

REPORT NUMBER KAR21001-13

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

**TOYOTA MOTOR CORPORATION
2001 TOYOTA PRIUS HYBRID GASOLINE/ELECTRIC
4 DOOR SEDAN
NHTSA NUMBER: M15112**

**PREPARED BY:
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9270 HOLLY ROAD
ADELANTO, CALIFORNIA 92301**



APRIL 3, 2001

FINAL REPORT

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16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2001 Toyota Prius Hybrid 4 Door Sedan at KARCO Engineering on 2/21/01. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 55.96 km/h. The ambient temperature at the barrier face at the time of impact is 18.8 degrees Celcius. The vehicle's maximum post test static crush is 435 mm located to the left of 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:					
Measurement Description		Units	Threshold	Driver ATD	Passenger ATD
Head Injury Criteria (HIC)		N/A	1000	717.1	658.7
Max. Thorax Accel. (3 msec Clip)		G's	60	55.4	45.8
Left Femur force		Newtons	10009	-2868.0	-2692.0
Right Femur Force		Newtons	10009	-3627.5	-703.8
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SECTION 1

PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST M15112

1.1 PURPOSE

The purpose of this 35 mph (56.3 km/h) frontal barrier impact test is to obtain vehicle crashworthiness, occupant restraint system performance, and lower leg data for frontal barrier impacts. The impact velocity used in this test is in excess of the current 30 mph (48.3 km/h) FMVSS 208/212/219/301 requirements.

1.2 TEST PROCEDURE

This 56.3-km/h frontal barrier impact test was conducted in accordance with the Office of Crashworthiness Standards (OCS) New Car Assessment Program (NCAP) Laboratory Indicant Test Procedure, dated 01 October 1996 and the corresponding KARCO Engineering Test Procedure KTP-001, dated October 18, 1996. Data was obtained indicant of FMVSS 208, "Occupant Crash Protection"; FMVSS 212, "Windshield Retention"; FMVSS 219, "Windshield Zone Intrusion (Partial)"; and FMVSS 301 "Fuel System Integrity" performance. The tested vehicle was a hybrid gasoline/electric vehicle and testing included voltage monitoring of the battery storage system. Procedures for receiving, inspection testing and reporting of test results are described in the test procedures and are not repeated in this report.

The test was conducted at KARCO Engineering on February 21, 2001 at a speed of 55.96 km/h. The test vehicle was instrumented with eight (8) accelerometers to measure longitudinal axis accelerations. The driver and passenger's restraint systems were instrumented with four (4) seat belt load cells to measure lap and shoulder belt tension. The specified impact velocity range was 55.5 to 57.1 km/h. The frontal barrier impact event was documented by one (1) real-time panning motion picture camera and seventeen (17) high-speed motion picture cameras. The pre- and post-test conditions were recorded by one (1) real-time motion picture camera. Camera locations and pertinent camera information is documented in the data sheets. Pre- and post-test photographs of the vehicle and dummies can be found in Appendix A.

The test vehicle contained two (2) part 572E 50th percentile adult male anthropomorphic test devices (ATDs). Both ATDs were instrumented with head, chest, and pelvic tri-axial accelerometers, left and right femur load cells, upper and lower tibia sensors, and foot accelerometers. In addition, chest displacement and upper neck six-axis force and moment sensors were utilized. The ATDs were positioned in the front outboard seating positions according to the dummy placement procedures specified in the Laboratory Indicant Test Procedure. Ninety-four (94) channels of data were recorded with a PC based (TDAS) on-board data acquisition system. The data was digitally sampled at 10,000 samples per second and processed per section IP11 of the Laboratory Indicant Test Procedure.

The Driver ATD (Serial No. 35) and the right-front passenger ATD (Serial No. 34) were re-calibrated for this test. FMVSS 208 "Occupant Crash Protection" injury criteria were not exceeded by either ATD during this frontal barrier impact test.

1.3 SUMMARY OF FRONTAL BARRIER IMPACT TEST

A rigid load cell barrier was impacted by a 2001 Toyota Prius Hybrid 4 Door Sedan at a velocity of 55.96 km/h. The test vehicle weight is 1421 kilograms with two (2) part 572E 50th percentile adult male ATDs. Twenty-four (24) load cell barrier data channels were obtained in conducting the February 21, 2001 NCAP test. The test vehicle is a hybrid gasoline/electric vehicle, equipped with a transverse mounted, 4-cylinder engine and a 4-speed automatic transmission.

The driver Head Injury Criteria (HIC) is 717.1. The maximum resultant chest deceleration over three (3) milliseconds is 55.4 g's. The left and right femur loads are -2868.0 and -3627.5 Newton's, respectively. Chest deflection for the driver ATD peaked at -31.5 mm. The driver ATD head contacted the airbag/headrest, its chest and abdomen contacted the seat belt and airbag, and both knees contacted the dash and steering column.

The right front passenger's HIC is 658.7. The maximum resultant chest deceleration over three (3) milliseconds is 45.8 g's. The left and right femur loads are -2692.0 and -703.8 Newton's respectively. Chest deflection for the passenger ATD peaked at -26.3 mm. The passenger ATD head contacted the airbag and headrest, the chest and abdomen contacted the airbag, with both knees contacting the dash and glove box.

Maximum shoulder belt spool out as measured by on-board potentiometers is 135.8 mm for the driver ATD and 271.9 mm for the passenger ATD. Shoulder belt stretch is not measured with pretensioners.

There was 100 percent windshield retention (minimum 50 percent required for passive restraint systems). No intrusion occurred into the protected or unprotected zone of the windshield. No Stoddard solvent leakage occurred after impact or during any phase of the rollover.

The test vehicle sustained a maximum static crush of 435 mm located to the left of the vehicle centerline. Both the driver and passenger side doors opened without the aid of tools.

1.4 GENERAL COMMENTS

The 2001 Toyota Prius Hybrid 4 Door Sedan passed the requirements of FMVSS 208, FMVSS 212, FMVSS 219 and FMVSS 301-75. Data pertaining to these standards are presented in the data sheets.

The vehicle, occupant, camera and measurement data are presented in Section 2. Appendix A contains the still photograph prints. Appendix B contains the dummy and vehicle response data traces. Appendix C contains Load Cell Barrier information. Appendix D contains the instrumentation data channel assignments. Appendix E contains the dummy calibration data and Appendix F contains the owner's manual instructions for the occupant seating and restraint systems.

SECTION 2

OCCUPANT AND VEHICLE INFORMATION/DATA SHEETS

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

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	$=(t_f - 32)/1.8$
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: 2001 Toyota Prius Hybrid 4 Door Sedan
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M15112
Test Date: 02/21/01

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	55.96
Test Weight	kg	1421
Impact Angle	degrees	0
Average Rebound	mm	870
Maximum Static Crush	mm	435

DOOR OPENING AND SEAT TRACK INFORMATION

Description	Driver	Passenger
Front Door Opening	Opened	Opened
Rear Door Opening	Opened	Opened
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	Airbag/Headrest	Airbag/Headrest
Chest Contact	Airbag/Belt	Airbag/Belt
Abdomen Contact	Belt	Airbag/Belt
Left Knee Contact	Steering Column/Dash	Glove Box/Dash
Right Knee Contact	Steering Column/Dash	Glove Box/Dash

16mm MOVIE COVERAGE

High Speed	17
Real Time	1
Total	18

DATA CHANNELS

Driver ATD Sensors	40
Passenger ATD Sensors	40
Belt Assessment Sensors	6
Vehicle Structure Accelerometers	8
Rigid Barrier Load Cells	24
Total	118

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

TEST VEHICLE INFORMATION

Make	Toyota
Model	Prius Hybrid
Body Style	4 Door Sedan
NHTSA No.	M15112
VIN	JT2BK12UX10020226
Color	White
Delivery Date	2/14/01
Odometer Reading (mile)	106
Dealer	Toyota of Glendale
Transmission	4-Speed Automatic
Final Drive	Front
Number of Cylinders	4
Engine Displacement (L)	1.5
Engine Placement	Transverse

TEST VEHICLE OPTIONS

Driver Airbag	Yes
Passenger Airbag	Yes
Power Windows	Yes
Power Steering	Yes
Power Door Locks	Yes
Tilt Wheel	Yes
Air Conditioning	Yes
Power Brakes	Yes
Disc Brakes, Front	Yes
Disc Brakes, Rear	No
Anti-lock Brakes	Yes
AM/FM/Cassette	Yes
Anti-Theft System	No
Cruise Control	No

DATA FROM CERTIFICATION LABEL

Manufactured By	Toyota Motor Corporation	GVWR (kg)	1640
Date of Manufacture	December-00	GAWR Front (kg)	893
		GAWR Rear (kg)	764

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	240	230
Cold Pressure (kPa)	240	230
Recommend Tire Size	P175/65/R14	P175/65/R14
Tire Size on Vehicle	P175/65/R14	P175/65/R14
Tire Manufacturer	Bridgestone	Bridgestone

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	None	
Number of Occupants	2	3	0	5
Capacity Wt. (VCW) (kg)				363
Cargo Weight (RCLW) (kg)				23

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

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M15112
 Test Date: 02/21/01

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	391	265		393	287	
Right	kg	364	232		425	316	
Ratio	%	60.3	39.7		57.6	42.4	
Totals	kg	755	497	1252	818	603	1421

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1252
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Weight (RCLW)	kg	23
Calculated Vehicle Target Weight (TVTW)	kg	1427

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	652	661	633	633	1013
As Tested	mm	635	642	597	602	1082

Vehicle Wheel base (mm): 2552

Weight of Ballast secured in cargo area (kg): 0

Vehicle Components Removed: Side mirrors, jack, tools, spare tire and paneling.

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

FUEL SYSTEM DATA

Fuel System Capacity From Owner's Manual (L): 45.0

Usable Capacity Figure Furnished by COTR (L): N/A

Actual Test Volume with entire fuel System Filled (L): 41.8

Test Fluid Type: Stoddard Solvent ; Specific Gravity: 0.764

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

Is Vehicle Fuel Pump Electric or Mechanical?: Electric

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

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

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

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	55.51 to 57.12	55.96
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	56.24
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	3997	3693	-304
Center	mm	4300	3902	-398
Right Side	mm	3997	3680	-317

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	954
Center	mm	735
Right Side	mm	921
Average	mm	870

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

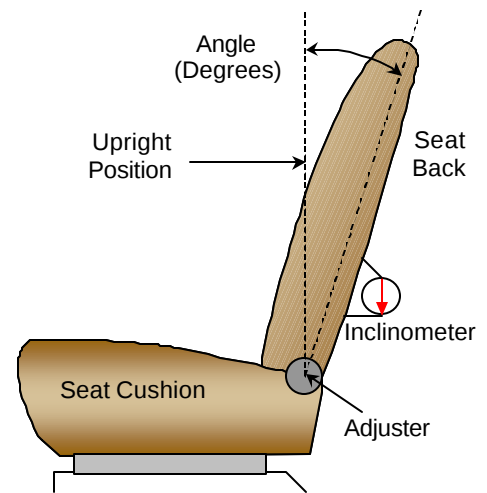
Test Date: 02/21/01

NOMINAL DESIGN RIDING POSITION

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

Driver seat back angle: 22.0° with a seated dummy

Passenger seat back angle: 22.0° with a seated dummy



FRONT SEAT ASSEMBLY

SEAT FORE/AFT POSITIONS

Both driver and passenger seats have 17 detents. The first or forward most position is counted as number one (1). The fore/aft position is set aft of the middle position for both driver and passenger.

Driver seat fore/aft total travel: 17 seating positions or detents

Passenger seat fore/aft total travel: 17 seating positions or detents

Driver seat fore/aft position: 9th detent from forward most

Passenger seat fore/aft position: 9th detent from forward most

SEAT BELT UPPER ANCHORAGE

Both driver and passenger seats are equipped with adjustable anchorages. Each has 5 positions and both are placed in the 3rd from the top.

DATA SHEET NO. 4...(continued)

TEST VEHICLE INFORMATION

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

FUEL TANK CAPACITY DATA

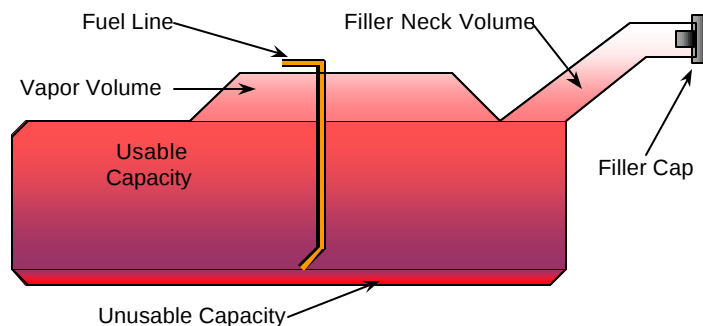
The "Usable Capacity" of the standard equipment fuel tank is: 45.0 liters

The "Usable Capacity" of any optional equipment fuel tank is: N/A liters

"Usable Capacity" used for certification tests FMVSS 301 requirements: 41.4 to 42.3 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 41.8 liters

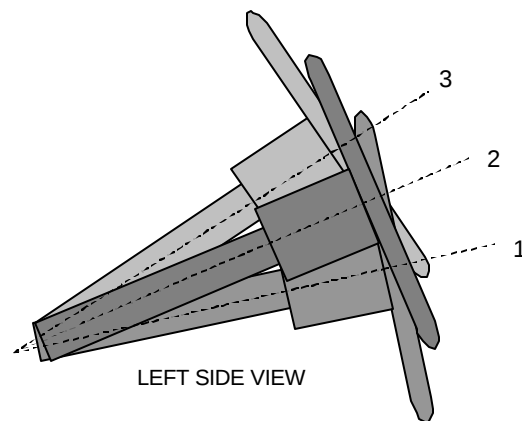
The test vehicle is equipped with an electric fuel pump. The fuel pump operates for approximately two seconds after the ignition is placed to the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the right rear fender. The standard fuel tank occupies the area under the rear seat. Fuel lines run along the right side of the body 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 it is moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed onto the plate and the angle is measured. The tested vehicle has its steering column set to the geometric center, or position 2.



STEERING COLUMN ASSEMBLY

Lowermost, position 1: 26.5°

Geometric center, position 2: 28.0°

Uppermost, position 3: 29.5°

DATA SHEET NO. 5

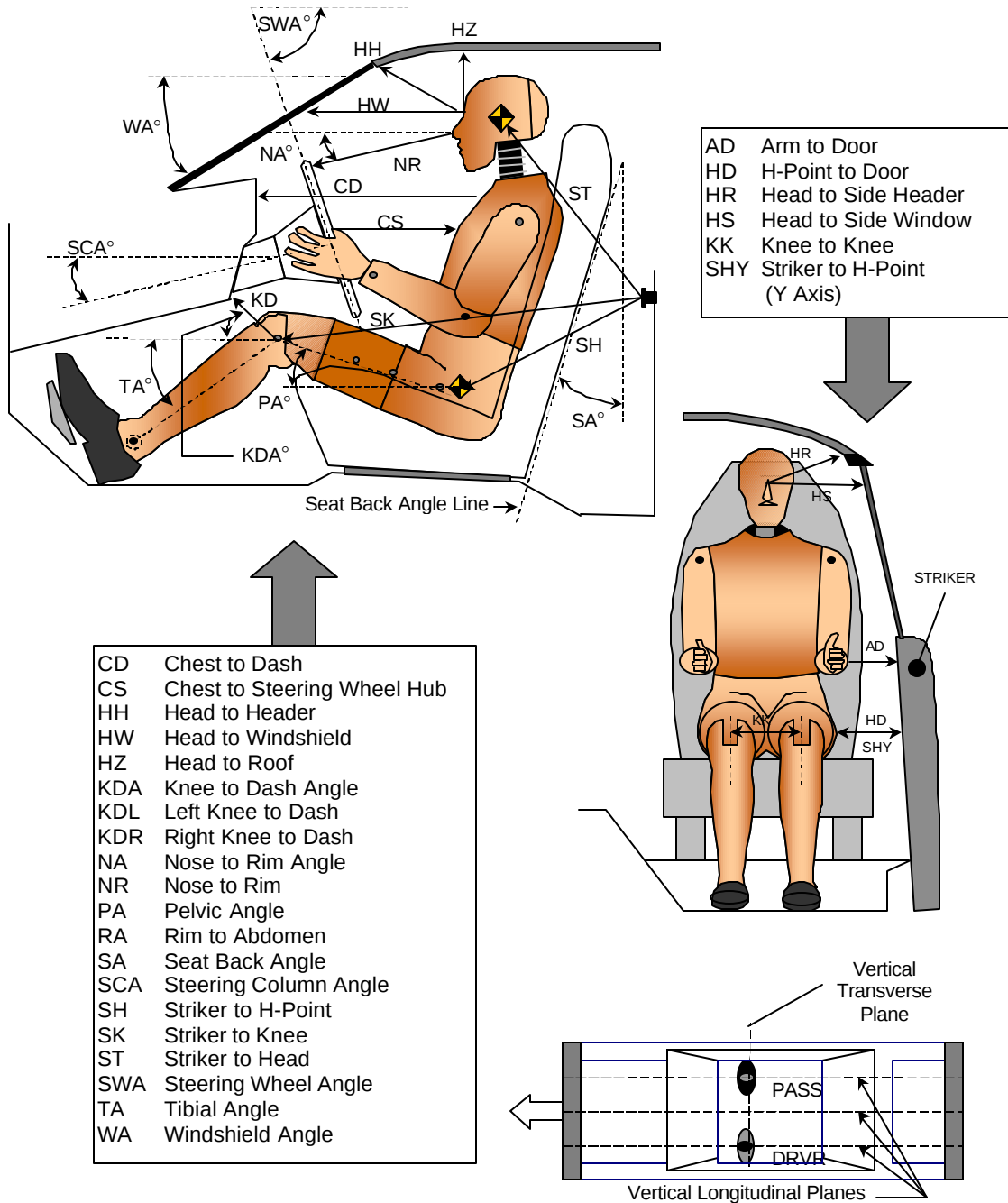
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01



DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

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

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		28		
SWA	Steering Wheel Angle		62		
SCA	Steering Column Angle		28		
SA	Seat Back Angle		22		22
HZ	Head to Roof (Z)	195	90	192	90
HH	Head to Header	325	0	326	0
HW	Head to Windshield	575	0	585	0
HR	Head to Side Header (Y)	240		255	
NR	Nose to Rim	382	15		
CD	Chest to Dash	575		530	
CS	Chest to Steering Hub	311	0		
RA	Rim to Abdomen	175	0		
KDL	Left Knee to Dash	155	17	95	
KDR	Right Knee to Dash	128		170	33
PA	Pelvic Angle		21		21
TA	Tibia Angle		46		46
KK	Knee to Knee (Y)	285		205	
SK	Striker to Head	587	3	590	8
ST	Striker to Knee	545	8	534	10
SH	Striker to H-Point	241	36	241	35
SHY	Striker to H-Point (Y)	220		230	
HS	Head to Side Window	508		324	
HD	H-Point to Door (Y)	131		133	
AD	Arm to Door (Y)	85		30	

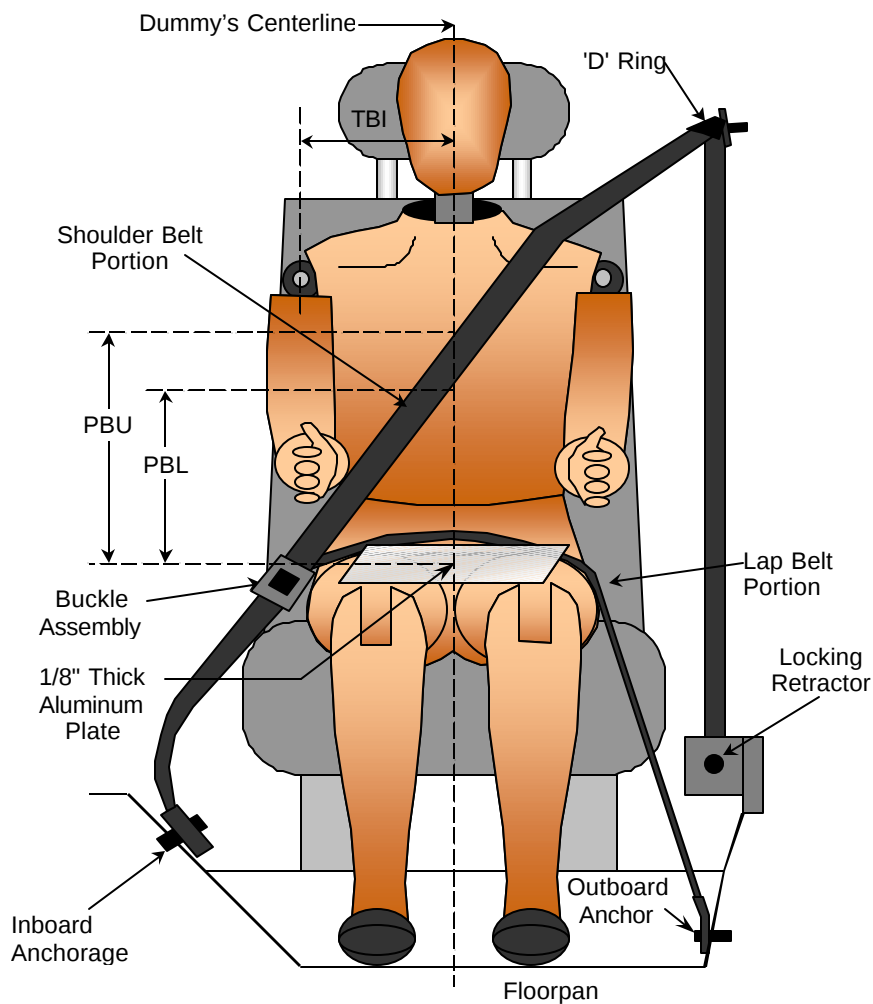
DATA SHEET NO. 6
SEAT BELT POSITIONING DATA

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy CL to Lap/Shoulder Belt Intersect	mm	205	200
PBU -Top surface of reference to belt upper edge	mm	320	320
PBL - Top surface of reference to belt lower edge	mm	235	240
Lap Belt tension	Newton's	10	10
Shoulder Belt tension	N/A	Retractor	Retractor

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

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35mph NCAP

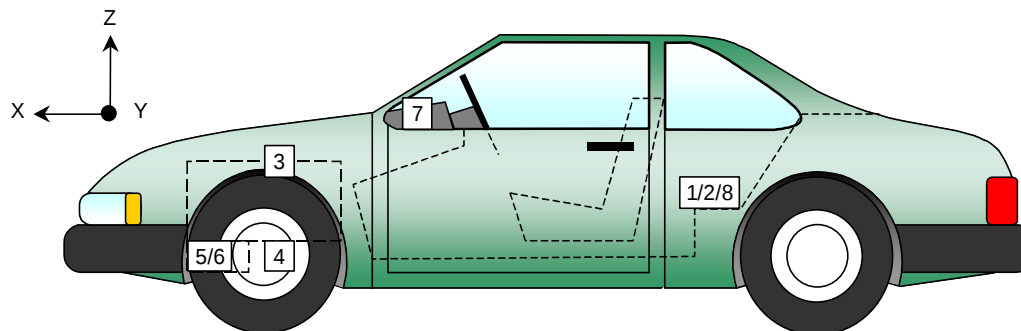
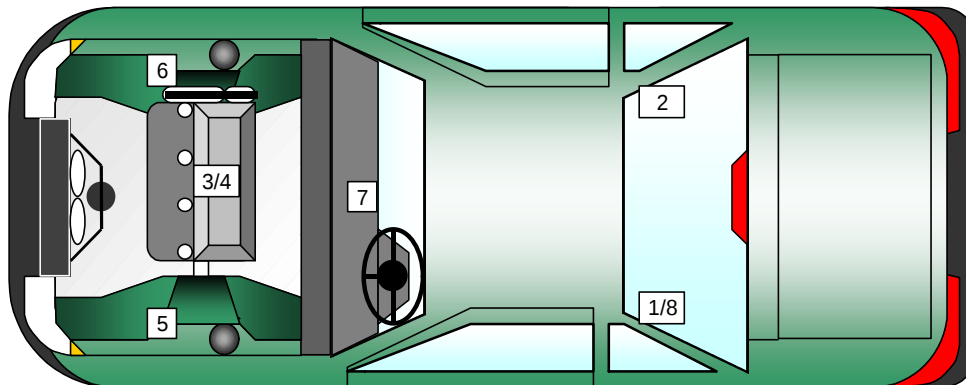
Test Date: 2/21/01

VEHICLE X-AXIS 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 (Pri.)	1775	-580	170	G's	2.5	110.7	-49.4	40.5
2	Right Rear X-Member (Pri.)	1775	585	170	G's	2.5	90.2	-47.7	45.6
3	Engine Top	3660	165	600	G's	65.5	34.6	-149.4	27.3 *
4	Engine Bottom	3815	240	135	G's	17.1	45.8	-158.4	22.8
5	Left Brake Caliper	3655	-730	205	G's	23.8	50.2	-97.4	31.0
6	Right Brake Caliper	3655	730	205	G's	4.7	69.3	-94.8	31.3
7	Instrument Panel	2880	0	920	G's	25.5	75.0	-89.7	67.4
8	Left Rear X-Member (Rednt.)	1775	-540	170	G's	2.1	110.6	-52.3	47.2

Reference Points X - From Rear Surface of Vehicle Y - Vehicle Centerline Z - Ground Plane

* Channel failed at 47.4 msec.



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

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 2/21/01

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	14.3	177.6	-62.2	61.1	16.1	198.7	-57.5	73.9
Head CG	Y	G's	12.0	177.4	-13.3	57.0	7.1	195.2	-9.4	63.3
Head CG	Z	G's	30.4	51.0	-23.8	86.1	33.9	61.6	-24.8	92.2
Head CG Resultant	N/A	G's	64.5	61.1			57.6	77.7		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.8	148.9	-54.6	54.1	5.0	130.4	-45.5	77.9
Chest CG	Y	G's	4.5	116.4	-6.4	67.1	4.2	59.7	-4.4	68.3
Chest CG	Z	G's	19.4	49.7	-17.6	87.6	24.9	47.7	-19.0	96.6
Chest CG Resultant	N/A	G's	57.0	54.1			47.7	61.0		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	707.5	38.6	-2868.0	46.1	499.3	77.7	-2692.0	42.3
Right Femur	Z	Newtons	532.6	36.5	-3627.5	45.7	1523.0	69.4	-703.8	112.9

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	10467.7	56.3	-5.7	0.0	9964.5	61.3	-3.4	0.0
Shoulder Belt Force	N/A	Newtons	7132.5	71.6	-37.9	118.2	5469.1	76.5	-17.8	134.8
Shoulder Belt Pullout	N/A	MM	135.8	78.2	-45.0	36.9	271.9	84.4	-25.3	33.2
Shoulder Belt Stretch	N/A	MM/CM	0.000	0.0	0.000	0.0	0.000	0.0	0.000	0.0

* Not used with pre-tensioners.

HEAD INJURY CRITERIA (HIC)

Location	Driver				Passenger			
	HIC	Avg G	T ¹	T ²	HIC	Avg G	T ¹	T ²
Head CG Primary	717.1	52.5	48.2	84.1	658.7	50.7	57.5	93.4

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	55.4	52.4	55.4	45.8	75.9	78.9

DATA SHEET NO. 8...(continued)

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 2/21/01

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	13.7	99.6	-76.7	46.0	10.0	103.9	-52.7	58.6
Pelvis	Y	G's	5.5	101.8	-15.0	37.5	11.5	42.7	-6.7	108.7
Pelvis	Z	G's	14.3	36.9	-27.4	74.9	4.1	45.6	-20.7	86.9

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	238.1	89.4	-424.4	40.1	515.9	74.5	-330.2	126.6
Neck Force	Y	Newtons	212.3	175.3	-318.4	127.9	230.3	193.0	-73.3	50.0
Neck Force	Z	Newtons	3170.3	57.0	-660.5	98.3	1326.6	62.5	-576.8	98.3
Neck Moment	X	N•m	12.6	56.5	-21.6	123.2	20.6	226.7	-19.6	57.2
Neck Moment	Y	N•m	32.9	139.2	-35.2	77.0	30.8	136.3	-36.8	228.0
Neck Moment	Z	N•m	14.3	188.4	-11.5	142.2	7.9	195.5	-11.4	117.5

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	11.9	85.8	-27.9	33.1	20.0	85.1	-107.4	38.1
Left Foot Aft	Z	G's	13.2	49.5	-60.0	30.3	4.2	99.7	-54.6	39.4
Left Foot Fore	Z	G's	25.4	33.2	-104.9	29.9	7.1	100.3	-79.4	41.8
Right Foot Aft	X	G's	18.2	95.5	-251.3	36.2	43.0	83.9	-78.0	42.0
Right Foot Aft	Z	G's	13.7	49.5	-268.0	35.2	8.7	56.7	-50.7	28.9
Right Foot Fore	Z	G's	63.0	47.7	-363.1	35.3	36.1	31.4	-106.5	28.6

UPPER AND LOWER TIBIA PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Lower Moment	X	N•m	27.0	47.5	-45.0	76.0	8.7	103.7	-11.6	65.6
Left Lower Moment	Y	N•m	100.9	76.1	-31.8	32.2	94.3	80.1	-40.4	40.6
Left Lower Force	Z	Newtons	241.3	47.6	-1460.1	30.9	171.7	119.0	-2674.1	79.9
Left Upper Moment	X	N•m	108.0	47.0	-28.3	89.8	35.3	103.1	-36.1	60.6
Left Upper Moment	Y	N•m	22.4	102.3	-97.4	49.2	41.1	62.3	-73.8	77.3
Right Lower Moment	X	N•m	44.8	46.7	-212.0	37.2	47.4	87.4	-23.4	30.5
Right Lower Moment	Y	N•m	97.1	49.2	-160.3	36.2	133.3	85.1	-42.8	47.2
Right Lower Force	Z	Newtons	128.0	191.1	-6692.4	36.6	383.9	114.0	-3038.2	84.3
Right Upper Moment	X	N•m	18.6	81.9	-169.7	37.8	66.2	90.1	-35.0	52.8
Right Upper Moment	Y	N•m	37.0	98.3	-371.4	36.7	37.0	117.9	-137.4	69.1

DATA SHEET NO. 8...(continued)Test Vehicle: 2001 Toyota Prius Hybrid 4 Door SedanNHTSA No.: M15112Test Program: 2001 NHTSA 35mph NCAPTest Date: 2/21/01**CHEST PEAK DISPLACEMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.2	16.9	-31.5	58.0	1.2	22.2	-26.3	81.3

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	15.3	179.6	-62.5	60.1	17.3	196.0	-58.4	73.9
Head CG	Y	G's	11.7	177.7	-11.6	56.9	6.0	193.7	-8.2	64.8
Head CG	Z	G's	28.8	50.4	-25.5	85.2	31.9	61.6	-25.7	90.8
Head CG Resultant	N/A	G's	65.9	60.5			58.7	73.9		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	5.0	149.1	-55.4	54.1	5.1	147.1	-45.2	78.3
Chest CG	Y	G's	3.8	112.0	-7.0	65.8	5.4	87.8	-5.1	68.6
Chest CG	Z	G's	18.3	49.8	-16.9	88.0	22.9	47.7	-17.4	96.3
Chest CG Resultant	N/A	G's	57.7	54.1			46.5	75.8		

REDUNDANT HEAD INJURY CRITERA (HIC)

Location	Driver				Passenger			
	HIC	Avg G	T ¹	T ²	HIC	Avg G	T ¹	T ²
Head CG Redundant	738.0	53.1	48.1	84.0	667.5	51.0	57.5	93.4

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	55.7	52.5	55.5	46.1	75.6	78.6

DATA SHEET NO. 9**SEAT BELT PERFORMANCE ASSESSMENT TEST DATA**Test Vehicle: 2001 Toyota Prius Hybrid 4 Door SedanNHTSA No.: M15112Test Program: 2001 NHTSA 35 mph NCAPTest Date: 02/21/01**SEAT BELT PLACEMENT MEASUREMENTS**

Measurement Description	Units	Driver	Passenger
TCI - Dummy CL to Lap/Shoulder Belt Intersect	mm	205	200
PBU - Top surface of reference to belt upper edge	mm	320	320
PBL - Top surface of reference to belt lower edge	mm	235	240
Lap Belt tension	Newton's	10	10
Shoulder Belt tension	N/A	Retractor	Retractor

BELT LENGTH DATA

Measurement Description	Units	Driver	Passenger
Retractor reel to 'D' ring	mm	640	640
Shoulder belt length as measured on ATD	mm	810	835
Lap belt length as measured on ATD	mm	840	860
Remainder of belt on reel	mm	655	645
Total belt length for continuous webbing systems	mm	2945	2980

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	85.0	245.0
As determined electronically	mm	135.8	271.9

BELT STRETCH DATA

Measurement Description	Units	Driver	Passenger
Electronically from shoulder belt load cell and "D" ring	mm/cm	N/A	N/A
Mechanically	mm/cm	N/A	N/A

*Not used with shoulder belt pre-tensioner systems.

DATA SHEET NO. 10
SUMMARY OF FMVSS 212 DATA

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

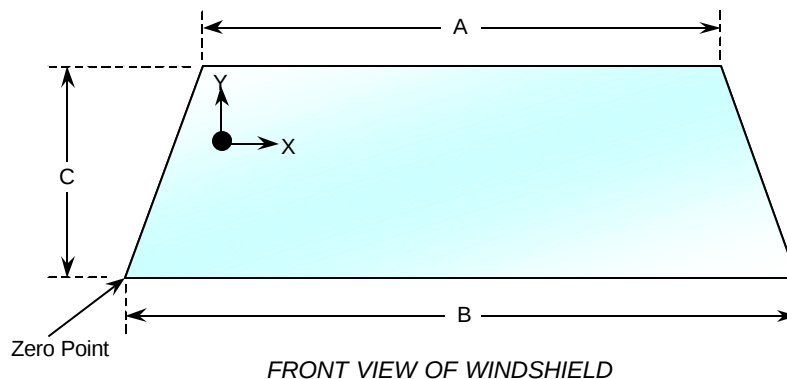
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. There is no molding that covers the windshield periphery at any point.

The standard requires that the post test 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, which 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	2062.5	2062.5	100
Right Side	2062.5	2062.5	100
Total	4125.0	4125.0	100



WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1050	15
B	mm	1451	8
C	mm	812	15

DATA SHEET NO. 11

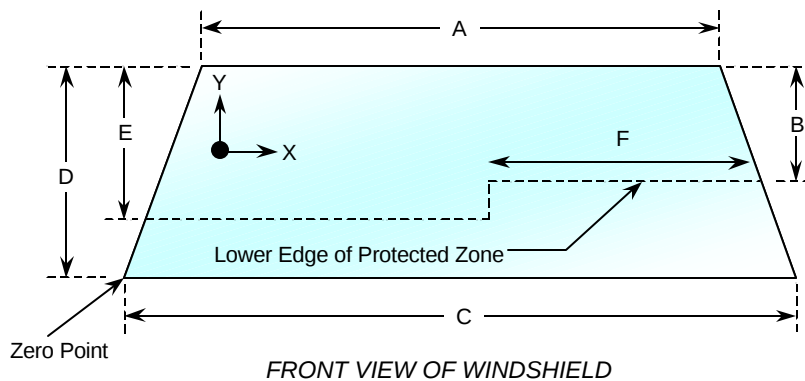
WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01



WINDSHIELD AND PROTECTED ZONE

Item	Units	Value
A	mm	1050
B	mm	530
C	mm	1451
D	mm	812
E	mm	528
F	mm	309

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: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2000 NHTSA 35 MPH NCAP

Test Date: 2/21/01

Test Time: 2:41 PM Temperature at Time of Impact: 18.8 °C

STODDARD SOLVENT SPILLAGE MEASUREMENT

- 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 Details: No leakage occurred

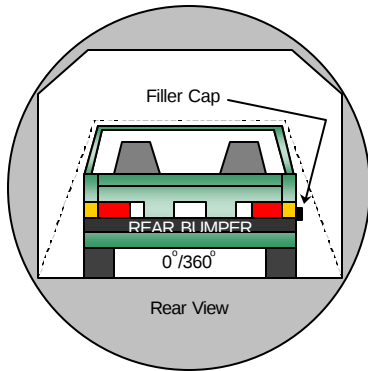
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

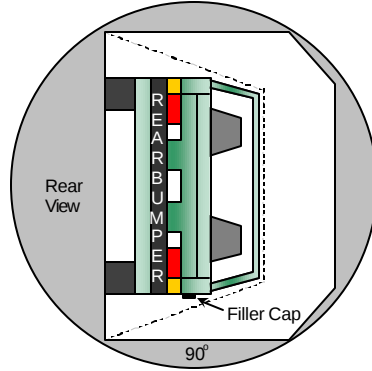
NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

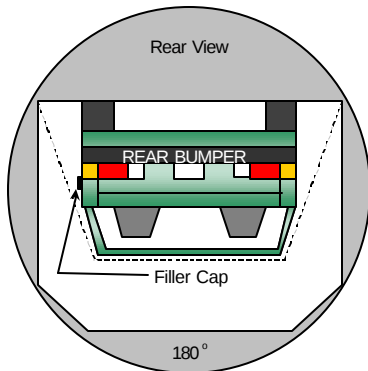
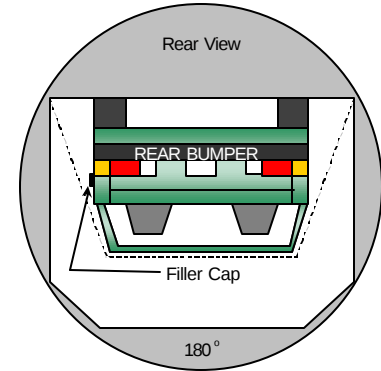
Test Date: 02/21/01



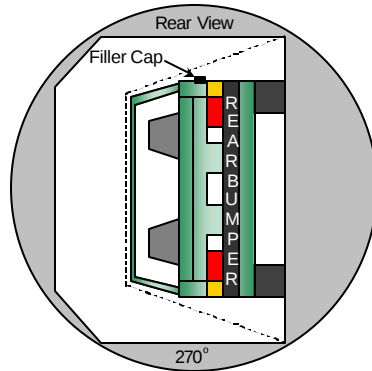
0° TO 90°



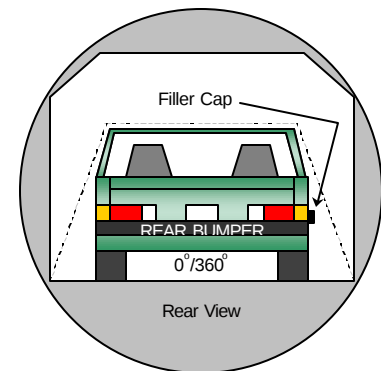
90° TO 180°



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.
4. No spillage of battery electrolyte occurred during rollover.

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	84	300	0.0
90° TO 180°	82	300	0.0
180° TO 270°	79	300	0.0
270° TO 360°	82	300	0.0

DATA SHEET NO. 14
VEHICLE MEASUREMENTS

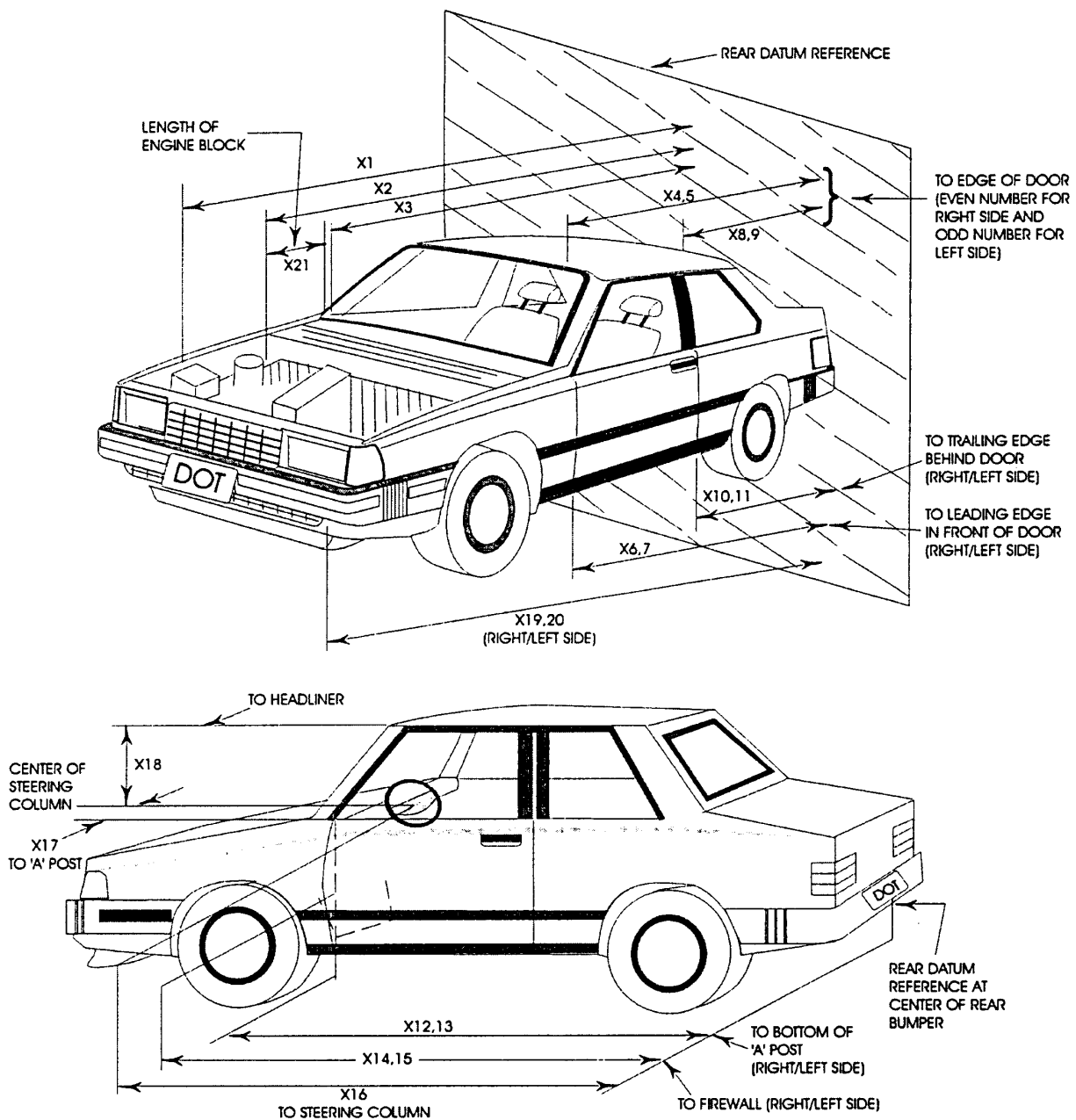
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	4300	3902	-398
2	RSOV to front of engine	mm	3807	3430	-377
3	RSOV to firewall centerline	mm	3556	3498	-58
4	RSOV to leading edge of right door	mm	3066	3070	4
5	RSOV to leading edge of left door	mm	3072	3075	3
6	RSOV to lower leading edge of right door	mm	2995	2990	-5
7	RSOV to lower leading edge of left door	mm	2997	2990	-7
8	RSOV to upper trailing edge of right door	mm	1999	2008	9
9	RSOV to upper trailing edge of left door	mm	1999	2021	22
10	RSOV to lower trailing edge of right door	mm	1995	1982	-13
11	RSOV to lower trailing edge of left door	mm	1992	1986	-6
12	RSOV to bottom of right 'A' pillar	mm	3059	3072	13
13	RSOV to bottom of left 'A' pillar	mm	3064	3069	5
14	RSOV to firewall on right side	mm	3576	3450	-126
15	RSOV to firewall of left side	mm	3569	3495	-74
16	RSOV to steering column	mm	2607	2600	-7
17	Center of steering column to left 'A' pillar	mm	355	370	15
18	Center of steering column to headlining	mm	450	406	-44
19	RSOV to right side of front bumper	mm	3997	3680	-317
20	RSOV to left side of front bumper	mm	3997	3693	-304
21	Length of engine block	mm	430	430	0
RD	RSOV to right side of dash panel	mm	2762	2760	-2
CD	RSOV to center of dash panel	mm	2726	2718	-8
LD	RSOV to left side of dash panel	mm	2768	2768	0



DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

No.	Camera View	Location (mm)			Angle (Deg.)	Film Plane to Head	Lens (mm)	Speed (fps)
		X	Y	Z				
1	Right Side, Real Time	3454	10973	1245	0	1651	Zoom	24
2	Left Side, No. 1	1955	-8250	880	-1	N/A	13	1040
3	Left Side, No. 2	1455	-8250	1460	-4	N/A	35	1010
4	Left Side, No. 3	6495	-10580	4640	-16	N/A	70	1000
5	Left Side, No. 4	Did Not Run						
6	Left Side, No. 5	1455	-8250	2700	-13	N/A	19	980
7	Right Side, No. 1	1955	8150	730	-1	N/A	19	1020
8	Right Side, No. 2	1655	8150	1450	-4	N/A	35	1010
9	Right Side, No. 3	7855	8900	2800	-9	N/A	80	980
10	Right Side, No. 4	3460	12650	1410	-2	N/A	50	990
11	Overhead Overall	251	0	4460	-86	N/A	13	1020
12	Front View, Driver	-525	-380	2590	-43	N/A	12	940
13	Front View, Passenger	-525	380	2590	-44	N/A	13	1100
14	Pit Camera, Engine	580	0	-1360	90	N/A	13	530
15	Pit Camera, Fuel Tank	Did Not Run						
16	Driver Belt	Did Not Run						
17	Passenger Belt	Did Not Run						
18	Left Side Extra	Did Not Run						

X - Barrier Face Y - Monorail Centerline Z - Ground

DATA SHEET NO. 16

PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

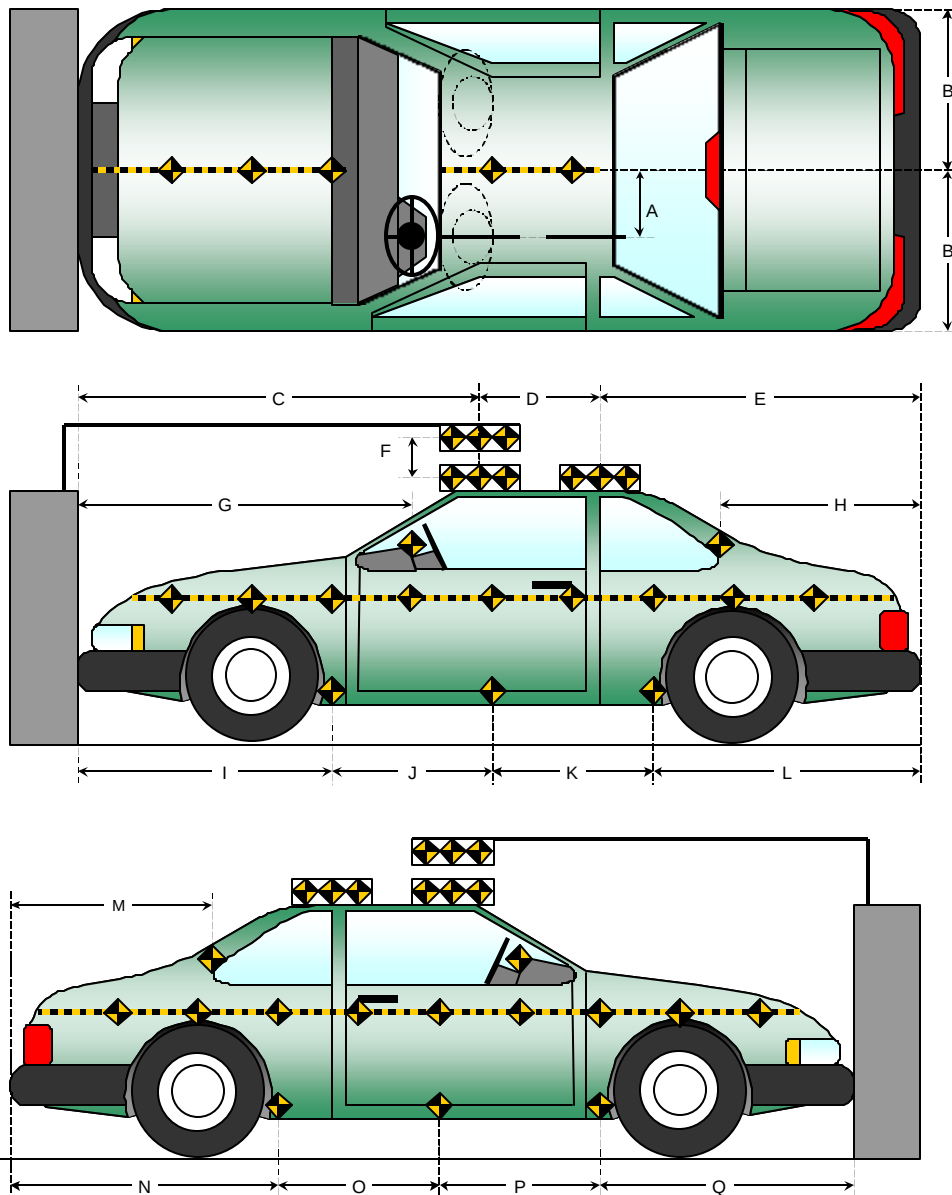
Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01

All Dimensions

in mm

Item	Value
A	369
B	848.5
C	1982
D	609
E	1714
F	155
G	1531
H	1070
I	1231
J	863.5
K	863.5
L	1341
M	1087
N	1345
O	863.5
P	863.5
Q	1235



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

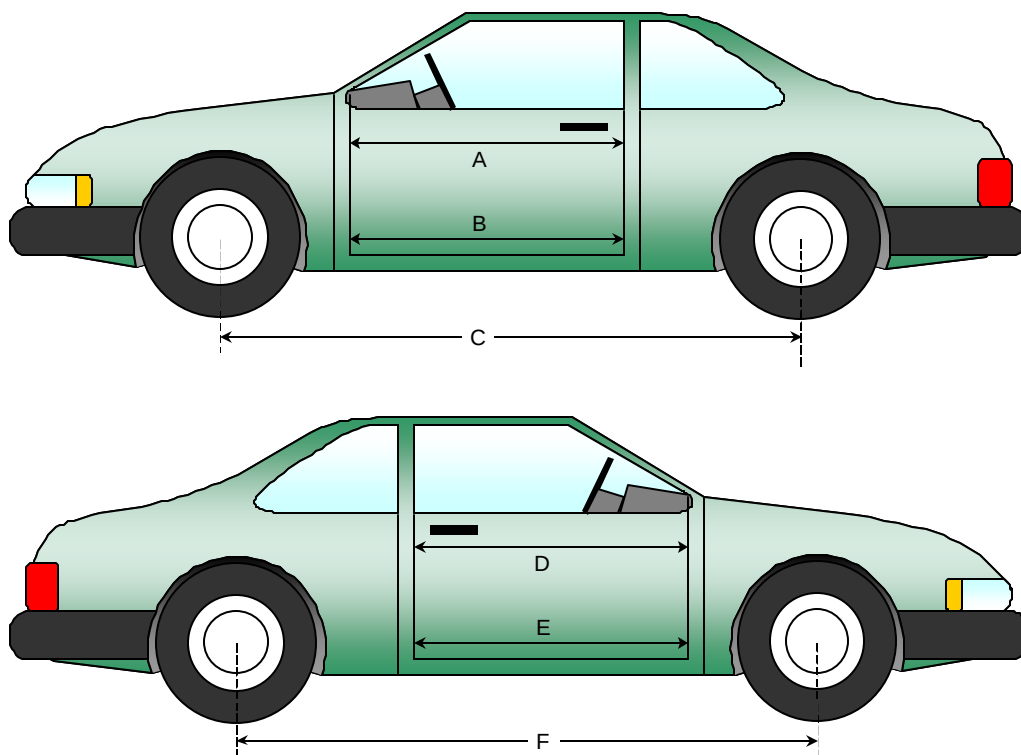
Test Date: 02/21/01

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	1002	997	-5
B	Left Side Lower	mm	889	888	-1
D	Right Side Upper	mm	1003	1001	-2
E	Right Side Lower	mm	890	890	0

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheel base	mm	2552	2485	-67
F	Right Side Wheel base	mm	2552	2535	-17



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

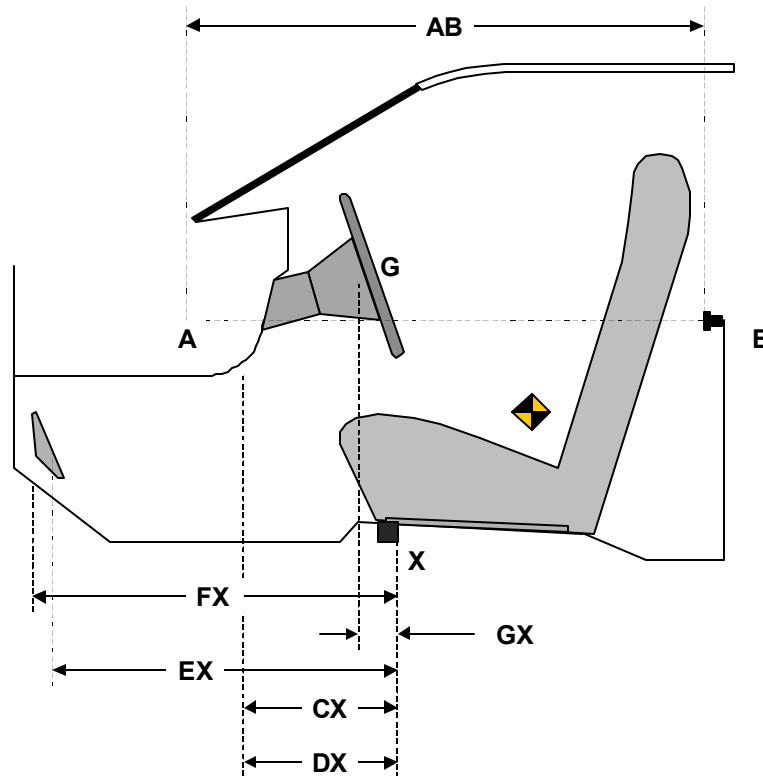
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M15112
 Test Date: 02/21/01

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside window jam)	mm	1002	997	-5
CX	Left Knee Bolster to X	mm	339	316	-23
DX	Right Knee Bolster to X	mm	281	307	26
EX	Brake Pedal to X	mm	552	530	-22
FX	Foot Rest to X	mm	557	490	-67
GX	Center of Steering Wheel Hub to X	mm	54	40	-14

X = Left Front Seat Outboard Anchor Bolt Head



DRIVER COMPARTMENT

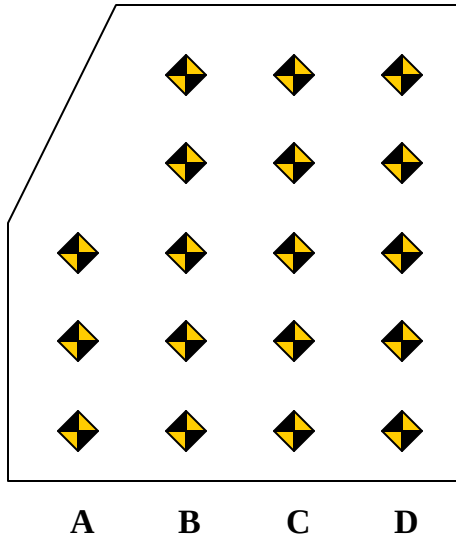
DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 02/21/01



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

Columns A through D are evenly spaced.

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

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

DRIVER FLOOR PAN X-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		661	656	651		558	556	536		-103	-100	-115
2		561	558	556		515	513	502		-46	-45	-54
3	458	458	455	456	451	443	443	447	-7	-15	-12	-9
4	359	359	355	355	352	343	342	345	-7	-16	-13	-10
5	264	264	258	258	252	247	243	249	-12	-17	-15	-9

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		-20	-14	-16		-3	-3	2		17	11	18
2		-87	-78	-78		-84	-94	-88		3	-16	-10
3	-108	-112	-102	-104	-104	-111	-121	-129	4	1	-19	-25
4	-110	-106	-105	-105	-105	-112	-115	-128	5	-6	-10	-23
5	-128	-105	-104	-108	-119	-110	-116	-125	9	-5	-12	-17

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

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan
 Test Program: 2001 NHTSA 35 mph NCAP

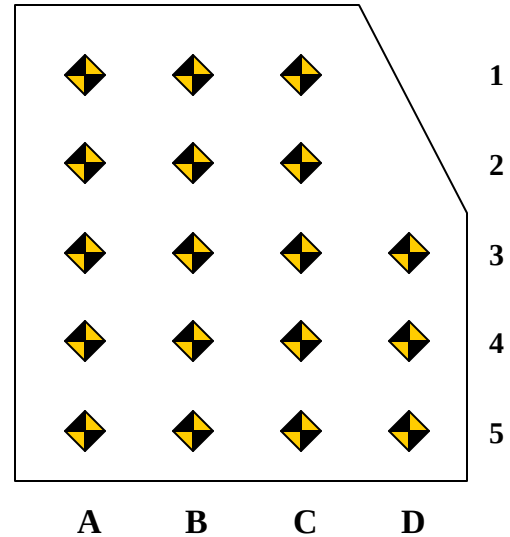
NHTSA No.: M15112
 Test Date: 02/21/01

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	641	635	632		560	551	545		-81	-84	-87	
2	538	537	532		504	500	496		-34	-37	-36	
3	434	435	432	434	425	427	426	440	-9	-8	-6	6
4	331	335	331	335	325	326	324	343	-6	-9	-7	8
5	241	236	235	235	225	226	223	244	-16	-10	-12	9

PASSENGER FLOOR PAN Z-AXIS

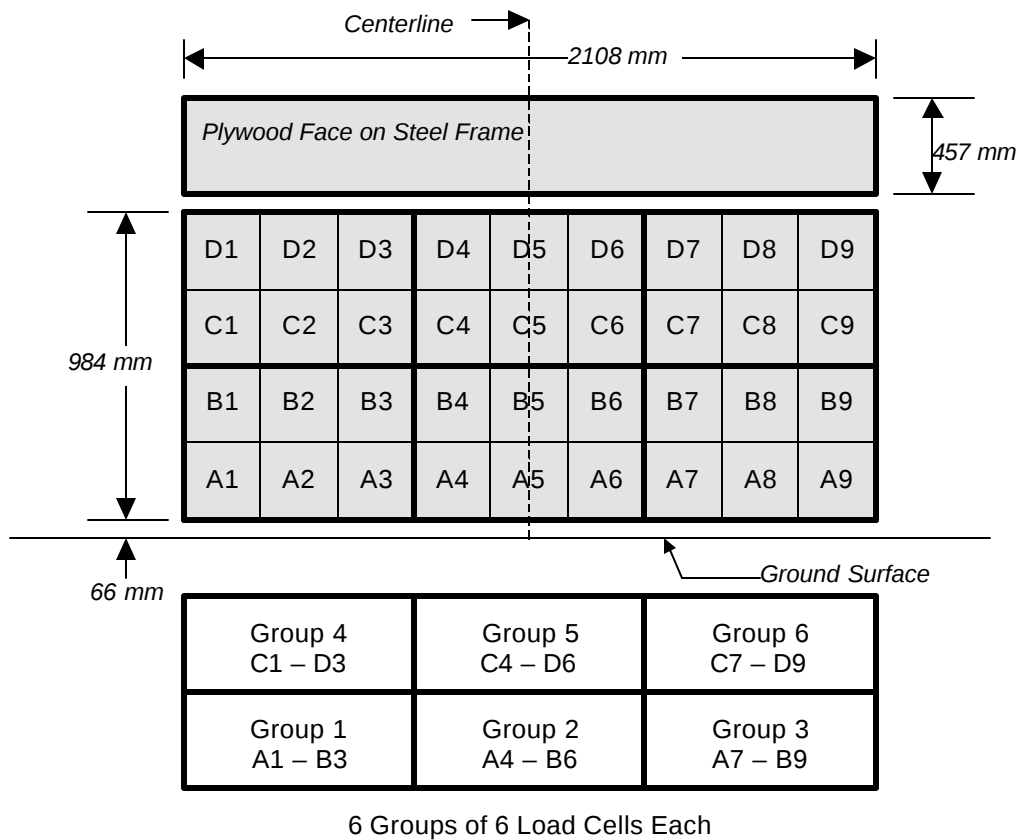
	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	34	35	34		26	23	30		-8	-12	-4	
2	-27	-25	-27		-49	-45	-50		-22	-20	-23	
3	-95	-94	-95	-64	-115	-111	-105	-115	-20	-17	-10	-51
4	-120	-100	-105	-67	-119	-104	-104	-114	1	-4	1	-47
5	-121	-105	-105	-62	-116	-106	-106	-116	5	-1	-1	-54

DATA SHEET NO. 18
FIXED BARRIER TYPE

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M15112
 Test Date: 02/21/01

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



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 DATA

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M15112
Test Date: 02/21/01

VEHICLE INFORMATION

VIN: JT2BK12UX10020226
Vehicle Size Category: 4 Door Sedan

Wheel base (mm): 2552
Test Weight (kg): 1421

ACCELEROMETER DATA

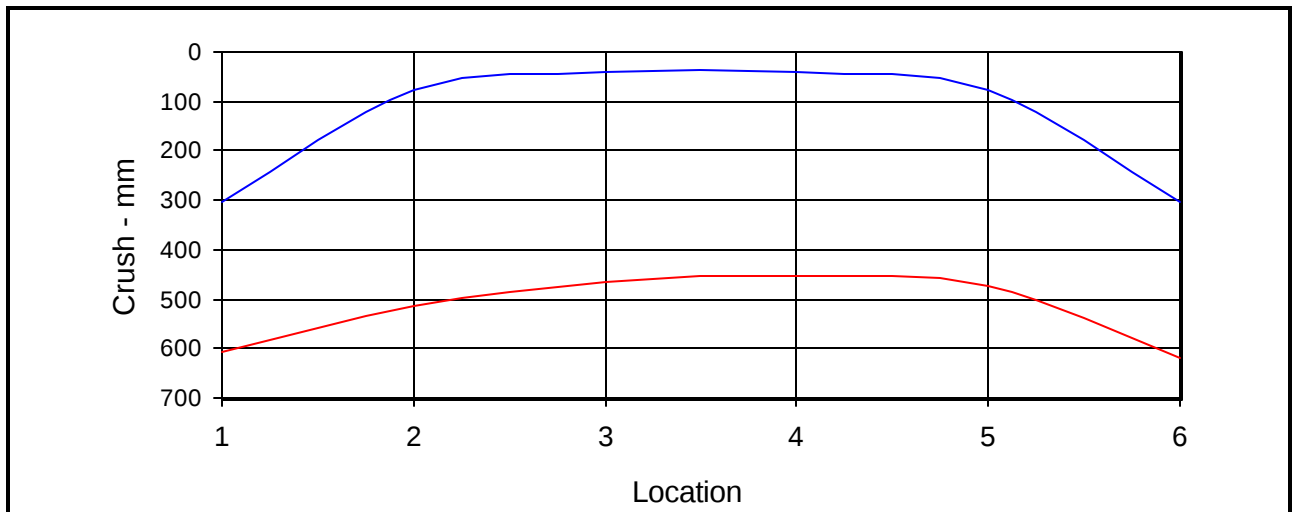
Accelerometer Location: Left rear floor pan
Cal. Procedure/Interval: 6 months / drop test
Integration Algorithm: NHTSA Standard
Impact Velocity (km/h): 55.96
Velocity Change (km/h): 63.6

Linearity: Good
Time of Separation (msec): 57.7

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 ; Midpoint of Damage: Vehicle Centerline
Damage Region Length (mm): 1621 ; Impact Mode: Full Frontal

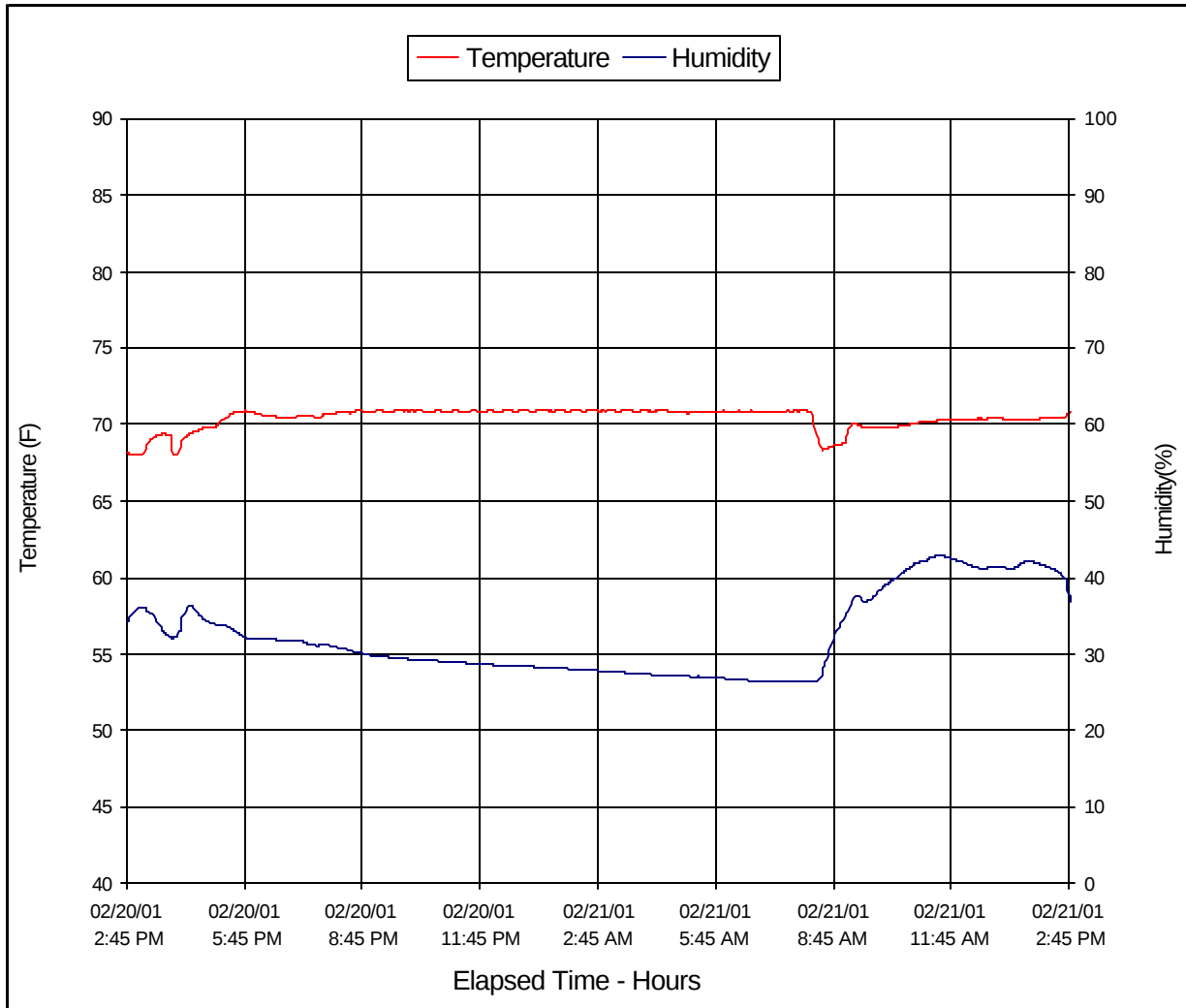
No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	303	607	-304
C2	Crush zone 2 on left side	mm	77	512	-435
C3	Crush zone 3 on left side	mm	39	465	-426
C4	Crush zone 4 on right side	mm	39	455	-416
C5	Crush zone 5 on right side	mm	76	472	-396
C6	Crush zone 6 at right side	mm	303	620	-317



DATA SHEET NO. 20
DUMMY/ VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M15112
Test Date: 02/21/01



APPENDIX A
PHOTOGRAPHS

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Figure A-1: Right Front, as Received



Figure A-2: Left Rear, as Received

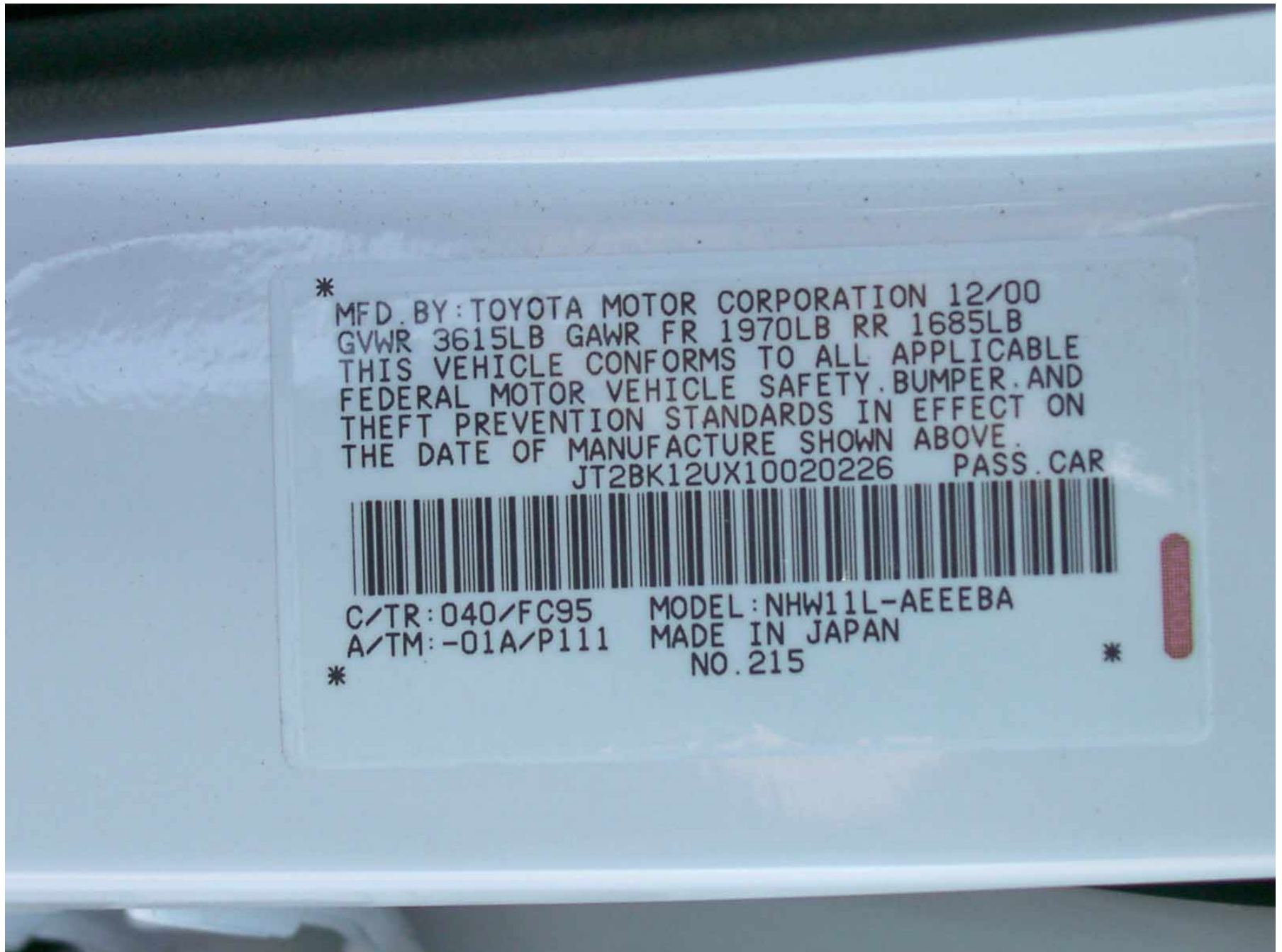


Figure A-3: Vehicle Certification Label

AIR FILTER SERVICE FOR AIR CONDITIONING SYSTEM	TIRE - LOADING INFORMATION
THE AIR CONDITIONING SYSTEM HAS AN AIR FILTER TO ELIMINATE DUST, POLLEN, ETC. FOR YOUR COMFORTABLE DRIVING, PERFORM AIR FILTER SERVICE PERIODICALLY. FOR MORE INFORMATION, SEE OWNER'S MANUAL OR CONSULT YOUR DEALER.	VEHICLE CAPACITY WEIGHT : 363kg (800lbs) OCCUPANTS : FRT. 2 RR. 3 TOTAL 5 TIRE SIZE : P175/65R14 84S SPARE TIRE : T125/70D16 96M COLD TIRE PRESSURES : kPa (psi) P175/65R14 84S : FRT. 240(35), RR. 230(33) SPARE TIRE : 420 (60) SEE OWNER'S MANUAL FOR ADDITIONAL INFORMATION
ENTRETIEN DU FILTRE A AIR DU SYSTEME DE CLIMATISATION	CHARGE MAXIMALE DU VEHICULE : 363kg(800LIVRES)
LE SYSTEME DE CLIMATISATION EST MUNI D'UN FILTRE A AIR SERVANT A ELIMINER POUSSIERE, POLLEN ET AUTRES IMPURETES. POUR VOTRE CONFORT, EFFECTUEZ REGULIEREMENT L'ENTRETIEN DE CE FILTRE A AIR. POUR PLUS DE DETAILS, VOYEZ LE MANUEL DU PROPRIETAIRE OU CONSULTEZ VOTRE CONCESSIONNAIRE.	PERSONNES : AVANT 2 ARRIERE 3 TOTAL 5 DIMENSION DES PNEUS : P175/65R14 84S PNEU DE RECHANGE : T125/70D16 96M PRESSION DE PNEUS : kPa (LB/PO ²) P175/65R14 84S : AVANT 240 (35), ARRIERE 230 (33) PNEU DE RECHANGE : 420 (60) POUR DE PLUS AMPLES DETAILS, VOIR LE MANUEL DU PROPRIETAIRE
47020	5 P

Figure A-4: Vehicle Tire Label



Figure A-5: Front View, Pre-Test



Figure A-6: Front View, Post-Test



Figure A-7: Left Side View, Pre-Test



Figure A-8: Left Side View, Post-Test



Figure A-9: Right Side View, Pre-Test



Figure A-10: Right Side View, Post-Test



Figure A-11: Right Front View, Pre-Test



Figure A-12: Right Front View, Post-Test



Figure A-13: Left Rear View, Pre-Test



Figure A-14: Left Rear View, Post-Test

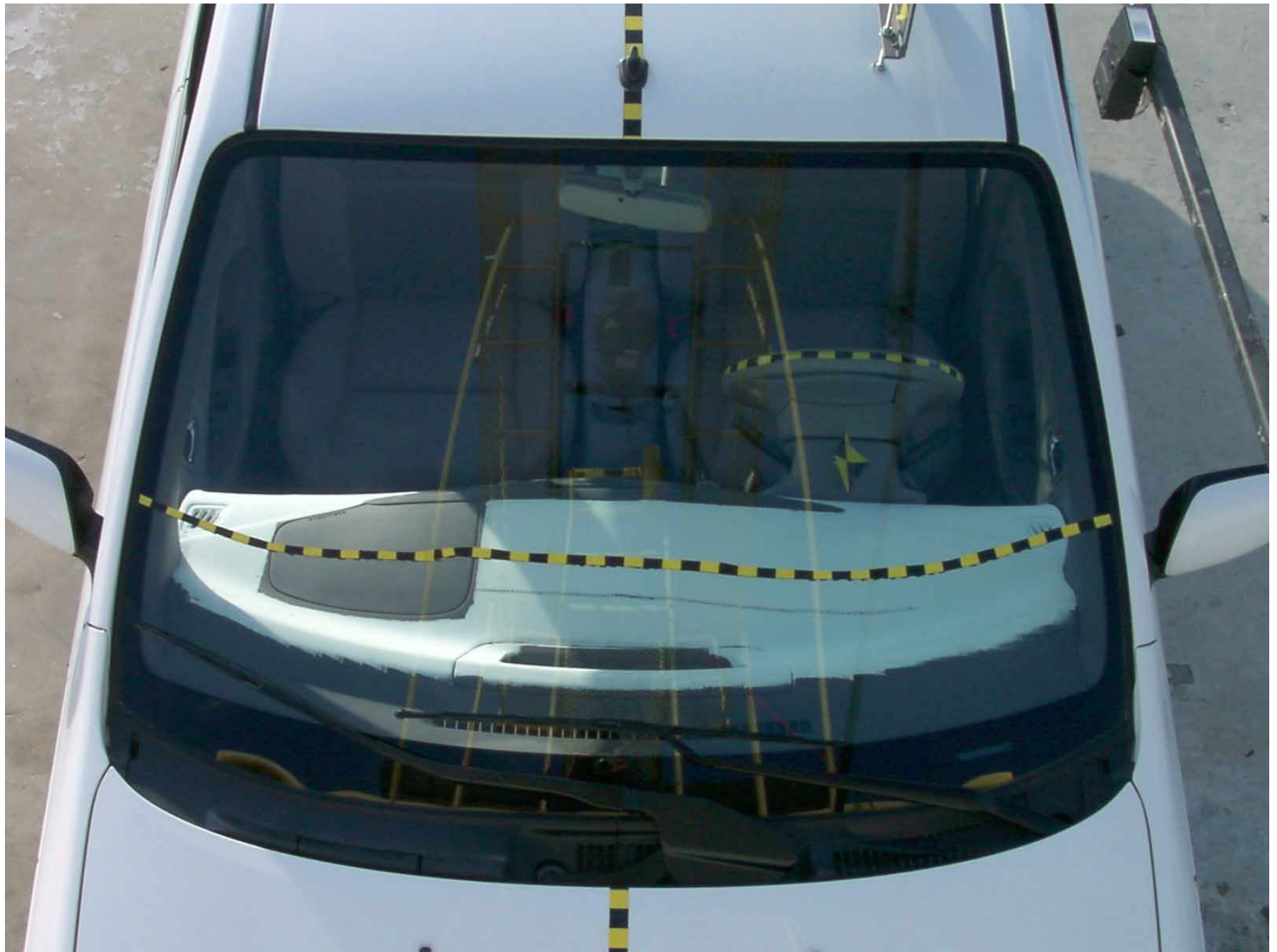


Figure A-15: Windshield, Pre-Test



Figure A-16: Windshield, Post-Test



Figure A-17: Engine Compartment, Pre-Test

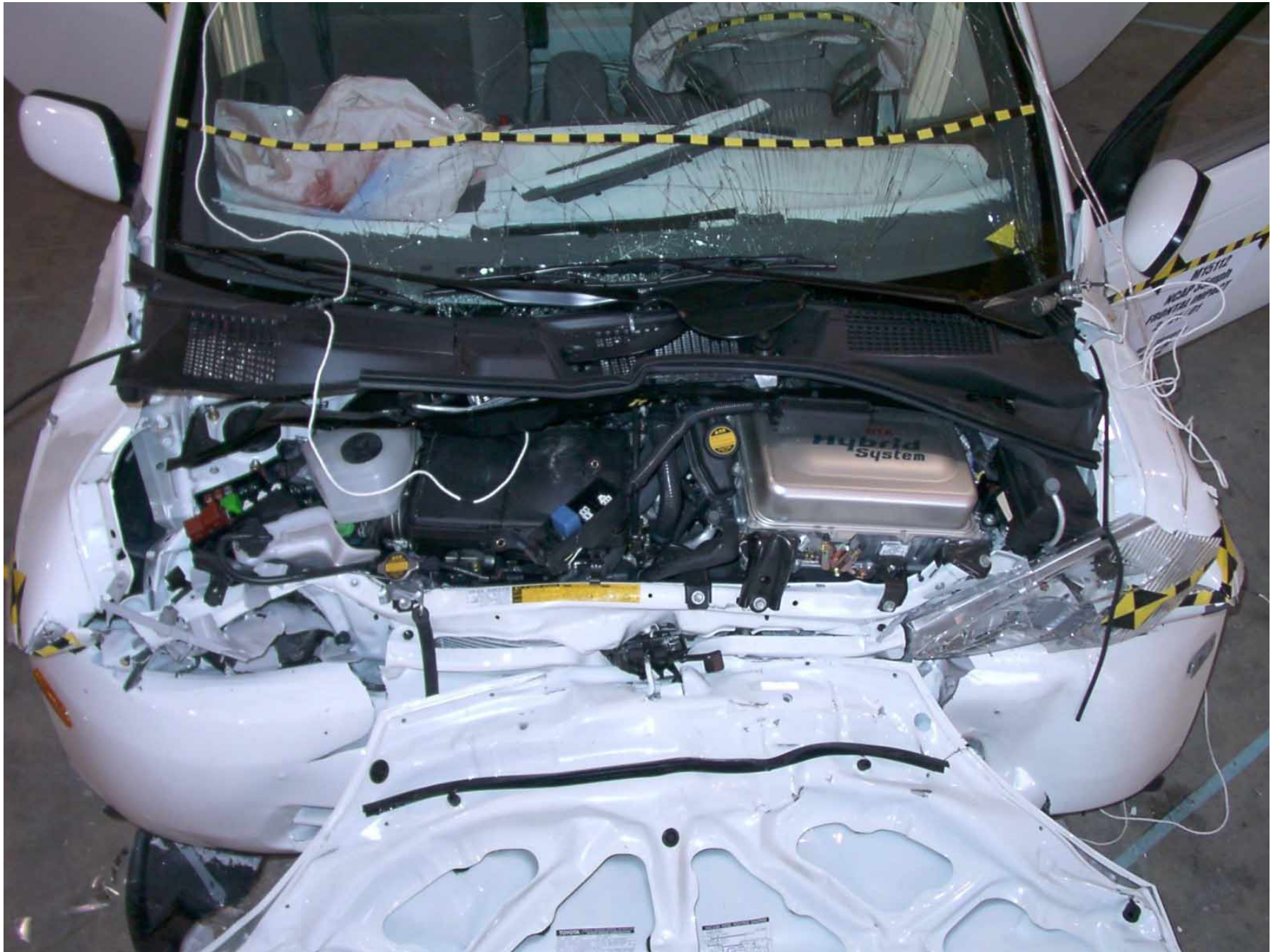


Figure A-18: Engine Compartment, Post-Test



Figure A-19: Fuel Cap, Pre-test



Figure A-20: Fuel Cap, Post-Test

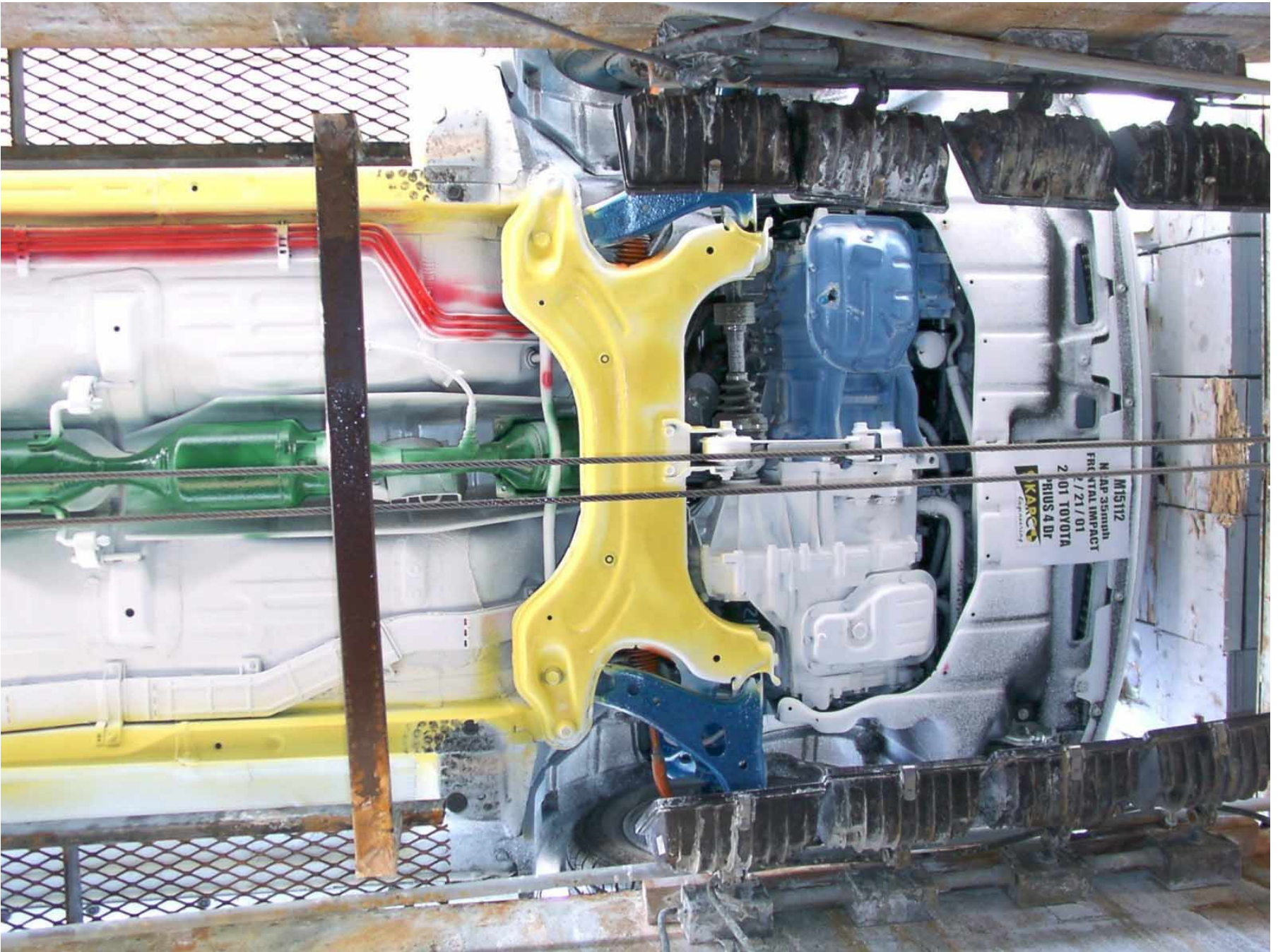


Figure A-21: Front Underside, Pre-Test

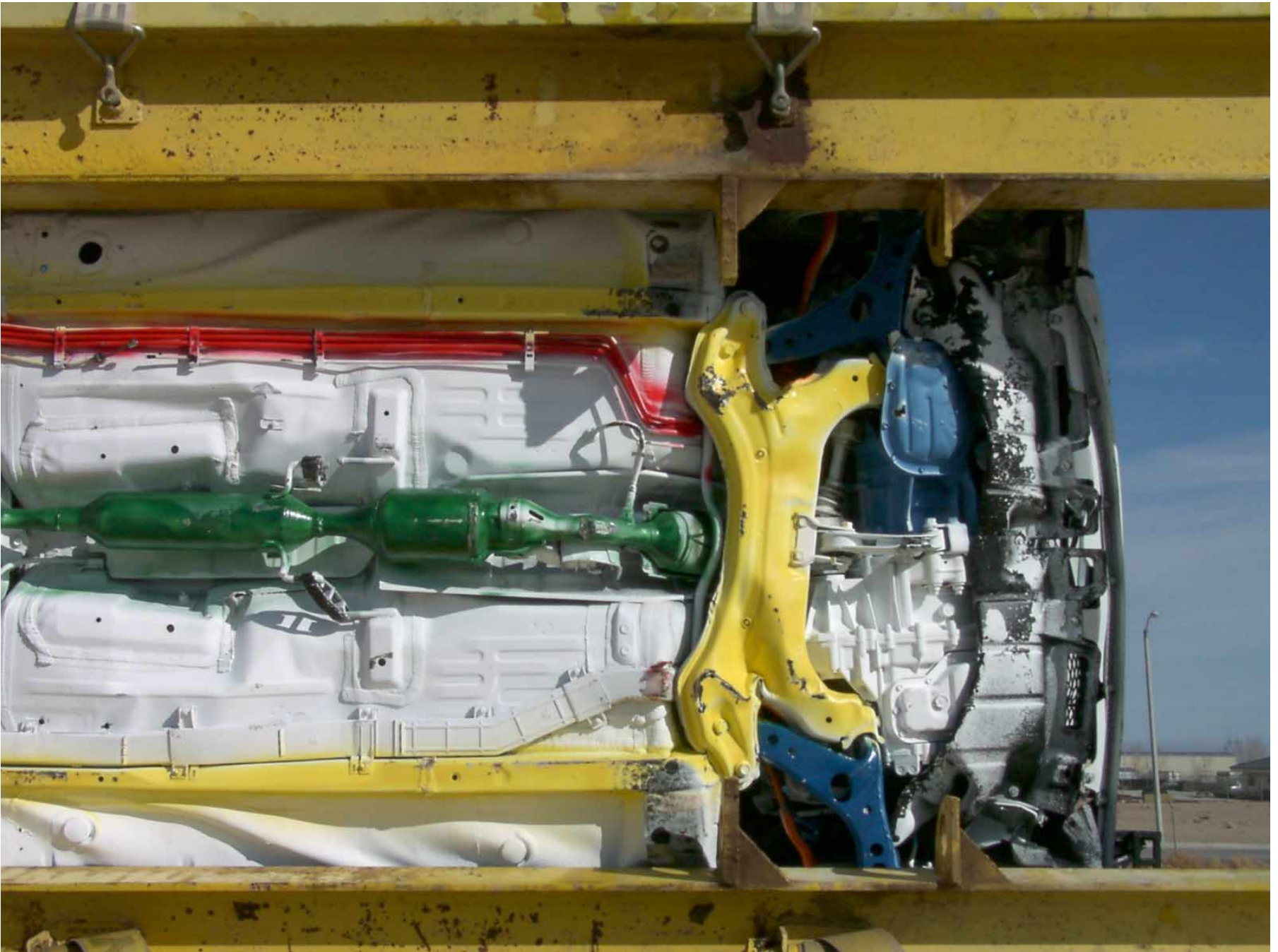


Figure A-22: Front Underside, Post-Test

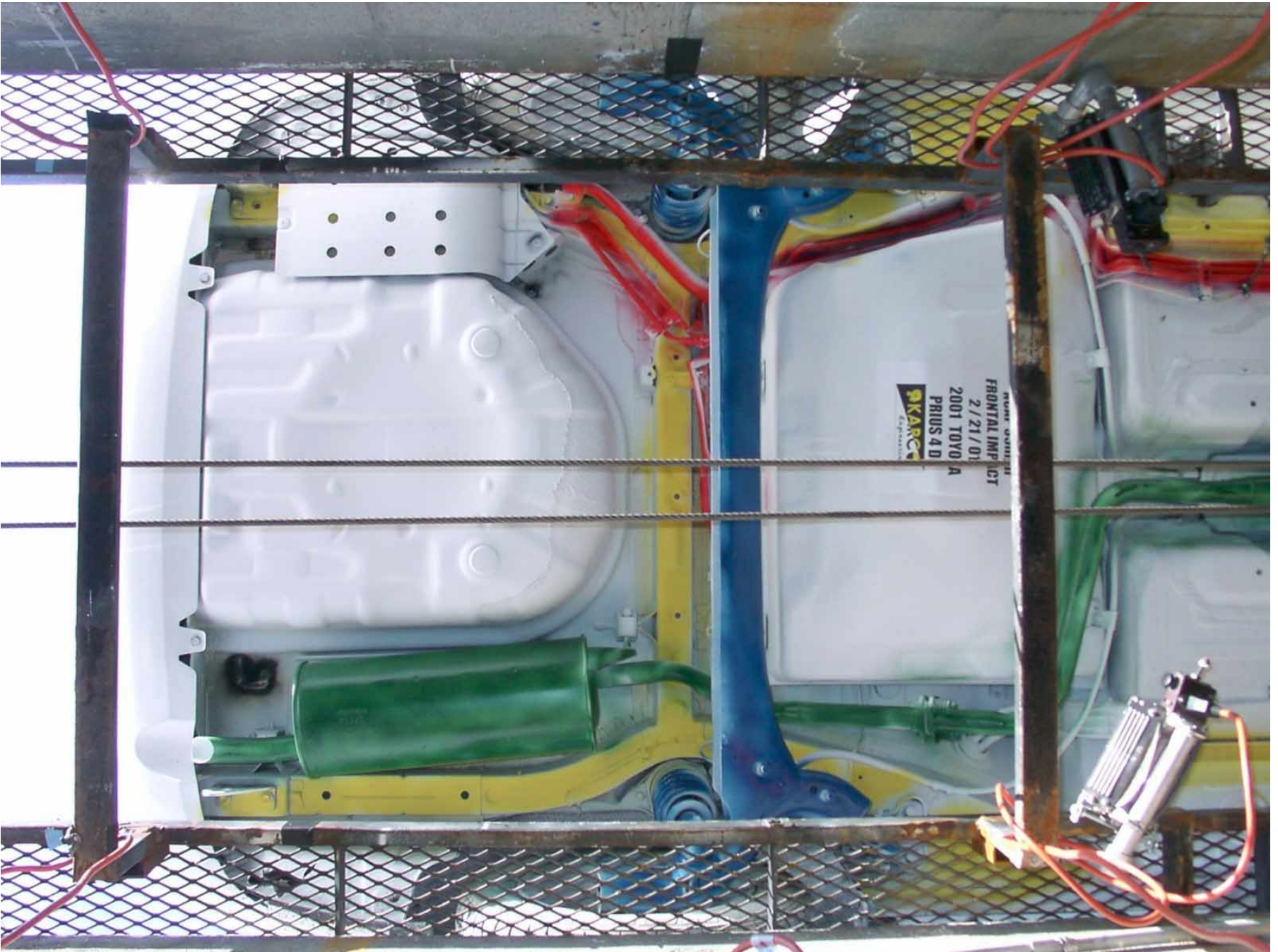


Figure A-23: Rear Underside, Pre-Test

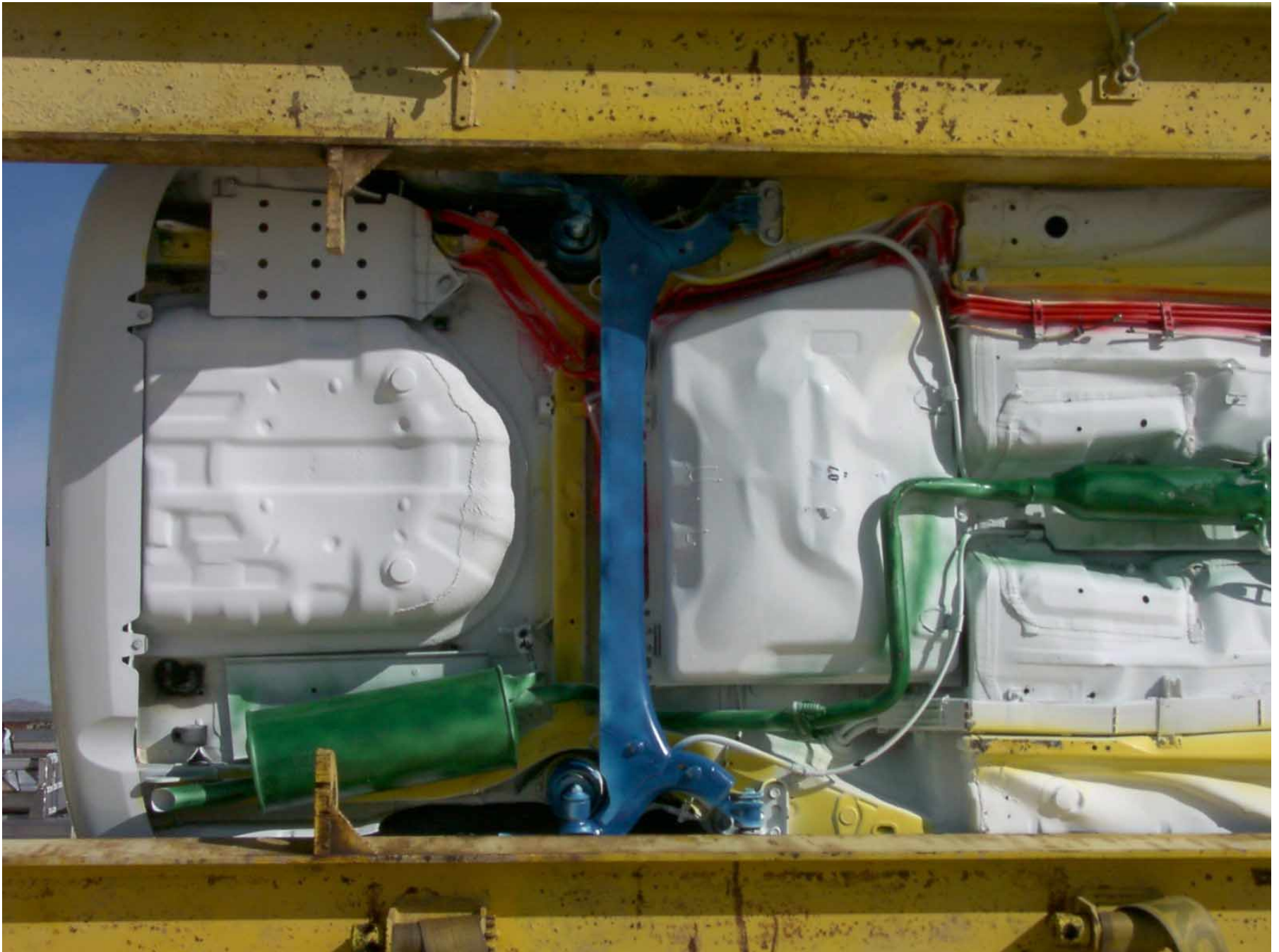


Figure A-24: Rear Underside, Post-Test



Figure A-25: Driver Dummy Front View, Pre-Test



Figure A-26: Driver Dummy Front View, Post-Test



Figure A-27: Driver Dummy Through Window, Pre-Test



Figure A-28: Driver Dummy Through Window, Post-Test



Figure A-29: Driver Dummy Door Open, Pre-Test



Figure A-30: Driver Dummy Door Open, Post-Test



Figure A-31: Driver Dummy 90° To Vehicle, Pre-Test



Figure A-32: Driver Dummy 90° To Vehicle, Post-Test



Figure A-33: Driver Dummy Feet, Pre-Test



Figure A-34: Driver Dummy Feet and Knee Contact, Post-Test



Figure A-35: Driver Side Knee Bolster, Pre-Test



Figure A-36: Driver Side Knee Bolster, Post-Test



Figure A-37: Driver Side Floor Pan, Pre-Test



Figure A-38: Driver Side Floor Pan, Post-Test



Figure A-39: Driver Dummy Head, Post-Test



Figure A-40: Driver Dummy Contact, Post-Test



Figure A-41: Passenger Dummy Front View, Pre-Test



Figure A-42: Passenger Dummy Front View, Post-Test



Figure A-43: Passenger Dummy Through Window, Pre-Test



Figure A-44: Passenger Dummy Through Window, Post-Test



Figure A-45: Passenger Dummy Door Open, Pre-Test



Figure A-46: Passenger Dummy Door Open, Post-Test



Figure A-47: Passenger Dummy 90° To Vehicle, Pre-Test



Figure A-48: Passenger Dummy 90° To Vehicle, Post-Test



Figure A-49: Passenger Dummy Feet, Pre-Test



Figure A-50: Passenger Dummy Feet and Knee Contact, Post-Test



Figure A-51: Passenger Side Floor Pan, Pre-Test



Figure A-52: Passenger Side Floor Pan, Post-Test



Figure A-53: Passenger Side Knee Bolster, Pre-Test



Figure A-54: Passenger Side Knee Bolster, Post-Test

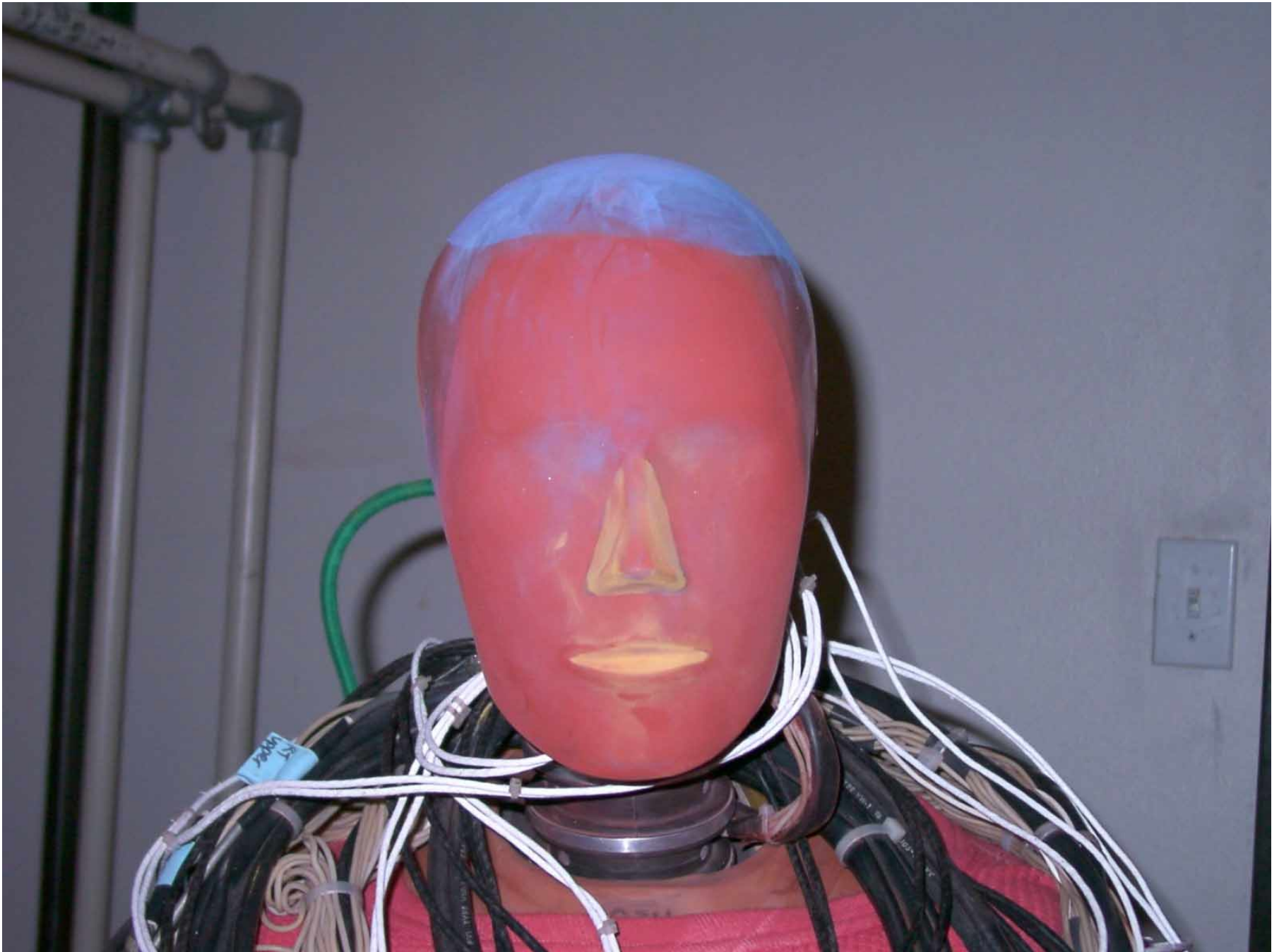


Figure A-55: Passenger Head, Post-Test



Figure A-56: Passenger Dummy Contact, Post-Test



Figure A-57: Vehicle on Rollover Device



Figure A-58: Vehicle During Impact

APPENDIX B

DUMMY AND VEHICLE RESPONSE DATA TRACES

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B-19	Driver Neck Moment Z	B-19
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B-27	Driver Chest Redundant X	B-27
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B-45 Driver Right Upper Tibia Moment Y	B-45
B-46 Driver Left Lower Tibia Moment X	B-46
B-47 Driver Left Lower Tibia Moment Y	B-47
B-48 Driver Left Lower Tibia Force Z	B-48
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B-50 Driver Right Lower Tibia Moment Y	B-50
B-51 Driver Right Lower Tibia Force Z	B-51
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B-53 Driver Left Foot Aft Z	B-53
B-54 Driver Left Foot Fore Z	B-54
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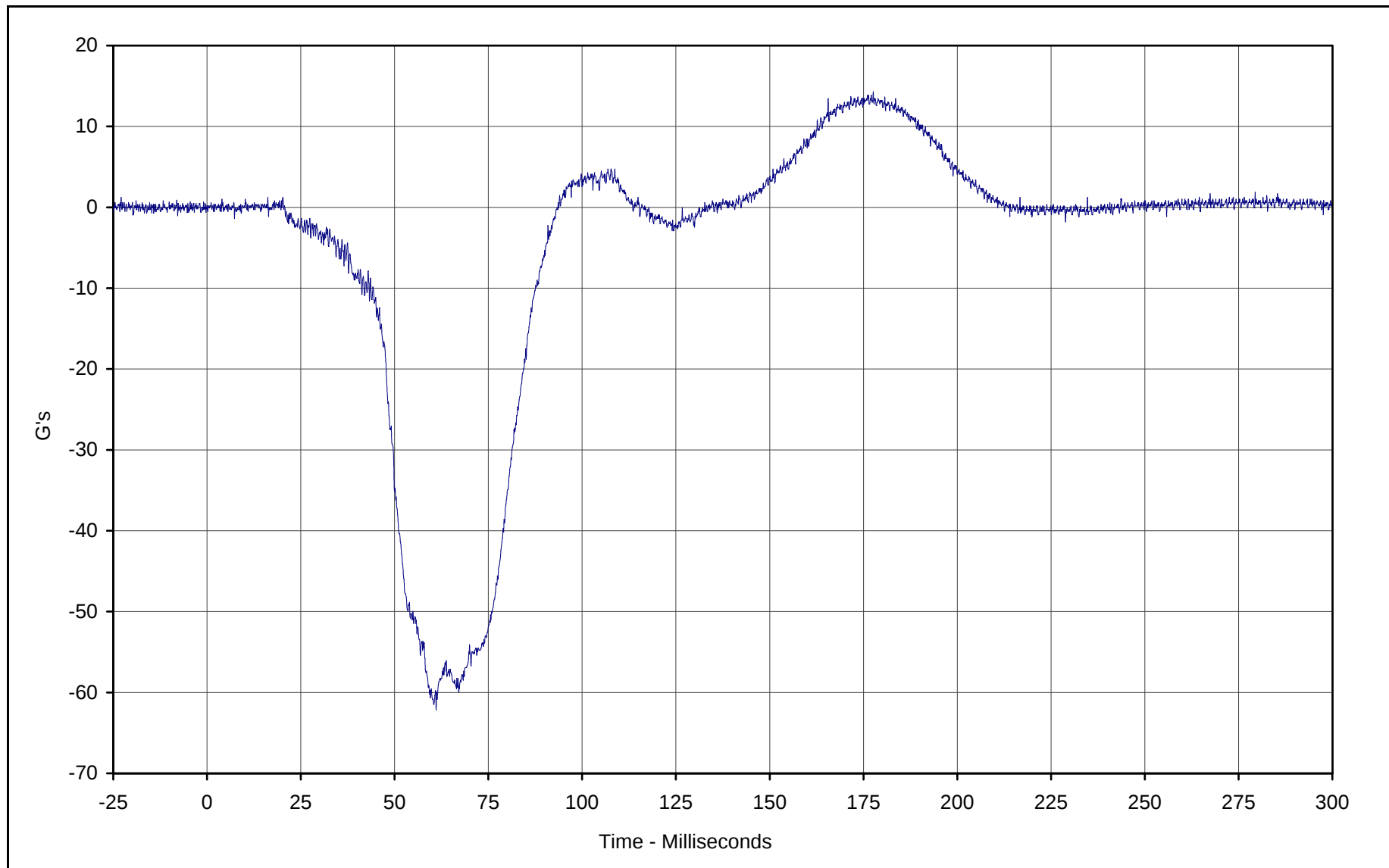
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B-63 Passenger Head Primary X Velocity	B-63
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B-105	Passenger Right Upper Tibia Moment X	B-105
B-106	Passenger Right Upper Tibia Moment Y	B-106
B-107	Passenger Left Lower Tibia Moment X	B-107
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B-109	Passenger Left Lower Tibia Force Z	B-109
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B-139	Vehicle Right Brake Caliper Velocity	B-139
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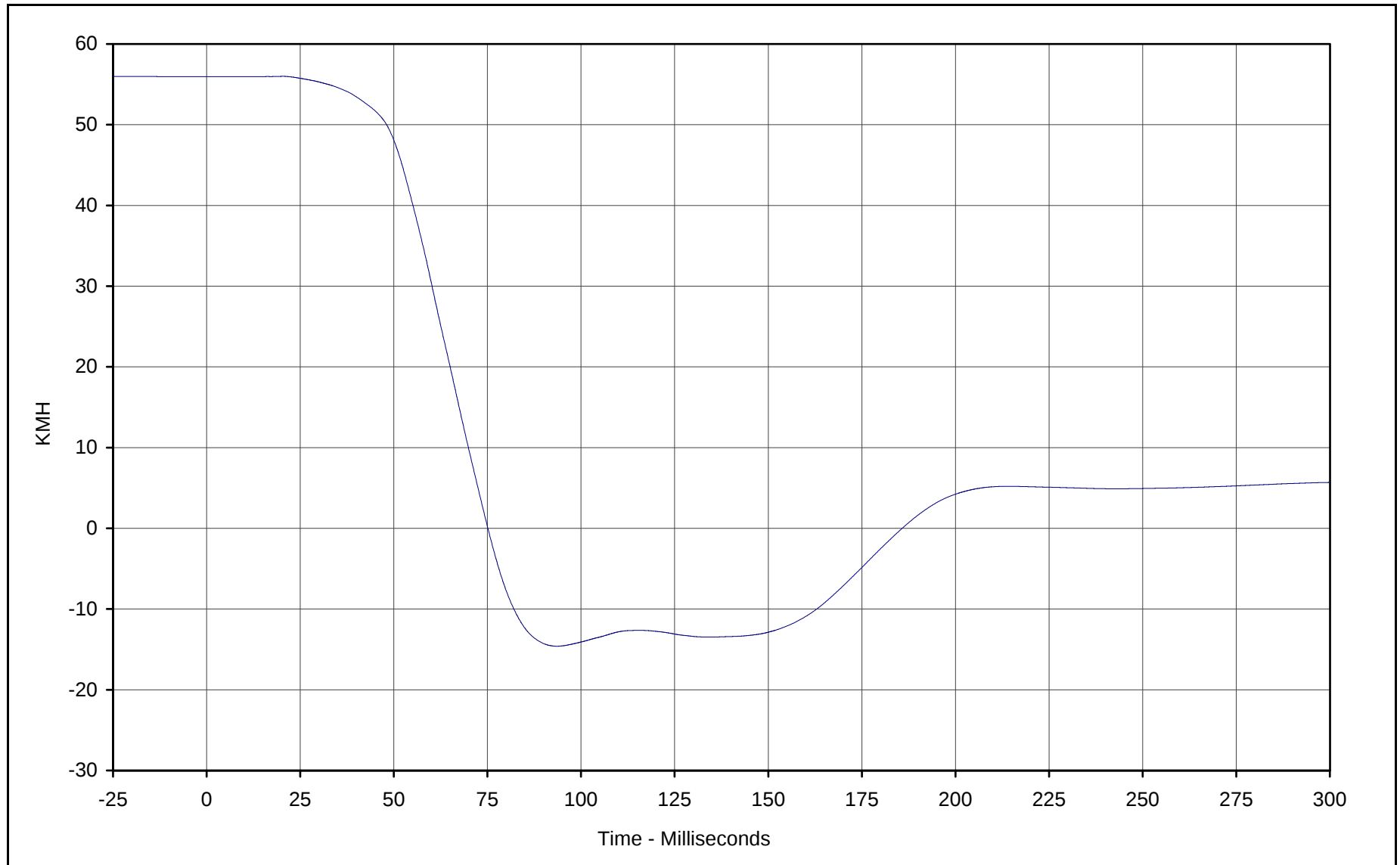


Curve Description: Driver Head Primary X
Maximum Value: 14.3 at 177.6 Milliseconds
Minimum Value: -62.2 at 61.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-001

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



B-2

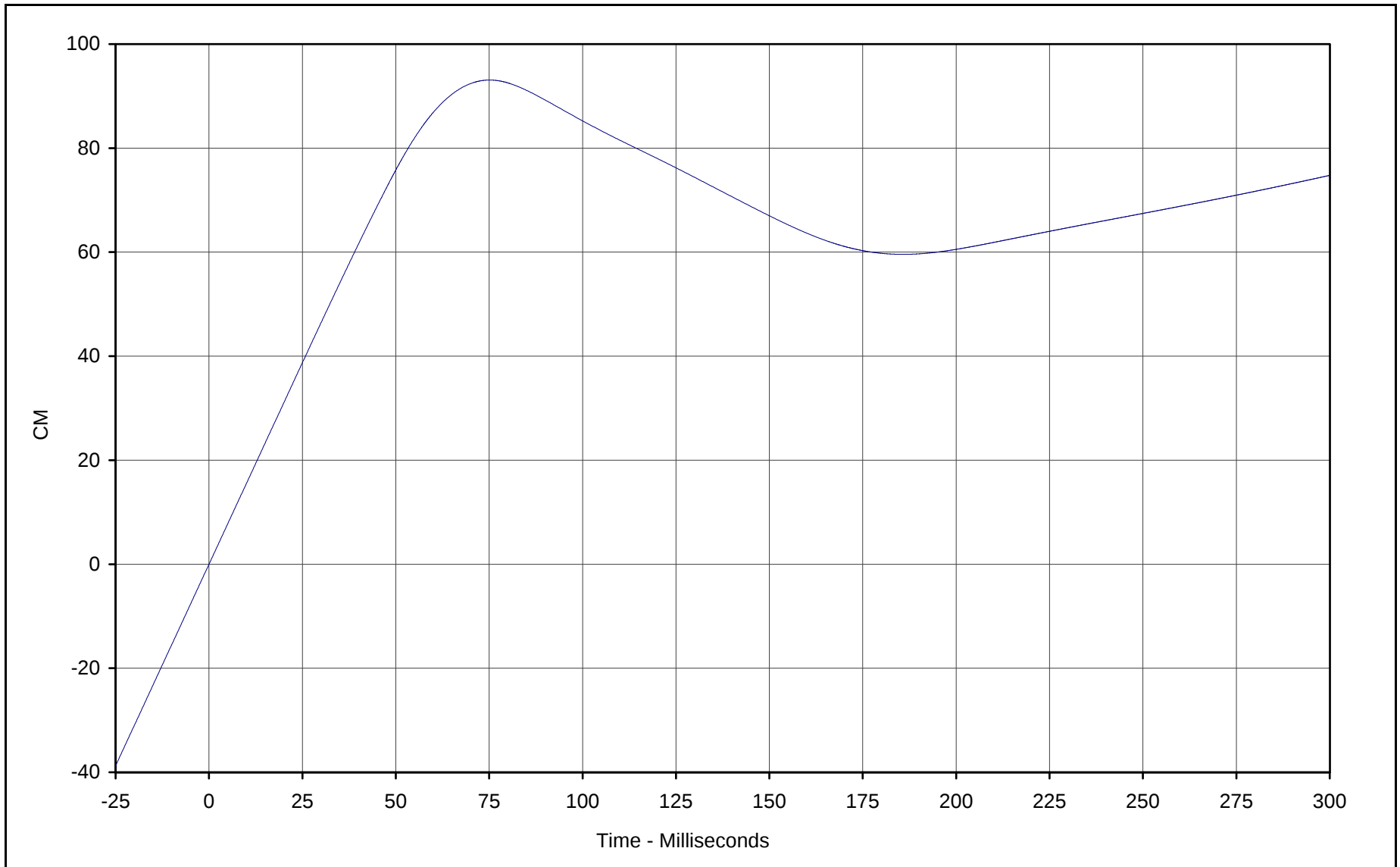


Curve Description: Driver Head Primary X Velocity
Maximum Value: 56.0 at 20.5 Milliseconds
Minimum Value: -14.6 at 93.5 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-001

