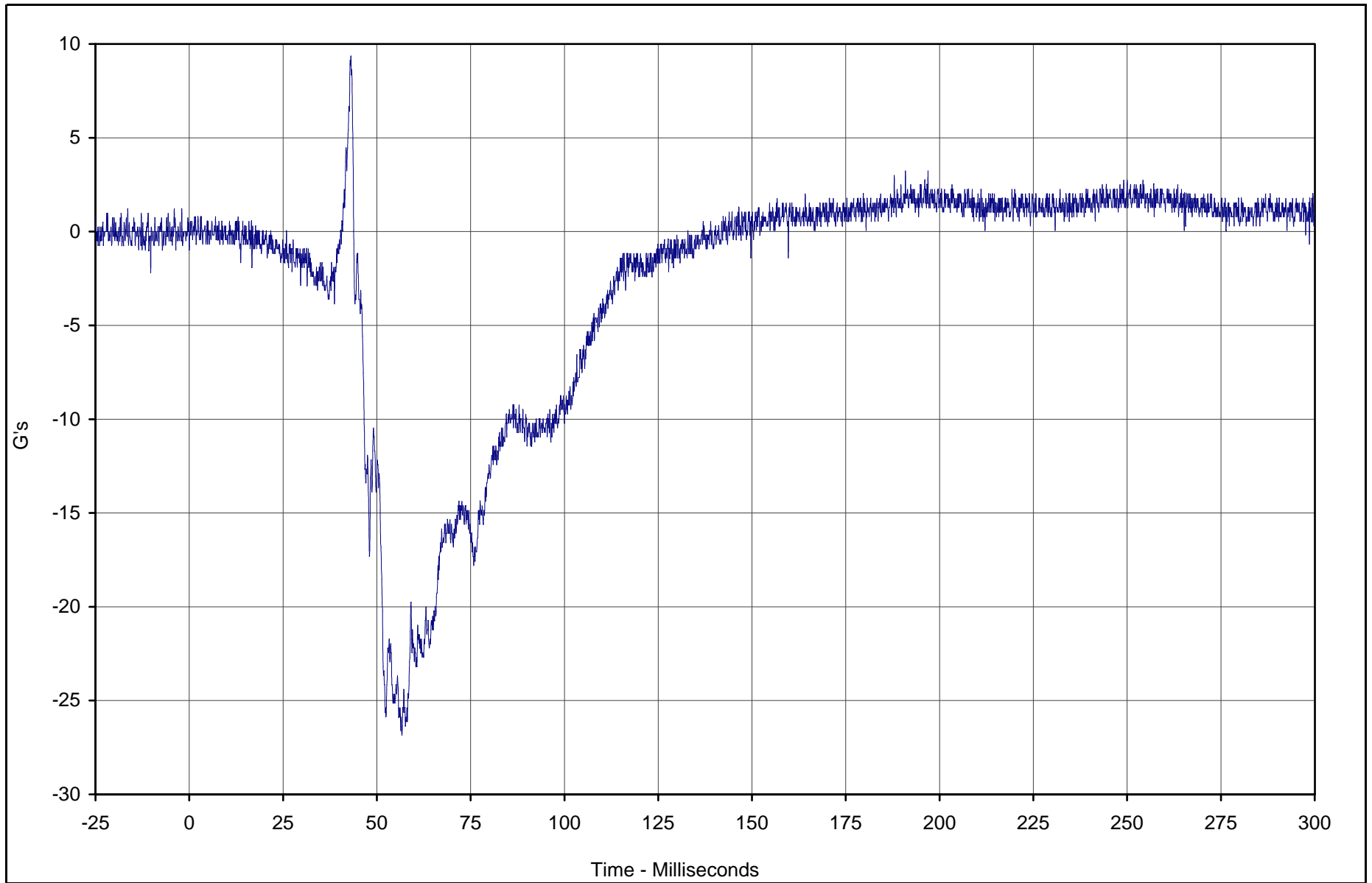


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Z	022	FIL	G's	9.4	43.1	-26.9	56.7	1000

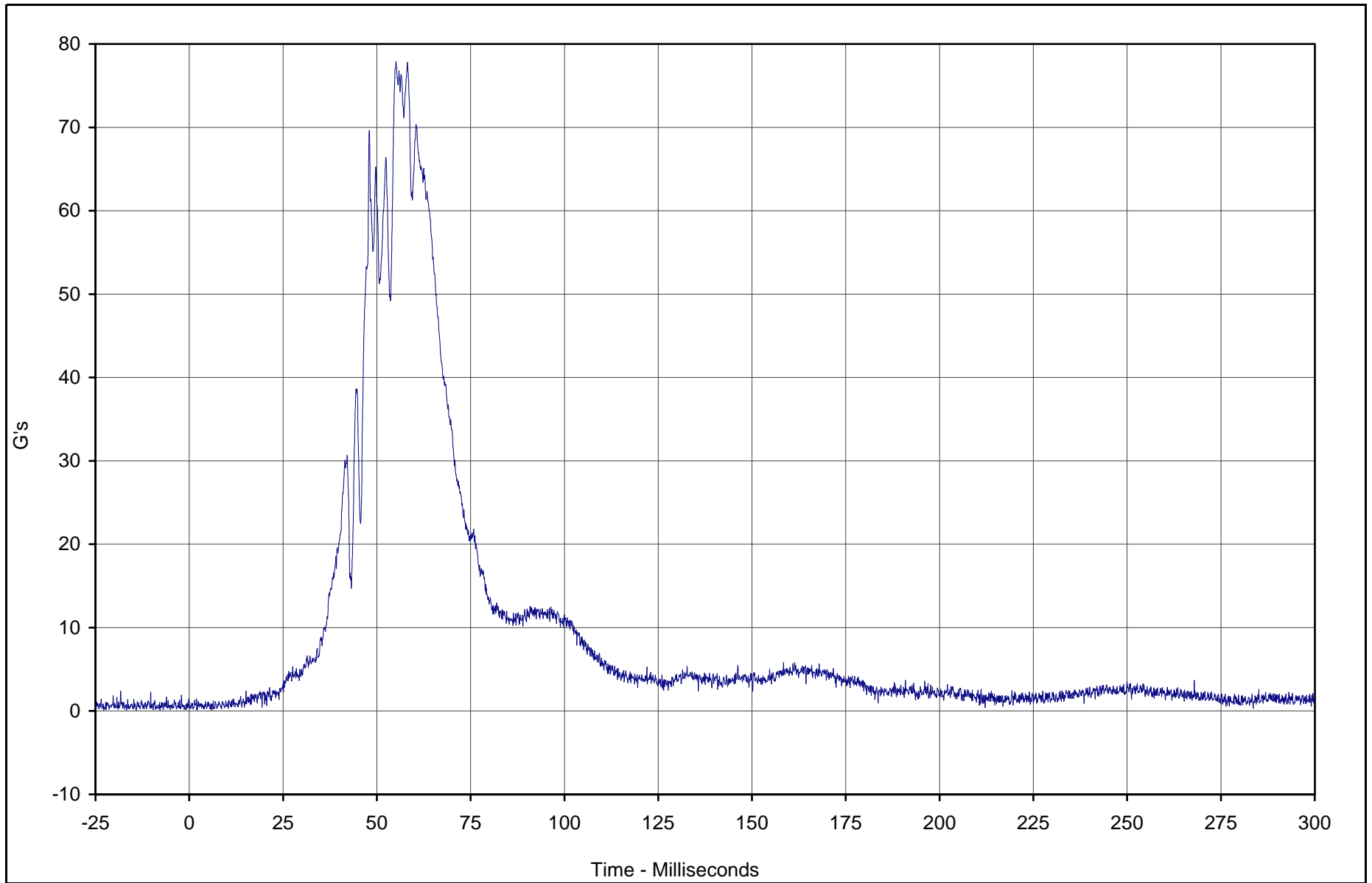


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Pelvis Resultant	023	RES	G's	77.9	55.1	0.1	5.9	1000



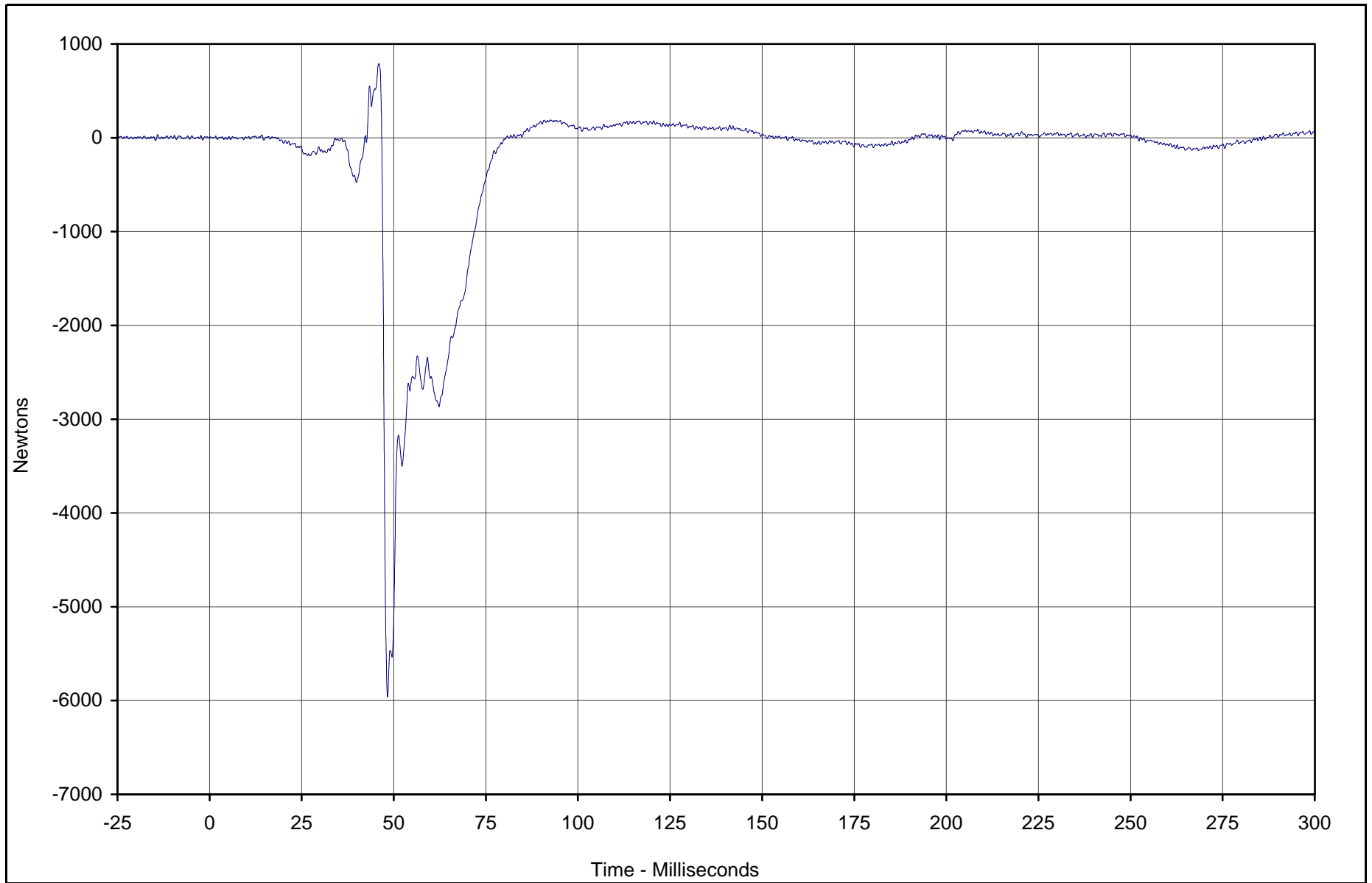
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-40



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Femur Force	023	FIL	Newtons	787.8	45.9	-5963.2	48.3	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

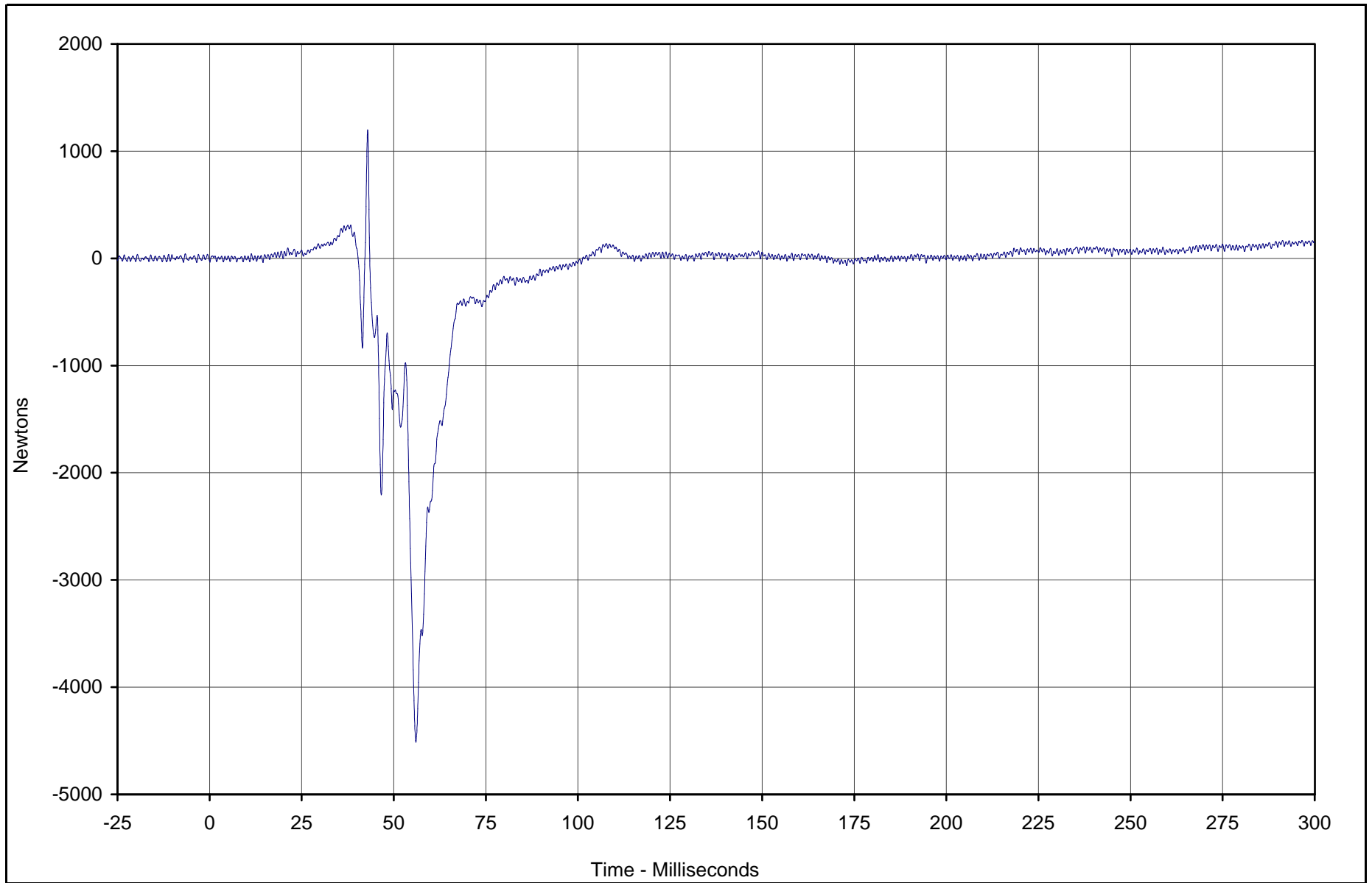
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-41



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Femur Force	024	FIL	Newtons	1199.4	42.9	-4514.3	56.0	600



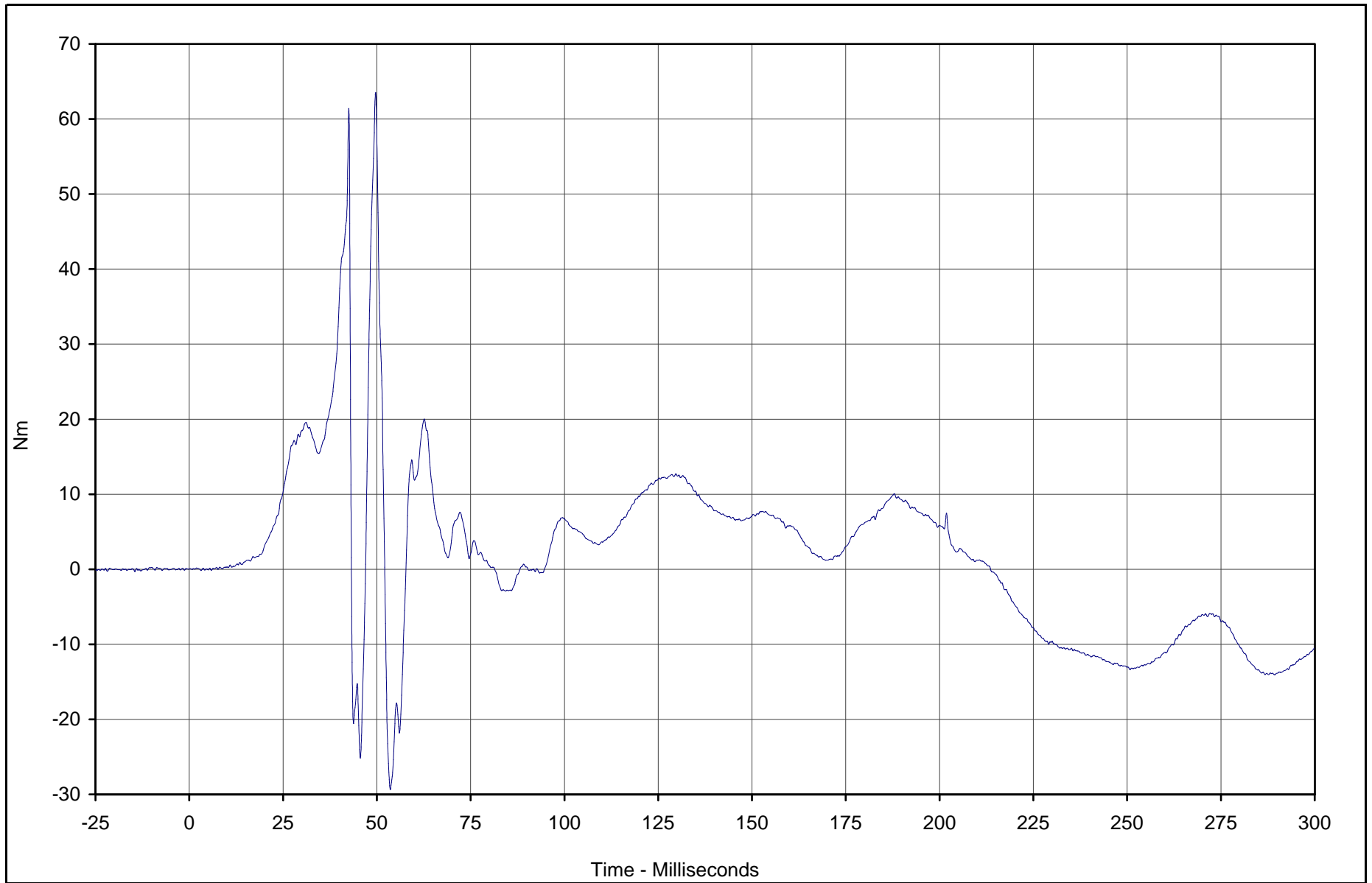
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-42



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Upper Tibia Moment X	025	FIL	Nm	63.5	49.7	-29.4	53.6	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

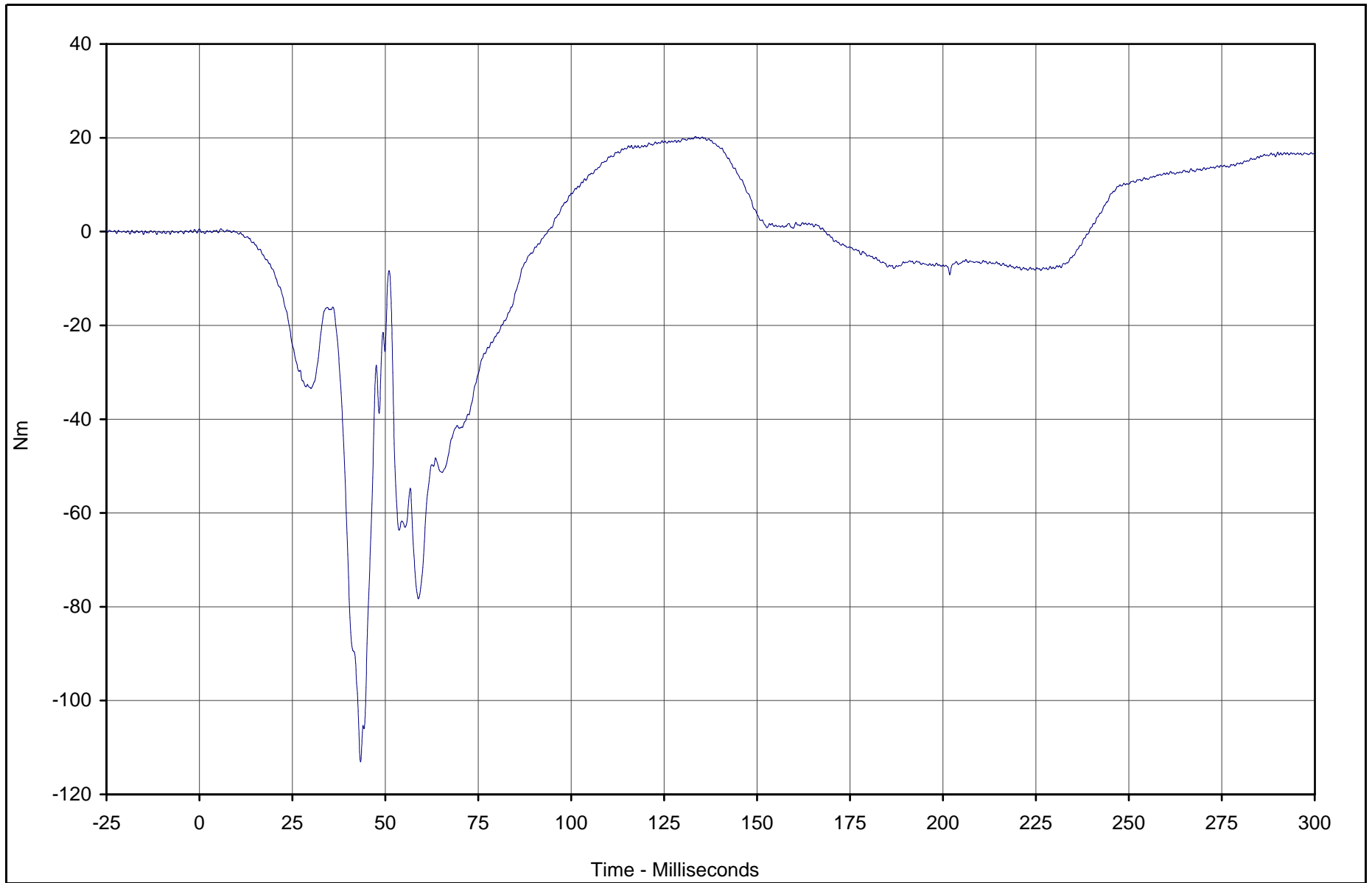
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-43



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Upper Tibia Moment Y	026	FIL	Nm	20.3	133.4	-113.0	43.4	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

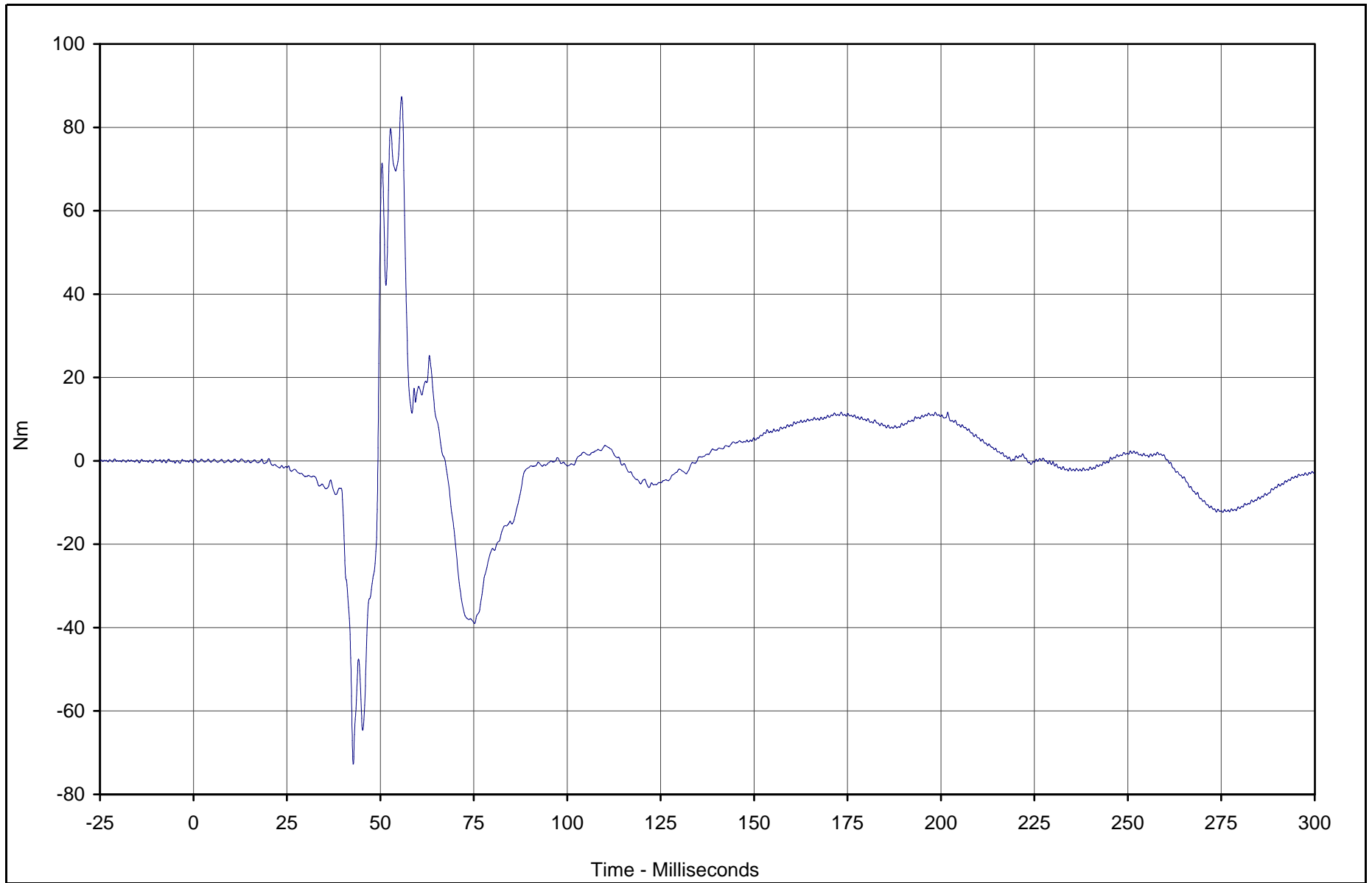
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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B-44



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Upper Tibia Moment X	027	FIL	Nm	87.4	55.7	-72.8	42.7	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

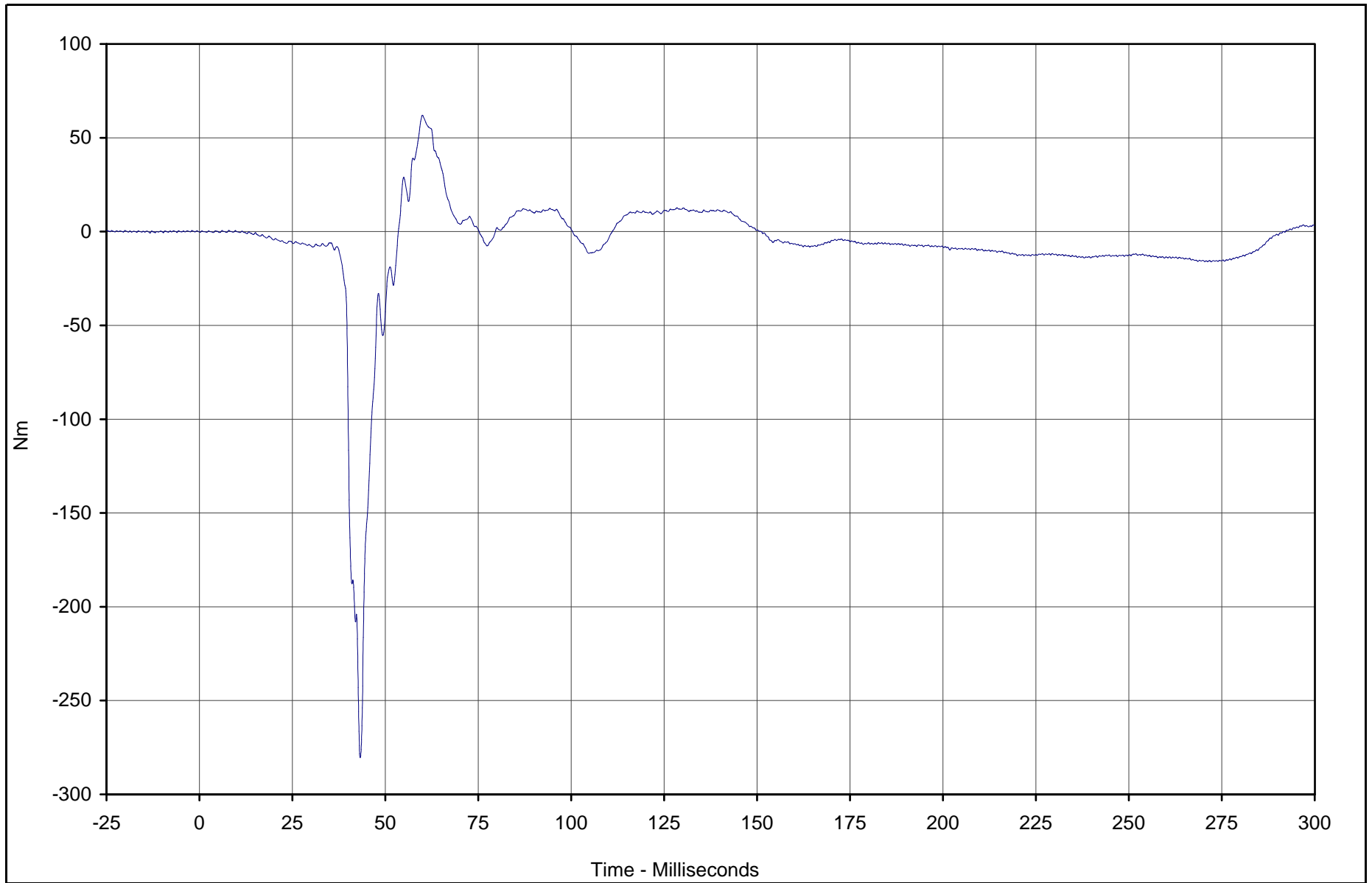
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-45



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Upper Tibia Moment Y	028	FIL	Nm	62.1	60.0	-280.4	43.3	600



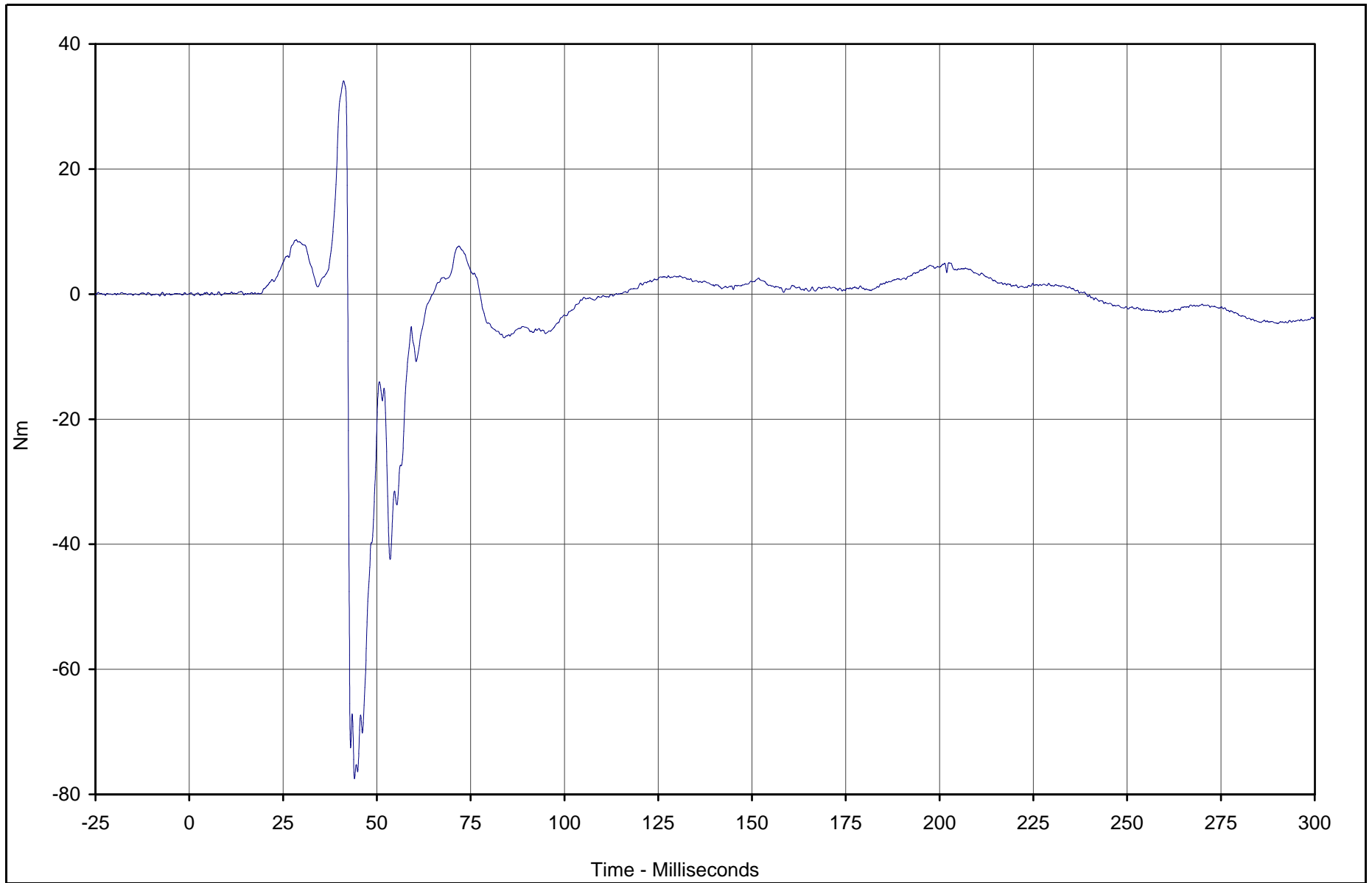
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Moment X	029	FIL	Nm	34.1	41.1	-77.5	44.1	600



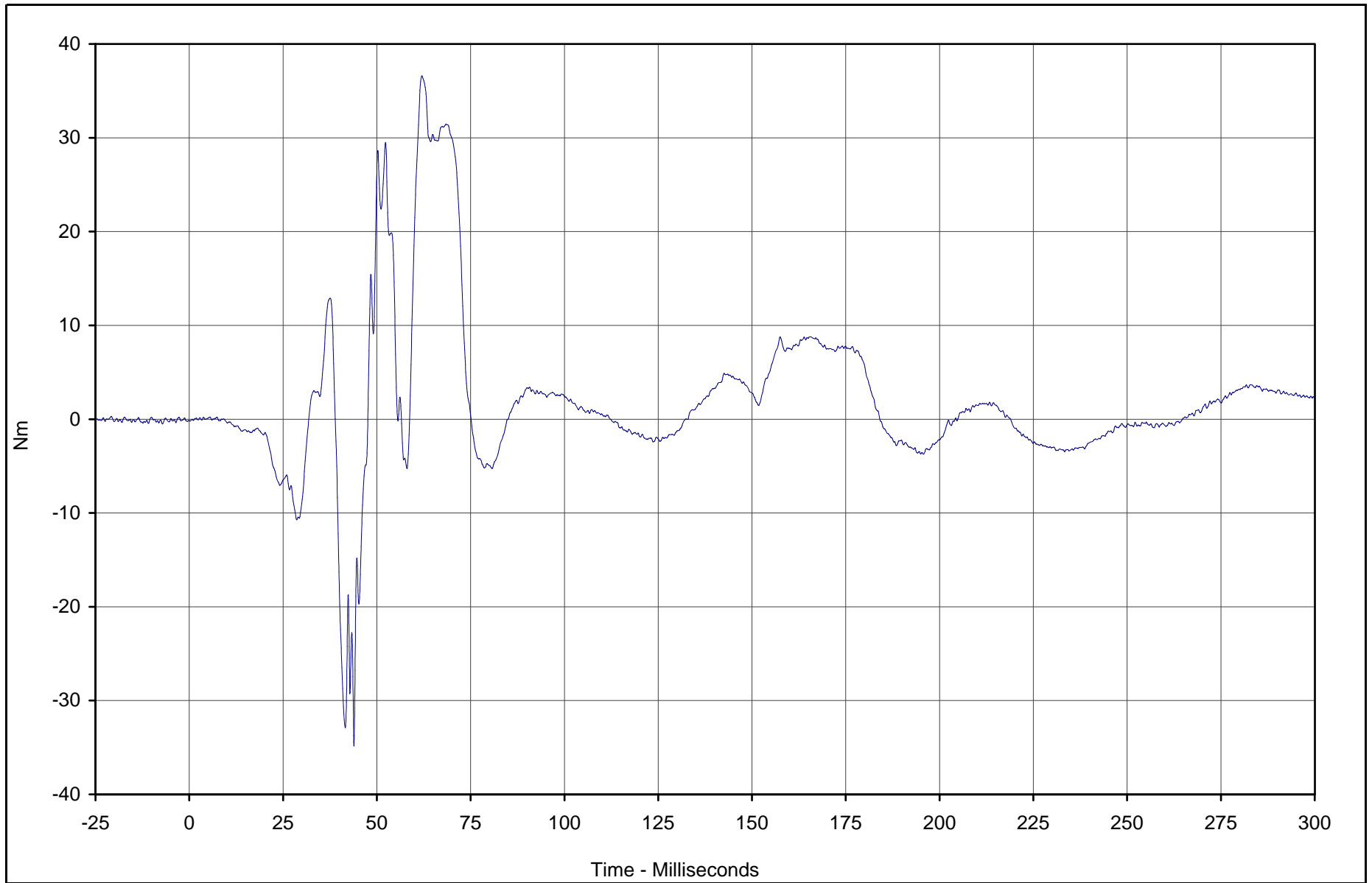
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-47



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Moment Y	030	FIL	Nm	36.6	62.0	-34.8	43.9	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

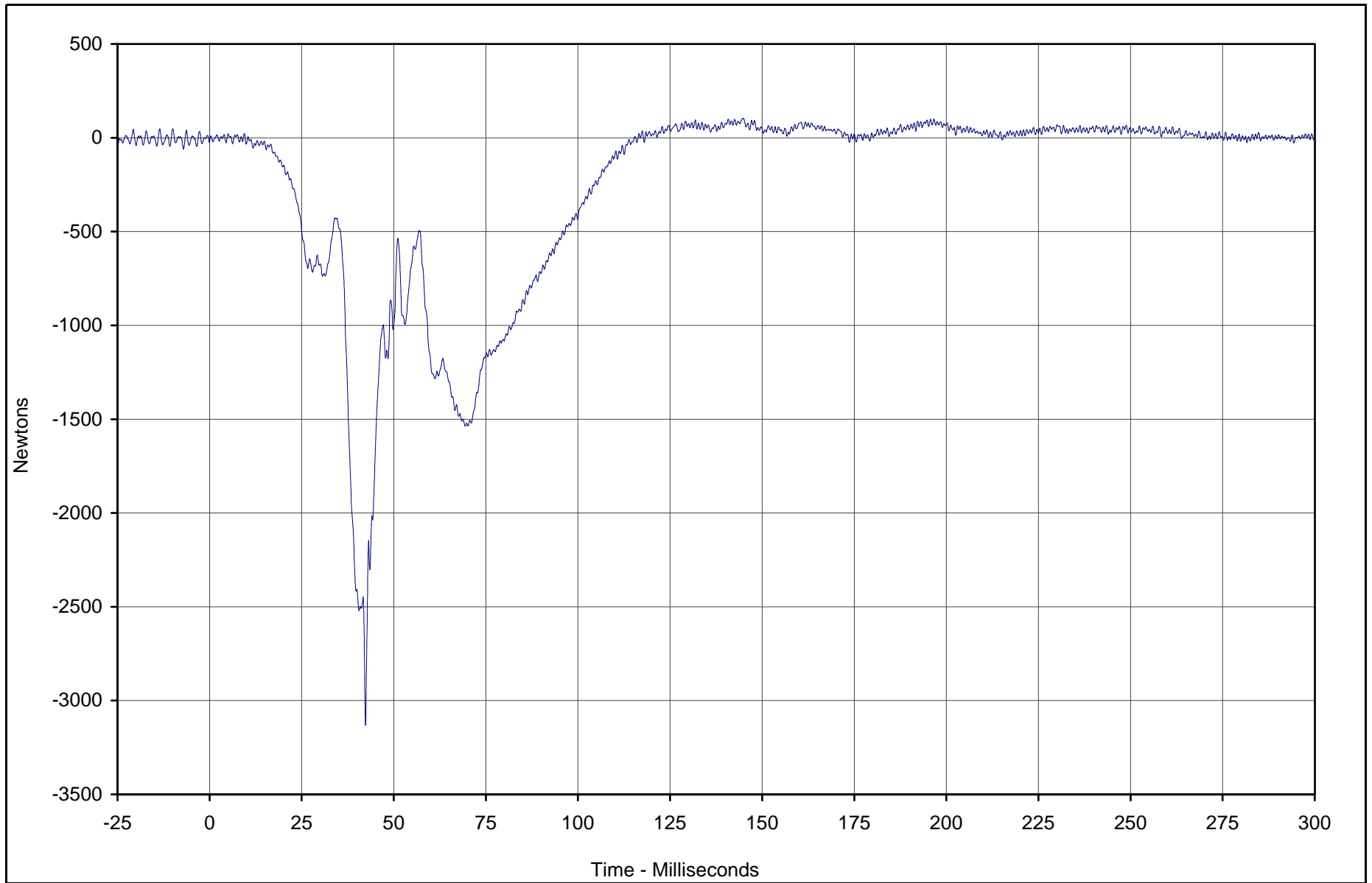
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-48



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Lower Tibia Force Z	031	FIL	Newtons	103.0	144.9	-3130.0	42.3	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

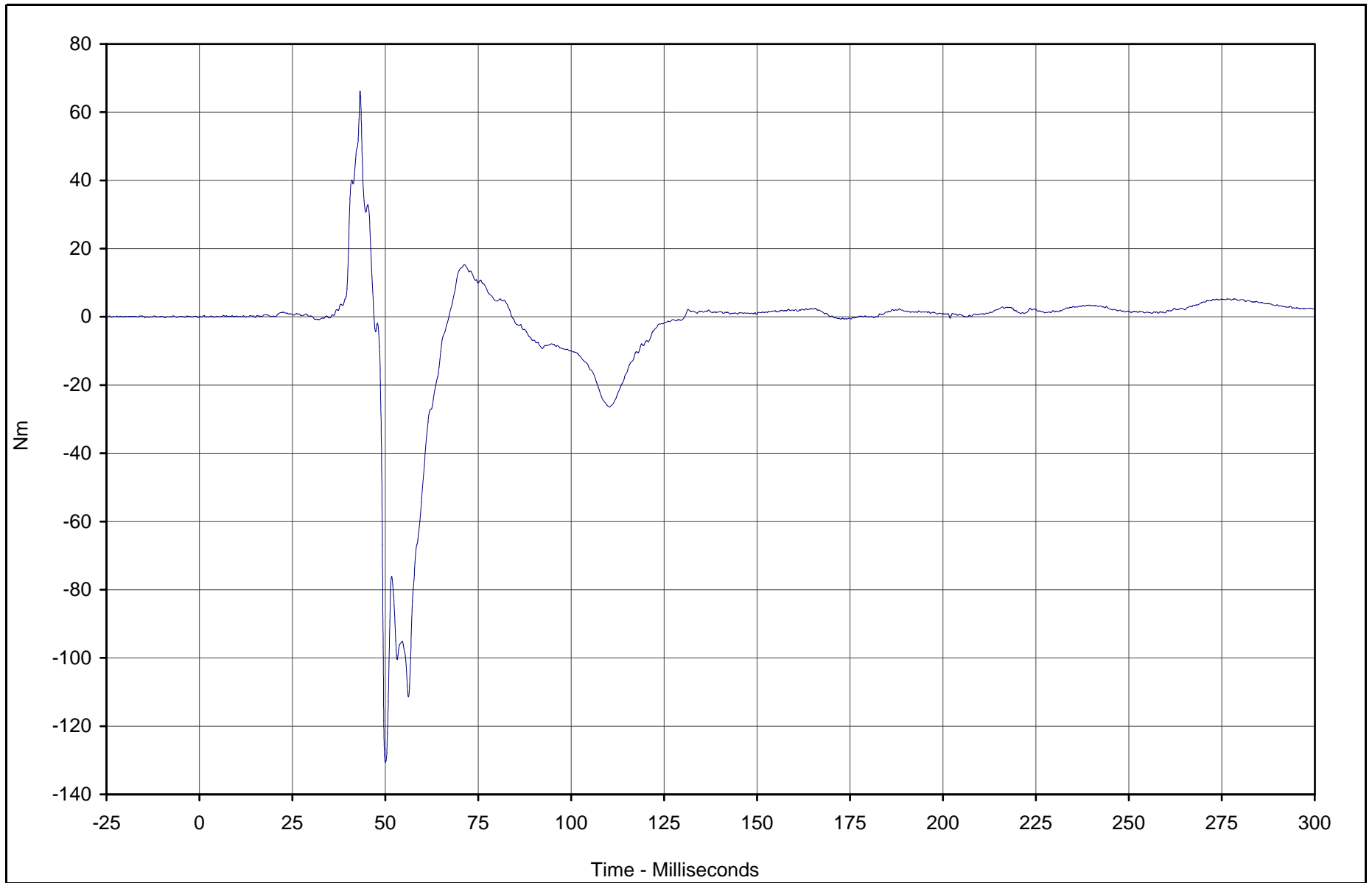
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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B-49



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Moment X	032	FIL	Nm	66.2	43.2	-130.6	50.0	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

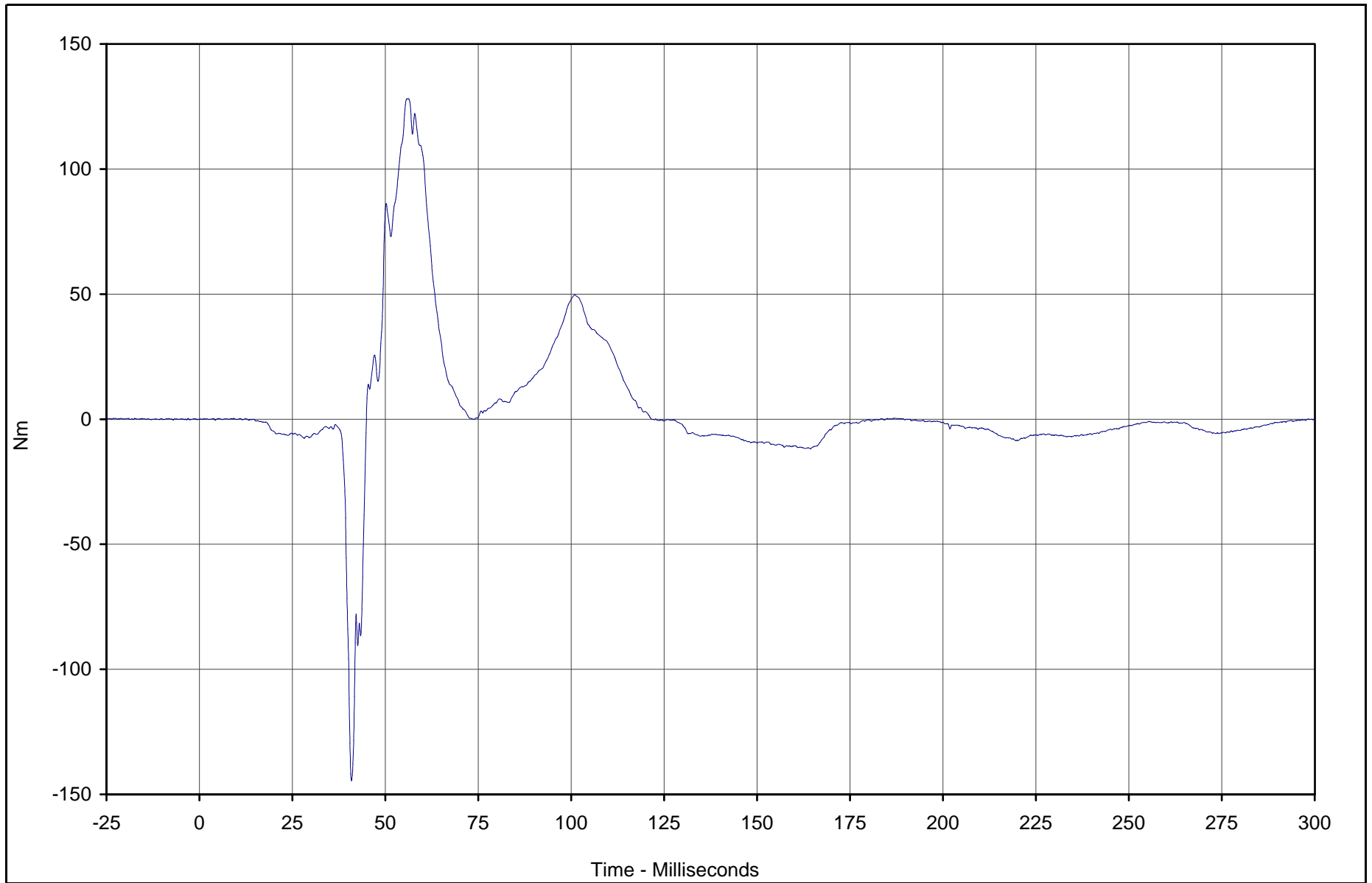
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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B-50



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Moment Y	033	FIL	Nm	128.1	55.8	-144.6	40.9	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

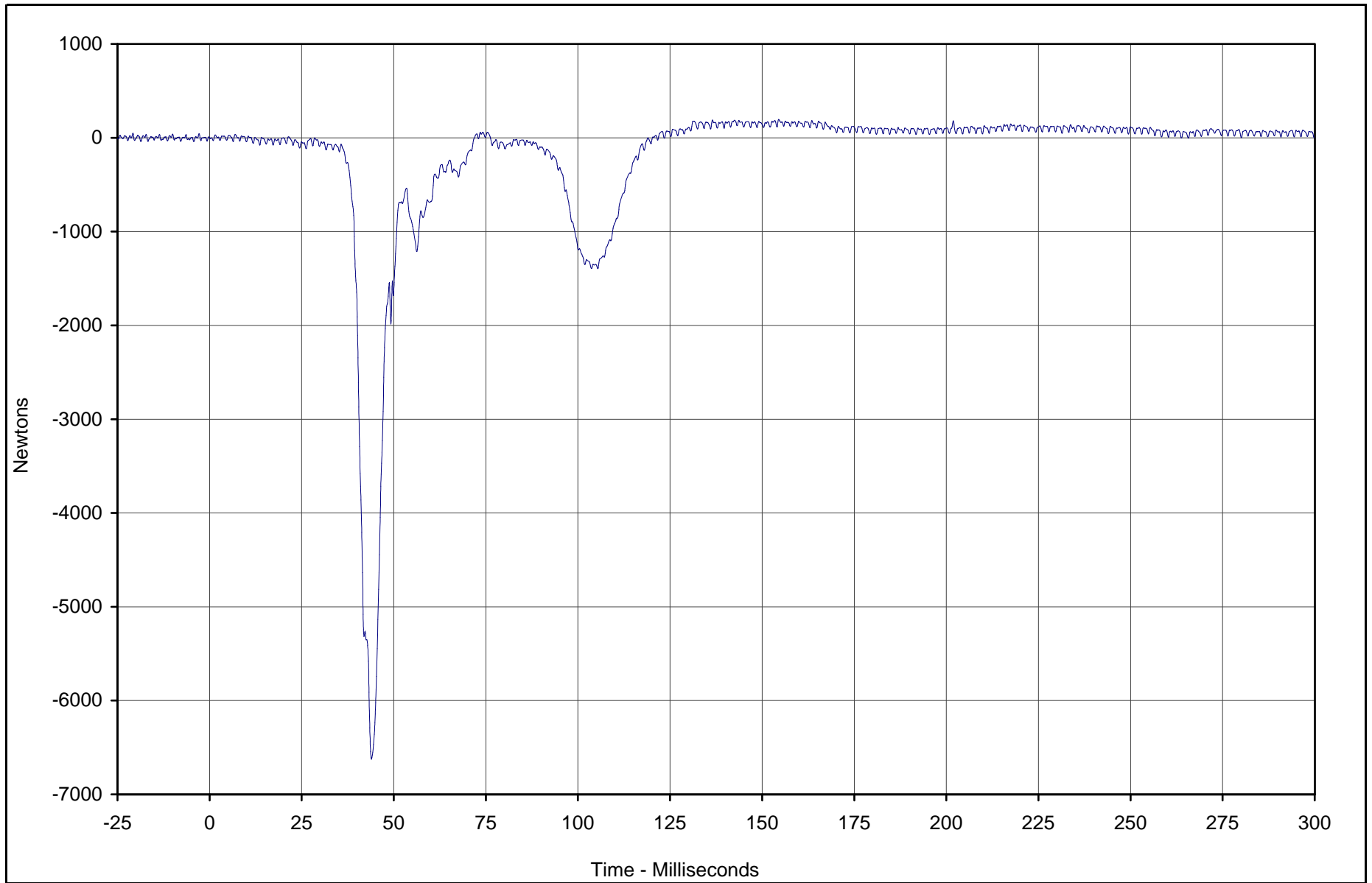
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-51



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Lower Tibia Force Z	034	FIL	Newtons	196.5	154.5	-6624.3	43.9	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

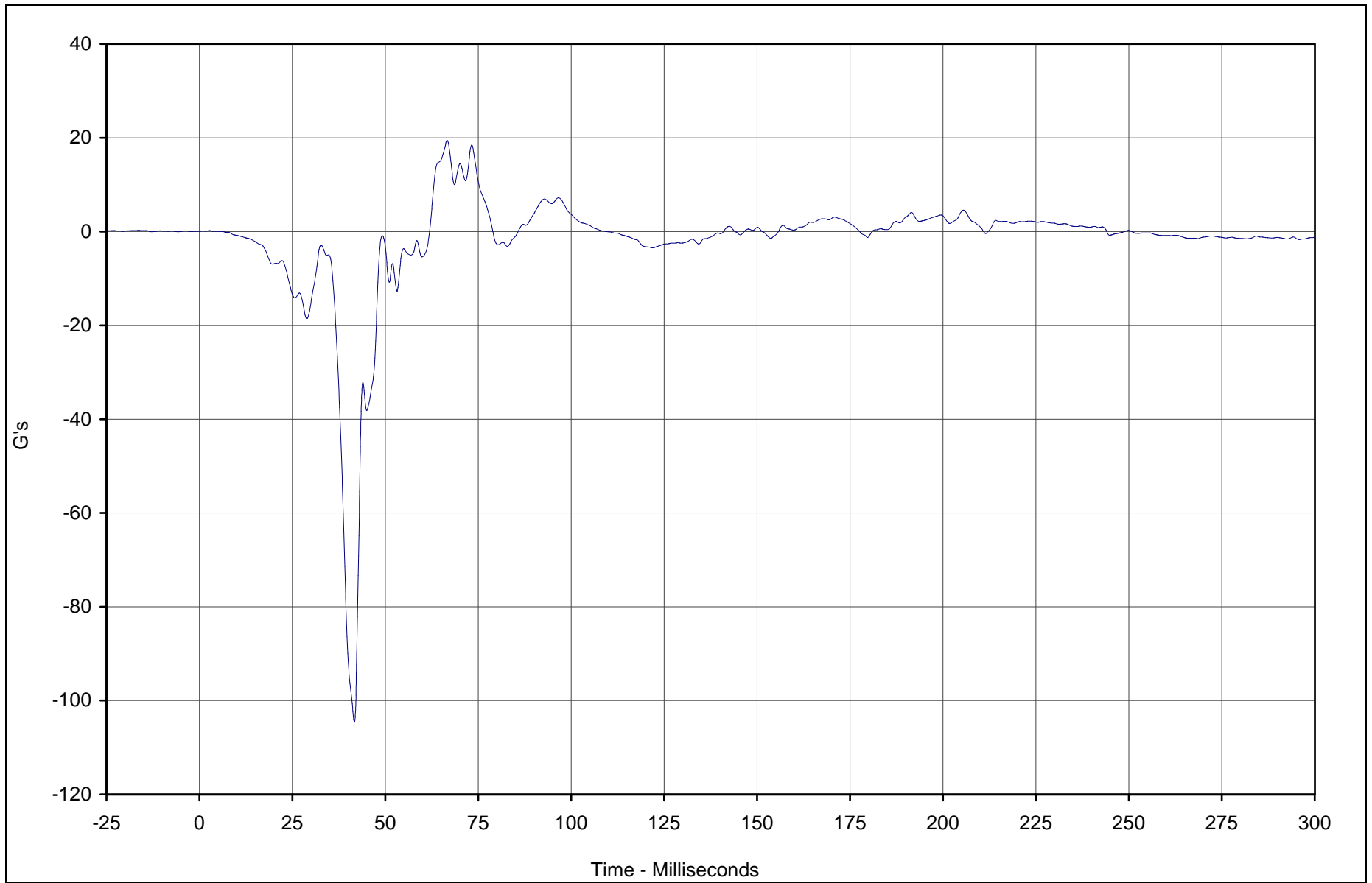
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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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	19.4	66.6	-104.7	41.7	180



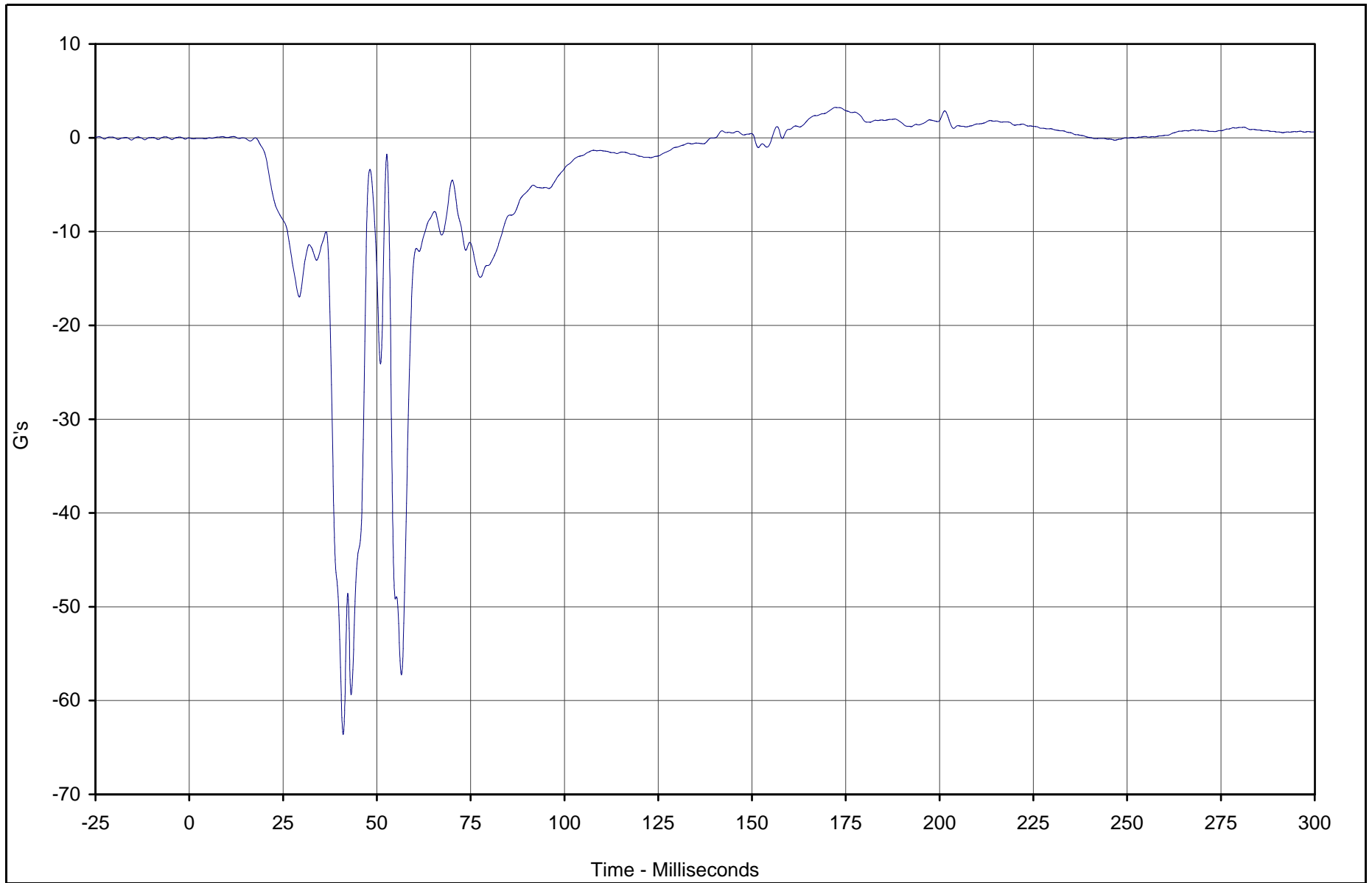
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Aft Z	036	FIL	G's	3.2	172.2	-63.6	41.0	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

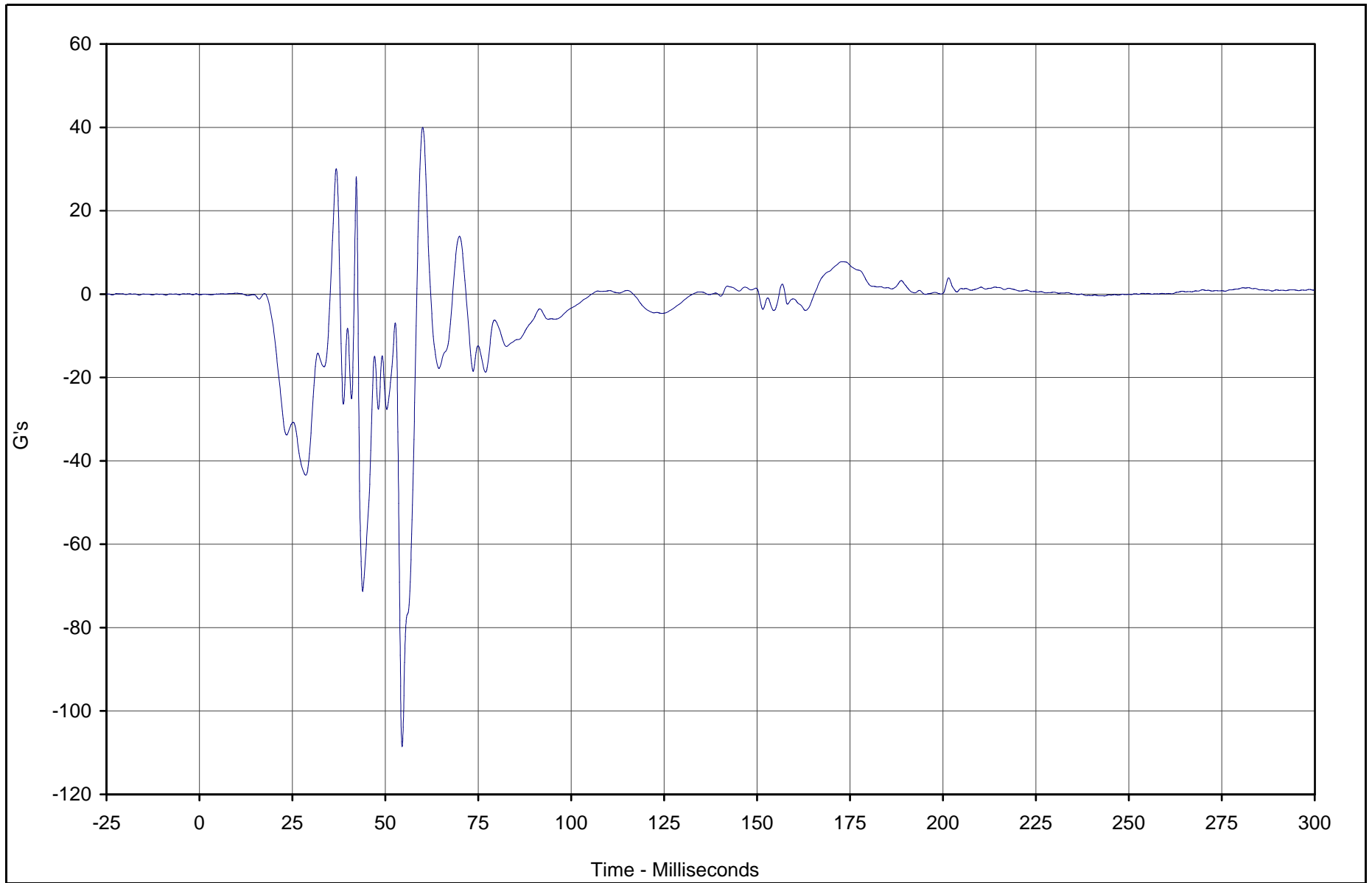
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Left Foot Fore Z	037	FIL	G's	40.0	60.1	-108.6	54.5	180



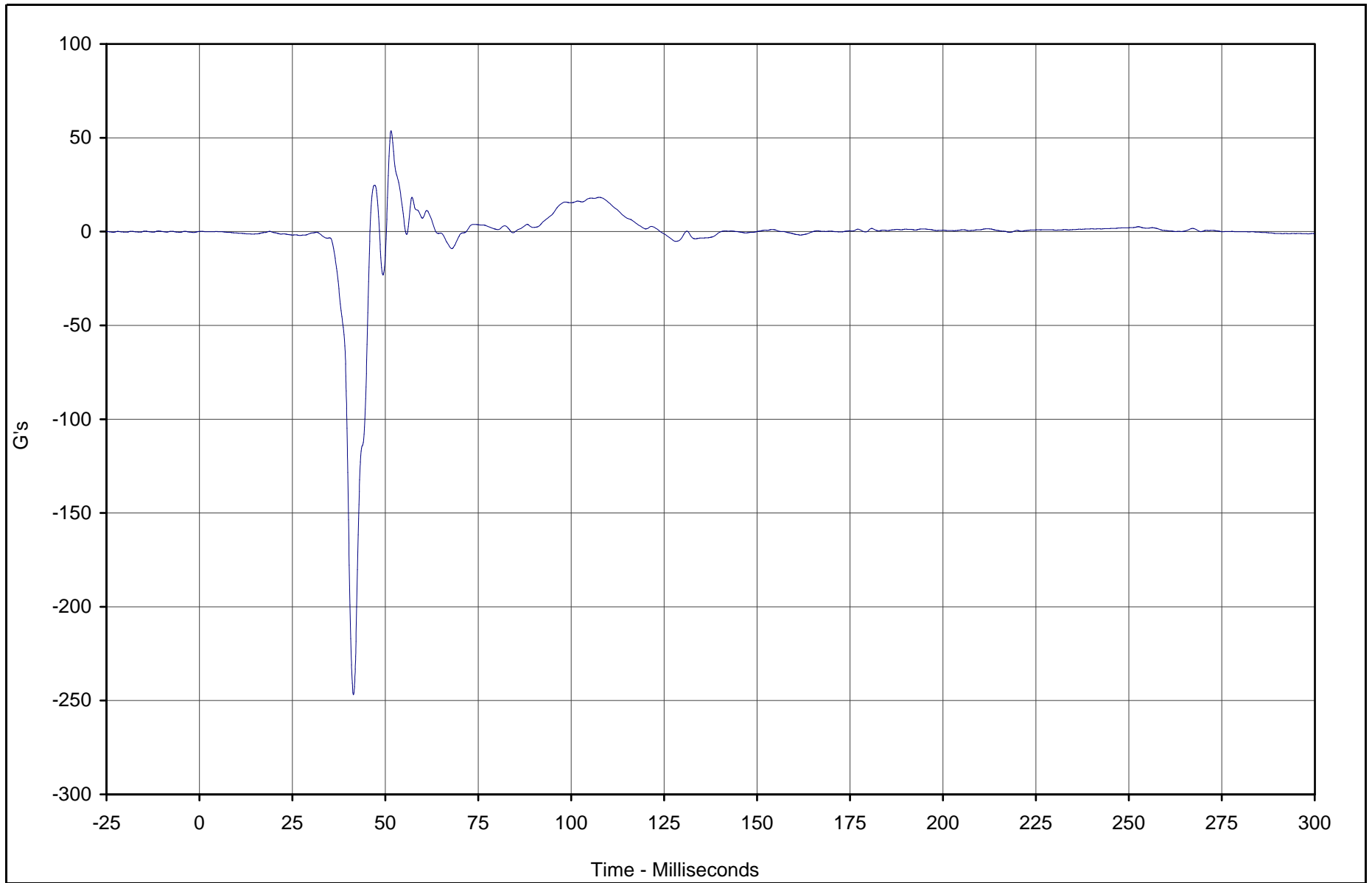
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-55



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Aft X	038	FIL	G's	53.6	51.6	-246.8	41.4	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

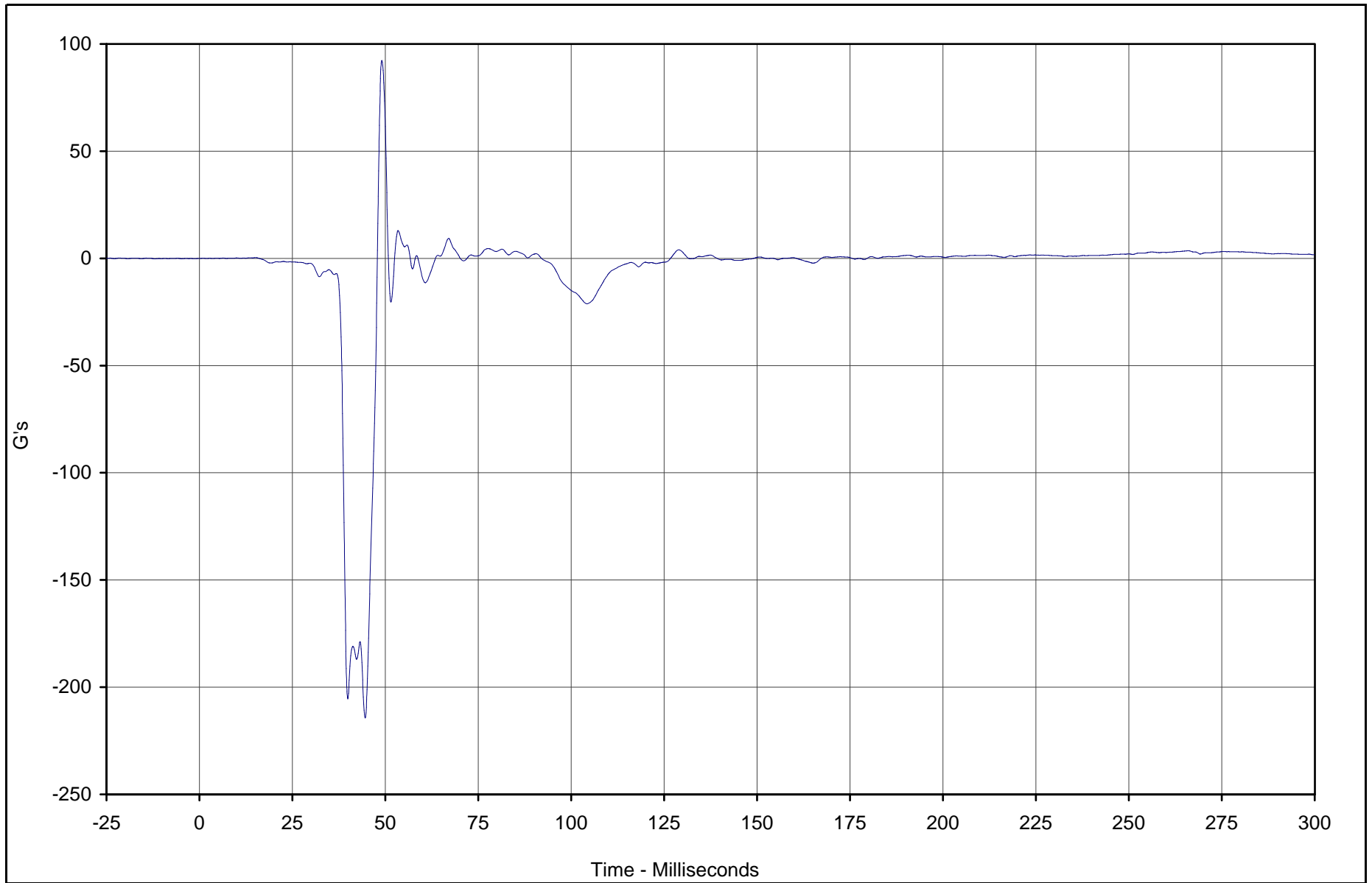
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-56



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Aft Z	039	FIL	G's	92.3	49.1	-214.3	44.6	180



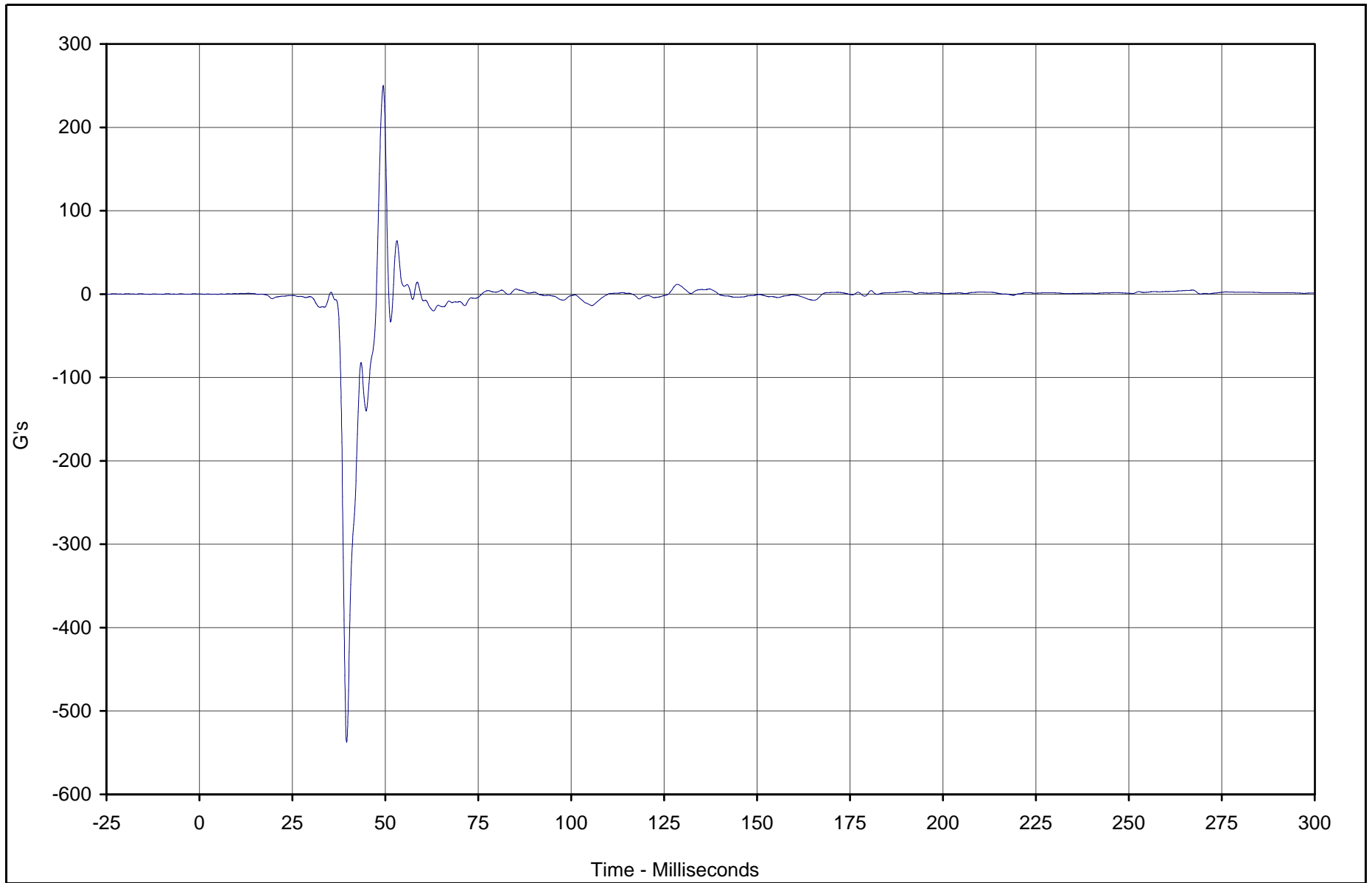
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Right Foot Fore Z	040	FIL	G's	250.4	49.4	-537.6	39.6	180

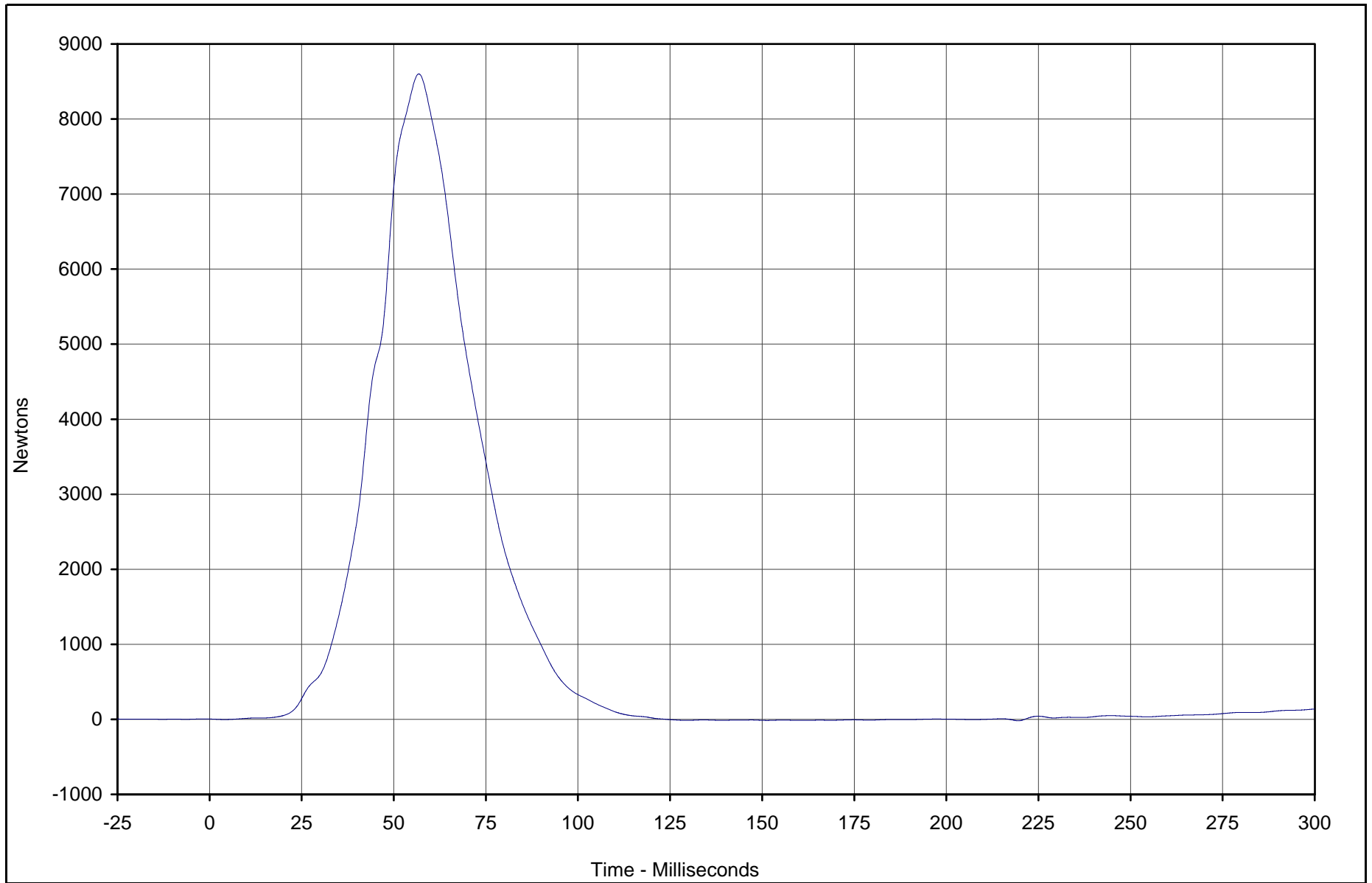


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Lap Belt Force	041	FIL	Newtons	8601.2	56.8	-19.2	219.5	60

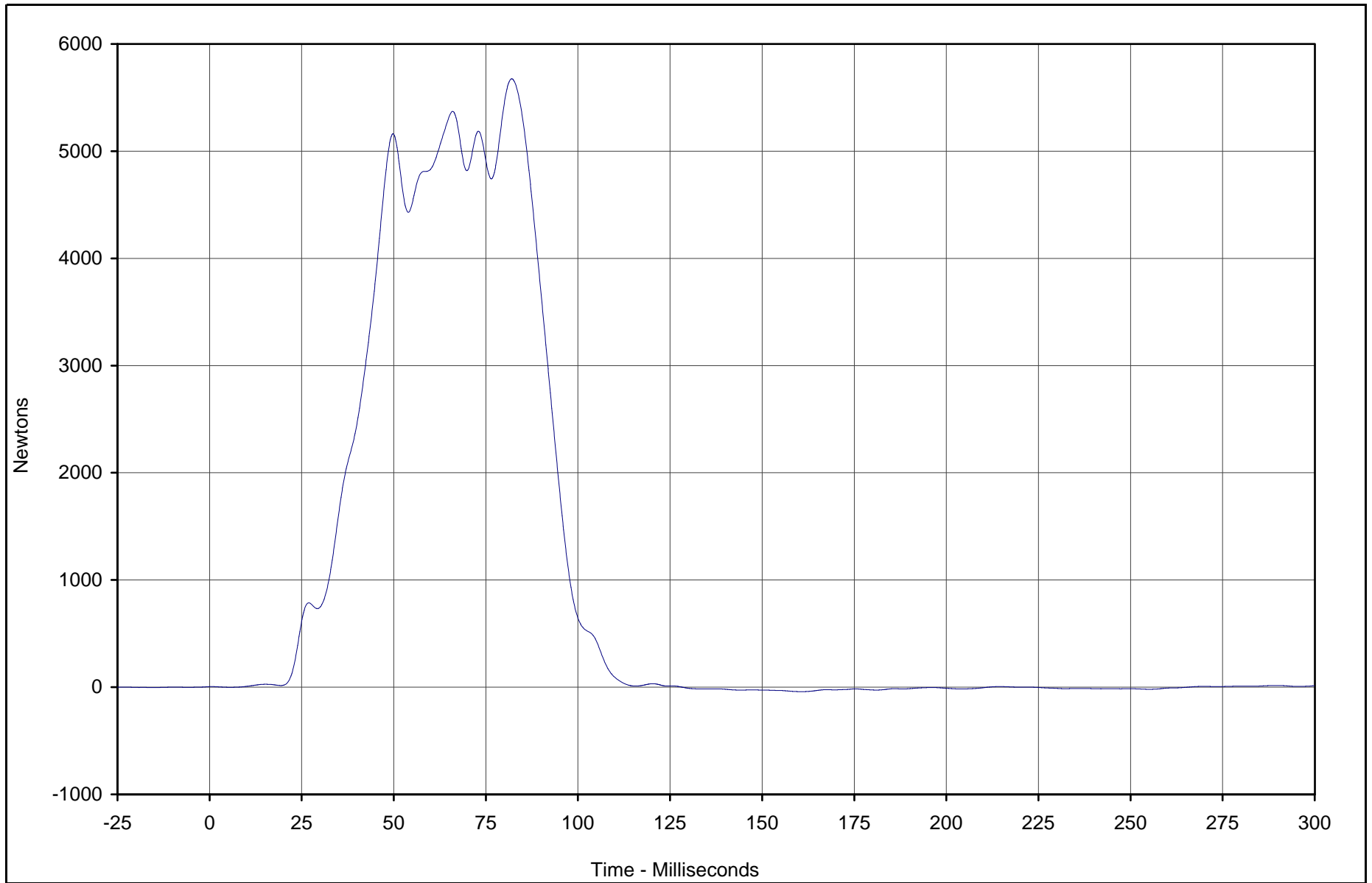


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Force	042	FIL	Newtons	5675.1	82.0	-41.6	160.6	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

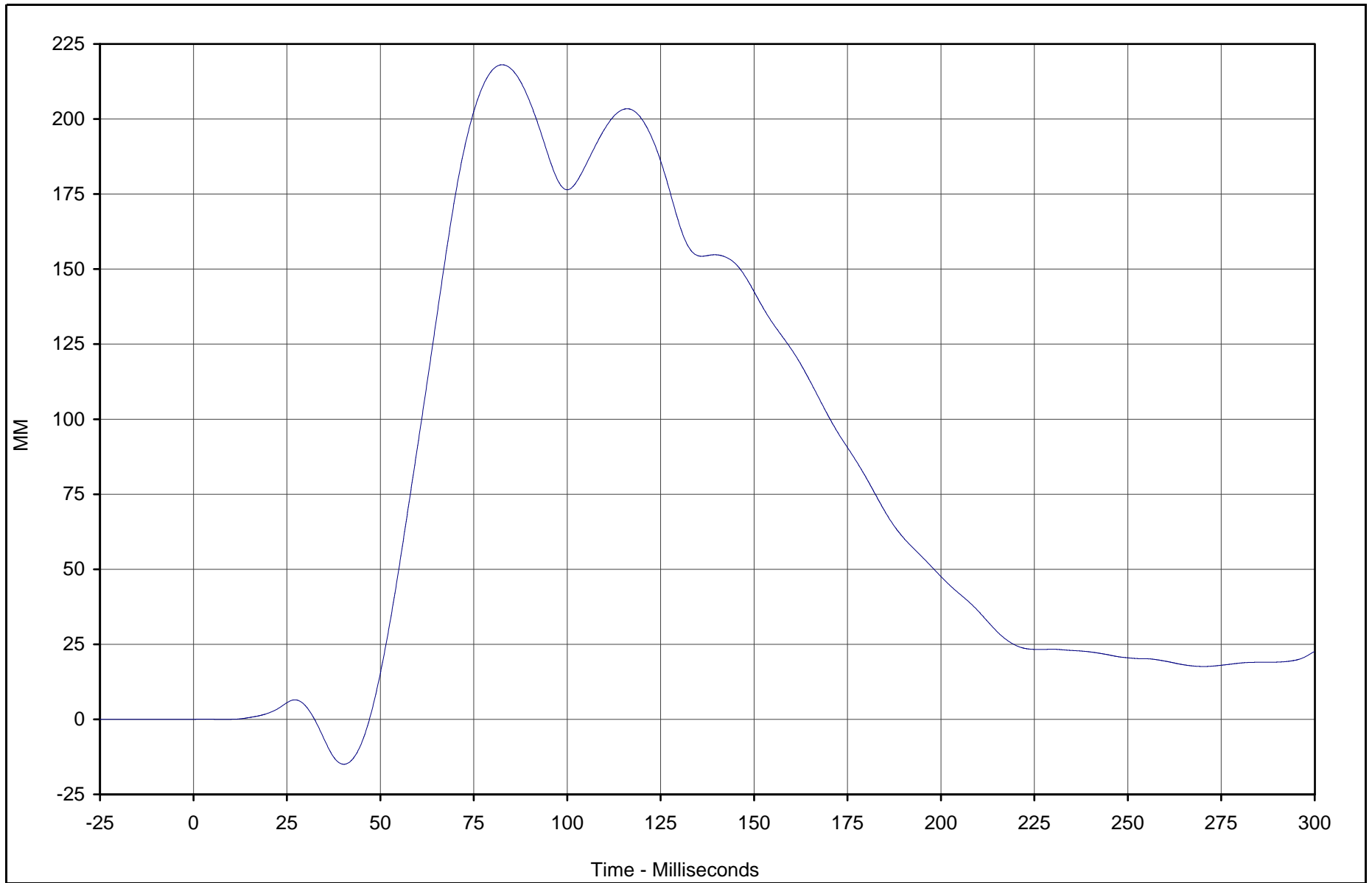
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Driver Shoulder Belt Pullout	043	FIL	MM	218.1	82.6	-15.0	40.2	60

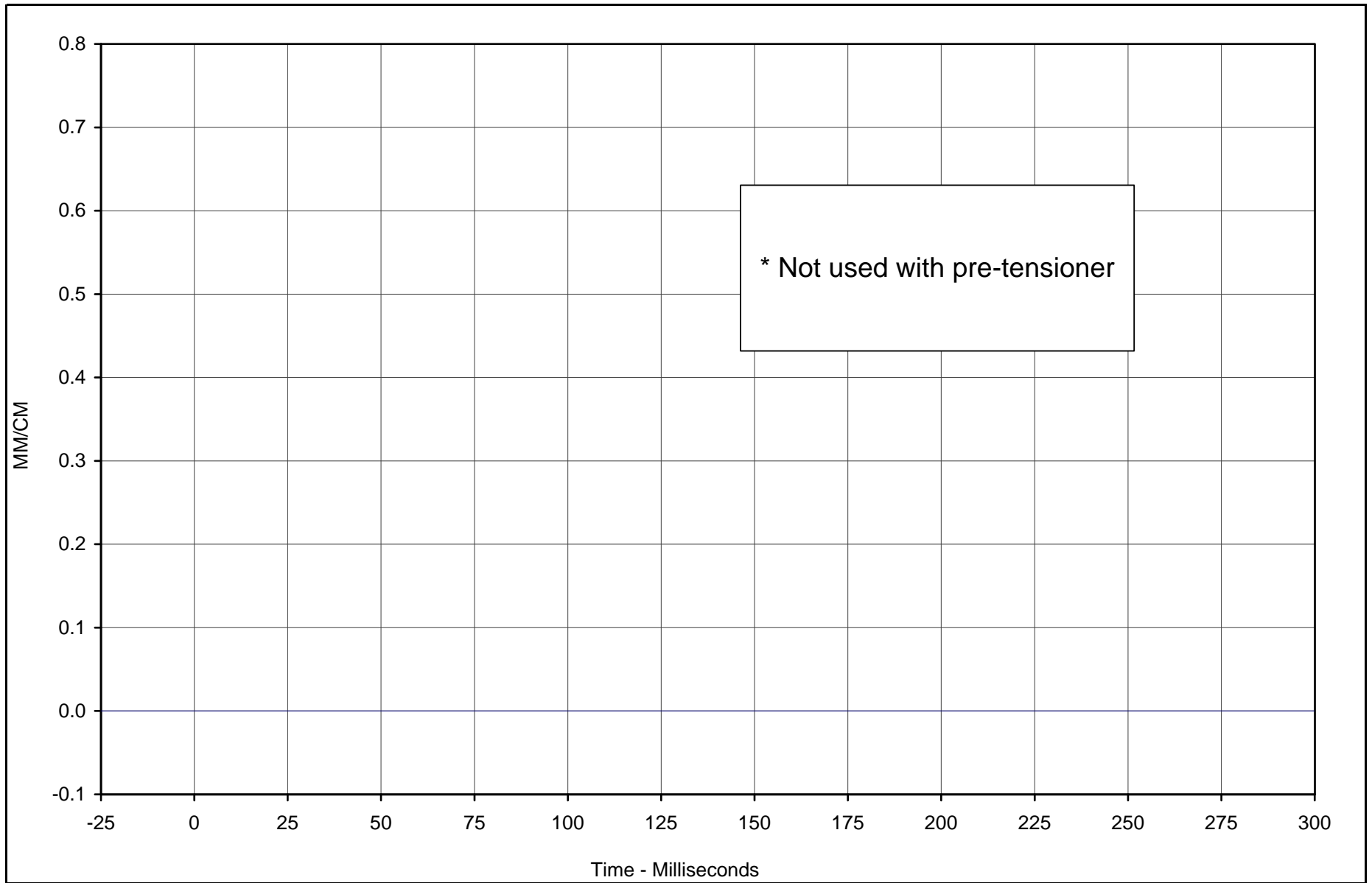


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



* 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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

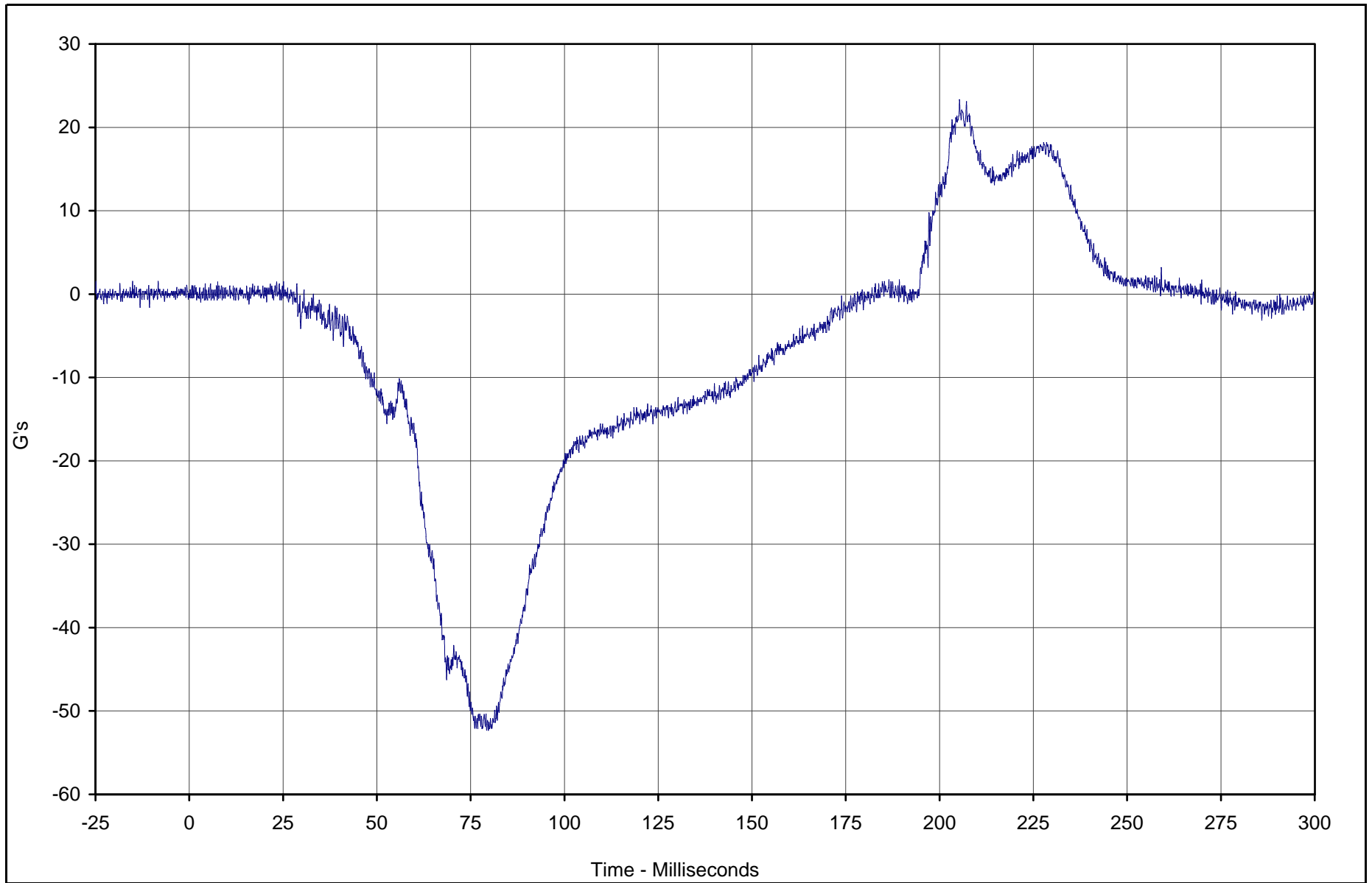
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X	045	FIL	G's	23.3	205.3	-52.3	79.3	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

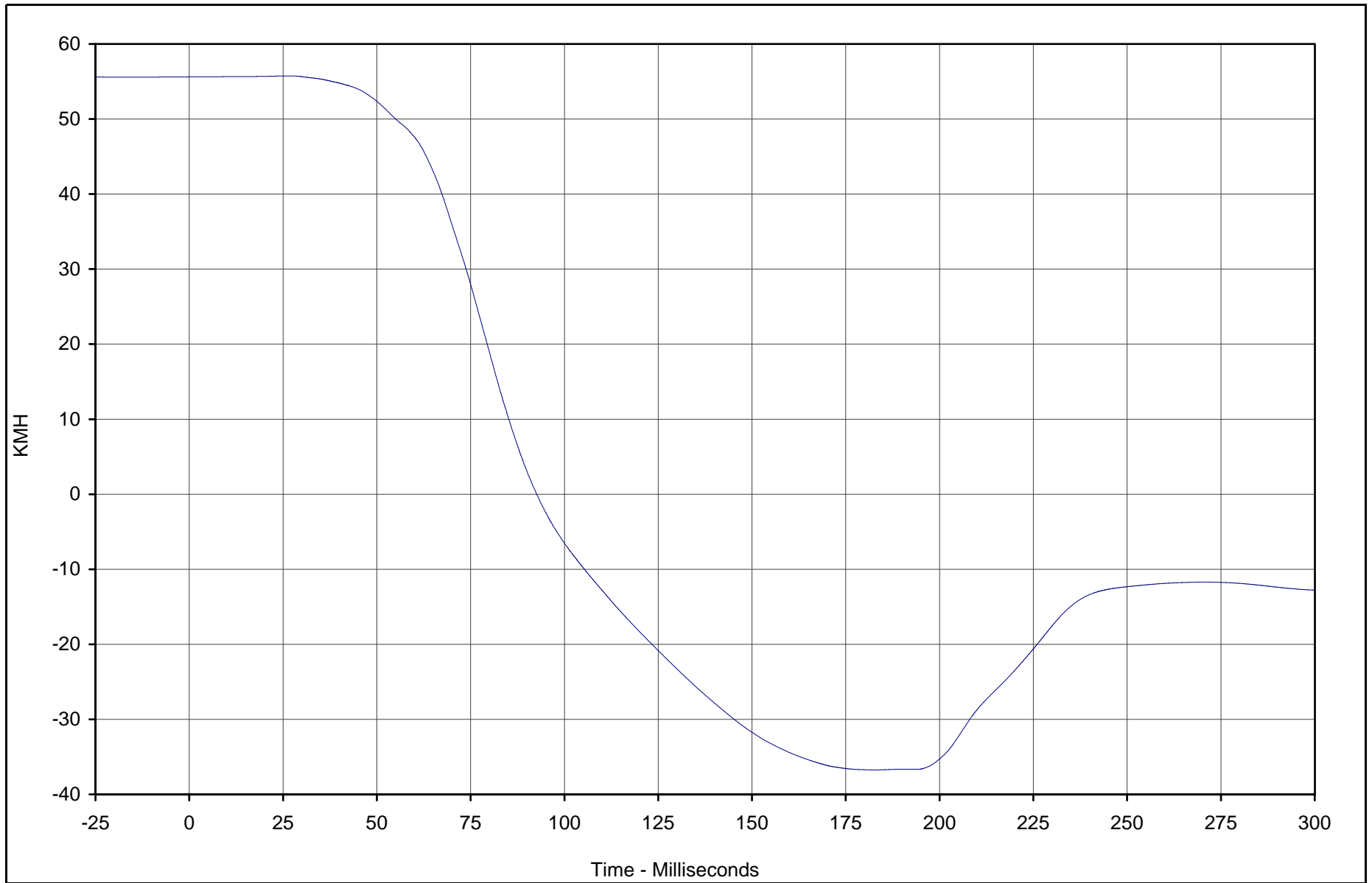
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X Velocity	045	IN1	KMH	55.7	25.9	-36.7	182.6	180



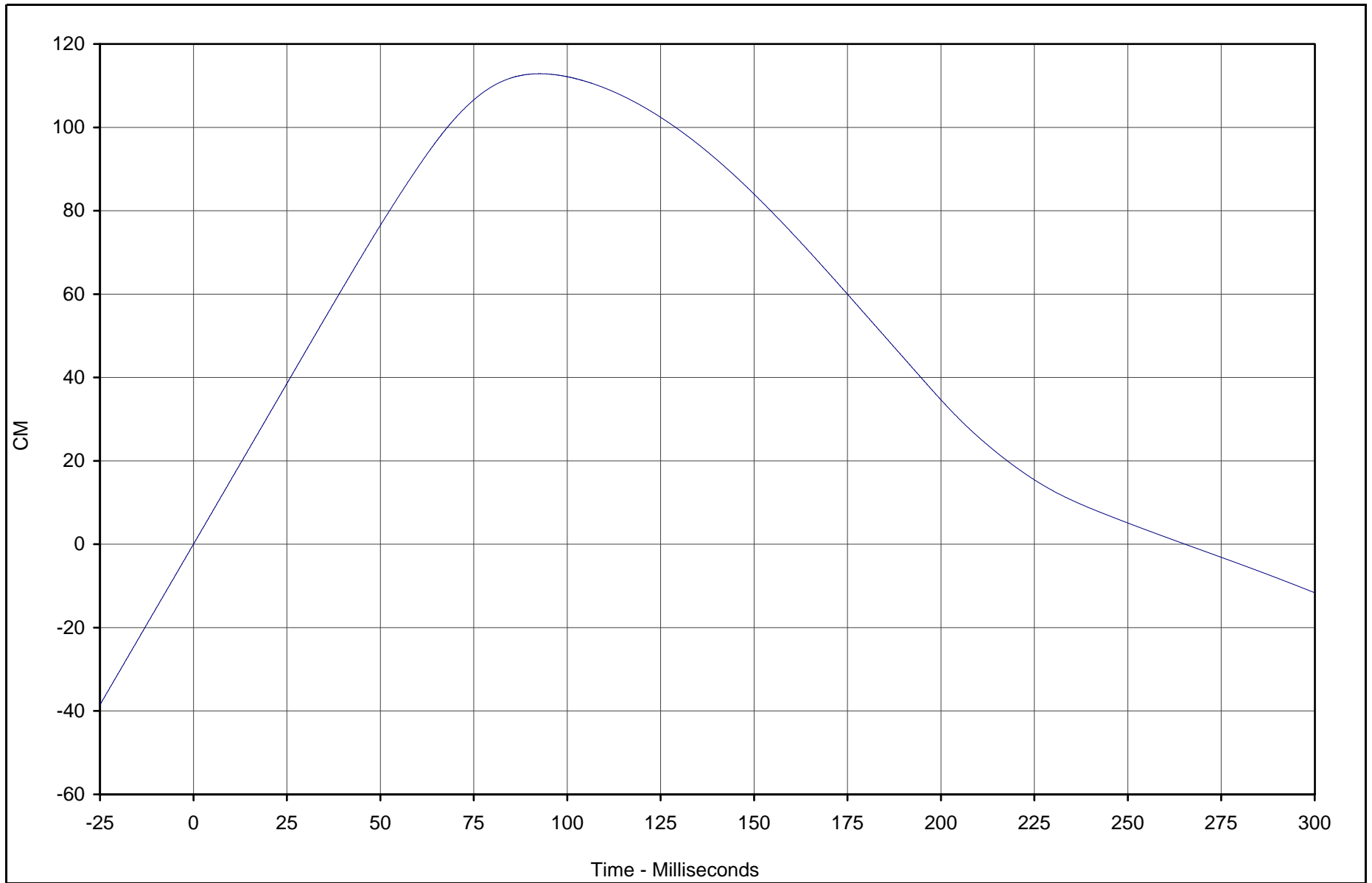
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary X Displ.	045	IN2	CM	112.9	92.6	-11.6	299.9	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

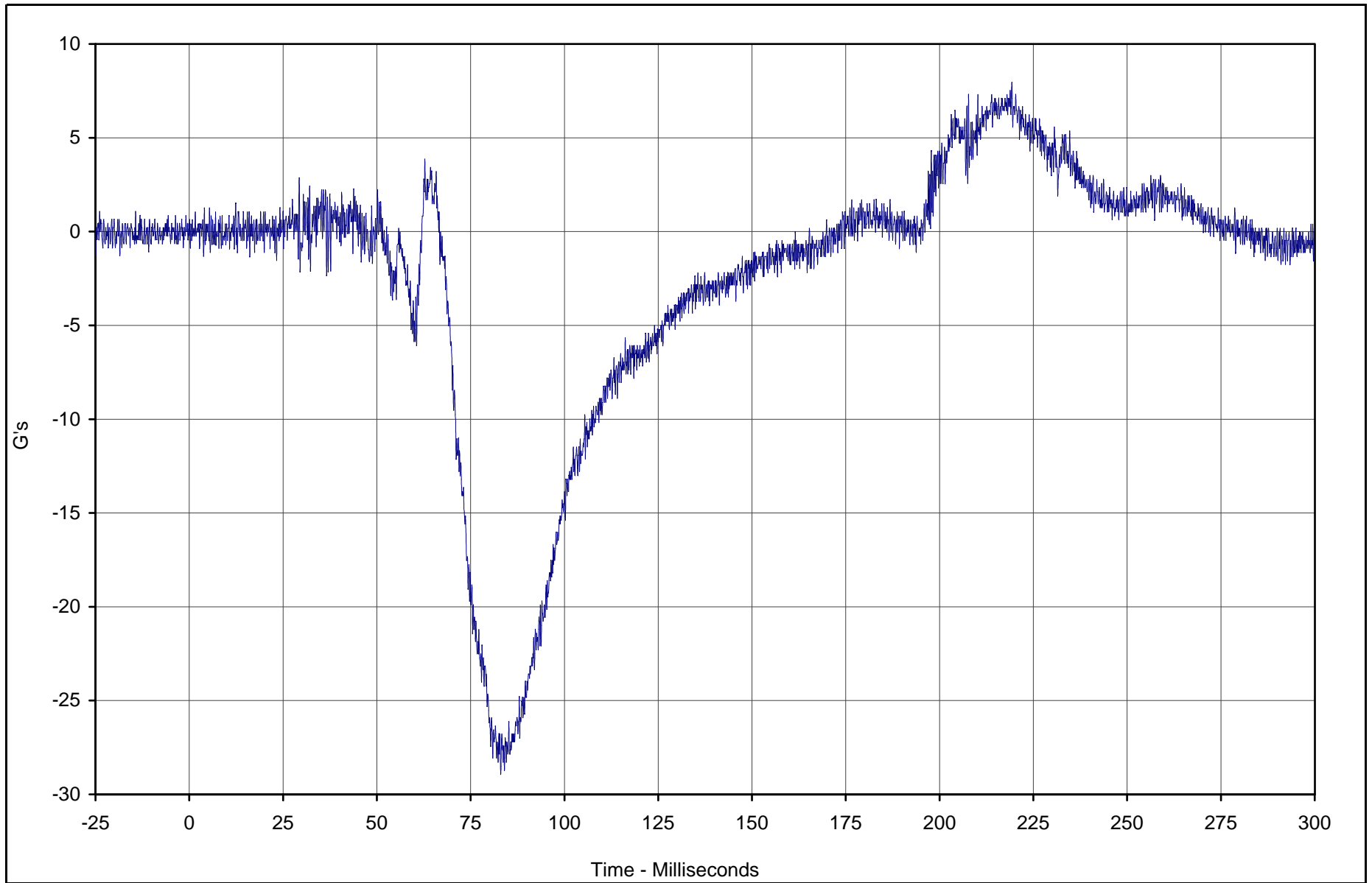
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-65

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Y	046	FIL	G's	8.0	219.3	-28.9	83.0	1000

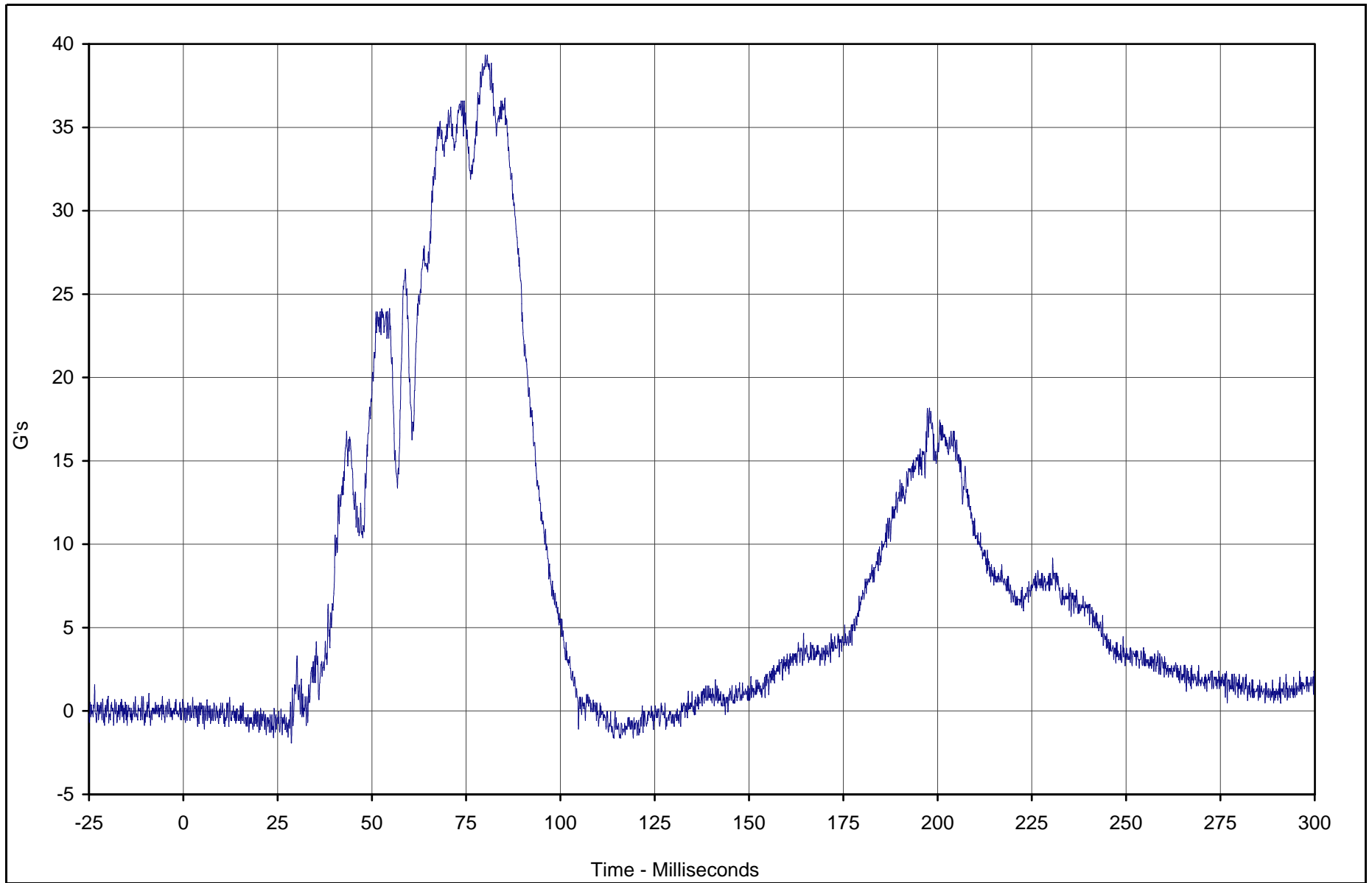


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Primary Z	047	FIL	G's	39.3	80.1	-1.9	28.6	1000

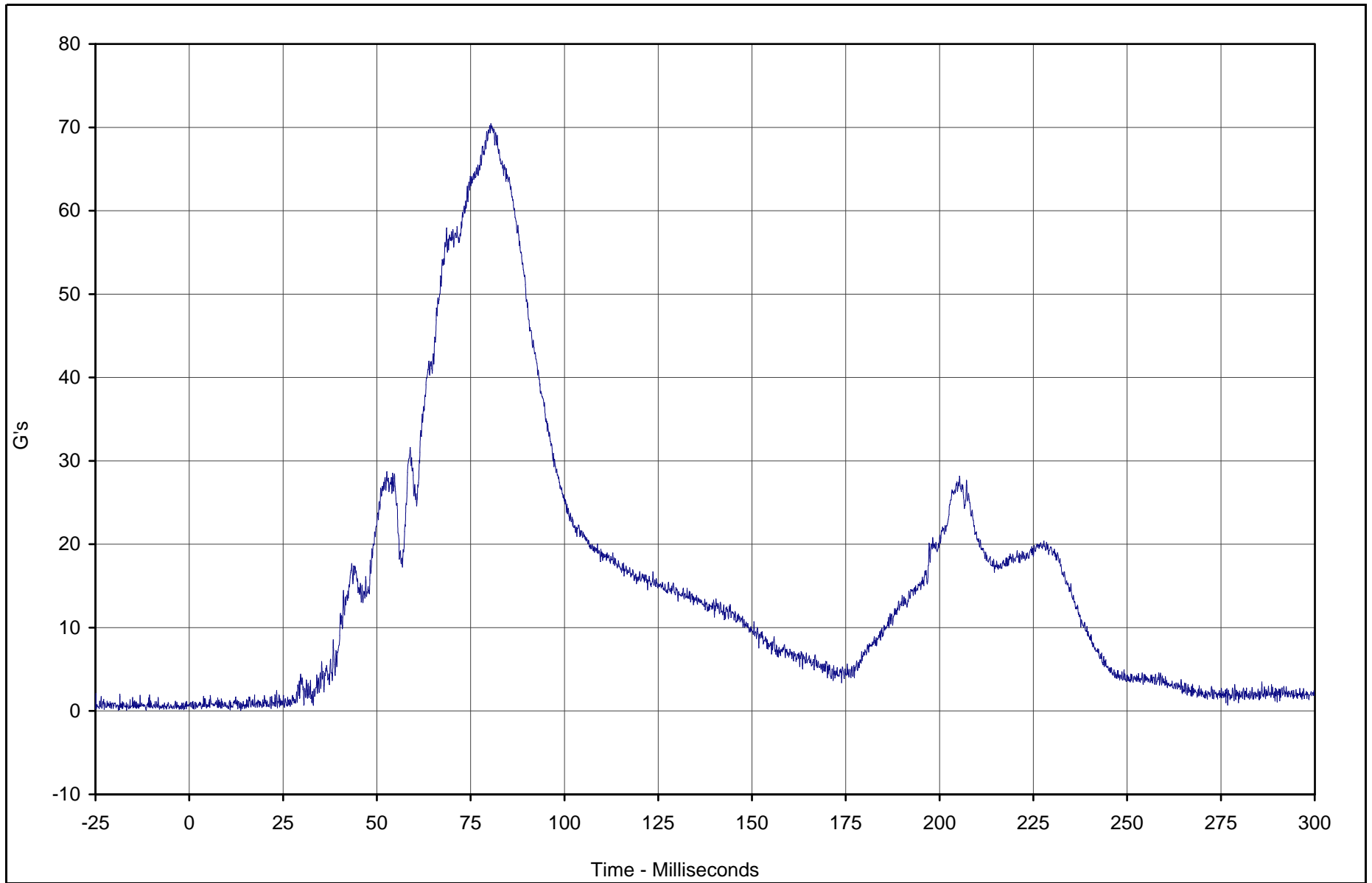


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Resultant Primary	045	RES	G's	70.4	80.4	0.1	13.7	1000

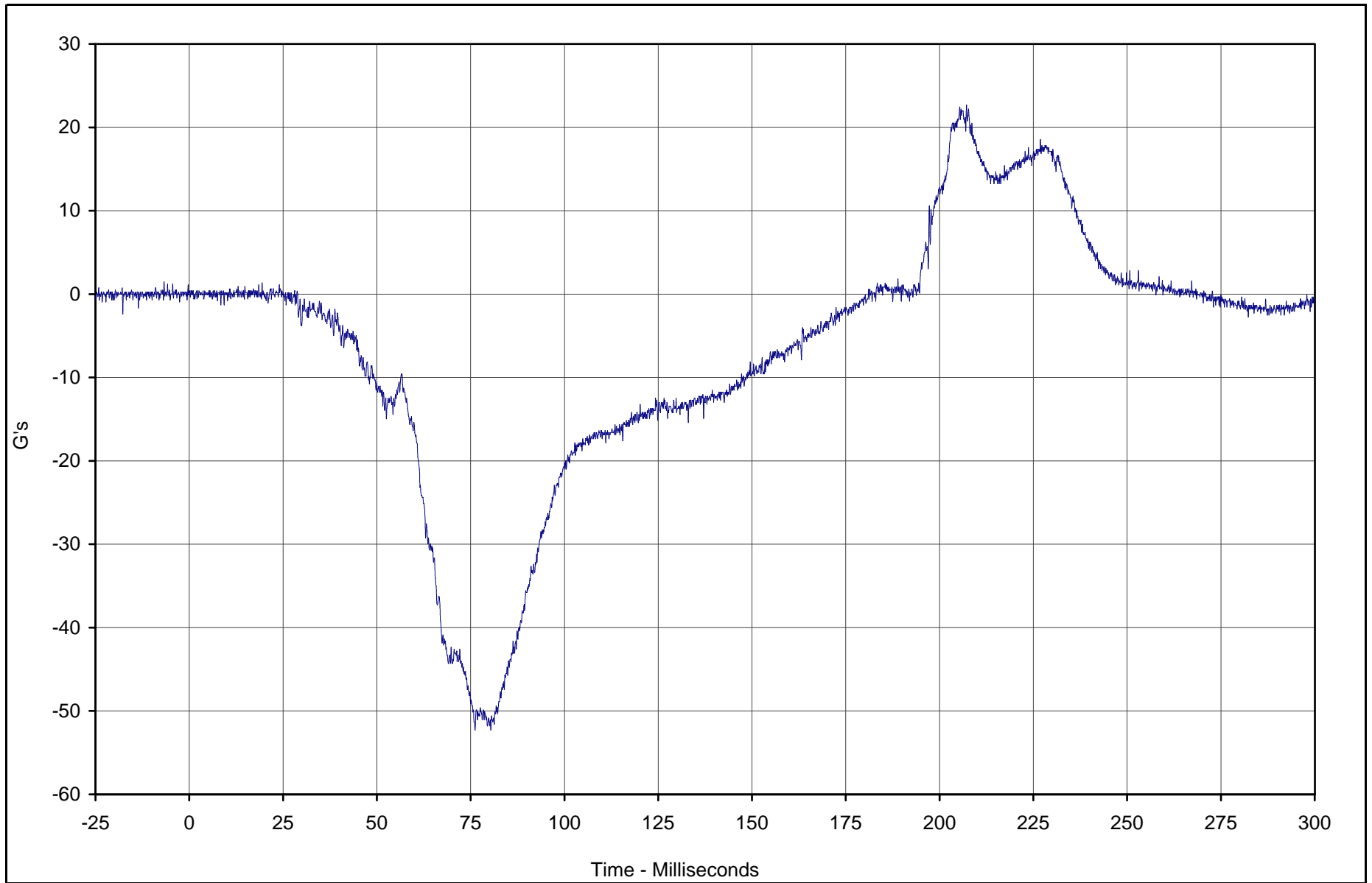


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X	048	FIL	G's	22.7	207.2	-52.3	76.2	1000

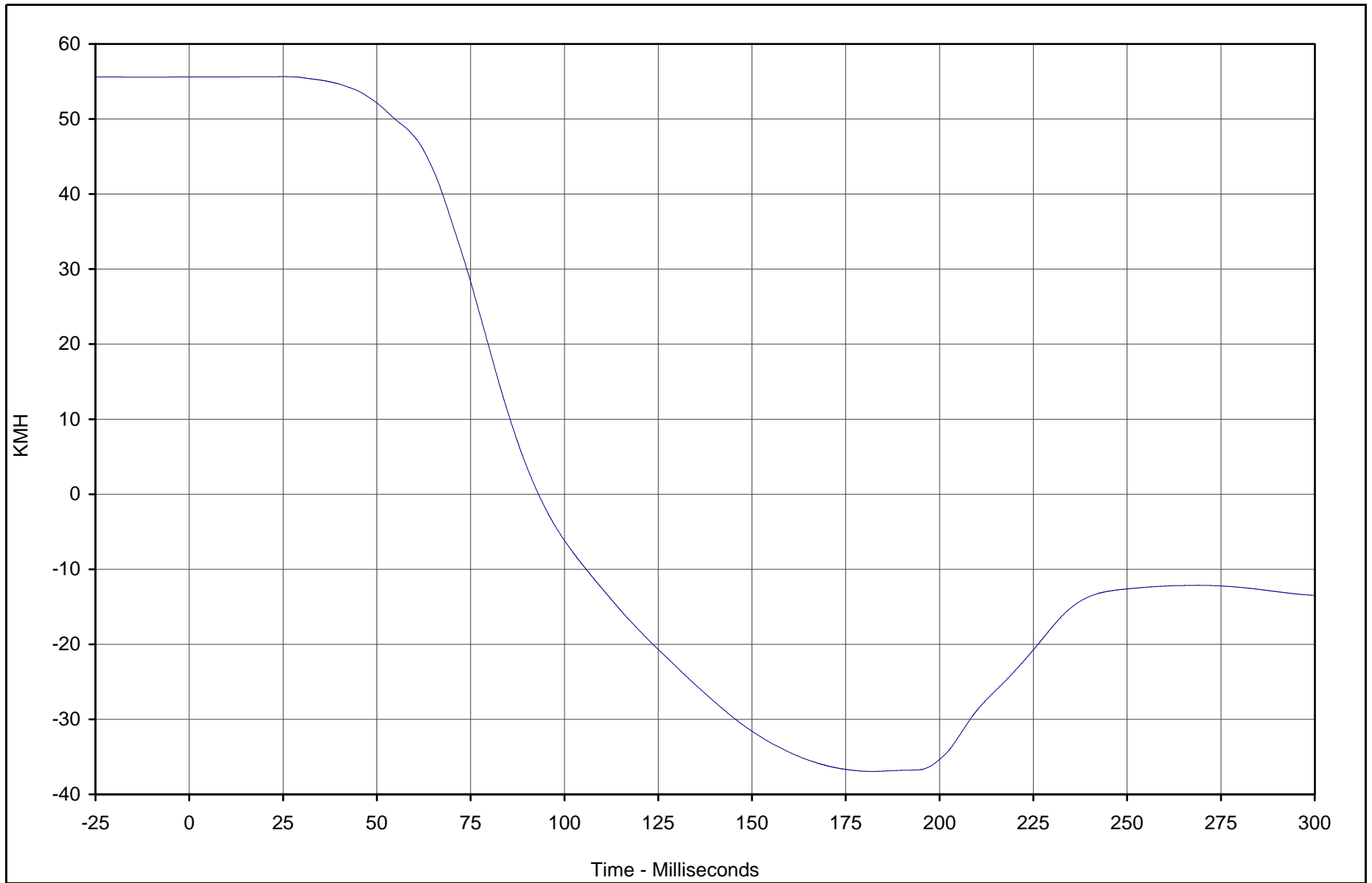


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X Velocity	048	IN1	KMH	55.7	24.9	-36.9	182.1	180



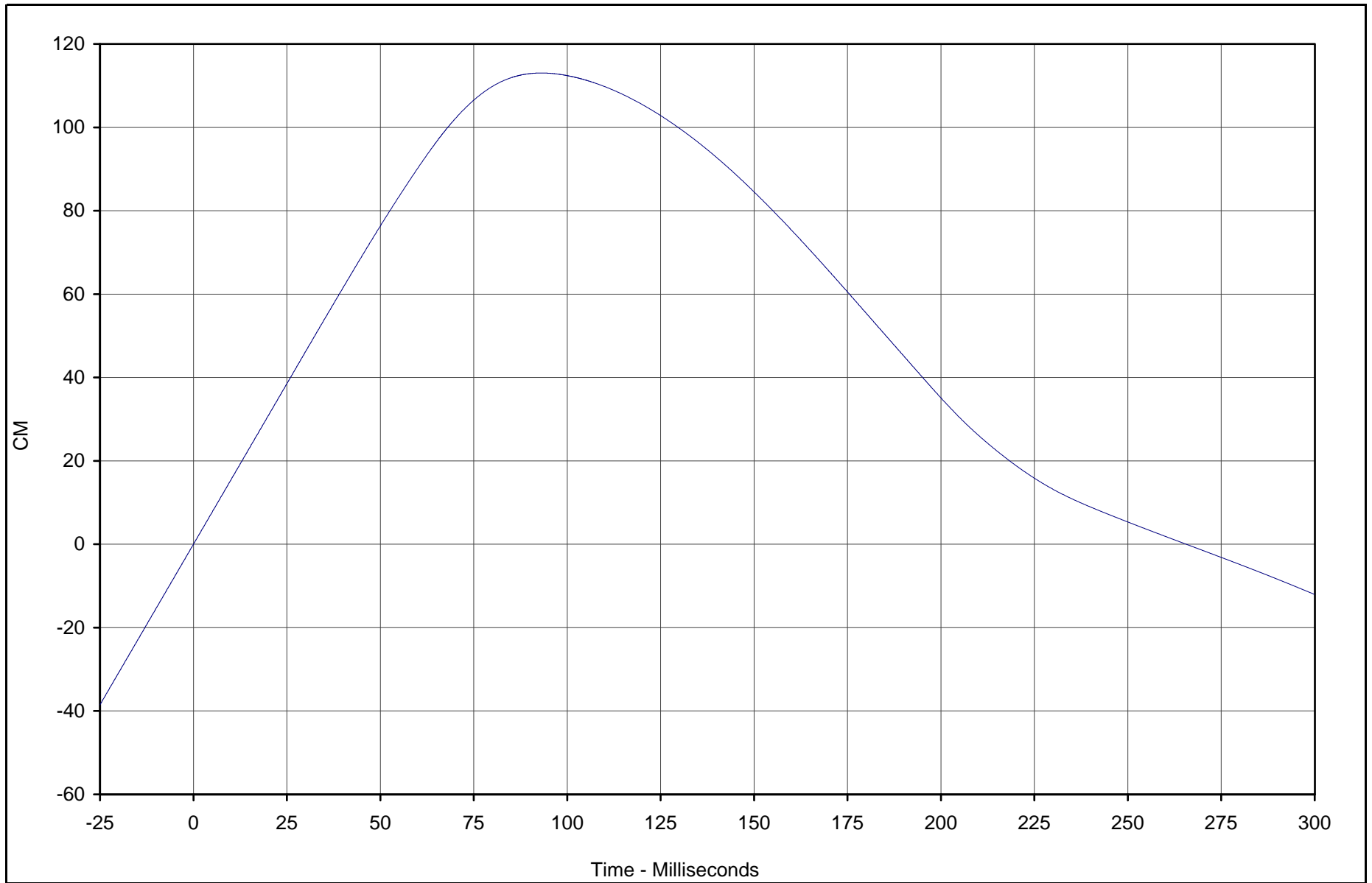
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-70



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant X Displ.	048	IN2	CM	113.0	93.1	-12.0	299.9	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

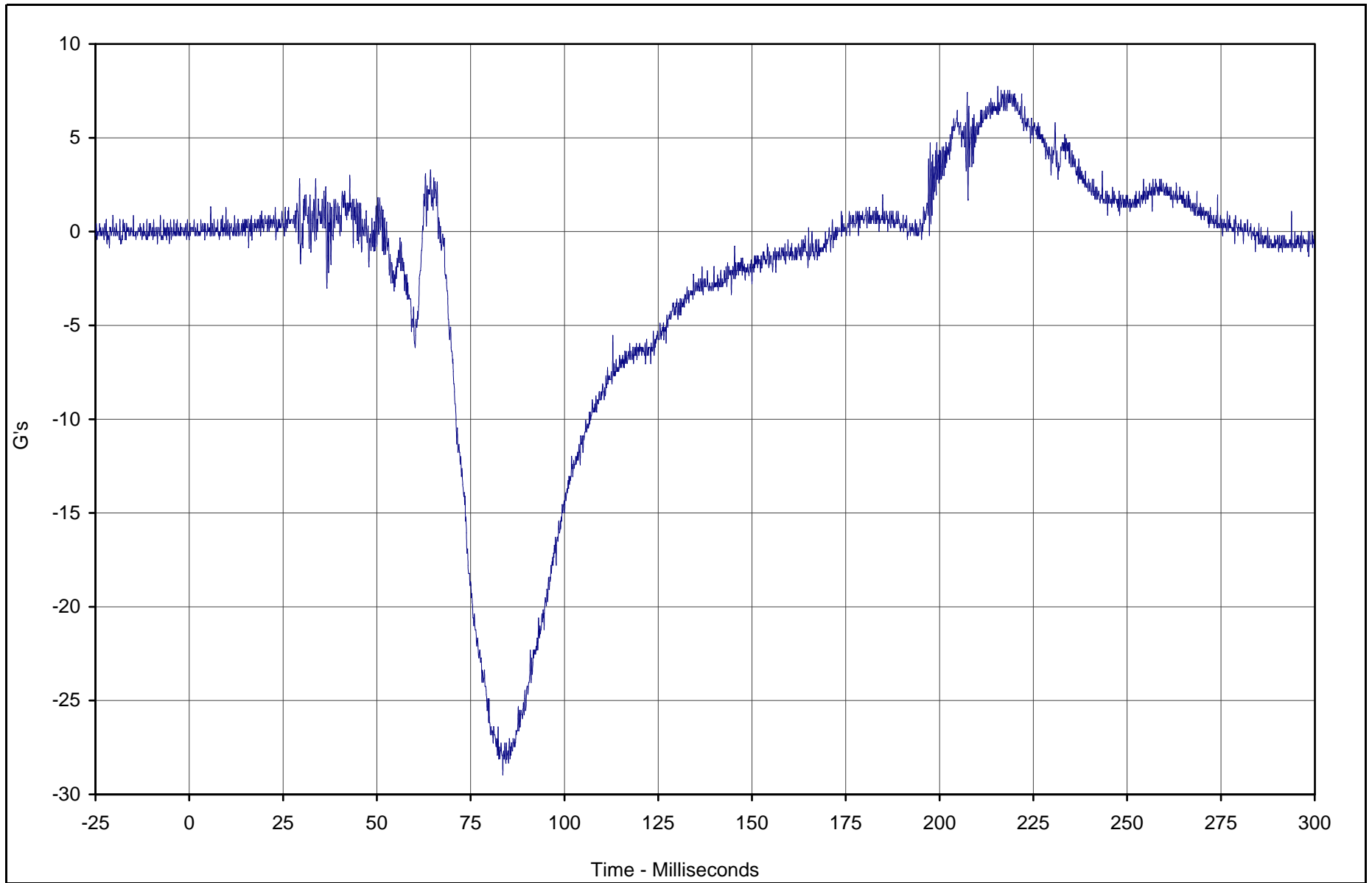
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant Y	049	FIL	G's	7.7	215.5	-29.0	83.6	1000



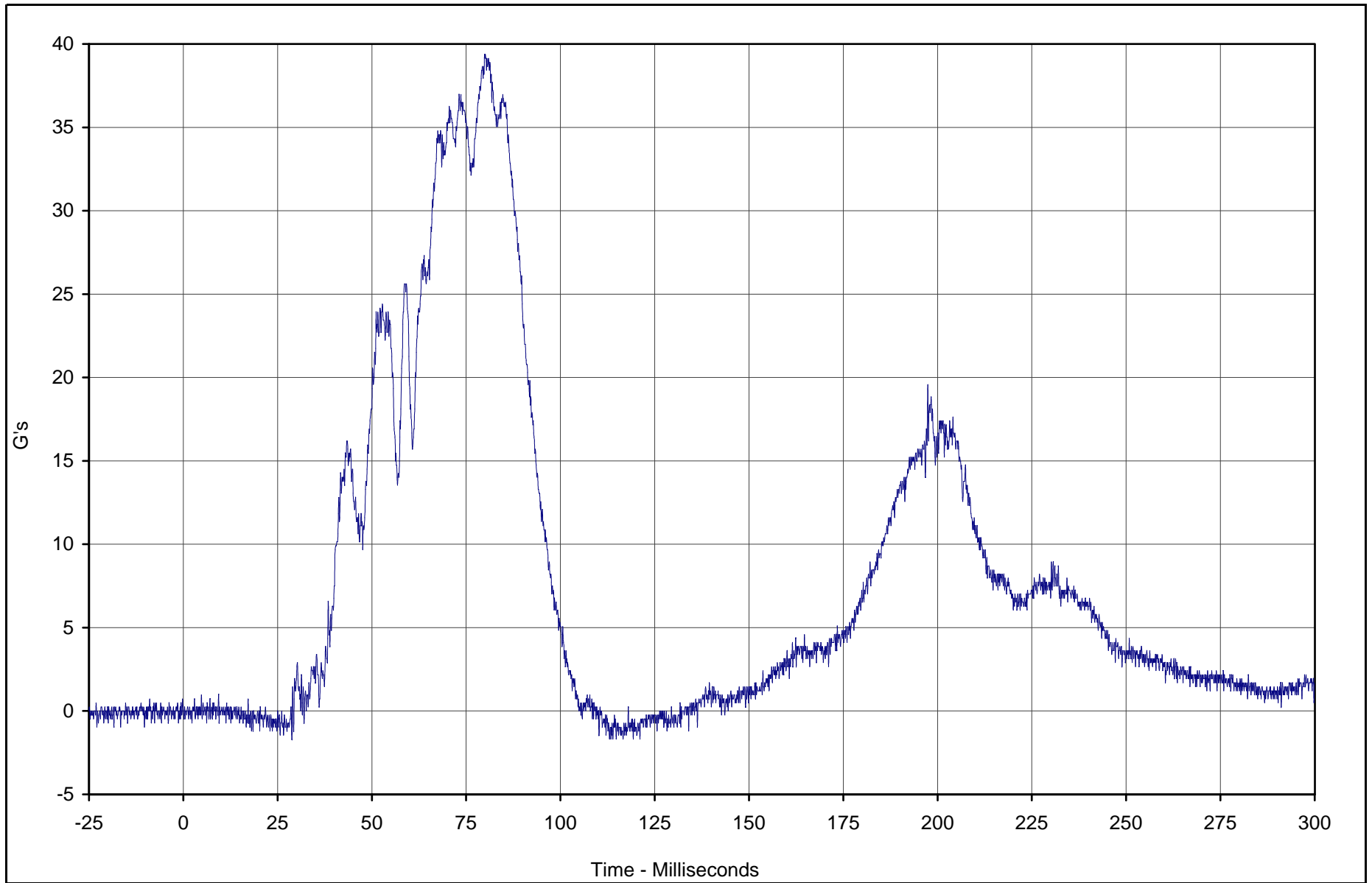
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Redundant Z	050	FIL	G's	39.4	79.9	-1.7	28.8	1000

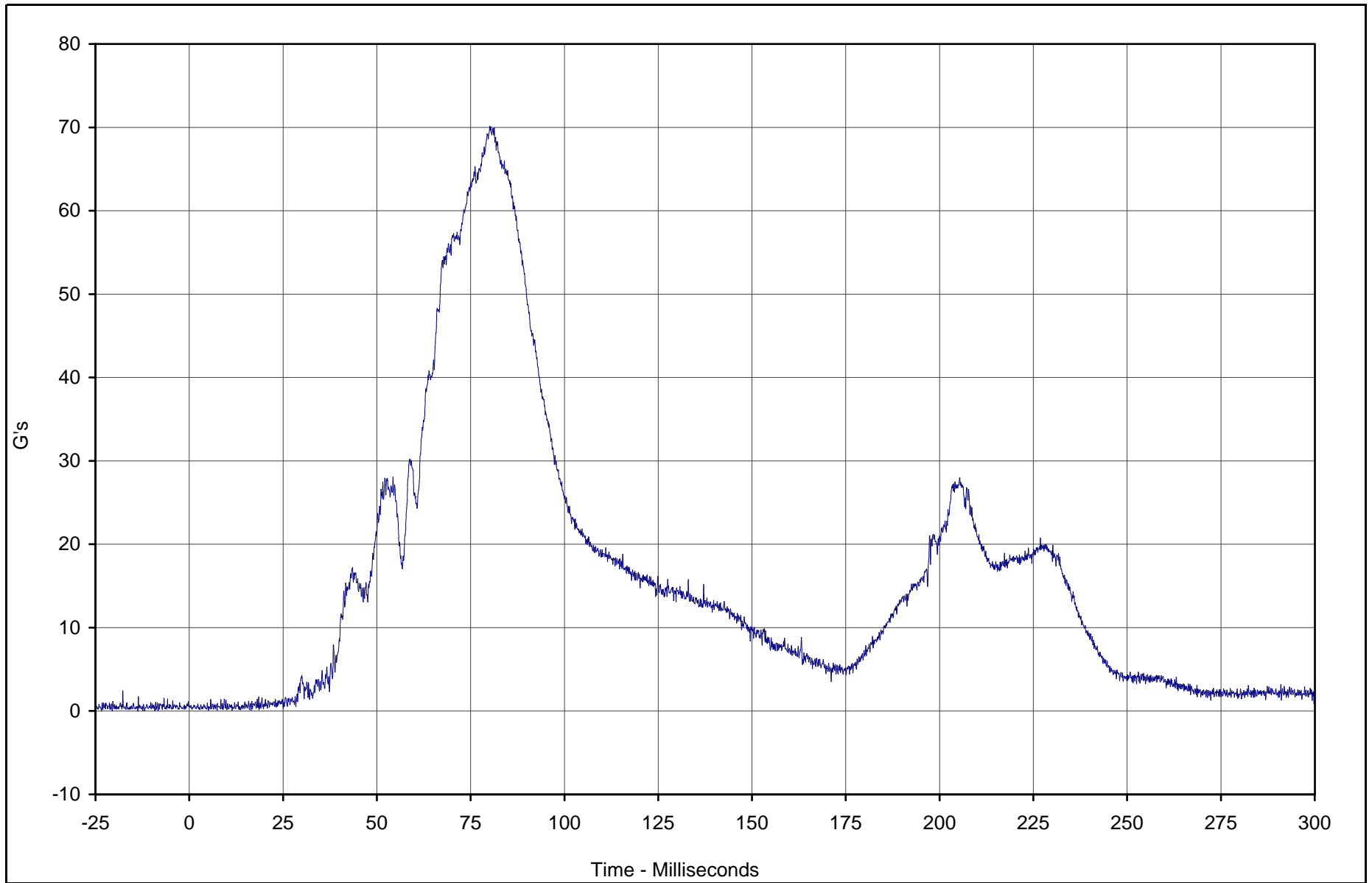


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Head Resultant Redundant	048	RES	G's	70.1	80.1	0.1	5.1	1000



