

REPORT NUMBER KAR21001-07

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

**FORD MOTOR COMPANY
2001 CROWN VICTORIA
4 DOOR SEDAN
NHTSA NUMBER: M10201**

**PREPARED BY:
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FEBRUARY 13, 2001

FINAL REPORT

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16. Abstract A 35 mph (56.3 km/h) frontal barrier impact was conducted on a 2001 Ford Crown Victoria 4 Door Sedan at KARCO Engineering on 1/23/01. This test was conducted to obtain data indicant of FMVSS 208, 212, 219 (partial), 301, and footwell intrusion performance. The impact velocity is 56.27 km/h. The ambient temperature at the barrier face at the time of impact is 15.0 degrees Celcius. The vehicle's maximum post test static crush is 519 mm at the vehicle centerline. The test vehicle is equipped with a 3-point continuous belt system and second generation supplemental airbags in both front outboard seating positions. With respect to FMVSS 208 "Occupant Crash Protection", the occupant injury criteria summary is as follows:			
Measurement Description	Units	Threshold	Driver ATD
Head Injury Criteria (HIC)	N/A	1000	361.3
Max. Thorax Accel. (3 msec Clip)	G's	60	33.2
Left Femur force	Newtons	10009	-3955.1
Right Femur Force	Newtons	10009	-3497.2
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SECTION 1

PURPOSE, TEST PROCEDURE AND SUMMARY OF TEST M10201

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. 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 January 23, 2001 at a speed of 56.27 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-six (96) 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. 34) and the right-front passenger ATD (Serial No. 35) 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 Ford Crown Victoria 4 Door Sedan at a velocity of 56.27 km/h. The test vehicle weight is 2013 kilograms with two (2) part 572E 50th percentile adult male ATDs. Twenty-four (24) load cell barrier data channels were obtained in conducting the January 23, 2001 NCAP test. The test vehicle is a gasoline vehicle, equipped with a longitudinally mounted, 8-cylinder engine and a 4-speed automatic transmission.

The driver Head Injury Criteria (HIC) is 361.3. The maximum resultant chest deceleration over three (3) milliseconds is 33.2 g's. The left and right femur loads are -3955.1 and -3497.2 Newton's, respectively. Chest deflection for the driver ATD peaked at -30.4 mm. The driver ATD head contacted the airbag and headrest, its chest and abdomen contacted the seat belt, and both knees contacted the dash.

The right front passenger's HIC is 287.9. The maximum resultant chest deceleration over three (3) milliseconds is 34.2 g's. The left and right femur loads are -2338.1 and -1156.2 Newton's respectively. Chest deflection for the passenger ATD peaked at -20.2 mm. The passenger ATD head contacted the airbag and headrest, the chest and abdomen contacted the airbag and both knees contacted the glove box.

Maximum shoulder belt spool out as measured by on-board potentiometers is 40.1 mm for the driver ATD and 59.1 for the passenger ATD. Shoulder belt stretch is not measured with seat belt pre-tensioners.

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 519 mm located at the vehicle centerline. Both the driver and passenger side doors opened without the aid of tools.

1.4 GENERAL COMMENTS

The 2001 Ford Crown Victoria 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 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

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 Ford Crown Victoria 4 Door Sedan
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M10201
Test Date: 01/23/01

PRIMARY IMPACT DATA

Measured Parameter	Units	Value
Velocity at Impact	km/h	56.27
Test Weight	kg	2013
Impact Angle	degrees	0
Average Rebound	mm	512
Maximum Static Crush	mm	519

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. 34	50% Male Hybrid III / No. 35
Head Contact	Airbag/Headrest	Airbag/Headrest
Chest Contact	Airbag/Belt	Airbag/Belt
Abdomen Contact	Belt	Airbag/Belt
Left Knee Contact	Dash	Glove Box
Right Knee Contact	Dash	Glove Box

16mm MOVIE COVERAGE

High Speed	17
Real Time	1
Total	18

DATA CHANNELS

Driver ATD Sensors	40
Passenger ATD Sensors	40
Belt Assessment Sensors	8
Vehicle Structure Accelerometers	8
Rigid Barrier Load Cells	24
Total	120

DATA SHEET NO. 2
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

TEST VEHICLE INFORMATION

Make	Ford
Model	Crown Victoria
Body Style	4 Door Sedan
NHTSA No.	KAR21001-07
VIN	2FAFPZ3WX1X112229
Color	Red
Delivery Date	1/8/01
Odometer Reading (mile)	47
Dealer	Sunland Ford
Transmission	4-Speed Automatic
Final Drive	Rear
Number of Cylinders	8
Engine Displacement (L)	4.6
Engine Placement	Longitudinal

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	No
AM/FM/Cassette	Yes
Anti-Theft System	No
Cruise Control	Yes

DATA FROM CERTIFICATION LABEL

Manufactured By	Ford Motor Company	GVWR (kg)	2375
Date of Manufacture	September-00	GAWR Front (kg)	1184
		GAWR Rear (kg)	1214

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	225	225
Cold Pressure (kPa)	225	225
Recommend Tire Size	P225/60/R16	P225/60/R16
Tire Size on Vehicle	P225/60/R16	P225/60/R16
Tire Manufacturer	Firestone	Firestone

VEHICLE SEATING AND CAPACITY WEIGHT INFORMATION

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	None	
Number of Occupants	3	3	0	5
Capacity Wt. (VCW) (kg)				596
Cargo Weight (RCLW) (kg)				91

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

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M10201
 Test Date: 01/23/01

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	498	388		520	477	
Right	kg	503	390		530	486	
Ratio	%	56.3	43.7		52.2	47.8	
Totals	kg	1001	778	1779	1050	963	2013

TARGET TEST WEIGHT CALCULATION

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1779
Weight of 2 P572 ATD's	kg	152
Rated Cargo/Luggage Weight (RCLW)	kg	91
Calculated Vehicle Target Weight (TVTW)	kg	2022

TEST VEHICLE ATTITUDE AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	732	725	732	730	1274
As Tested	mm	712	706	685	690	1393

Vehicle Wheel base (mm): 2915

Weight of Ballast secured in cargo area (kg): 7

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): 71.9

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

Actual Test Volume with entire fuel System Filled (L): 66.8

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 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

SPEED TRAP DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	55.51 to 57.12	56.27
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	56.53
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	5060	4700	-360
Center	mm	5365	4846	-519
Right Side	mm	5060	4676	-384

VEHICLE REBOUND FROM BARRIER

Measured Parameter	Units	Value
Left Side	mm	530
Center	mm	490
Right Side	mm	515
Average	mm	512

DATA SHEET NO. 4
TEST VEHICLE INFORMATION

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

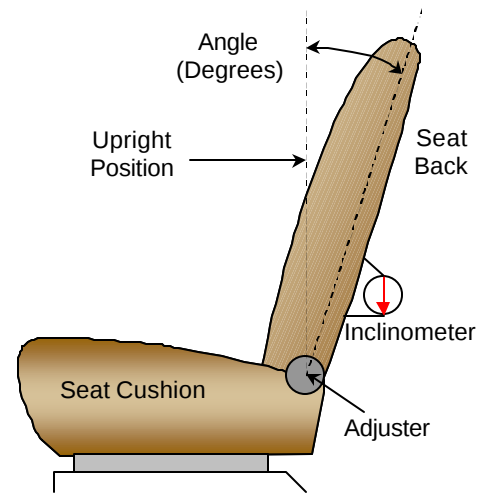
Test Date: 01/23/01

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: 20.7° with a seated dummy

Passenger seat back angle: 20.7° with a seated dummy



FRONT SEAT ASSEMBLY

SEAT FORE/AFT POSITIONS

Both the driver and the passenger seats have 21 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: 21 seating positions or detents

Passenger seat fore/aft total travel: 21 seating positions or detents

Driver seat fore/aft position: 11th detent from forward most

Passenger seat fore/aft position: 11th detent from forward most

SEAT BELT UPPER ANCHORAGE

The test vehicle is equipped with adjustable anchorages for both driver and passenger seat positions. Both driver and passenger anchorages have 5 positions; each are set in the 3^d position from the top.

DATA SHEET NO. 4...(continued)

TEST VEHICLE INFORMATION

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

FUEL TANK CAPACITY DATA

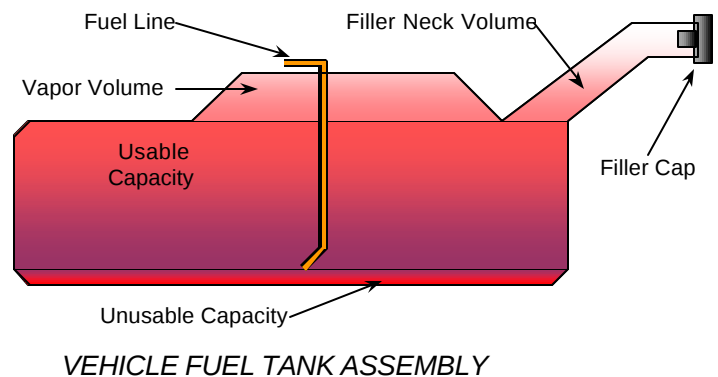
The "Usable Capacity" of the standard equipment fuel tank is: 71.9 liters

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

"Usable Capacity" used for certification tests FMVSS 301 requirements: 66.1 to 67.6 liters

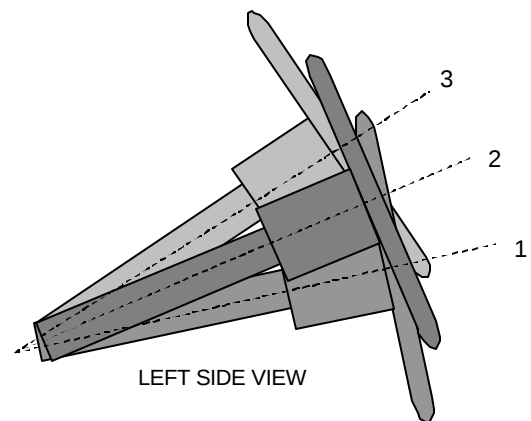
Actual amount of Stoddard solvent added to vehicle for certification test: 66.8 liters

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



STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes, when 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 3.



Lowermost, position 1: 15°

Geometric center, position 2: 23°

Uppermost, position 3: 31°

DATA SHEET NO. 5

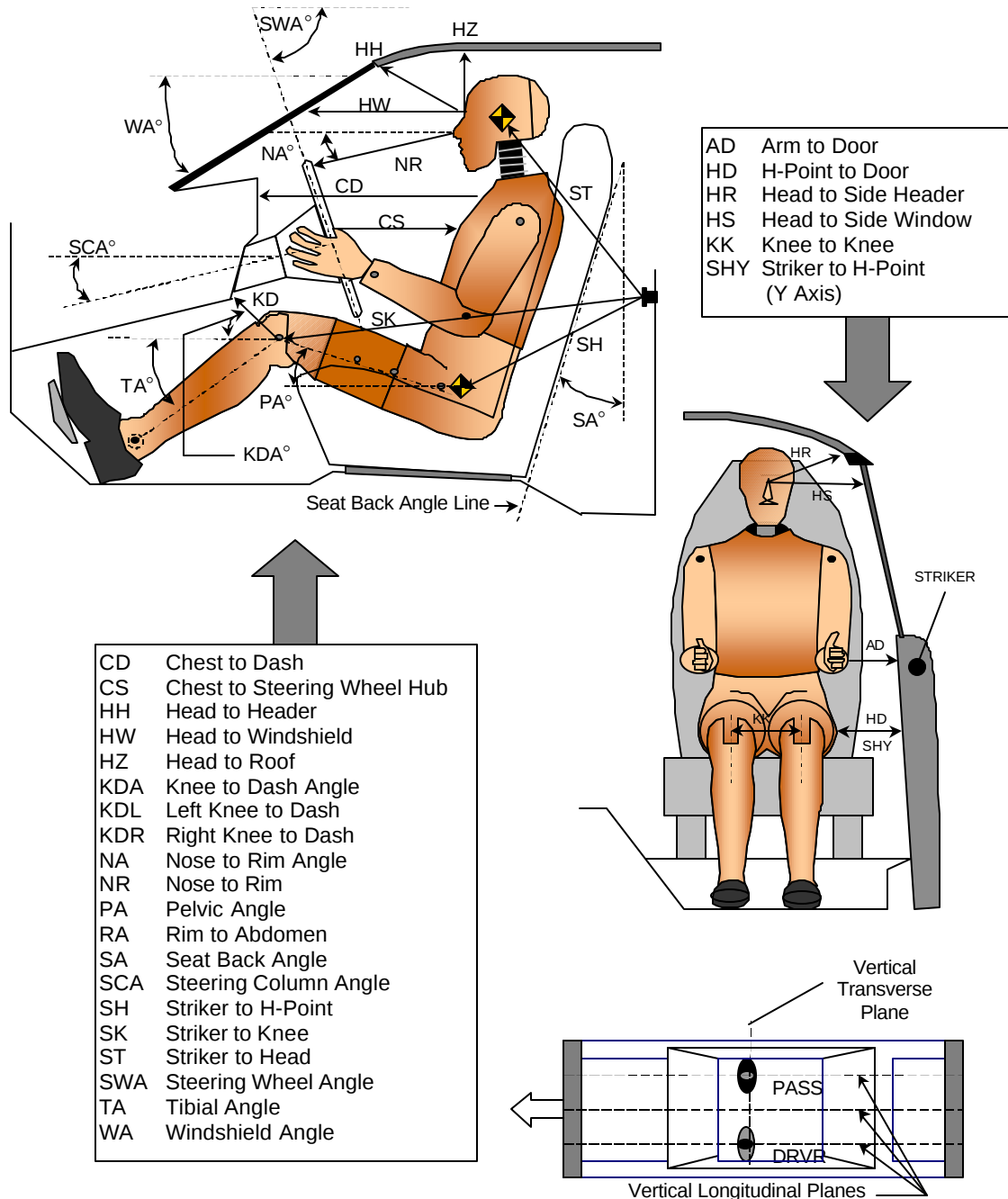
DUMMY POSITIONING IN VEHICLE

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01



DUMMY MEASUREMENTS FOR FRONT SEAT OCCUPANTS

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

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

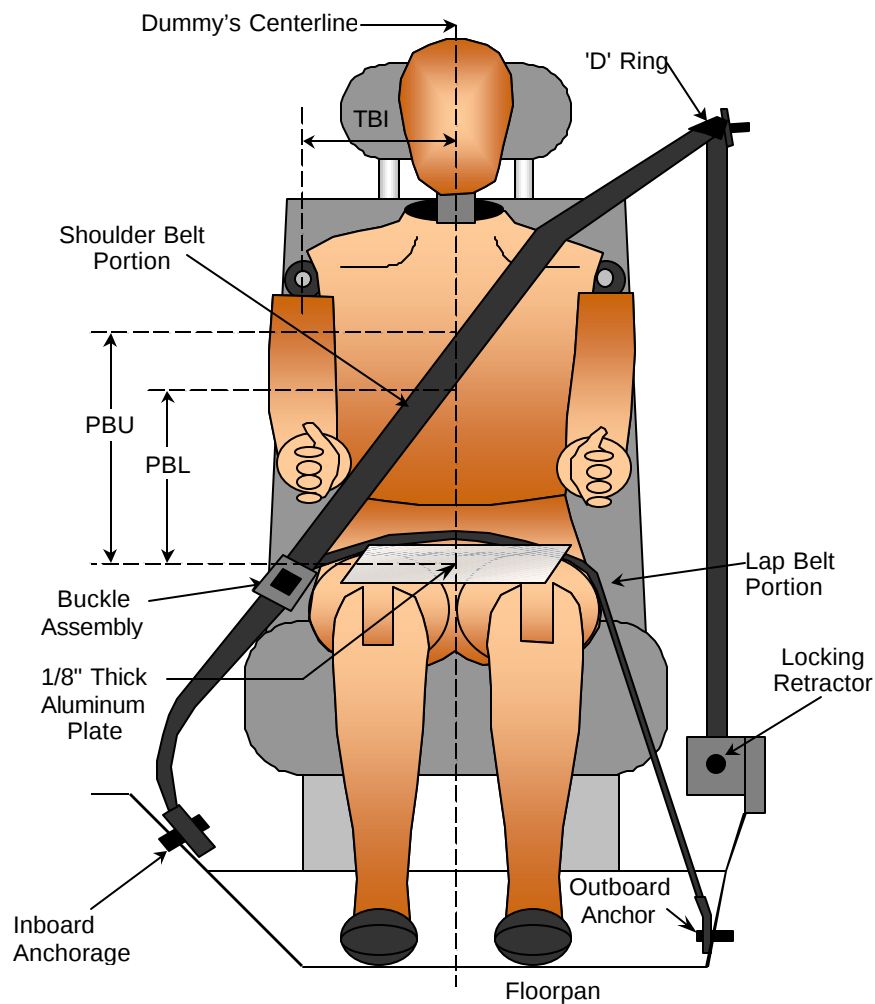
TEST DUMMY POSITION MEASUREMENTS

Code	Measurement Description	Driver		Passenger	
		Length (mm)	Angle (°)	Length (mm)	Angle (°)
WA	Windshield Angle		32		
SWA	Steering Wheel Angle		67		
SCA	Steering Column Angle		23		
SA	Seat Back Angle		21		21
HZ	Head to Roof (Z)	200	90	191	90
HH	Head to Header	330	0	320	0
HW	Head to Windshield	540	0	536	0
HR	Head to Side Header (Y)	216		215	
NR	Nose to Rim	368	11		
CD	Chest to Dash	527		477	
CS	Chest to Steering Hub	275	0		
RA	Rim to Abdomen	166	0		
KDL	Left Knee to Dash	165	35	140	
KDR	Right Knee to Dash	158		160	39
PA	Pelvic Angle		23		23
TA	Tibia Angle		33		31
KK	Knee to Knee (Y)	245		200	
SK	Striker to Head	540	3	602	5
ST	Striker to Knee	565	5	570	8
SH	Striker to H-Point	200	37	218	27
SHY	Striker to H-Point (Y)	271		257	
HS	Head to Side Window	324		320	
HD	H-Point to Door (Y)	210		180	
AD	Arm to Door (Y)	126		40	

DATA SHEET NO. 6 **SEAT BELT POSITIONING DATA**

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan
 Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M10201
 Test Date: 01/23/01



SEAT BELT POSITIONING MEASUREMENTS

Measurement Description	Units	Driver	Passenger
TBI - Dummy CL to Lap/Shoulder Belt Intersect	mm	170	170
PBU - Top surface of reference to belt upper edge	mm	320	320
PBL - Top surface of reference to belt lower edge	mm	250	230
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 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

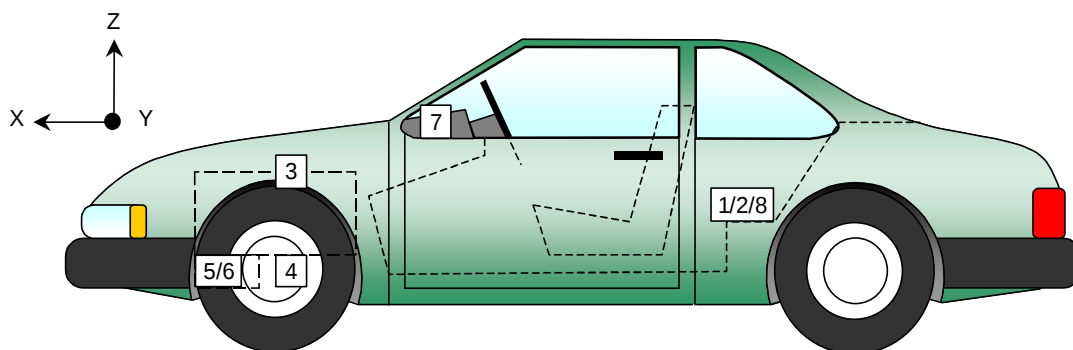
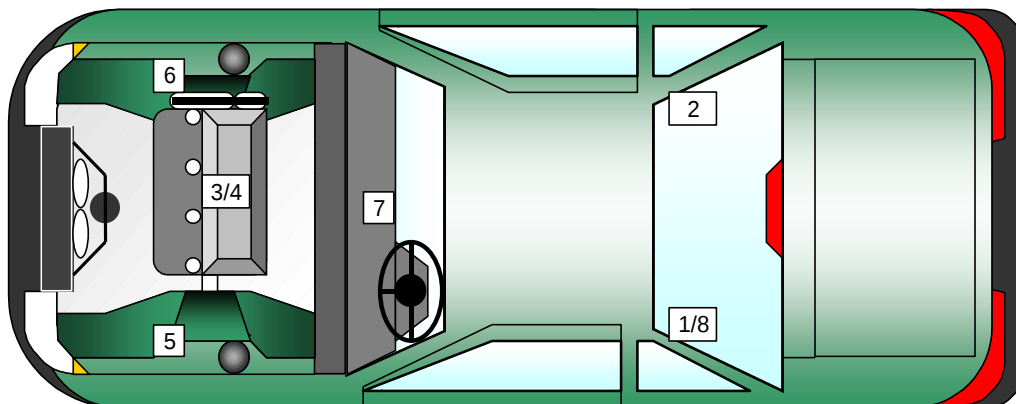
Test Program: 2001 NHTSA 35mph NCAP

Test Date: 01/23/01

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.)	2090	-665	355	G's	3.5	146.0	-29.5	76.0
2	Right Rear X-Member (Pri.)	2240	670	355	G's	5.7	150.1	-31.6	77.8
3	Engine Top	4255	285	780	G's	21.4	82.2	-58.2	28.9
4	Engine Bottom	4090	170	200	G's	4.5	34.6	-52.3	62.8
5	Left Brake Caliper	4030	-760	235	G's	19.8	83.1	-53.5	64.1
6	Right Brake Caliper	4030	760	235	G's	44.5	92.8	-47.5	53.6
7	Instrument Panel	3360	0	1015	G's	27.8	102.5	-78.5	76.2
8	Left Rear X-Member (Rednt.)	2010	-665	355	G's	4.9	148.8	-29.8	80.2

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



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

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 01/23/01

HEAD PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	12.1	244.5	-44.5	100.3	14.3	247.6	-39.1	90.5
Head CG	Y	G's	2.8	211.8	-12.1	106.7	2.9	59.7	-10.4	95.1
Head CG	Z	G's	20.6	60.3	-18.0	115.8	20.9	66.2	-14.9	118.5
Head CG Resultant	N/A	G's	46.0	100.3			41.5	90.5		

CHEST PRIMARY PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	3.9	195.1	-32.9	69.9	3.4	199.2	-34.4	104.3
Chest CG	Y	G's	0.9	141.2	-4.7	102.4	5.9	103.9	-1.3	112.8
Chest CG	Z	G's	12.2	59.9	-18.2	118.8	9.2	70.7	-15.4	117.2
Chest CG Resultant	N/A	G's	34.0	70.0			35.2	104.4		

FEMUR PEAK FORCES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Femur	Z	Newtons	379.7	39.5	-3955.1	83.8	455.6	76.9	-2338.1	64.0
Right Femur	Z	Newtons	423.6	45.3	-3497.2	59.0	534.2	87.1	-1156.2	62.3

SEAT BELT SENSOR PEAK VALUES

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Lap Belt Force	N/A	Newtons	5573.5	65.2	-2.6	8.9	5461.5	68.2	0.7	0.0
Shoulder Belt Force	N/A	Newtons	4969.3	70.1	4.6	175.7	5011.1	66.1	5.5	14.6
Shoulder Belt Pullout	N/A	MM	40.1	135.3	-61.9	201.2	59.1	107.0	-73.3	43.3
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	361.3	39.9	73.2	109.1	287.9	36.4	70.5	106.4

CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Primary	33.2	68.7	71.7	34.2	103.2	106.2

DATA SHEET NO. 8...(continued)

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 01/23/01

PELVIC PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Pelvis	X	G's	3.9	159.5	-45.4	56.4	5.6	134.6	-43.4	63.9
Pelvis	Y	G's	6.0	93.1	-13.9	58.6	3.1	89.6	-8.3	115.7
Pelvis	Z	G's	3.7	278.7	-25.3	113.6	3.5	298.2	-27.4	106.5

UPPER NECK PEAK FORCES AND MOMENTS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Neck Force	X	Newtons	299.7	113.2	-475.4	167.1	360.5	82.2	-350.2	56.8
Neck Force	Y	Newtons	209.7	100.6	-146.8	140.0	212.3	66.4	-138.0	114.7
Neck Force	Z	Newtons	1375.9	89.0	-697.6	122.6	1507.2	68.8	-349.5	128.3
Neck Moment	X	N•m	5.1	177.5	-14.3	79.1	7.6	93.7	-6.3	128.9
Neck Moment	Y	N•m	41.3	162.8	-27.7	263.3	41.2	81.2	-29.5	262.8
Neck Moment	Z	N•m	20.4	120.6	-11.2	167.8	17.1	95.2	-3.2	158.9

FOOT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Left Foot Aft	X	G's	29.7	89.7	-95.5	54.5	27.7	93.8	-24.7	68.7
Left Foot Aft	Z	G's	8.9	63.1	-43.5	87.4	4.6	58.3	-39.3	68.7
Left Foot Fore	Z	G's	51.8	53.9	-219.4	58.2	20.2	80.8	-47.3	68.6
Right Foot Aft	X	G's	76.5	80.7	-194.0	56.9	24.1	83.2	-50.2	42.2
Right Foot Aft	Z	G's	27.9	80.4	-100.9	59.9	4.7	35.5	-34.5	46.7
Right Foot Fore	Z	G's	44.0	72.2	-200.1	59.7	61.7	38.0	-61.1	41.4

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	45.9	55.6	-57.1	100.3	7.4	95.7	-8.3	45.7
Left Lower Moment	Y	N•m	52.8	92.8	-21.7	58.8	199.4	96.0	-43.7	68.7
Left Lower Force	Z	Newtons	121.1	186.9	-4790.2	55.7	150.6	242.5	-3223.0	97.9
Left Upper Moment	X	N•m	111.8	68.3	-16.4	113.5	28.8	96.1	-24.4	42.8
Left Upper Moment	Y	N•m	57.7	83.2	-115.4	55.3	15.0	156.7	-81.6	62.0
Right Lower Moment	X	N•m	54.6	71.6	-28.1	57.3	84.2	83.8	-15.0	45.4
Right Lower Moment	Y	N•m	83.5	98.4	-71.4	58.7	82.0	88.5	-29.8	68.0
Right Lower Force	Z	Newtons	229.8	184.4	-3790.1	59.2	192.7	198.1	-3426.2	88.8
Right Upper Moment	X	N•m	32.0	82.4	-19.3	56.7	27.8	84.5	-43.4	69.6
Right Upper Moment	Y	N•m	14.3	152.7	-168.6	58.3	18.1	170.9	-95.4	88.6

DATA SHEET NO. 8...(continued)Test Vehicle: 2001 Ford Crown Victoria 4 Door SedanNHTSA No.: M10201Test Program: 2001 NHTSA 35mph NCAPTest Date: 01/23/01**CHEST PEAK DISPLACEMENTS**

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	MM	0.2	17.2	-30.4	83.3	0.2	4.3	-20.2	107.4

HEAD REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Head CG	X	G's	12.2	245.0	-43.3	97.6	14.3	249.2	-38.8	92.4
Head CG	Y	G's	2.7	235.2	-11.6	105.8	2.7	52.7	-9.2	95.2
Head CG	Z	G's	21.1	72.9	-19.7	121.2	20.8	67.0	-16.1	117.8
Head CG Resultant	N/A	G's	44.7	97.6			41.7	87.6		

CHEST REDUNDANT PEAK ACCELERATIONS

Location	Axis	Units	Driver				Passenger			
			Max	Time	Min	Time	Max	Time	Min	Time
Chest CG	X	G's	4.0	193.2	-32.7	101.9	3.2	199.2	-34.3	104.1
Chest CG	Y	G's	1.3	141.1	-5.3	101.4	7.3	104.0	-1.0	140.2
Chest CG	Z	G's	11.1	59.7	-17.9	119.6	9.8	70.6	-13.6	117.0
Chest CG Resultant	N/A	G's	33.5	101.5			35.2	104.2		

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	365.6	40.1	72.8	108.7	289.3	36.5	69.4	105.3

REDUNDANT CHEST CLIP (3MSEC)

Location	Driver			Passenger		
	CLIP	T ¹	T ²	CLIP	T ¹	T ²
Chest CG Redundant	33.1	100.1	103.1	34.2	103.0	106.0

DATA SHEET NO. 9**SEAT BELT PERFORMANCE ASSESSMENT TEST DATA**Test Vehicle: 2001 Ford Crown Victoria 4 Door SedanNHTSA No.: M10201Test Program: 2001 NHTSA 35 mph NCAPTest Date: 01/23/01**SEAT BELT PLACEMENT MEASUREMENTS**

Measurement Description	Units	Driver	Passenger
TCI - Dummy CL to Lap/Shoulder Belt Intersect	mm	170	170
PBU -Top surface of reference to belt upper edge	mm	320	320
PBL - Top surface of reference to belt lower edge	mm	250	230
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	650	650
Shoulder belt length as measured on ATD	mm	780	785
Lap belt length as measured on ATD	mm	830	830
Remainder of belt on reel	mm	845	840
Total belt length for continuous webbing systems	mm	3105	3105

SHOULDER BELT SPOOL-OFF DATA

Measurement Description	Units	Driver	Passenger
As determined mechanically	mm	35.0	30.0
As determined electronically	mm	40.1	59.1

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 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

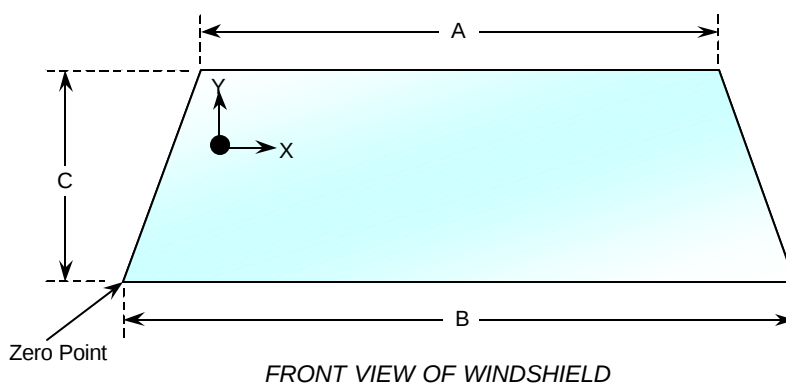
Windshield Mounting Details: Windshield glass is secured to the vehicle frame with a rubber type adhesive. There is no molding that covers the windshield periphery at any point.

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

Temperature of windshield molding during test: 21.1 °C

WINDSHIELD PERIPHERY MEASUREMENTS

Measurement	Pre-Test(mm)	Post-Test (mm)	% of Retention
Left Side	2174.0	2174.0	100
Right Side	2174.0	2174.0	100
Total	4348.0	4348.0	100



WINDSHIELD DIMENSIONS

Item	Units	Segment Length	Molding Width
A	mm	1242	20
B	mm	1638	N/A
C	mm	734	20

DATA SHEET NO. 11

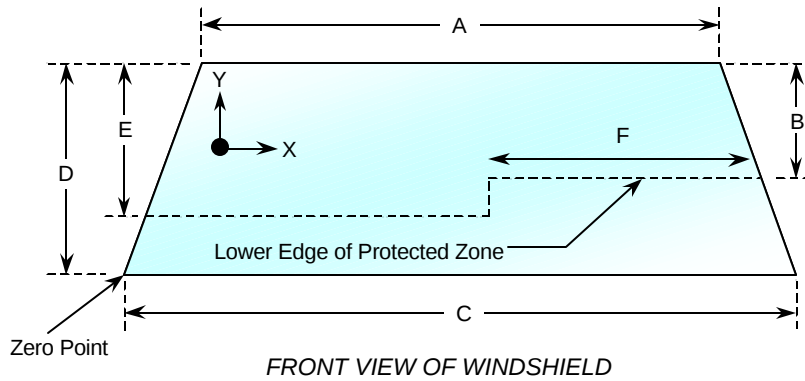
WINDSHIELD ZONE INTRUSION FMVSS 219 (PARTIAL) DATA

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01



WINDSHIELD AND PROTECTED ZONE

Item	Units	Value
A	mm	1242
B	mm	393
C	mm	38
D	mm	734
E	mm	439
F	mm	738

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 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

Test Time: 12:41 PM

Temperature at Time of Impact: 15.0 °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

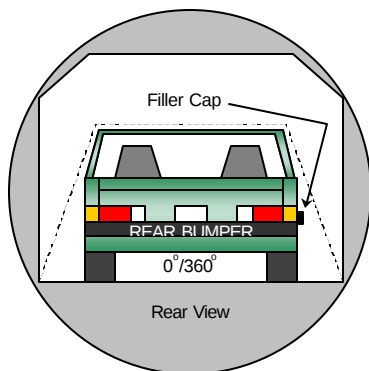
DATA SHEET NO. 13
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

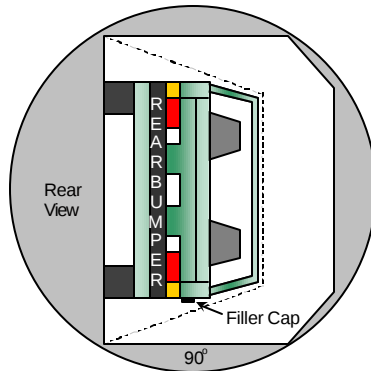
NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

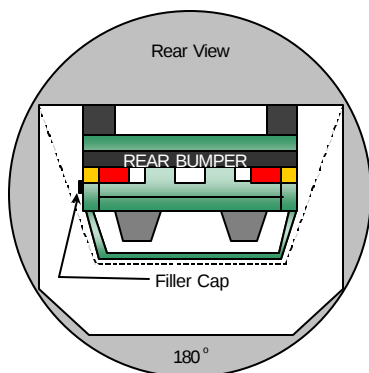
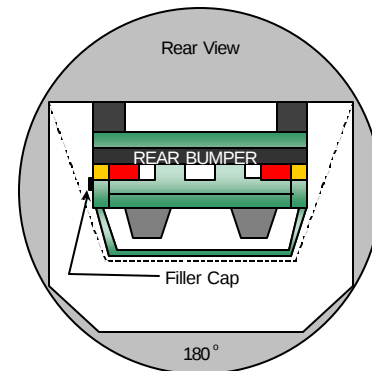
Test Date: 01/23/01



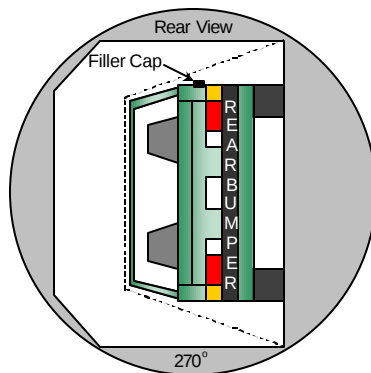
0° TO 90°



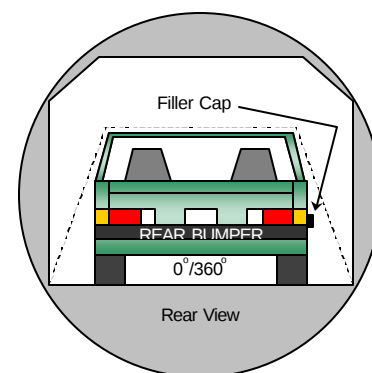
90° TO 180°



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.

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	81	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

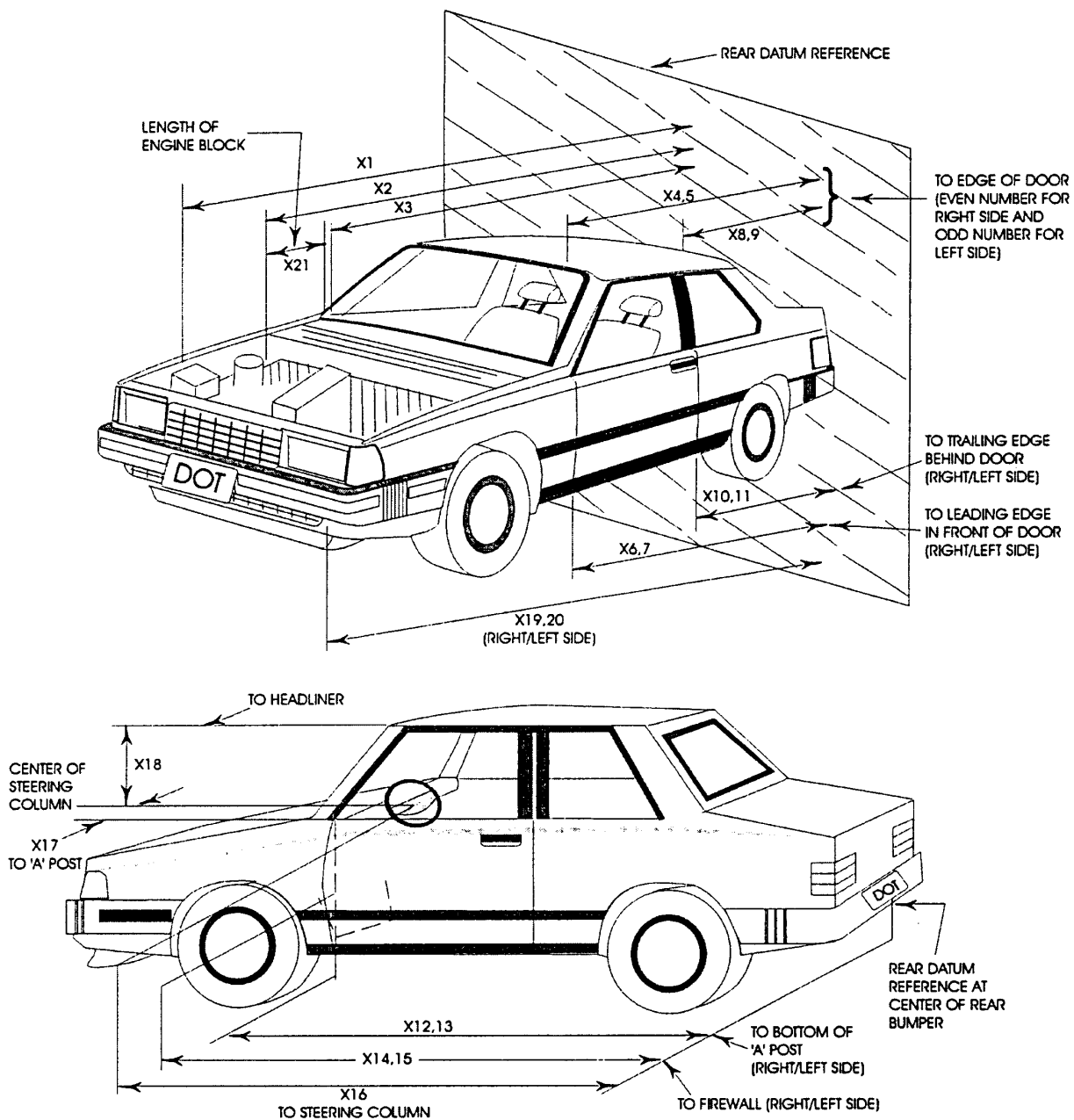
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
1	Total length of vehicle at centerline	mm	5365	4846	-519
2	RSOV to front of engine	mm	4498	4233	-265
3	RSOV to firewall centerline	mm	3931	3674	-257
4	RSOV to leading edge of right door	mm	3663	3658	-5
5	RSOV to leading edge of left door	mm	3646	3651	5
6	RSOV to lower leading edge of right door	mm	3643	3620	-23
7	RSOV to lower leading edge of left door	mm	3636	3611	-25
8	RSOV to upper trailing edge of right door	mm	2536	2535	-1
9	RSOV to upper trailing edge of left door	mm	2519	2525	6
10	RSOV to lower trailing edge of right door	mm	2543	2522	-21
11	RSOV to lower trailing edge of left door	mm	2533	2505	-28
12	RSOV to bottom of right 'A' pillar	mm	3546	3564	18
13	RSOV to bottom of left 'A' pillar	mm	3518	3563	45
14	RSOV to firewall on right side	mm	3821	3717	-104
15	RSOV to firewall of left side	mm	3854	3675	-179
16	RSOV to steering column	mm	3153	3120	-33
17	Center of steering column to left 'A' pillar	mm	447	496	49
18	Center of steering column to headlining	mm	420	385	-35
19	RSOV to right side of front bumper	mm	5060	4676	-384
20	RSOV to left side of front bumper	mm	5060	4700	-360
21	Length of engine block	mm	593	593	0
RD	RSOV to right side of dash panel	mm	3281	3265	-16
CD	RSOV to center of dash panel	mm	3300	3236	-64
LD	RSOV to left side of dash panel	mm	3276	3263	-13



DATA SHEET NO. 15
CAMERA LOCATIONS

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

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	7858	13	1020
3	Left Side, No. 2	1455	-8250	1460	-4	7910	35	1020
4	Left Side, No. 3	6495	-10580	4640	-16	11352	70	1010
5	Left Side, No. 4	Did Not Run						
6	Left Side, No. 5	1455	-8250	2700	-13	8035	19	980
7	Right Side, No. 1	1955	8150	730	-1	8632	19	1020
8	Right Side, No. 2	1655	8150	1450	-4	8645	35	1010
9	Right Side, No. 3	7855	8900	2800	-9	N/A	80	920
10	Right Side, No. 4	970	12358	1150	-2	12905	50	960
11	Overhead Overall	251	0	4460	-86	N/A	13	1030
12	Front View, Driver	-525	-380	2590	-43	N/A	12	1050
13	Front View, Passenger	-525	380	2590	-44	N/A	13	930
14	Pit Camera, Engine	638	0	-1640	86	N/A	13	970
15	Pit Camera, Fuel Tank	2180	0	-1770	53	N/A	19	900
16	Driver Belt	3429	-376	1213	-5	728	13	630
17	Passenger Belt	3429	292	1212	-5	990	13	600
18	Left Side Extra	800	-6681	1450	-2	6521	24	1110

X - Barrier Face Y - Monorail Centerline Z - Ground

DATA SHEET NO. 16
PHOTOGRAPHIC REFERENCE TARGET LOCATIONS

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

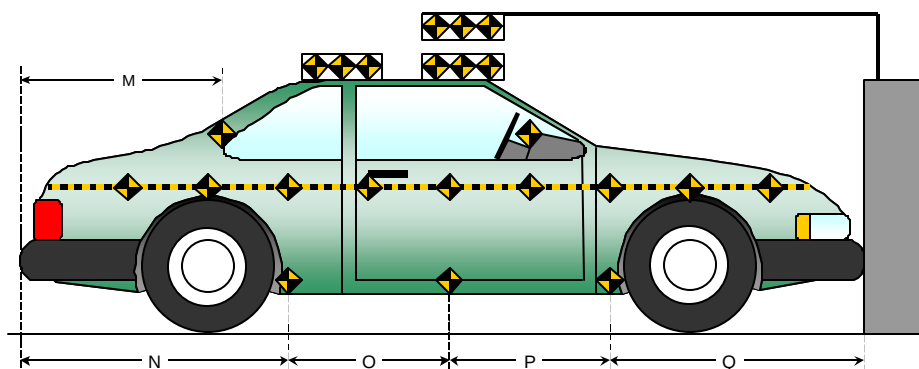
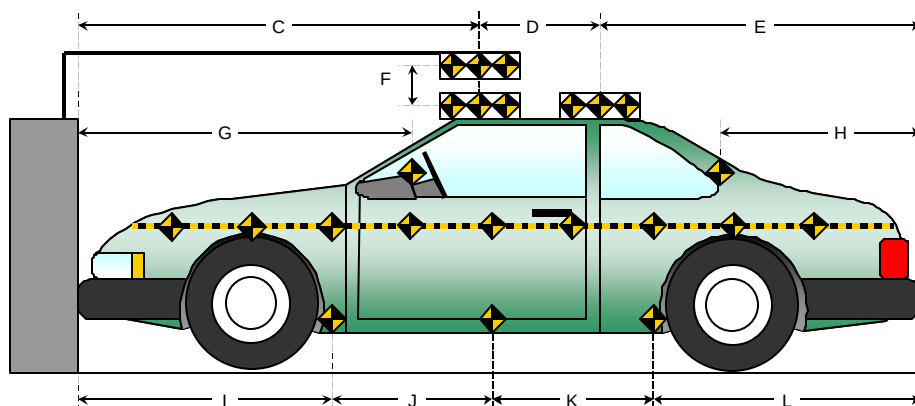
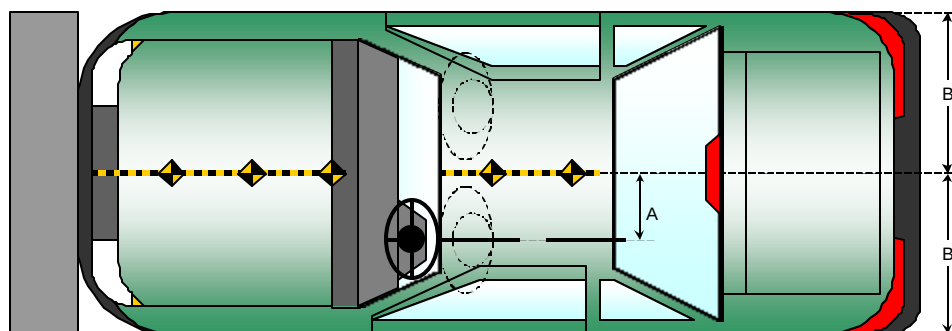
NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

All Dimensions
in mm

Item	Value
A	431
B	911
C	2453
D	607
E	2298
F	155
G	2062
H	1536
I	1545
J	989
K	995
L	1845
M	1553
N	1845
O	982
P	997
Q	1539



DATA SHEET NO. 17
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

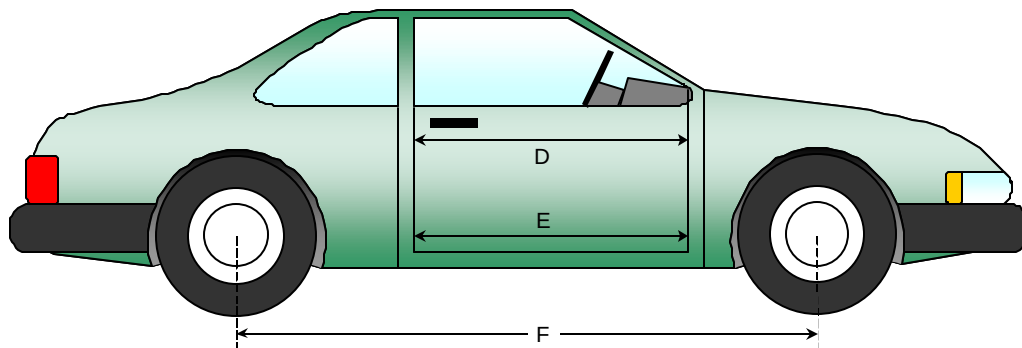
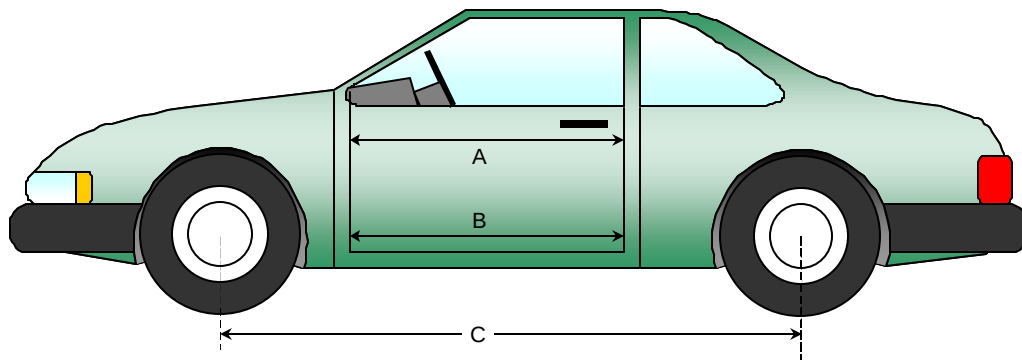
Test Date: 01/23/01

DOOR OPENING WIDTH

Item	Description	Units	Pre-Test	Post-Test	Difference
A	Left Side Upper	mm	994	975	-19
B	Left Side Lower	mm	948	943	-5
D	Right Side Upper	mm	984	979	-5
E	Right Side Lower	mm	948	943	-5

WHEELBASE MEASUREMENTS

Item	Description	Units	Pre-Test	Post-Test	Difference
C	Left Side Wheel base	mm	2915	2770	-145
F	Right Side Wheel base	mm	2915	2789	-126



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

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

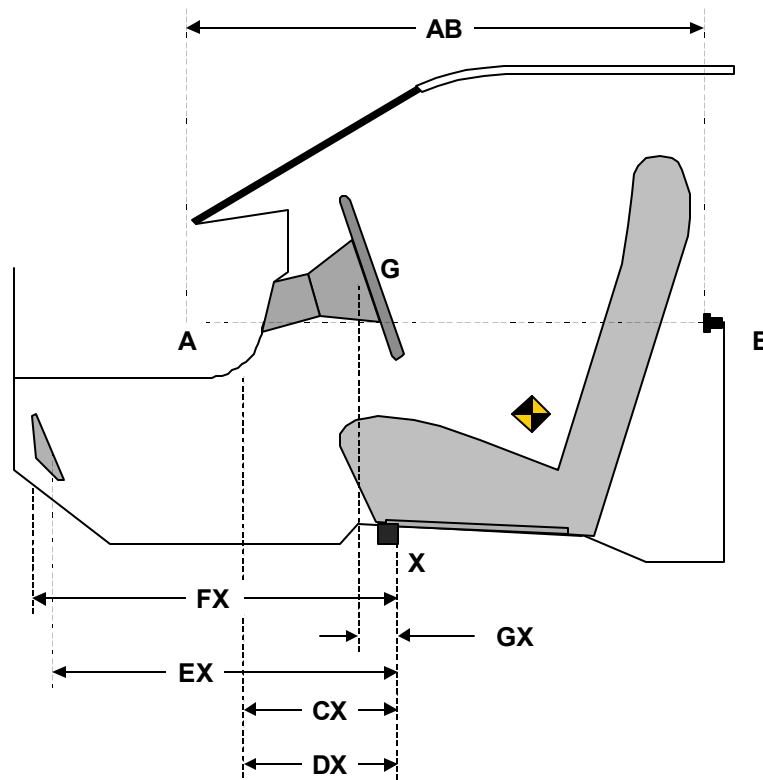
Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

DRIVER COMPARTMENT INTRUSION

Item	Description	Units	Pre-Test	Post-Test	Difference
AB	Door Opening (Inside window jam)	mm	994	975	-19
CX	Left Knee Bolster to X	mm	215	211	-4
DX	Right Knee Bolster to X	mm	255	187	-68
EX	Brake Pedal to X	mm	542	536	-6
FX	Foot Rest to X	mm	N/A	N/A	
GX	Center of Steering Wheel Hub to X	mm	116	135	19

X = Left Front Seat Outboard Anchor Bolt Head



DRIVER COMPARTMENT

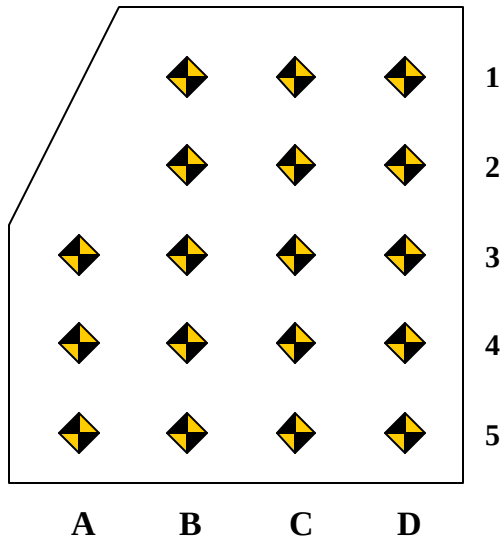
DATA SHEET NO. 17...(CONTINUED)
VEHICLE INTRUSION MEASUREMENTS

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01



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		589	590	590		481	466	492		-108	-124	-98
2		494	492	492		441	444	440		-53	-48	-52
3	398	394	394	392	390	376	368	358	-8	-18	-26	-34
4	296	294	295	292	290	275	271	263	-6	-19	-24	-29
5	193	194	193	192	192	180	175	166	-1	-14	-18	-26

DRIVER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1		-20	-30	-40		-24	-9	-34		-4	21	6
2		-45	-50	-45		-37	-14	-3		8	36	42
3	-60	-60	-60	-60	-79	-89	-71	-49	-19	-29	-11	11
4	-65	-57	-57	-36	-86	-87	-82	-55	-21	-30	-25	-19
5	-60	-57	-57	-40	-67	-80	-95	-78	-7	-23	-38	-38

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

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

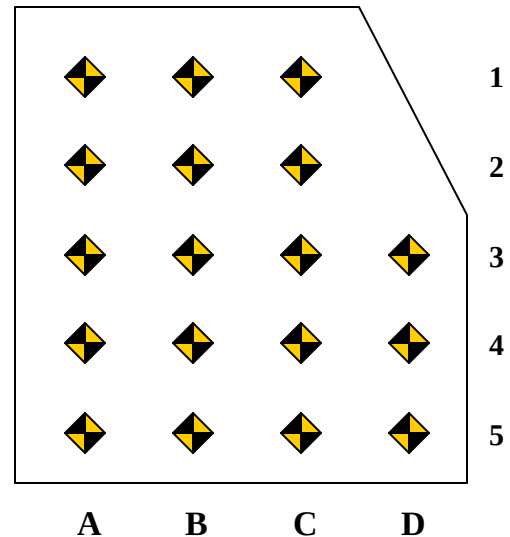
Test Date: 01/23/01

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	644	643	655		536	548	543		-108	-95	-112	
2	579	579	590		488	513	505		-91	-66	-85	
3	484	485	490	488	431	447	451	460	-53	-38	-39	-28
4	386	385	387	388	341	347	357	370	-45	-38	-30	-18
5	286	285	286	288	250	252	261	273	-36	-33	-25	-15

PASSENGER FLOOR PAN Z-AXIS

	Pre-Test				Post-Test				Difference			
	A	B	C	D	A	B	C	D	A	B	C	D
1	70	71	63		79	85	107		9	14	44	
2	-5	-9	-22		-2	-1	19		3	8	41	
3	-40	-47	-52	-50	-55	-84	-65	-52	-15	-37	-13	-2
4	-45	-53	-58	-54	-88	-91	-75	-30	-43	-38	-17	24
5	-36	-45	-53	-53	-68	-59	-40	-14	-32	-14	13	39

DATA SHEET NO. 18
FIXED BARRIER TYPE

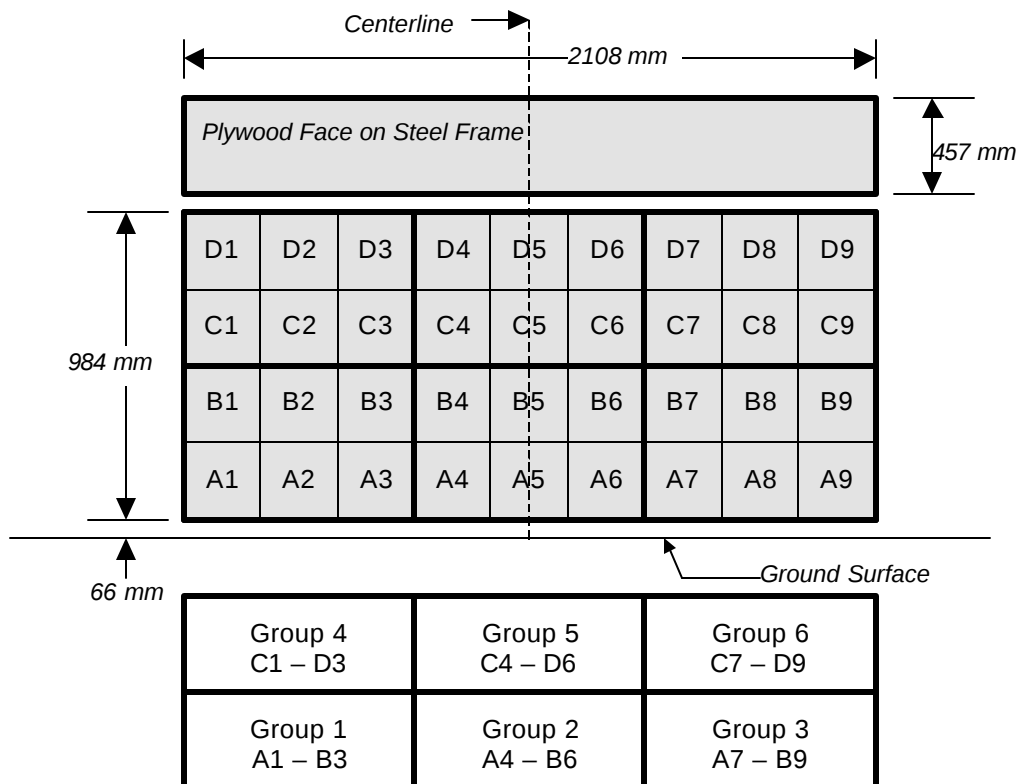
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01

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



6 Groups of 6 Load Cells Each

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

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

DATA SHEET NO. 19
ACCIDENT INVESTIGATION DATA

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan
Test Program: 2001 NHTSA 35 mph NCAP

NHTSA No.: M10201
Test Date: 01/23/01

VEHICLE INFORMATION

VIN: 2FAFPZ3WX1X112229
Vehicle Size Category: 4 Door Sedan

Wheel base (mm): 2915
Test Weight (kg): 2013

ACCELEROMETER DATA

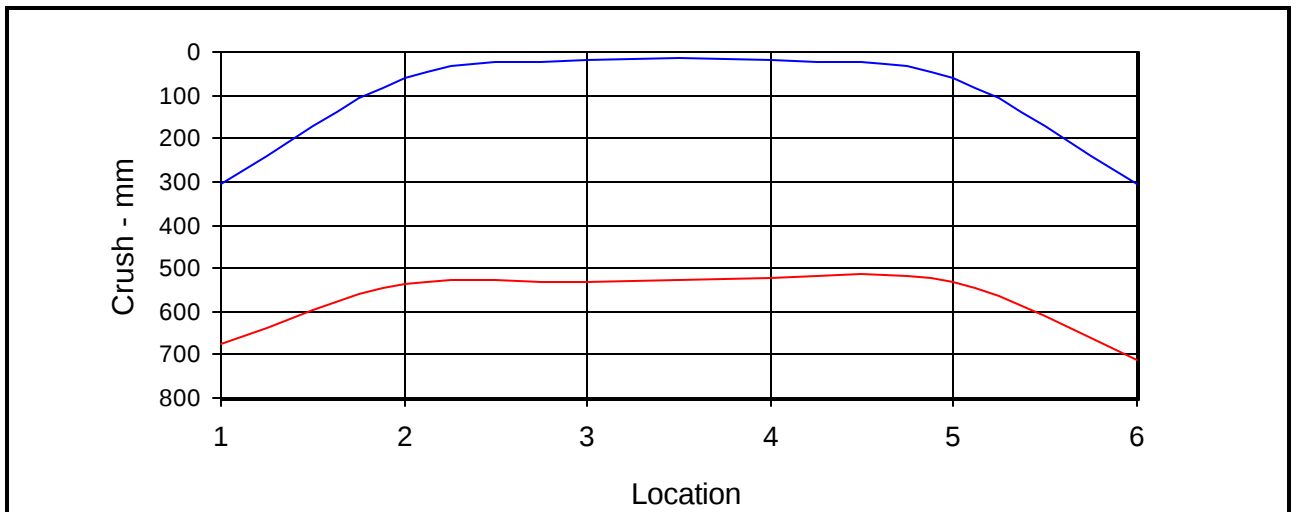
Accelerometer Location: Left rear floor pan
Cal. Procedure/Interval: 6 months / drop test
Integration Algorithm: NHTSA Standard
Impact Velocity (km/h): 56.27
Velocity Change (km/h): 68.32

Linearity: Good
Time of Separation (msec): 94.7

CRUSH PROFILE

Collision Deformation Classification: 12FDEW6 ; Midpoint of Damage: Vehicle Centerline
Damage Region Length (mm): 1648 ; Impact Mode: Full Frontal

No.	Measurement Description	Units	Pre-Test	Post-Test	Difference
C1	Crush zone 1 at left side	mm	305	676	-371
C2	Crush zone 2 on left side	mm	61	538	-477
C3	Crush zone 3 on left side	mm	17	534	-517
C4	Crush zone 4 on right side	mm	18	521	-503
C5	Crush zone 5 on right side	mm	60	534	-474
C6	Crush zone 6 at right side	mm	305	710	-405



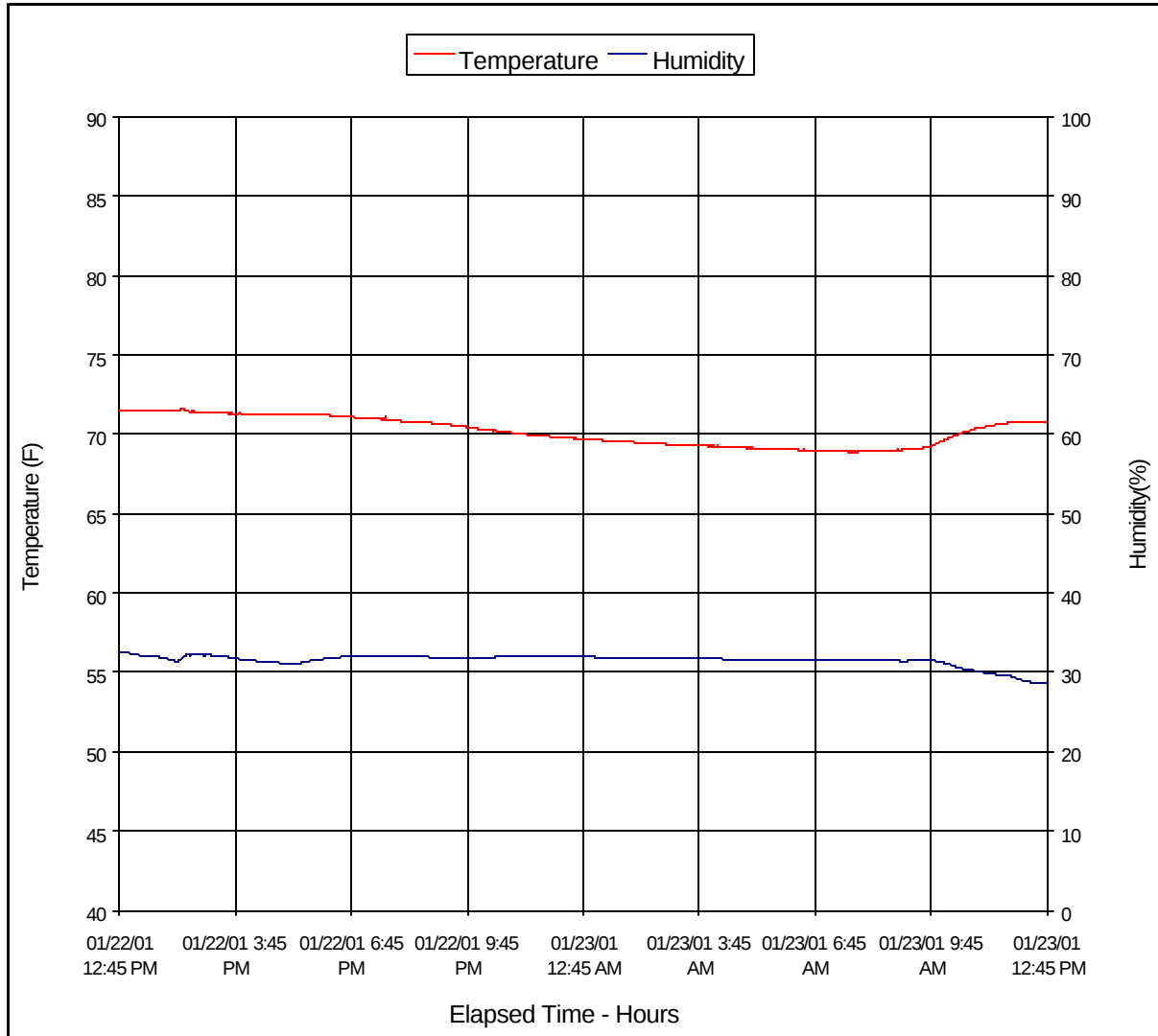
DATA SHEET NO. 20
DUMMY/VEHICLE TEMPERATURE STABILIZATION

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35 mph NCAP

Test Date: 01/23/01



APPENDIX A
PHOTOGRAPHS

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Figure A-1: Right Front, as Received



Figure A-2: Left Rear, as Received

MFD. BY FORD MOTOR CO. OF CANADA, LTD.

DATE: 09/00

GVWR: 5237LB/2375KG

FRONT GAWR: 2610LB 1183KG

REAR GAWR: 2677LB 1214KG

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

VIN: 2FAFP73WX1X112229

F0053

TYPE: PASSENGER

R0078



EXT PNT: FL

IRC: 71 DSO:

BRK INT TR

TP/PS

R AXLE

TR SPR

1FB1G

3 KH

H 58

H 32CC B05

MADE IN CANADA

CPC ▽ F85B-1520472-AB

Figure A-3: Vehicle Certification Label

FORD / MERCURY		RECOMMENDED TIRE SIZE and INFLATION PRESSURE (COLD) DIMENSIONS DES PNEUS et PRESSIONS DE GONFLAGE RECOMMANDÉES (À FROID)			
TIRE SIZE DIMENSIONS DES PNEUS	TIRE PRESSURE		PRESSION DES PNEUS		
	FRONT	AVANT	REAR	ARRIÈRE	
P225/60R16 97S*	220 kPa	32lb/po ² 32 PSI	220 kPa	32lb/po ² 32 PSI	
P225/60R16 97T*	220 kPa	32lb/po ² 32 PSI	220 kPa	32lb/po ² 32 PSI	
T135/80R16	415 kPa	60lb/po ² 60 PSI	415 kPa	60lb/po ² 60 PSI	
P225/60R16 97V*	240 kPa	35lb/po ² 35 PSI	240 kPa	35lb/po ² 35 PSI	
* MUST BE REPLACED WITH AN EQUIVALENT TYPE SPEED RATED TIRE. * NE REMPLACER QUE PAR UN PNEU DONT L'INDICE DE VITESSE EST LE MÊME.					
TOTAL LOAD = OCCUPANTS PLUS LUGGAGE CHARGE GLOBALE = OCCUPANTS PLUS BAGAGES					
MAXIMUM LOAD CHARGE MAXIMALE	OCCUPANTS OCCUPANTS	DISTRIBUTION		RÉPARTITION	
		FRONT	AVANT	REAR	ARRIÈRE
499 kg/1100 lb	6	3		3	
431 kg/956 lb POLICE ONLY / POLICE SEULEMENT	5	2		3	
FOR SUSTAINED HIGH SPEED, TRAILER TOWING, RECREATIONAL ACCESSORIES AND TEMPORAL SPARE USAGE - SEE OWNER GUIDE. HAUTES VITESSES SOUTENUES, REMORQUES, ACCESSOIRES DE PLAISANCE ET PNEU DE SECOURS PROVISoire: CONSULTER LE GUIDE DU PROPRIÉTAIRE.					
▽ F8AC-1532-AA					

Figure A-4: Vehicle Tire Label



Figure A-5: Front View, Pre-Test

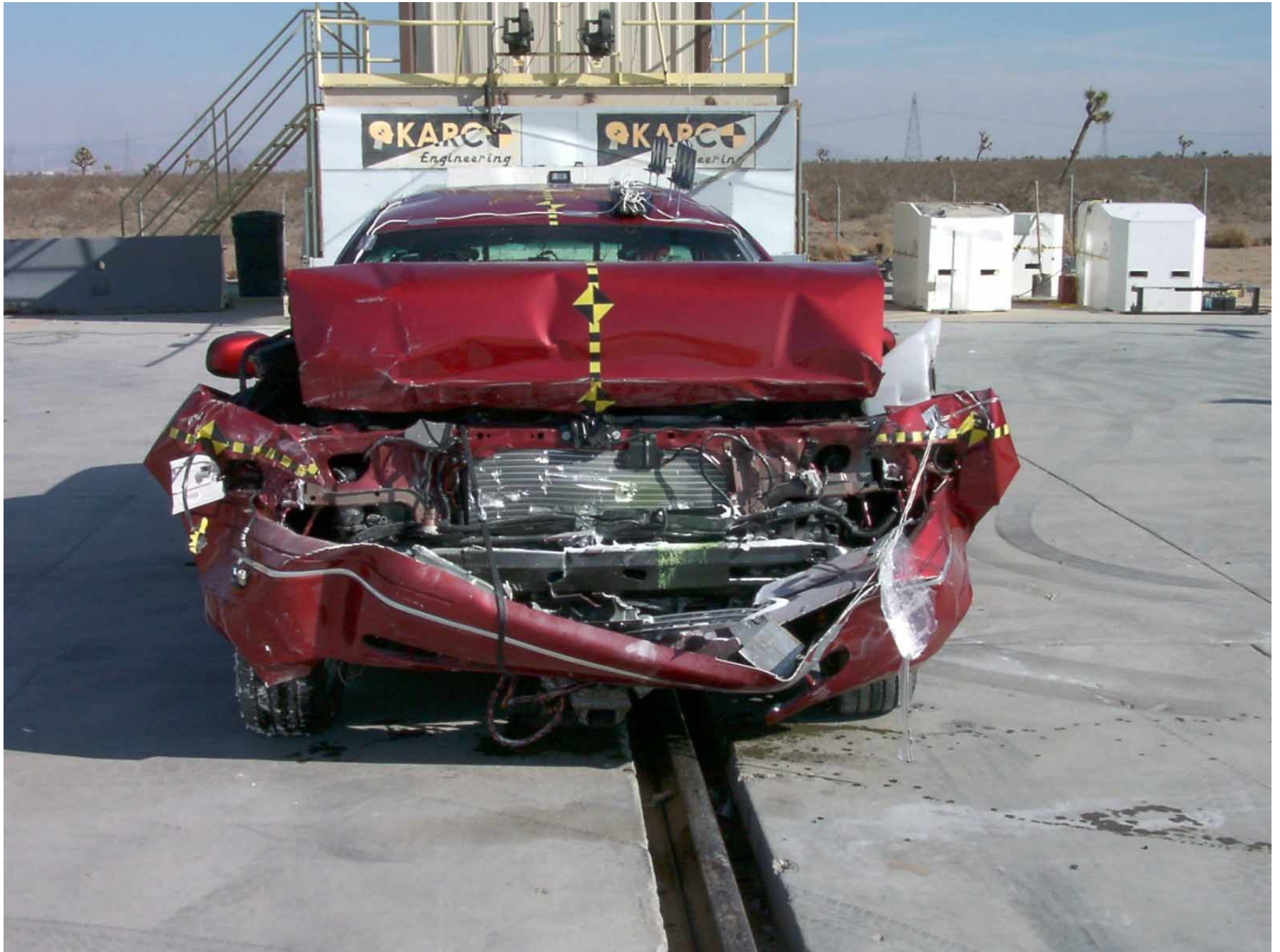


Figure A-6: Front View, Post-Test



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

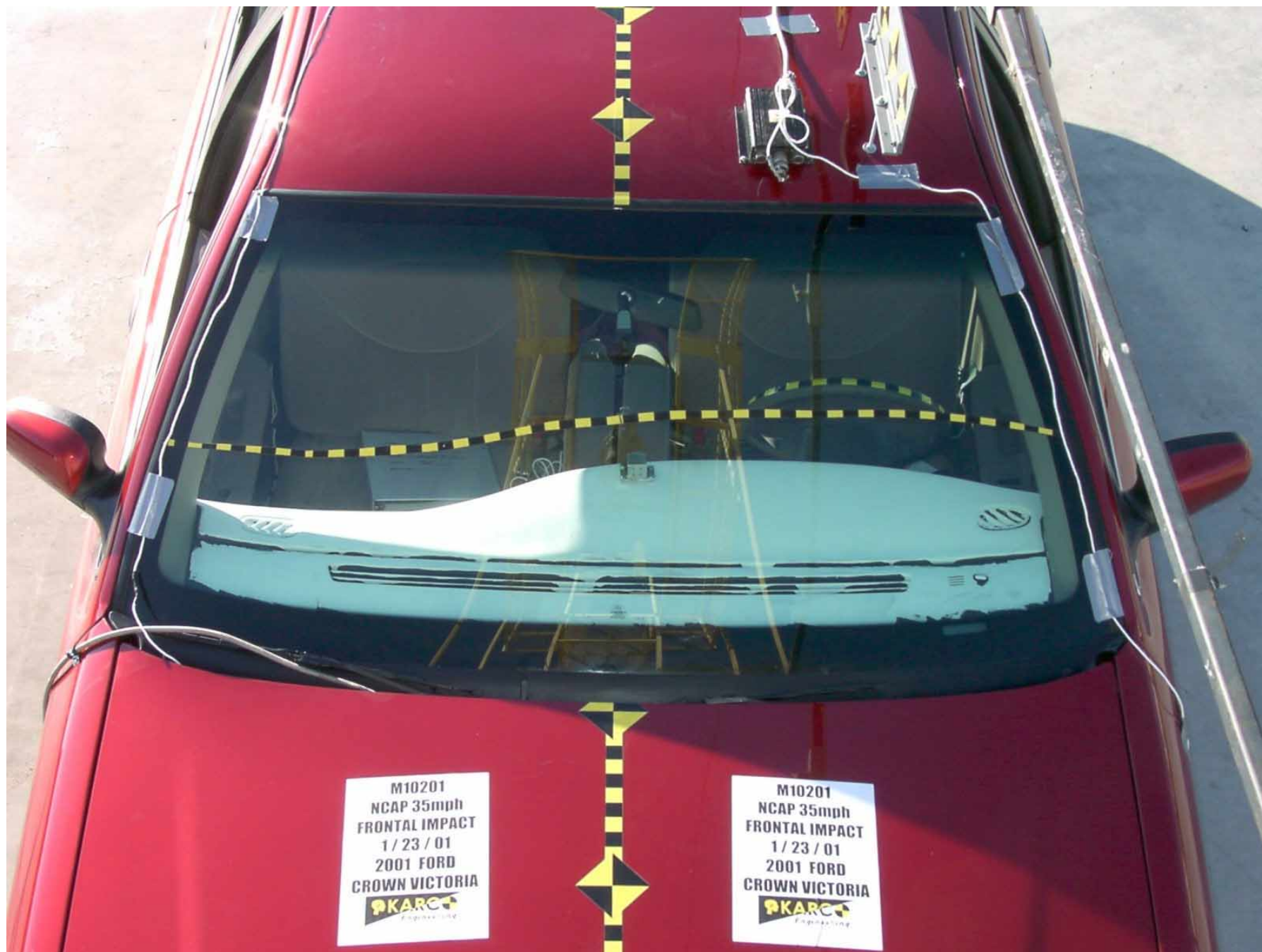


Figure A-15: Windshield, Pre-Test



Figure A-16: Windshield, Post-Test

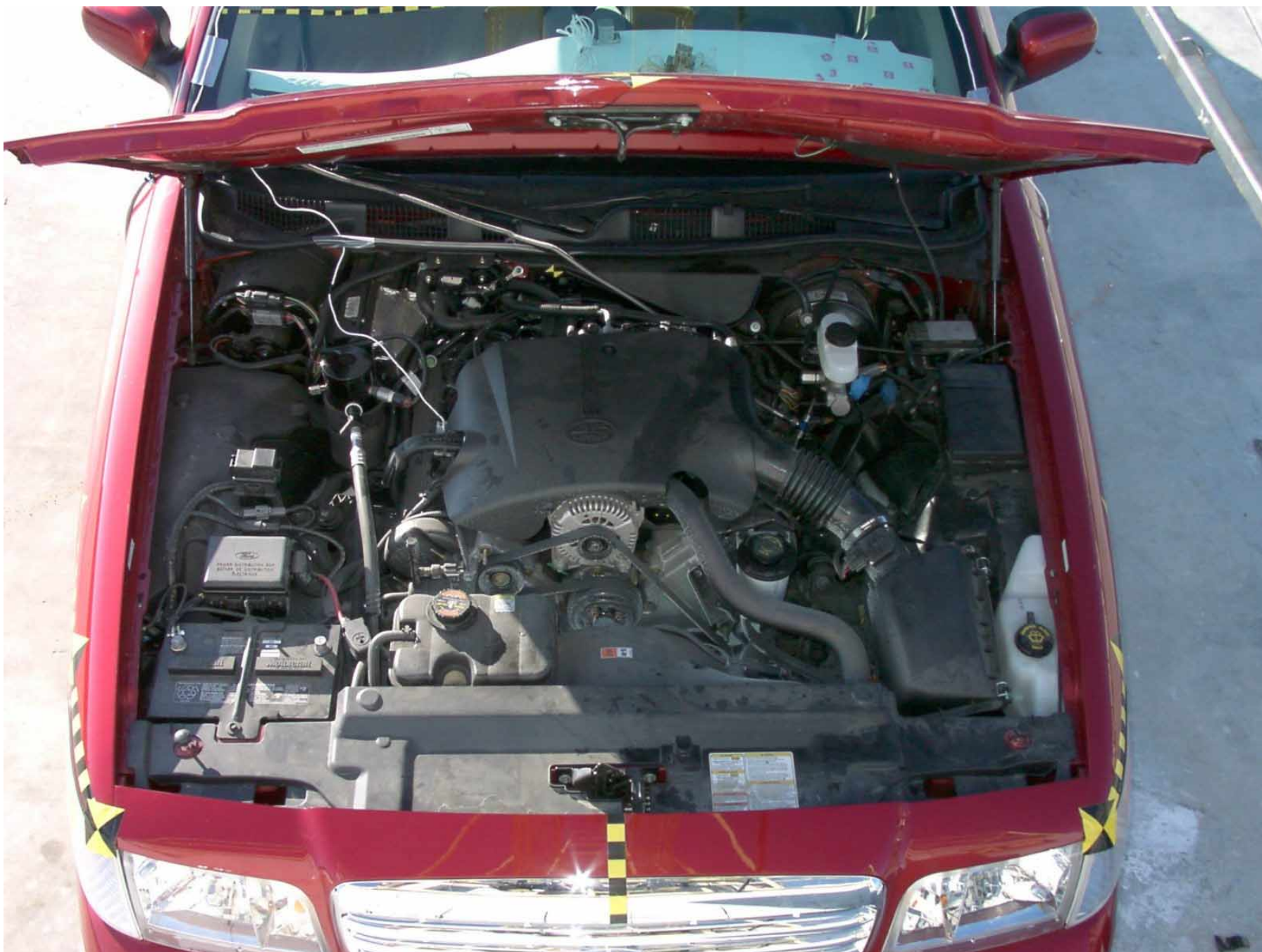


Figure A-17: Engine Compartment, Pre-Test

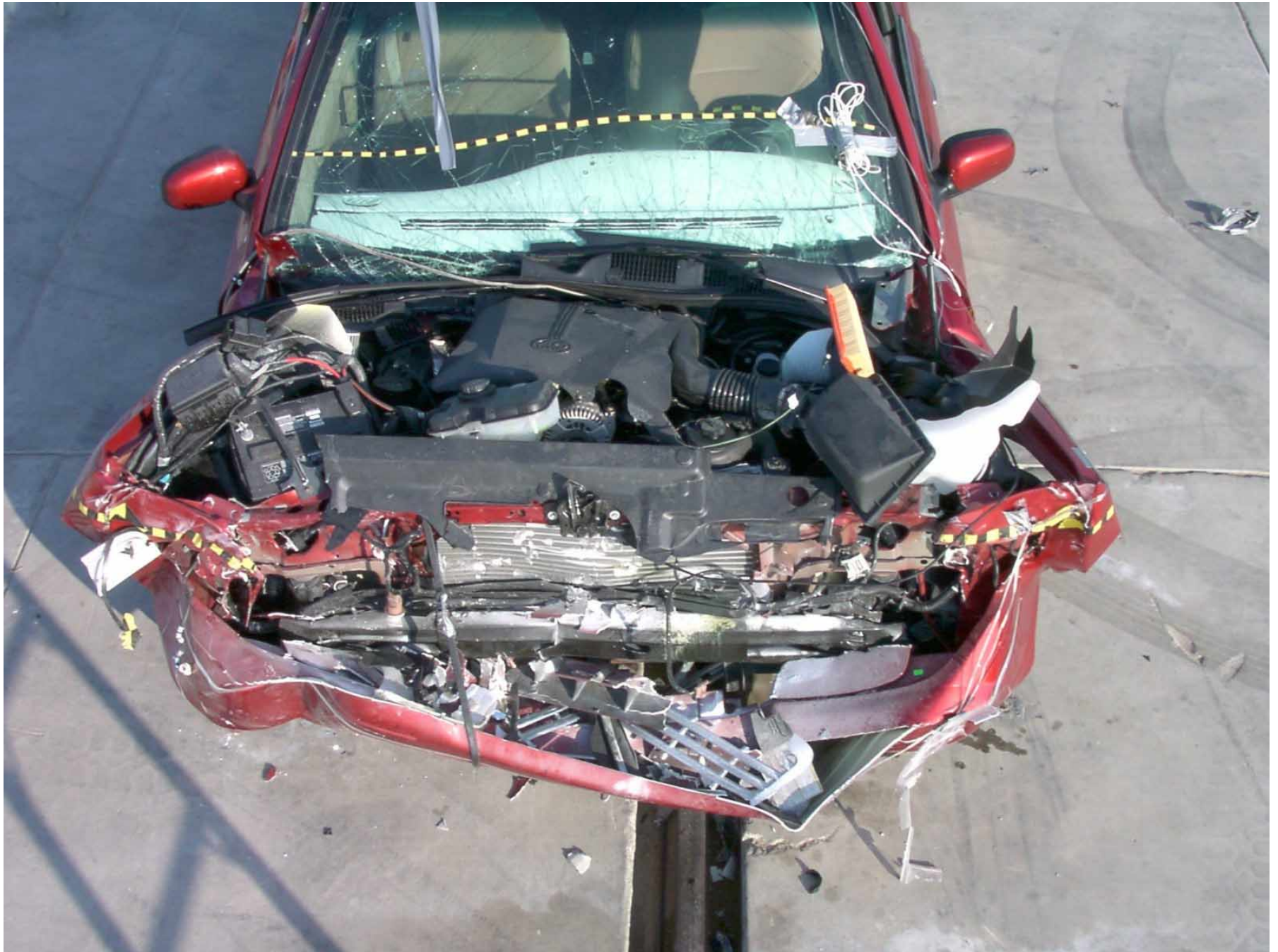


Figure A-18: Engine Compartment, Post-Test



Figure A-19: Fuel Cap, Pre-test



Figure A-20: Fuel Cap, Post-Test

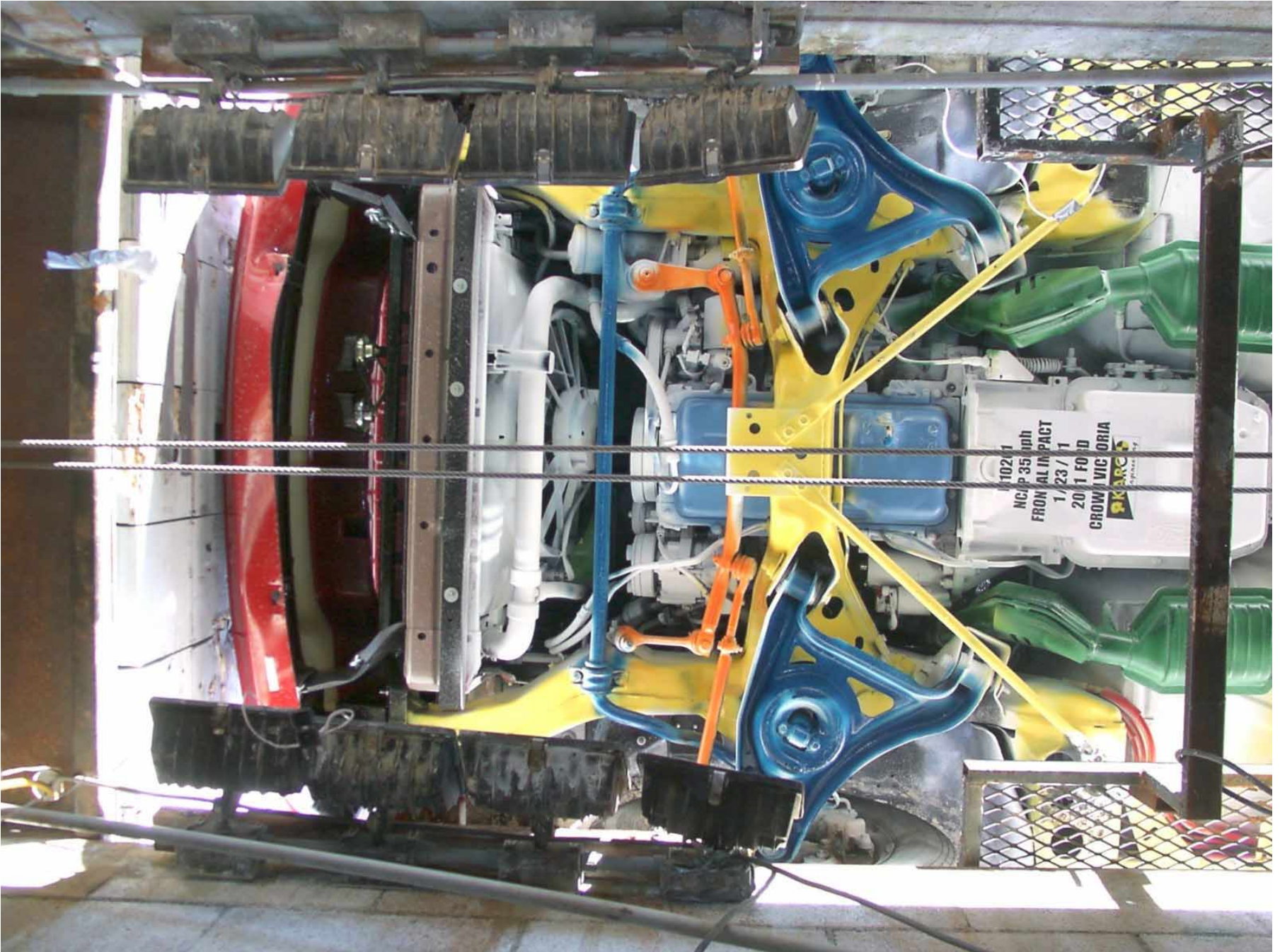


Figure A-21: Front Underside, Pre-Test

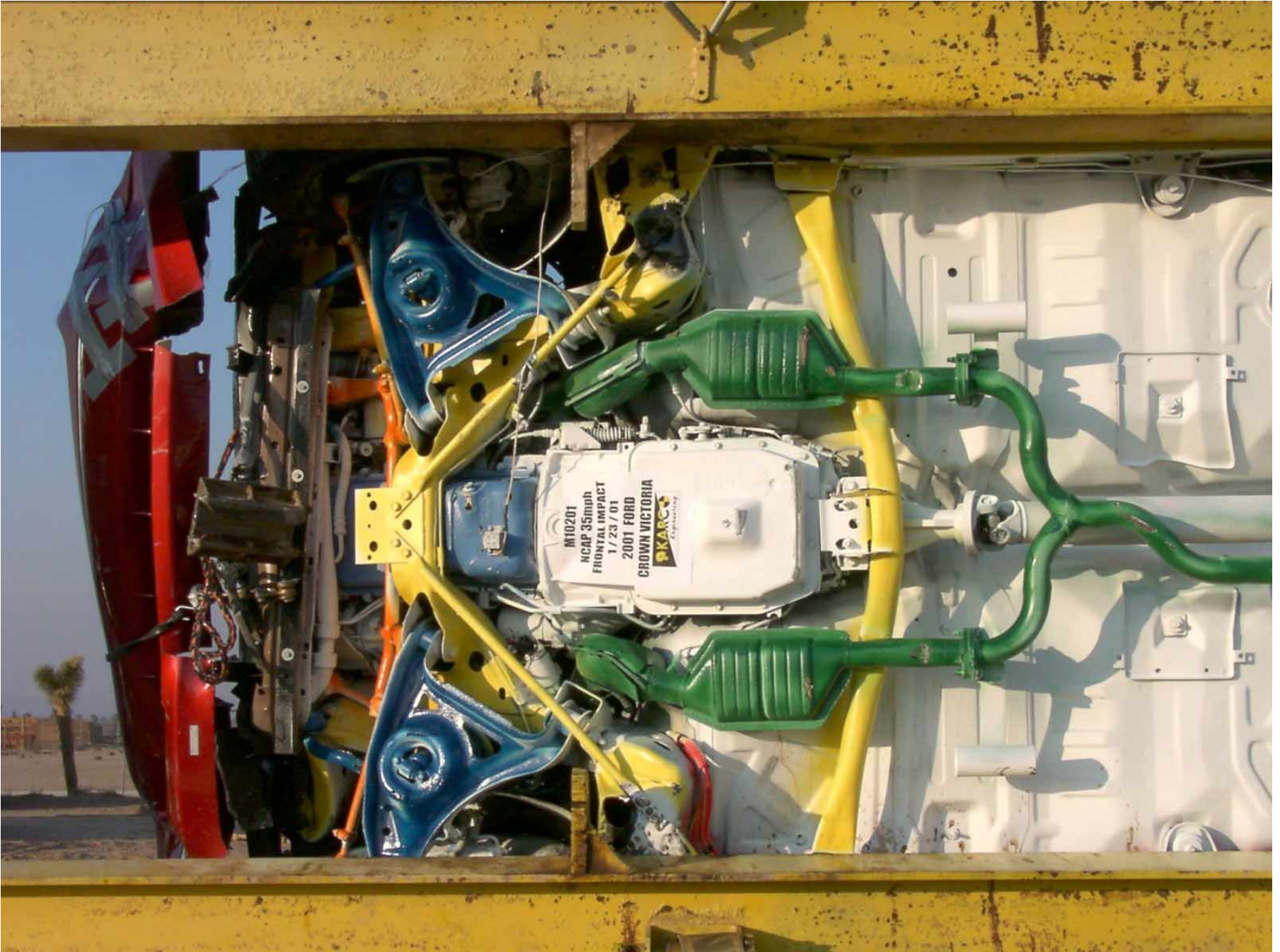


Figure A-22: Front Underside, Post-Test



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

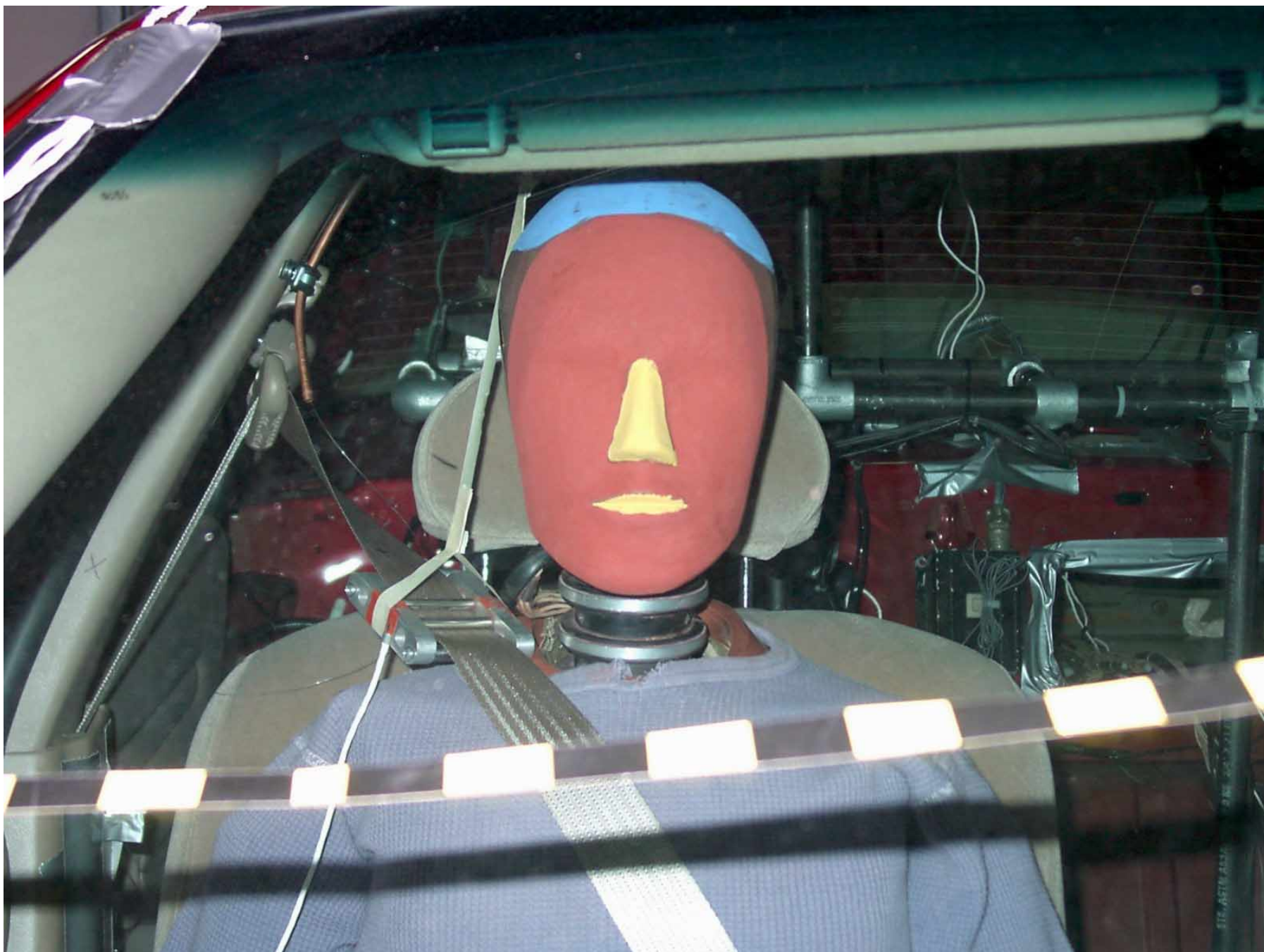


Figure A-41: Passenger Dummy Front View, Pre-Test



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

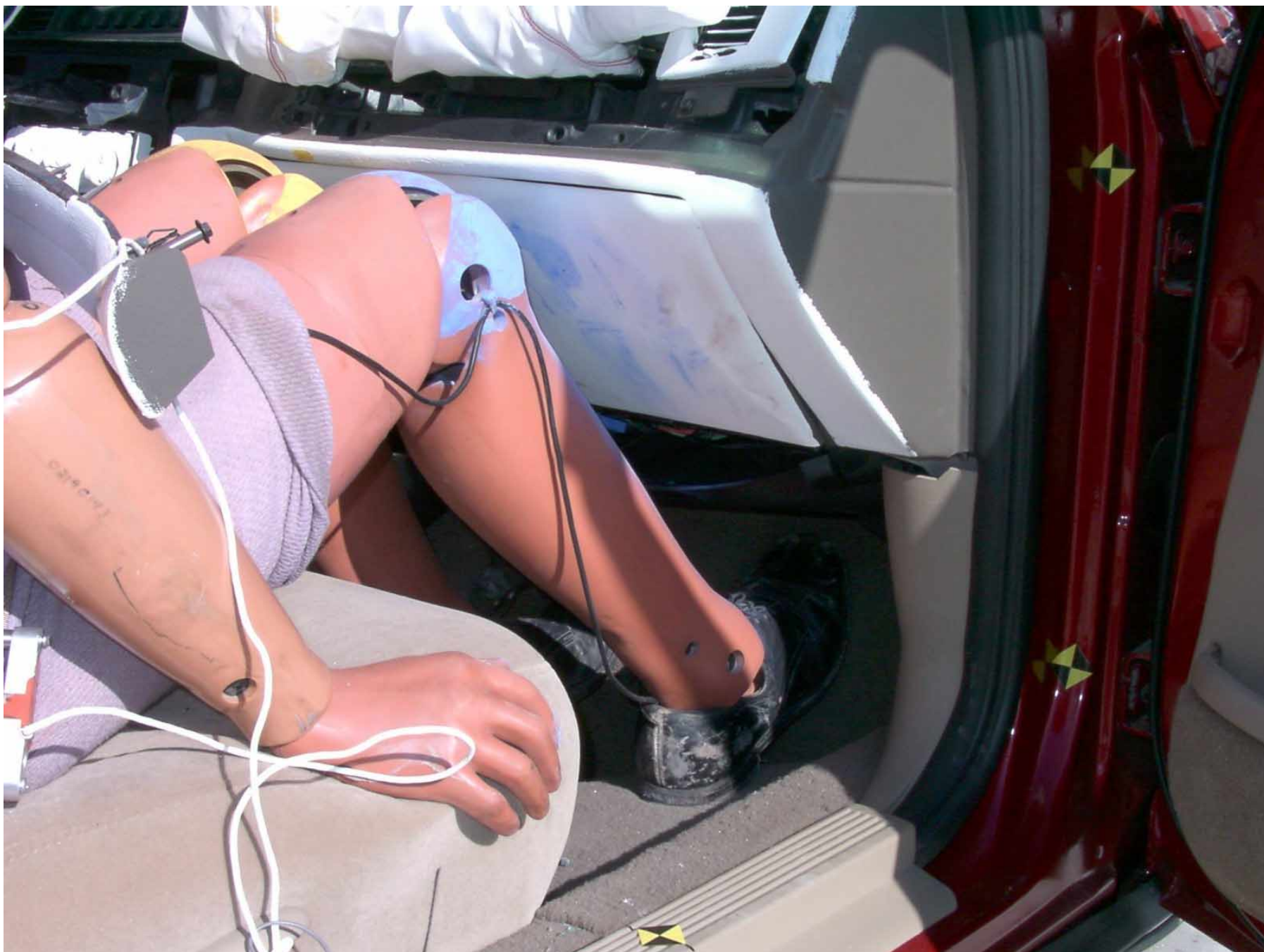


Figure A-50: Passenger Dummy Feet and Knee Contact, Post-Test



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

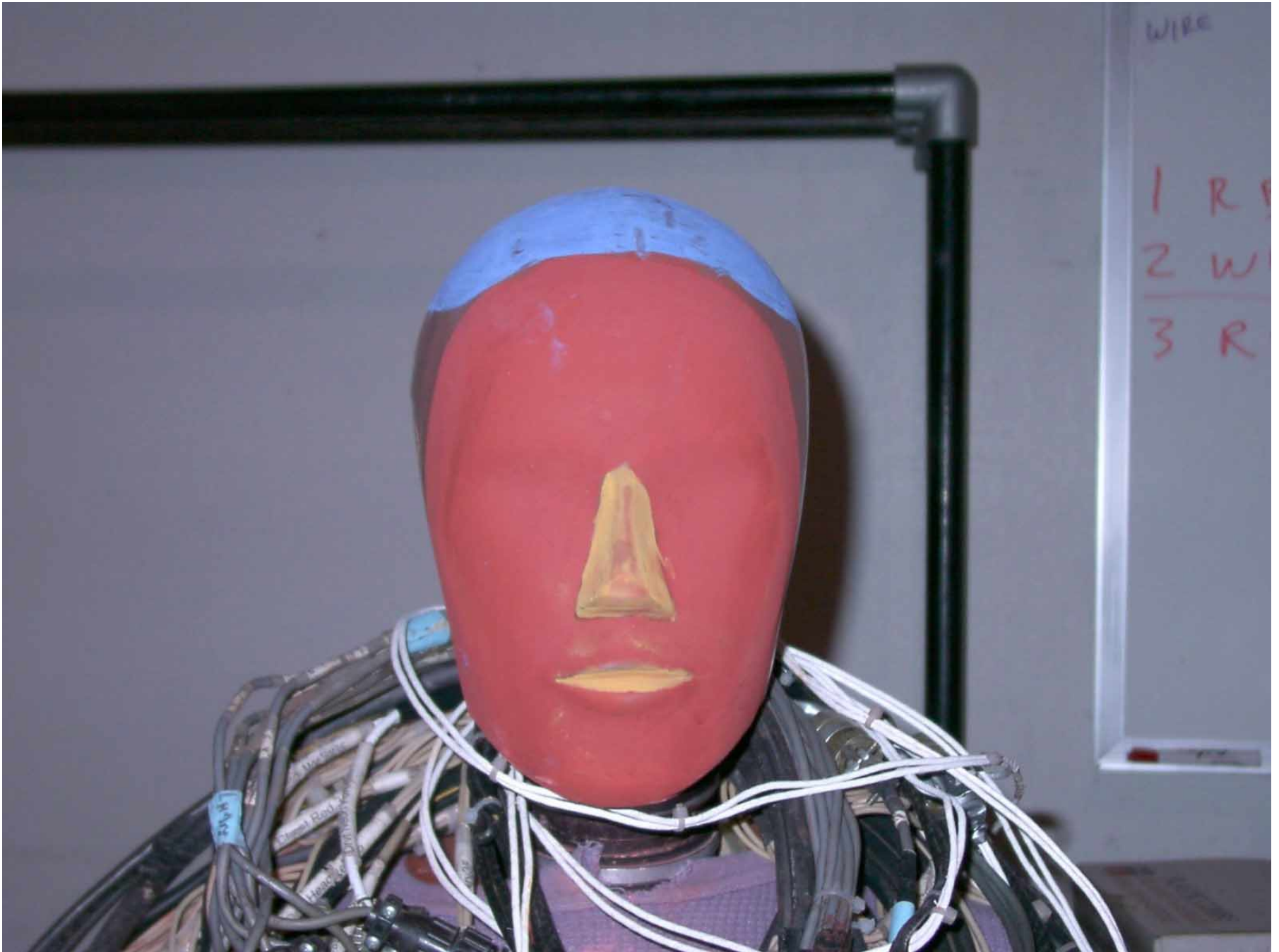


Figure A-55: Passenger Head, Post-Test



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-3 Driver Head Primary X Displacement	B-3
B-4 Driver Head Primary Y	B-4
B-5 Driver Head Primary Z	B-5
B-6 Driver Head Resultant Primary	B-6
B-7 Driver Head Redundant X	B-7
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B-9 Driver Head Redundant X Displacement	B-9
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B-11 Driver Head Redundant Z	B-11
B-12 Driver Head Resultant Redundant	B-12
B-13 Driver Neck Force X	B-13
B-14 Driver Neck Force Y	B-14
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B-16 Driver Neck Force Resultant	B-16
B-17 Driver Neck Moment X	B-17
B-18 Driver Neck Moment Y	B-18
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B-21 Driver Chest Primary X	B-21
B-22 Driver Chest Primary X Velocity	B-22
B-23 Driver Chest Primary X Displacement	B-23
B-24 Driver Chest Primary Y	B-24
B-25 Driver Chest Primary Z	B-25
B-26 Driver Chest Primary Resultant	B-26
B-27 Driver Chest Redundant X	B-27
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B-33 Driver Chest Displacement X	B-33

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B-35 Driver Pelvis X Velocity	B-35
B-36 Driver Pelvis X Displacement	B-36
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B-38 Driver Pelvis Z	B-38
B-39 Driver Pelvis Resultant	B-39
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B-41 Driver Right Femur Force	B-41
B-42 Driver Left Upper Tibia Moment X	B-42
B-43 Driver Left Upper Tibia Moment Y	B-43
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B-45 Driver Right Upper Tibia Moment Y	B-45
B-46 Driver Left Lower Tibia Moment X	B-46
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B-59 Driver Shoulder Belt Force	B-59
B-60 Driver Shoulder Belt Pullout	B-60
B-61 Driver Shoulder Belt Elongation	B-61

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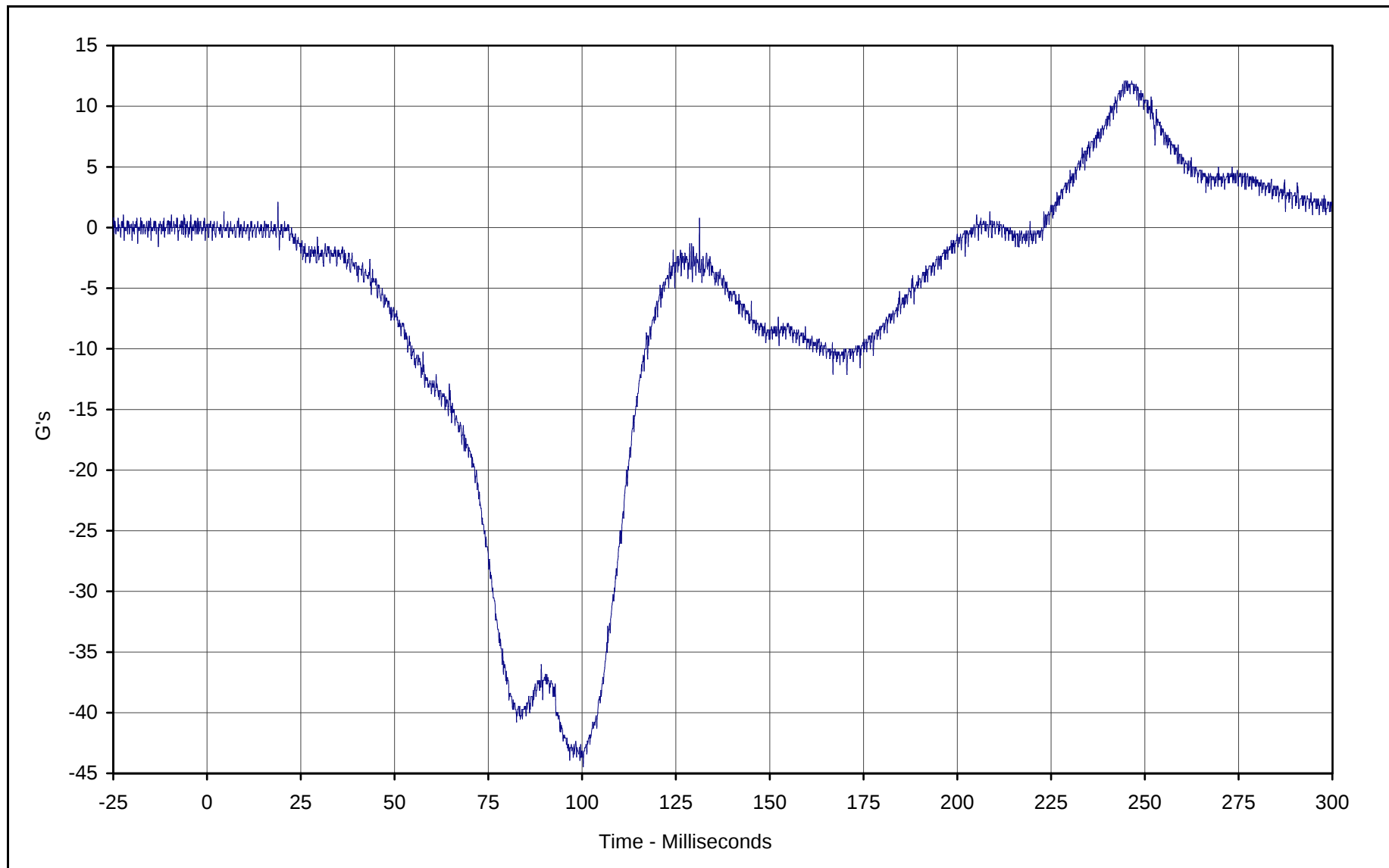
Data Plot		Page
B-62	Passenger Head Primary X	B-62
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B-121 Passenger Shoulder Belt Pullout	B-121
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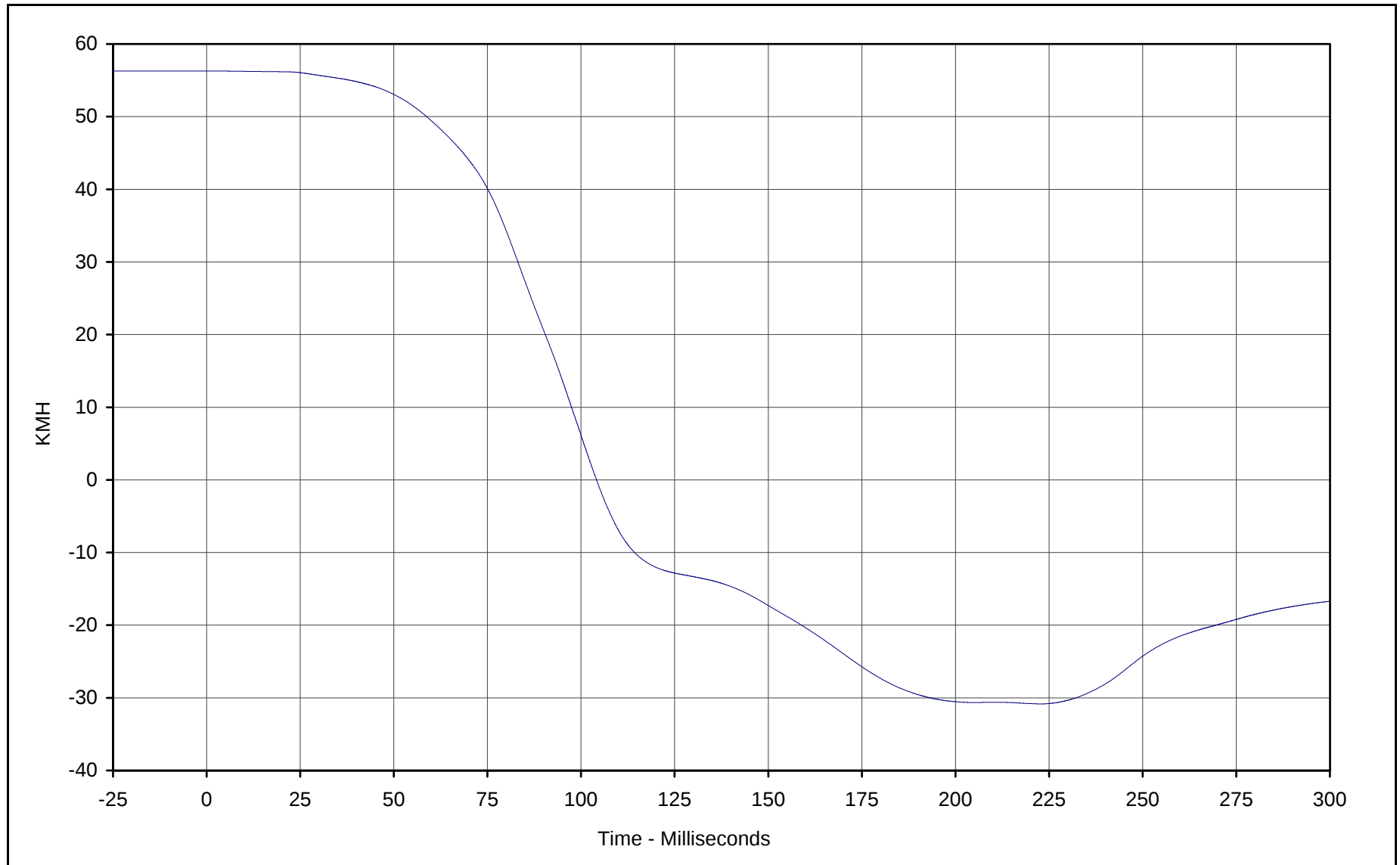
Data Plot		Page
B-123	Vehicle Left Rear Primary	B-123
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B-136	Vehicle Left Brake Caliper Velocity	B-136
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B-138	Vehicle Right Brake Caliper	B-138
B-139	Vehicle Right Brake Caliper Velocity	B-139
B-140	Vehicle Right Brake Caliper Displacement	B-140
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B-142	Vehicle Instrument Panel Velocity	B-142
B-143	Vehicle Instrument Panel Displacement	B-143
B-144	Vehicle Left Rear Redundant	B-144
B-145	Vehicle Left Rear Redundant Velocity	B-145
B-146	Vehicle Left Rear Redundant Displacement	B-146



Curve Description: Driver Head Primary X
Maximum Value: 12.1 at 244.5 Milliseconds
Minimum Value: -44.5 at 100.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-001

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

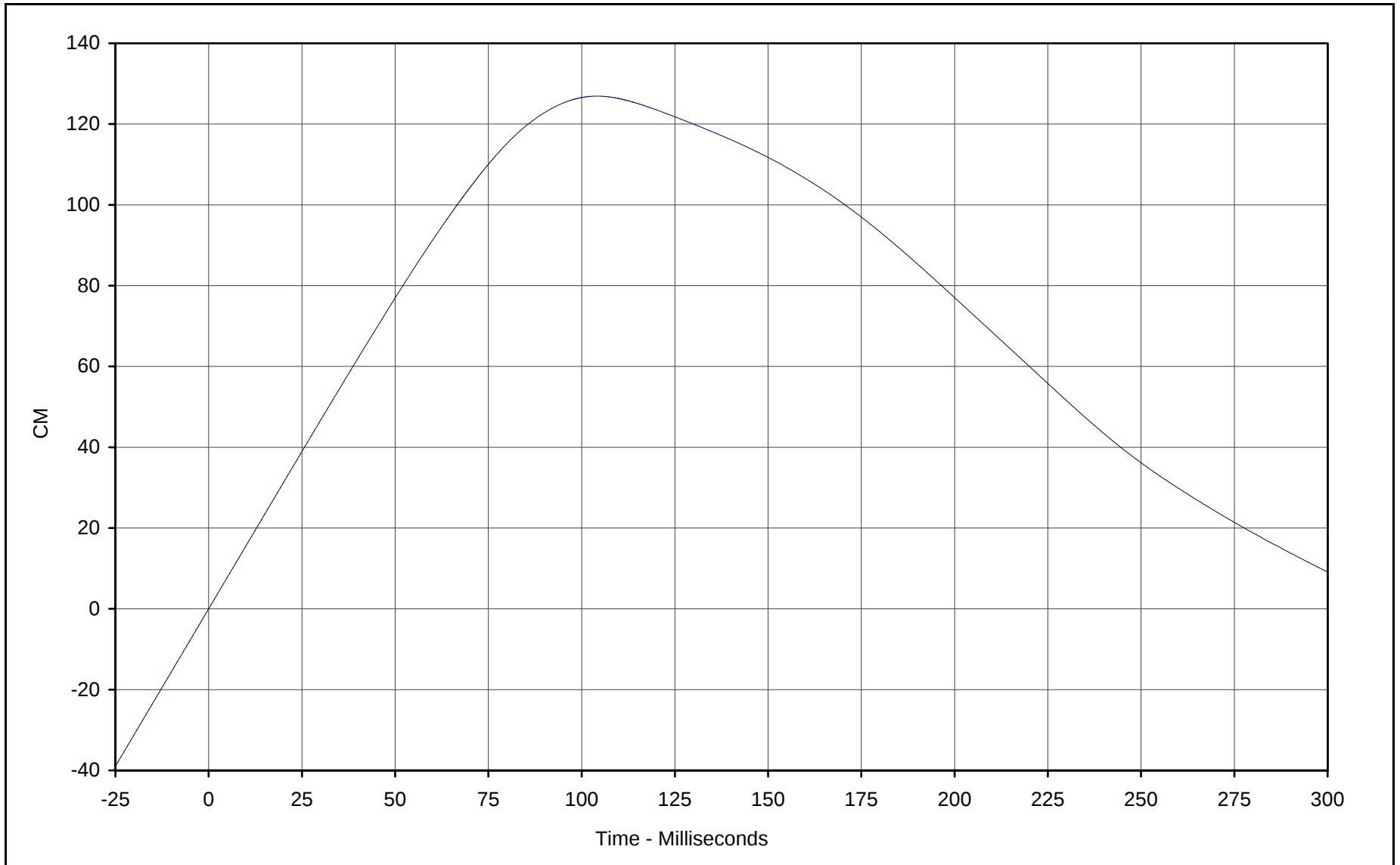




Curve Description: Driver Head Primary X Velocity
Maximum Value: 56.3 at 0.0 Milliseconds
Minimum Value: -30.8 at 222.9 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-001

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

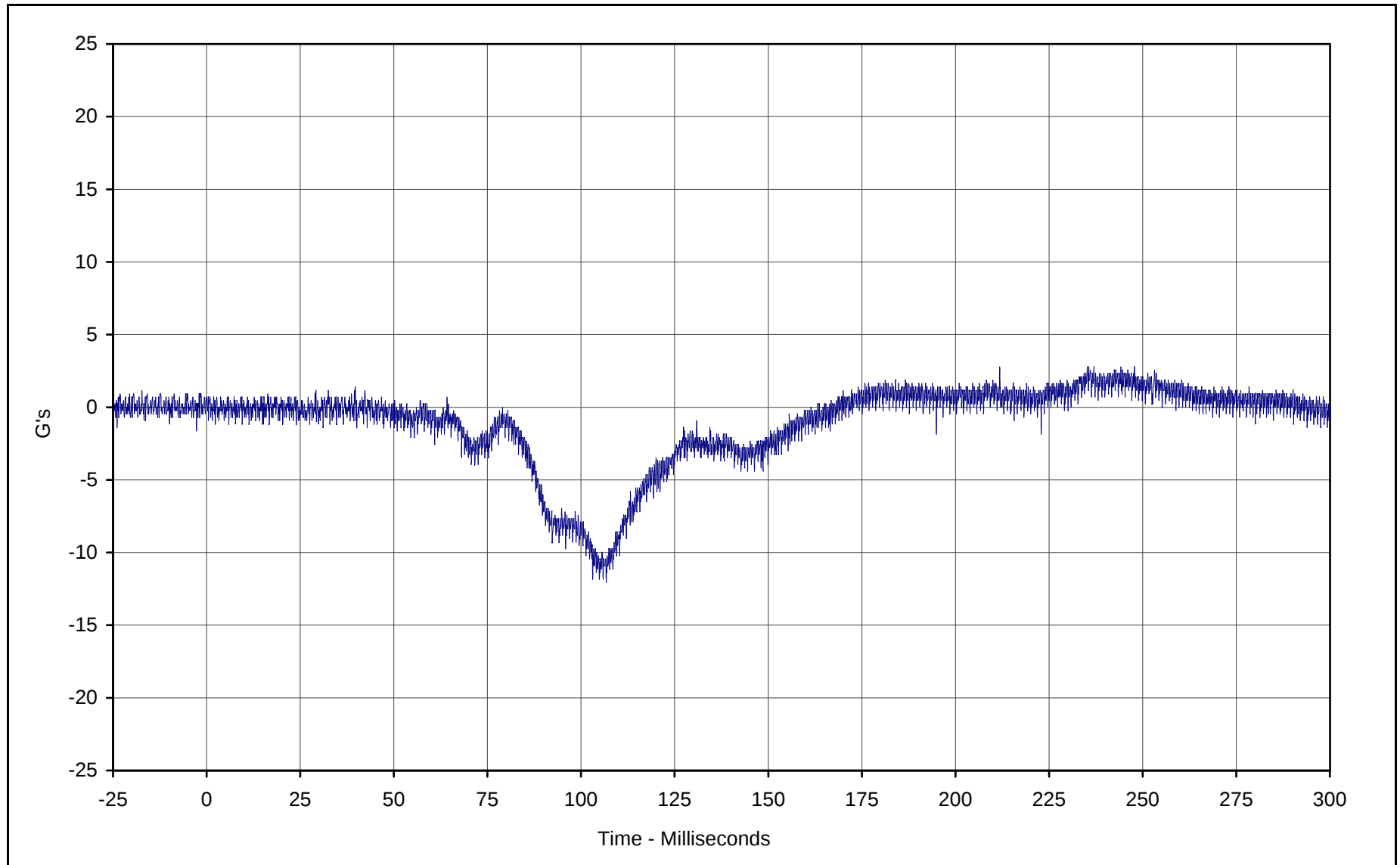




Curve Description: Driver Head Primary X Displ.
Maximum Value: 126.9 at 104.1 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-001

