

REPORT NUMBER KAR21049-02

**NEW CAR ASSESSMENT PROGRAM
SIDE IMPACT TEST**

**TOYOTA MOTOR MANUFACTURING
2001 TOYOTA TACOMA SR5
EXTENDED CAB PICKUP
NHTSA NUMBER: TOY002**

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



JUNE 5, 2001

FINAL REPORT

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Prepared by: _____ Date: June 5, 2001
Mr. James E. Gorth, Project Engineer
KARCO Engineering

Reviewed by: _____ Date: June 5, 2001
Mr. Jerry L. Kratzke, Director of Operations
KARCO Engineering

Approved by: _____ Date: June 5, 2001
Mr. Frank D. Richardson, Program Manager
KARCO Engineering

FINAL REPORT ACCEPTED BY:

Manager, Side Impact NCAP

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16. Abstract A 55/28 km/h 90 deg. Moving Deformable Barrier Side Impact NCAP Test was conducted on the subject 2001 Toyota Tacoma SR5 Extended Cab Pickup in accordance with the specifications of the Office of Crash Worthiness Standards Test Procedure for the generation of consumer information on vehicle side crash protection. The test was conducted at KARCO Engineering laboratories in Adelanto, California, on May 10, 2001. The impact velocity of the Moving Deformable Barrier was 61.93 km/h, and the outside ambient temperature at the struck (driver's) side of the vehicle was 32.7 deg. C. The target vehicle's maximum post test static crush was 442 mm located at level 3 . The test vehicle's occupant performance is as follows: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%;">Measurement Description</th> <th style="width: 30%;">Driver SID</th> </tr> </thead> <tbody> <tr> <td>Left Upper Rib (LUR) G's</td> <td>48.6</td> </tr> <tr> <td>Left Lower Rib (LLR) G's</td> <td>66.2</td> </tr> <tr> <td>Lower Spine (T₁₂) G's</td> <td>103.4</td> </tr> <tr> <td>Thoracic Trauma Index (TTI) G's</td> <td>85</td> </tr> <tr> <td>Pelvis (PEV) G's</td> <td>106</td> </tr> </tbody> </table>				Measurement Description	Driver SID	Left Upper Rib (LUR) G's	48.6	Left Lower Rib (LLR) G's	66.2	Lower Spine (T ₁₂) G's	103.4	Thoracic Trauma Index (TTI) G's	85	Pelvis (PEV) G's	106
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SECTION 1

PURPOSE and TEST PROCEDURE

1.1 PURPOSE

This Side Impact NCAP test is conducted as part of the FY' 2001 test program sponsored by the National Highway Traffic Safety Administration (NHTSA), under contract No. DTNH22-99-D-02041. The purpose of this test is to generate comparative side impact data on a 2001 Toyota Tacoma SR5 Extended Cab Pickup manufactured by Toyota Motor Manufacturing.

1.2 TEST PROCEDURE

The side impact test was conducted in accordance with the current National Highway Traffic Safety Administration (NHTSA), Office of Crashworthiness Standards (OCS), laboratory test procedure NCAP Side Impact Testing, dated July 1997 and the corresponding KARCO Engineering Test Procedure KTP-214D, dated November 18, 1998. The procedures for receiving, inspection, testing, and reporting of test results are described in the test procedures and are not repeated in this report.

SECTION 2

SUMMARY OF SIDE IMPACT TEST

2.1 SUMMARY OF SIDE IMPACT NCAP TEST

A model year 2001 Toyota Tacoma SR5 Extended Cab Pickup was impacted on the left (driver's) side by a Moving Deformable Barrier (MDB) which was moving forward in a 27° crabbed position to the tow road guidance system at a velocity of 61.93 km/h. The specified impact velocity range is from 61.1 to 62.7 km/h. The test (target) vehicle was stationary and positioned 63° to the line of forward motion. The weight of the vehicle as tested was 1576 kg. and the test weight of the MDB was 1361 kg. The test was conducted at KARCO Engineering in Adelanto, California, on May 10, 2001.

One (1) real-time motion picture camera and nine (9) high-speed motion picture cameras were used to document the impact event. The pre-test 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 SID can be found in Appendix A. One 50th percentile adult male Side Impact Dummy (SID) was placed in the driver's designated seating positions according to the test procedure. The SID is instrumented with contact switches on the pelvis and thorax, and eleven accelerometers in the following locations:

- Left Upper Rib (LUR) uni-axial accelerometer (Y-axis primary and redundant)
- Left Lower Rib (LLR) uni-axial accelerometer (Y-axis primary and redundant)
- Lower Thoracic Spine (T12) uni-axial accelerometer (Y-axis primary and redundant)
- Pelvic (PEV) section uni-axial accelerometer (Y-axis primary and redundant)
- Head Center of Gravity (CG) tri-axial accelerometers (X, Y, and Z axes)

The test vehicle was instrumented with sixteen (16) structural accelerometers and the MDB was instrumented with five (5) accelerometers and a one (1) contact switch on the right bumper to compare left side to right side bumper impact timing. All data channels were recorded with a fully self contained on-board Test Data Acquisition System (TDAS). The data was digitally sampled at 10,000 samples per second and processed per Appendix V of the Test Procedure.

2.2 GENERAL COMMENTS

The test vehicle sustained a maximum static crush of 442 mm at level 3, 1200mm rearward of the left vertical impact point. The driver SID, Serial No. 275 was calibrated just prior to this test. The SID injury criteria is summarized as follows:

Measurement	Units	Driver
Thoracic Trauma Index (TTI)	G's	85
Peak Pelvic G's (PEV)	G's	106

Tests summaries and post-test observations are presented in Section 3. The vehicle, camera, and occupant measurements are presented in Section 4. Appendix A contains the still photograph prints. Appendix B contains the driver SID, vehicle, and MDB response data traces. Appendix C contains the SID's Configuration and performance verification data. Appendix D contains the test equipment information.

SECTION 3

SIDE IMPACT DUMMY (SID) AND VEHICLE TEST DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No. TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01

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
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01

TEST VEHICLE INFORMATION

Make	Toyota
Model	Tacoma SR5
Body Style	Extended Cab Pickup
NHTSA No.	TOY002
VIN	STEVL52N11Z788520
Color	Forest Green
Delivery Date	4/25/01
Odometer Reading (mile)	124
Dealer	Valley-Hi Toyota
Transmission	4 Speed Automatic
Final Drive	Rear
Number of Cylinders	4
Engine Displacement (L)	2.4
Engine Placement	Longitudinal

TEST VEHICLE OPTIONS

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

DATA FROM CERTIFICATION LABEL

Manufactured By	Toyota Motor Manufacturing, CA, Inc.	GVWR (kg)	998
Date of Manufacture	February-01	GAWR Front (kg)	1134
		GAWR Rear (kg)	2041

DATA FROM TIRE PLACARD

Measured Parameter	Front	Rear
Maximum Tire Pressure (kPa)	200	200
Cold Pressure (kPa)	200	200
Recommend Tire Size	P205/75R15	P205/75R15
Tire Size on Vehicle	P205/75R15	P205/75R15
Tire Manufacturer	Firestone	Firestone

Measured Parameter	Front	Rear	Third	Total
Type of Seats	Bucket	Bench	None	
Number of Occupants	2	2	N/A	4
Capacity Wt. (VCW) (kg)				677
Cargo Weight (RCLW) (kg)				136

DATA SHEET NO. 1...(continued)
GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: TOY002
 Test Date: 05/10/01

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	407	298		424	369	
Right	kg	371	288		417	366	
Ratio	%	57.0	43.0		53.4	46.6	
Totals	kg	778	586	1364	841	735	1576

TARGET TEST WEIGHT CALCULATION*

Measured Parameter	Units	Value
Total Delivered Weight (UVW)	kg	1364
Weight of 1 P572F Side Impact Dummies	kg	81
Rated Cargo/Luggage Weight (RCLW)	kg	136
Calculated Vehicle Target Weight (TVTW)	kg	1581

*Actual As Tested Weight (ATW) will be TVTW -5/-10 kg

TEST VEHICLE ATTITUDES AND CG

	Units	LF	RF	LR	RR	CG (aft of front axle)
As Delivered	mm	766	779	806	810	1331
As Tested	mm	757	765	781	776	1445
Fully Loaded	mm	752	775	796	809	

GENERAL TEST VEHICLE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	3098
Total Vehicle Length at Left Side	mm	3800
Total Vehicle Length at Centerline	mm	5146
Total Vehicle Length at Right Side	mm	3795
Weight of Ballast In Cargo Area	kg	121
Amount of Stoddard Solvent in Fuel Tank	Liters	56.3

TEST VEHICLE VERTICAL IMPACT LINE DATA

Measurement Description	Units	Value
Test Vehicle Wheel base	mm	3098
Target Impact Point Aft of Front Axle	mm	609
Actual Impact Point Aft of Front Axle	mm	619

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No. TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

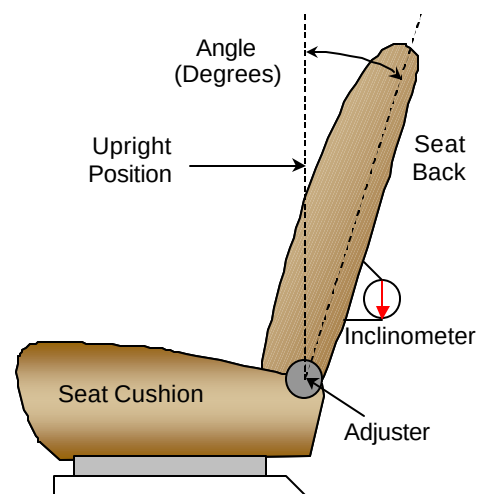
Test Date: 05/10/01

NOMINAL DESIGN RIDING POSITION

The driver's seat back is positioned to the manufacturers designated angle. The procedure for the seat is as follows:

A slit is cut into fabric of the seat at the outboard edge, approximately 10-13 inches above the pivot point to expose the frame of the seat. An inclinometer is firmly placed against the flat portion of the frame surface and the seat back is adjusted to the manufacturers designated angle.

Driver seat back angle: 8° with a seated dummy



FRONT SEAT ASSEMBLY

SEAT FORE/AFT POSITIONS

The driver's seat is adjustable. The fore/aft is set to the middle position.

Driver seat fore/aft total travel: 14 detents

Driver seat fore/aft position: Set in eighth detent

SEAT BELT UPPER ANCHORAGE

The Driver's seat is equipped with an adjustable "D" ring upper seat belt anchorage. The anchorage has five positions; it is placed in the 2nd position from the top.

DATA SHEET NO. 1...(continued)

GENERAL TEST AND VEHICLE PARAMETER DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No. TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01

FUEL TANK CAPACITY DATA

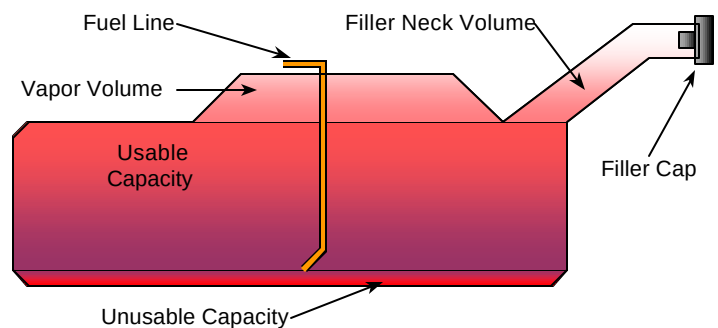
The "Usable Capacity" of the standard equipment fuel tank is: 60.5 liters

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

92-94% of "Usable Capacity" for certification to FMVSS 301 requirement: 55.7 to 56.9 liters

Actual amount of Stoddard solvent added to vehicle for certification test: 56.3 liters

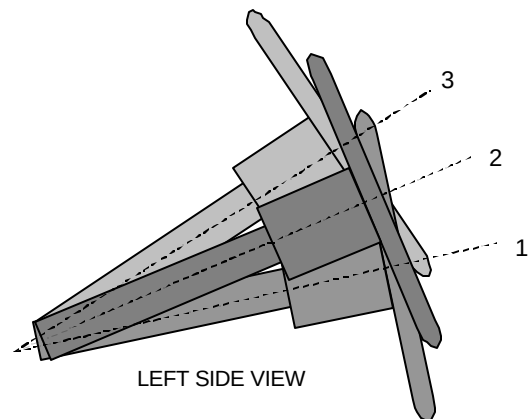
The test vehicle is equipped with an electric fuel pump. The fuel pump will operate for approximately three (3) seconds with the ignition in the "ON" position, after which the fuel pump automatically shuts off. The fuel filler door is located on the left rear fender.



VEHICLE FUEL TANK ASSEMBLY

STEERING COLUMN ADJUSTMENT

Steering wheel and column adjustments are made so that the steering wheel hub is at the geometric center of the locus it describes, when it is moved through its full range of motion. An aluminum plate is placed across the rim of the steering wheel, an inclinometer is placed onto the plate and the angle is measured. The tested vehicle has its steering column set at position 2 as indicated in the drawing at right and the angle below.



STEERING COLUMN ASSEMBLY

Lowermost, position 1: 20°

Geometric center, position 2: 25°

Uppermost, position 3: 36°

DATA SHEET NO. 2
TEST VEHICLE SUMMARY OF RESULTS

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup
Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: TOY002
Test Date: 05/10/01

TEST VEHICLE WEIGHTS

	Units	As Delivered (UVW)			As Tested (ATW)		
		Front Axle	Rear Axle	Total	Front Axle	Rear Axle	Total
Left	kg	407	298		424	369	
Right	kg	371	288		417	366	
Weight Ratio	%	57.0	43.0		53.4	46.6	
Totals	kg	778	586	1364	841	735	1576

MAXIMUM EXTERIOR STATIC CRUSH

Level	Measured Parameter	Units	Maximum Crush	Above Ground
Level 1	Sill Top Height	mm	398	371
Level 2	Occupant H-Point	mm	429	688
Level 3	Mid Door	mm	442	709
Level 4	Window Sill	mm	348	1017
Level 5	Window Top	mm	213	1502
N/A	Maximum Penetration	mm	442	

INSTRUMENTATION

Driver SID Accelerometers	11
Vehicle Structure Accelerometers	16
MDB Accelerometers	5
Total	32

16mm MOVIE COVERAGE

High Speed, Vehicle On-Board	2
High Speed, Off-Board	4
High Speed, MDB On-Board	2
Real Time, Panning	1
Total	9

DATA SHEET NO. 3
MOVING DEFORMABLE BARRIER (MDB) SUMMARY OF RESULTS

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup
 Test Program: 55/28 km/h 90° Side Impact NCAP

NHTSA No.: TOY002
 Test Date: 05/10/01

MDB SPECIFICATIONS (mm)

Measurement Description	Length
Overall Width of Framework Carriage	1252
Overall Length Including Honeycomb Face	4115
Wheel base of Framework Carriage	2590
C.G. Location aft of Front Axle	1127

MDB WEIGHTS

	Units	Front Axle	Rear Axle	Total
Left	kg	384	308	
Right	kg	385	284	
Ratio	%	56.5	43.5	
Totals	kg	769	592	1361

SPEED AND IMPACT ANGLE DATA

Measured Parameter	Units	Requirement	Value
Trap No. 1 Velocity (Primary)	km/h	61.1 to 62.7	61.93
Trap No. 2 Velocity (Redn.)	km/h	61.1 to 62.7	61.99
MDB CL to Target Vehicle CL	degrees	88.5 to 91.5	89.5

MAXIMUM STATIC CRUSH OF HONEYCOMB FACE (mm)

Vertical Location			From Centerline		Max Crush
Row	Description	Height	Distance	Direction	
A	Center of Bumper	432	800	Right	128
B	Top of Bumper	533	800	Right	63
C	Mid Level	686	800	Left	186
D	Top of Stack	813	800	Left	219

MDB INSTRUMENTATION AND CAMERAS

Accelerometers	5
Contact Switches	2
High Speed Cameras	2

**DATA SHEET NO. 4
POST TEST OBSERVATIONS**

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01

TEST DUMMY INFORMATION AND CONTACT POINTS

Description	Front Seat SID
Dummy Type / Serial No.	P572F, SID / No. 275
Head Contact	Window/Headrest
Upper Torso Contact	Panel
Lower Torso Contact	Panel
Left Knee Contact	Window Handle
Right Knee Contact	Knee

POST TEST DOOR OPENING AND SEAT TRACK INFORMATION

Description	Front
Left Side Door Opening	Remained closed inoperable
Right Side Door Opening	Remained closed operable
Seat Movement	None
Seat Back Failure	None

POST TEST STRUCTURAL OBSERVATIONS

Critical Areas of Performance	Observations and Conclusions
Pillar Performance	No Visible Pillar Anomilies
Sill Separation	No Visible Sill Separation
Windshield Damage	Glazing Cracks on Struck Side Only
Window Damage	Left Side Windows Broke.
Other Notable Effects	No significant items to note.

AIR BAG DEPLOYMENT

	Driver	Front Passenger	Rear Passenger
Front	No	No	N/A
Side	N/A	N/A	N/A

MDB LEFT EDGE IMPACT POINT DATA

Measured Parameter	Units	Requirement	Value
Horizontal Offset	mm	+/- 50	32 (right)
Vertical Offset	mm	+/- 20	9 (above)

SECTION 4
OCCUPANT AND VEHICLE INFORMATION

DATA SHEET NO. 5
SID INJURY CRITERIA AND SENSOR DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 5/10/01

THORAX AND PELVIS PEAK ACCELERATIONS, PRIMARY (FIR 100 Filtered)

Location	Axis	Units	Driver			
			Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	48.6	46.5	-9.8	85.1
Lower Rib (LLR)	Y	G's	66.2	34.9	-9.4	107.2
Lower Spine (T ₁₂)	Y	G's	103.4	35.7	-9.6	113.8
Pelvis (PEV)	Y	G's	105.5	32.1	-22.3	51.7

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, PRIMARY (FIR 100 Filtered)

Location	Driver			
	LLR	T ₁₂	TTI(g)	PEV(g)
Primary Rib, Spine, and Pelvis	66.222	103.353	85	106

THORAX AND PELVIS PEAK ACCELERATIONS, REDUNDANT (FIR 100 Filtered)

Location	Axis	Units	Driver			
			Max	Time	Min	Time
Upper Rib (LUR)	Y	G's	48.9	46.2	-9.2	84.9
Lower Rib (LLR)	Y	G's	66.1	35.3	-9.1	106.5
Lower Spine (T ₁₂)	Y	G's	104.0	35.7	-9.2	113.9
Pelvis (PEV)	Y	G's	104.9	32.0	-21.4	51.6

THORACIC TRAUMA INDEX (TTI) AND PELVIC ACCELERATION, REDUNDANT (FIR 100 Filtered)

Location	Driver			
	LLR	T ₁₂	TTI(g)	PEV(g)
Redundant Rib, Spine, and Pelvis	66.092	103.966	85	105

HEAD CG PEAK ACCELERATIONS (SAE CLASS 1000 Filtered)

Location	Axis	Units	Driver			
			Max	Time	Min	Time
Head CG	X	G's	5.0	181.7	-23.1	76.3
Head CG	Y	G's	38.1	48.5	-15.7	61.6
Head CG	Z	G's	57.7	60.8	-34.6	47.6
Head CG Resultant	N/A	G's	59.4	61.6		

HEAD INJURY CRITERIA (SAE CLASS 1000 Filtered)

Location	Driver			
	HIC	T ¹	T ²	Avg G
Head CG	296.5	44.6	80.5	36.8

Positive Acceleration Polarities: Longitudinal (X) = Forward
 (Conforms to SAE J211) Lateral (Y) = Right
 Vertical (Z) = Down

DATA SHEET NO. 6

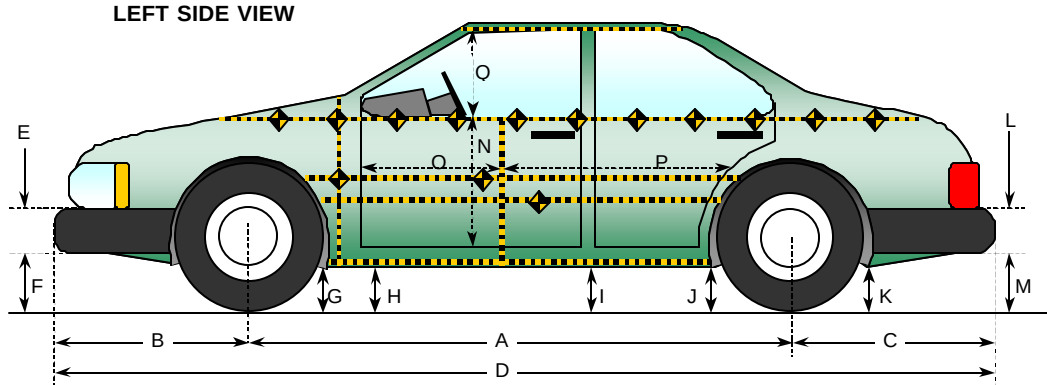
VEHICLE PRE-TEST AND POST-TEST MEASUREMENTS

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01



All Measurements in mm

Code	Measurement Description	Pre-Test	Post-Test	Difference
A	Wheelbase	3098	3045	53
B	Front Axle To FSOV	828	893	-65
C	Rear Axle to RSOV	1222	1183	39
D	Total Length at Centerline	5146	5111	35
E	Front Bumper Thickness	285	285	0
F	Front Bumper Bottom to Ground	316	331	-15
G	Sill Height at Front Wheel Well	317	328	-11
H	Sill Height at Front Door Leading Edge	321	326	-5
I	Sill Height at "B" Pillar	336	349	-13
J1	Sill Height at Rear Wheel Well	323	329	-6
J2	Pinch Weld Height at Rear Wheel Well	338	351	-13
K	Sill Height aft of Rear Wheel Well	417	511	-94
L	Rear Bumper Thickness	135	135	0
M	Rear Bumper Bottom to Ground	442	538	-96
N	Sill Height to Window Bottom Sill	645	640	5
O	Front Door Leading Edge to Impact CL	849	845	4
P	Rear Door Trailing Edge to Impact CL	No Rear Door		
Q	Front Window Opening	442	431	11
R	Right Side Length	3795	3850	-55
S	Left Side Length	3800	3694	106
T	Vehicle Width at "B" Post	1668	1475	193

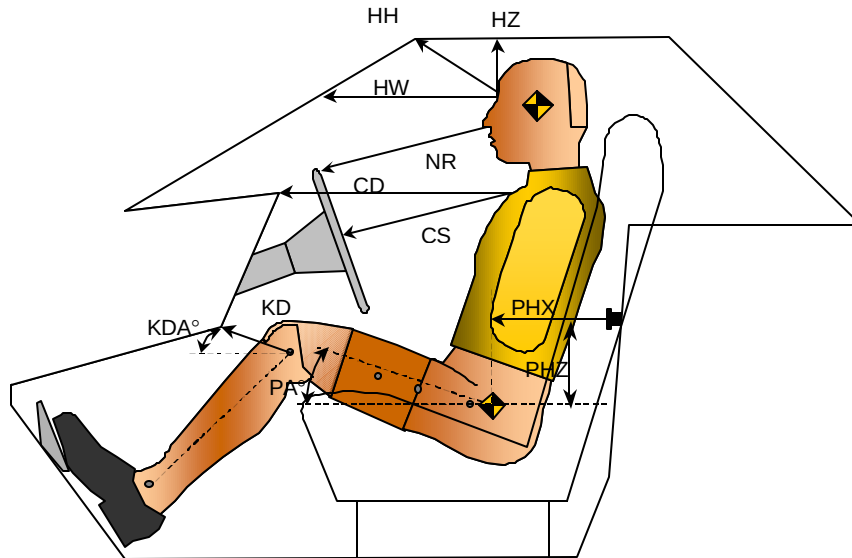
DATA SHEET NO. 7
SID LONGITUDINAL CLEARANCE DIMENSIONS

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01



Driver Code	Pass. Code	Measurement Description	Driver	
			Length(mm)	Angle(°)
HH		Head to Header	500	10
HW		Head to Windshield	602	
HZ	HZ	Head to Roof	190	90
NR	NB	Nose to Rim/Nose to Seatback	529	13
CD	CB	Chest to Dash or Seatback	608	0
CS		Chest to Steering Wheel	380	15
KDL	KBL	Left Knee to Dash or Seatback	197	23
KDR	KBR	Right Knee to Dash or Seatback	215	
PA	PA	Pelvic Angle		23.5
PHX	PHX	H-Point to Striker (X-Axis)	335	
PHZ	PHZ	H-Point to Striker (Z-Axis)	140	

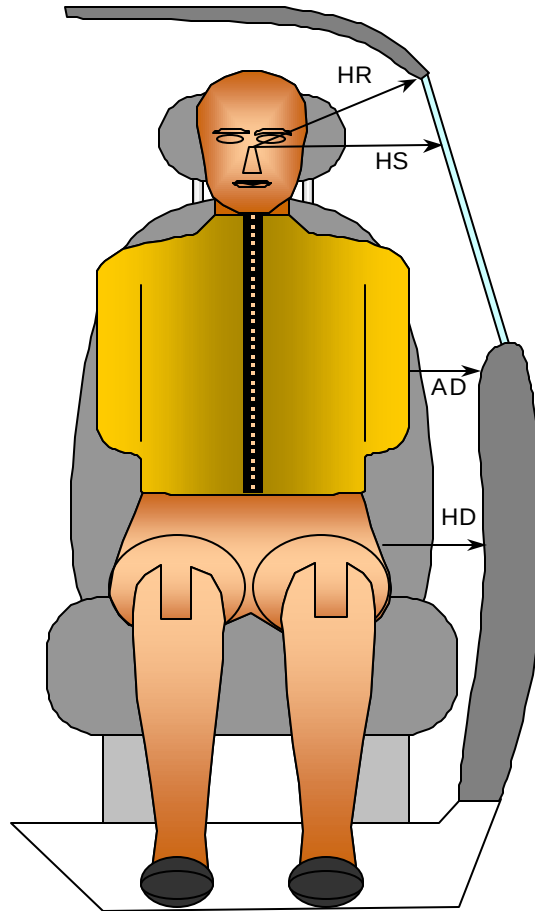
DATA SHEET NO. 8
SID LATERAL CLEARANCE DIMENSIONS

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01



FRONT VIEW OF DUMMY

Code	Measurement Description	Units	Driver
HR	Head to Side Header	mm	233
HS	Head to Side Window	mm	322
AD	Arm to Door	mm	91
HD	H-Point to Door	mm	117

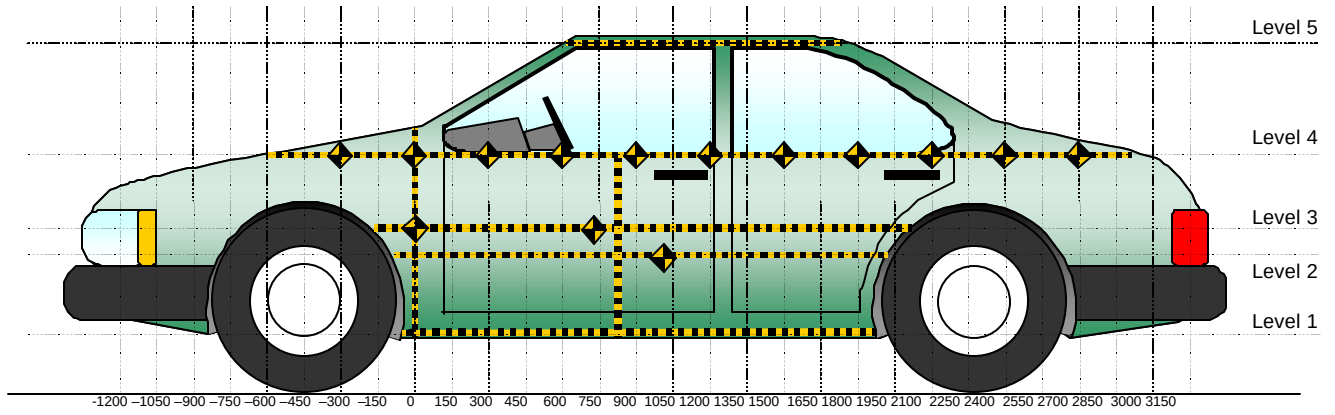
DATA SHEET NO. 9
VEHICLE SIDE MEASUREMENTS

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01



All Measurements Shown in mm

LEFT SIDE VIEW

Measurements are taken with vehicle in the as tested condition.

Measurements taken 900mm right of impact reference.

All measurements below in mm.

Level	Measurement Description	Height Above Ground
5	Window Top	1502
4	Window Sill	1017
3	Mid Door	709
2	Occupant H-Point	688
1	Sill Top	371

DATA SHEET NO. 10 - VEHICLE EXTERIOR CRUSH PROFILES

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

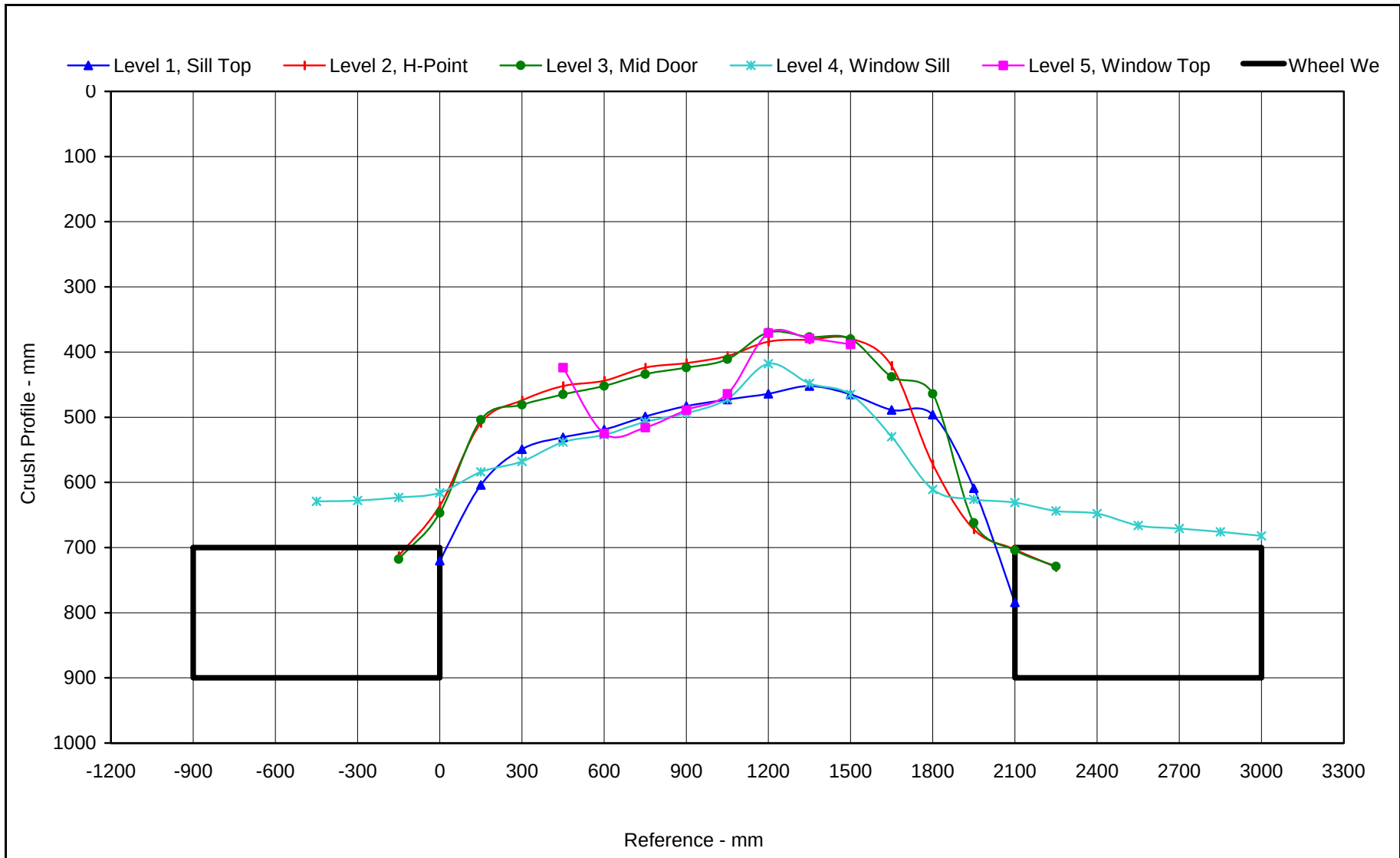
Test Date: 5/10/01

	Pre-Test					Post-Test					Difference				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
-900															
-750															
-600															
-450				712					629					83	
-300				717					628					89	
-150		823	825	735			713	718	623			110	107	112	
0	854	810	811	741		720	636	647	616		134	174	164	125	
150	850	810	812	753		604	509	504	584		246	301	308	169	
300	850	810	812	757		549	474	481	568		301	336	331	189	
450	850	809	811	759	558	531	452	465	538	424	319	357	346	221	134
600	850	810	811	758	570	519	444	452	527	525	331	366	359	231	45
750	850	809	810	764	579	499	424	434	507	516	351	385	376	257	63
900	851	809	810	764	570	483	417	424	494	489	368	392	386	270	81
1050	850	809	812	765	586	473	406	411	472	464	377	403	401	293	122
1200	851	809	812	766	584	464	384	370	418	371	387	425	442	348	213
1350	850	808	811	766	586	452	381	377	448	379	398	427	434	318	207
1500	849	808	810	767	585	465	379	380	465	388	384	429	430	302	197
1650	850	808	810	771		489	421	438	530		361	387	372	241	
1800	847	807	809	768		496	572	464	611		351	235	345	157	
1950	856	814	815	768		609	672	662	626		247	142	153	142	
2100	874	825	824	770		784	703	704	631		90	122	120	139	
2250		826	828	777			730	729	644			96	99	133	
2400				775					648					127	
2550				779					666					113	
2700				779					671					108	
2850				779					676					103	
3000				781					682					99	

Pre-Test and Post-Test dimensions are actual distance from centerline of test vehicle.

DATA SHEET NO. 10...(continued)

18



Maximum Crush, Level 1: 398 mm at 1350 mm
 Maximum Crush, Level 2: 429 mm at 1500 mm
 Maximum Crush, Level 3: 442 mm at 1200 mm
 Maximum Crush, Level 4: 348 mm at 1200 mm
 Maximum Crush, Level 5: 213 mm at 1200 mm

Test Program: 55/28 km/h 90° Side Impact NCAP No.: TOY002
 Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup
 Test Date: 05/10/01



KAR21049-02

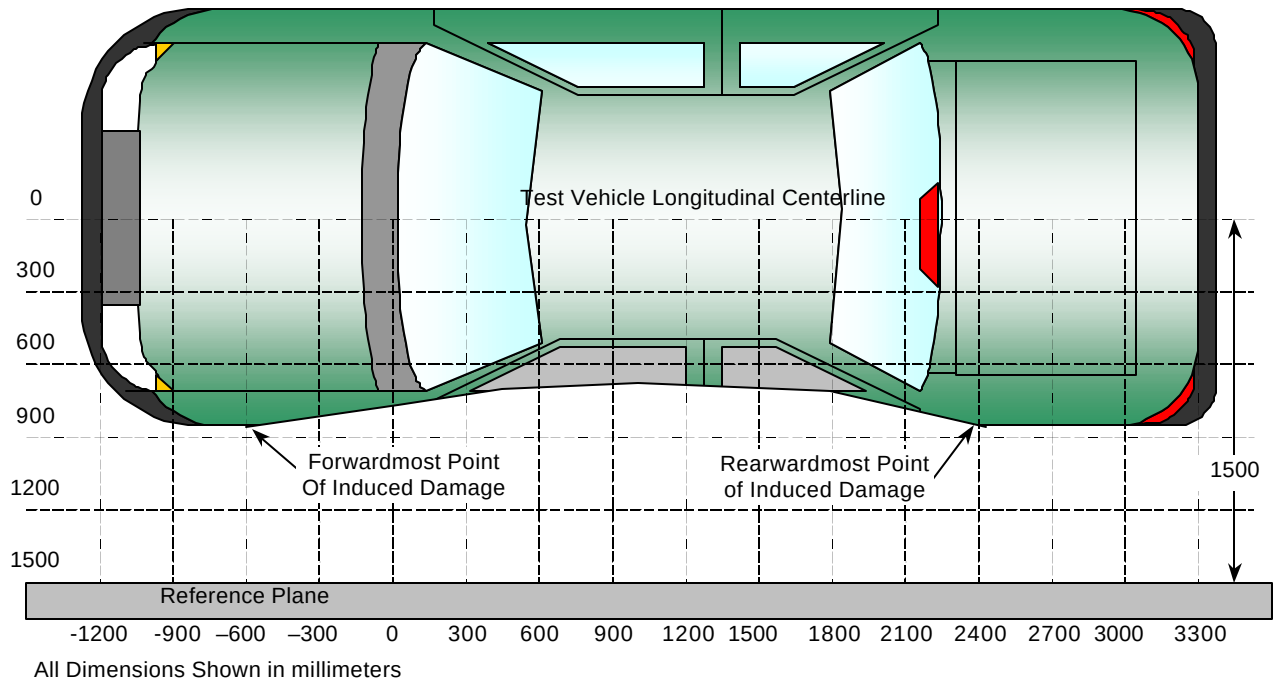
DATA SHEET NO. 11
VEHICLE DAMAGE PROFILE DISTANCES

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01



TOP VIEW

Damage Profile Distances

DPD	Distance From Impact Point in mm	Level	Pre-Test (mm)	Post-Test (mm)	Max Static Crush (mm)
1	-450	4	712	629	83
2	150	3	812	504	308
3	900	2	809	417	392
4	1650	2	808	421	387
5	2250	4	777	644	133
6	3000	4	781	682	99

Pre-Test and Post-Test measurements are distance from vehicle centerline.

DATA SHEET NO. 12

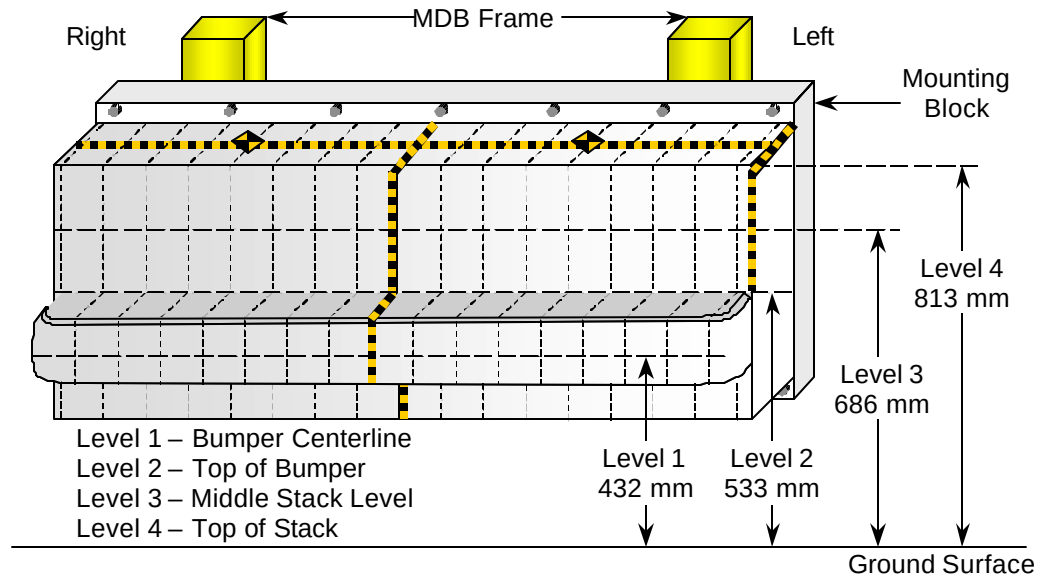
DEFORMABLE BARRIER HONEYCOMB FACE STATIC CRUSH

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01



DEFORMABLE BARRIER STATIC CRUSH

Stack	Distance Right of Center								C _L	Distance Left of Center							
Level	800	700	600	500	400	300	200	100	0	100	200	300	400	500	600	700	800
1	99	104	101	84	67	59	63	66	73	75	79	84	89	94	101	107	128
2	59	61	50	30	18	16	19	23	24	30	35	38	43	47	52	57	63
3	186	123	52	13	1	-1	4	6	2	4	6	10	21	27	46	69	90
4	219	170	99	41	11	-1	13	16	6	6	10	19	31	46	65	91	116

All Dimensions in mm

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

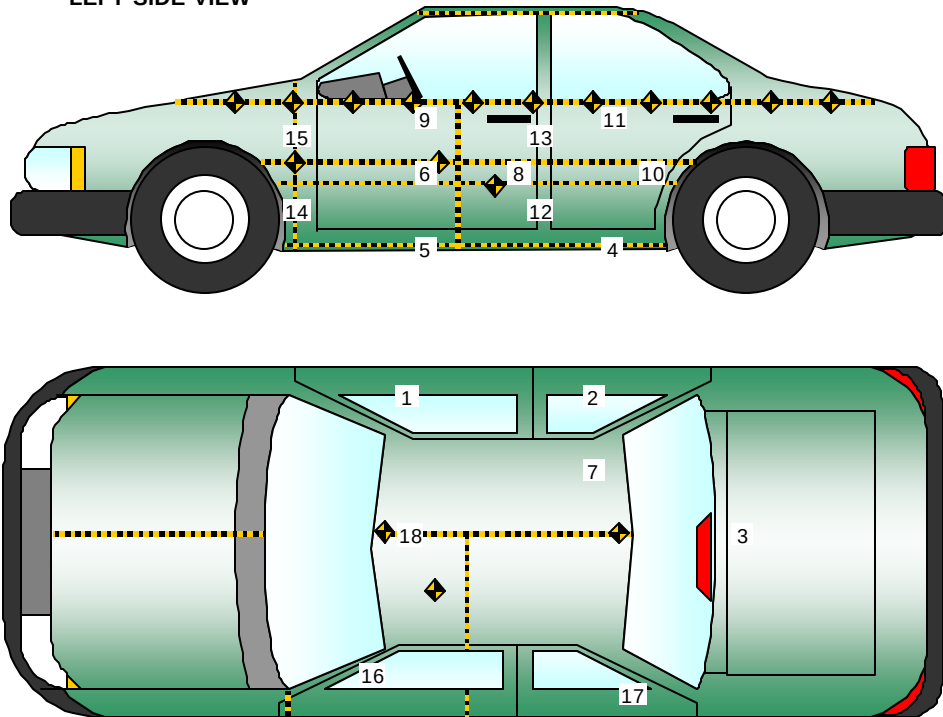
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01

LEFT SIDE VIEW



No.	Location
1	Right Sill at Front Seat
2	Right Sill at Rear Seat
3	Rear Floorpan Above Axle
4	Left Sill at Rear Door
5	Left Sill at Front Door
6	Left Front Door Centerline
7	Right Rear Occupant Compartment
8	Left Front Door Mid-Rear
9	Left Front Door Upper Centerline

No.	Location
10	Left Rear Door Mid-Rear
11	Left Rear Door Upper Centerline
12	Left Lower B-Post
13	Left Middle B-Post
14	Left Lower A-Post
15	Left Middle A-Post
16	Front Seat Track
17	Rear Seat Track or Structure
18	Vehicle CG

DATA SHEET NO. 13

VEHICLE ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 5/10/01

VEHICLE ACCELEROMETER PEAK DATA AND PRE-TEST LOCATIONS

Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	Right Sill at Front Seat	3530	590	430	X	8.4	20.1	-11.3	35.4
					Y	27.5	20.8	-11.8	65.6
					Z	8.3	69.7	-10.5	15.6
					RES	29.7	20.5		
2	Right Sill at Rear Seat				X				**
					Y				**
					Z				**
					RES				**
3	Rear Floorpan Above Axle	1330	100	685	X	3.4	54.8	-5.0	15.6
					Y	23.9	33.5	-4.8	110.0
					Z	18.9	87.6	-18.6	44.4
					RES	26.9	33.7		
4	Left Sill at Rear Door				Y				**
5	Left Sill at Front Door	3250	-540	410	Y	108.1	8.2	-48.5	21.2
6	Front Door Centerline	3260	-680	750	Y	147.6	8.8	-86.6	24.9
7	Rear Occupant Compartment				Y				**
8	Front Door Mid-Rear	2800	-680	680	Y	199.9	7.7	-123.1	14.2
9	Front Door Upper Centerline	3150	-670	960	Y	107.7	15.6	-138.3	35.0
10	Rear Door Mid-Rear				Y				**
11	Rear Door Upper Centerline				Y				**
12	B-Post Lower				Y				**
13	B-Post Middle				Y				**
14	A-Post Lower	3800	-750	600	Y	86.2	5.9	-29.3	16.1
15	A-Post Middle	3800	-750	820	Y	45.9	6.7	-10.8	16.1
16	Front Seat Track	3295	-560	480	Y	93.1	5.9	-18.0	29.1
17	Rear Seat Structure				Y				**
18	Vehicle CG	2447	0	500	X	7.4	15.6	-14.5	5.2
					Y	40.9	25.1	-11.4	60.8
					Z	15.0	13.7	-47.2	5.6
					RES	58.4	5.7		

** Not installed on 2 door vehicle

DATA SHEET NO. 14

MDB ACCELEROMETER LOCATION AND DATA SUMMARY

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 5/10/01

MDB ACCELEROMETER PEAK DATA AND LOCATIONS

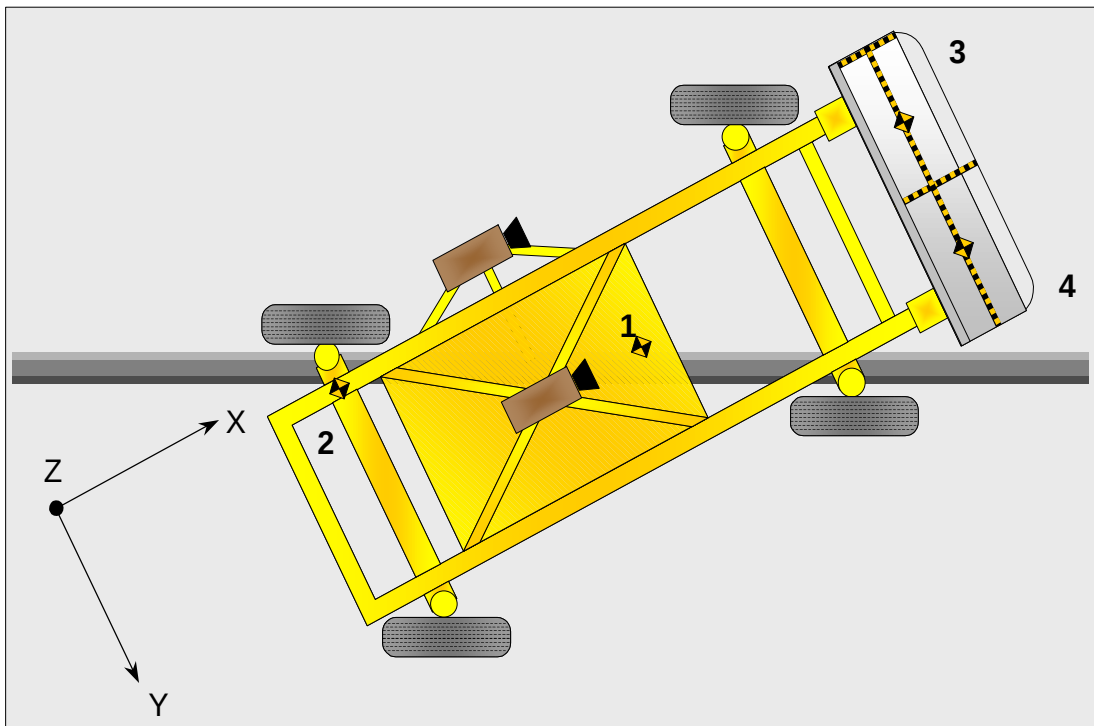
Loc. No.	Accelerometer Location	Measurements (mm)			Peak Values (G's)				
		X	Y	Z	Axis	Max	Time	Min	Time
1	MDB CG	-1195	0	430	X	2.6	183.2	-19.9	26.2
					Y	2.4	150.0	-9.1	43.1
					Z	16.5	43.7	-14.1	148.7
					RES	24.1	43.6		
2	MDB Rear	-2642	-593	608	X	1.9	111.3	-19.4	25.7
					Y	2.2	170.3	-5.3	24.1

Reference Points X - MDB Front Axle Y - MDB Centerline Z - Ground Plane

*Channels failed, no data

MDB BUMPER CONTACT SWITCH DATA

Loc. No.	Contact Switch Location	Units	Peak and 50% Crossing Point			
			Max	Time	50%	Time
3	MDB Left Bumper (T=0)	% F.S	100.0	0.0	0.0	0.0
4	MDB Right Bumper	% F.S.	101.0	29.0	50.5	2.4



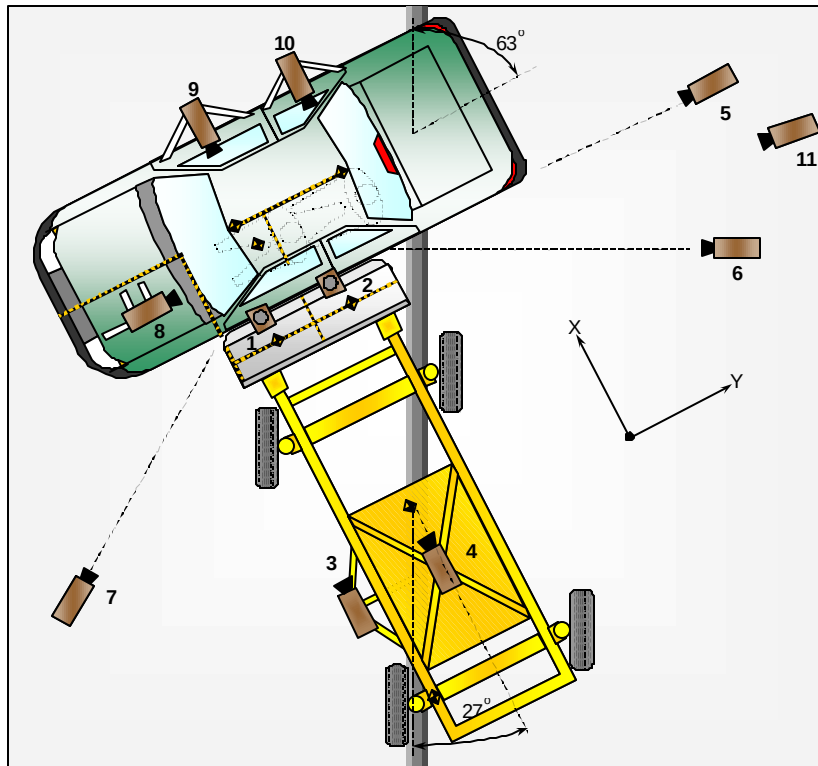
DATA SHEET NO. 15
HIGH SPEED CAMERA LOCATIONS AND DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01



No.	Camera View	Location (mm)			Angle (deg.)	Lens (mm)	Film Speed (fr./sec.)
		X	Y	Z			
1	Overhead Overall	1650		5486	-86	10	
2	Overhead Close-up	-760	0	5790	-82	24	
3	MDB Onboard, Impact Point Close-Up	-2130	0	1140	-7	13	
4	MDB Onboard, Centerline of Impact	-3050	-1650	1830	-11	13	
5	Right Side, Ground Level, Overall	9140	-18290	2210	-1	25	
6	Right Side, Ground Level, Close-up	0	-18900	1520	0	60	
7	Left Side, Ground Level, Close-up	2360	-5410	1450	-6	13	
8	Vehicle Onboard Front SID, Front	240	230	1230	-10	13	
9	Vehicle Onboard Front SID, Side	1970	-160	940	-8	10	
10	Vehicle Onboard Rear SID, Side	No Rear SID					
11	Front View In-Line with Track	N/A	N/A	N/A	N/A	N/A	16
12	Real Time Coverage	N/A	N/A	N/A	N/A	N/A	16

DATA SHEET NO. 16
FMVSS 301 FUEL SYSTEM INTEGRITY POST IMPACT DATA

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

Test Date: 05/10/01

Test Time: 11:18 PM

Temperature at Time of Impact: 32.7 °C

STODDARD SOLVENT SPILLAGE MEASUREMENTS

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

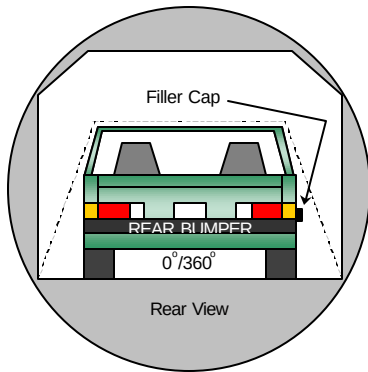
DATA SHEET NO. 17
FMVSS 301 STATIC ROLLOVER DATA SHEET

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

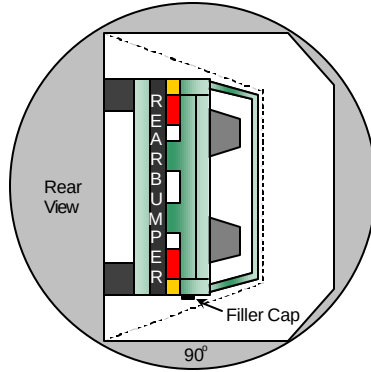
NHTSA No.: TOY002

Test Program: 55/28 km/h 90° Side Impact NCAP

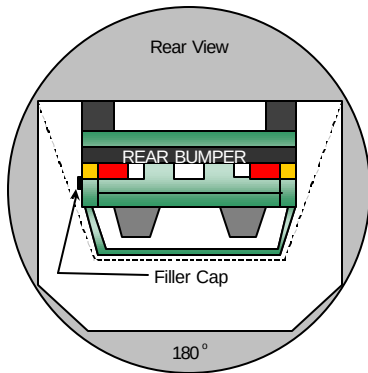
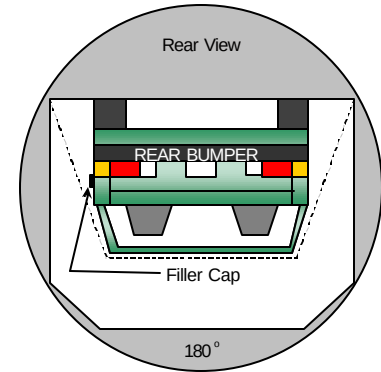
Test Date: 05/10/01



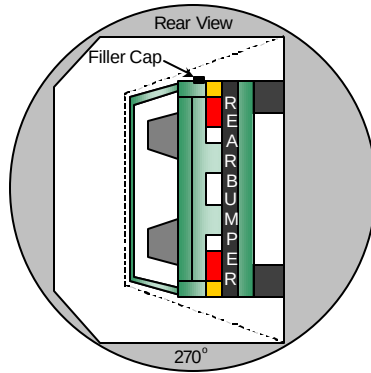
0° TO 90°



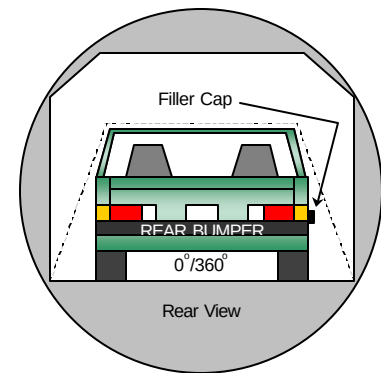
90° TO 180°



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. Details of Stoddard Solvent spillage locations:

No solvent leakage occurred during static rollover testing.