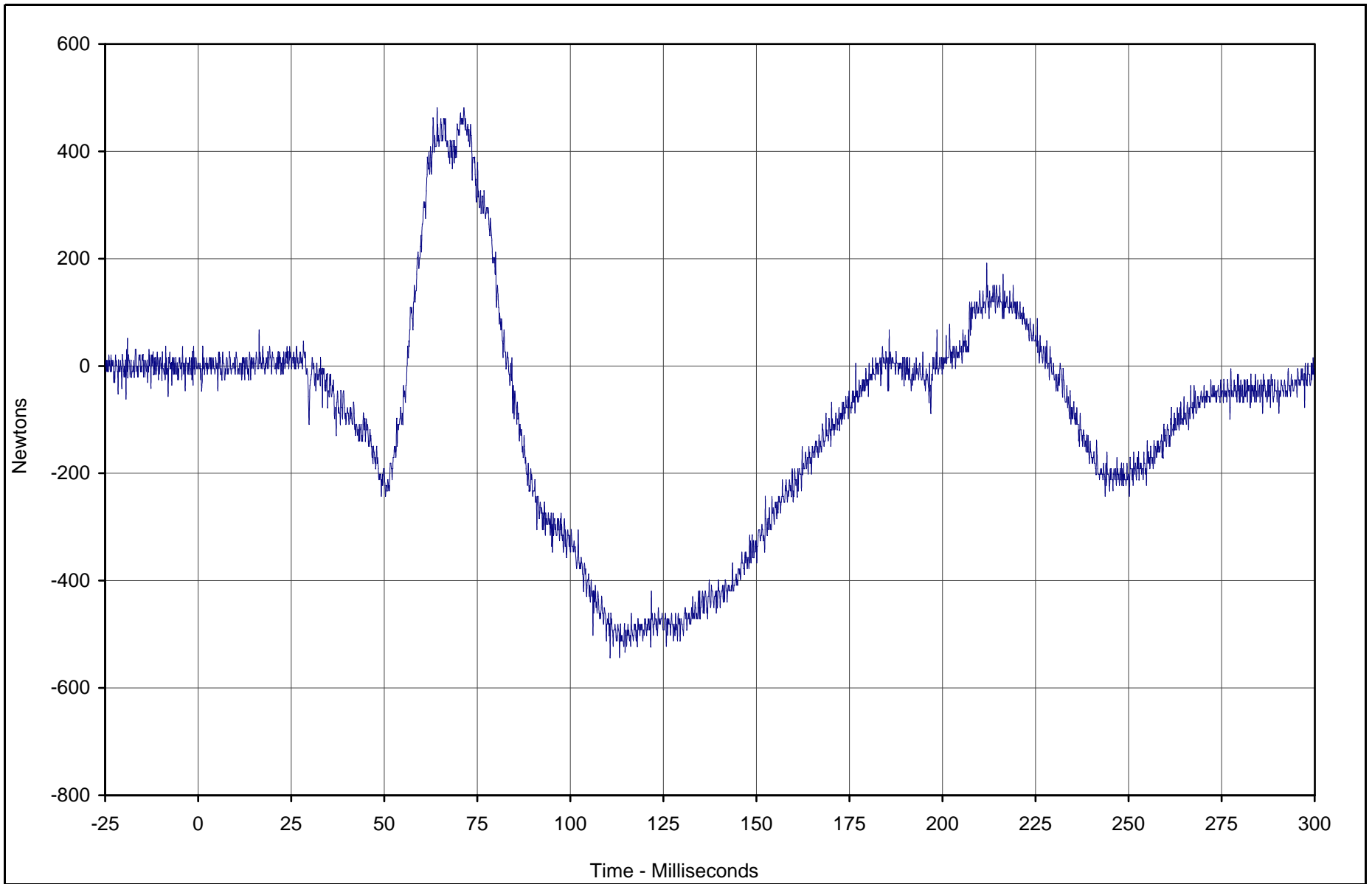
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force X	051	FIL	Newtons	481.7	64.2	-543.5	110.7	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

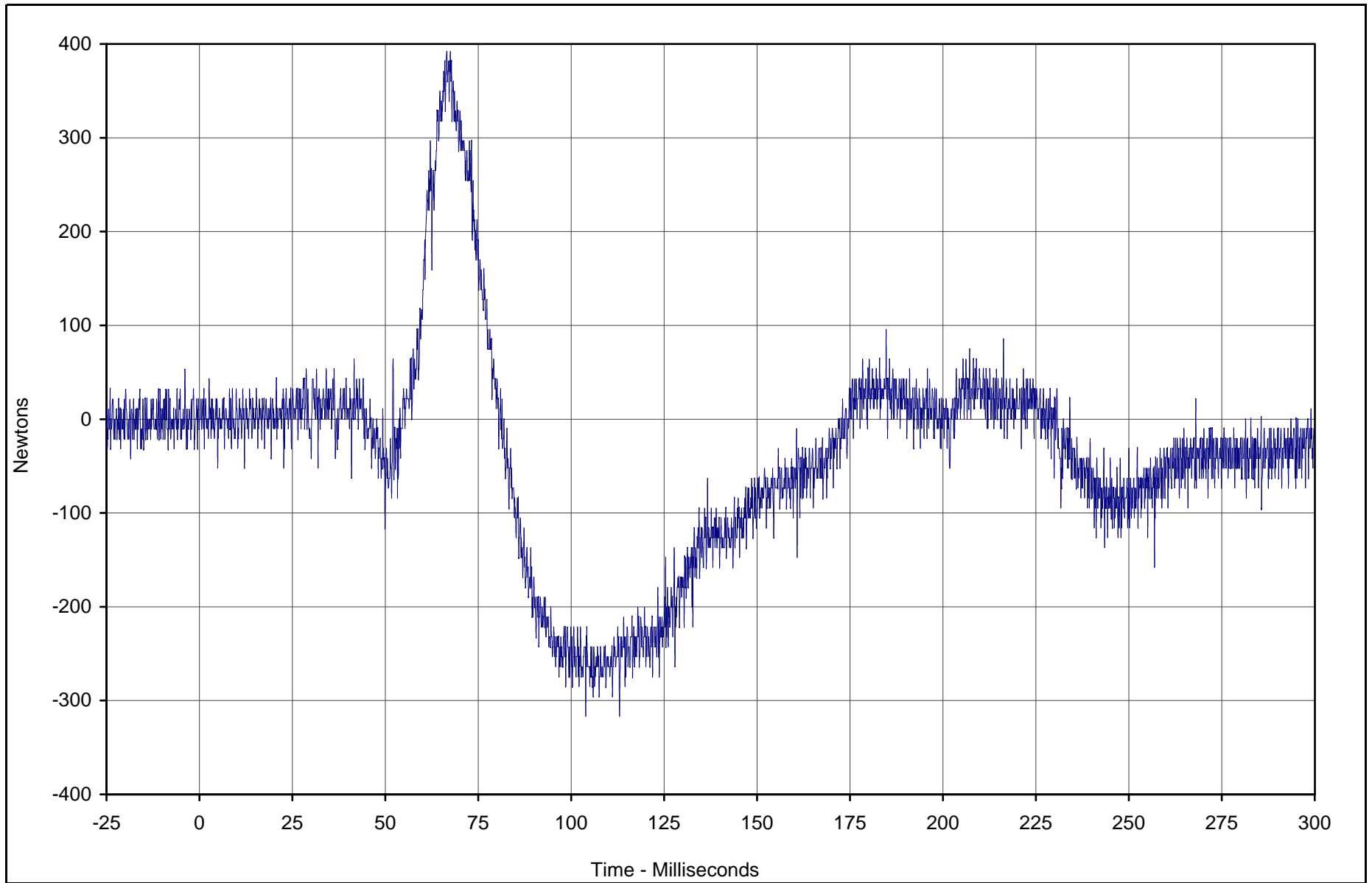
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-75



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Y	052	FIL	Newtons	392.0	66.5	-316.8	103.9	1000



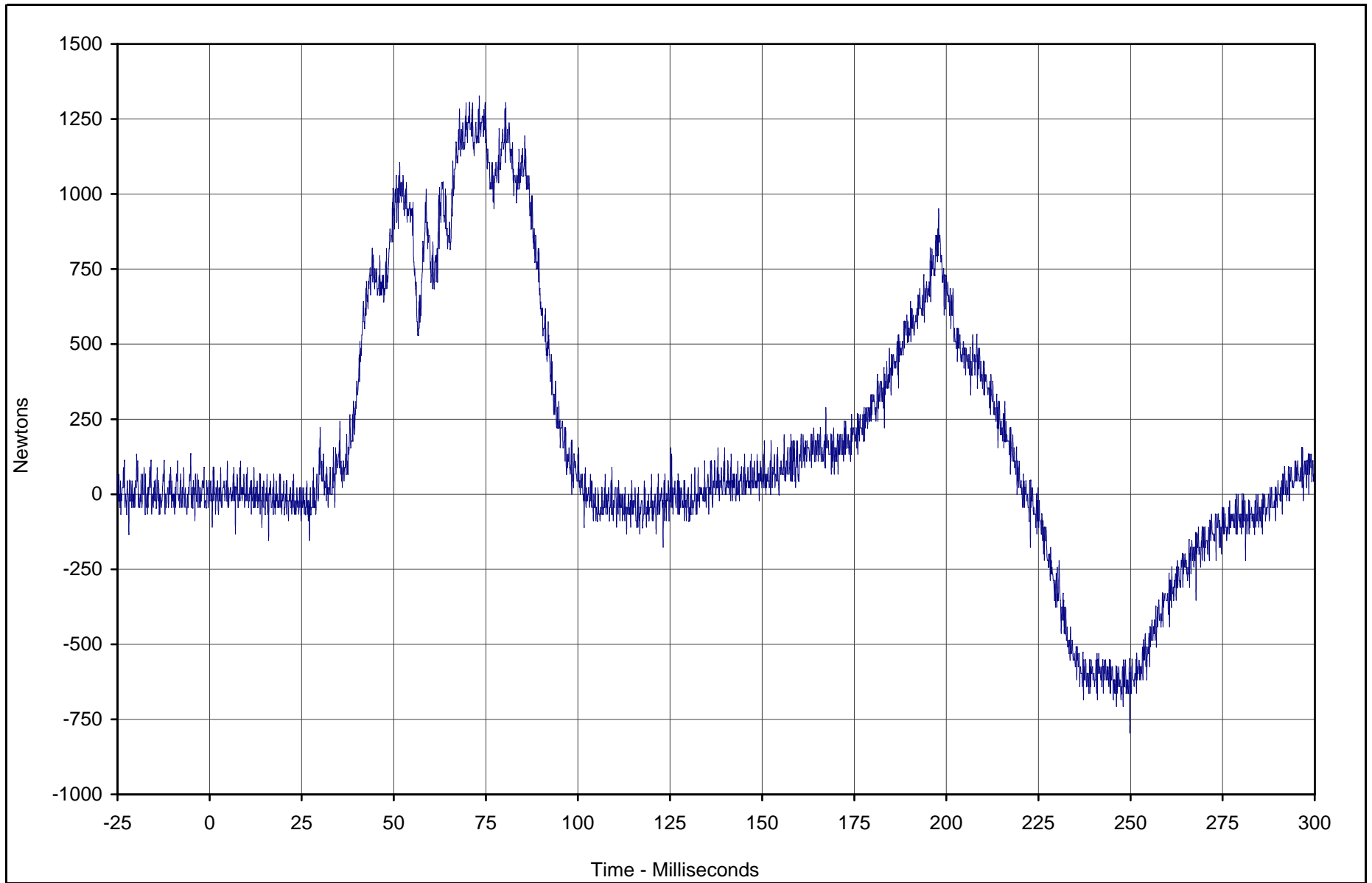
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Z	053	FIL	Newtons	1326.1	73.2	-795.6	249.8	1000

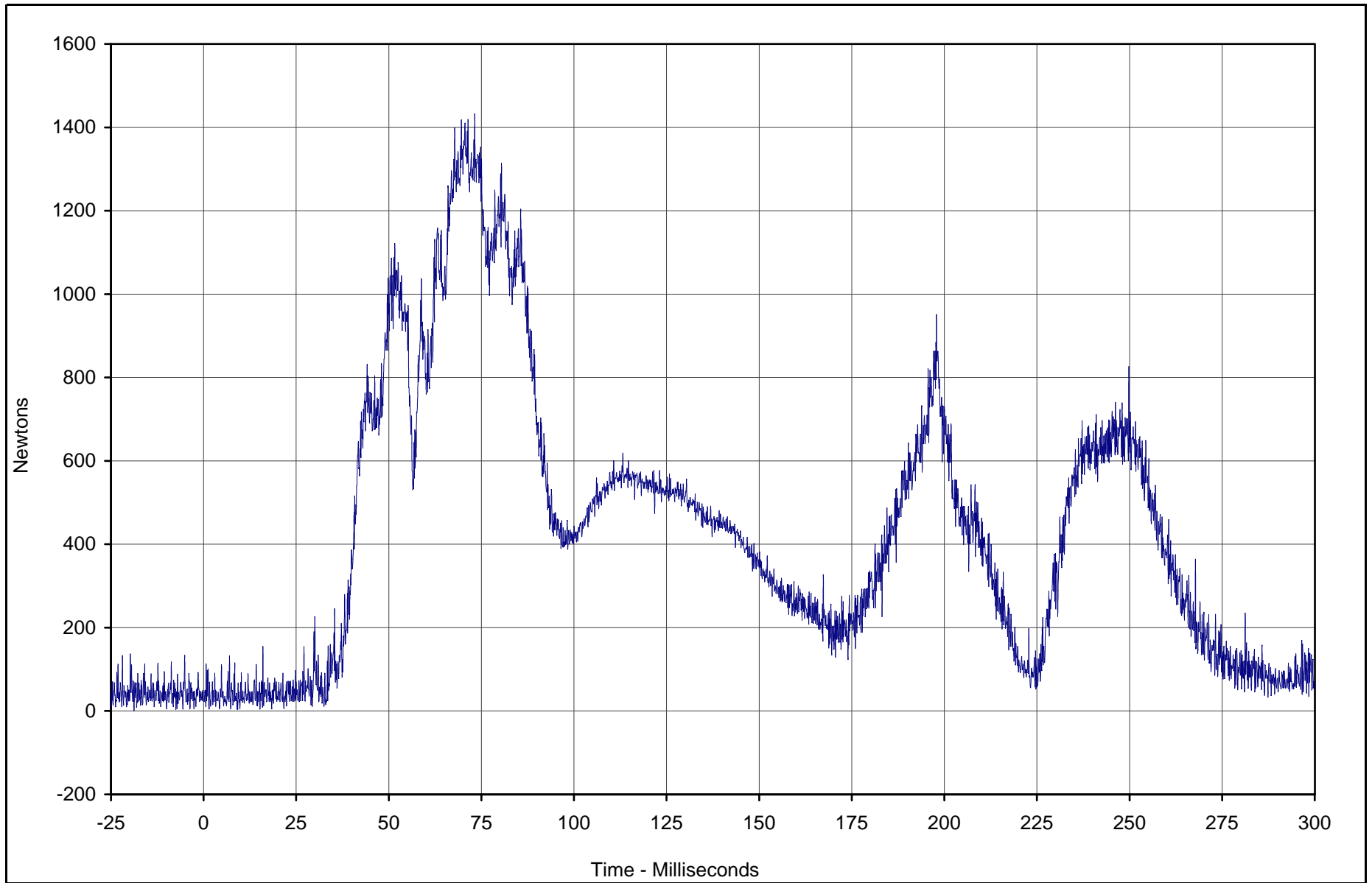


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Force Resultant	051	RES	Newtons	1431.6	73.2	5.0	1.4	1000



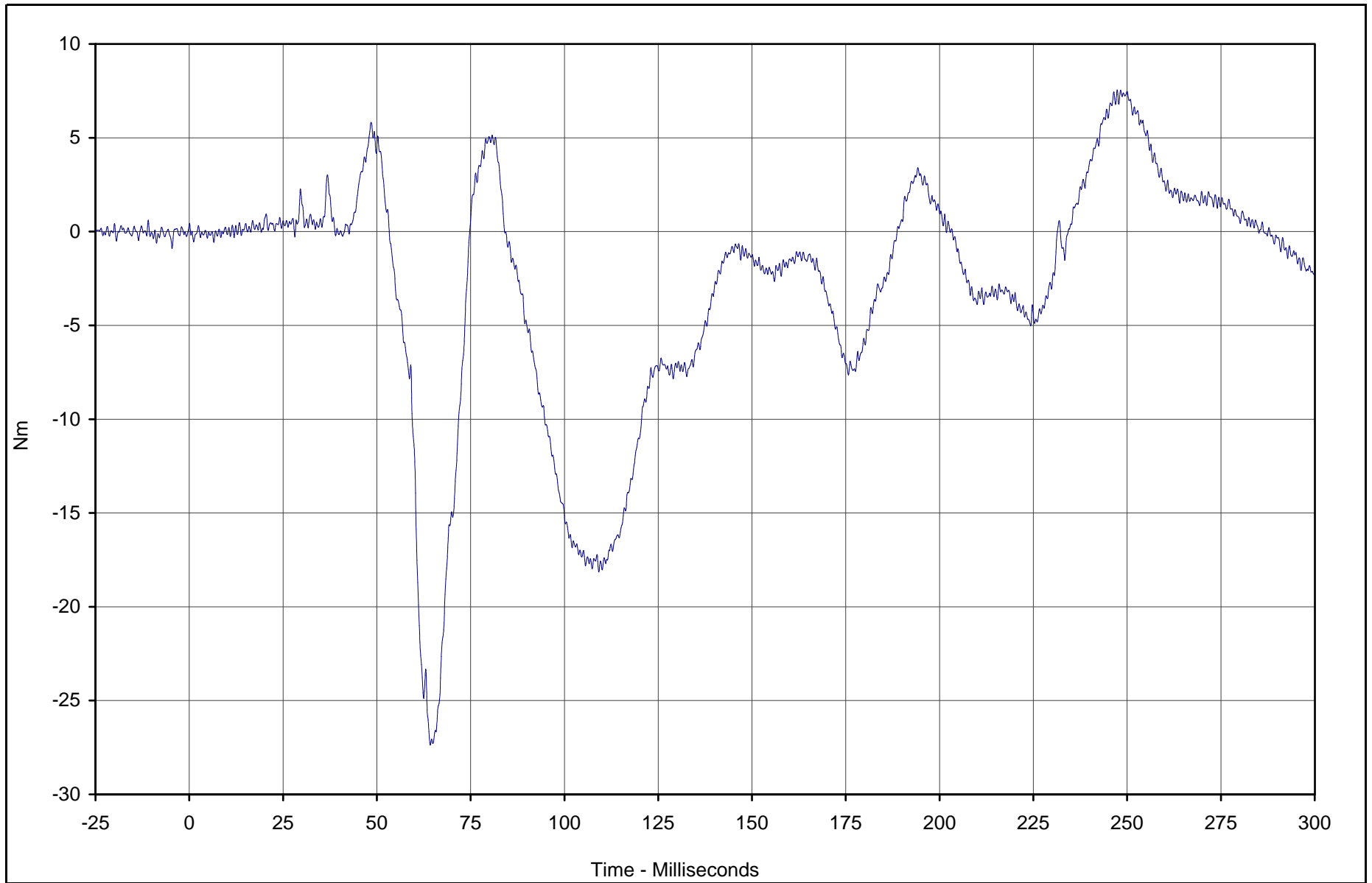
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-78



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment X	054	FIL	Nm	7.6	247.3	-27.4	64.2	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

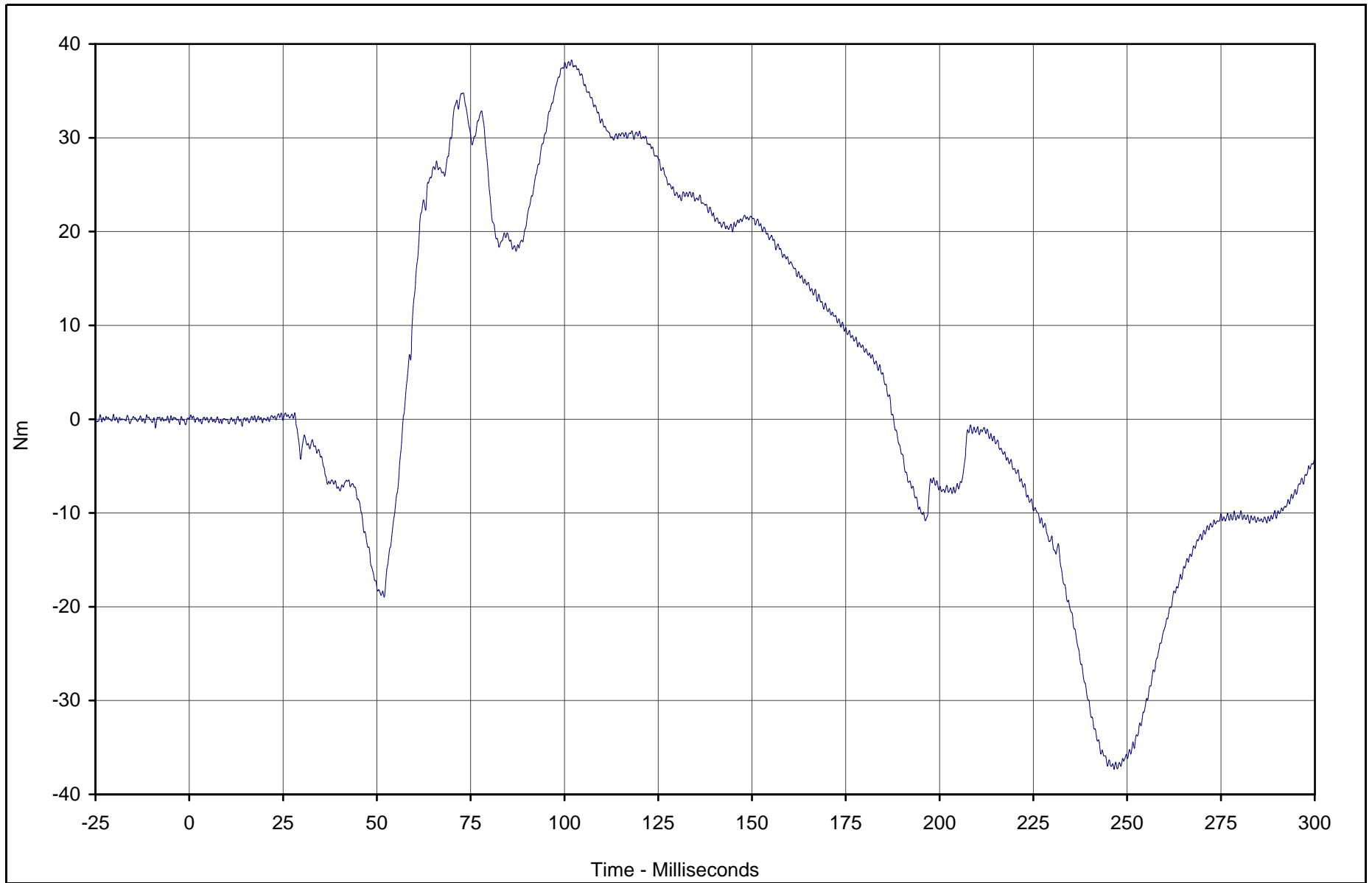
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-79



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Y	055	FIL	Nm	38.3	101.9	-37.3	246.5	600



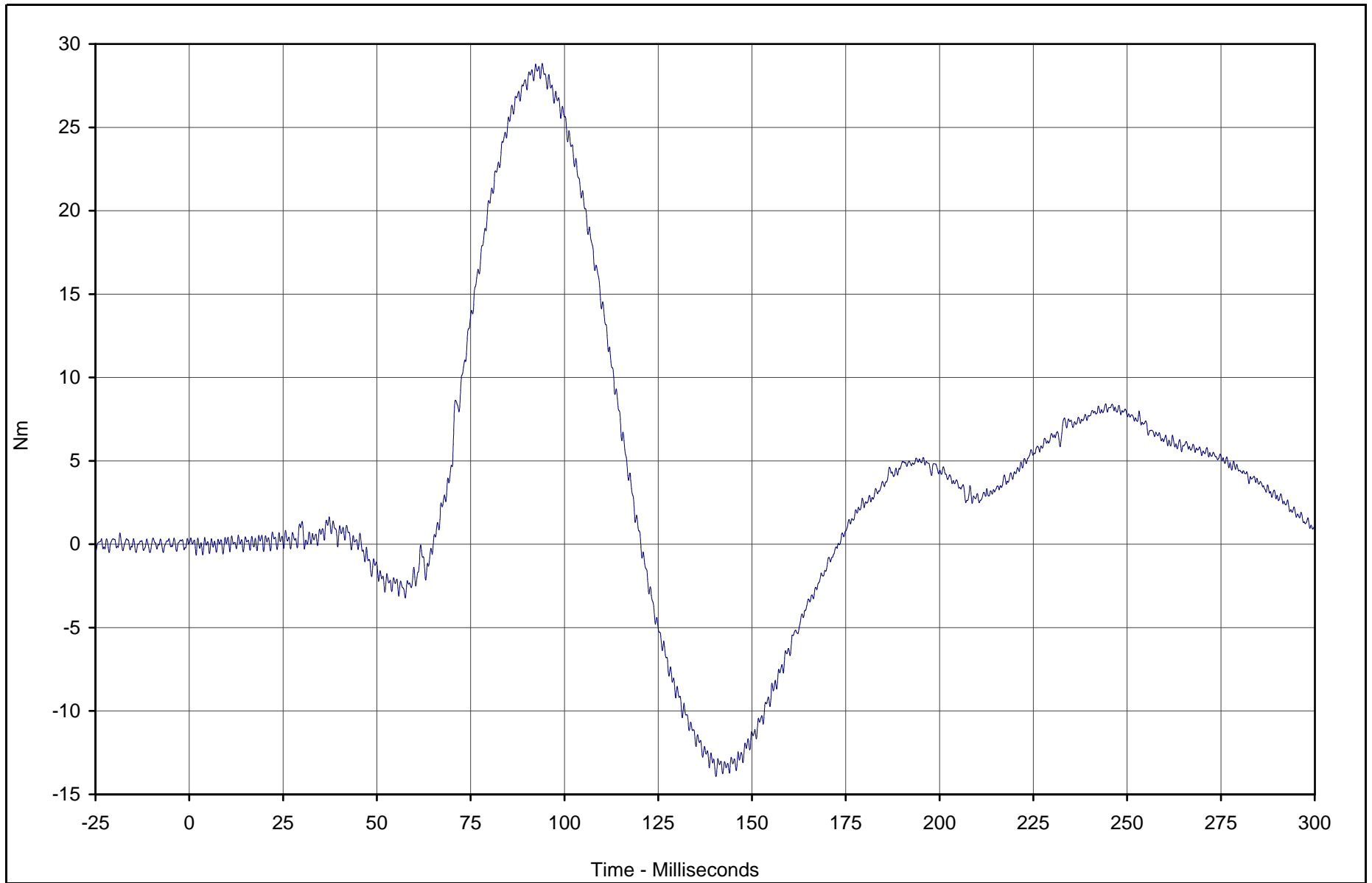
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Z	056	FIL	Nm	28.8	94.1	-13.9	140.4	600

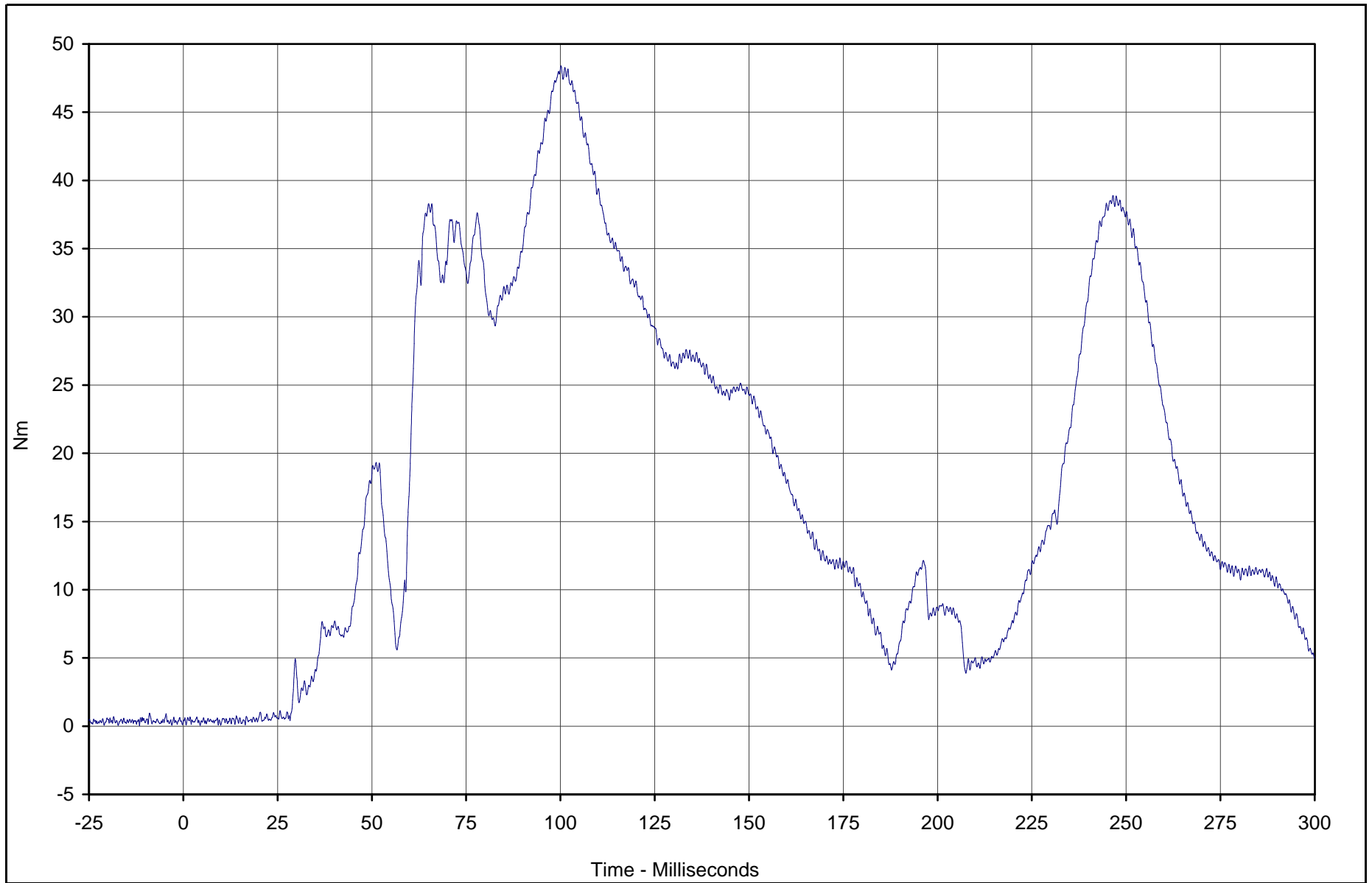


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Neck Moment Resultant	054	RES	Nm	48.4	100.2	0.0	4.5	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

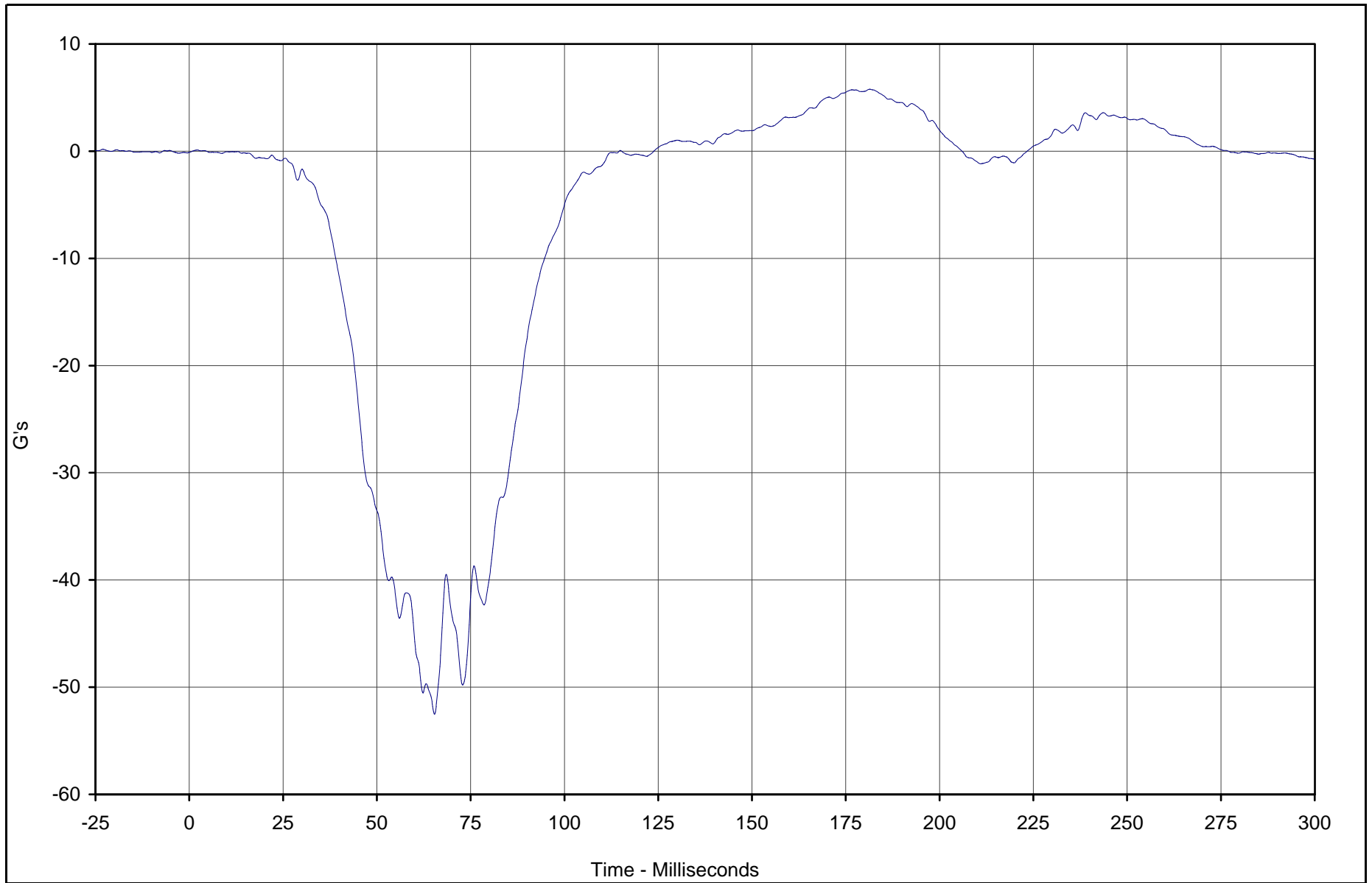
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X	057	FIL	G's	5.8	181.4	-52.5	65.4	180

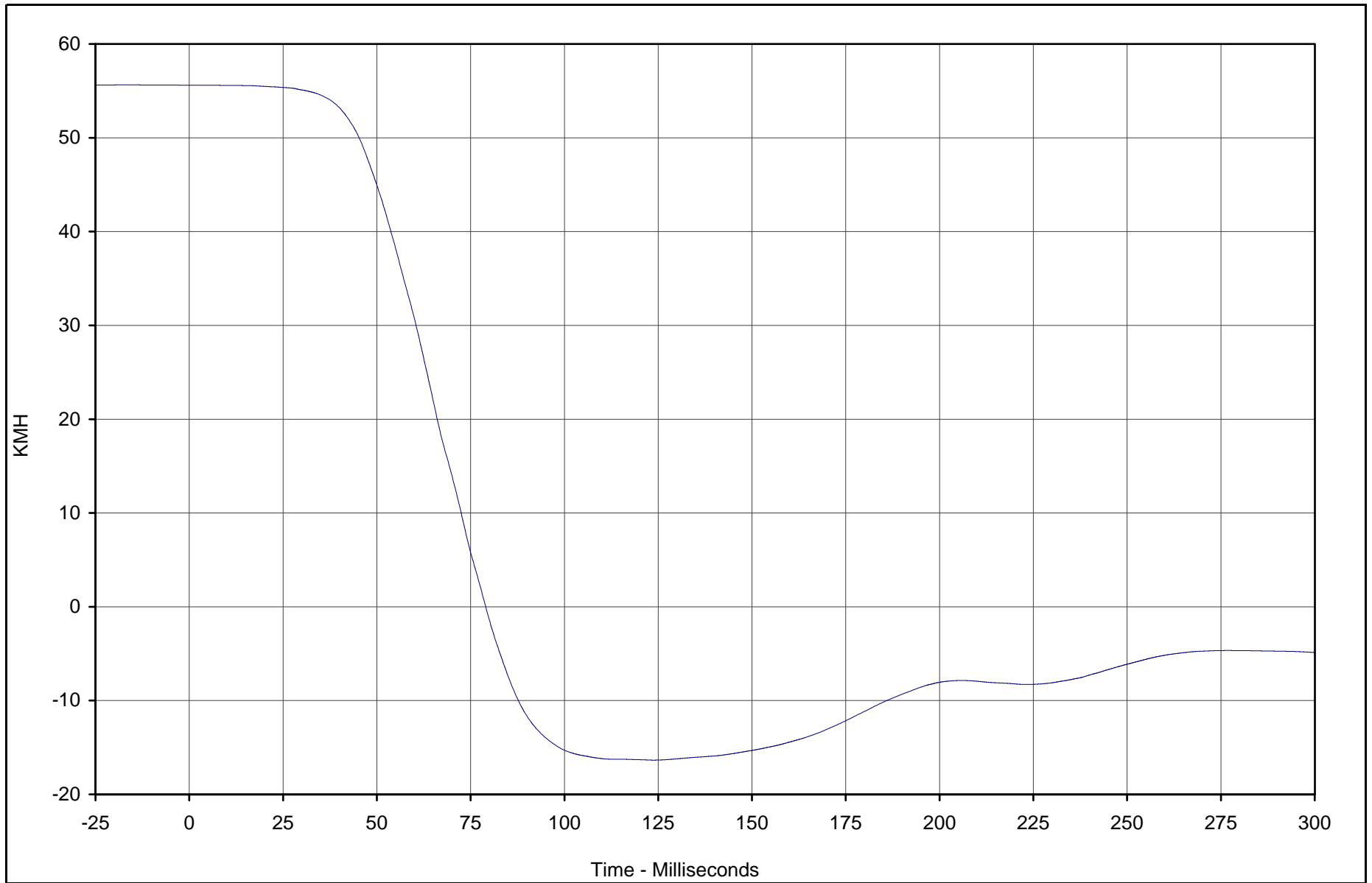


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X Velocity	057	IN1	KMH	55.6	4.6	-16.3	123.8	180



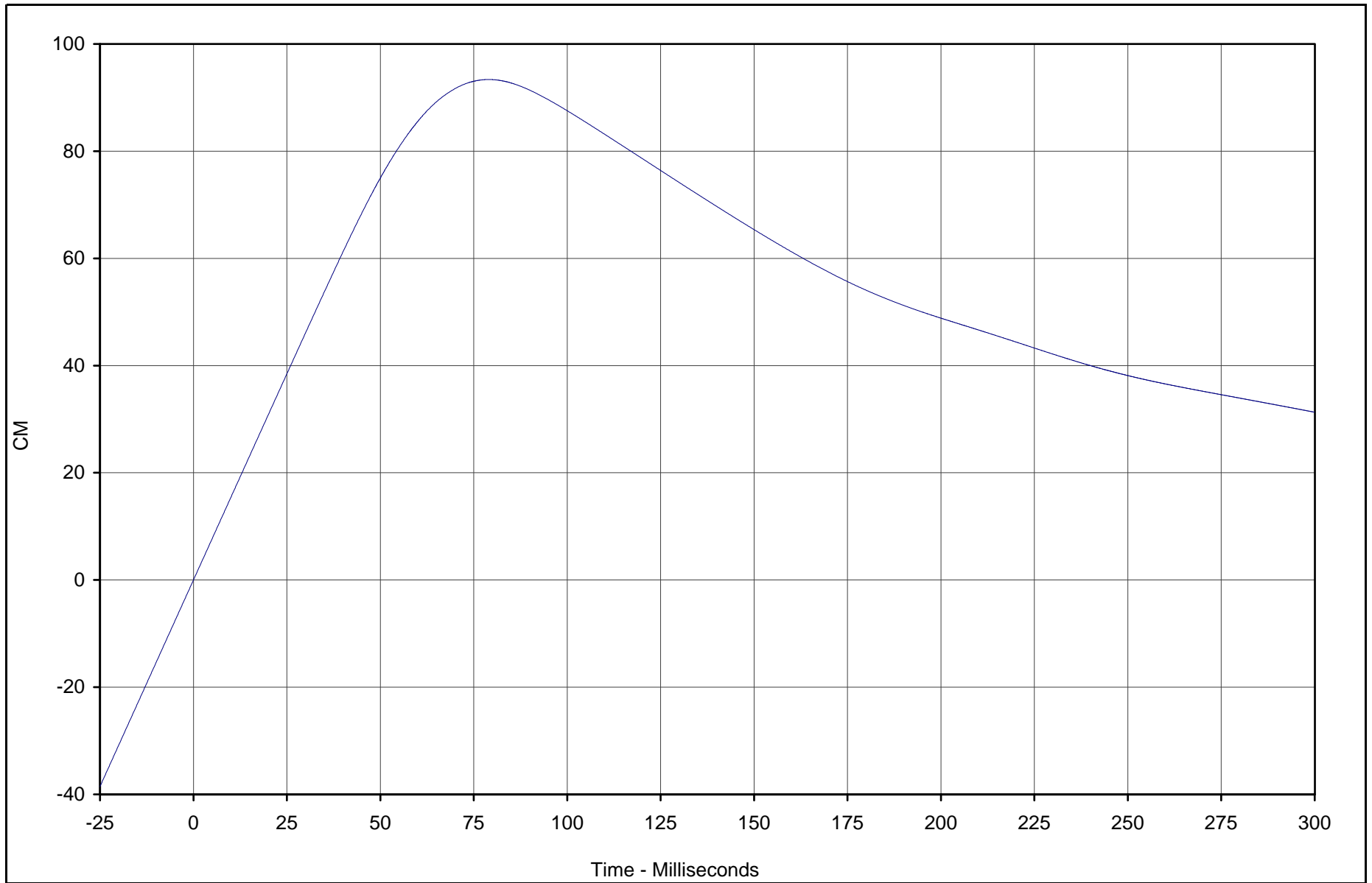
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-84



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary X Displ.	057	IN2	CM	93.4	79.0	0.0	0.0	180



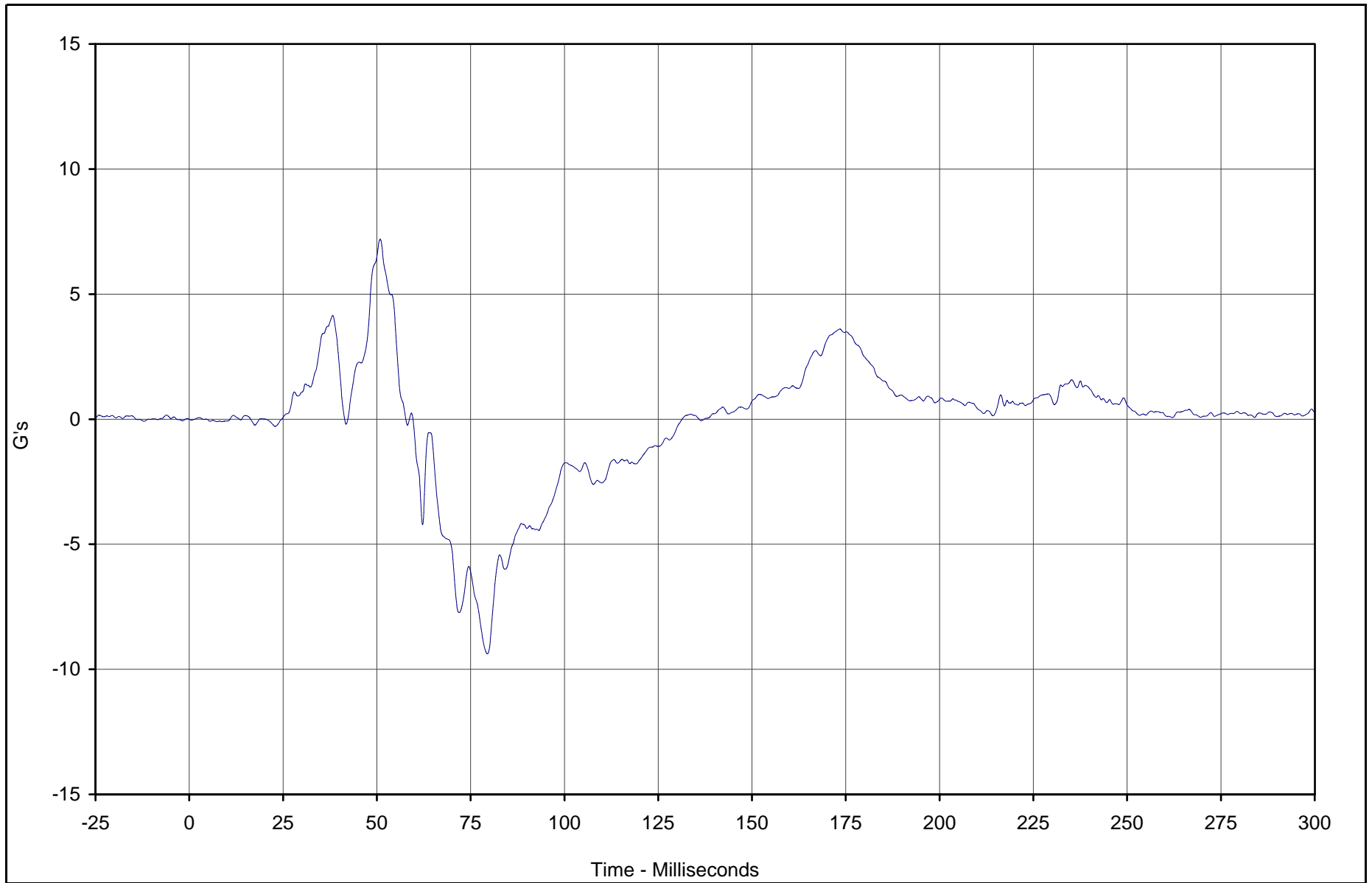
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary Y	058	FIL	G's	7.2	50.9	-9.4	79.5	180

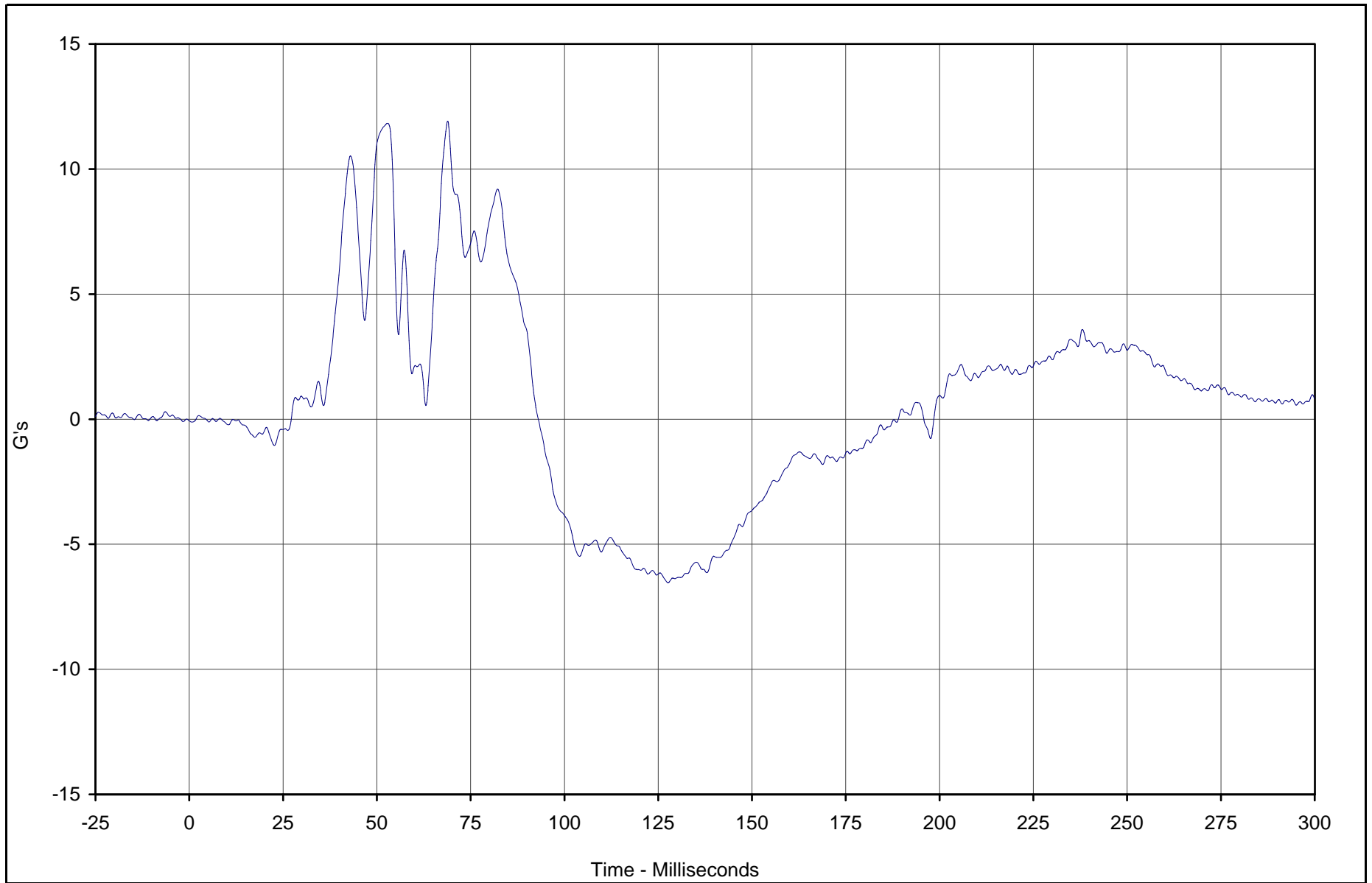


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Primary Z	059	FIL	G's	11.9	68.9	-6.5	127.6	180

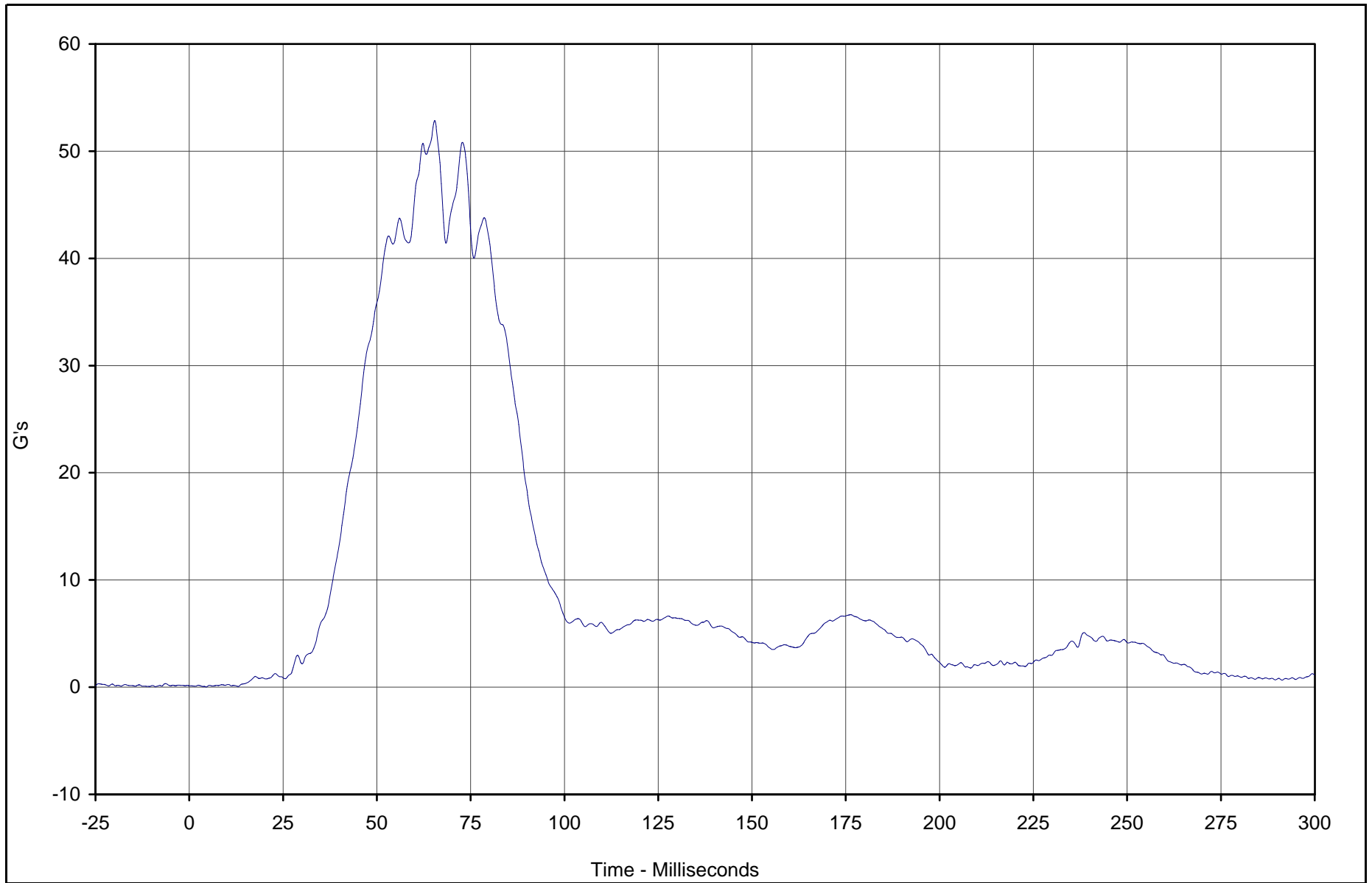


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Resultant Primary	057	RES	G's	52.9	65.4	0.0	4.5	180

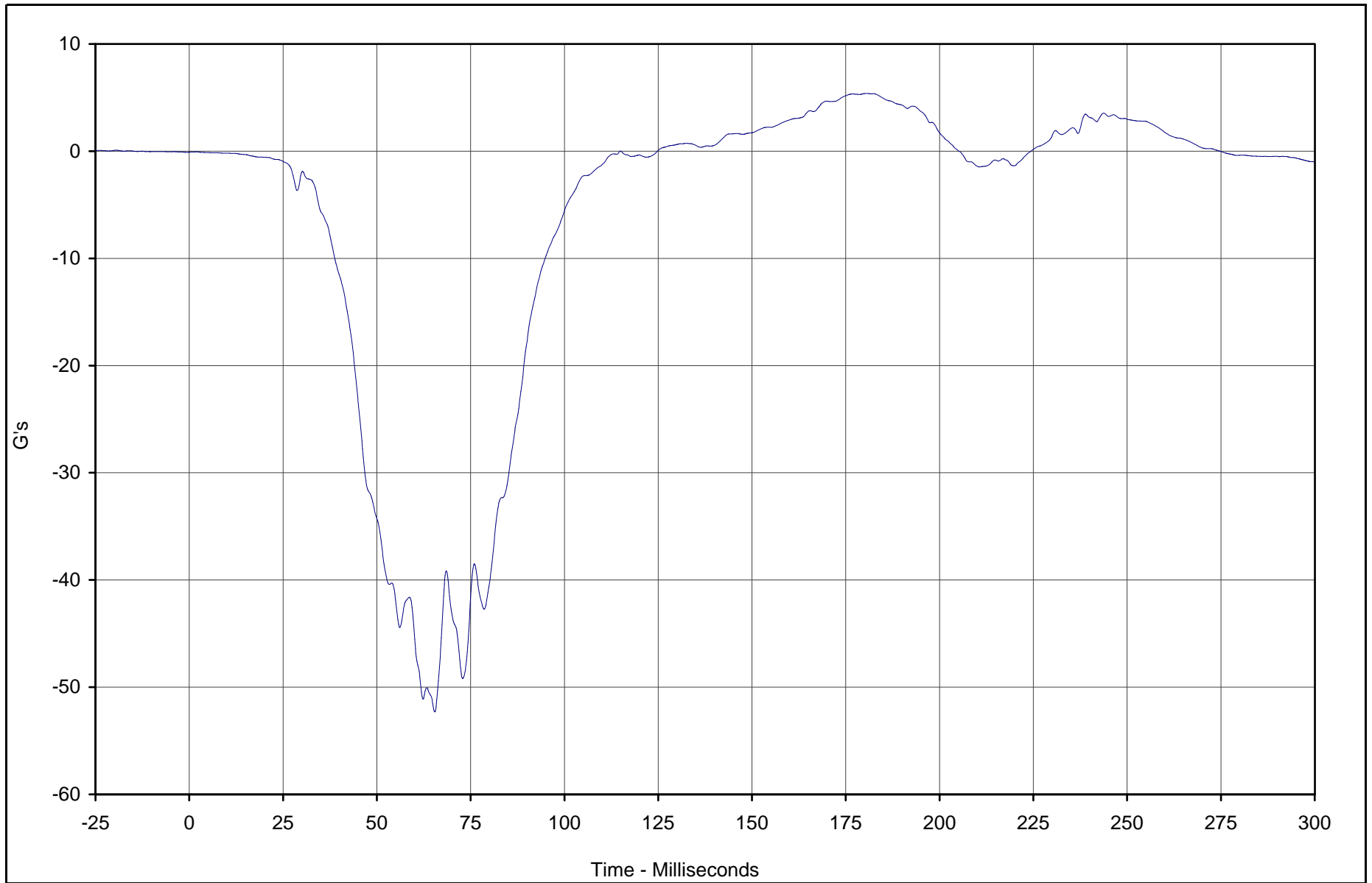


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

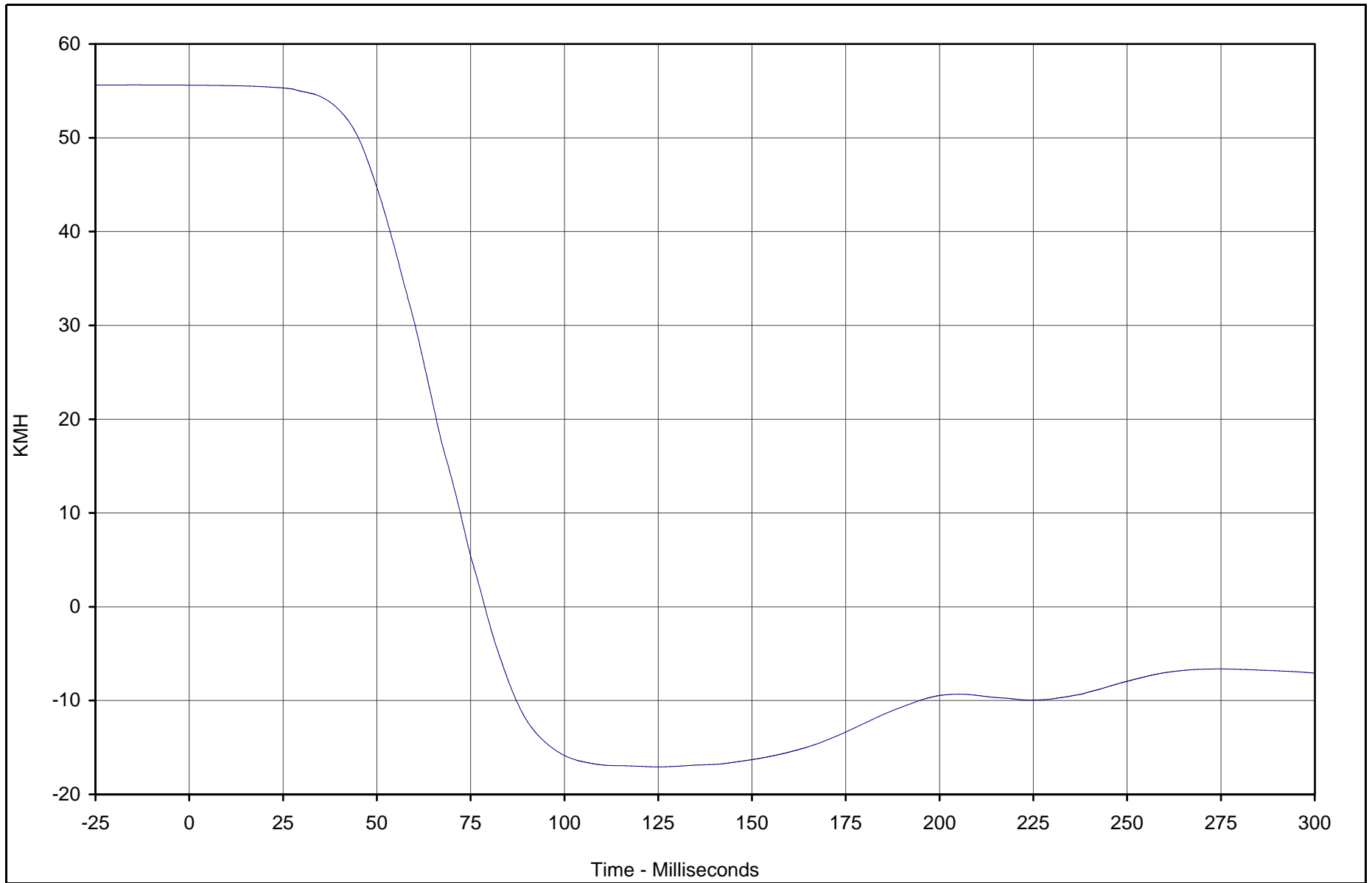


Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X	060	FIL	G's	5.4	180.6	-52.3	65.4	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03
 NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X Velocity	060	IN1	KMH	55.6	0.0	-17.1	124.8	180



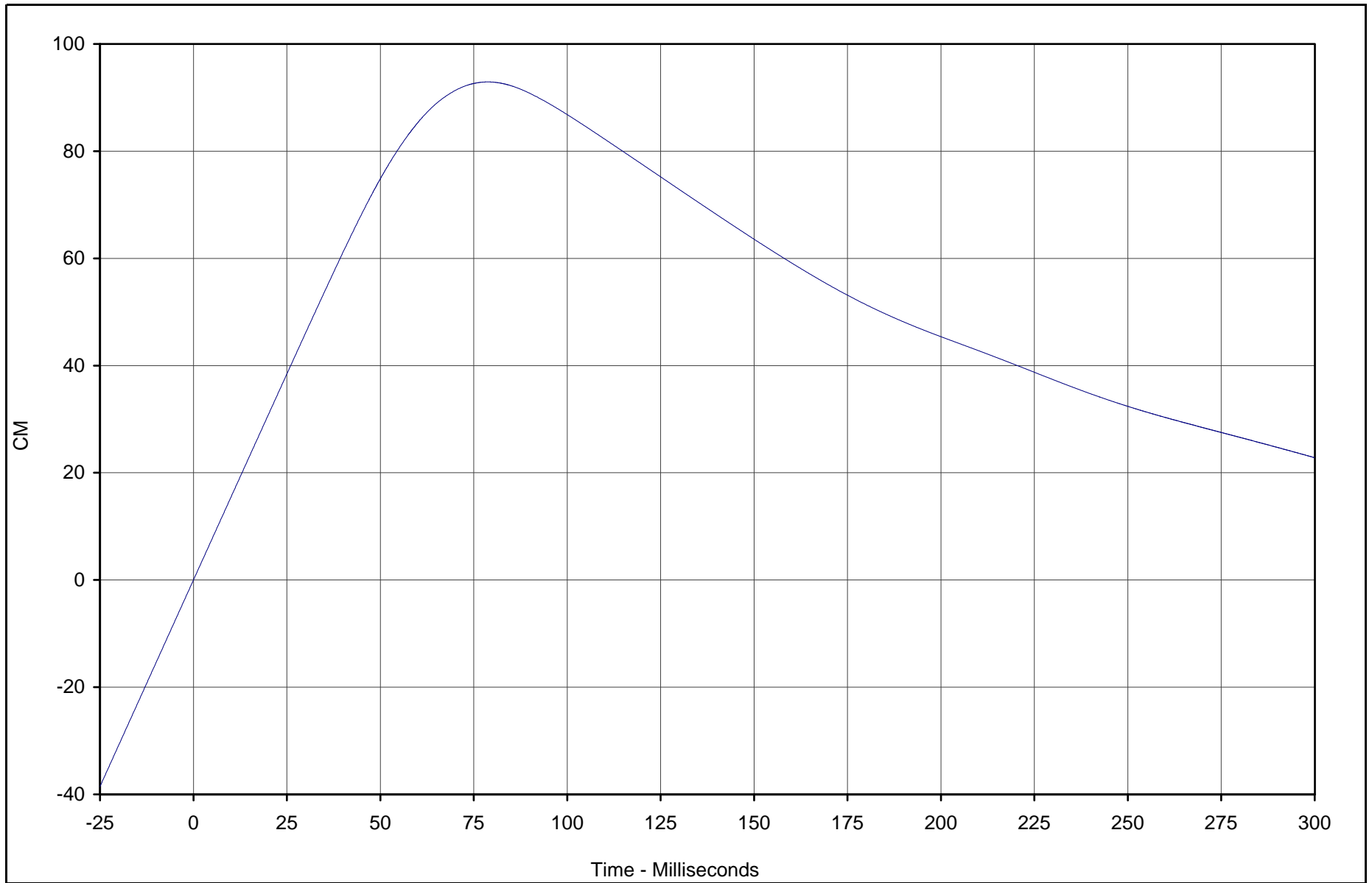
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-90



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant X Displ.	060	IN2	CM	92.9	78.8	0.0	0.0	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

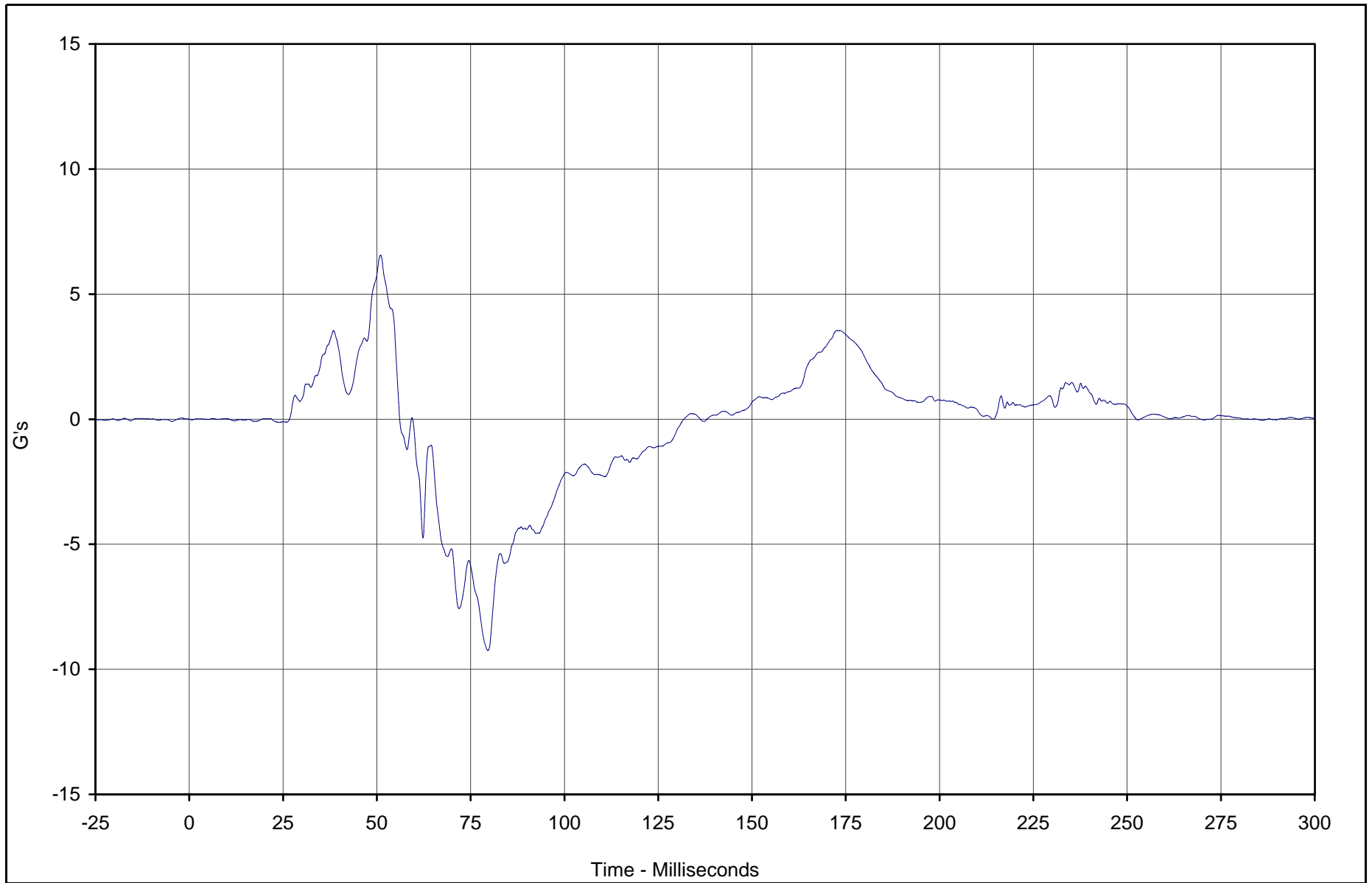
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-91



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant Y	061	FIL	G's	6.6	51.0	-9.2	79.6	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

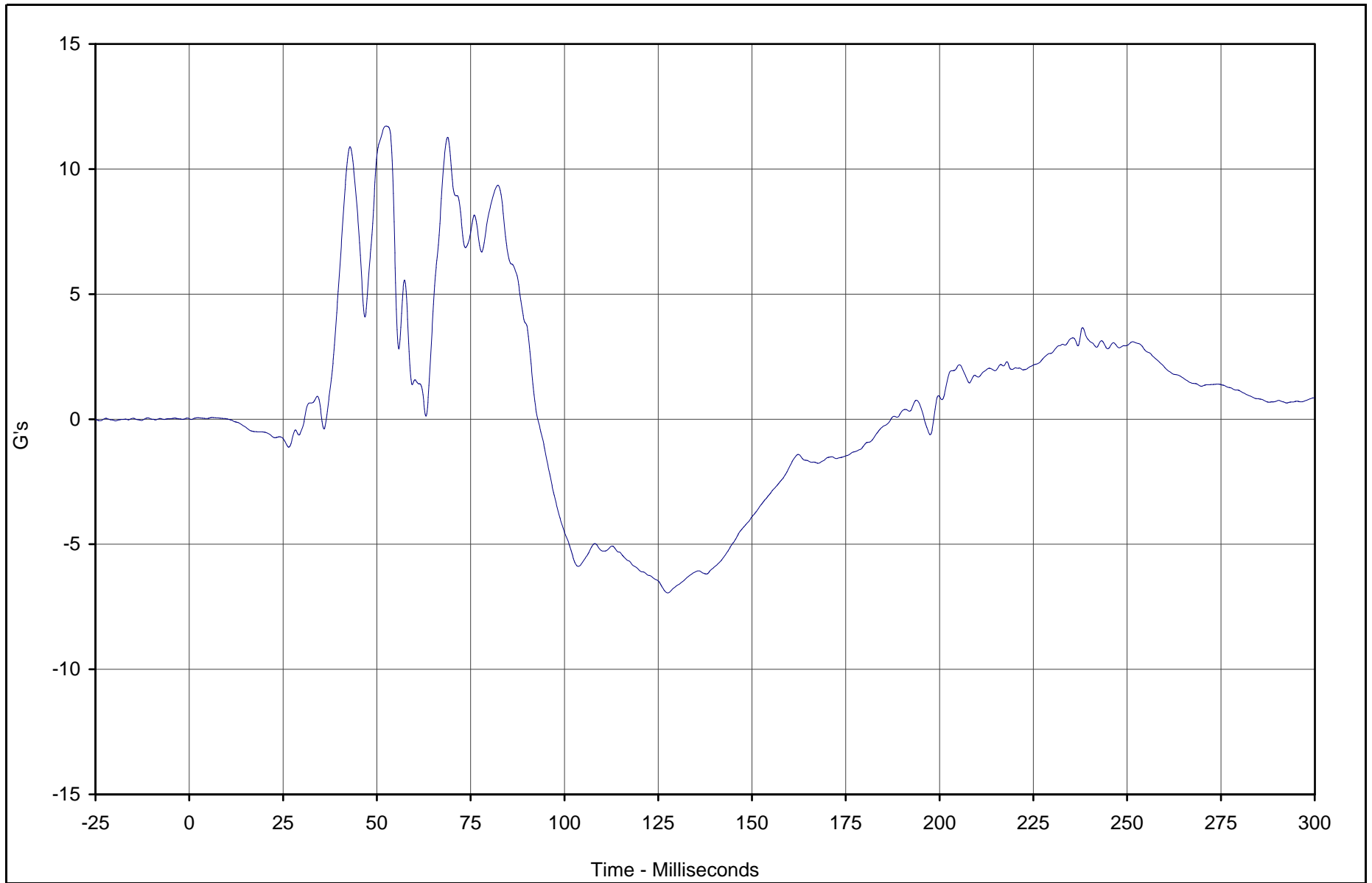
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-92



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Redundant Z	062	FIL	G's	11.7	52.5	-6.9	127.6	180



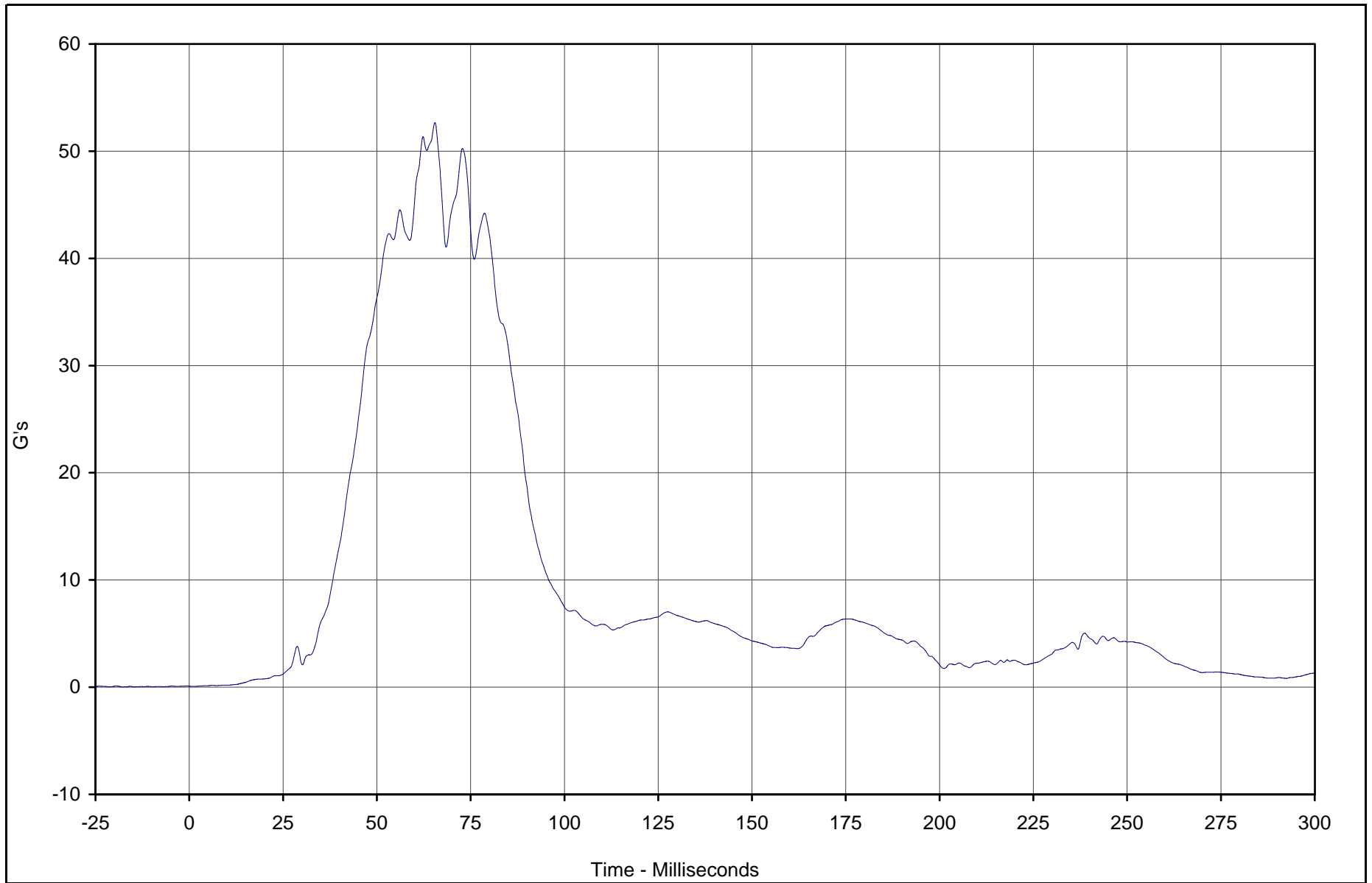
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Resultant Redundant	060	RES	G's	52.7	65.5	0.1	1.0	180



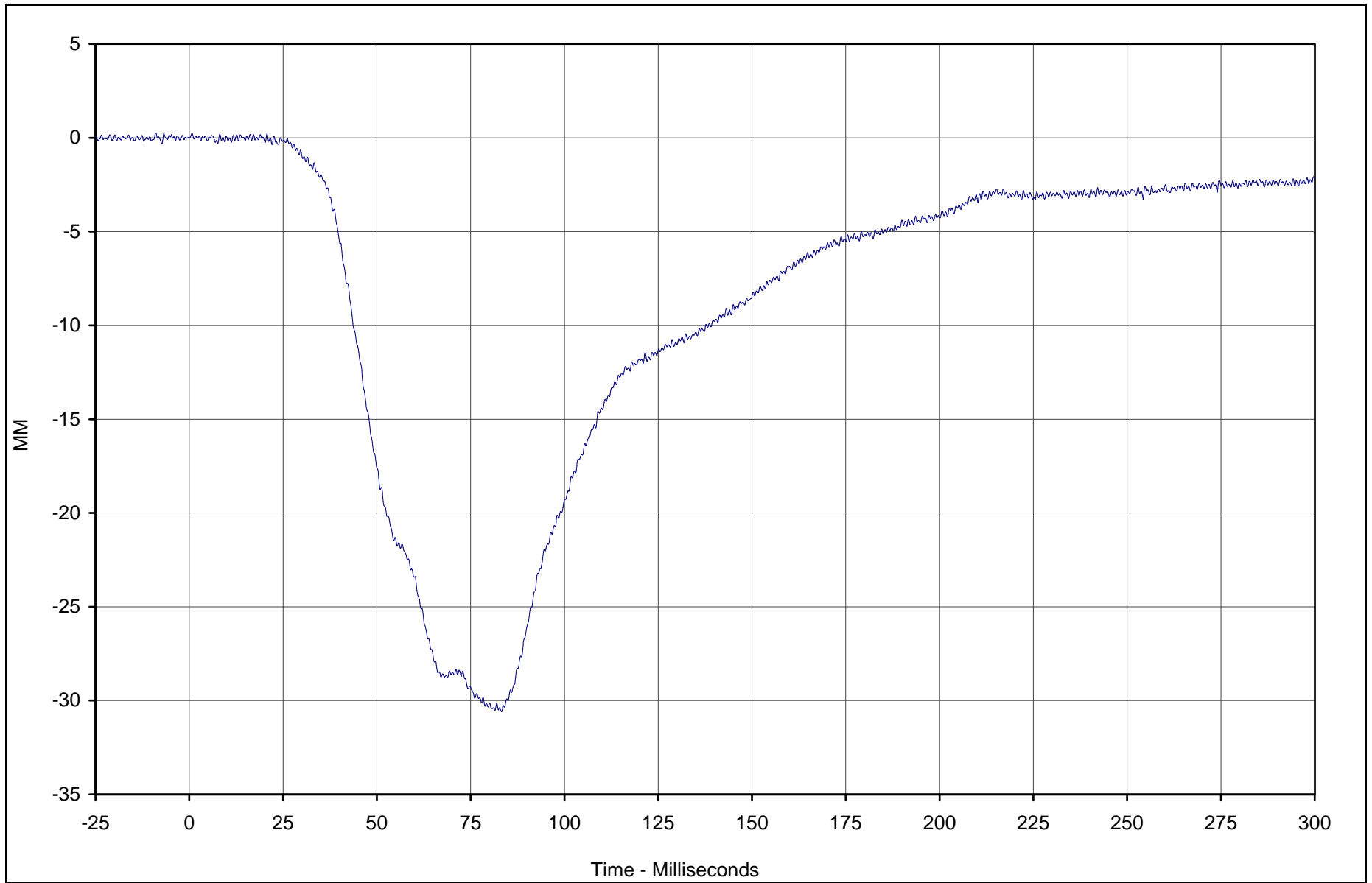
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-94



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Chest Displacement X	063	FIL	MM	0.2	0.7	-30.6	83.2	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

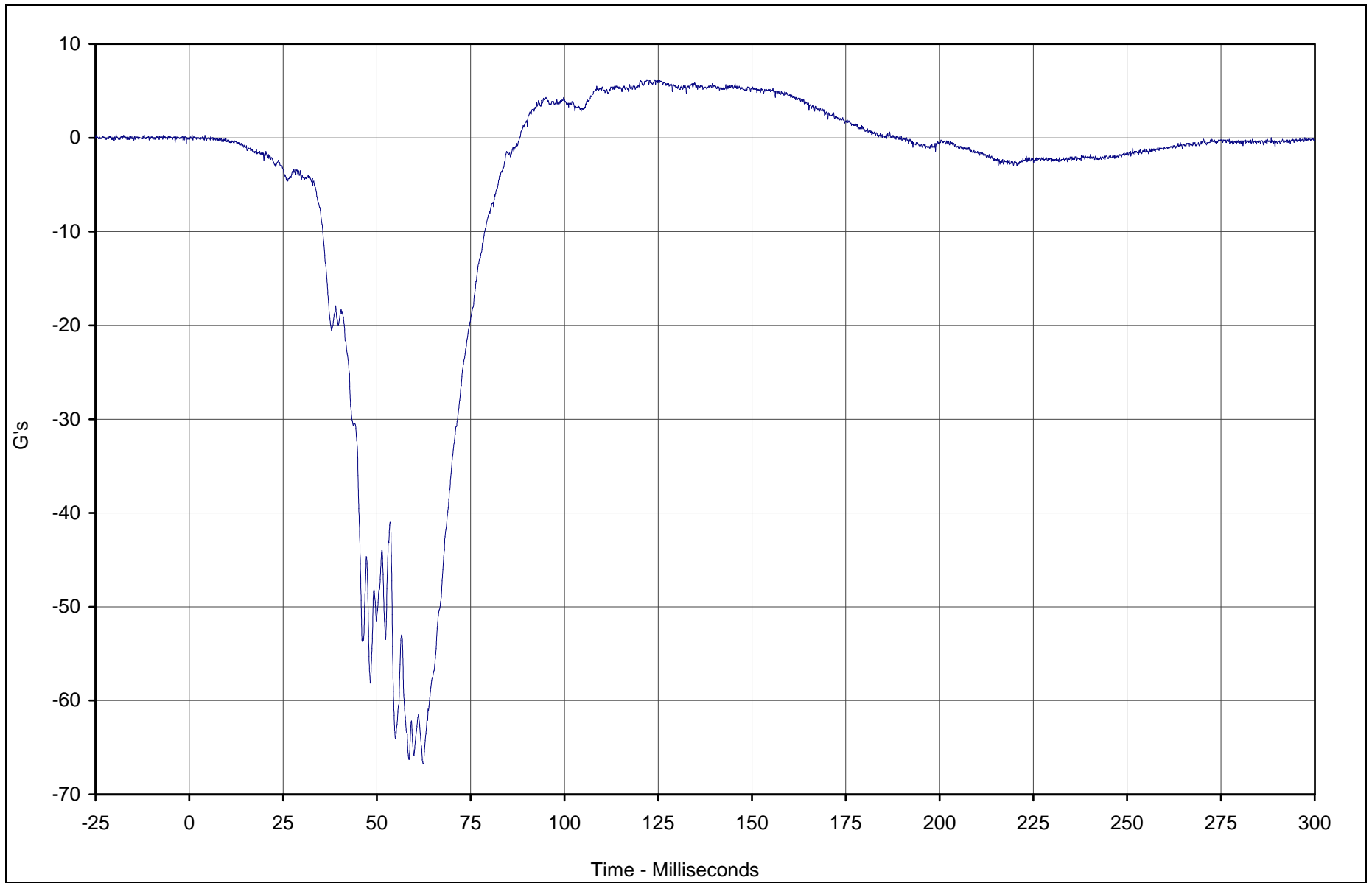
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-95



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X	064	FIL	G's	6.2	121.9	-66.7	62.3	1000



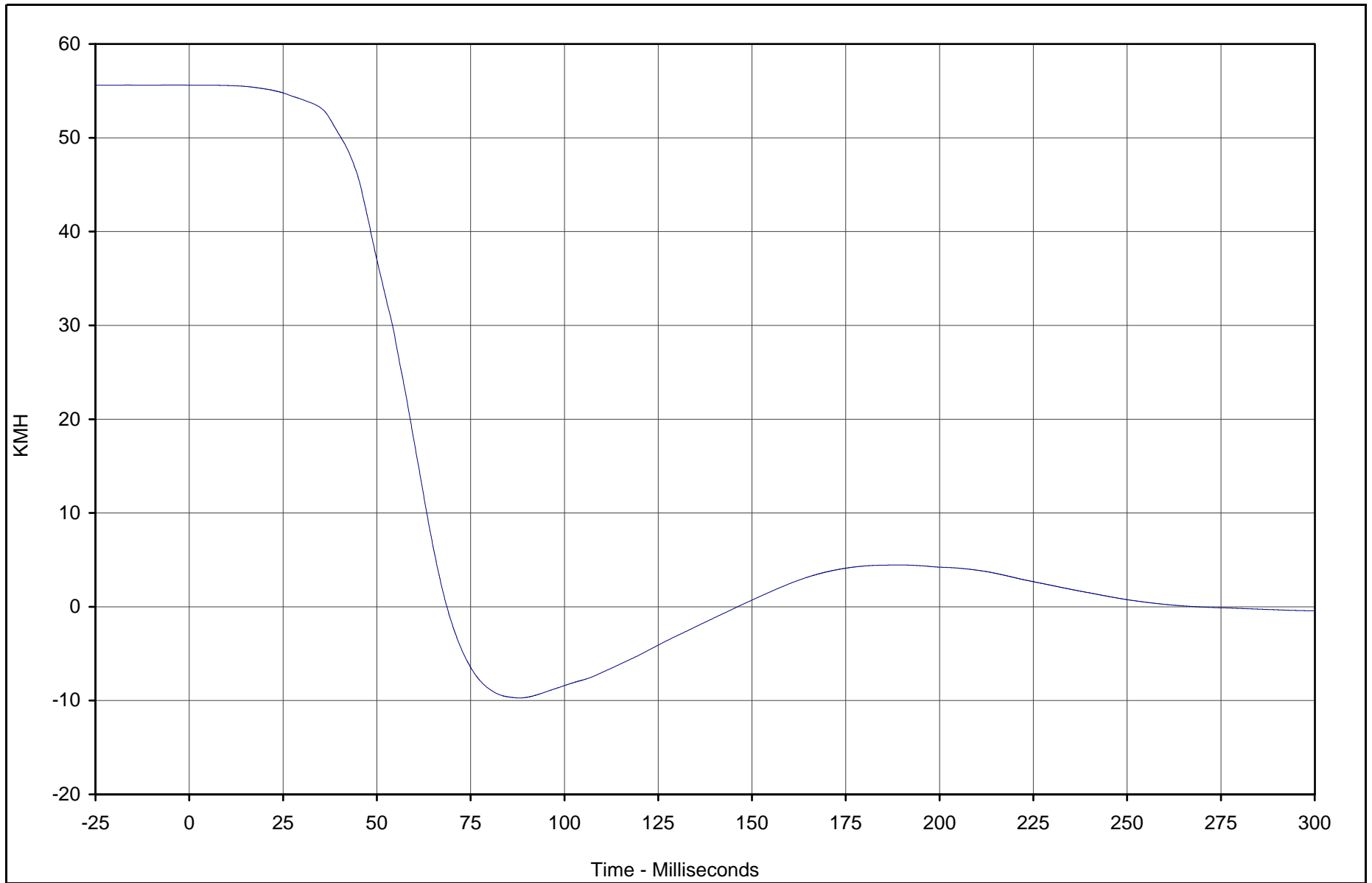
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X Velocity	064	IN1	KMH	55.6	0.0	-9.7	88.0	180



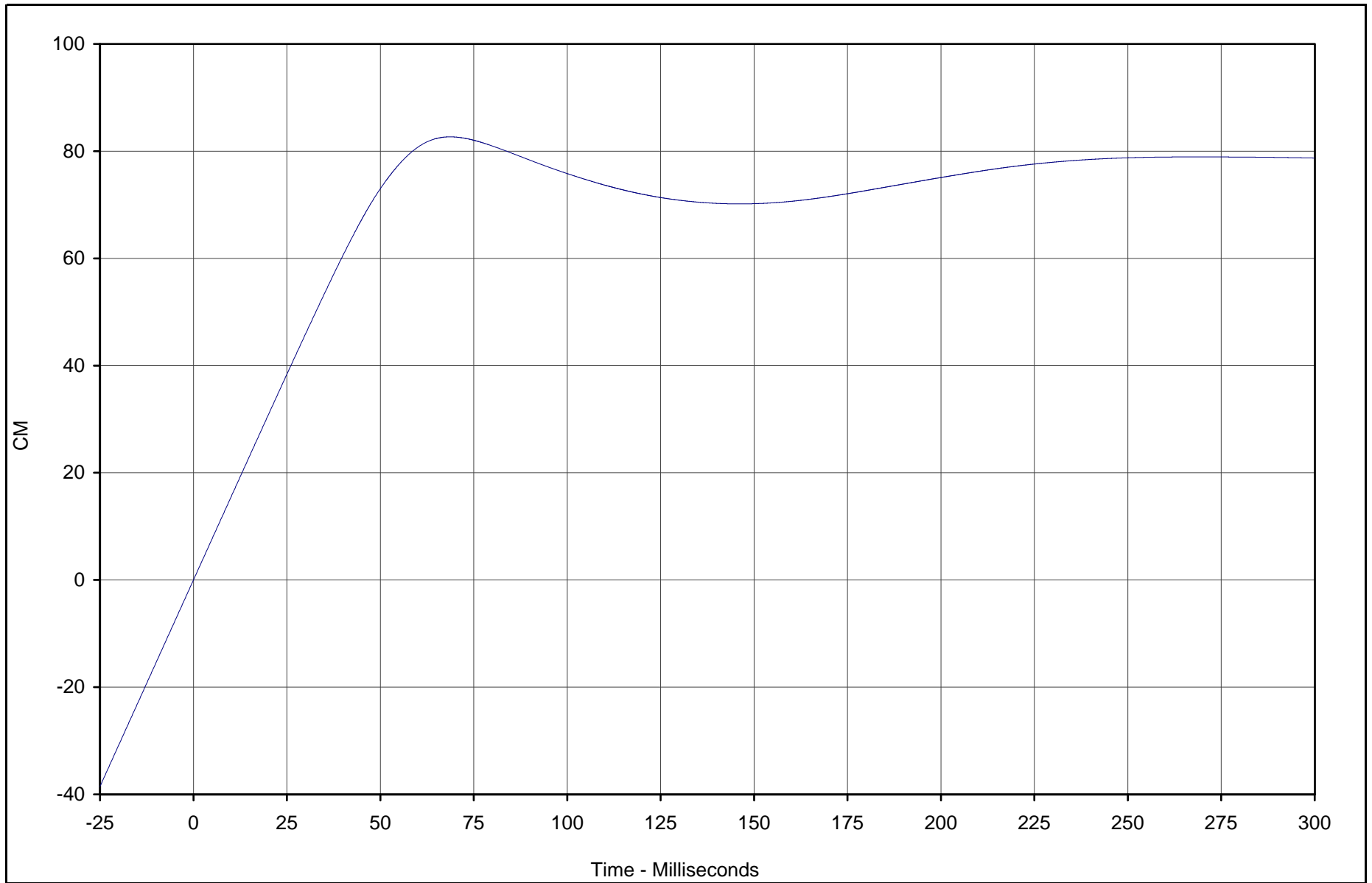
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-97



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis X Displ.	064	IN2	CM	82.7	68.7	0.0	0.0	180



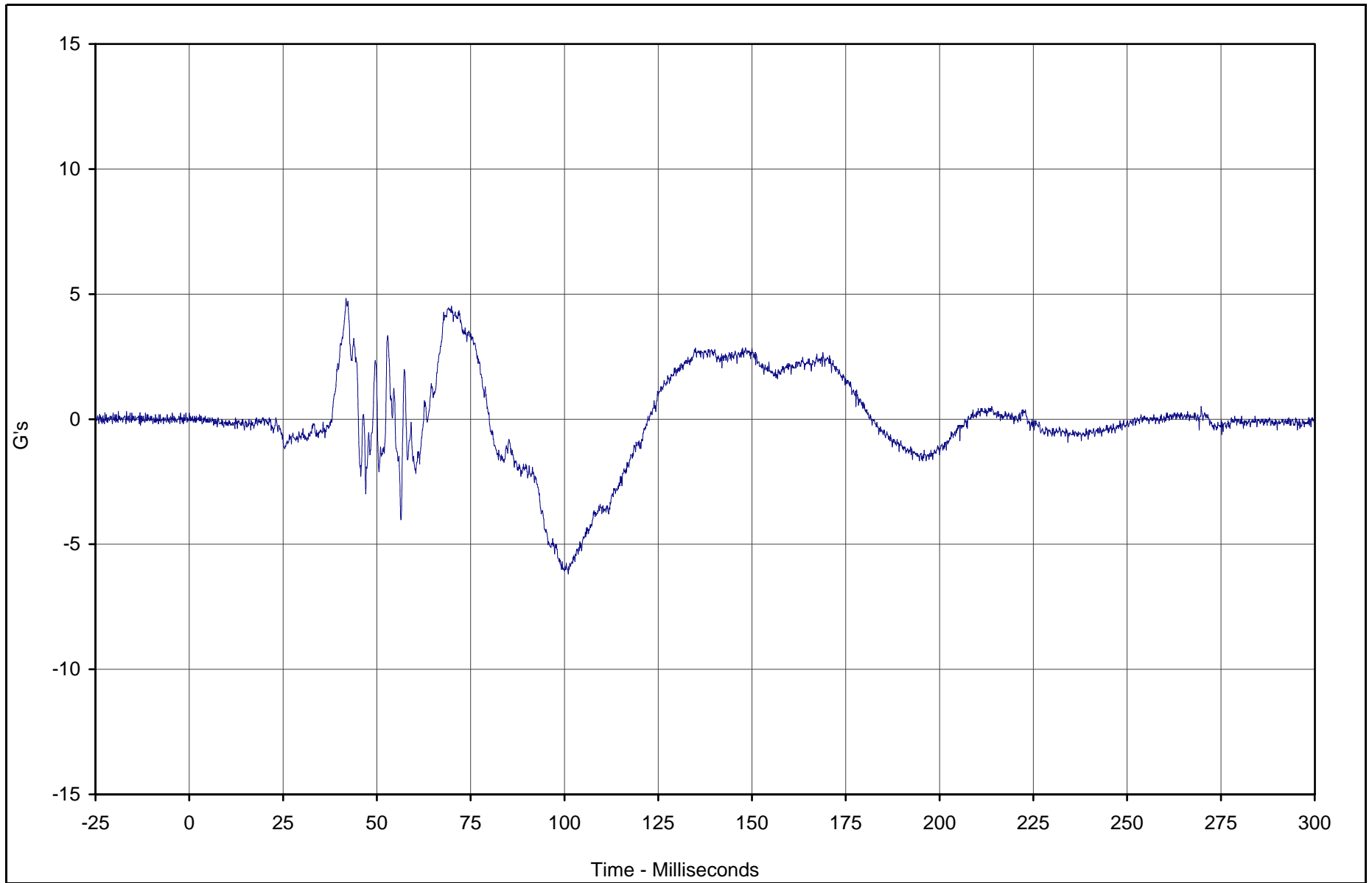
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Y	065	FIL	G's	4.8	41.8	-6.2	101.0	1000

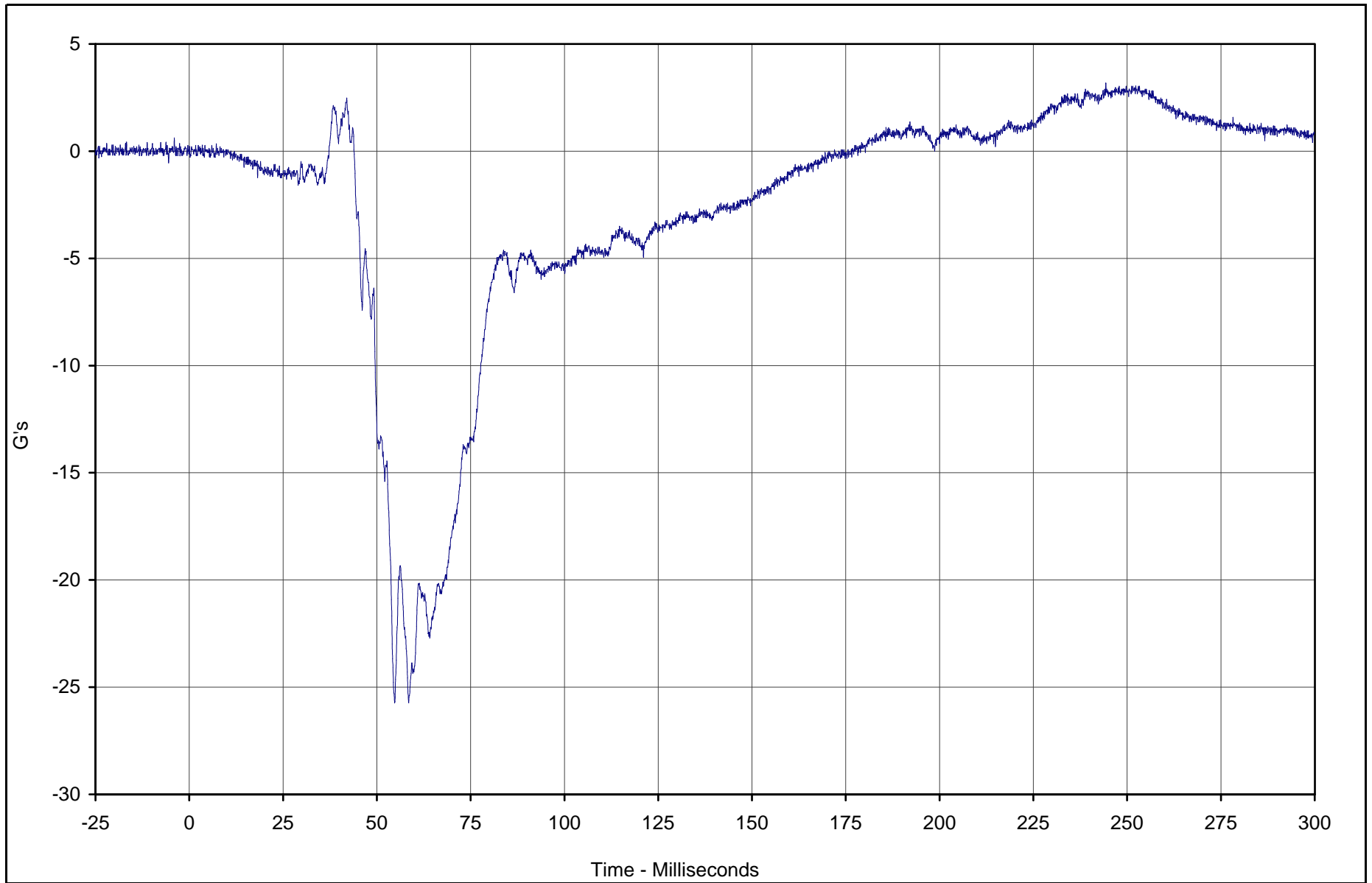


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Z	066	FIL	G's	3.2	244.3	-25.7	54.7	1000



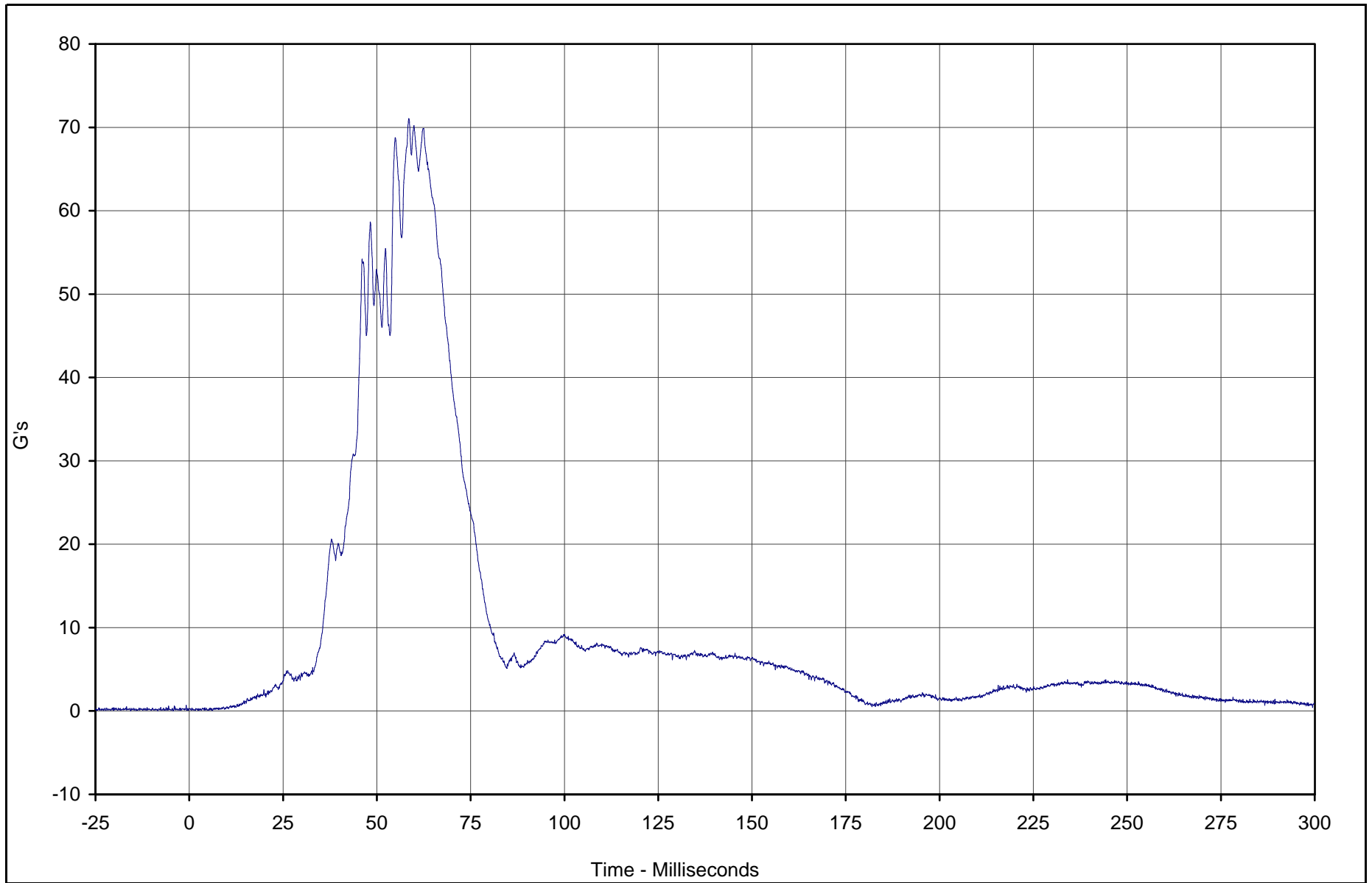
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-100



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Pelvis Resultant	066	RES	G's	71.0	58.5	0.1	1.6	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

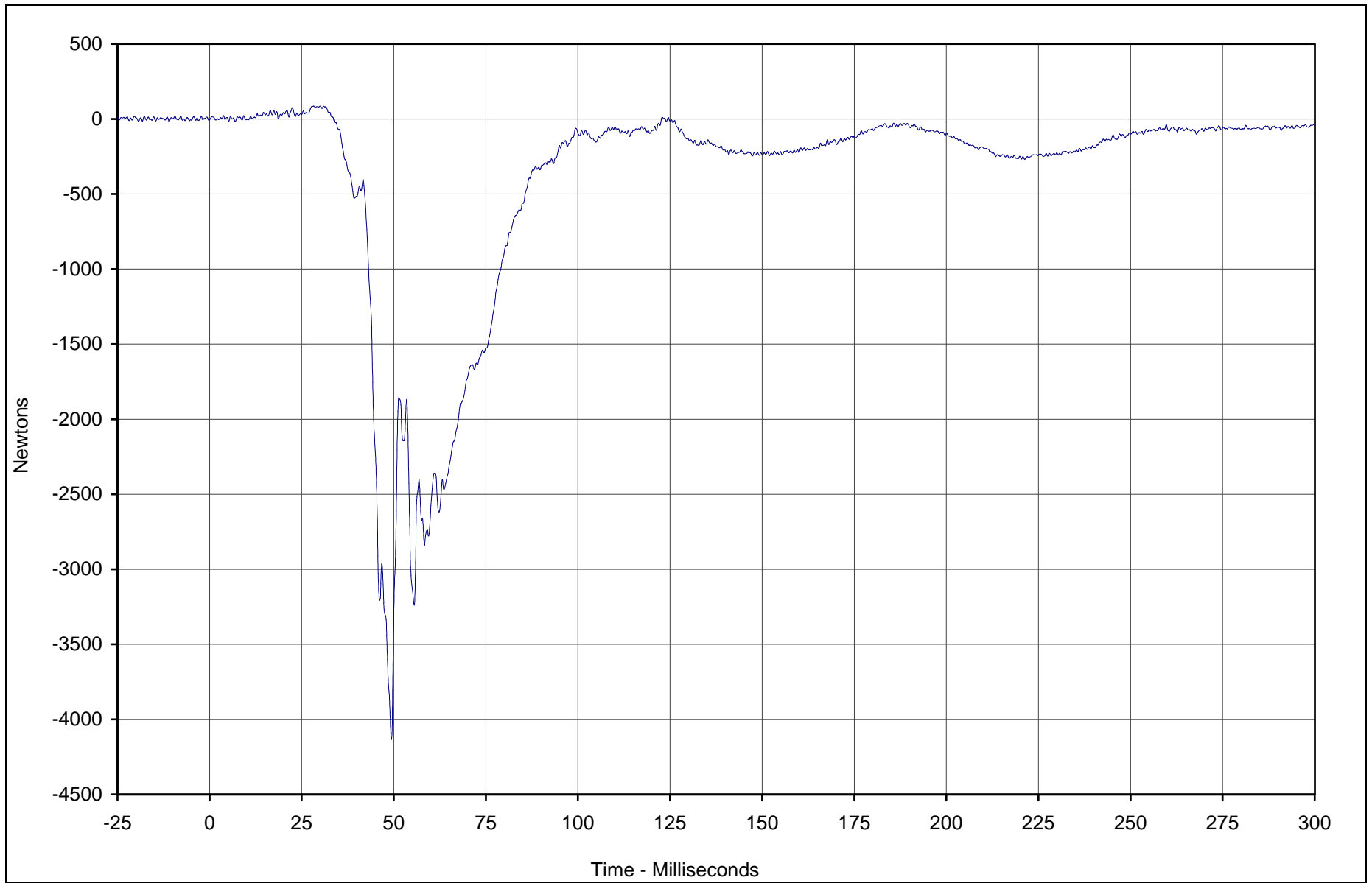
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-101



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Femur Force	067	FIL	Newtons	86.3	30.0	-4133.4	49.4	600

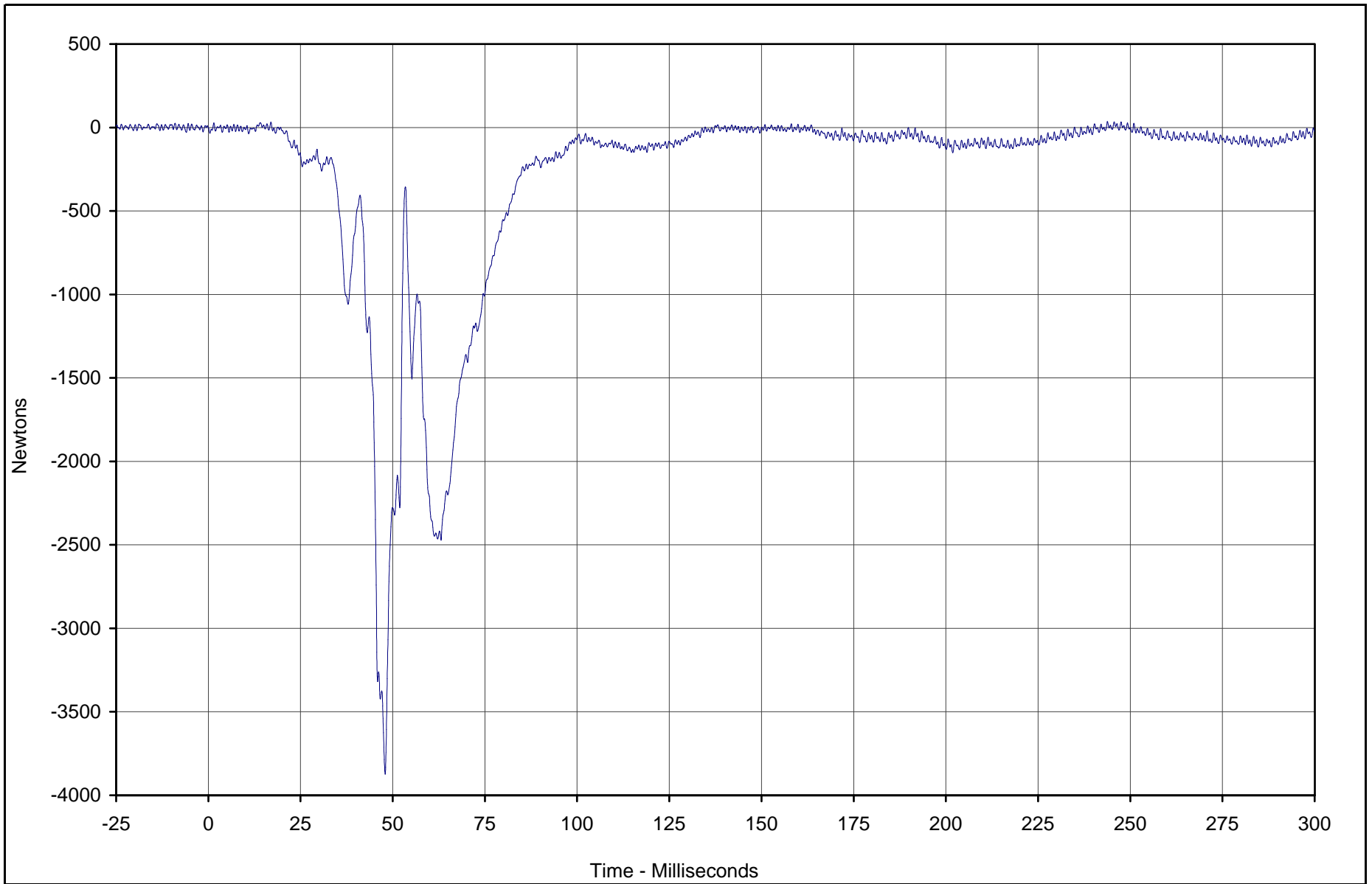


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Femur Force	068	FIL	Newtons	36.0	243.8	-3873.4	48.0	600



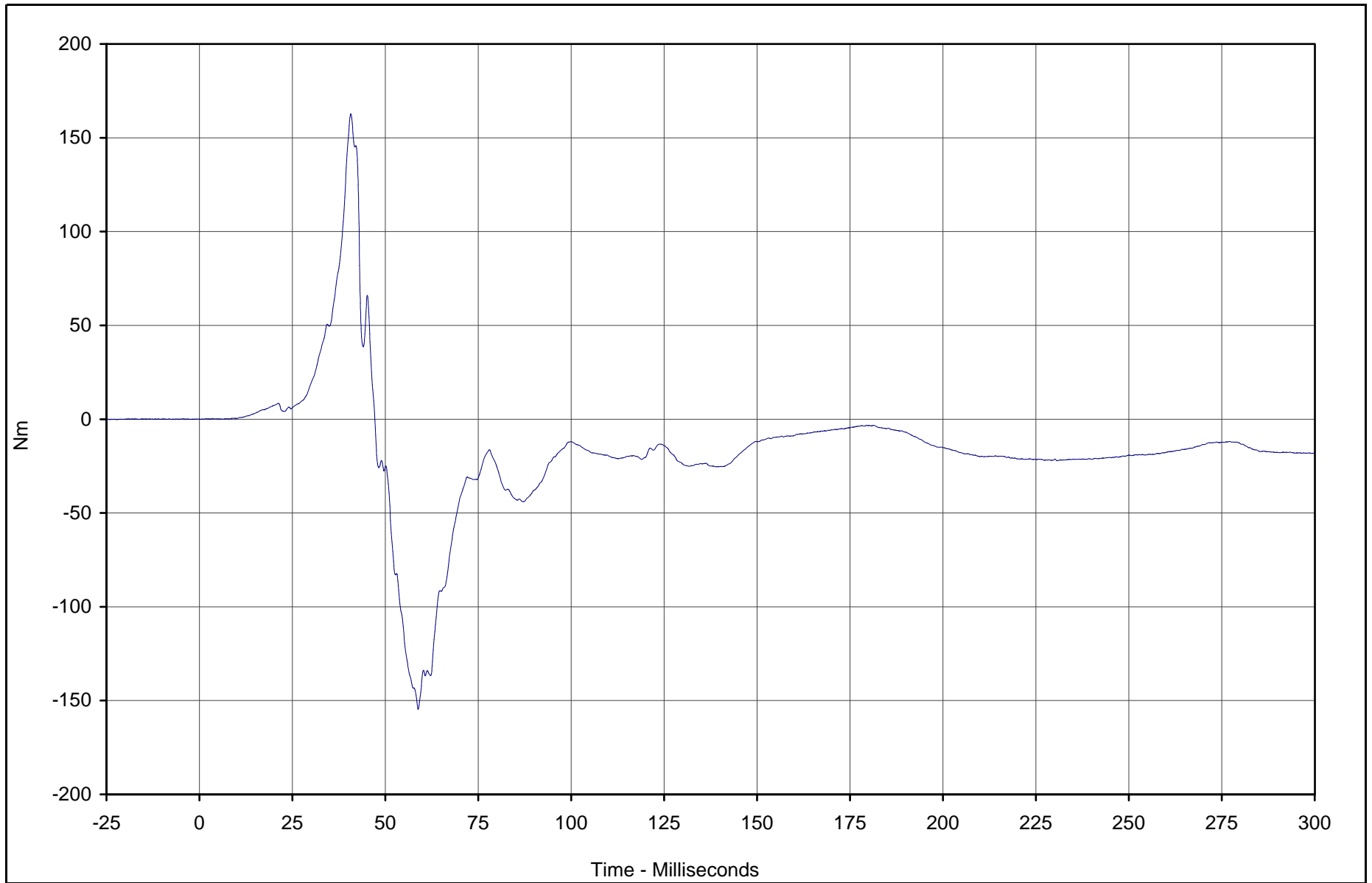
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-103



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Upper Tibia Moment X	069	FIL	Nm	162.8	40.7	-154.7	58.8	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

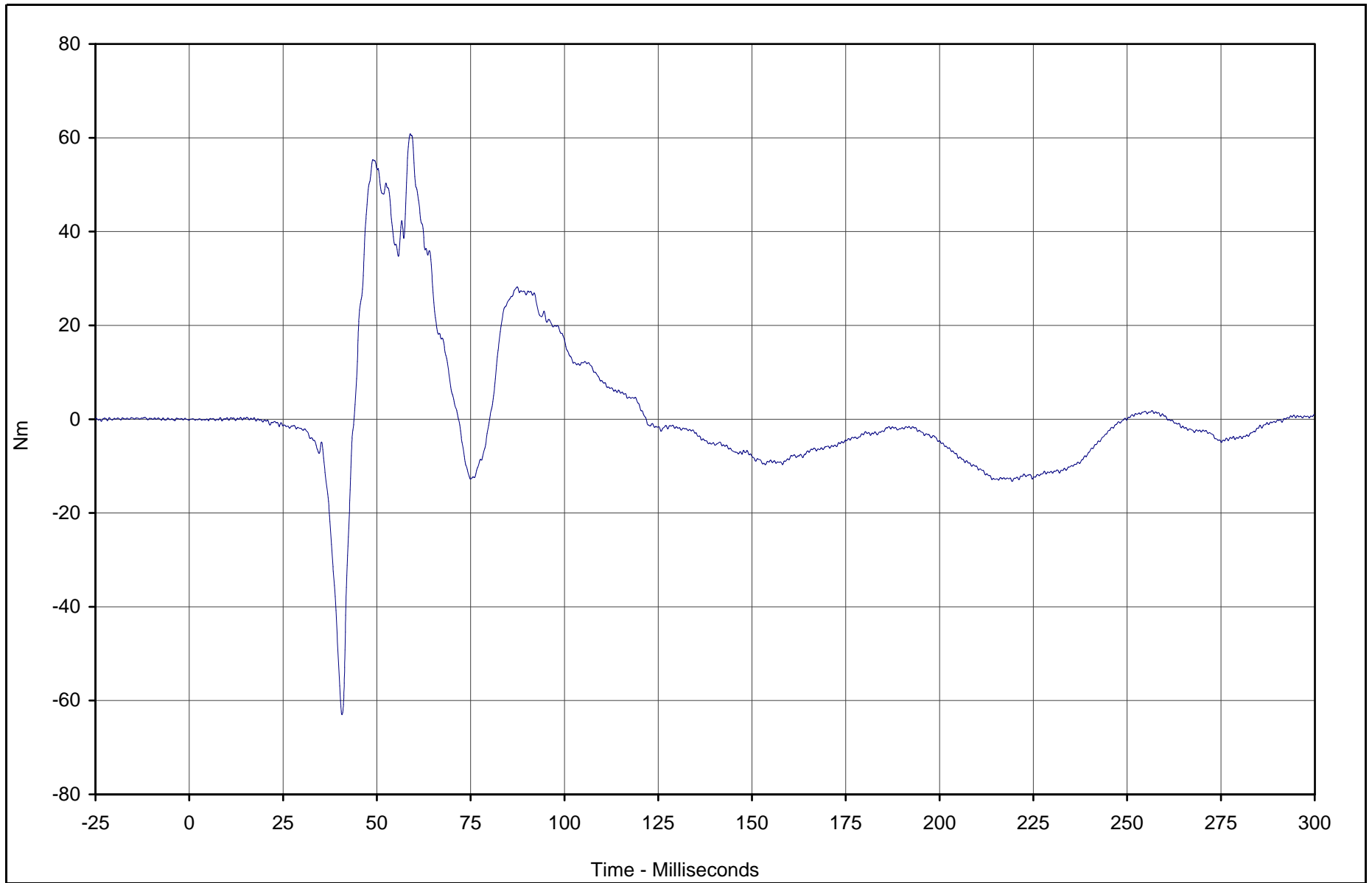
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-104



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Upper Tibia Moment Y	070	FIL	Nm	60.9	58.9	-63.0	40.7	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

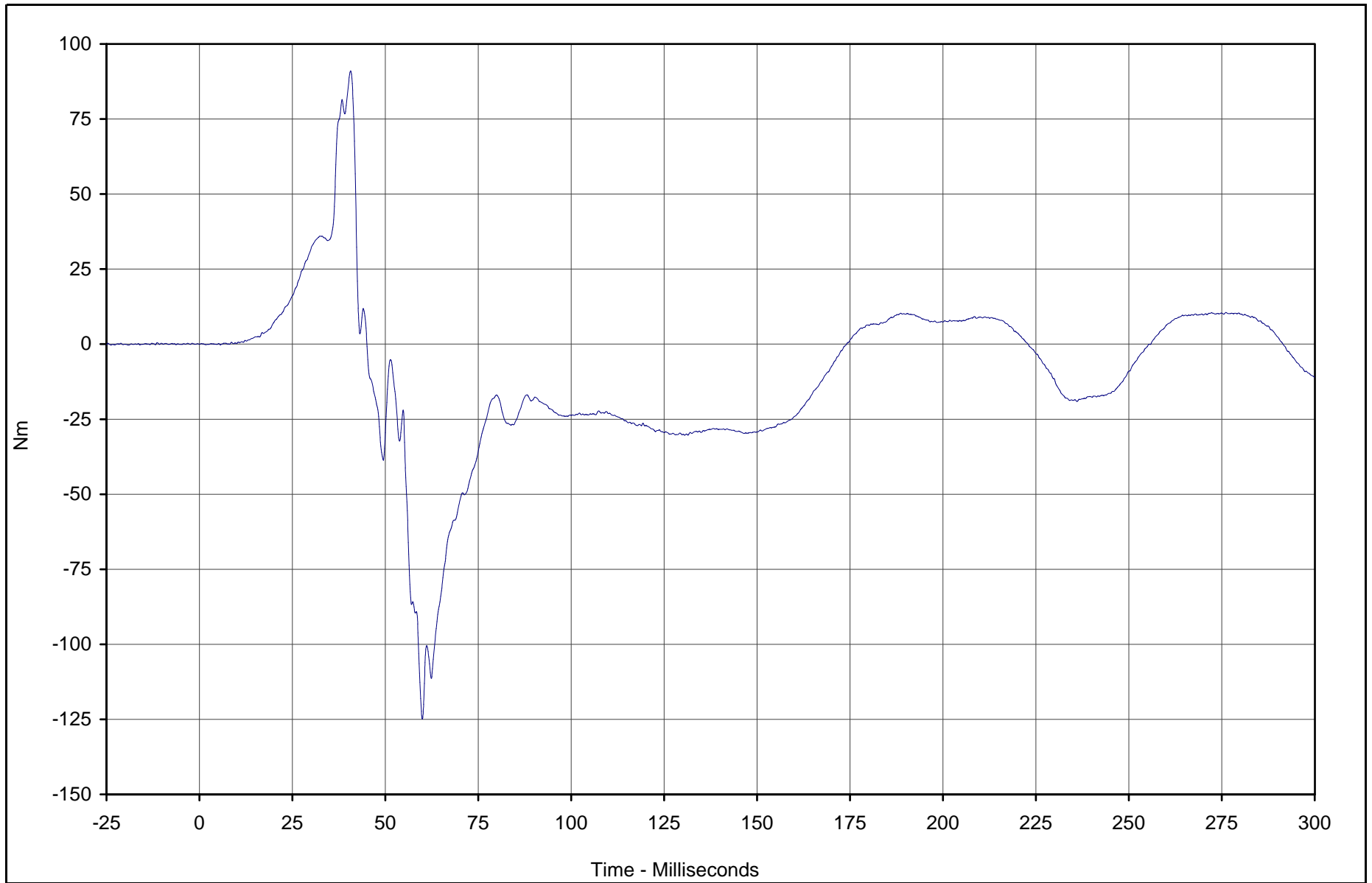
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-105



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Upper Tibia Moment X	071	FIL	Nm	91.1	40.7	-124.9	60.0	600

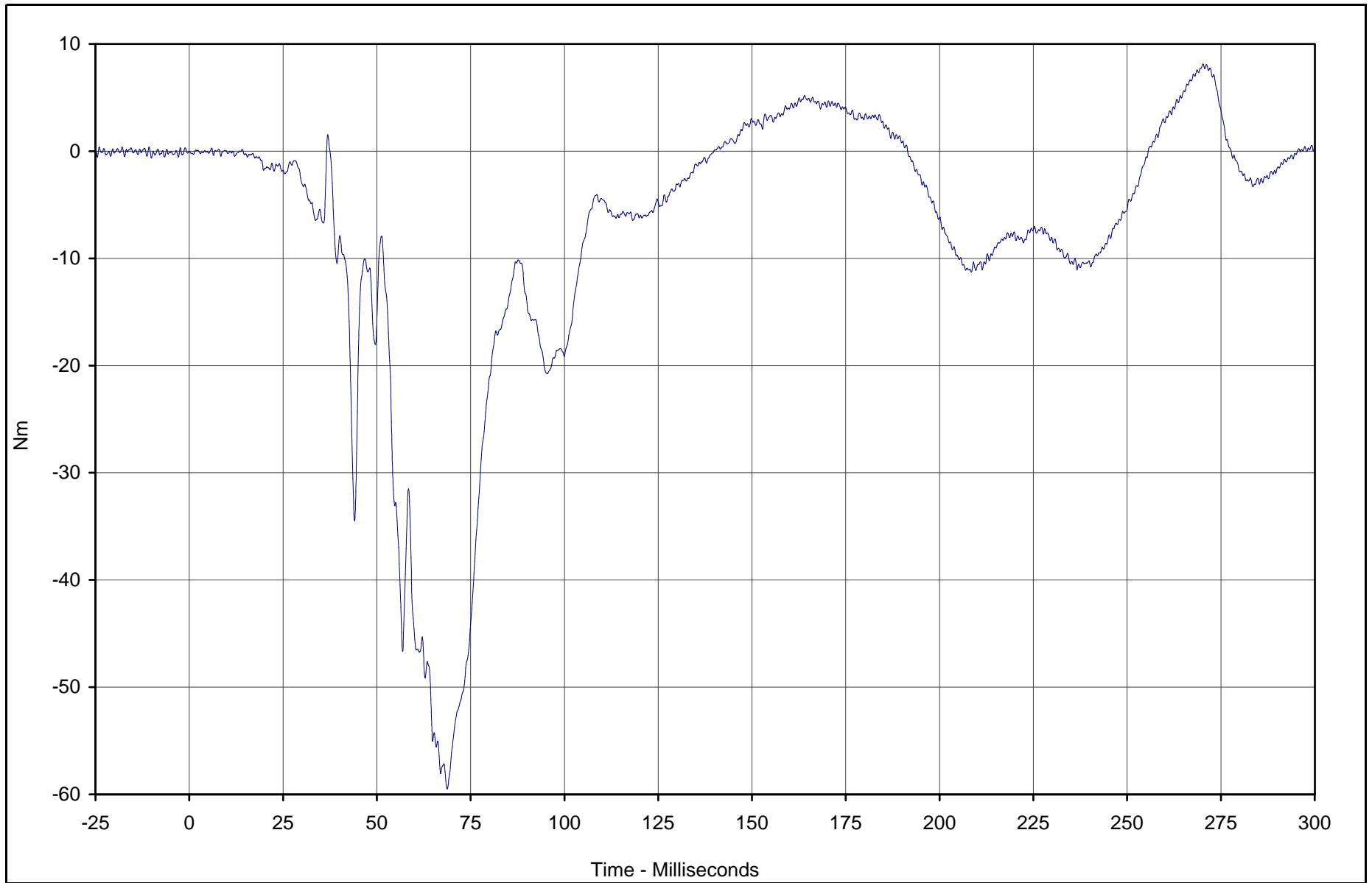


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Upper Tibia Moment Y	072	FIL	Nm	8.1	270.2	-59.5	68.8	600



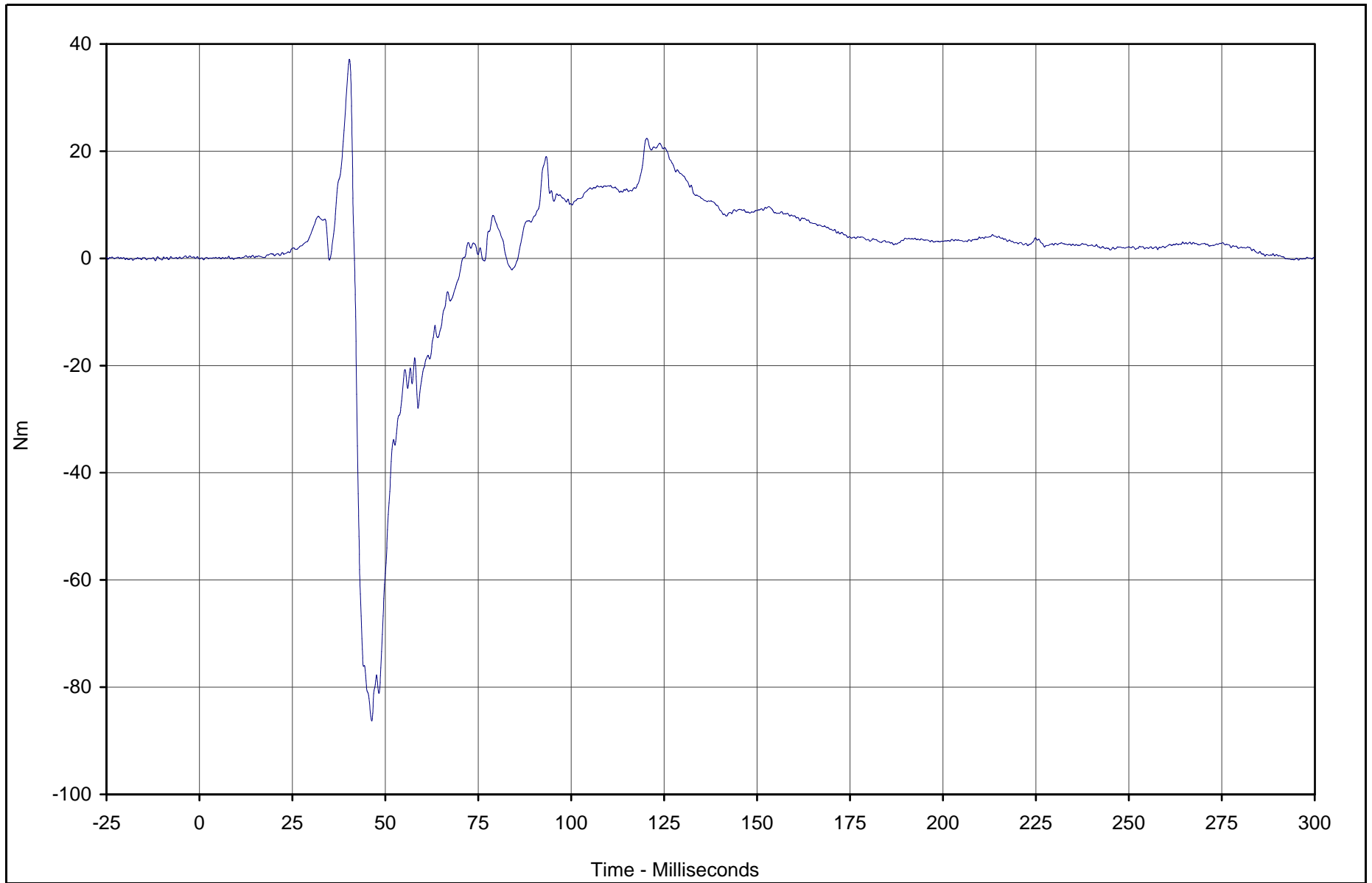
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-107



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Moment X	073	FIL	Nm	37.1	40.4	-86.3	46.4	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

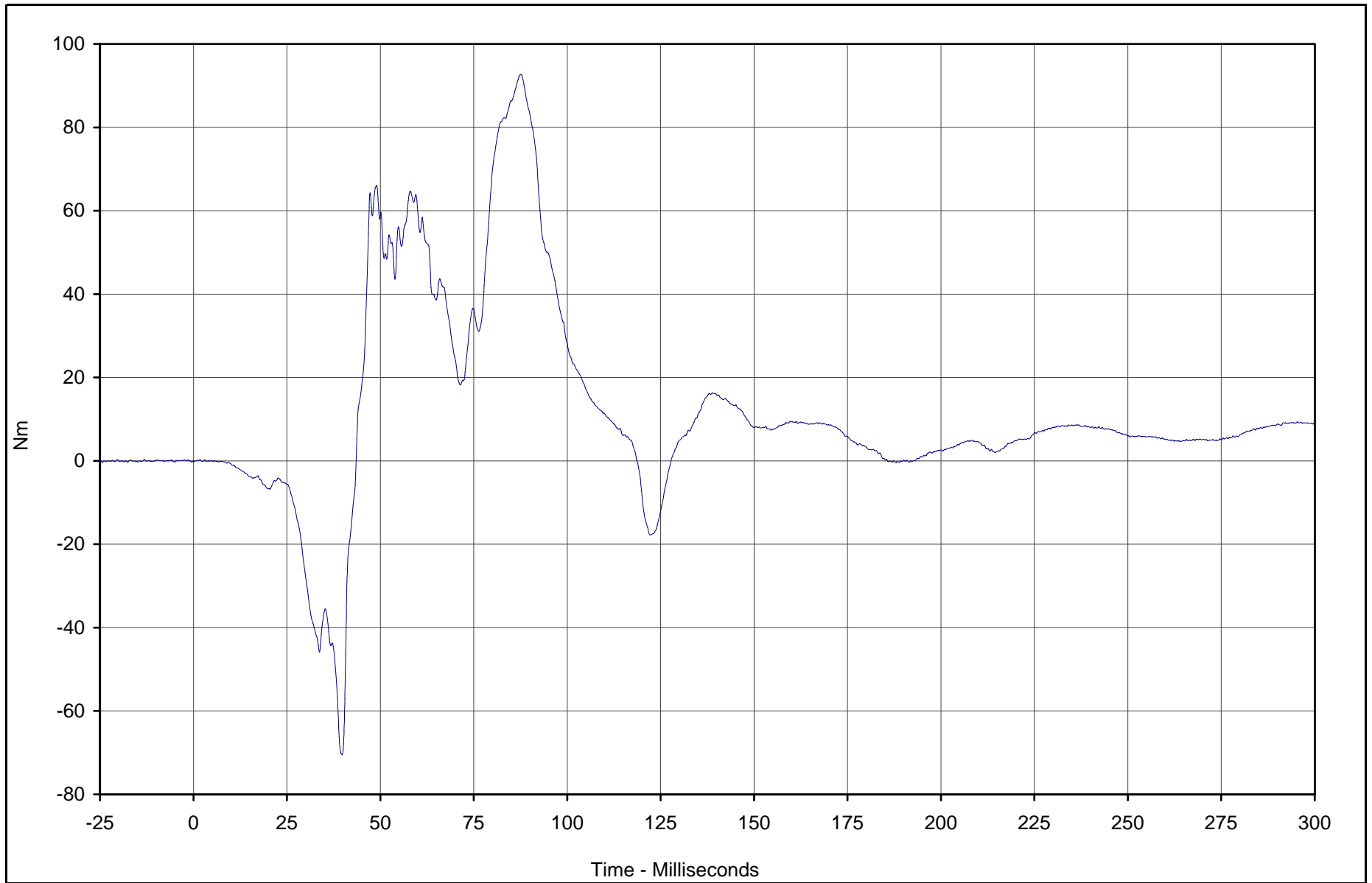
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-108



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Moment Y	074	FIL	Nm	92.7	87.6	-70.5	39.8	600



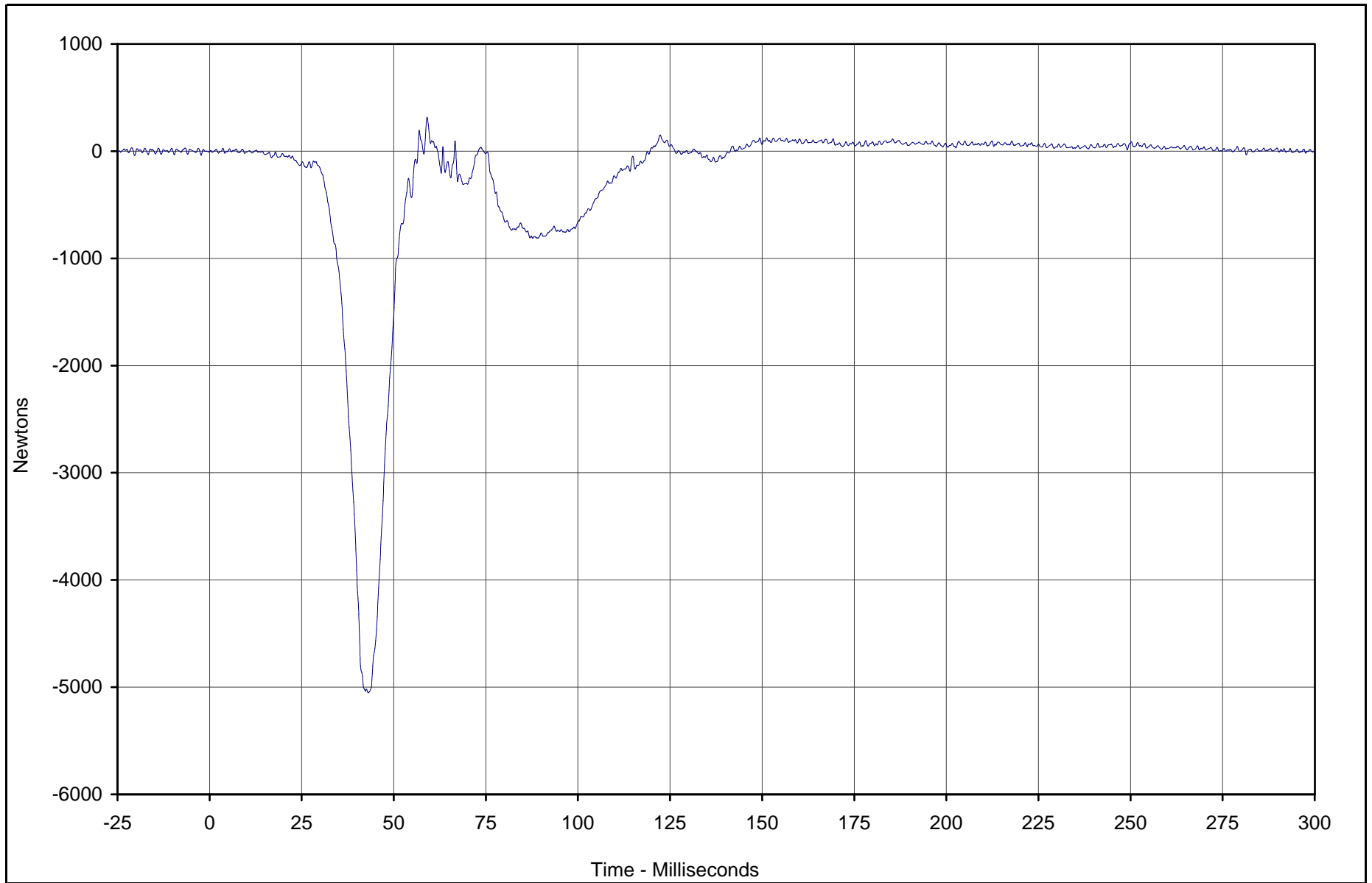
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Lower Tibia Force Z	075	FIL	Newtons	316.9	59.0	-5052.0	43.1	600