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

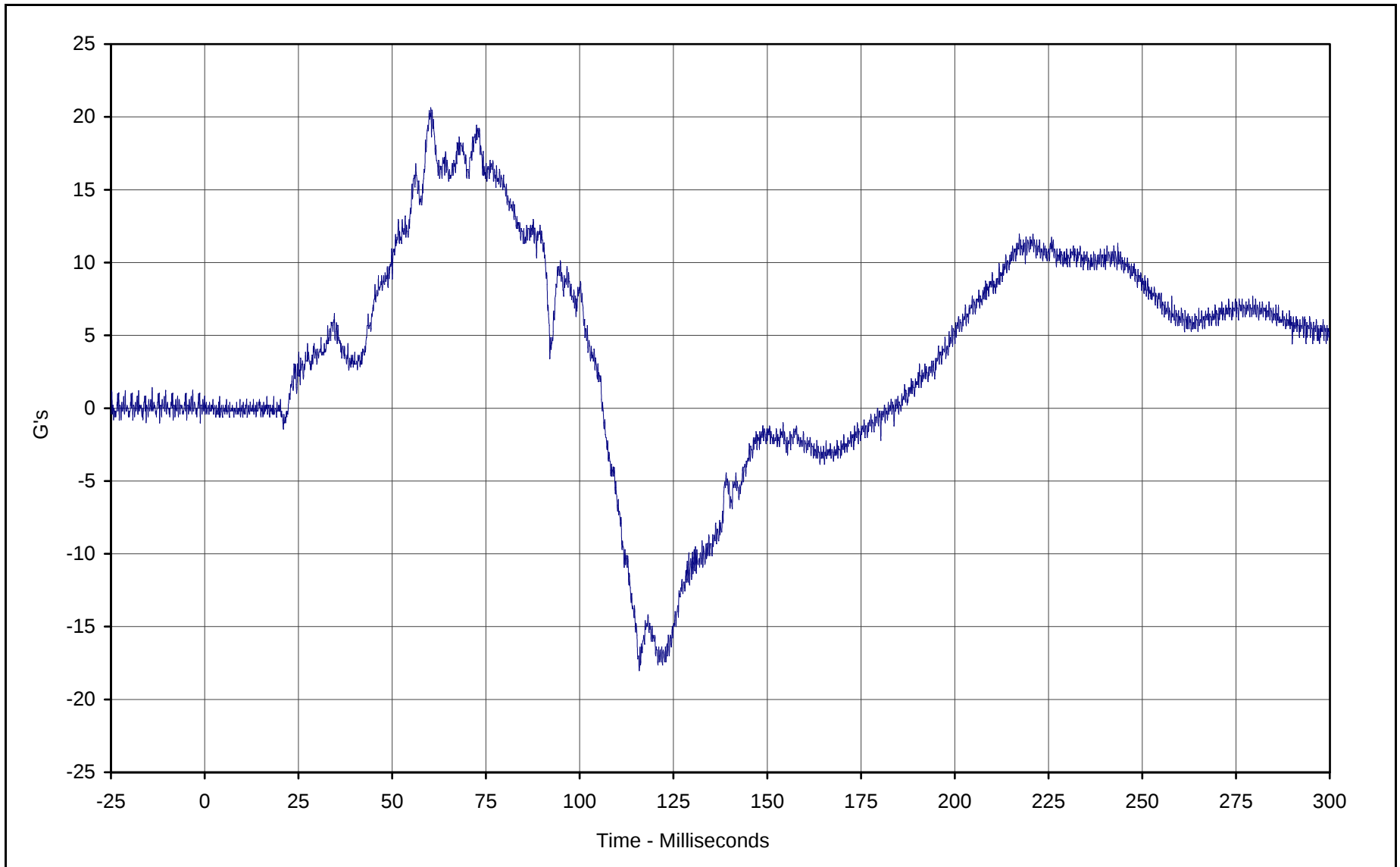




Curve Description: Driver Head Primary Y
Maximum Value: 2.8 at 211.8 Milliseconds
Minimum Value: -12.1 at 106.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-002

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

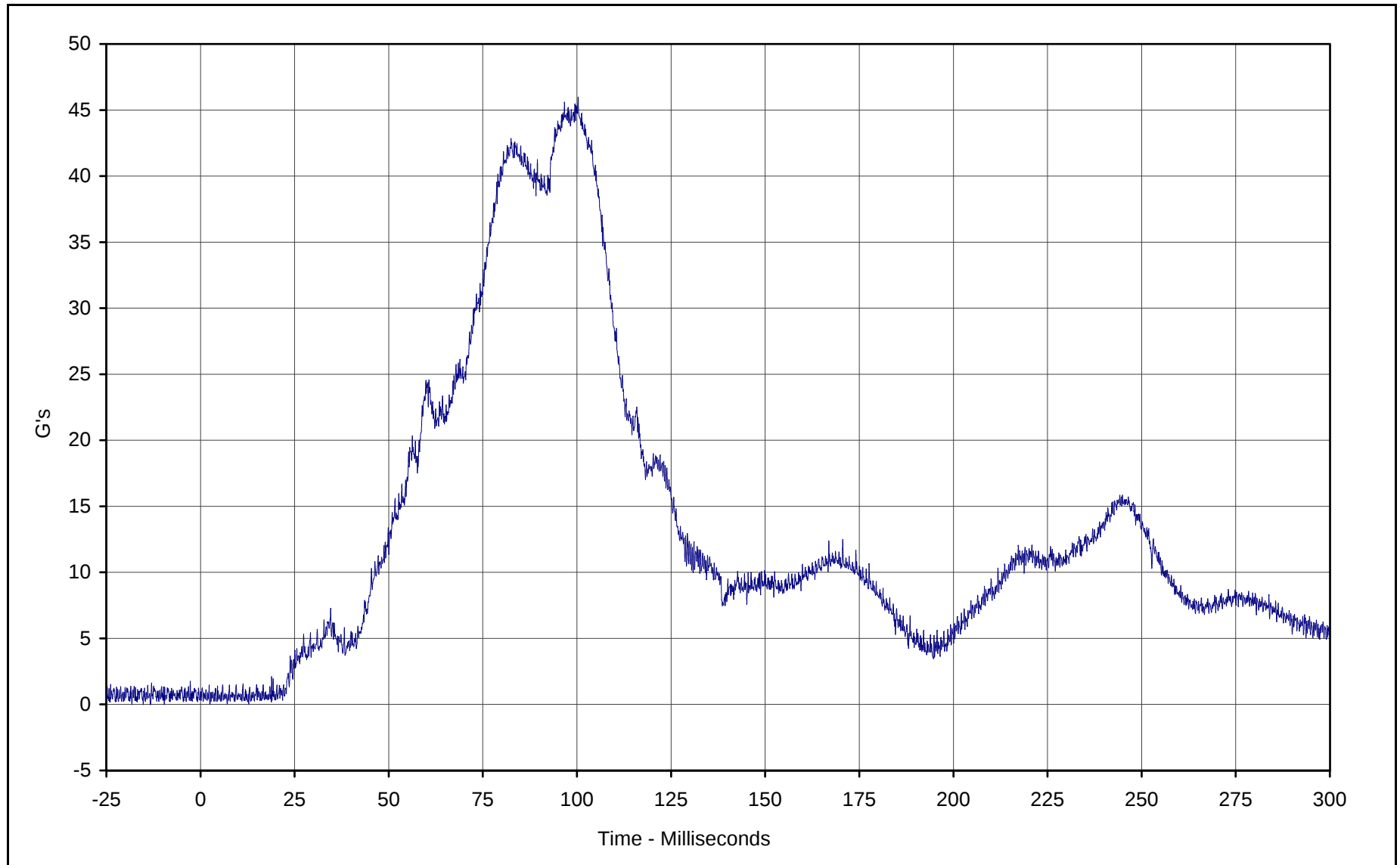




Curve Description: Driver Head Primary Z
Maximum Value: 20.6 at 60.3 Milliseconds
Minimum Value: -18.0 at 115.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-003

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

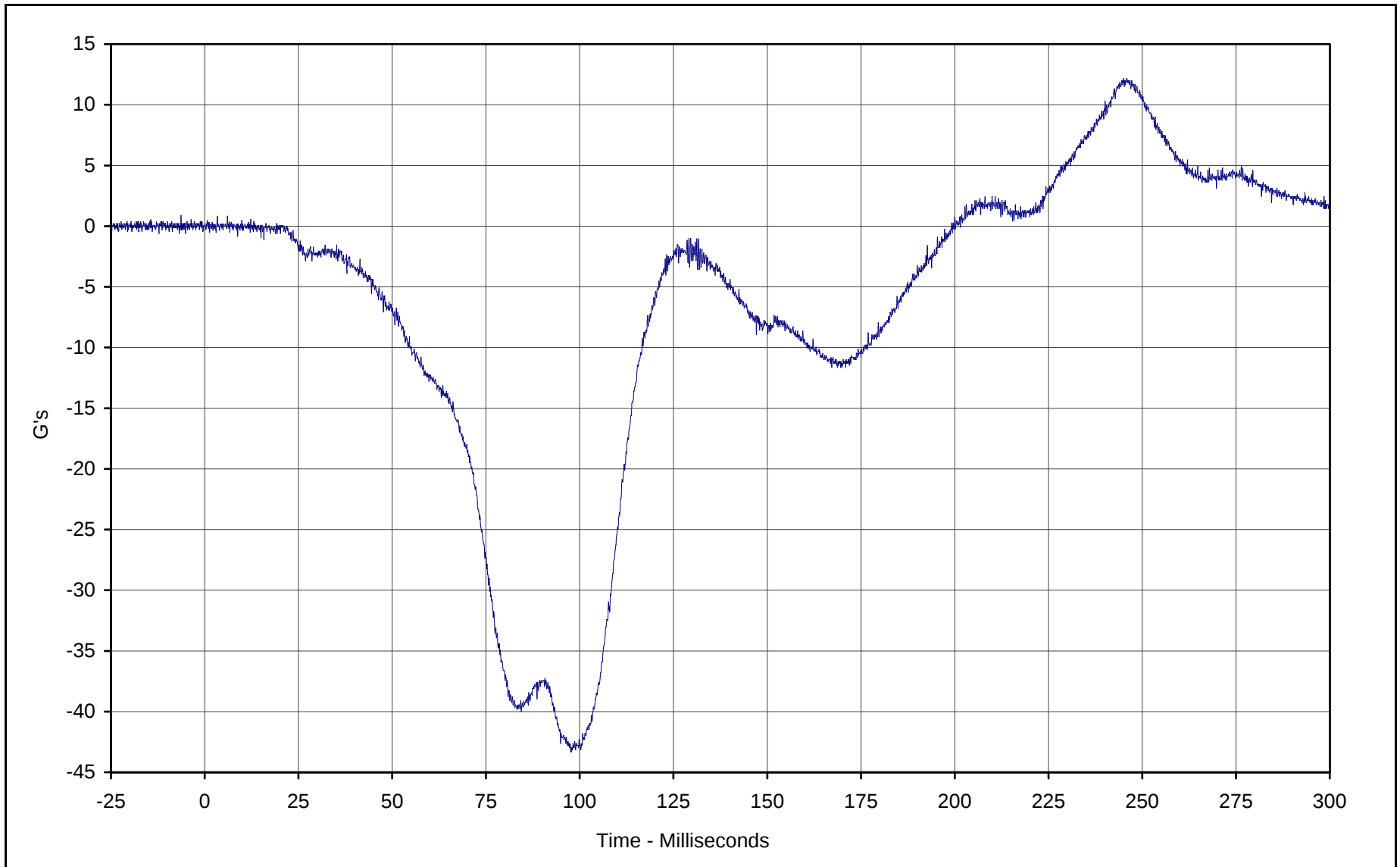




Curve Description: Driver Head Resultant Primary
Maximum Value: 46.0 at 100.3 Milliseconds
Minimum Value: 0.0 at 2.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: RES-001

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

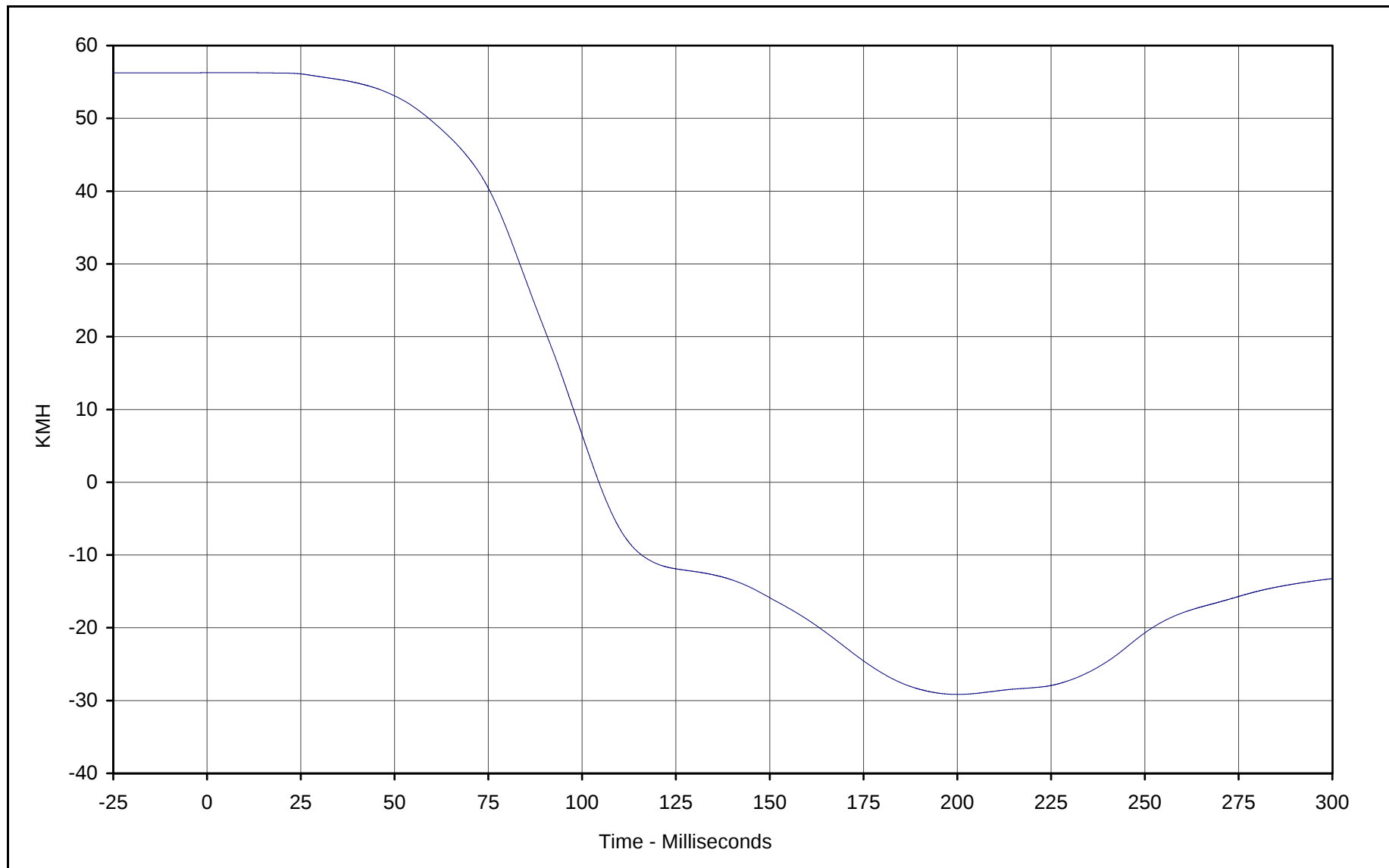




Curve Description: Driver Head Redundant X
Maximum Value: 12.2 at 245.0 Milliseconds
Minimum Value: -43.3 at 97.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-004

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

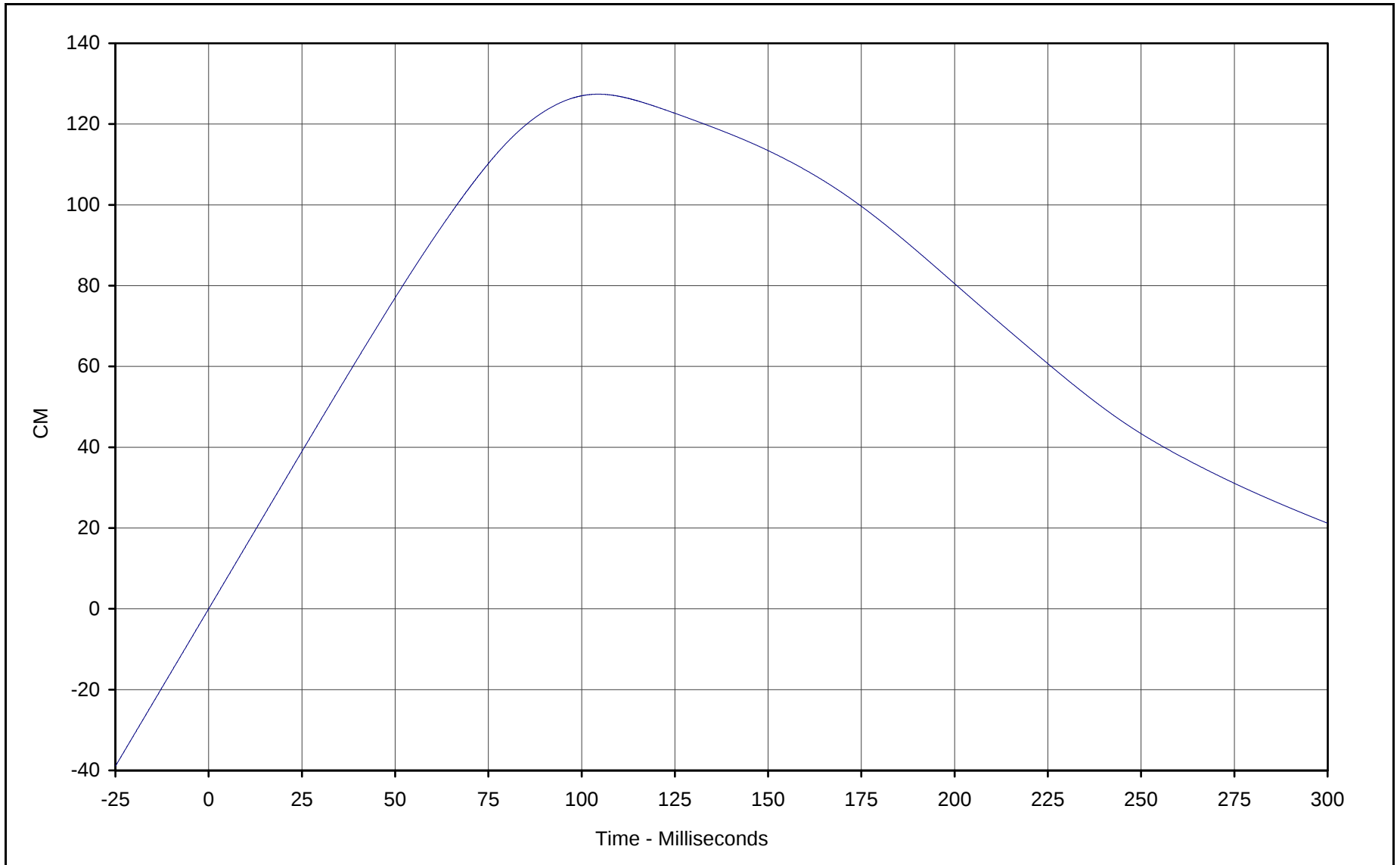




Curve Description: Driver Head Redundant X Velocity
Maximum Value: 56.3 at 7.4 Milliseconds
Minimum Value: -29.2 at 199.8 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-004

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

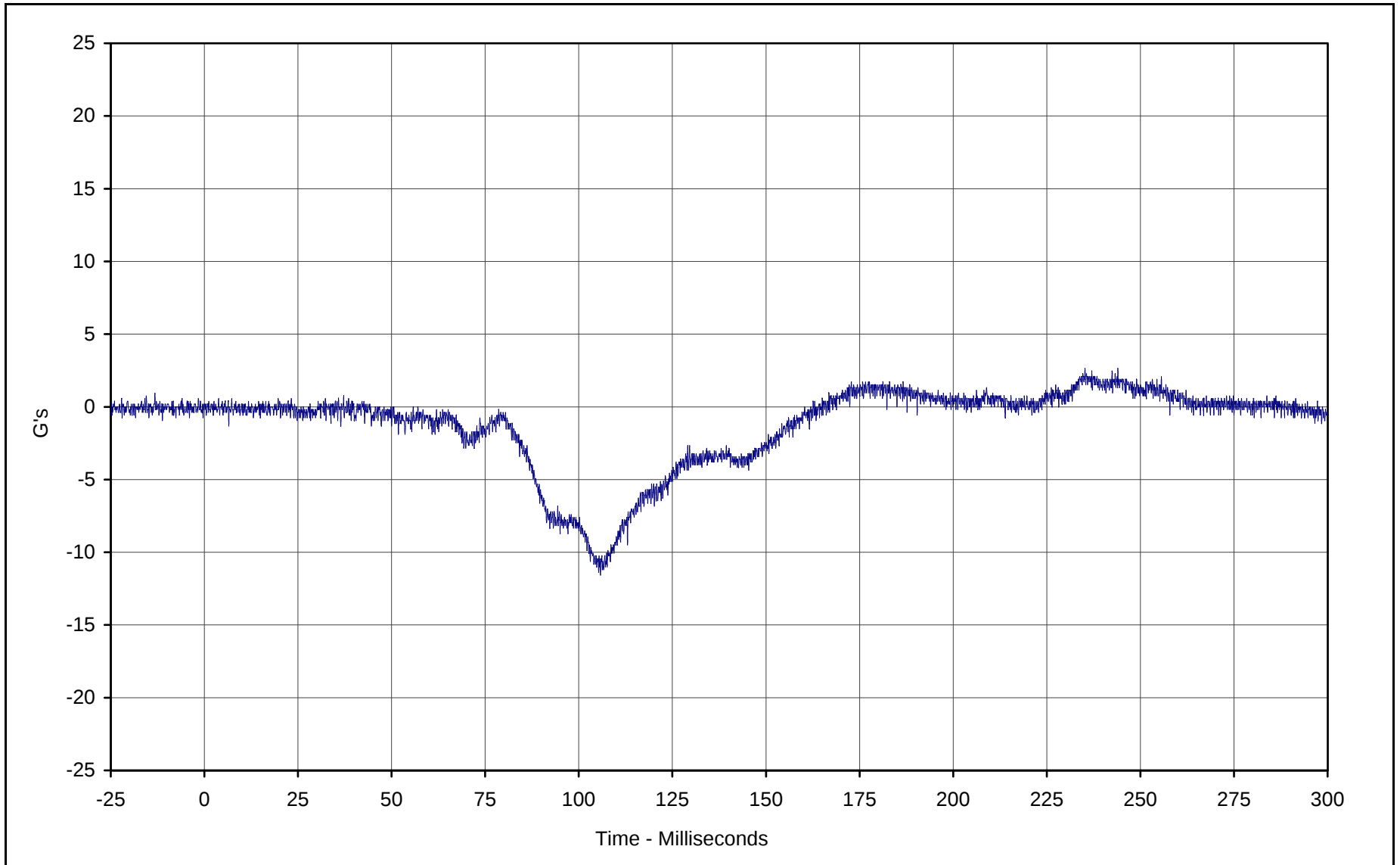




Curve Description: Driver Head Redundant X Displ.
Maximum Value: 127.4 at 104.5 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-004

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



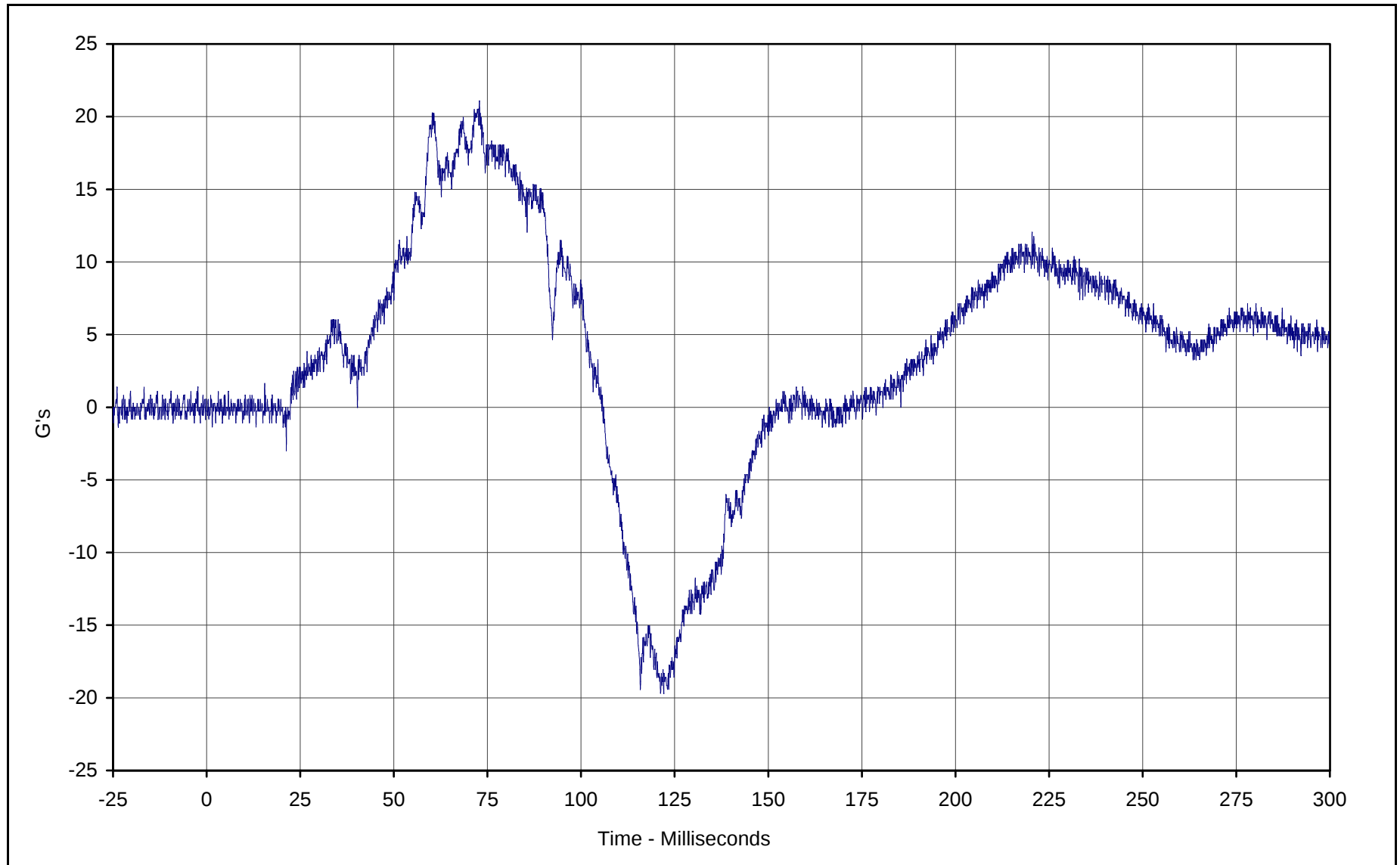


Curve Description: Driver Head Redundant Y
Maximum Value: 2.7 at 235.2 Milliseconds
Minimum Value: -11.6 at 105.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-005

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

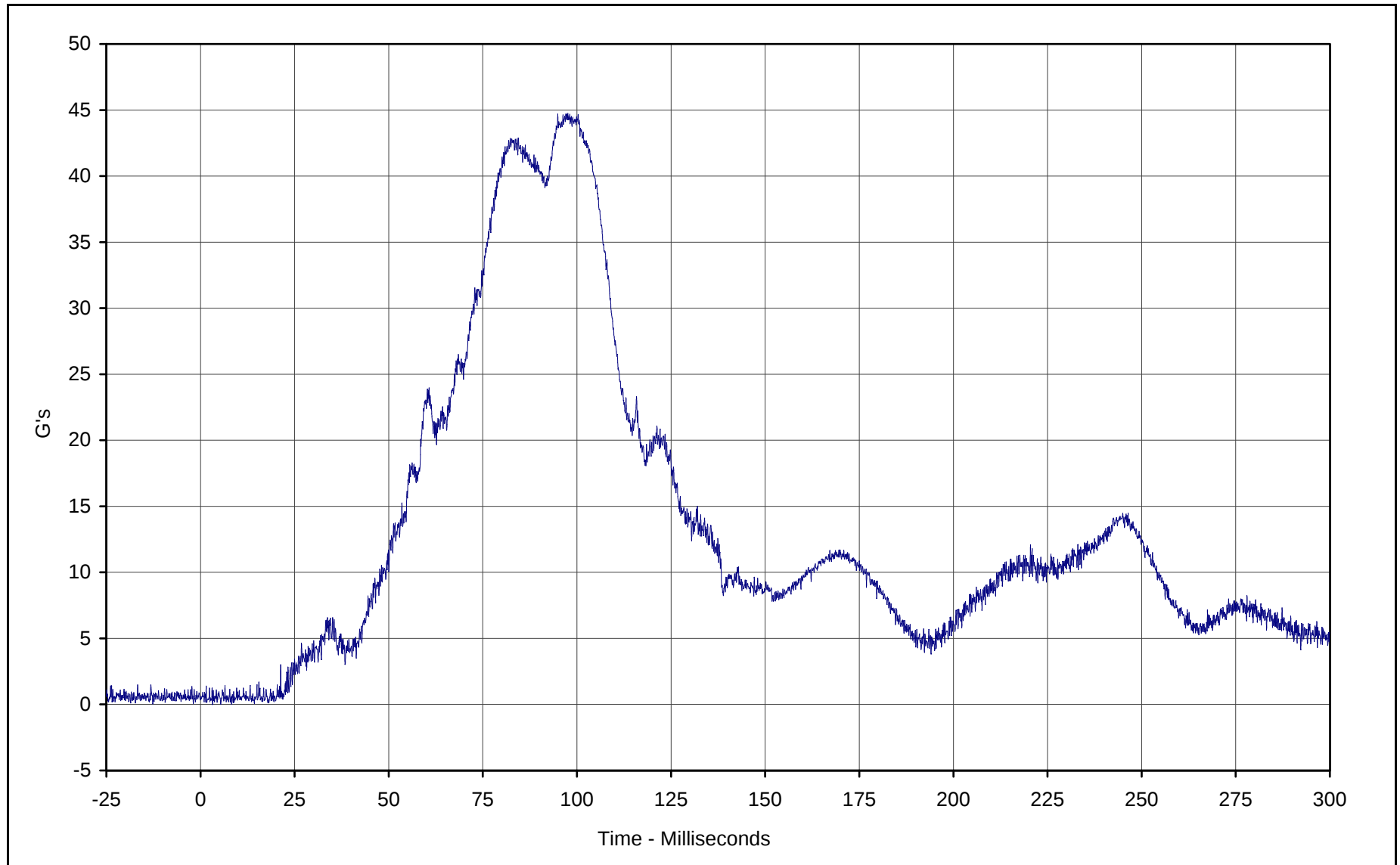




Curve Description: Driver Head Redundant Z
Maximum Value: 21.1 at 72.9 Milliseconds
Minimum Value: -19.7 at 121.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-006

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



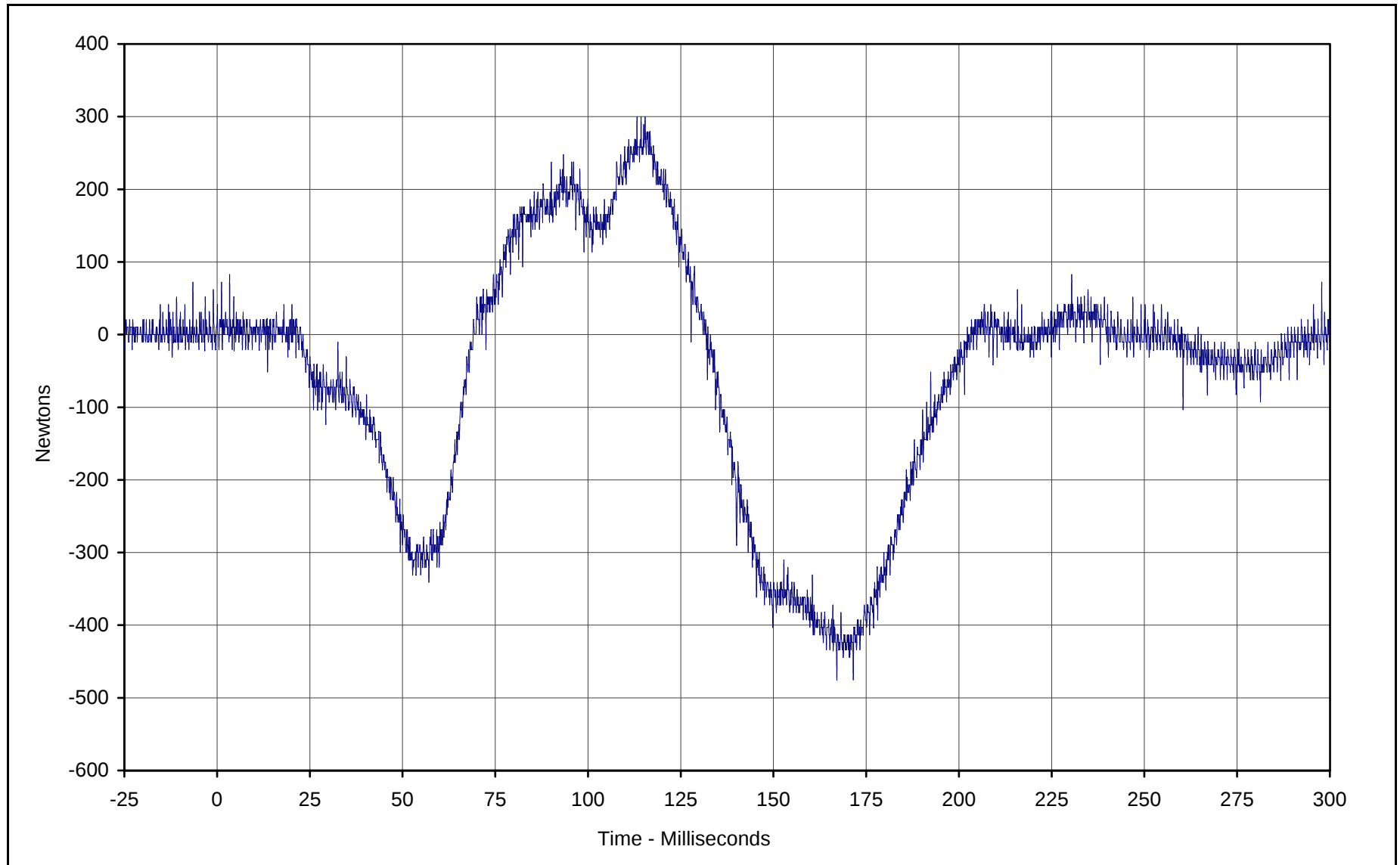


Curve Description: Driver Head Resultant Redundant
Maximum Value: 44.7 at 97.6 Milliseconds
Minimum Value: 0.0 at 3.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: RES-004

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

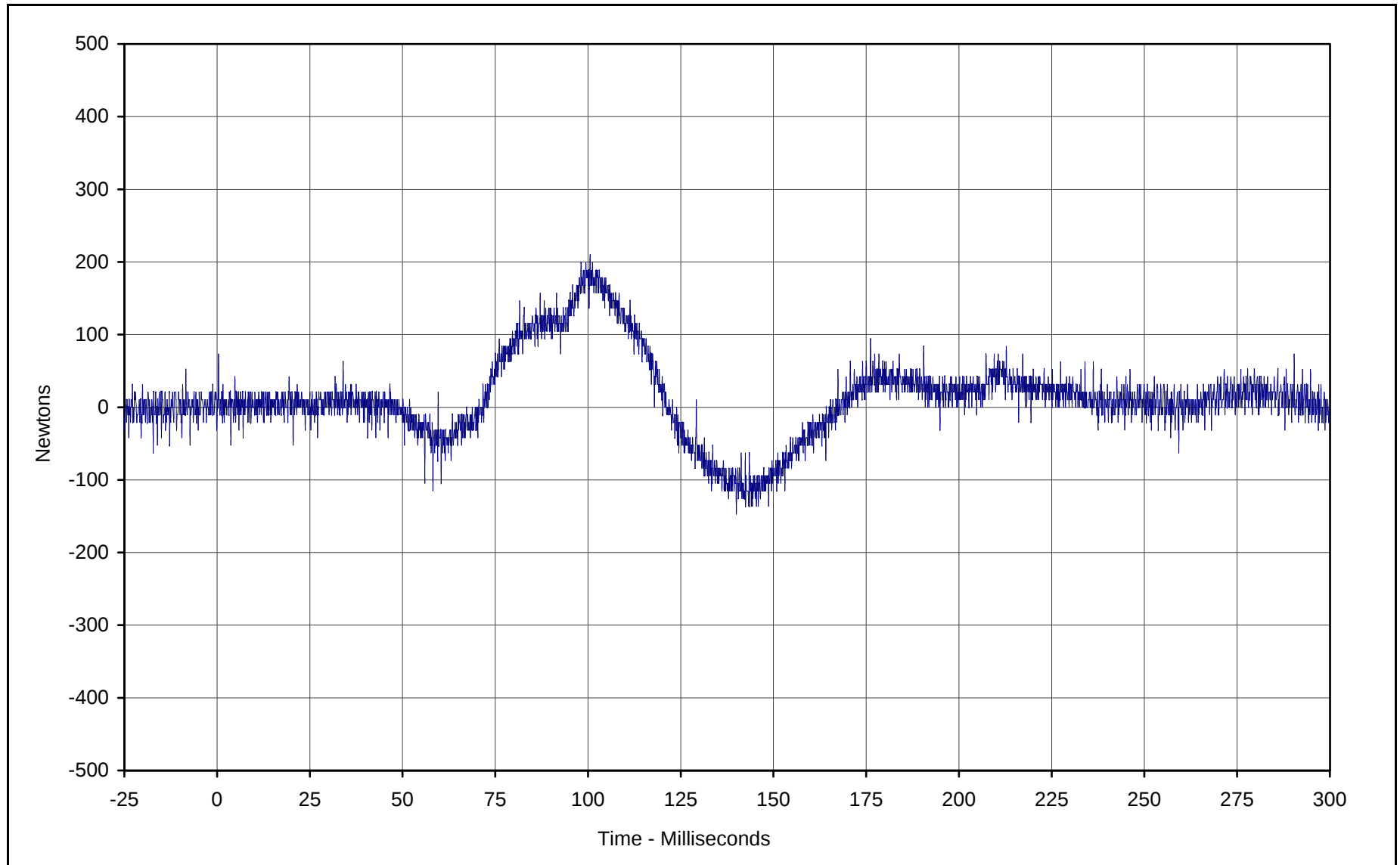




Curve Description: Driver Neck Force X
Maximum Value: 299.7 at 113.2 Milliseconds
Minimum Value: -475.4 at 167.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-007

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

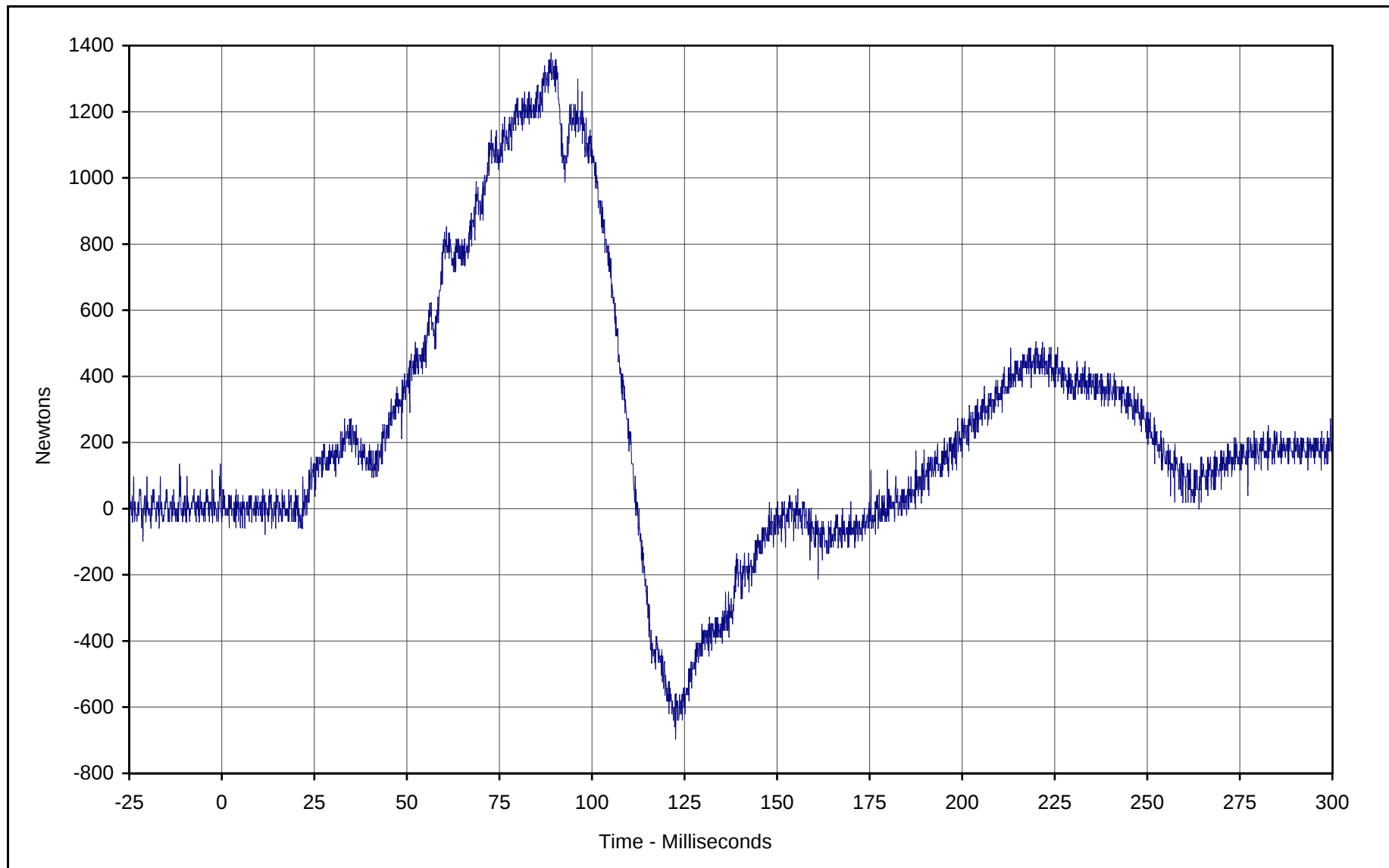




Curve Description: Driver Neck Force Y
Maximum Value: 209.7 at 100.6 Milliseconds
Minimum Value: -146.8 at 140.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-008

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

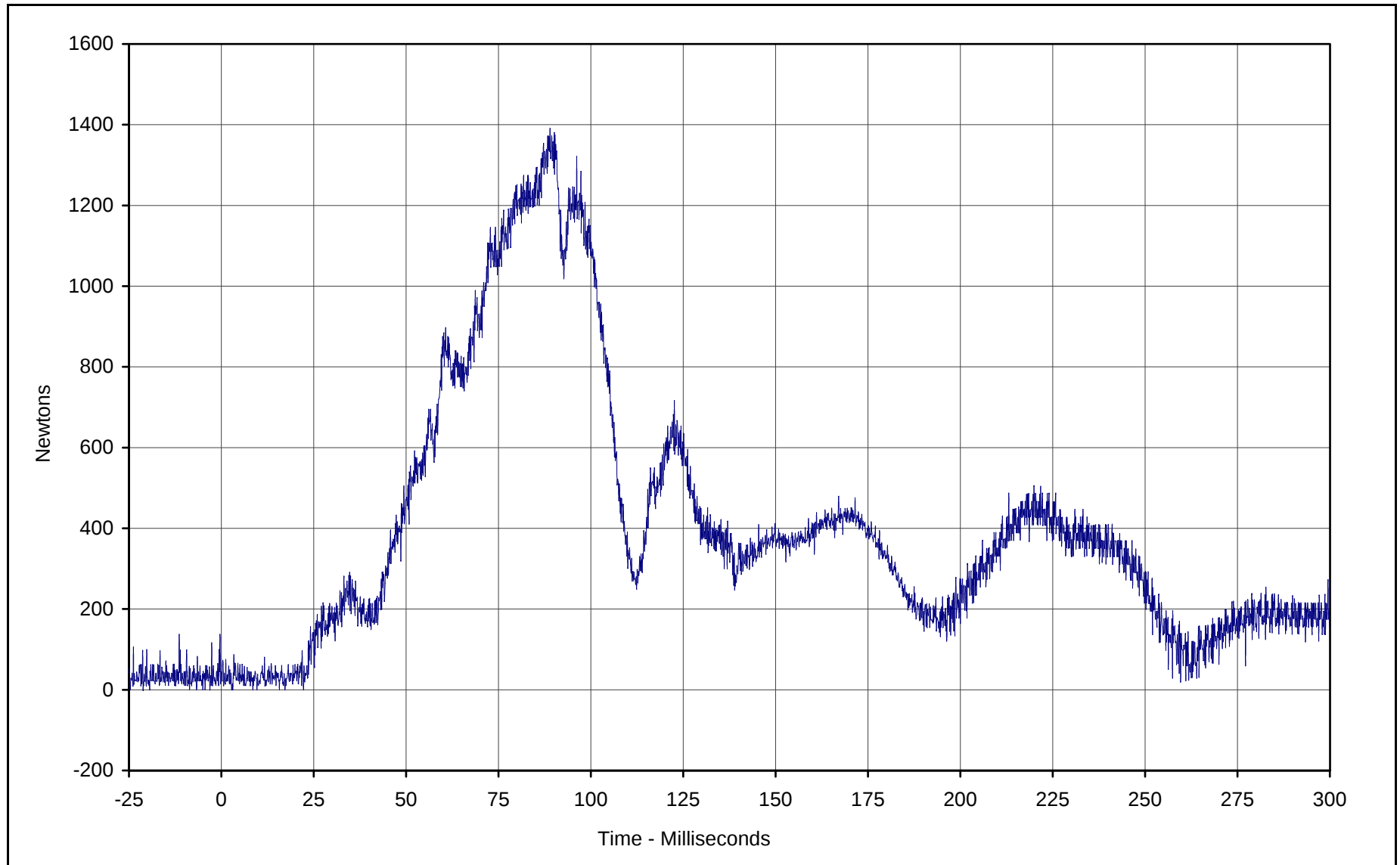




Curve Description: Driver Neck Force Z
Maximum Value: 1375.9 at 89.0 Milliseconds
Minimum Value: -697.6 at 122.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-009

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

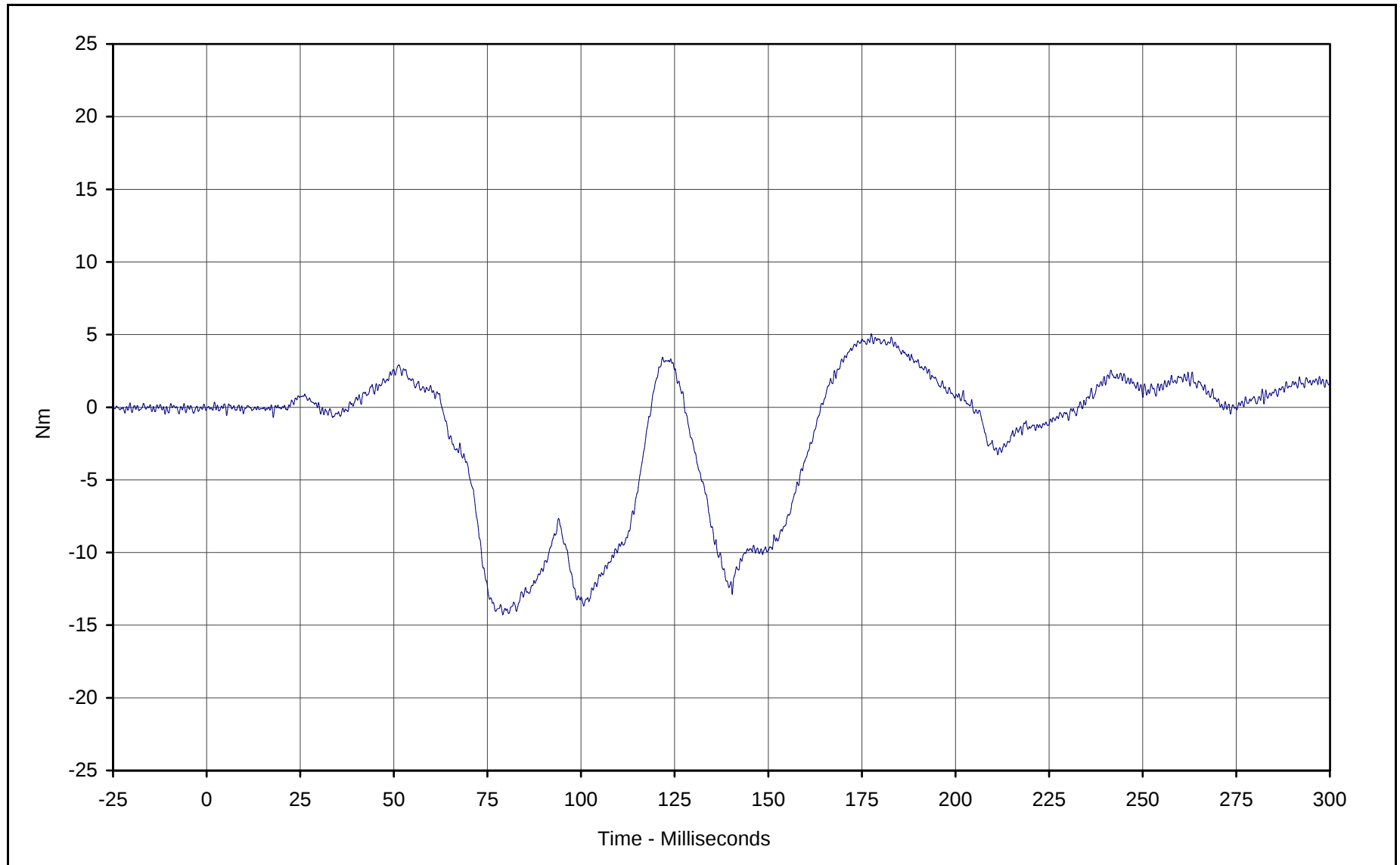




Curve Description: Driver Neck Force Resultant
Maximum Value: 1389.7 at 89.0 Milliseconds
Minimum Value: 0.0 at 2.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: RES-007

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

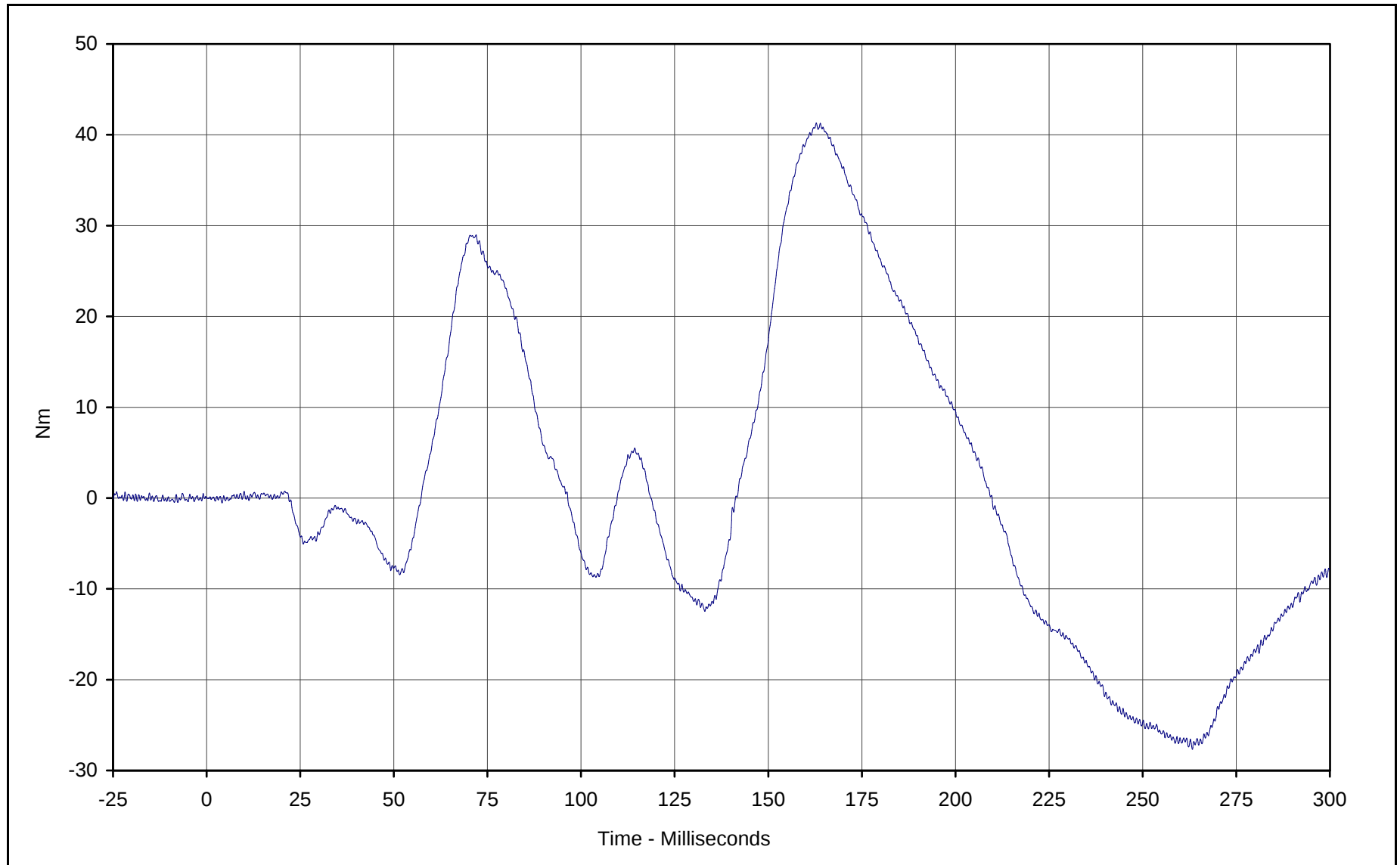




Curve Description: Driver Neck Moment X
Maximum Value: 5.1 at 177.5 Milliseconds
Minimum Value: -14.3 at 79.1 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-010

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

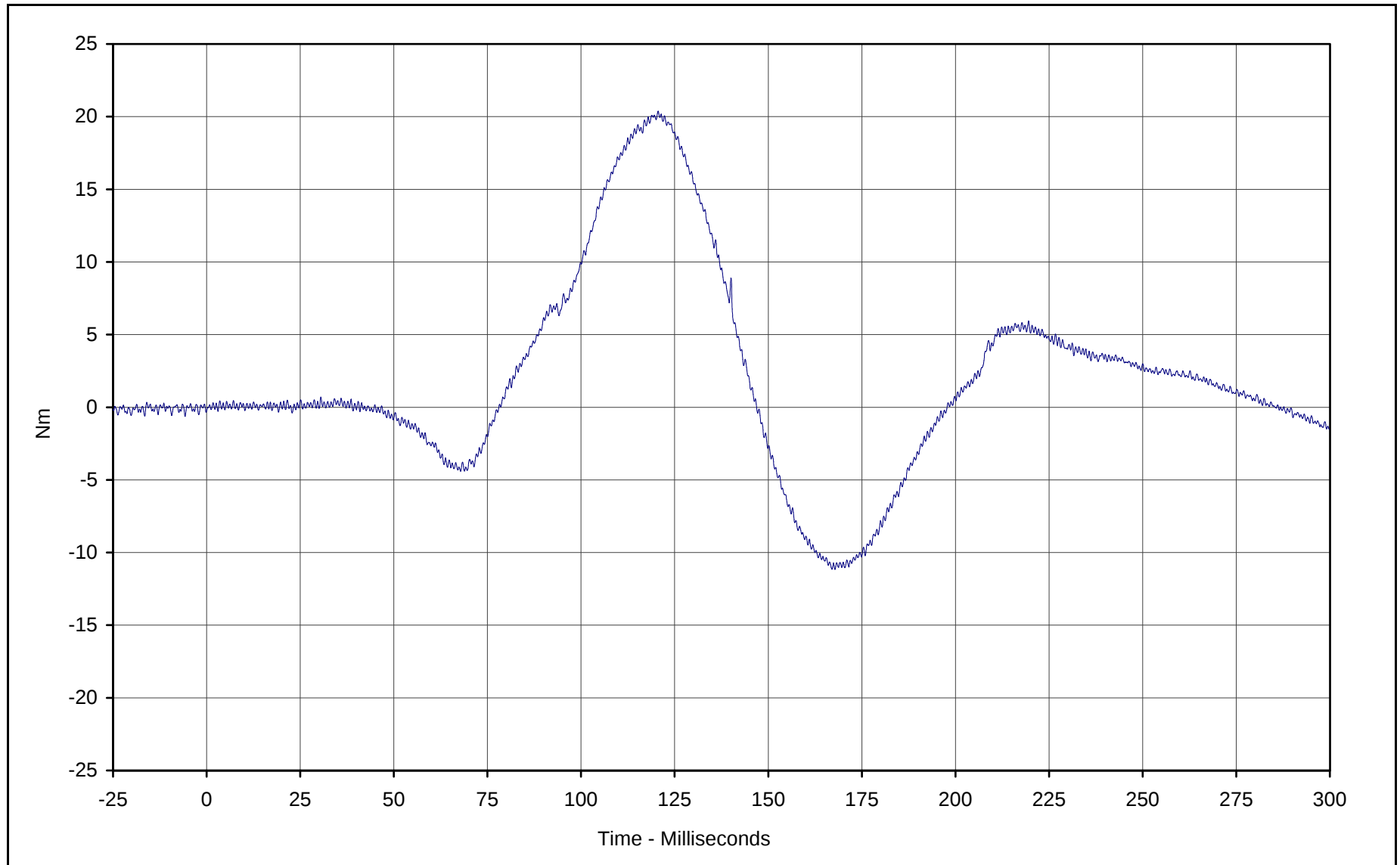




Curve Description: Driver Neck Moment Y
Maximum Value: 41.3 at 162.8 Milliseconds
Minimum Value: -27.7 at 263.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-011

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

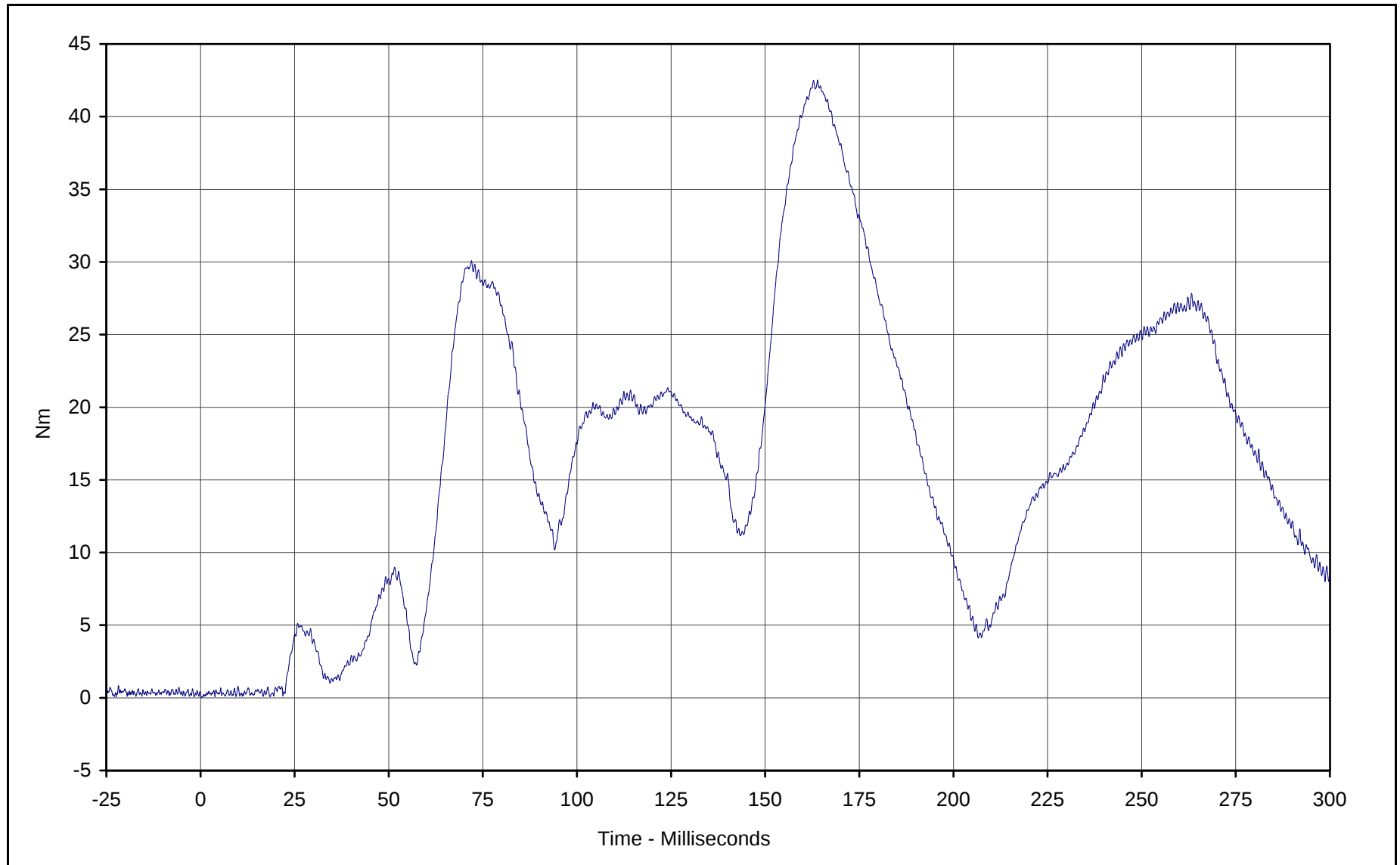




Curve Description: Driver Neck Moment Z
Maximum Value: 20.4 at 120.6 Milliseconds
Minimum Value: -11.2 at 167.8 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-012

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

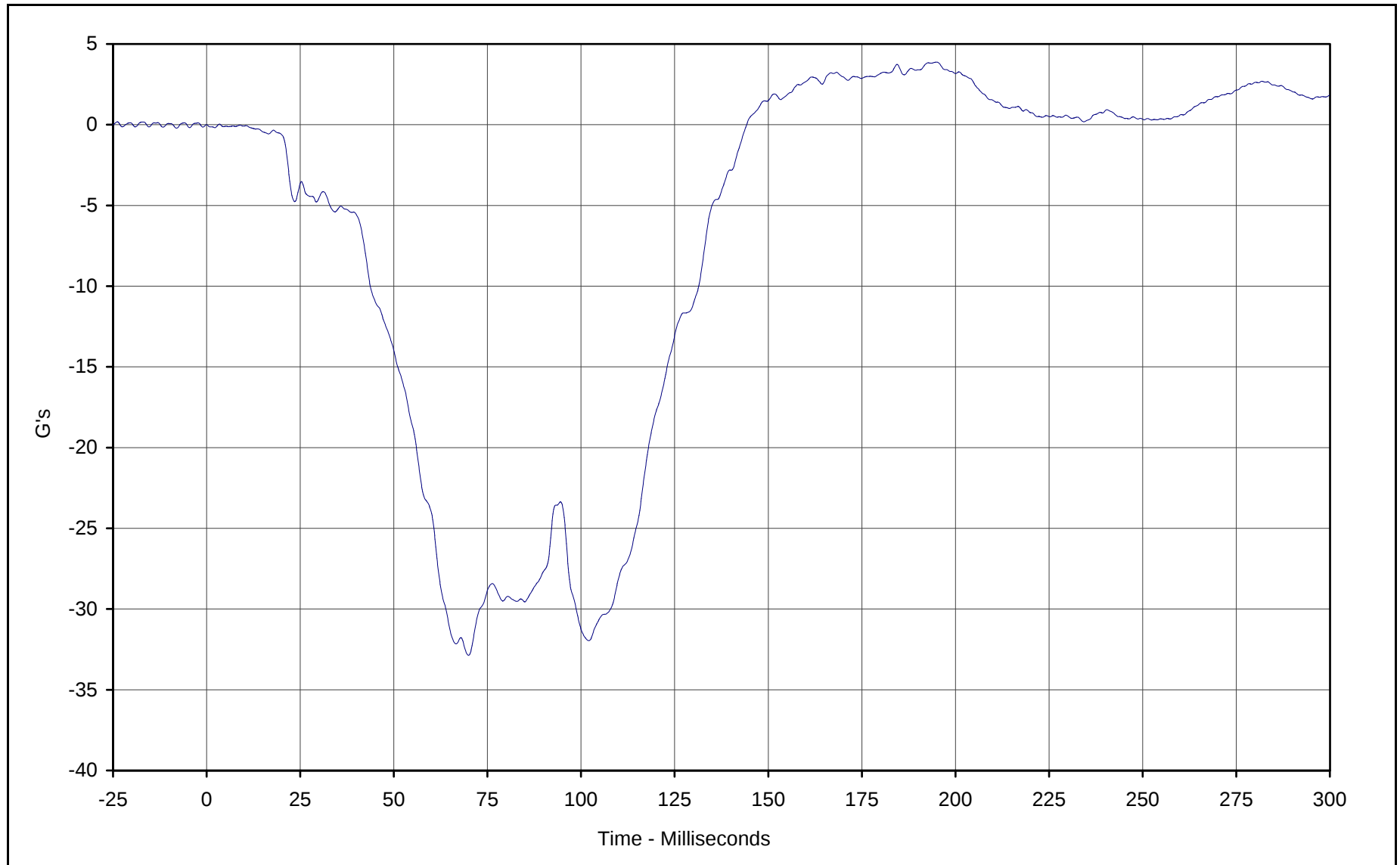




Curve Description: Driver Neck Moment Resultant
Maximum Value: 42.5 at 163.9 Milliseconds
Minimum Value: 0.0 at 0.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: RES-010

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



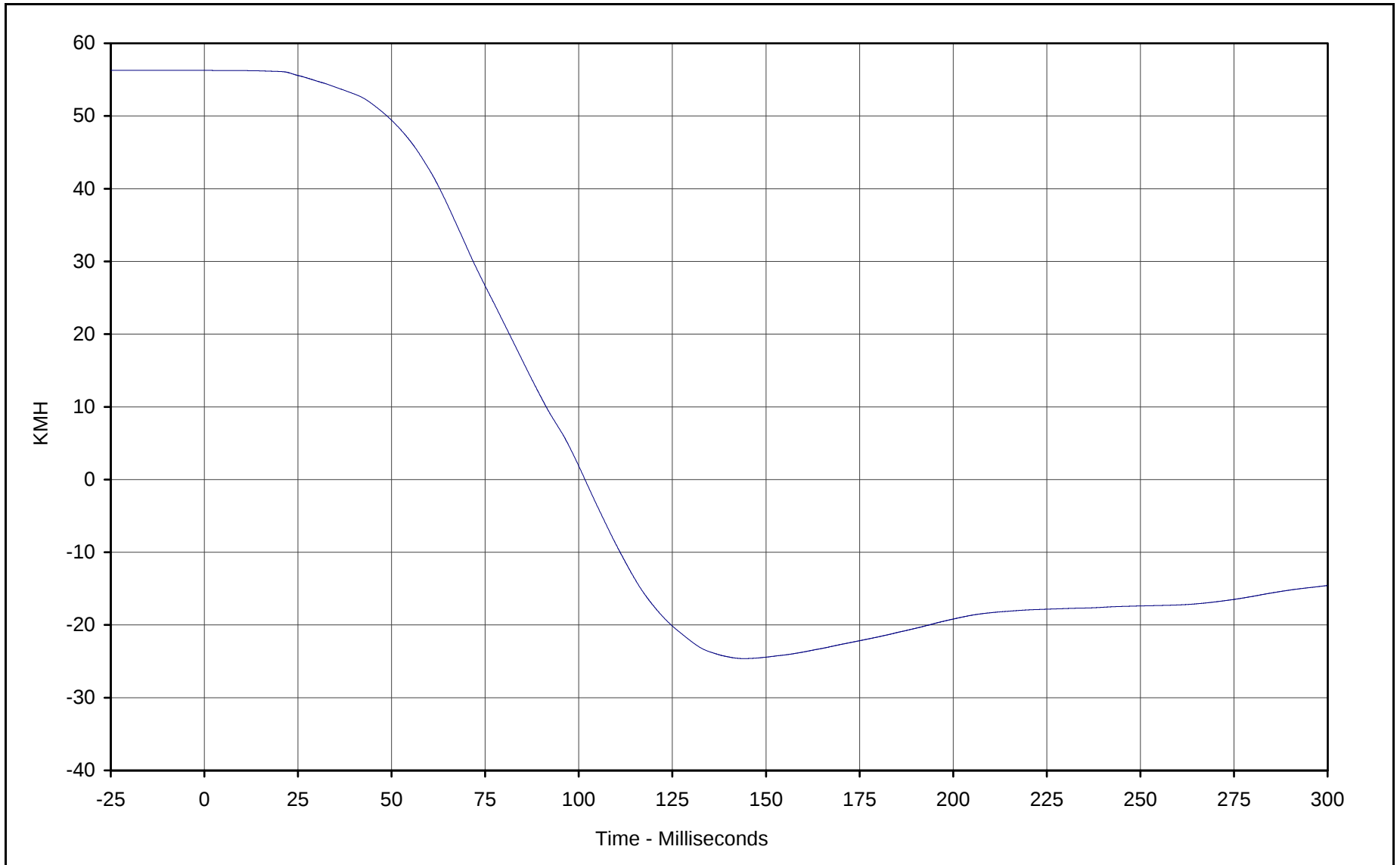


Curve Description: Driver Chest Primary X
Maximum Value: 3.9 at 195.1 Milliseconds
Minimum Value: -32.9 at 69.9 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-013

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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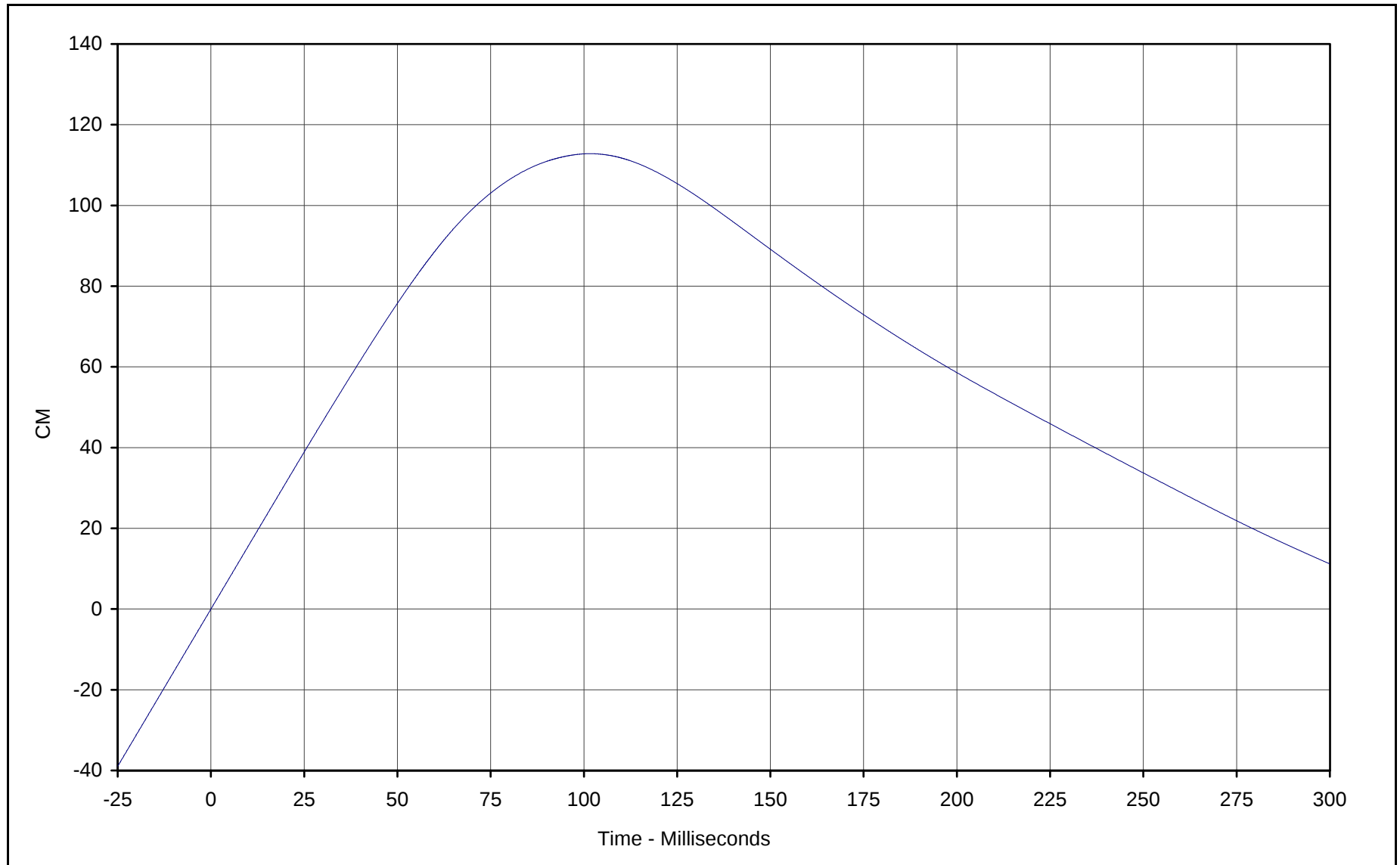
Curve Description: Driver Chest Primary X Velocity
Maximum Value: 56.3 at 0.1 Milliseconds
Minimum Value: -24.6 at 144.2 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-013

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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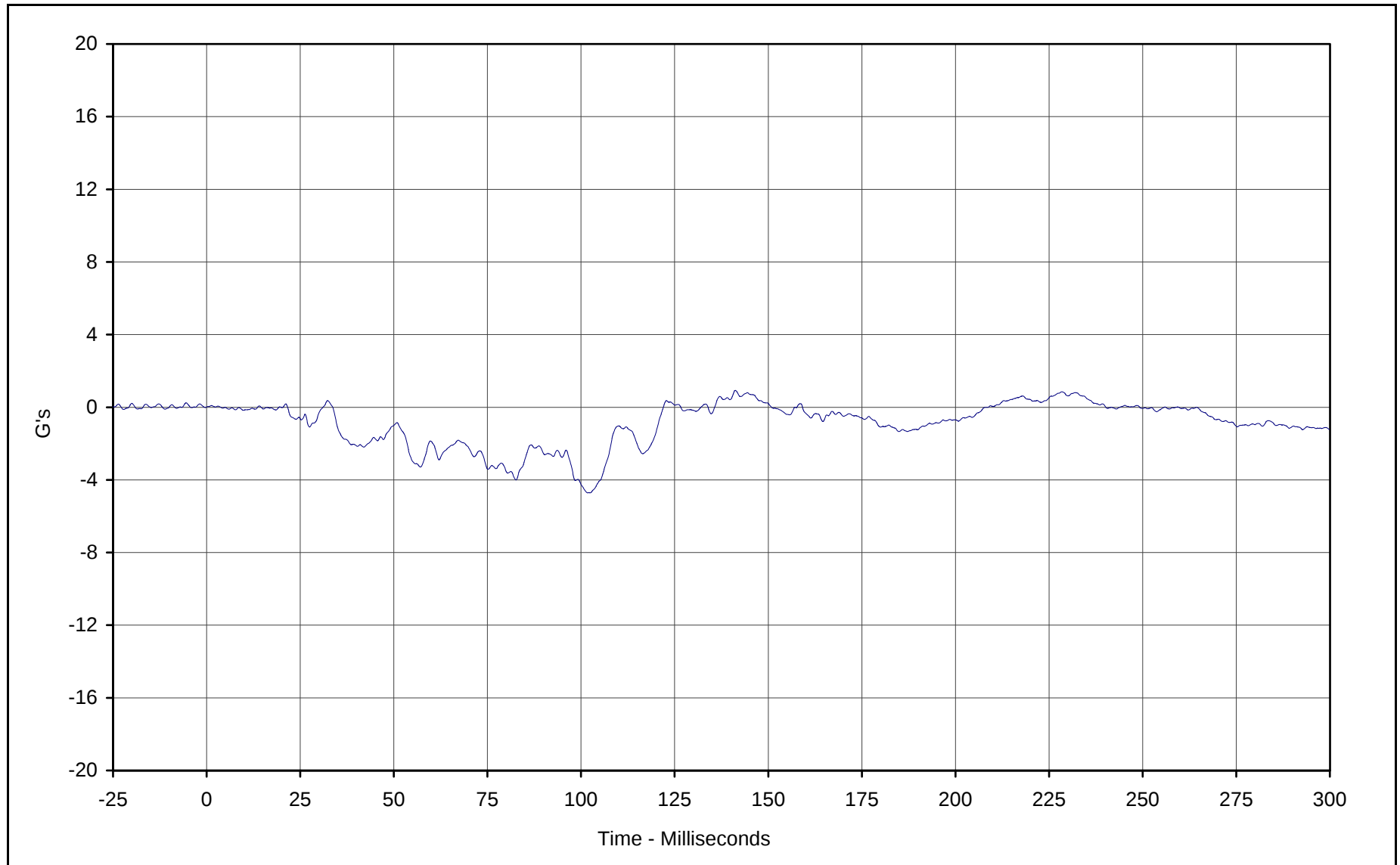


Curve Description: Driver Chest Primary X Displ.
Maximum Value: 112.8 at 101.7 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-013

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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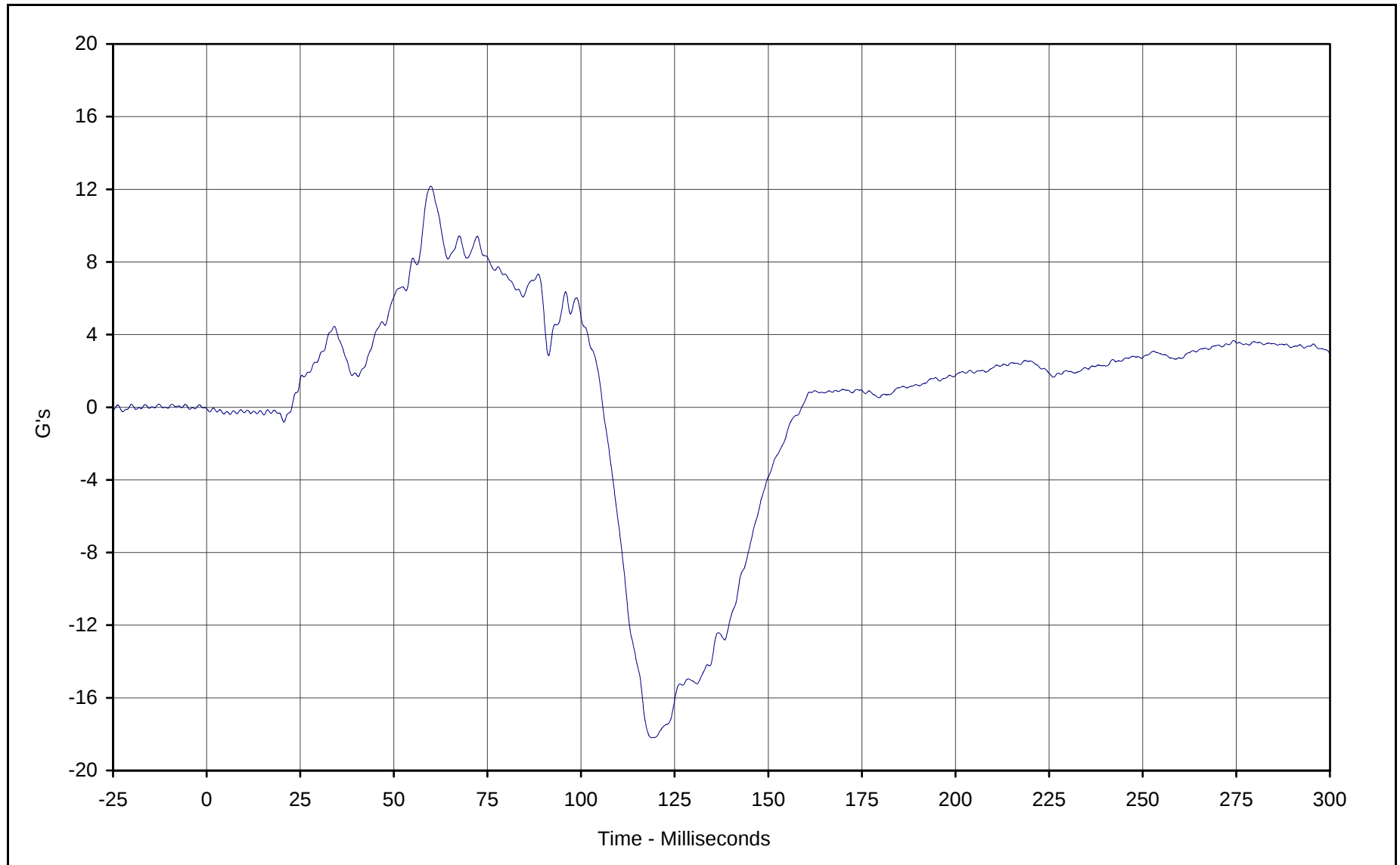


Curve Description: Driver Chest Primary Y
Maximum Value: 0.9 at 141.2 Milliseconds
Minimum Value: -4.7 at 102.4 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-014

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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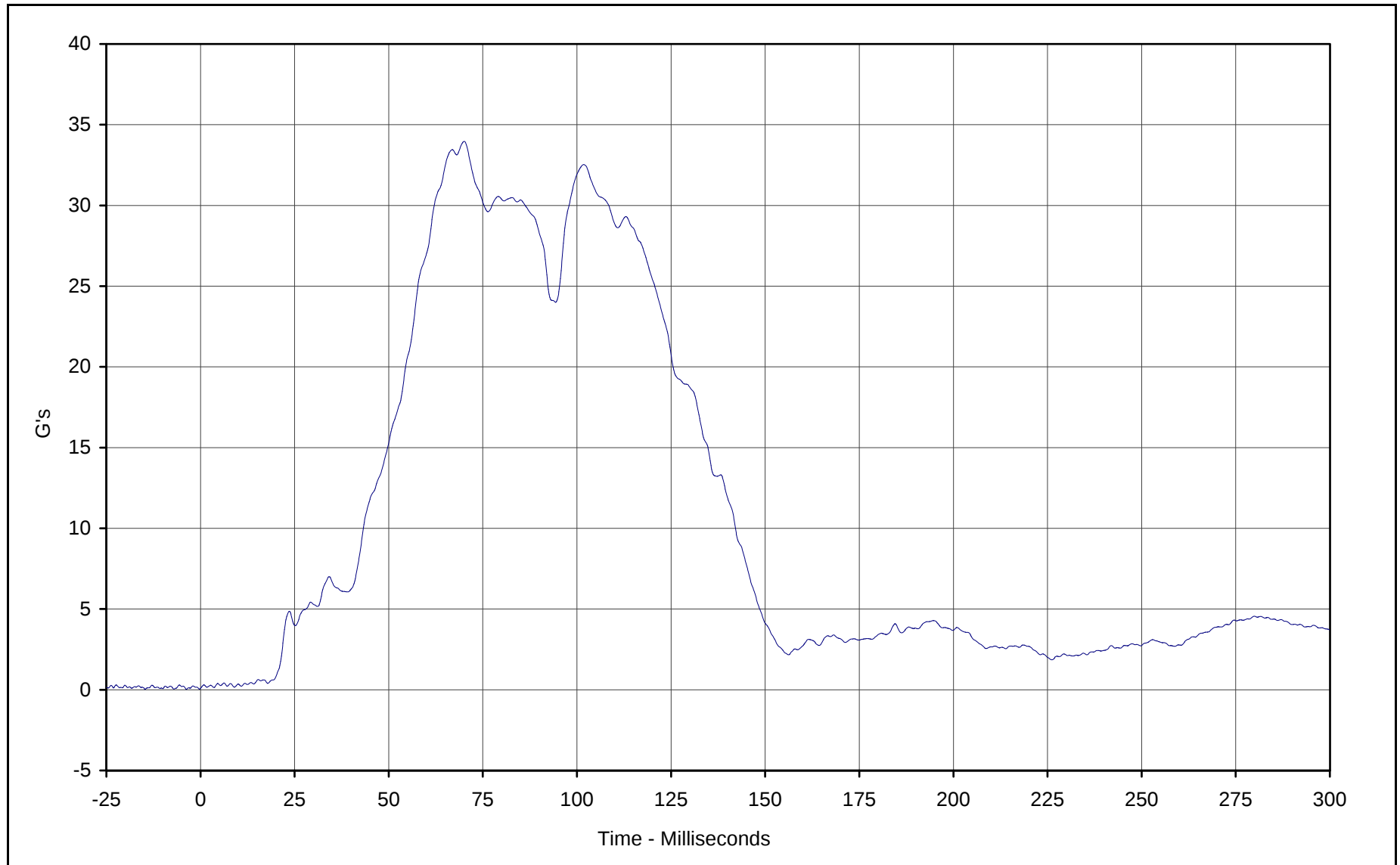


Curve Description: Driver Chest Primary Z
Maximum Value: 12.2 at 59.9 Milliseconds
Minimum Value: -18.2 at 118.8 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-015

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



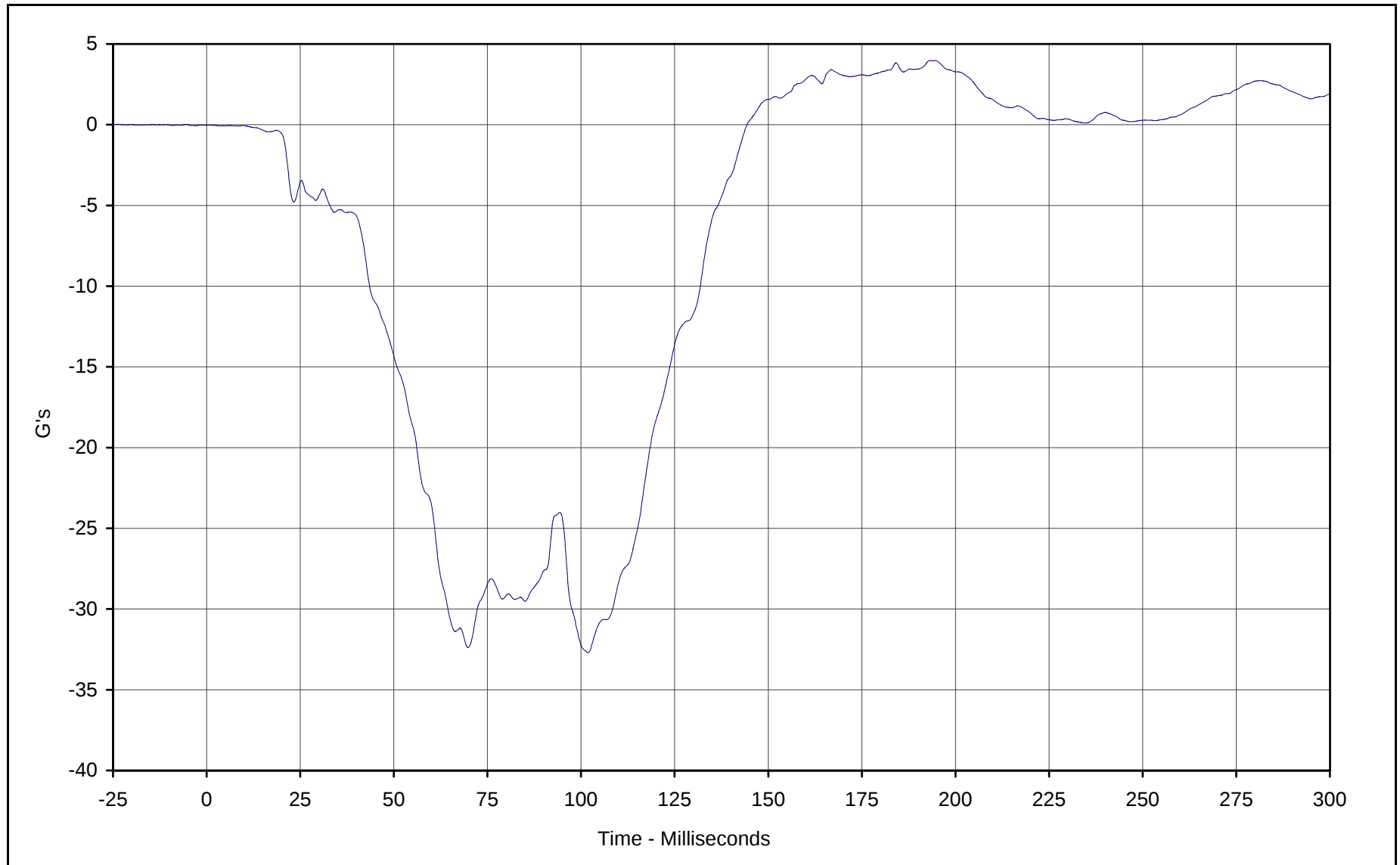
KAR21001-07



Curve Description: Driver Chest Resultant Primary
Maximum Value: 34.0 at 70.0 Milliseconds
Minimum Value: 0.1 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: RES-013

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

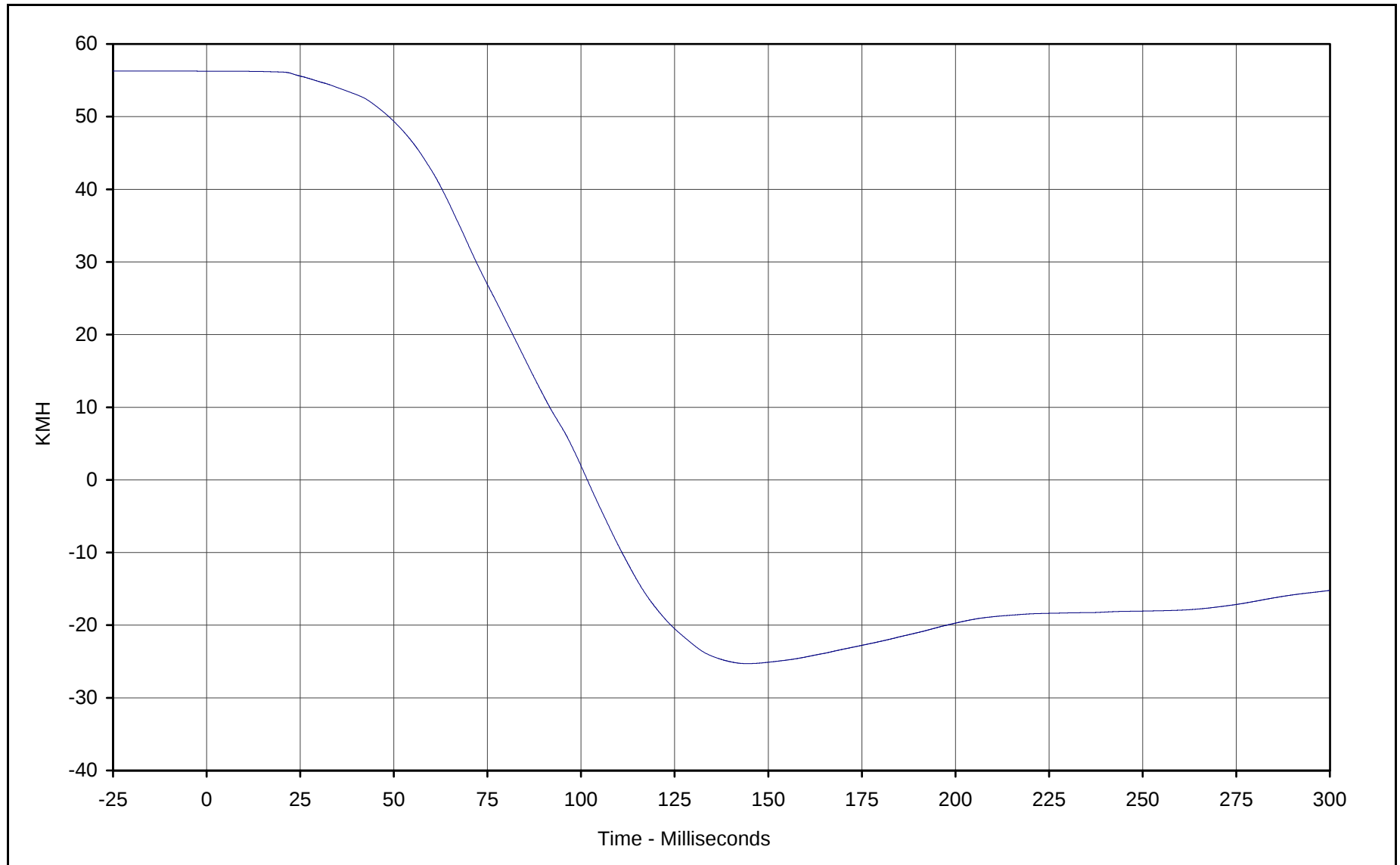




Curve Description: Driver Chest Redundant X
Maximum Value: 4.0 at 193.2 Milliseconds
Minimum Value: -32.7 at 101.9 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-016

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



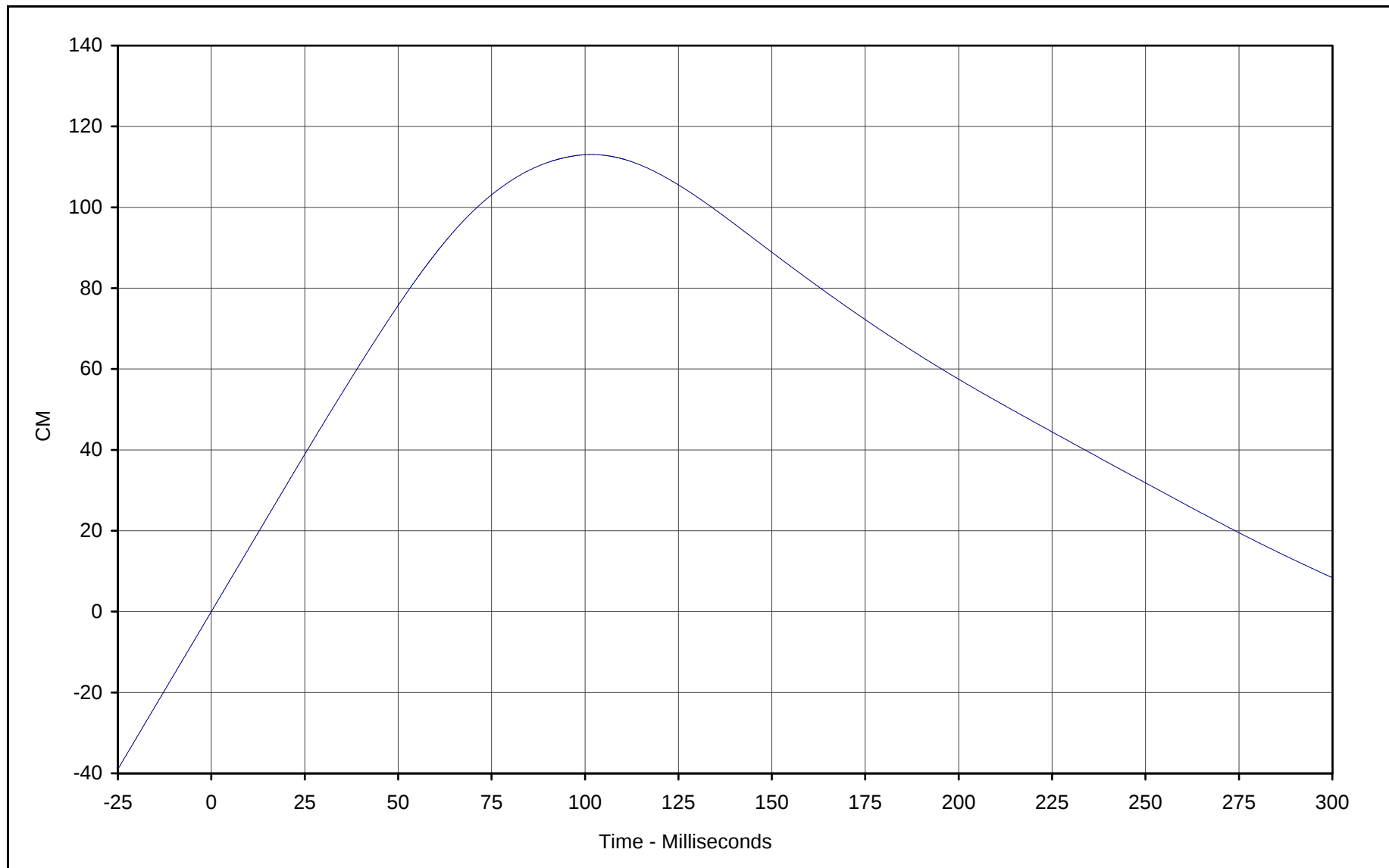


Curve Description: Driver Chest Redundant X Velocity
Maximum Value: 56.3 at 0.0 Milliseconds
Minimum Value: -25.3 at 144.3 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-016

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



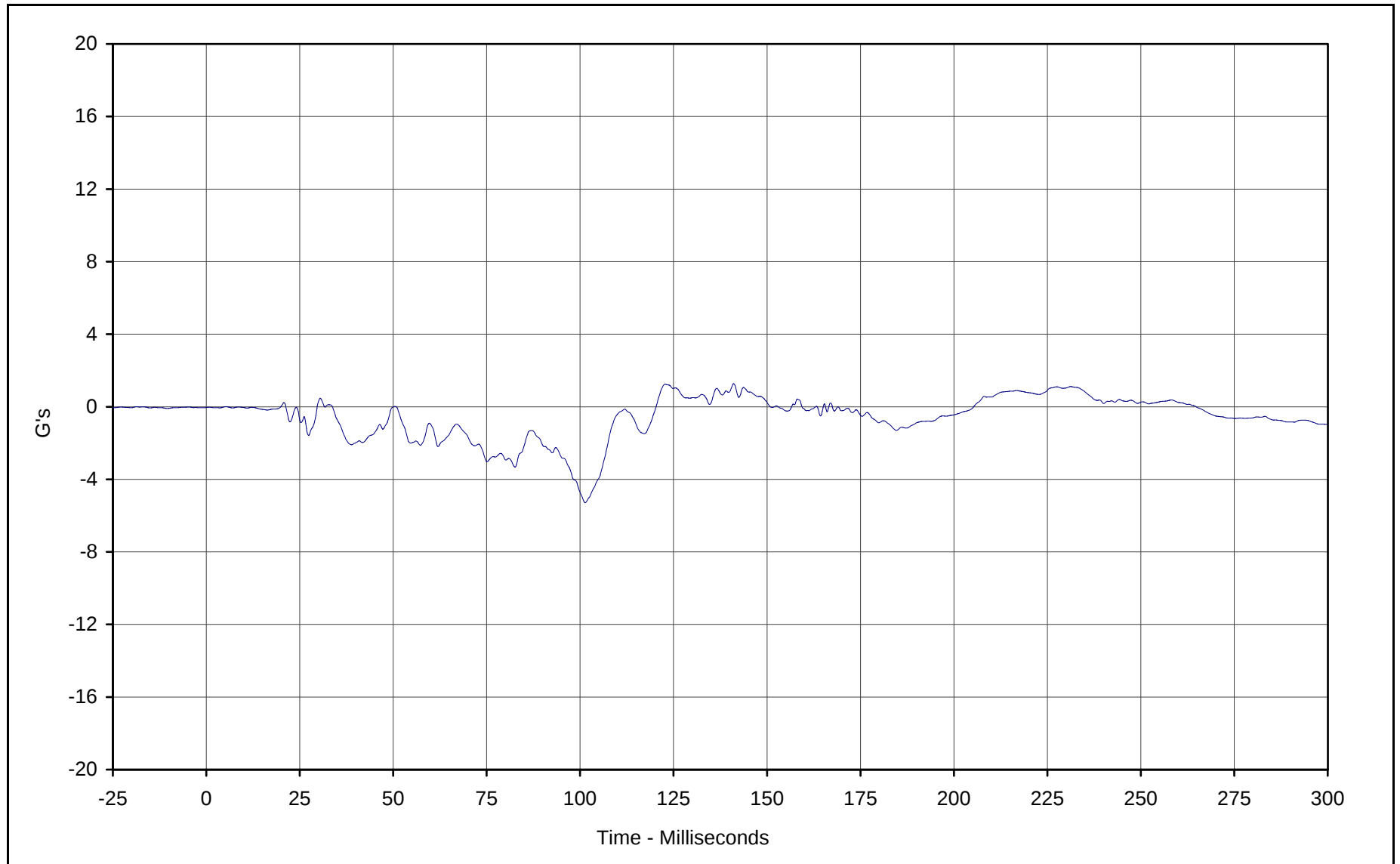


Curve Description: Driver Chest Redundant X Displ.
Maximum Value: 113.1 at 101.7 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-016

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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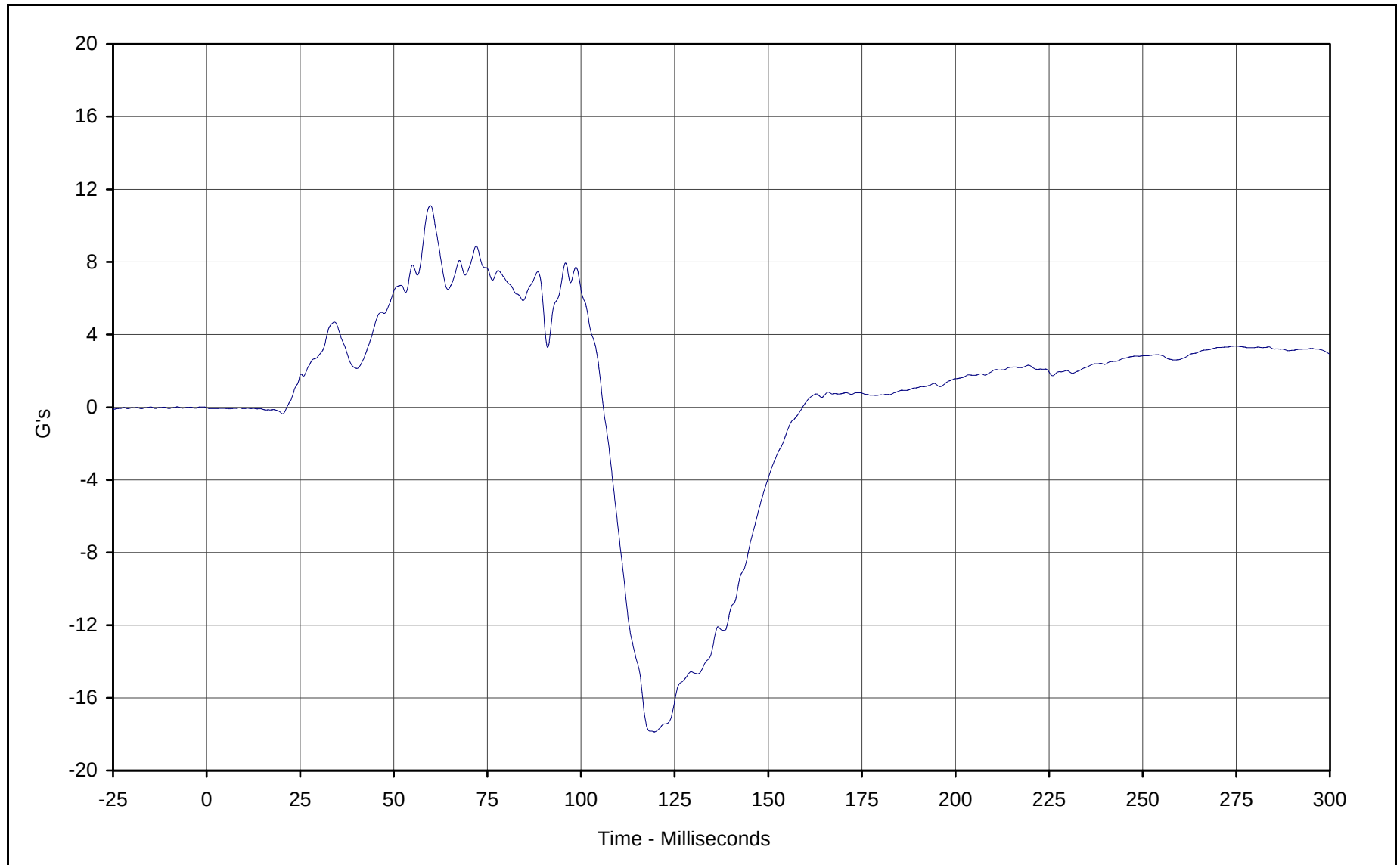


Curve Description: Driver Chest Redundant Y
Maximum Value: 1.3 at 141.1 Milliseconds
Minimum Value: -5.3 at 101.4 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-017

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



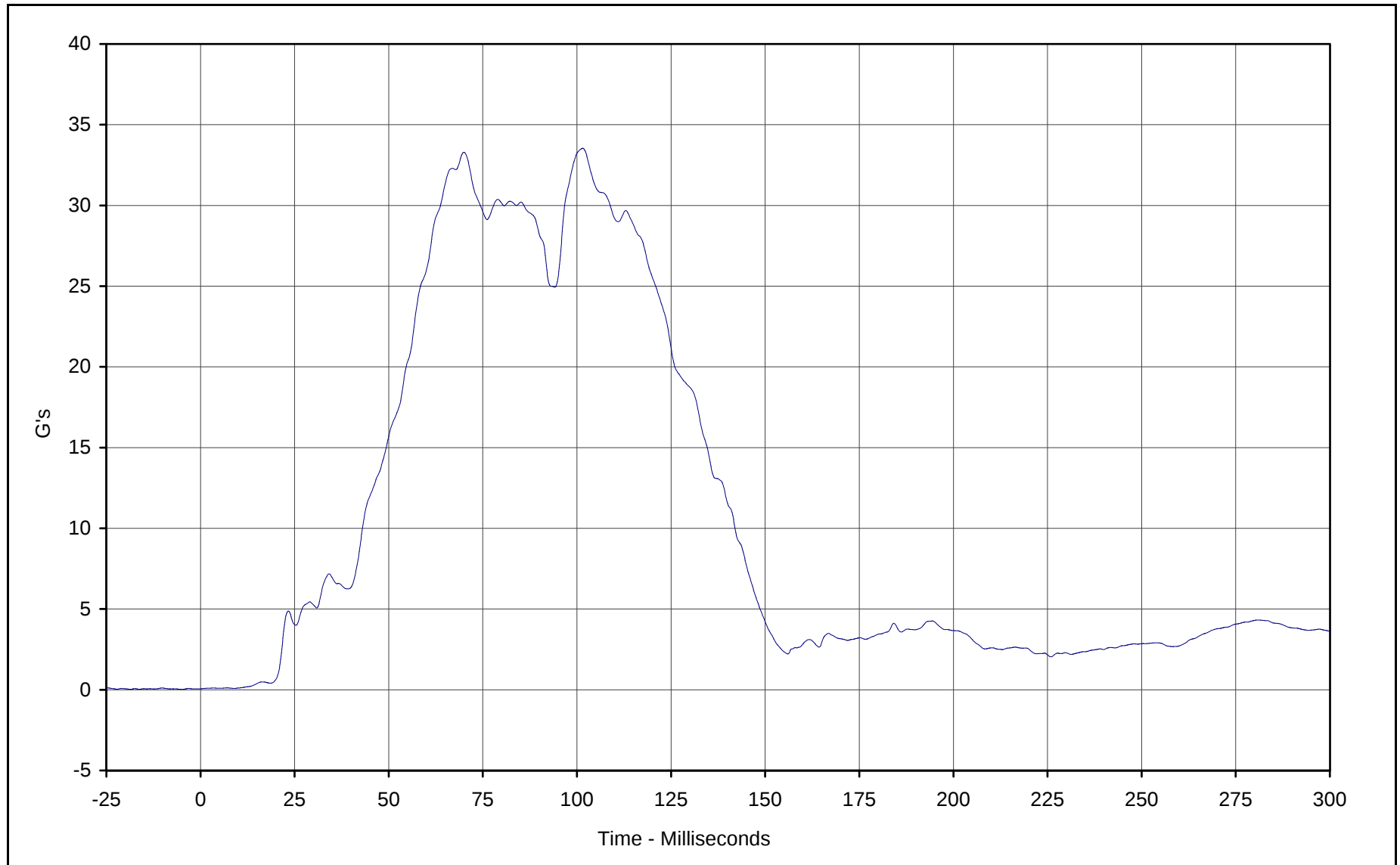
KAR21001-07



Curve Description: Driver Chest Redundant Z
Maximum Value: 11.1 at 59.7 Milliseconds
Minimum Value: -17.9 at 119.6 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-018

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

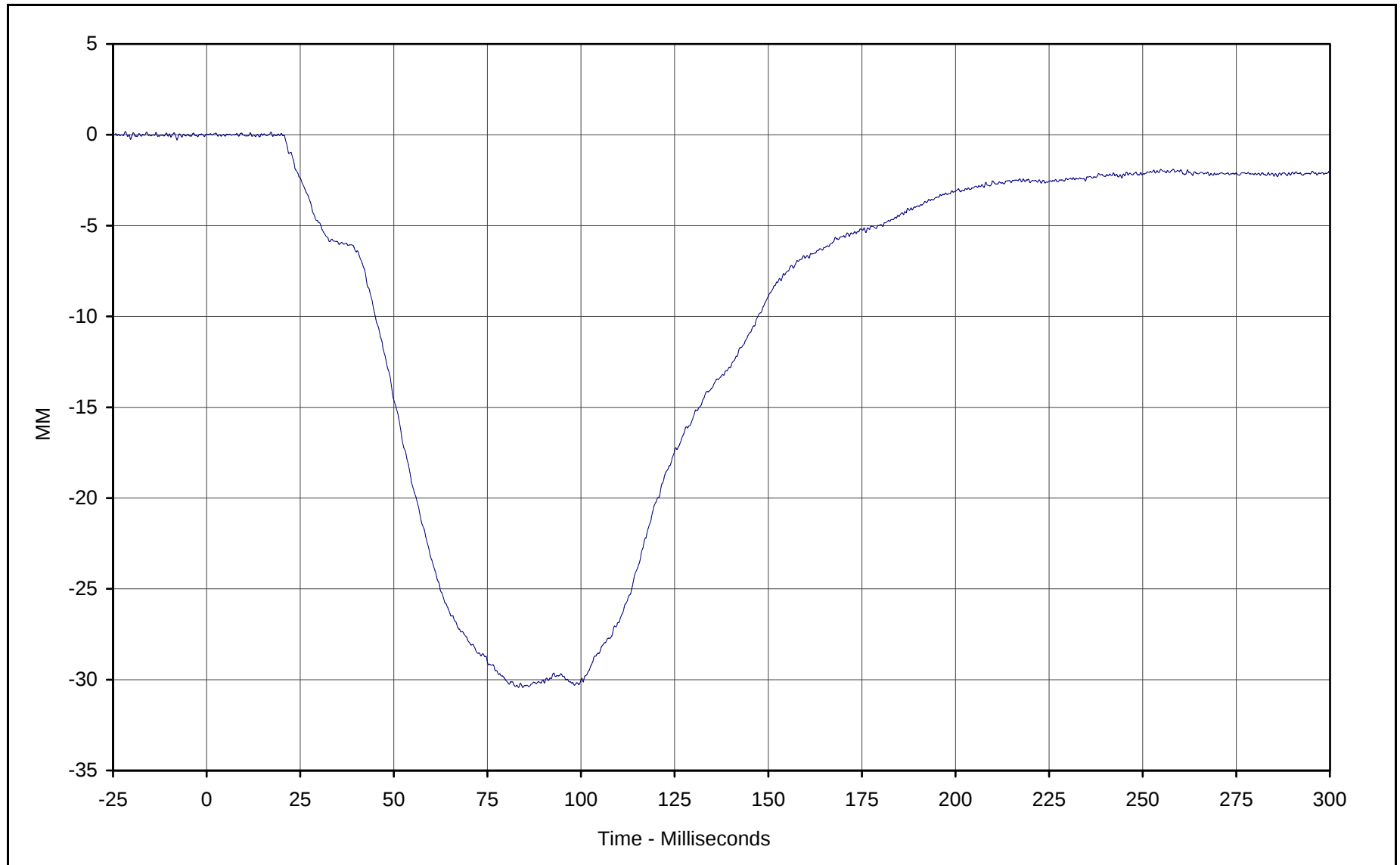




Curve Description: Driver Chest Resultant Redundant
Maximum Value: 33.5 at 101.5 Milliseconds
Minimum Value: 0.1 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: RES-016

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

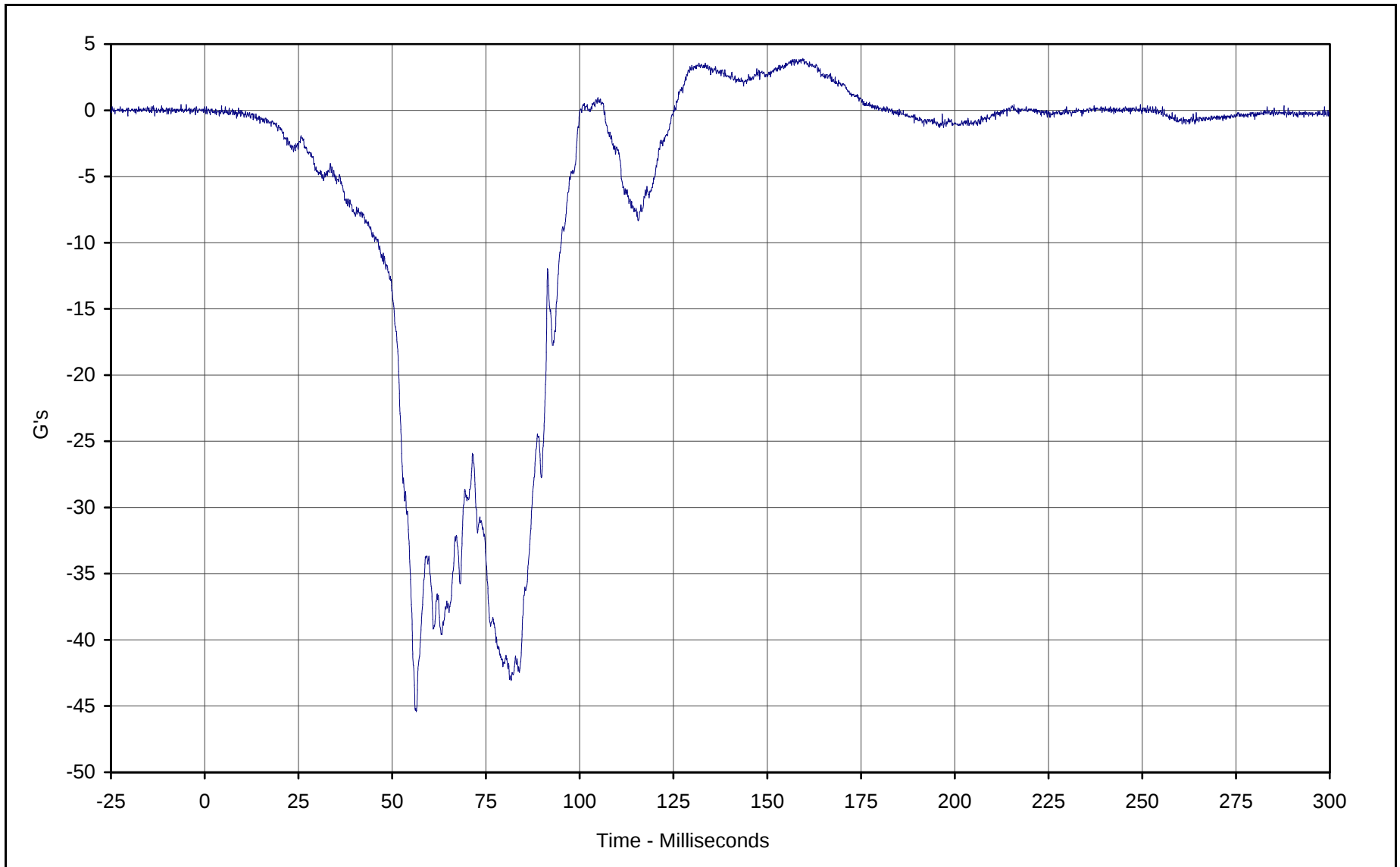




Curve Description: Driver Chest Displacement X
Maximum Value: 0.2 at 17.2 Milliseconds
Minimum Value: -30.4 at 83.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-019