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



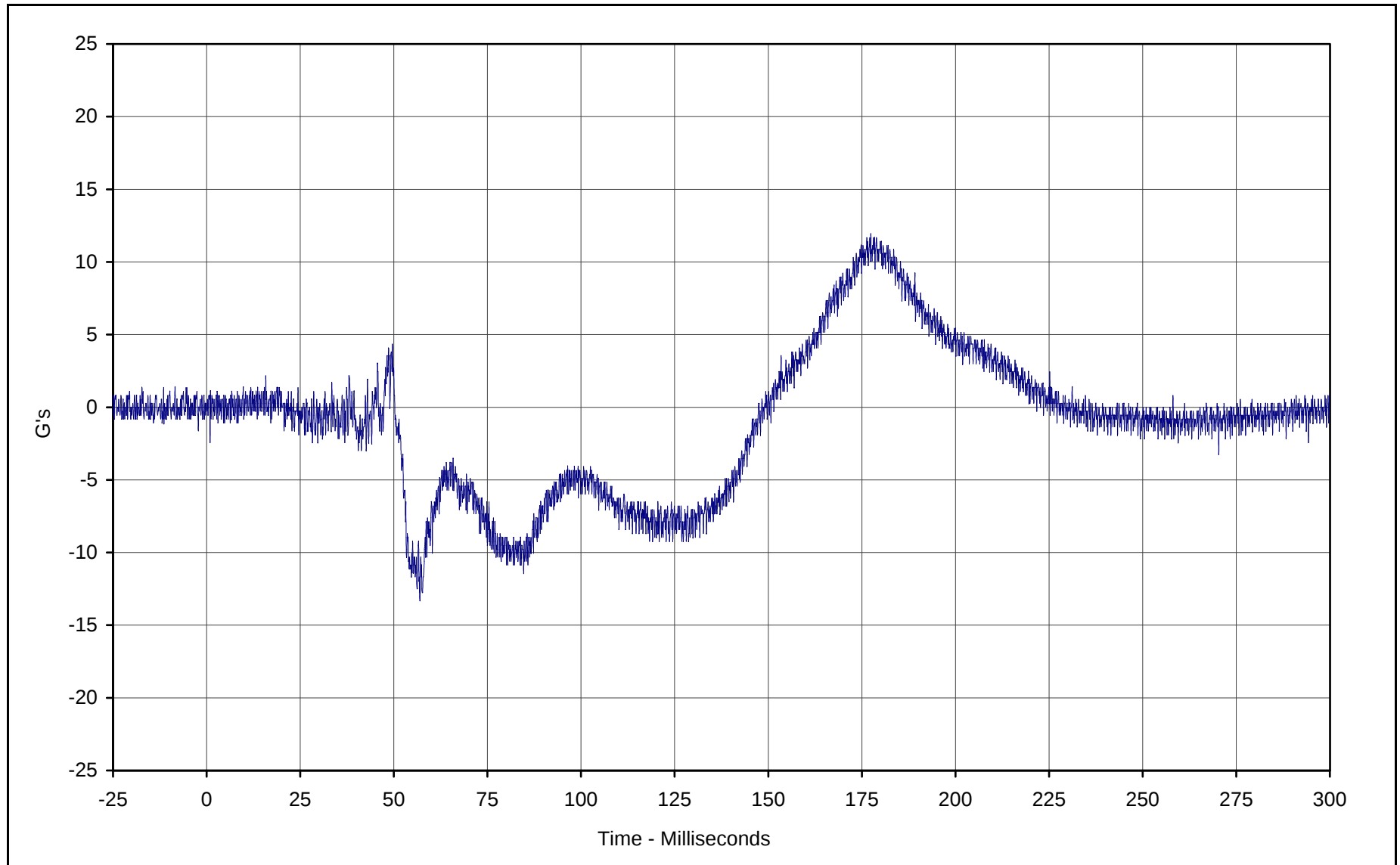
KAR21001-13



Curve Description: Driver Head Primary X Displ.
Maximum Value: 93.1 at 75.1 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-001

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

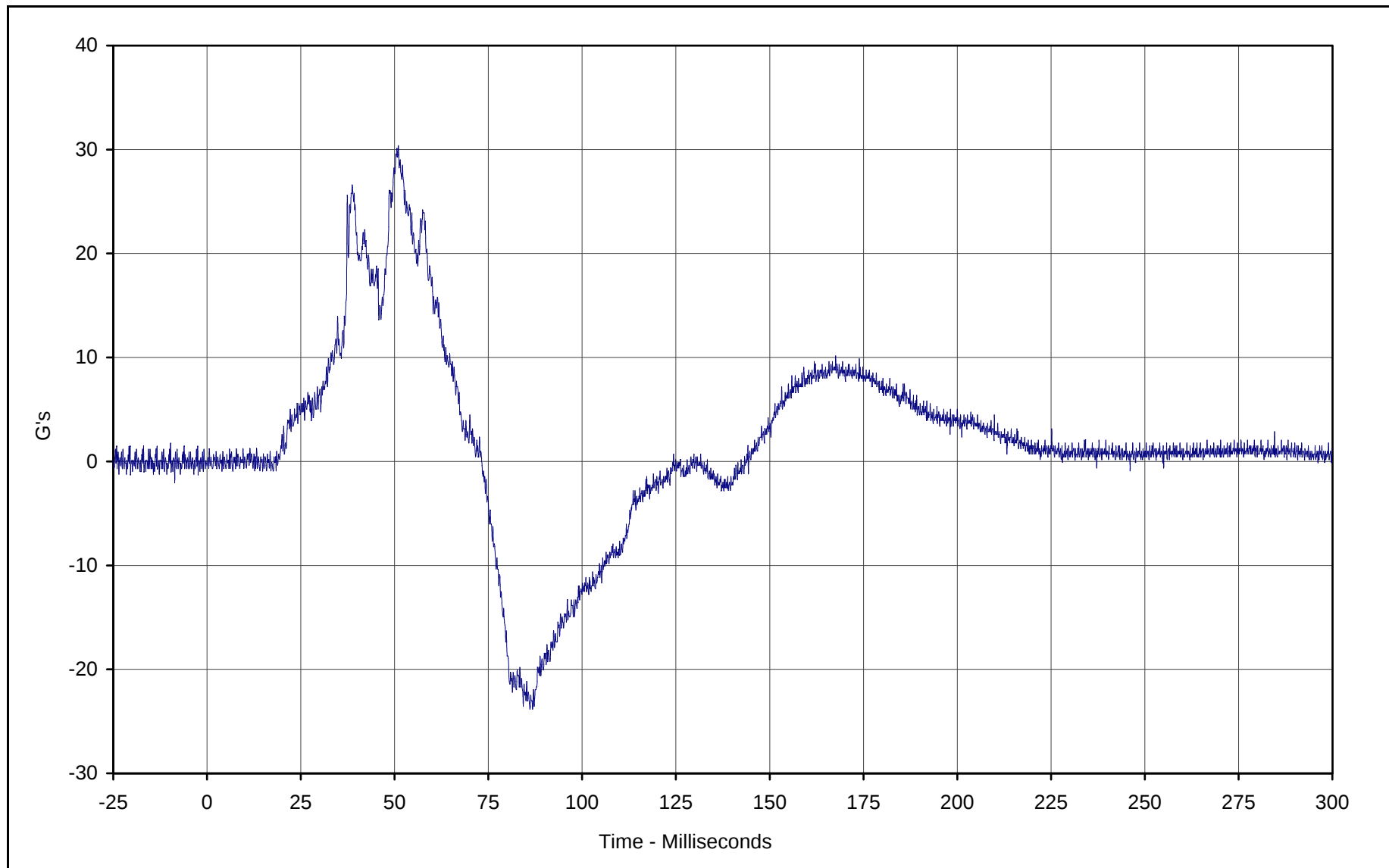




Curve Description: Driver Head Primary Y
Maximum Value: 12.0 at 177.4 Milliseconds
Minimum Value: -13.3 at 57.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-002

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



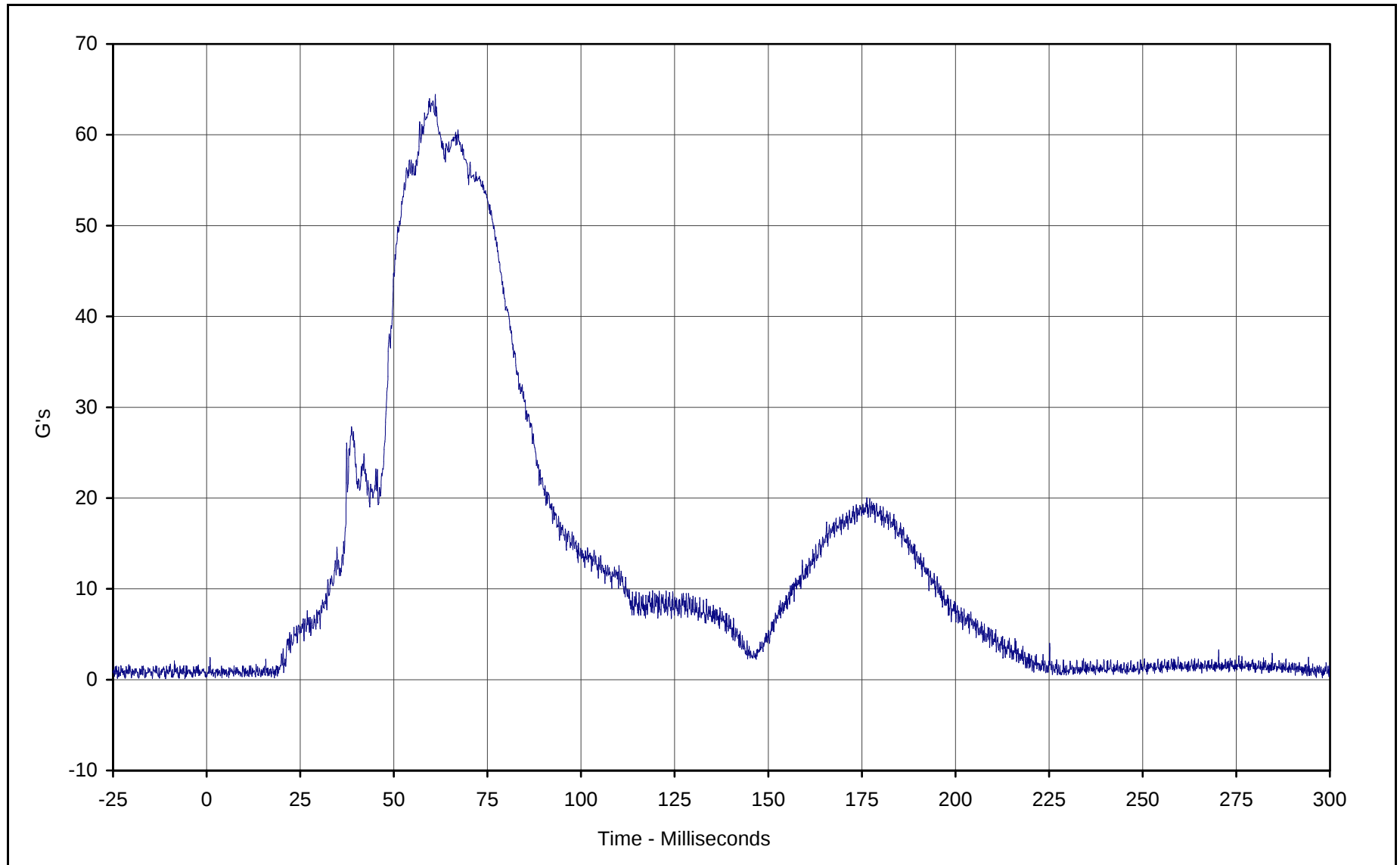


Curve Description: Driver Head Primary Z
Maximum Value: 30.4 at 51.0 Milliseconds
Minimum Value: -23.8 at 86.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-003

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

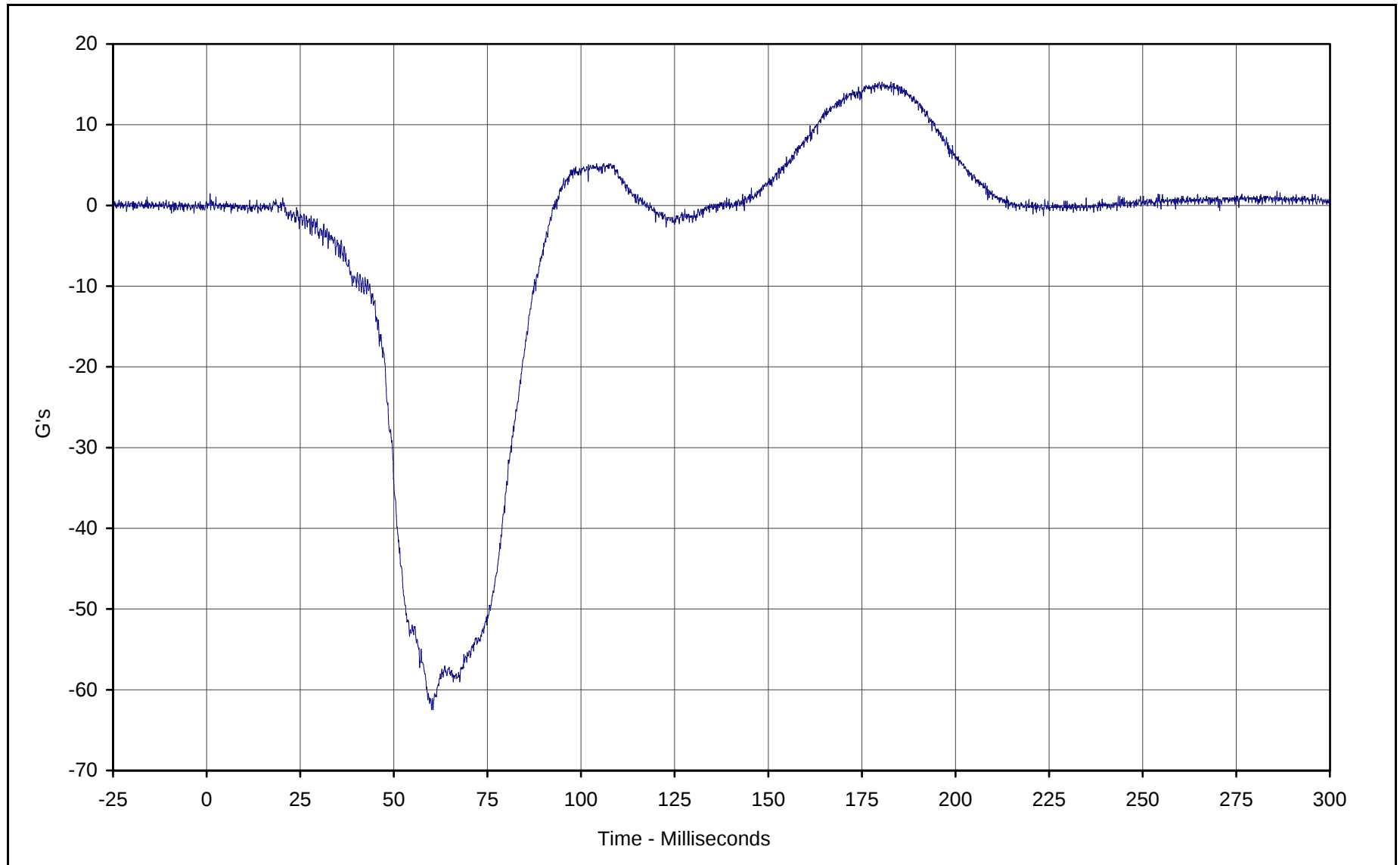




Curve Description: Driver Head Resultant Primary
Maximum Value: 64.5 at 61.1 Milliseconds
Minimum Value: 0.2 at 18.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: RES-001

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



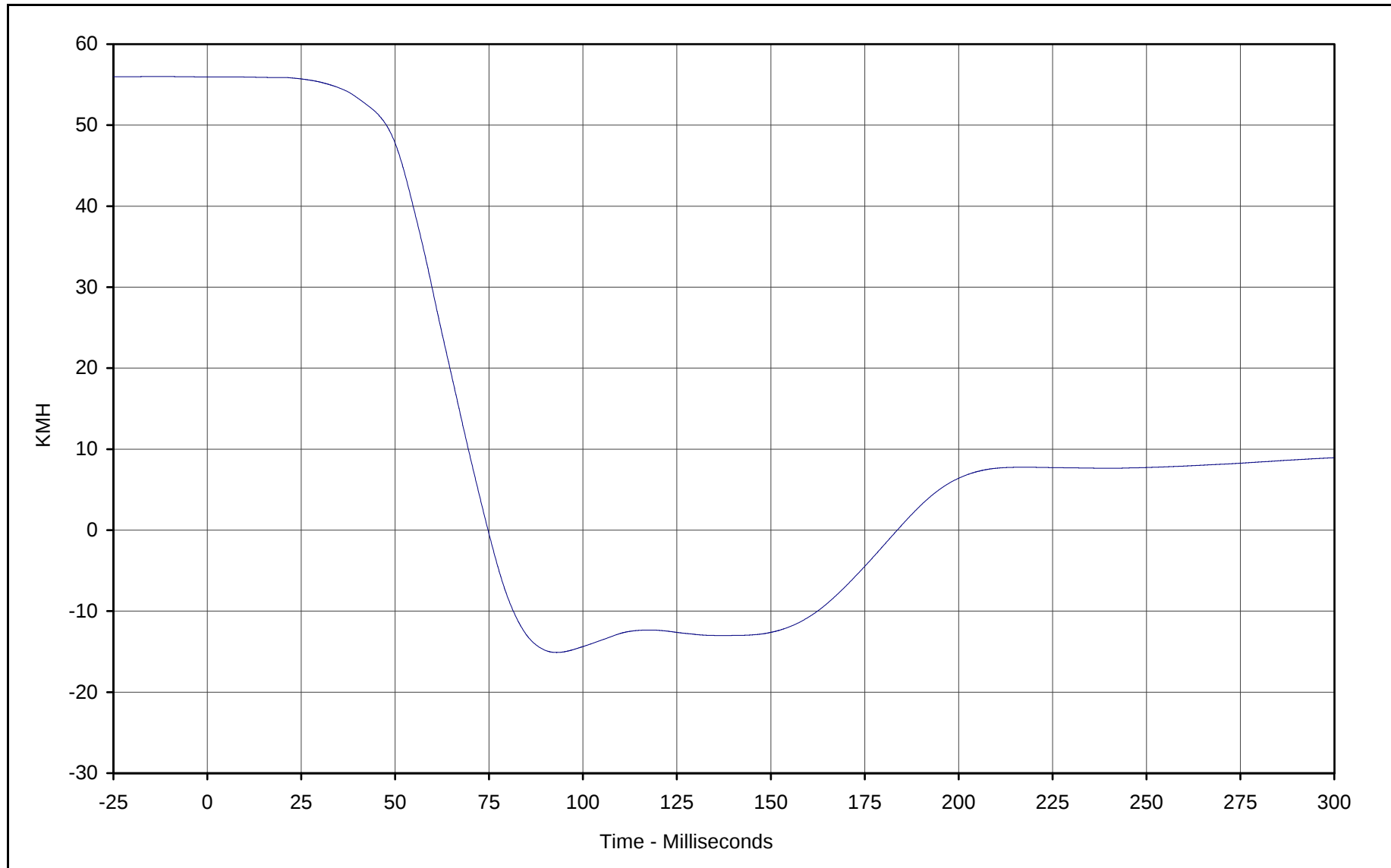


Curve Description: Driver Head Redundant X
Maximum Value: 15.3 at 179.6 Milliseconds
Minimum Value: -62.5 at 60.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-004

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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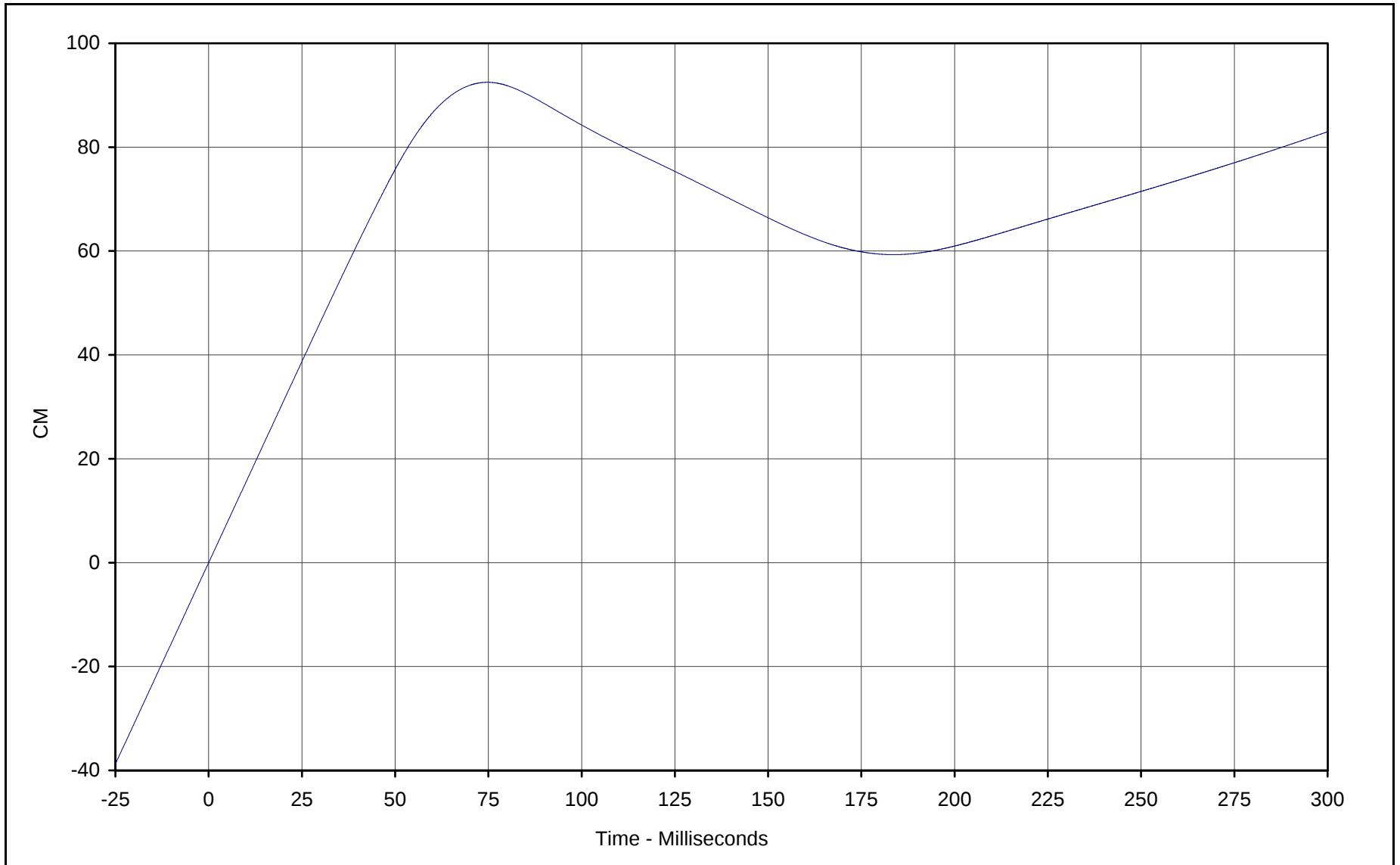


Curve Description: Driver Head Redundant X Velocity
Maximum Value: 56.0 at 3.4 Milliseconds
Minimum Value: -15.1 at 93.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-004

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

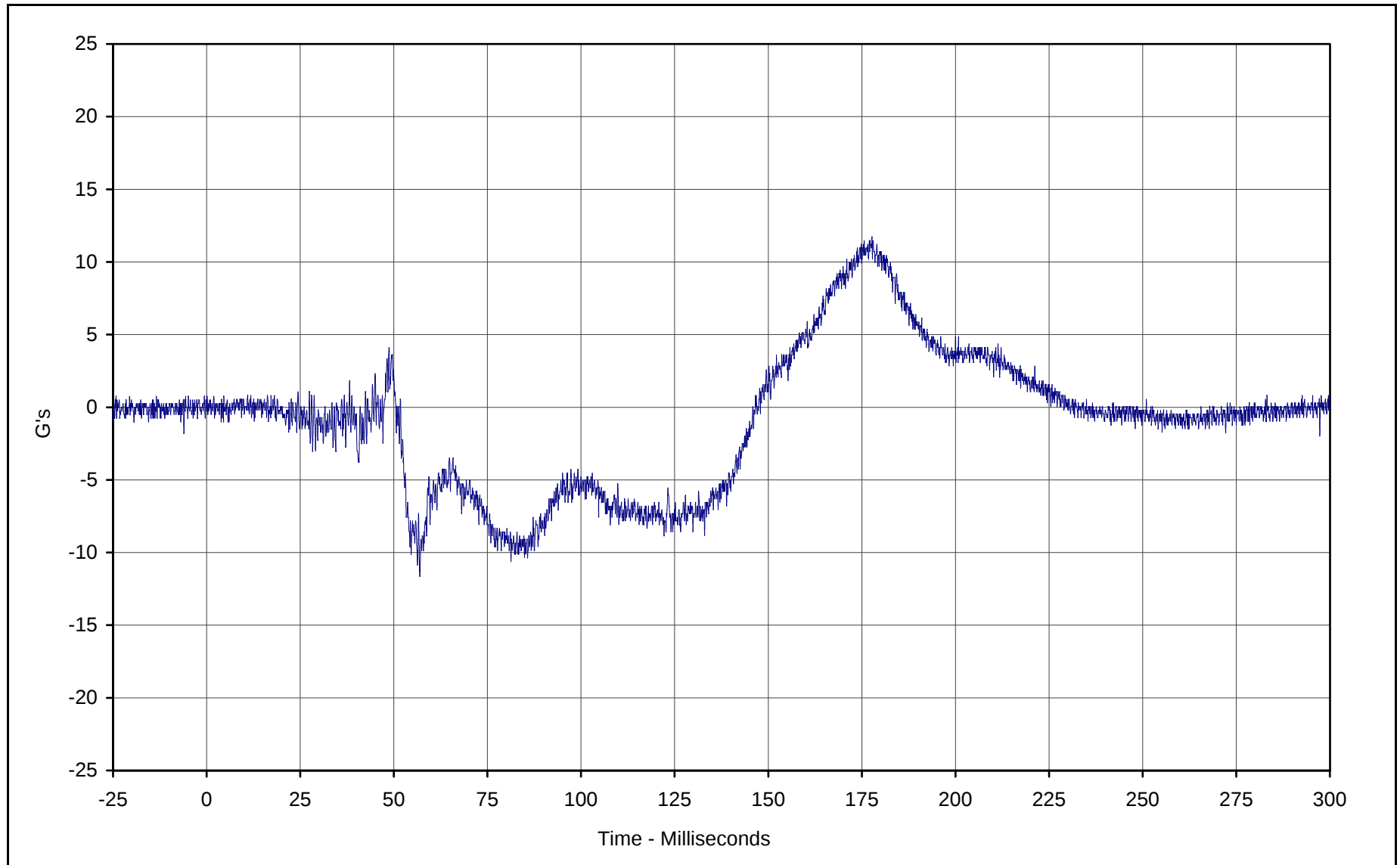


Curve Description: Driver Head Redundant X Displ.
Maximum Value: 92.5 at 74.7 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-004

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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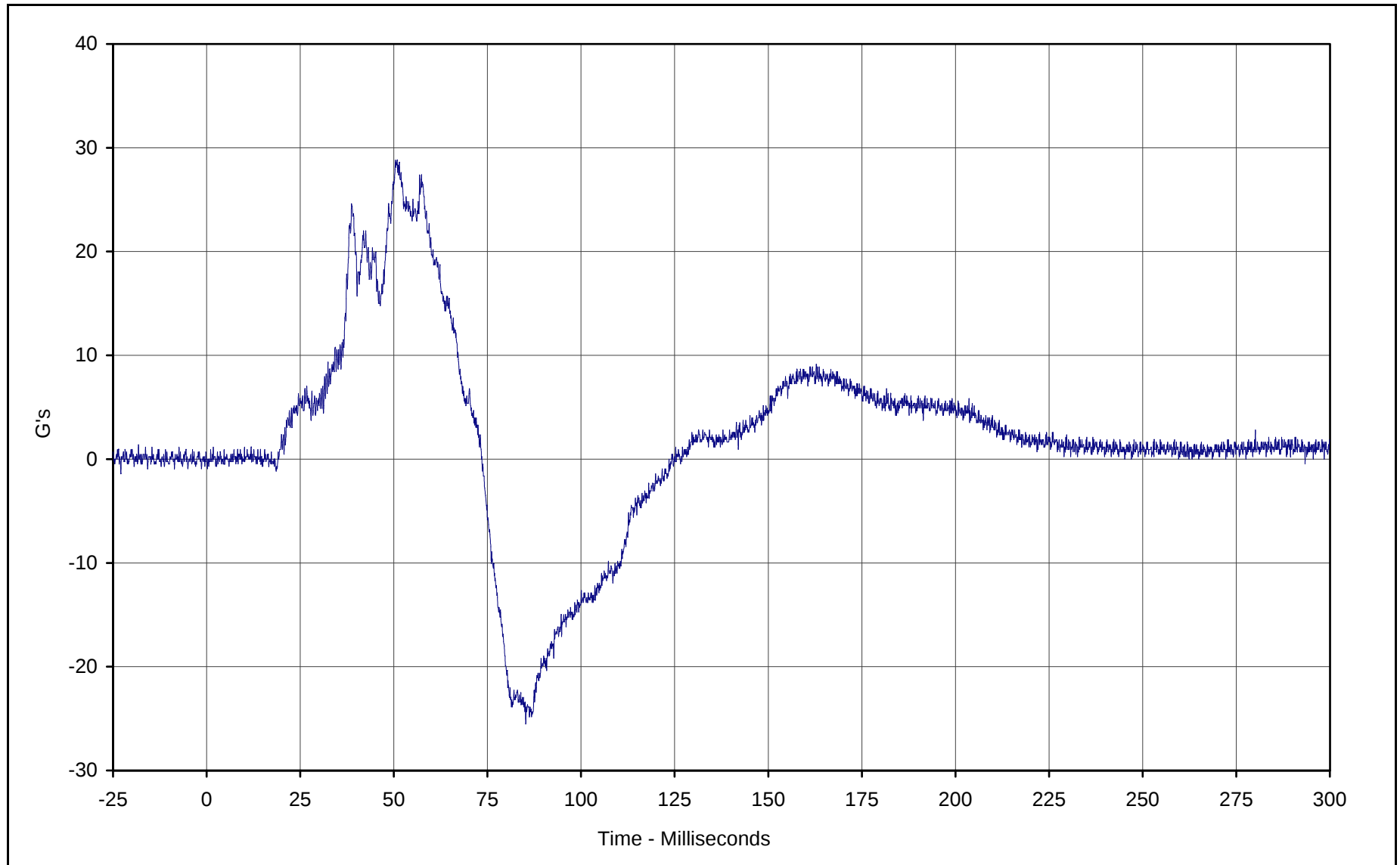


Curve Description: Driver Head Redundant Y
Maximum Value: 11.7 at 177.7 Milliseconds
Minimum Value: -11.6 at 56.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-005

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

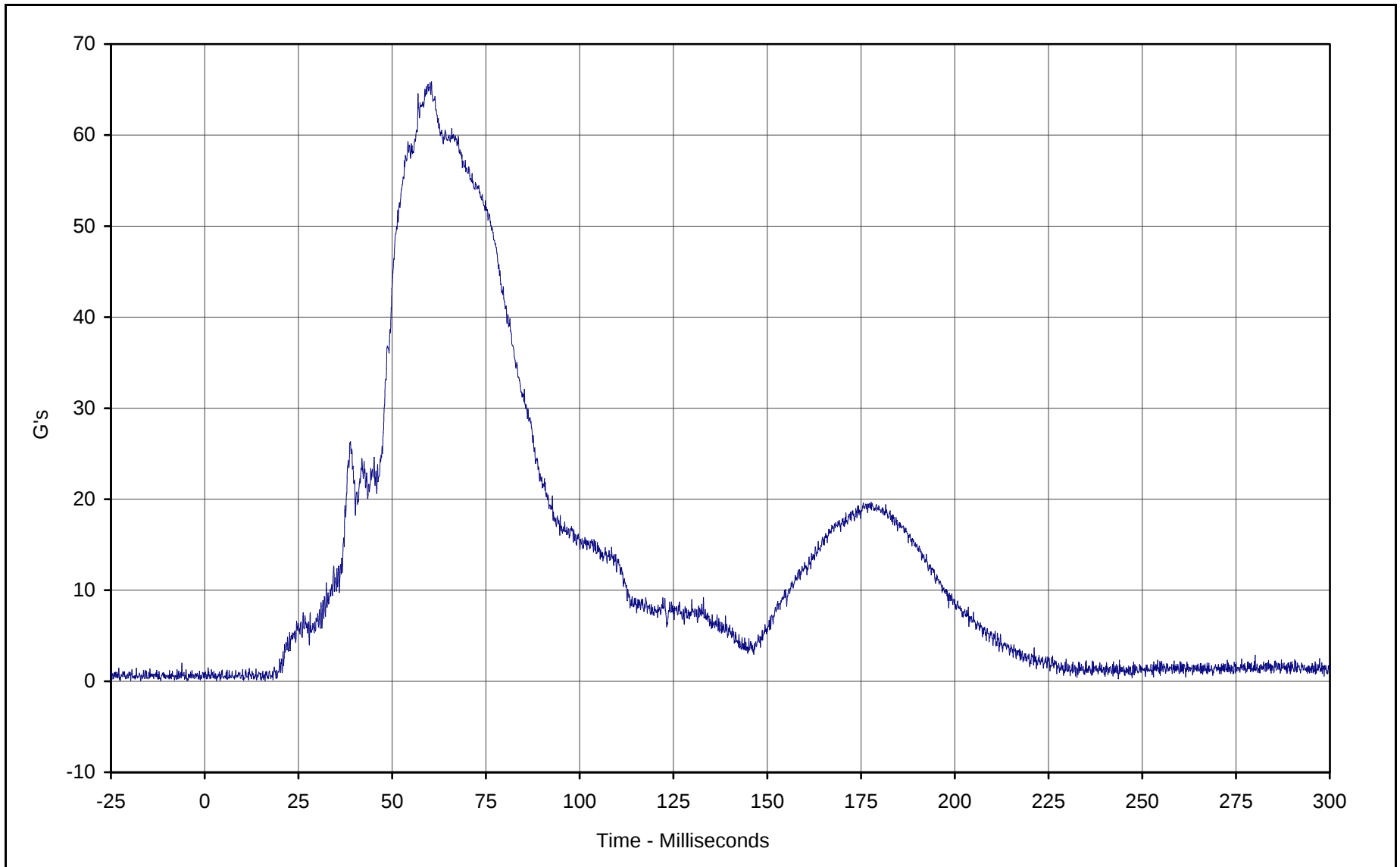


Curve Description: Driver Head Redundant Z
Maximum Value: 28.8 at 50.4 Milliseconds
Minimum Value: -25.5 at 85.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-006

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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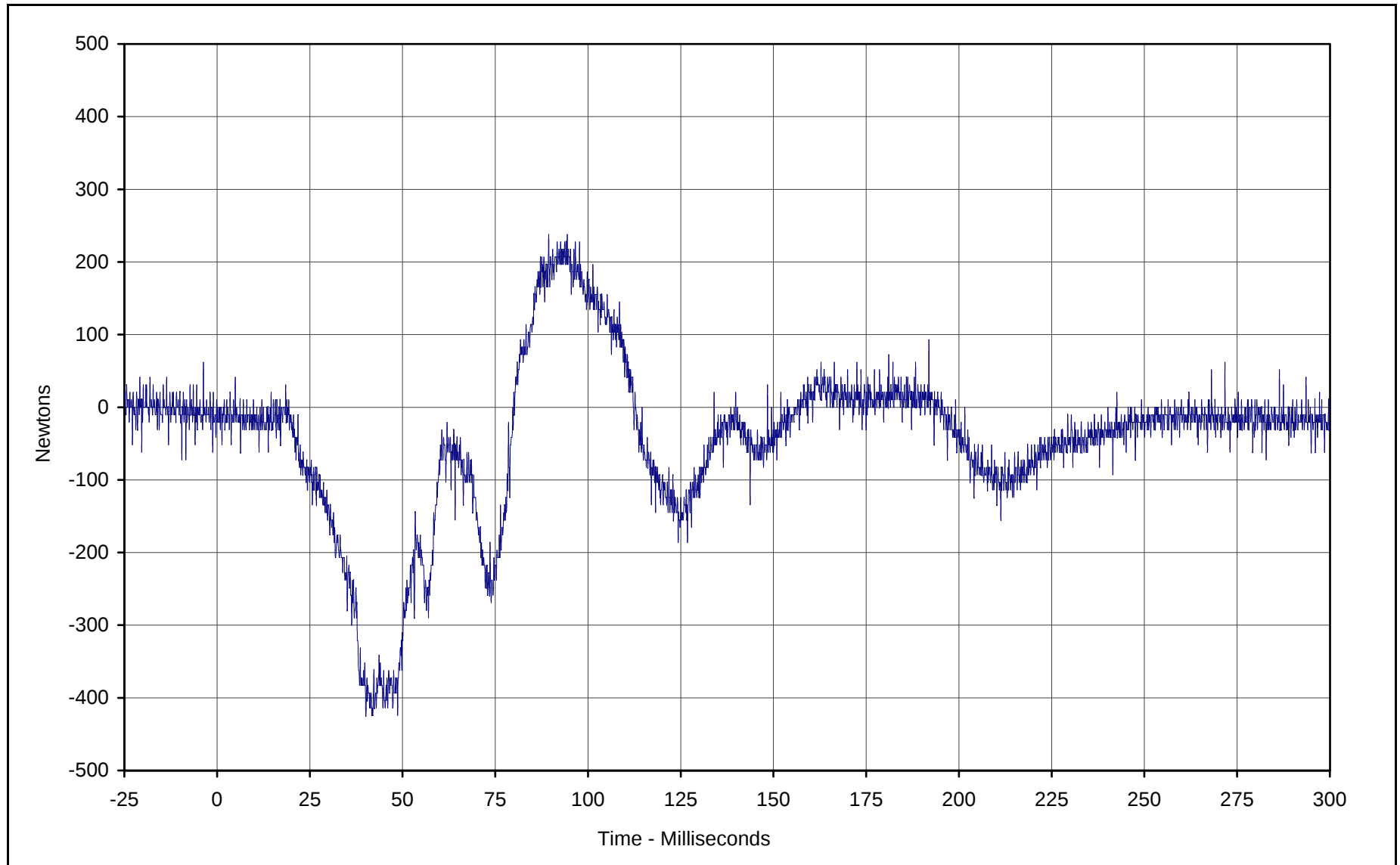


Curve Description: Driver Head Resultant Redundant
Maximum Value: 65.9 at 60.5 Milliseconds
Minimum Value: 0.1 at 3.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: RES-004

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



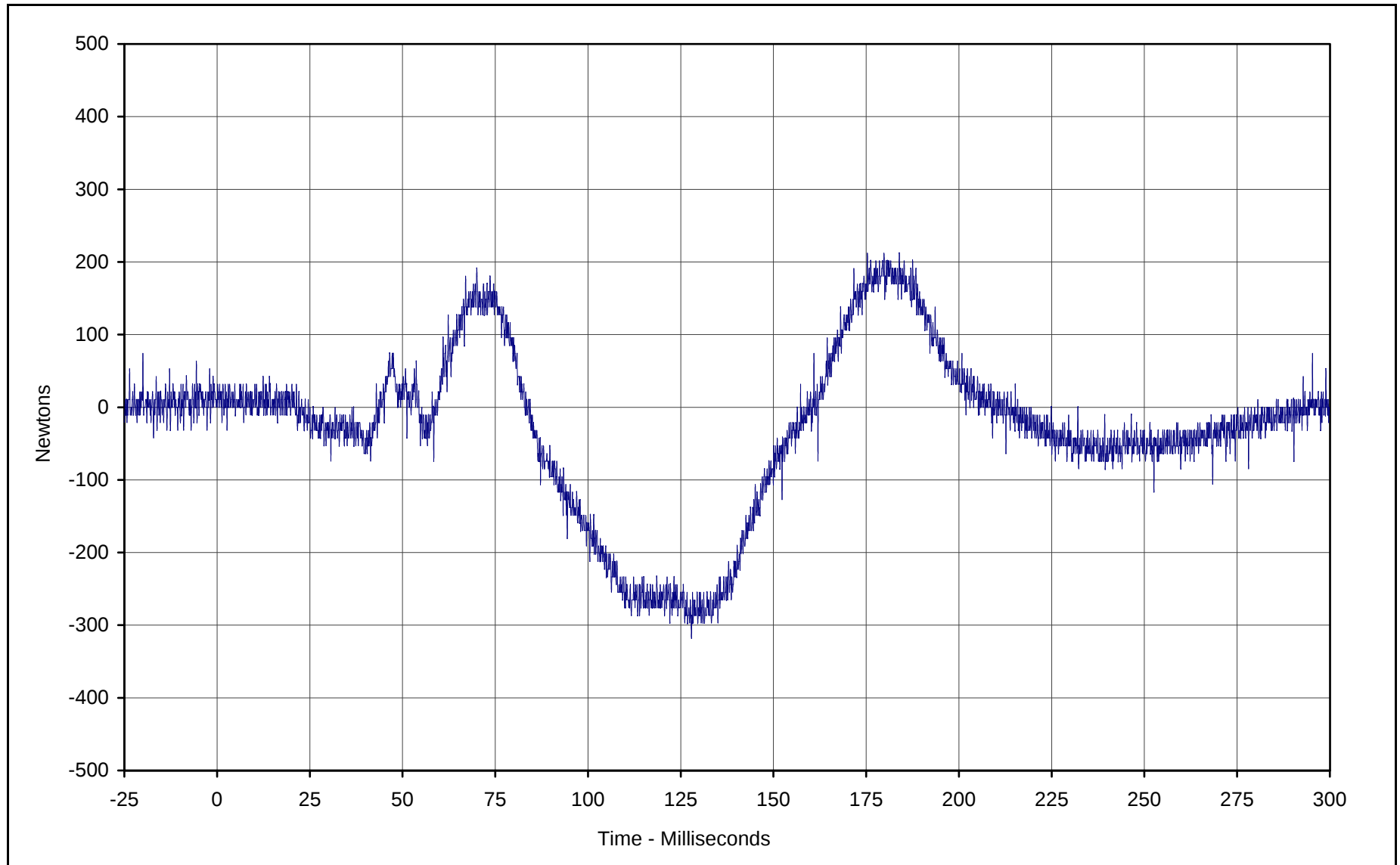
KAR21001-13



Curve Description: Driver Neck Force X
Maximum Value: 238.1 at 89.4 Milliseconds
Minimum Value: -424.4 at 40.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-007

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



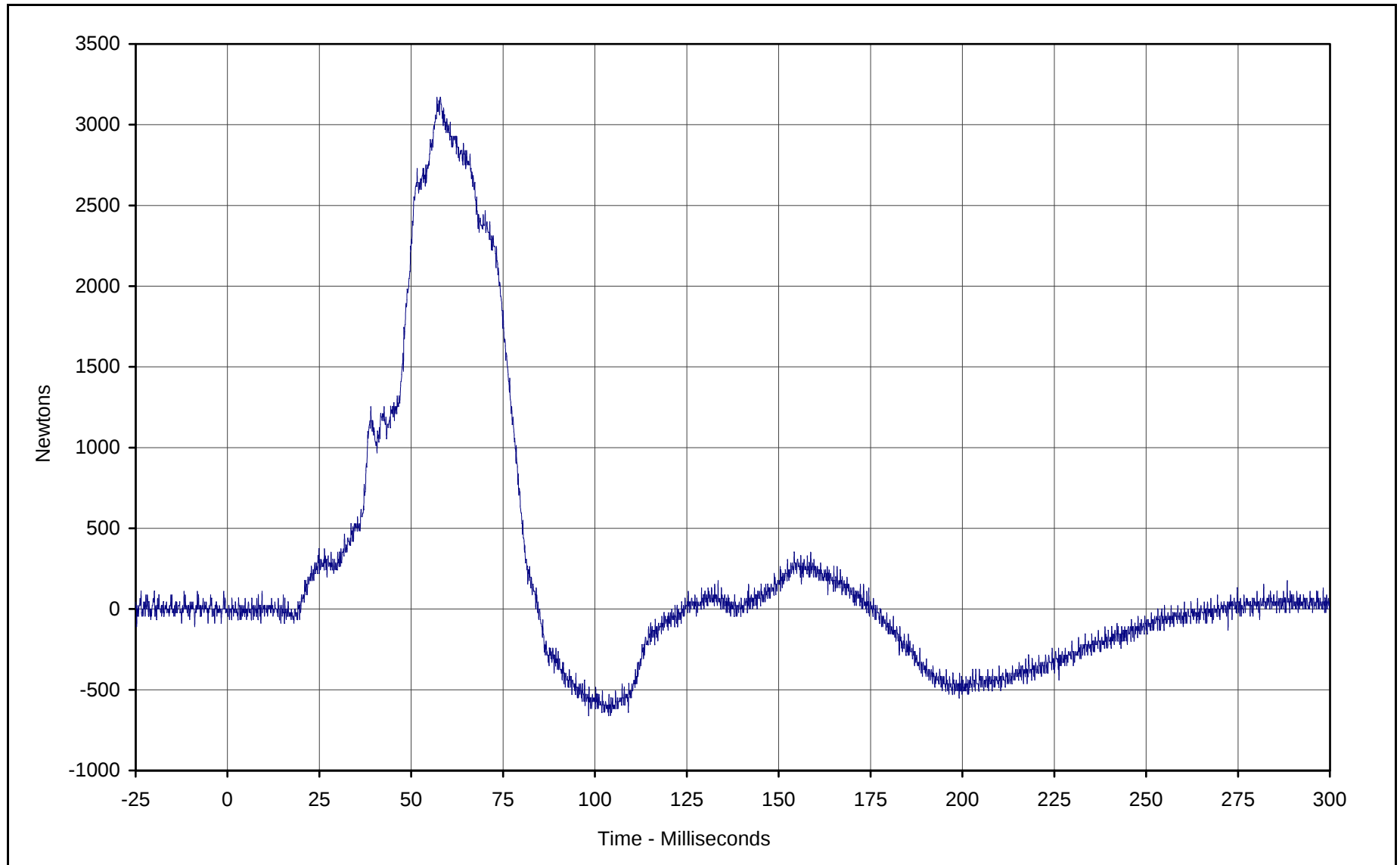


Curve Description: Driver Neck Force Y
Maximum Value: 212.3 at 175.3 Milliseconds
Minimum Value: -318.4 at 127.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-008

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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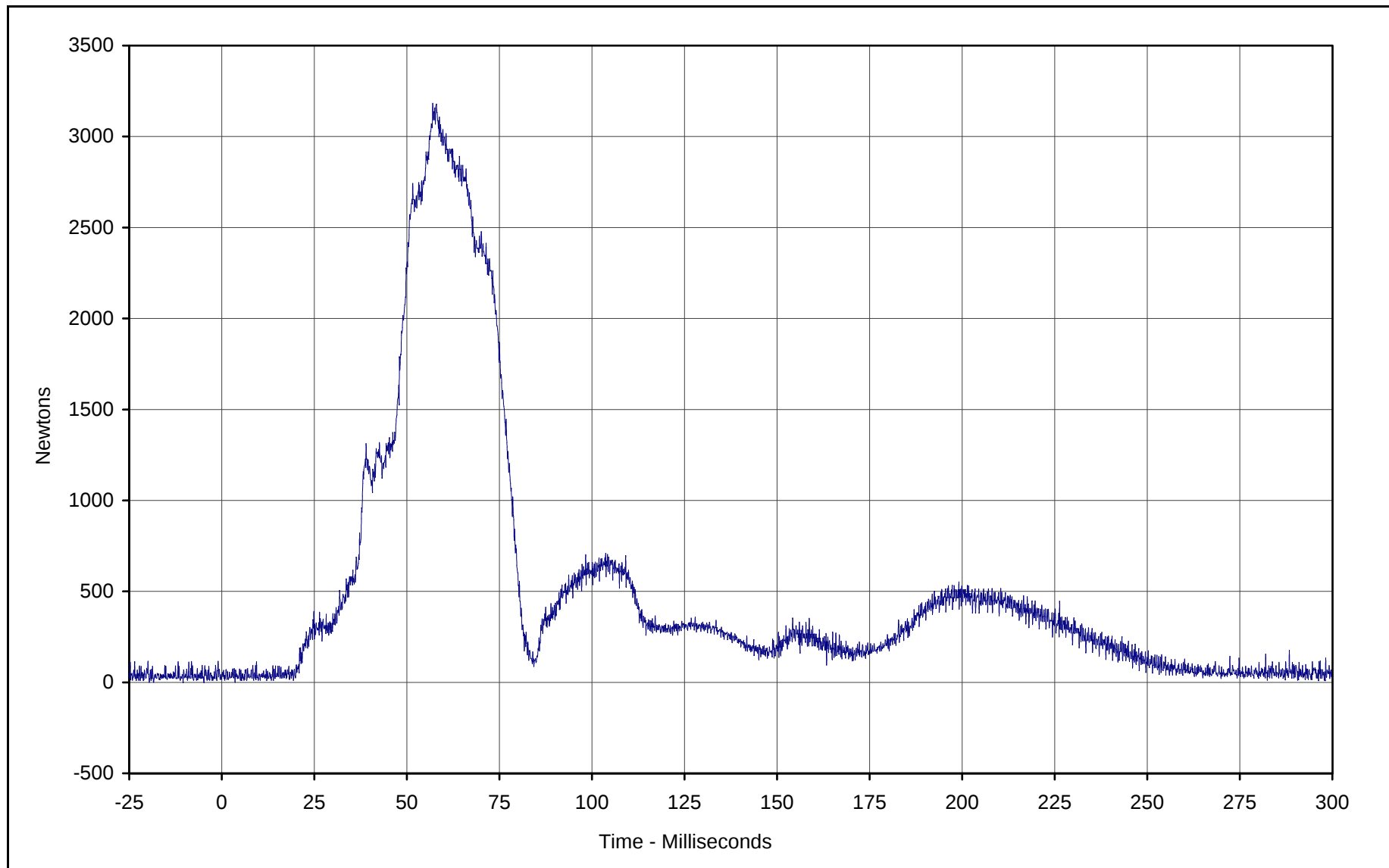


Curve Description: Driver Neck Force Z
Maximum Value: 3170.3 at 57.0 Milliseconds
Minimum Value: -660.5 at 98.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-009

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

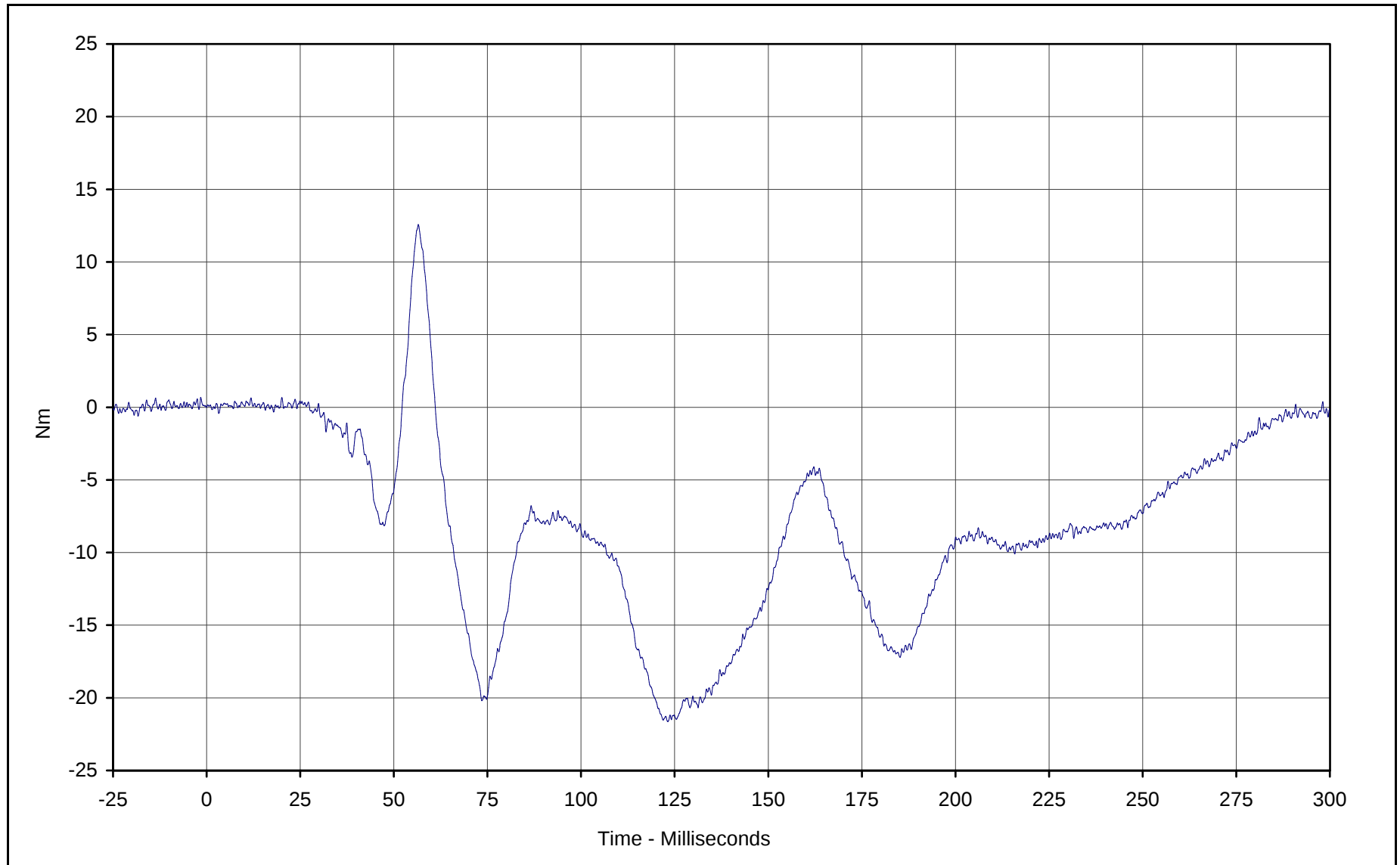


Curve Description: Driver Neck Force Resultant
Maximum Value: 3183.6 at 57.0 Milliseconds
Minimum Value: 0.0 at 3.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: RES-007

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

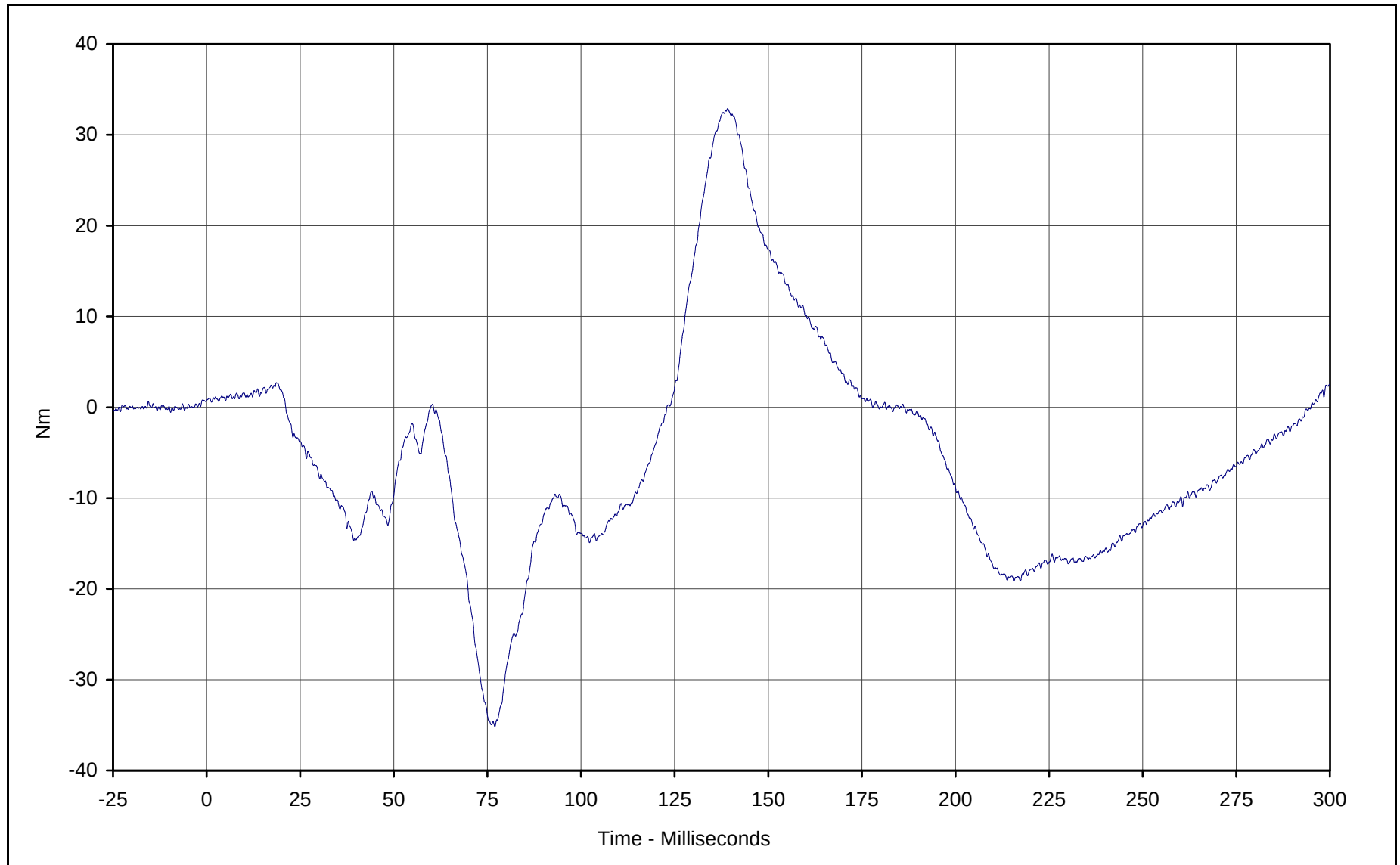




Curve Description: Driver Neck Moment X
Maximum Value: 12.6 at 56.5 Milliseconds
Minimum Value: -21.6 at 123.2 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-010

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

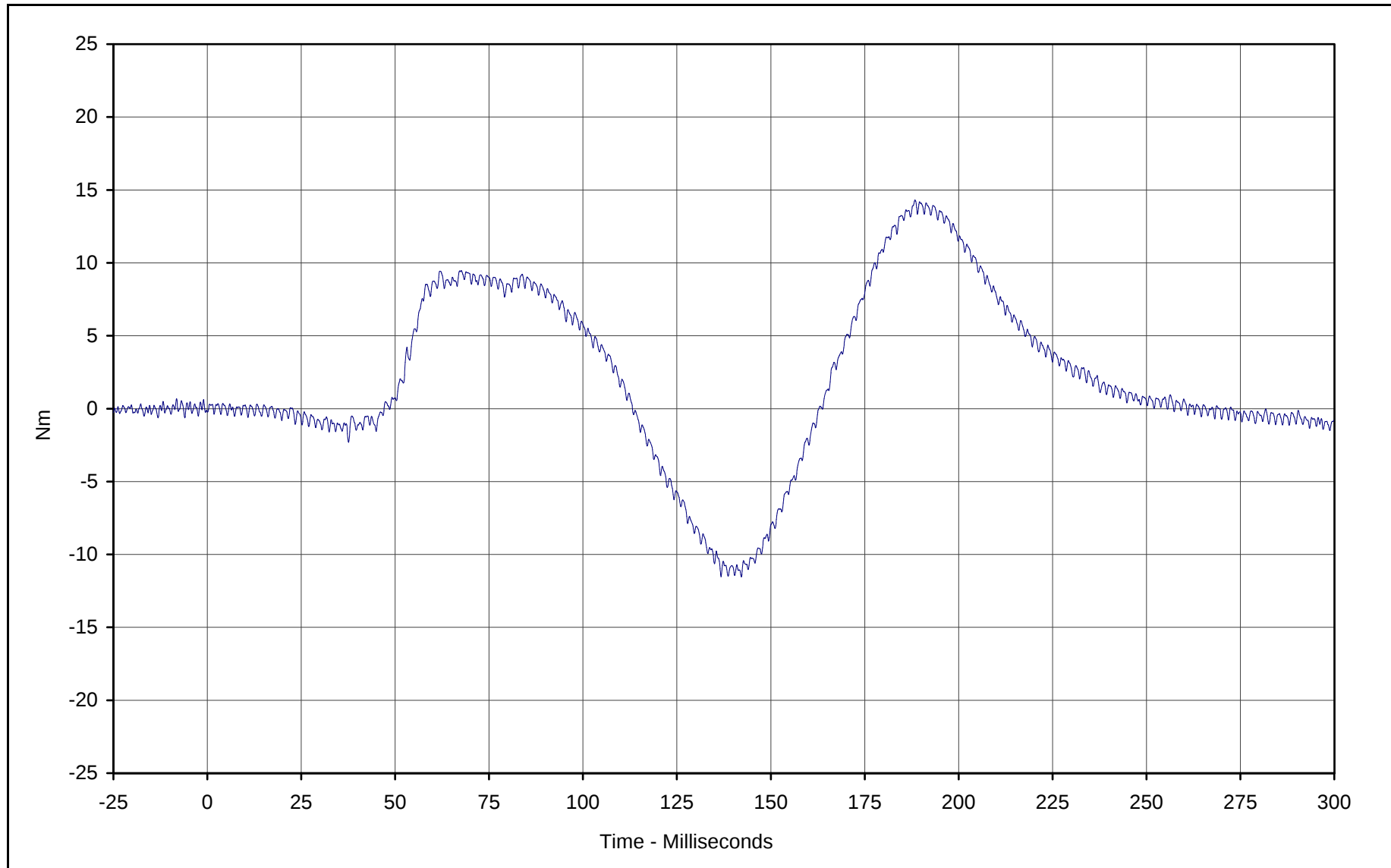




Curve Description: Driver Neck Moment Y
Maximum Value: 32.9 at 139.2 Milliseconds
Minimum Value: -35.2 at 77.0 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-011

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

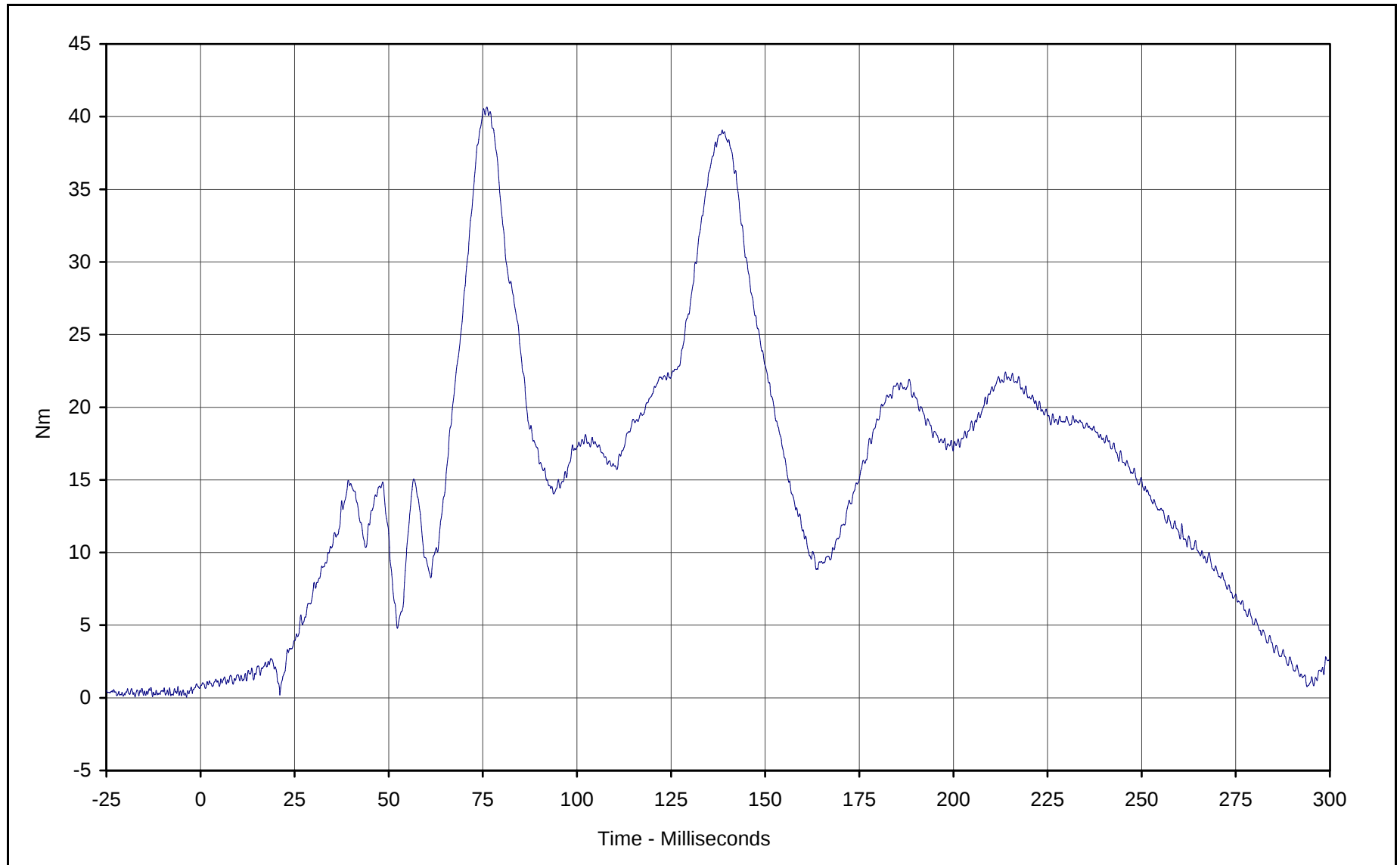




Curve Description: Driver Neck Moment Z
Maximum Value: 14.3 at 188.4 Milliseconds
Minimum Value: -11.5 at 142.2 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-012

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



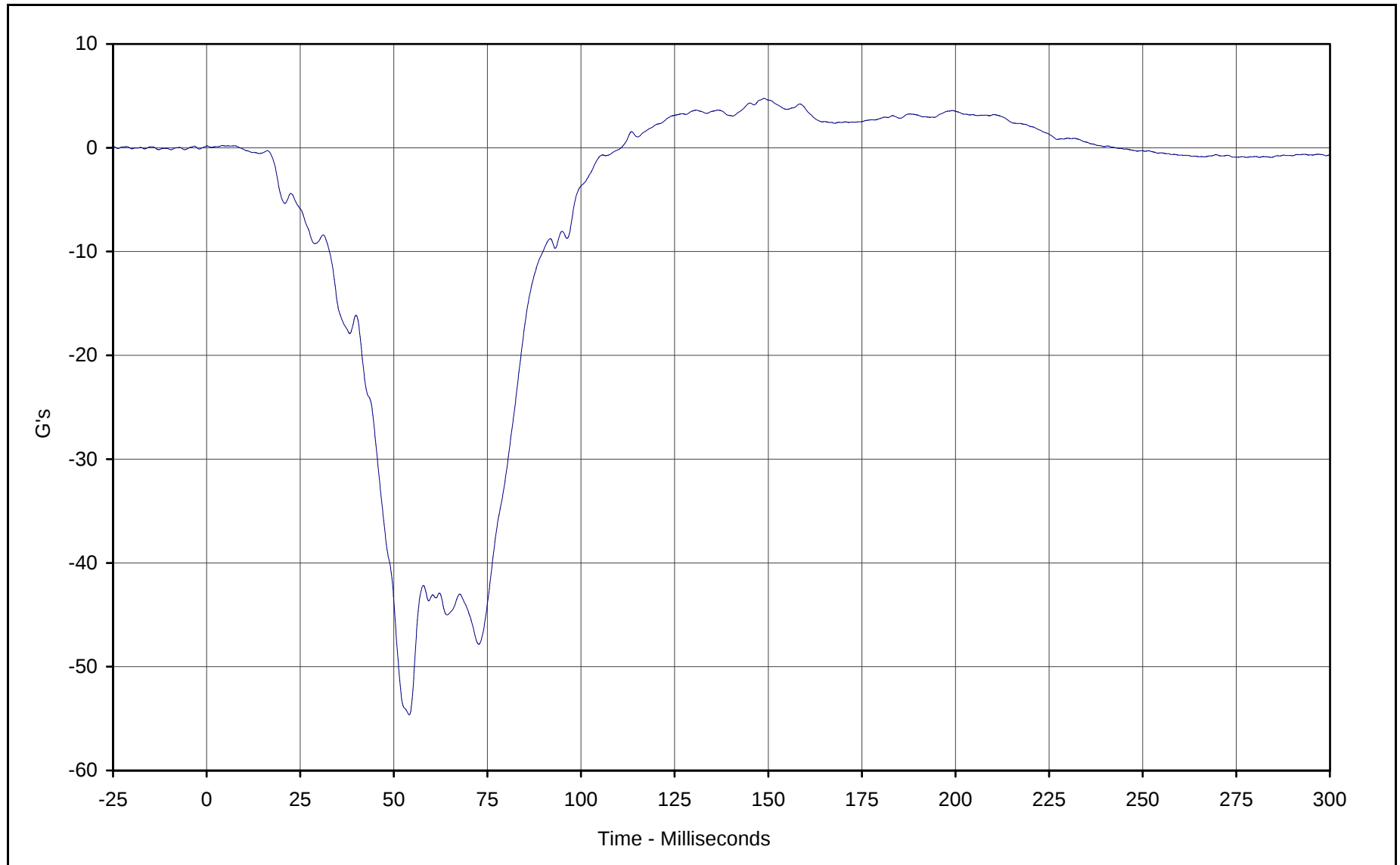


Curve Description: Driver Neck Moment Resultant
Maximum Value: 40.7 at 76.1 Milliseconds
Minimum Value: 0.2 at 21.1 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: RES-010

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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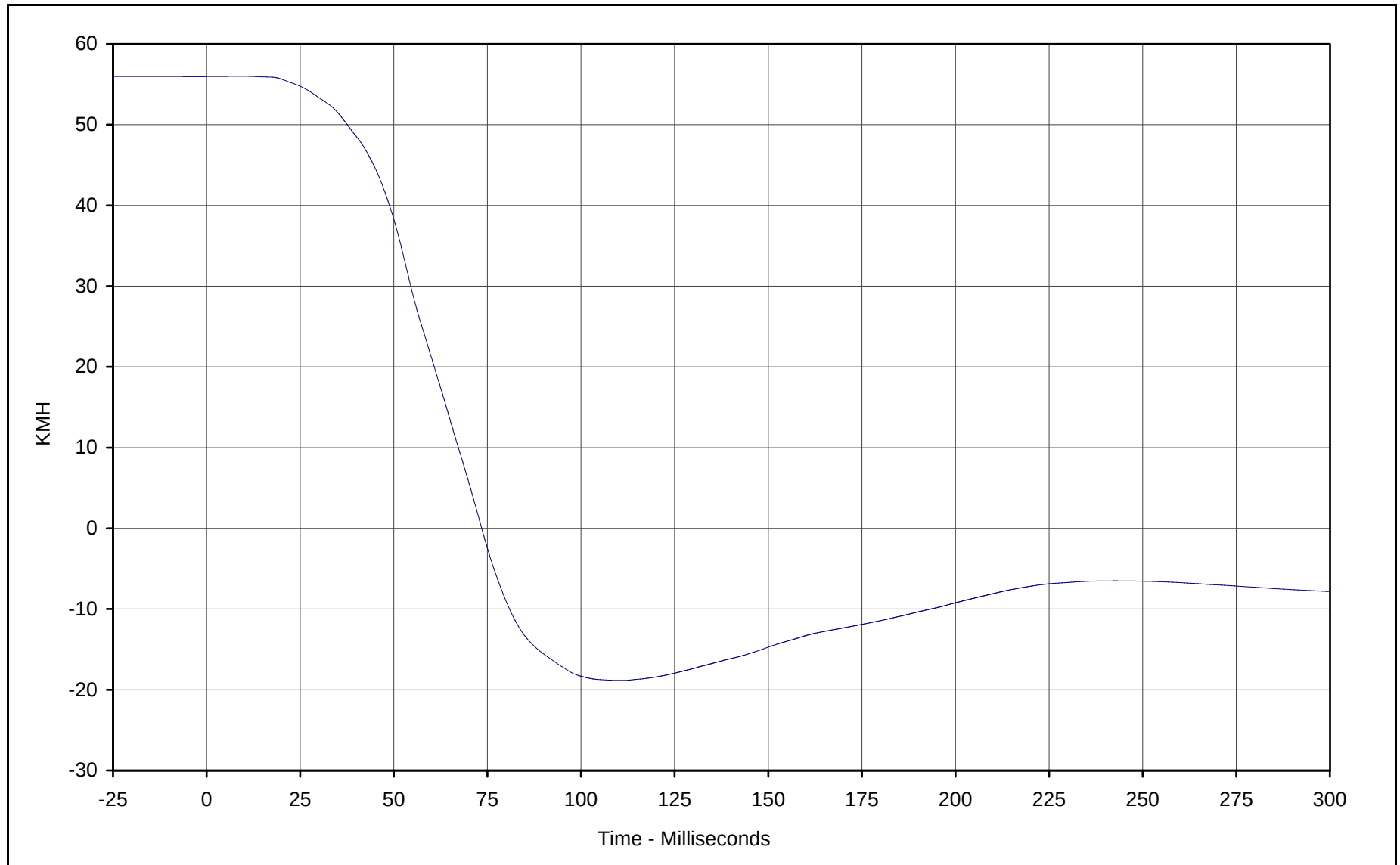
Curve Description: Driver Chest Primary X
Maximum Value: 4.8 at 148.9 Milliseconds
Minimum Value: -54.6 at 54.1 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-013

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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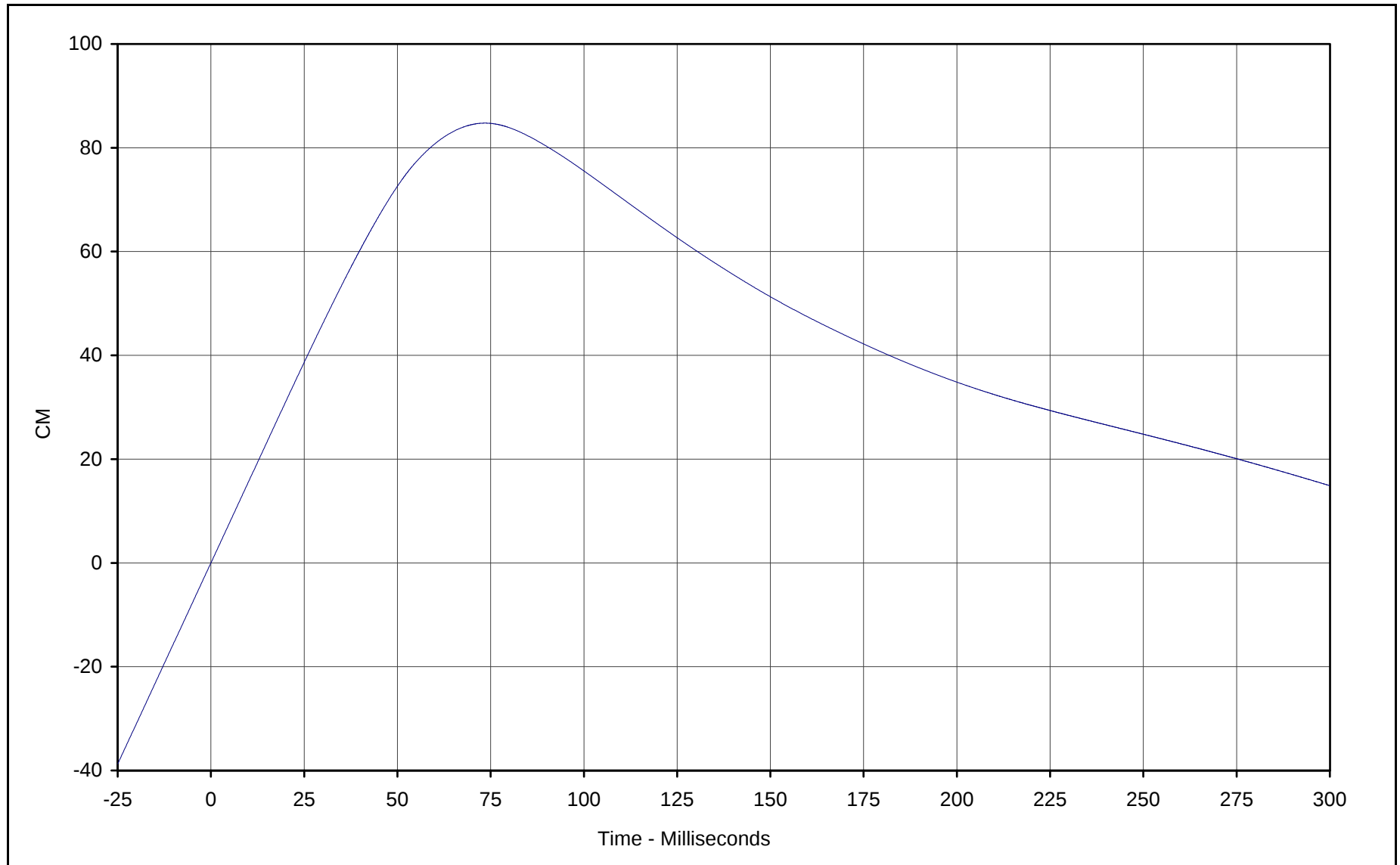
Curve Description: Driver Chest Primary X Velocity
Maximum Value: 56.0 at 8.9 Milliseconds
Minimum Value: -18.8 at 110.7 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-013

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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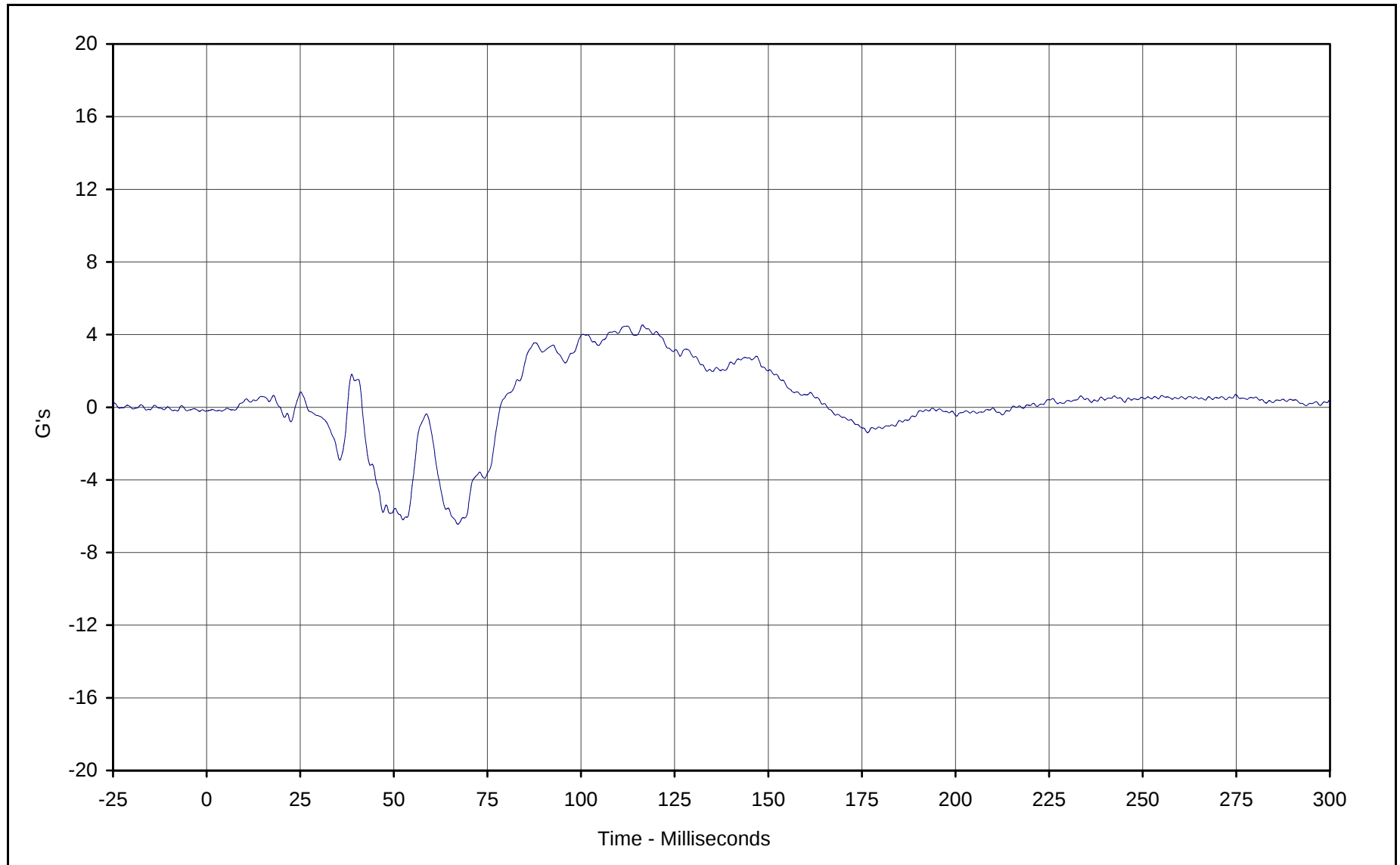


Curve Description: Driver Chest Primary X Displ.
Maximum Value: 84.8 at 73.5 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-013

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

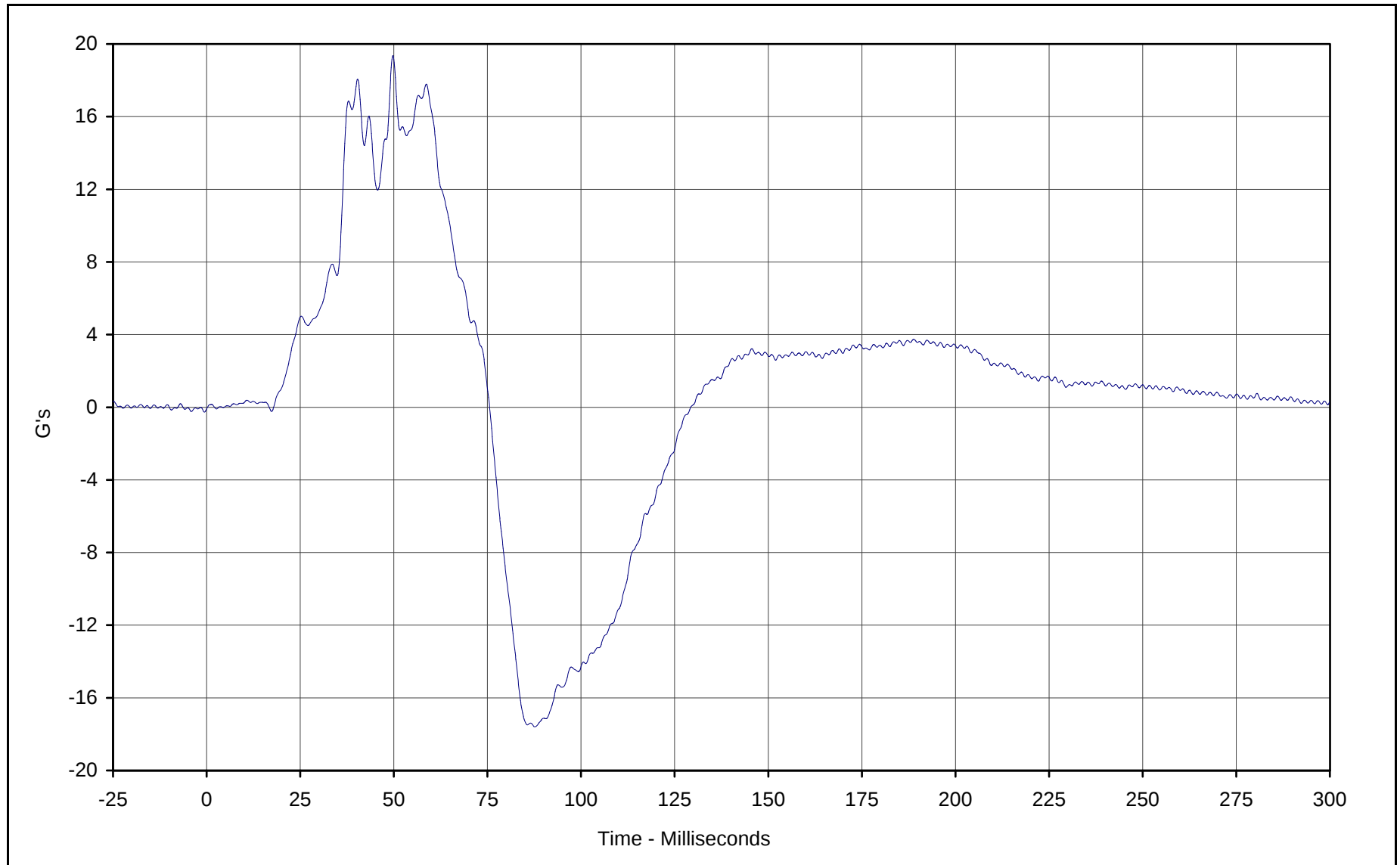


Curve Description: Driver Chest Primary Y
Maximum Value: 4.5 at 116.4 Milliseconds
Minimum Value: -6.4 at 67.1 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-014

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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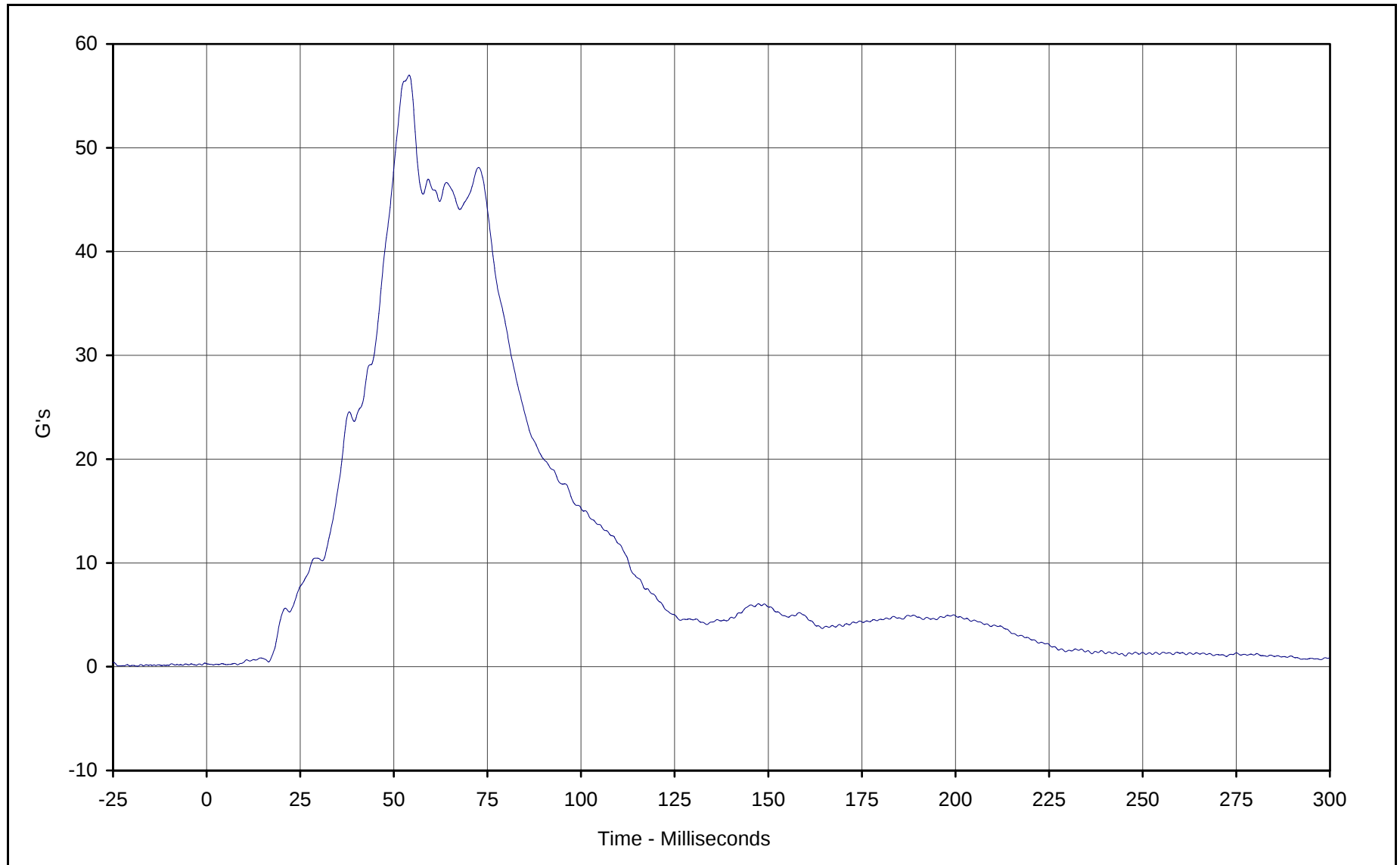


Curve Description: Driver Chest Primary Z
Maximum Value: 19.4 at 49.7 Milliseconds
Minimum Value: -17.6 at 87.6 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-015

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

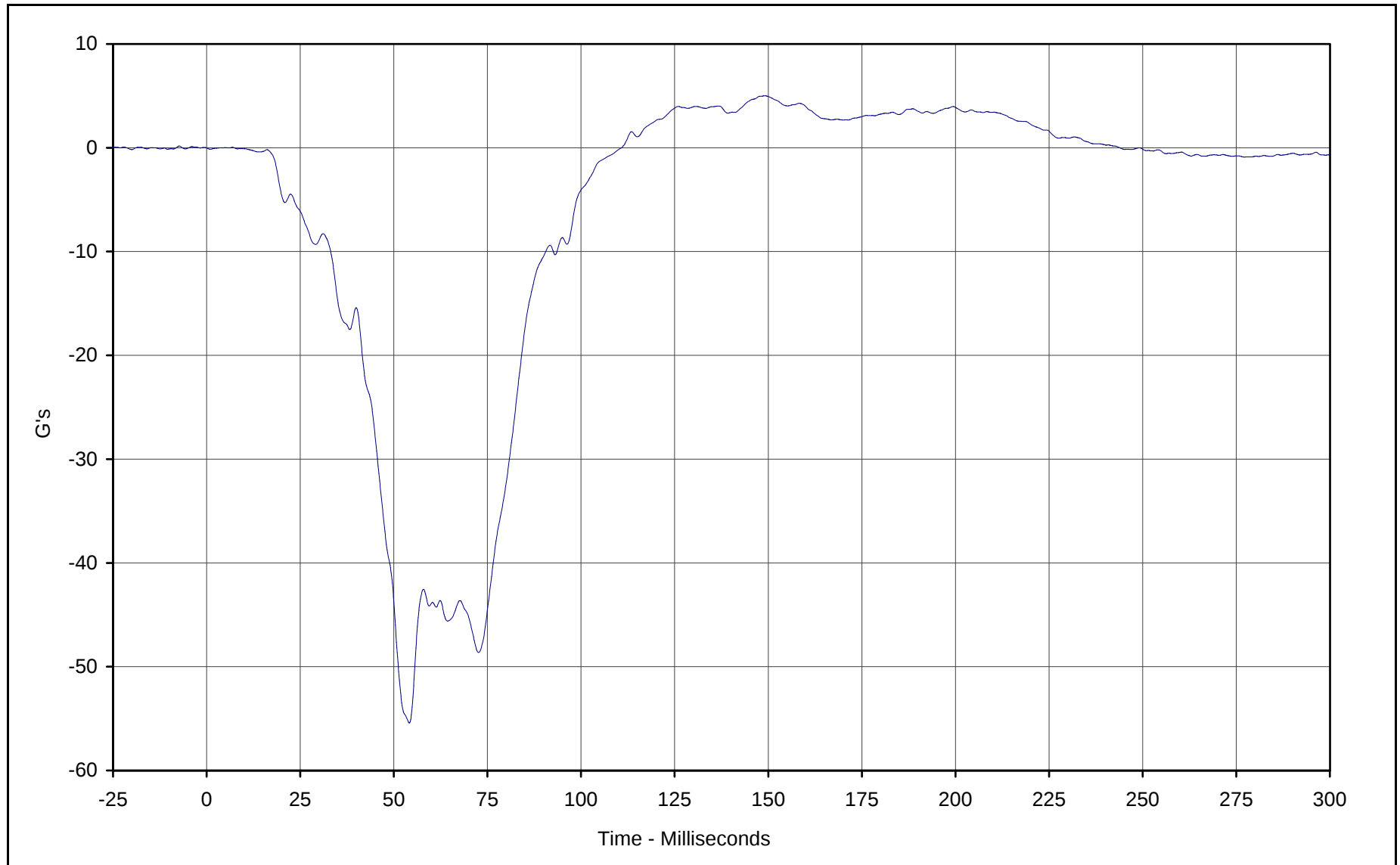


Curve Description: Driver Chest Resultant Primary
Maximum Value: 57.0 at 54.1 Milliseconds
Minimum Value: 0.2 at 1.8 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: RES-013

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



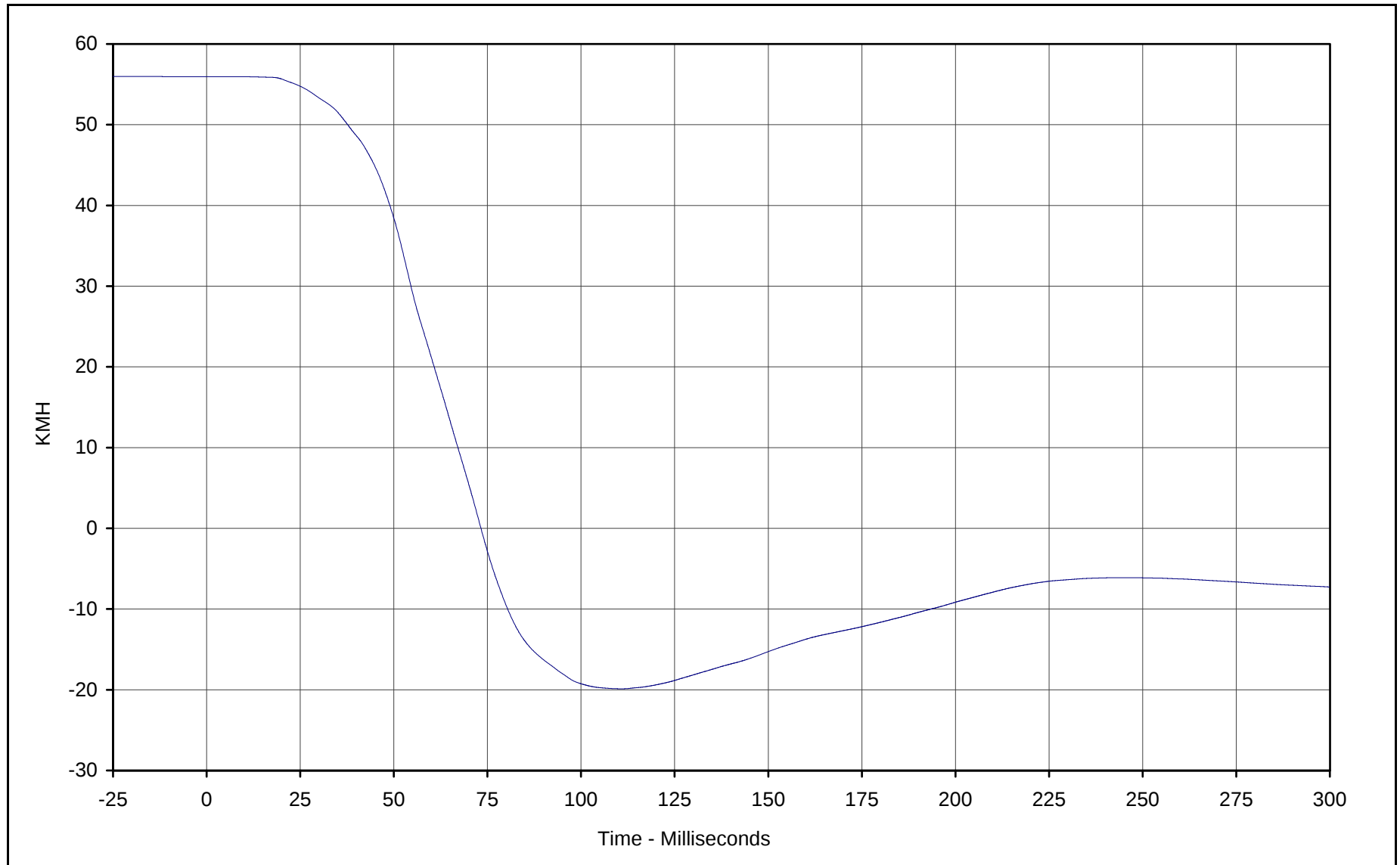


Curve Description: Driver Chest Redundant X
Maximum Value: 5.0 at 149.1 Milliseconds
Minimum Value: -55.4 at 54.1 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-016

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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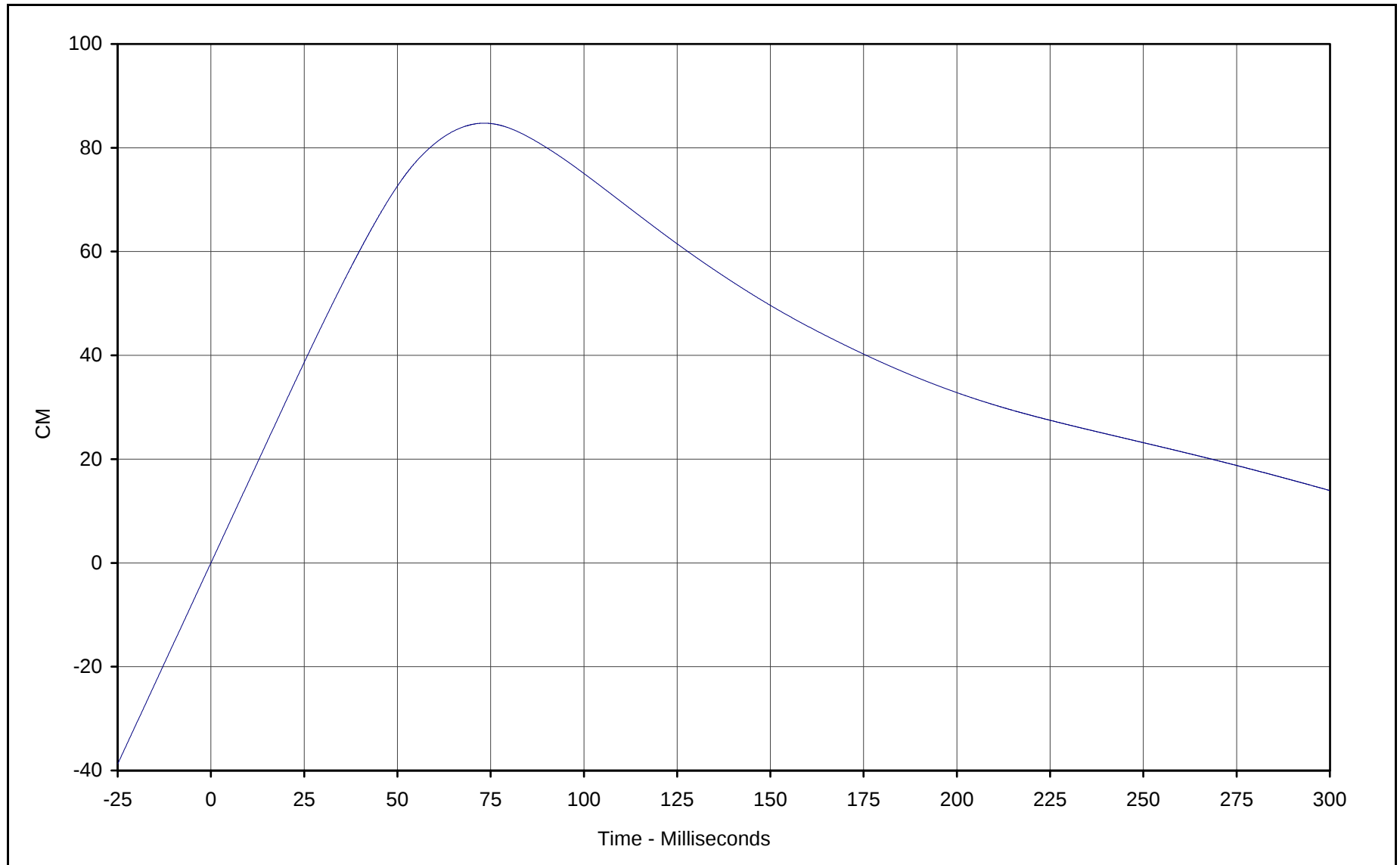


Curve Description: Driver Chest Redundant X Velocity
Maximum Value: 56.0 at 0.0 Milliseconds
Minimum Value: -19.9 at 110.8 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-016

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

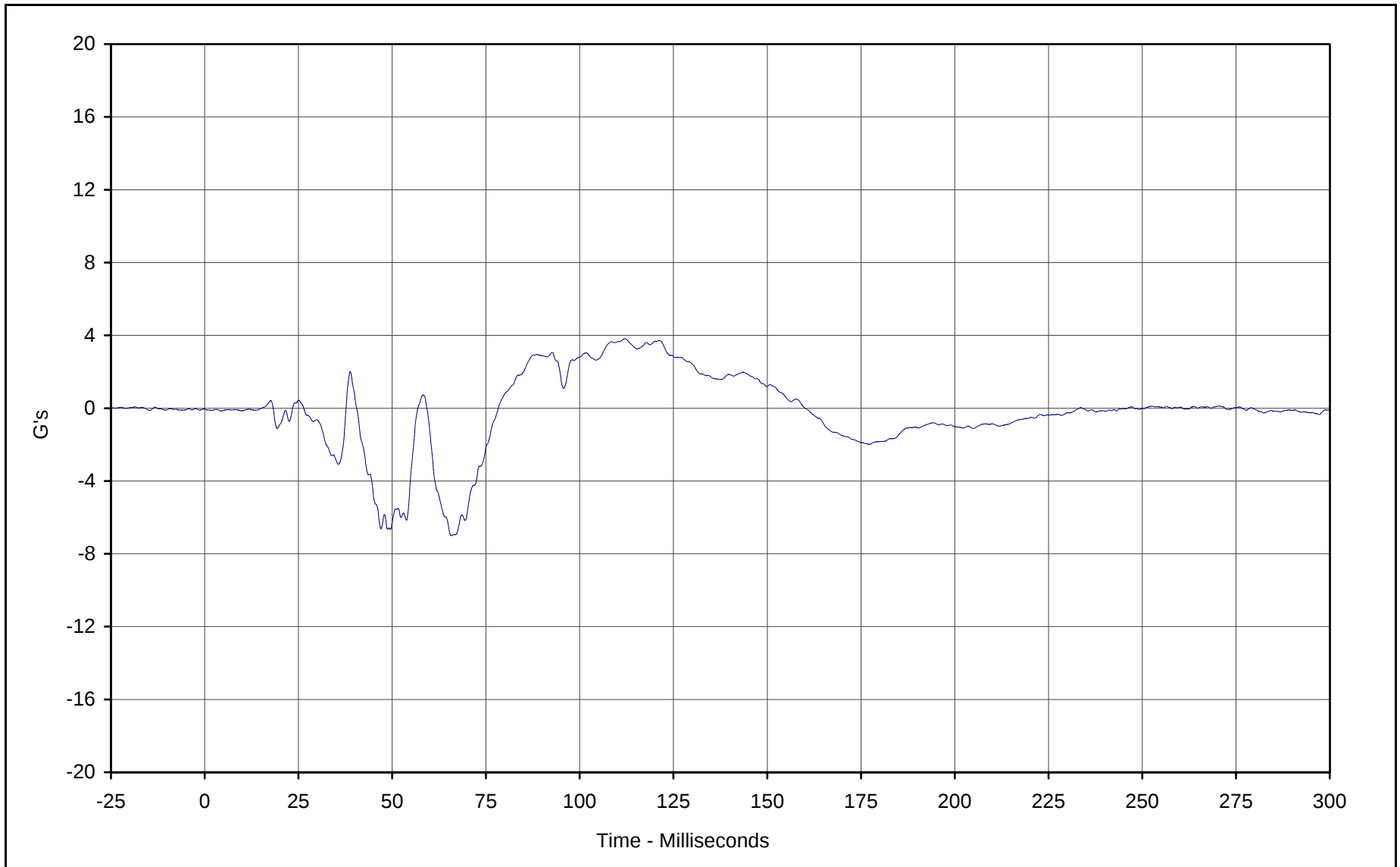


Curve Description: Driver Chest Redundant X Displ.
Maximum Value: 84.7 at 73.3 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-016

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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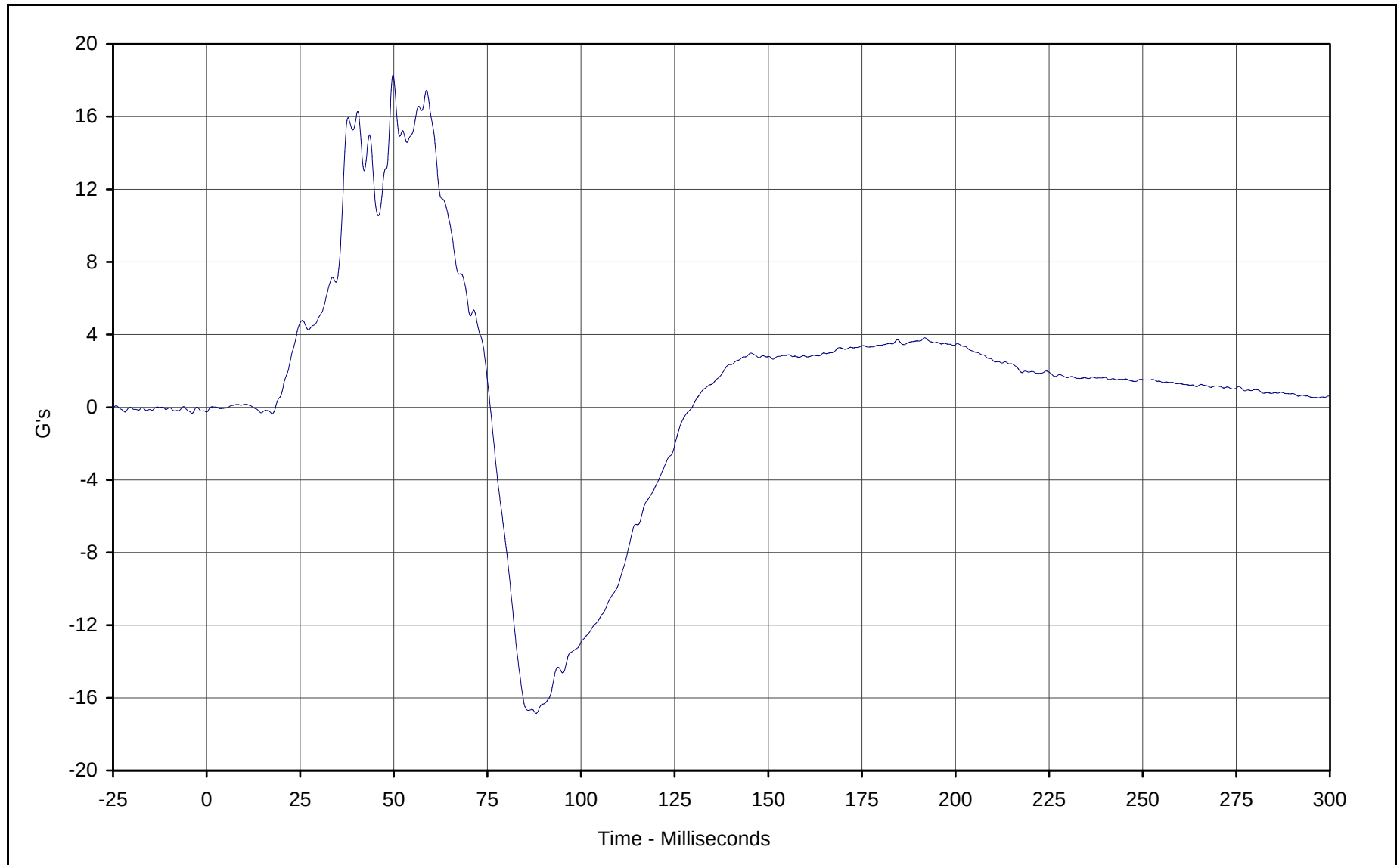


Curve Description: Driver Chest Redundant Y
Maximum Value: 3.8 at 112.0 Milliseconds
Minimum Value: -7.0 at 65.8 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-017

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

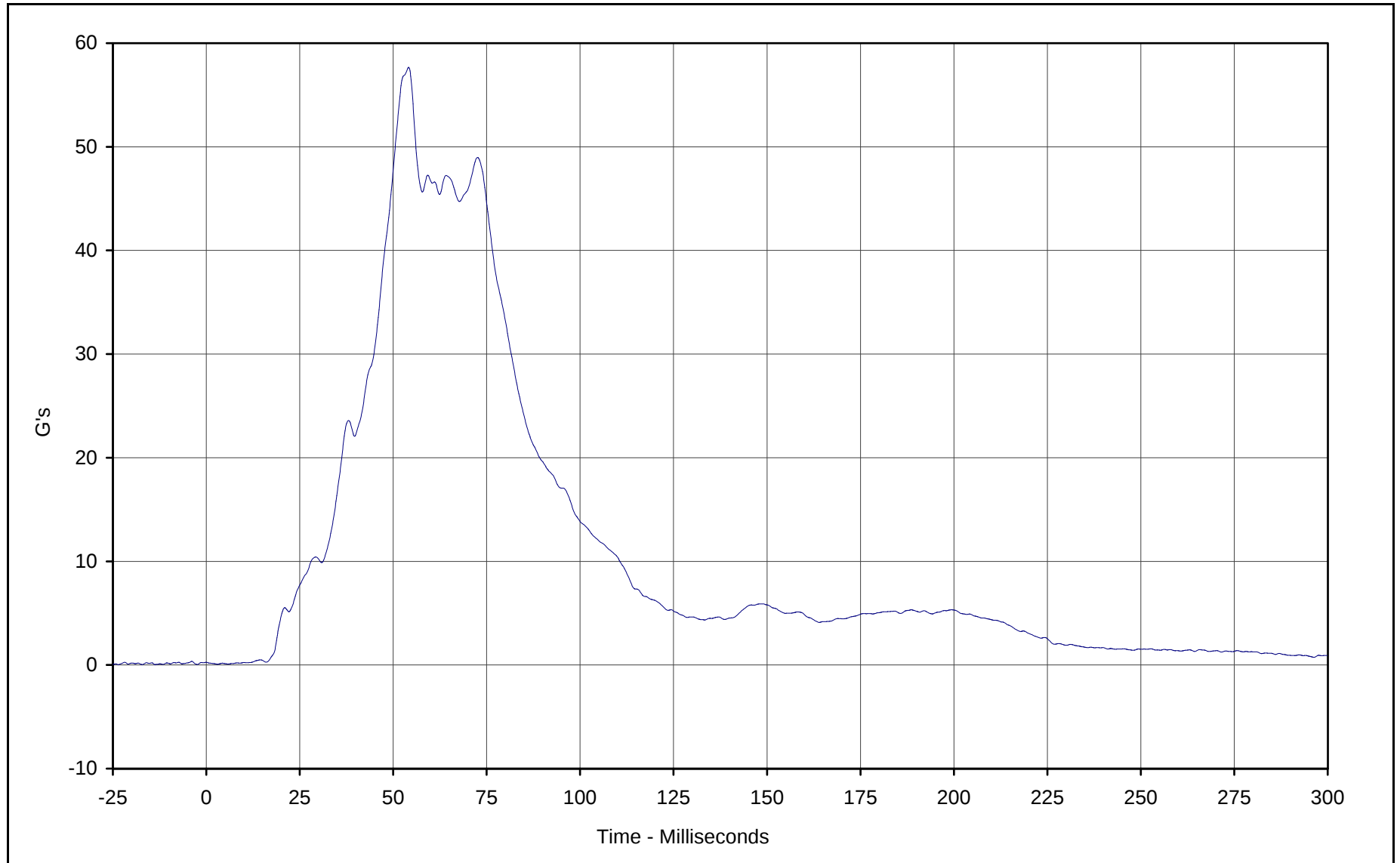


Curve Description: Driver Chest Redundant Z
Maximum Value: 18.3 at 49.8 Milliseconds
Minimum Value: -16.9 at 88.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-018