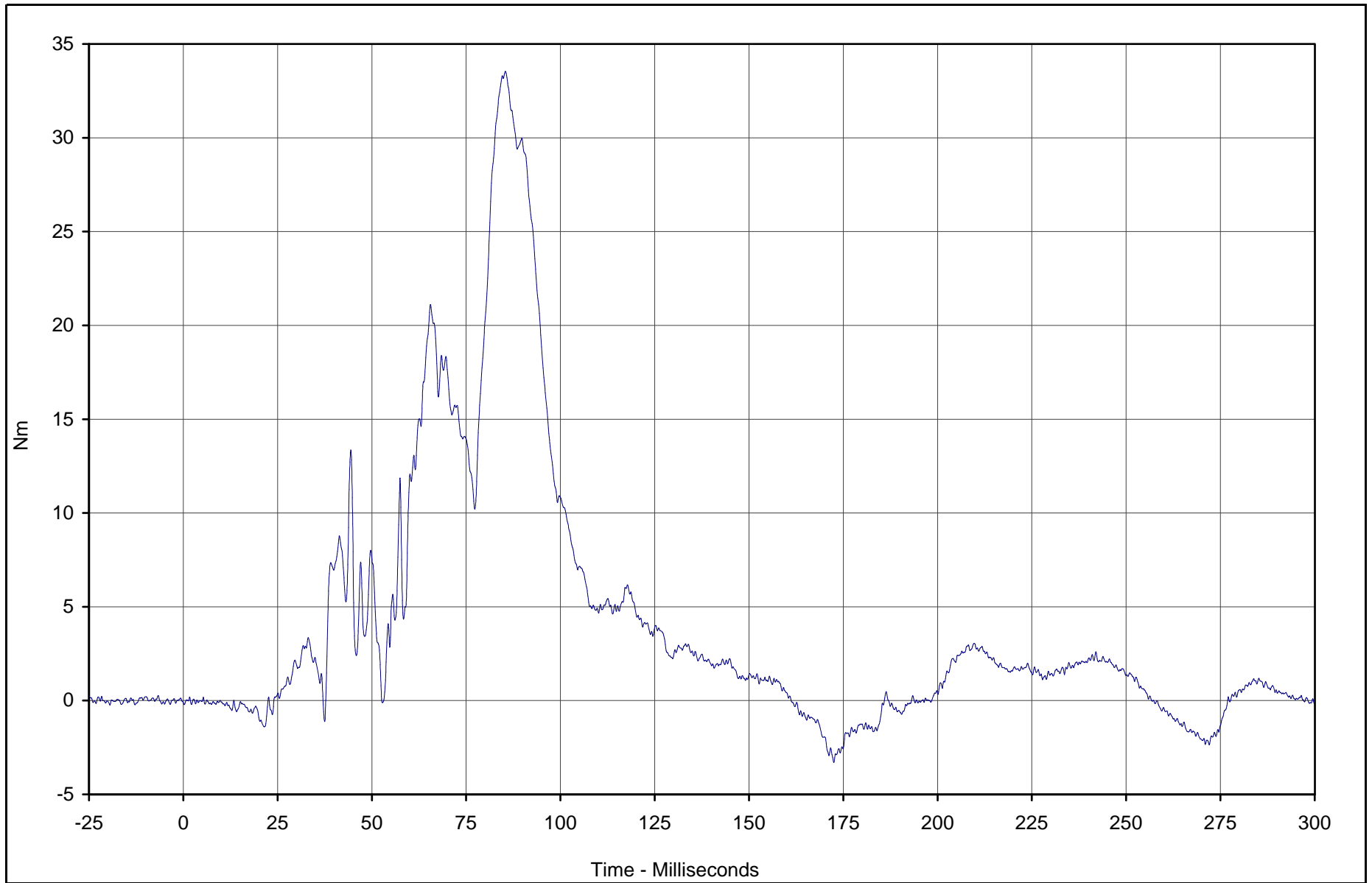
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Lower Tibia Moment X	076	FIL	Nm	33.5	85.4	-3.3	172.5	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

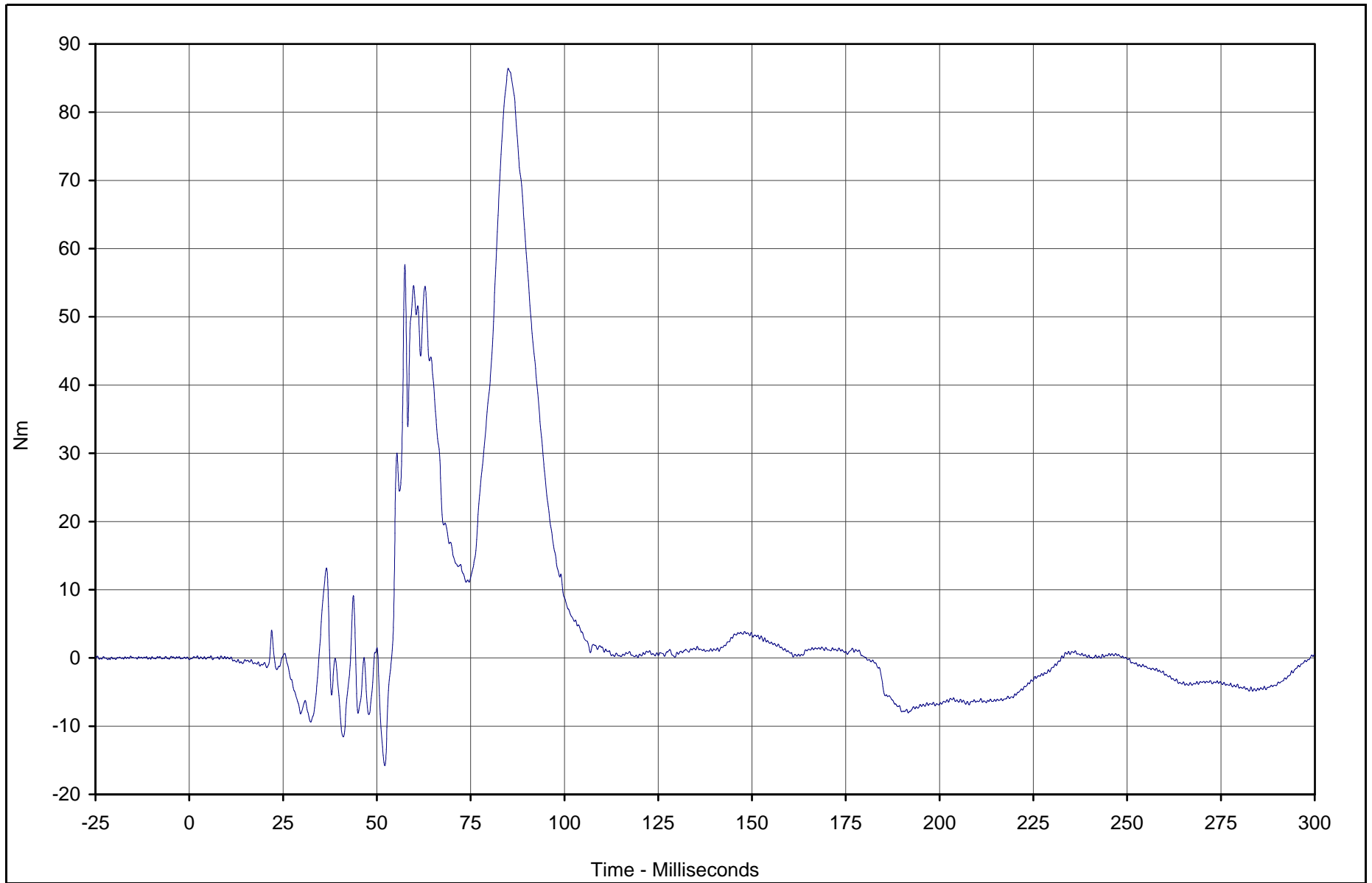
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-111



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Lower Tibia Moment Y	077	FIL	Nm	86.4	85.0	-15.8	52.1	600



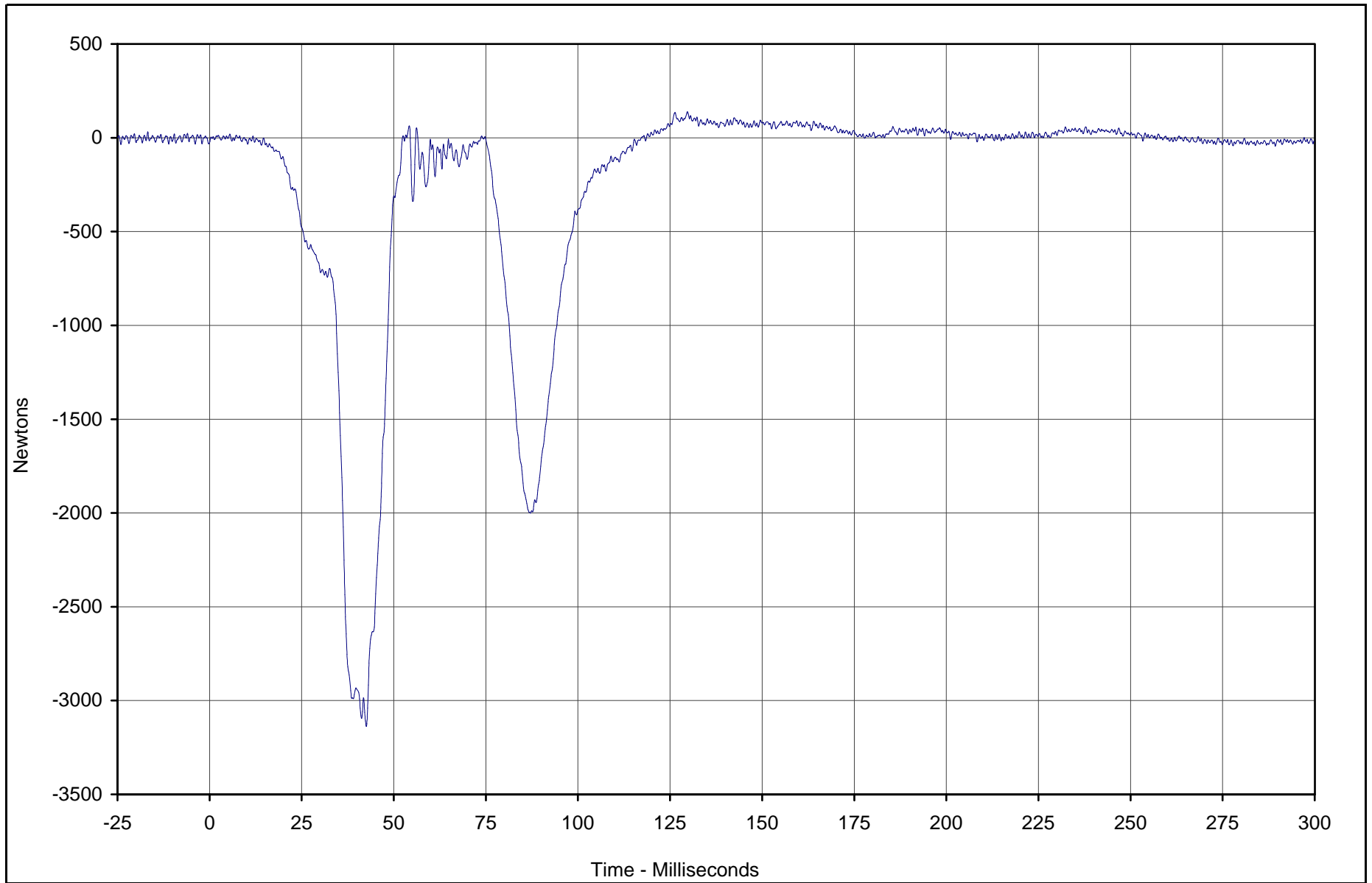
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-112



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right lower Tibia Force Z	078	FIL	Newtons	139.1	129.7	-3138.1	42.6	600



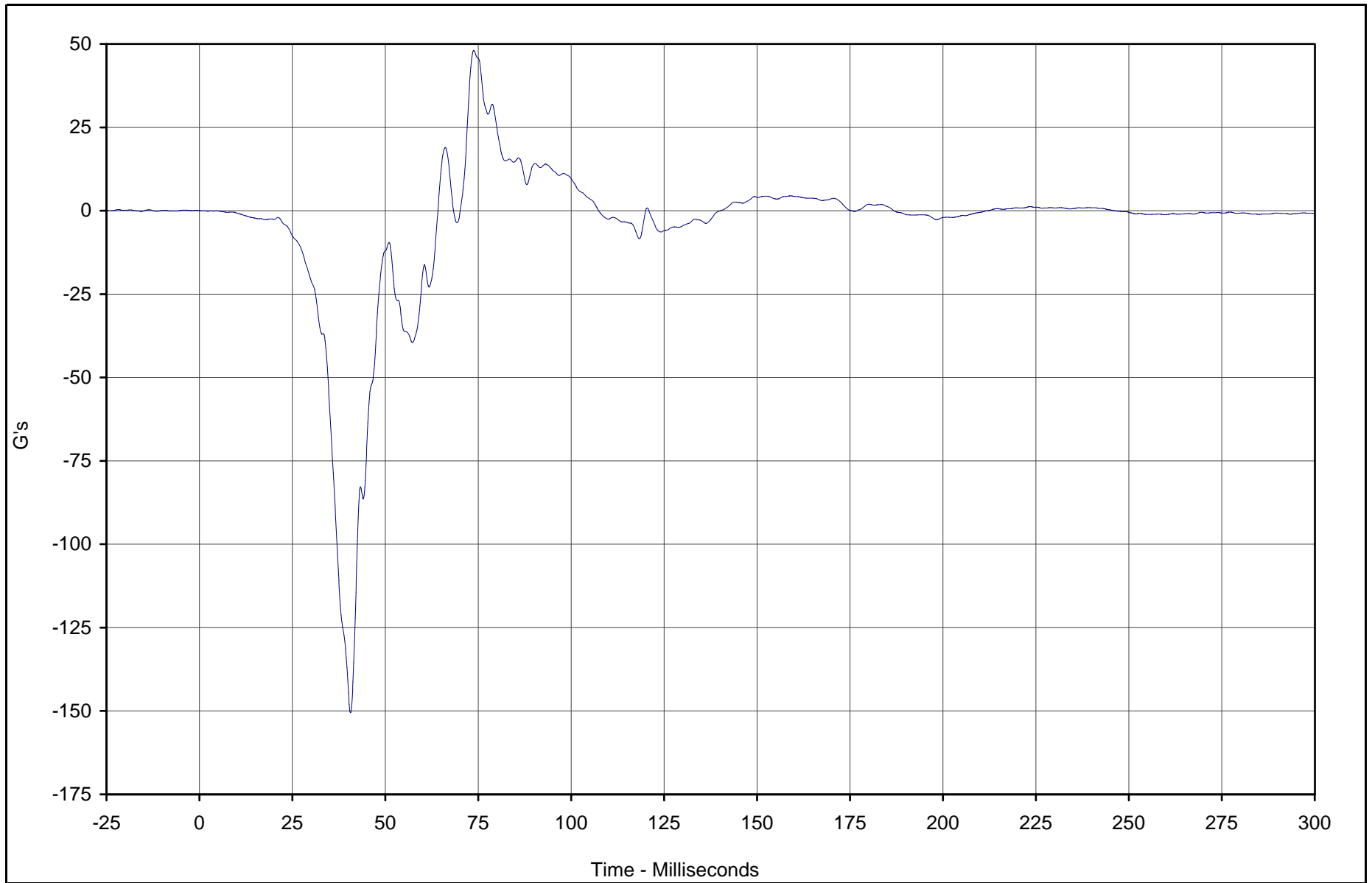
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Aft X	079	FIL	G's	48.1	73.8	-150.5	40.6	180

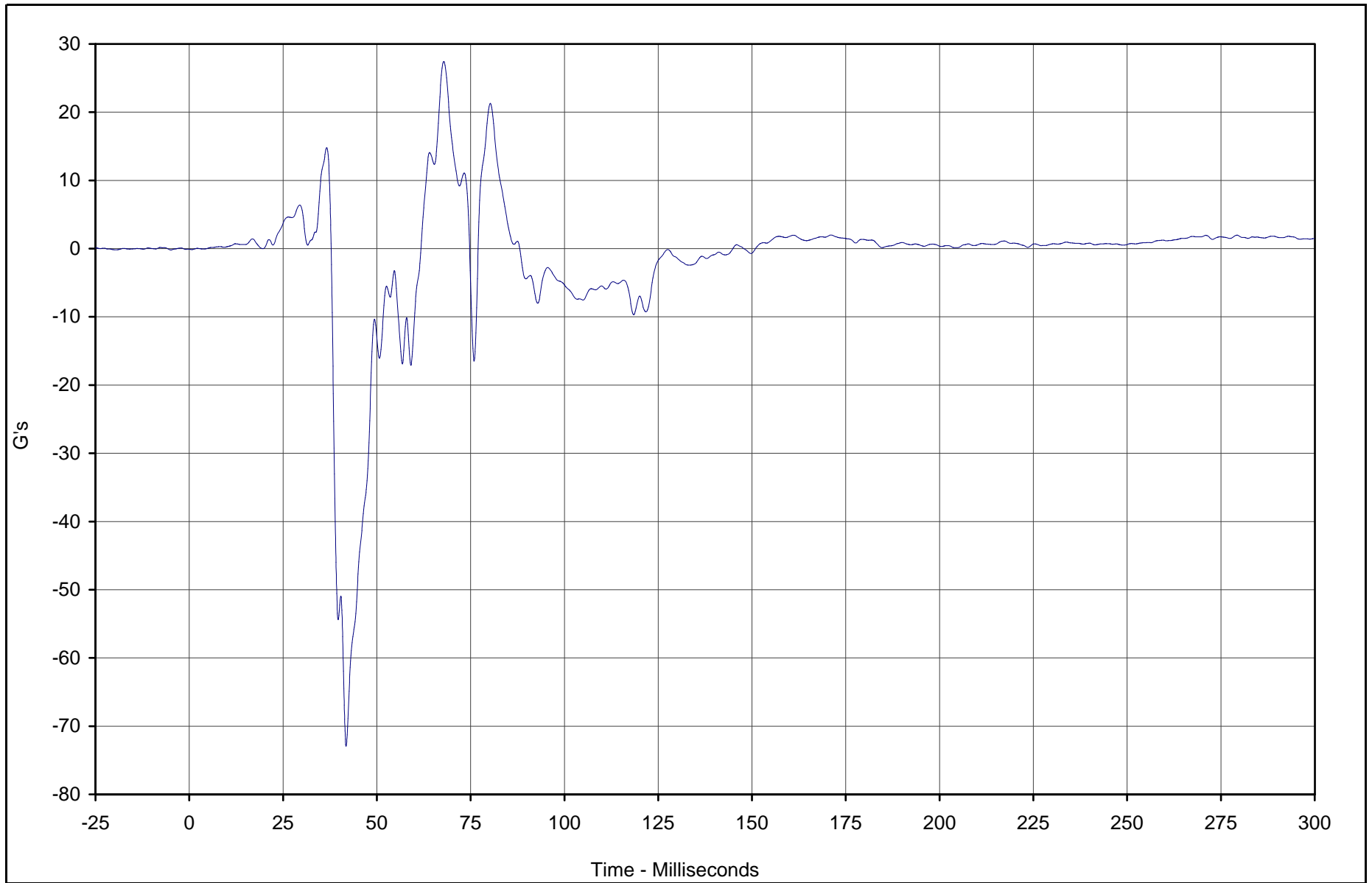


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Aft Z	080	FIL	G's	27.5	67.8	-73.0	41.8	180

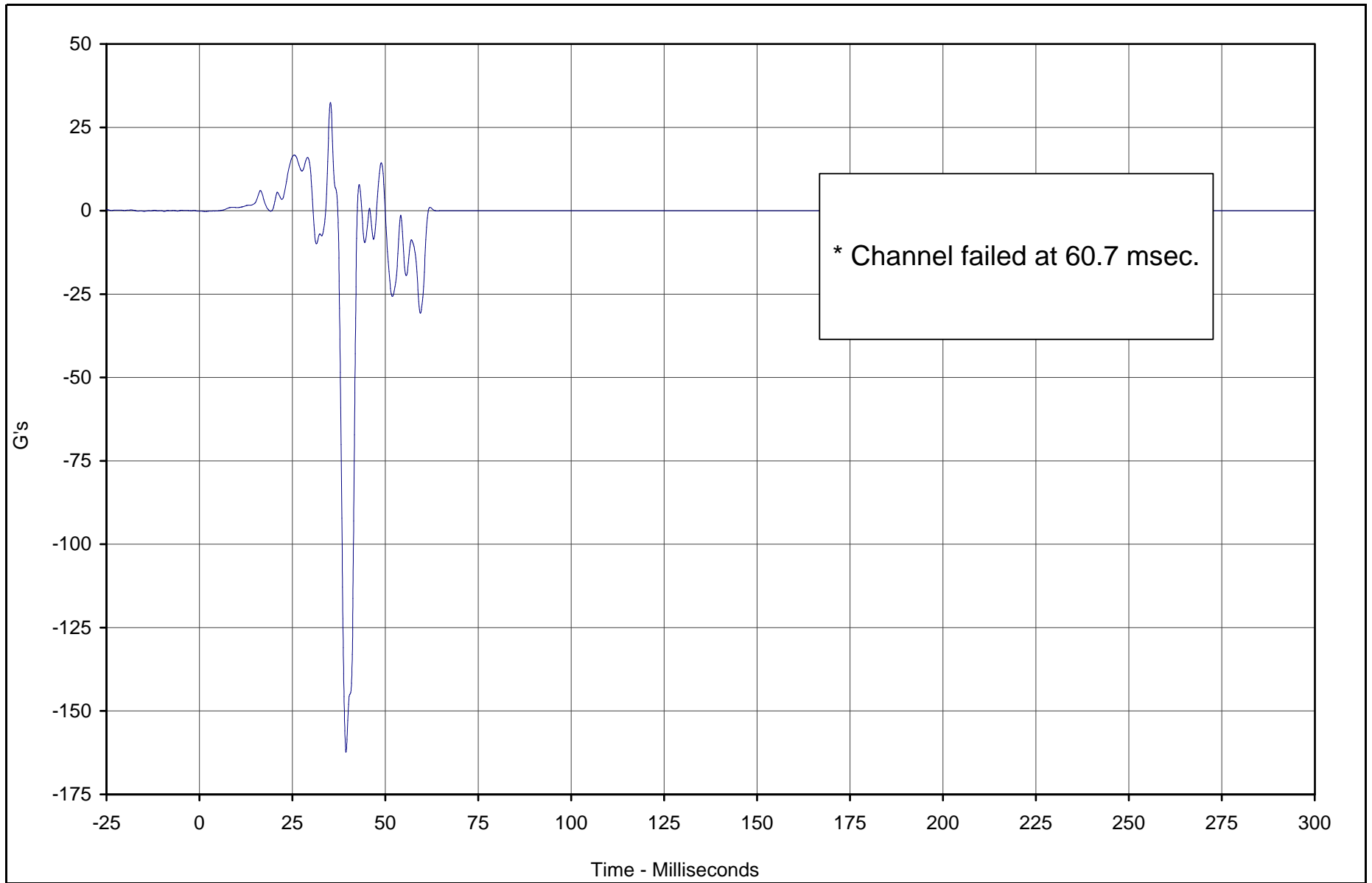


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



* Channel failed at 60.7 msec.

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Left Foot Fore Z	081	FIL	G's	32.5	35.2	-162.4	39.4	180

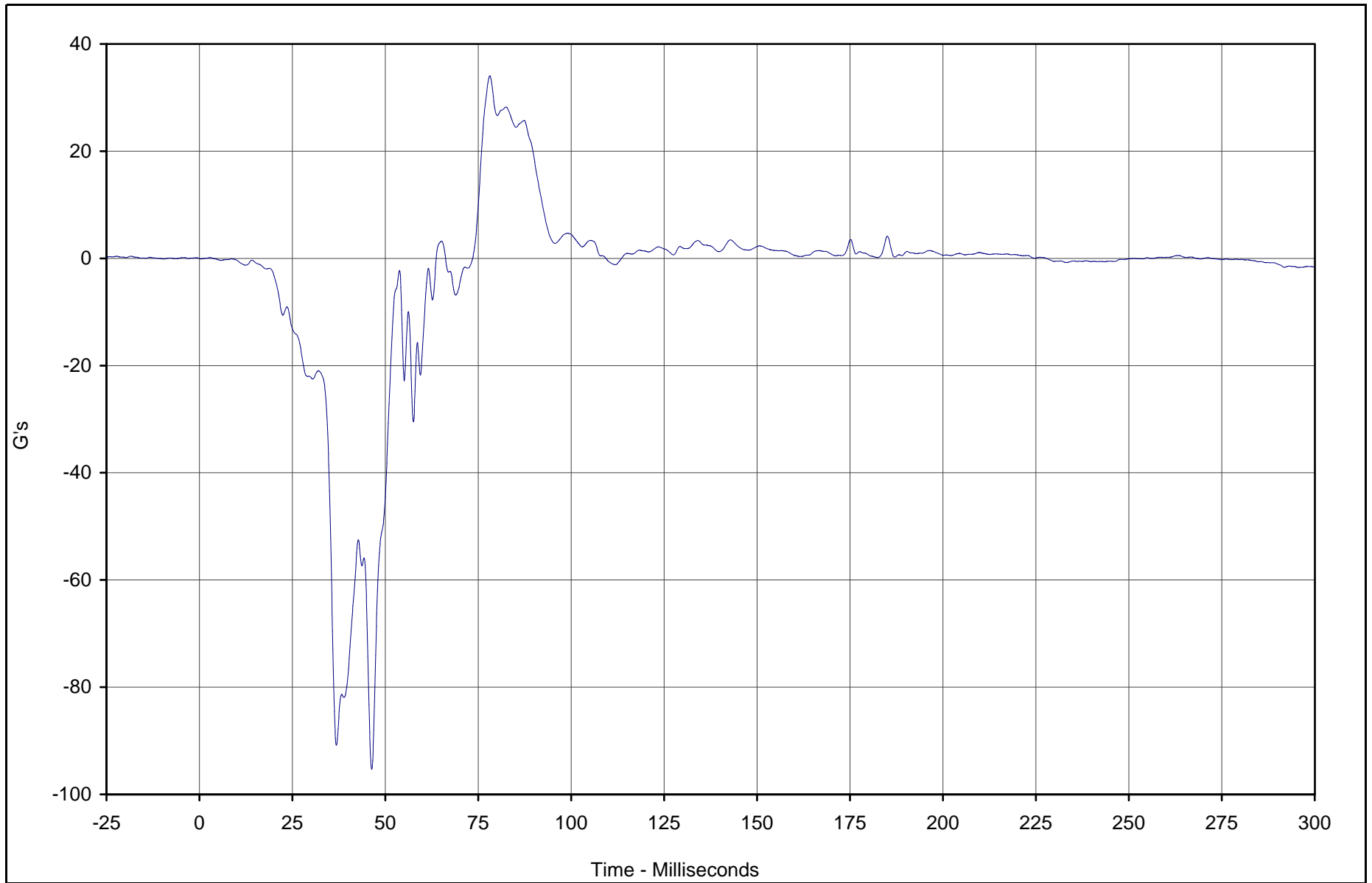


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Aft X	082	FIL	G's	34.1	78.1	-95.3	46.3	180

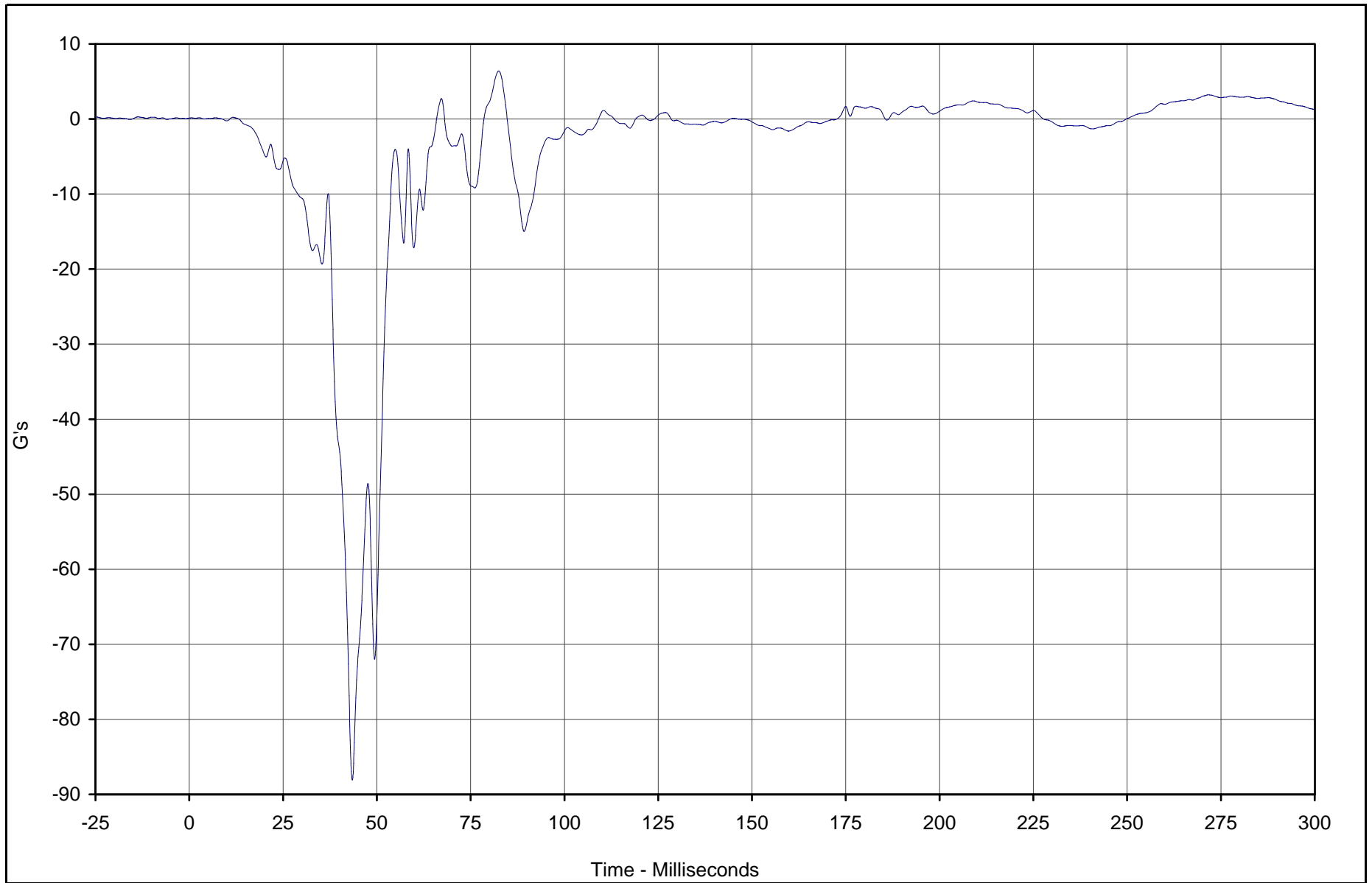


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Aft Z	083	FIL	G's	6.4	82.5	-88.1	43.4	180

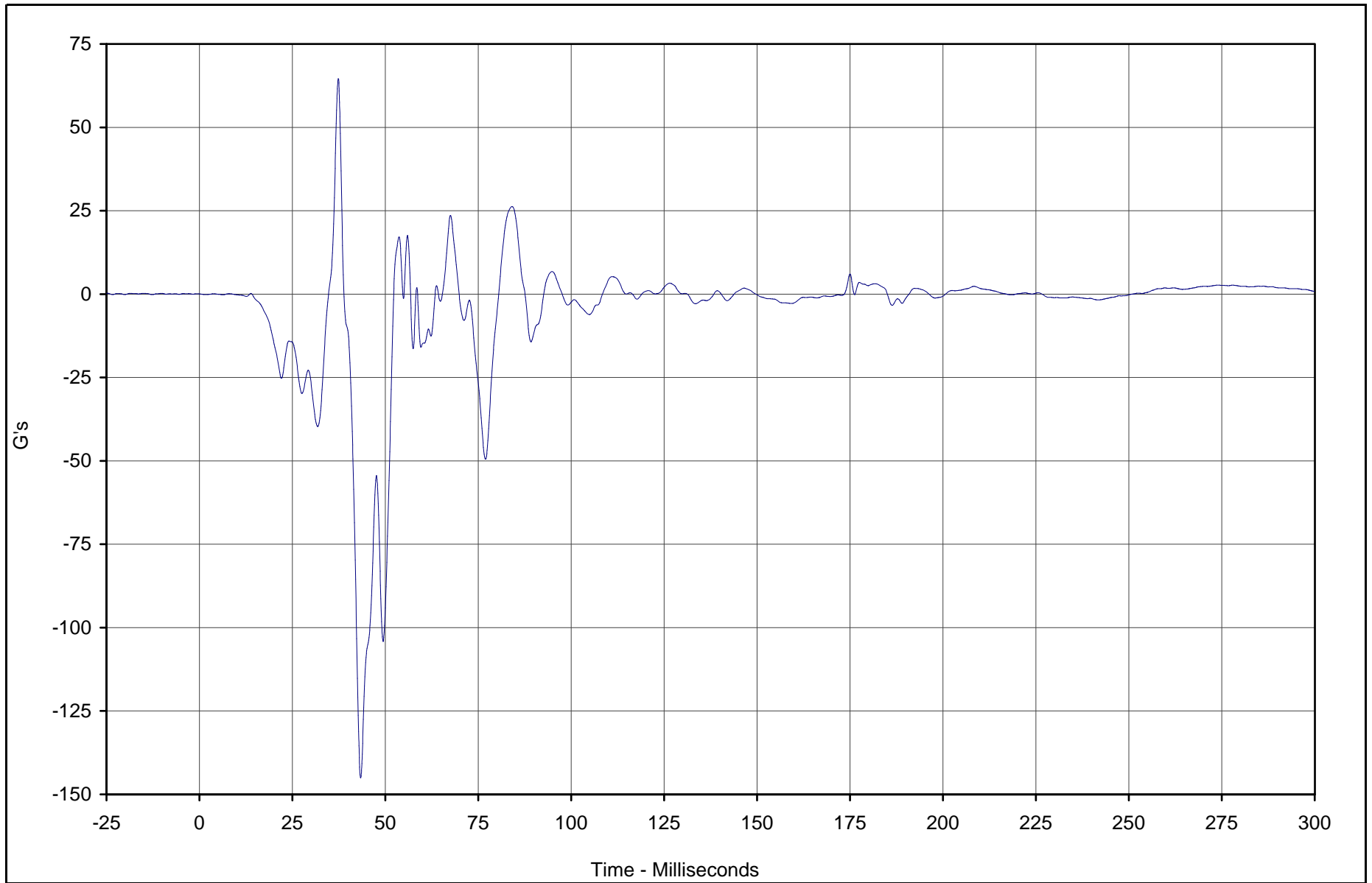


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Right Foot Fore Z	084	FIL	G's	64.6	37.3	-145.1	43.4	180

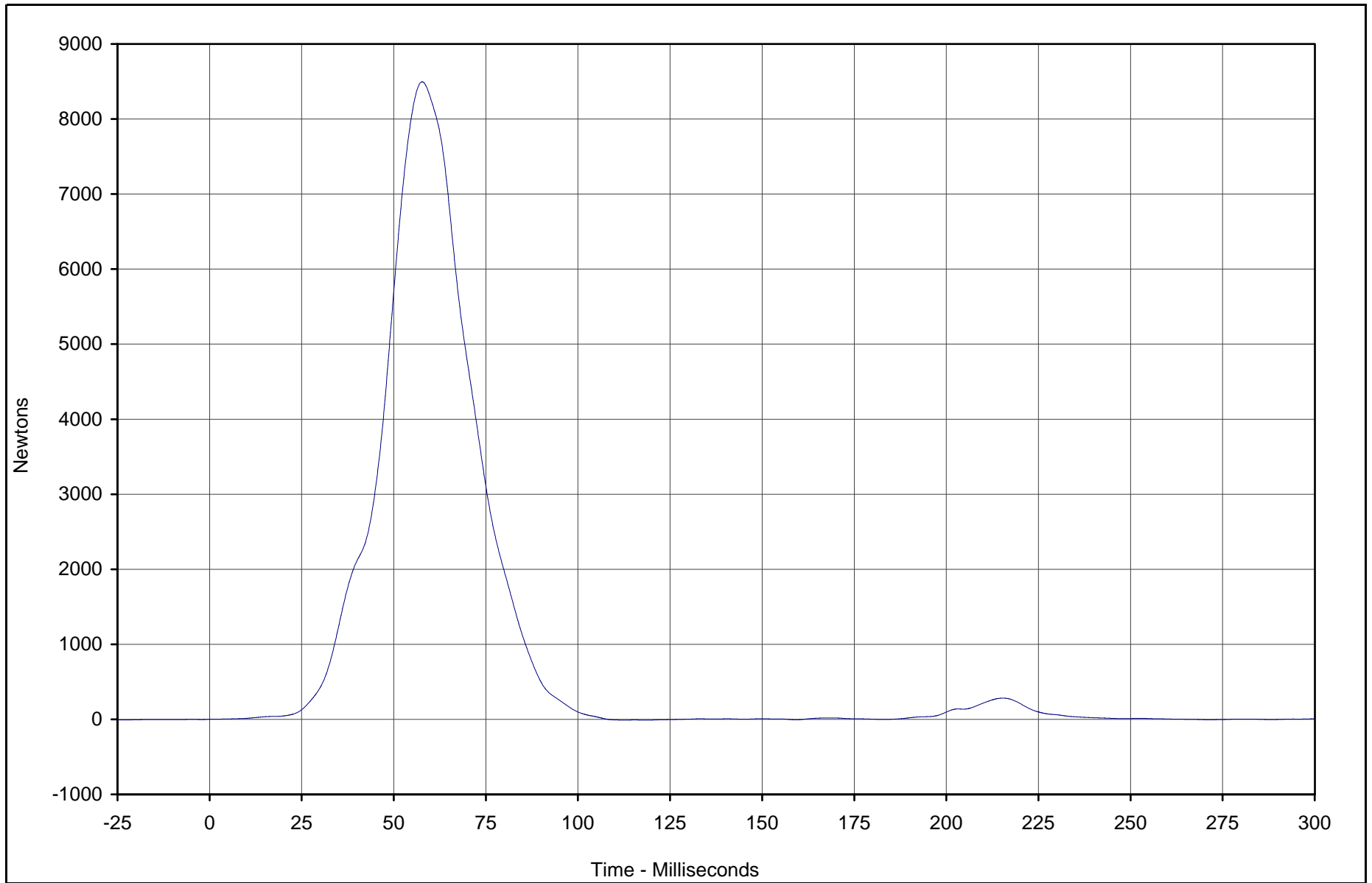


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Lap Belt Force	085	FIL	Newtons	8496.7	57.7	-10.7	118.6	60



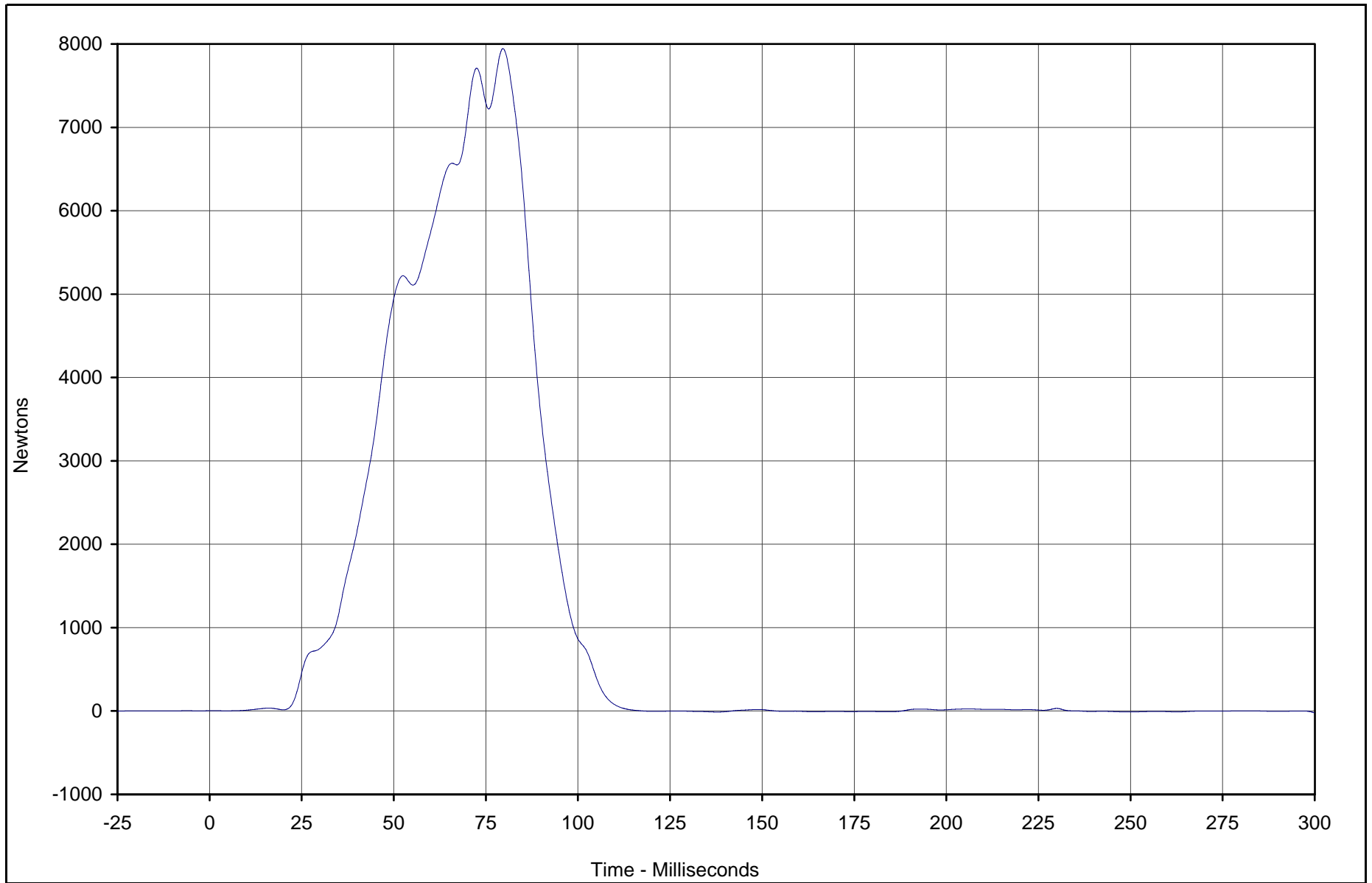
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-120



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Force	086	FIL	Newtons	7944.4	79.6	-22.0	299.9	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

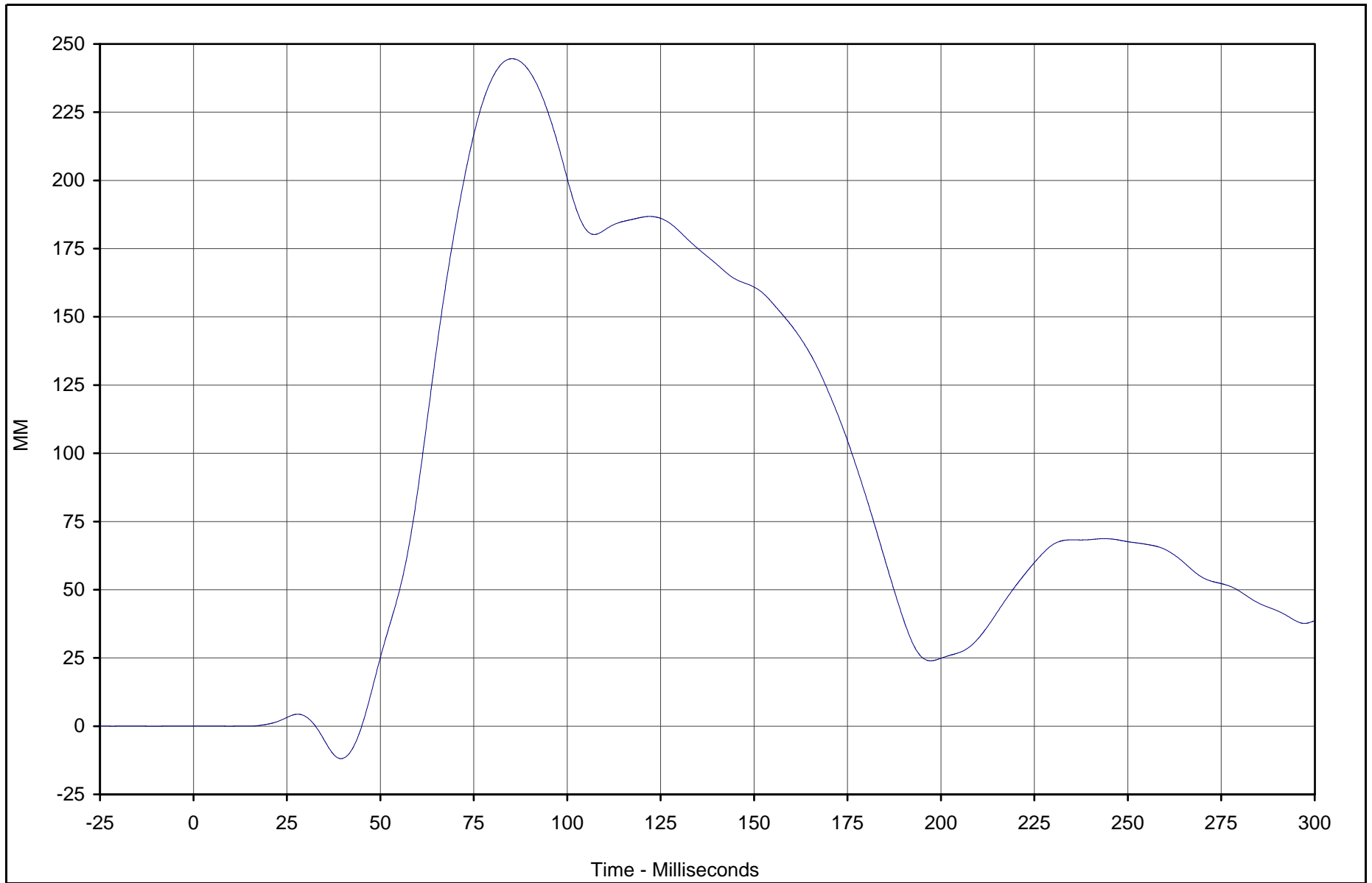
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-121



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Passenger Shoulder Belt Pullout	087	FIL	MM	244.6	85.3	-11.9	39.5	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

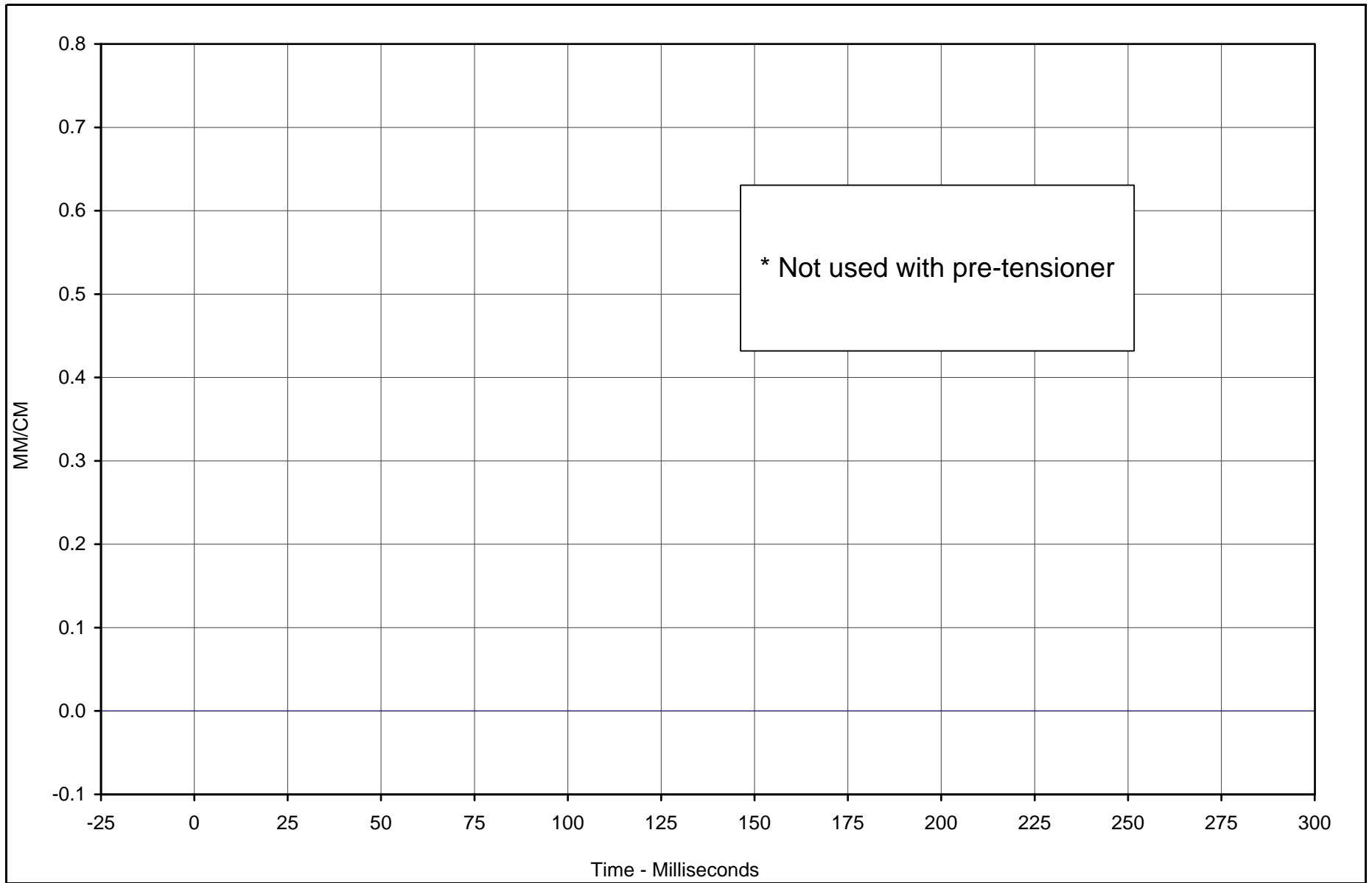
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

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: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

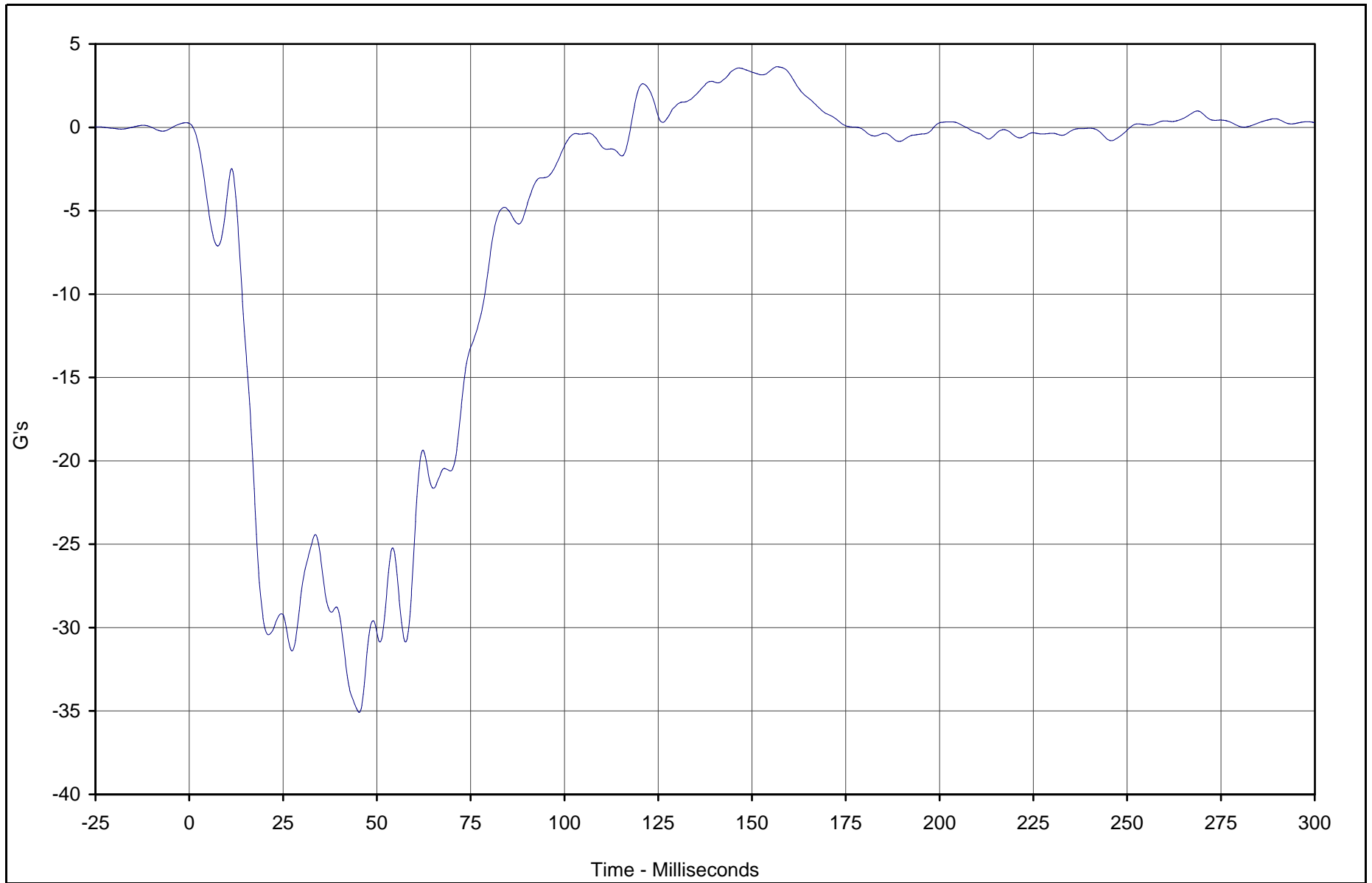
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-123



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X	089	FIL	G's	3.6	156.7	-35.1	45.3	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

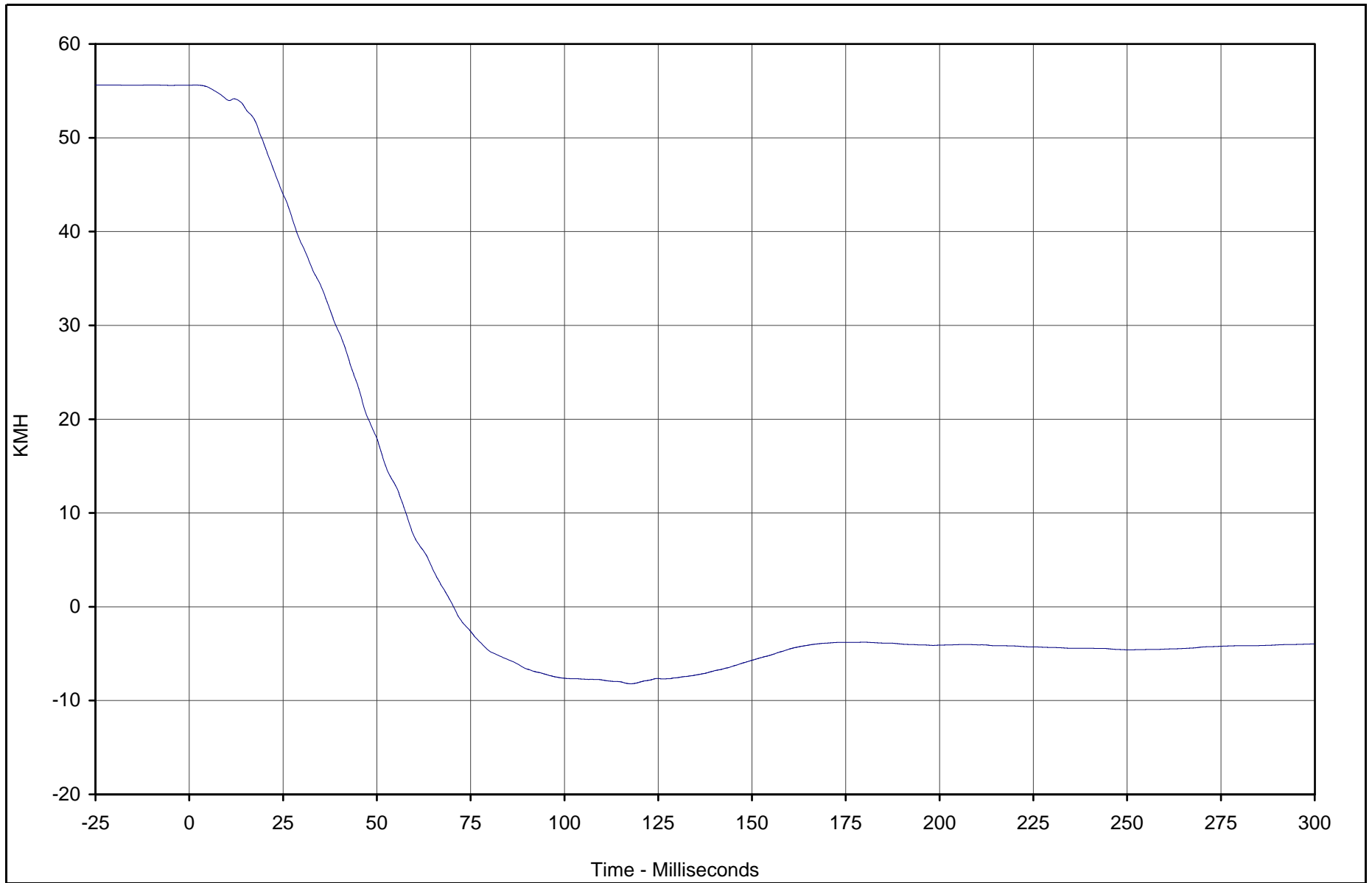
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-124



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X Velocity	089	IN1	KMH	55.6	1.8	-8.2	117.8	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

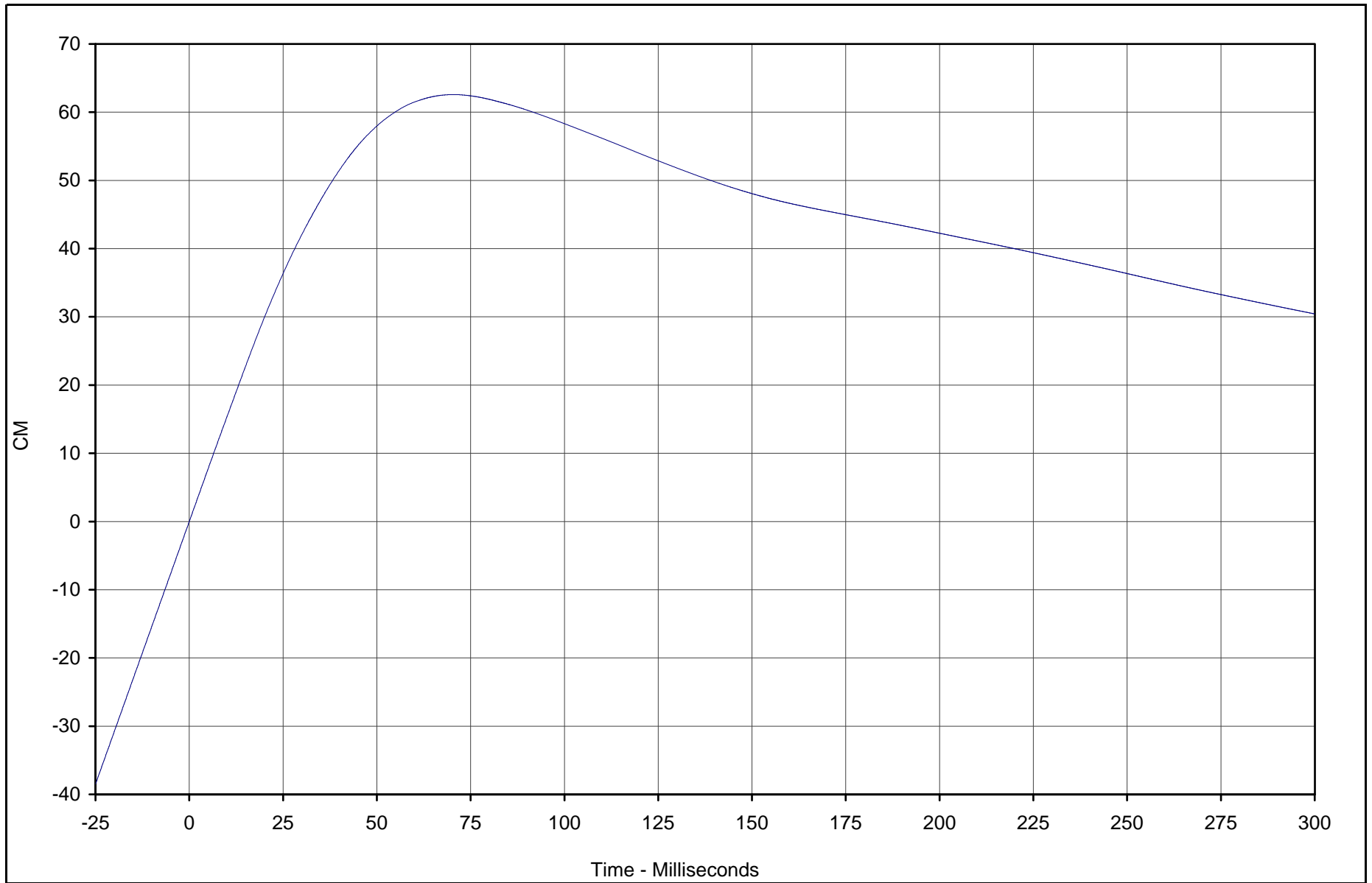
Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-125

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear X Displ.	089	IN2	CM	62.6	70.5	0.0	0.0	180

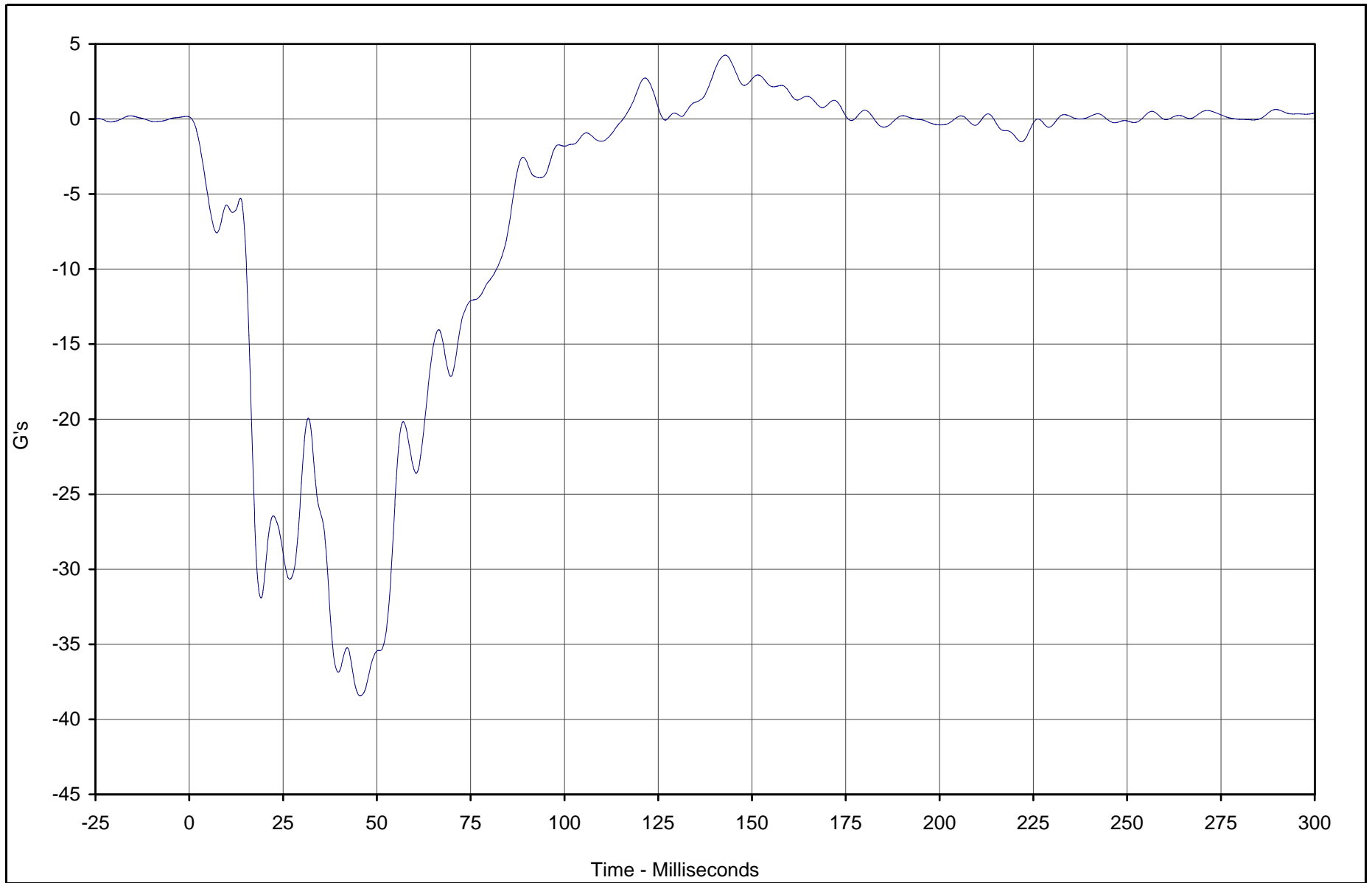


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X	090	FIL	G's	4.3	142.9	-38.4	45.6	60



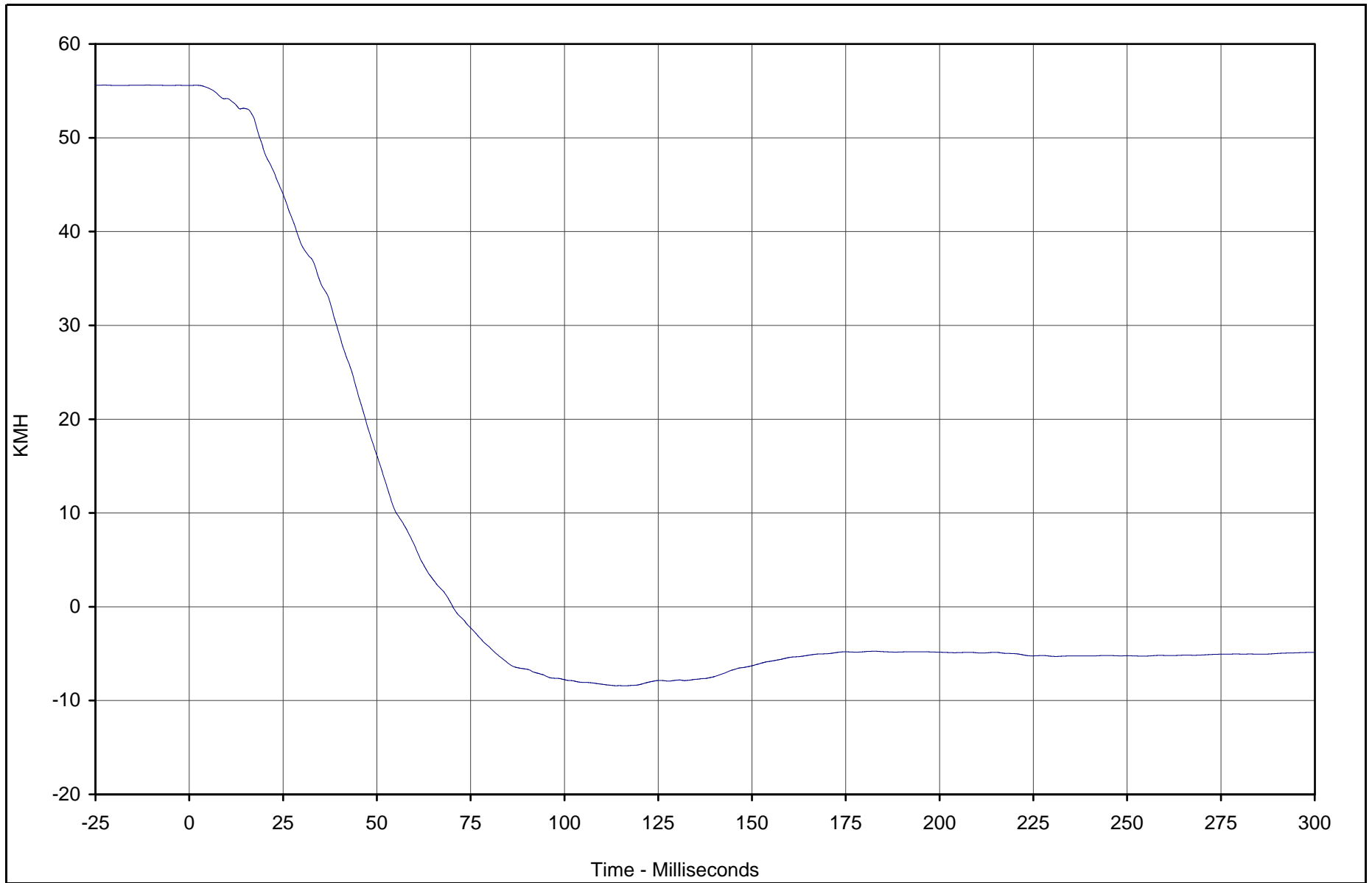
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-127



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X Velocity	090	IN1	KMH	55.6	2.0	-8.4	116.1	180



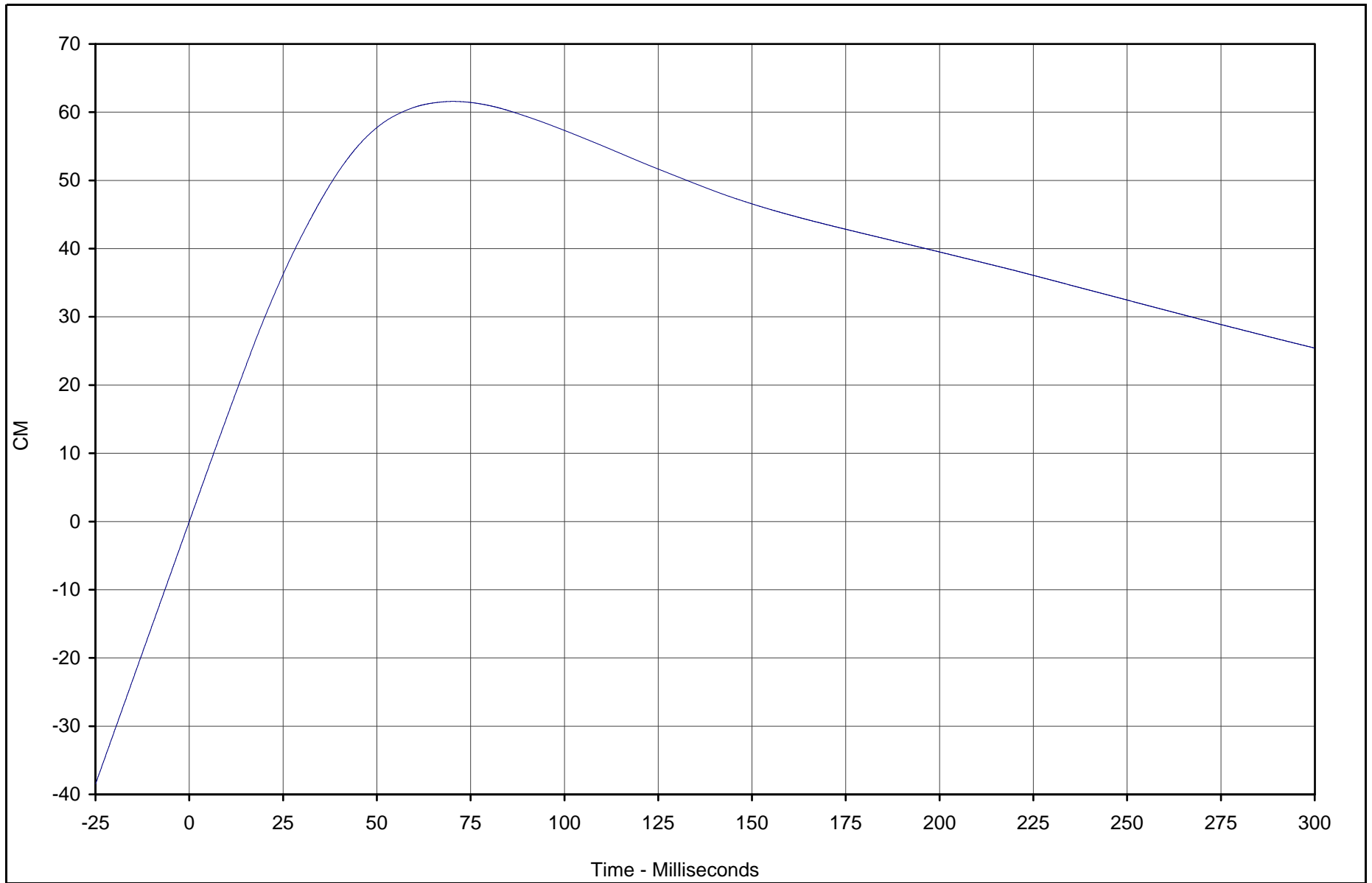
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear X Displ.	090	IN2	CM	61.6	70.3	0.0	0.0	180



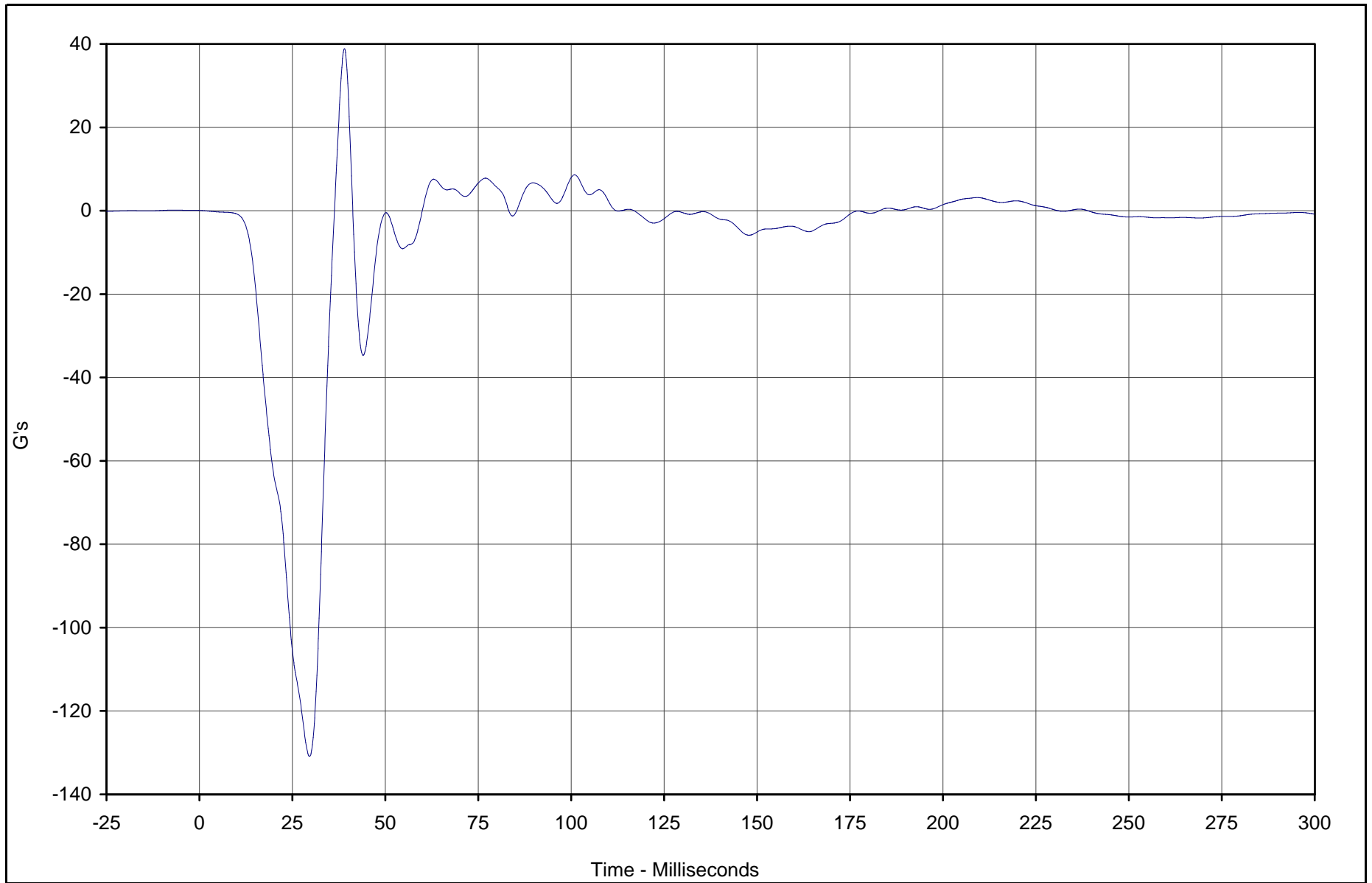
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-129



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top	091	FIL	G's	38.9	39.0	-130.9	29.6	60



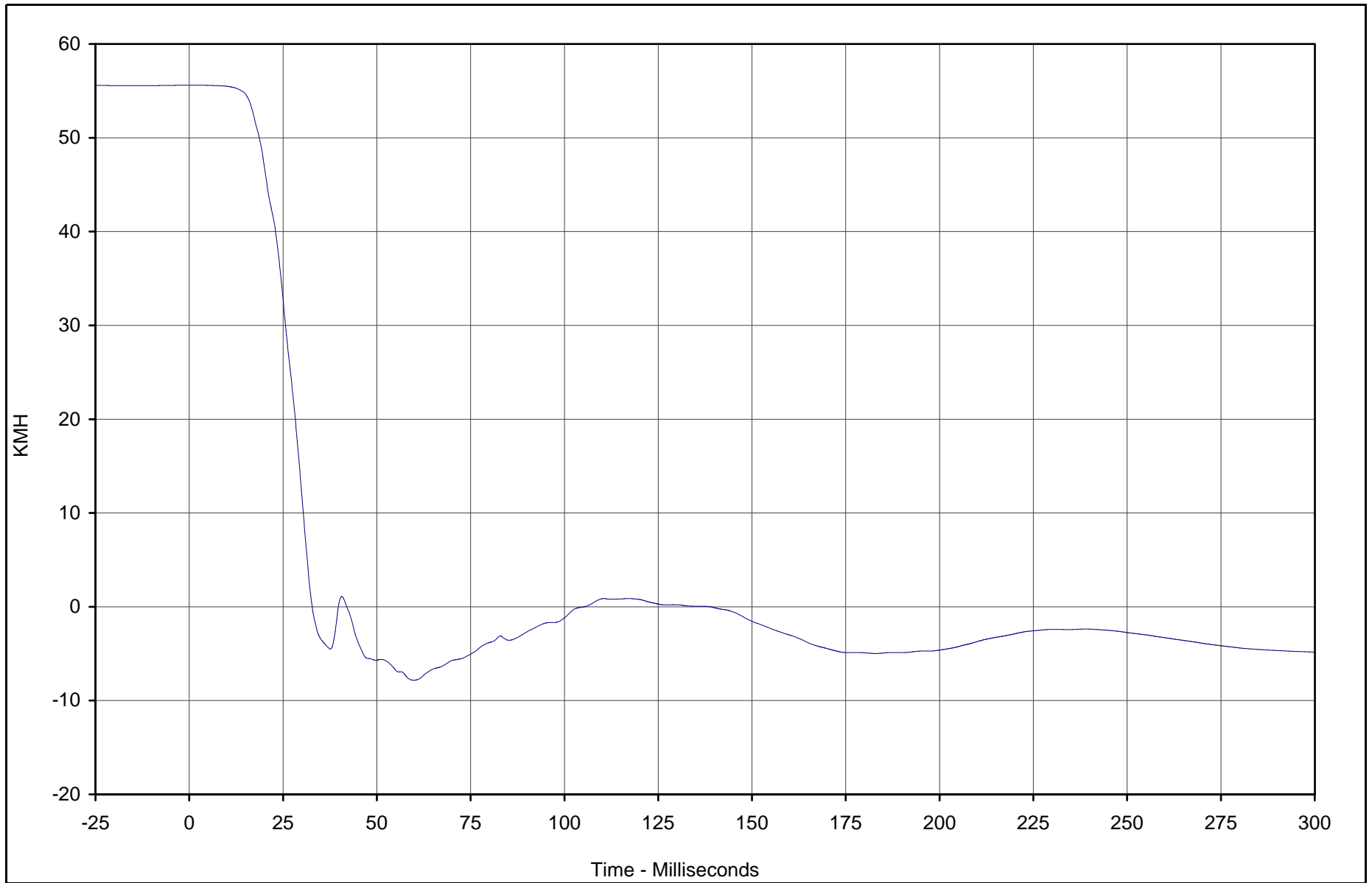
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-130



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top Velocity	091	IN1	KMH	55.6	0.8	-7.8	60.0	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

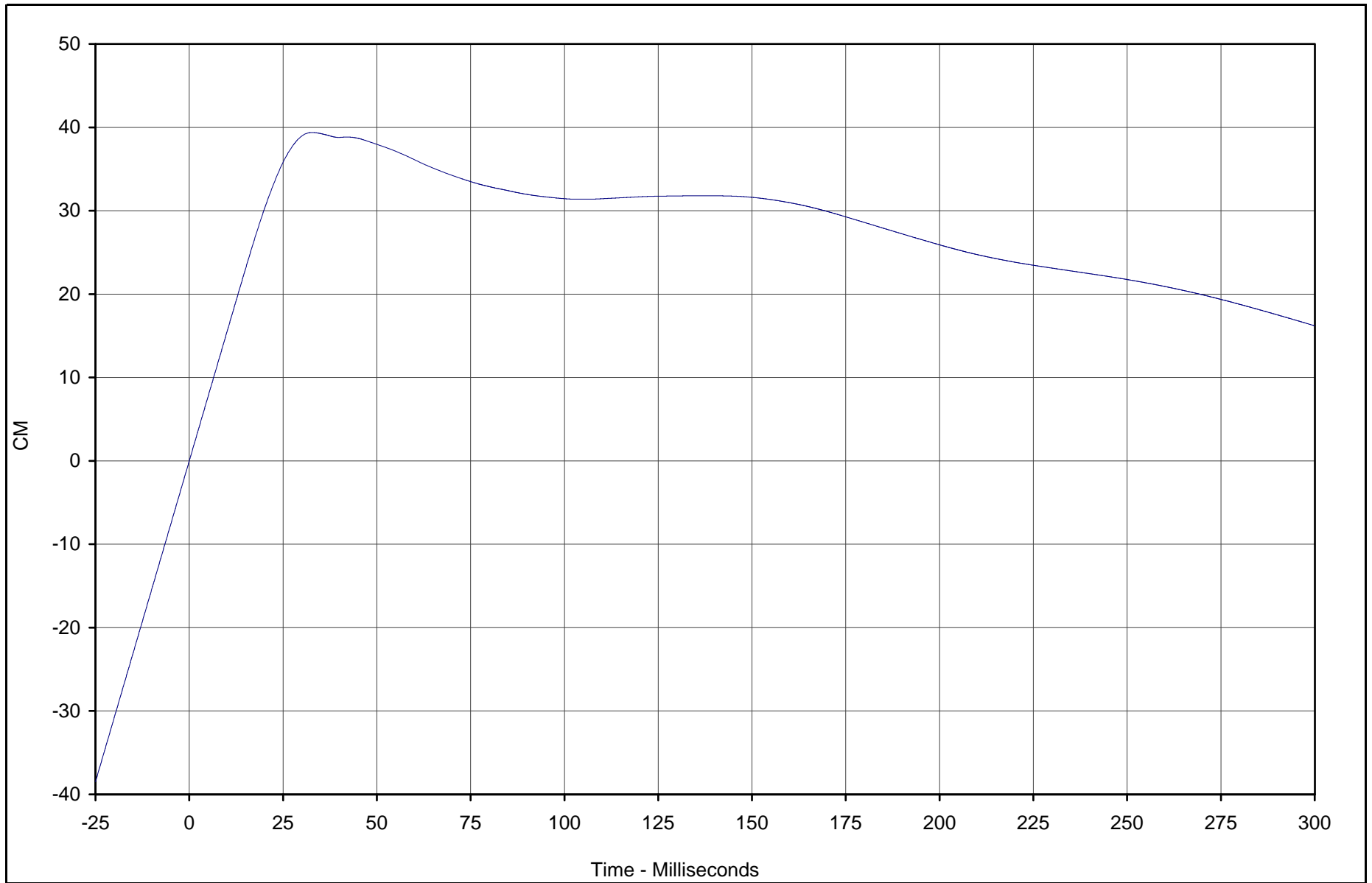
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-131



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Top Displacement	091	IN2	CM	39.4	32.8	0.0	0.0	180



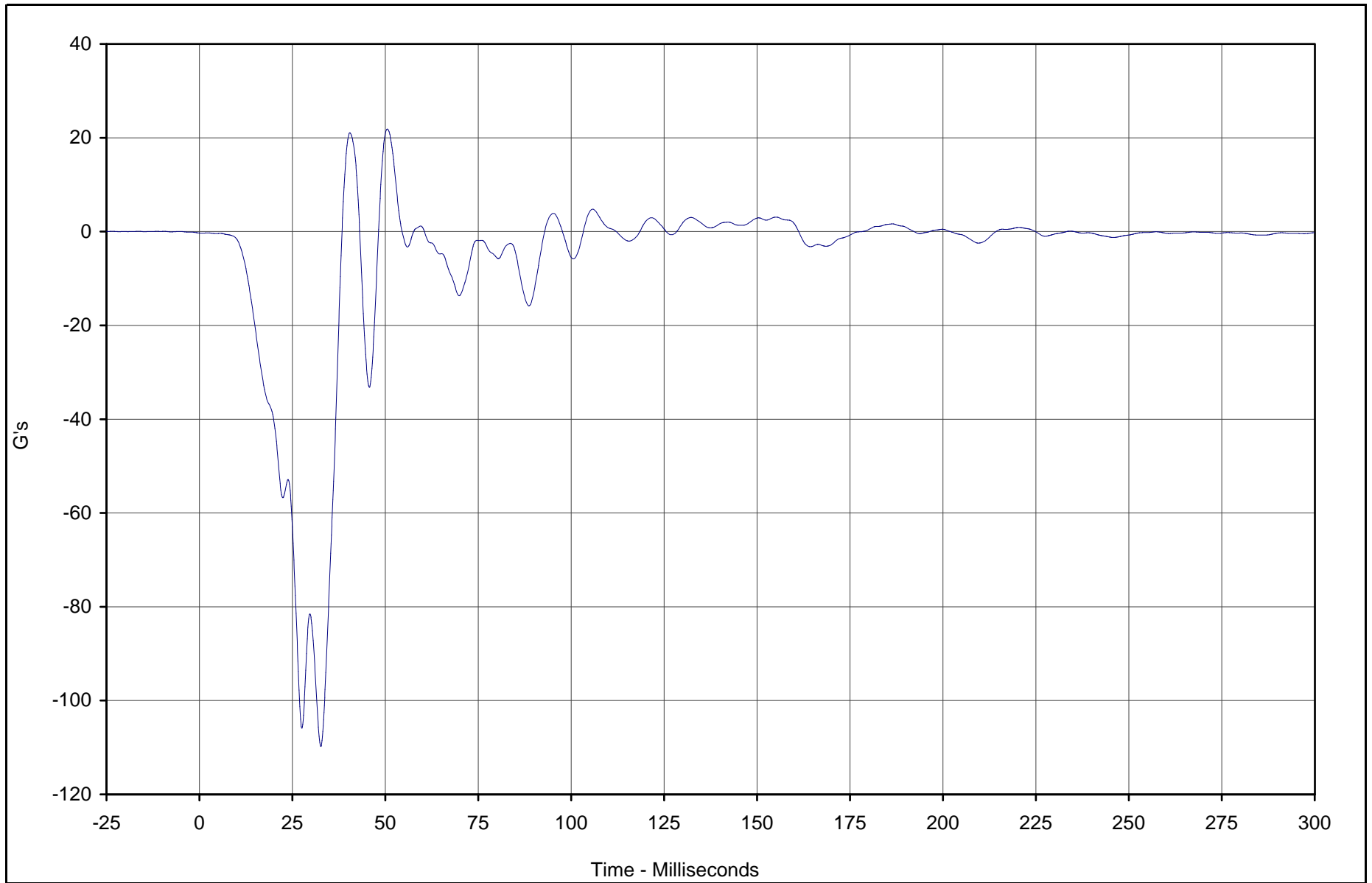
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-132



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom	092	FIL	G's	21.9	50.5	-109.8	32.7	60



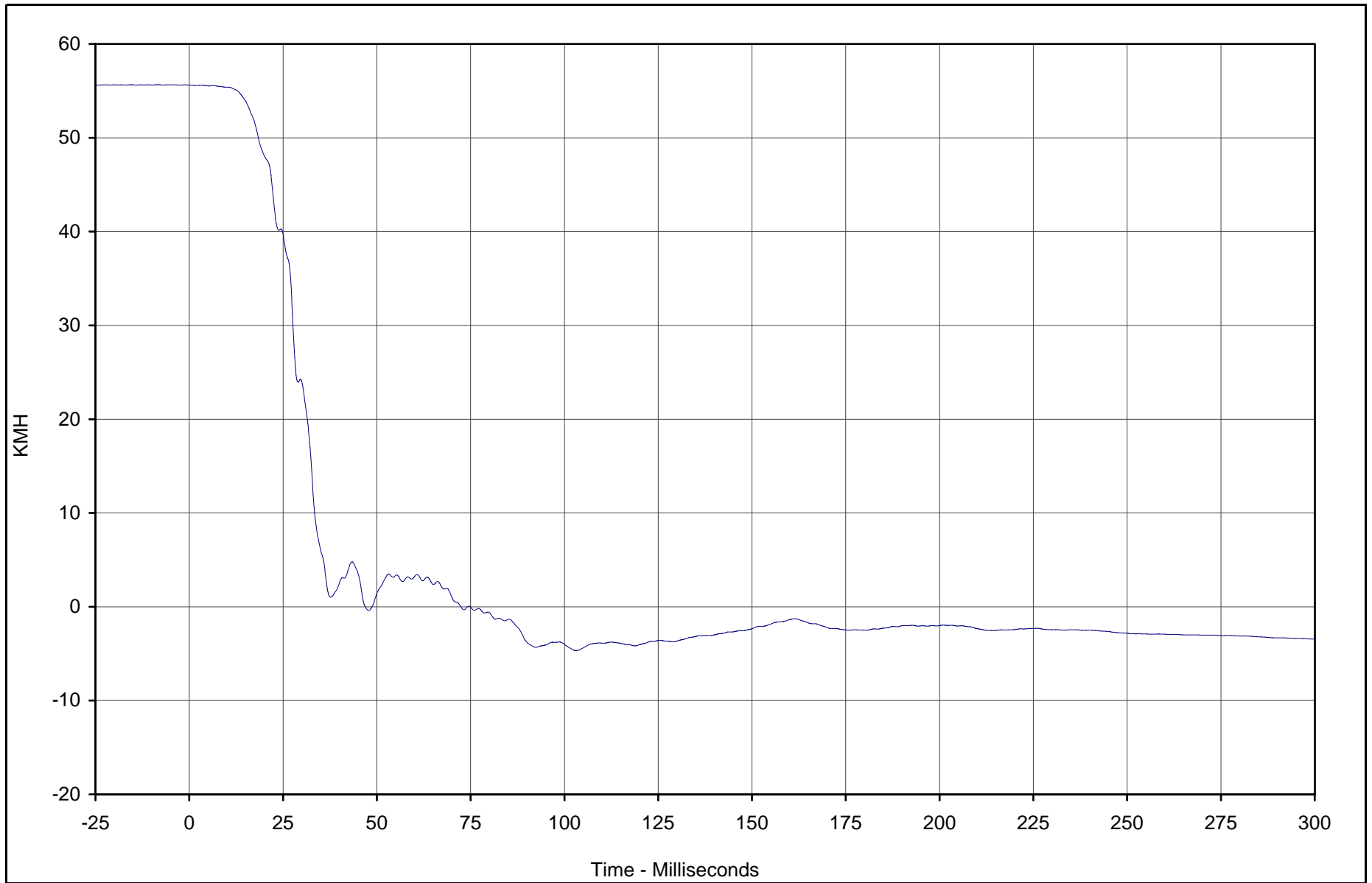
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-133



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom Velocity	092	IN1	KMH	55.6	0.0	-4.7	103.1	180

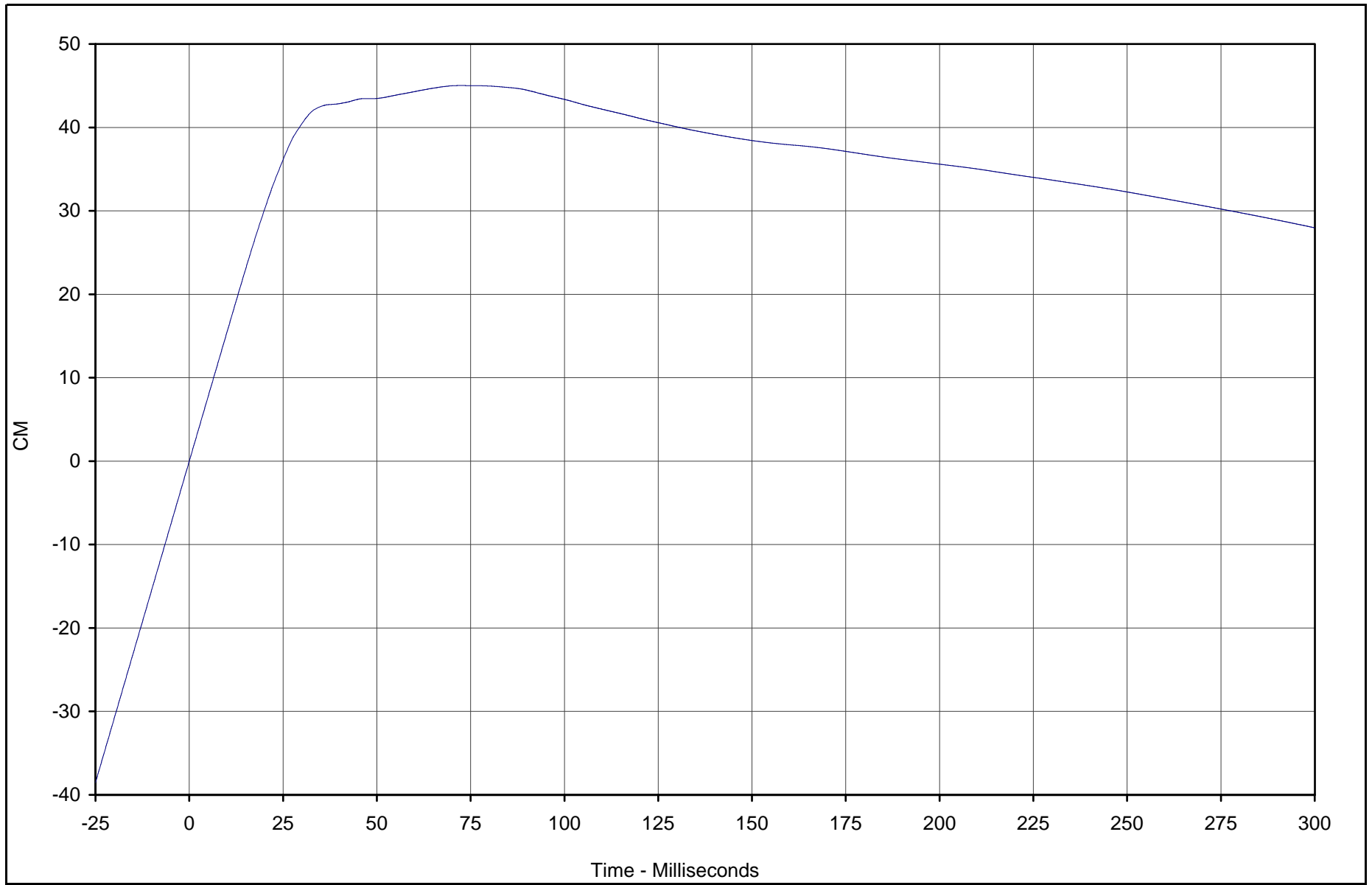


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Engine Bottom Displacement	092	IN2	CM	45.0	72.4	0.0	0.0	180



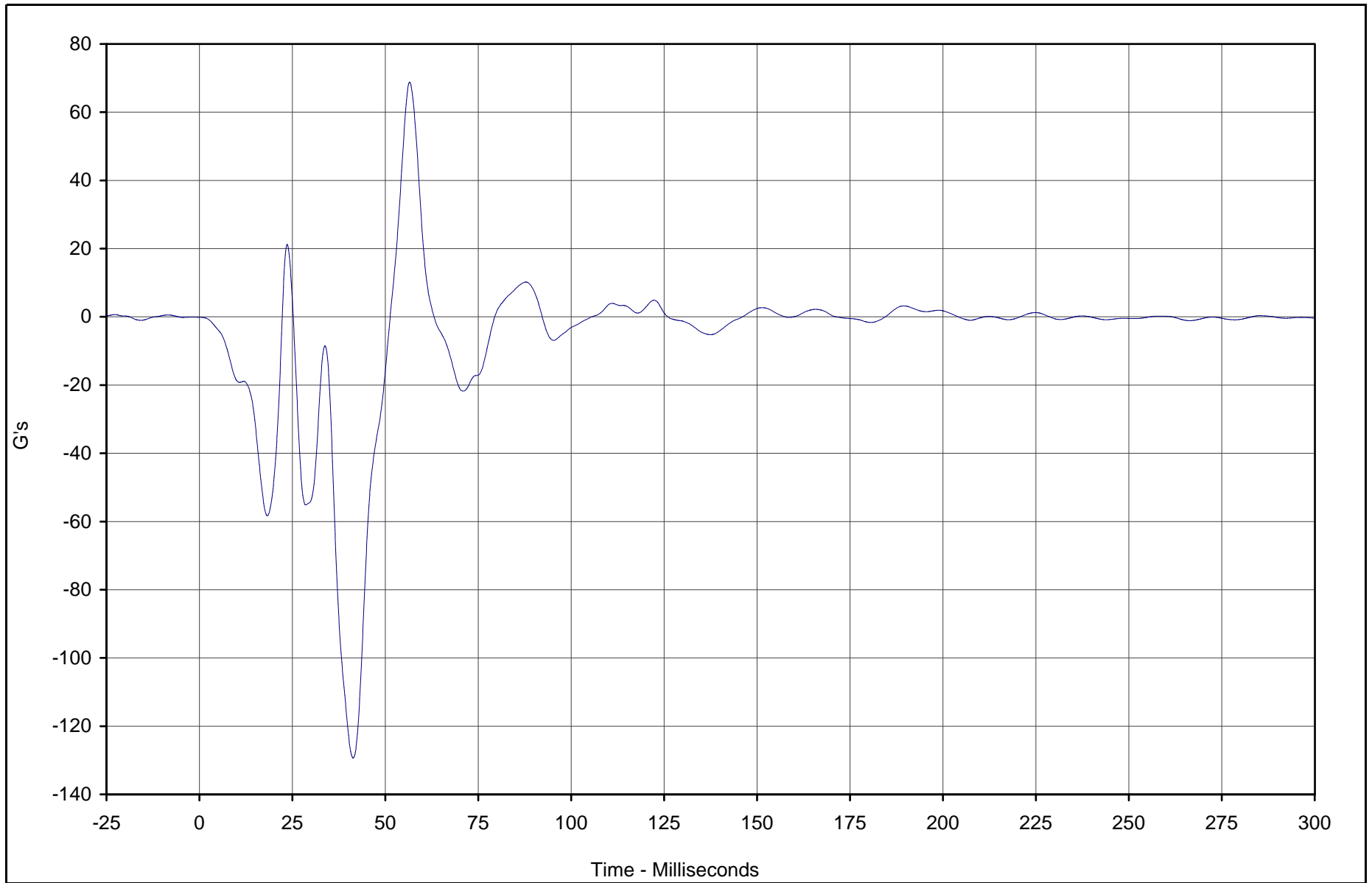
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-135



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper	093	FIL	G's	68.8	56.5	-129.3	41.3	60



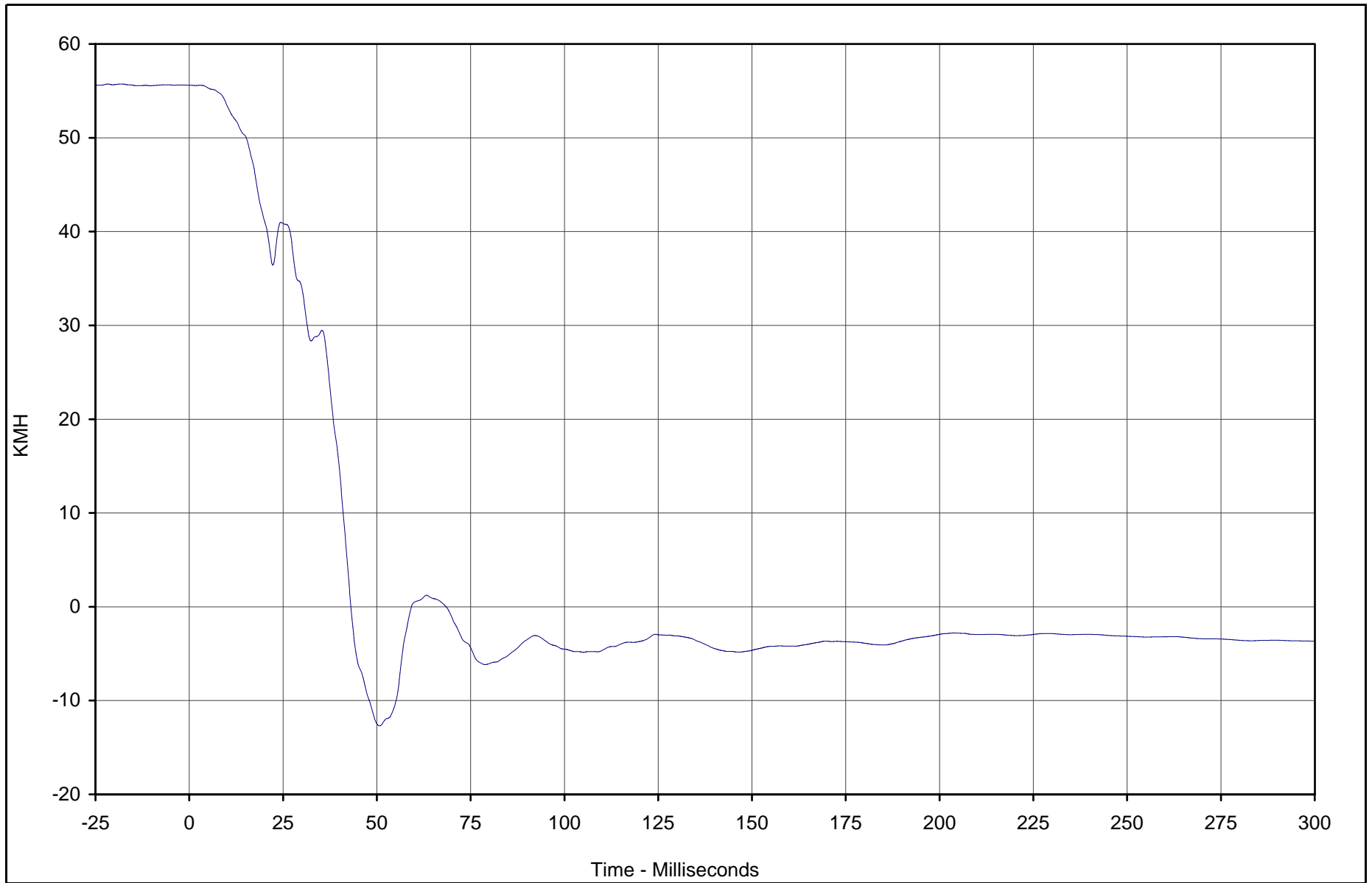
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-136



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper Velocity	093	IN1	KMH	55.6	0.0	-12.7	50.7	180



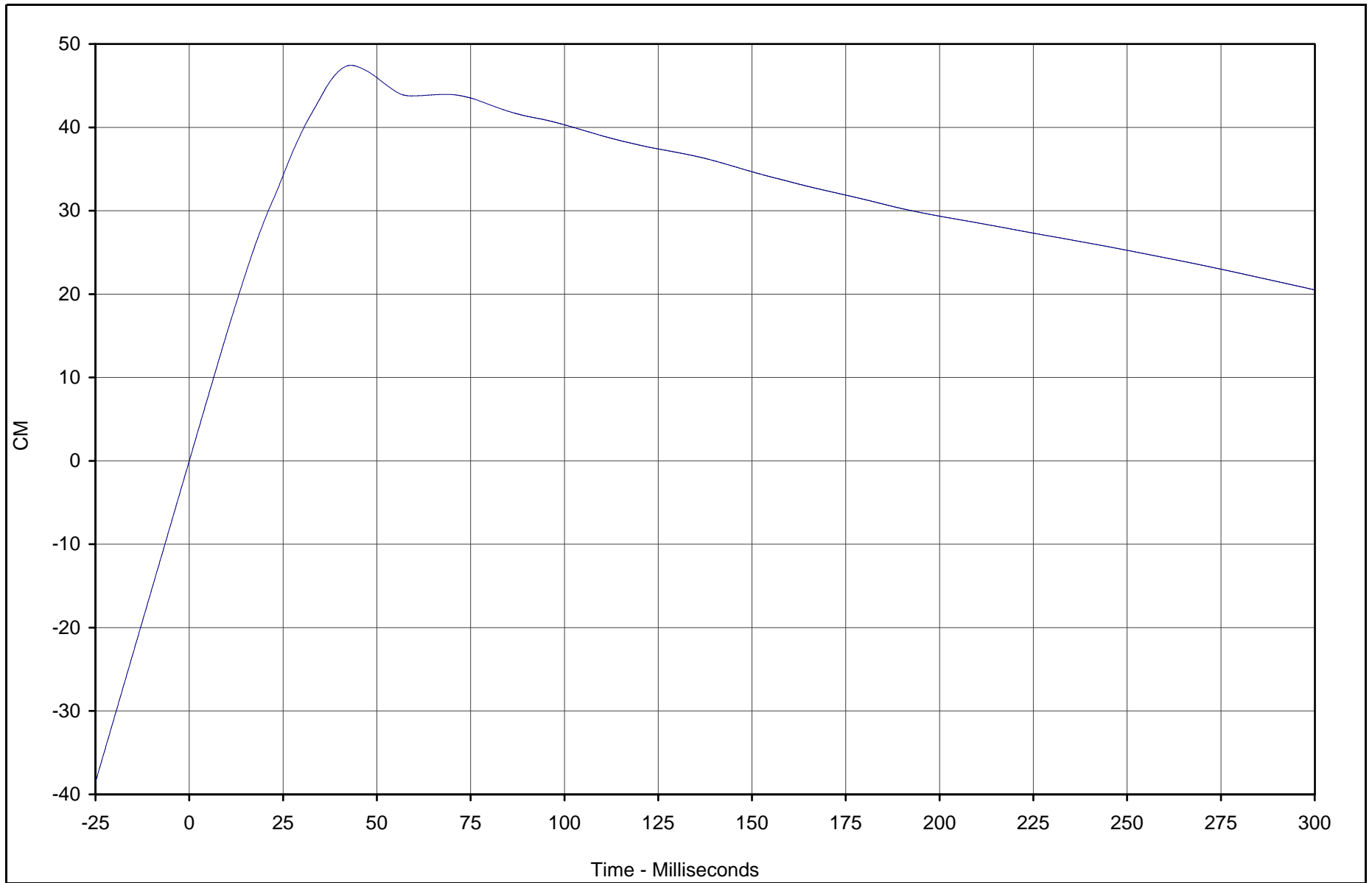
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-137



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Brake Caliper Displ.	093	IN2	CM	47.4	43.1	0.0	0.0	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

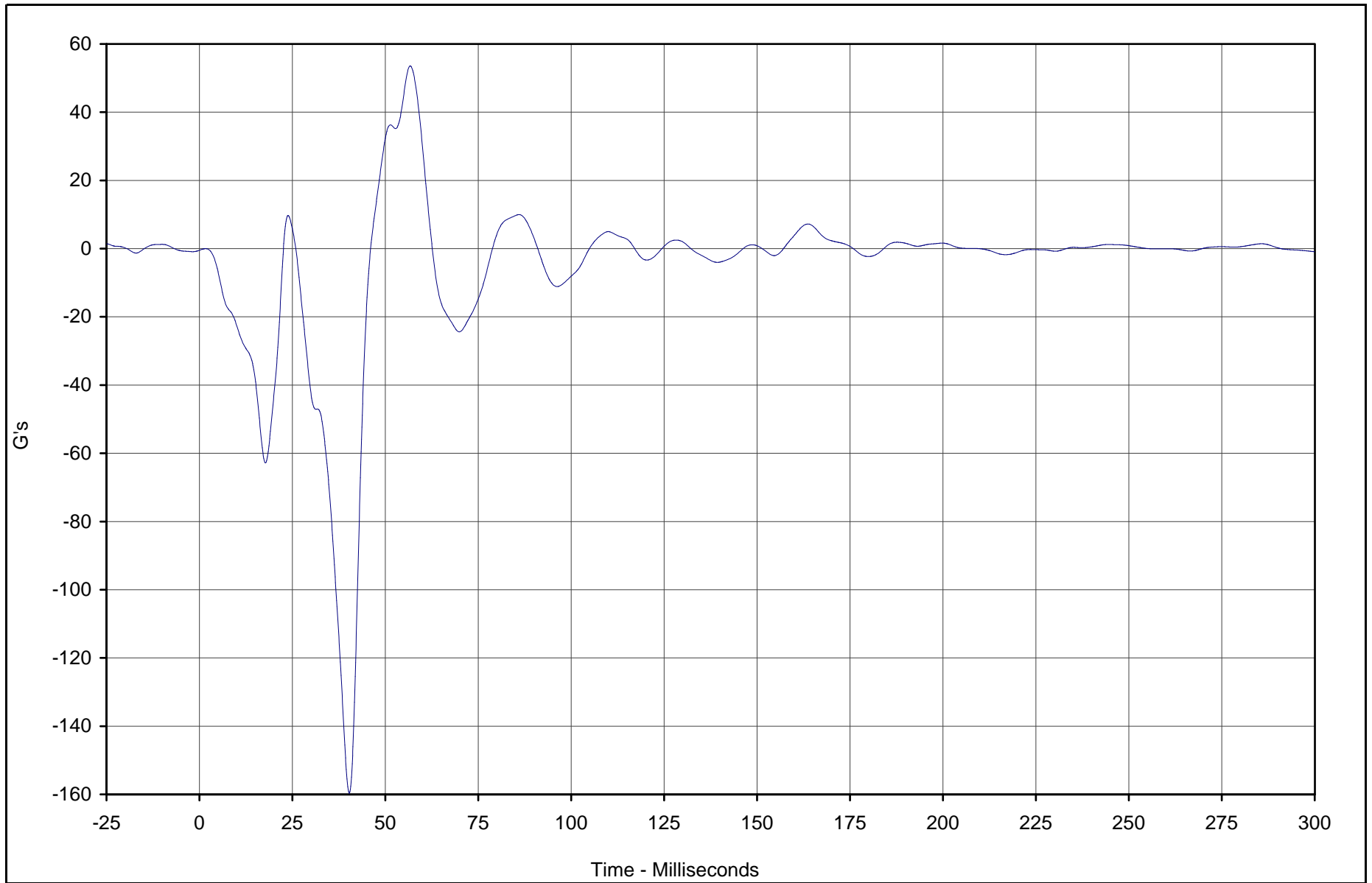
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-138



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper	094	FIL	G's	53.6	56.7	-159.7	40.3	60



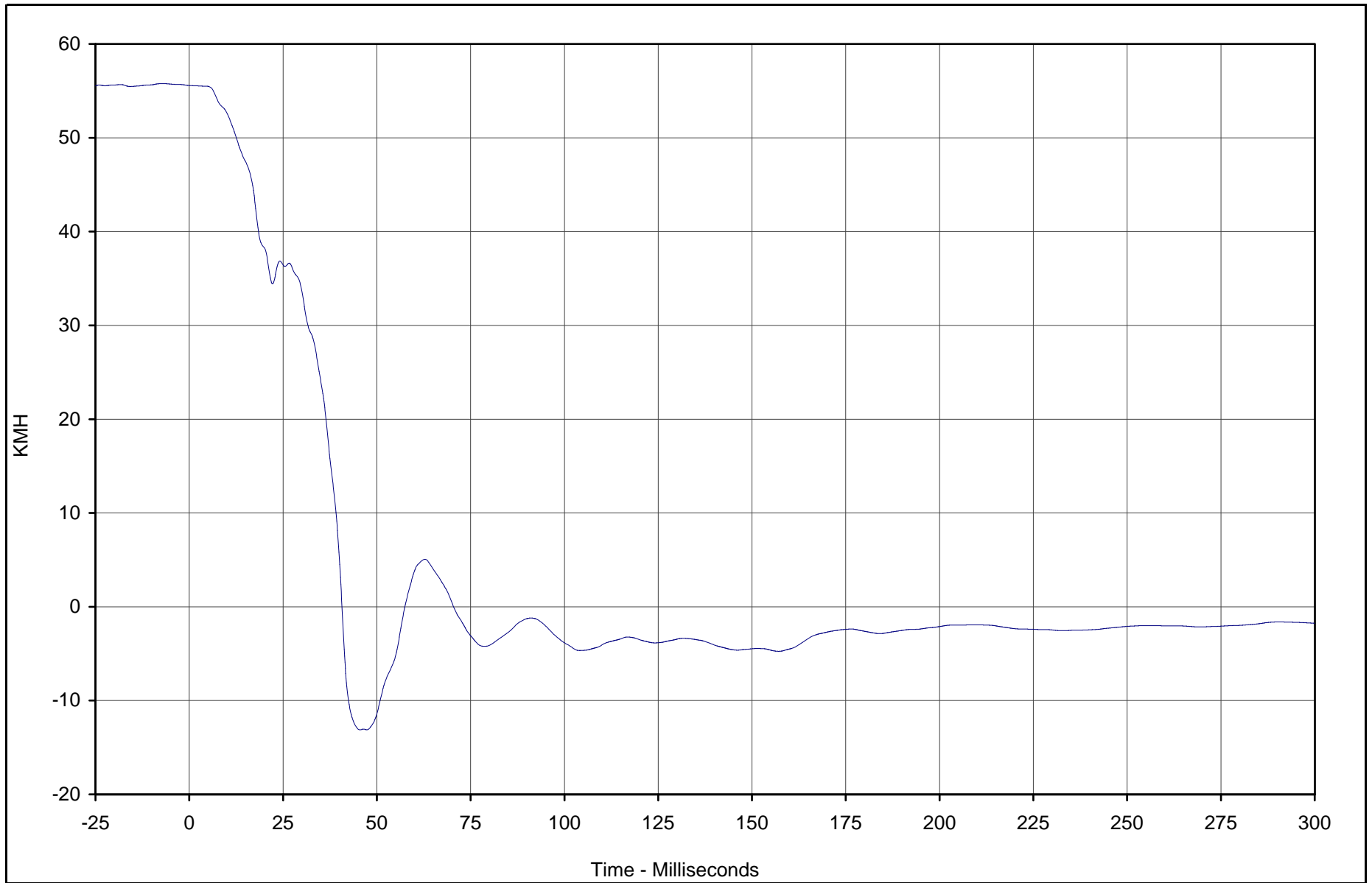
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-139



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper Velocity	094	IN1	KMH	55.6	0.0	-13.1	45.5	180



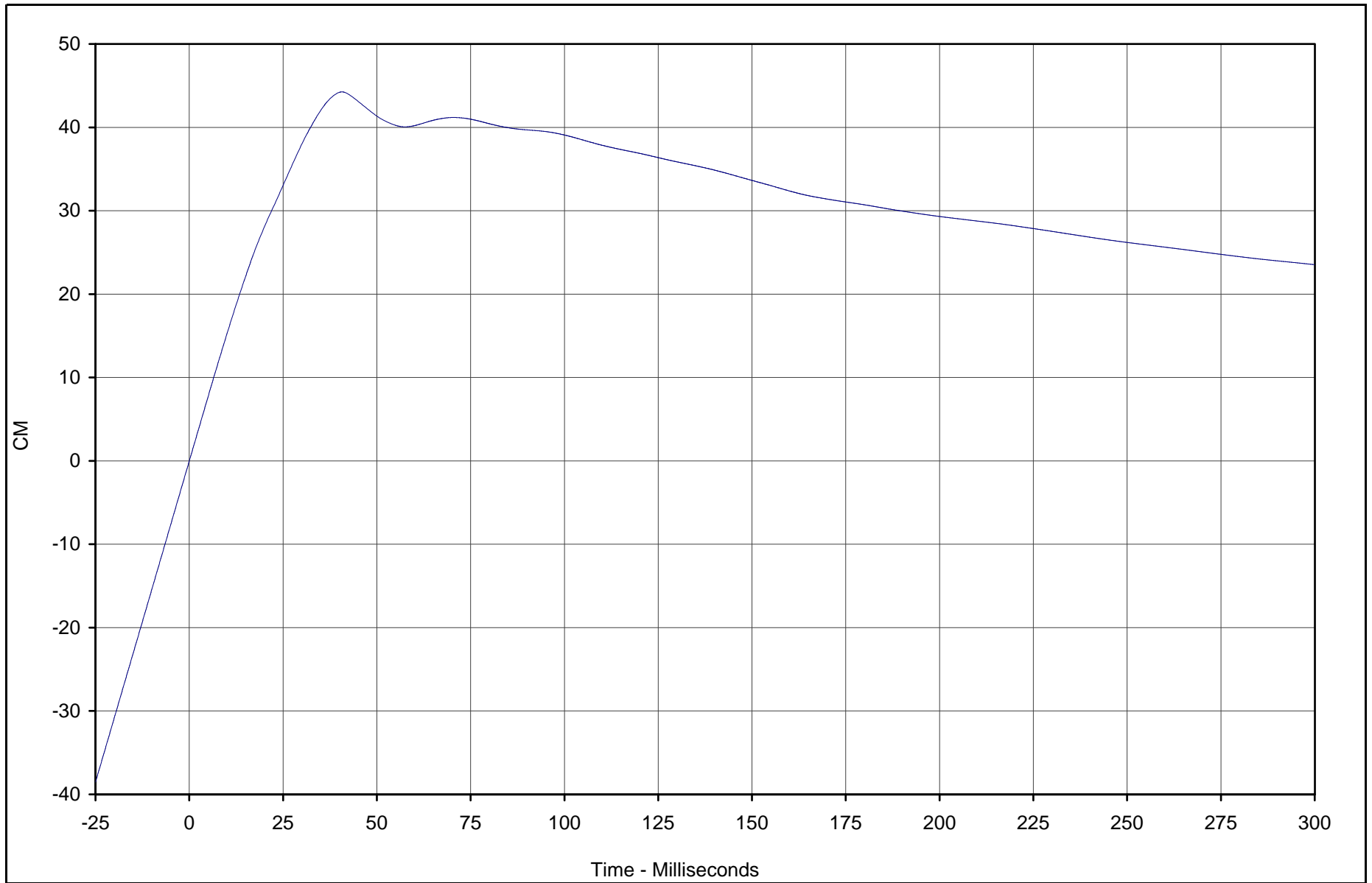
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-140



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Brake Caliper Displ.	094	IN2	CM	44.3	40.7	0.0	0.0	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

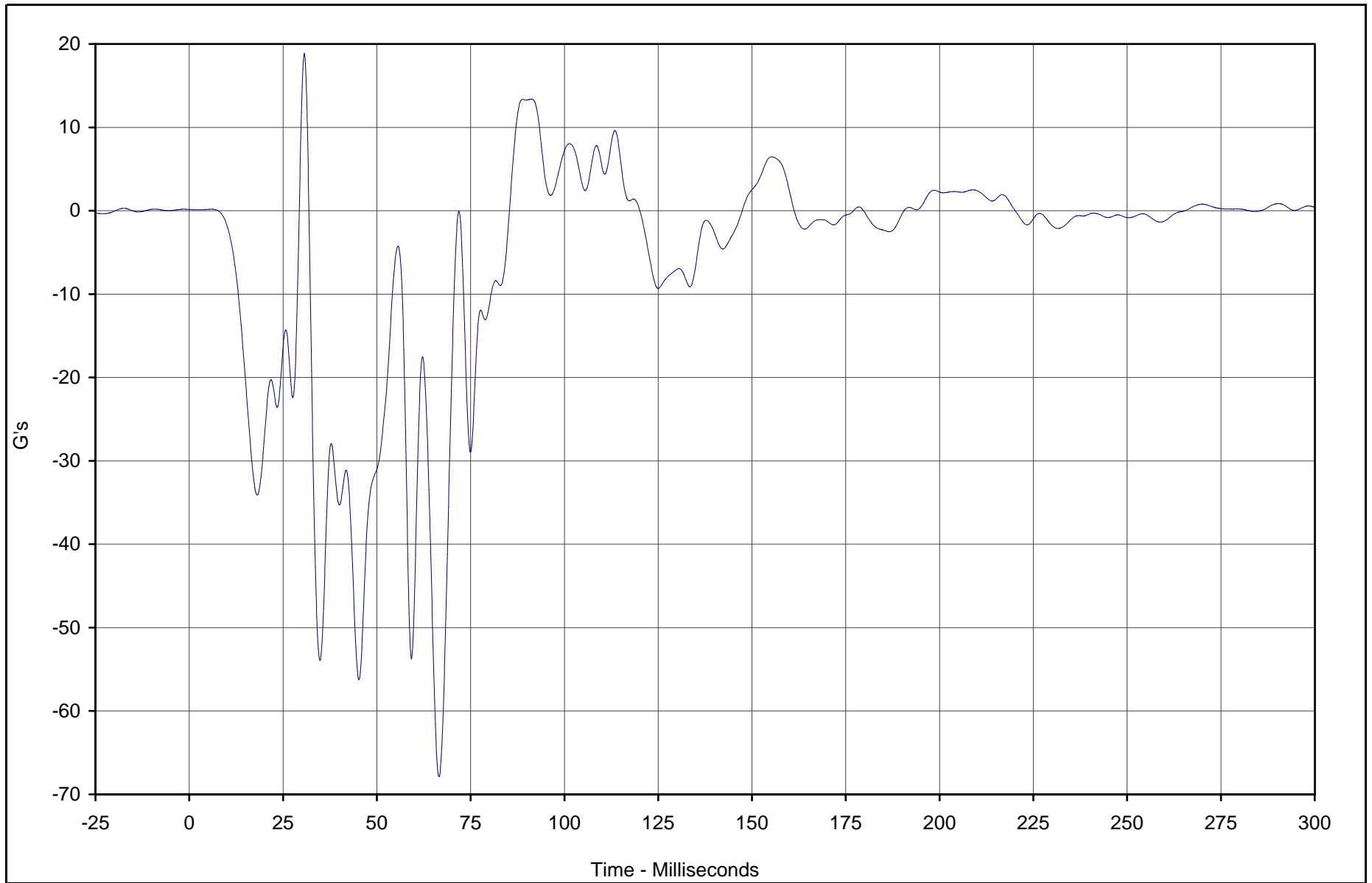
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-141



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel	095	FIL	G's	18.9	30.7	-67.9	66.6	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

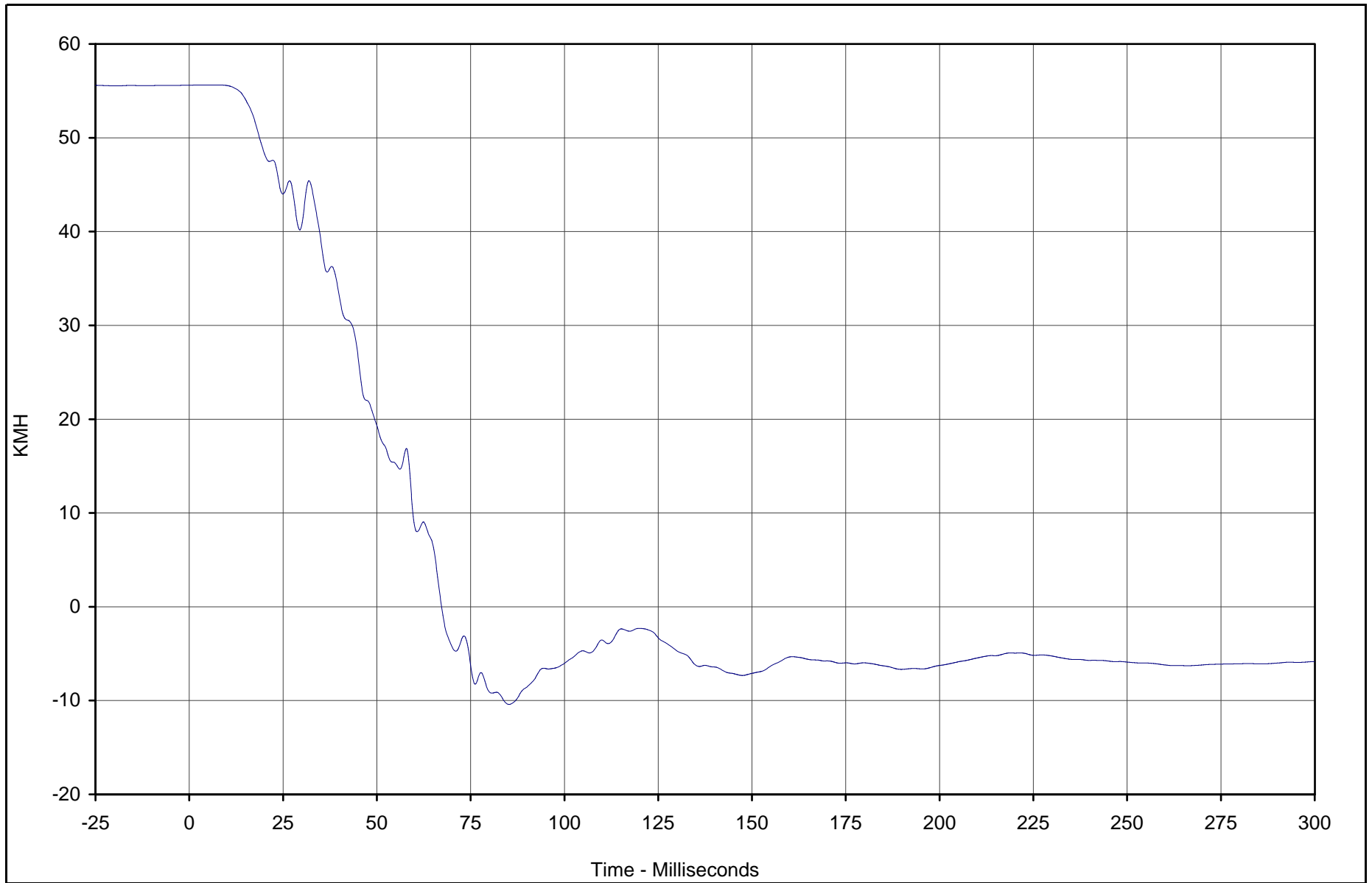
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-142



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel Velocity	095	IN1	KMH	55.6	6.8	-10.4	85.2	180



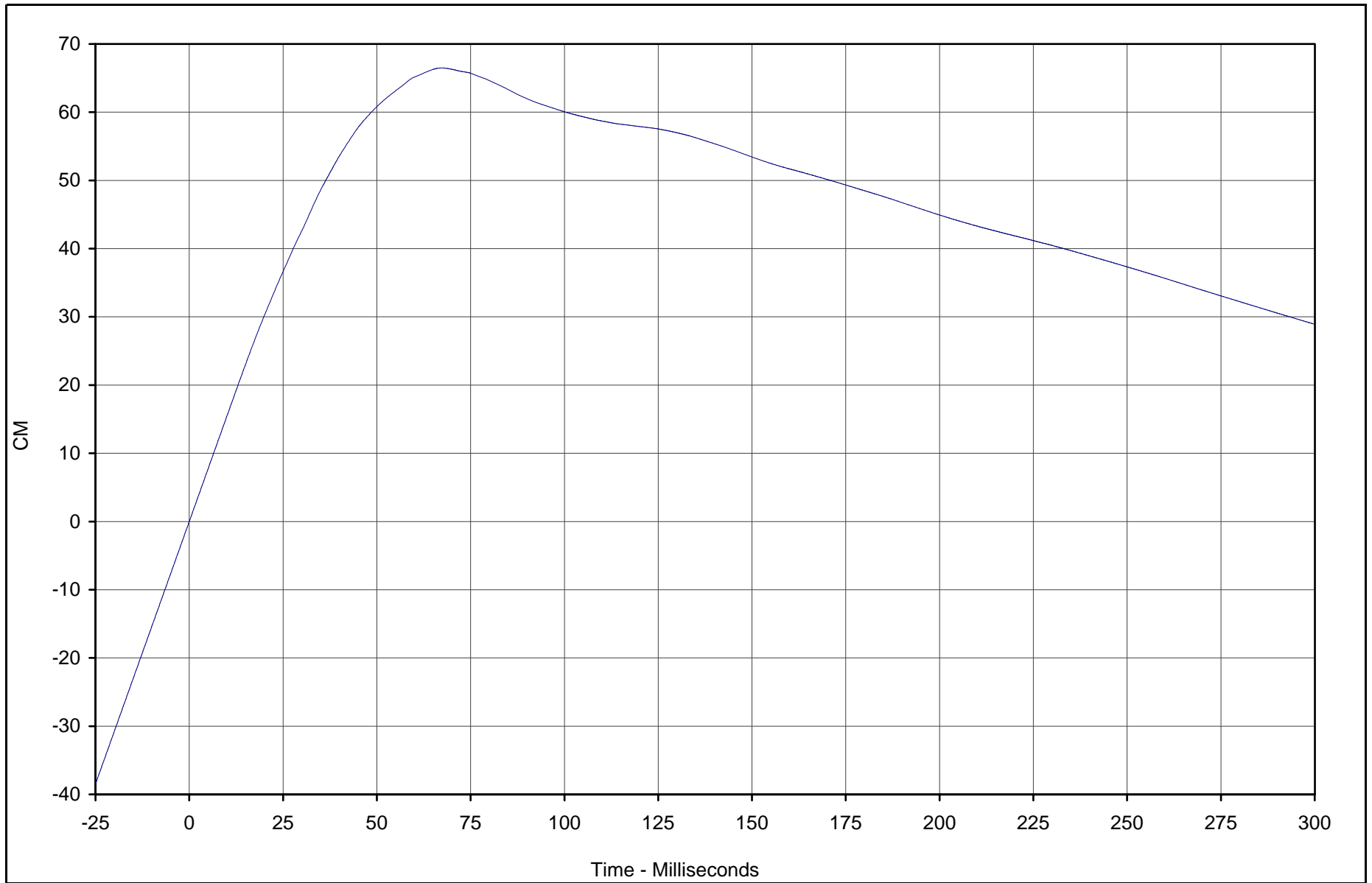
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-143



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Instrument Panel Displacement	095	IN2	CM	66.5	67.3	0.0	0.0	180

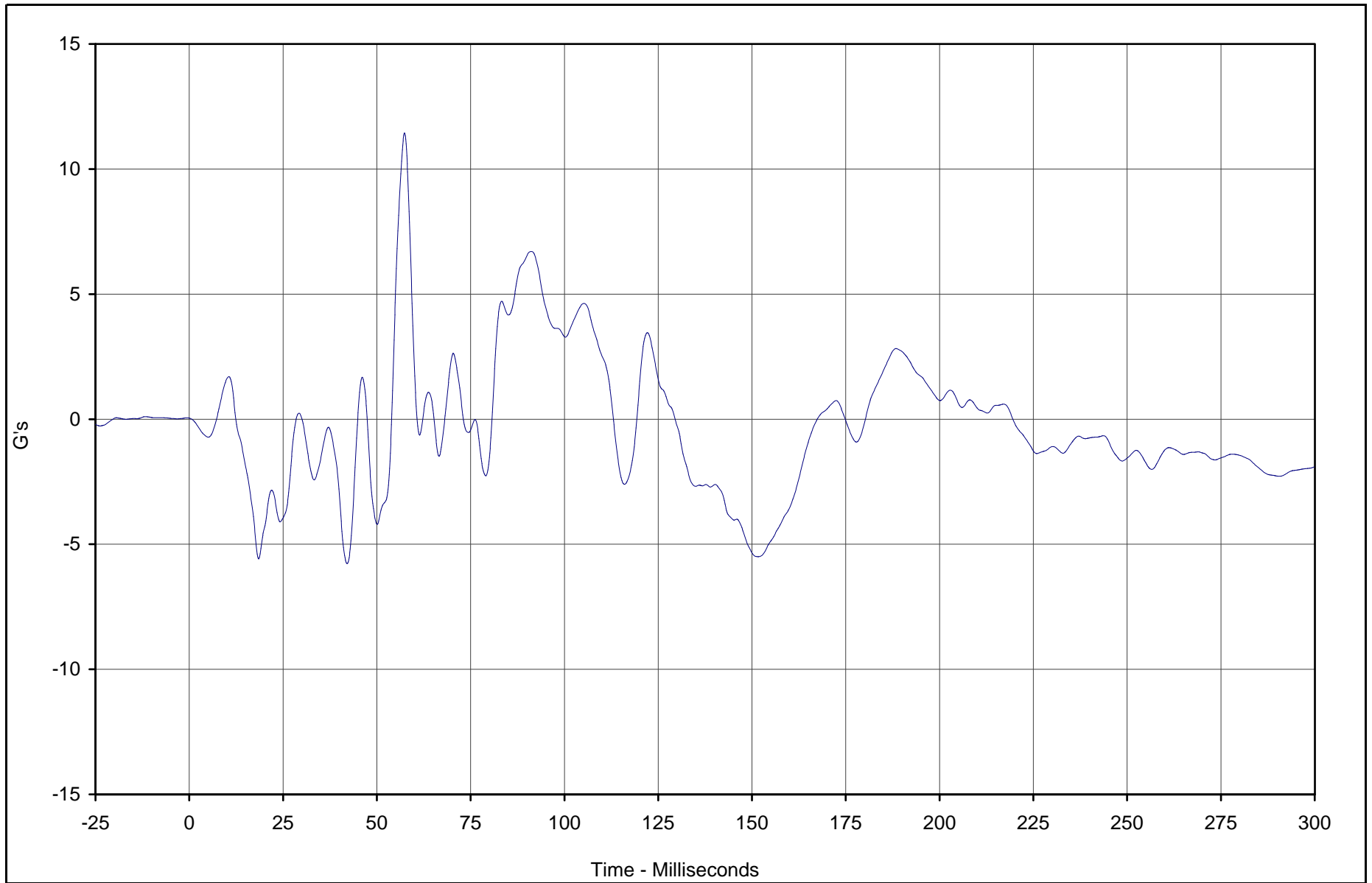


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z	096	FIL	G's	11.4	57.4	-5.8	42.1	60



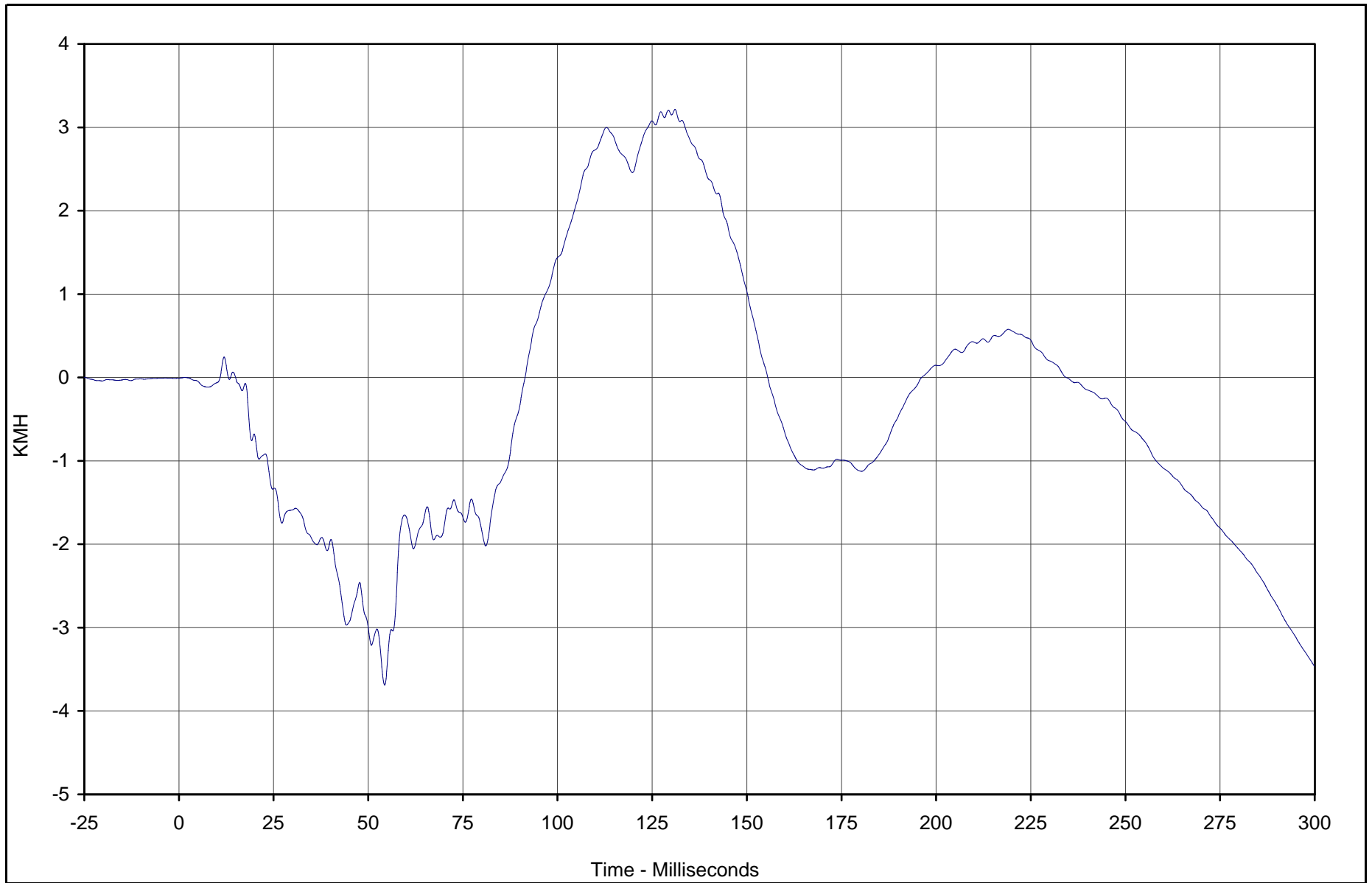
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

B-145



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z Velocity	096	IN1	KMH	3.2	131.0	-3.7	54.3	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