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



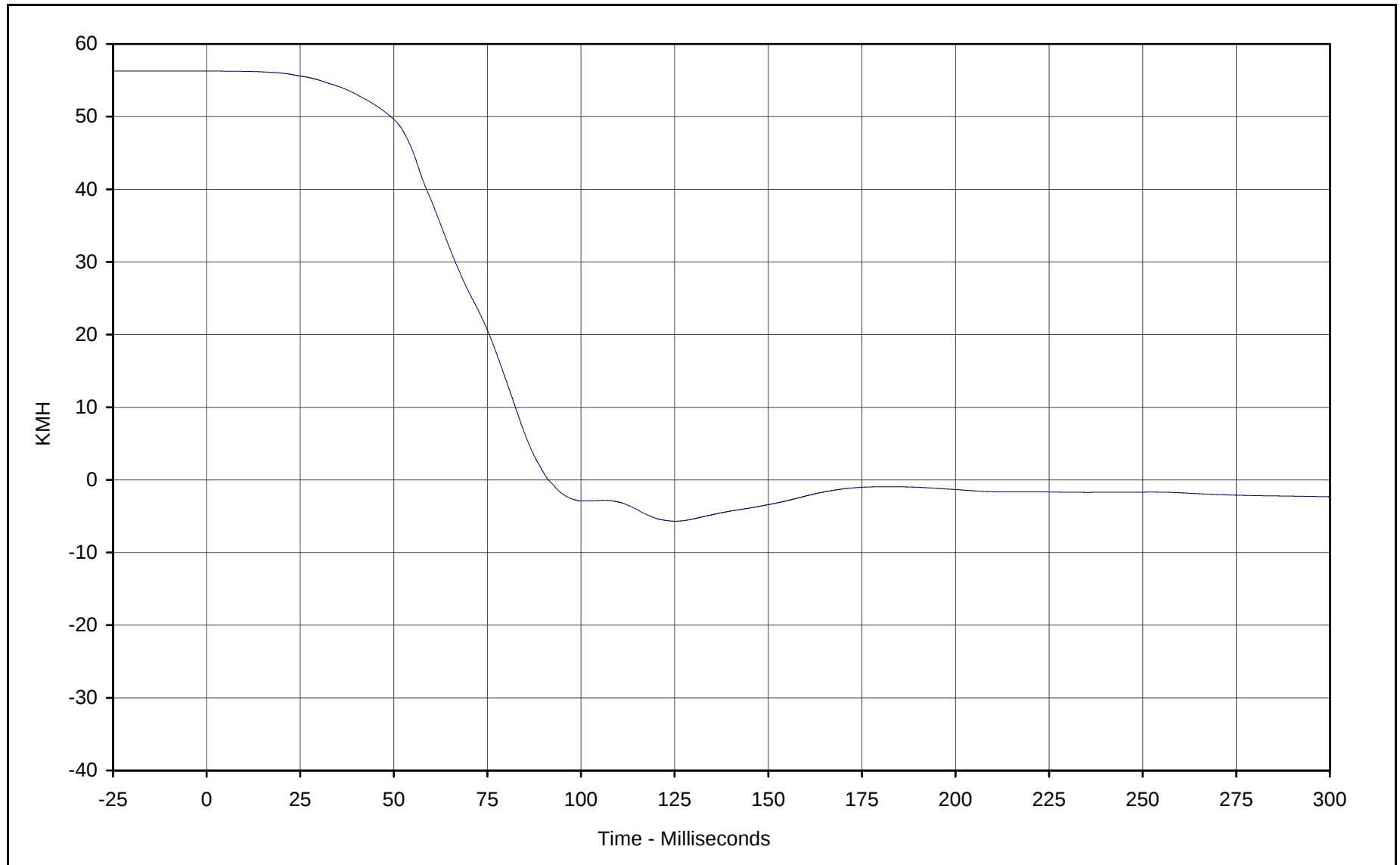


Curve Description: Driver Pelvis X
Maximum Value: 3.9 at 159.5 Milliseconds
Minimum Value: -45.4 at 56.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-020

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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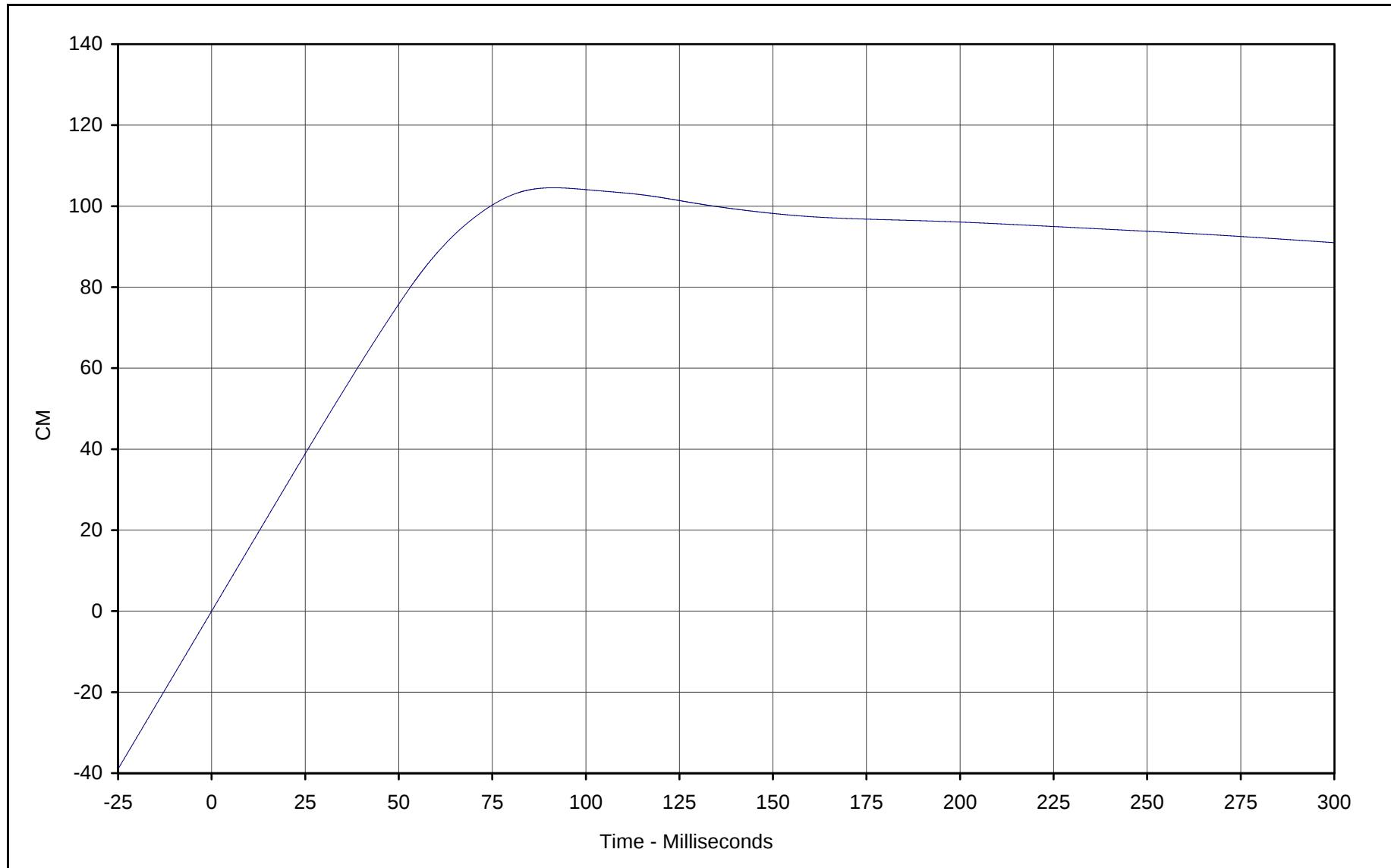


Curve Description: Driver Pelvis X Velocity
Maximum Value: 56.3 at 0.0 Milliseconds
Minimum Value: -5.7 at 125.2 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-020

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



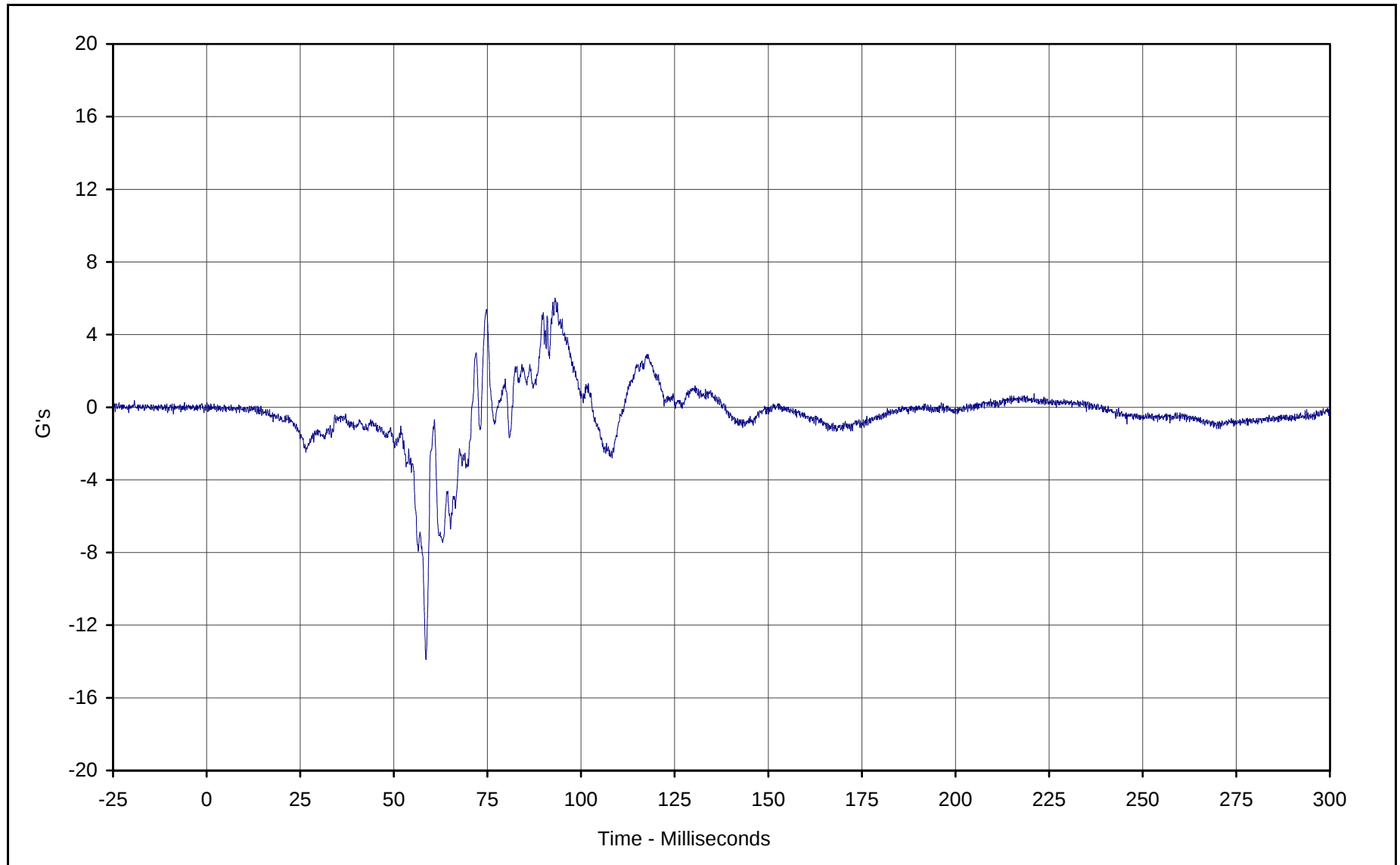
KAR21001-07



Curve Description: Driver Pelvis X Displ.
Maximum Value: 104.5 at 91.3 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-020

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

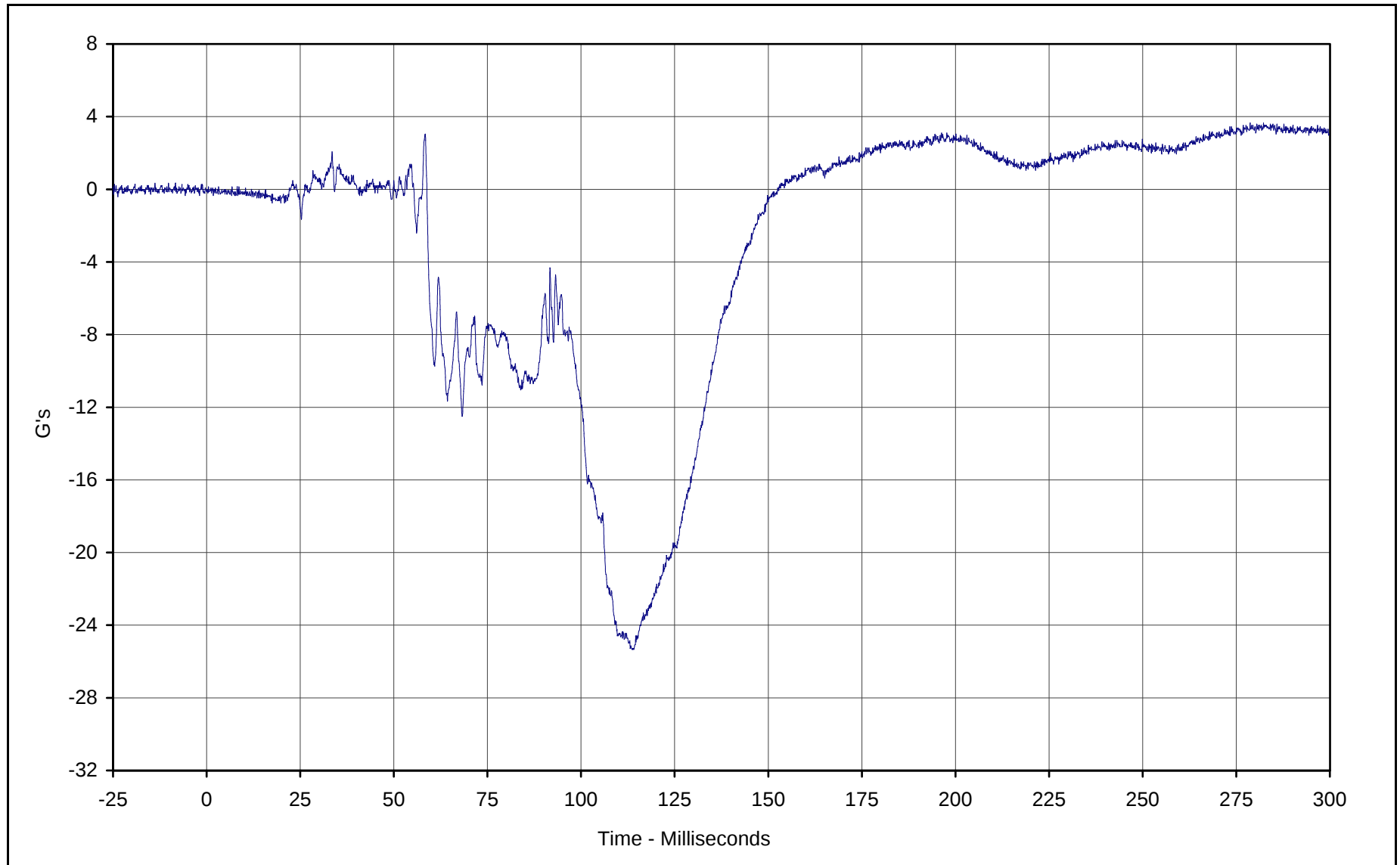




Curve Description: Driver Pelvis Y
Maximum Value: 6.0 at 93.1 Milliseconds
Minimum Value: -13.9 at 58.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-021

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

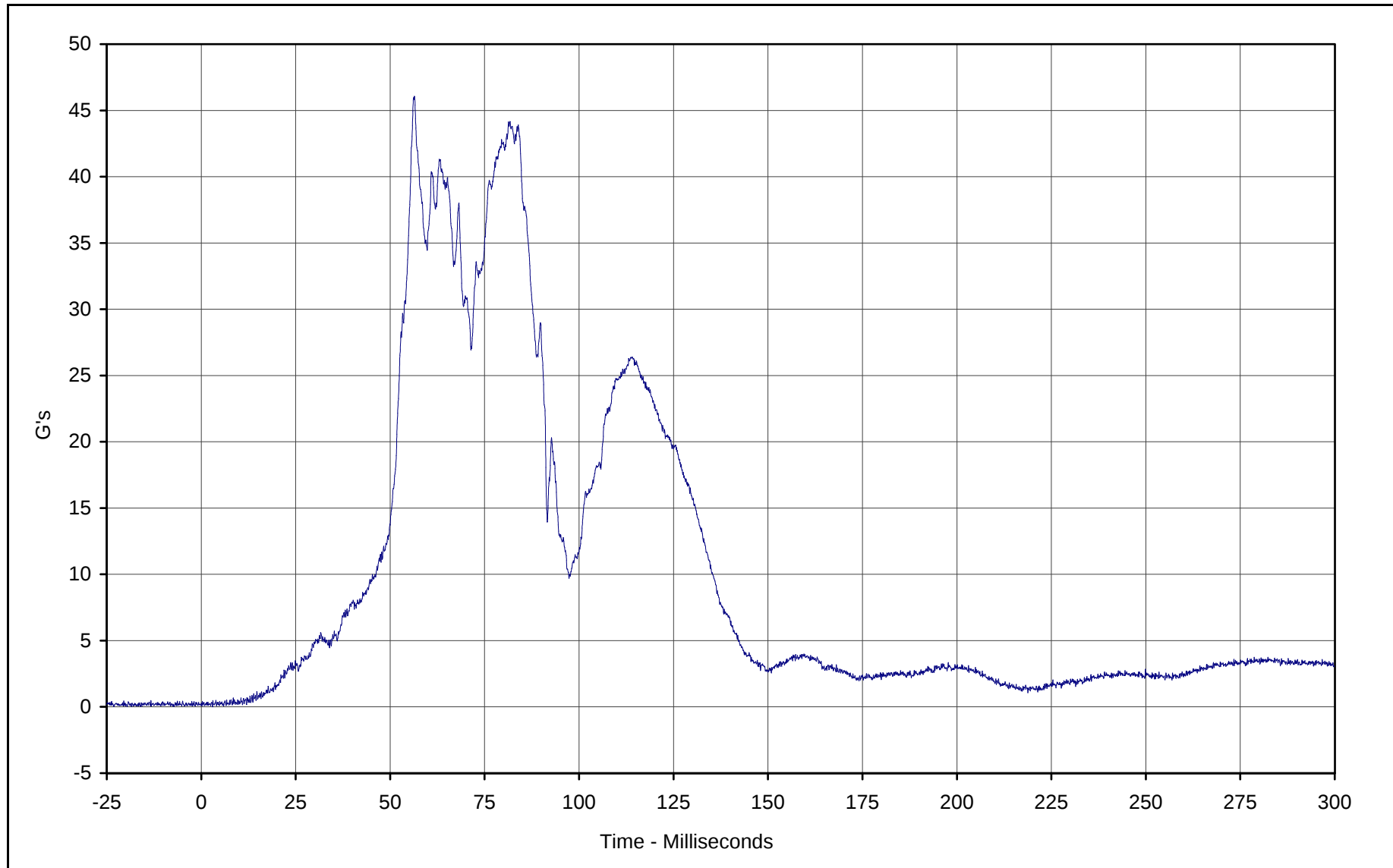




Curve Description: Driver Pelvis Z
Maximum Value: 3.7 at 278.7 Milliseconds
Minimum Value: -25.3 at 113.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-022

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

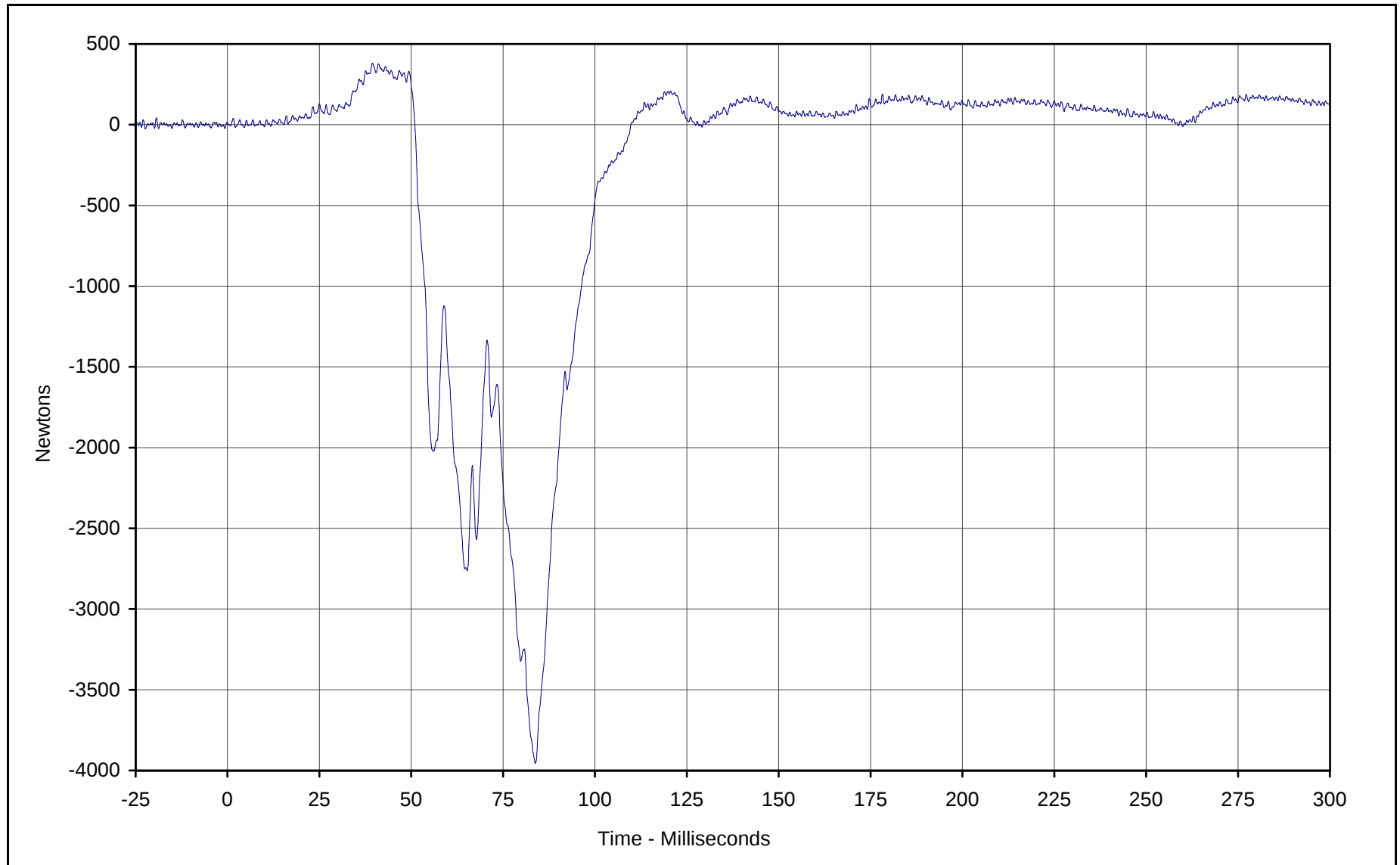




Curve Description: Driver Pelvis Resultant
Maximum Value: 46.1 at 56.4 Milliseconds
Minimum Value: 0.0 at 3.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: RES-020

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

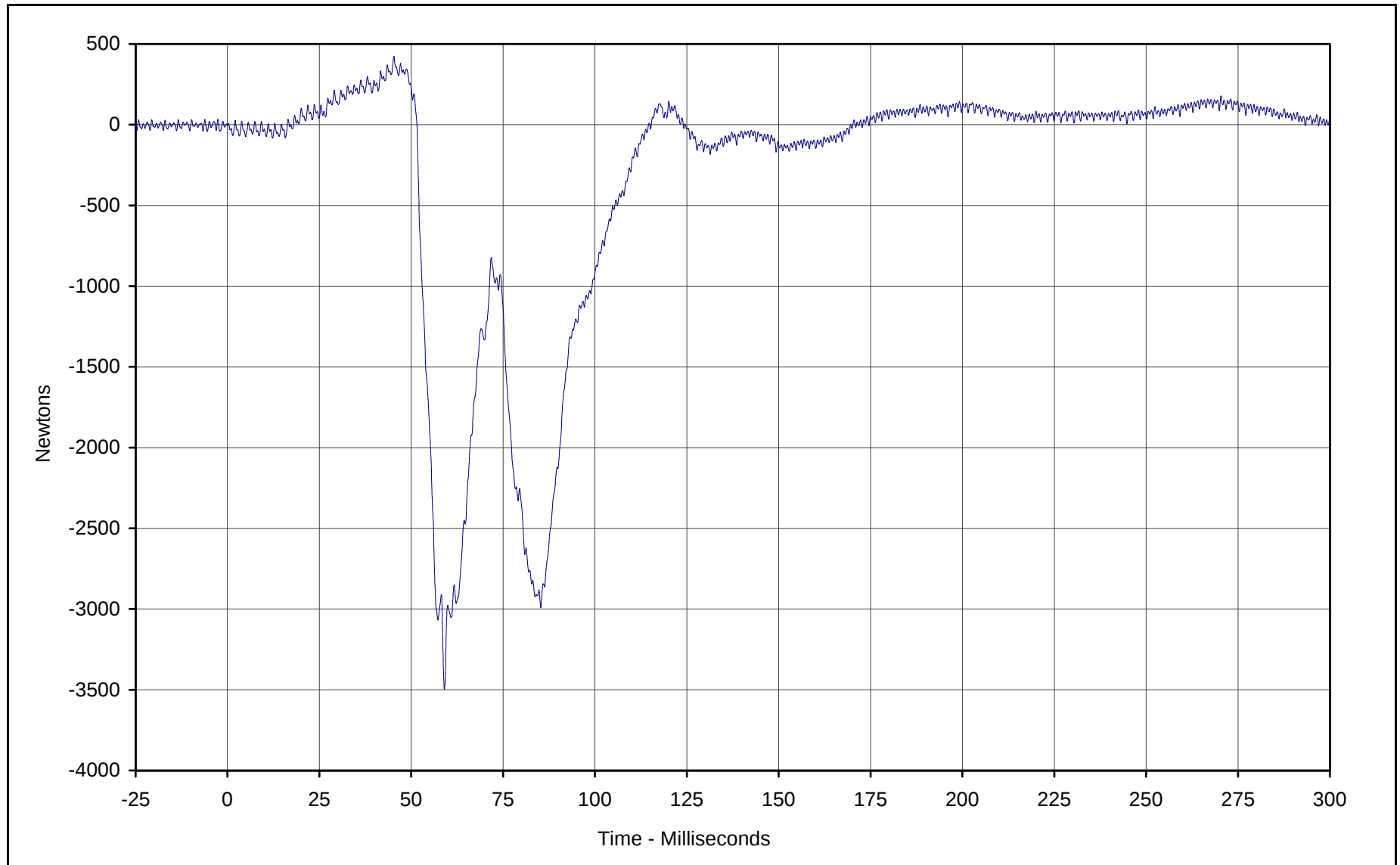




Curve Description: Driver Left Femur Force
Maximum Value: 379.7 at 39.5 Milliseconds
Minimum Value: -3955.1 at 83.8 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-023

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

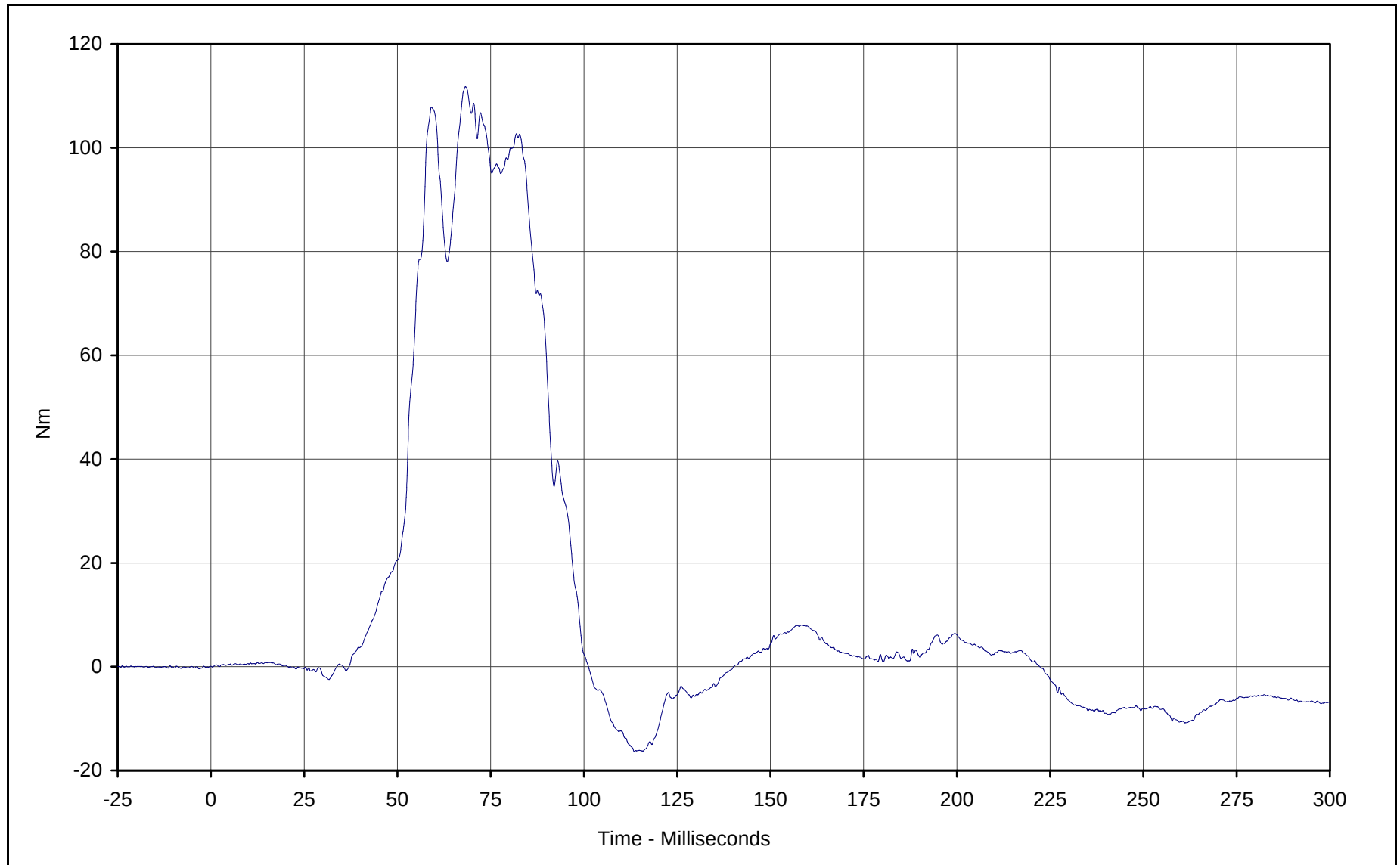




Curve Description: Driver Right Femur Force
Maximum Value: 423.6 at 45.3 Milliseconds
Minimum Value: -3497.2 at 59.0 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-024

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

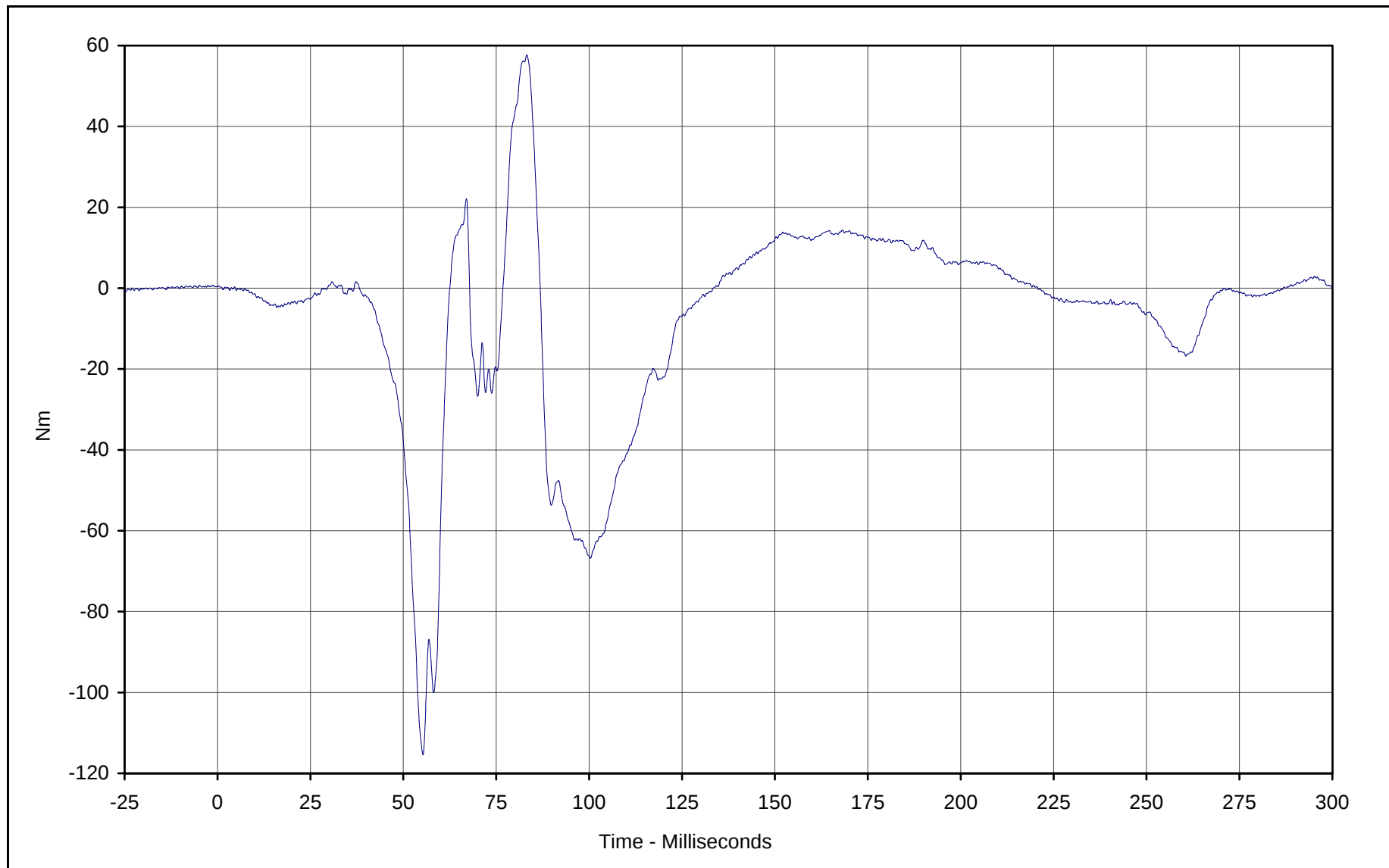




Curve Description: Driver Left Upper Tibia Moment X
Maximum Value: 111.8 at 68.3 Milliseconds
Minimum Value: -16.4 at 113.5 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-025

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

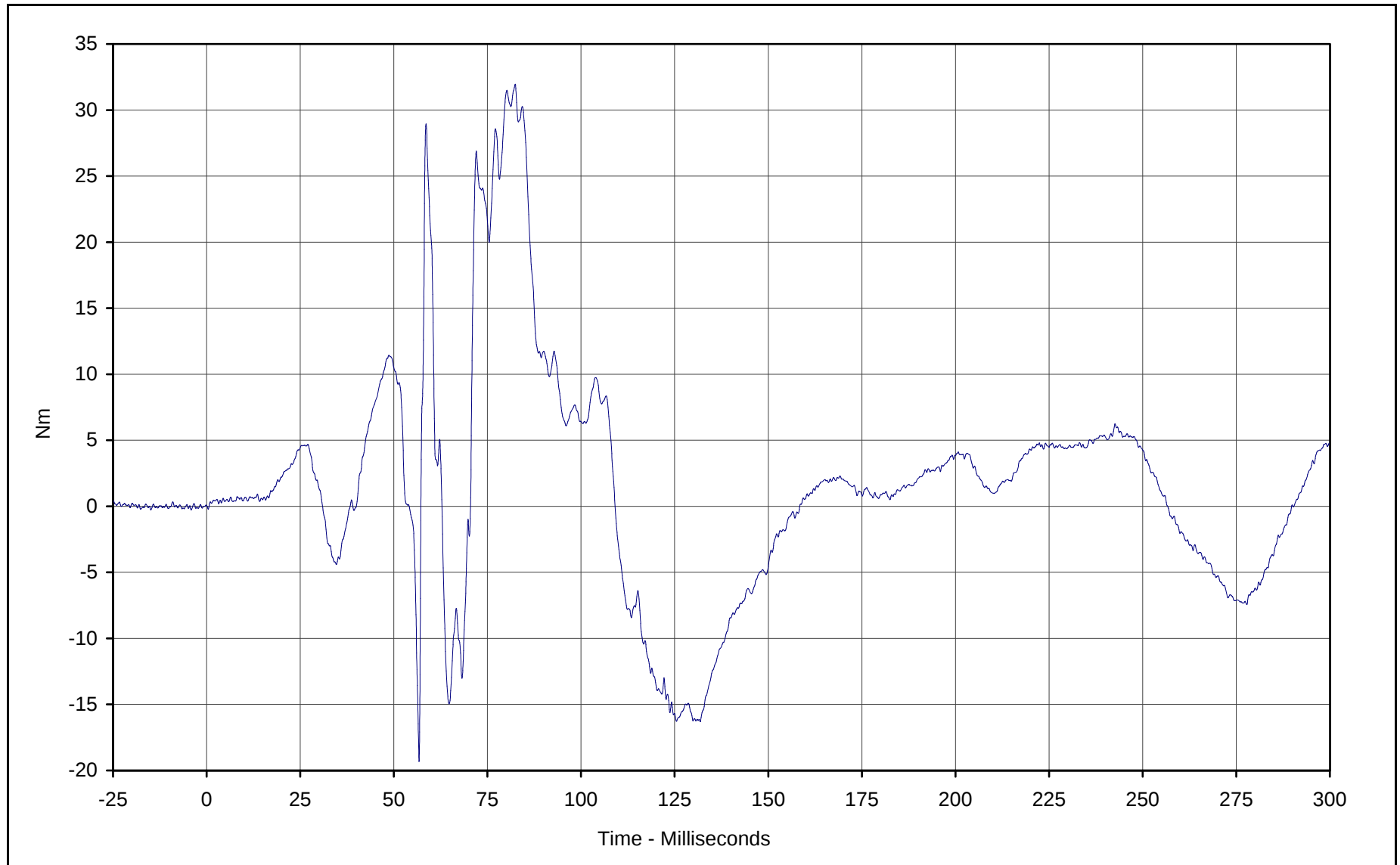




Curve Description: Driver Left Upper Tibia Moment Y
Maximum Value: 57.7 at 83.2 Milliseconds
Minimum Value: -115.4 at 55.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-026

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



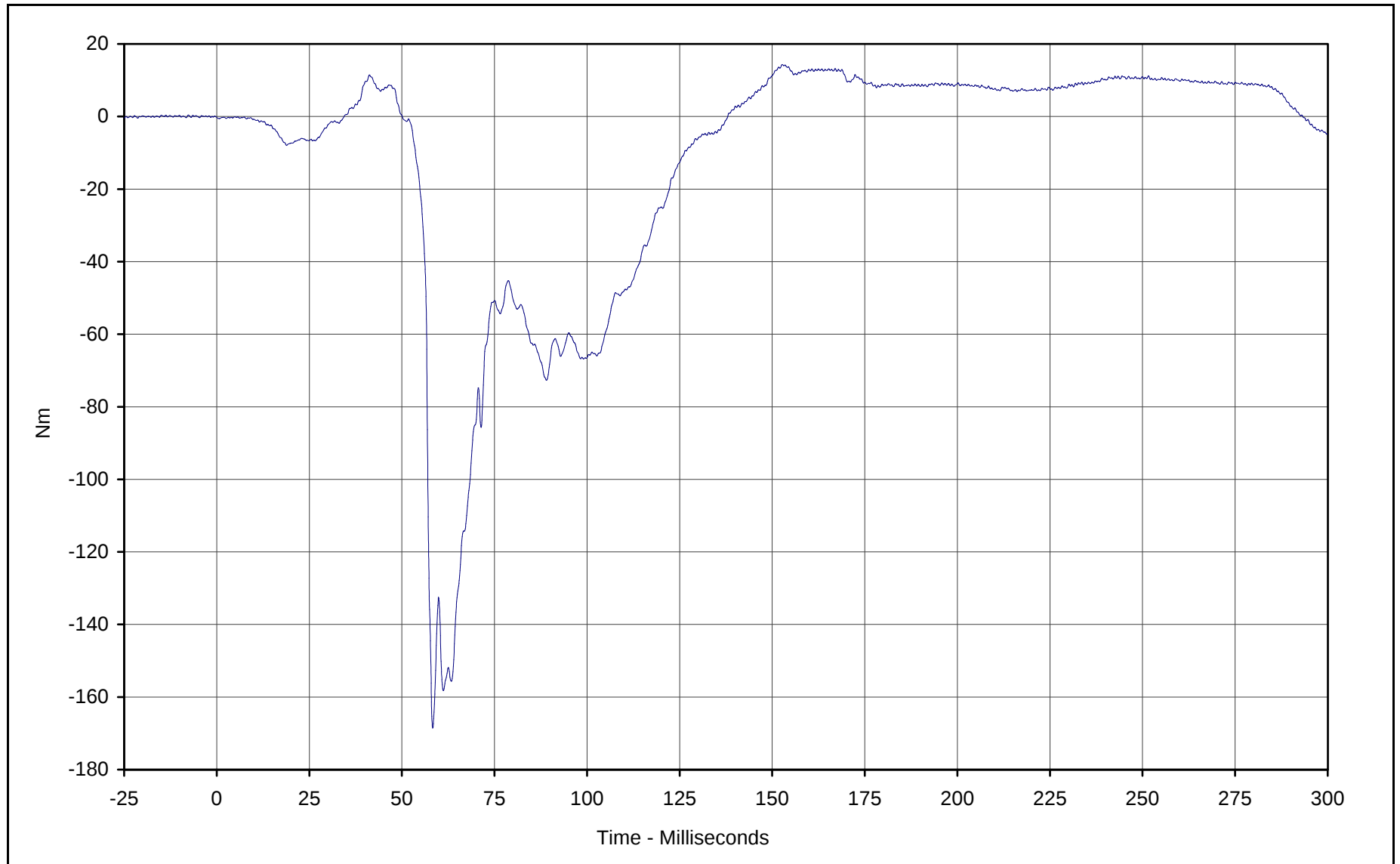


Curve Description: Driver Right Upper Tibia Moment X
Maximum Value: 32.0 at 82.4 Milliseconds
Minimum Value: -19.3 at 56.7 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-027

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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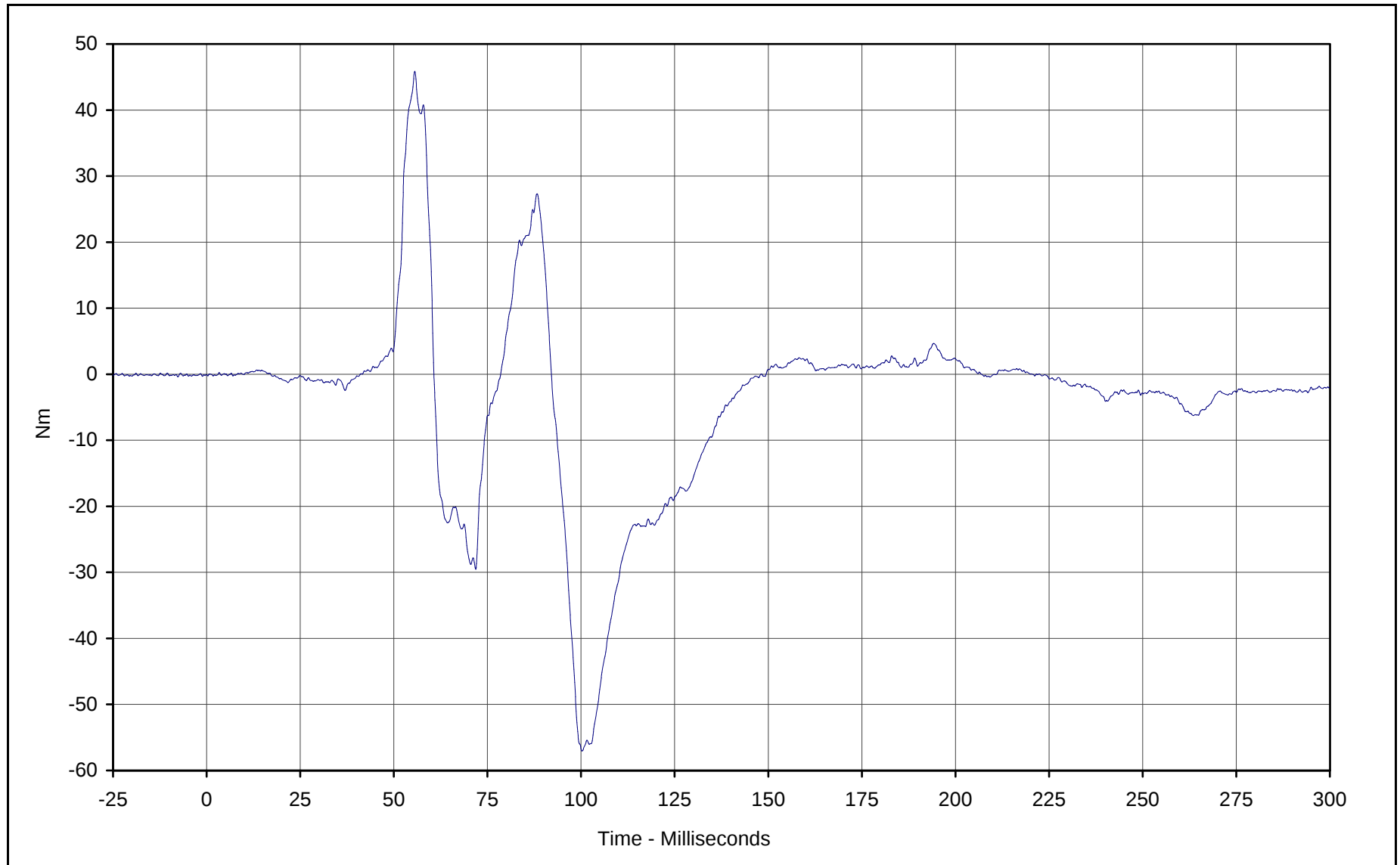


Curve Description: Driver Right Upper Tibia Moment Y
Maximum Value: 14.3 at 152.7 Milliseconds
Minimum Value: -168.6 at 58.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-028

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



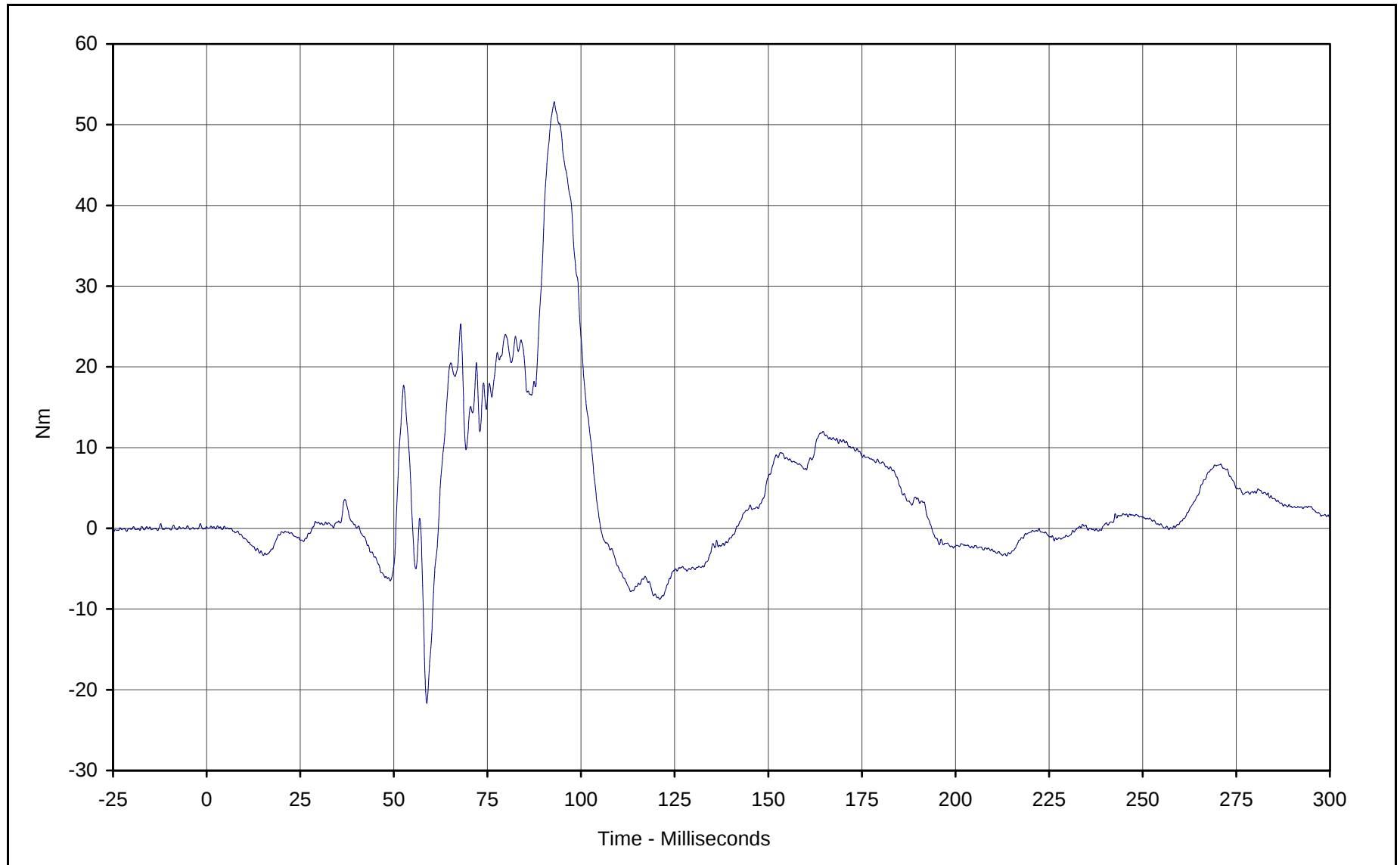
KAR21001-07



Curve Description: Driver Left Lower Tibia Moment X
Maximum Value: 45.9 at 55.6 Milliseconds
Minimum Value: -57.1 at 100.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-029

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

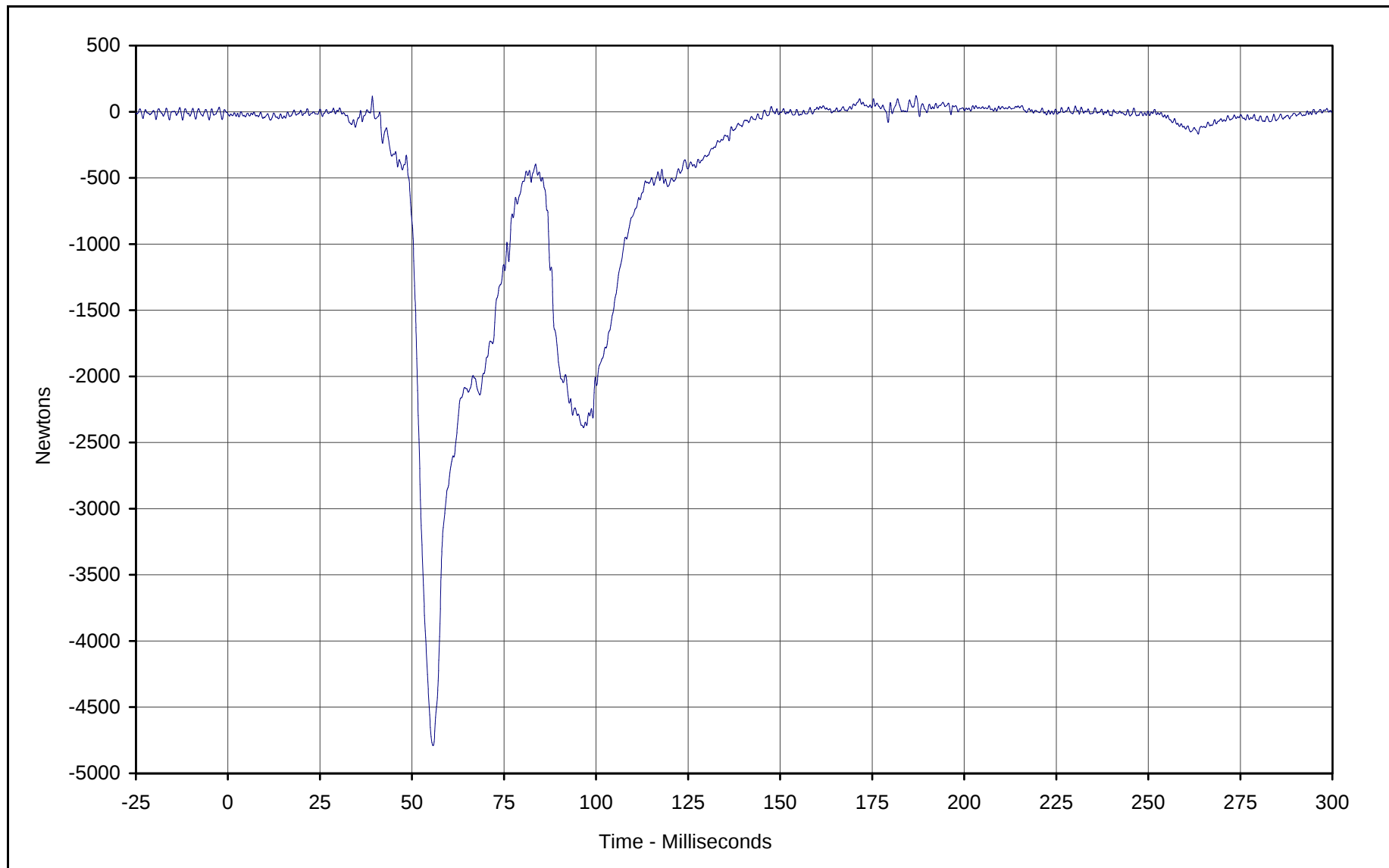




Curve Description: Driver Left Lower Tibia Moment Y
Maximum Value: 52.8 at 92.8 Milliseconds
Minimum Value: -21.7 at 58.8 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-030

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

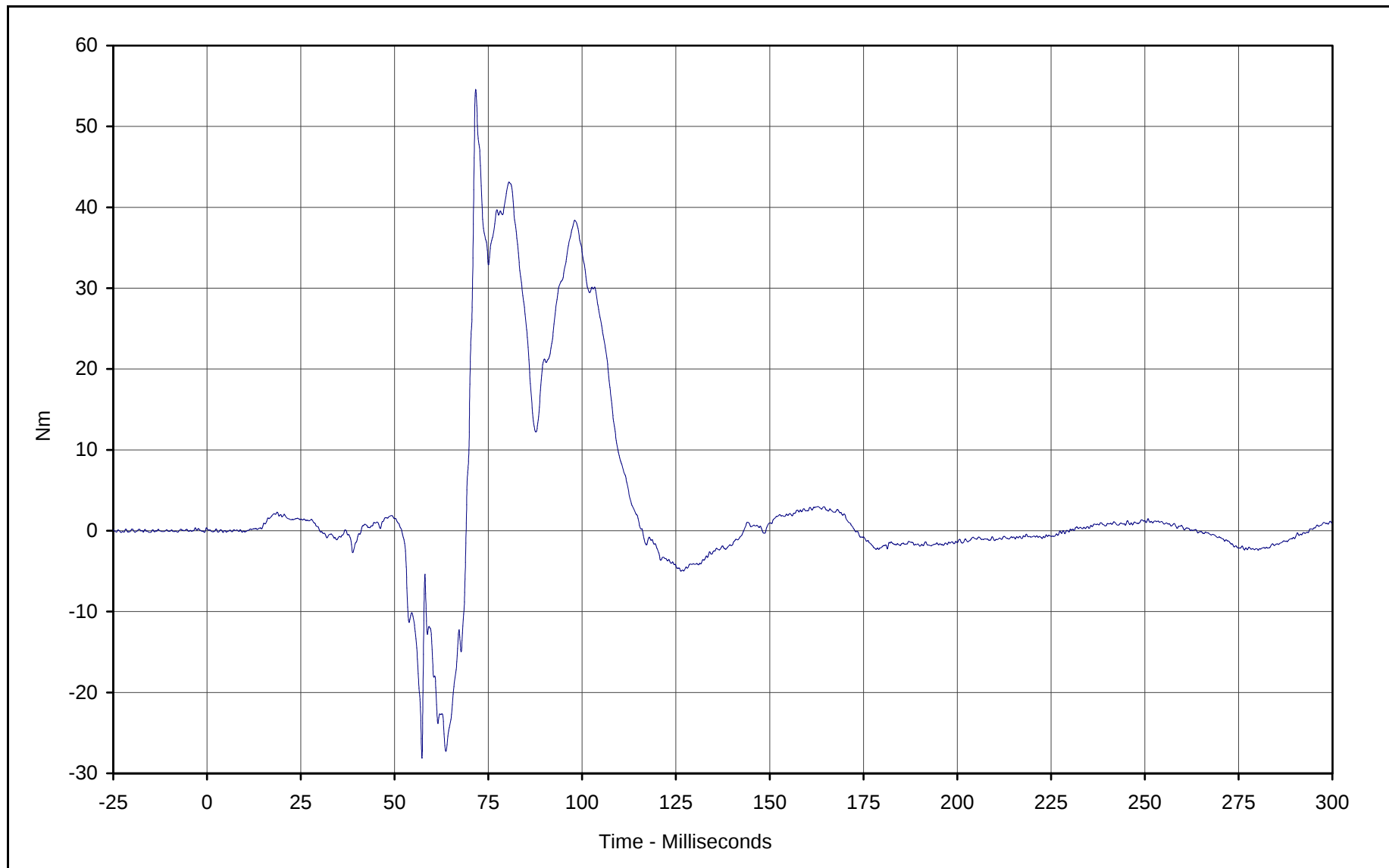




Curve Description: Driver Left Lower Tibia Force Z
Maximum Value: 121.1 at 186.9 Milliseconds
Minimum Value: -4790.2 at 55.7 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-031

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



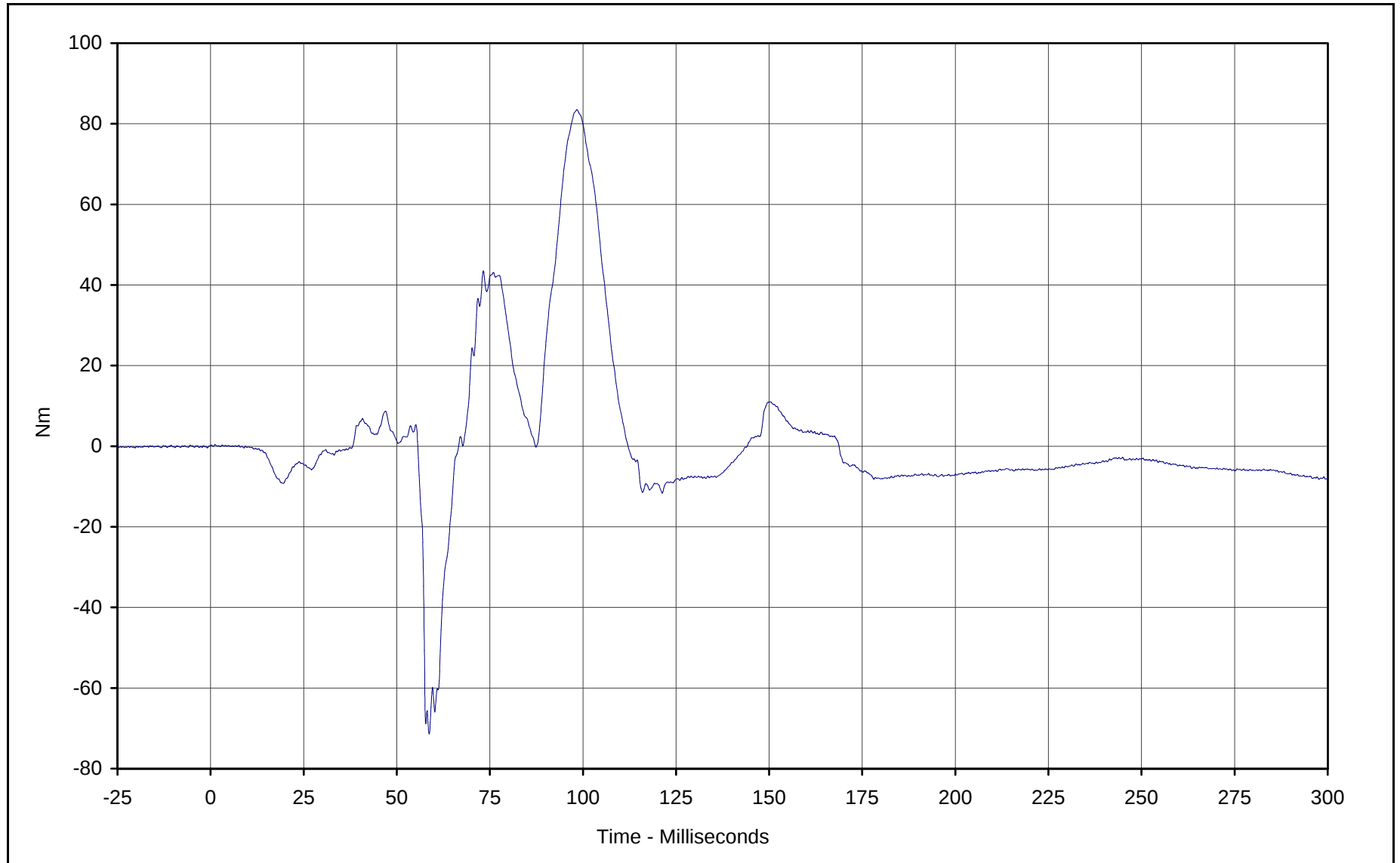


Curve Description: Driver Right Lower Tibia Moment X
Maximum Value: 54.6 at 71.6 Milliseconds
Minimum Value: -28.1 at 57.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-032

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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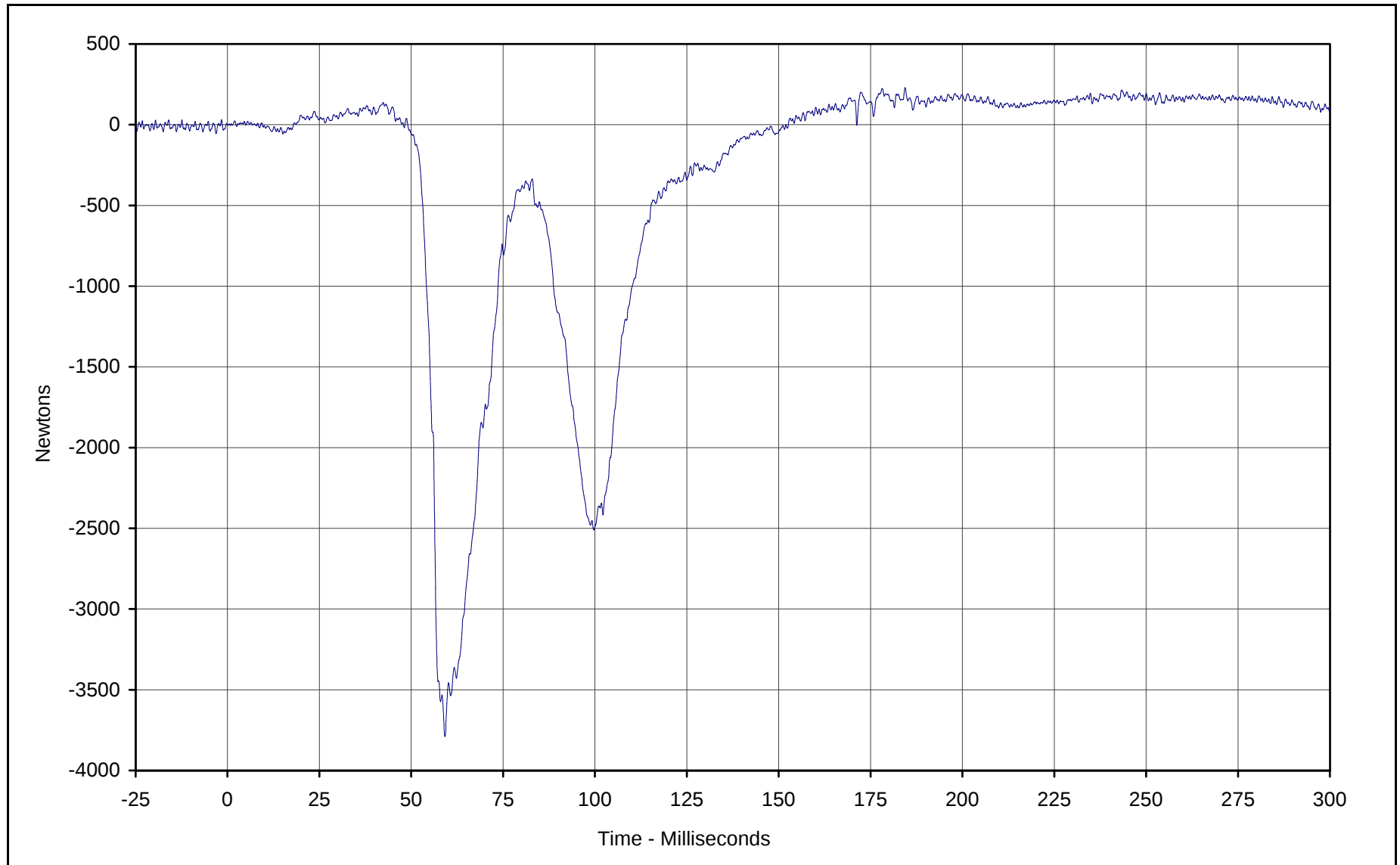


Curve Description: Driver Right Lower Tibia Moment Y
Maximum Value: 83.5 at 98.4 Milliseconds
Minimum Value: -71.4 at 58.7 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-033

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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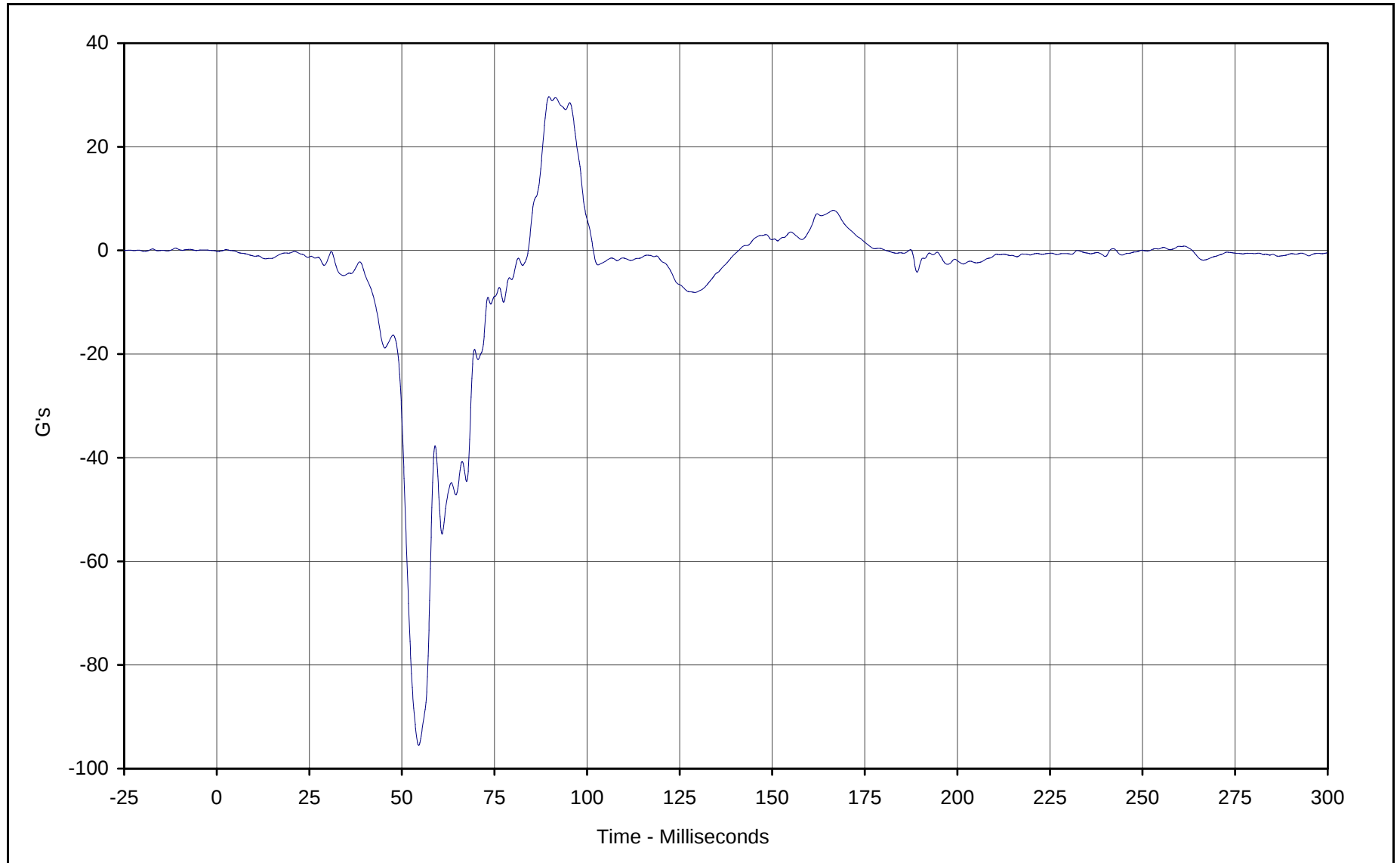


Curve Description: Driver Right Lower Tibia Force Z
Maximum Value: 229.8 at 184.4 Milliseconds
Minimum Value: -3790.1 at 59.2 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-034

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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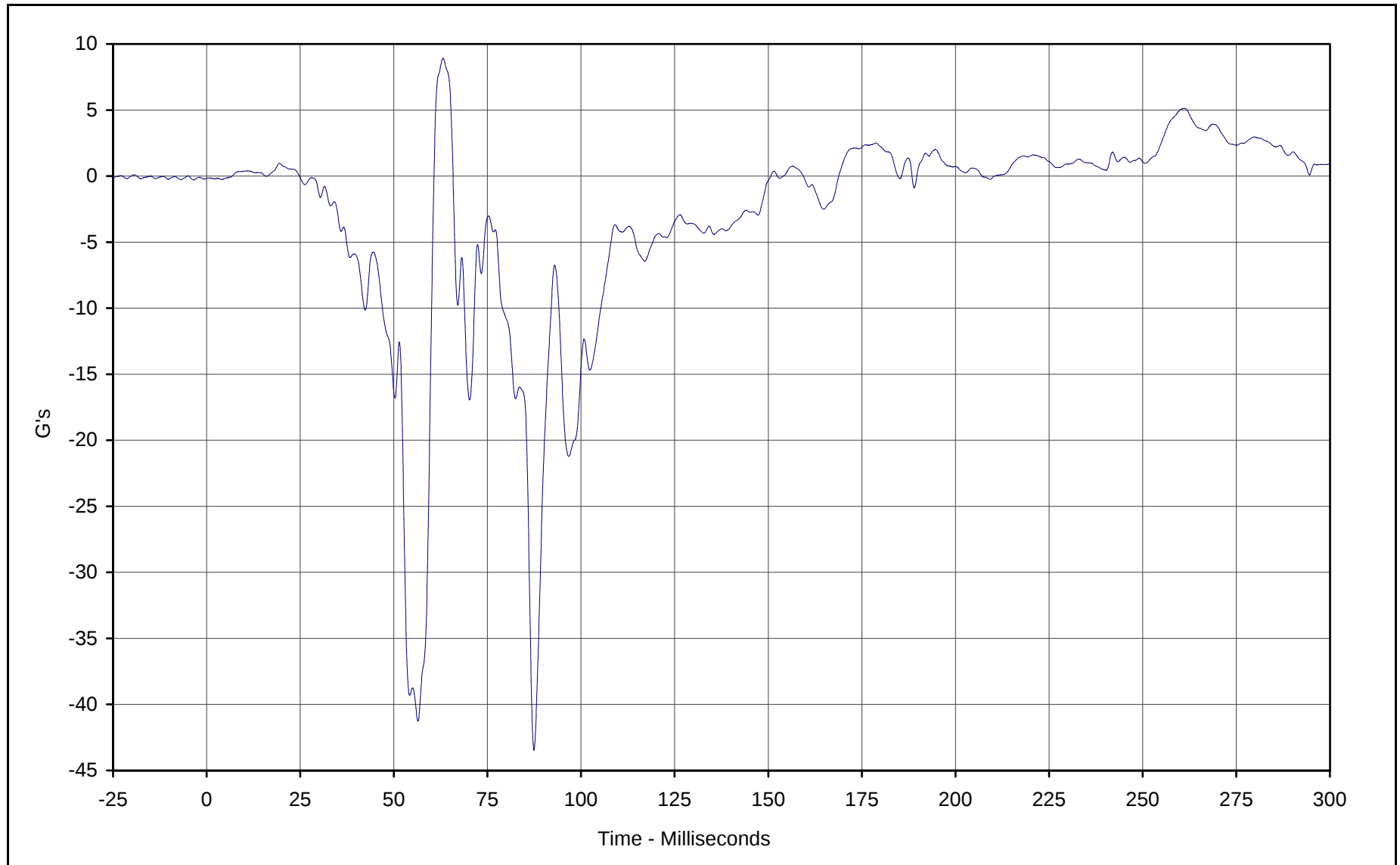


Curve Description: Driver Left Foot Aft X
Maximum Value: 29.7 at 89.7 Milliseconds
Minimum Value: -95.5 at 54.5 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-035

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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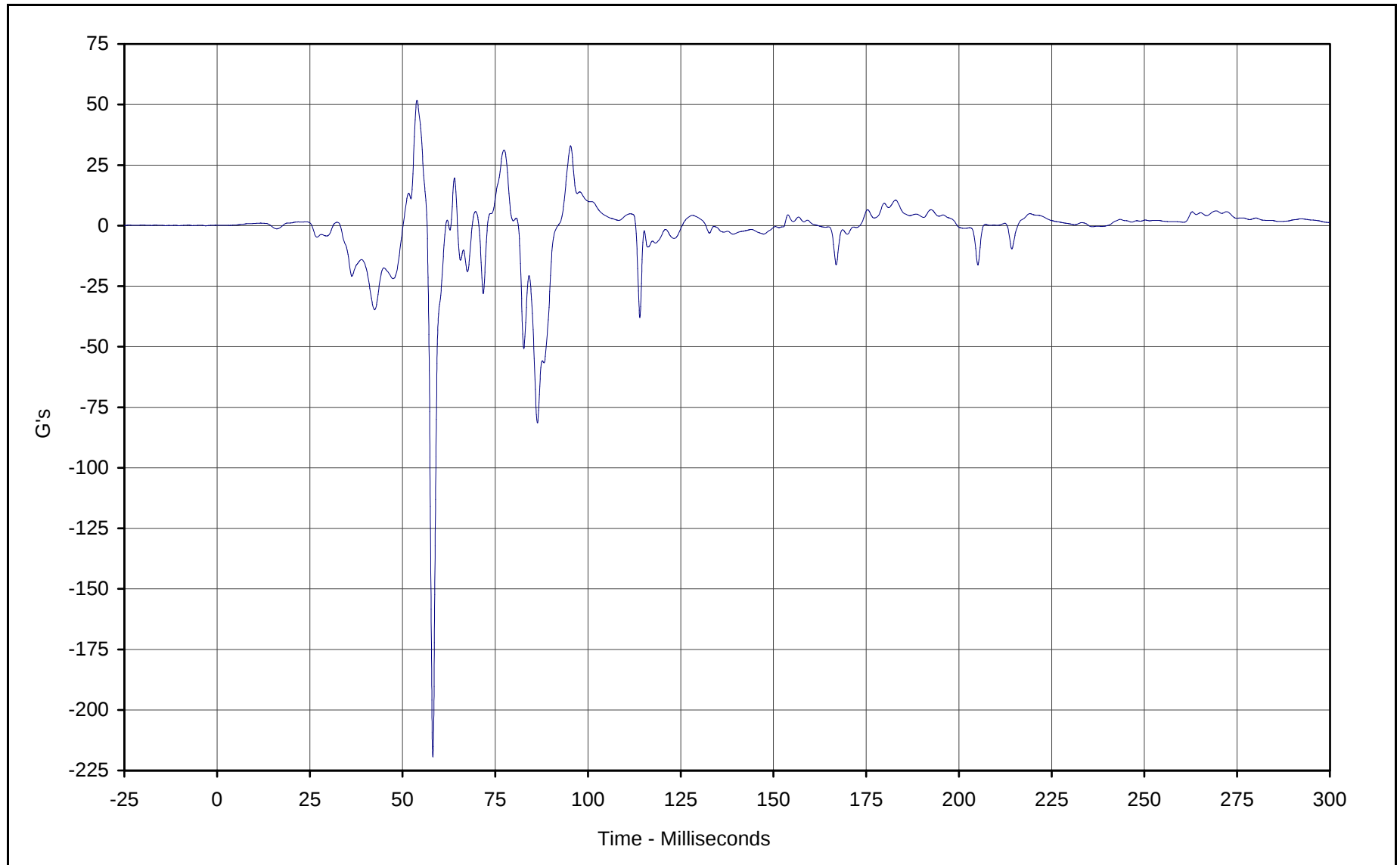


Curve Description: Driver Left Foot Aft Z
Maximum Value: 8.9 at 63.1 Milliseconds
Minimum Value: -43.5 at 87.4 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-036

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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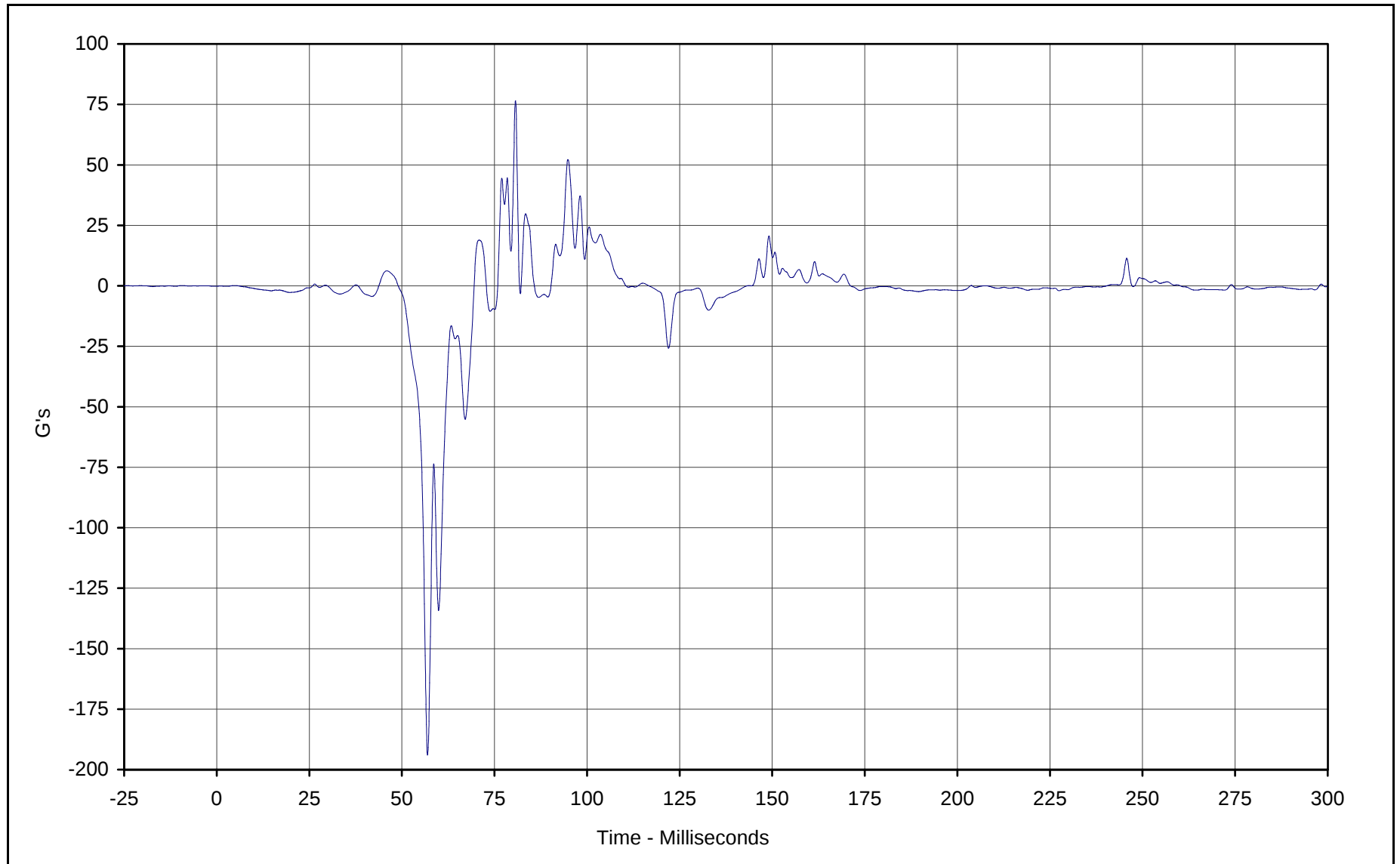
Curve Description: Driver Left Foot Fore Z
Maximum Value: 51.8 at 53.9 Milliseconds
Minimum Value: -219.4 at 58.2 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-037

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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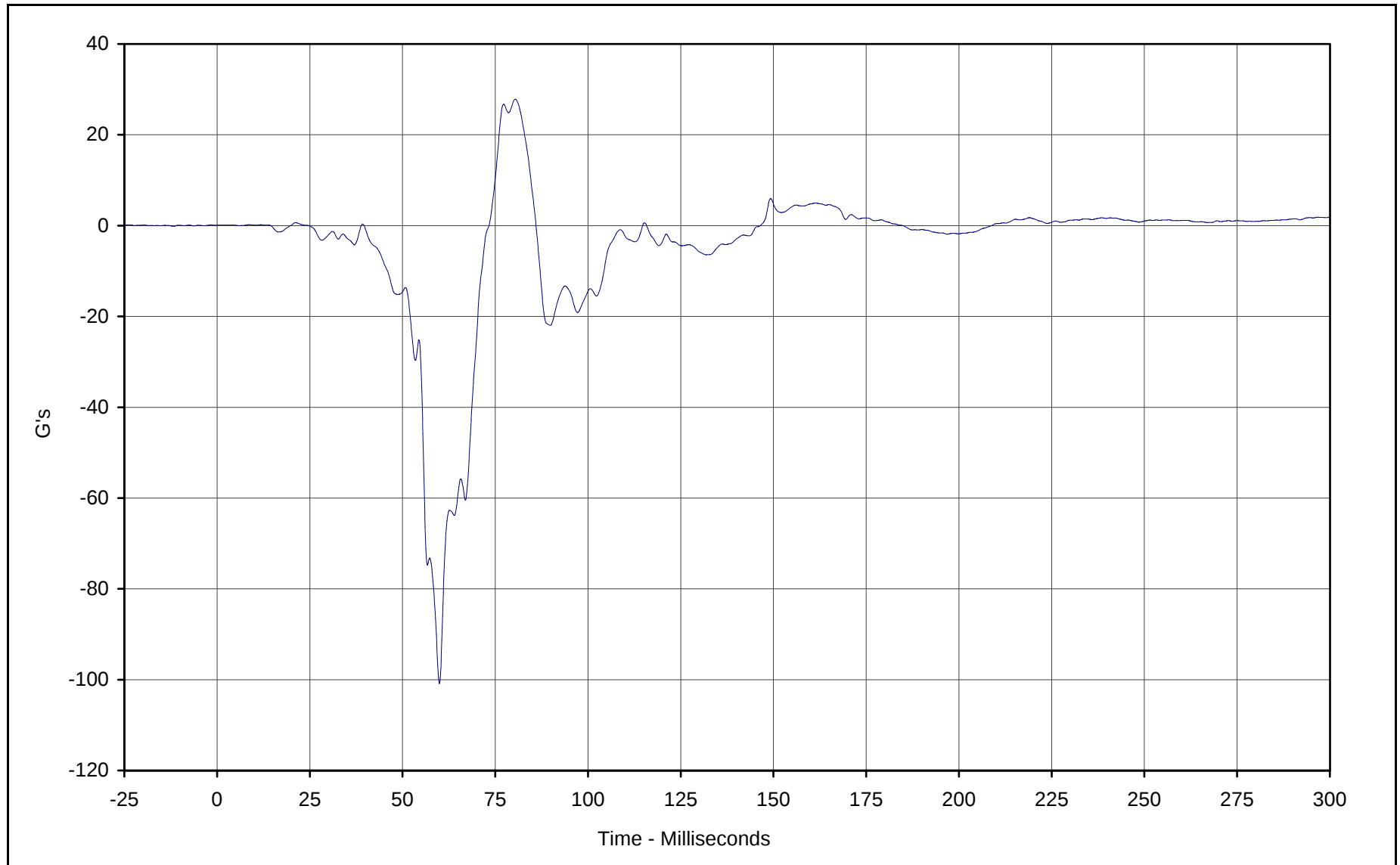


Curve Description: Driver Right Foot Aft X
Maximum Value: 76.5 at 80.7 Milliseconds
Minimum Value: -194.0 at 56.9 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-038

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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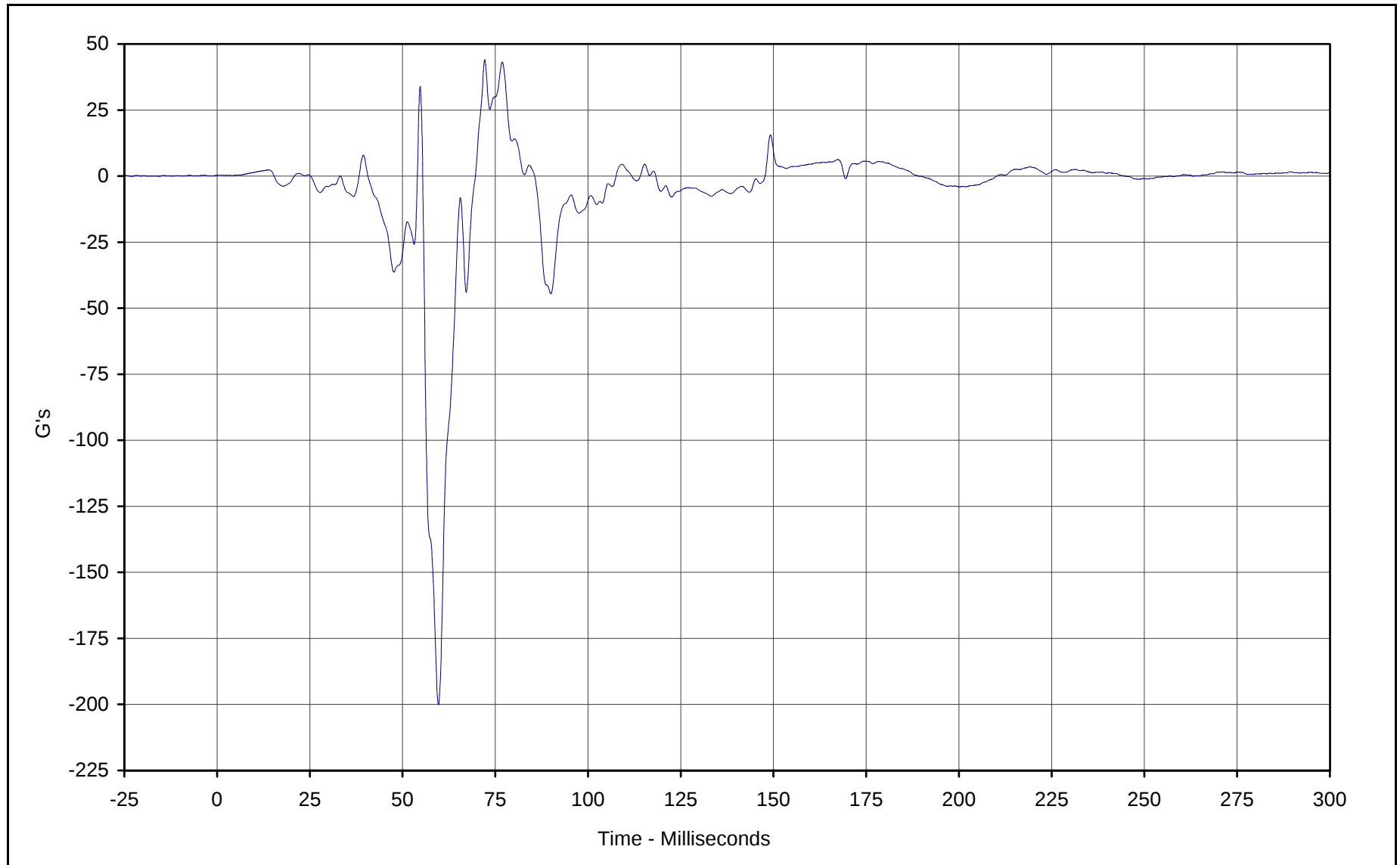


Curve Description: Driver Right Foot Aft Z
Maximum Value: 27.9 at 80.4 Milliseconds
Minimum Value: -100.9 at 59.9 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-039

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



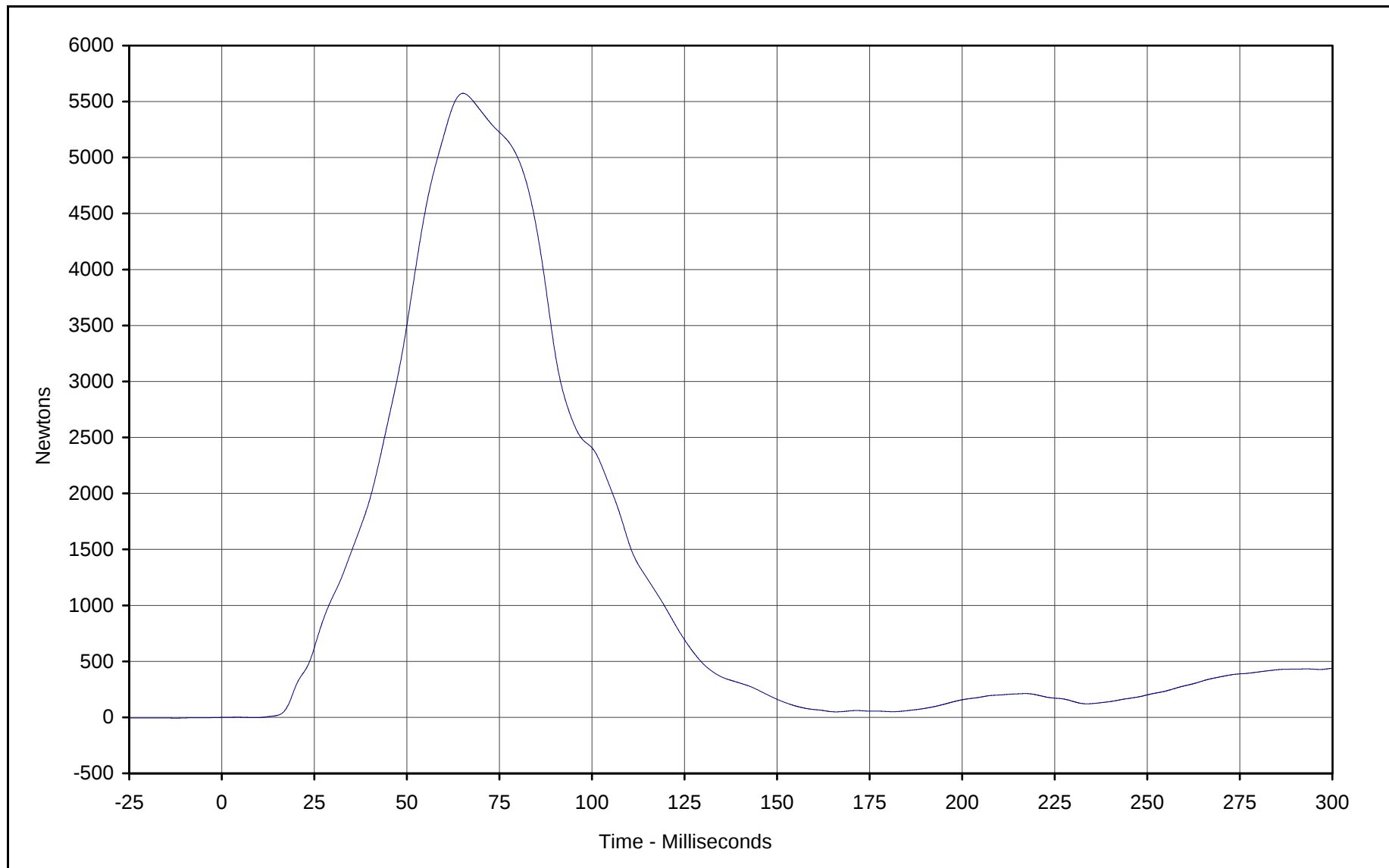


Curve Description: Driver Right Foot Fore Z
Maximum Value: 44.0 at 72.2 Milliseconds
Minimum Value: -200.1 at 59.7 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-040

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

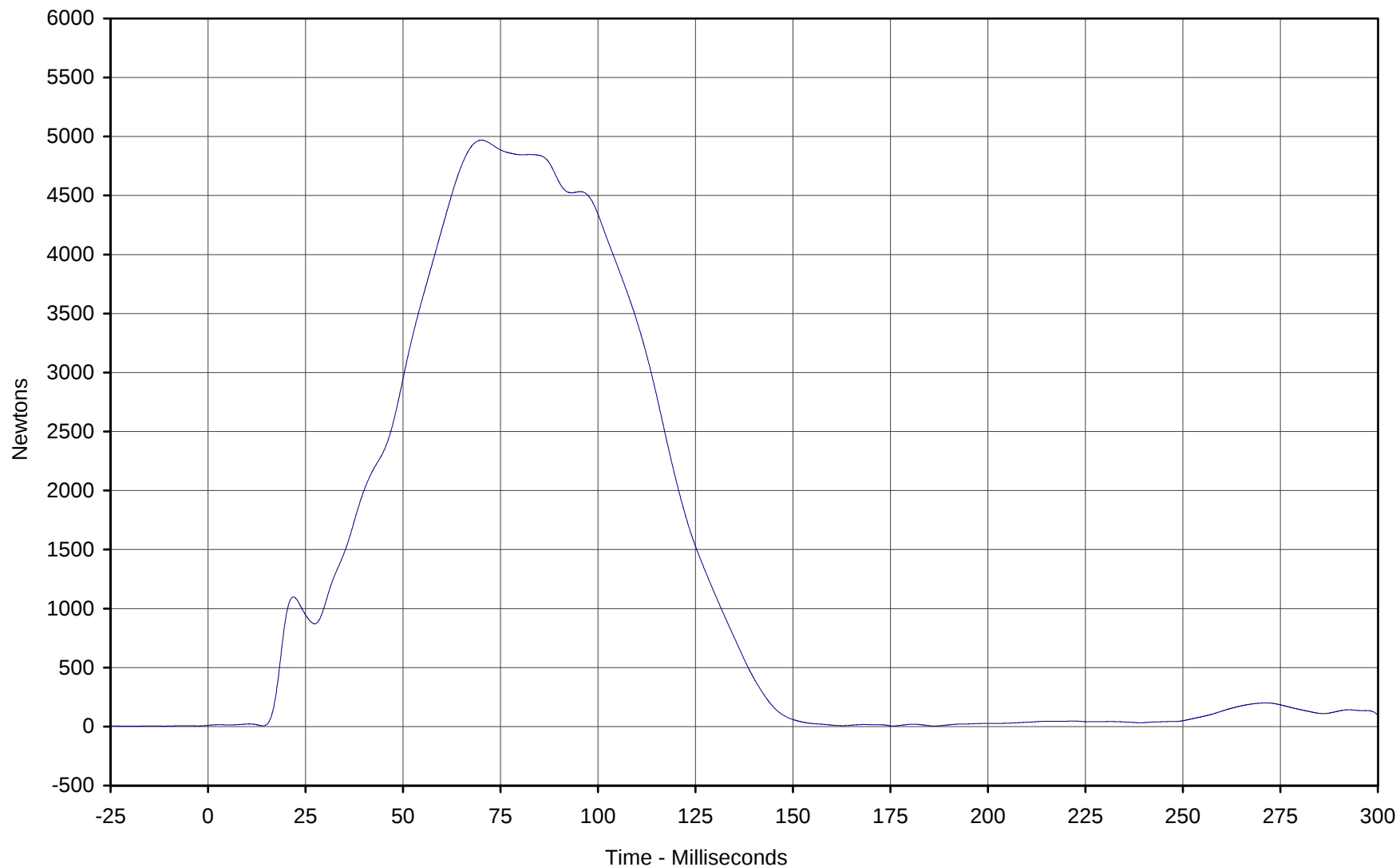




Curve Description: Driver Lap Belt Force
Maximum Value: 5573.5 at 65.2 Milliseconds
Minimum Value: -2.6 at 8.9 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-041

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



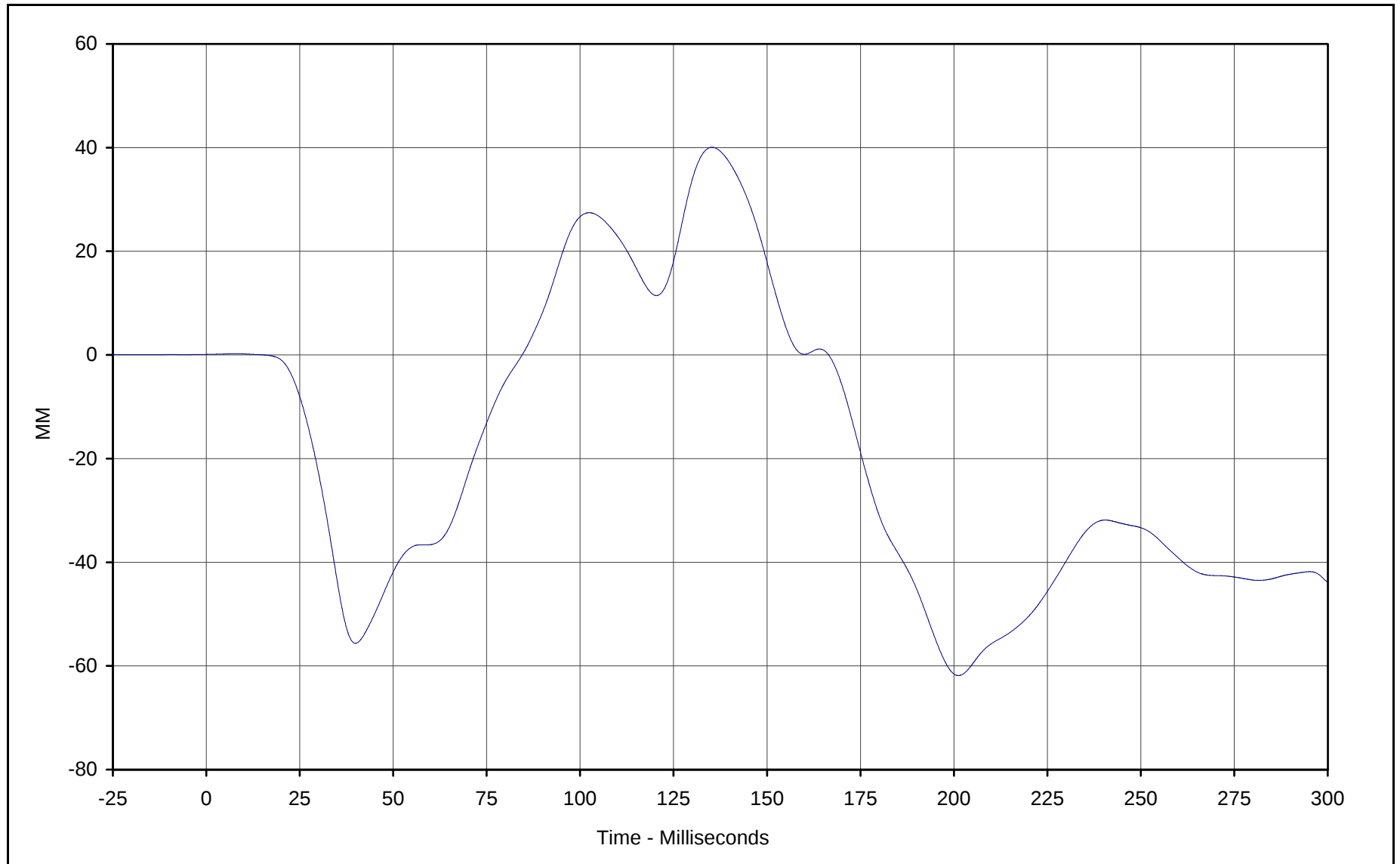


Curve Description: Driver Shoulder Belt Force
Maximum Value: 4969.3 at 70.1 Milliseconds
Minimum Value: 4.6 at 175.7 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-042

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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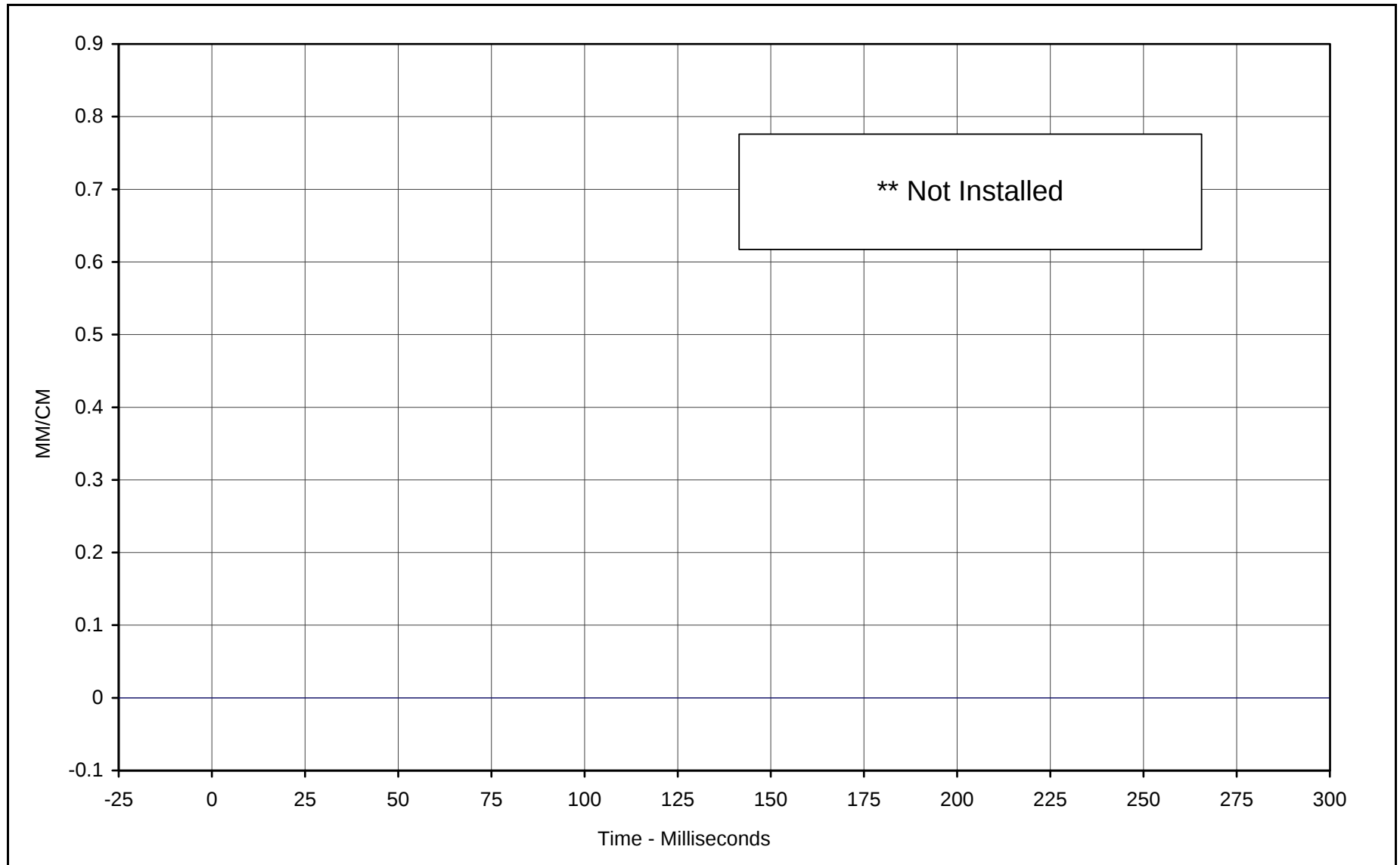


Curve Description: Driver Shoulder Belt Pullout
Maximum Value: 40.1 at 135.3 Milliseconds
Minimum Value: -61.9 at 201.2 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-043

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 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: 01/23/01

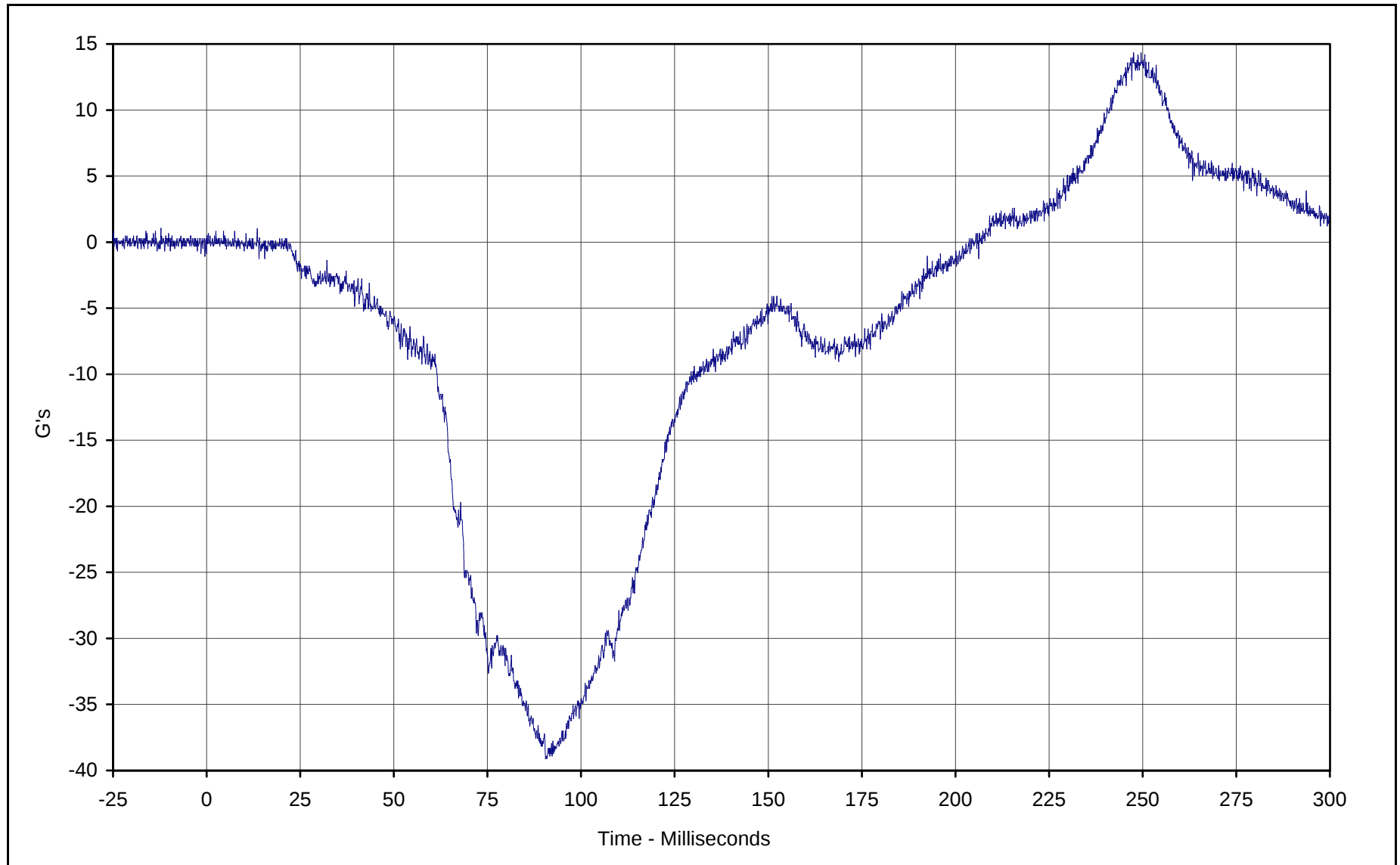
Curve Number: FIL-044

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

** Not installed



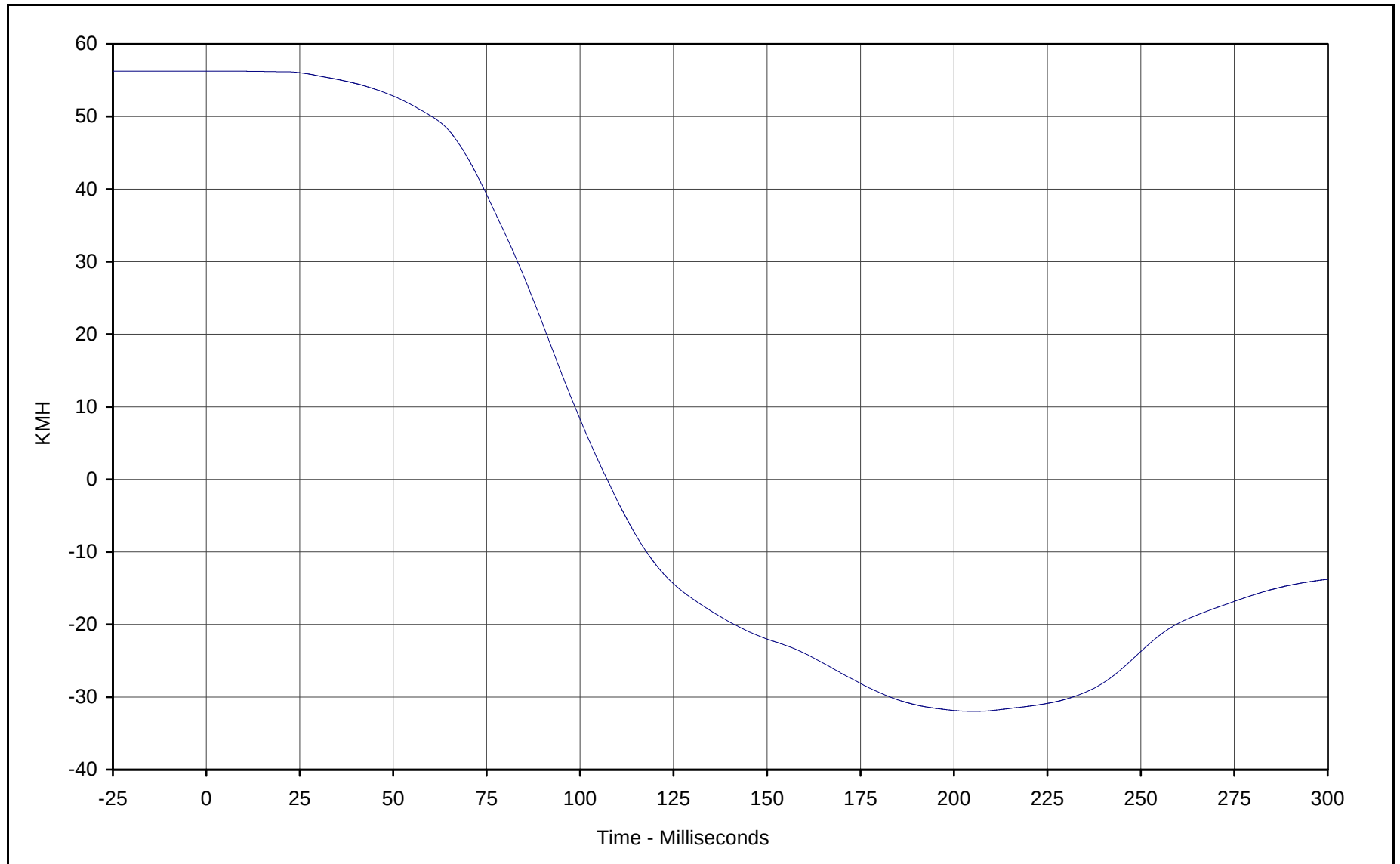


Curve Description: Passenger Head Primary X
Maximum Value: 14.3 at 247.6 Milliseconds
Minimum Value: -39.1 at 90.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-045

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Head Primary X Velocity

Maximum Value: 56.3 at 5.1 Milliseconds

Minimum Value: -32.0 at 205.0 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

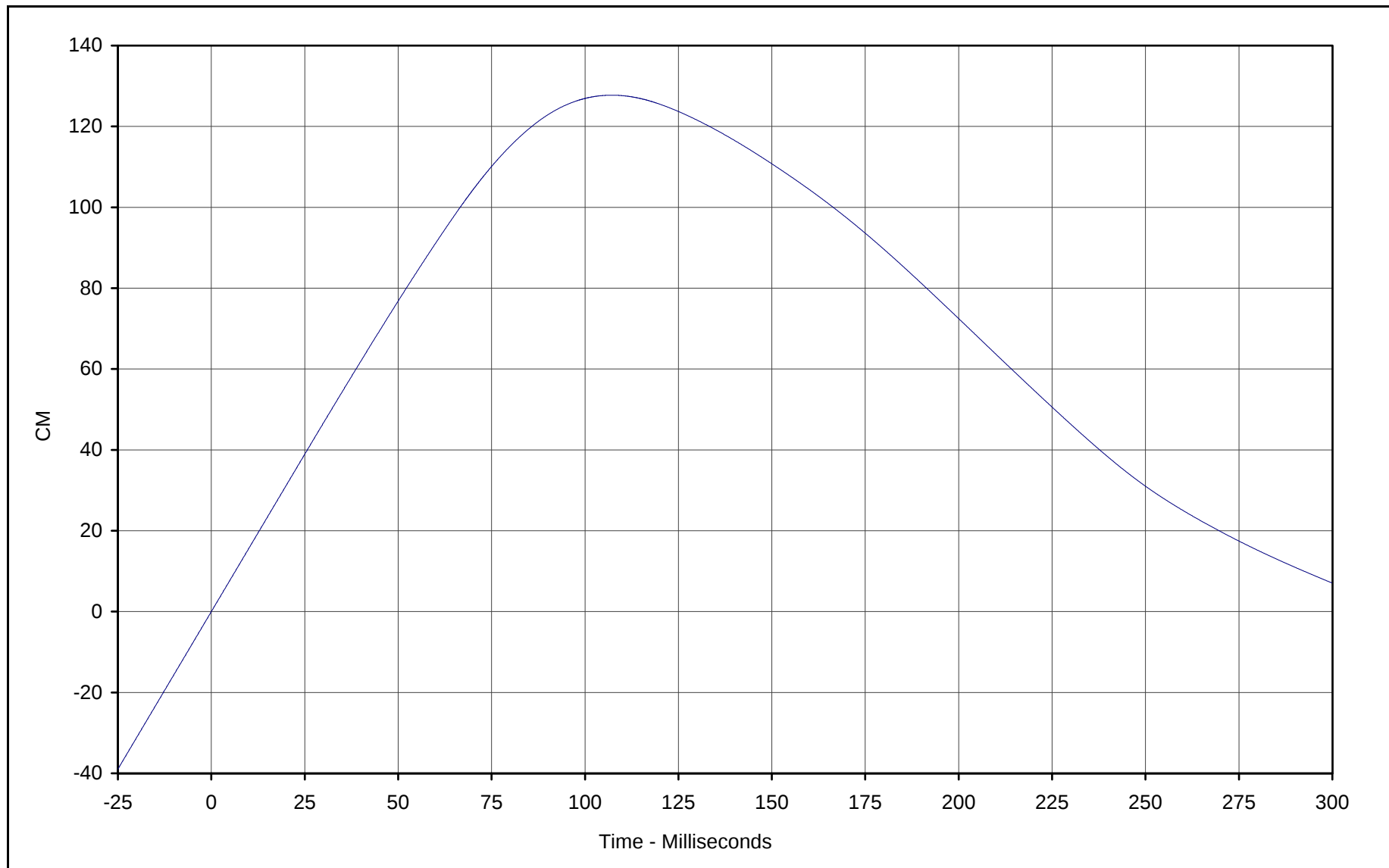
Curve Number: IN1-045

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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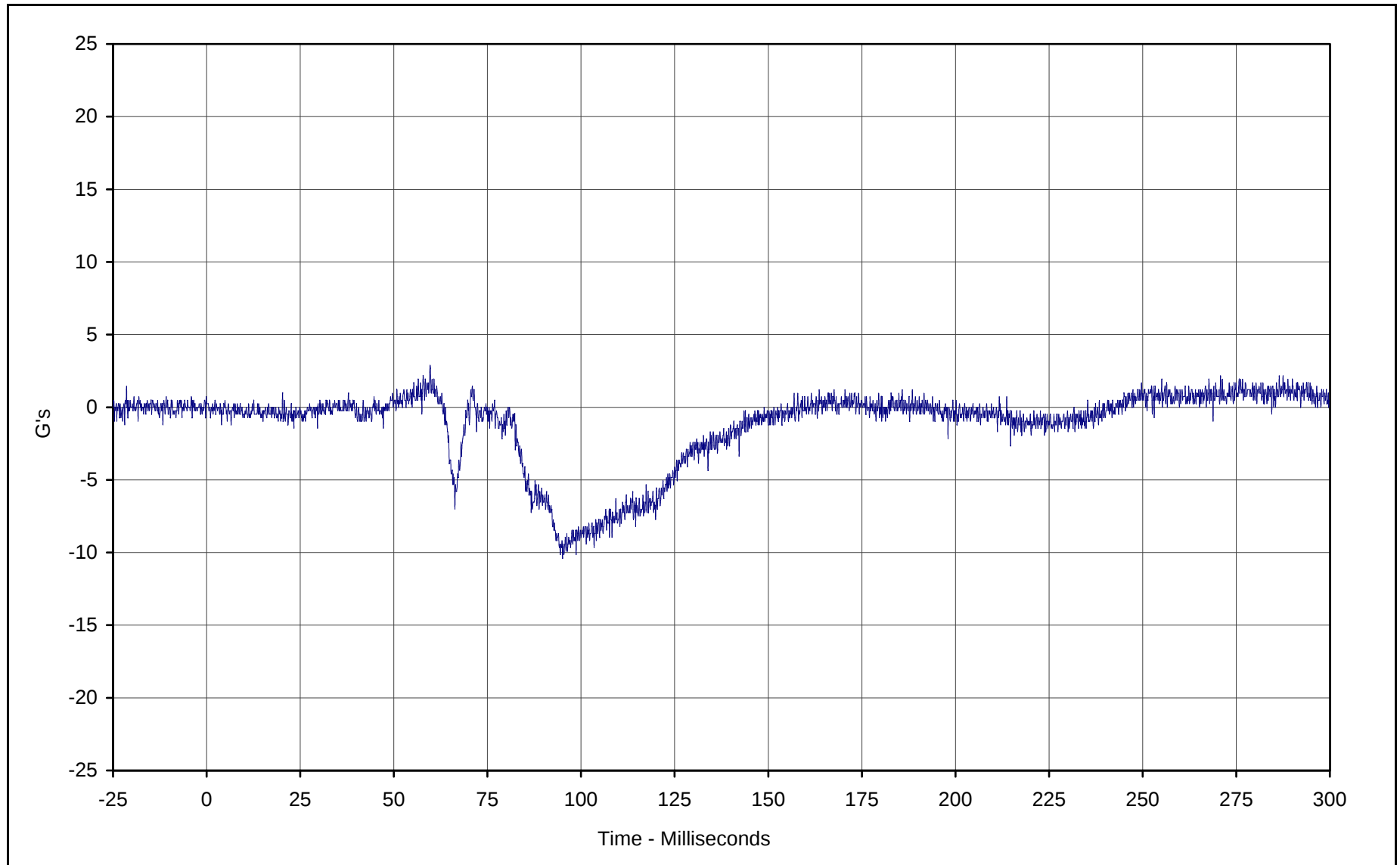