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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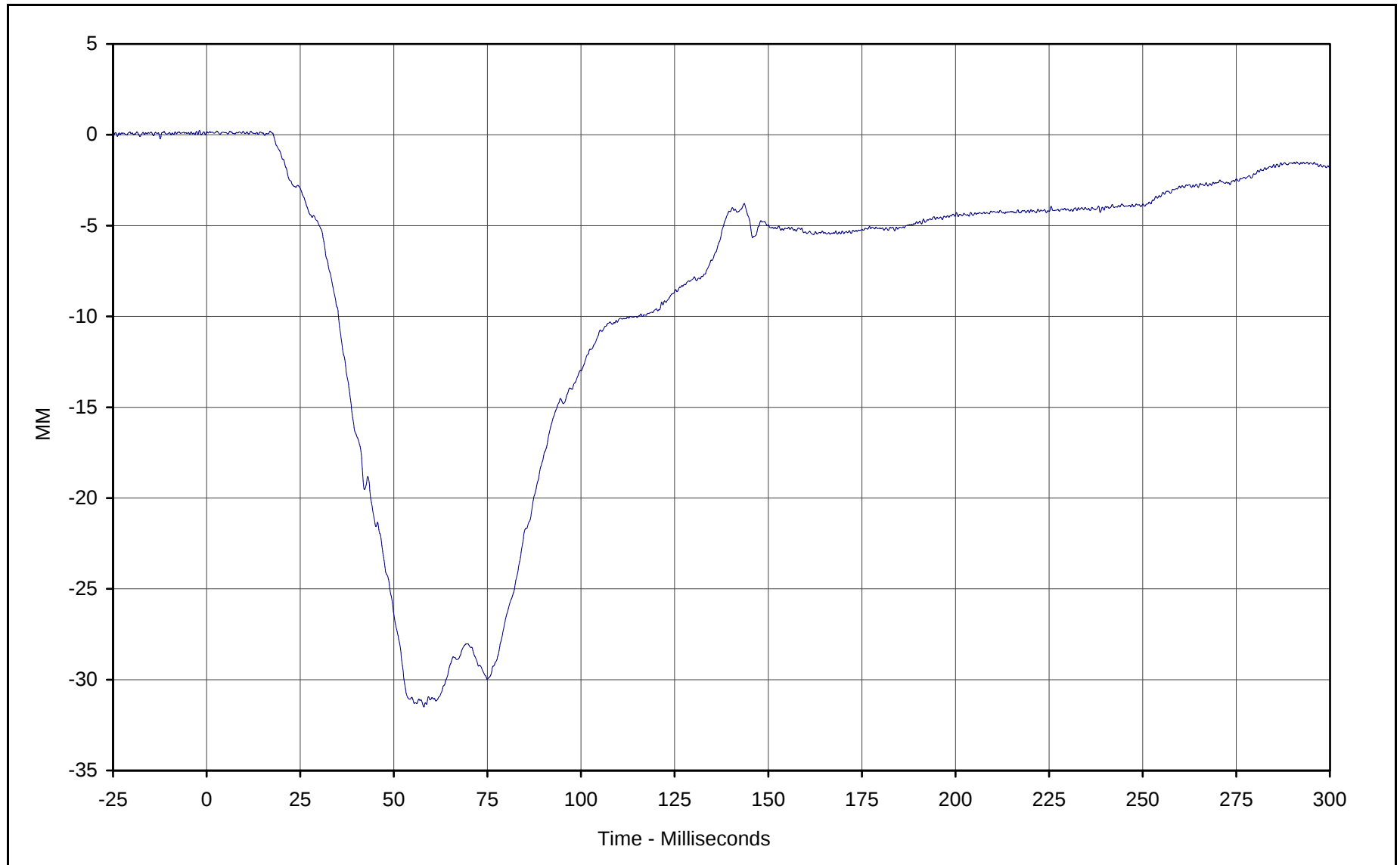


Curve Description: Driver Chest Resultant Redundant
Maximum Value: 57.7 at 54.1 Milliseconds
Minimum Value: 0.1 at 3.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: RES-016

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



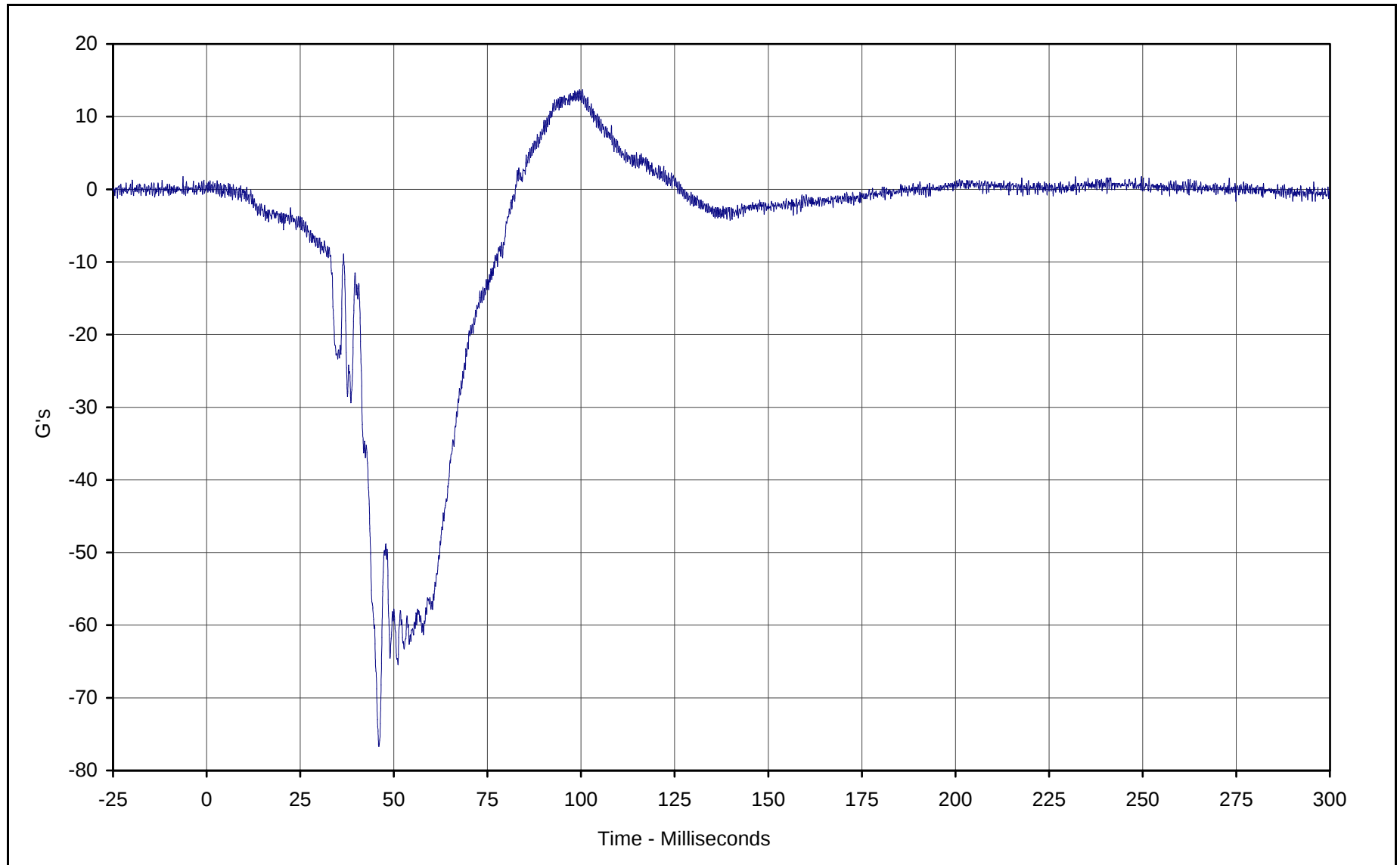
KAR21001-13



Curve Description: Driver Chest Displacement X
Maximum Value: 0.2 at 16.9 Milliseconds
Minimum Value: -31.5 at 58.0 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-019

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan





Curve Description: Driver Pelvis X

Maximum Value: 13.7 at 99.6 Milliseconds

Minimum Value: -76.7 at 46.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 02/21/01

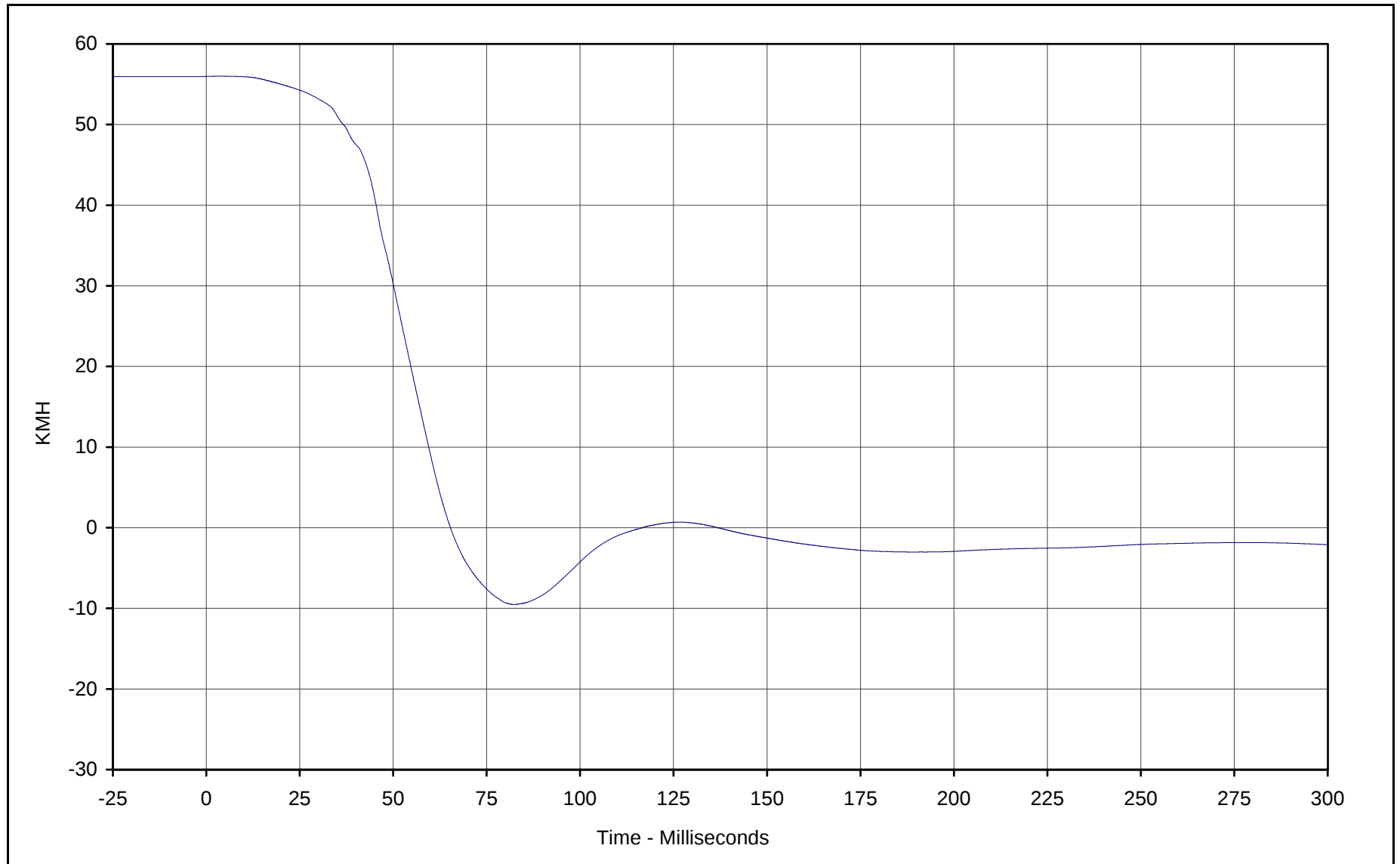
Curve Number: FIL-020

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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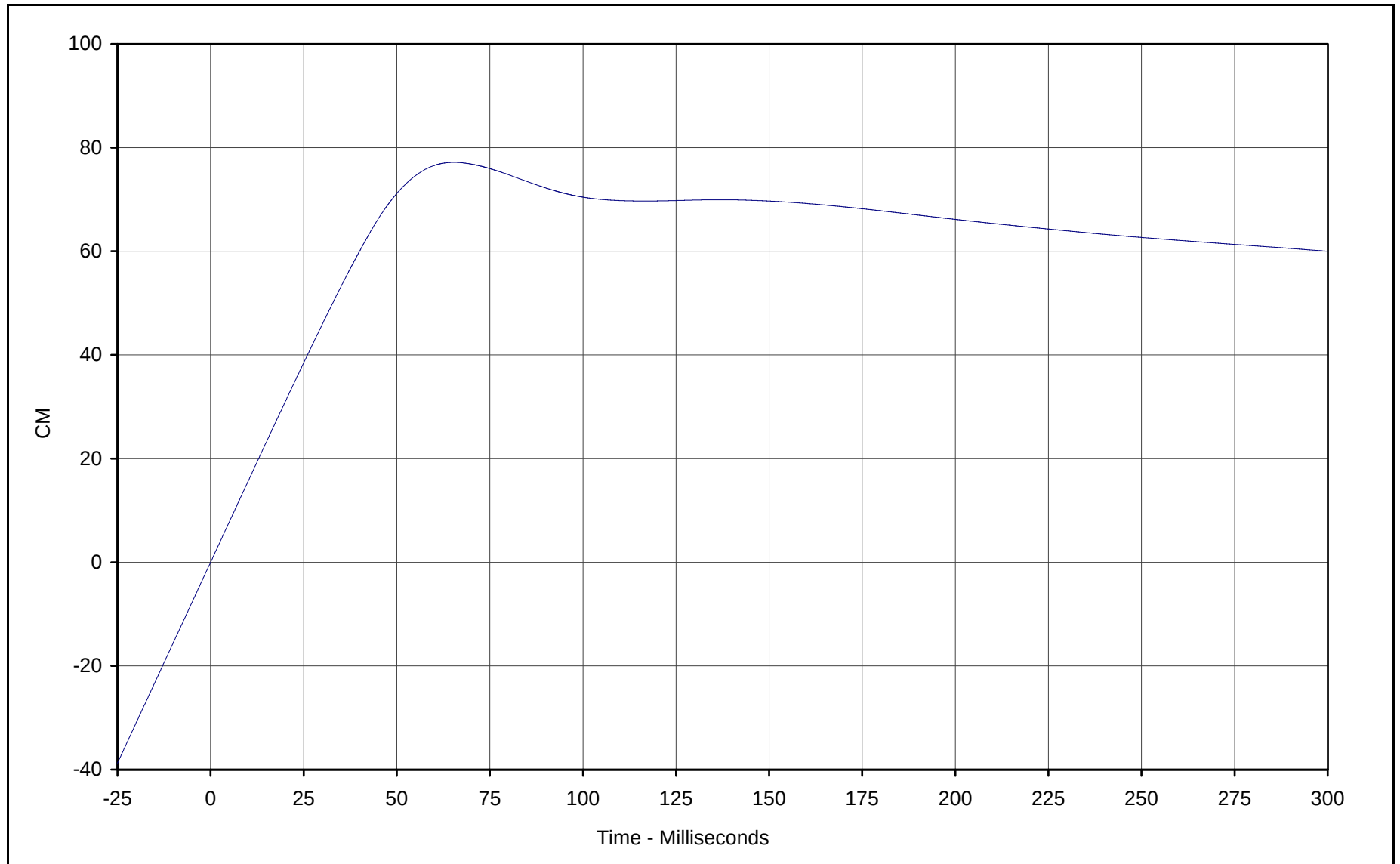


Curve Description: Driver Pelvis X Velocity
Maximum Value: 56.0 at 3.4 Milliseconds
Minimum Value: -9.5 at 82.4 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-020

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



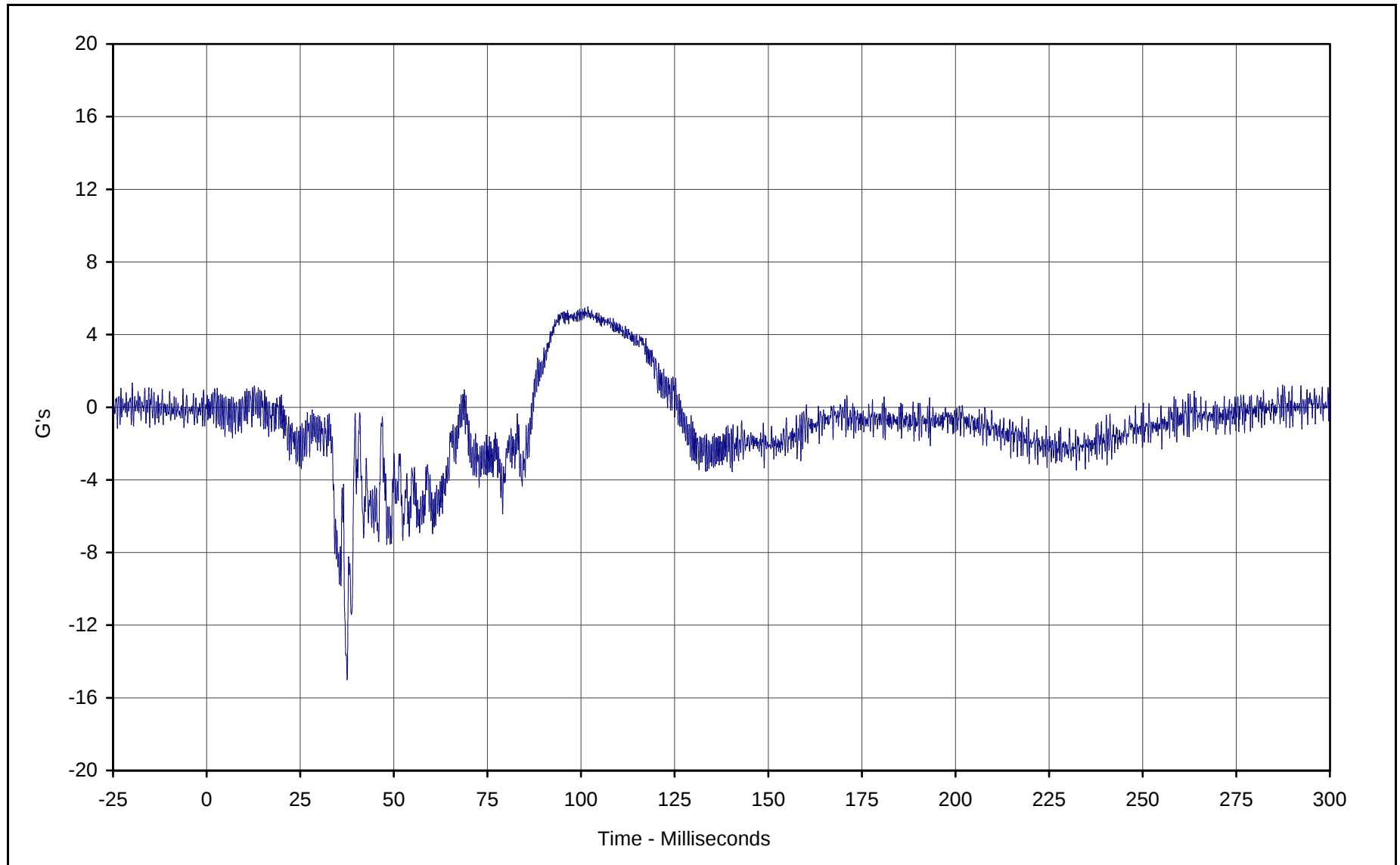
KAR21001-13



Curve Description: Driver Pelvis X Displ.
Maximum Value: 77.2 at 65.3 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-020

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

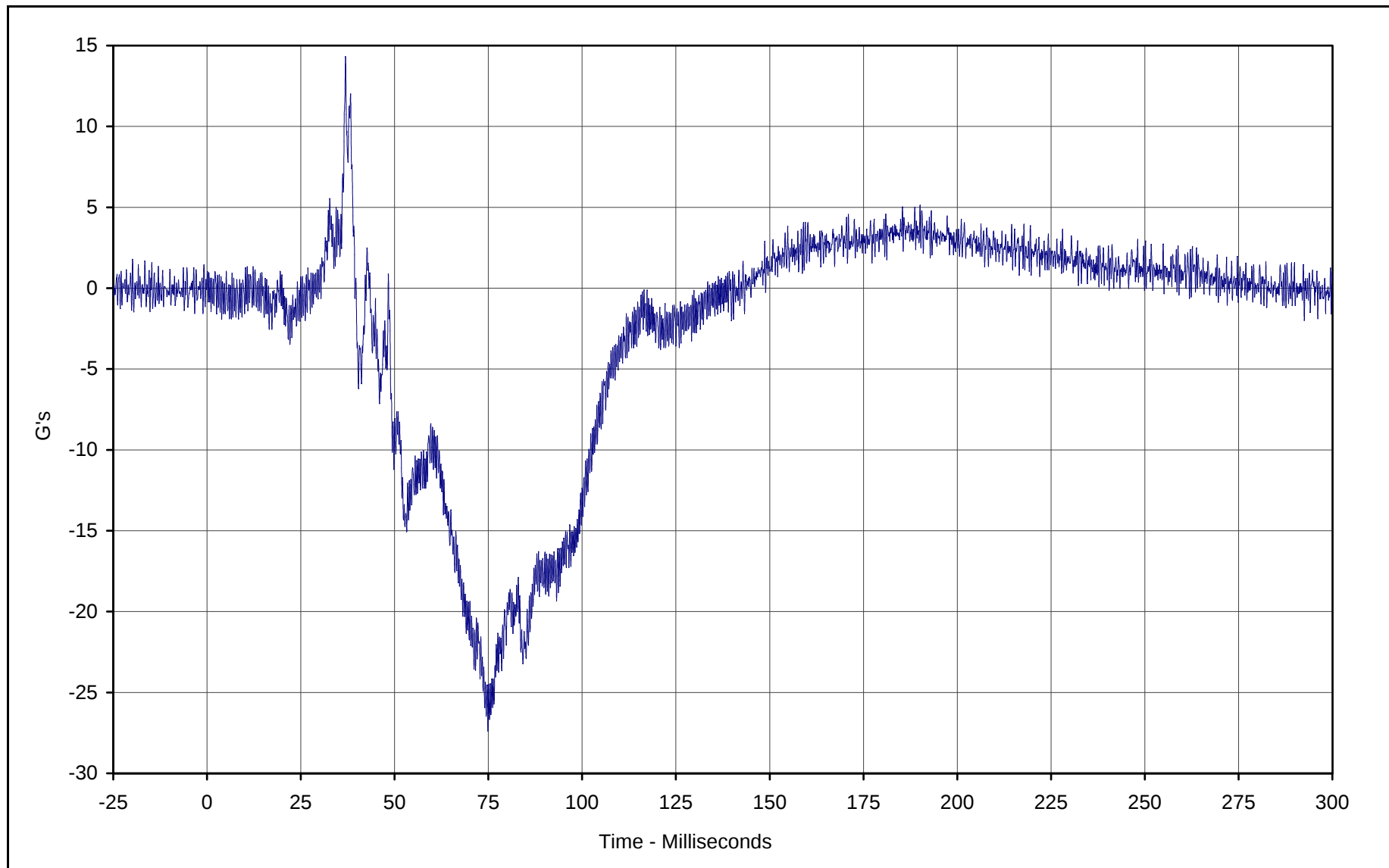




Curve Description: Driver Pelvis Y
Maximum Value: 5.5 at 101.8 Milliseconds
Minimum Value: -15.0 at 37.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-021

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



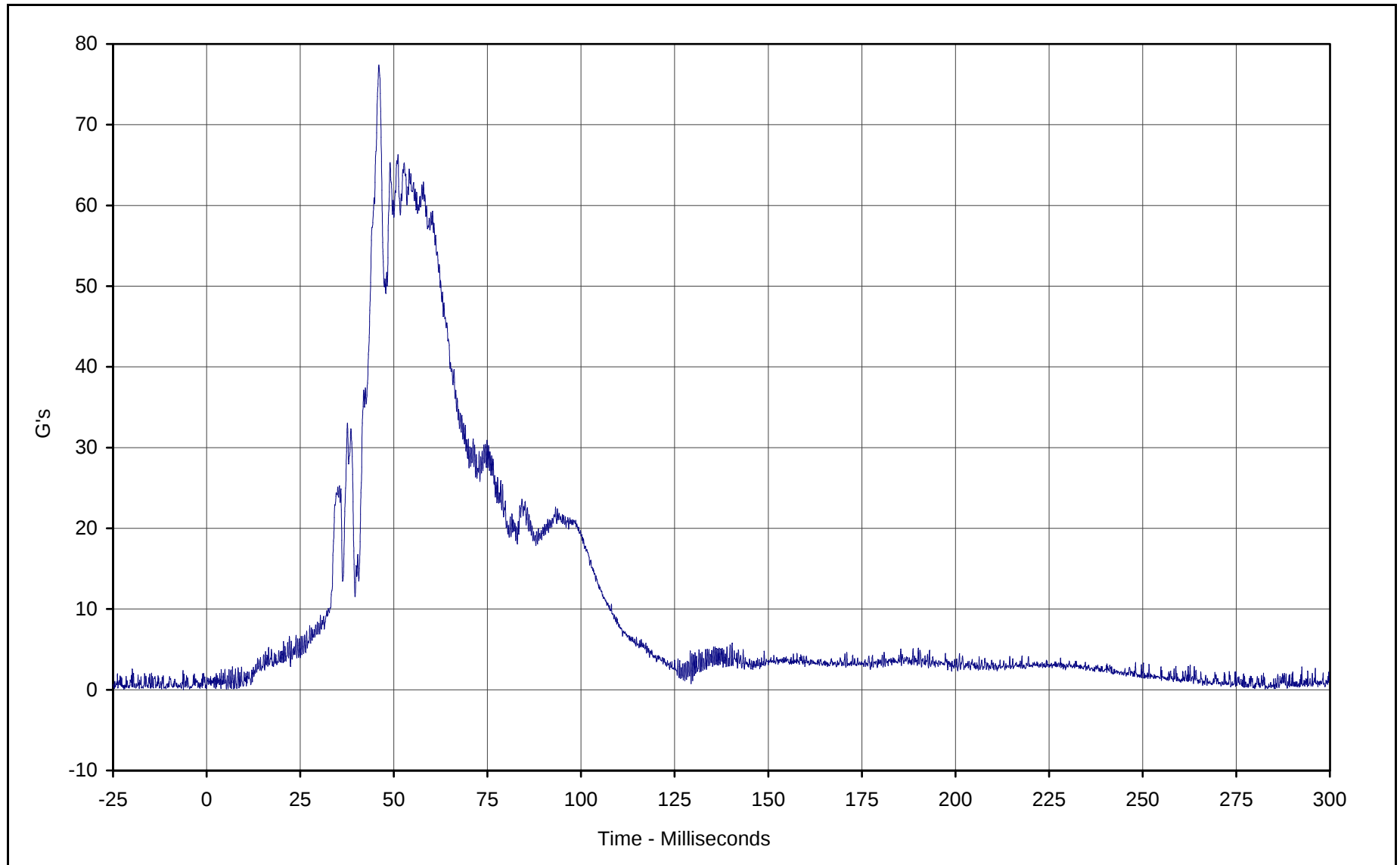


Curve Description: Driver Pelvis Z
Maximum Value: 14.3 at 36.9 Milliseconds
Minimum Value: -27.4 at 74.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-022

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



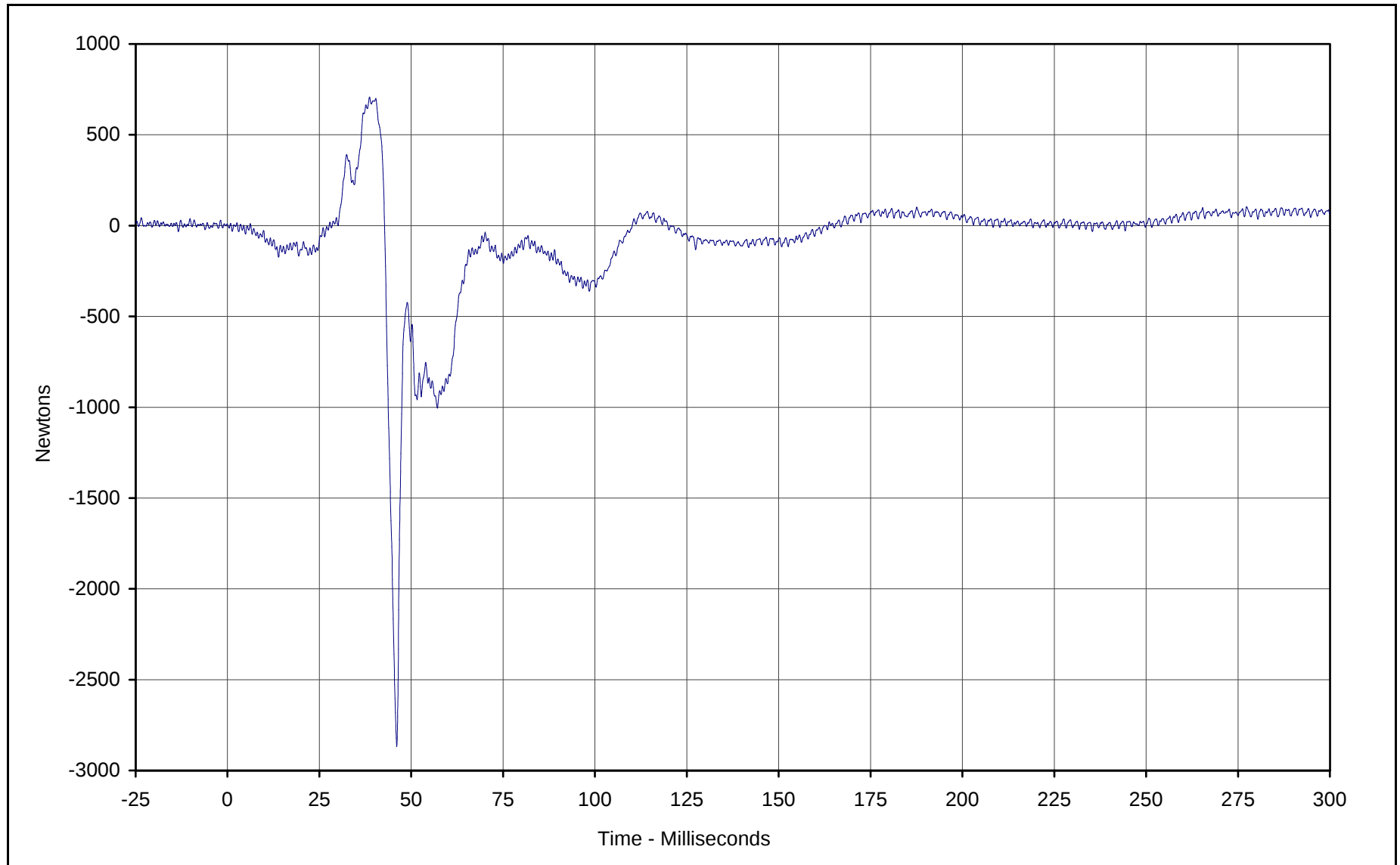


Curve Description: Driver Pelvis Resultant
Maximum Value: 77.4 at 46.0 Milliseconds
Minimum Value: 0.1 at 5.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: RES-020

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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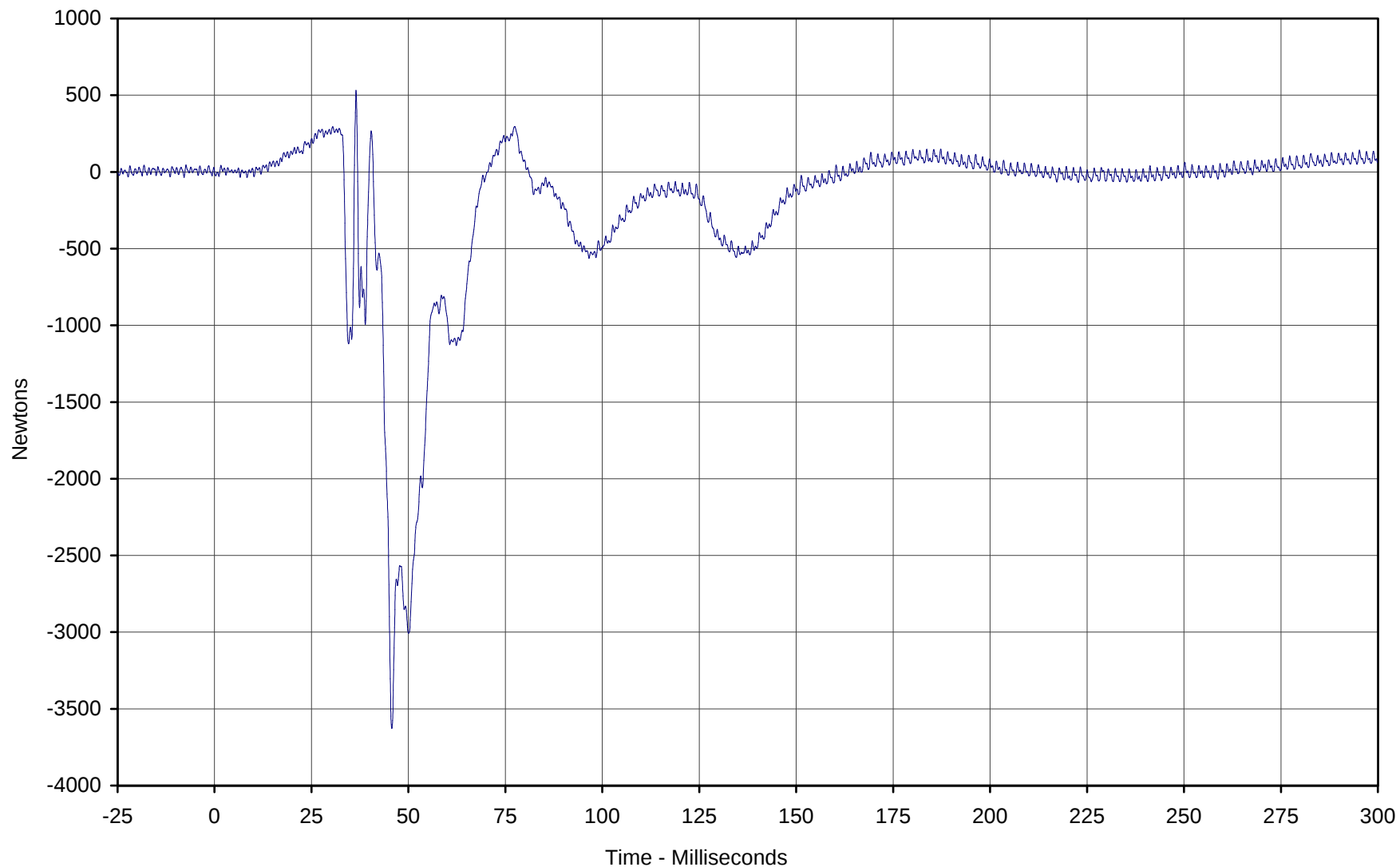


Curve Description: Driver Left Femur Force
Maximum Value: 707.5 at 38.6 Milliseconds
Minimum Value: -2868.0 at 46.1 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-023

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

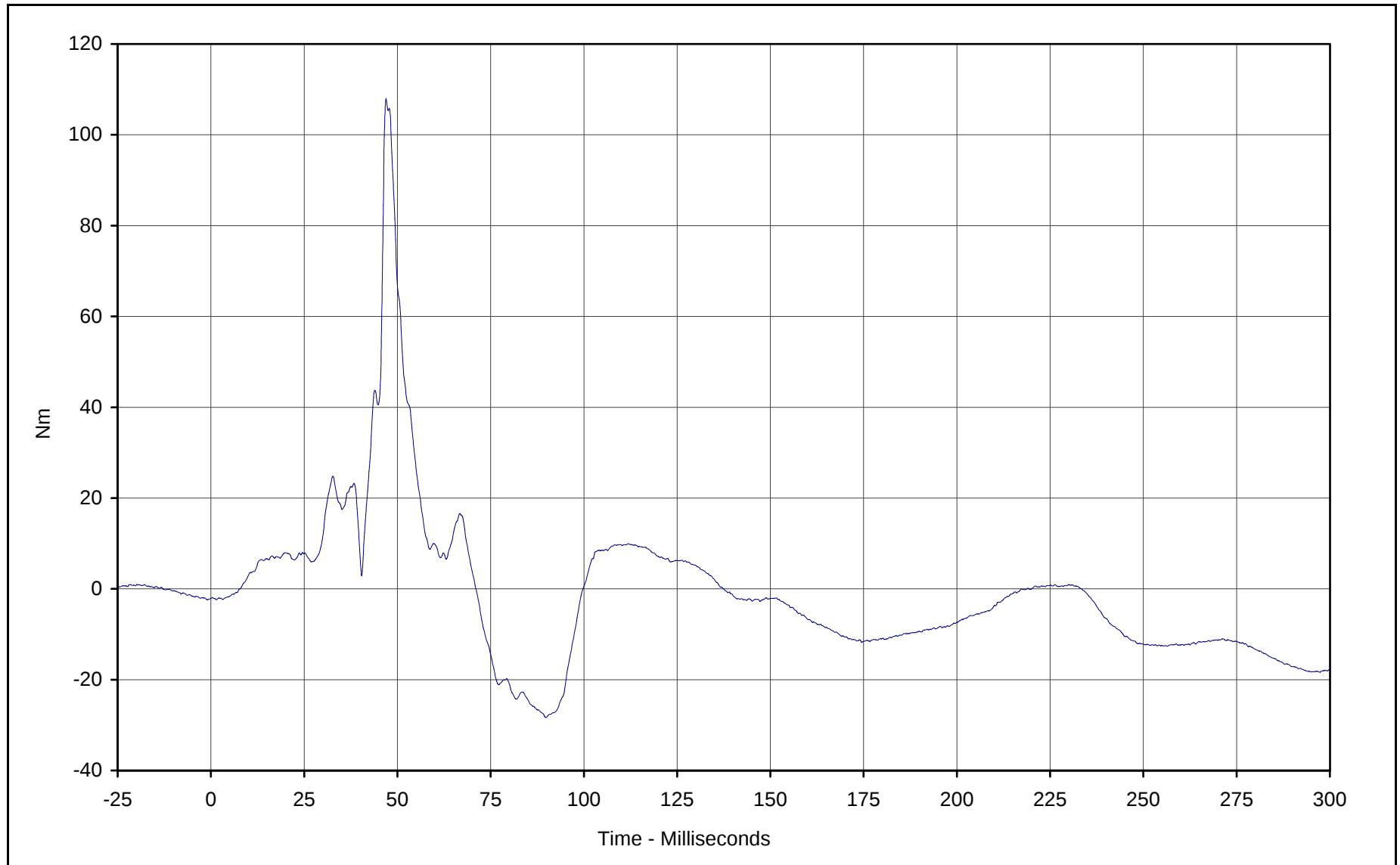


Curve Description: Driver Right Femur Force
Maximum Value: 532.6 at 36.5 Milliseconds
Minimum Value: -3627.5 at 45.7 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-024

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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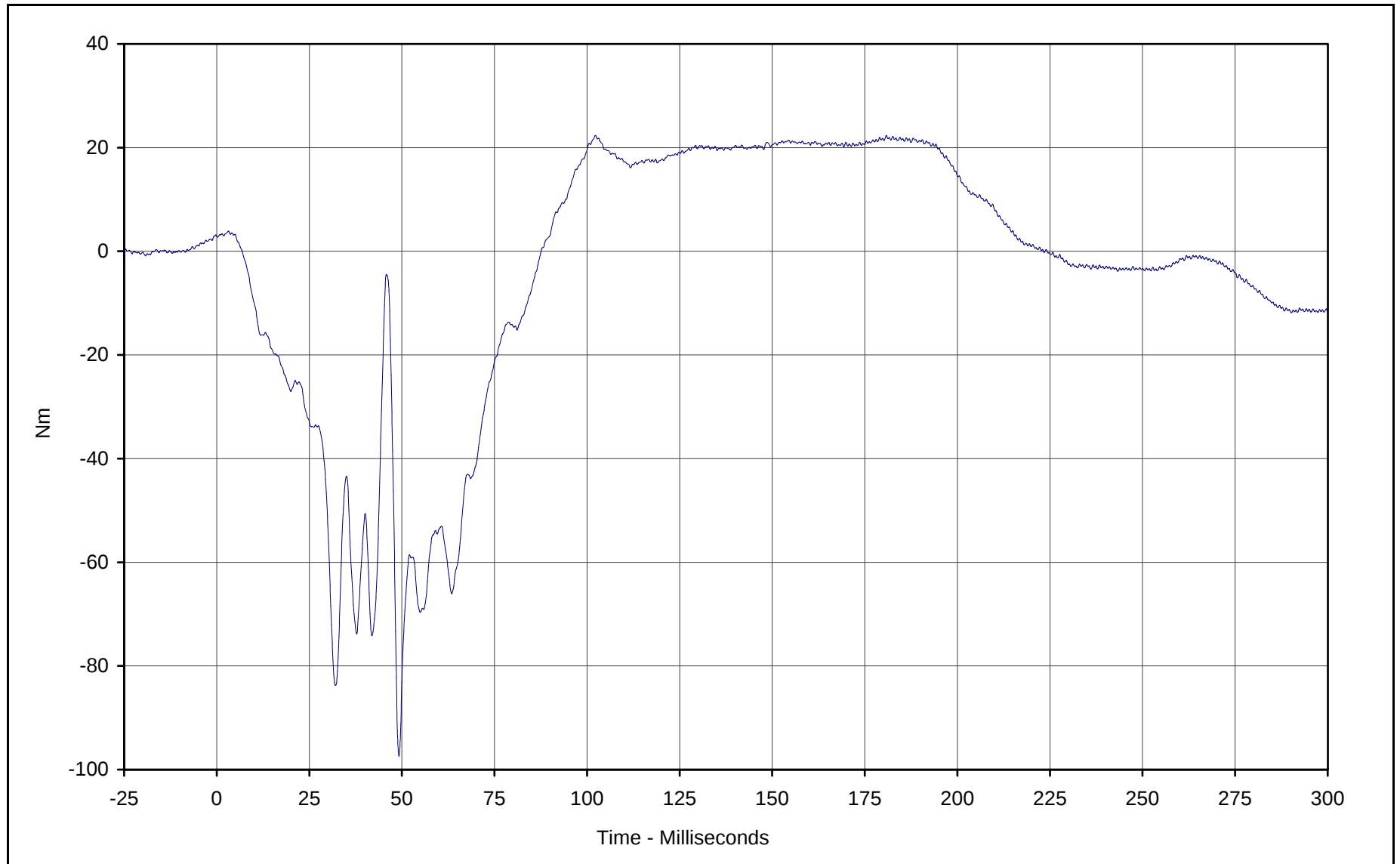
Curve Description: Driver Left Upper Tibia Moment X
Maximum Value: 108.0 at 47.0 Milliseconds
Minimum Value: -28.3 at 89.8 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-025

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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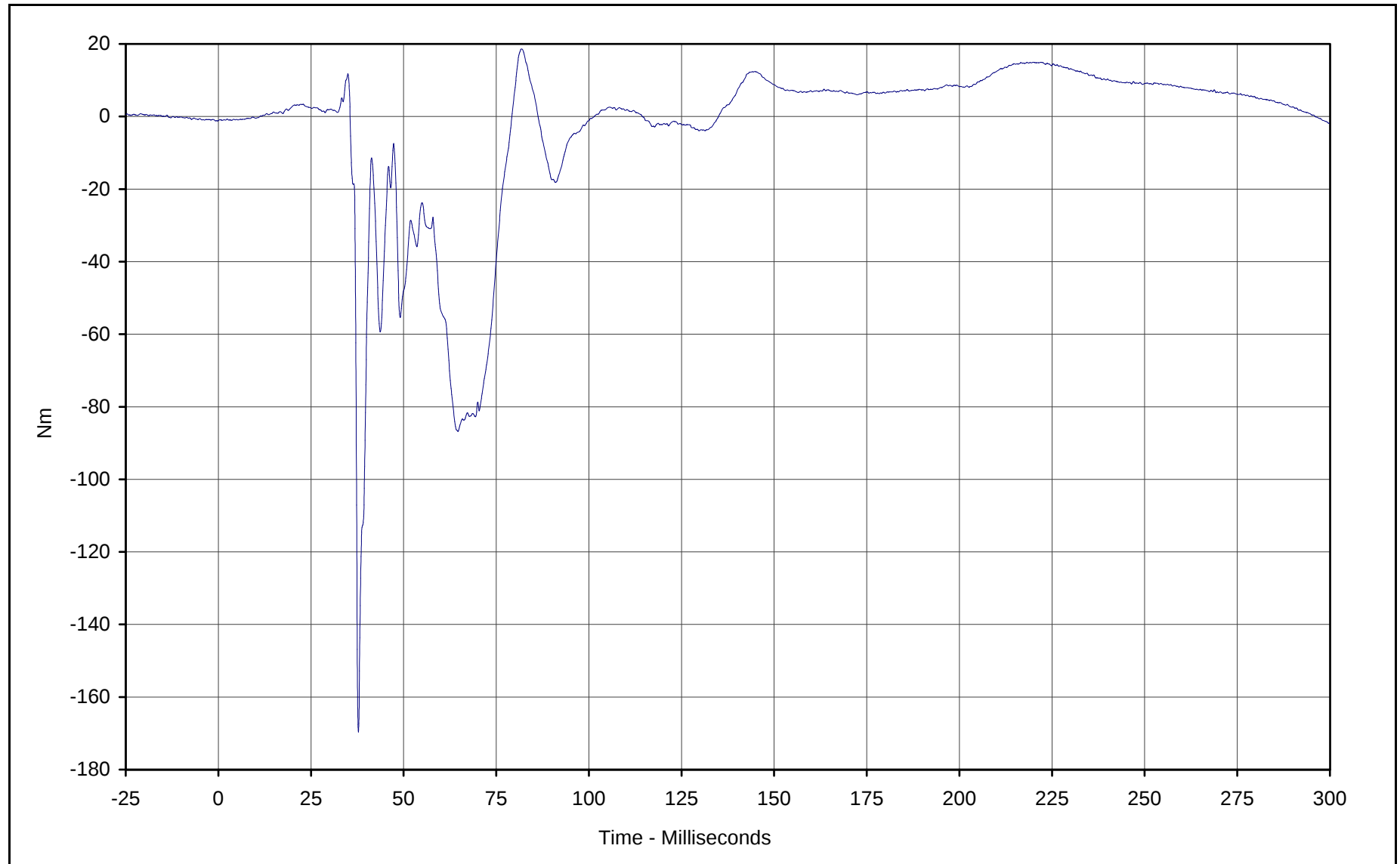


Curve Description: Driver Left Upper Tibia Moment Y
Maximum Value: 22.4 at 102.3 Milliseconds
Minimum Value: -97.4 at 49.2 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-026

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

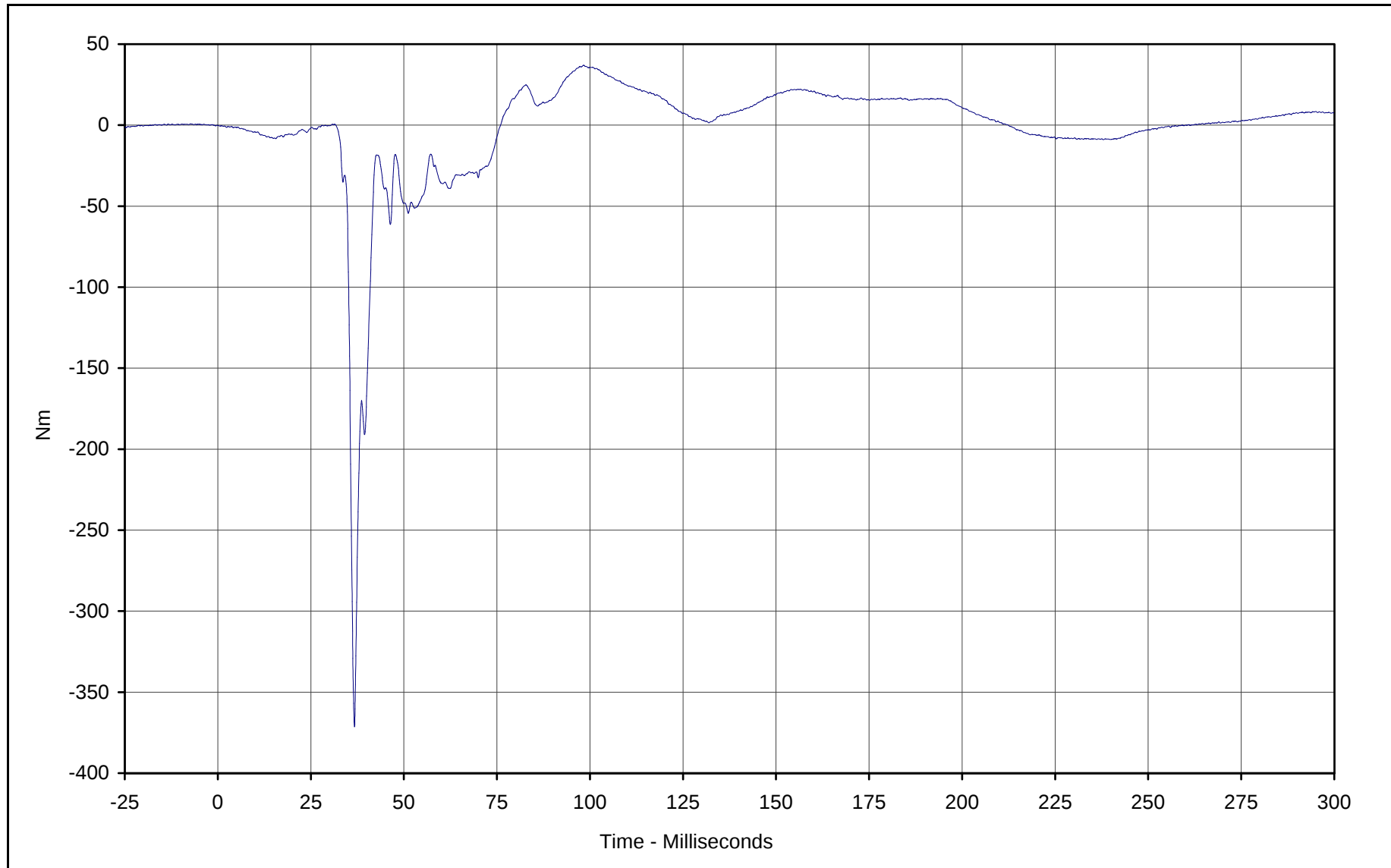


Curve Description: Driver Right Upper Tibia Moment X
Maximum Value: 18.6 at 81.9 Milliseconds
Minimum Value: -169.7 at 37.8 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-027

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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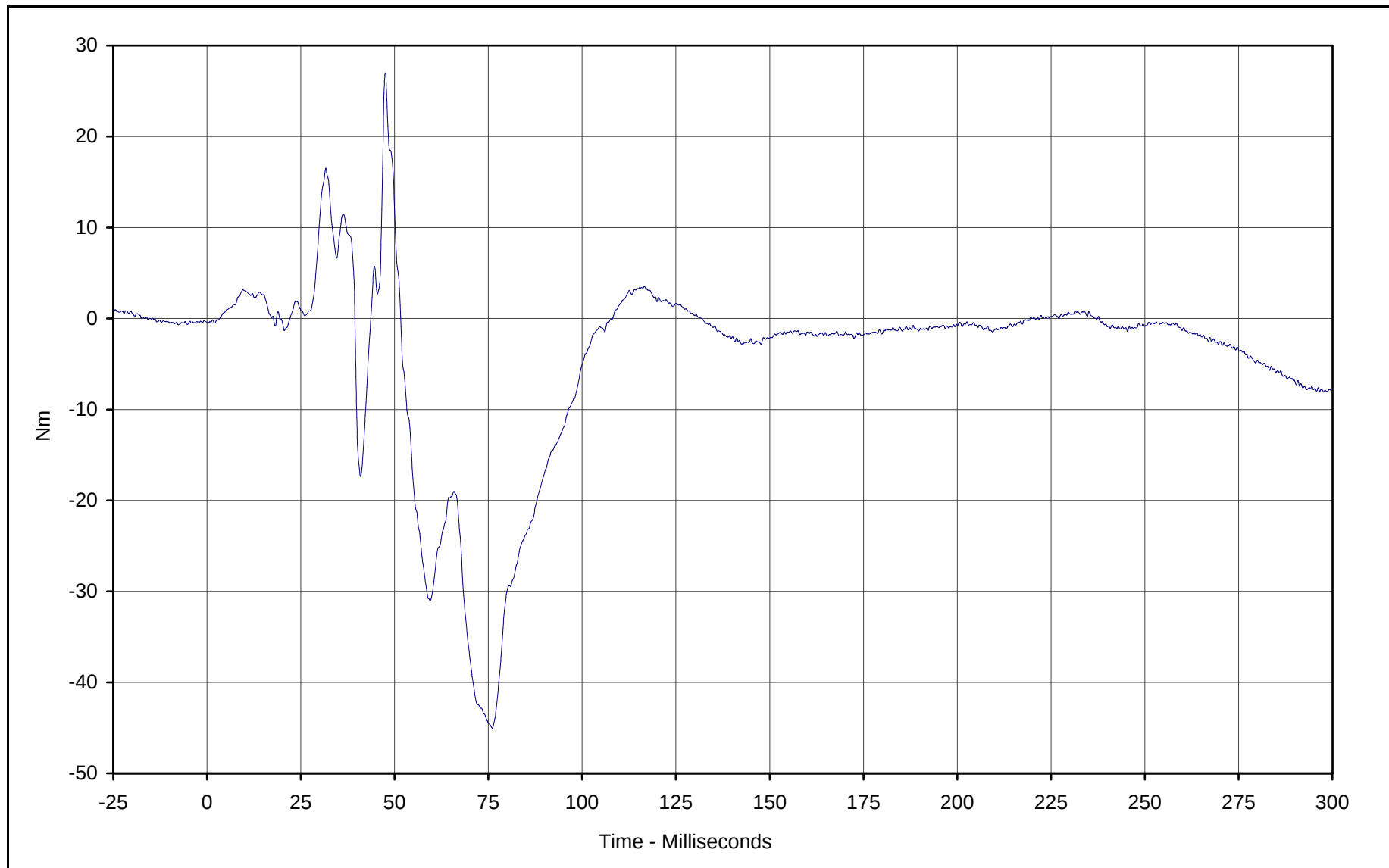


Curve Description: Driver Right Upper Tibia Moment Y
Maximum Value: 37.0 at 98.3 Milliseconds
Minimum Value: -371.4 at 36.7 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-028

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

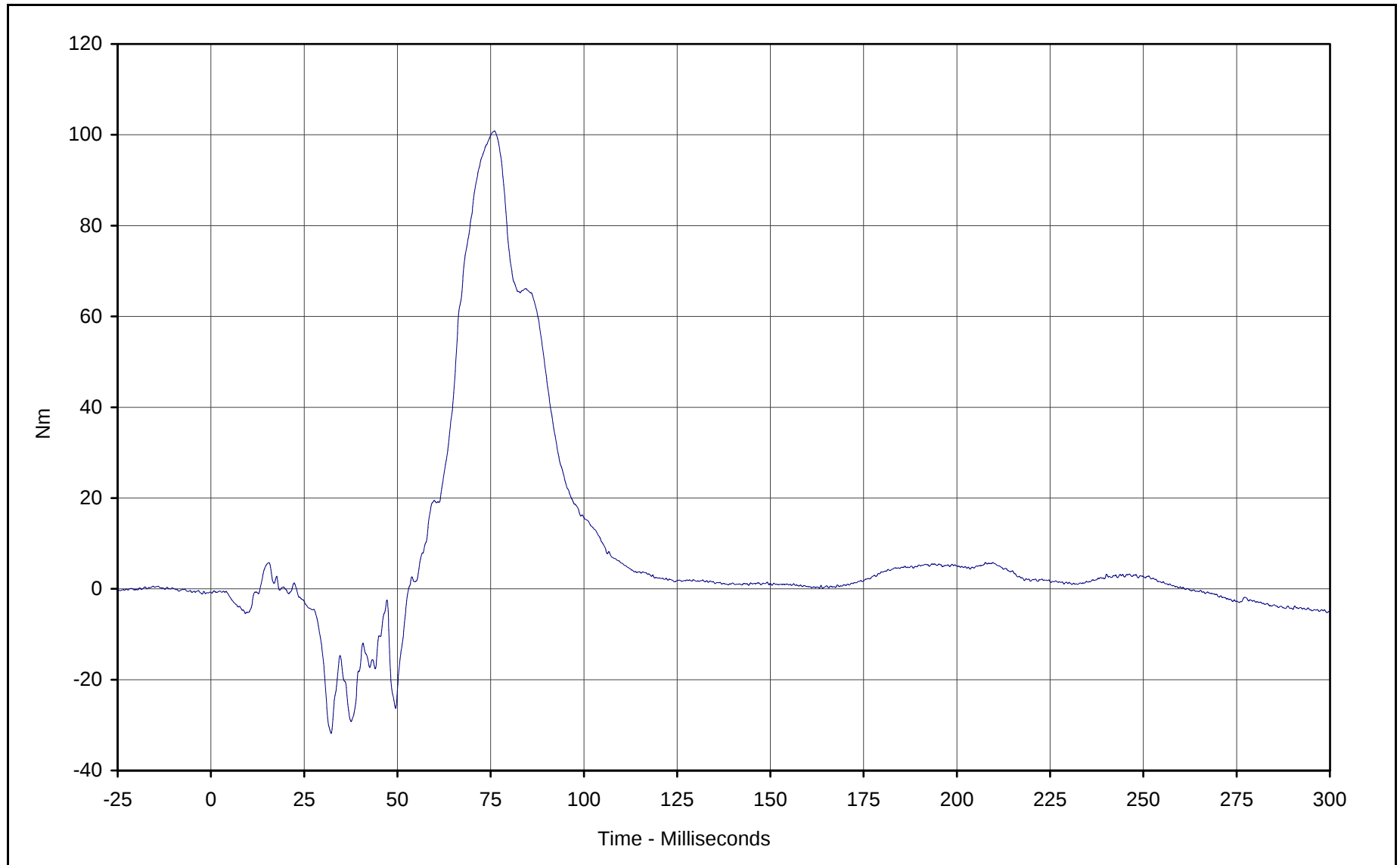


Curve Description: Driver Left Lower Tibia Moment X
Maximum Value: 27.0 at 47.5 Milliseconds
Minimum Value: -45.0 at 76.0 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-029

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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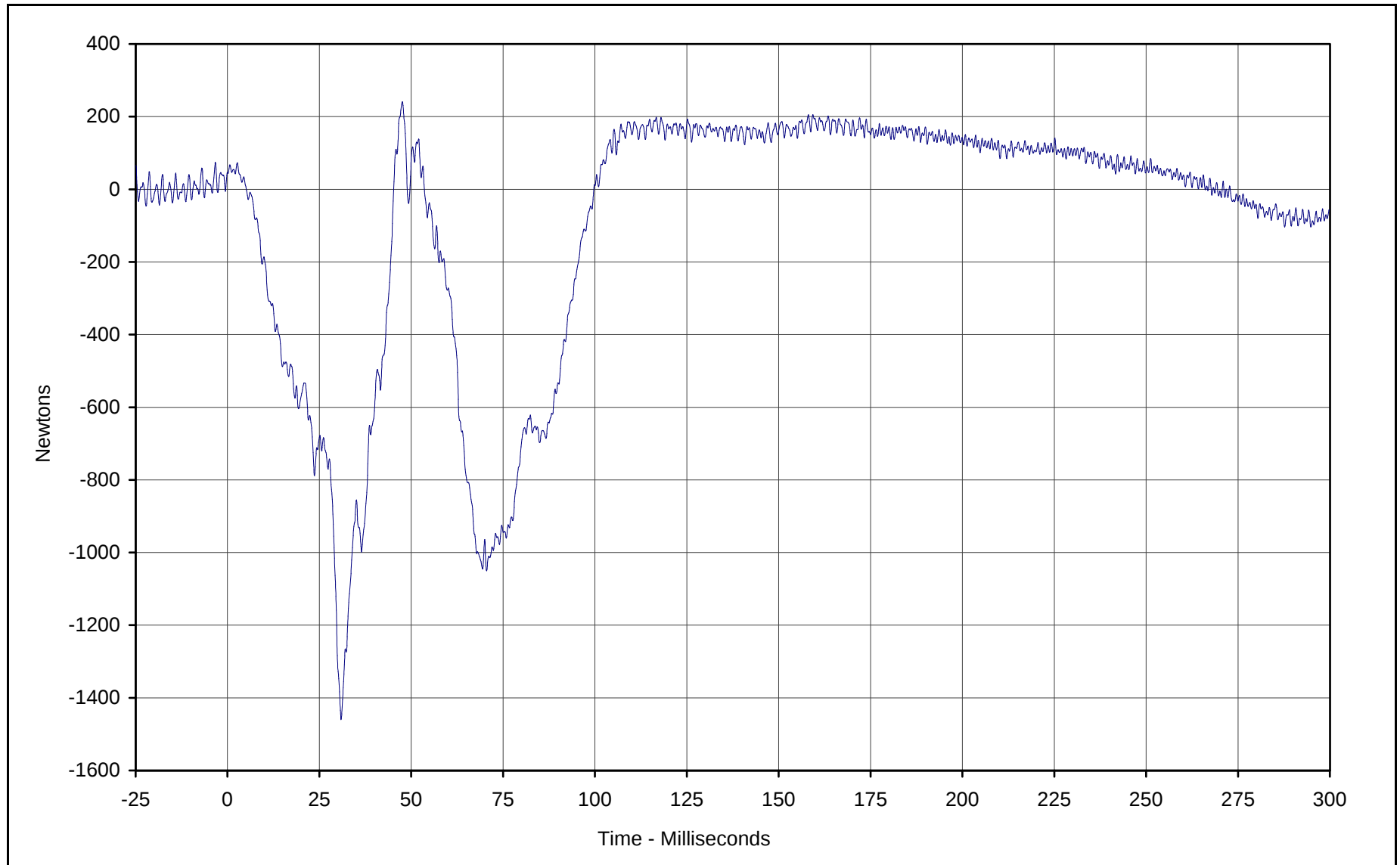


Curve Description: Driver Left Lower Tibia Moment Y
Maximum Value: 100.9 at 76.1 Milliseconds
Minimum Value: -31.8 at 32.2 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-030

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



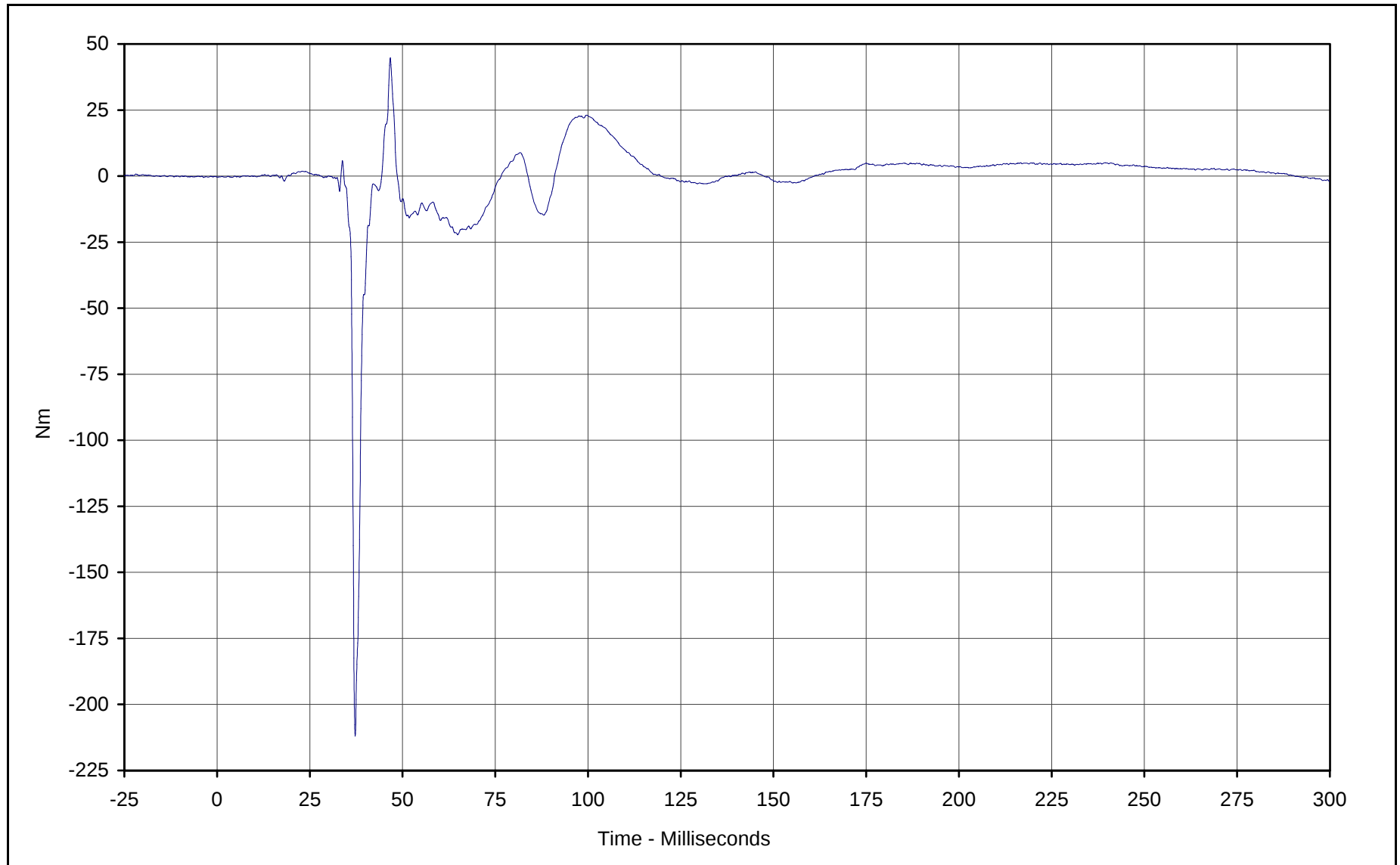
KAR21001-13



Curve Description: Driver Left Lower Tibia Force Z
Maximum Value: 241.3 at 47.6 Milliseconds
Minimum Value: -1460.1 at 30.9 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-031

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



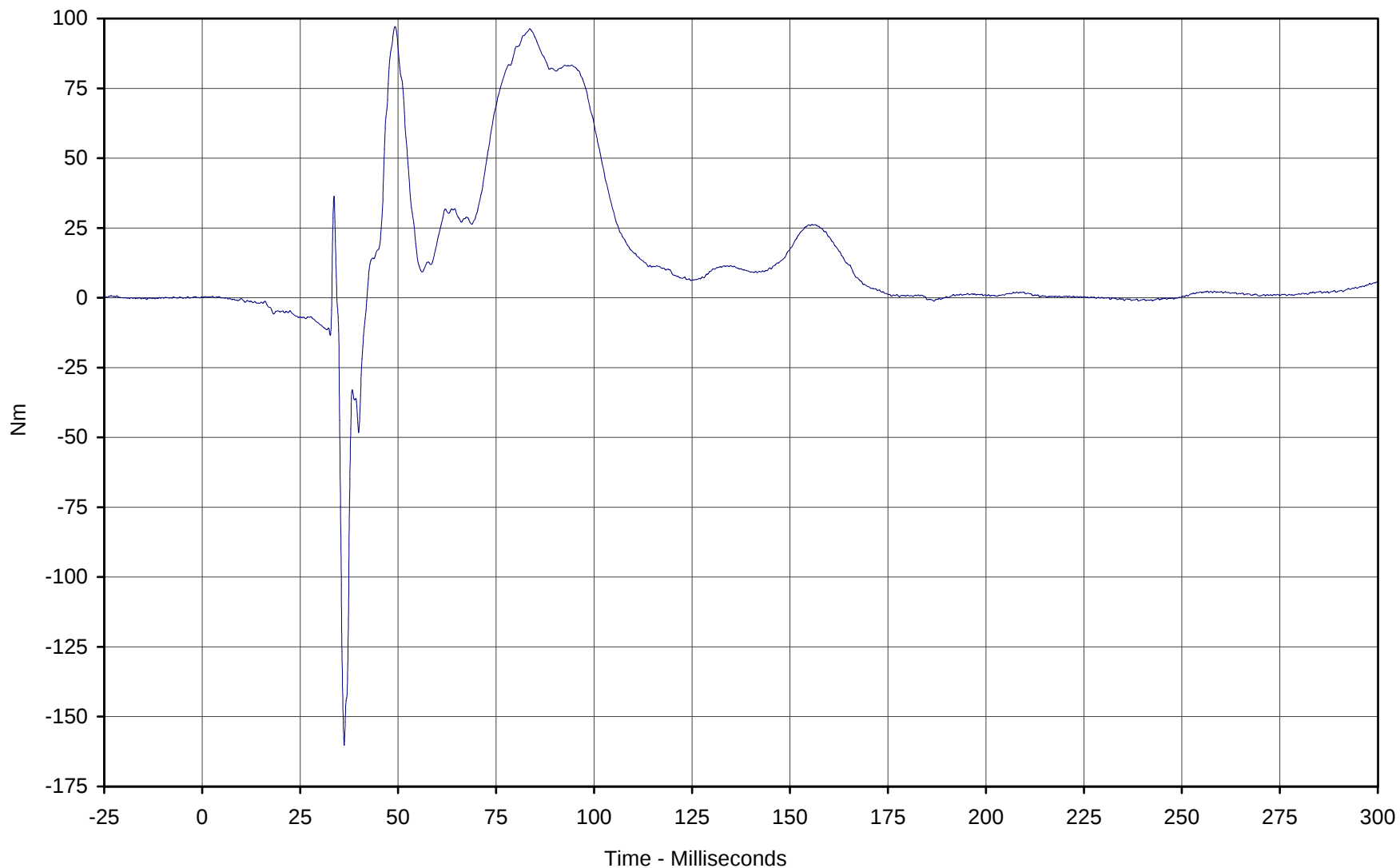


Curve Description: Driver Right Lower Tibia Moment X
Maximum Value: 44.8 at 46.7 Milliseconds
Minimum Value: -212.0 at 37.2 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-032

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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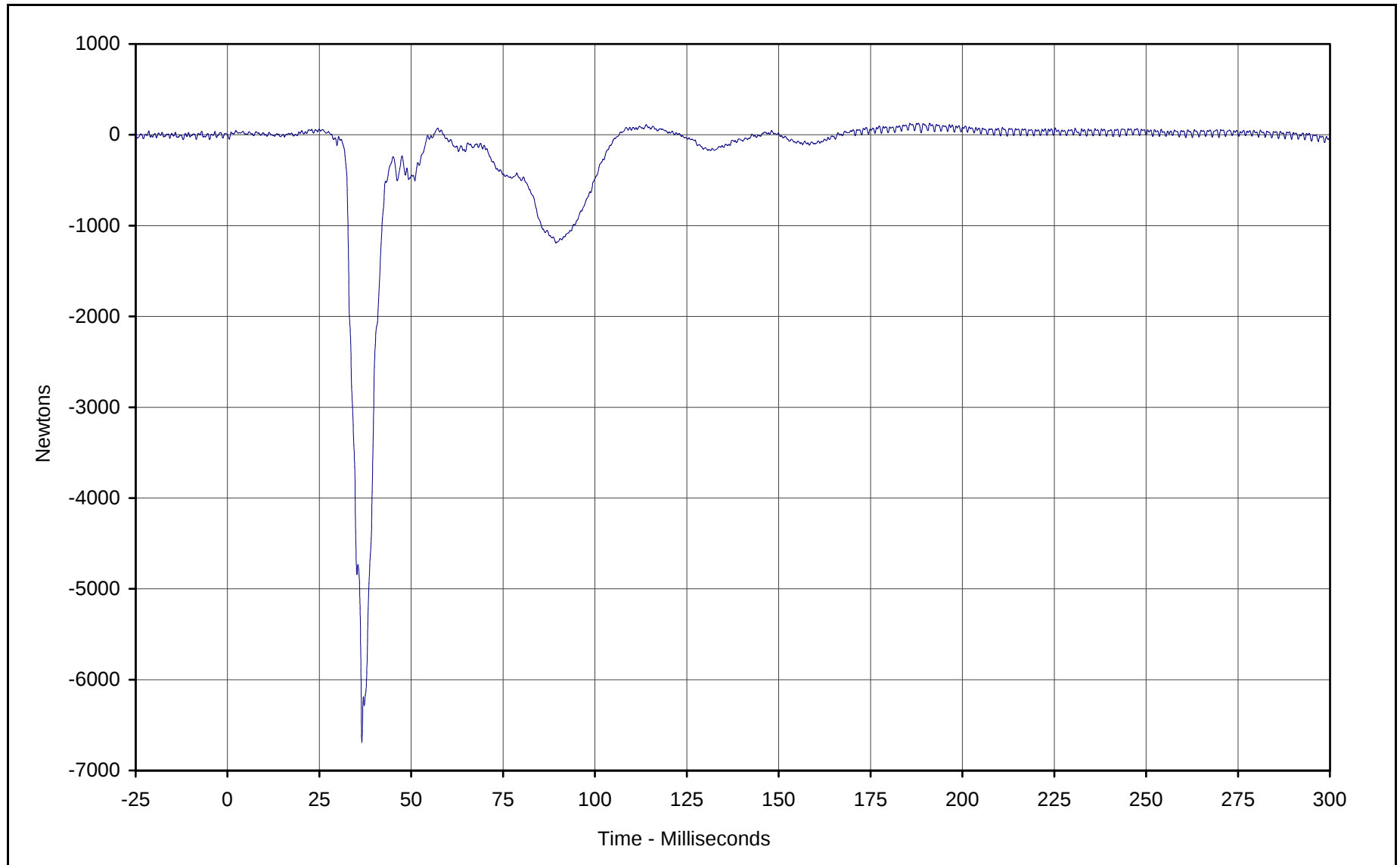


Curve Description: Driver Right Lower Tibia Moment Y
Maximum Value: 97.1 at 49.2 Milliseconds
Minimum Value: -160.3 at 36.2 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-033

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

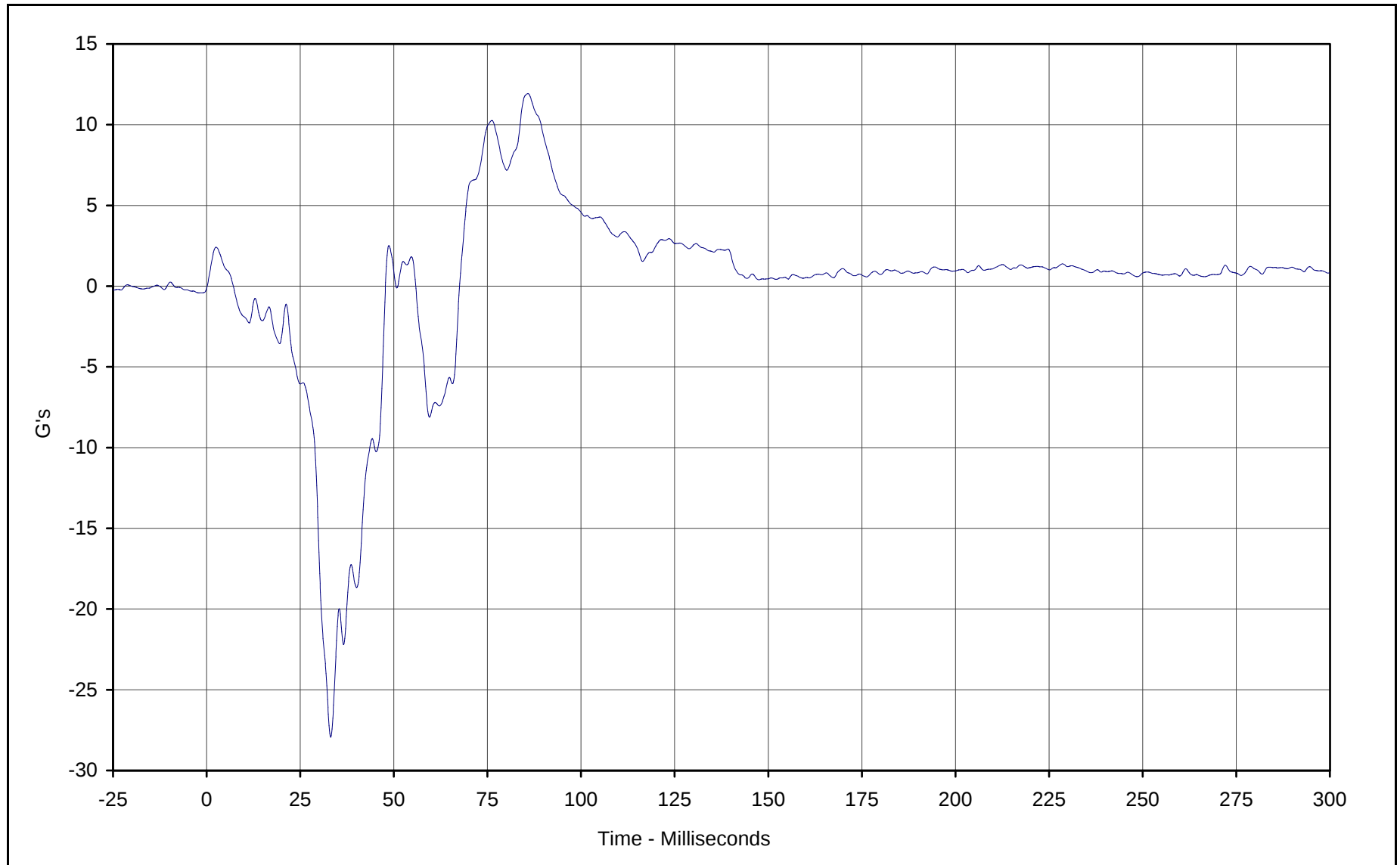


Curve Description: Driver Right Lower Tibia Force Z
Maximum Value: 128.0 at 191.1 Milliseconds
Minimum Value: -6692.4 at 36.6 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-034

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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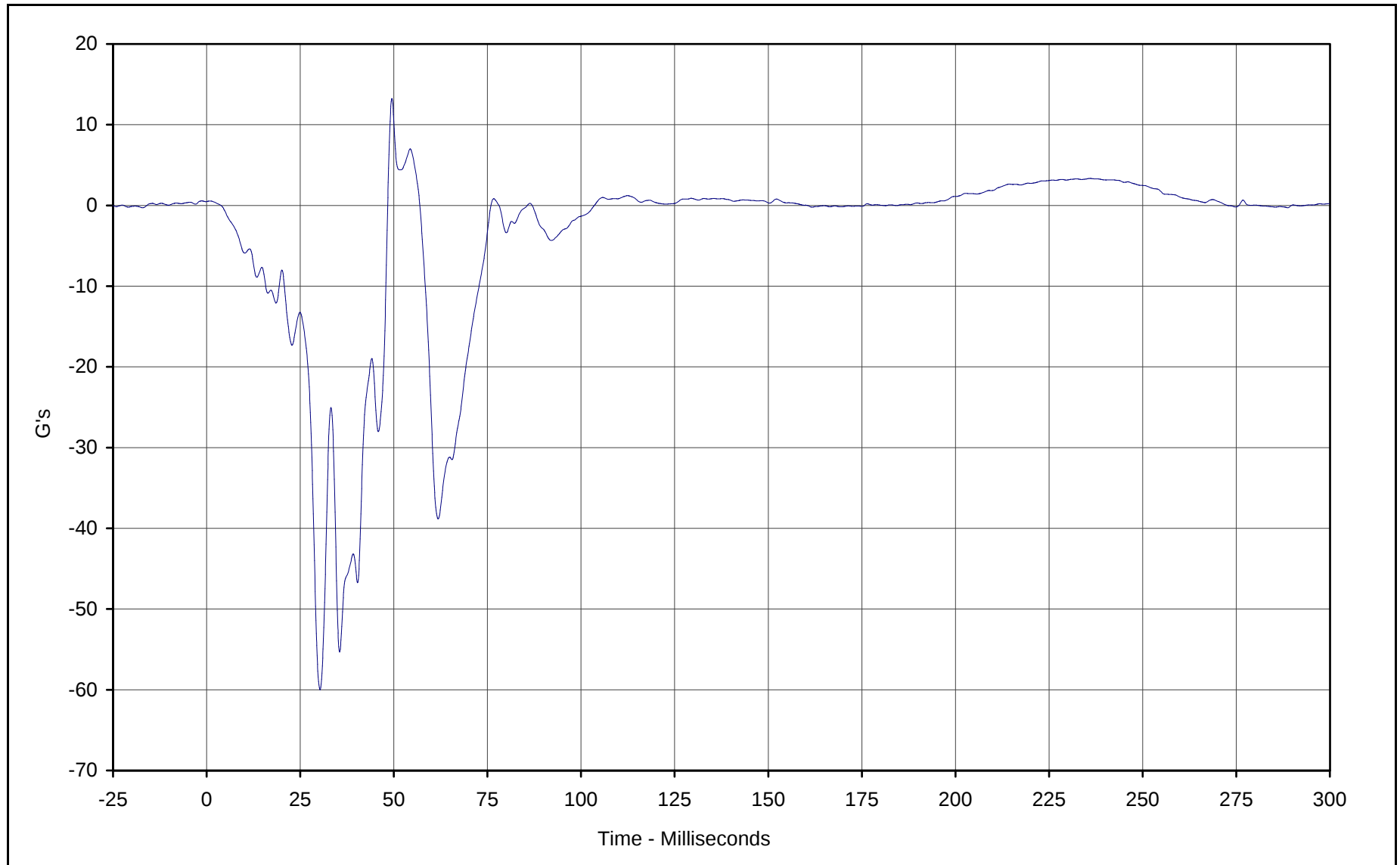


Curve Description: Driver Left Foot Aft X
Maximum Value: 11.9 at 85.8 Milliseconds
Minimum Value: -27.9 at 33.1 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-035

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



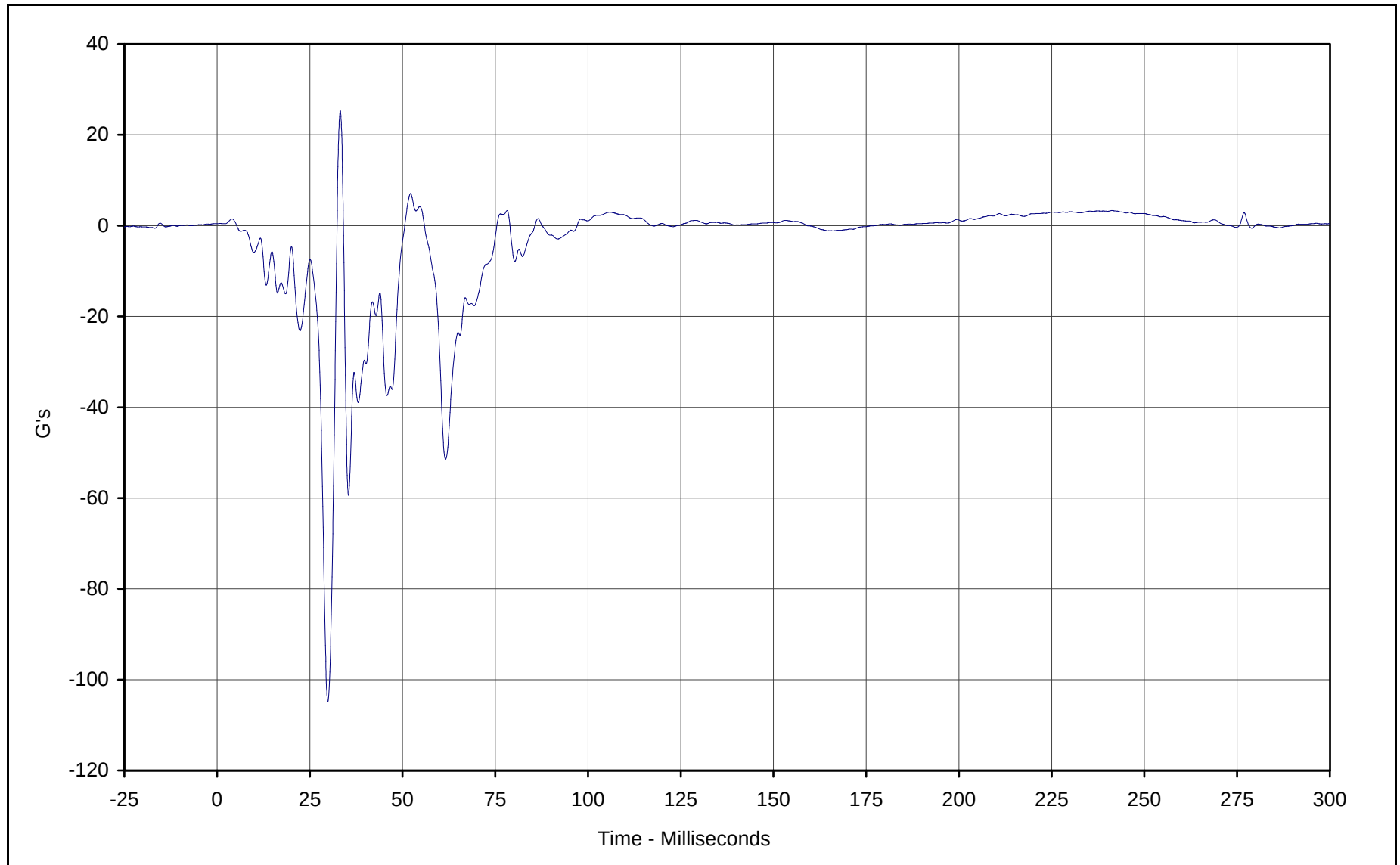
KAR21001-13



Curve Description: Driver Left Foot Aft Z
Maximum Value: 13.2 at 49.5 Milliseconds
Minimum Value: -60.0 at 30.3 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-036

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



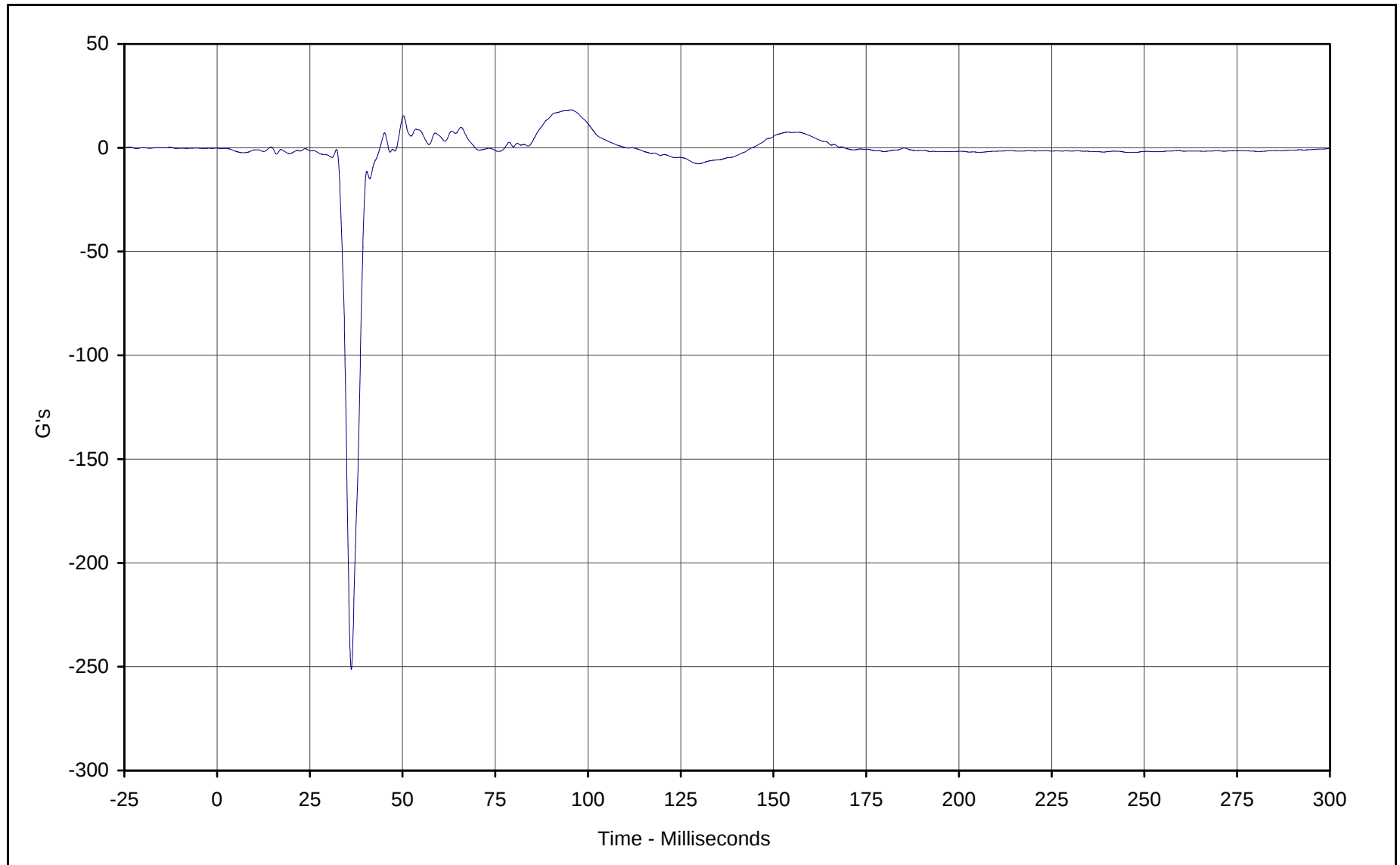


Curve Description: Driver Left Foot Fore Z
Maximum Value: 25.4 at 33.2 Milliseconds
Minimum Value: -104.9 at 29.9 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-037

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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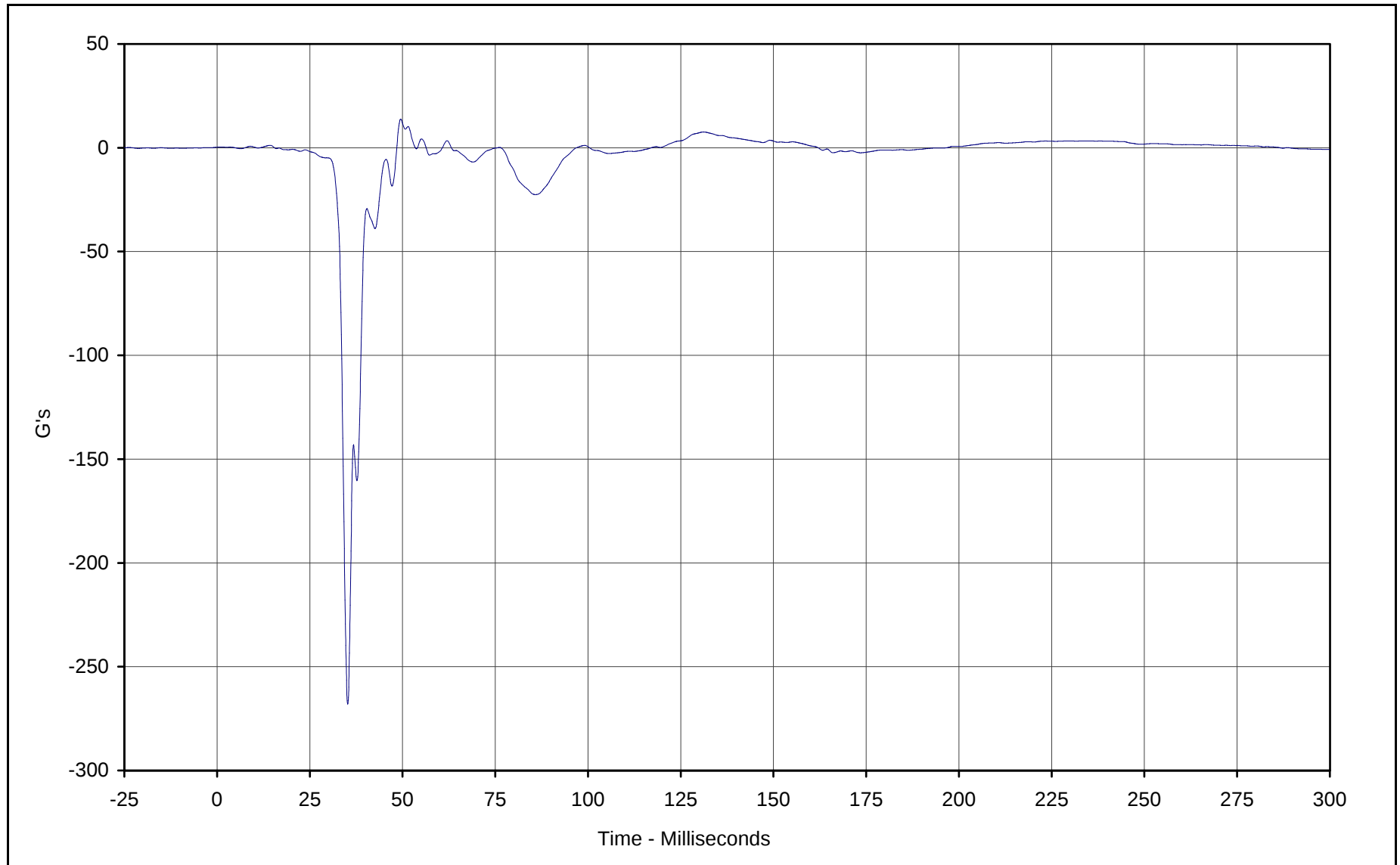


Curve Description: Driver Right Foot Aft X
Maximum Value: 18.2 at 95.5 Milliseconds
Minimum Value: -251.3 at 36.2 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-038

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



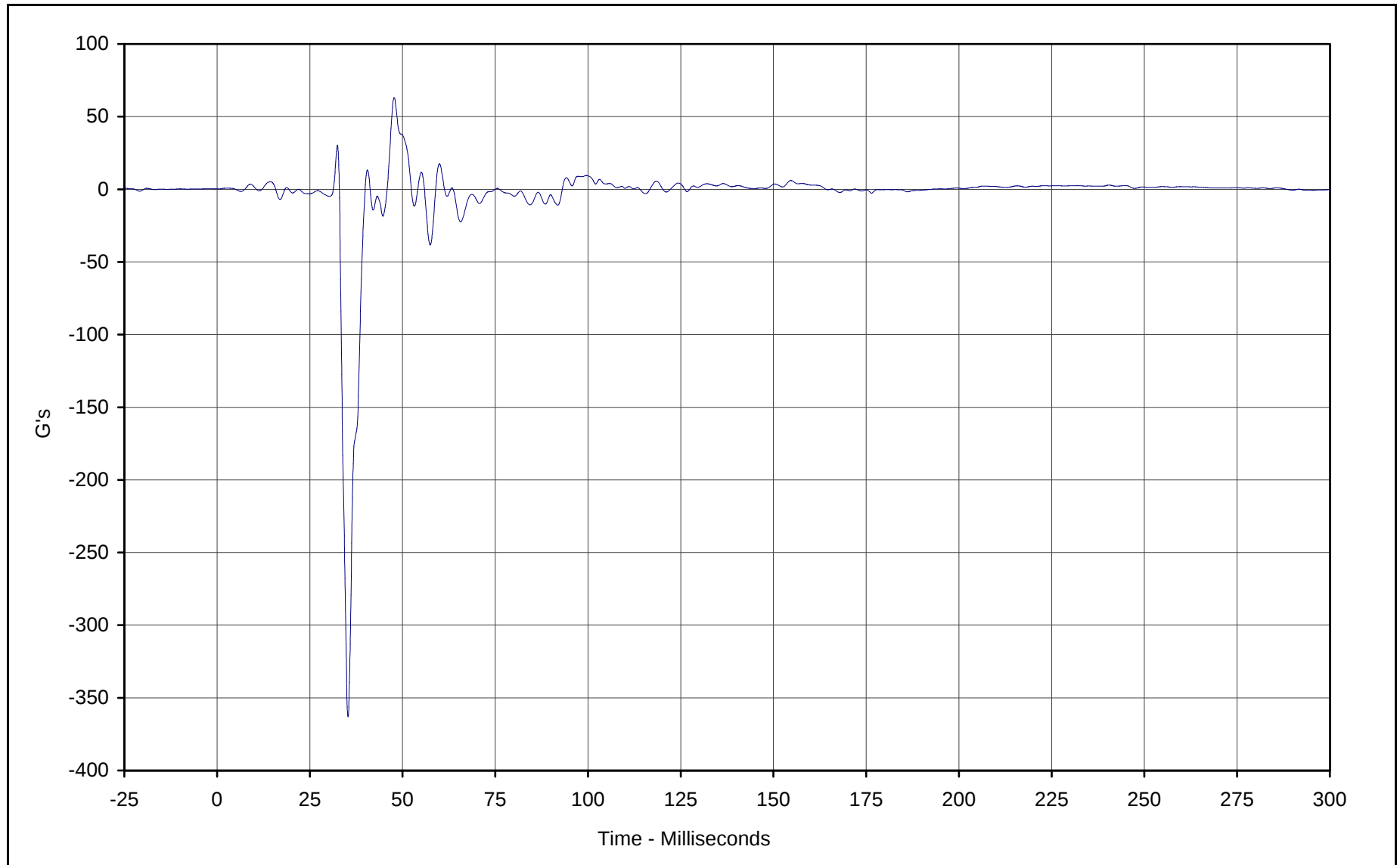
KAR21001-13



Curve Description: Driver Right Foot Aft Z
Maximum Value: 13.7 at 49.5 Milliseconds
Minimum Value: -268.0 at 35.2 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-039

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

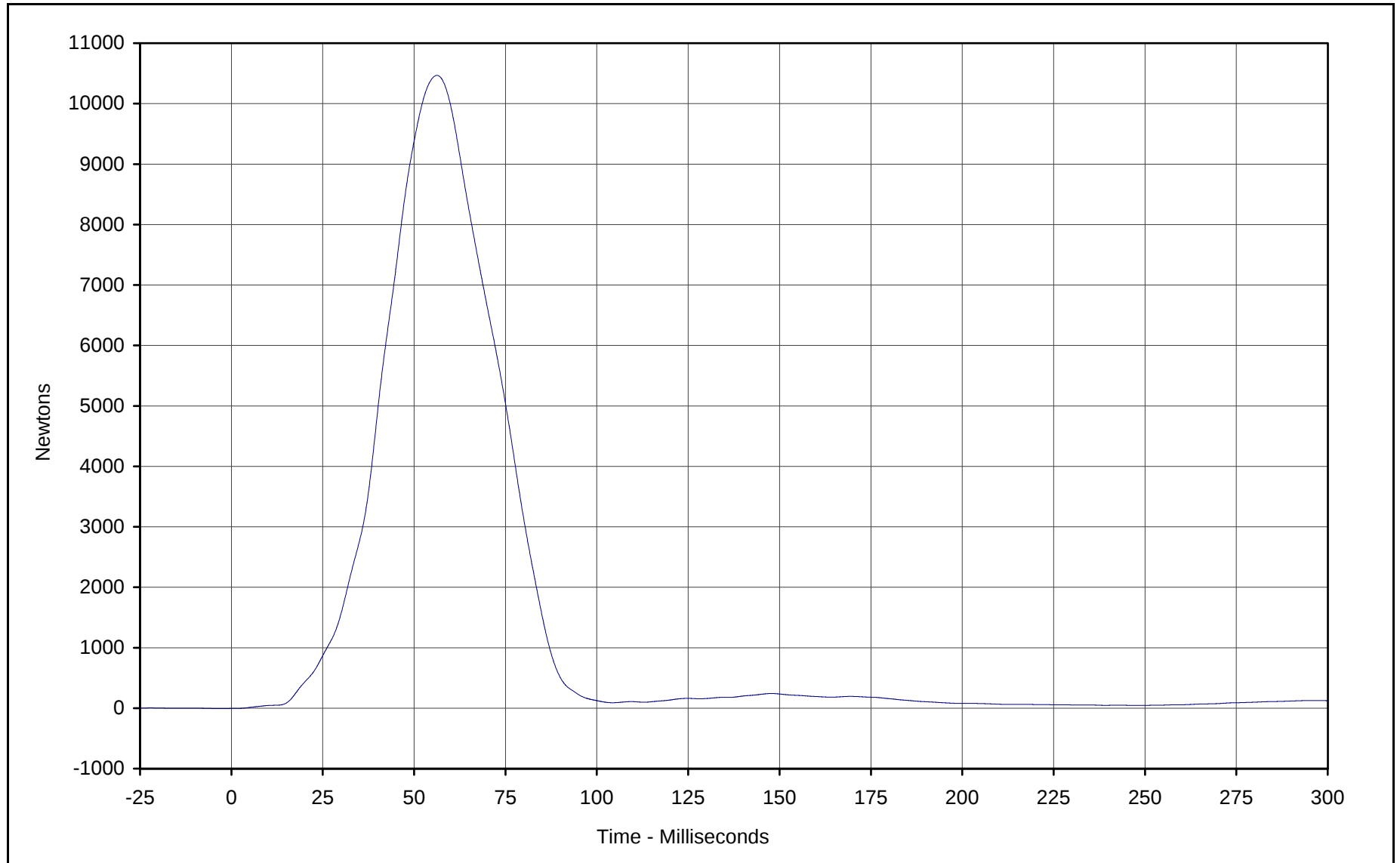




Curve Description: Driver Right Foot Fore Z
Maximum Value: 63.0 at 47.7 Milliseconds
Minimum Value: -363.1 at 35.3 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-040

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



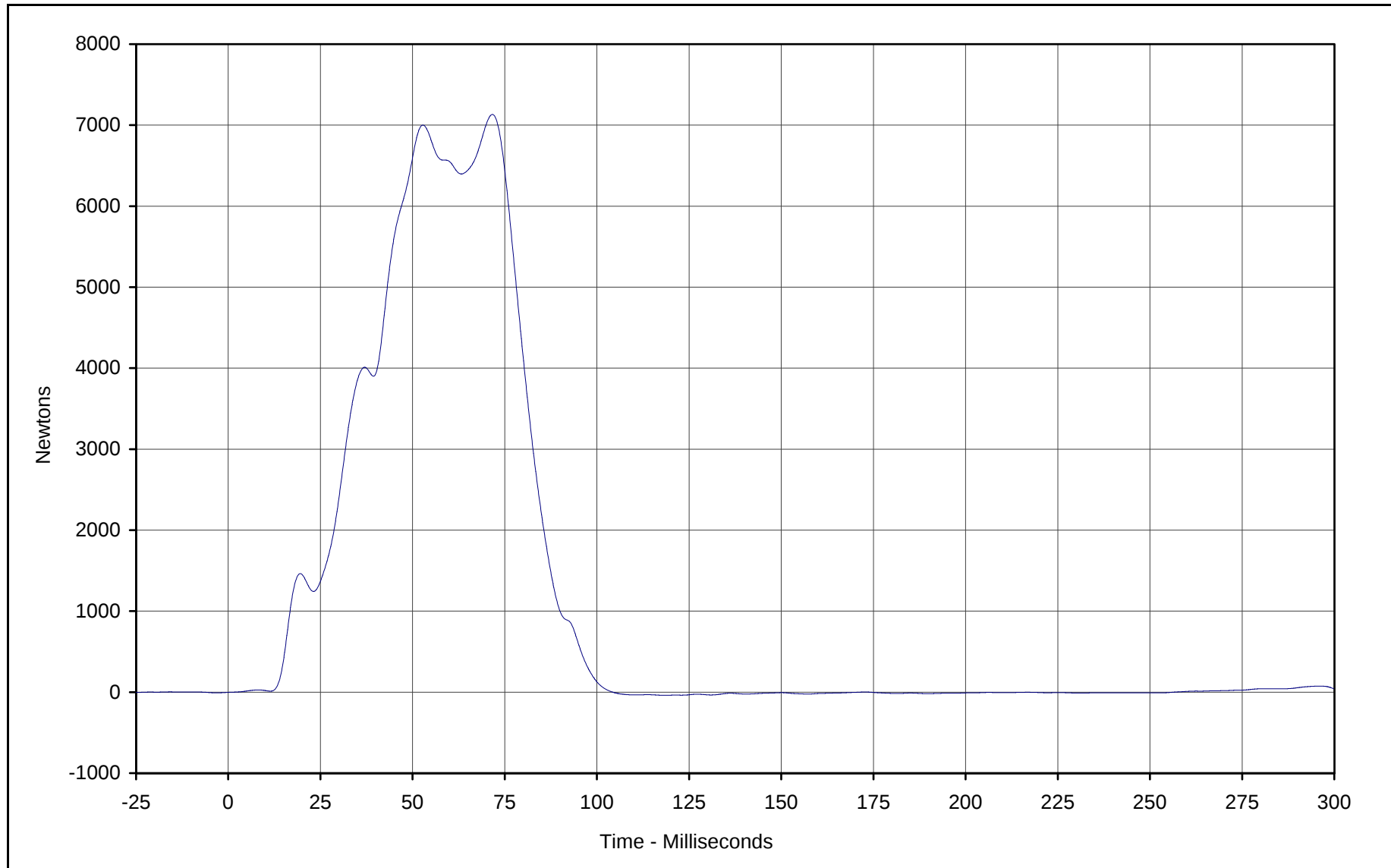


Curve Description: Driver Lap Belt Force
Maximum Value: 10467.7 at 56.3 Milliseconds
Minimum Value: -5.7 at 0.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-041

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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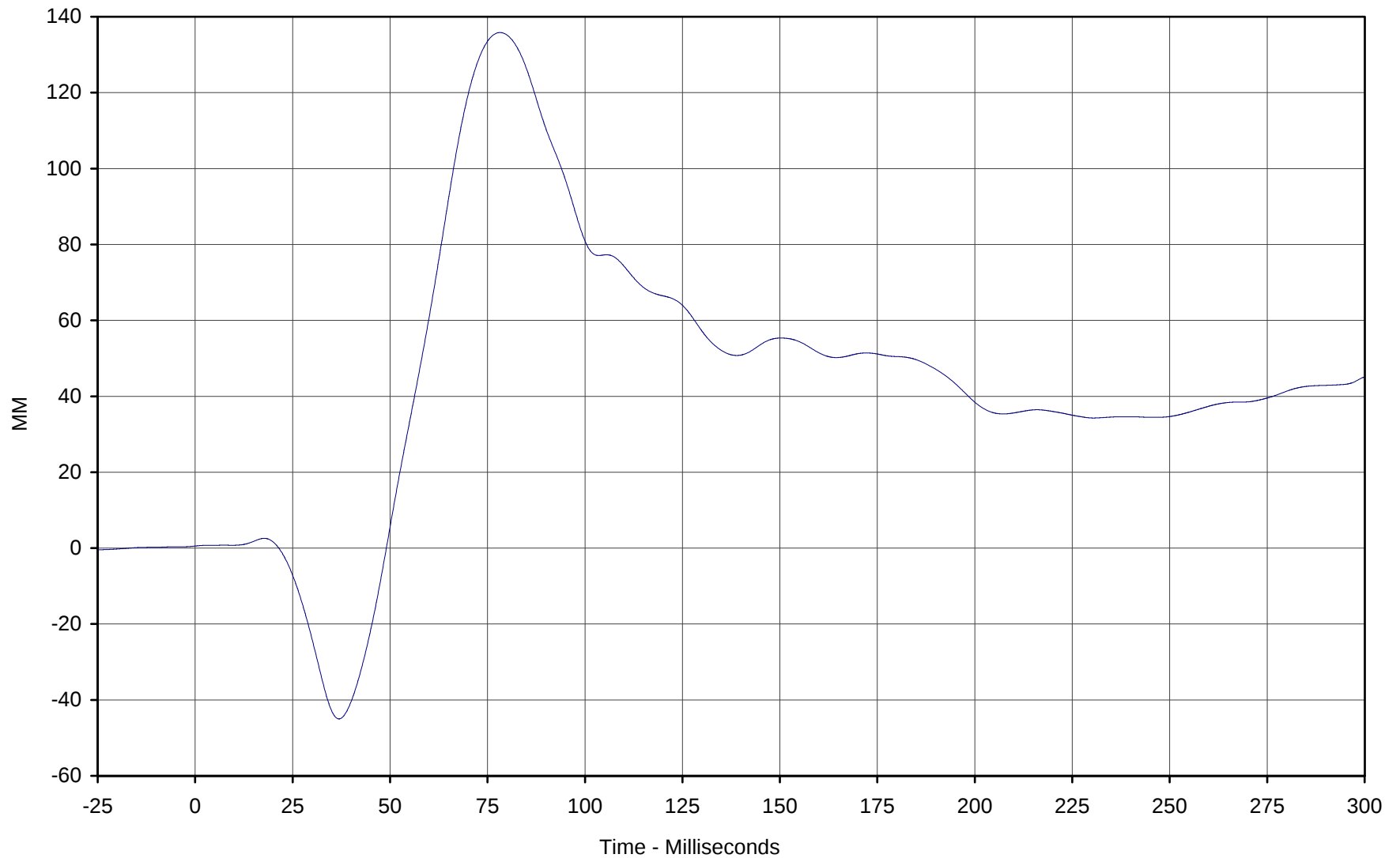
Curve Description: Driver Shoulder Belt Force
Maximum Value: 7132.5 at 71.6 Milliseconds
Minimum Value: -37.9 at 118.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-042

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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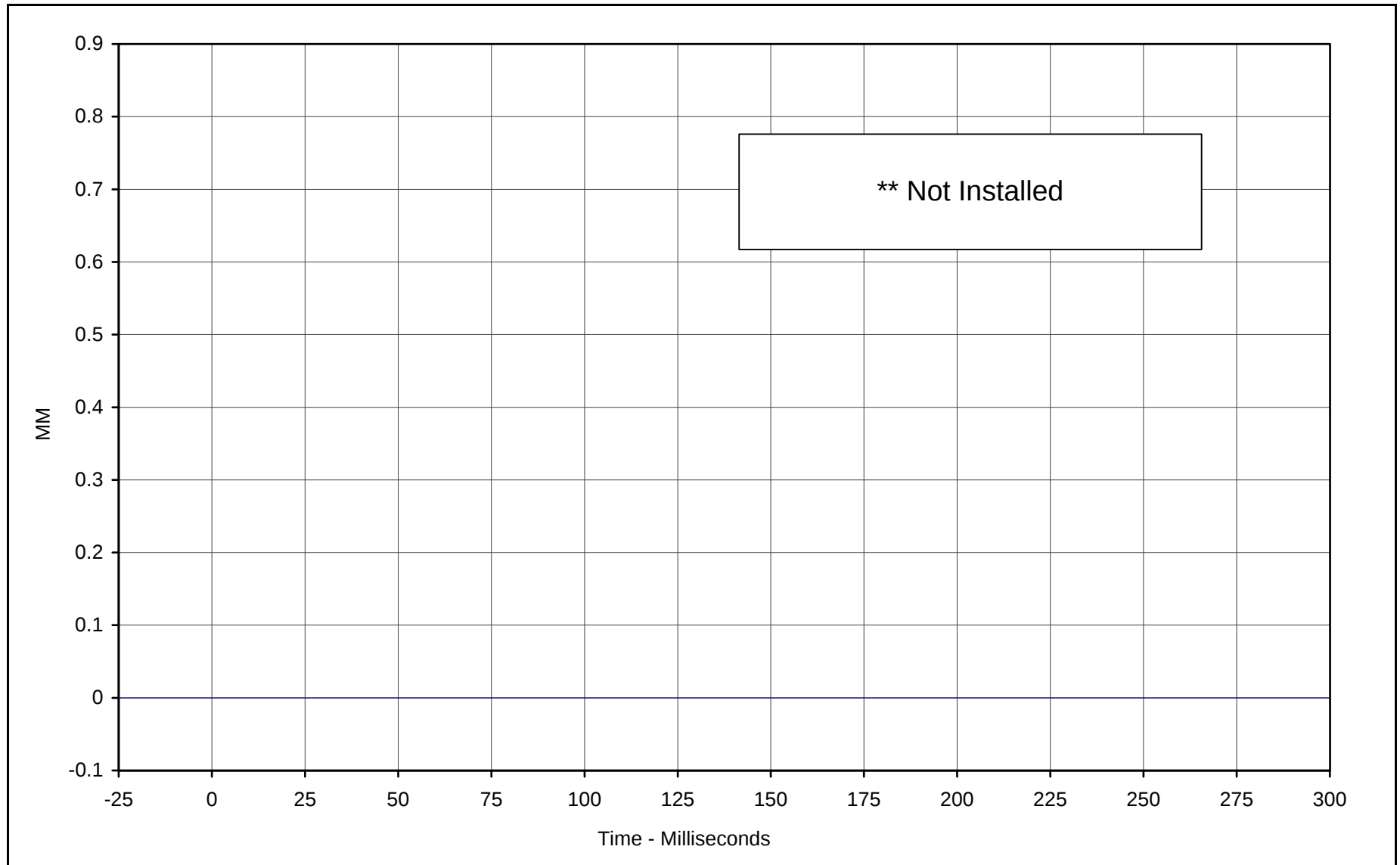


Curve Description: Driver Shoulder Belt Pullout
Maximum Value: 135.8 at 78.2 Milliseconds
Minimum Value: -45.0 at 36.9 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-043

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Driver Shoulder Belt Elongation **