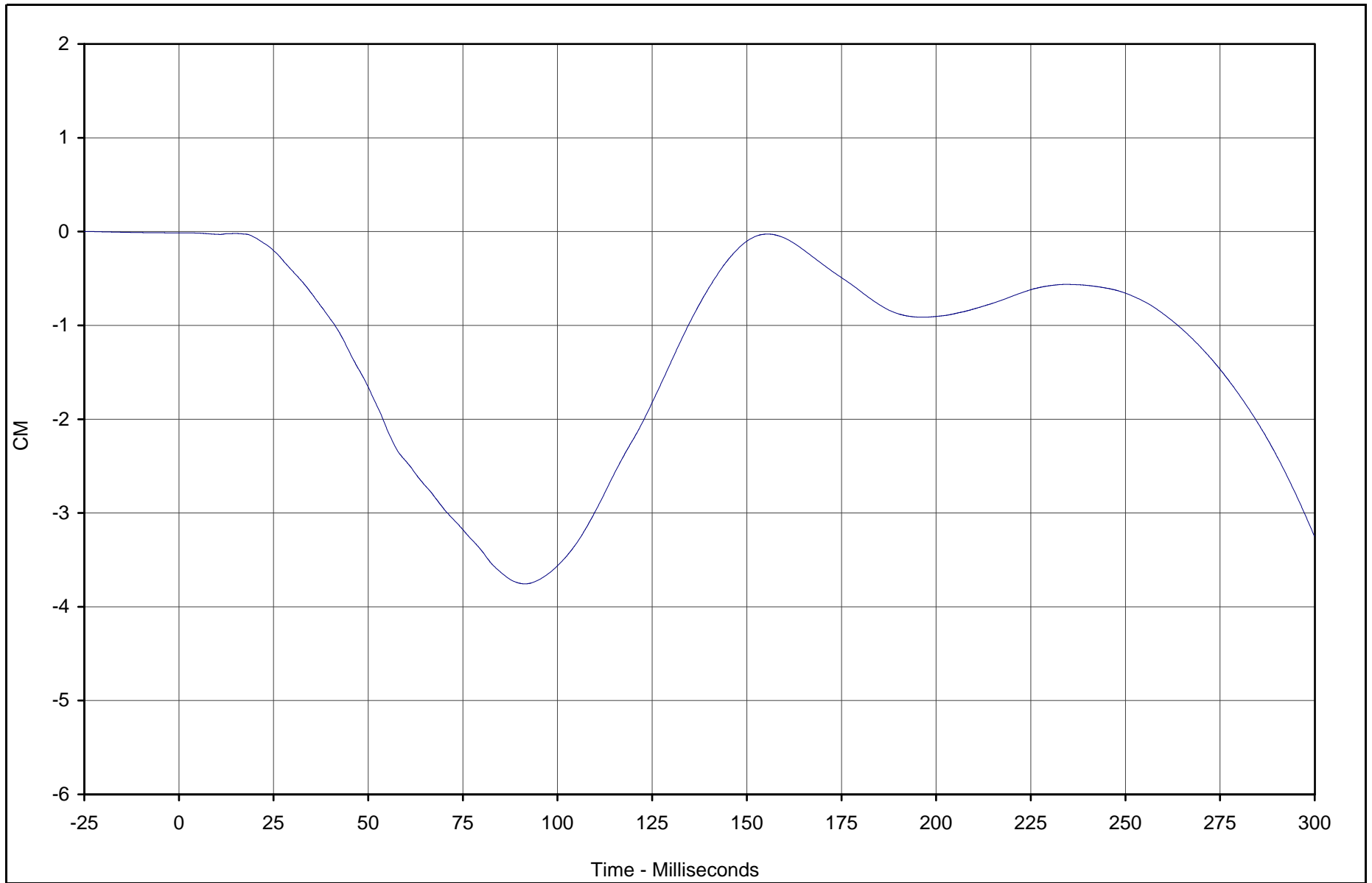
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-146



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Left Rear Z Displ.	096	IN2	CM	0.0	0.0	-3.8	91.4	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

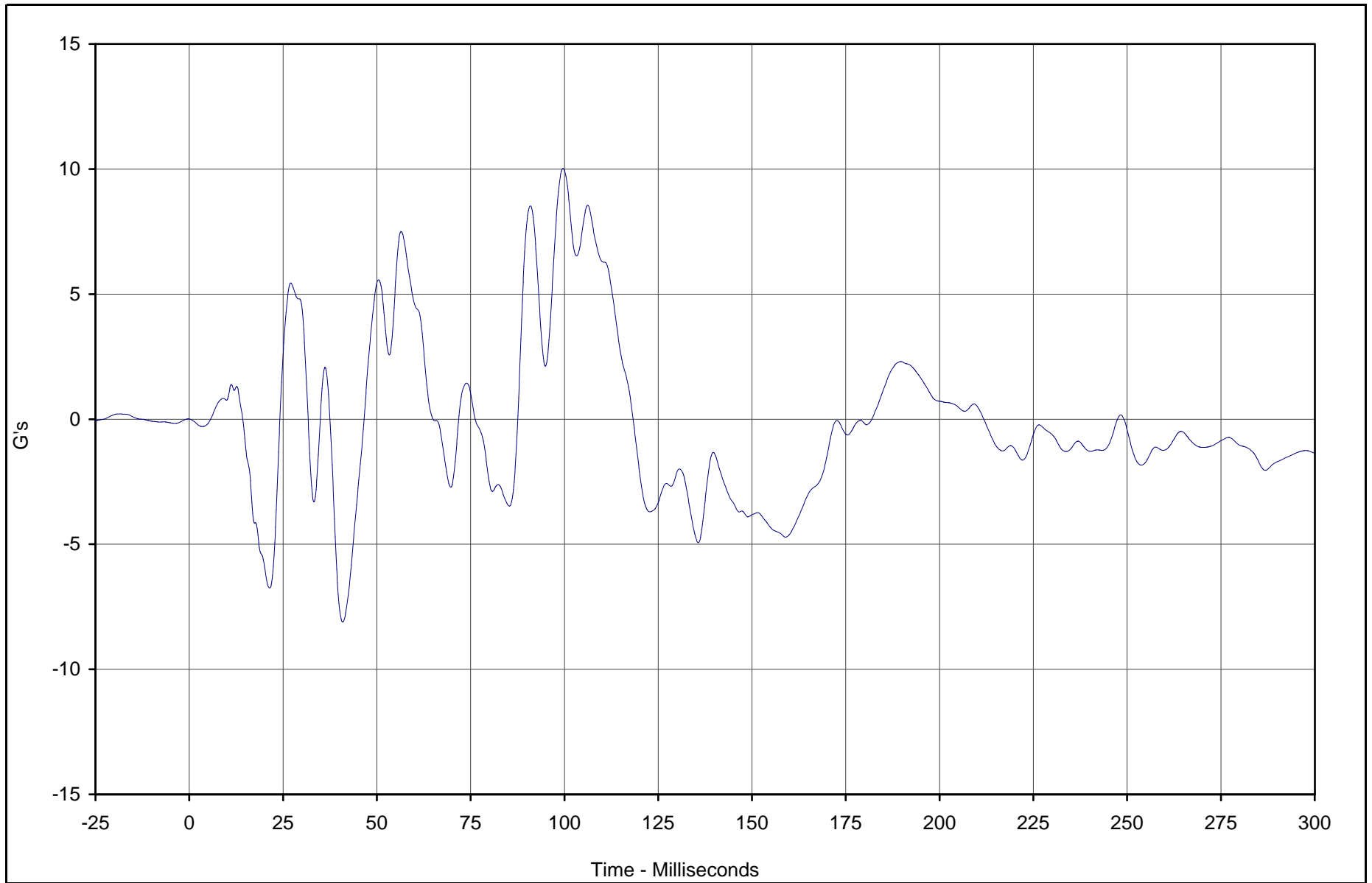
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-147



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z	097	FIL	G's	10.0	99.6	-8.1	40.9	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

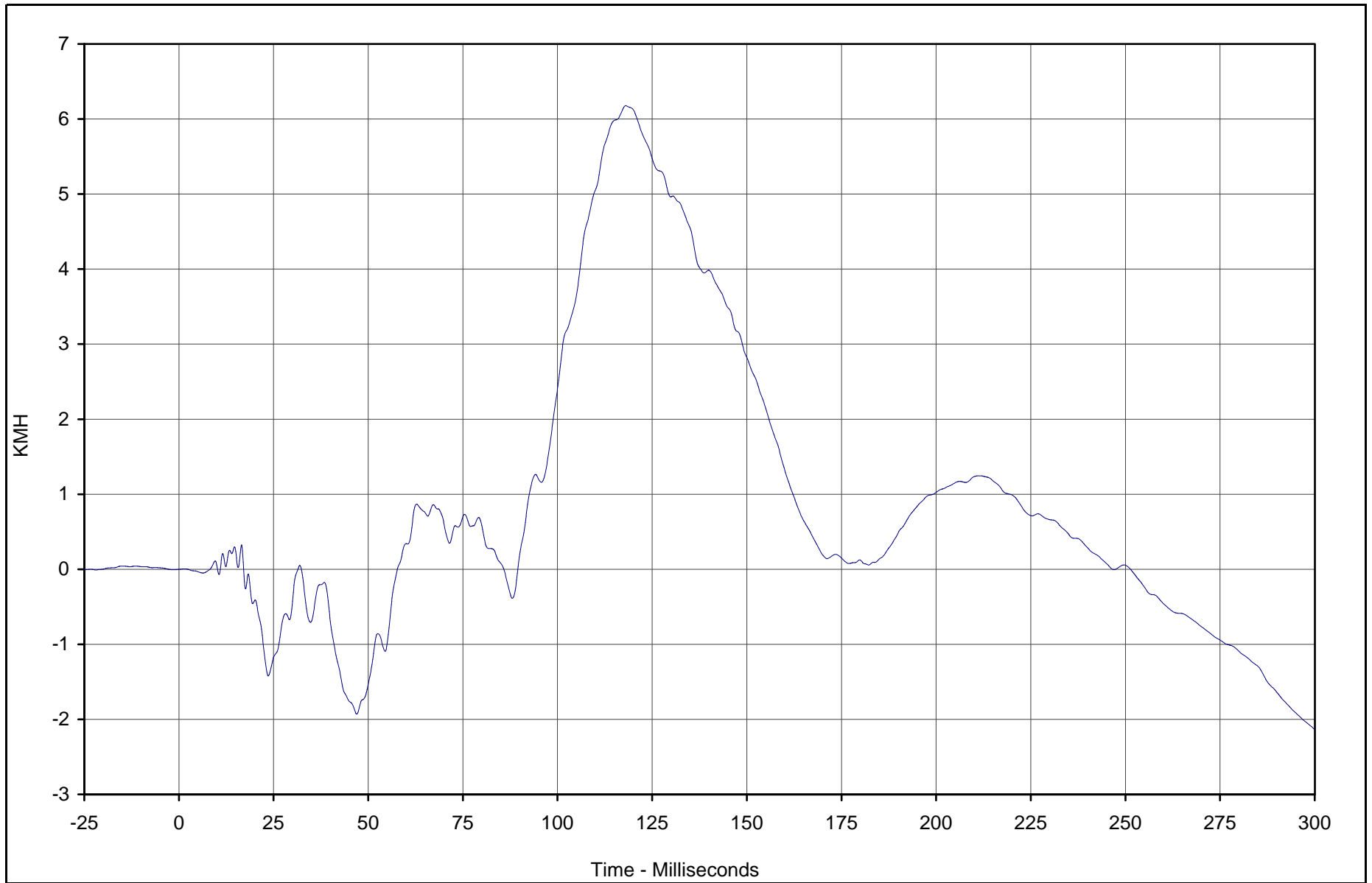
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-148



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z Velocity	097	IN1	KMH	6.2	118.0	-2.1	299.9	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

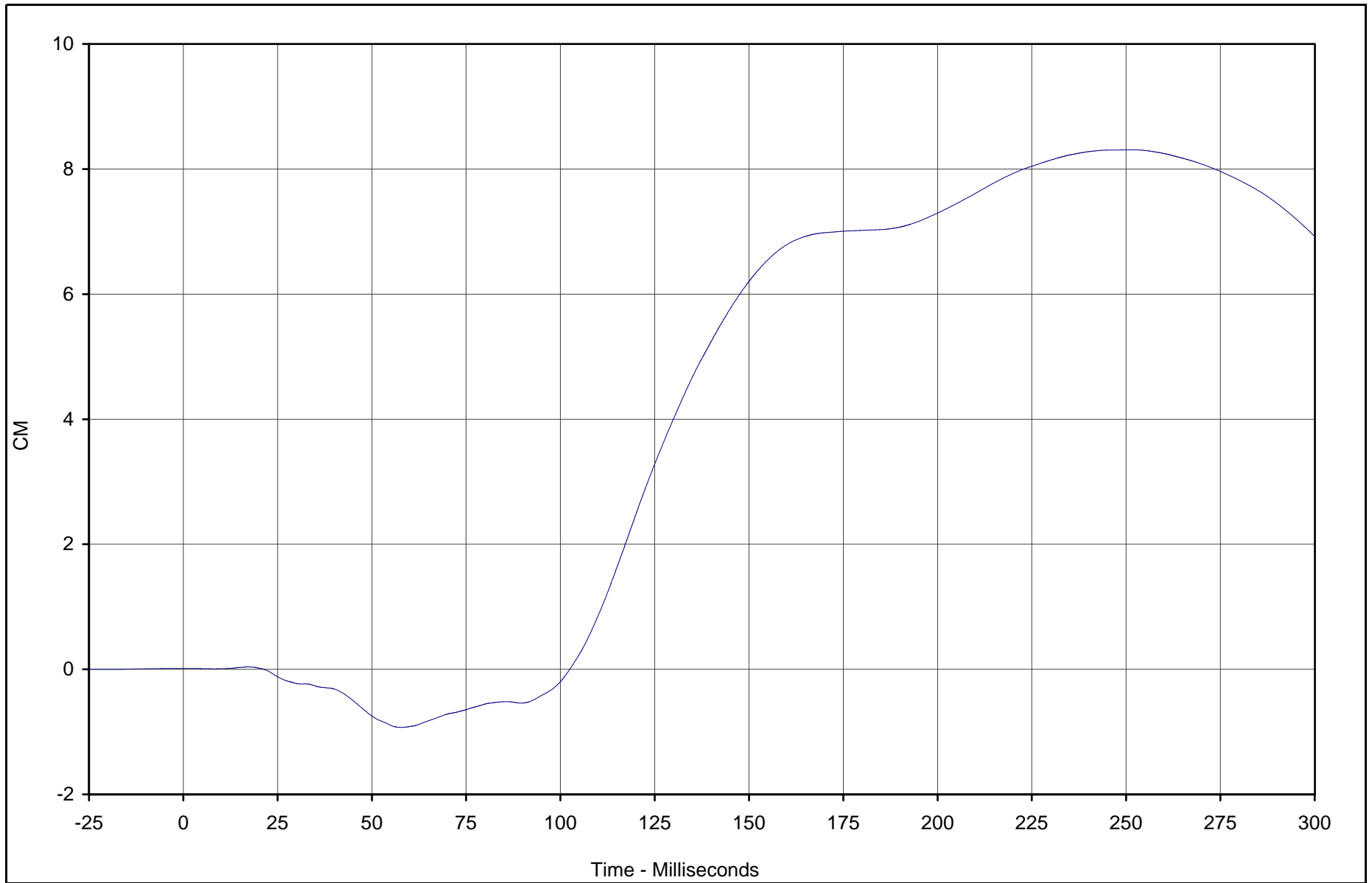
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

B-149



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Vehicle Right Rear Z Displ.	097	IN2	CM	8.3	251.3	-0.9	57.7	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

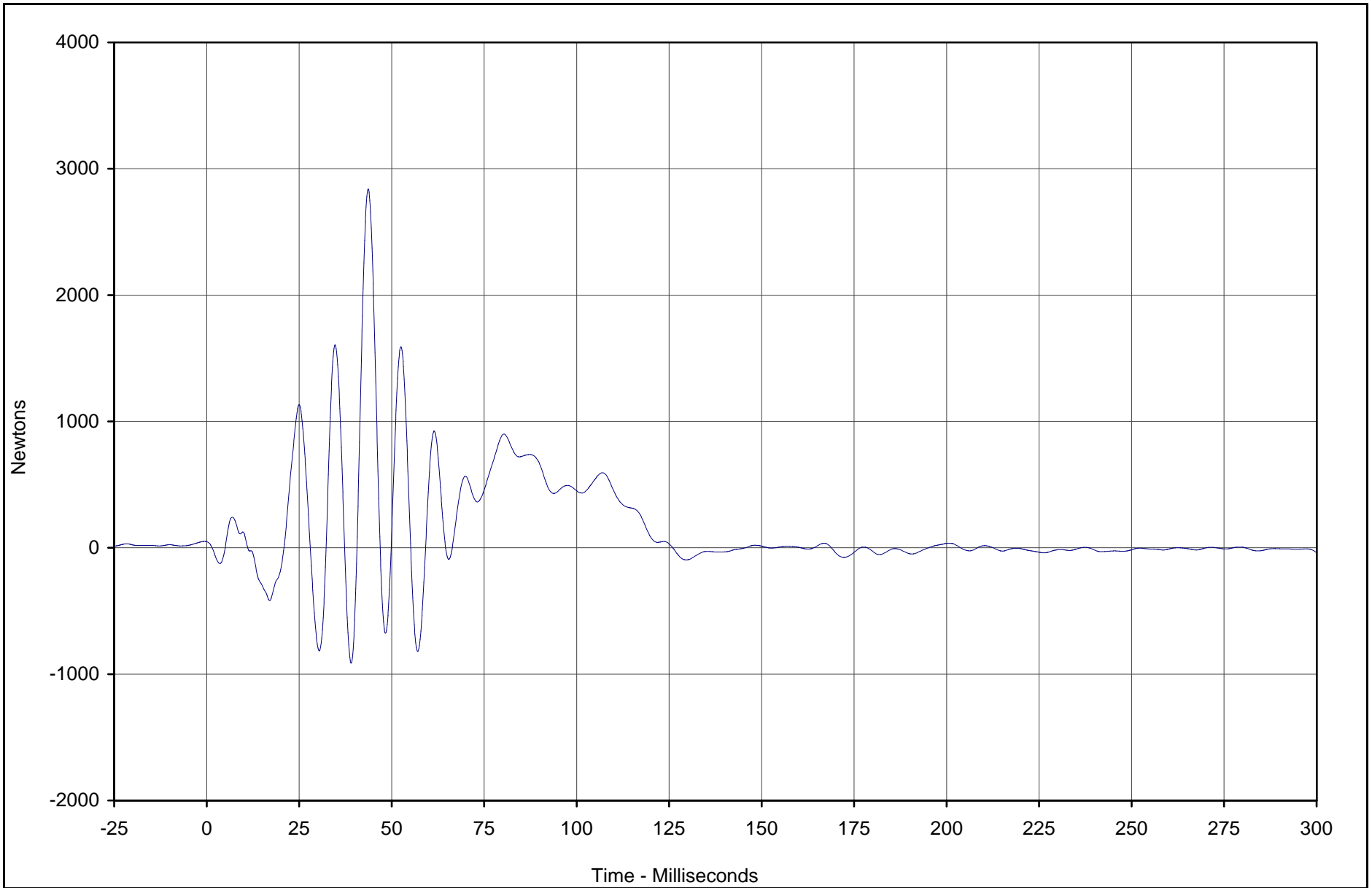
NHTSA No.: M35110

TR-P23001-04-NC

APPENDIX C

LOAD CELL BARRIER DATA PLOTS

C-1



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A1	098	FIL	Newtons	2839.3	43.7	-913.1	39.1	60



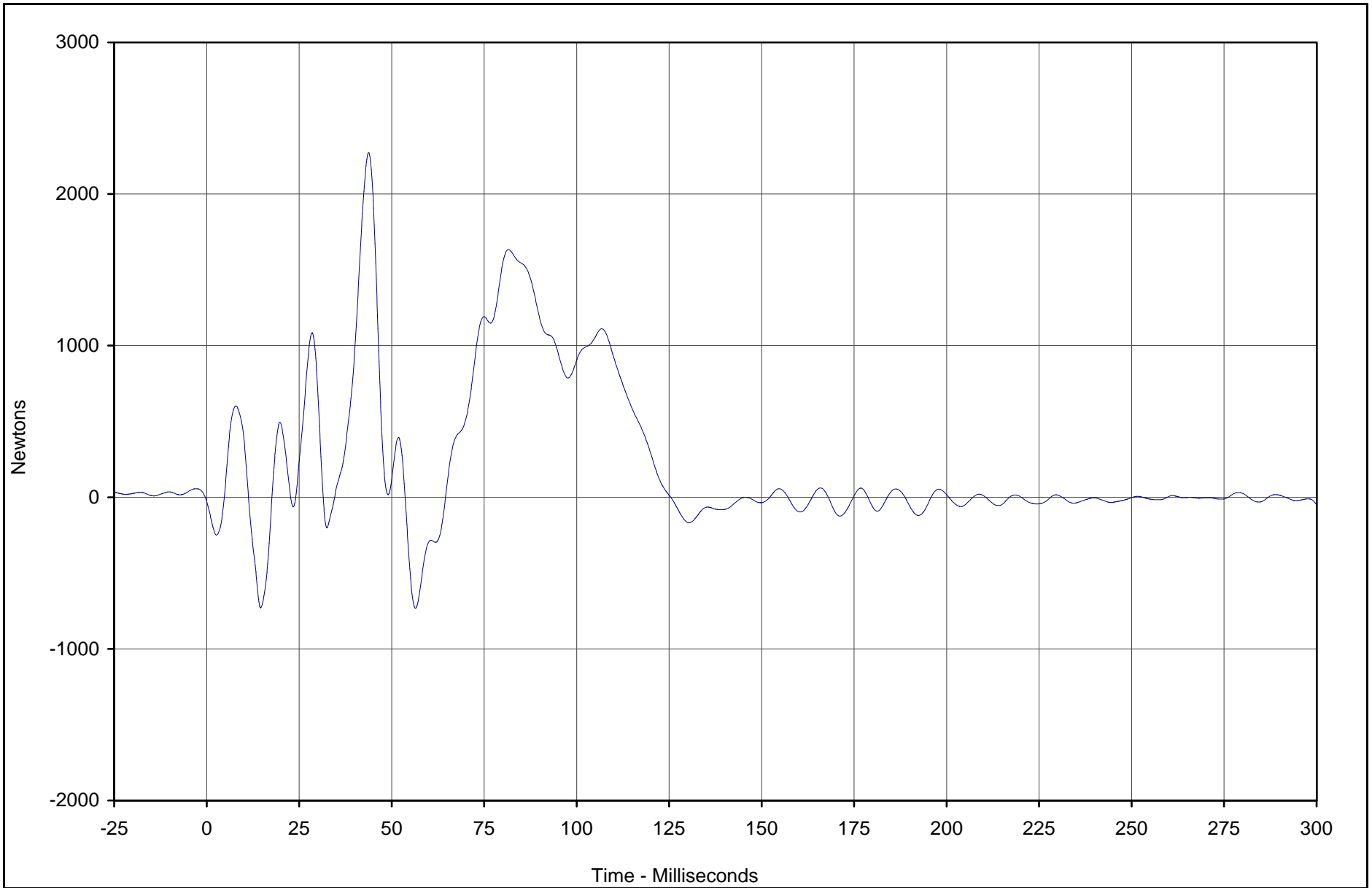
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-2



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A2	099	FIL	Newtons	2273.3	43.8	-732.3	56.4	60



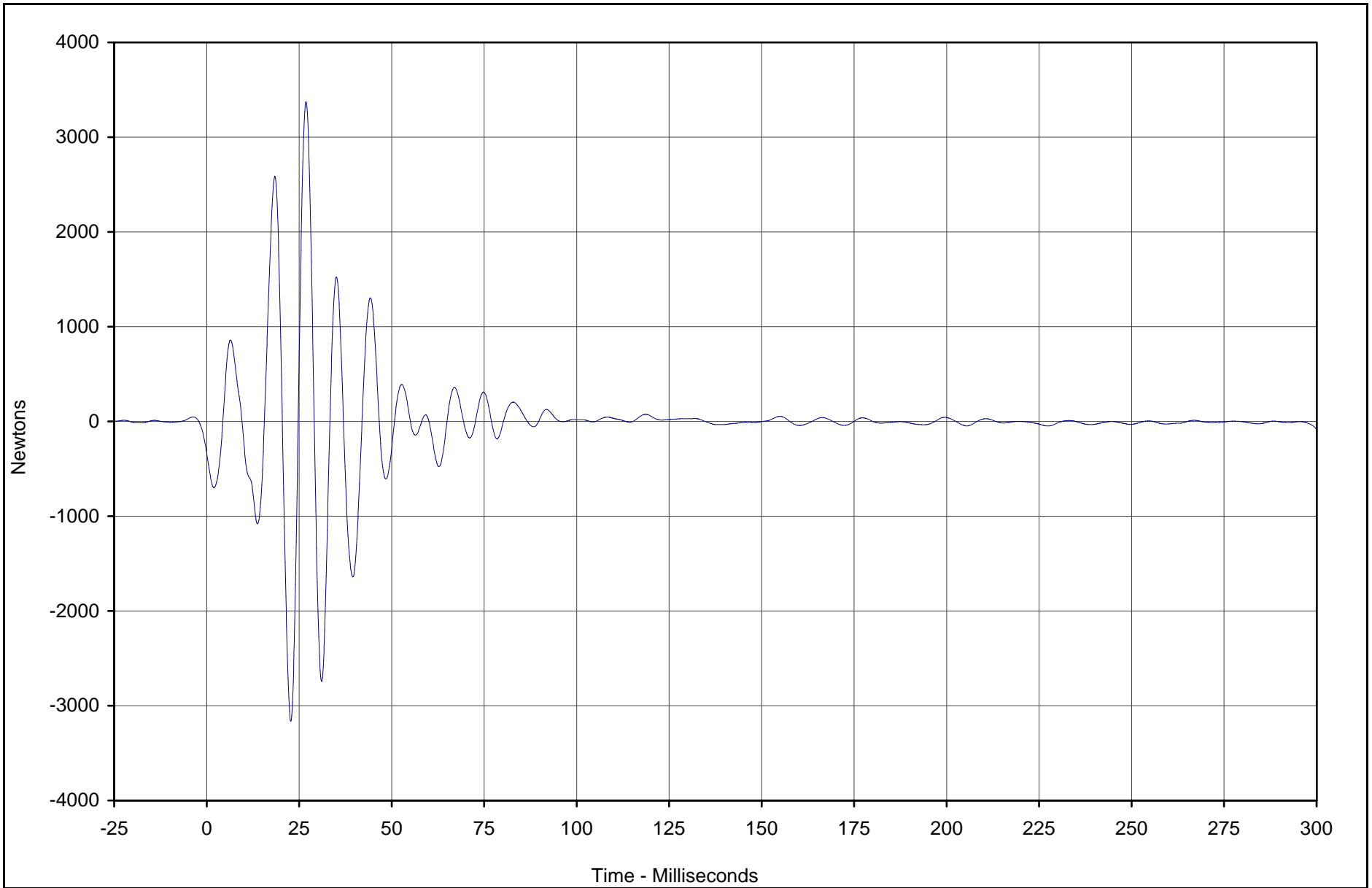
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-3



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A3	100	FIL	Newtons	3371.2	26.8	-3162.3	22.7	60



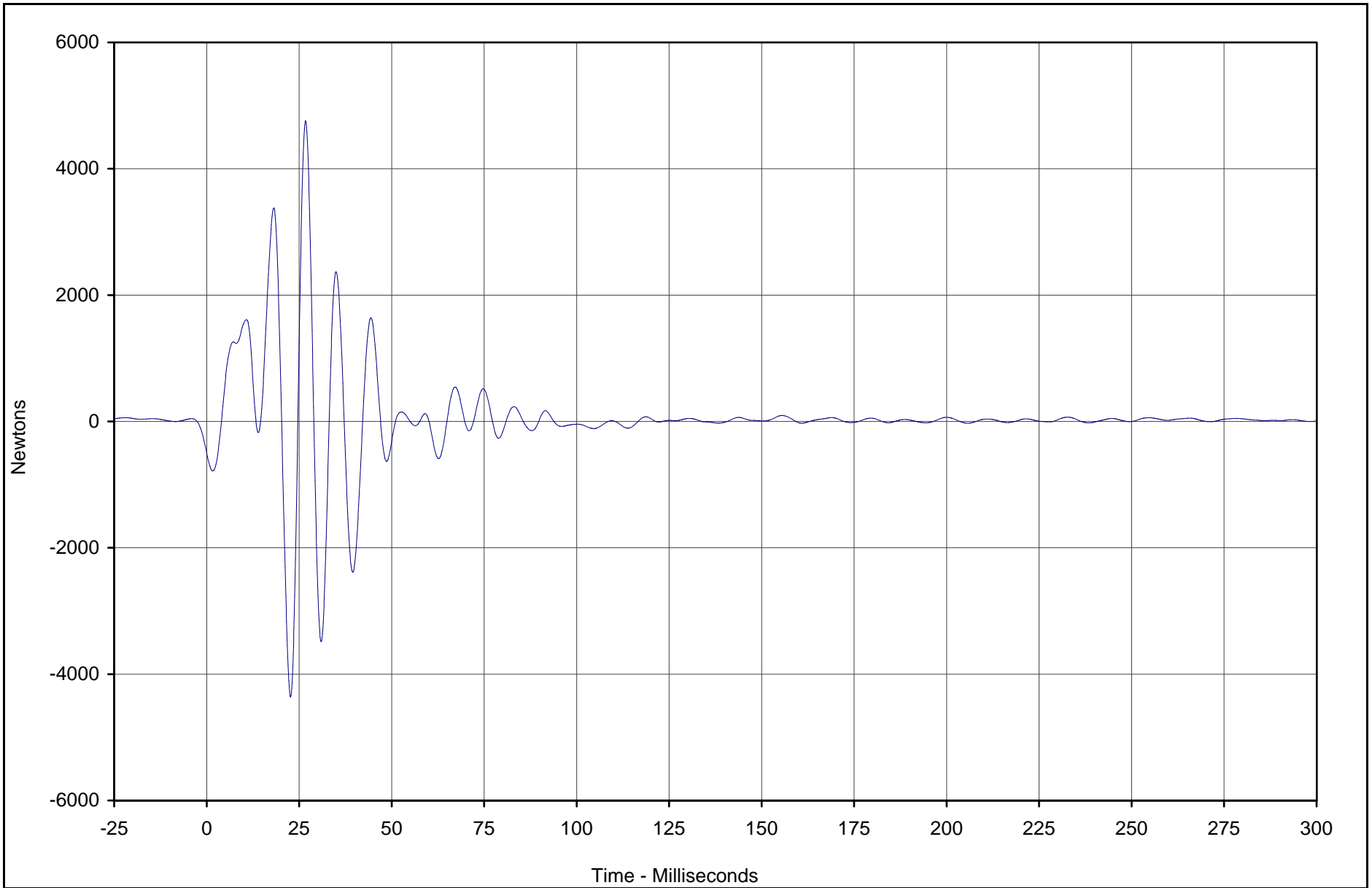
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-4



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A4	101	FIL	Newtons	4761.3	26.7	-4362.9	22.7	60



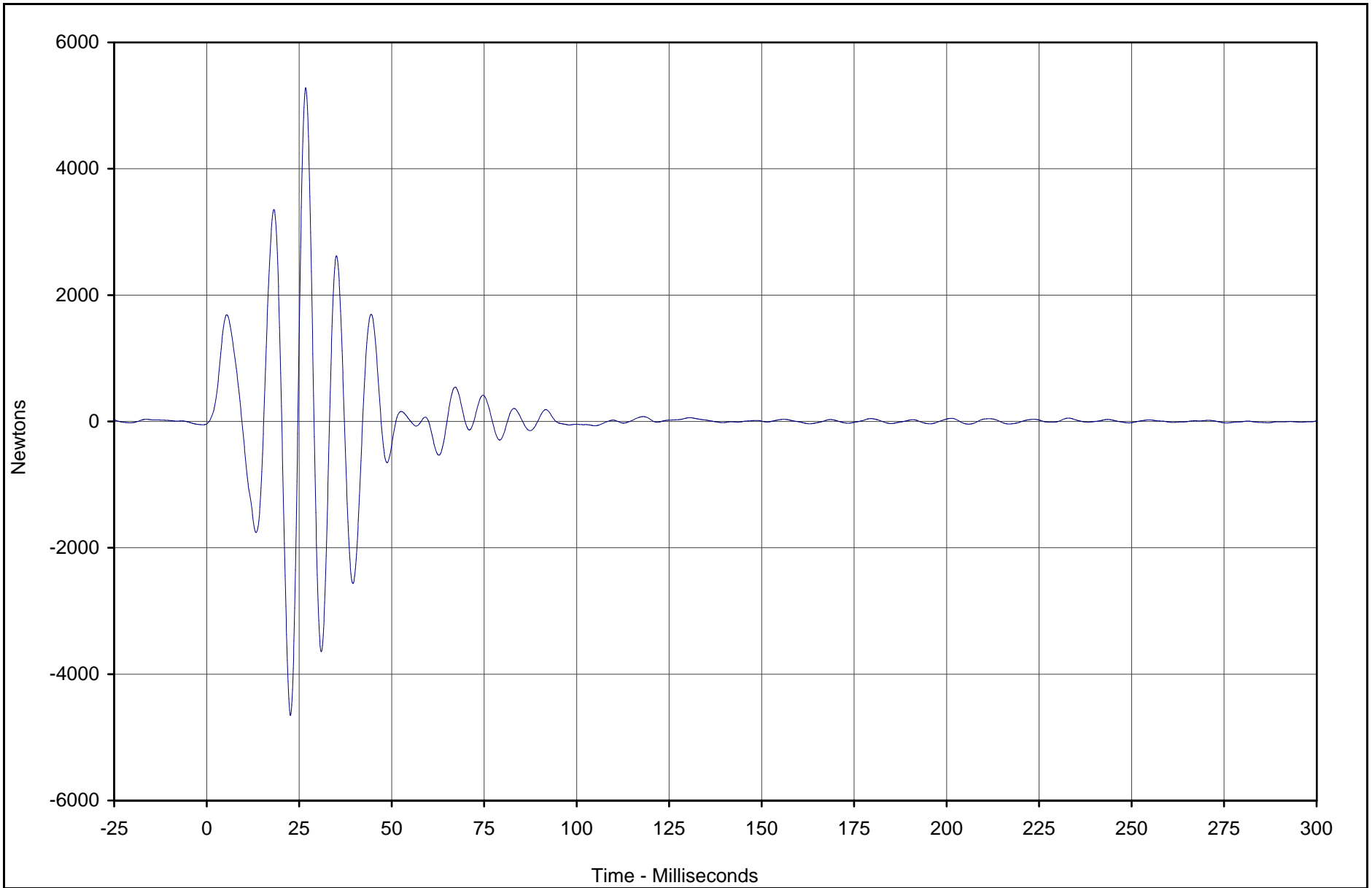
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-5



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A5	102	FIL	Newtons	5283.3	26.8	-4651.2	22.6	60



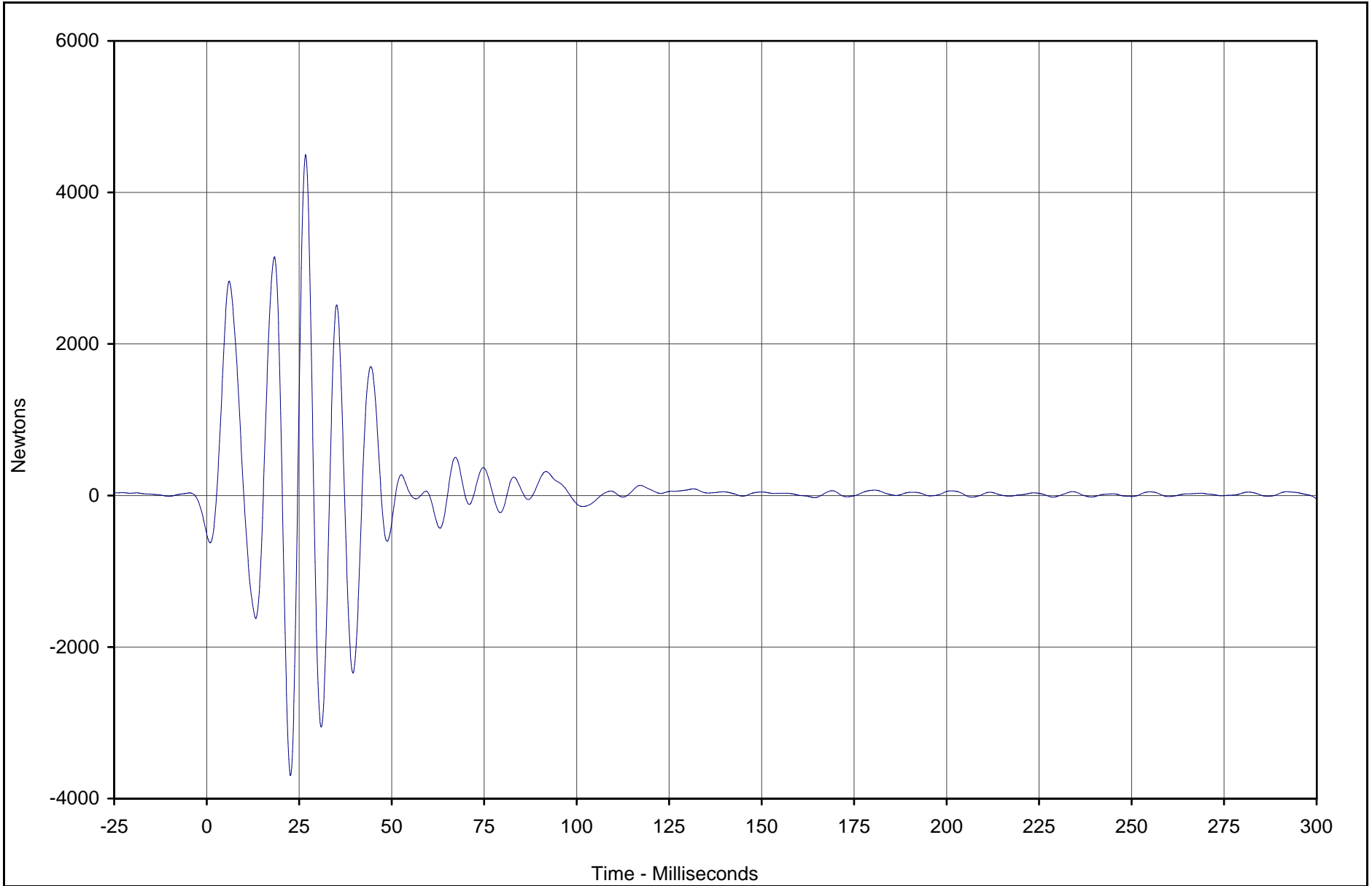
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-6



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A6	103	FIL	Newtons	4498.7	26.7	-3698.3	22.7	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

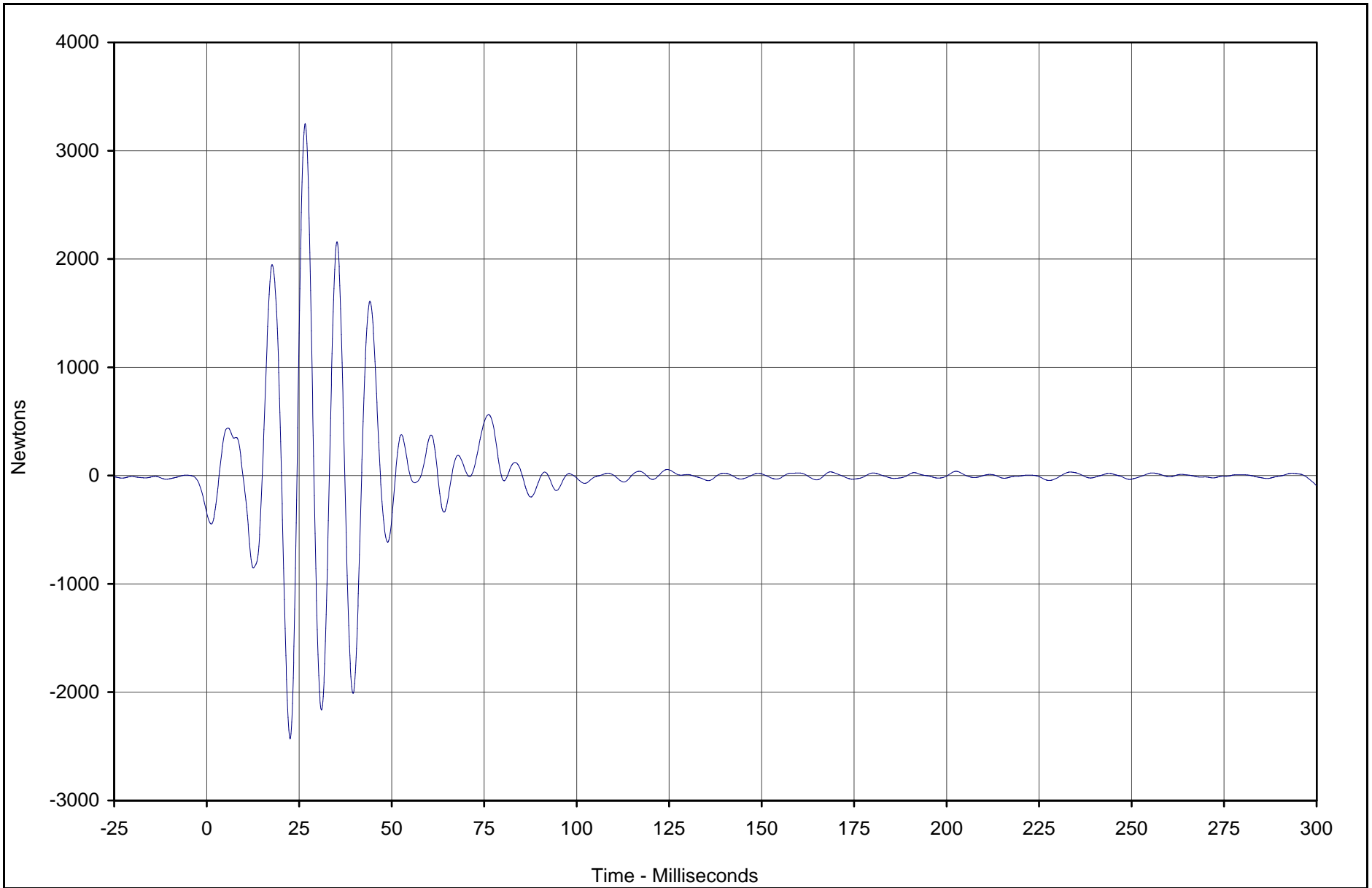
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-7

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A7	104	FIL	Newtons	3251.0	26.6	-2431.4	22.6	60

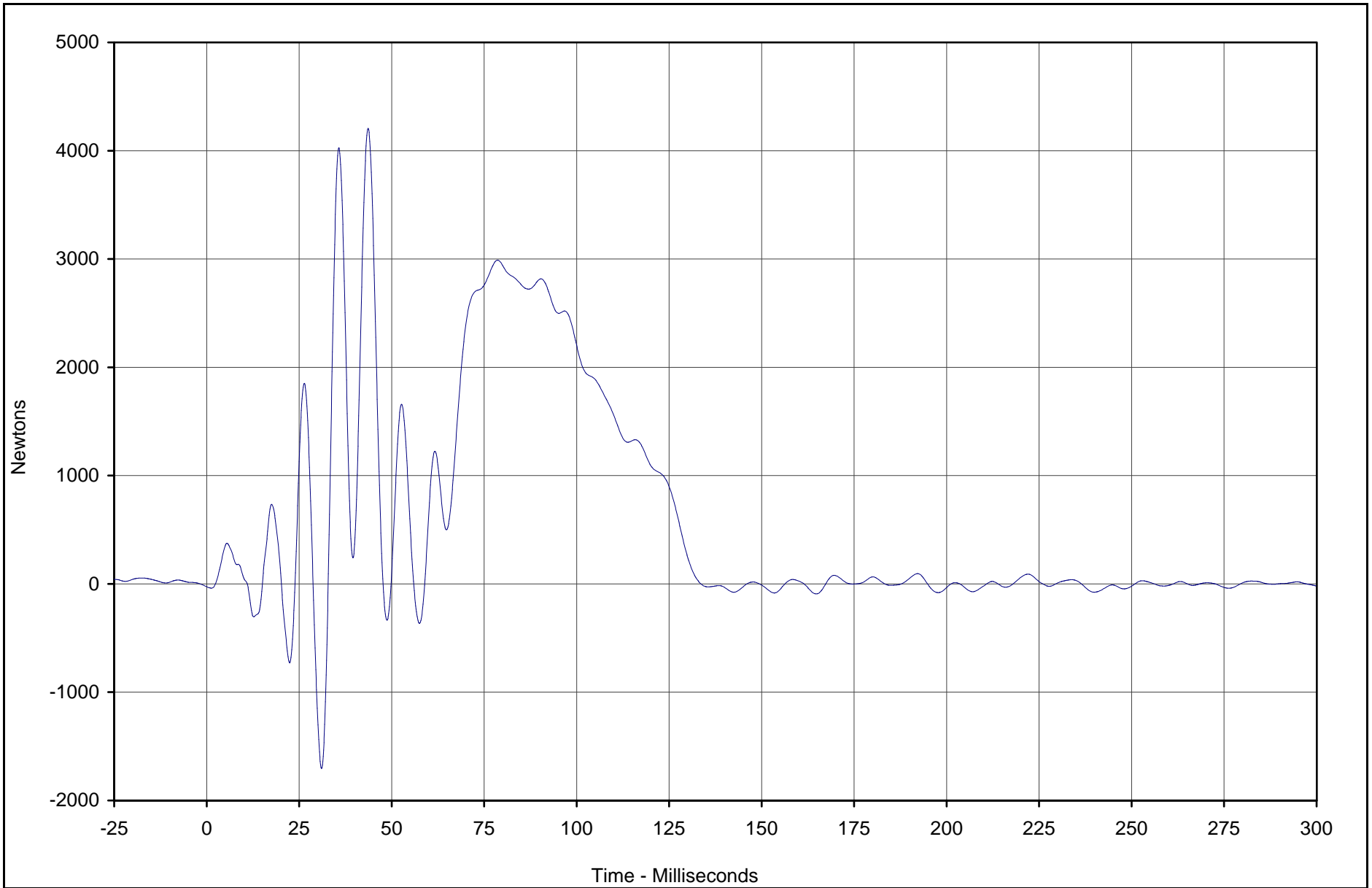


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A8	105	FIL	Newtons	4206.0	43.6	-1704.4	31.1	60



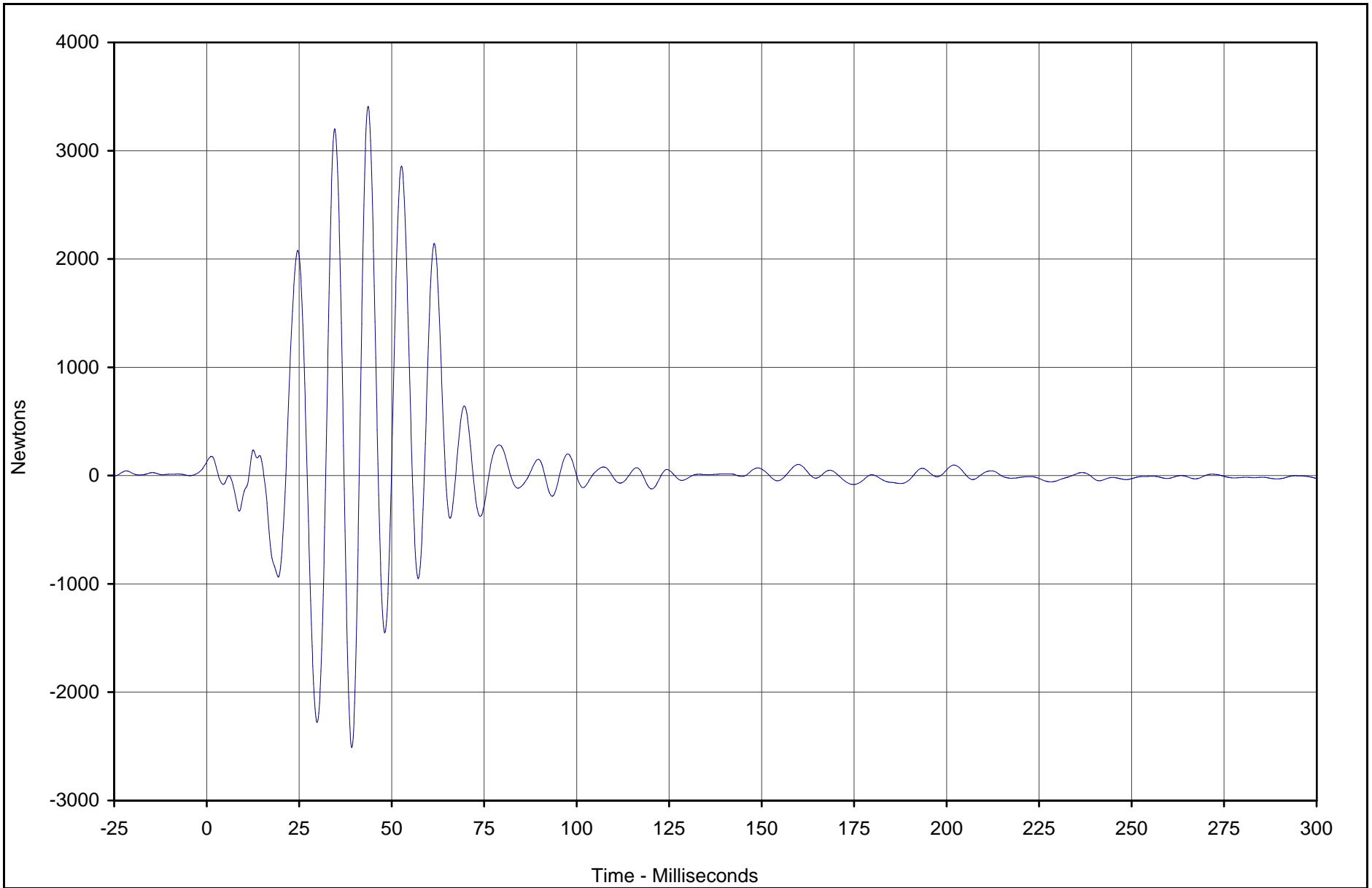
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-9



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force A9	106	FIL	Newtons	3409.8	43.6	-2510.5	39.2	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

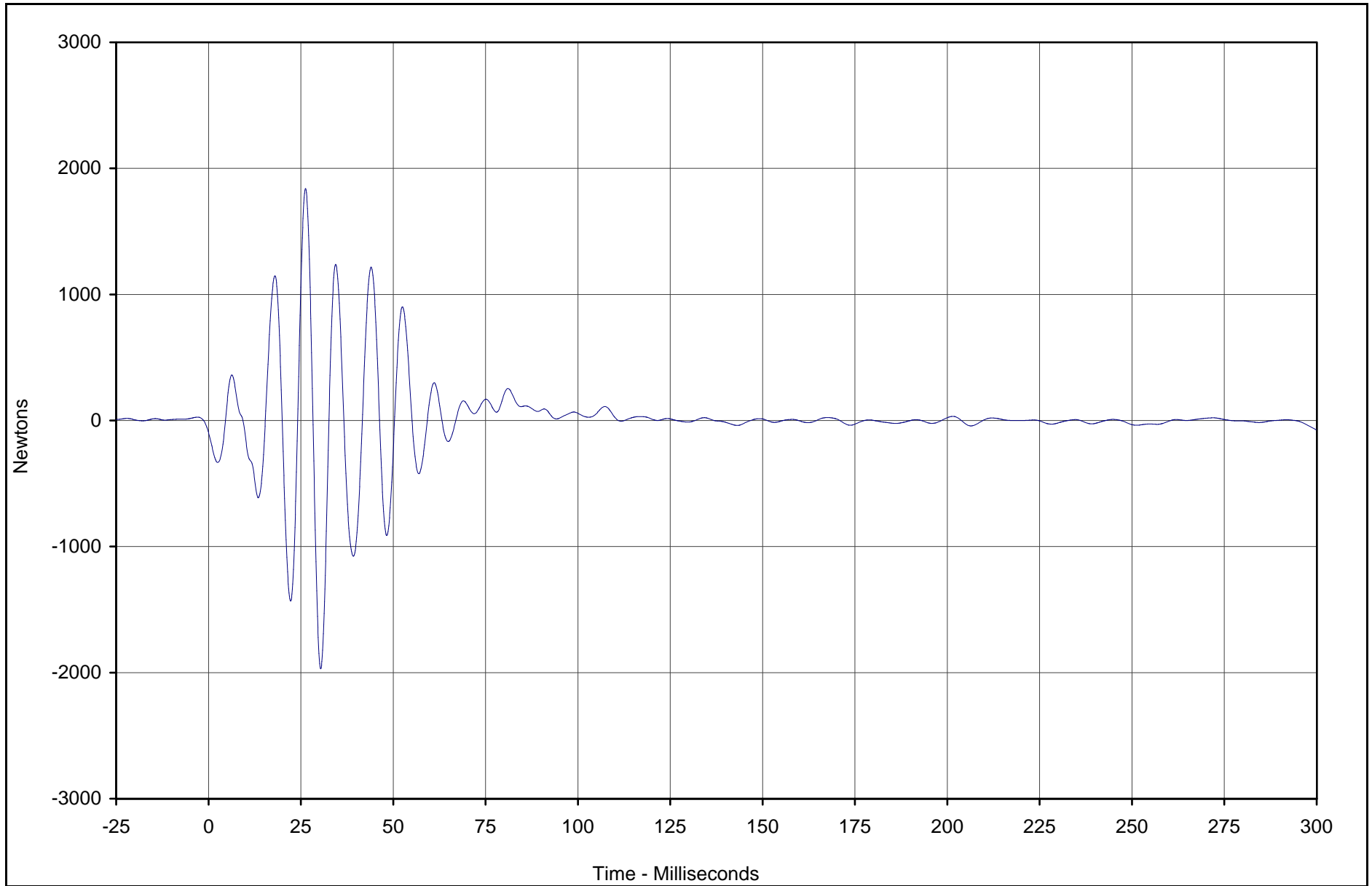
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-10

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B1	107	FIL	Newtons	1838.6	26.3	-1970.1	30.4	60



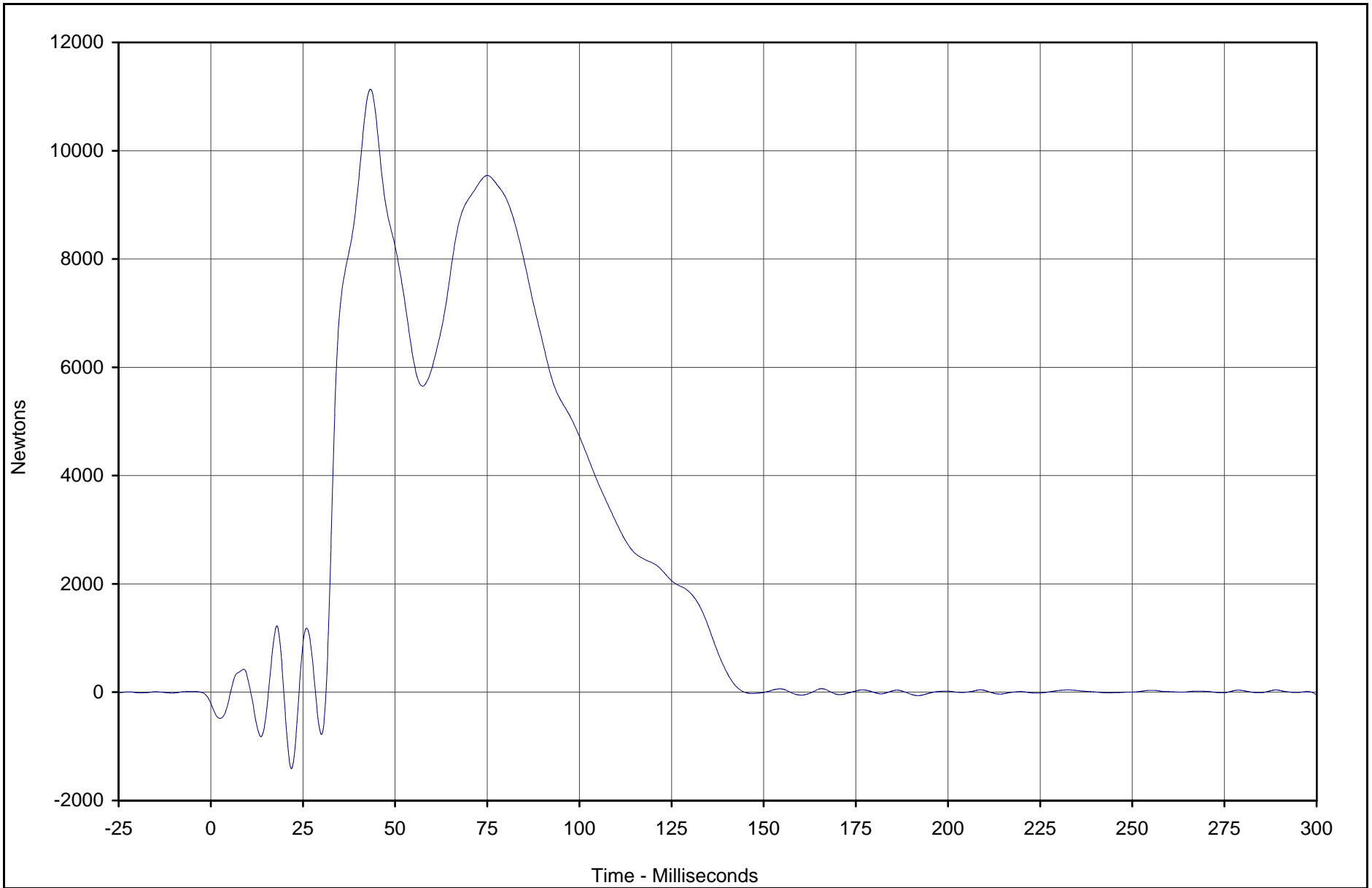
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-11



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B2	108	FIL	Newtons	11135.5	43.3	-1410.1	21.9	60



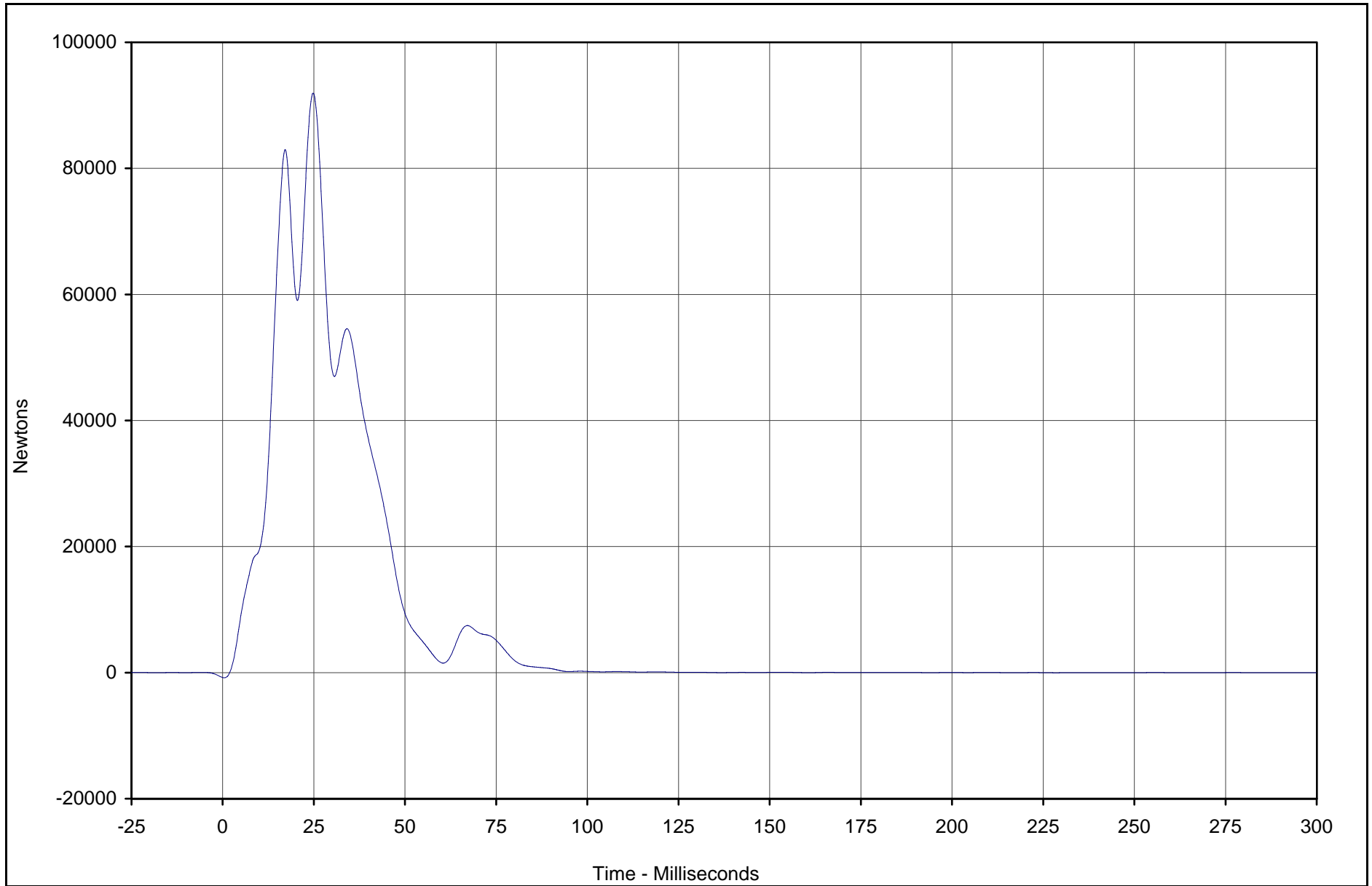
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-12



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B3	109	FIL	Newtons	91943.8	24.8	-820.8	0.4	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

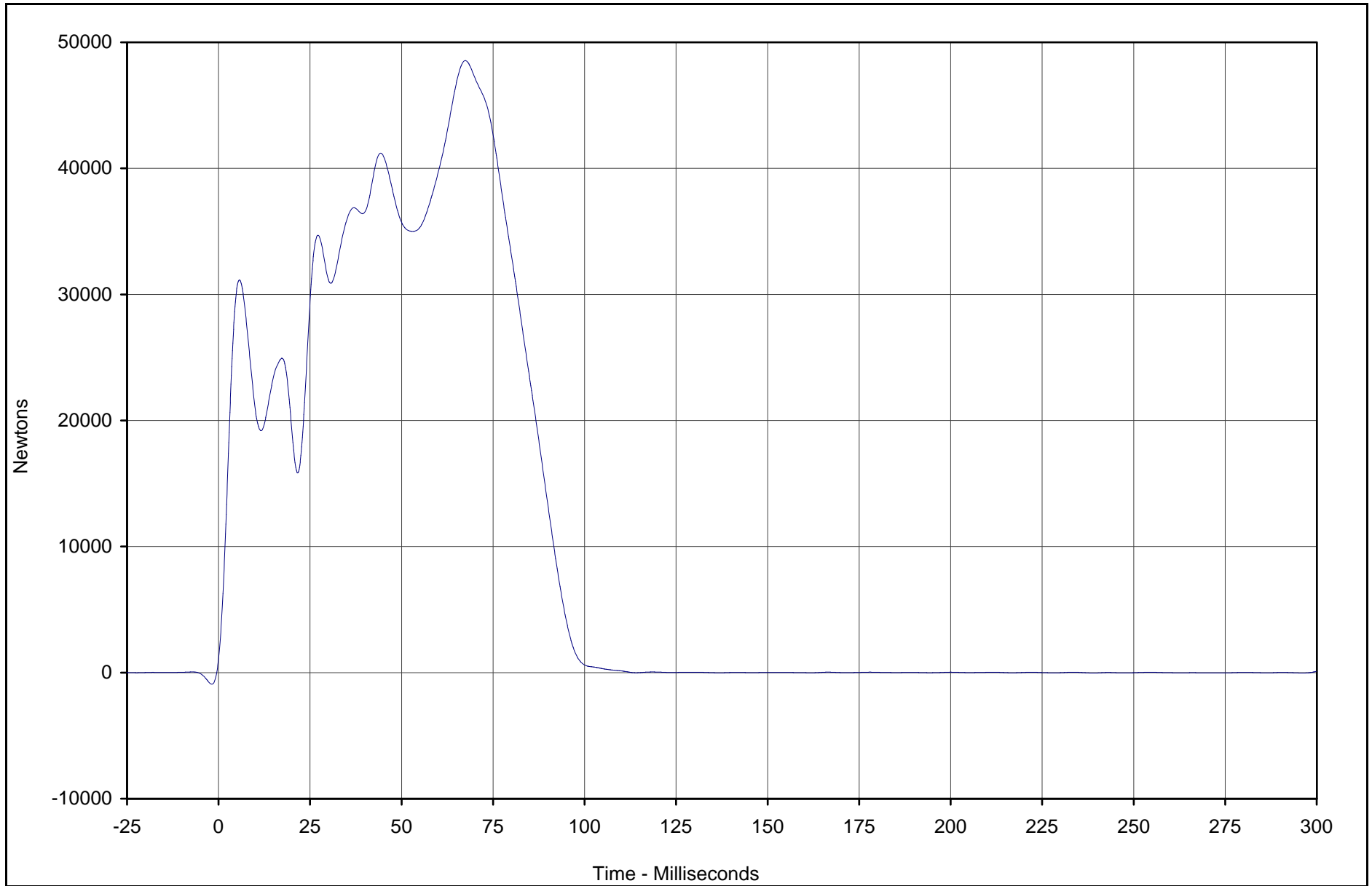
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

C-13



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B4	110	FIL	Newtons	48547.5	67.4	-36.3	239.0	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

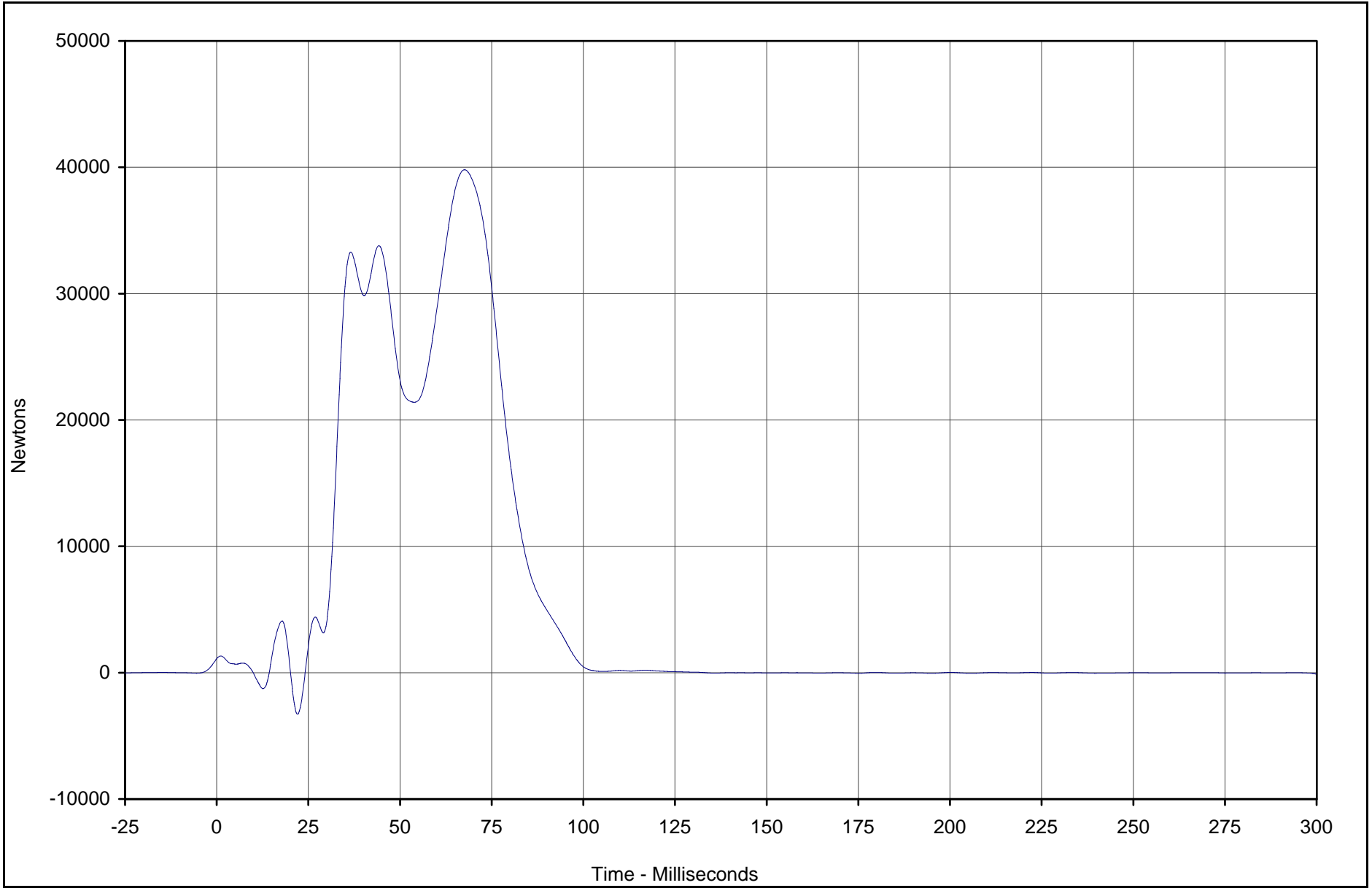
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-14

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B5	111	FIL	Newtons	39805.4	67.6	-3289.3	22.0	60



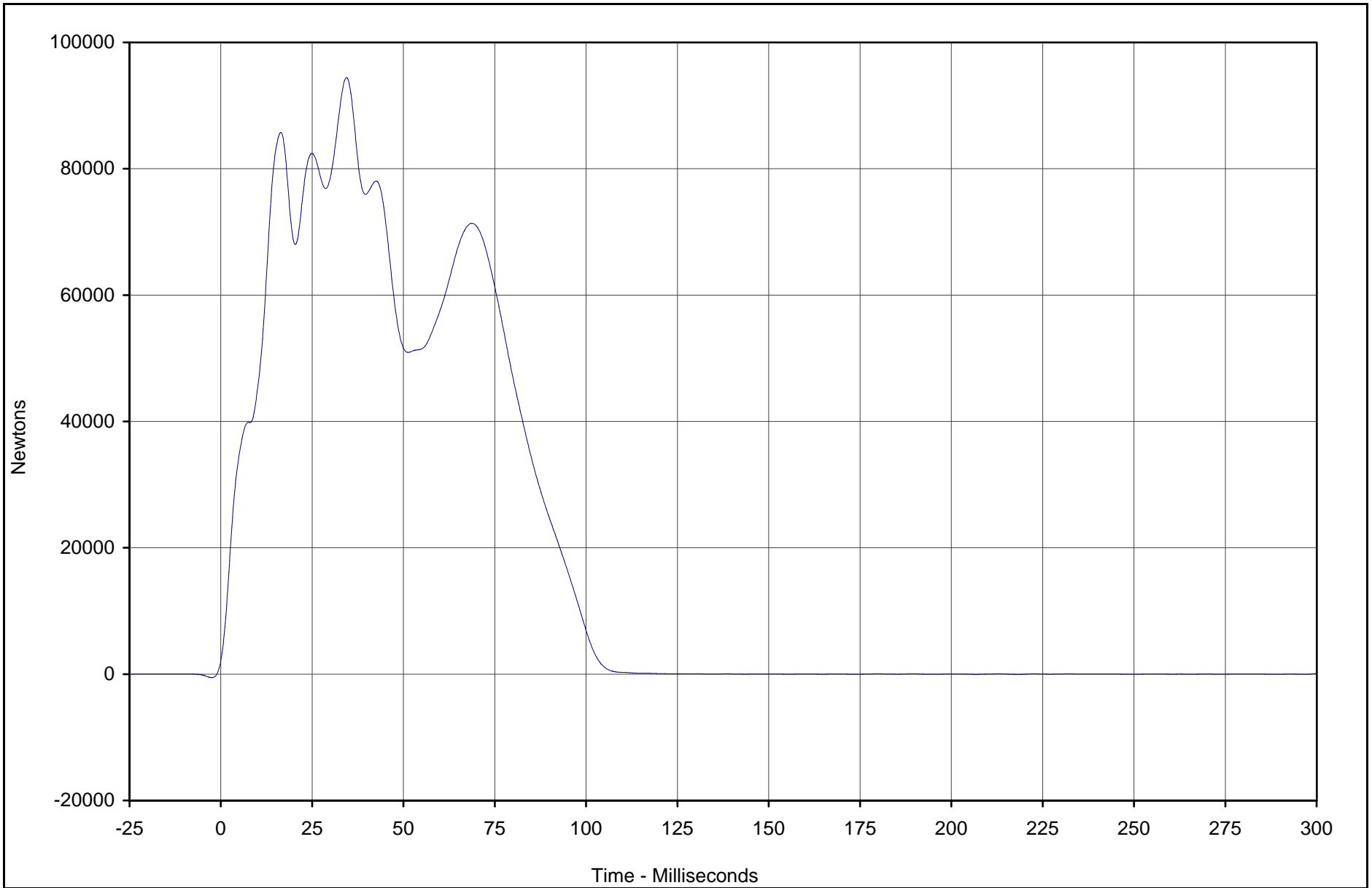
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-15



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B6	112	FIL	Newtons	94445.0	34.4	-33.2	218.3	60

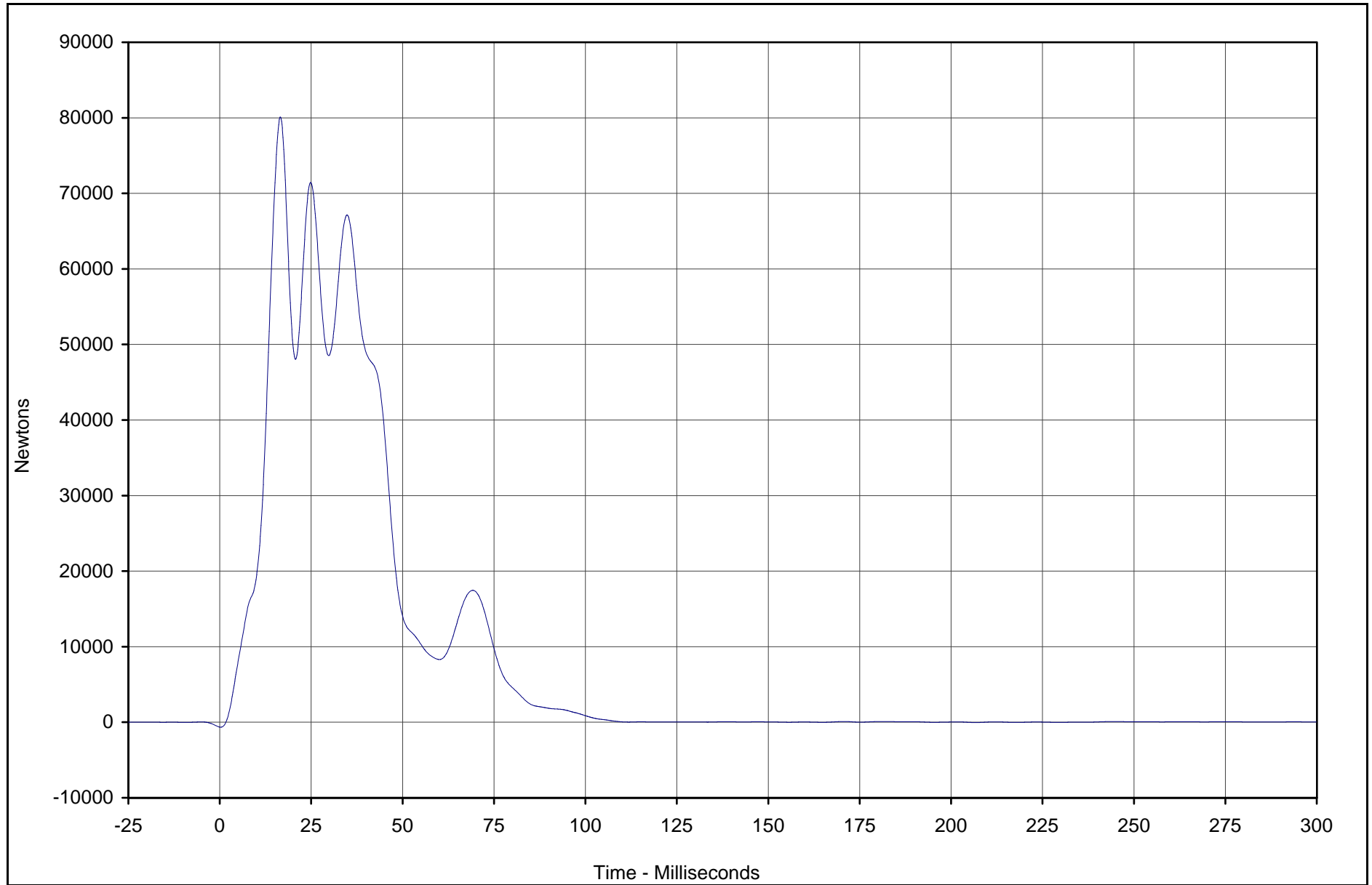


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B7	113	FIL	Newtons	80100.5	16.6	-657.6	0.2	60

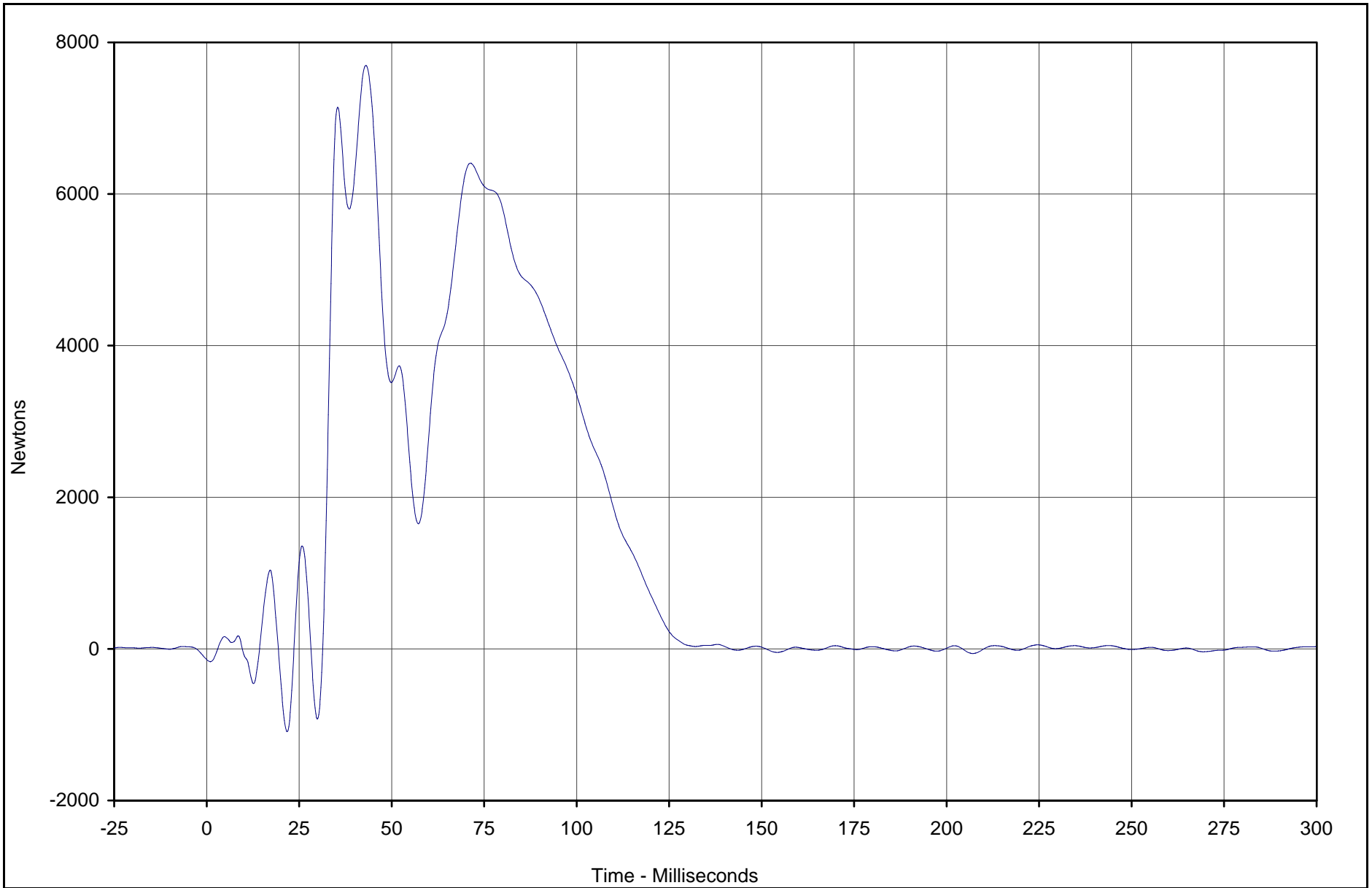


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B8	114	FIL	Newtons	7697.6	43.0	-1092.2	21.8	60

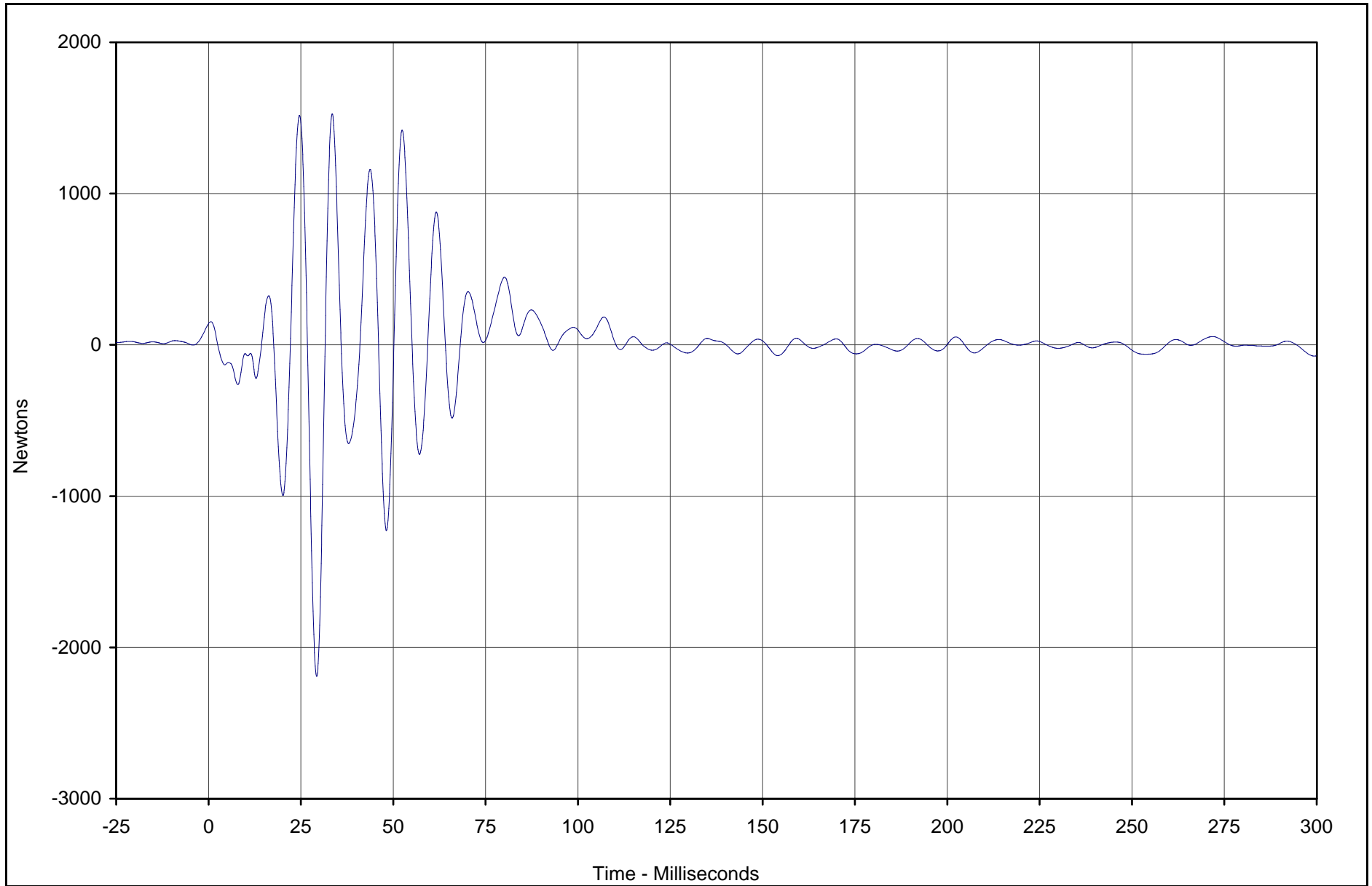


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force B9	115	FIL	Newtons	1527.5	33.5	-2191.6	29.3	60



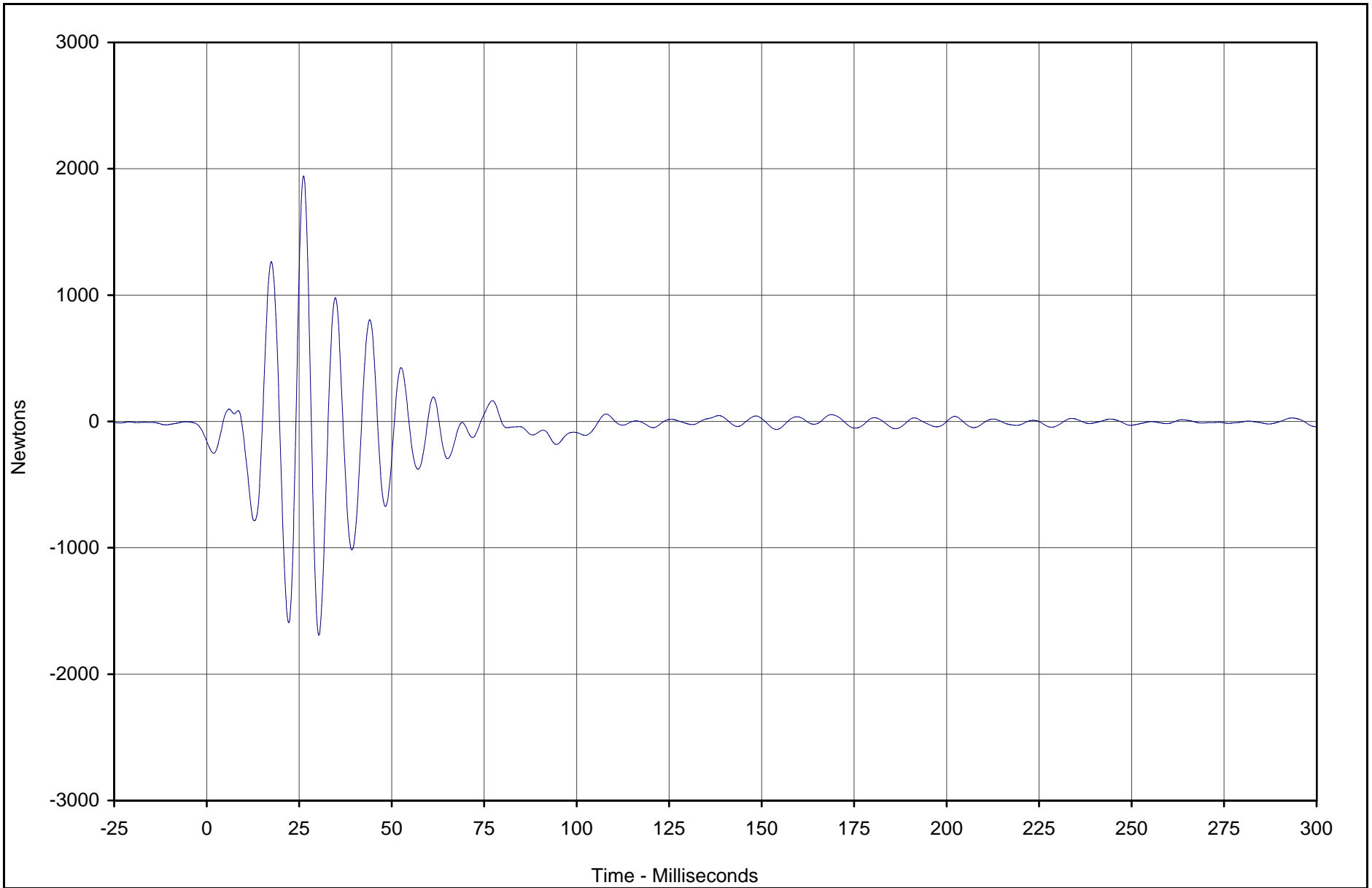
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-19



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C1	116	FIL	Newtons	1943.8	26.2	-1692.2	30.3	60



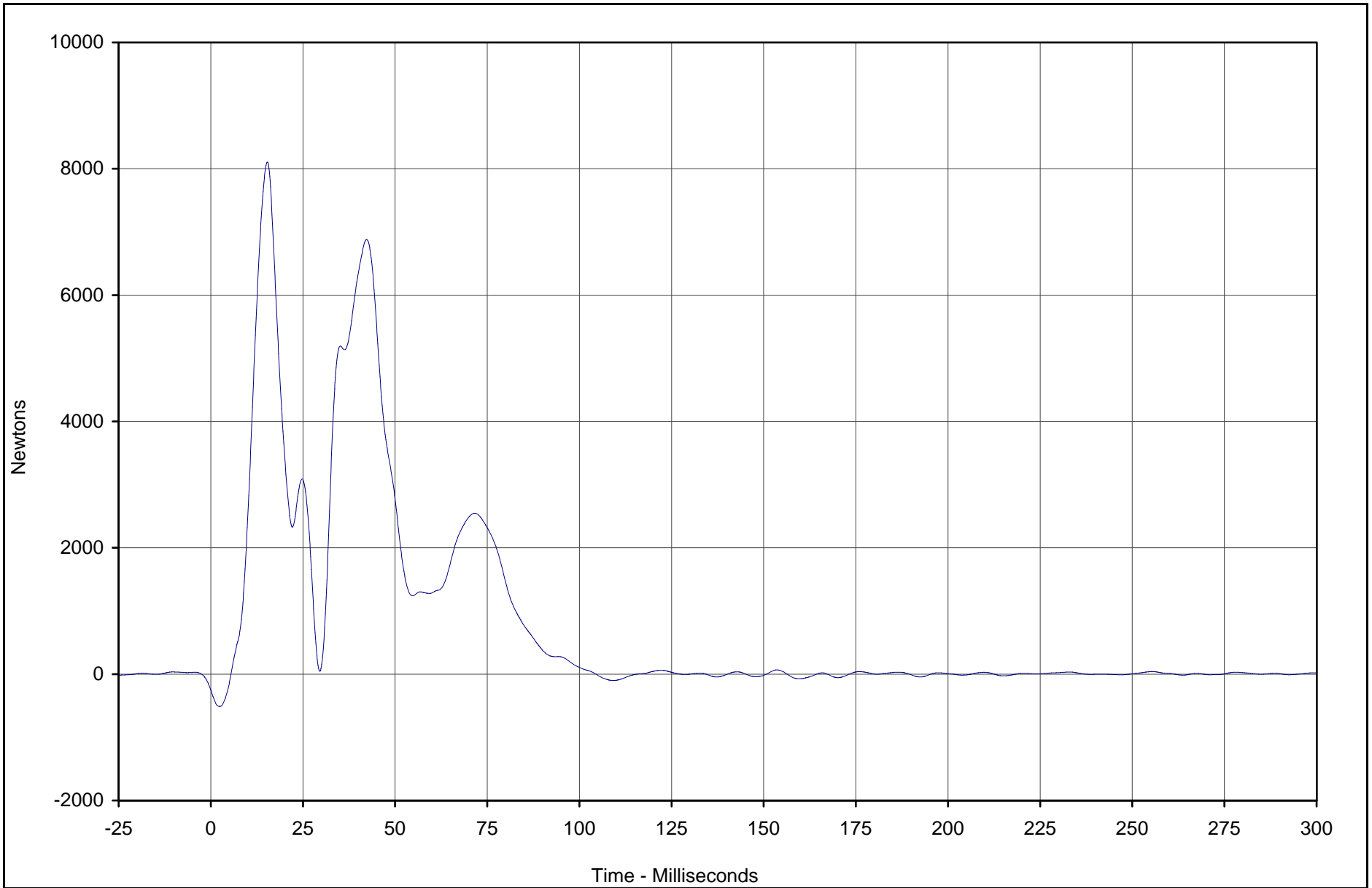
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-20



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C2	117	FIL	Newtons	8106.4	15.4	-511.0	2.4	60

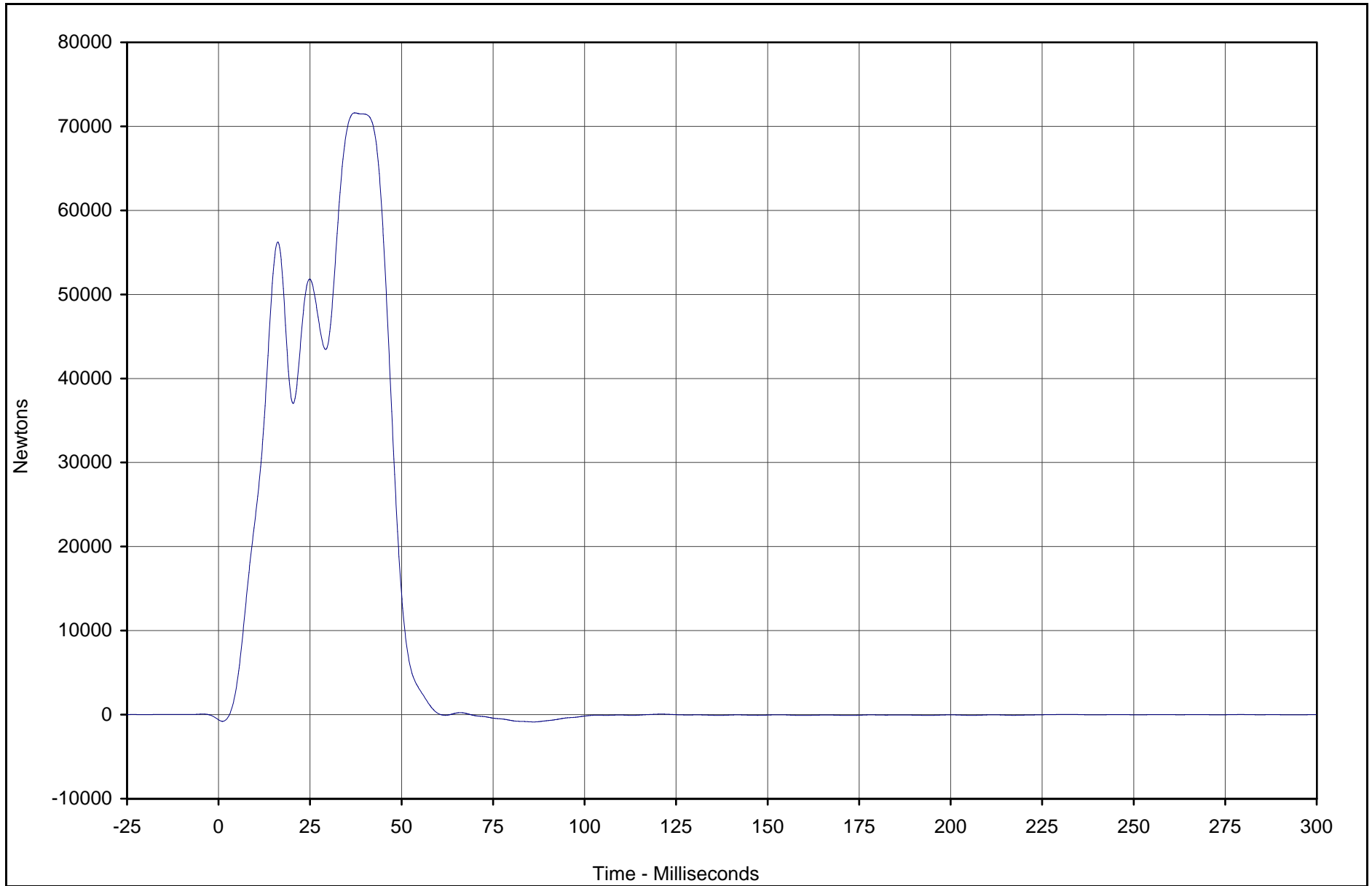


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C3	118	FIL	Newtons	71603.6	37.2	-867.1	86.1	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

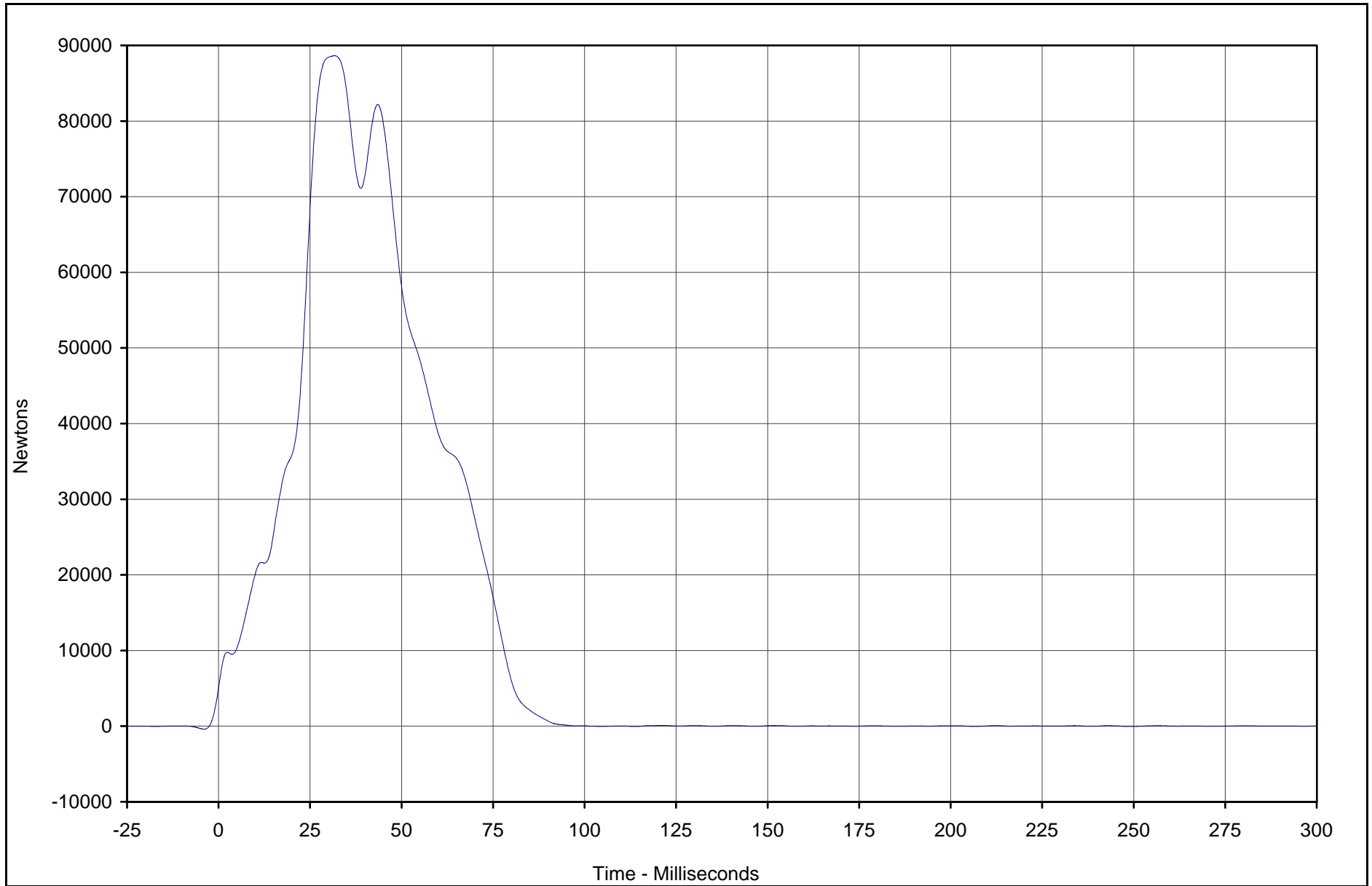
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-22

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C4	119	FIL	Newtons	88639.1	31.7	-46.1	113.8	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

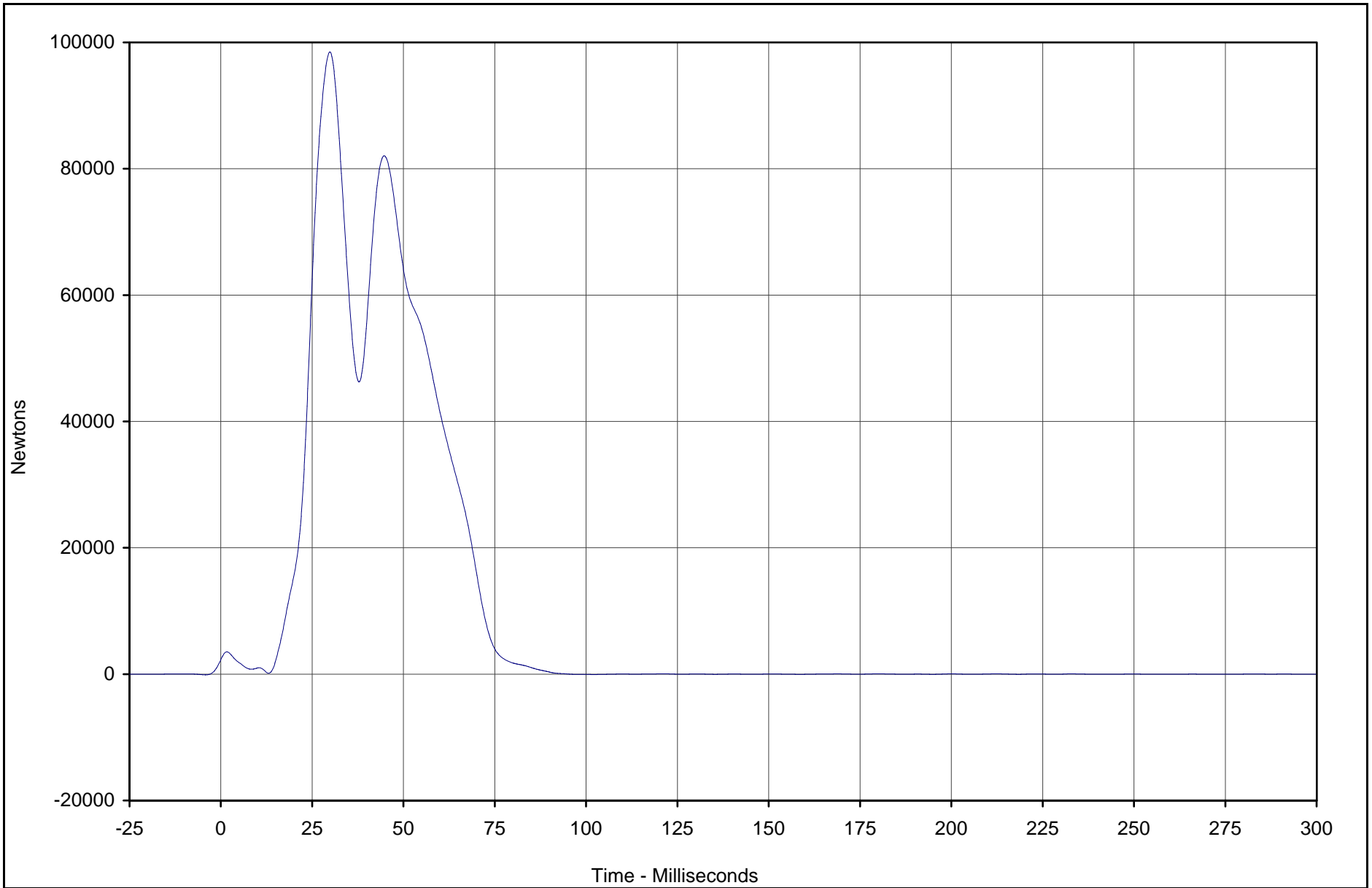
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-23

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C5	120	FIL	Newtons	98478.2	29.8	-63.4	102.1	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

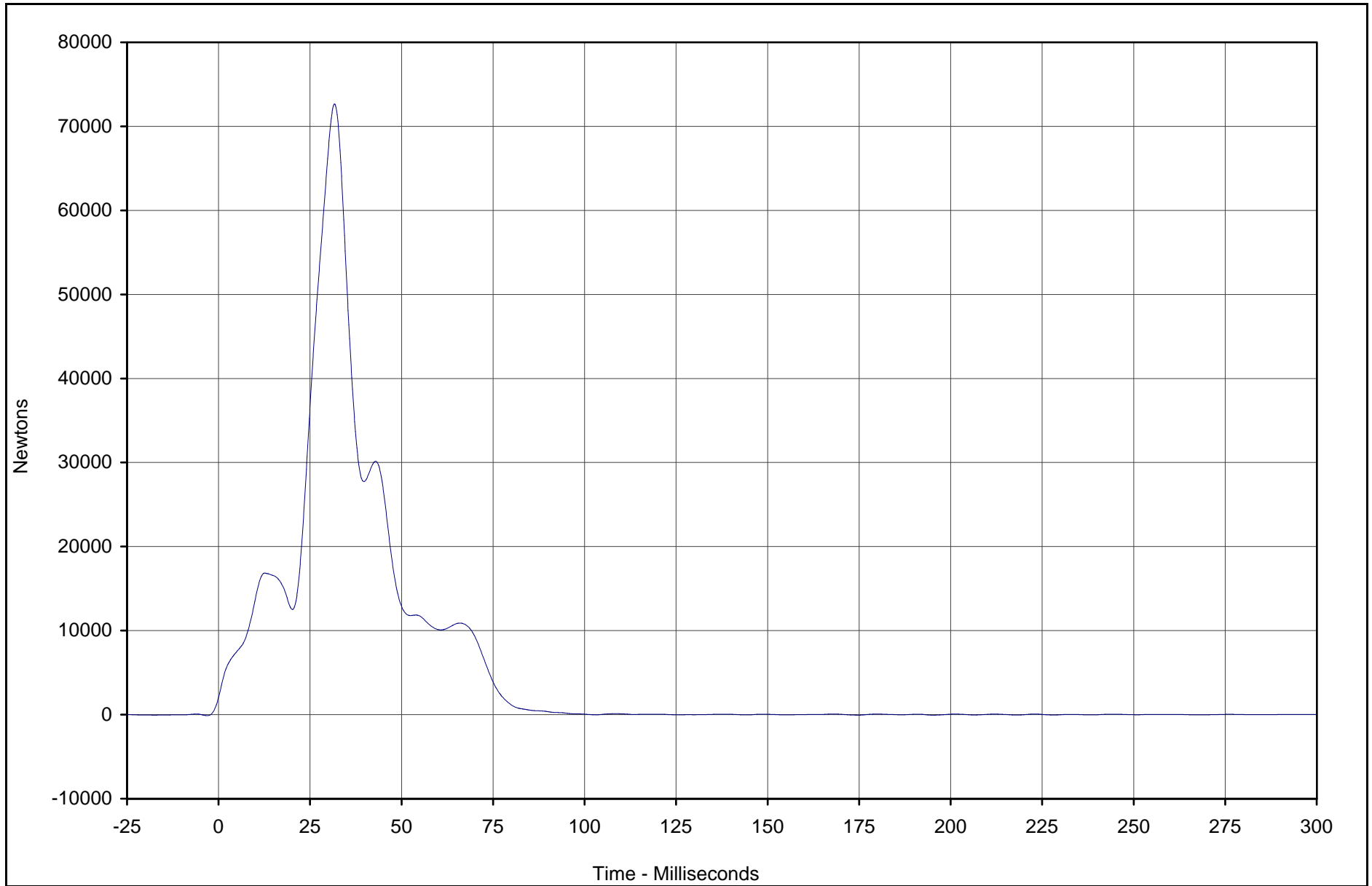
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-24

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C6	121	FIL	Newtons	72664.0	31.7	-62.8	195.2	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

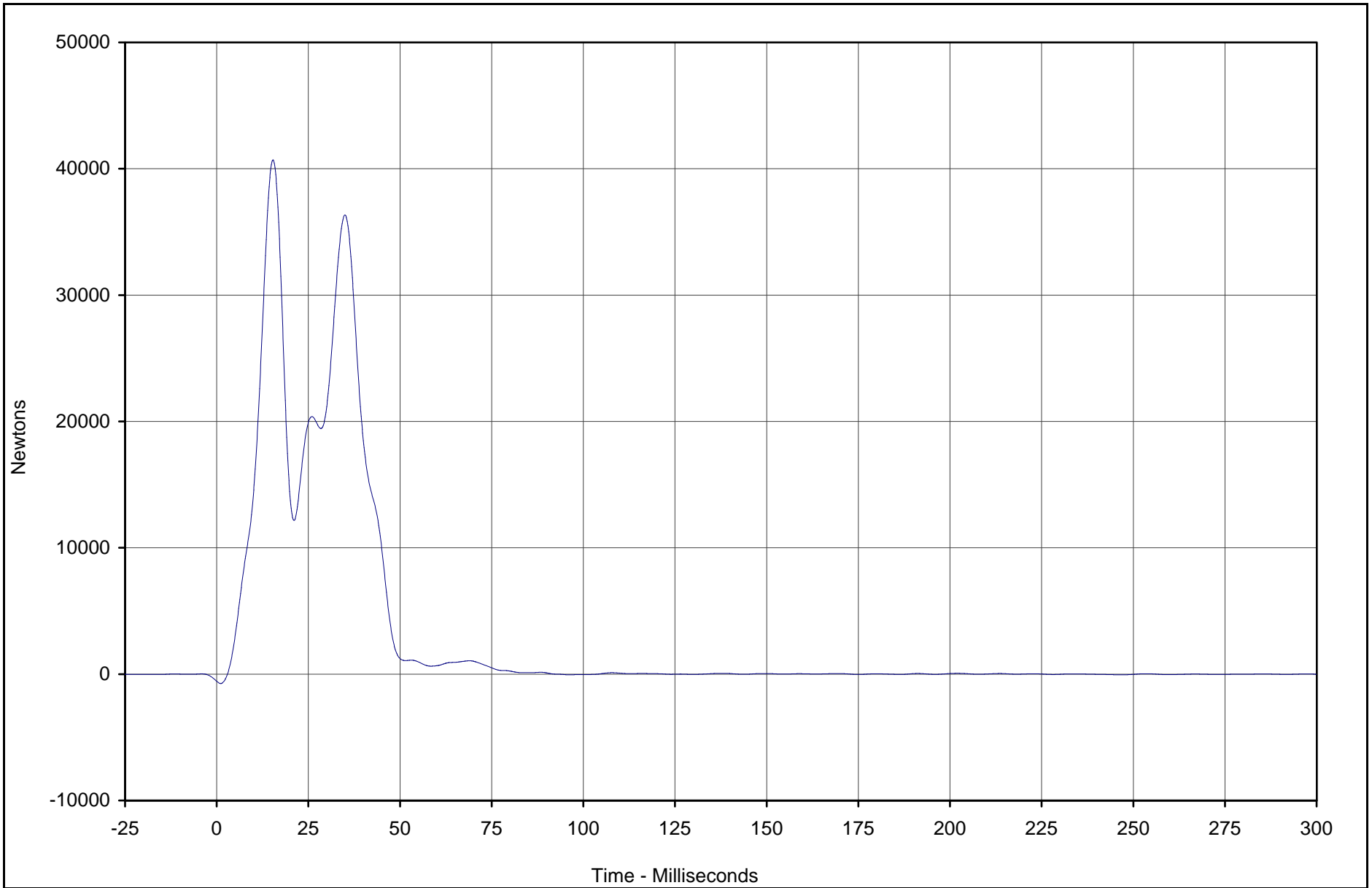
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-25

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C7	122	FIL	Newtons	40704.2	15.3	-741.2	1.1	60

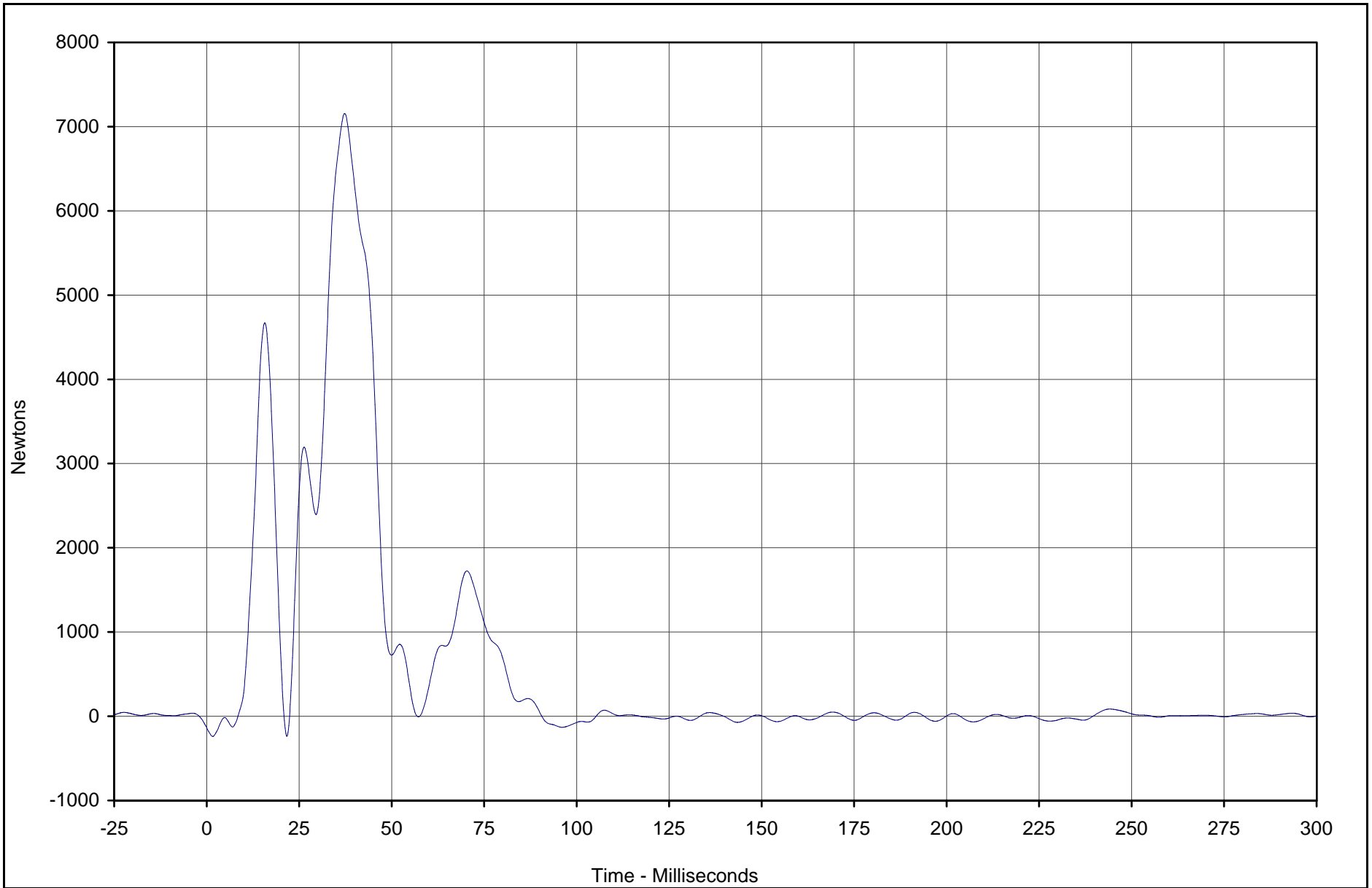


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C8	123	FIL	Newtons	7155.4	37.3	-239.0	1.7	60

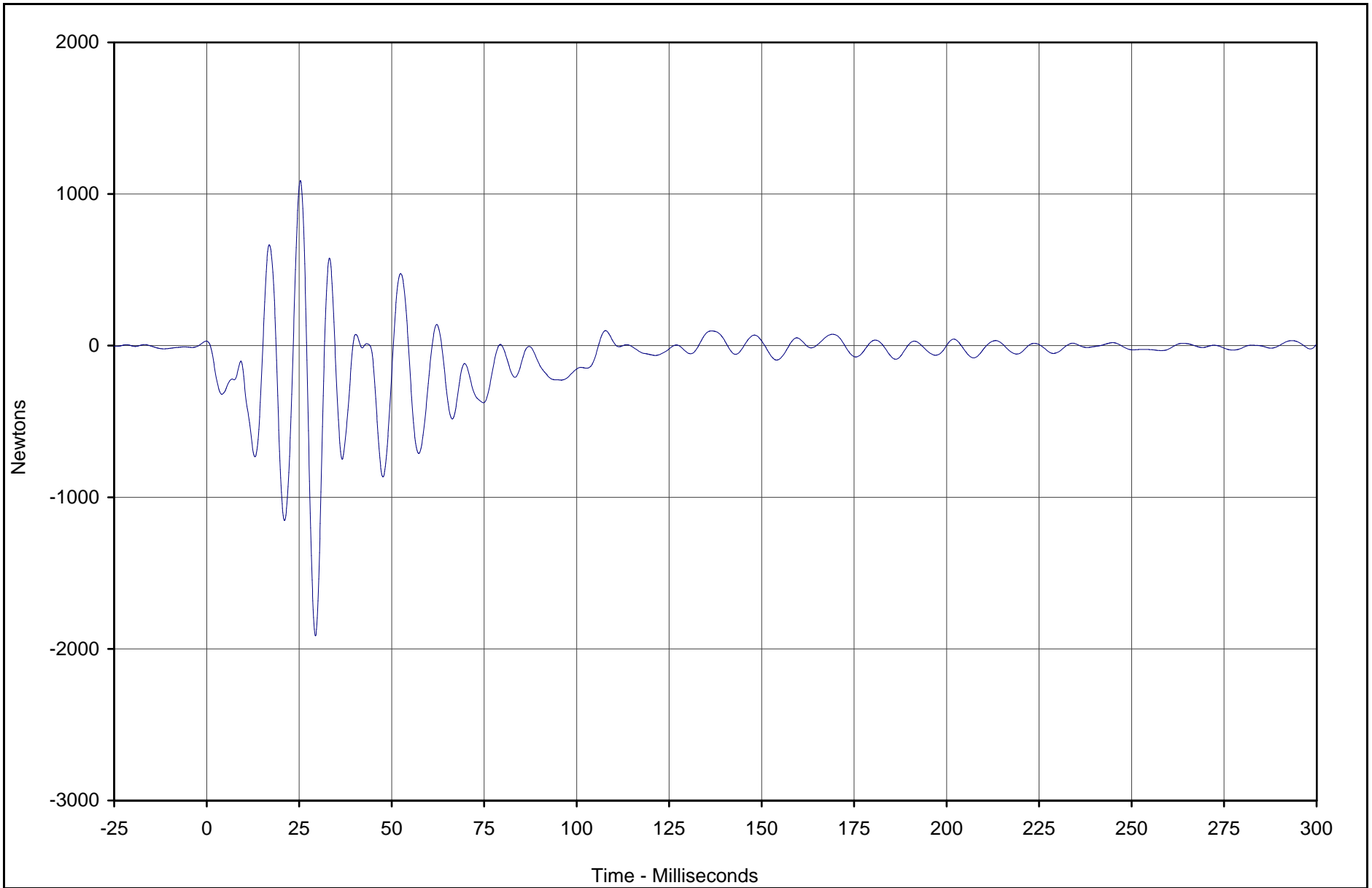


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force C9	124	FIL	Newtons	1088.5	25.3	-1914.8	29.4	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

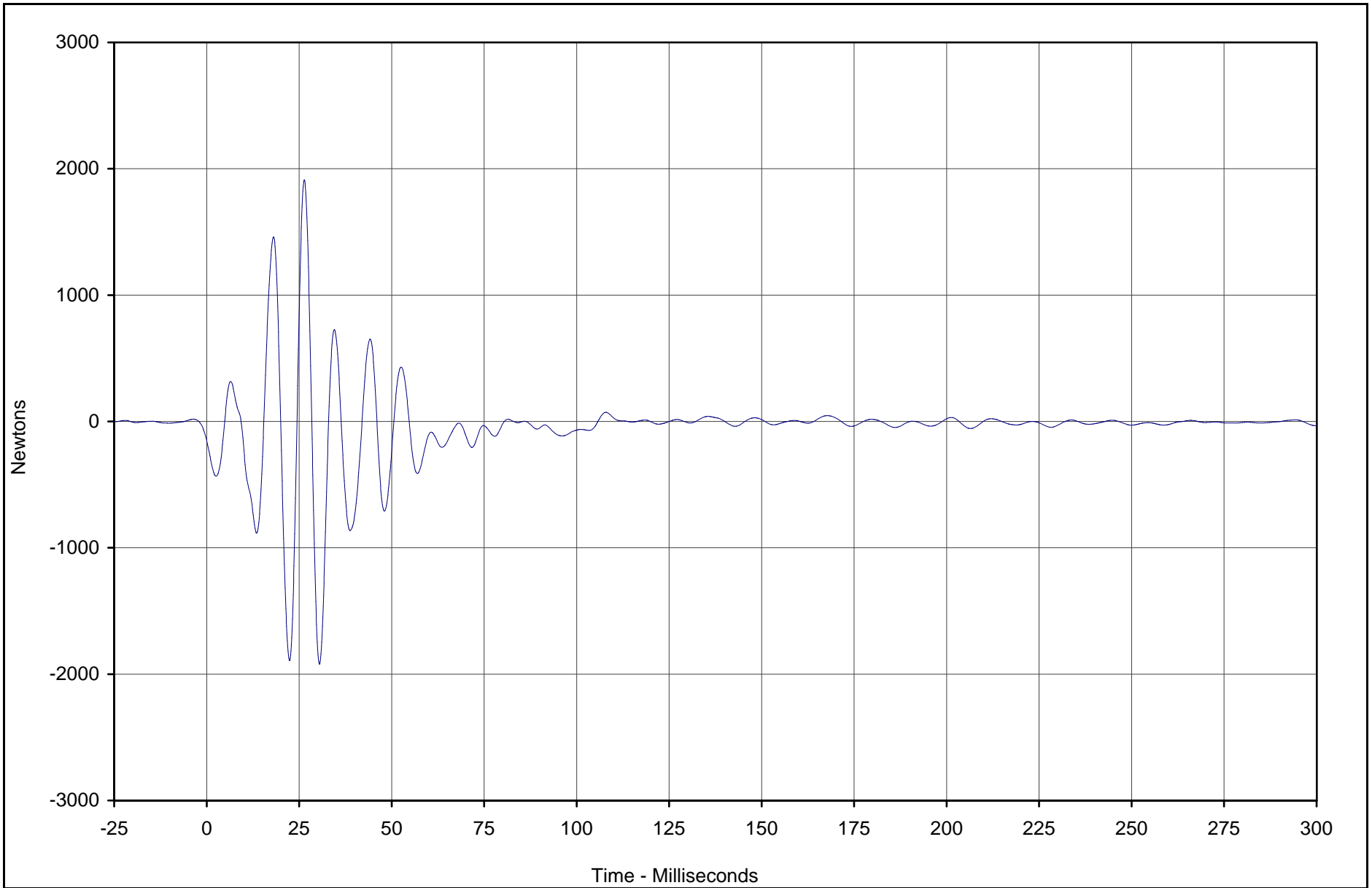
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-28

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D1	125	FIL	Newtons	1912.1	26.4	-1922.1	30.5	60

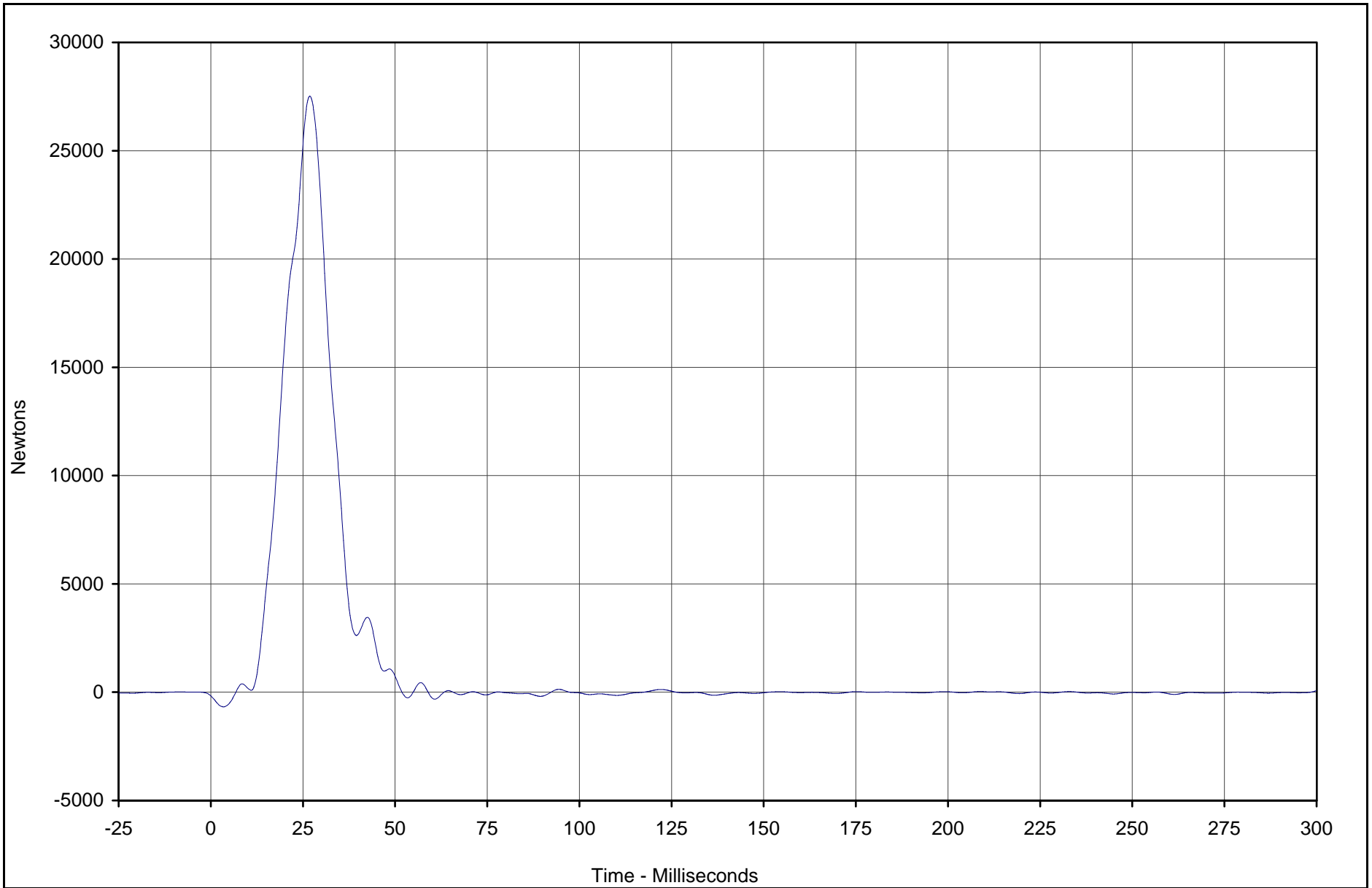


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D2	126	FIL	Newtons	27523.7	26.9	-677.1	3.4	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

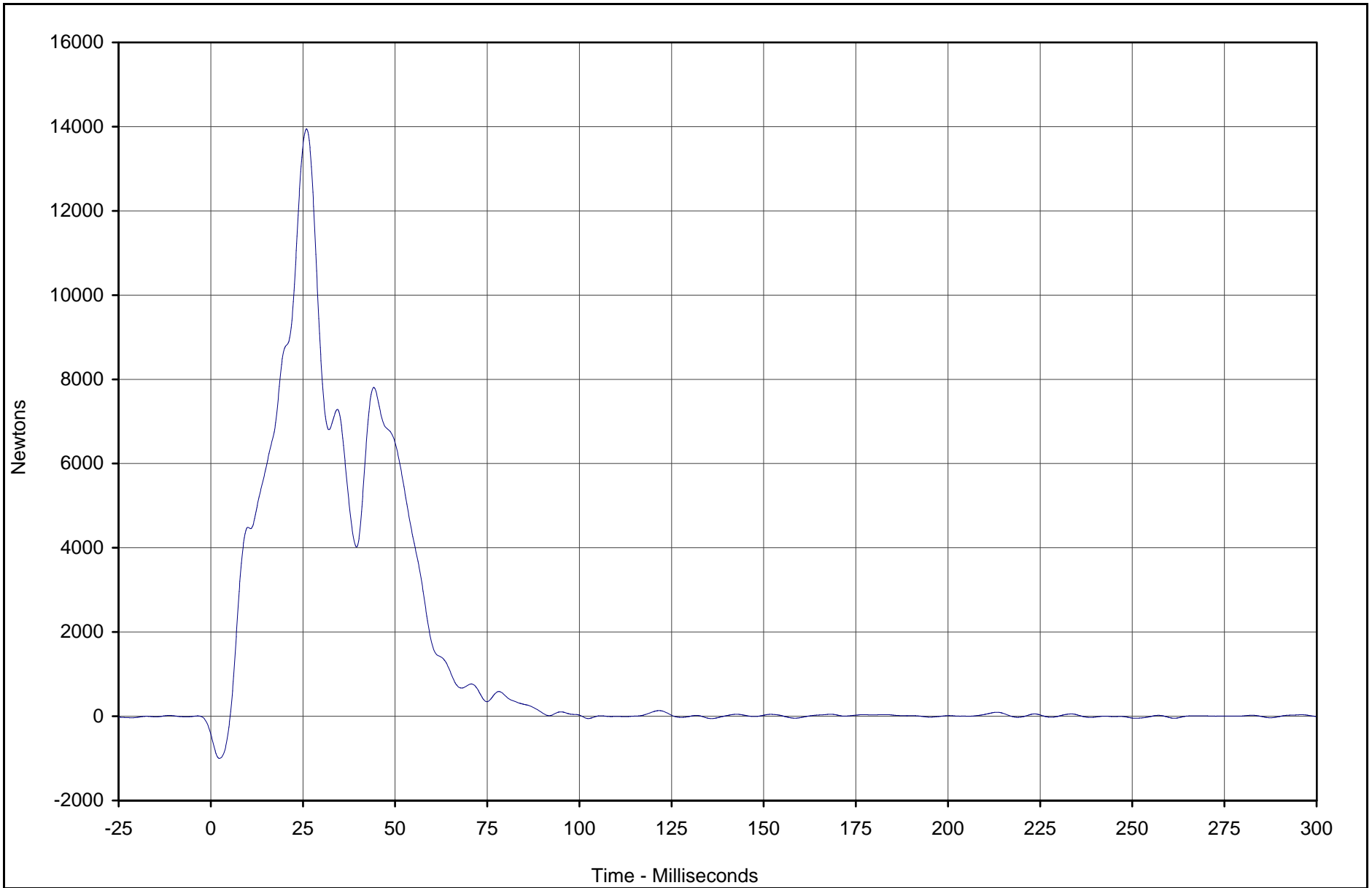
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-30

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D3	127	FIL	Newtons	13947.8	26.0	-1000.9	2.3	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

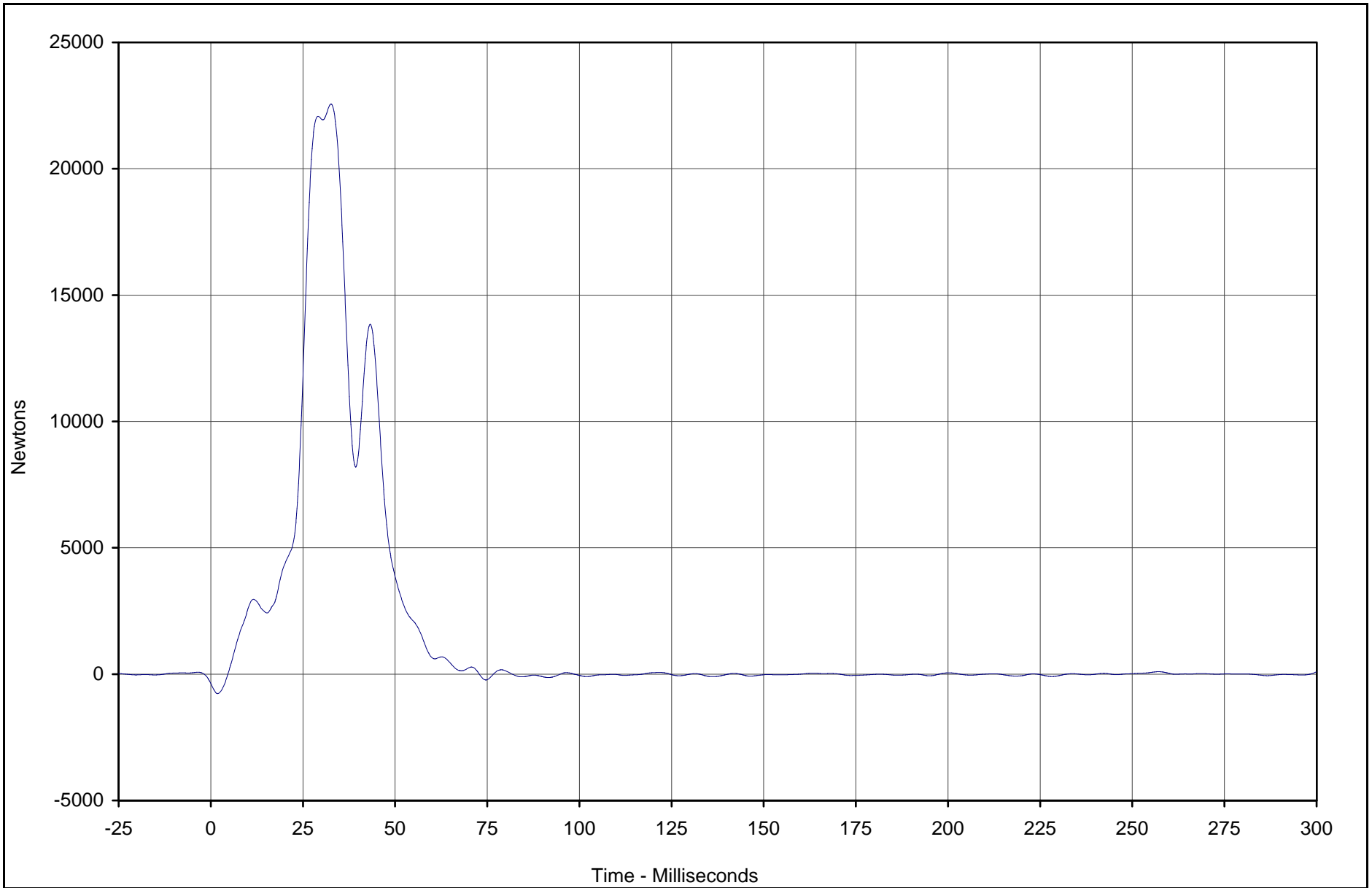
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-31

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D4	128	FIL	Newtons	22563.5	32.6	-771.2	1.8	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

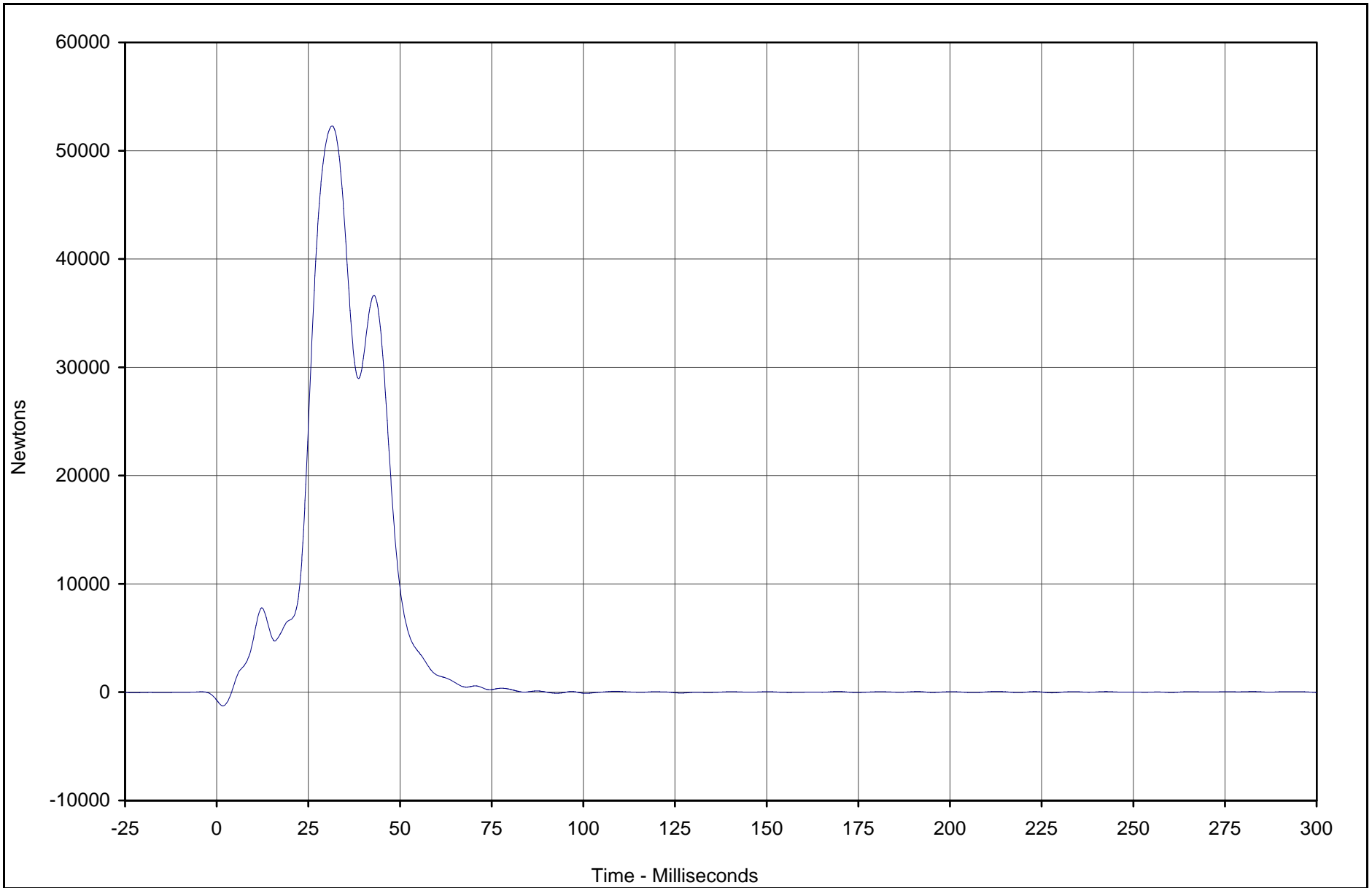
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-32

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D5	129	FIL	Newtons	52281.0	31.5	-1265.8	1.7	60