Test Phase	Rotation Time (sec.)	Hold Time (sec.)	Spillage (oz.)
0° TO 90°	82	300	0.0
90° TO 180°	78	300	0.0
180° TO 270°	80	300	0.0
270° TO 360°	79	300	0.0

APPENDIX A
PHOTOGRAPHS

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Figure A-1: Left Front, as Received



Figure A-2: Right Rear, as Received



MFD BY TOYOTA MOTOR MANUFACTURING CALIFORNIA, INC.
GVWR (LBS) : 4500
GAWR (LBS) : FRT. 2200 WITH P205/75R15 TIRES.
15X6J RIMS, AT 29PSI COLD.

RR. 2500 WITH P205/75R15 TIRES.
15X6J RIMS, AT 29PSI COLD.

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

STEVL52N112788520 TRUCK

RZN150L-CRPDKAB
C/TR 6Q7/FB10
A/TM A08A/
A44D



Figure A-3: Vehicle Certification Label



Figure A-4: Vehicle Tire Label



Figure A-5: Front View, Pre-Test



Figure A-6: Front View, Post-Test



Figure A-7: Rear View, Pre-Test



Figure A-8: Rear View, Post-Test



Figure A-9: Left (Impacted) Side View, Pre-Test



Figure A-10: Left (Impacted) Side View, Post-Test



Figure A-11: Overall Overhead View (At Impact Position), Pre-Test



Figure A-12: Overall Overhead View, Pre-Test



Figure A-13: Overall Overhead View, Post-Test



Figure A-14: MDB Left Side View (At Impact Position), Pre-Test



Figure A-15: MDB Right Side View (At Impact Position), Pre-Test



Figure A-16: Impact Point Target Close-up, Pre-Test



Figure A-17: Impact Point Target Close-up, Post-Test



Figure A-18: Driver Dummy Left Side (Door Open), Pre-Test



Figure A-19: Driver Dummy Left Side, Pre-test



Figure A-20: Driver Dummy Left Side, Post-Test



Figure A-21: Driver Dummy Clearance, Pre-Test



Figure A-22: Driver Dummy Clearance, Post-Test



Figure A-23: Driver Dummy (Inside View), Pre-Test



Figure A-24: Driver Dummy (Inside View), Post-Test



Figure A-25: Driver Door (Inside View), Pre-Test



Figure A-26: Driver Dummy Contact Points (Inside View), Post-Test



Figure A-27: Front View of Deformable Barrier, Pre-Test



Figure A-28: Front View of Deformable Barrier, Post-Test

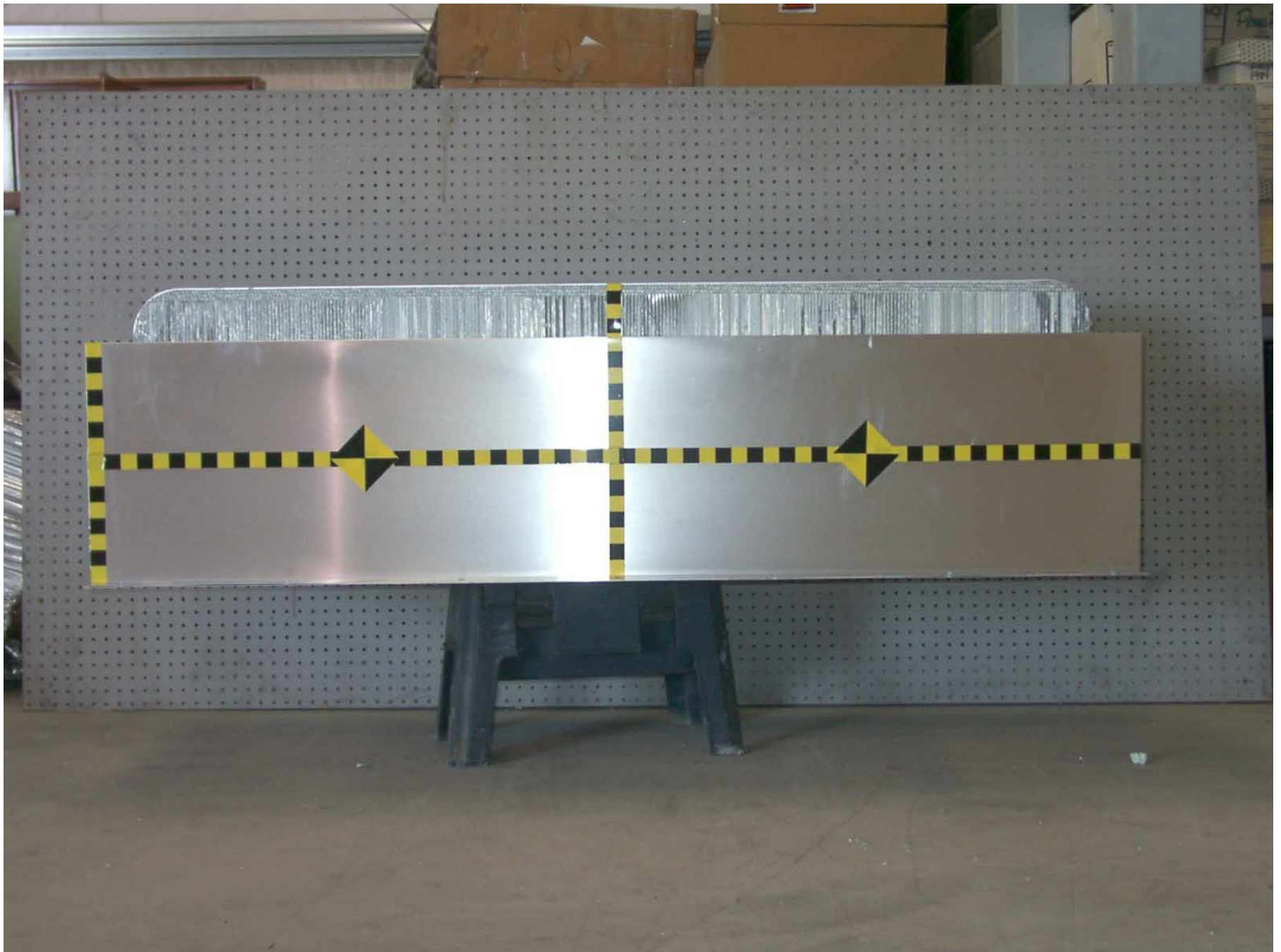


Figure A-29: Top View of Deformable Barrier, Pre-Test



Figure A-30: Top View Deformable Barrier, Post-Test



Figure A-31: Right Side of Deformable Barrier, Pre-Test



Figure A-32: Right Side of Deformable Barrier, Post-Test



Figure A-33: Left Side of Deformable Barrier, Pre-Test



Figure A-34: Left Side of Deformable Barrier, Post-Test



Figure A-35: Vehicle on Rollover Device (Top View)



Figure A-36: Vehicle During Impact

APPENDIX B
SID, VEHICLE, AND MDB RESPONSE DATA

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LIST OF DATA PLOTS, VEHICLE

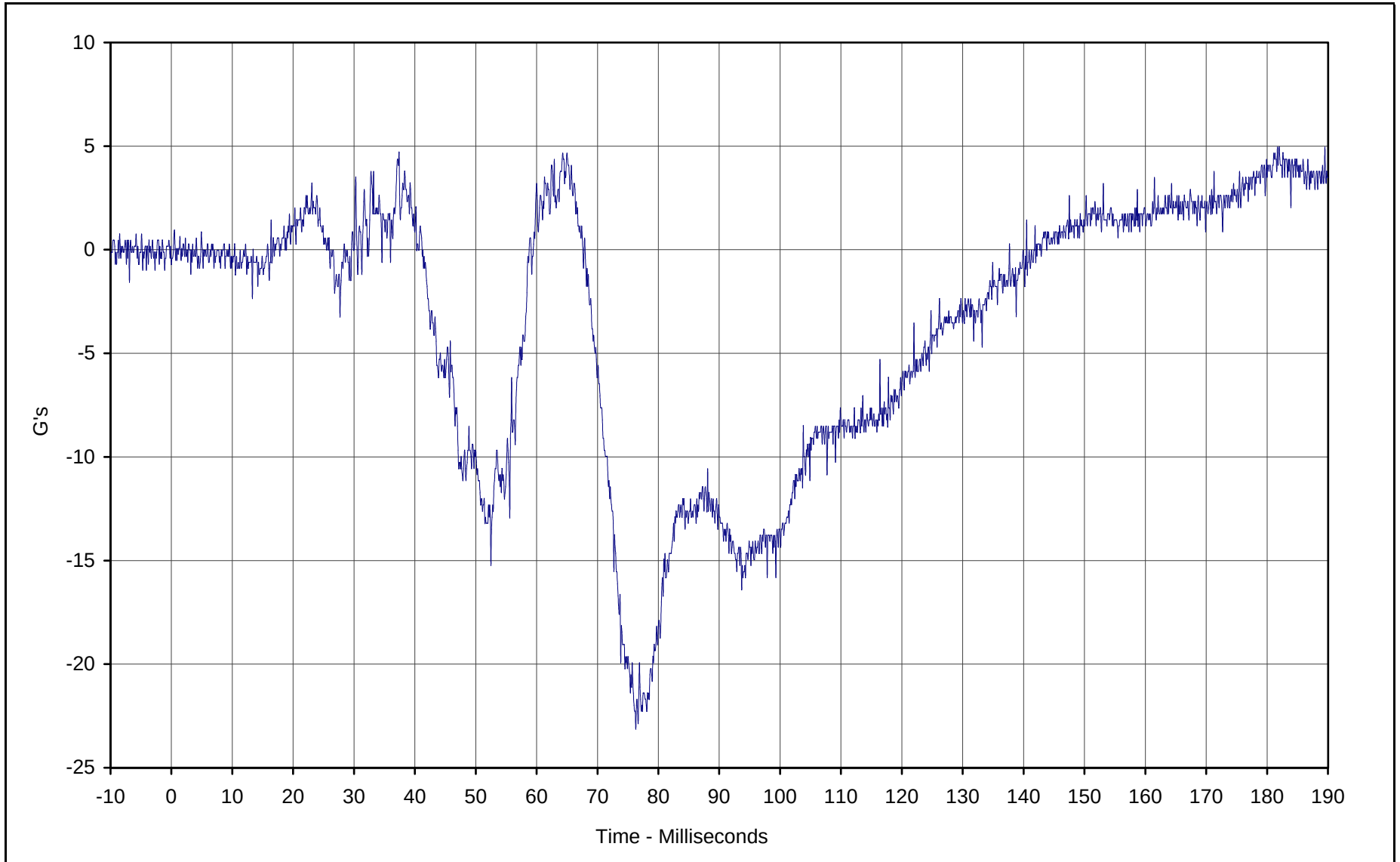
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Curve Description: Driver Head CG X

Maximum Value: 5.0 at 181.7 Milliseconds

Minimum Value: -23.1 at 76.3 Milliseconds

SAE Filter Class: 1000

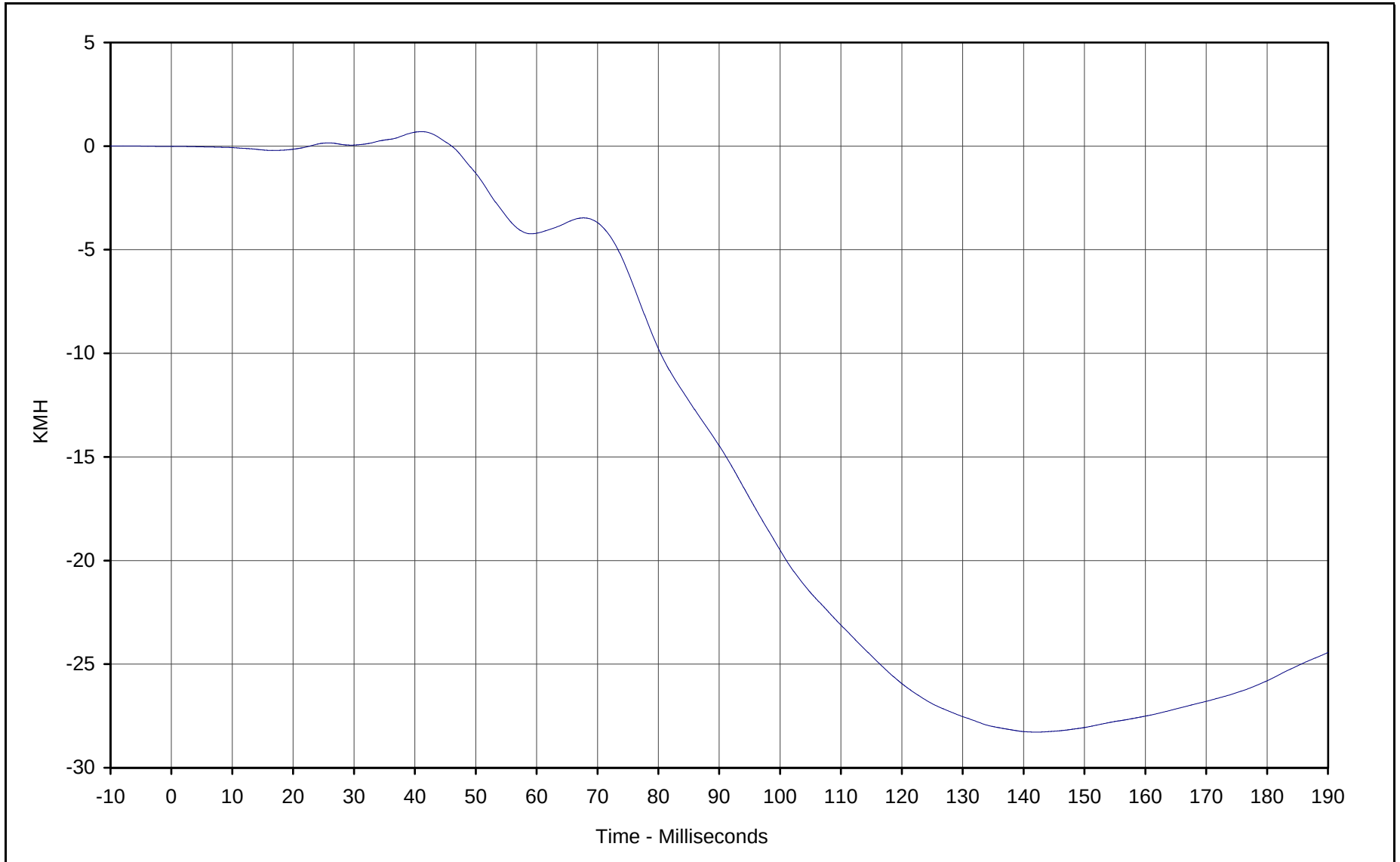
Date of Test: 5/10/01

Curve Number: FIL-001

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

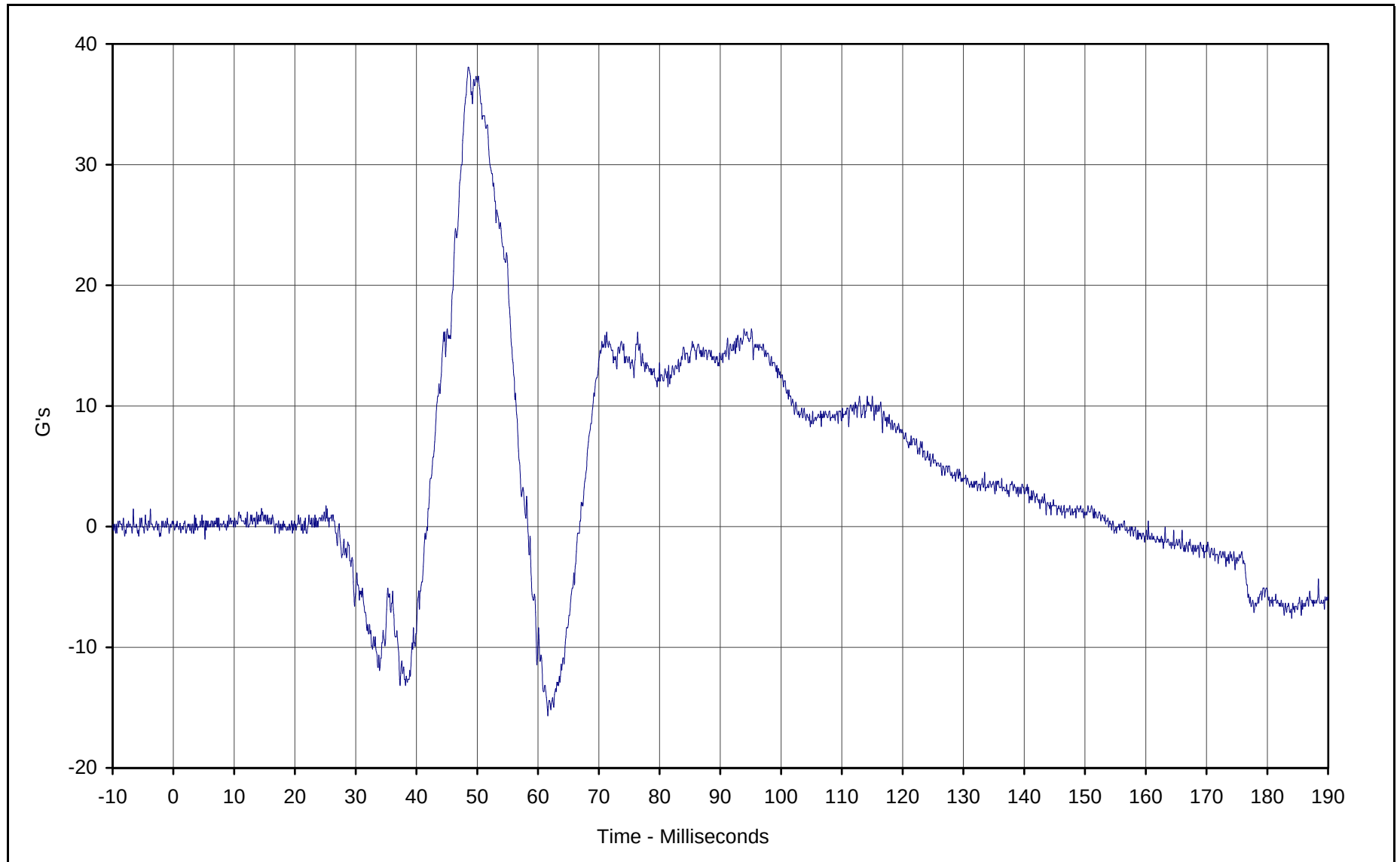




Curve Description: Driver Head CG X Velocity
Maximum Value: 0.7 at 41.1 Milliseconds
Minimum Value: -28.3 at 142.0 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-001

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

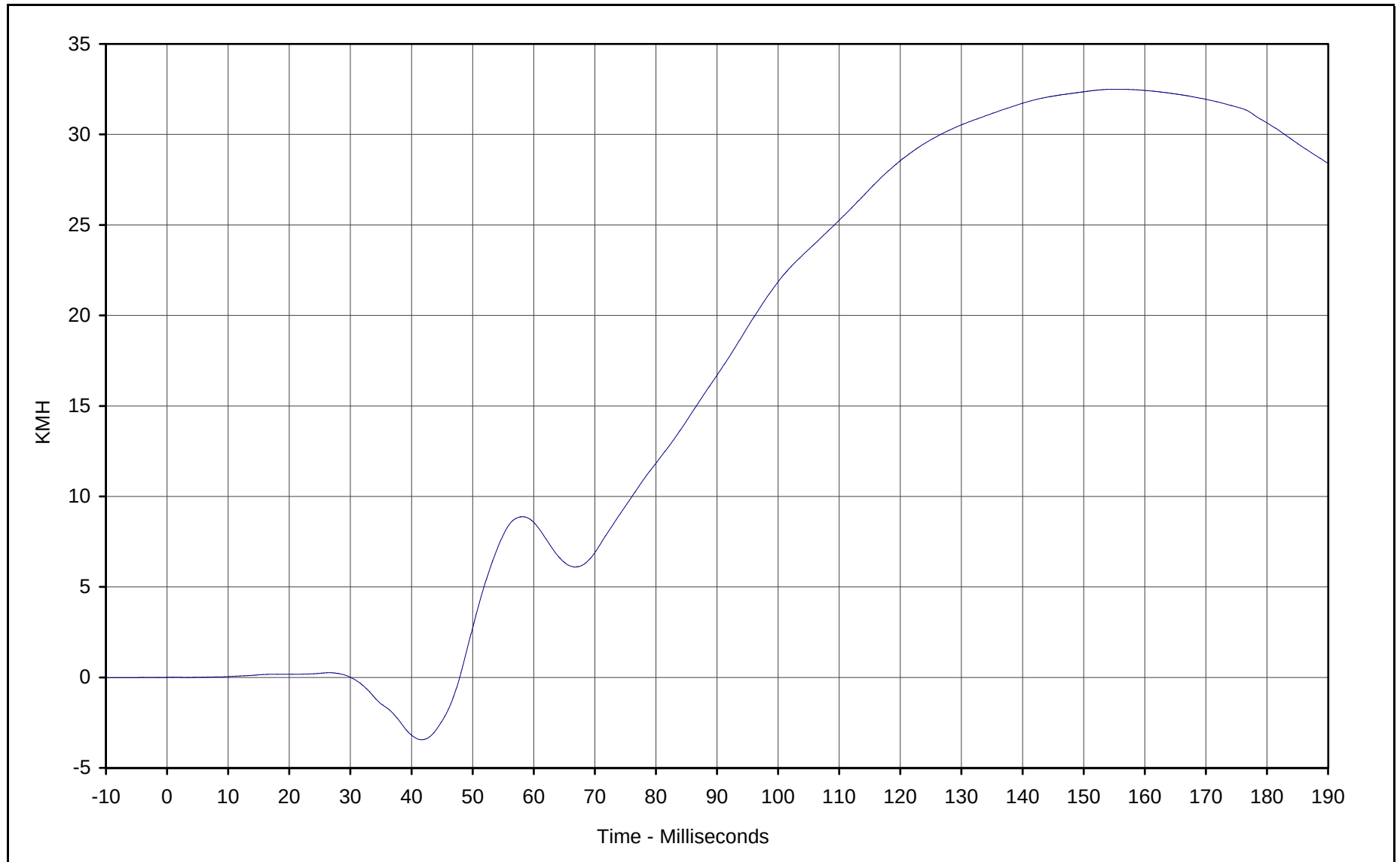




Curve Description: Driver Head CG Y
Maximum Value: 38.1 at 48.5 Milliseconds
Minimum Value: -15.7 at 61.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-002

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

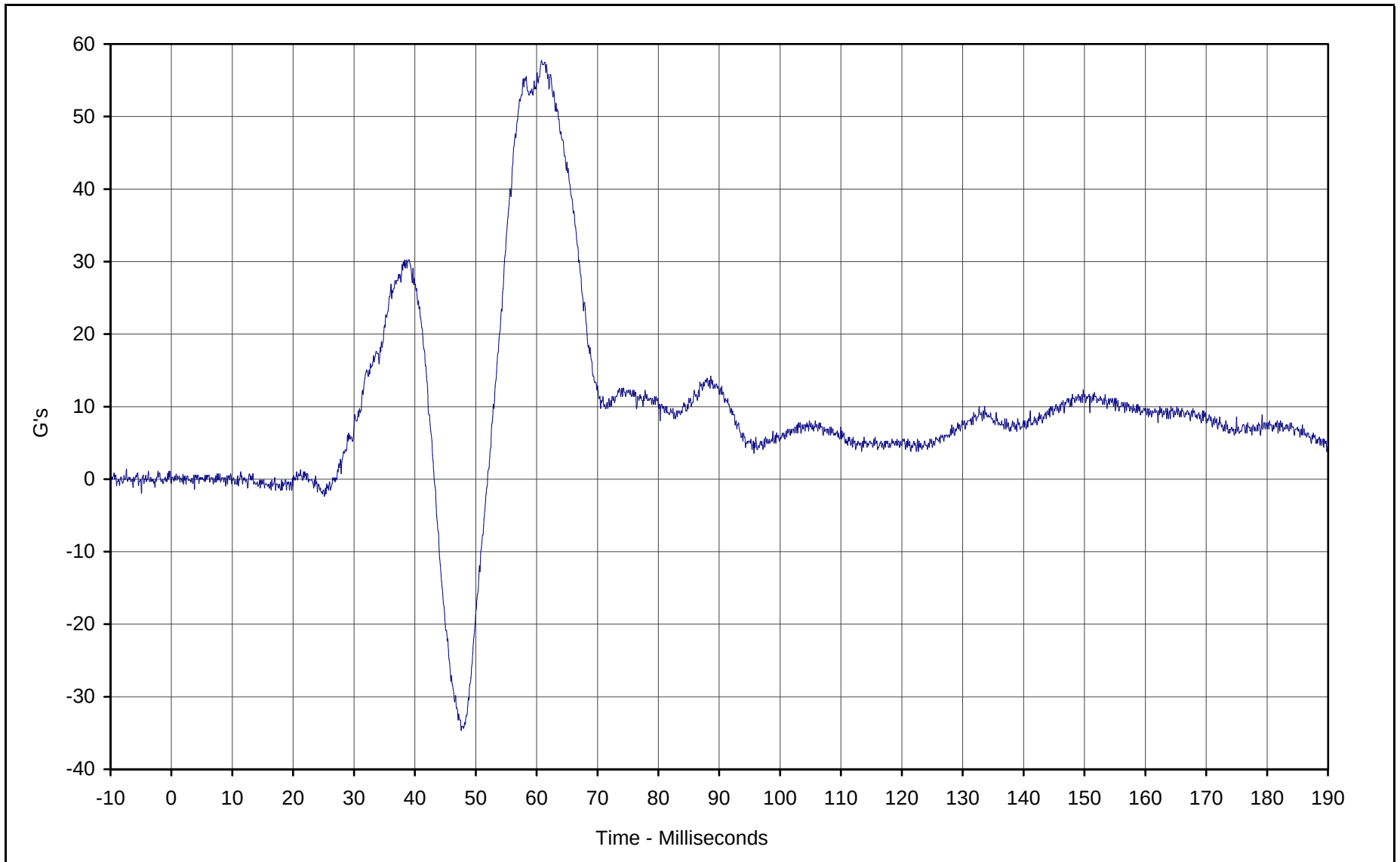




Curve Description: Driver Head CG Y Velocity
Maximum Value: 32.5 at 154.7 Milliseconds
Minimum Value: -3.4 at 41.7 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-002

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

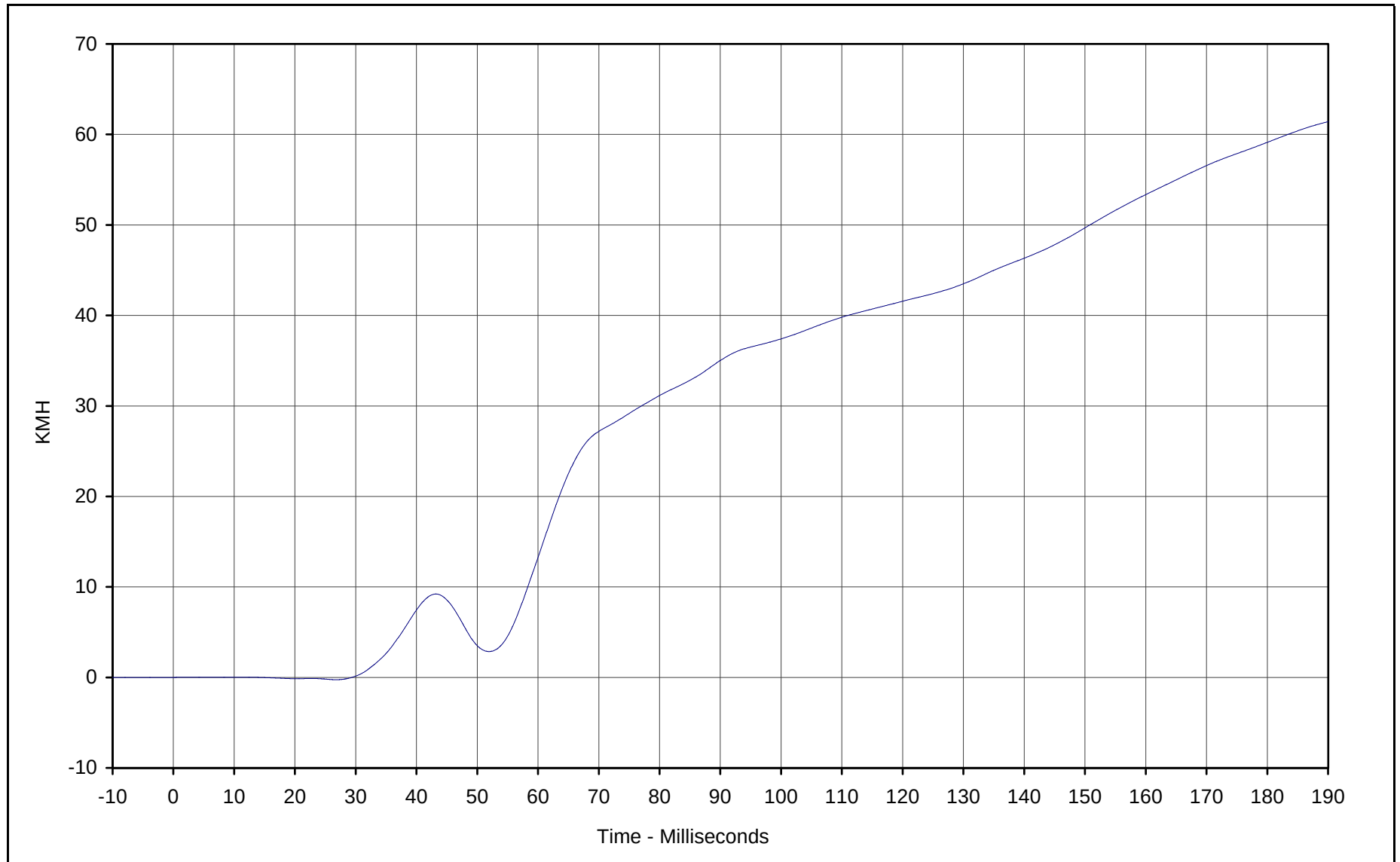




Curve Description: Driver Head CG Z
Maximum Value: 57.7 at 60.8 Milliseconds
Minimum Value: -34.6 at 47.6 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-003

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

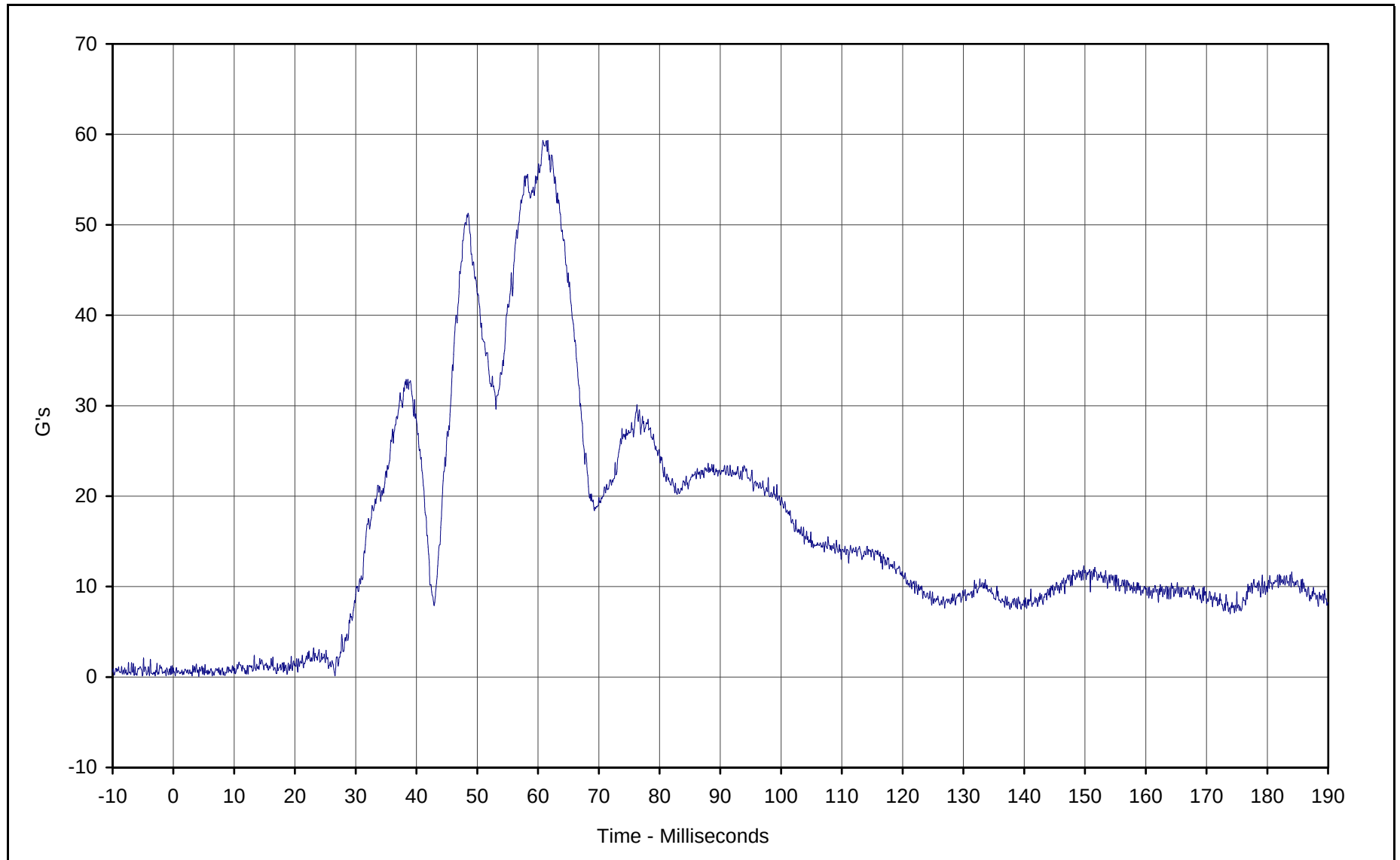




Curve Description: Driver Head CG Z Velocity
Maximum Value: 61.4 at 189.9 Milliseconds
Minimum Value: -0.3 at 26.8 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-003

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

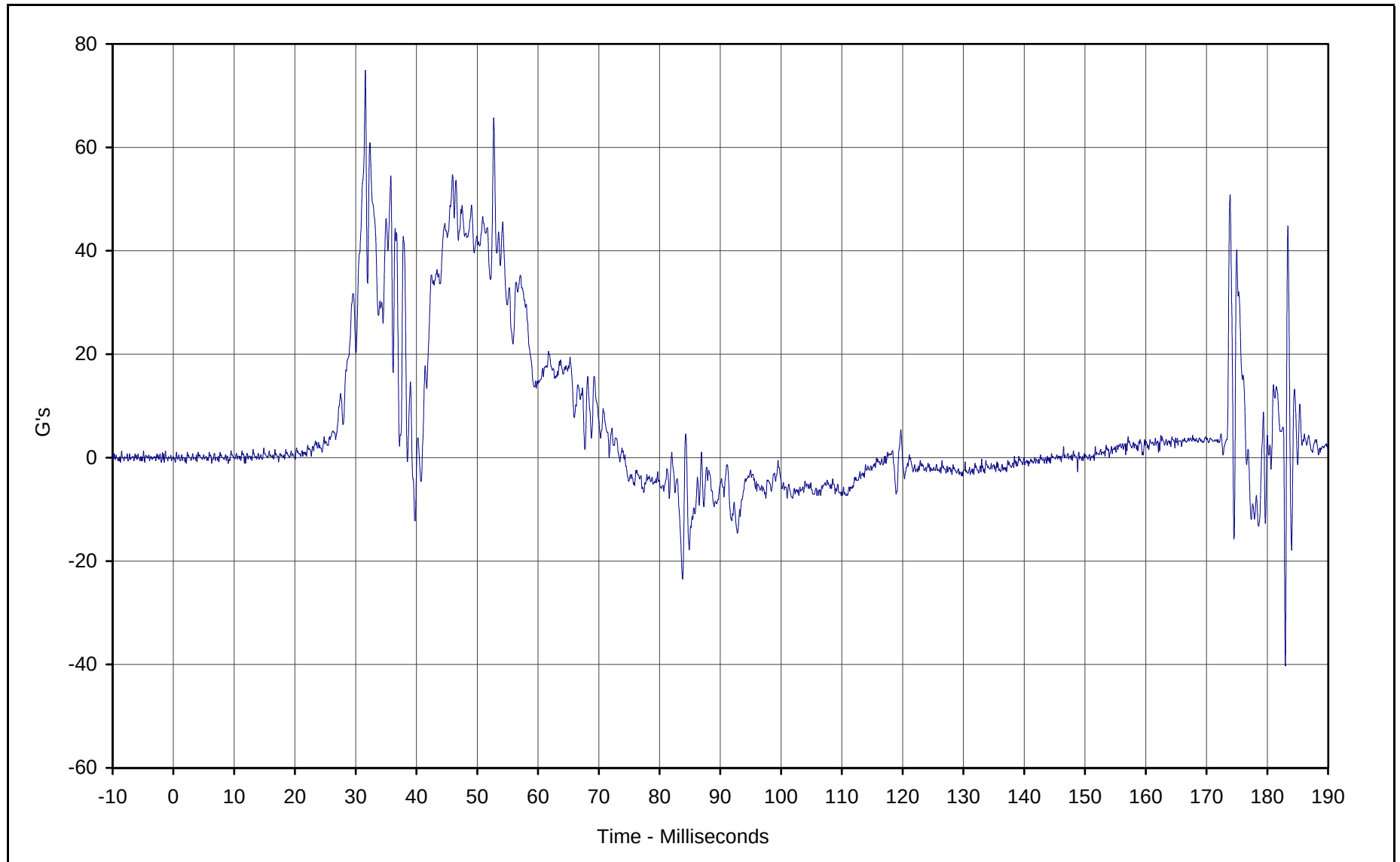




Curve Description: Driver Head CG Resultant
Maximum Value: 59.4 at 61.6 Milliseconds
Minimum Value: 0.1 at 4.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: RES-001

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

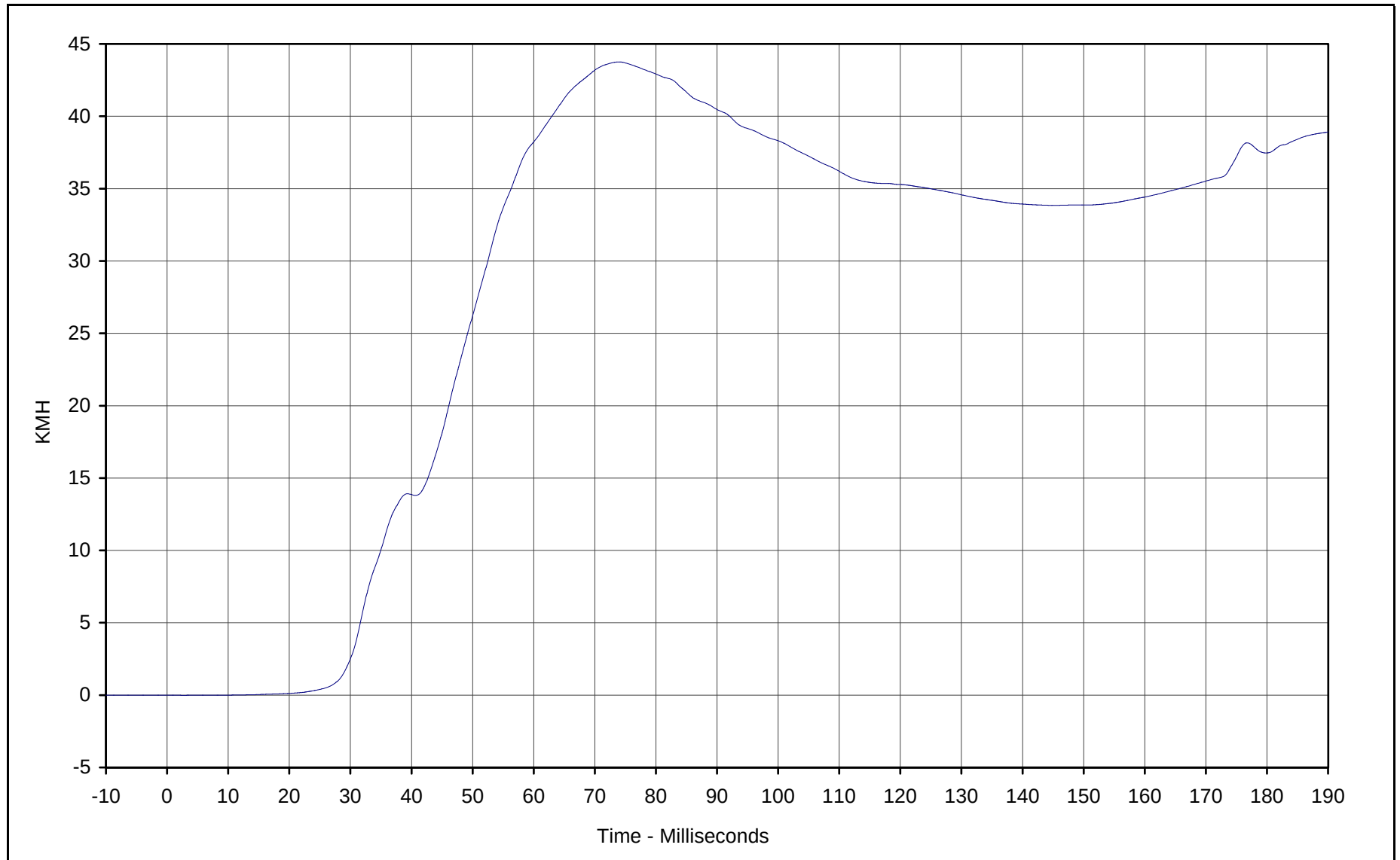




Curve Description: Driver Upper Rib Primary Y
Maximum Value: 74.8 at 31.6 Milliseconds
Minimum Value: -40.0 at 183.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-004

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Driver Upper Rib Primary Y Velocity

Maximum Value: 43.8 at 74.0 Milliseconds

Minimum Value: 0.0 at 2.7 Milliseconds

SAE Filter Class: 180

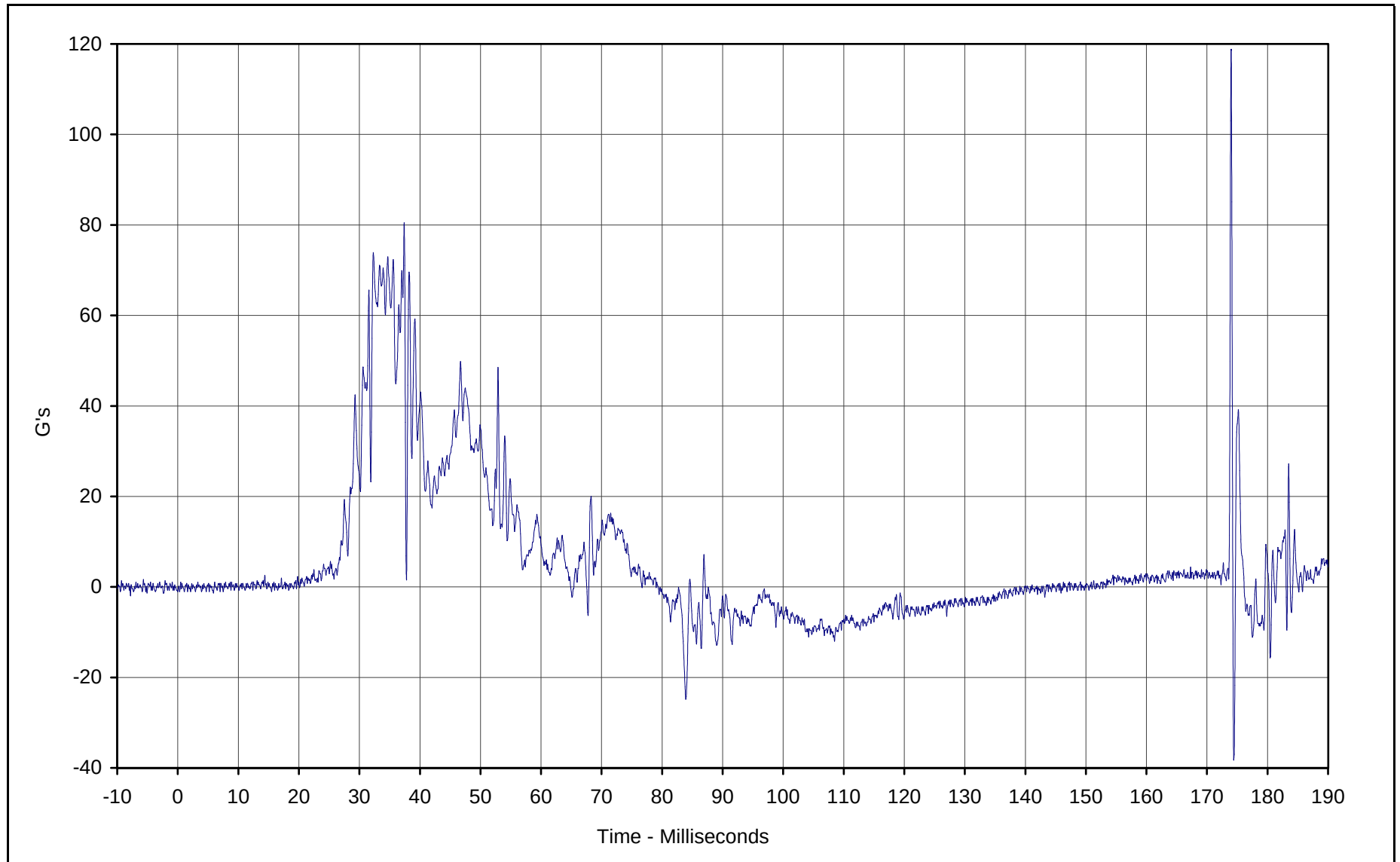
Date of Test: 5/10/01

Curve Number: IN1-004

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

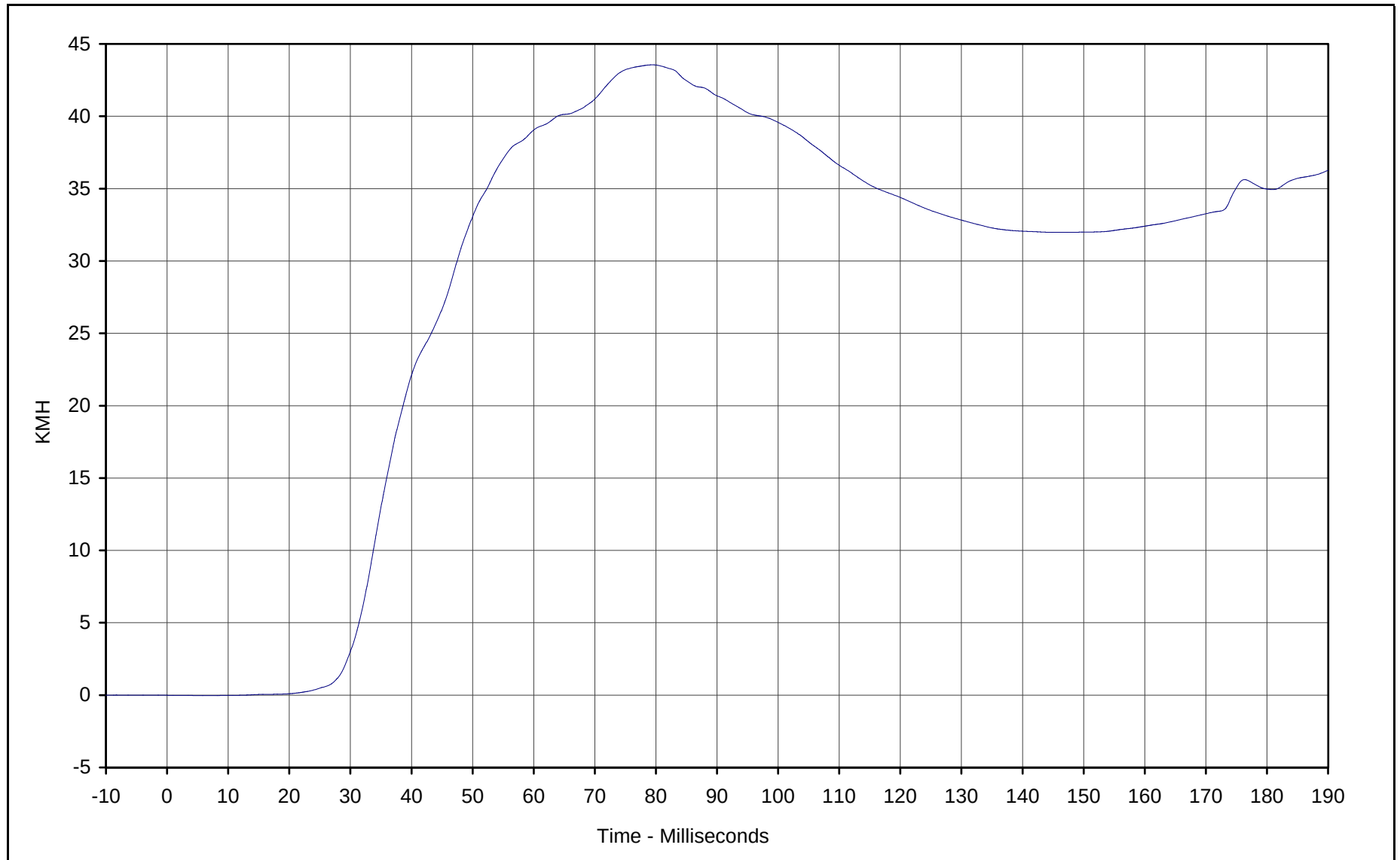




Curve Description: Driver Lower Rib Primary Y
Maximum Value: 118.6 at 174.0 Milliseconds
Minimum Value: -38.2 at 174.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-005

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Driver Lower Rib Primary Y Velocity

Maximum Value: 43.6 at 79.4 Milliseconds

Minimum Value: 0.0 at 6.6 Milliseconds

SAE Filter Class: 180

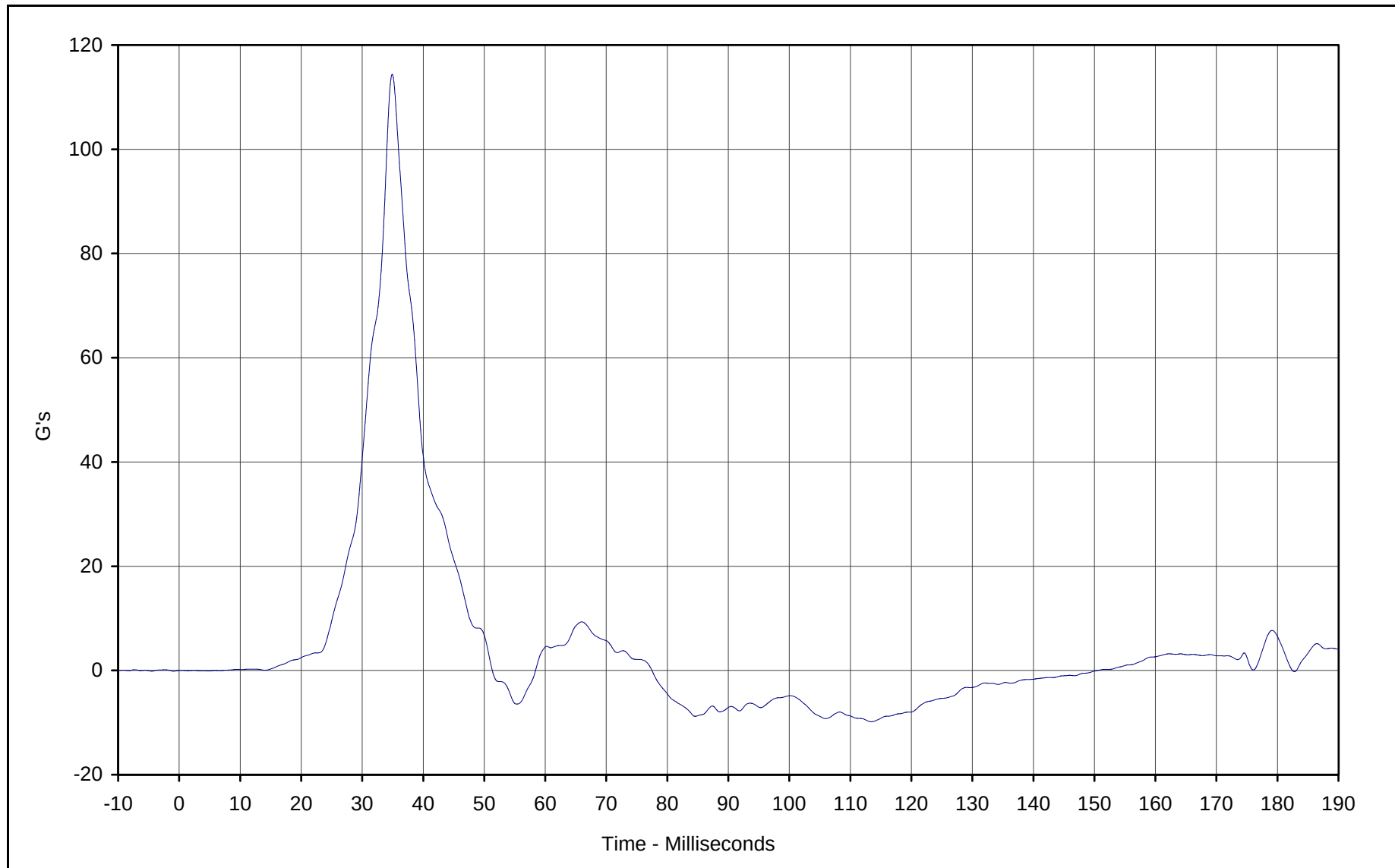
Date of Test: 5/10/01

Curve Number: IN1-005

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

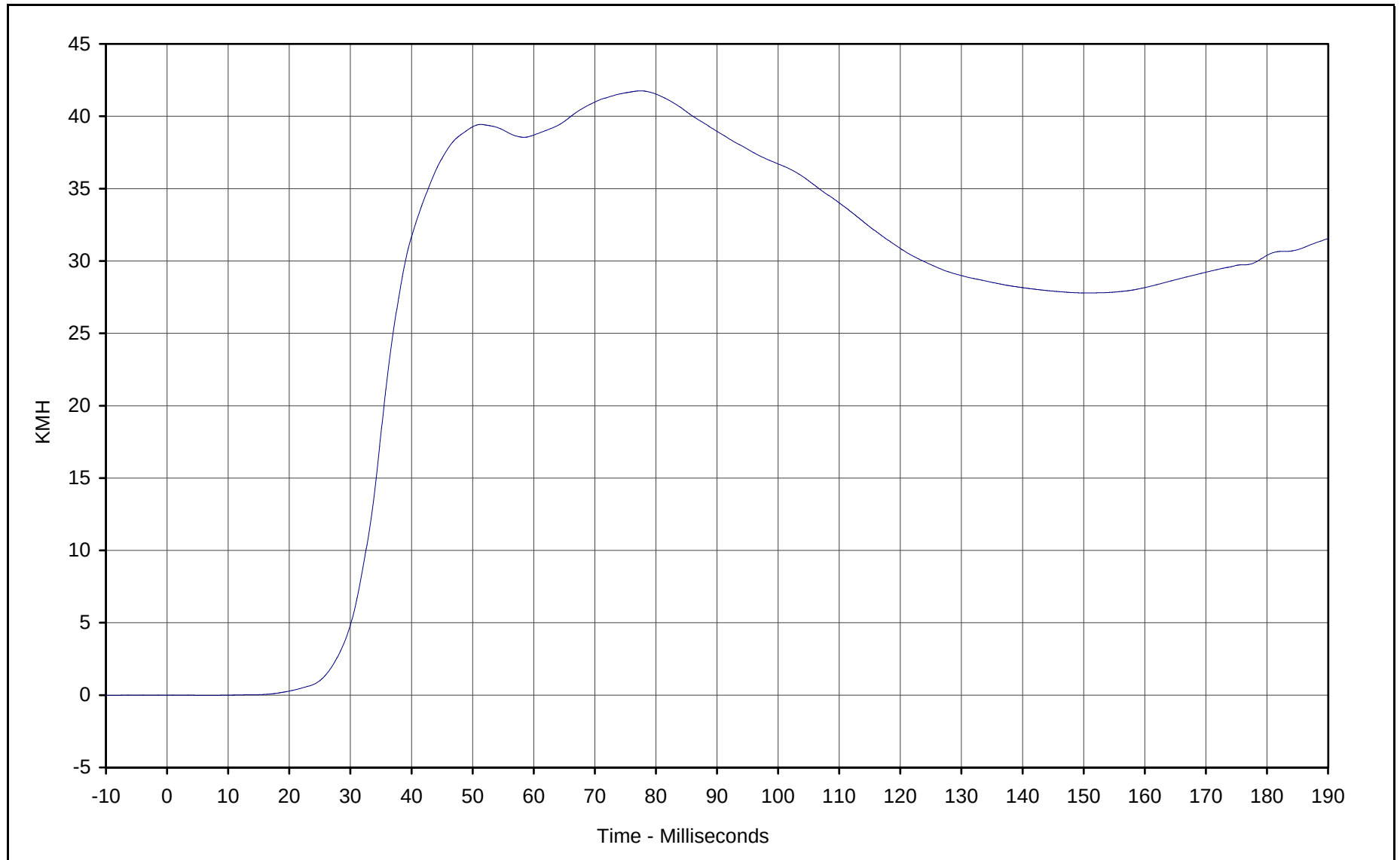




Curve Description: Driver Lower Spine Primary Y
Maximum Value: 114.4 at 34.9 Milliseconds
Minimum Value: -9.8 at 113.5 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: FIL-006