Maximum Value: 0.0 at 0.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

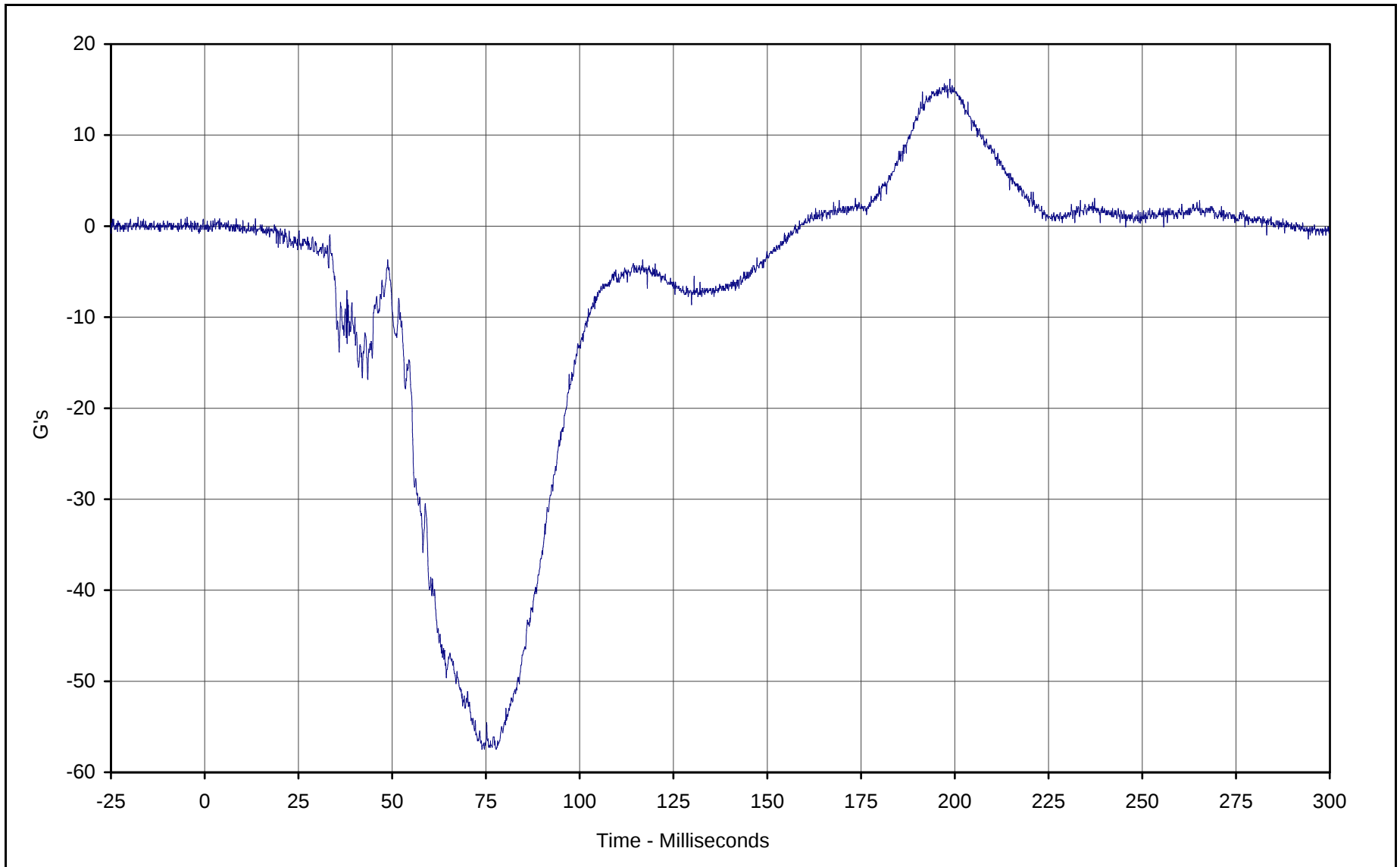
Curve Number: FIL-044

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

** Not installed





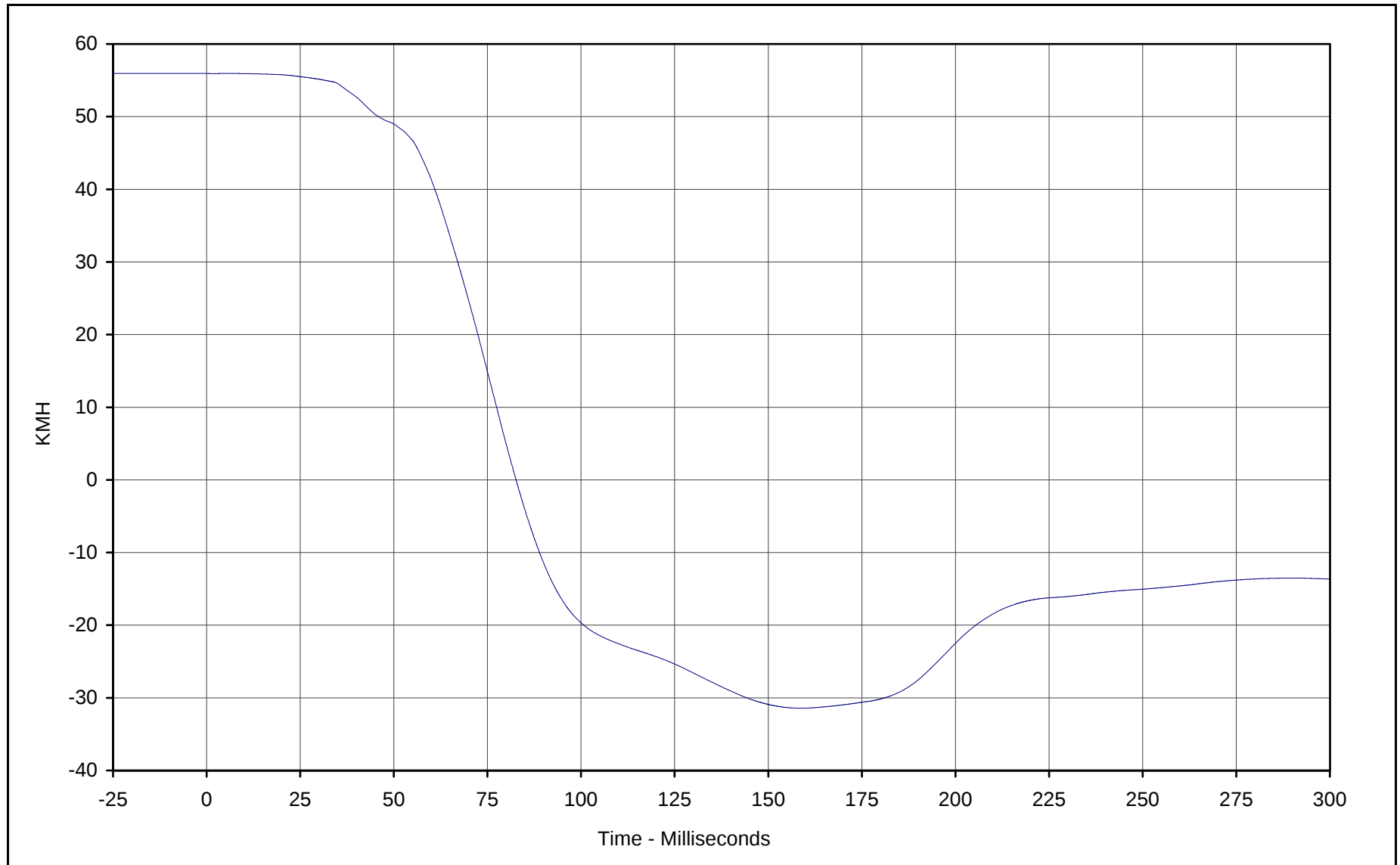
Curve Description: Passenger Head Primary X
Maximum Value: 16.1 at 198.7 Milliseconds
Minimum Value: -57.5 at 73.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-045

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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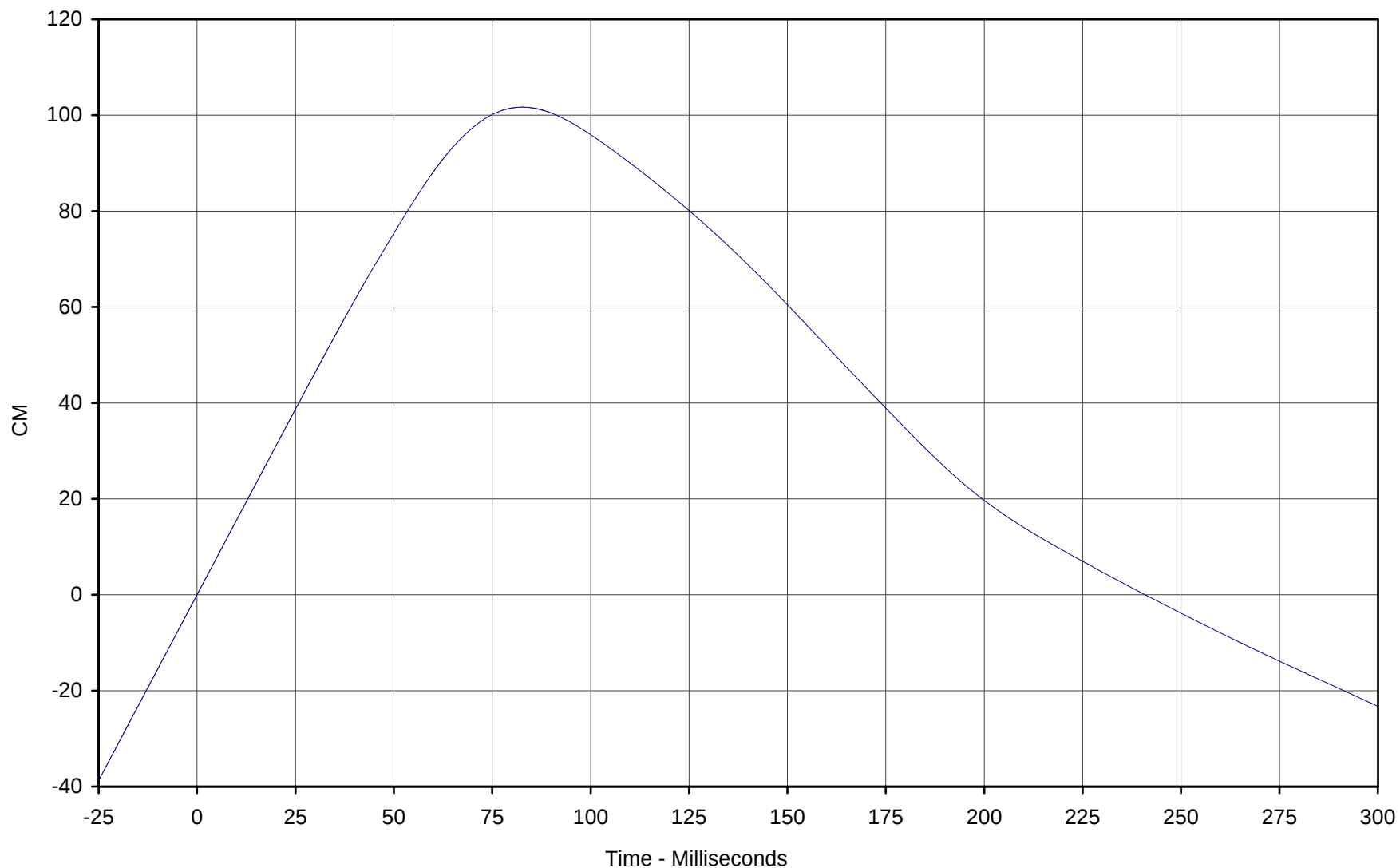
Curve Description: Passenger Head Primary X Velocity
Maximum Value: 55.9 at 6.0 Milliseconds
Minimum Value: -31.4 at 158.8 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-045

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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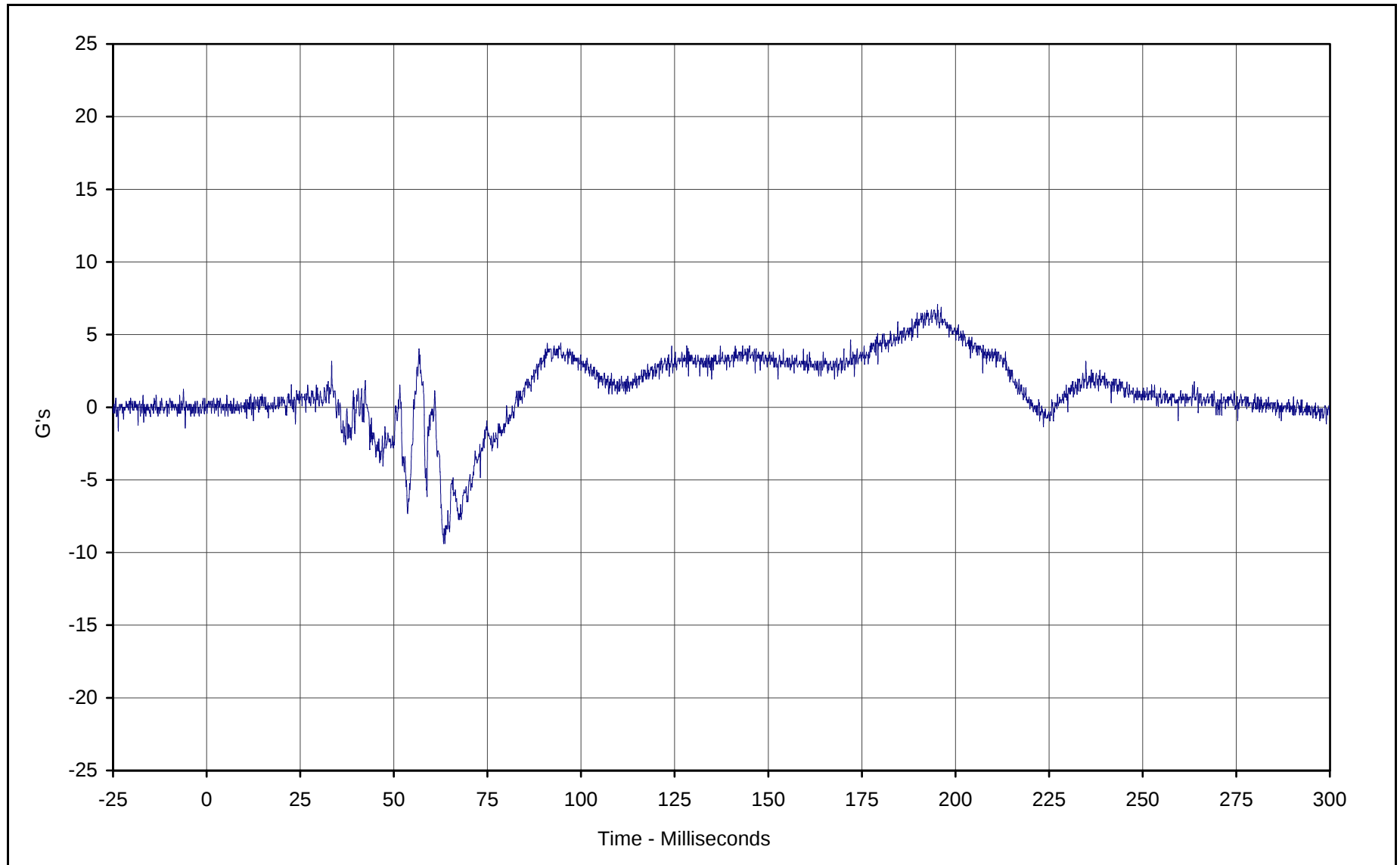
Curve Description: Passenger Head Primary X Displ.
Maximum Value: 101.7 at 82.6 Milliseconds
Minimum Value: -23.2 at 299.9 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-045

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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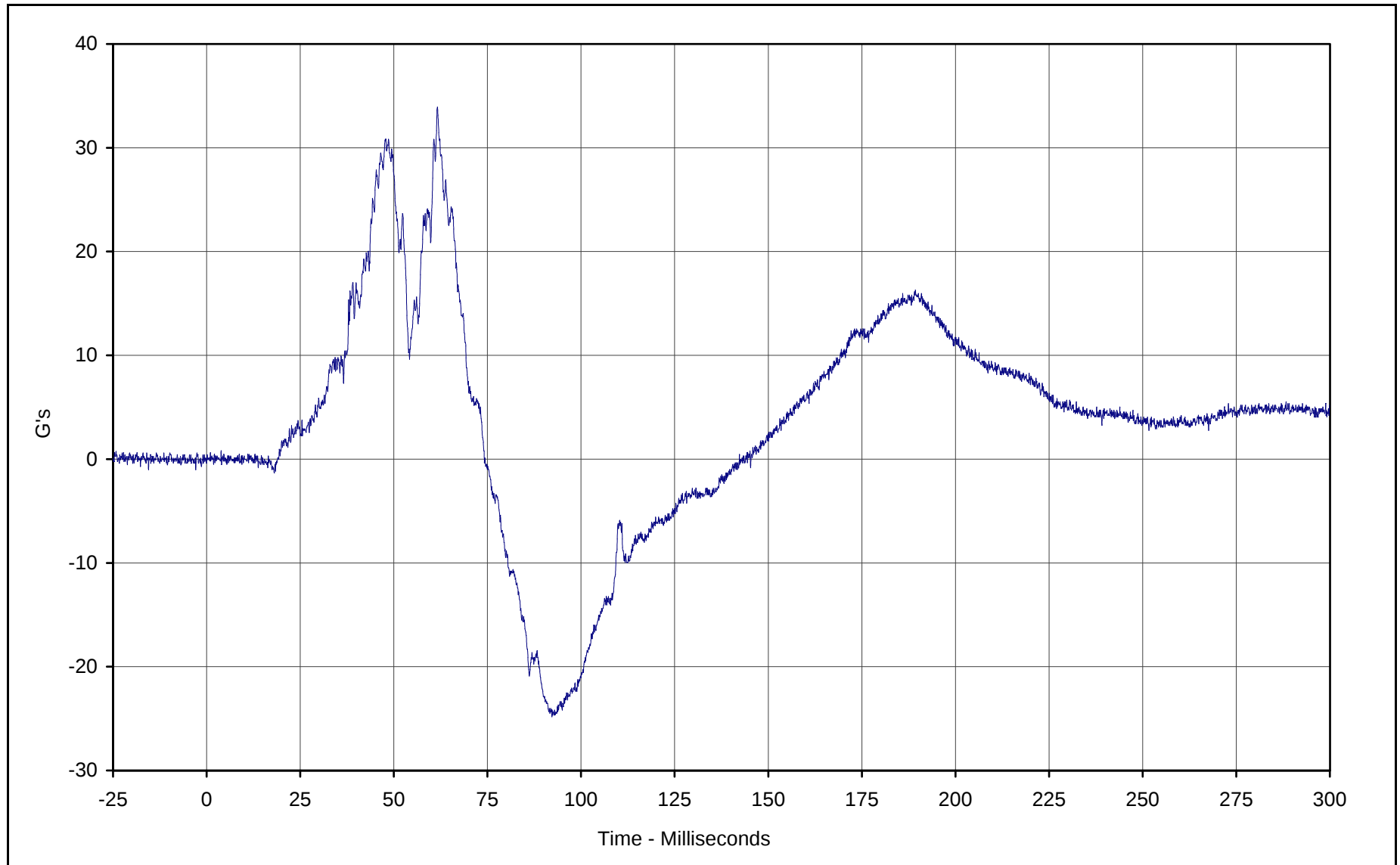


Curve Description: Passenger Head Primary Y
Maximum Value: 7.1 at 195.2 Milliseconds
Minimum Value: -9.4 at 63.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-046

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



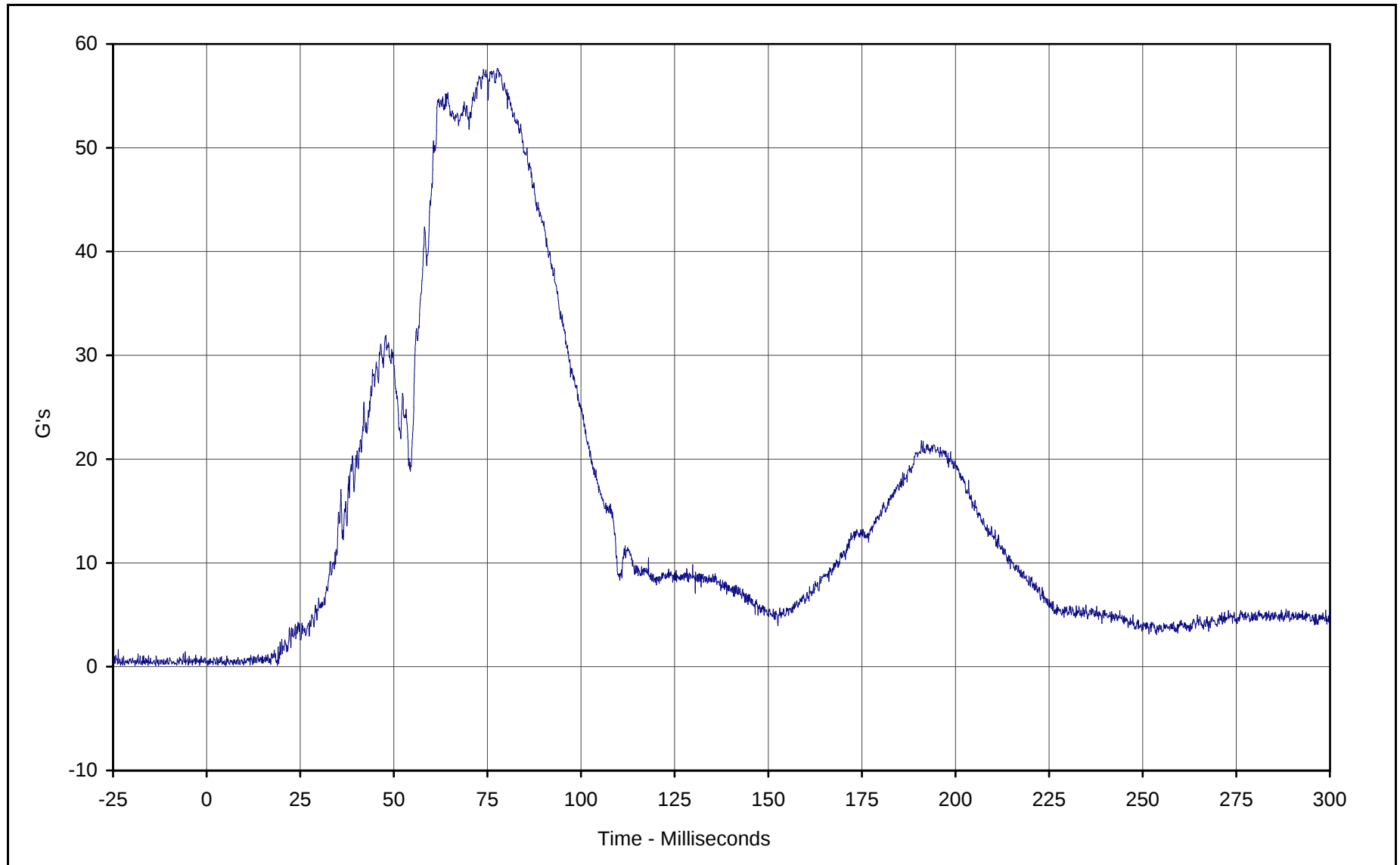
KAR21001-13



Curve Description: Passenger Head Primary Z
Maximum Value: 33.9 at 61.6 Milliseconds
Minimum Value: -24.8 at 92.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-047

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



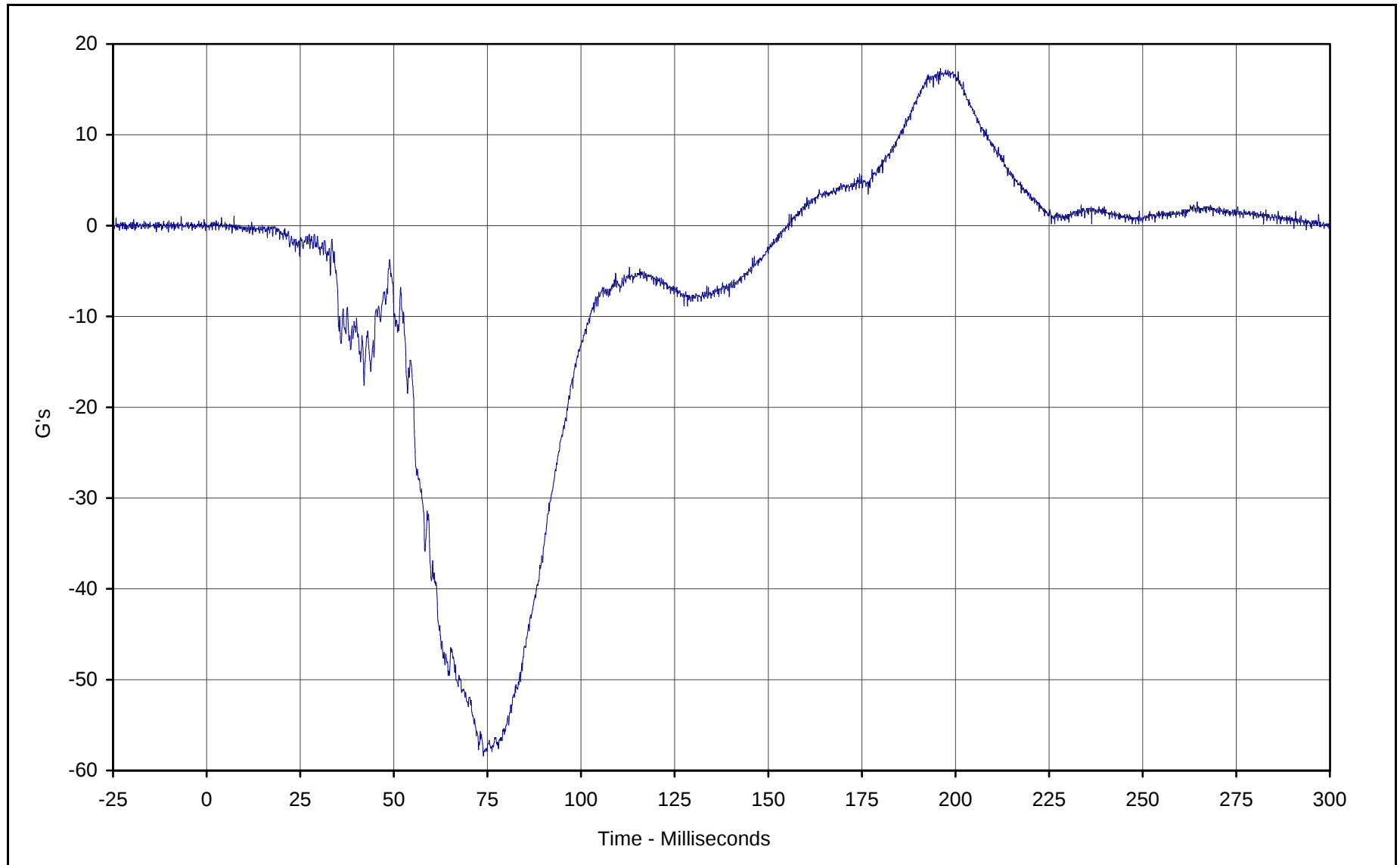


Curve Description: Passenger Head Resultant Primary
Maximum Value: 57.6 at 77.7 Milliseconds
Minimum Value: 0.1 at 5.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: RES-045

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

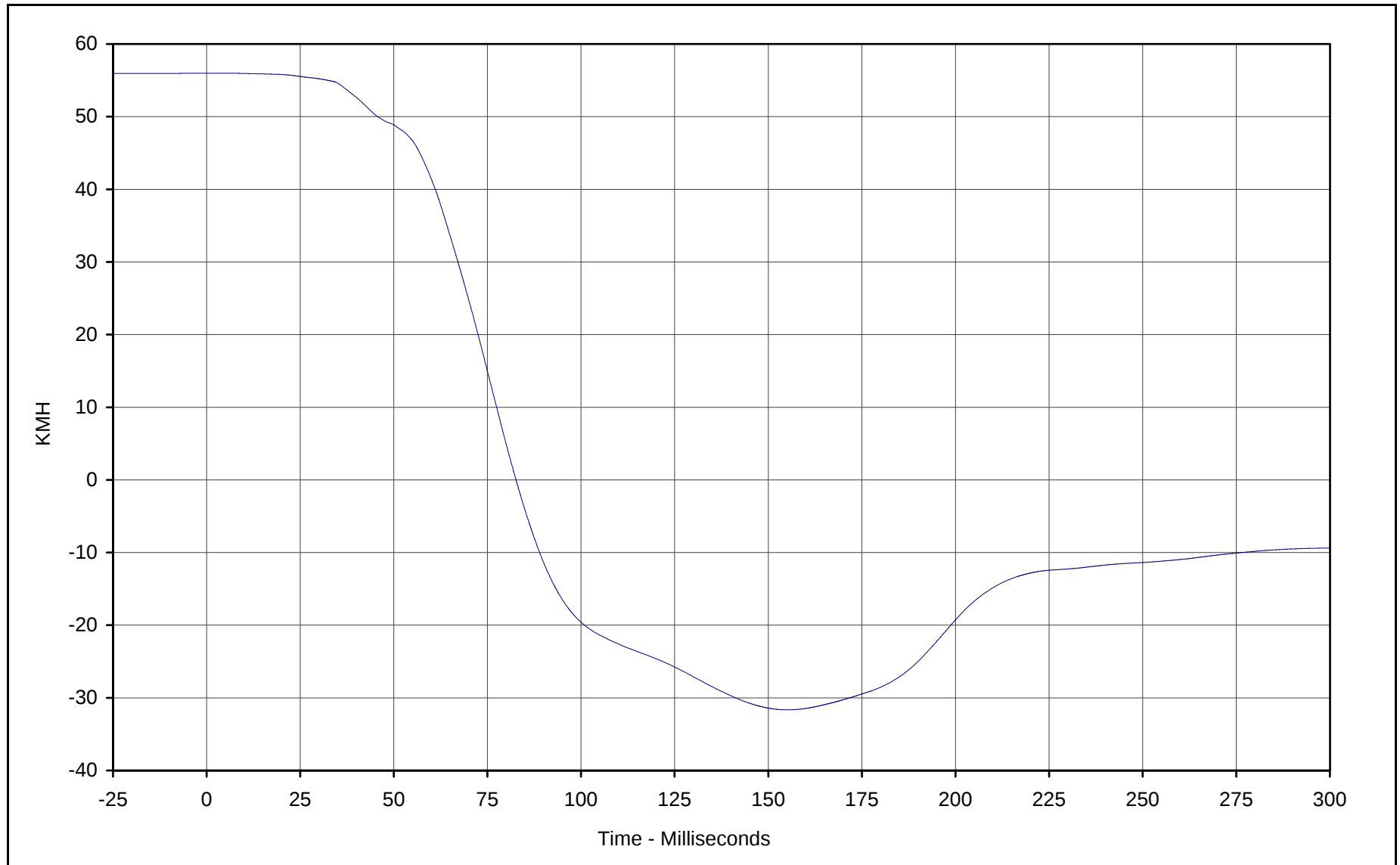




Curve Description: Passenger Head Redundant X
Maximum Value: 17.3 at 196.0 Milliseconds
Minimum Value: -58.4 at 73.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-048

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan





Curve Description: Passenger Head Redundant X Velocity

Maximum Value: 56.0 at 4.8 Milliseconds

Minimum Value: -31.7 at 155.1 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

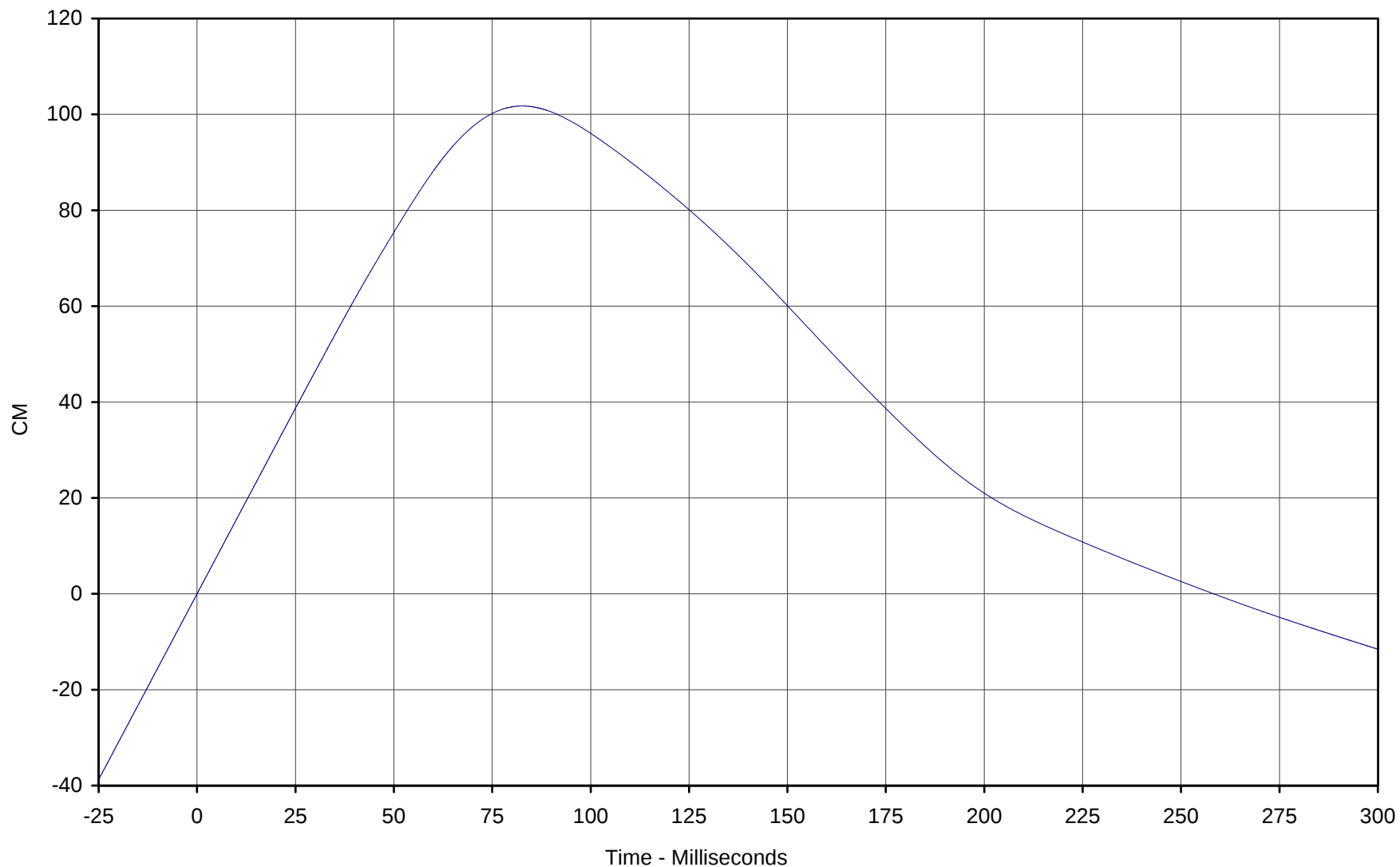
Curve Number: IN1-048

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Head Redundant X Displ.

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Maximum Value: 101.8 at 82.6 Milliseconds

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

Minimum Value: -11.5 at 299.9 Milliseconds

SAE Filter Class: 180

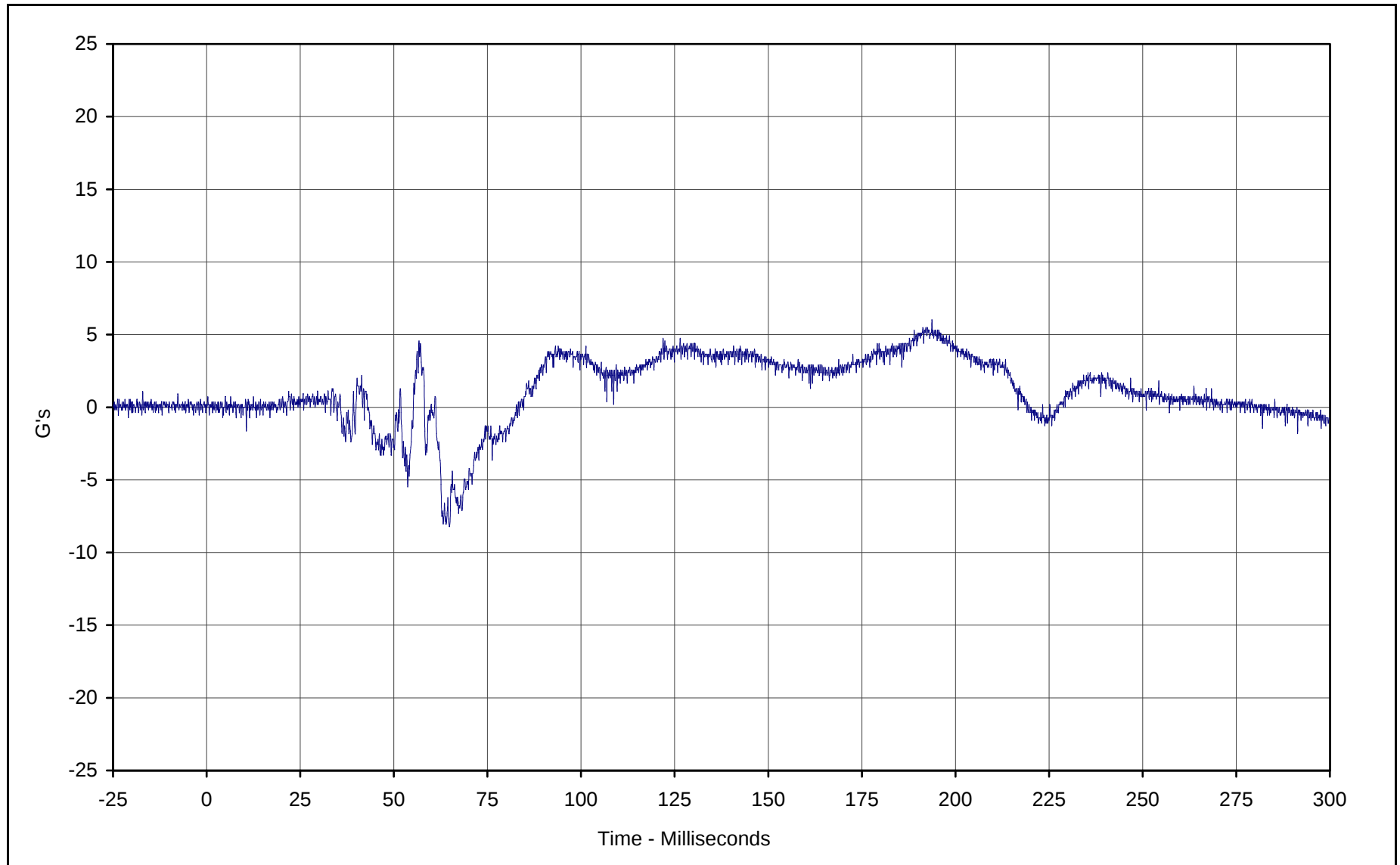
Date of Test: 02/21/01

Curve Number: IN2-048



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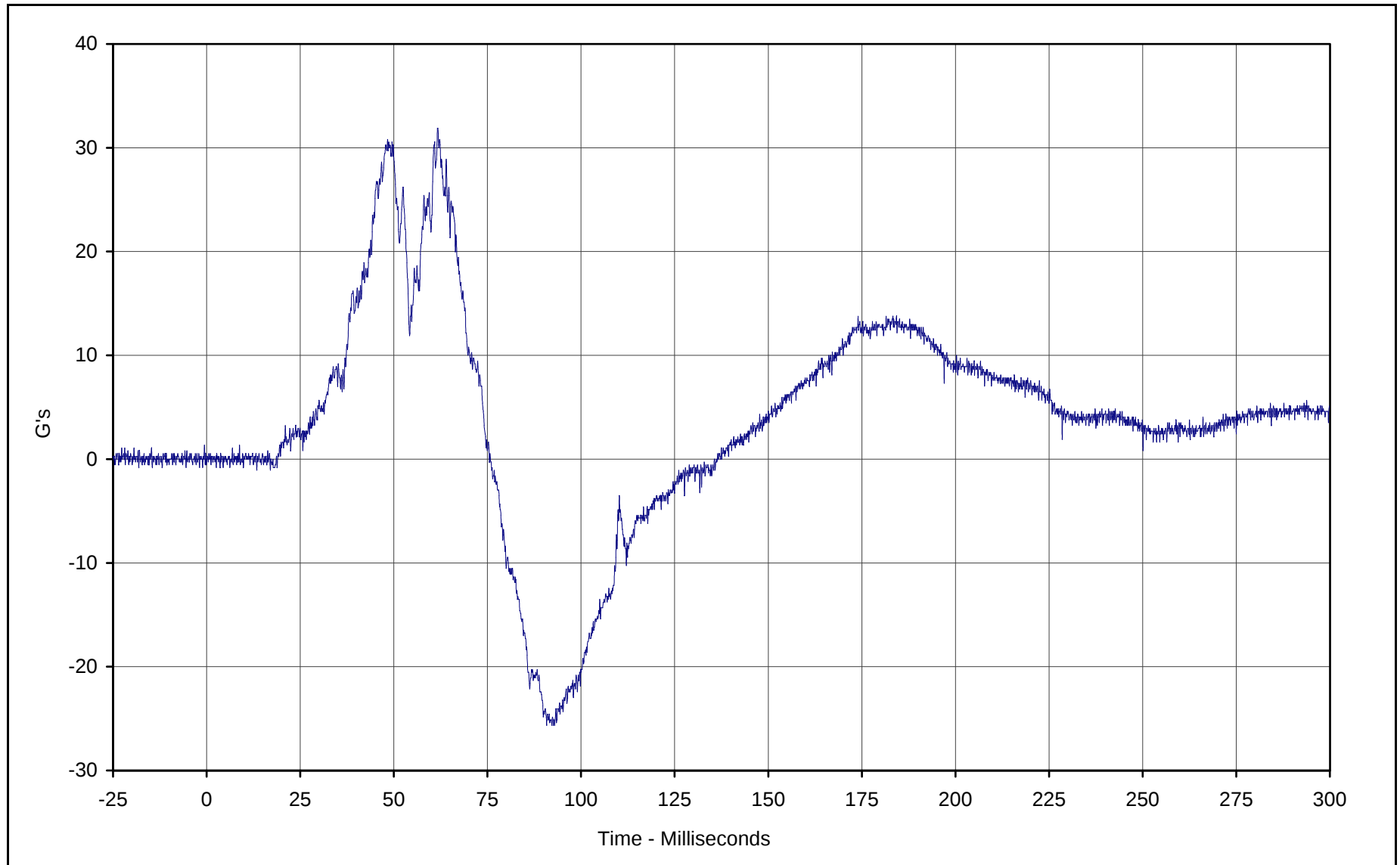


Curve Description: Passenger Head Redundant Y
Maximum Value: 6.0 at 193.7 Milliseconds
Minimum Value: -8.2 at 64.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-049

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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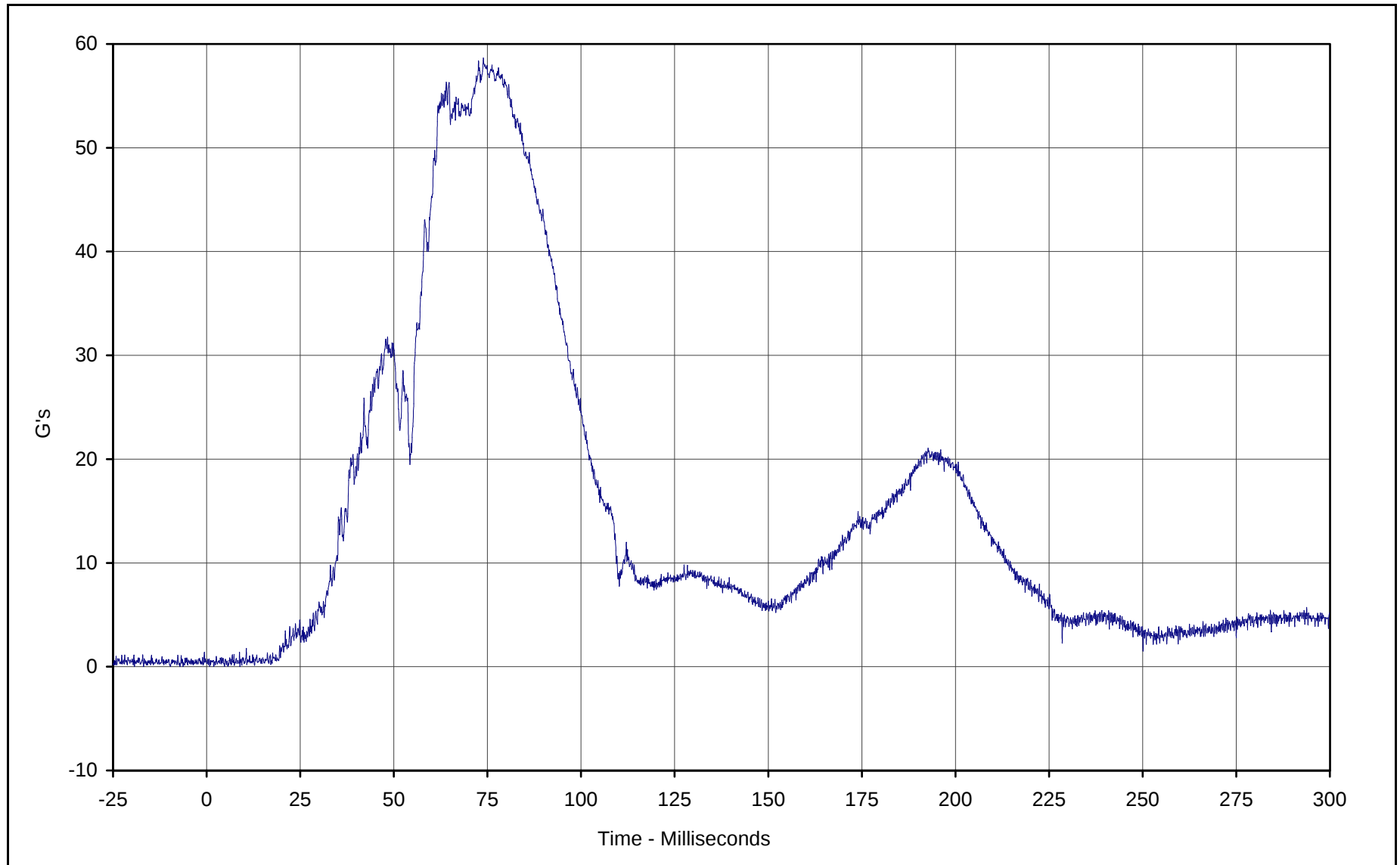


Curve Description: Passenger Head Redundant Z
Maximum Value: 31.9 at 61.6 Milliseconds
Minimum Value: -25.7 at 90.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-050

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Head Resultant Redundant

Maximum Value: 58.7 at 73.9 Milliseconds

Minimum Value: 0.0 at 0.8 Milliseconds

SAE Filter Class: 1000

Date of Test: 02/21/01

Curve Number: RES-048

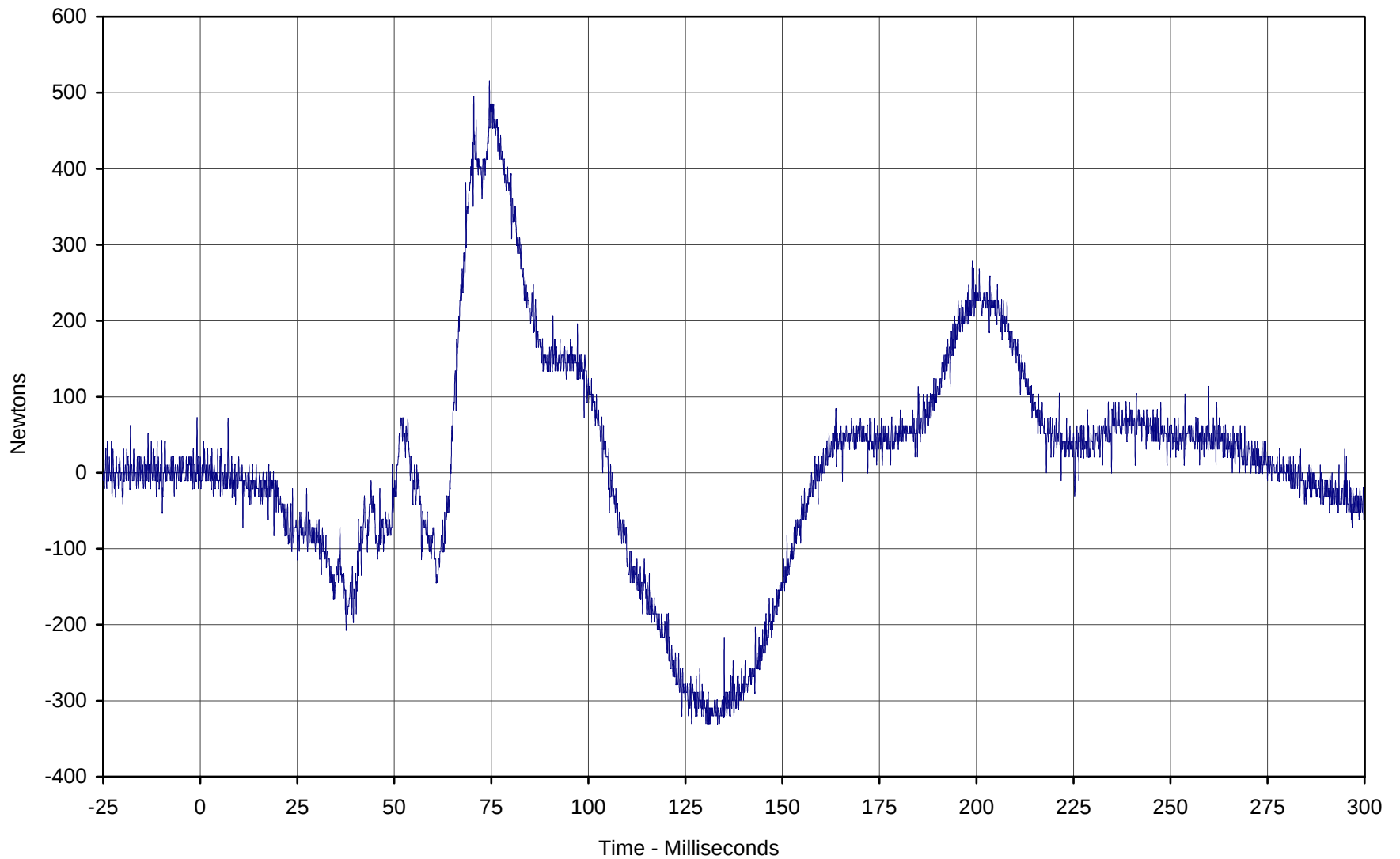
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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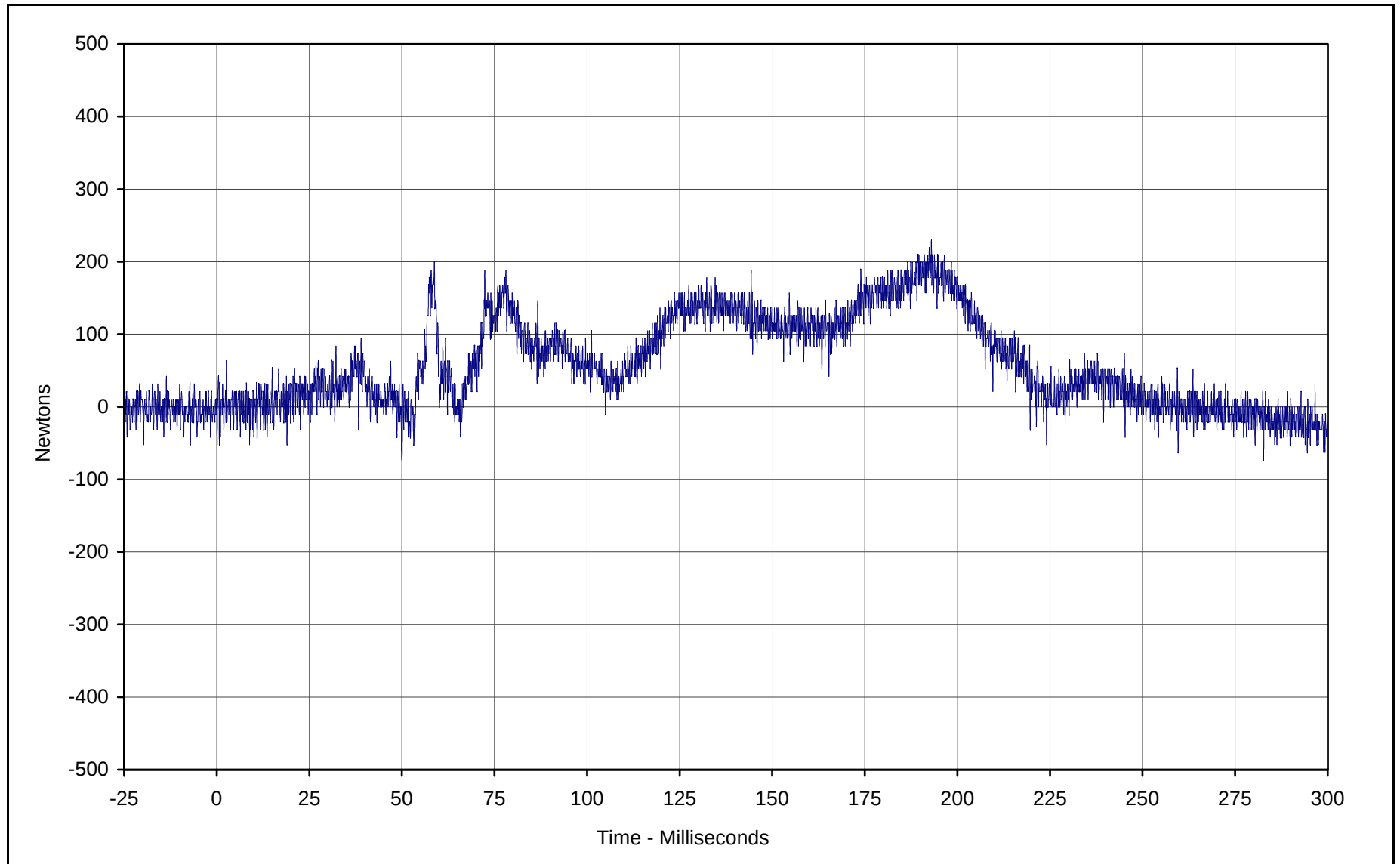
Curve Description: Passenger Neck Force X
Maximum Value: 515.9 at 74.5 Milliseconds
Minimum Value: -330.2 at 126.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-051

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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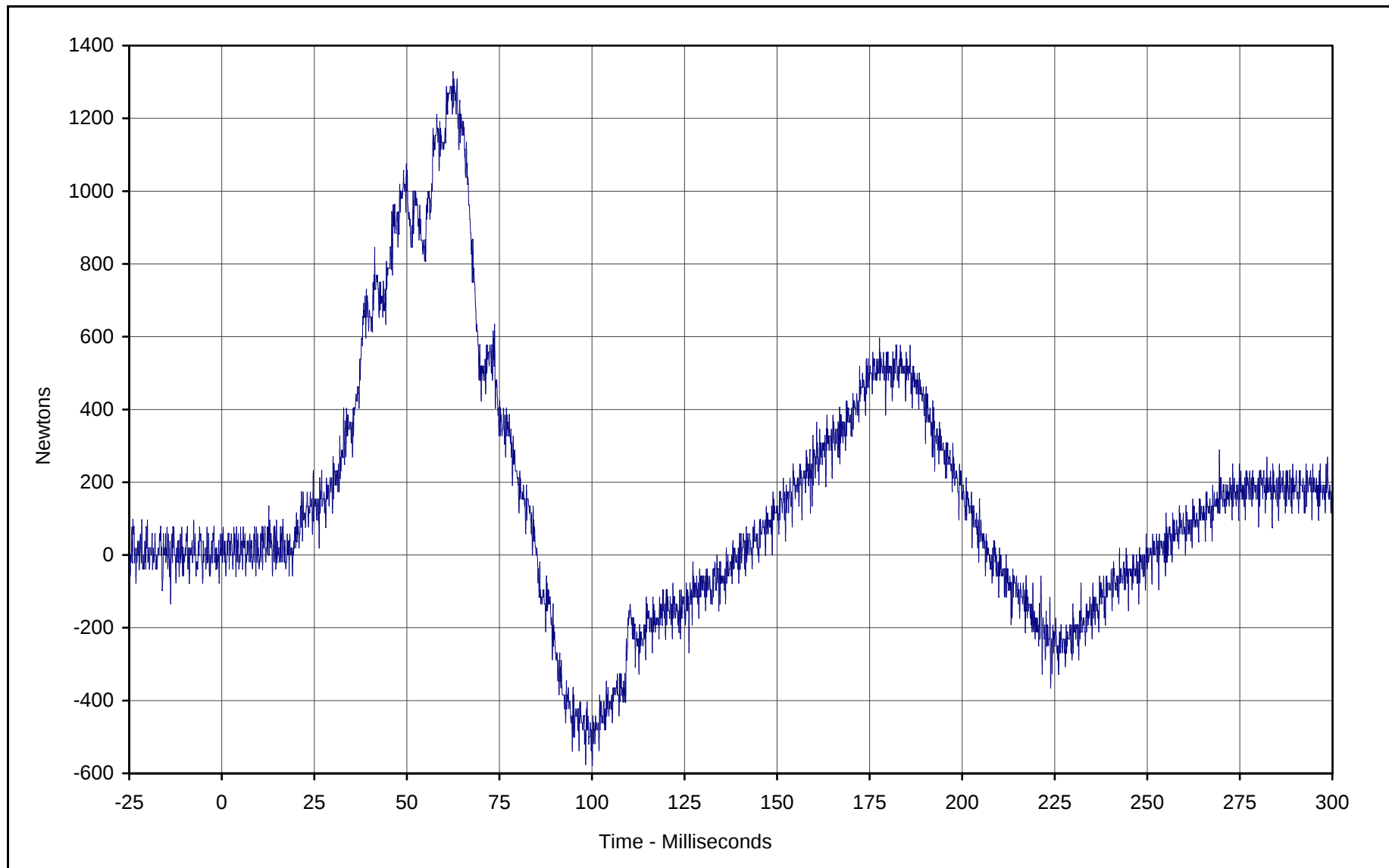


Curve Description: Passenger Neck Force Y
Maximum Value: 230.3 at 193.0 Milliseconds
Minimum Value: -73.3 at 50.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-052

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



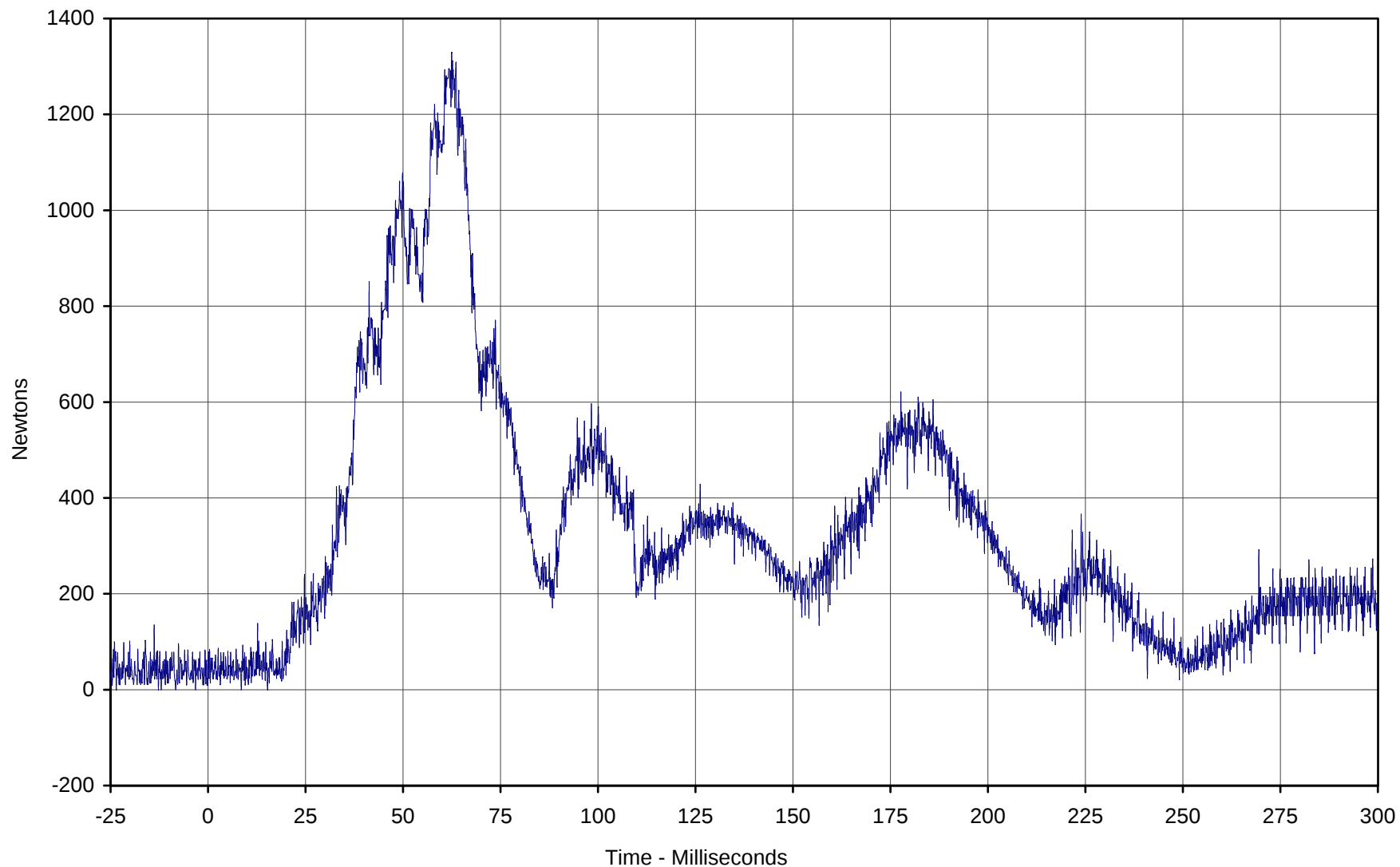
KAR21001-13



Curve Description: Passenger Neck Force Z
Maximum Value: 1326.6 at 62.5 Milliseconds
Minimum Value: -576.8 at 98.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-053

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

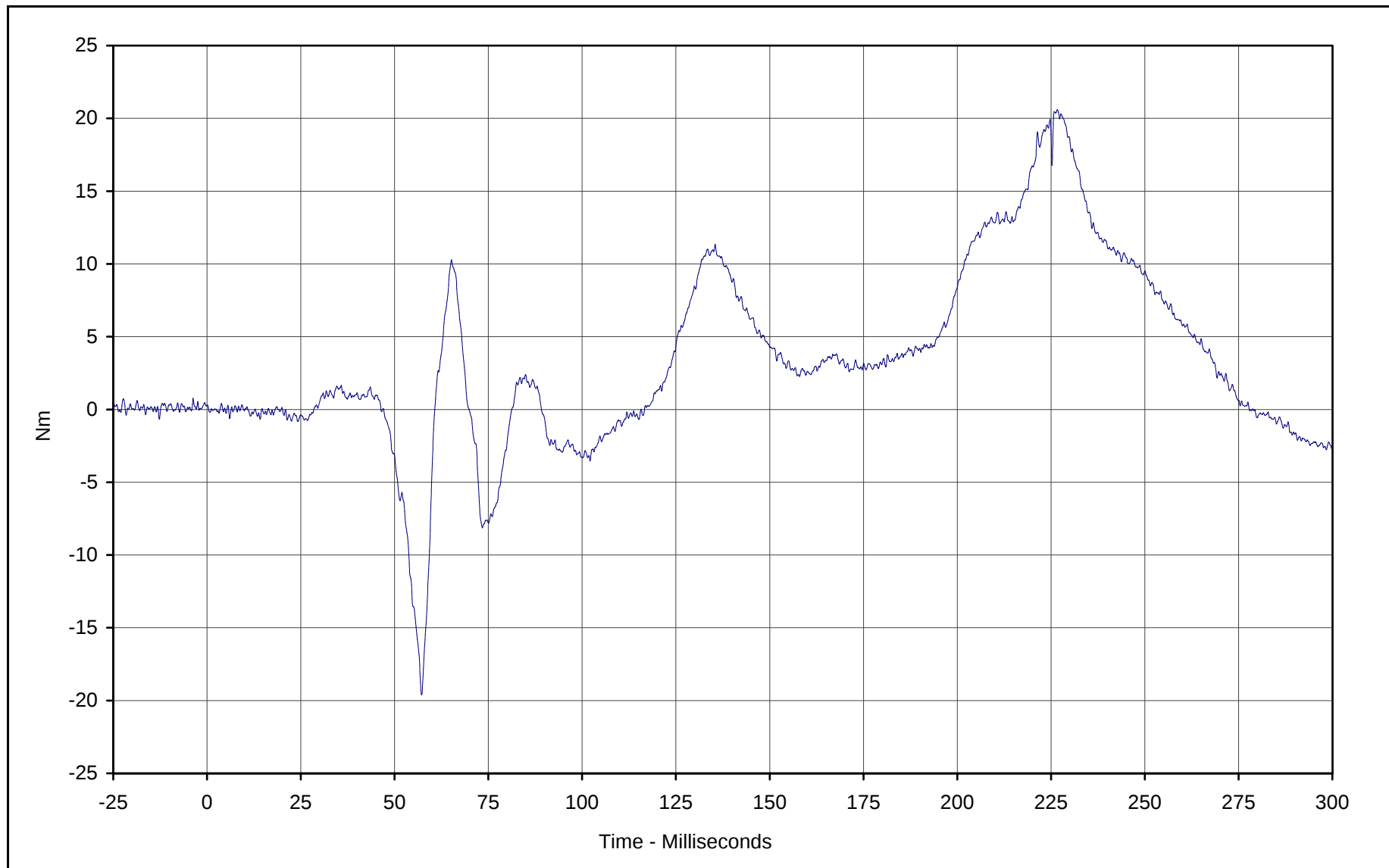




Curve Description: Passenger Neck Force Resultant
Maximum Value: 1328.2 at 62.5 Milliseconds
Minimum Value: 0.0 at 8.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: RES-051

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

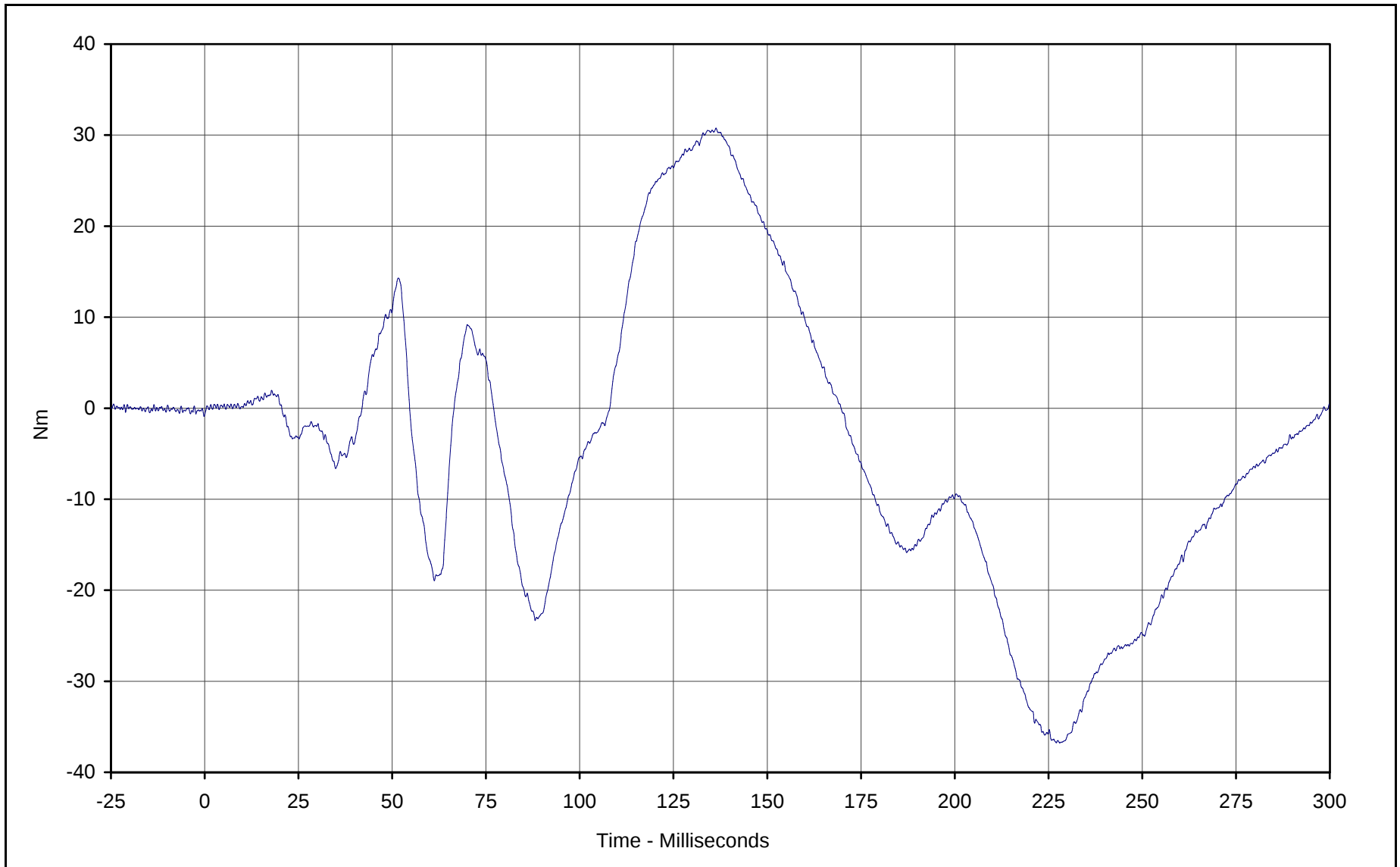




Curve Description: Passenger Neck Moment X
Maximum Value: 20.6 at 226.7 Milliseconds
Minimum Value: -19.6 at 57.2 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-054

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



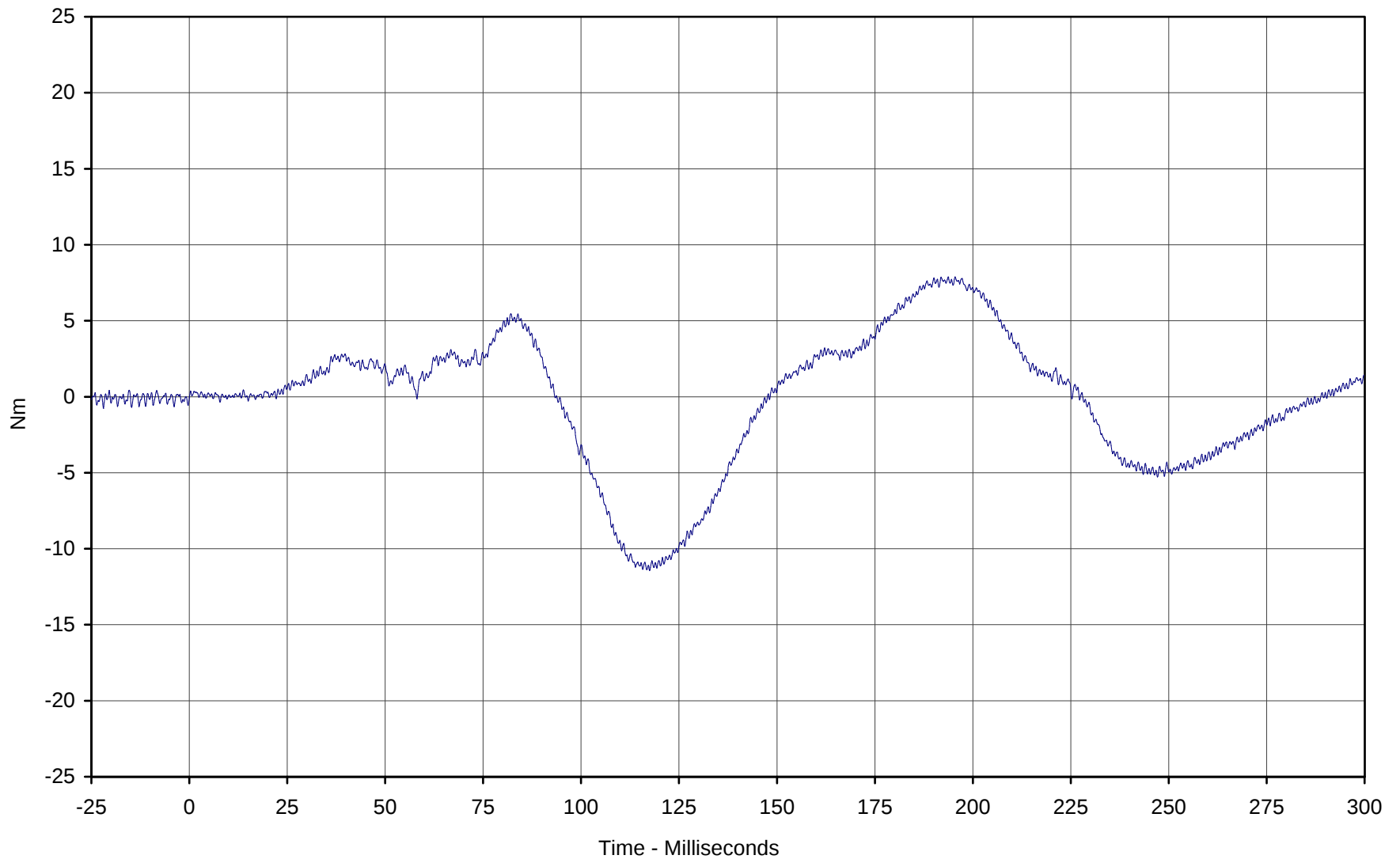


Curve Description: Passenger Neck Moment Y
Maximum Value: 30.8 at 136.3 Milliseconds
Minimum Value: -36.8 at 228.0 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-055

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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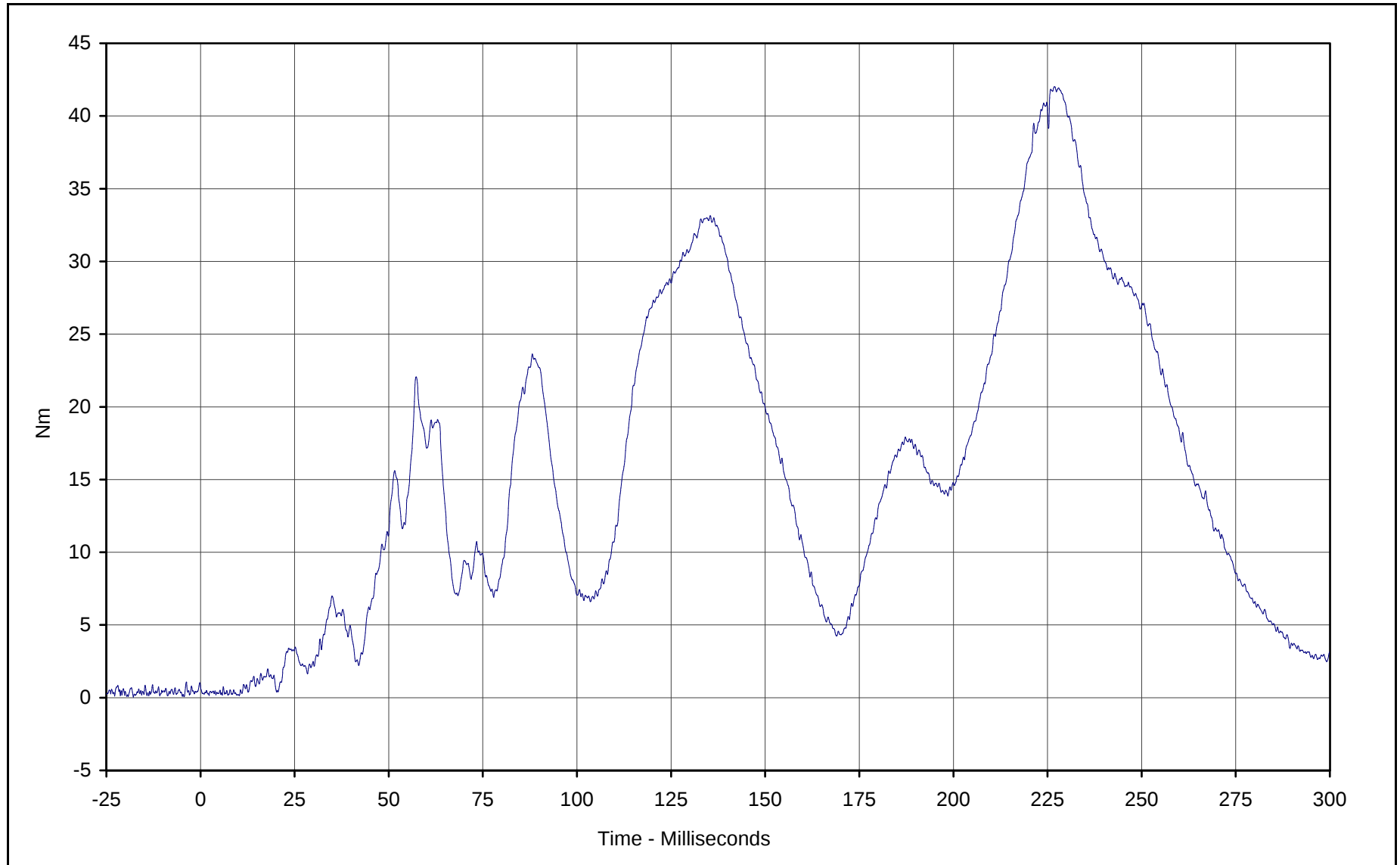


Curve Description: Passenger Neck Moment Z
Maximum Value: 7.9 at 195.5 Milliseconds
Minimum Value: -11.4 at 117.5 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-056

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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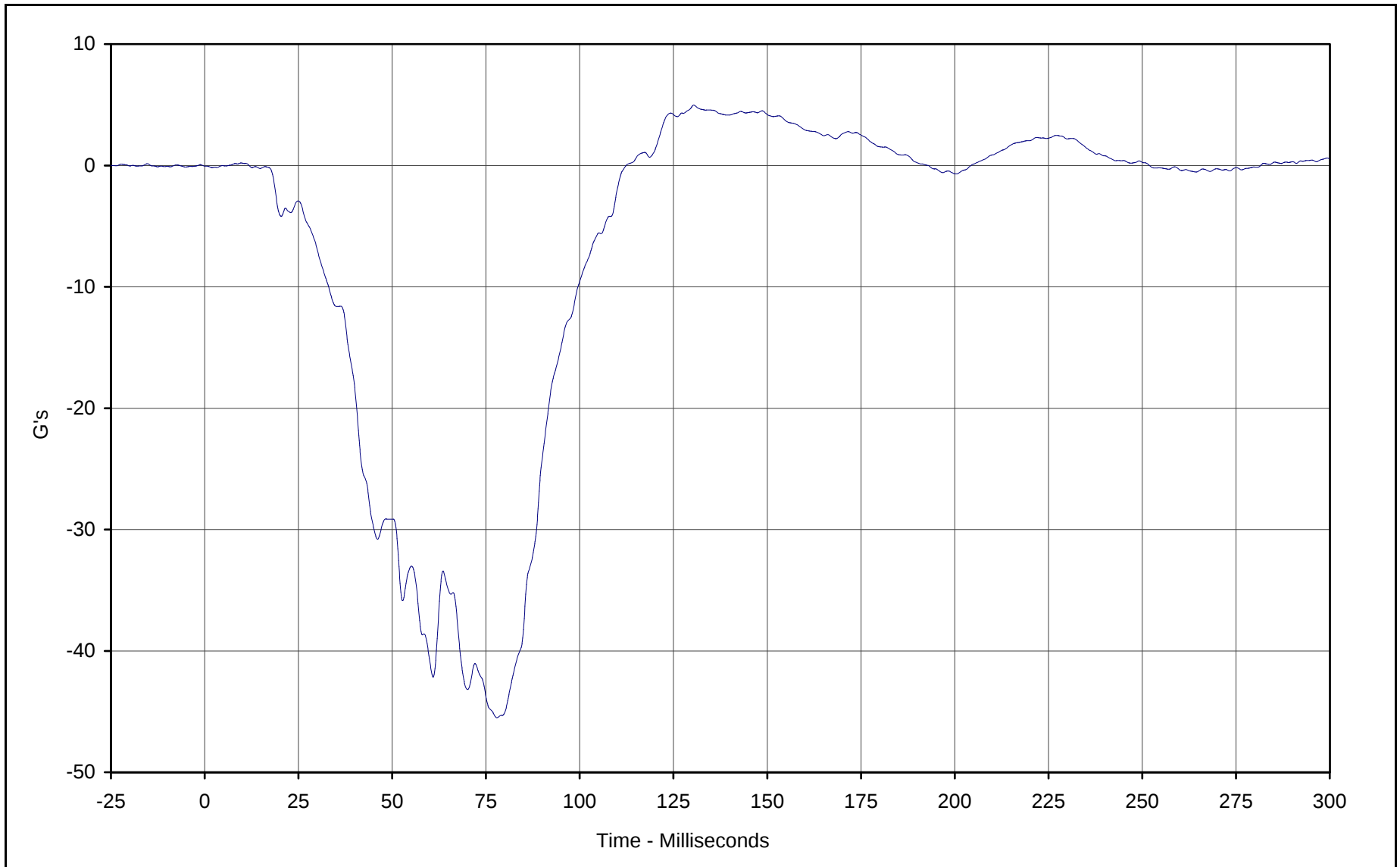


Curve Description: Passenger Neck Moment Resultant
Maximum Value: 42.0 at 226.8 Milliseconds
Minimum Value: 0.1 at 10.3 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: RES-054

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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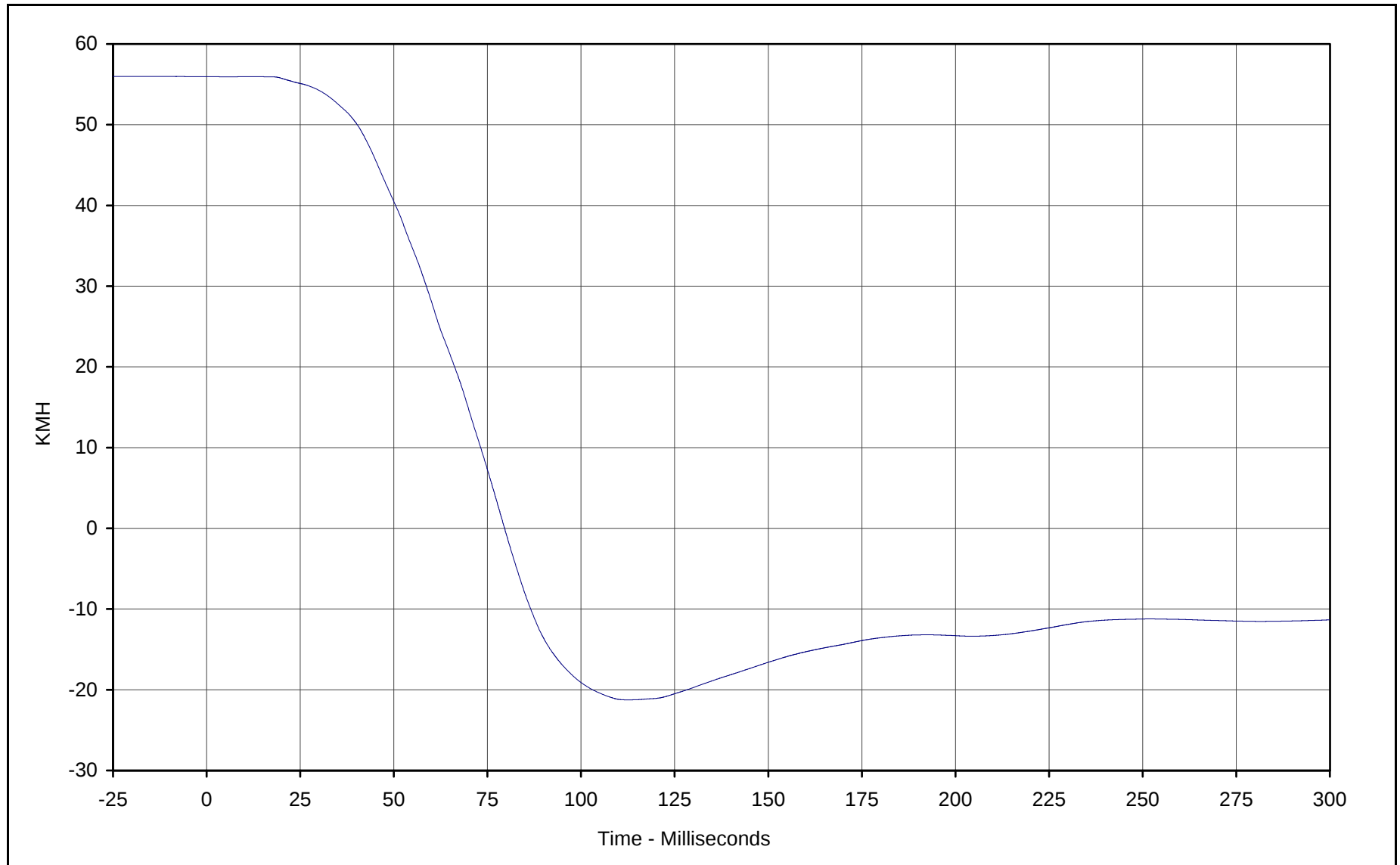


Curve Description: Passenger Chest Primary X
Maximum Value: 5.0 at 130.4 Milliseconds
Minimum Value: -45.5 at 77.9 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-057

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Chest Primary X Velocity

Maximum Value: 56.0 at 11.8 Milliseconds

Minimum Value: -21.3 at 112.4 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

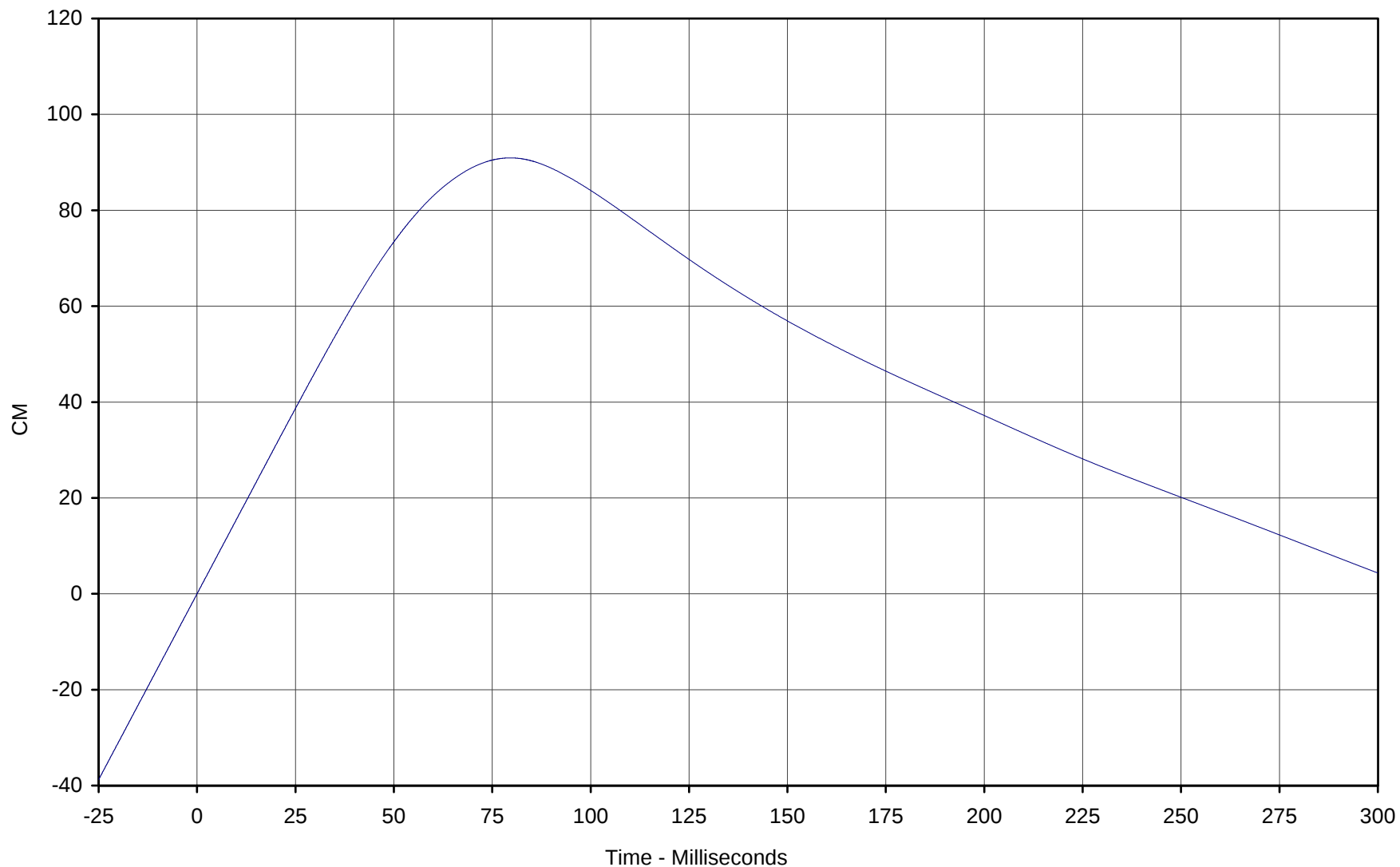
Curve Number: IN1-057

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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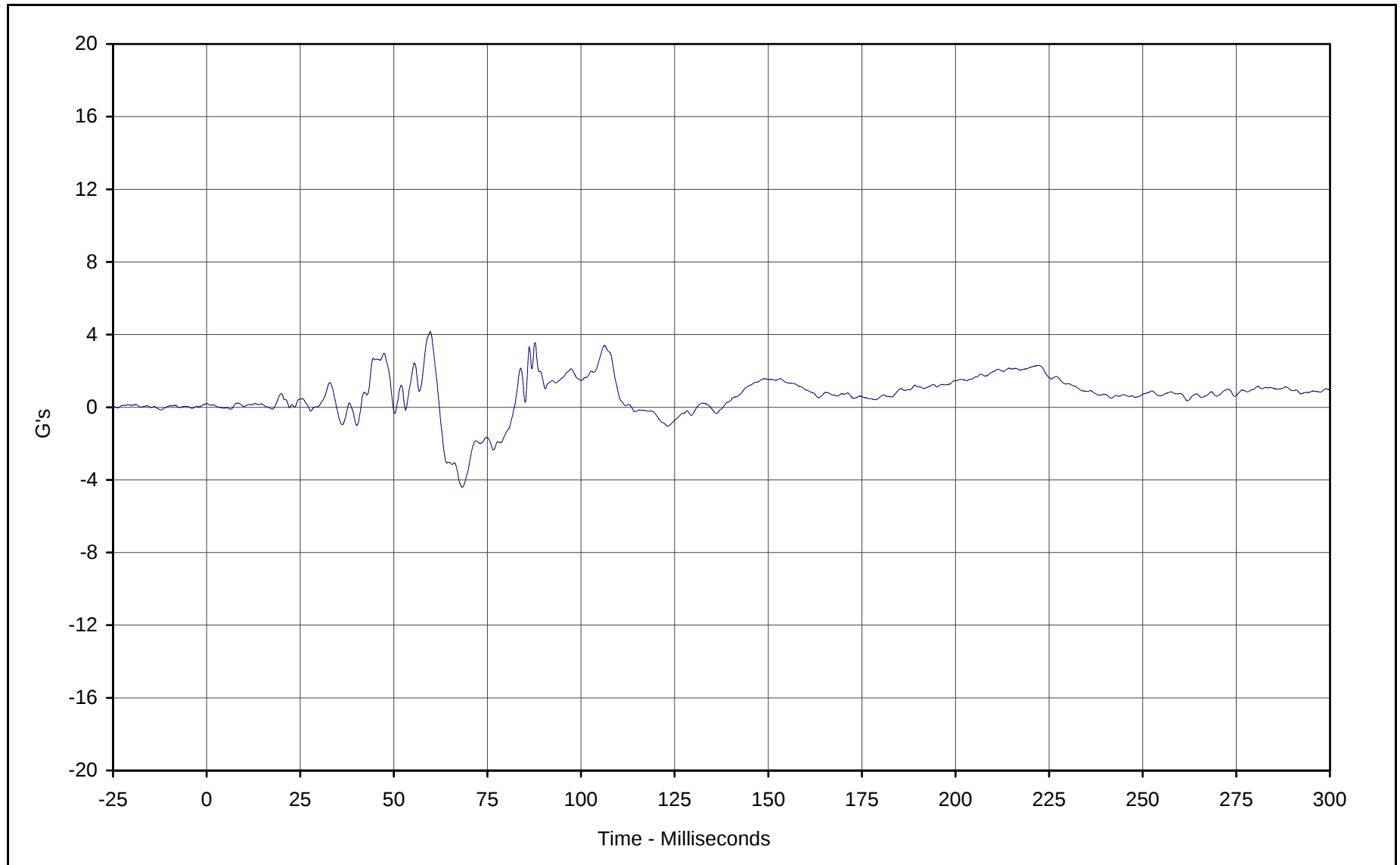
Curve Description: Passenger Chest Primary X Displ.
Maximum Value: 90.9 at 79.6 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-057

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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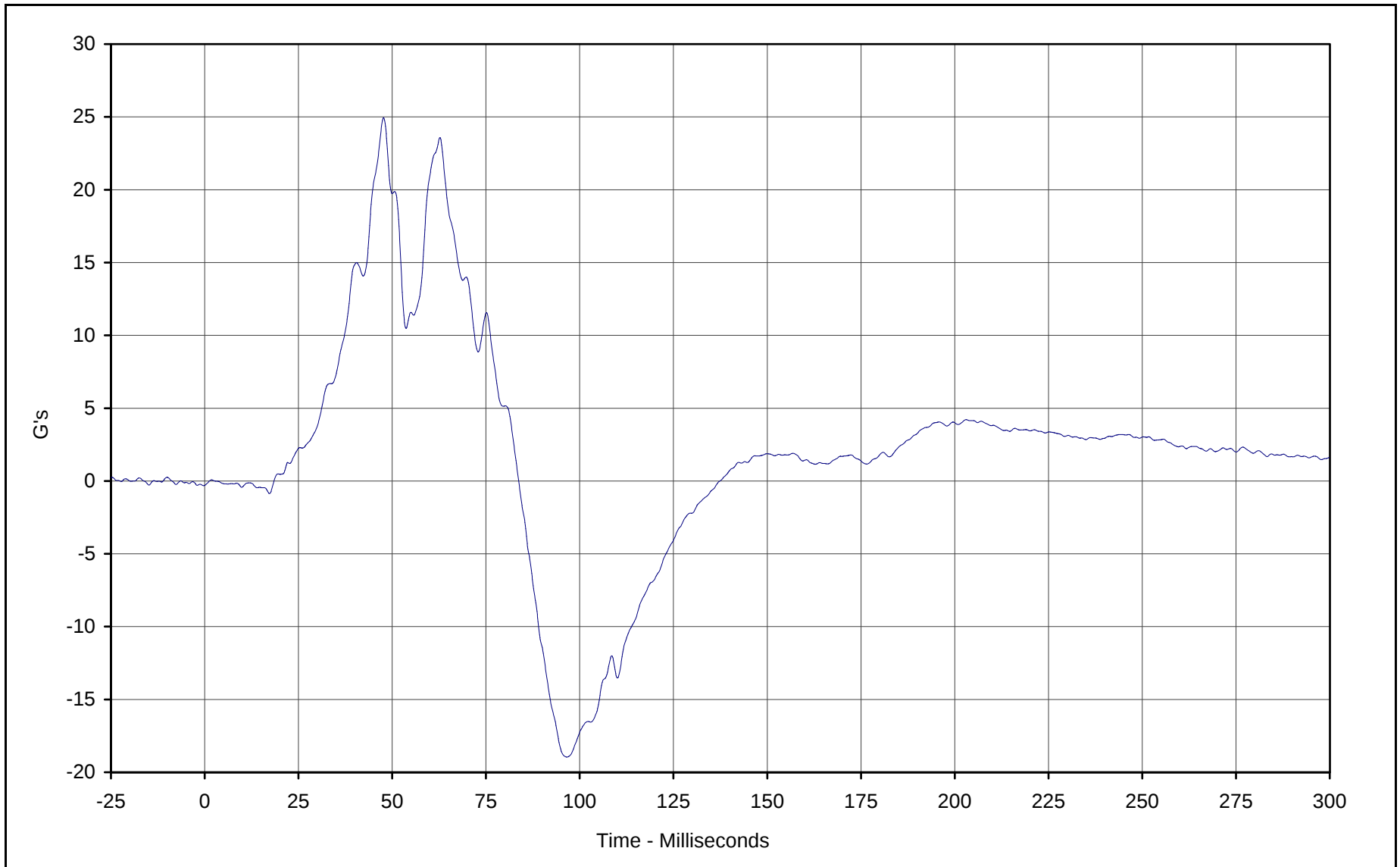


Curve Description: Passenger Chest Primary Y
Maximum Value: 4.2 at 59.7 Milliseconds
Minimum Value: -4.4 at 68.3 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-058

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

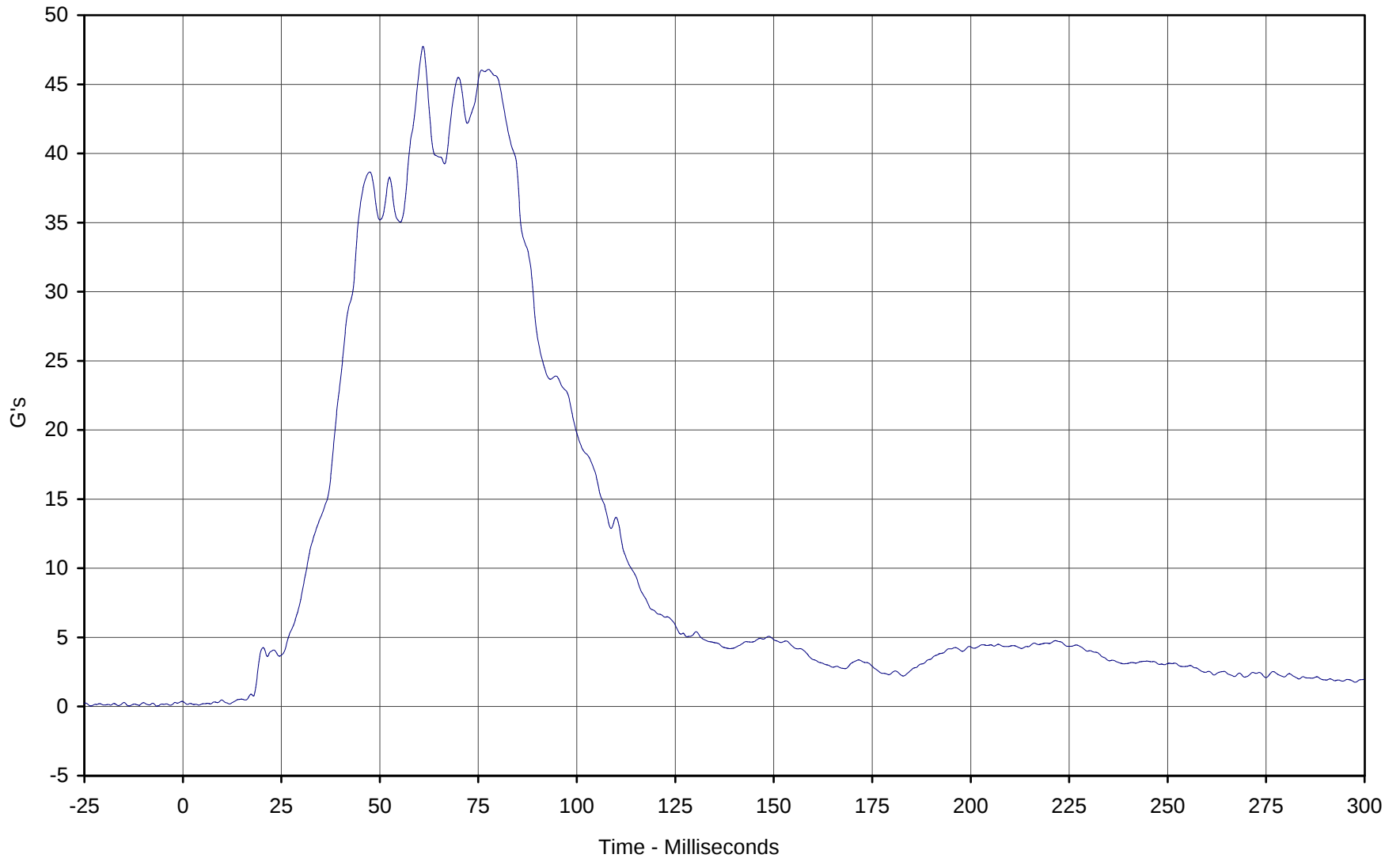


Curve Description: Passenger Chest Primary Z
Maximum Value: 24.9 at 47.7 Milliseconds
Minimum Value: -19.0 at 96.6 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-059

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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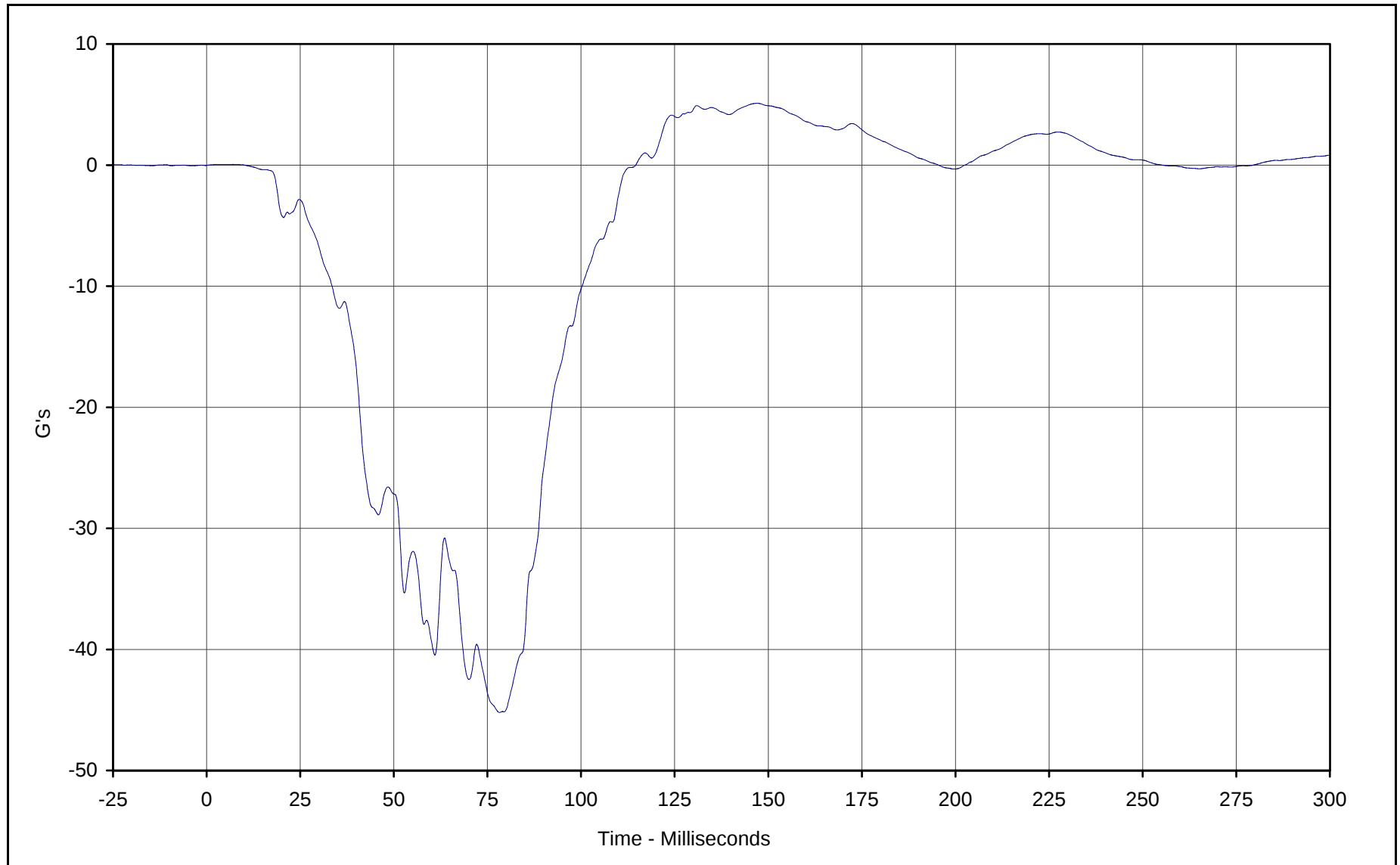
Curve Description: Passenger Chest Resultant Primary
Maximum Value: 47.7 at 61.0 Milliseconds
Minimum Value: 0.1 at 4.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: RES-057

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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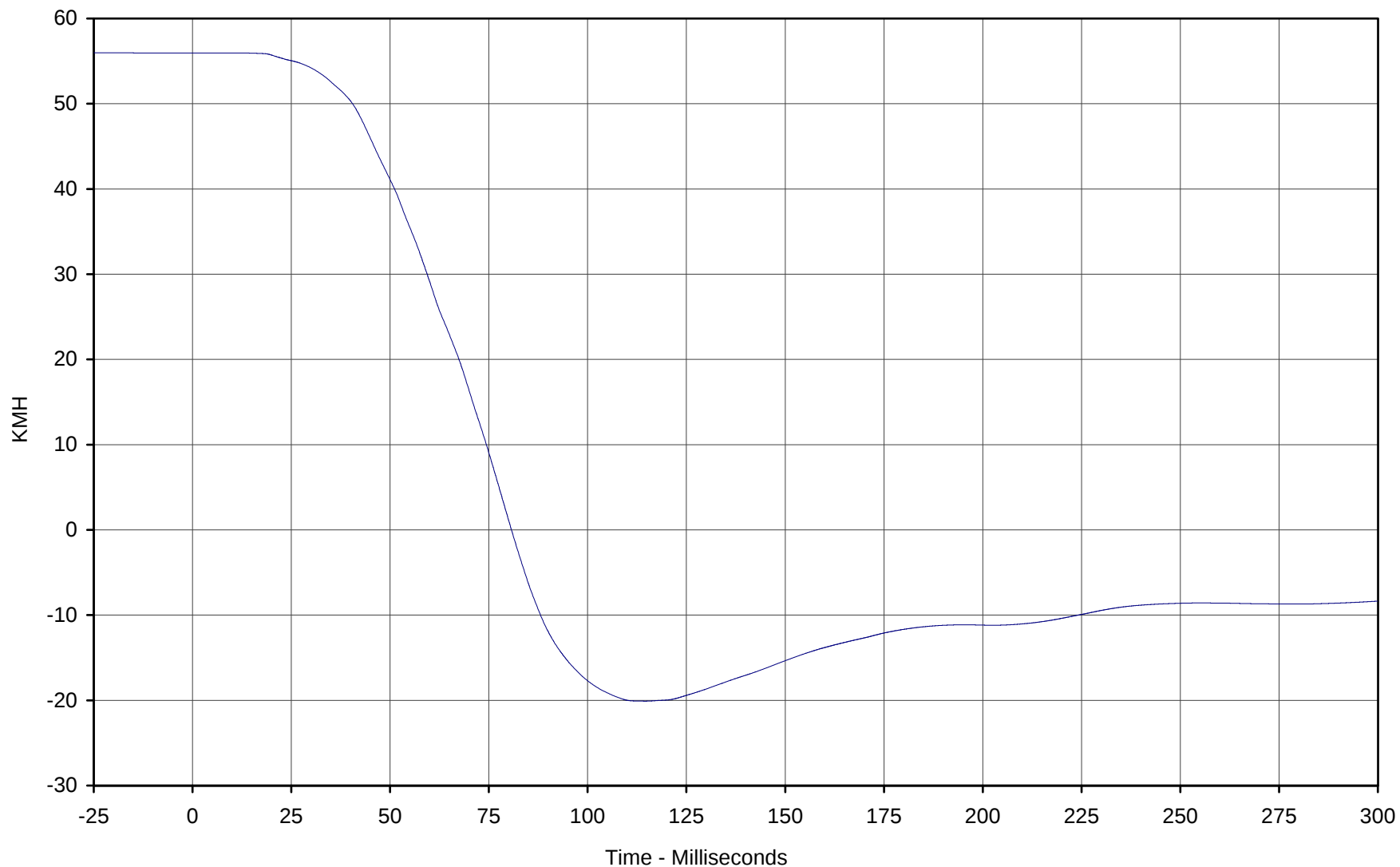
Curve Description: Passenger Chest Redundant X
Maximum Value: 5.1 at 147.1 Milliseconds
Minimum Value: -45.2 at 78.3 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-060

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Chest Redundant X Velocity

Maximum Value: 56.0 at 10.0 Milliseconds

Minimum Value: -20.1 at 114.6 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

Curve Number: IN1-060

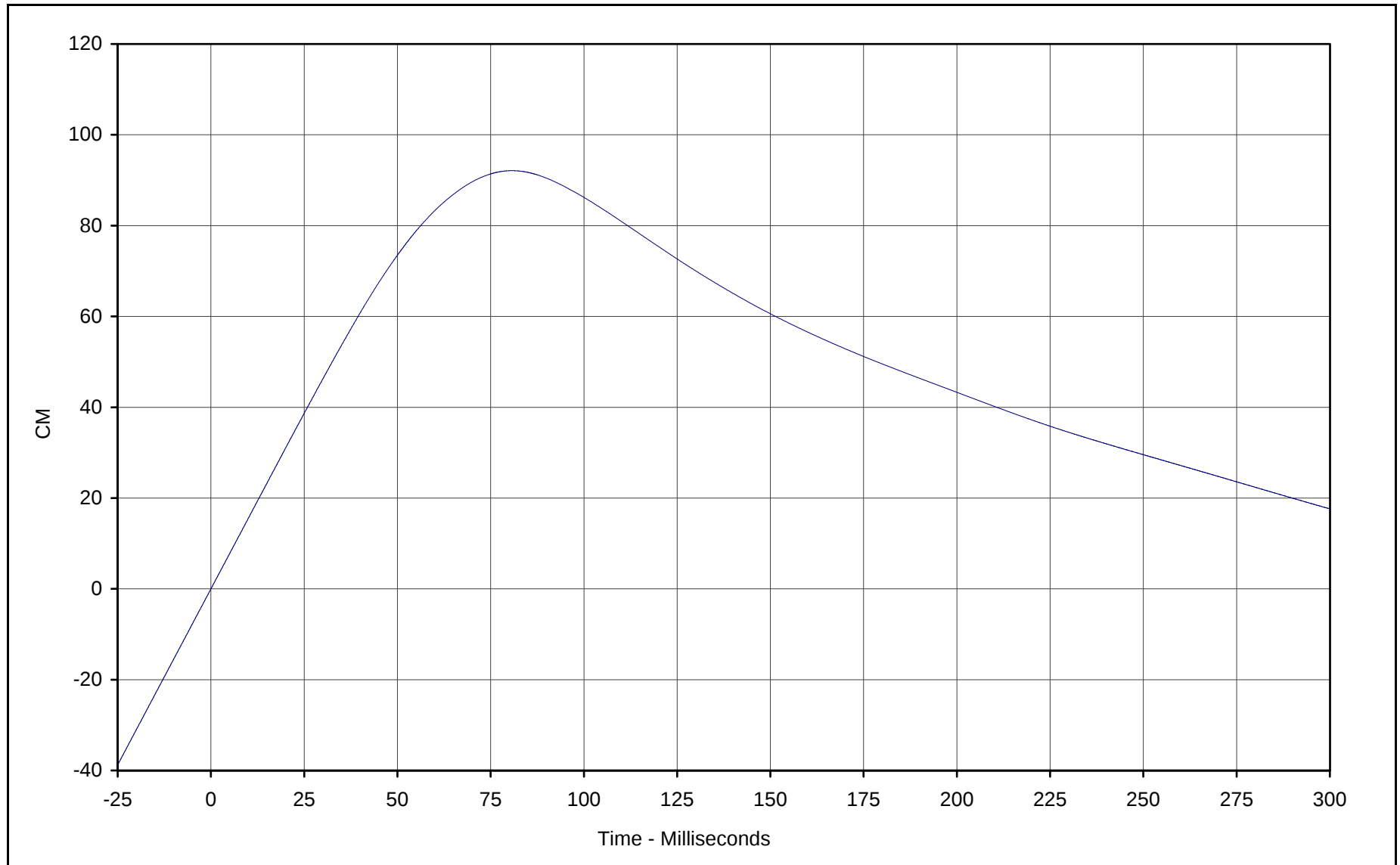
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Chest Redundant X Displ.