Curve Description: Passenger Head Primary X Displ.
Maximum Value: 127.7 at 107.2 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-045

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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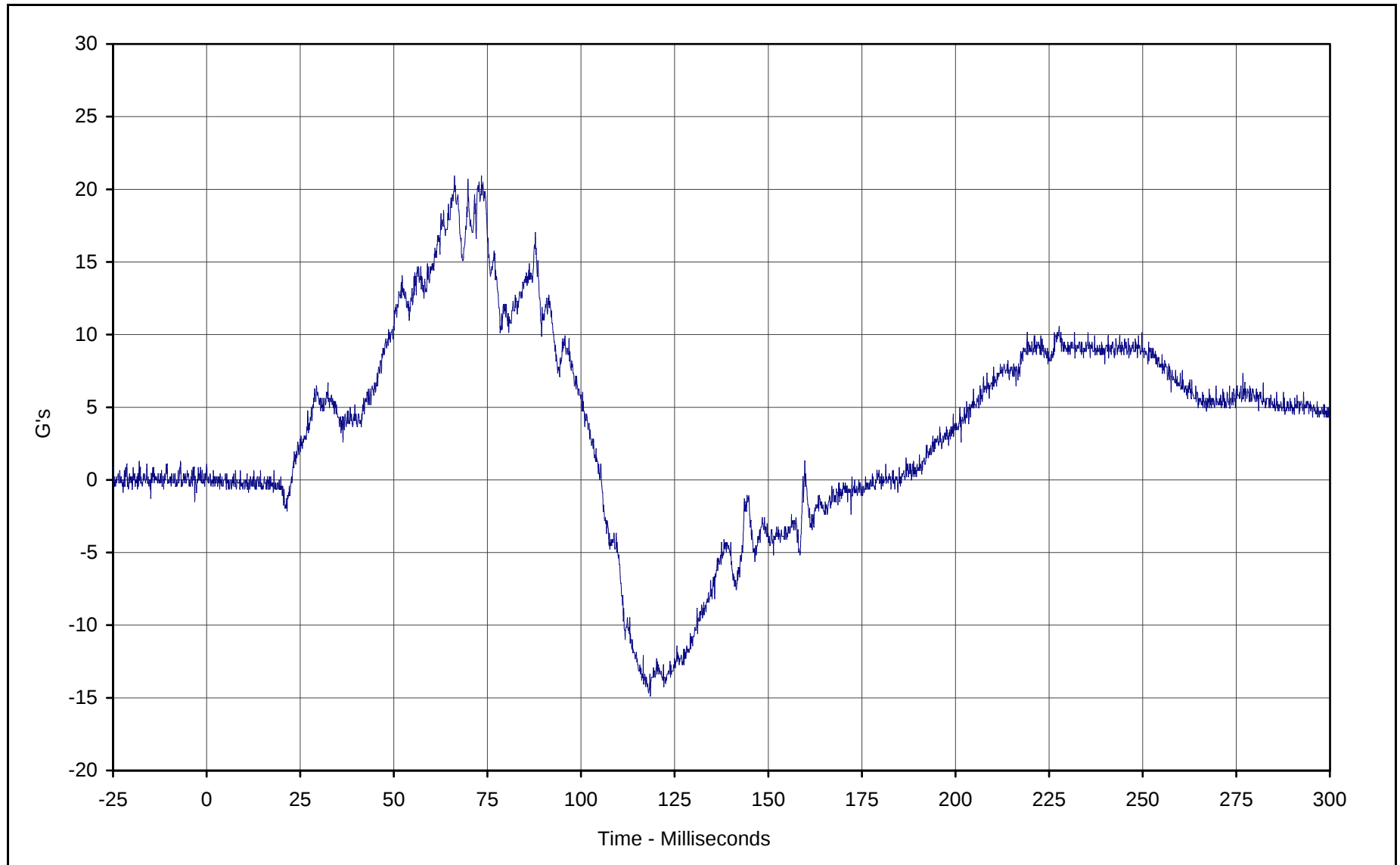


Curve Description: Passenger Head Primary Y
Maximum Value: 2.9 at 59.7 Milliseconds
Minimum Value: -10.4 at 95.1 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-046

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



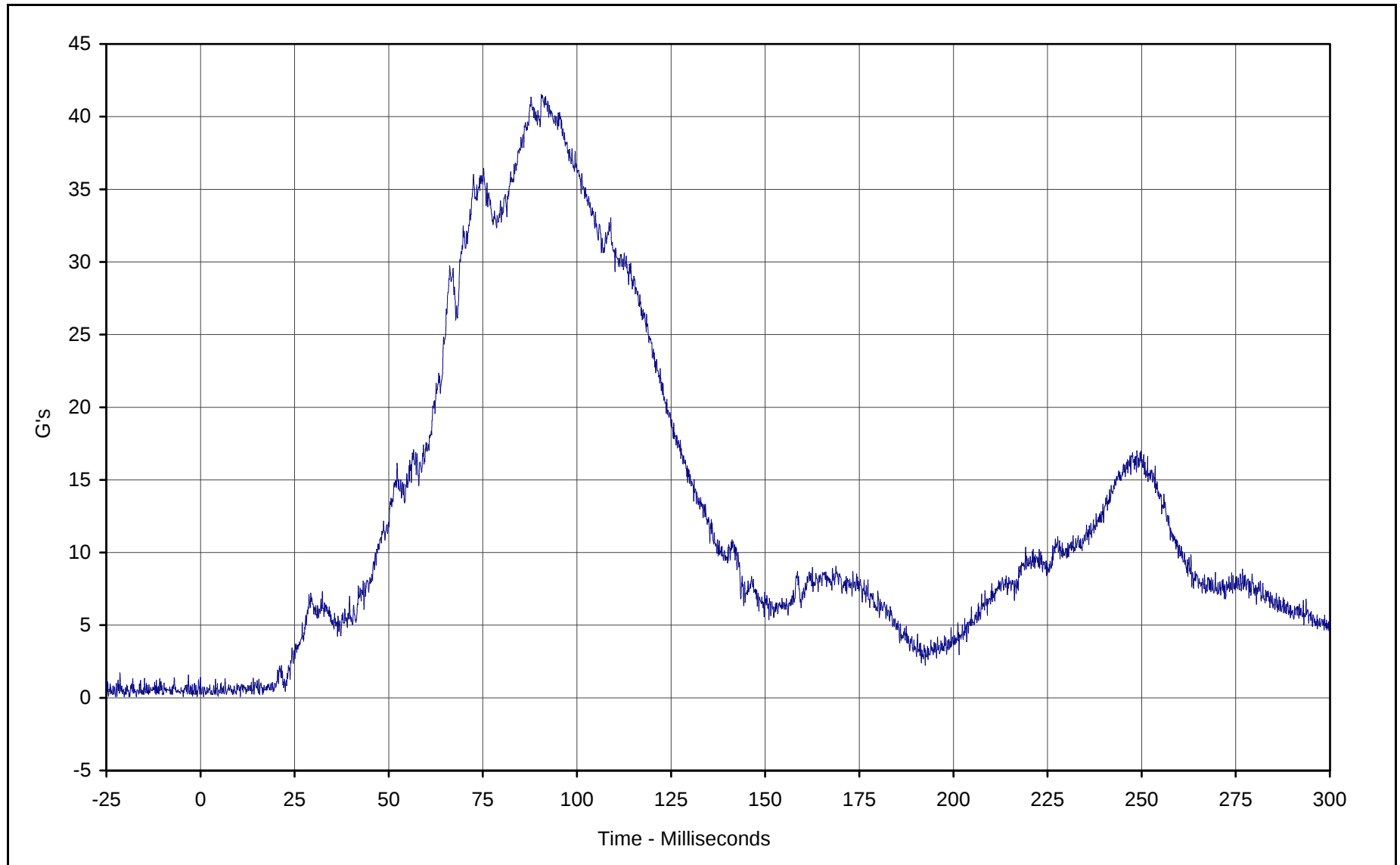
KAR21001-07



Curve Description: Passenger Head Primary Z
Maximum Value: 20.9 at 66.2 Milliseconds
Minimum Value: -14.9 at 118.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-047

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

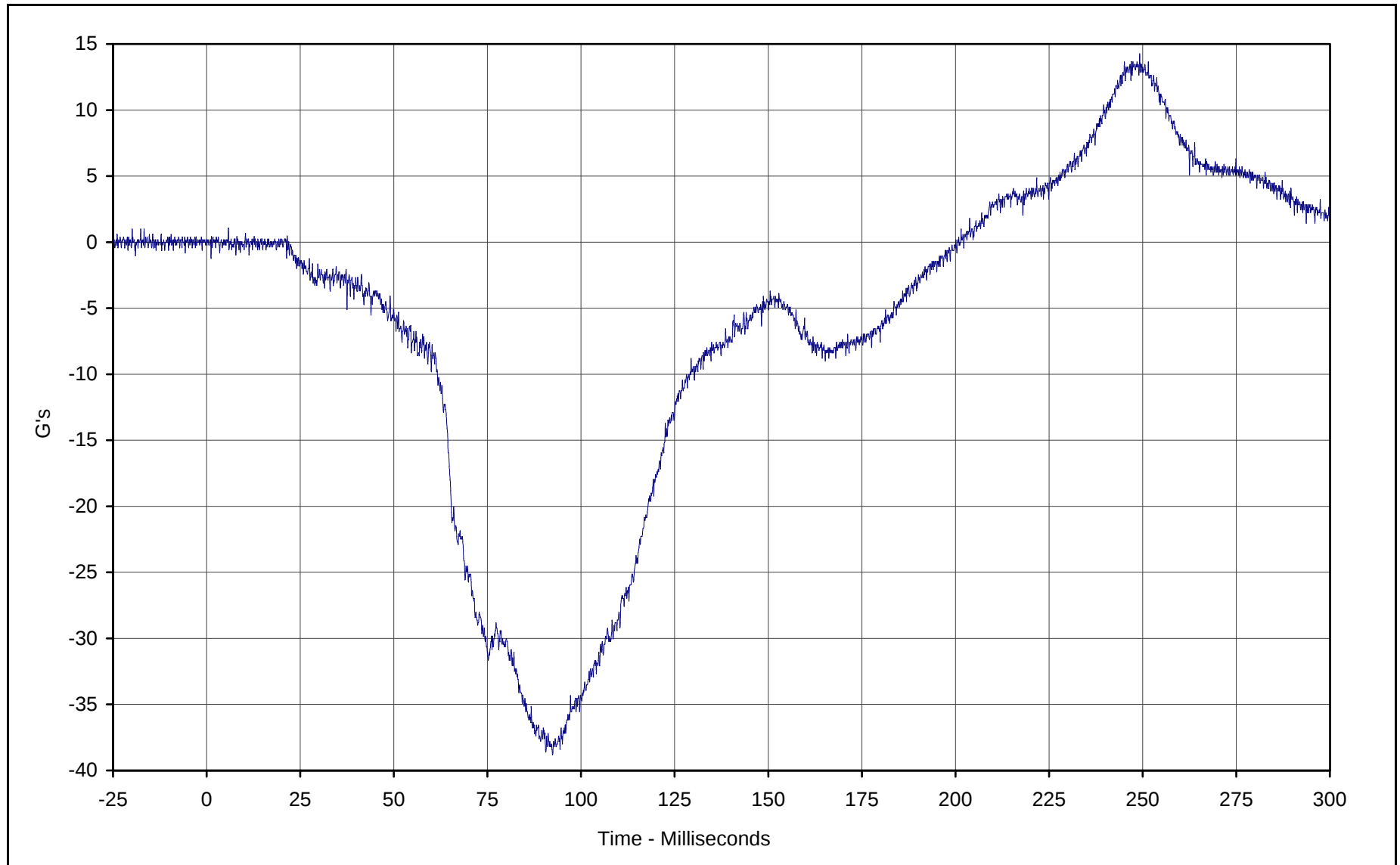




Curve Description: Passenger Head Resultant Primary
Maximum Value: 41.5 at 90.5 Milliseconds
Minimum Value: 0.1 at 0.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: RES-045

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

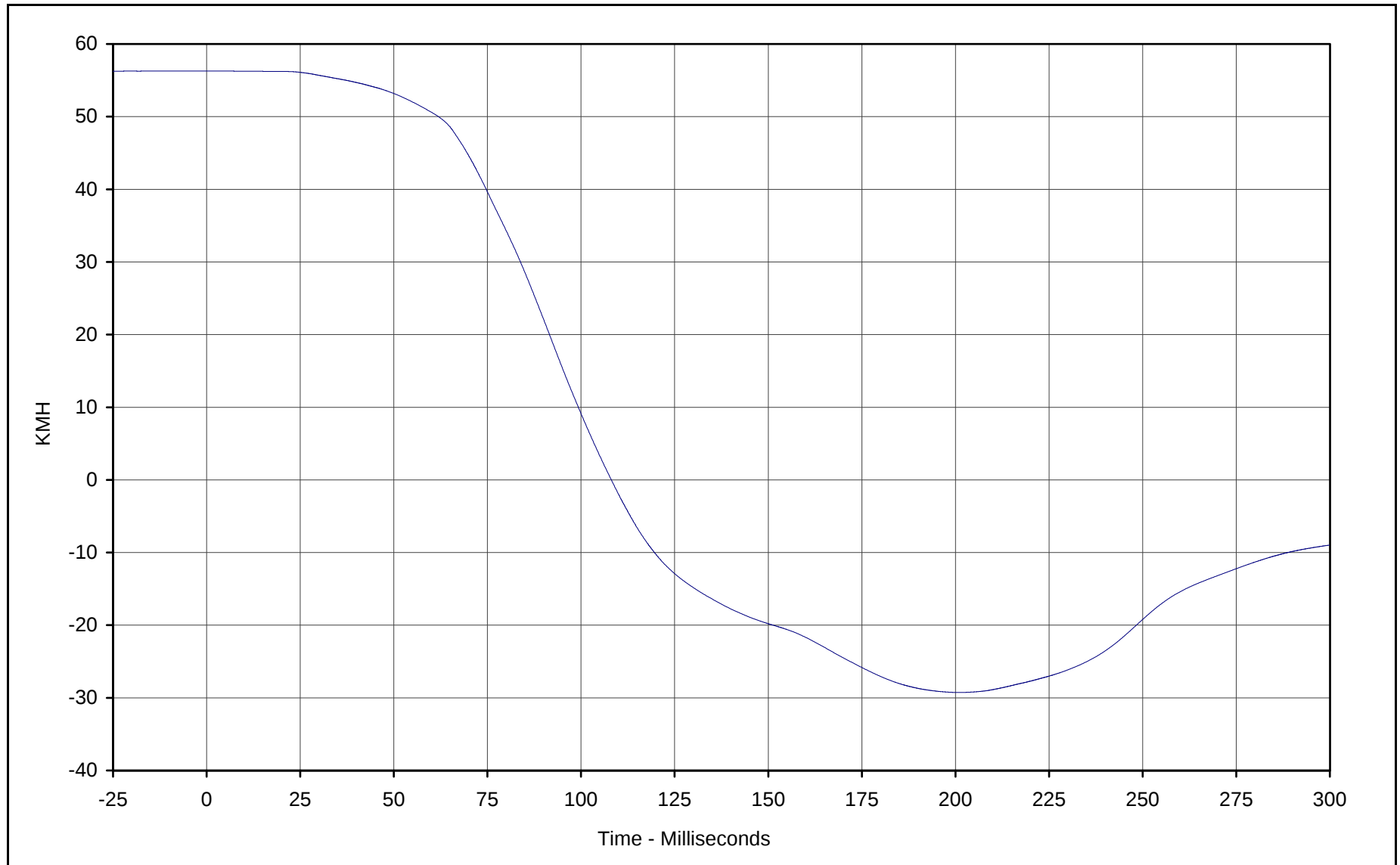




Curve Description: Passenger Head Redundant X
Maximum Value: 14.3 at 249.2 Milliseconds
Minimum Value: -38.8 at 92.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-048

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan





Curve Description: Passenger Head Redundant X Velocity

Maximum Value: 56.3 at 0.0 Milliseconds

Minimum Value: -29.3 at 200.9 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

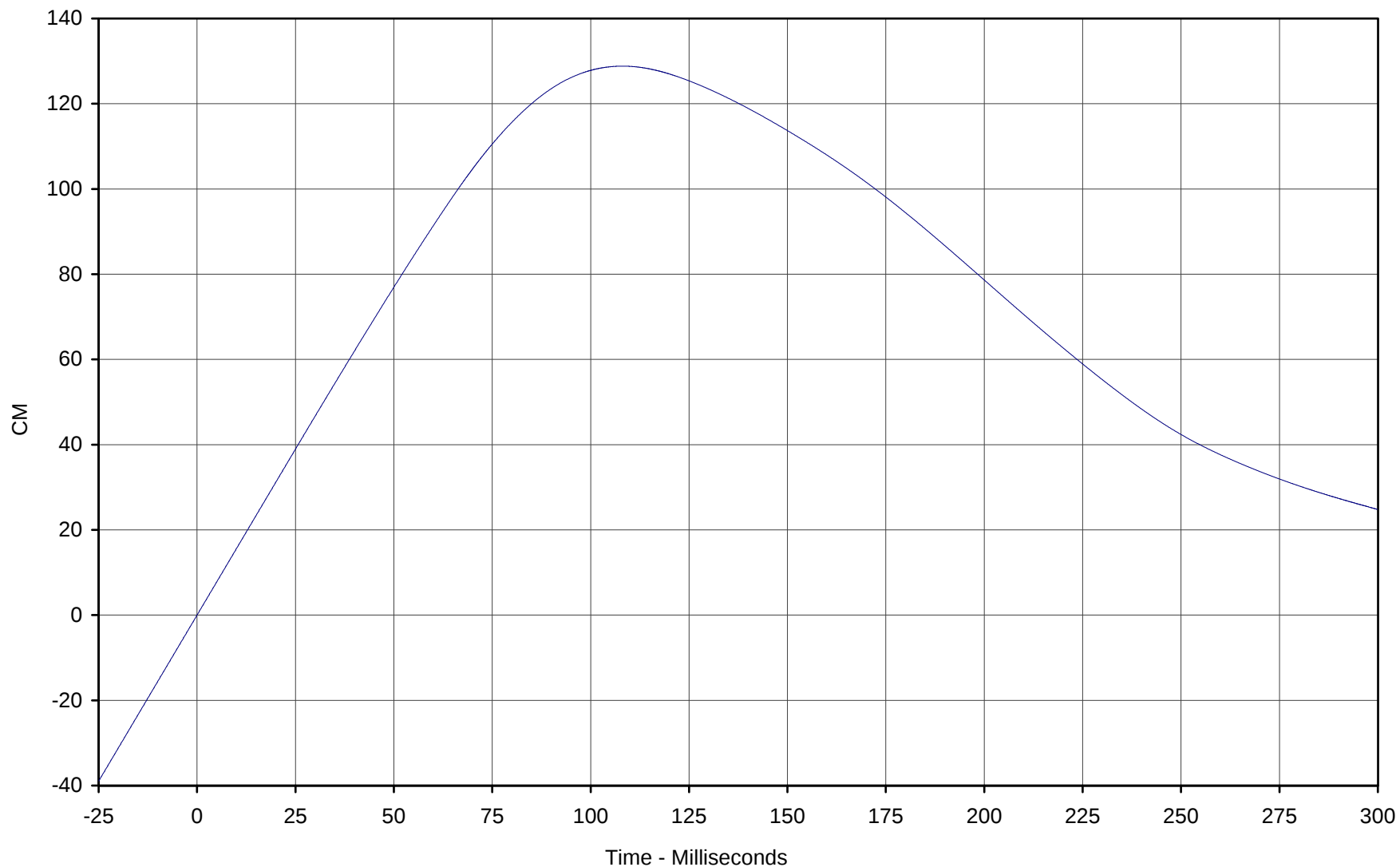
Curve Number: IN1-048

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Head Redundant X Displ.

Maximum Value: 128.8 at 108.1 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

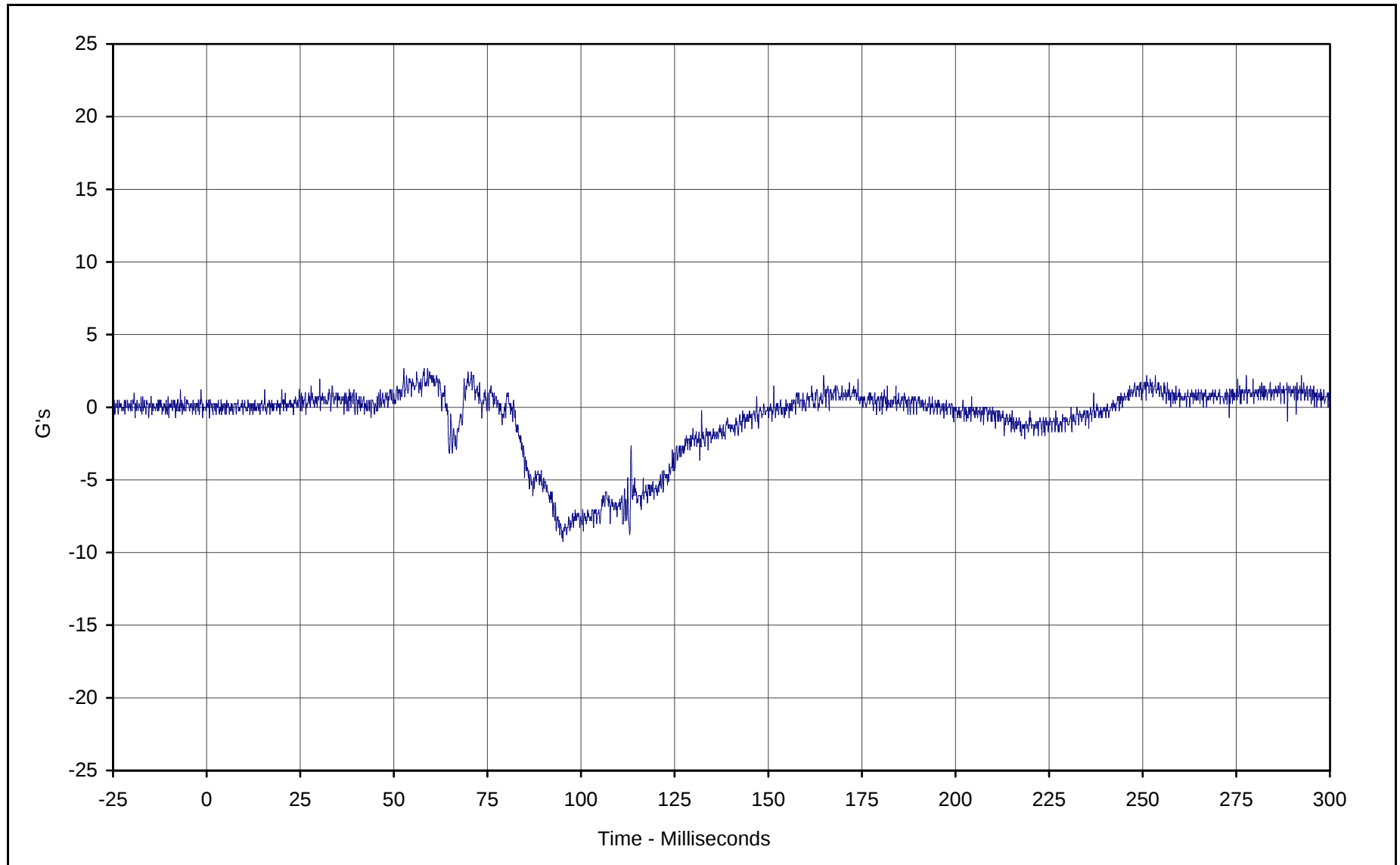
Curve Number: IN2-048

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

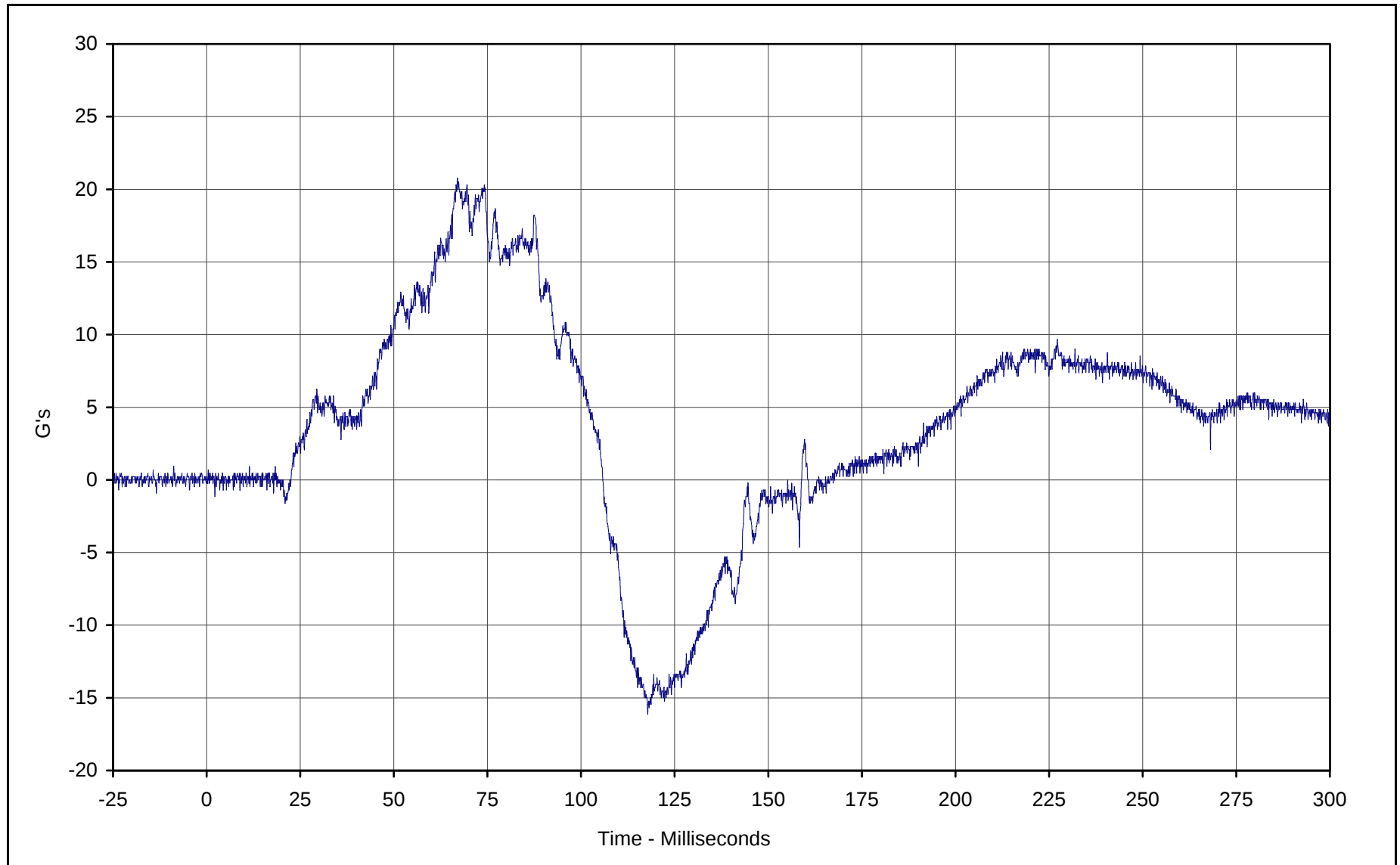


Curve Description: Passenger Head Redundant Y
Maximum Value: 2.7 at 52.7 Milliseconds
Minimum Value: -9.2 at 95.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-049

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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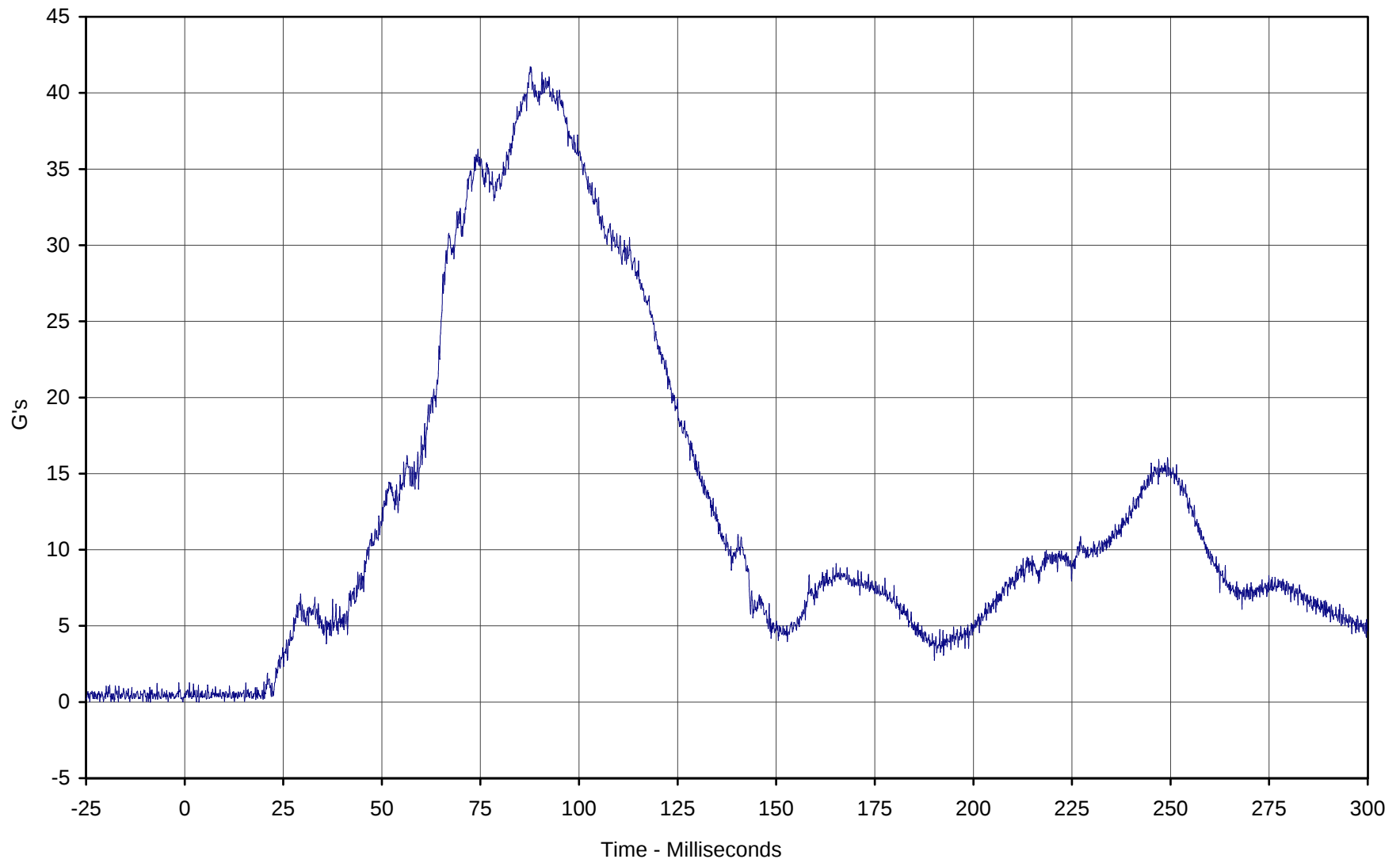
Curve Description: Passenger Head Redundant Z
Maximum Value: 20.8 at 67.0 Milliseconds
Minimum Value: -16.1 at 117.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-050

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Head Resultant Redundant

Maximum Value: 41.7 at 87.6 Milliseconds

Minimum Value: 0.0 at 3.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 01/23/01

Curve Number: RES-048

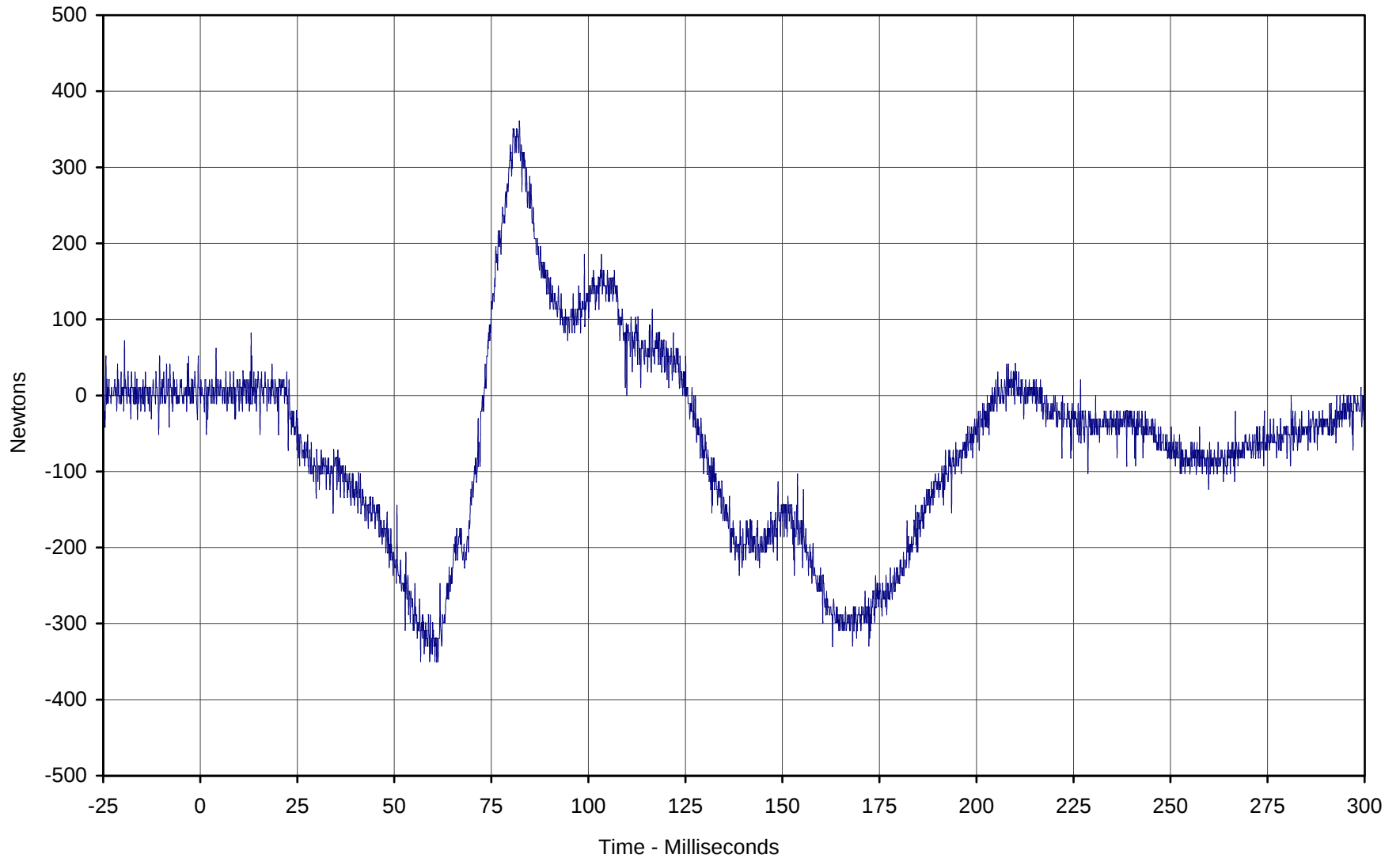
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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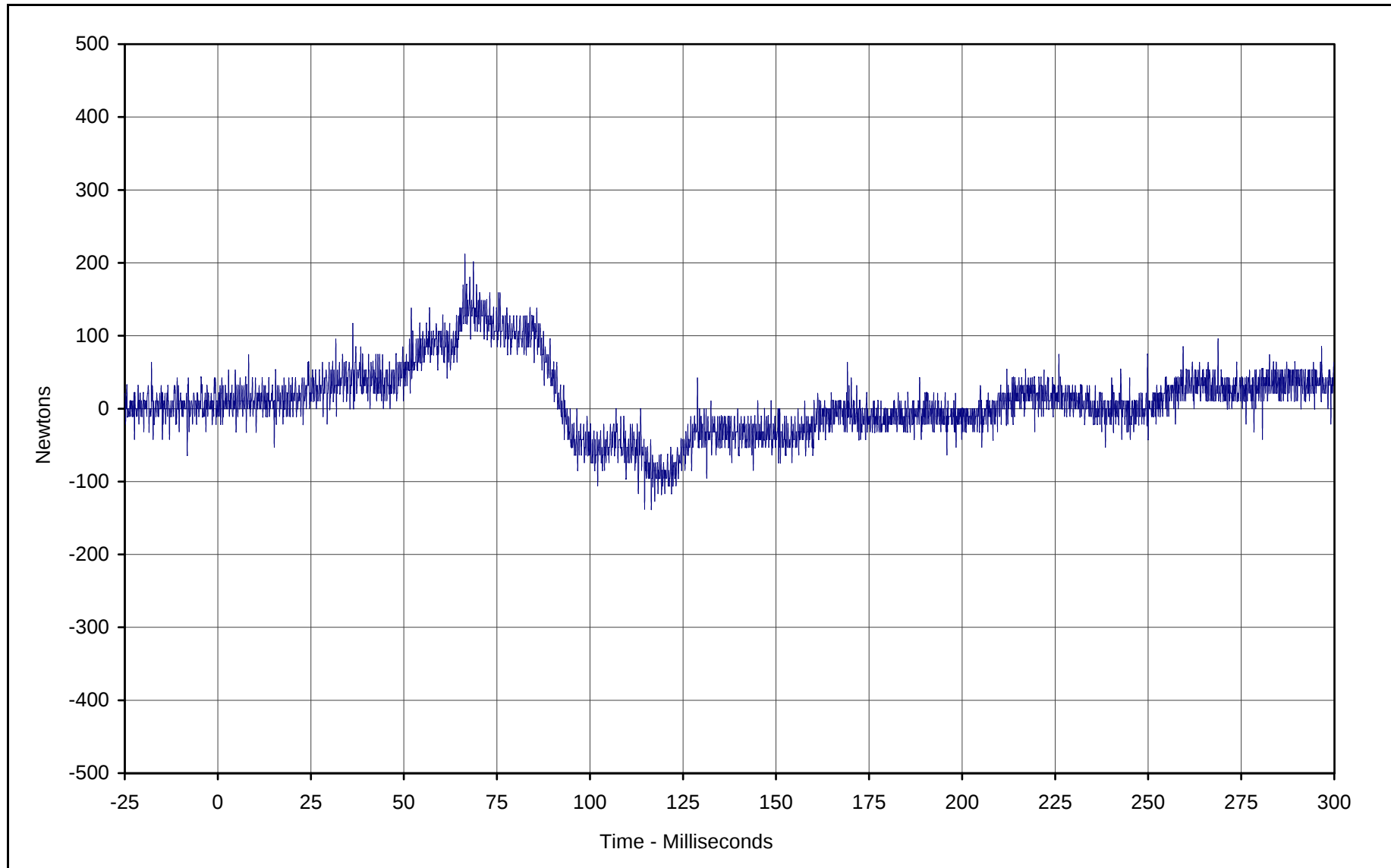
Curve Description: Passenger Neck Force X
Maximum Value: 360.5 at 82.2 Milliseconds
Minimum Value: -350.2 at 56.8 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-051

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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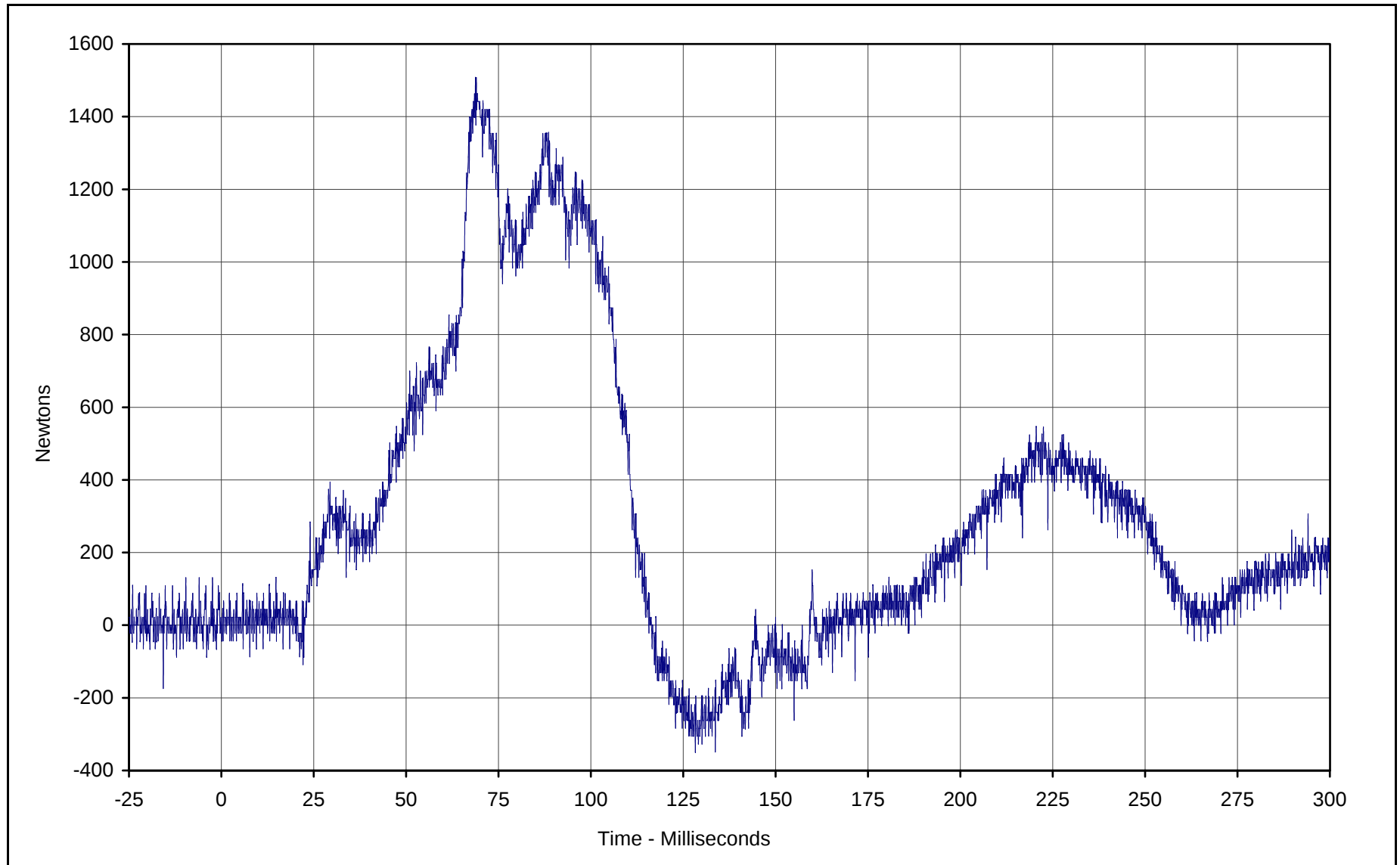


Curve Description: Passenger Neck Force Y
Maximum Value: 212.3 at 66.4 Milliseconds
Minimum Value: -138.0 at 114.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-052

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



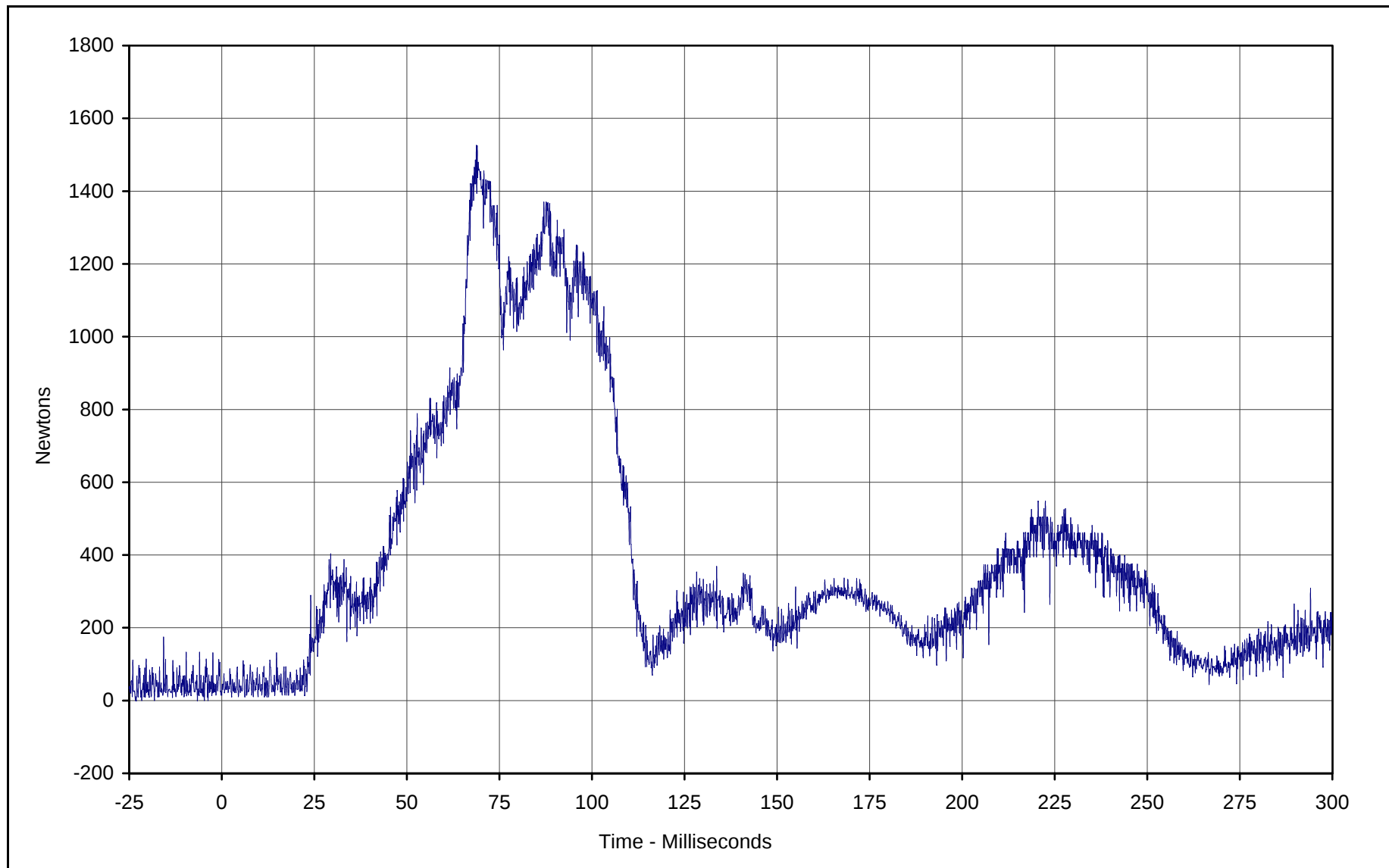
KAR21001-07



Curve Description: Passenger Neck Force Z
Maximum Value: 1507.2 at 68.8 Milliseconds
Minimum Value: -349.5 at 128.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-053

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

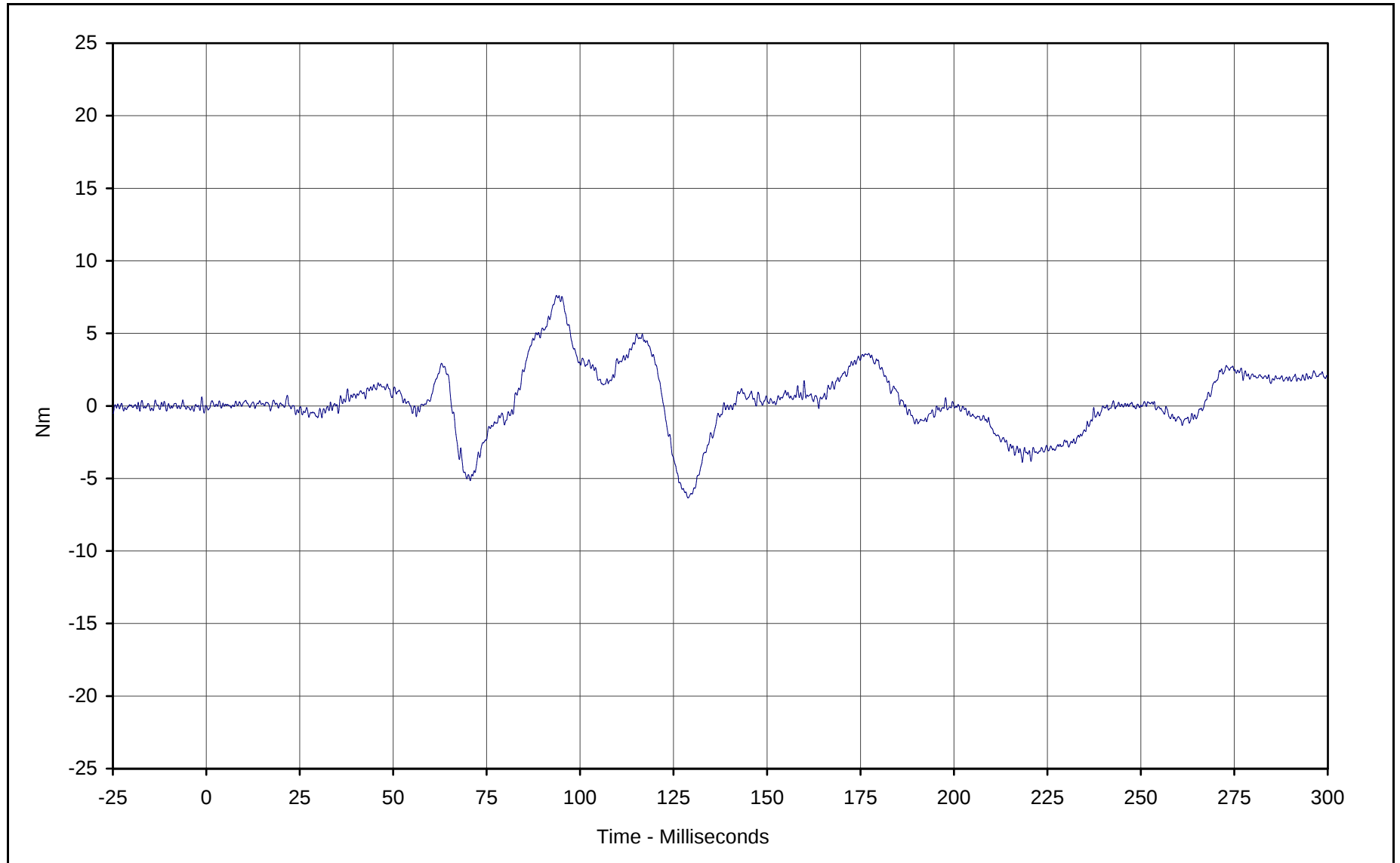




Curve Description: Passenger Neck Force Resultant
Maximum Value: 1524.8 at 69.0 Milliseconds
Minimum Value: 10.3 at 4.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: RES-051

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

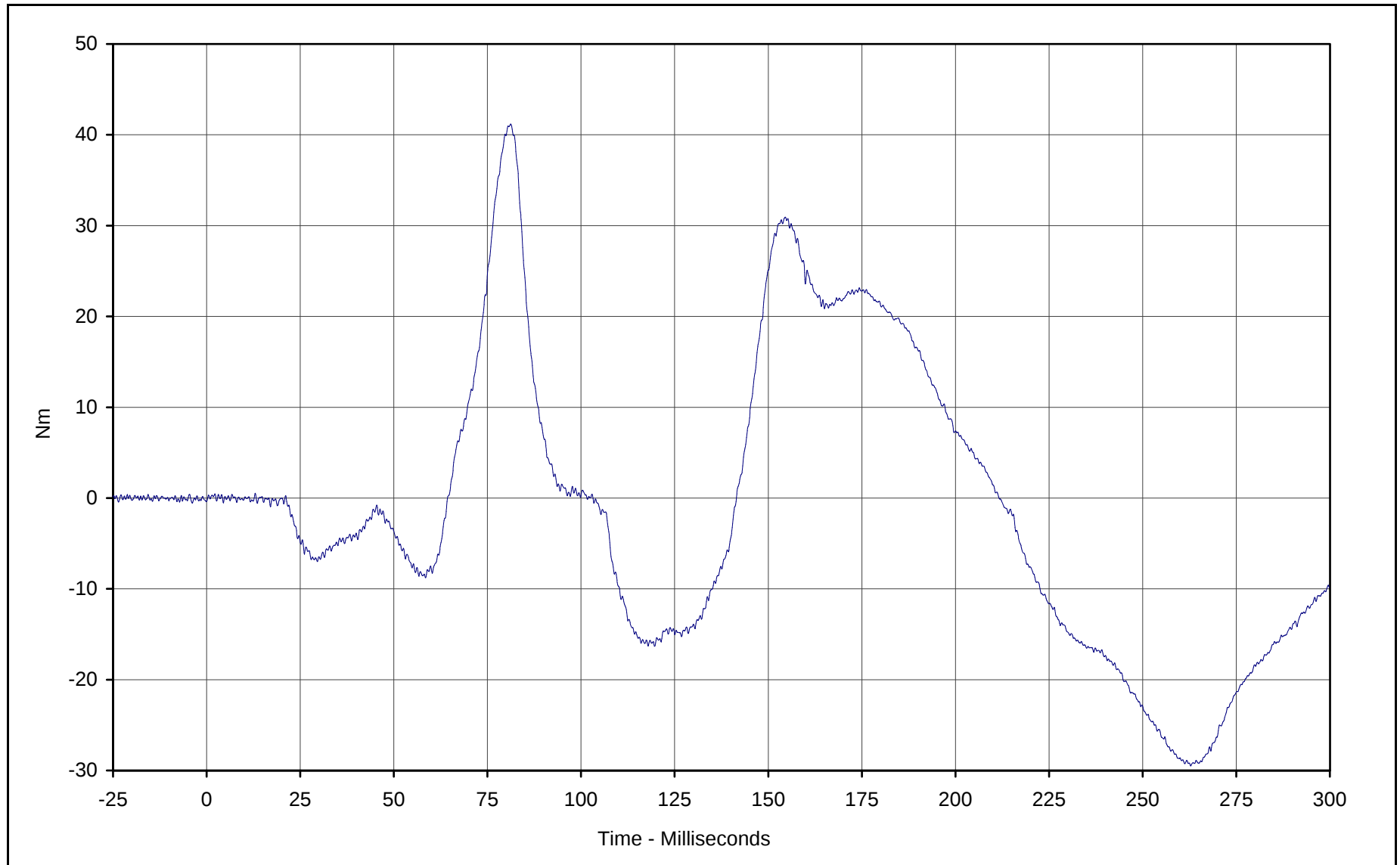




Curve Description: Passenger Neck Moment X
Maximum Value: 7.6 at 93.7 Milliseconds
Minimum Value: -6.3 at 128.9 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-054

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



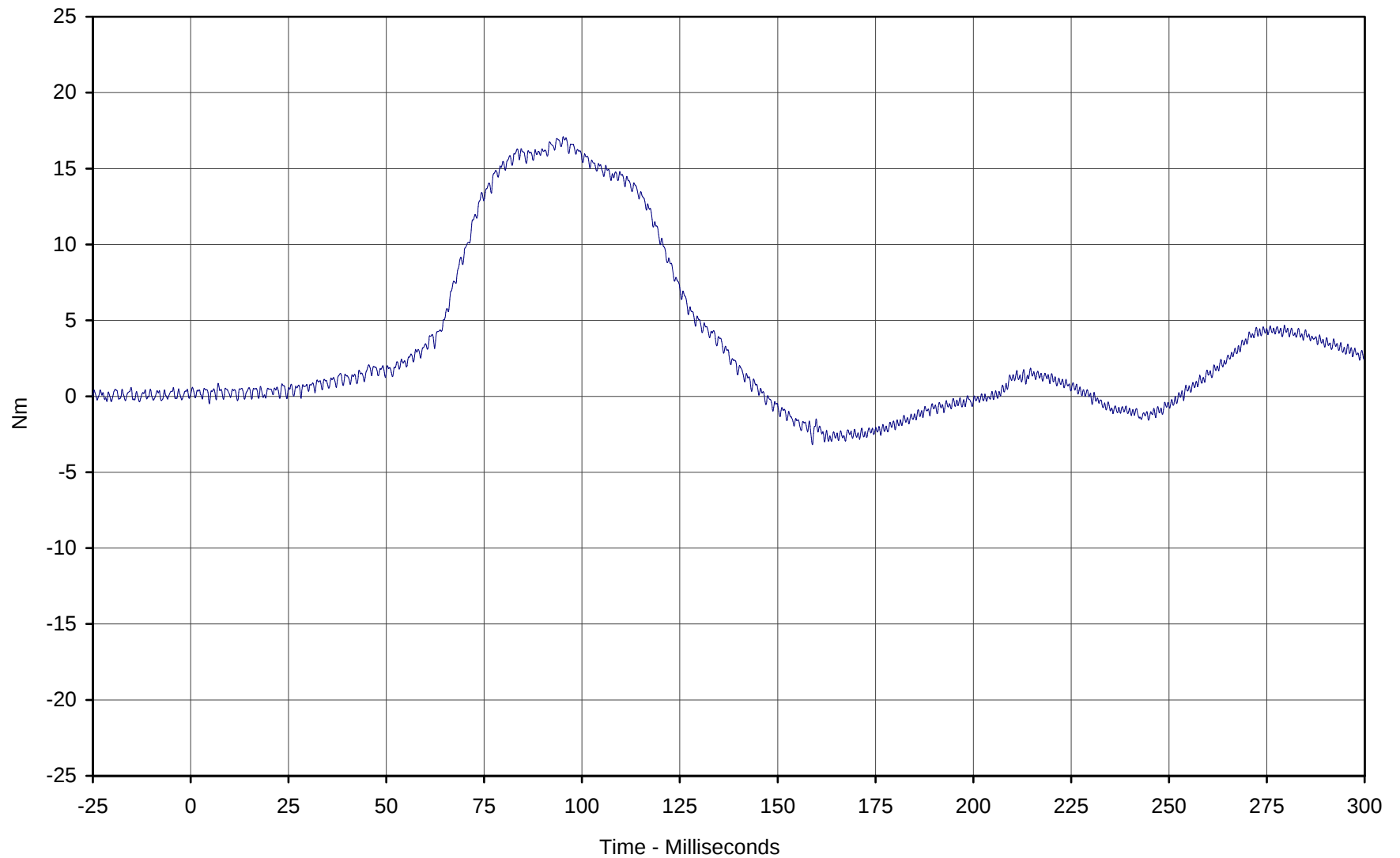


Curve Description: Passenger Neck Moment Y
Maximum Value: 41.2 at 81.2 Milliseconds
Minimum Value: -29.5 at 262.8 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-055

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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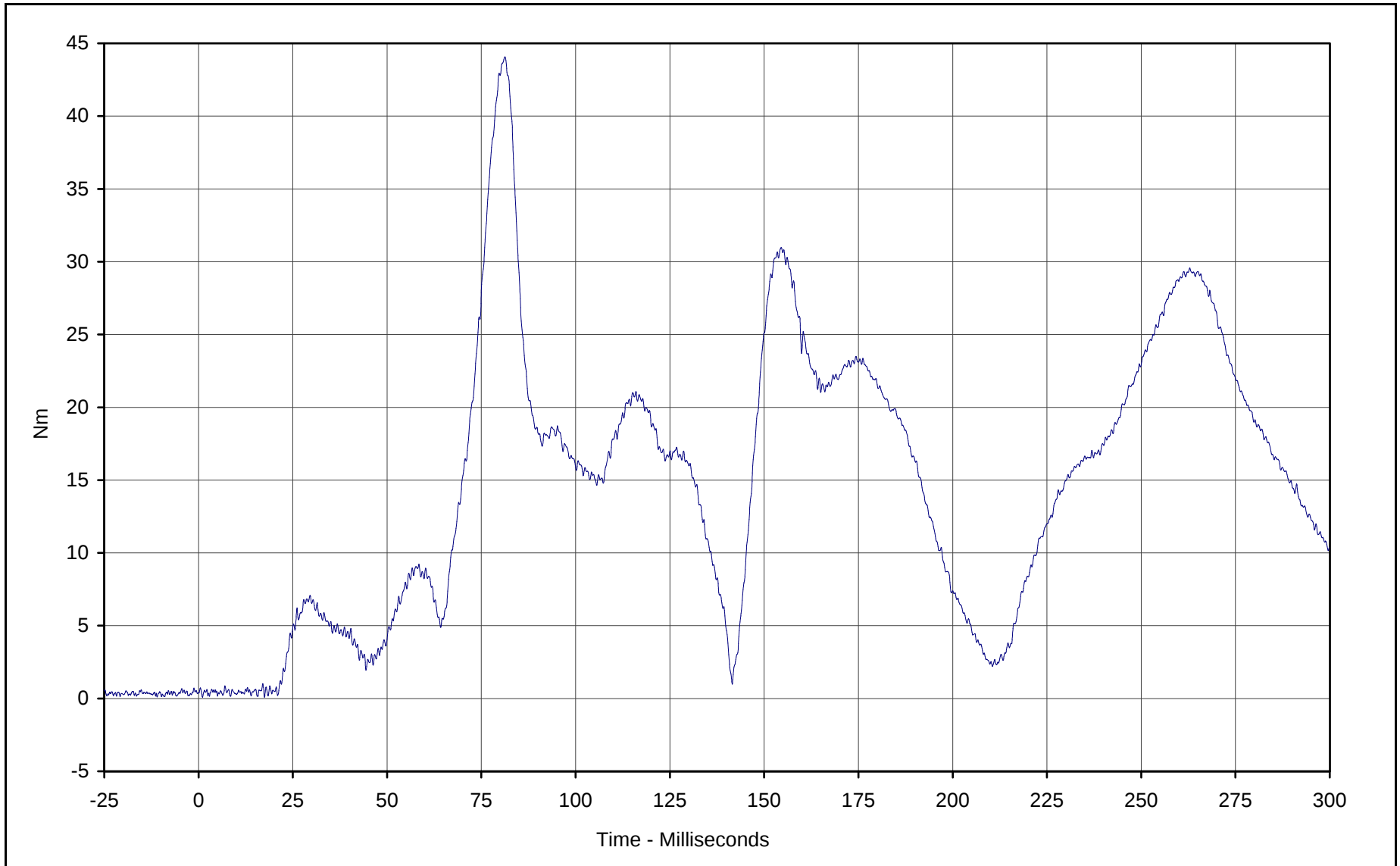


Curve Description: Passenger Neck Moment Z
Maximum Value: 17.1 at 95.2 Milliseconds
Minimum Value: -3.2 at 158.9 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-056

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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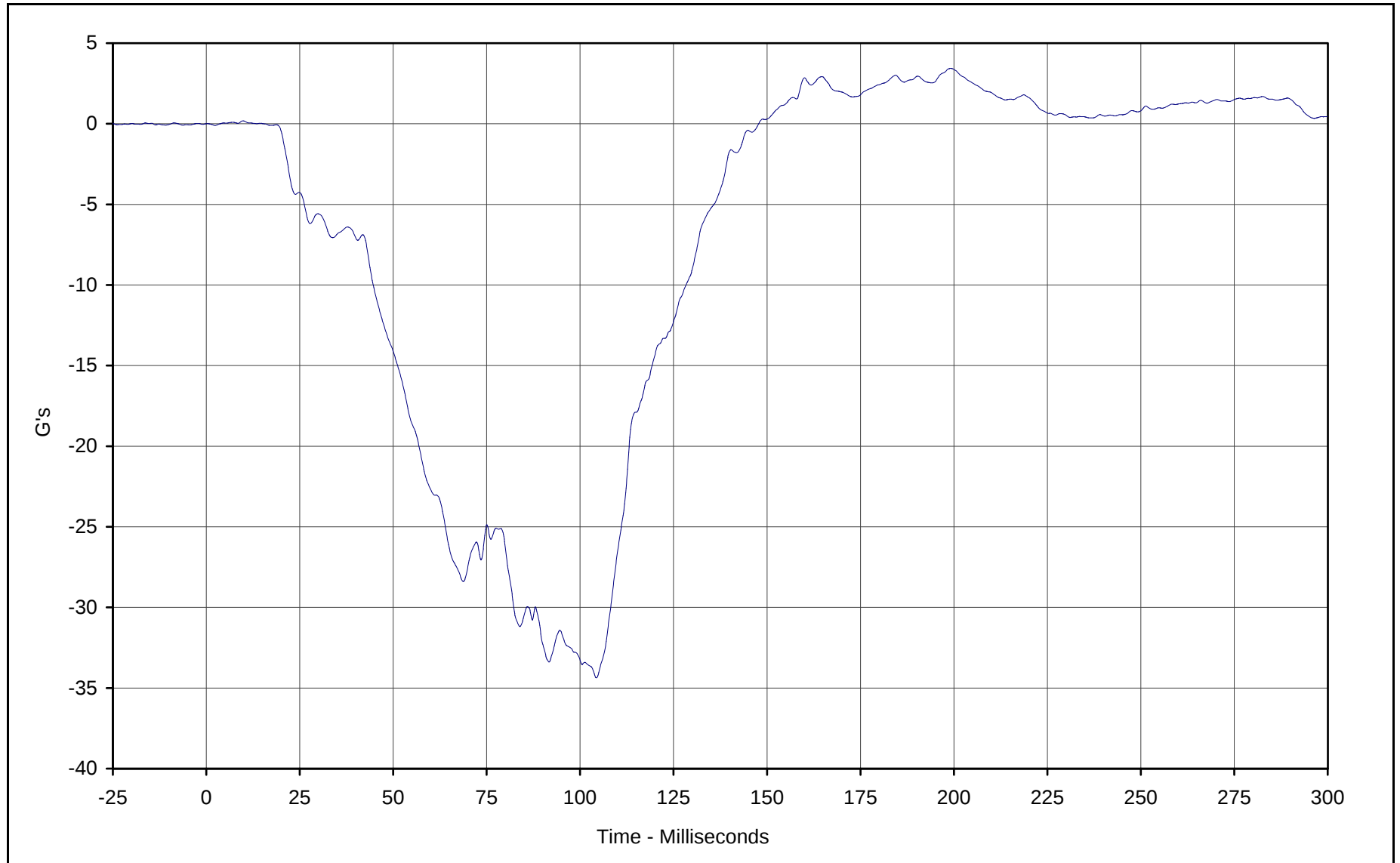
Curve Description: Passenger Neck Moment Resultant
Maximum Value: 44.1 at 81.3 Milliseconds
Minimum Value: 0.1 at 17.5 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: RES-054

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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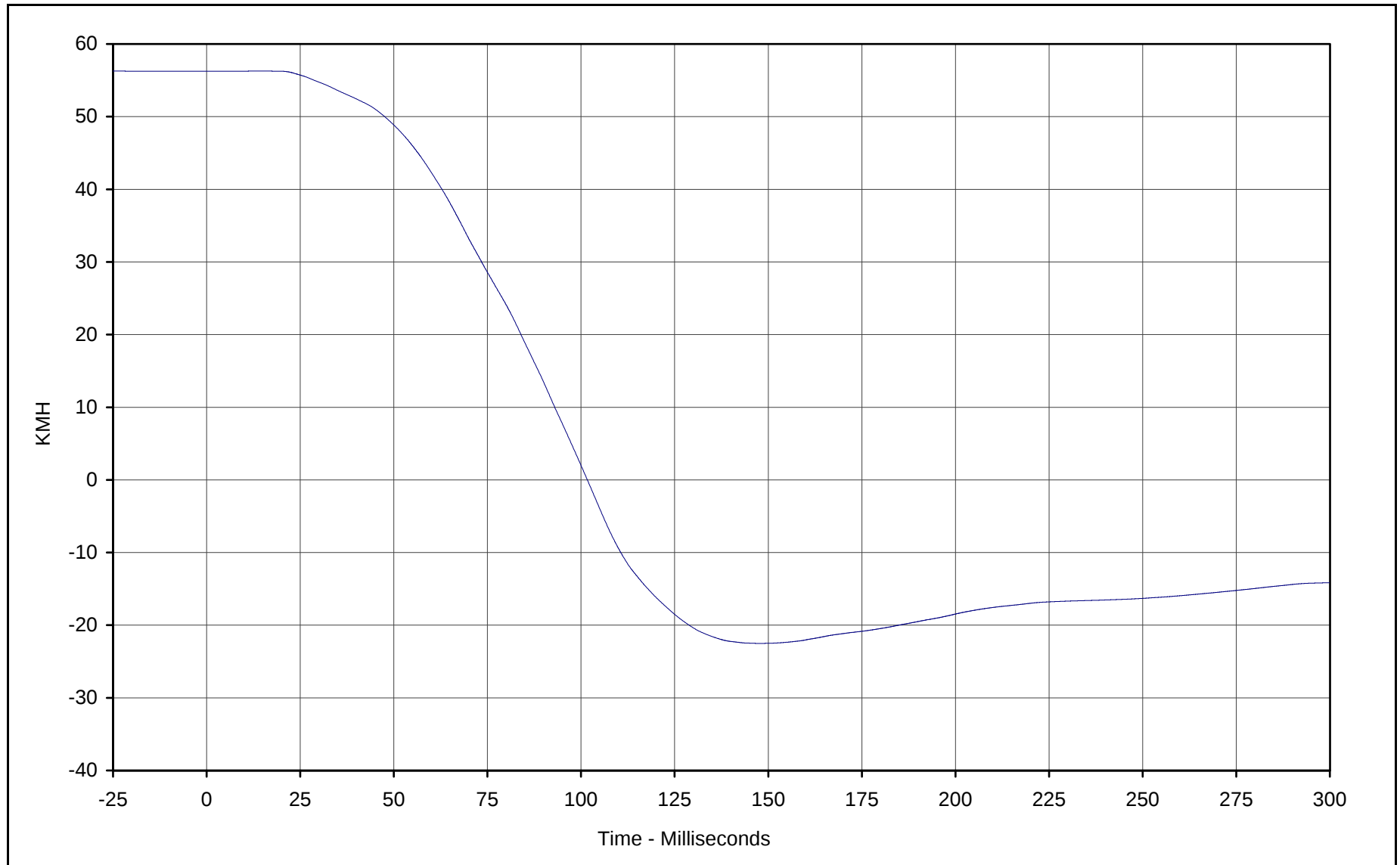
Curve Description: Passenger Chest Primary X
Maximum Value: 3.4 at 199.2 Milliseconds
Minimum Value: -34.4 at 104.3 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-057

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Chest Primary X Velocity

Maximum Value: 56.3 at 15.4 Milliseconds

Minimum Value: -22.5 at 147.8 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

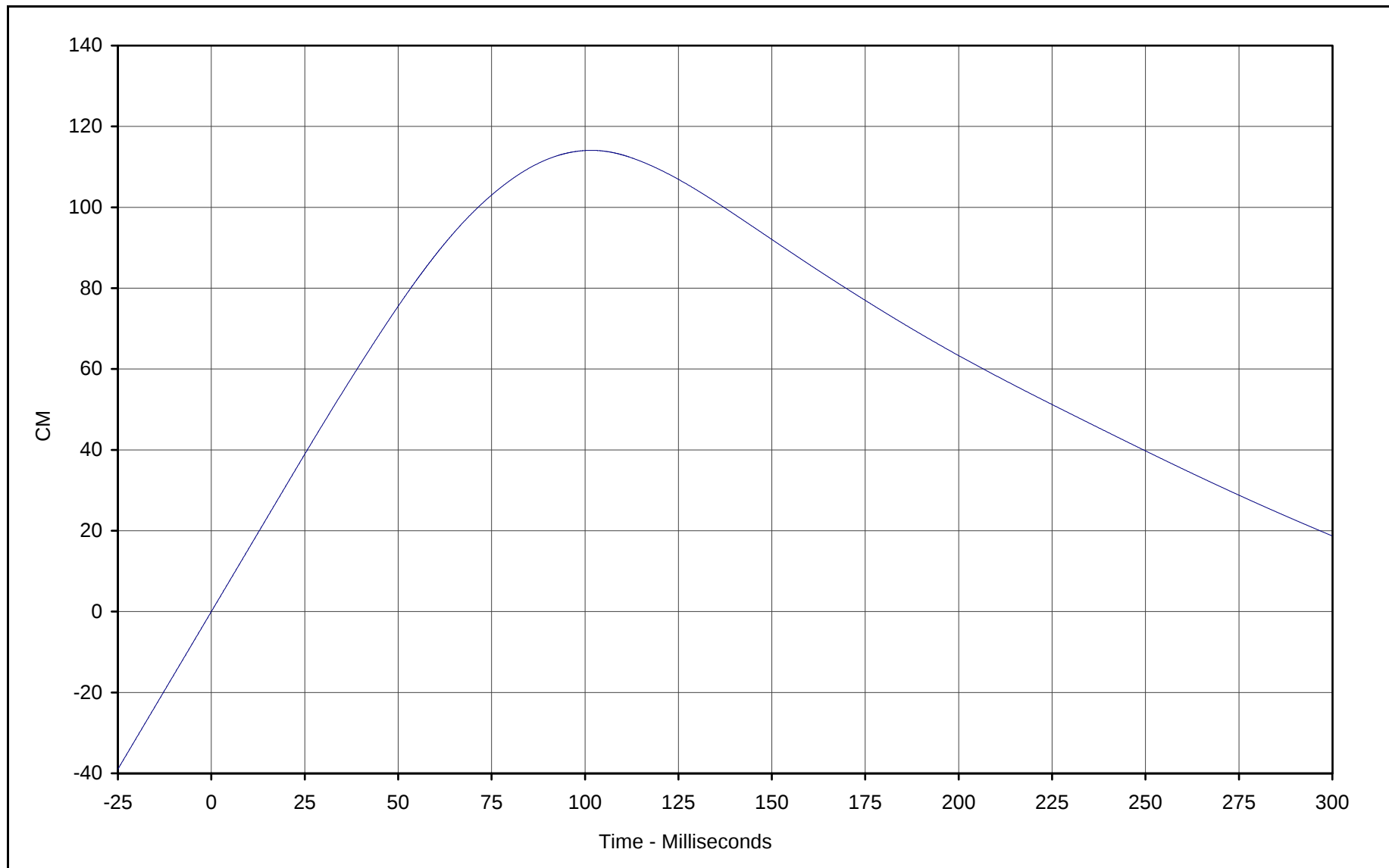
Curve Number: IN1-057

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

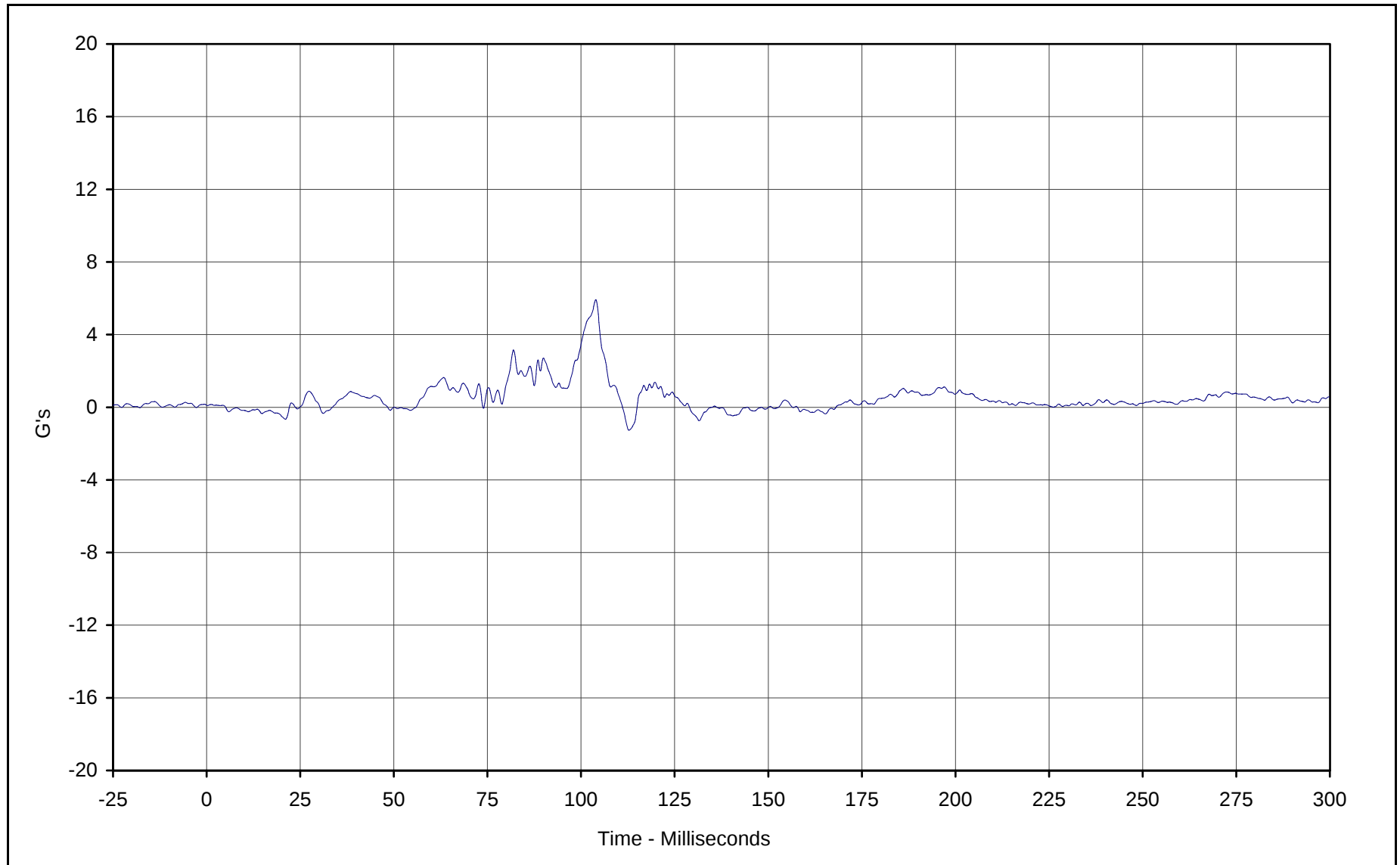


Curve Description: Passenger Chest Primary X Displ.
Maximum Value: 114.1 at 101.7 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-057

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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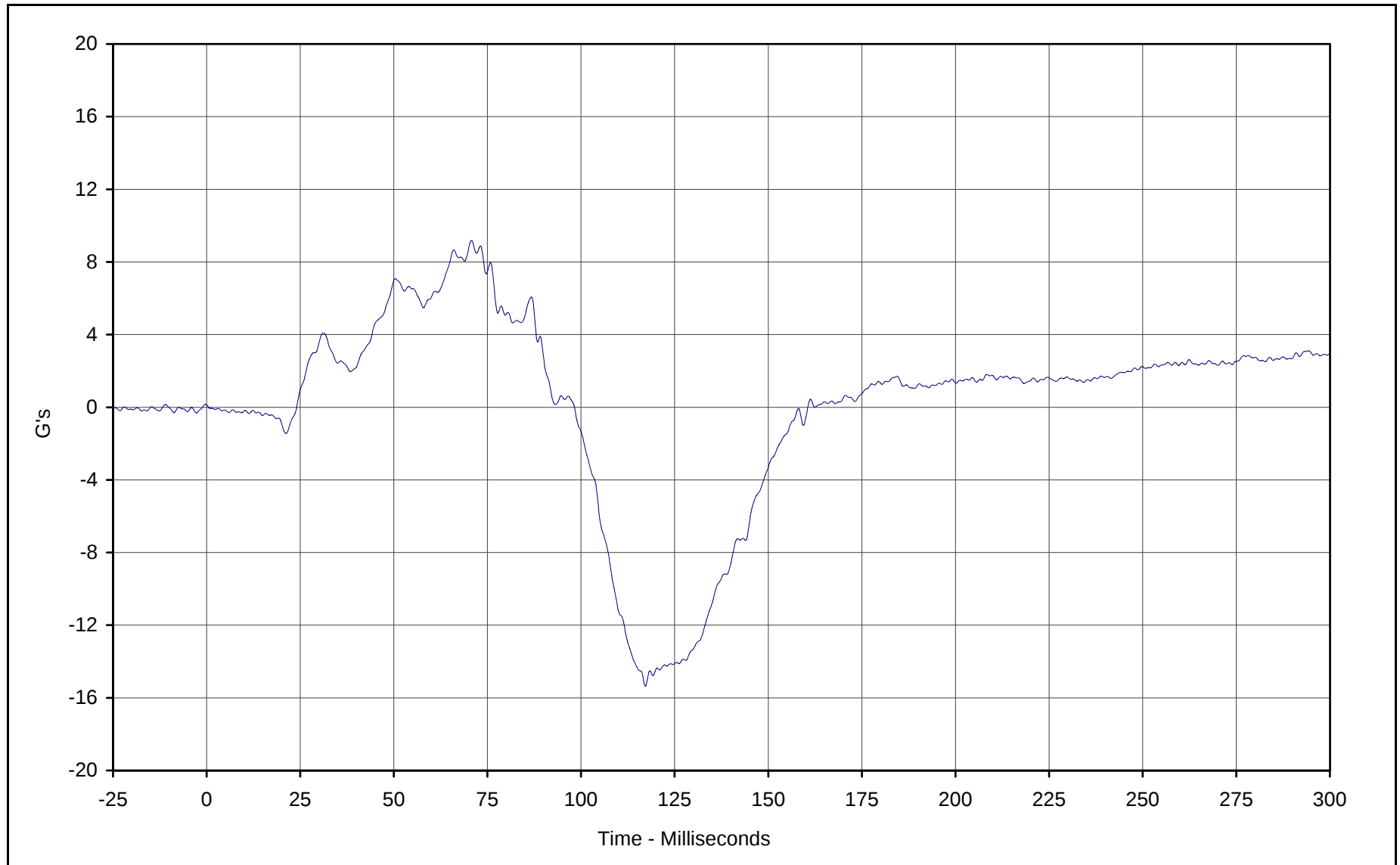


Curve Description: Passenger Chest Primary Y
Maximum Value: 5.9 at 103.9 Milliseconds
Minimum Value: -1.3 at 112.8 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-058

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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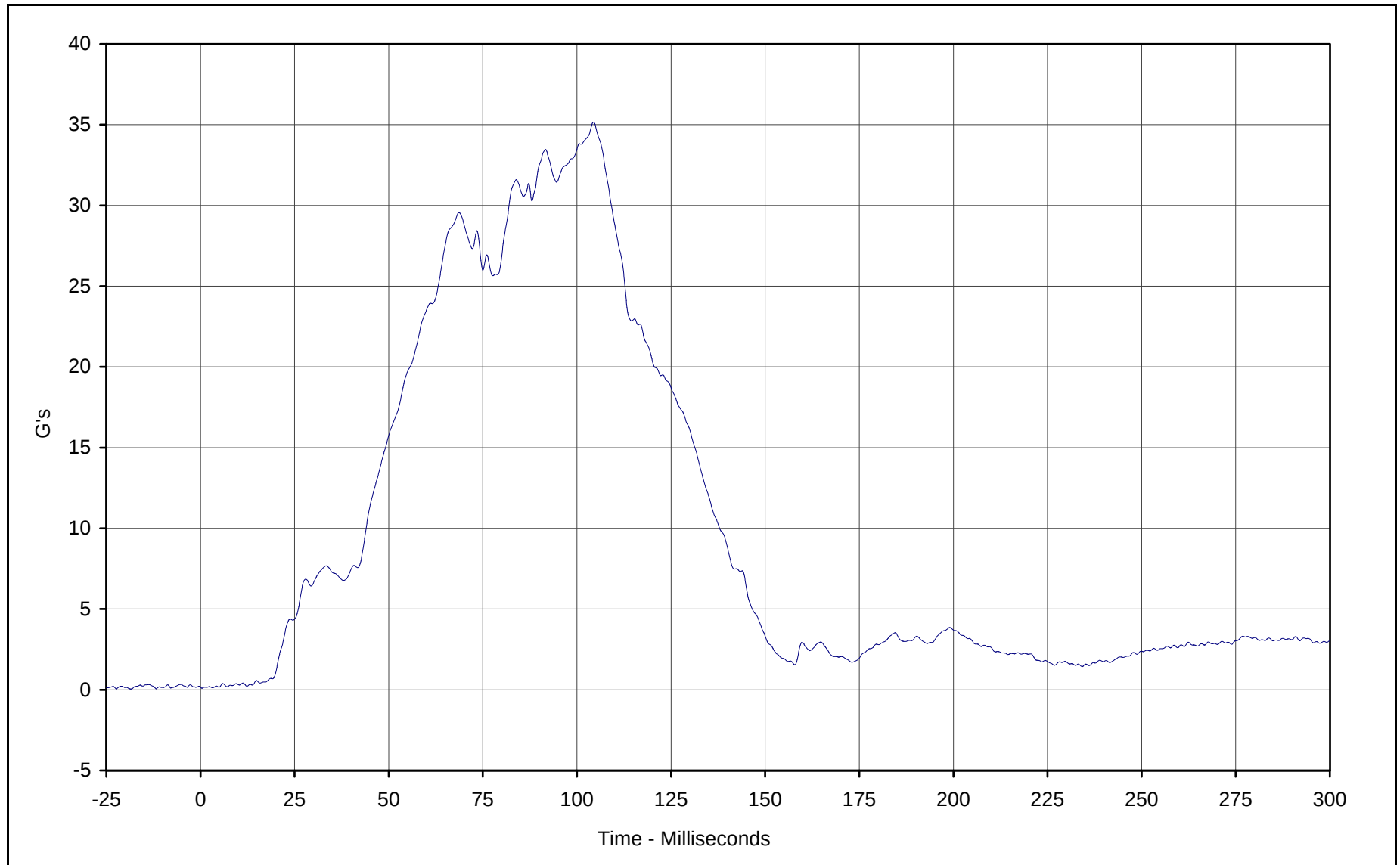


Curve Description: Passenger Chest Primary Z
Maximum Value: 9.2 at 70.7 Milliseconds
Minimum Value: -15.4 at 117.2 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-059

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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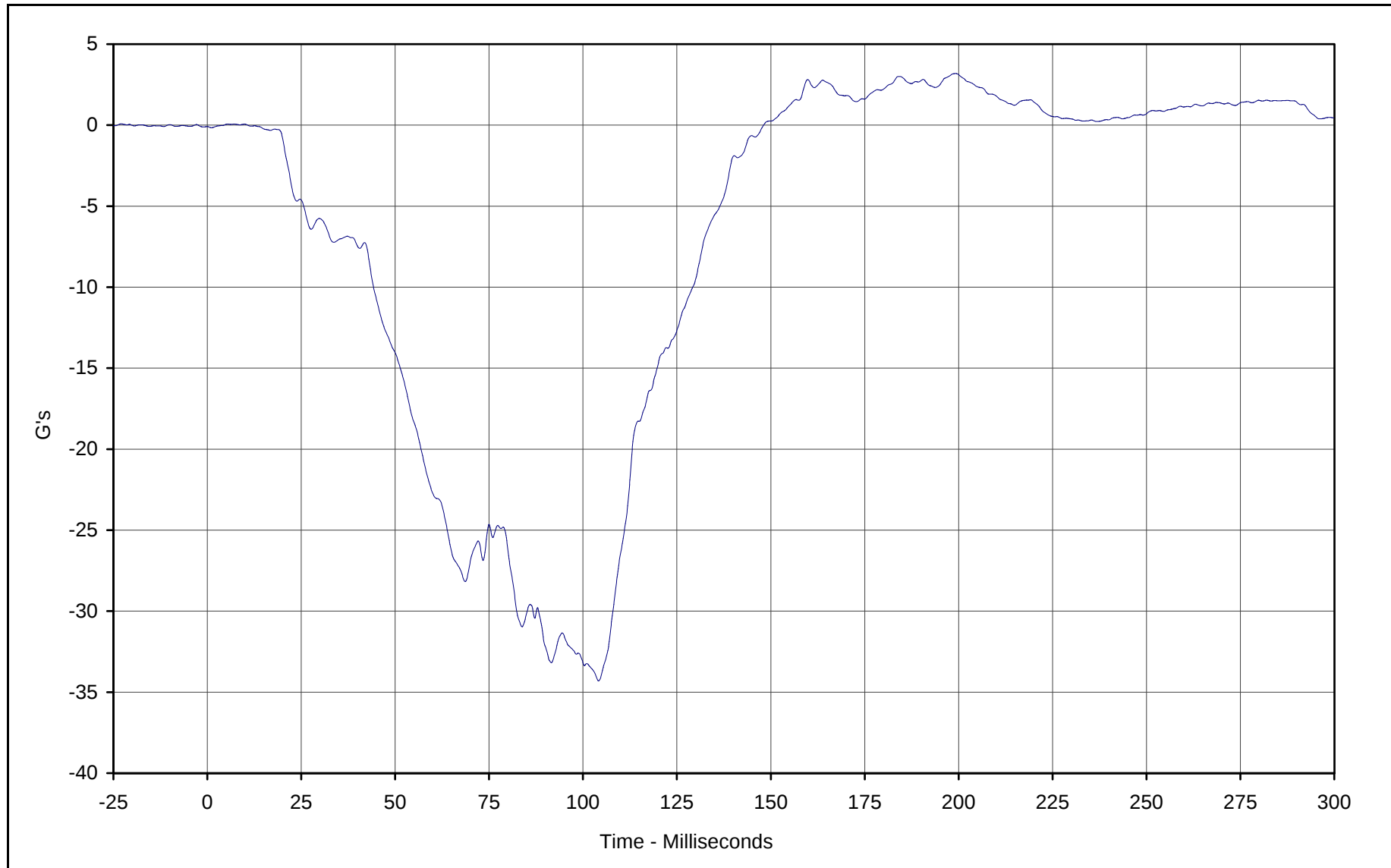
Curve Description: Passenger Chest Resultant Primary
Maximum Value: 35.2 at 104.4 Milliseconds
Minimum Value: 0.1 at 0.4 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: RES-057

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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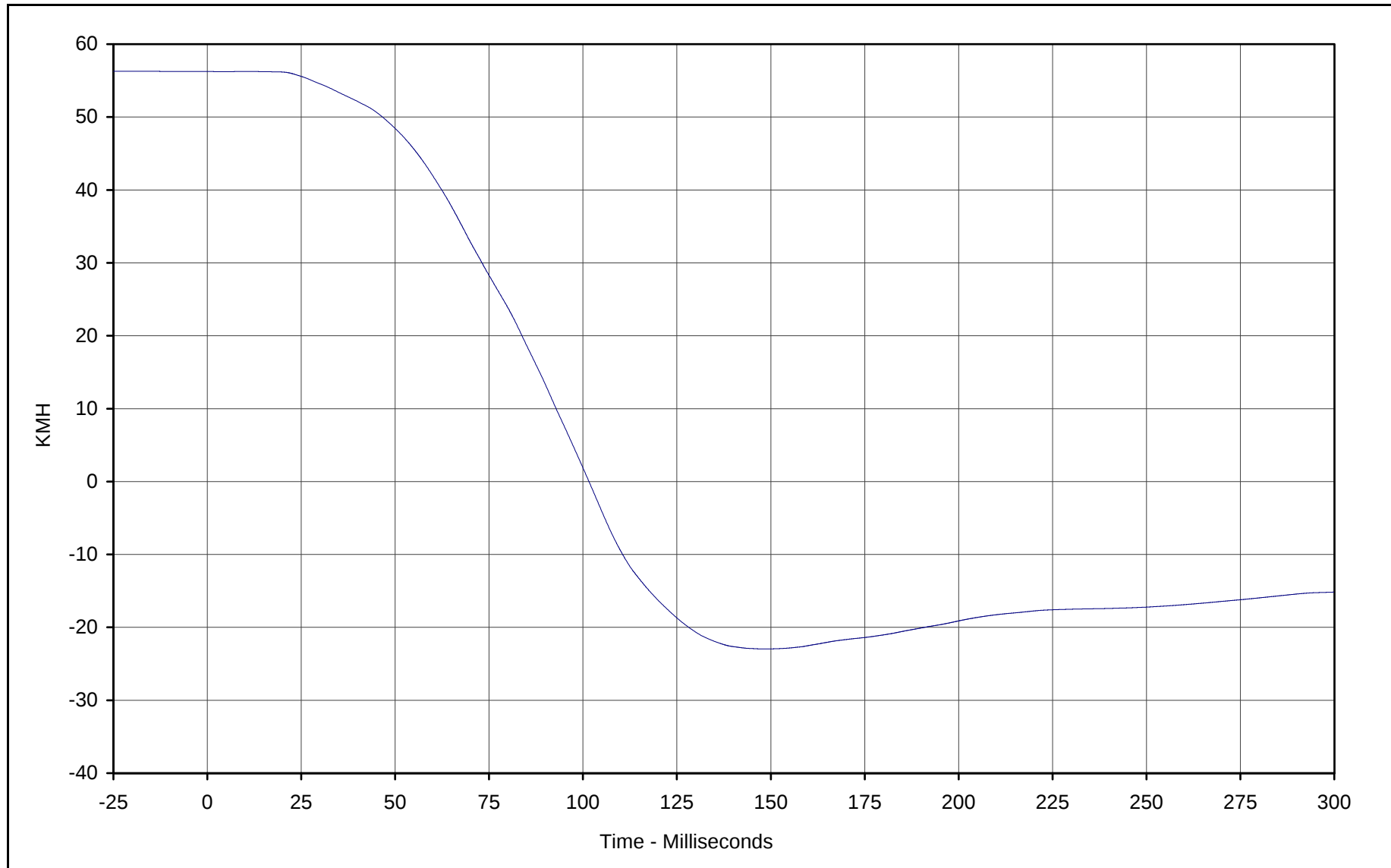
Curve Description: Passenger Chest Redundant X
Maximum Value: 3.2 at 199.2 Milliseconds
Minimum Value: -34.3 at 104.1 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-060

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Chest Redundant X Velocity

Maximum Value: 56.2 at 0.0 Milliseconds

Minimum Value: -23.0 at 148.1 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

Curve Number: IN1-060

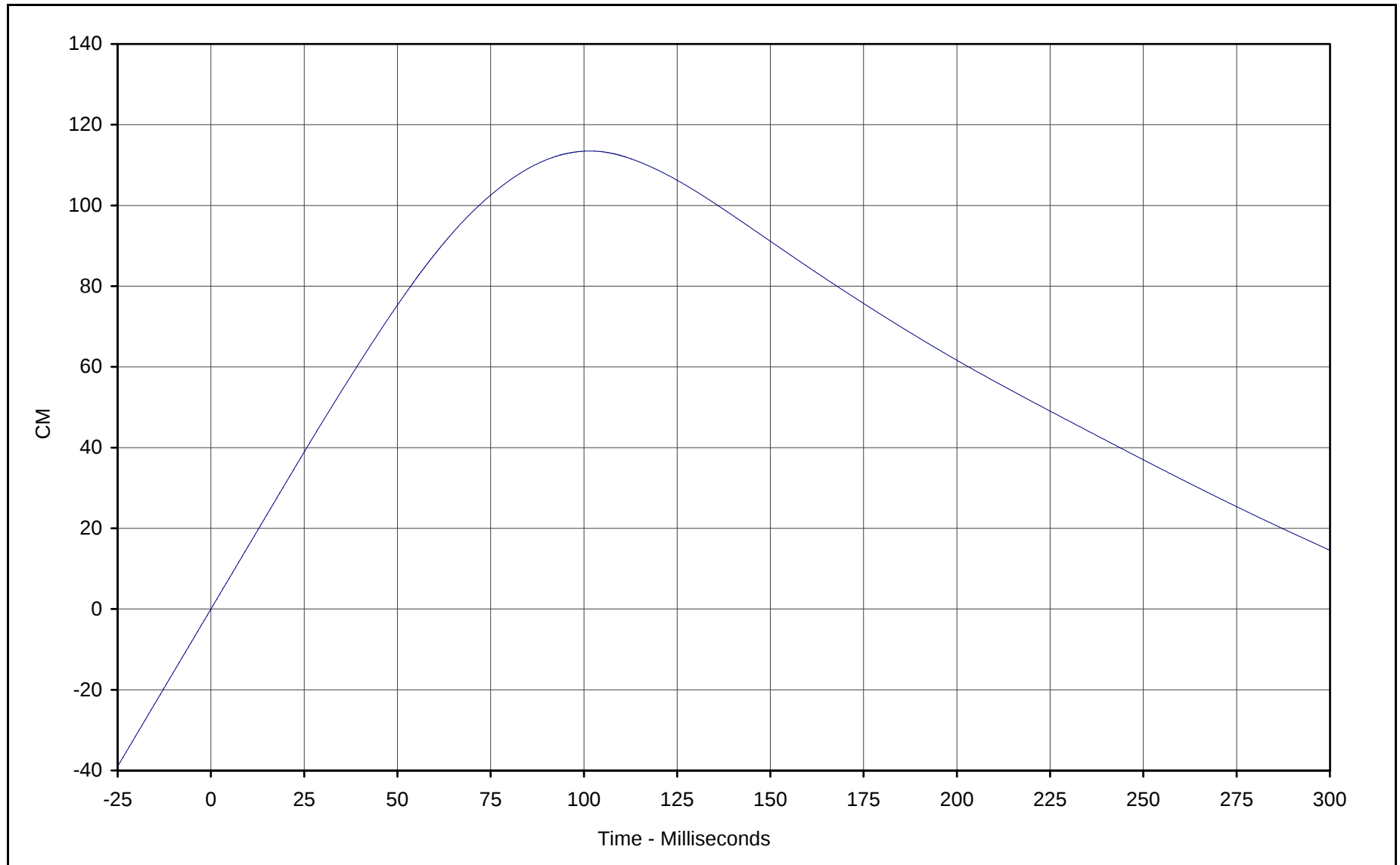
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-90



Curve Description: Passenger Chest Redundant X Displ.

Maximum Value: 113.5 at 101.6 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

Curve Number: IN2-060

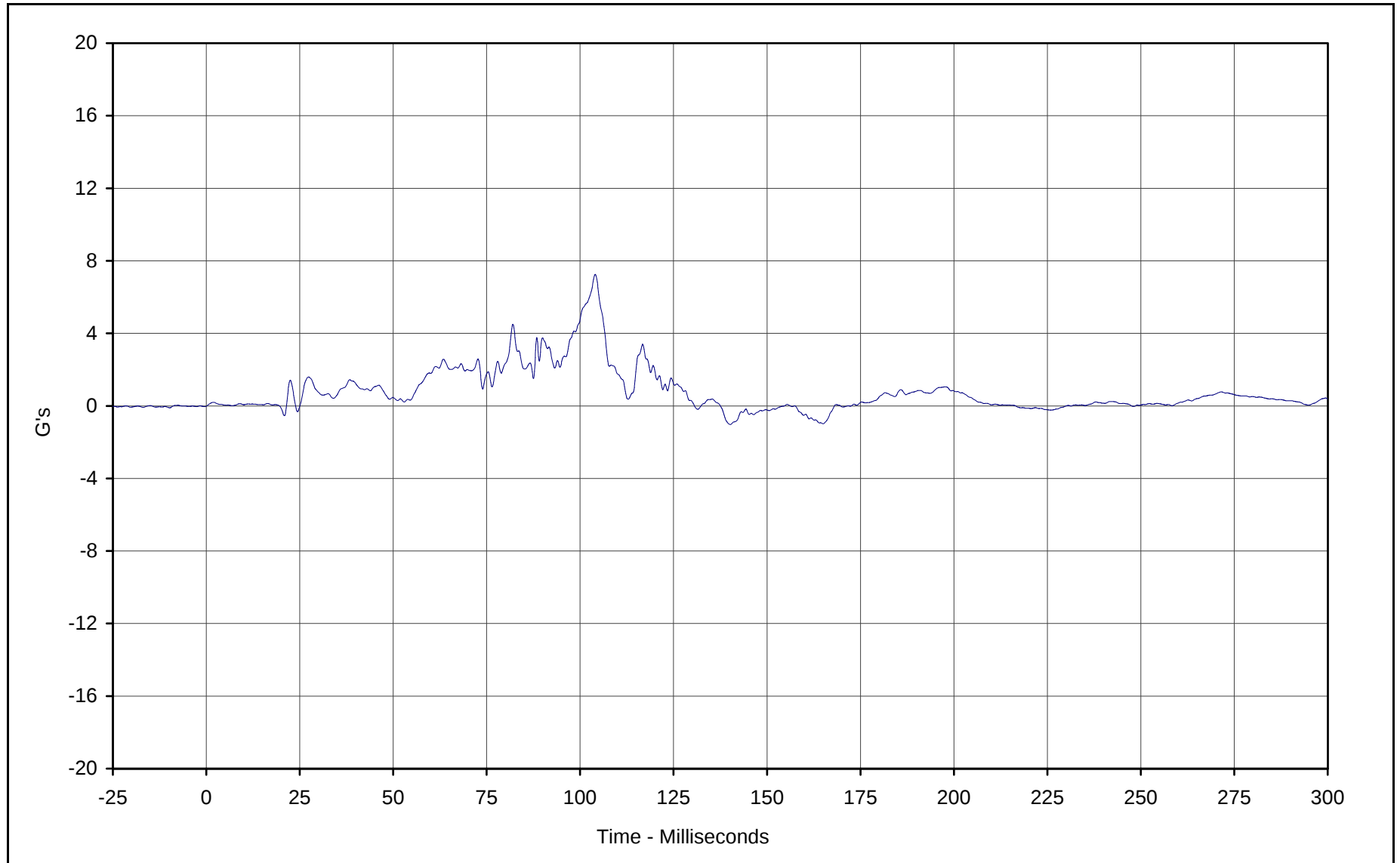
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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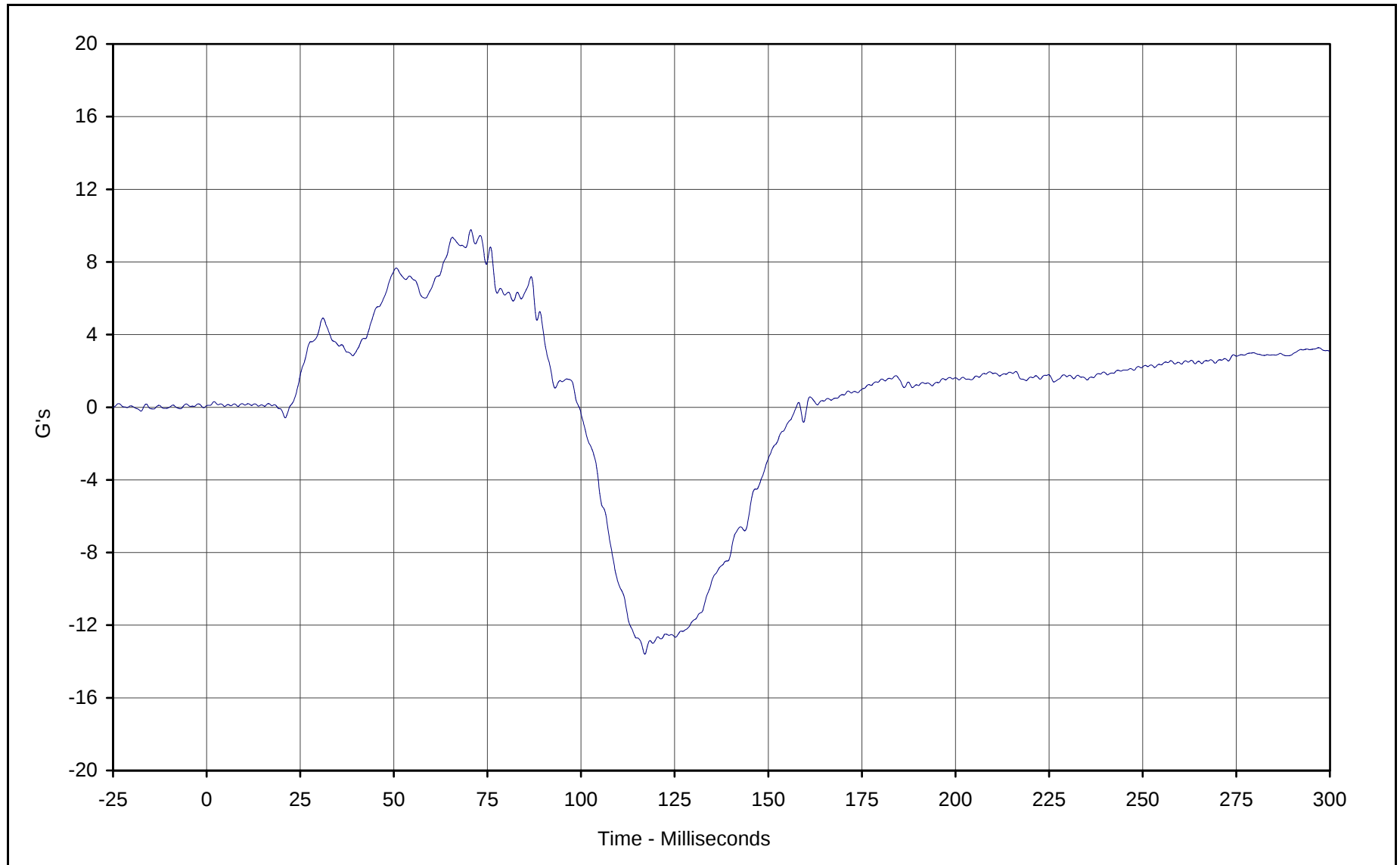
Curve Description: Passenger Chest Redundant Y
Maximum Value: 7.3 at 104.0 Milliseconds
Minimum Value: -1.0 at 140.2 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-061

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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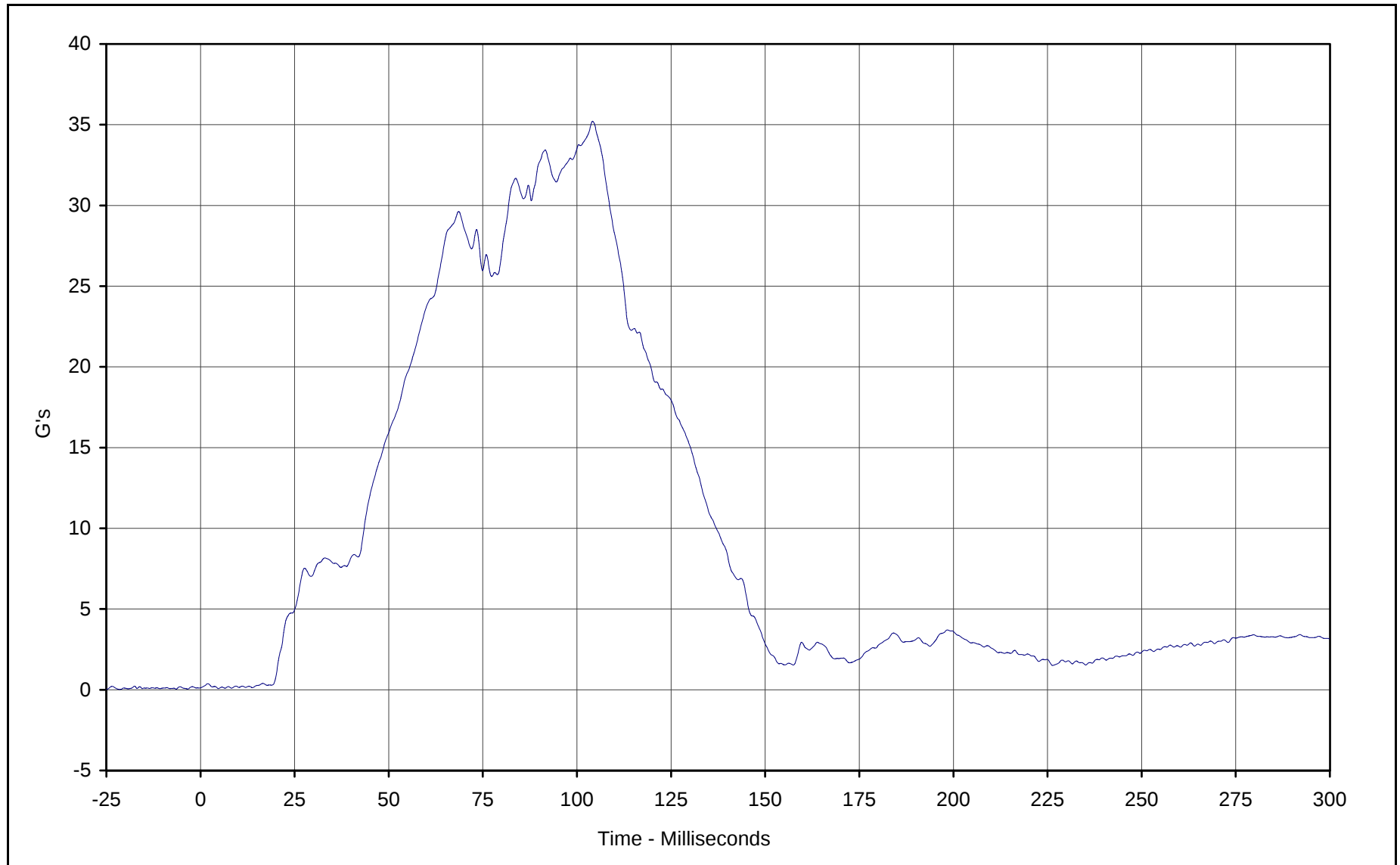
Curve Description: Passenger Chest Redundant Z
Maximum Value: 9.8 at 70.6 Milliseconds
Minimum Value: -13.6 at 117.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-062

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Chest Resultant Redundant

Maximum Value: 35.2 at 104.2 Milliseconds

Minimum Value: 0.1 at 4.7 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

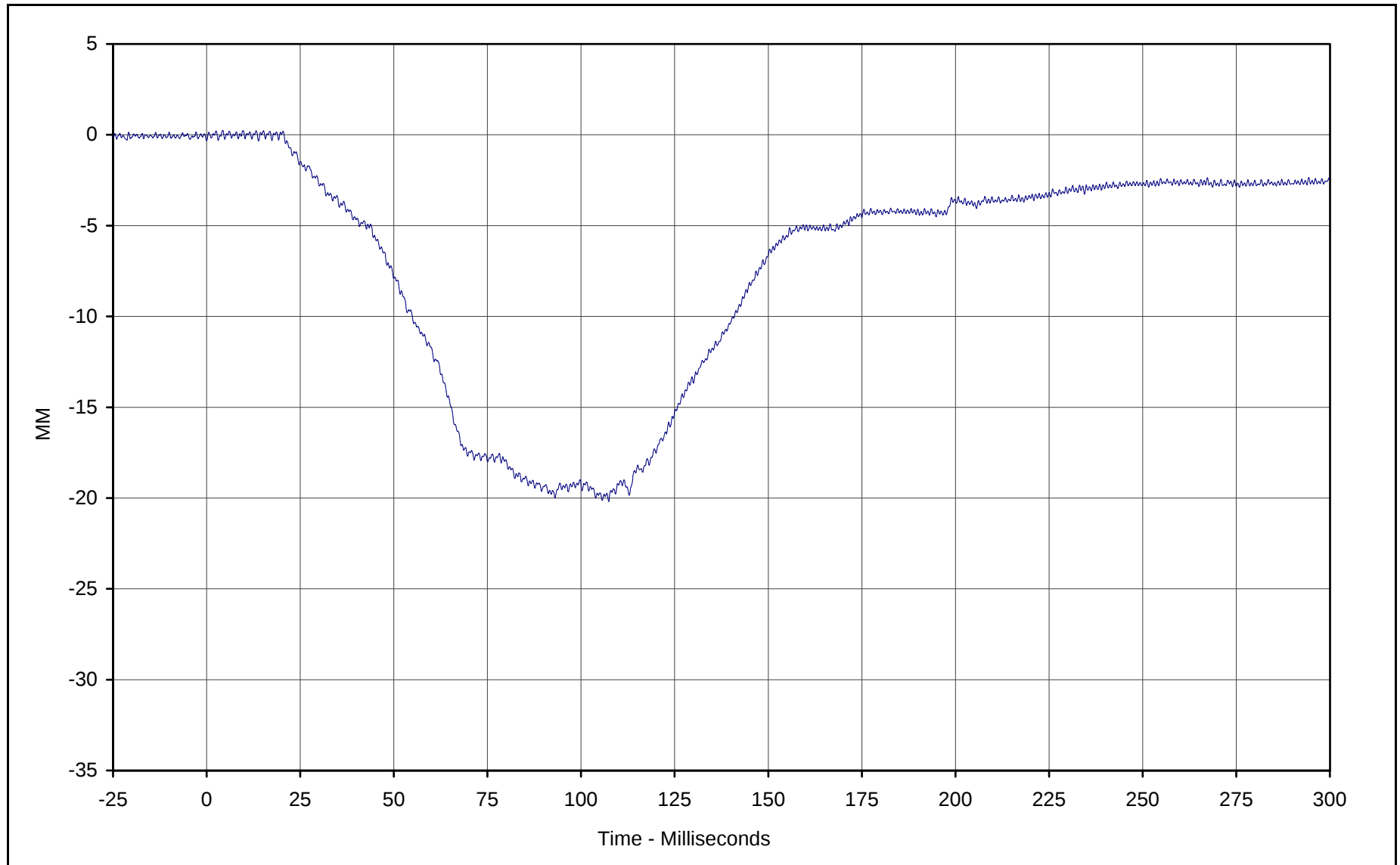
Curve Number: RES-060

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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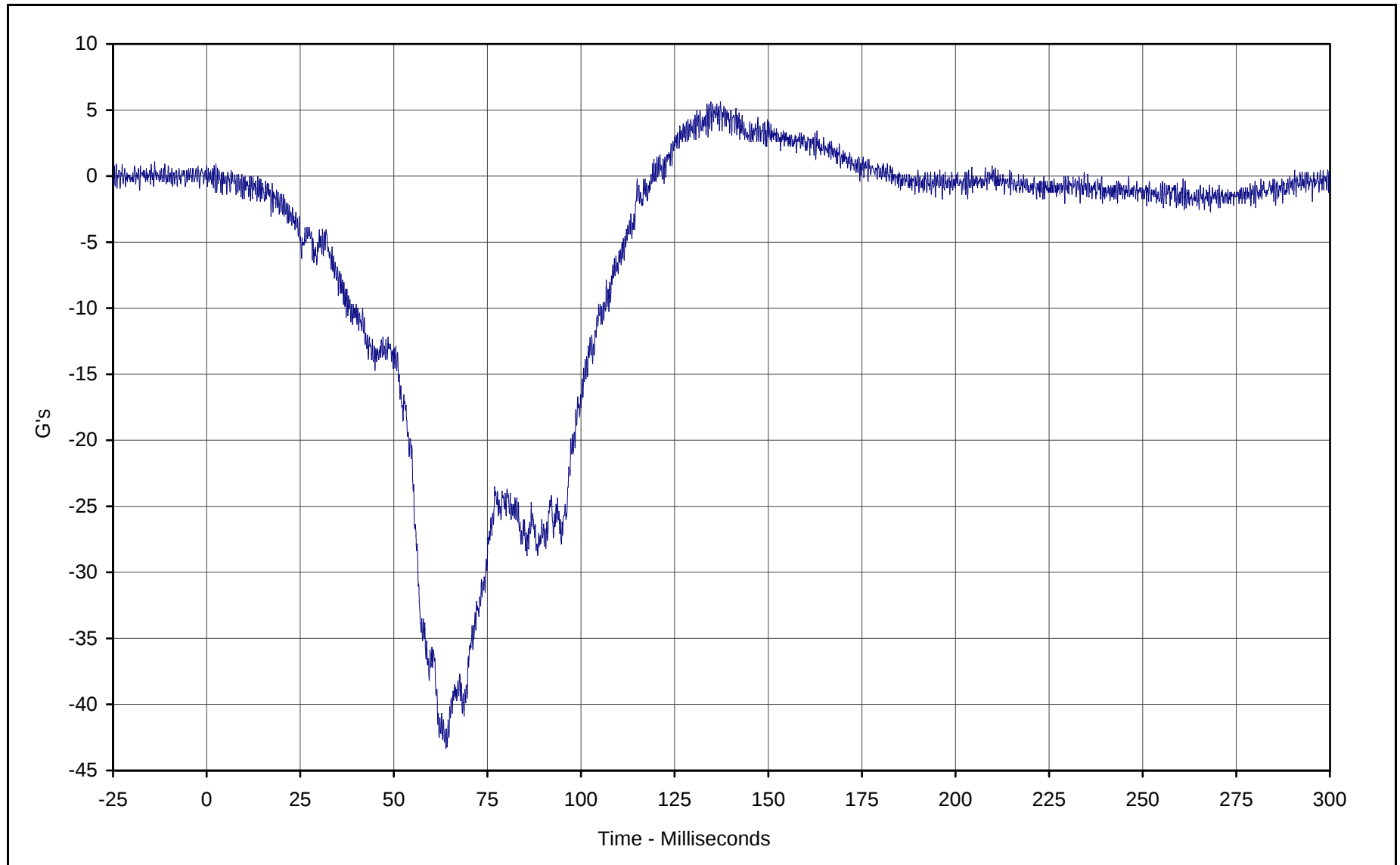