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Driver Lower Spine Primary Y Velocity

Maximum Value: 41.8 at 77.5 Milliseconds

Minimum Value: 0.0 at 7.1 Milliseconds

SAE Filter Class: 180

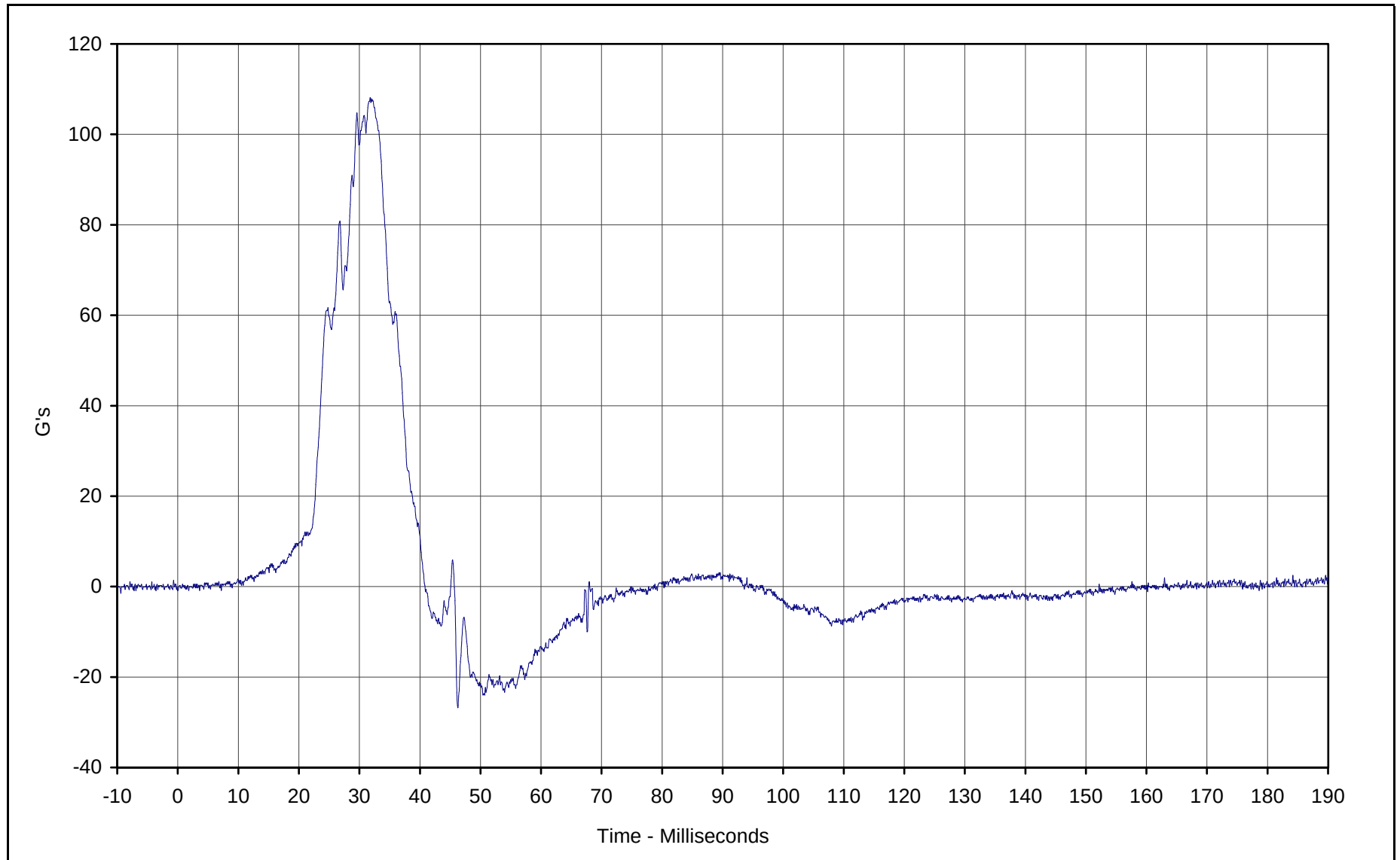
Date of Test: 5/10/01

Curve Number: IN1-006

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

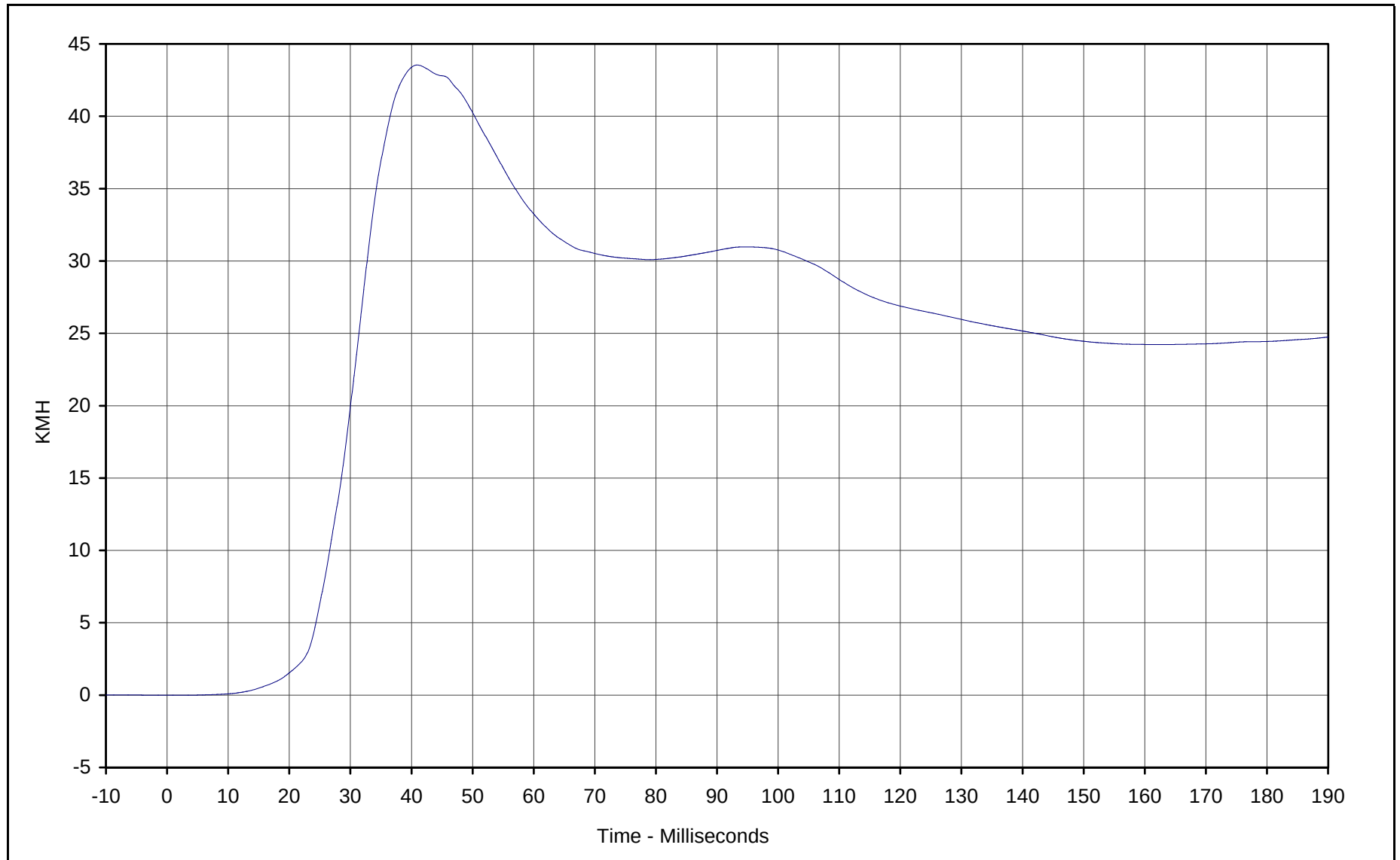




Curve Description: Driver Pelvis Primary Y
Maximum Value: 108.2 at 31.8 Milliseconds
Minimum Value: -26.8 at 46.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-007

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

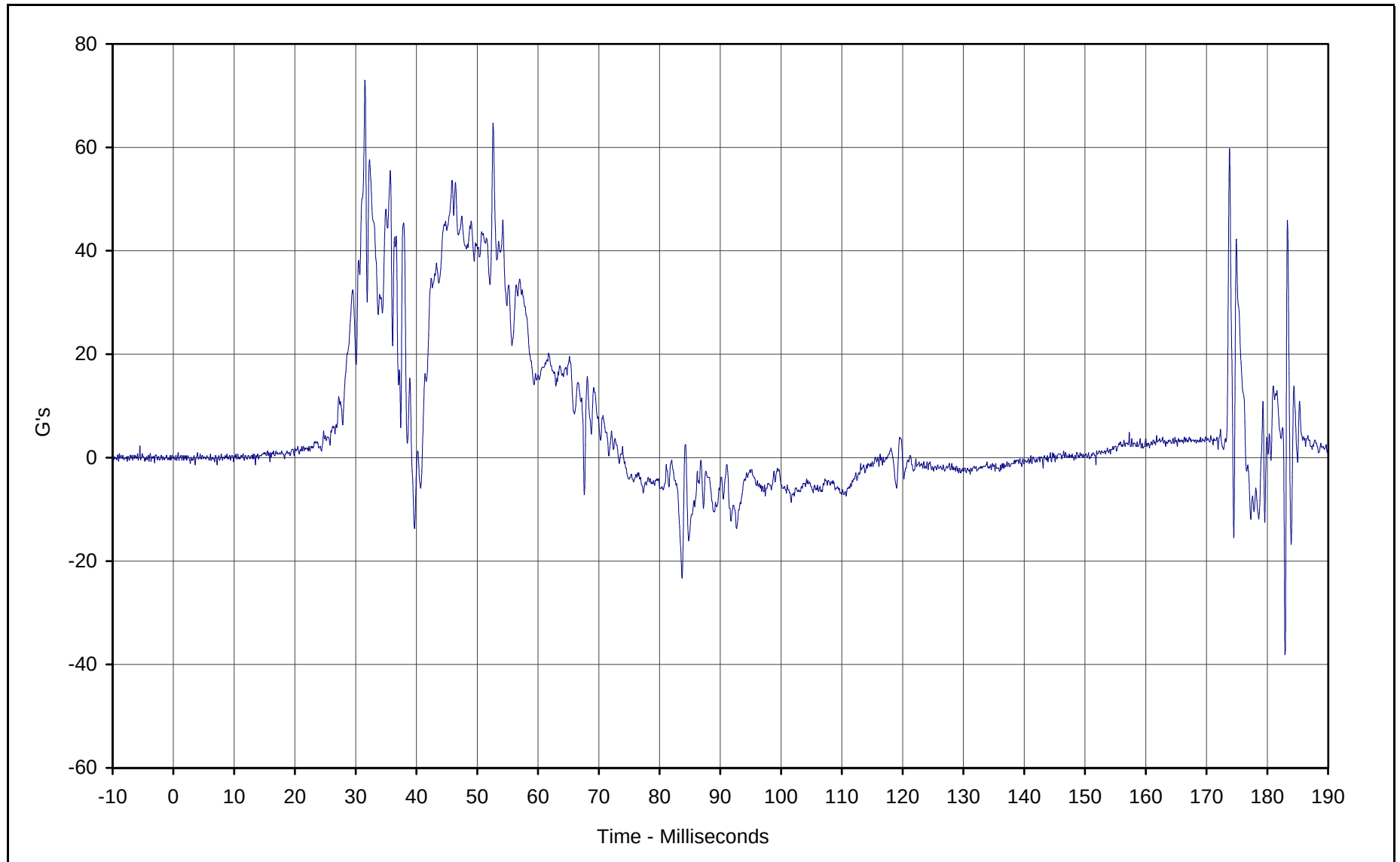




Curve Description: Driver Pelvis Primary Y Velocity
Maximum Value: 43.5 at 40.9 Milliseconds
Minimum Value: 0.0 at 2.6 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-007

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

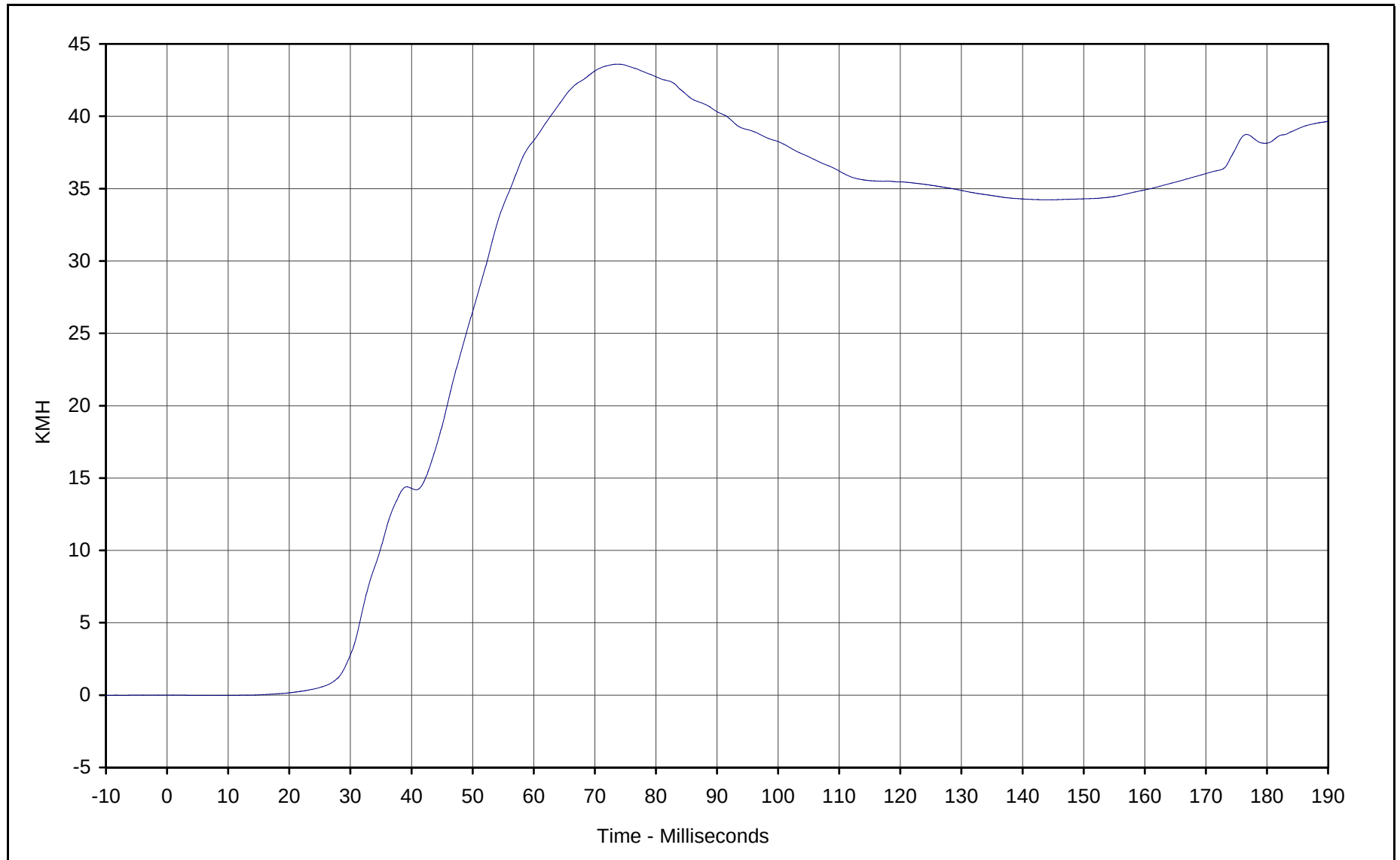




Curve Description: Driver Upper Rib Redundant Y
Maximum Value: 72.9 at 31.5 Milliseconds
Minimum Value: -38.0 at 182.9 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-008

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Driver Upper Rib Redundant Y Velocity

Maximum Value: 43.6 at 73.8 Milliseconds

Minimum Value: 0.0 at 8.0 Milliseconds

SAE Filter Class: 180

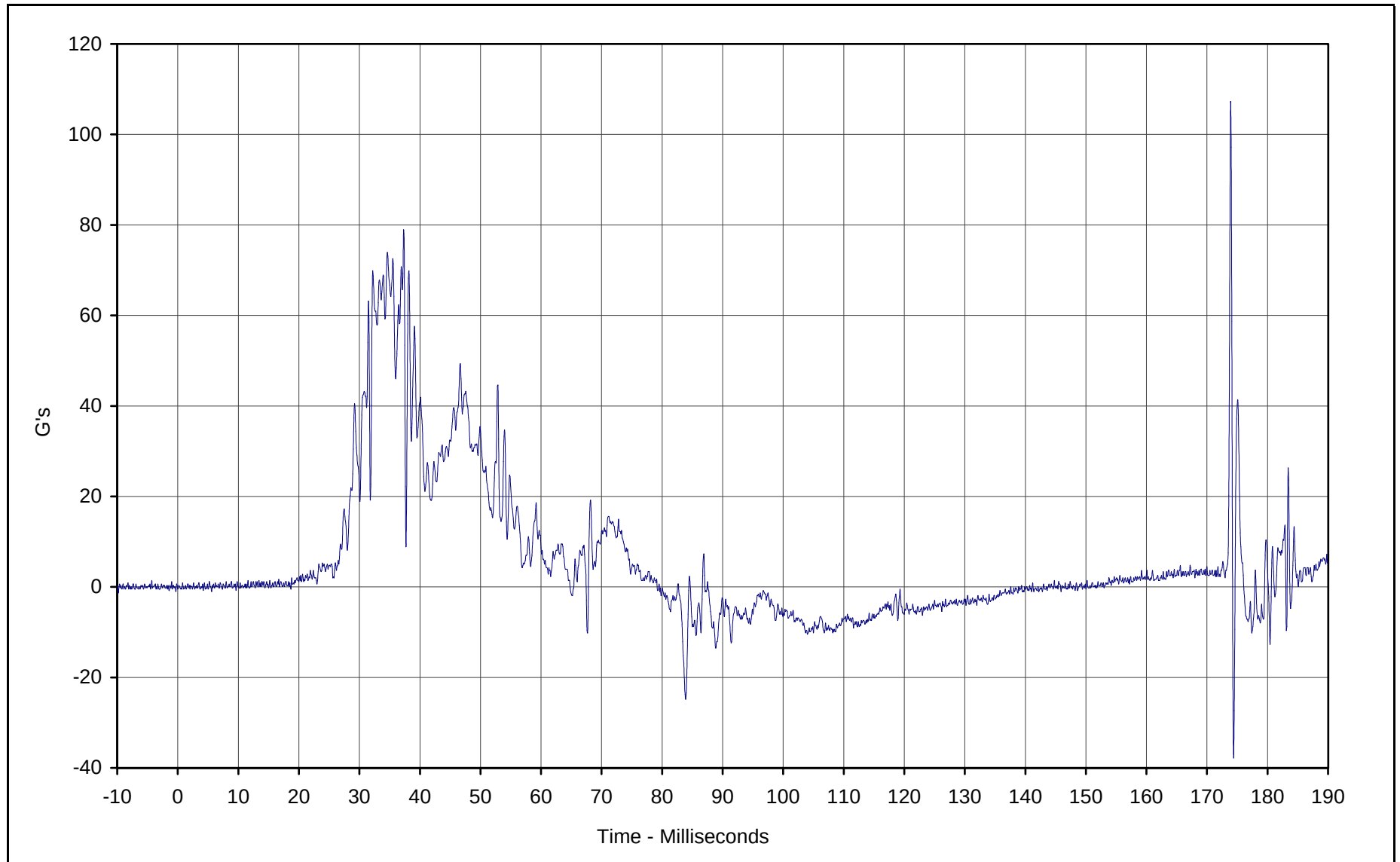
Date of Test: 5/10/01

Curve Number: IN1-008

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

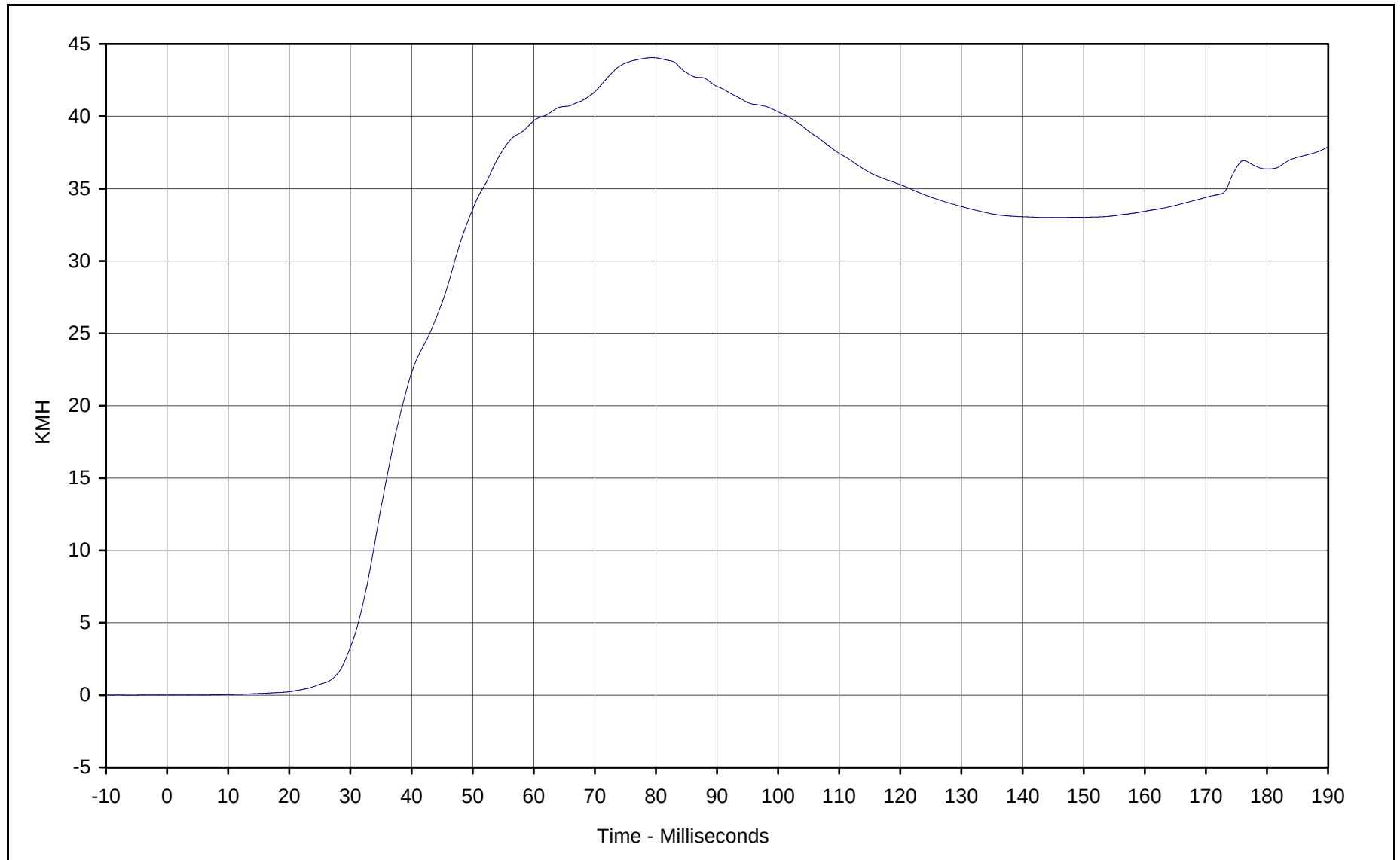




Curve Description: Driver Lower Rib Redundant Y
Maximum Value: 107.1 at 173.9 Milliseconds
Minimum Value: -37.8 at 174.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-009

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Driver Lower Rib Redundant Y Velocity

Maximum Value: 44.1 at 79.4 Milliseconds

Minimum Value: 0.0 at 1.4 Milliseconds

SAE Filter Class: 180

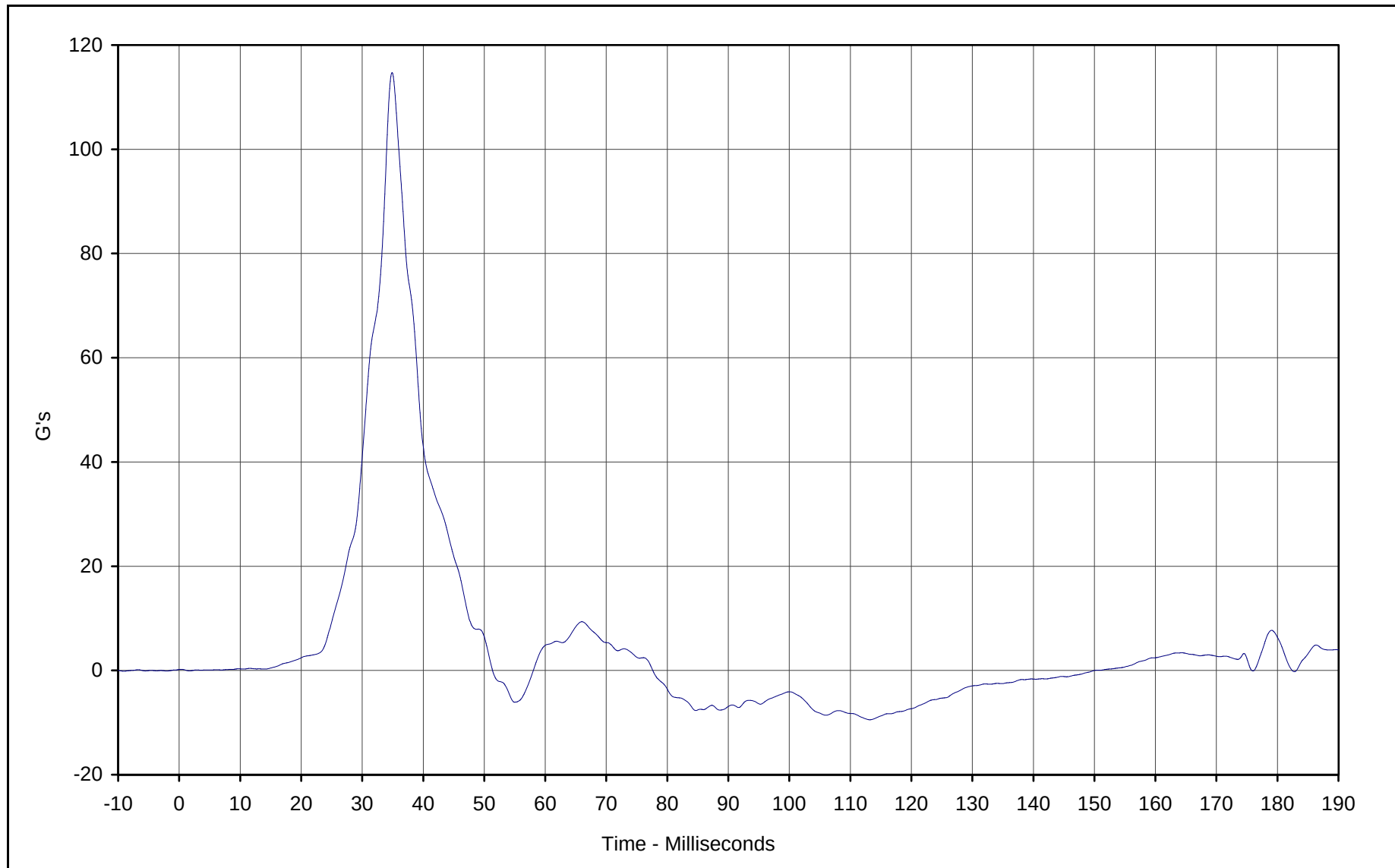
Date of Test: 5/10/01

Curve Number: IN1-009

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

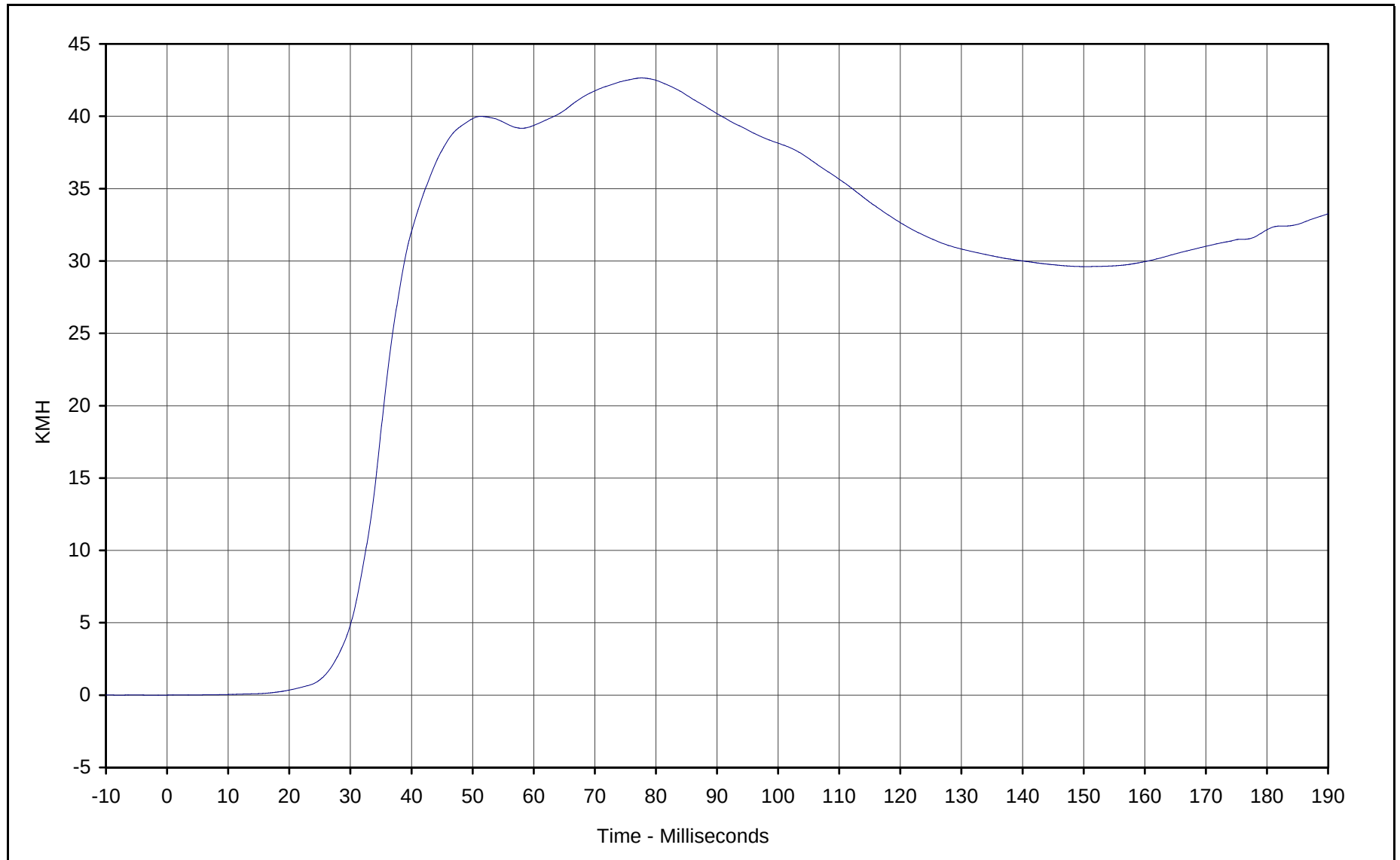




Curve Description: Driver Lower Spine Redundant Y
Maximum Value: 114.7 at 34.9 Milliseconds
Minimum Value: -9.5 at 113.2 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: FIL-010

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Driver Lower Spine Redundant Y Velocity

Maximum Value: 42.6 at 77.6 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

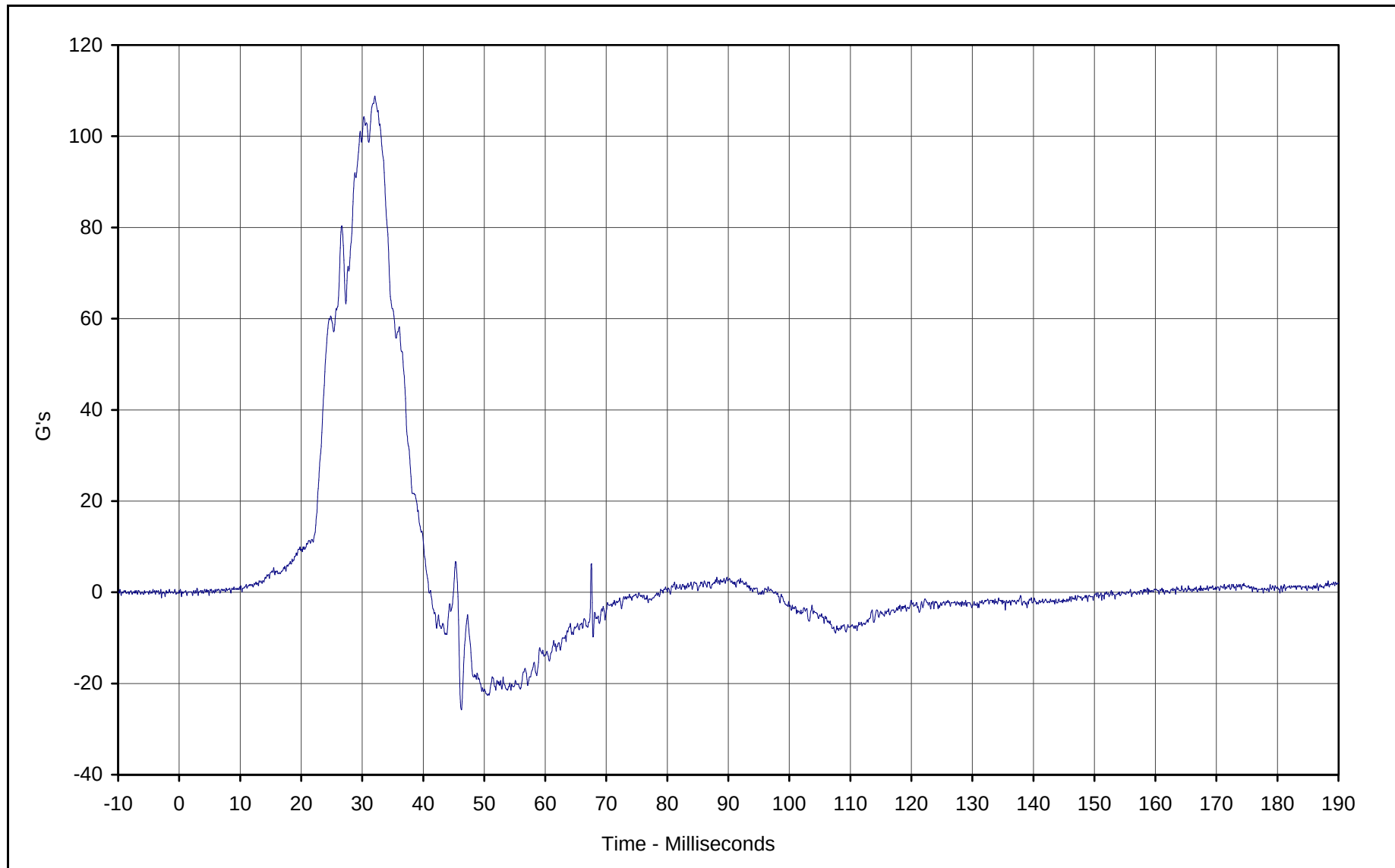
Date of Test: 5/10/01

Curve Number: IN1-010

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

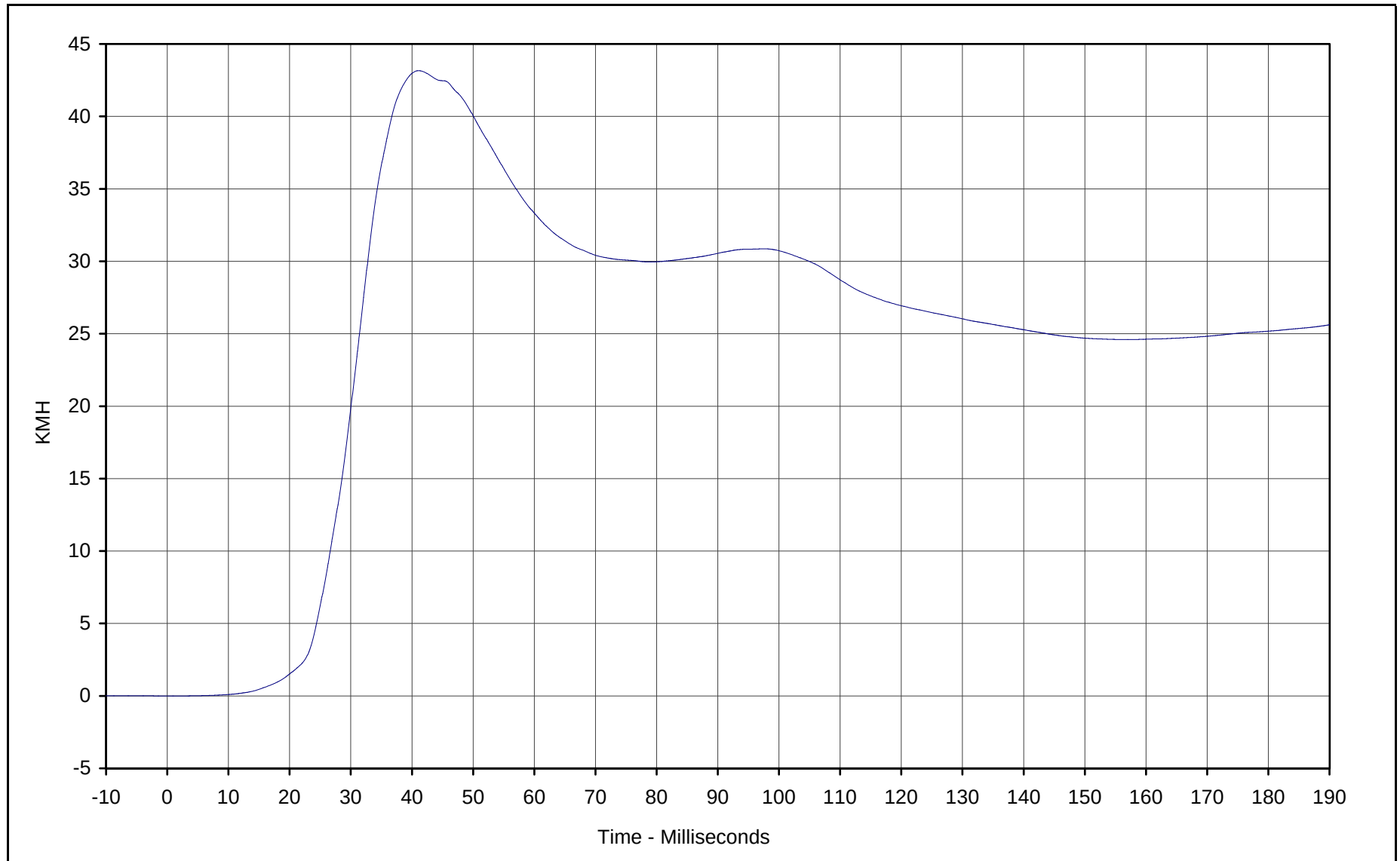




Curve Description: Driver Pelvis Redundant Y
Maximum Value: 108.8 at 32.1 Milliseconds
Minimum Value: -25.8 at 46.3 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-011

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

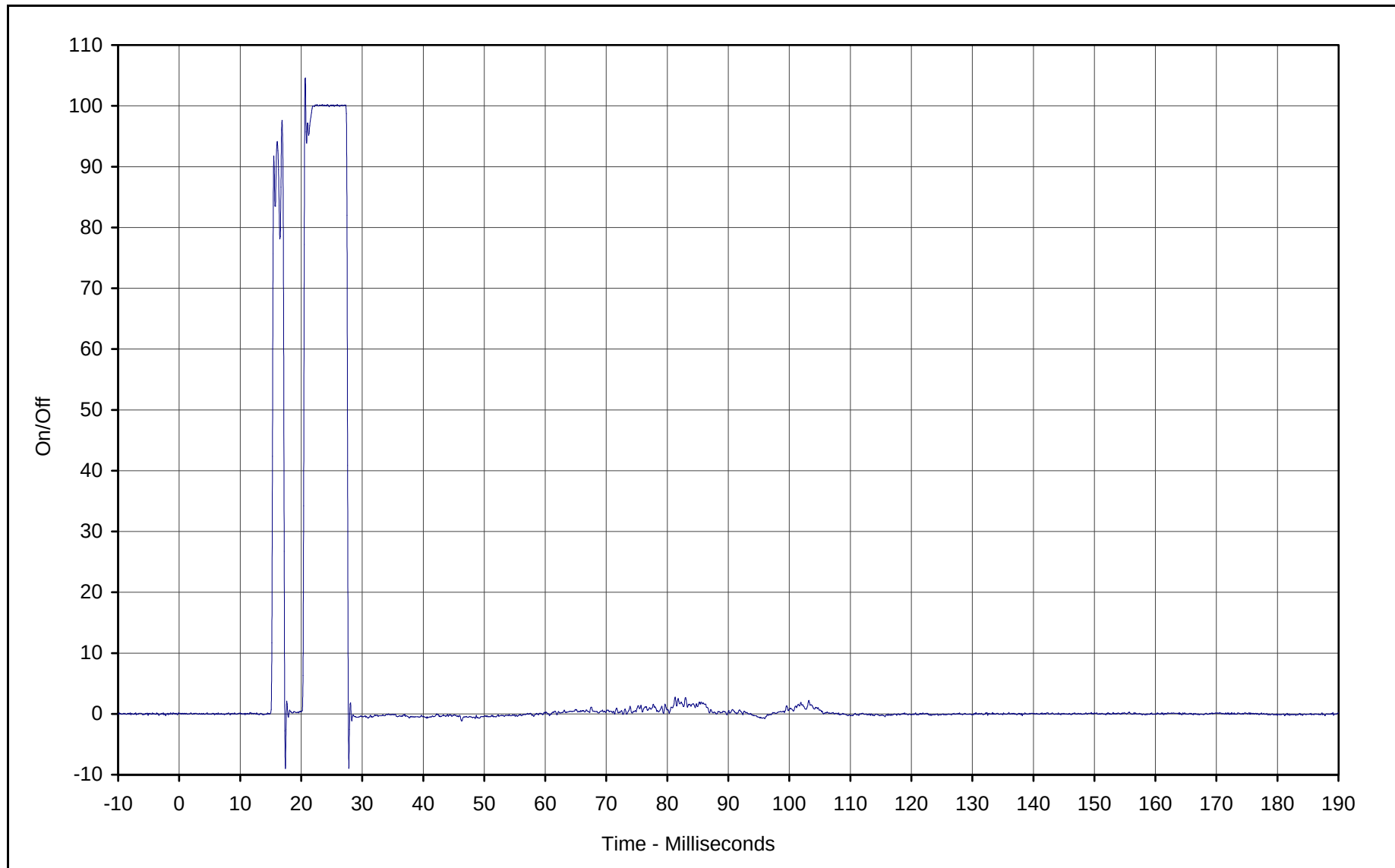




Curve Description: Driver Pelvis Redundant Y Velocity
Maximum Value: 43.2 at 41.1 Milliseconds
Minimum Value: 0.0 at 2.2 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-011

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

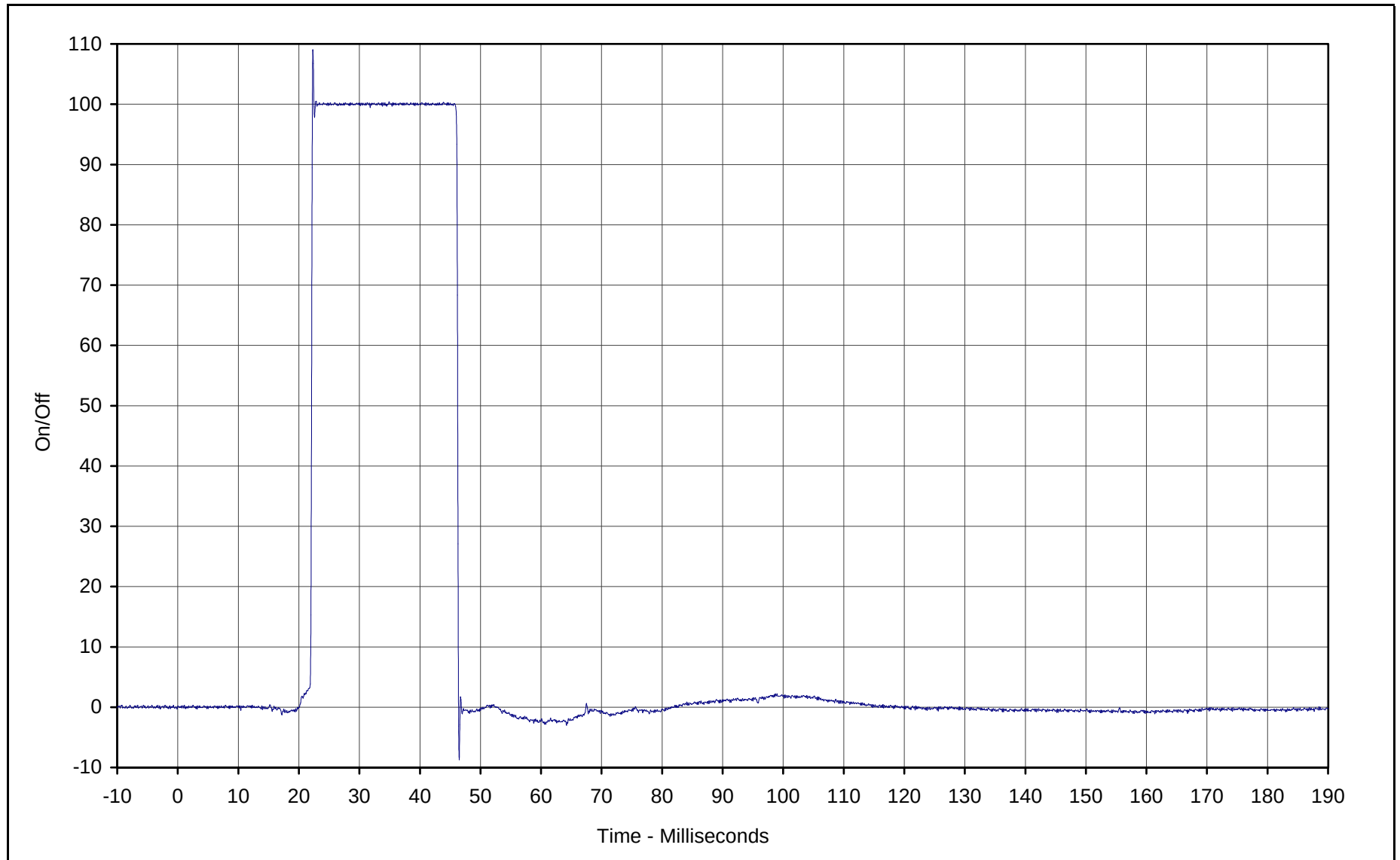




Curve Description: Driver Thorax Contact
Maximum Value: 104.6 at 20.7 Milliseconds
Crossing Point: 50% at 15.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-012

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

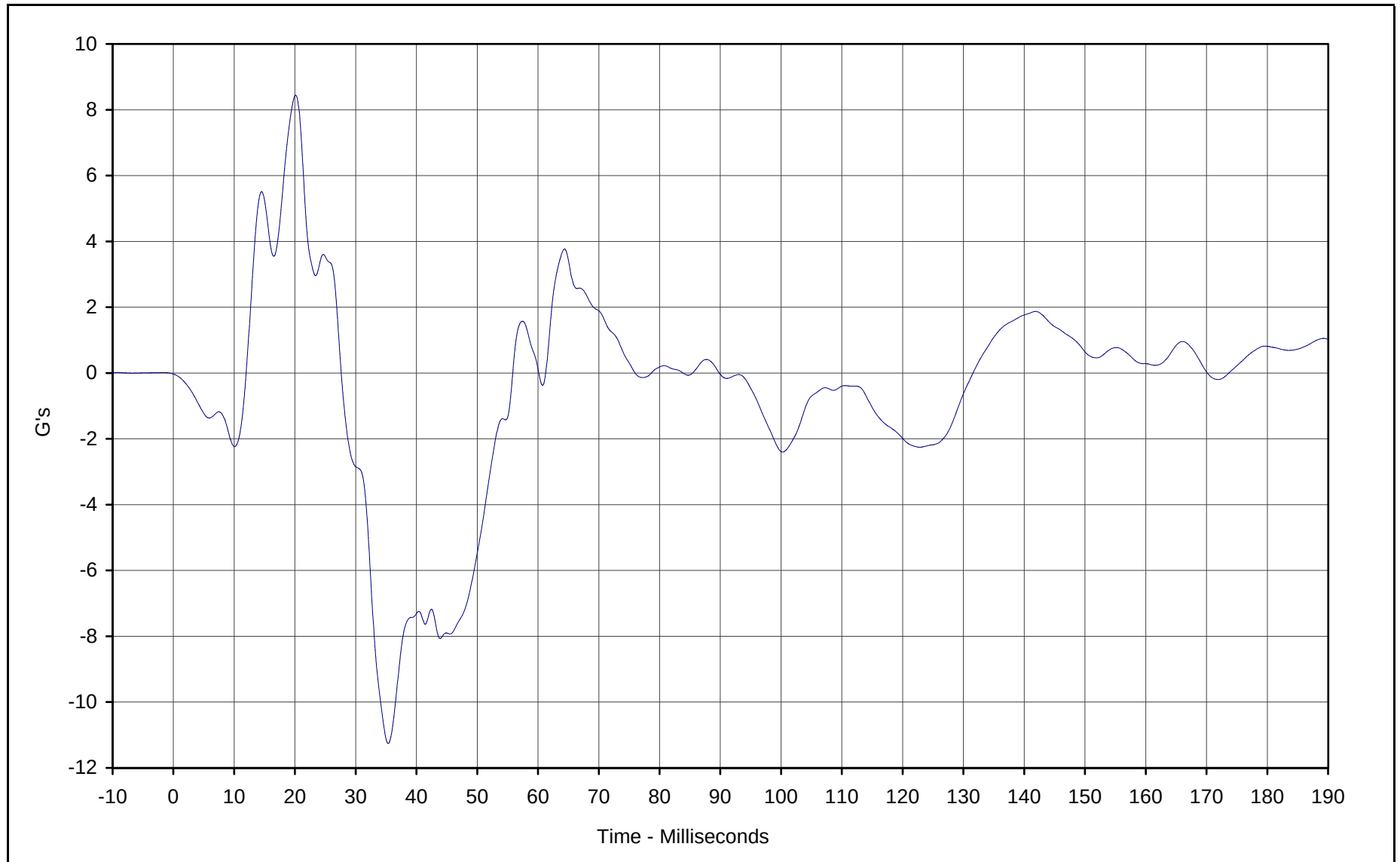




Curve Description: Driver Pelvis Contact
Maximum Value: 108.8 at 22.3 Milliseconds
Crossing Point: 50% at 22.2 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-013