Maximum Value: 92.1 at 80.7 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

Curve Number: IN2-060

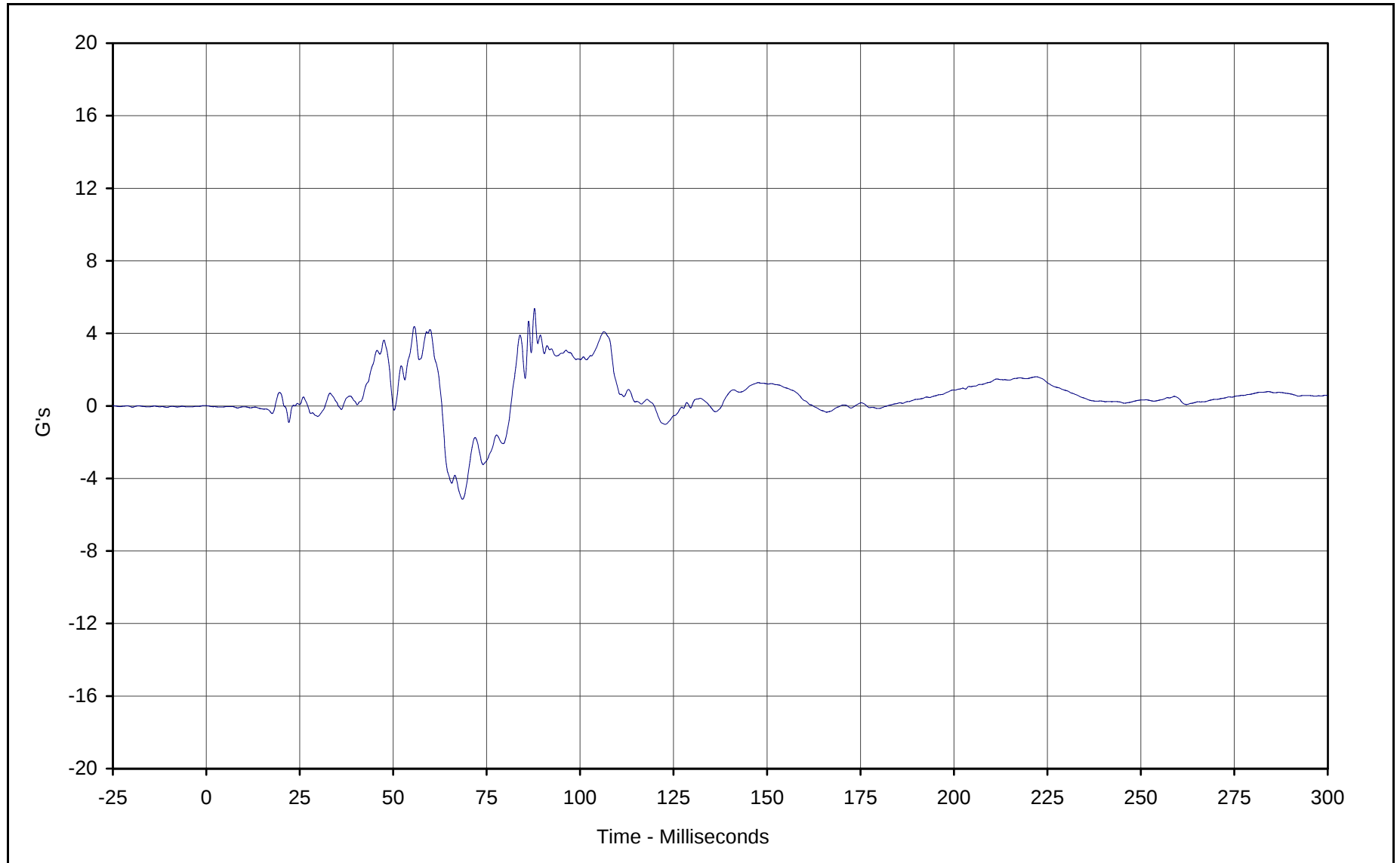
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

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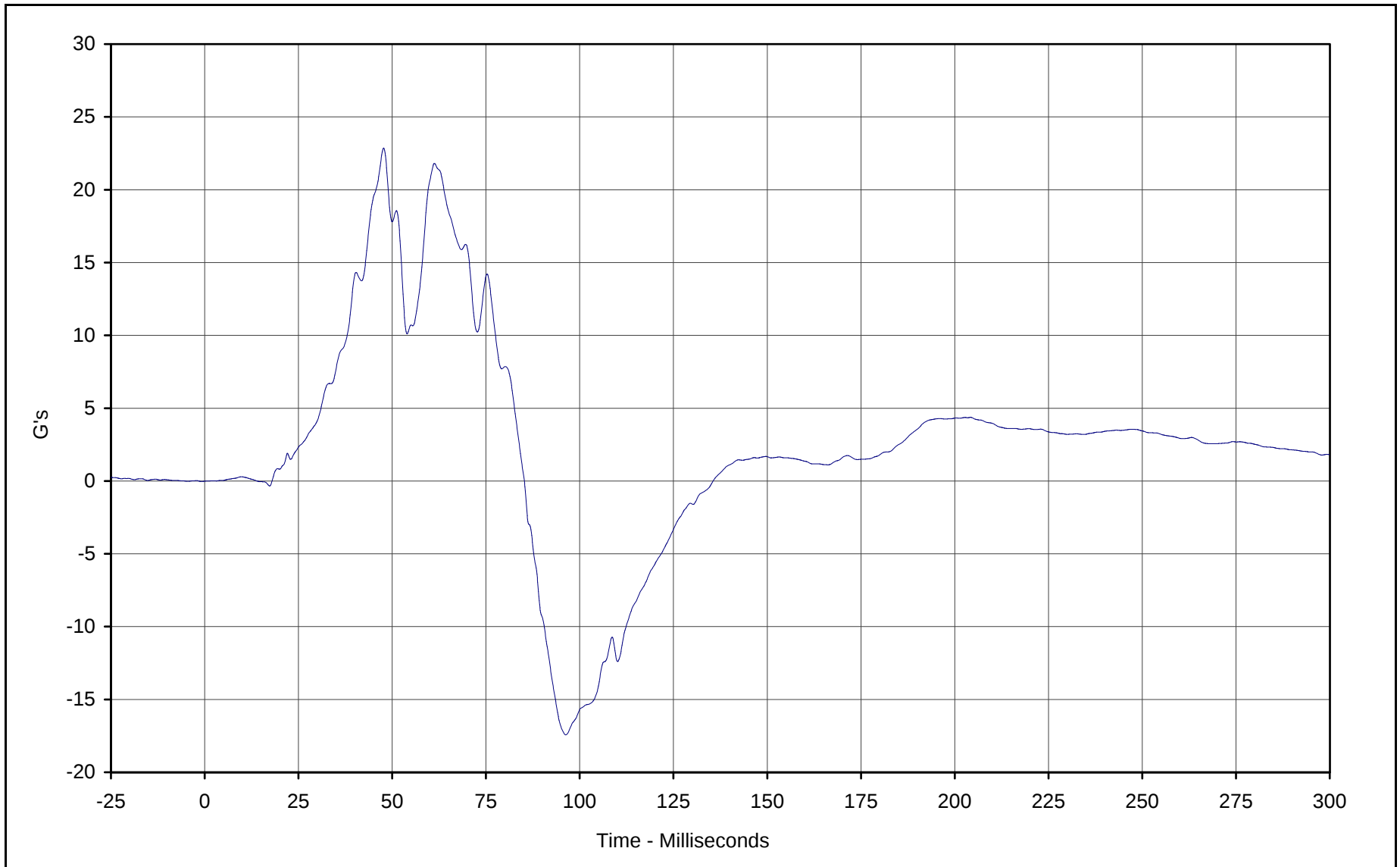
Curve Description: Passenger Chest Redundant Y
Maximum Value: 5.4 at 87.8 Milliseconds
Minimum Value: -5.1 at 68.6 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-061

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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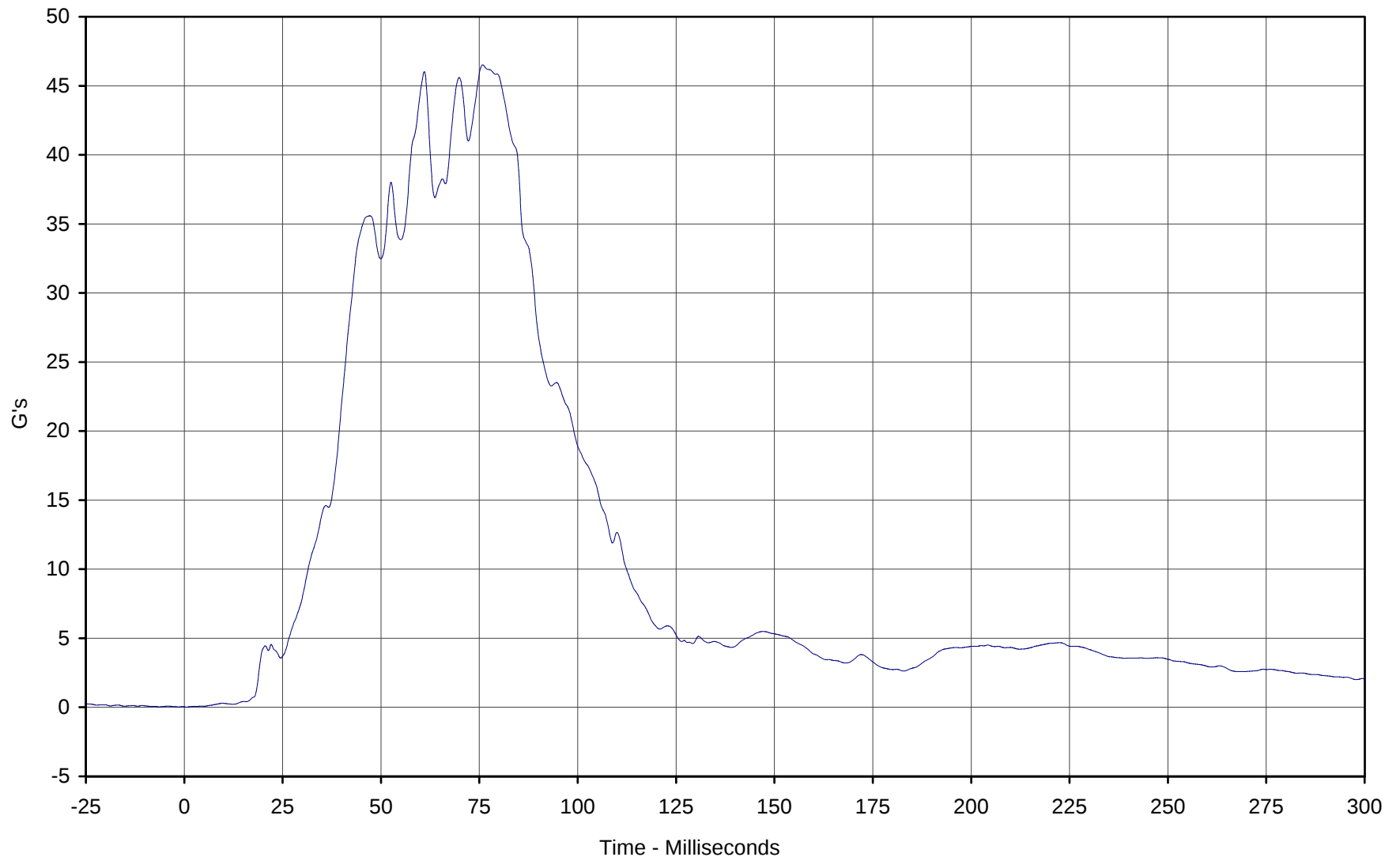
Curve Description: Passenger Chest Redundant Z
Maximum Value: 22.9 at 47.7 Milliseconds
Minimum Value: -17.4 at 96.3 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-062

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Chest Resultant Redundant

Maximum Value: 46.5 at 75.8 Milliseconds

Minimum Value: 0.0 at 0.6 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

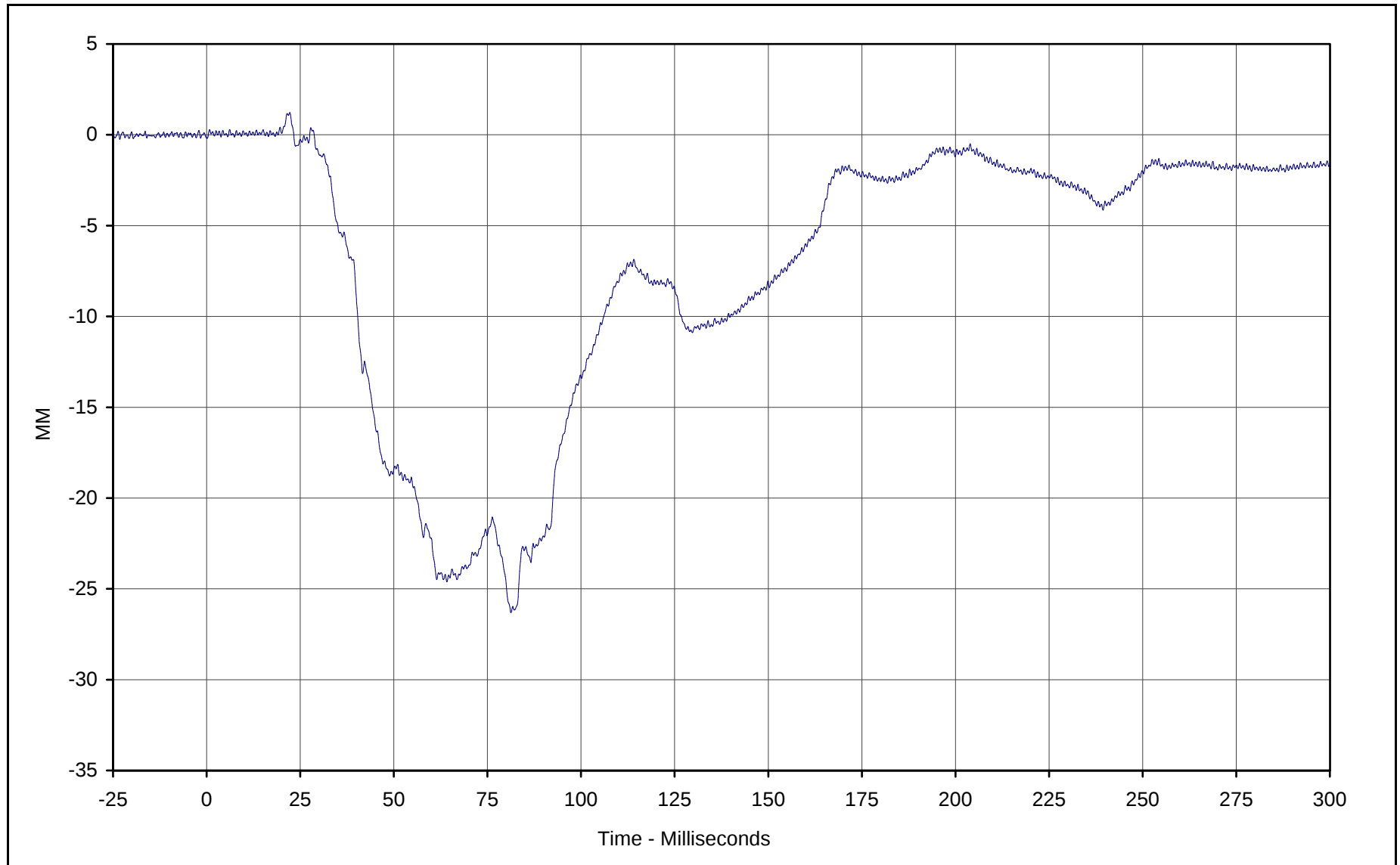
Curve Number: RES-060

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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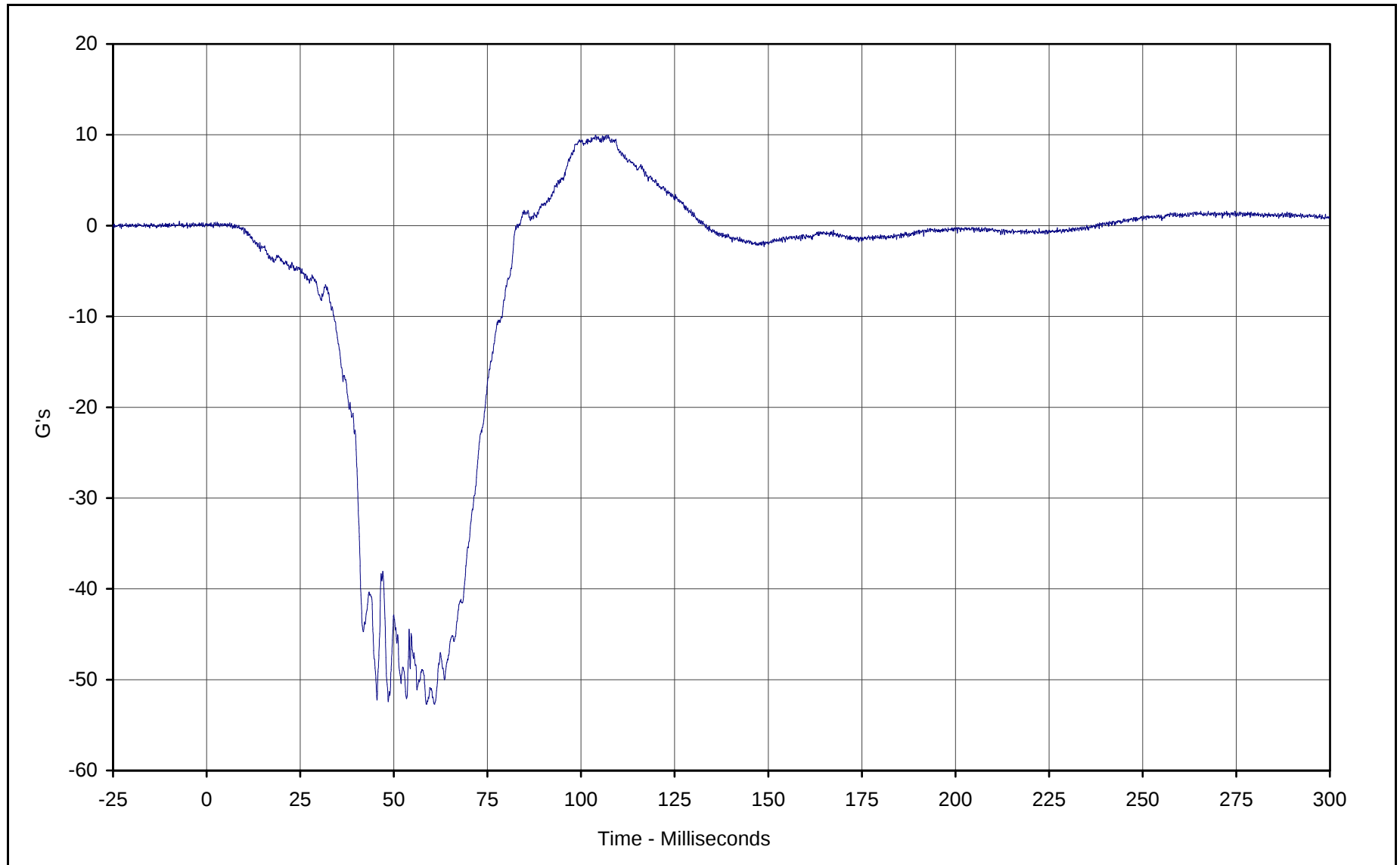
Curve Description: Passenger Chest Displacement X
Maximum Value: 1.2 at 22.2 Milliseconds
Minimum Value: -26.3 at 81.3 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-063

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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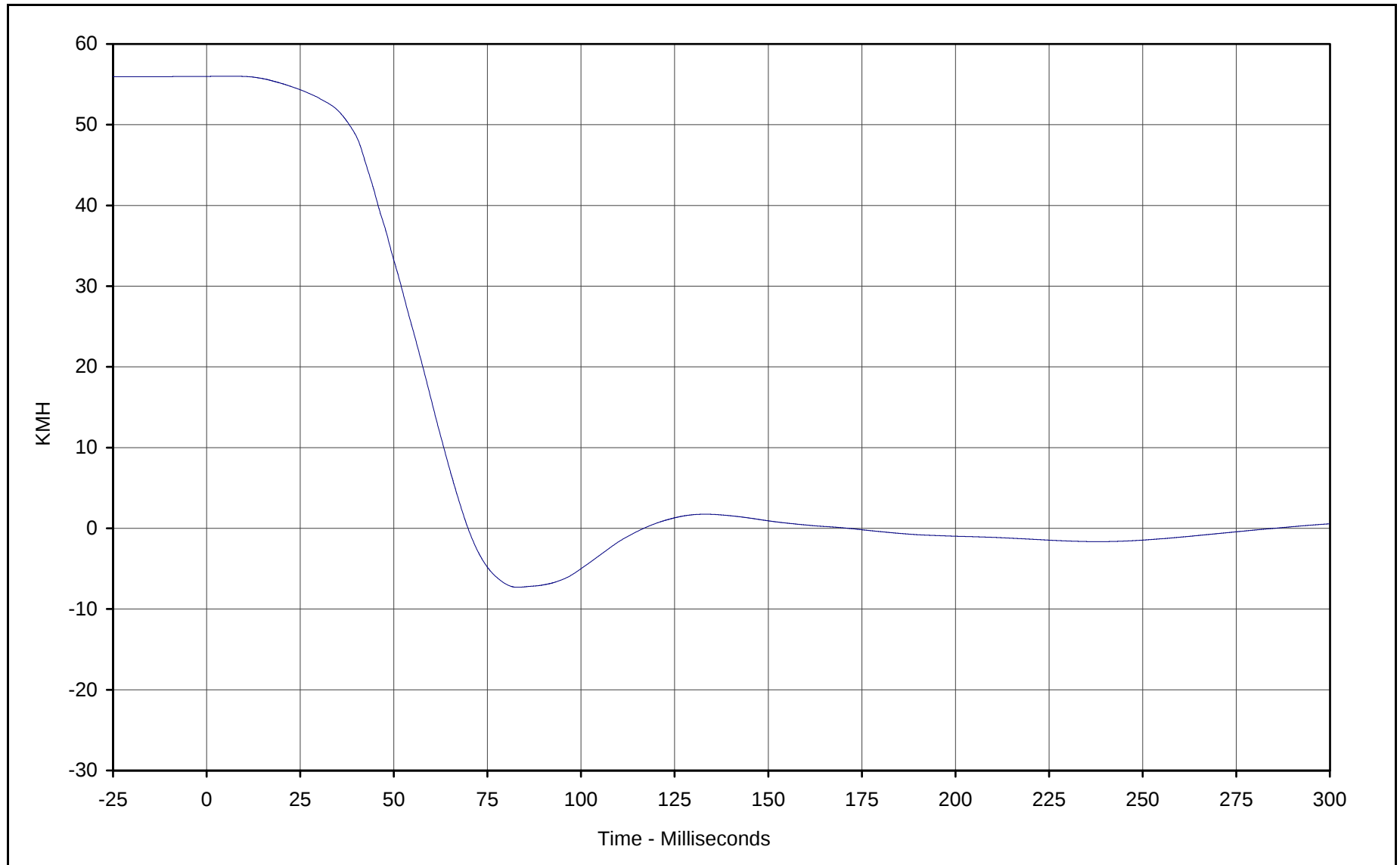


Curve Description: Passenger Pelvis X
Maximum Value: 10.0 at 103.9 Milliseconds
Minimum Value: -52.7 at 58.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-064

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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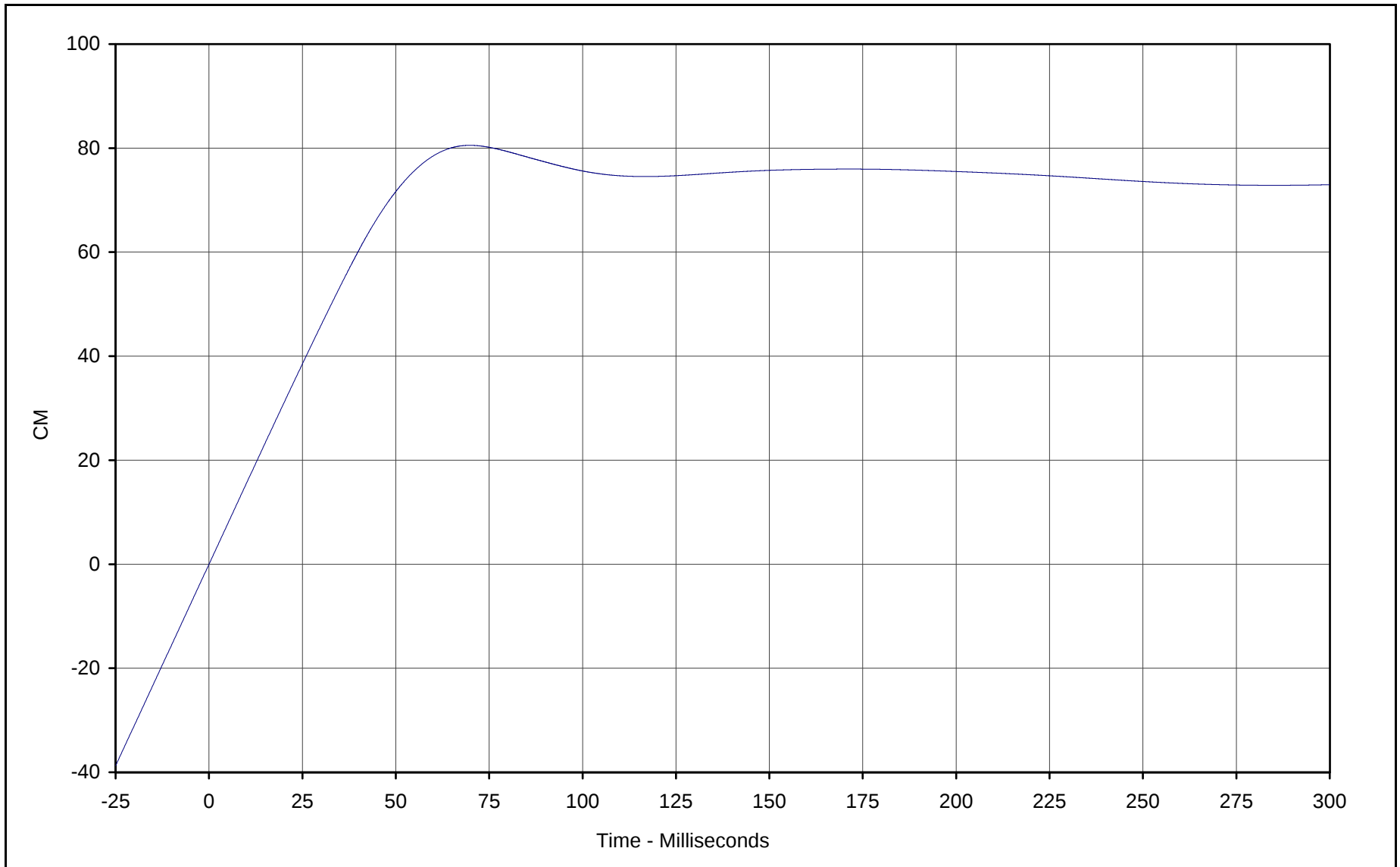


Curve Description: Passenger Pelvis X Velocity
Maximum Value: 56.0 at 6.6 Milliseconds
Minimum Value: -7.3 at 83.1 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-064

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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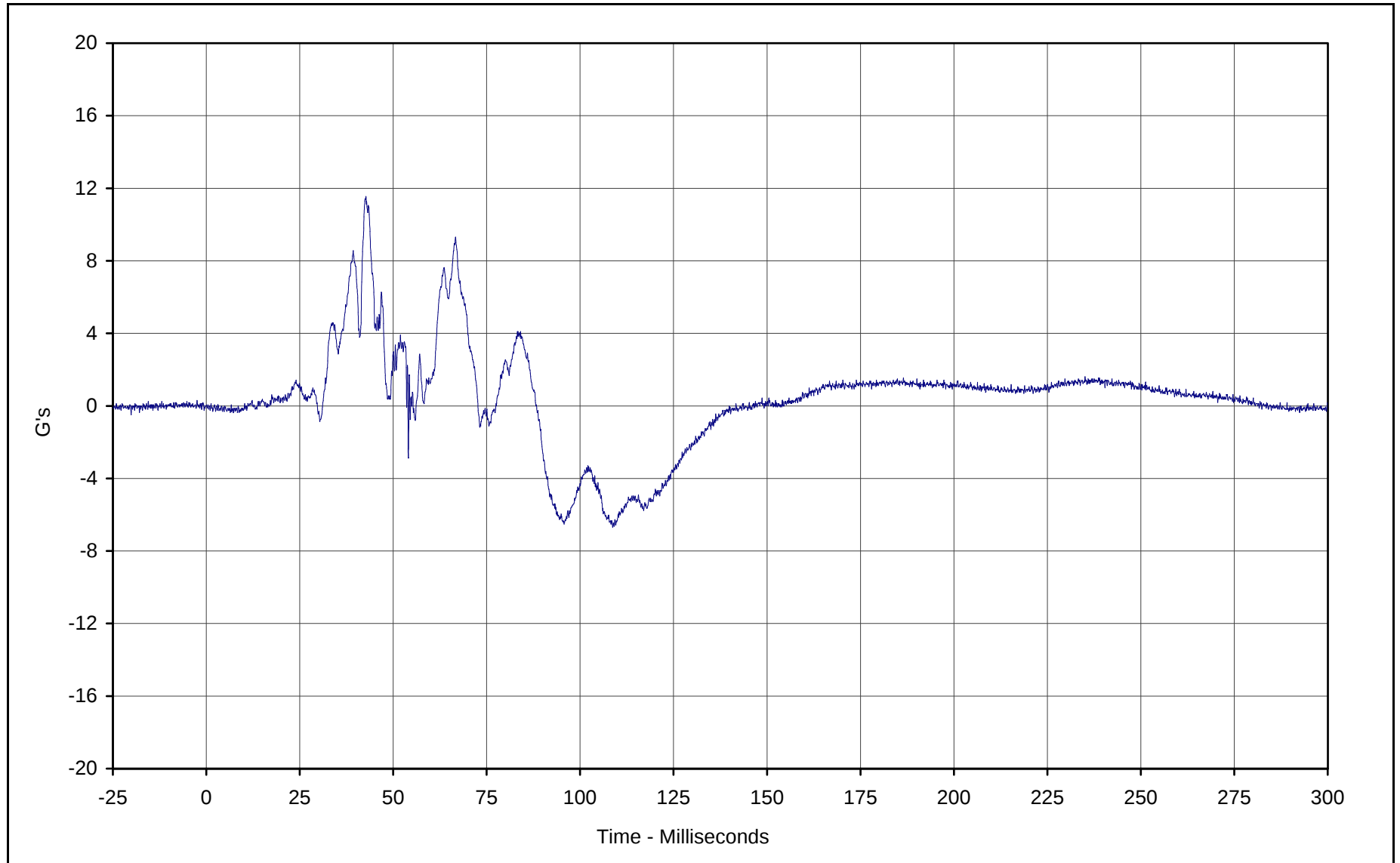
Curve Description: Passenger Pelvis X Displ.
Maximum Value: 80.5 at 69.8 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-064

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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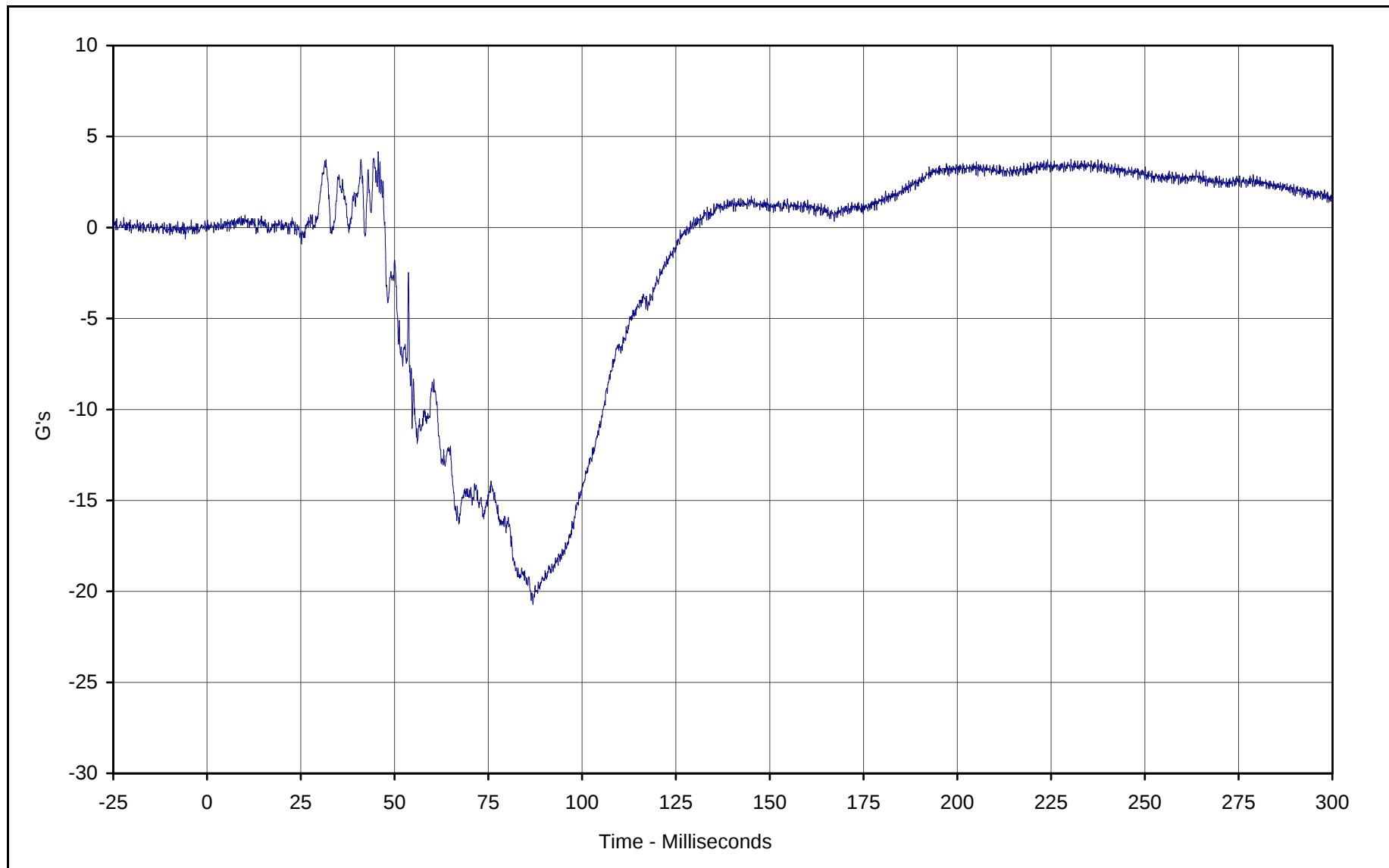


Curve Description: Passenger Pelvis Y
Maximum Value: 11.5 at 42.7 Milliseconds
Minimum Value: -6.7 at 108.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-065

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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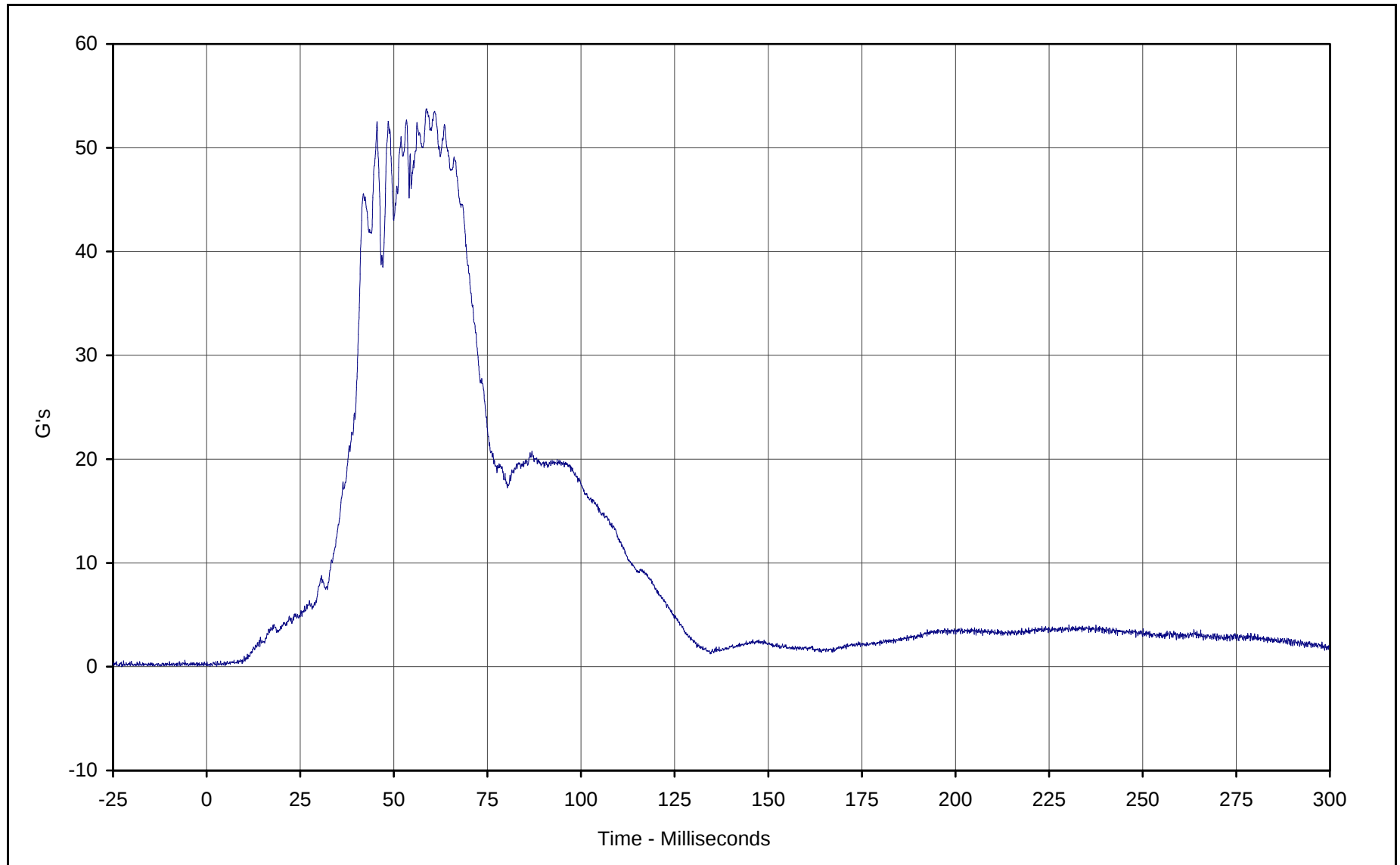
Curve Description: Passenger Pelvis Z
Maximum Value: 4.1 at 45.6 Milliseconds
Minimum Value: -20.7 at 86.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: FIL-066

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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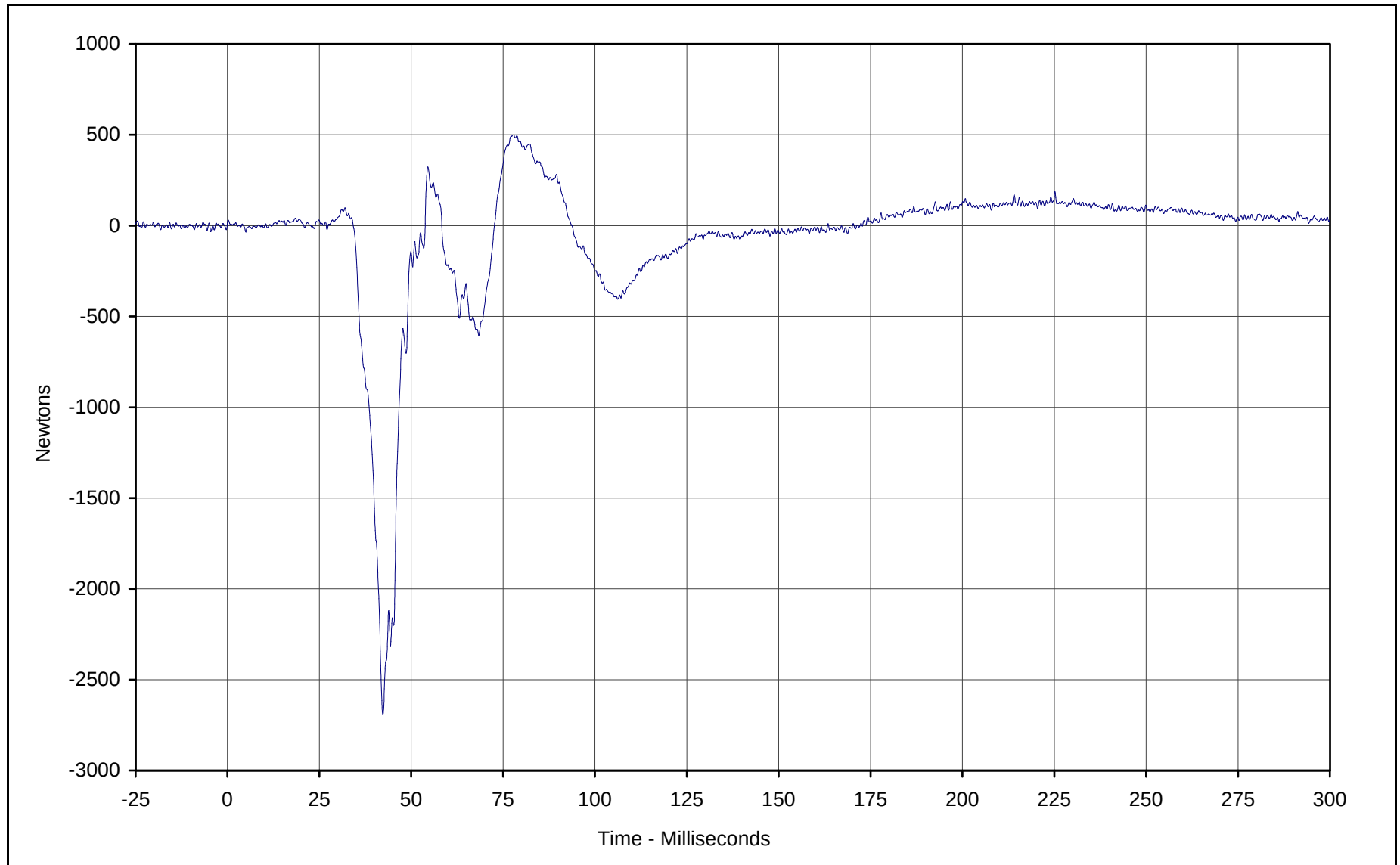
Curve Description: Passenger Pelvis Resultant
Maximum Value: 53.8 at 58.6 Milliseconds
Minimum Value: 0.0 at 0.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 02/21/01
Curve Number: RES-064

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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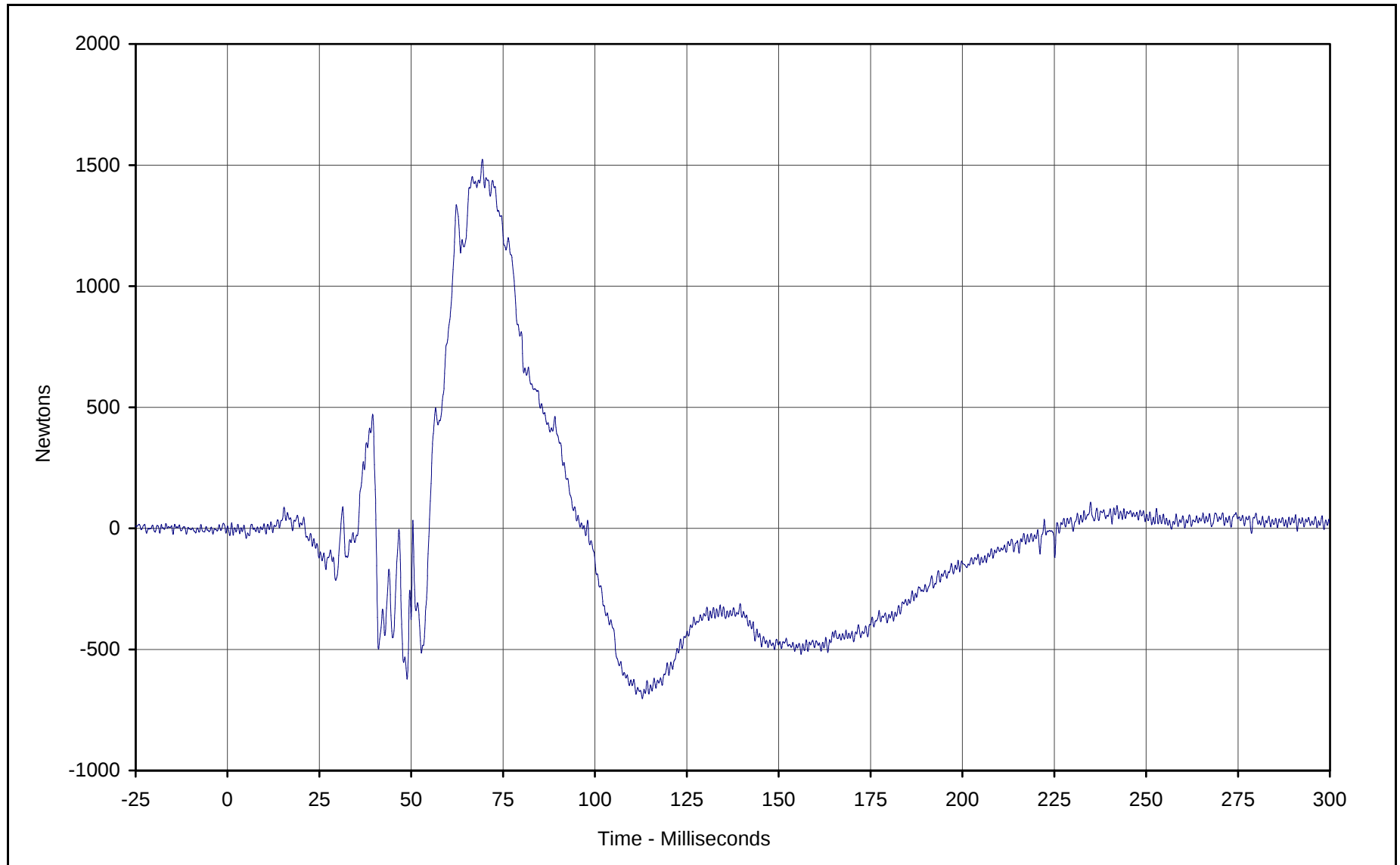


Curve Description: Passenger Left Femur Force
Maximum Value: 499.3 at 77.7 Milliseconds
Minimum Value: -2692.0 at 42.3 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-067

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



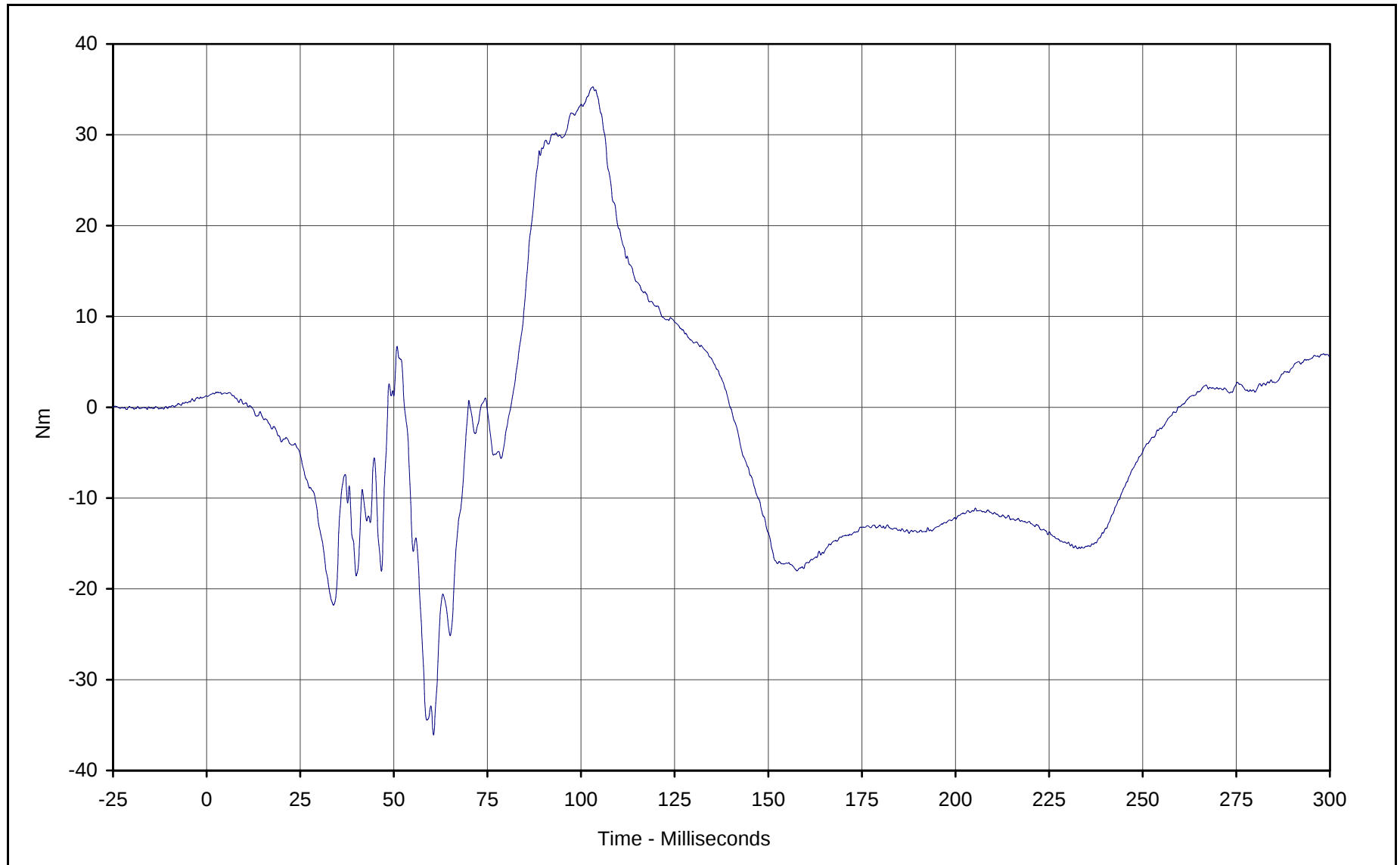
KAR21001-13



Curve Description: Passenger Right Femur Force
Maximum Value: 1523.0 at 69.4 Milliseconds
Minimum Value: -703.8 at 112.9 Milliseconds
SAE Filter Class: 600
Date of Test: 02/21/01
Curve Number: FIL-068

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan





Curve Description: Passenger Left Upper Tibia Moment X

Maximum Value: 35.3 at 103.1 Milliseconds

Minimum Value: -36.1 at 60.6 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

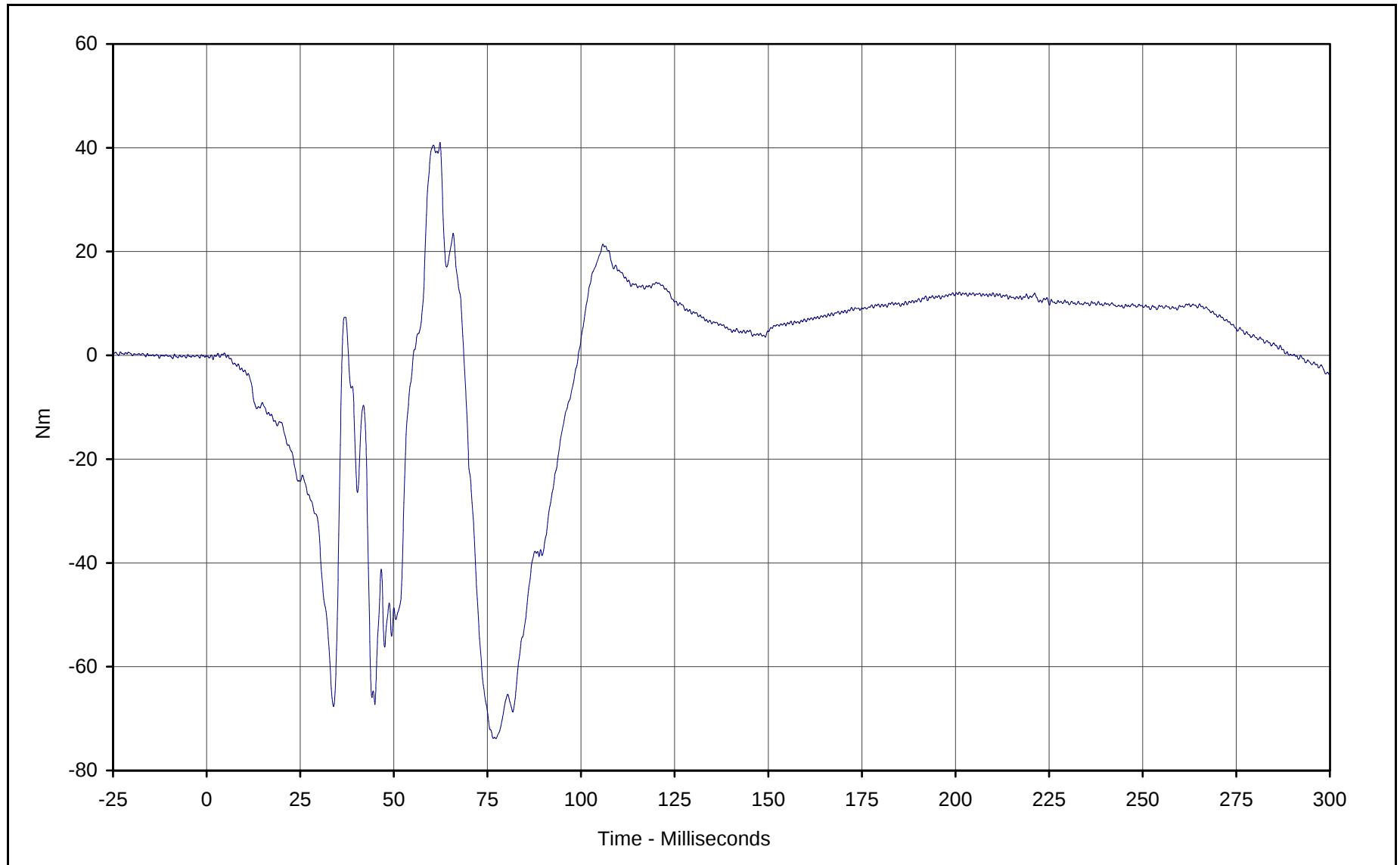
Curve Number: FIL-069

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Left Upper Tibia Moment Y

Maximum Value: 41.1 at 62.3 Milliseconds

Minimum Value: -73.8 at 77.3 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

Curve Number: FIL-070

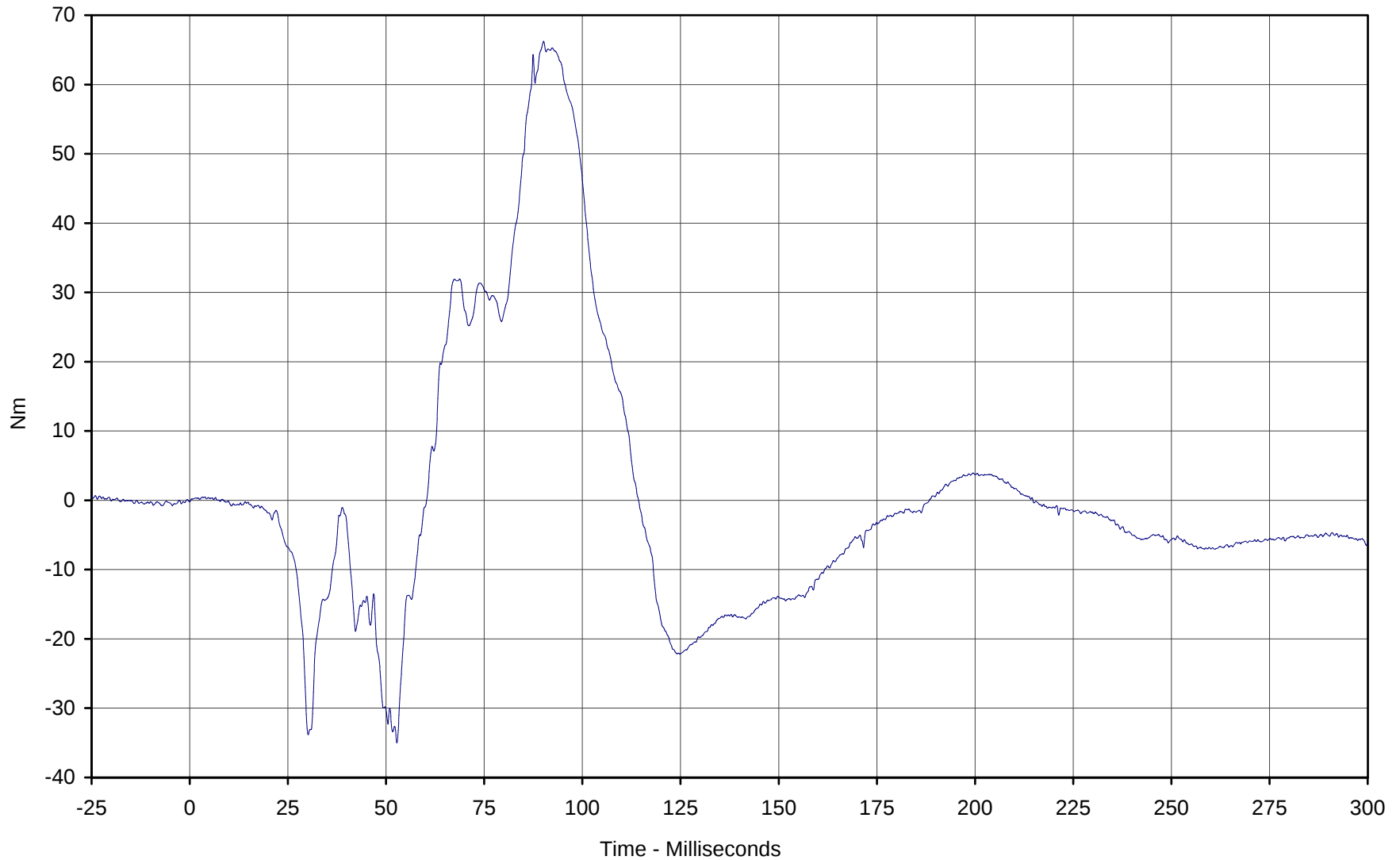
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Right Upper Tibia Moment X

Maximum Value: 66.2 at 90.1 Milliseconds

Minimum Value: -35.0 at 52.8 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

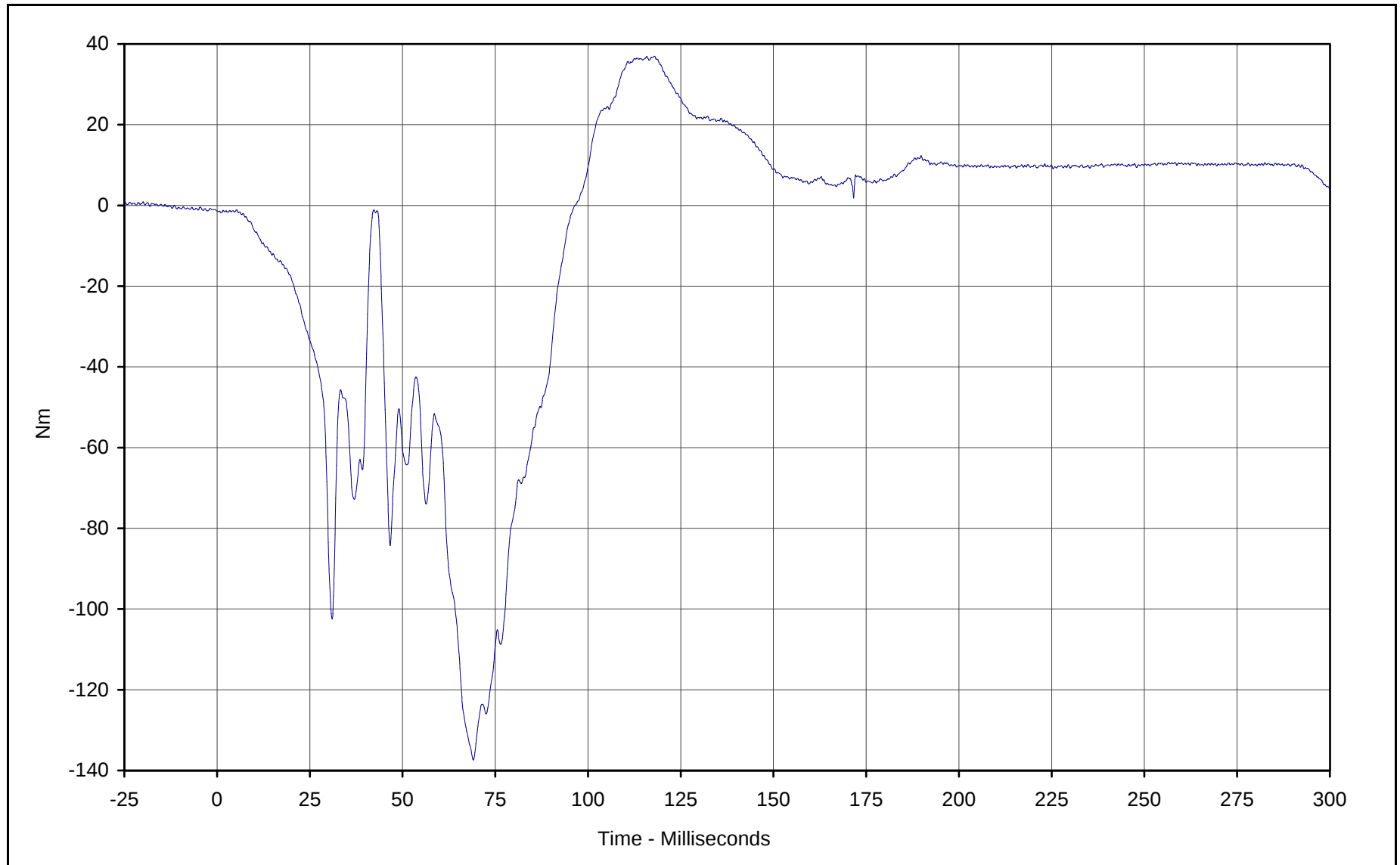
Curve Number: FIL-071

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Right Upper Tibia Moment Y

Maximum Value: 37.0 at 117.9 Milliseconds

Minimum Value: -137.4 at 69.1 Milliseconds

SAE Filter Class: 600

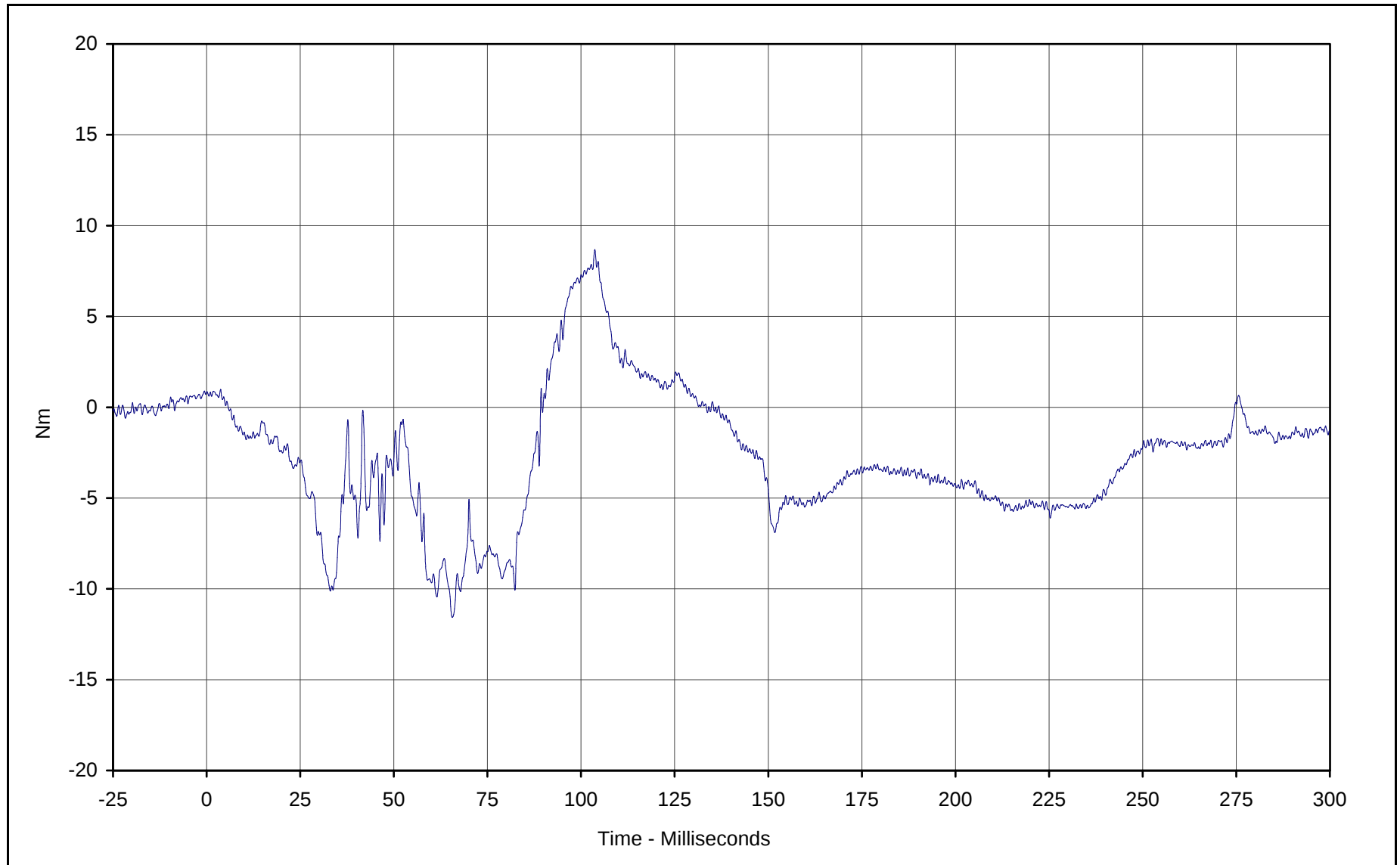
Date of Test: 02/21/01

Curve Number: FIL-072

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Moment X

Maximum Value: 8.7 at 103.7 Milliseconds

Minimum Value: -11.6 at 65.6 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

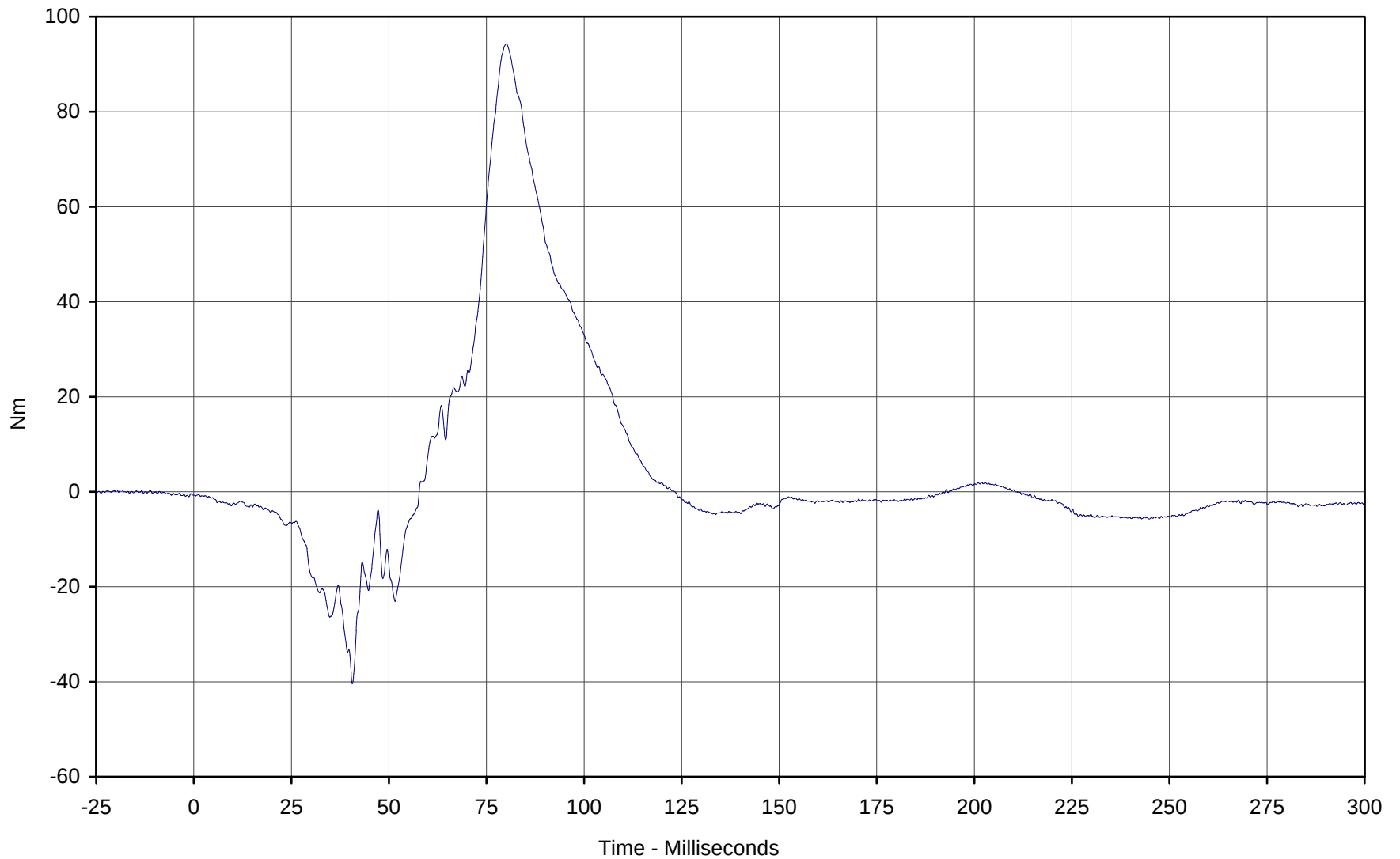
Curve Number: FIL-073

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Left Lower Tibia Moment Y

Maximum Value: 94.3 at 80.1 Milliseconds

Minimum Value: -40.4 at 40.6 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

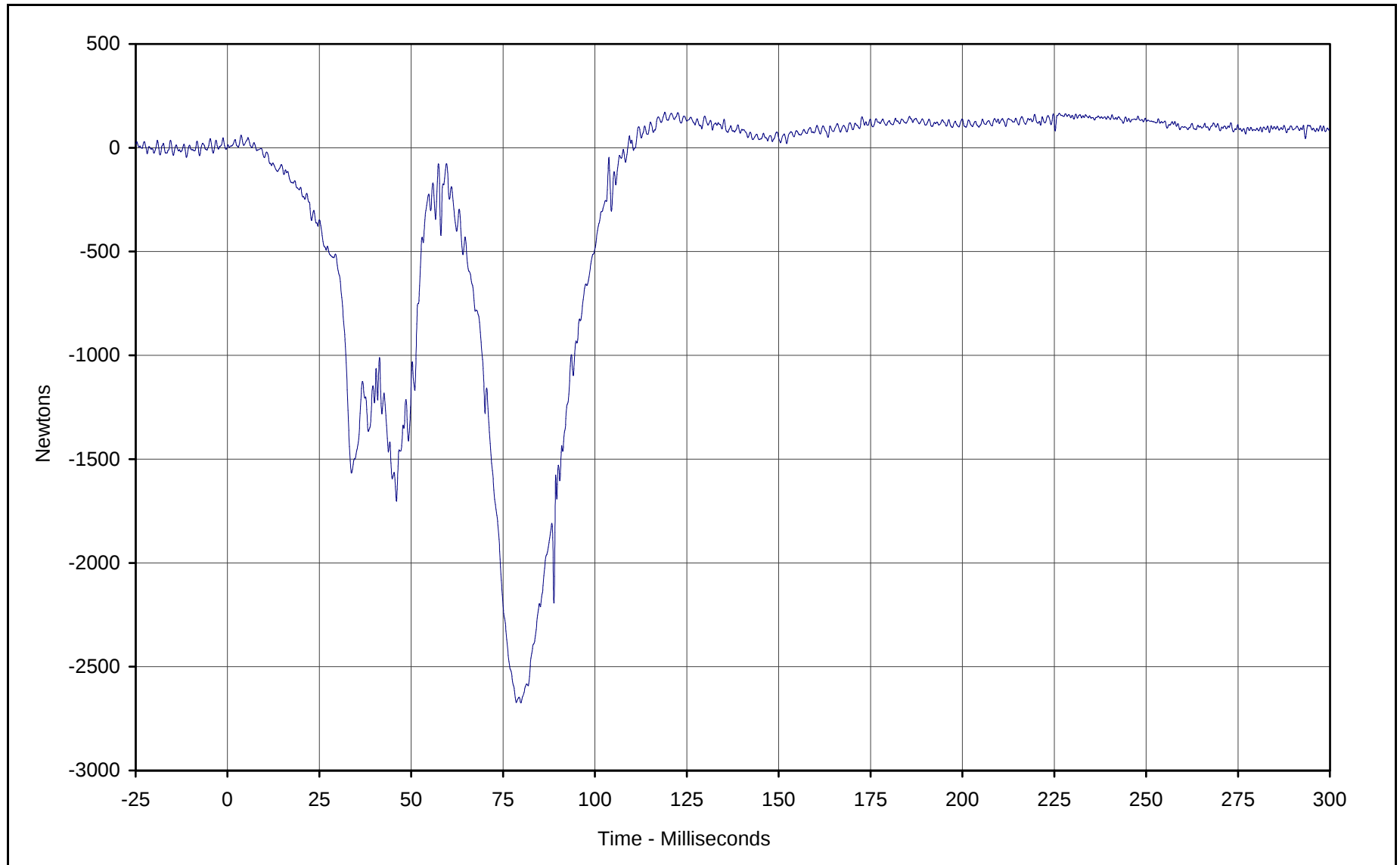
Curve Number: FIL-074

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Left Lower Tibia Force Z

Maximum Value: 171.7 at 119.0 Milliseconds

Minimum Value: -2674.1 at 79.9 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

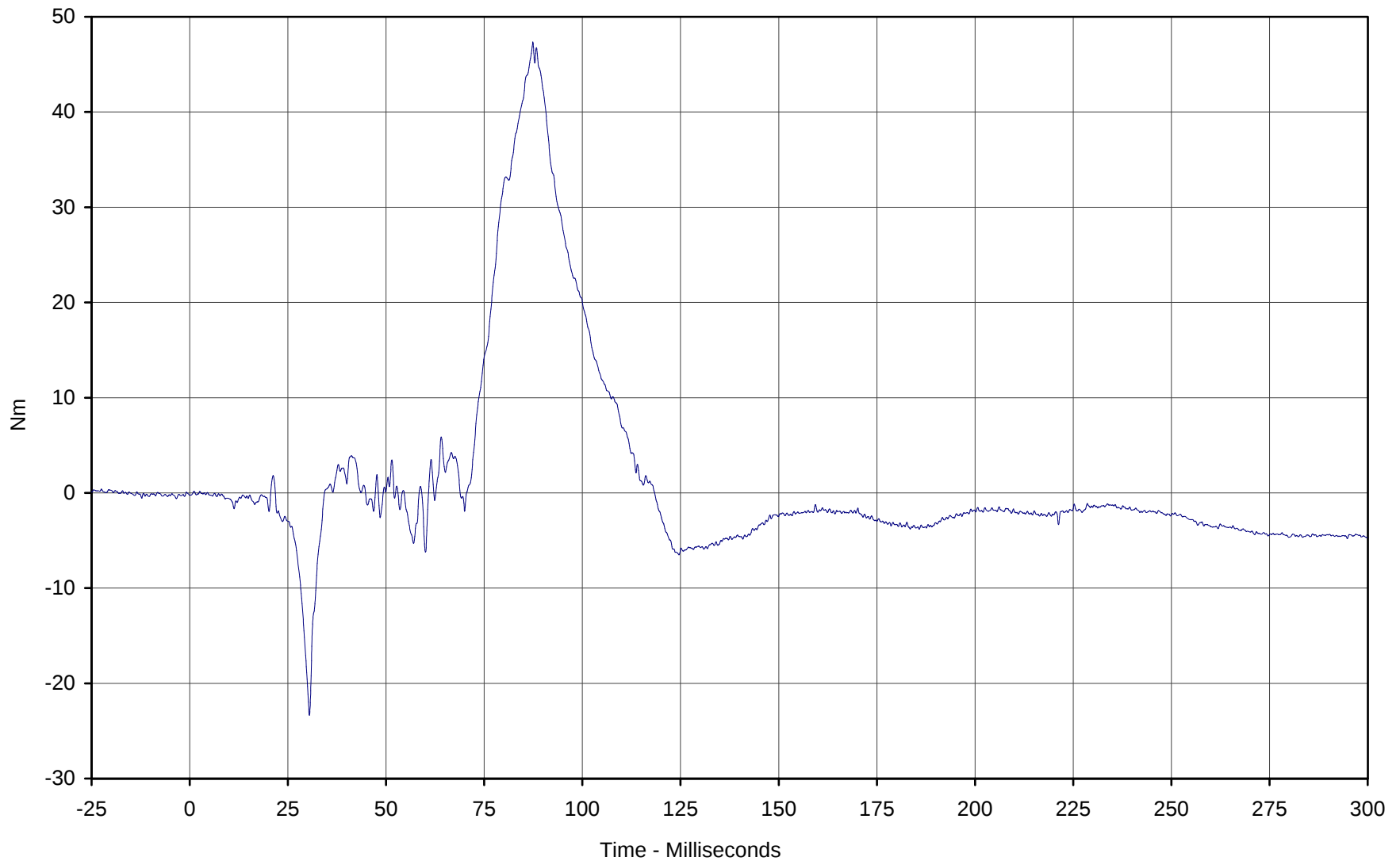
Curve Number: FIL-075

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Right Lower Tibia Moment X

Maximum Value: 47.4 at 87.4 Milliseconds

Minimum Value: -23.4 at 30.5 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

Curve Number: FIL-076

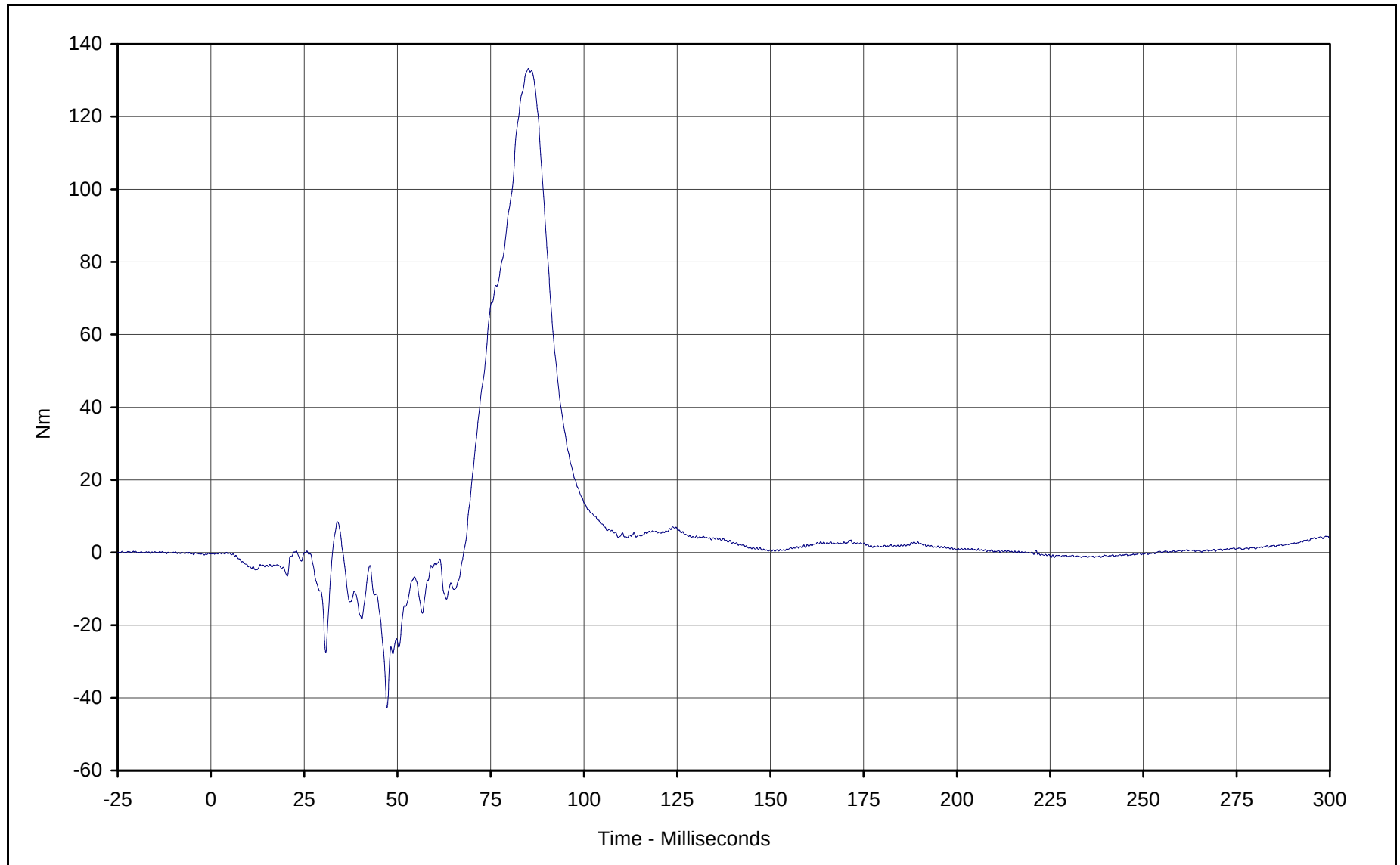
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-111



Curve Description: Passenger Right Lower Tibia Moment Y

Maximum Value: 133.3 at 85.1 Milliseconds

Minimum Value: -42.8 at 47.2 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

Curve Number: FIL-077

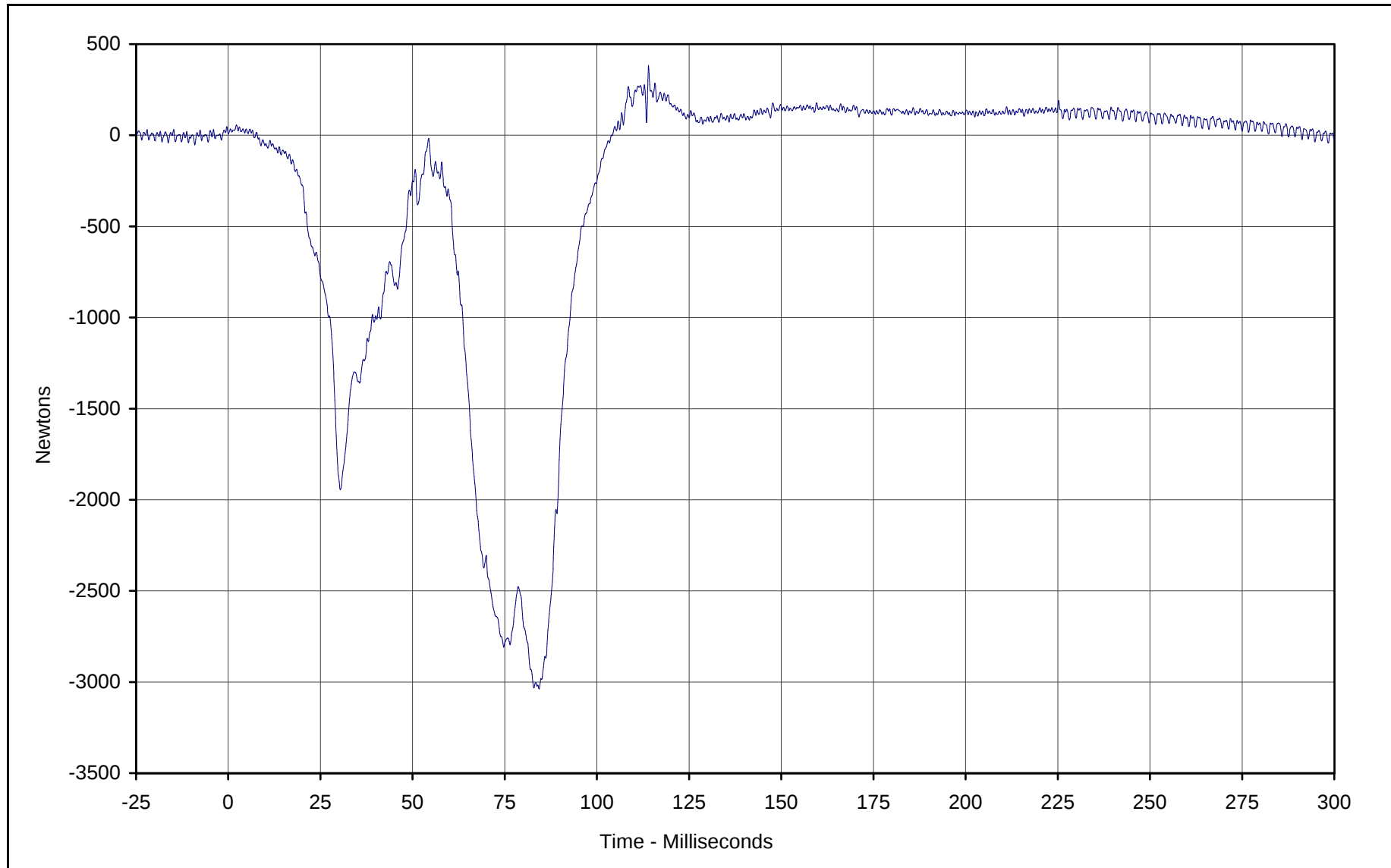
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Right lower Tibia Force Z

Maximum Value: 383.9 at 114.0 Milliseconds

Minimum Value: -3038.2 at 84.3 Milliseconds

SAE Filter Class: 600

Date of Test: 02/21/01

Curve Number: FIL-078

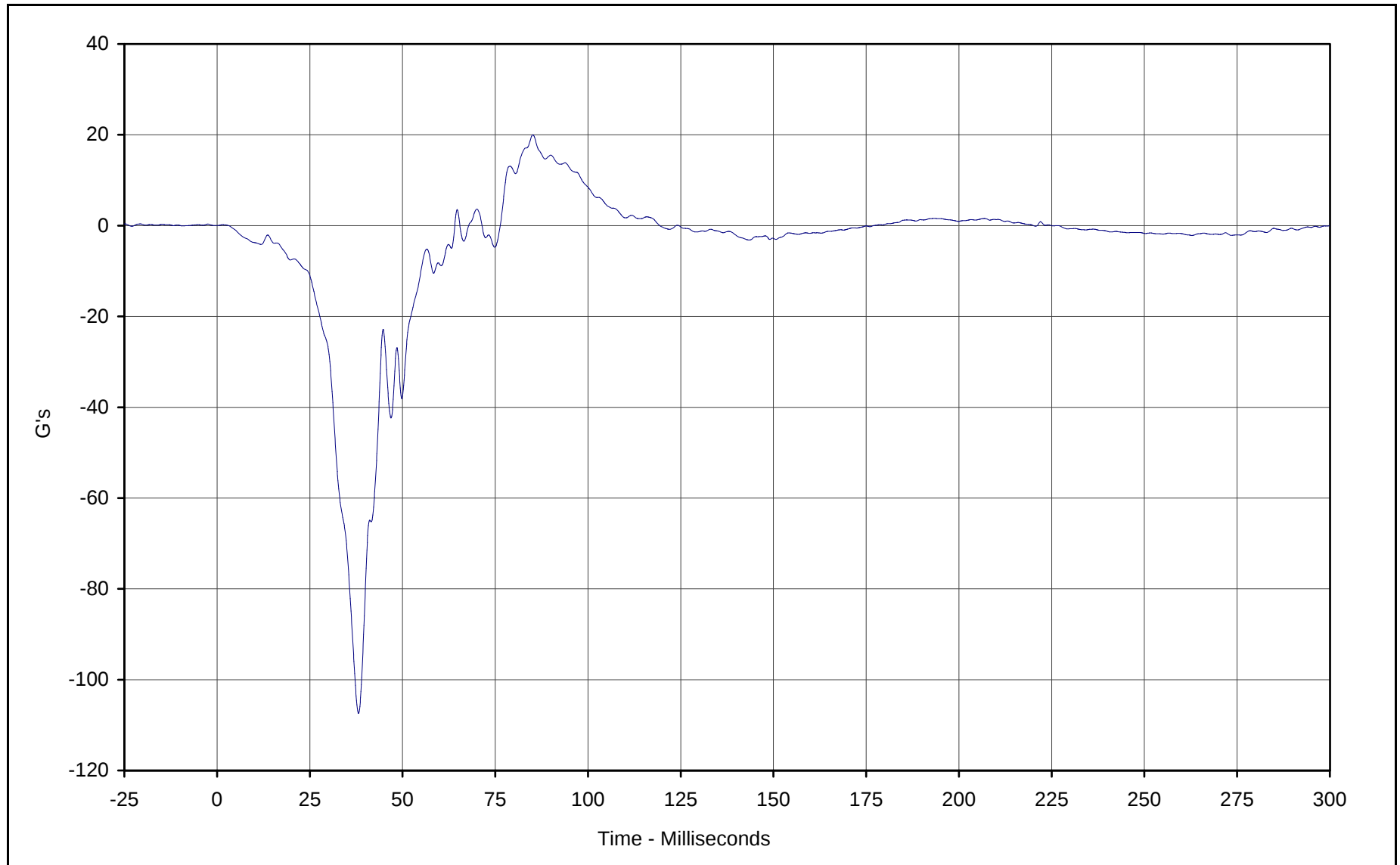
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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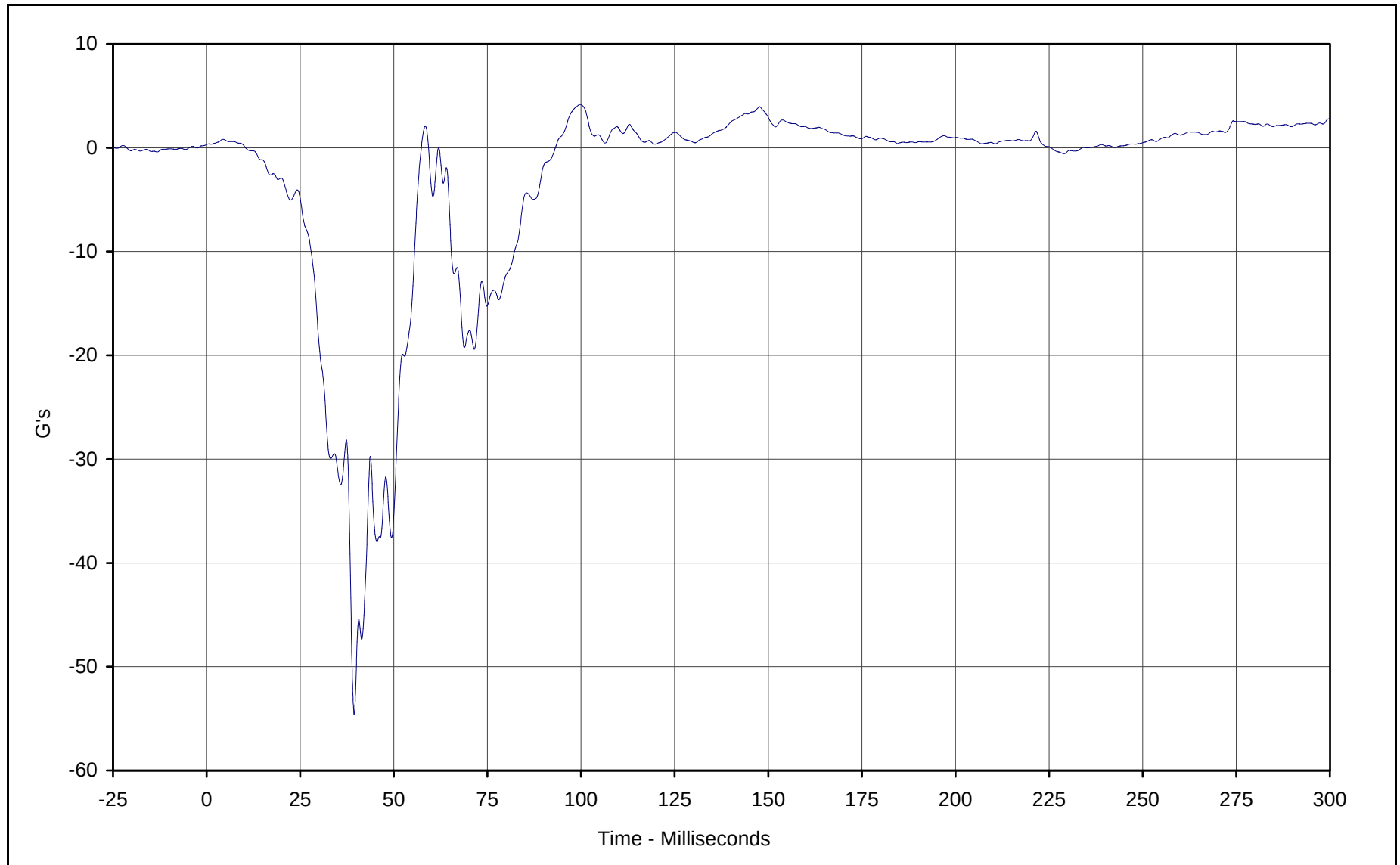
Curve Description: Passenger Left Foot Aft X
Maximum Value: 20.0 at 85.1 Milliseconds
Minimum Value: -107.4 at 38.1 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-079

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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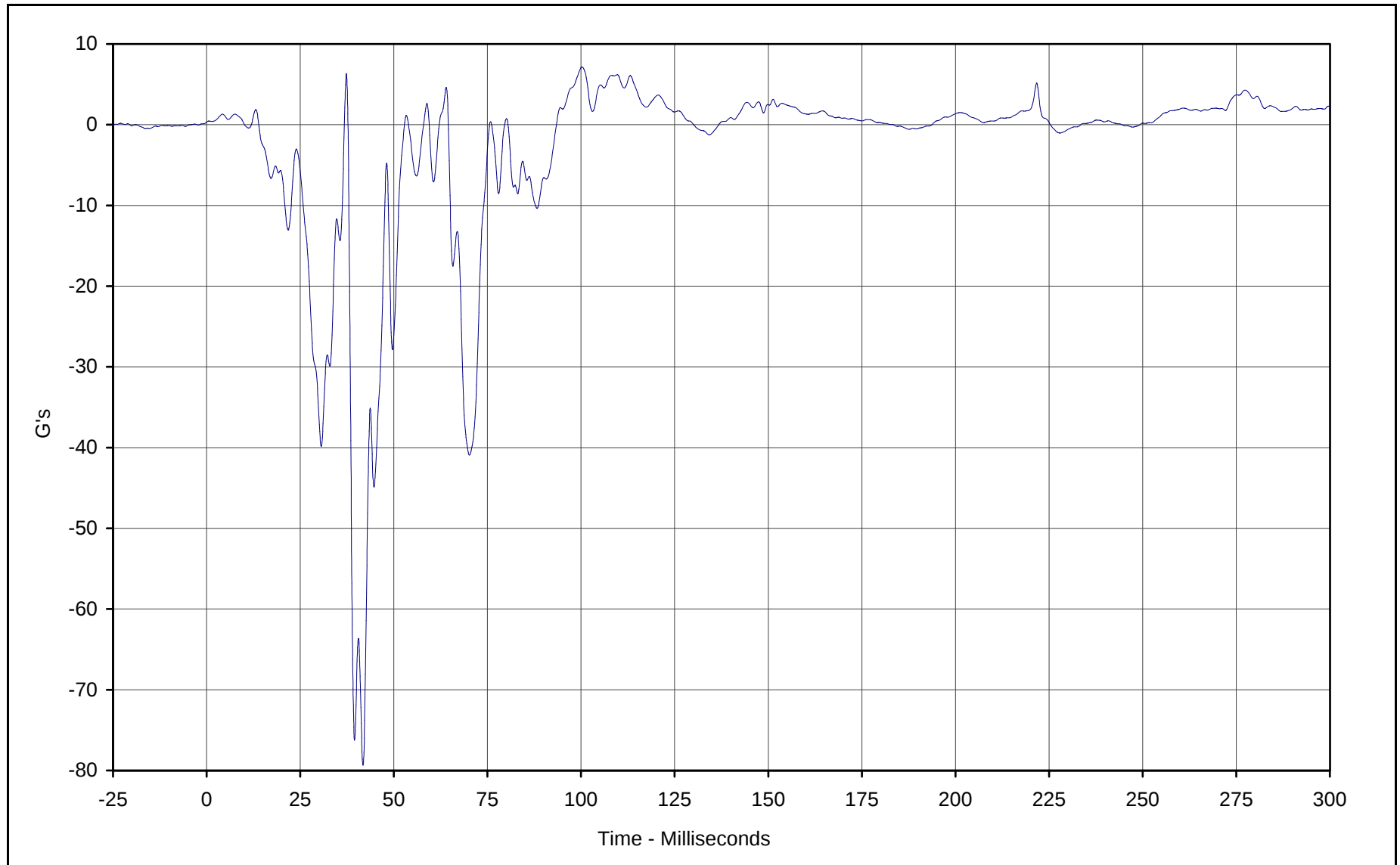
Curve Description: Passenger Left Foot Aft Z
Maximum Value: 4.2 at 99.7 Milliseconds
Minimum Value: -54.6 at 39.4 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-080

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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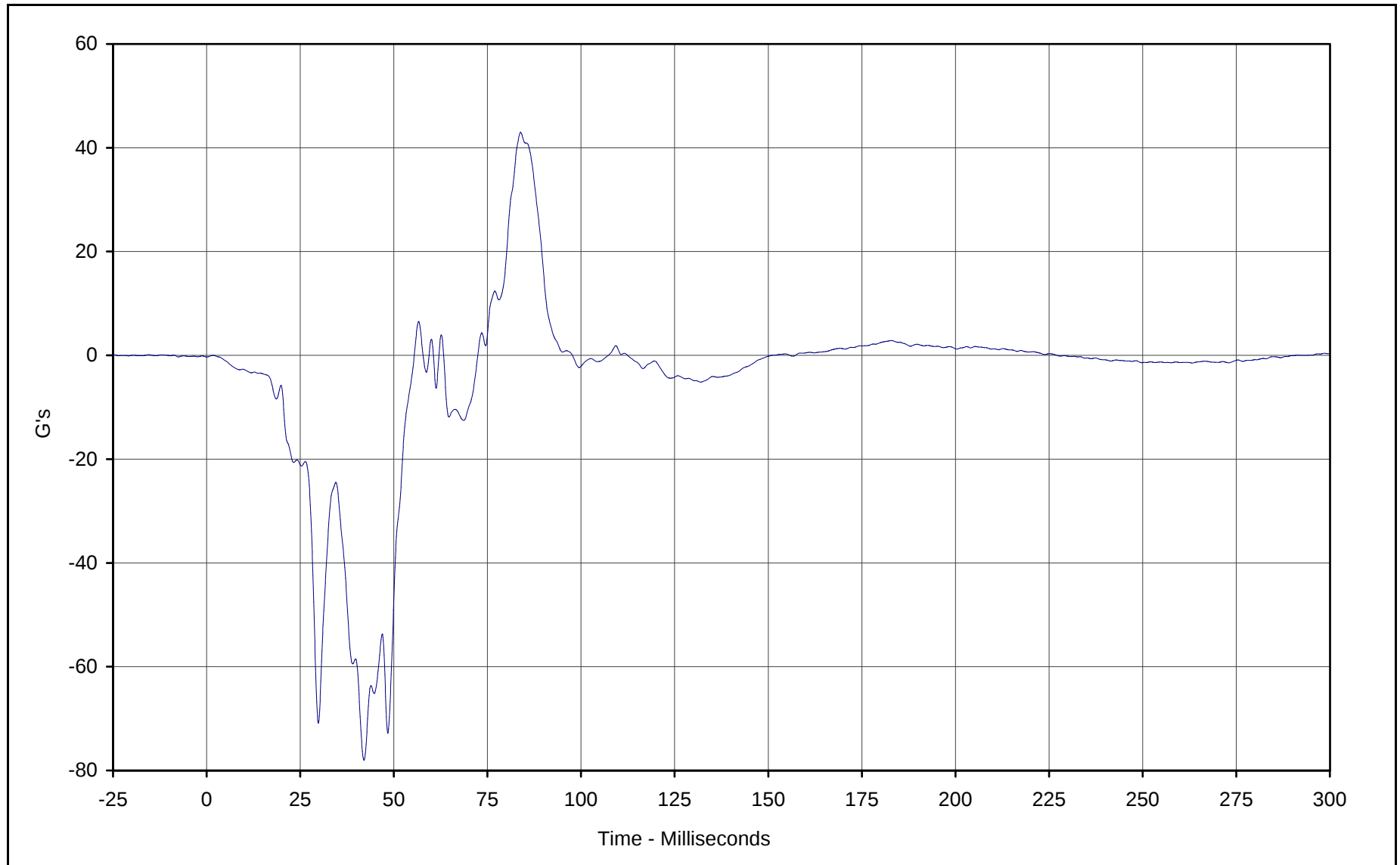


Curve Description: Passenger Left Foot Fore Z
Maximum Value: 7.1 at 100.3 Milliseconds
Minimum Value: -79.4 at 41.8 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-081

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



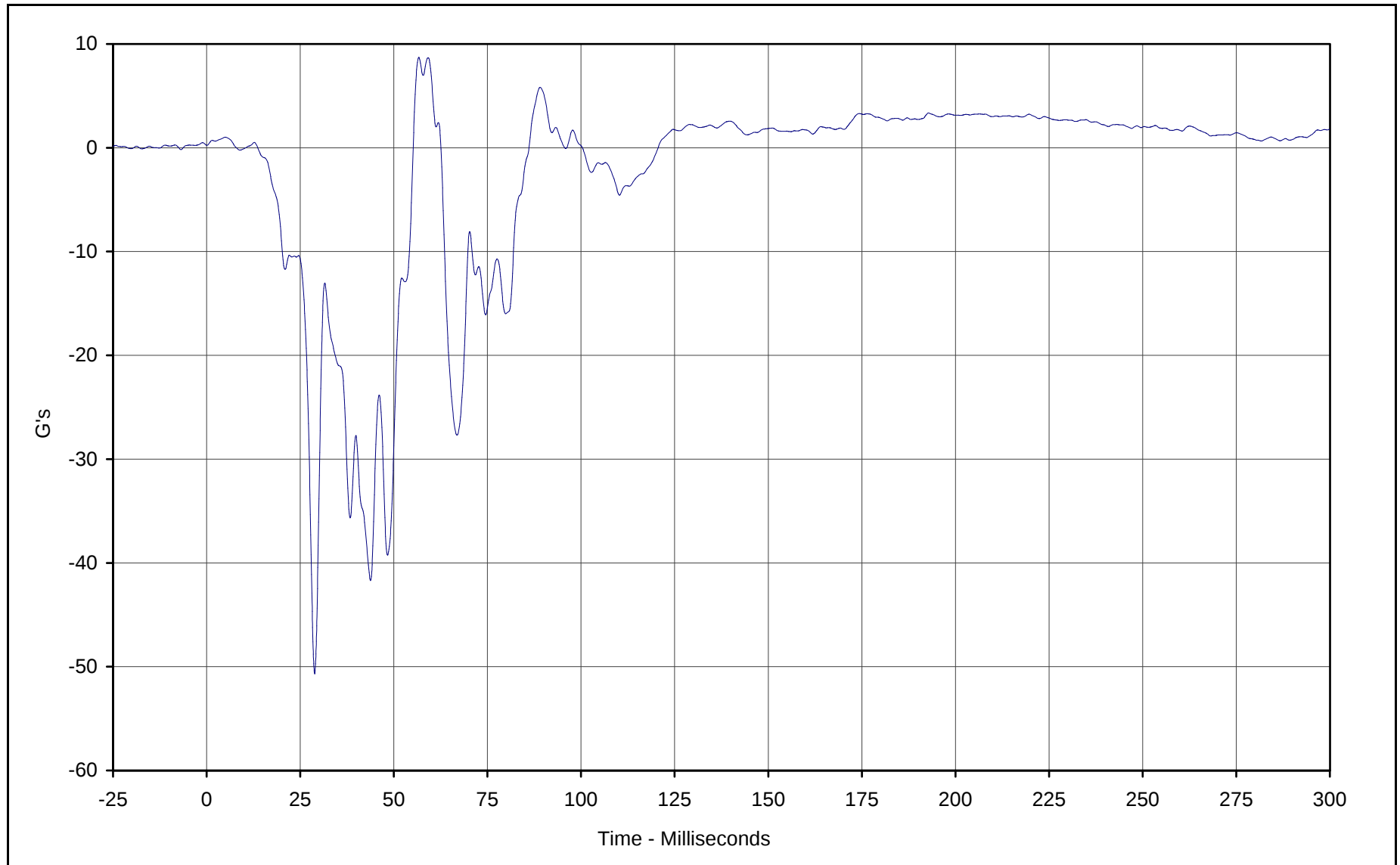
KAR21001-13



Curve Description: Passenger Right Foot Aft X
Maximum Value: 43.0 at 83.9 Milliseconds
Minimum Value: -78.0 at 42.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-082

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

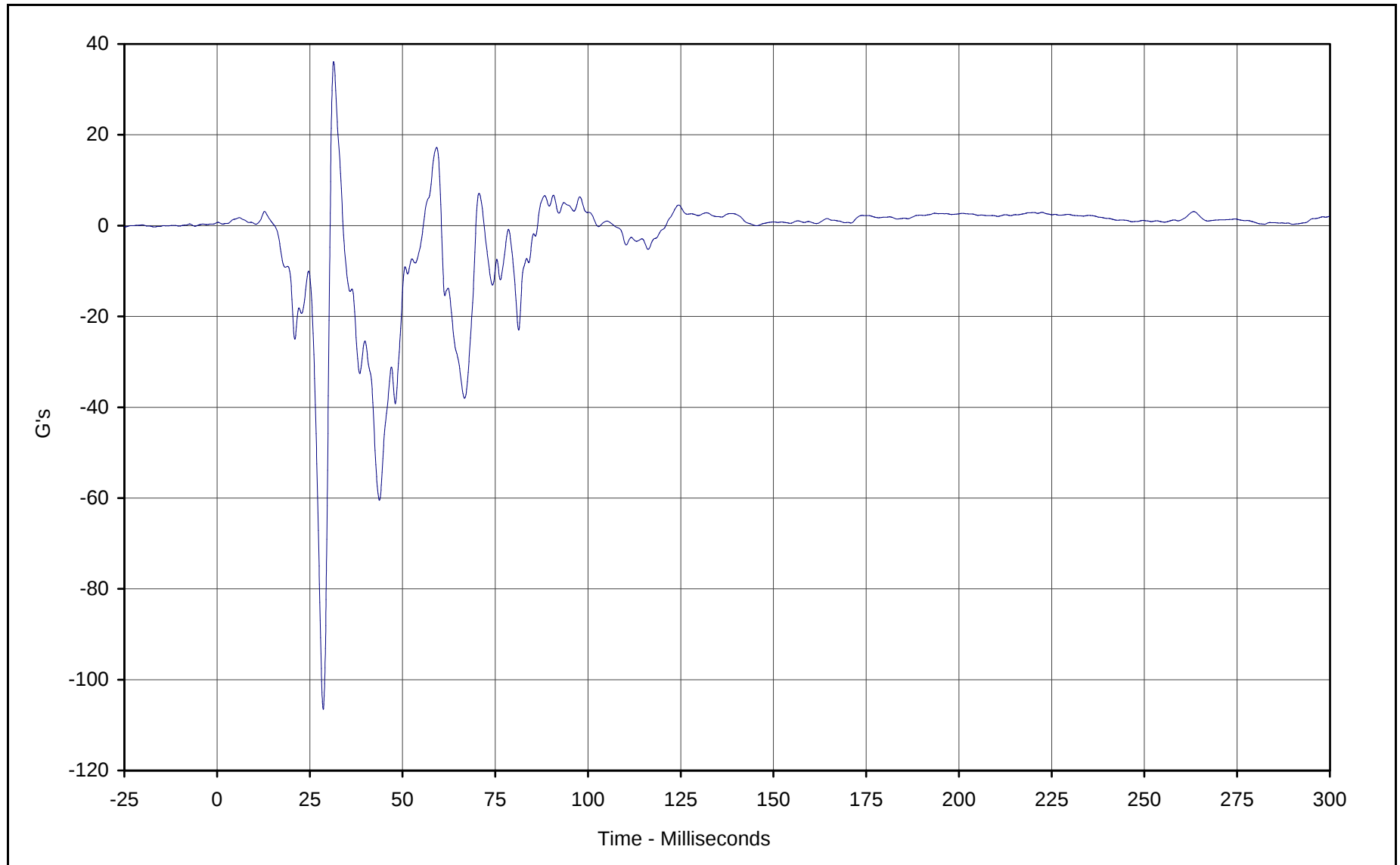




Curve Description: Passenger Right Foot Aft Z
Maximum Value: 8.7 at 56.7 Milliseconds
Minimum Value: -50.7 at 28.9 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-083

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

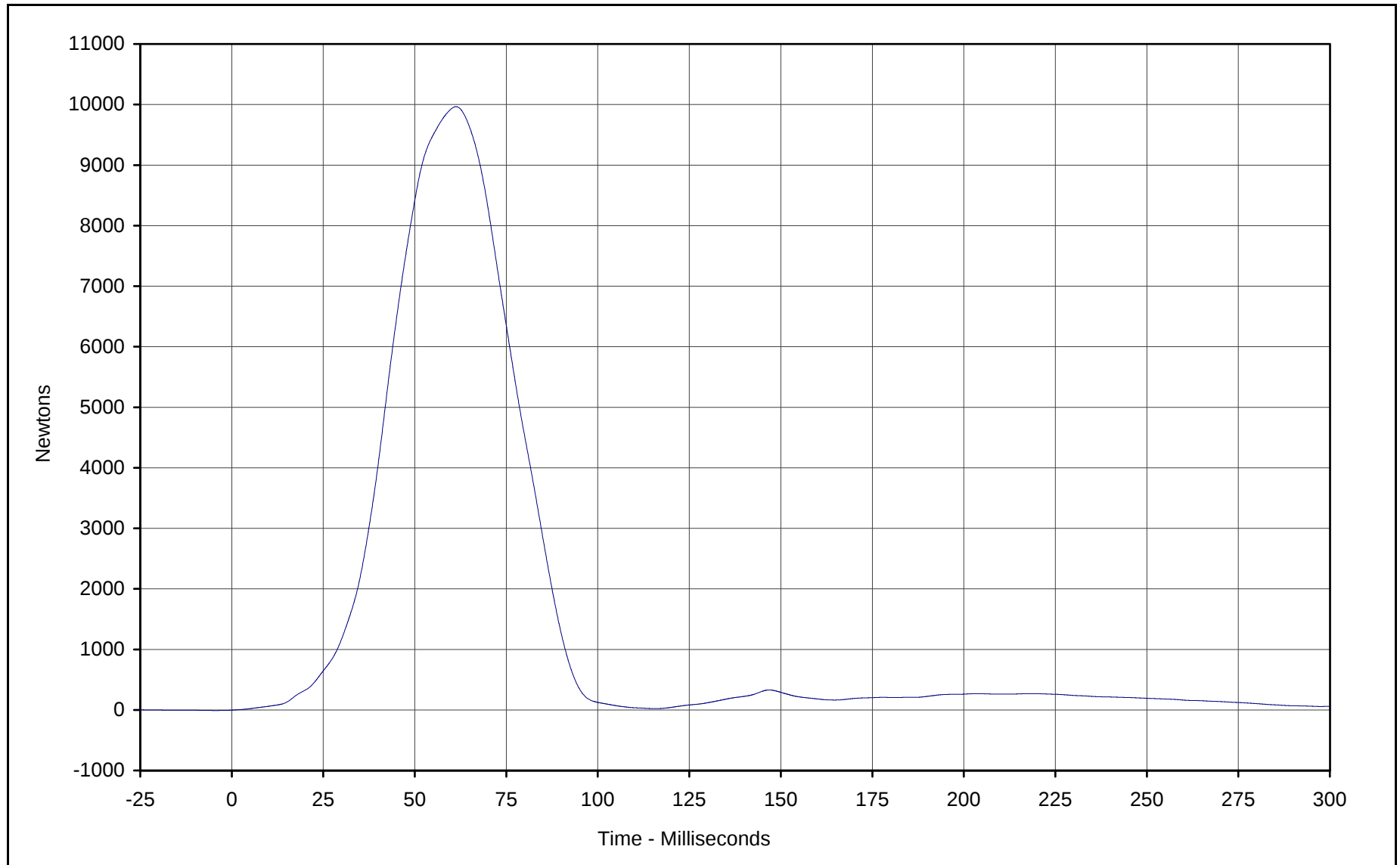




Curve Description: Passenger Right Foot Fore Z
Maximum Value: 36.1 at 31.4 Milliseconds
Minimum Value: -106.5 at 28.6 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: FIL-084

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



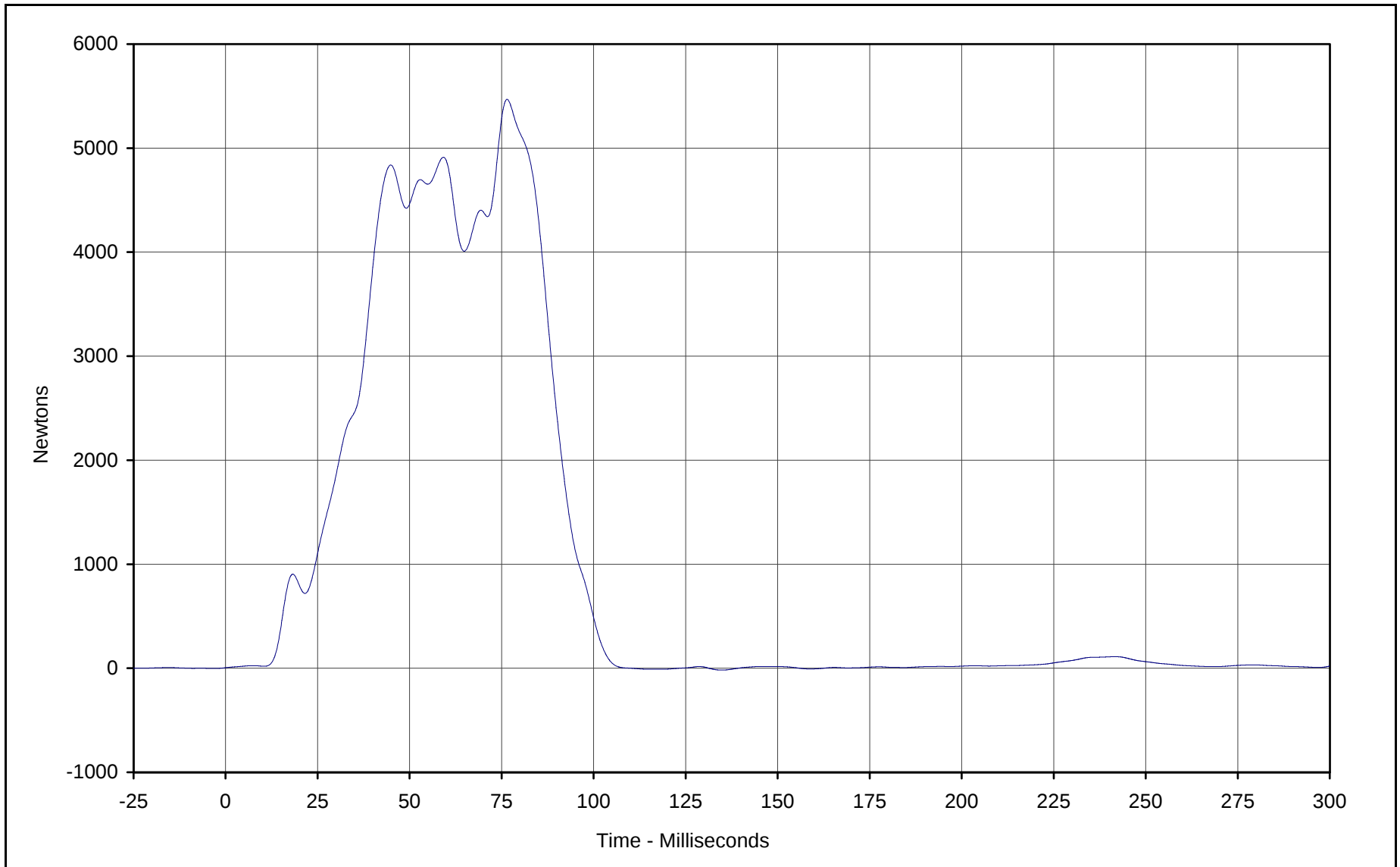


Curve Description: Passenger Lap Belt Force
Maximum Value: 9964.5 at 61.3 Milliseconds
Minimum Value: -3.4 at 0.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-085