Curve Description: Passenger Chest Displacement X
Maximum Value: 0.2 at 4.3 Milliseconds
Minimum Value: -20.2 at 107.4 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-063

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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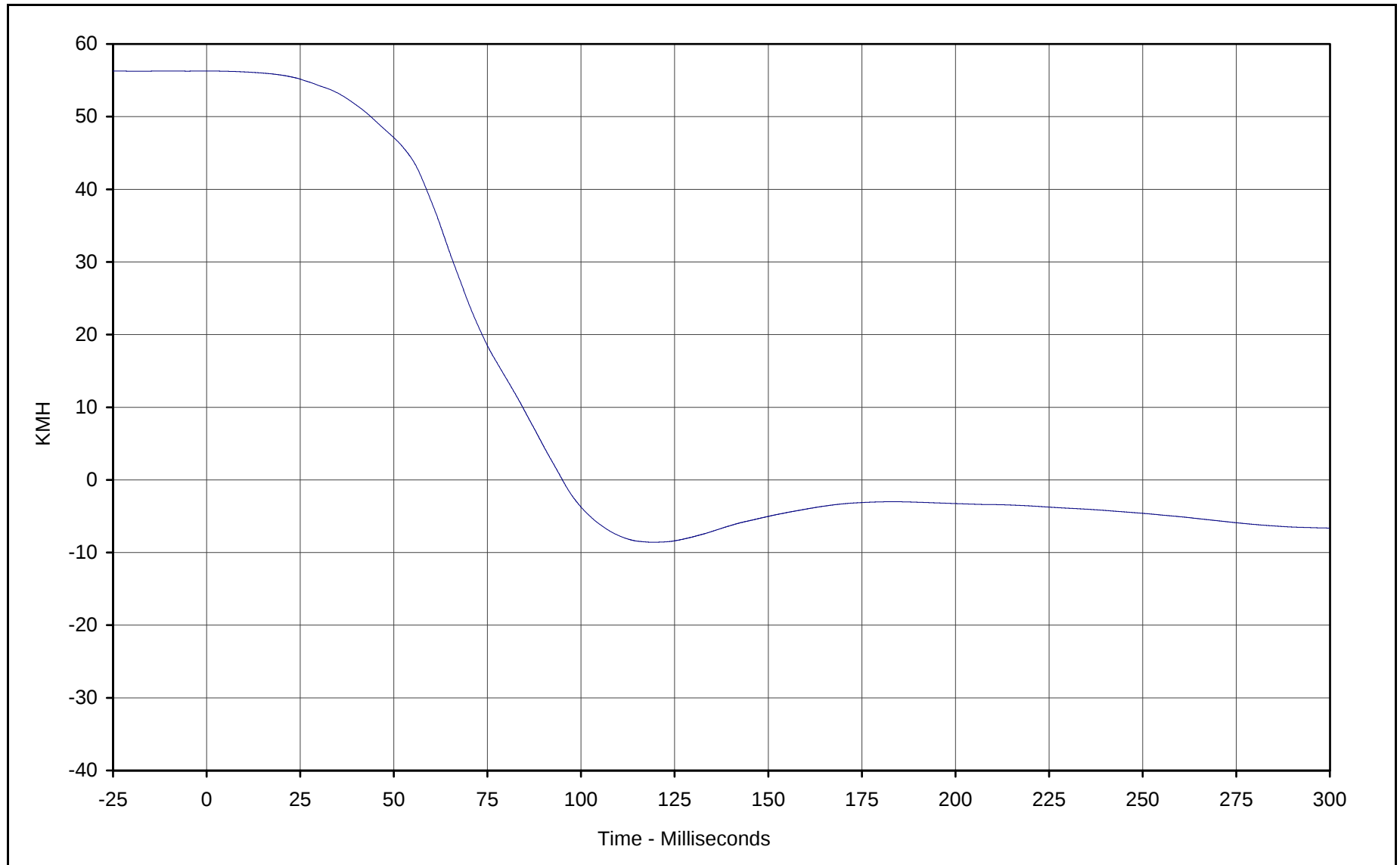


Curve Description: Passenger Pelvis X
Maximum Value: 5.6 at 134.6 Milliseconds
Minimum Value: -43.4 at 63.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-064

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



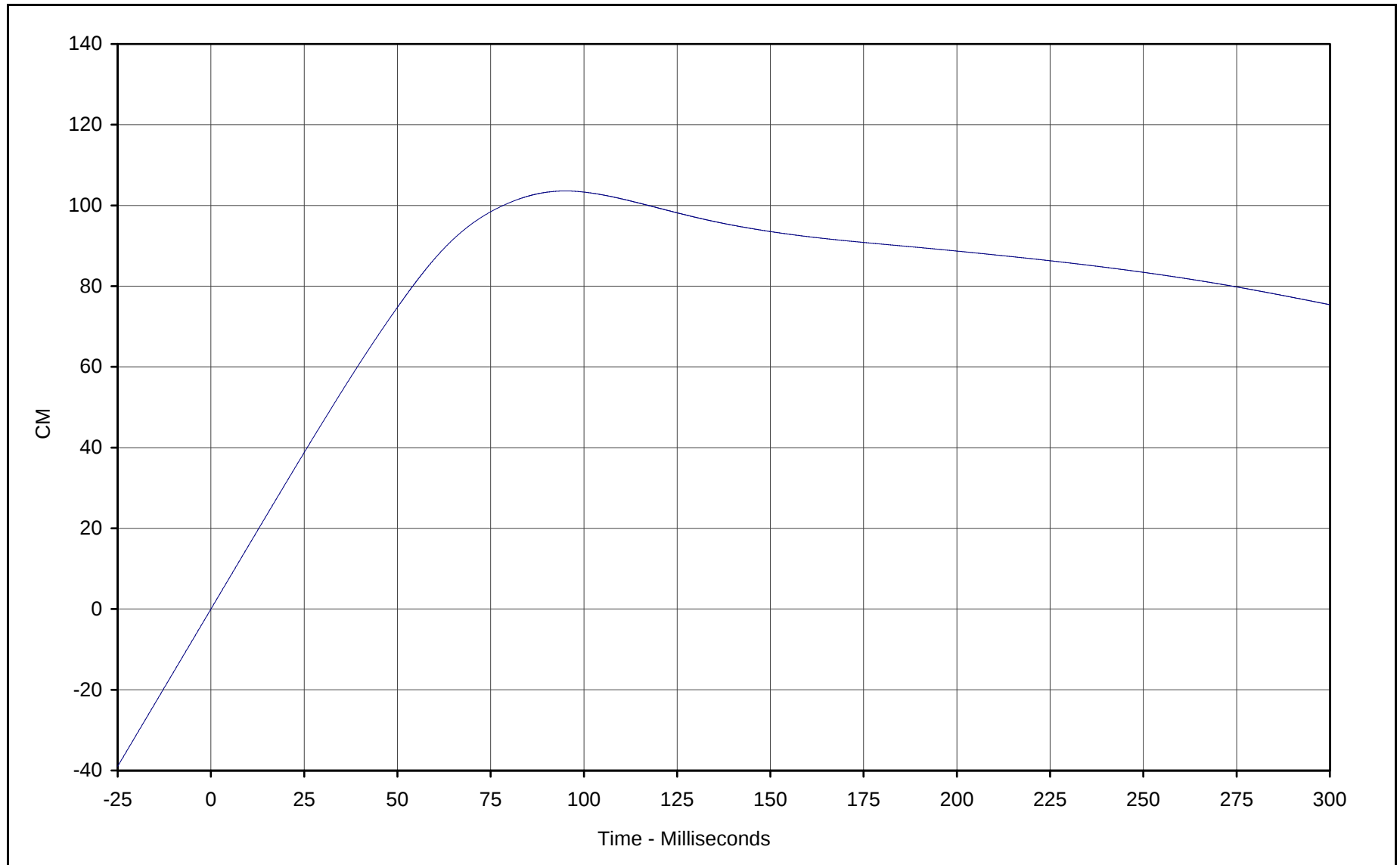
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Curve Description: Passenger Pelvis X Velocity
Maximum Value: 56.3 at 0.8 Milliseconds
Minimum Value: -8.6 at 119.2 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-064

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



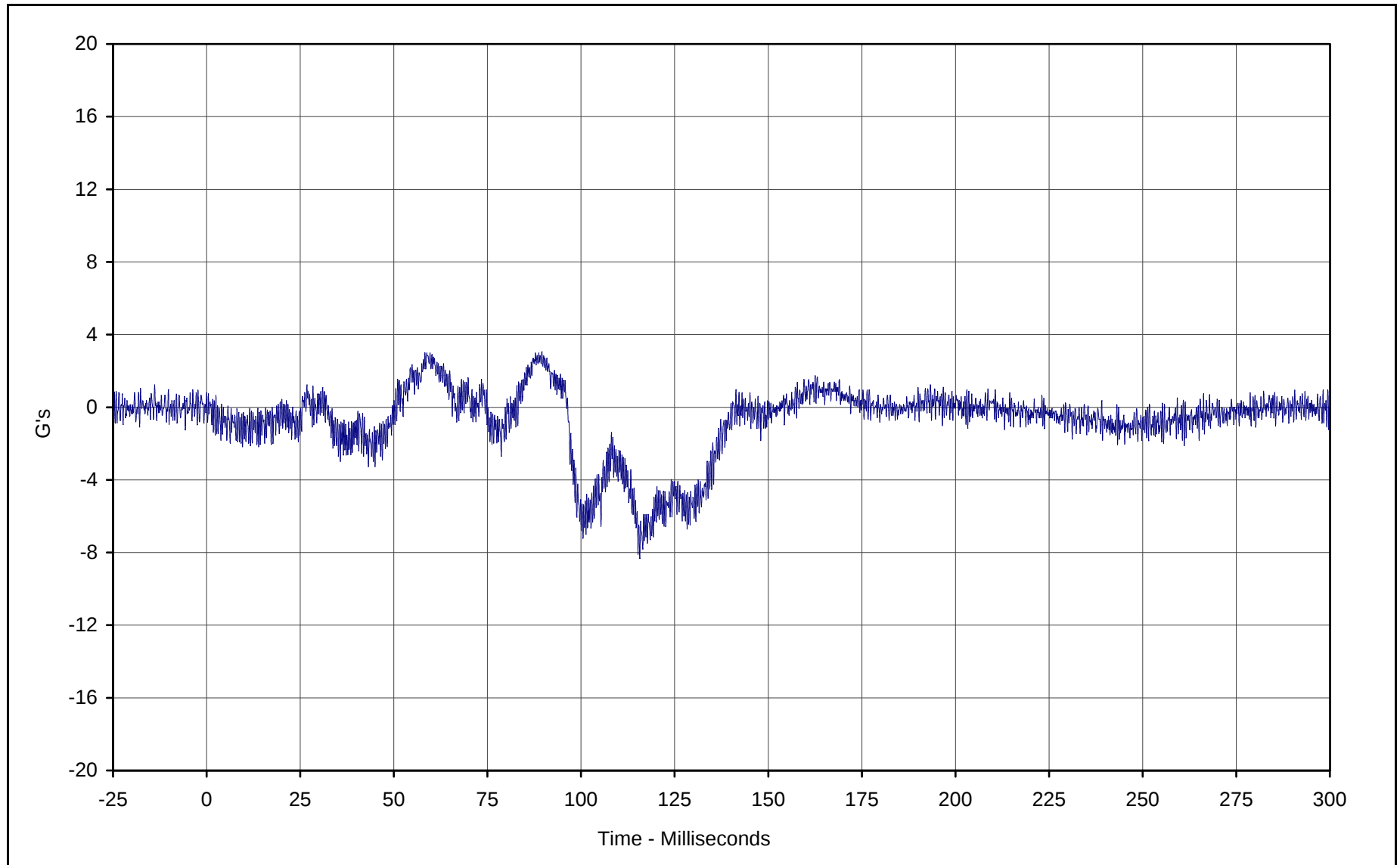


Curve Description: Passenger Pelvis X Displ.
Maximum Value: 103.6 at 95.0 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-064

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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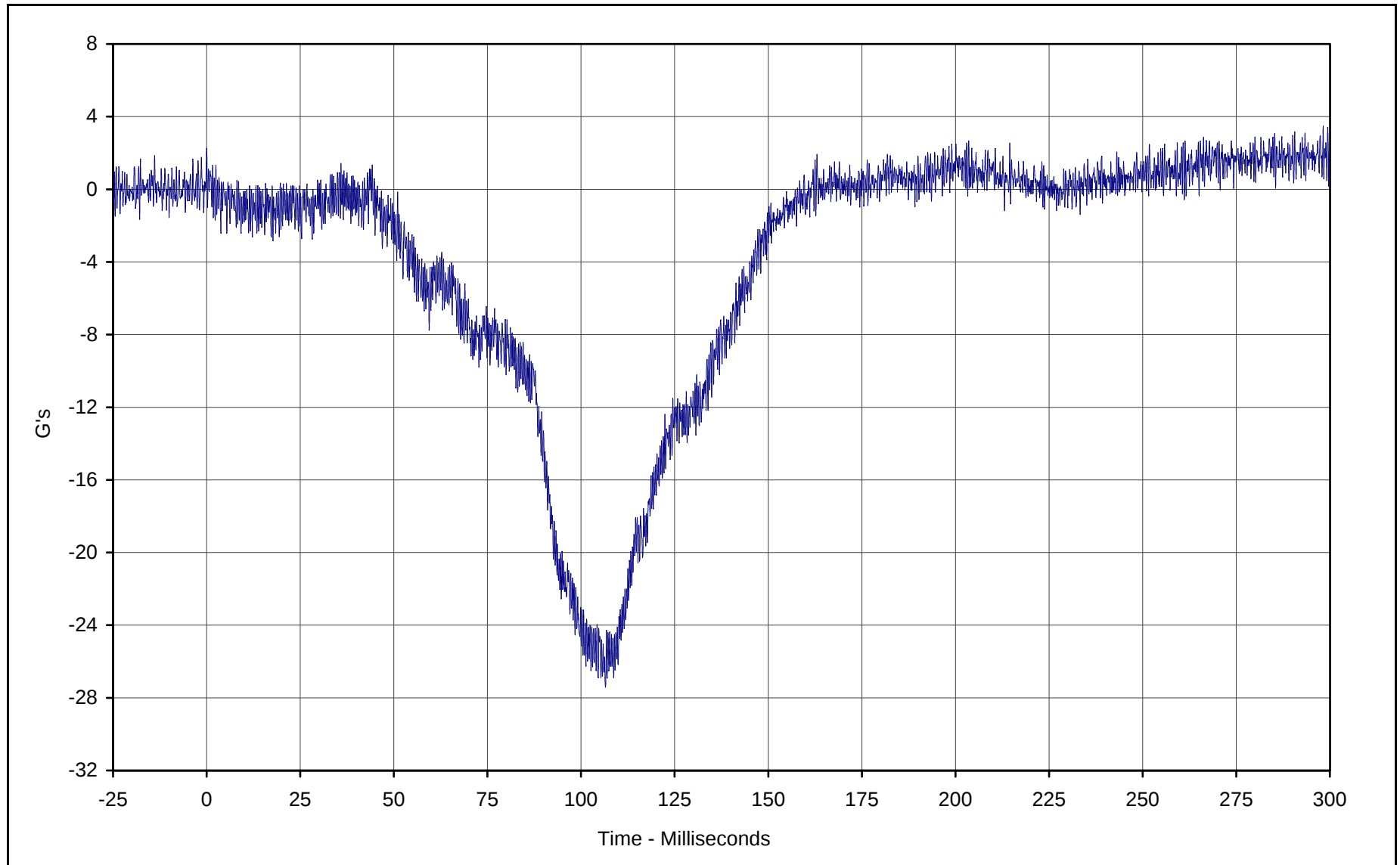
Curve Description: Passenger Pelvis Y
Maximum Value: 3.1 at 89.6 Milliseconds
Minimum Value: -8.3 at 115.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-065

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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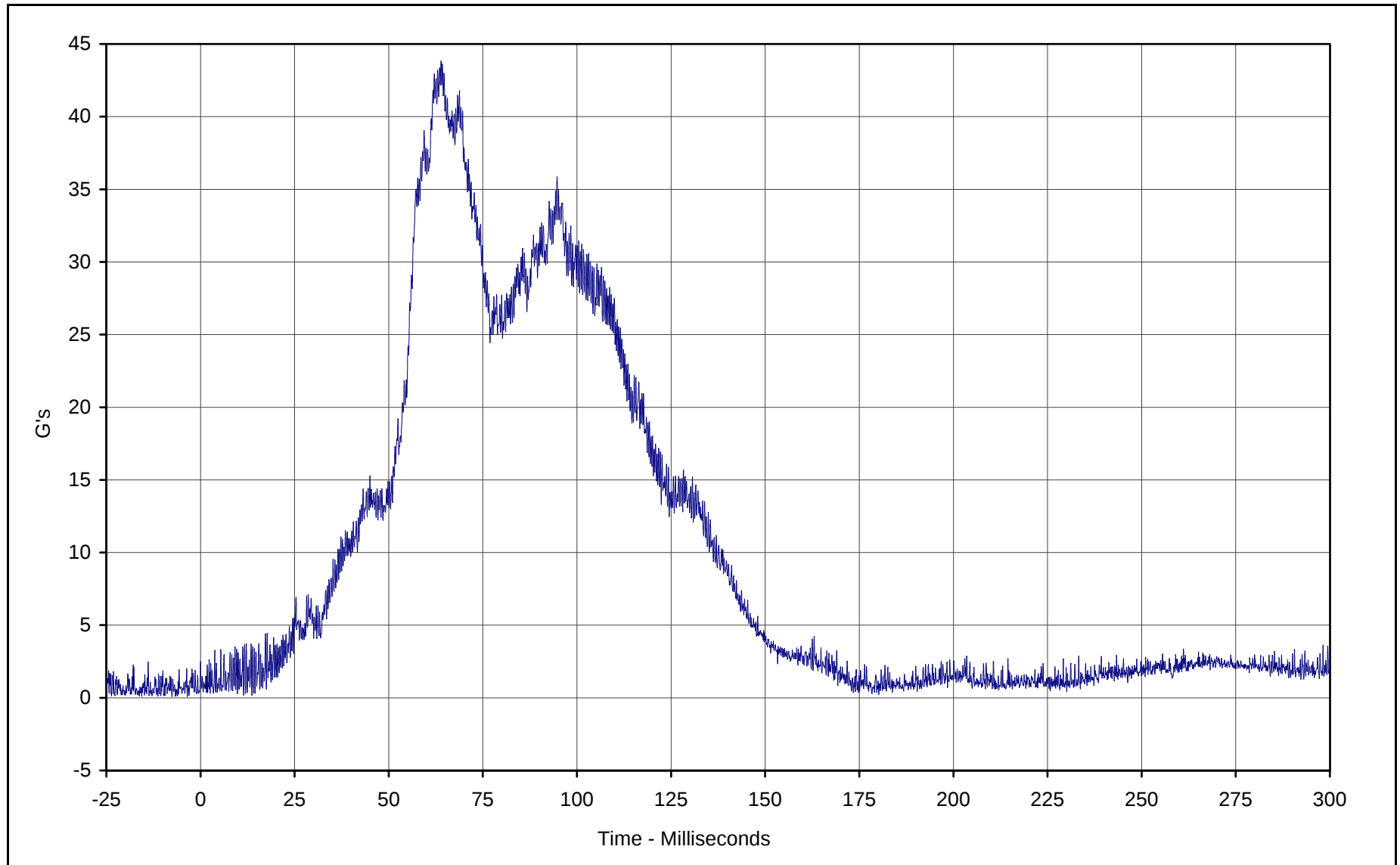


Curve Description: Passenger Pelvis Z
Maximum Value: 3.5 at 298.2 Milliseconds
Minimum Value: -27.4 at 106.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: FIL-066

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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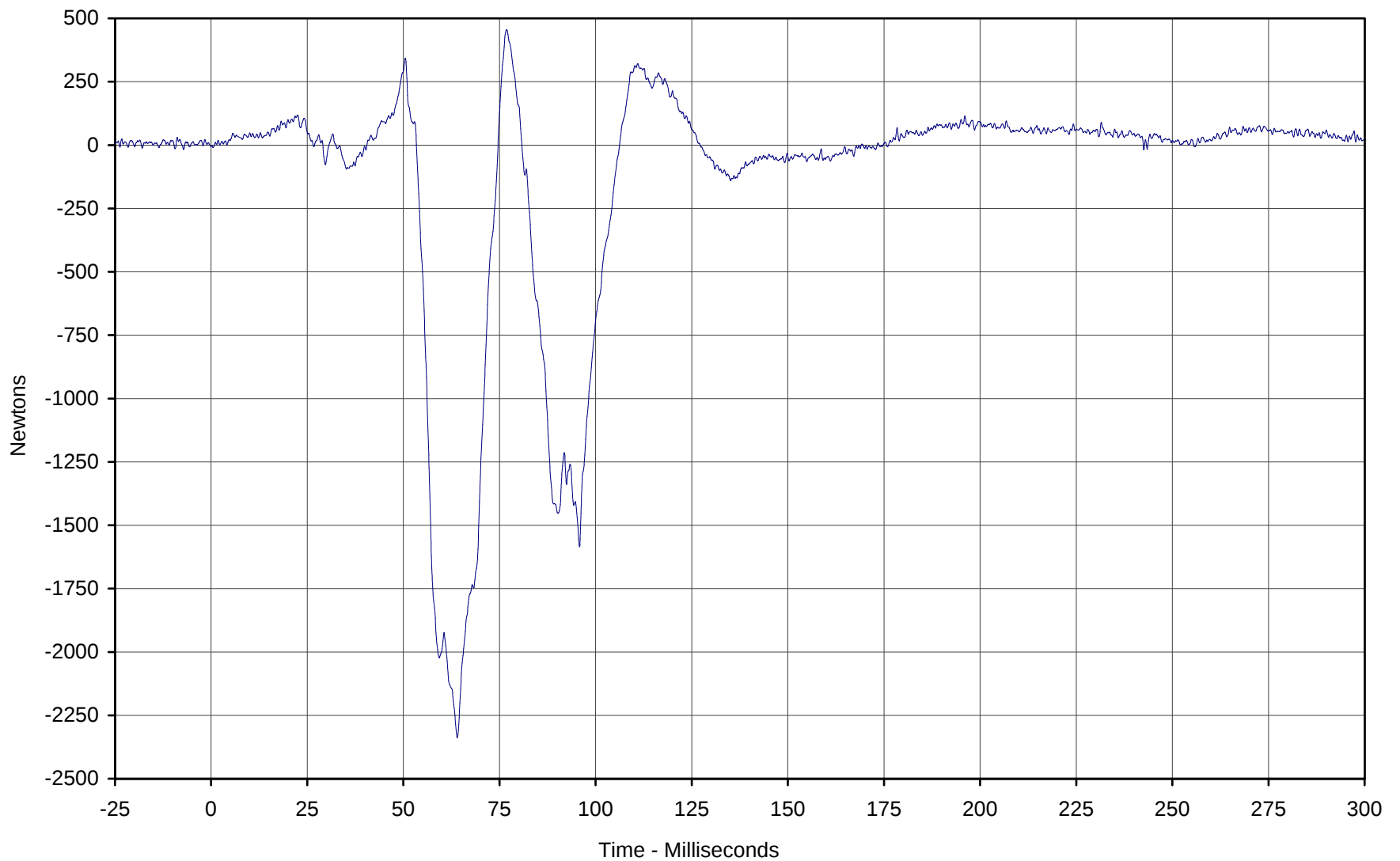


Curve Description: Passenger Pelvis Resultant
Maximum Value: 43.8 at 63.9 Milliseconds
Minimum Value: 0.2 at 11.5 Milliseconds
SAE Filter Class: 1000
Date of Test: 01/23/01
Curve Number: RES-064

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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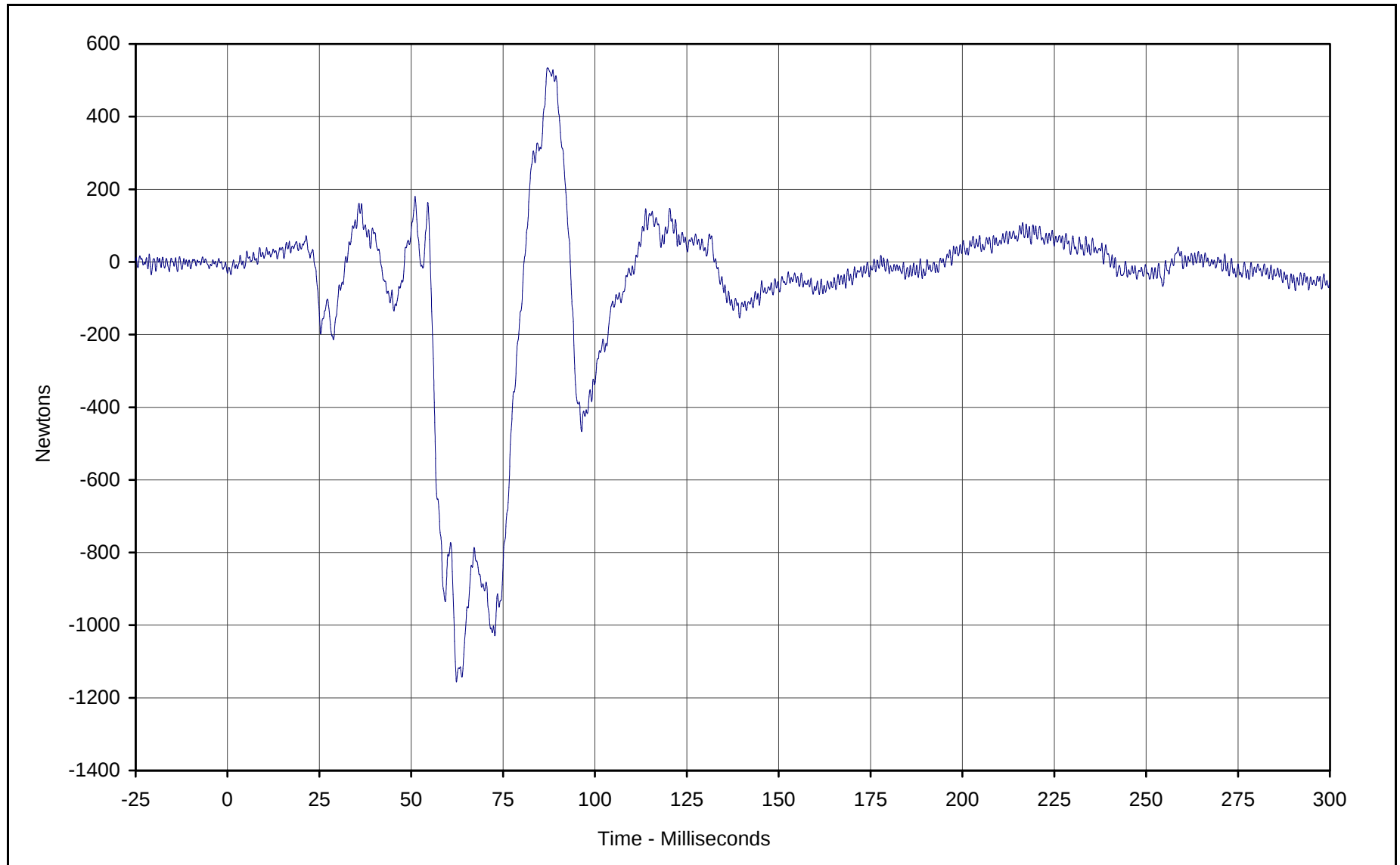


Curve Description: Passenger Left Femur Force
Maximum Value: 455.6 at 76.9 Milliseconds
Minimum Value: -2338.1 at 64.0 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-067

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



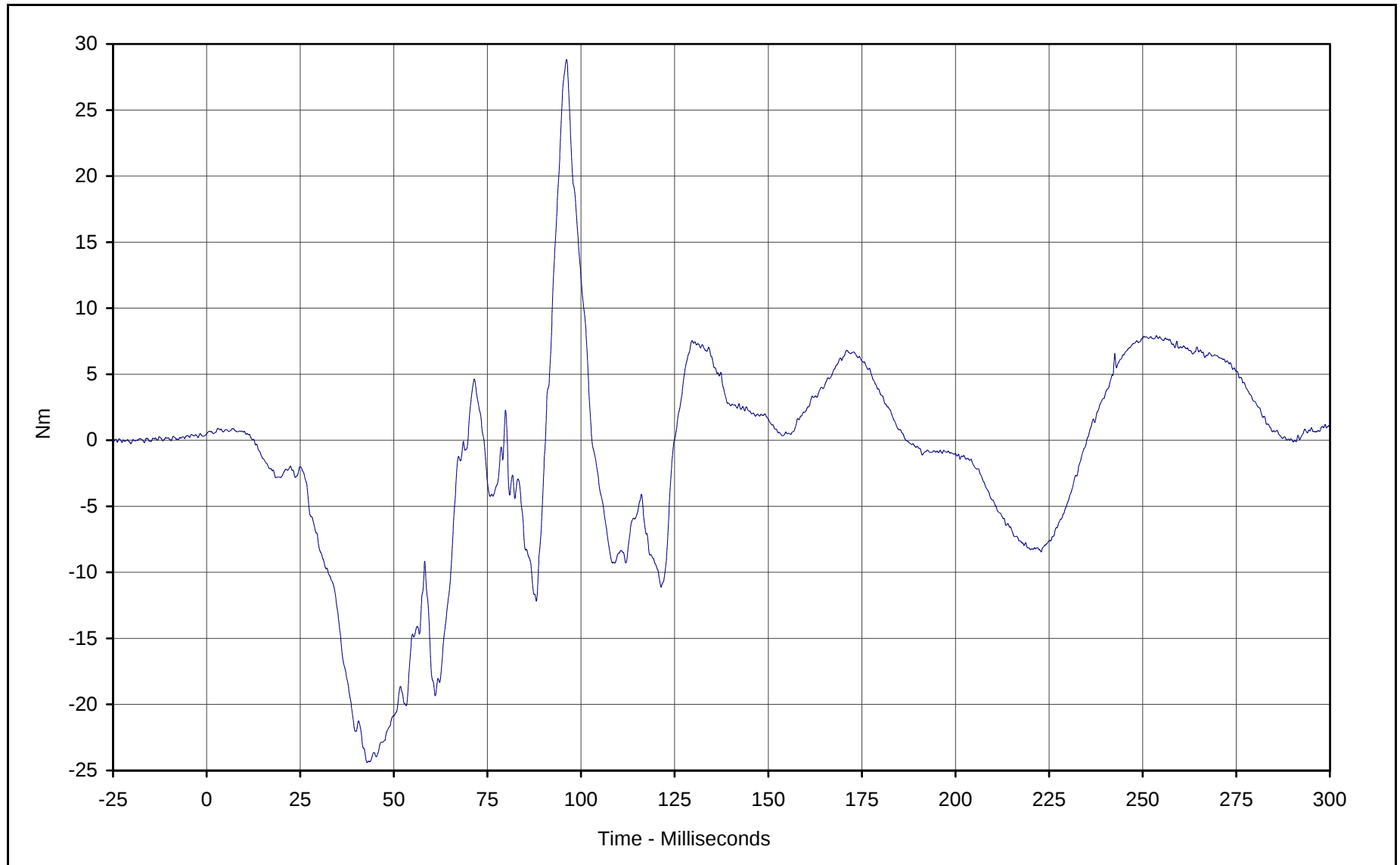
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Curve Description: Passenger Right Femur Force
Maximum Value: 534.2 at 87.1 Milliseconds
Minimum Value: -1156.2 at 62.3 Milliseconds
SAE Filter Class: 600
Date of Test: 01/23/01
Curve Number: FIL-068

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan





Curve Description: Passenger Left Upper Tibia Moment X

Maximum Value: 28.8 at 96.1 Milliseconds

Minimum Value: -24.4 at 42.8 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

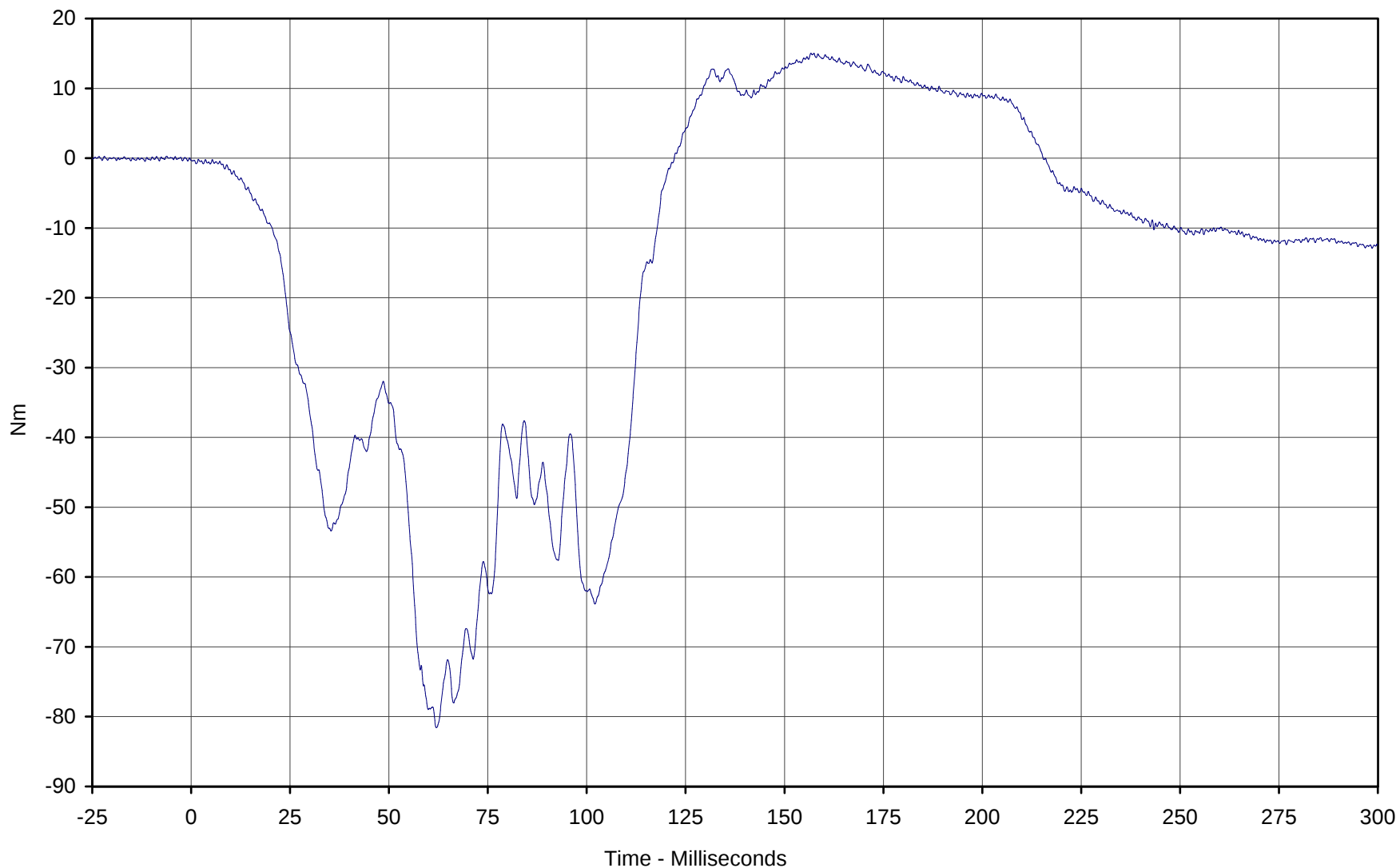
Curve Number: FIL-069

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Left Upper Tibia Moment Y

Maximum Value: 15.0 at 156.7 Milliseconds

Minimum Value: -81.6 at 62.0 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

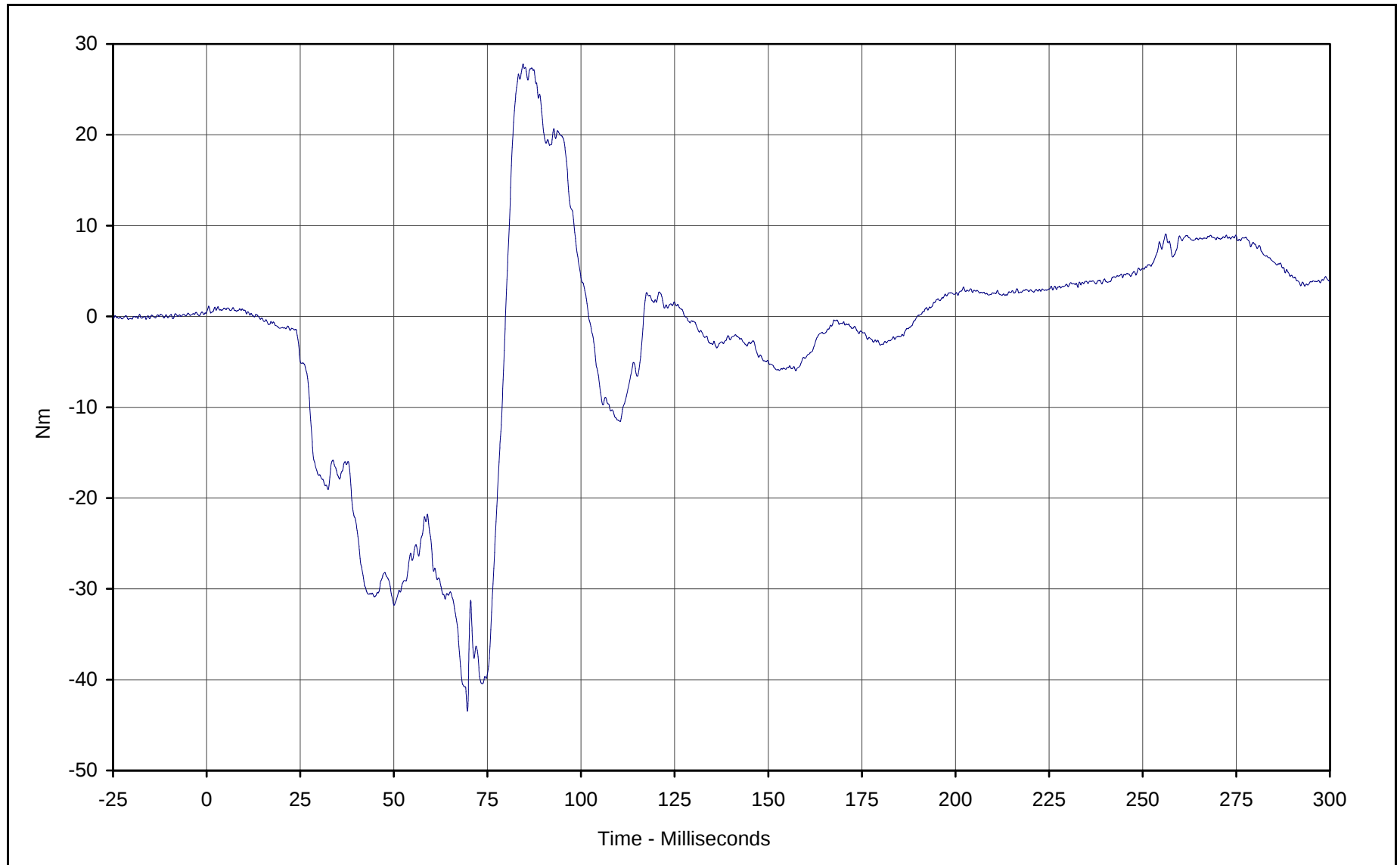
Curve Number: FIL-070

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Right Upper Tibia Moment X

Maximum Value: 27.8 at 84.5 Milliseconds

Minimum Value: -43.4 at 69.6 Milliseconds

SAE Filter Class: 600

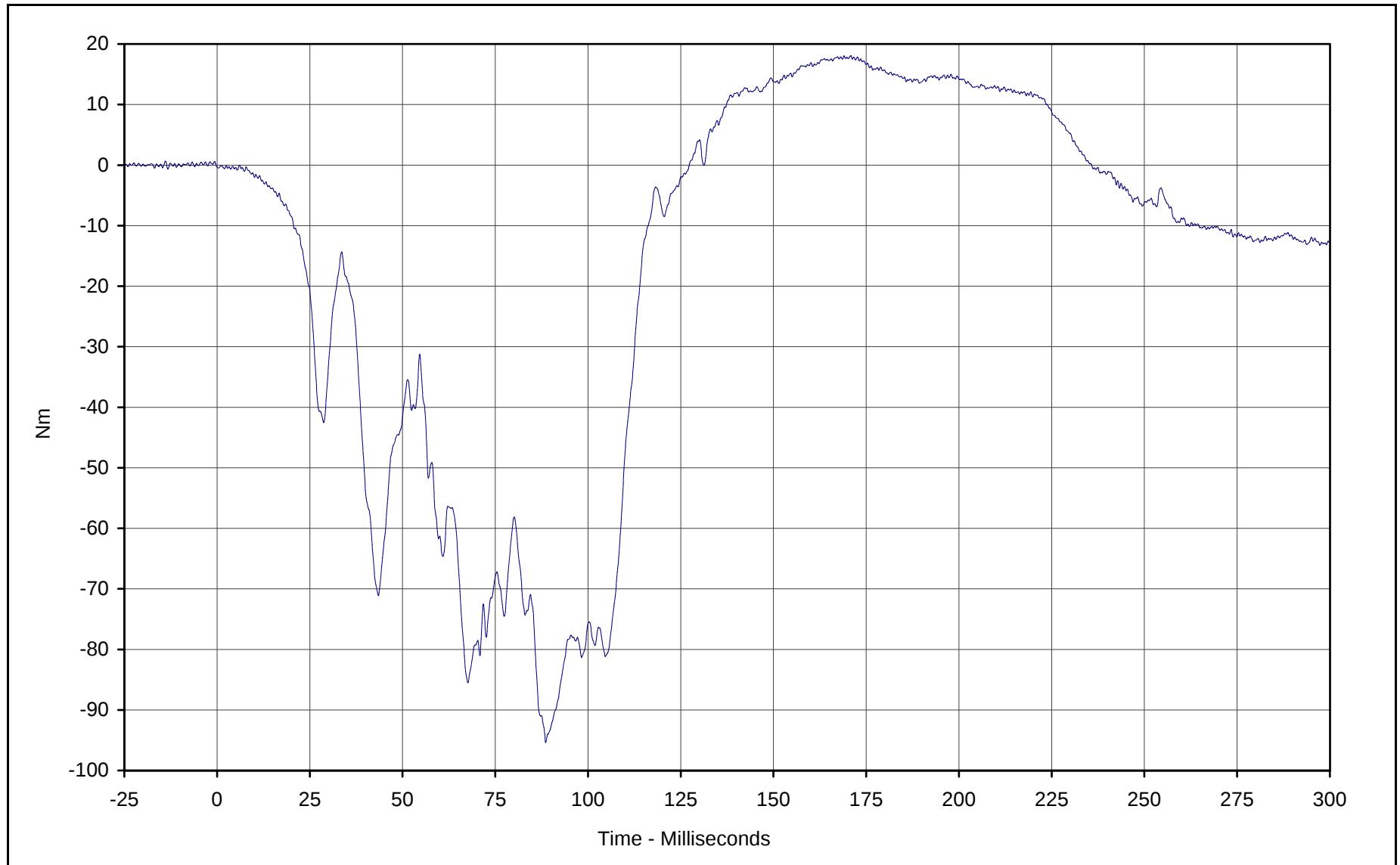
Date of Test: 01/23/01

Curve Number: FIL-071

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan





Curve Description: Passenger Right Upper Tibia Moment Y

Maximum Value: 18.1 at 170.9 Milliseconds

Minimum Value: -95.4 at 88.6 Milliseconds

SAE Filter Class: 600

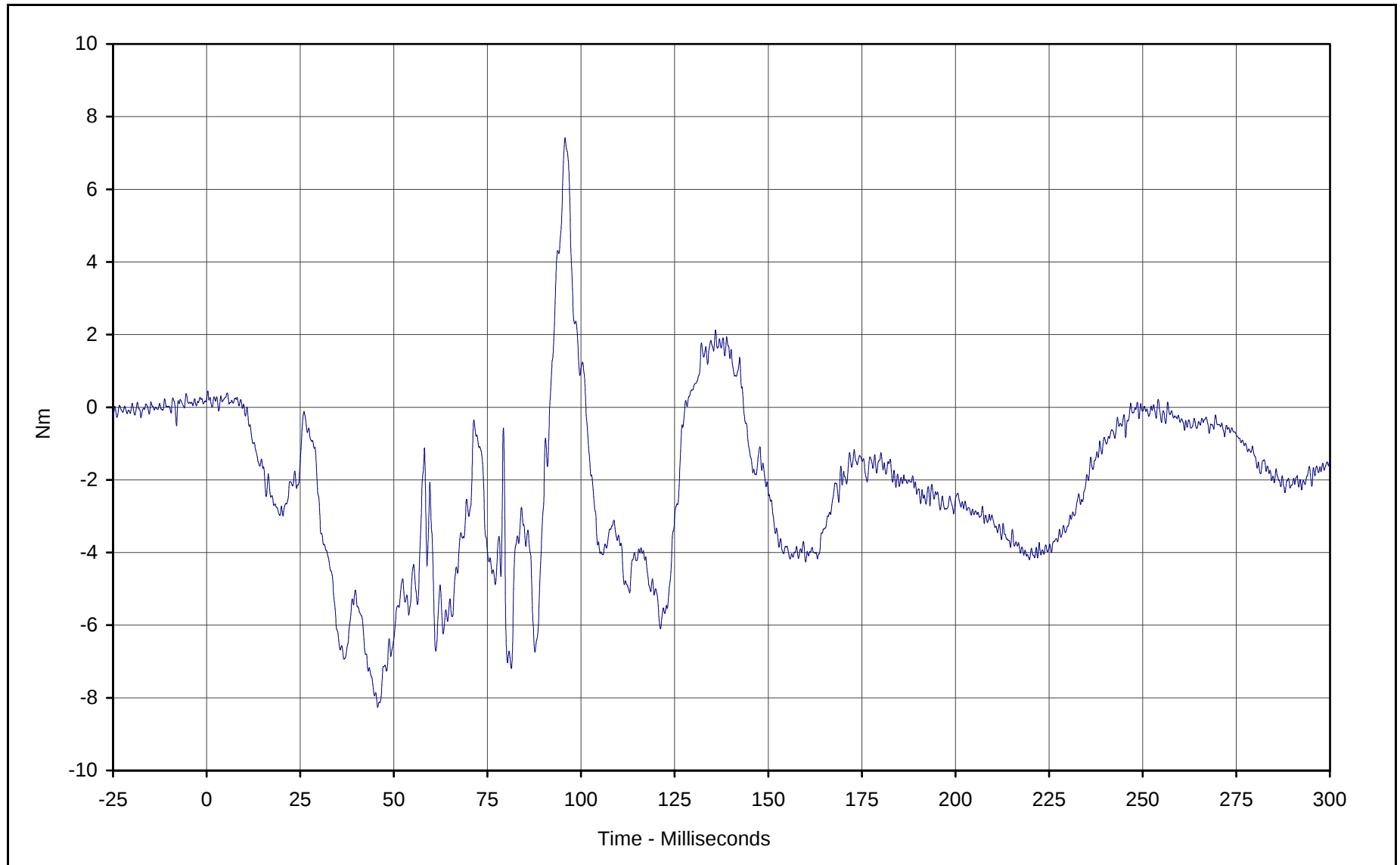
Date of Test: 01/23/01

Curve Number: FIL-072

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan





Curve Description: Passenger Left Lower Tibia Moment X

Maximum Value: 7.4 at 95.7 Milliseconds

Minimum Value: -8.3 at 45.7 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

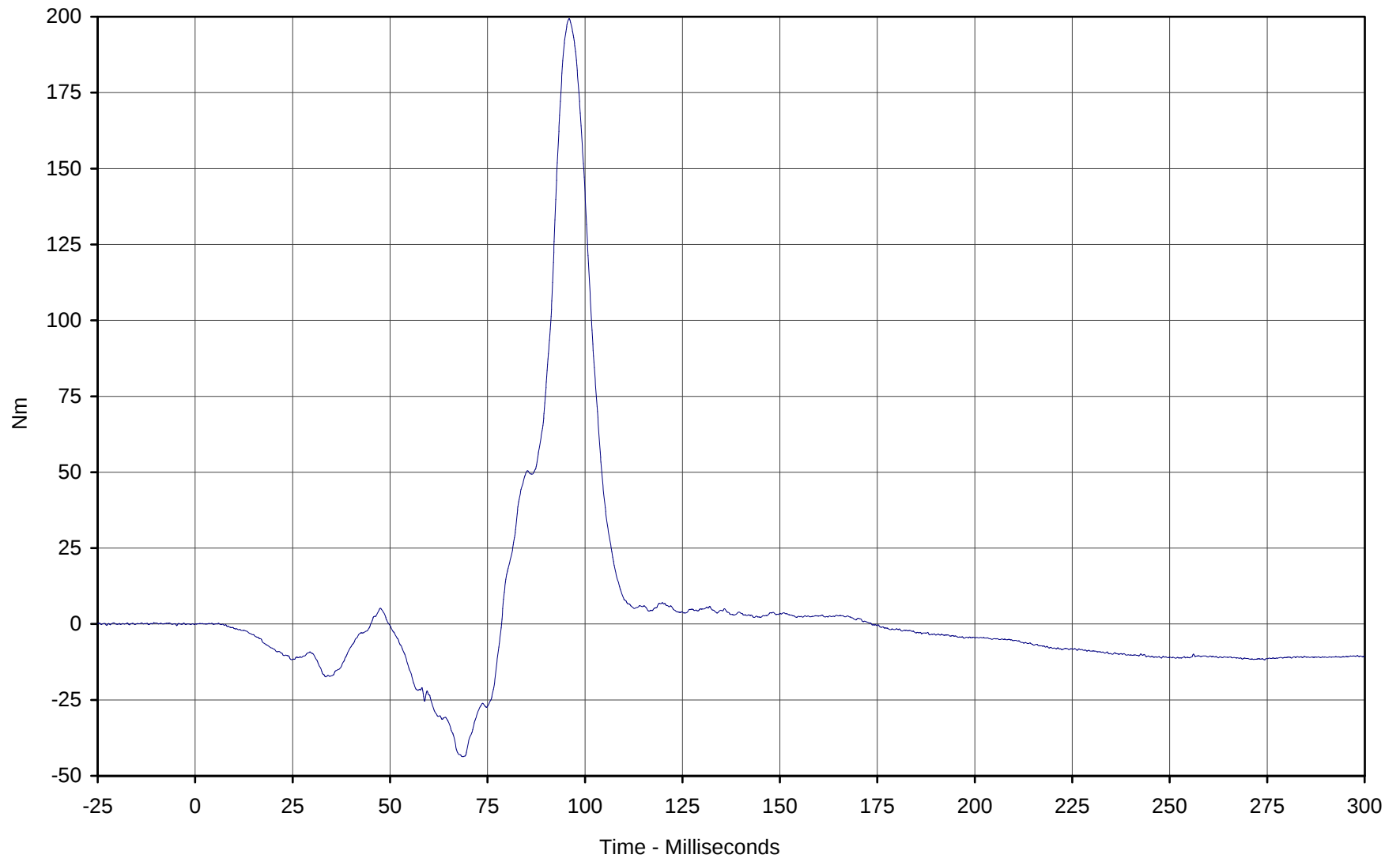
Curve Number: FIL-073

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Left Lower Tibia Moment Y

Maximum Value: 199.4 at 96.0 Milliseconds

Minimum Value: -43.7 at 68.7 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

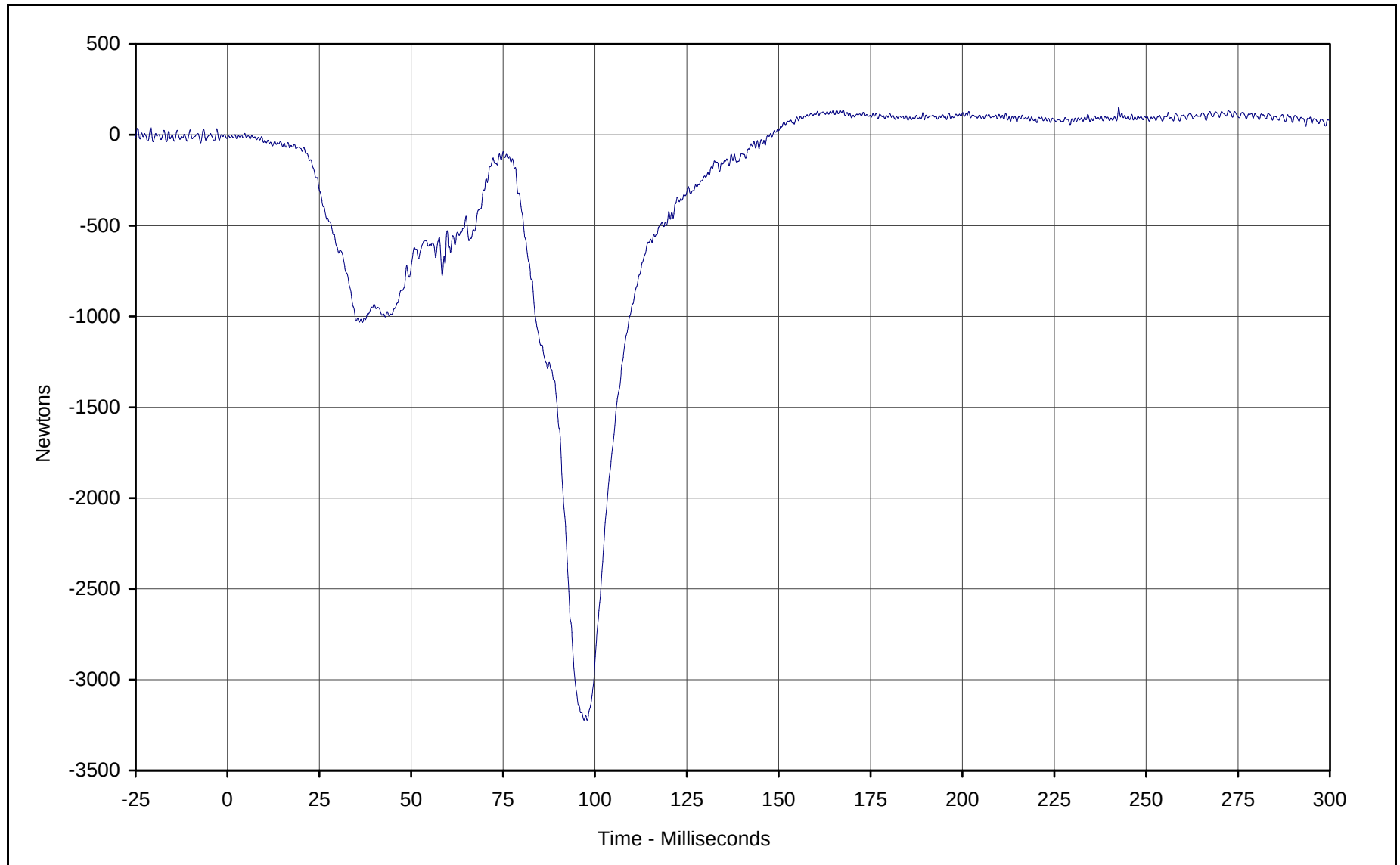
Curve Number: FIL-074

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Left Lower Tibia Force Z

Maximum Value: 150.6 at 242.5 Milliseconds

Minimum Value: -3223.0 at 97.9 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

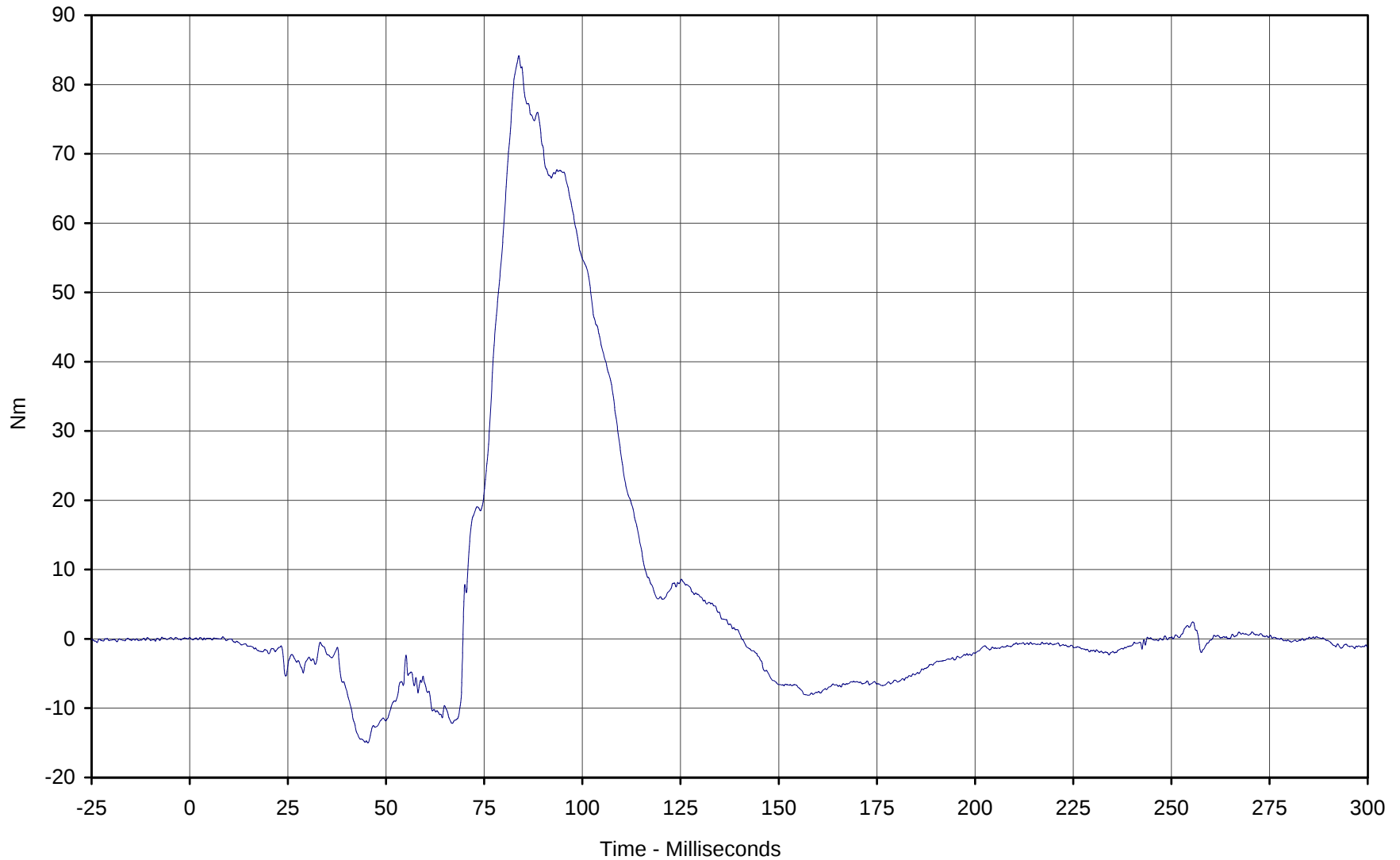
Curve Number: FIL-075

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Right Lower Tibia Moment X

Maximum Value: 84.2 at 83.8 Milliseconds

Minimum Value: -15.0 at 45.4 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

Curve Number: FIL-076

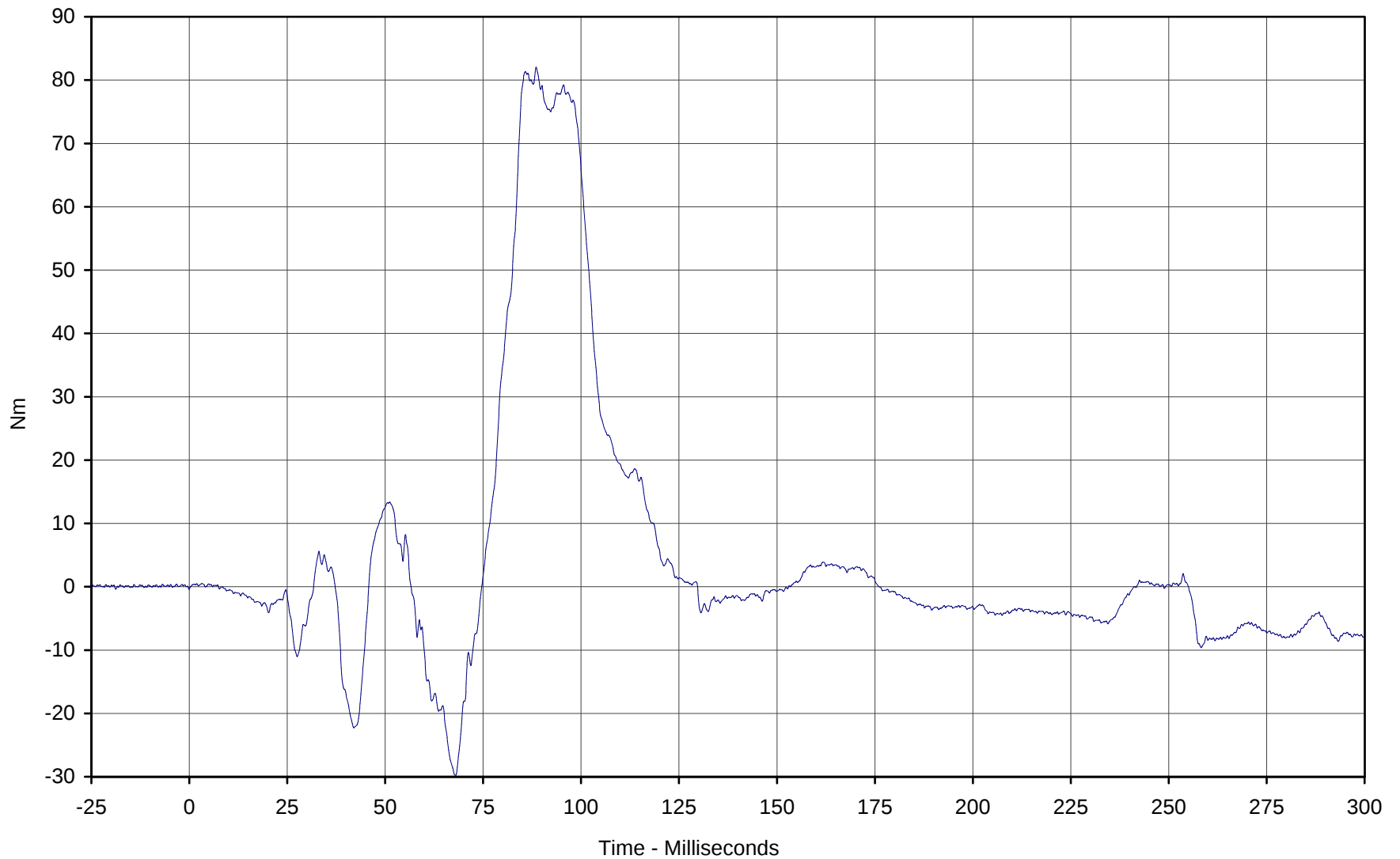
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Right Lower Tibia Moment Y

Maximum Value: 82.0 at 88.5 Milliseconds

Minimum Value: -29.8 at 68.0 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

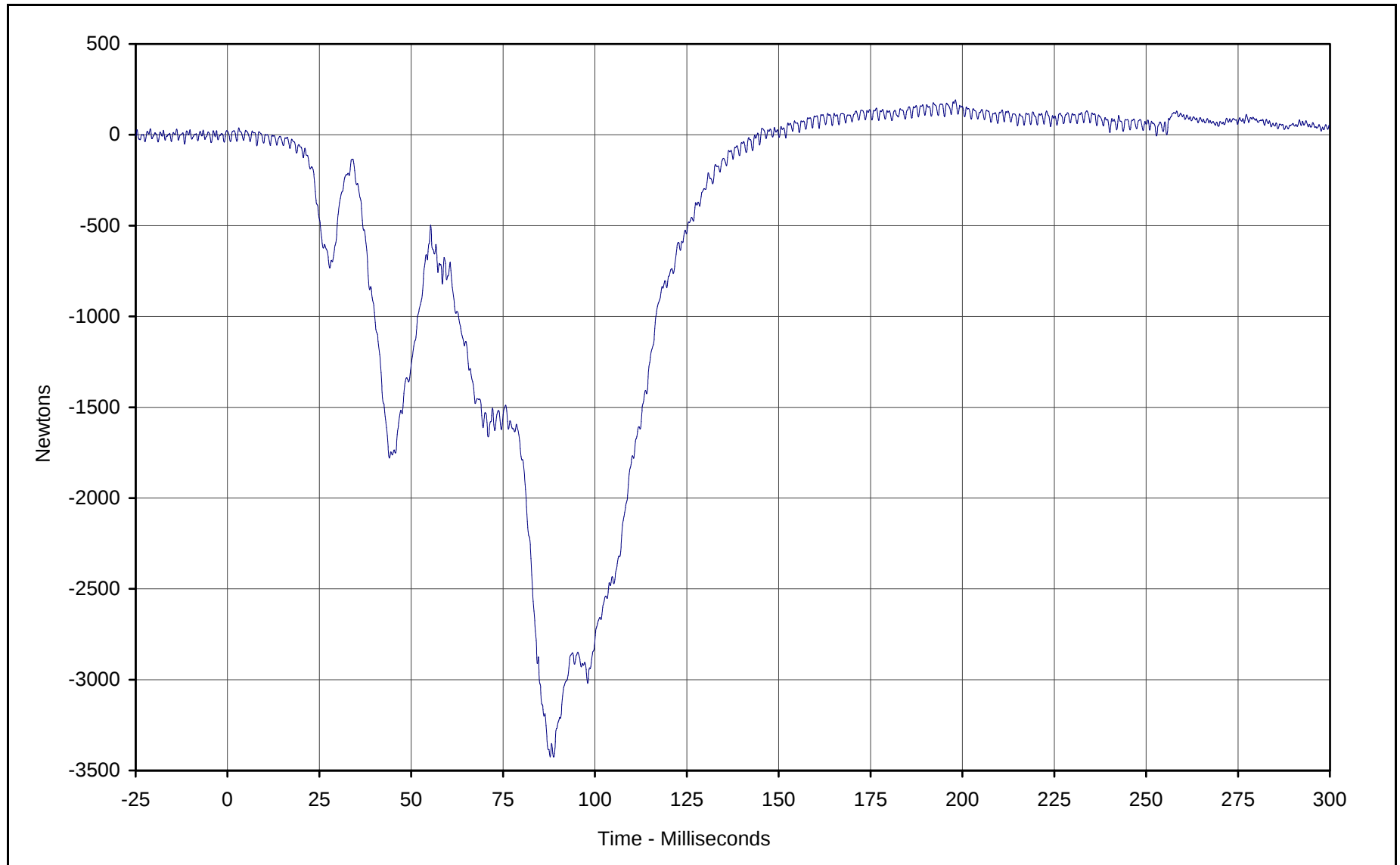
Curve Number: FIL-077

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Right lower Tibia Force Z

Maximum Value: 192.7 at 198.1 Milliseconds

Minimum Value: -3426.2 at 88.8 Milliseconds

SAE Filter Class: 600

Date of Test: 01/23/01

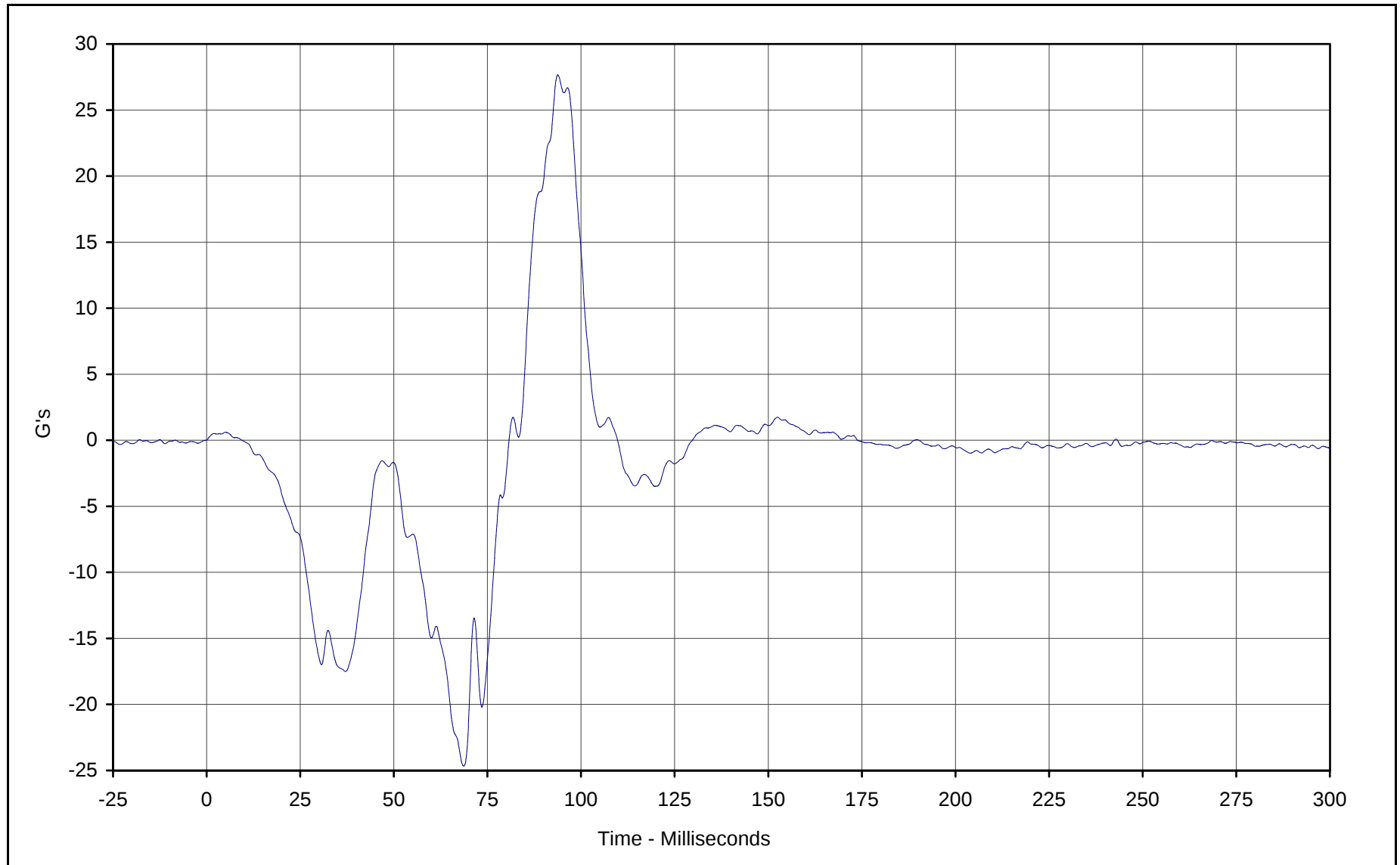
Curve Number: FIL-078

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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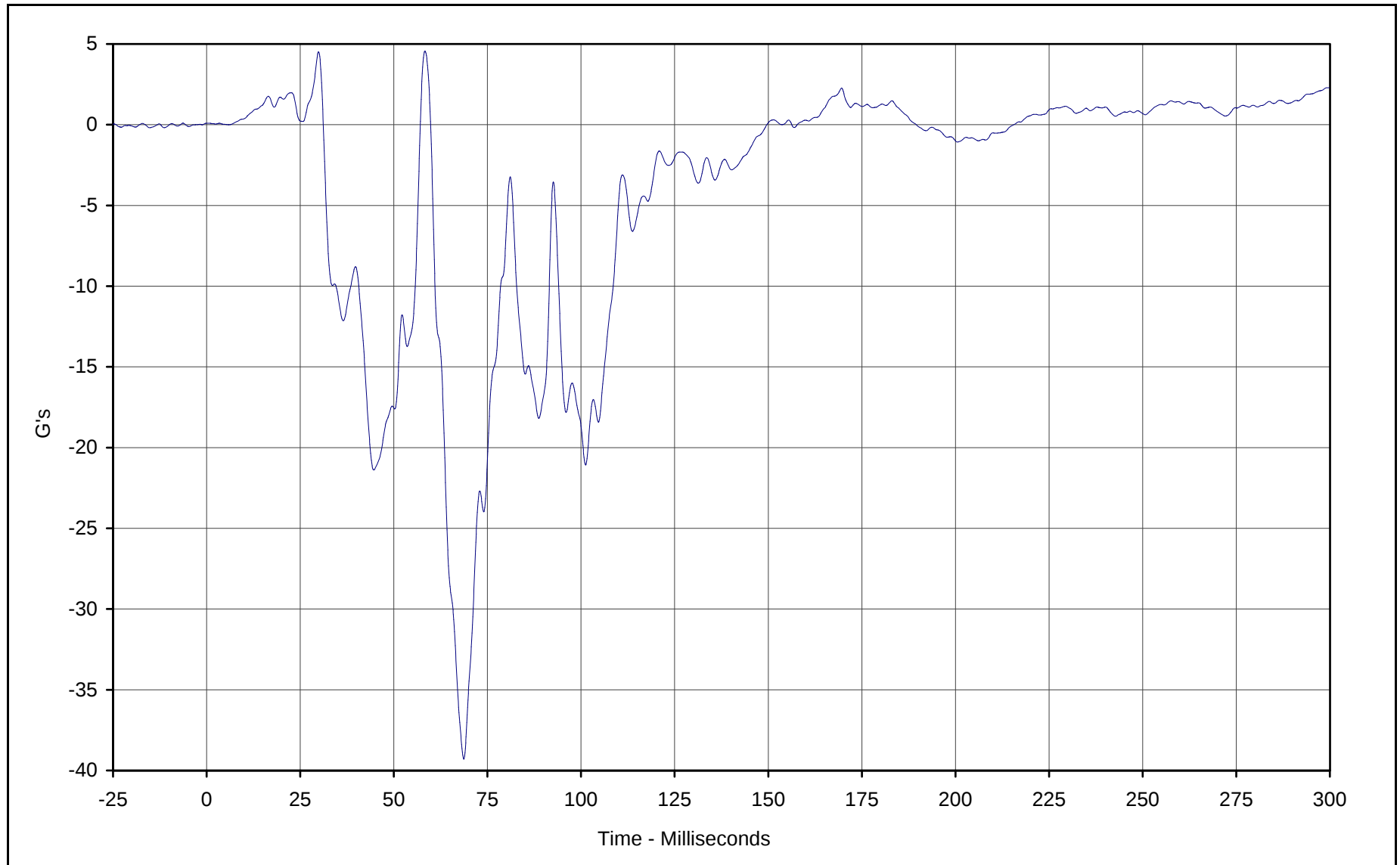
Curve Description: Passenger Left Foot Aft X
Maximum Value: 27.7 at 93.8 Milliseconds
Minimum Value: -24.7 at 68.7 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-079

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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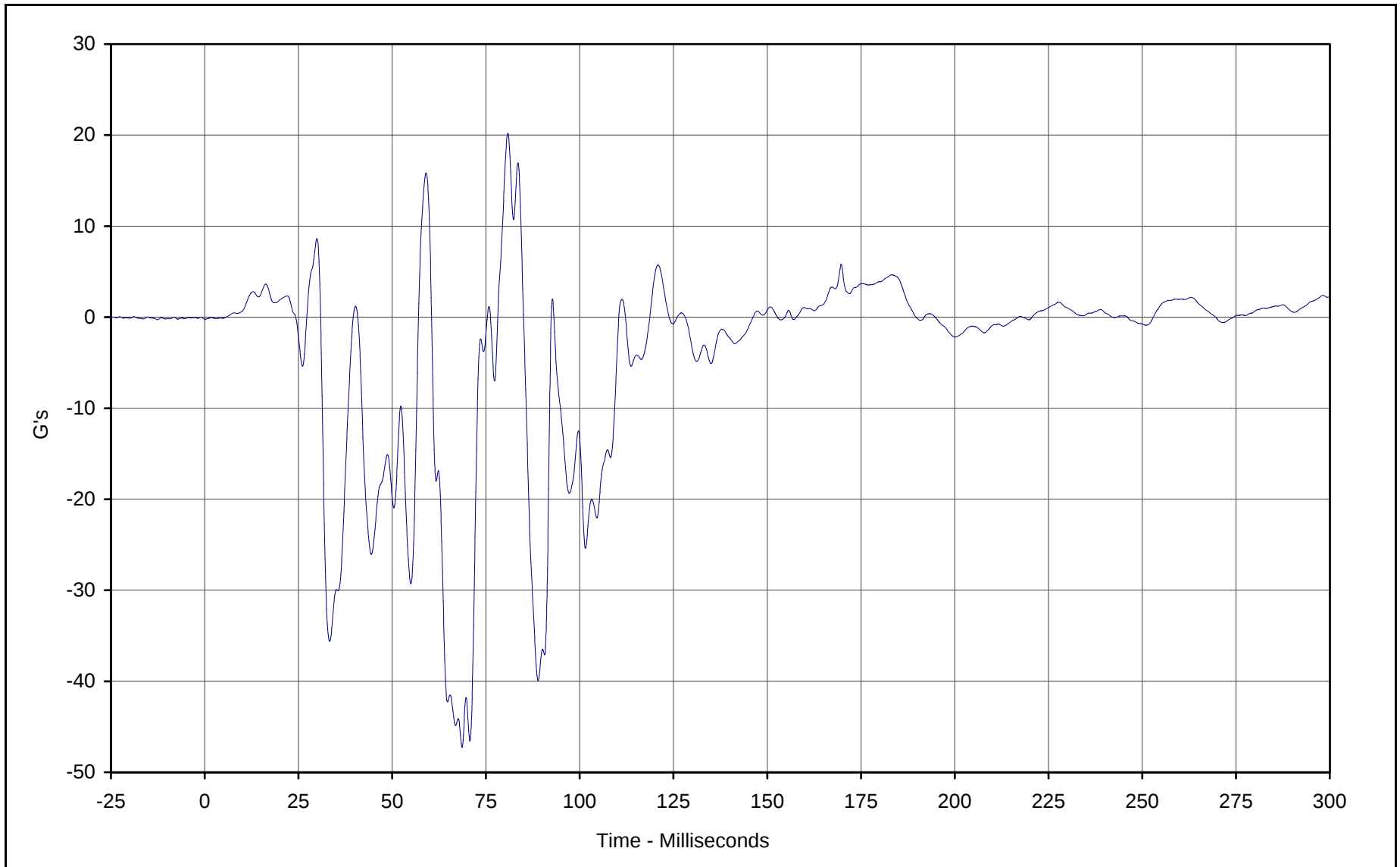


Curve Description: Passenger Left Foot Aft Z
Maximum Value: 4.6 at 58.3 Milliseconds
Minimum Value: -39.3 at 68.7 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-080

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



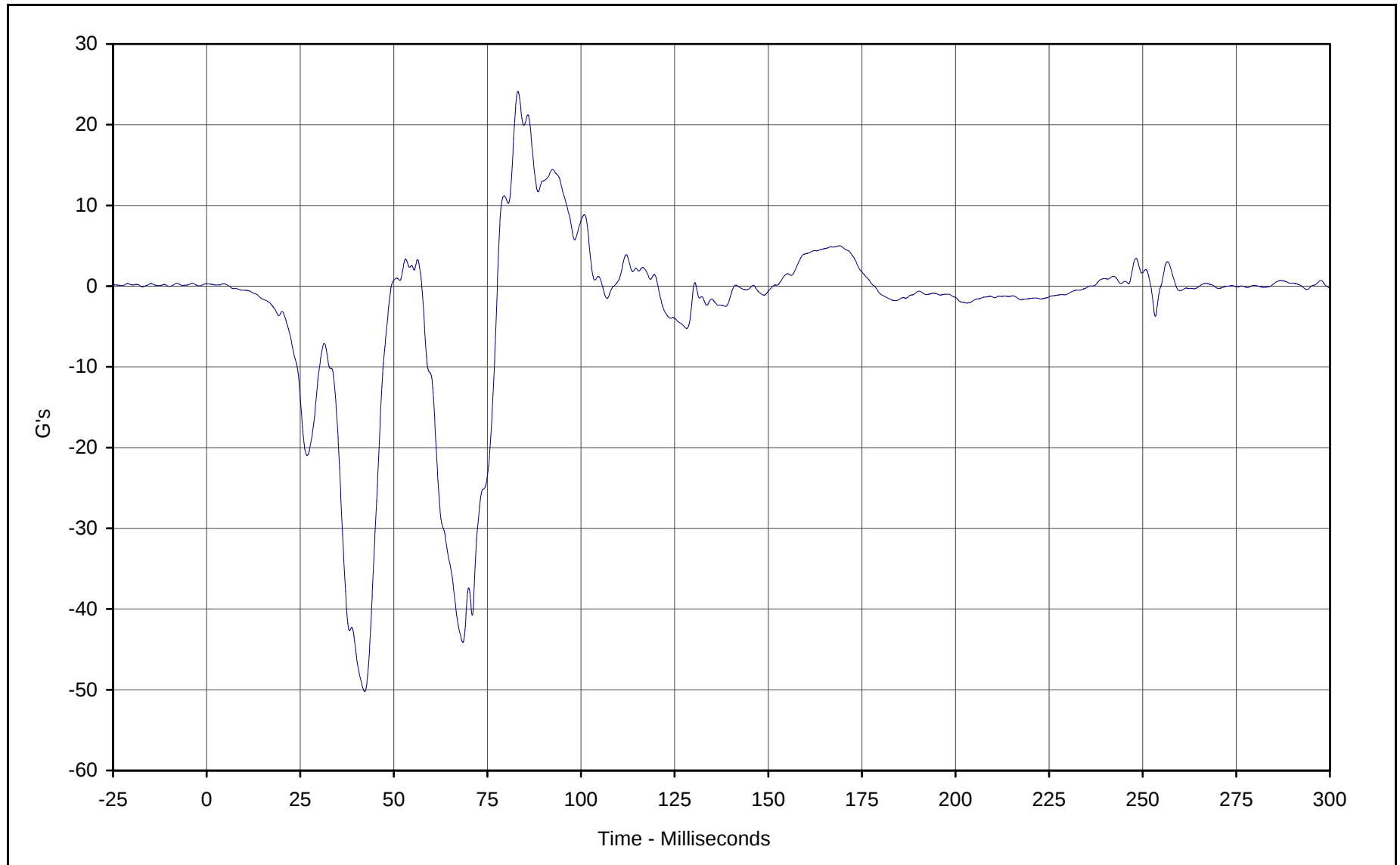
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Curve Description: Passenger Left Foot Fore Z
Maximum Value: 20.2 at 80.8 Milliseconds
Minimum Value: -47.3 at 68.6 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-081

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



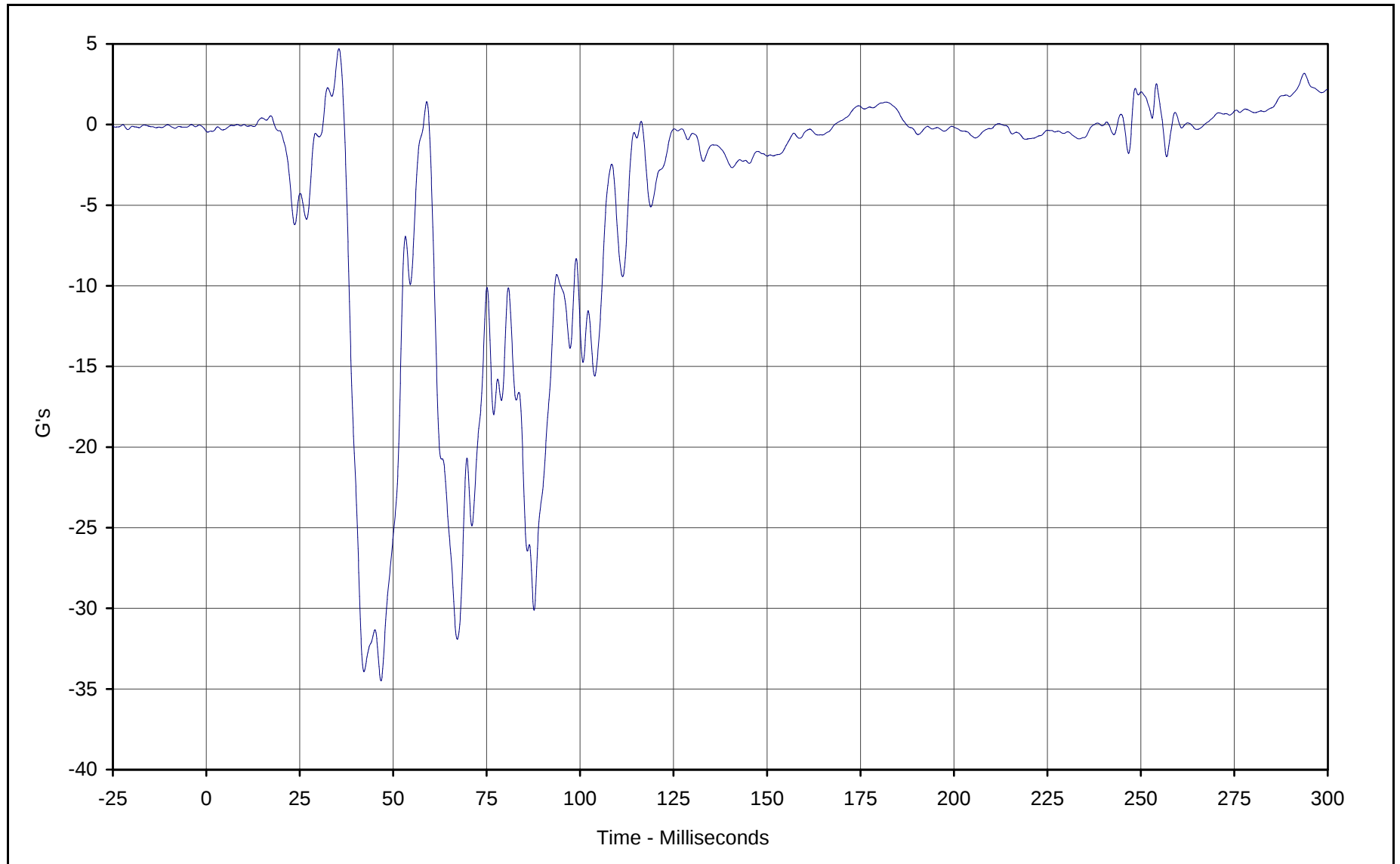


Curve Description: Passenger Right Foot Aft X
Maximum Value: 24.1 at 83.2 Milliseconds
Minimum Value: -50.2 at 42.2 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-082

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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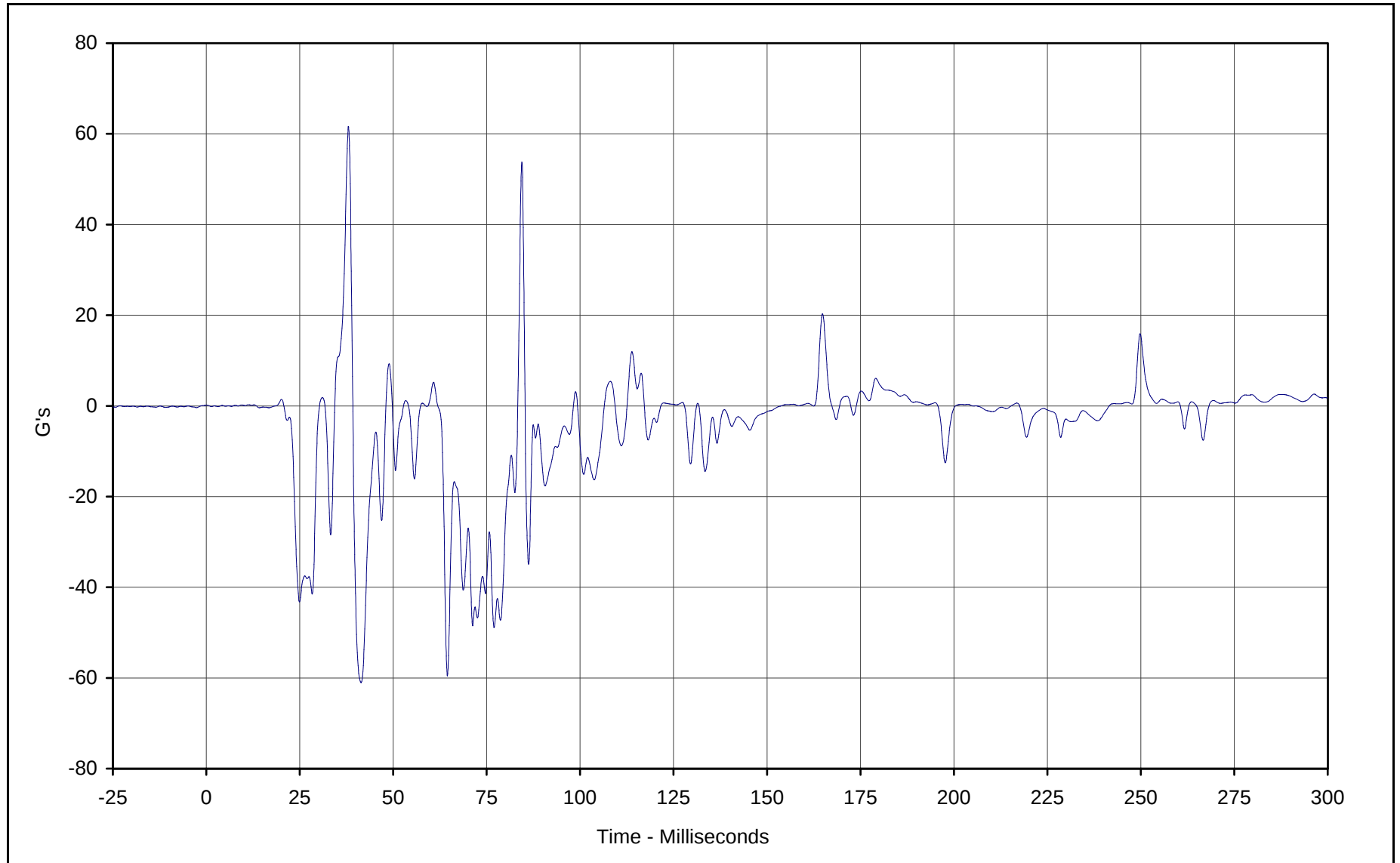
Curve Description: Passenger Right Foot Aft Z
Maximum Value: 4.7 at 35.5 Milliseconds
Minimum Value: -34.5 at 46.7 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-083

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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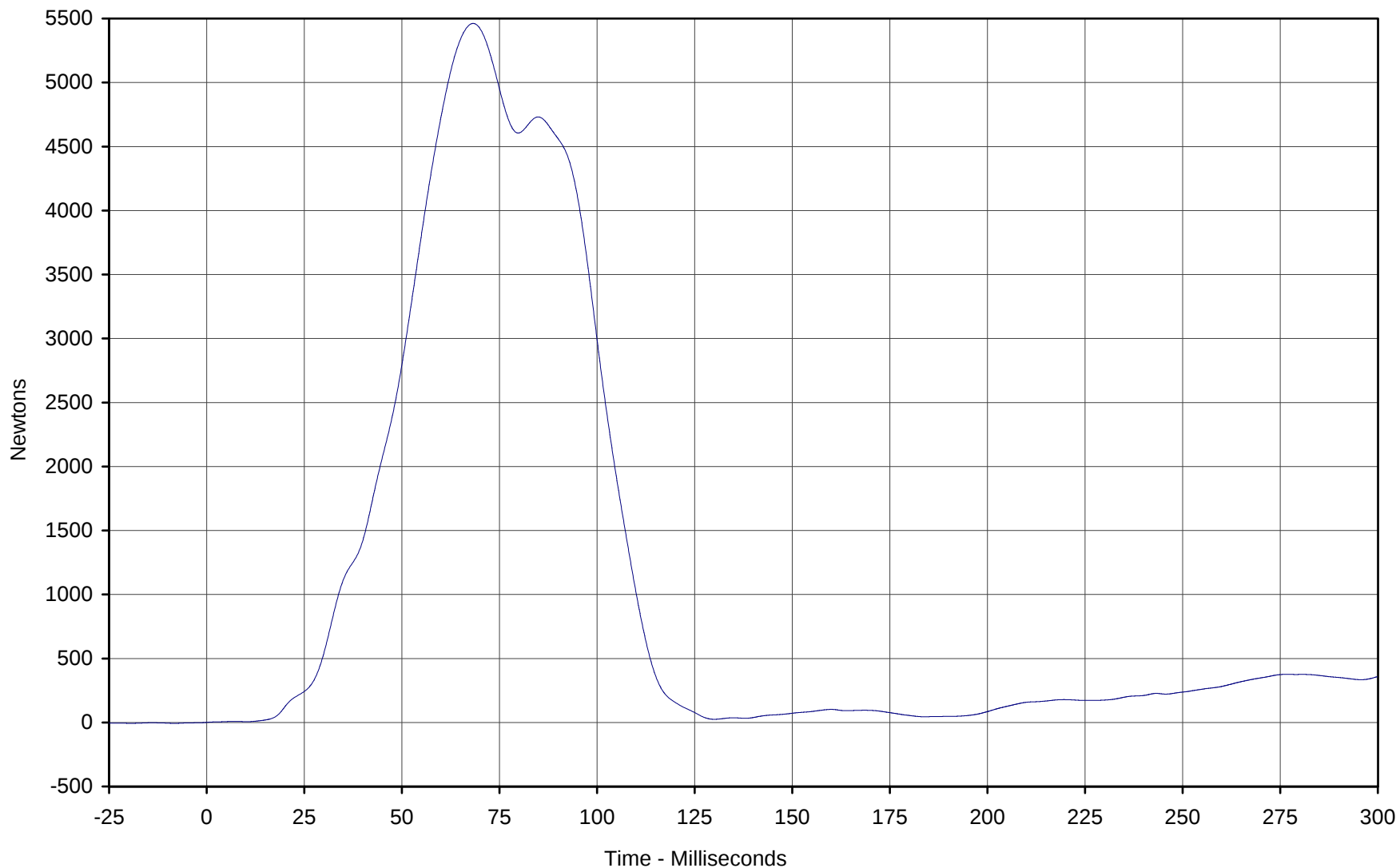
Curve Description: Passenger Right Foot Fore Z
Maximum Value: 61.7 at 38.0 Milliseconds
Minimum Value: -61.1 at 41.4 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: FIL-084

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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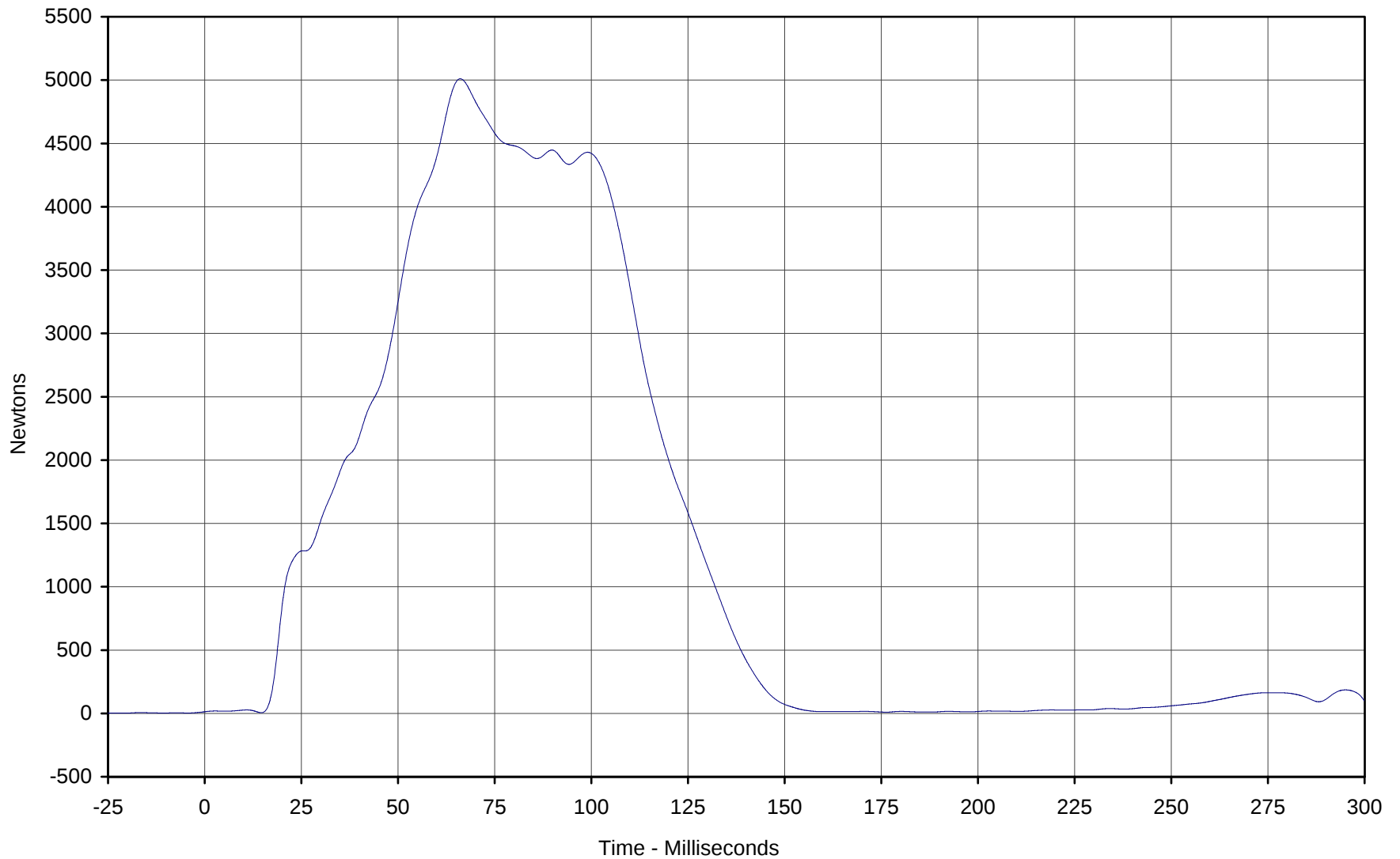
Curve Description: Passenger Lap Belt Force
Maximum Value: 5461.5 at 68.2 Milliseconds
Minimum Value: 0.7 at 0.0 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-085

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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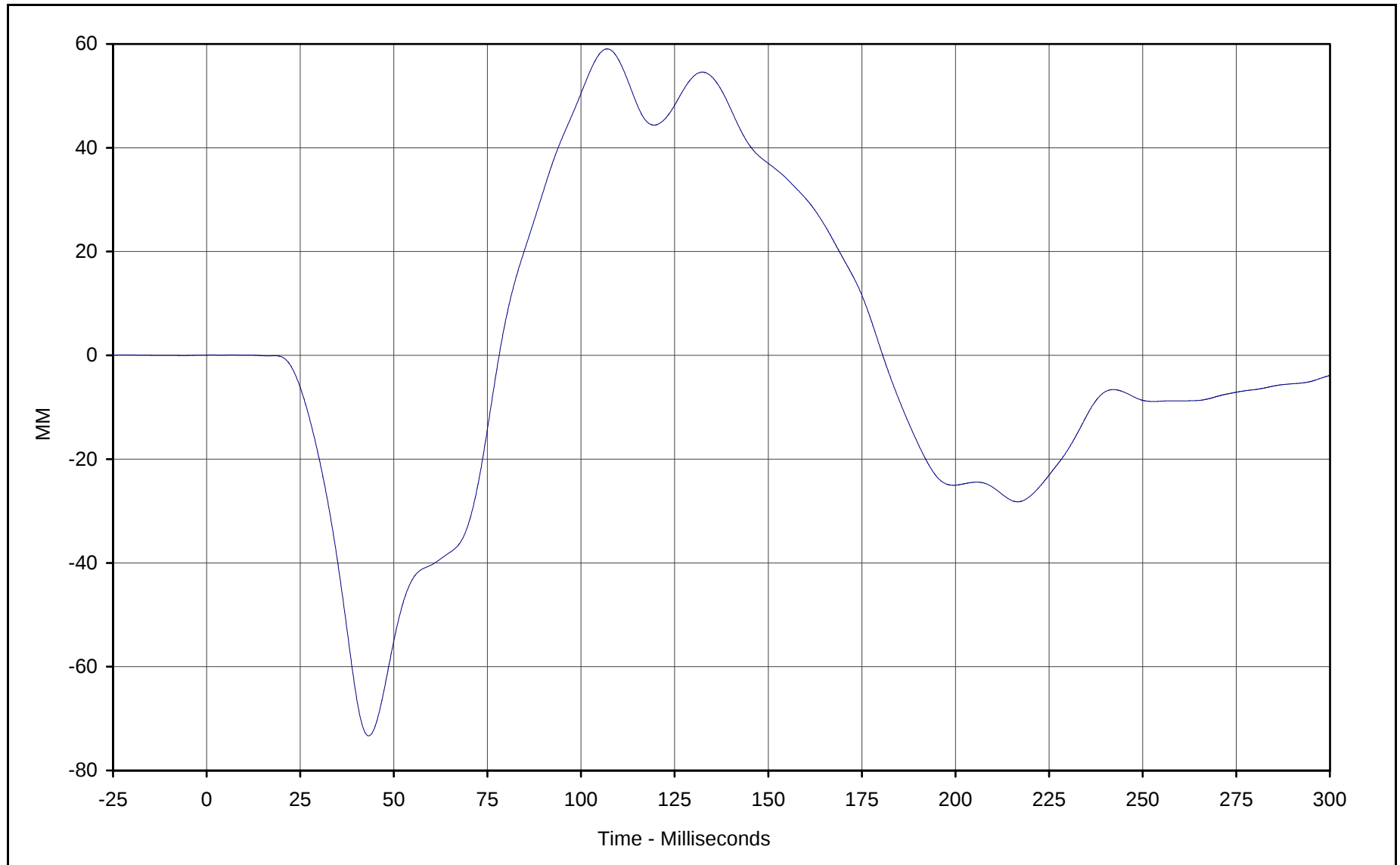
Curve Description: Passenger Shoulder Belt Force
Maximum Value: 5011.1 at 66.1 Milliseconds
Minimum Value: 5.5 at 14.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-086

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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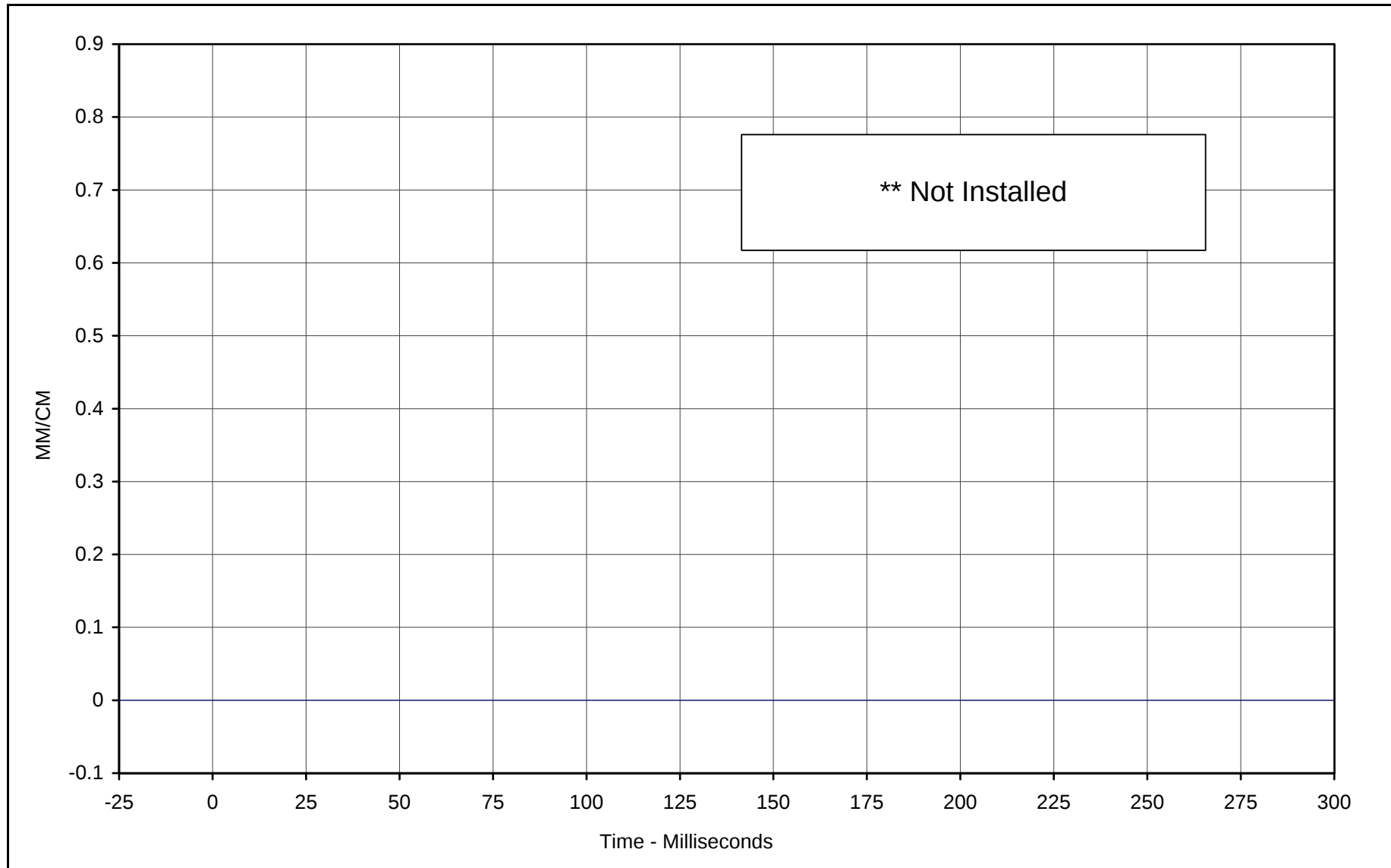
Curve Description: Passenger Shoulder Belt Pullout
Maximum Value: 59.1 at 107.0 Milliseconds
Minimum Value: -73.3 at 43.3 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-087

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Passenger Shoulder Belt Elongation **

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Maximum Value: 0.0 at 0.0 Milliseconds

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 60

Date of Test: 01/23/01

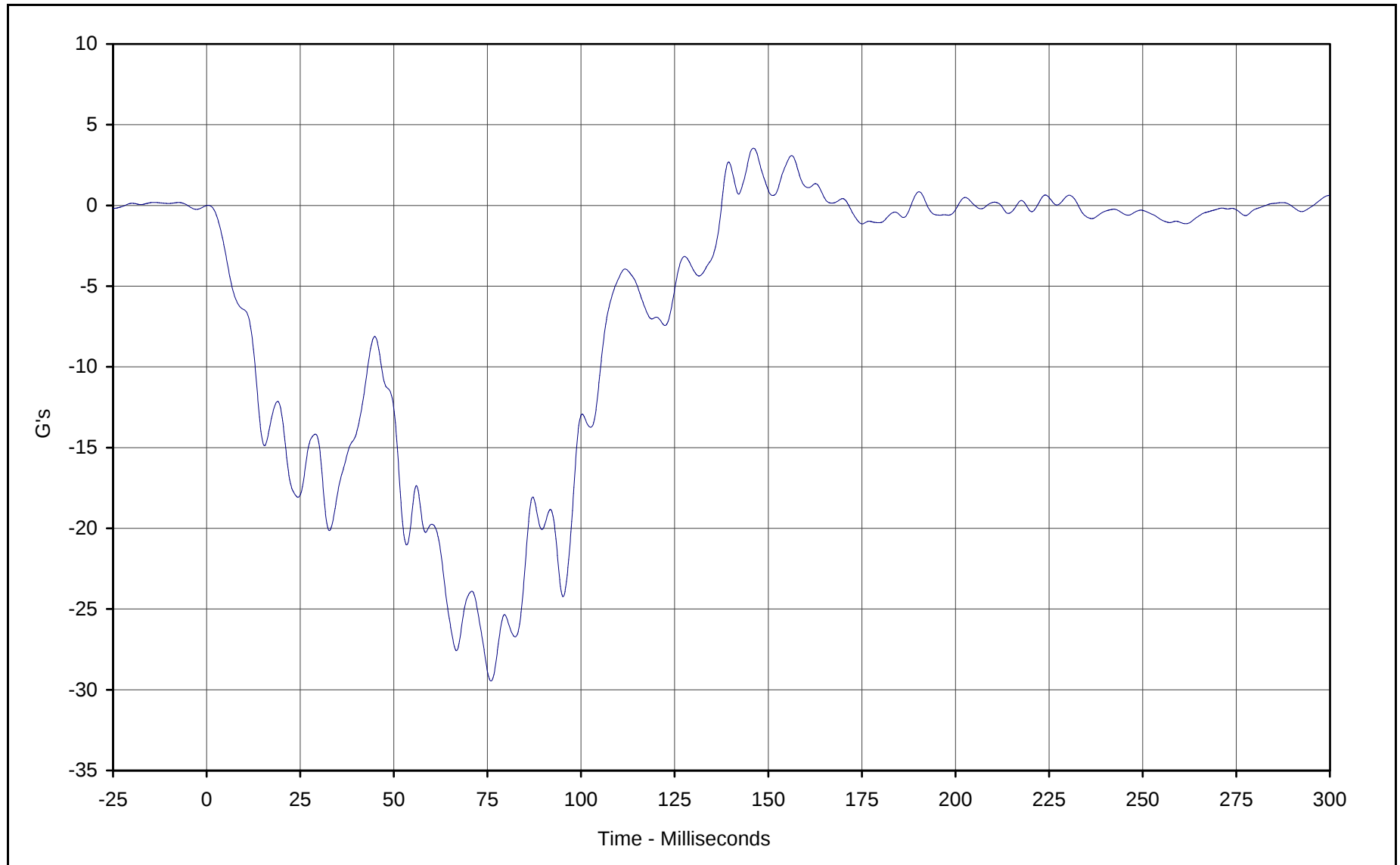
Curve Number: FIL-088

** Not installed



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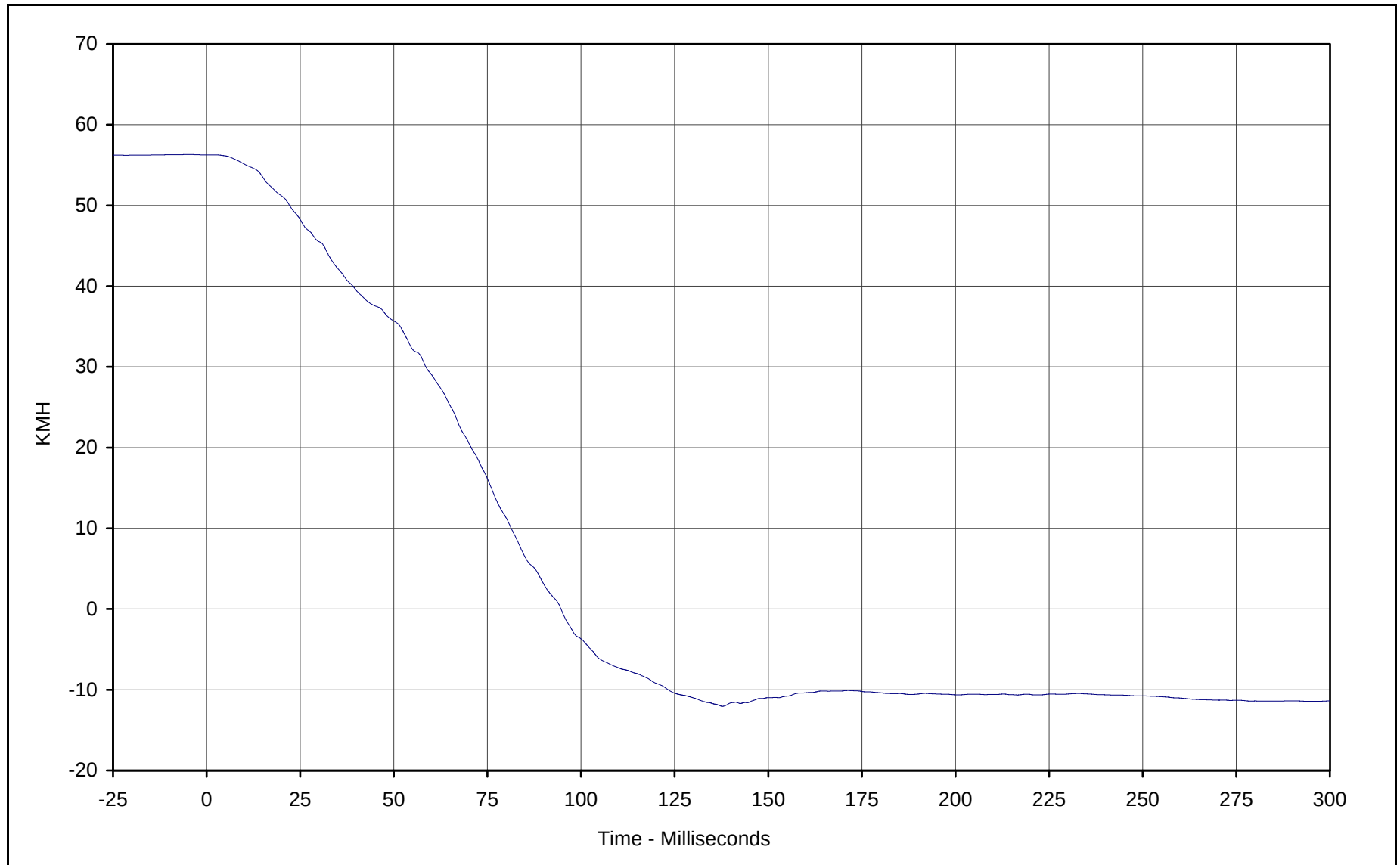
Curve Description: Vehicle Left Rear Primary
Maximum Value: 3.5 at 146.0 Milliseconds
Minimum Value: -29.5 at 76.0 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-089

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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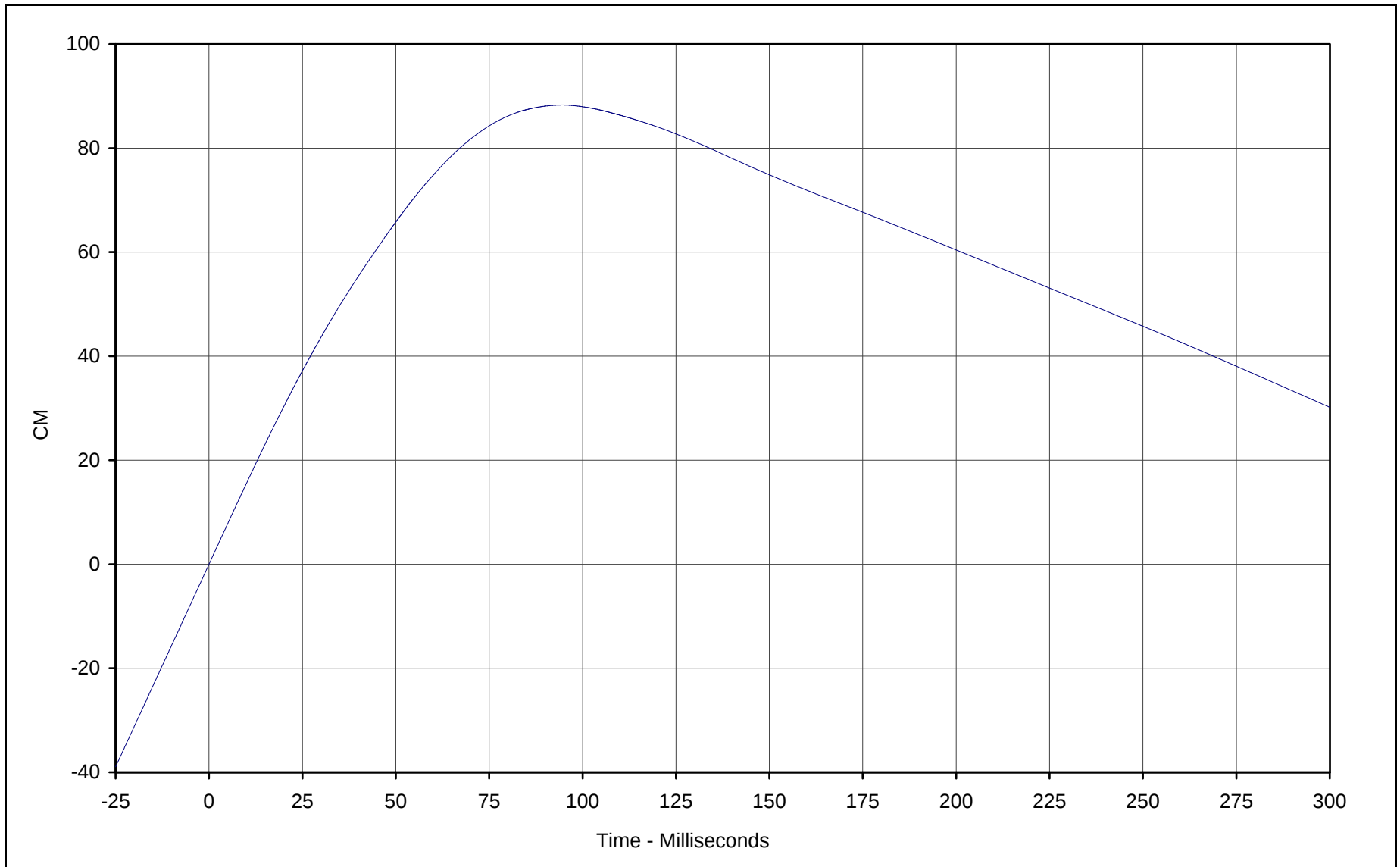
Curve Description: Vehicle Left Rear Primary Velocity
Maximum Value: 56.3 at 2.3 Milliseconds
Minimum Value: -12.1 at 137.8 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-089