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

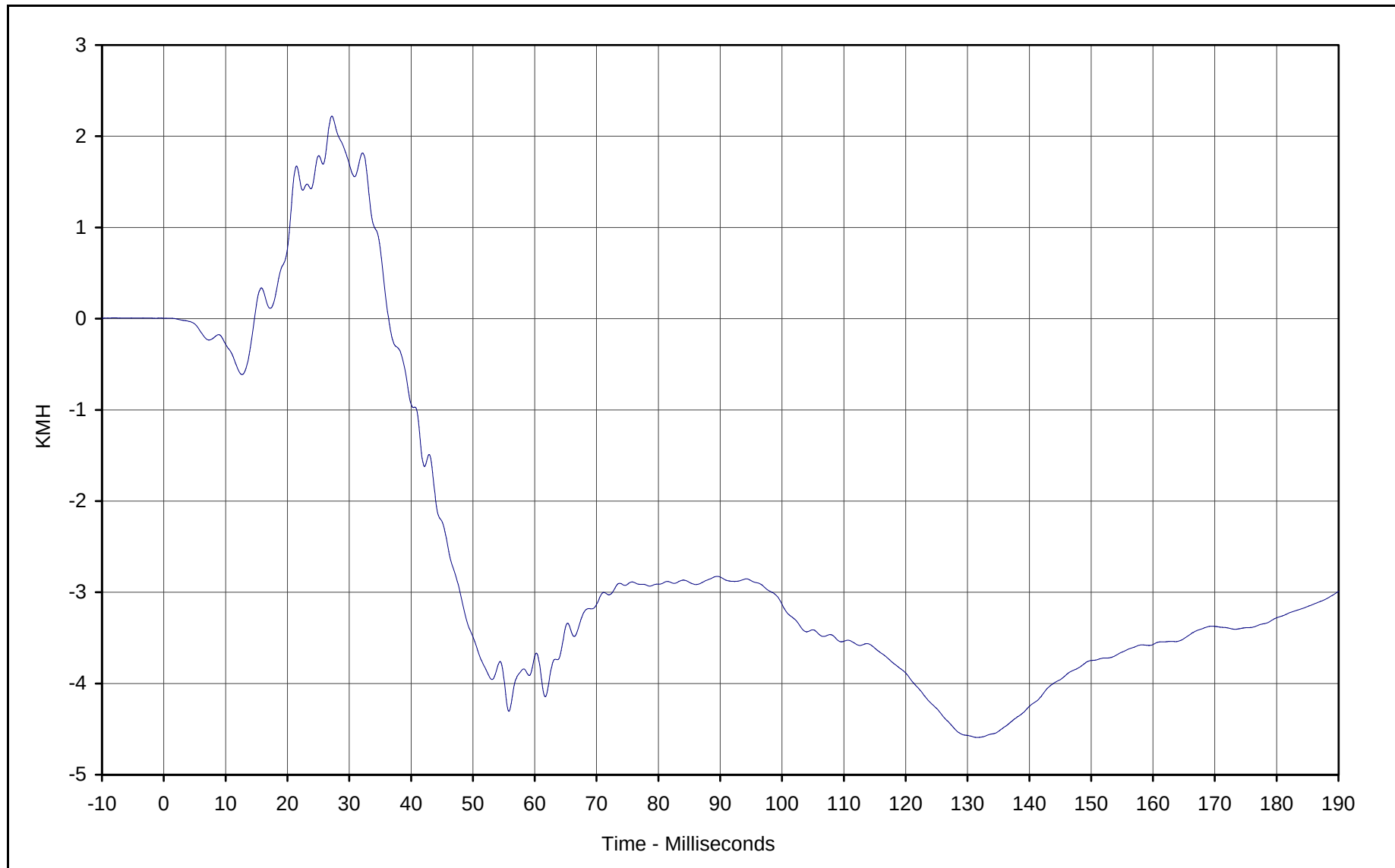




Curve Description: Right Sill at Front Seat X
Maximum Value: 8.4 at 20.1 Milliseconds
Minimum Value: -11.3 at 35.4 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-014

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

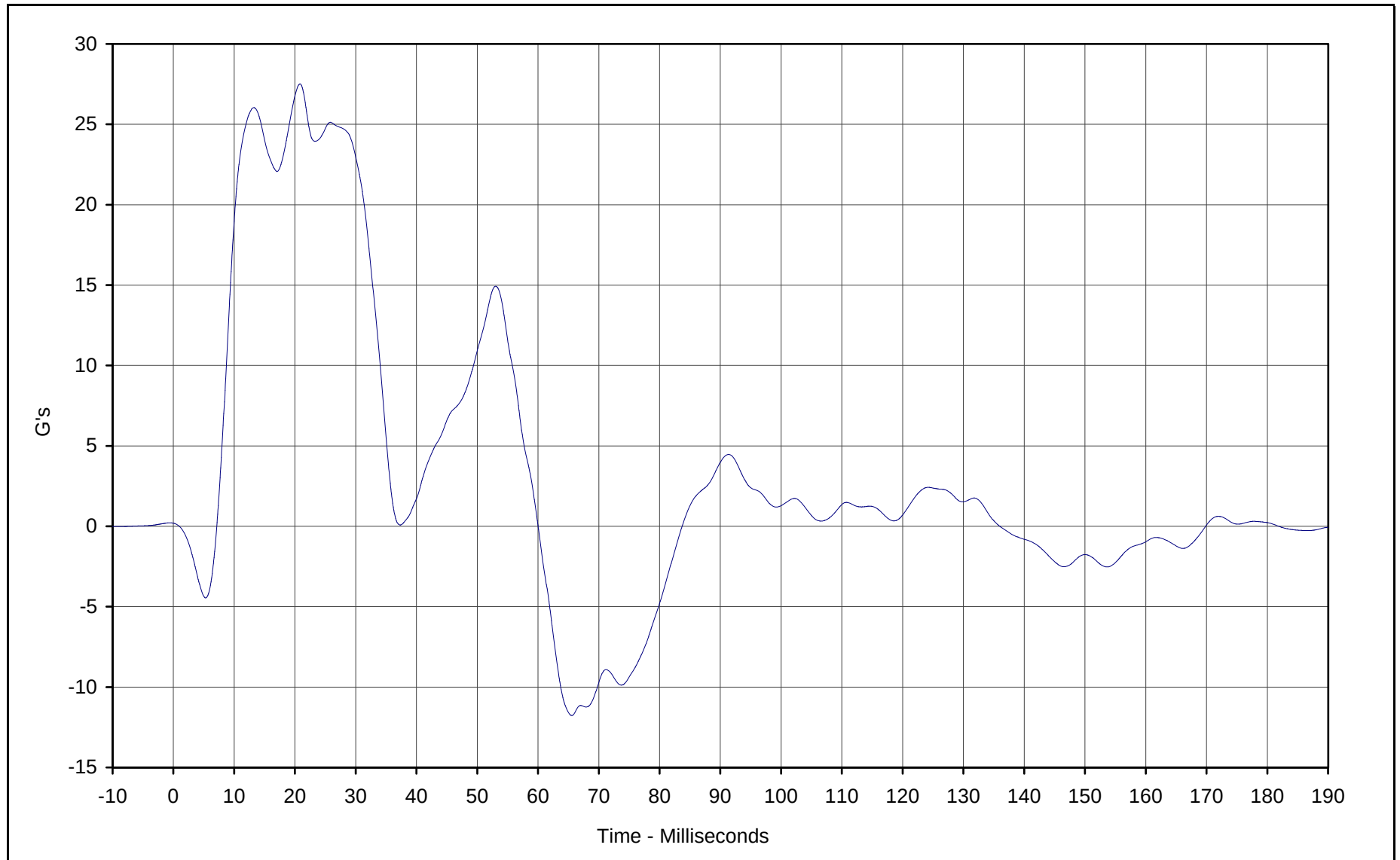




Curve Description: Right Sill at Front Seat X Velocity
Maximum Value: 2.2 at 27.2 Milliseconds
Minimum Value: -4.6 at 131.6 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-014

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

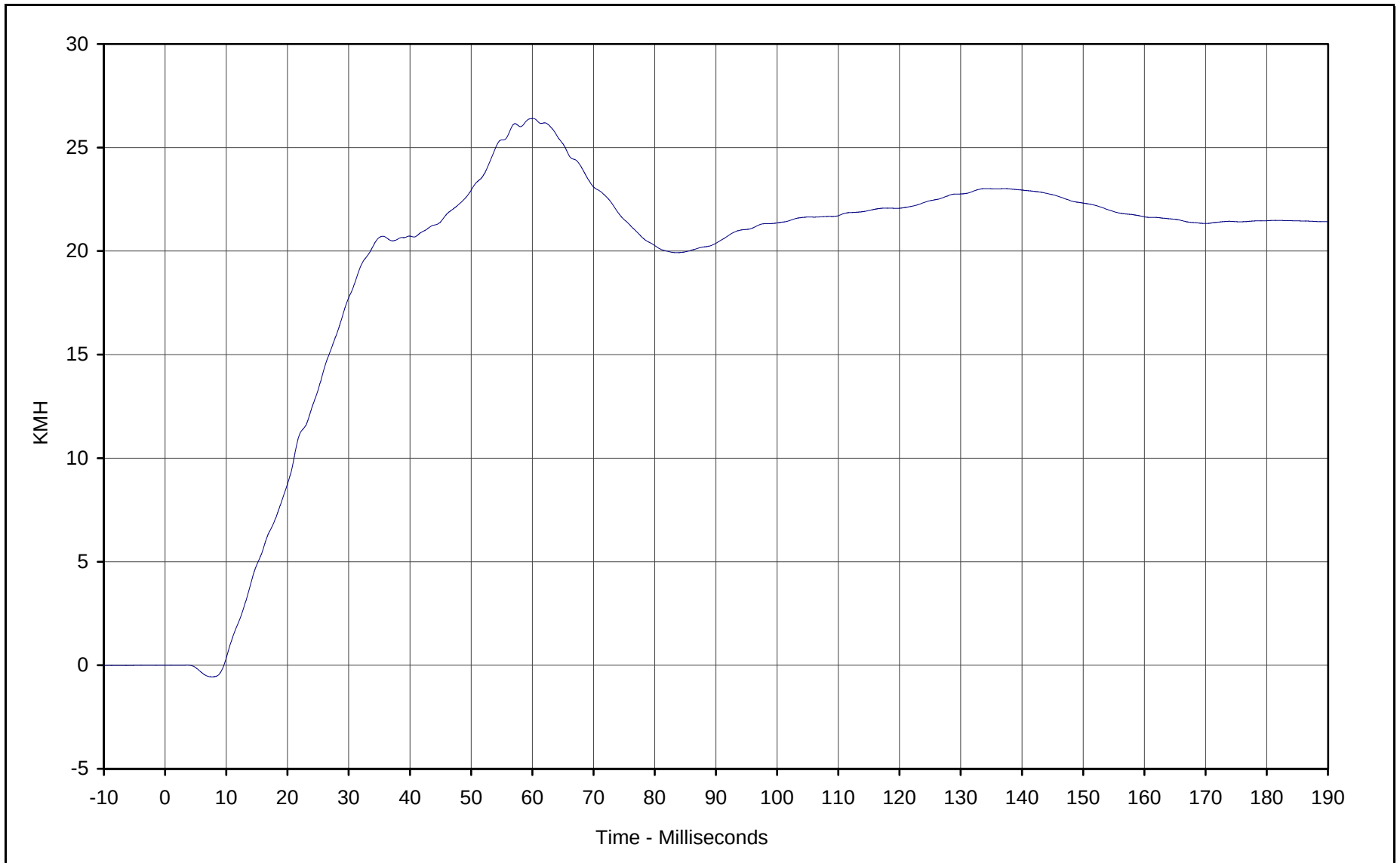




Curve Description: Right Sill at Front Seat Y
Maximum Value: 27.5 at 20.8 Milliseconds
Minimum Value: -11.8 at 65.6 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-015

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

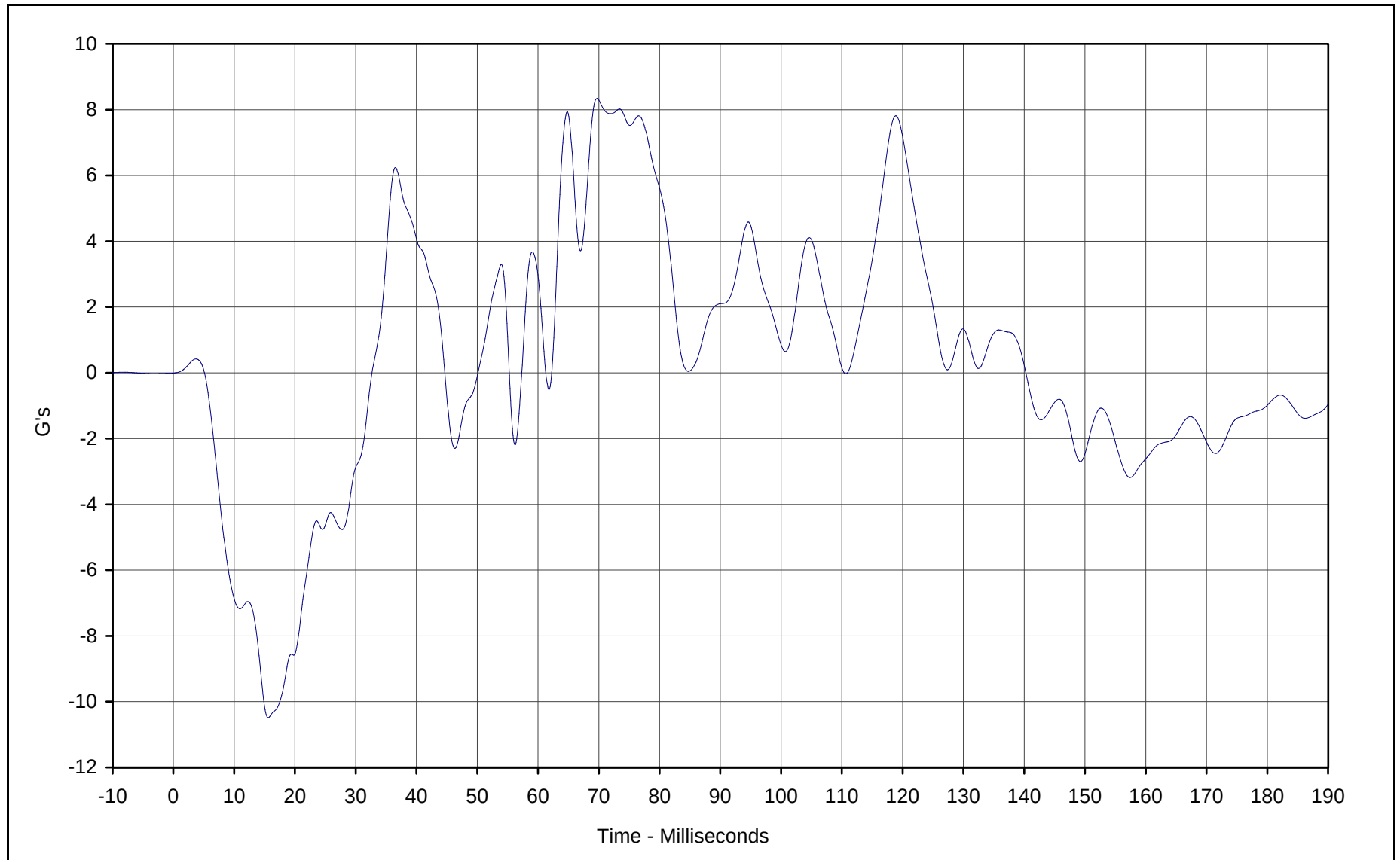




Curve Description: Right Sill at Front Seat Y Velocity
Maximum Value: 26.4 at 60.1 Milliseconds
Minimum Value: -0.6 at 7.7 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-015

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

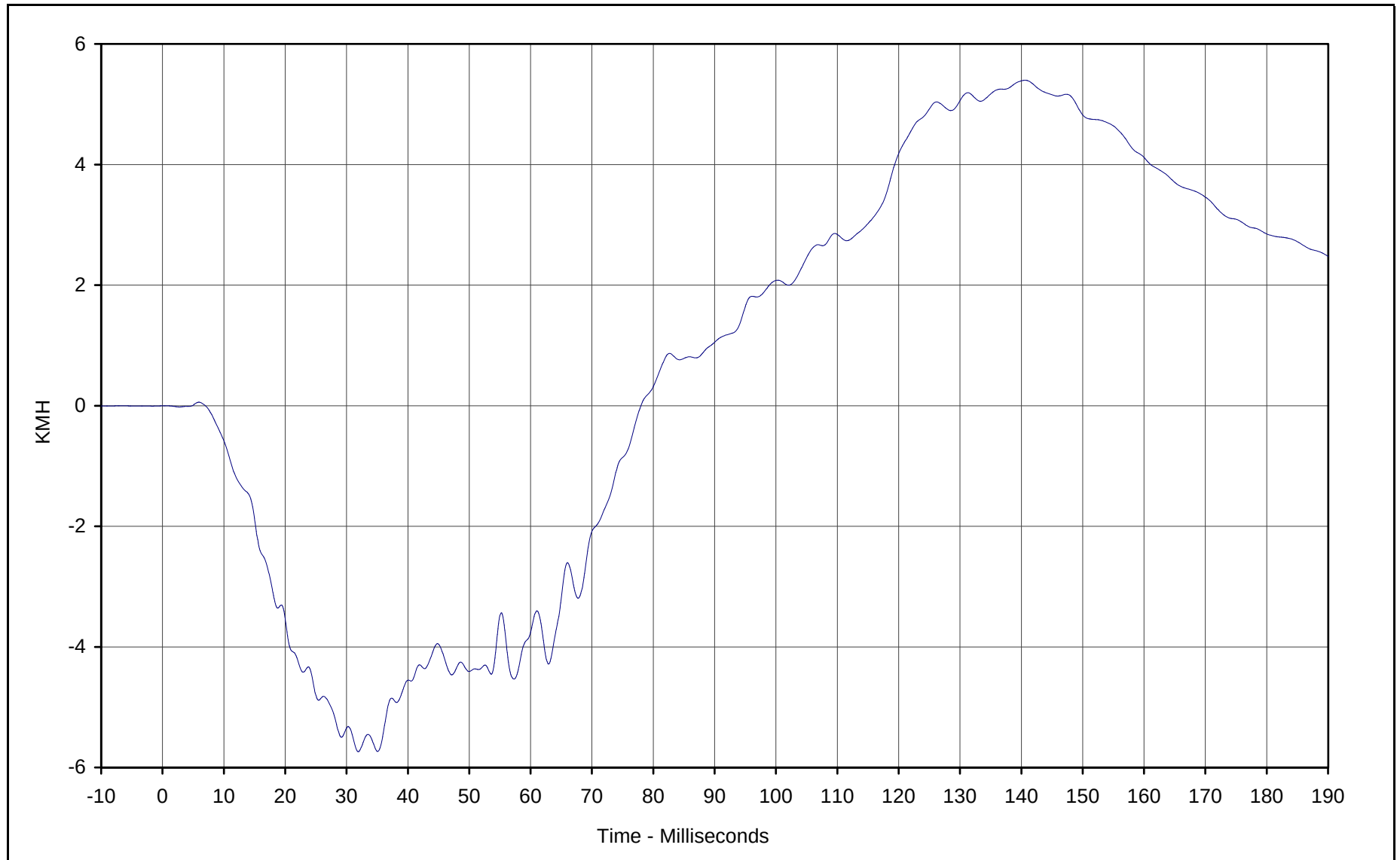




Curve Description: Right Sill at Front Seat Z
Maximum Value: 8.3 at 69.7 Milliseconds
Minimum Value: -10.5 at 15.6 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-016

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

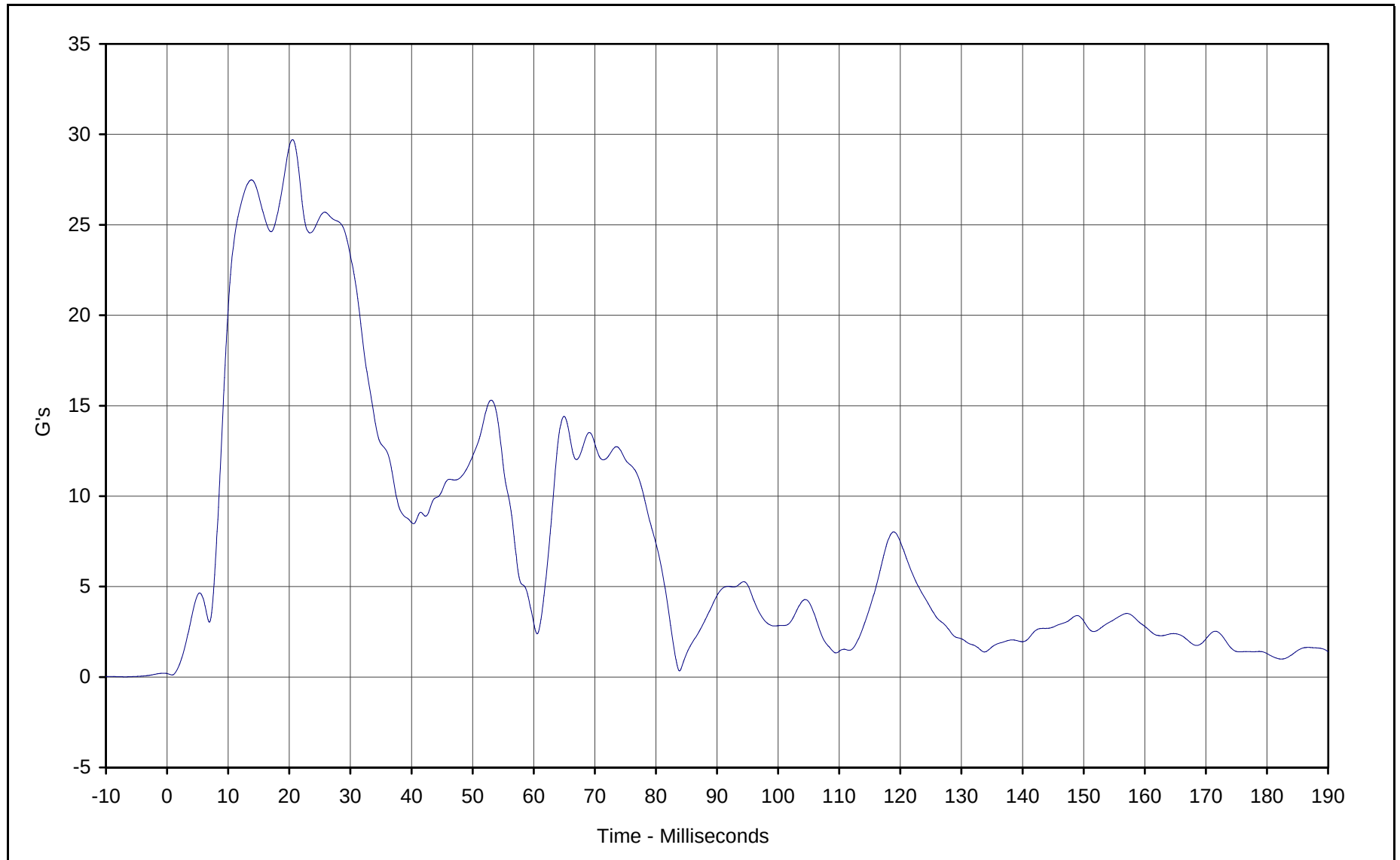




Curve Description: Right Sill at Front Seat Z Velocity
Maximum Value: 5.4 at 140.6 Milliseconds
Minimum Value: -5.7 at 31.9 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-016

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

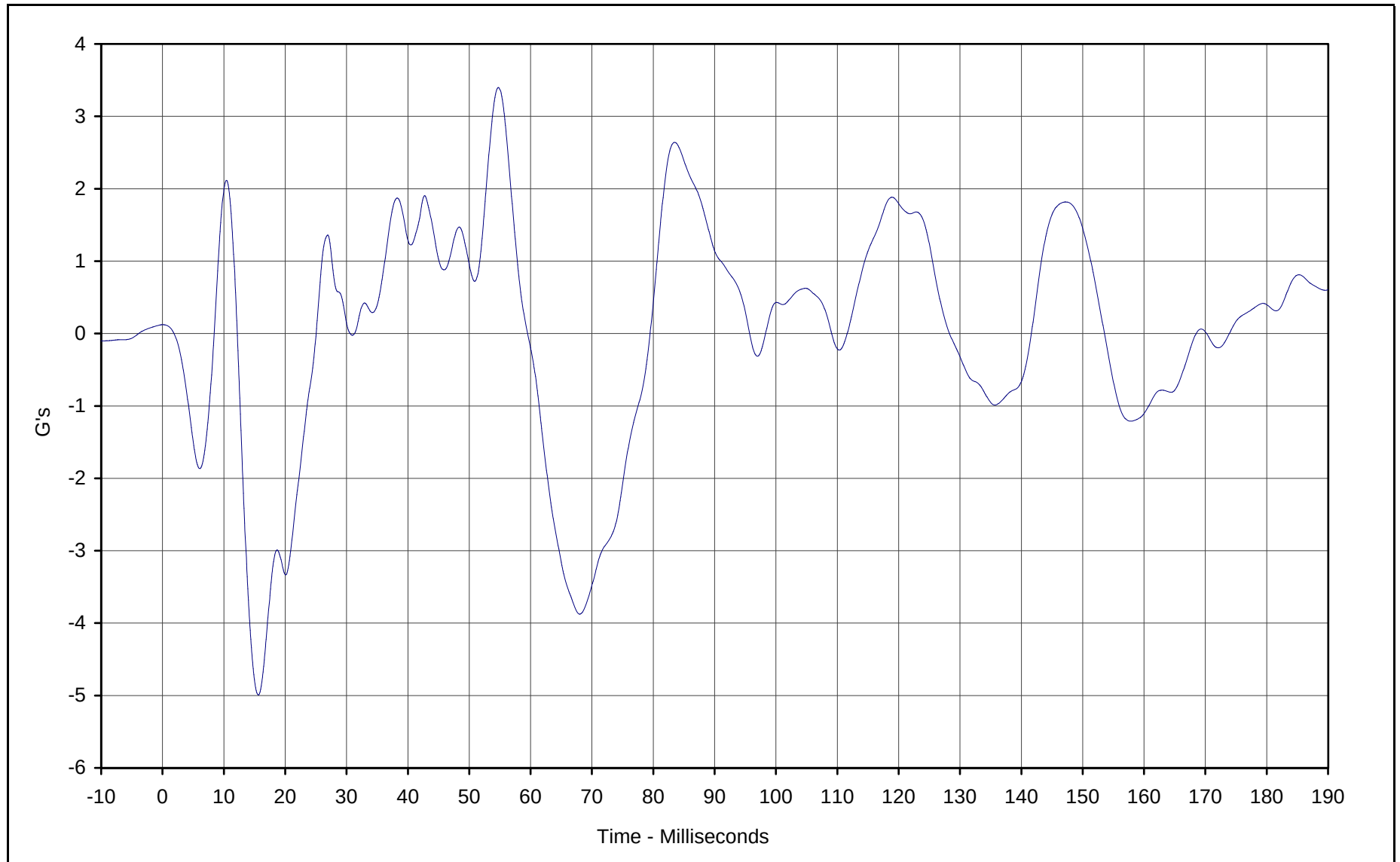




Curve Description: Right Sill at Front Seat Resultant
Maximum Value: 29.7 at 20.5 Milliseconds
Minimum Value: 0.1 at 0.8 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: RES-014

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

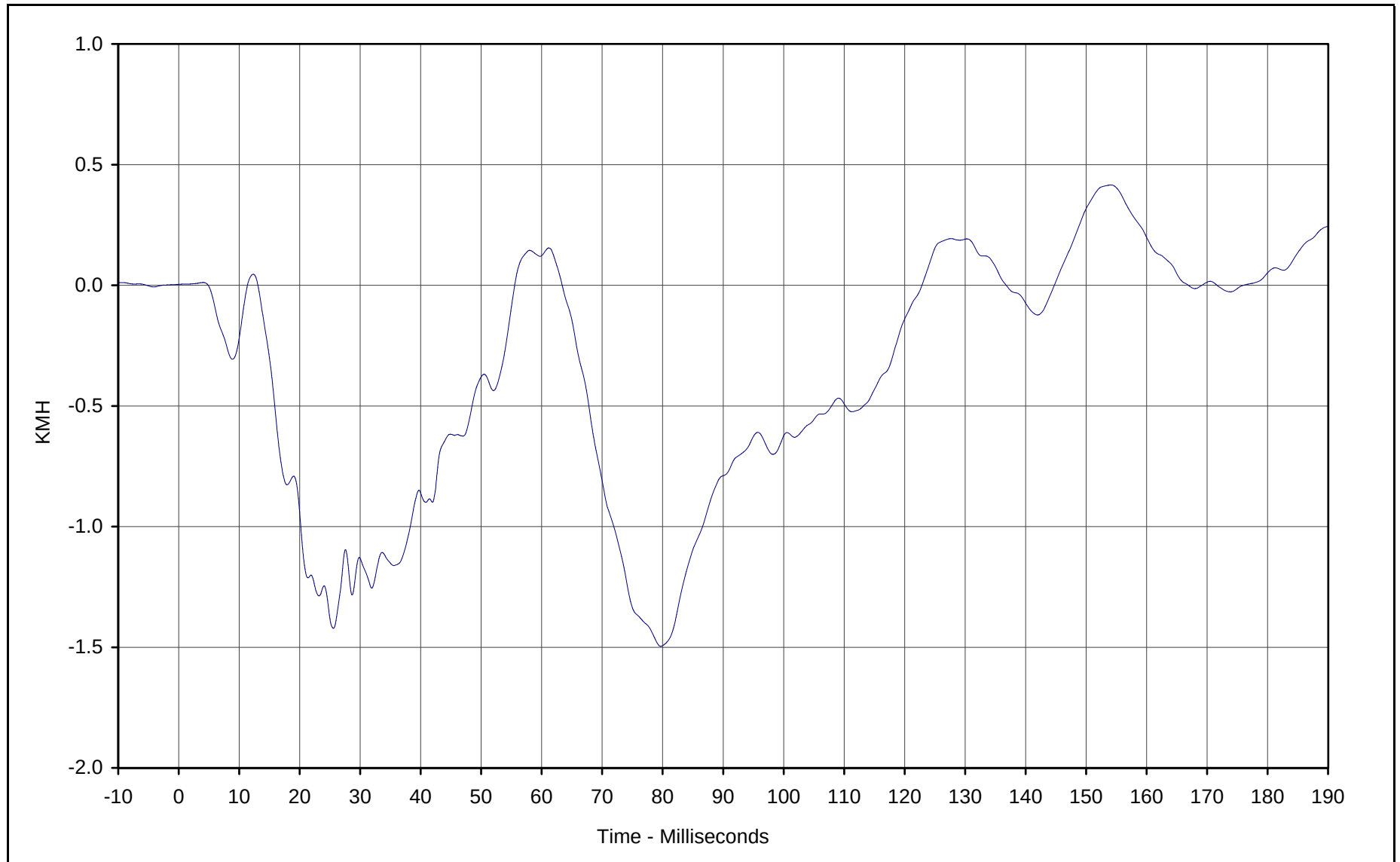




Curve Description: Rear Floor Above Axle X
Maximum Value: 3.4 at 54.8 Milliseconds
Minimum Value: -5.0 at 15.6 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-017

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

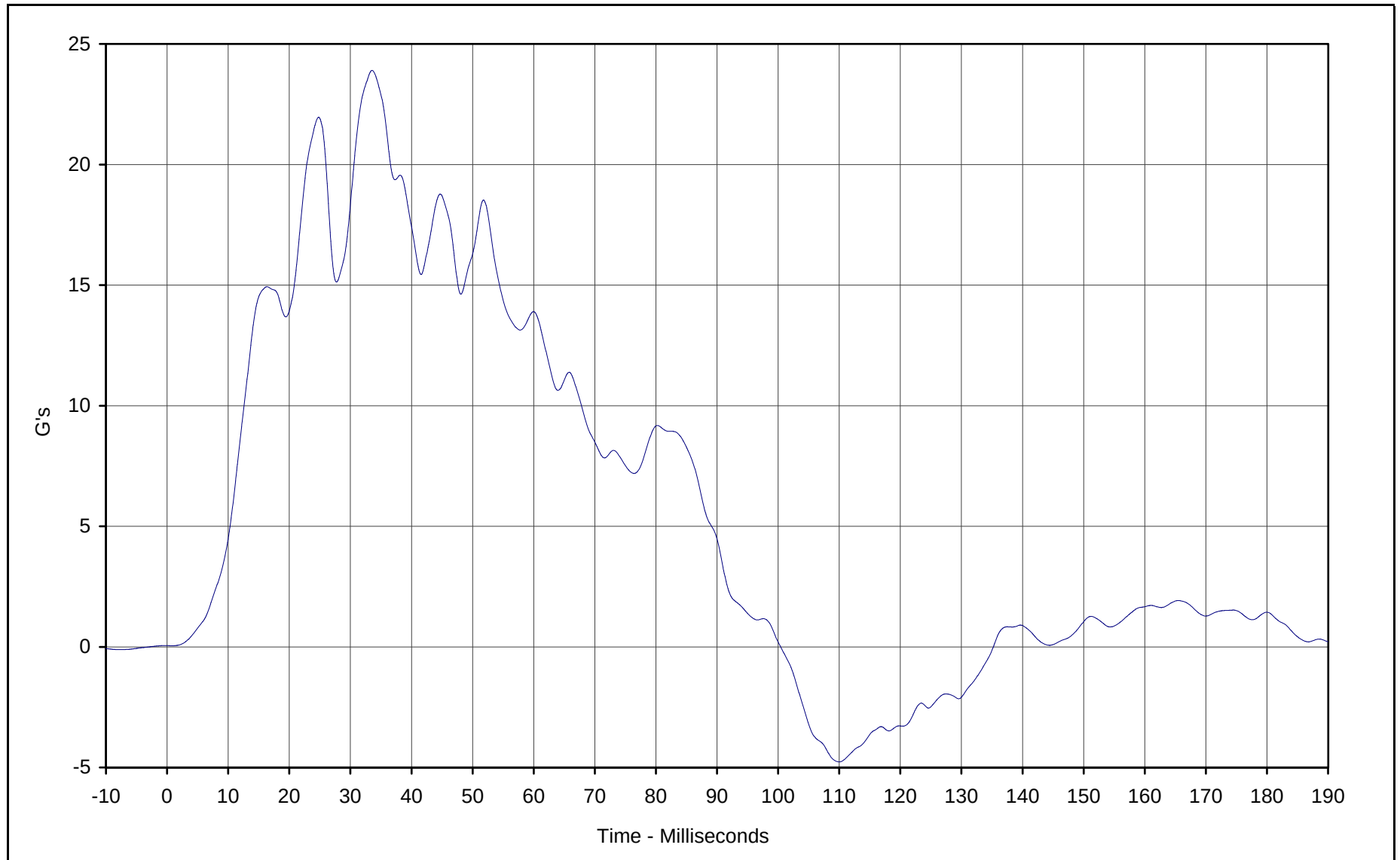




Curve Description: Rear Floor Above Axle X Velocity
Maximum Value: 0.4 at 154.1 Milliseconds
Minimum Value: -1.5 at 79.7 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-017

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

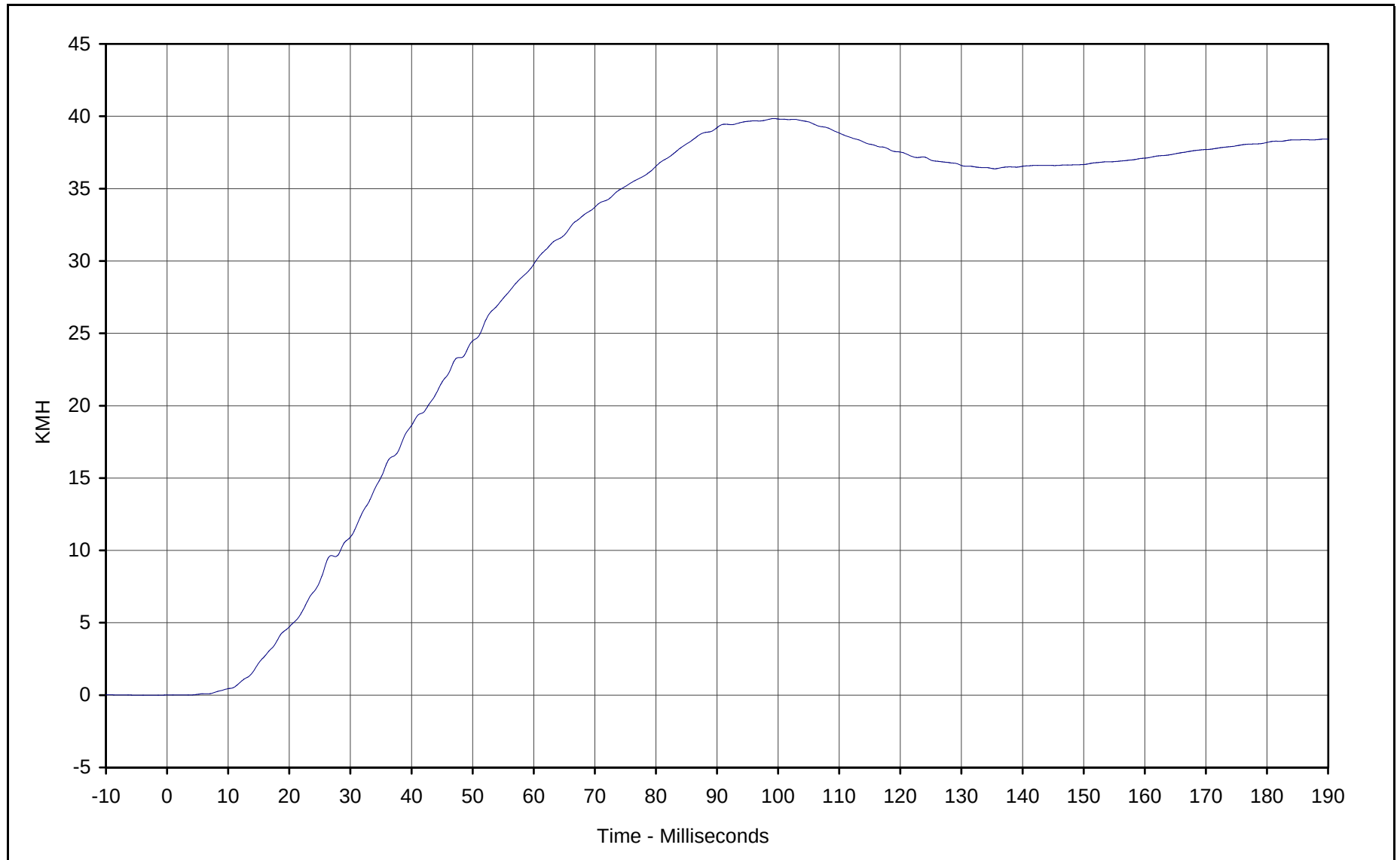




Curve Description: Rear Floor Above Axle Y
Maximum Value: 23.9 at 33.5 Milliseconds
Minimum Value: -4.8 at 110.0 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-018

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

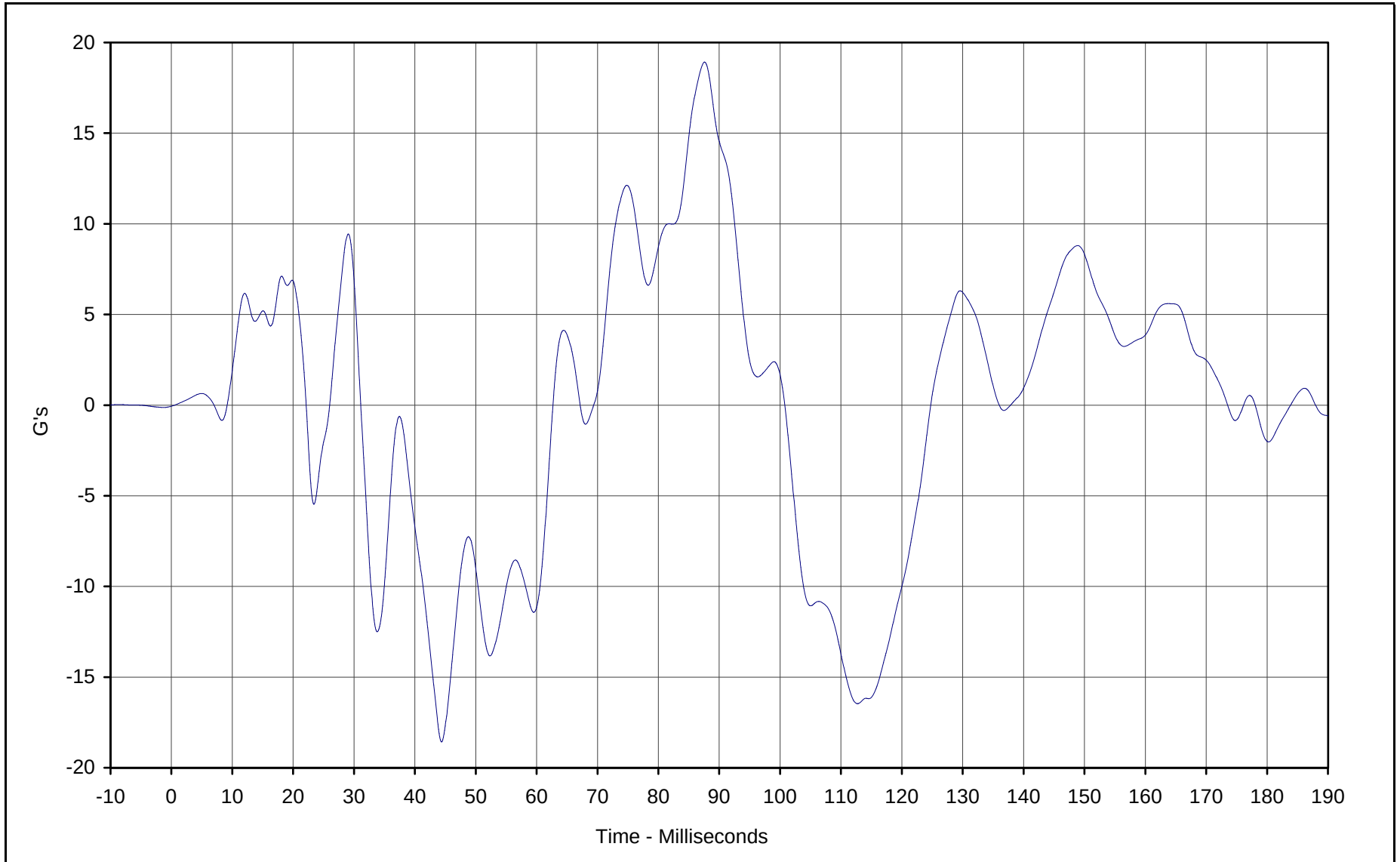




Curve Description: Rear Floor Above Axle Y Velocity
Maximum Value: 39.8 at 99.3 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-018

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

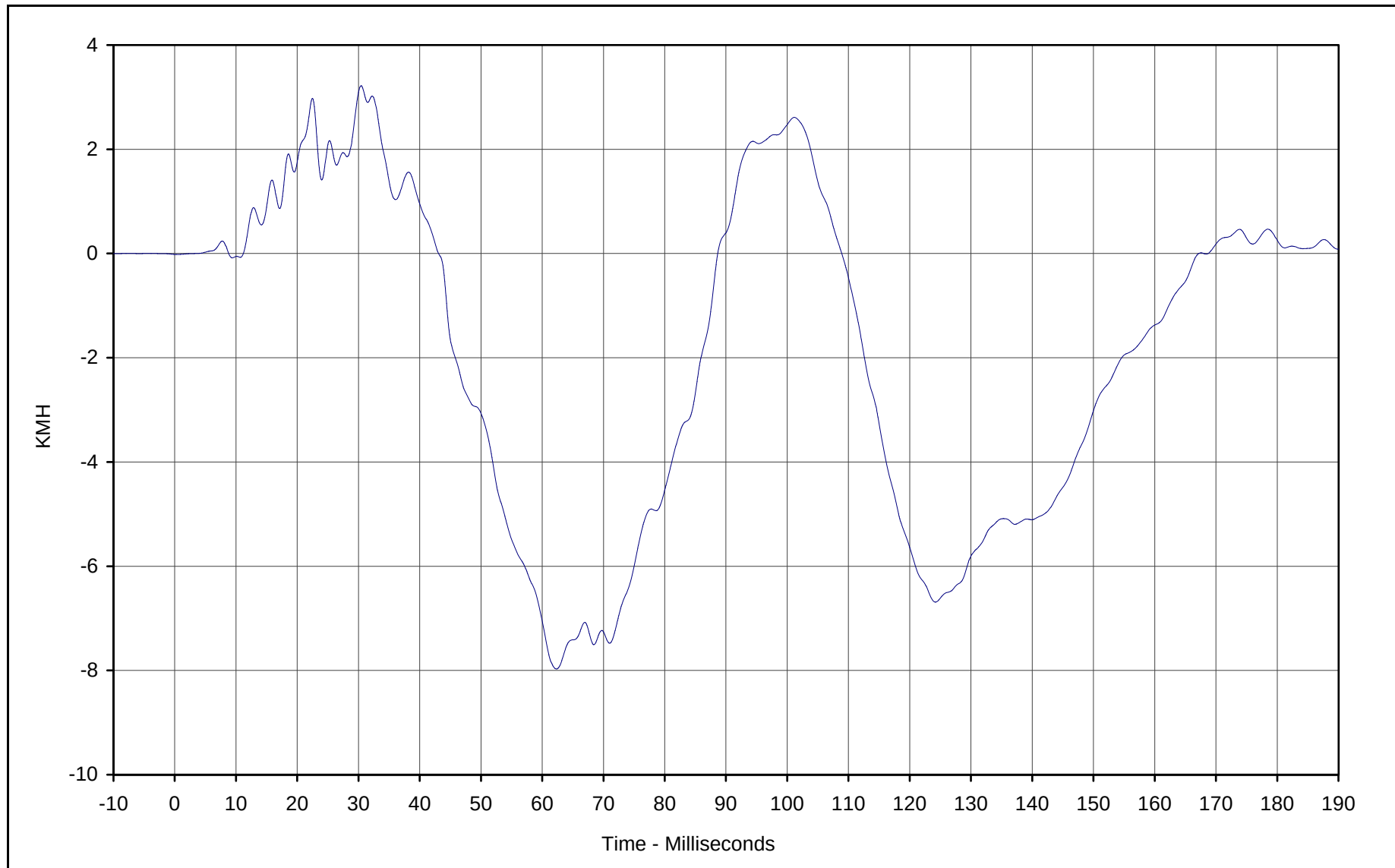




Curve Description: Rear Floor Above Axle Z
Maximum Value: 18.9 at 87.6 Milliseconds
Minimum Value: -18.6 at 44.4 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-019

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

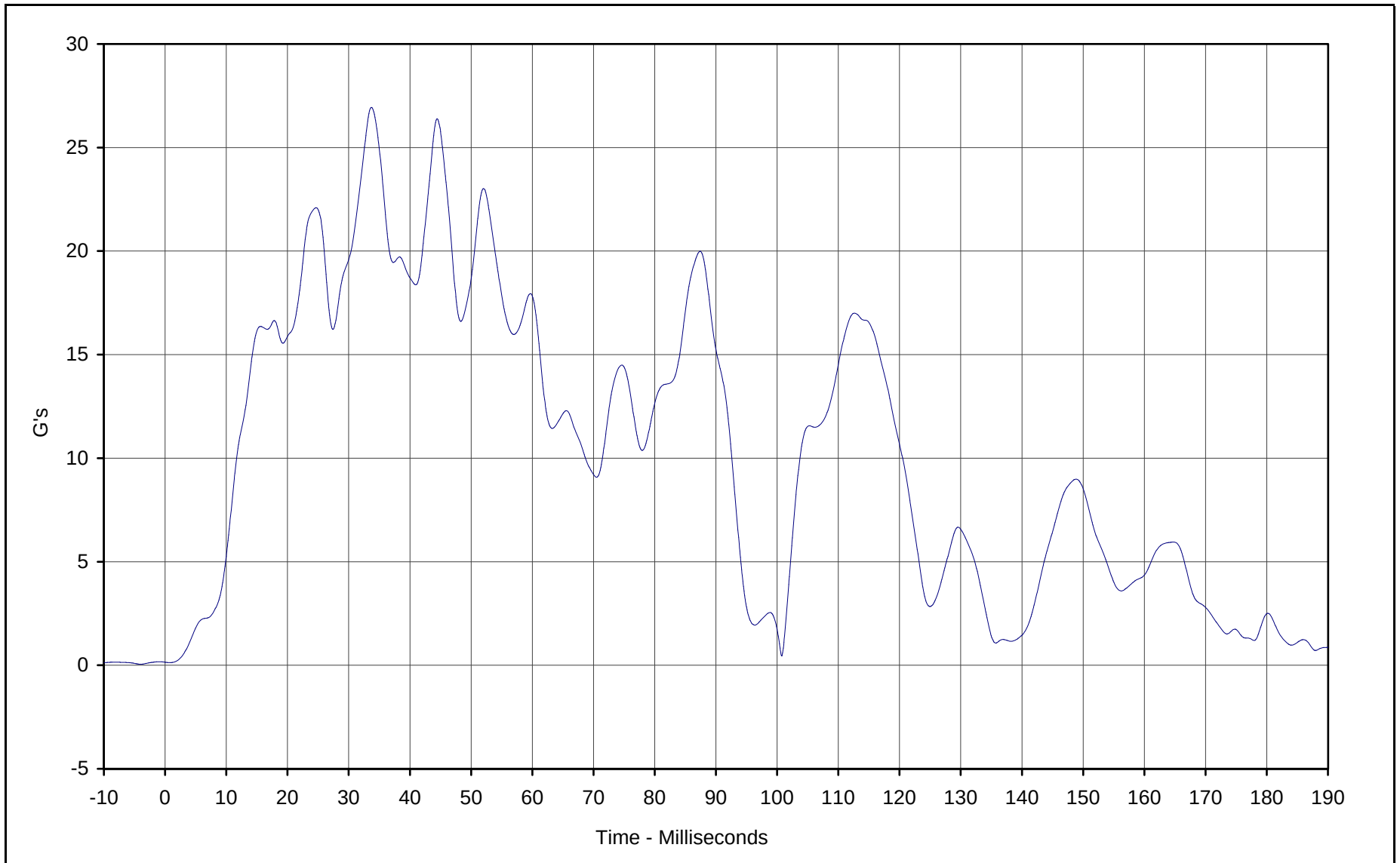




Curve Description: Rear Floor Above Axle Z Velocity
Maximum Value: 3.2 at 30.4 Milliseconds
Minimum Value: -8.0 at 62.3 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-019

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

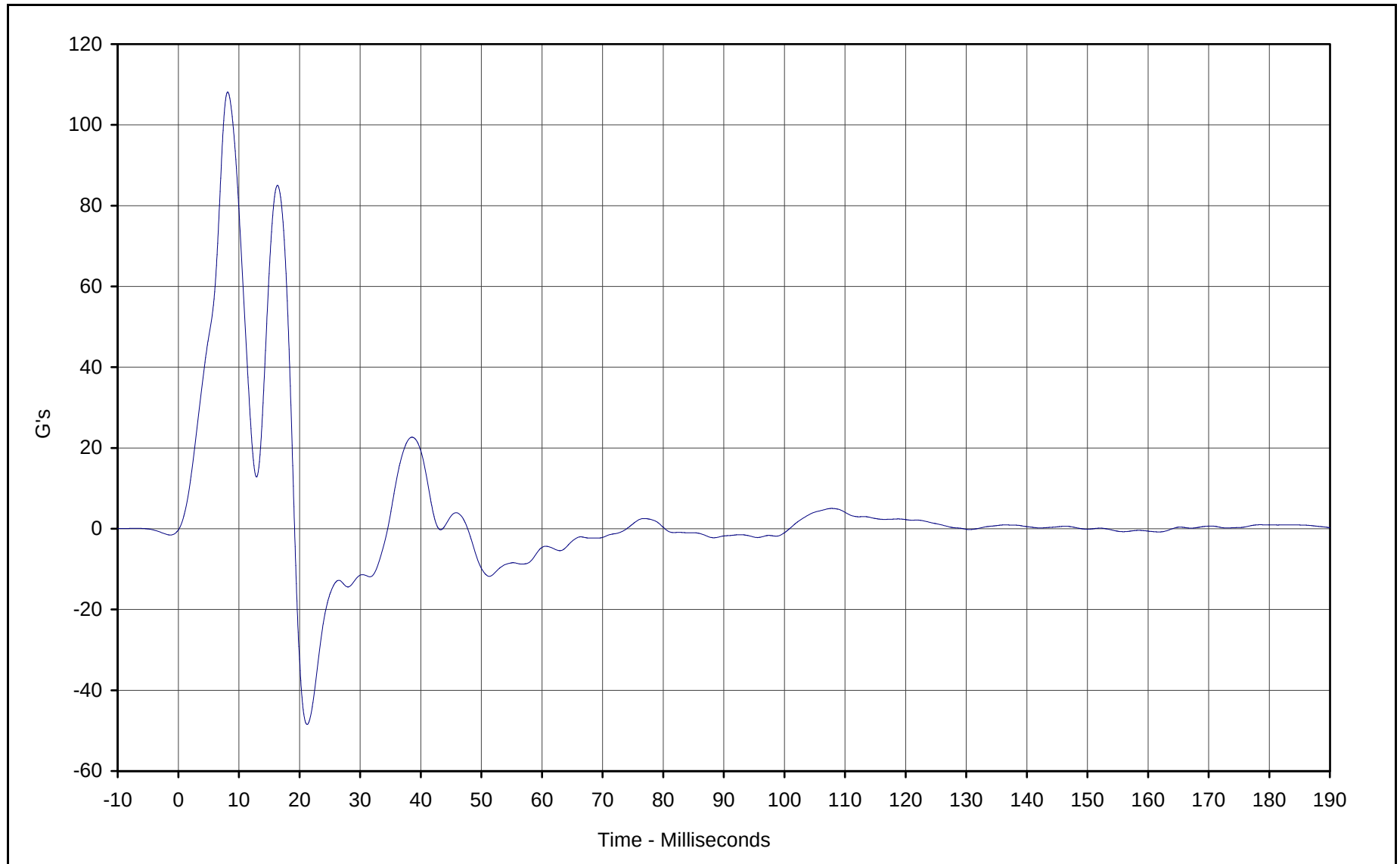




Curve Description: Rear Floor Above Axle Resultant
Maximum Value: 26.9 at 33.7 Milliseconds
Minimum Value: 0.1 at 0.8 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: RES-017