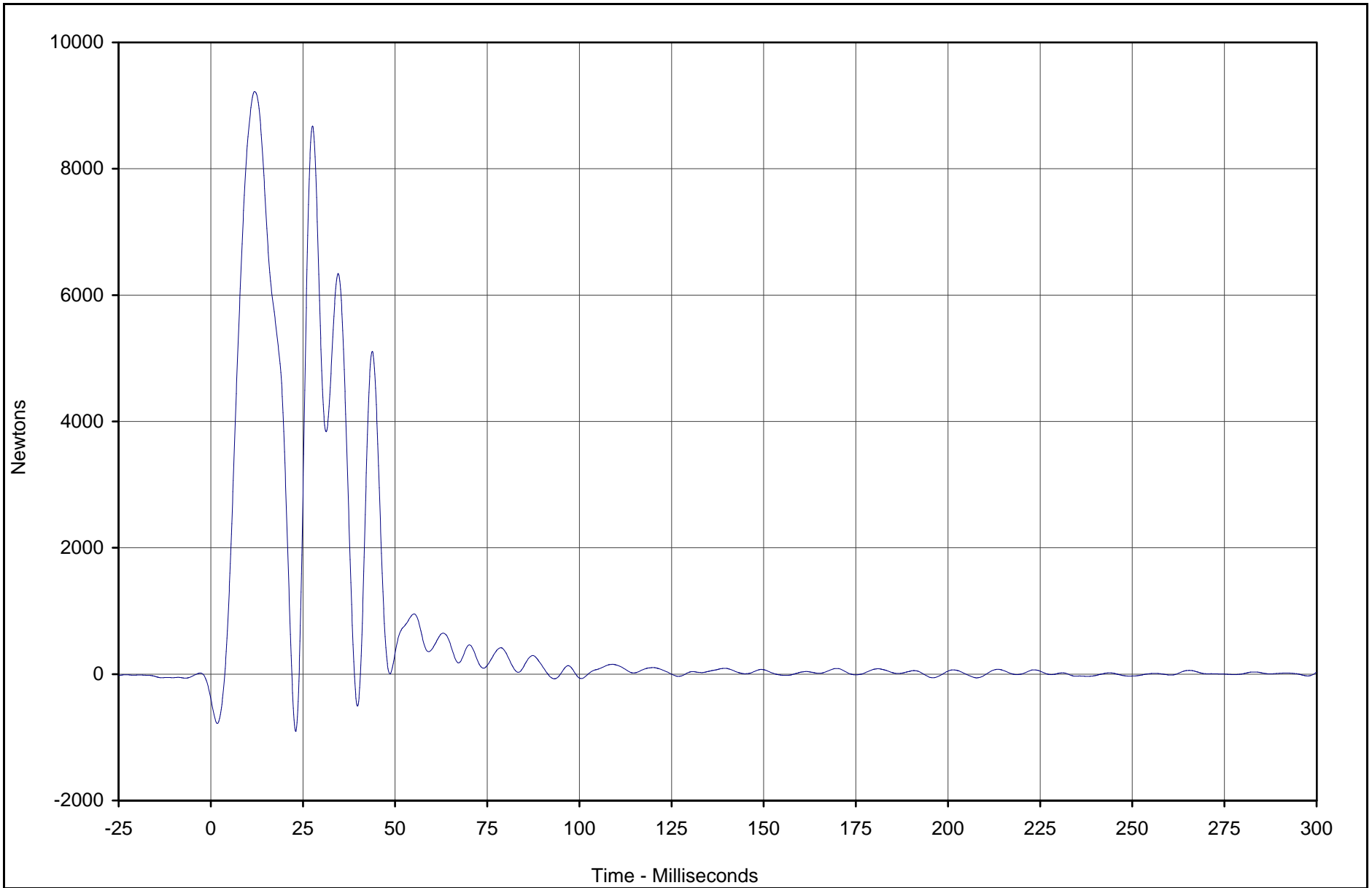


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D6	130	FIL	Newtons	9222.5	11.9	-907.4	23.0	60

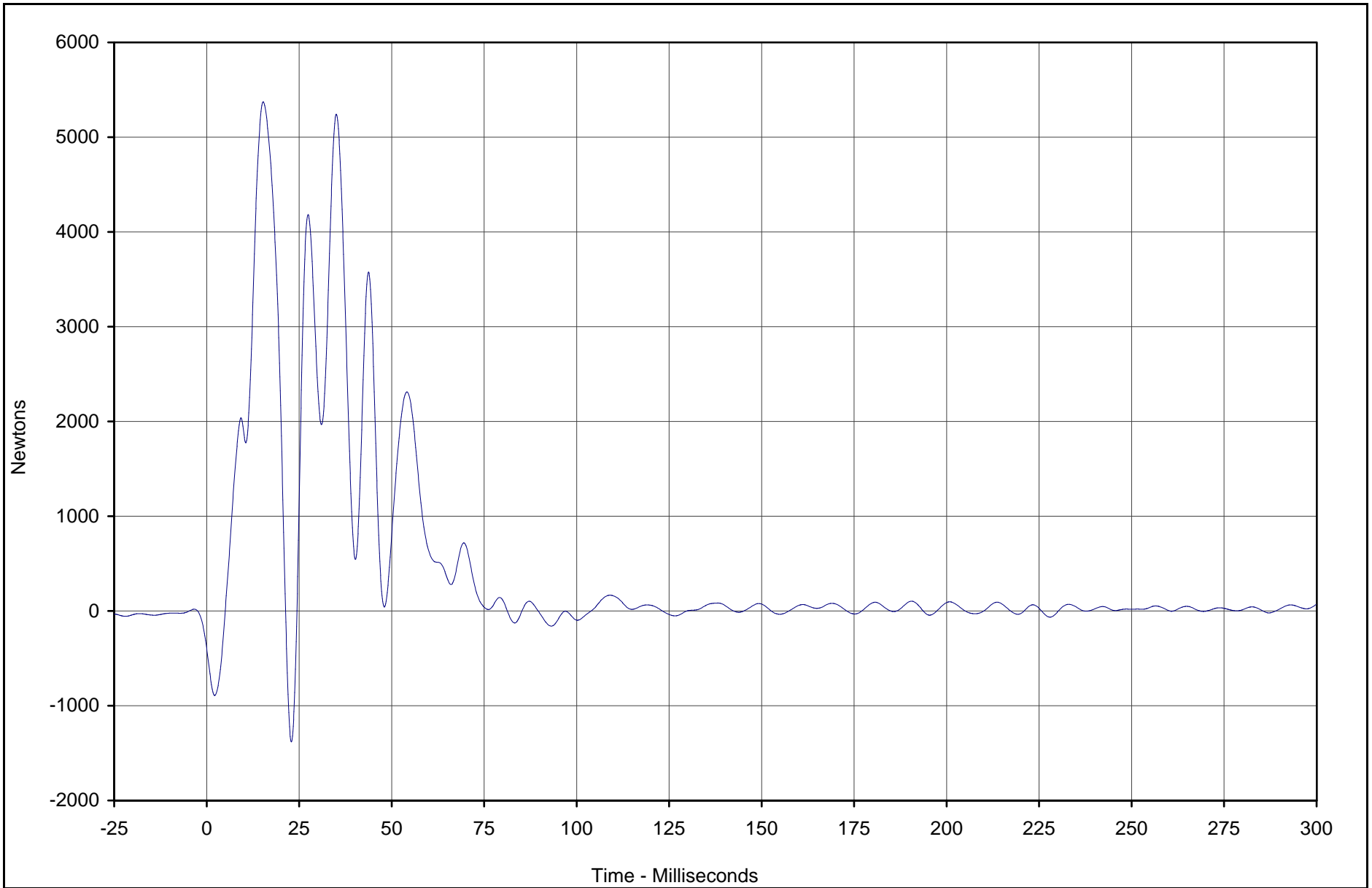


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D7	131	FIL	Newtons	5374.0	15.3	-1381.0	22.9	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

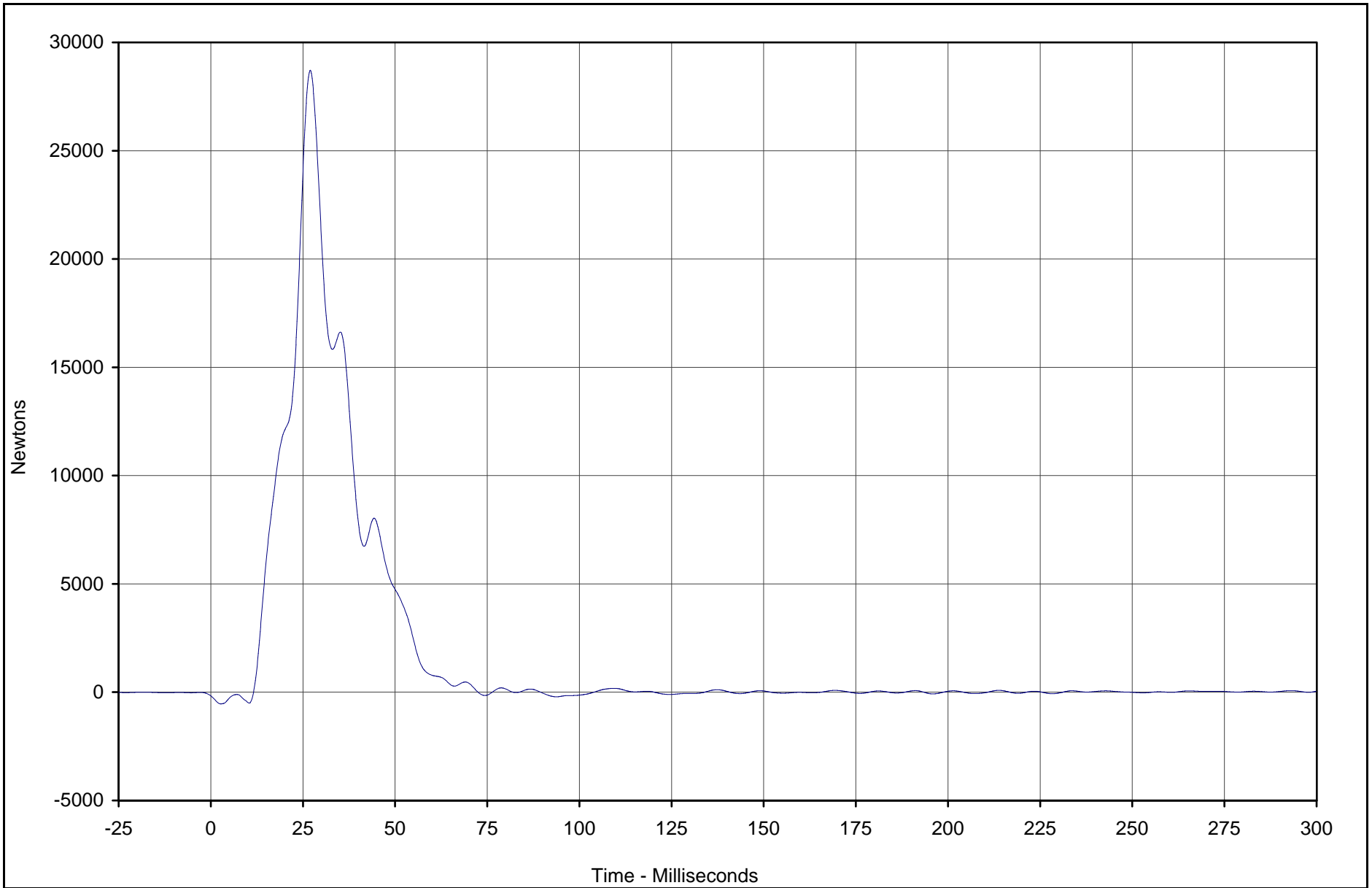
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-35

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D8	132	FIL	Newtons	28712.4	27.0	-540.4	2.8	60

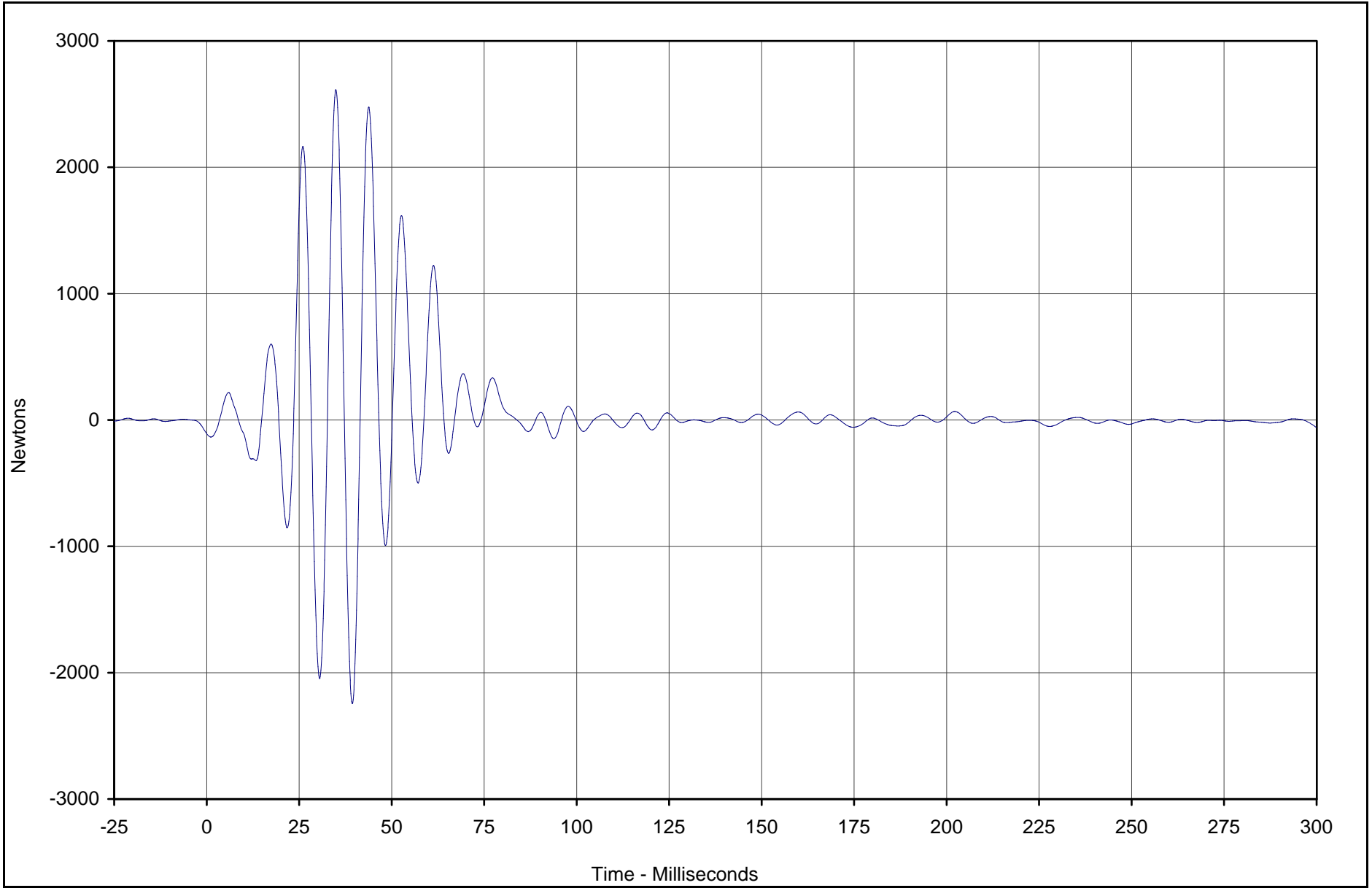


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force D9	133	FIL	Newtons	2614.8	34.9	-2244.6	39.4	60

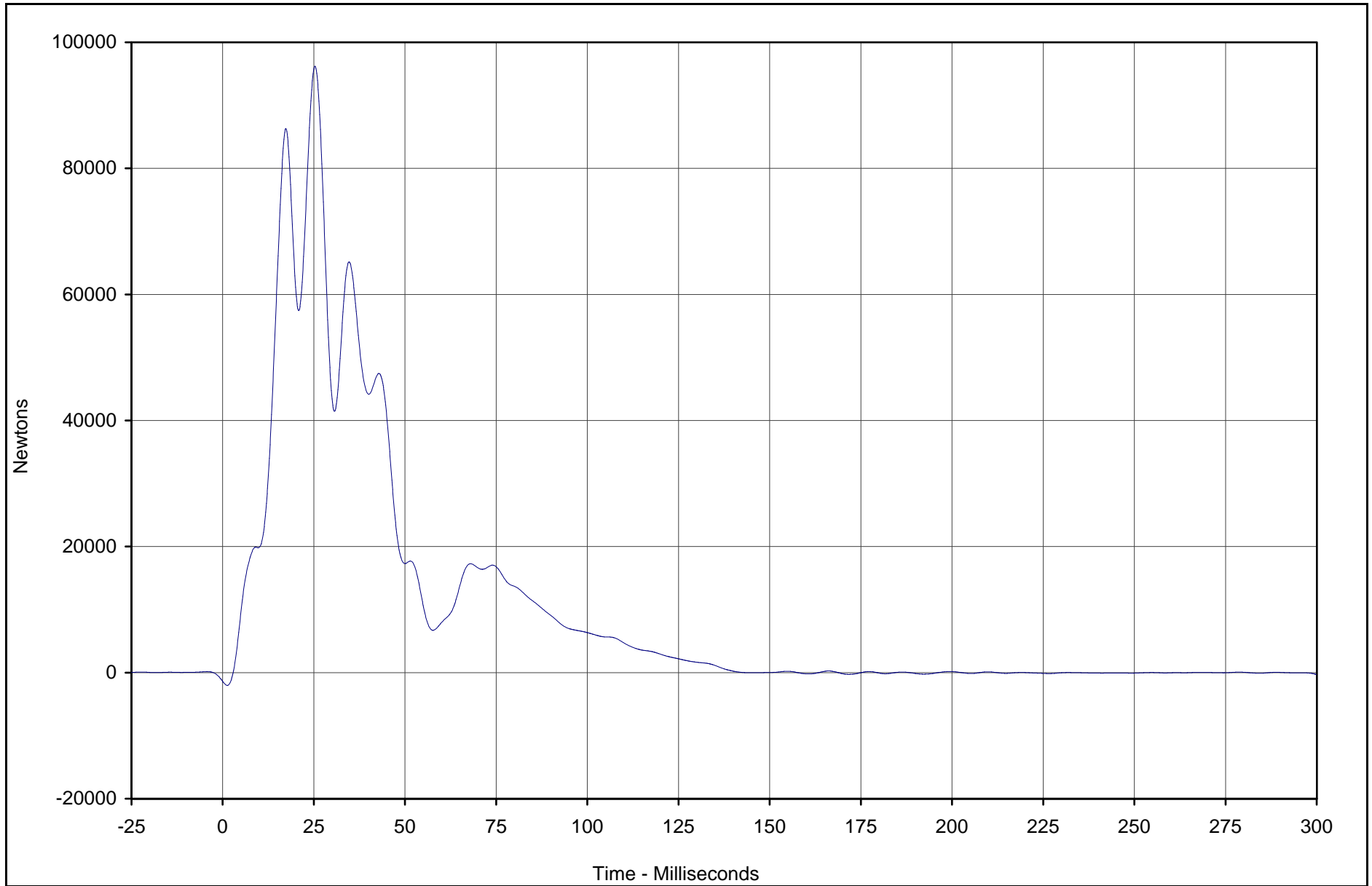


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 1	001	SUM	Newtons	96211.3	25.3	-2028.6	1.3	60

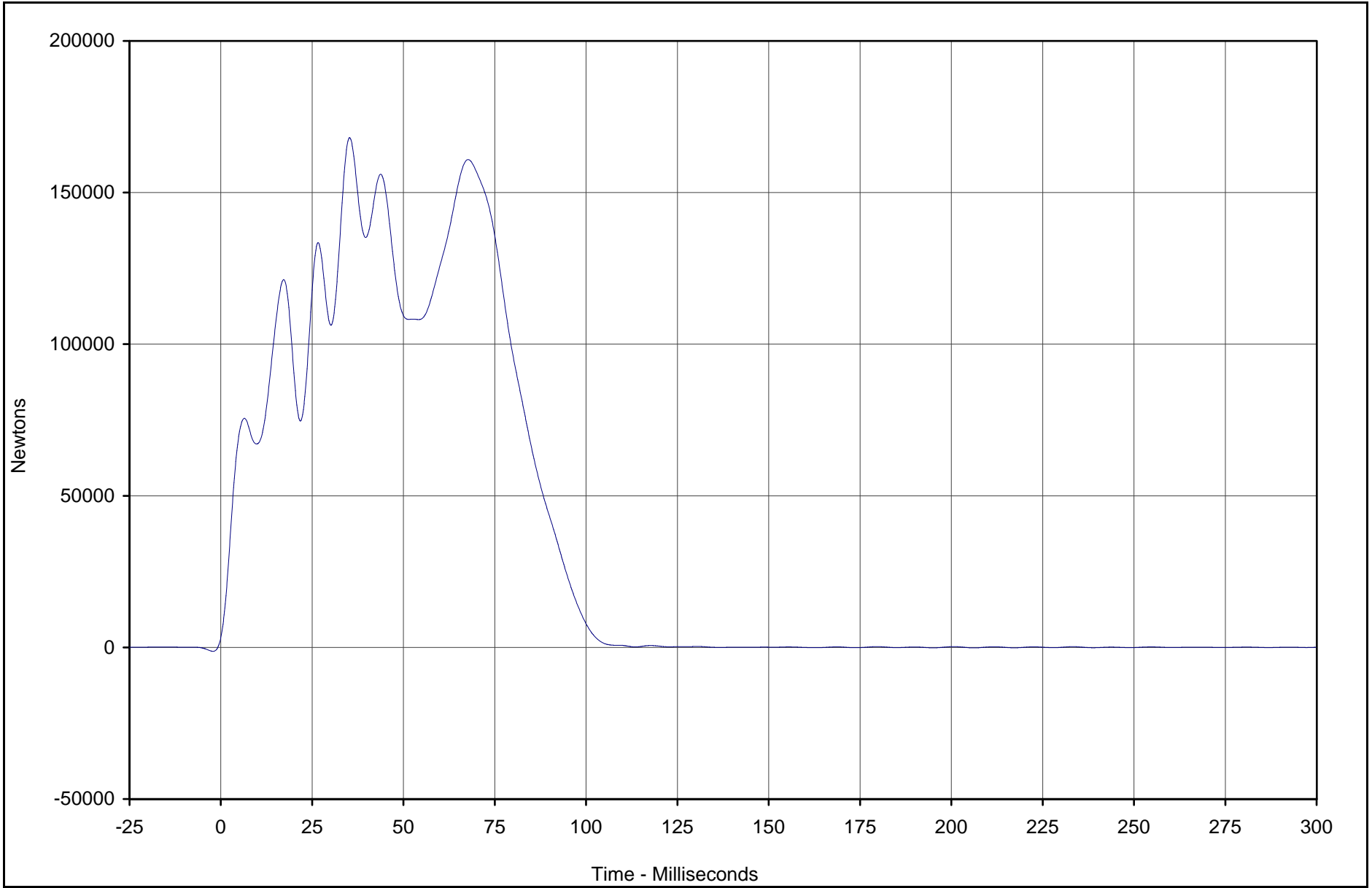


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 2	002	SUM	Newtons	168096.5	35.3	-170.9	206.2	60



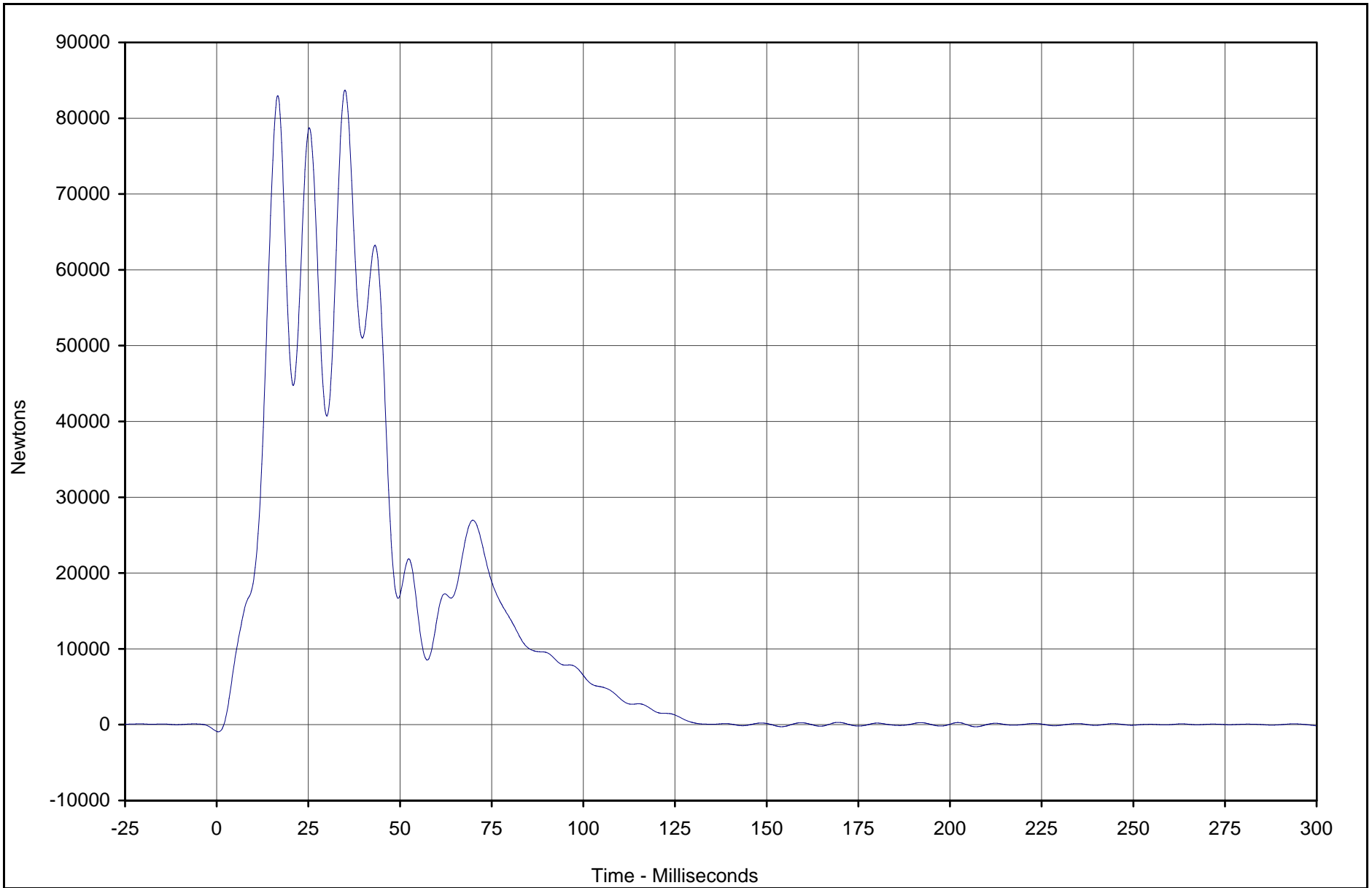
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-39



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 3	003	SUM	Newtons	83716.8	35.0	-935.3	0.4	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

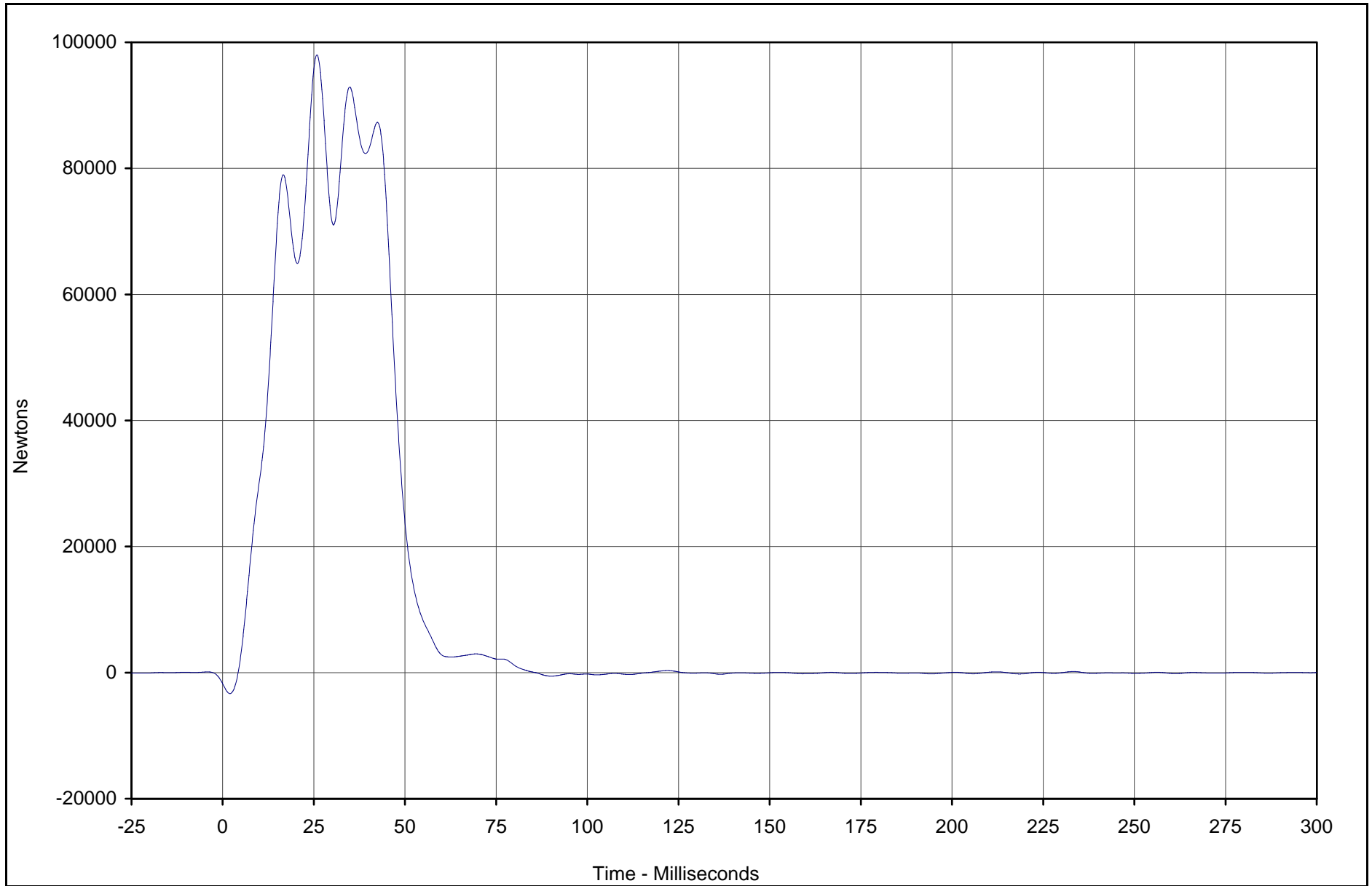
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-40

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 4	004	SUM	Newtons	98002.2	25.8	-3330.3	2.0	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

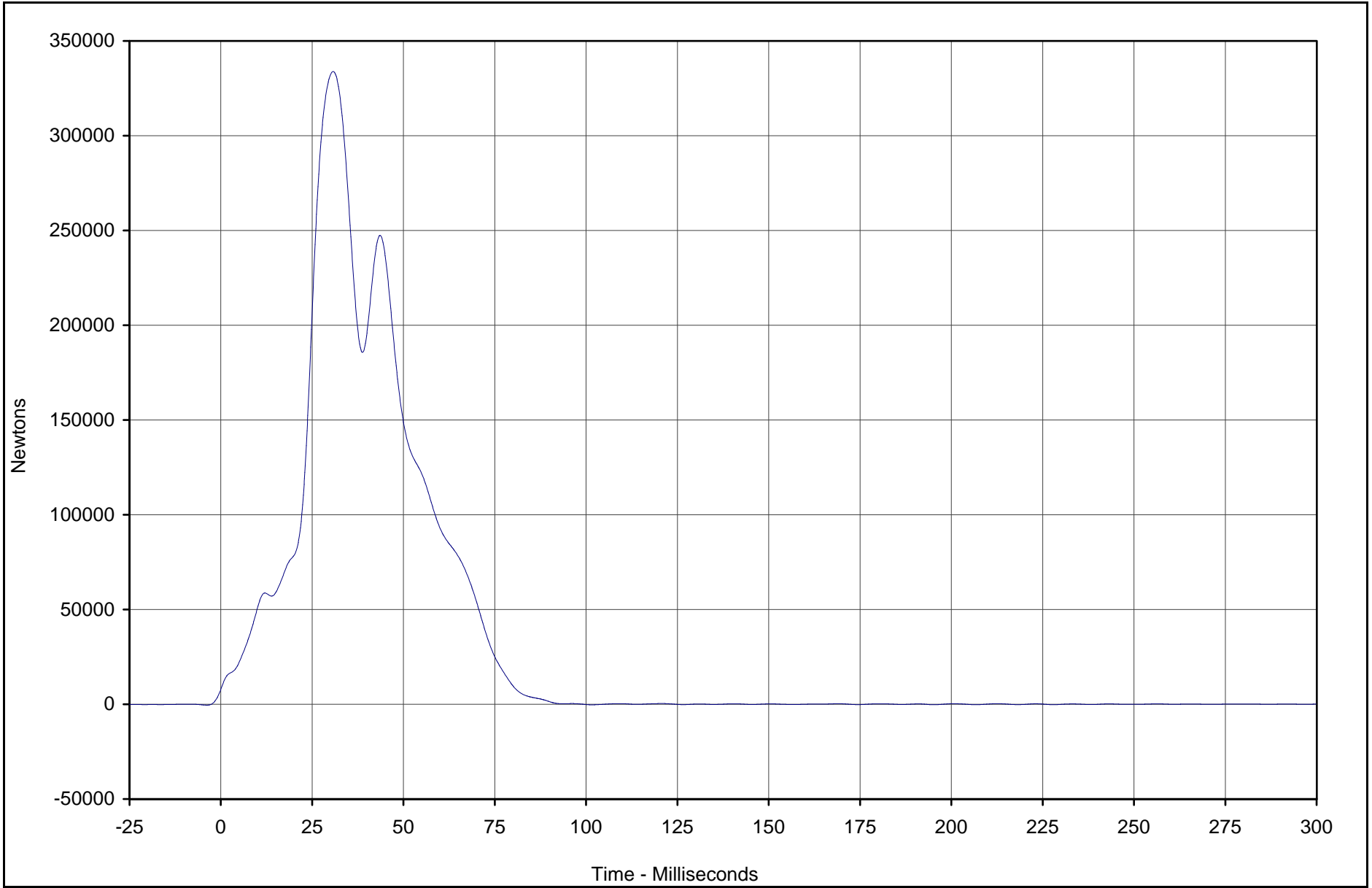
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-41

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 5	005	SUM	Newtons	333883.2	30.7	-291.6	101.6	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

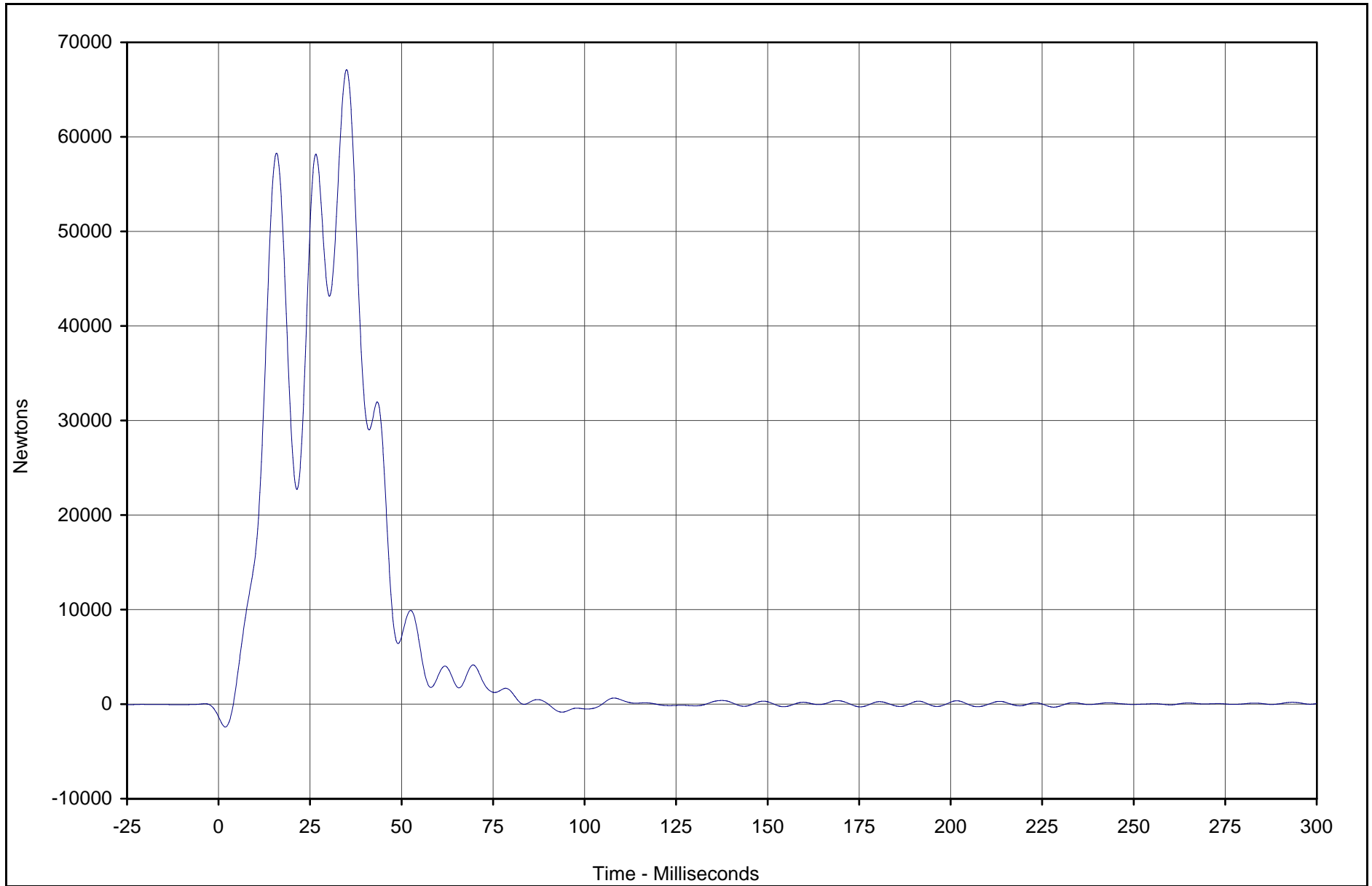
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-42

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Sum Group 6	006	SUM	Newtons	67108.0	35.0	-2423.5	1.8	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

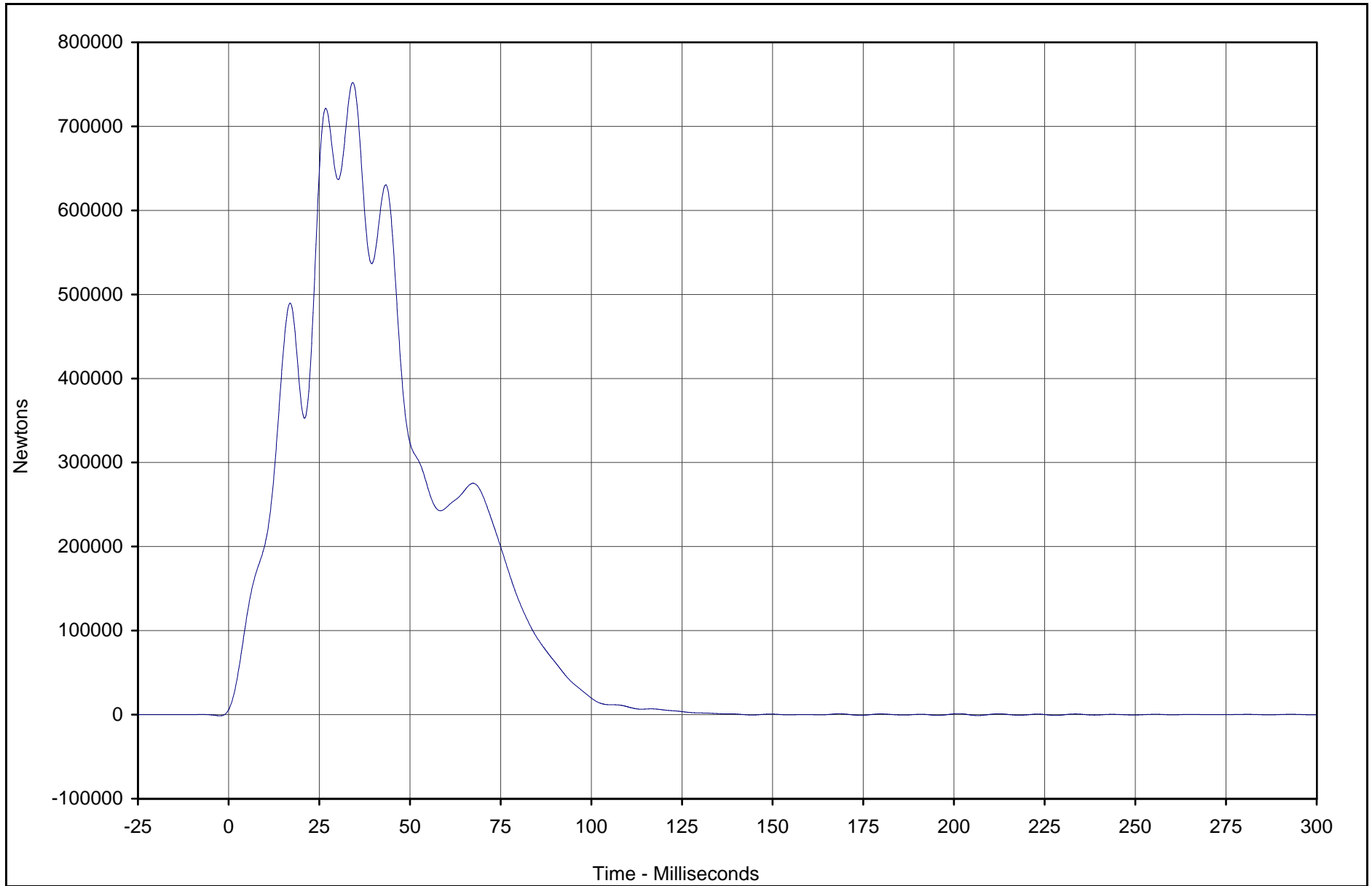
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-43

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Barrier Force Total Sum	007	SUM	Newtons	752233	34.2	-1148.8	206.5	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

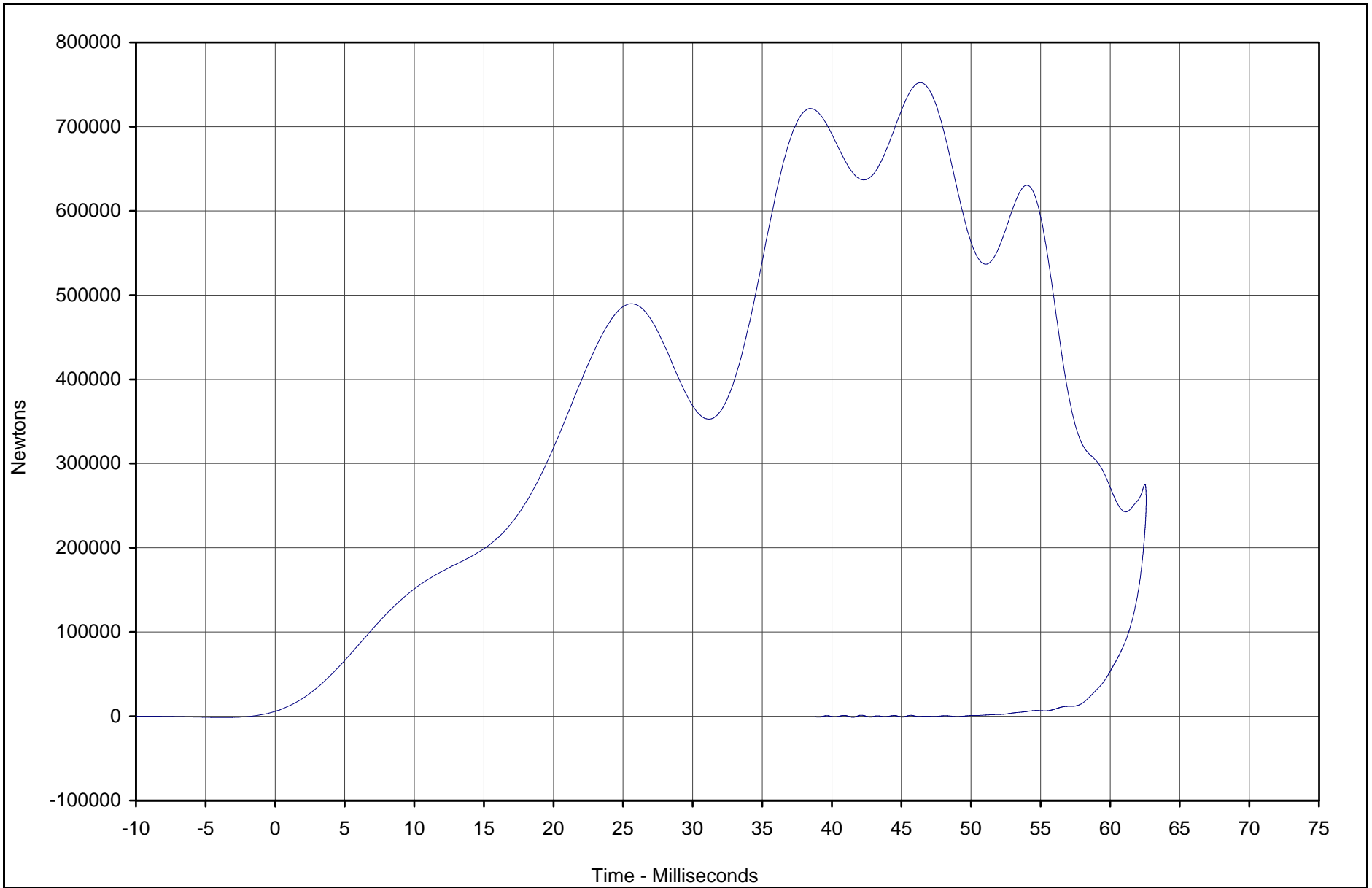
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

C-44

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	CM	Energy (Joules)	SAE Class
Barrier Force Total Sum vs. Displ.	001	XVY	Newtons	752233	46.3	243827	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

Location	Units	Max	Time	Min	Time
Barrier Force A1	Newtons	2839.3	43.7	-913.1	39.1
Barrier Force A2	Newtons	2273.3	43.8	-732.3	56.4
Barrier Force A3	Newtons	3371.2	26.8	-3162.3	22.7
Barrier Force A4	Newtons	4761.3	26.7	-4362.9	22.7
Barrier Force A5	Newtons	5283.3	26.8	-4651.2	22.6
Barrier Force A6	Newtons	4498.7	26.7	-3698.3	22.7
Barrier Force A7	Newtons	3251.0	26.6	-2431.4	22.6
Barrier Force A8	Newtons	4206.0	43.6	-1704.4	31.1
Barrier Force A9	Newtons	3409.8	43.6	-2510.5	39.2
Barrier Force B1	Newtons	1838.6	26.3	-1970.1	30.4
Barrier Force B2	Newtons	11135.5	43.3	-1410.1	21.9
Barrier Force B3	Newtons	91943.8	24.8	-820.8	0.4
Barrier Force B4	Newtons	48547.5	67.4	-36.3	239.0
Barrier Force B5	Newtons	39805.4	67.6	-3289.3	22.0
Barrier Force B6	Newtons	94445.0	34.4	-33.2	218.3
Barrier Force B7	Newtons	80100.5	16.6	-657.6	0.2
Barrier Force B8	Newtons	7697.6	43.0	-1092.2	21.8
Barrier Force B9	Newtons	1527.5	33.5	-2191.6	29.3
Barrier Force C1	Newtons	1943.8	26.2	-1692.2	30.3
Barrier Force C2	Newtons	8106.4	15.4	-511.0	2.4
Barrier Force C3	Newtons	71603.6	37.2	-867.1	86.1
Barrier Force C4	Newtons	88639.1	31.7	-46.1	113.8
Barrier Force C5	Newtons	98478.2	29.8	-63.4	102.1
Barrier Force C6	Newtons	72664.0	31.7	-62.8	195.2
Barrier Force C7	Newtons	40704.2	15.3	-741.2	1.1
Barrier Force C8	Newtons	7155.4	37.3	-239.0	1.7
Barrier Force C9	Newtons	1088.5	25.3	-1914.8	29.4
Barrier Force D1	Newtons	1912.1	26.4	-1922.1	30.5
Barrier Force D2	Newtons	27523.7	26.9	-677.1	3.4
Barrier Force D3	Newtons	13947.8	26.0	-1000.9	2.3
Barrier Force D4	Newtons	22563.5	32.6	-771.2	1.8
Barrier Force D5	Newtons	52281.0	31.5	-1265.8	1.7
Barrier Force D6	Newtons	9222.5	11.9	-907.4	23.0
Barrier Force D7	Newtons	5374.0	15.3	-1381.0	22.9
Barrier Force D8	Newtons	28712.4	27.0	-540.4	2.8
Barrier Force D9	Newtons	2614.8	34.9	-2244.6	39.4
Barrier Force Sum Group 1	Newtons	96211.3	25.3	-2028.6	1.3
Barrier Force Sum Group 2	Newtons	168096.5	35.3	-170.9	206.2
Barrier Force Sum Group 3	Newtons	83716.8	35.0	-935.3	0.4
Barrier Force Sum Group 4	Newtons	98002.2	25.8	-3330.3	2.0
Barrier Force Sum Group 5	Newtons	333883.2	30.7	-291.6	101.6
Barrier Force Sum Group 6	Newtons	67108.0	35.0	-2423.5	1.8
Barrier Force Total Sum	Newtons	752232.7	34.2	-1148.8	206.5

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	HEAD, PRIMARY	X	GPAC027	Accel., 1/2 bridge	Endevco	7264-2000	G
2	HEAD, PRIMARY	Y	GPAC002	Accel., 1/2 bridge	Endevco	7264-2000	G
3	HEAD, PRIMARY	Z	GPAC003	Accel., 1/2 bridge	Endevco	7264-2000	G
4	HEAD, REDUNDANT	X	GPAC032	Accel., 1/2 bridge	Endevco	7264-2000	G
5	HEAD, REDUNDANT	Y	GPAC021	Accel., 1/2 bridge	Endevco	7264-2000	G
6	HEAD, REDUNDANT	Z	GPAC026	Accel., 1/2 bridge	Endevco	7264-2000	G
7	NECK FORCE	X	GPUN01FX	Load cell, six axis neck	R. A. Denton	1716A	N
8	NECK FORCE	Y	GPUN01FY	Load cell, six axis neck	R. A. Denton	1716A	N
9	NECK FORCE	Z	GPUN01FZ	Load cell, six axis neck	R. A. Denton	1716A	N
10	NECK MOMENT	X	GPUN01MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
11	NECK MOMENT	Y	GPUN01MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
12	NECK MOMENT	Z	GPUN01MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
13	CHEST , PRIMARY	X	GPAC005	Accel., 1/2 bridge	Endevco	7264-2000	G
14	CHEST , PRIMARY	Y	GPAC011	Accel., 1/2 bridge	Endevco	7264-2000	G
15	CHEST , PRIMARY	Z	GPAC010	Accel., 1/2 bridge	Endevco	7264-2000	G
16	CHEST , REDUNDANT	X	GPAC034	Accel., 1/2 bridge	Endevco	7264-2000	G
17	CHEST , REDUNDANT	Y	GPAC023	Accel., 1/2 bridge	Endevco	7264-2000	G
18	CHEST , REDUNDANT	Z	GPAC020	Accel., 1/2 bridge	Endevco	7264-2000	G
19	CHEST DISPLACEMENT	X	GPCP002	Rotary Pot Chest	Servo	14CBI	MM
20	PELVIS, PRIMARY	X	GPAC025	Accel., 1/2 bridge	Endevco	7264-2000	G
21	PELVIS, PRIMARY	Y	GPAC022	Accel., 1/2 bridge	Endevco	7264-2000	G
22	PELVIS, PRIMARY	Z	GPAC019	Accel., 1/2 bridge	Endevco	7264-2000	G
23	LEFT FEMUR FORCE	Z	KEFF003	Load cell, Femur	R.A. Denton	2121	N
24	RIGHT FEMUR FORCE	Z	KEFF004	Load cell, Femur	R.A. Denton	2121	N

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

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	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT, AFT	Z	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT, FORE	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT, AFT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT, AFT	Z	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT, FORE	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	KELC001	Load cell, Seat belt	Lebow	3371	N
42	SHOULDER BELT FORCE	X	KELC002	Load cell, Seat belt	Lebow	3371	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

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TR-P23001-04-NC

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
45	HEAD, PRIMARY	X	KEAC039	Accel.,1/2 bridge	Endevco	7264-2000	G
46	HEAD, PRIMARY	Y	KEAC038	Accel.,1/2 bridge	Endevco	7264-2000	G
47	HEAD, PRIMARY	Z	KEAC027	Accel.,1/2 bridge	Endevco	7264-2000	G
48	HEAD, REDUNDANT	X	KEAC031	Accel.,1/2 bridge	Endevco	7264-2000	G
49	HEAD, REDUNDANT	Y	KEAC032	Accel.,1/2 bridge	Endevco	7264-2000	G
50	HEAD, REDUNDANT	Z	KEAC026	Accel.,1/2 bridge	Endevco	7264-2000	G
51	NECK FORCE	X	GPUN02FX	Load cell, six axis neck	R. A. Denton	1716A	N
52	NECK FORCE	Y	GPUN02FY	Load cell, six axis neck	R. A. Denton	1716A	N
53	NECK FORCE	Z	GPUN02FZ	Load cell, six axis neck	R. A. Denton	1716A	N
54	NECK MOMENT	X	GPUN02MX	Load cell, six axis neck	R. A. Denton	1716A	Nm
55	NECK MOMENT	Y	GPUN02MY	Load cell, six axis neck	R. A. Denton	1716A	Nm
56	NECK MOMENT	Z	GPUN02MZ	Load cell, six axis neck	R. A. Denton	1716A	Nm
57	CHEST , PRIMARY	X	GPAC031	Accel., 1/2 bridge	Endevco	7264-2000	G
58	CHEST , PRIMARY	Y	GPAC024	Accel., 1/2 bridge	Endevco	7264-2000	G
59	CHEST , PRIMARY	Z	GPAC029	Accel., 1/2 bridge	Endevco	7264-2000	G
60	CHEST , REDUNDANT	X	KEAC023	Accel.,1/2 bridge	Endevco	7264-200	G
61	CHEST , REDUNDANT	Y	KEAC022	Accel.,1/2 bridge	Endevco	7264-200	G
62	CHEST , REDUNDANT	Z	KEAC024	Accel.,1/2 bridge	Endevco	7264-200	G
63	CHEST DISPLACEMENT	X	GPCP001	Rotary Pot Chest	Servo	14CBI	MM
64	PELVIS, PRIMARY	X	KEAC019	Accel.,1/2 bridge	Endevco	7264-200	G
65	PELVIS, PRIMARY	Y	KEAC020	Accel.,1/2 bridge	Endevco	7264-200	G
66	PELVIS, PRIMARY	Z	KEAC021	Accel.,1/2 bridge	Endevco	7264-200	G
67	LEFT FEMUR FORCE	Z	KEFF001	Load cell, Femur	R.A. Denton	2121	N
68	RIGHT FEMUR FORCE	Z	KEFF002	Load cell, Femur	R.A. Denton	2121	N

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

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	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT, AFT	Z	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT, FORE	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT, AFT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT, AFT	Z	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT, FORE	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	KELC003	Load cell, Seat belt	Lebow	3371	N
86	SHOULDER BELT FORCE	X	KELC004	Load cell, Seat belt	Lebow	3371	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	CM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

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	KEVA009	Accel., Vehicle block	I.C. Sensor	3031-500	G
92	Engine Bottom	X	KEVA007	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	Left Brake Caliper	X	KEVA008	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	Right Brake Caliper	X	KEVA012	Accel., Vehicle block	I.C. Sensor	3031-500	G
95	Instrument Panel	X	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G
96	Left Rear	Z	KEVA001	Accel., Vehicle block	I.C. Sensor	3031-500	G
97	Right Rear	Z	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-200	G

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
98	BARRIER FORCE A1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
99	BARRIER FORCE A2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
100	BARRIER FORCE A3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
101	BARRIER FORCE A4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
102	BARRIER FORCE A5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
103	BARRIER FORCE A6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
104	BARRIER FORCE A7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
105	BARRIER FORCE A8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
106	BARRIER FORCE A9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
107	BARRIER FORCE B1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
108	BARRIER FORCE B2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
109	BARRIER FORCE B3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
110	BARRIER FORCE B4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
111	BARRIER FORCE B5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
112	BARRIER FORCE B6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
113	BARRIER FORCE B7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
114	BARRIER FORCE B8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
115	BARRIER FORCE B9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
116	BARRIER FORCE C1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
117	BARRIER FORCE C2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
118	BARRIER FORCE C3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
119	BARRIER FORCE C4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
120	BARRIER FORCE C5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
121	BARRIER FORCE C6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
122	BARRIER FORCE C7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
123	BARRIER FORCE C8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
124	BARRIER FORCE C9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
125	BARRIER FORCE D1	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
126	BARRIER FORCE D2	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
127	BARRIER FORCE D3	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
128	BARRIER FORCE D4	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
129	BARRIER FORCE D5	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
130	BARRIER FORCE D6	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
131	BARRIER FORCE D7	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
132	BARRIER FORCE D8	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N
133	BARRIER FORCE D9	X	BARRIER	Load Cell, LCB	Interface	1220-FS	N

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.: KK07E

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	2.12	Pass
Peak Probe Force	N	4715 to 5782	5055	Pass
Overall Test Results				Pass

ATD Serial No.: 034

Location: Right Knee

Test I.D.: KK07F

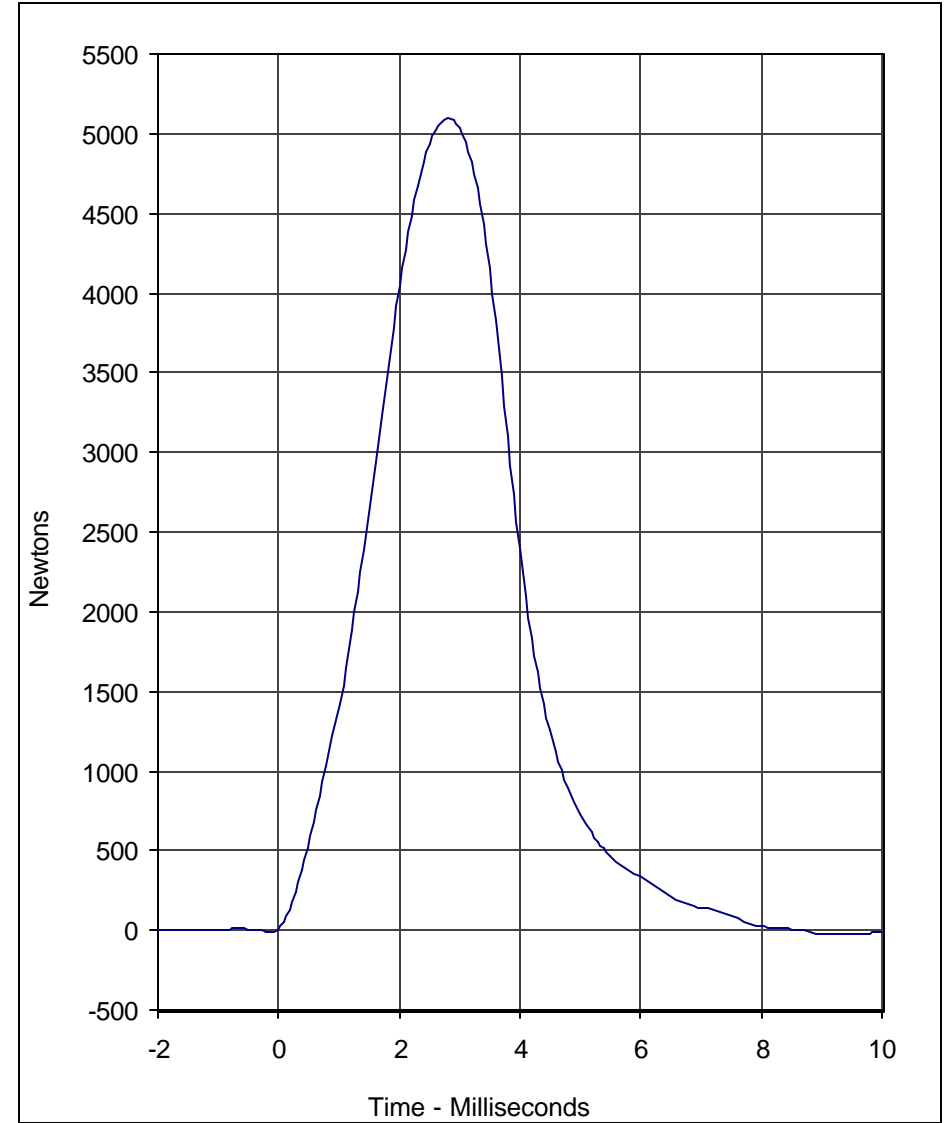
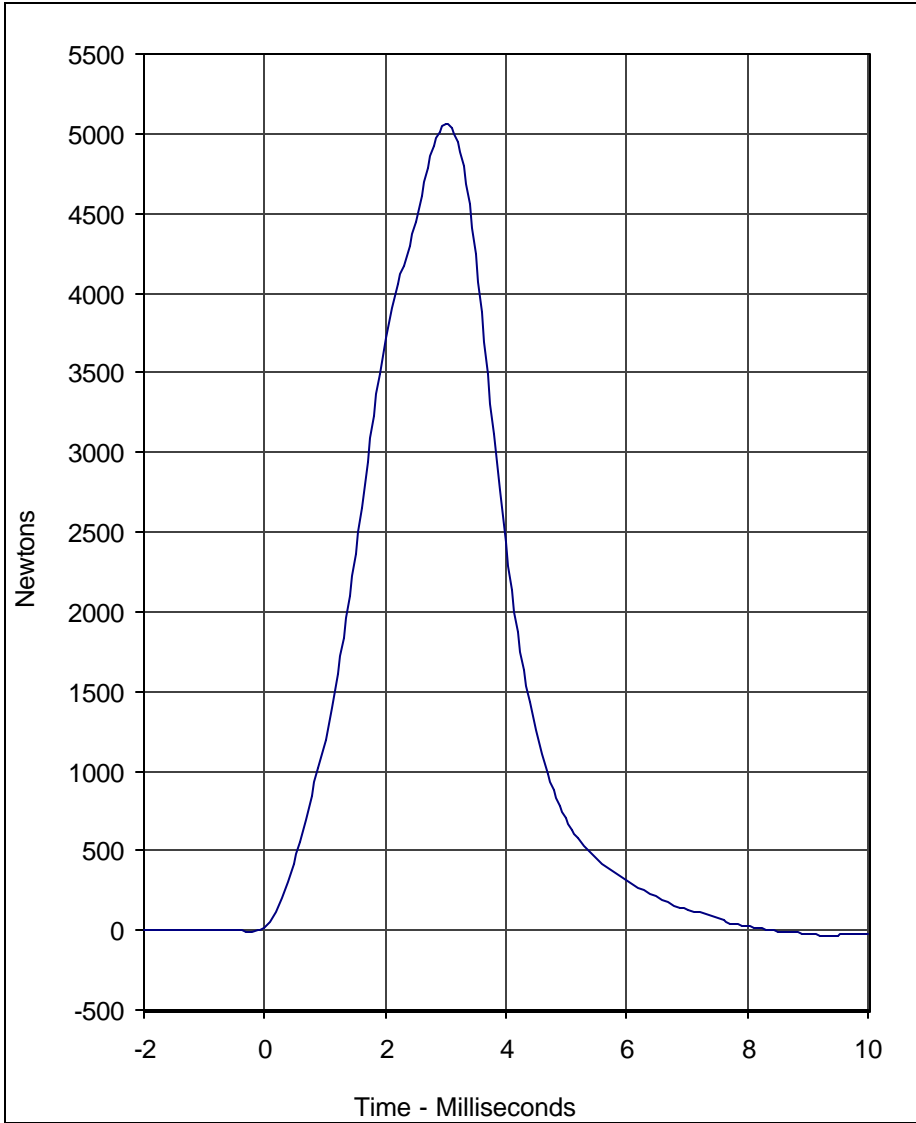
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.11	Pass
Peak Probe Force	N	4715 to 5782	5096	Pass
Overall Test Results				Pass

Laboratory Technician

December 22, 2002
Test Date

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TR-P23001-04-NC



Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	KK07E	001	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5054.5	3.0	-32.1	9.3	600

Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	KK07F	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5095.6	2.8	-27.9	9.3	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034





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

ATD Serial No.: 034

Test I.D.: KH07A

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	229.7	Pass
Peak Lateral Acceleration	G's	≤15.0	2.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

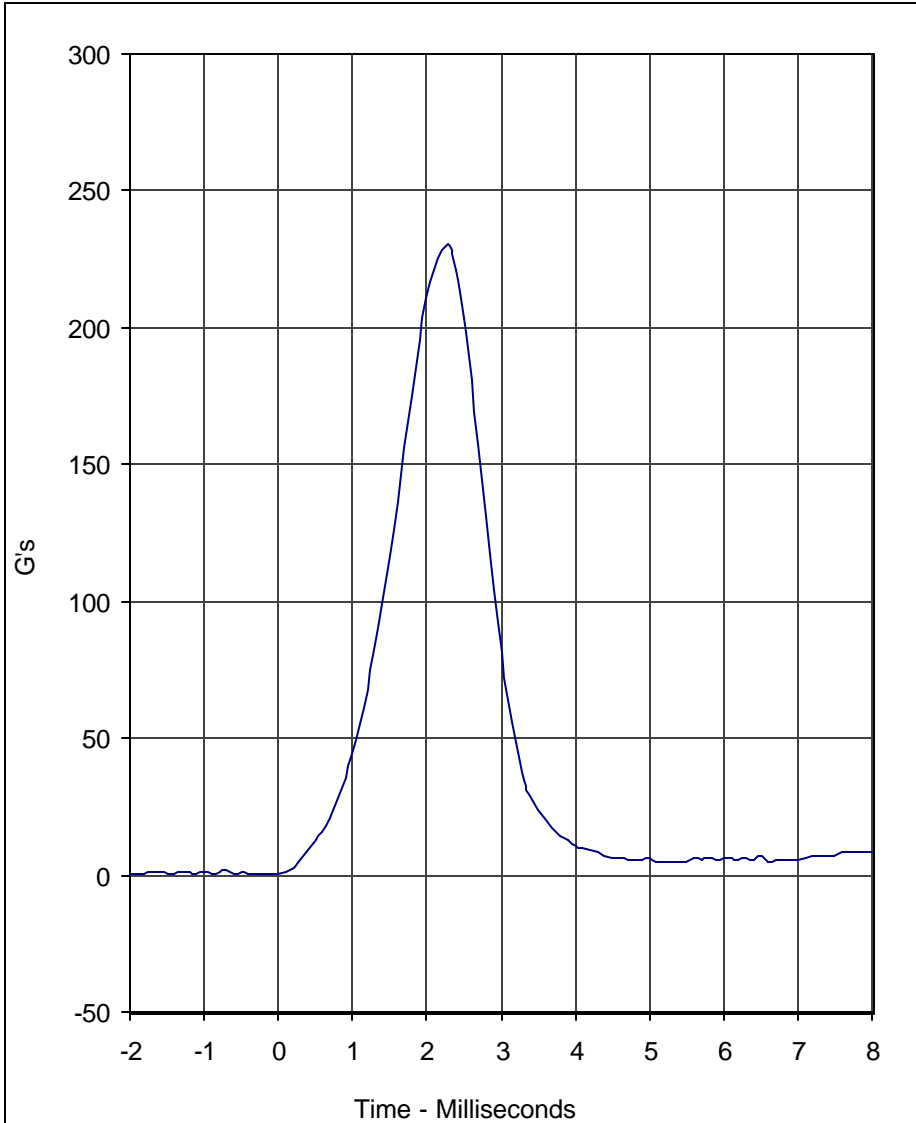
E-3

TR-P23001-04-NC

Laboratory Technician

December 22, 2002

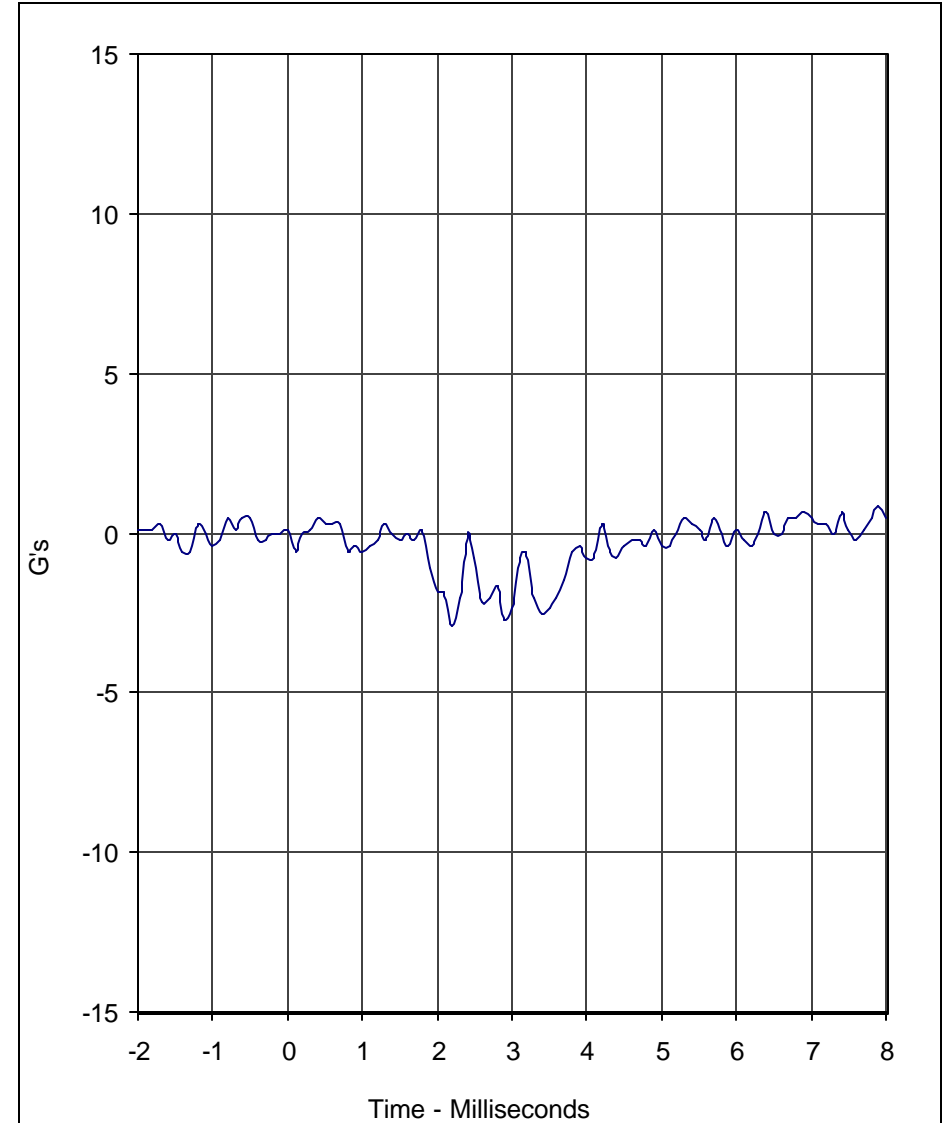
Test Date



Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	229.7	2.3	0.2	-0.1	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 12/22/02



Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	0.5	-0.8	-2.9	2.2	1000

A.T.D. Serial No.: 034
 Test I.D.: KH07A





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

ATD Serial No.: 034

Test I.D.: CH12A

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	6.61	Pass
Peak Probe Force	Newtons	5159 to 5893	5743	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.49	Pass
Internal Hysteresis	%	69 to 85	77.6	Pass
Overall Test Results				Pass

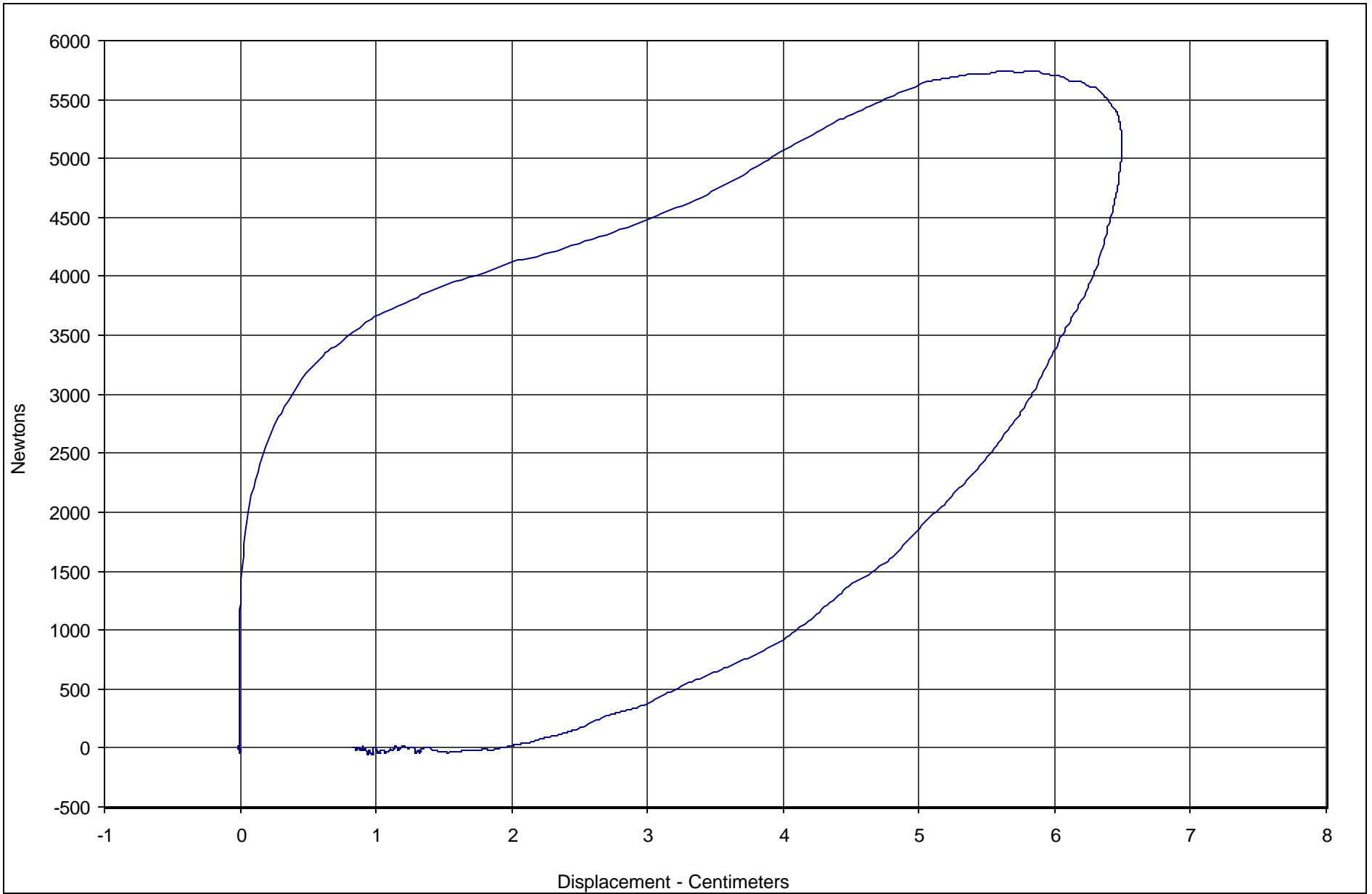
E-5

TR-P23001-04-NC

Laboratory Technician

December 23, 2002

Test Date



Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	77.6	6.49	5742.5	180



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 034

Test Date: 12/23/02

Test I.D.: CH12A



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

ATD Serial No.: 034

Test I.D.: NF06C

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	6.98	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	23.3	Pass
	20 Msec.	G's	17.6 to 22.6	20.2	Pass
	30 Msec.	G's	12.5 to 18.5	18.1	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	18.1	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	37.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	65.5	Pass
	Time	Msec.	57.0 to 64.0	57.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	113.2	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	89.6	Pass
	Time	Msec.	47.0 to 58.0	54.2	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	97.1	Pass
Overall Test Results					Pass

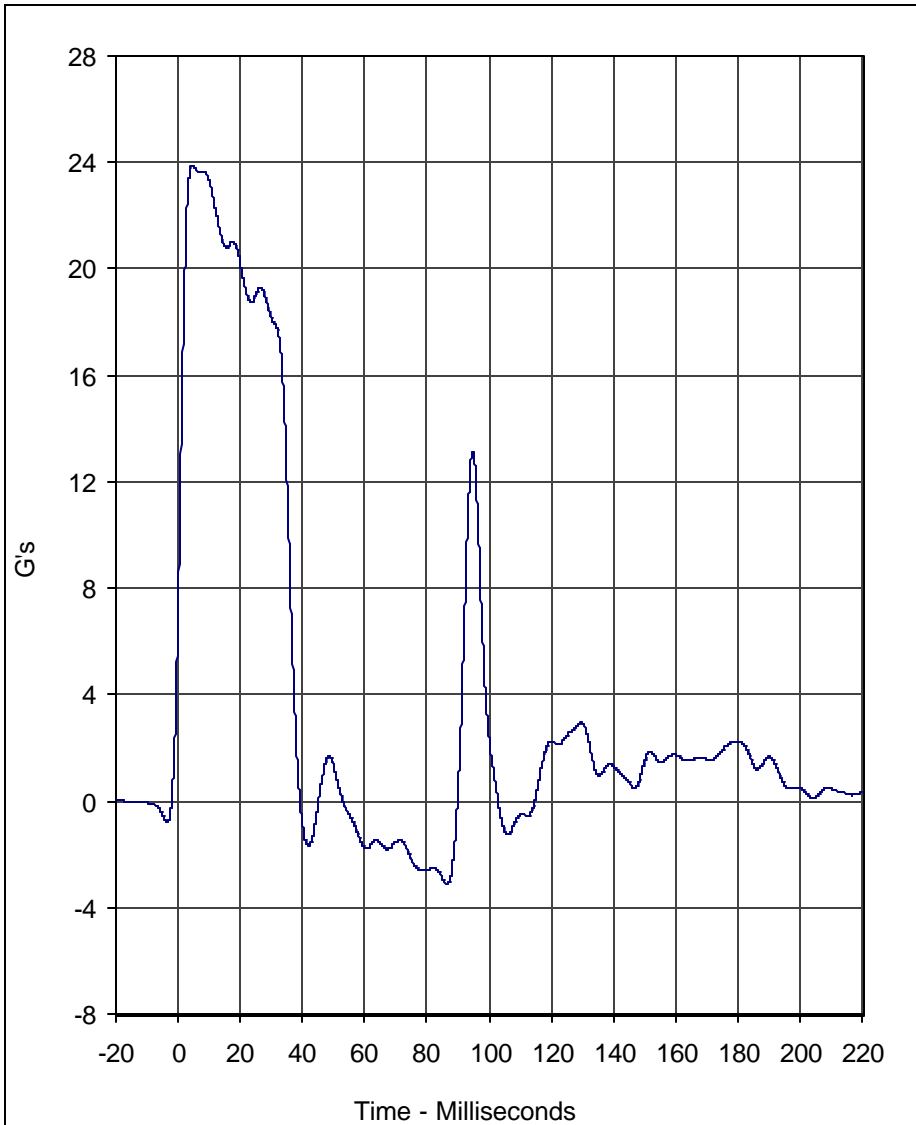
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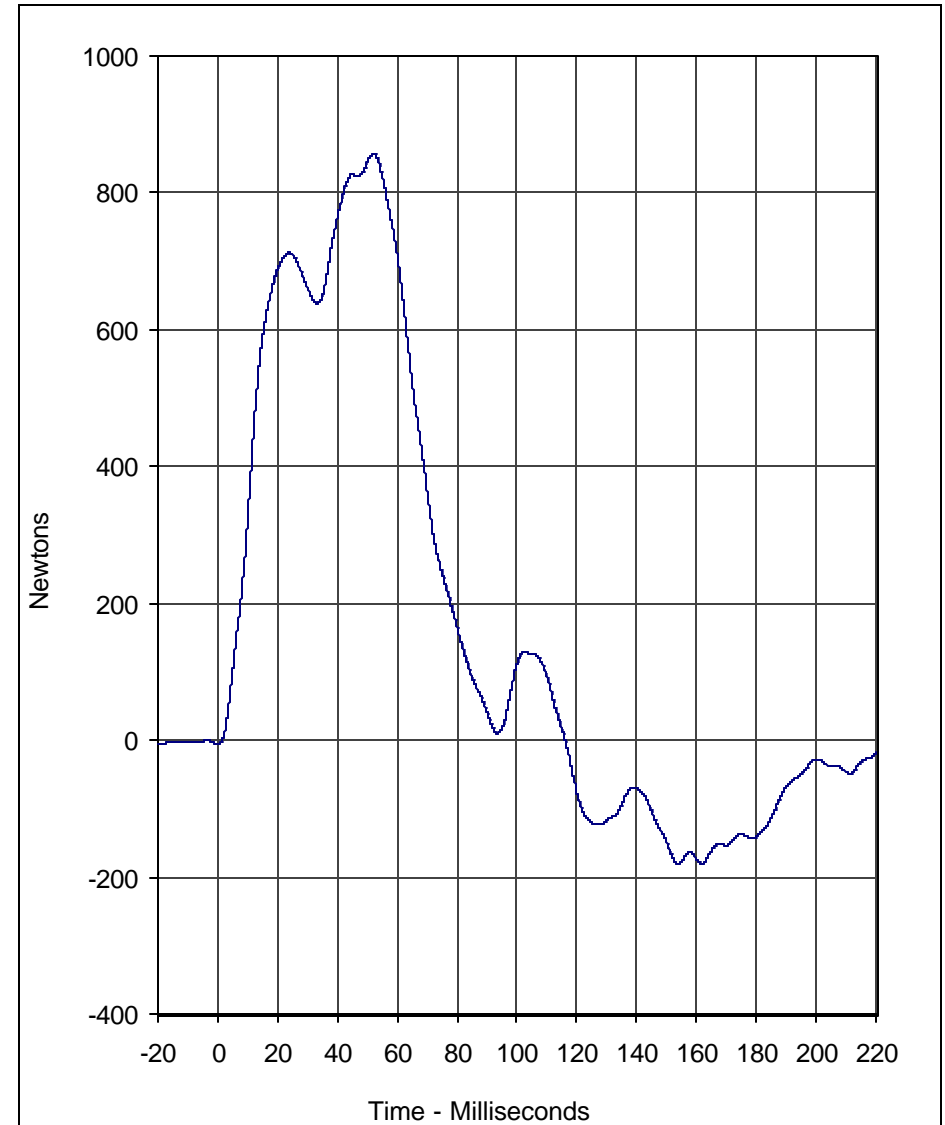
December 22, 2002

Test Date



Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	23.9	4.5	-3.1	86.5	60



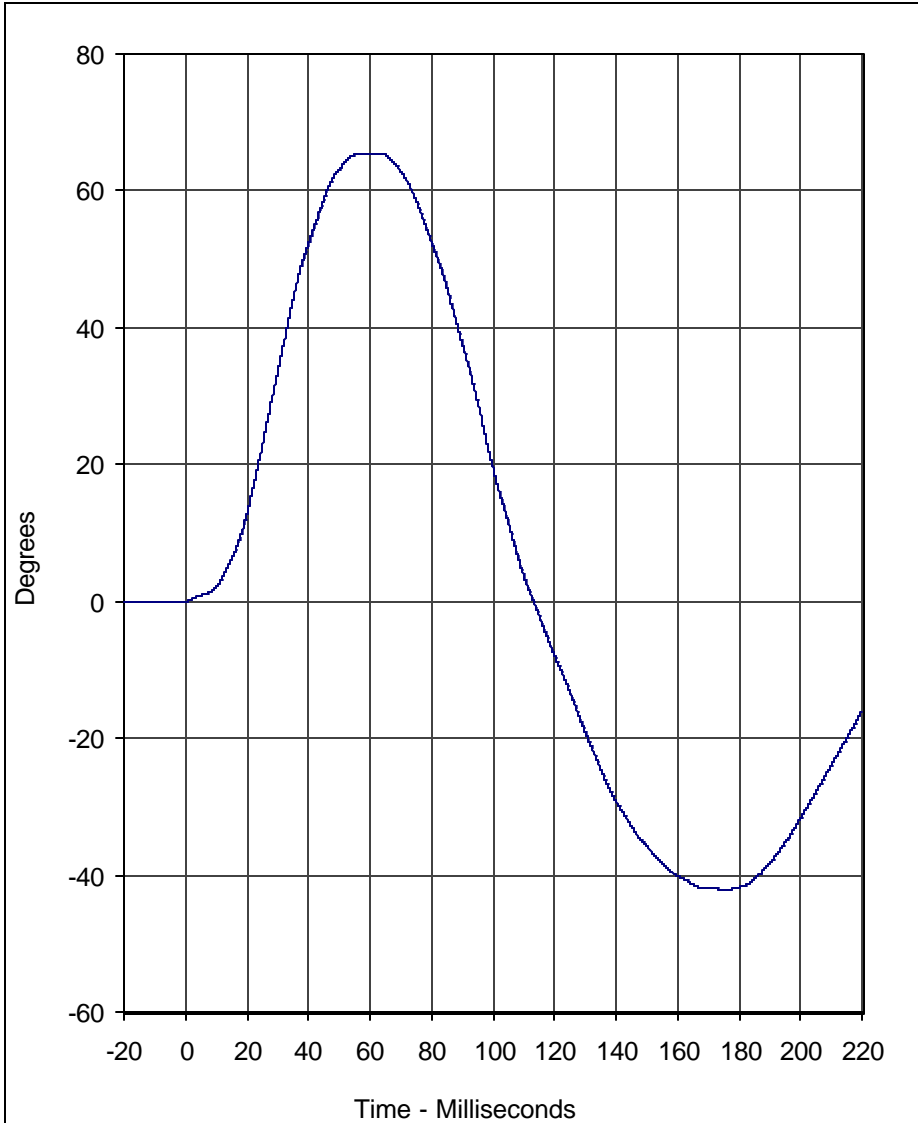
Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	857.4	52.0	-180.9	153.8	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034
 Test I.D.: NF06C

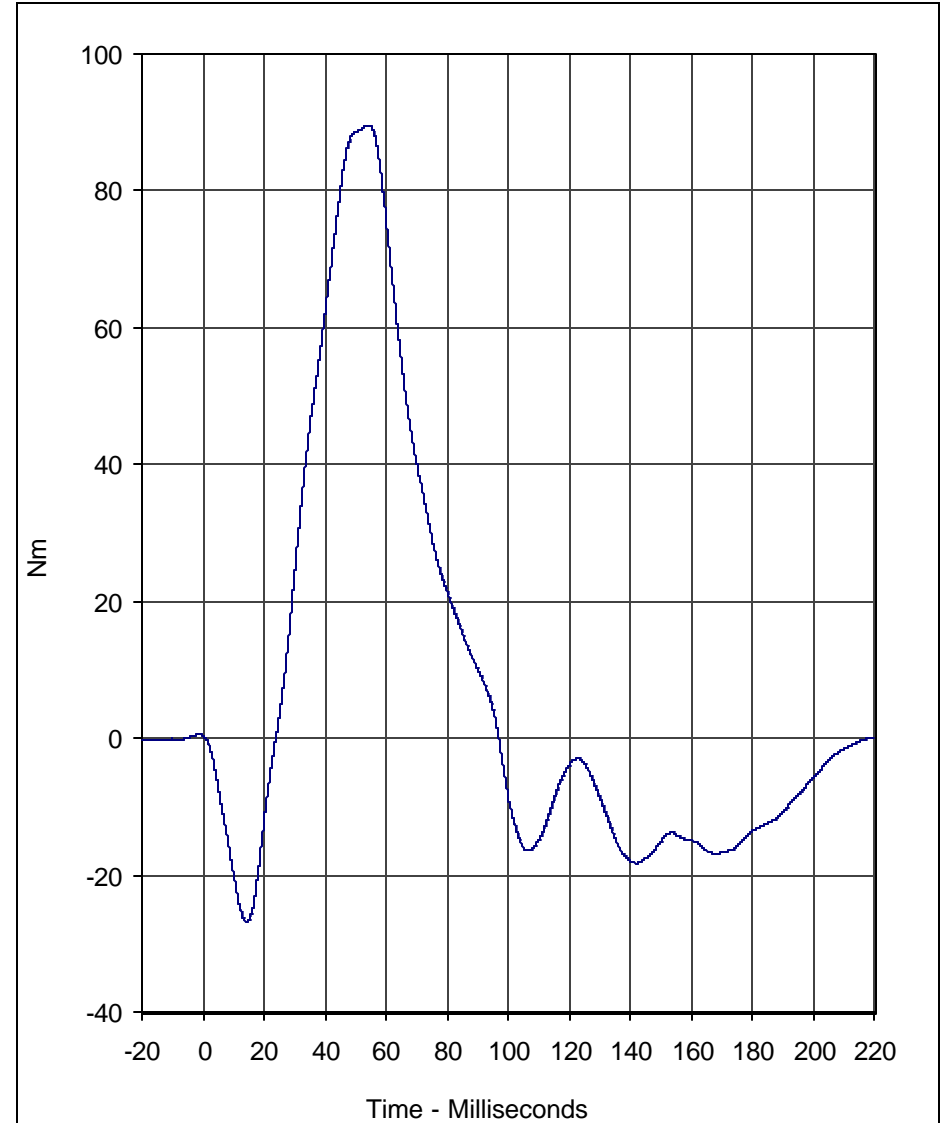




Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	65.5	57.5	-42.1	175.8	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02



Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	89.6	54.2	-26.8	14.3	60

A.T.D. Serial No.: 034
 Test I.D.: NF06C





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

ATD Serial No.: 034

Test I.D.: NE12V

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	17.9	Pass
	20 Msec.	G's	14.0 to 19.0	16.6	Pass
	30 Msec.	G's	11.0 to 16.0	15.4	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.4	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	45.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	92.3	Pass
	Time	Msec.	72.0 to 82.0	79.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	153.6	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-64.4	Pass
	Time	Msec.	65.0 to 79.0	67.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	137.6	Pass
Overall Test Results					Pass

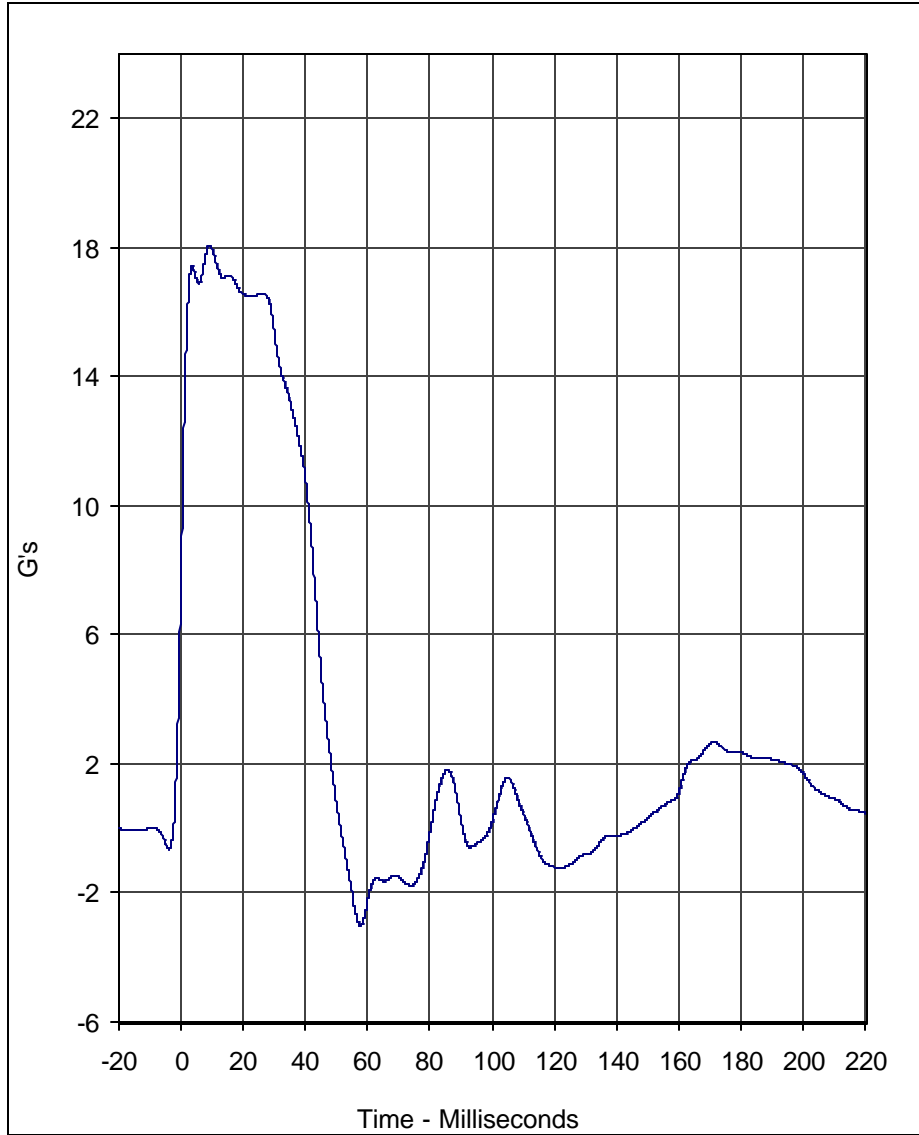
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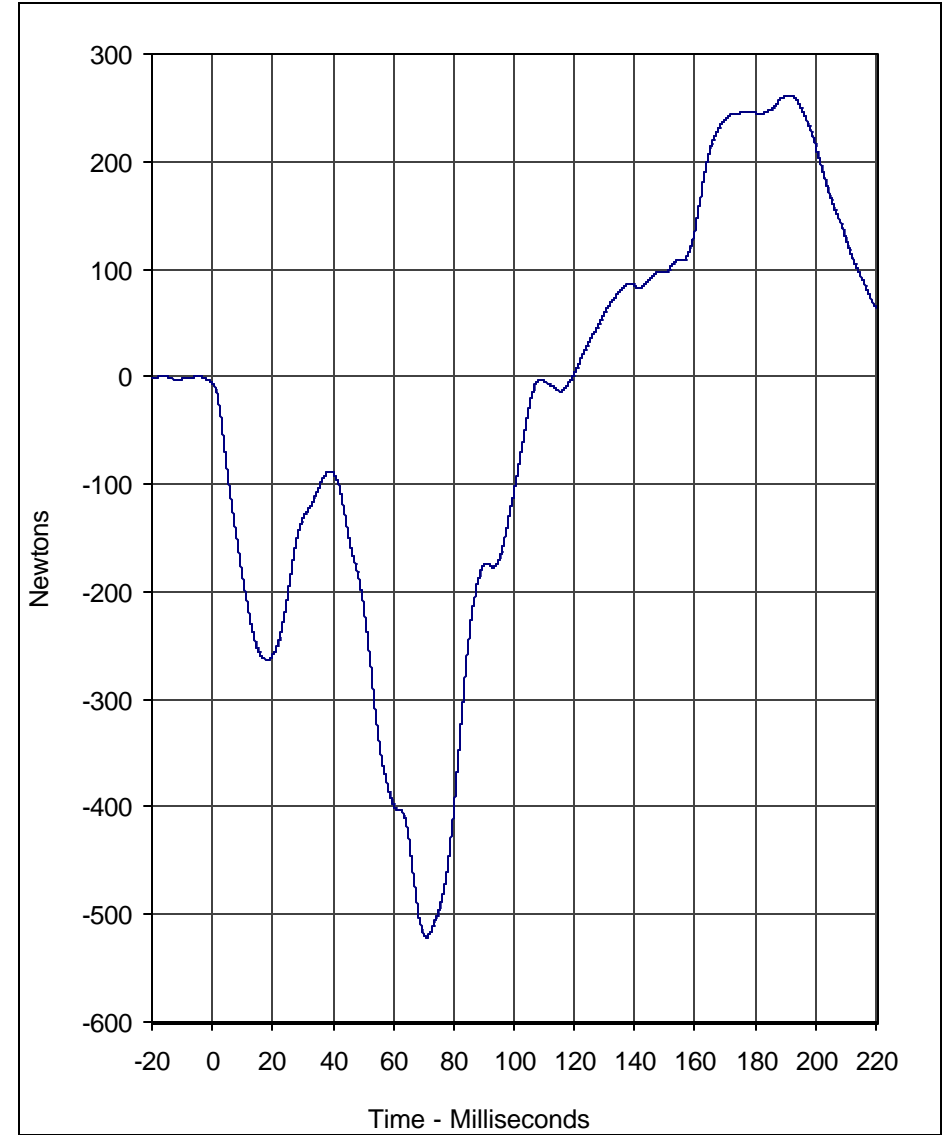
December 22, 2002

Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	18.1	9.2	-3.0	57.7	60



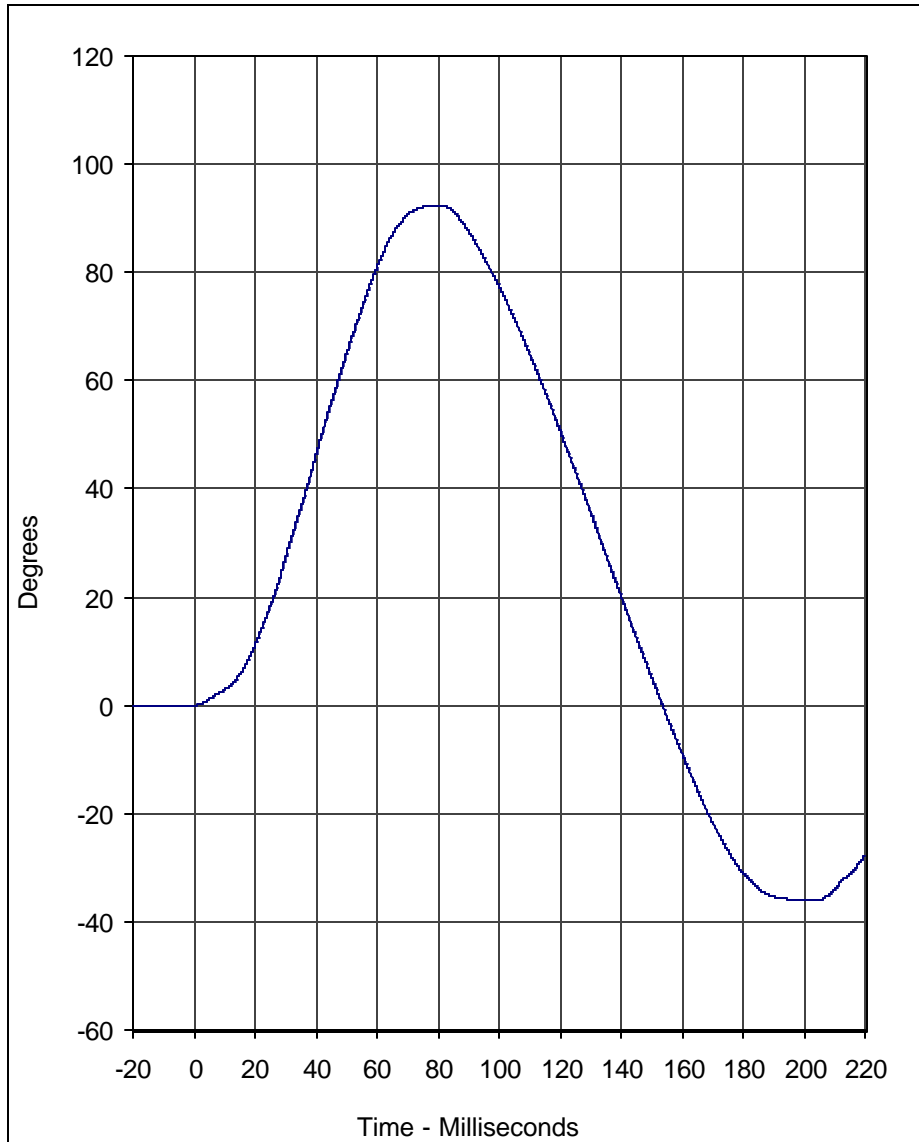
Curve Description				CURNO	Type
Neck Force X				002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	261.9	191.0	-521.3	70.9	60

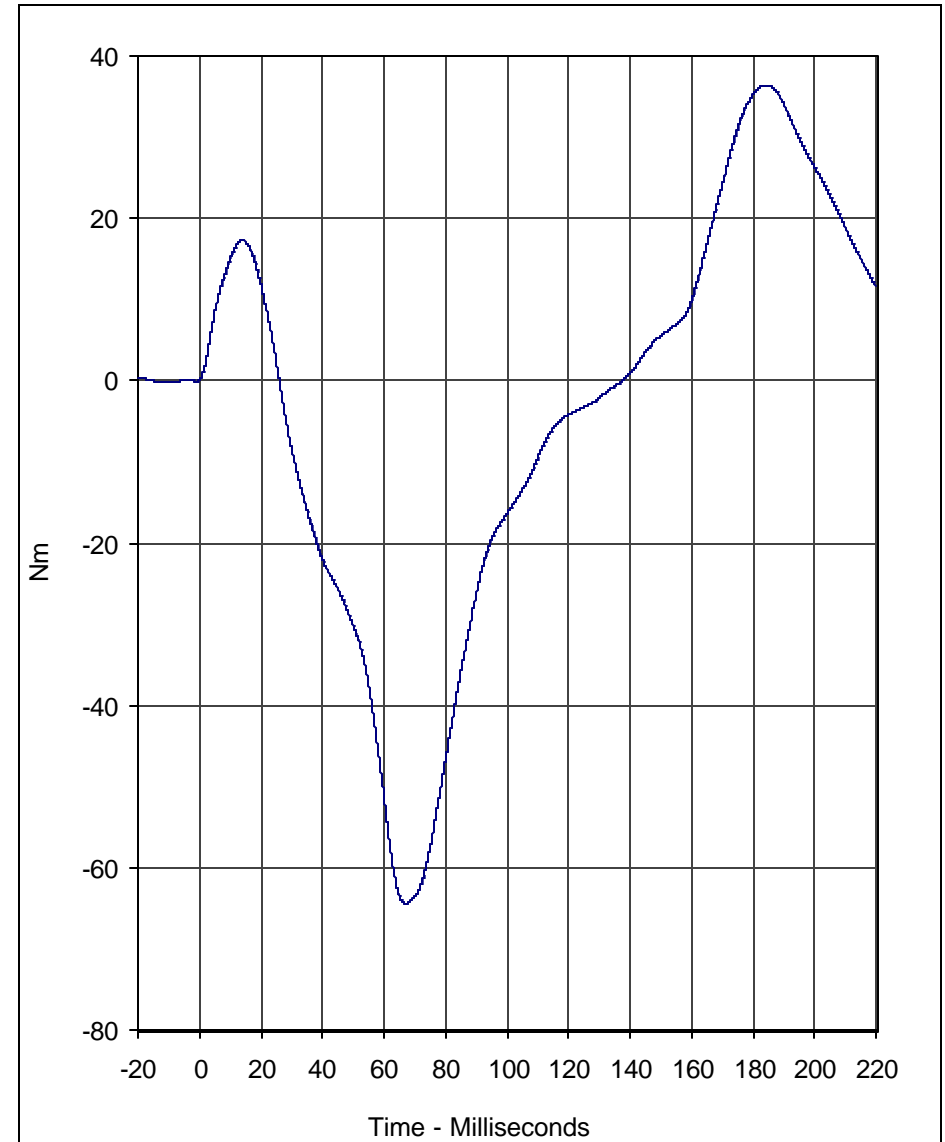
Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034
 Test I.D.: NE12V





Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	92.3	79.9	-36.1	203.6	60



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	36.4	184.5	-64.4	67.0	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 034
 Test I.D.: NE12V





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	20.8	Pass
Laboratory Relative Humidity	%	10 to 70	35	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	510	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	600	Pass
L - Popliteal length	mm	429 to 455	440	Pass
M - Knee pivot height	mm	485 to 500	490	Pass
N - Buttock popliteal length	mm	452 to 477	475	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	430	Pass
W - Foot breadth	mm	91 to 107	105	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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December 23, 2002

Test Date

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

ATD Serial No.: 035

Location: Left Knee

Test I.D.: RK10A

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	4906	Pass
Overall Test Results				Pass

ATD Serial No.: 035

Location: Right Knee

Test I.D.: RK10B

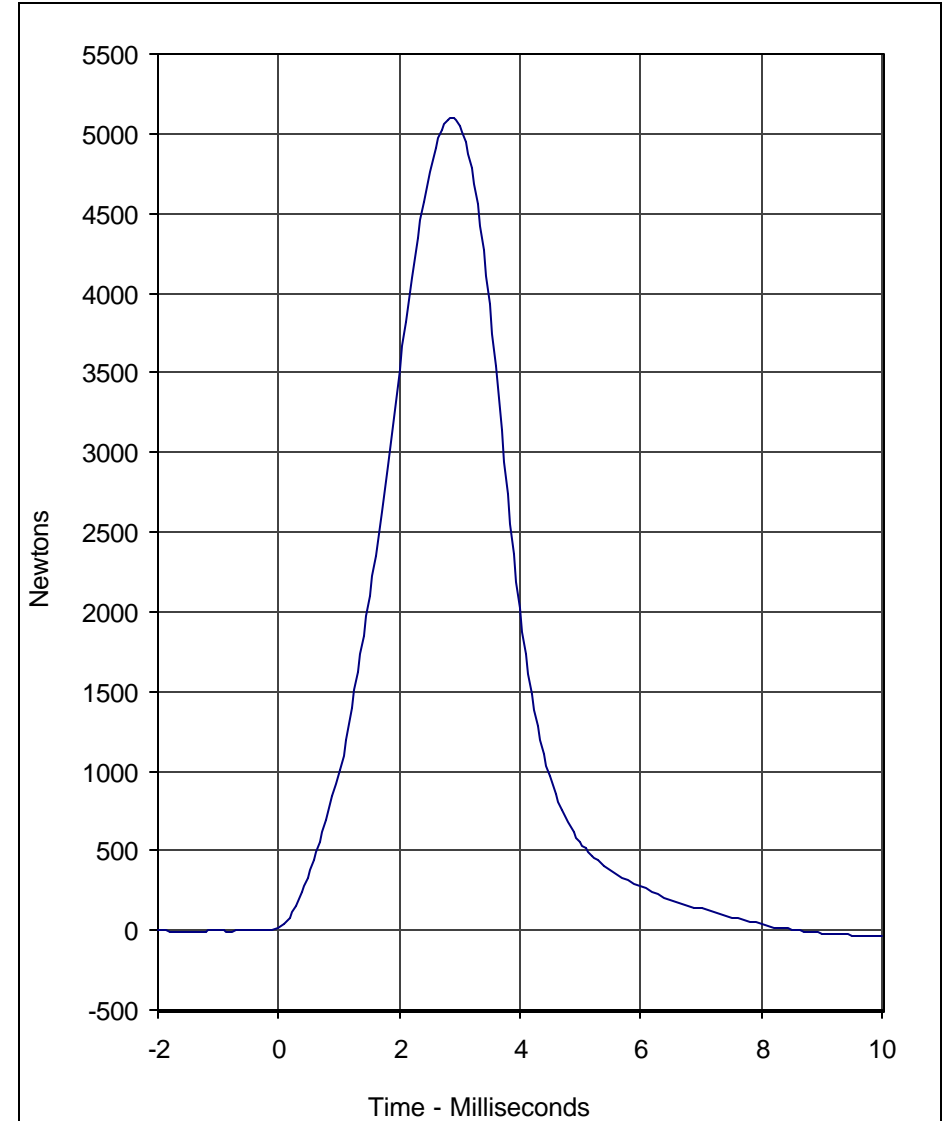
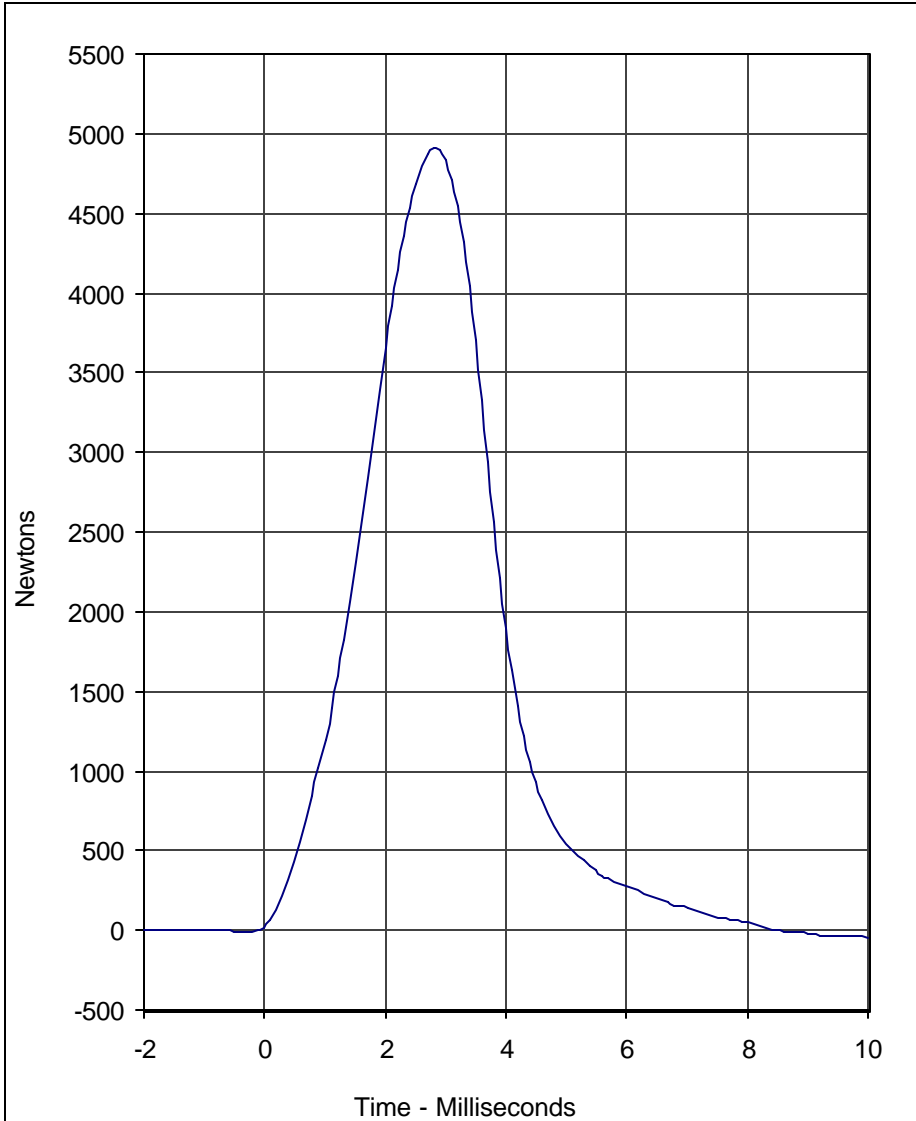
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Pendulum Velocity at T=0	m/sec	2.07 to 2.13	2.10	Pass
Peak Probe Force	N	4715 to 5782	5099	Pass
Overall Test Results				Pass

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Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Left Knee	RK10A	001	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	4905.7	2.8	-42.2	10.0	600

Curve Description	Location	Test I.D.	CURNO	Type
Probe Force	Right Knee	RK10B	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	5099.0	2.9	-37.3	9.9	600

Test Program: Hybrid III 50th Percentile Male Knee Impact Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035





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

ATD Serial No.: 035

Test I.D.: KH07B

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	235.1	Pass
Peak Lateral Acceleration	G's	≤15.0	4.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

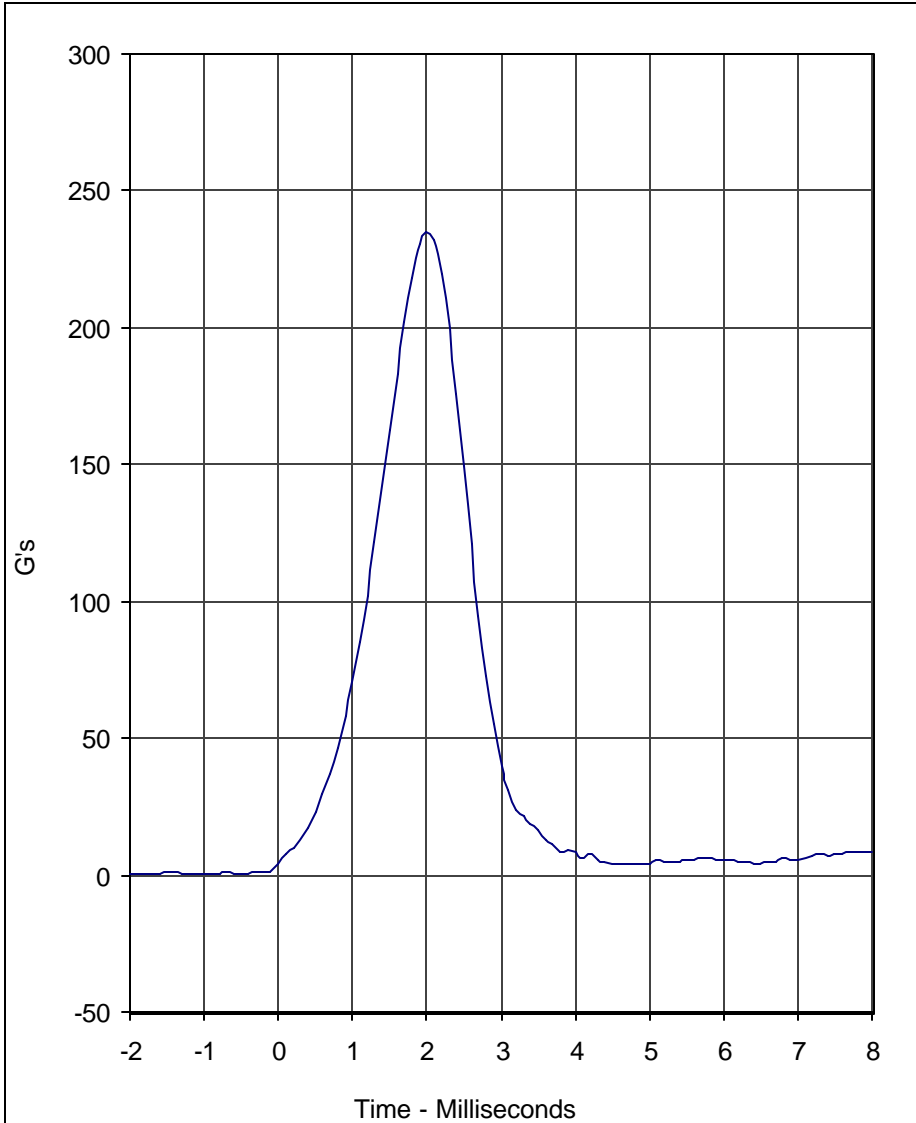
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December 22, 2002

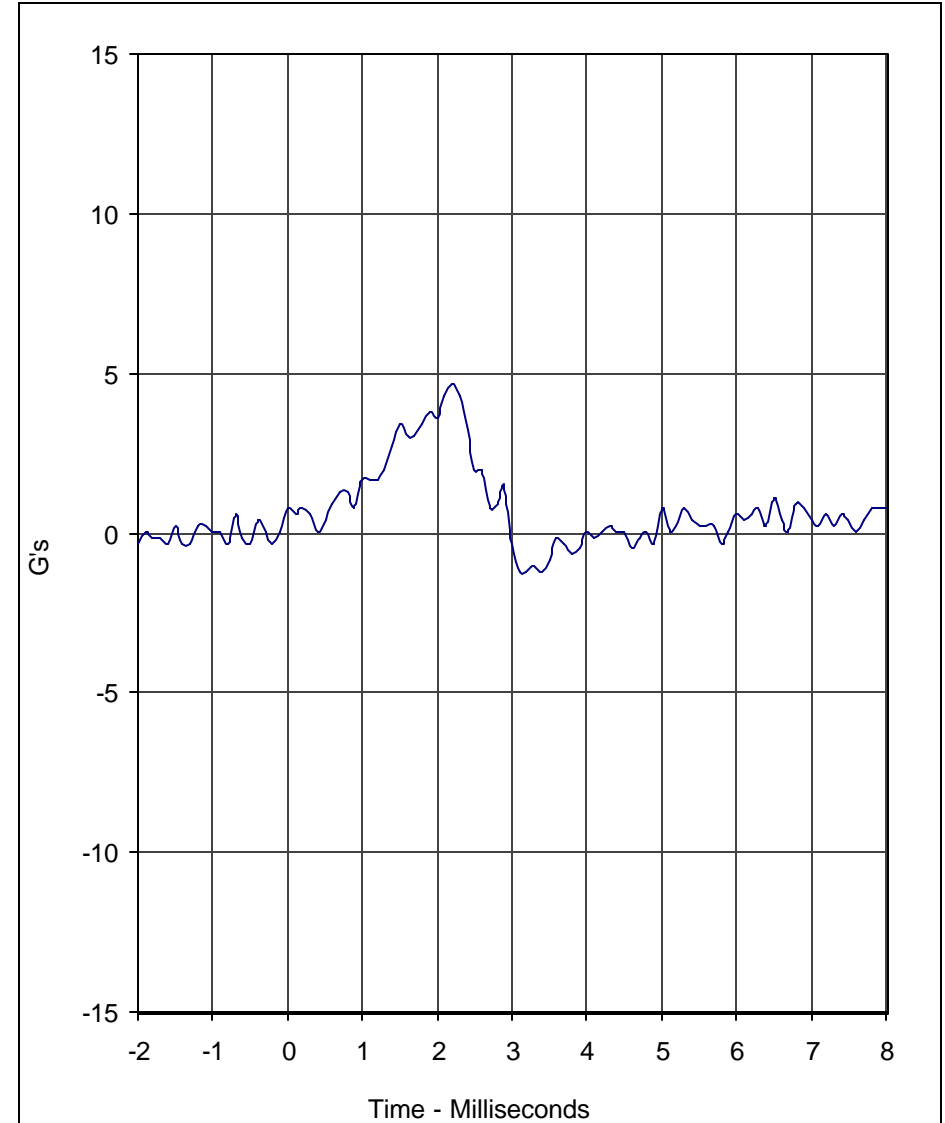
Test Date



Curve Description	CURNO	Type
Head Resultant	001	RES

Units	Max	Time	Min	Time	SAE Class
G's	235.1	2.0	0.1	-0.9	1000

Test Program: Hybrid III 50th Percentile Male Head Drop Test
 Test Date: 12/22/02



Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	4.7	2.2	-1.2	3.1	1000

A.T.D. Serial No.: 035
 Test I.D.: KH07B





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

ATD Serial No.: 035

Test I.D.: CH12B

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	6.74	Pass
Peak Probe Force	Newtons	5159 to 5893	5448	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.65	Pass
Internal Hysteresis	%	69 to 85	76.6	Pass
Overall Test Results				Pass

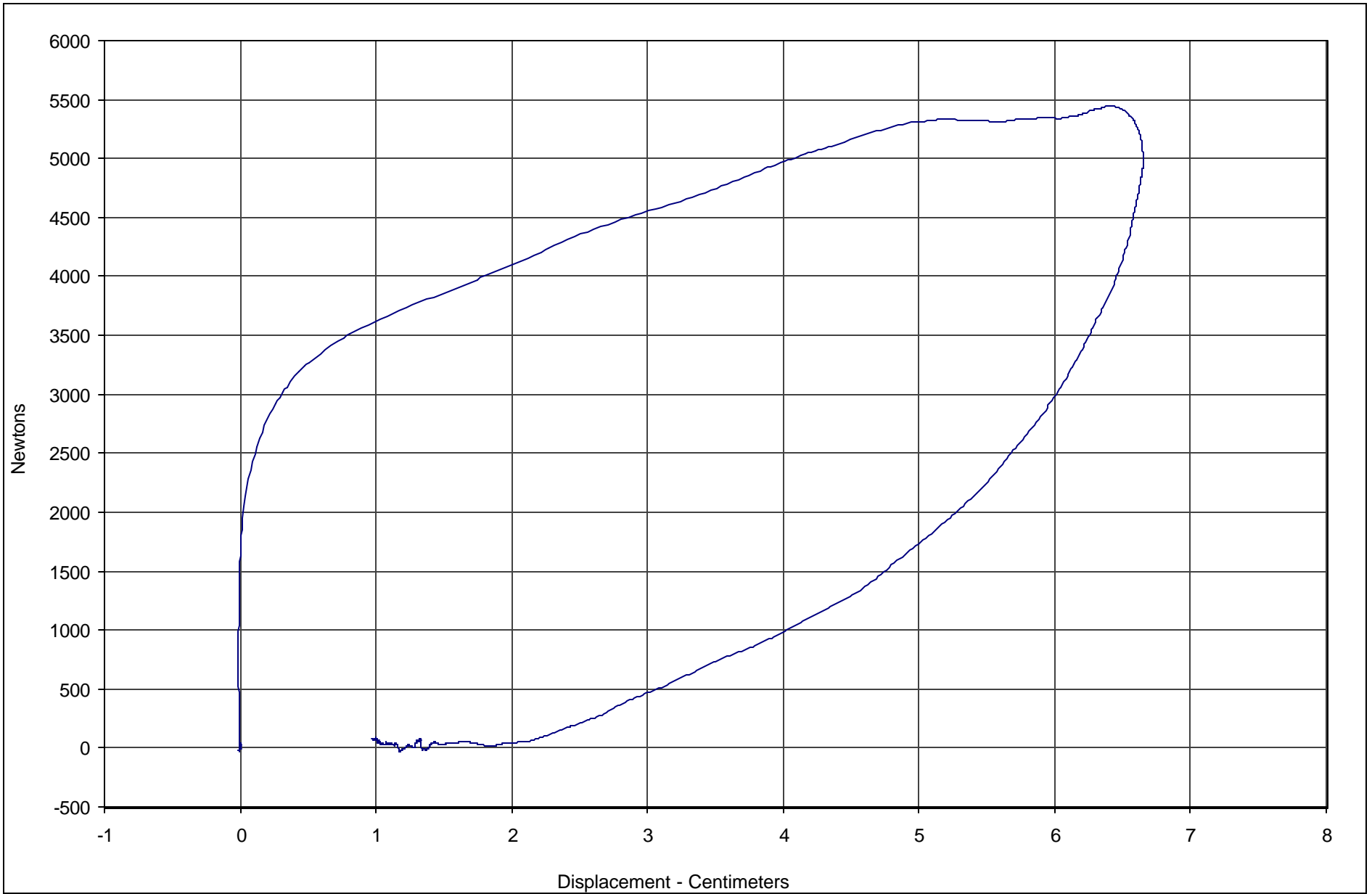
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Laboratory Technician

December 23, 2002

Test Date



Curve Description	CURNO	Type	Hysteresis	Peak Chest Displ.	Peak Probe Force	SAE Class
Probe Force vs. Chest Displacement	001	FIL	76.6	6.65	5447.6	180



Test Program: Hybrid III 50th Percentile Male Thorax Impact

A.T.D. Serial No.: 035

Test Date: 12/23/02

Test I.D.: CH12B



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

ATD Serial No.: 035

Test I.D.: NF10D

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	7.12	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	26.1	Pass
	20 Msec.	G's	17.6 to 22.6	22.2	Pass
	30 Msec.	G's	12.5 to 18.5	17.4	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.4	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	41.2	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	73.7	Pass
	Time	Msec.	57.0 to 64.0	58.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	115.2	Pass
Moment About Occipital Condyle	Maximum	Nm	84.1 to 108.5	92.2	Pass
	Time	Msec.	47.0 to 58.0	52.8	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	97.5	Pass
Overall Test Results					Pass

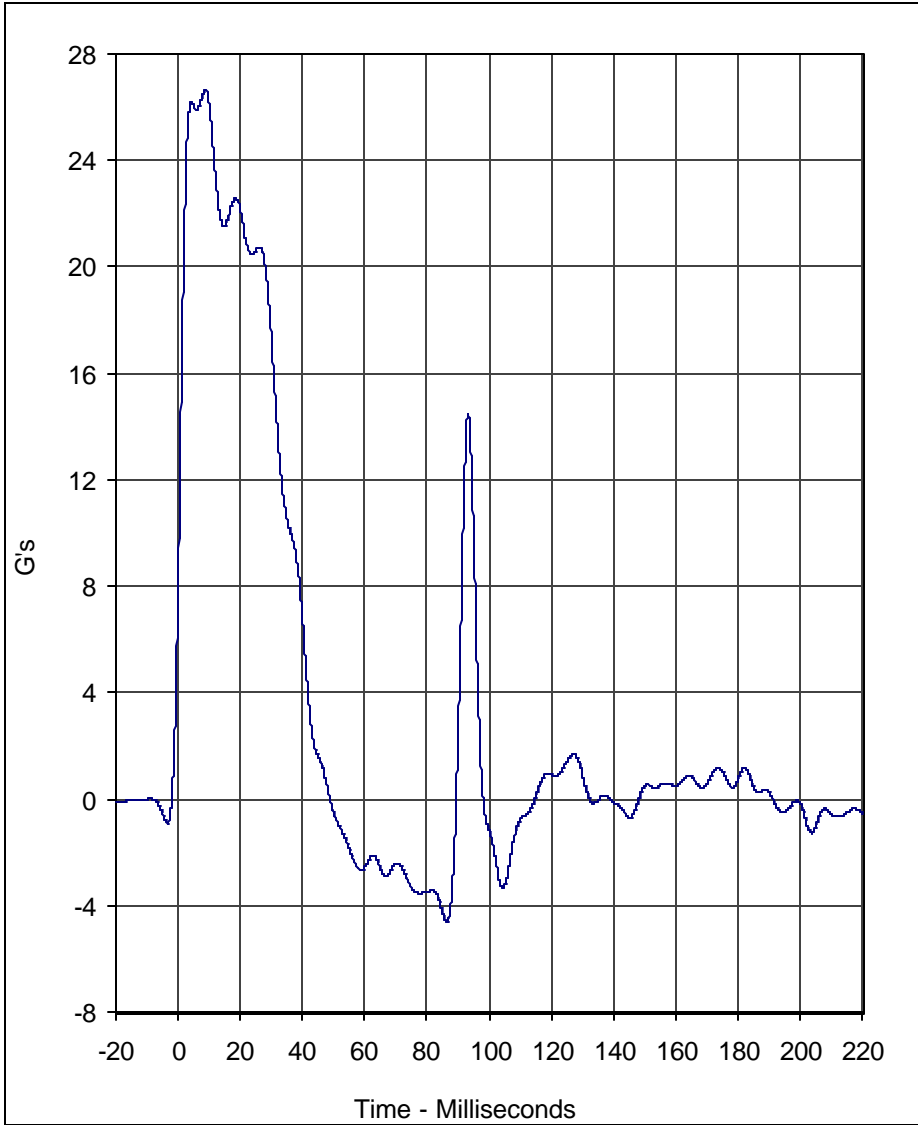
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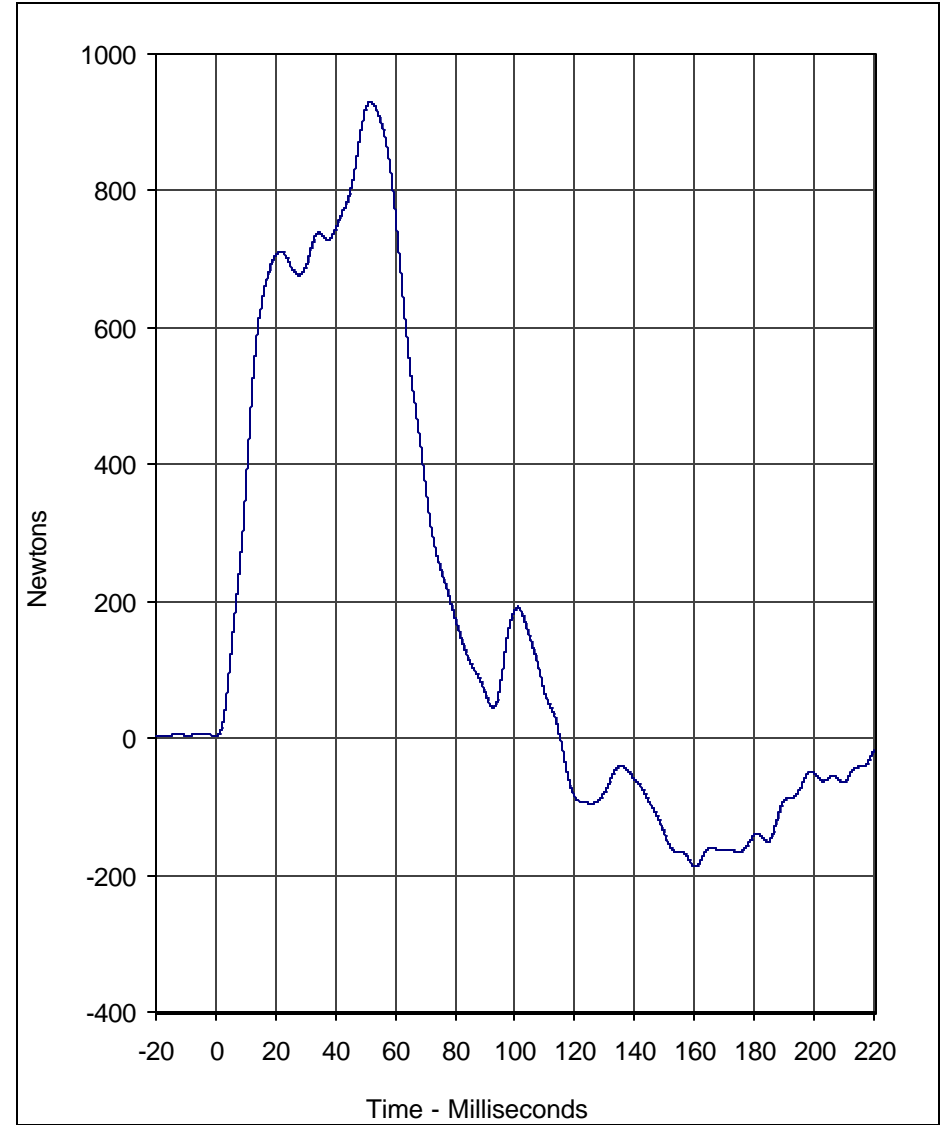
Test Date



Curve Description	CURNO	Type
Pendulum Deceleration	001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	26.7	8.8	-4.6	86.4	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02

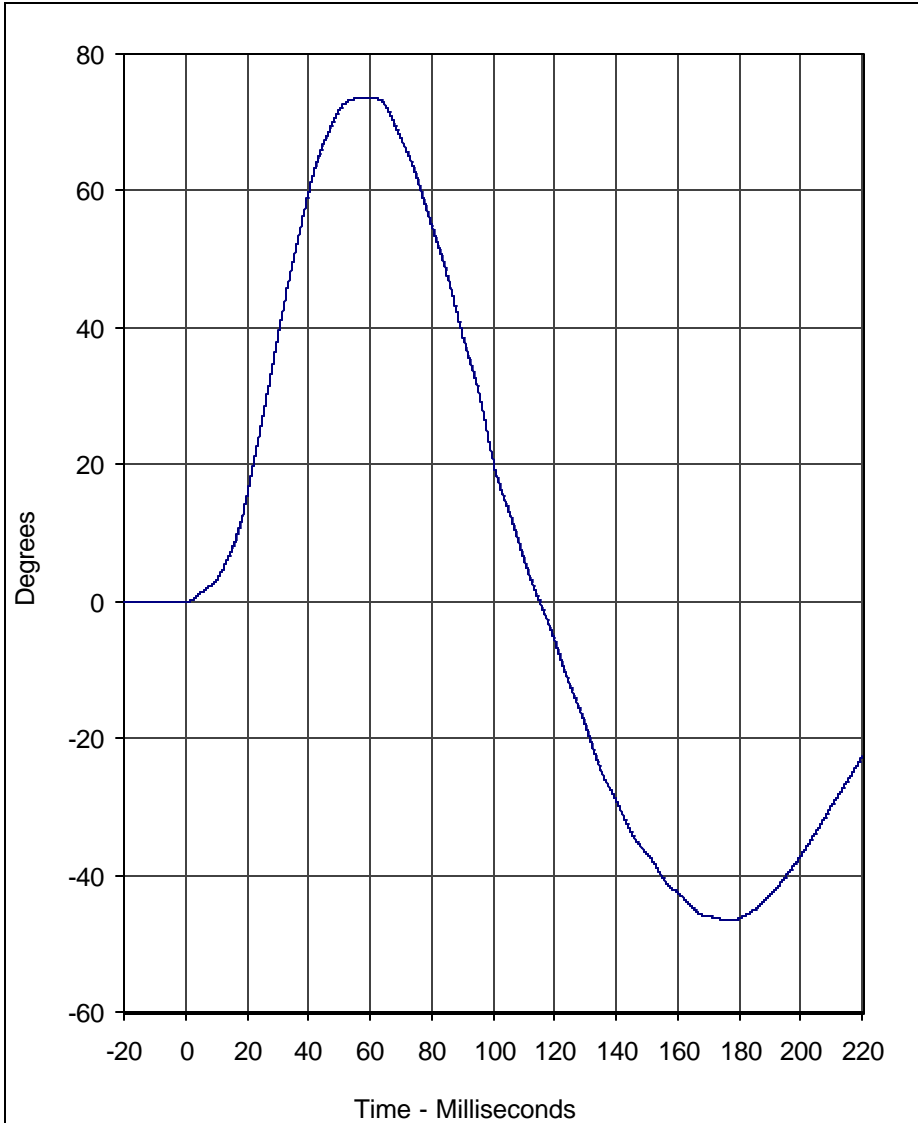


Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	930.4	51.7	-186.8	160.2	60

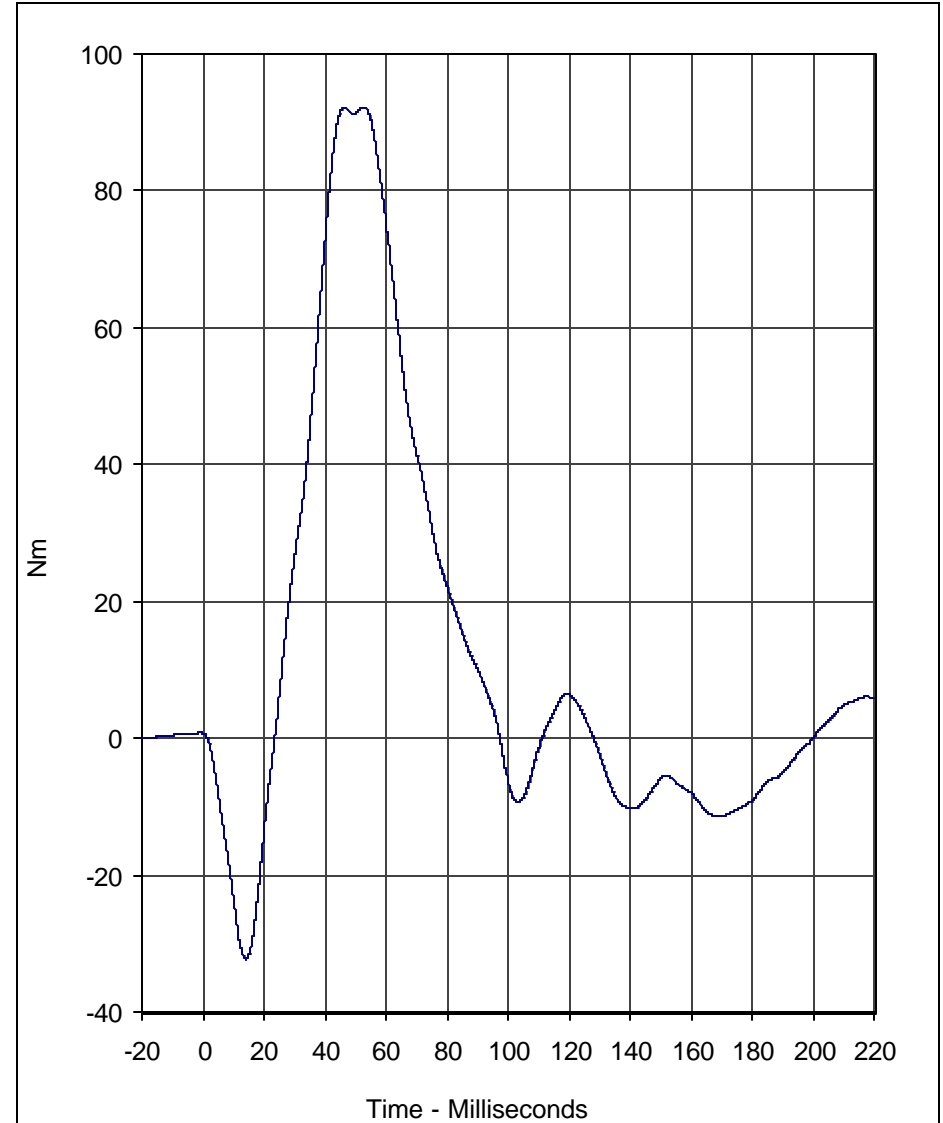
A.T.D. Serial No.: 035
 Test I.D.: NF10D





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	73.7	58.7	-46.7	176.9	60



Curve Description	CURNO	Type
Moment About Occipital Condyle	004	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	92.2	52.8	-32.3	14.1	60

Test Program: Hybrid III 50th Percentile Male Neck Flexion Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035
 Test I.D.: NF10D





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

ATD Serial No.: 035

Test I.D.: NE12D

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	6.08	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.6	Pass
	20 Msec.	G's	14.0 to 19.0	15.2	Pass
	30 Msec.	G's	11.0 to 16.0	14.7	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	14.7	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	46.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	97.3	Pass
	Time	Msec.	72.0 to 82.0	76.6	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	154.9	Pass
Moment About Occipital Condyle	Maximum	Nm	-52.9 to- 79.9	-65.1	Pass
	Time	Msec.	65.0 to 79.0	69.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	141.0	Pass
Overall Test Results					Pass

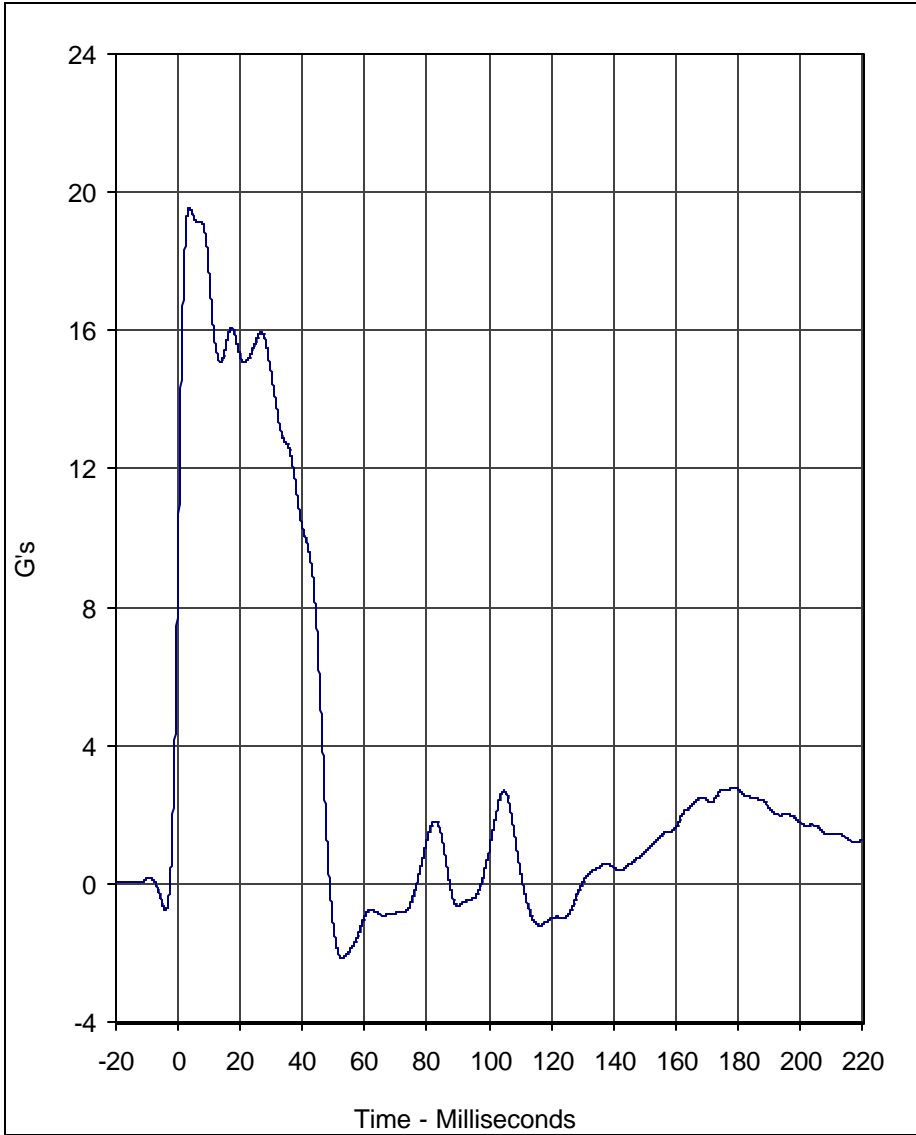
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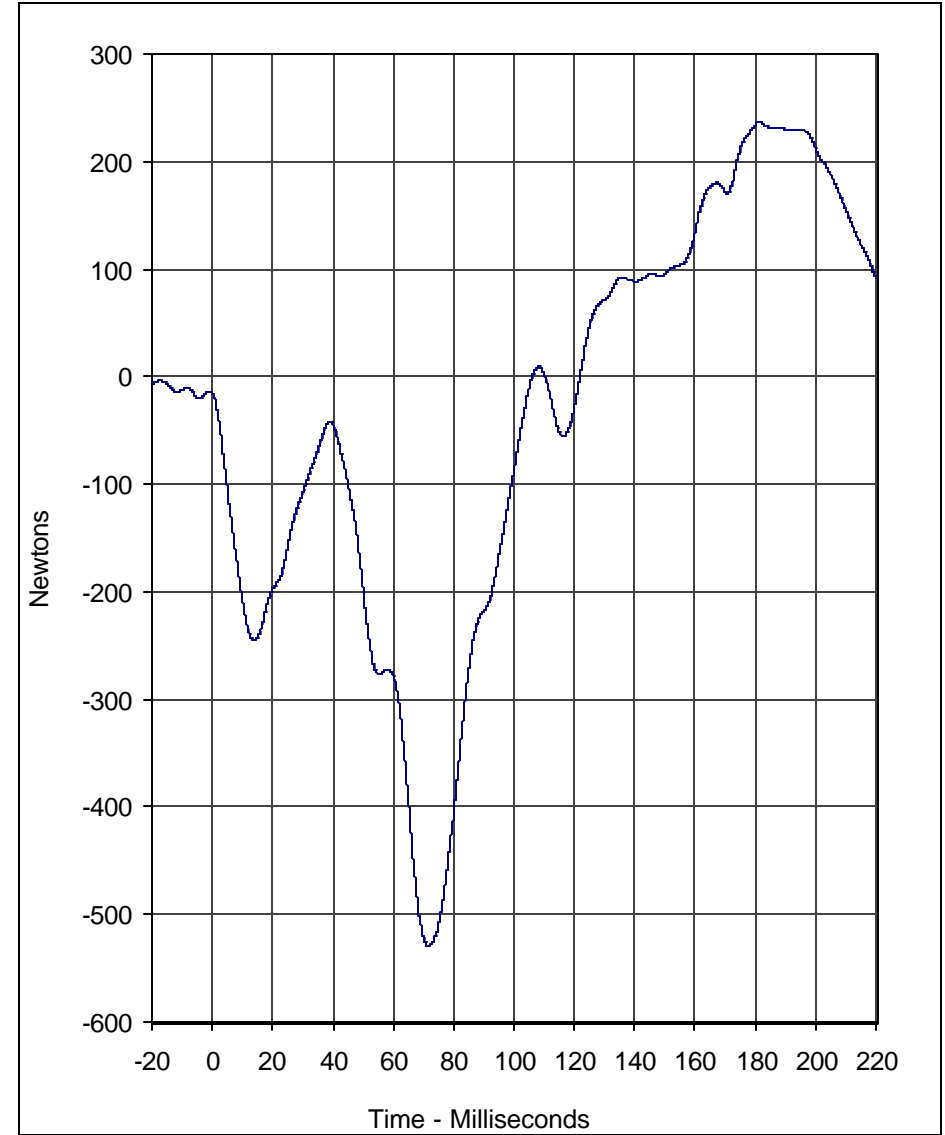
December 22, 2002

Test Date



Curve Description				CURNO	Type
Pendulum Deceleration				001	FIL

Units	Max	Time	Min	Time	SAE Class
G's	19.6	3.6	-2.2	52.8	60



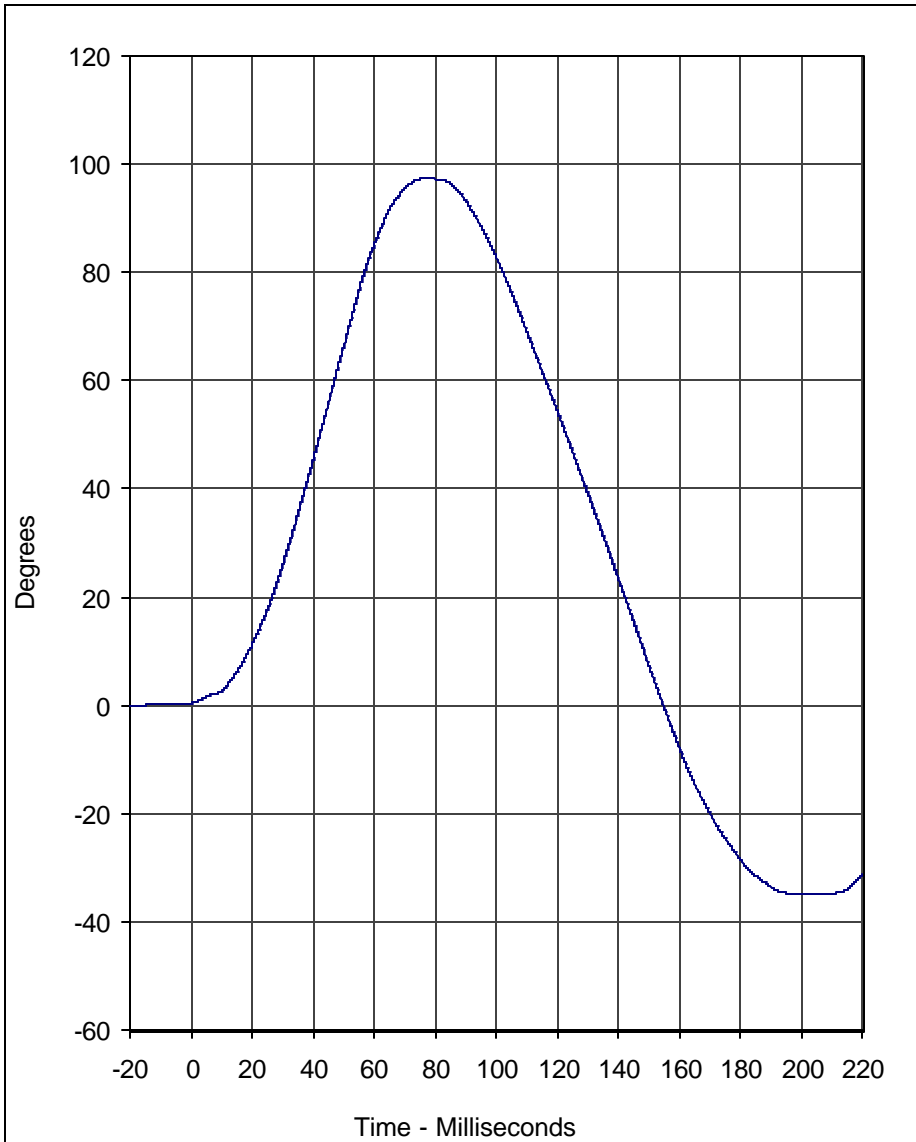
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Neck Force X				002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	237.1	181.5	-529.4	71.7	60

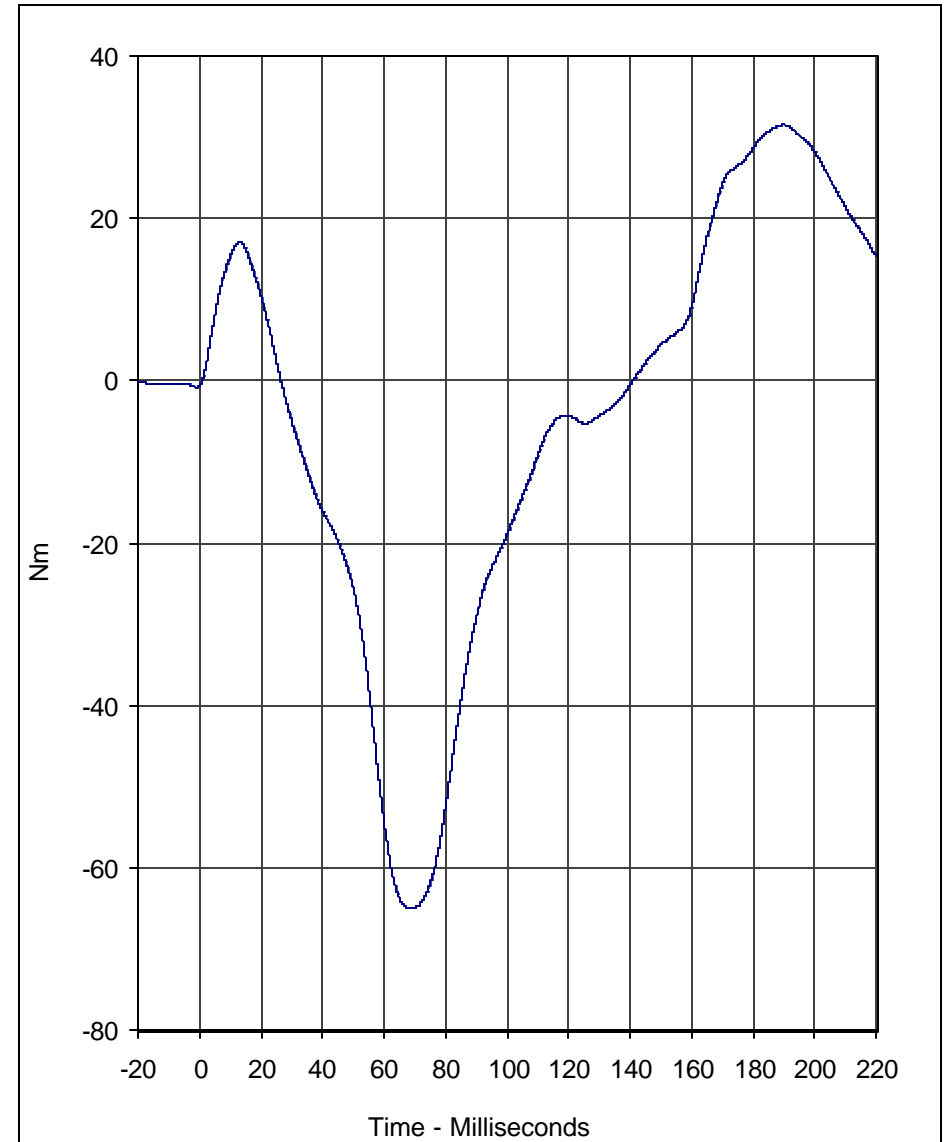
Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035
 Test I.D.: NE12D





Curve Description				CURNO	Type
"D" Plane Rotation				003	FIL
Units	Max	Time	Min	Time	SAE Class
Degrees	97.3	76.6	-34.9	201.7	60



Curve Description				CURNO	Type
Moment About Occipital Condyle				004	FIL
Units	Max	Time	Min	Time	SAE Class
Nm	31.5	189.8	-65.1	69.0	60

Test Program: Hybrid III 50th Percentile Male Neck Extension Test
 Test Date: 12/22/02

A.T.D. Serial No.: 035
 Test I.D.: NE12D





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	35	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	335	Pass
J - Elbow rest height	mm	190 to 211	195	Pass
K - Buttock to knee length	mm	579 to 604	600	Pass
L - Popliteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock popliteal length	mm	452 to 477	470	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	265	Pass
V - Shoulder breadth	mm	422 to 437	425	Pass
W - Foot breadth	mm	91 to 107	100	Pass
Y - Chest circumference	mm	970 to 1001	975	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

Laboratory Technician

December 23, 2002

Test Date

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TR-P23001-04-NC

APPENDIX F

CHILD RESTRAINT SYSYTEM

REPORT NUMBER TR-P23001-04-NC

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

**TOYOTA MOTOR MANUFACTURING
2003 TOYOTA TACOMA PRERUNNER SR5
4 DOOR PICKUP**

NHTSA NUMBER: M35110

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



JANUARY 3, 2003

FINAL REPORT

**PREPARED FOR:
U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
RULEMAKING
OFFICE OF CRASHWORTHINESS STANDARDS
MAIL CODE: NVS-111
400 SEVENTH STREET, SW, ROOM 5311
WASHINGTON, D.C. 20590**

This final test report was prepared for the U.S. Department of Transportation, National Highway Traffic Safety Administration, in response to Contract Number DTNH22-01-D-02005.