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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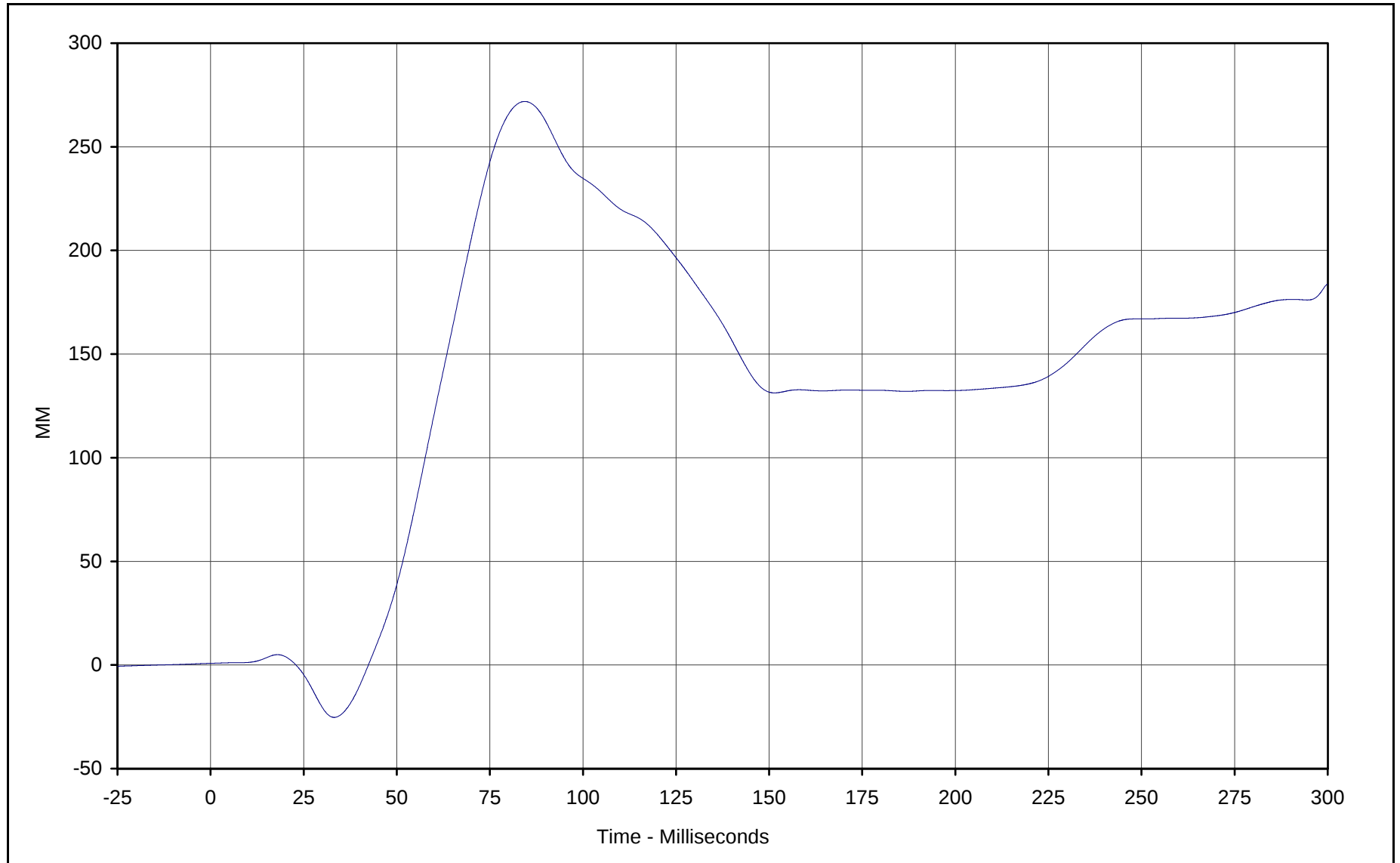
Curve Description: Passenger Shoulder Belt Force
Maximum Value: 5469.1 at 76.5 Milliseconds
Minimum Value: -17.8 at 134.8 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-086

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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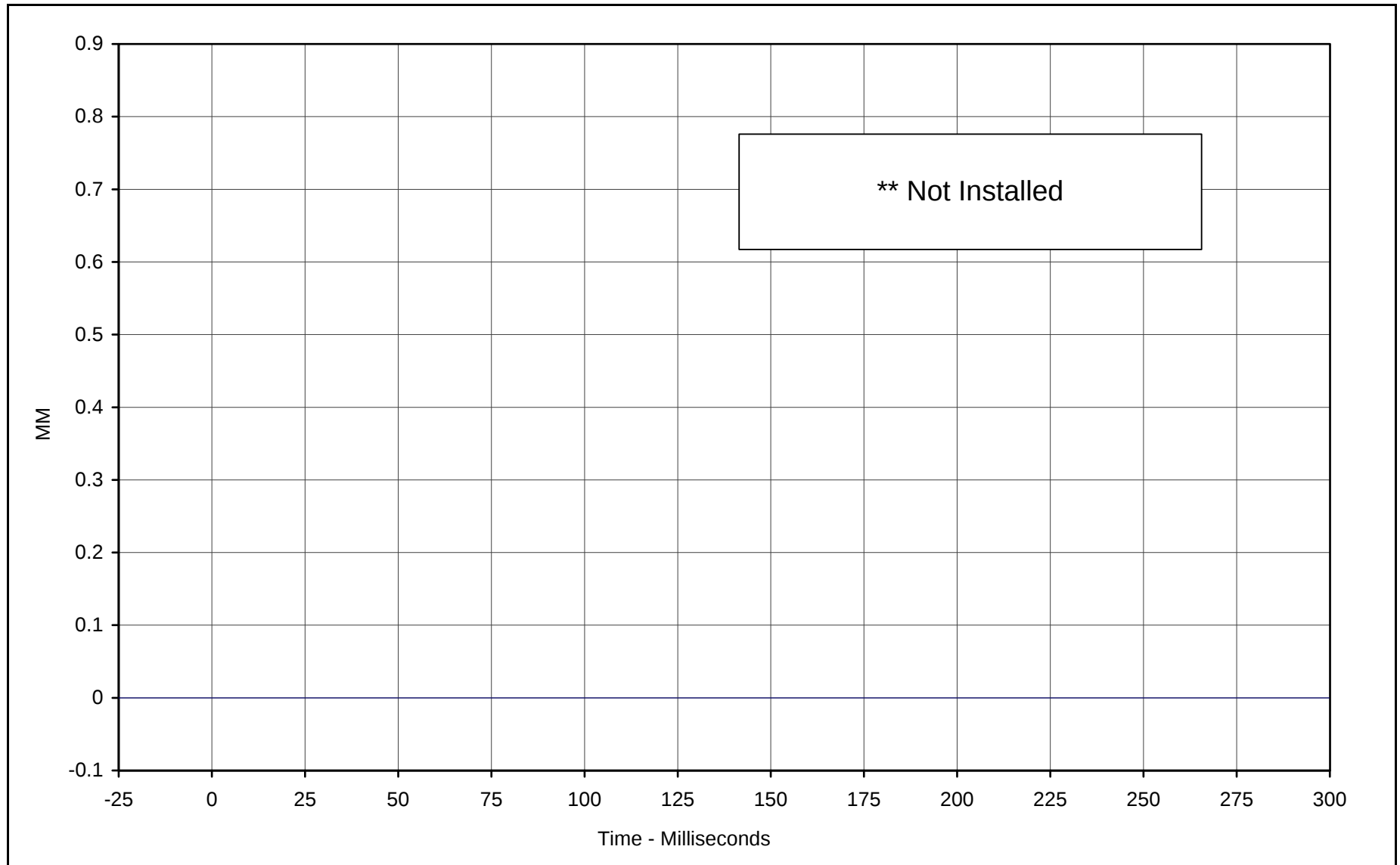
Curve Description: Passenger Shoulder Belt Pullout
Maximum Value: 271.9 at 84.4 Milliseconds
Minimum Value: -25.3 at 33.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-087

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Passenger Shoulder Belt Elongation **

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Maximum Value: 0.0 at 0.0 Milliseconds

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

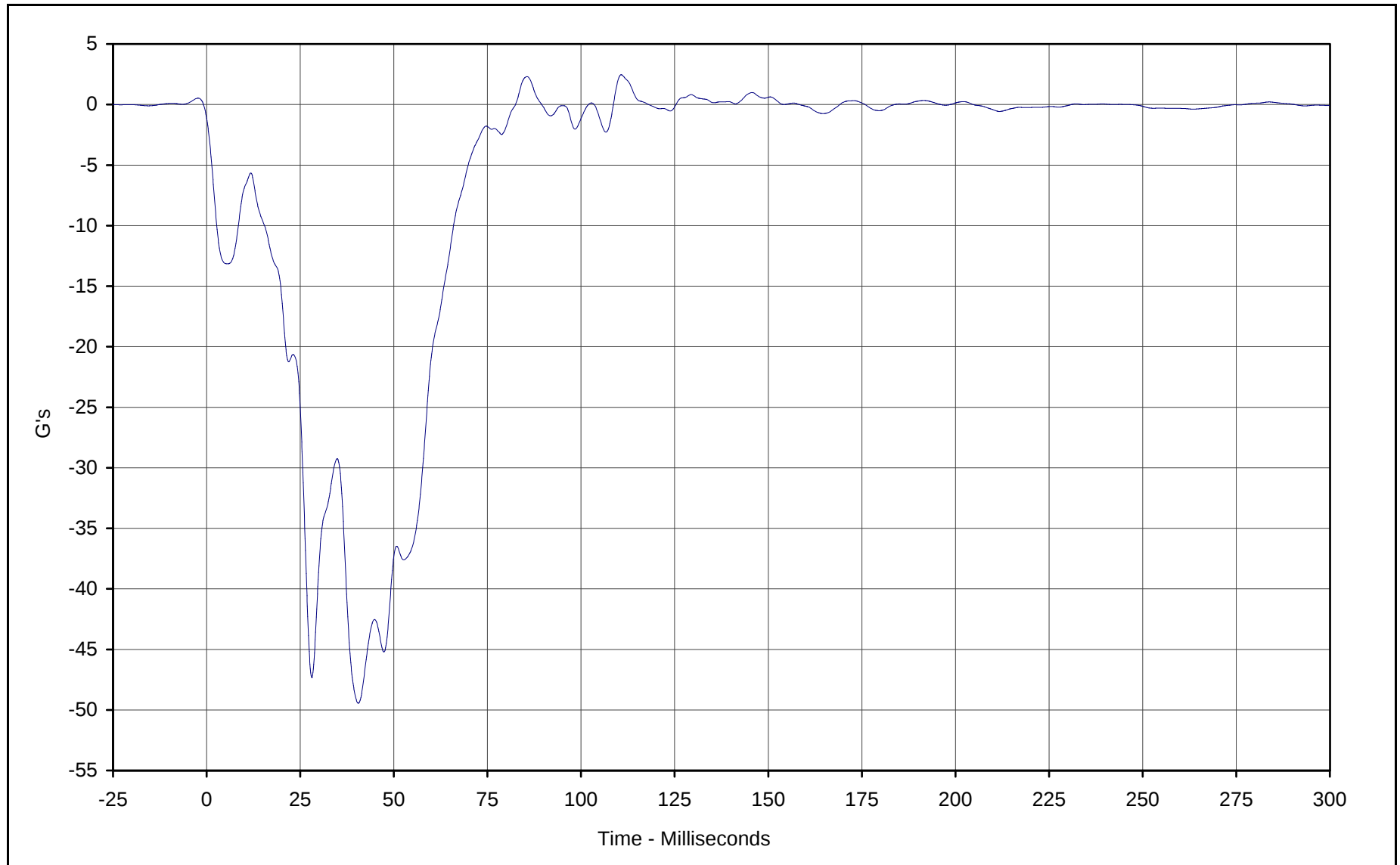
Curve Number: FIL-088

** Not installed



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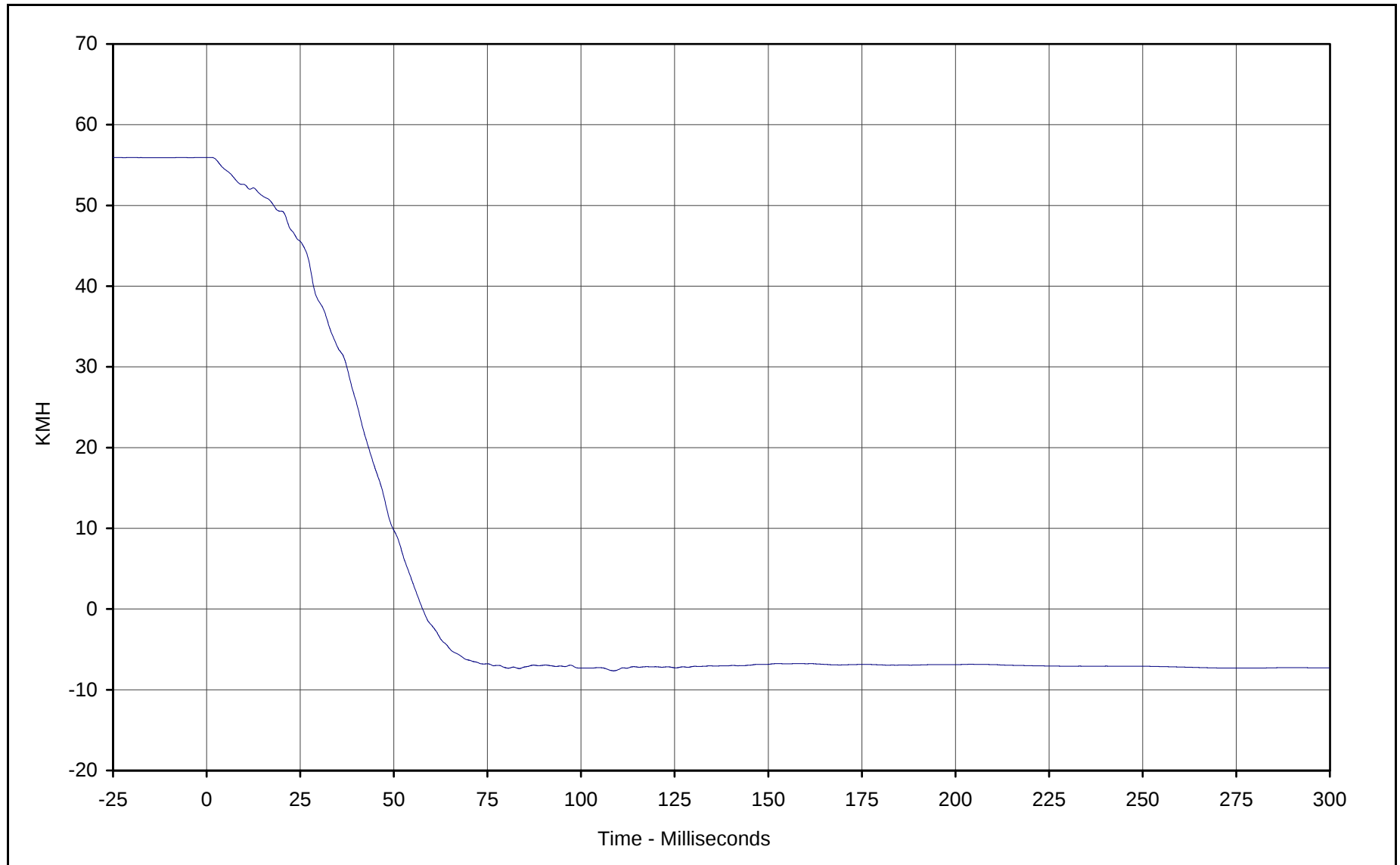
Curve Description: Vehicle Left Rear Primary
Maximum Value: 2.5 at 110.7 Milliseconds
Minimum Value: -49.4 at 40.5 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-089

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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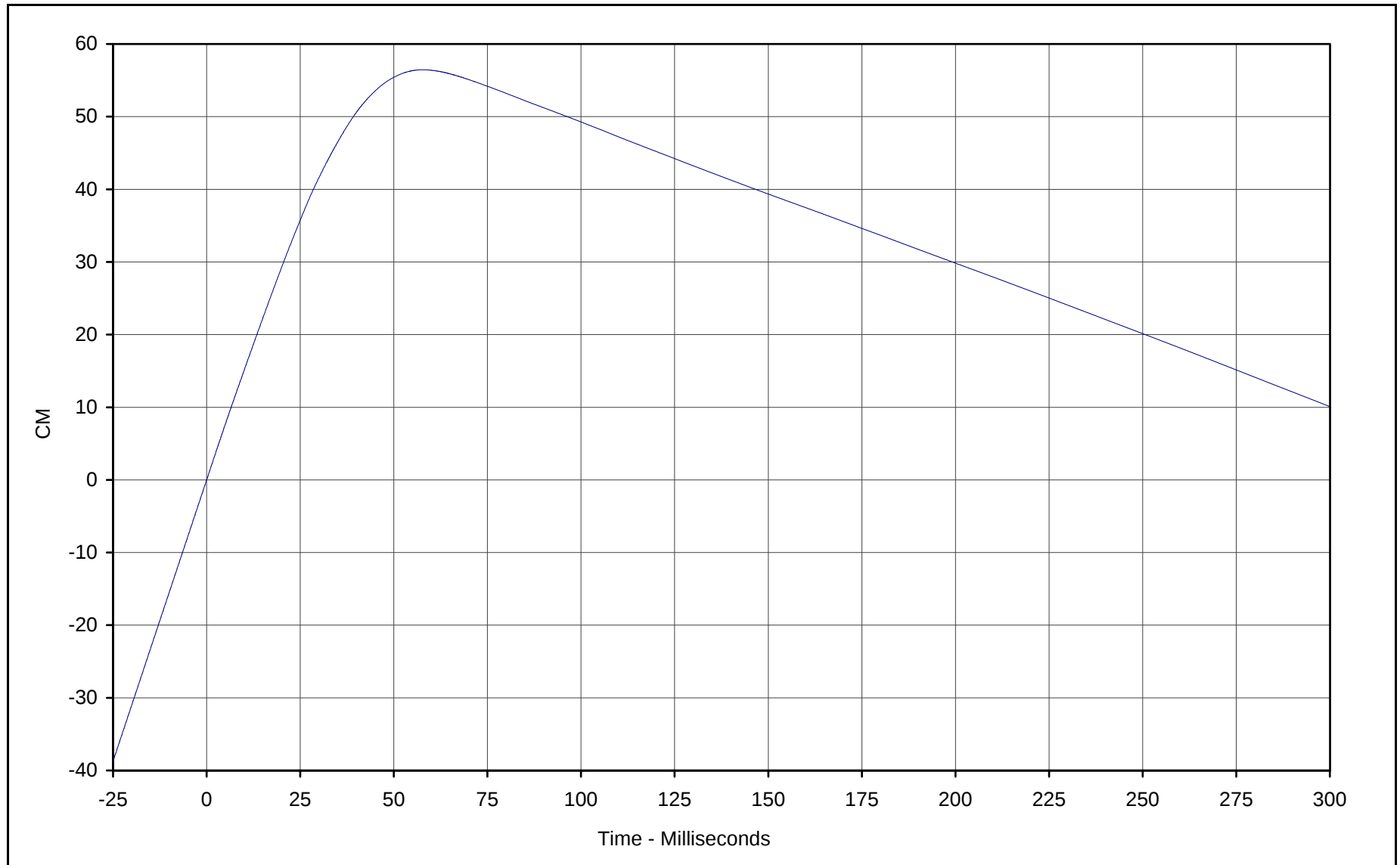
Curve Description: Vehicle Left Rear Primary Velocity
Maximum Value: 55.9 at 1.1 Milliseconds
Minimum Value: -7.6 at 108.7 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-089

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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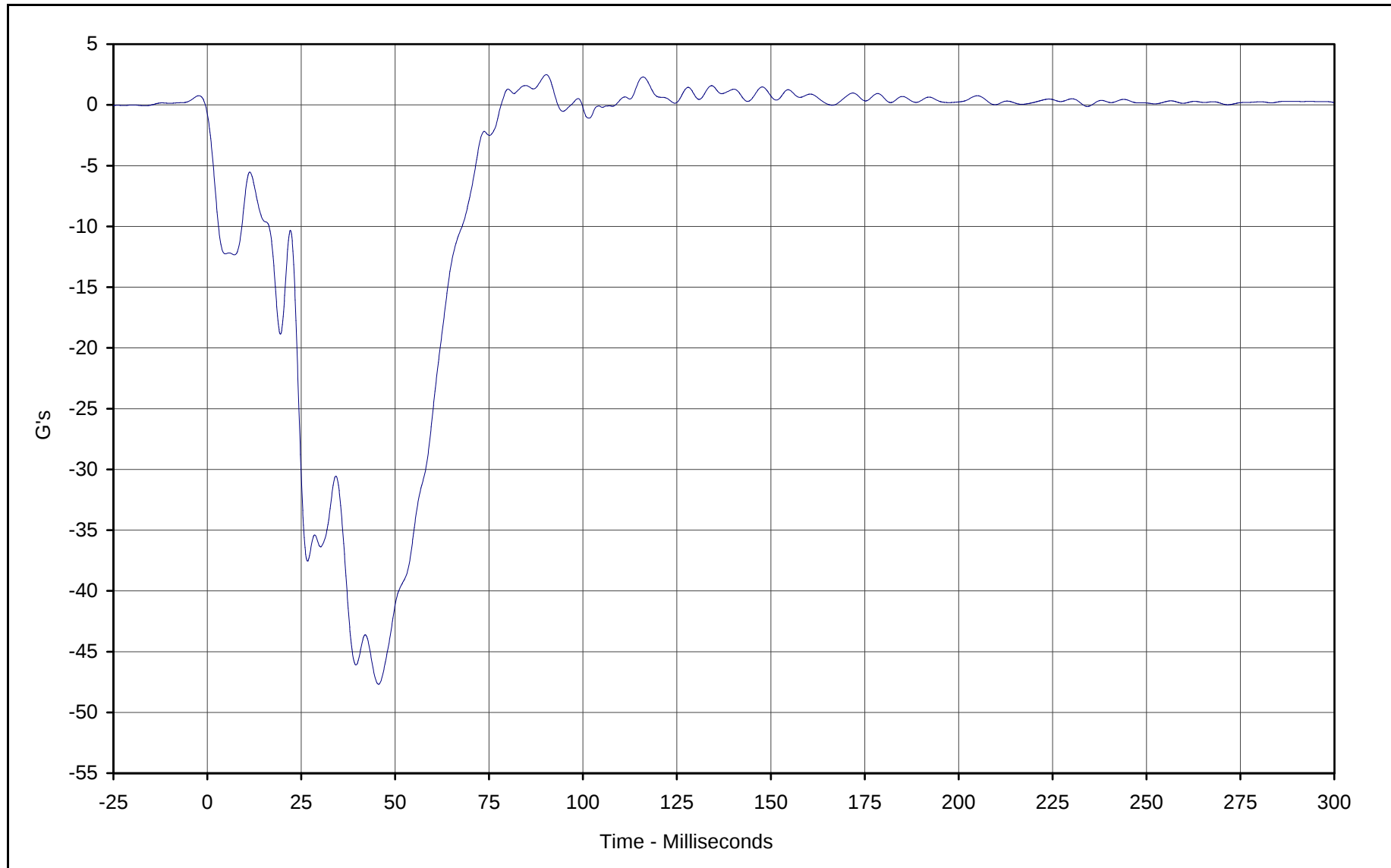


Curve Description: Vehicle Left Rear Primary Displ.
Maximum Value: 56.5 at 57.7 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-089

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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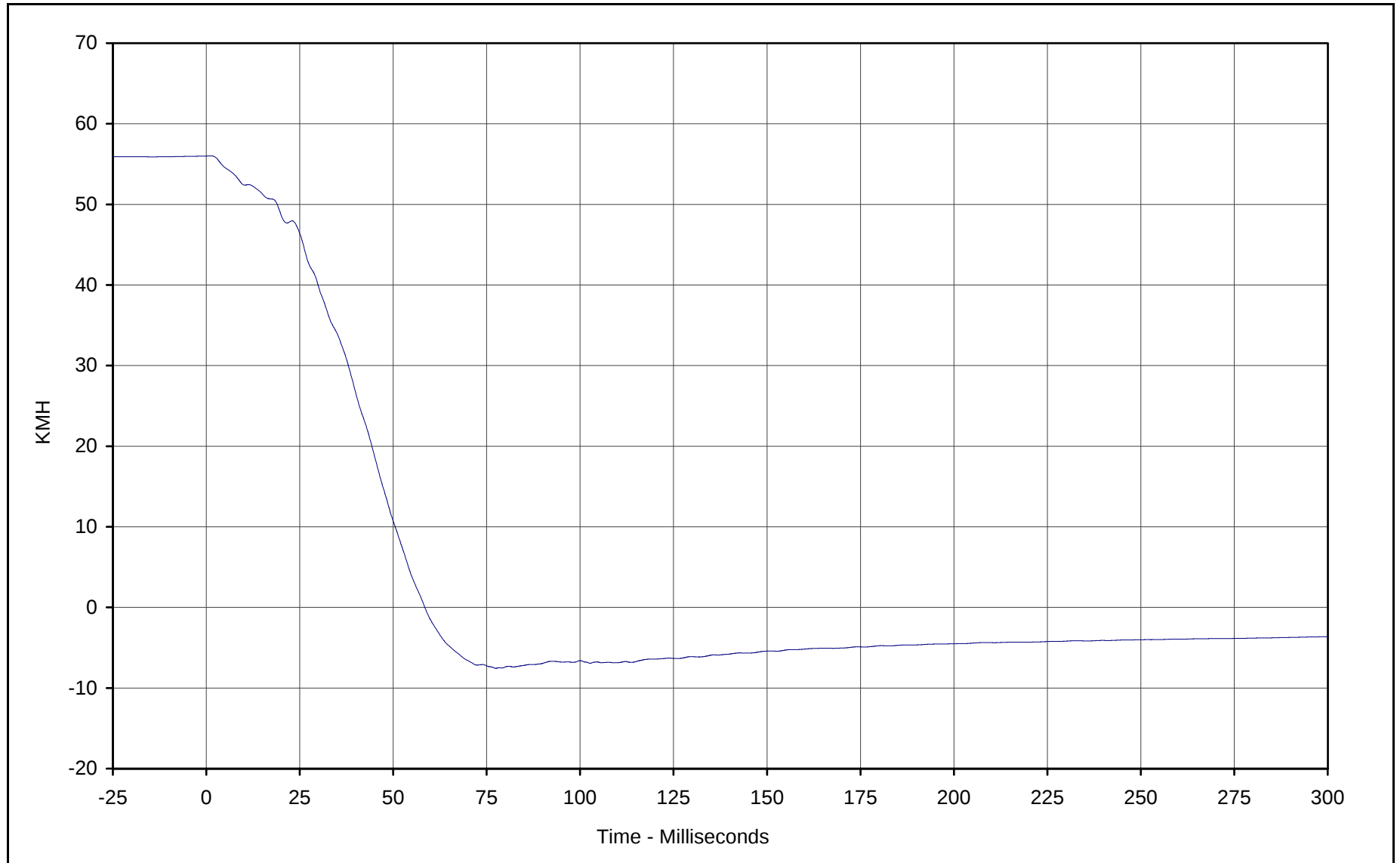
Curve Description: Vehicle Right Rear Primary
Maximum Value: 2.5 at 90.2 Milliseconds
Minimum Value: -47.7 at 45.6 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-090

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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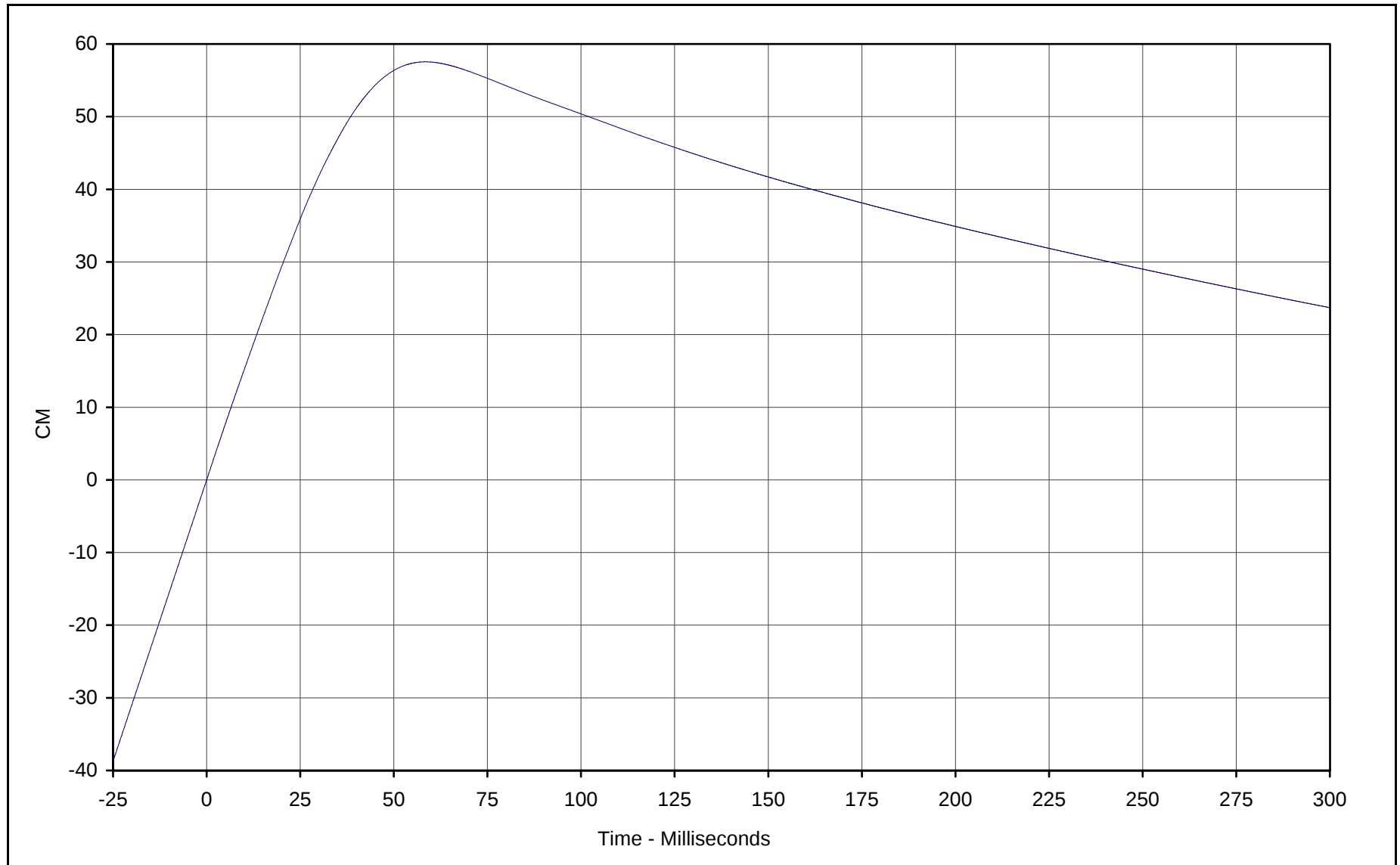
Curve Description: Vehicle Right Rear Primary Velocity
Maximum Value: 56.0 at 1.2 Milliseconds
Minimum Value: -7.6 at 77.4 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-090

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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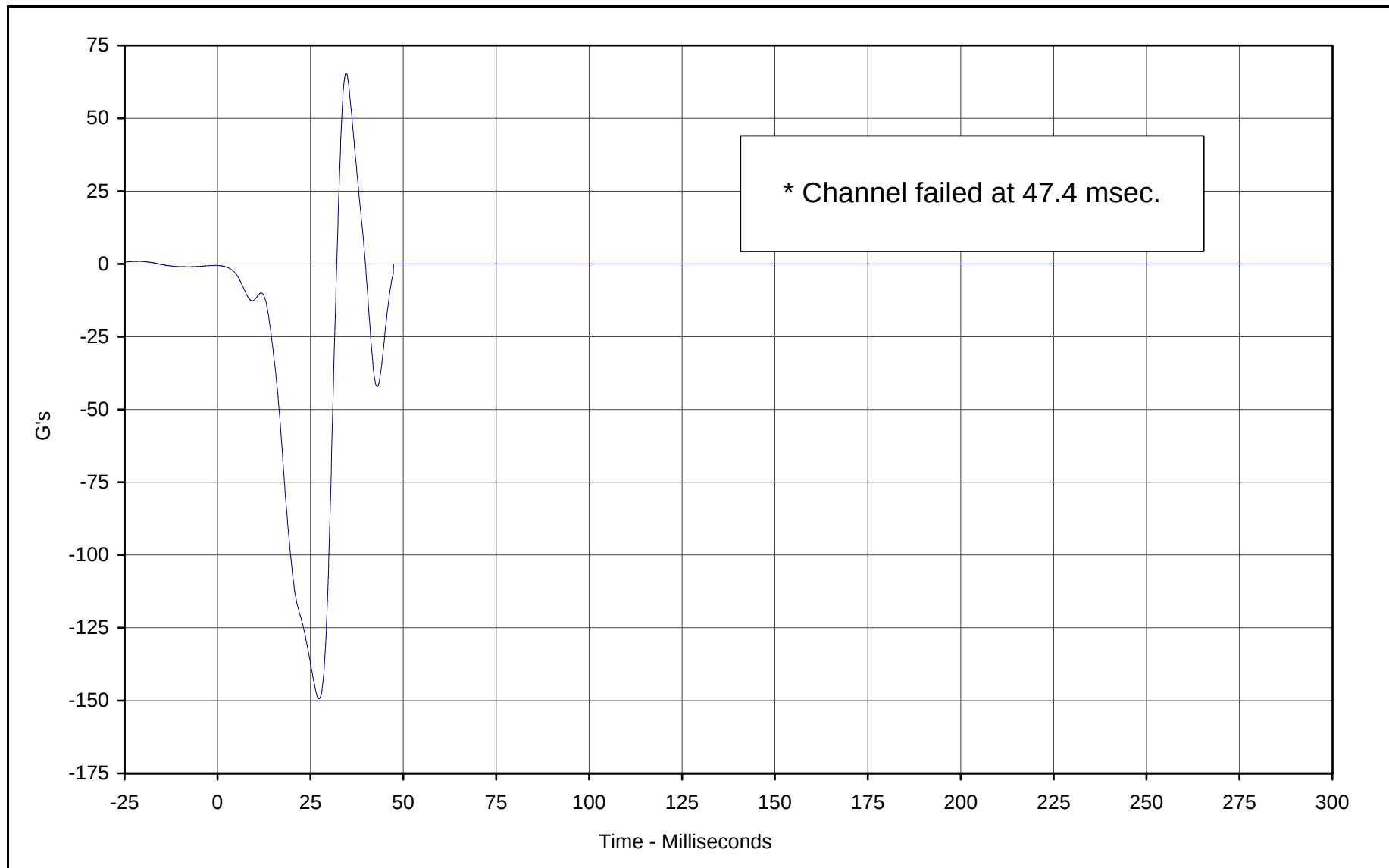


Curve Description: Vehicle Right Rear Primary Displ.
Maximum Value: 57.5 at 58.5 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-090

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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Curve Description: Vehicle Engine Top *

Maximum Value: 65.5 at 34.6 Milliseconds

Minimum Value: -149.4 at 27.3 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

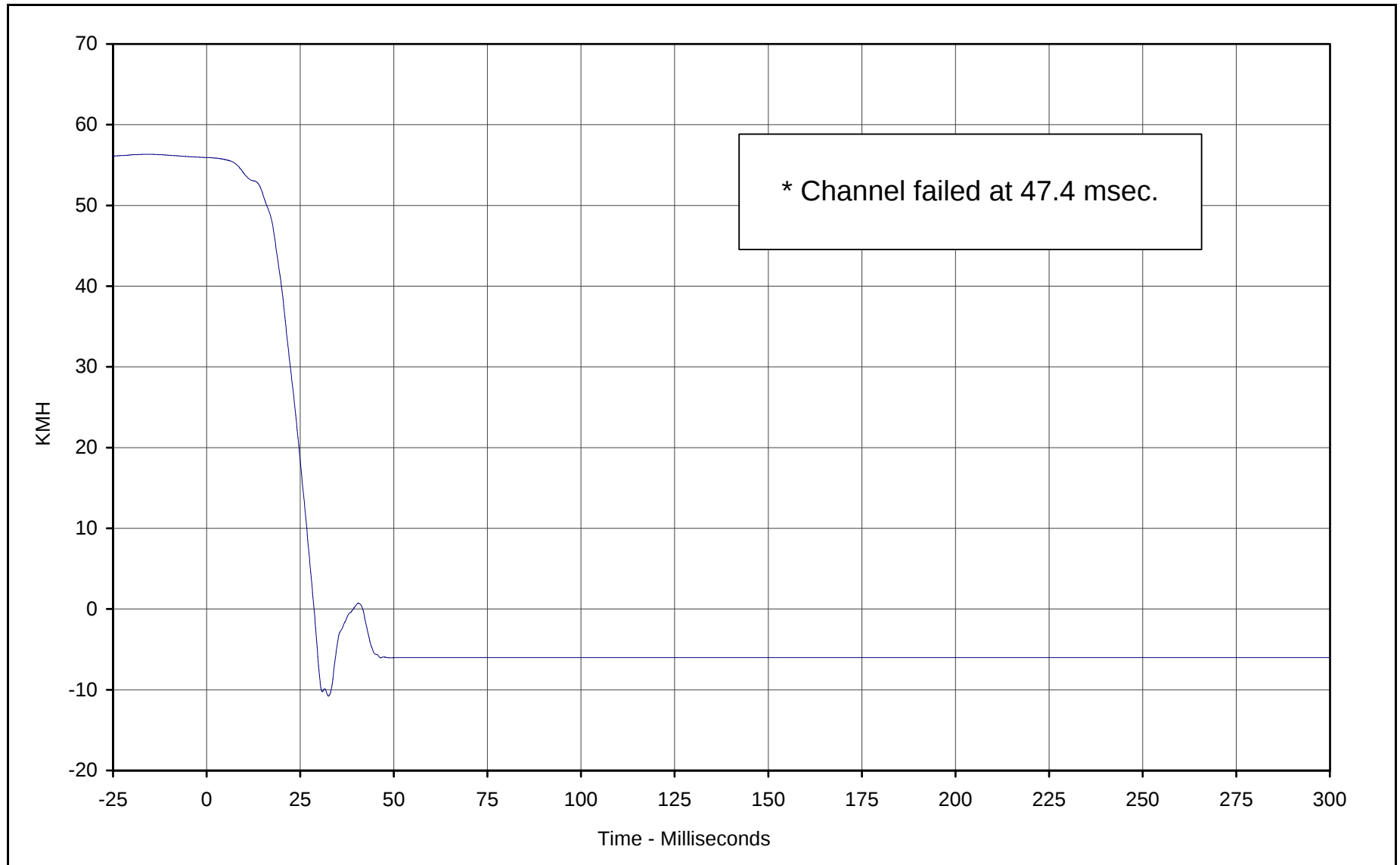
Curve Number: FIL-091

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

* Channel failed at 47.4 msec.





Curve Description: Vehicle Engine Top Velocity *

Maximum Value: 55.9 at 0.0 Milliseconds

Minimum Value: -10.8 at 32.5 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

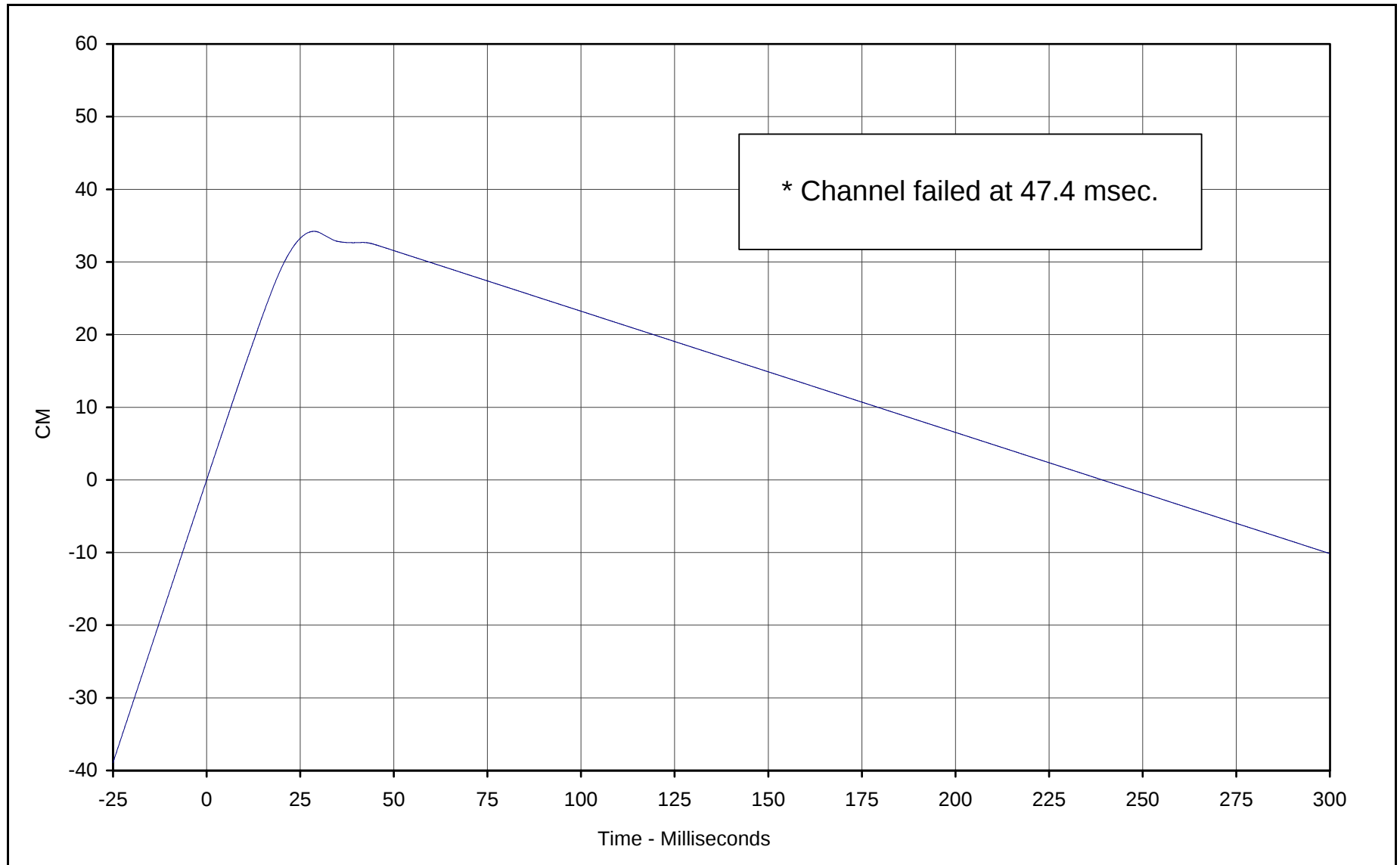
Curve Number: IN1-091

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

* Channel failed at 47.4 msec.





Curve Description: Vehicle Engine Top Displ. *

Maximum Value: 34.2 at 28.7 Milliseconds

Minimum Value: -10.1 at 299.9 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

Curve Number: IN2-091

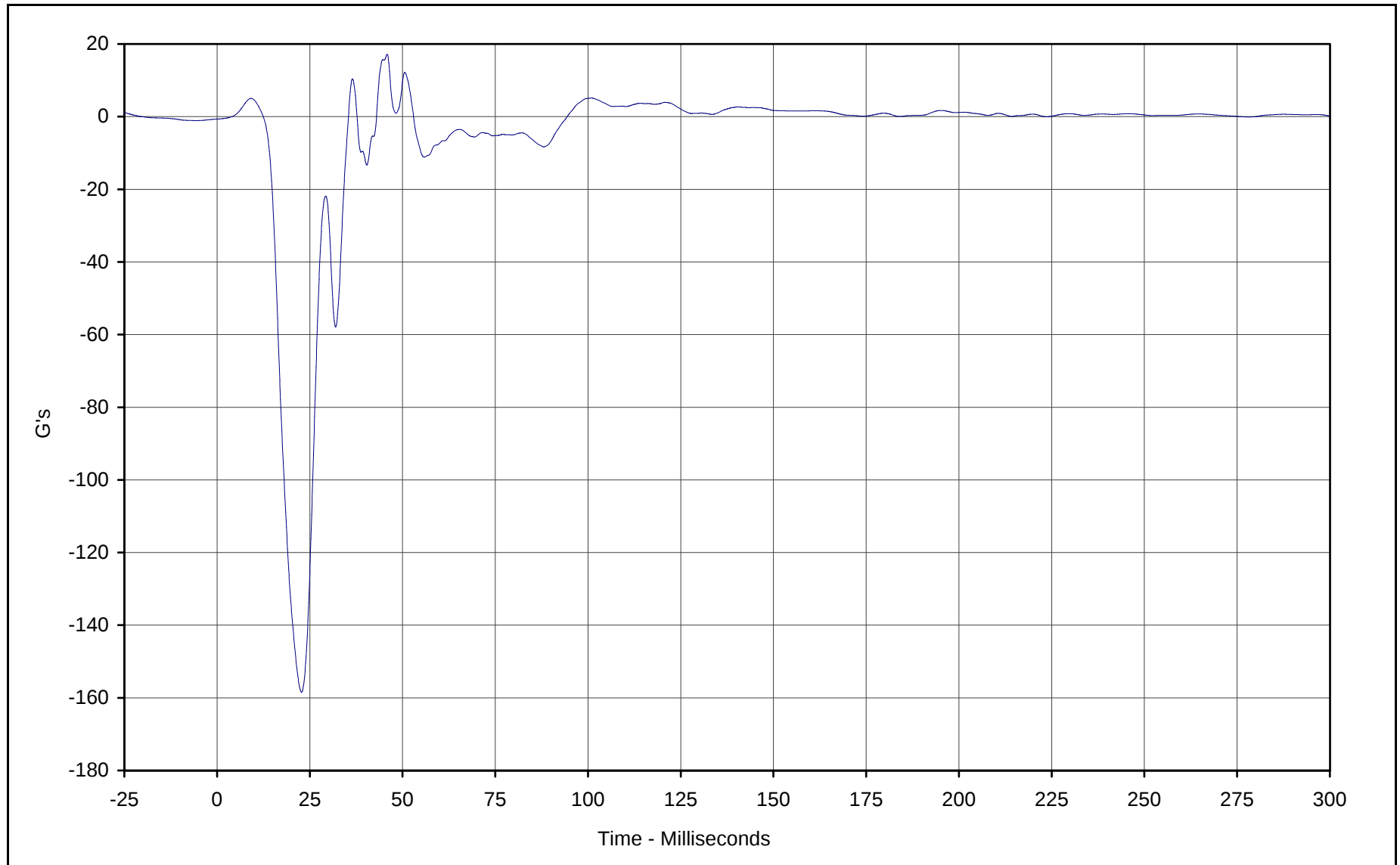
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

* Channel failed at 47.4 msec.



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Curve Description: Vehicle Engine Bottom

Maximum Value: 17.1 at 45.8 Milliseconds

Minimum Value: -158.4 at 22.8 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

Curve Number: FIL-092

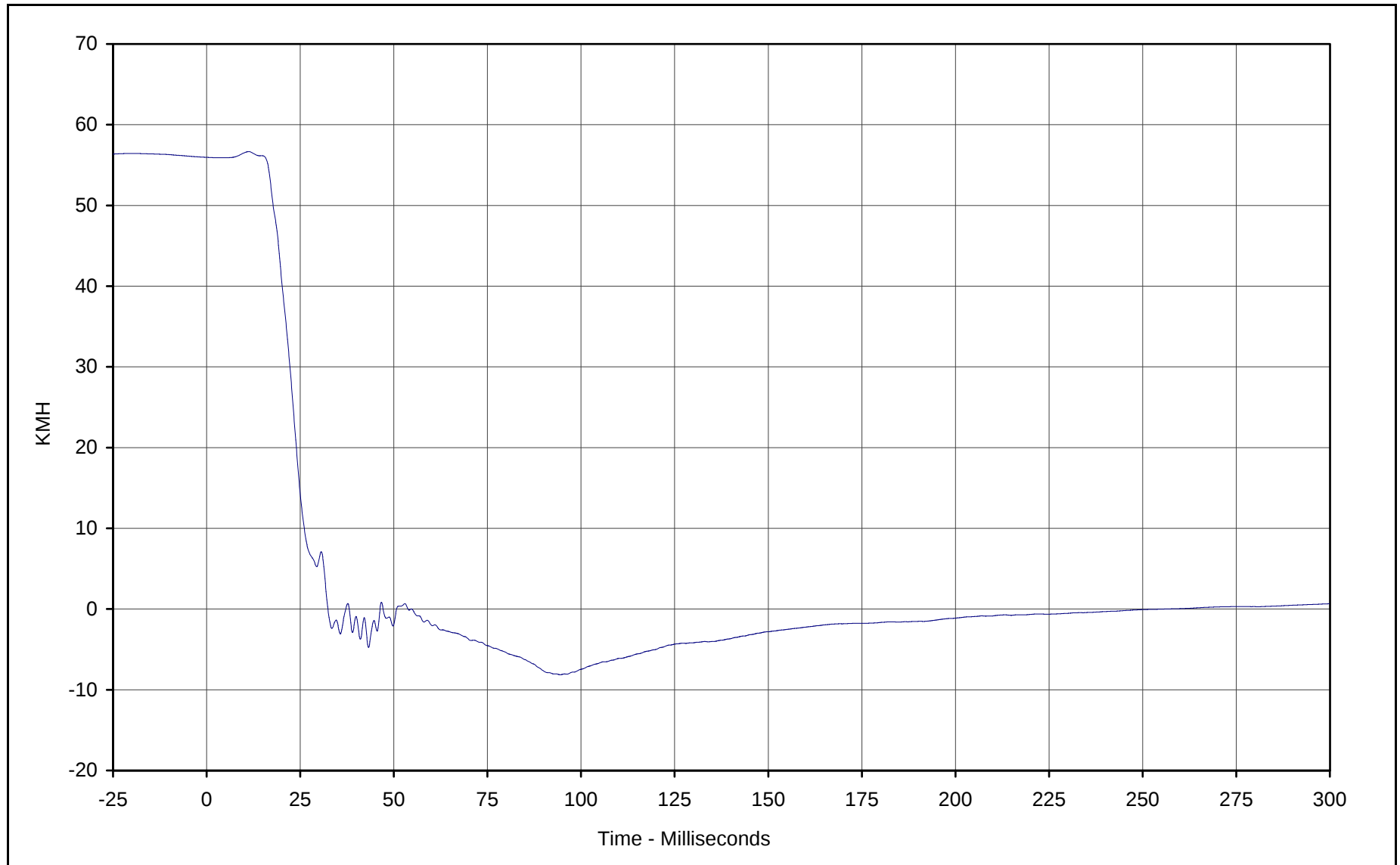
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-133



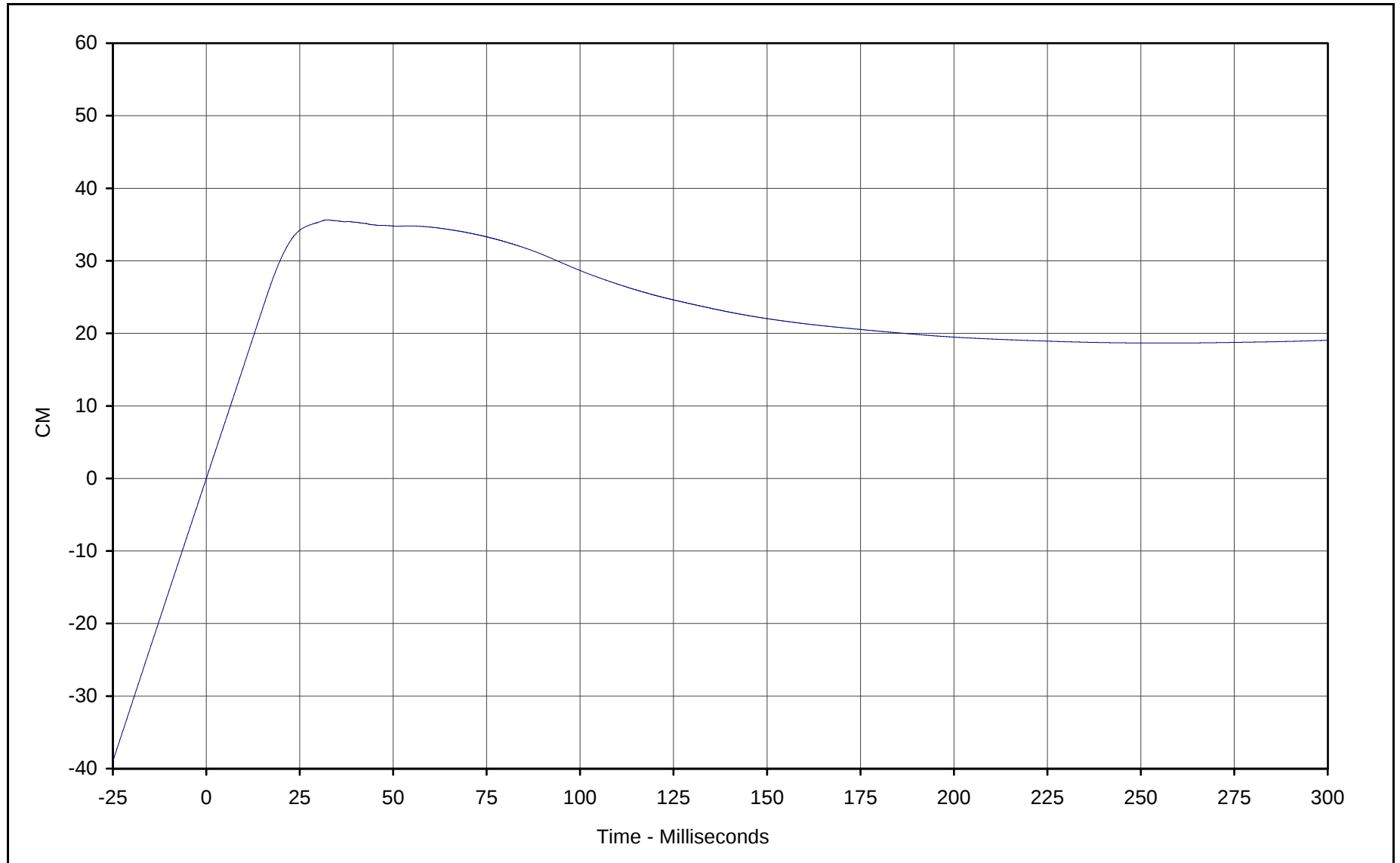
Curve Description: Vehicle Engine Bottom Velocity
Maximum Value: 56.7 at 11.3 Milliseconds
Minimum Value: -8.1 at 94.4 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-092

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-134



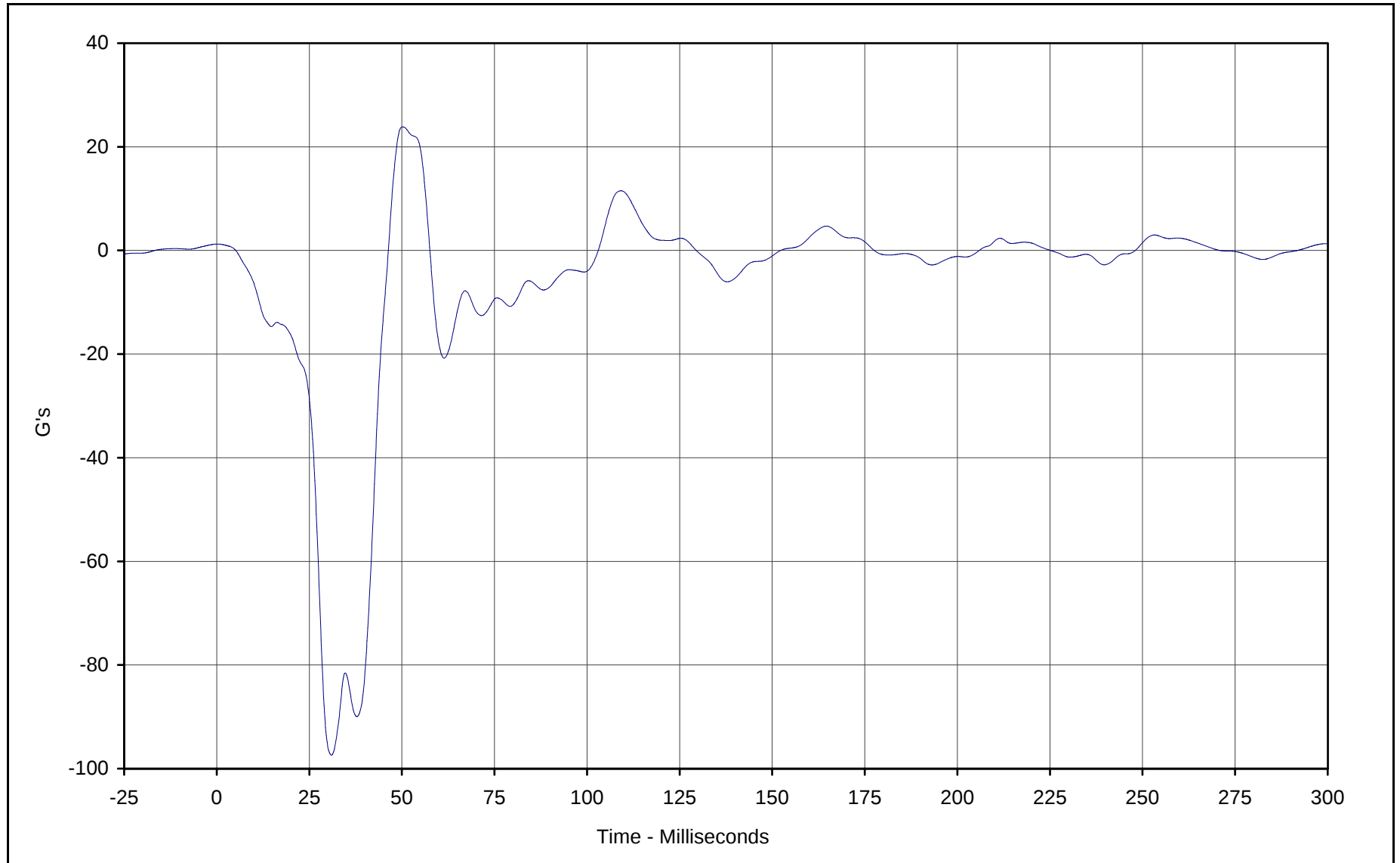
Curve Description: Vehicle Engine Bottom Displ.
Maximum Value: 35.6 at 32.4 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-092

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

B-135

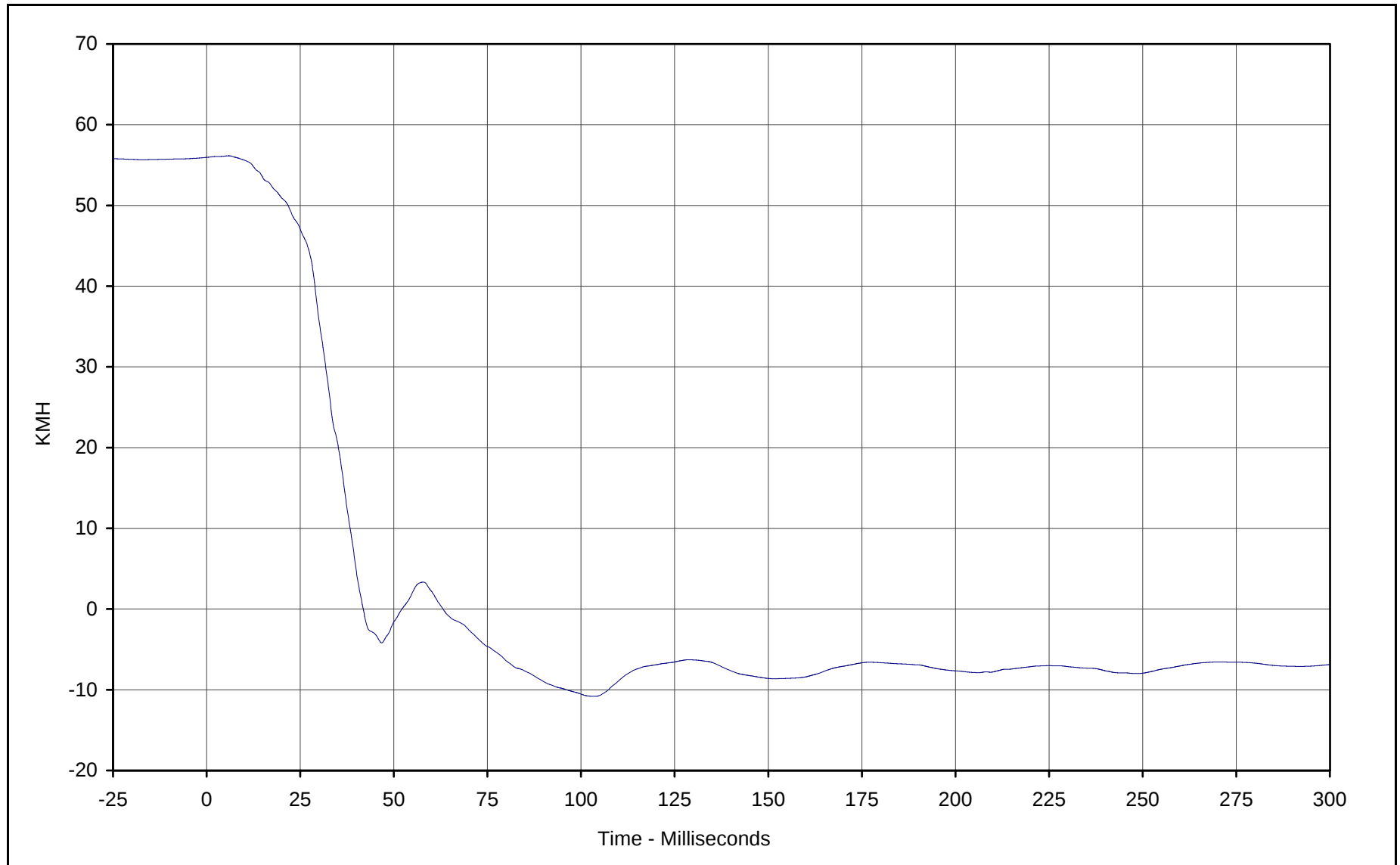


Curve Description: Vehicle Left Brake Caliper
Maximum Value: 23.8 at 50.2 Milliseconds
Minimum Value: -97.4 at 31.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-093

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

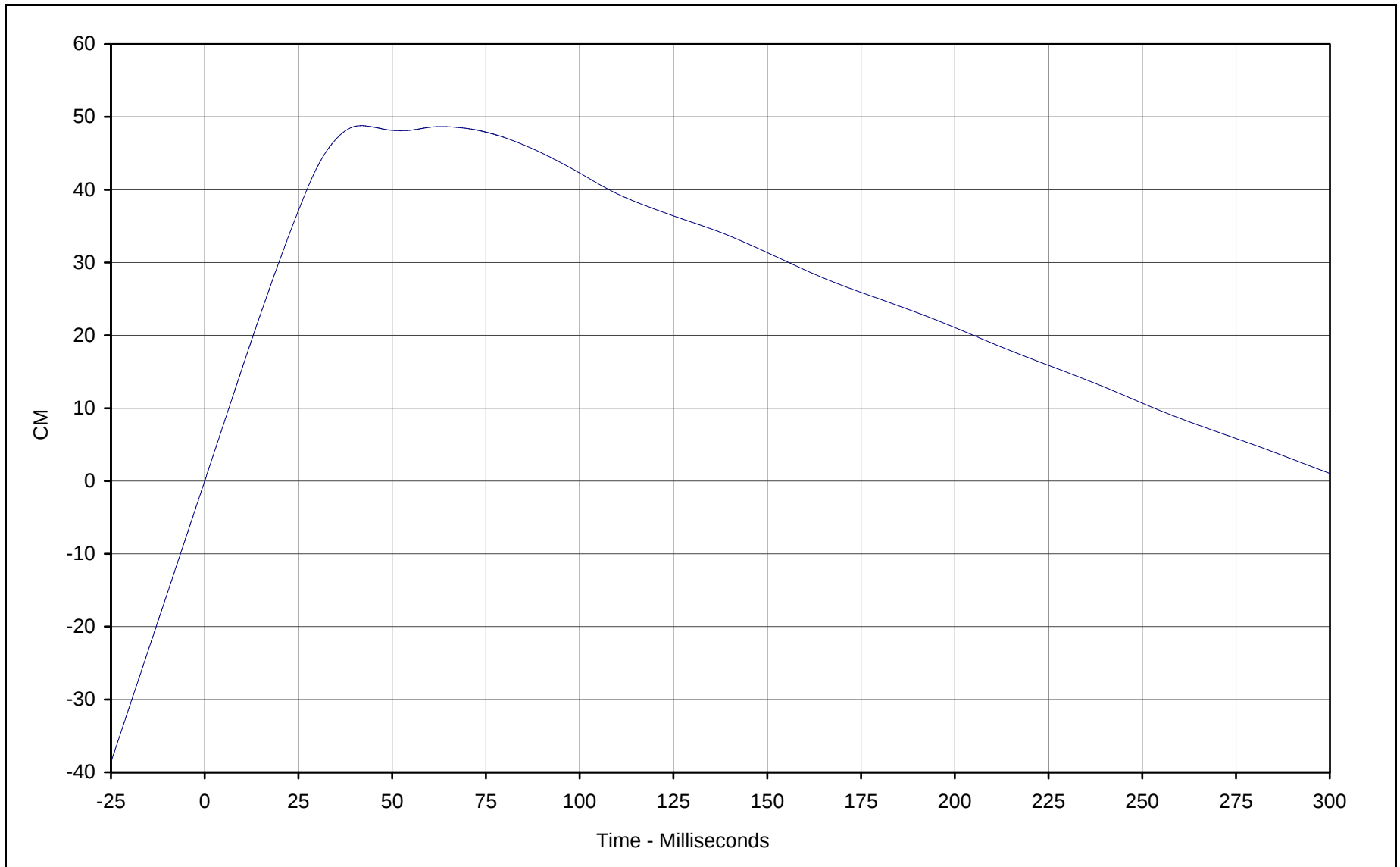


Curve Description: Vehicle Left Brake Caliper Velocity
Maximum Value: 56.2 at 6.0 Milliseconds
Minimum Value: -10.8 at 103.7 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-093

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



B-137

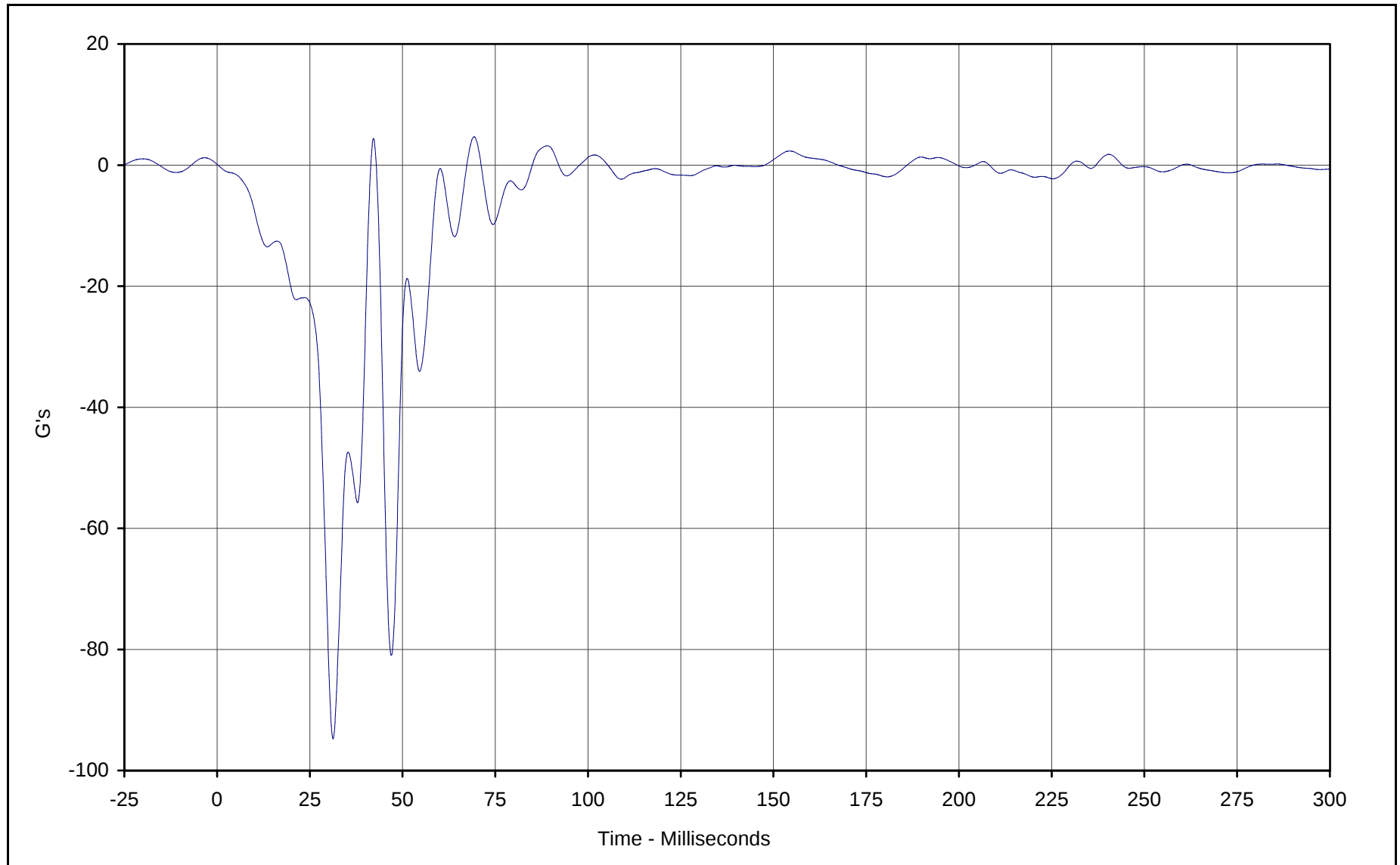


Curve Description: Vehicle Left Brake Caliper Displ.
Maximum Value: 48.8 at 41.8 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-093

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

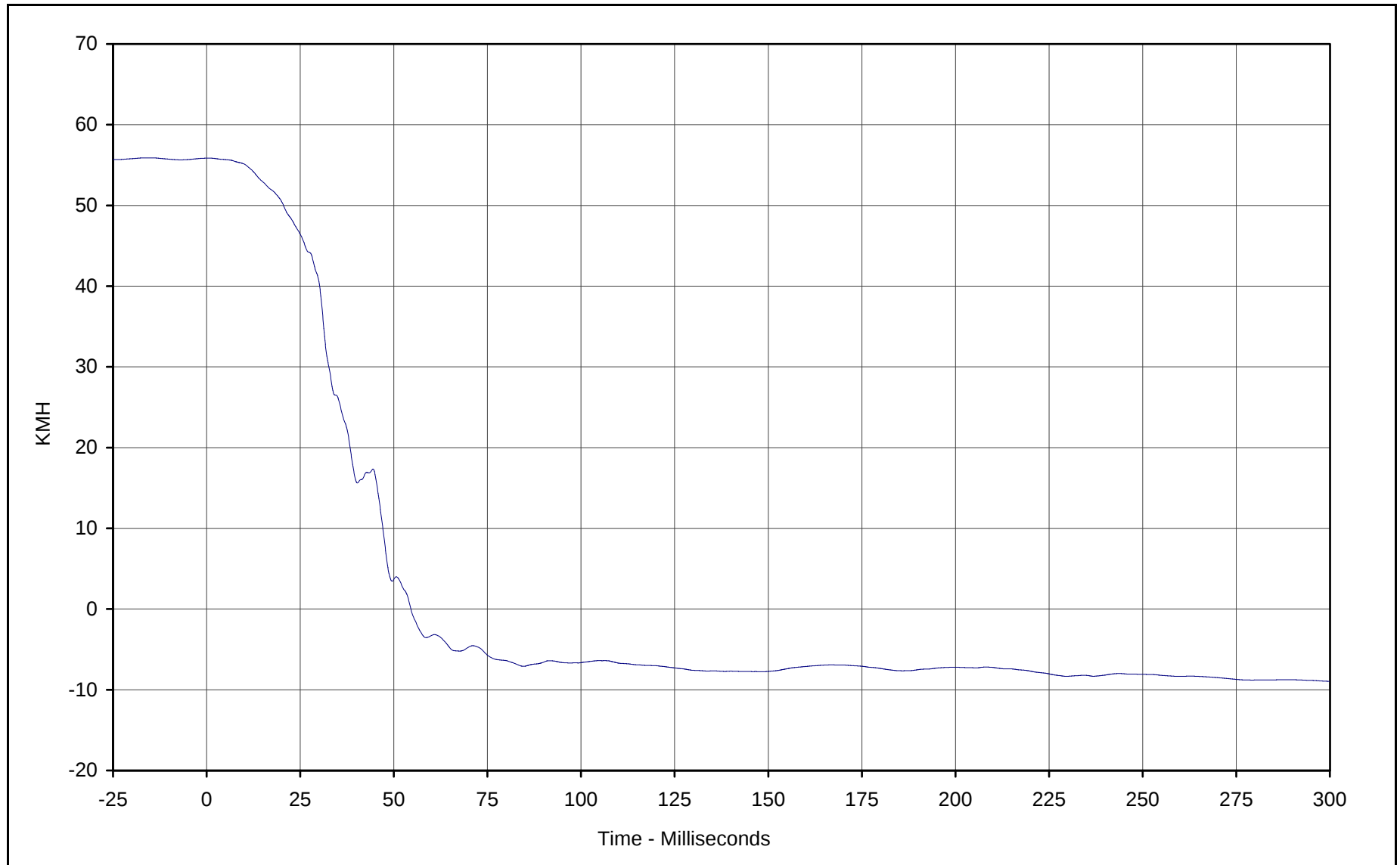


Curve Description: Vehicle Right Brake Caliper
Maximum Value: 4.7 at 69.3 Milliseconds
Minimum Value: -94.8 at 31.3 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-094

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



B-139



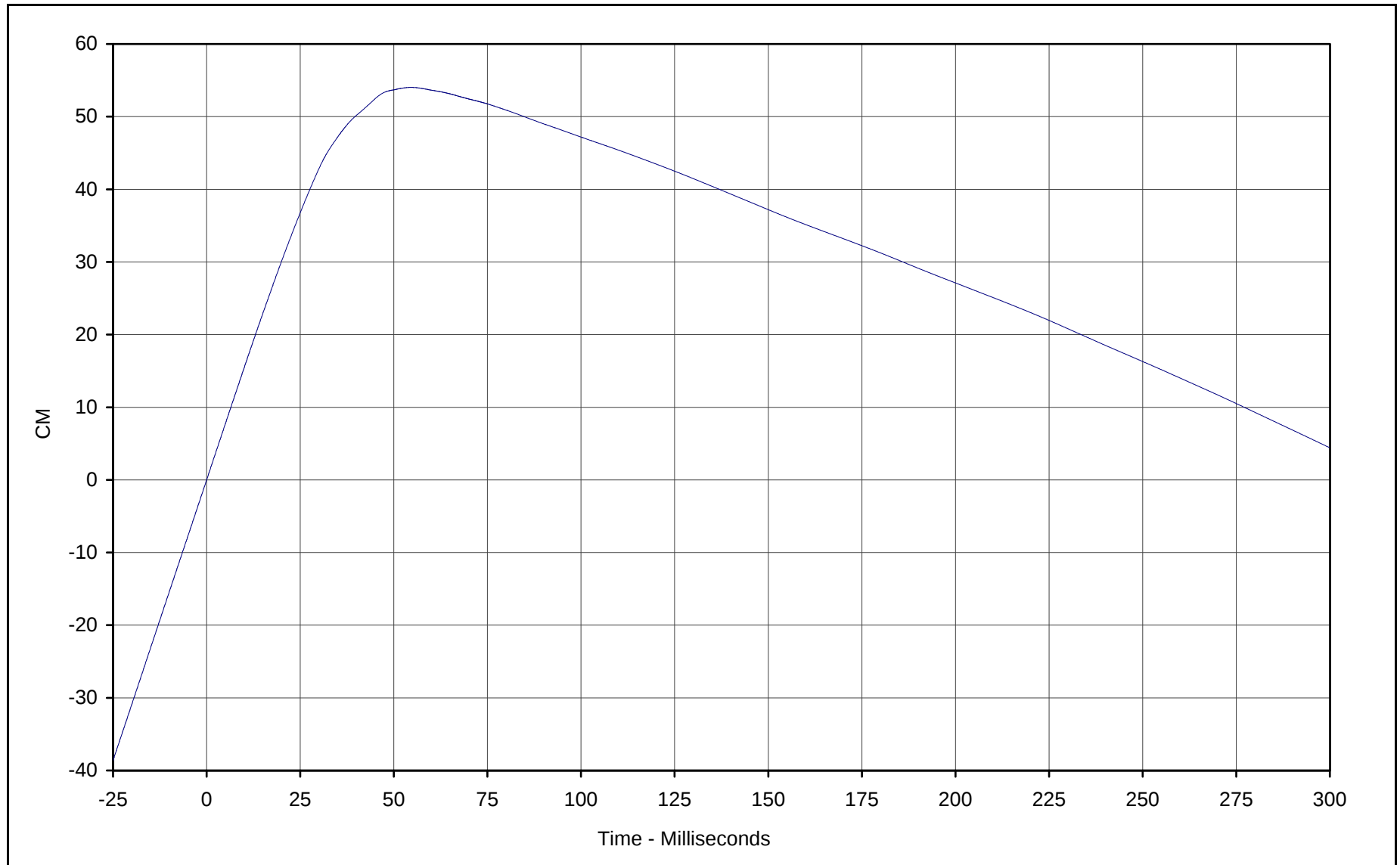
Curve Description: Vehicle Right Brake Caliper Velocity
Maximum Value: 55.9 at 0.2 Milliseconds
Minimum Value: -9.0 at 299.9 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-094

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-140



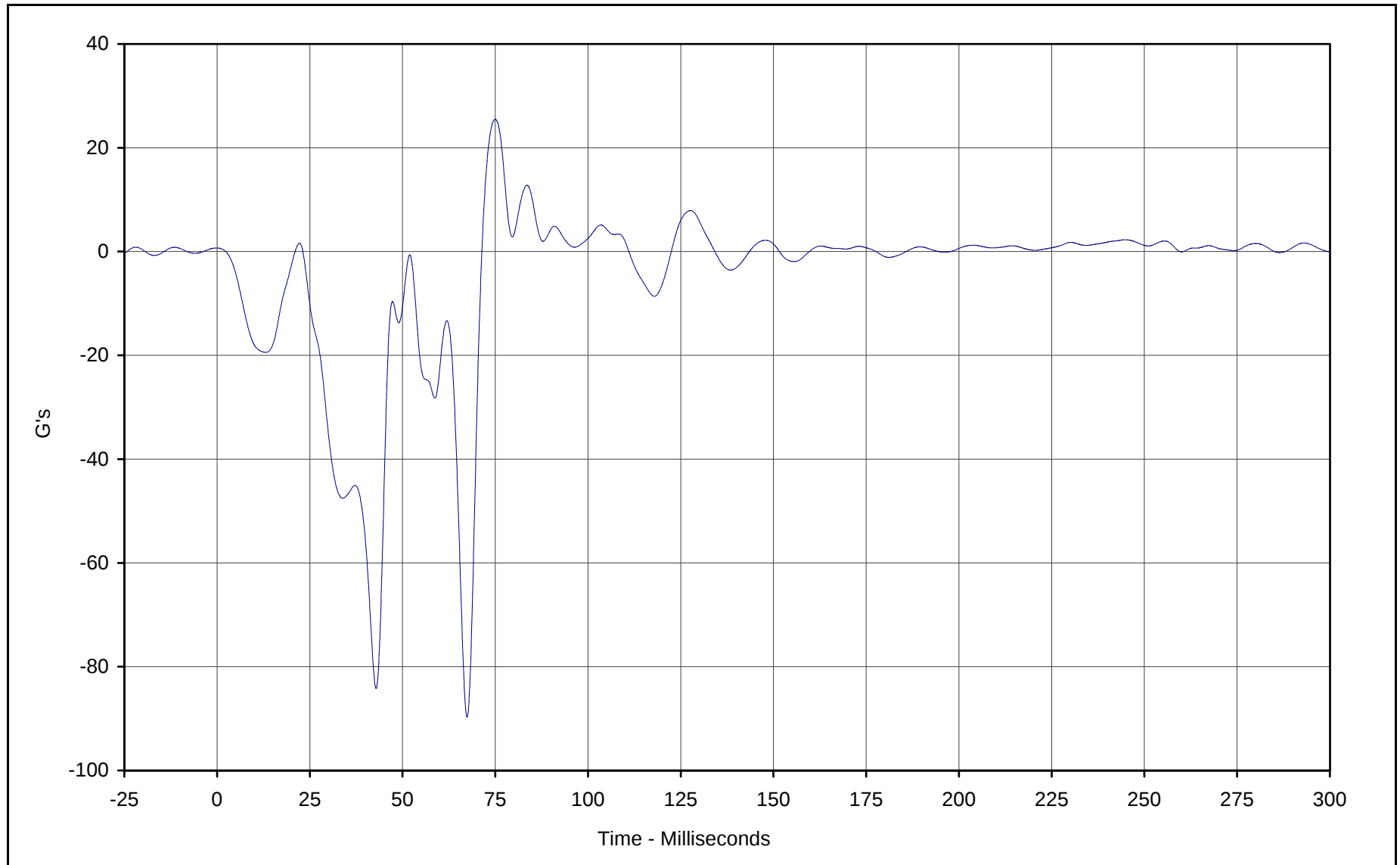
Curve Description: Vehicle Right Brake Caliper Displ.
Maximum Value: 54.0 at 54.6 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-094

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-141



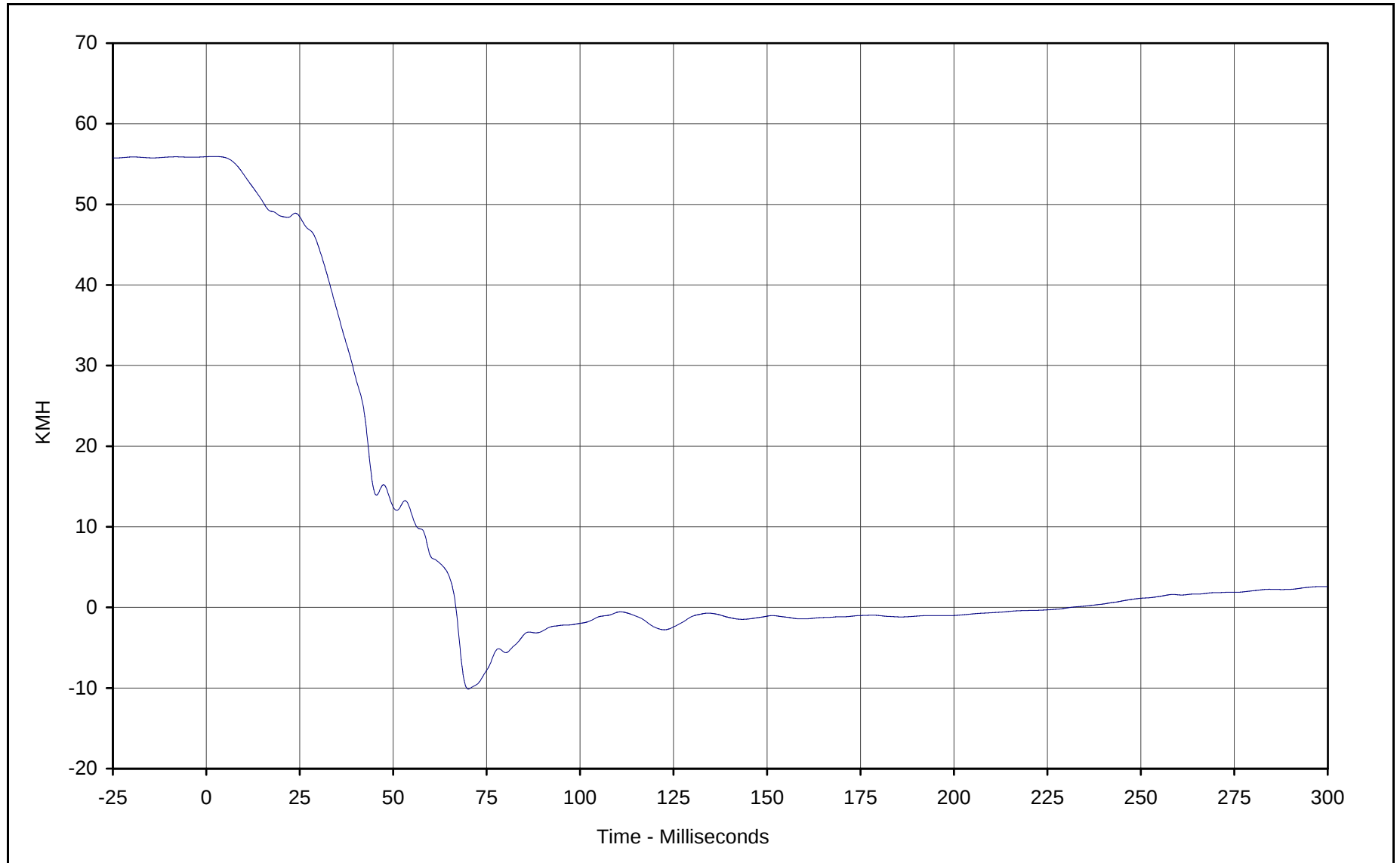
Curve Description: Vehicle Instrument Panel
Maximum Value: 25.5 at 75.0 Milliseconds
Minimum Value: -89.7 at 67.4 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-095

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-142



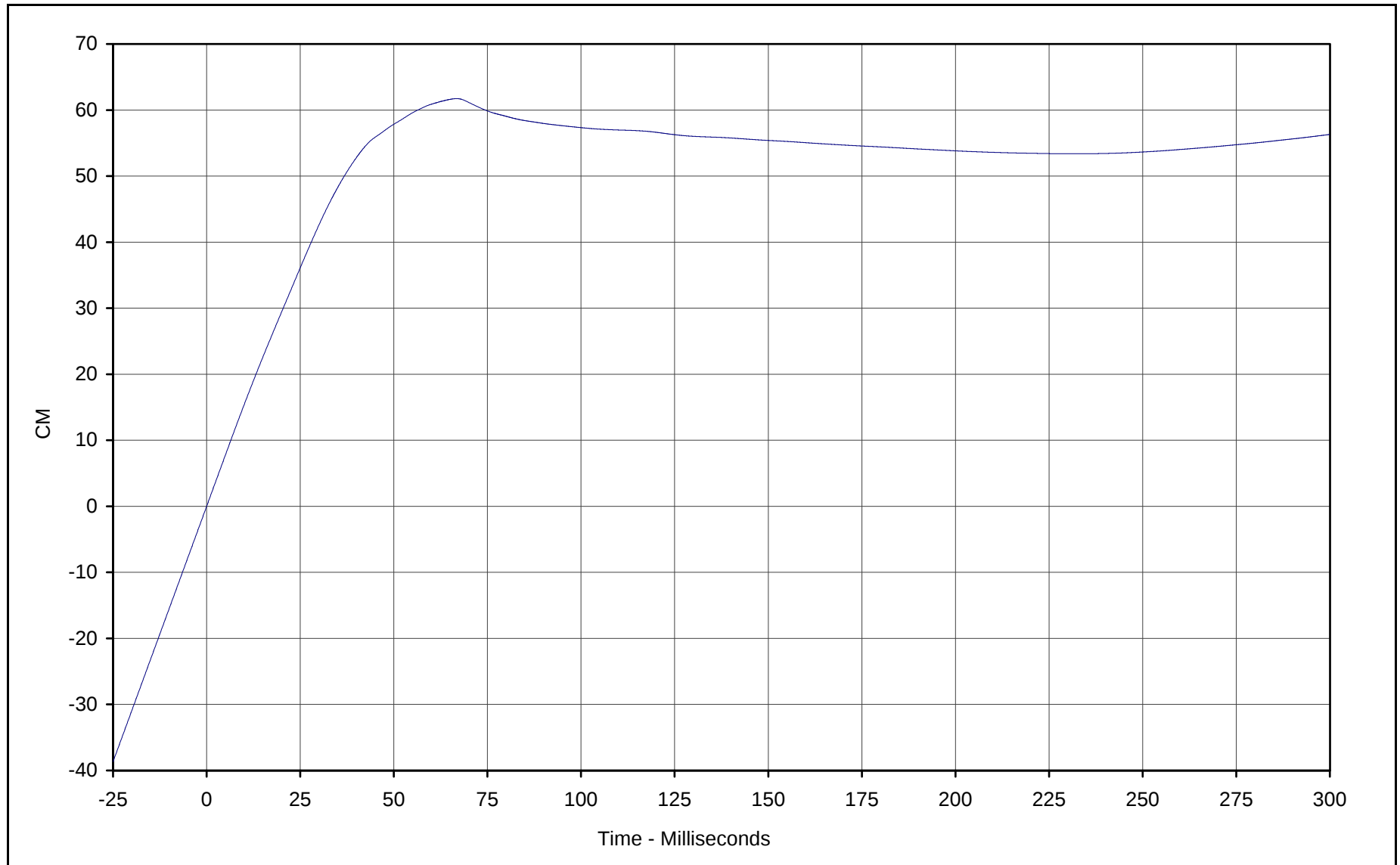
Curve Description: Vehicle Instrument Panel Velocity
Maximum Value: 55.9 at 2.2 Milliseconds
Minimum Value: -10.1 at 70.1 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN1-095

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-143



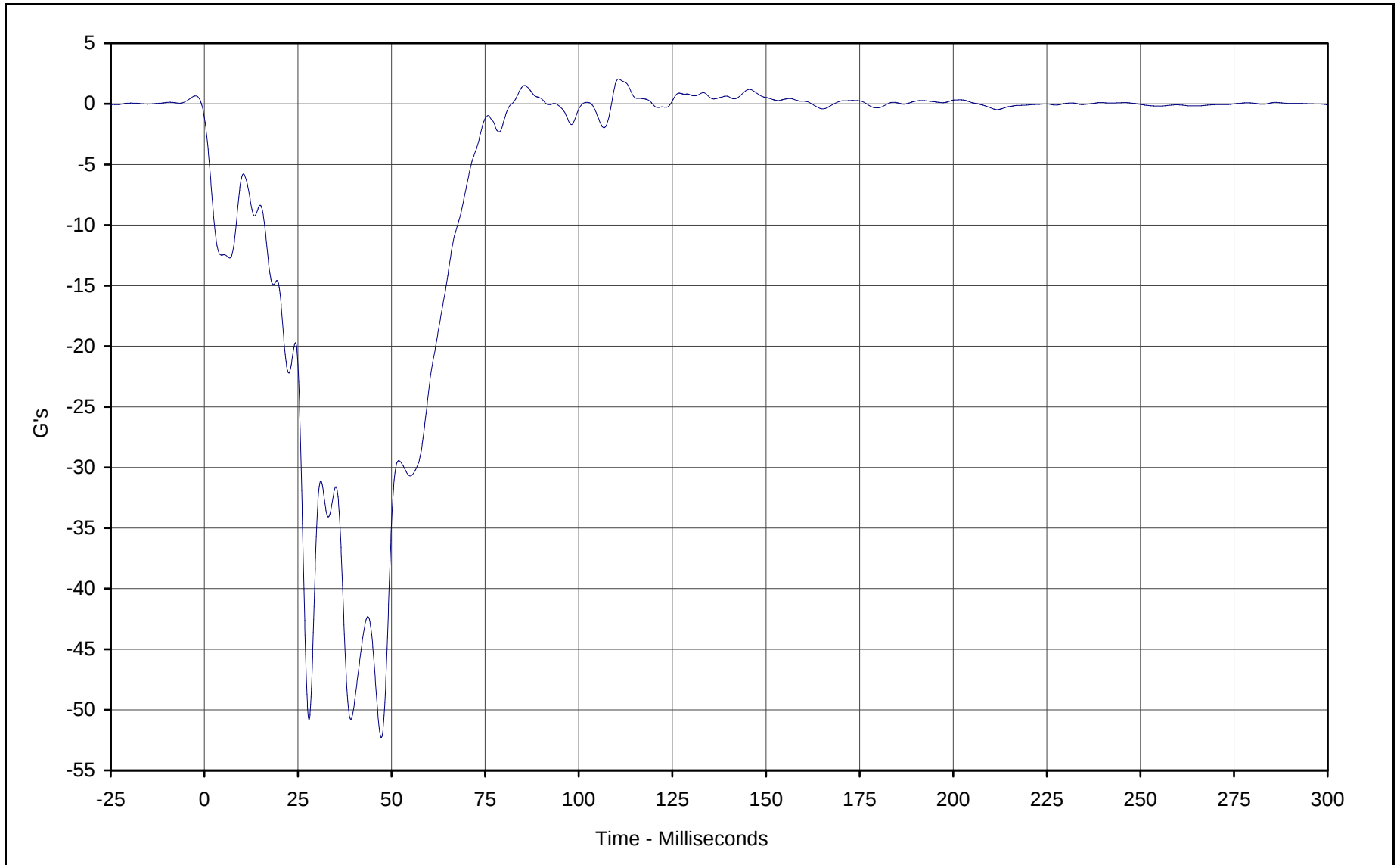
Curve Description: Vehicle Instrument Panel Displ.
Maximum Value: 61.7 at 66.8 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-095

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-144



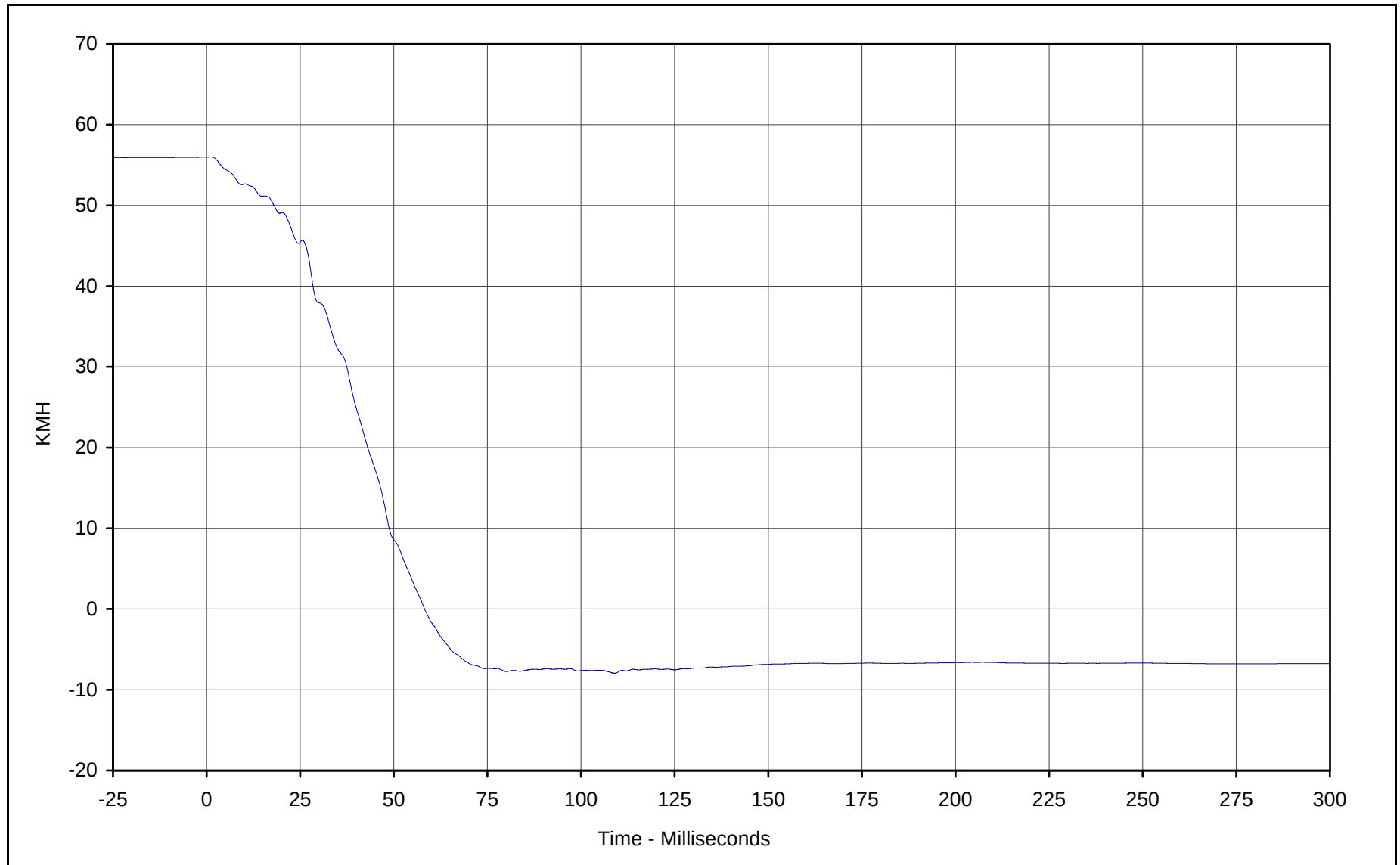
Curve Description: Vehicle Left Rear Redundant
Maximum Value: 2.1 at 110.6 Milliseconds
Minimum Value: -52.3 at 47.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-096

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-145



Curve Description: Vehicle Left Rear Redundant Velocity

Maximum Value: 56.0 at 1.1 Milliseconds

Minimum Value: -8.0 at 108.9 Milliseconds

SAE Filter Class: 180

Date of Test: 02/21/01

Curve Number: IN1-096

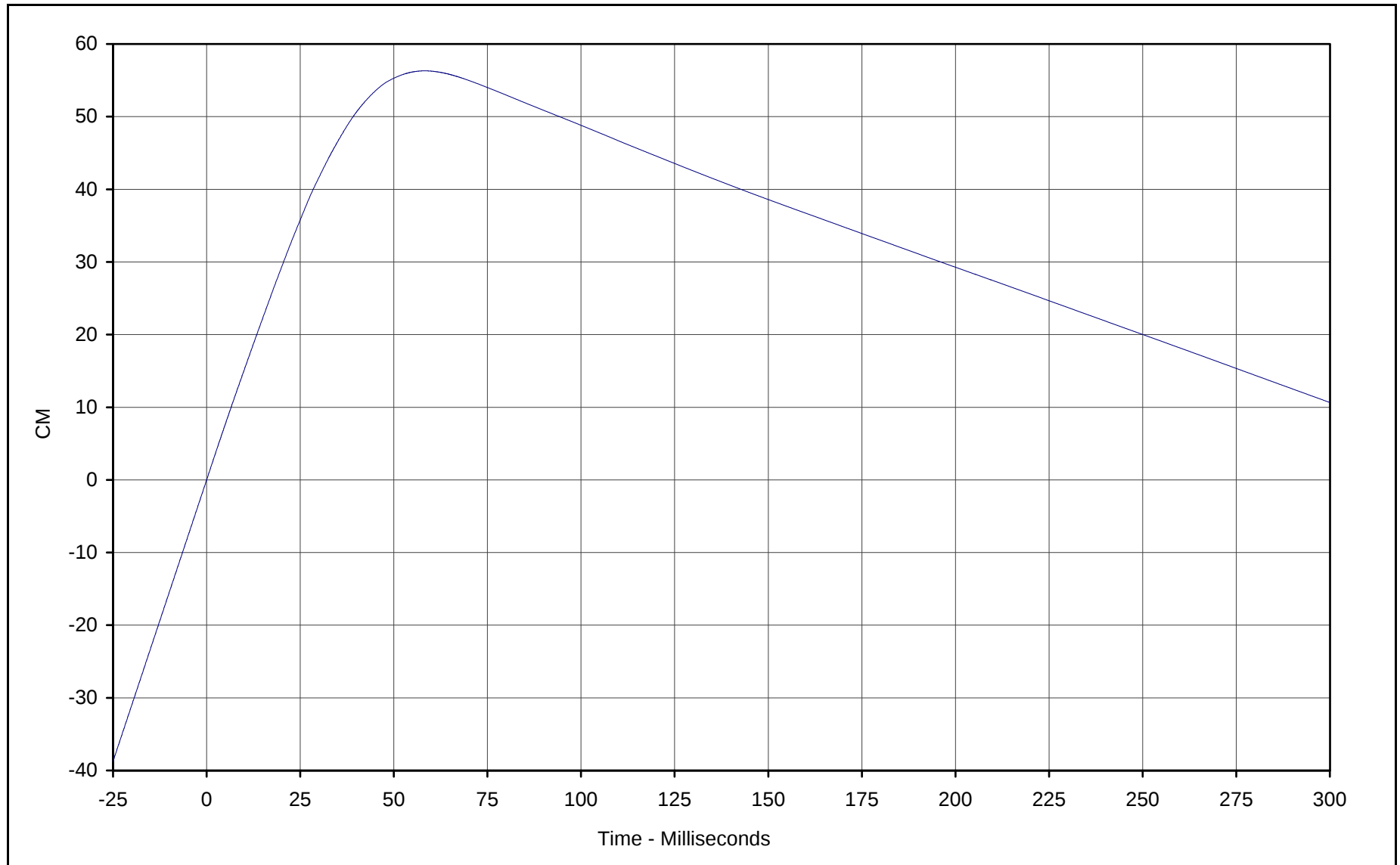
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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B-146



Curve Description: Vehicle Left Rear Redundant Displ.
Maximum Value: 56.3 at 58.2 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 02/21/01
Curve Number: IN2-096

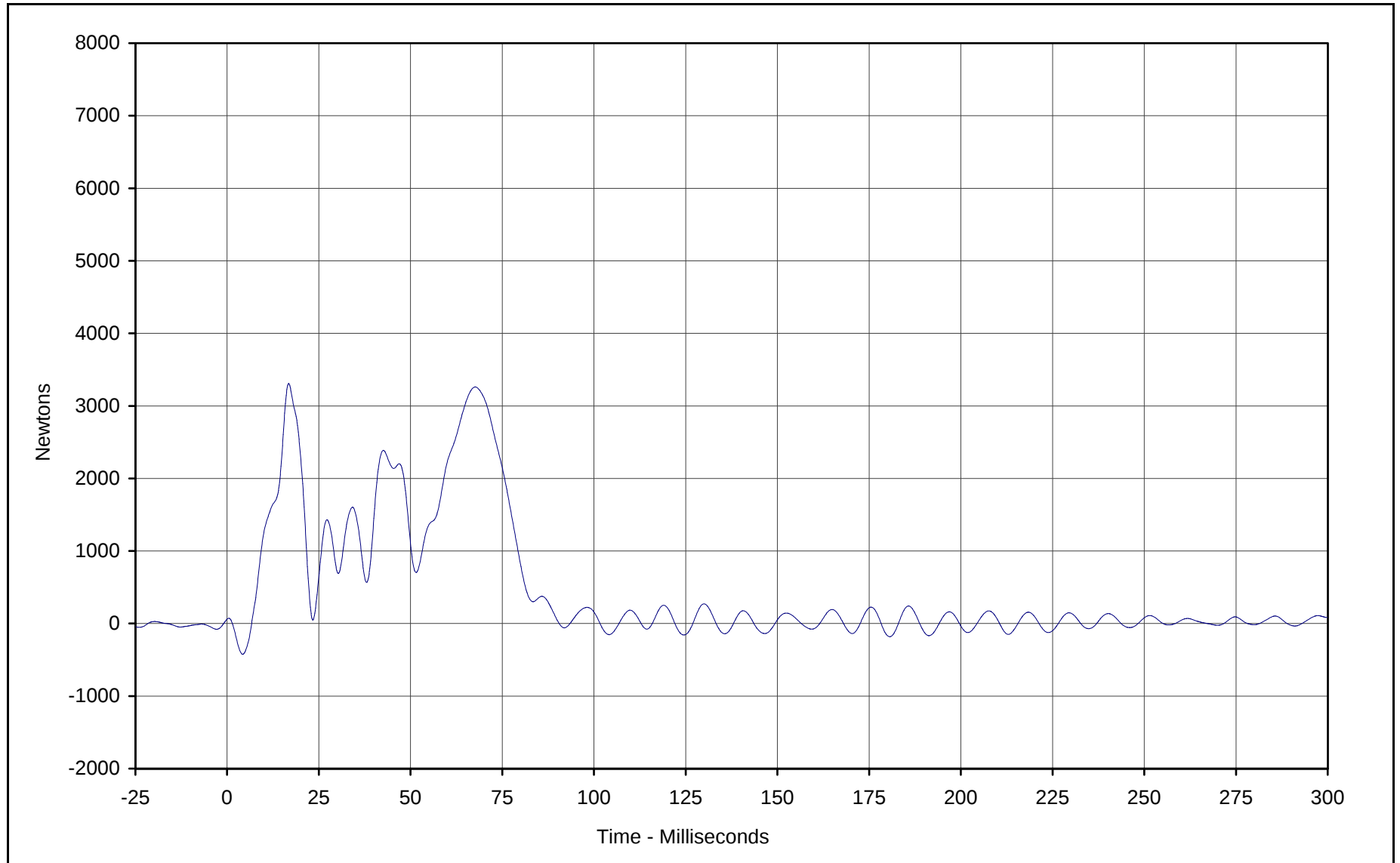
Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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APPENDIX C
LOAD CELL BARRIER INFORMATION

C-1



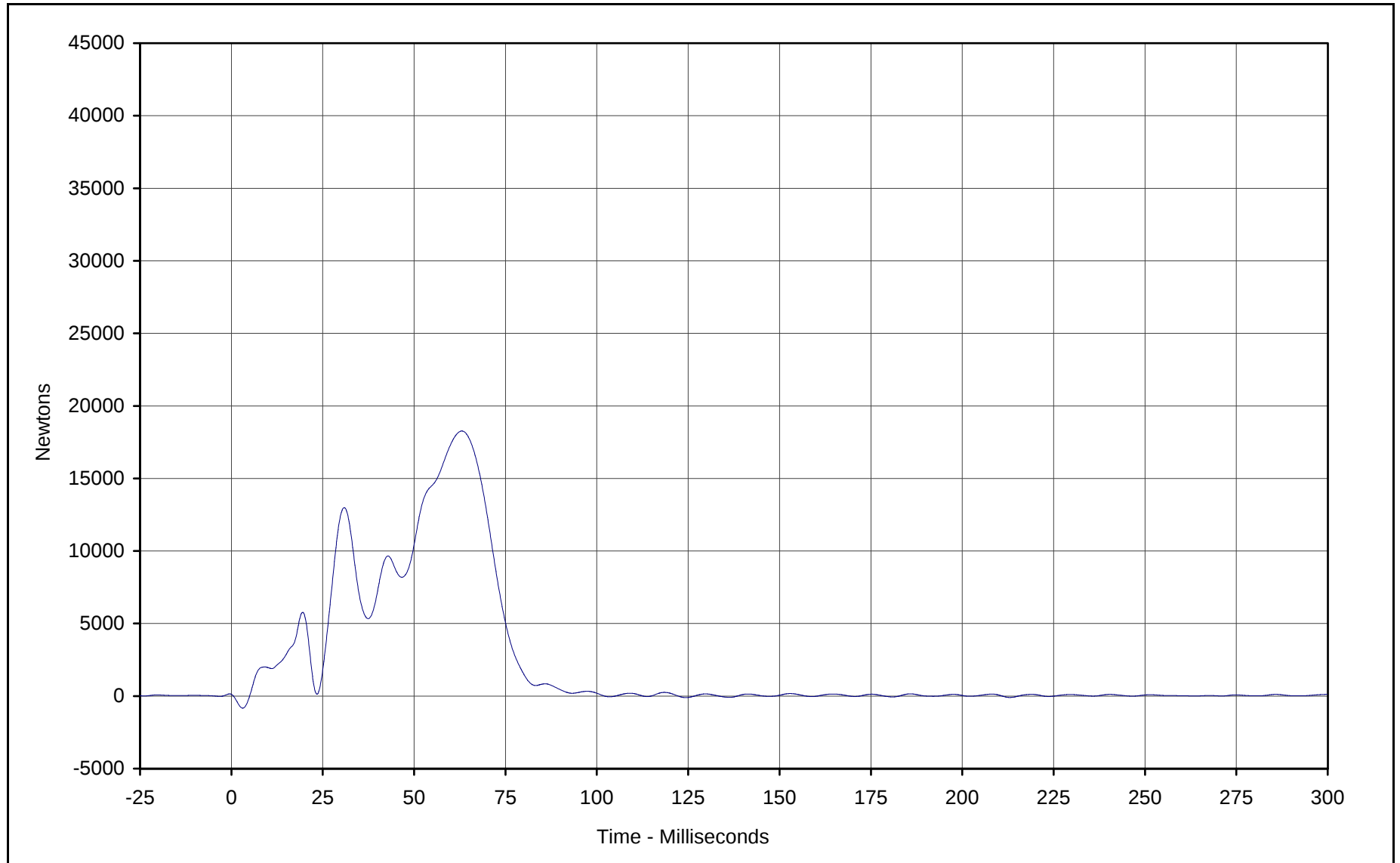
Curve Description: Barrier Force A2
Maximum Value: 3308.2 at 16.8 Milliseconds
Minimum Value: -424.5 at 4.3 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-099

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-2



Curve Description: Barrier Force A3

Maximum Value: 18272.1 at 63.1 Milliseconds

Minimum Value: -831.6 at 3.1 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

Curve Number: FIL-100

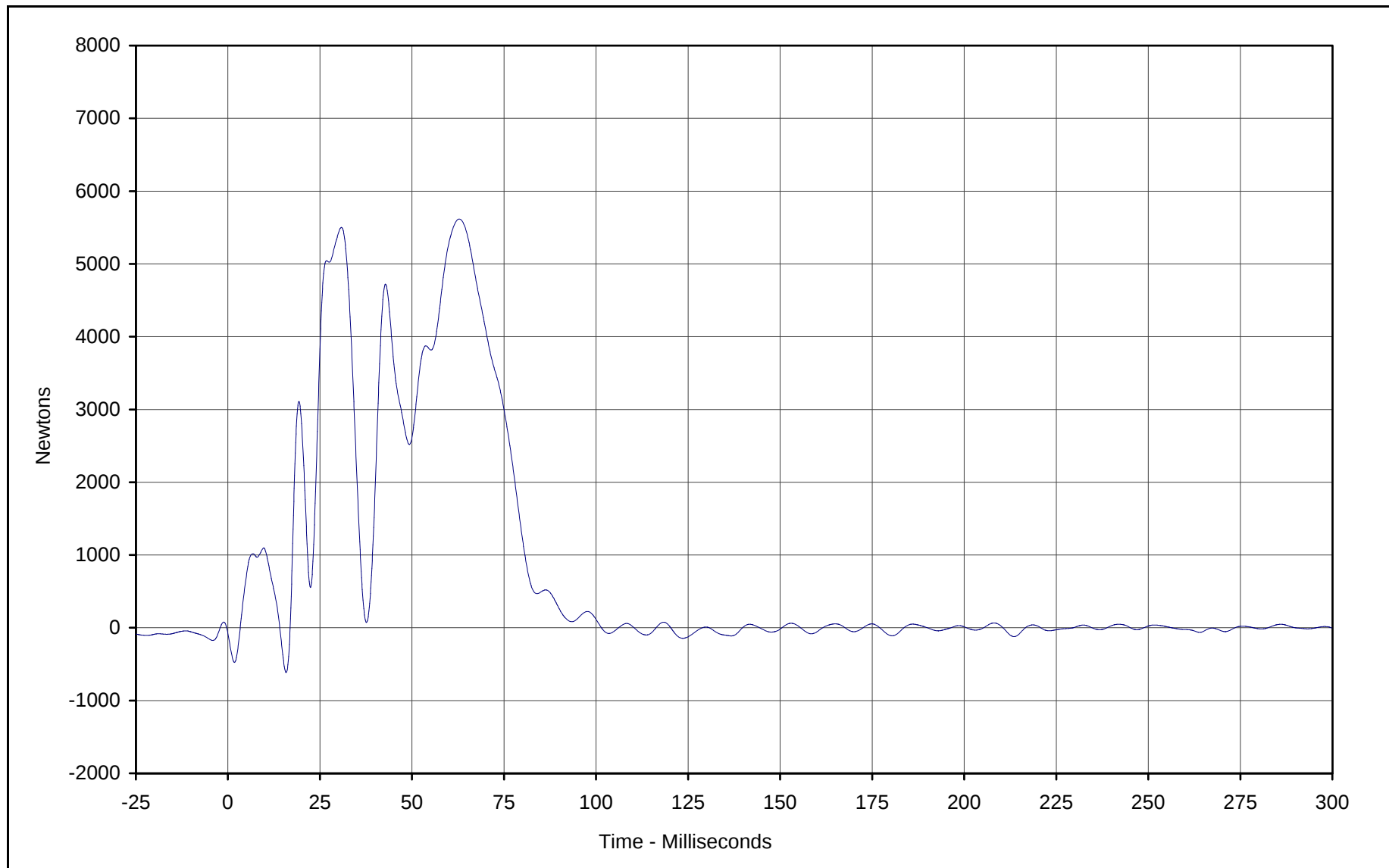
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-3



Curve Description: Barrier Force A4

Maximum Value: 5616.8 at 62.8 Milliseconds

Minimum Value: -614.5 at 15.8 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