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

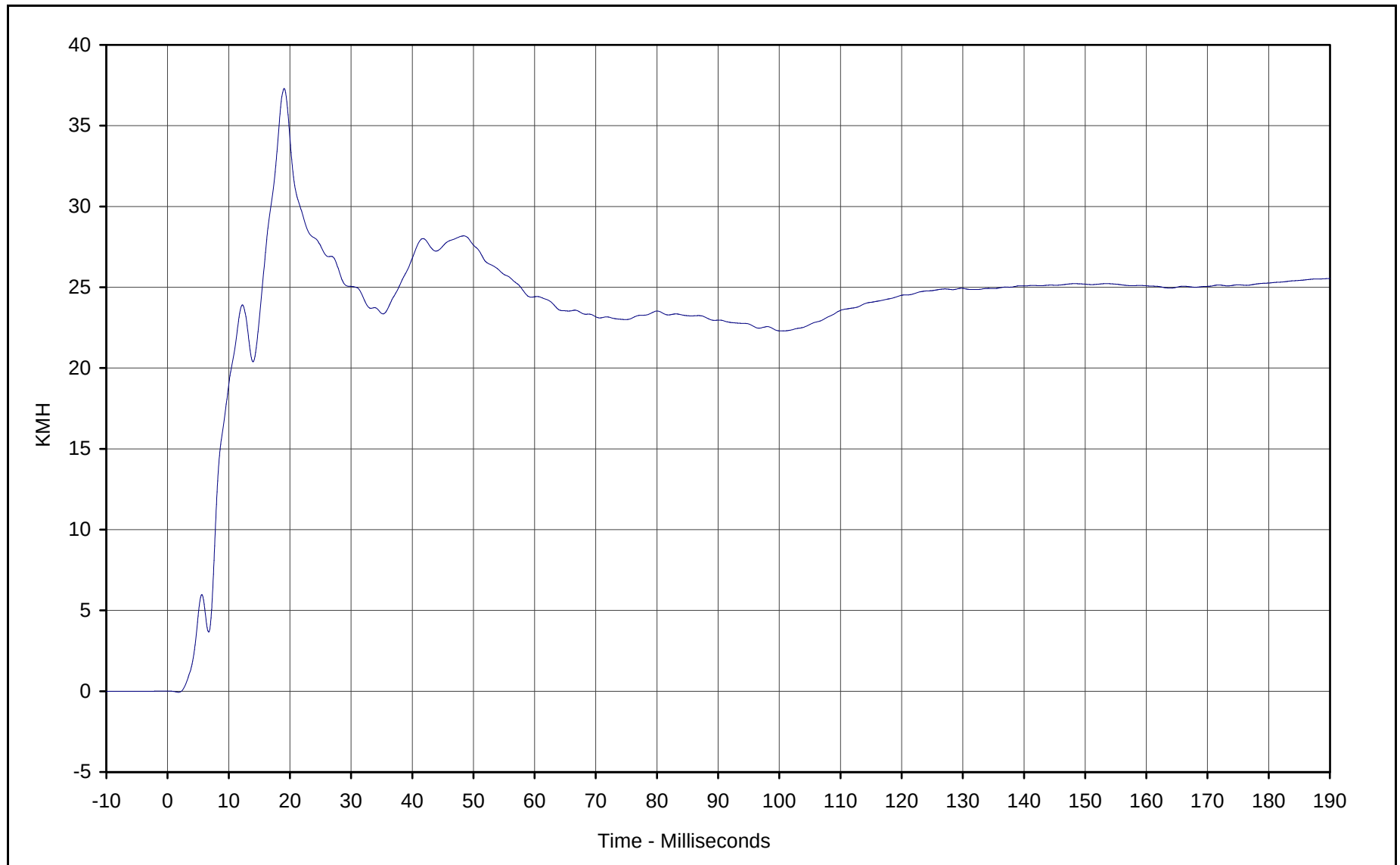




Curve Description: Left Sill at Front Door Y
Maximum Value: 108.1 at 8.2 Milliseconds
Minimum Value: -48.5 at 21.2 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-020

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

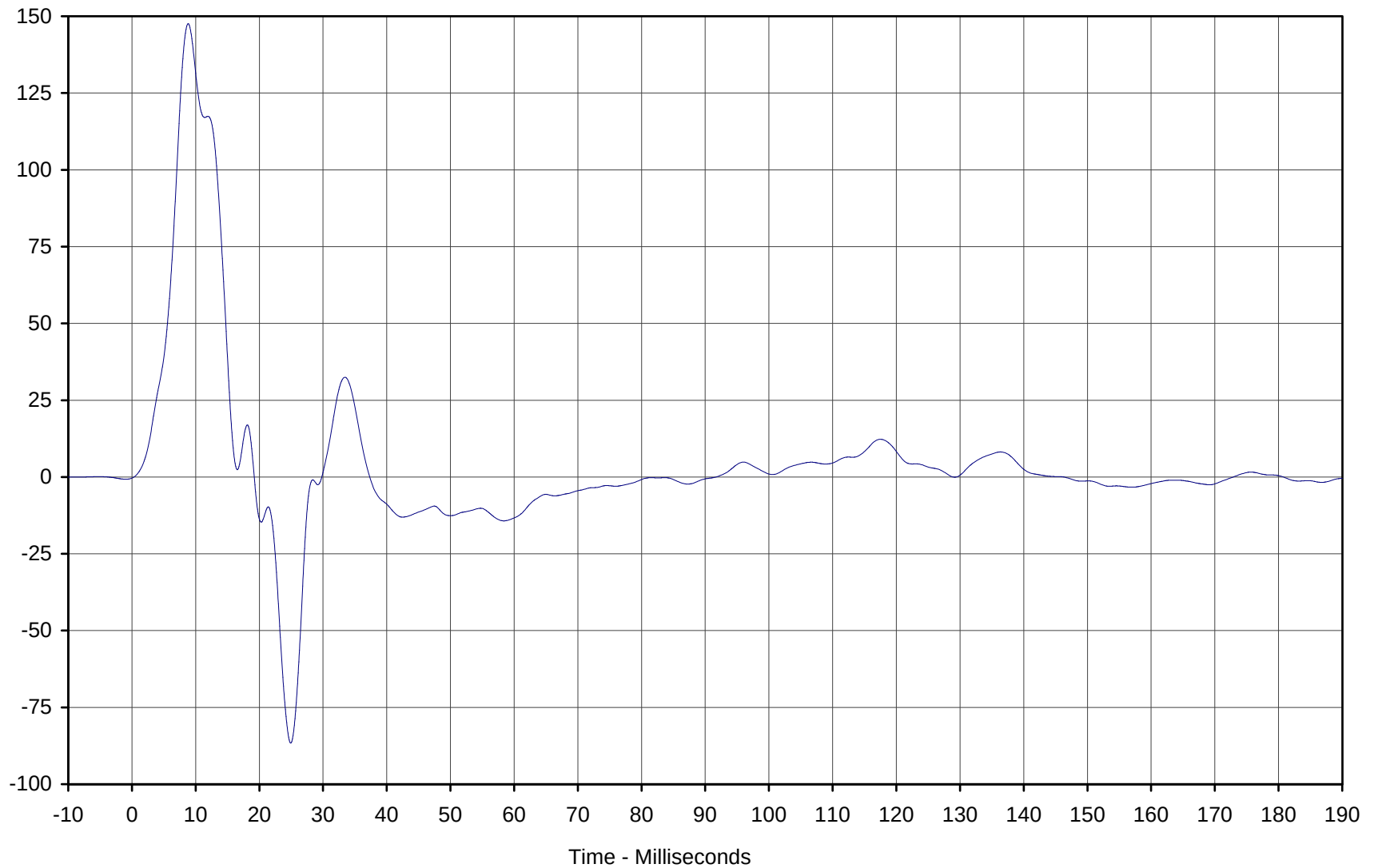




Curve Description: Left Sill at Front Door Y Velocity
Maximum Value: 37.3 at 19.0 Milliseconds
Minimum Value: -0.1 at 1.8 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-020

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

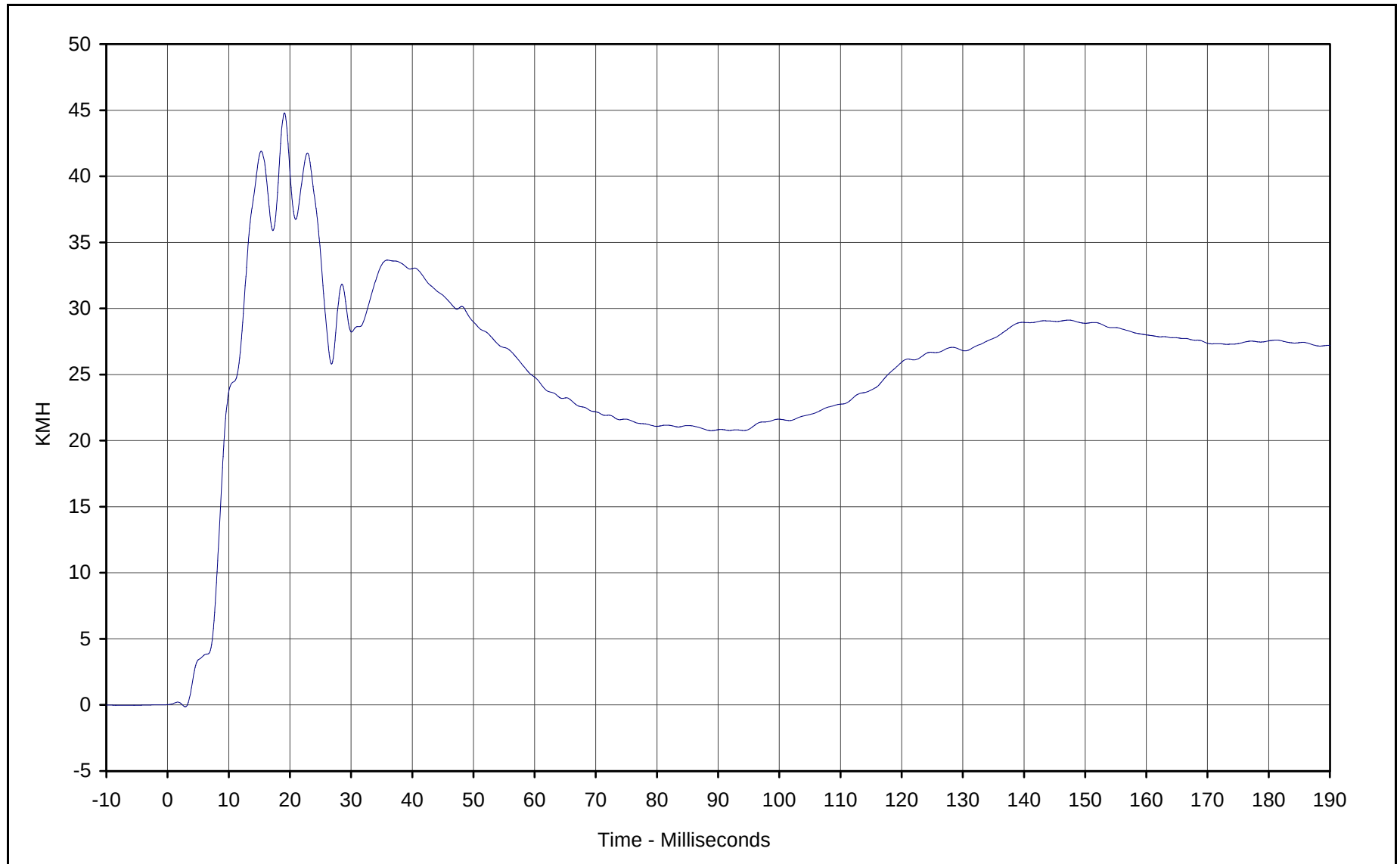




Curve Description: Left Front Door CL Y
Maximum Value: 147.6 at 8.8 Milliseconds
Minimum Value: -86.6 at 24.9 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-021

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

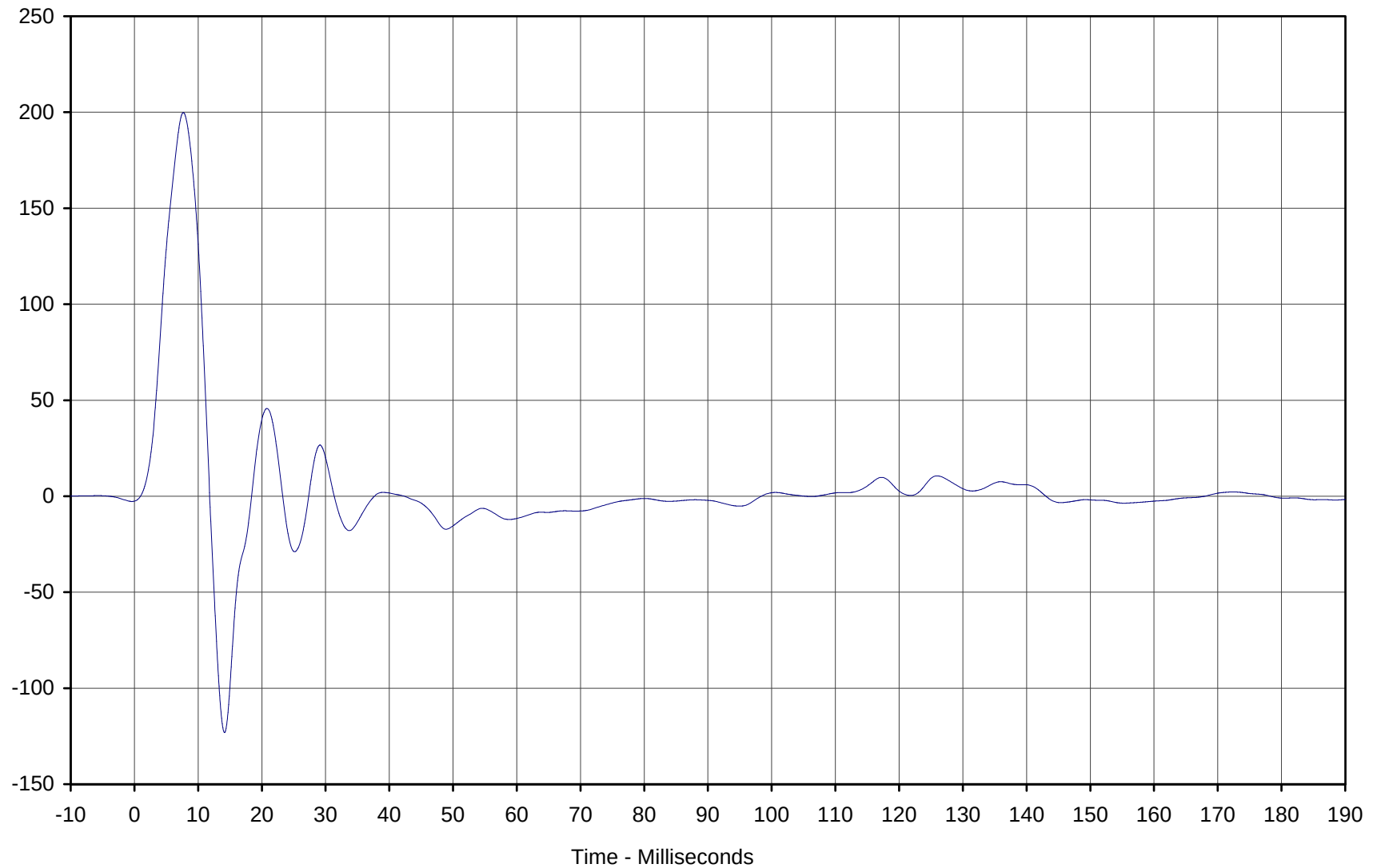




Curve Description: Left Front Door CL Y Velocity
Maximum Value: 44.8 at 19.1 Milliseconds
Minimum Value: -0.1 at 2.9 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-021

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

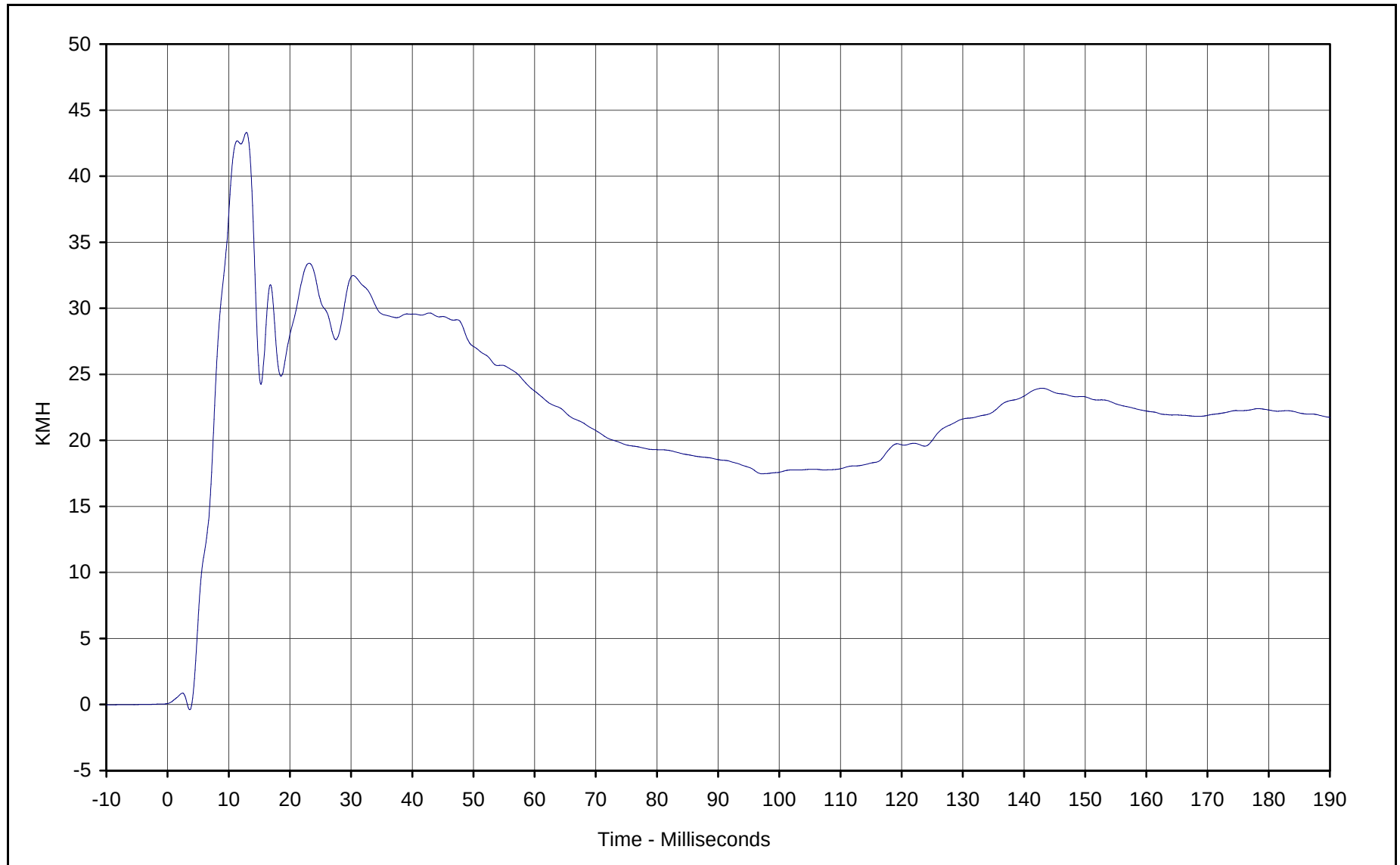




Curve Description: Left Front Door Mid Rear Y
Maximum Value: 199.9 at 7.7 Milliseconds
Minimum Value: -123.1 at 14.2 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-022

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Left Front Door Mid Rear Y Velocity

Maximum Value: 43.3 at 12.9 Milliseconds

Minimum Value: -0.4 at 3.6 Milliseconds

SAE Filter Class: 180

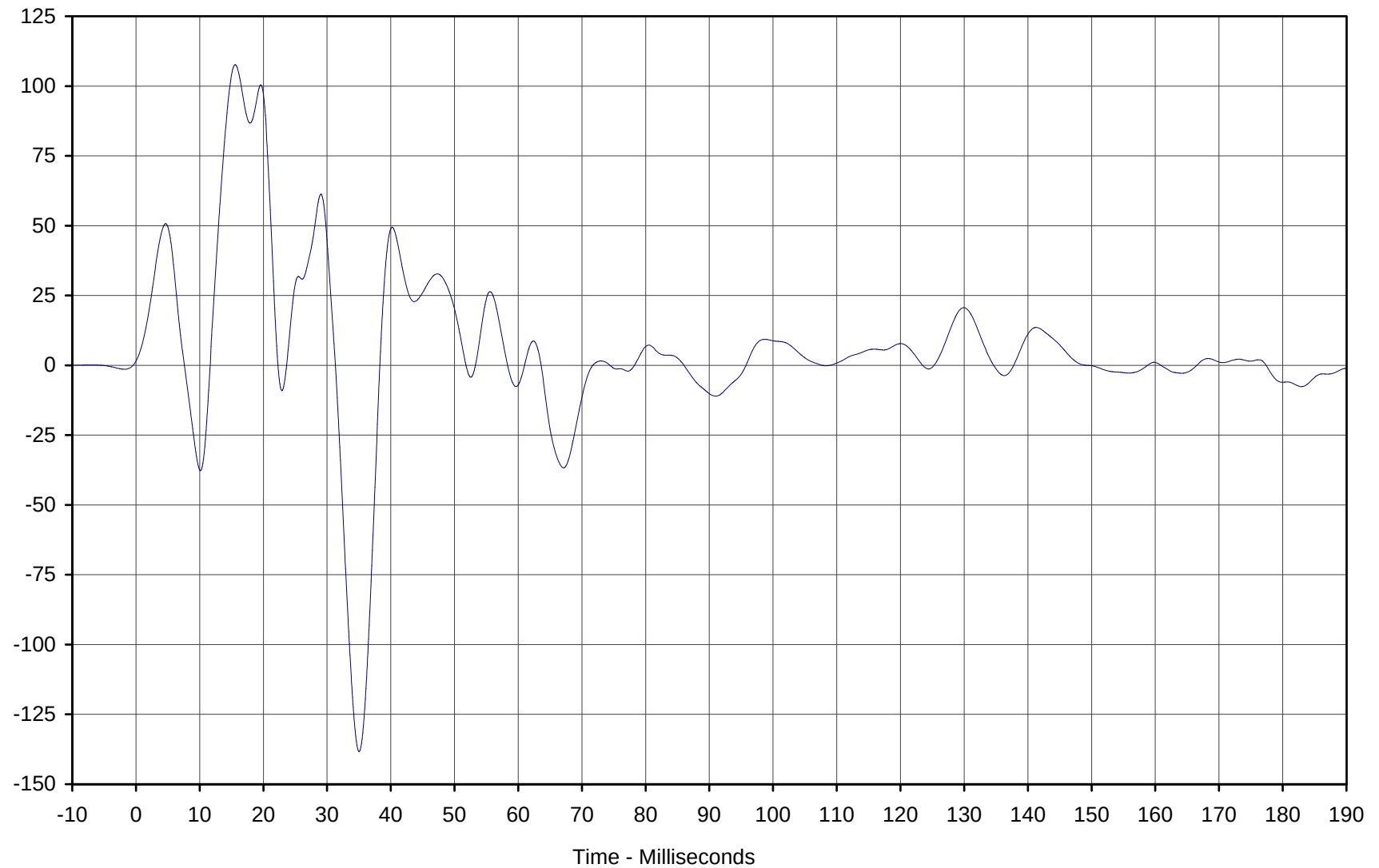
Date of Test: 5/10/01

Curve Number: IN1-022

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

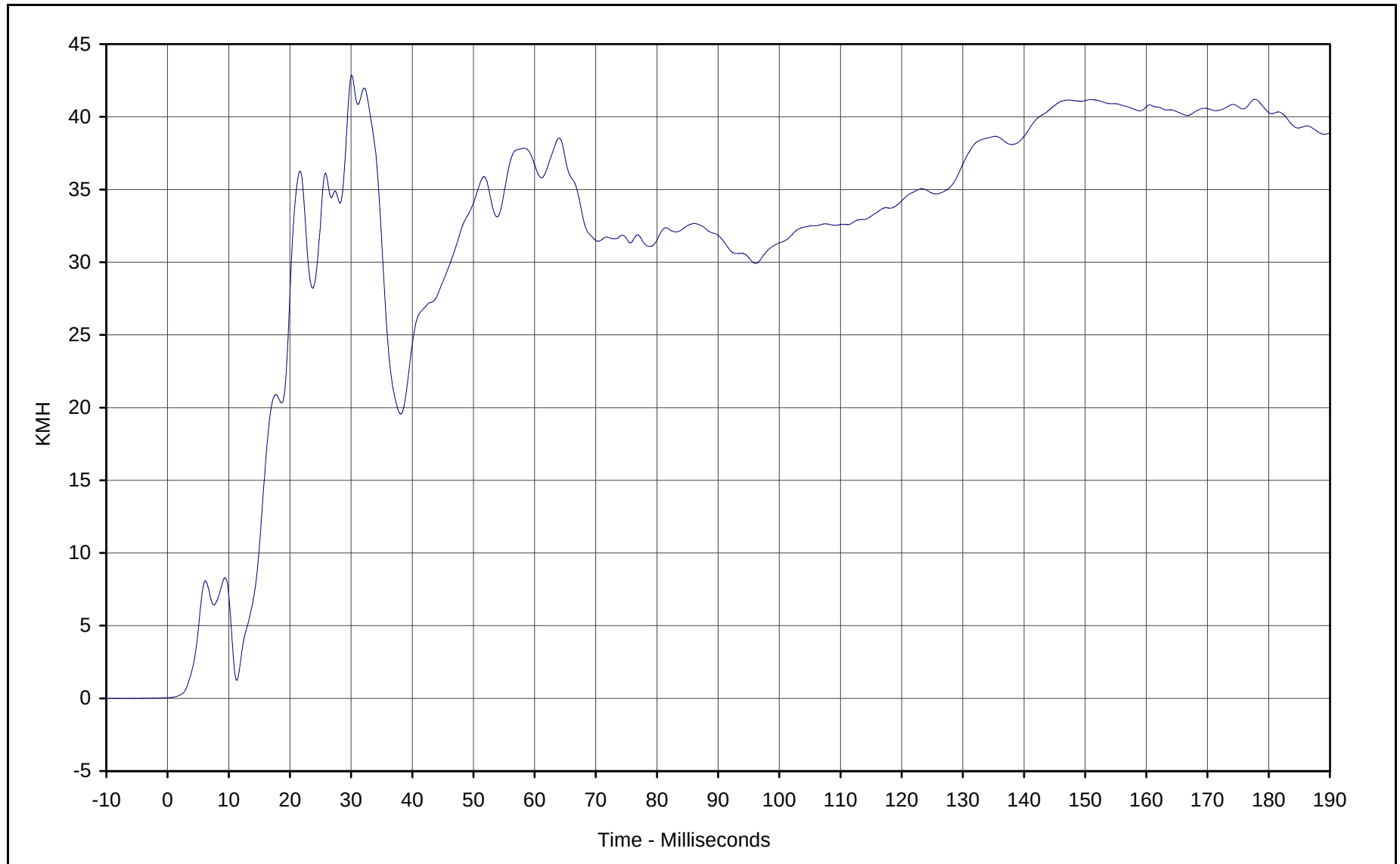




Curve Description: Left Front Door Upper CL Y
Maximum Value: 107.7 at 15.6 Milliseconds
Minimum Value: -138.3 at 35.0 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-023

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Left Front Door Upper CL Y Velocity

Maximum Value: 42.9 at 30.1 Milliseconds

Minimum Value: 0.0 at 0.0 Milliseconds

SAE Filter Class: 180

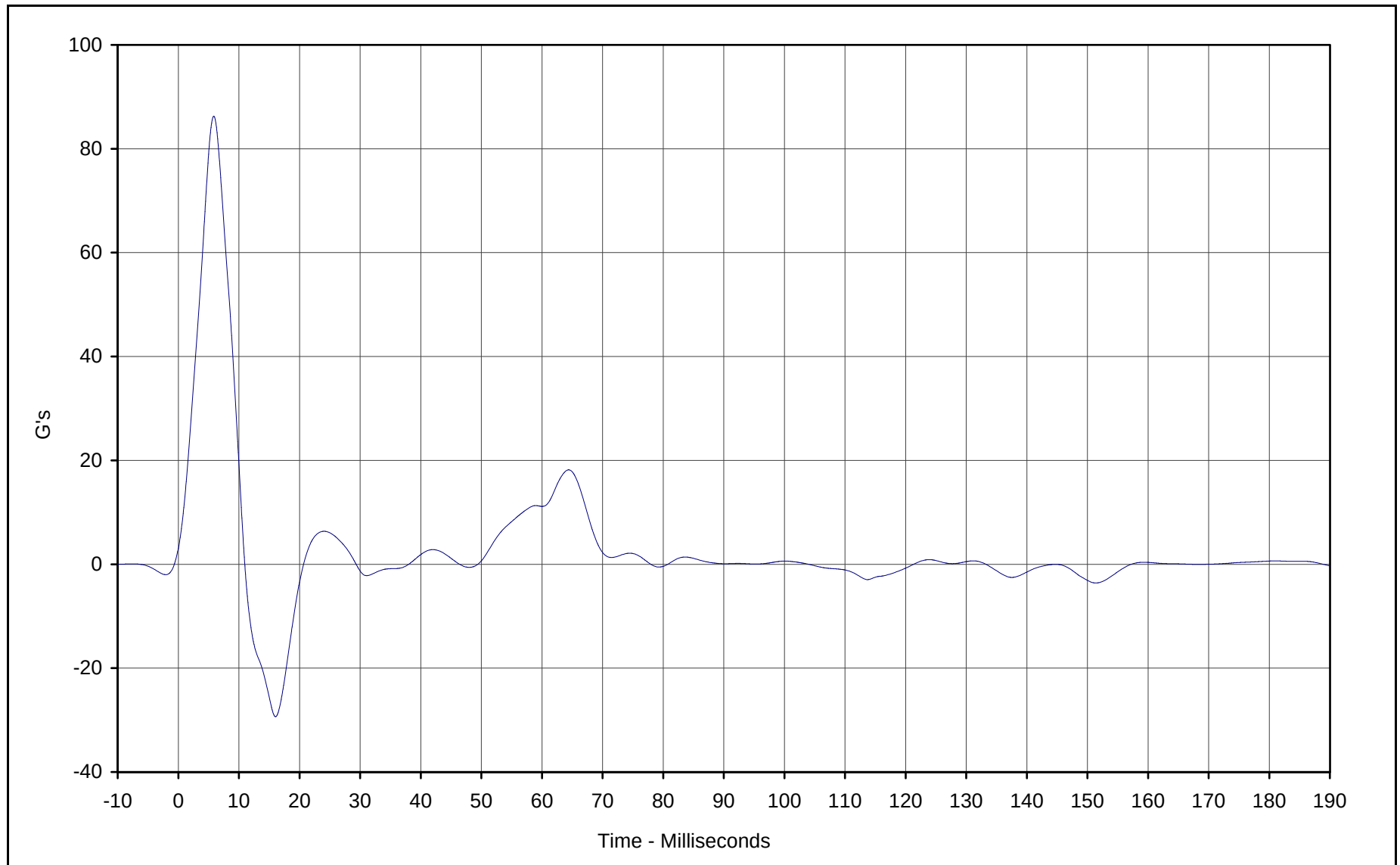
Date of Test: 5/10/01

Curve Number: IN1-023

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002

Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

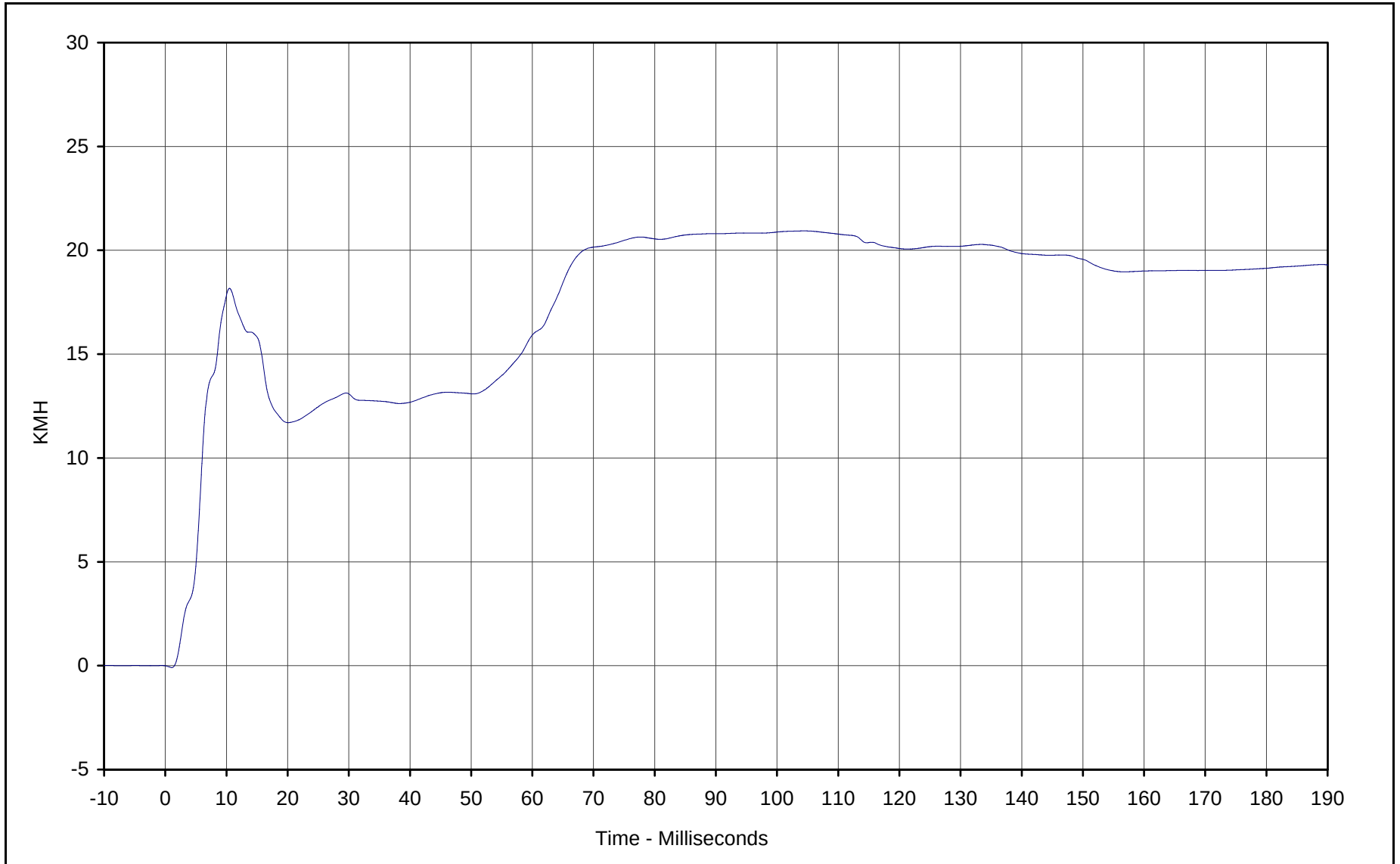




Curve Description: A-Post Lower Y
Maximum Value: 86.2 at 5.9 Milliseconds
Minimum Value: -29.3 at 16.1 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-024

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

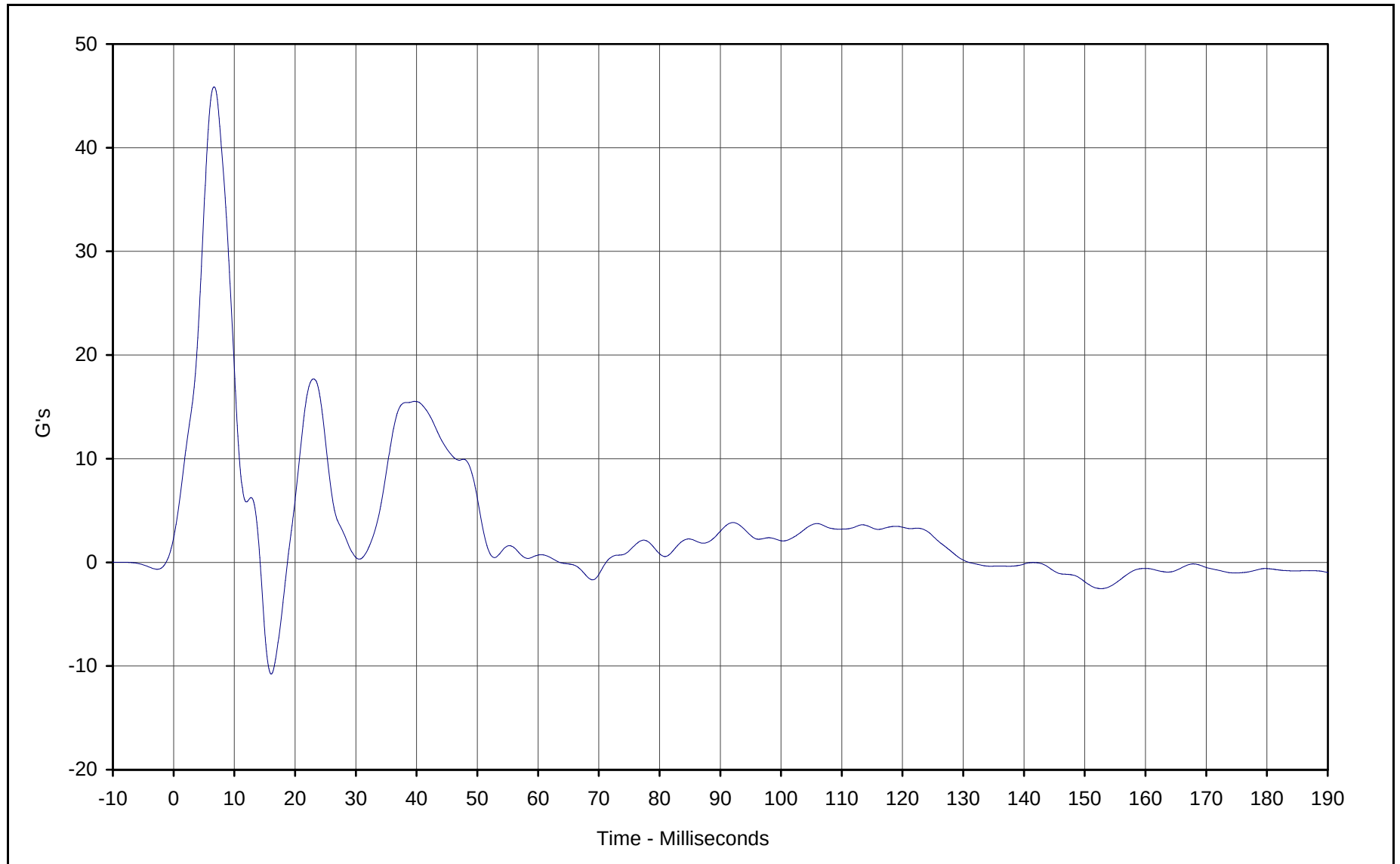




Curve Description: A-Post Lower Y Velocity
Maximum Value: 20.9 at 104.4 Milliseconds
Minimum Value: -0.1 at 1.0 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-024

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

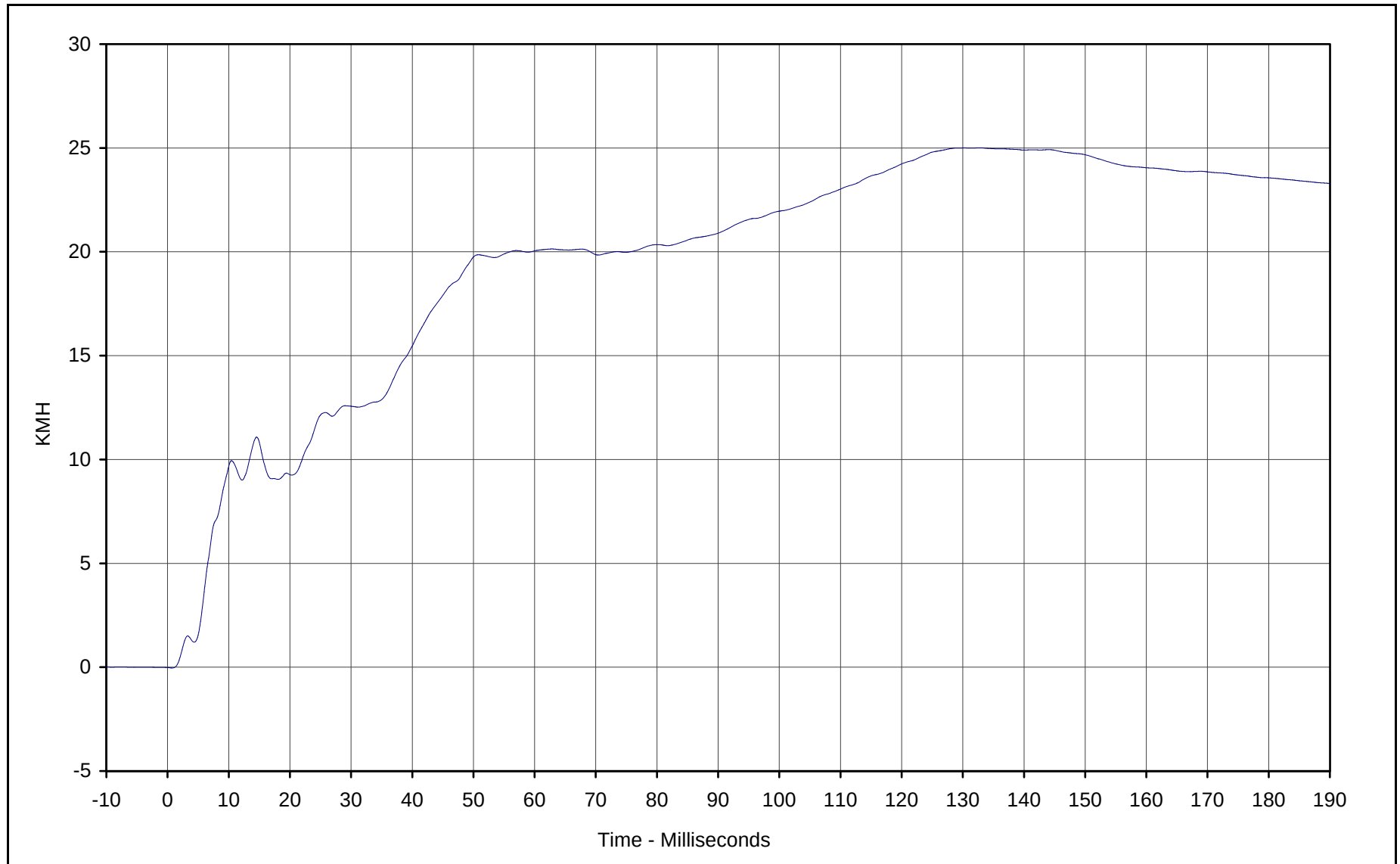




Curve Description: A-Post Middle Y
Maximum Value: 45.9 at 6.7 Milliseconds
Minimum Value: -10.8 at 16.1 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-025

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

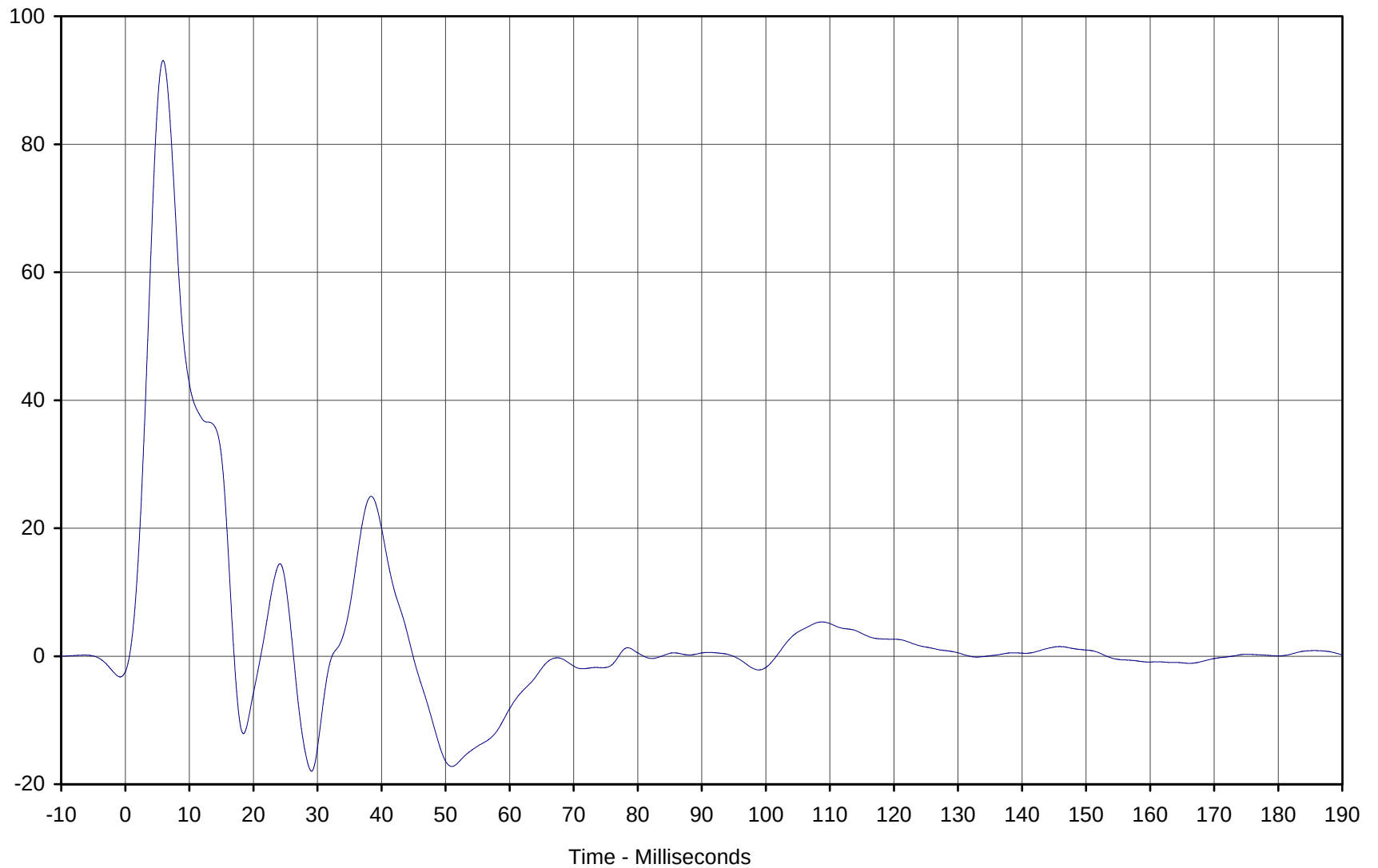




Curve Description: A-Post Middle Y Velocity
Maximum Value: 25.0 at 132.9 Milliseconds
Minimum Value: 0.0 at 0.7 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-025

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

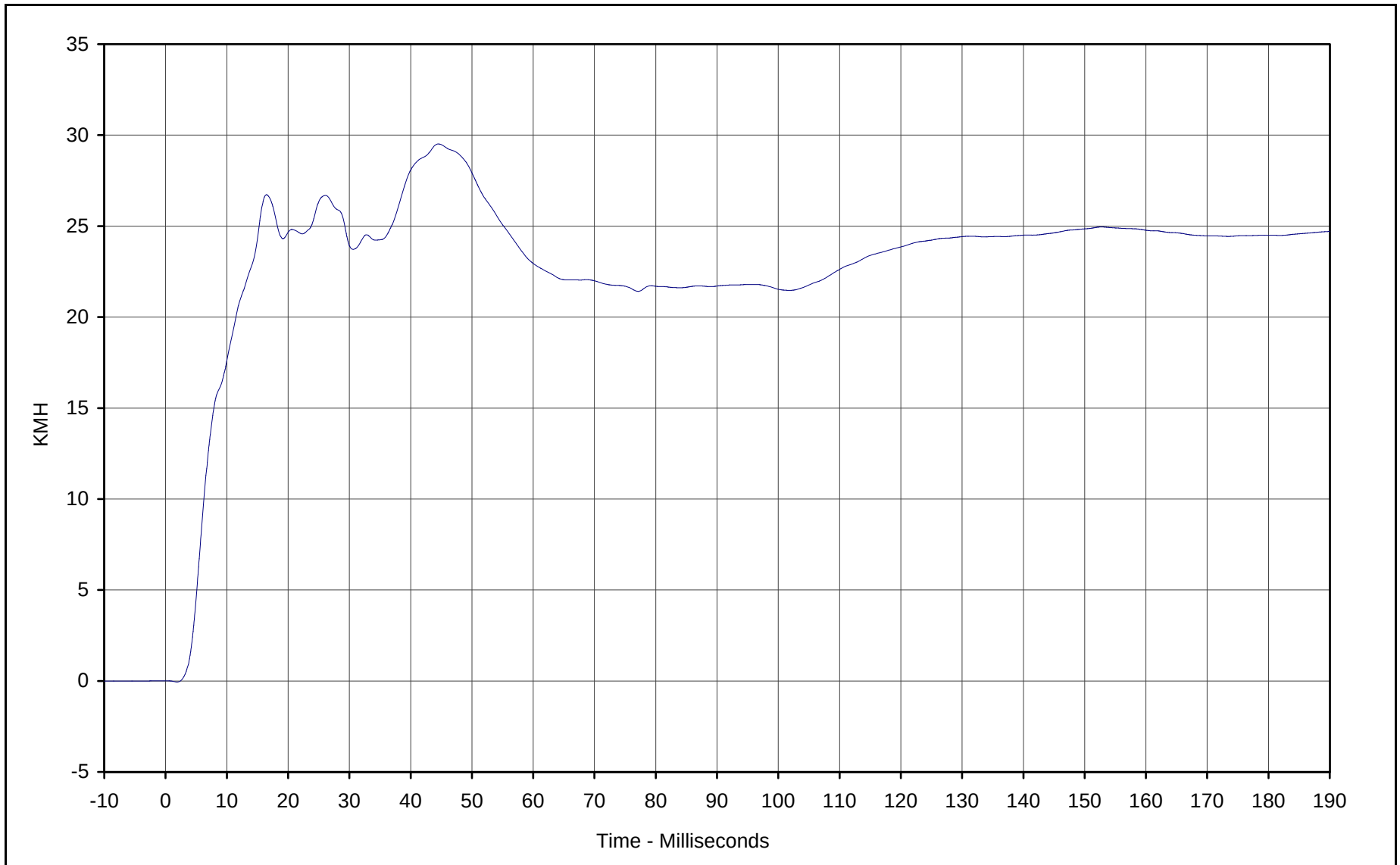




Curve Description: Left Front Seat Track Y
Maximum Value: 93.1 at 5.9 Milliseconds
Minimum Value: -18.0 at 29.1 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-026

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

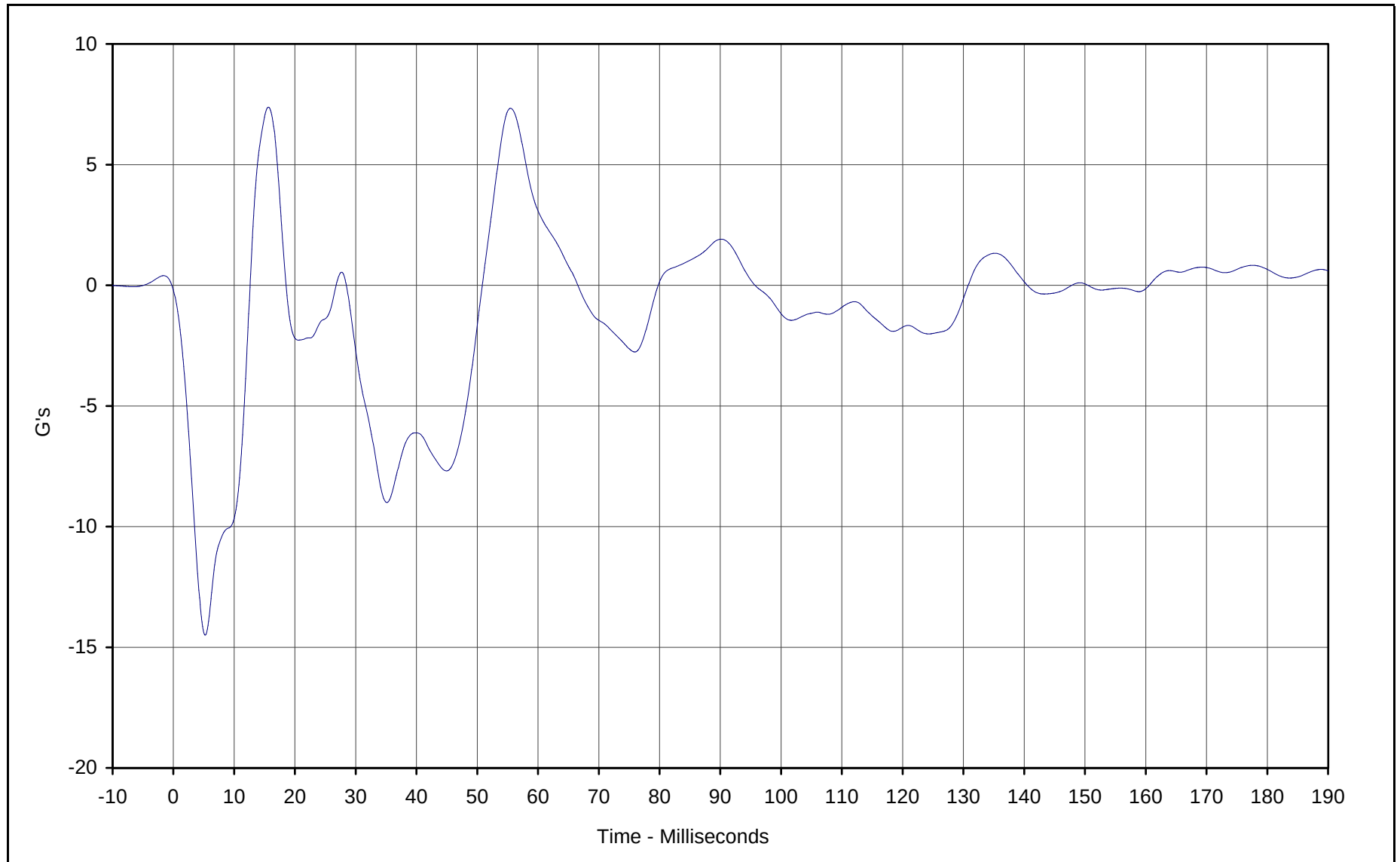




Curve Description: Left Front Seat Track Y Velocity
Maximum Value: 29.5 at 44.5 Milliseconds
Minimum Value: -0.1 at 1.9 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-026