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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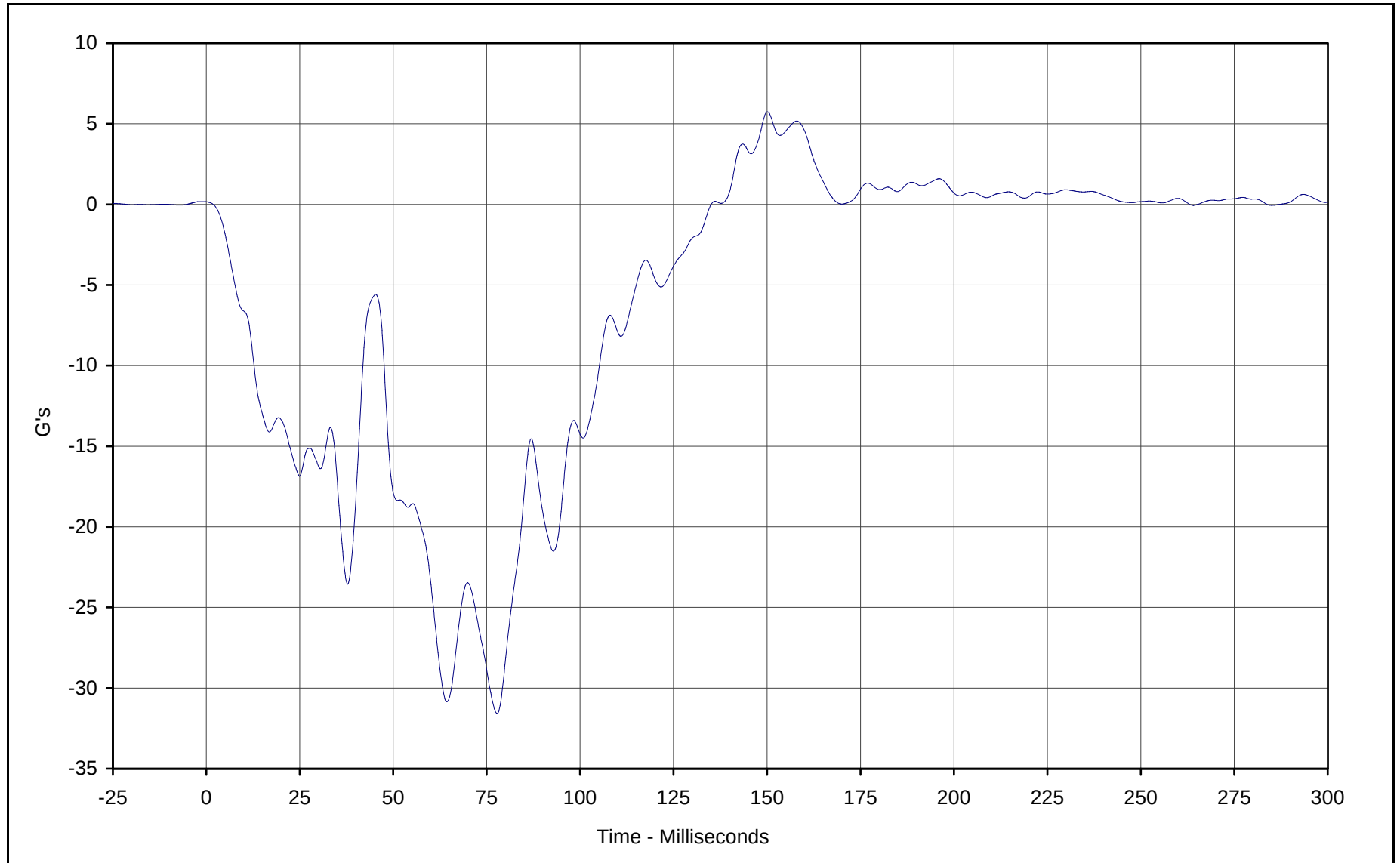
Curve Description: Vehicle Left Rear Primary Displ.
Maximum Value: 88.3 at 94.6 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-089

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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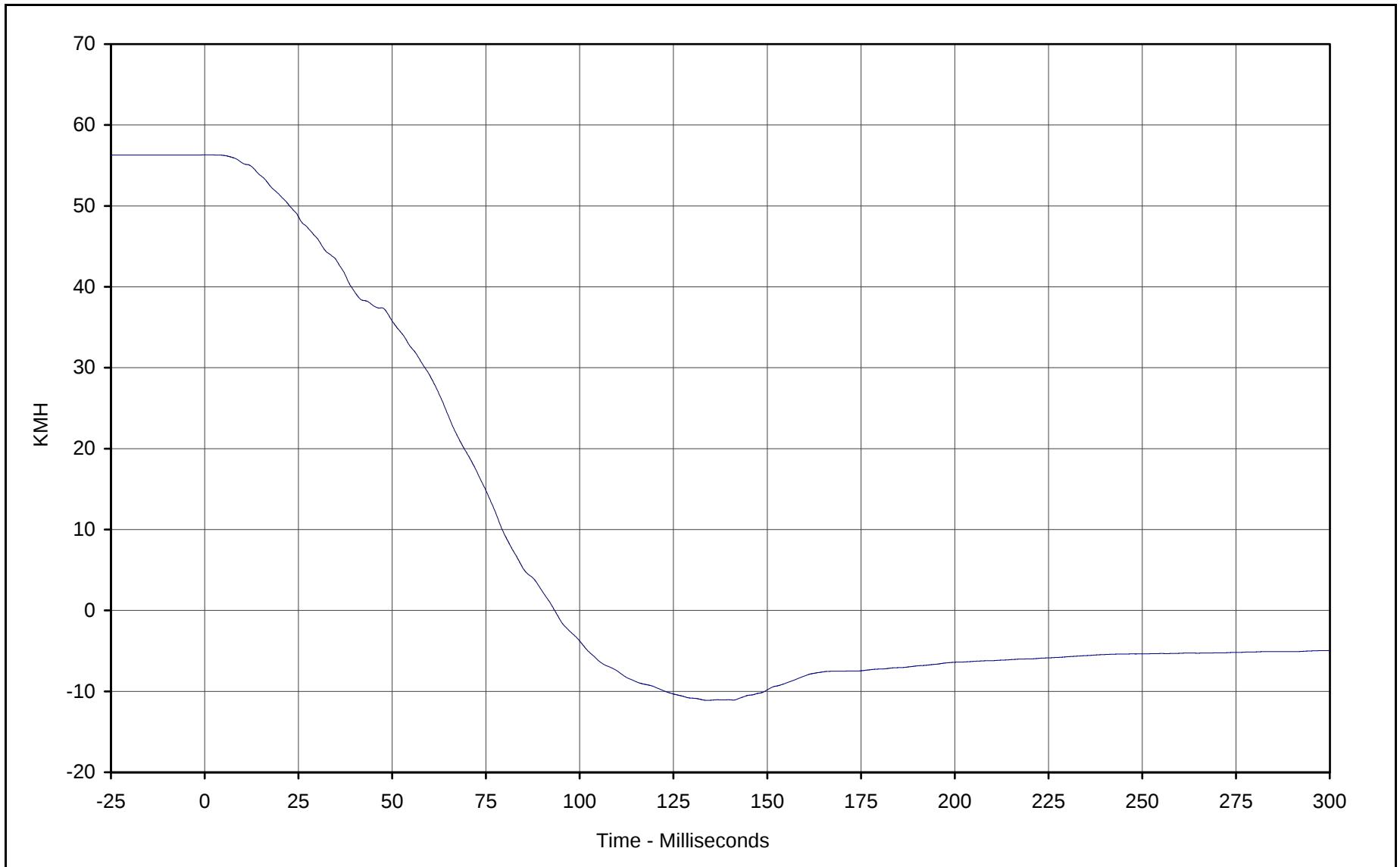
Curve Description: Vehicle Right Rear Primary
Maximum Value: 5.7 at 150.1 Milliseconds
Minimum Value: -31.6 at 77.8 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-090

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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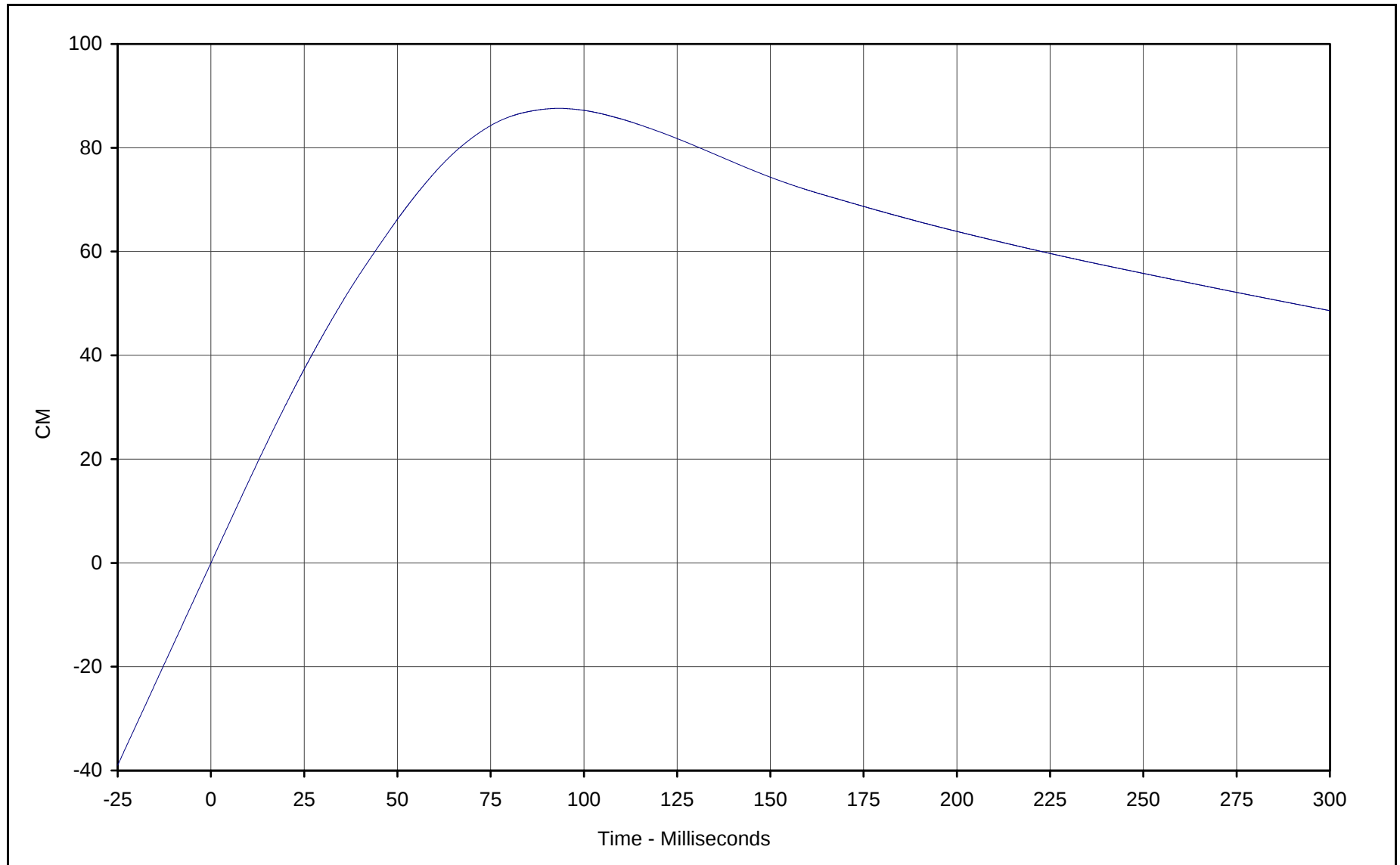
Curve Description: Vehicle Right Rear Primary Velocity
Maximum Value: 56.3 at 1.3 Milliseconds
Minimum Value: -11.1 at 134.1 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-090

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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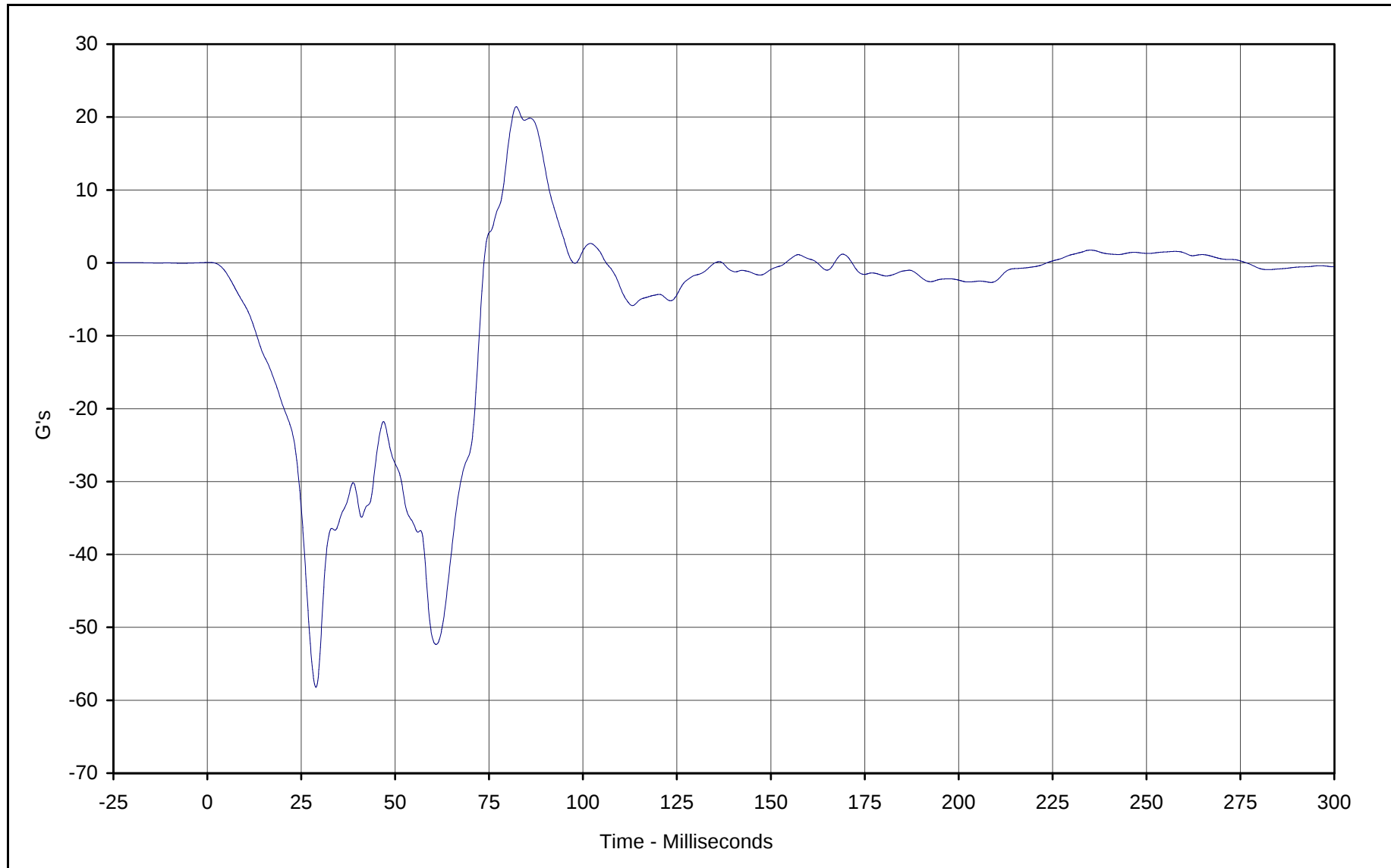
Curve Description: Vehicle Right Rear Primary Displ.
Maximum Value: 87.6 at 93.3 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-090

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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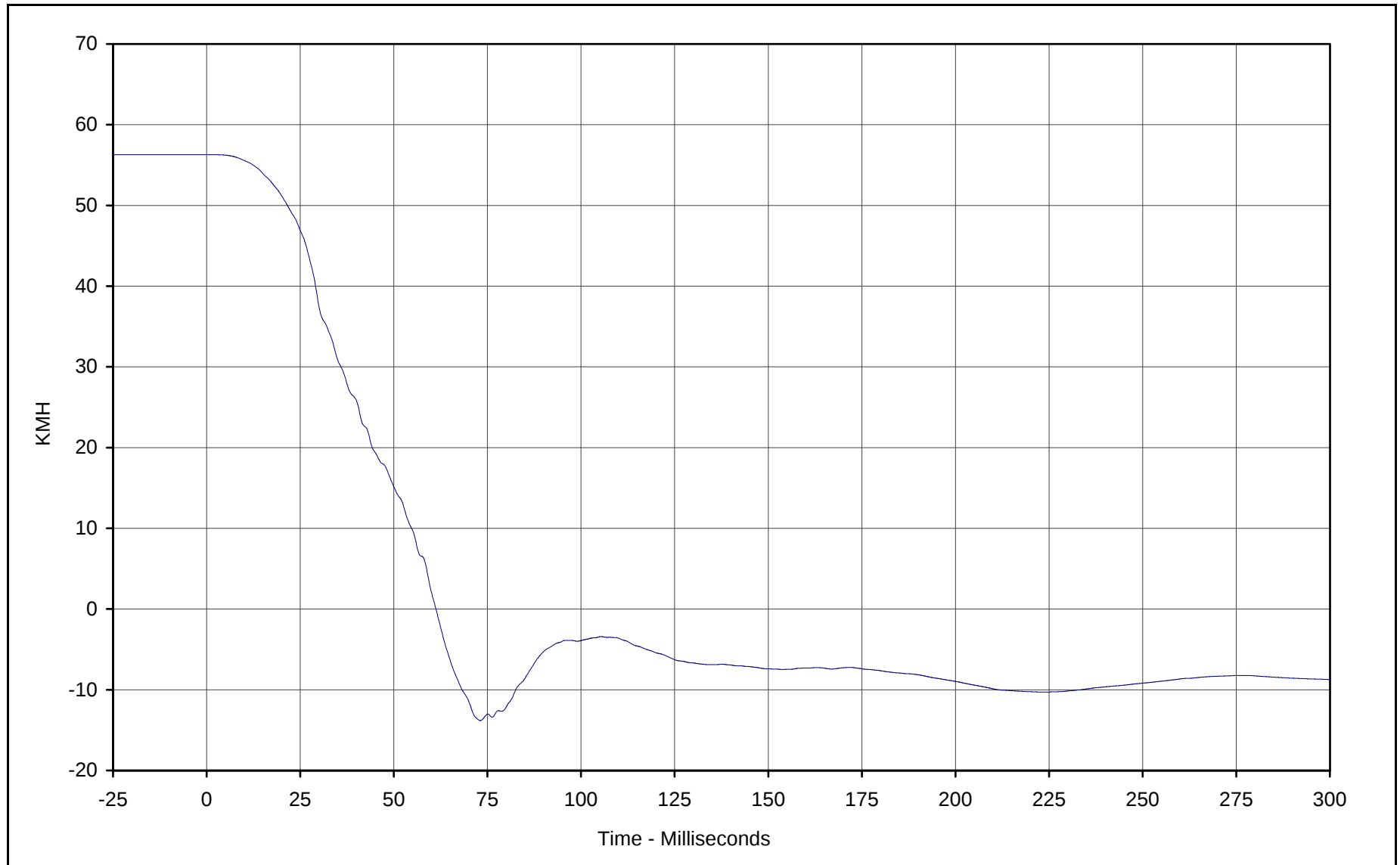
Curve Description: Vehicle Engine Top
Maximum Value: 21.4 at 82.2 Milliseconds
Minimum Value: -58.2 at 28.9 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-091

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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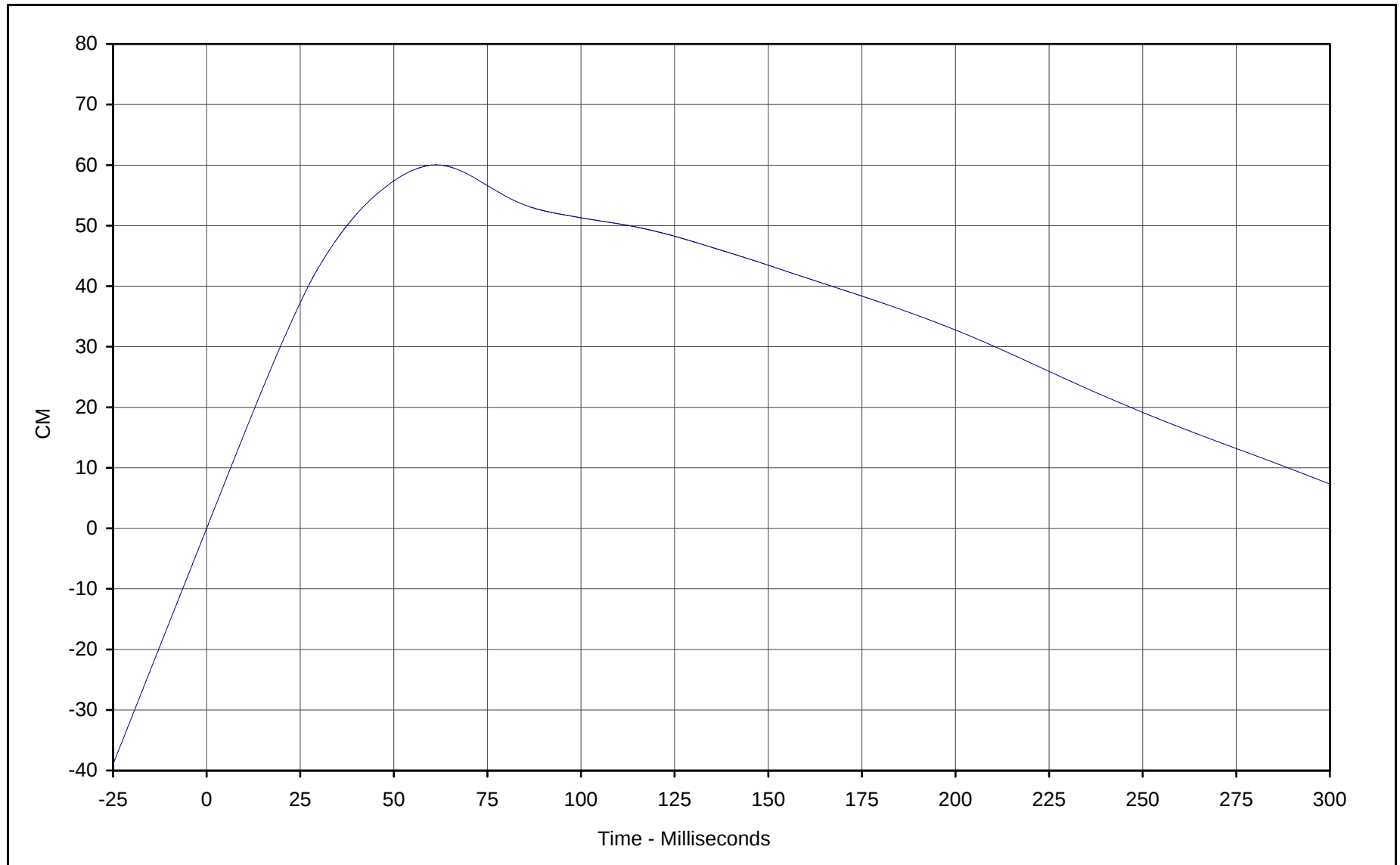
Curve Description: Vehicle Engine Top Velocity
Maximum Value: 56.3 at 0.0 Milliseconds
Minimum Value: -13.8 at 73.1 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-091

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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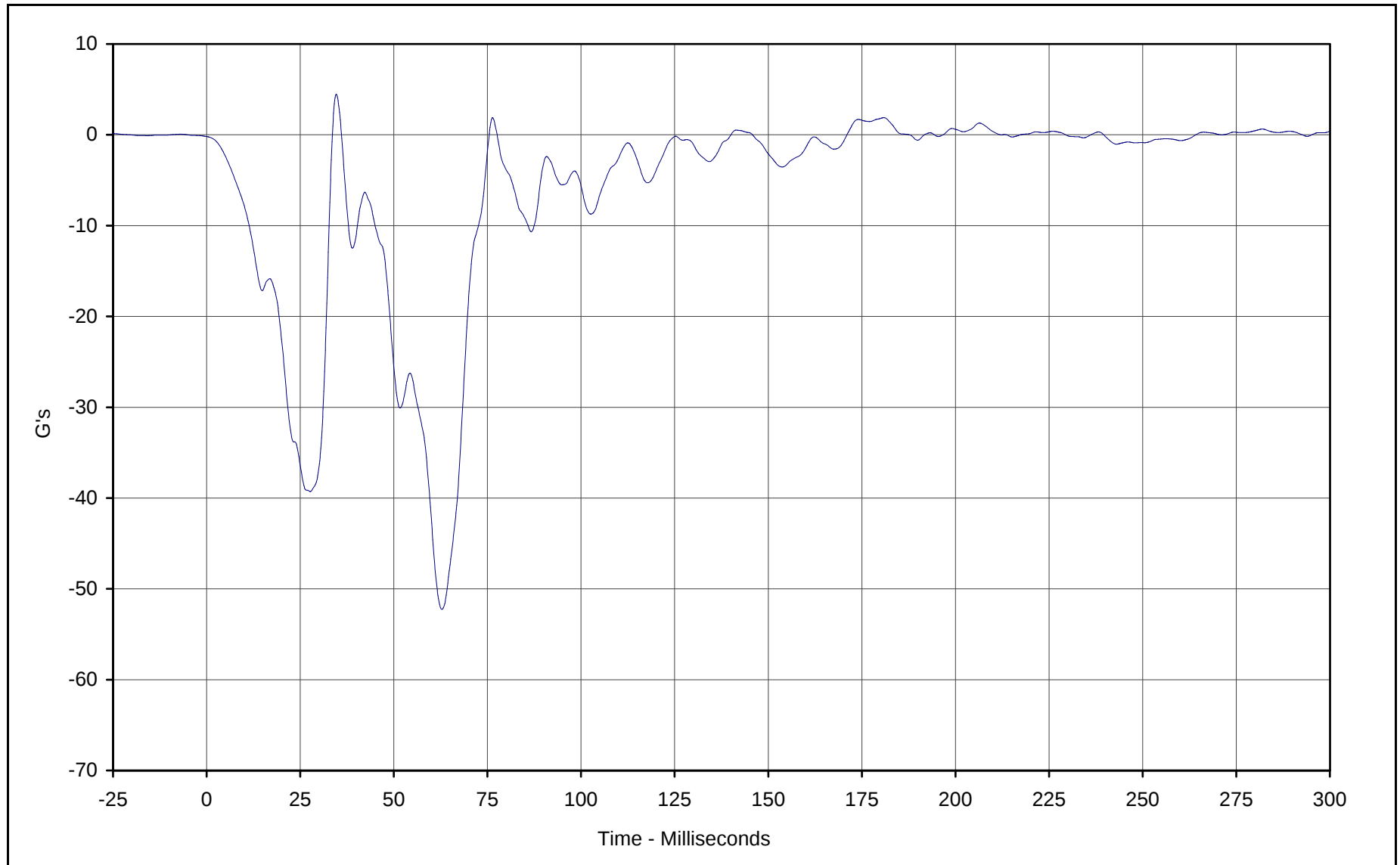
Curve Description: Vehicle Engine Top Displacement
Maximum Value: 60.0 at 61.2 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-091

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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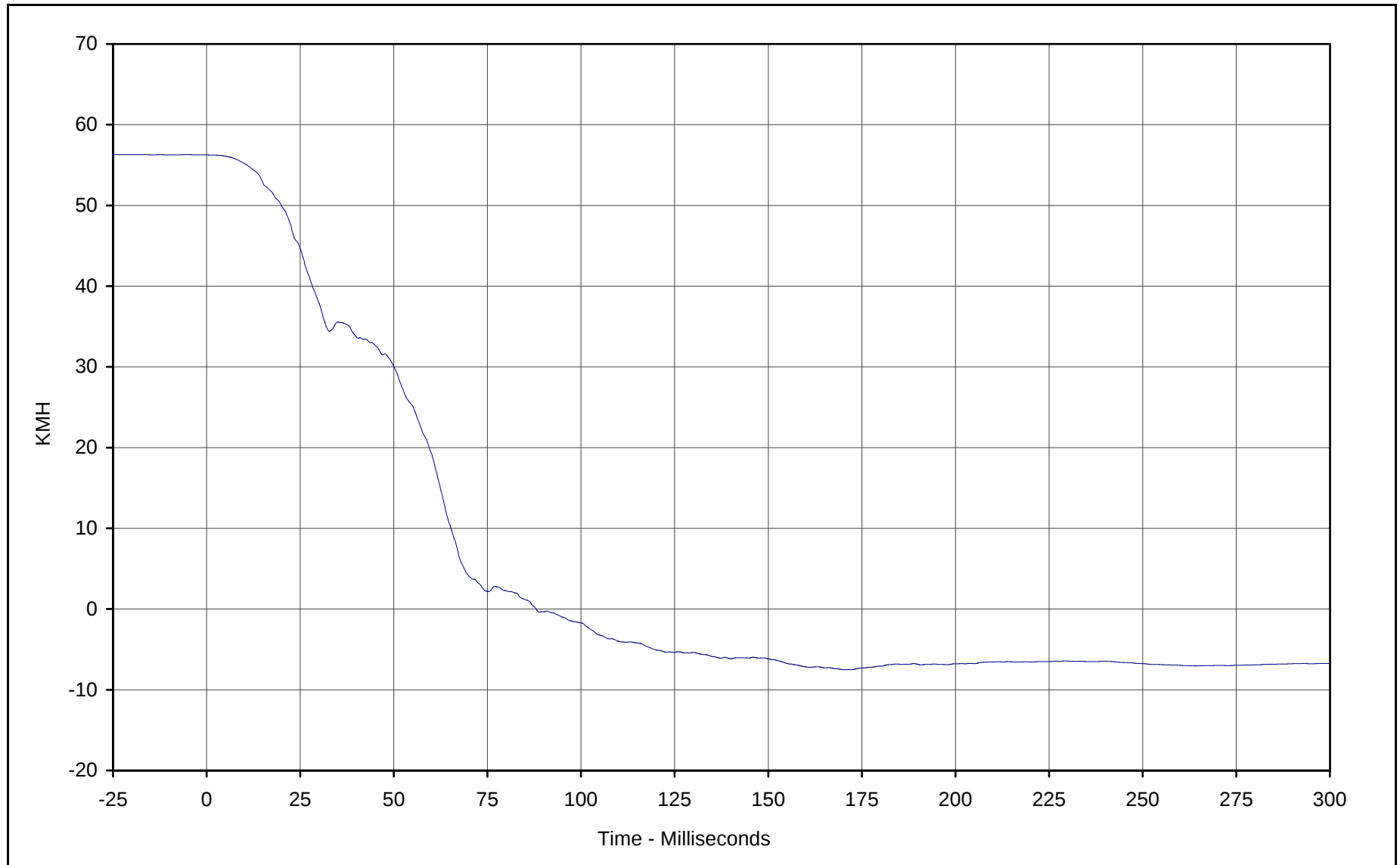
Curve Description: Vehicle Engine Bottom
Maximum Value: 4.5 at 34.6 Milliseconds
Minimum Value: -52.3 at 62.8 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-092

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-133



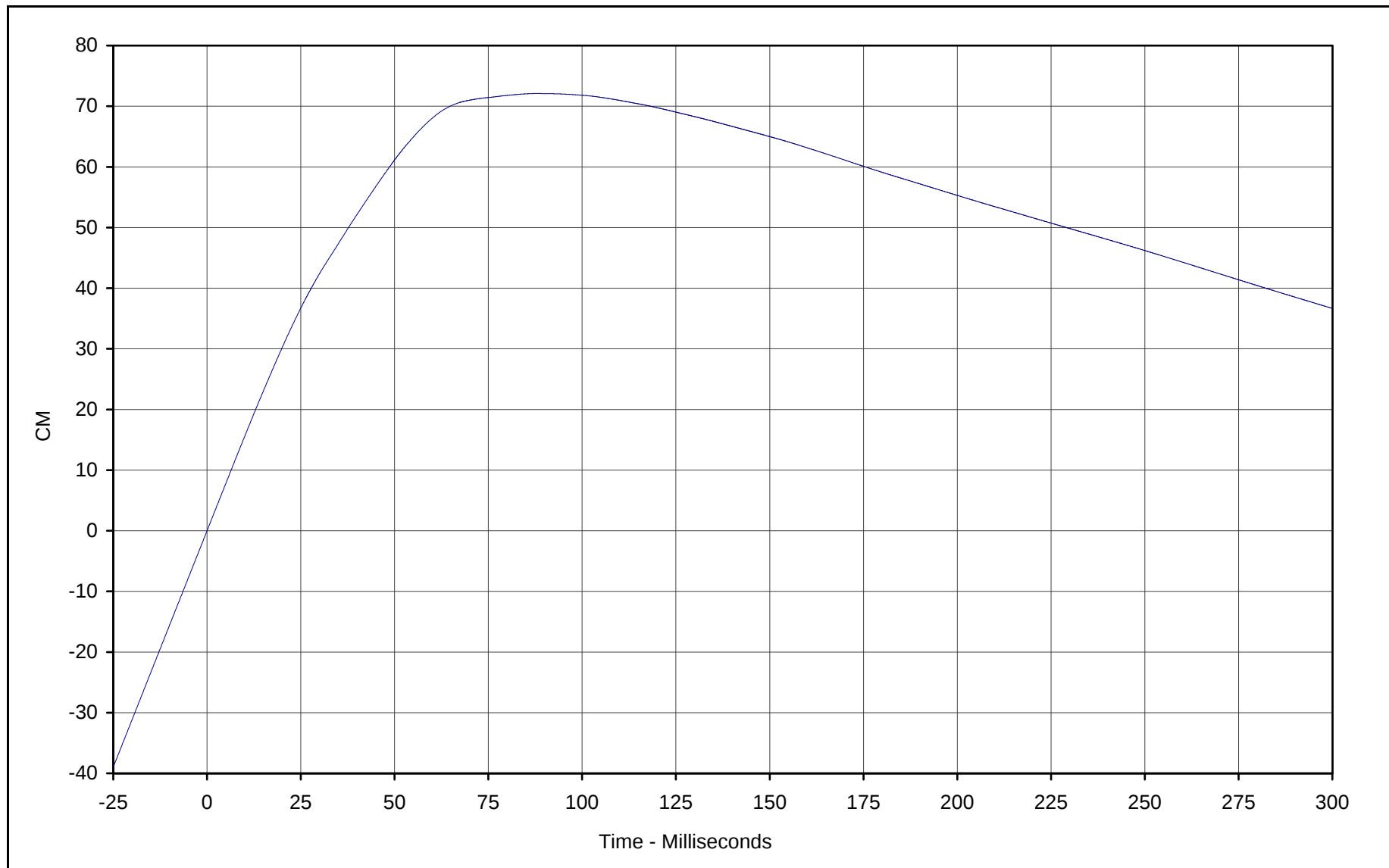
Curve Description: Vehicle Engine Bottom Velocity
Maximum Value: 56.3 at 0.0 Milliseconds
Minimum Value: -7.5 at 170.5 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-092

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-134



Curve Description: Vehicle Engine Bottom Displacement

Maximum Value: 72.1 at 88.0 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

Curve Number: IN2-092

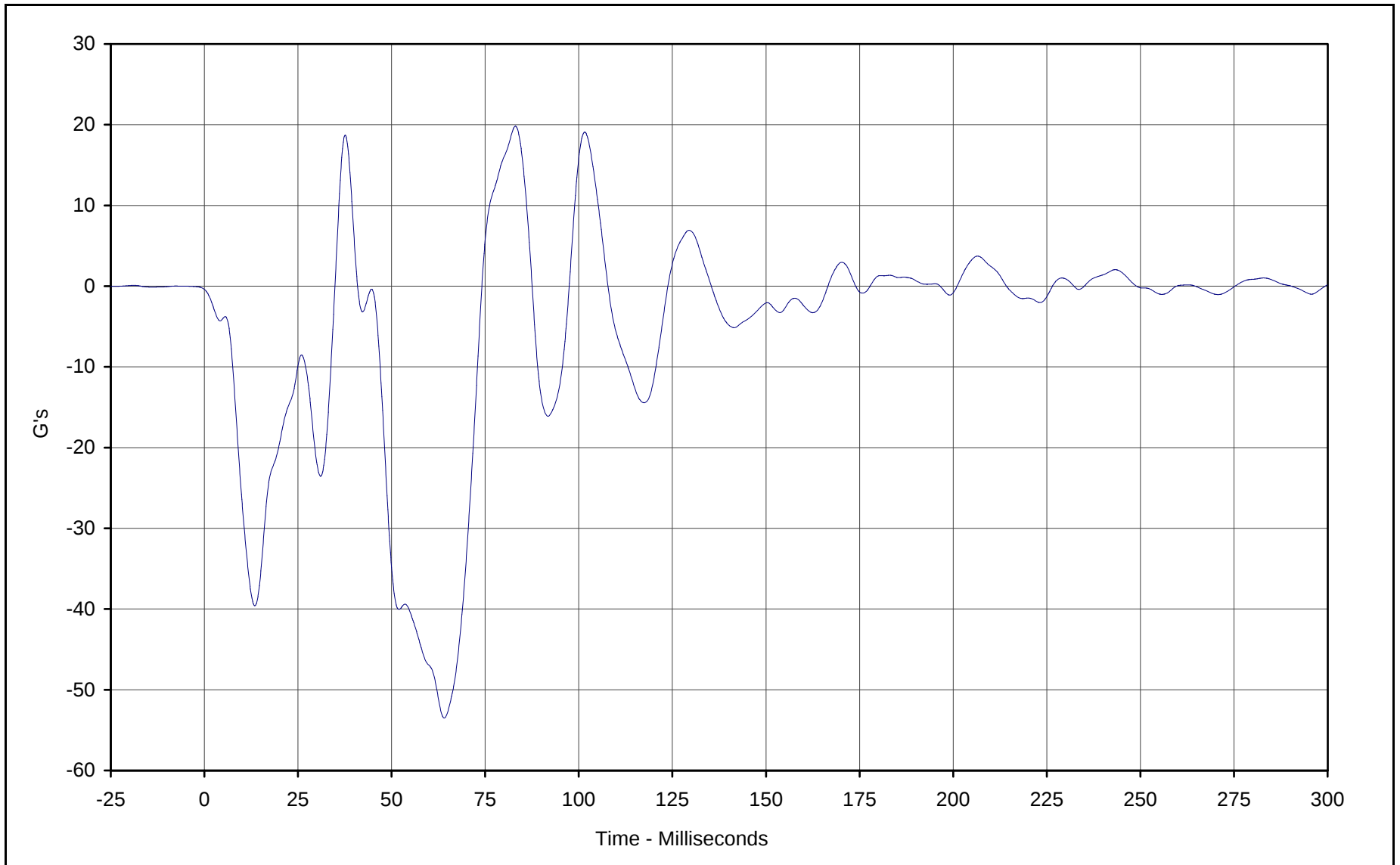
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-135

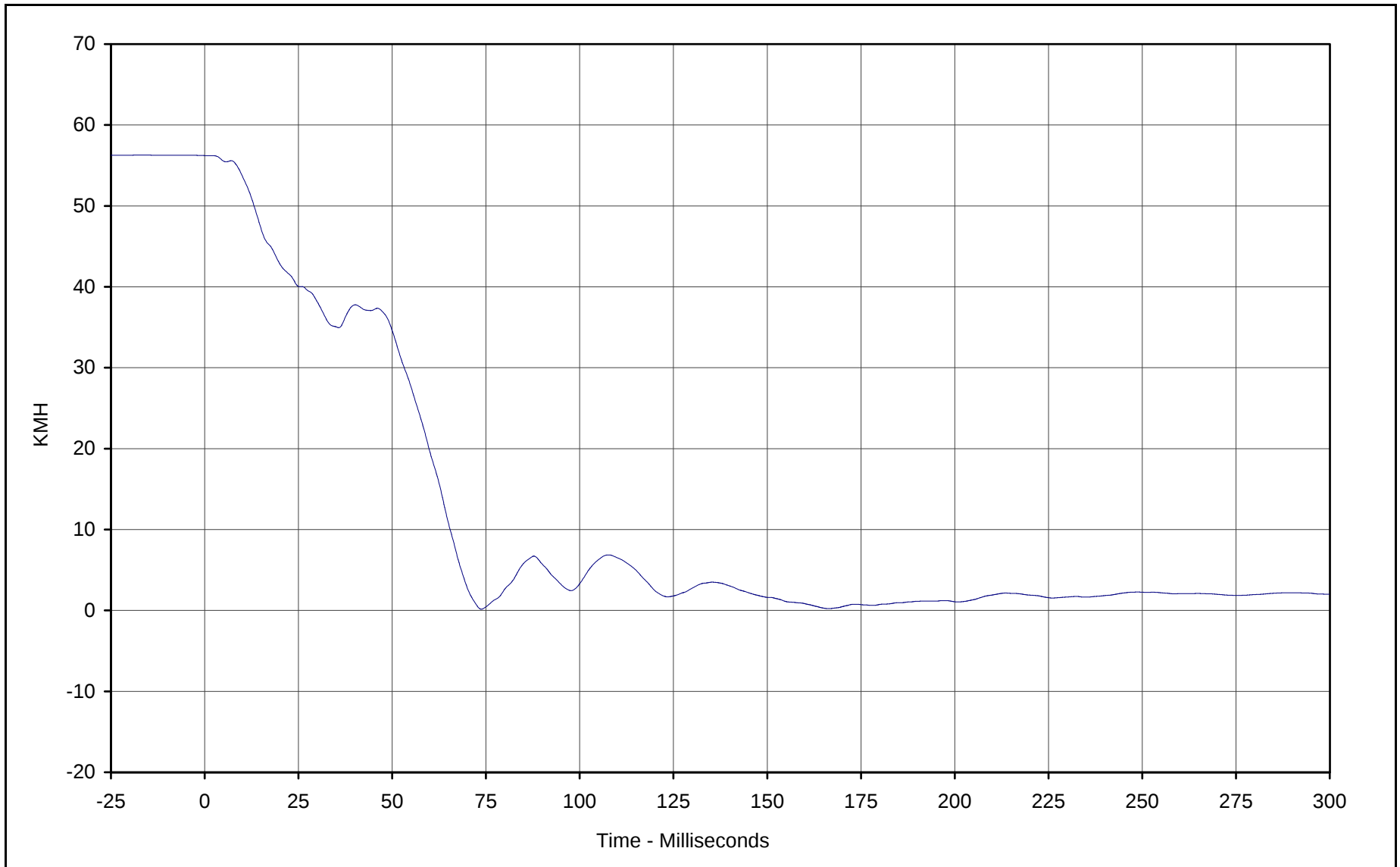


Curve Description: Vehicle Left Brake Caliper
Maximum Value: 19.8 at 83.1 Milliseconds
Minimum Value: -53.5 at 64.1 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-093

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07



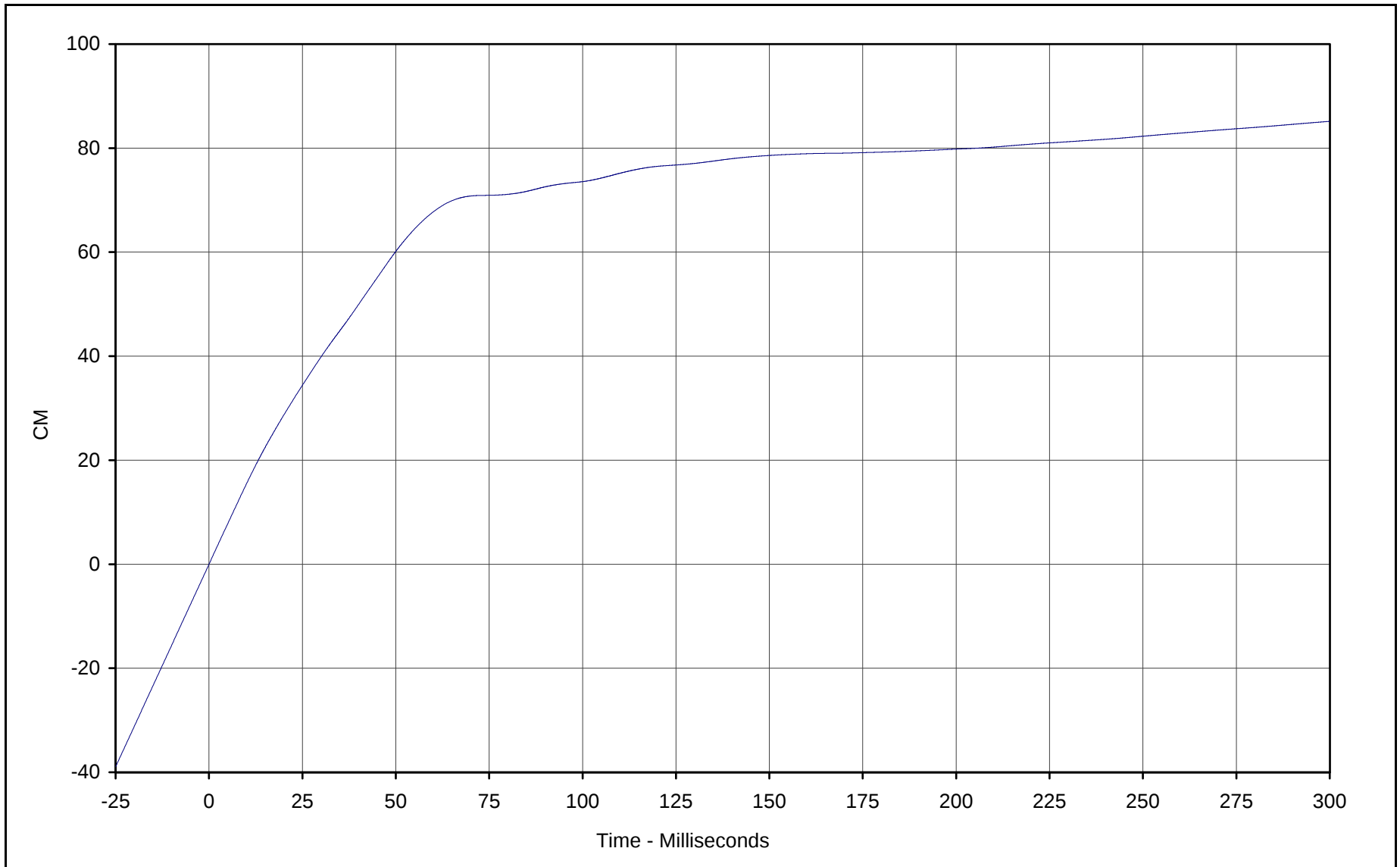
Curve Description: Vehicle Left Brake Caliper Velocity
Maximum Value: 56.2 at 0.0 Milliseconds
Minimum Value: 0.2 at 73.7 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-093

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



B-137



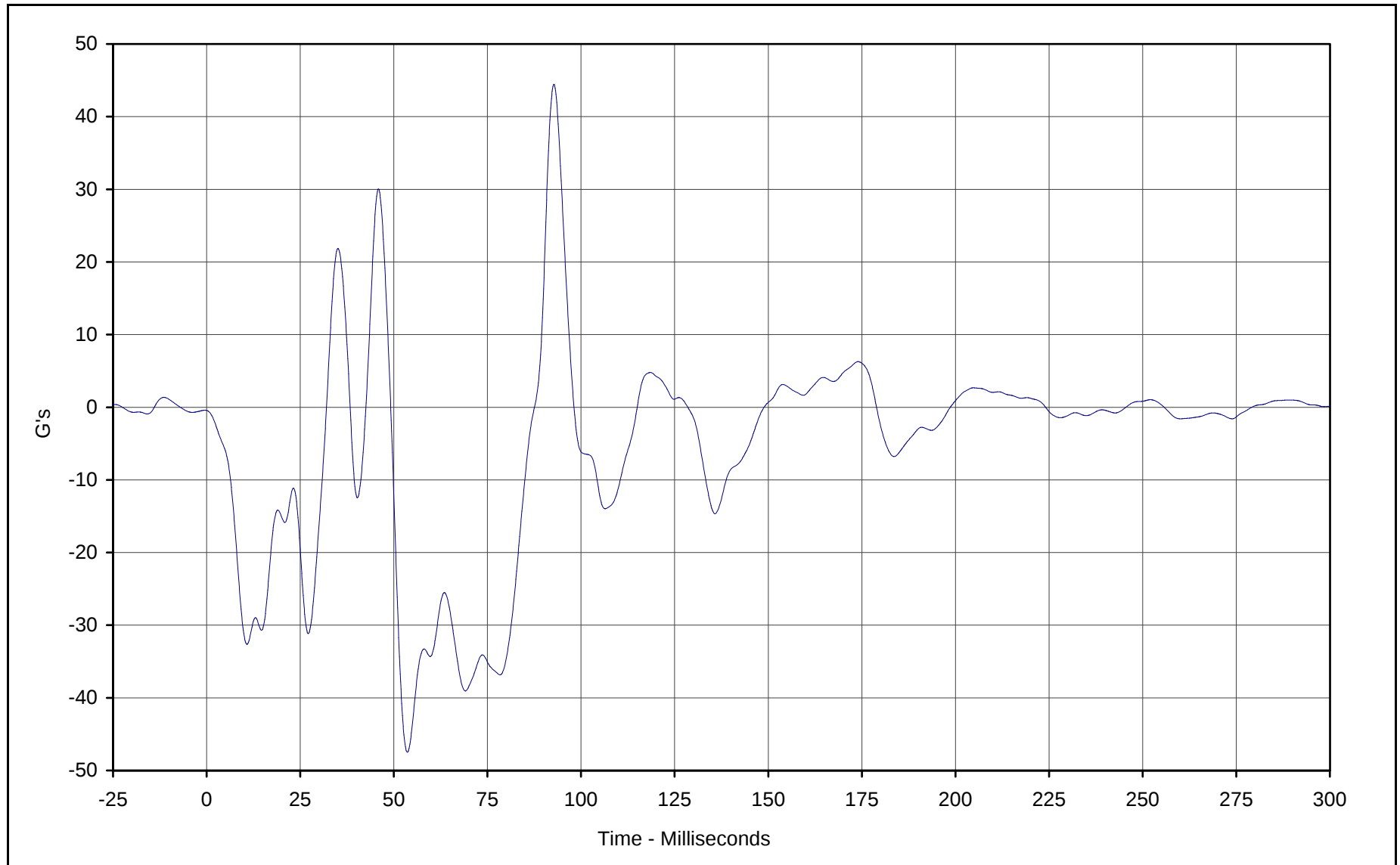
Curve Description: Vehicle Left Brake Caliper Displ.
Maximum Value: 85.1 at 299.9 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-093

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-138



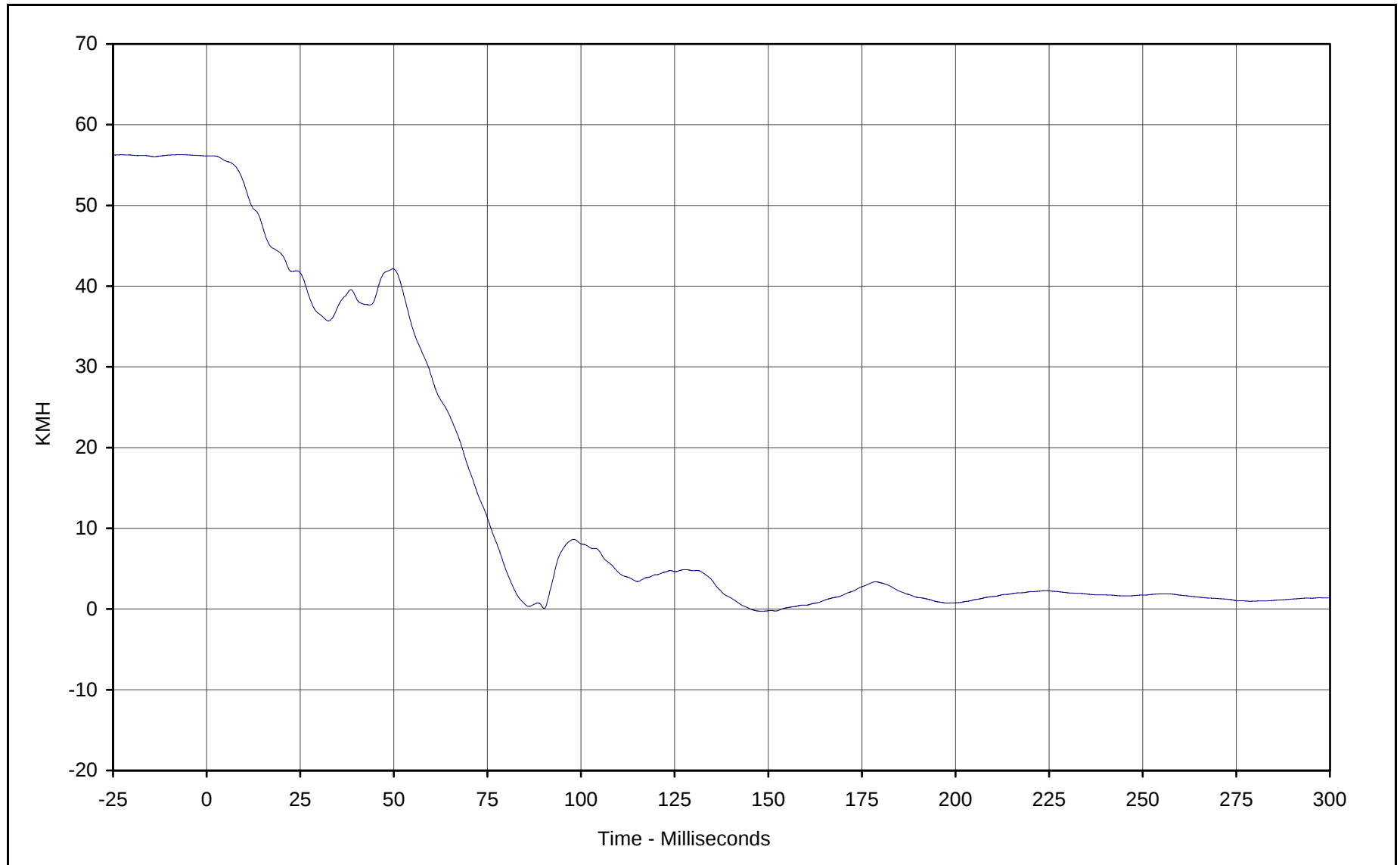
Curve Description: Vehicle Right Brake Caliper
Maximum Value: 44.5 at 92.8 Milliseconds
Minimum Value: -47.5 at 53.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-094

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-139



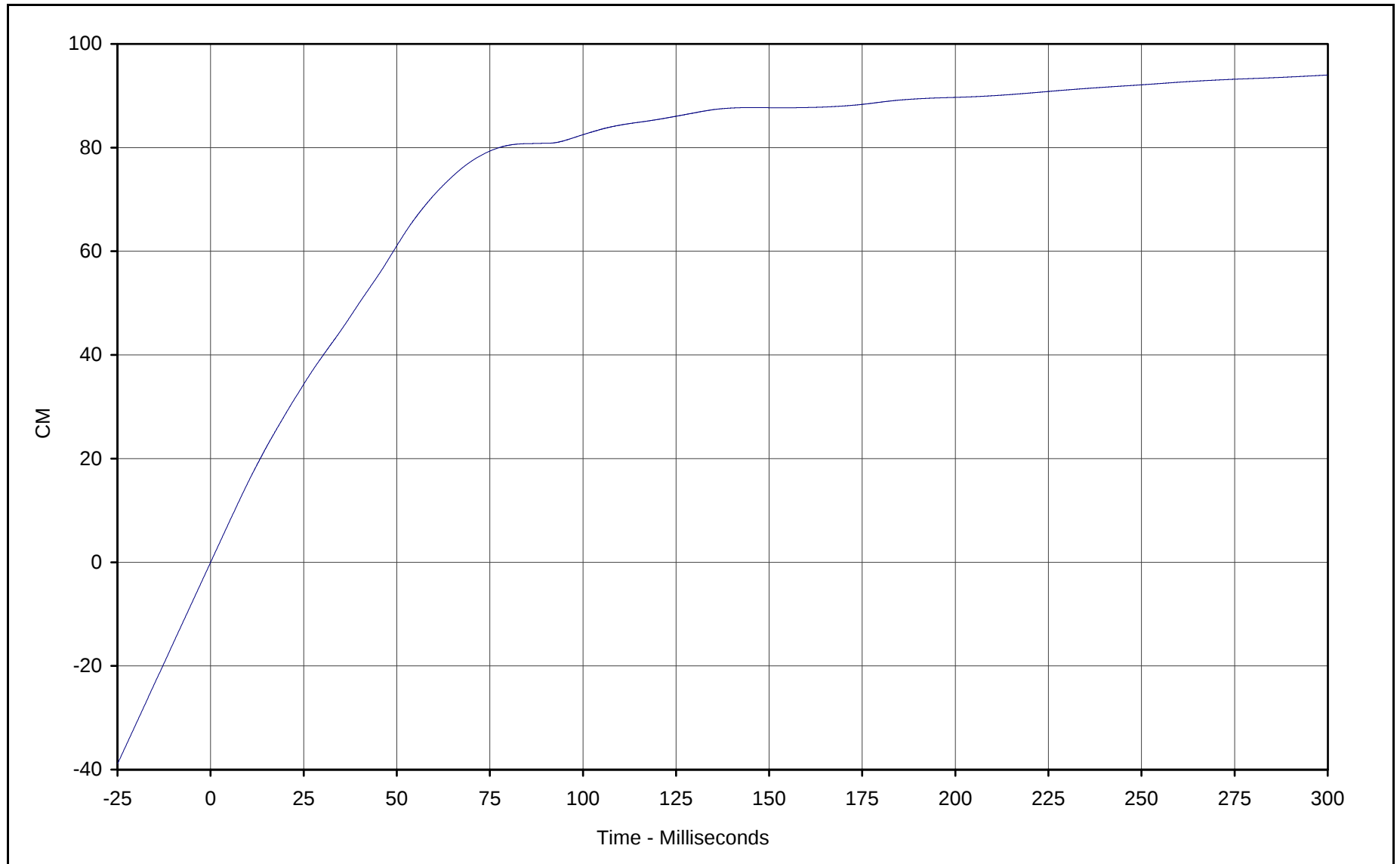
Curve Description: Vehicle Right Brake Caliper Velocity
Maximum Value: 56.1 at 1.6 Milliseconds
Minimum Value: -0.3 at 147.9 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-094

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-140



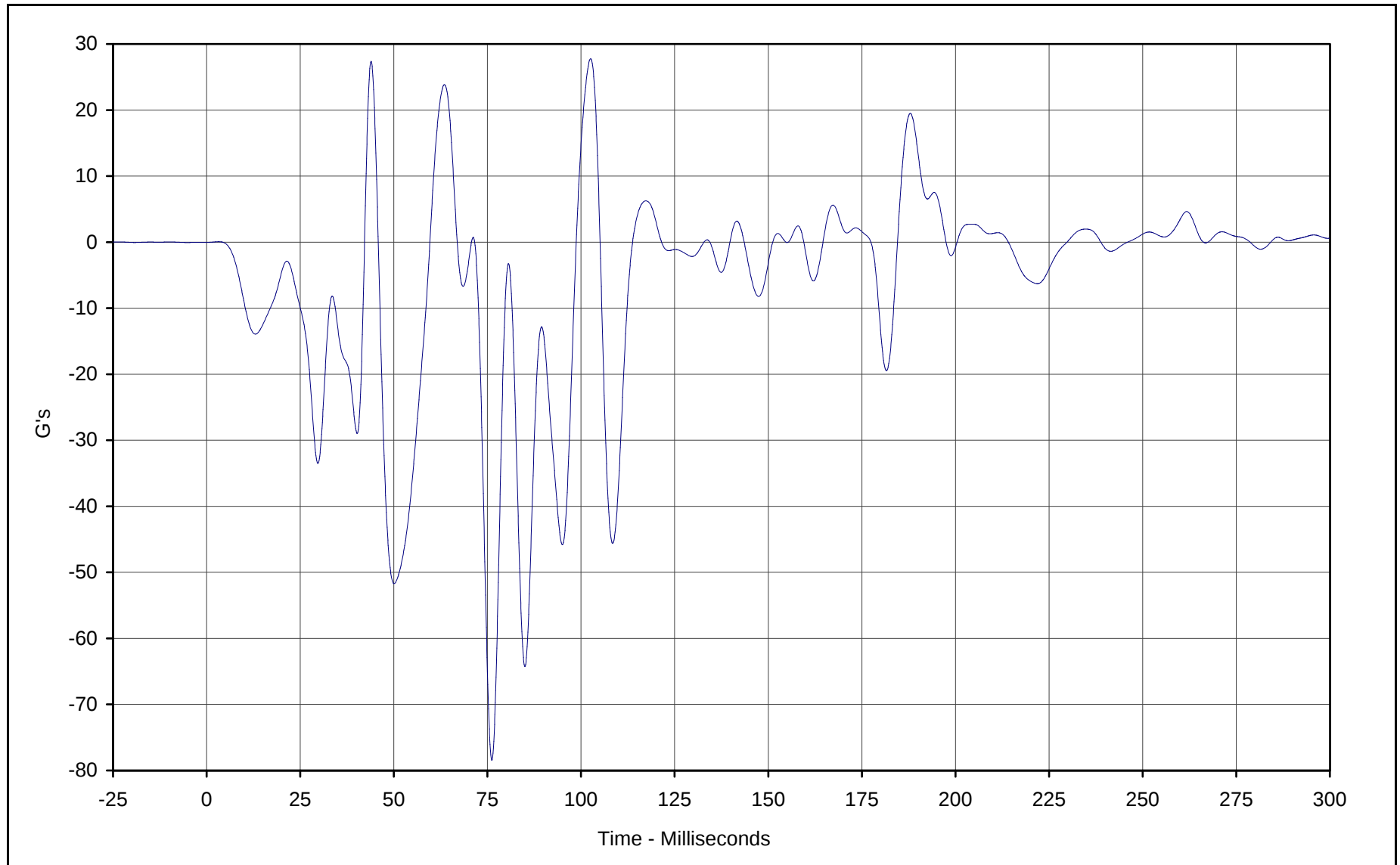
Curve Description: Vehicle Right Brake Caliper Displ.
Maximum Value: 94.0 at 299.9 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-094

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-141



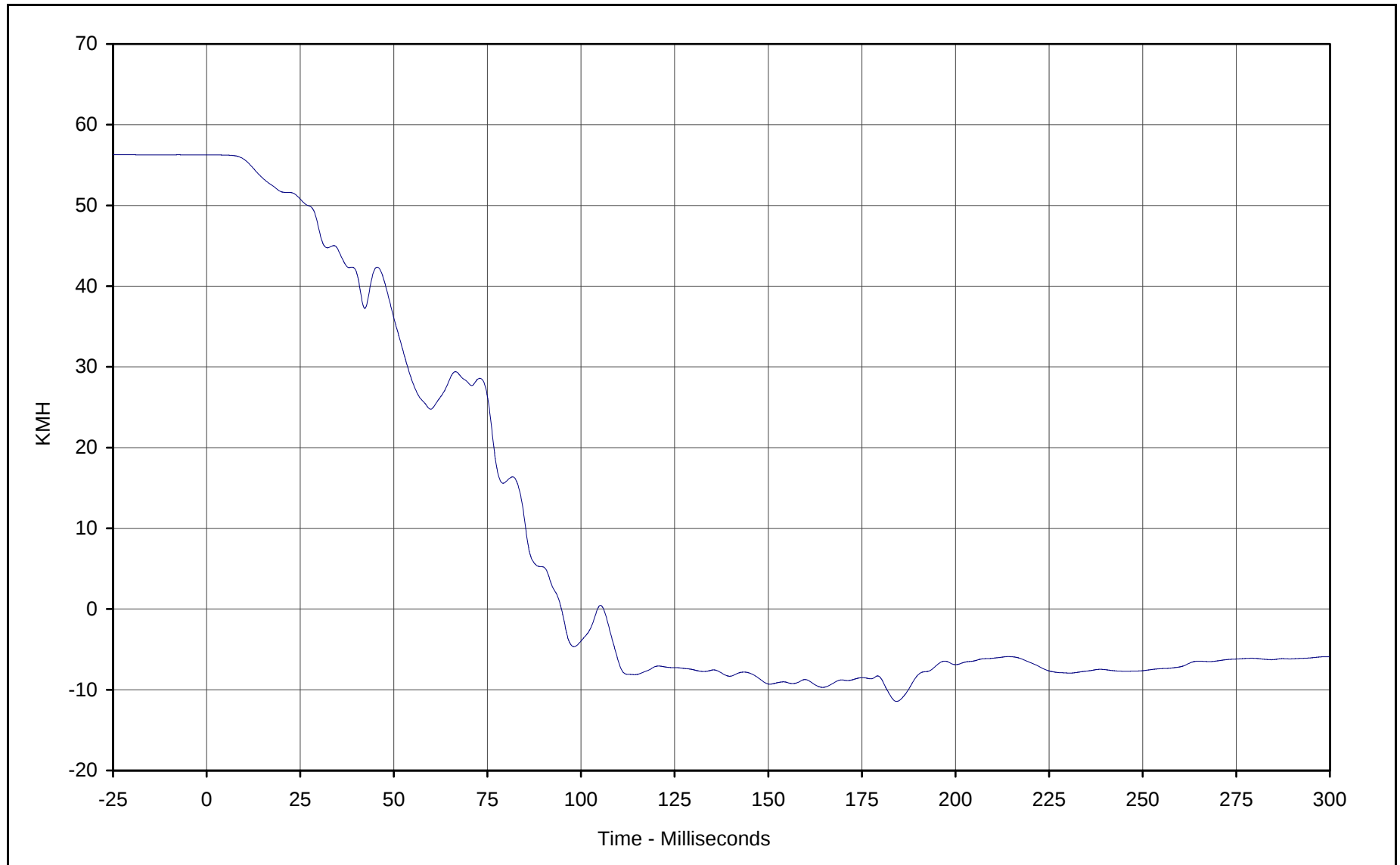
Curve Description: Vehicle Instrument Panel
Maximum Value: 27.8 at 102.5 Milliseconds
Minimum Value: -78.5 at 76.2 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-095

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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B-142

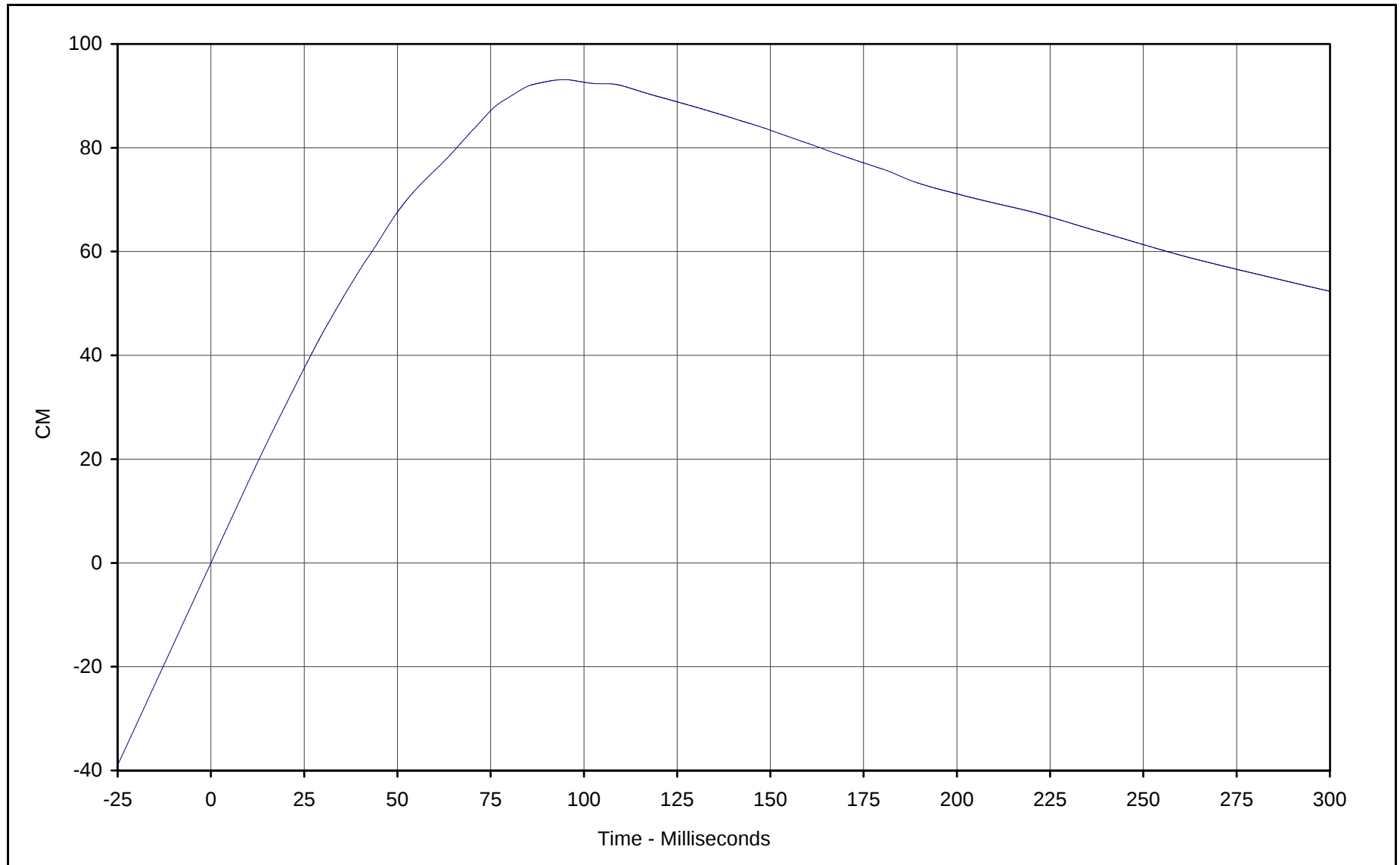


Curve Description: Vehicle Instrument Panel Velocity
Maximum Value: 56.3 at 0.0 Milliseconds
Minimum Value: -11.4 at 184.3 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN1-095

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Vehicle Instrument Panel Displacement

Maximum Value: 93.1 at 94.8 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

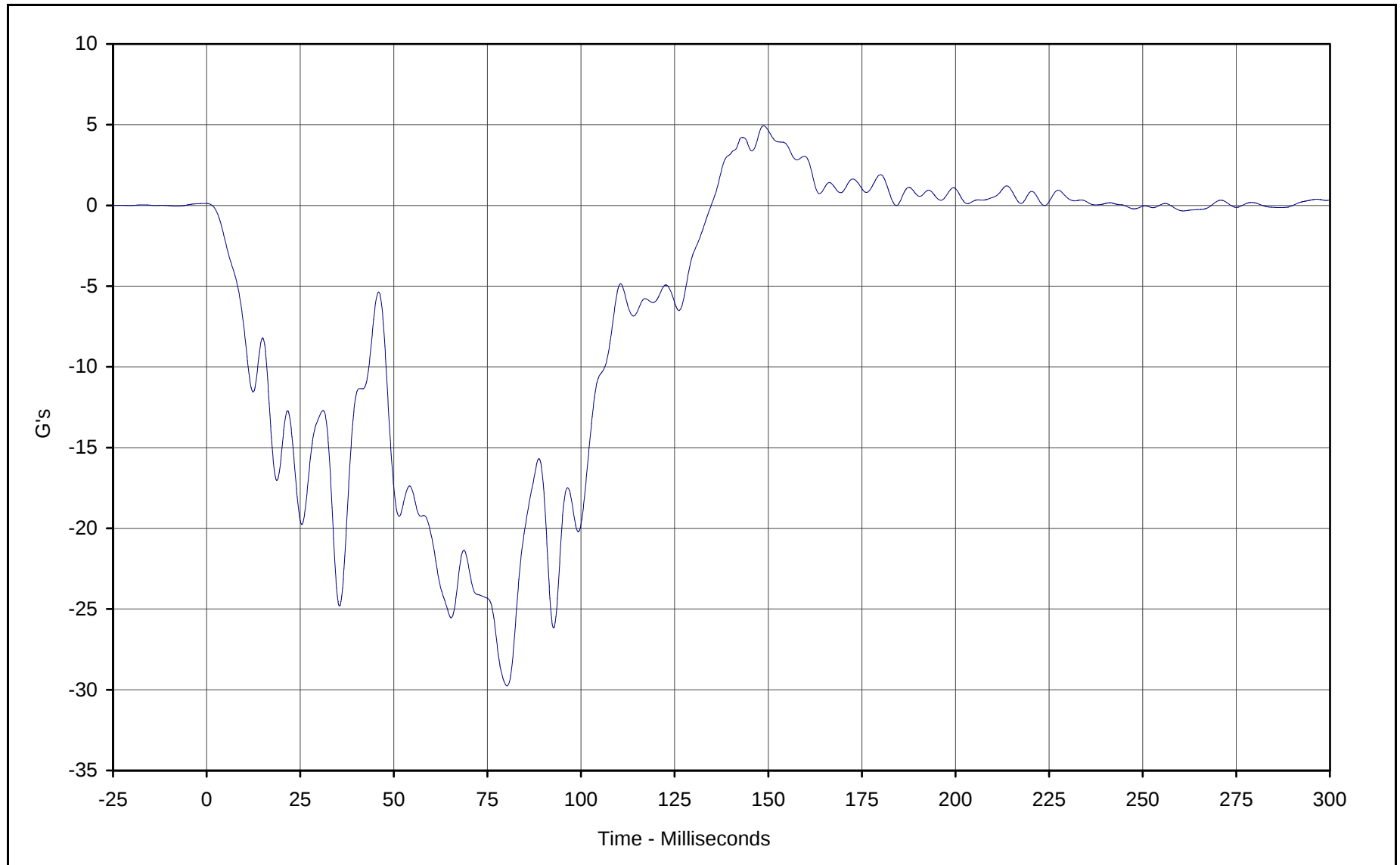
Date of Test: 01/23/01

Curve Number: IN2-095

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



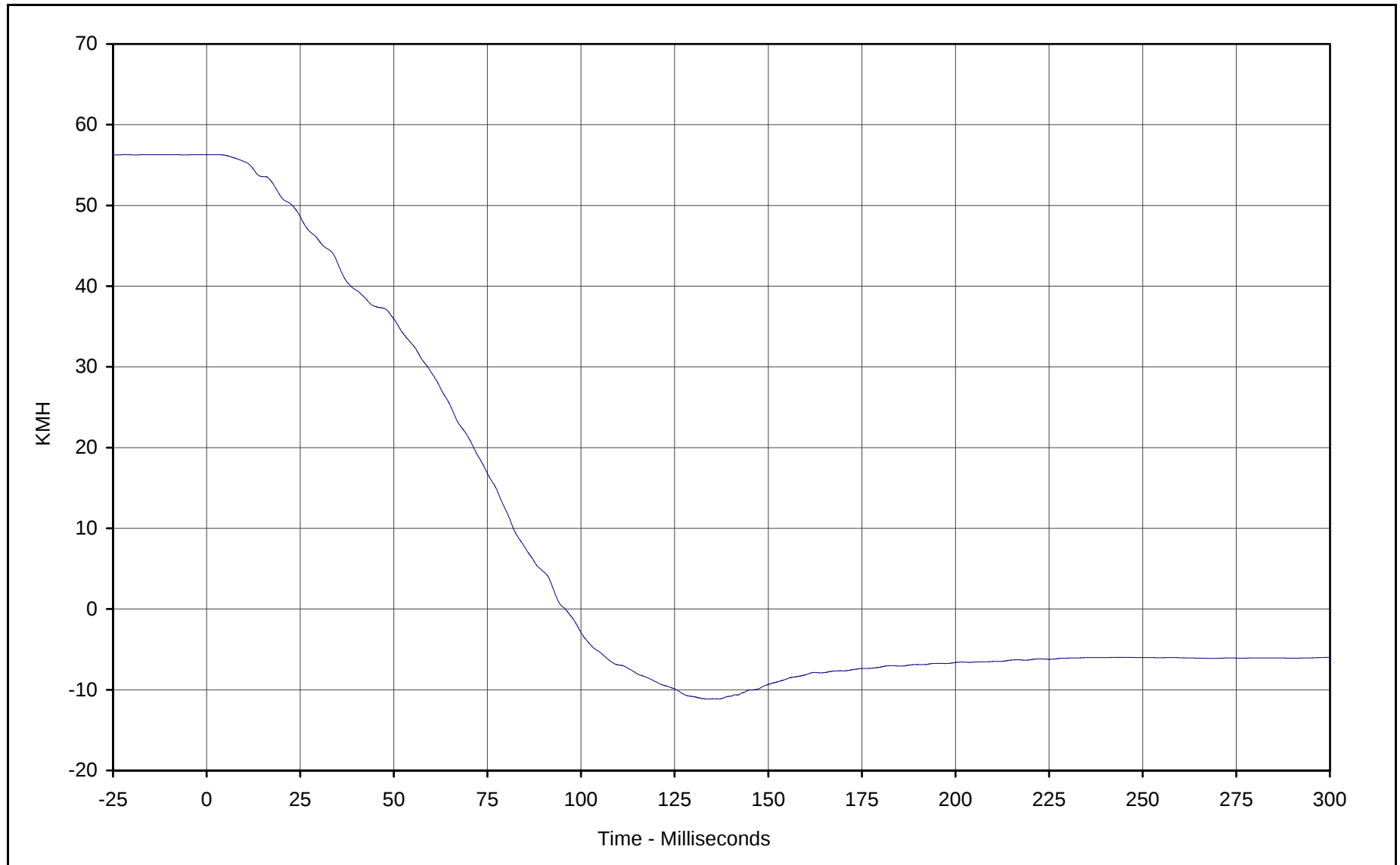


Curve Description: Vehicle Left Rear Redundant
Maximum Value: 4.9 at 148.8 Milliseconds
Minimum Value: -29.8 at 80.2 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-096

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



B-145



Curve Description: Vehicle Left Rear Redundant Velocity

Maximum Value: 56.3 at 2.6 Milliseconds

Minimum Value: -11.1 at 134.2 Milliseconds

SAE Filter Class: 180

Date of Test: 01/23/01

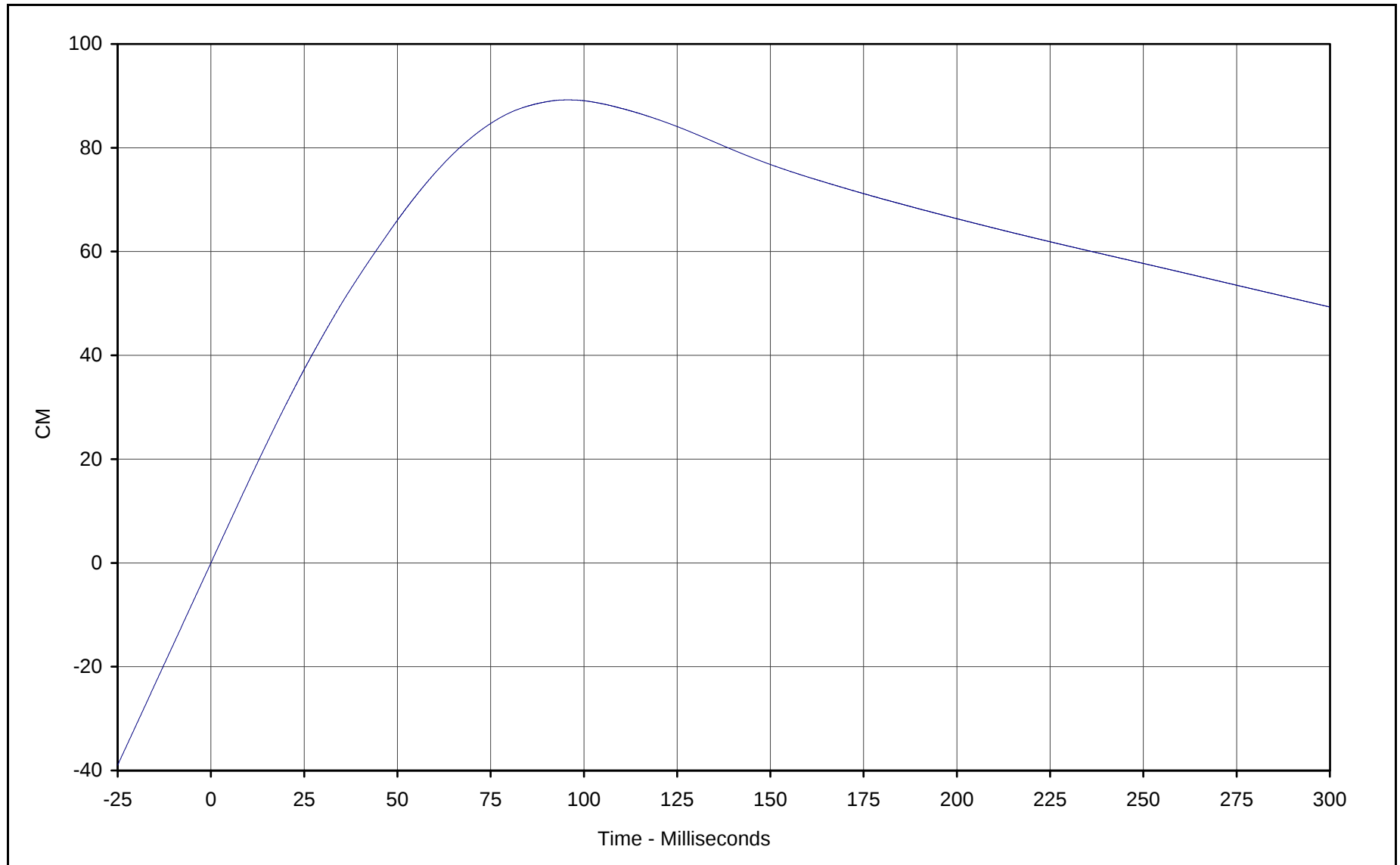
Curve Number: IN1-096

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07



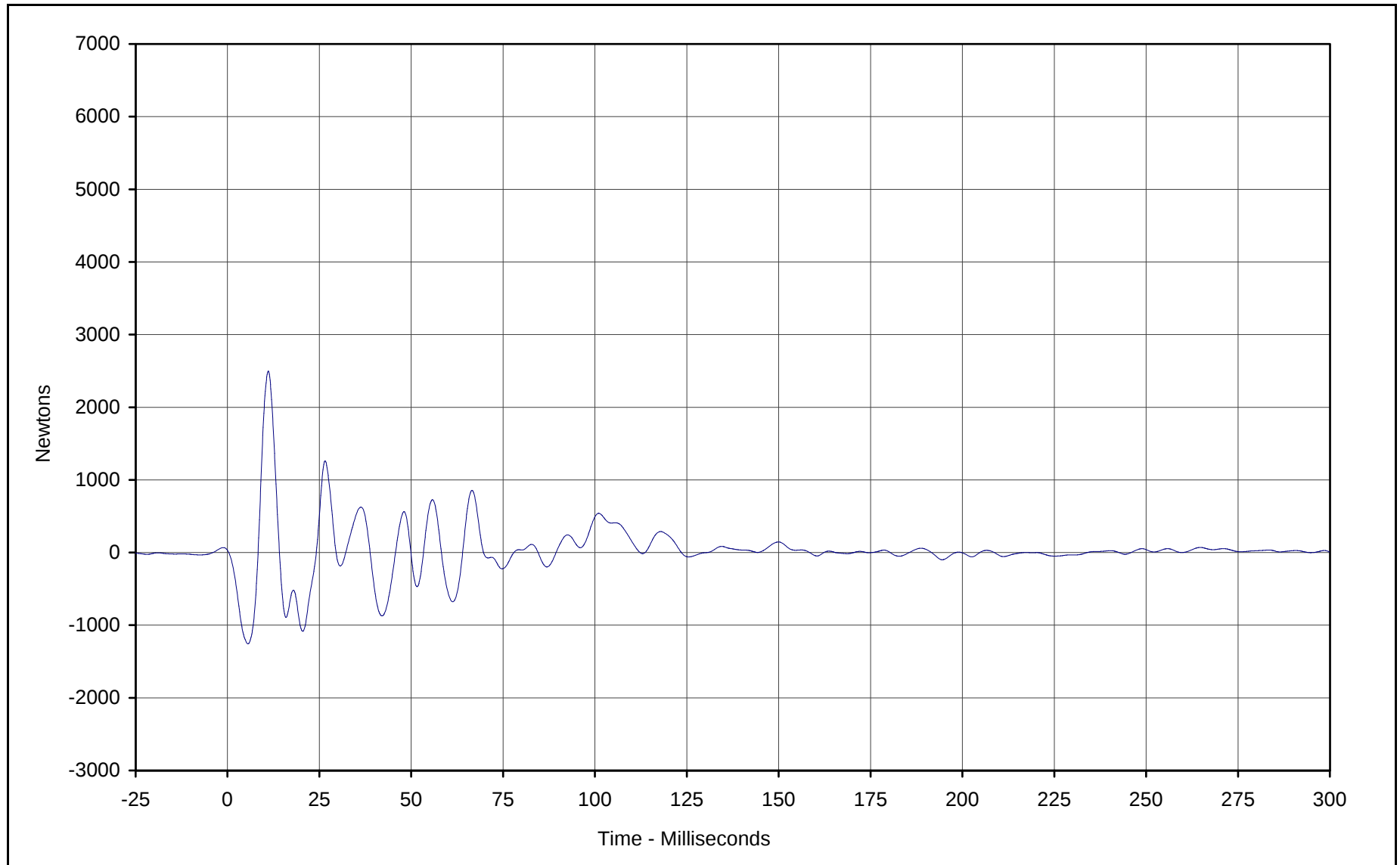
Curve Description: Vehicle Left Rear Redundant Displ.
Maximum Value: 89.2 at 95.8 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 01/23/01
Curve Number: IN2-096

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



APPENDIX C
LOAD CELL BARRIER INFORMATION

C-1



Curve Description: Barrier Force A2

Maximum Value: 2497.6 at 11.1 Milliseconds

Minimum Value: -1256.8 at 5.6 Milliseconds

SAE Filter Class: 60

Date of Test: 01/23/01

Curve Number: FIL-099

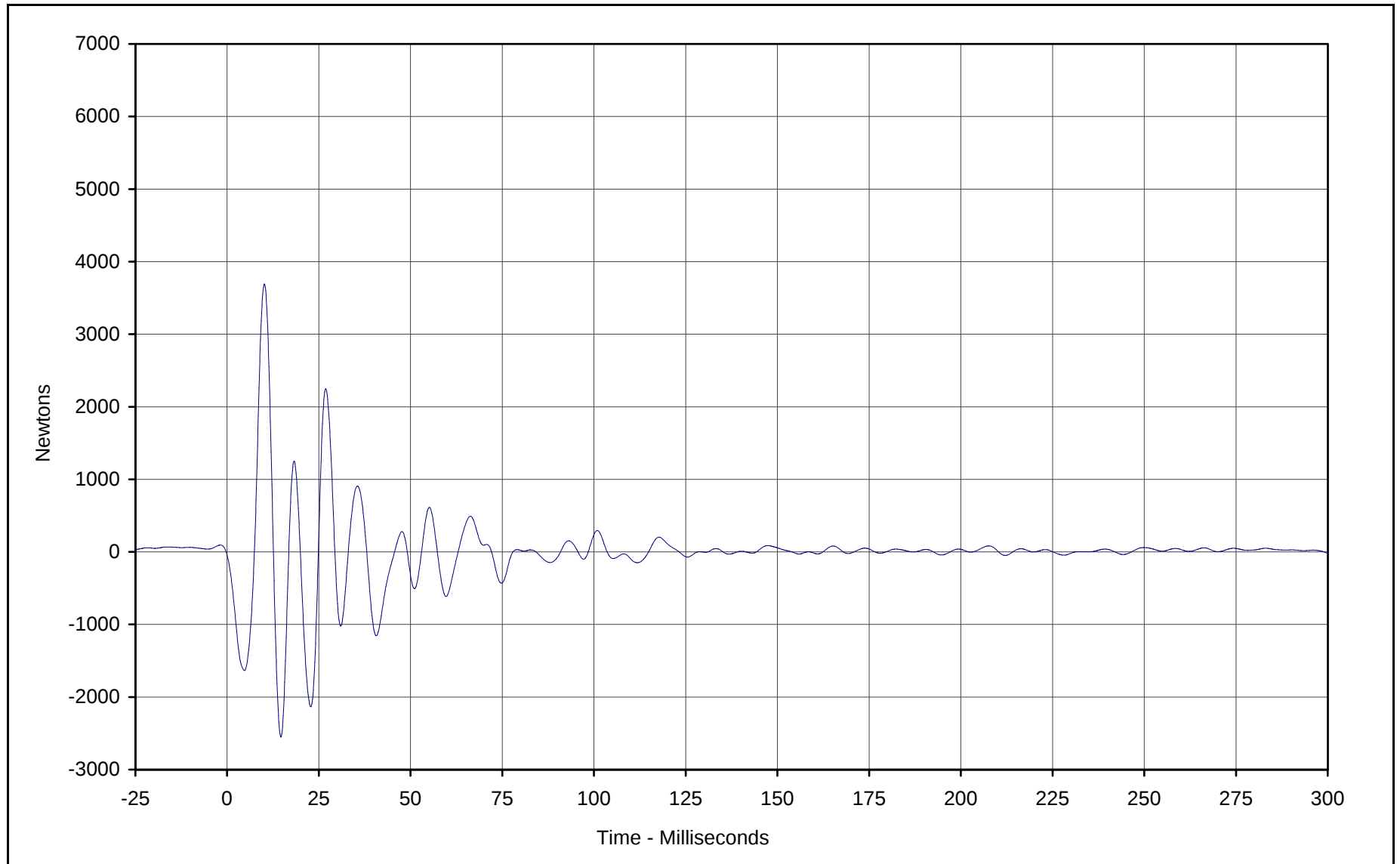
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-2



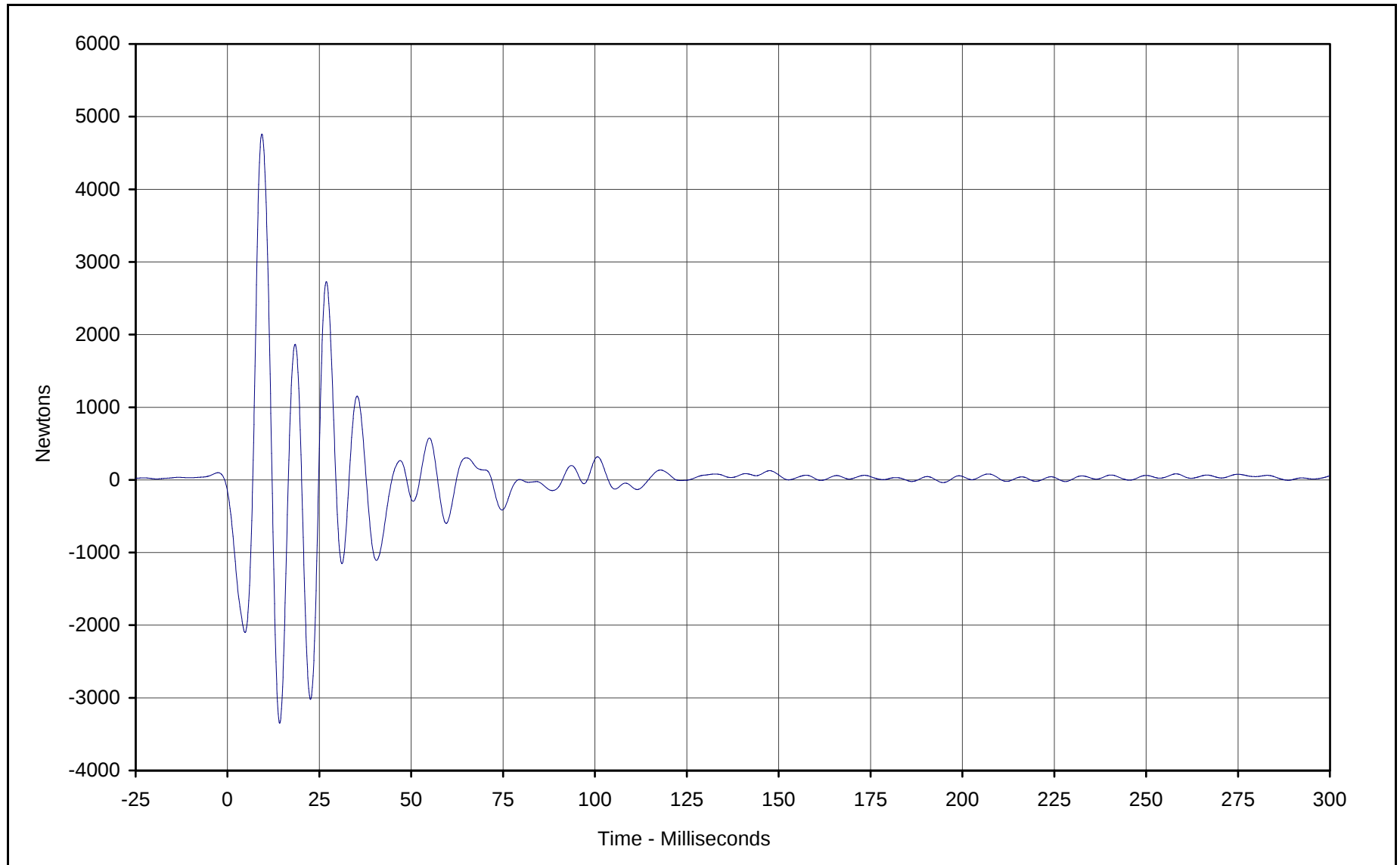
Curve Description: Barrier Force A3
Maximum Value: 3691.2 at 10.2 Milliseconds
Minimum Value: -2550.7 at 14.7 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-100

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-3



Curve Description: Barrier Force A4

Maximum Value: 4759.5 at 9.4 Milliseconds

Minimum Value: -3350.4 at 14.2 Milliseconds

SAE Filter Class: 60

Date of Test: 01/23/01

Curve Number: FIL-101

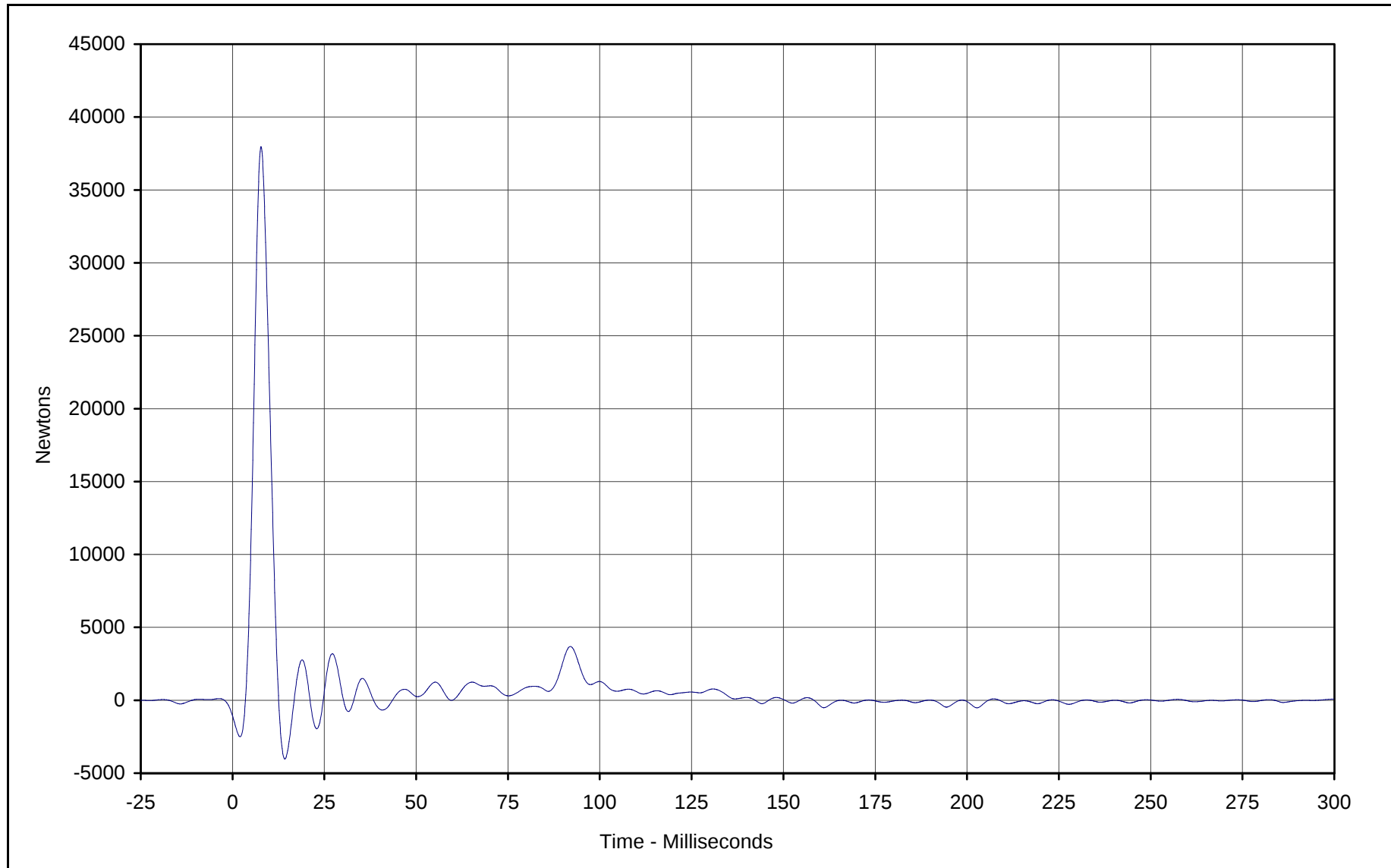
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-4



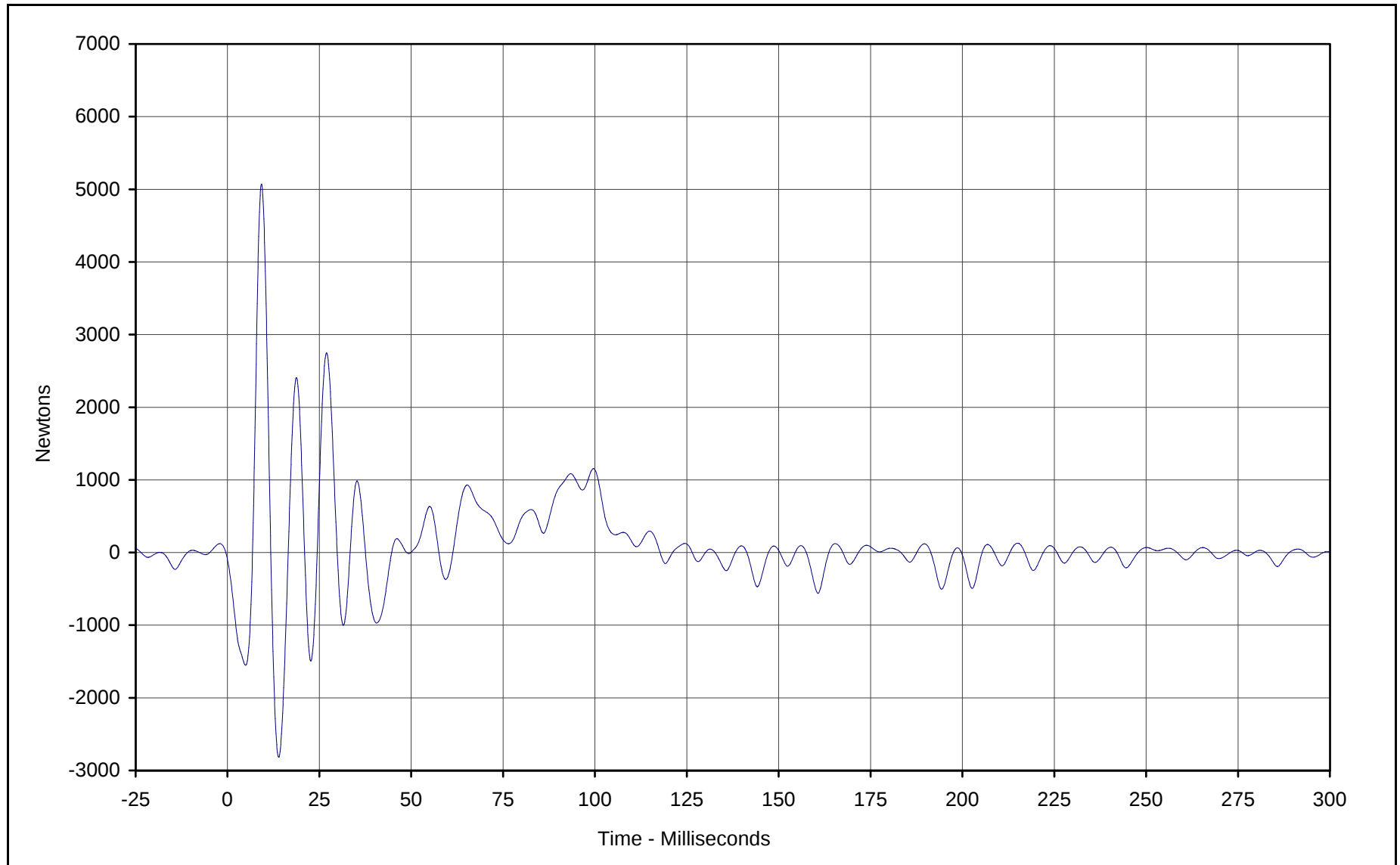
Curve Description: Barrier Force A5
Maximum Value: 37963.1 at 7.8 Milliseconds
Minimum Value: -4031.2 at 14.2 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-102

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-5



Curve Description: Barrier Force A6

Maximum Value: 5067.7 at 9.3 Milliseconds

Minimum Value: -2818.1 at 13.9 Milliseconds

SAE Filter Class: 60

Date of Test: 01/23/01

Curve Number: FIL-103

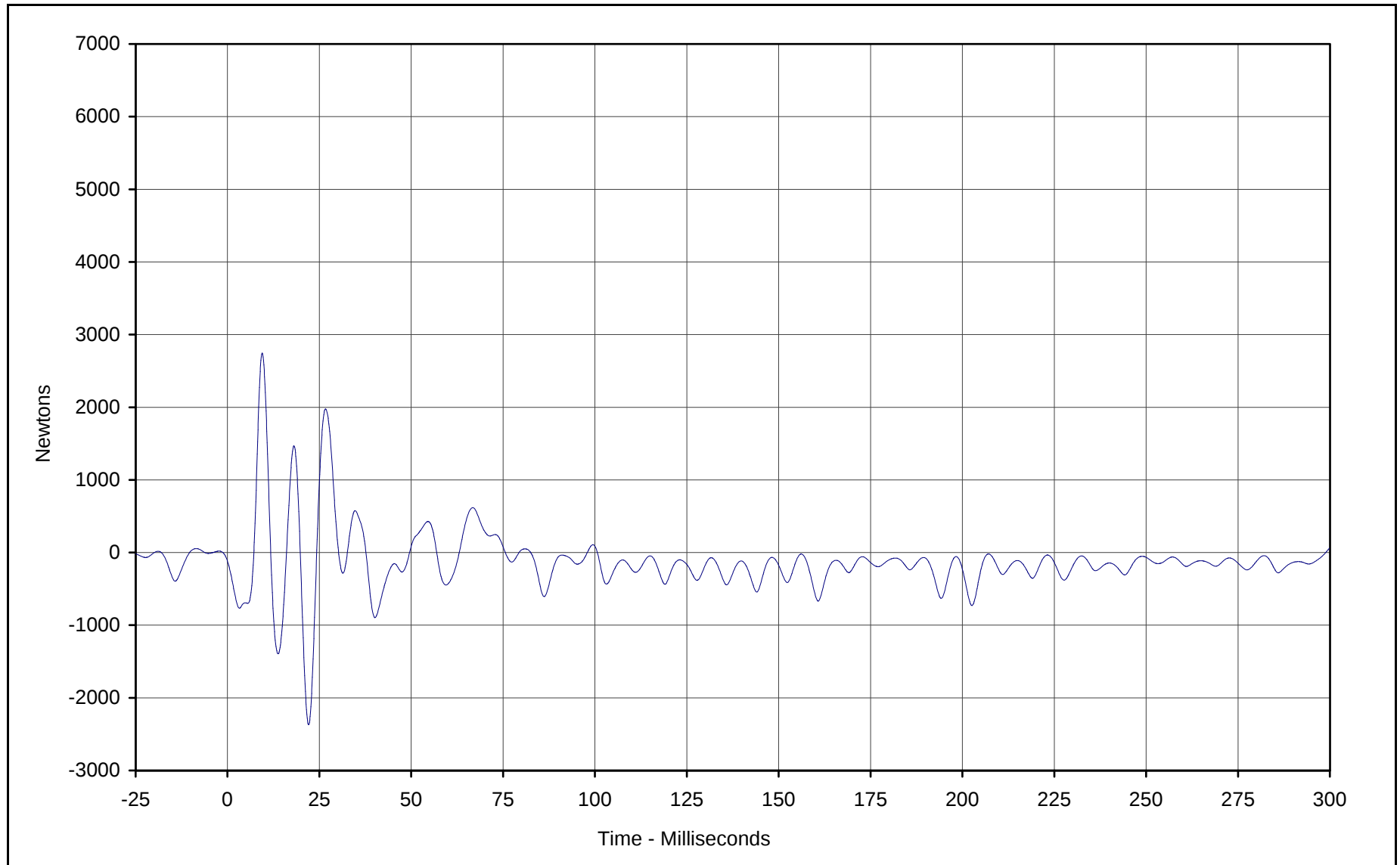
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

C-6



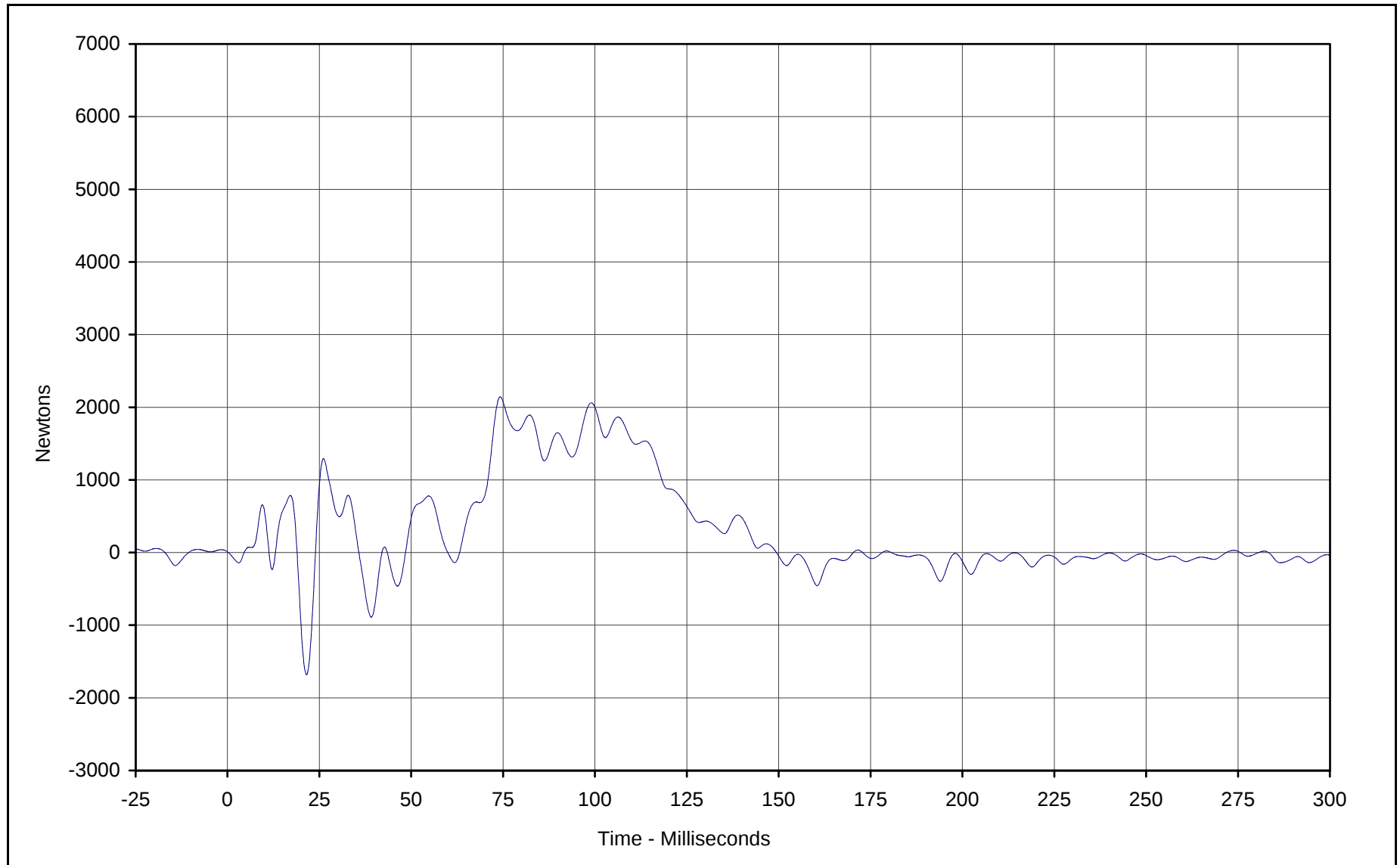
Curve Description: Barrier Force A7
Maximum Value: 2744.6 at 9.4 Milliseconds
Minimum Value: -2369.8 at 22.1 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-104

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

C-7



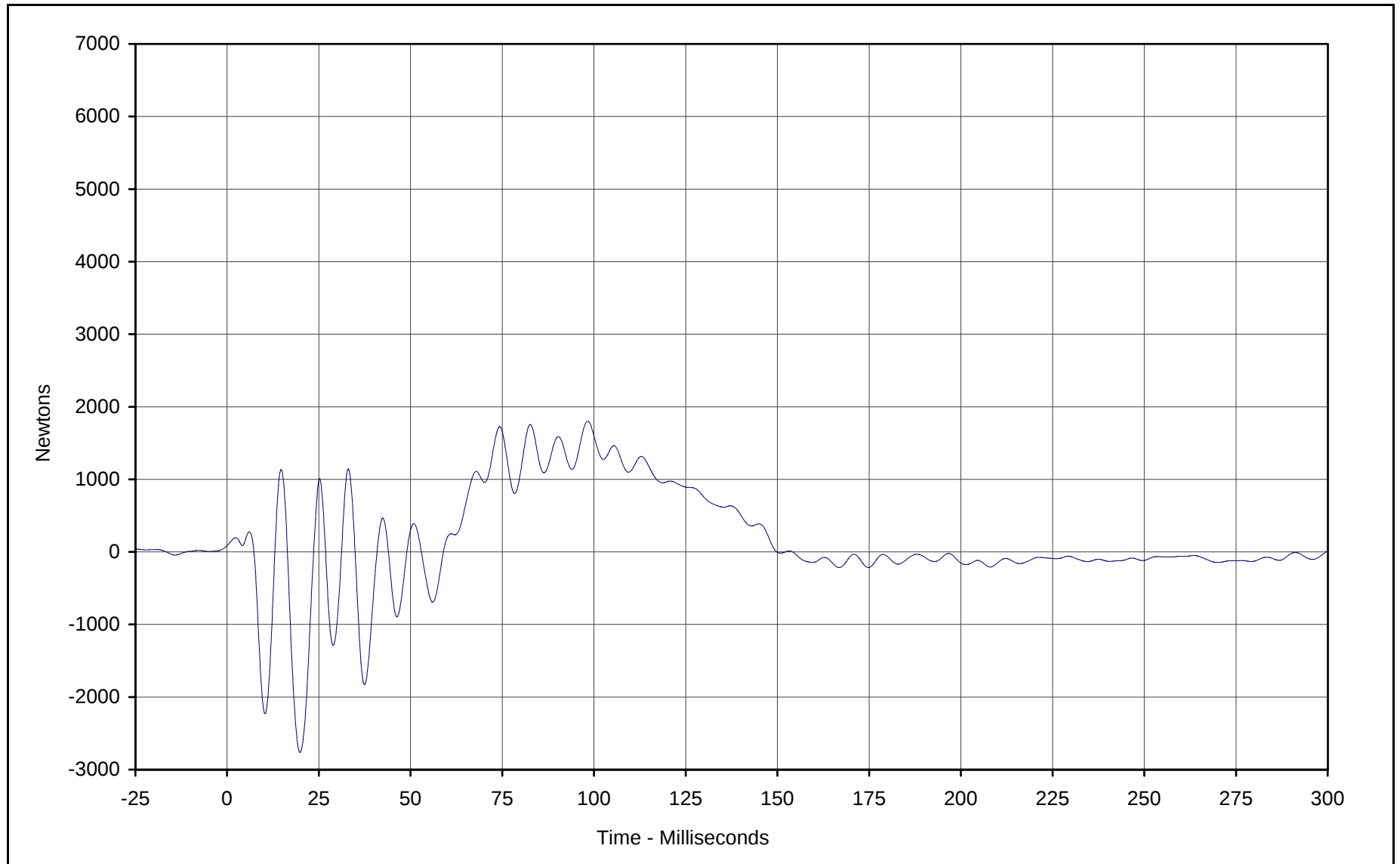
Curve Description: Barrier Force A8
Maximum Value: 2142.8 at 74.2 Milliseconds
Minimum Value: -1680.3 at 21.5 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-105

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-8



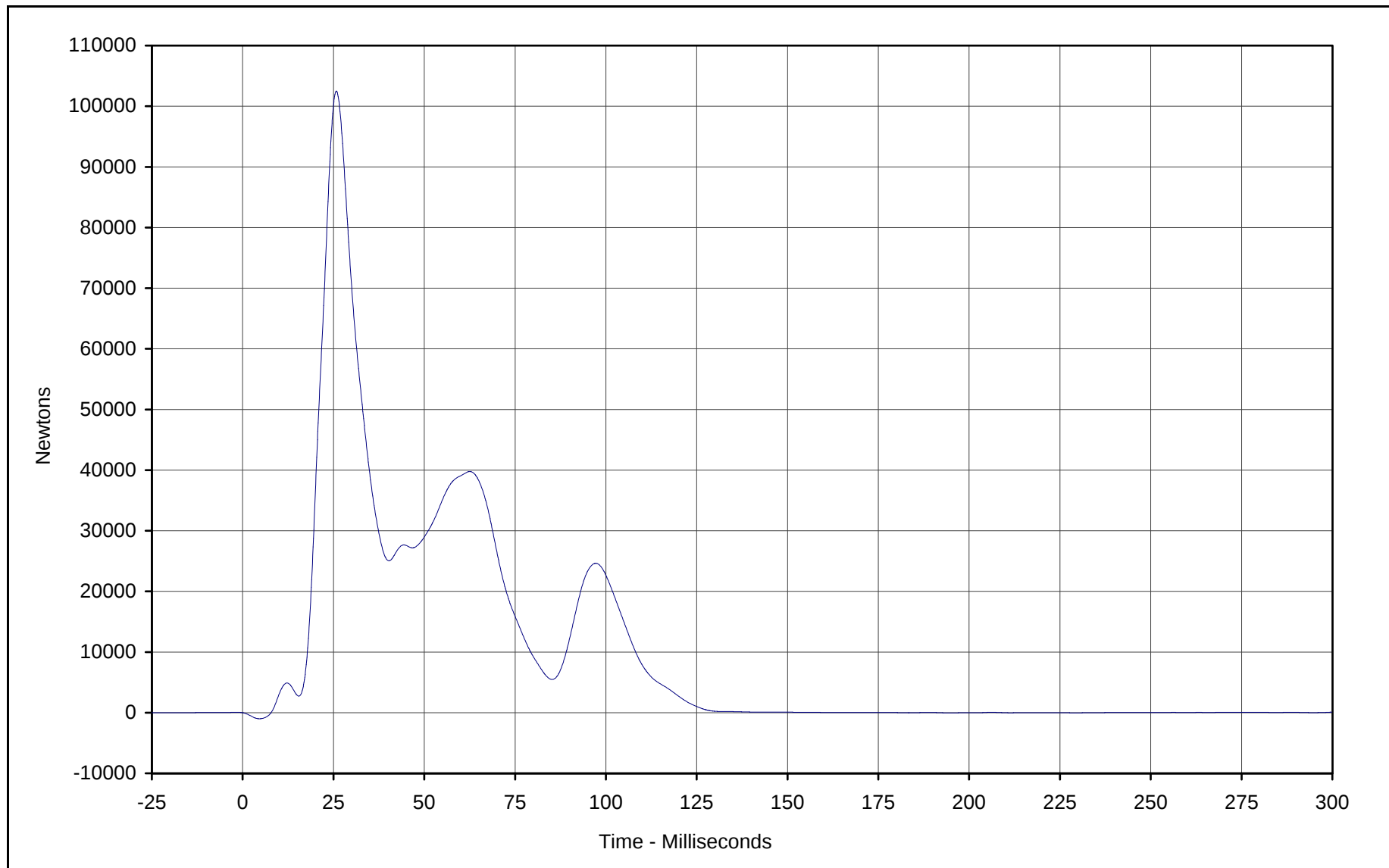
Curve Description: Barrier Force A9
Maximum Value: 1799.5 at 98.3 Milliseconds
Minimum Value: -2764.8 at 19.9 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-106