Curve Number: FIL-101

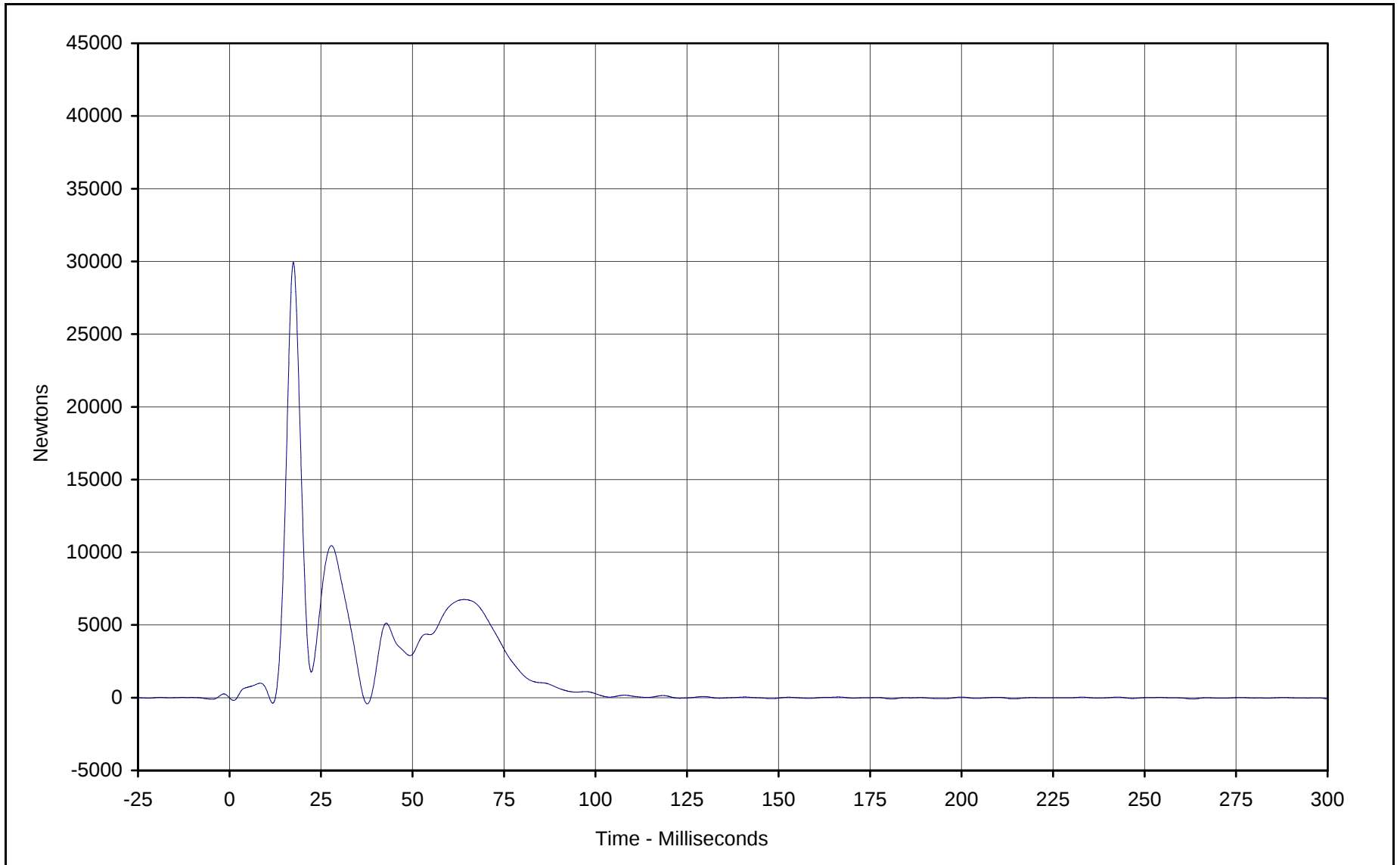
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-4



Curve Description: Barrier Force A5

Maximum Value: 29935.2 at 17.4 Milliseconds

Minimum Value: -421.9 at 37.6 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

Curve Number: FIL-102

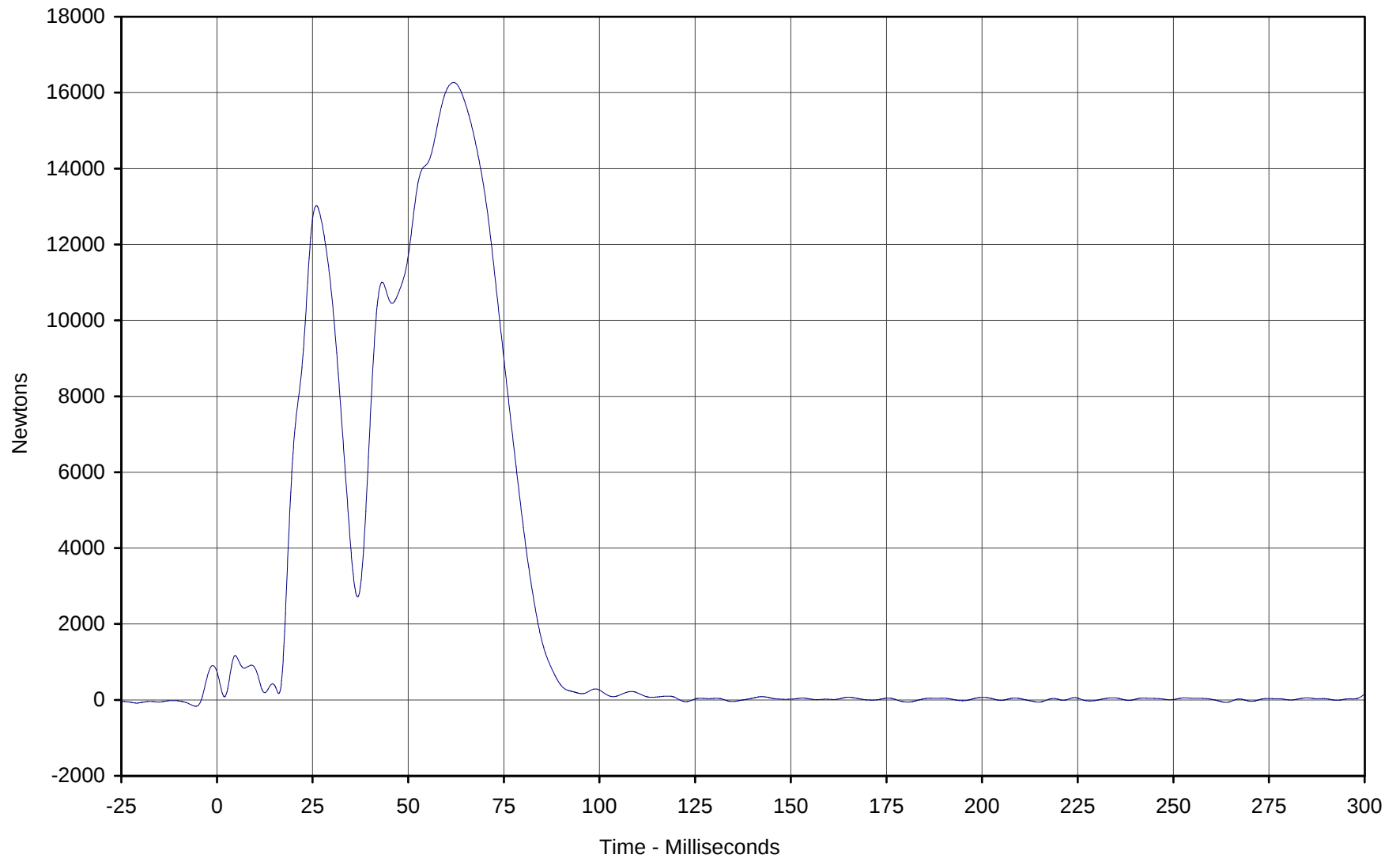
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-5



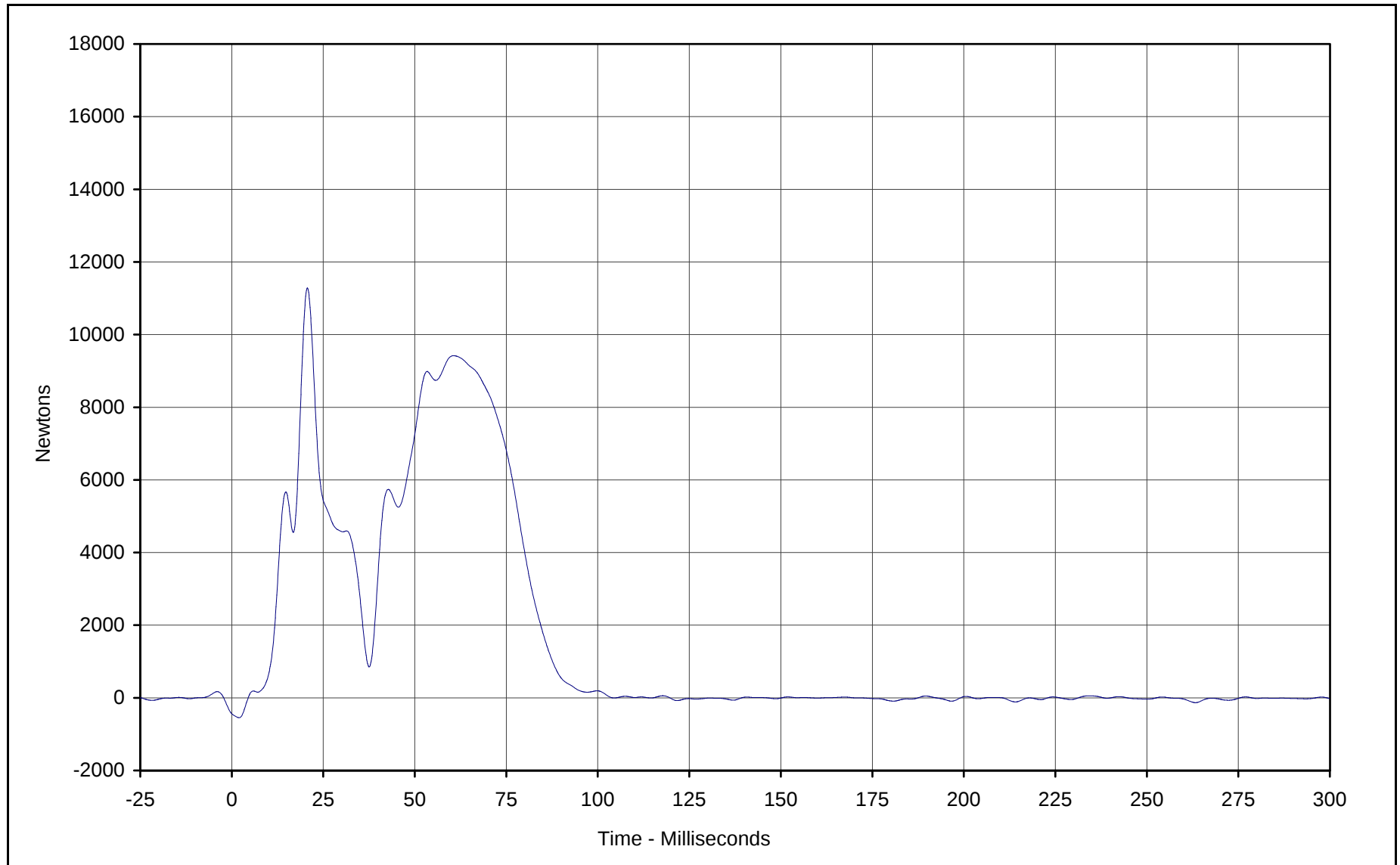
Curve Description: Barrier Force A6
Maximum Value: 16267.6 at 61.9 Milliseconds
Minimum Value: -65.4 at 263.7 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-103

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-6



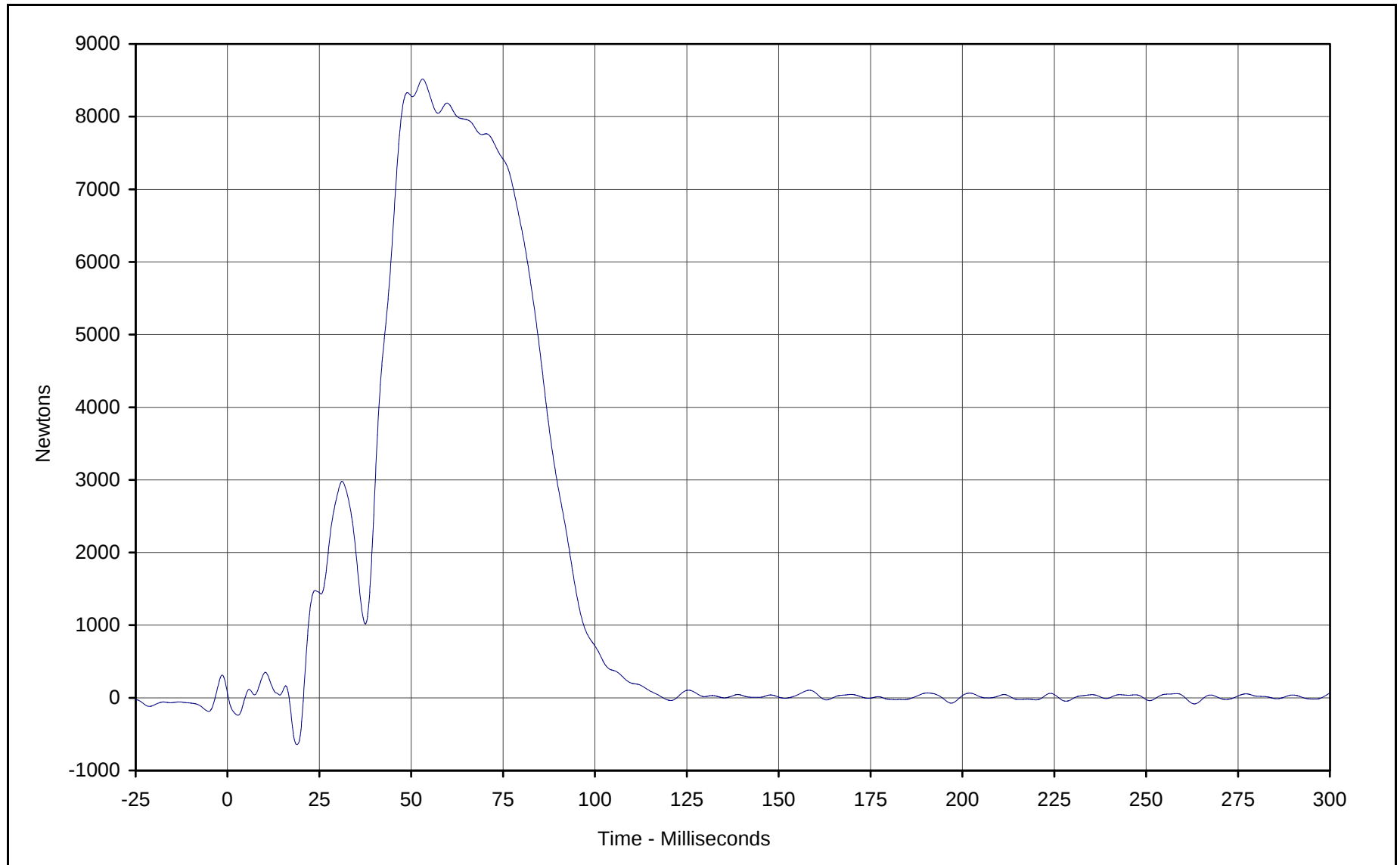
Curve Description: Barrier Force A7
Maximum Value: 11281.4 at 20.7 Milliseconds
Minimum Value: -547.4 at 2.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-104

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-7



Curve Description: Barrier Force A8

Maximum Value: 8517.7 at 53.1 Milliseconds

Minimum Value: -643.2 at 18.9 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

Curve Number: FIL-105

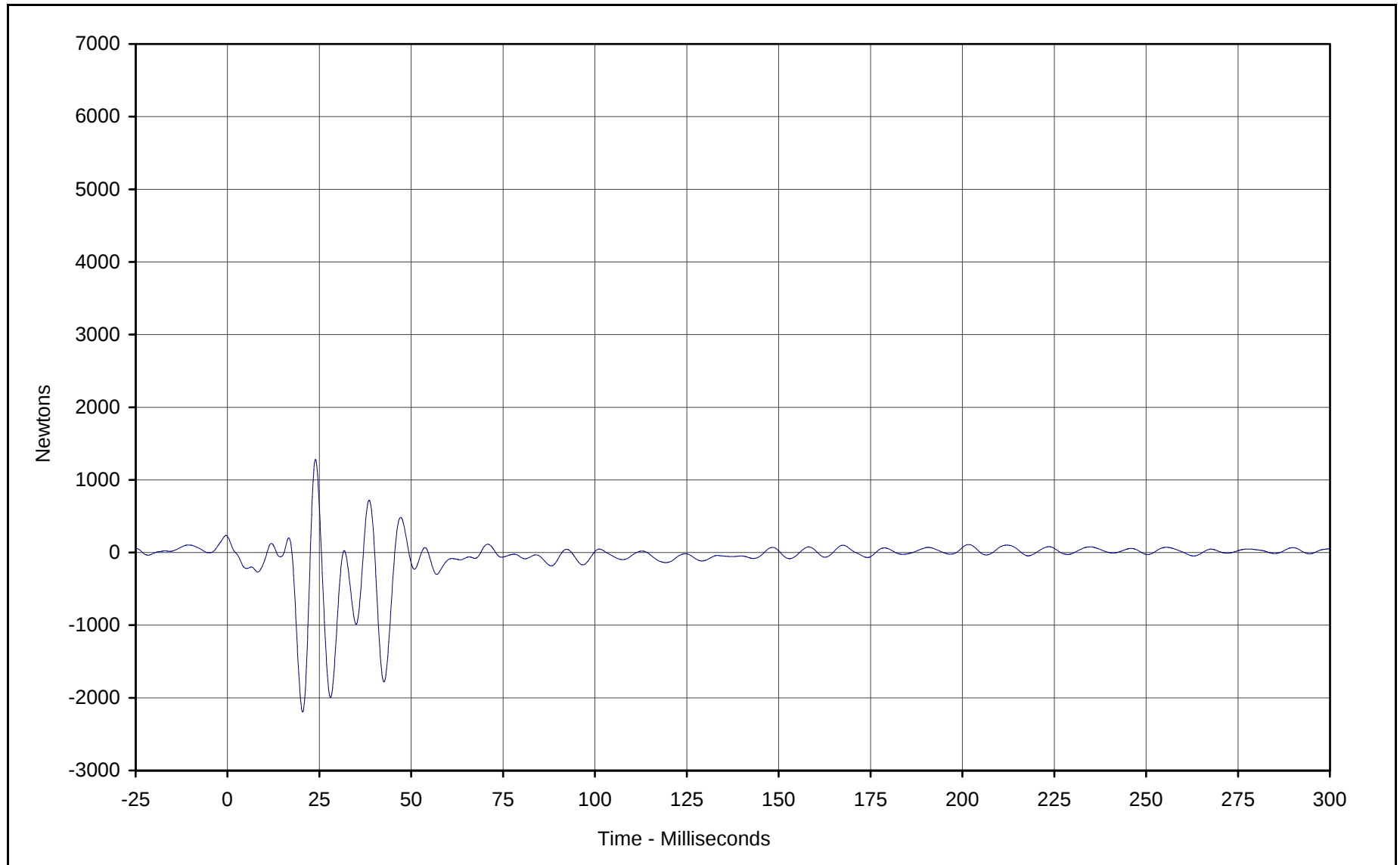
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-8



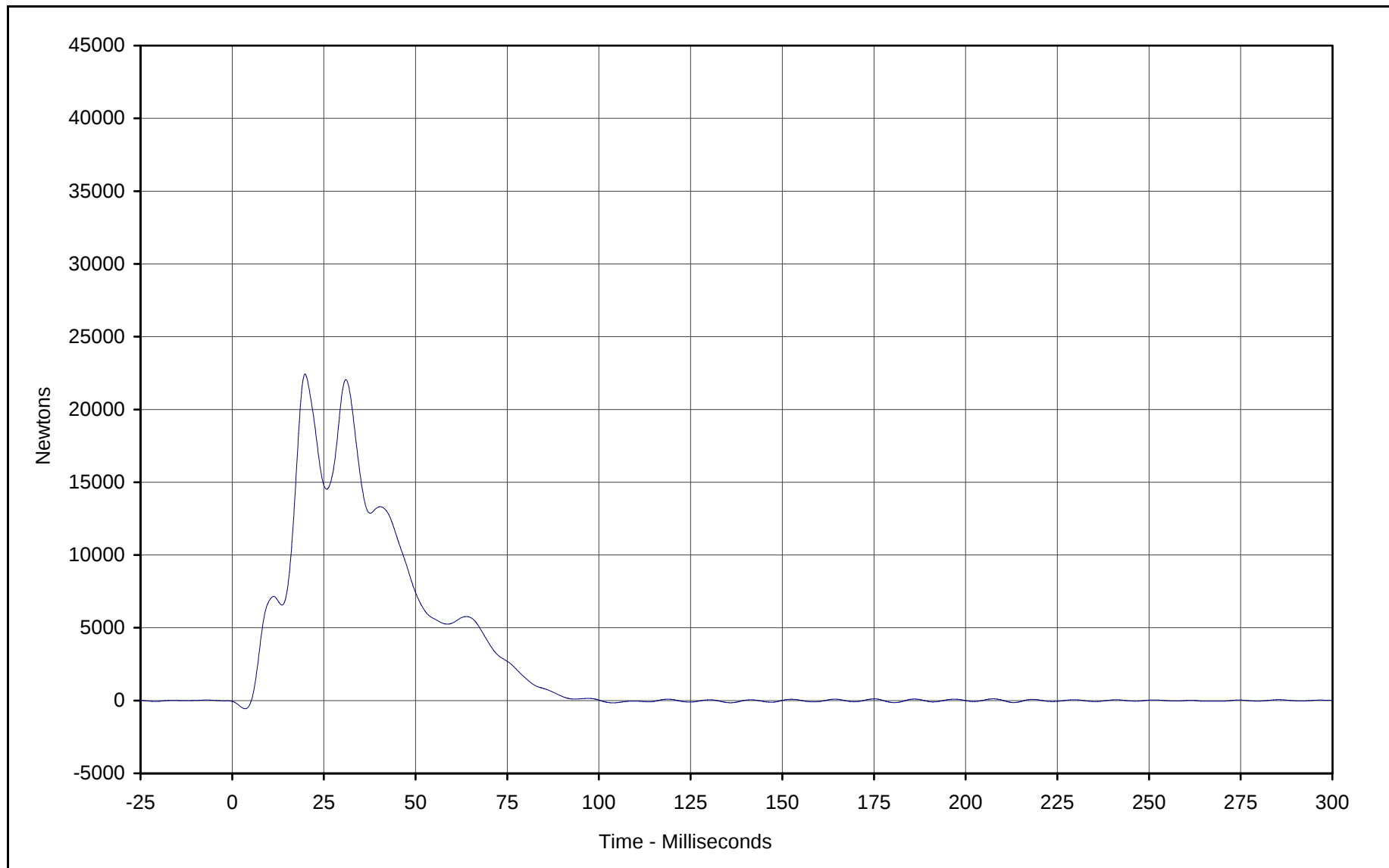
Curve Description: Barrier Force A9
Maximum Value: 1280.1 at 24.0 Milliseconds
Minimum Value: -2193.5 at 20.5 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-106

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-9



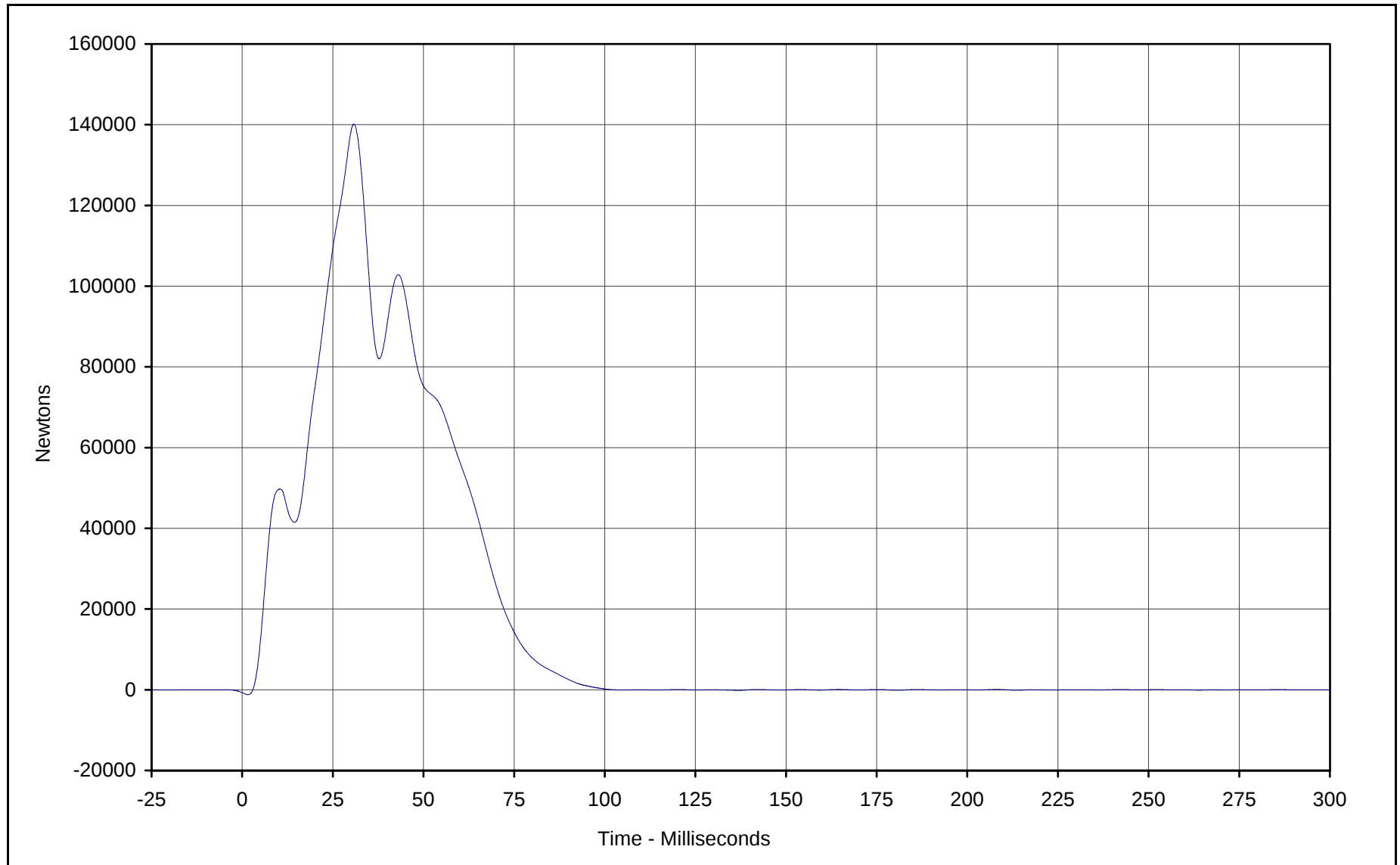
Curve Description: Barrier Force B2
Maximum Value: 22433.6 at 19.9 Milliseconds
Minimum Value: -561.9 at 3.5 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-108

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-10



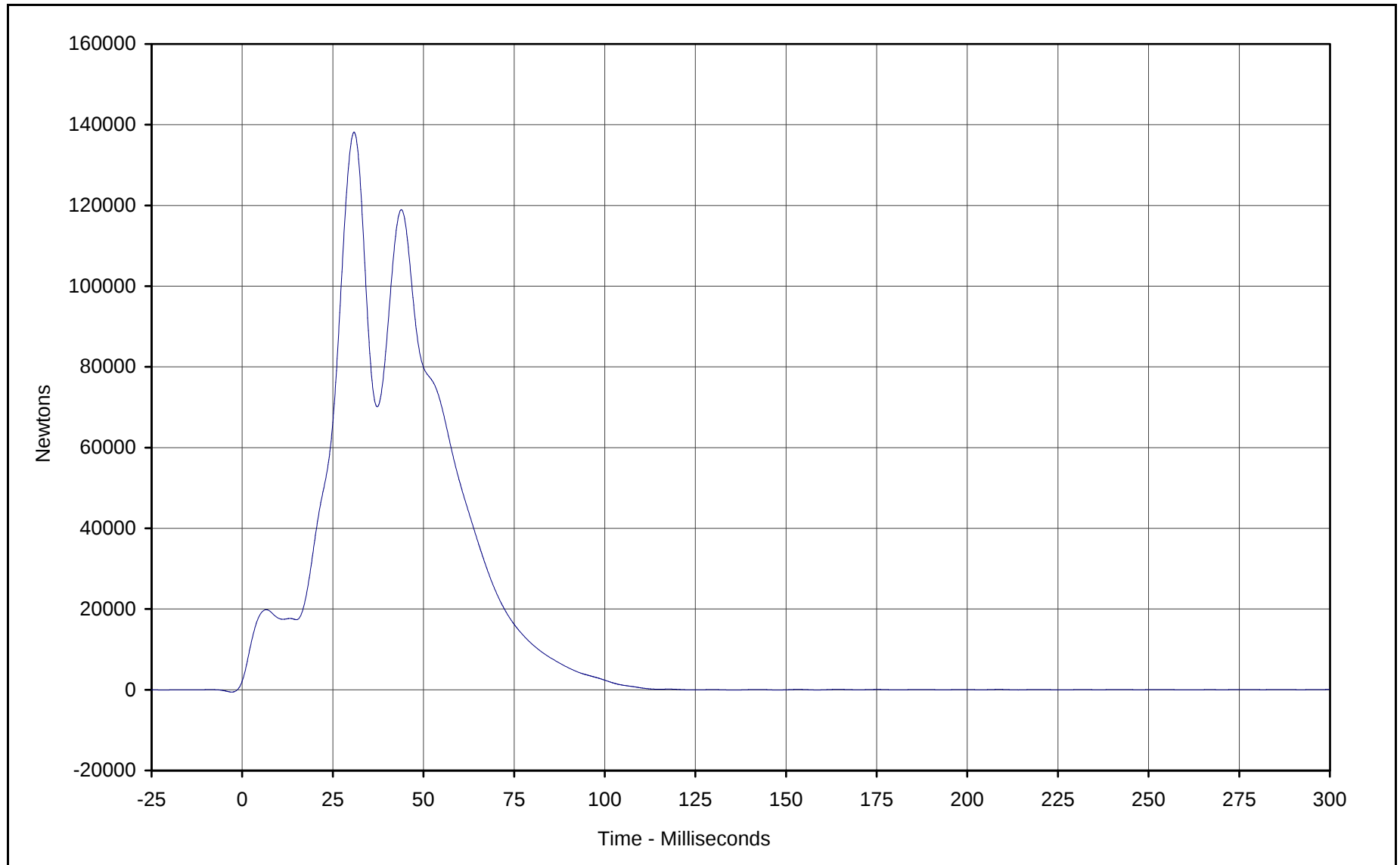
Curve Description: Barrier Force B3
Maximum Value: 140164.3 at 30.8 Milliseconds
Minimum Value: -1236.8 at 1.6 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-109

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-11



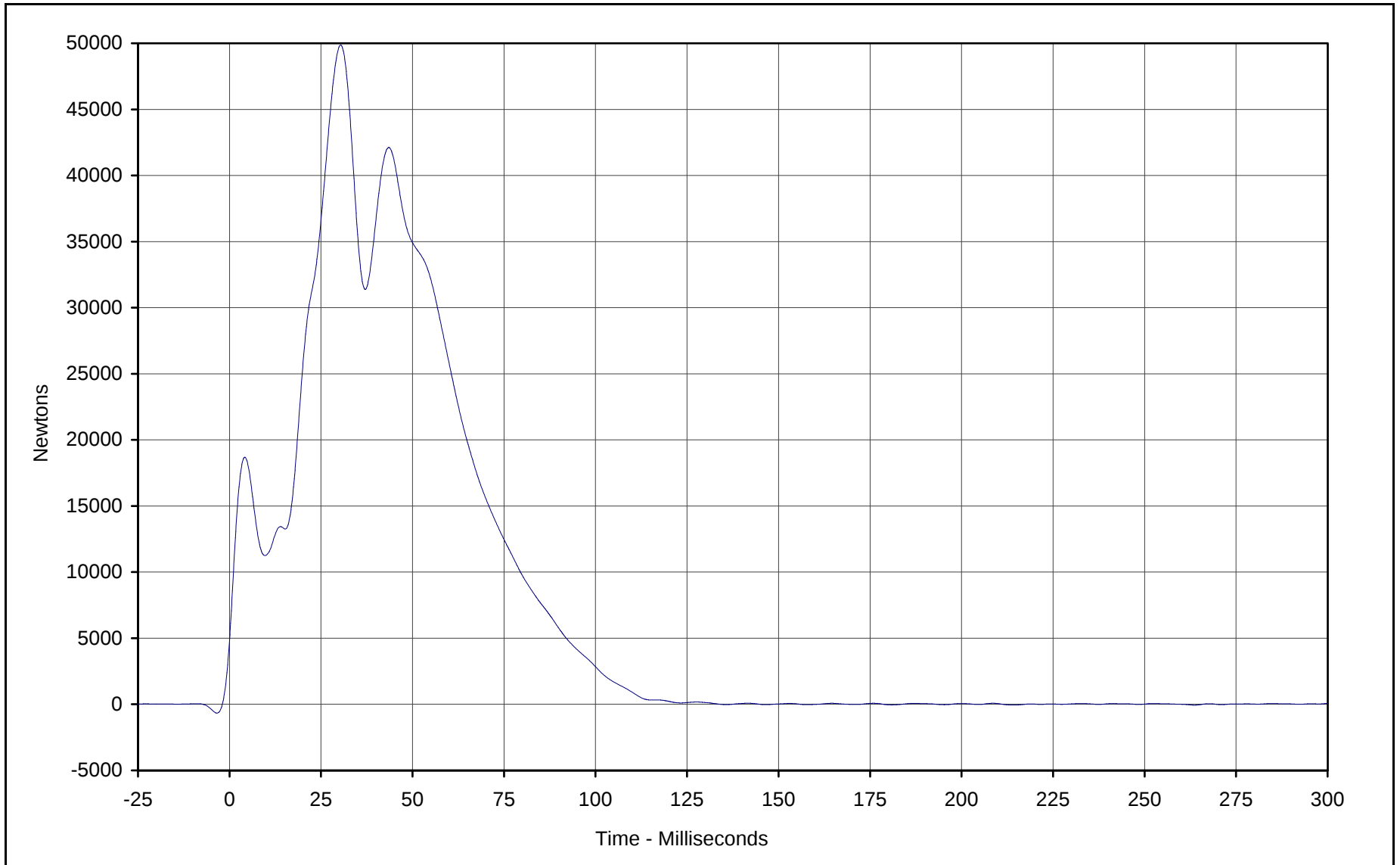
Curve Description: Barrier Force B4
Maximum Value: 138137.2 at 30.9 Milliseconds
Minimum Value: -71.1 at 135.5 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-110

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-12



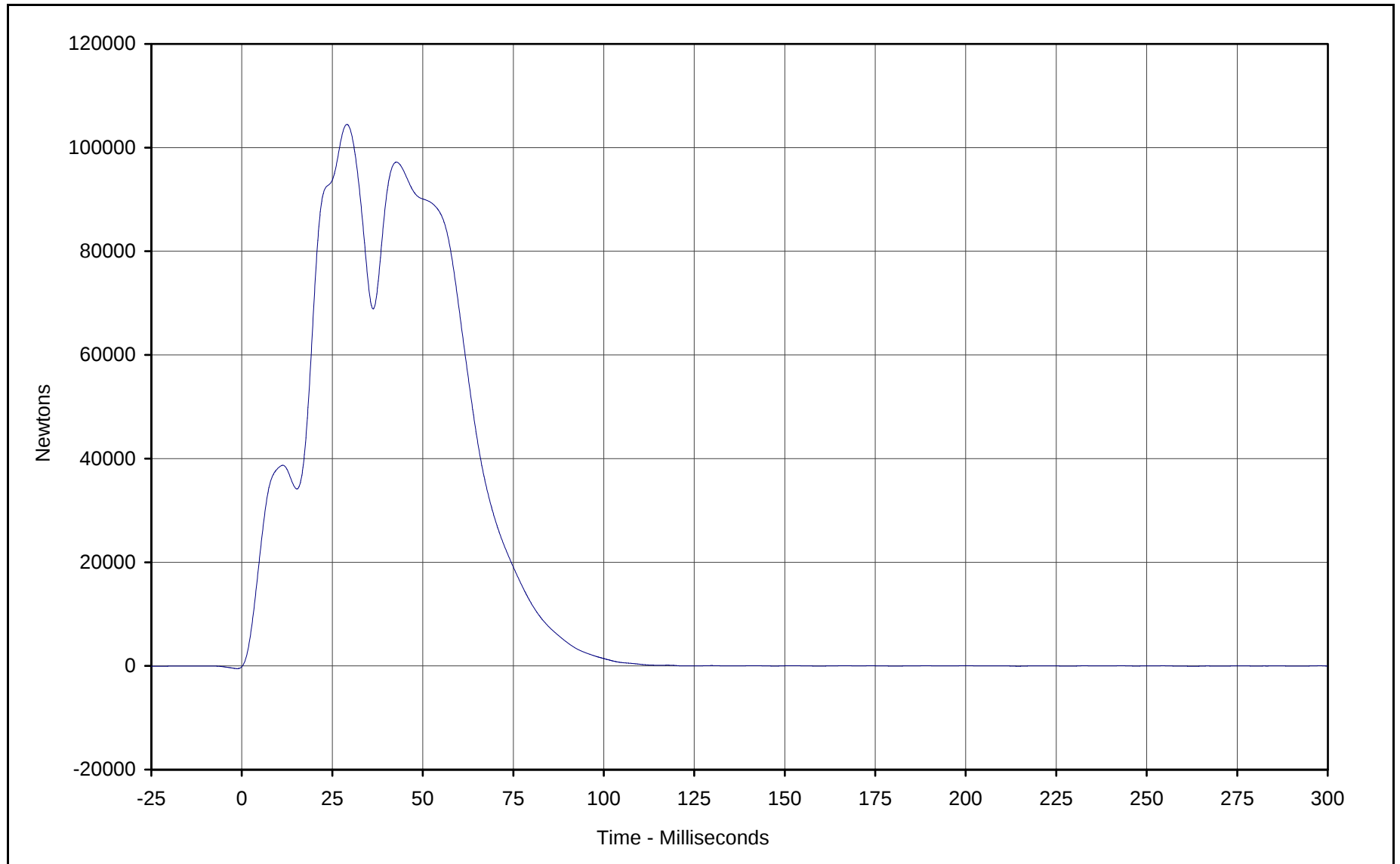
Curve Description: Barrier Force B5
Maximum Value: 49871.2 at 30.4 Milliseconds
Minimum Value: -66.1 at 263.6 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-111

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-13



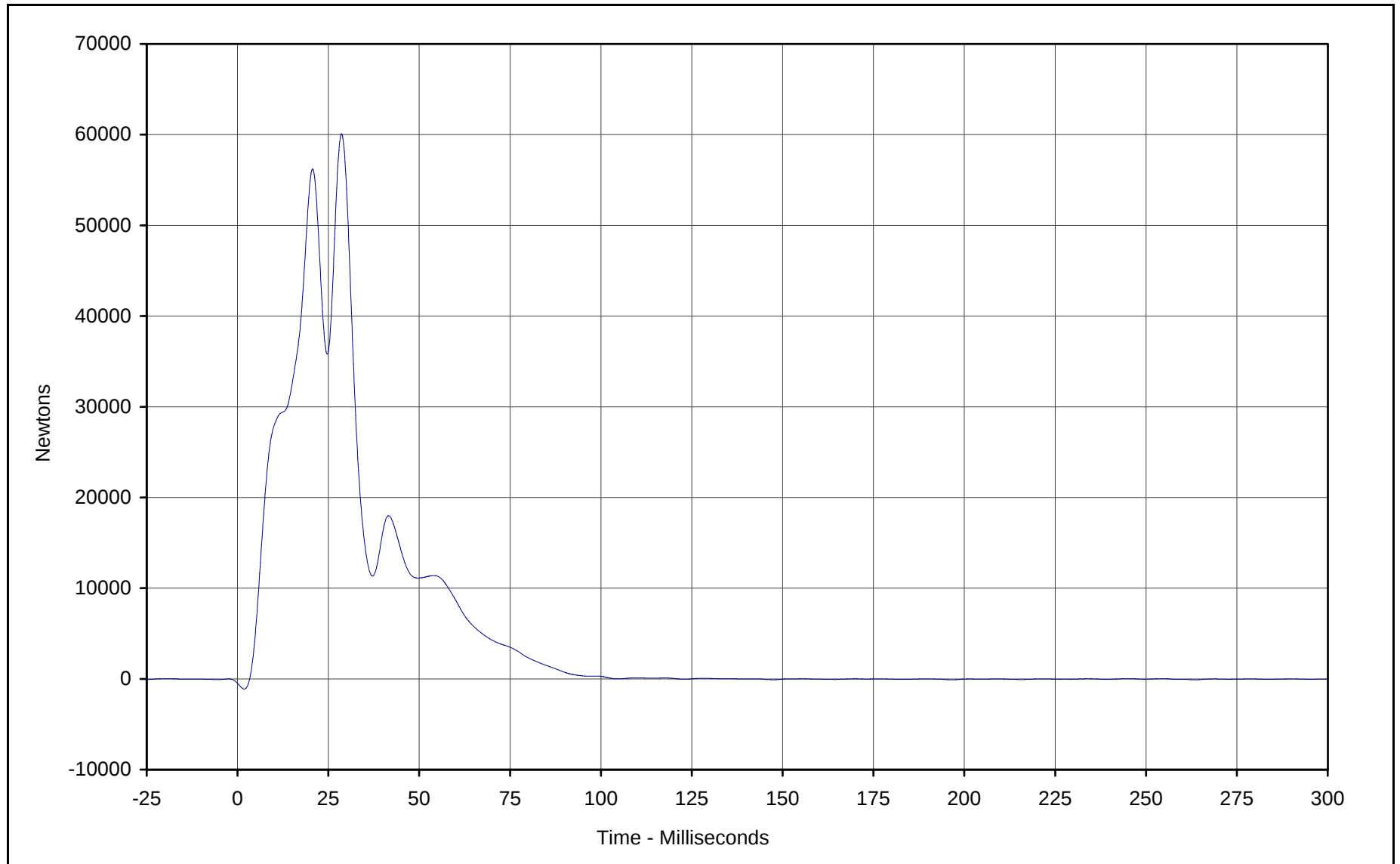
Curve Description: Barrier Force B6
Maximum Value: 104474.1 at 29.0 Milliseconds
Minimum Value: -155.7 at 0.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-112

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-14



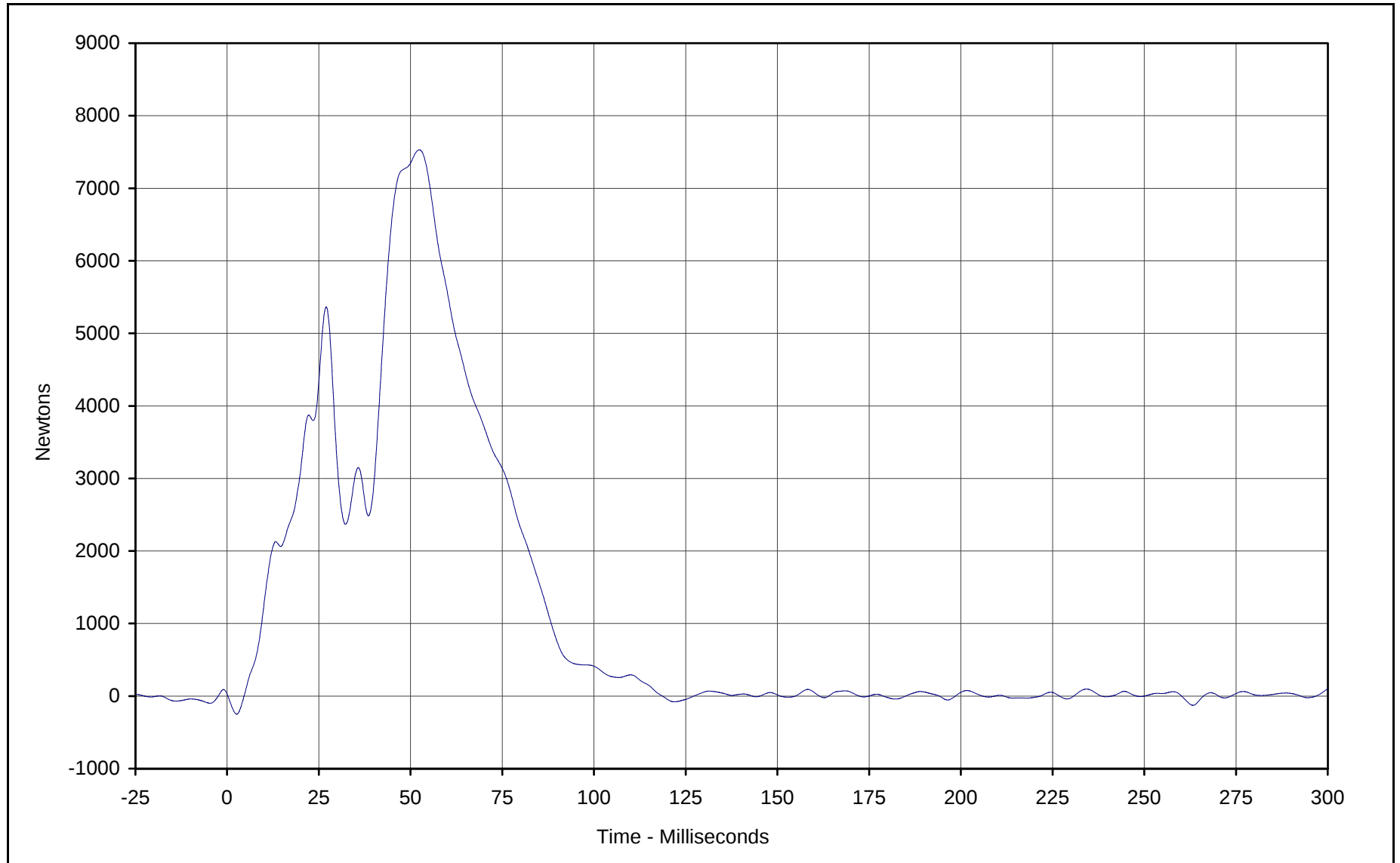
Curve Description: Barrier Force B7
Maximum Value: 60090.2 at 28.6 Milliseconds
Minimum Value: -1118.6 at 1.8 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-113

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-15



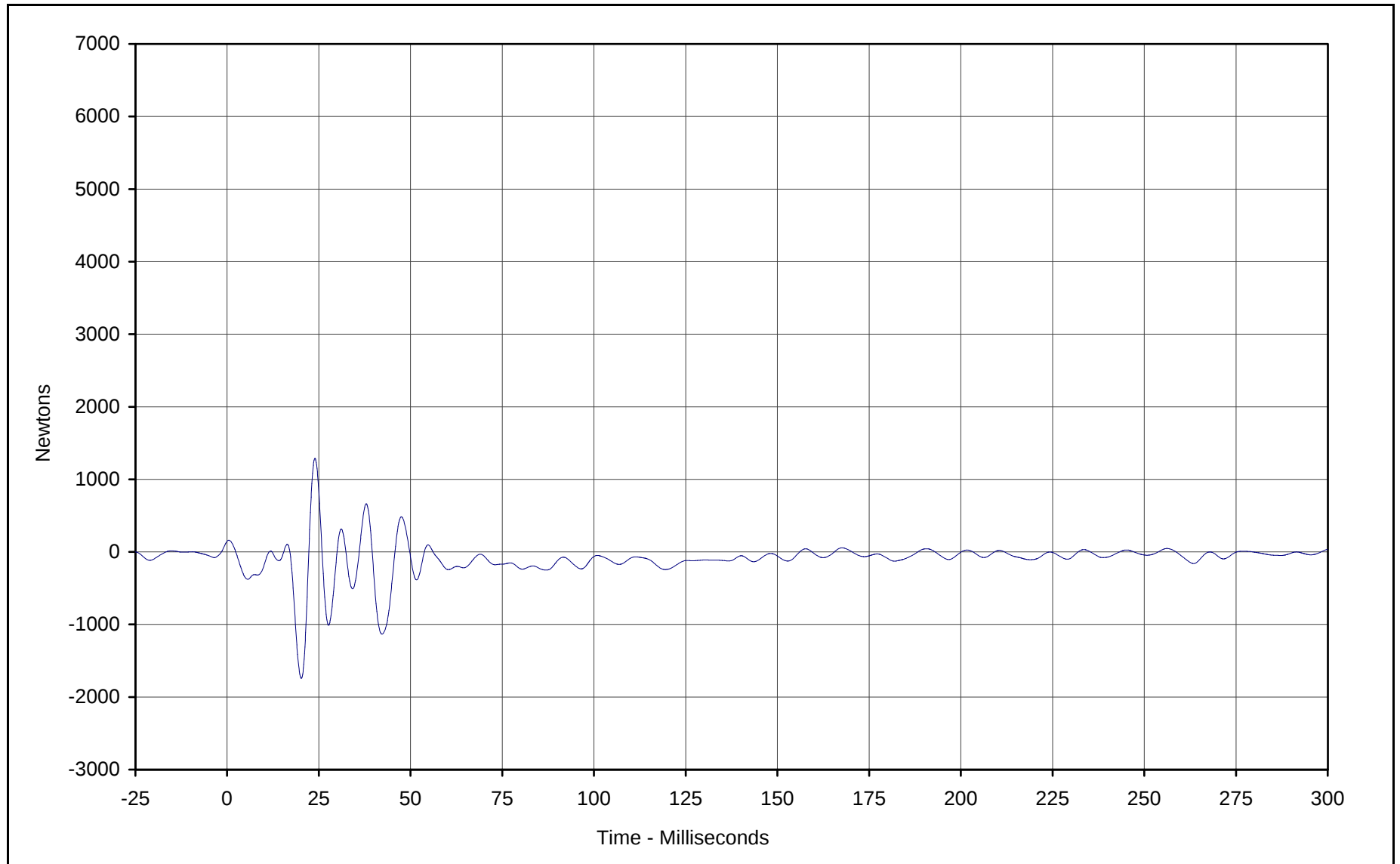
Curve Description: Barrier Force B8
Maximum Value: 7529.9 at 52.4 Milliseconds
Minimum Value: -249.7 at 2.6 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-114

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-16



Curve Description: Barrier Force B9

Maximum Value: 1287.8 at 23.9 Milliseconds

Minimum Value: -1742.4 at 20.2 Milliseconds

SAE Filter Class: 60

Date of Test: 02/21/01

Curve Number: FIL-115

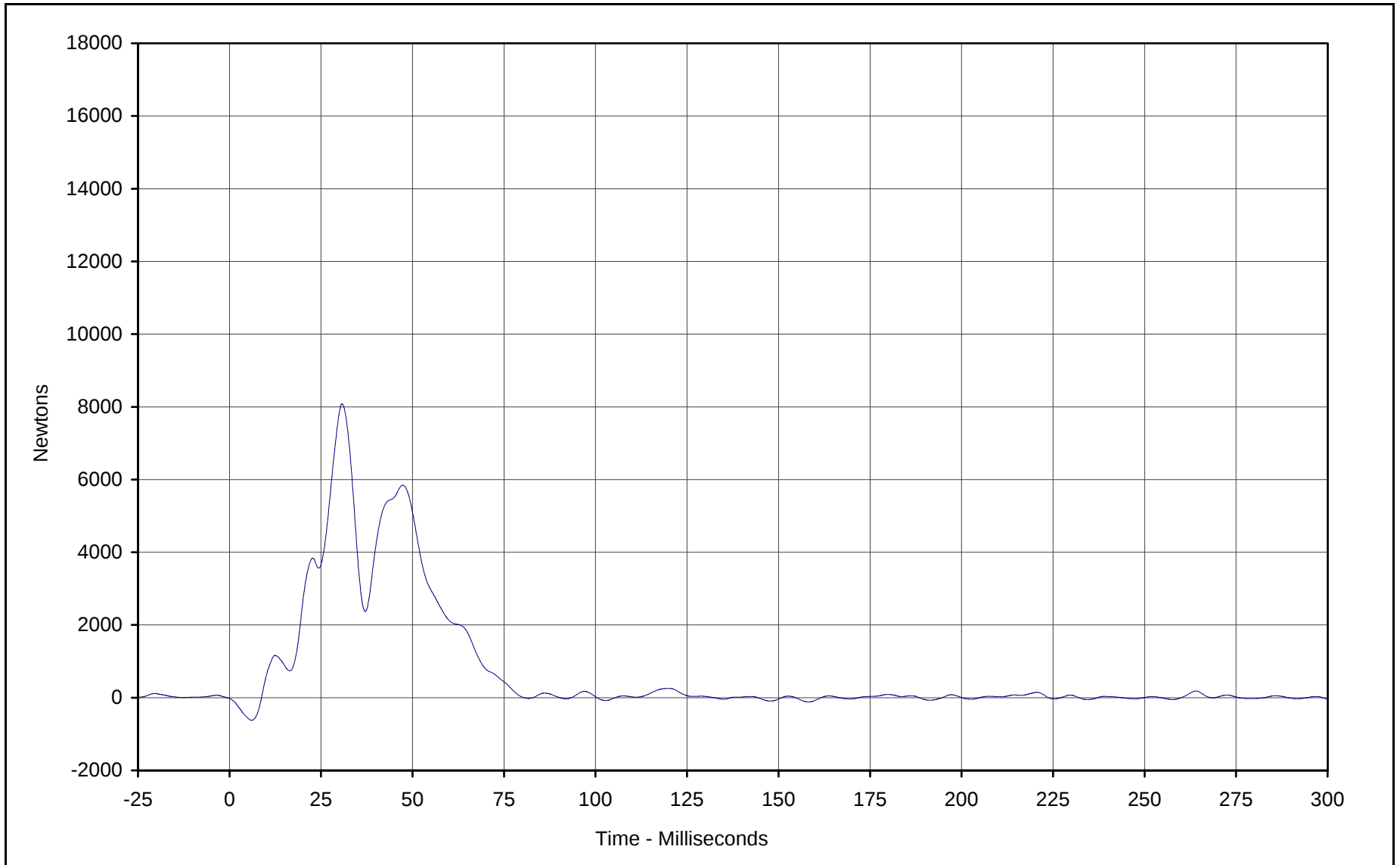
Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-17



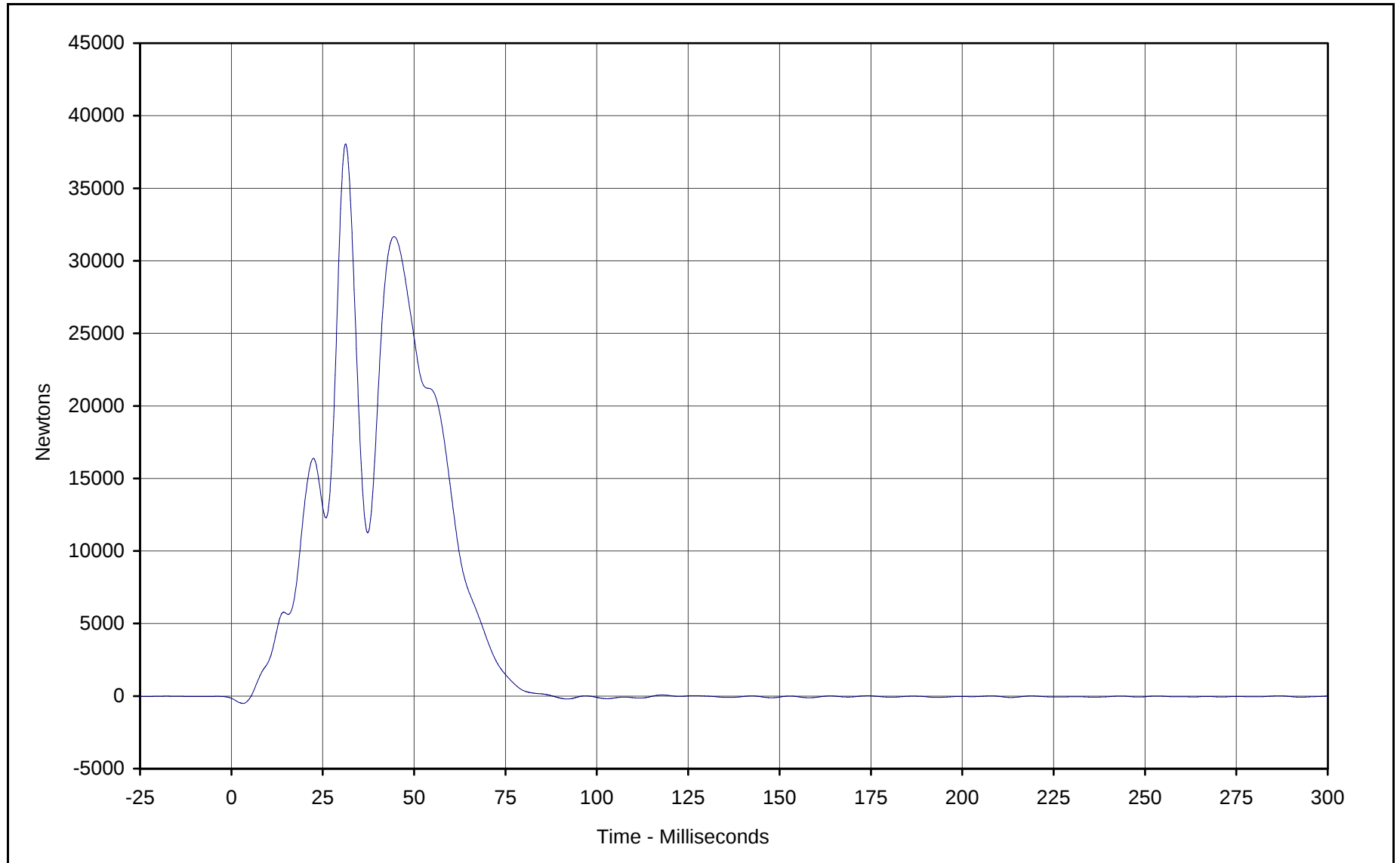
Curve Description: Barrier Force C2
Maximum Value: 8084.0 at 30.8 Milliseconds
Minimum Value: -622.0 at 6.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-117

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-18



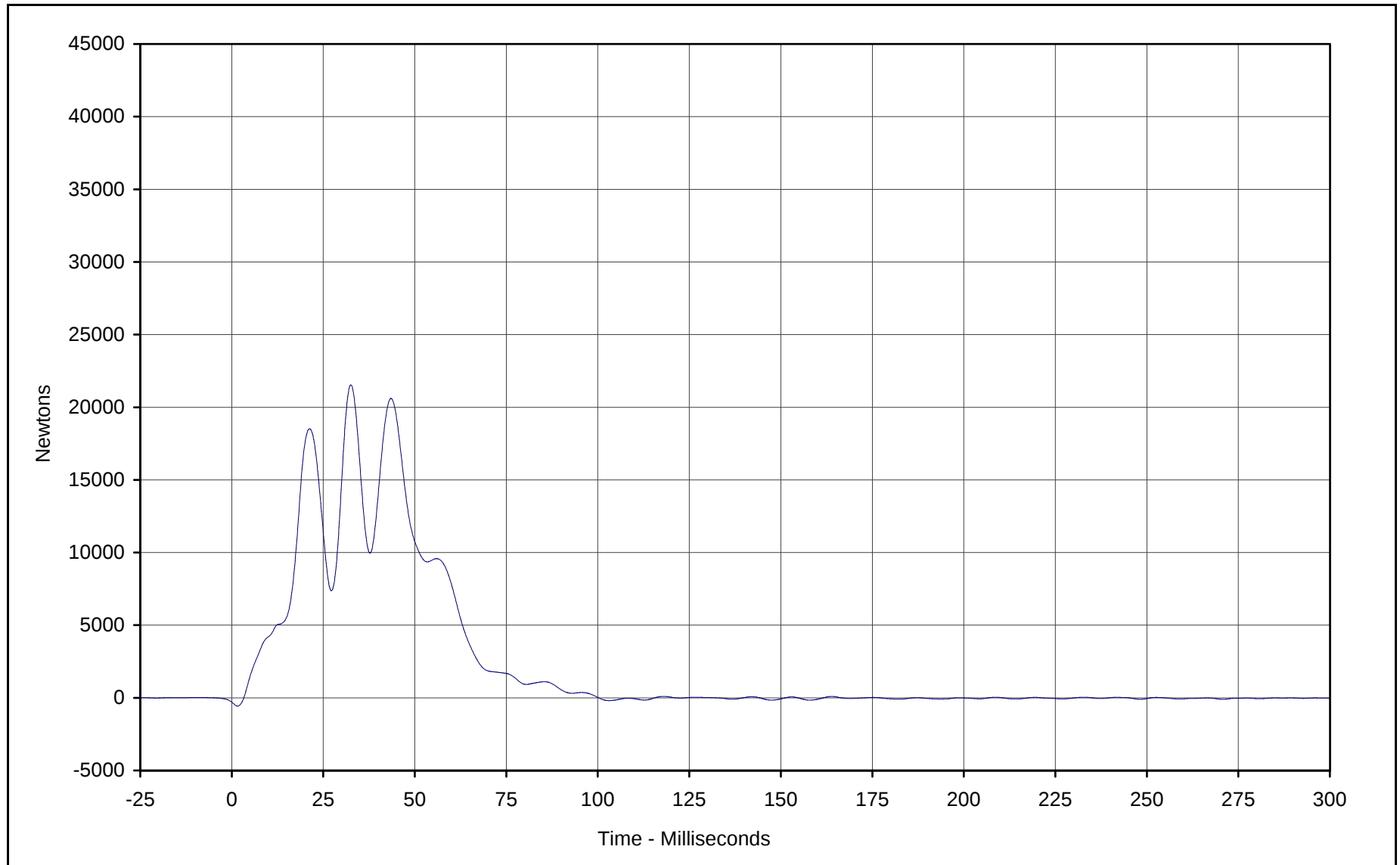
Curve Description: Barrier Force C3
Maximum Value: 38049.4 at 31.3 Milliseconds
Minimum Value: -506.4 at 3.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-118

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-19



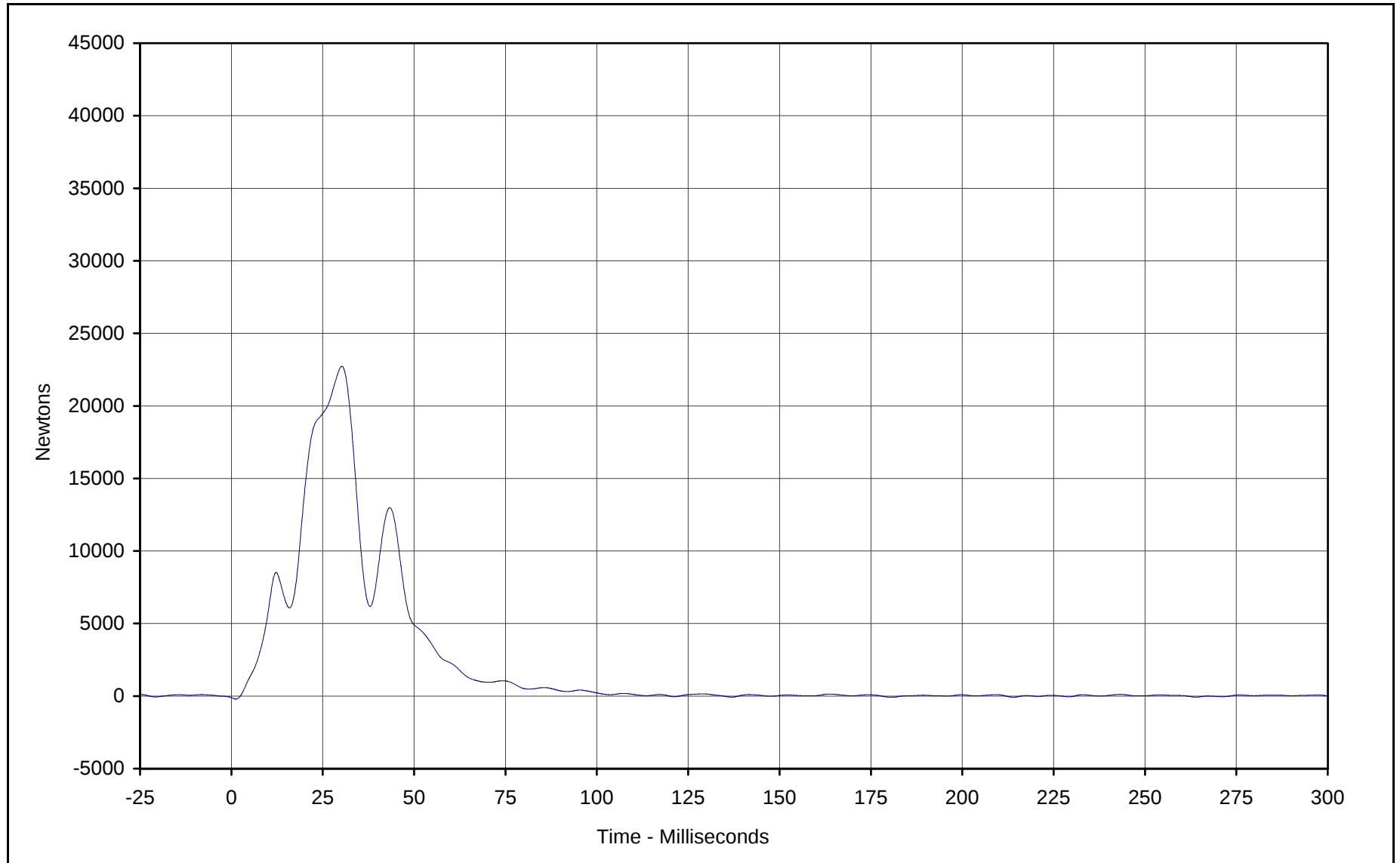
Curve Description: Barrier Force C4
Maximum Value: 21544.5 at 32.5 Milliseconds
Minimum Value: -570.2 at 1.6 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-119

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-20



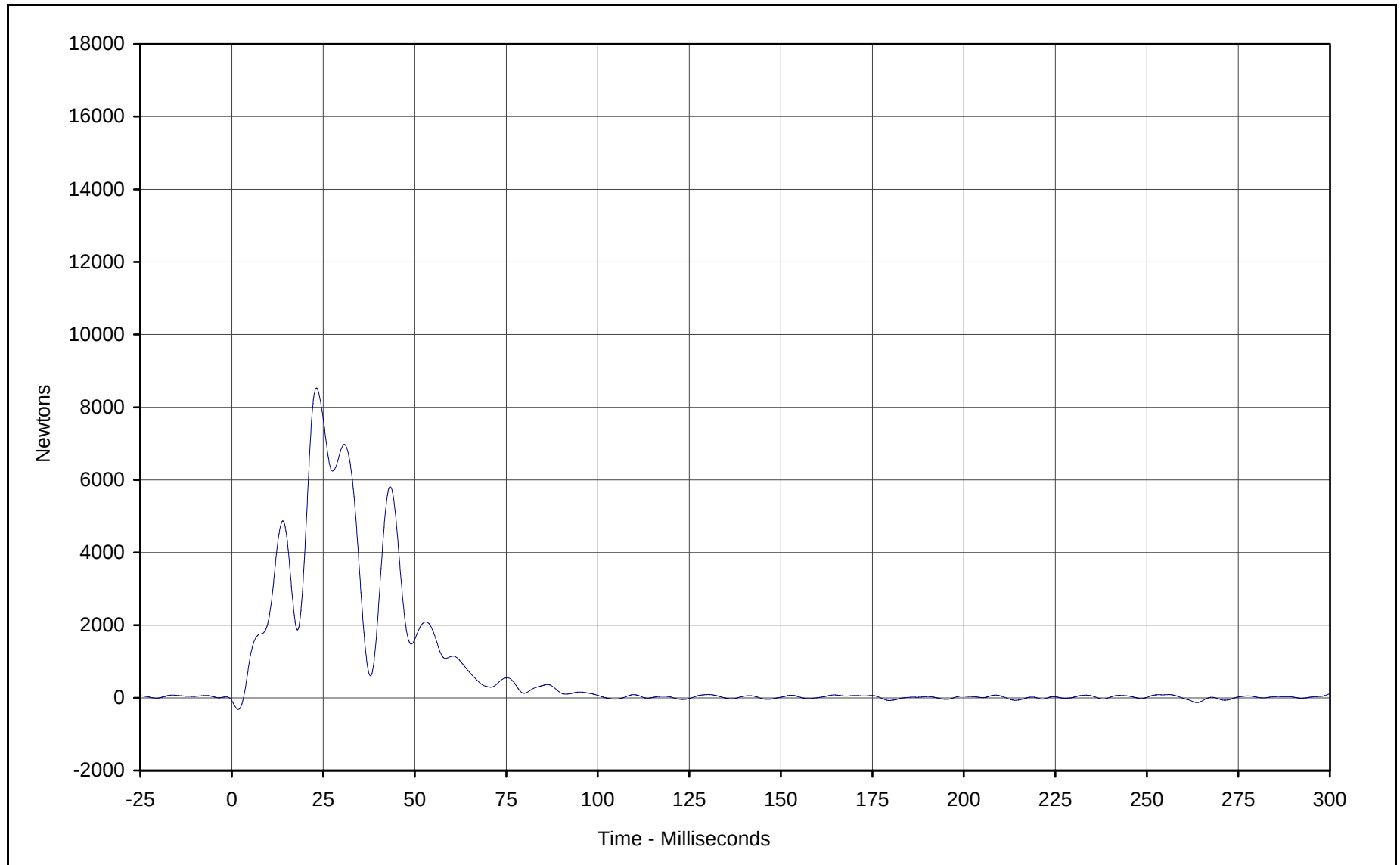
Curve Description: Barrier Force C5
Maximum Value: 22731.8 at 30.2 Milliseconds
Minimum Value: -206.2 at 1.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-120

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-21



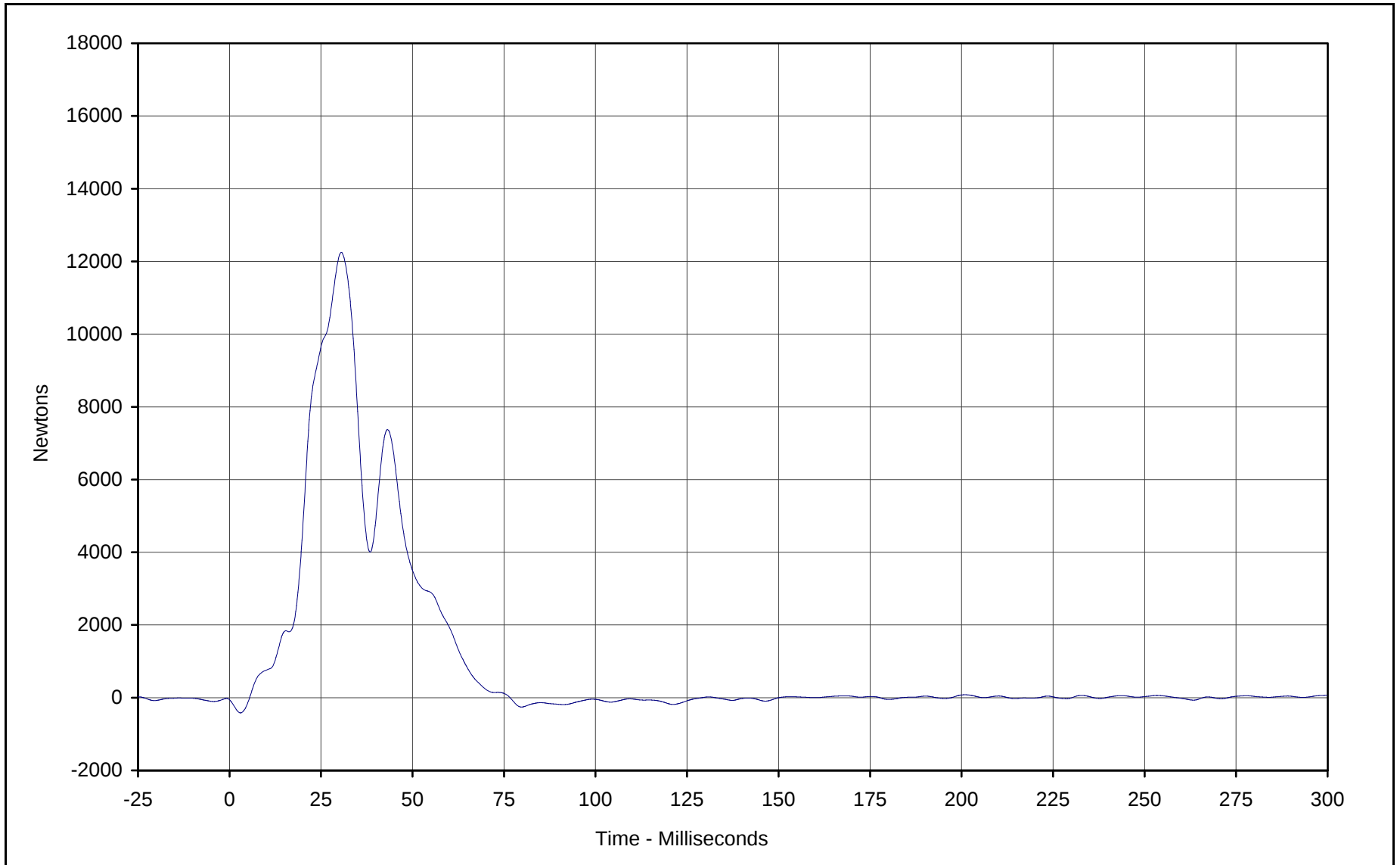
Curve Description: Barrier Force C6
Maximum Value: 8527.6 at 23.1 Milliseconds
Minimum Value: -319.0 at 1.8 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-121

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-22



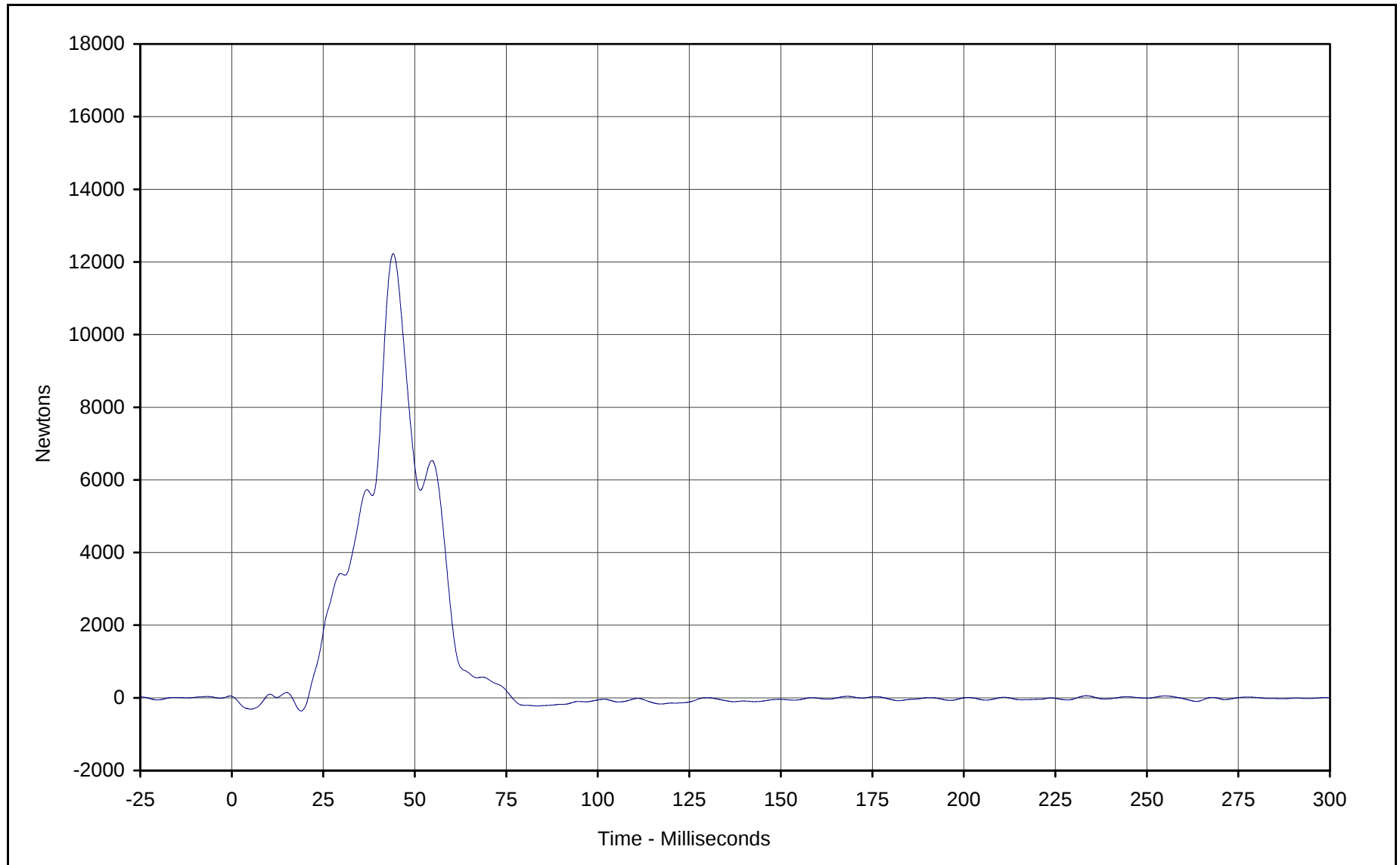
Curve Description: Barrier Force C7
Maximum Value: 12249.9 at 30.5 Milliseconds
Minimum Value: -417.5 at 3.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-122

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-23



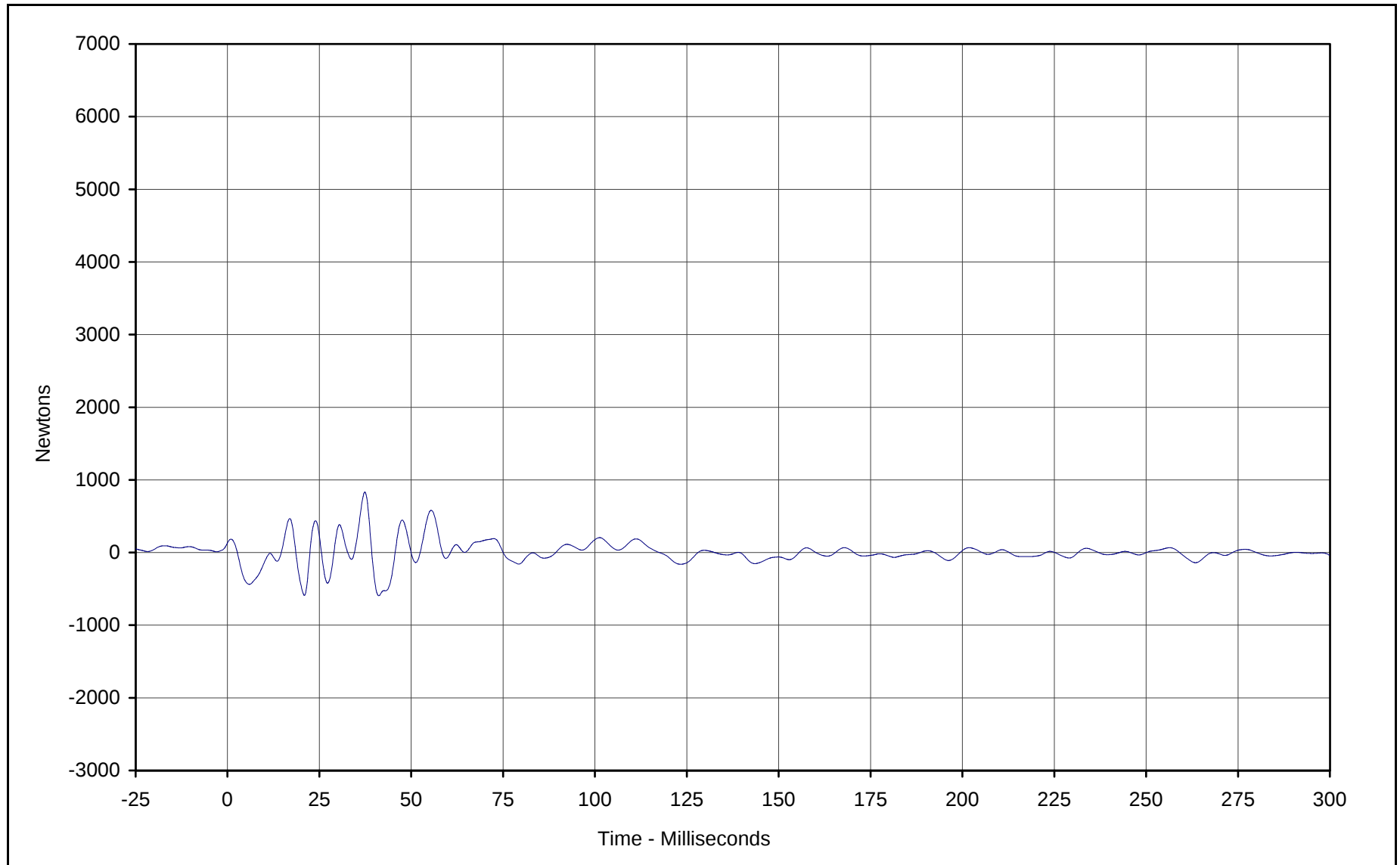
Curve Description: Barrier Force C8
Maximum Value: 12227.1 at 44.1 Milliseconds
Minimum Value: -364.2 at 18.9 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-123

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-24



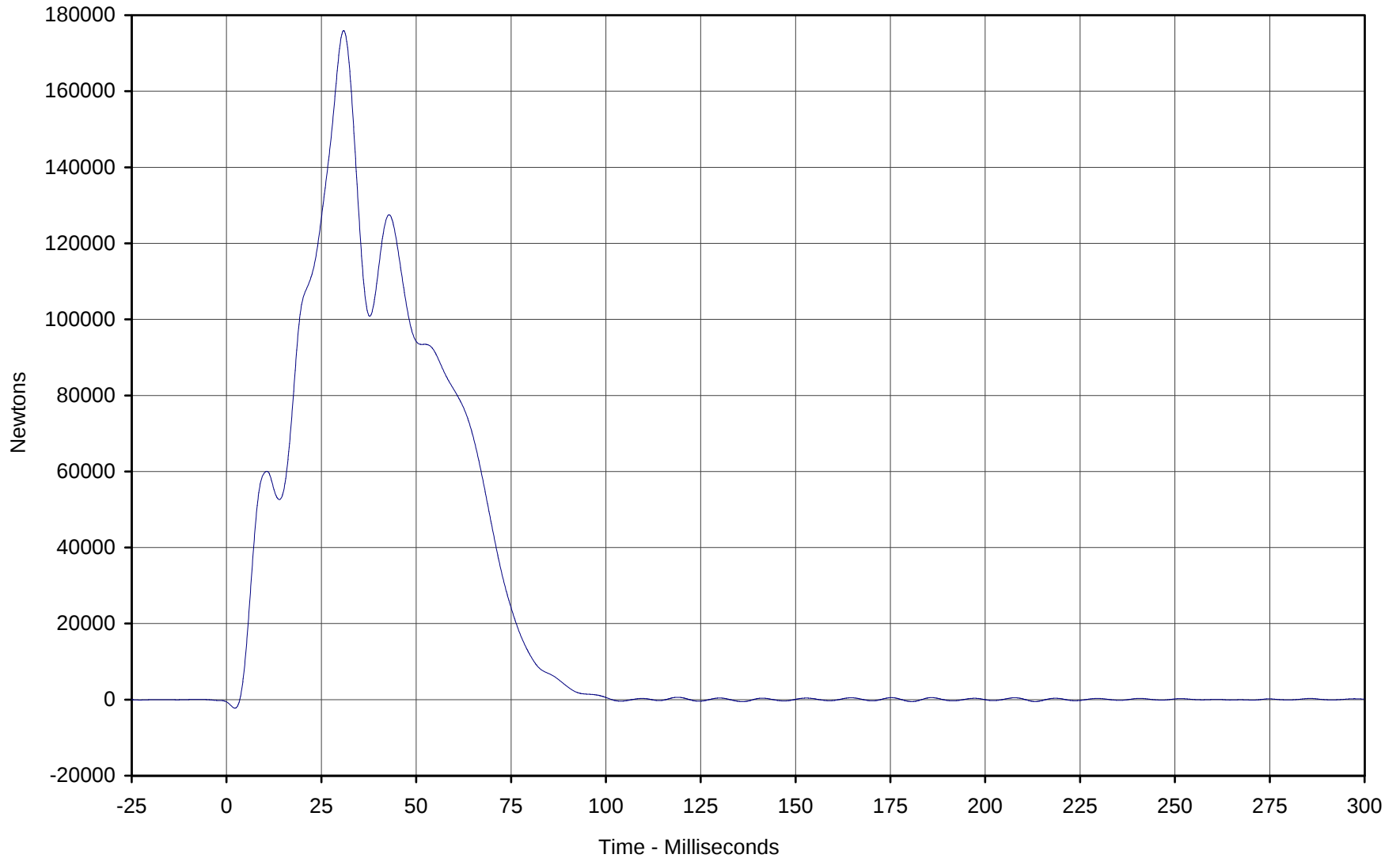
Curve Description: Barrier Force C9
Maximum Value: 831.8 at 37.4 Milliseconds
Minimum Value: -594.5 at 41.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: FIL-124

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-25

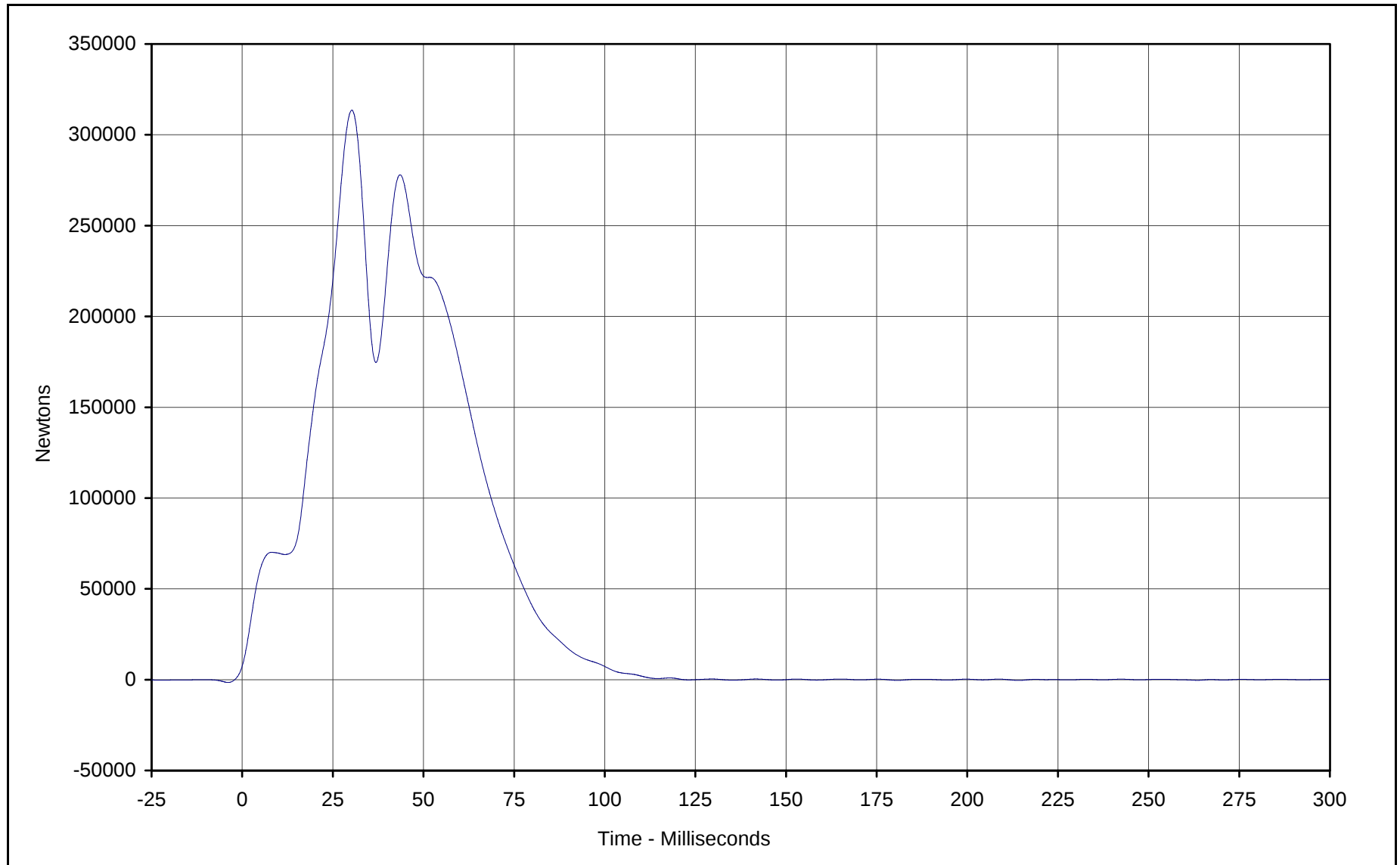


Curve Description: Barrier Force Sum Group 1
Maximum Value: 175935.0 at 30.9 Milliseconds
Minimum Value: -2244.3 at 2.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: SUM-001

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



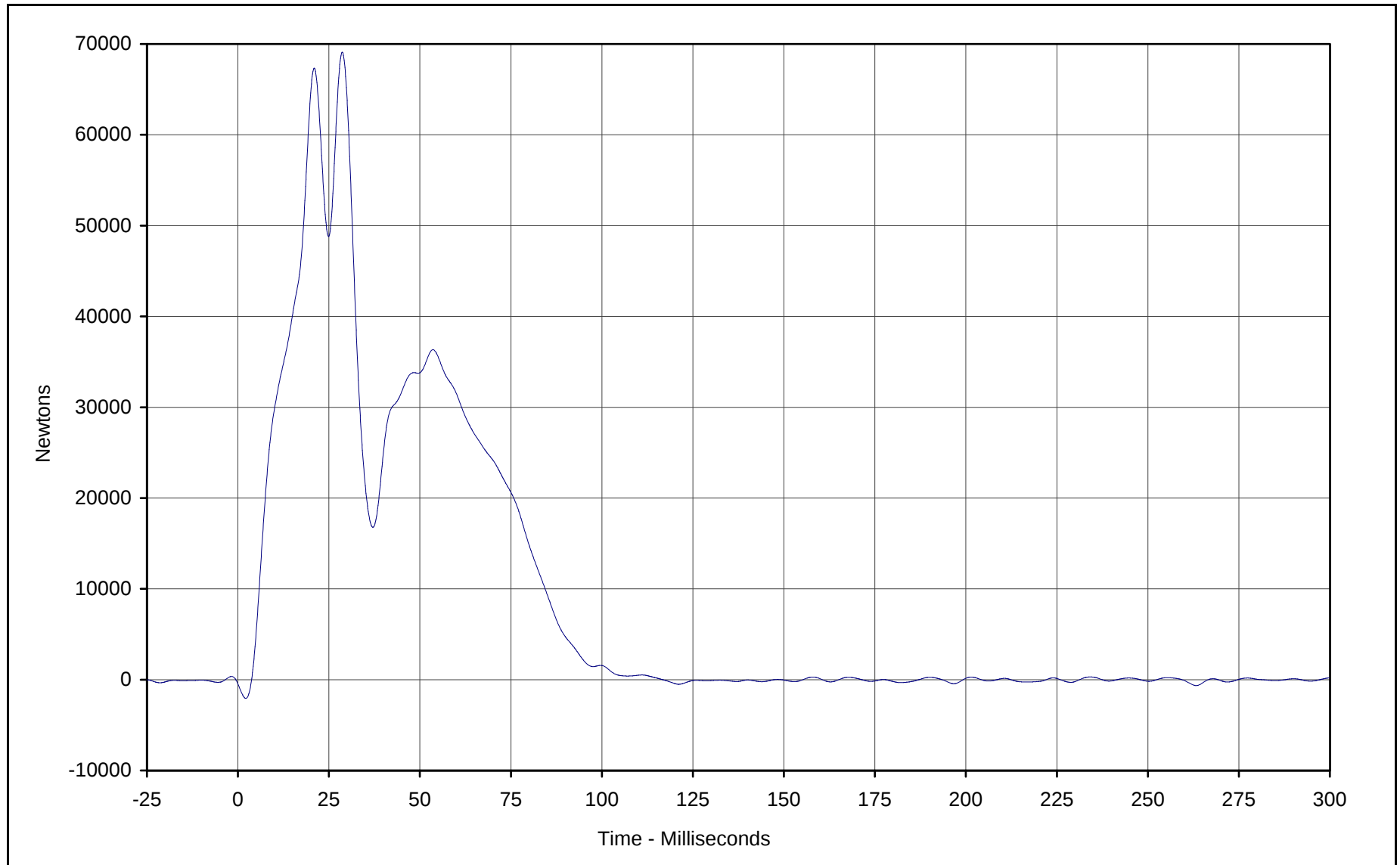
KAR21001-13



Curve Description: Barrier Force Sum Group 2
Maximum Value: 313558.7 at 30.2 Milliseconds
Minimum Value: -397.1 at 214.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: SUM-002

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

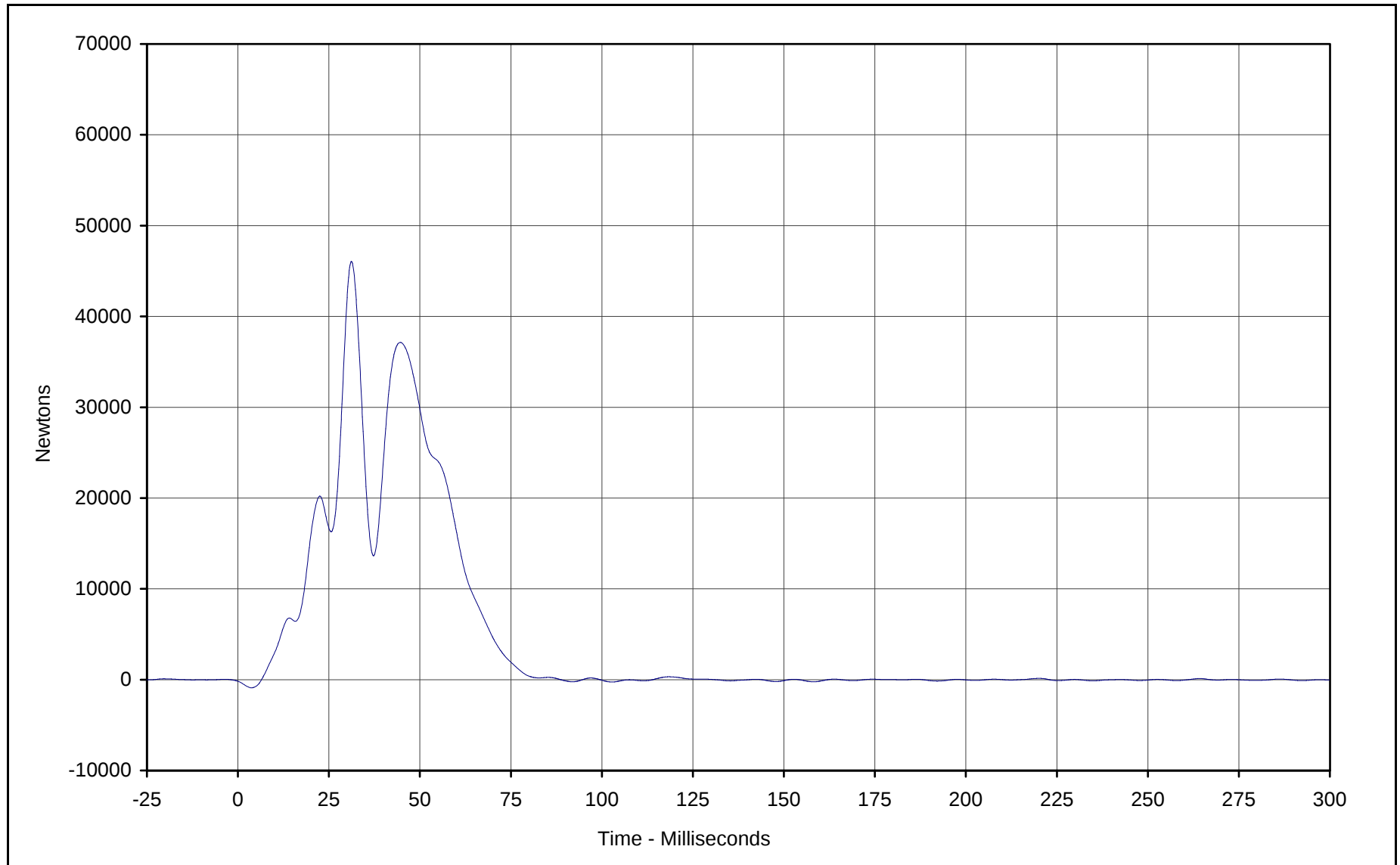




Curve Description: Barrier Force Sum Group 3
Maximum Value: 69093.5 at 28.7 Milliseconds
Minimum Value: -2059.2 at 2.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: SUM-003

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

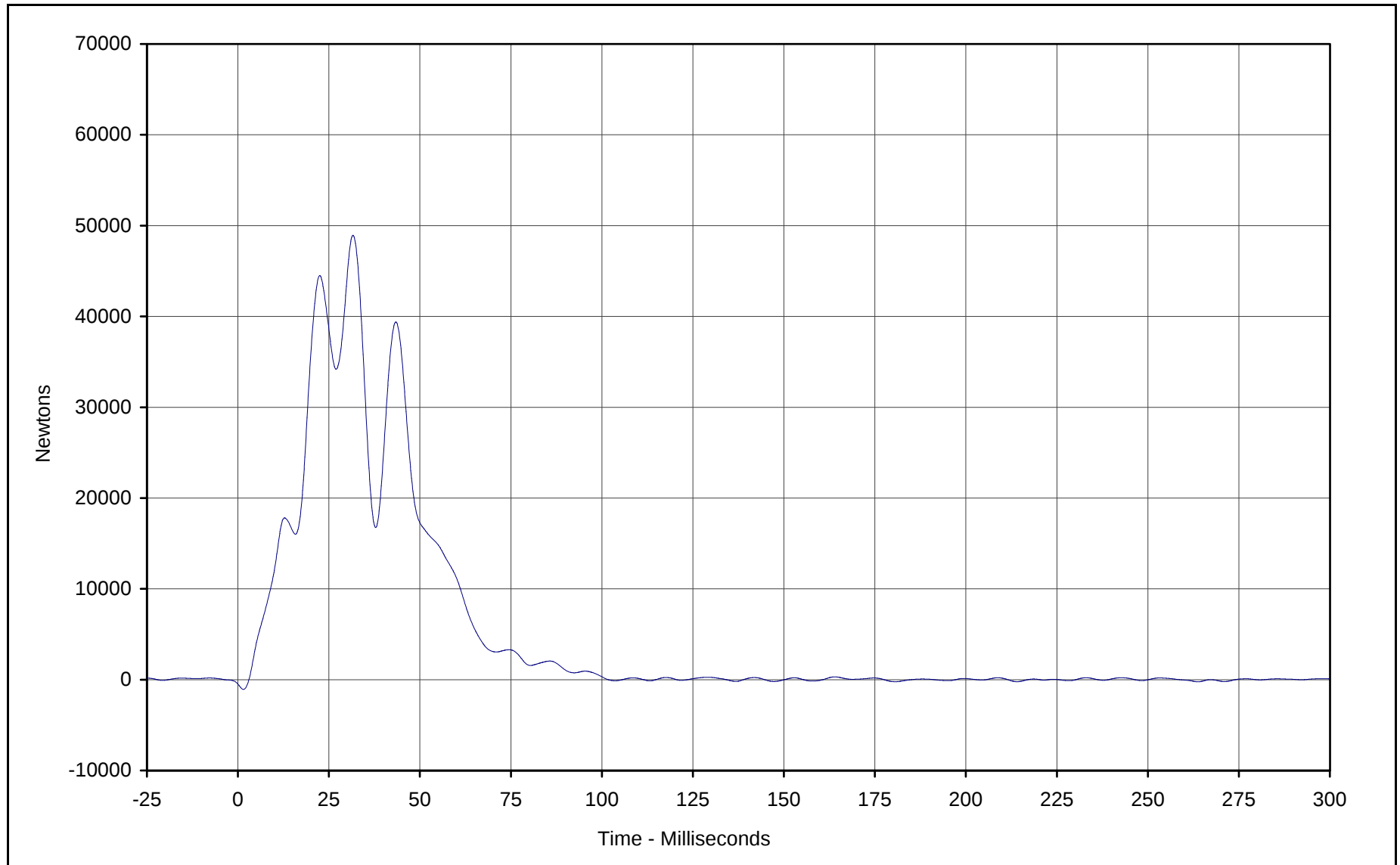




Curve Description: Barrier Force Sum Group 4
Maximum Value: 46058.8 at 31.2 Milliseconds
Minimum Value: -901.2 at 3.7 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: SUM-004

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



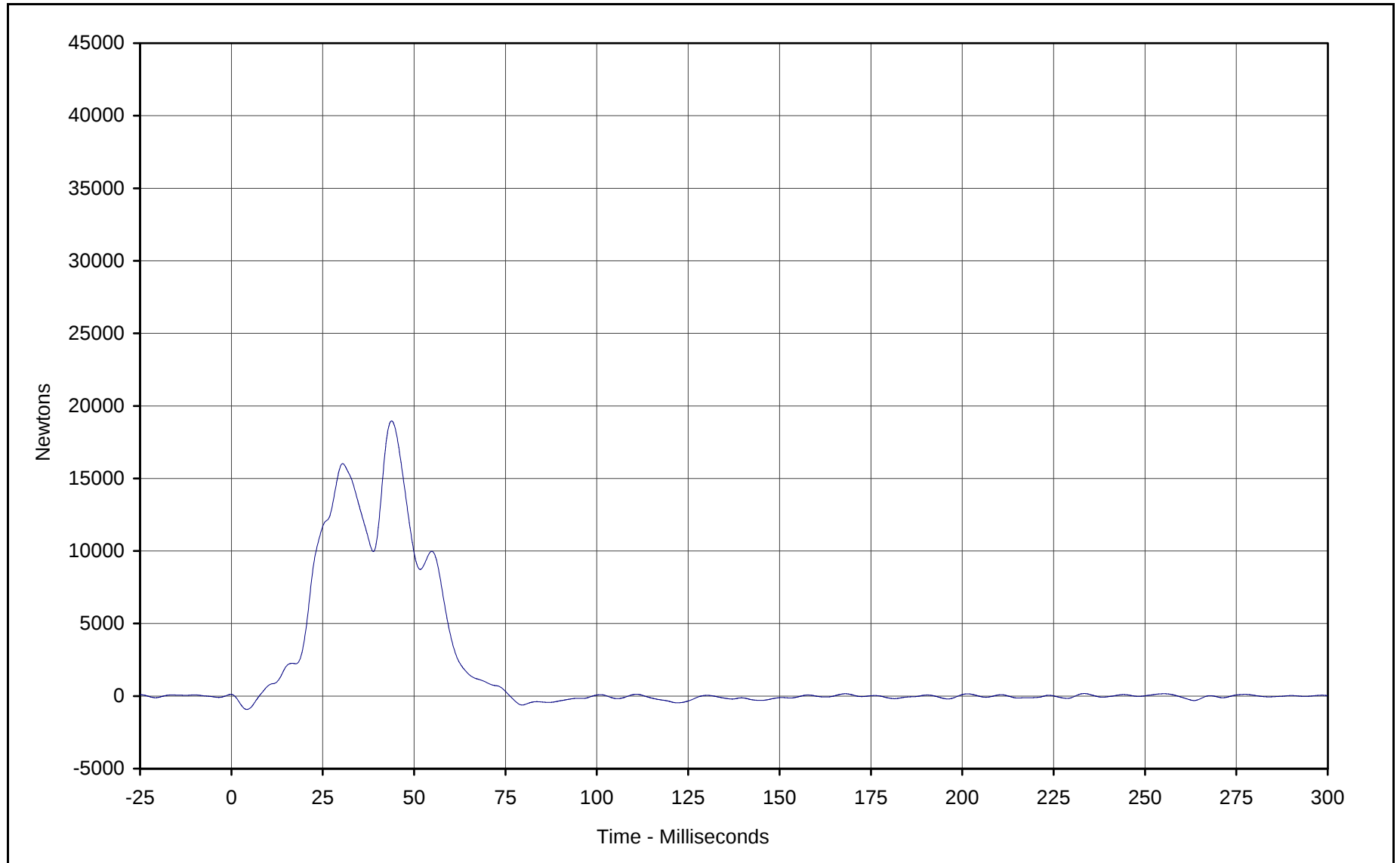


Curve Description: Barrier Force Sum Group 5
Maximum Value: 48935.2 at 31.6 Milliseconds
Minimum Value: -1073.3 at 1.5 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: SUM-005

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



C-30



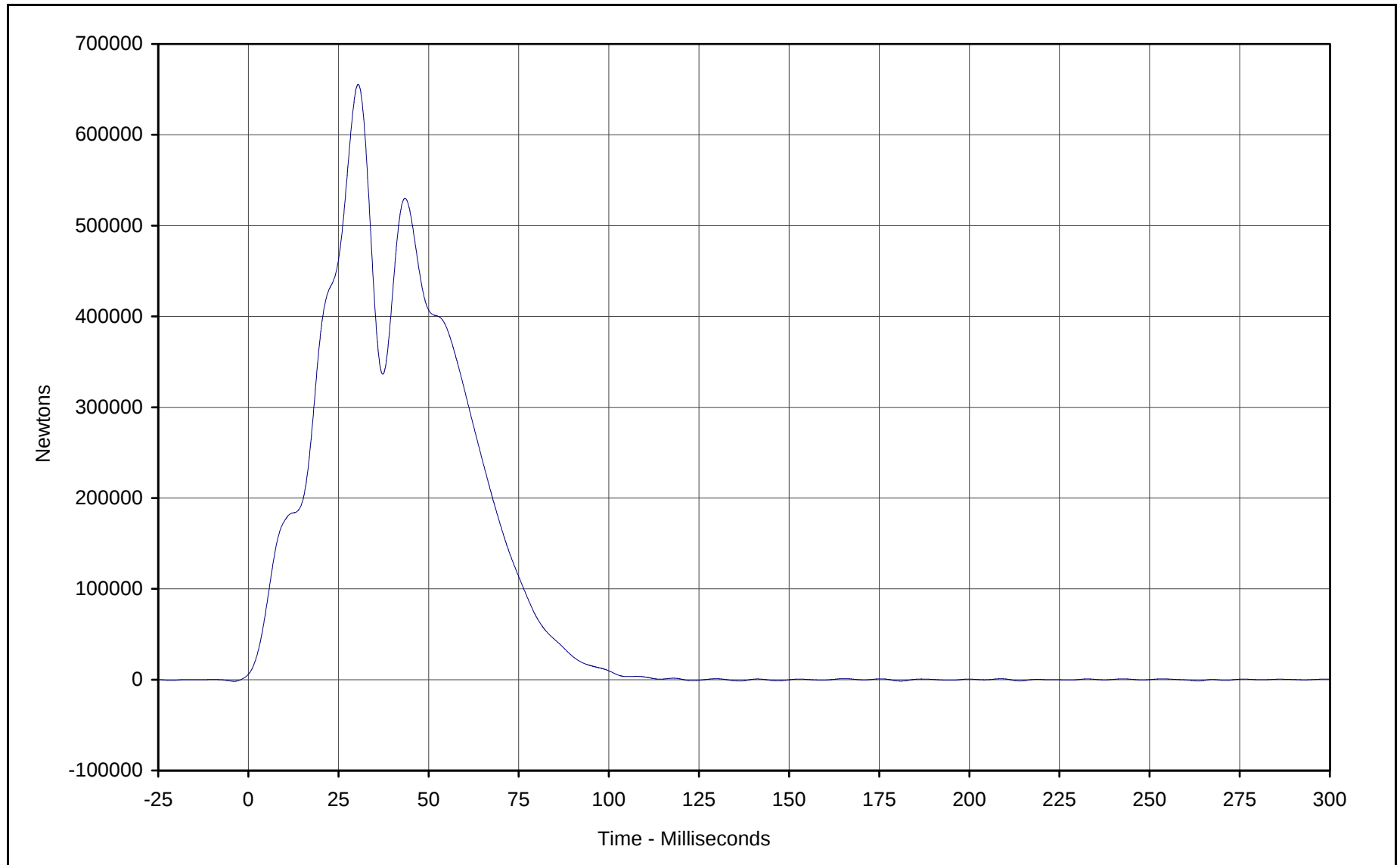
Curve Description: Barrier Force Sum Group 6
Maximum Value: 18966.7 at 43.8 Milliseconds
Minimum Value: -922.1 at 4.2 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: SUM-006

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-31



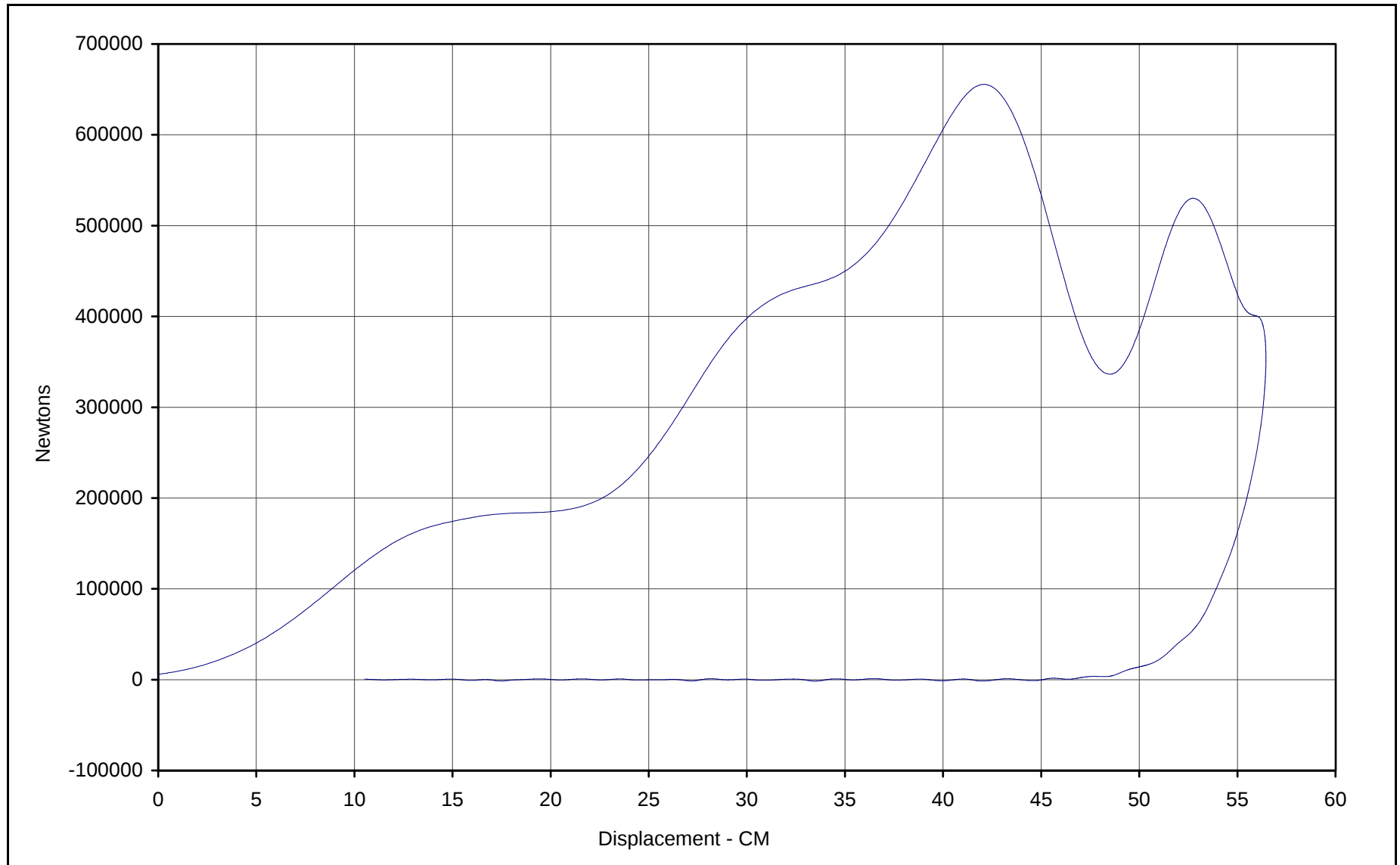
Curve Description: Barrier Force Sum Total
Maximum Value: 655488.4 at 30.5 Milliseconds
Minimum Value: -1552.4 at 181.0 Milliseconds
SAE Filter Class: 60
Date of Test: 02/21/01
Curve Number: SUM-007

Test Program: 2001 NHTSA 35mph NCAP No.: M15112
Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



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C-32



Curve Description: Sum Force Total vs. Dynamic Crush

Maximum Displ.: 56.5 at 57.7 Milliseconds

Maximum Force: 655,488 at 30.5 Milliseconds

Measured Energy: 169,342 joules

Date of Test: 02/21/01

Curve Number: XVY-001

Test Program: 2001 NHTSA 35mph NCAP No.: M15112

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan



KAR21001-13

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2001 Toyota Prius Hybrid 4 Door Sedan

NHTSA No.: M15112

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 02/21/01

BARRIER LOAD CELL PEAK FORCES

Location	Units	Max	Time	Min	Time
Barrier Force A2	Newtons	3308.2	16.8	-424.5	4.3
Barrier Force A3	Newtons	18272.1	63.1	-831.6	3.1
Barrier Force A4	Newtons	5616.8	62.8	-614.5	15.8
Barrier Force A5	Newtons	29935.2	17.4	-421.9	37.6
Barrier Force A6	Newtons	16267.6	61.9	-65.4	263.7
Barrier Force A7	Newtons	11281.4	20.7	-547.4	2.0
Barrier Force A8	Newtons	8517.7	53.1	-643.2	18.9
Barrier Force A9	Newtons	1280.1	24.0	-2193.5	20.5
Barrier Force B2	Newtons	22433.6	19.9	-561.9	3.5
Barrier Force B3	Newtons	140164.3	30.8	-1236.8	1.6
Barrier Force B4	Newtons	138137.2	30.9	-71.1	135.5
Barrier Force B5	Newtons	49871.2	30.4	-66.1	263.6
Barrier Force B6	Newtons	104474.1	29.0	-155.7	0.0
Barrier Force B7	Newtons	60090.2	28.6	-1118.6	1.8
Barrier Force B8	Newtons	7529.9	52.4	-249.7	2.6
Barrier Force B9	Newtons	1287.8	23.9	-1742.4	20.2
Barrier Force C2	Newtons	8084.0	30.8	-622.0	6.0
Barrier Force C3	Newtons	38049.4	31.3	-506.4	3.2
Barrier Force C4	Newtons	21544.5	32.5	-570.2	1.6
Barrier Force C5	Newtons	22731.8	30.2	-206.2	1.2
Barrier Force C6	Newtons	8527.6	23.1	-319.0	1.8
Barrier Force C7	Newtons	12249.9	30.5	-417.5	3.0
Barrier Force C8	Newtons	12227.1	44.1	-364.2	18.9
Barrier Force C9	Newtons	831.8	37.4	-594.5	41.2
Barrier Force Sum Group 1	Newtons	175935.0	30.9	-2244.3	2.2
Barrier Force Sum Group 2	Newtons	313558.7	30.2	-397.1	214.2
Barrier Force Sum Group 3	Newtons	69093.5	28.7	-2059.2	2.2
Barrier Force Sum Group 4	Newtons	46058.8	31.2	-901.2	3.7
Barrier Force Sum Group 5	Newtons	48935.2	31.6	-1073.3	1.5
Barrier Force Sum Group 6	Newtons	18966.7	43.8	-922.1	4.2
Barrier Force Sum Total	Newtons	655488.4	30.5	-1552.4	181.0

Barrier Load cells A1,B1,C1, and D1 through D9 (12 locations) were not recorded.