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

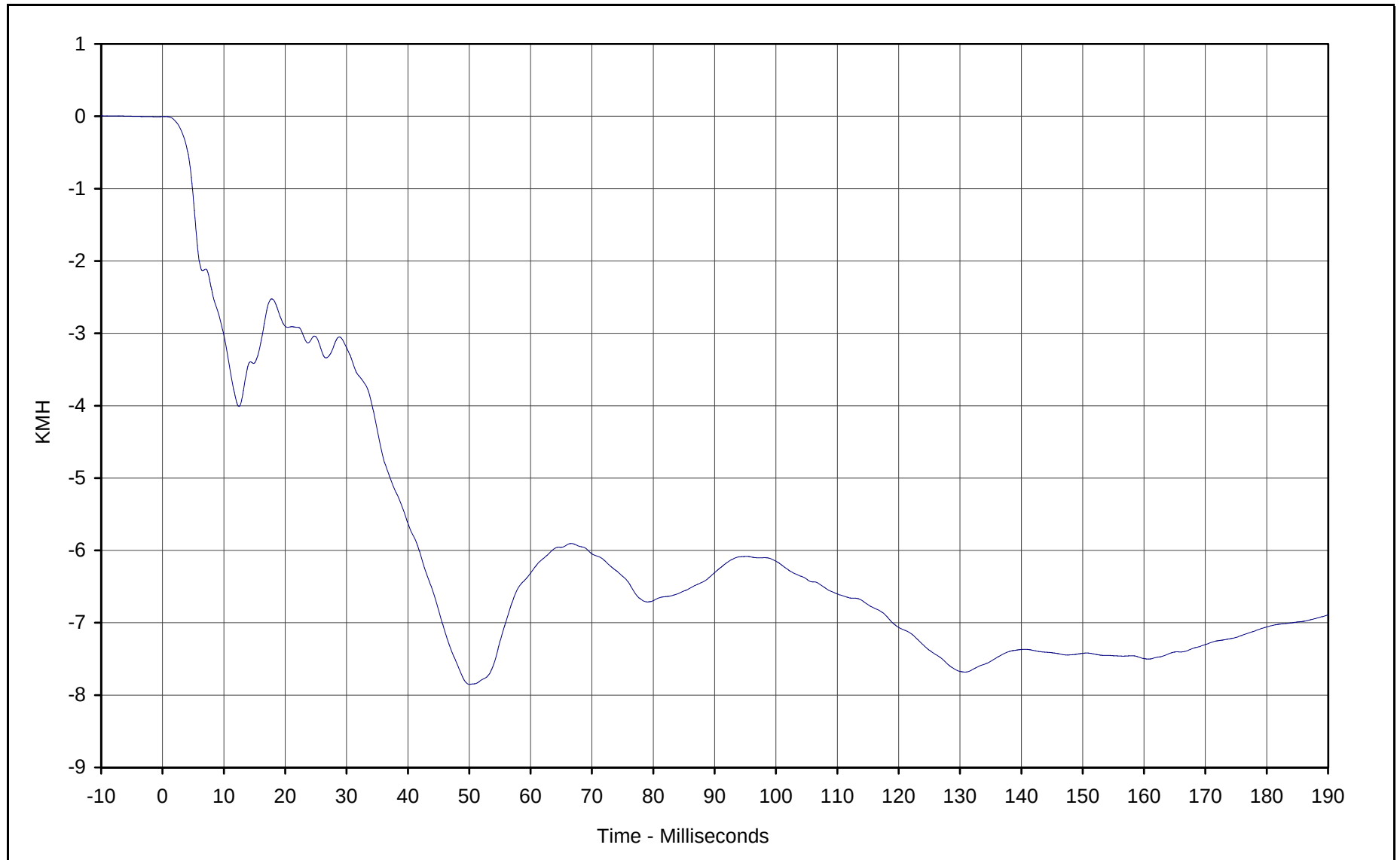




Curve Description: Vehicle CG X
Maximum Value: 7.4 at 15.6 Milliseconds
Minimum Value: -14.5 at 5.2 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-027

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

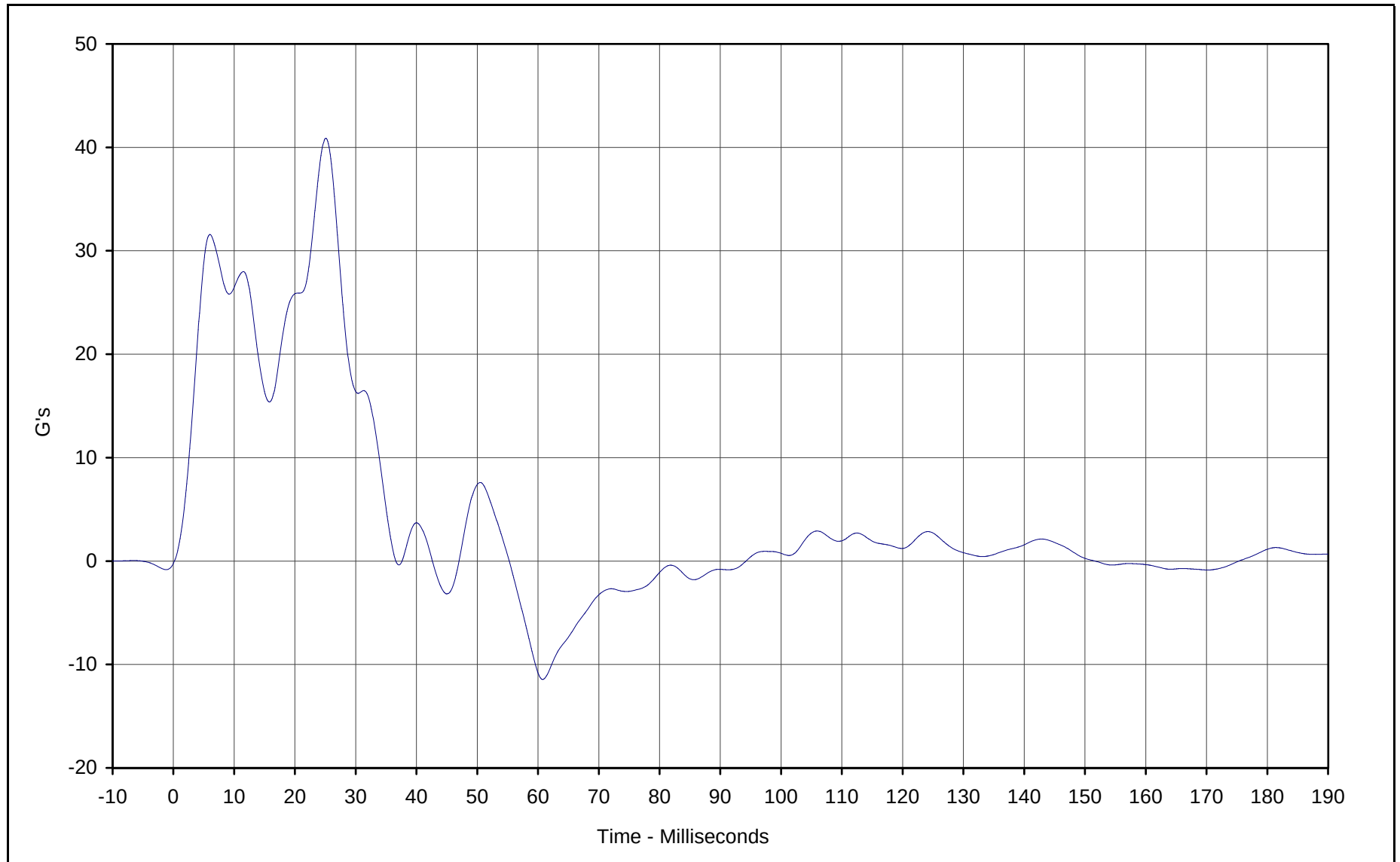




Curve Description: Vehicle CG X Velocity
Maximum Value: 0.0 at 0.4 Milliseconds
Minimum Value: -7.9 at 50.1 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-027

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

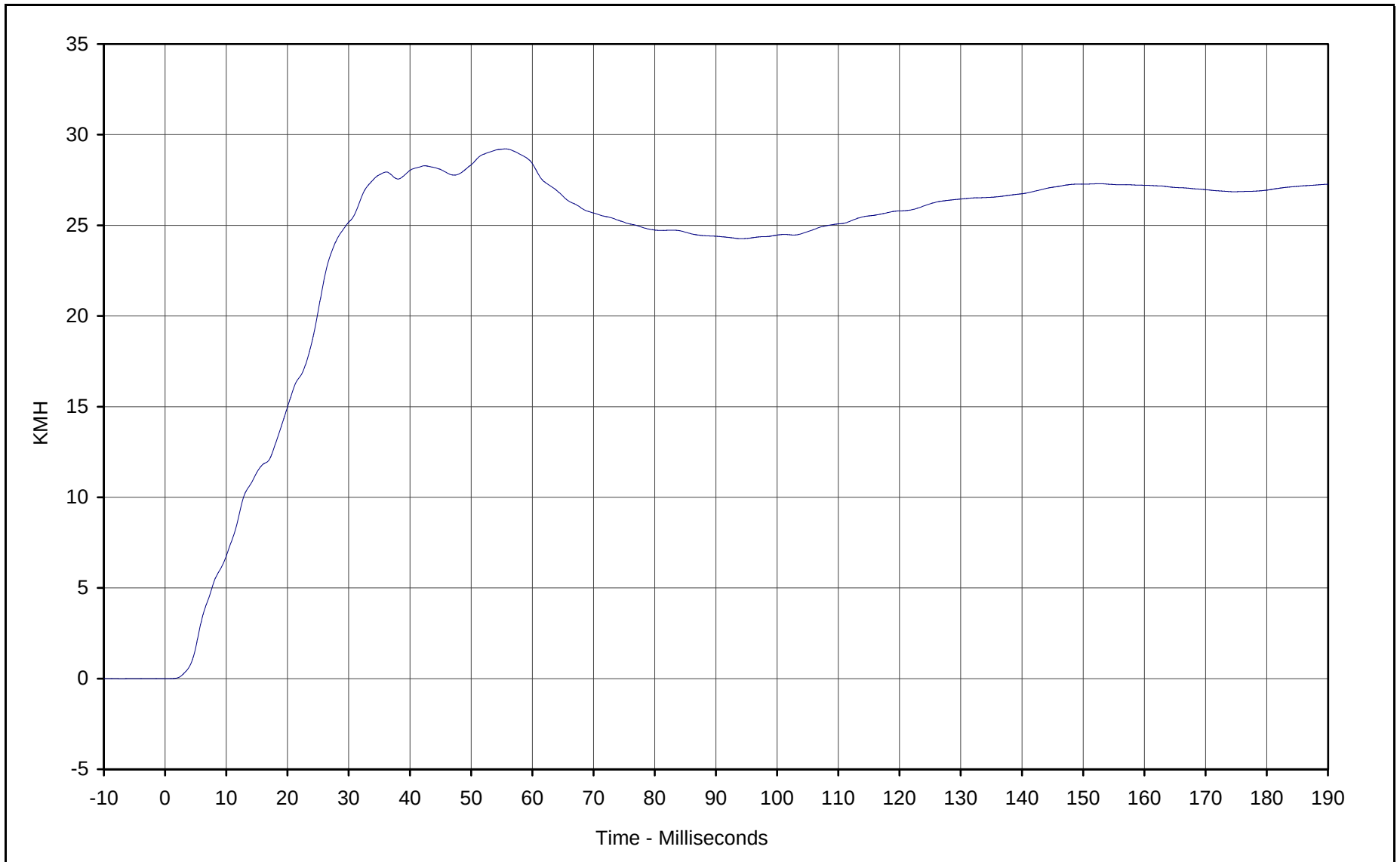




Curve Description: Vehicle CG Y
Maximum Value: 40.9 at 25.1 Milliseconds
Minimum Value: -11.4 at 60.8 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-028

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

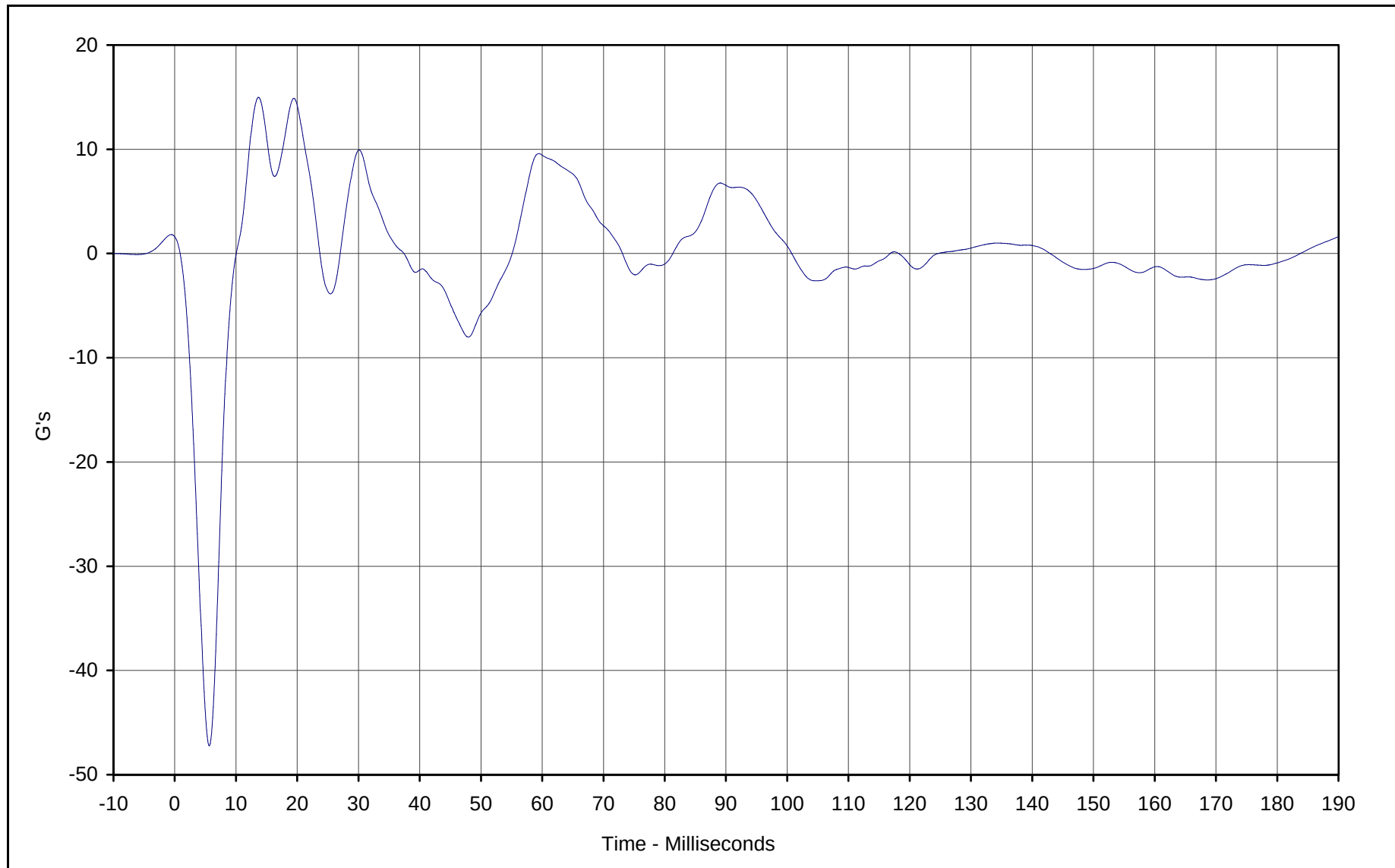




Curve Description: Vehicle CG Y Velocity
Maximum Value: 29.2 at 55.6 Milliseconds
Minimum Value: 0.0 at 0.9 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-028

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

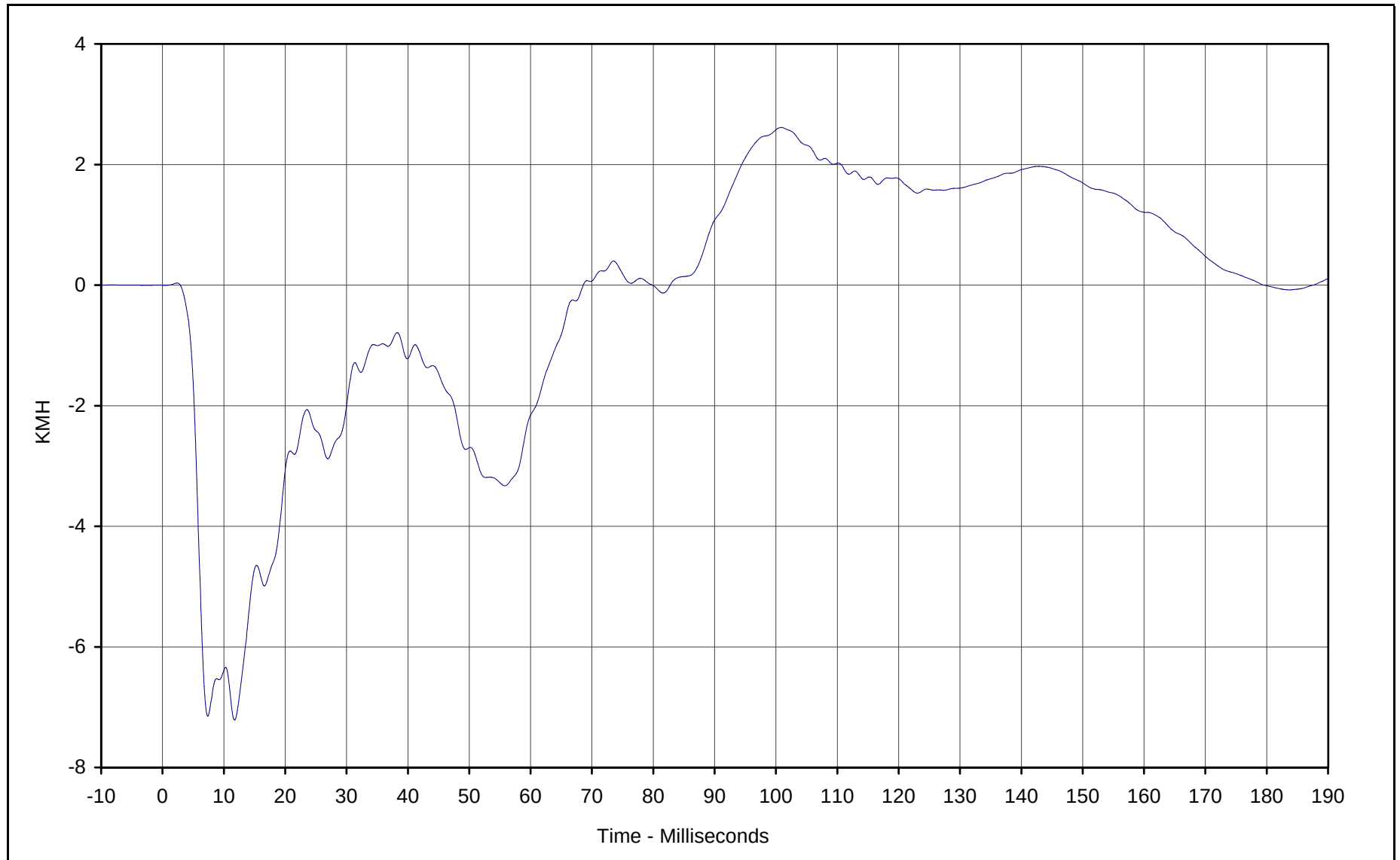




Curve Description: Vehicle CG Z
Maximum Value: 15.0 at 13.7 Milliseconds
Minimum Value: -47.2 at 5.6 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-029

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup



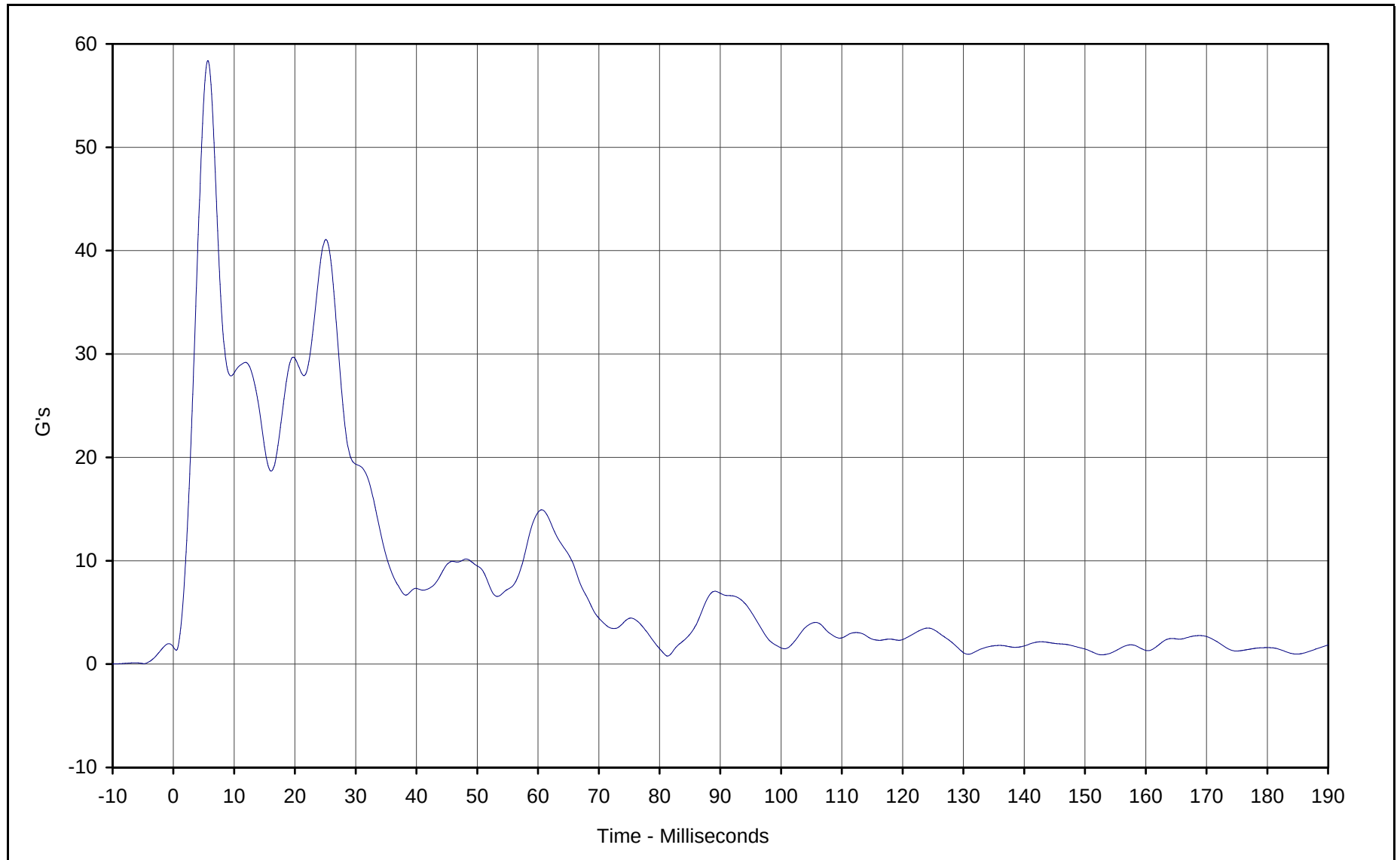


Curve Description: Vehicle CG Z Velocity
Maximum Value: 2.6 at 100.8 Milliseconds
Minimum Value: -7.2 at 11.8 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-029

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup



B-60

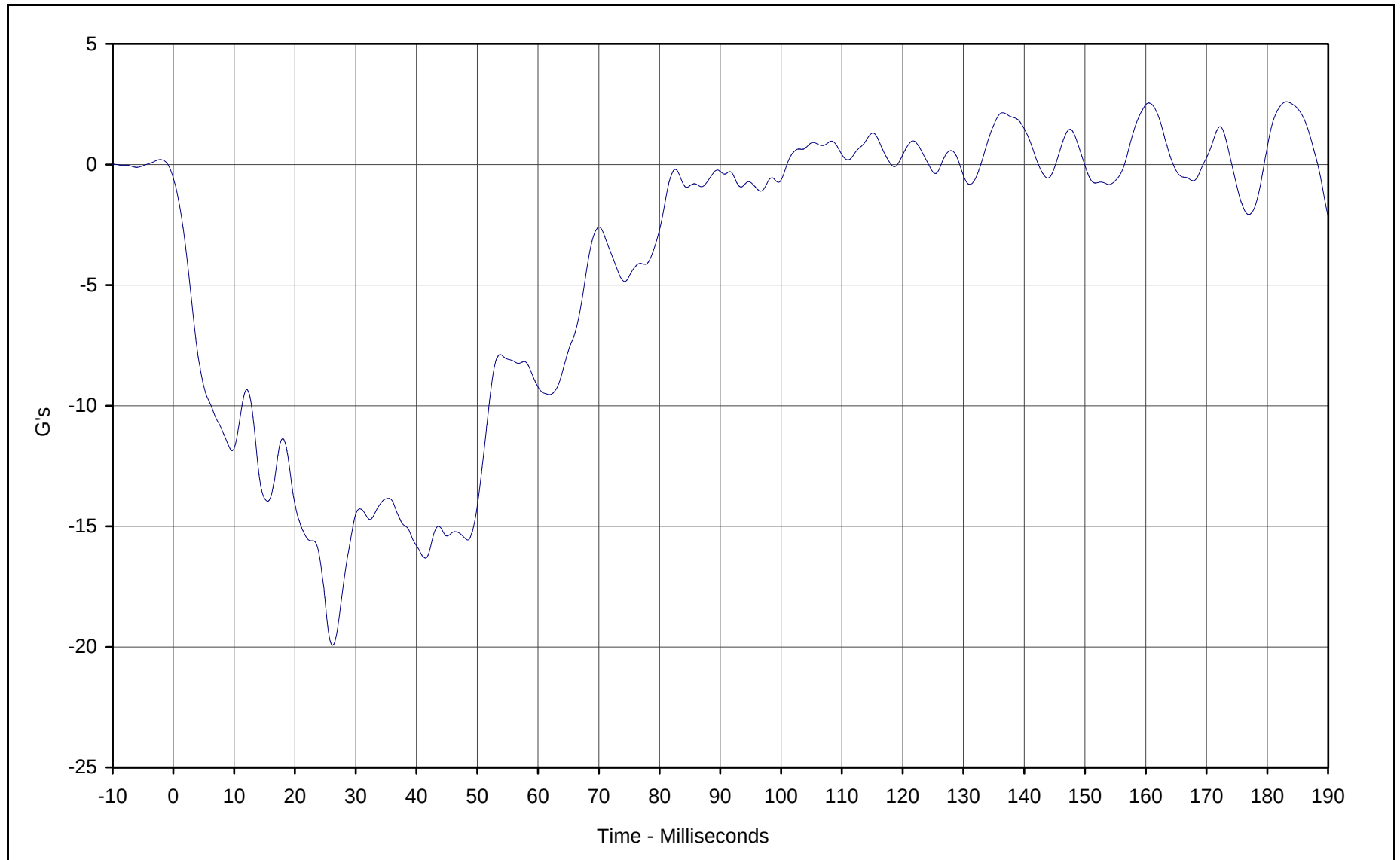


Curve Description: Vehicle CG Resultant
Maximum Value: 58.4 at 5.7 Milliseconds
Minimum Value: 0.8 at 81.3 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: RES-027

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup



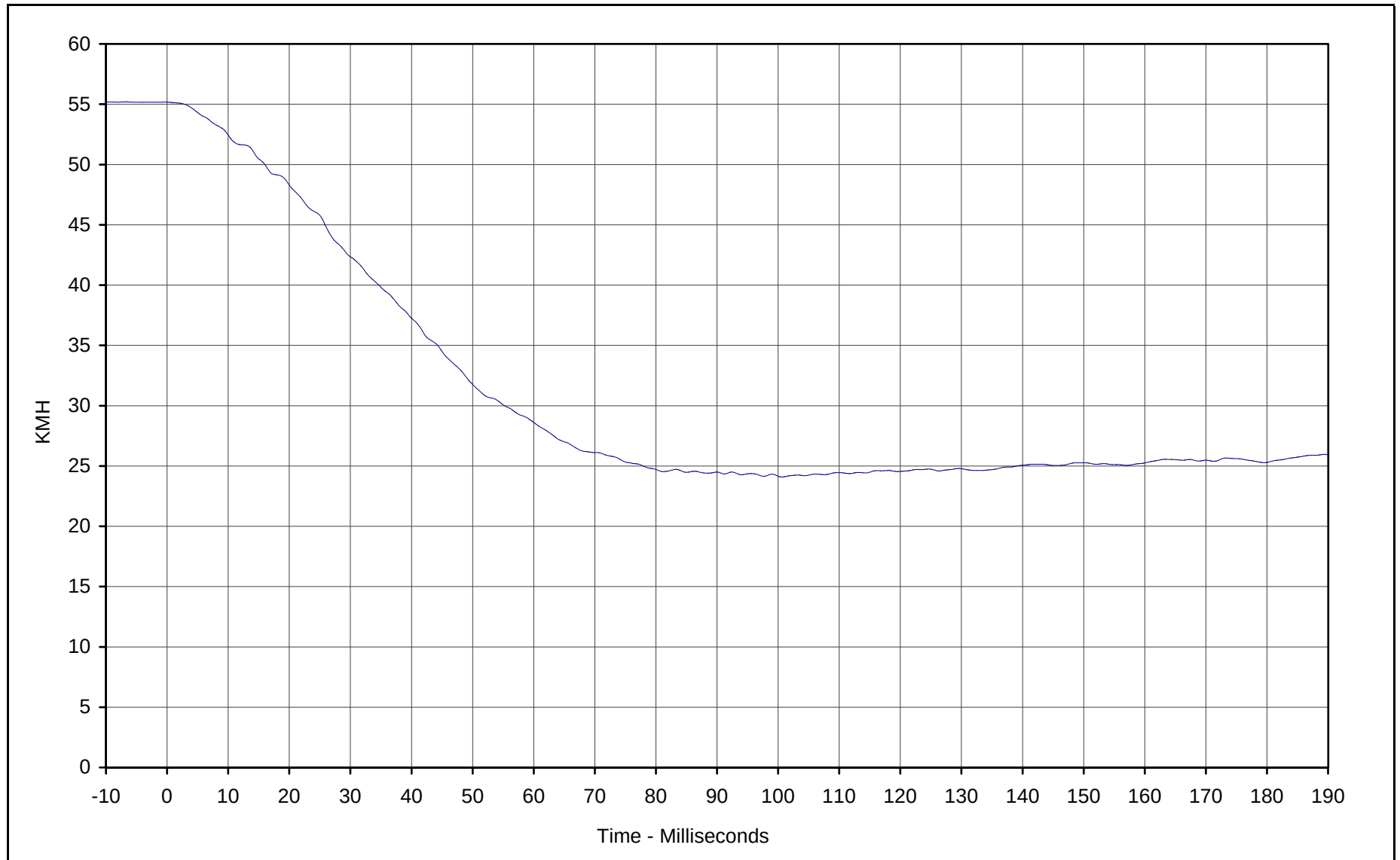
KAR21049-02



Curve Description: MDB CG X
Maximum Value: 2.6 at 183.2 Milliseconds
Minimum Value: -19.9 at 26.2 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-030

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

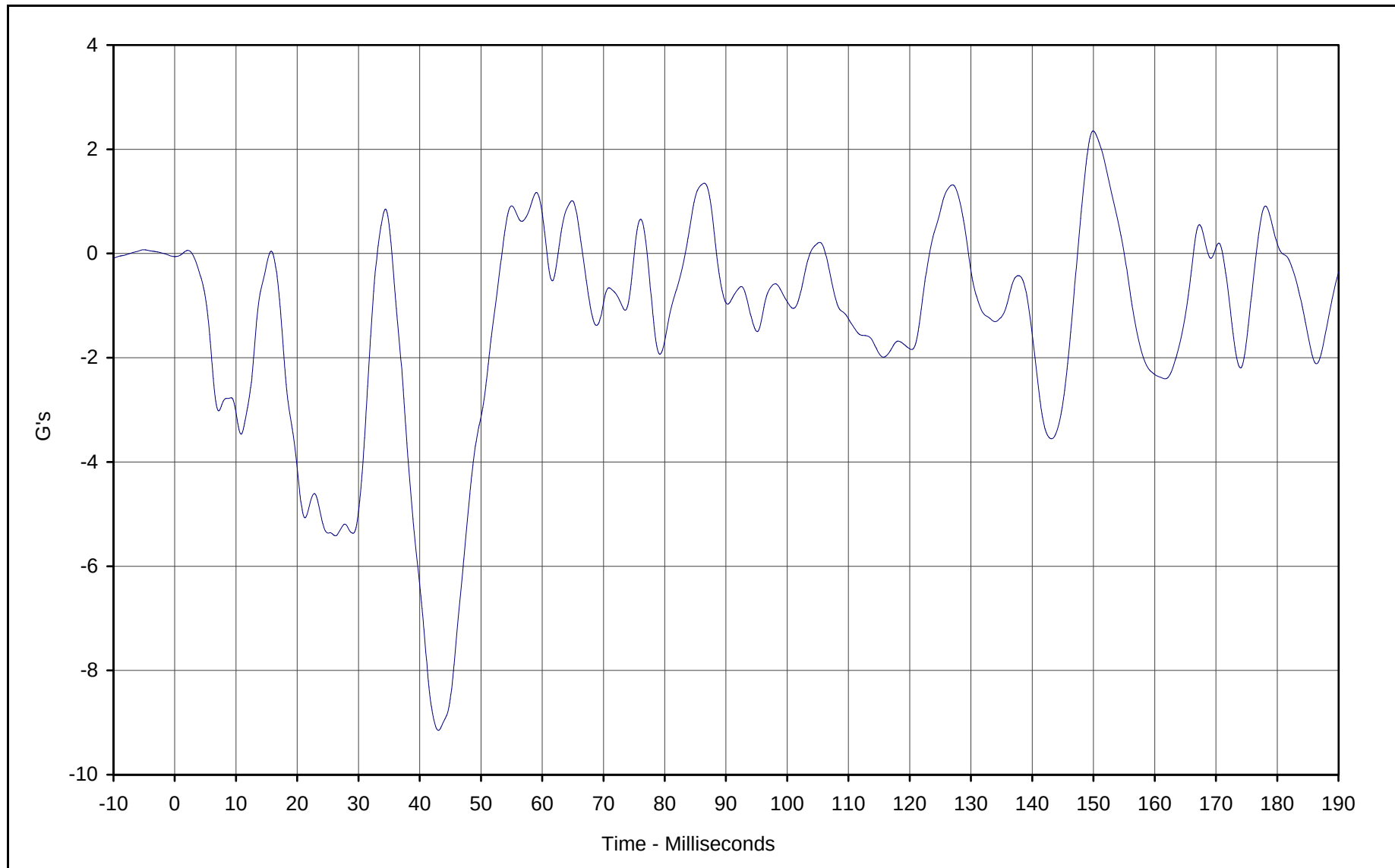




Curve Description: MDB CG X Velocity
Maximum Value: 55.2 at 0.0 Milliseconds
Minimum Value: 24.1 at 100.6 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-030

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

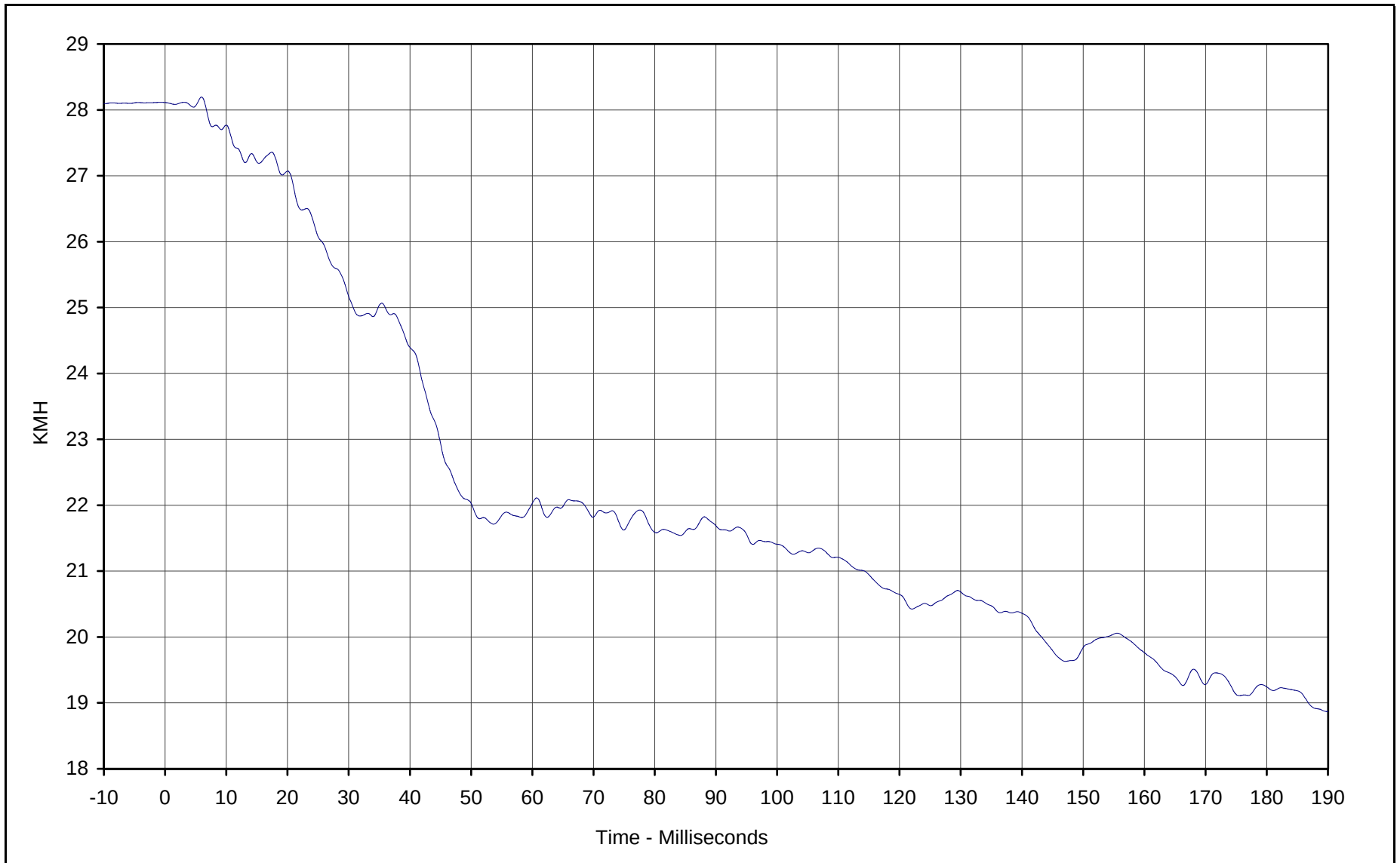




Curve Description: MDB CG Y
Maximum Value: 2.4 at 150.0 Milliseconds
Minimum Value: -9.1 at 43.1 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-031

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

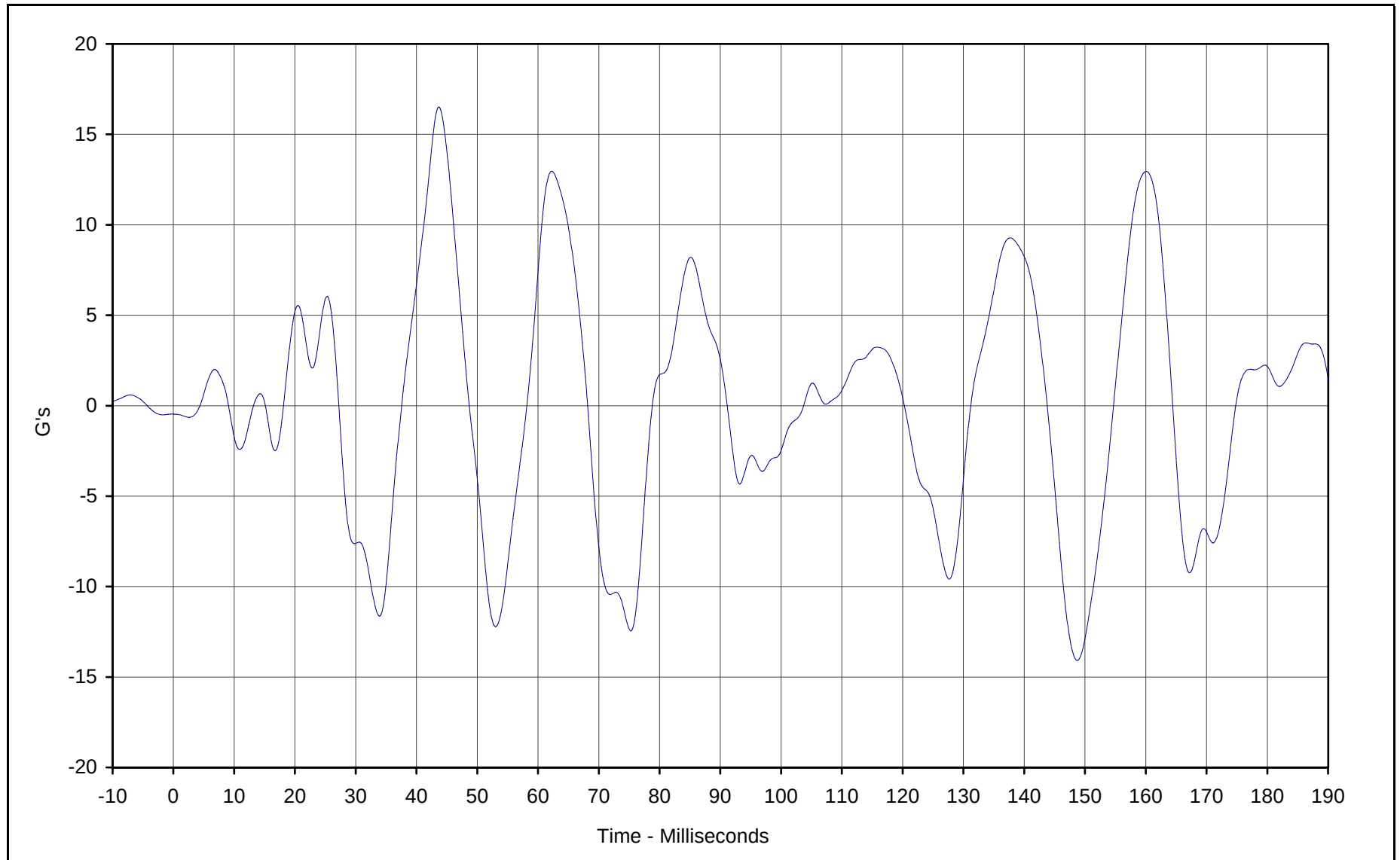




Curve Description: MDB CG Y Velocity
Maximum Value: 28.2 at 6.0 Milliseconds
Minimum Value: 18.9 at 189.8 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-031

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

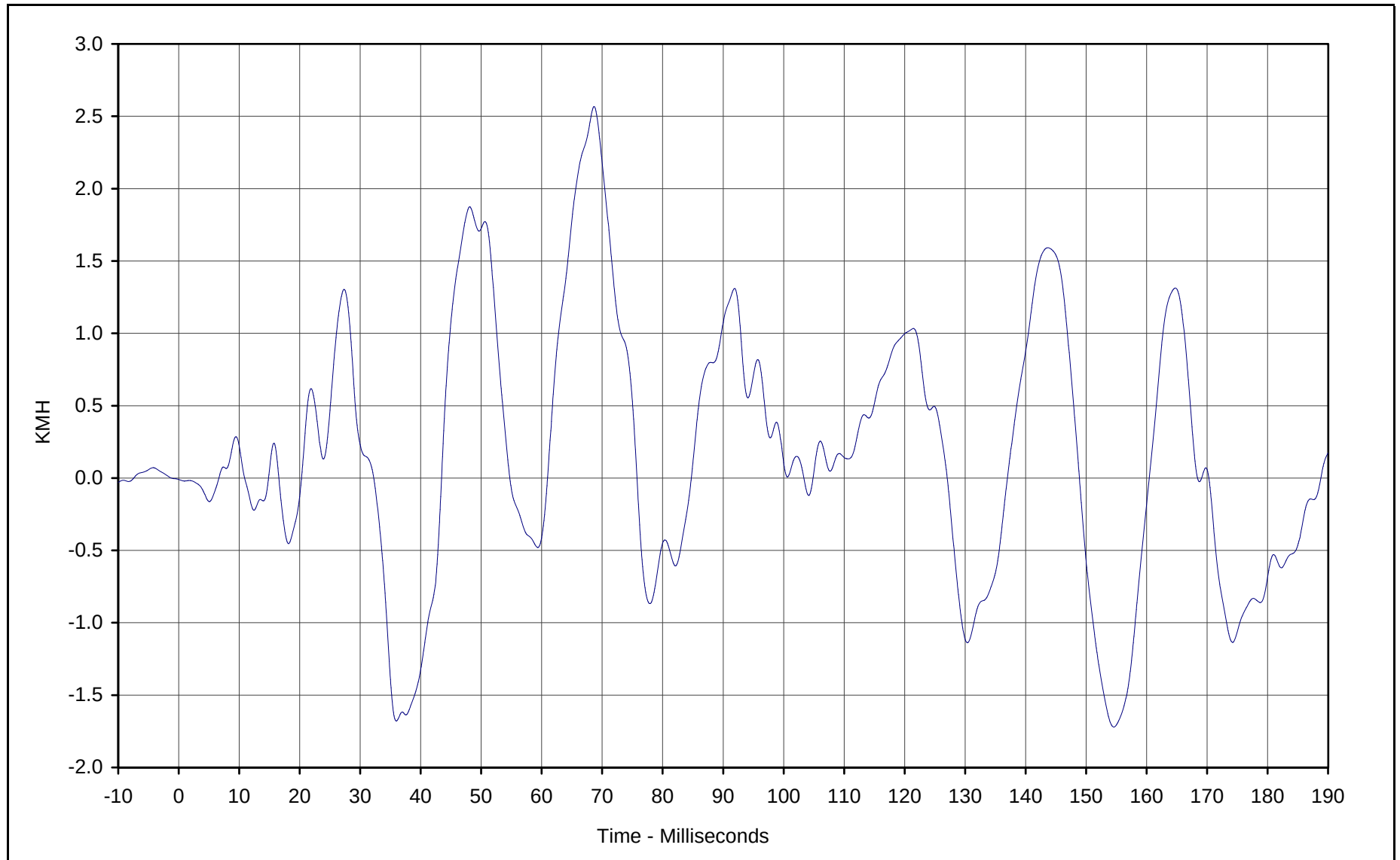




Curve Description: MDB CG Z
Maximum Value: 16.5 at 43.7 Milliseconds
Minimum Value: -14.1 at 148.7 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-032

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

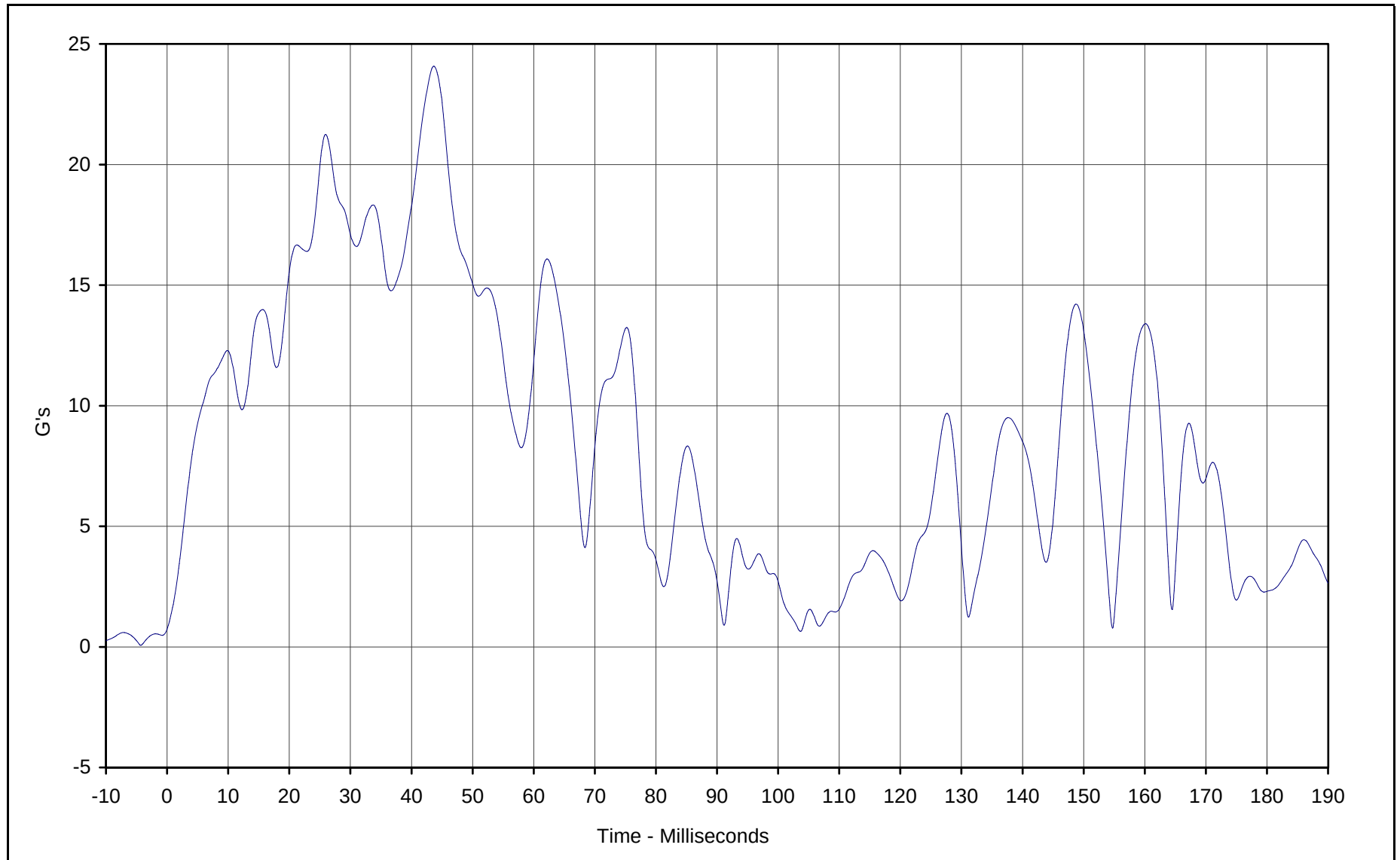




Curve Description: MDB CG Z Velocity
Maximum Value: 2.6 at 68.7 Milliseconds
Minimum Value: -1.7 at 154.6 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-032

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

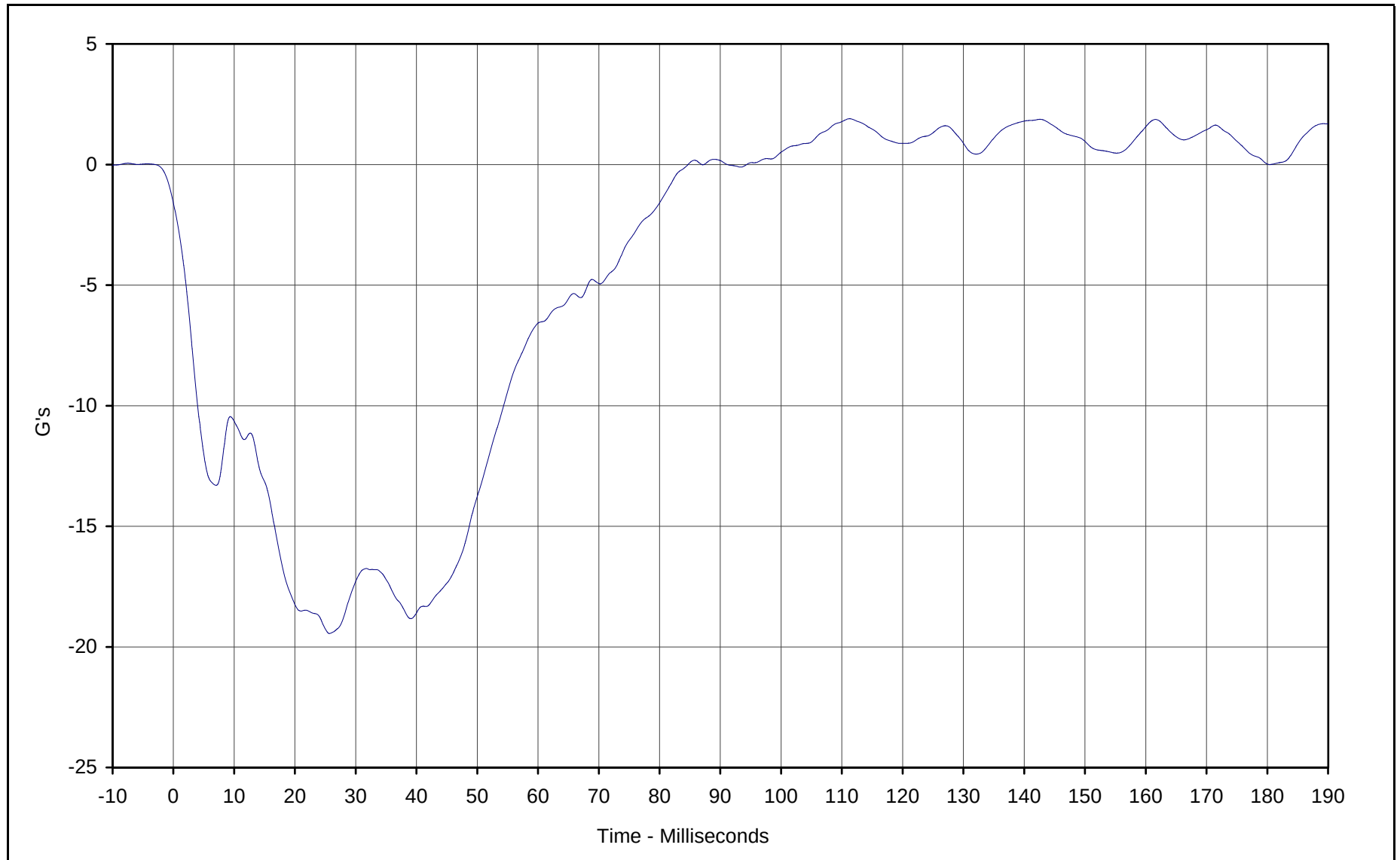




Curve Description: MDB CG Resultant
Maximum Value: 24.1 at 43.6 Milliseconds
Minimum Value: 0.6 at 103.7 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: RES-030

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

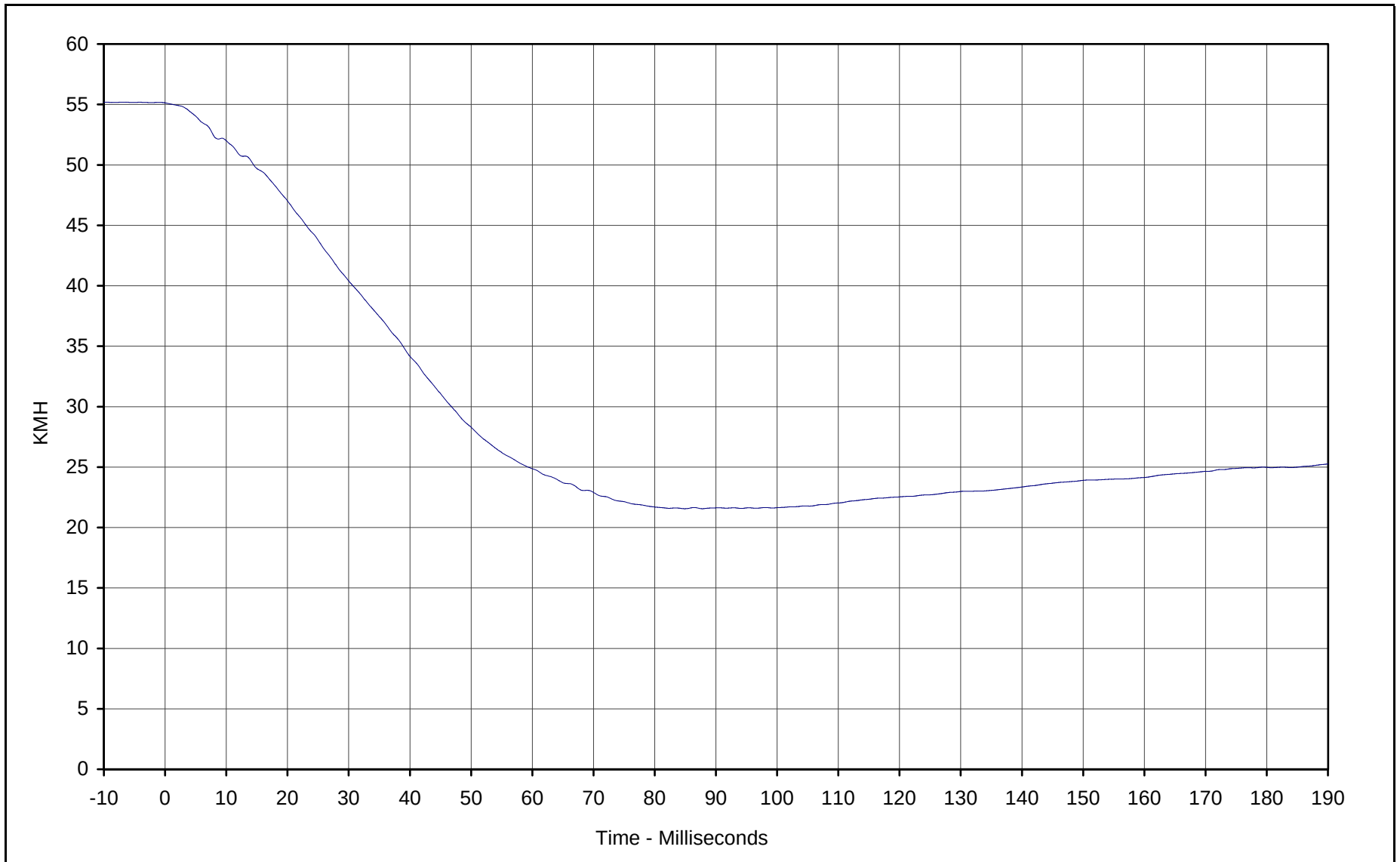




Curve Description: MDB Rear X
Maximum Value: 1.9 at 111.3 Milliseconds
Minimum Value: -19.4 at 25.7 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-033