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Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering, LLC

Approved by: _____ Date: January 15, 2003
Mr. Frank D. Richardson, Program Manager
KARCO Engineering, LLC

FINAL REPORT ACCEPTED BY:

Manager, New Car Assessment Program

Date of Acceptance

COTR, NCAP Frontal Impact Program

Date of Acceptance

Technical Report Documentation Page

1. Report No. TR-P23001-04-NC	2. Government Accession No.	3. Recipients Catalog No.		
4. Title and Subtitle Final Report of Evenflo Vanguard Latch Final Report of Evenflo Titan Latch NHTSA No. M35110		5. Report Date January 15, 2003		
		6. Performing Organization Code KAR		
7. Authors Mr. James E. Gorth, Project Engineer, Karco Mr. Frank Richardson, Project Manager, Karco		8. Performing Organization Report No. TR-P23001-04-NC		
9. Performing Organization Name and Address KARCO Engineering, LLC 9270 Holly Road Adelanto, CA 92301		10. Work Unit No.		
		11. Contract or Grant No. DTNH22-01-D-02005		
12. Sponsoring Agency Name and Address U.S. Department of Transportation National Highway Traffic Safety Administration Rulemaking Office of Crashworthiness Standards Mail Code: NVS-111 400 Seventh Street, SW, Room 5311 Washington, D.C 20590		13. Type of Report and Period Covered Final Test Report Option Year 2		
		14. Sponsoring Agency Code DOT/NHTSA/NRM/OCS/NVS 111		
15. Supplementary Notes Note: Crack on upper part of seat, Position #4.				
16. Abstract A frontal load cell barrier test was conducted on the subject CRS's Evenflo Vanguard Latch and a Evenflo Titan Latch in accordance with the specifications of the Office of Crashworthiness Standards Test Procedure for the determination of CRS crashworthiness. This test was conducted at Karco Engineering, LLC on January 3, 2003.				
Measurement Description		Units	Driver ATD	Pass. ATD
Head Injury Criteria (HIC36)		N/A	488.9	771.7
Head Injury Criteria (HIC15)		N/A	280.9	482.0
Max. Thorax Accel. (3 msec clip)		G's	43.5	43.2
Peak Chest Displacement		mm	-12.1	-10.7
17. Key Words 56.3 km/h NCAP Frontal Barrier Impact Test New Car Assessment Program (NCAP) 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup NHTSA No. M35110			18. Distribution Statement Copies of this report available from: NHTSA Technical Reference Division National Highway Traffic Safety Admin. 400 Seventh St., SW, Room 5108 Washington, D.C. 20590	
19. Security Classification (this report)	20. Security Classification (this page)	21. No. Pages	22. Price	
Unclassified	Unclassified	148		

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SECTION F-1

PURPOSE AND SUMMARY OF TEST M35110

The purpose of this test is to obtain CRS performance data during an NCAP (35mph) frontal impact test.

The 55.61 km/h NCAP frontal impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) NCAP Laboratory Test Procedure.

SUMMARY

The three year old child dummies were instrumented with head, chest, and pelvic triaxial accelerometers. In addition, redundant head z acceleration, upper and lower six axial neck force and moment load cell sensors were utilized. Triaxial accelerometers were installed on the CRS.

The right rear (Position 3) child dummy (Serial No. 139) was calibrated prior to this test. The left rear (Position 4) child dummy (Serial No. 082) was calibrated prior to this test. Child dummy certification information is found in Section F-5.

CHILD DUMMY VALUES

	HIC36 Values	HIC15 Values	3 Msec Chest Clip	Peak Chest Disp.
Left Rear Child	488.9	280.9	43.5	-12.1
Right Rear Child	771.7	482.0	43.2	-10.7

SECTION F-1

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

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

TEST DUMMY INFORMATION

Description	Position # 3 CRS	Position # 4 CRS
Manufacturer	Evenflo	Evenflo
Model Name	Vanguards	Titan
Serial No.	369P1261 P1	2661310 P1
Type	Latch	Latch
Forward/Rearward	Forward	Forward

VISIBLE DUMMY CONTACT POINTS

Description	Position # 3 CRS	Position # 4 CRS
Head Contact	Retaining Clip, Arm	Retaining Clip
Chest Contact	Harness	Harness
Abdomen Contact	Harness	T-Shield
Left Knee Contact	None	None
Right Knee Contact	None	None
Left Toe Contact	Seatback	Seatback
Right Toe Contact	Seatback	Seatback

POST TEST DOOR OPENING

Description	Front	Rear
Left Side Doors	Remained Closed, opened w/o tools	Remained Closed, opened w/o tools
Right Side Doors	Remained Closed, opened w/o tools	Remained Closed, opened w/o tools
Hatch/Other Door	None	None

POST TEST SEAT DATA

Location	Seat Movement (mm)	Seat Back Failure
Left Front	None	None
Right Front	None	None
Left Rear	None	None
Right Rear	None	None

CAMERA COVERAGE

High Speed	4
Real Time	0
Total	4

SECTION F-1

DATA SHEET NO. 2.....CRS PARAMETER DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

TEST VEHICLE WEIGHTS

	Units	As Delivered			As Tested		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	461	376		516	460	
Right	kg	449	351		511	431	
Ratio	%	55.6	44.4		53.5	46.5	
Totals	kg	910	727	1637	1027	891	1918

TARGET TEST WEIGHT CALCULATION

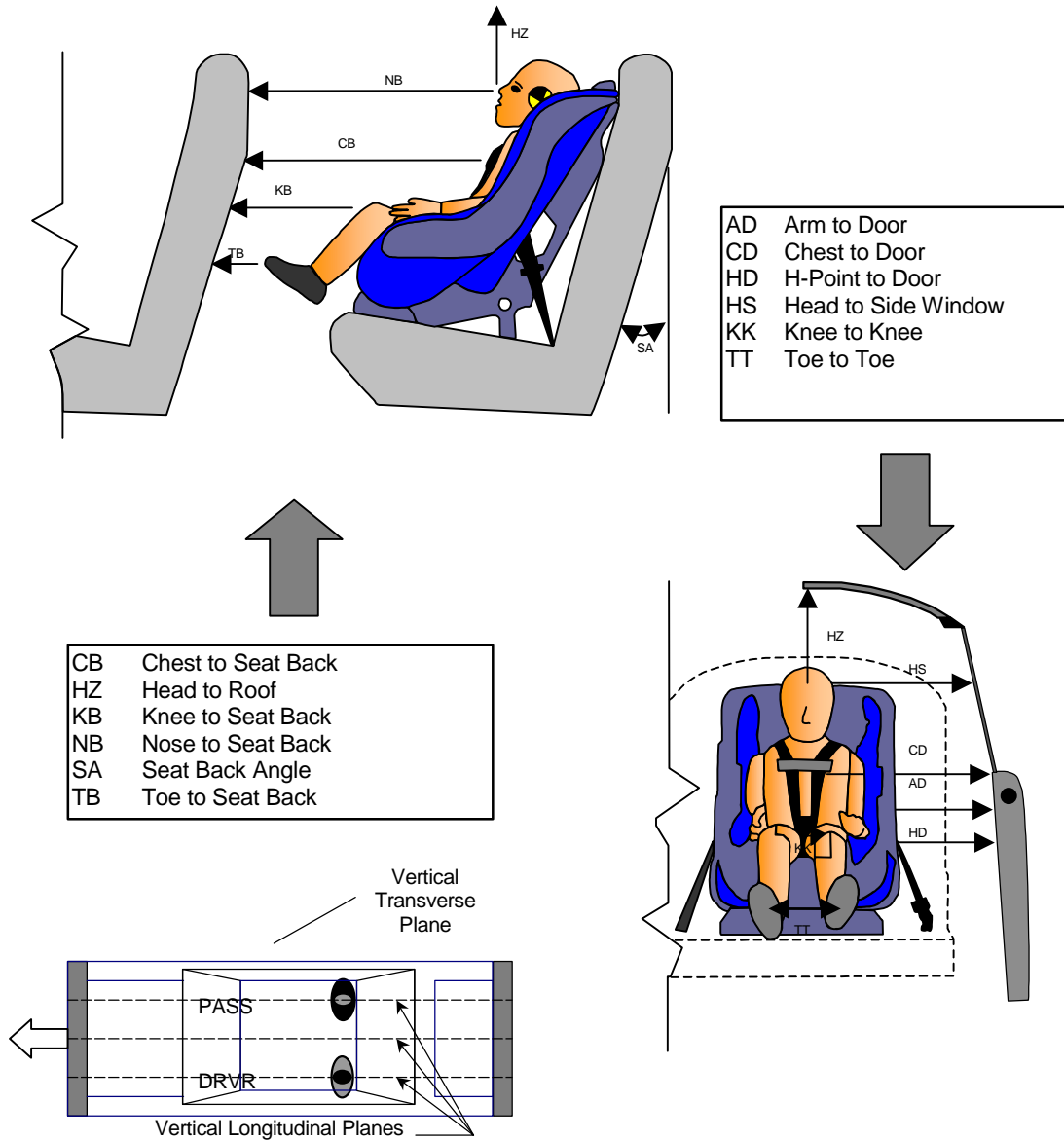
Measured Parameter	Units	Value
Total Delivered Weight (<i>UVW</i>)	kg	1637
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Weight (<i>RCLW</i>)	kg	136
Calculated Vehicle Target Weight (<i>TVTW</i>)	kg	1925

SECTION F-1

DATA SHEET NO. 3CHILD DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03



DUMMY MEASUREMENTS FOR REAR SEAT OCCUPANTS

SECTION F-1

DATA SHEET NO. 3CHILD DUMMY POSITIONING IN VEHICLE...(continued)

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

CHILD DUMMY POSITION MEASUREMENTS

Code	Measurement	P3 CRS (139)		P4 CRS (082)	
		369P1261 P1		2661310 P1	
		Pre-Test	Post-test	Pre-Test	Post-test
SA	Seat Back Angle				
HZ	Head to Roof (Z)	335	340	340	340
CD	Chest to Dash	385	375	345	355
KK	Knee to Knee (Y)	345	180	200	205
HS	Head to Side Window	290	280	250	250
HD	H-Point to Door (Y)	370	365	340	345
AD	Arm to Door (Y)	570	530	600	590
NB	Nose to Seat Back	522	515	570	500
CB	Chest to Seat Back	185	197	202	210
FF	Foot to Foot	177	210	195	235
KB-LEFT	Knee to Seat Back	325	310	280	240
KB-RIGHT	Knee to Seat Back	318	285	280	250
TB-LEFT	Toe to Seat Back	50	40	120	55

DATA SHEET NO. 4 - 3 YEAR OLD HYBRID III ATD INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	18.7	233.0	-24.1	74.0	33.8	230.7	-39.6	96.1
Head CG	Y	G's	6.6	81.6	-2.8	44.7	11.7	95.8	-7.9	76.3
Head CG	Z	G's	53.0	79.8	-11.0	47.5	64.2	79.2	-16.5	42.8
Head CG Resultant	N/A	G's	56.9	79.8			67.3	79.1		

PRIMARY HEAD INJURY CRITERAS (HIC)

Location	Left Rear Child				Right Rear Child			
	HIC	T ¹	T ²	Avg G	HIC	T ¹	T ²	Avg G
Head CG Primary (HIC36)	488.9	65.3	101.3	45.0	771.1	62.3	98.3	53.9
Head CG Primary (HIC15)	280.9	71.8	86.8		482.0	70.3	85.3	

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.7	253.1	-33.5	58.1	4.3	242.2	-37.2	59.1
Chest CG	Y	G's	9.9	84.6	-2.1	140.7	2.5	140.2	-8.2	101.0
Chest CG	Z	G's	16.3	94.1	-34.4	64.2	14.1	83.3	-24.0	47.3
Chest CG Resultant	N/A	G's	45.7	64.4			43.9	57.7		

PRIMARY CHEST CLIP (3MSEC)

Location	Left Rear Child			Right Rear Child		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	43.5	62.5	65.5	43.2	56.4	59.4

CHEST PEAK DISPLACEMENTS

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.0	19.7	-12.1	97.1	0.1	24.3	-10.7	99.3

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	21.4	104.2	-55.4	62.6	12.2	125.0	-46.7	56.4
Pelvis	Y	G's	9.9	69.8	-3.1	85.1	3.9	160.2	-10.4	76.8
Pelvis	Z	G's	10.0	94.2	-44.8	62.2	8.4	230.6	-26.1	39.6
Pelvis Resultant	N/A	G's	71.5	62.6			51.2	56.4		

DATA SHEET NO. 4...(continued)

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	27.3	186.8	-595.4	88.6	19.6	192.5	-766.7	93.8
Neck Force	Y	Newtons	131.6	81.5	-57.4	129.7	50.0	233.5	-232.4	81.0
Neck Force	Z	Newtons	1588.0	80.1	-421.6	248.9	1692.9	81.3	-428.0	43.9
Neck Force Resultant	N/A	Newtons	1670.5	80.1			1775.7	81.3		
Neck Moment	X	Nm	8.4	76.1	-2.1	171.5	7.6	108.4	-12.4	84.4
Neck Moment	Y	Nm	4.9	162.2	-16.5	246.3	5.3	87.8	-11.6	58.6
Neck Moment	Z	Nm	2.6	52.0	-3.8	105.7	3.1	99.9	-3.8	214.9
Neck Moment Resultant	N/A	Nm	16.6	247.0			13.2	84.3		

LOWER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	53.2	214.2	-623.3	87.6	146.9	231.2	-360.8	83.5
Neck Force	Y	Newtons	25.0	186.6	-122.3	128.0	428.8	90.8	-60.1	103.1
Neck Force	Z	Newtons	1010.3	79.7	-526.7	48.0	1266.5	77.0	-619.5	43.6
Neck Force Resultant	N/A	Newtons	1121.9	79.8			1311.0	77.0		
Neck Moment	X	Nm	23.5	81.1	-6.3	130.8	6.4	232.7	-46.8	88.1
Neck Moment	Y	Nm	88.4	87.5	-9.3	214.7	12.9	106.8	-27.3	81.6
Neck Moment	Z	Nm	10.0	82.6	-8.8	129.3	66.8	93.4	-9.9	228.5
Neck Moment Resultant	N/A	Nm	90.5	87.4			82.4	88.9		

CHILD SEAT TETHER BELT SENSOR PEAK VALUES

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Tether Belt Force	N/A	Newtons	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

1.) Not installed

CHILD SEAT ACCELEROMETER PEAK VALUES

Location	Axis	Units	Left Rear Child				Right Rear Child			
			Max	Time	Min	Time	Max	Time	Min	Time
Child Seat	X	G's	14.9	104.4	-62.4	55.1	11.4	147.0	-53.8	54.4
Child Seat	Y	G's	7.5	69.3	-15.0	64.9	4.6	151.2	-7.0	74.1
Child Seat	Z	G's	16.9	67.1	-17.0	58.3	14.8	44.4	-11.5	146.6
Child Seat Resultant	N/A	G's	63.0	54.9			54.3	54.0		

SECTION F-1

DATA SHEET NO. 5.....CRS PERFORMANCE DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110
 Test Date: 1/3/03

CRS PERFORMANCE DATA

Location	Serial # Position # 3		Serial # Position # 4	
	369P1261 P1		2661310 P1	
	Damage	Remarks	Damage	Remarks
Upper Tether Strap	No	None	No	None
Upper Tether Buckle	No	None	No	None
Upper Tether Hook	No	None	No	None
Veh. Upper Tether Anchor	No	None	Yes	Slight Bend
Lower Anchor Strap	No	None	N/A	N/A
Lower Anchor Buckle	No	None	N/A	N/A
Lower Anchor Hooks	No	None	N/A	N/A
Veh. Lower CRS Anchors	Yes	Bend on in board Anc.	N/A	N/A
5 Point Harness Connections	No	None	N/A	N/A
Cracks on CRS	No	None	Yes	Belt cut into CRS
Fabric Tears on CRS	No	None	No	None
Vehicle Seat Structure	No	None	No	None
Vehicle Seat Fabric Tears	No	None	No	None

SECTION F-1

DATA SHEET NO. 6.....CRS CAMERA DATA

Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

NHTSA No.: M35110

Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03

No.	Camera View	Location (mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Left Rear Child View	2692	-762	1651	1	1194	13	850
2	Left Rear Child View	2896	6299	1499	18	5994	25	1010
3	Right Rear Child View	2692	762	1657	3	1168	13	480
4	Right Rear Child View	3048	-8306	1854	3	8052	50	990

X - Barrier Face Y - Monorail Centerline Z - Ground

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PHOTOGRAPHS

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Figure F2-1: Close-up View Position 3 CRS Label



Figure F2-2: Pre-Test Frontal View of Position 3 CRS



Figure F2-3: Post-Test Frontal View of Position 3 CRS



Figure F2-4: Pre-Test Rear View of Position 3 CRS



Figure F2-5: Post-Test Rear View of Position 3 CRS



Figure F2-6: Pre-Test Left Side View of Position 3 CRS



Figure F2-7: Post-Test Left Side View of Position 3 CRS



Figure F2-8: Pre-Test Right Side View of Position 3 CRS



Figure F2-9: Post-Test Right Side View of Position 3 CRS



Figure F2-10: Pre-Test Position 3 Front View



Figure F2-11: Post-Test Position 3 Front View

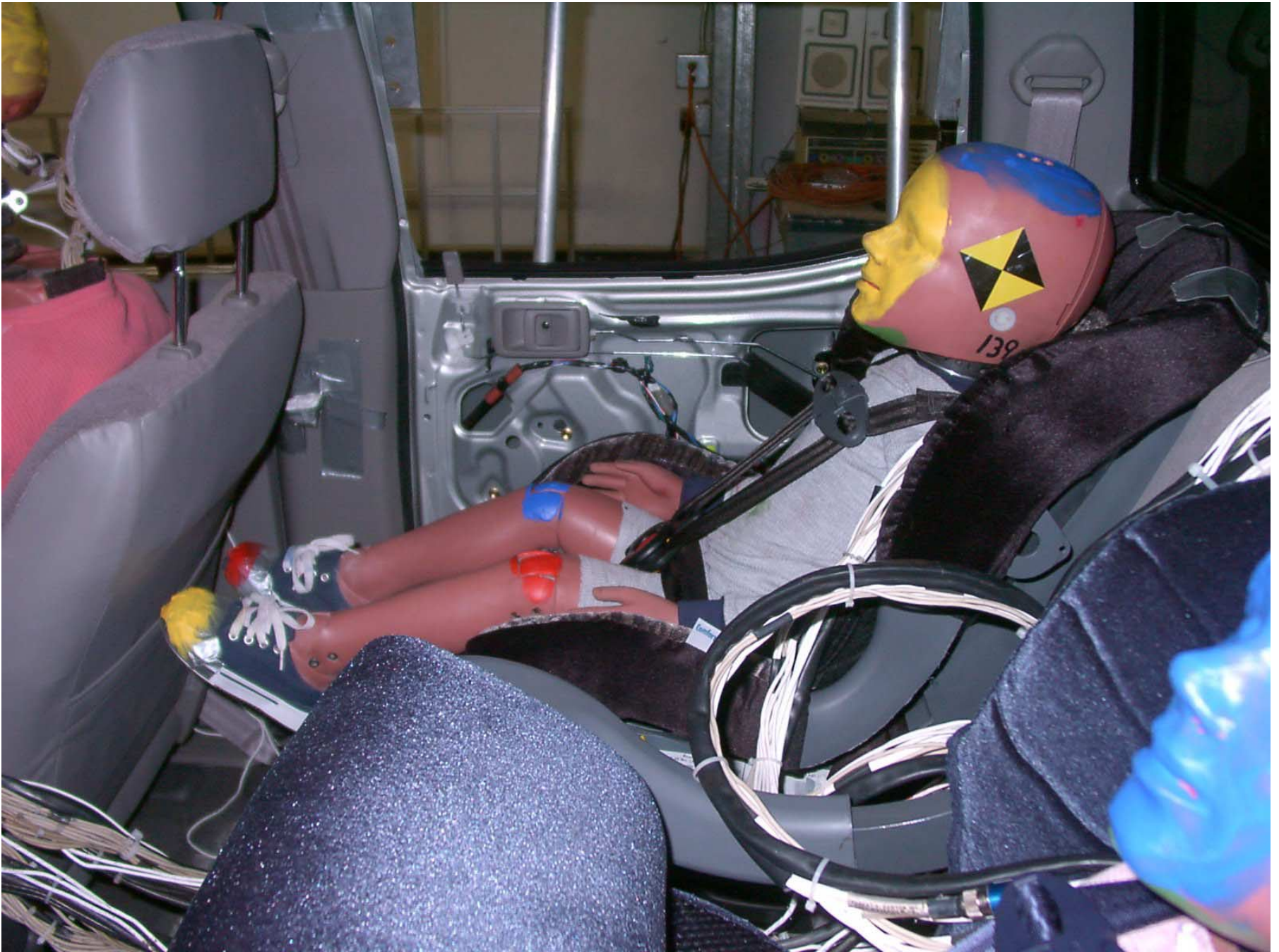


Figure F2-12: Pre-Test Position 3 Left Side View



Figure F2-13: Post-Test Position 3 Left Side View



Figure F2-14: Pre-Test Position 3 Right Side View



Figure F2-16: Post-Test Position 3 Right Side View



Figure F2-16: Close-up View Position 4 CRS Label



Figure F2-17: Pre-Test Frontal View of Position 4 CRS



Figure F2-18: Post-Test Frontal View of Position 4 CRS



Figure F2-19: Pre-Test Rear View of Position 4 CRS



Figure F2-20: Post-Test Rear View of Position 4 CRS



Figure F2-21: Pre-Test Left Side View of Position 4 CRS



Figure F2-22: Post-Test Left Side View of Position 4 CRS



Figure F2-23: Pre-Test Right Side View of Position 4 CRS



Figure F2-24: Post-Test Right Side View of Position 4 CRS



Figure F2-25: Pre-Test Position 4 Front View



Figure F2-26: Post-Test Position 4 Front View



Figure F2-27: Pre-Test Position 4 Left Side View



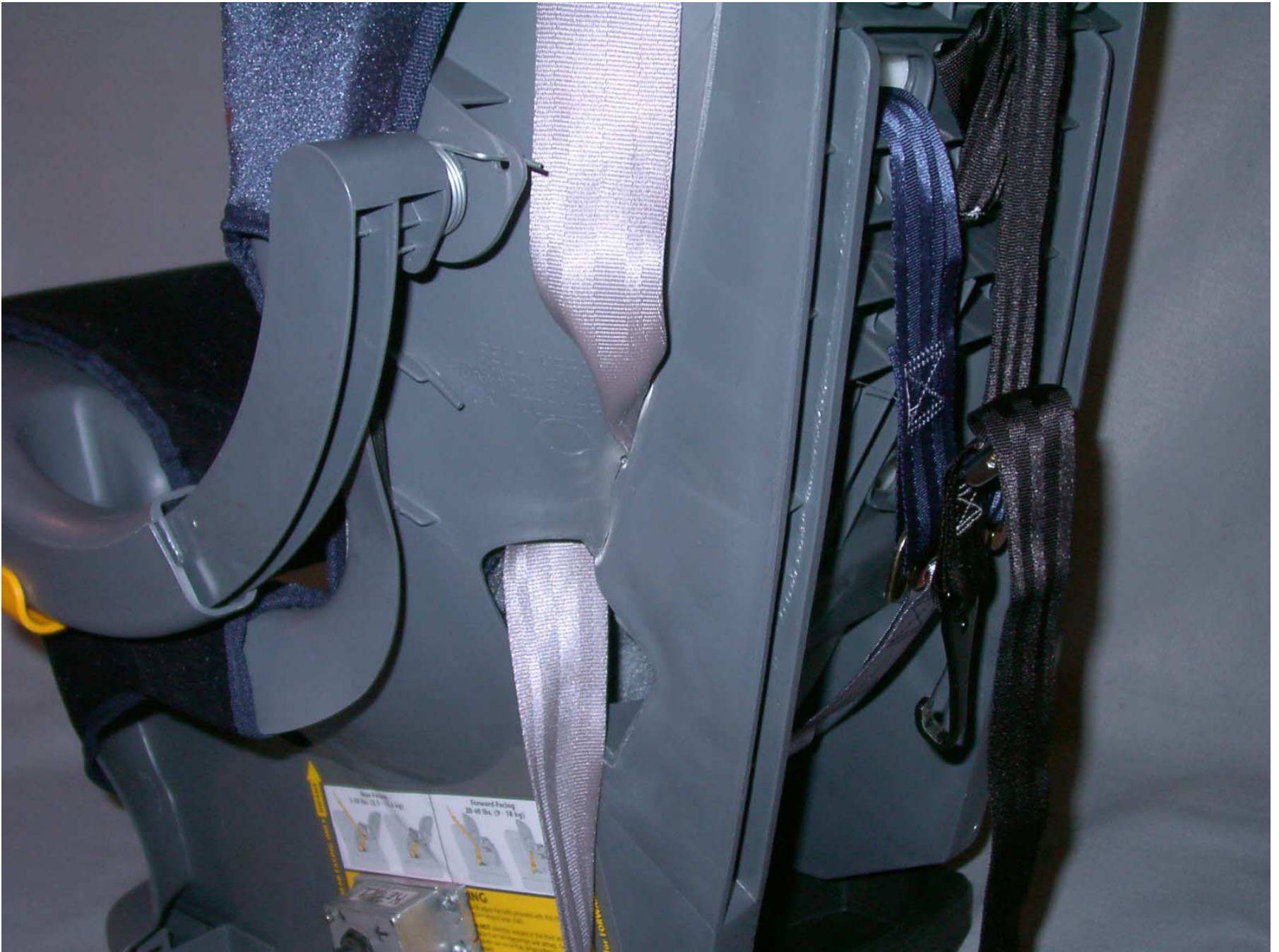
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Figure F2-29: Pre-Test Position 4 Right Side View



Figure F2-30: Post-Test Position 4 Right Side View



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TR-P23001-04-NC

Figure F2-31: Post-Test Position 4 Damage



Figure F2-32: Post-Test Position 4 Damage

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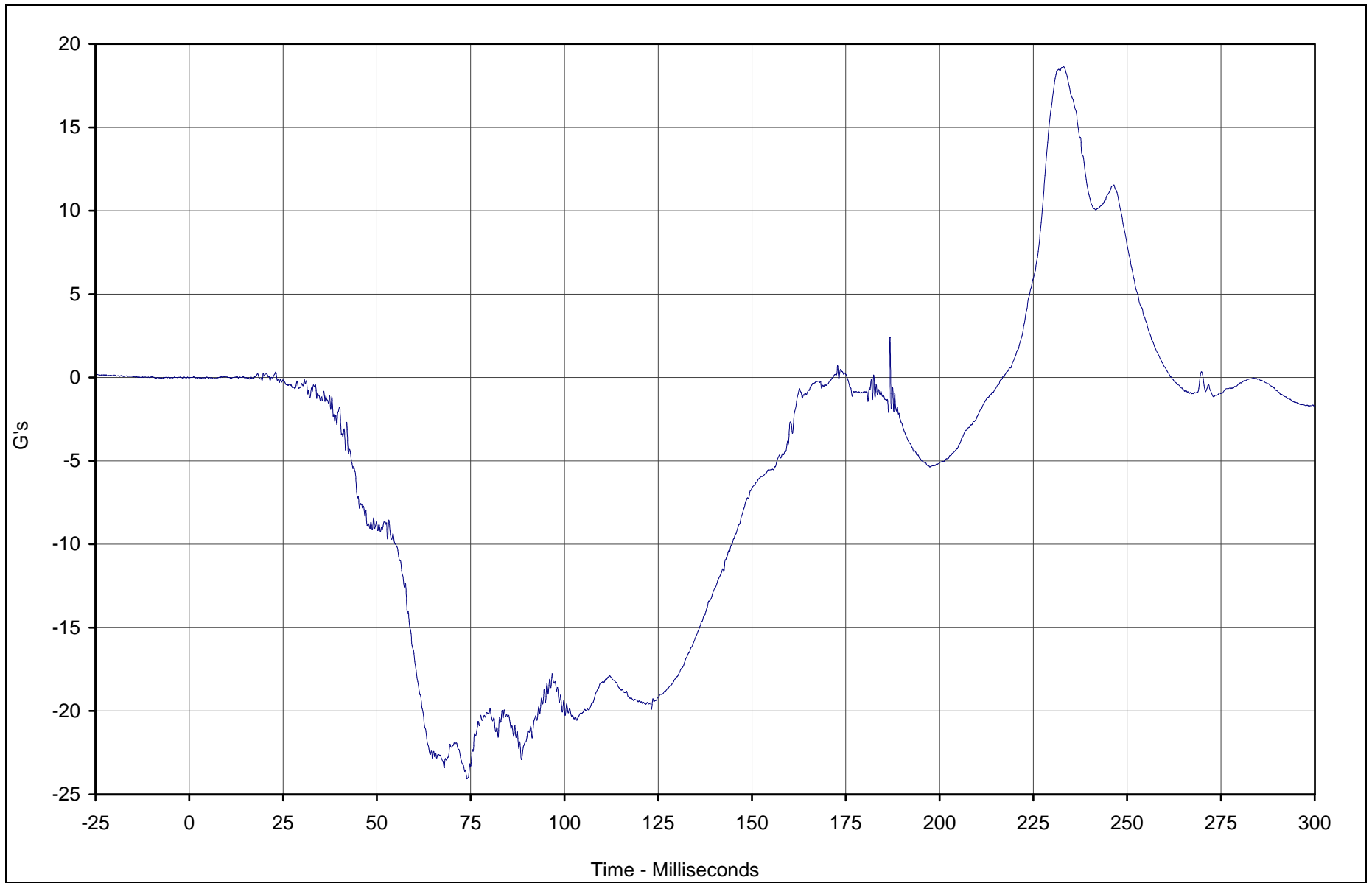
CHILD DUMMY RESPONSE AND CRS DATA TRACES

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Head X	134	FIL	G's	18.7	233.0	-24.1	74.0	1000

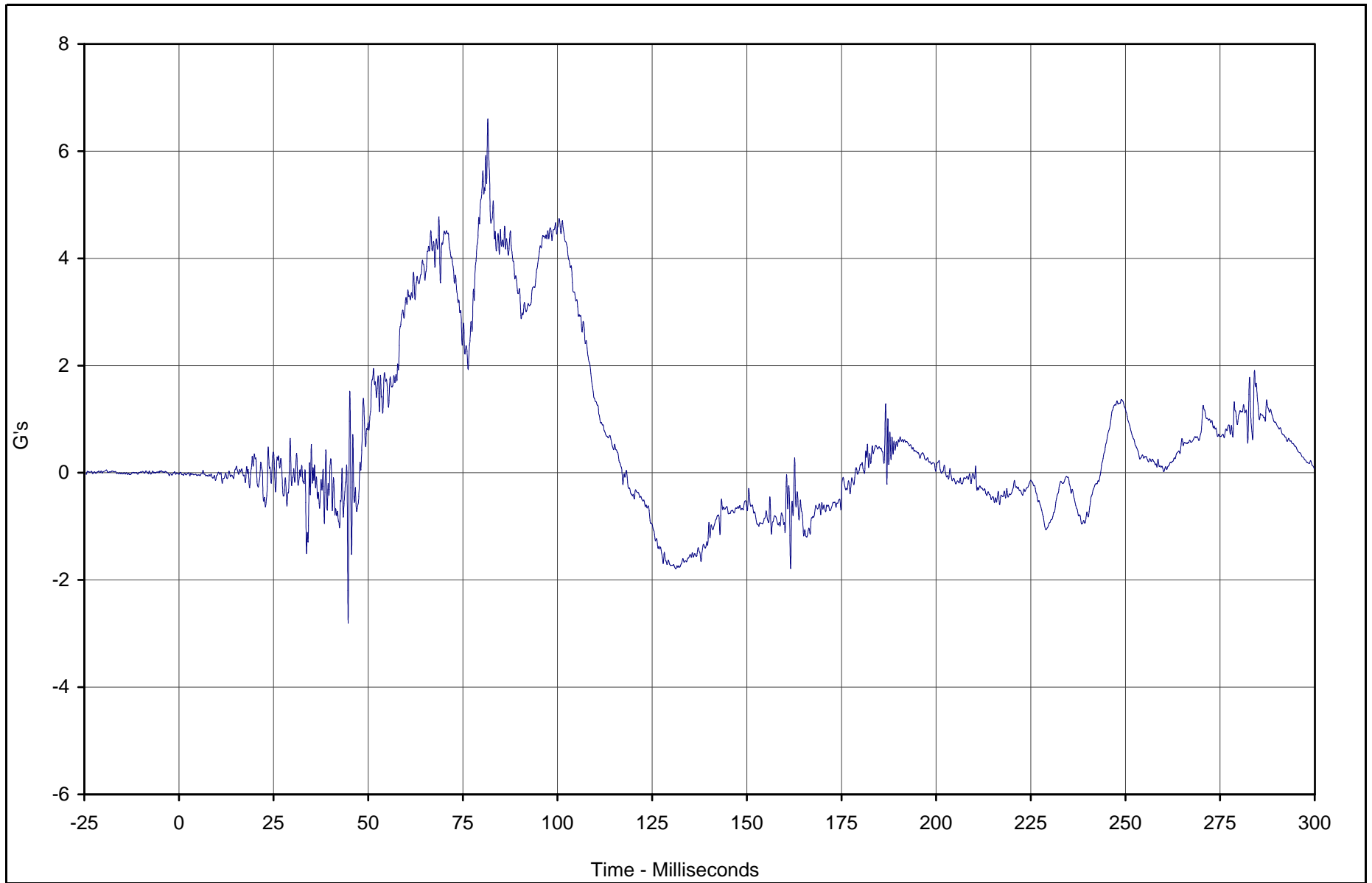


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Head Y	135	FIL	G's	6.6	81.6	-2.8	44.7	1000

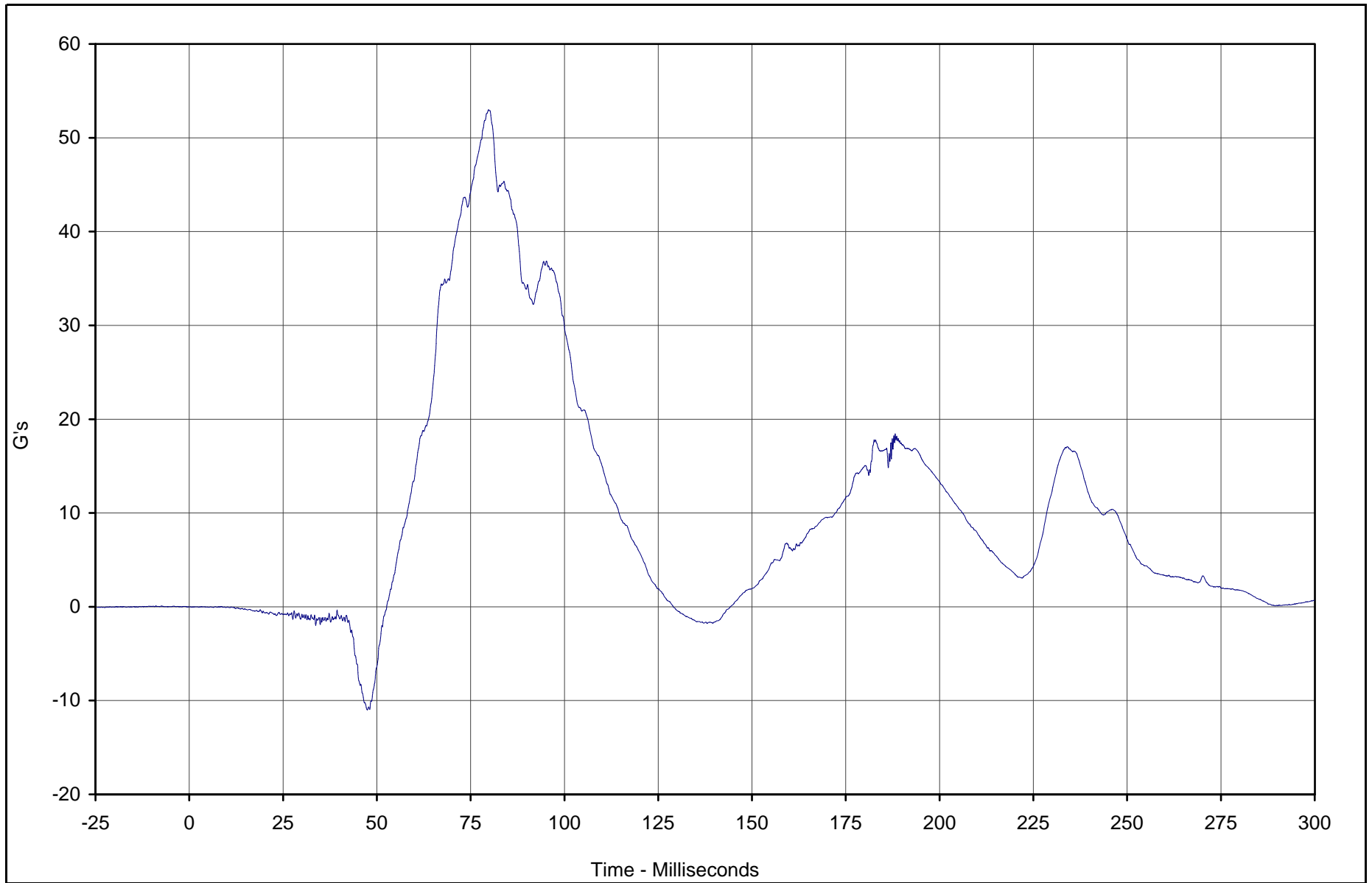


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Head Z	136	FIL	G's	53.0	79.8	-11.0	47.5	1000



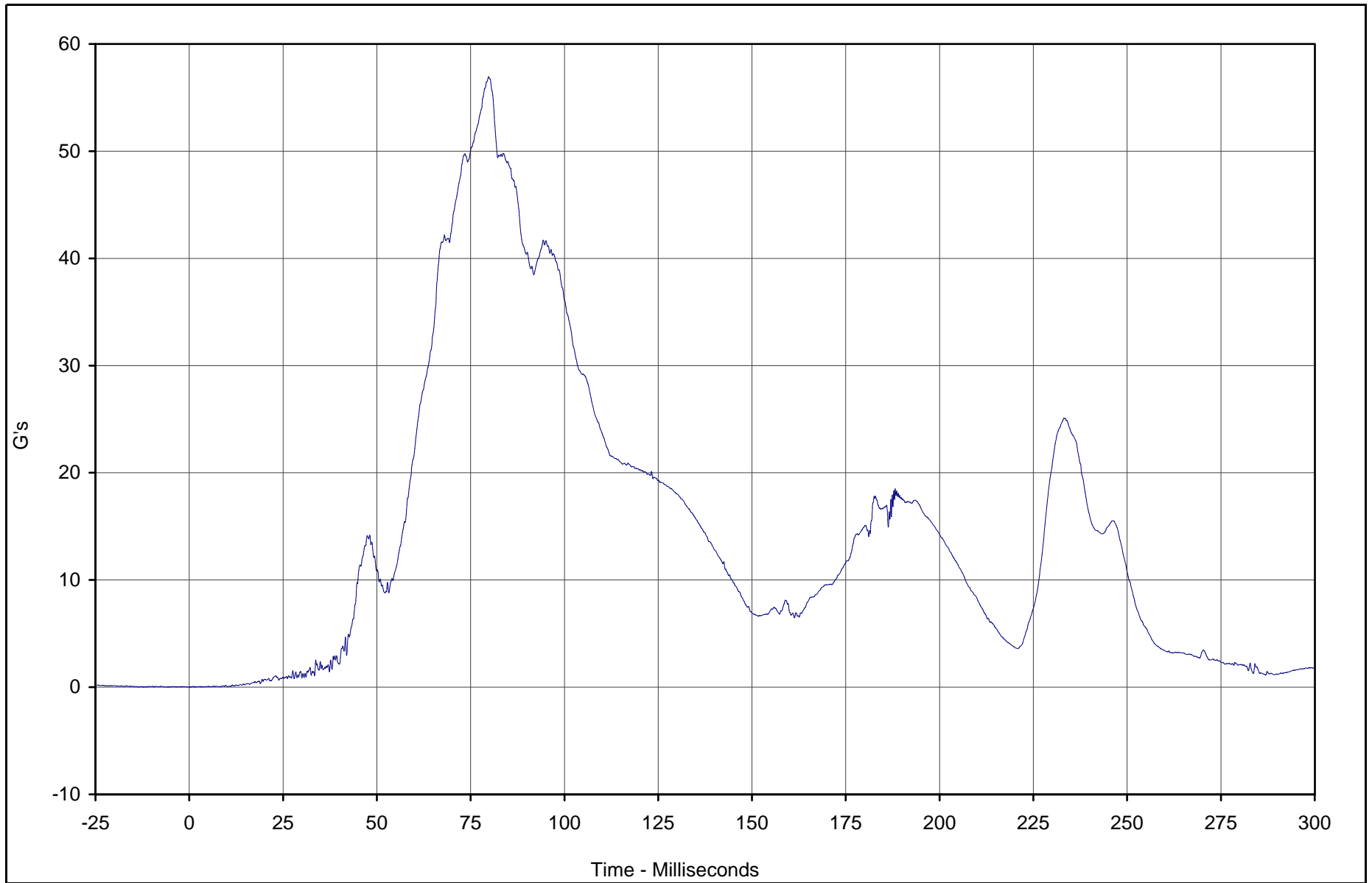
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-4



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Head Resultant	134	RES	G's	56.9	79.8	0.0	0.2	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

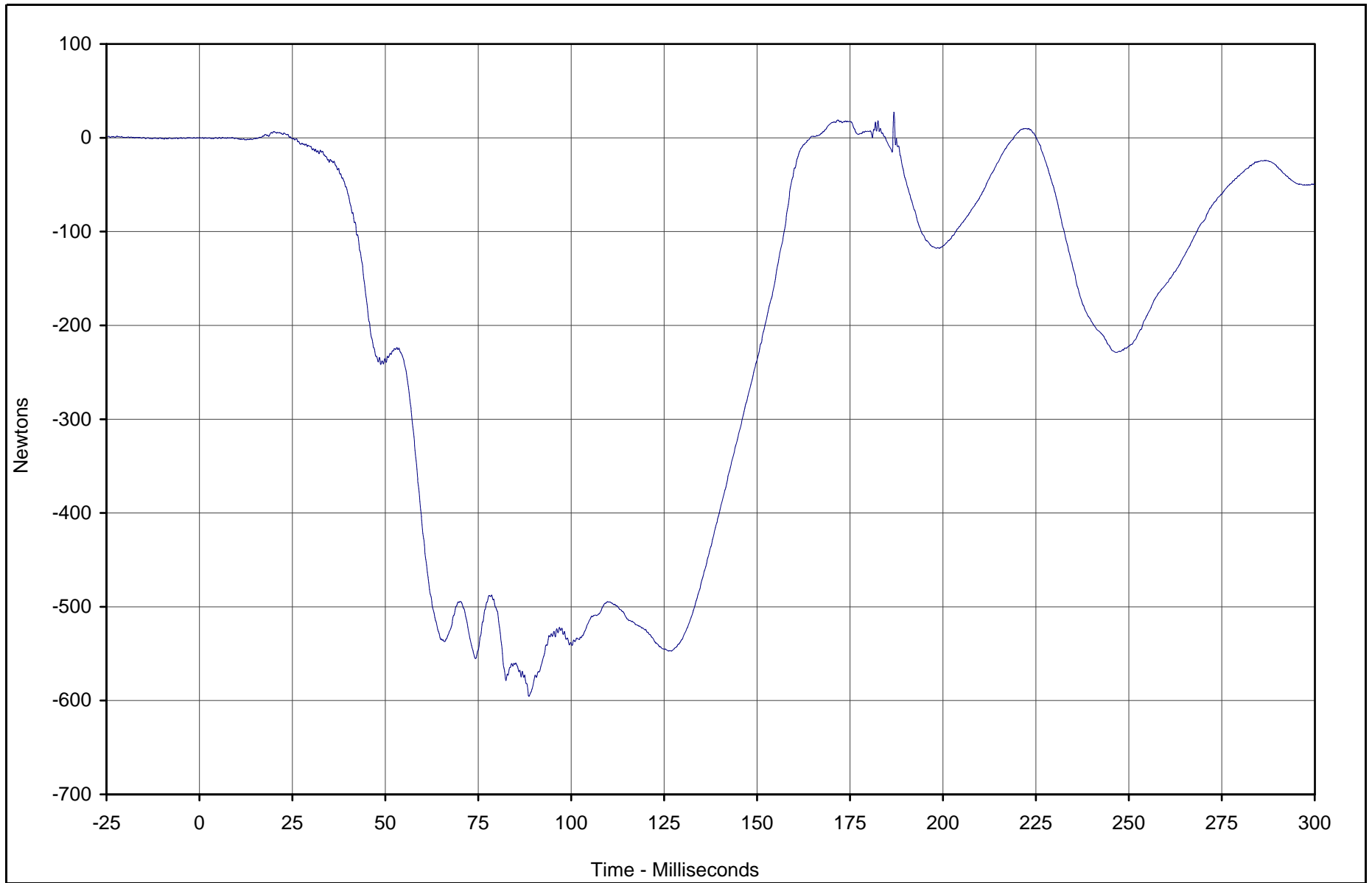
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-5



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Force X	137	FIL	Newtons	27.3	186.8	-595.4	88.6	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

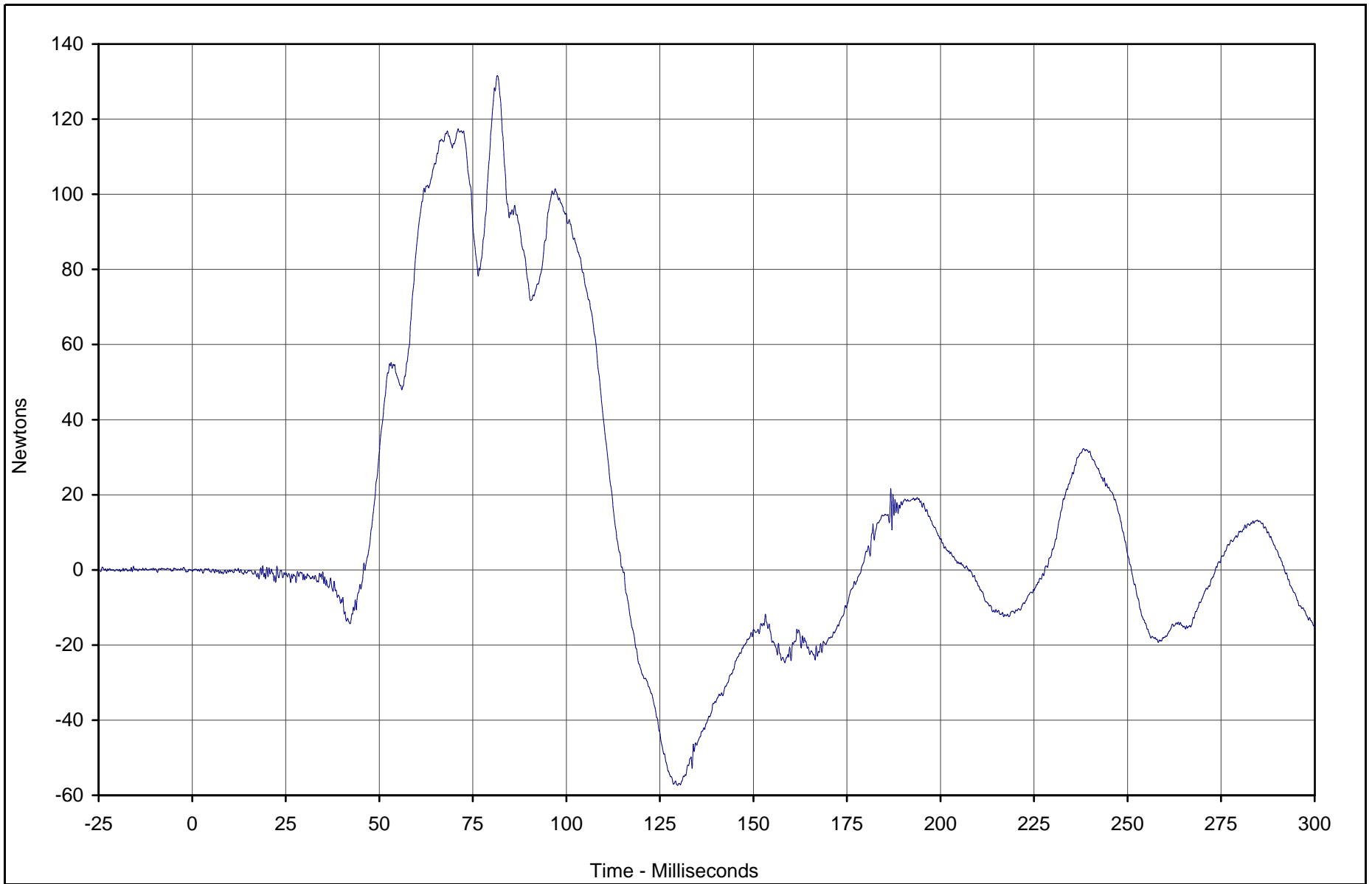
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-6



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Force Y	138	FIL	Newtons	131.6	81.5	-57.4	129.7	1000



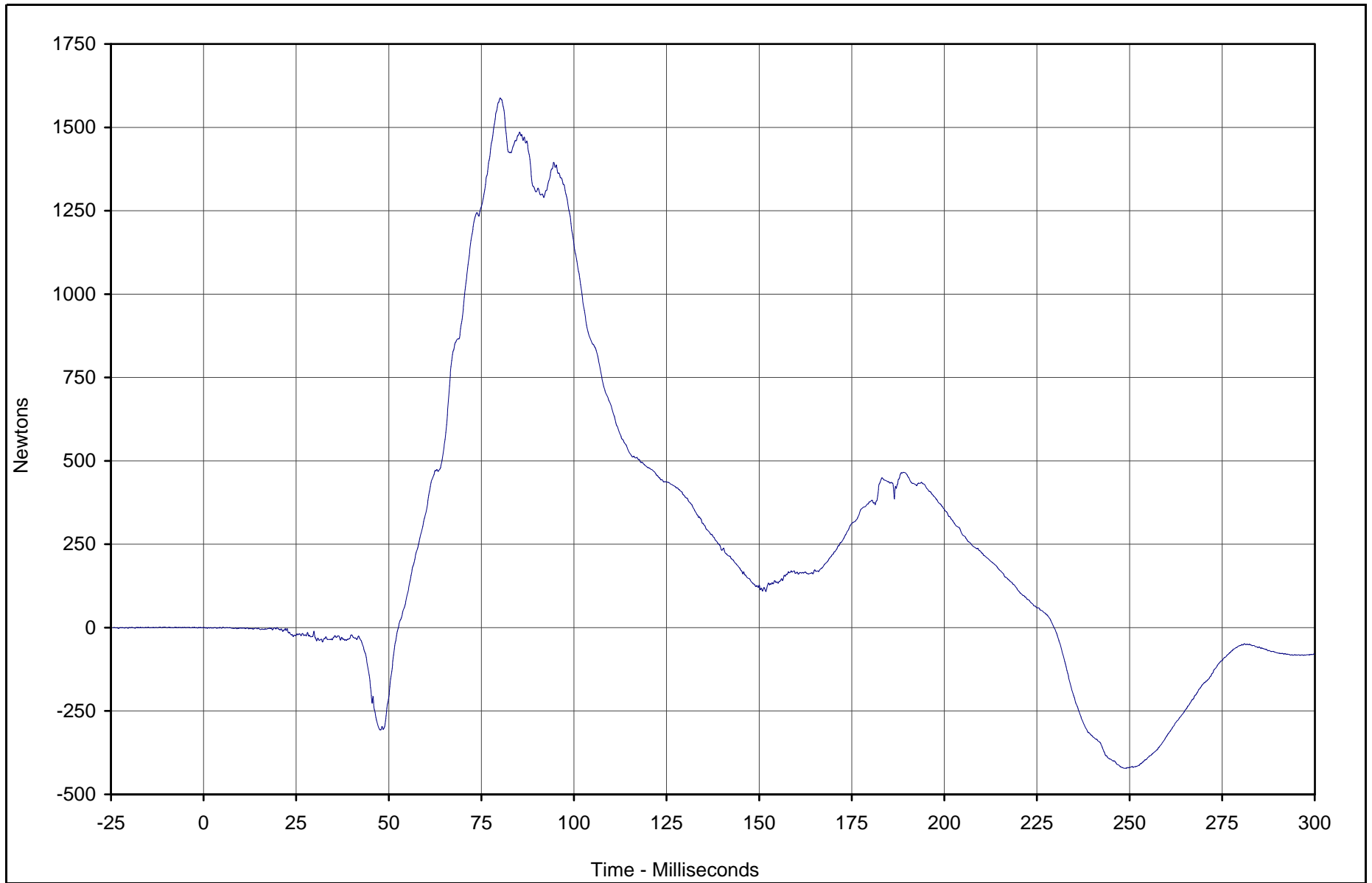
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Force Z	139	FIL	Newtons	1588.0	80.1	-421.6	248.9	1000

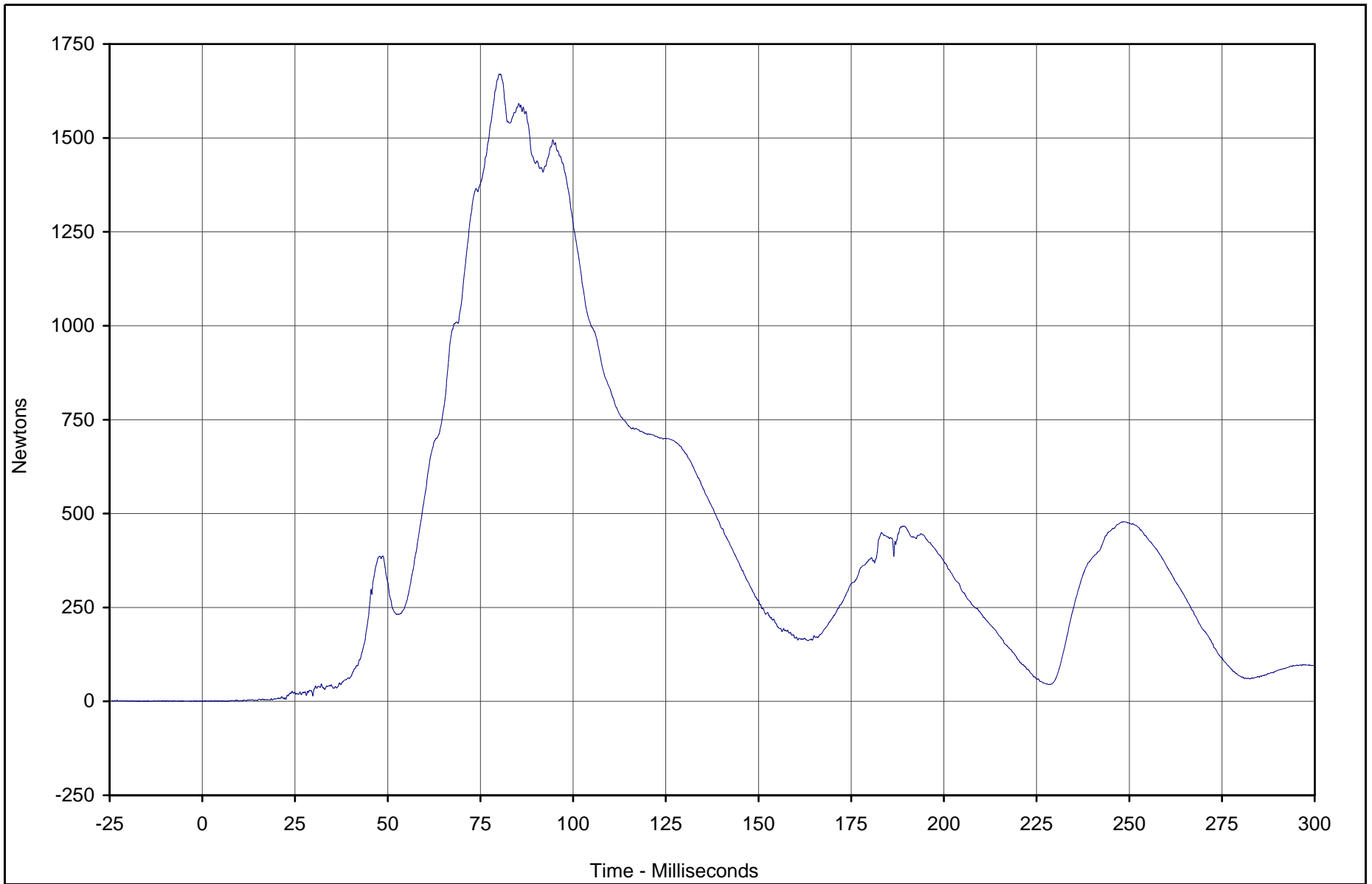


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Force Res.	137	RES	Newtons	1670.5	80.1	0.1	4.5	1000

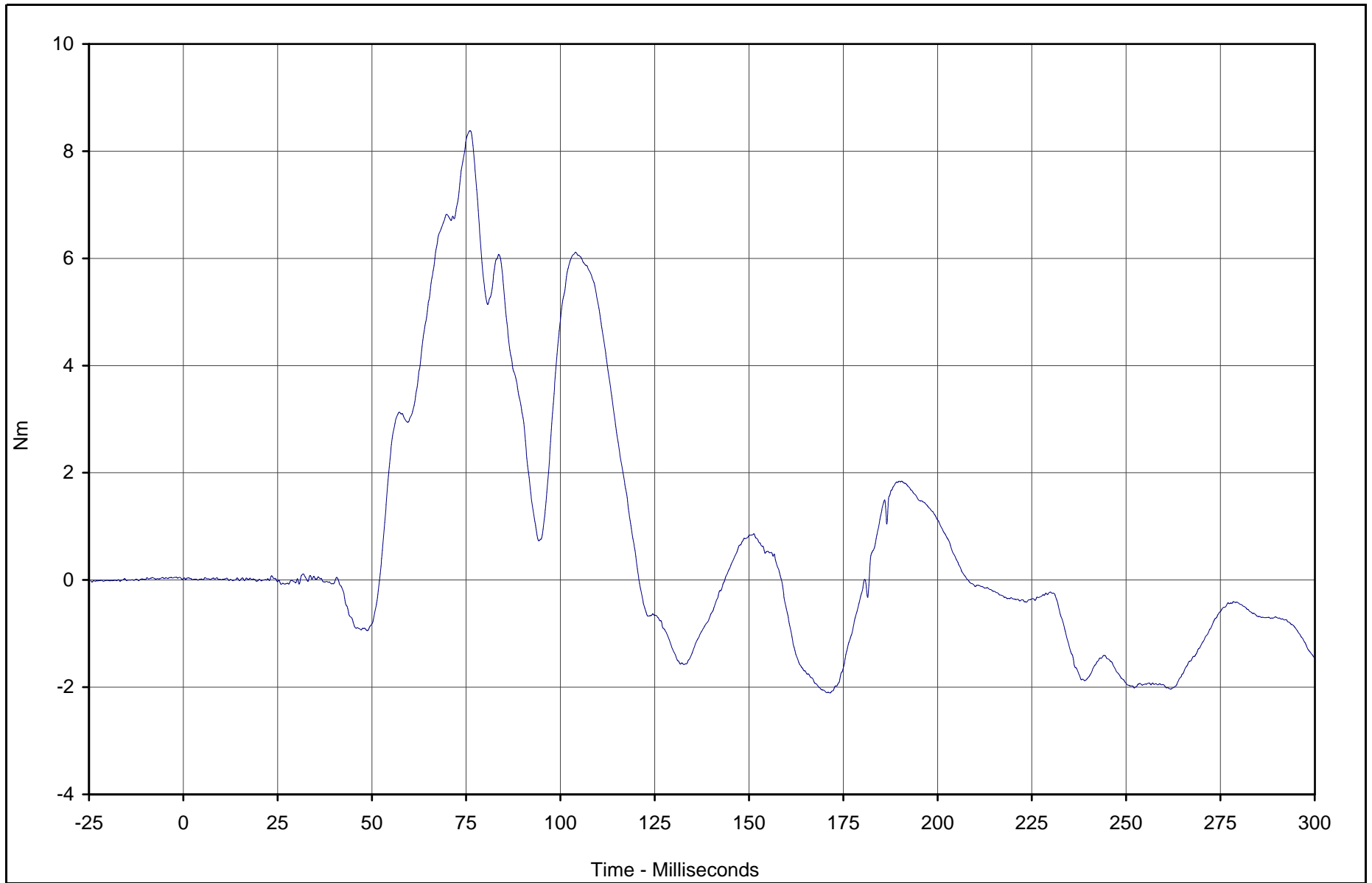


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Moment X	140	FIL	Nm	8.4	76.1	-2.1	171.5	600



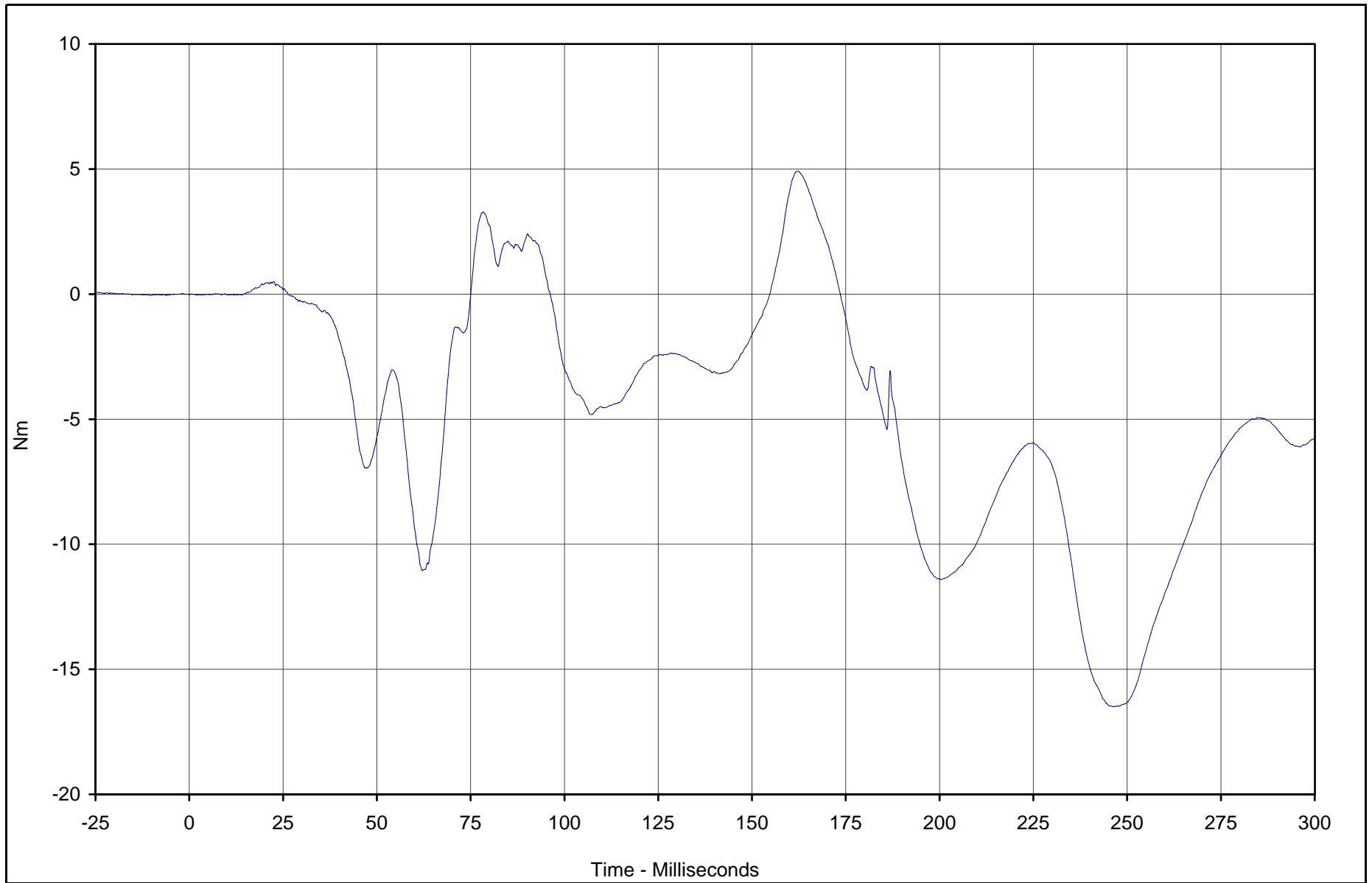
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-10



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Moment Y	141	FIL	Nm	4.9	162.2	-16.5	246.3	600



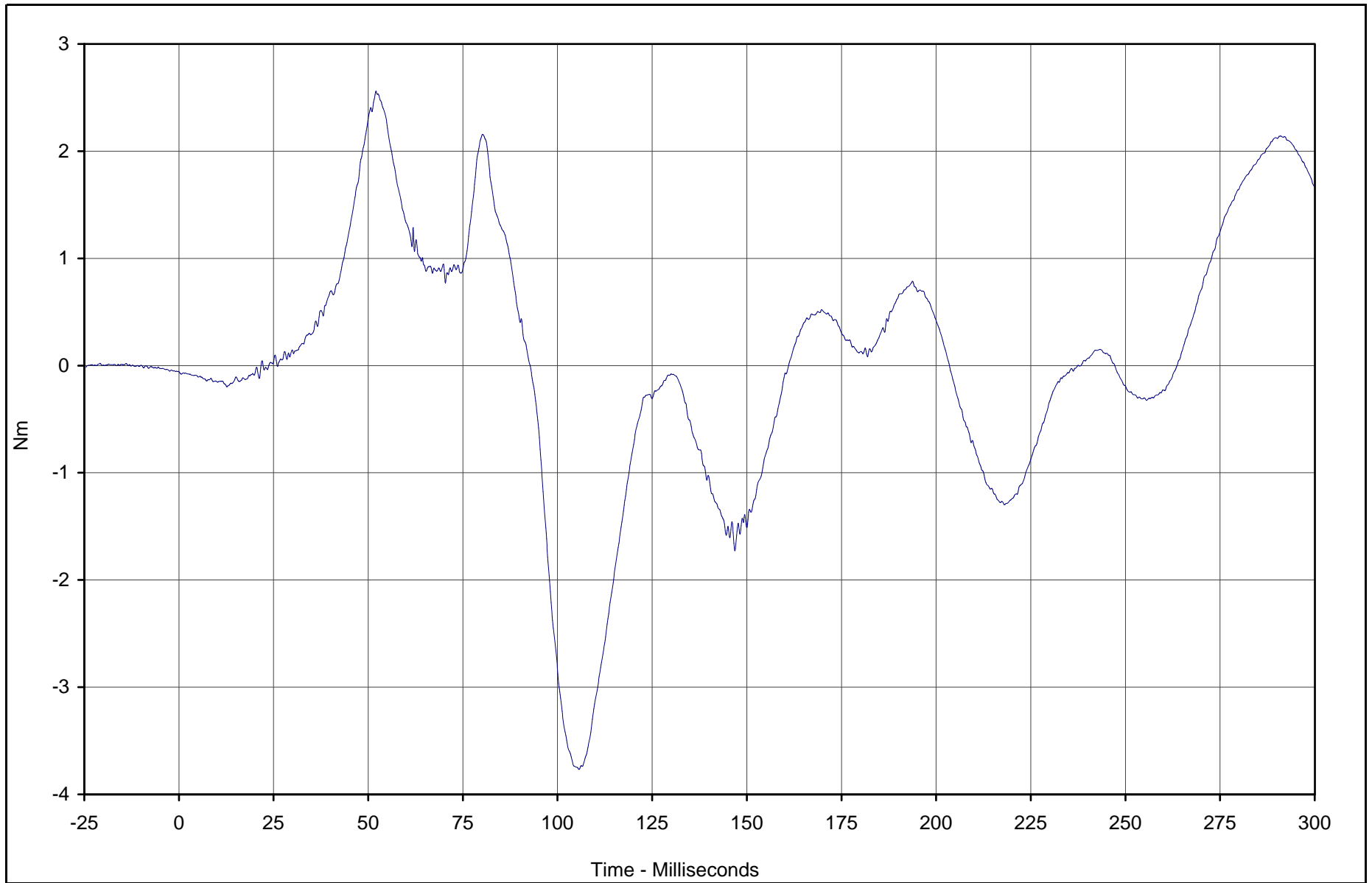
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-11



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Moment Z	142	FIL	Nm	2.6	52.0	-3.8	105.7	600



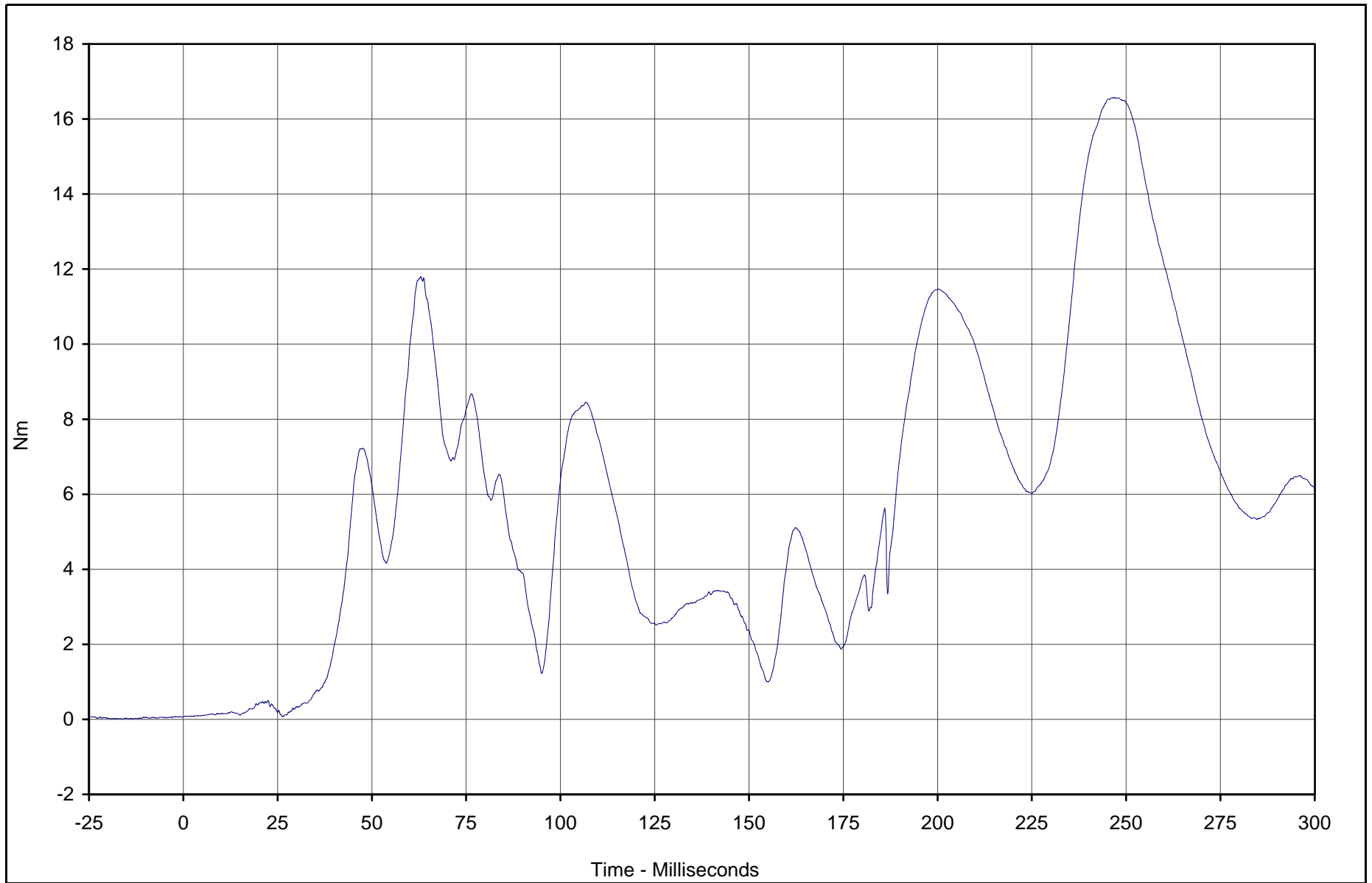
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Upper Neck Mom Res.	140	RES	Nm	16.6	247.0	0.1	0.0	600

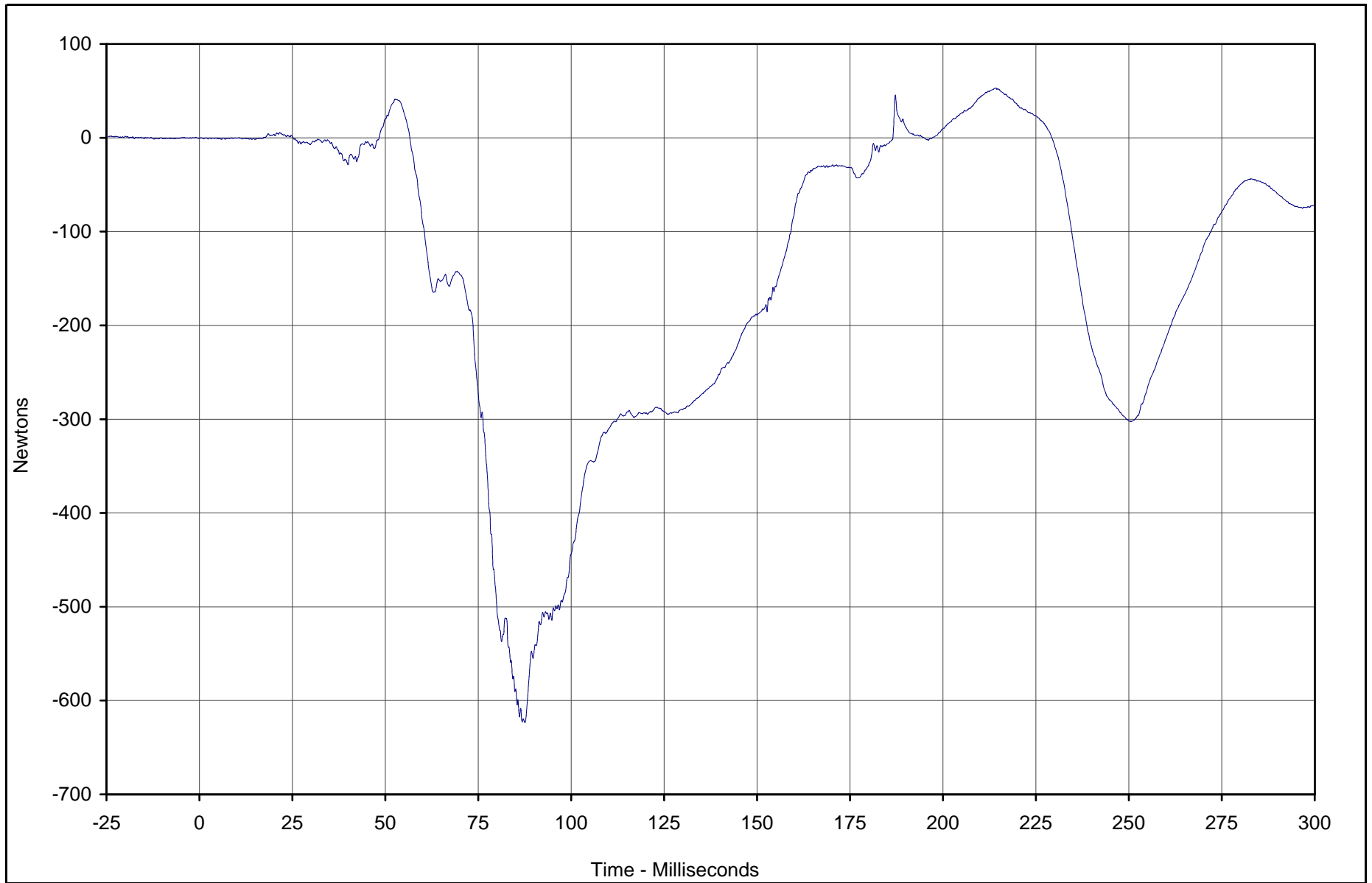


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Force X	143	FIL	Newtons	53.2	214.2	-623.3	87.6	1000

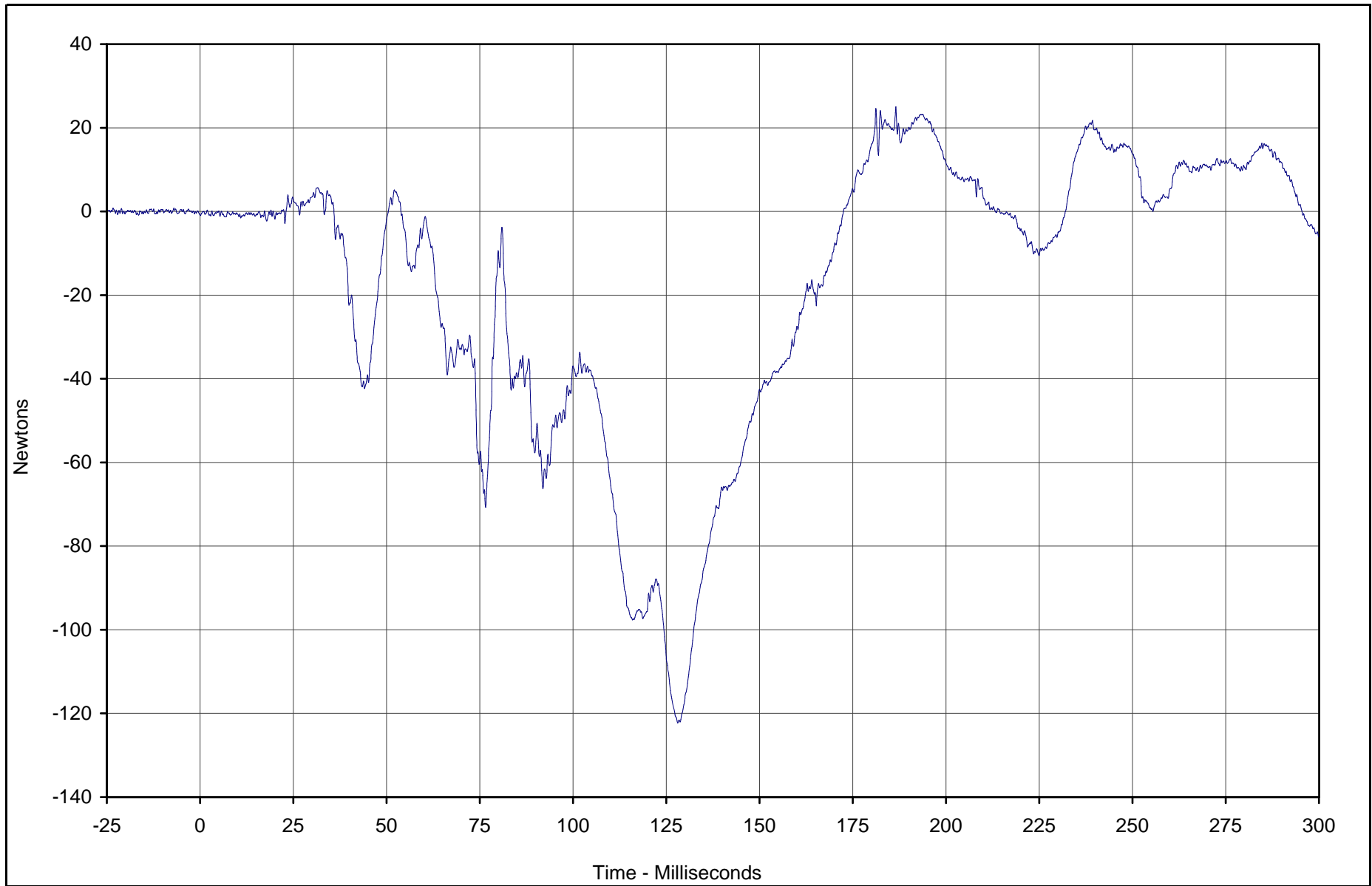


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Force Y	144	FIL	Newtons	25.0	186.6	-122.3	128.0	1000

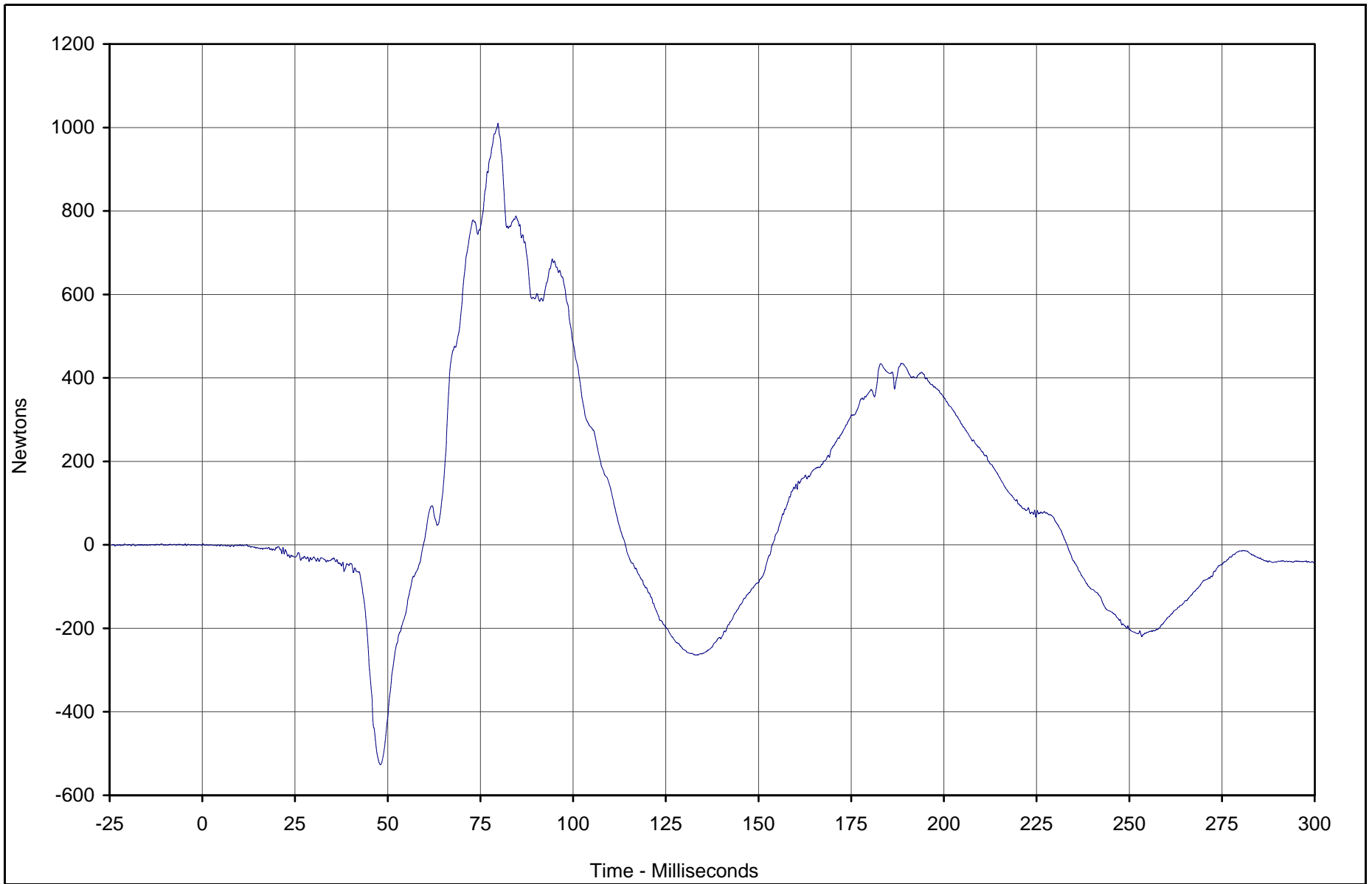


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Force Z	145	FIL	Newtons	1010.3	79.7	-526.7	48.0	1000

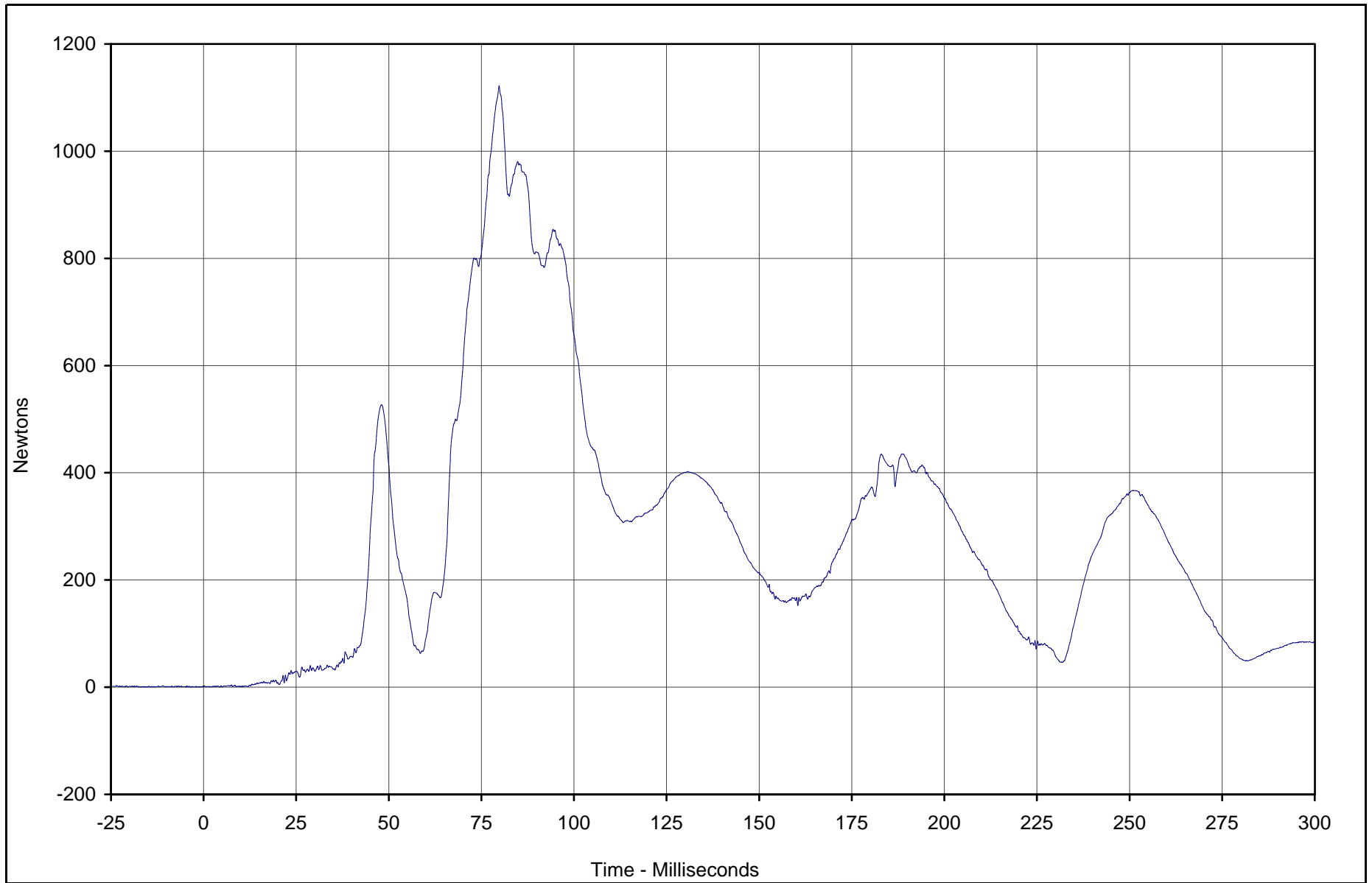


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Force Res.	143	RES	Newtons	1121.9	79.8	0.3	2.0	1000

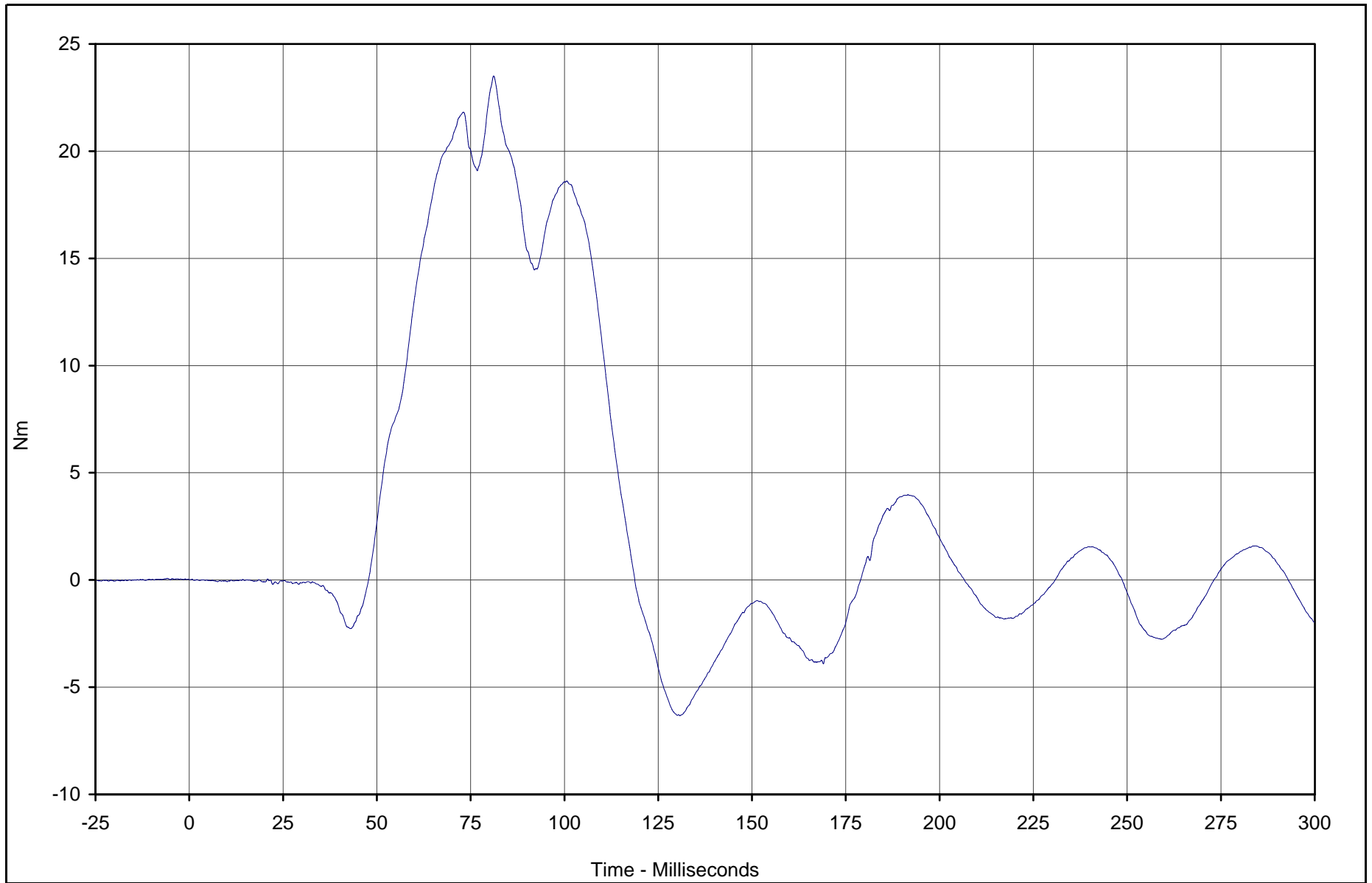


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

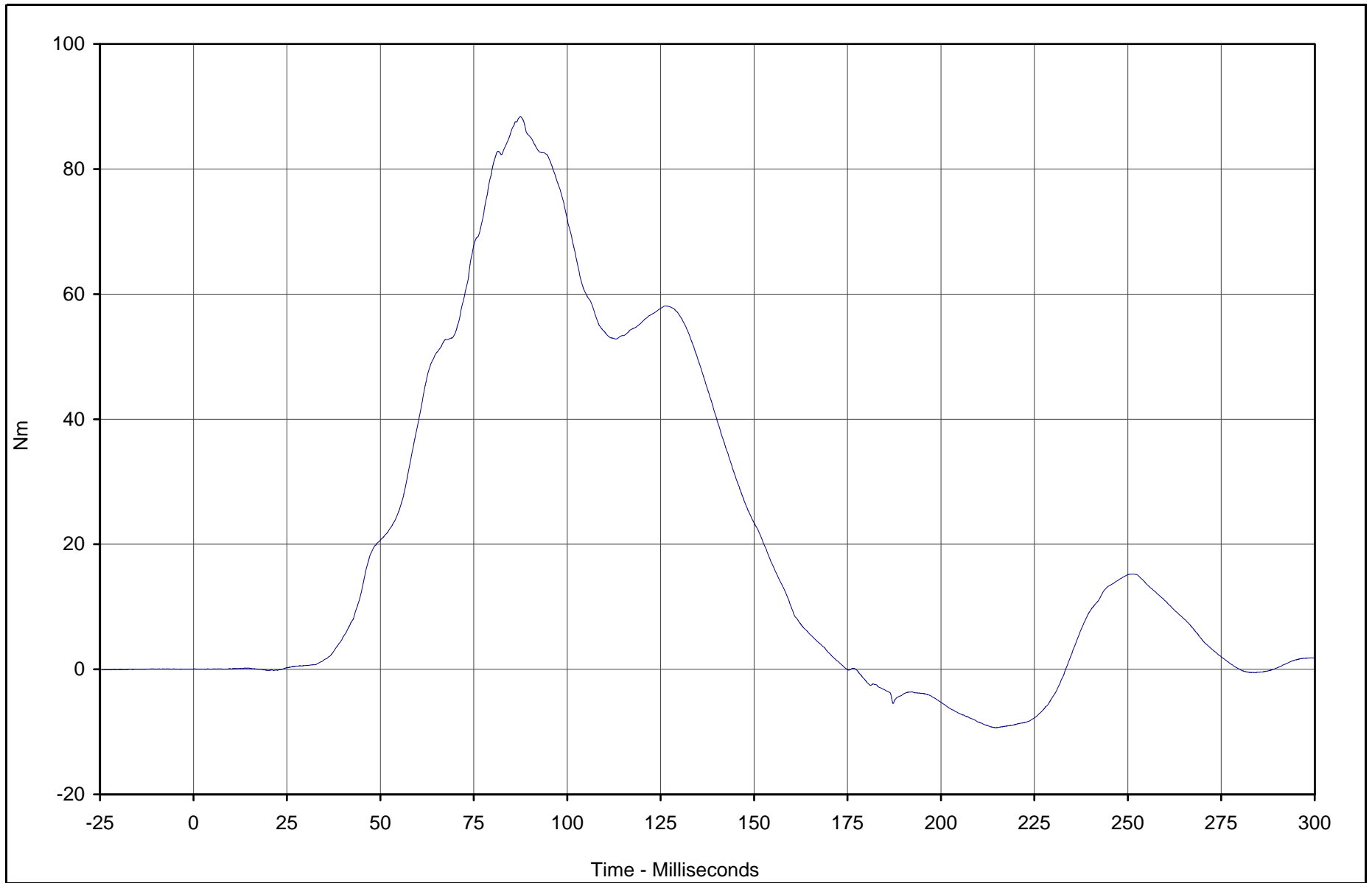


Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Moment X	146	FIL	Nm	23.5	81.1	-6.3	130.8	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup
 Test Program: 2003 NHTSA 35mph NCAP

Test Date: 1/3/03
 NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Moment Y	147	FIL	Nm	88.4	87.5	-9.3	214.7	600

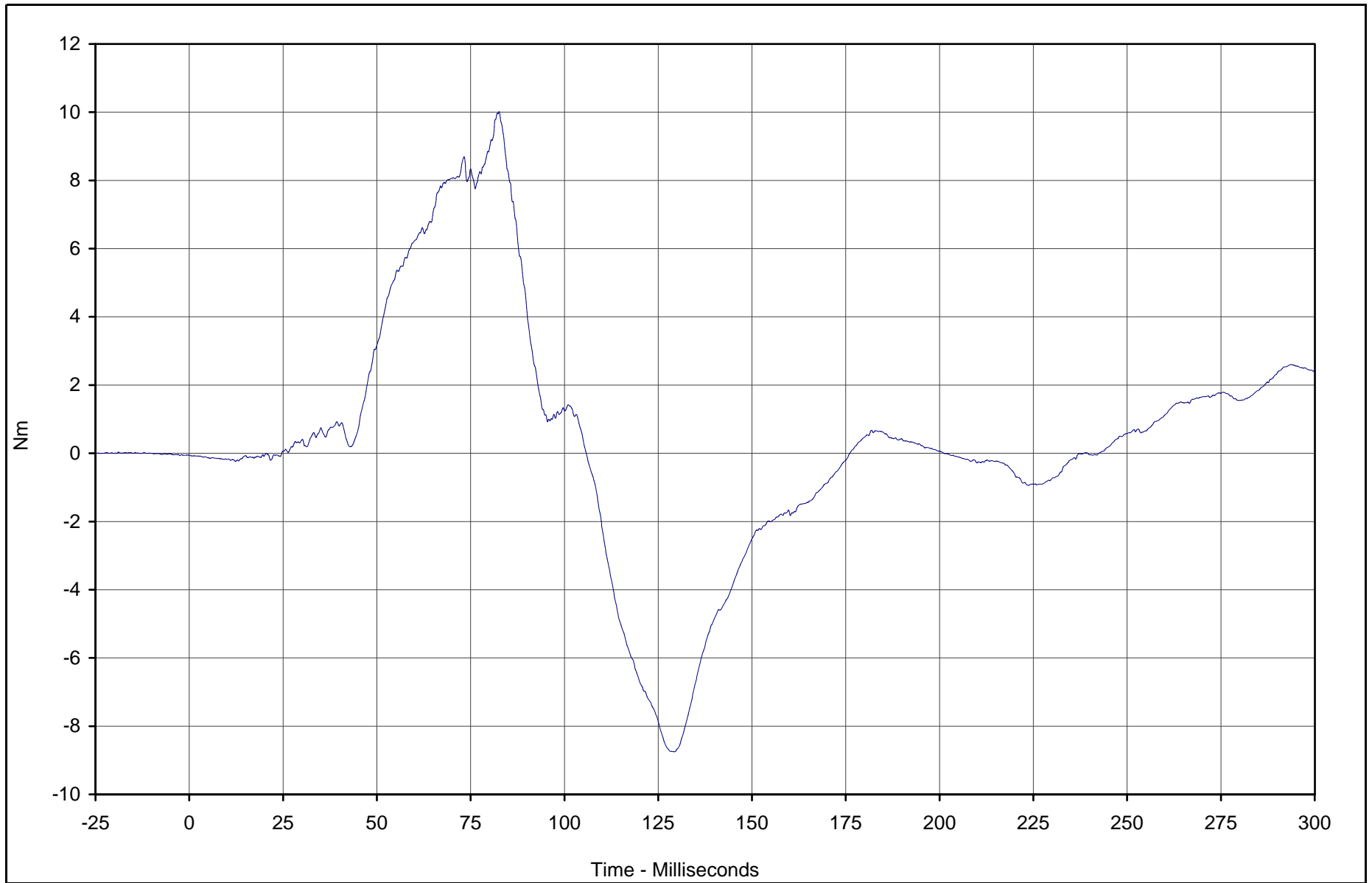


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Moment Z	148	FIL	Nm	10.0	82.6	-8.8	129.3	600



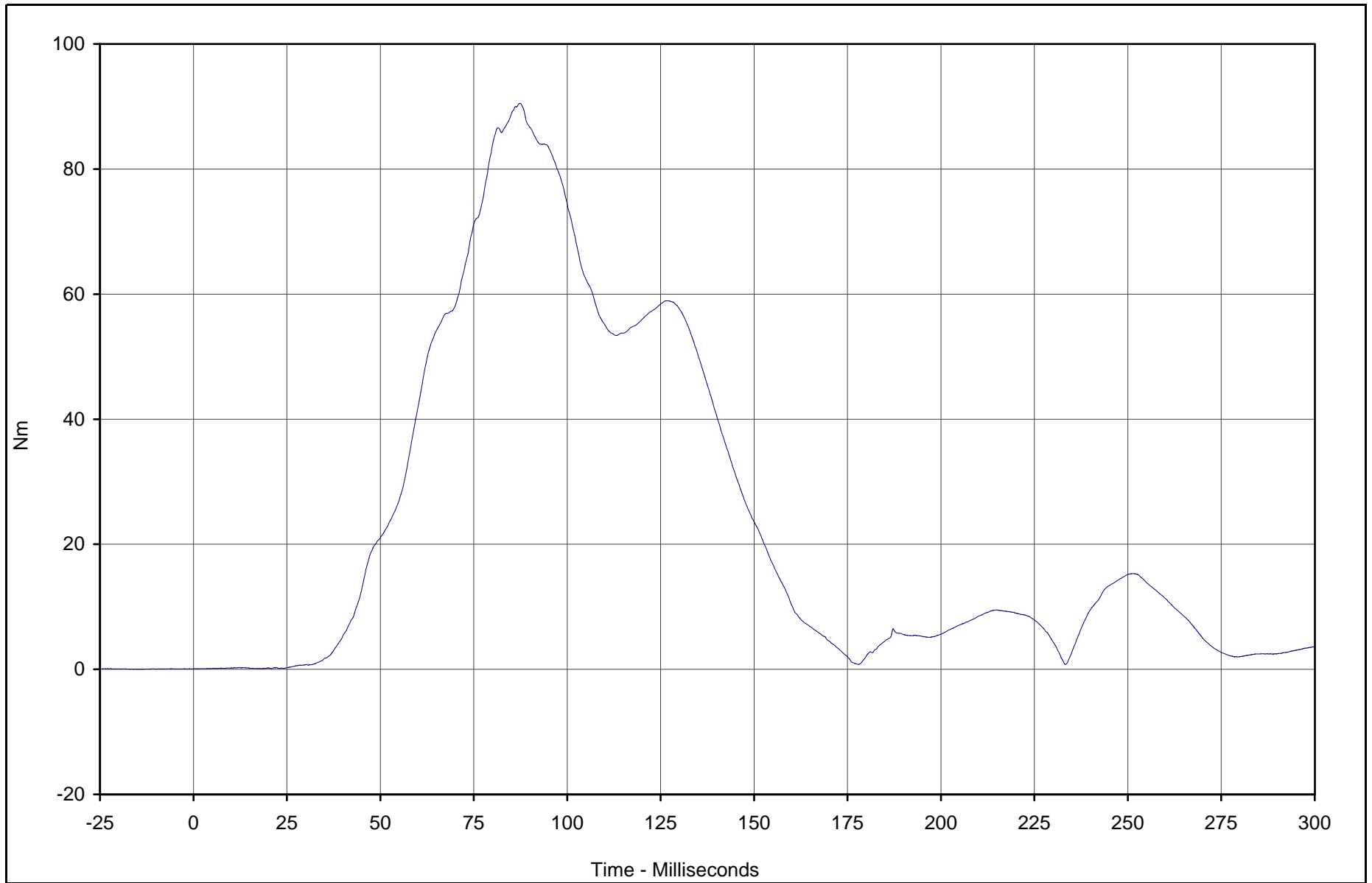
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Lower Neck Mom Res.	146	RES	Nm	90.5	87.4	0.1	0.0	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

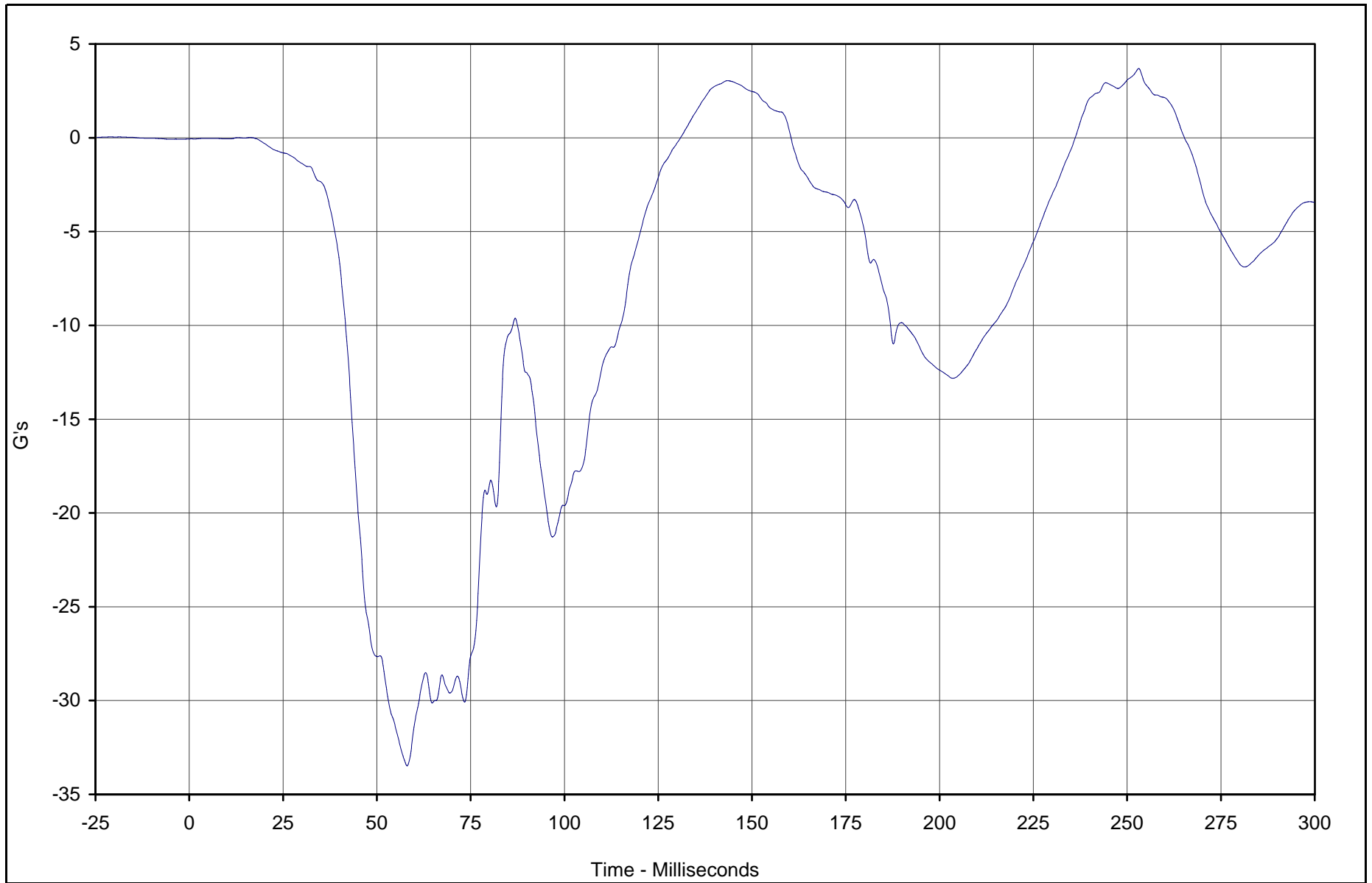
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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F3-21



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Chest X	149	FIL	G's	3.7	253.1	-33.5	58.1	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

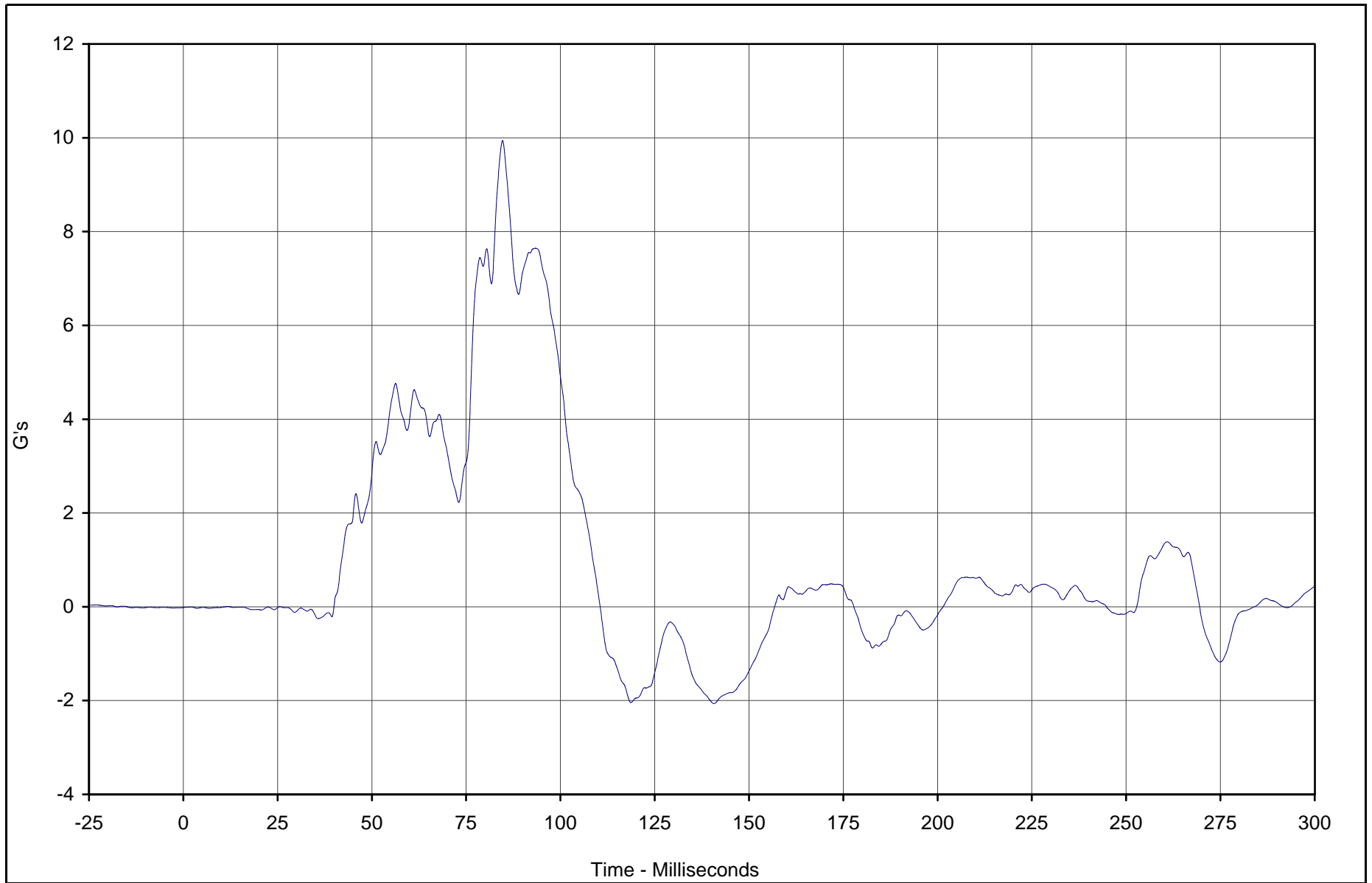
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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F3-22



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Chest Y	150	FIL	G's	9.9	84.6	-2.1	140.7	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

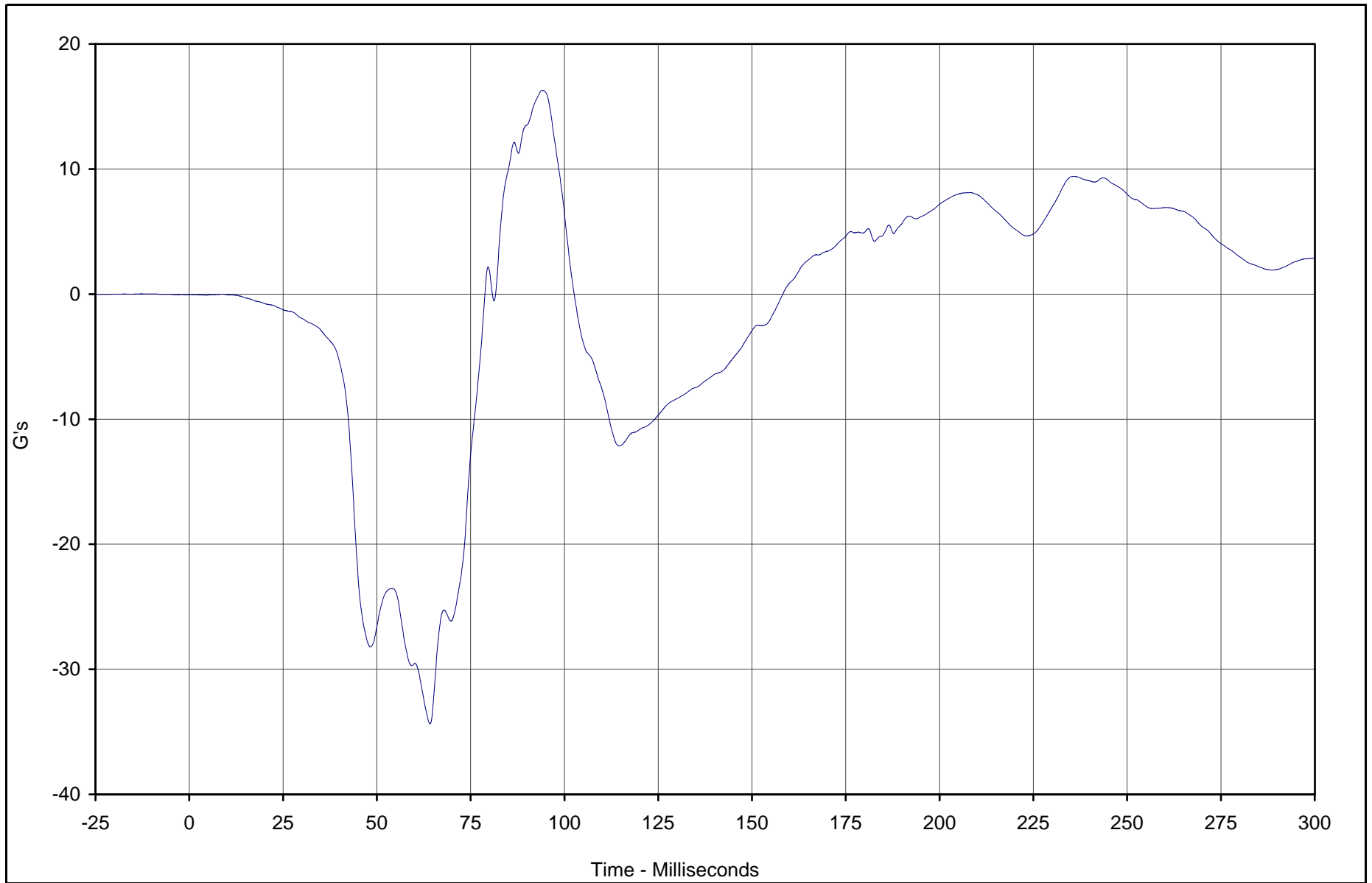
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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F3-23



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Chest Z	151	FIL	G's	16.3	94.1	-34.4	64.2	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

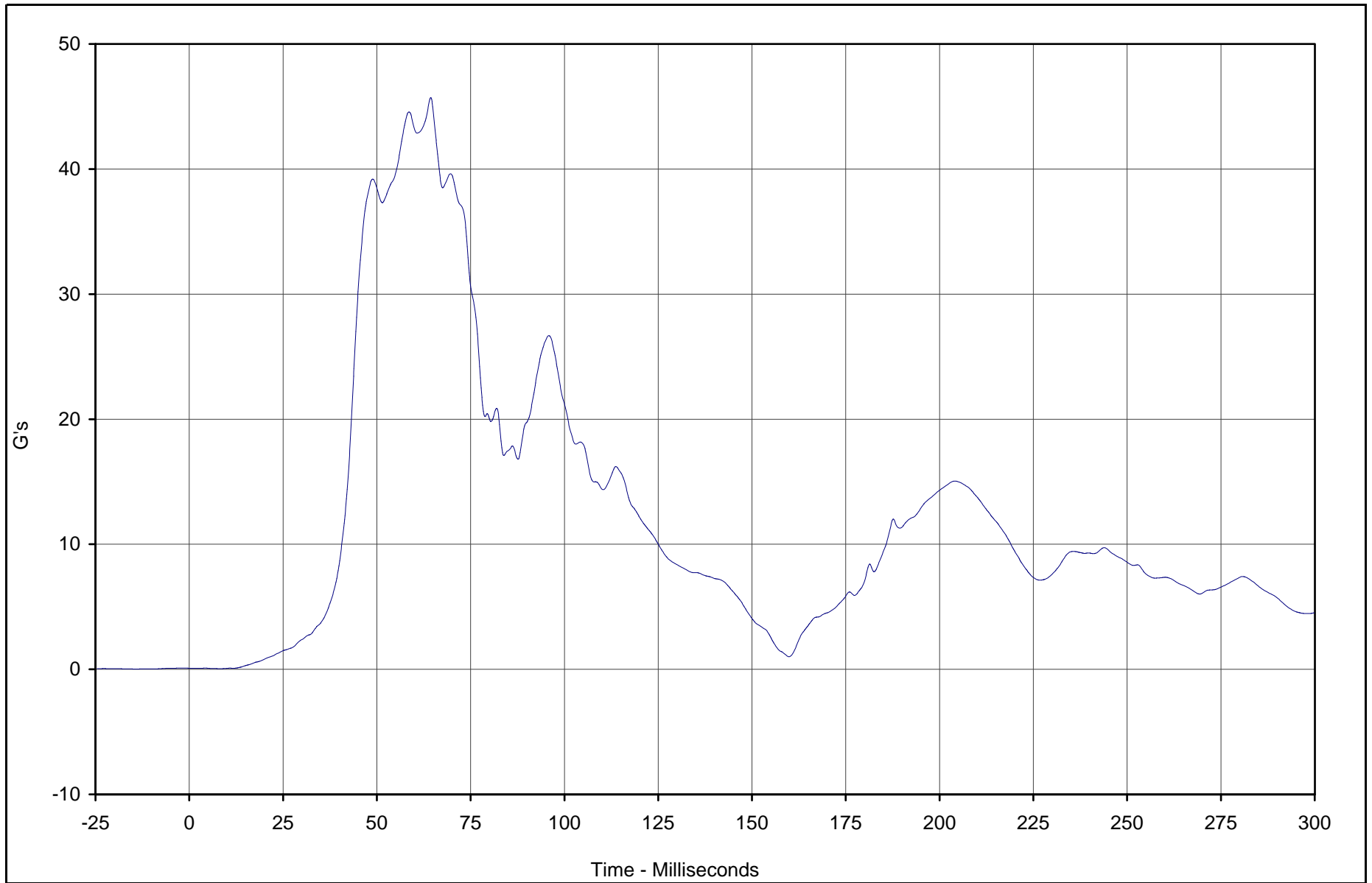
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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F3-24



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Chest Resultant	149	RES	G's	45.7	64.4	0.1	8.2	180



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

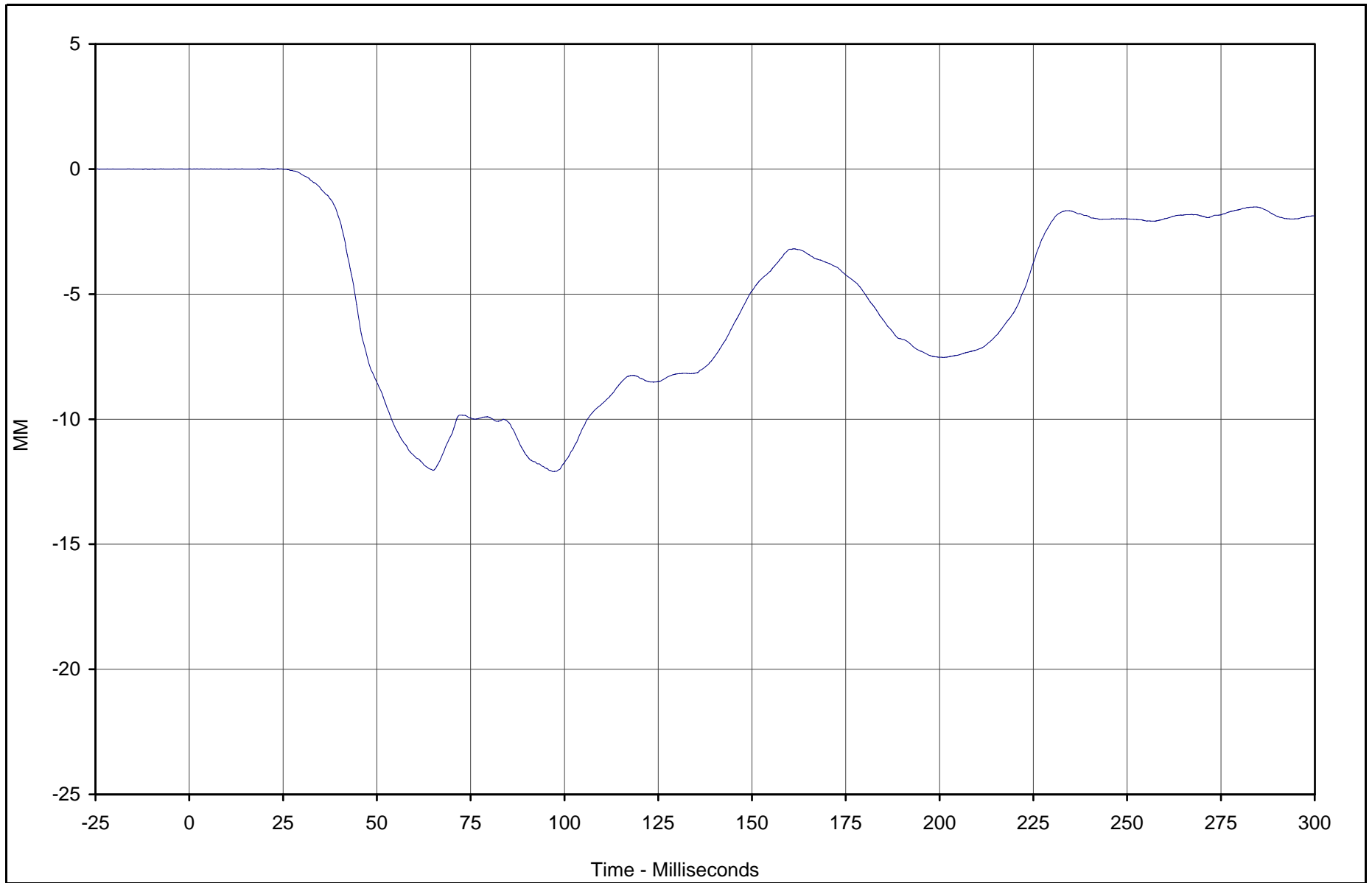
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-25



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Chest Deflection	152	FIL	MM	0.0	19.7	-12.1	97.1	600

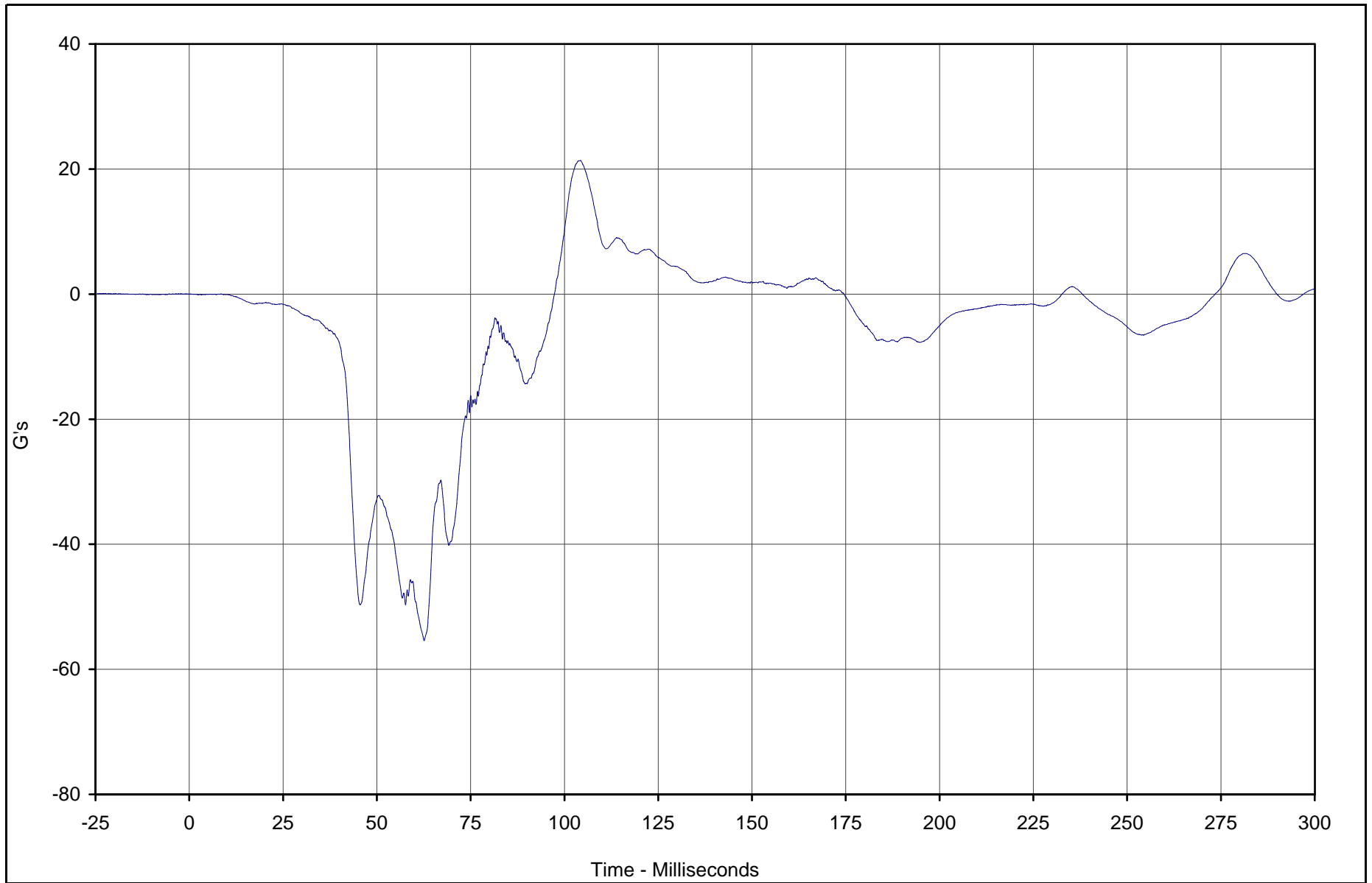


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Pelvis X	153	FIL	G's	21.4	104.2	-55.4	62.6	1000