APPENDIX D

INSTRUMENTATION DATA CHANNEL ASSIGNMENTS

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
02/21/01
2001 Toyota Prius Hybrid 4 Door Sedan

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

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 35
02/21/01
2001 Toyota Prius Hybrid 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
25	UP. TIBIA LEFT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
26	UP. TIBIA LEFT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
27	UP. TIBIA RIGHT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
28	UP. TIBIA RIGHT MOM.	Y	GPOT09MY	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	X	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT	Y	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT	Y	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT	Z	KEIC004Z	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	CM
44	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
02/21/01
2001 Toyota Prius Hybrid 4 Door Sedan

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

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 34
02/21/01
2001 Toyota Prius Hybrid 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
69	UP. TIBIA LEFT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
70	UP. TIBIA LEFT MOM.	Y	GPOT09MY	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
71	UP. TIBIA RIGHT MOM.	X	GPOT09MX	2 ch., Upper tibia gage	R. A. Denton	1583	Nm
72	UP. TIBIA RIGHT MOM.	Y	GPOT09MY	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	X	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT	Y	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT	Y	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT	Z	KEIC001Z	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	MM
88	SHOULDER BELT ELONG.	X	KEEP001	Linear pot., belt stretch	E.T.I.	LCP8-10 10K	MM/CM

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers and Reference Channel
02/21/01
2001 Toyota Prius Hybrid 4 Door Sedan

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
89	Left Rear Primary	X	KEVA010	Accel., Vehicle block	I.C. Sensor	3031-200	G
90	Right Rear Primary	Y	KEVA006	Accel., Vehicle block	I.C. Sensor	3031-200	G
91	Engine Top	X	KEVA001	Accel., Vehicle block	I.C. Sensor	3031-500	G
92	Engine Bottom	Y	KEVA008	Accel., Vehicle block	I.C. Sensor	3031-500	G
93	Left Brake Caliper	X	KEVA004	Accel., Vehicle block	I.C. Sensor	3031-500	G
94	Right Brake Caliper	Y	KEVA009	Accel., Vehicle block	I.C. Sensor	3031-500	G
95	Instrument Panel	X	KEVA003	Accel., Vehicle block	I.C. Sensor	3031-500	G
96	Left Rear Redundant	Y	KEVA011	Accel., Vehicle block	I.C. Sensor	3031-200	G
97	Zero Reference	N/A	N/A	N/A	N/A	N/A	N/A

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
02/21/01
2001 Toyota Prius Hybrid 4 Door Sedan

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

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Rigid Load Cell Barrier
02/21/01
2001 Toyota Prius Hybrid 4 Door Sedan

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

APPENDIX E
DUMMY CALIBRATION DATA



Hybrid III Calibration Data Sheet

50TH Percentile Male

Left Knee Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: LK03A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.113	Pass
Peak Probe Force	Newtons	4715 to 5782	5569.3	Pass
Overall Test Results				Pass

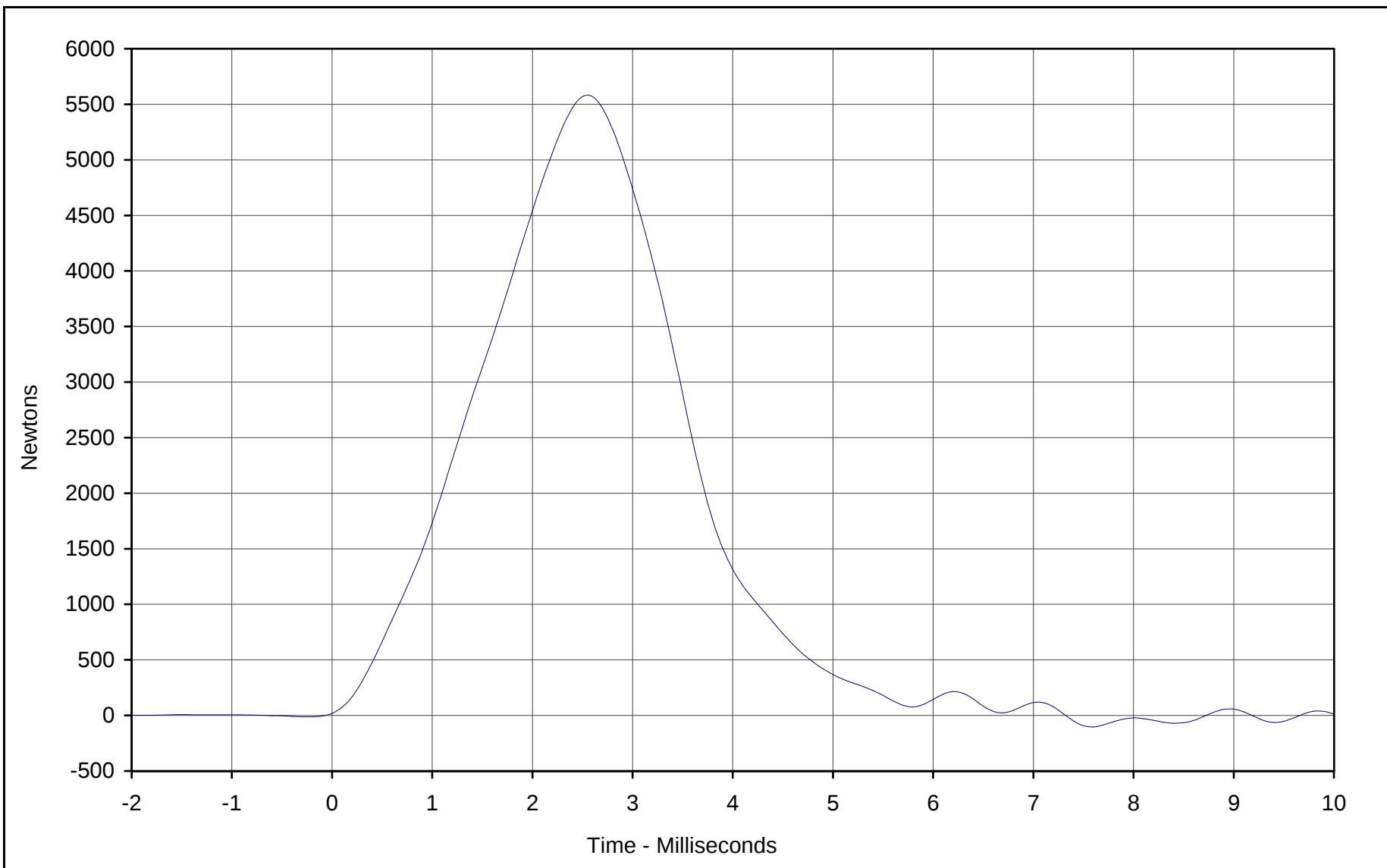
Laboratory Technician

February 20, 2001
Test Date

Approved By

Date

E-2



Curve Description: Probe Force

Maximum Value:	<u>5569.3</u>	at	<u>2.6</u>	Milliseconds
Minimum Value:	<u>-103.1</u>	at	<u>7.6</u>	Milliseconds
SAE Filter Class:	<u>600</u>			
Date of Test:	<u>2/20/01</u>			
ATD Serial No.:	<u>034</u>			

Testing Program: Hybrid III Left Knee Impact Test

Test Information: Part S/N: N/A Test I.D.: LK03A



KAR21001-13



Hybrid III Calibration Data Sheet

50TH Percentile Male

Right Knee Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: RK03A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.113	Pass
Peak Probe Force	Newtons	4715 to 5782	5619.2	Pass
Overall Test Results				Pass

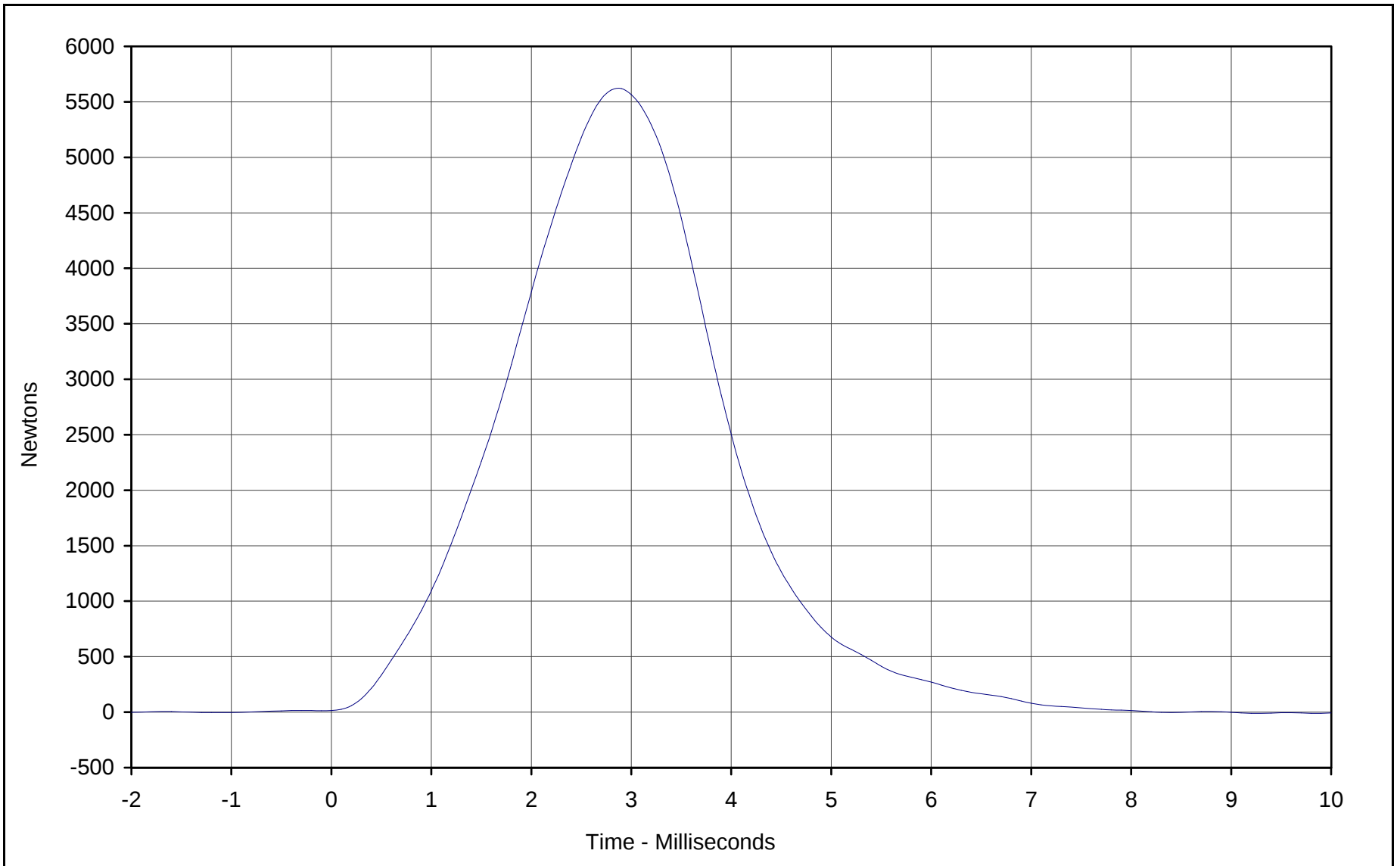
Laboratory Technician

February 20, 2001
Test Date

Approved By

Date

E-4



Curve Description: Probe Force

Maximum Value:	<u>5619.2</u>	at	<u>2.9</u>	Milliseconds
Minimum Value:	<u>-4.2</u>	at	<u>-1.1</u>	Milliseconds
SAE Filter Class:	<u>600</u>			
Date of Test:	<u>2/20/01</u>			
ATD Serial No.:	<u>034</u>			

Testing Program: Hybrid III Right Knee Impact Test

Test Information: Part S/N: N/A Test I.D.: RK03A



KAR21001-13



Hybrid III Calibration Data Sheet

50TH Percentile Male

Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: HD01F

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	235.6	Pass
Peak Lateral Acceleration	G's	≤15.0	8.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

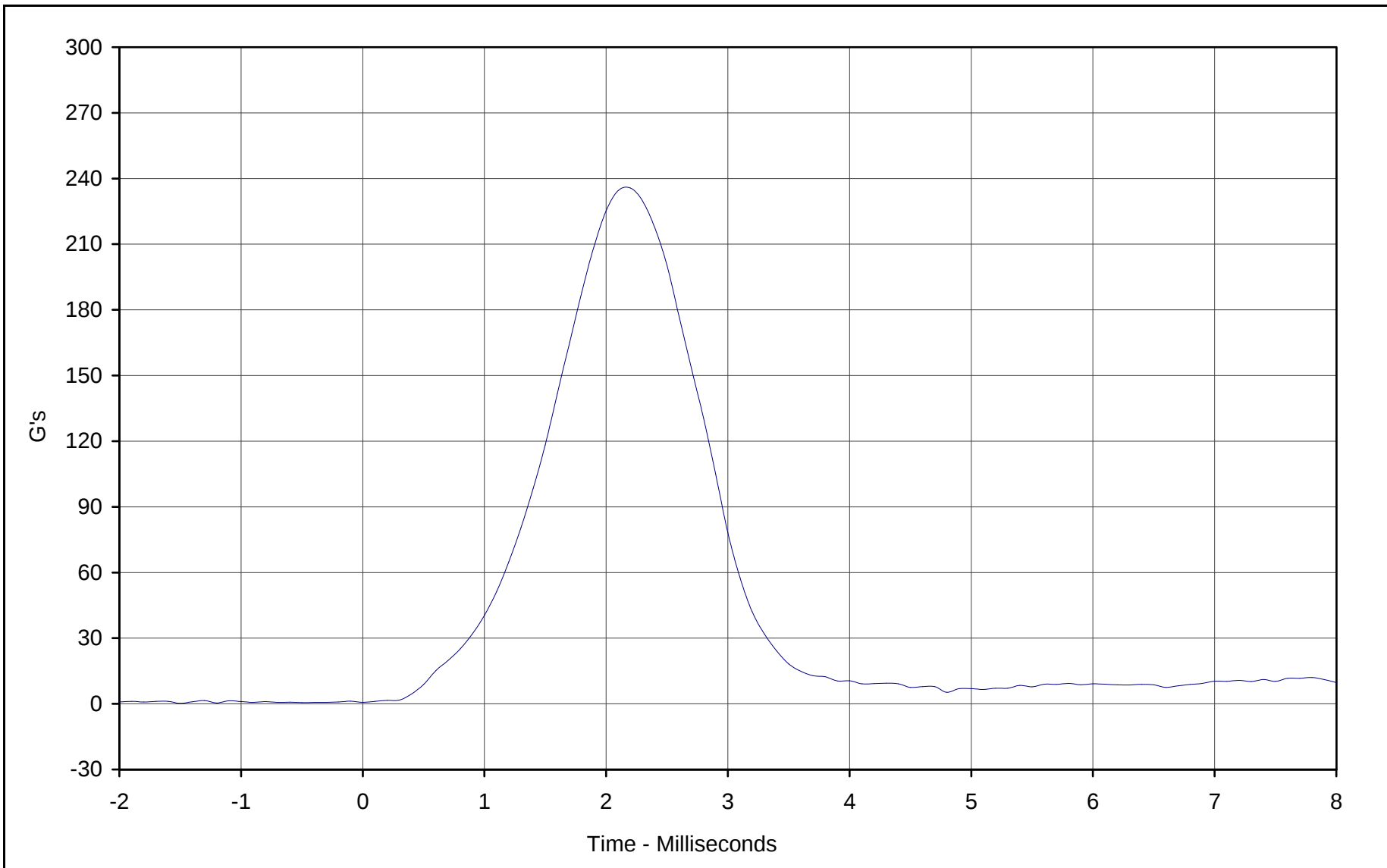
February 20, 2001

Test Date

Approved By

Date

E-6



Curve Description: Head Resultant Acceleration

Maximum Value:	<u>235.6</u>	at	<u>2.2</u>	Milliseconds
Minimum Value:	<u>0.2</u>	at	<u>-1.5</u>	Milliseconds
SAE Filter Class:	<u>1000</u>			
Date of Test:	<u>2/20/01</u>			
ATD Serial No.:	<u>034</u>			

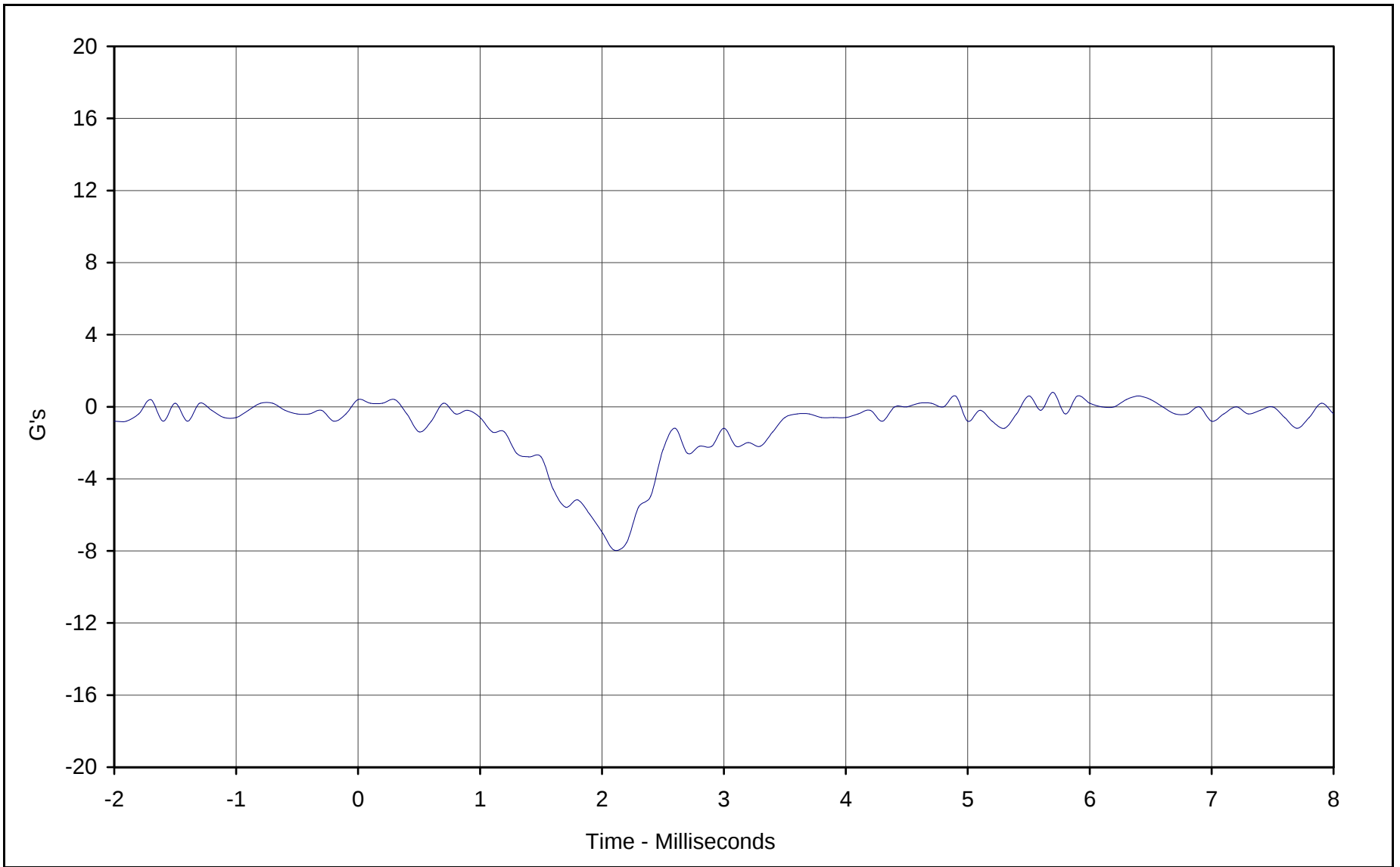
Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD01F



KAR21001-13

E-7



Curve Description:	Head Acceleration Y Axis		
Maximum Value:	0.8	at	5.7 Milliseconds
Minimum Value:	-8.0	at	2.1 Milliseconds
SAE Filter Class:	1000		
Date of Test:	2/20/01		
ATD Serial No.:	034		

Testing Program:	Hybrid III Head Drop Calibration (Male)
Test Information:	S/N of Part: N/A Test I.D.: HD01F



KAR21001-13



Hybrid III Calibration Data Sheet

50TH Percentile Male

Thorax Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: CH03A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.2	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	6.44	Pass
Internal Hysteresis	%	69 to 85	78.8	Pass
Overall Test Results				Pass

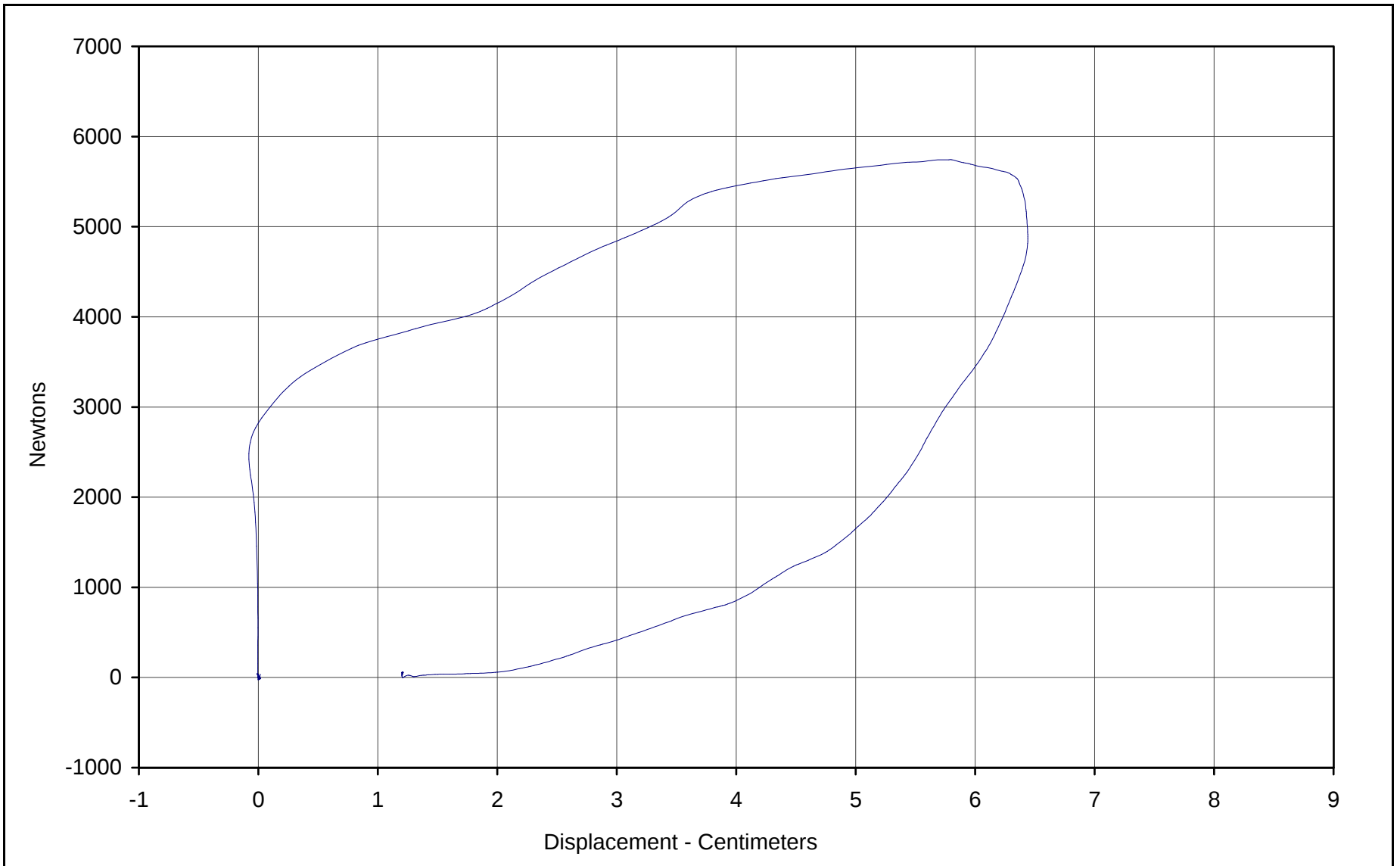
Laboratory Technician

February 20, 2001

Test Date

Approved By

Date



Curve Description: Probe Force vs. Chest Displacement

Probe Force: 5743.0 Newtons

Chest Displ.: 6.44 Centimeters

SAE Filter Class: 180

Date of Test: 2/20/01

ATD Serial No.: 034

Testing Program: Hybrid III Thorax Impact Test

Test Information: S/N of Part: N/A Test I.D.: CH03A





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NF03A

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	6.91	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	24.1	Pass
	20 Msec.	G's	17.6 to 22.6	21.1	Pass
	30 Msec.	G's	12.5 to 18.5	16.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	16.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	34.1	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	71.9	Pass
	Time	Msec.	57.0 to 64.0	60.4	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	117.5	Pass
Moment About Occipital Condyle	Maximum	N·m	84.1 to 108.5	86.9	Pass
	Time	Msec.	47.0 to 58.0	47.1	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	100.0	Pass
Overall Test Results					Pass

Laboratory Technician

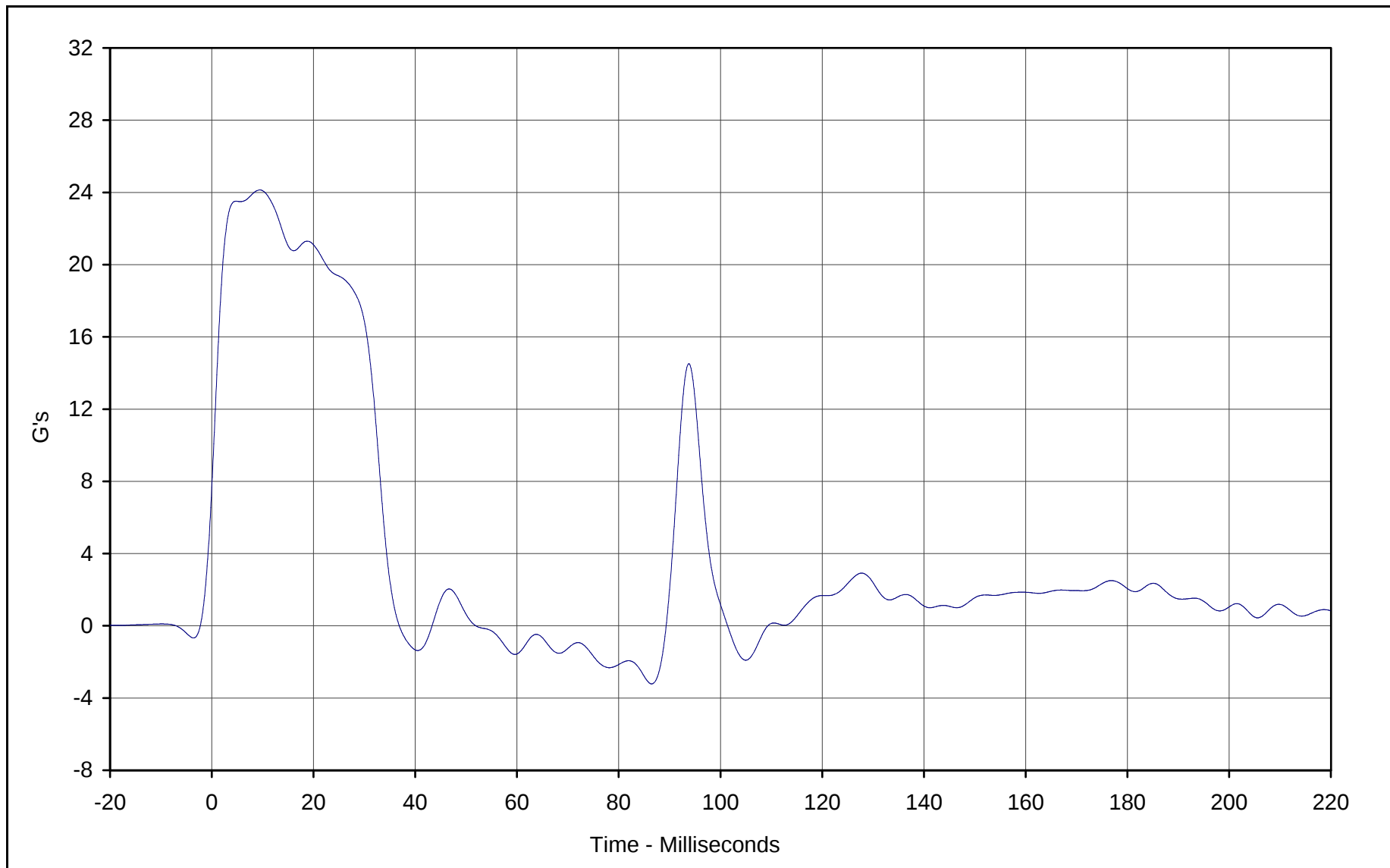
February 20, 2001

Test Date

Approved By

Date

E-11



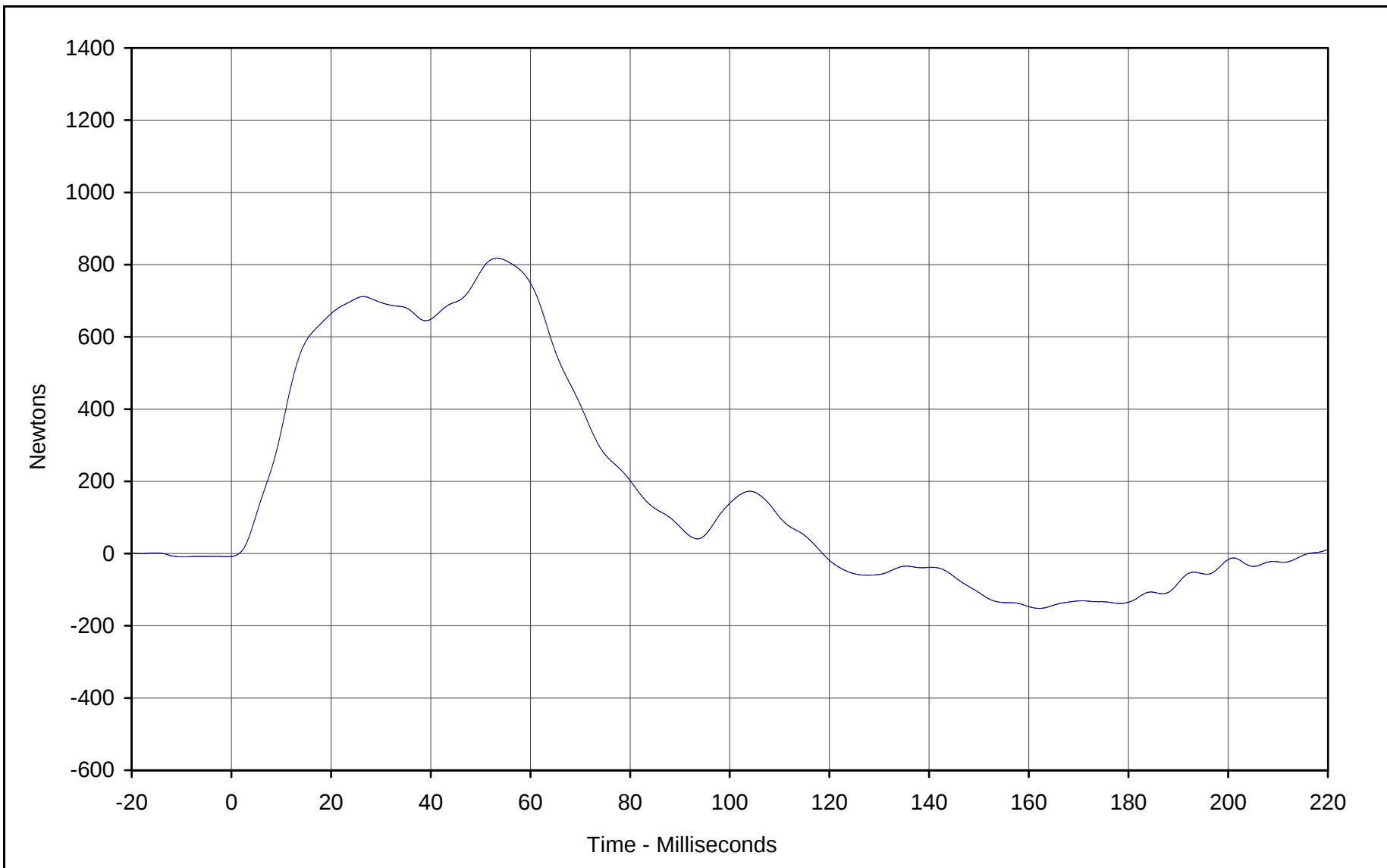
Curve Description:	Pendulum Deceleration		
Maximum Value:	24.1	at	9.5 Milliseconds
Minimum Value:	-3.2	at	86.5 Milliseconds
SAE Filter Class:	60		
Date of Test:	2/20/01		
ATD Serial No.:	034		

Testing Program:	Hybrid III Neck Flexion Test (Male)
Test Information:	S/N of Part: N/A Test I.D.: NF03A



KAR21001-13

E-12



Curve Description: Neck Force X

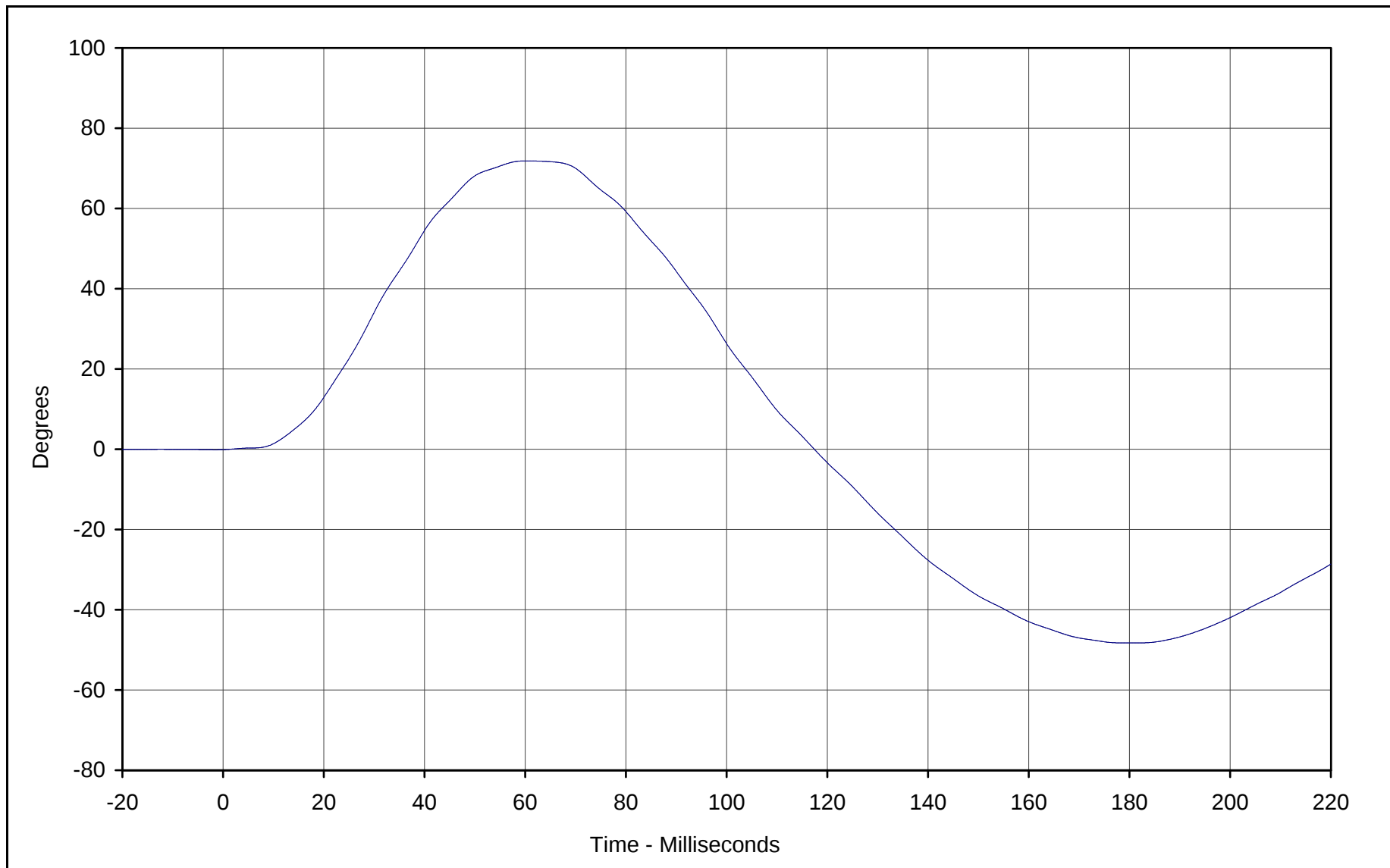
Maximum Value:	817.9	at	53.3	Milliseconds
Minimum Value:	-151.8	at	162.1	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF03A



KAR21001-13



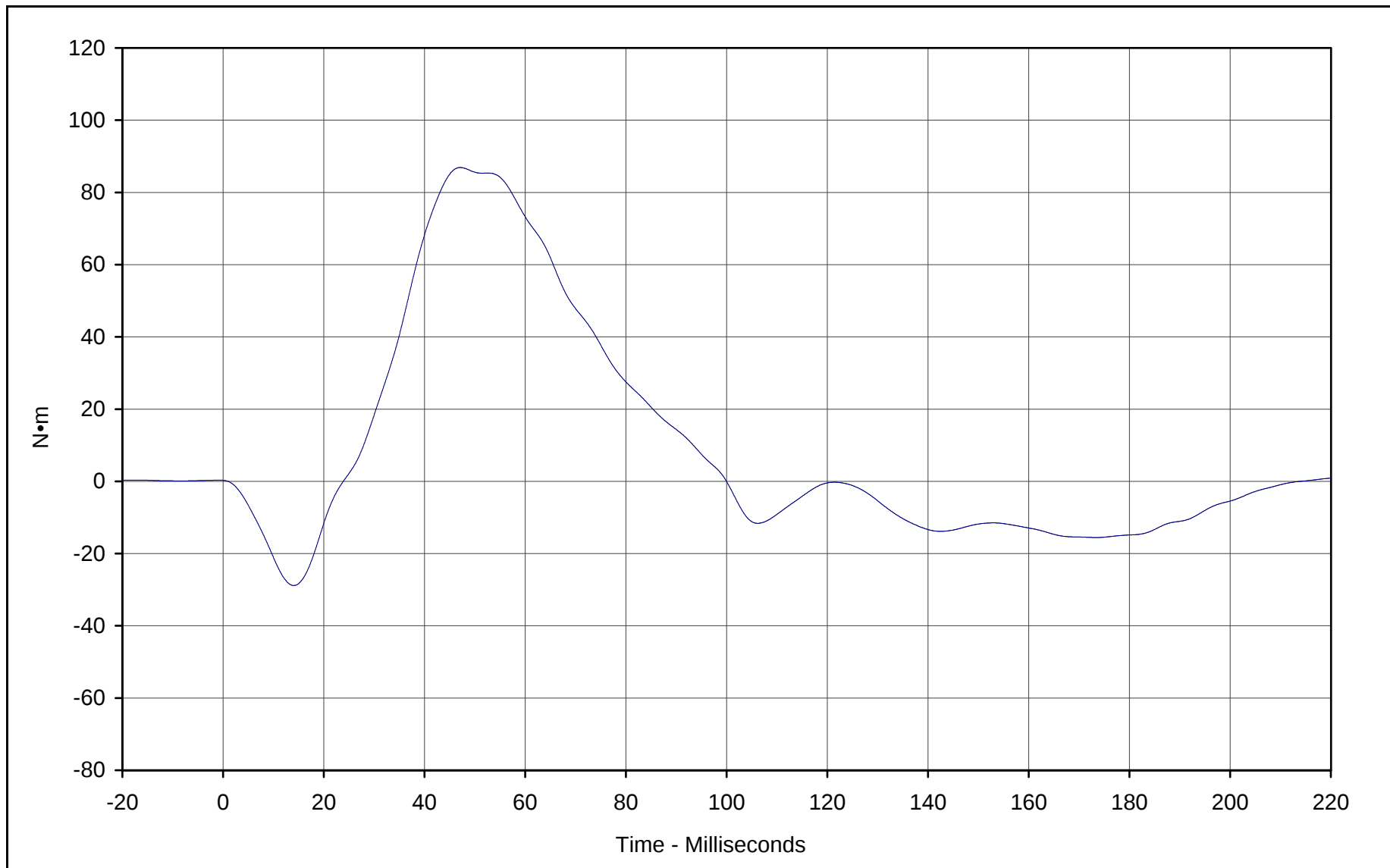
Curve Description: "D" Plane Rotation

Maximum Value:	71.9	at	60.4	Milliseconds
Minimum Value:	-48.3	at	179.9	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF03A





Curve Description: Moment About Occipital Condyles

Maximum Value: 86.9 at 47.1 Milliseconds

Minimum Value: -28.8 at 14.0 Milliseconds

SAE Filter Class: 60

Date of Test: 2/20/01

ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF03A





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NE03A

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	5.95 to 6.19	6.17	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.5	Pass
	20 Msec.	G's	14.0 to 19.0	15.5	Pass
	30 Msec.	G's	11.0 to 16.0	13.1	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	13.1	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	44.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	90.2	Pass
	Time	Msec.	72.0 to 82.0	80.3	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	151.7	Pass
Moment About Occipital Condyle	Maximum	N•m	-52.9 to- 79.9	-68.7	Pass
	Time	Msec.	65.0 to 79.0	66.5	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	139.5	Pass
Overall Test Results					Pass

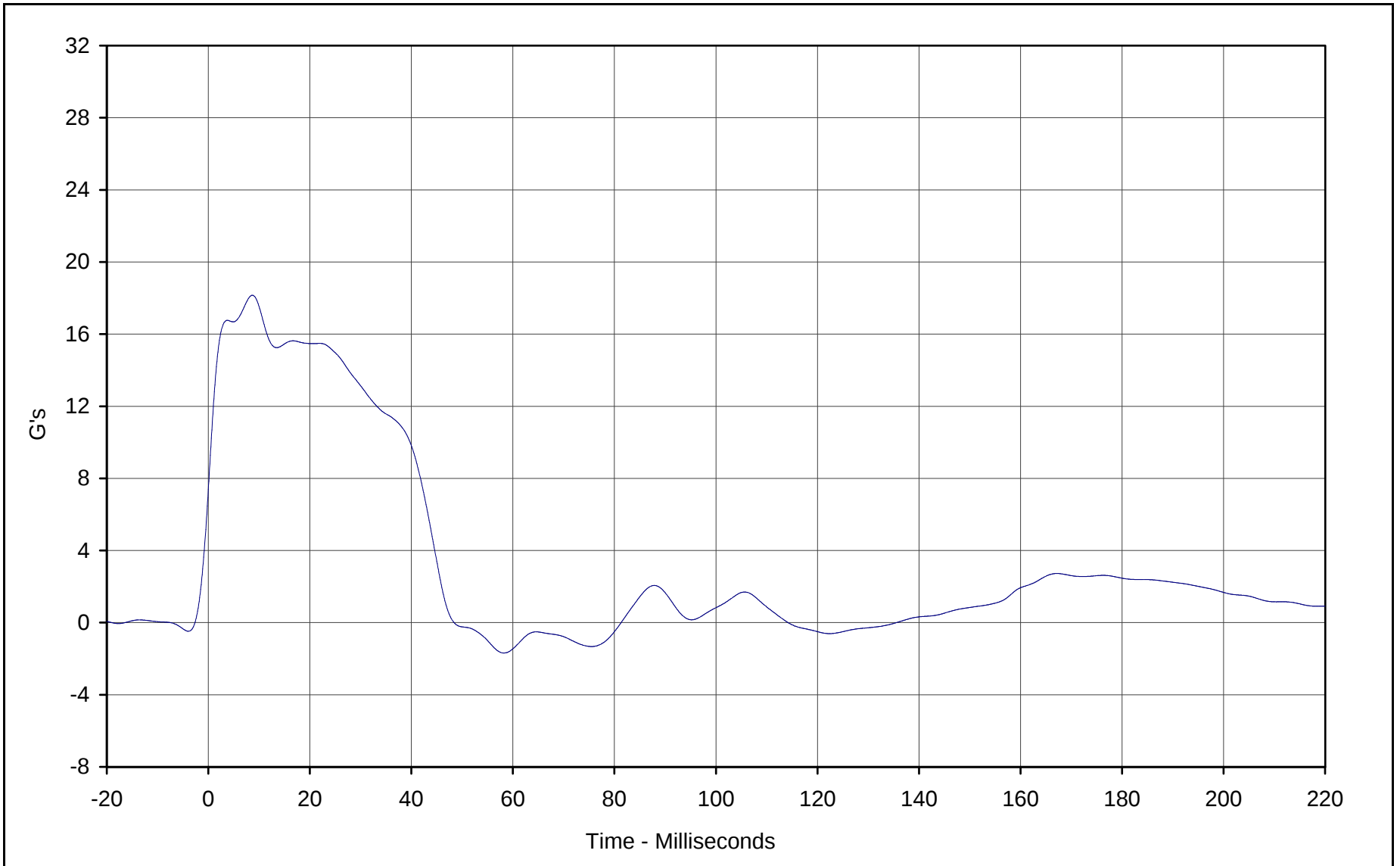
Laboratory Technician

February 20, 2001

Test Date

Approved By

Date



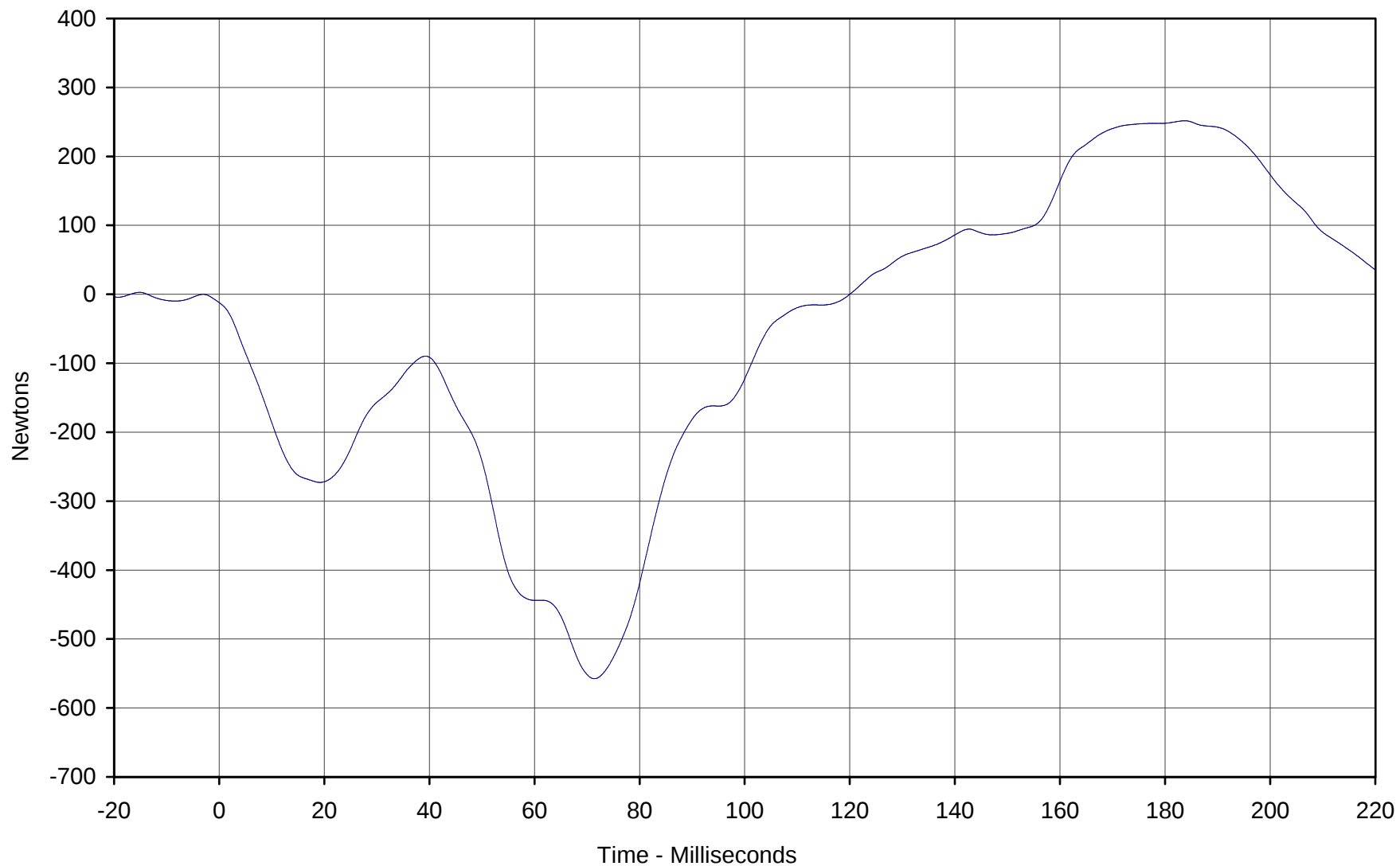
Curve Description: Pendulum Deceleration

Maximum Value:	<u>18.2</u>	at	<u>8.7</u>	Milliseconds
Minimum Value:	<u>-1.7</u>	at	<u>58.2</u>	Milliseconds
SAE Filter Class:	<u>60</u>			
Date of Test:	<u>2/20/01</u>			
ATD Serial No.:	<u>034</u>			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE03A





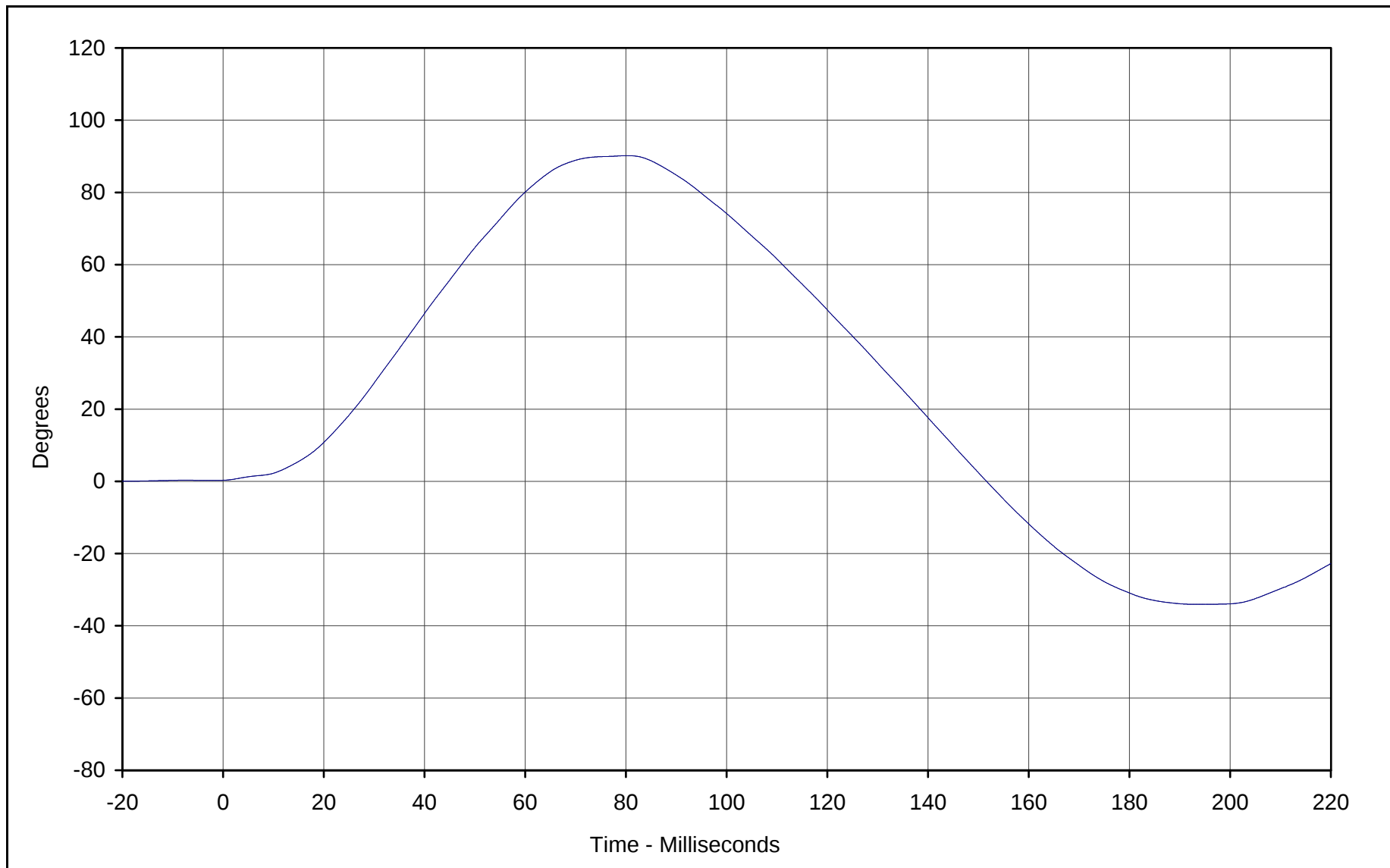
Curve Description: Neck Force X

Maximum Value:	251.7	at	183.7	Milliseconds
Minimum Value:	-557.6	at	71.4	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE03A





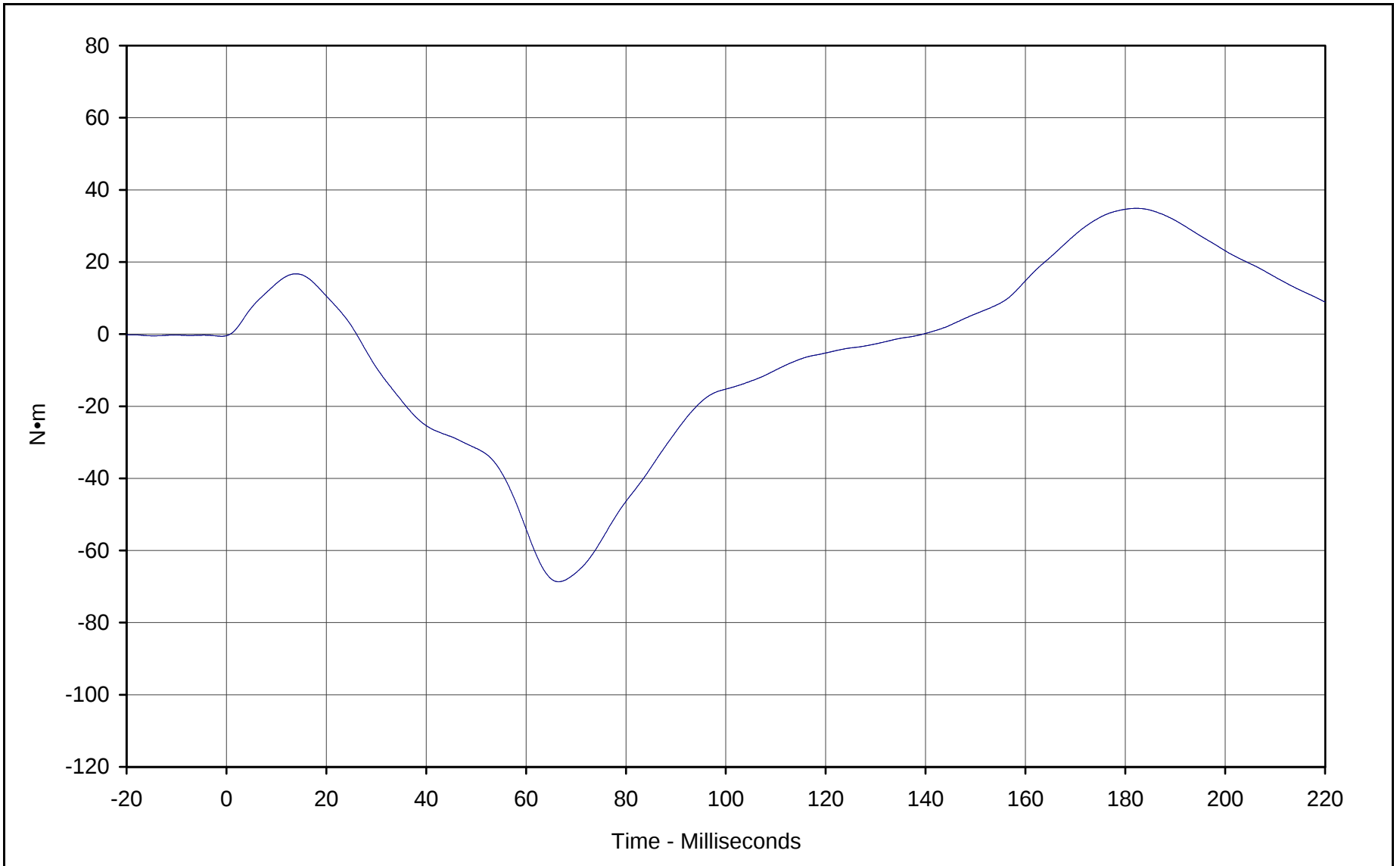
Curve Description: "D" Plane Rotation

Maximum Value:	90.2	at	80.3	Milliseconds
Minimum Value:	-34.1	at	193.3	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE03A





Curve Description: Moment About Occipital Condyles

Maximum Value: 34.9 at 182.2 Milliseconds

Minimum Value: -68.7 at 66.5 Milliseconds

SAE Filter Class: 60

Date of Test: 2/20/01

ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE03A





Hybrid III Calibration Data Sheet

50TH Percentile Male

External Measurements

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.9	Pass
Laboratory relative humidity	%	10 to 70	43	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	300	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	340	Pass
J - Elbow rest height	mm	190 to 211	210	Pass
K - Buttock to knee length	mm	579 to 604	585	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	470	Pass
O - Chest depth	mm	213 to 229	220	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	425	Pass
W - Foot breadth	mm	91 to 107	105	Pass
Y - Chest circumference	mm	970 to 1001	980	Pass
Z - Waist circumference	mm	836 to 866	845	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

February 20, 2001

Test Date

Approved By

Date



Hybrid III Calibration Data Sheet

50TH Percentile Male

Left Knee Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: LK03B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.113	Pass
Peak Probe Force	Newtons	4715 to 5782	5554.8	Pass
Overall Test Results				Pass

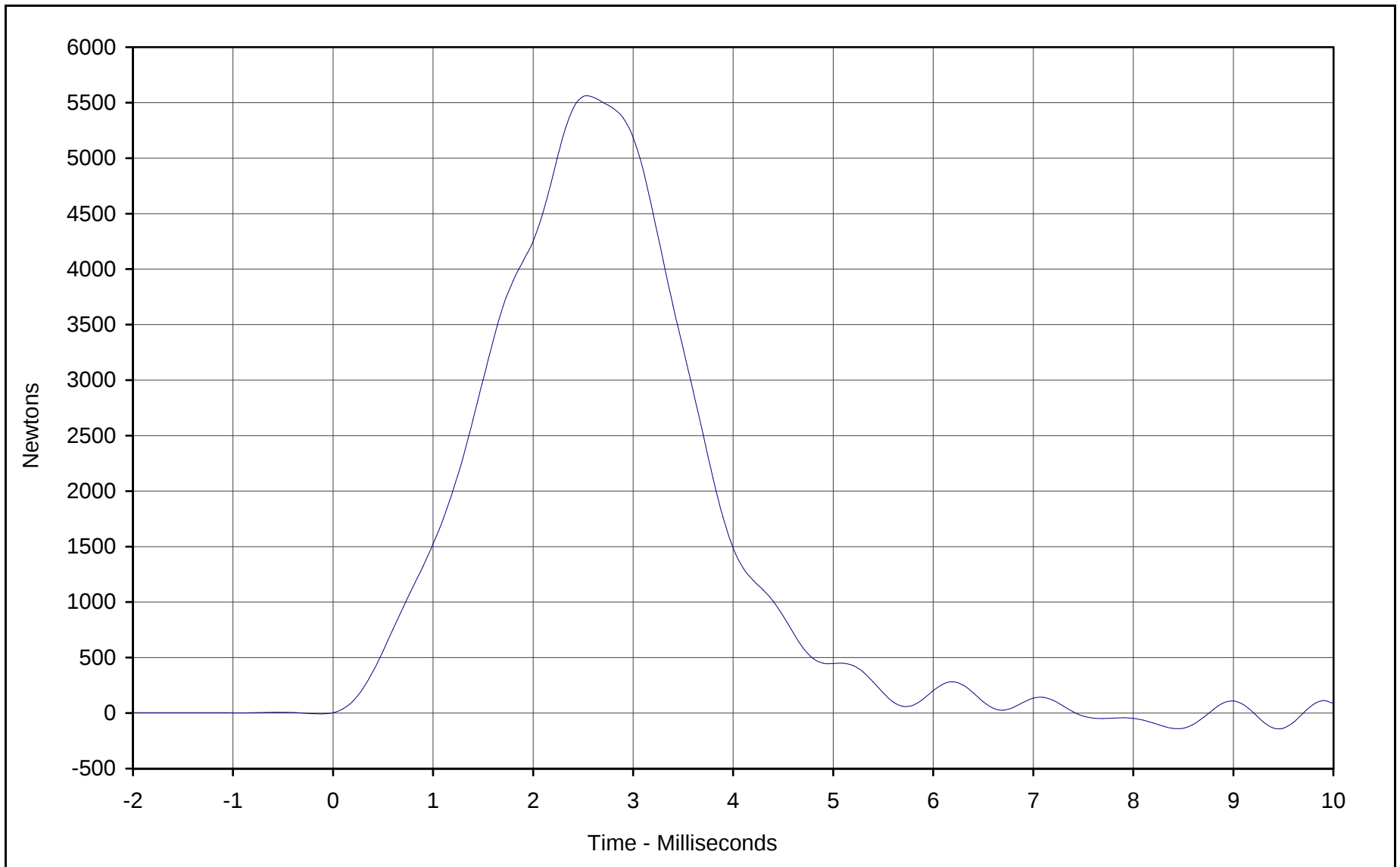
Laboratory Technician

February 20, 2001
Test Date

Approved By

Date

E-22



Curve Description: Probe Force
Maximum Value: 5554.8 at 2.5 Milliseconds
Minimum Value: -49.1 at 7.7 Milliseconds
SAE Filter Class: 600
Date of Test: 2/20/01
ATD Serial No.: 035

Testing Program: Hybrid III Left Knee Impact Test
Test Information: Part S/N: N/A Test I.D.: LK03B



KAR21001-13



Hybrid III Calibration Data Sheet

50TH Percentile Male

Right Knee Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: RK03B

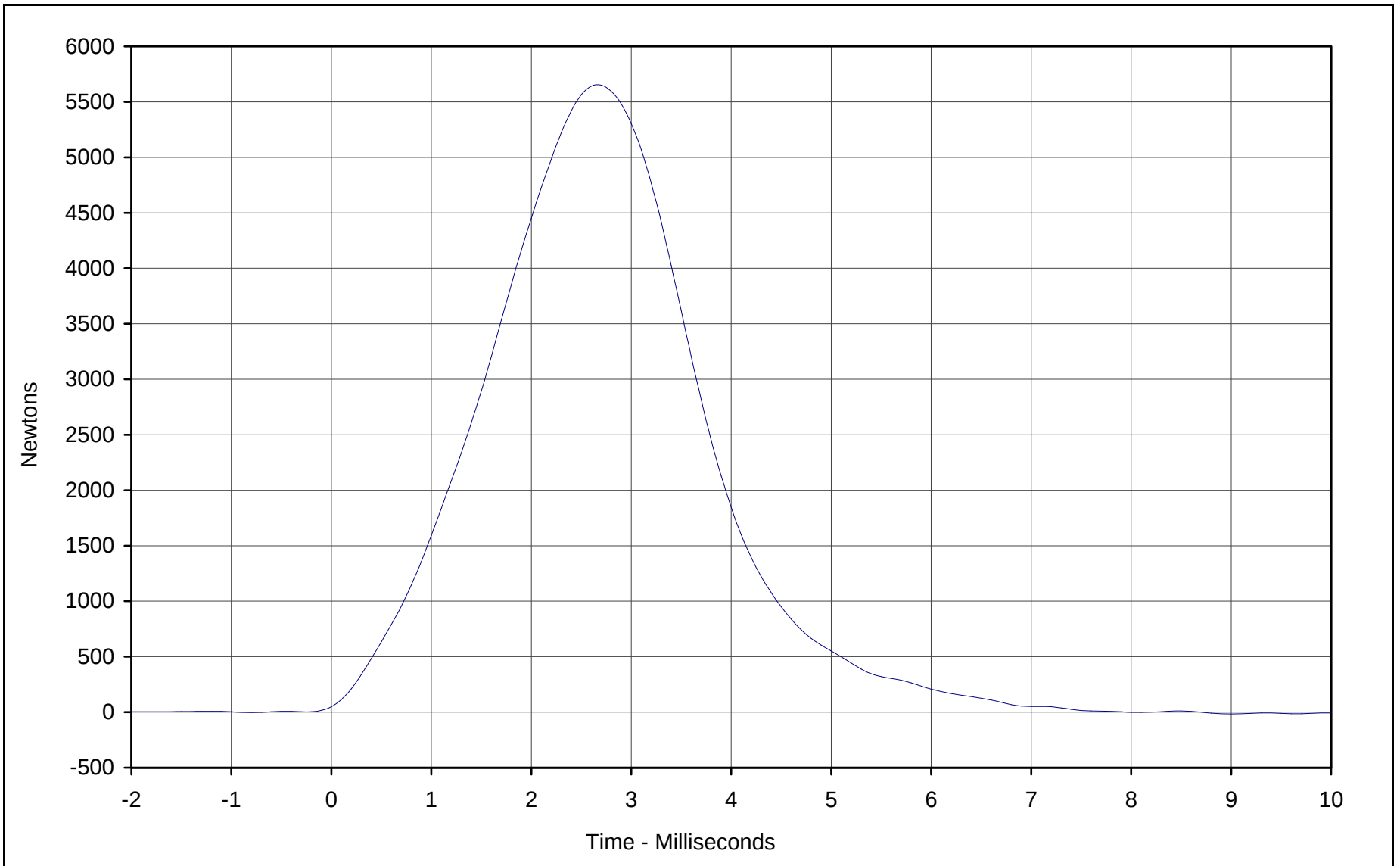
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.113	Pass
Peak Probe Force	Newtons	4715 to 5782	5650.4	Pass
Overall Test Results			Pass	

Laboratory Technician

February 20, 2001
Test Date

Approved By

Date



Curve Description: Probe Force

Maximum Value:	<u>5650.4</u>	at	<u>2.7</u>	Milliseconds
Minimum Value:	<u>-3.1</u>	at	<u>-0.8</u>	Milliseconds
SAE Filter Class:	<u>600</u>			
Date of Test:	<u>2/20/01</u>			
ATD Serial No.:	<u>035</u>			

Testing Program: Hybrid III Right Knee Impact Test

Test Information: Part S/N: N/A Test I.D.: RK03B





Hybrid III Calibration Data Sheet

50TH Percentile Male

Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: HDO1G

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	233.0	Pass
Peak Lateral Acceleration	G's	≤15.0	3.6	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

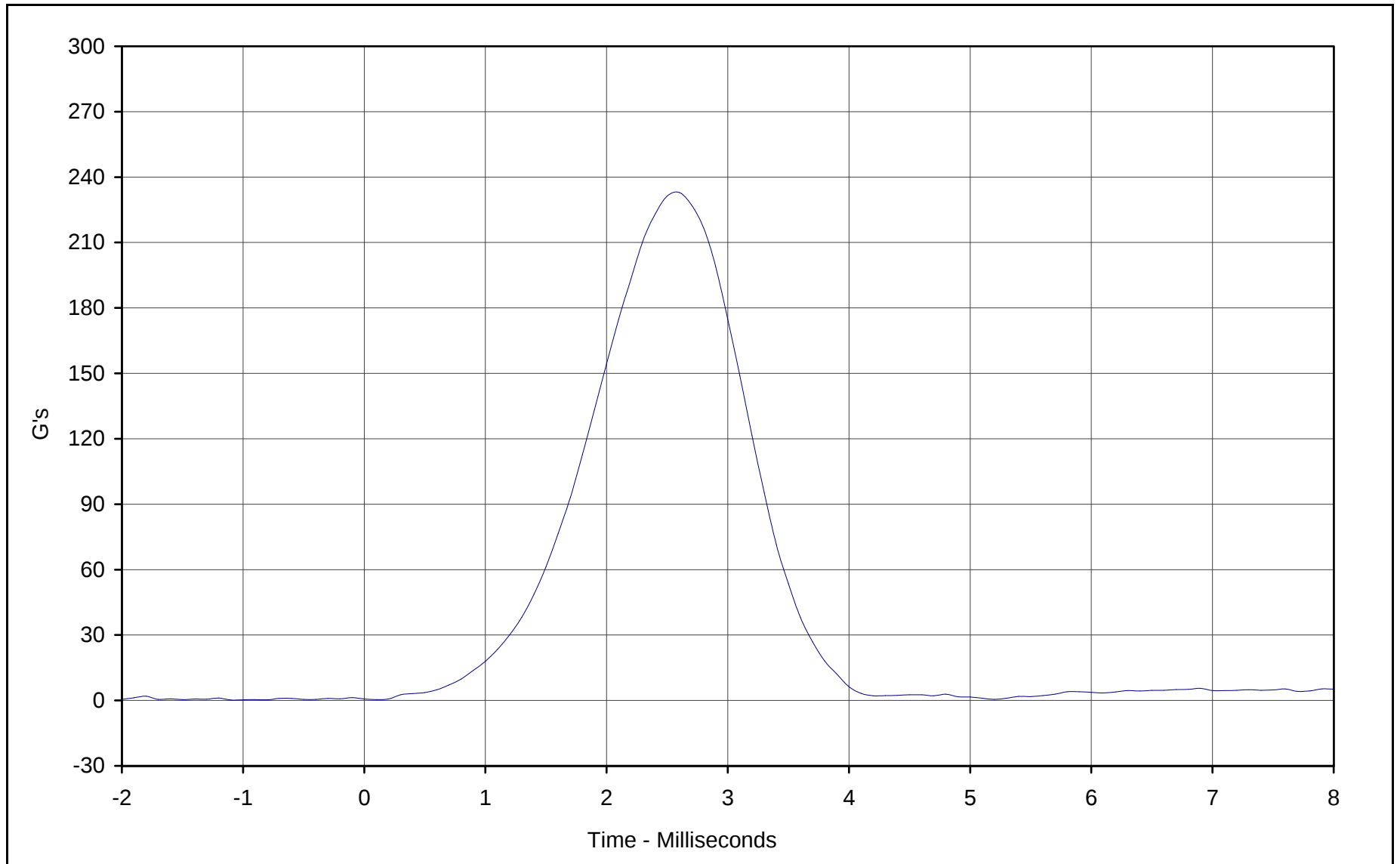
Laboratory Technician

February 20, 2001

Test Date

Approved By

Date



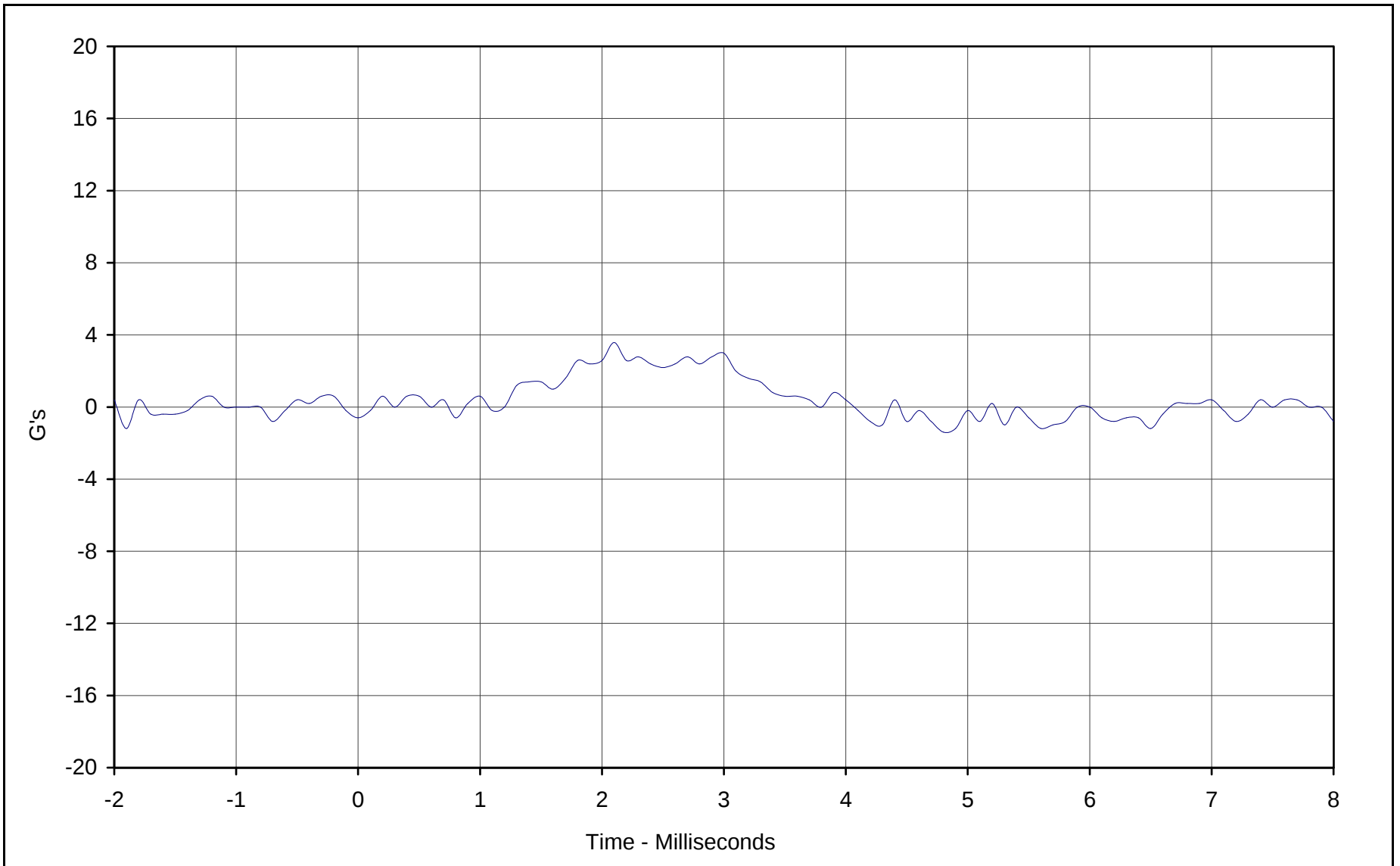
Curve Description: Head Resultant Acceleration

Maximum Value:	<u>233.0</u>	at	<u>2.6</u>	Milliseconds
Minimum Value:	<u>0.2</u>	at	<u>-1.1</u>	Milliseconds
SAE Filter Class:	<u>1000</u>			
Date of Test:	<u>2/20/01</u>			
ATD Serial No.:	<u>035</u>			

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HDO1G





Curve Description: Head Acceleration Y Axis

Maximum Value: 3.6 at 2.1 Milliseconds

Minimum Value: -1.4 at 4.8 Milliseconds

SAE Filter Class: 1000

Date of Test: 2/20/01

ATD Serial No.: 035

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HDO1G





Hybrid III Calibration Data Sheet

50TH Percentile Male

Thorax Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: CH03B

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	20.6 to 22.2	21.2	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	5572	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.65	Pass
Internal Hysteresis	%	69 to 85	74.3	Pass
Overall Test Results				Pass

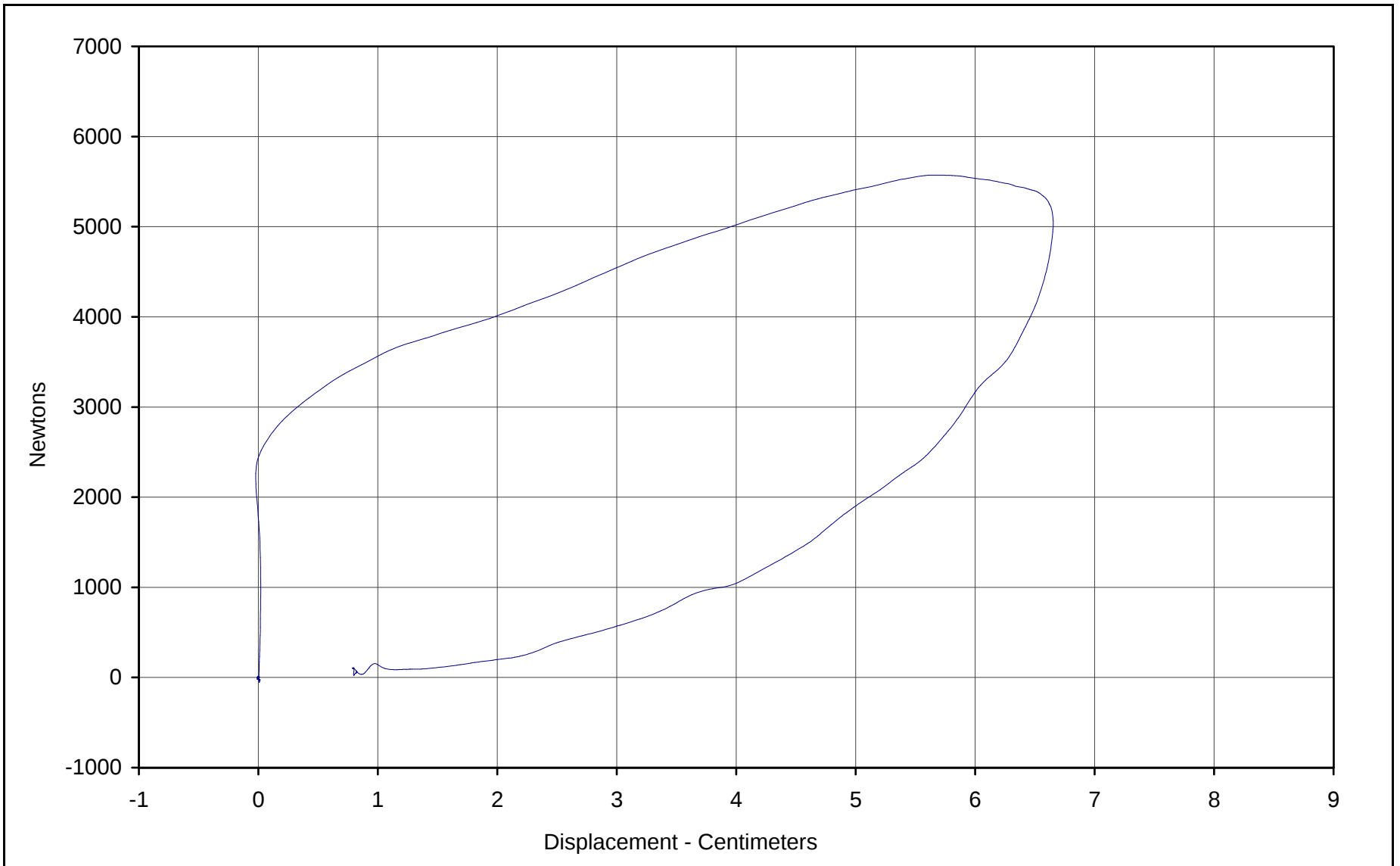
Laboratory Technician

February 20, 2001

Test Date

Approved By

Date



Curve Description: Probe Force vs. Chest Displacement

Probe Force: 5572.4 Newtons

Chest Displ.: 6.65 Centimeters

SAE Filter Class: 180

Date of Test: 2/20/01

ATD Serial No.: 035

Testing Program: Hybrid III Thorax Impact Test

Test Information: S/N of Part: N/A Test I.D.: CH03B





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NF03B

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	6.91	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	24.9	Pass
	20 Msec.	G's	17.6 to 22.6	22.5	Pass
	30 Msec.	G's	12.5 to 18.5	17.5	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.5	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	34.1	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	75.6	Pass
	Time	Msec.	57.0 to 64.0	61.2	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	118.0	Pass
Moment About Occipital Condyle	Maximum	N•m	84.1 to 108.5	92.7	Pass
	Time	Msec.	47.0 to 58.0	48.0	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	100.3	Pass
Overall Test Results					Pass

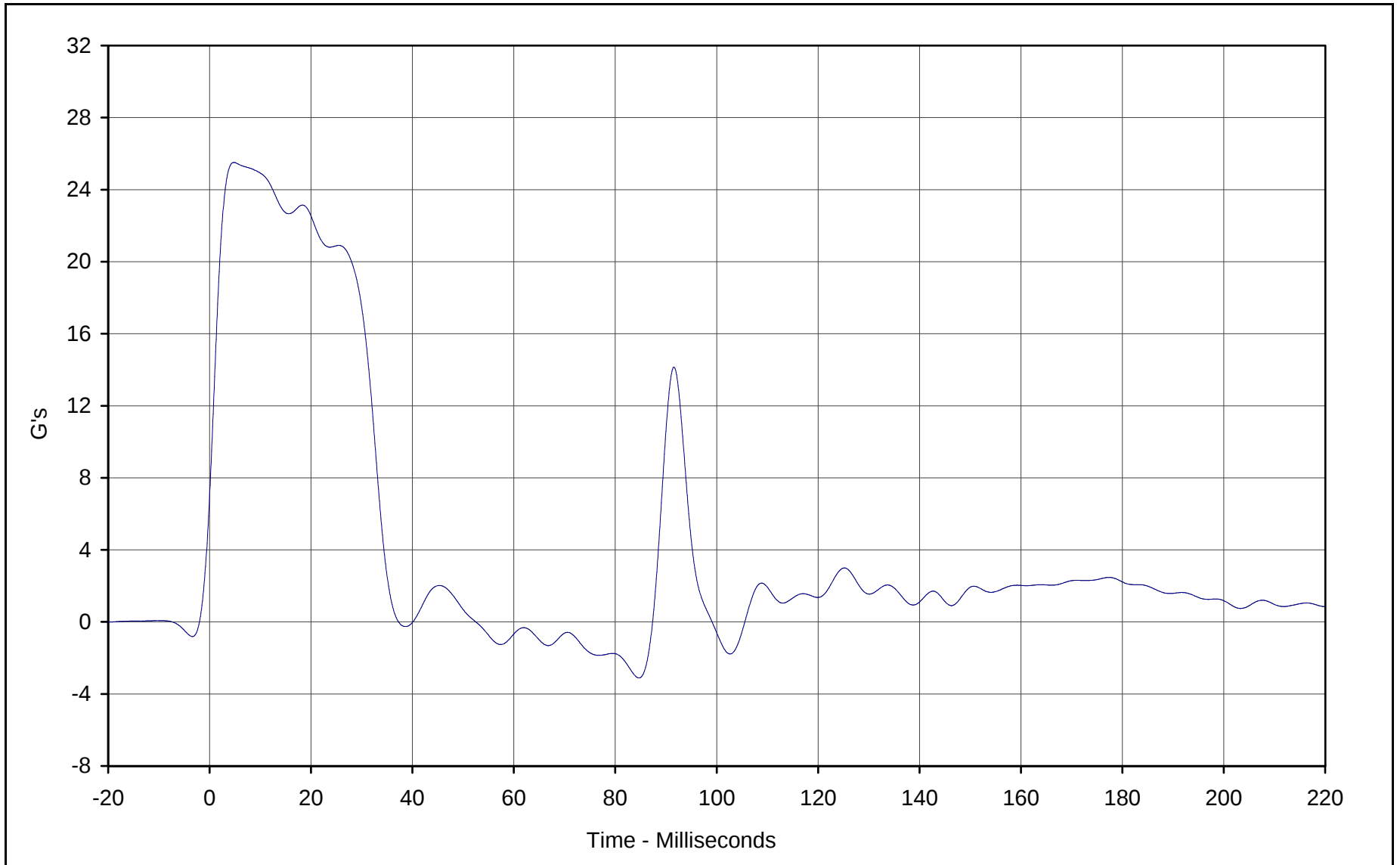
Laboratory Technician

February 20, 2001

Test Date

Approved By

Date

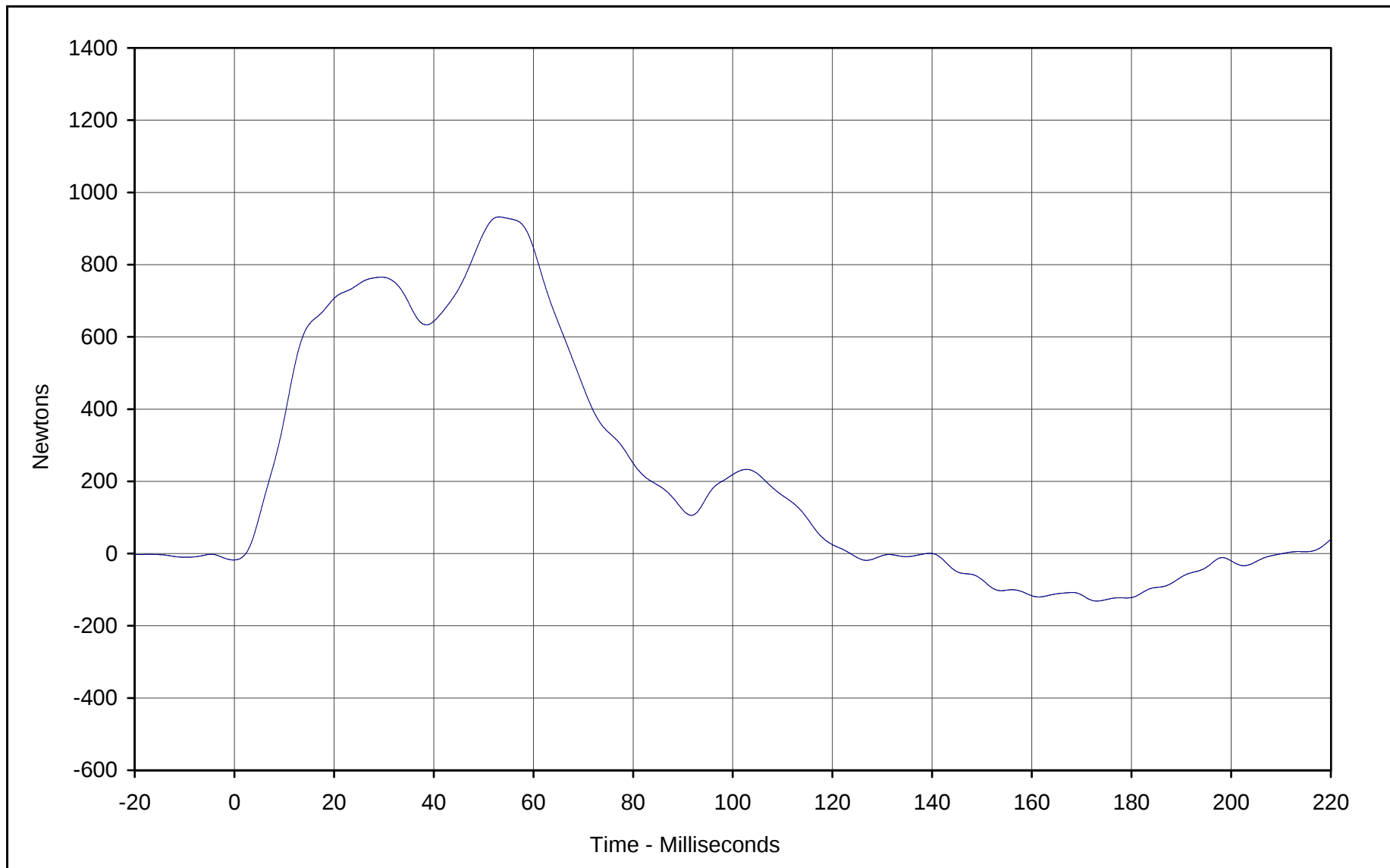


Curve Description:	Pendulum Deceleration		
Maximum Value:	25.5	at	4.8 Milliseconds
Minimum Value:	-3.1	at	84.7 Milliseconds
SAE Filter Class:	60		
Date of Test:	2/20/01		
ATD Serial No.:	035		

Testing Program:	Hybrid III Neck Flexion Test (Male)
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Test Information:	S/N of Part: N/A Test I.D.: NF03B
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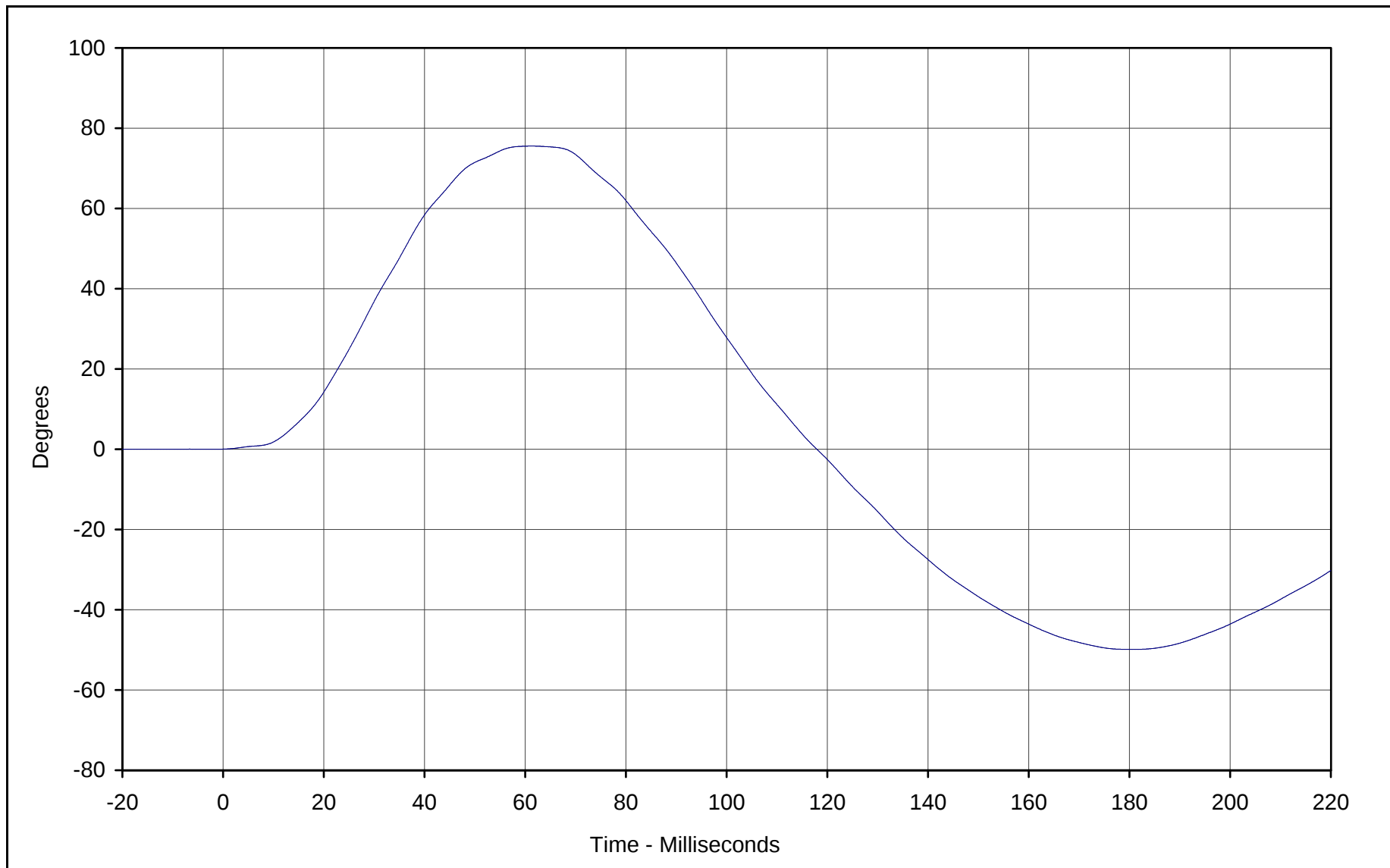
Curve Description: Neck Force X

Maximum Value:	932.2	at	53.1	Milliseconds
Minimum Value:	-131.4	at	173.1	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF03B





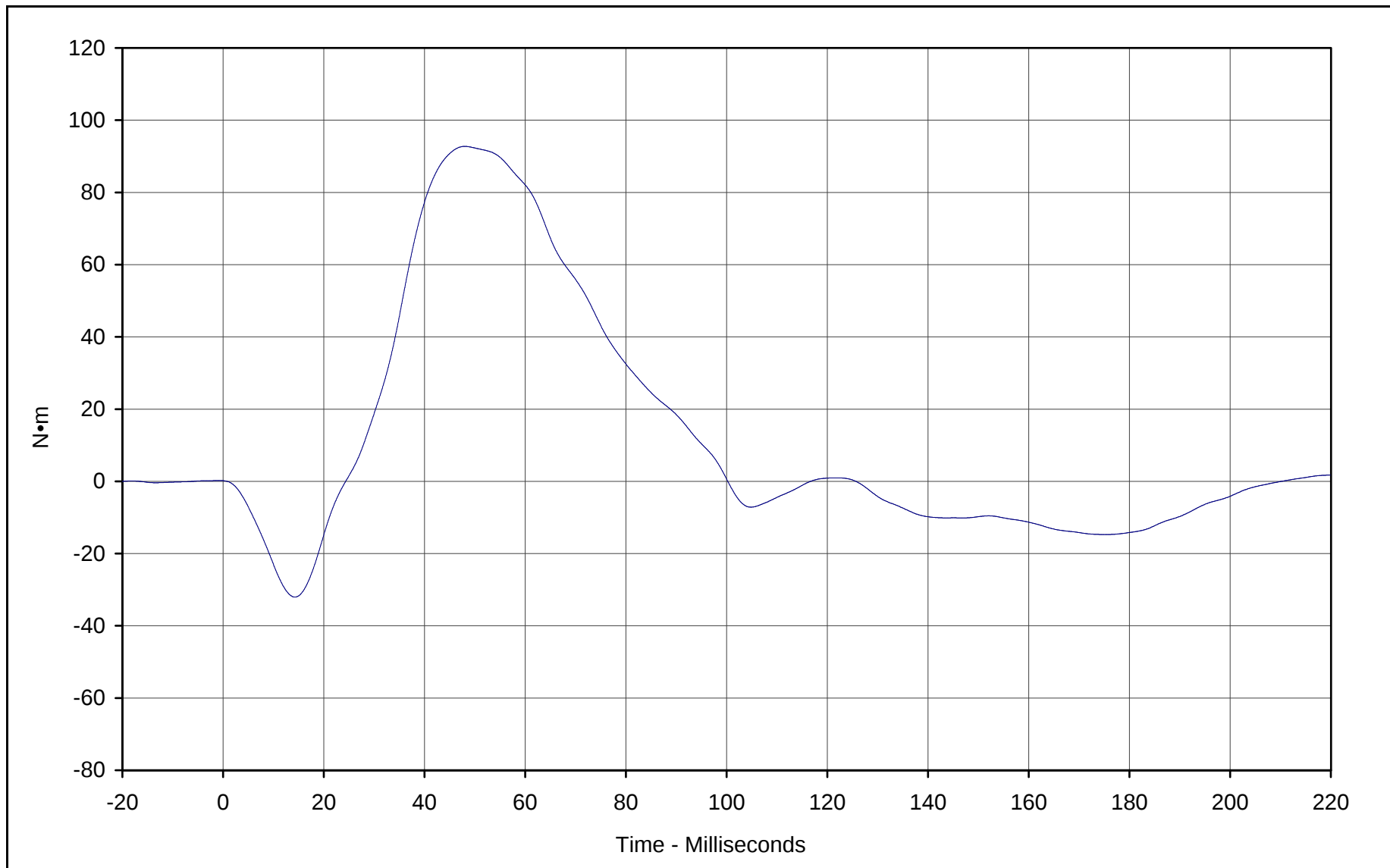
Curve Description: "D" Plane Rotation

Maximum Value:	75.6	at	61.2	Milliseconds
Minimum Value:	-49.9	at	180.6	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF03B





Curve Description: Moment About Occipital Condyles

Maximum Value: 92.7 at 48.0 Milliseconds

Minimum Value: -32.0 at 14.3 Milliseconds

SAE Filter Class: 60

Date of Test: 2/20/01

ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF03B





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NE03B

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	5.95 to 6.19	6.17	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	17.4	Pass
	20 Msec.	G's	14.0 to 19.0	16.9	Pass
	30 Msec.	G's	11.0 to 16.0	15.9	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.9	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	40.3	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	93.0	Pass
	Time	Msec.	72.0 to 82.0	77.1	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	147.2	Pass
Moment About Occipital Condyle	Maximum	N•m	-52.9 to- 79.9	-73.2	Pass
	Time	Msec.	65.0 to 79.0	66.8	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	135.5	Pass
Overall Test Results					Pass

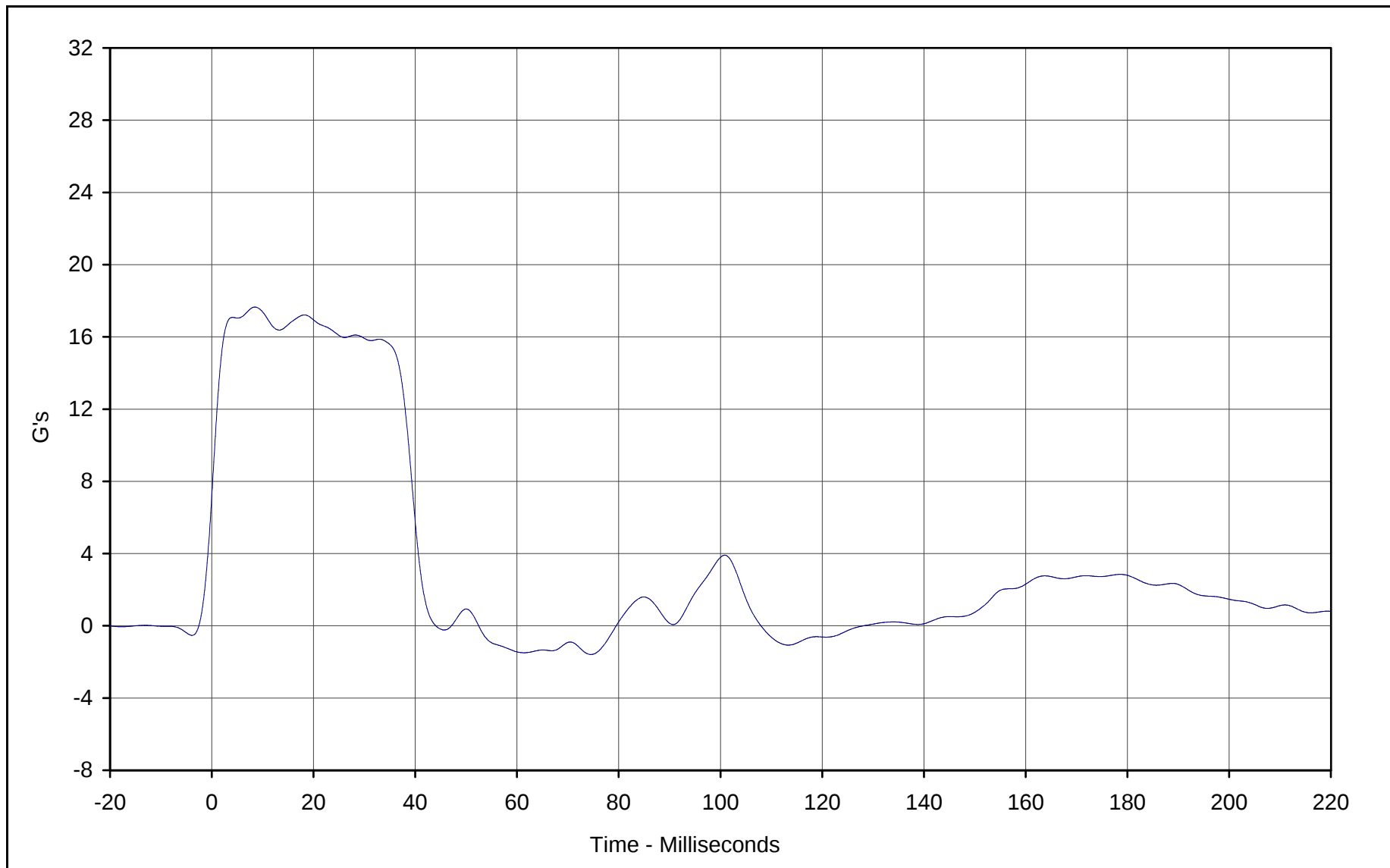
Laboratory Technician

February 20, 2001

Test Date

Approved By

Date

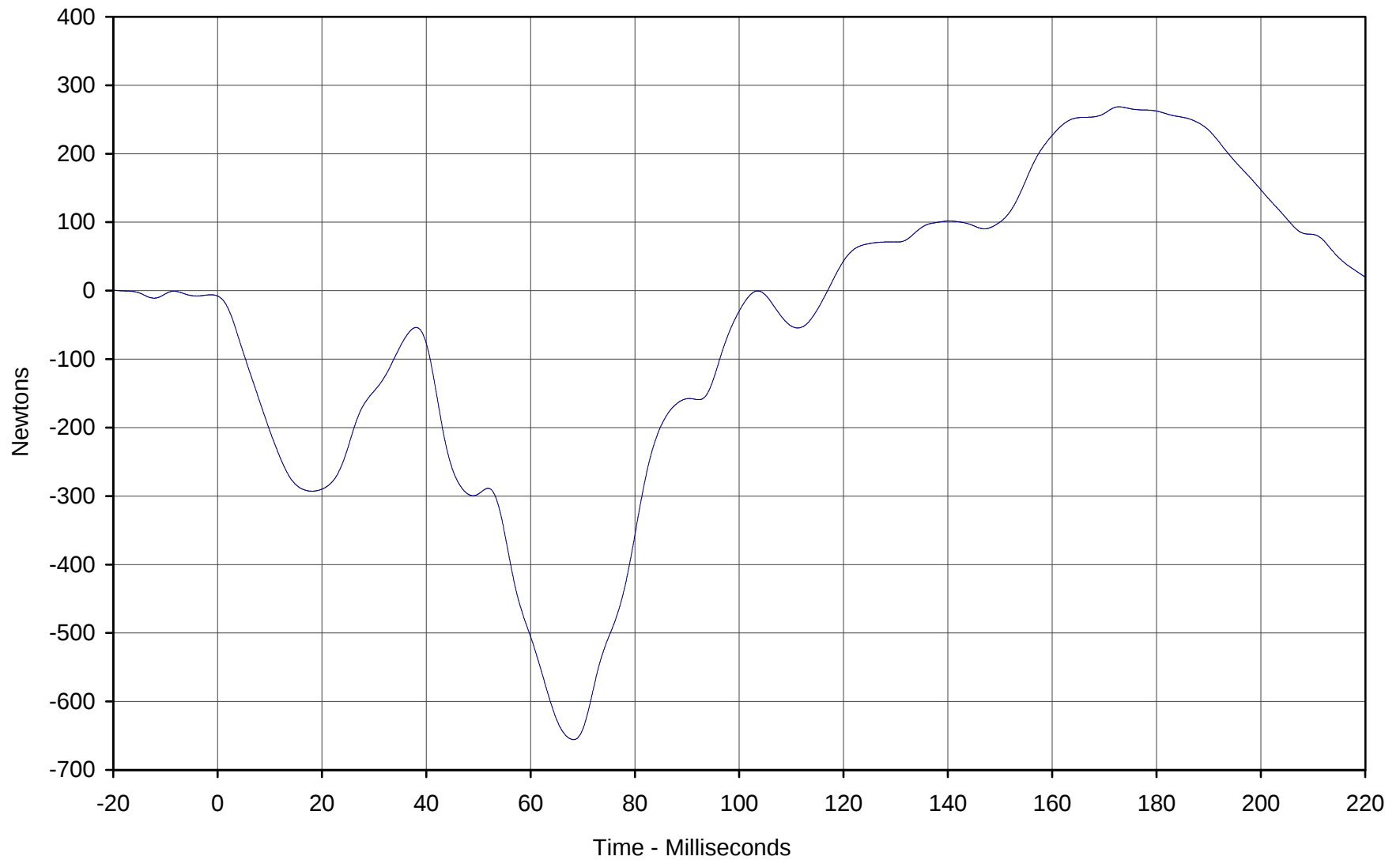


Curve Description:	Pendulum Deceleration		
Maximum Value:	17.6	at	8.5 Milliseconds
Minimum Value:	-1.6	at	74.5 Milliseconds
SAE Filter Class:	60		
Date of Test:	2/20/01		
ATD Serial No.:	035		

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE03B





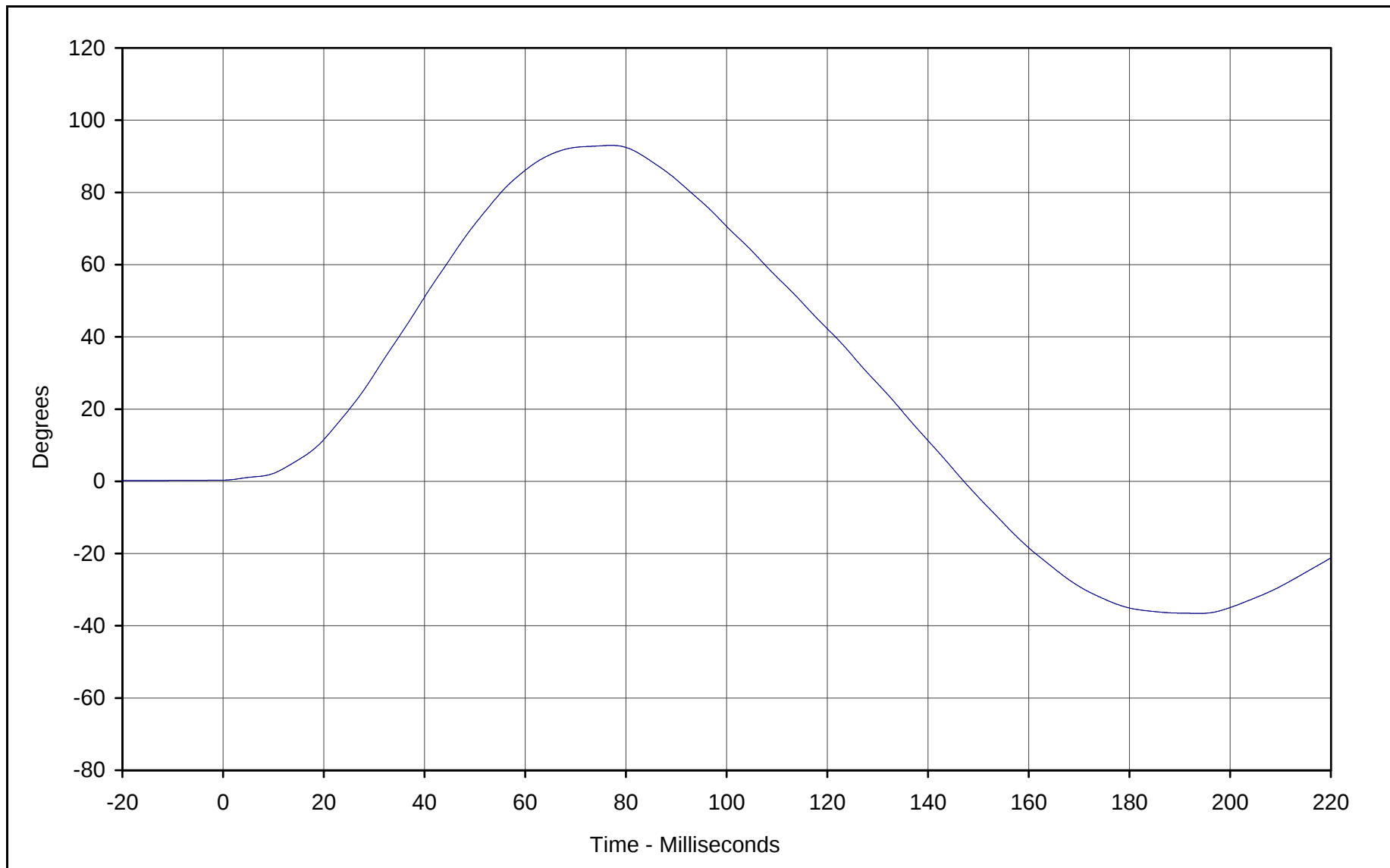
Curve Description: Neck Force X

Maximum Value:	268.5	at	172.8	Milliseconds
Minimum Value:	-655.8	at	68.2	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE03B





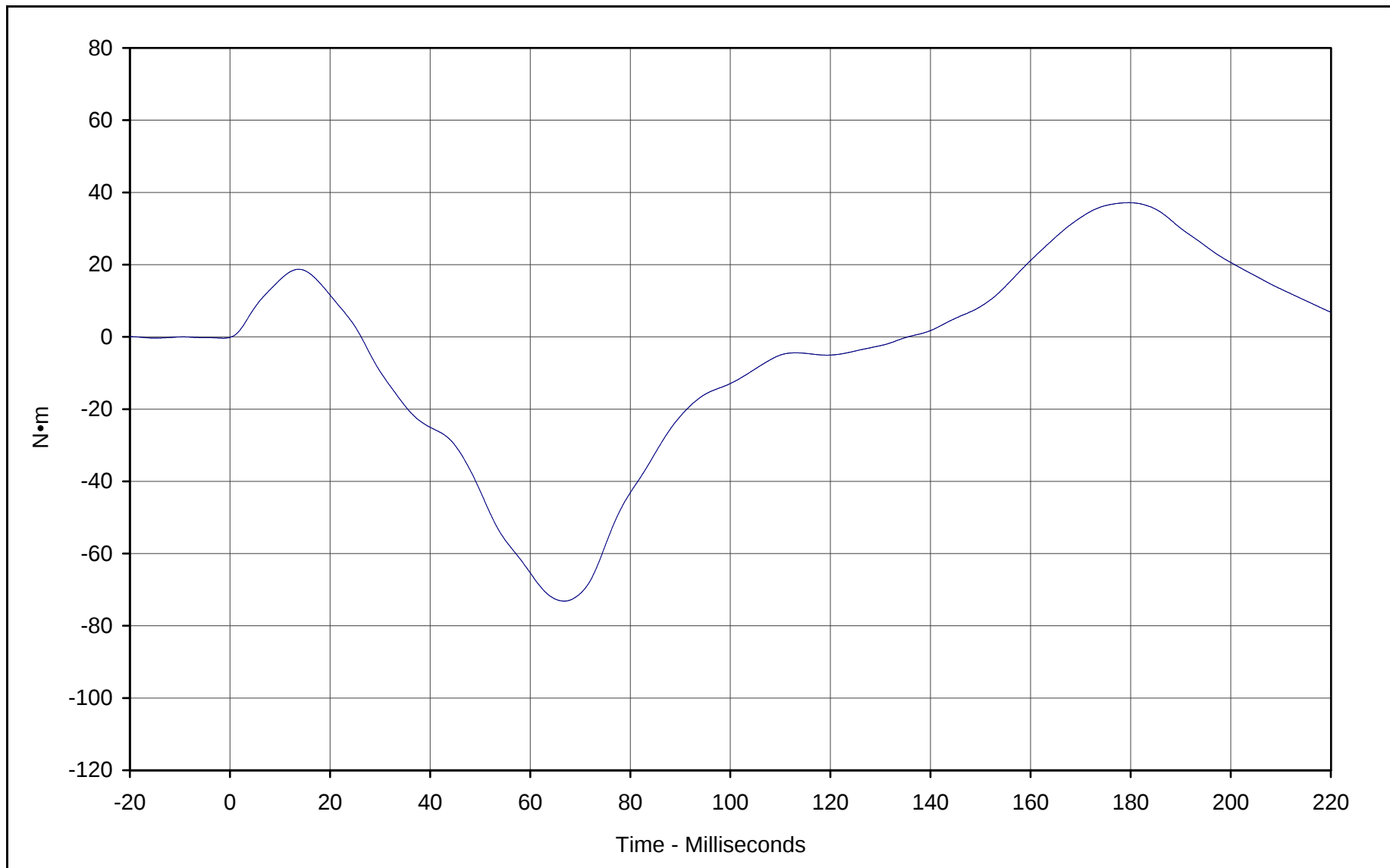
Curve Description: "D" Plane Rotation

Maximum Value:	93.0	at	77.1	Milliseconds
Minimum Value:	-36.6	at	193.9	Milliseconds
SAE Filter Class:	60			
Date of Test:	2/20/01			
ATD Serial No.:	035			

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Curve Description: Moment About Occipital Condyles

Maximum Value: 37.2 at 179.6 Milliseconds

Minimum Value: -73.2 at 66.8 Milliseconds

SAE Filter Class: 60

Date of Test: 2/20/01

ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE03B





Hybrid III Calibration Data Sheet

50TH Percentile Male

External Measurements

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: N/A

External Measurement Data				
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	20.9	Pass
Laboratory relative humidity	%	10 to 70	43	Pass
A - Total sitting height	mm	879 to 889	880	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	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	205	Pass
K - Buttock to knee length	mm	579 to 604	585	Pass
L - Popliteal length	mm	429 to 455	435	Pass
M - Knee pivot height	mm	485 to 500	490	Pass
N - Buttock popliteal length	mm	452 to 477	470	Pass
O - Chest depth	mm	213 to 229	215	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	425	Pass
W - Foot breadth	mm	91 to 107	105	Pass
Y - Chest circumference	mm	970 to 1001	975	Pass
Z - Waist circumference	mm	836 to 866	850	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

Laboratory Technician

February 20, 2001

Test Date

Approved By

Date