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

C-9



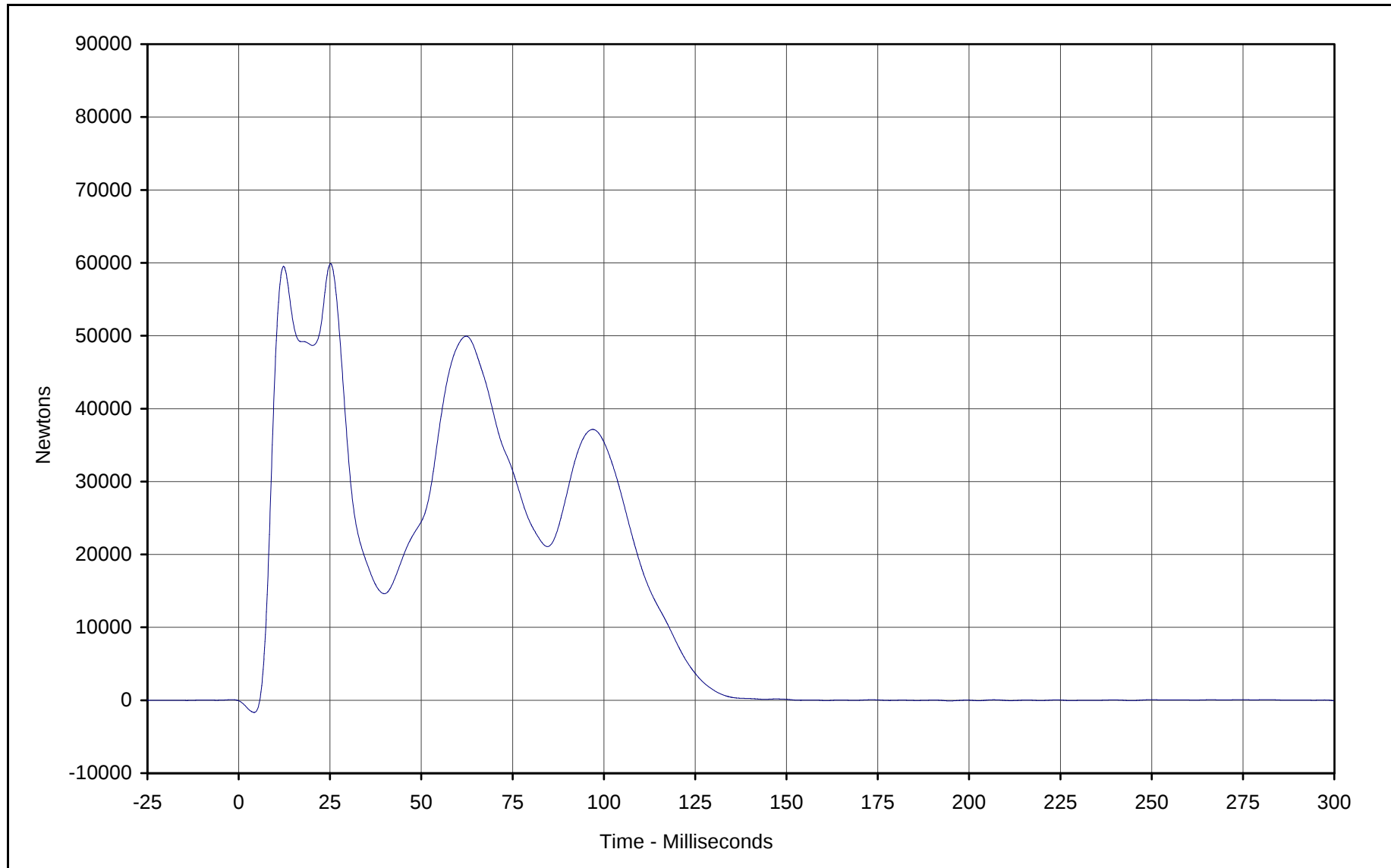
Curve Description: Barrier Force B2
Maximum Value: 102503.0 at 25.8 Milliseconds
Minimum Value: -999.0 at 4.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-108

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-10



Curve Description: Barrier Force B3

Maximum Value: 59888.9 at 25.1 Milliseconds

Minimum Value: -1666.4 at 4.2 Milliseconds

SAE Filter Class: 60

Date of Test: 01/23/01

Curve Number: FIL-109

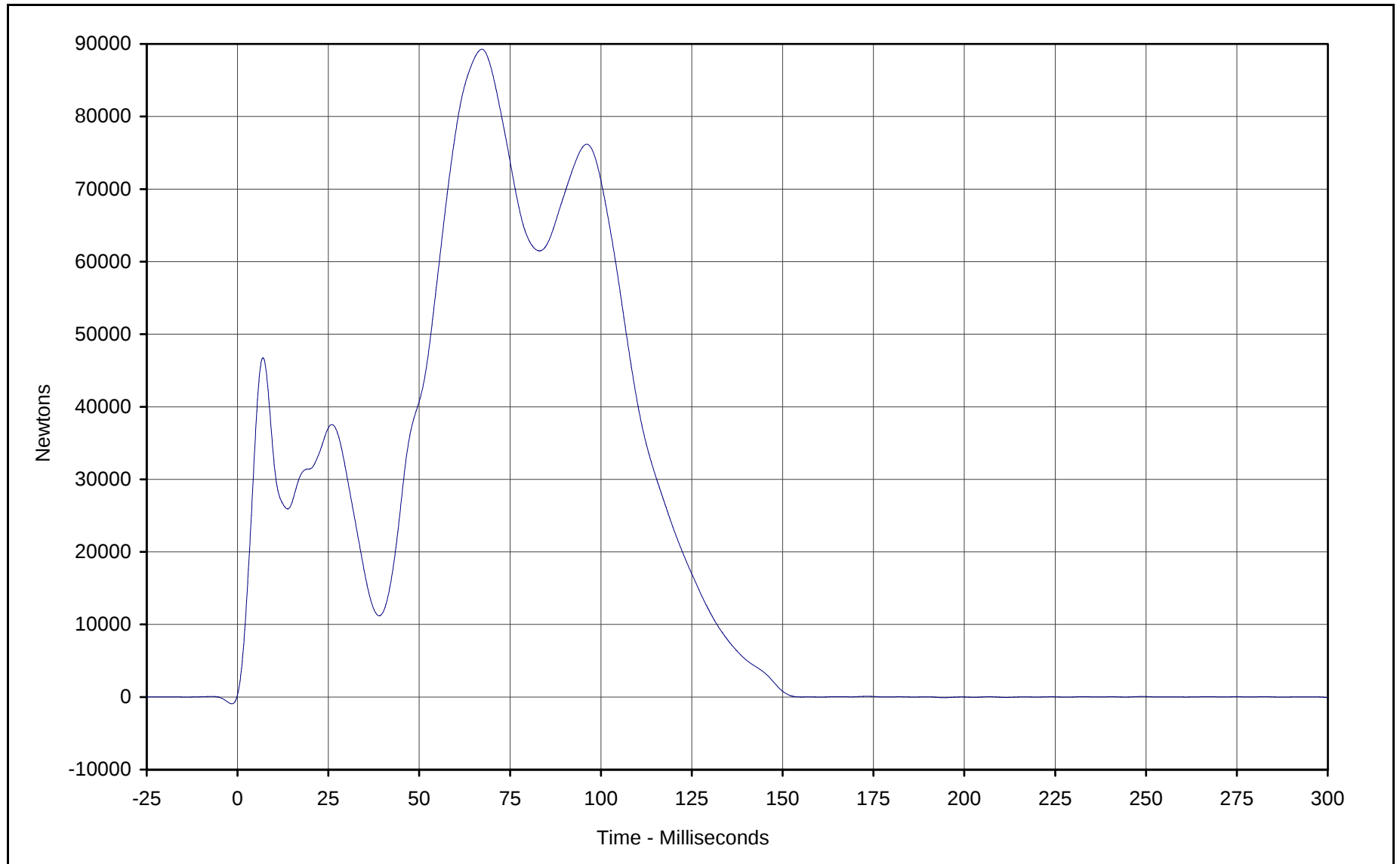
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

C-11



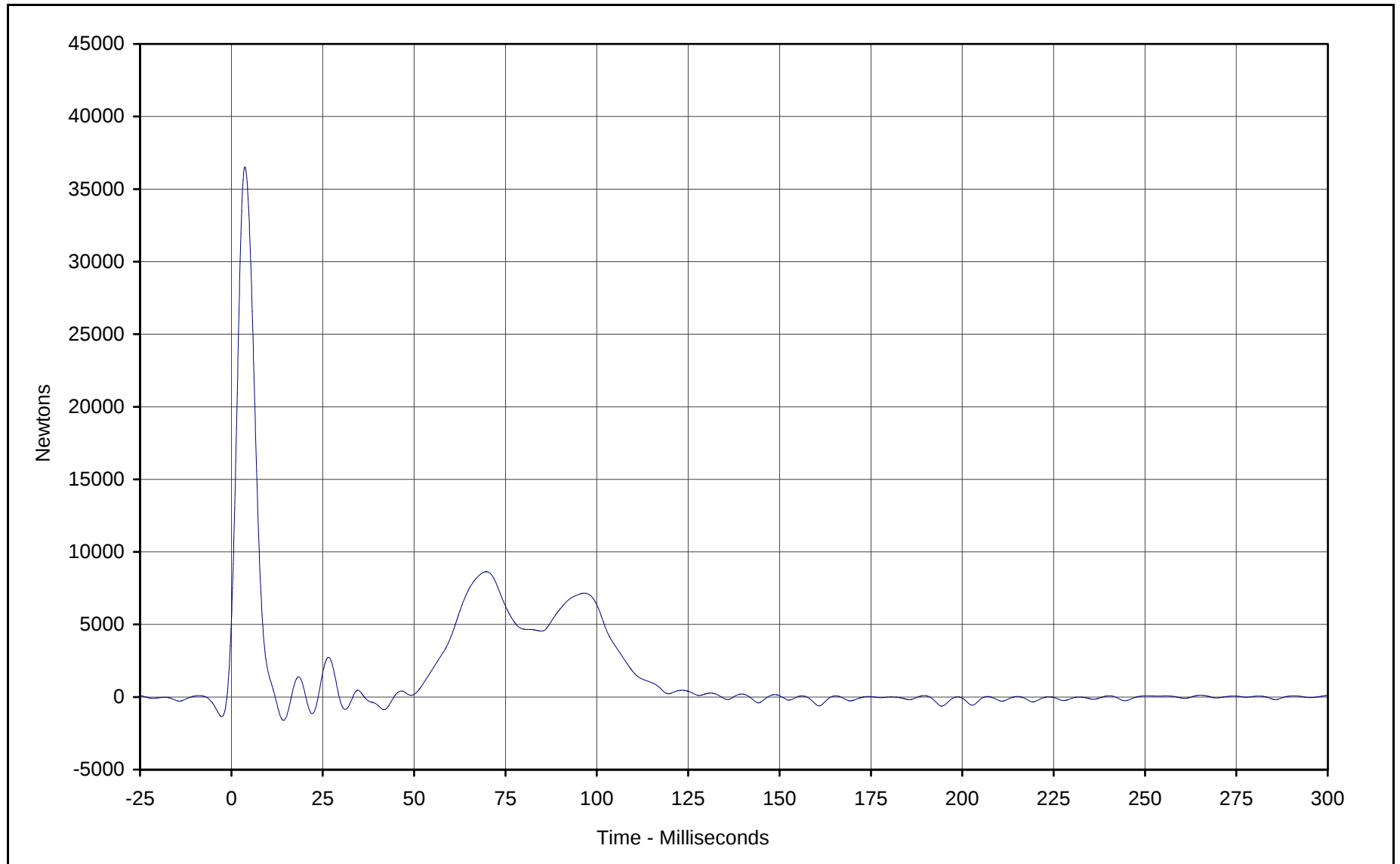
Curve Description: Barrier Force B4
Maximum Value: 89276.5 at 67.2 Milliseconds
Minimum Value: -100.7 at 299.9 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-110

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-12

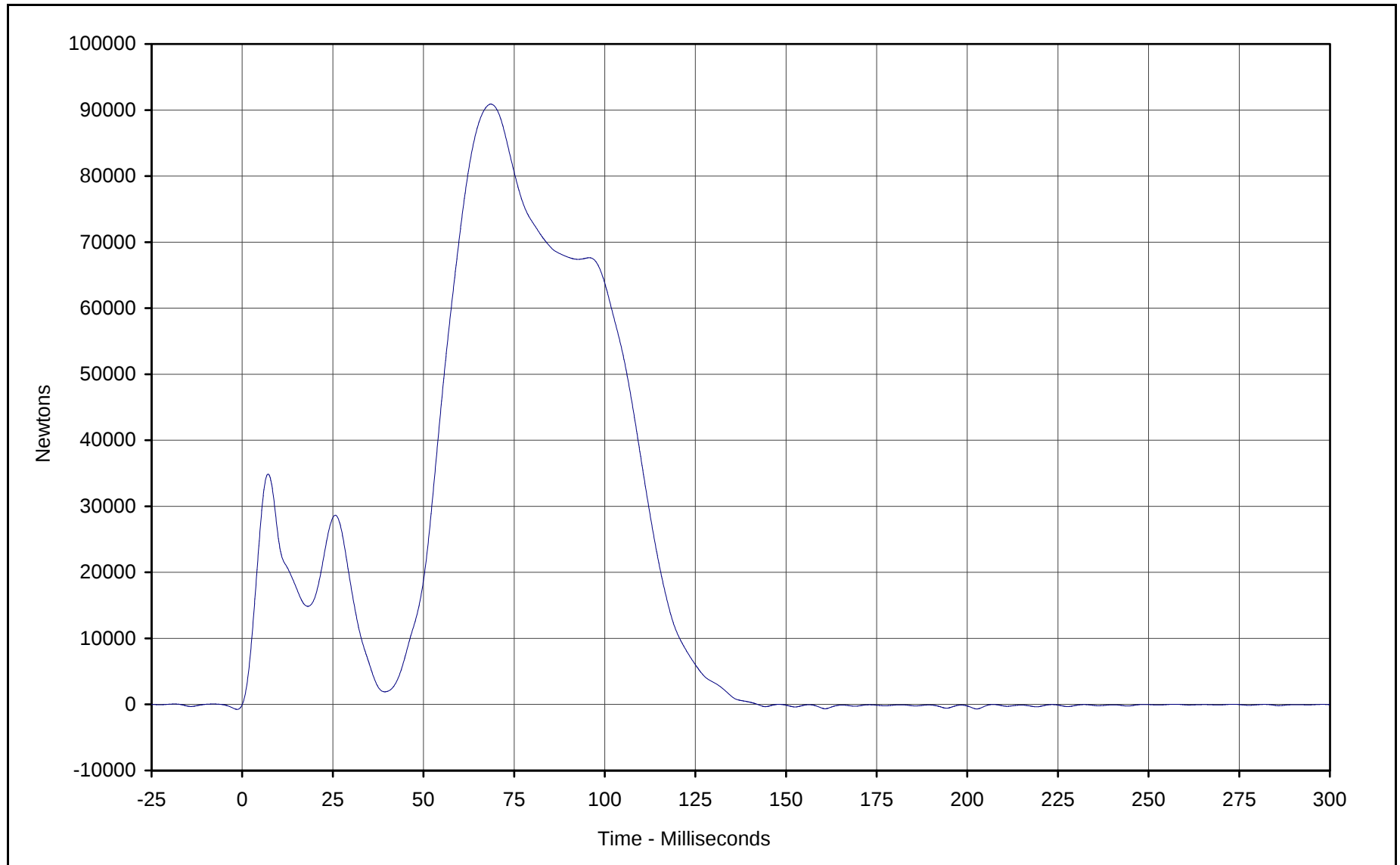


Curve Description: Barrier Force B5
Maximum Value: 36524.0 at 3.7 Milliseconds
Minimum Value: -1603.6 at 14.3 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-111

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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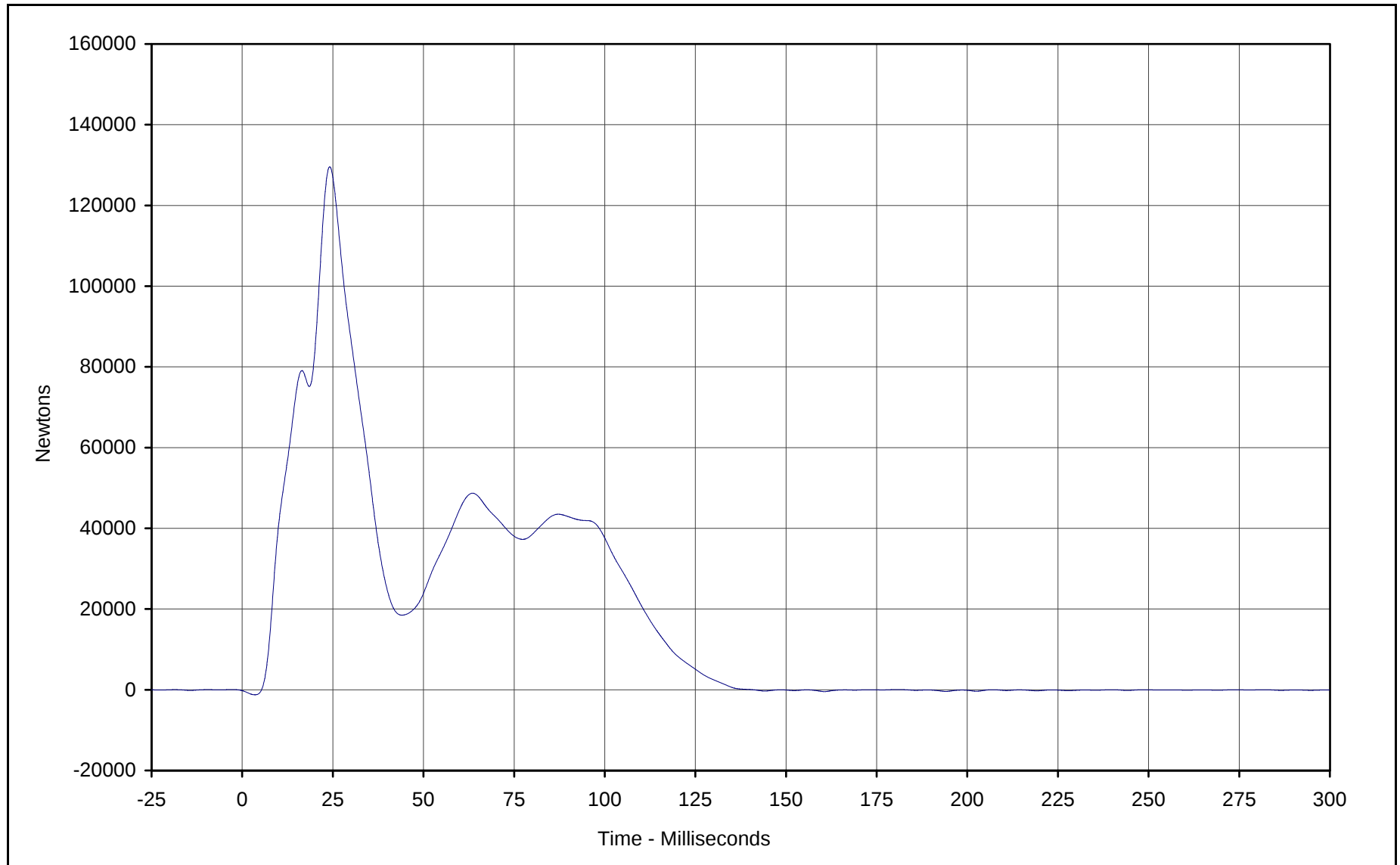


Curve Description: Barrier Force B6
Maximum Value: 90897.6 at 68.6 Milliseconds
Minimum Value: -683.8 at 202.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-112

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



C-14



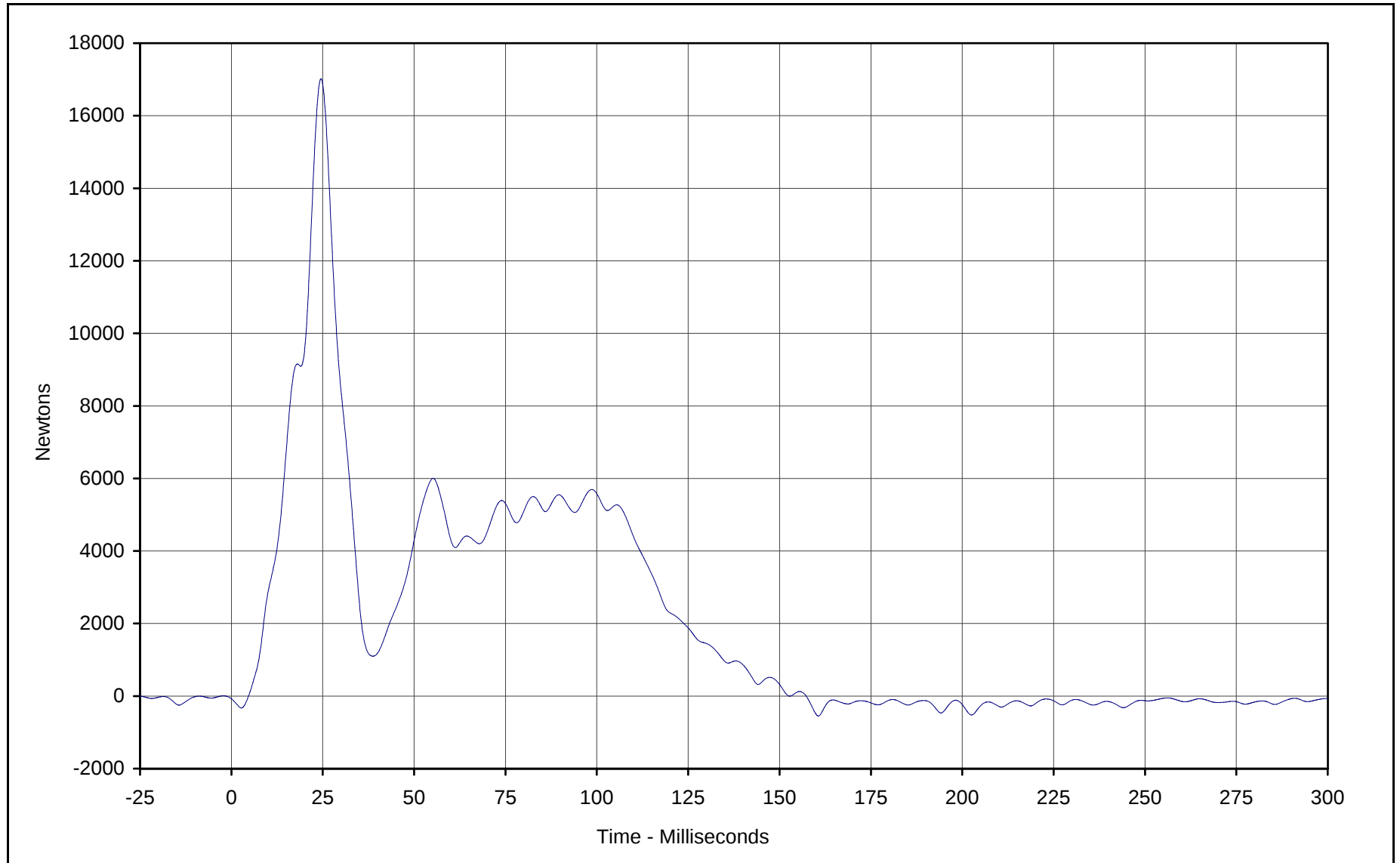
Curve Description: Barrier Force B7
Maximum Value: 129578.1 at 24.1 Milliseconds
Minimum Value: -1242.3 at 3.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-113

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-15

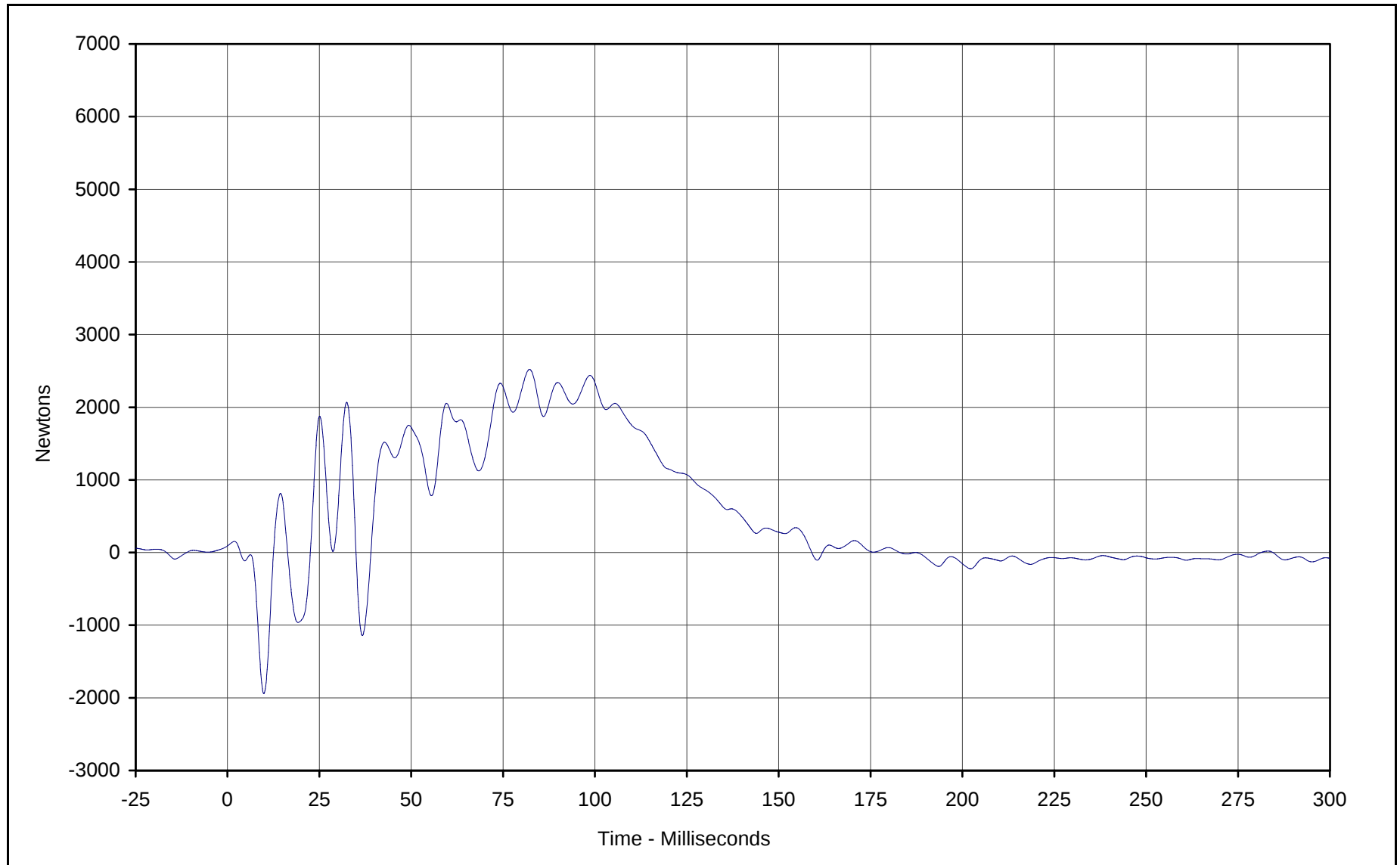


Curve Description: Barrier Force B8
Maximum Value: 17020.0 at 24.5 Milliseconds
Minimum Value: -550.3 at 160.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-114

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

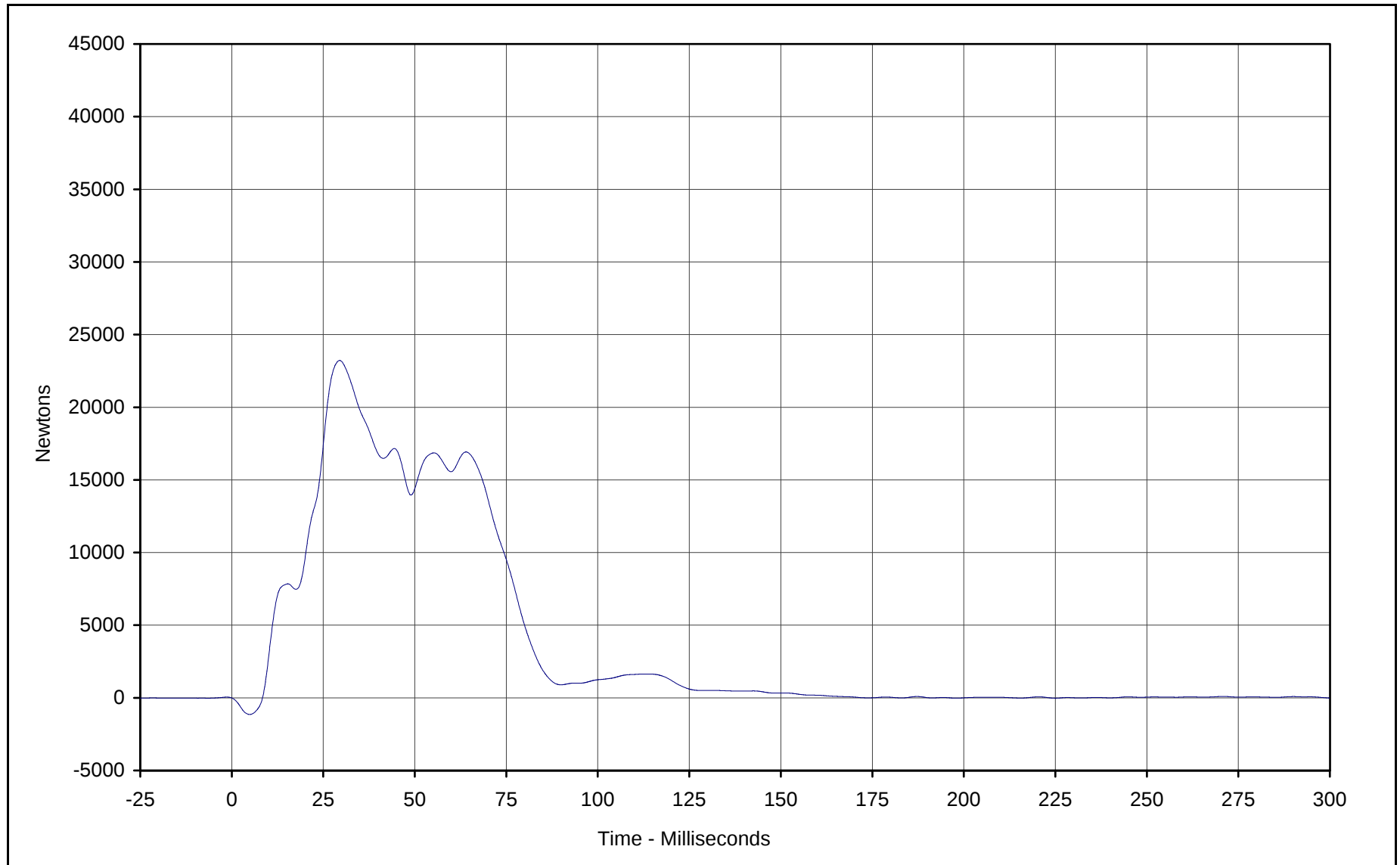


Curve Description: Barrier Force B9
Maximum Value: 2521.6 at 82.2 Milliseconds
Minimum Value: -1942.5 at 9.9 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-115

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



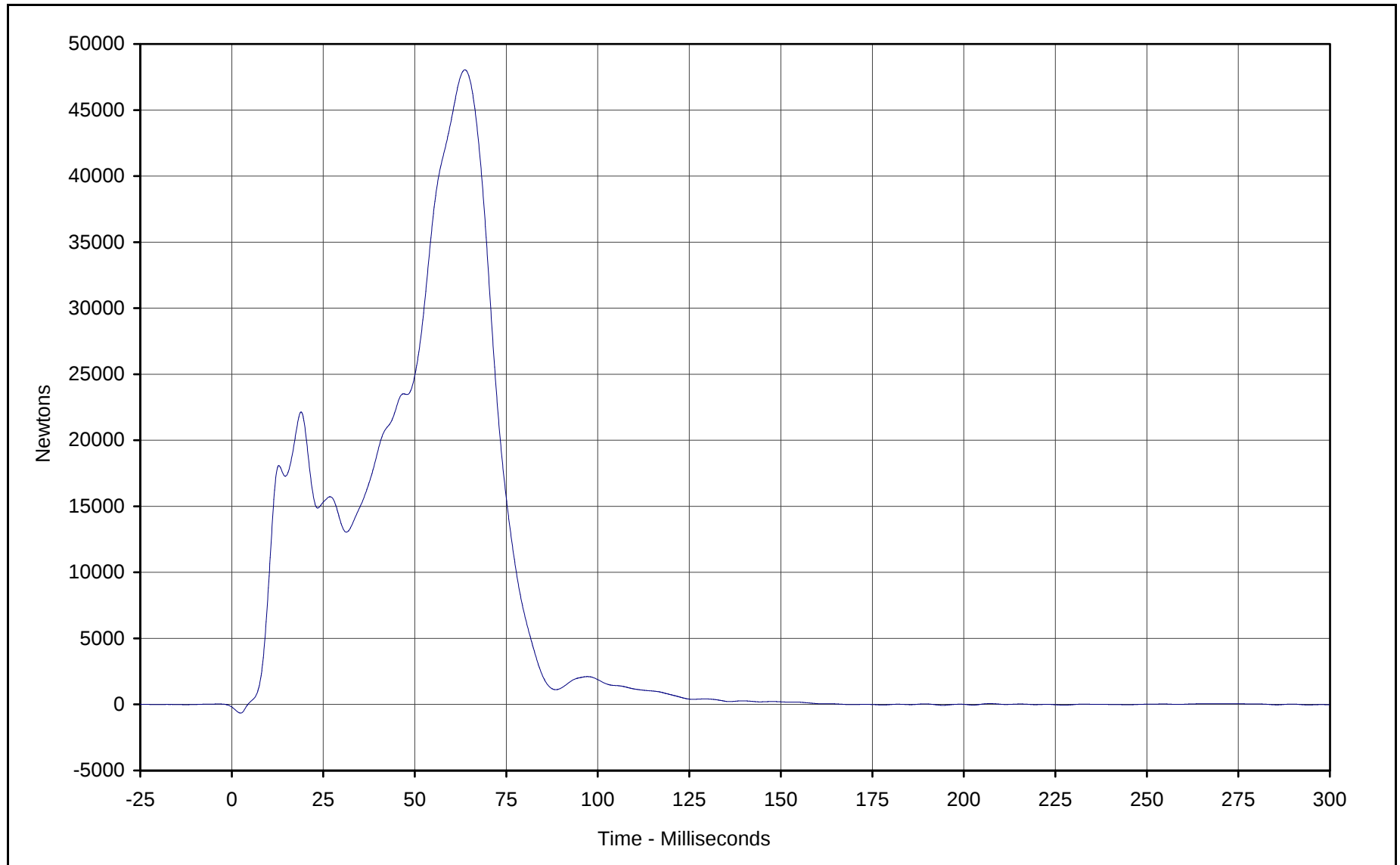


Curve Description: Barrier Force C2
Maximum Value: 23222.2 at 29.5 Milliseconds
Minimum Value: -1148.6 at 4.9 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-117

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



C-18

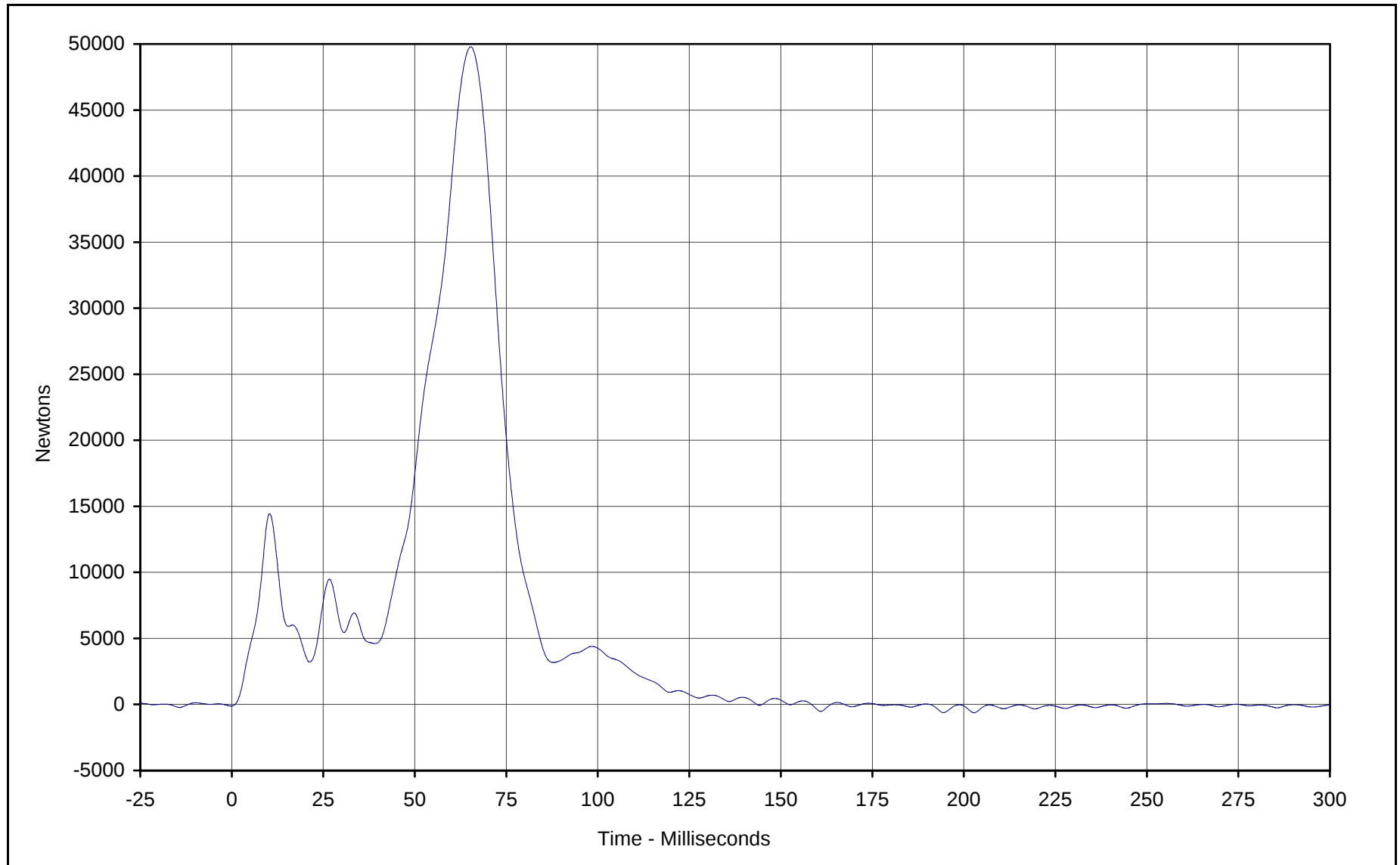


Curve Description: Barrier Force C3
Maximum Value: 48046.0 at 63.7 Milliseconds
Minimum Value: -652.6 at 2.4 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-118

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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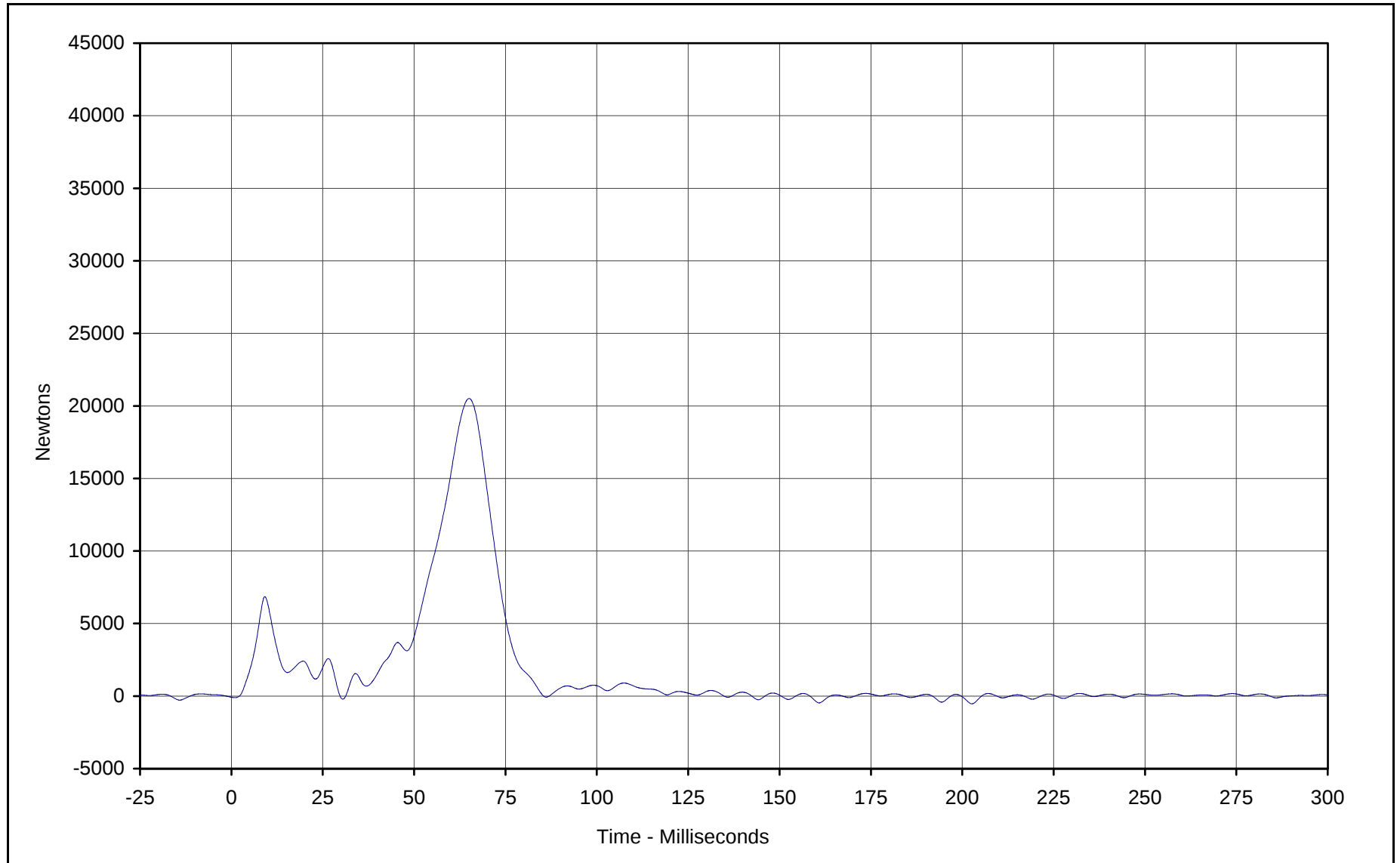


Curve Description: Barrier Force C4
Maximum Value: 49790.2 at 65.3 Milliseconds
Minimum Value: -629.6 at 202.8 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-119

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



C-20



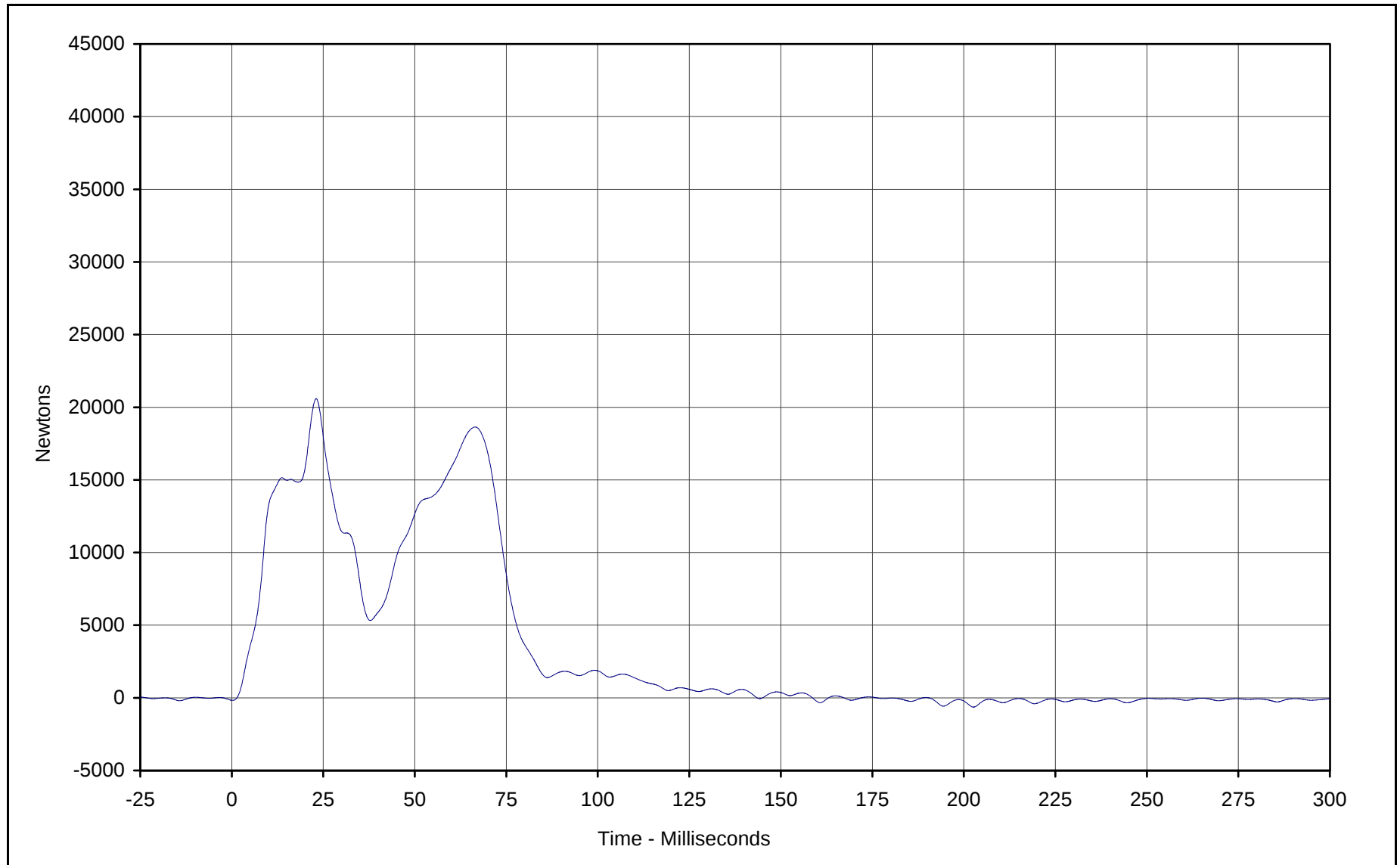
Curve Description: Barrier Force C5
Maximum Value: 20508.7 at 65.0 Milliseconds
Minimum Value: -533.8 at 202.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-120

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-21



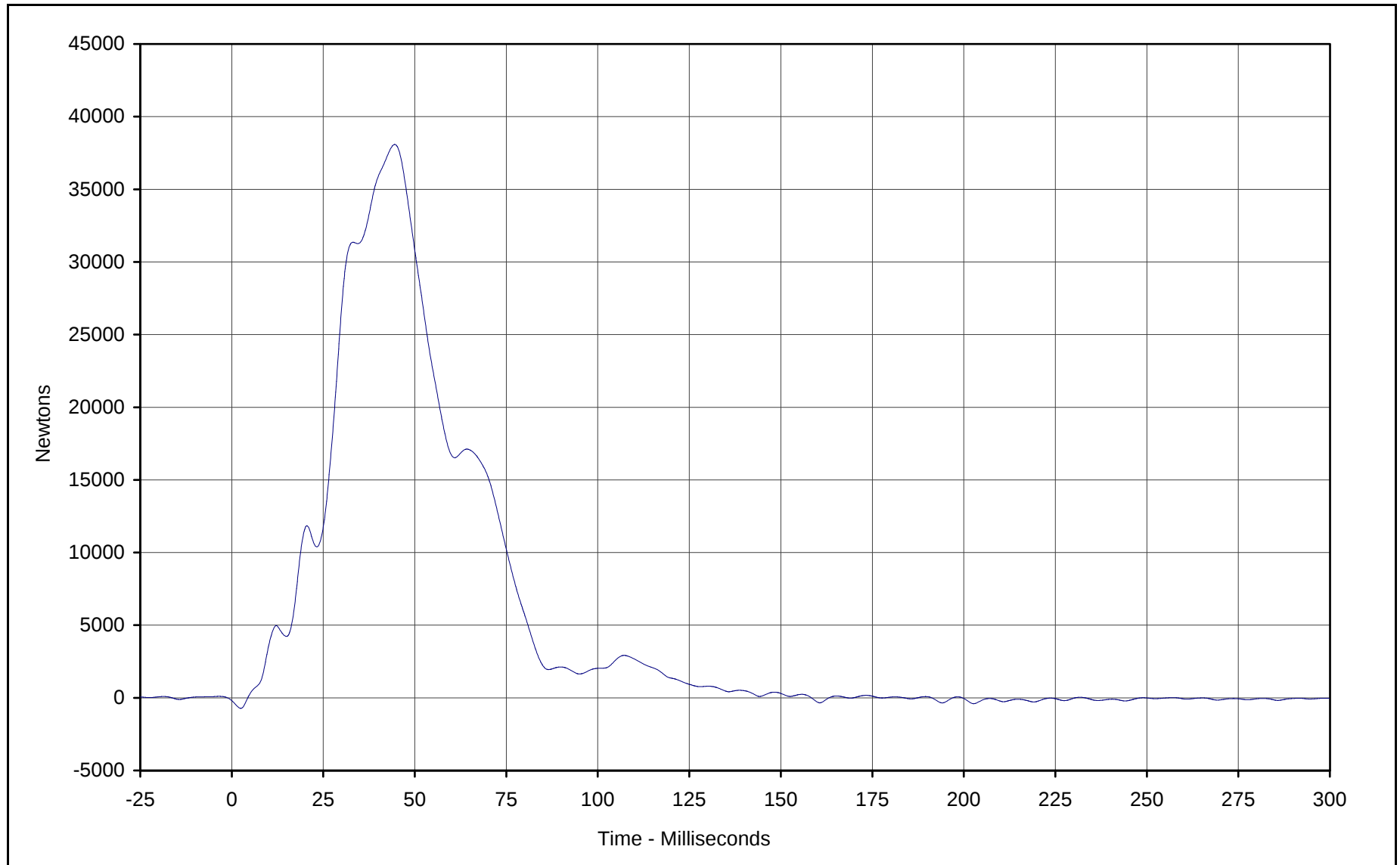
Curve Description: Barrier Force C6
Maximum Value: 20584.7 at 23.1 Milliseconds
Minimum Value: -637.4 at 202.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-121

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-22



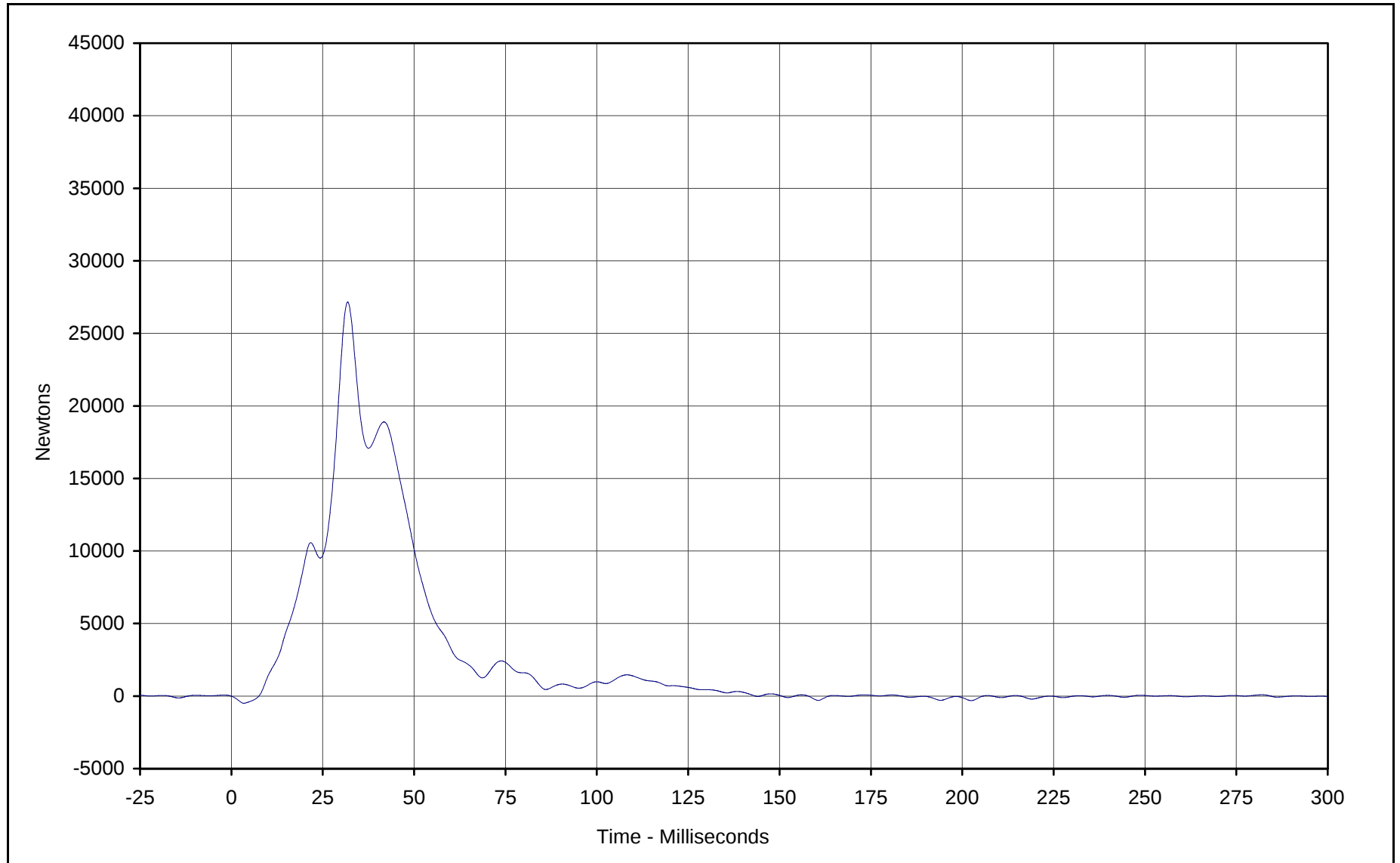
Curve Description: Barrier Force C7
Maximum Value: 38083.6 at 44.5 Milliseconds
Minimum Value: -721.4 at 2.5 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-122

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-23



Curve Description: Barrier Force C8

Maximum Value: 27163.3 at 31.8 Milliseconds

Minimum Value: -498.0 at 3.4 Milliseconds

SAE Filter Class: 60

Date of Test: 01/23/01

Curve Number: FIL-123

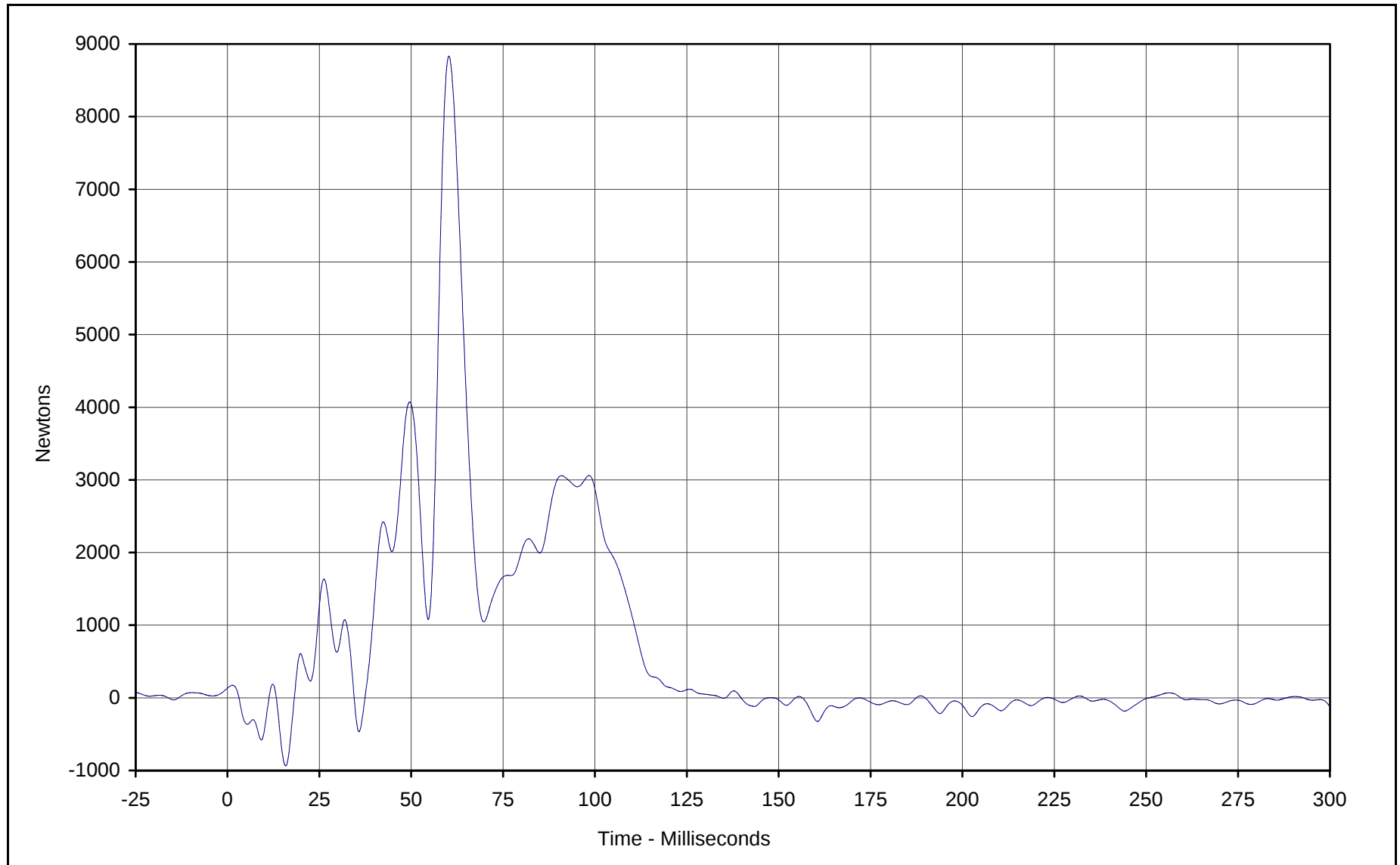
Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-24



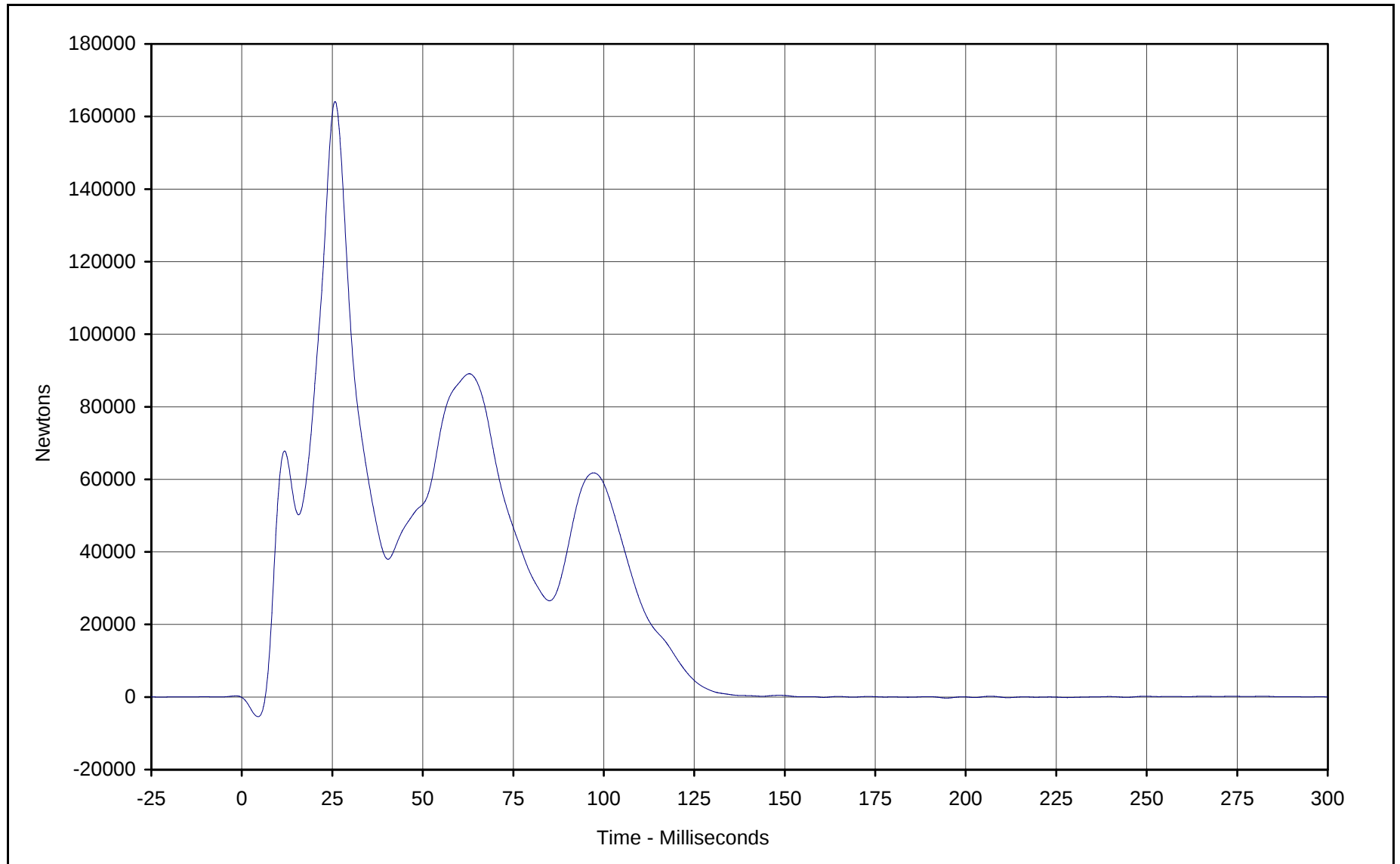
Curve Description: Barrier Force C9
Maximum Value: 8832.5 at 60.2 Milliseconds
Minimum Value: -934.9 at 15.8 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: FIL-124

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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C-25

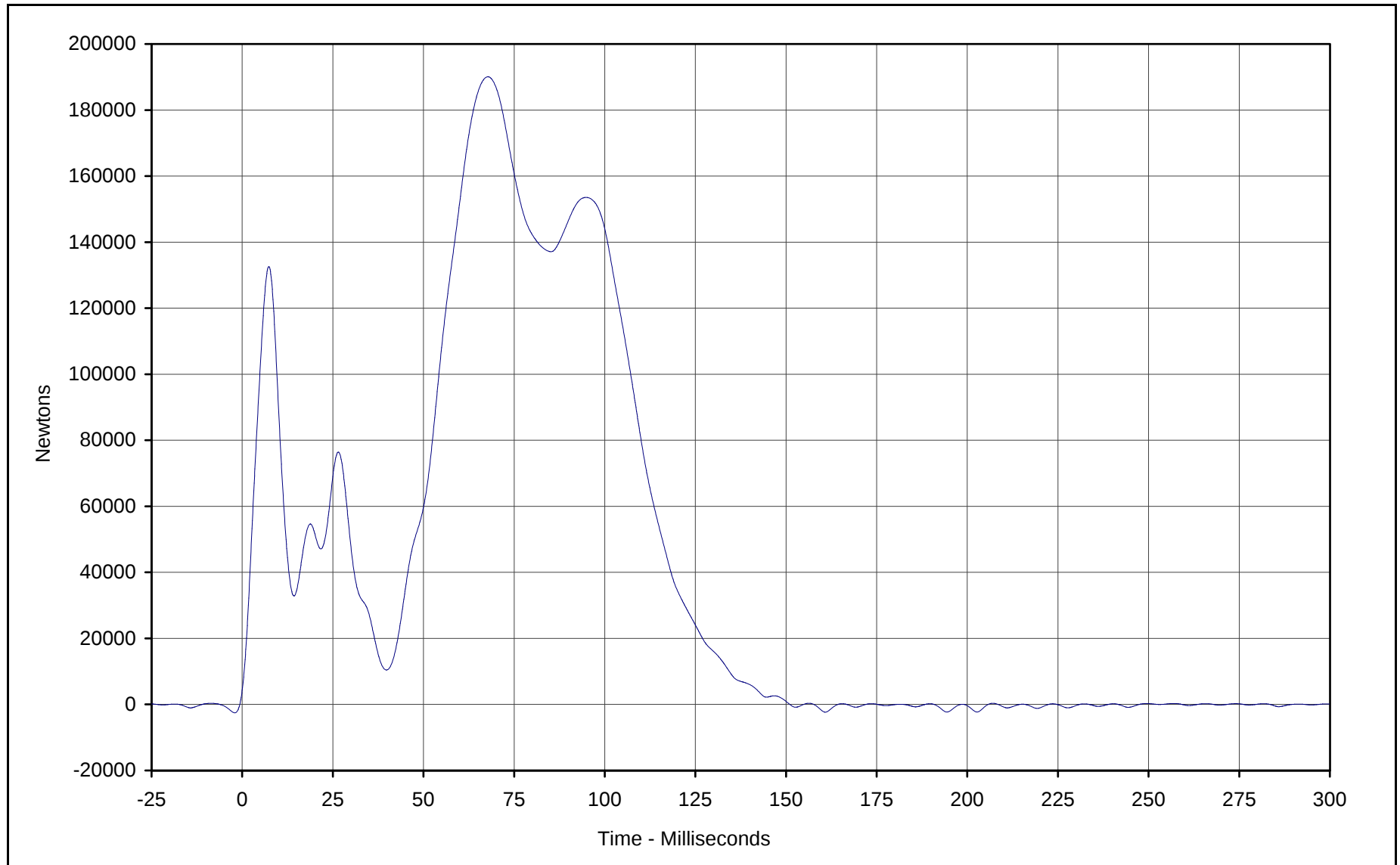


Curve Description: Barrier Force Sum Group 1
Maximum Value: 164147.8 at 25.7 Milliseconds
Minimum Value: -5417.2 at 4.5 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: SUM-001

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



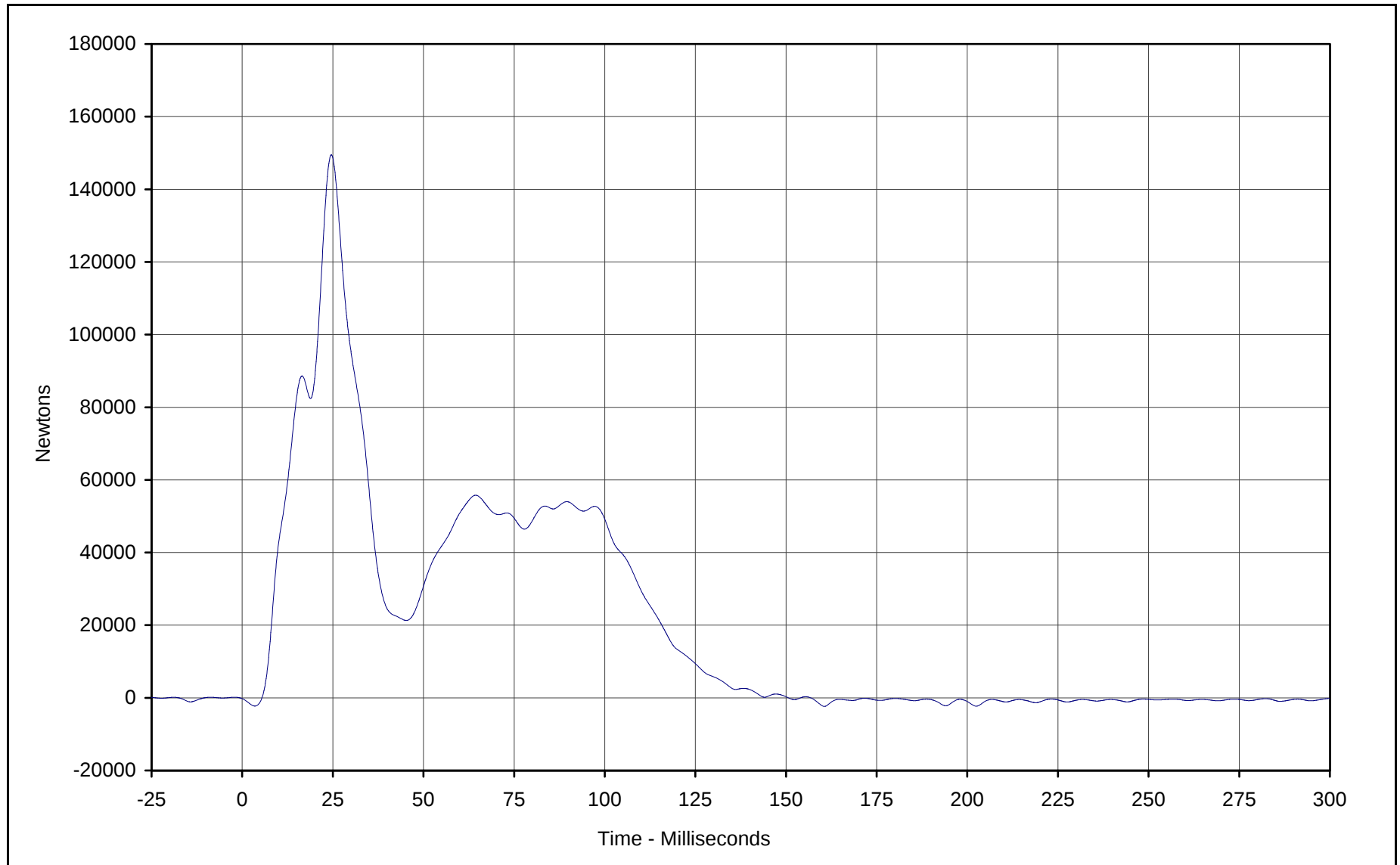
KAR21001-07



Curve Description: Barrier Force Sum Group 2
Maximum Value: 190081.0 at 67.8 Milliseconds
Minimum Value: -2351.1 at 160.8 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: SUM-002

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

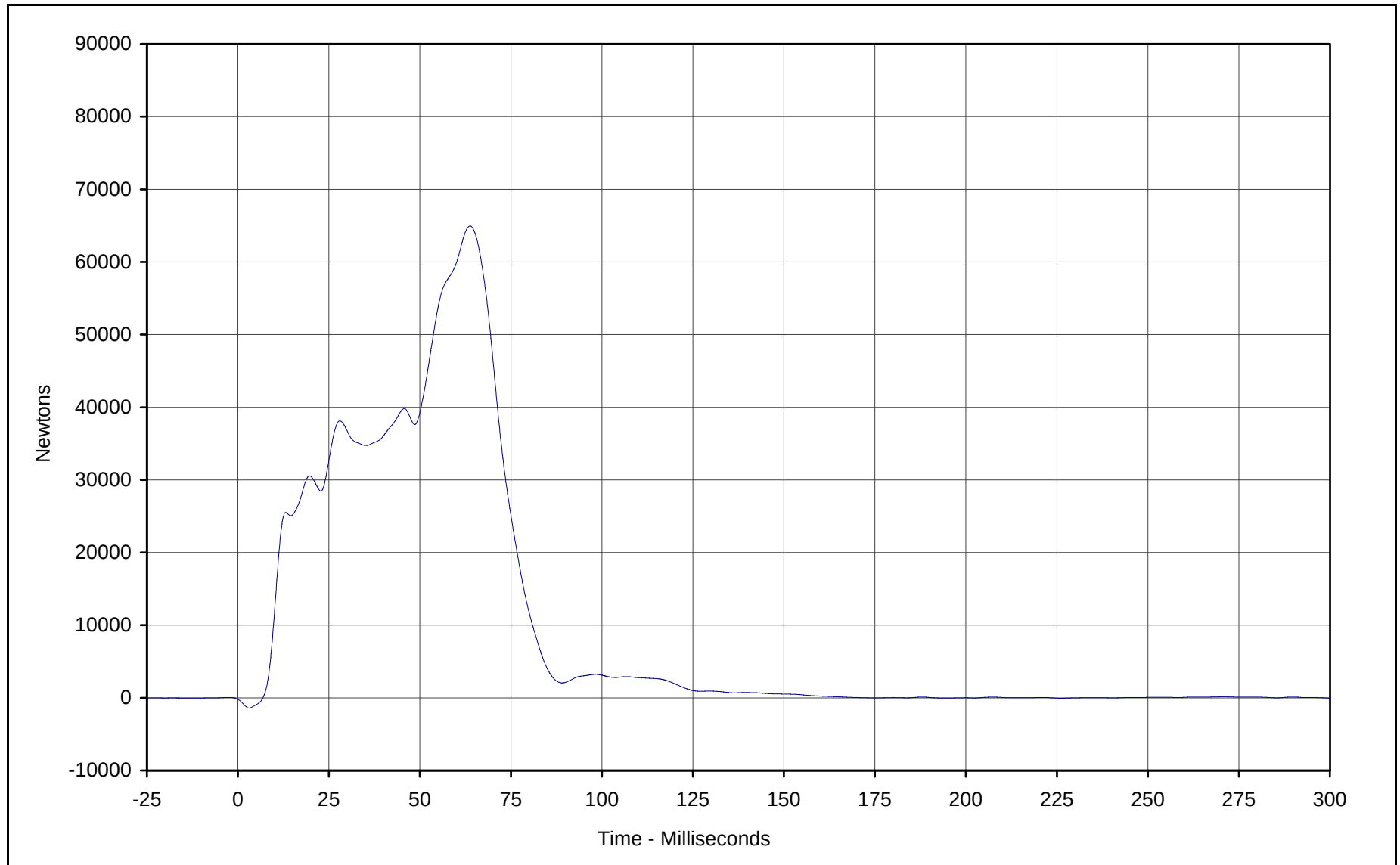




Curve Description: Barrier Force Sum Group 3
Maximum Value: 149509.4 at 24.6 Milliseconds
Minimum Value: -2368.8 at 160.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: SUM-003

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

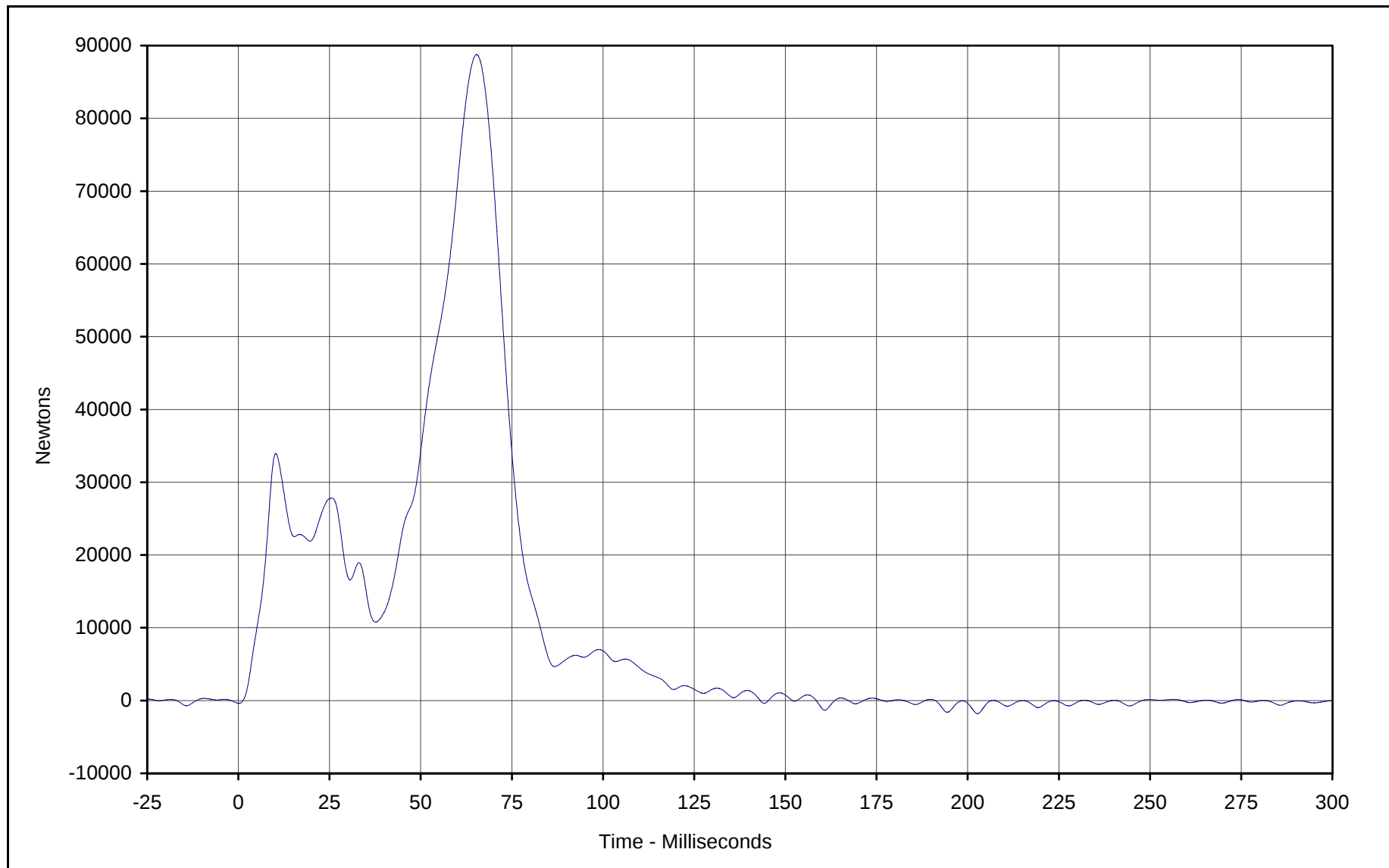




Curve Description: Barrier Force Sum Group 4
Maximum Value: 64958.3 at 63.8 Milliseconds
Minimum Value: -1419.1 at 3.1 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: SUM-004

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



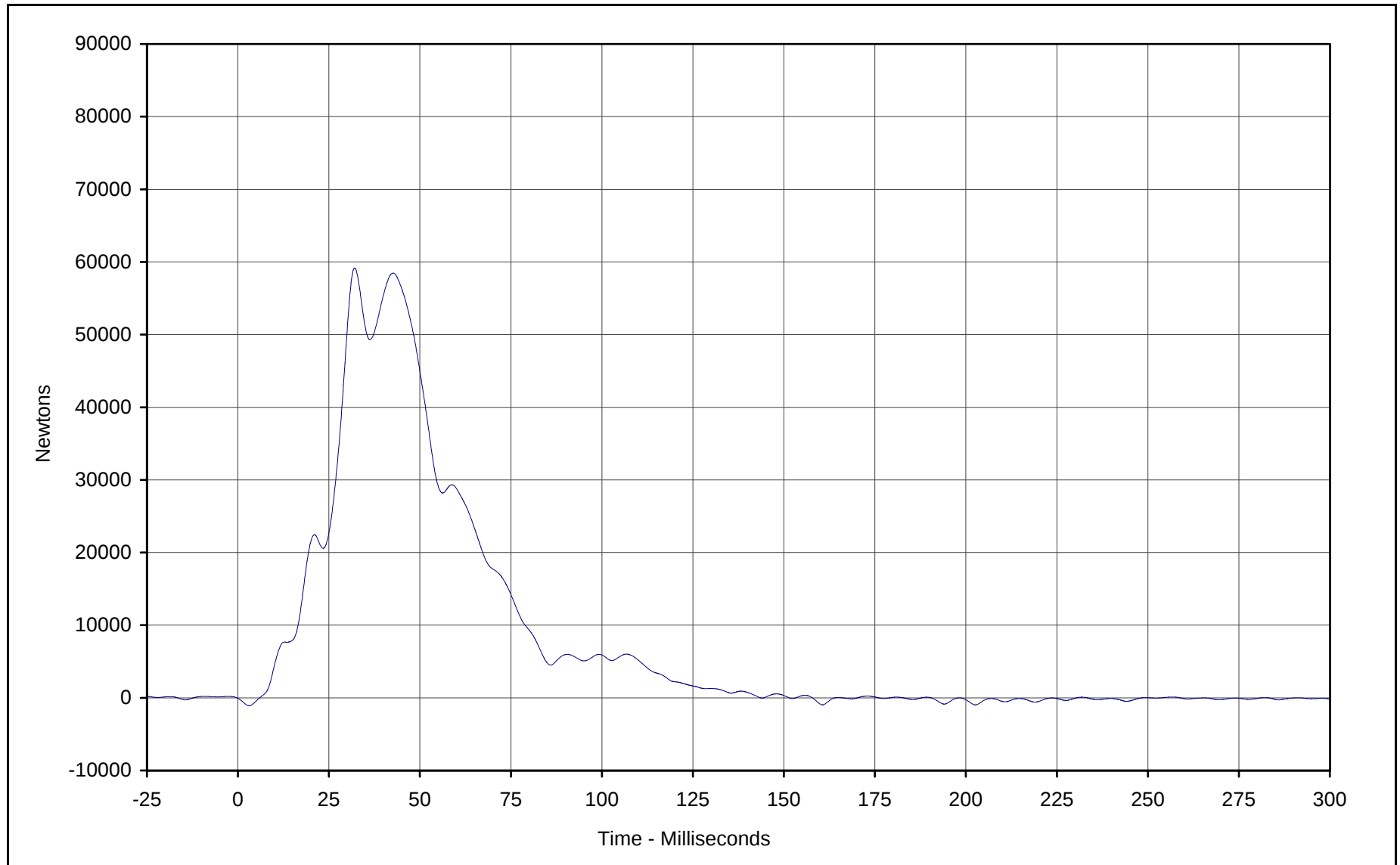


Curve Description: Barrier Force Sum Group 5
Maximum Value: 88768.0 at 65.3 Milliseconds
Minimum Value: -1798.8 at 202.7 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: SUM-005

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



C-30



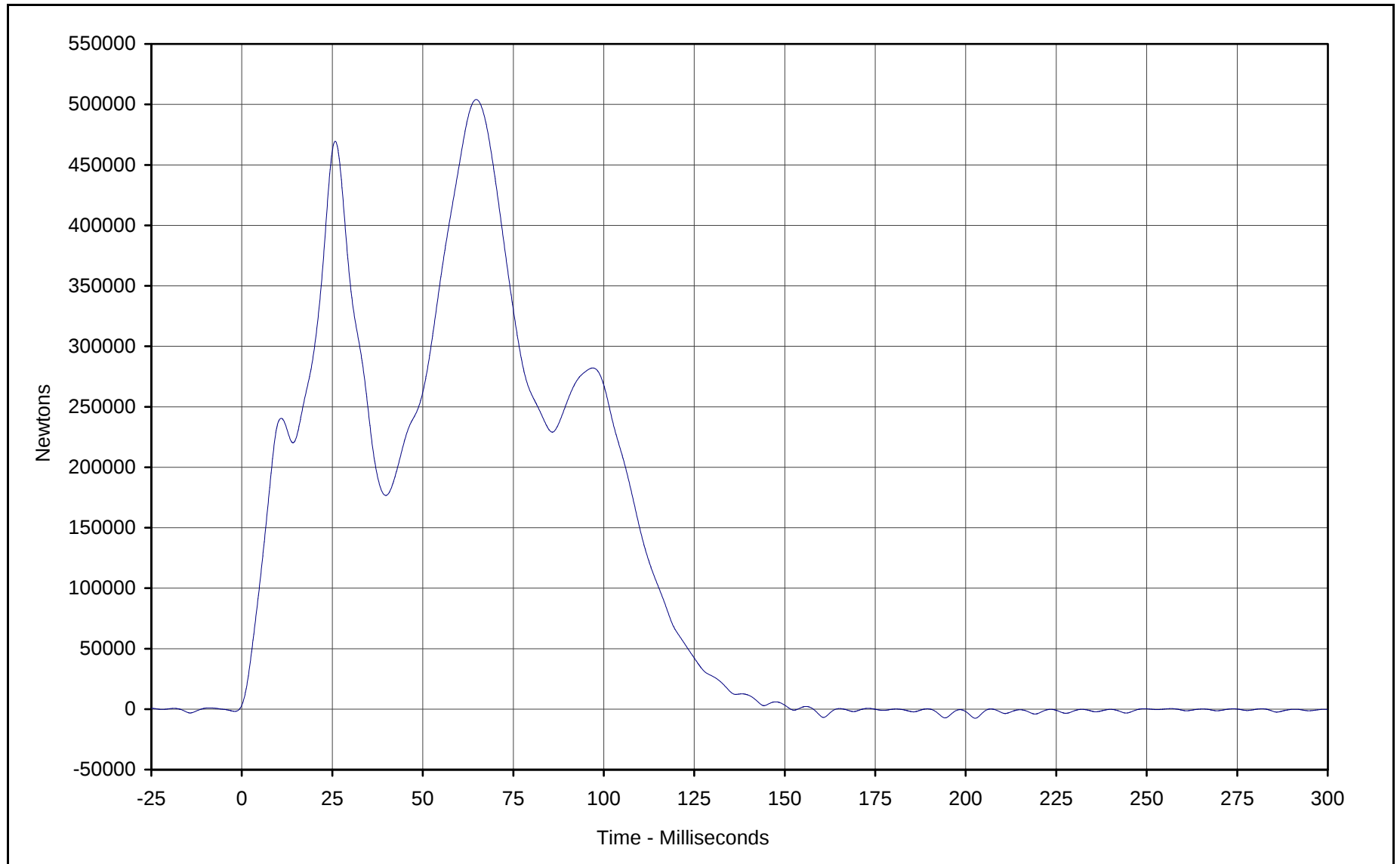
Curve Description: Barrier Force Sum Group 6
Maximum Value: 59166.5 at 32.1 Milliseconds
Minimum Value: -1098.8 at 3.1 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: SUM-006

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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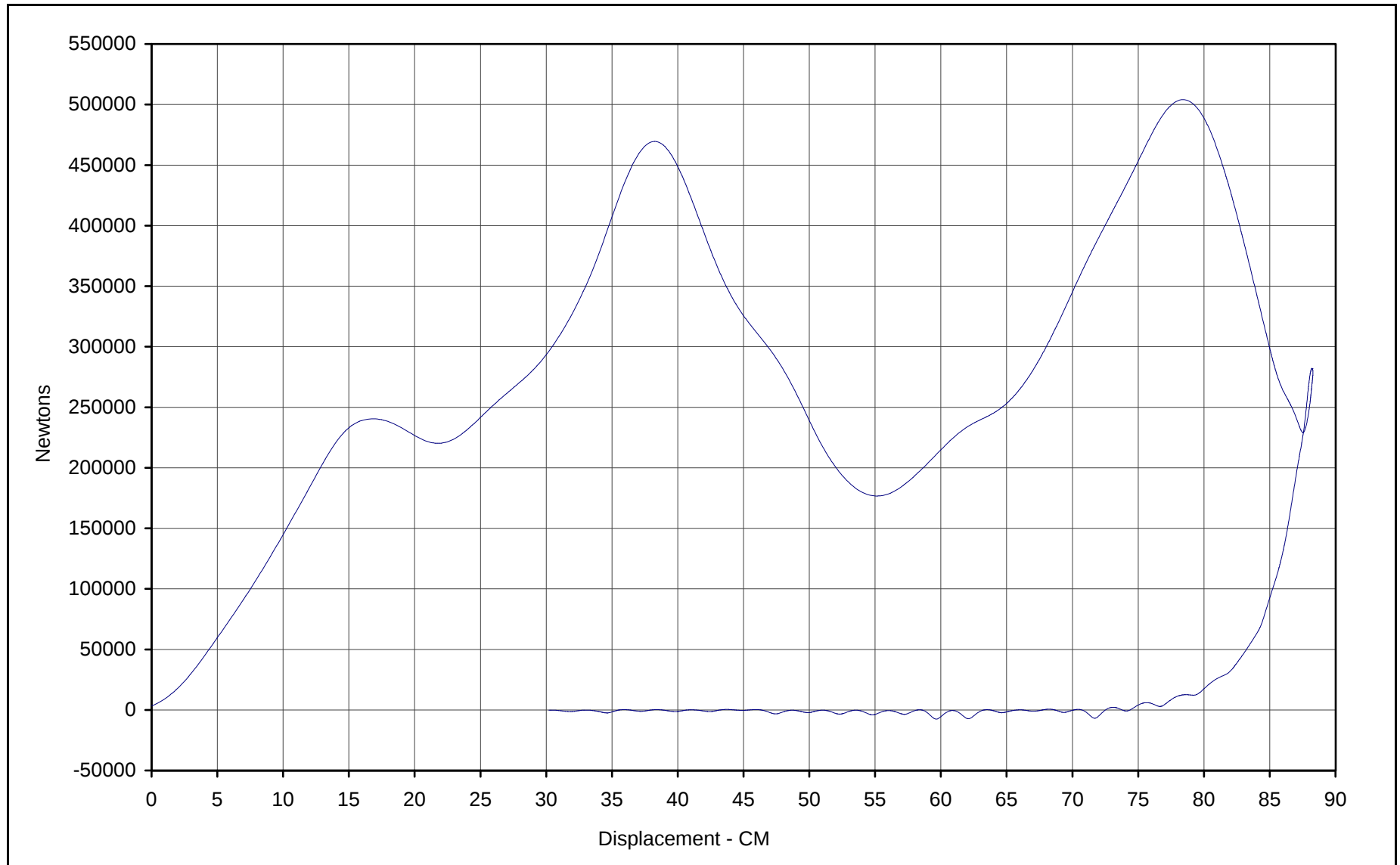
Curve Description: Barrier Force Sum Total
Maximum Value: 504037.4 at 64.8 Milliseconds
Minimum Value: -7536.7 at 202.6 Milliseconds
SAE Filter Class: 60
Date of Test: 01/23/01
Curve Number: SUM-007

Test Program: 2001 NHTSA 35mph NCAP No.: M10201
Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



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Curve Description: Sum Force Total vs. Dynamic Crush

Maximum Displ.: 88.3 at 94.6 Milliseconds

Maximum Force: 504037.4 at 64.8 Milliseconds

Measured Energy: 236676.74 Joules

Date of Test: 01/23/01

Curve Number: XVY-001

Test Program: 2001 NHTSA 35mph NCAP No.: M10201

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan



KAR21001-07

BARRIER LOAD CELL SUMMARY DATA

Test Vehicle: 2001 Ford Crown Victoria 4 Door Sedan

NHTSA No.: M10201

Test Program: 2001 NHTSA 35mph NCAP

Test Date: 01/23/01

BARRIER LOAD CELL PEAK FORCES

Location	Units	Max	Time	Min	Time
Barrier Force A2	Newtons	2497.6	11.1	-1256.8	5.6
Barrier Force A3	Newtons	3691.2	10.2	-2550.7	14.7
Barrier Force A4	Newtons	4759.5	9.4	-3350.4	14.2
Barrier Force A5	Newtons	37963.1	7.8	-4031.2	14.2
Barrier Force A6	Newtons	5067.7	9.3	-2818.1	13.9
Barrier Force A7	Newtons	2744.6	9.4	-2369.8	22.1
Barrier Force A8	Newtons	2142.8	74.2	-1680.3	21.5
Barrier Force A9	Newtons	1799.5	98.3	-2764.8	19.9
Barrier Force B2	Newtons	102503.0	25.8	-999.0	4.6
Barrier Force B3	Newtons	59888.9	25.1	-1666.4	4.2
Barrier Force B4	Newtons	89276.5	67.2	-100.7	299.9
Barrier Force B5	Newtons	36524.0	3.7	-1603.6	14.3
Barrier Force B6	Newtons	90897.6	68.6	-683.8	202.6
Barrier Force B7	Newtons	129578.1	24.1	-1242.3	3.6
Barrier Force B8	Newtons	17020.0	24.5	-550.3	160.6
Barrier Force B9	Newtons	2521.6	82.2	-1942.5	9.9
Barrier Force C2	Newtons	23222.2	29.5	-1148.6	4.9
Barrier Force C3	Newtons	48046.0	63.7	-652.6	2.4
Barrier Force C4	Newtons	49790.2	65.3	-629.6	202.8
Barrier Force C5	Newtons	20508.7	65.0	-533.8	202.6
Barrier Force C6	Newtons	20584.7	23.1	-637.4	202.6
Barrier Force C7	Newtons	38083.6	44.5	-721.4	2.5
Barrier Force C8	Newtons	27163.3	31.8	-498.0	3.4
Barrier Force C9	Newtons	8832.5	60.2	-934.9	15.8
Barrier Force Sum Group 1	Newtons	164147.8	25.7	-5417.2	4.5
Barrier Force Sum Group 2	Newtons	190081.0	67.8	-2351.1	160.8
Barrier Force Sum Group 3	Newtons	149509.4	24.6	-2368.8	160.6
Barrier Force Sum Group 4	Newtons	64958.3	63.8	-1419.1	3.1
Barrier Force Sum Group 5	Newtons	88768.0	65.3	-1798.8	202.7
Barrier Force Sum Group 6	Newtons	59166.5	32.1	-1098.8	3.1
Barrier Force Sum Total	Newtons	504037.4	64.8	-7536.7	202.6

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 34
01/23/01
2001 Ford Crown Victoria 4 Door Sedan

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

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Driver A.T.D. Serial Number 34
01/23/01
2001 Ford Crown Victoria 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	KEIC002X	Accel., Foot Triax	I.C. Sensor	3031-500	G
36	FOOT LEFT	Y	KEIC002Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
37	FOOT LEFT	Z	KEIC002Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
38	FOOT RIGHT	X	KEIC001X	Accel., Foot Triax	I.C. Sensor	3031-500	G
39	FOOT RIGHT	Y	KEIC001Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
40	FOOT RIGHT	Z	KEIC001Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
41	LAP BELT FORCE	X	KELC003	Load cell, Seat belt	Lebow	3371	N
42	SHOULDER BELT FORCE	X	KELC004	Load cell, Seat belt	Lebow	3371	N
43	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	MM
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 35
01/23/01
2001 Ford Crown Victoria 4 Door Sedan

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

2001 NHTSA 35mph NCAP
Instrumentation Data Channel Assignments
Passenger A.T.D. Serial Number 35
01/23/01
2001 Ford Crown Victoria 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	KEIC003X	Accel., Foot Triax	I.C. Sensor	3031-500	G
80	FOOT LEFT	Y	KEIC003Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
81	FOOT LEFT	Z	KEIC003Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
82	FOOT RIGHT	X	KEIC004X	Accel., Foot Triax	I.C. Sensor	3031-500	G
83	FOOT RIGHT	Y	KEIC004Y	Accel., Foot Triax	I.C. Sensor	3031-500	G
84	FOOT RIGHT	Z	KEIC004Z	Accel., Foot Triax	I.C. Sensor	3031-500	G
85	LAP BELT FORCE	X	KELC001	Load cell, Seat belt	Lebow	3371	N
86	SHOULDER BELT FORCE	X	KELC002	Load cell, Seat belt	Lebow	3371	N
87	SHOULDER BELT SPOOL	X	KEPP001	Pullout pot	Celesco	PTX101-0030	CM
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
01/23/01
2001 Ford Crown Victoria 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
01/23/01
2001 Ford Crown Victoria 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
01/23/01
2001 Ford Crown Victoria 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.: LK01X

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	5238.6	Pass
Overall Test Results				Pass

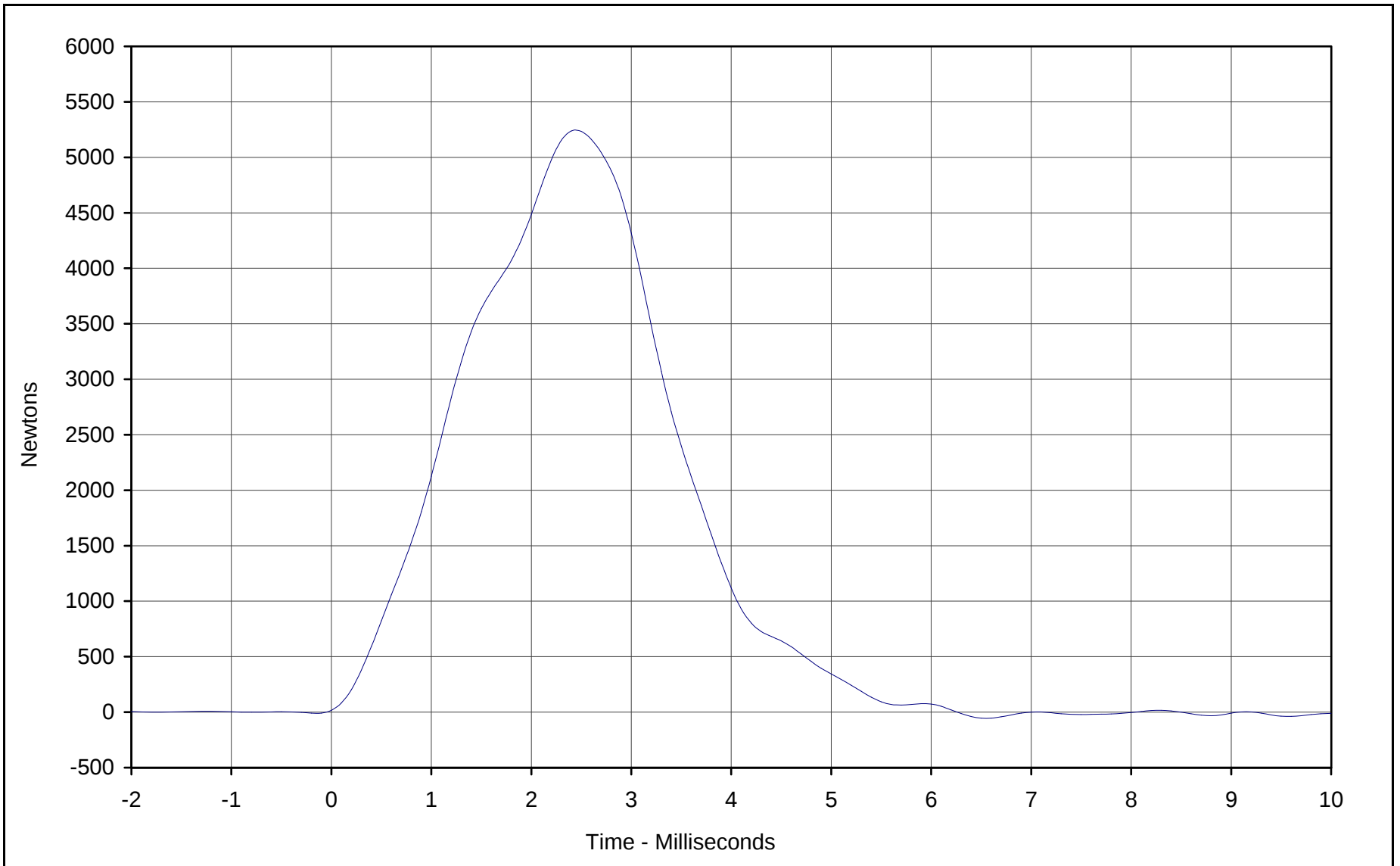
Laboratory Technician

January 21, 2001
Test Date

Approved By

Date

E-2



Curve Description: Probe Force

Maximum Value:	<u>5238.6</u>	at	<u>2.4</u>	Milliseconds
Minimum Value:	<u>-53.6</u>	at	<u>6.6</u>	Milliseconds
SAE Filter Class:	<u>600</u>			
Date of Test:	<u>1/21/01</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.: LK01X



KAR21001-07



Hybrid III Calibration Data Sheet

50TH Percentile Male

Right Knee Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: RK01X

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	2.103	Pass
Peak Probe Force	Newtons	4715 to 5782	5264.2	Pass
Overall Test Results				Pass

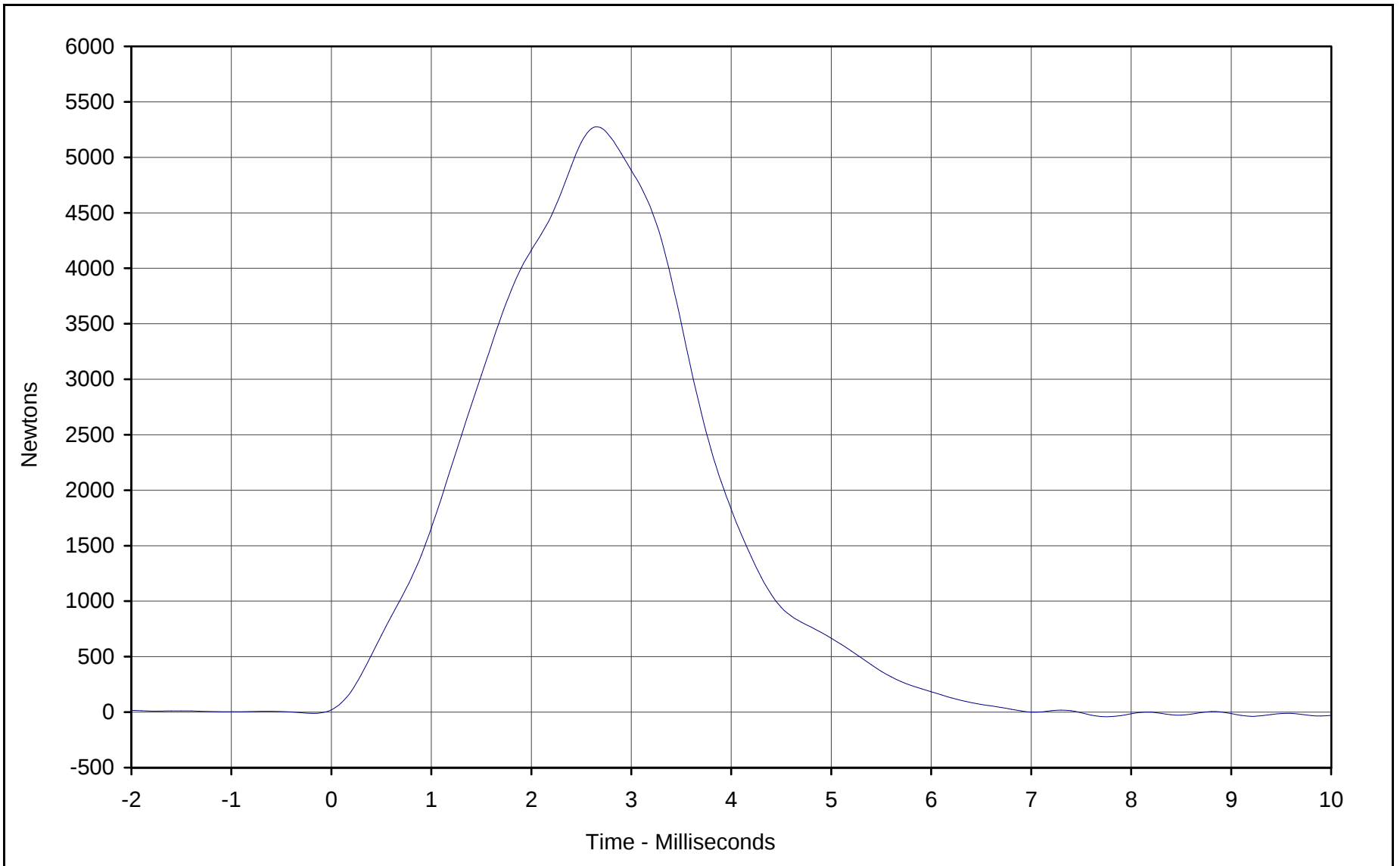
Laboratory Technician

January 21, 2001
Test Date

Approved By

Date

E-4



Curve Description: Probe Force

Maximum Value:	<u>5264.2</u>	at	<u>2.7</u>	Milliseconds
Minimum Value:	<u>-40.5</u>	at	<u>7.8</u>	Milliseconds
SAE Filter Class:	<u>600</u>			
Date of Test:	<u>1/21/01</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.: RK01X



KAR21001-07



Hybrid III Calibration Data Sheet

50TH Percentile Male

Head Drop Calibration

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: HD08A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	228.8	Pass
Peak Lateral Acceleration	G's	≤15.0	9.1	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

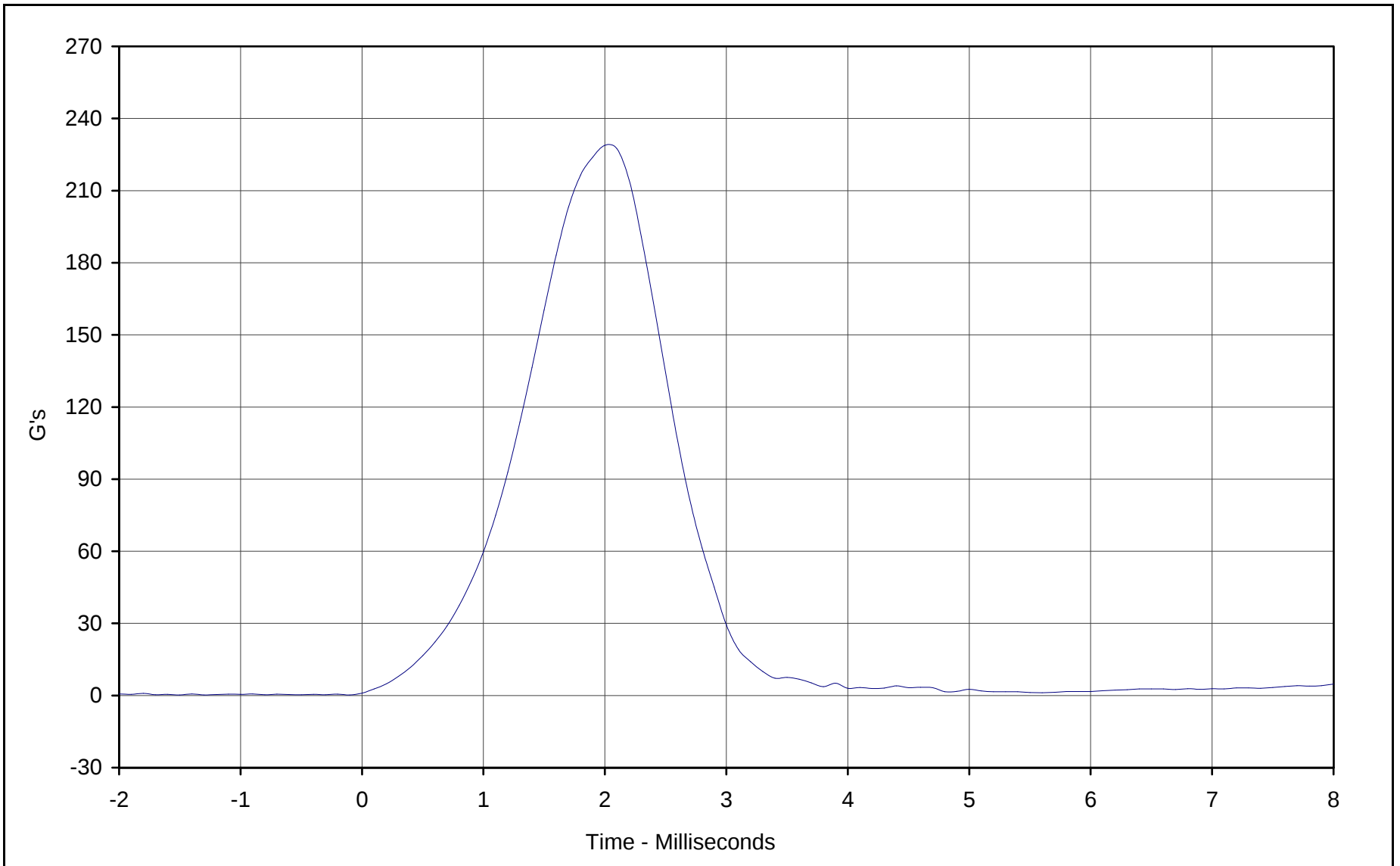
January 20, 2001

Test Date

Approved By

Date

E-6



Curve Description: Head Resultant Acceleration

Maximum Value:	<u>228.8</u>	at	<u>2.0</u>	Milliseconds
Minimum Value:	<u>0.2</u>	at	<u>-1.3</u>	Milliseconds
SAE Filter Class:	<u>1000</u>			
Date of Test:	<u>1/20/01</u>			
ATD Serial No.:	<u>034</u>			

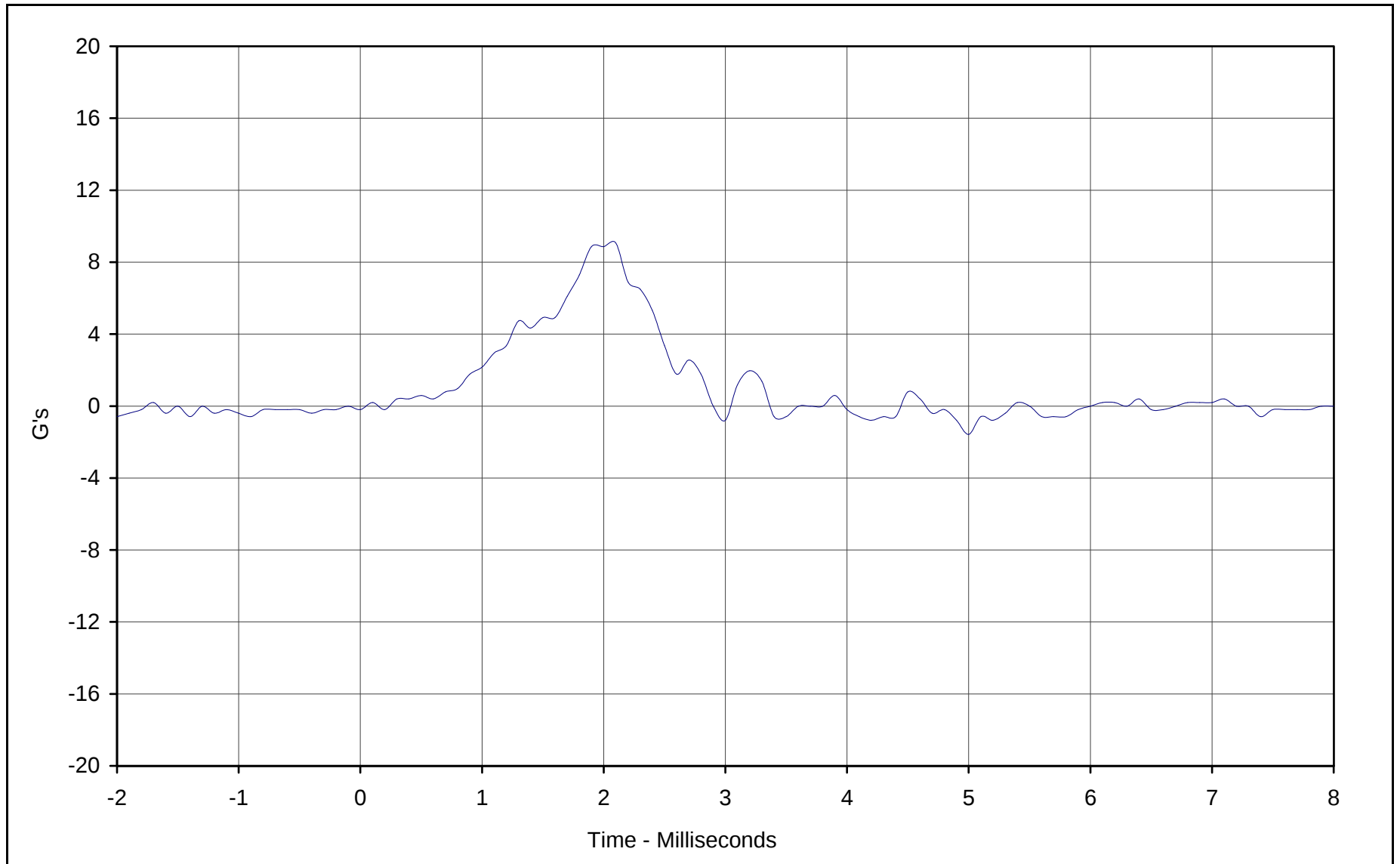
Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD08A



KAR21001-07

E-7



Curve Description: Head Acceleration Y Axis

Maximum Value: 9.1 at 2.1 Milliseconds

Minimum Value: -1.6 at 5.0 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/20/01

ATD Serial No.: 034

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD08A



KAR21001-07



Hybrid III Calibration Data Sheet

50TH Percentile Male

Thorax Impact Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: CH01A

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	5773	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.51	Pass
Internal Hysteresis	%	69 to 85	76.1	Pass
Overall Test Results				Pass

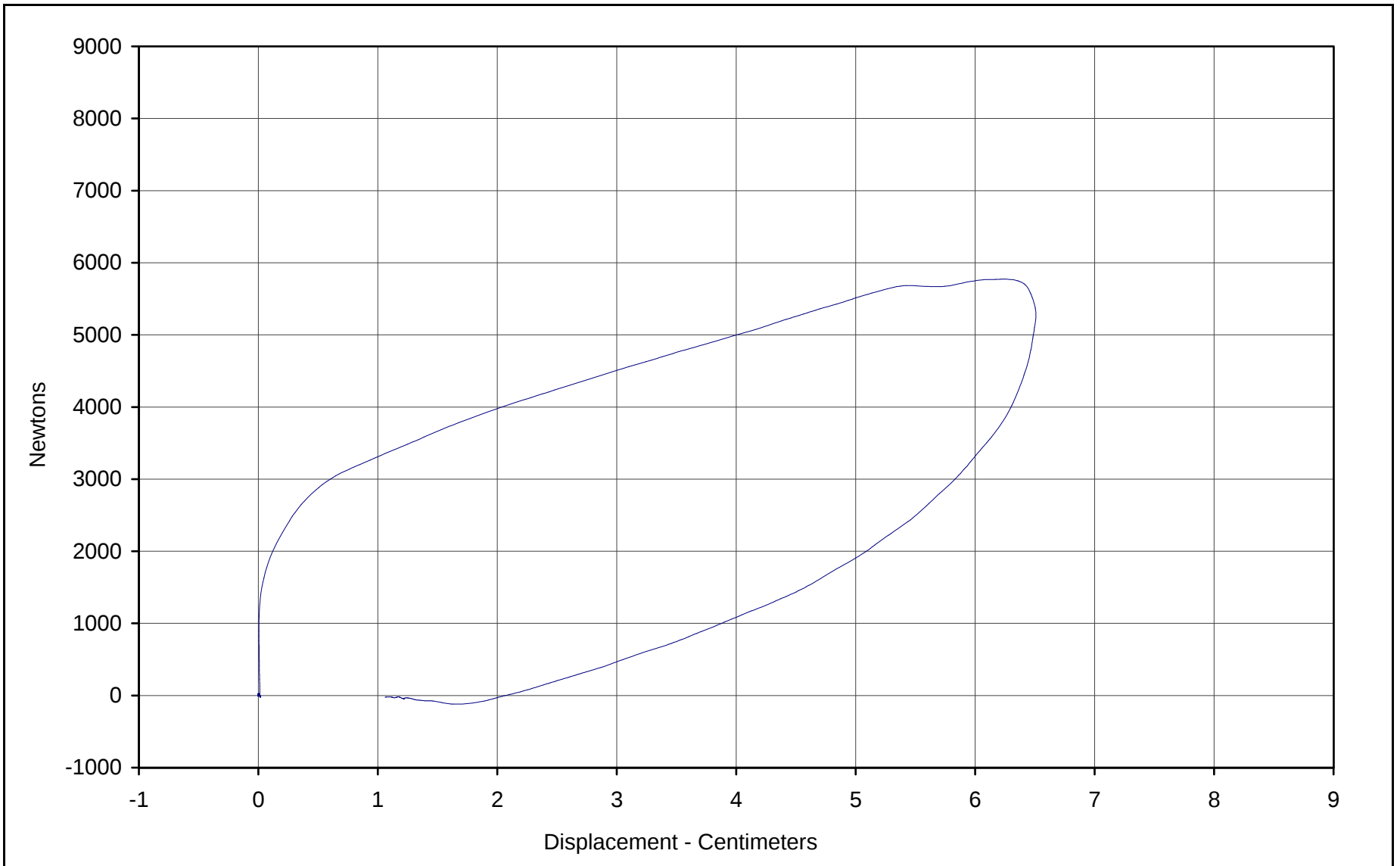
Laboratory Technician

January 20, 2001

Test Date

Approved By

Date



Curve Description: Probe Force vs. Chest Displacement

Probe Force: 5772.8 Newtons

Chest Displ.: 6.51 Centimeters

SAE Filter Class: 180

Date of Test: 1/20/01

ATD Serial No.: 034

Testing Program: Hybrid III Thorax Impact Test

Test Information: S/N of Part: N/A Test I.D.: CH01A





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NF02A

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	6.89	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.6	Pass
	20 Msec.	G's	17.6 to 22.6	20.2	Pass
	30 Msec.	G's	12.5 to 18.5	17.8	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.8	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	39.0	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	75.4	Pass
	Time	Msec.	57.0 to 64.0	62.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	122.8	Pass
Moment About Occipital Condyle	Maximum	N·m	84.1 to 108.5	86.0	Pass
	Time	Msec.	47.0 to 58.0	56.8	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	104.3	Pass
Overall Test Results					Pass