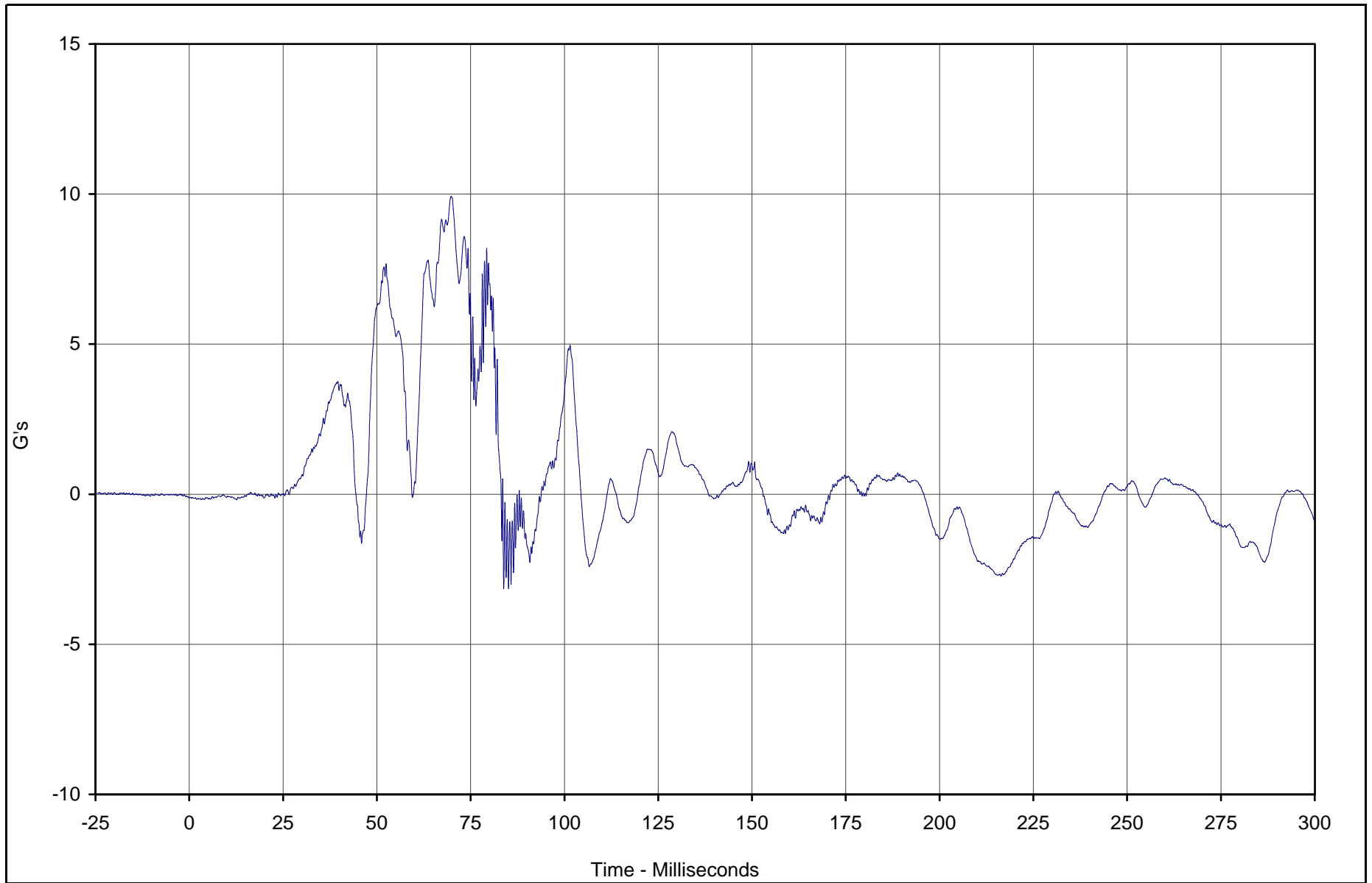


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Pelvis Y	154	FIL	G's	9.9	69.8	-3.1	85.1	1000

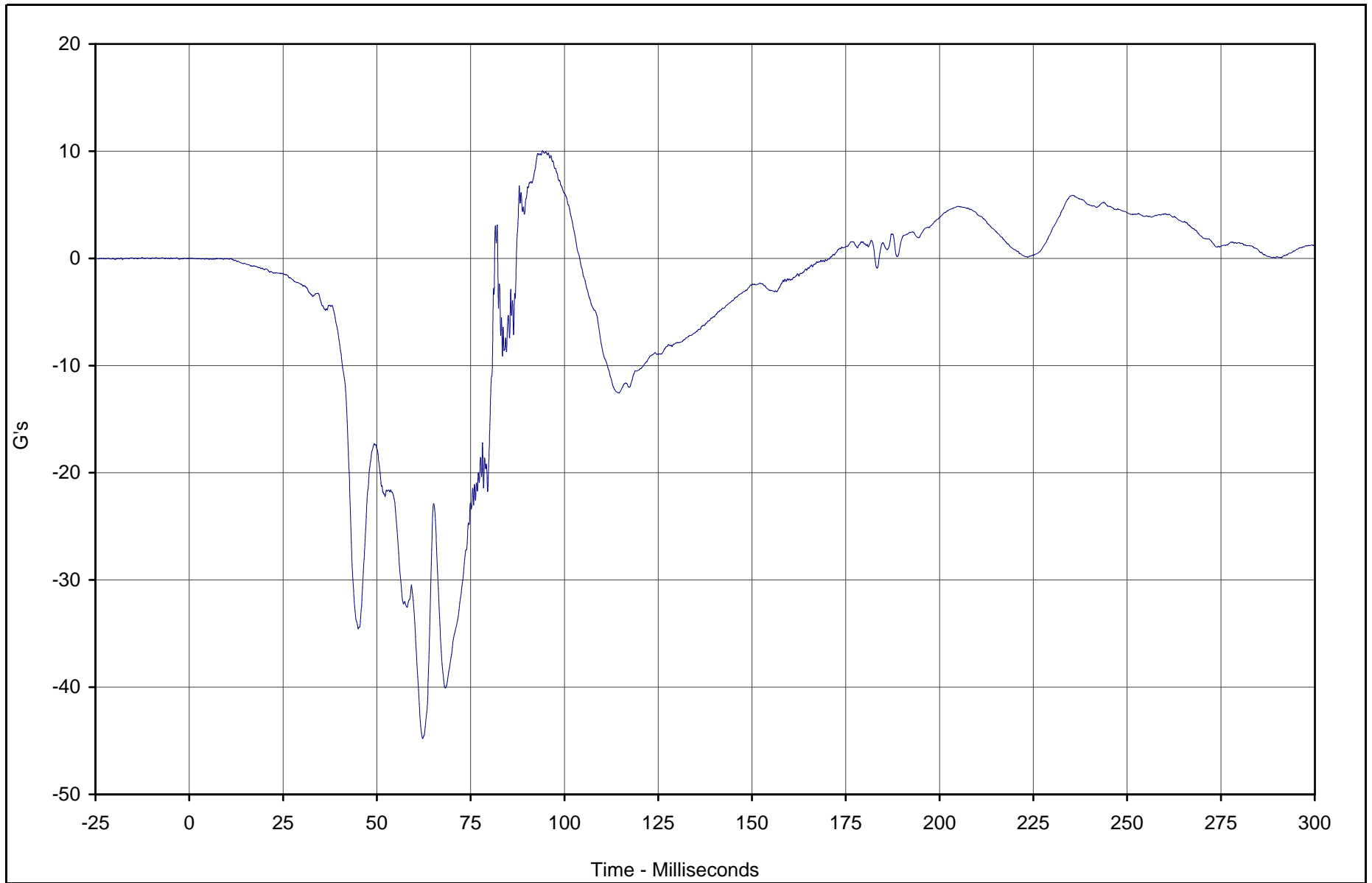


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Pelvis Z	155	FIL	G's	10.0	94.2	-44.8	62.2	1000

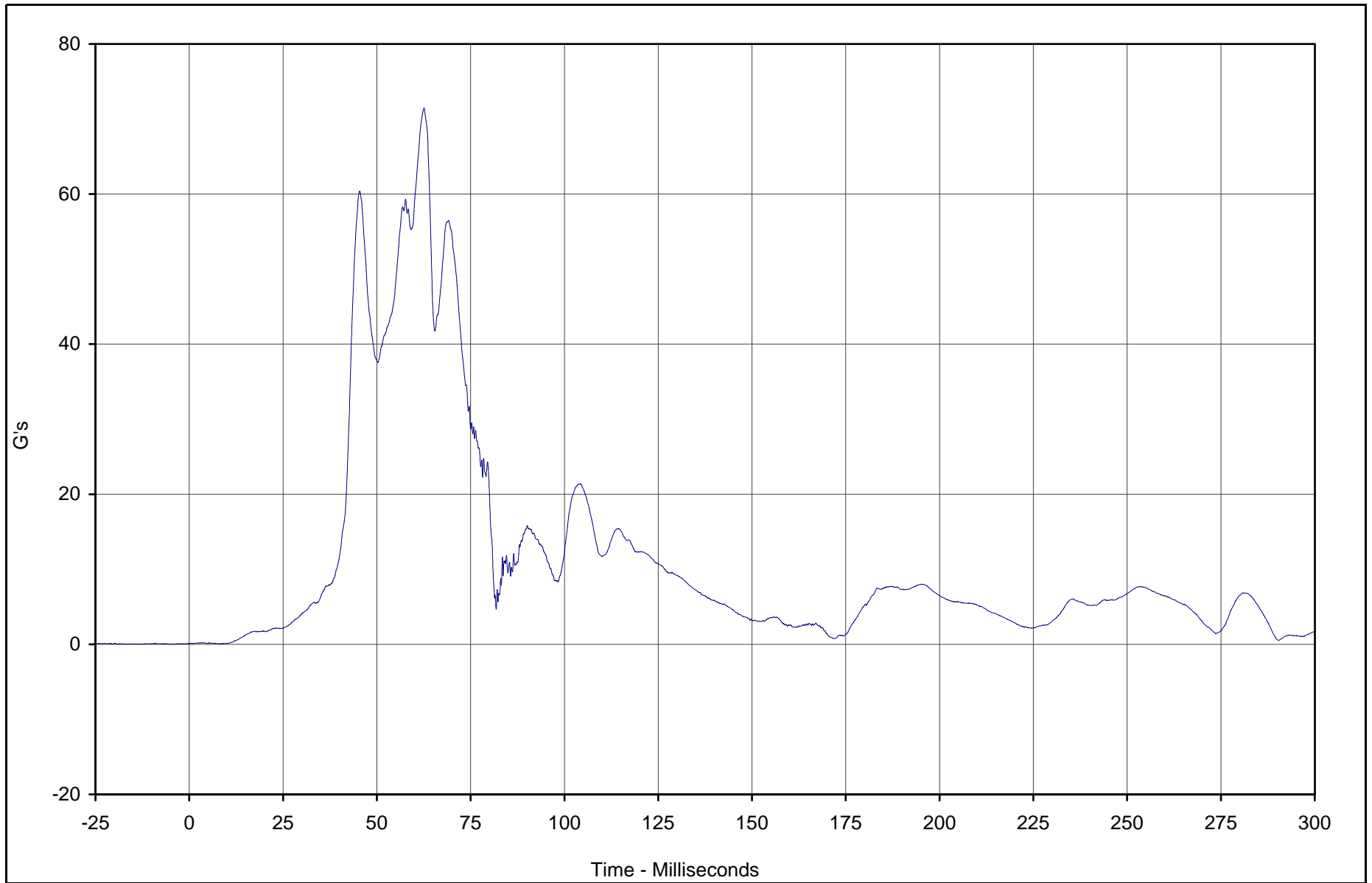


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Pelvis Resultant	153	RES	G's	71.5	62.6	0.1	7.9	1000

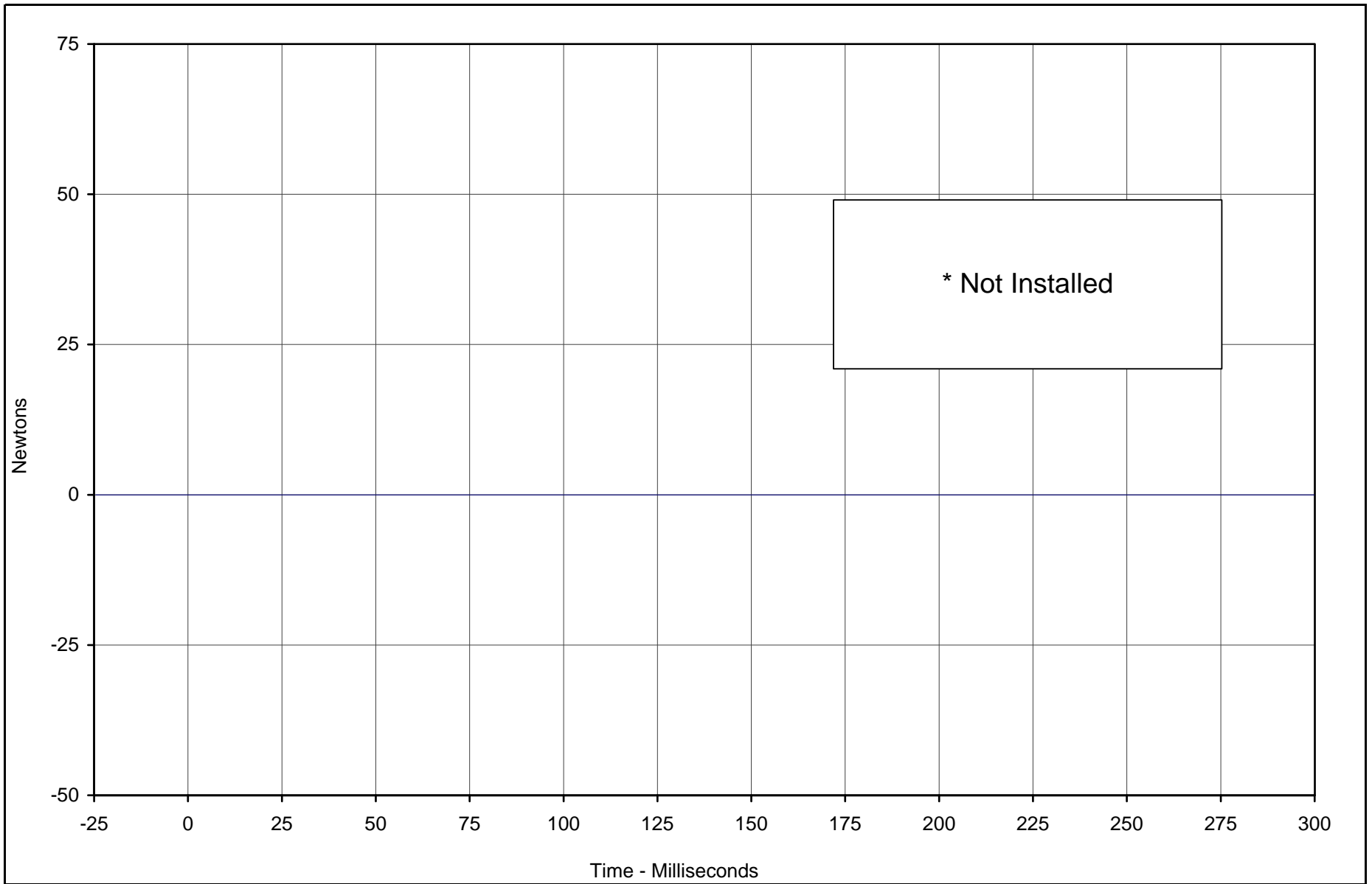


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



* Not Installed

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Seat Tether Load	156	FIL	Newtons	0.0	0.0	0.0	0.0	60



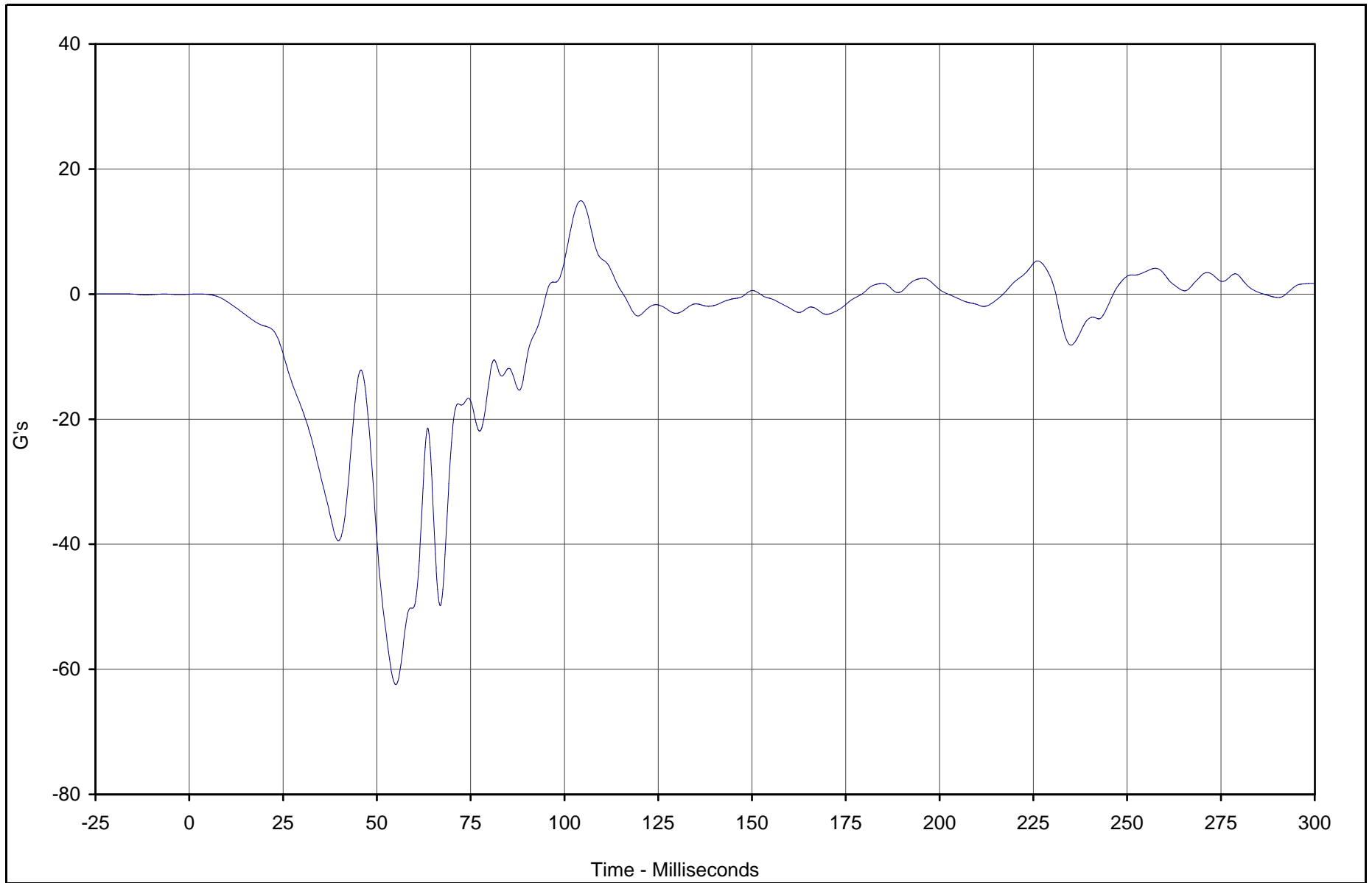
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-31



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Car Seat X	157	FIL	G's	14.9	104.4	-62.4	55.1	60



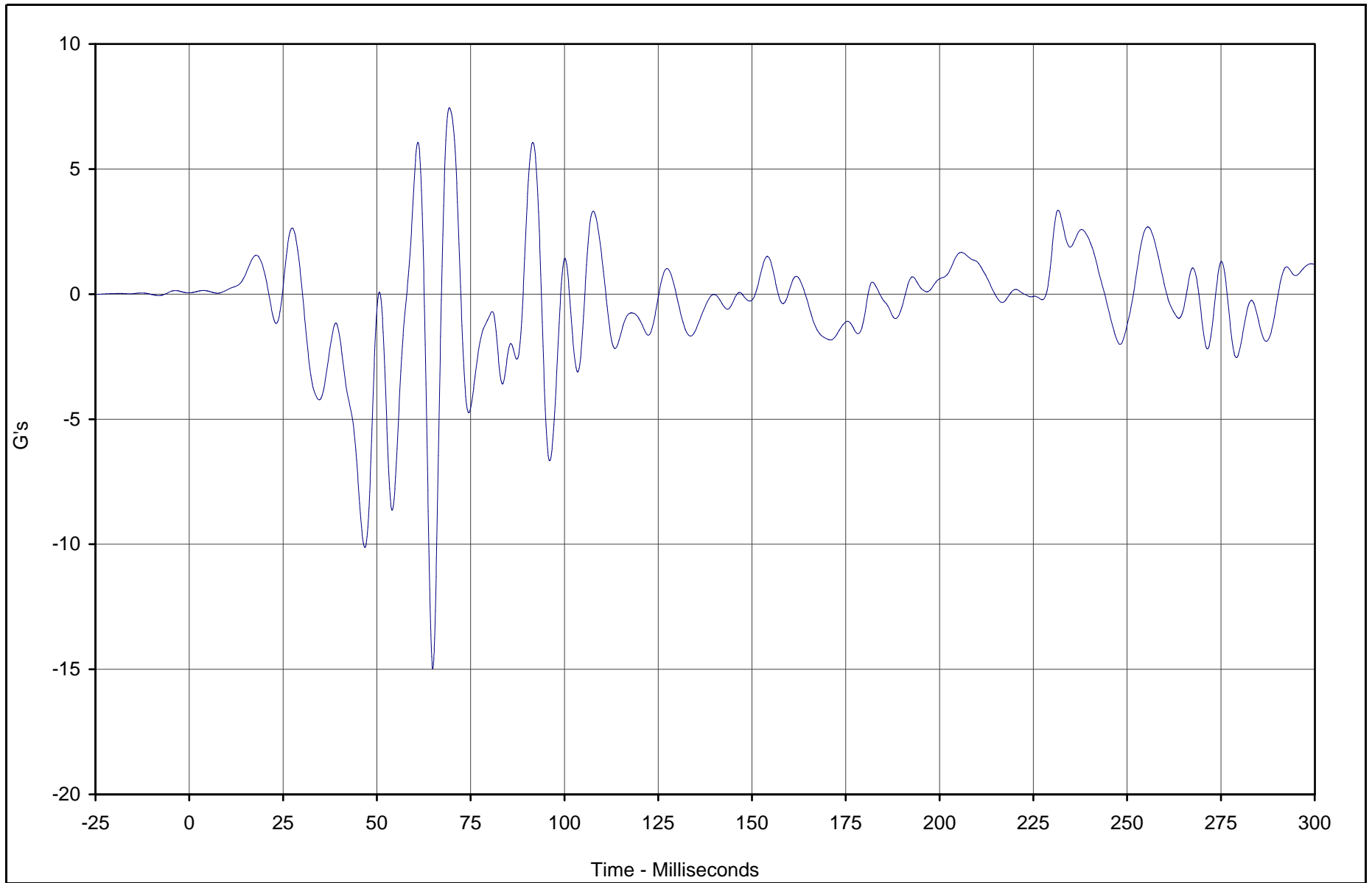
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Car Seat Y	158	FIL	G's	7.5	69.3	-15.0	64.9	60

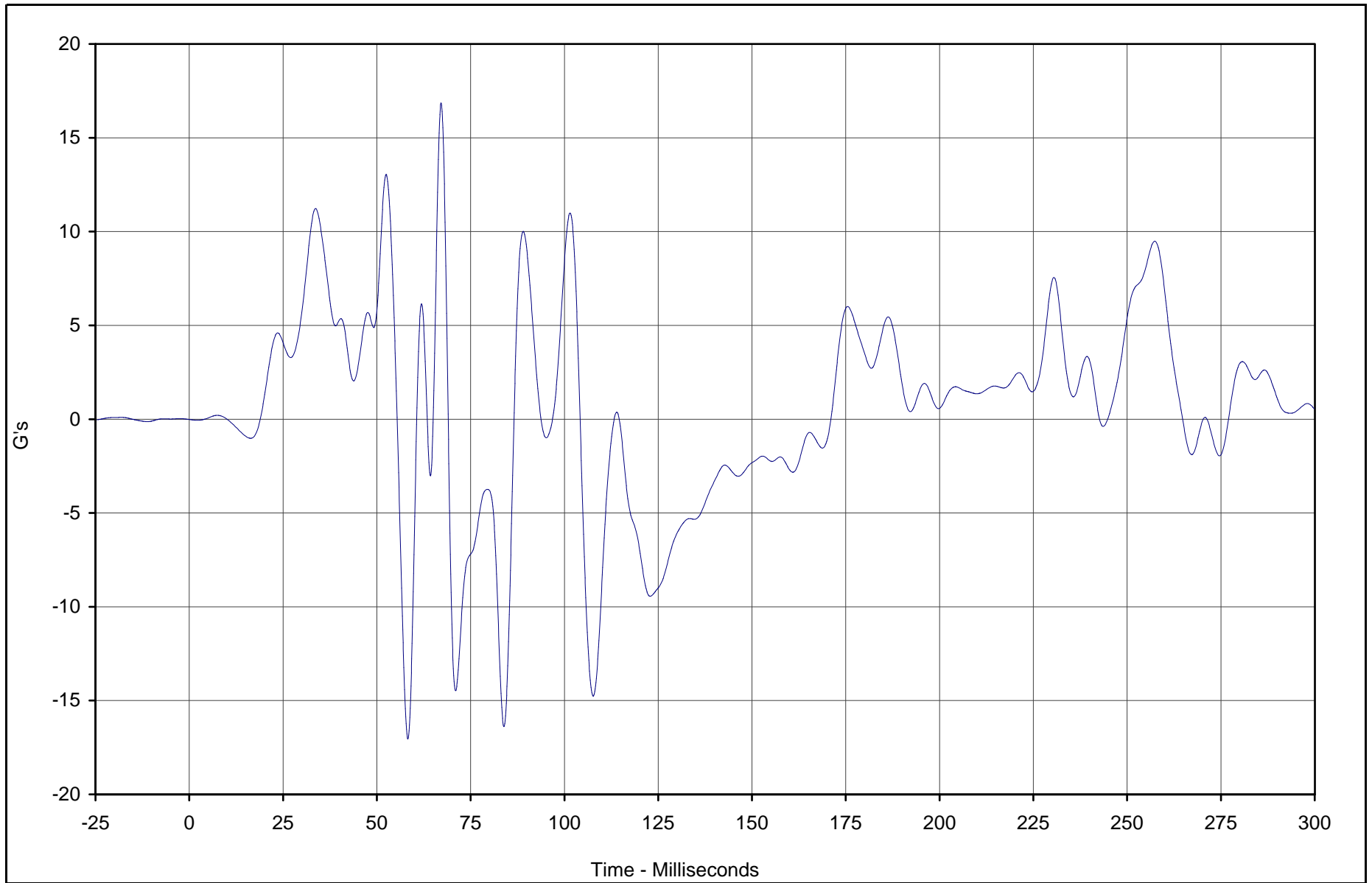


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Car Seat Z	159	FIL	G's	16.9	67.1	-17.0	58.3	60

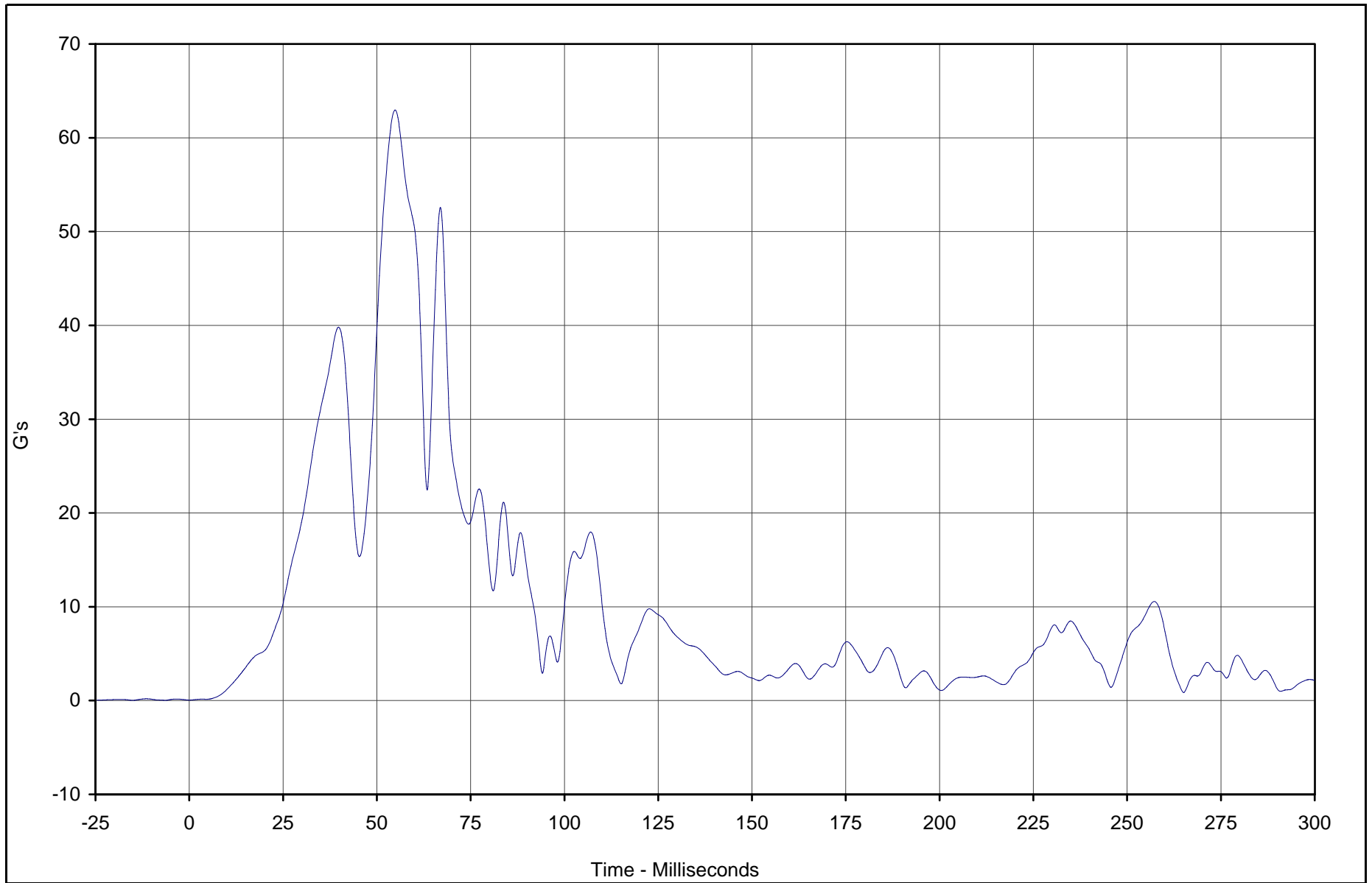


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Left Rear Child Car Seat Resultant	157	RES	G's	63.0	54.9	0.1	0.0	60

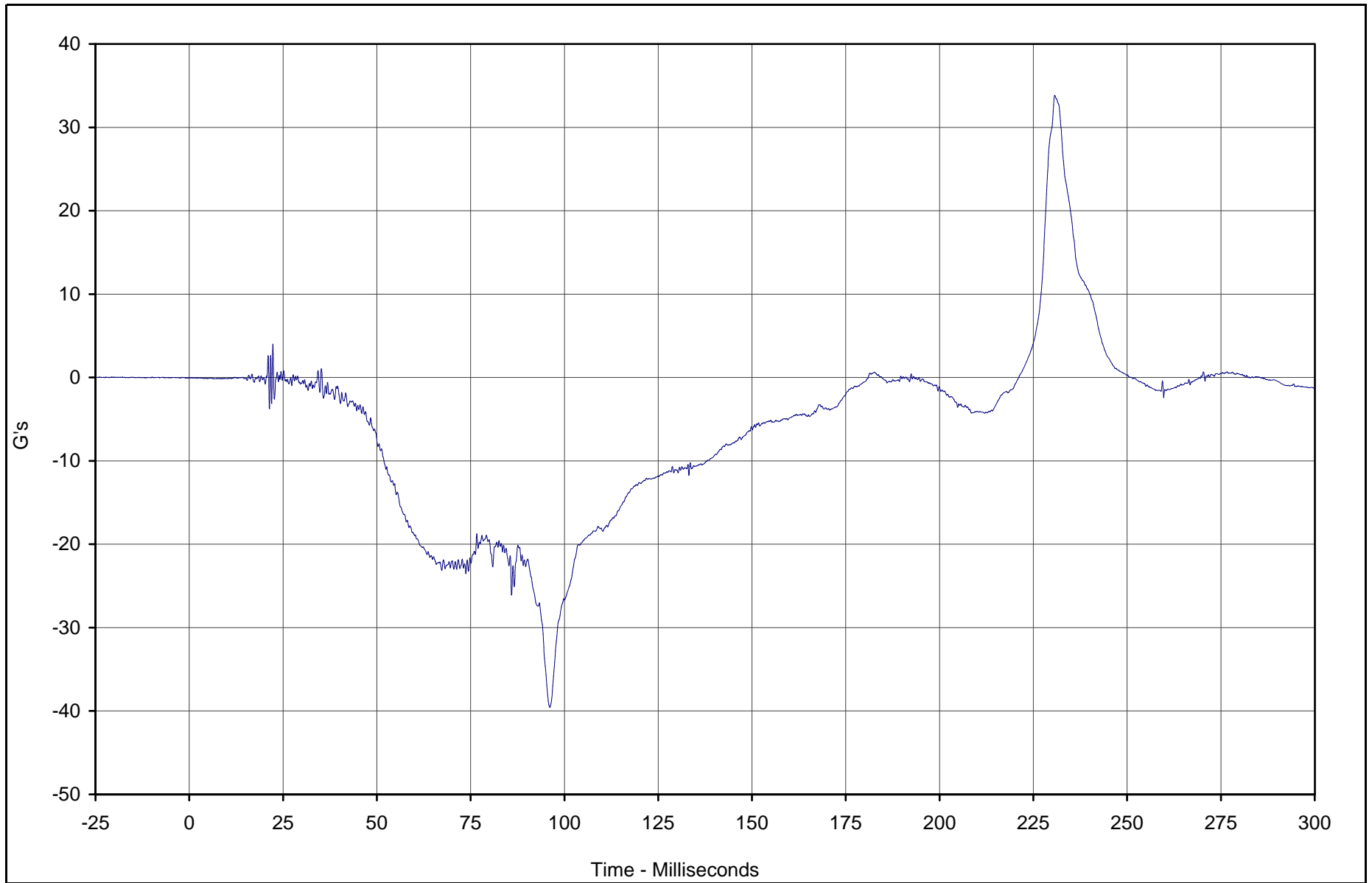


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Head X	160	FIL	G's	33.8	230.7	-39.6	96.1	1000

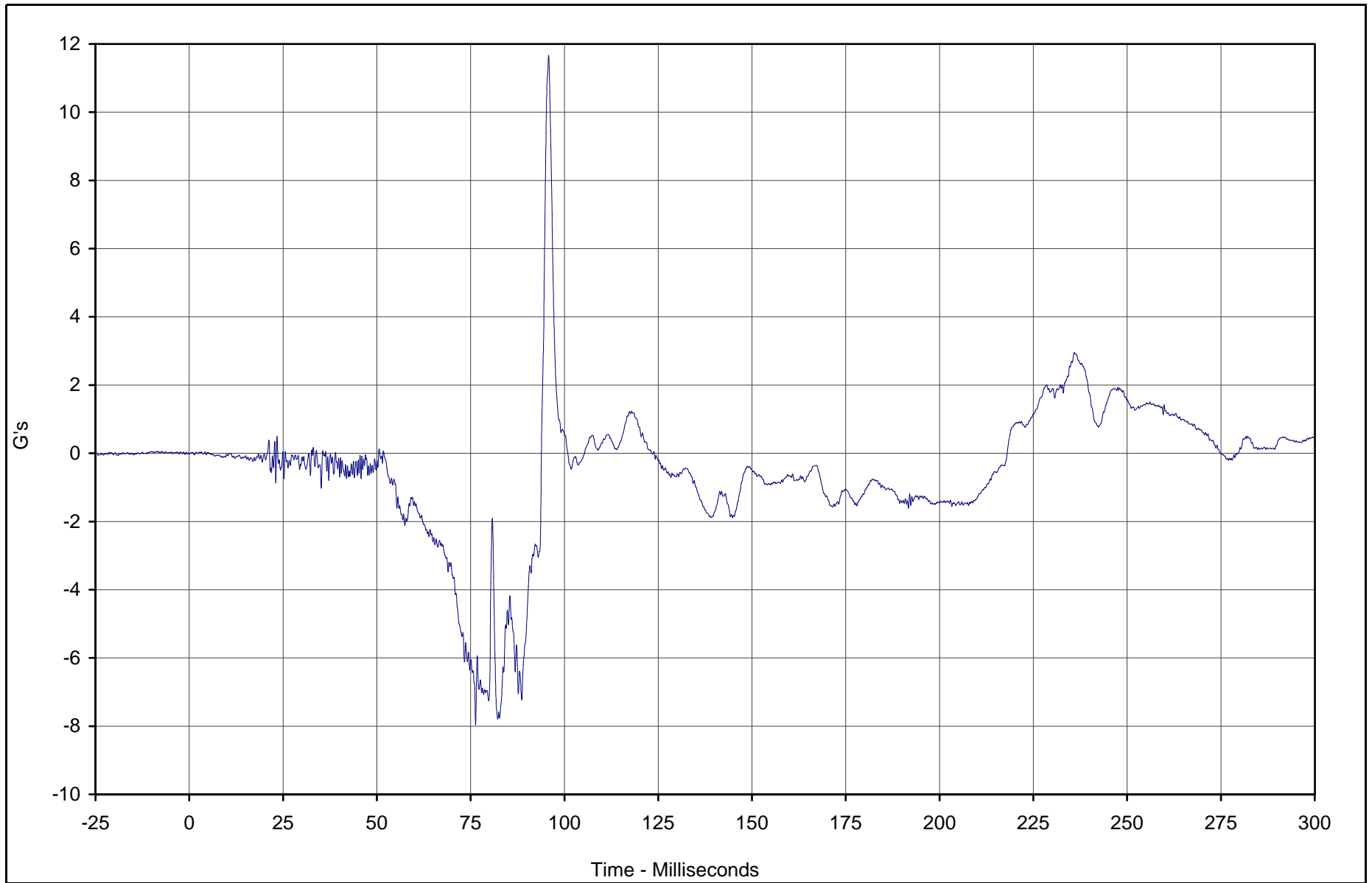


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Head Y	161	FIL	G's	11.7	95.8	-7.9	76.3	1000

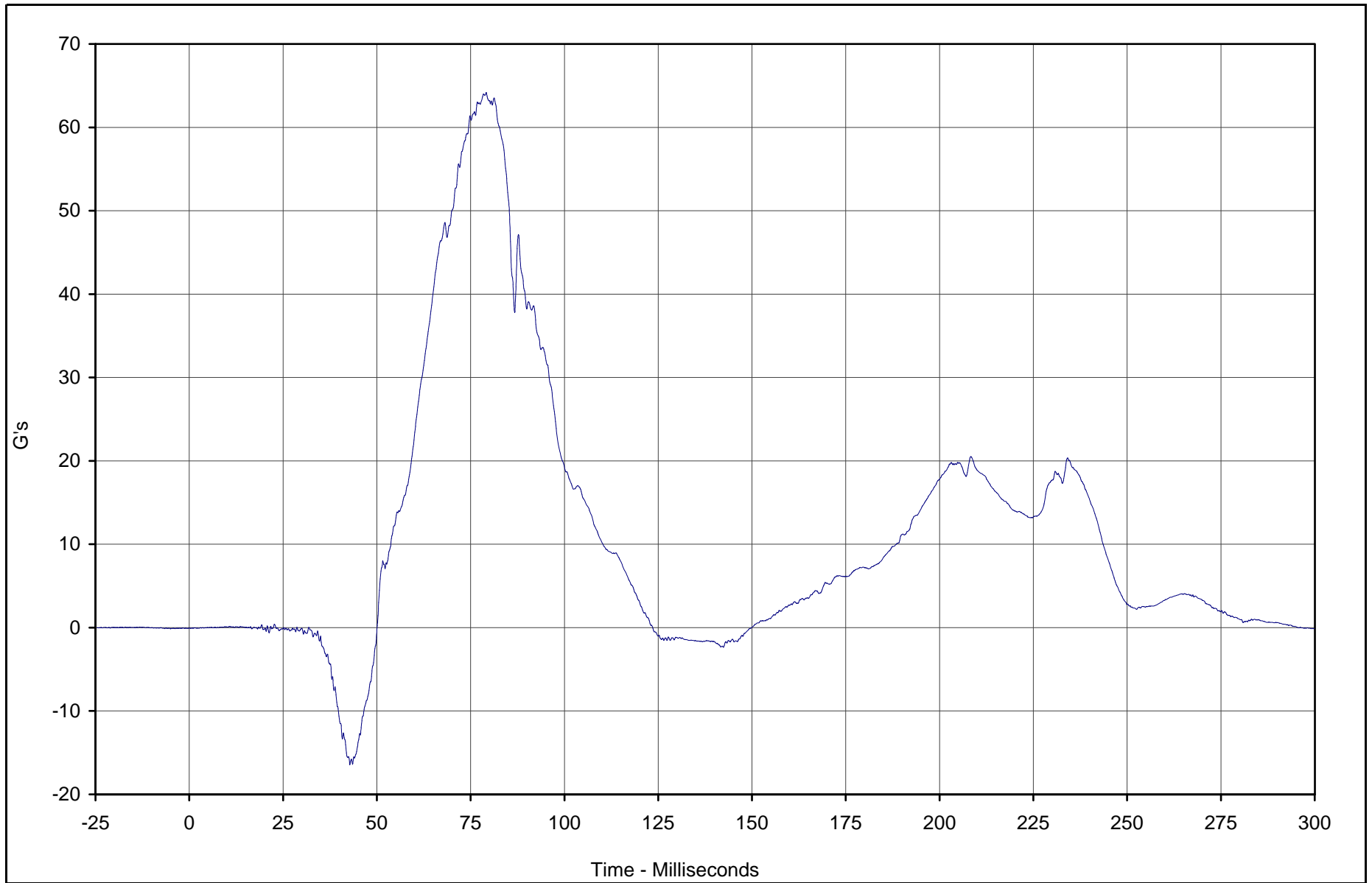


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Head Z	162	FIL	G's	64.2	79.2	-16.5	42.8	1000

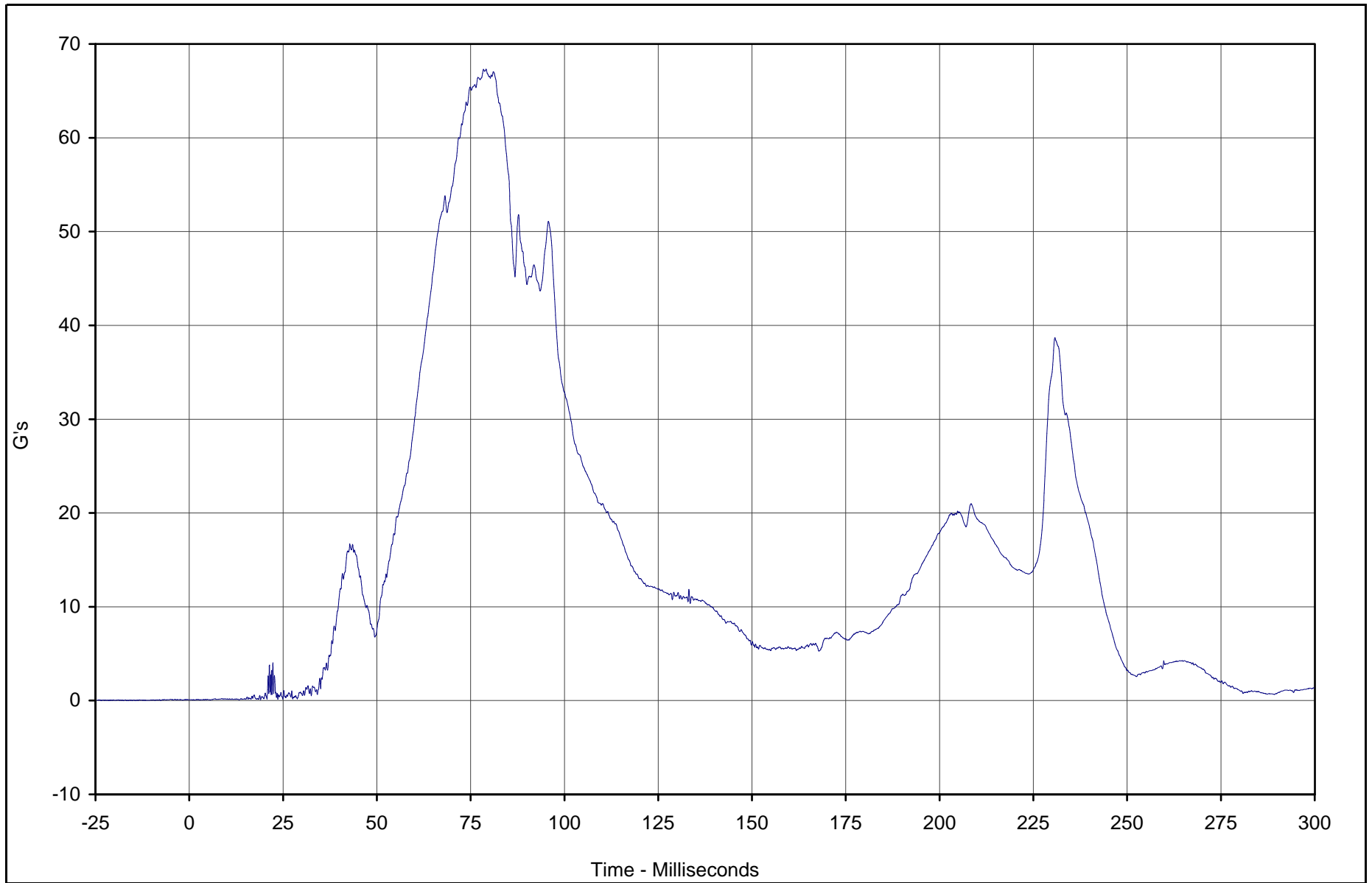


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Head Resultant	160	RES	G's	67.3	79.1	0.1	0.9	1000

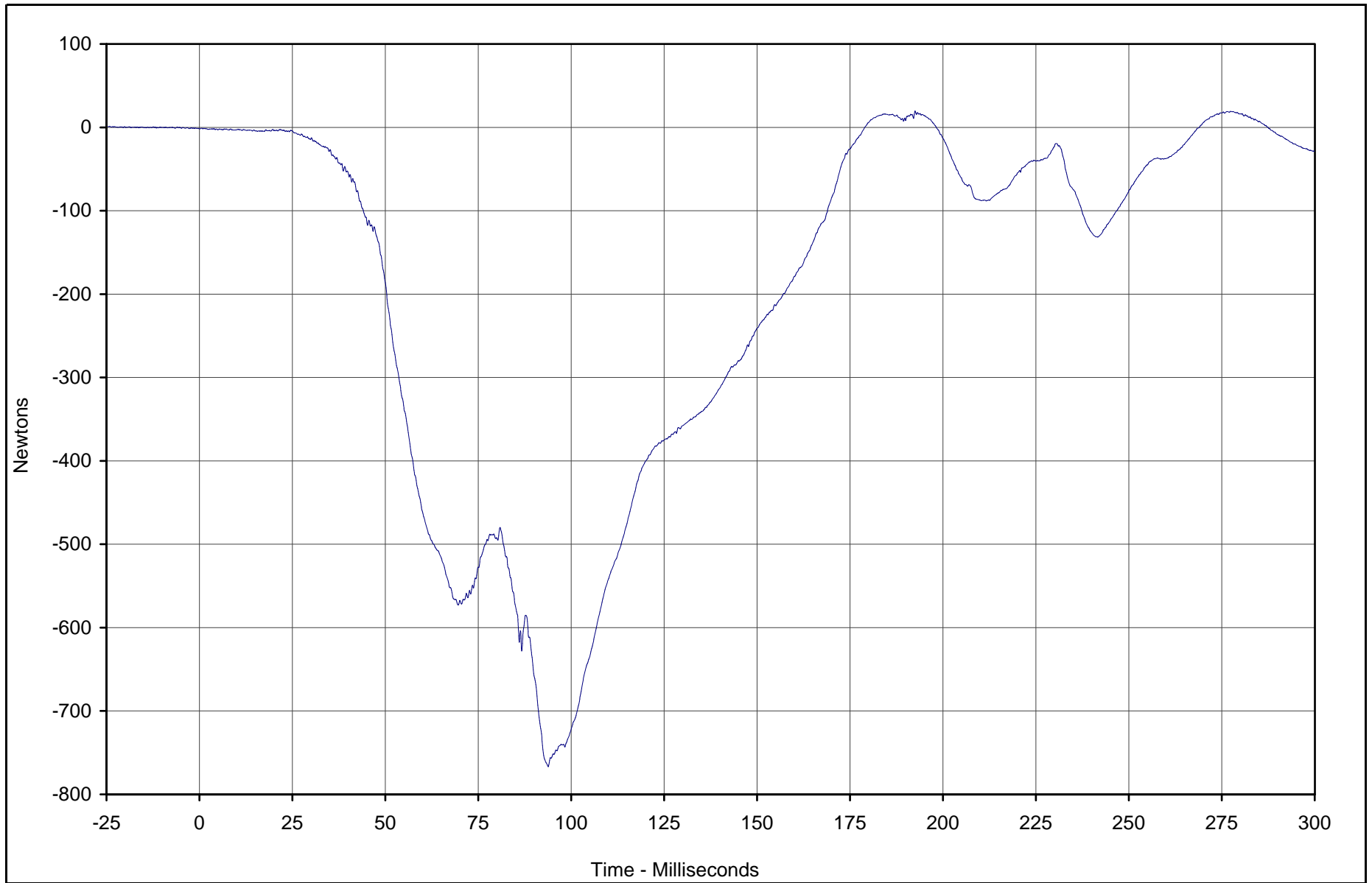


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Force X	163	FIL	Newtons	19.6	192.5	-766.7	93.8	1000



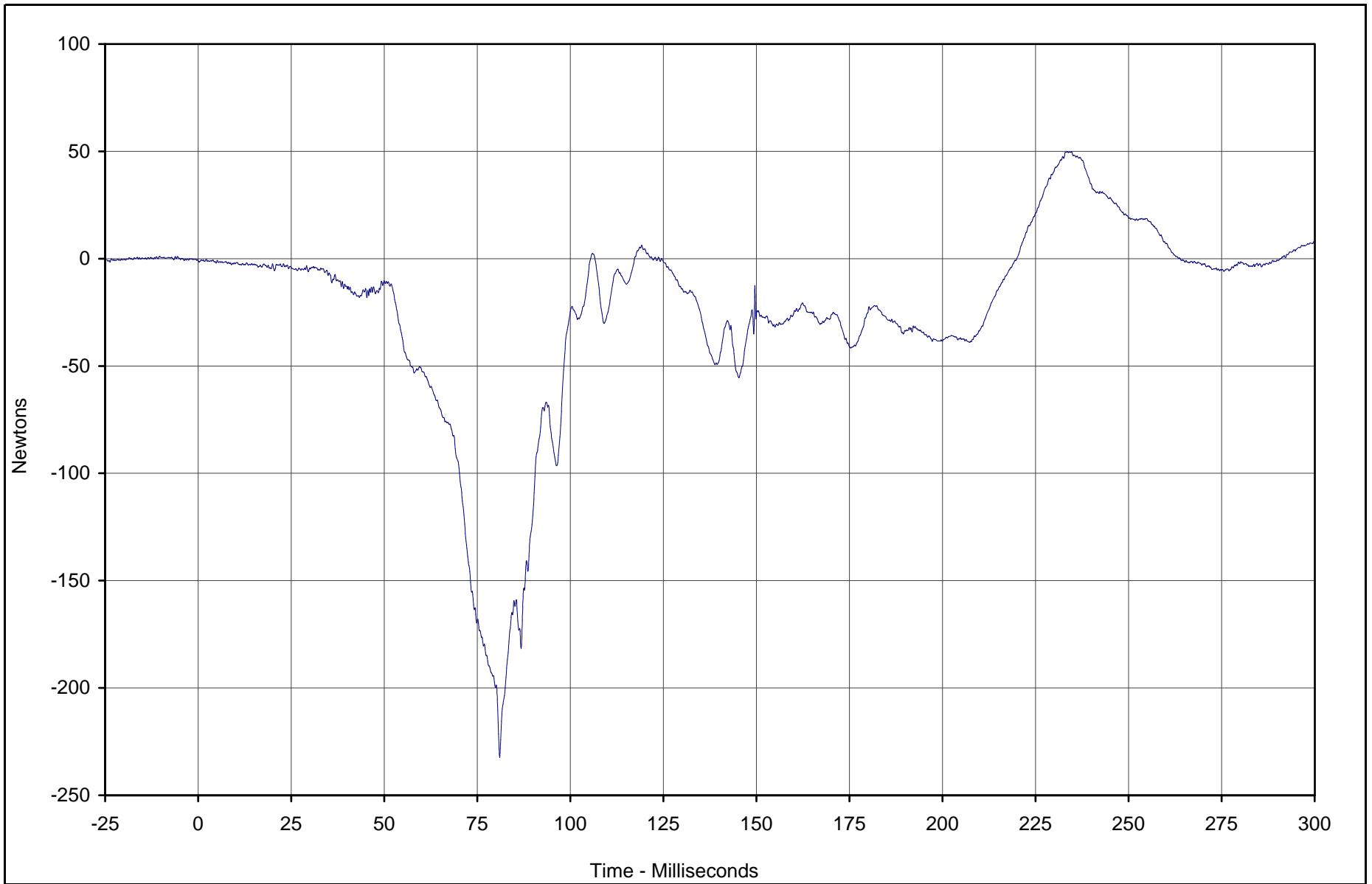
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-40



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Force Y	164	FIL	Newtons	50.0	233.5	-232.4	81.0	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

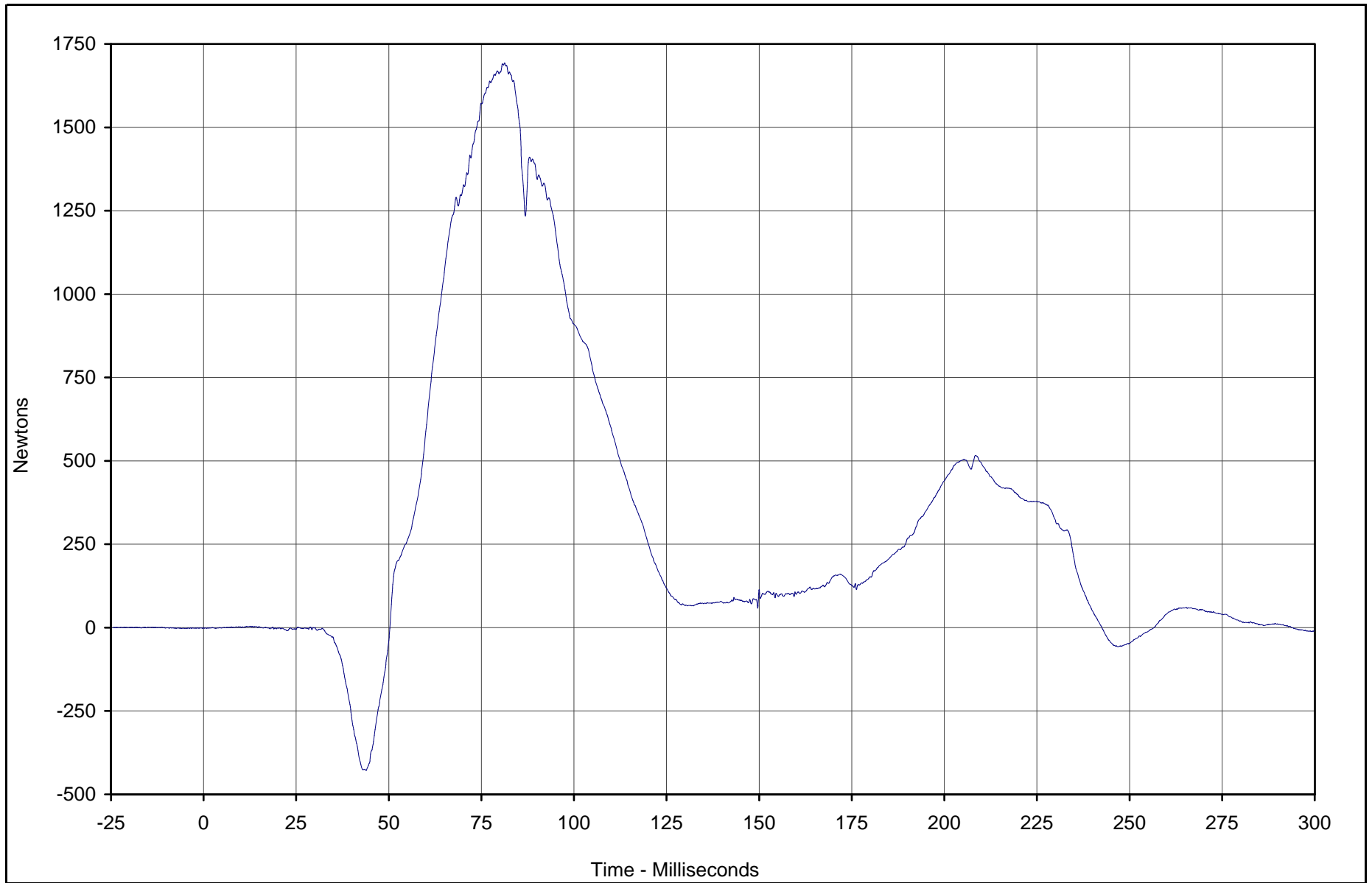
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-41



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Force Z	165	FIL	Newtons	1692.9	81.3	-428.0	43.9	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

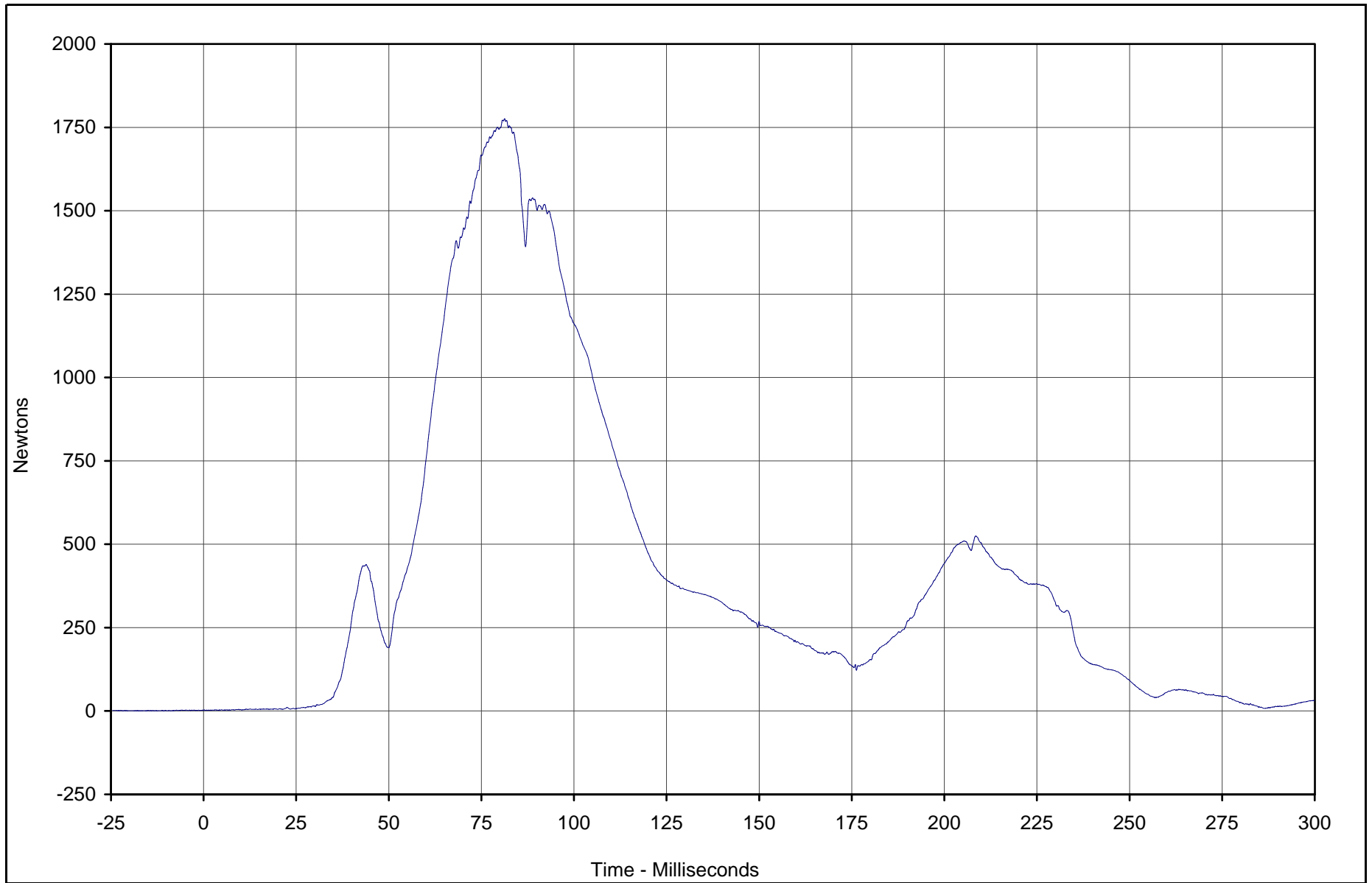
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-42



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Force Res.	163	RES	Newtons	1775.7	81.3	1.9	1.1	1000



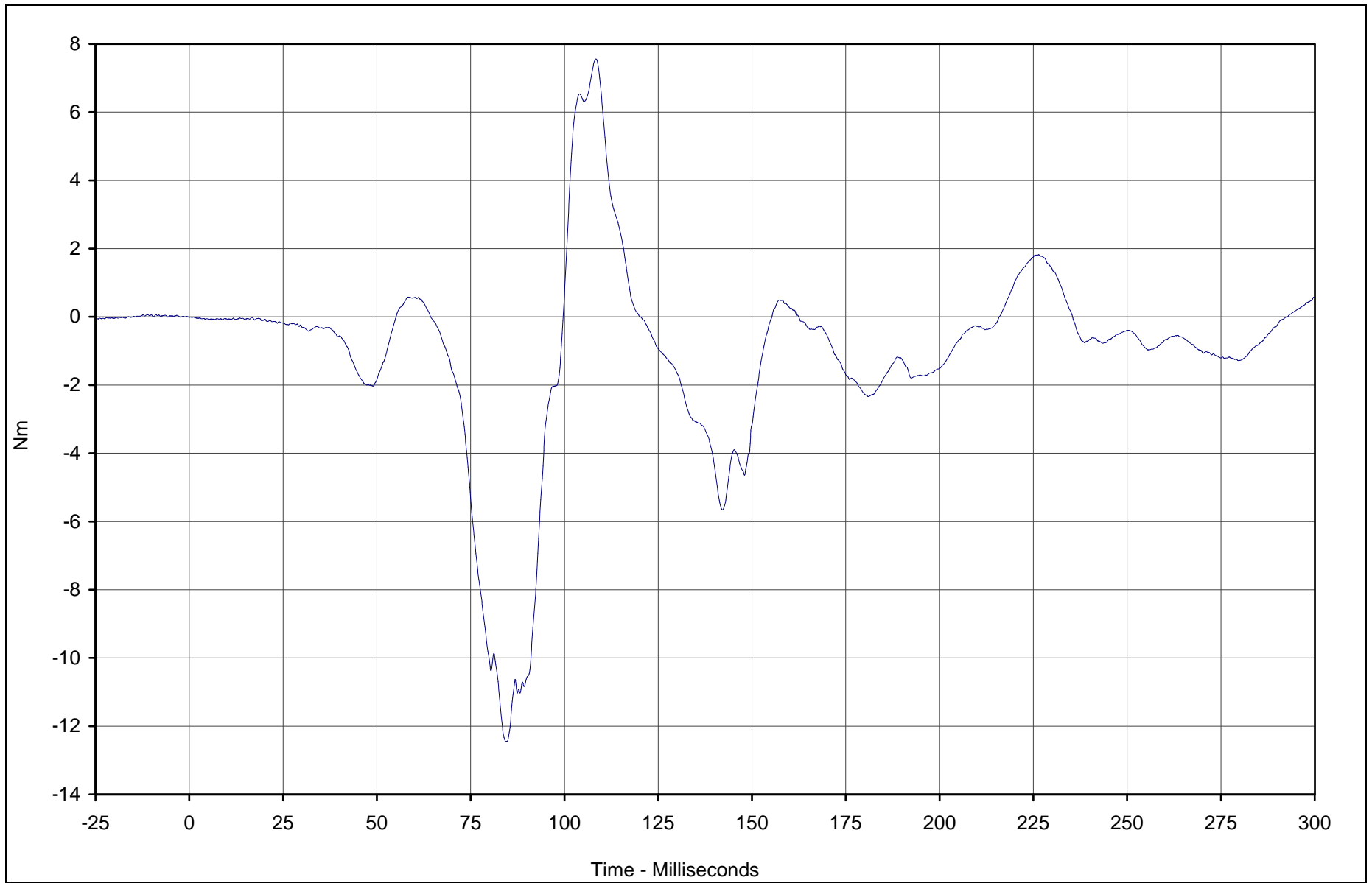
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Moment X	166	FIL	Nm	7.6	108.4	-12.4	84.4	600



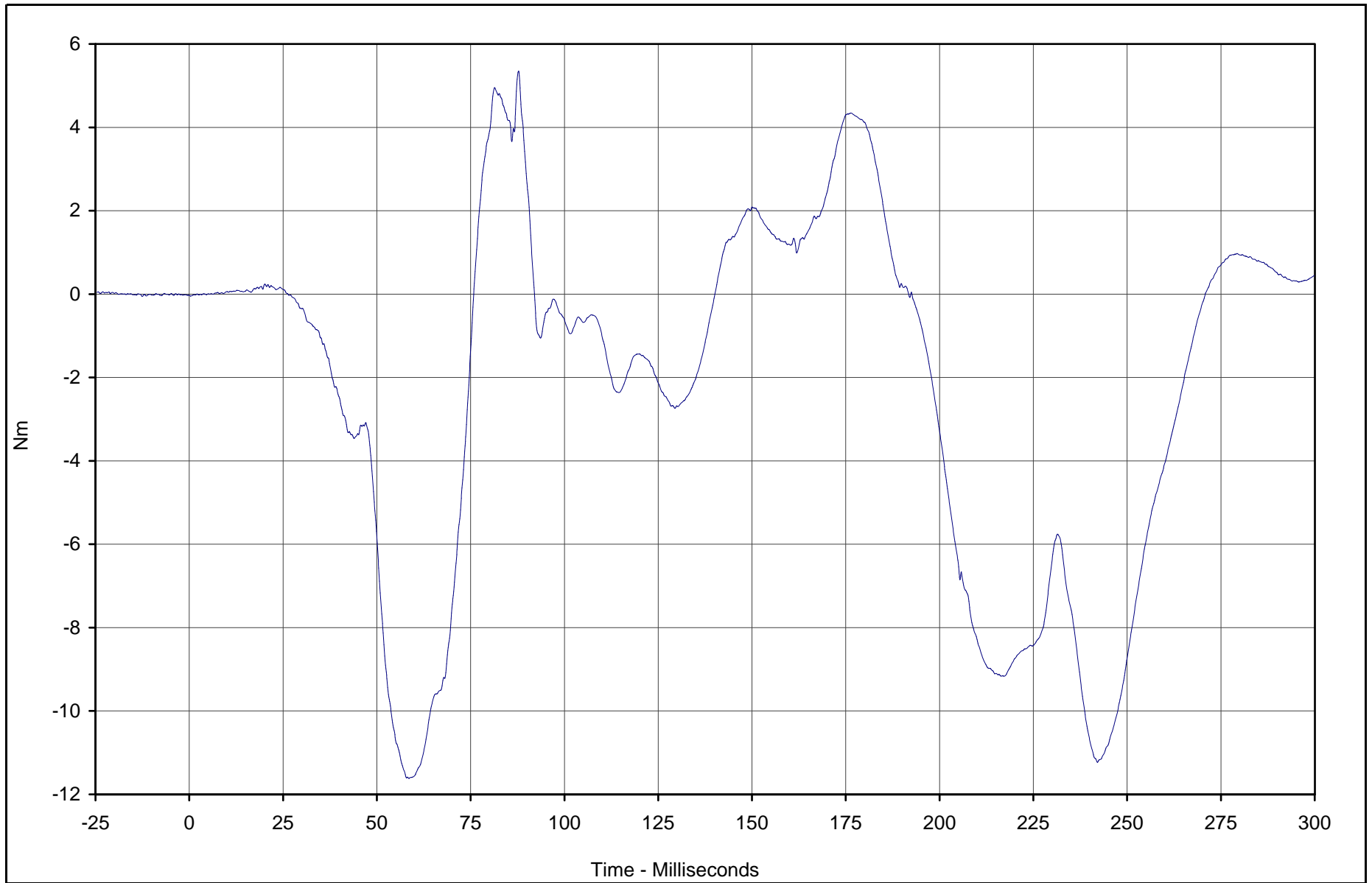
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-44



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Moment Y	167	FIL	Nm	5.3	87.8	-11.6	58.6	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

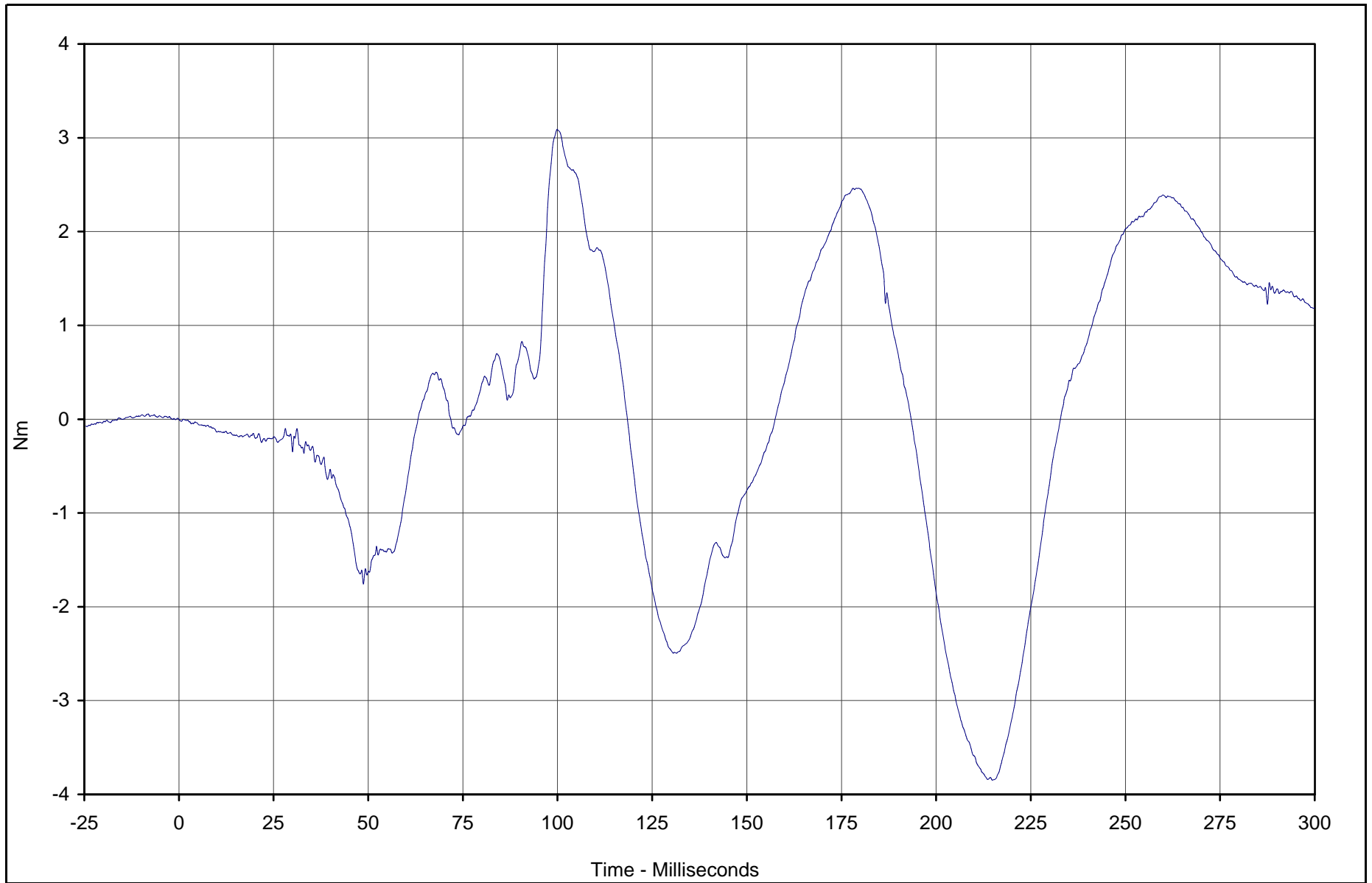
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-45



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Moment Z	168	FIL	Nm	3.1	99.9	-3.8	214.9	600



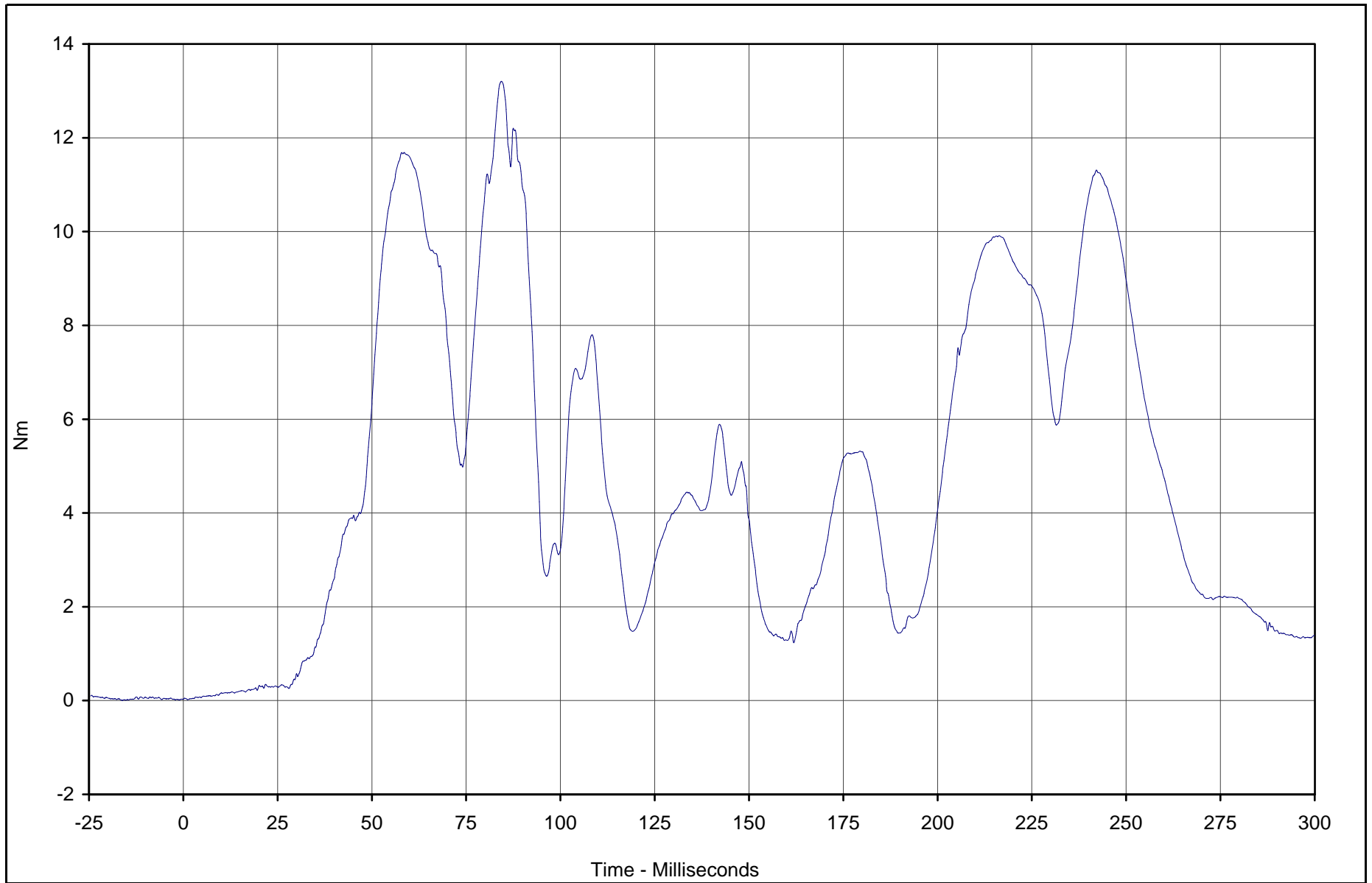
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Upper Neck Mom Res.	166	RES	Nm	13.2	84.3	0.0	1.2	600



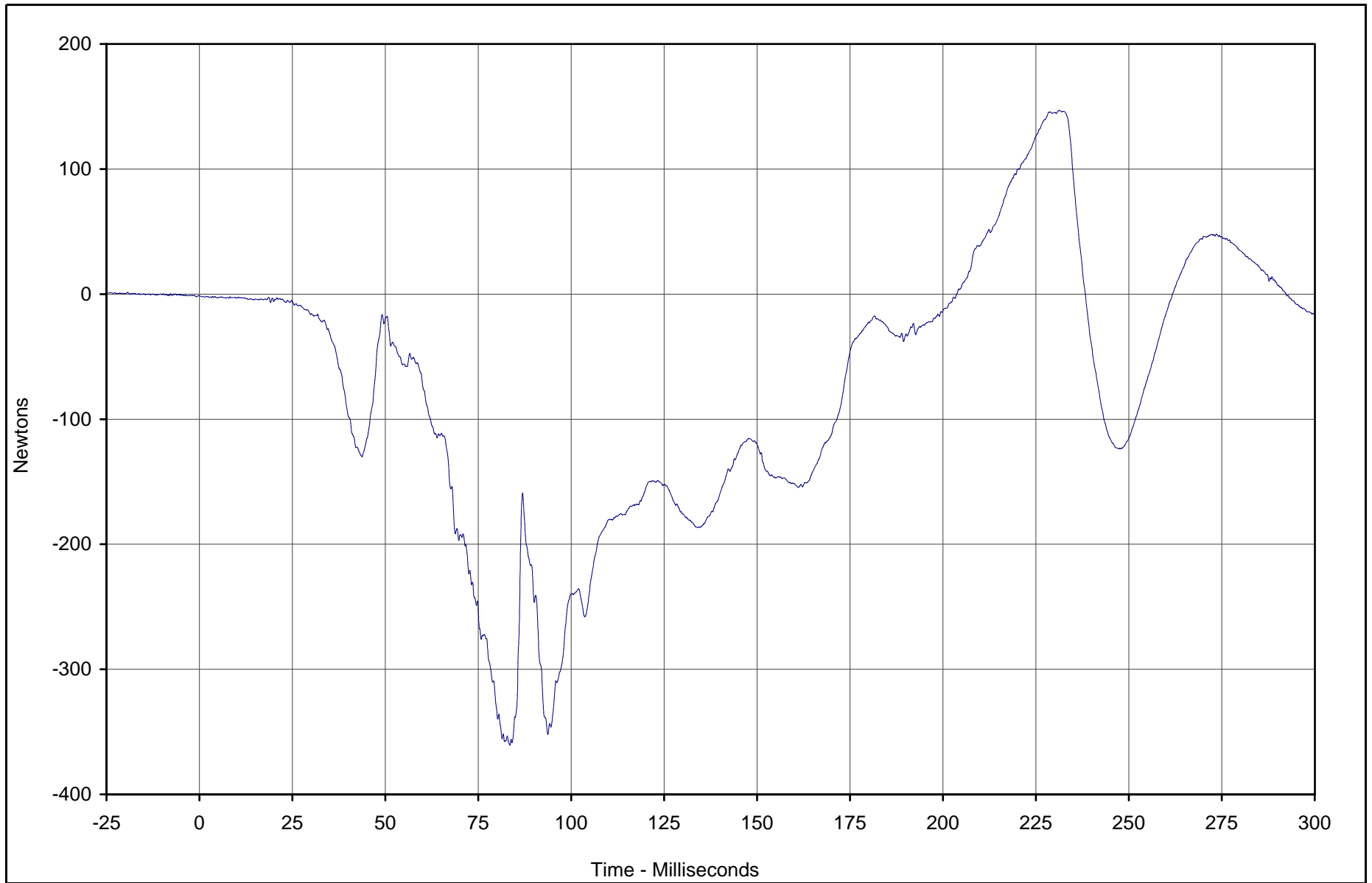
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-47



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Force X	169	FIL	Newtons	146.9	231.2	-360.8	83.5	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

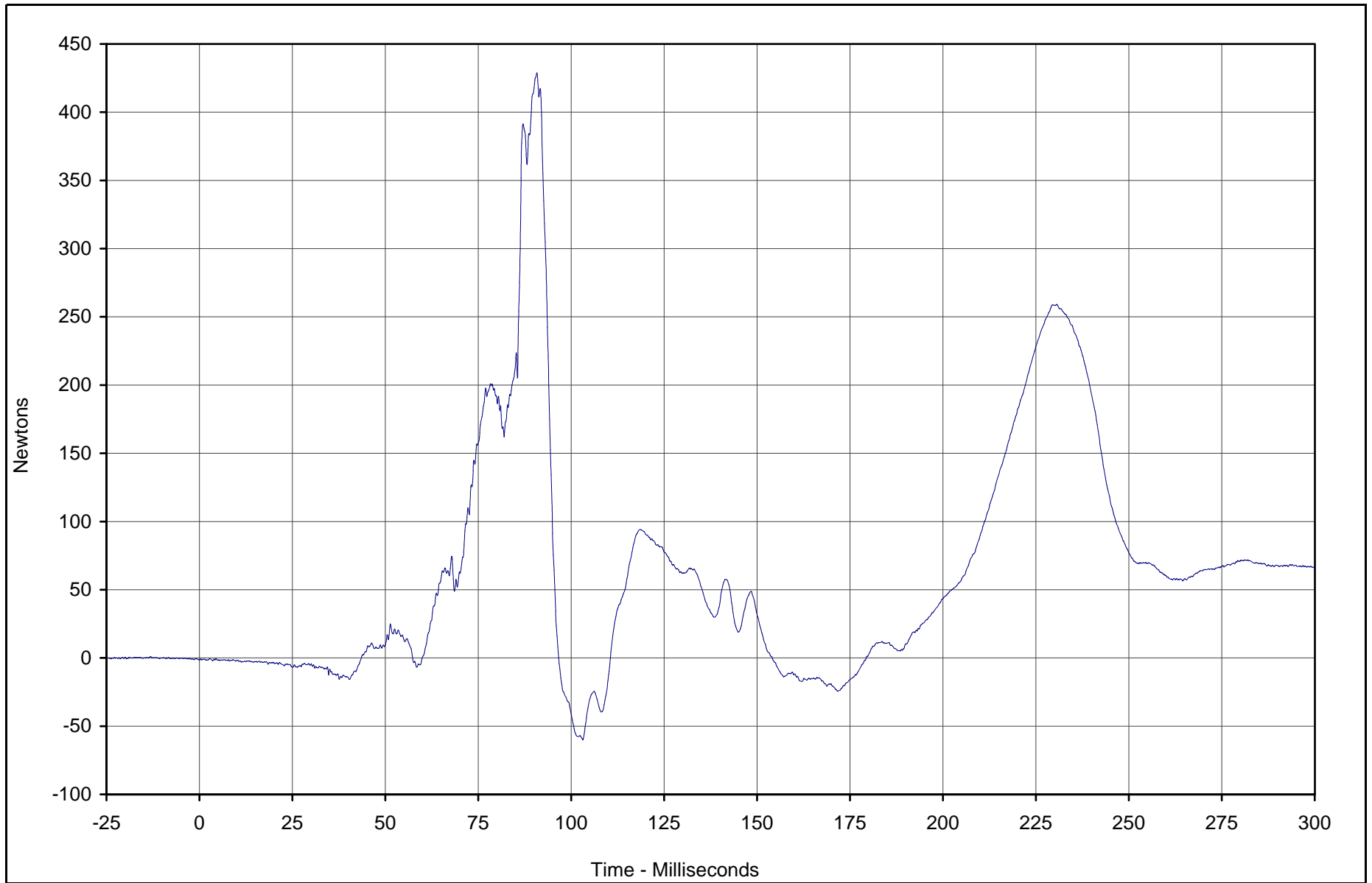
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-48



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Force Y	170	FIL	Newtons	428.8	90.8	-60.1	103.1	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

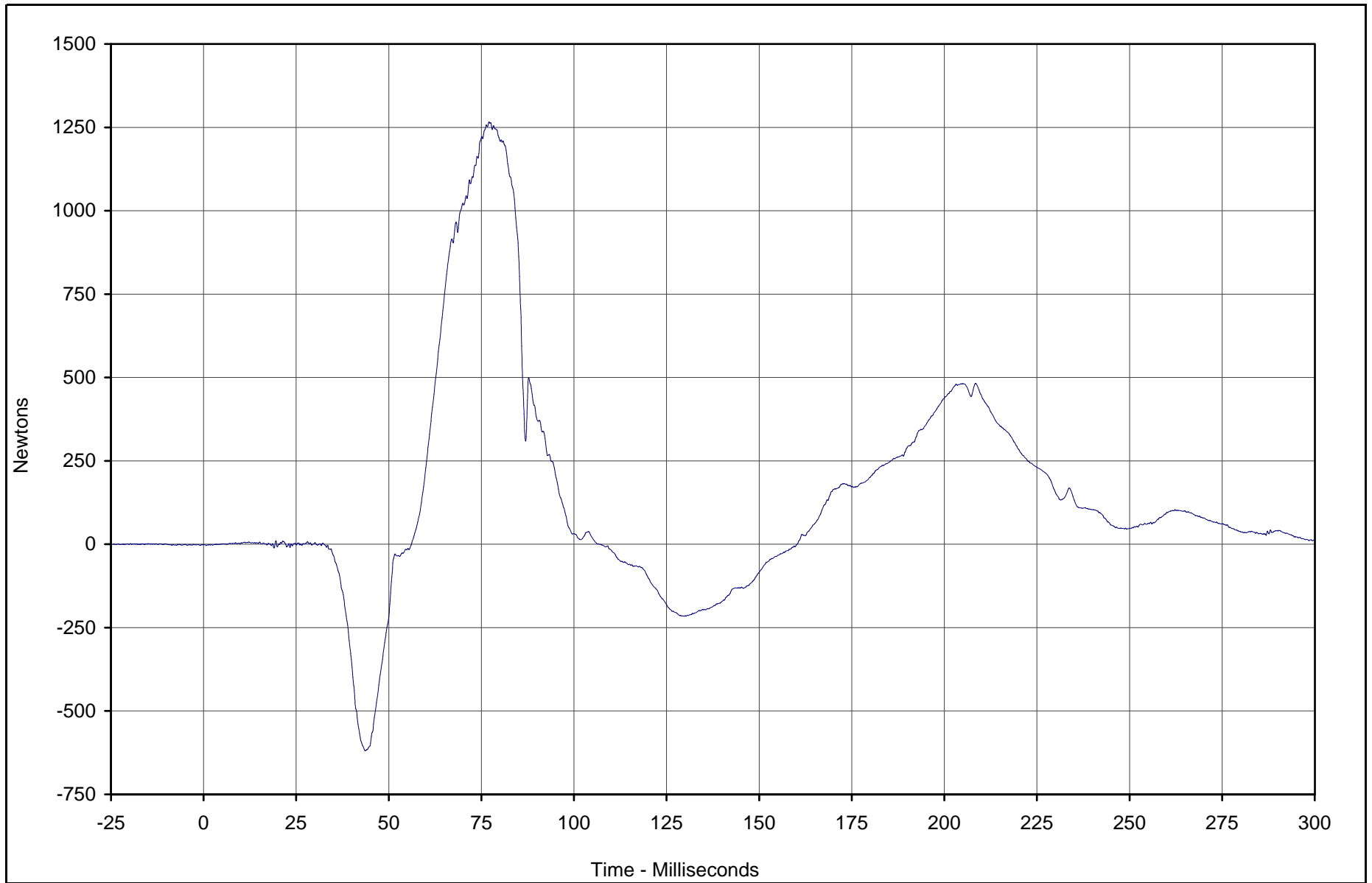
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-49



TR-P23001-04-NC

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Force Z	171	FIL	Newtons	1266.5	77.0	-619.5	43.6	1000



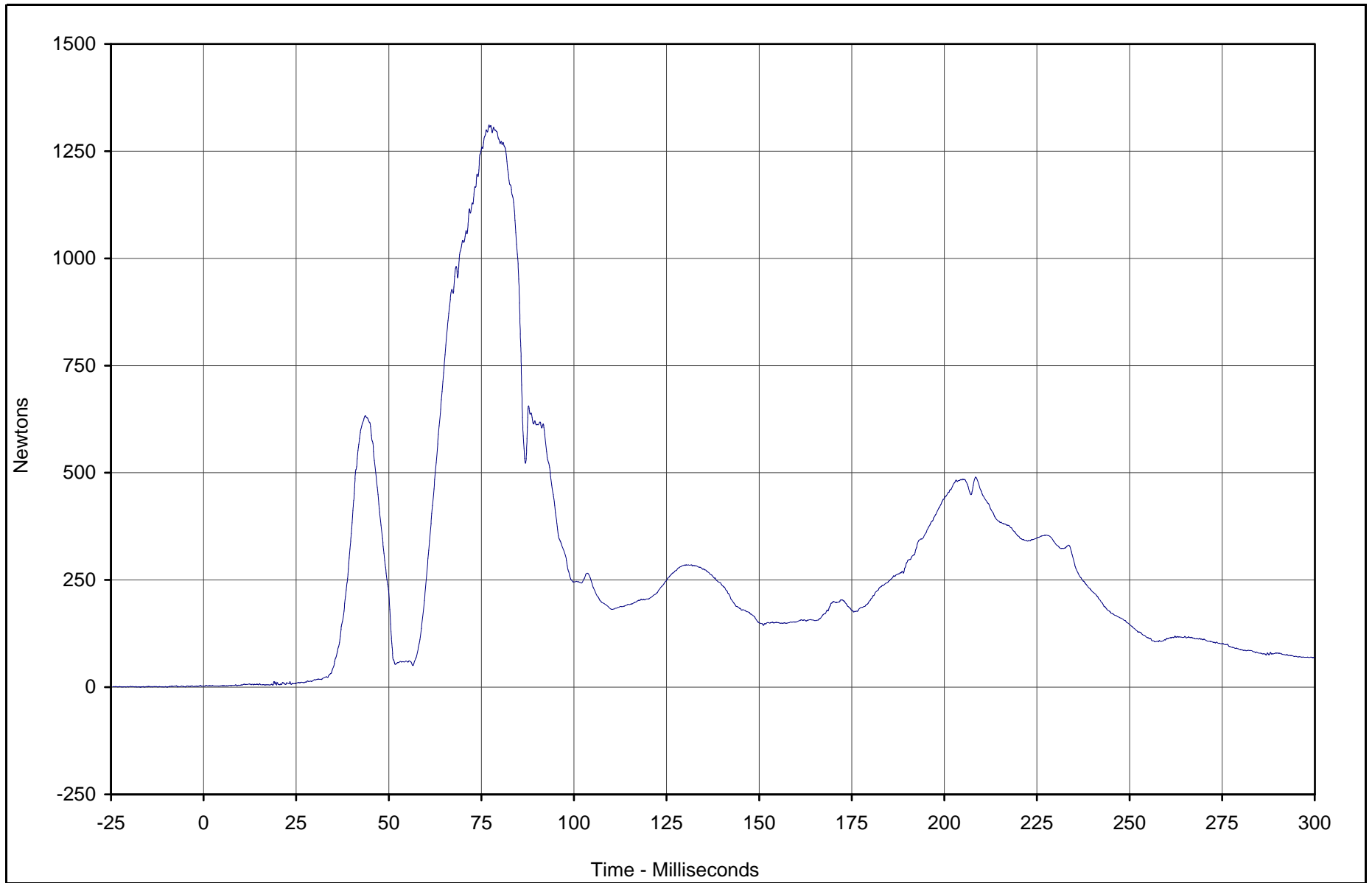
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-50



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Force Res.	169	RES	Newtons	1311.0	77.0	2.2	0.3	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

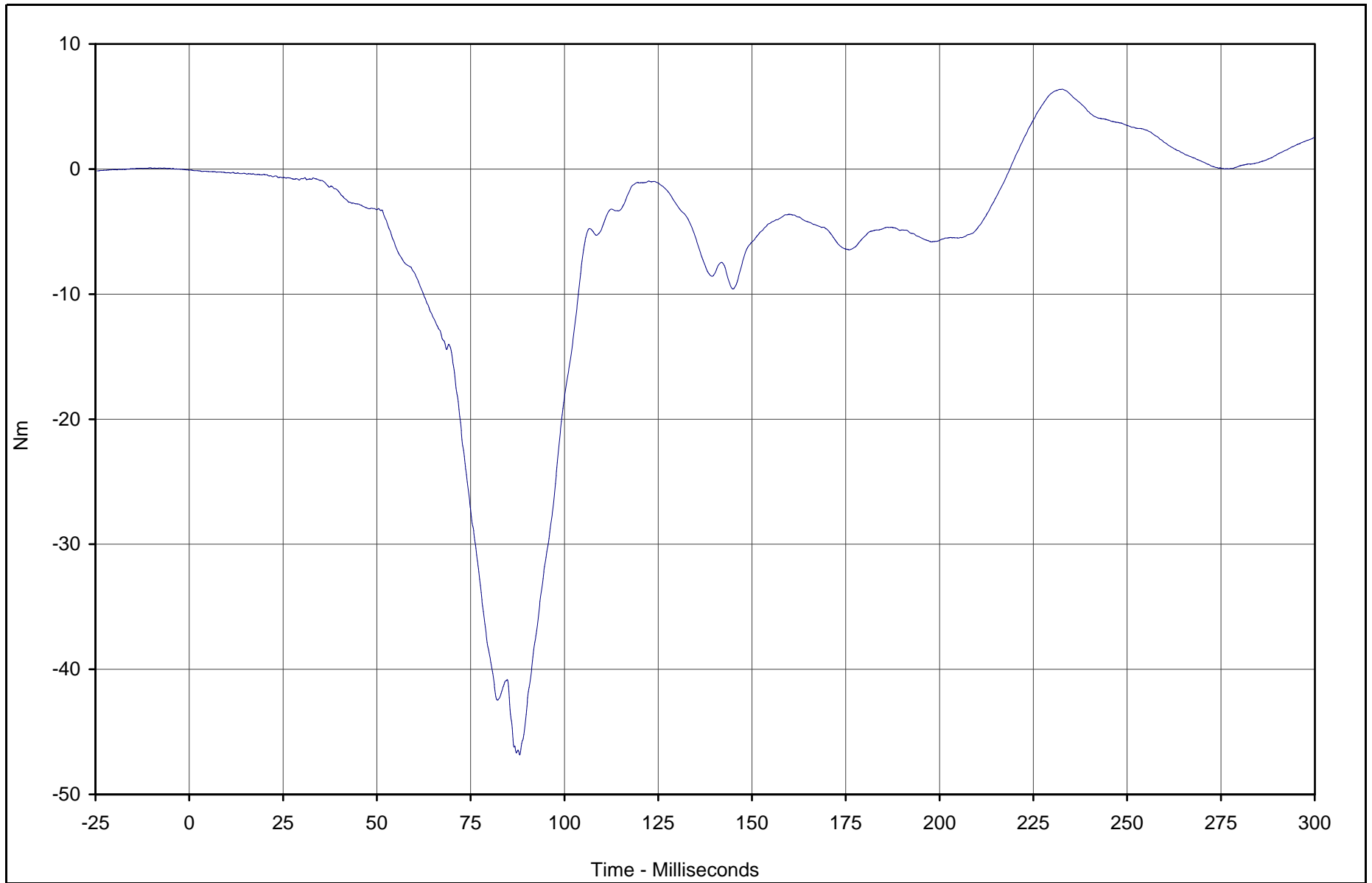
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-51



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Moment X	172	FIL	Nm	6.4	232.7	-46.8	88.1	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

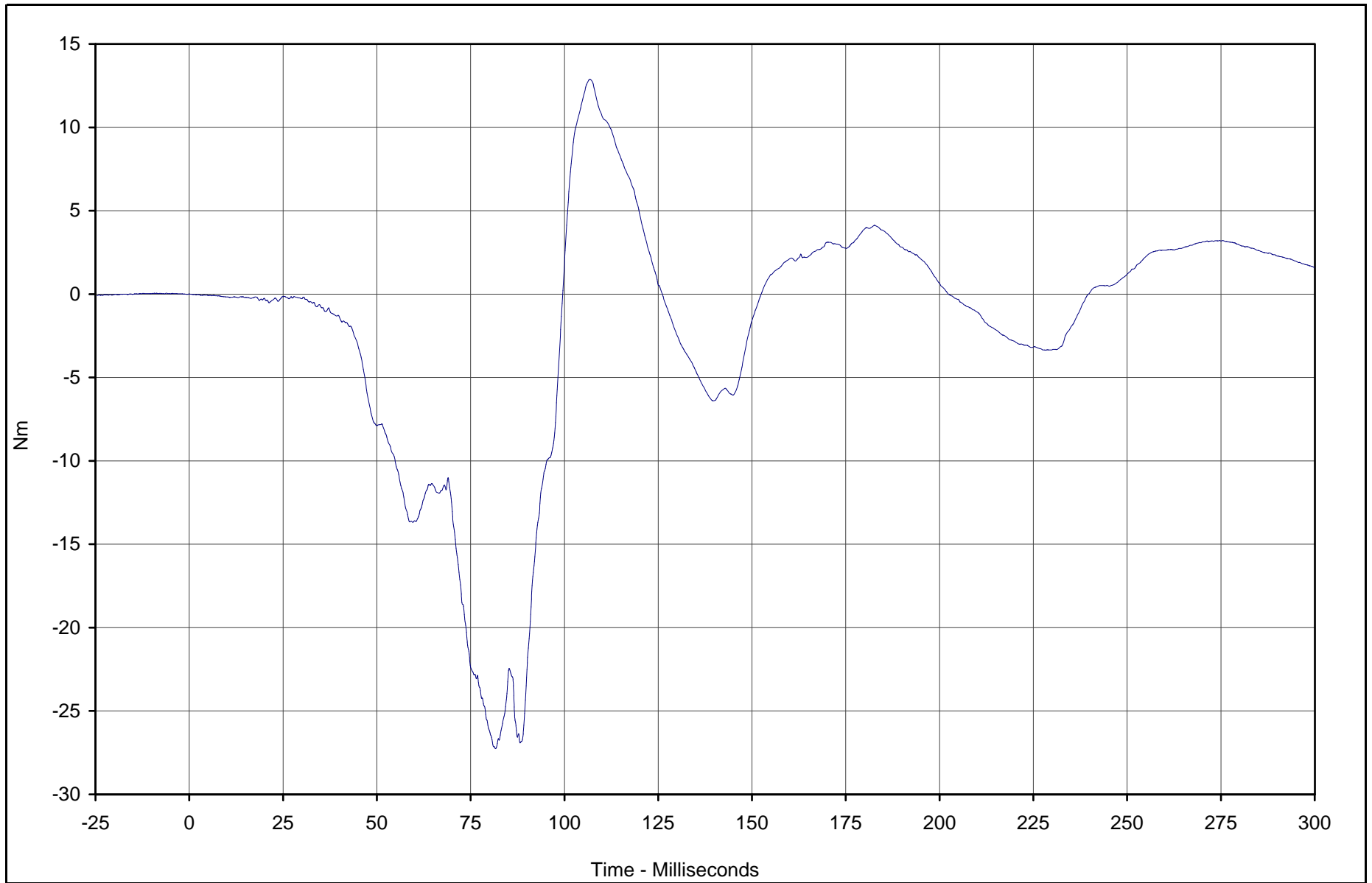
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-52



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Moment Y	173	FIL	Nm	12.9	106.8	-27.3	81.6	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

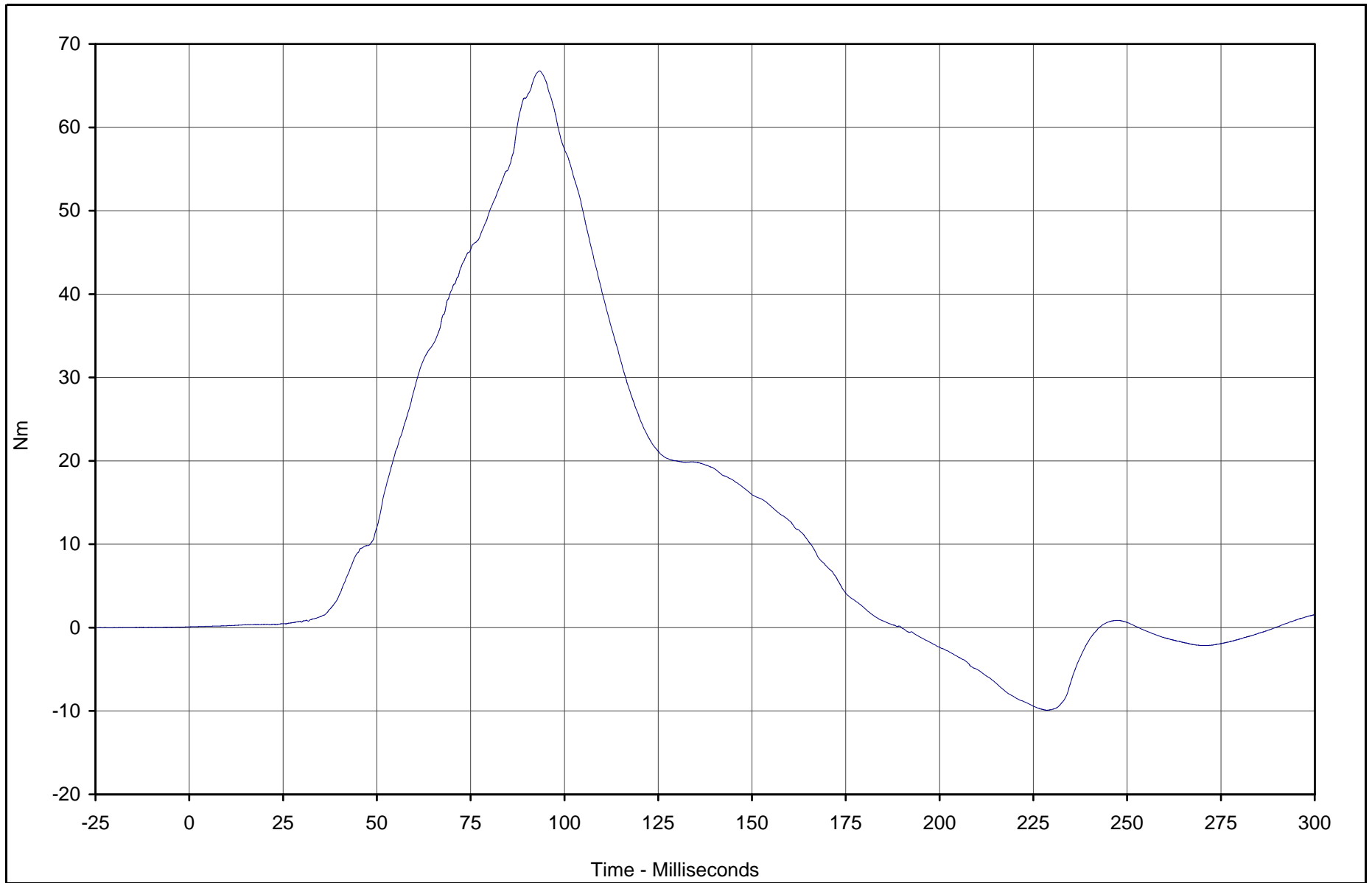
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-53



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Moment Z	174	FIL	Nm	66.8	93.4	-9.9	228.5	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

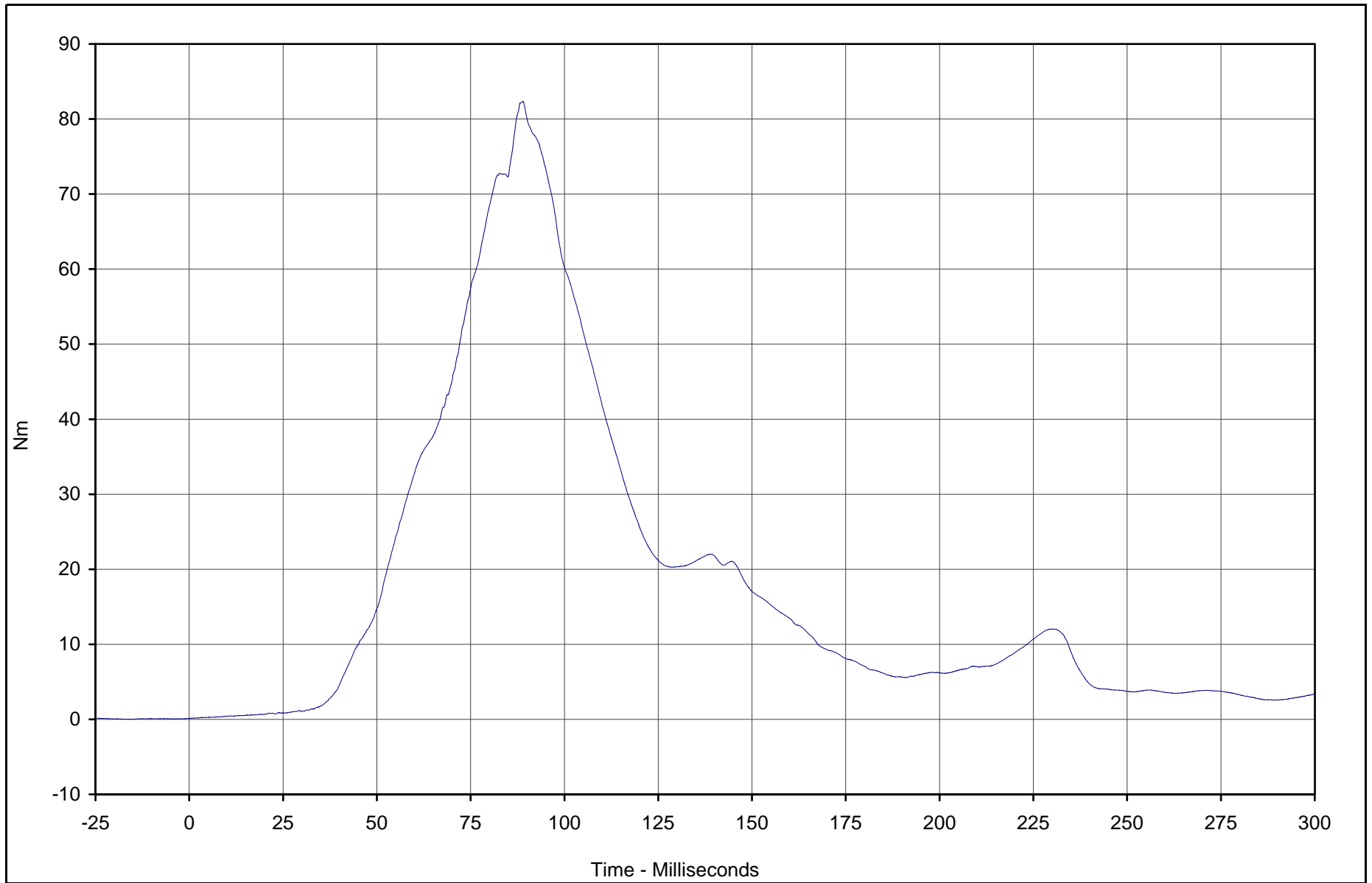
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-54



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Lower Neck Mom Res.	172	RES	Nm	82.4	88.9	0.1	0.0	600



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

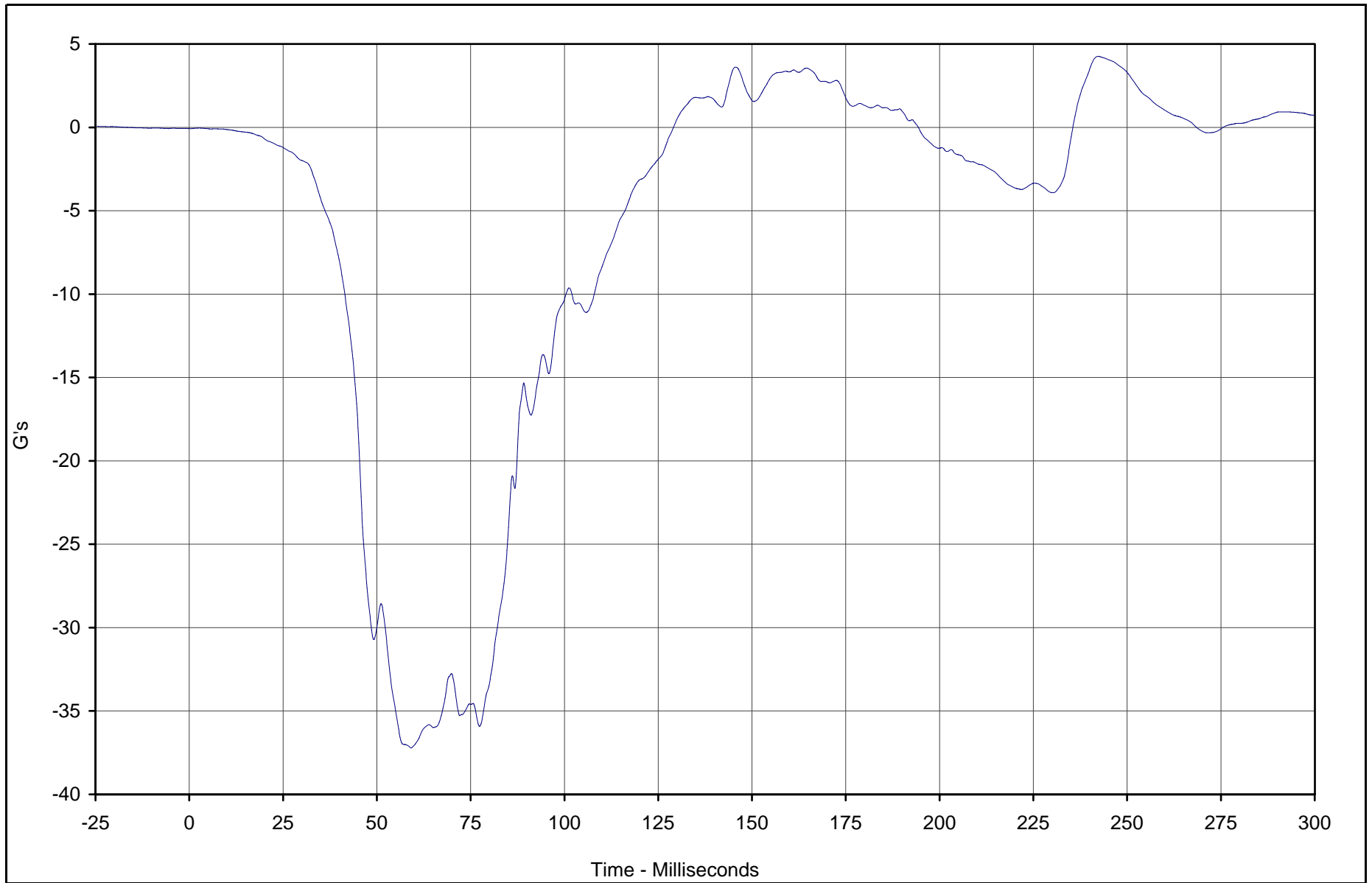
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC

F3-55



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Chest X	175	FIL	G's	4.3	242.2	-37.2	59.1	180



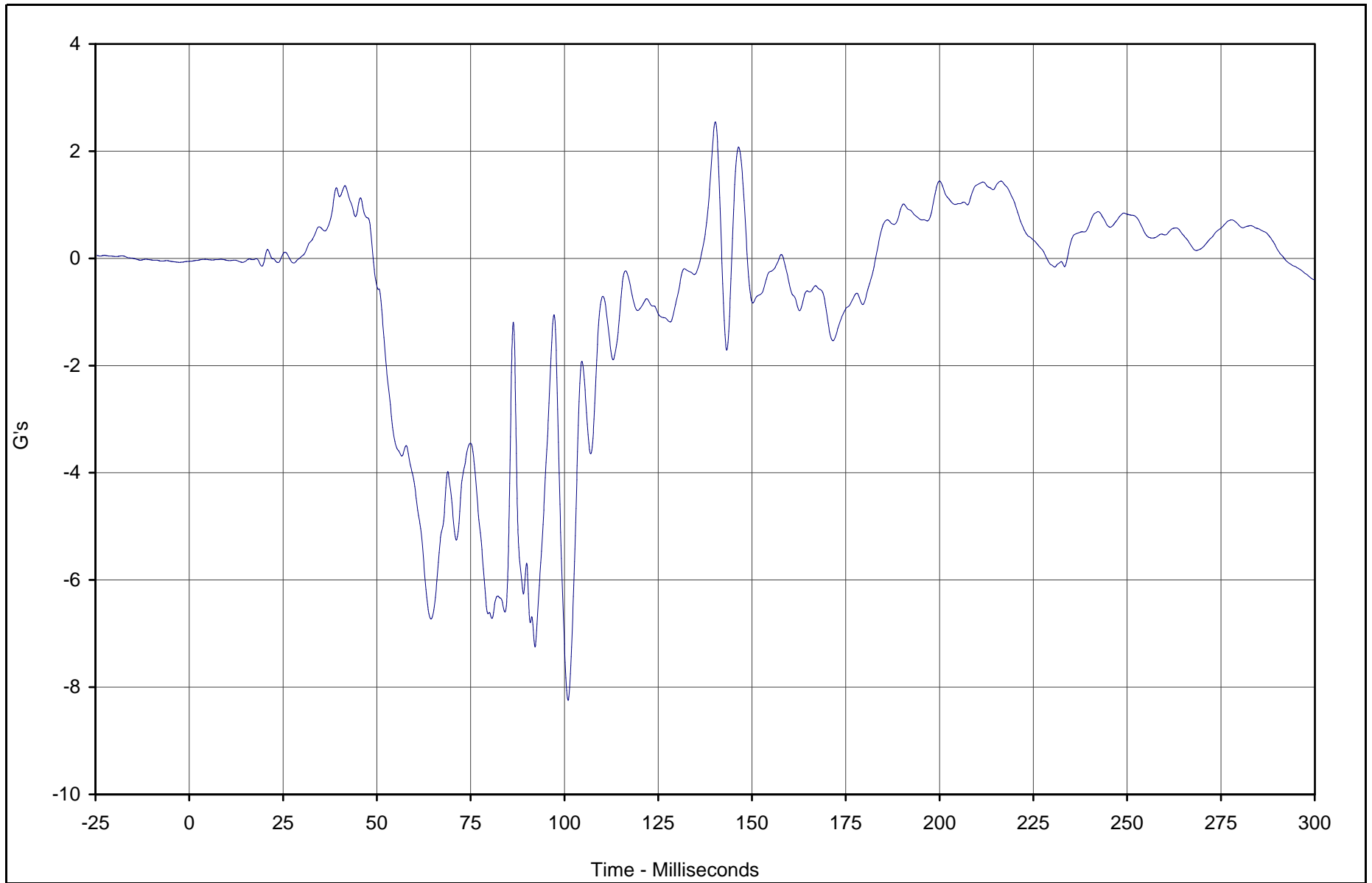
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Chest Y	176	FIL	G's	2.5	140.2	-8.2	101.0	180



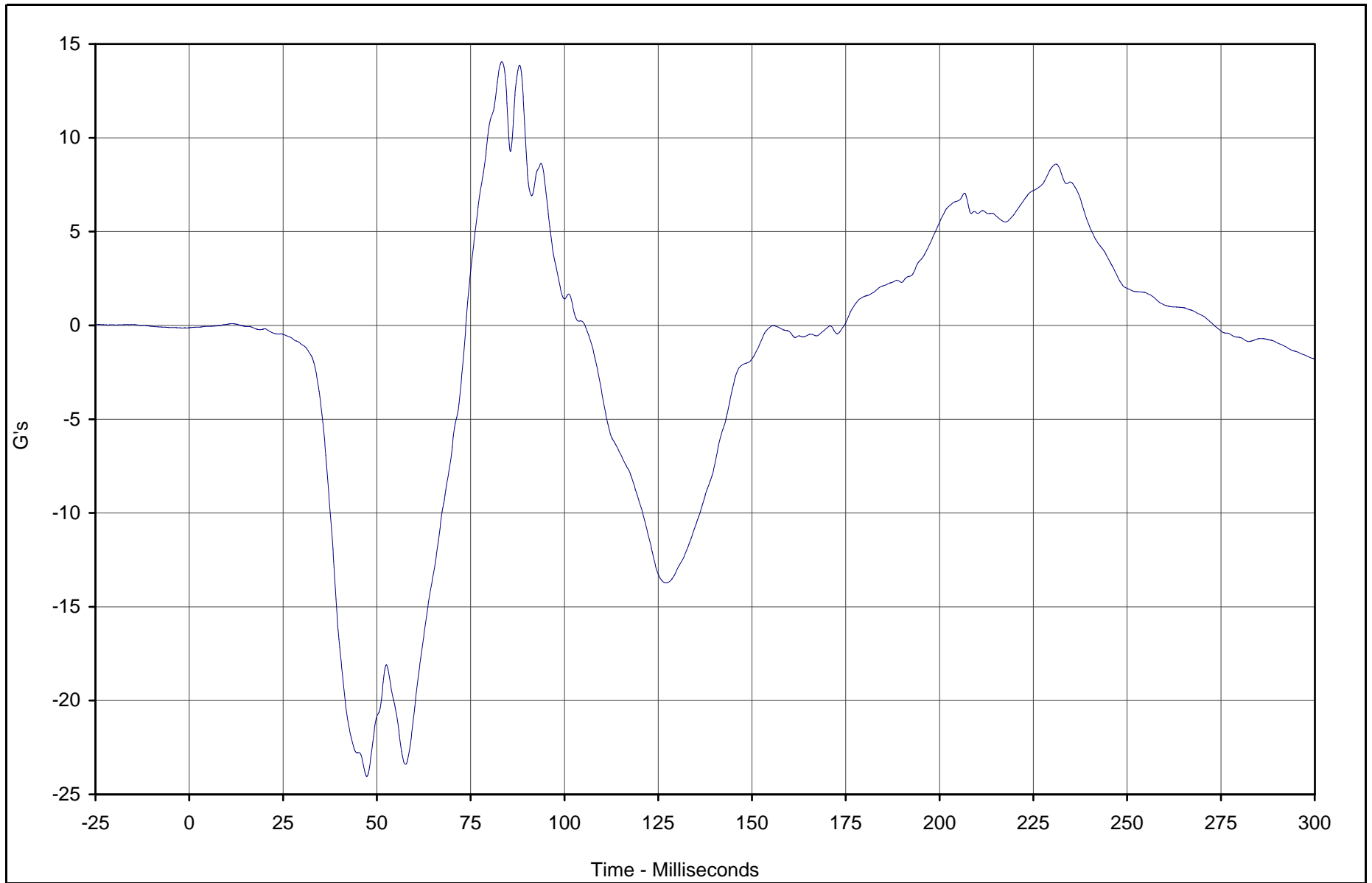
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-57



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Chest Z	177	FIL	G's	14.1	83.3	-24.0	47.3	180



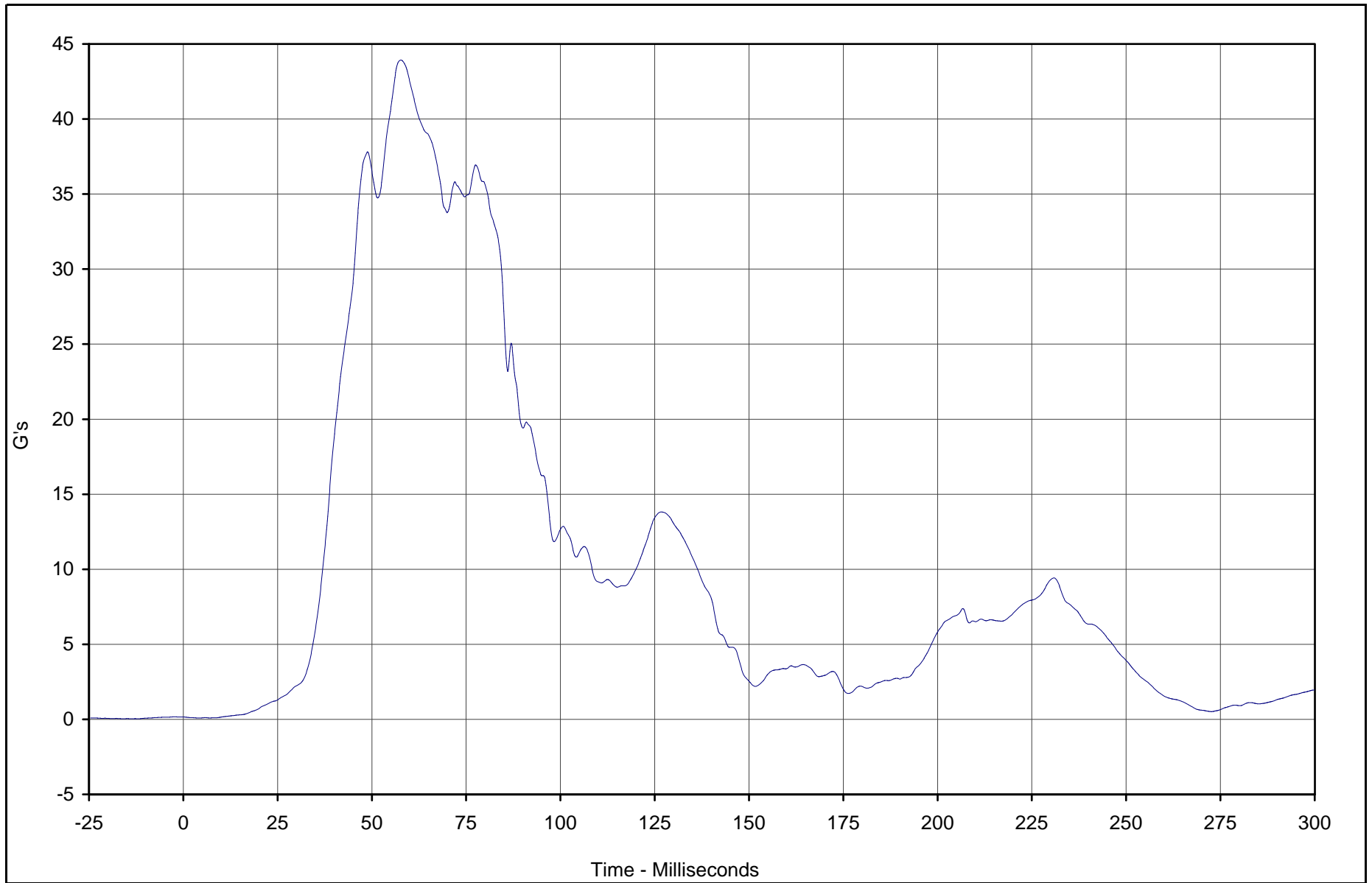
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Chest Resultant	177	RES	G's	43.9	57.7	0.1	4.1	180



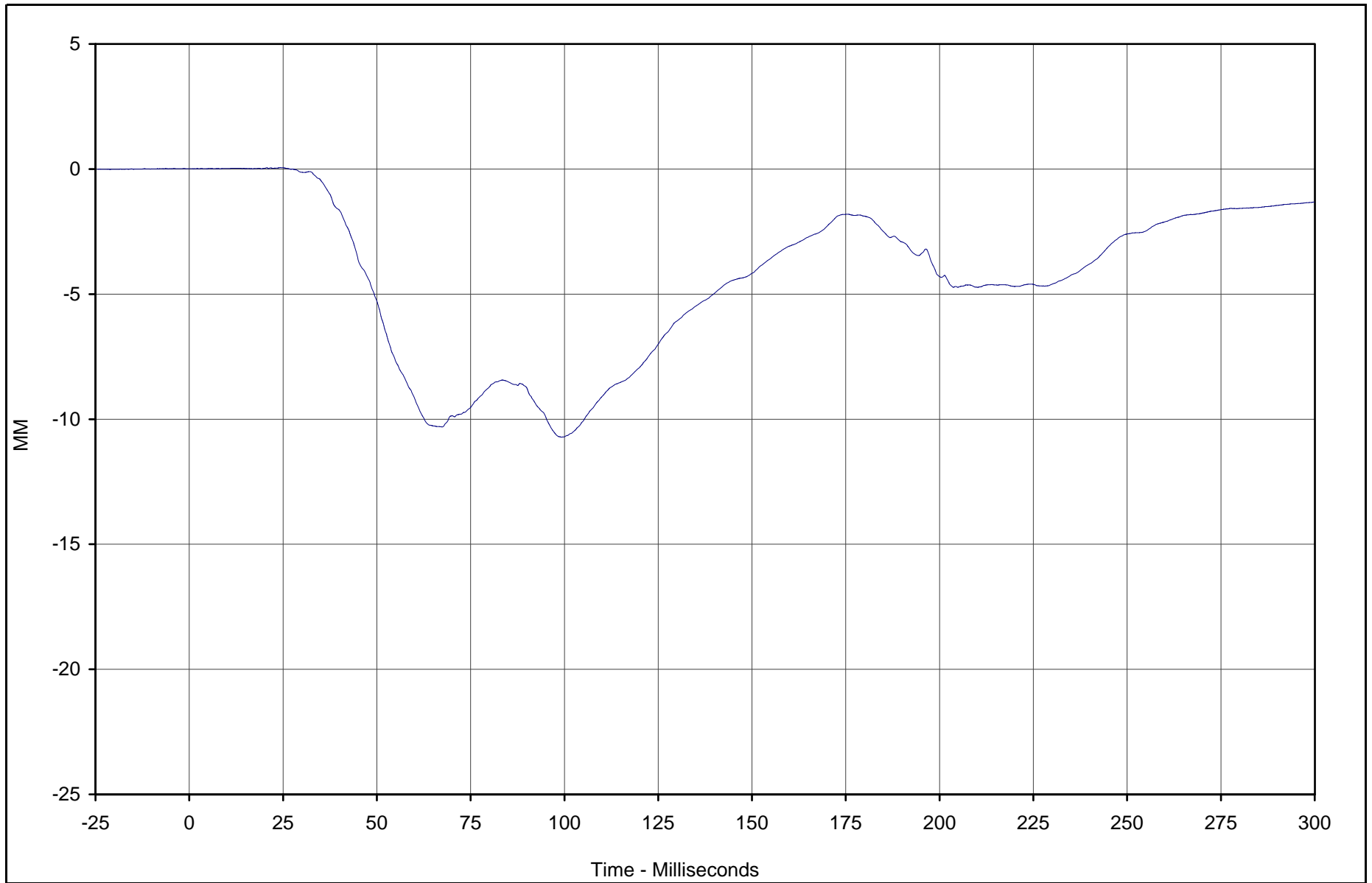
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-59



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Chest Deflection	178	FIL	MM	0.1	24.3	-10.7	99.3	600



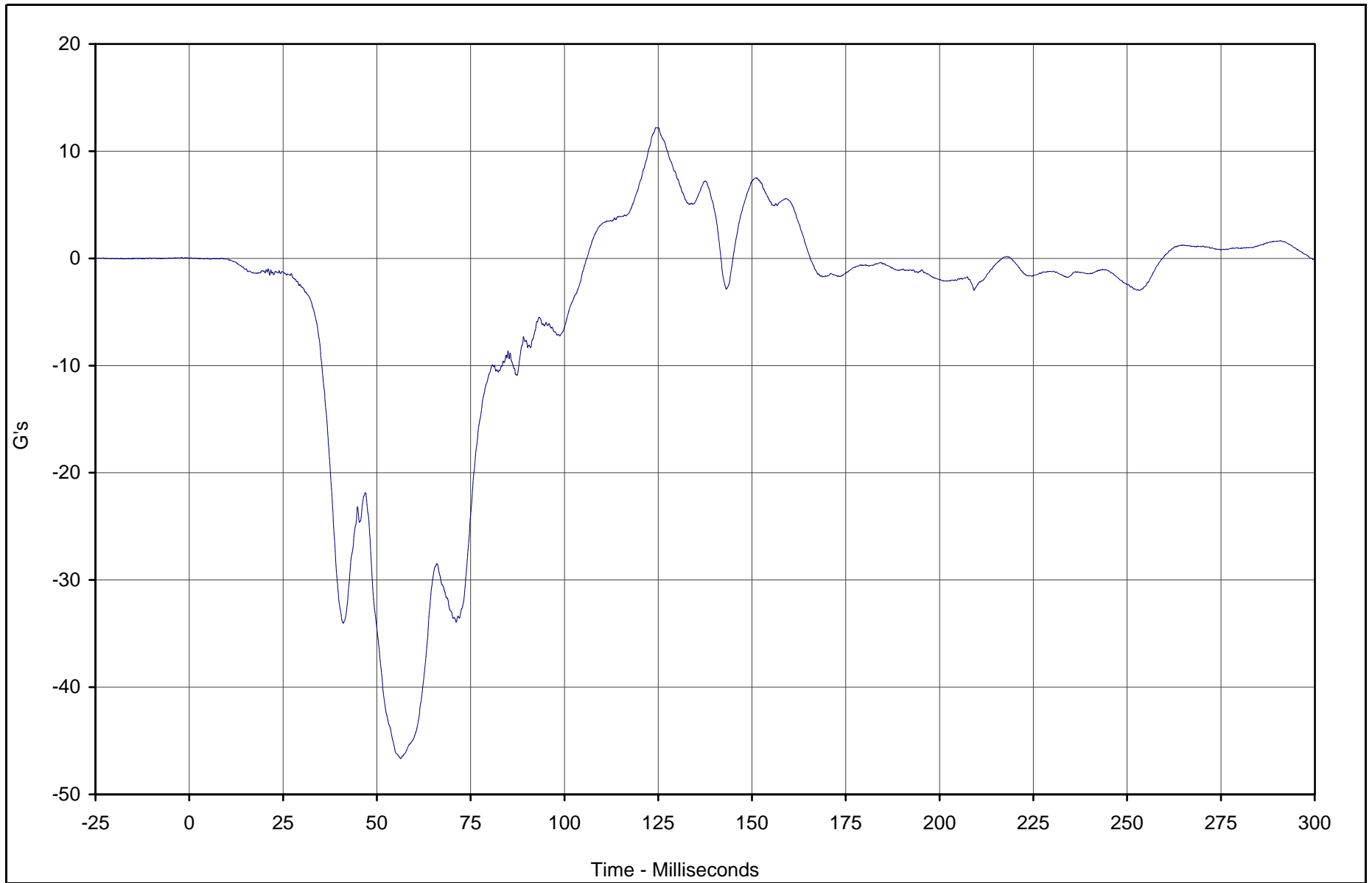
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Pelvis X	179	FIL	G's	12.2	125.0	-46.7	56.4	1000



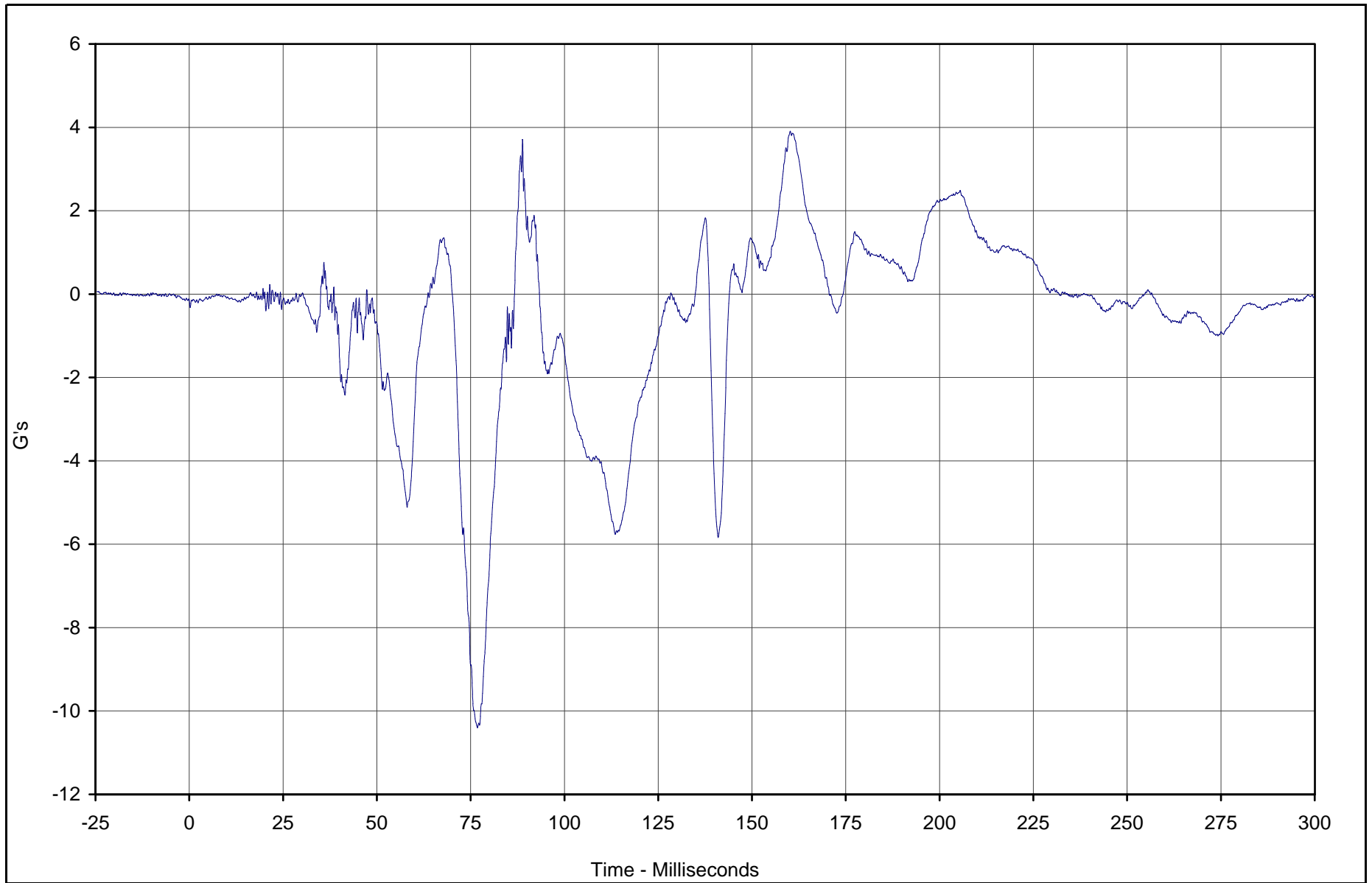
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-61



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Pelvis Y	180	FIL	G's	3.9	160.2	-10.4	76.8	1000



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

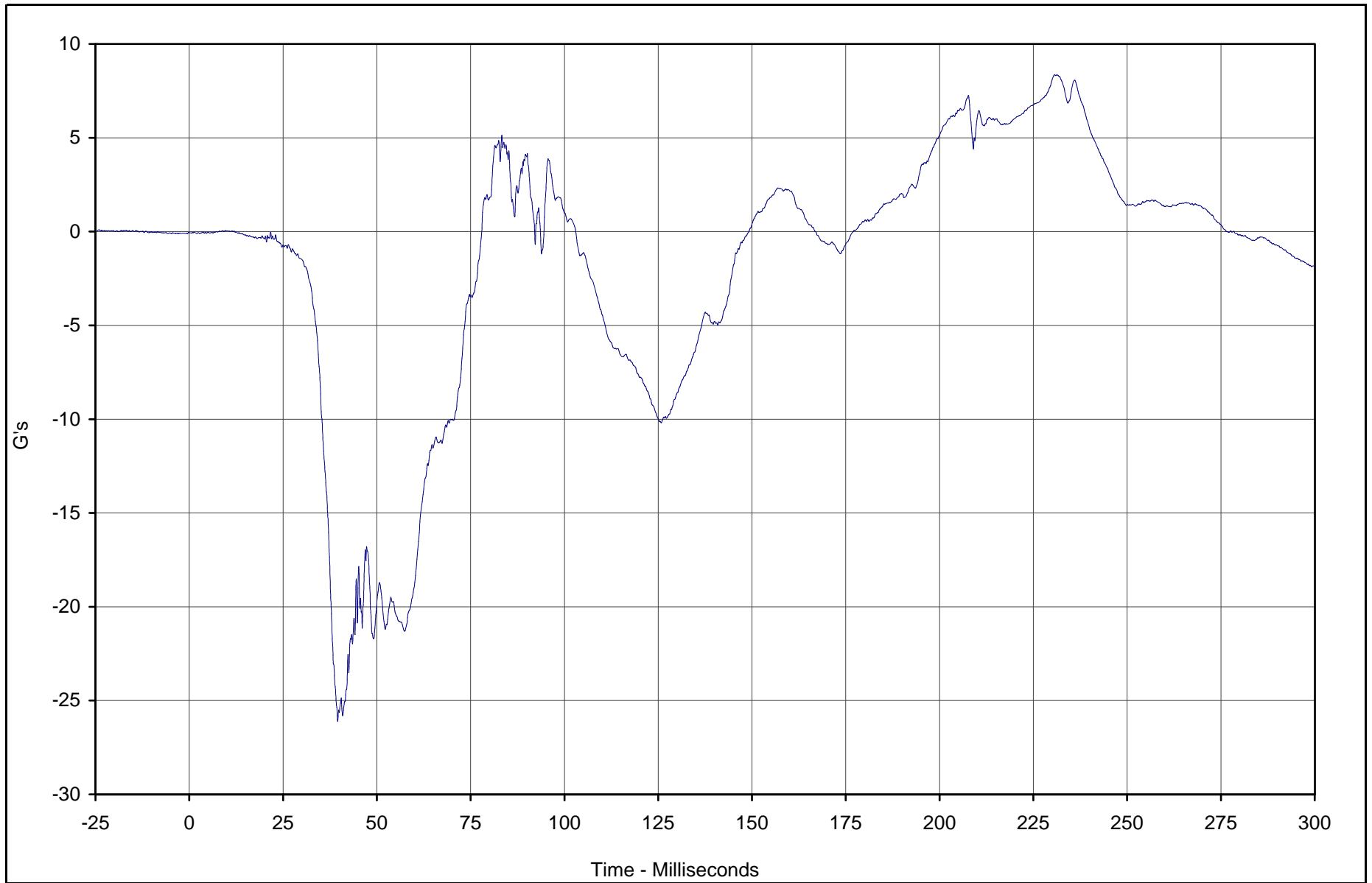
Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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F3-62