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

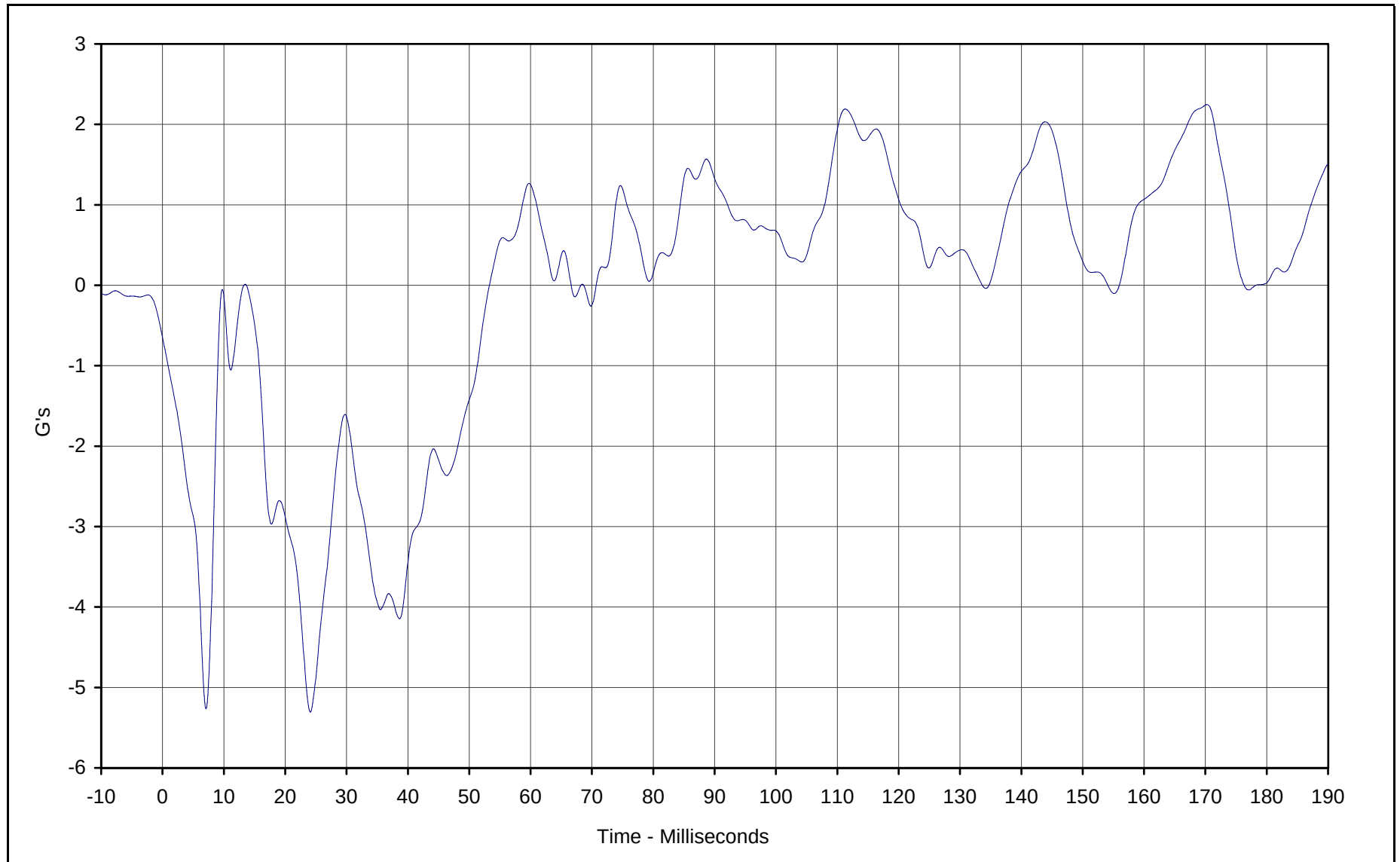




Curve Description: MDB Rear X Velocity
Maximum Value: 55.1 at 0.0 Milliseconds
Minimum Value: 21.6 at 87.8 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-033

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

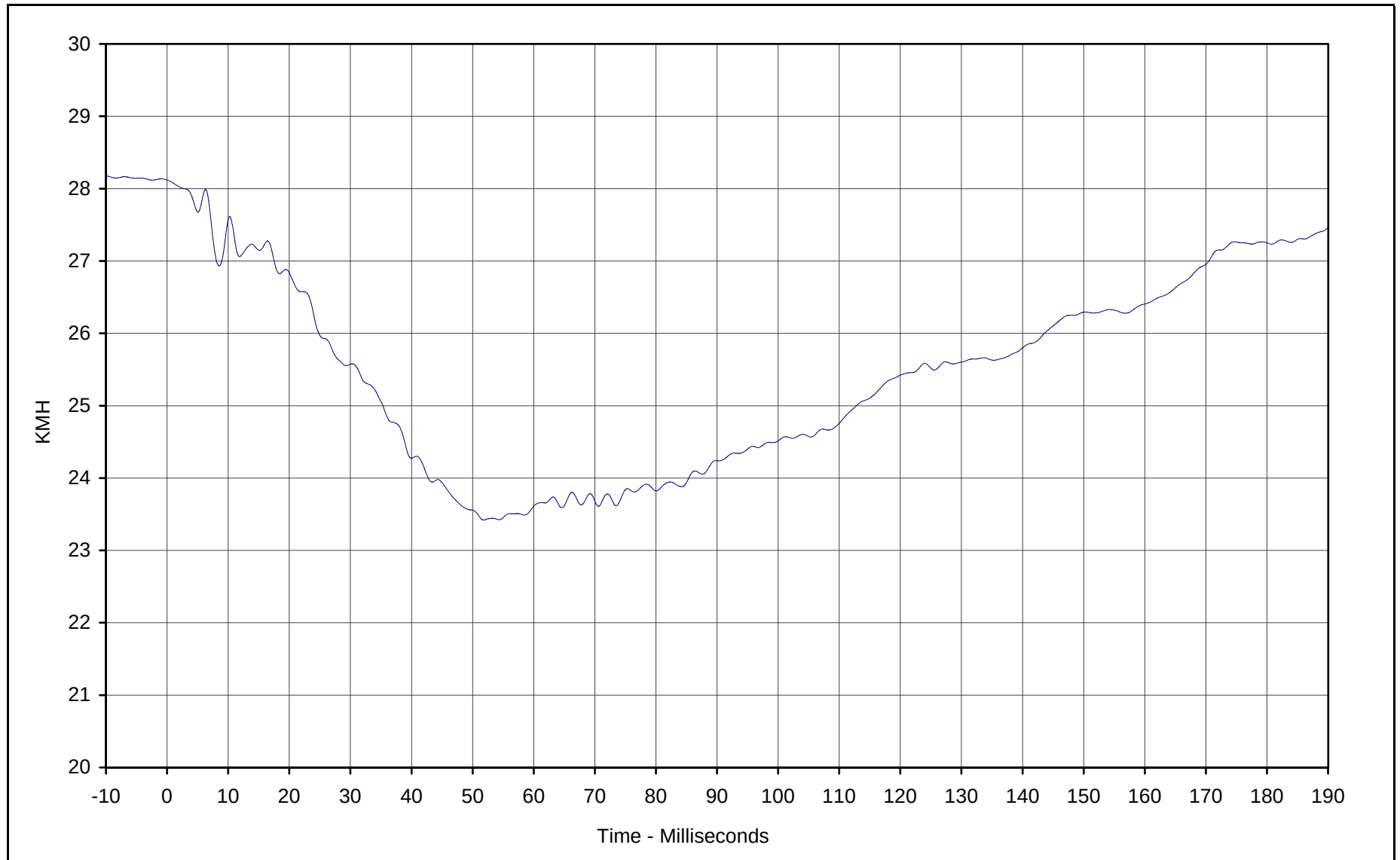




Curve Description: MDB Rear Y
Maximum Value: 2.2 at 170.3 Milliseconds
Minimum Value: -5.3 at 24.1 Milliseconds
SAE Filter Class: 60
Date of Test: 5/10/01
Curve Number: FIL-034

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

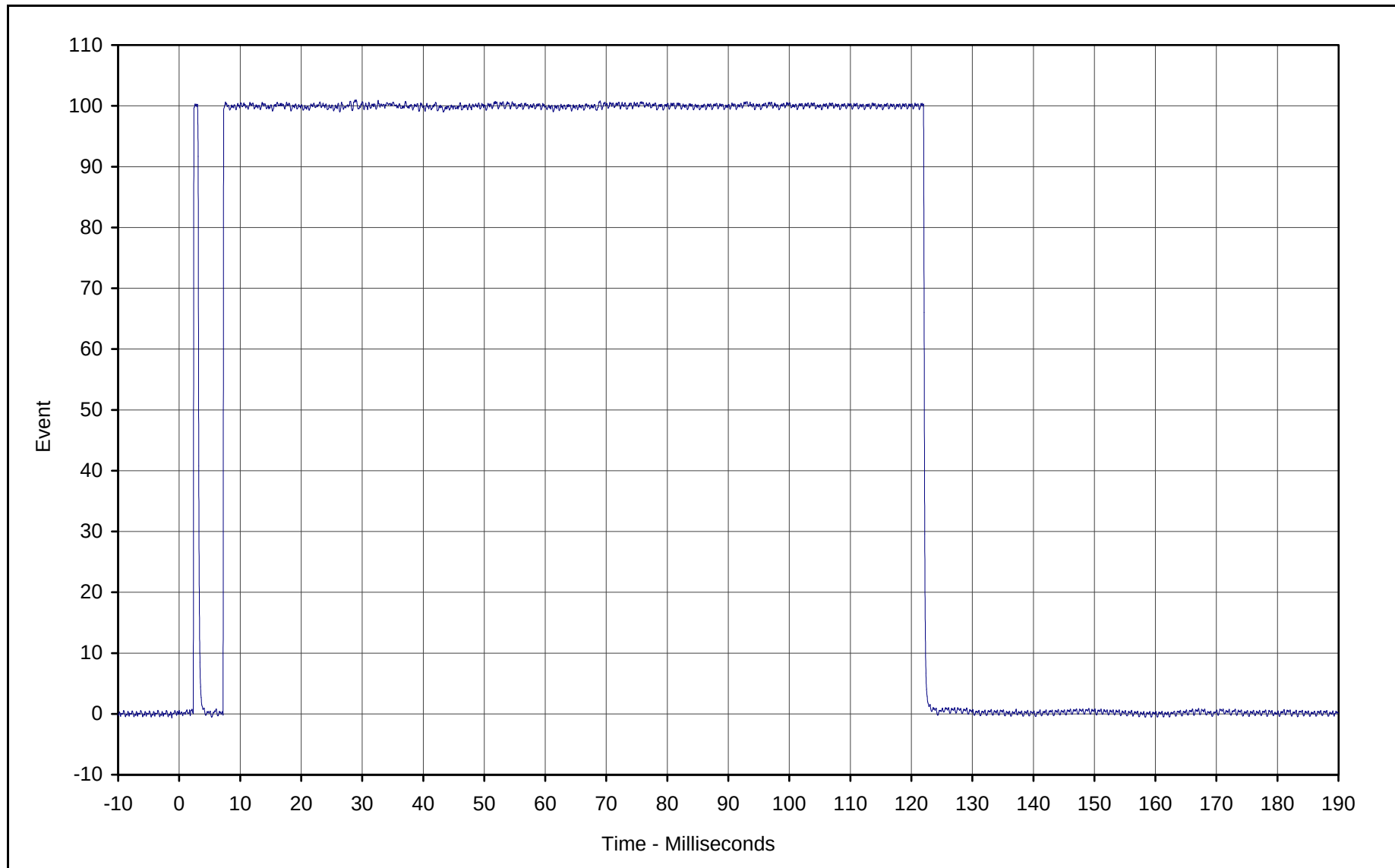




Curve Description: MDB Rear Y Velocity
Maximum Value: 28.1 at 0.0 Milliseconds
Minimum Value: 23.4 at 51.8 Milliseconds
SAE Filter Class: 180
Date of Test: 5/10/01
Curve Number: IN1-034

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

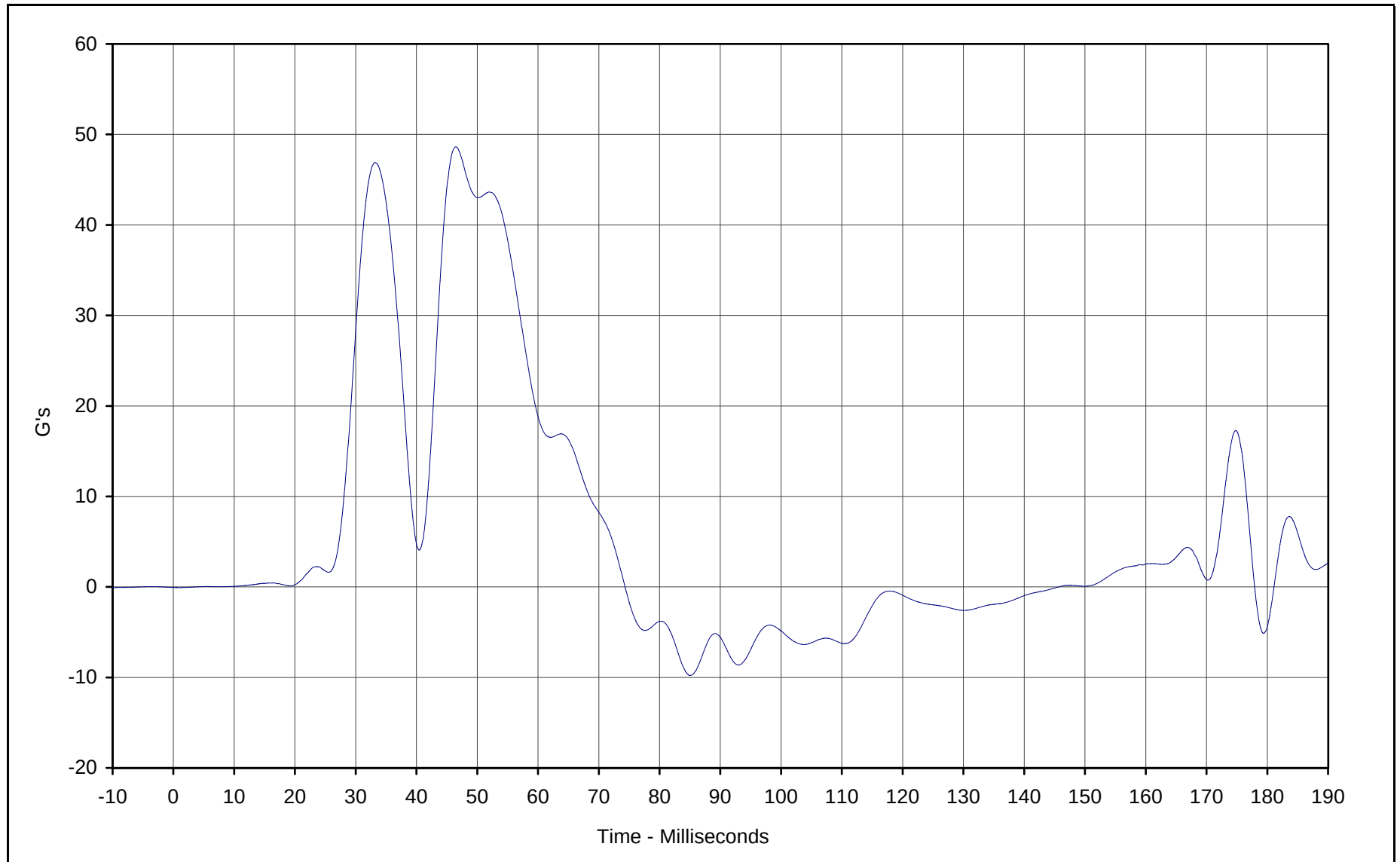




Curve Description: MDB Right Bumper Contact
Maximum Value: 101.0 at 29.0 Milliseconds
Crossing Point: 50% at 2.4 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/10/01
Curve Number: FIL-035

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

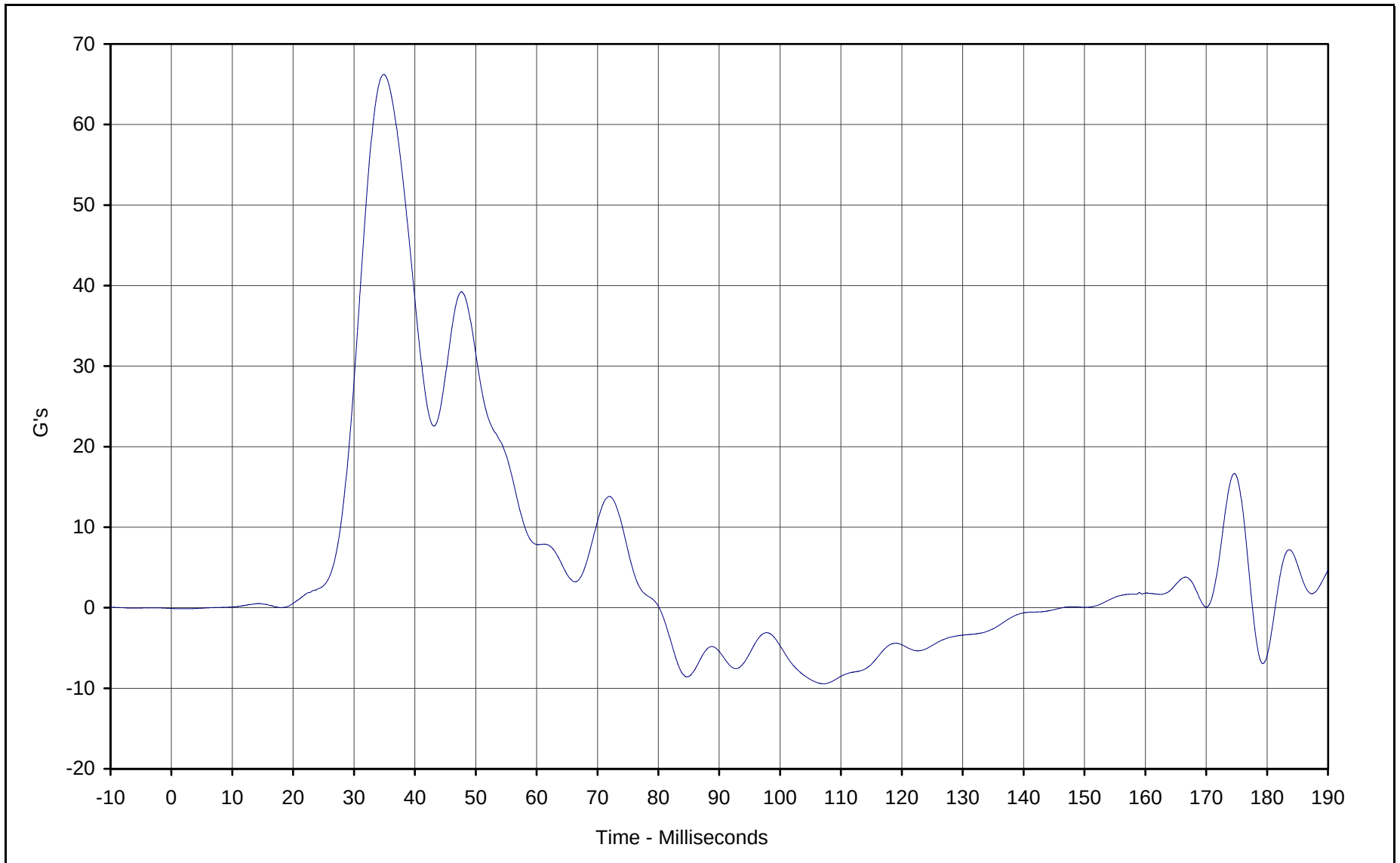




Curve Description: Driver Upper Rib Primary Y
Maximum Value: 48.6 at 46.5 Milliseconds
Minimum Value: -9.8 at 85.1 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-004

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

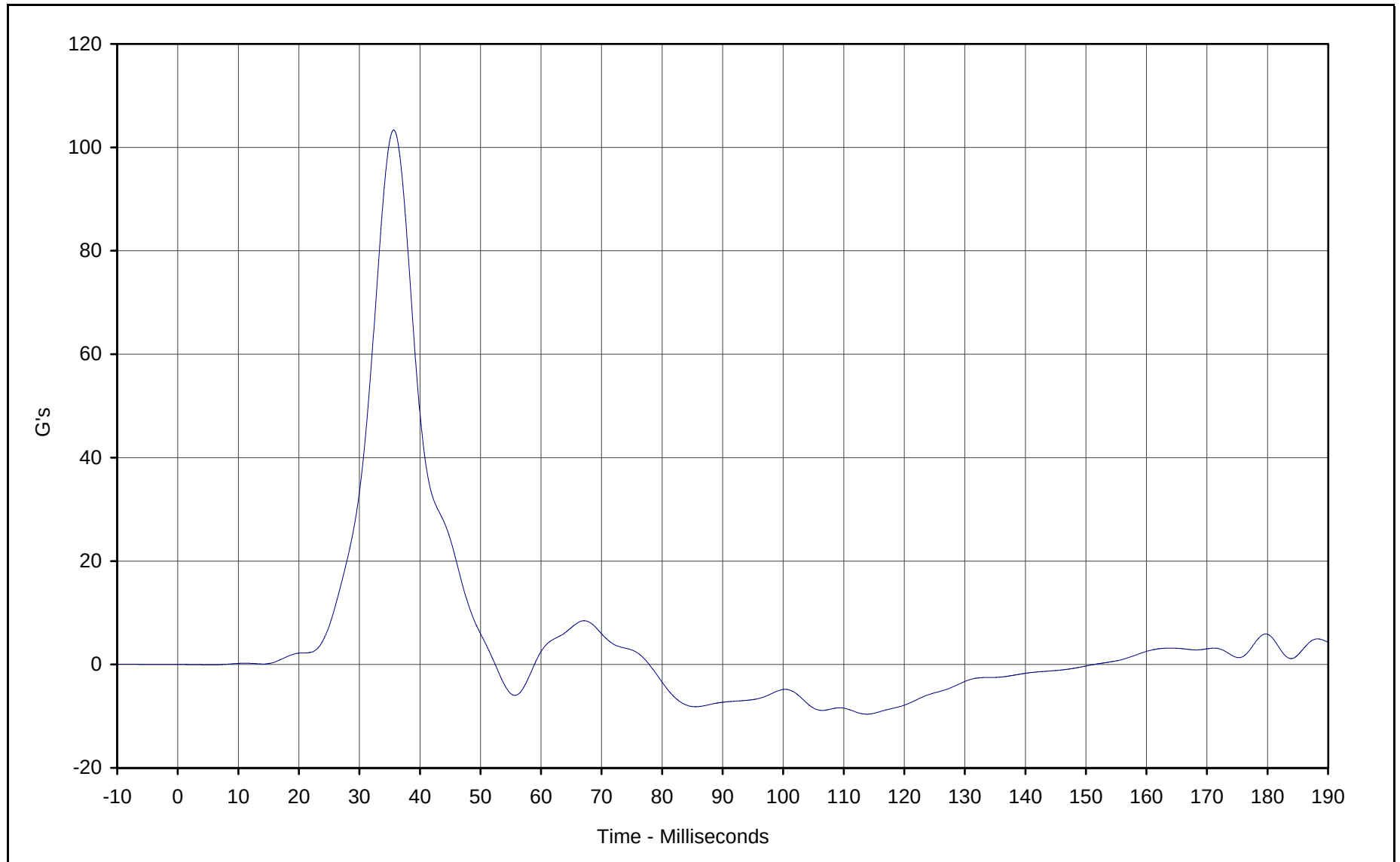




Curve Description: Driver Lower Rib Primary Y
Maximum Value: 66.2 at 34.9 Milliseconds
Minimum Value: -9.4 at 107.2 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-005

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

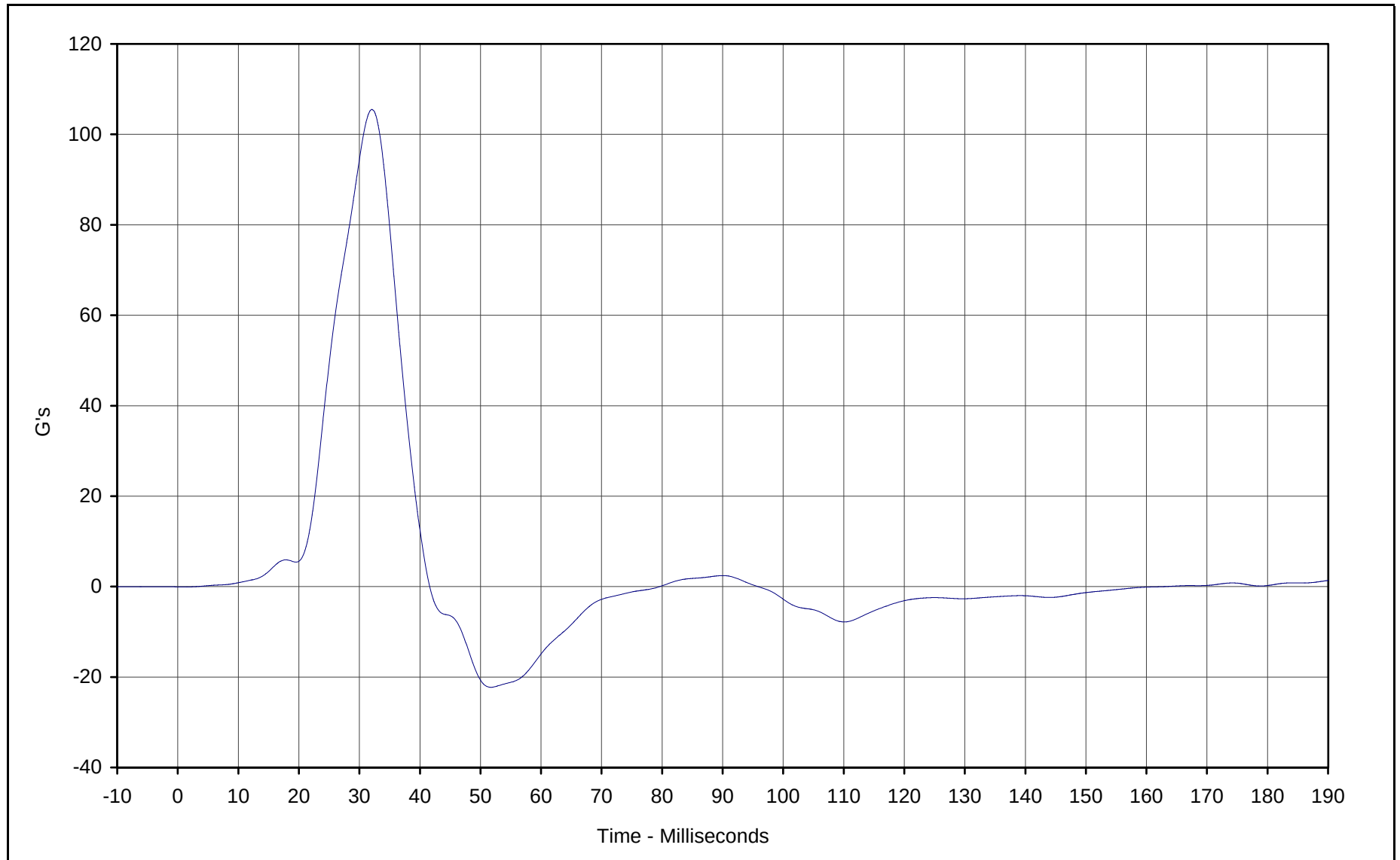




Curve Description: Driver Lower Spine Primary Y
Maximum Value: 103.4 at 35.7 Milliseconds
Minimum Value: -9.6 at 113.8 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-006

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

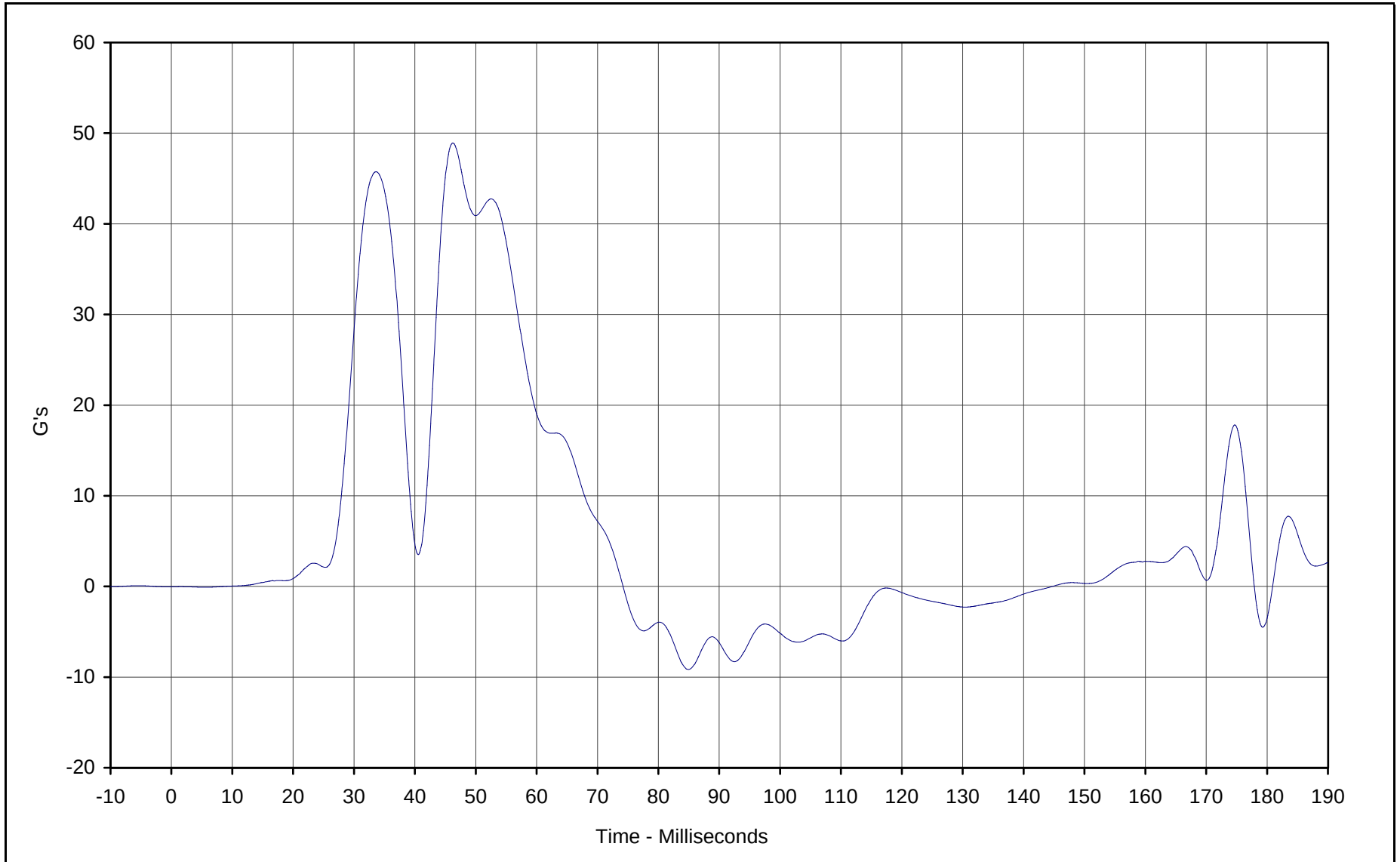




Curve Description: Driver Pelvis Primary Y
Maximum Value: 105.5 at 32.1 Milliseconds
Minimum Value: -22.3 at 51.7 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-007

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

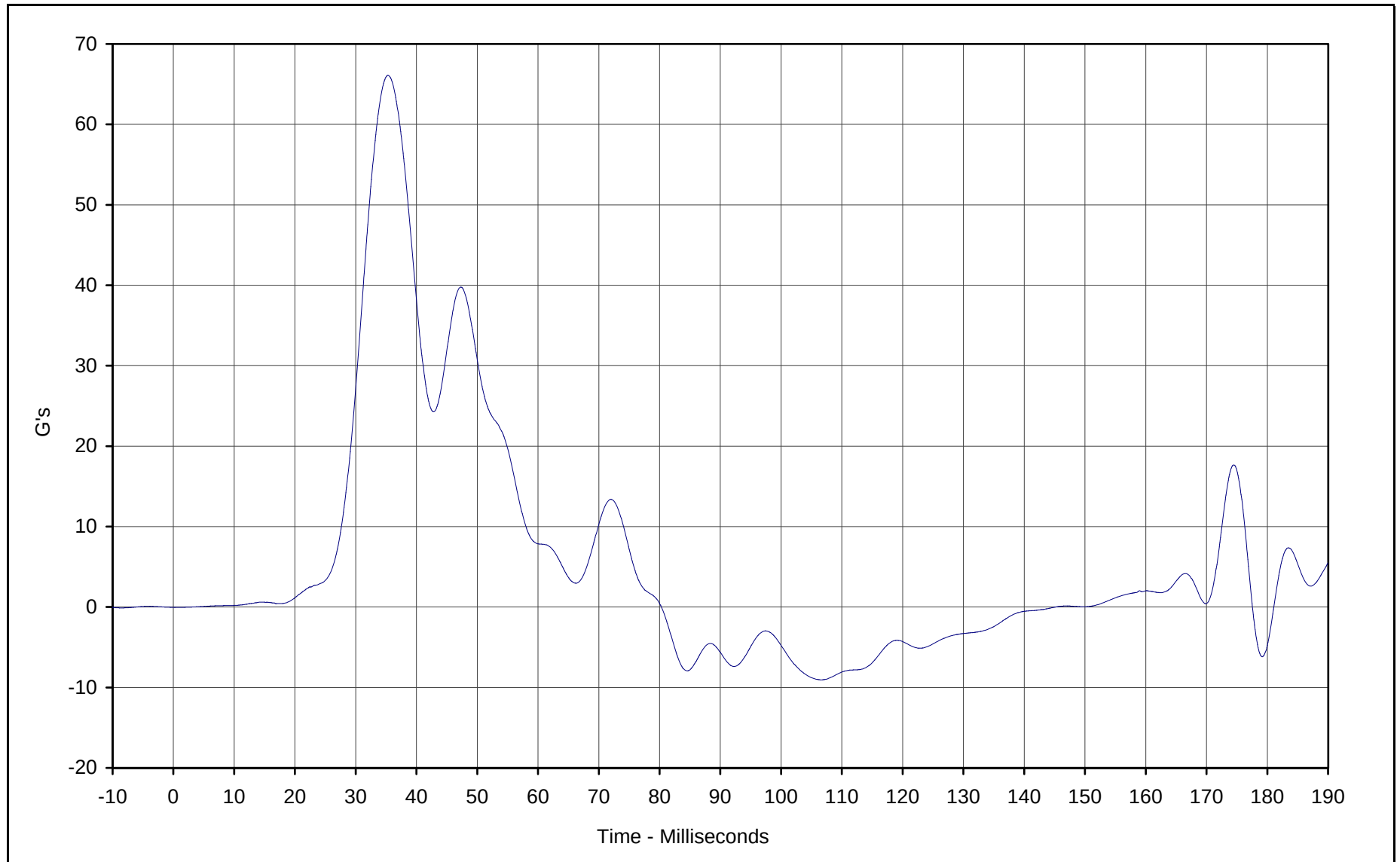




Curve Description: Driver Upper Rib Redundant Y
Maximum Value: 48.9 at 46.2 Milliseconds
Minimum Value: -9.2 at 84.9 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-008

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

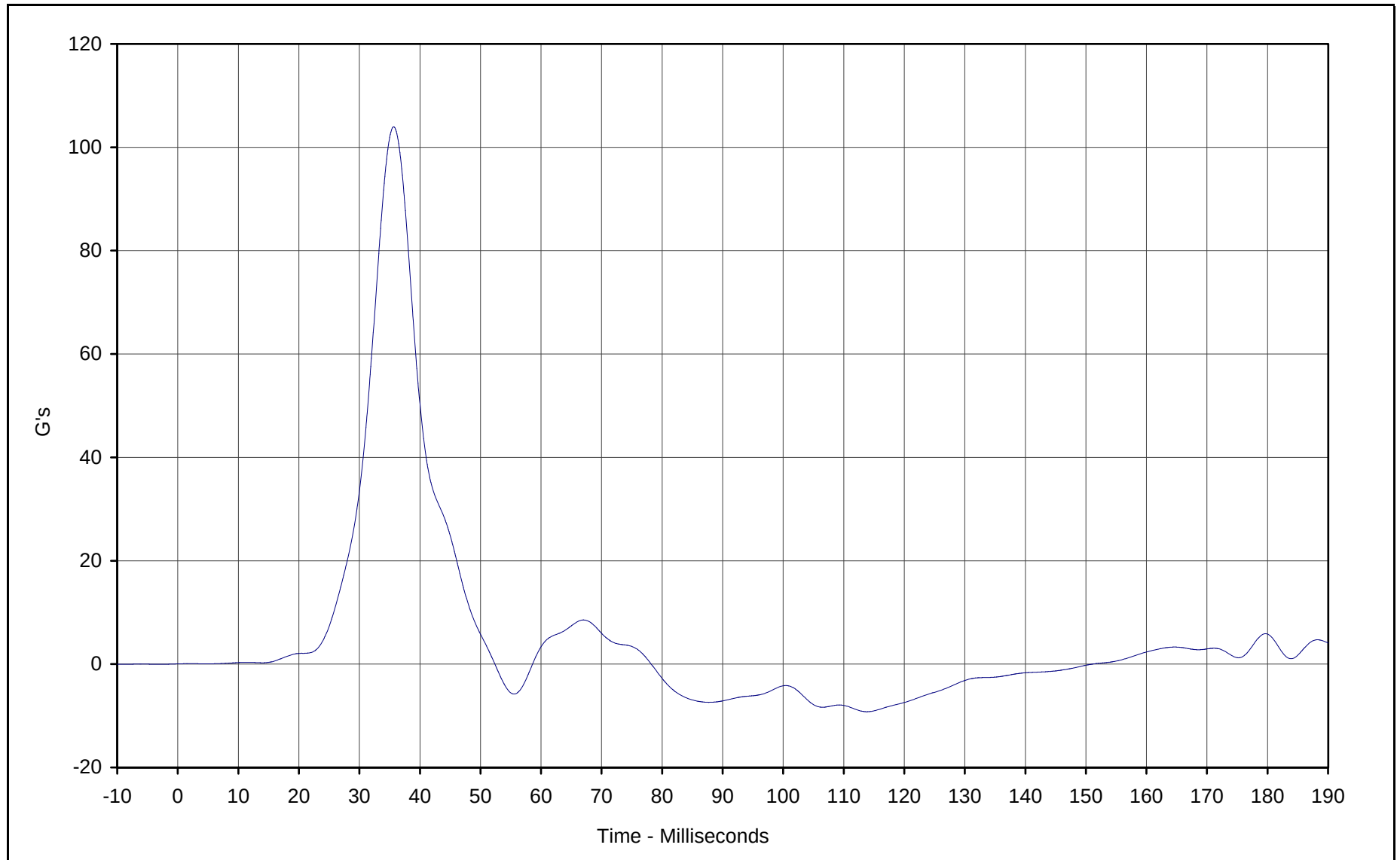




Curve Description: Driver Lower Rib Redundant Y
Maximum Value: 66.1 at 35.3 Milliseconds
Minimum Value: -9.1 at 106.5 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-009

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup

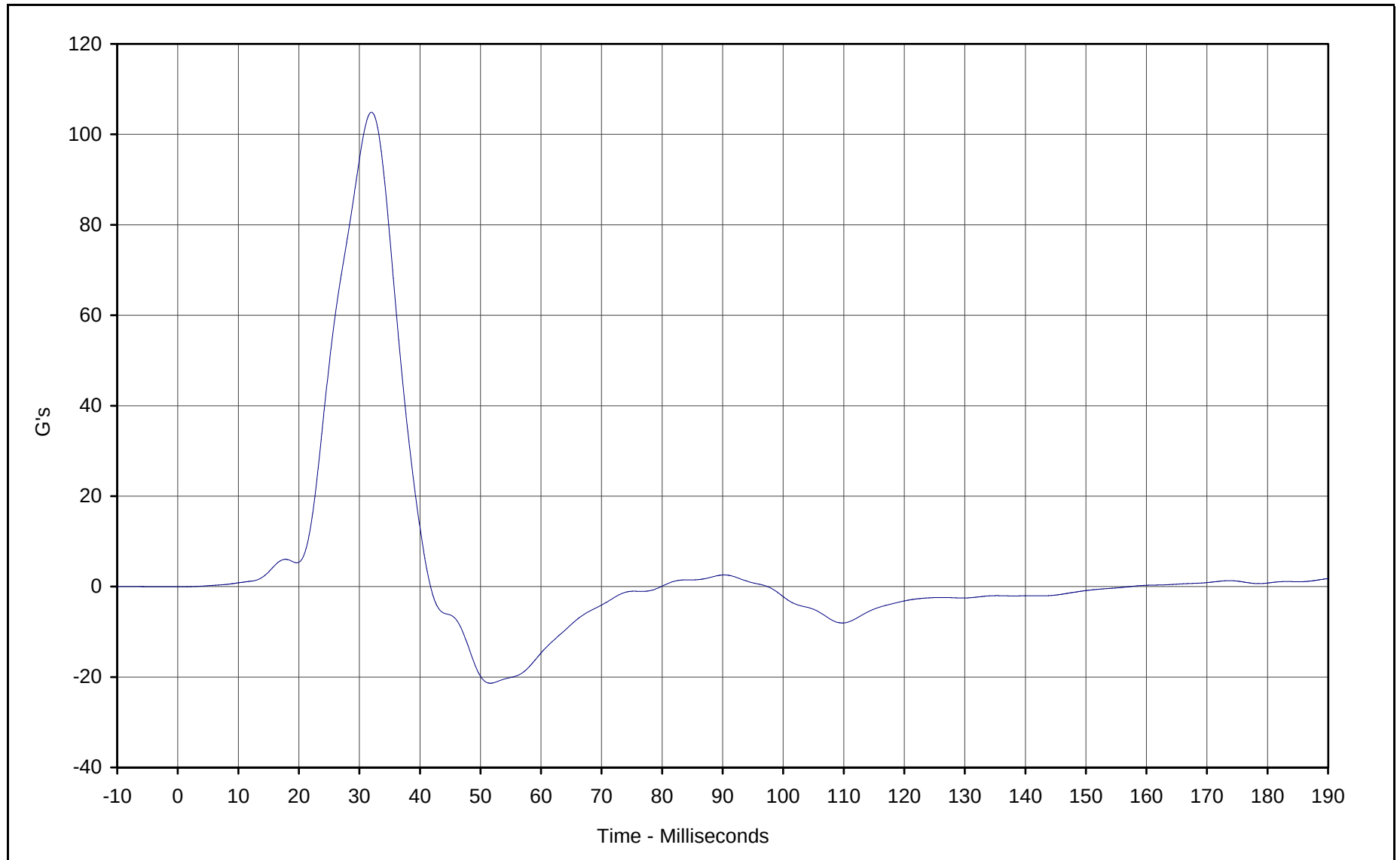




Curve Description: Driver Lower Spine Redundant Y
Maximum Value: 104.0 at 35.7 Milliseconds
Minimum Value: -9.2 at 113.9 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-010

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup





Curve Description: Driver Pelvis Redundant Y
Maximum Value: 104.9 at 32.0 Milliseconds
Minimum Value: -21.4 at 51.6 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/10/01
Curve Number: FIR-011

Test Program: 55/28 km/h Side Impact NCAP No.: TOY002
Test Vehicle: 2001 Toyota Tacoma SR5 Extended Cab Pickup



APPENDIX C
SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA

APPENDIX C
PRE-TEST SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA



Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	900	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	510	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	525	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	360	Pass
Overall Test Results				Pass

Laboratory Technician

May 4, 2001
Test Date

Approved By

Date



Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: TI03A

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	4.21 to 4.33	4.27	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	40.9	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	42.8	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	17.3	Pass
Overall Test Results				Pass

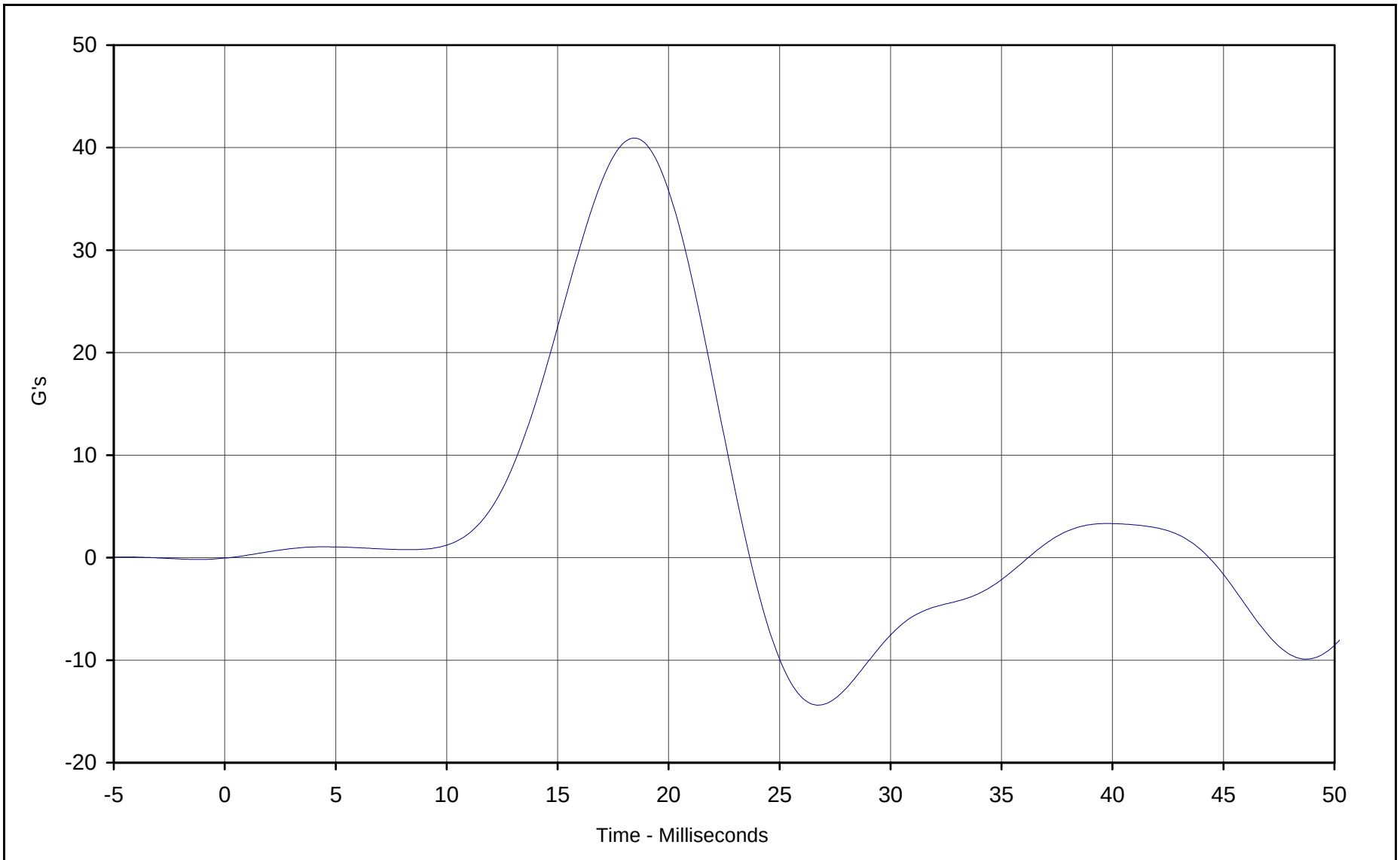
Laboratory Technician

May 3, 2001
Test Date

Approved By

Date

C-3



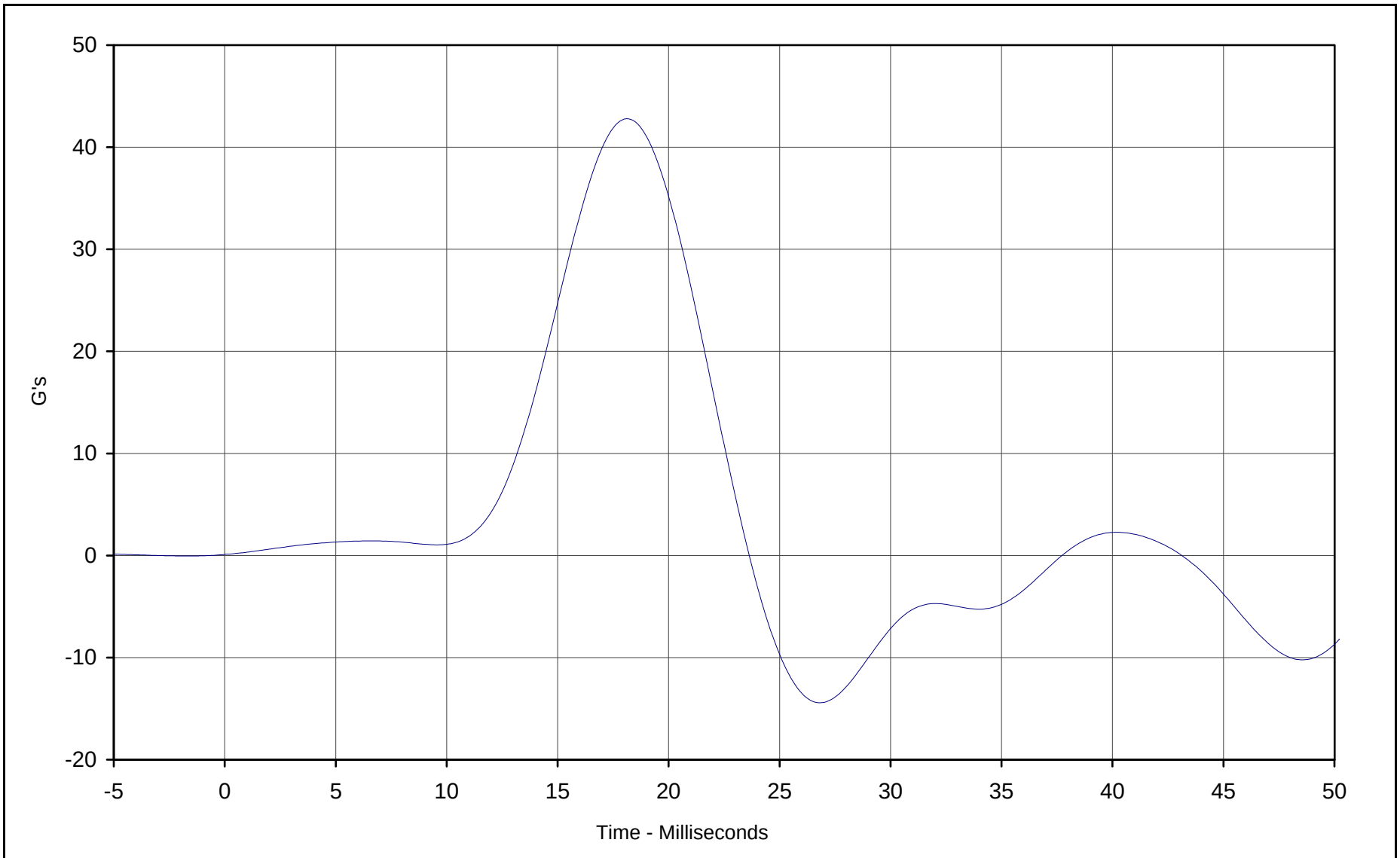
Curve Description: Left Upper Rib Y Acceleration
Maximum Value: 40.9 at 18.5 Milliseconds
Minimum Value: -14.4 at 26.7 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/3/01