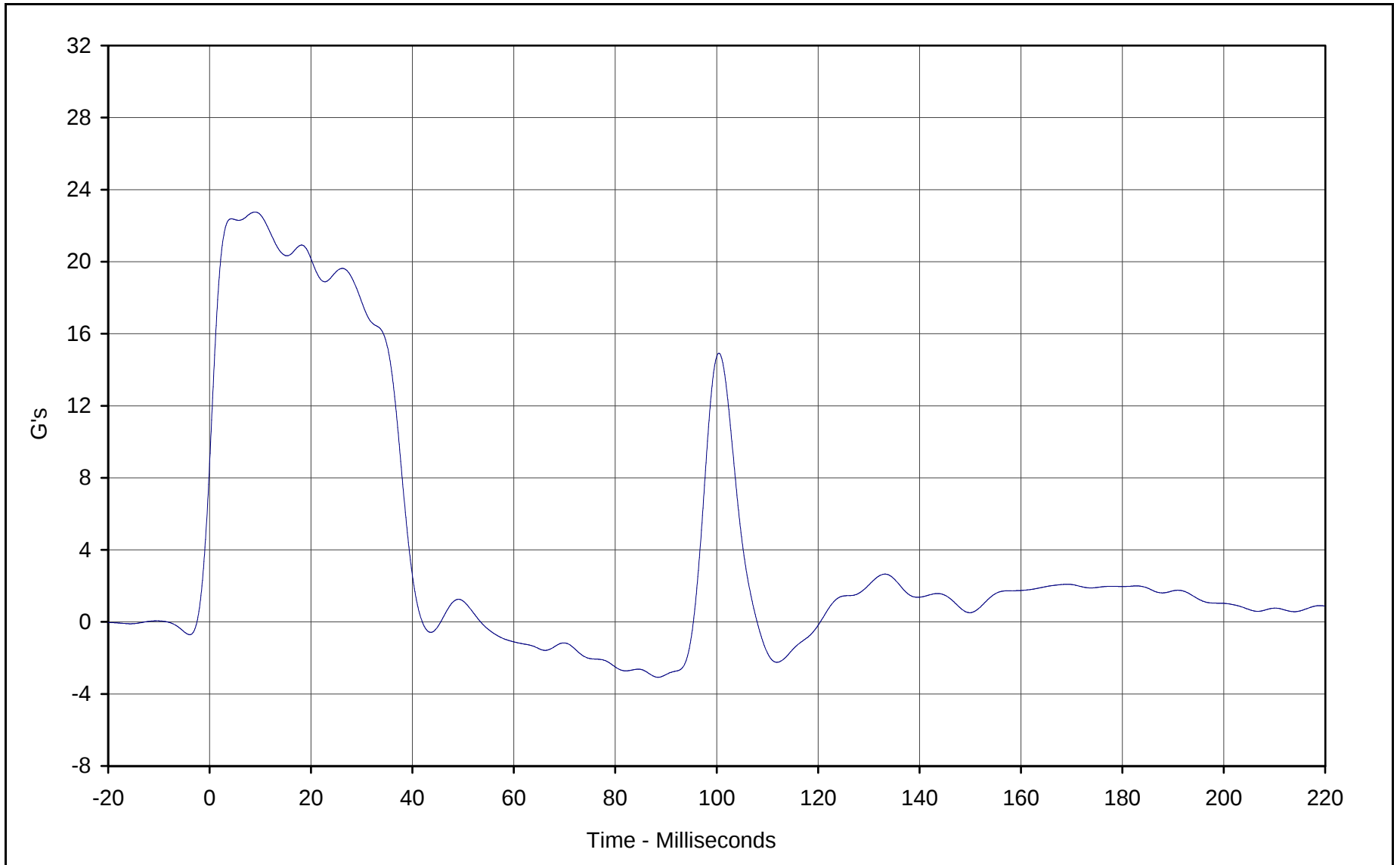
Laboratory Technician

January 21, 2001
Test Date

Approved By

Date

E-11



Curve Description: Pendulum Deceleration

Maximum Value:	<u>22.8</u>	at	<u>9.0</u>	Milliseconds
Minimum Value:	<u>-3.1</u>	at	<u>88.5</u>	Milliseconds
SAE Filter Class:	<u>60</u>			
Date of Test:	<u>1/21/01</u>			
ATD Serial No.:	<u>034</u>			

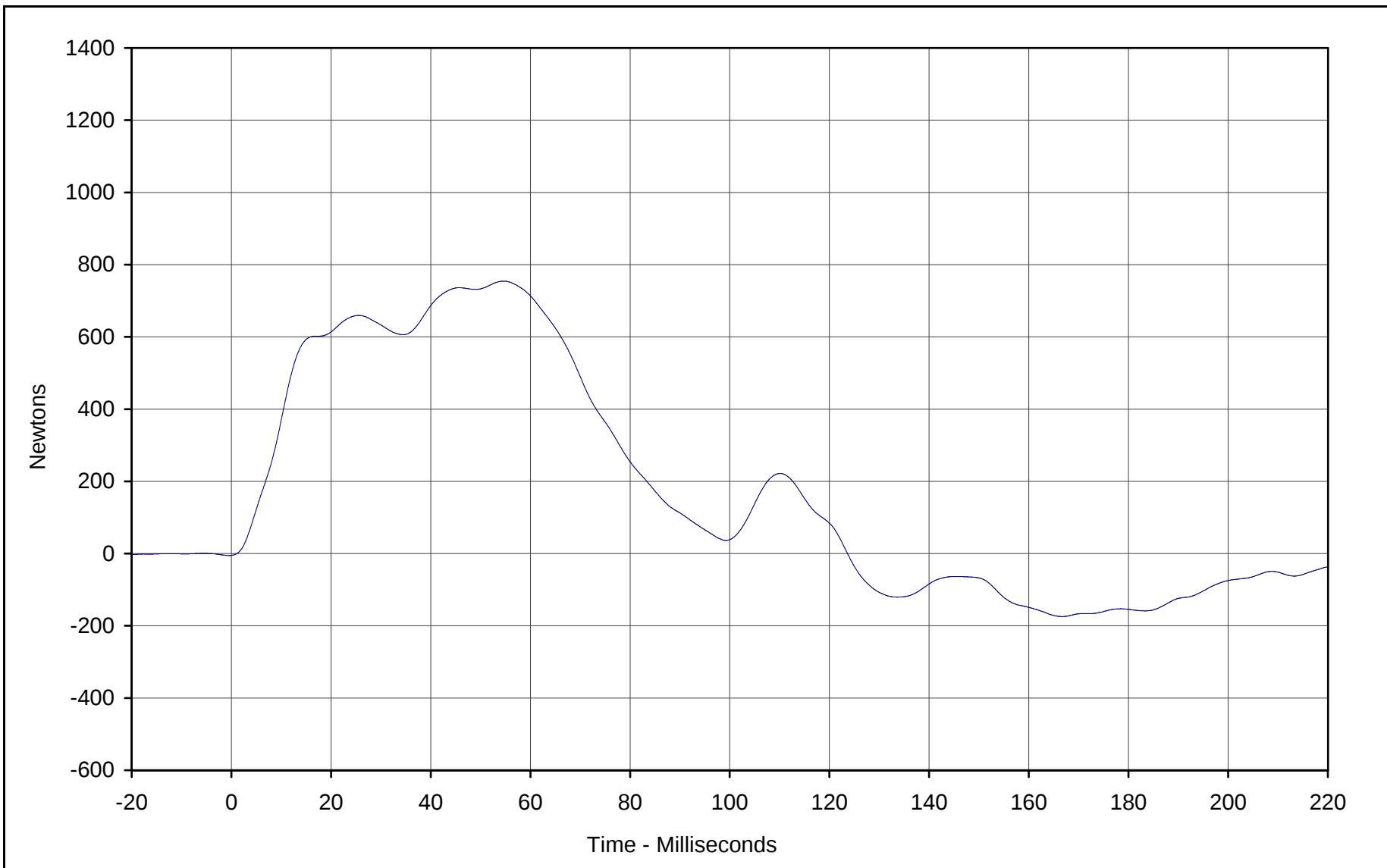
Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02A



KAR21001-07

E-12



Curve Description: Neck Force X

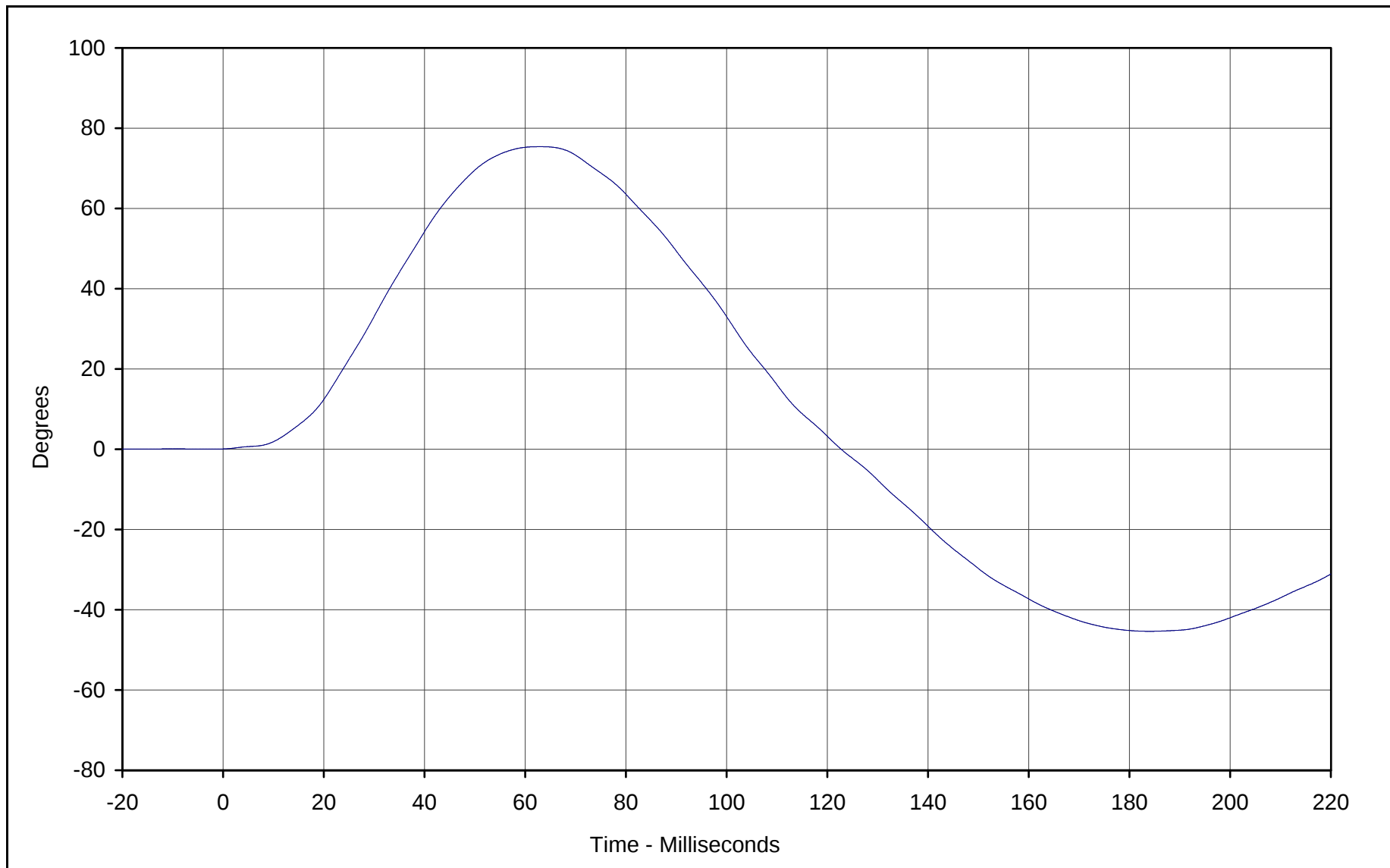
Maximum Value:	754.3	at	54.6	Milliseconds
Minimum Value:	-174.4	at	166.7	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02A



KAR21001-07



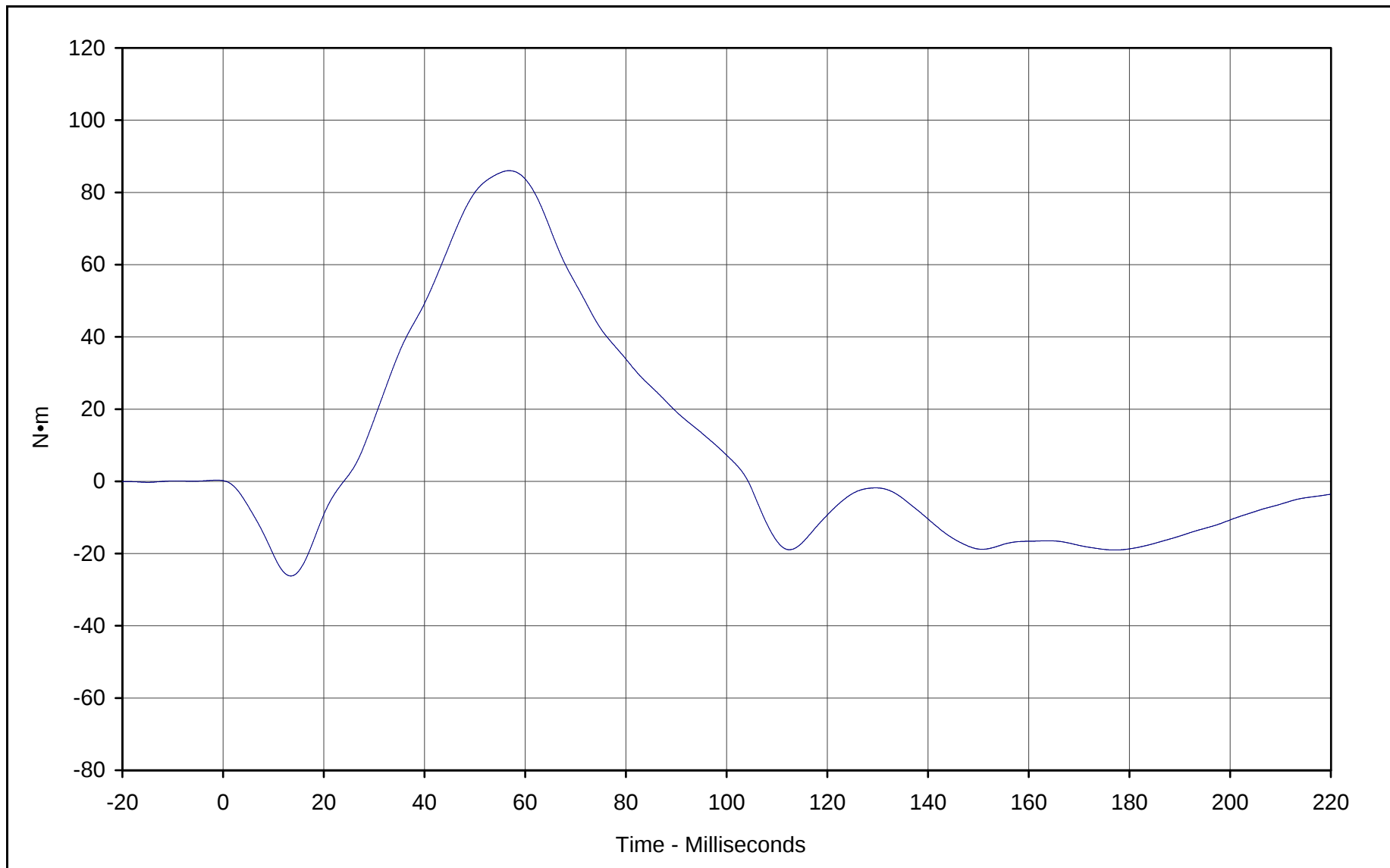
Curve Description: "D" Plane Rotation

Maximum Value:	75.4	at	62.9	Milliseconds
Minimum Value:	-45.4	at	184.0	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02A





Curve Description: Moment About Occipital Condyles

Maximum Value: 86.0 at 56.8 Milliseconds

Minimum Value: -26.2 at 13.4 Milliseconds

SAE Filter Class: 60

Date of Test: 1/21/01

ATD Serial No.: 034

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02A





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 034

Part Serial No.: N/A

Test I.D.: NE02A

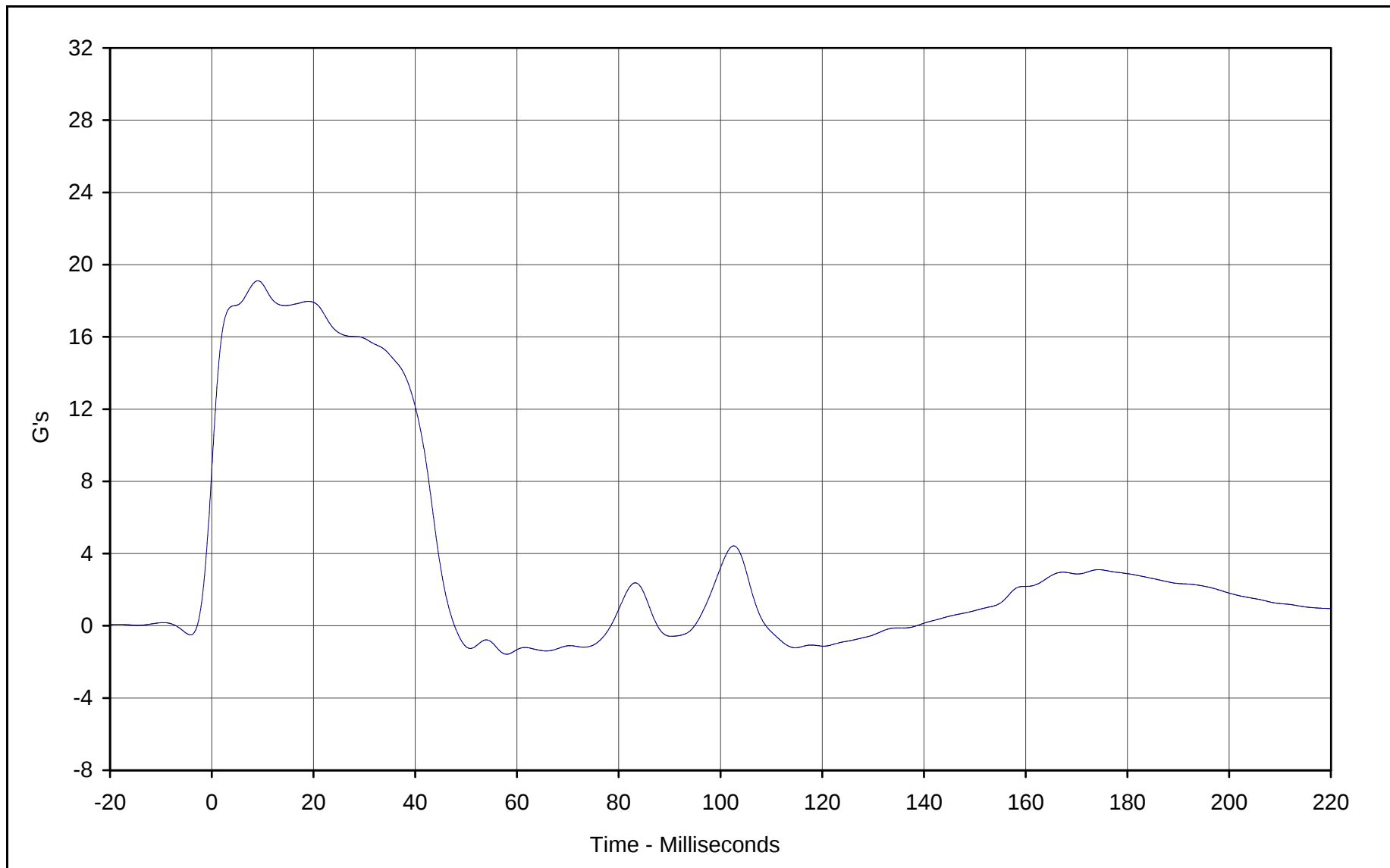
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.15	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.9	Pass
	20 Msec.	G's	14.0 to 19.0	17.9	Pass
	30 Msec.	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	44.1	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	94.6	Pass
	Time	Msec.	72.0 to 82.0	79.5	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	151.6	Pass
Moment About Occipital Condyle	Maximum	N•m	-52.9 to- 79.9	-69.1	Pass
	Time	Msec.	65.0 to 79.0	67.4	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	140.5	Pass
Overall Test Results					Pass

Laboratory Technician

January 21, 2001
Test Date

Approved By

Date



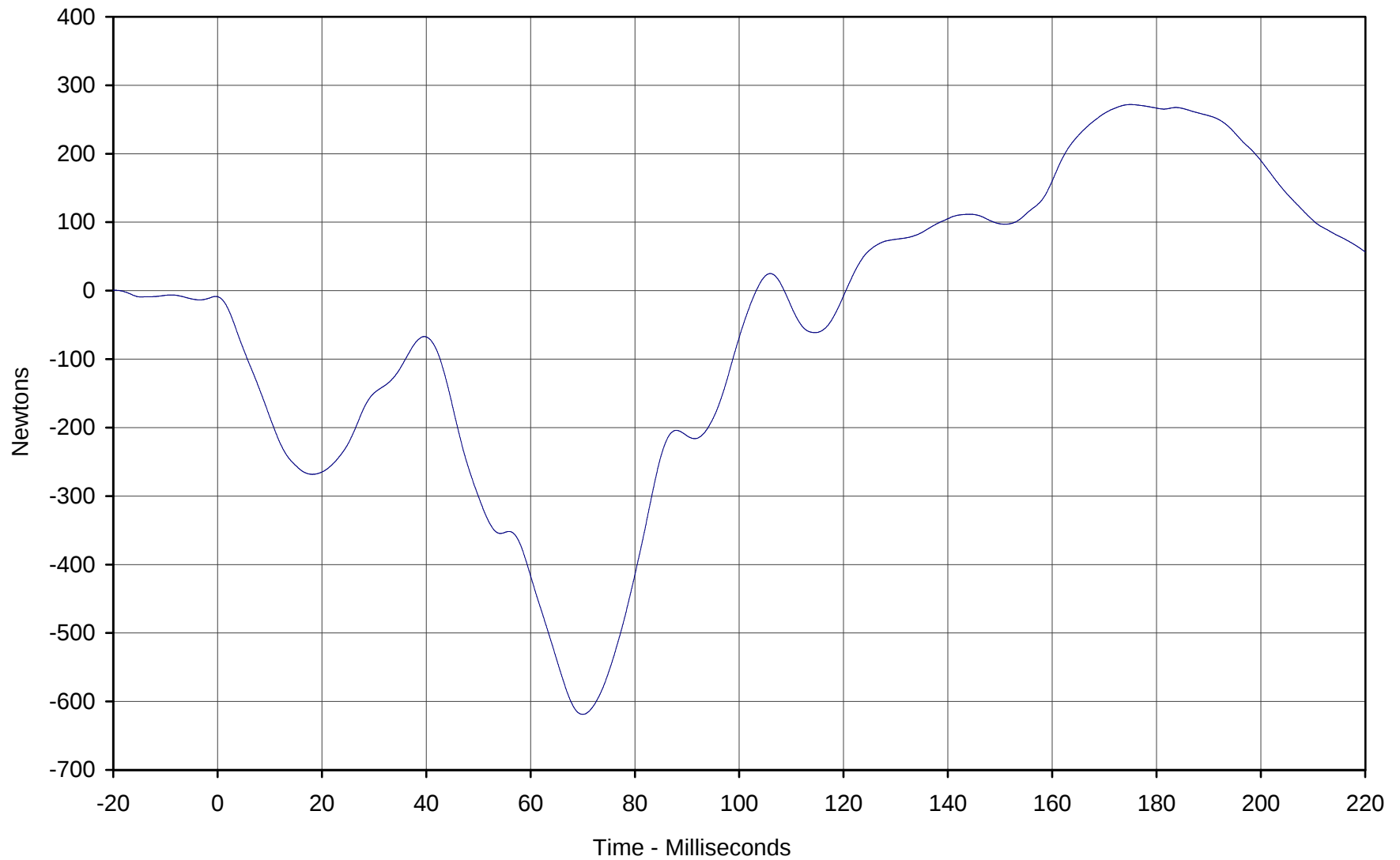
Curve Description: Pendulum Deceleration

Maximum Value:	<u>19.1</u>	at	<u>9.1</u>	Milliseconds
Minimum Value:	<u>-1.6</u>	at	<u>58.0</u>	Milliseconds
SAE Filter Class:	<u>60</u>			
Date of Test:	<u>1/21/01</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.: NE02A





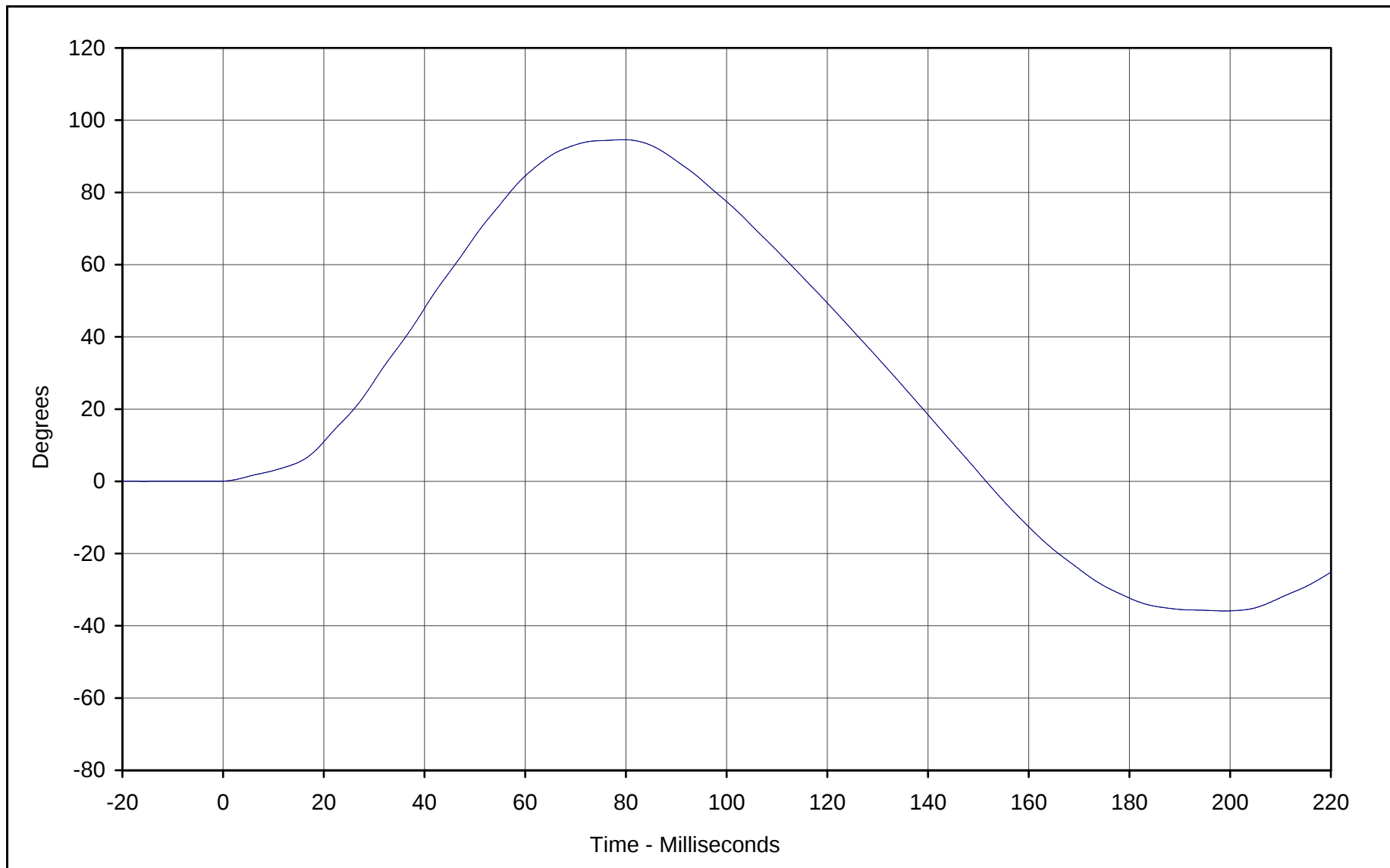
Curve Description: Neck Force X

Maximum Value:	271.9	at	175.0	Milliseconds
Minimum Value:	-618.8	at	70.0	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE02A





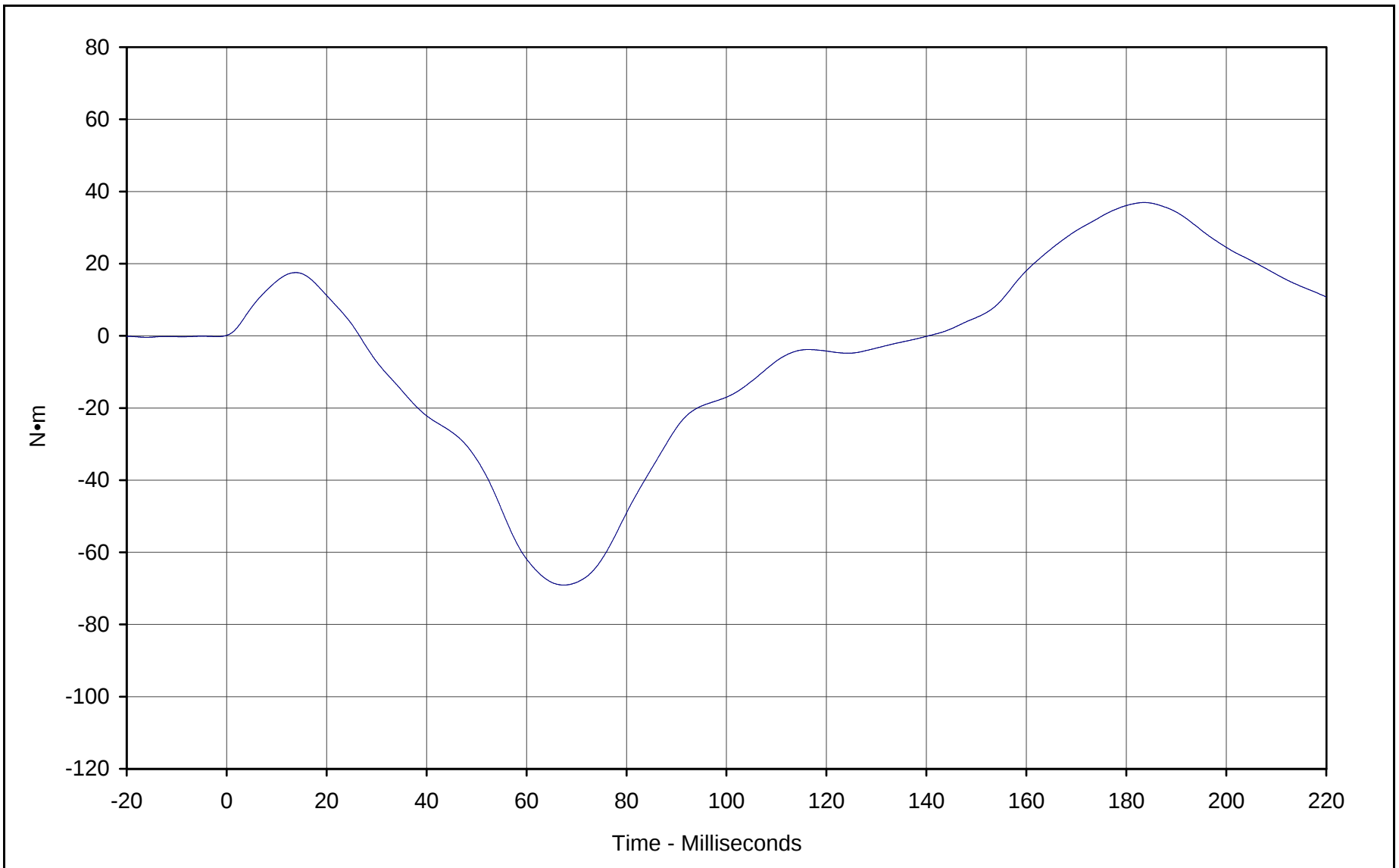
Curve Description: "D" Plane Rotation

Maximum Value:	94.6	at	79.5	Milliseconds
Minimum Value:	-35.9	at	198.9	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	034			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE02A





Curve Description: Moment About Occipital Condyles

Maximum Value: 36.9 at 183.6 Milliseconds

Minimum Value: -69.1 at 67.4 Milliseconds

SAE Filter Class: 60

Date of Test: 1/21/01

ATD Serial No.: 034

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE02A





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	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	515	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	145	Pass
G - Elbow back to wrist pivot	mm	290 to 305	300	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	335	Pass
J - Elbow rest height	mm	190 to 211	200	Pass
K - Buttock to knee length	mm	579 to 604	590	Pass
L - Popliteal length	mm	429 to 455	445	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	225	Pass
P - Foot length	mm	251 to 267	260	Pass
V - Shoulder breadth	mm	422 to 437	435	Pass
W - Foot breadth	mm	91 to 107	95	Pass
Y - Chest circumference	mm	970 to 1001	990	Pass
Z - Waist circumference	mm	836 to 866	855	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

Laboratory Technician

January 22, 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.: LK01Z

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	2.112	Pass
Peak Probe Force	Newtons	4715 to 5782	5505.0	Pass
Overall Test Results				Pass

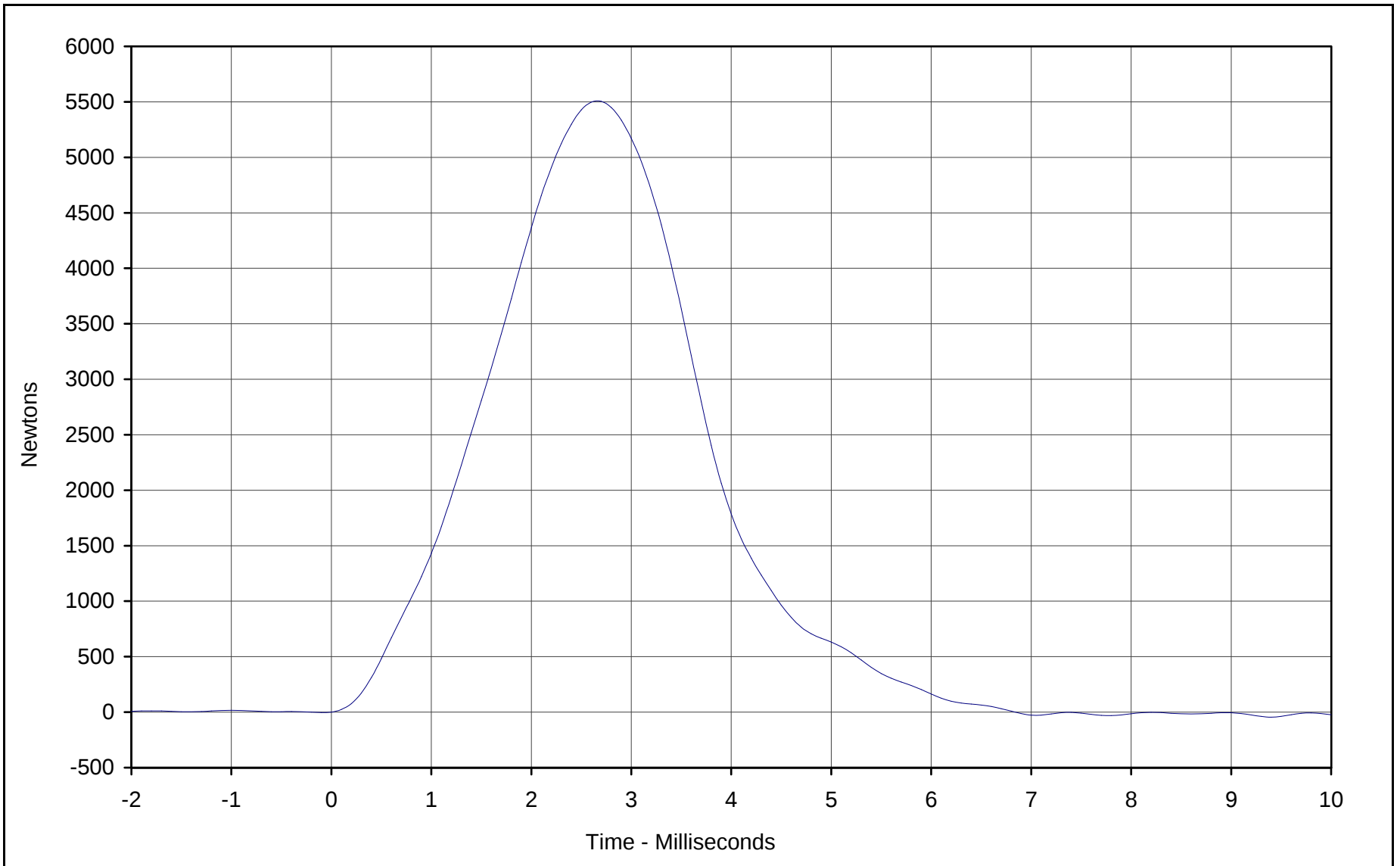
Laboratory Technician

January 21, 2001
Test Date

Approved By

Date

E-22



Curve Description:	Probe Force
Maximum Value:	5505.0 at 2.7 Milliseconds
Minimum Value:	-30.1 at 7.8 Milliseconds
SAE Filter Class:	600
Date of Test:	1/21/01
ATD Serial No.:	035

Testing Program:	Hybrid III Left Knee Impact Test
Test Information:	Part S/N: N/A Test I.D.: LK01Z



KAR21001-07



Hybrid III Calibration Data Sheet

50TH Percentile Male

Right Knee Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: RK01Z

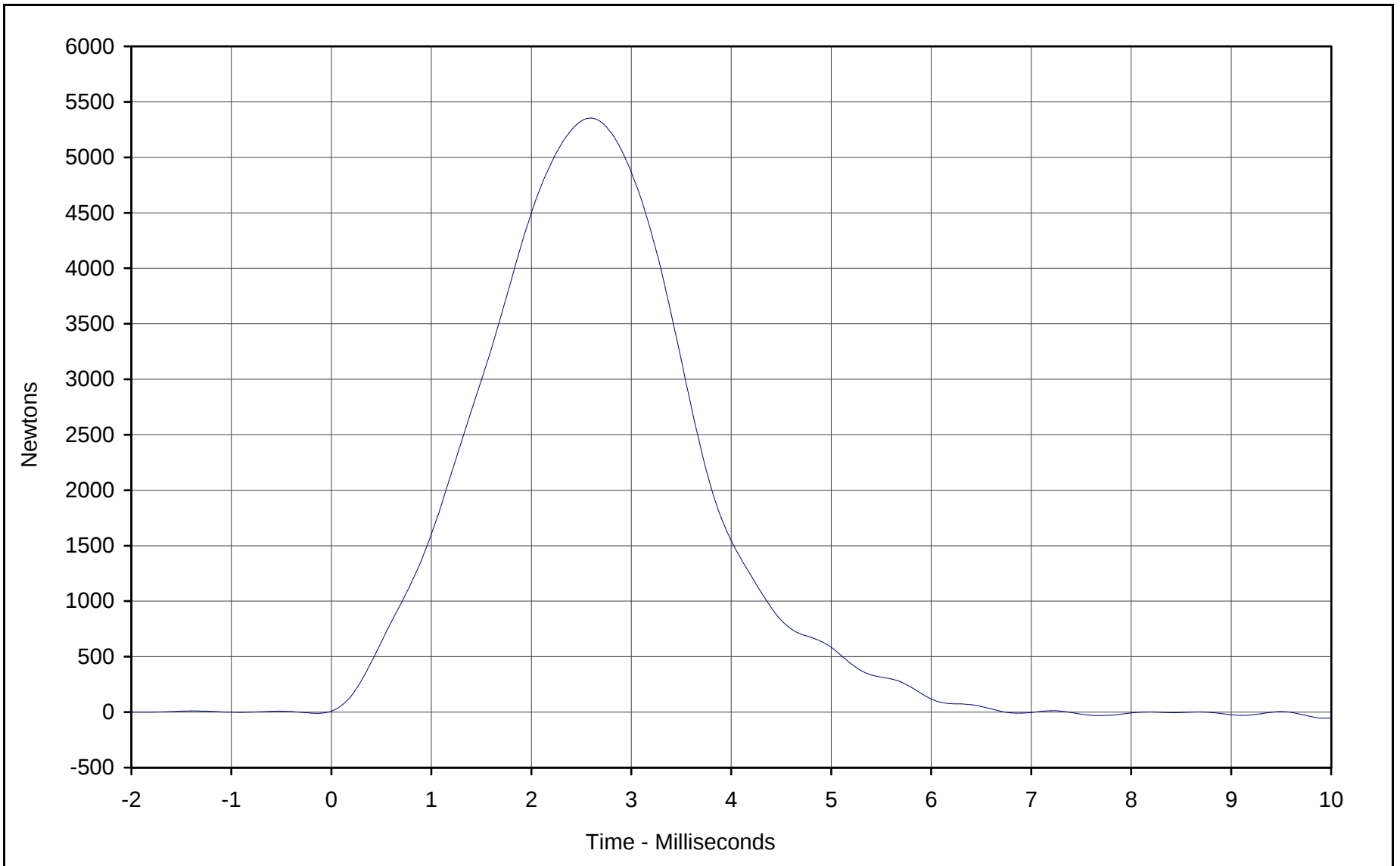
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.5	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Probe Velocity	m/s	2.073 to 2.134	2.118	Pass
Peak Probe Force	Newtons	4715 to 5782	5353.7	Pass
Overall Test Results				Pass

Laboratory Technician

January 21, 2001
Test Date

Approved By

Date



Curve Description: Probe Force

Maximum Value: 5353.7 at 2.6 Milliseconds

Minimum Value: -31.2 at 7.7 Milliseconds

SAE Filter Class: 600

Date of Test: 1/21/01

ATD Serial No.: 035

Testing Program: Hybrid III Right Knee Impact Test

Test Information: Part S/N: N/A Test I.D.: RK01Z





Hybrid III Calibration Data Sheet

50TH Percentile Male

Head Drop Calibration

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: HD01C

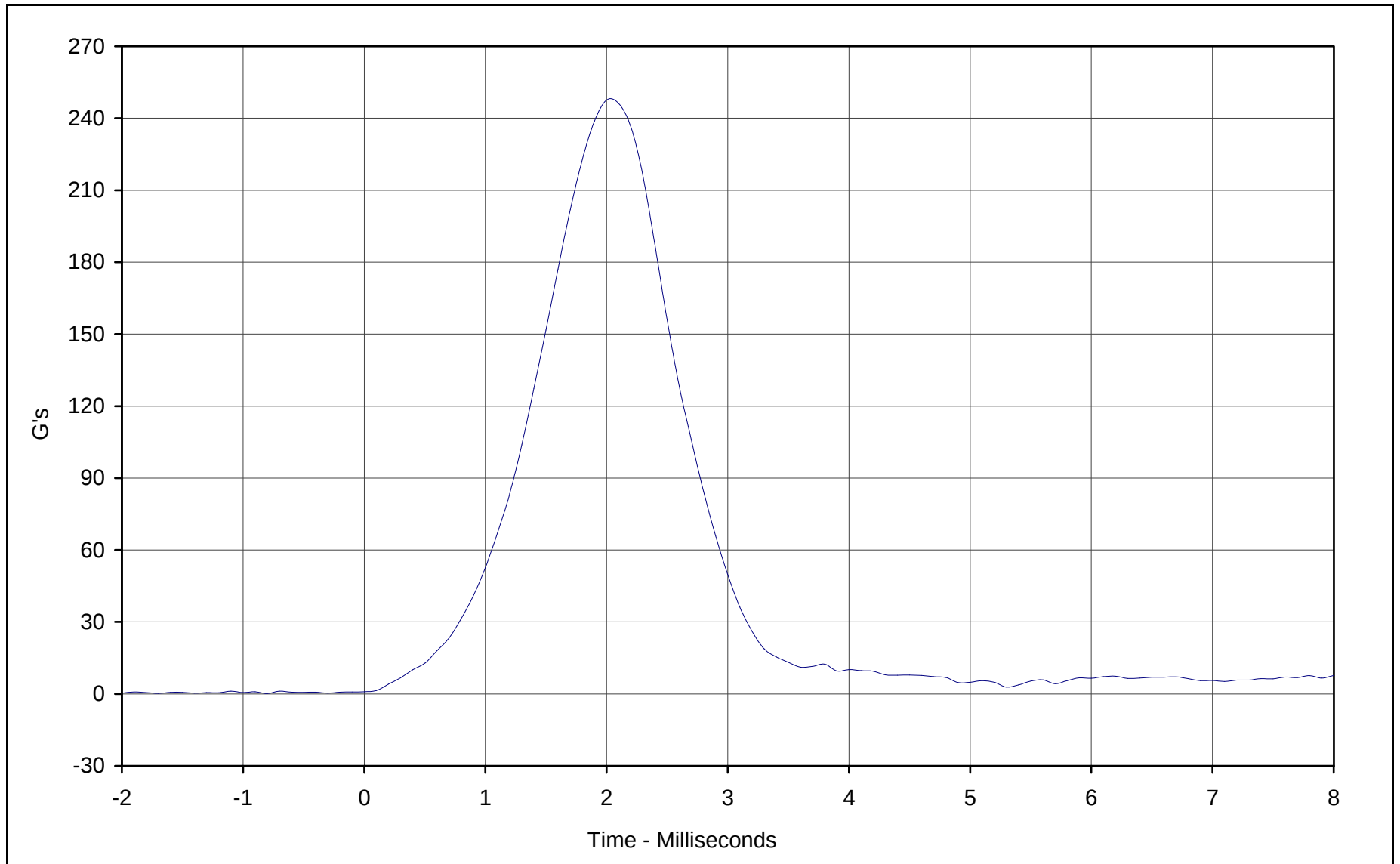
Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°C	18.9 to 25.6	21.1	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	225.0 to 275.0	247.5	Pass
Peak Lateral Acceleration	G's	≤15.0	7.7	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

January 20, 2001
Test Date

Approved By

Date



Curve Description: Head Resultant Acceleration

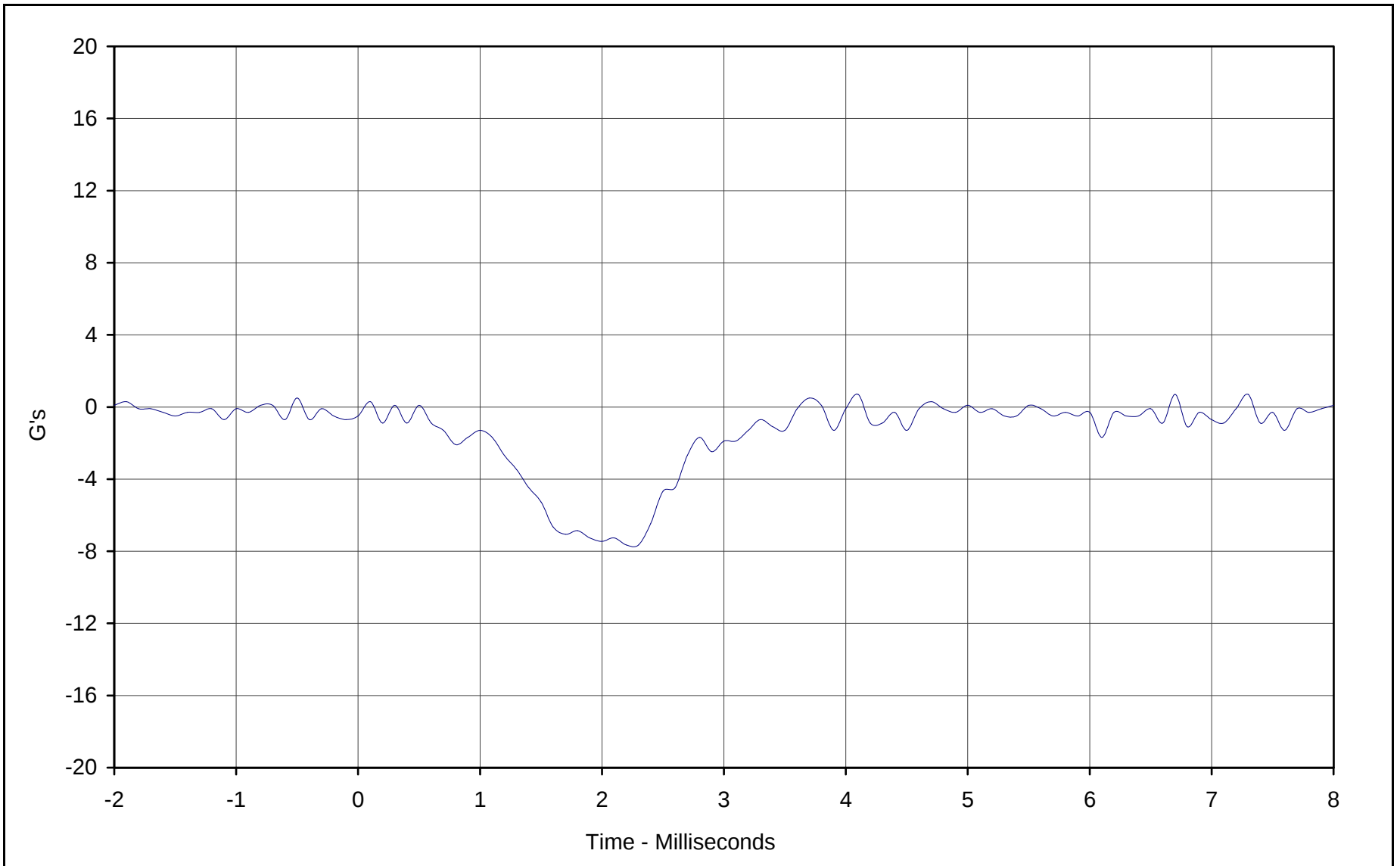
Maximum Value:	<u>247.5</u>	at	<u>2.0</u>	Milliseconds
Minimum Value:	<u>0.2</u>	at	<u>-0.8</u>	Milliseconds
SAE Filter Class:	<u>1000</u>			
Date of Test:	<u>1/20/01</u>			
ATD Serial No.:	<u>035</u>			

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD01C



E-27



Curve Description: Head Acceleration Y Axis

Maximum Value: 0.7 at 4.1 Milliseconds

Minimum Value: -7.7 at 2.2 Milliseconds

SAE Filter Class: 1000

Date of Test: 1/20/01

ATD Serial No.: 035

Testing Program: Hybrid III Head Drop Calibration (Male)

Test Information: S/N of Part: N/A Test I.D.: HD01C



KAR21001-07



Hybrid III Calibration Data Sheet

50TH Percentile Male

Thorax Impact Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: CH01B

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	5838	Pass
Peak Sternum Displacement	CM	6.35 to 7.26	6.41	Pass
Internal Hysteresis	%	69 to 85	77.8	Pass
Overall Test Results				Pass

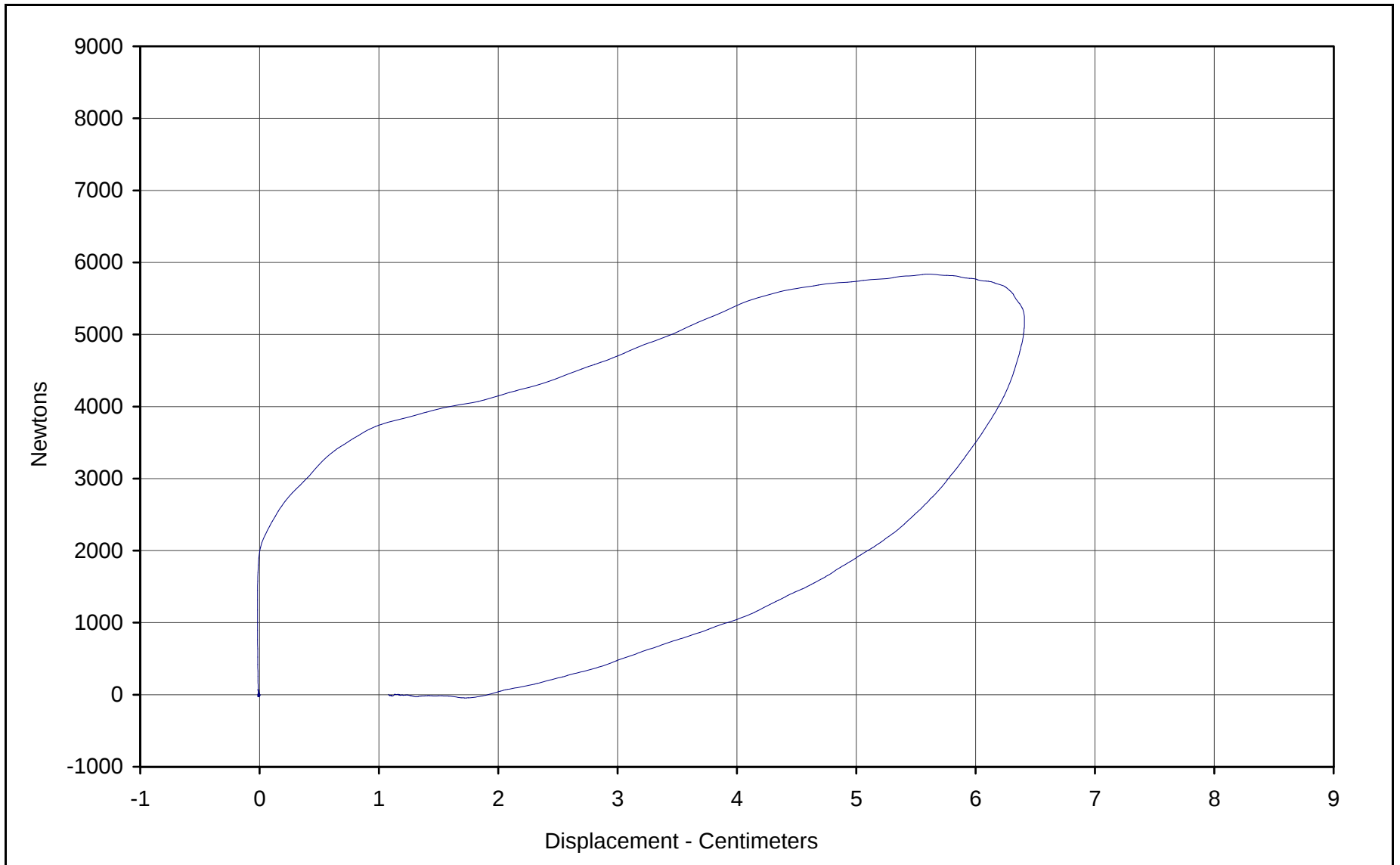
Laboratory Technician

January 20, 2001

Test Date

Approved By

Date



Curve Description: Probe Force vs. Chest Displacement

Probe Force: 5838.0 Newtons

Chest Displ.: 6.41 Centimeters

SAE Filter Class: 180

Date of Test: 1/20/01

ATD Serial No.: 035

Testing Program: Hybrid III Thorax Impact Test

Test Information: S/N of Part: N/A Test I.D.: CH01B





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Flexion Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NF02B

Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	6.89 to 7.13	7.05	Pass
Pendulum Deceleration	10 Msec.	G's	22.5 to 27.5	22.7	Pass
	20 Msec.	G's	17.6 to 22.6	20.0	Pass
	30 Msec.	G's	12.5 to 18.5	17.3	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 29.0	17.3	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	34.0 to 42.0	40.5	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	64.0 to 78.0	65.8	Pass
	Time	Msec.	57.0 to 64.0	60.7	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	113.0 to 128.0	114.3	Pass
Moment About Occipital Condyle	Maximum	N•m	84.1 to 108.5	87.6	Pass
	Time	Msec.	47.0 to 58.0	53.6	Pass
Positive Moment Decay, Time To Zero Crossing		Msec.	97.0 to 107.0	99.3	Pass
Overall Test Results					Pass

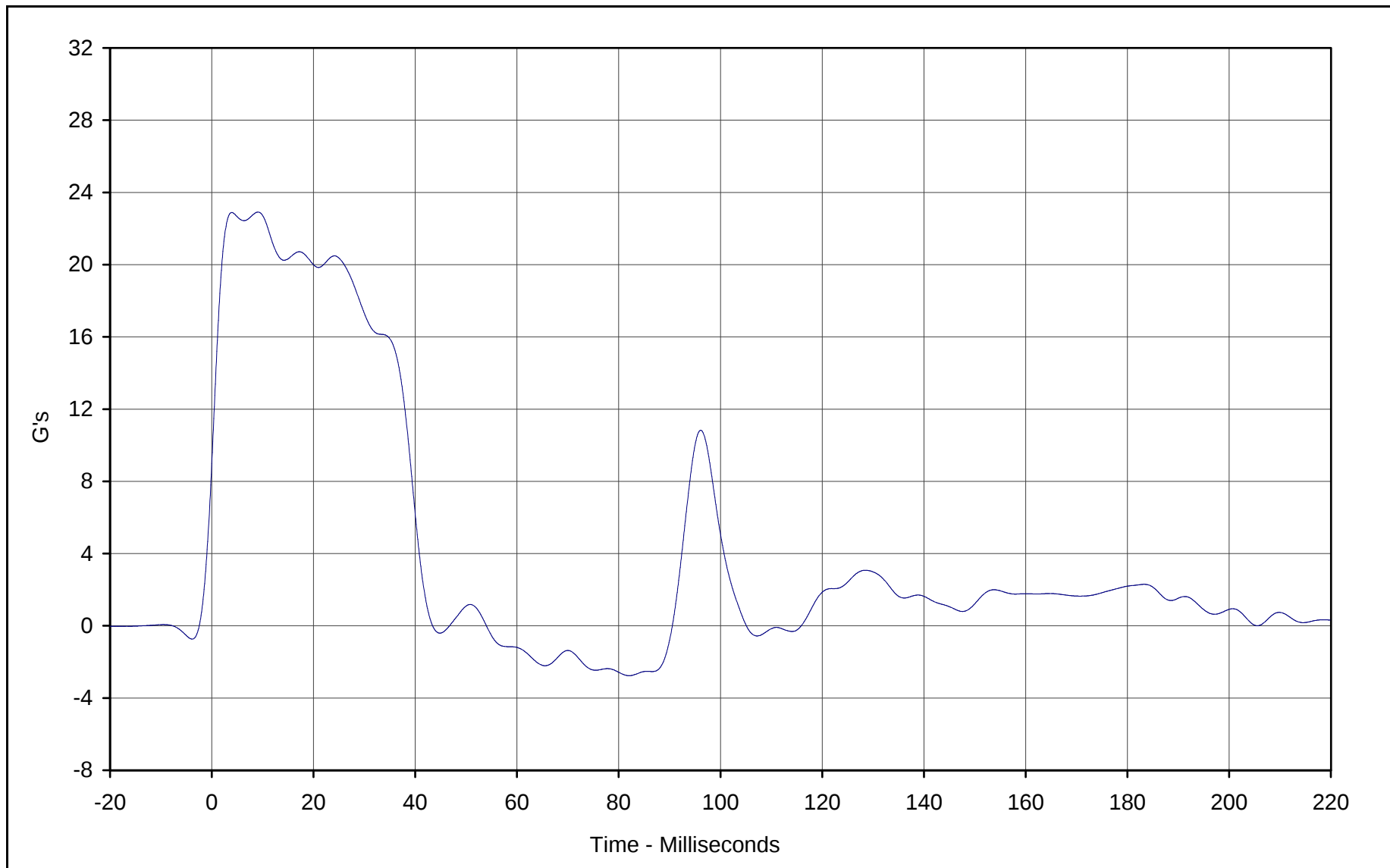
Laboratory Technician

January 21, 2001
Test Date

Approved By

Date

E-31



Curve Description: Pendulum Deceleration

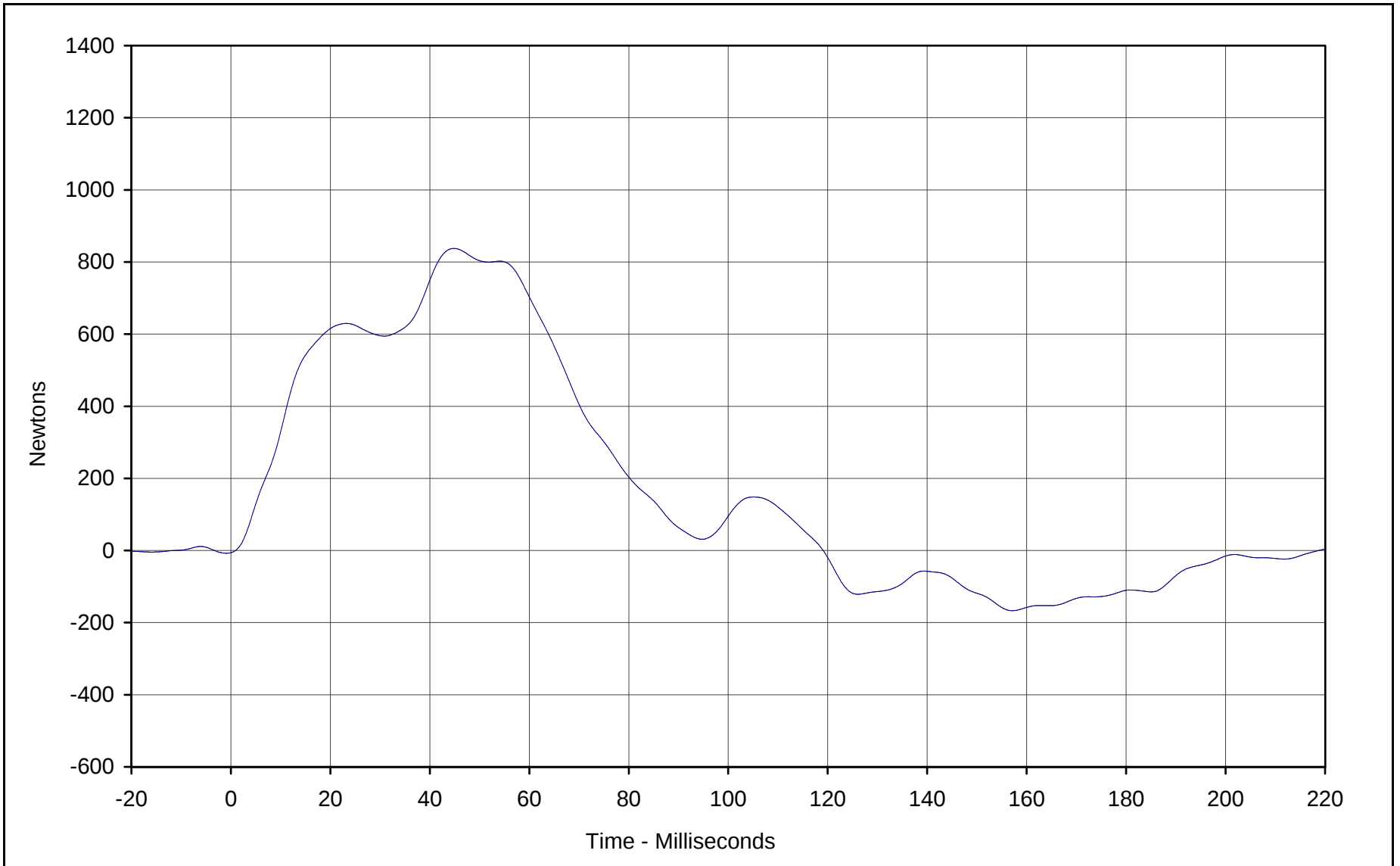
Maximum Value:	<u>22.9</u>	at	<u>9.1</u>	Milliseconds
Minimum Value:	<u>-2.8</u>	at	<u>82.1</u>	Milliseconds
SAE Filter Class:	<u>60</u>			
Date of Test:	<u>1/21/01</u>			
ATD Serial No.:	<u>035</u>			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02B



KAR21001-07



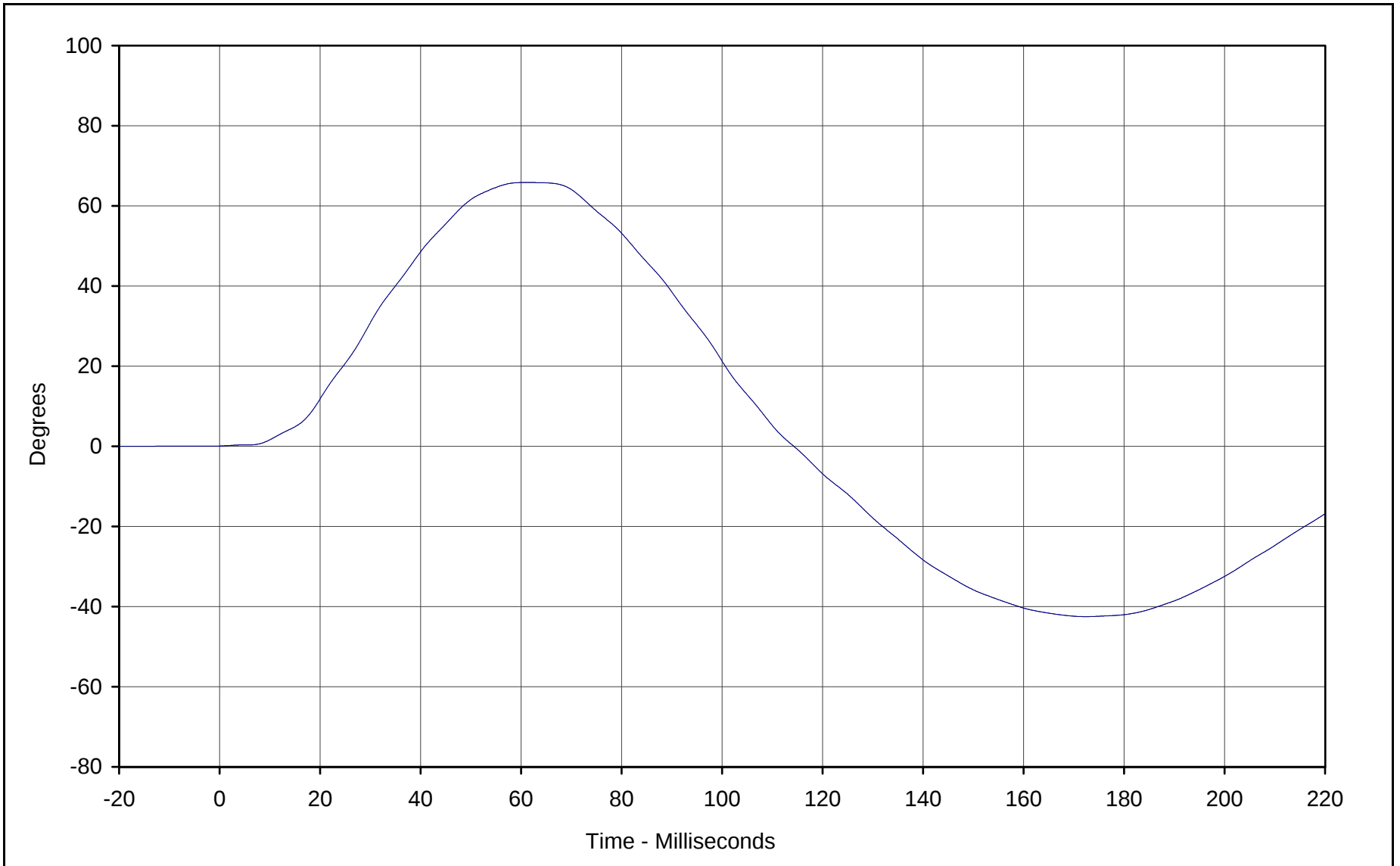
Curve Description: Neck Force X

Maximum Value:	837.6	at	44.8	Milliseconds
Minimum Value:	-167.0	at	157.1	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02B





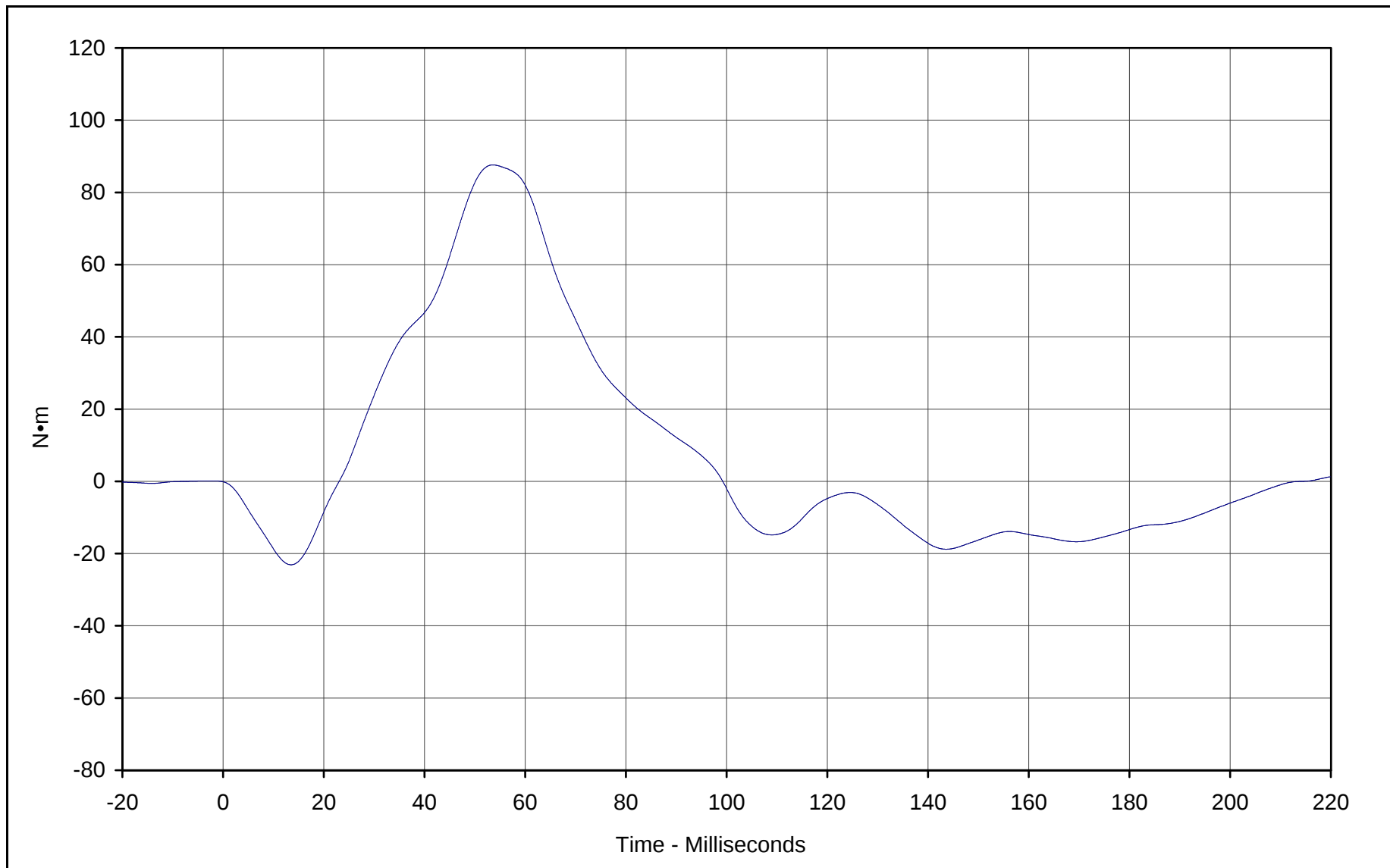
Curve Description: "D" Plane Rotation

Maximum Value:	65.8	at	60.7	Milliseconds
Minimum Value:	-42.5	at	172.4	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02B





Curve Description: Moment About Occipital Condyles

Maximum Value: 87.6 at 53.6 Milliseconds

Minimum Value: -23.1 at 13.5 Milliseconds

SAE Filter Class: 60

Date of Test: 1/21/01

ATD Serial No.: 035

Testing Program: Hybrid III Neck Flexion Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NF02B





Hybrid III Calibration Data Sheet

50TH Percentile Male

Neck Extension Test

ATD Serial No.: 035

Part Serial No.: N/A

Test I.D.: NE02B

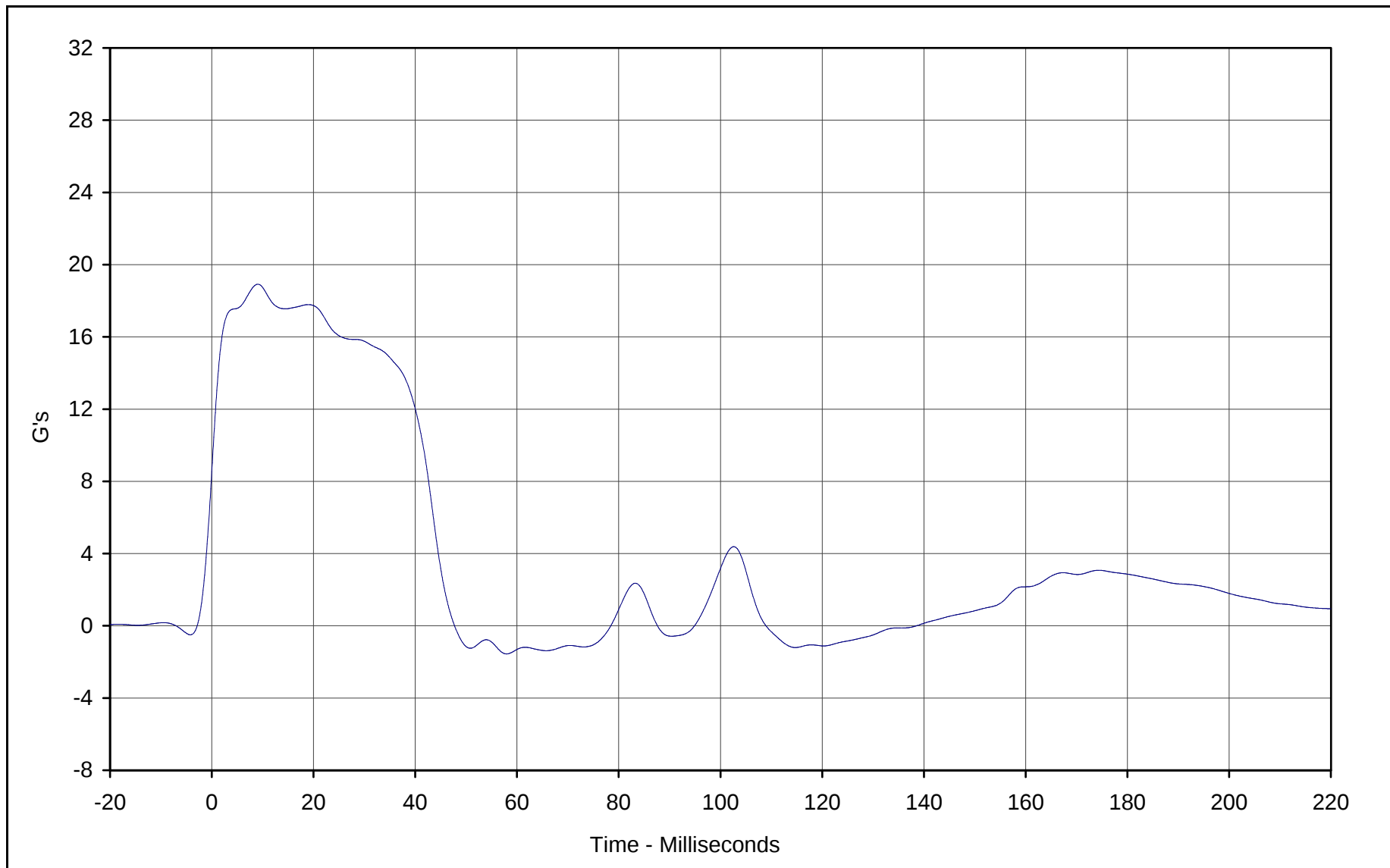
Tested Parameter		Units	Specification	Result	Pass/Fail
Laboratory Temperature		°C	20.6 to 22.2	21.1	Pass
Laboratory Relative Humidity		%	10 to 70	30	Pass
Pendulum Velocity		m/s	5.95 to 6.19	6.10	Pass
Pendulum Deceleration	10 Msec.	G's	17.2 to 21.2	18.7	Pass
	20 Msec.	G's	14.0 to 19.0	17.7	Pass
	30 Msec.	G's	11.0 to 16.0	15.8	Pass
Peak Pendulum Decel. after 30 Msec.		G's	≤ 22.0	15.8	Pass
Deceleration Decay, Time to Cross 5 G's		Msec.	38.0 to 46.0	44.1	Pass
Maximum "D" Plane Rotation	Maximum	Degrees	81.0 to 106.0	99.4	Pass
	Time	Msec.	72.0 to 82.0	81.9	Pass
"D" Plane Rotation Decay, Time To Zero Crossing		Msec.	147.0 to 174.0	161.8	Pass
Moment About Occipital Condyle	Maximum	N•m	-52.9 to- 79.9	-63.8	Pass
	Time	Msec.	65.0 to 79.0	74.9	Pass
Negative Moment Decay, Time To Zero Crossing		Msec.	120.0 to 148.0	146.1	Pass
Overall Test Results					Pass

Laboratory Technician

January 21, 2001
Test Date

Approved By

Date



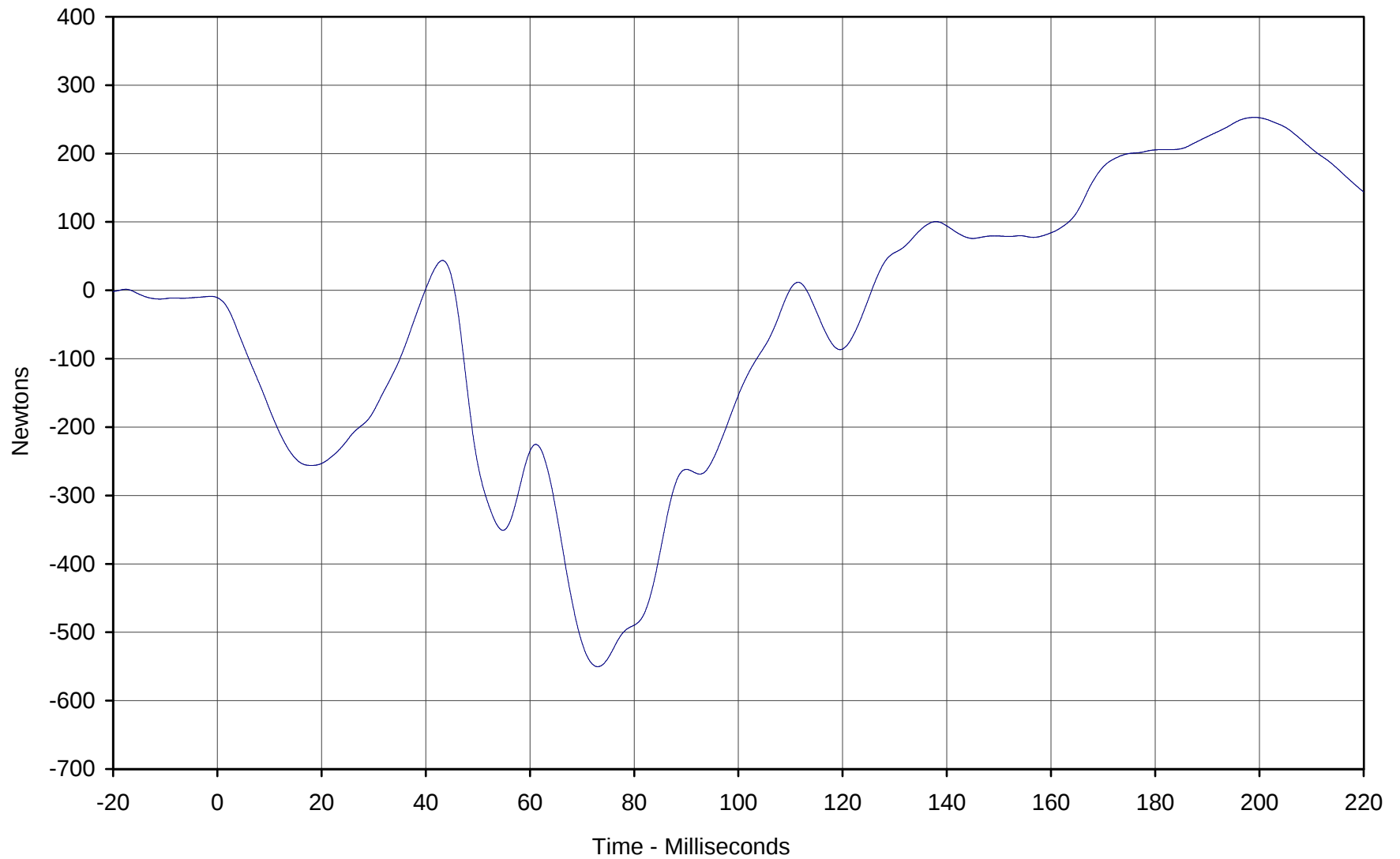
Curve Description: Pendulum Deceleration

Maximum Value:	18.9	at	9.1	Milliseconds
Minimum Value:	-1.6	at	58.0	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE02B





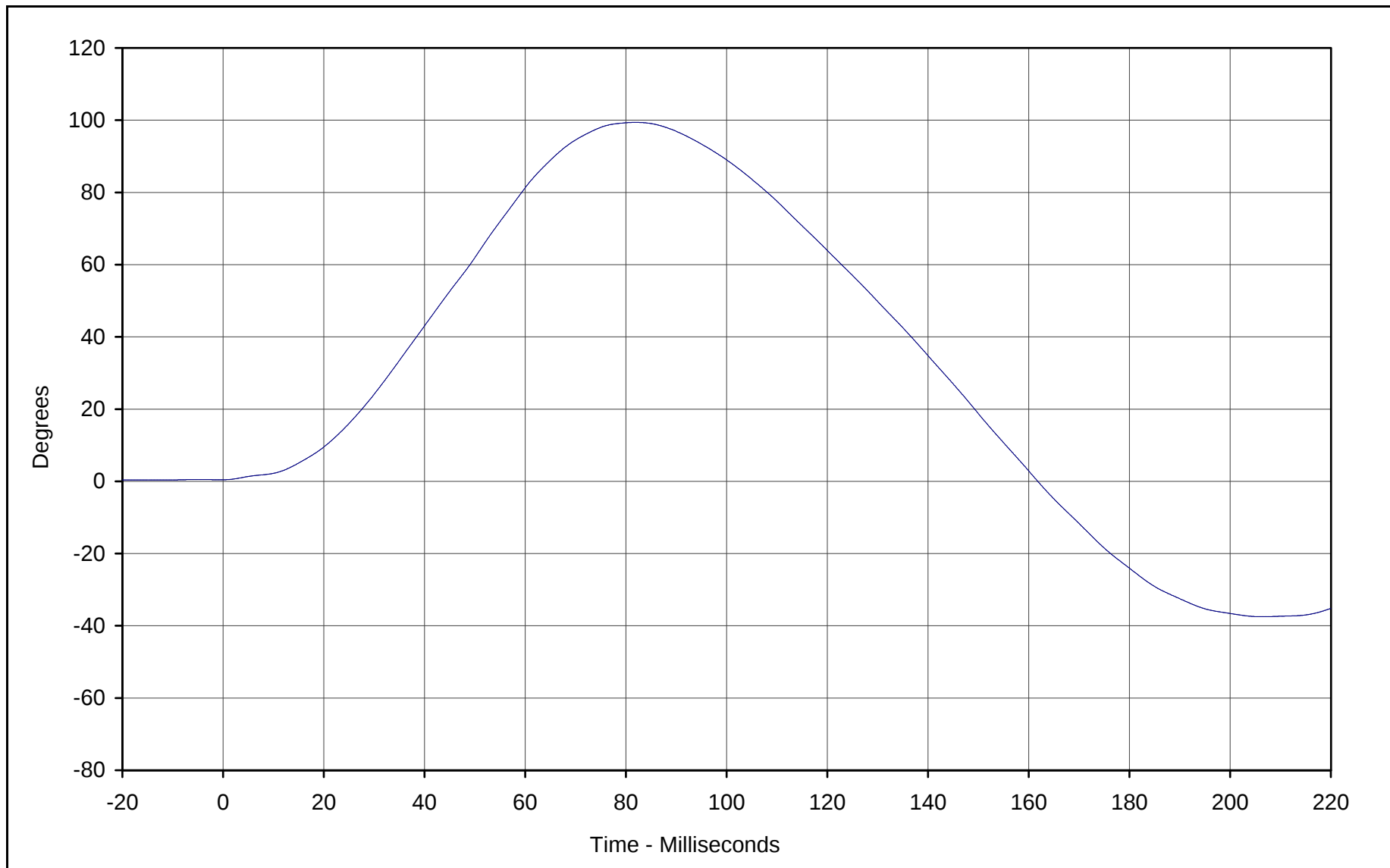
Curve Description: Neck Force X

Maximum Value:	252.9	at	199.0	Milliseconds
Minimum Value:	-550.3	at	73.0	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE02B





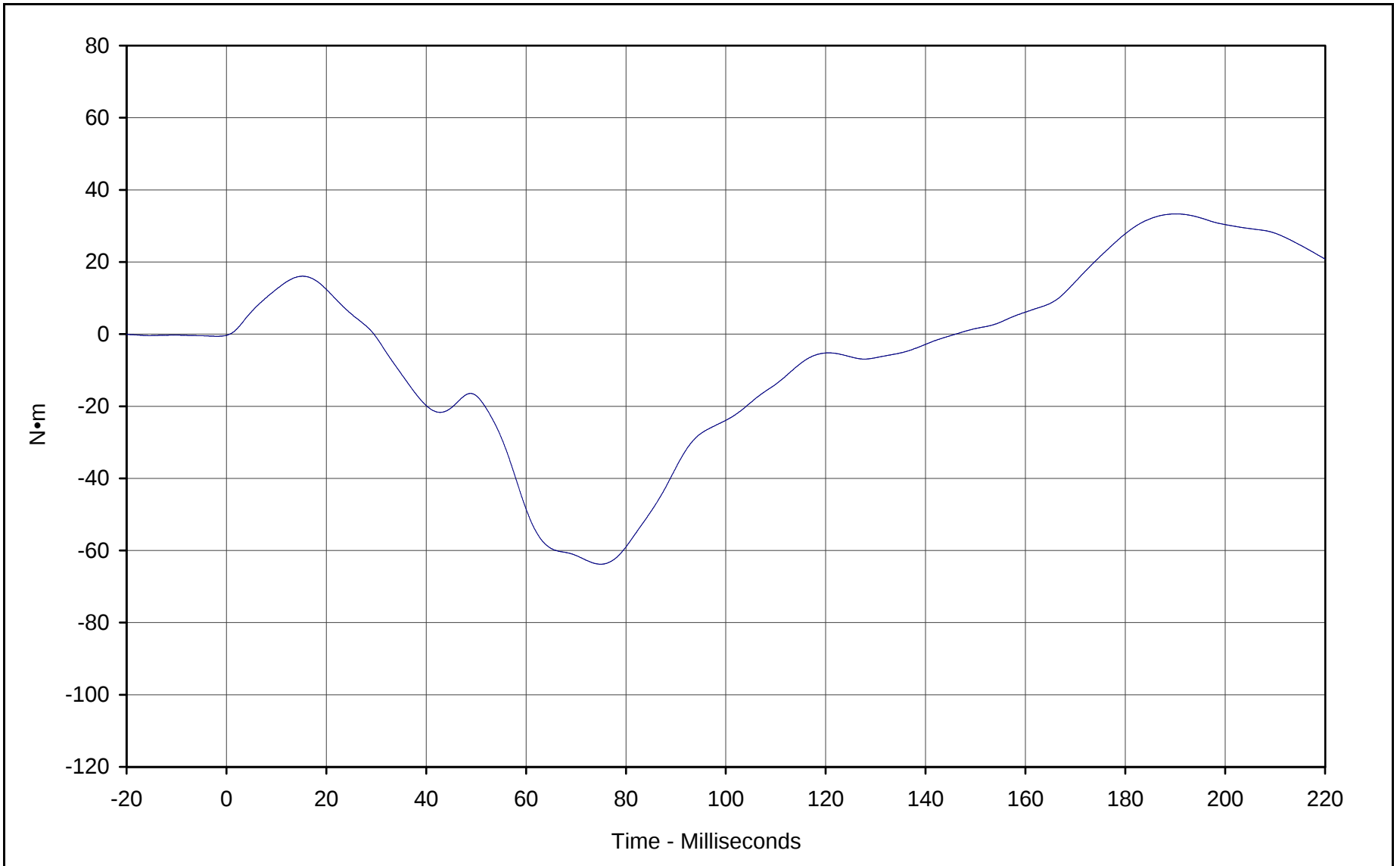
Curve Description: "D" Plane Rotation

Maximum Value:	99.4	at	81.9	Milliseconds
Minimum Value:	-37.5	at	206.4	Milliseconds
SAE Filter Class:	60			
Date of Test:	1/21/01			
ATD Serial No.:	035			

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE02B





Curve Description: Moment About Occipital Condyles

Maximum Value: 33.3 at 190.2 Milliseconds

Minimum Value: -63.8 at 74.9 Milliseconds

SAE Filter Class: 60

Date of Test: 1/21/01

ATD Serial No.: 035

Testing Program: Hybrid III Neck Extension Test (Male)

Test Information: S/N of Part: N/A Test I.D.: NE02B





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	30	Pass
A - Total sitting height	mm	879 to 889	885	Pass
B - Shoulder pivot height	mm	505 to 521	510	Pass
C - "H" point height	mm	84 to 89	85	Pass
D - "H" point from seat back	mm	135 to 140	135	Pass
E - Shoulder pivot from back	mm	84 to 94	90	Pass
F - Thigh clearance	mm	140 to 155	150	Pass
G - Elbow back to wrist pivot	mm	290 to 305	295	Pass
H - Skull cap to back line	mm	41 to 46	45	Pass
I - Shoulder to elbow length	mm	330 to 345	340	Pass
J - Elbow rest height	mm	190 to 211	205	Pass
K - Buttock to knee length	mm	579 to 604	595	Pass
L - Popliteal length	mm	429 to 455	440	Pass
M - Knee pivot height	mm	485 to 500	495	Pass
N - Buttock popliteal length	mm	452 to 477	475	Pass
O - Chest depth	mm	213 to 229	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	95	Pass
Y - Chest circumference	mm	970 to 1001	995	Pass
Z - Waist circumference	mm	836 to 866	855	Pass
AA - Location for chest circumference	mm	429 to 434	430	Pass
BB - Location for waist circumference	mm	226 to 231	230	Pass
Overall Test Results				Pass

Laboratory Technician

January 22, 2001
Test Date

Approved By

Date

APPENDIX F
VEHICLE OWNER'S MANUAL
OCCUPANT RESTRAINT INSTRUCTIONS

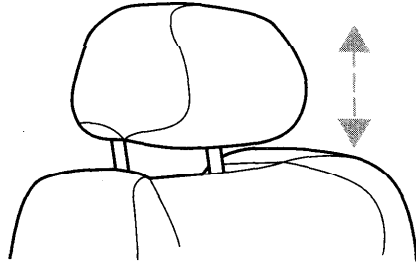
Seating and safety restraints

SEATING

Head restraints

Your vehicle's seats may be equipped with head restraints which are vertically adjustable. The purpose of these head restraints is to help limit head motion in the event of a rear collision. To properly adjust your head restraints, lift the head restraint so that it is located directly behind your head or as close to that position as possible. Refer to the following to raise and lower the head restraints.

Push or pull the head rests to the desired position.



Adjusting the front manual seat



Never adjust the driver's seat or seatback when the vehicle is moving.



Do not pile cargo higher than the seatbacks to reduce the risk of injuring people in a collision or sudden stop.



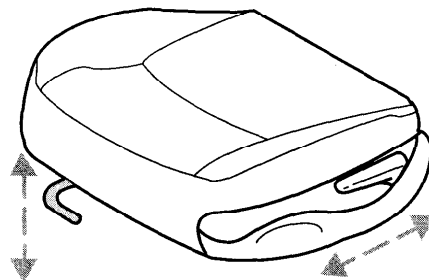
Always drive and ride with your seatback upright and the lap belt snug and low across the hips.



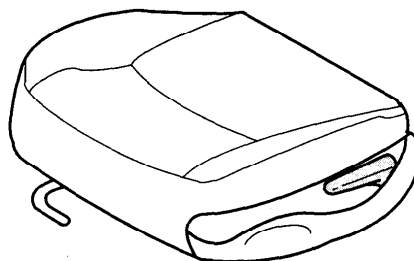
Reclining the seatback can reduce the effectiveness of the seat's safety belt in the event of a collision.

Seating and safety restraints

Lift handle to move seat forward or backward.



Pull lever up to adjust seatback.



Using the manual recline function (if equipped)



Never adjust the driver's seat or seatback when the vehicle is moving.



Do not pile cargo higher than the seatbacks to avoid injuring people in a collision or sudden stop.



Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

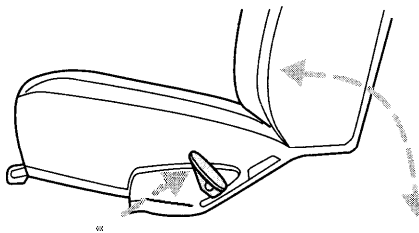


Reclining the seatback can reduce the effectiveness of the seat's safety belt in the event of a collision.

Seating and safety restraints

To adjust the front seatback using the manual recliner:

- Lift and hold the handle located on the side of the seat.
- Lean against the seatback to adjust it to your desired position. You can recline the seat back or bring it forward.
- Release the handle when the desired position has been reached.



Adjusting the power front seats – door mounted controls

The controls for the power seats are located on the inside of each front door.



Never adjust the driver's seat or seatback when the vehicle is moving.



Do not pile cargo higher than the seatbacks to avoid injuring people in a collision or sudden stop.

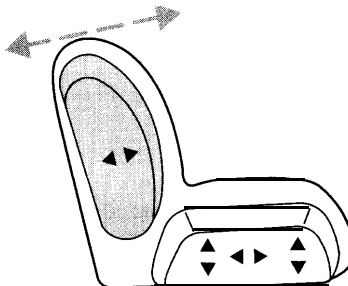


Always drive and ride with your seatback upright and the lap belt snug and low across the hips.



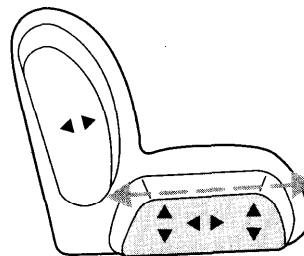
Reclining the seatback can reduce the effectiveness of the seat's safety belt in the event of a collision.

Press the control to recline the seatback forward or backward.

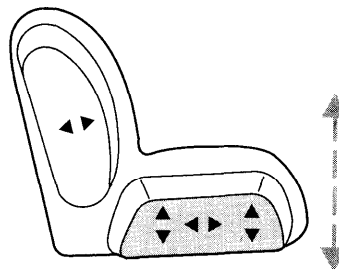


Seating and safety restraints

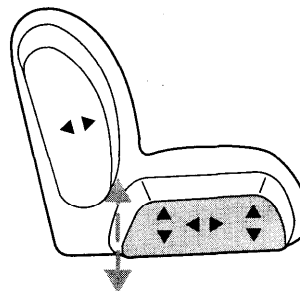
Press to move the seat forward or backward.



Press to move the front portion of the seat cushion up or down.



Press to move the rear portion of the seat cushion up or down.



Adjusting the power seats – seat mounted controls



Never adjust the driver's seat or seatback when the vehicle is moving.



Always drive and ride with your seatback upright and the lap belt snug and low across the hips.

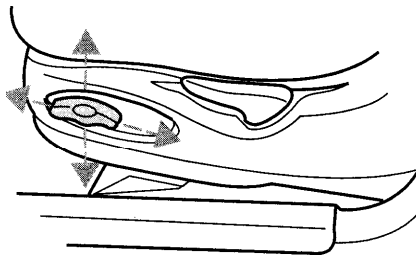
Seating and safety restraints



Reclining the seatback can reduce the effectiveness of the seat's safety belt in the event of a collision.

The power seat controls are located on the side of the driver's seat.

Press to raise or lower the seat, or to move the seat forward or backward.

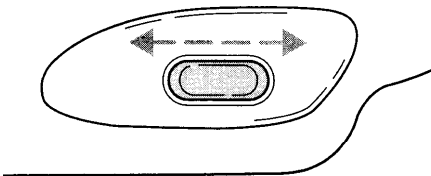


Using the power lumbar support (if equipped)

The power lumbar control is located on the outboard side of the seat.

Press one side of the control to adjust firmness.

Press the other side of the control to adjust softness.



SAFETY RESTRAINTS

Personal Safety System

The Personal Safety System provides an improved overall level of frontal crash protection to front seat occupants and is designed to help further reduce the risk of air bag-related injuries. The system is able to analyze different occupant conditions and crash severity before activating the appropriate safety devices to help better protect a range of occupants in a variety of frontal crash situations.

Your vehicle's Personal Safety System consists of:

- Driver and passenger dual-stage air bag supplemental restraints.
- Front safety belts with pretensioners, energy management retractors, and safety belt usage sensors.
- Driver's seat position sensor.
- Passenger occupant classification sensor (if equipped).
- Front crash severity sensor.

Seating and safety restraints

- Restraints Control Module (RCM) with impact and safing sensors.
- Restraint system warning light and back-up tone.
- The electrical wiring for the air bags, crash sensor(s), safety belt pretensioners, front safety belt usage sensors, driver seat position sensor, passenger occupant classification sensor (if equipped), and indicator lights.

How does the personal safety system work?

The Personal Safety System can adapt the deployment strategy of your vehicle's safety devices according to crash severity and occupant conditions. A collection of crash and occupant sensors provides information to the Restraints Control Module (RCM). During a crash, the RCM activates the safety belt pretensioners and/or either one or both stages of the dual-stage air bag supplemental restraints based on crash severity and occupant conditions.

The fact that the pretensioners or air bags did not activate for both front seat occupants in a collision does not mean that something is wrong with the system. Rather, it means the Personal Safety System determined the accident conditions (crash severity, belt usage, etc.) were not appropriate to activate these safety devices. Front air bags and pretensioners are designed to activate only in frontal and near-frontal collisions, not rollovers, side-impacts, or rear-impacts unless the collision causes sufficient longitudinal deceleration.

Driver and passenger dual-stage air bag supplemental restraints

The dual-stage air bags offer the capability to tailor the level of air bag inflation energy. A lower, less forceful energy level is provided for more common, moderate-severity impacts. A higher energy level is used for the most severe impacts. Refer to *Air bag Supplemental Restraints* section in this chapter.

Front crash severity sensor

The front crash severity sensor enhances the ability to detect the severity of an impact. Positioned up front, it provides valuable information early in the crash event on the severity of the impact. This allows your Personal Safety System to distinguish between different levels of crash severity and modify the deployment strategy of the dual-stage air bags and safety belt pretensioners.

Seating and safety restraints

Driver's seat position sensor

The driver's seat position sensor allows your Personal Safety System to tailor the deployment level of the driver dual-stage air bag based on seat position. The system is designed to help protect smaller drivers sitting close to the driver air bag by providing a lower air bag output level.

Passenger occupant classification sensor (if equipped)

Refer to the label located under the passenger seat to verify if your vehicle is equipped with the passenger occupant classification sensor system.

For air bags to do their job they must inflate with great force, and this force can pose a potentially deadly risk to occupants that are very close to the air bag when it begins to inflate. For some occupants, like infants in rear-facing child seats, this occurs because they are initially sitting very close to the air bag. For other occupants, this occurs when the occupant is not properly restrained by seat belts or child safety seats and they move forward during pre-crash braking. The most effective way to reduce the risk of unnecessary injuries is to make sure all occupants are properly restrained. Accident statistics suggest that children are much safer when properly restrained in the rear seating positions than in the front.



Air bags can kill or injure a child in a child seat. **NEVER** place a rear-facing child seat in front of an active air bag. If you must use a forward-facing child seat in the front seat, move the seat all the way back.



Always transport children 12 years old and under in the back seat and always properly use appropriate child restraints.

The passenger occupant classification sensor can automatically turn off the passenger front air bag and side air bag (if equipped). The system is designed to help protect small (child size) occupants from air bag deployments when they are improperly seated or restrained in the front passenger seat contrary to proper child-seating or restraint usage recommendations. Even with this technology, parents are **STRONGLY** encouraged to always properly restrain children in the rear seat. The sensor also turns off the air bag(s) when the passenger seat is empty to prevent unnecessary replacement of the air bag(s) after a collision.

Seating and safety restraints

Front safety belt usage sensors

The front safety belt usage sensors detect whether or not the driver and front outboard passenger safety belts are fastened. This information allows your Personal Safety System to tailor the air bag deployment and safety belt pretensioner activation depending upon safety belt usage. Refer to *Safety Belts* section in this chapter.

Front safety belt pretensioners

The safety belt pretensioners are designed to tighten the safety belts firmly against the occupant's body during a collision. This maximizes the effectiveness of the safety belts and helps properly position the occupant relative to the air bag to improve protection. The safety belt pretensioners can be either activated alone or, if the collision is of sufficient severity, together with the air bags.

Front safety belt energy management retractors

The front safety belt energy management retractors allow webbing to be pulled out of the retractor in a gradual and controlled manner in response to the occupant's forward momentum. This helps reduce the risk of force-related injuries to the occupant's chest by limiting the load on the occupant. Refer to *Safety Belts* section in this chapter.

Determining if the Personal Safety System is operational

The Personal Safety System uses a warning light in the instrument cluster or a back-up tone to indicate the condition of the system. Refer to the *Restraints Warning Light* section in the *Instrumentation* chapter. Routine maintenance of the Personal Safety System is not required.

The Restraints Control Module (RCM) monitors its own internal circuits and the circuits for the air bag supplemental restraints, crash sensor(s), safety belt pretensioners, front safety belt buckle sensors, driver seat position sensor, and passenger occupant classification sensor (if equipped). In addition, the RCM also monitors the restraints warning light in the instrument cluster. A difficulty with the system is indicated by one or more of the following.

- The warning light will either flash or stay lit.
- The warning light will not illuminate immediately after ignition is turned on.
- A series of five beeps will be heard. The tone pattern will repeat periodically until the problem and warning light are repaired.

Seating and safety restraints



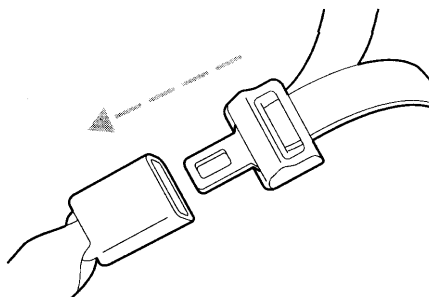
Each seating position in your vehicle has a specific safety belt assembly which is made up of one buckle and one tongue that are designed to be used as a pair. 1) Use the shoulder belt on the outside shoulder only. Never wear the shoulder belt under the arm. 2) Never swing the safety belt around your neck over the inside shoulder. 3) Never use a single belt for more than one person.



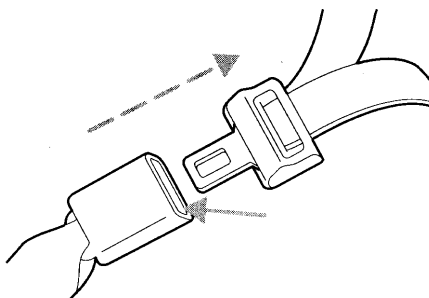
Always transport children 12 years old and under in the back seat and always properly use appropriate child restraints.

Combination lap and shoulder belts

1. Insert the belt tongue into the proper buckle (the buckle closest to the direction the tongue is coming from) until you hear a snap and feel it latch. Make sure the tongue is securely fastened in the buckle.



2. To unfasten, push the release button and remove the tongue from the buckle.



Seating and safety restraints

The front and rear outboard safety restraints in the vehicle are combination lap and shoulder belts. The front passenger and rear seat outboard safety belts have two types of locking modes described below:

Vehicle sensitive mode

The vehicle sensitive mode is the normal retractor mode, allowing free shoulder belt length adjustment to your movements and locking in response to vehicle movement. For example, if the driver brakes suddenly or turns a corner sharply, or the vehicle receives an impact of approximately 8 km/h (5 mph) or more, the combination safety belts will lock to help reduce forward movement of the driver and passengers.

Automatic locking mode

In this mode, the shoulder belt is automatically pre-locked. The belt will still retract to remove any slack in the shoulder belt.

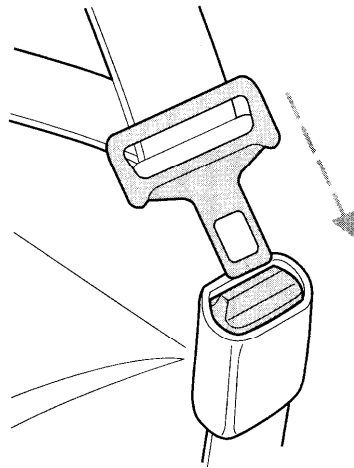
The automatic locking mode is not available on the driver safety belt.

When to use the automatic locking mode

- **Anytime** a child safety seat is installed in a passenger front or outboard rear seating position (if equipped). Children 12 years old and under should be properly restrained in the rear seat whenever possible. Refer to *Safety Restraints for Children* or *Safety Seats for Children* later in this chapter.

How to use the automatic locking mode

- Buckle the combination lap and shoulder belt.



Seating and safety restraints

- Grasp the shoulder portion and pull downward until the entire belt is extracted.



- Allow the belt to retract. As the belt retracts, you will hear a clicking sound. This indicates the safety belt is now in the automatic locking mode.

How to disengage the automatic locking mode

! Ford recommends that all safety belt assemblies and attaching hardware should be inspected by a qualified technician after any collision. Safety belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.

Disconnect the combination lap/shoulder belt and allow it to retract completely to disengage the automatic locking mode and activate the vehicle sensitive (emergency) locking mode.

! After any vehicle collision, the front passenger outboard seat belt system must be checked by a qualified technician to verify that the “automatic locking retractor” feature for child seats is still functioning properly. In addition, all seat belts should be checked for proper function.

! **BELT AND RETRACTOR ASSEMBLY MUST BE REPLACED** if the seat belt assembly “automatic locking retractor” feature or any other seat belt function is not operating properly when checked according to the procedures in Workshop Manual.

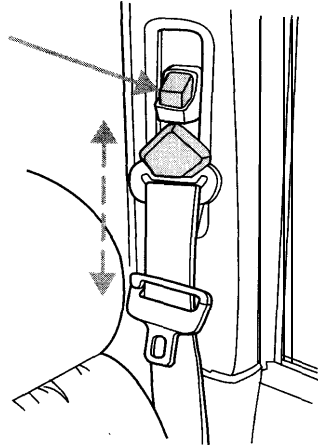
! Failure to replace the Belt and Retractor assembly could increase the risk of injury in collisions.

Seating and safety restraints

Front safety belt height adjustment

Your vehicle has safety belt height adjustments for the driver and front passenger. Adjust the height of the shoulder belt so the belt rests across the middle of your shoulder.

To lower the shoulder belt height, push the button and slide the height adjuster down. To raise the height of the shoulder belt, slide the height adjuster up. Pull down on the height adjuster to make sure it is locked in place.



! Position the shoulder belt height adjusters so that the belt rests across the middle of your shoulder. Failure to adjust the safety belt properly could reduce the effectiveness of the seat belt and increase the risk of injury in a collision.

Lap belts

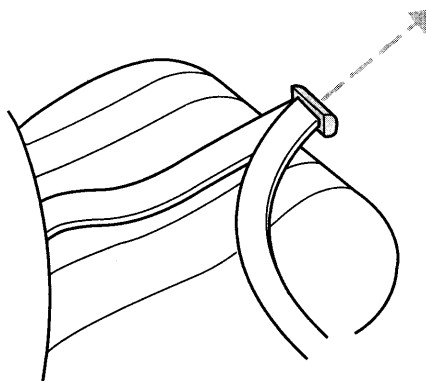
Adjusting the center lap belt

The lap belt does not adjust automatically.

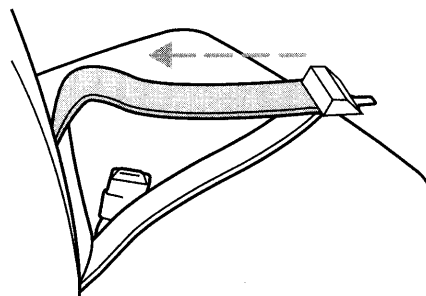
! The lap belt should fit snugly and as low as possible around the hips, not across the waist.

Seating and safety restraints

Insert the tongue into the correct buckle (the buckle closest to the direction the tongue is coming from). To lengthen the belt, turn the tongue at a right angle to the belt and pull across your lap until it reaches the buckle. To tighten the belt, pull the loose end of the belt through the tongue until it fits snugly across the hips.



Shorten and fasten the belt when not in use.



Safety belt extension assembly

If the safety belt assembly is too short for you, even when fully extended, 20 cm (8 inches) can be added to the safety belt assembly by adding a safety belt extension assembly (part number 611C22). Safety belt extension assemblies can be obtained from your dealer at no cost.

Use only extensions manufactured by the same supplier as the safety belt. Manufacturer identification is located at the end of the webbing on the label. Also, use the safety belt extension only if the safety belt is too short for you when fully extended. Do not use extensions to change the fit of the shoulder belt across the torso.

Safety belt warning light and indicator chime

The seat belt warning light illuminates in the instrument cluster and a chime sounds to remind the occupants to fasten their safety belts.

Seating and safety restraints

Conditions of operation

If...	Then...
The driver's safety belt is not buckled before the ignition switch is turned to the ON position...	The safety belt warning light illuminates 2 minutes and the warning chime sounds 4-8 seconds.
The driver's safety belt is buckled while the indicator light is illuminated and the warning chime is sounding.. .	The safety belt warning light and warning chime turn off.
The driver's safety belt is buckled before the ignition switch is turned to the ON position...	The safety belt warning light and indicator chime remain off.

Belt minder

The Belt Minder feature is a supplemental warning to the safety belt warning function. This feature provides additional reminders to the driver that the driver's safety belt is unbuckled by intermittently sounding a chime and illuminating the safety belt warning lamp in the instrument cluster.

If...	Then...
The driver's safety belt is not buckled approximately 5 seconds after the safety belt warning light has turned off. . .	The Belt Minder feature is activated - the safety belt warning light illuminates and the warning chime sounds for 6 seconds every 30 seconds, repeating for approximately 5 minutes or until safety belt is -buckled.
The driver's safety belt is buckled while the safety belt indicator light is illuminated and the safety belt warning chime is sounding...	The Belt Minder feature will not activate.
The driver's safety belt is buckled before the ignition switch is turned to the ON position...	The Belt Minder feature will not activate.

The purpose of the Belt Minder is to remind occasional wearers to wear safety belts all of the time.

One time disable

Anytime the safety belt is buckled and then unbuckled during an ignition ON cycle, Belt Minder will be disabled for that ignition cycle only.

Deactivating/activating the belt minder feature

Read steps 1 - 9 thoroughly before proceeding with the deactivation/activation programming procedure.

The Belt Minder feature can be deactivated/activated by performing the following procedure:

Before following the procedure, make sure that:

- the parking brake is set
- the gearshift is in P (Park) (automatic transmission).
- the ignition switch is in the OFF position
- all vehicle doors are closed
- the driver's safety belt is unbuckled
- the parklamps/headlamps are in OFF position (If vehicle is equipped with Autolamps, this will not affect the procedure.)



To reduce the risk of injury, do not deactivate/activate the Belt Minder feature while driving the vehicle.

1. Turn the ignition switch to the RUN (or ON) position. (DO NOT START THE ENGINE)
2. Wait until the safety belt warning light turns off. (Approximately 1-2 minutes)
 - Steps 3-5 must be completed within 60 seconds or the procedure will have to be repeated.
3. Buckle then unbuckle the safety belt three times, ending with the safety belt unbuckled. This can be done before or during Belt Minder warning activation.
4. Turn on the parklamps/headlamps, turn off the parklamps/headlamps.
5. Buckle then unbuckle the safety belt three times, ending with the safety belt unbuckled.
 - After step 5 the safety belt warning light will be turned on for three seconds.

Seating and safety restraints

6. Within seven seconds of the safety belt warning light turning off, buckle then unbuckle the safety belt.
 - This will disable Belt Minder if it is currently enabled, or enable Belt Minder if it is currently disabled.
7. Confirmation of disabling Belt Minder is provided by flashing the safety belt warning light four times per second for three seconds.
8. Confirmation of enabling Belt Minder is provided by flashing the safety belt warning light four times per second for three seconds, followed by three seconds with the safety belt warning light off, then followed by flashing the safety belt warning light four times per second for three seconds again.
9. After receiving confirmation, the deactivation/activation procedure is complete.

Safety belt maintenance

Inspect the safety belt systems periodically to make sure they work properly and are not damaged. Inspect the safety belts to make sure there are no nicks, wears or cuts, replacing if necessary. All safety belt assemblies, including retractors, buckles, front seat belt buckle assemblies, buckle support assemblies (slide bar-if equipped), shoulder belt height adjusters (if equipped), shoulder belt guide on seatback (if equipped), child safety seat tether bracket assemblies (if equipped), and attaching hardware, should be inspected after a collision. Ford recommends that all safety belt assemblies used in vehicles involved in a collision be replaced. However, if the collision was minor and a qualified technician finds that the belts do not show damage and continue to operate properly, they do not need to be replaced. Safety belt assemblies not in use during a collision should also be inspected and replaced if either damage or improper operation is noted.

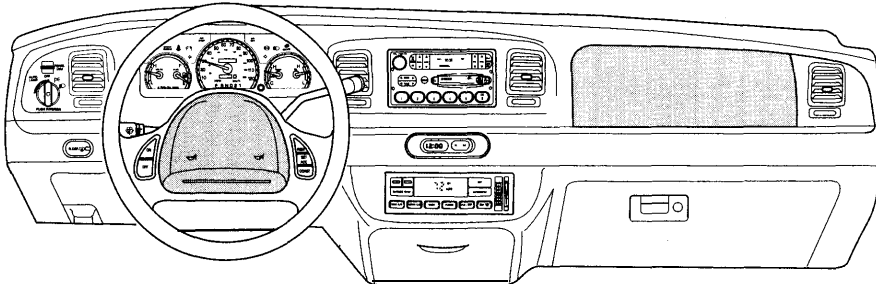


Failure to inspect and if necessary replace the safety belt assembly under the above conditions could result in severe personal injuries in the event of a collision.

Refer to *Cleaning and maintaining the safety belts* in the *Maintenance and care* section.

Seating and safety restraints

AIR BAG SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

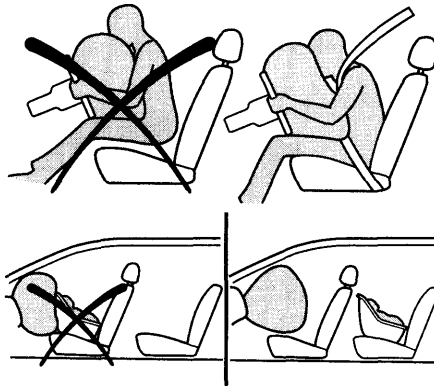


Your vehicle is equipped with a crash sensing and diagnostic module which records information about the air bag and sensor systems. In the event of a collision this module may save information related to the collision including information about the air bag system and impact severity. This information will assist Ford in the servicing of your vehicle and may help Ford better understand real world collisions and further improve the safety of future vehicles.

Important supplemental restraint system (SRS) precautions

The supplemental restraint system is designed to work with the safety belt to help protect the driver and right front passenger from certain upper body injuries.

Air bags DO NOT inflate slowly or gently and the risk of injury from a deploying air bag is greatest close to the trim covering the air bag module.



All occupants of the vehicle, including the driver, should always properly wear their safety belts, even when an air bag SRS is provided.

Seating and safety restraints

Children and air bags

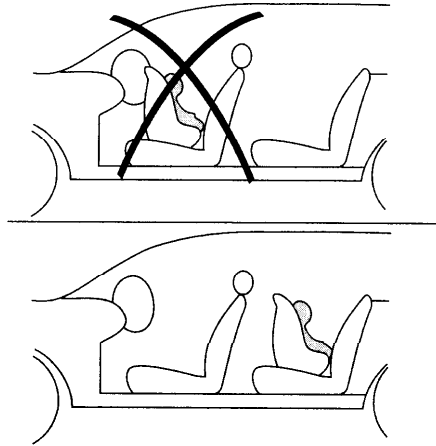
For additional important safety information, read all information on safety restraints in this guide.

Children must always be properly restrained. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in the front seating position. Failure to follow these instructions may increase the risk of injury in a collision.



Air bags can kill or injure a child in a child seat.

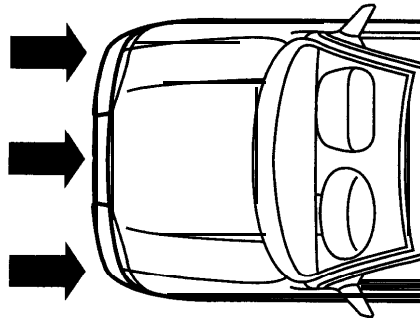
NEVER place a rear-facing child seat in front of an active air bag. If you must use a forward-facing child seat in the front seat, move the seat all the way back.



How does the air bag supplemental restraint system work?

The air bag SRS is designed to activate when the vehicle sustains longitudinal deceleration sufficient to cause the sensors to close an electrical circuit that initiates air bag inflation.

The fact that the air bags did not inflate in a collision does not mean that something is wrong with the system. Rather, it means the forces were not of the type sufficient to cause activation. Air bags are designed to inflate in frontal and near-frontal collisions, not rollover, side-impact, or rear-impacts unless the collision causes sufficient longitudinal deceleration.



Seating and safety restraints

The air bags inflate and deflate rapidly upon activation. After air bag deployment, it is normal to notice a smoke-like, powdery residue or smell the burnt propellant. This may consist of cornstarch, talcum powder (to lubricate the bag) or sodium compounds (e.g., baking soda) that result from the combustion process that inflates the air bag. Small amounts of sodium hydroxide may be present which may irritate the skin and eyes, but none of the residue is toxic.



While the system is designed to help reduce serious injuries, contact with a deploying air bag may also cause abrasions, swelling or temporary hearing loss. Because air bags must inflate rapidly and with considerable force, there is the risk of death or serious injuries such as fractures, facial and eye injuries or internal injuries, particularly to occupants who are not properly restrained or are otherwise out of position at the time of air bag deployment. Thus, it is extremely important that occupants be properly restrained as far away from the air bag module as possible while maintaining vehicle control.

The SRS consists of:

- driver and passenger air bag modules (which include the inflators and air bags),
- one or more impact and safing sensors,
- a readiness light and tone
- a diagnostic module
- and the electrical wiring which connects the components.

The diagnostic module monitors its own internal circuits and the supplemental air bag electrical system warning (including the impact sensors), the system wiring, the air bag system readiness light, the air bag back up power and the air bag ignitors.



Several air bag system components get hot after inflation. Do not touch them after inflation.

Seating and safety restraints

Important child restraint precautions

You are required by law to use safety restraints for children in the U.S. and Canada. If small children ride in your vehicle (generally children who are four years old or younger and who weigh 18 kg [40 lbs] or less), you must put them in safety seats made especially for children. Check your local and state or provincial laws for specific requirements regarding the safety of children in your vehicle.



Never let a passenger hold a child on his or her lap while the vehicle is moving. The passenger cannot protect the child from injury in a collision.

Always follow the instructions and warnings that come with any infant or child restraint you might use.

When possible, always place children under age 12 in the rear seat of your vehicle. Accident statistics suggest that children are safer when properly restrained in the rear seating positions than in the front seating position.

Children and safety belts

If the child is the proper size, restrain the child in a safety seat.

Children who are too large for child safety seats (as specified by your child safety seat manufacturer) should always wear safety belts.

Follow all the important safety restraint and air bag precautions that apply to adult passengers in your vehicle.

If the shoulder belt portion of a combination lap and shoulder belt can be positioned so it does not cross or rest in front of the child's face or neck, the child should wear the lap and shoulder belt. Moving the child closer to the center of the vehicle may help provide a good shoulder belt fit.



Do not leave children, unreliable adults, or pets unattended in your vehicle.

To improve the fit of lap and shoulder belts on children who have outgrown child safety seats, Ford recommends use of a belt-positioning booster seat that is labelled as conforming to all applicable Federal motor vehicle safety standards. Belt-positioning booster seats raise the child and provide a shorter, firmer seating cushion that encourages safer seating posture and better fit of lap and shoulder belts on the child.