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Pelvis Z	181	FIL	G's	8.4	230.6	-26.1	39.6	1000



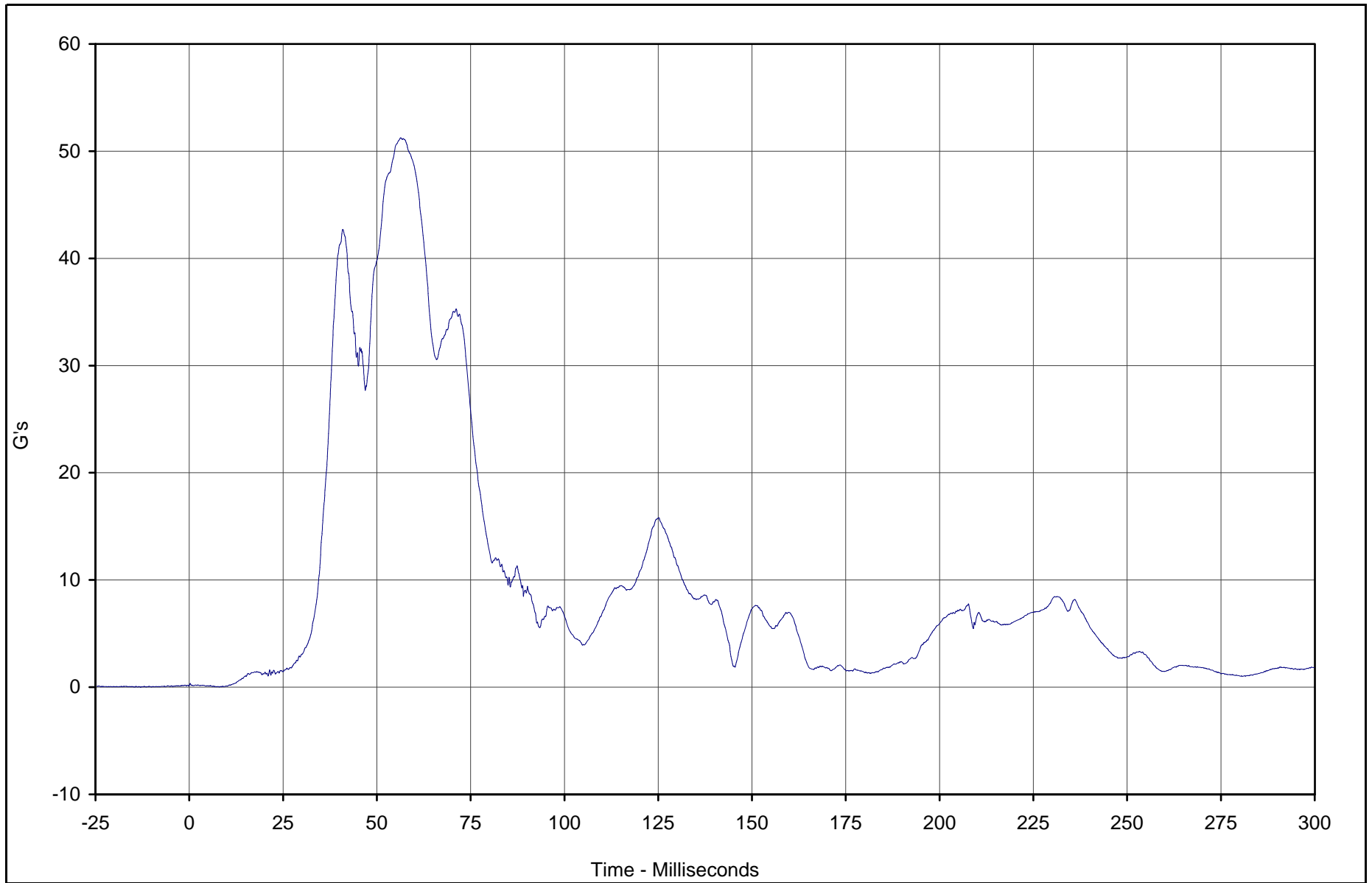
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Pelvis Resultant	179	RES	G's	51.2	56.4	0.0	8.0	1000

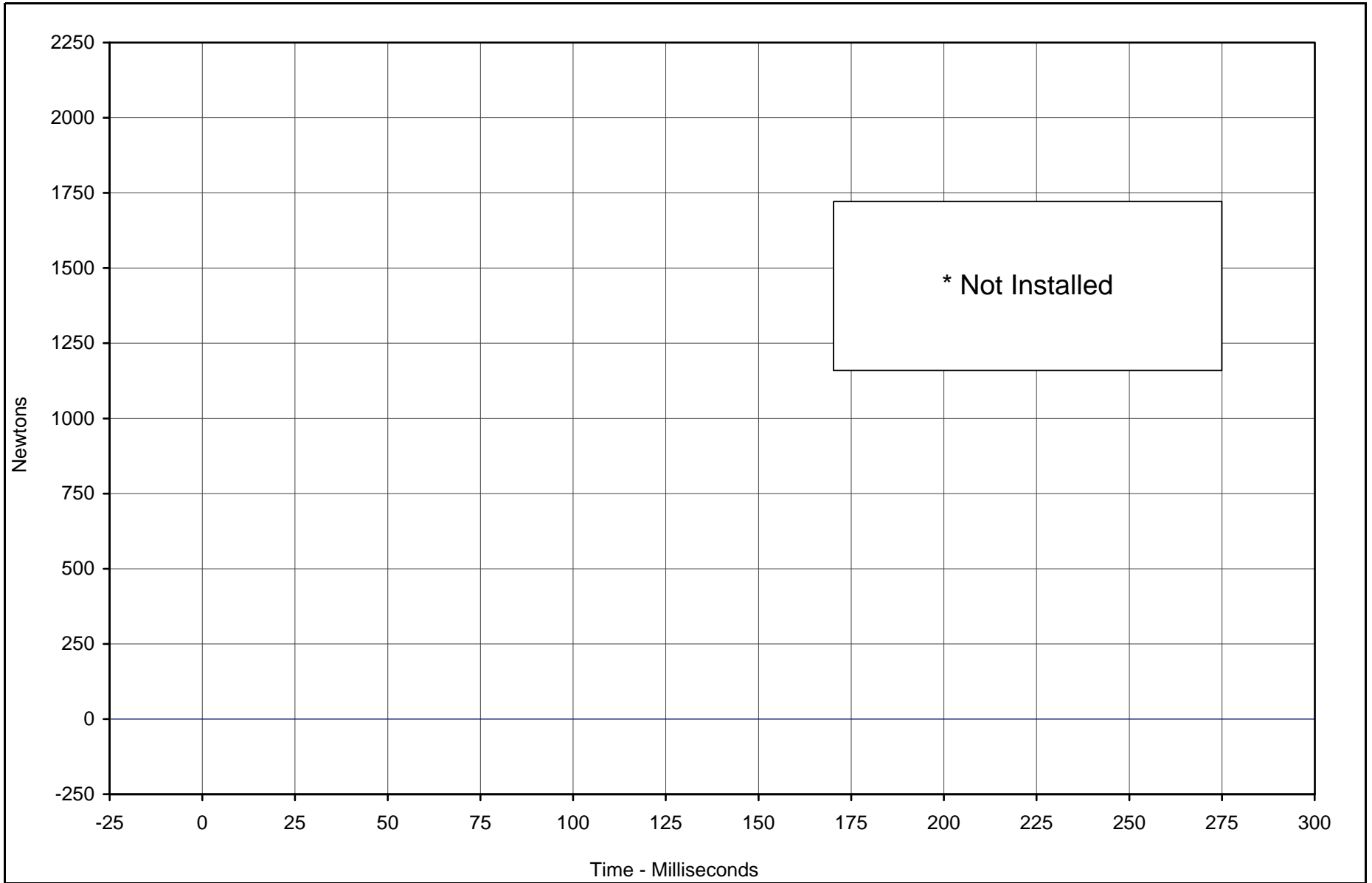


Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110



* Not Installed

Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Seat Tether Load	182	FIL	Newtons	0.0	0.0	0.0	0.0	60



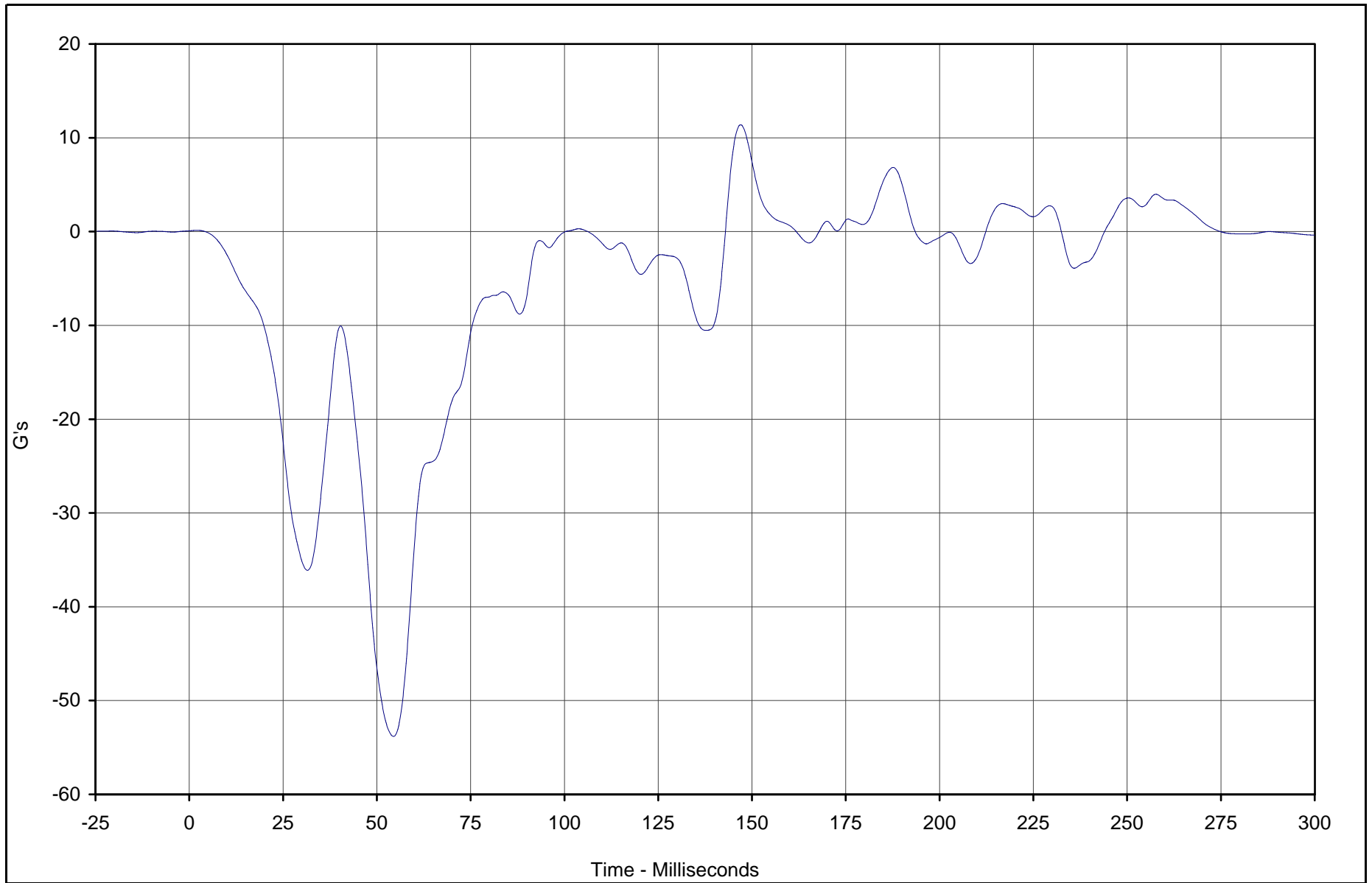
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

F3-65



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Car Seat X	183	FIL	G's	11.4	147.0	-53.8	54.4	60



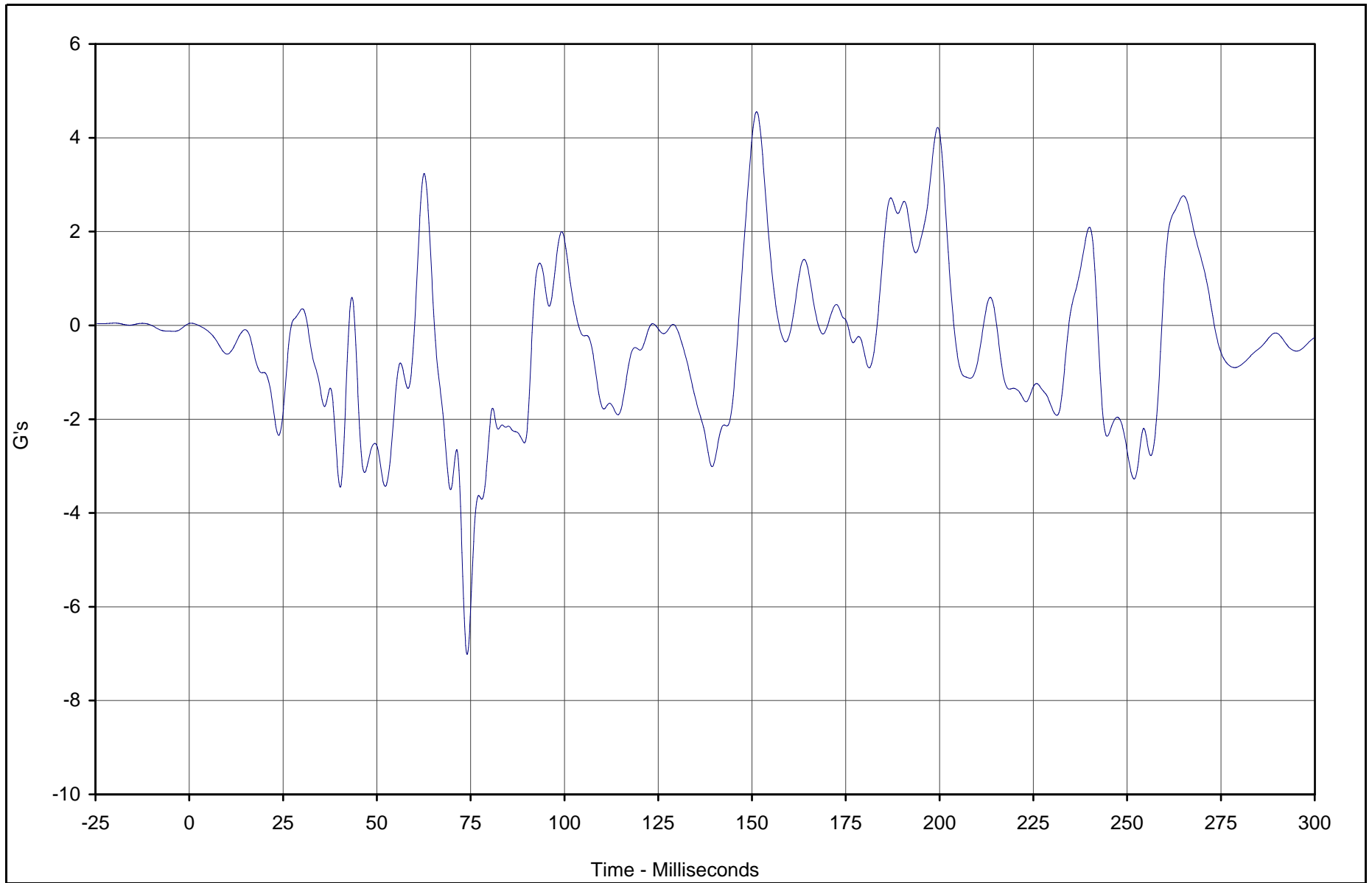
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Car Seat Y	184	FIL	G's	4.6	151.2	-7.0	74.1	60



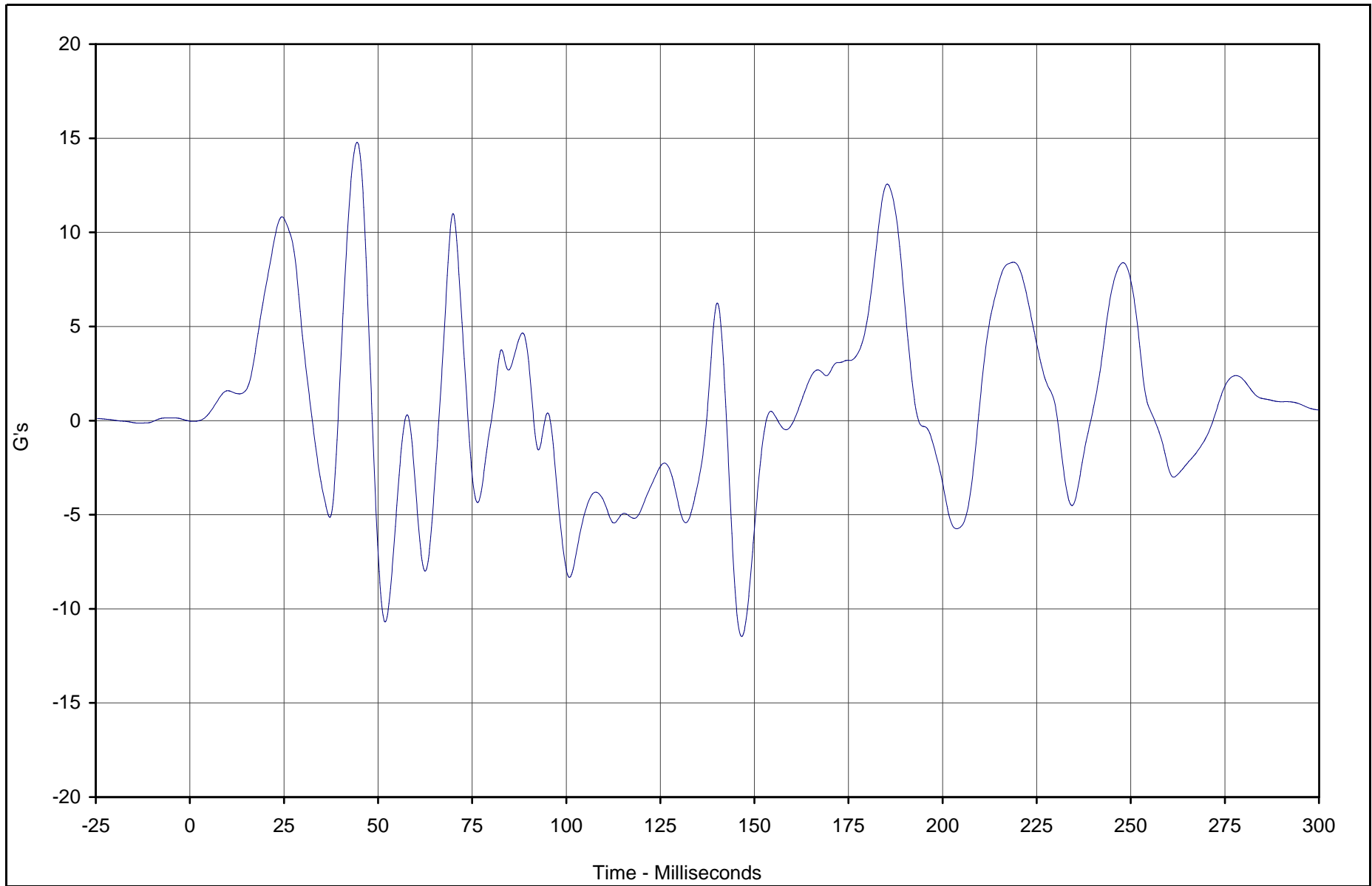
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

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Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Car Seat Z	185	FIL	G's	14.8	44.4	-11.5	146.6	60



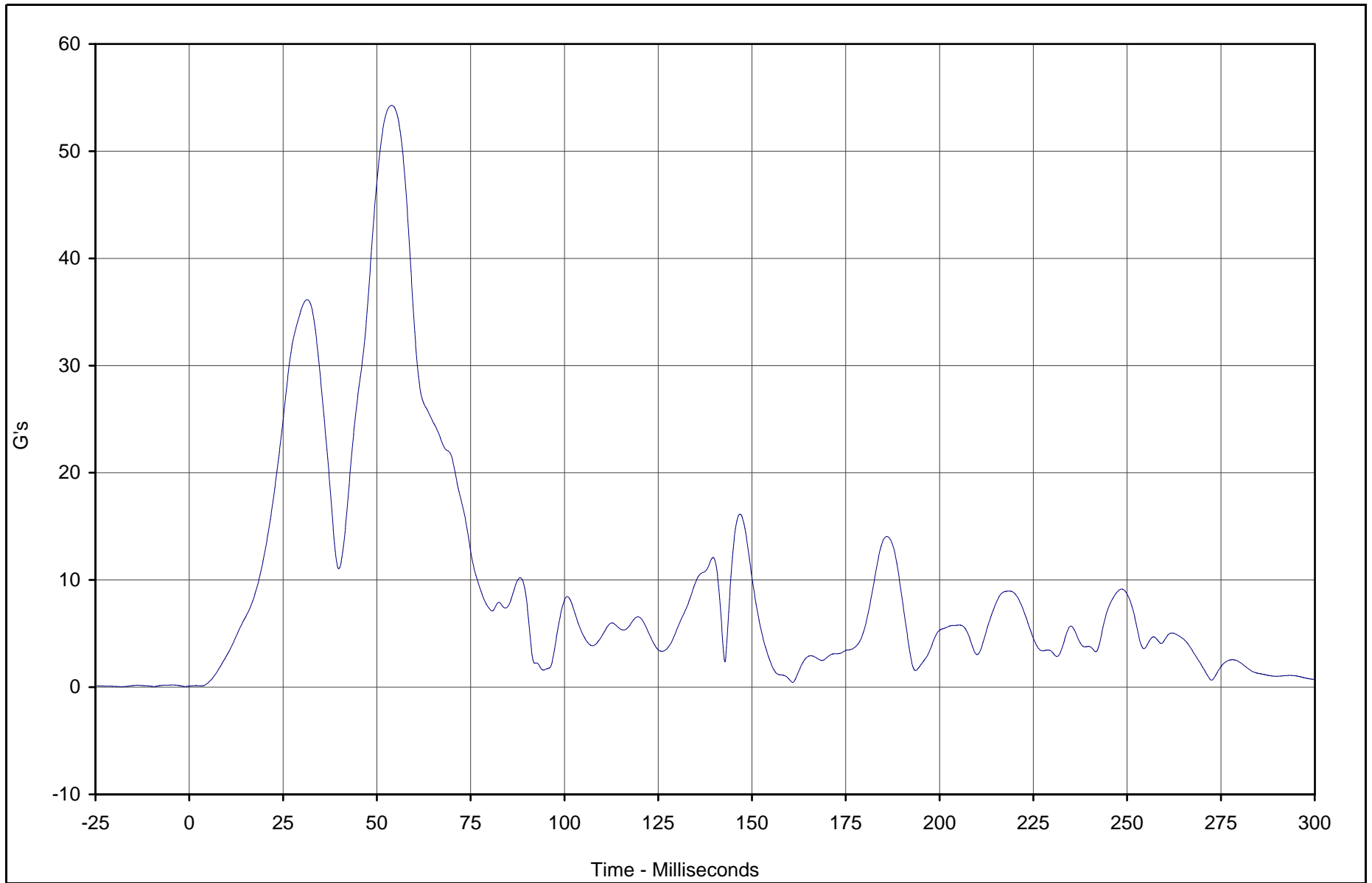
Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

TR-P23001-04-NC



Curve Description	CURNO	Type	Units	Max	Time	Min	Time	SAE Class
Right Rear Child Car Seat Resultant	183	RES	G's	54.3	54.0	0.1	0.0	60



Test Vehicle: 2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

Test Date: 1/3/03

Test Program: 2003 NHTSA 35mph NCAP

NHTSA No.: M35110

SECTION F-4

CHILD DUMMY INSTRUMENTATION INFORMATION

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Left Rear Child A.T.D. Serial Number 082
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
134	HEAD, PRIMARY	X	GPAC050	Accel.,1/2 bridge	Endevco	7264-2000	G
135	HEAD, PRIMARY	Y	GPAC051	Accel.,1/2 bridge	Endevco	7264-2000	G
136	HEAD, PRIMARY	Z	GPAC052	Accel.,1/2 bridge	Endevco	7264-2000	G
137	UPPER NECK FORCE	X	082UNFX	Load cell, six axis neck	R. A. Denton	IF-234	N
138	UPPER NECK FORCE	Y	082UNFY	Load cell, six axis neck	R. A. Denton	IF-234	N
139	UPPER NECK FORCE	Z	082UNFZ	Load cell, six axis neck	R. A. Denton	IF-234	N
140	UPPER NECK MOMENT	X	082UNMX	Load cell, six axis neck	R. A. Denton	IF-234	Nm
141	UPPER NECK MOMENT	Y	082UNMY	Load cell, six axis neck	R. A. Denton	IF-234	Nm
142	UPPER NECK MOMENT	Z	082UNMZ	Load cell, six axis neck	R. A. Denton	IF-234	Nm
143	LOWER NECK FORCE	X	082LNFX	Load cell, six axis neck	R. A. Denton	3303	N
144	LOWER NECK FORCE	Y	082LNFY	Load cell, six axis neck	R. A. Denton	3303	N
145	LOWER NECK FORCE	Z	082LNFZ	Load cell, six axis neck	R. A. Denton	3303	N
146	LOWER NECK MOMENT	X	082LNMX	Load cell, six axis neck	R. A. Denton	3303	Nm
147	LOWER NECK MOMENT	Y	082LNMY	Load cell, six axis neck	R. A. Denton	3303	Nm
148	LOWER NECK MOMENT	Z	082LNMZ	Load cell, six axis neck	R. A. Denton	3303	Nm
149	CHEST , PRIMARY	X	2116-A11	Accel., Full Bridge	Entran	2000JF	G
150	CHEST , PRIMARY	Y	2116-A14	Accel., Full Bridge	Entran	2000JF	G
151	CHEST , PRIMARY	Z	2116-A23	Accel., Full Bridge	Entran	2000JF	G
152	CHEST DISPLACEMENT	X	082CP	Rotary Pot Chest	Servo	14CBI	MM
153	PELVIS, PRIMARY	X	2116-A12	Accel., Full Bridge	Entran	2000JF	G
154	PELVIS, PRIMARY	Y	2116-A19	Accel., Full Bridge	Entran	2000JF	G
155	PELVIS, PRIMARY	Z	2116-A17	Accel., Full Bridge	Entran	2000JF	G
156	CAR SEAT TETHER	X	BL112	Load cell, Seat belt	FGP	FN4060	N
157	CAR SEAT	X	KETX1A	Accel.,1/2 bridge	Endevco	7264-200	G
158	CAR SEAT	Y	KETX1B	Accel.,1/2 bridge	Endevco	7264-200	G
159	CAR SEAT	Z	KETX1C	Accel.,1/2 bridge	Endevco	7264-200	G

E4-1

TR-P23001-04-NC

**2003 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Right Rear Child A.T.D. Serial Number 139
1/3/03**

2003 Toyota Tacoma PreRunner SR5 4 Door Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
160	HEAD, PRIMARY	X	GPAC047	Accel.,1/2 bridge	Endevco	7264-2000	G
161	HEAD, PRIMARY	Y	GPAC048	Accel.,1/2 bridge	Endevco	7264-2000	G
162	HEAD, PRIMARY	Z	GPAC049	Accel.,1/2 bridge	Endevco	7264-2000	G
163	UPPER NECK FORCE	X	139UNFX	Load cell, six axis neck	R. A. Denton	IF-234	N
164	UPPER NECK FORCE	Y	139UNFY	Load cell, six axis neck	R. A. Denton	IF-234	N
165	UPPER NECK FORCE	Z	139UNFZ	Load cell, six axis neck	R. A. Denton	IF-234	N
166	UPPER NECK MOMENT	X	139UNMX	Load cell, six axis neck	R. A. Denton	IF-234	Nm
167	UPPER NECK MOMENT	Y	139UNMY	Load cell, six axis neck	R. A. Denton	IF-234	Nm
168	UPPER NECK MOMENT	Z	139UNMZ	Load cell, six axis neck	R. A. Denton	IF-234	Nm
169	LOWER NECK FORCE	X	139LNFX	Load cell, six axis neck	R. A. Denton	3303	N
170	LOWER NECK FORCE	Y	139LNFY	Load cell, six axis neck	R. A. Denton	3303	N
171	LOWER NECK FORCE	Z	139LNFZ	Load cell, six axis neck	R. A. Denton	3303	N
172	LOWER NECK MOMENT	X	139LNMX	Load cell, six axis neck	R. A. Denton	3303	Nm
173	LOWER NECK MOMENT	Y	139LNMY	Load cell, six axis neck	R. A. Denton	3303	Nm
174	LOWER NECK MOMENT	Z	139LNMZ	Load cell, six axis neck	R. A. Denton	3303	Nm
175	CHEST , PRIMARY	X	2116-A01	Accel., Full Bridge	Entran	2000JF	G
176	CHEST , PRIMARY	Y	2116-A06	Accel., Full Bridge	Entran	2000JF	G
177	CHEST , PRIMARY	Z	2116-A07	Accel., Full Bridge	Entran	2000JF	G
178	CHEST DISPLACEMENT	X	139CP	Rotary Pot Chest	Servo	14CBI	MM
179	PELVIS, PRIMARY	X	2116-N07	Accel., Full Bridge	Entran	2000JF	G
180	PELVIS, PRIMARY	Y	2116-A03	Accel., Full Bridge	Entran	2000JF	G
181	PELVIS, PRIMARY	Z	2116-A17	Accel., Full Bridge	Entran	2000JF	G
182	CAR SEAT TETHER	X	BL113	Load cell, Seat belt	FGP	FN4060	N
183	CAR SEAT	X	KETX4A	Accel.,1/2 bridge	Endevco	7264-200	G
184	CAR SEAT	Y	KETX4B	Accel.,1/2 bridge	Endevco	7264-200	G
185	CAR SEAT	Z	KETX4C	Accel.,1/2 bridge	Endevco	7264-200	G

SECTION F-5

CHILD DUMMY CALIBRATION INFORMATION



Calibration Data Sheet Hybrid III 3 Year Old Head Drop Test

ATD Serial No.: 082

Test I.D.: 3HD01

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	250.0 to 280.0	274.8	Pass
Peak Lateral Acceleration	G's	≤15.0	5.9	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	3.0	Pass
Overall Test Results				Pass

F5-1

TR-P23001-04-NC

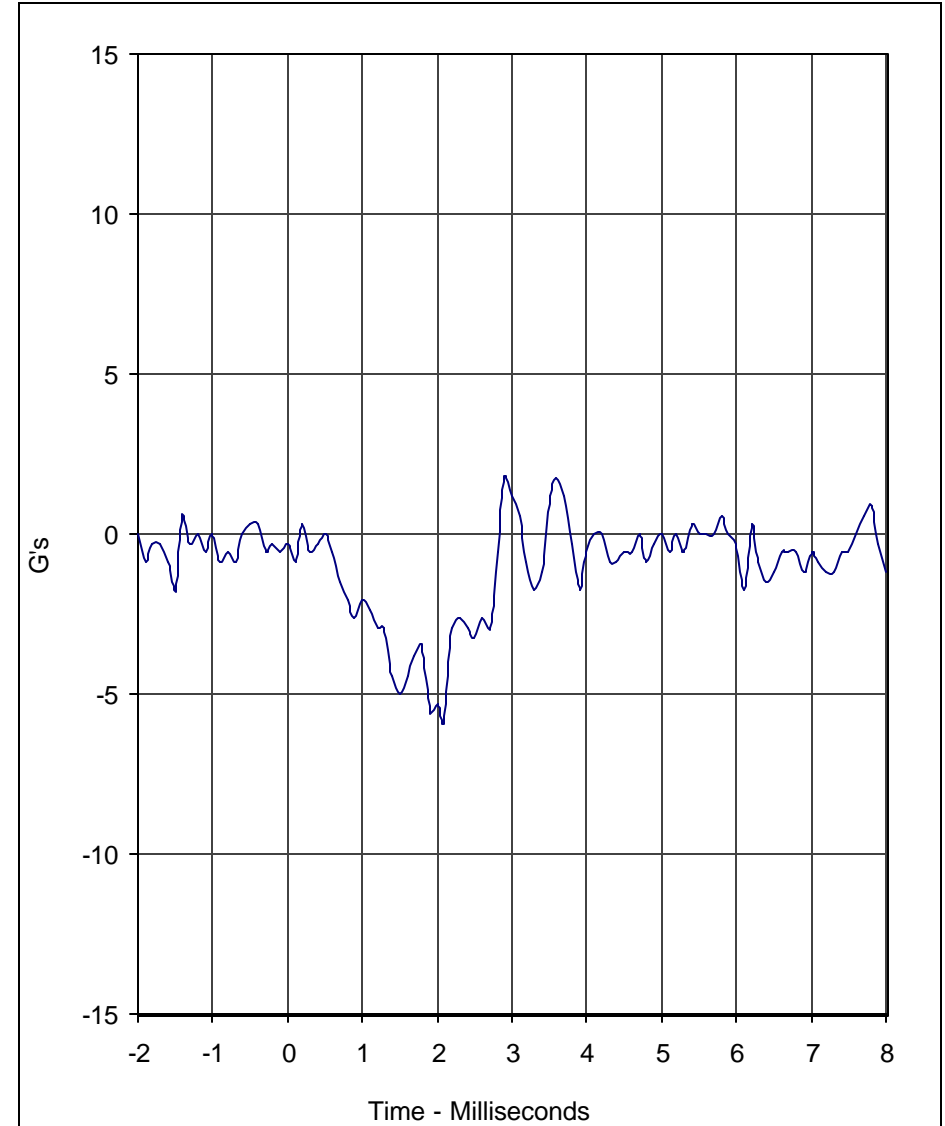
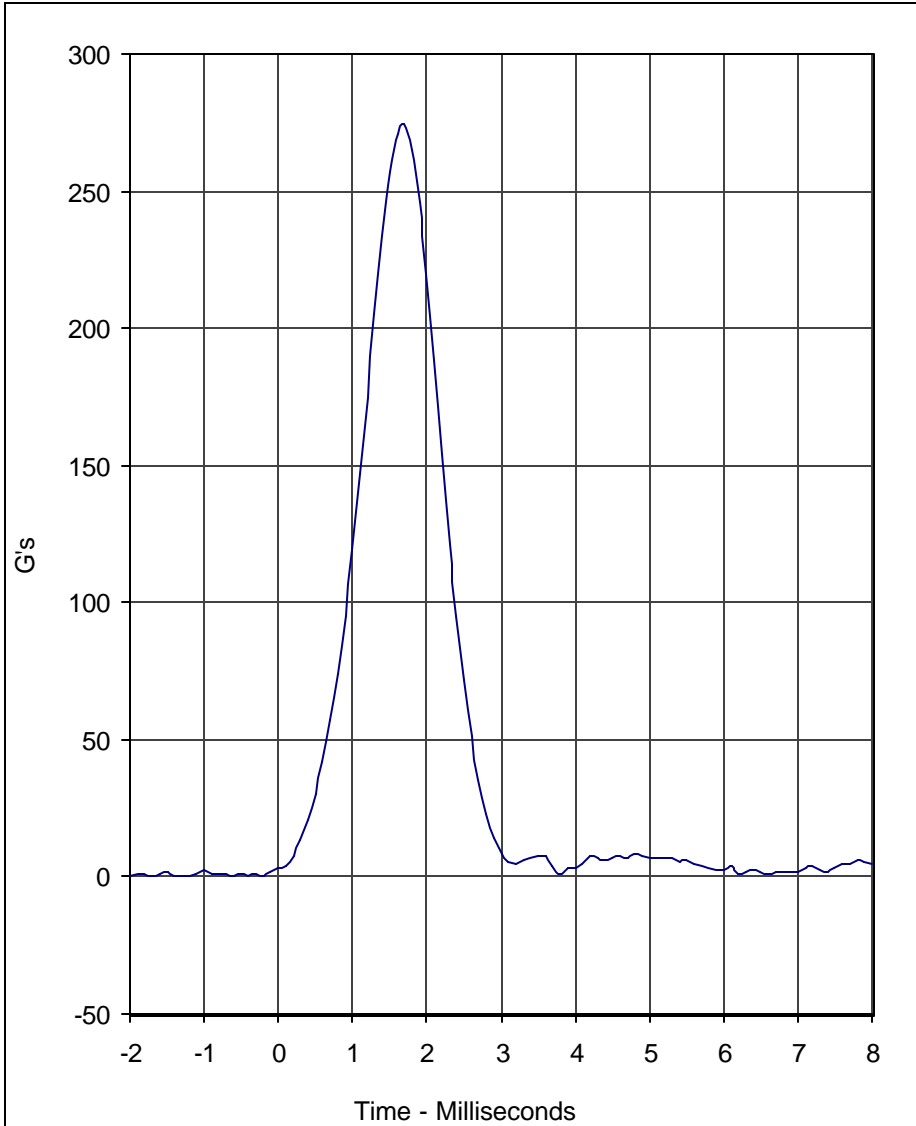
Laboratory Technician

December 24, 2002

Test Date

F5-2

TR-P23001-04-NC



Curve Description				CURNO	Type
Head Resultant				001	RES

Units	Max	Time	Min	Time	SAE Class
G's	274.8	1.7	0.2	-2.0	1000

Curve Description				CURNO	Type
Head Y				002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	1.8	2.9	-5.9	2.1	1000

Test Program: Hybrid III 3 Year Old Head Drop Test
 Test Date: 12/24/02

A.T.D. Serial No.: 082
 Test I.D.: 3HD01





Calibration Data Sheet

Hybrid III 3 Year Old

Thorax Impact Test

ATD Serial No.: 082

Test I.D.: CH12C

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	5.9 to 6.1	6.08	Pass
Peak Chest Compression	MM	32 to 38	37.8	Pass
Peak Probe Force Between 32 and 38 MM	Newtons	680 to 810	807.4	Pass
Peak Probe Force Between 12.5 and 32 MM	Newtons	≤860	776.0	Pass
Internal Hysteresis	%	65 to 85	70.2	Pass
Overall Test Results				Pass

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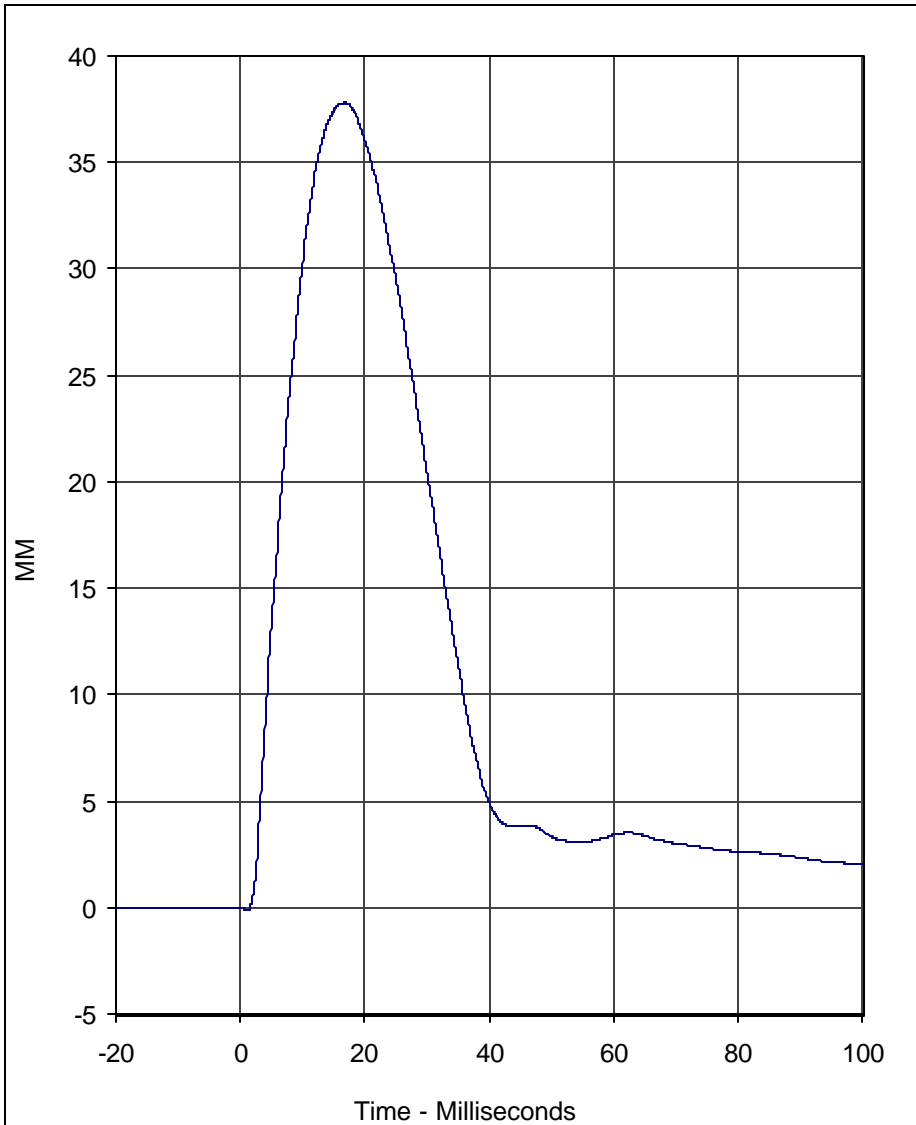
Laboratory Technician

December 25, 2002

Test Date

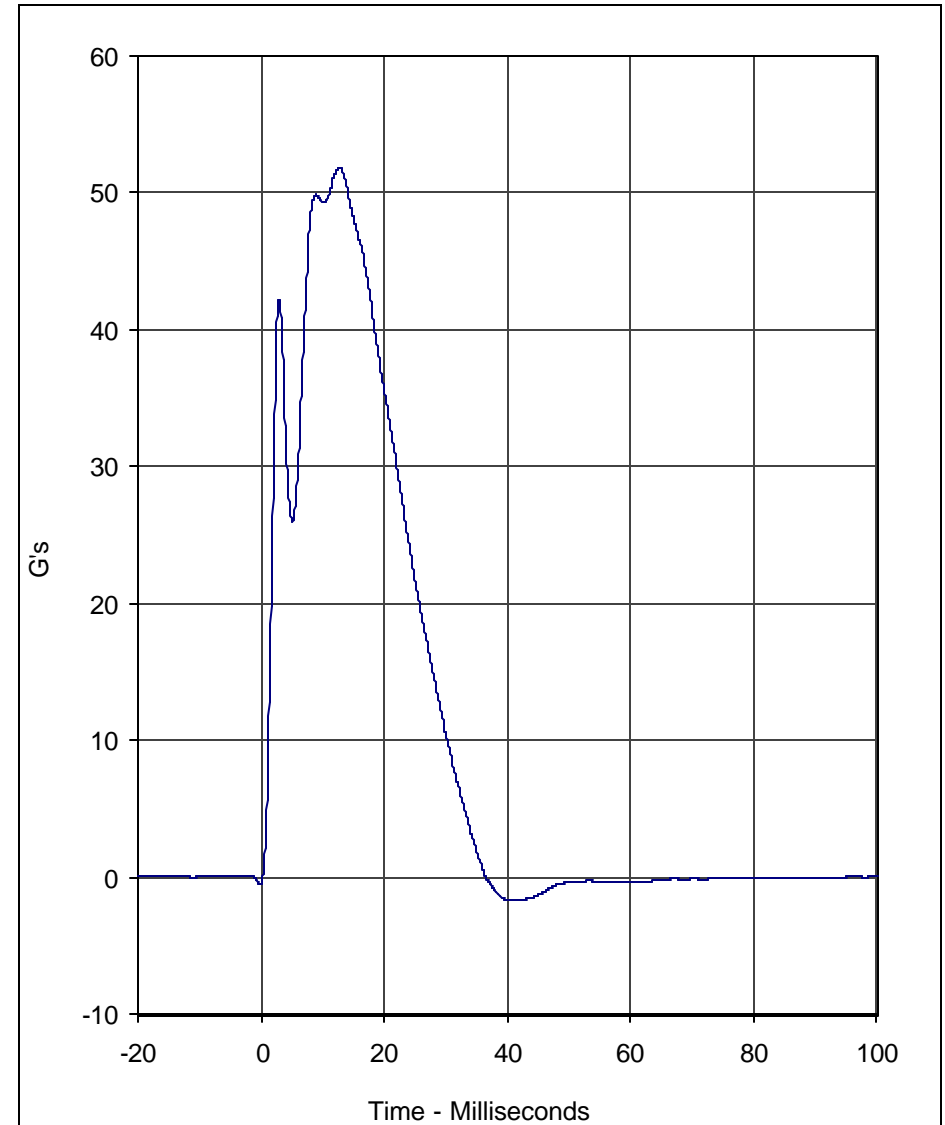
F5-4

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Curve Description	CURNO	Type
Chest Compression	001	FIL

Units	Max	Time	Min	Time	SAE Class
MM	37.8	16.8	-0.1	1.1	180



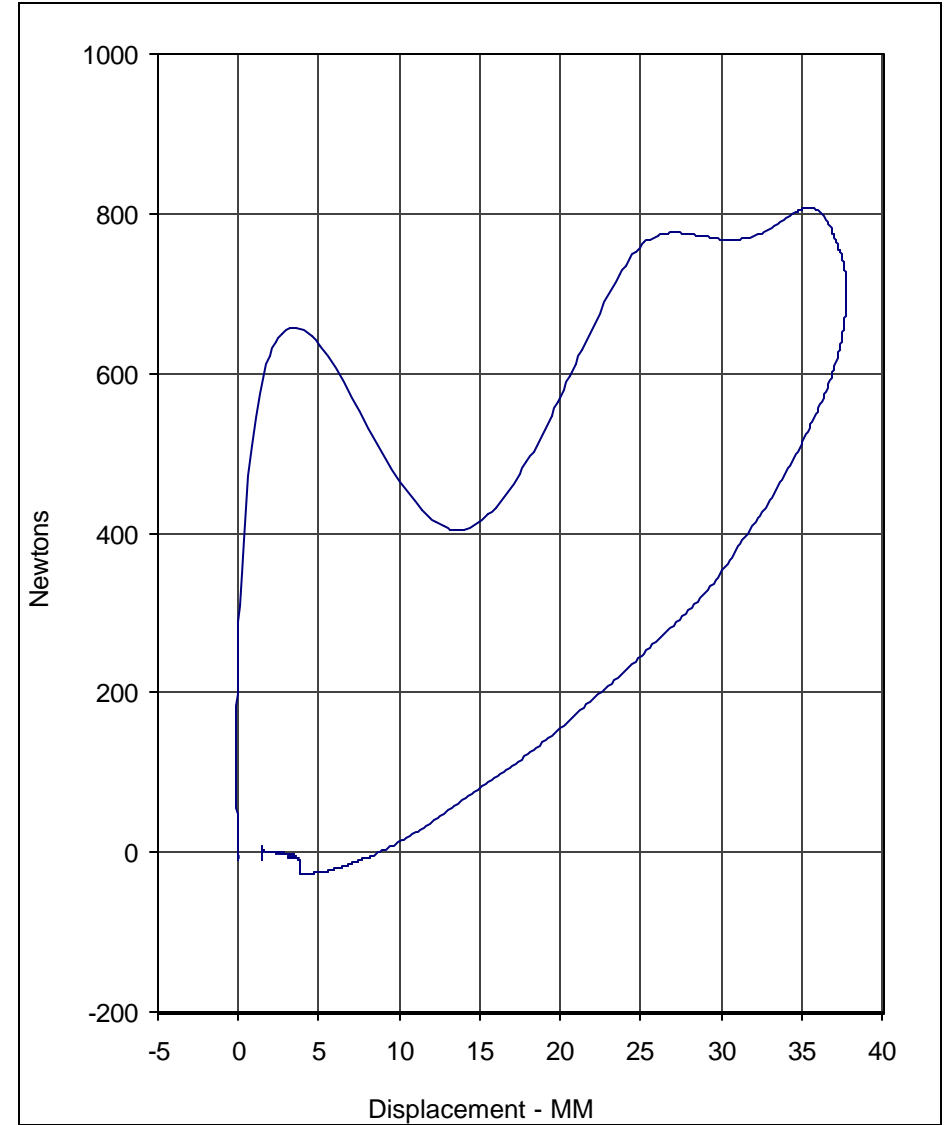
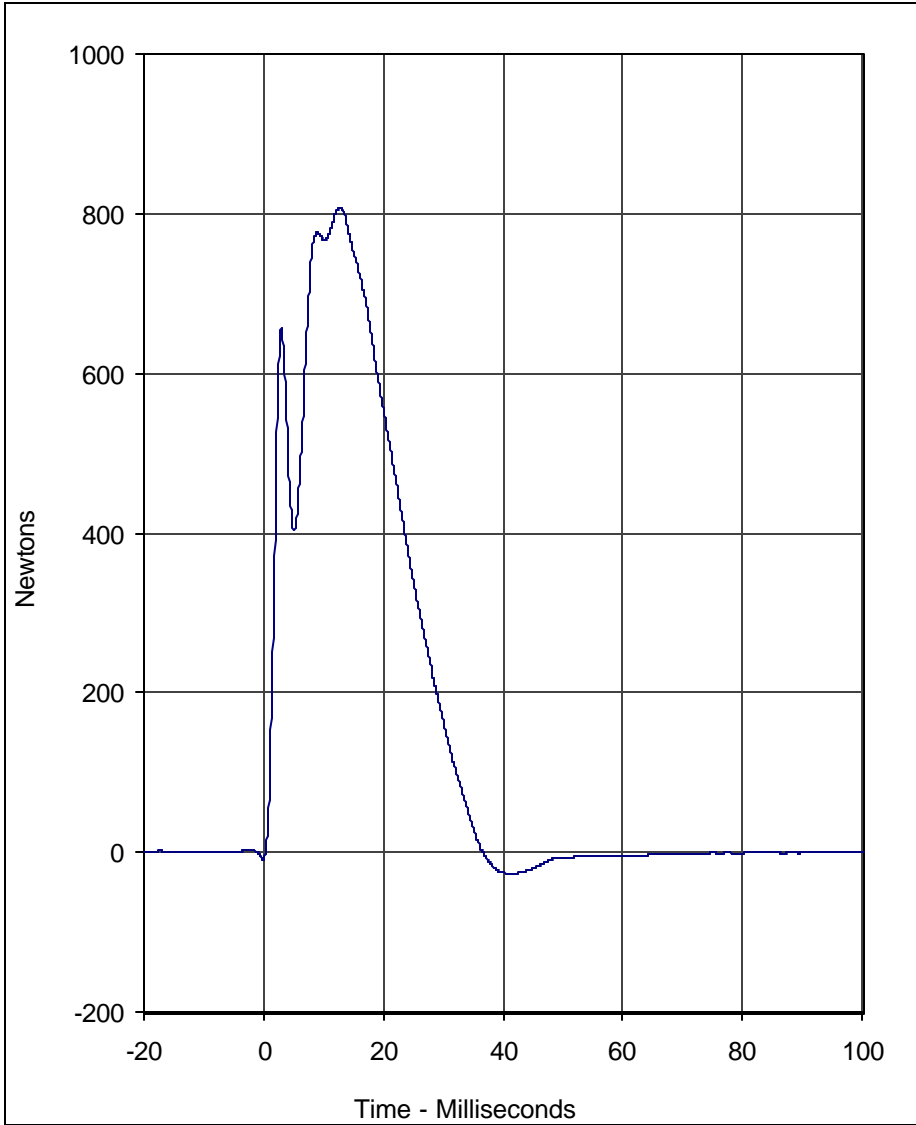
Curve Description	CURNO	Type
Probe Acceleration	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	51.9	12.8	-1.7	42.1	180

Test Program: Hybrid III 3 Year Old Thorax Impact
 Test Date: 12/25/02

A.T.D. Serial No.: 082
 Test I.D.: CH12C





Curve Description	CURNO	Type
Probe Force	003	FIL

Curve Description	CURNO	Type
Probe Force vs. Chest Displacement	004	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	807.4	12.8	-26.4	42.1	180

Units	Hysteresis	SAE Class
%	70.2	180

Test Program: Hybrid III 3 Year Old Thorax Impact
 Test Date: 12/25/02

A.T.D. Serial No.: 082
 Test I.D.: CH12C





Calibration Data Sheet

Hybrid III 3 Year Old Neck Flexion Test

ATD Serial No.: 082

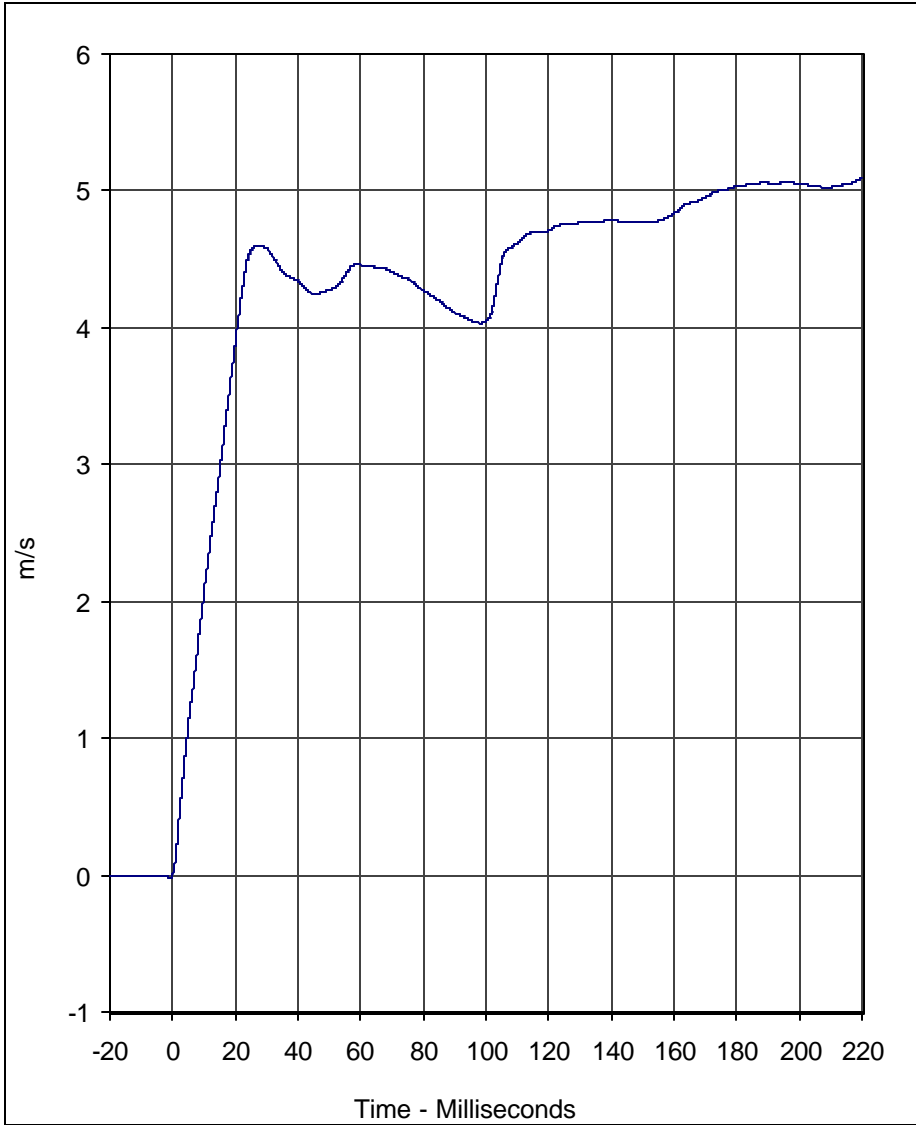
Test I.D.: 3Y01A

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	5.40 to 5.60	5.43	Pass
Pendulum Deceleration	10 Msec.	m/s	2.0 to 2.7	2.1	Pass
	20 Msec.	m/s	3.0 to 4.0	3.9	Pass
	30 Msec.	m/s	4.0 to 5.1	4.6	Pass
"D" Plane Rotation	Maximum	Degrees	70.0 to 82.0	72.1	Pass
Peak Moment in Rotation	Maximum	Nm	42.0 to 53.0	42.5	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	72.3	Pass
Overall Test Results					Pass

Laboratory Technician

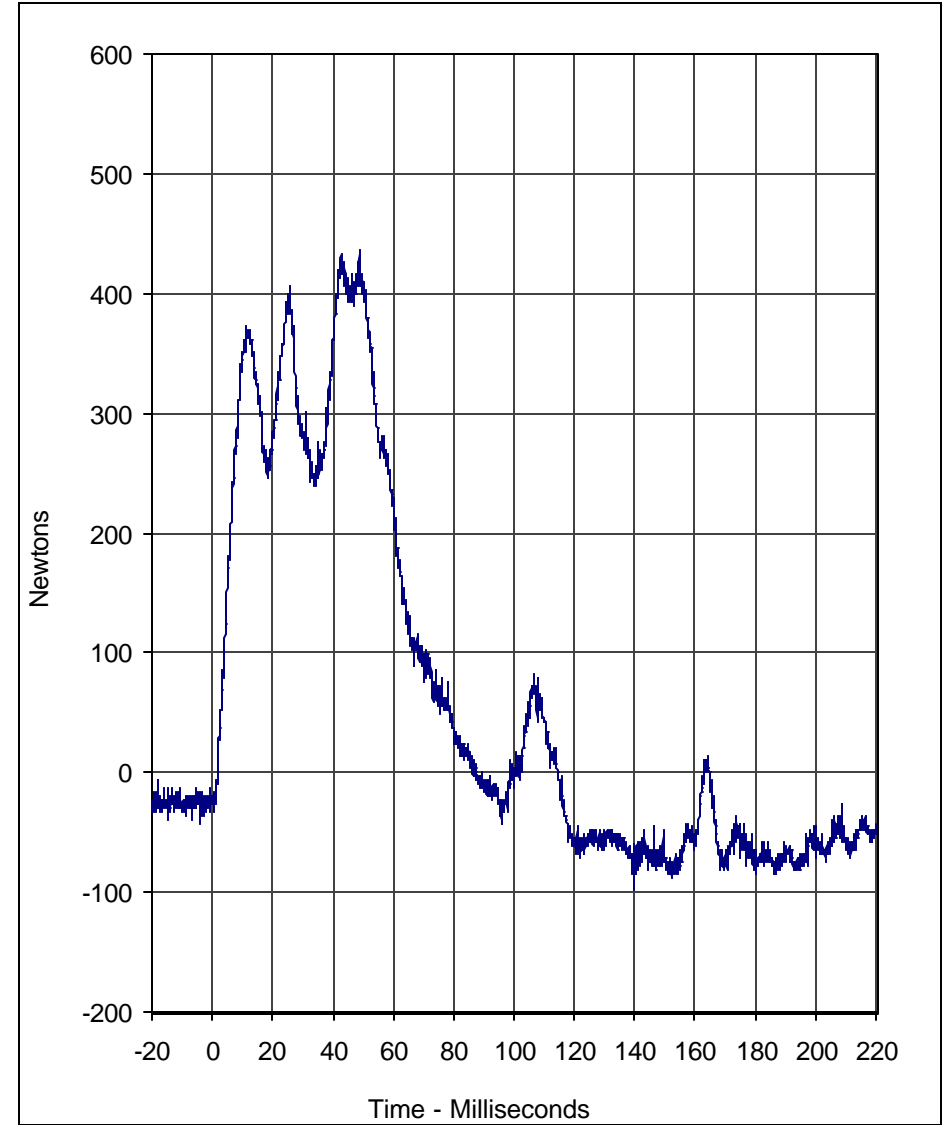
December 24, 2002

Test Date



Curve Description	CURNO	Type
Pendulum Velocity	001	FIL

Units	Max	Time	Min	Time	SAE Class
m/s	5.1	220.0	0.0	-0.8	180



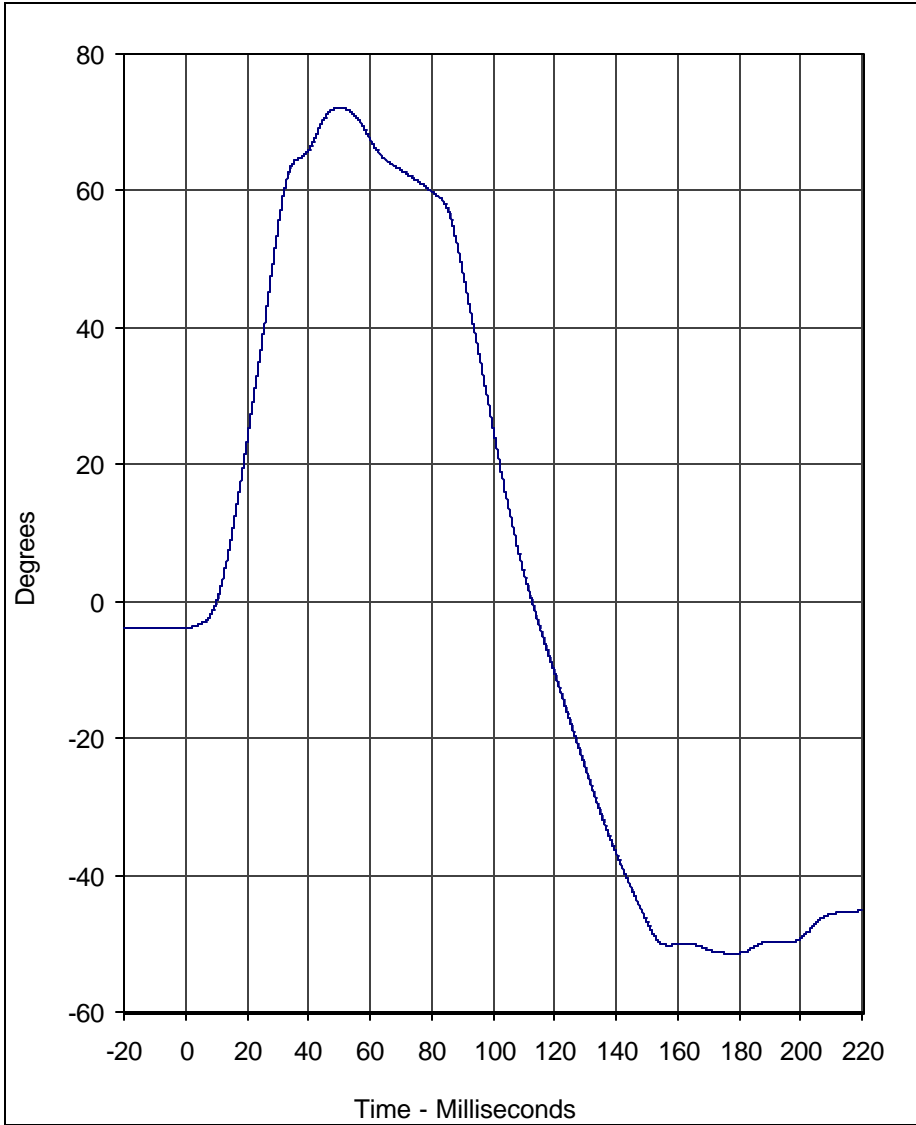
Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	435.6	48.7	-97.8	139.8	1000

Test Program: 3 Year Old Hybrid III Neck Flexion Test
 Test Date: 12/24/02

A.T.D. Serial No.: 082
 Test I.D.: 3Y01A

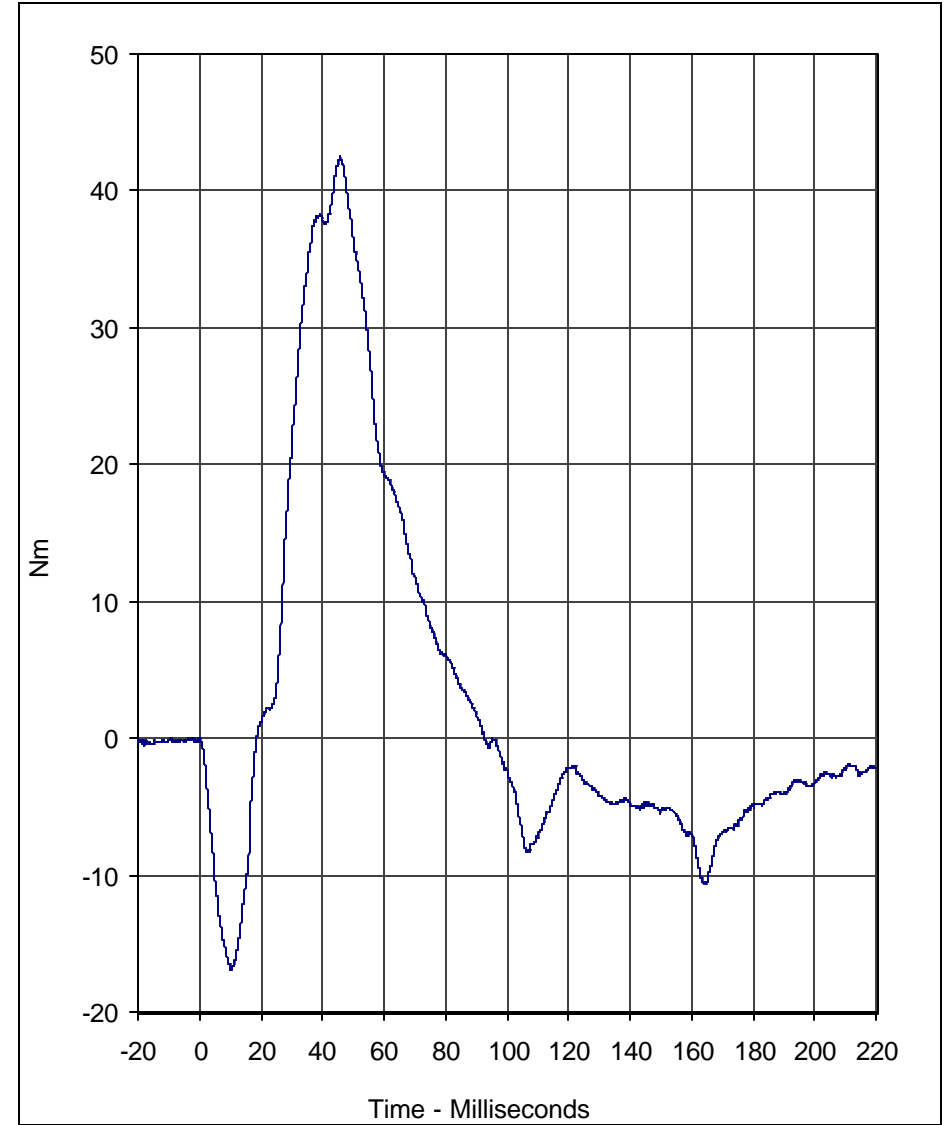




Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	72.1	50.2	-51.5	177.9	60

Test Program: 3 Year Old Hybrid III Neck Flexion Test
 Test Date: 12/24/02



Curve Description	CURNO	Type
Neck Moment Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	42.5	45.7	-16.9	10.2	600

A.T.D. Serial No.: 082
 Test I.D.: 3Y01A





Calibration Data Sheet

Hybrid III 3 Year Old

Neck Extension Test

ATD Serial No.: 082

Test I.D.: 3Y01C

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	3.55 to 3.75	3.72	Pass
Pendulum Deceleration	10 Msec.	m/s	1.0 to 1.4	1.1	Pass
	20 Msec.	m/s	1.9 to 2.5	2.4	Pass
	30 Msec.	m/s	2.8 to 3.5	2.9	Pass
"D" Plane Rotation	Maximum	Degrees	83.0 to 93.0	88.7	Pass
Peak Moment in Rotation	Maximum	Nm	-43.7 to -53.3	-45.8	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	73.8	Pass
Overall Test Results					Pass

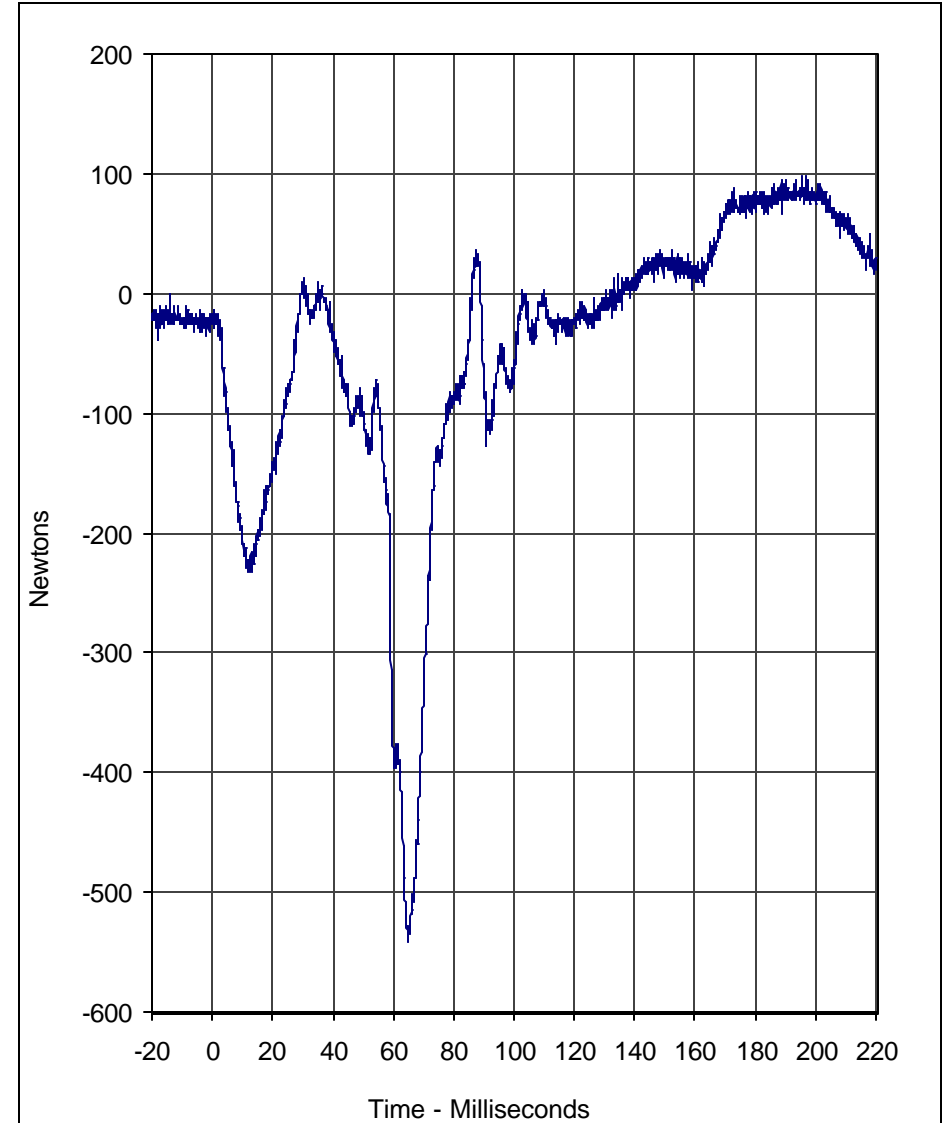
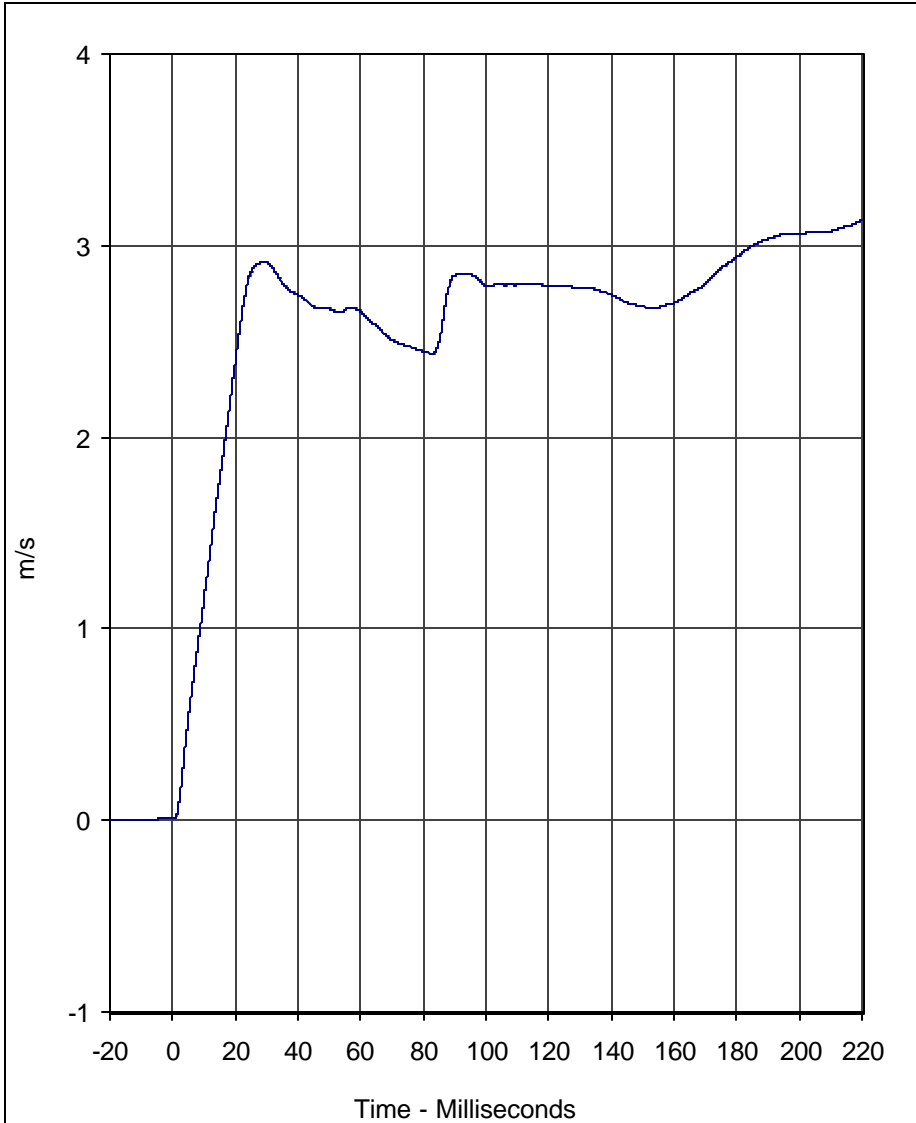
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December 24, 2002

Test Date



Curve Description	CURNO	Type
Pendulum Velocity	001	FIL

Units	Max	Time	Min	Time	SAE Class
m/s	3.1	220.0	0.0	-20.0	180

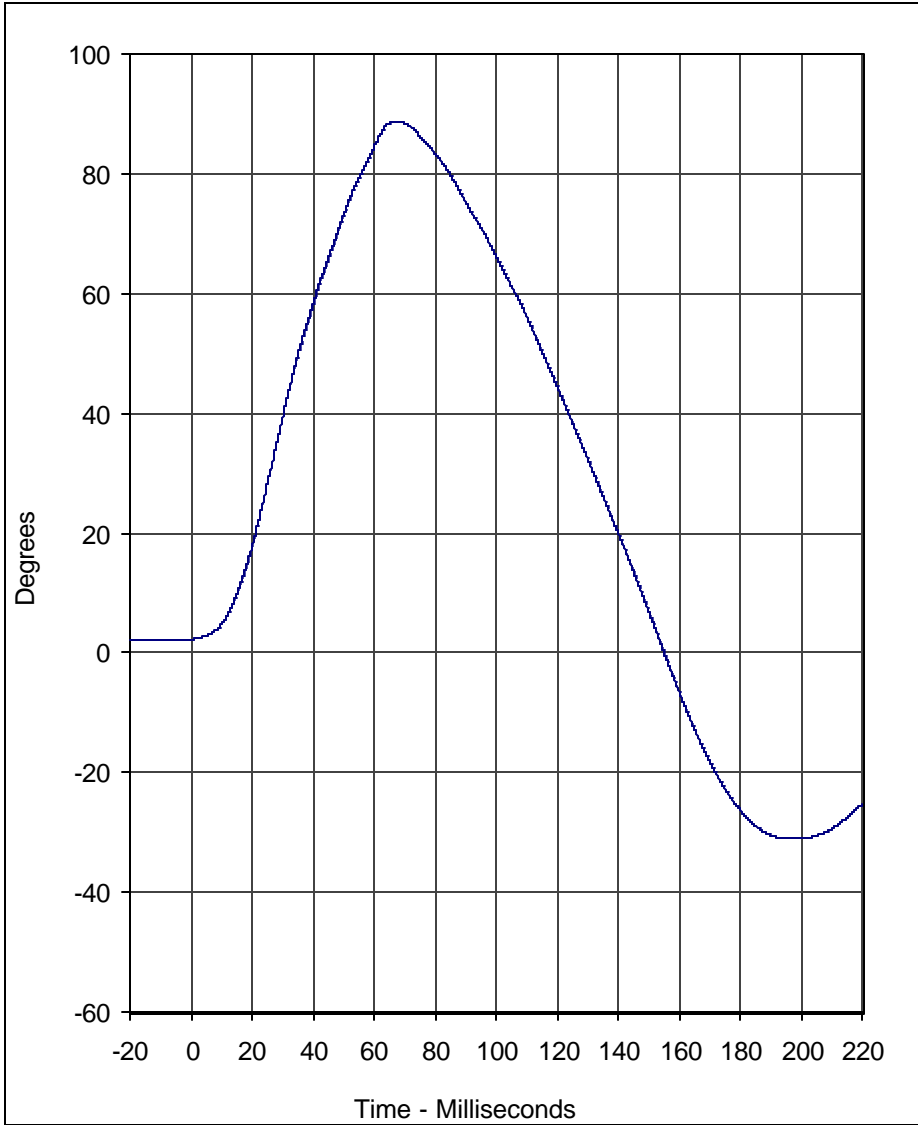
Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	98.3	195.5	-540.8	64.7	1000

Test Program: 3 Year Old Hybrid III Neck Extension Test
 Test Date: 12/24/02

A.T.D. Serial No.: 082
 Test I.D.: 3Y01C

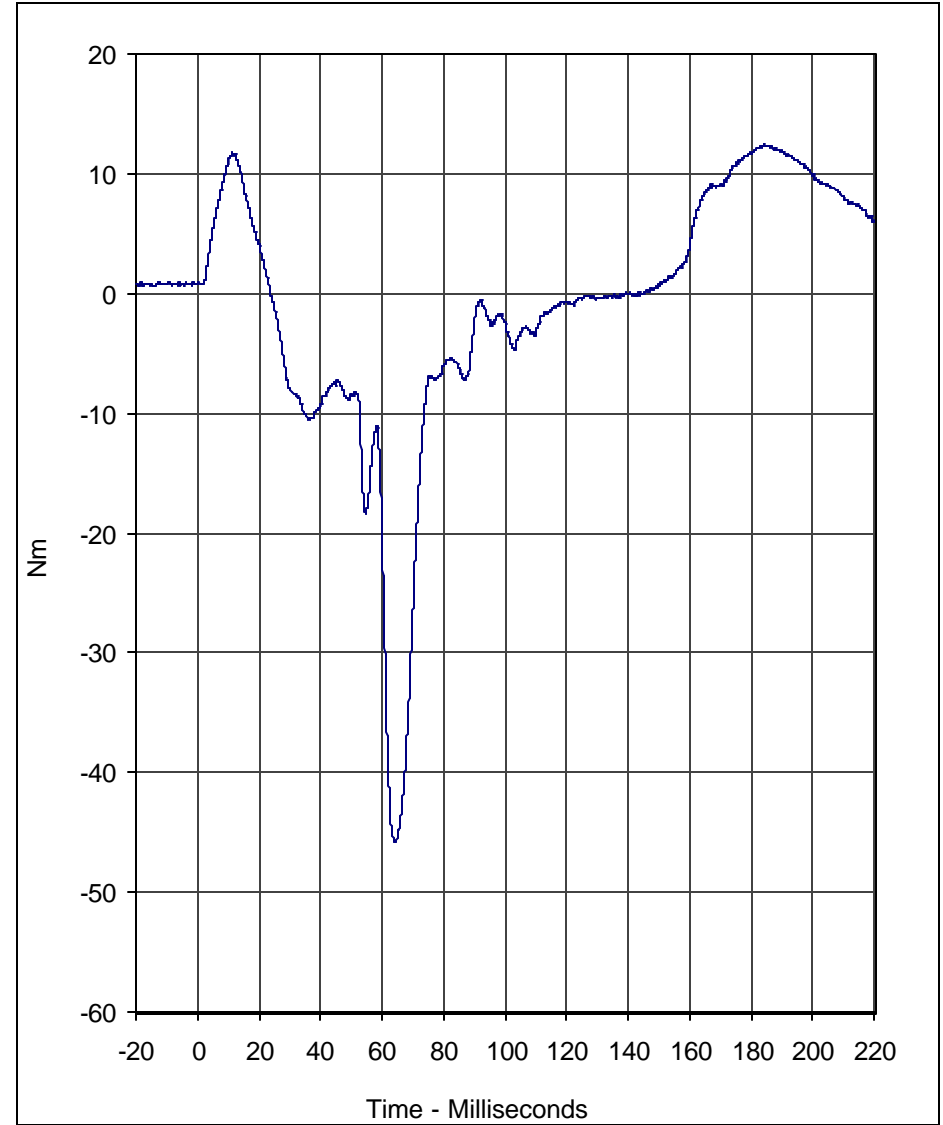




Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	88.7	67.2	-31.1	196.9	60

Test Program: 3 Year Old Hybrid III Neck Extension Test
 Test Date: 12/24/02



Curve Description	CURNO	Type
Neck Moment Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	12.4	184.2	-45.8	64.1	600

A.T.D. Serial No.: 082
 Test I.D.: 3Y01C





Calibration Data Sheet

Hybrid III 3 Year Old

Torso Flexion Test

ATD Serial No.: 082

Test I.D.: TF01A

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
Initial reference plane angle	Degrees	≤15.0	4.2	Pass
Peak Force at 45 +/-0.5 degrees	Newtons	130.0 to 180.0	162.5	Pass
Torso rotation rate	deg/sec	0.5 to 1.5	0.9	Pass
Final reference plane angle	Degrees	+/-10	4.7	Pass
Overall Test Results				Pass

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Test Date



Calibration Data Sheet Hybrid III 3 Year Old External Measurements

ATD Serial No.: 082

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	539 to 554	545	Pass
B - Shoulder pivot height	mm	307 to 323	320	Pass
C - "H" point height	mm	34 to 45	40	Pass
D - "H" point from backline	mm	57 to 67	60	Pass
E - Shoulder pivot from back	mm	61 to 71	70	Pass
F - Thigh clearance	mm	81 to 91	90	Pass
G - Elbow back to wrist pivot	mm	247 to 263	255	Pass
H - Skull cap to back line	mm	48 to 58	55	Pass
I - Shoulder to elbow length	mm	185 to 201	190	Pass
J - Elbow rest height	mm	134 to 149	145	Pass
K - Buttock to knee length	mm	285 to 300	295	Pass
L - Popliteal length	mm	219 to 234	225	Pass
M - Knee pivot height	mm	242 to 257	255	Pass
N - Buttock popliteal length	mm	218 to 233	225	Pass
O - Chest depth with jacket	mm	139 to 154	145	Pass
P - Foot length	mm	138 to 148	140	Pass
R - Buttock to knee pivot length	mm	251 to 262	255	Pass
S - Head Breadth	mm	128 to 144	140	Pass
T - Head Depth	mm	167 to 183	175	Pass
U - Hip breadth	mm	201 to 216	210	Pass
V - Shoulder breadth	mm	237 to 252	240	Pass
W - Foot breadth	mm	54 to 64	60	Pass
X - Head circumference	mm	500 to 516	505	Pass
Y - Chest circumference with jacket	mm	527 to 553	545	Pass
Z - Waist circumference	mm	527 to 553	550	Pass
AA - Location for chest circumference	mm	249 to 259	255	Pass
BB - Location for waist circumference	mm	160 to 170	165	Pass
Overall Test Results				Pass

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December 25, 2002

Test Date



Calibration Data Sheet Hybrid III 3 Year Old Head Drop Test

ATD Serial No.: 139

Test I.D.: 3HD02

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	250.0 to 280.0	277.1	Pass
Peak Lateral Acceleration	G's	≤15.0	9.4	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Oscillations After Main Pulse	%	<10	2.9	Pass
Overall Test Results				Pass

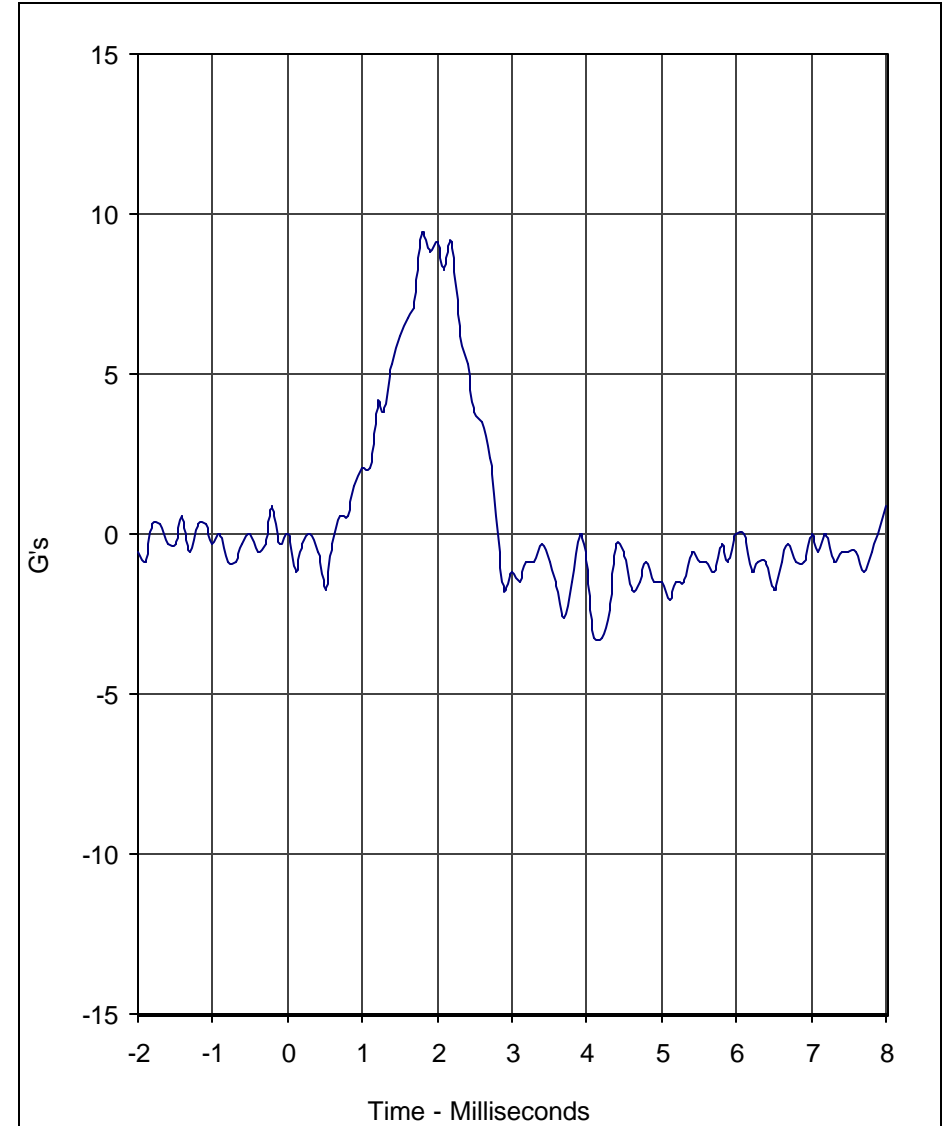
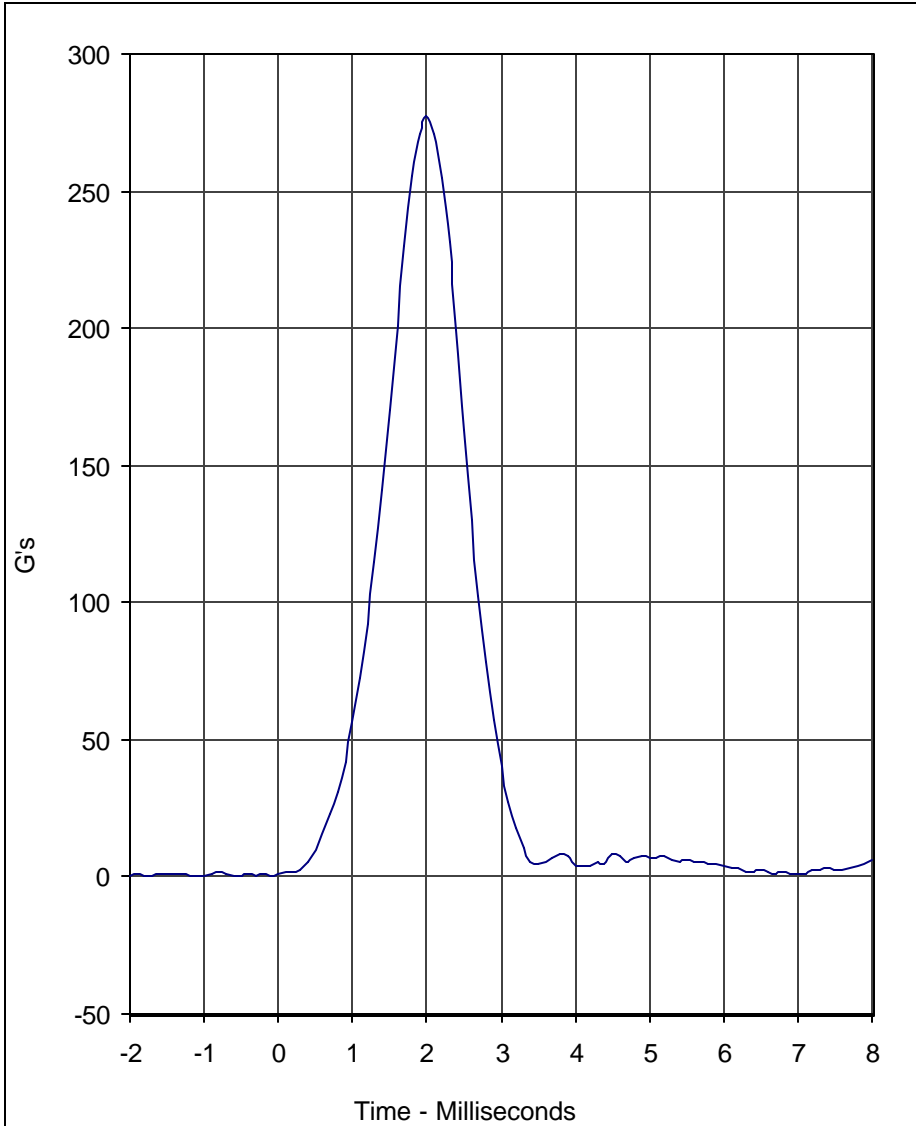
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December 24, 2002

Test Date



Curve Description	CURNO	Type
Head Resultant	001	RES

Curve Description	CURNO	Type
Head Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	277.1	2.0	0.3	-1.2	1000

Units	Max	Time	Min	Time	SAE Class
G's	9.4	1.8	-3.2	4.1	1000

Test Program: Hybrid III 3 Year Old Head Drop Test
 Test Date: 12/24/02

A.T.D. Serial No.: 139
 Test I.D.: 3HD02





Calibration Data Sheet

Hybrid III 3 Year Old

Thorax Impact Test

ATD Serial No.: 139

Test I.D.: CH12D

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	5.9 to 6.1	6.08	Pass
Peak Chest Compression	MM	32 to 38	37.0	Pass
Peak Probe Force Between 32 and 38 MM	Newtons	680 to 810	791.3	Pass
Peak Probe Force Between 12.5 and 32 MM	Newtons	≤860	762.1	Pass
Internal Hysteresis	%	65 to 85	70.1	Pass
Overall Test Results				Pass

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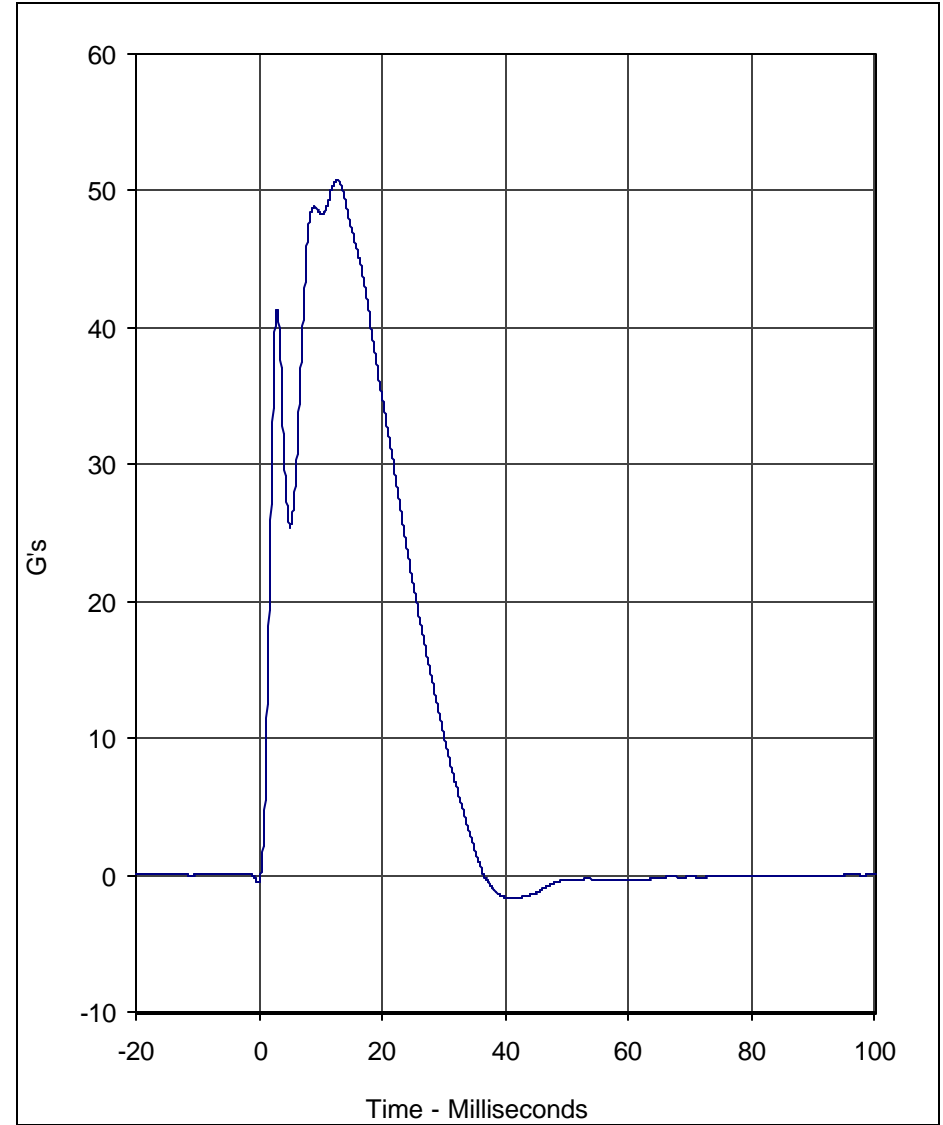
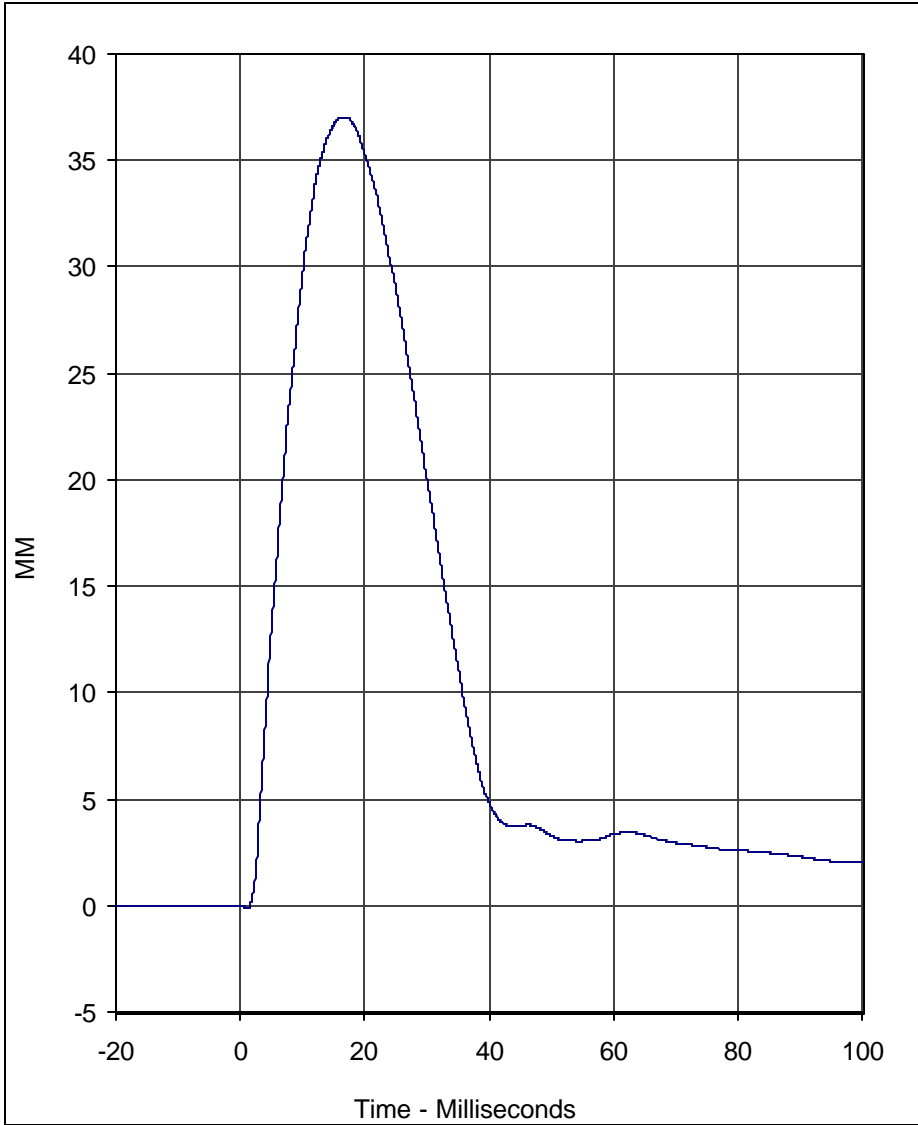
Laboratory Technician

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Test Date

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Curve Description	CURNO	Type
Chest Compression	001	FIL

Units	Max	Time	Min	Time	SAE Class
MM	37.0	16.8	-0.1	1.1	180

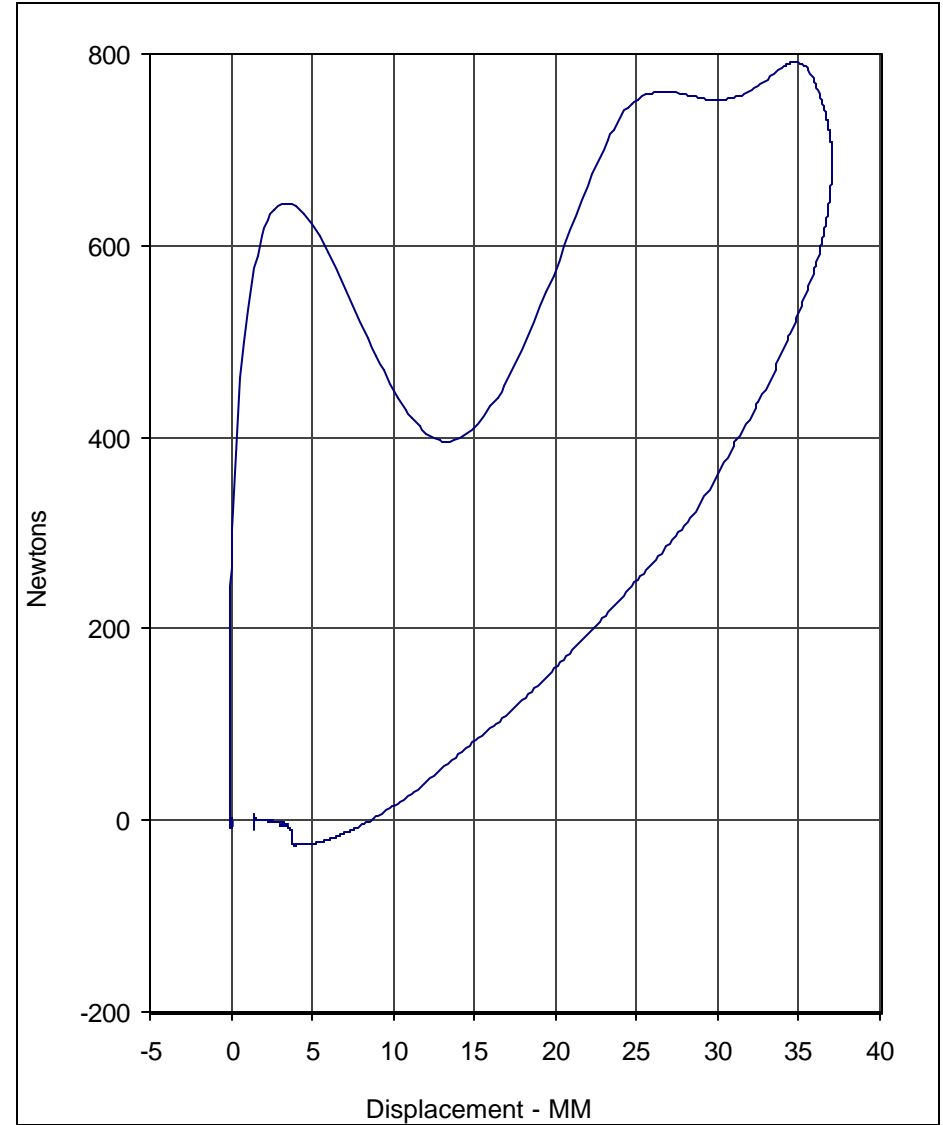
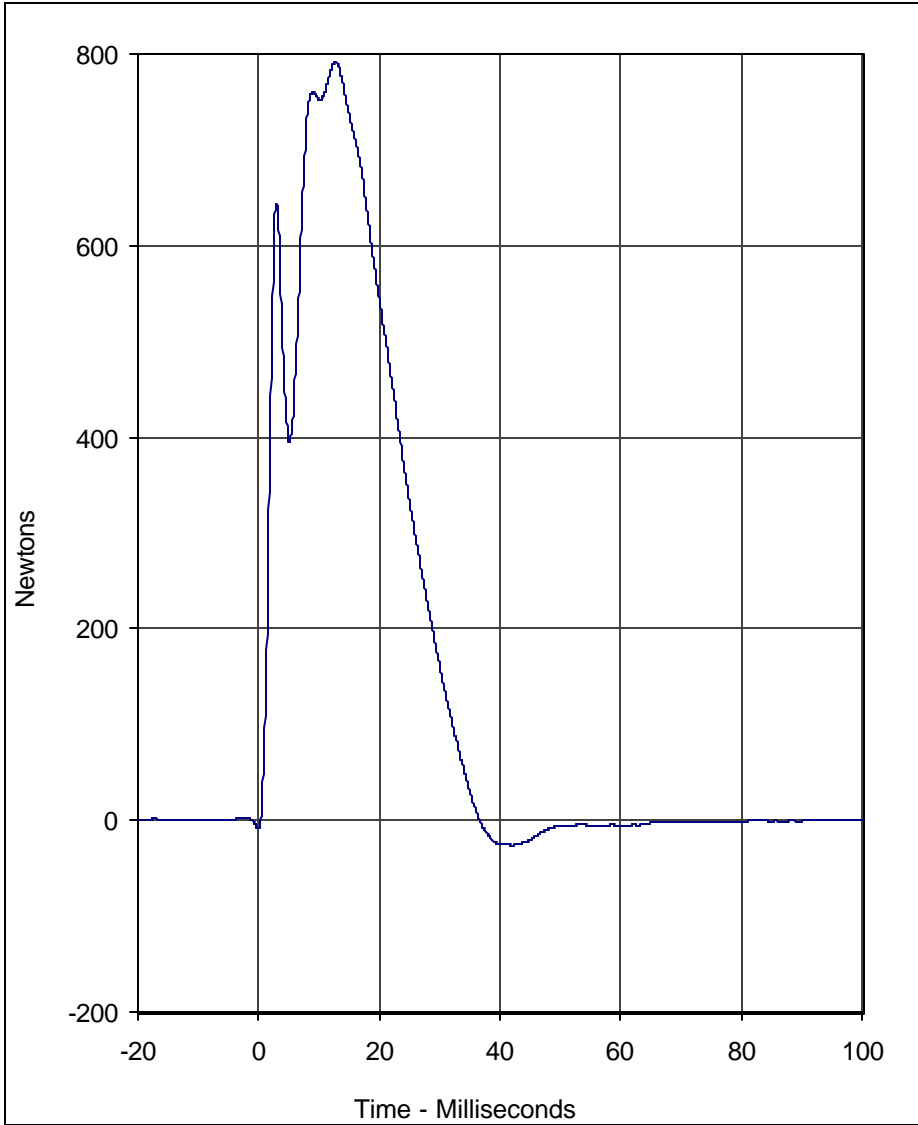
Curve Description	CURNO	Type
Probe Acceleration	002	FIL

Units	Max	Time	Min	Time	SAE Class
G's	50.8	12.8	-1.7	42.1	180

Test Program: Hybrid III 3 Year Old Thorax Impact
 Test Date: 12/25/02

A.T.D. Serial No.: 139
 Test I.D.: CH12D





Curve Description	CURNO	Type
Probe Force	003	FIL

Curve Description	CURNO	Type
Probe Force vs. Chest Displacement	004	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	791.3	12.8	-25.9	42.1	180

Units	Hysteresis	SAE Class
%	70.2	180

Test Program: Hybrid III 3 Year Old Thorax Impact
 Test Date: 12/25/02

A.T.D. Serial No.: 139
 Test I.D.: CH12D





Calibration Data Sheet

Hybrid III 3 Year Old Neck Flexion Test

ATD Serial No.: 139

Test I.D.: 3Y01B

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	5.40 to 5.60	5.55	Pass
Pendulum Deceleration	10 Msec.	m/s	2.0 to 2.7	2.1	Pass
	20 Msec.	m/s	3.0 to 4.0	3.9	Pass
	30 Msec.	m/s	4.0 to 5.1	5.0	Pass
"D" Plane Rotation	Maximum	Degrees	70.0 to 82.0	73.2	Pass
Peak Moment in Rotation	Maximum	Nm	42.0 to 53.0	49.4	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	74.9	Pass
Overall Test Results					Pass

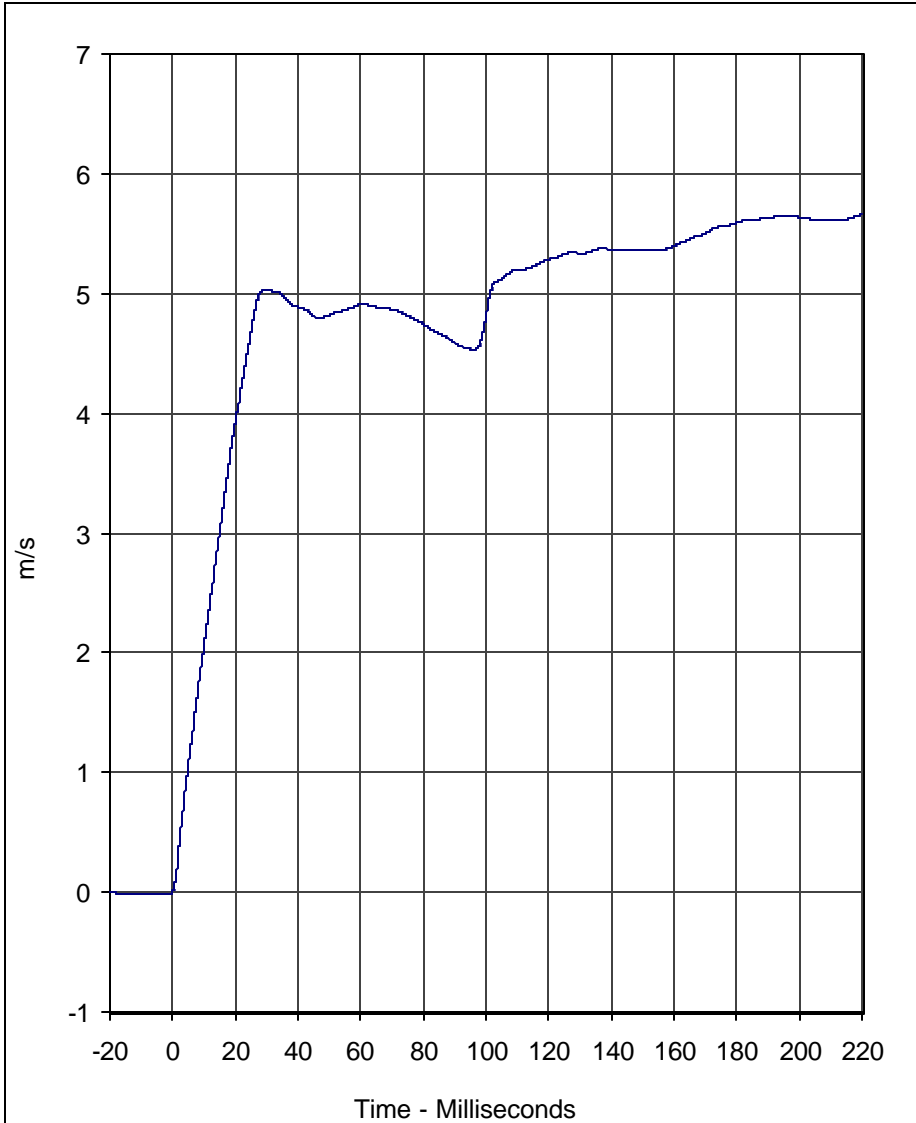
F5-19

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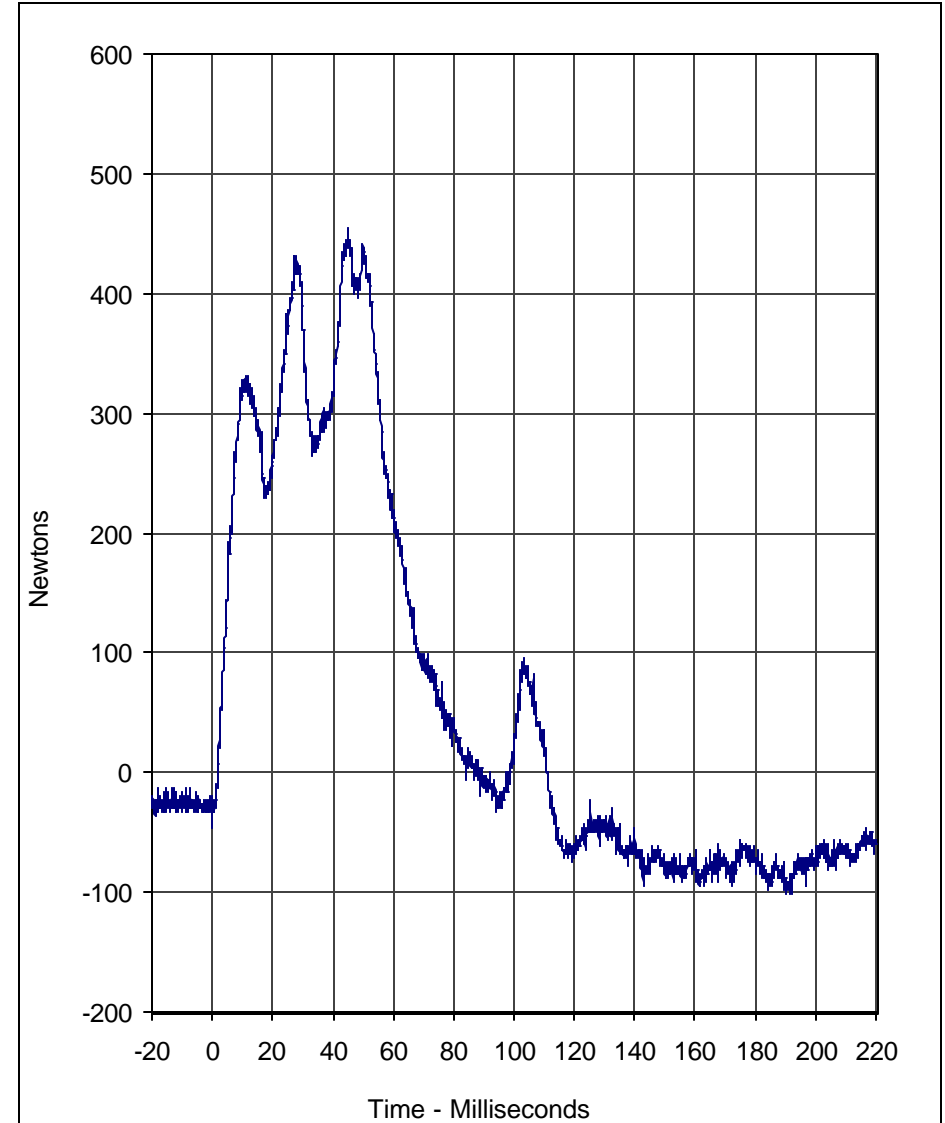
December 24, 2002

Test Date



Curve Description	CURNO	Type
Pendulum Velocity	001	FIL

Units	Max	Time	Min	Time	SAE Class
m/s	5.7	220.0	0.0	-0.7	180



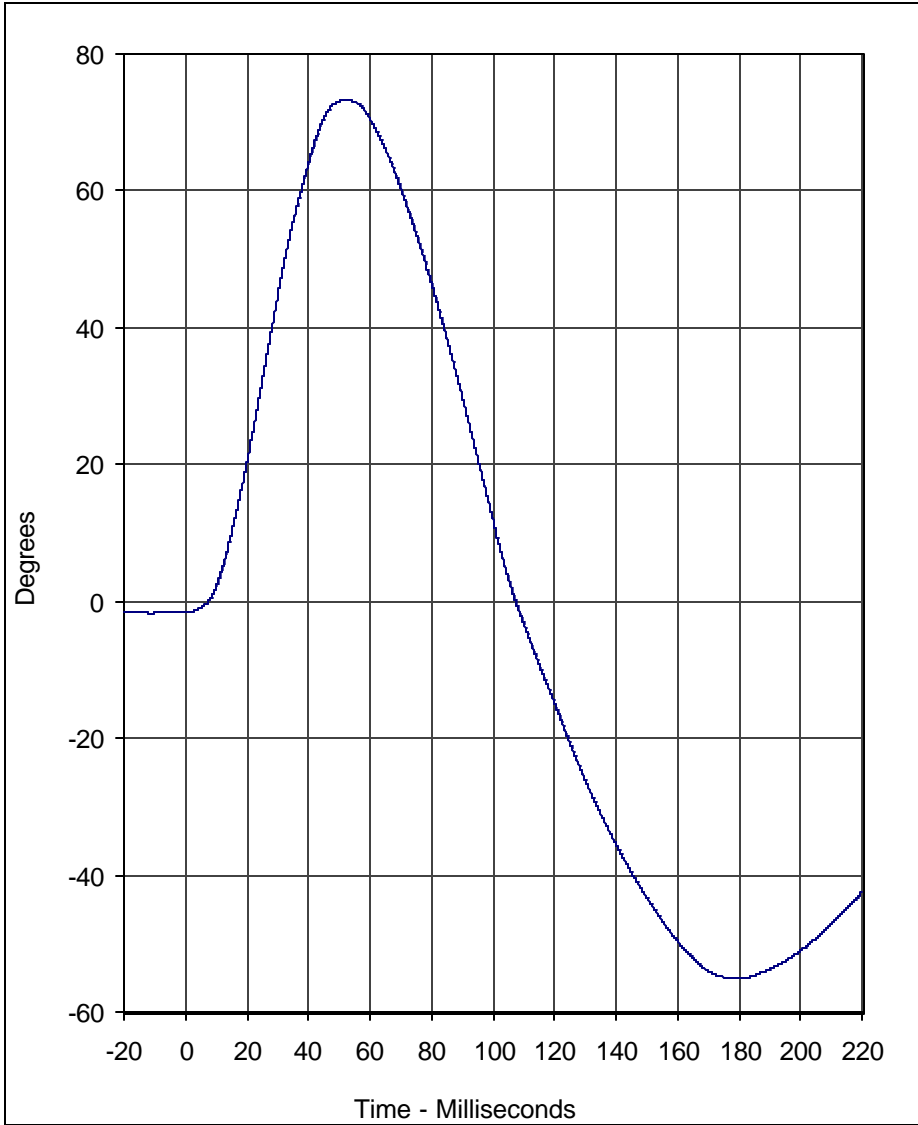
Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	454.9	45.1	-101.5	190.2	1000

Test Program: 3 Year Old Hybrid III Neck Flexion Test
 Test Date: 12/24/02

A.T.D. Serial No.: 139
 Test I.D.: 3Y01B

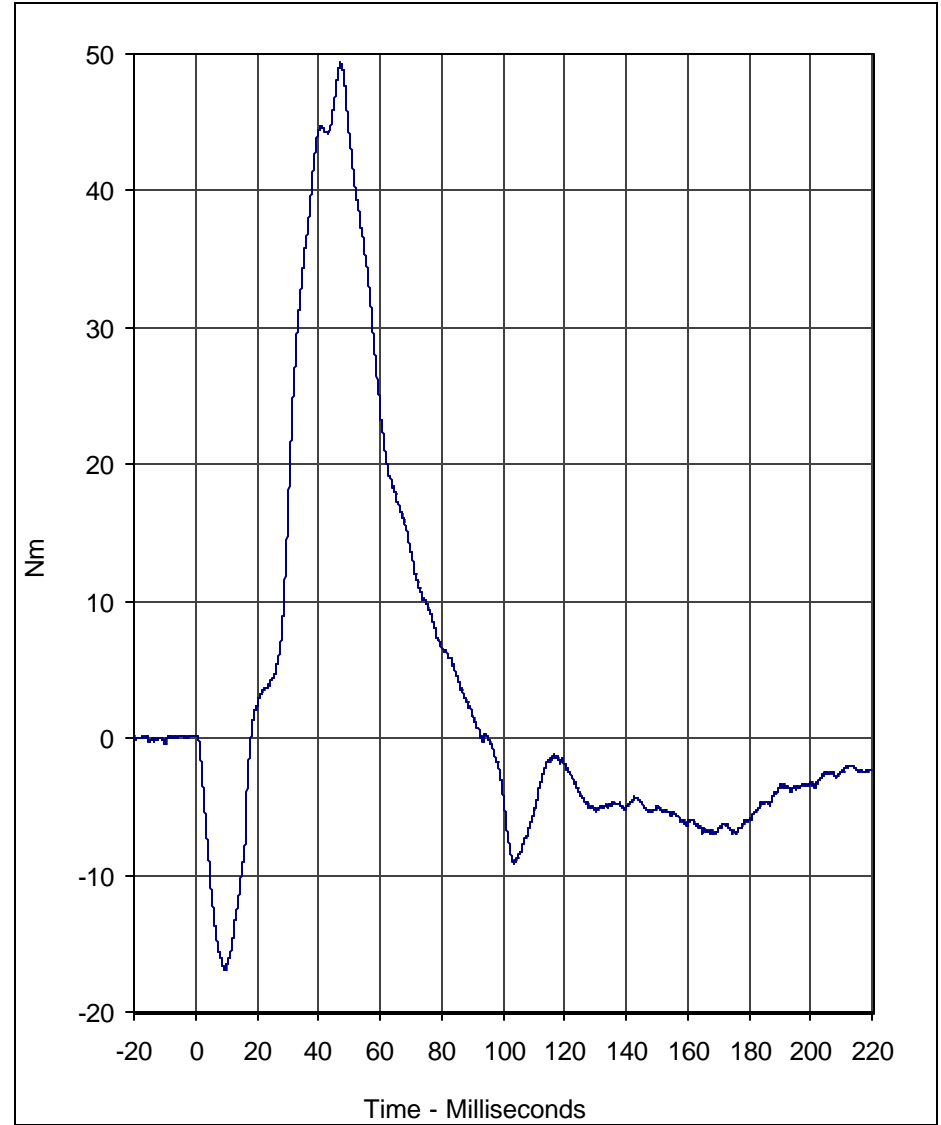




Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	73.2	52.5	-55.2	179.4	60

Test Program: 3 Year Old Hybrid III Neck Flexion Test
 Test Date: 12/24/02



Curve Description	CURNO	Type
Neck Moment Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	49.4	47.2	-16.9	9.4	600

A.T.D. Serial No.: 139
 Test I.D.: 3Y01B





Calibration Data Sheet

Hybrid III 3 Year Old

Neck Extension Test

ATD Serial No.: 139

Test I.D.: 3Y01D

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	3.55 to 3.75	3.57	Pass
Pendulum Deceleration	10 Msec.	m/s	1.0 to 1.4	1.2	Pass
	20 Msec.	m/s	1.9 to 2.5	2.4	Pass
	30 Msec.	m/s	2.8 to 3.5	3.0	Pass
"D" Plane Rotation	Maximum	Degrees	83.0 to 93.0	87.3	Pass
Peak Moment in Rotation	Maximum	Nm	-43.7 to -53.3	-49.1	Pass
Positive Moment Decay, Time to 10Nm		Msec.	60.0 to 80.0	68.9	Pass
Overall Test Results					Pass

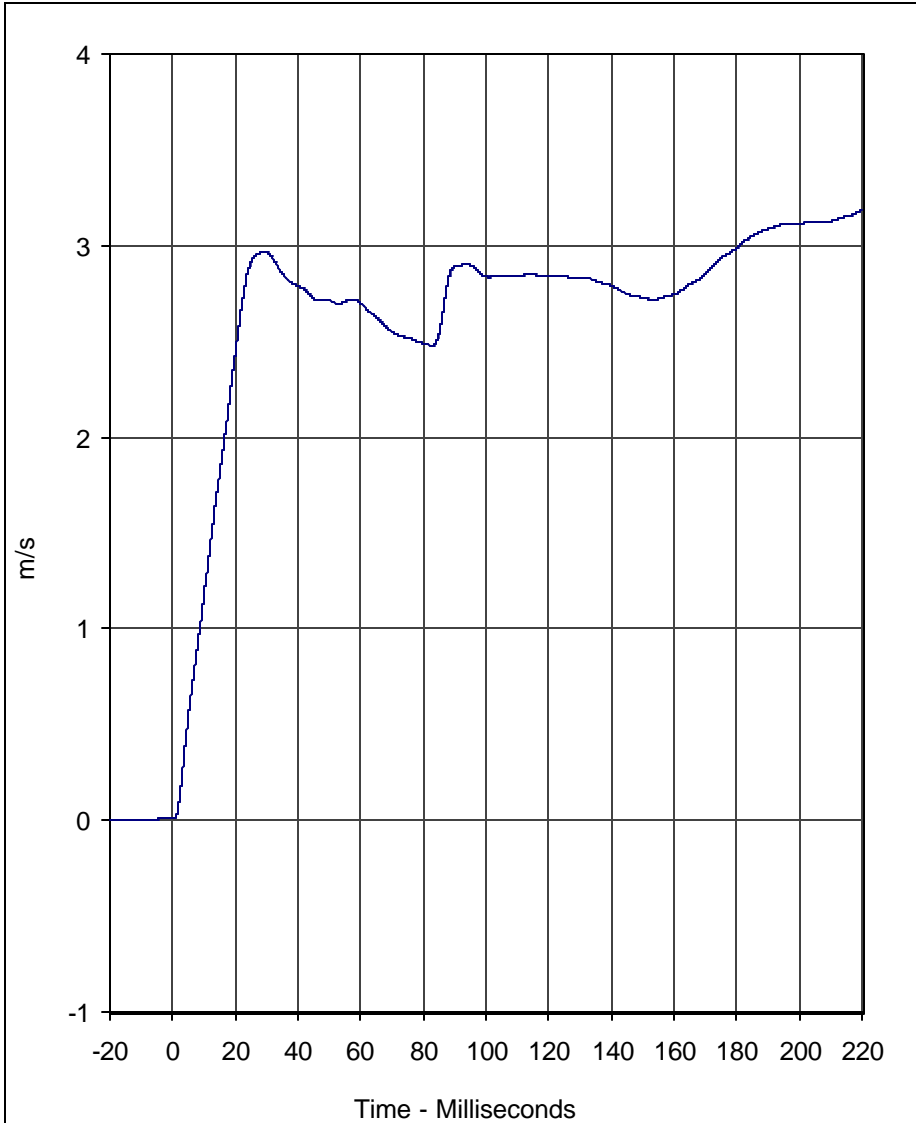
F5-22

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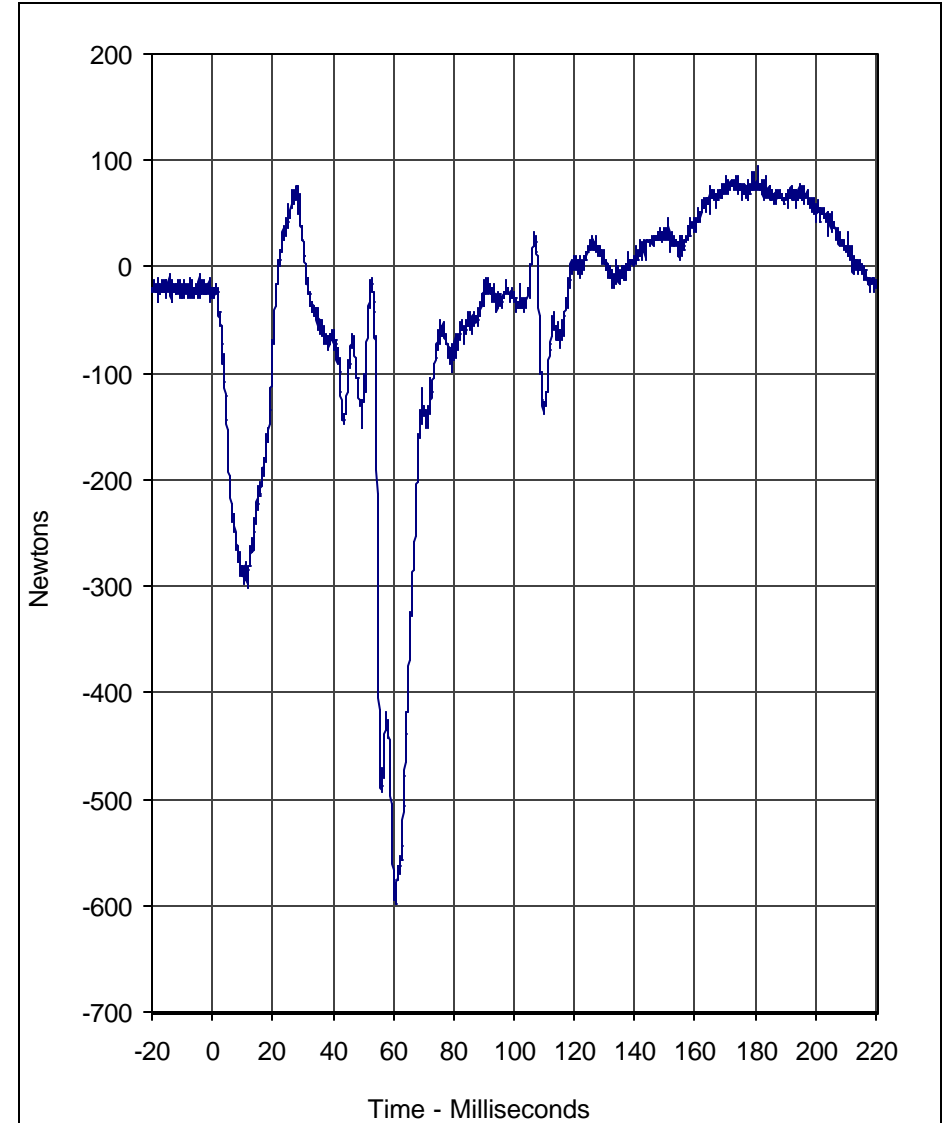
December 24, 2002

Test Date



Curve Description	CURNO	Type
Pendulum Velocity	001	FIL

Units	Max	Time	Min	Time	SAE Class
m/s	3.2	220.0	0.0	-20.0	180



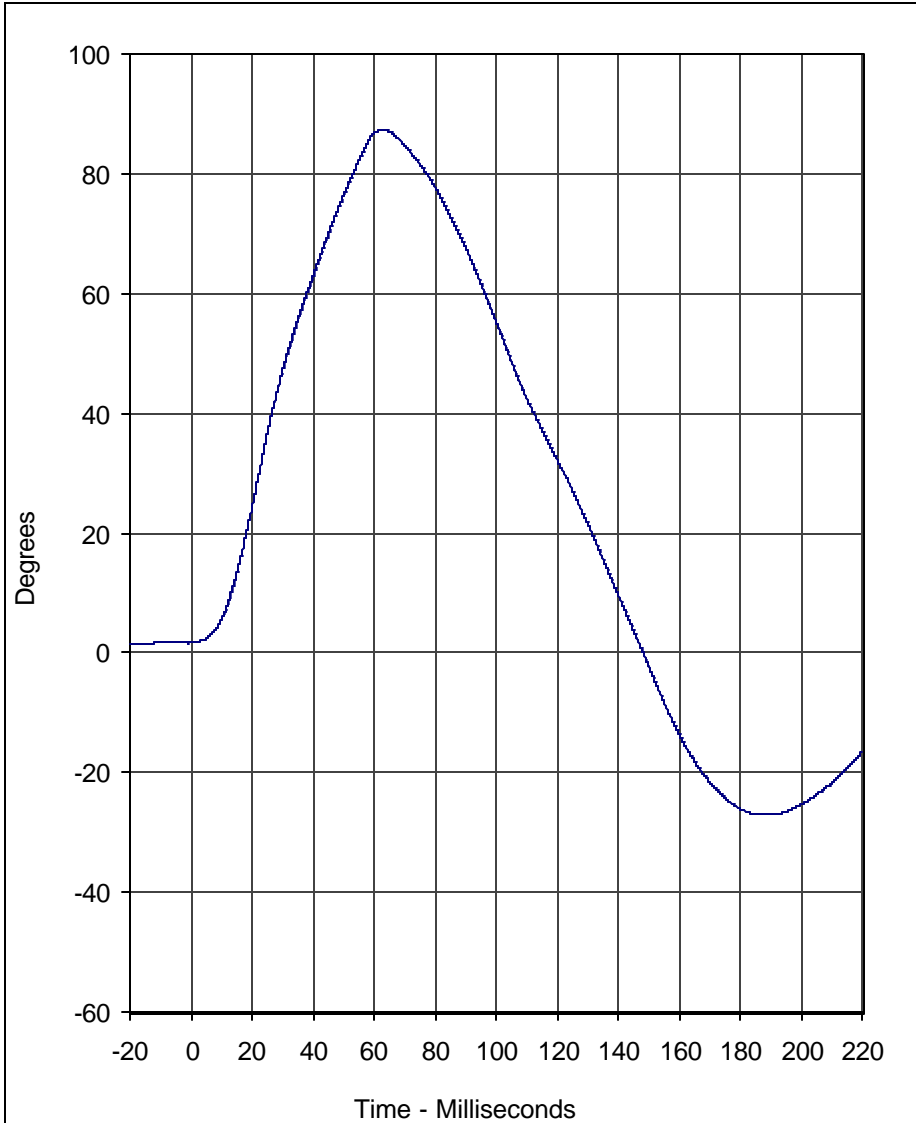
Curve Description	CURNO	Type
Neck Force X	002	FIL

Units	Max	Time	Min	Time	SAE Class
Newtons	94.9	181.1	-598.9	60.7	1000

Test Program: 3 Year Old Hybrid III Neck Extension Test
 Test Date: 12/24/02

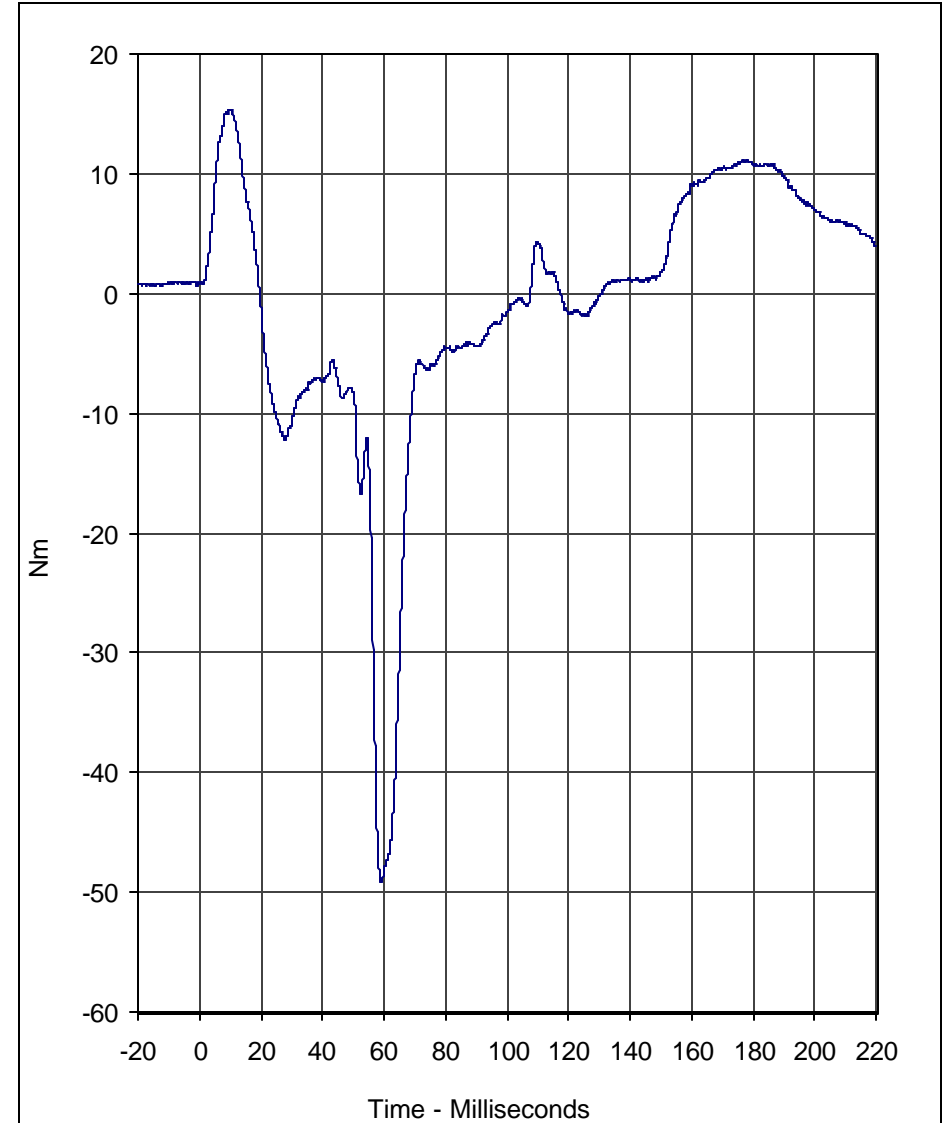
A.T.D. Serial No.: 139
 Test I.D.: 3Y01D





Curve Description	CURNO	Type
"D" Plane Rotation	003	FIL

Units	Max	Time	Min	Time	SAE Class
Degrees	87.3	62.8	-27.1	188.5	60



Curve Description	CURNO	Type
Neck Moment Y	002	FIL

Units	Max	Time	Min	Time	SAE Class
Nm	15.4	9.6	-49.1	59.2	600

Test Program: 3 Year Old Hybrid III Neck Extension Test
 Test Date: 12/24/02

A.T.D. Serial No.: 139
 Test I.D.: 3Y01D





Calibration Data Sheet

Hybrid III 3 Year Old

Torso Flexion Test

ATD Serial No.: 139

Test I.D.: TF02A

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
Initial reference plane angle	Degrees	≤15.0	3.7	Pass
Peak Force at 45 +/-0.5 degrees	Newtons	130.0 to 180.0	145.8	Pass
Torso rotation rate	deg/sec	0.5 to 1.5	1.0	Pass
Final reference plane angle	Degrees	+/-10	5.2	Pass
Overall Test Results				Pass

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Laboratory Technician

December 25, 2002
Test Date



Calibration Data Sheet Hybrid III 3 Year Old External Measurements

ATD Serial No.: 139

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	539 to 554	550	Pass
B - Shoulder pivot height	mm	307 to 323	310	Pass
C - "H" point height	mm	34 to 45	35	Pass
D - "H" point from backline	mm	57 to 67	65	Pass
E - Shoulder pivot from back	mm	61 to 71	70	Pass
F - Thigh clearance	mm	81 to 91	90	Pass
G - Elbow back to wrist pivot	mm	247 to 263	255	Pass
H - Skull cap to back line	mm	48 to 58	55	Pass
I - Shoulder to elbow length	mm	185 to 201	190	Pass
J - Elbow rest height	mm	134 to 149	145	Pass
K - Buttock to knee length	mm	285 to 300	290	Pass
L - Popliteal length	mm	219 to 234	230	Pass
M - Knee pivot height	mm	242 to 257	245	Pass
N - Buttock popliteal length	mm	218 to 233	225	Pass
O - Chest depth with jacket	mm	139 to 154	145	Pass
P - Foot length	mm	138 to 148	140	Pass
R - Buttock to knee pivot length	mm	251 to 262	260	Pass
S - Head Breadth	mm	128 to 144	140	Pass
T - Head Depth	mm	167 to 183	180	Pass
U - Hip breadth	mm	201 to 216	210	Pass
V - Shoulder breadth	mm	237 to 252	245	Pass
W - Foot breadth	mm	54 to 64	60	Pass
X - Head circumference	mm	500 to 516	505	Pass
Y - Chest circumference with jacket	mm	527 to 553	535	Pass
Z - Waist circumference	mm	527 to 553	540	Pass
AA - Location for chest circumference	mm	249 to 259	255	Pass
BB - Location for waist circumference	mm	160 to 170	170	Pass
Overall Test Results				Pass

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Laboratory Technician

December 25, 2002

Test Date