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 275 Test I.D.: TI03A



KAR21049-02

C-4



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 42.8 at 18.1 Milliseconds

Minimum Value: -14.4 at 26.8 Milliseconds

SAE Filter Class: FIR 100

Date of Test: 5/3/01

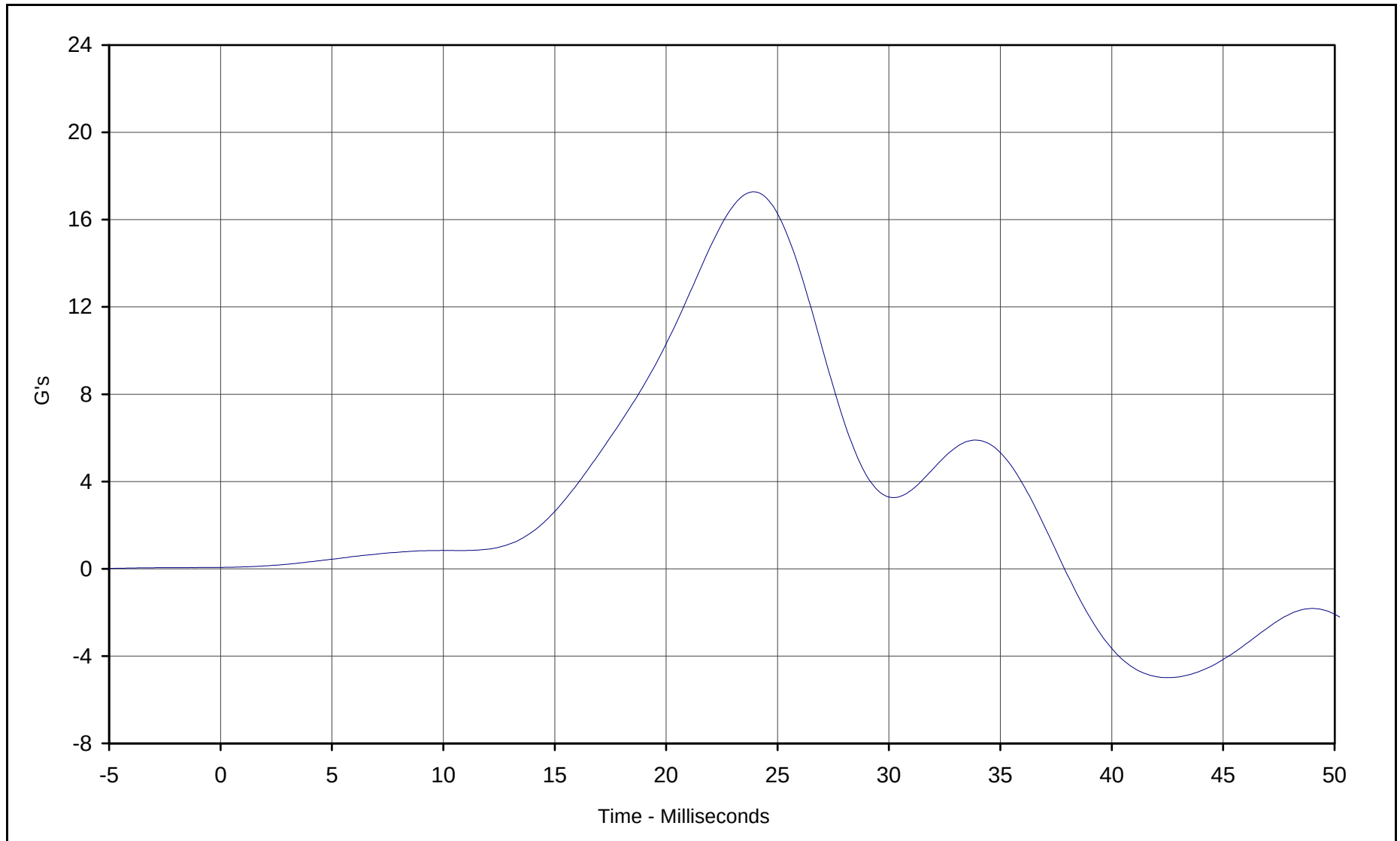
Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI03A



KAR21049-02

C-5



Curve Description: Lower Spine Y Acceleration
Maximum Value: 17.3 at 23.9 Milliseconds
Minimum Value: -5.0 at 42.5 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/3/01

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 275 Test I.D.: TI03A



KAR21049-02



Performance Verification Data

Side Impact Dummy (SID)

Left Side Pelvis Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: PI03B

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	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	45.6	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	6.2	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

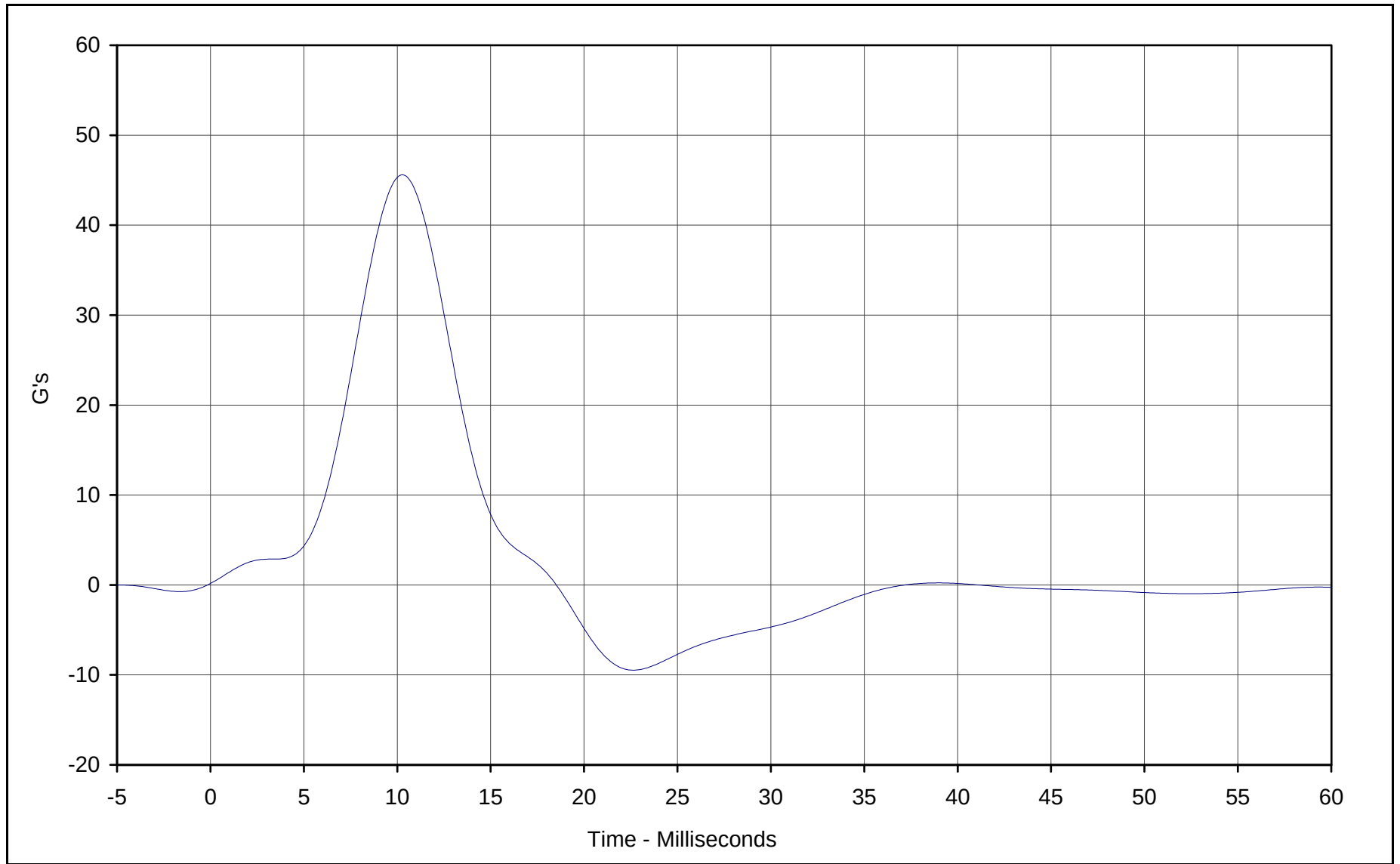
May 3, 2001

Test Date

Approved By

Date

C-7



Curve Description: Pelvis Y Axis Acceleration
Maximum Value: 45.6 at 10.3 Milliseconds
Minimum Value: -9.5 at 22.6 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/3/01

Test Program: SID Left Side Pelvis Lateral Impact
Test Information: SID S/N: 275 Test I.D.: PI03B



KAR21049-02



Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: AB04C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	26.5	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	39.1	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	54.0	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	74.7	Pass
Overall Test Results				Pass

Laboratory Technician

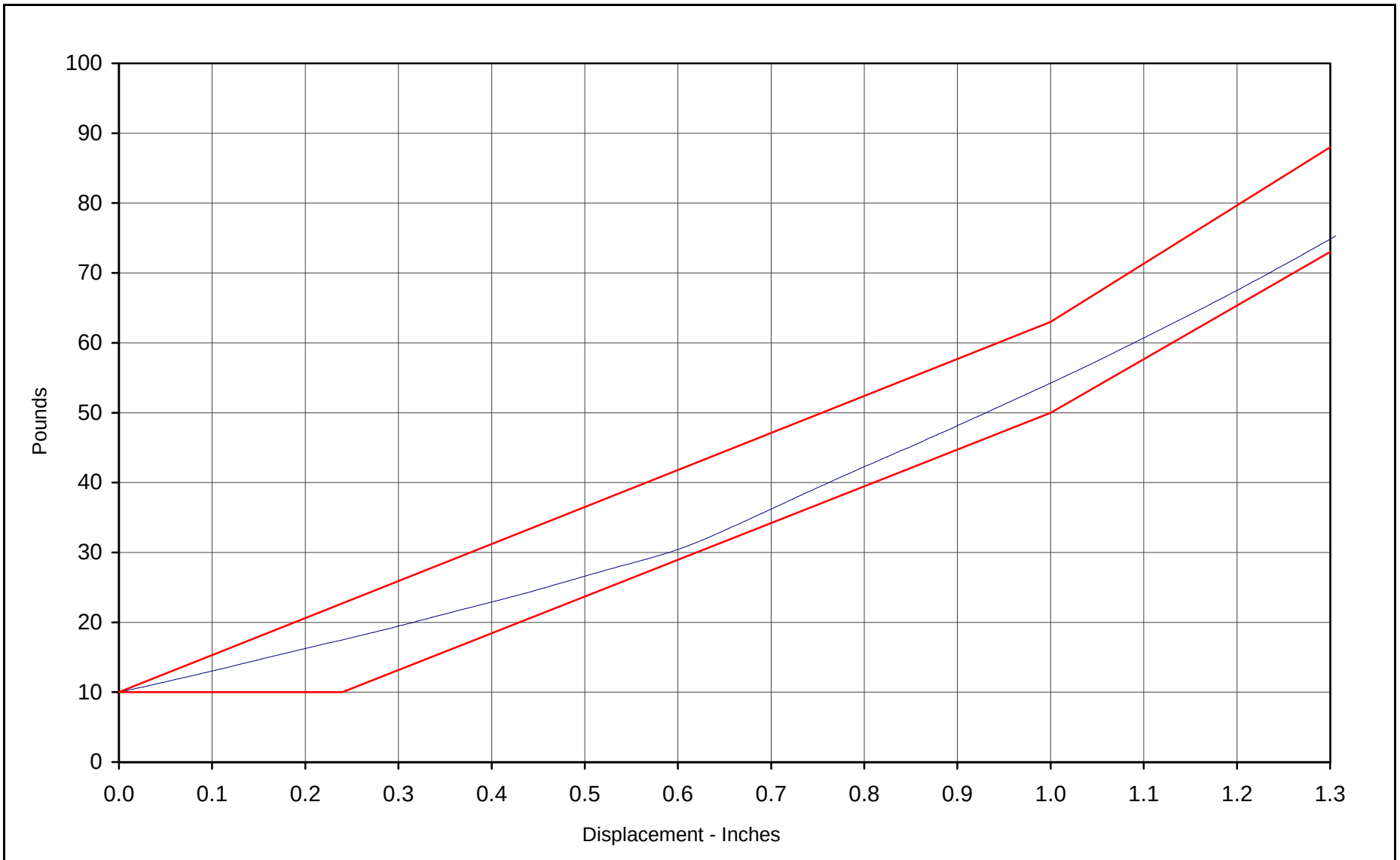
May 2, 2001

Test Date

Approved By

Date

C-9

Curve Description: Abdomen Force vs. DisplacementForce at 0.5 In.: 26.5 PoundsForce at 0.75 In.: 39.1 PoundsForce at 1.0 In.: 54.0 PoundsForce at 1.3 In.: 74.7 PoundsDate of Test: 5/2/01Test Program: SID Abdominal CompressionTest Information: SID S/N: 275 Test I.D.: AB04C

KAR21049-02



Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: HD04C

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	234.0	Pass
Peak Lateral Acceleration	G's	≤10.0	1.2	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.0	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

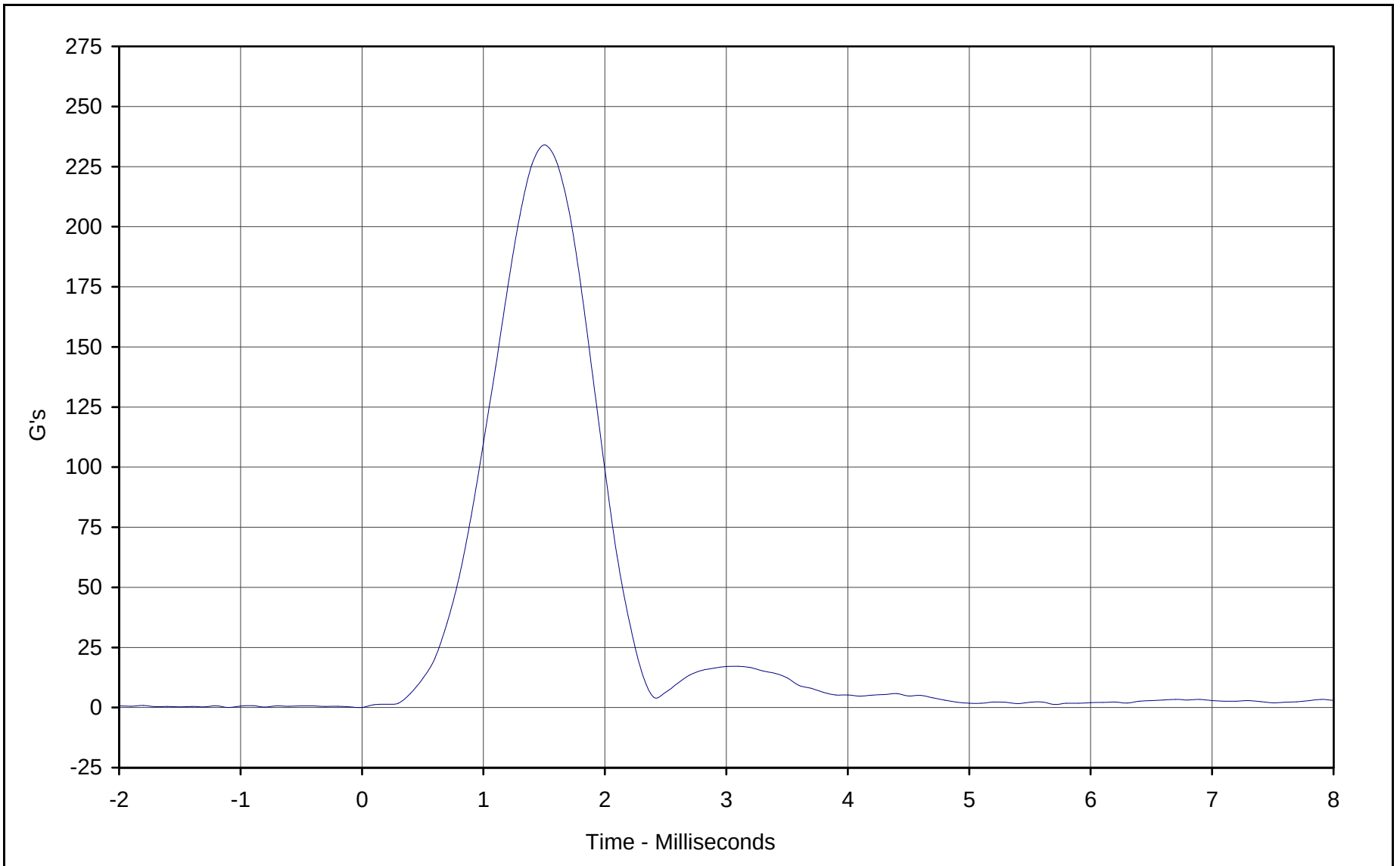
Laboratory Technician

May 1, 2001
Test Date

Approved By

Date

C-11



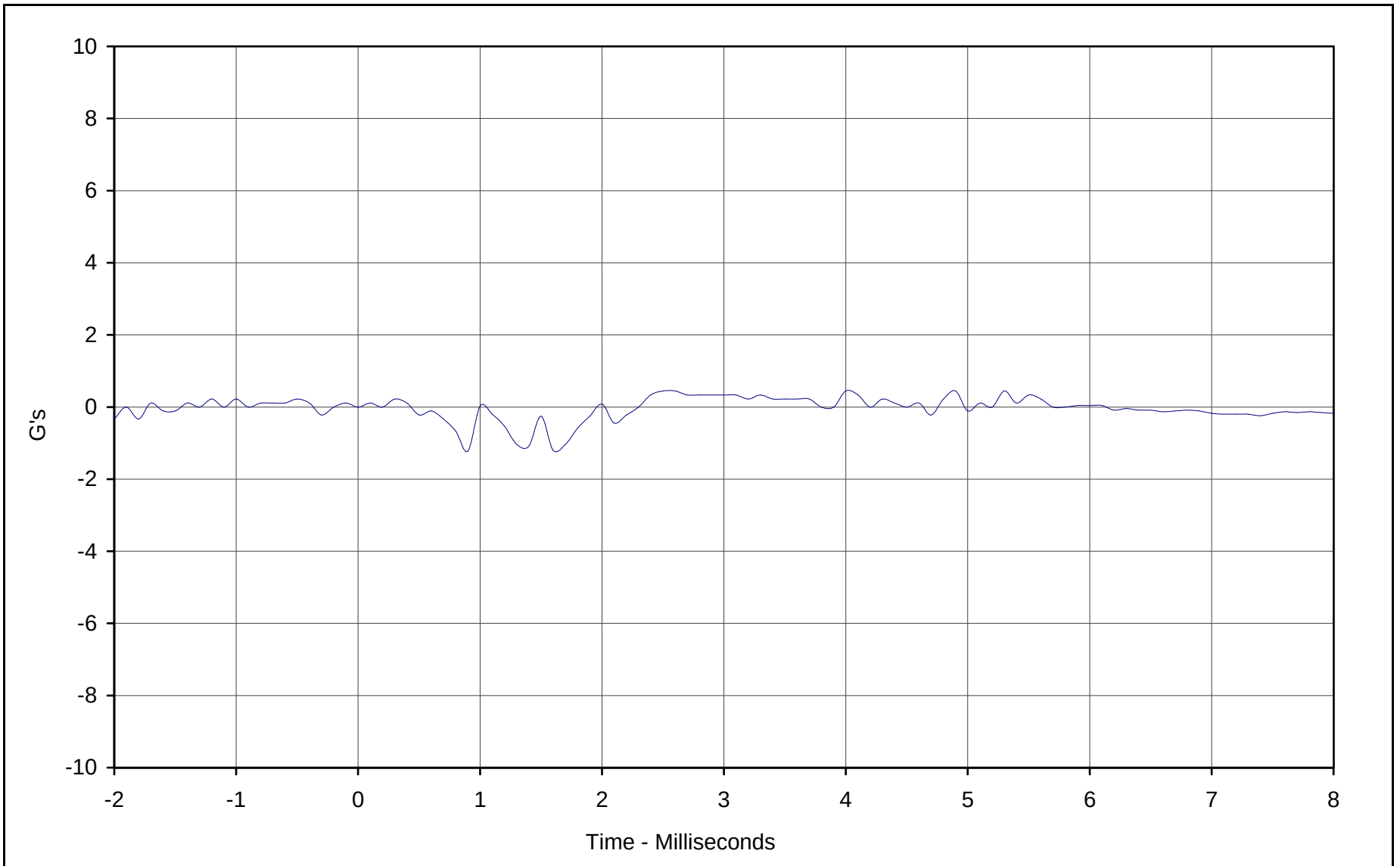
Curve Description: Head Resultant Acceleration
Maximum Value: 234.0 at 1.5 Milliseconds
Minimum Value: 0.0 at 0.0 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/1/01

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 275 Test I.D.: HD04C



KAR21049-02

C-12



Curve Description: Head Y Axis Acceleration

Maximum Value:	<u>0.4</u>	at	<u>2.5</u>	Milliseconds
Minimum Value:	<u>-1.2</u>	at	<u>0.9</u>	Milliseconds
SAE Filter Class:	<u>1000</u>			
Date of Test:	<u>5/1/01</u>			

Test Program: SID Head Drop Calibration

Test Information: SID S/N: 275 Test I.D.: HD04C



KAR21049-02

APPENDIX C
POST-TEST SID CONFIGURATION AND PERFORMANCE VERIFICATION DATA



Performance Verification Data Side Impact Dummy (SID) External Dimensions

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: N/A

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory temperature	°C	20.4 to 22.1	21.1	Pass
Laboratory relative humidity	%	10 to 70	30	Pass
SH- Seated Height	mm	889 to 909	905	Pass
HP- Hip Point Height	mm	99 (reference)	99	Pass
RH- Rib Height	mm	502 to 520	515	Pass
KH- Knee Pivot From Back Line	mm	511 to 526	525	Pass
KV- Knee Pivot From Floor	mm	490 to 505	500	Pass
HW- Hip Width	mm	356 to 391	360	Pass
Overall Test Results				Pass

Laboratory Technician

May 14, 2001

Test Date

Approved By

Date



Performance Verification Data Side Impact Dummy (SID) Thorax Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: TI05G

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	4.21 to 4.33	4.27	Pass
Left Upper Rib Acceleration	G's	37.0 to 46.0	45.2	Pass
Left Lower Rib Acceleration	G's	37.0 to 46.0	42.6	Pass
Thoracic Spine Acceleration	G's	15.0 to 22.0	19.1	Pass
Overall Test Results				Pass

Laboratory Technician

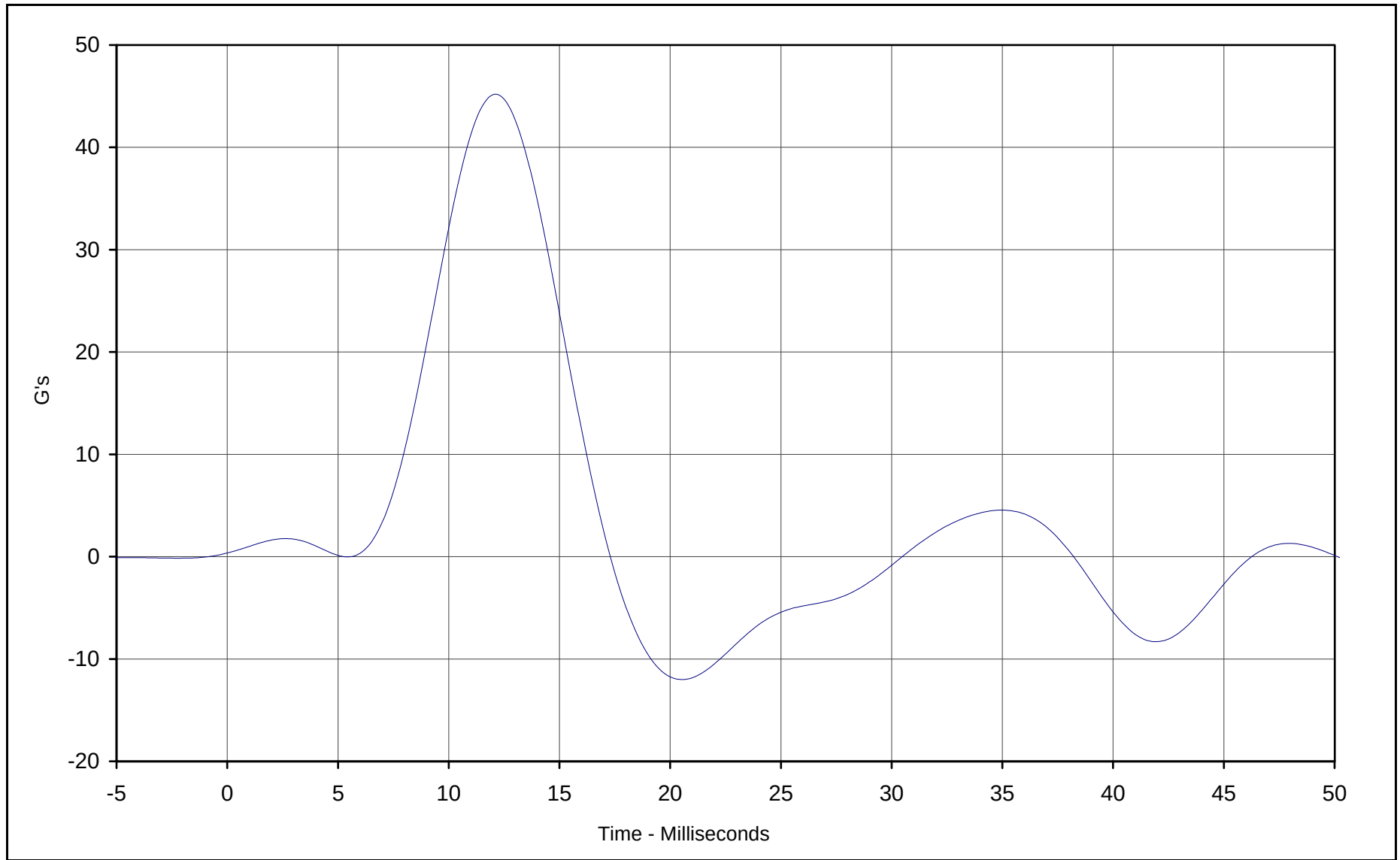
May 11, 2001

Test Date

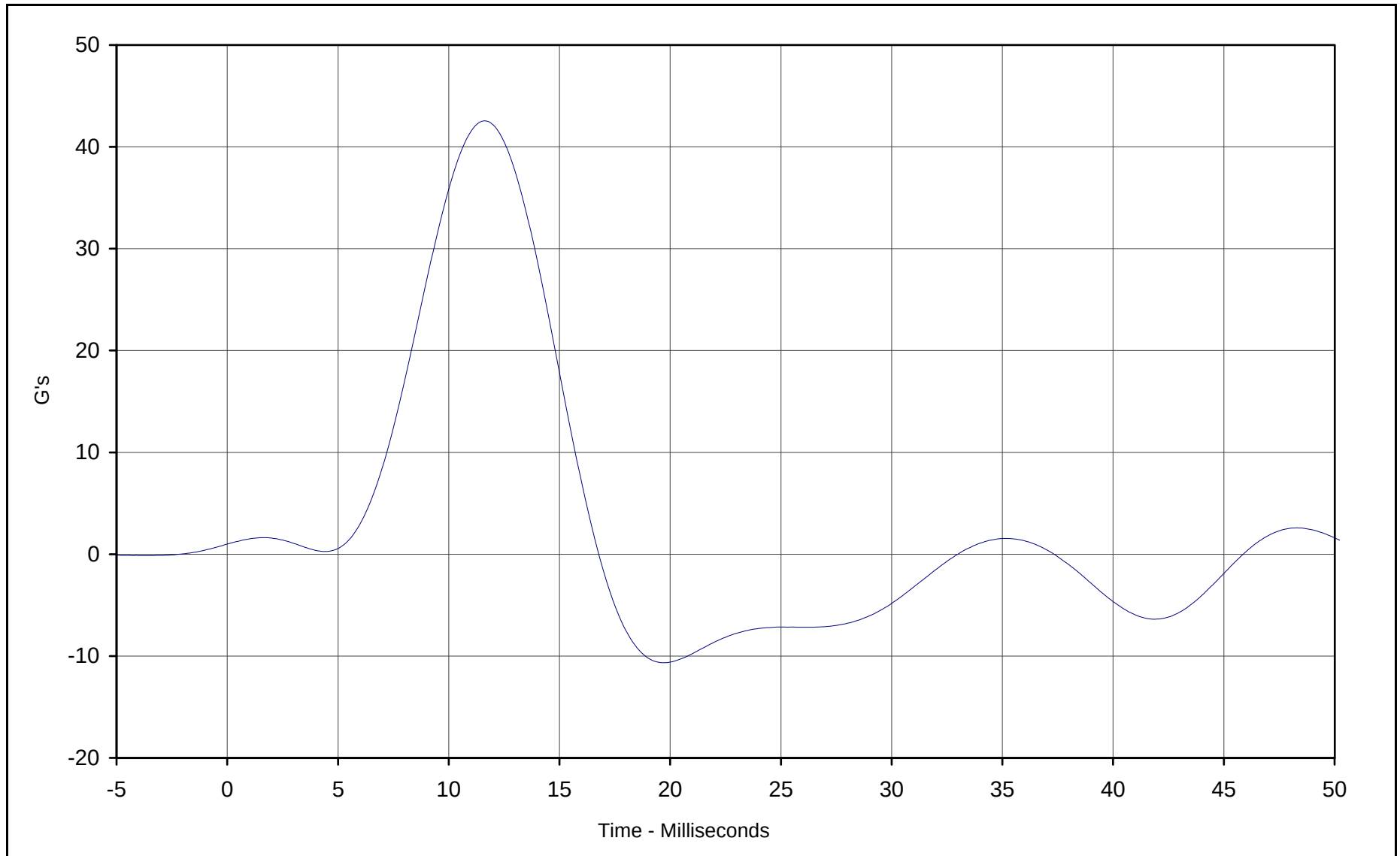
Approved By

Date

C-15

Curve Description: Left Upper Rib Y AccelerationMaximum Value: 45.2 at 12.1 MillisecondsMinimum Value: -12.0 at 20.5 MillisecondsSAE Filter Class: FIR 100Date of Test: 5/11/01Test Program: SID Thorax Lateral Impact TestTest Information: SID S/N: 275 Test I.D.: TI05G

KAR21049-02



Curve Description: Left Lower Rib Y Acceleration

Maximum Value: 42.6 at 11.6 Milliseconds

Minimum Value: -10.7 at 19.7 Milliseconds

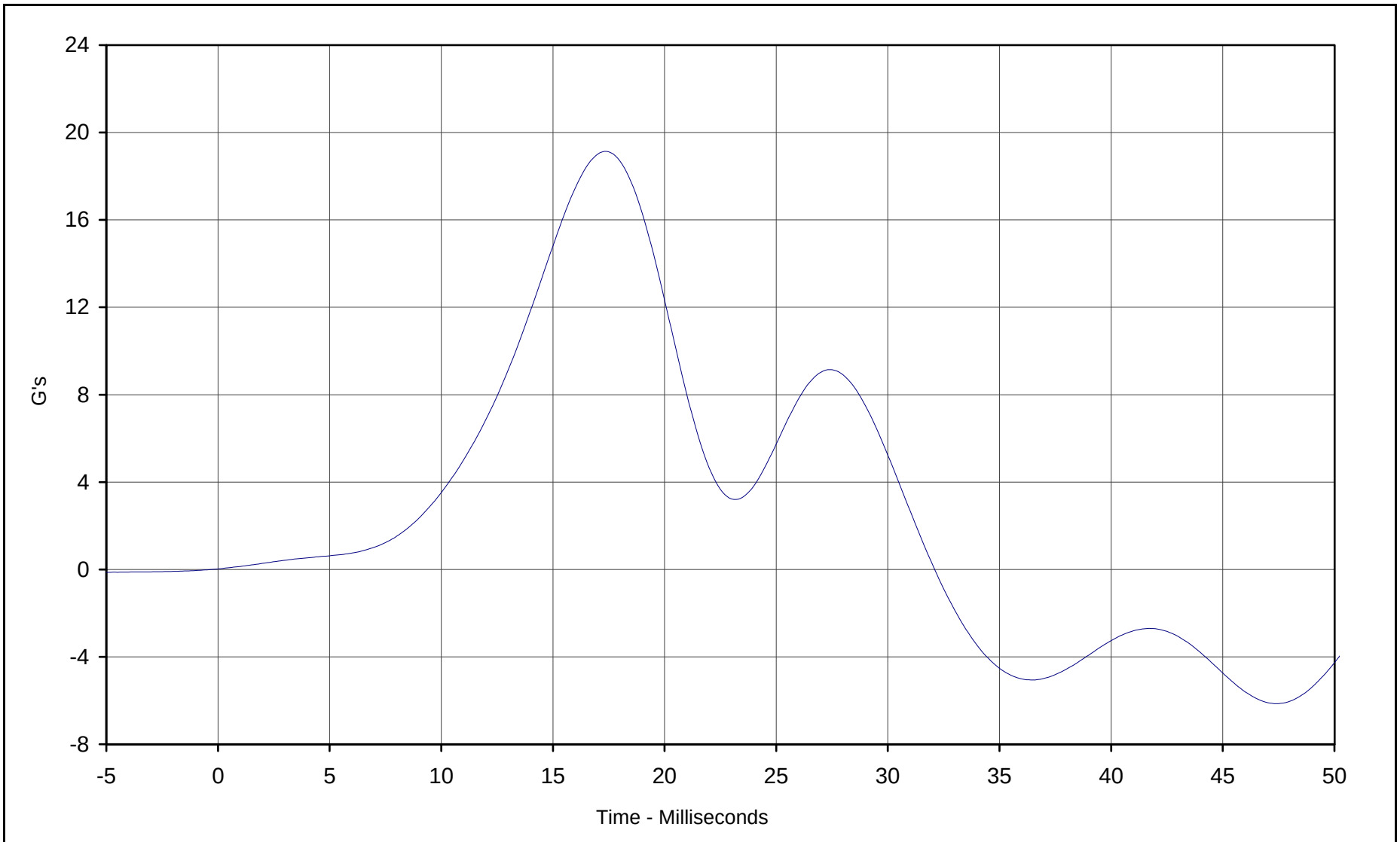
SAE Filter Class: FIR 100

Date of Test: 5/11/01

Test Program: SID Thorax Lateral Impact Test

Test Information: SID S/N: 275 Test I.D.: TI05G





Curve Description: Lower Spine Y Acceleration
Maximum Value: 19.1 at 17.4 Milliseconds
Minimum Value: -6.1 at 47.4 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/11/01

Test Program: SID Thorax Lateral Impact Test
Test Information: SID S/N: 275 Test I.D.: TI05G





Performance Verification Data Side Impact Dummy (SID) Left Side Pelvis Lateral Impact

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: PI05G

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	4.21 to 4.33	4.33	Pass
Pelvis Acceleration	G's	40.0 to 60.0	47.2	Pass
Acceleration Time Above 20 G's	Msec.	3.0 to 7.0 Msec.	7.0	Pass
Is Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

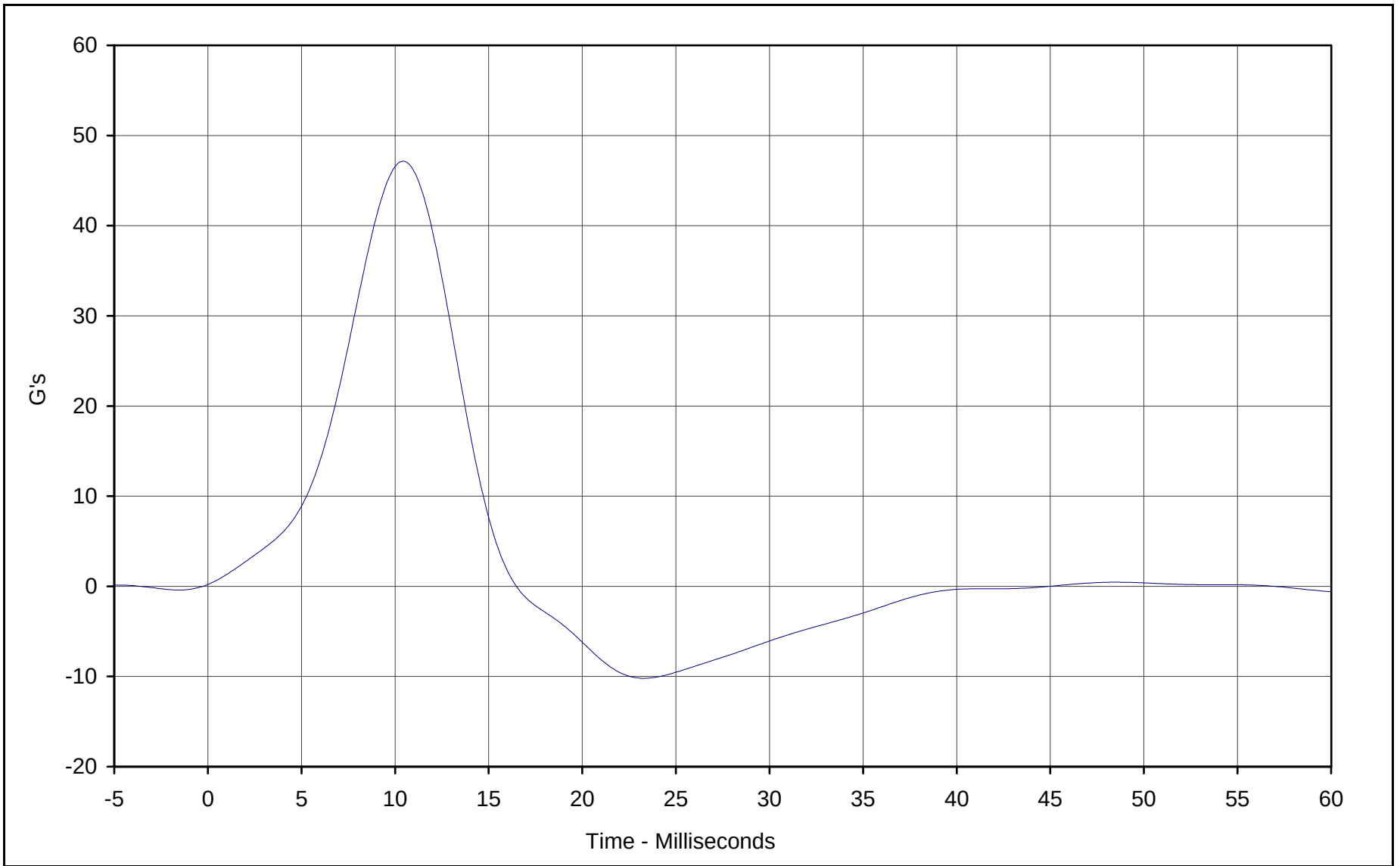
May 11, 2001

Test Date

Approved By

Date

C-19



Curve Description: Pelvis Y Axis Acceleration
Maximum Value: 47.2 at 10.4 Milliseconds
Minimum Value: -10.2 at 23.3 Milliseconds
SAE Filter Class: FIR 100
Date of Test: 5/11/01

Test Program: SID Left Side Pelvis Lateral Impact
Test Information: SID S/N: 275 Test I.D.: PI05G



KAR21049-02



Performance Verification Data Side Impact Dummy (SID) Abdominal Compression Test

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: AB05G

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Force at 0.5 Inches of Displacement	Pounds	23.0 to 36.0	29.3	Pass
Force at 0.75 Inches of Displacement	Pounds	36.0 to 50.0	41.6	Pass
Force at 1.0 Inches of Displacement	Pounds	50.0 to 63.0	58.0	Pass
Force at 1.3 Inches of Displacement	Pounds	73.0 to 88.0	79.0	Pass
Overall Test Results				Pass

Laboratory Technician

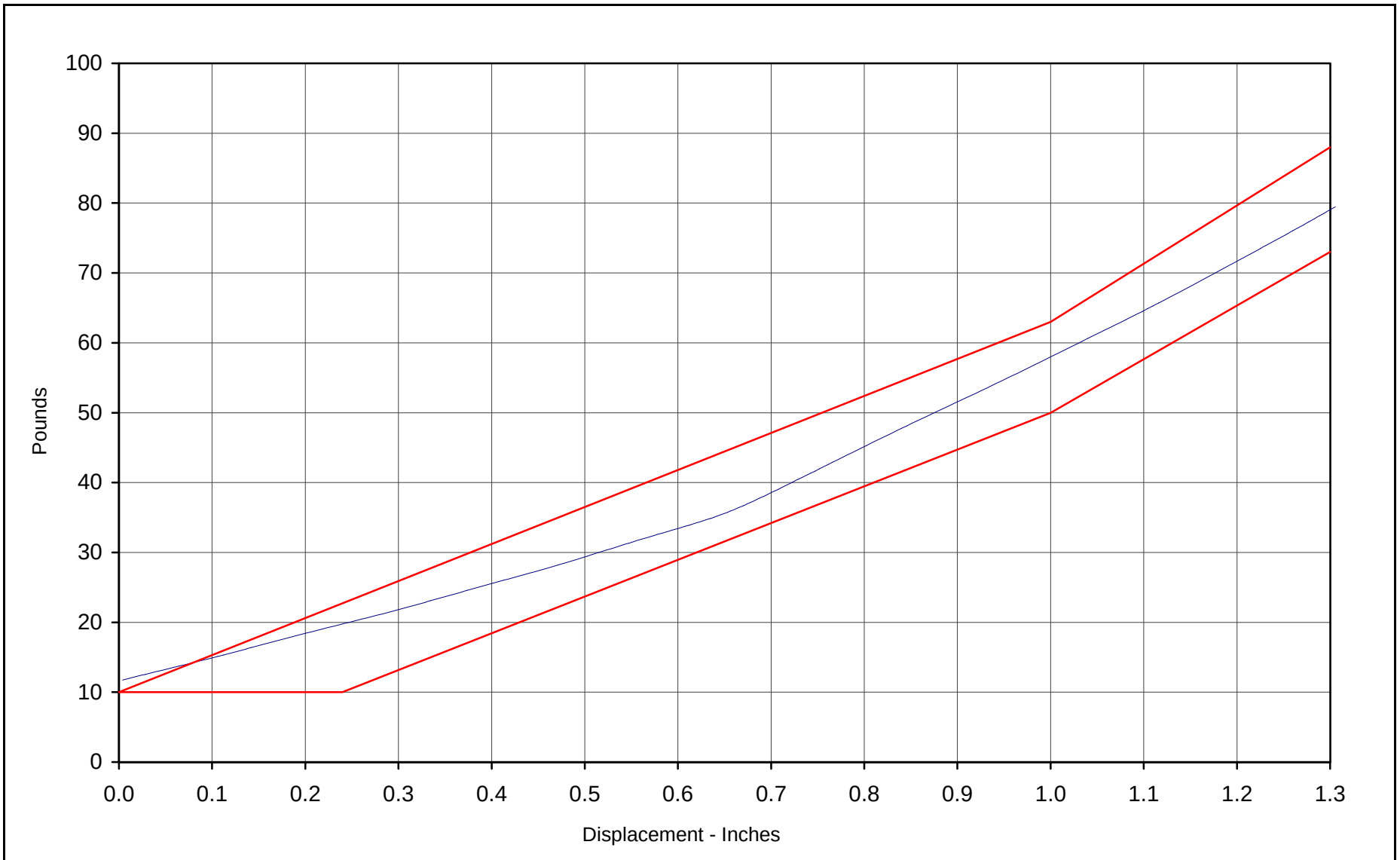
May 12, 2001

Test Date

Approved By

Date

C-21



Curve Description: Abdomen Force vs. Displacement

Force at 0.5 In.: 29.3 Pounds

Force at 0.75 In.: 41.6 Pounds

Force at 1.0 In.: 58.0 Pounds

Force at 1.3 In.: 79.0 Pounds

Date of Test: 5/12/01

Test Program: SID Abdominal Compression

Test Information: SID S/N: 275 Test I.D.: AB05G



KAR21049-02



Performance Verification Data Side Impact Dummy (SID) Head Drop Calibration

ATD Serial No.: 275

Part Serial No.: N/A

Test I.D.: HD05G

Tested Parameter	Units	Specification	Result	Pass/Fail
Laboratory Temperature	°F	66 to 78	70	Pass
Laboratory Relative Humidity	%	10 to 70	30	Pass
Peak Resultant Acceleration	G's	210.0 to 260.0	243.9	Pass
Peak Lateral Acceleration	G's	≤10.0	7.1	Pass
Time Above 100 G's	Msec.	0.9 to 1.5	1.5	Pass
Is Resultant Acceleration Unimodal?	Yes/No	Yes	Yes	Pass
Overall Test Results				Pass

Laboratory Technician

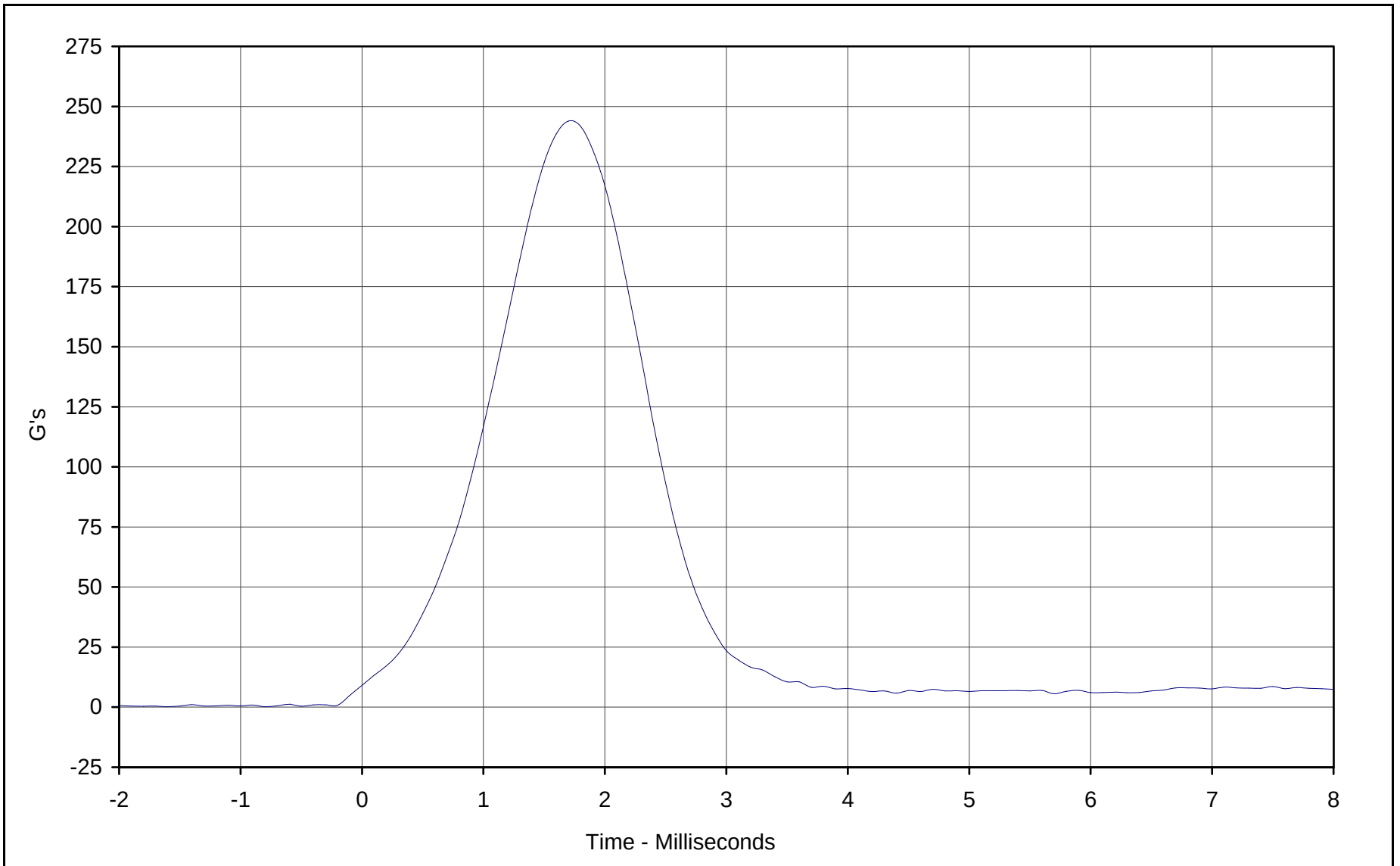
May 13, 2001

Test Date

Approved By

Date

C-23

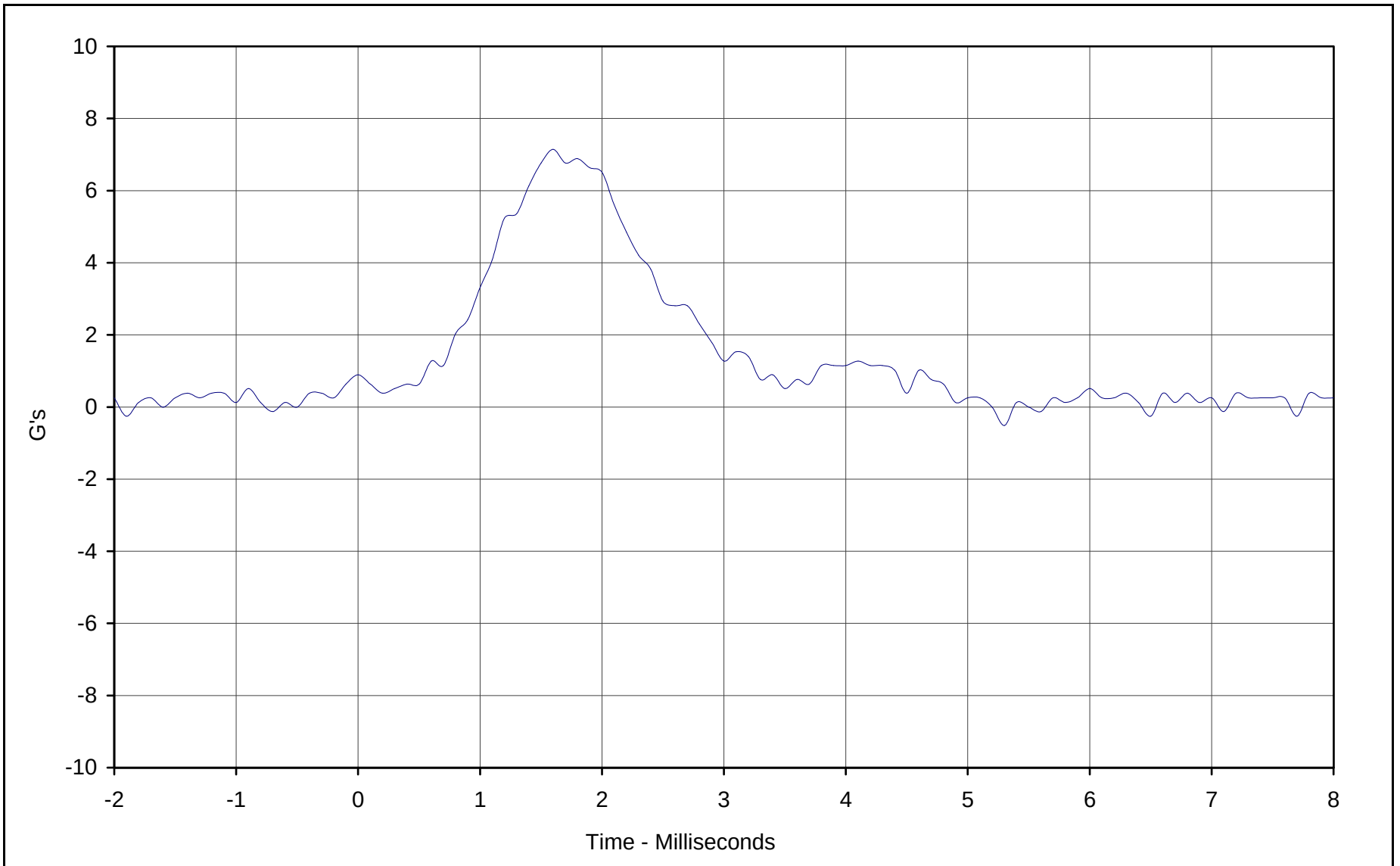


Curve Description: Head Resultant Acceleration
Maximum Value: 243.9 at 1.7 Milliseconds
Minimum Value: 5.6 at 5.7 Milliseconds
SAE Filter Class: 1000
Date of Test: 5/13/01

Test Program: SID Head Drop Calibration
Test Information: SID S/N: 275 Test I.D.: HD05G



KAR21049-02



Curve Description: Head Y Axis Acceleration

Maximum Value:	7.1	at	1.6	Milliseconds
Minimum Value:	-0.5	at	5.3	Milliseconds
SAE Filter Class:	1000			
Date of Test:	5/13/01			

Test Program: SID Head Drop Calibration

Test Information: SID S/N: 275 Test I.D.: HD05G



APPENDIX D
TEST EQUIPMENT LIST AND CALIBRATION INFORMATION

**55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Driver S.I.D. Serial Number 275**

5/10/01

2001 Toyota Tacoma SR5 Extended Cab Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
1	Head CG	X	KEAC069	Accel.,1/2 bridge	Endevco	7264-2000X	G
2	Head CG	Y	KEAC080	Accel.,1/2 bridge	Endevco	7264-2000Y	G
3	Head CG	Z	KEAC082	Accel.,1/2 bridge	Endevco	7264-2000Z	G
4	Upper Rib Primary	Y	KEAC066	Accel.,1/2 bridge	Endevco	7264-2000X	G
5	Lower Rib, Primary	Y	KEAC067	Accel.,1/2 bridge	Endevco	7264-2000Y	G
6	Lower Spine, Primary	Y	KEAC068	Accel.,1/2 bridge	Endevco	7264-2000Z	G
7	Pelvis, Primary	Y	KEAC079	Accel.,1/2 bridge	Endevco	7264-2000X	G
8	Upper Rib Redundant	Y	KEAC073	Accel.,1/2 bridge	Endevco	7264-2000X	G
9	Lower Rib, Redundant	Y	KEAC074	Accel.,1/2 bridge	Endevco	7264-2000Y	G
10	Lower Spine, Redundant	Y	KEAC075	Accel.,1/2 bridge	Endevco	7264-2000Z	G
11	Pelvis, Redundant	Y	KEAC081	Accel.,1/2 bridge	Endevco	7264-2000X	G
12	Thorax Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Yellow	%
13	Pelvis Contact	N/A	T0	Contact Switch	Tapeswitch	8 oz. Yellow	%

**55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Vehicle Accelerometers**

5/10/01

2001 Toyota Tacoma SR5 Extended Cab Pickup

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
14	Right at Sill Front Seat	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
15	Right at Sill Front Seat	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
16	Right at Sill Front Seat	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G
17	Rear Floorpan Above Axle	X	KETX4A	Accel., Triax	I.C. Sensor	3031-500	G
18	Rear Floorpan Above Axle	Y	KETX4B	Accel., Triax	I.C. Sensor	3031-500	G
19	Rear Floorpan Above Axle	Z	KETX4C	Accel., Triax	I.C. Sensor	3031-500	G
20	Left Sill at Front Door	Y	KEVA001	Accel., Vehicle block	I.C. Sensor	3031-500	G
21	Left Front Door Centerline	Y	ICST004X	Accel., Triax	I.C. Sensor	3031-500	G
22	Left Front Door Mid-Rear	Y	ICST004Y	Accel., Triax	I.C. Sensor	3031-500	G
23	Left Front Door Upper Centerline	Y	ICST004Z	Accel., Triax	I.C. Sensor	3031-500	G
24	A-Post Lower	Y	KEBX1A	Accel., Biax	I.C. Sensor	3031-200	G
25	A-Post Middle	Y	KEBX1B	Accel., Biax	I.C. Sensor	3031-500	G
26	Front Seat Track	Y	KEIC008Y	Single	I.C. Sensor	3031-500	G
27	Vehicle CG	X	KETX2A	Accel., Triax	I.C. Sensor	3031-200	G
28	Vehicle CG	Y	KETX2B	Accel., Triax	I.C. Sensor	3031-200	G
29	Vehicle CG	Z	KETX2C	Accel., Triax	I.C. Sensor	3031-200	G

**55/28 km/h Side Impact NCAP
Instrumentation Data Channel Assignments
Moving Deformable Barrier
5/10/01
2001 Toyota Tacoma SR5 Extended Cab Pickup**

CH.	LOCATION	AXIS	IDENT. NO.	DESCRIPTION	MFR	MODEL	UNITS
30	MDB CG	X	ICST001X	Accel., Triax	I.C. Sensor	3031-100	G
31	MDB CG	Y	ICST001Y	Accel., Triax	I.C. Sensor	3031-100	G
32	MDB CG	Z	ICST001Z	Accel., Triax	I.C. Sensor	3031-100	G
33	MDB Rear Centerline	X	ICST002X	Accel., Biax	I.C. Sensor	3031-100	G
34	MDB Rear Centerline	Y	ICST002Y	Accel., Biax	I.C. Sensor	3031-100	G
35	Right Bumper Contact	N/A	T0	Contact Switch	Tapeswitch	40 oz. Grey	%